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OFFICIAL GAZETTE UNITED STATES PATENT OFFICE

VOL. 130

SEPT - OCT

1907

MICRO PHOTO INC.
CLEVELAND, OHIO

OFFICIAL GAZETTE

OF THE

UNITED STATES PATENT OFFICE.

VOLUME CXXX.

SEPTEMBER 3 TO OCTOBER 29, INCLUSIVE,

1907.

WASHINGTON:

GOVERNMENT PRINTING OFFICE.

1908.

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ERRATA.

864,813, page 25, fourth claim, line 1, for "3. The combination of a cage, parallel guide bars se-" read *4. The combination of a cage, plates secured on said.*

864,908, page 72, in heading, assignment, name of assignee, for "Lung Manufacturing Co." read *Lung Bath Manufacturing Co.*

865,168, page 186, in illustration, read refining engine indicated by reference-numeral 4 in reverse position.

865,551, page 409, in heading, title of invention, for "Veterinary Dental Instruments" read *Surgical Instruments.*

865,578, page 421, in heading, assignment, name of assignee, for "Ellis-Forster Company" read *Ellis-Foster Company.*

865,787, page 520, in heading, assignment, name of assignee, for "Macgowan and Finigan Foundry & Machine Co." read *Macgowan & Finigan Foundry & Machine Co.*

865,816, page 548, twenty-first claim, line 1, strike out the word "In."

865,914, page 598, seventh claim, line 6, strike out the words "effecting the" and the word "of;" same claim, line 5, before the word "unlocking" insert the words *effecting the,* and after the word "unlocking" insert the word *of.*

866,109, page 725, second claim, line 2, for the word "tainer" read *container.*

867,129, page 1233, in heading, assignment, residence of assignee, before the period insert the abbreviation *Ill.*

867,390, page 1389, fourth claim, strike out line 3.

867,651, page 1531, first claim, line 2, for the word "integral" read *internal.*

867,889, page 1643, in heading, after residence of patentee, insert *assignor to Longview Crate & Wooden Ware Manufacturing Company, Longview, Tex., a Corporation of Texas.*

868,107, page 1785, first claim, line 3, for the word "have" read *having.*

868,128, page 1793, in heading, residence of patentee, for "New York, N. Y." read *Plainfield, N. J.*

868,613, page 2036, second claim, transpose lines 3 and 4.

869,000, page 2291, in heading, assignment, name of assignee, for "H. E. Martell Company" read *A. E. Martell Company.*

869,286, page 2413, fifth claim, line 3, for the word "bolster" read *booster.*

Rule 207, page 983, line 3 from bottom of page, for "third" read *fourth.*

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OFFICIAL GAZETTE

OF THE

UNITED STATES PATENT OFFICE.

SEPTEMBER—OCTOBER, 1907.

THE OFFICIAL GAZETTE
OF THE
United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 130—No. 1. TUESDAY, SEPTEMBER 3, 1907. PRICE—$5 per year.

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Austria-Hungary	2	.....	Norway	.....	1
Belgium	2	.....	Queensland	.....	.....
Canada	8	.....	Scotland	6	.....
England	15	4	Switzerland	1	.....
France	7	1	Victoria	2	.....
Germany	22	5			
Netherlands	.....	1	Total to citizens of foreign countries	66	12
New Zealand	1	.....			

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	4	.....	Nevada	1	.....
Arizona Territory	2	.....	New Hampshire	2	1
Arkansas	2	.....	New Jersey	21	6
California	21	3	New Mexico Ter't'y	2	.....
Colorado	8	.....	New York	76	36
Connecticut	18	11	North Carolina	1	1
Delaware	2	.....	North Dakota	1	.....
District of Columbia	5	.....	Ohio	43	29
Florida	5	.....	Oklahoma Territ'y	2	.....
Georgia	9	2	Oregon	3	1
Hawaii Territory	1	.....	Pennsylvania	47	6
Illinois	58	8	Rhode Island	4	1
Indiana	15	2	South Carolina	3	.....
Iowa	14	1	South Dakota	6	.....
Kansas	3	.....	Tennessee	6	2
Kentucky	2	2	Texas	5	.....
Louisiana	1	2	Utah	7	.....
Maine	3	1	Vermont	1	1
Maryland	4	4	Virginia	10	1
Massachusetts	37	7	Washington	8	1
Michigan	18	.....	West Virginia	2	3
Minnesota	6	.....	Wisconsin	16	.....
Mississippi	1	1	U. S. Army	1	.....
Missouri	13	5			
Montana	.....	1	Total to citizens of the United States	524	140
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Trade-Marks	135	No. 64,956 to No. 65,090, inclusive.
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DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., July 31, 1907.

In view of the great volume of work to be done in this Office and also in the Government Printing Office, it has become necessary to extend the period for the preparation of patents for issue, following the payment of final fees. To this end, notice is hereby given that all patents on which final fees are paid during the week ending Thursday, September 5, 1907, will be issued on Tuesday, September 24, following, in accordance with the usual practice; that all patents on which the final fees are paid on September 6, 7, and 9 will be issued on Tuesday, October 1; that all patents on which the final fees are paid on September 10, 11, and 12 will be issued on Tuesday, October 8, and that thereafter the issue will close on Thursday of each week and the patents be issued on the fourth Tuesday following, instead of the third Tuesday, as heretofore.

(Signed) E. B. MOORE,
Commissioner.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business August 27, 1907.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
303	XVII. Clutches, Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Aug. 12	July 27	173
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Aug. 6	July 18	194
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Aug. 3	July 24	170
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Aug. 3	July 3	157
232	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Iron Structures, Loading and Unloading, and Towers.	Aug. 2	July 30	204
312	VII. Games and Toys, Mechanical Motors, Optics, Paper Manufactures, Velocipedes.	Aug. 1	July 19	285
321	I. Tillage, etc., Fences	Aug. 1	July 11	237
244	XXV. Baths and Closets, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Garment-Supporters, Toilet, Signals.	July 29	June 21	602
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	July 26	July 10	209
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Educational Appliances, Fishing and Trapping, Stationery, Stone-Working.	July 25	July 16	357
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	July 24	July 3	282
147	XXIX. Coopering, Fire-Escapes, Ladders, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools, Woodworking.	July 24	June 6	238
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	July 23	July 15	290
324	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	July 20	July 1	494
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	July 18	May 31	458
322	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	July 17	July 9	404
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	July 16	May 3	478
327	XVIII. Steam-Engineering, etc.	July 15	June 15	288
307	XIV. Compound Tools, Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Sheet-Metal Ware, Making, Tools, Wire-Working.	July 15	May 31	248
148	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Casks, Metallic Shipping and Storage Vessels, Packaging Liquids, Refrigeration.	July 13	May 2	497
172	XXXI. Alcohol, Charcoal and Coke, Disinfection, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	July 12	July 8	247
332	X. Carriages and Wagons	July 12	July 1	410
330	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making.	July 10	July 3	450
379	XXIII. Accounting, Coin-Handling, Horology, Recorders, Registers, Time-Controlling Mechanism.	July 9	July 5	282

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Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
142	IX. Air and Gas Pumps, Fire-Extinguishers, Hydraulic Motors, Pumps, and Sewerage.	July 8	June 28	250
122	XIX. Heating and Cooking Stoves, Liquid and Gaseous Fuel, Stoves and Furnaces, and Furnaces.	July 5	June 17	363
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	July 2	July 5	351
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery.	June 27	July 1	302
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufactures, Nailing and Stapling, Whips and Whip Apparatus.	June 27	June 24	329
343	XXXIX. Water Distribution	June 22	May 27	605
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	June 22	May 22	435
167	V. Bookbinding, Harvesters, Jewelry, and Music.	June 21	June 5	407
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	June 20	July 20	260
382	XXVIII. Miscellaneous Heat-Engines, Internal-Combustion Engines.	June 20	June 20	512
175	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	June 20	June 12	446
128	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Pneumatics, Presses, Store-Service, Tobacco, etc.	June 19	June 20	287
280	XL. Baggage, Check-Controlled Apparatus, Cloth, Leather, and Rubber Receptacles, Deposit and Collection Receptacles, Fine Arts, Lighting-Fixtures, Package and Article Carriers, Paper Receptacles, Special Receptacles and Packages, Wooden Receptacles.	June 17	June 3	1025
109	XVI. Telegraphy and Telephony	June 14	May 23	524
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	June 11	Apr. 18	472
352	XLI. Railway Draft Appliances, Railway-Rails and Joints, Railway-Ties and Fasteners, Resilient Tires and Wheels.	May 23	May 2	1004
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving and Plastics, Photography.	May 20	May 18	524

Total number of applications awaiting action 15,769

159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
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The Official Gazette.

The OFFICIAL GAZETTE is published every Tuesday, simultaneously with the weekly issue of patents. From January 1, 1872, (the commencement of its publication,) to June 30, 1883, it was published and bound in semi-annual volumes; from July 1, 1883, to December 31, 1902, in quarterly volumes; since January 1, 1903, in bimonthly volumes. Terms: Annual subscriptions, $5. For postage upon foreign subscriptions, except those from Canada and Mexico, $5 or more, as required. Moneys received from foreign subscribers in excess of the subscription price of $5 will be deposited to the credit of the subscriber and applied to postage upon the subscription as incurred. Single copies, 10 cents; if mailed to foreign countries, excepting Canada and Mexico, 20 cents additional for postage. *Payment in advance required. No club rates. No discount to newsdealers. No sample copies.* All subscriptions must commence with the beginning of a volume. None taken for less than an entire volume. All orders should be addressed to "The Commissioner of Patents, Washington, D. C."

PATENTS

GRANTED SEPTEMBER 3, 1907.

864,765. SAFETY-HANGER. RICHARD ANTEAU, West Toledo, Ohio. Filed Feb. 19, 1906. Serial No. 301,880.



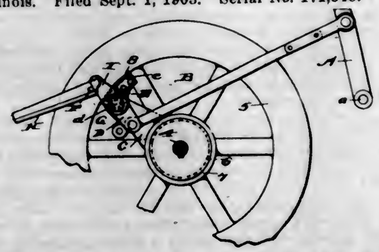
1. The combination with spaced over-head cables, of a hanger engaging one of the cables and provided with spaced eyes, and a supporting element operatively connected with one end of the hanger and extending through the eyes for attachment to the adjacent cable.

2. The combination with spaced over-head cables, of a hanger engaging one of the cables and provided at one end thereof with an enlarged end, and at the other end with eyes or loops, and a supporting element engaging the head and threaded through said eyes for attachment to the adjacent cable.

3. The combination with spaced over-head cables, of a hanger engaging one of the cables and provided at one end thereof with an enlarged head and at its other end with spaced eyes, and a supporting loop engaging the enlarged head and having its legs crossed in opposite directions and extended through the eyes for attachment to the adjacent cable.

4. The combination with spaced over-head cables, of a hanger engaging one of said cables and provided at one end thereof with an enlarged head and at its opposite end with eyes, and a flexible connection secured to the adjacent cable and threaded through said eyes for attachment to the enlarged head of the hanger.

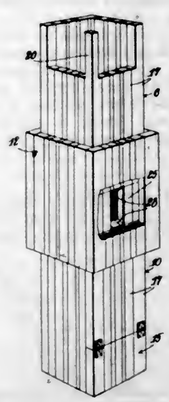
864,766. STARTER FOR EXPLOSIVE-ENGINES. JOHN B. BARTHOLOMEW, Peoria, Ill., assignor to The Bartholomew Company, Peoria, Ill., a Corporation of Illinois. Filed Sept. 1, 1903. Serial No. 171,545.



1. In a starting device for an internal combustion engine, the combination of the engine shaft, a fly wheel mounted thereon, having a friction surface, a rotary reciprocating friction shoe arranged to engage with the friction surface of the fly wheel when moved in one direction, and arranged to easily separate therefrom when moved in the opposite direction, means for moving the friction shoe bodily toward the fly wheel to engage with and turn the latter forward or for moving it bodily away from the wheel to disengage the shoe, and automatically-acting devices for disengaging the shoe from the fly wheel when it is carried backward, substantially as set forth.

2. In a starting device for an internal combustion engine, the combination with the engine shaft and a fly wheel thereon, formed with a concave friction surface, of an arm free to turn about the axis of the shaft, a lever pivoted to the outer end of the said arm, a friction shoe carried by the lever and arranged to engage with the friction surface of the fly wheel, and operating means for reciprocating the friction shoe, such means being connected with the said pivoted lever at a point between its pivot and the axis of the fly wheel, whereby the shoe is brought into engagement with the fly wheel or is disengaged therefrom in advance by a forward or backward movement of the said arm, substantially as set forth.

864,767. BUILDING-MOLD. JOHN D. BICKFORD, Cleveland, Ohio. Filed Apr. 9, 1907. Serial No. 367,199



1. A mold for cement or concrete construction, comprising sections placed endwise with respect to each other and an outer casing inclosing the adjacent ends of the sections, said sections and casing being formed of a plurality of staves extending lengthwise beside each other, the staves of the sections and casing being of similar widths and capable of being removed or replaced to equally vary the size of said parts.

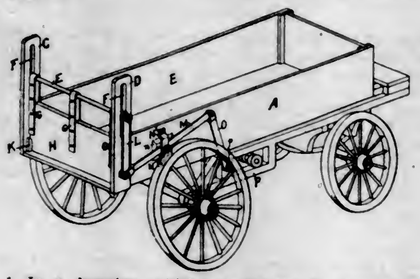
2. A mold of the kind described, consisting of sections placed endwise and spaced with respect to each other, an outer casing inclosing the adjacent ends of the sections, and filling pieces fitted between the said ends and within the casing.

3. A mold of the kind described, consisting of sections placed endwise and adjustable with respect to each other, a middle section inclosing the adjacent ends of said sections, and filling pieces fitting between said ends and within the middle section, the said sections being all built up of staves extending lengthwise side by side and sepa-

rably fastened together, whereby more or less of the staves may be used, to vary the cross-section of the mold.

4. A mold of the kind described, consisting of sections placed endwise and spaced with respect to each other, the adjacent ends being undercut, filling pieces located between said sections and retained under said ends, and an outer casing surrounding said ends and the filling pieces.

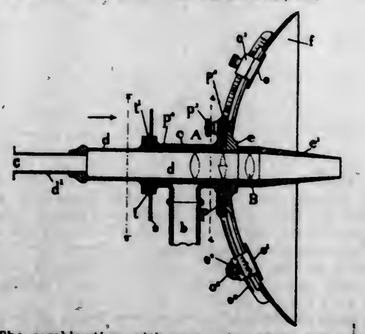
864,768. DUMPING-WAGON. FRANK BLOOMINGDALE, Voorheesville, N. Y. Filed July 5, 1906. Serial No. 324,730.



1. In a dumping vehicle; a frame; a dumping box thereon; slotted vertical posts on each side of said box at the end thereof; a rod adapted to reciprocate in said posts; a tail-board carried by said rod; a link connected at one end to the end of said rod; a lever mounted to the side of said vehicle one end of which is attached to said link; a link connecting the other end of said lever to the frame of the wagon.

2. In a dumping vehicle; a frame; a box; a tail-board; slotted posts at the end of said box at right angles to the bottom thereof; a lever attached to the side of said box; a rod connected with said tail-board adapted to reciprocate in said guide posts; a link connecting one end of said lever with said rod; a link connecting the other end of said lever with the frame of the vehicle; a means connected with the body of said vehicle to engage said tail-board when it is lowered for preventing leaking, substantially as described.

864,769. OPHTHALMOMETER. EDWARD P. BREWER, Norwich, Conn. Filed Aug. 29, 1904, Serial No. 222,655. Renewed Dec. 22, 1906. Serial No. 349,163.



1. The combination with means for viewing the eye by reflection, of pairs of oppositely disposed targets, the targets of one pair lying in a plane at an angle to that of the other pair.

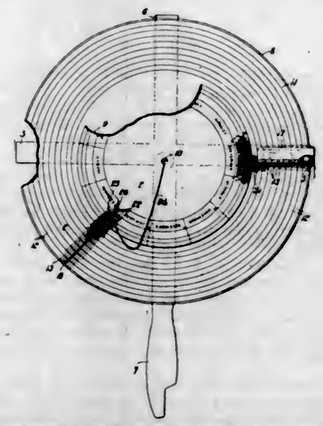
2. In combination, in an ophthalmometer, oppositely disposed targets, supplemental targets slidable in a direction at right angles to the plane common to the said oppositely disposed targets, and means for adjusting the supplemental targets to vary their respective inclinations relatively to the companion targets.

3. In combination, in an ophthalmometer, two oppositely-disposed targets, means for adjusting said targets relatively to each other, supplemental targets adjustable in planes at right angles to the plane common to the said two oppositely-disposed targets, means for varying the inclination of the supplemental targets relatively to the companion targets, and for indicating the said inclination.

4. In combination, in an ophthalmometer, a revoluble tube containing a prismatic lens for viewing the eye by reflection, a disk mounted on the said tube, oppositely-disposed targets adjustably mounted on said disk, supplemental targets located midway the said oppositely-disposed targets and means for varying and for indicating the inclination of the said supplemental targets relatively to the companion targets.

5. In combination, with an ophthalmometer, a double refracting lens composed of two pairs of triangular prisms of unequal refraction, substantially as herein set forth.

864,770. COMPUTING-MACHINE. JOSEPH E. CARROLL, Portsmouth, Ohio. Filed Mar. 11, 1907. Serial No. 361,757.



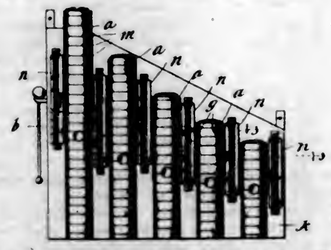
1. A computing device including a plurality of superposed rotary disks one of which is formed with an elongated slot and provided with a plurality of rows of numerals representing the interest on different amounts for a pre-determined period at a given rate percent, the other disk being provided with date spaces and having perforations formed therein opposite each date space, there being a designating segment on the interest bearing disk and disposed in alinement with the slot, a pointer bearing numerals in progressively increasing decimal notation indicating the several amounts on which the interest is to be calculated, and an operating device adapted to enter the perforations in the date bearing disk for rotating said disk thereby to aline any particular date space with the designating segment.

2. A computing device including a support, a plurality of superposed disks mounted for rotation on the support one of said disks being provided with an elongated slot and having a plurality of rows of numerals representing the interest on different amounts for a pre-determined period at a given rate percent, and the opposite disk being provided with date spaces and having perforations formed therein opposite each date space, a pointer carried by the support and bearing numerals indicating the several amounts on which the interest is calculated, and an operating device adapted to enter the perforations in the adjacent disk and also the slot in the opposite disk for rotating both disks thereby to aline the several rows of interest products with the pointer.

3. A computing device including a support, a plurality of superposed disks mounted for rotation on the support, one of said disks being provided with an elongated slot and the other with a series of perforations adapted to register with the slot, a pointer secured to the support and overhanging one of the disks, and an operating device adapted to engage the slot and the adjacent perforation for rotating said disks.

4. A computing device including a support, a plurality of disks mounted for independent rotation on said support, the lower disk being provided with an elongated slot and bearing a plurality of numerals representing the interest on the different amounts for a pre-determined period at a given rate percent, there being a concentric row of numerals on said disk and indicating the number of days in the year, the upper disk being provided with a plurality of date spaces adapted to register with the interest products and the concentric row of numerals, there being perforations formed in the upper disk and indicating the number of days in each month, a pointer secured to the support and bearing numerals indicating the several amounts on which the interest is calculated, and an operating device adapted to engage the perforations in the upper disk and the slot in the lower disk for rotating said disks.

864,771. MUSICAL BELL. JOHN C. DEAGAN, Chicago, Ill. Filed Dec. 26, 1906. Serial No. 349,396.



1. A tubular bell provided with circumferentially disposed grooves, which reduce the thickness of the metal where located.

2. A tubular bell provided with circumferentially disposed grooves extending completely around the bell, which grooves reduce the thickness of the metal where located.

3. A musical bell of tubular formation having a circumferentially continuous wall portion, the said bell being slotted below the complete tubular wall portion and being circumferentially grooved, the thickness of the metal being reduced where grooved.

4. A musical bell of tubular formation having a circumferentially continuous wall portion, the said bell being slotted below the complete tubular wall portion and being circumferentially grooved at the circumferentially continuous tubular wall portion, the thickness of the metal being reduced where grooved.

5. A musical bell of tubular formation having a circumferentially continuous wall portion, the said bell being slotted below the complete tubular wall portion and being circumferentially grooved where the bell is slotted, the thickness of the metal being reduced where grooved.

6. A musical bell of tubular formation having a circumferentially continuous wall portion, the said bell being slotted below the complete tubular wall portion and being circumferentially grooved where the bell is continuous and where it is slotted, the thickness of the metal being reduced where grooved.

7. A tubular bell provided with circumferentially disposed grooves, said grooves being disposed in planes substantially perpendicular to the axis of the bell, which grooves reduce the thickness of the metal where located.

8. A tubular bell provided with circumferentially disposed grooves extending completely around the bell, said grooves being disposed in planes substantially perpendicular to the axis of the bell, which grooves reduce the thickness of the metal where located.

9. A musical bell of tubular formation having a circumferentially continuous wall portion, the said bell being slotted below the complete tubular wall portion and being circumferentially grooved, said grooves being disposed in planes substantially perpendicular to the axis of the bell, which grooves reduce the thickness of the metal where located.

10. A musical bell of tubular formation having a circumferentially continuous wall portion, the said bell being slotted below the complete tubular wall portion and being circumferentially grooved at the circumferentially continuous tubular wall portion, said grooves being disposed in planes substantially perpendicular to the axis of the bell, which grooves reduce the thickness of the metal where located.

11. A musical bell of tubular formation having a circumferentially continuous wall portion, the said bell being slotted below the complete tubular wall portion and being circumferentially grooved where the bell is slotted, said grooves being disposed in planes substantially perpendicular to the axis of the bell, which grooves reduce the thickness of the metal where located.

12. A musical bell of tubular formation having a circumferentially continuous wall portion, the said bell being slotted below the complete tubular wall portion and being circumferentially grooved where the bell is continuous and where it is slotted, said grooves being disposed in planes substantially perpendicular to the axis of the bell, which grooves reduce the thickness of the metal where located.

13. A tubular bell provided with grooves, which reduce the thickness of the metal where located.

14. A tubular bell provided with grooves extending completely around the bell, which grooves reduce the thickness of the metal where located.

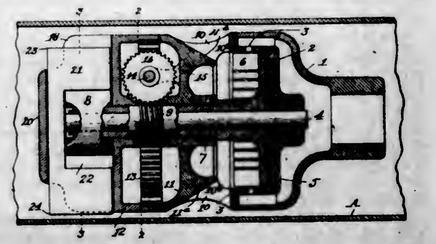
15. A musical bell of tubular formation having a circumferentially continuous wall portion, the said bell being slotted below the complete tubular wall portion and being grooved, the thickness of the metal being reduced where grooved.

16. A musical bell of tubular formation having a circumferentially continuous wall portion, the said bell being slotted below the complete tubular wall portion and being grooved at the circumferentially continuous tubular wall portion, the thickness of the metal being reduced where grooved.

17. A musical bell of tubular formation having a circumferentially continuous wall portion, the said bell being slotted below the complete tubular wall portion and being grooved where the bell is slotted, the thickness of the metal being reduced where grooved.

18. A musical bell of tubular formation having a circumferentially continuous wall portion, the said bell being slotted below the complete tubular wall portion and being grooved where the bell is continuous and where it is slotted, the thickness of the metal being reduced where grooved.

864,772. STEAM-BOILER TUBE OR FLUE CLEANER OR SCRAPER. CYRUS S. DEAN, Buffalo, N. Y., assignor of one-half to Albert D. Jamieson, Buffalo, N. Y. Filed Jan. 29, 1906. Serial No. 298,493.



1. In a steam boiler tube or flue cleaner or scraper, the combination with a cleaner head, of a slidable cutter adapted for free vibration in both directions transversely

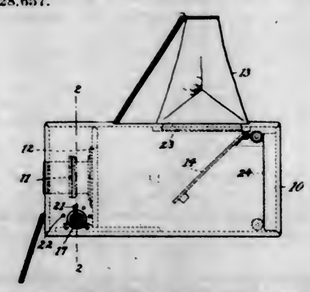
of the cleaner head and carrying at its opposite ends cutter blades adapted to strike from opposite sides of the cleaner head, a cam having a loose impactive co-action with the cutter for vibrating the said cutter, and means for rotating the cam.

2. In a steam boiler tube or flue cleaner or scraper, the combination with a relatively stationary cleaner head section, of a relatively rotatable cleaner head section, a cutter carried by the relatively rotatable cleaner head section, a motor, means for operating said cutter from said motor, means for rotating the rotary cleaner head section from the motor comprising an internal circular rack carried by the rotary cleaner head section, and gearing carried by the relatively stationary cleaner head section interposed between said rack and the motor.

3. In a steam boiler tube or flue cleaner or scraper, the combination with a relatively stationary cleaner head section, of a relatively rotatable cleaner head section, a cutter carried by the relatively rotatable cleaner head section, a motor, means for operating said cutter from said motor, and means for turning the rotary cleaner head section from the motor comprising a circular rack carried by the rotary cleaner head section, a worm operated by the said cutter operating means, and gearing on the stationary cleaner head section comprising a worm wheel meshing with the worm and a conical gear connected to the worm and rotating therewith and meshing with the rack aforesaid.

4. In a steam boiler tube or flue cleaner or scraper, the combination with a relatively stationary cleaner head section, of a relatively rotatable cleaner head section, a cutter adapted to vibrate transversely of the rotary cleaner head section and carried thereby, a rotary member, a cam carried by the rotary member and adapted for vibrating the cutter, and gearing for rotating the rotary cleaner head section comprising a circular rack carried by said rotary cleaner head section, a worm carried by the rotary member aforesaid, a worm wheel meshing with the worm and carried by the stationary cleaner head section, and a conical gear secured to and rotating with the worm wheel and meshing with the rack aforesaid.

864,773. CAMERA-FOCUSING DEVICE. JULIAN A. DIMOCK, Denning, N. Y. Filed Aug. 1, 1906. Serial No. 328,657.

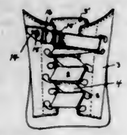


1. In a focusing device, the combination, with the camera-box, of two members, one of which is connected with the focusing mechanism of the camera and normally free to move over the other by pressure exerted in the direction of its focusing movement, one of said members being an index and the other a delimited scale composed of prominences corresponding to the focal distances, said prominences being distinguishable by the sense of touch exerted by the fingers of the operator's hand performing a relative adjustment of the two members.

2. A camera-focusing device comprising, in combination with the camera, a stationary scale composed of raised points corresponding in position to the focal distances, and a revolving index connected with the camera-focusing mechanism and so located as to sweep over said scale at a substantial distance away from the scale-points, but in sufficiently close proximity thereto to enable the points to be felt by the fingers which move the index.

3. The combination with a reflecting camera having provision for focusing on a ground-glass by means of the main lens while the sensitive surface is in condition for exposure by the release of the shutter, of a focusing device including a delimited scale and an index, one of which is movable over the other and connected with the camera-focusing mechanism, said scale having prominences distinguishable by the sense of touch, whereby the focal distance of the object may be determined while the operator's eyes are on the ground-glass.

864,774. SHOE-FASTENING. FRANK F. DUMKE, Milwaukee, Wis. Filed Sept. 13, 1906. Serial No. 334,517.



1. The combination with the respective sides of a shoe upper, of a series of lace retaining loops, each loop comprising a broad central portion for the reception of a broad lacing tape, two fastening arms formed at substantially right angles to the central portion, a fastening eye connected with each of said arms for securing said loops to the respective edges of a shoe upper, a single broad flat lacing tape permanently connected at its lower end to the shoe upper at the lower end of said series of lace retaining loops and passing from thence alternately through the loops of the respective series, and means for securing the upper ends of said lacing tape when taut to the upper portion of the shoe upper.

2. The combination with the respective sides of a shoe upper of a series of lace retaining loops, each loop comprising a central portion and two fastening arms formed at an angle thereto, the respective ends of said arms being provided with fastening eyelets by which said loops are secured to the respective edges of the shoe upper, the central portion of each of the loops of one series being positioned in a plane parallel with the central portion of the loops of the opposite series whereby the lacing tape may be drawn from the loops of one series to the loops of the opposing series with but slight friction, a single broad lacing tape permanently connected at its lower end to the shoe upper near the lower end of said series of loops and passing from thence alternately through the loops of the respective series and means of securing the upper end of said tape when taut to the upper portion of the shoe upper.

3. The combination with the respective sides of a shoe upper, of a series of lace retaining loops, each loop comprising a central portion and two fastening arms formed at an angle thereto, the respective ends of said arms being provided with fastening eyelets by which said loops are secured to the respective edges of the shoe upper, the central portion of each of the loops of one series being positioned in a plane parallel with the central portion of the loops of the opposite series whereby the lacing tape may be drawn from the loops of one series to the loops of the opposing series with but slight friction, the fastening arms of said loops being respectively curved upwardly and forwardly from said eyelets, whereby the central portion of said loops are brought on a higher plane at a slight distance from the plane of a shoe upper to which said eyelets are attached and the lacing tape is prevented from rubbing against the upper surface of the shoe upper and tongue, a single broad lacing tape permanently connected at its lower end to the shoe upper near the lower end of said series of loops and passing from thence alternately through the loops of the respective series and means of securing the upper end of said tape when taut at different points of adjustment to the upper portion of the shoe upper.

864,775. BOARD. JEFFREY T. FERRES, Anderson, Ind., assignor to J. W. Sefton Manufacturing Company, Anderson, Ind., a Corporation of Indiana. Filed Jan. 15, 1907. Serial No. 352,409.

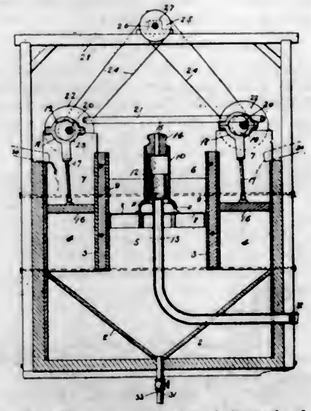


1. As a new article of manufacture, a board comprising two facing strips, a corrugated strip therebetween, and a wire gauze or netting arranged between the corrugated strip and one of the facing strips; substantially as described.

2. As a new article of manufacture, a board comprising two facing strips, a corrugated strip therebetween, and a wire gauze or netting arranged between the corrugated strip and one of the facing strips, said gauze being secured to the inner side of such facing strip; substantially as described.

3. As a new article of manufacture, a board comprising two facing strips, a corrugated strip therebetween, and a wire gauze or netting arranged between the corrugated strip and one of the facing strips, said gauze being secured both to the inner side of such facing strip and to the corrugated strip; substantially as described.

864,776. ORE-CONCENTRATING JIG. HENRY FOUST, Baxter Springs, Kans. Filed Nov. 23, 1906. Serial No. 344,715.



1. In combination, ore cells, a mesh in each of the cells, a converging bottom positioned beneath the cells, a valve casing supported by each of the meshes and held a distance thereabove, discharge pipes leading from within the valve casings to the exterior of the cells, a valve within each casing resting on the discharge pipe thereof, and means on both sides of the cell acting in conjunction with the converging bottom for forcing a liquid through the meshes.

2. In combination, ore cells, a mesh in each of the cells, a valve casing supported by each of the meshes and held a distance thereabove, discharge pipes leading from within the valve casing to the exterior of the cells, a valve within each casing resting on the discharge pipe thereof, the ends of the discharge pipe with which the valves contact being provided with recesses, and means for forcing liquid through the meshes.

3. In combination, ore cells, a mesh in each of the cells, a valve casing supported by each of the meshes, said valve casing having a vent in its top, discharge pipes leading from within the valve casing to the exterior of the cells, a valve within each casing resting on the discharge pipe thereof, the ends of the discharge pipe with which the valves contact being provided with recesses, and means for forcing liquid through the meshes.

864,777. SPOOL AND RIBBON MECHANISM FOR FRONT-STRIKE TYPE-WRITING MACHINES. WILLIAM R. FOX, Grand Rapids, Mich. Filed Mar. 4, 1907. Serial No. 360,428.



1. In a spool and ribbon mechanism for a typewriter, the combination with a typewriter frame 1, of the spool shaft 2; a spool made up of corrugated sides 3—3, and a spool body made up of incomplete concentric drums 4 and 5, of sheet metal; a slot through the outer drum arranged to be opened and closed by the adjustment of the inner drum for attaching a ribbon 13; a ribbon 13; an inwardly extending lug 10 on the outer drum engaging a corresponding slot 11 on the inner drum to limit the movements of the same on each other; a lug 9 on one end of one drum; a lug 9' on the opposite end of the other drum, the said lugs extending into suitable slots in the opposite spool heads, whereby the drums can be adjusted one upon the other by turning the spool heads in opposite directions; a face cam 17 formed of sheet metal; a shouldered sleeve through the center of said drum, clamping the cam and various parts together, the incomplete drums leaving an opening at one side; a pivoted cover 8 for the said opening, arranged to be held normally closed by the pressure of the ribbon 13 wrapped around the same; a counterweight 8' for said cover 8 within the spool body, arranged to open the same when the ribbon is unwound; a yielding finger 14 on a rock shaft 15; a counterbalance 14' for the said finger to hold the same normally against the spool so that it will enter the aperture when the cover 8 is released and opened by the counterweight; and a trip 16 on the shaft 15 to throw the reversing mechanism into gear, all co-acting substantially as described and for the purpose specified.

2. In a spool and ribbon mechanism for a typewriter, the combination with a typewriter frame 1, of the spool shaft 2; a spool made up of corrugated sides 3—3, and a spool body made up of incomplete concentric drums 4 and 5, of sheet metal; a slot through the outer drum arranged to be opened and closed by the adjustment of the inner drum for attaching a ribbon 13; a ribbon 13; an inwardly extending lug 10 on the outer drum engaging a corresponding slot 11 on the inner drum to limit the movements of the same on each other; a lug 9 on one end of one drum; a lug 9' on the opposite end of the other drum, the said lugs extending into suitable slots in the opposite spool heads, whereby the drums can be adjusted one upon the other by turning the spool heads in opposite directions; a shouldered sleeve through the center of said drum, clamping the various parts together, the incomplete drums leaving an opening at one side; a pivoted cover 8 for the said opening, arranged to be held normally closed by the pressure of the ribbon 13 wrapped around the same; a counterweight 8' for said cover 8 within the spool body, arranged to open the same when the ribbon is unwound; a yielding finger 14 on a rock shaft 15; a counterbalance 14' for the said finger to hold the same normally against the spool so that it will enter the aperture when the cover 8 is released and opened by the counterweight; and a trip 16 on shaft 15 to throw the reversing mechanism into gear, all co-acting substantially as described and for the purpose specified.

3. In a spool and ribbon mechanism for a typewriter, the combination with a typewriter frame 1, of the spool shaft 2; a spool made up of corrugated sides 3—3, and a spool body made up of incomplete concentric drums 4 and 5, of sheet metal; a slot through the outer drum arranged to be opened and closed by the adjustment of the inner drum for attaching a ribbon 13; a ribbon 13; an inwardly extending lug 10 on the outer drum engaging a corresponding slot 11 on the inner drum to limit the movements of the same on each other; a lug 9 on one end of one drum; a lug 9' on the opposite end of the other drum, the said lugs extending into suitable slots in the opposite spool heads, whereby the drums can be adjusted one upon the other by turning the spool heads in opposite directions; and a shouldered sleeve through the center of said drum, clamping the various parts together, all co-acting substantially as described and for the purpose specified.

4. In a spool and ribbon mechanism for a typewriter, the combination with the typewriter frame 1 of the spool shaft 2; a spool with suitable ends and a hollow body containing an opening in one side thereof; a pivoted cover 8 for said opening, arranged to be held normally closed by the pressure of the ribbon 13 wrapped around the same; a counterweight 8' for said cover 8 within the hollow spool body, arranged to open the same when the ribbon is unwound; a yielding finger 14 on the rock shaft 15; a counterbalance 14' for the said finger to hold the same normally against the spool so that it will enter the opening when the cover 8 is released and opened by the counterweight; and a trip 16 on the shaft 15 to throw the reversing mechanism into gear, all co-acting substantially as described and for the purpose specified.

5. In a spool and ribbon mechanism for a typewriter, the combination of a spool with suitable ends and a hollow body containing an opening in one side thereof; a pivoted cover 8 for said opening, arranged to be held normally closed by the pressure of the ribbon 13 wrapped around the same; a counterweight 8' for said cover 8 within the hollow spool body, arranged to open the same when the ribbon is unwound; a yielding finger 14; the rock shaft 15 carrying said finger; a counterbalance 14' for the said finger to hold the same normally against the spool so that it will enter the opening when the cover 8 is released and opened by its counterweight; and a trip 16 on the shaft 15 to throw the reversing mechanism into gear, all co-acting substantially as described and for the purpose specified.

6. In a spool and ribbon mechanism for a typewriter, the combination of a spool with suitable ends and a hollow body containing an opening in one side thereof; a pivoted cover 8 for said opening, arranged to be held normally closed by the pressure of the ribbon 13 wrapped around the same; a counterweight 8' for said cover 8 within the hollow spool body, arranged to open the same when the ribbon is unwound; a yielding finger 14; the rock shaft 15 carrying the said finger; a counterbalance 14' for the said finger to hold the same normally against the spool so that it will enter the opening when the cover 8 is released and opened by its counterweight, all co-acting substantially as described and for the purpose specified.

7. In a spool and ribbon mechanism for a typewriter, the combination of a spool with suitable ends and a hollow body containing an opening in one side thereof; a pivoted cover 8 for said opening, arranged to be held normally closed by the pressure of the ribbon 13 wrapped around the same; a counterweight 8' for said cover 8 within the hollow spool body, arranged to open the same when the ribbon is unwound; a yielding finger 14, resting normally against the spool so that it will enter the opening when the cover 8 is released and the rock-shaft 15 carrying said finger, all co-acting for the purpose specified.

8. In a spool and ribbon mechanism for a typewriter, the combination of a spool with a hollow body, containing an opening in the side thereof; a pivoted cover for said opening, arranged to be held normally closed by the pressure of the ribbon when it is wrapped around the same; yielding means for holding said cover normally open when the spool is empty, so that when the ribbon is unwrapped the same will open; and a yielding finger arranged to rest against the spool body and the ribbon wrapped thereon, so as to enter the opening in the side of the spool body when the ribbon is unwound and the cover is opened, all co-acting for the purpose specified.

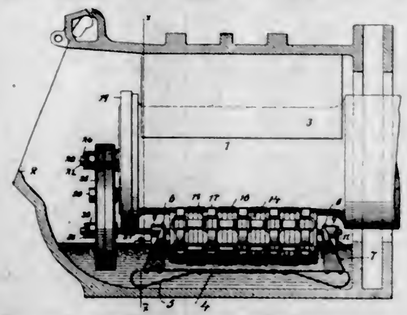
9. In a ribbon mechanism for a typewriting machine, the combination of a spool with a body made up of concentric sheet metal shells adapted to adjust the one upon the other, the outer one of which is slotted, one of which is connected to operate by one spool head and the other by the opposite spool head, whereby the said slot can be opened and closed by manipulating the spool heads for detaching and attaching the ribbon, as specified.

10. In a ribbon mechanism for a typewriting machine, the combination of a ribbon spool, the body of which is made of concentric parts, connected to the opposite heads of the spool and adjustable upon the other, the said parts being formed with an aperture between them; and a suitable slot through the parts for receiving and clamping the ribbon as the parts are adjusted, for the purpose specified.

11. In a ribbon mechanism for a typewriting machine, the combination of a ribbon spool, the body of which is made of parts, connected to the opposite heads of the spool and adjustable the one upon the other, the said parts being formed with an aperture between them for receiving and clamping the ribbon as the parts are adjusted, for the purpose specified.

12. In a typewriter, the combination of a spool with suitable heads and a body made up of concentric parts, one movable on the other; and a slot through the parts to receive the end of the ribbon and clamp the same by slipping one part on the other, as specified.

864,778. LUBRICATING DEVICE. HARRY C. GAMAGE, New York, N. Y., assignor, by mesne assignments, to Oil-Bath Lubricator Co., a Corporation of New Jersey. Filed Apr. 5, 1907. Serial No. 366,474.



1. A rotary shaft, an endless lubricant-conveying belt in contact with said shaft and wholly disposed on one side of the axis of rotation thereof, and mechanism for transmitting motion from said shaft to said belt.

2. A rotary shaft, an endless lubricant-conveying belt in contact with said shaft and wholly disposed on one side of the axis of rotation thereof, and mechanism for transmitting motion from said shaft to said belt, the said mechanism including means for causing said belt to move at a surface speed less than the surface speed of said shaft.

3. A rotary shaft, an endless lubricant conveying traveling belt in contact therewith, and flexible rollers supporting said belt.

4. A rotary shaft, an endless lubricant-conveying belt in contact therewith, and flexible rollers each formed from a spiral of wire supporting said belt.

5. A rotary shaft, an endless lubricant-conveying traveling belt in contact therewith, rollers carrying said belt and a support in which said rollers are journaled, the said support being longitudinally flexible.

6. A rotary shaft, an endless lubricant-conveying traveling belt in contact therewith, longitudinally flexible rollers carrying said belt and a longitudinally flexible support in which said rollers are journaled.

7. A rotary shaft, a casing therefor, an endless lubricant-conveying traveling belt in said casing and in contact with said shaft, longitudinally flexible rollers carrying said belt, a longitudinally flexible support in which said rollers are journaled and springs beneath said support.

8. A rotary shaft, an endless lubricant-conveying belt in contact therewith, rollers supporting said belt, motion transmitting mechanism between said shaft and one of said supporting rollers, and means for detachably connecting said mechanism to said shaft and said roller.

9. A rotary shaft, an endless lubricant-conveying traveling belt in contact therewith, rollers supporting said belt, motion transmitting gearing, an inclosing case therefor and means for detachably connecting said case and said gearing to said shaft and said roller.

10. A rotary shaft, an endless lubricant-conveying traveling belt in contact therewith, rollers supporting said belt, one of said rollers being polygonal, and motion transmitting mechanism between said shaft and said polygonal roller.

11. A rotary shaft journal, a casing therefor, having an opening, a traveling lubricant-conveying band in said casing in contact with and below said journal, and mechanism for actuating said band from said shaft disposed in said casing and between said opening and said band.

12. A rotary shaft journal, a casing therefor having an end opening, a mechanism for conveying lubricant to said journal disposed in said casing and below said journal, and a detachable screen disposed in said casing and between said opening and said lubricant-conveying mechanism and having an area sufficient to shield said lubricant conveying mechanism from access through said opening.

13. In a lubricating device, a base plate, side plates supported on said base plate, rollers journaled in said side plates and a traveling lubricant conveying belt carried by said rollers.

14. In a lubricating device, a base plate, side plates supported on said base plate, rollers journaled in said side plates, a traveling lubricant conveying belt carried by said rollers and means between said rollers for tightening said belt.

15. In a lubricating device, a base plate, side plates supported on said base plate, rollers journaled in said side plates, an intermediate roller between said rollers, vertically sliding bearings in said side plates receiving the journals of said intermediate roller, a traveling lubricant-conveying belt on said rollers and a spring acting upon said sliding bearings to cause said intermediate roller to tighten said traveling belt.

16. A rotary shaft, an endless lubricant-conveying traveling belt, and supports for said belt; a portion of said belt between said supports being in contact with said shaft.

17. A rotary shaft, an endless lubricant-conveying traveling belt and elastic supports for said belt; a portion of said belt between said supports being in contact with said shaft.

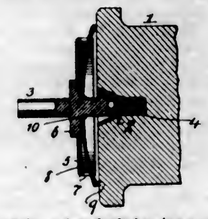
18. A rotary shaft, a traveling lubricant-conveying band in contact with said shaft and wholly disposed on one side of the axis of rotation thereof, and means for driving said shaft and band at different surface speeds.

864,779. DEVICE FOR SECURING SPINDLES TO SHAFTS. HARRY C. GAMAGE, New York, N. Y., assignor, by mesne assignments, to Oil-Bath Lubricator Co., a Corporation of New Jersey. Filed May 17, 1907. Serial No. 374,239.

1. The combination of a spindle having a threaded end, and, fast on said spindle, a flanged disk and a resilient bar having a knife edge flange, the said bar extending through an opening in the flange of said disk.

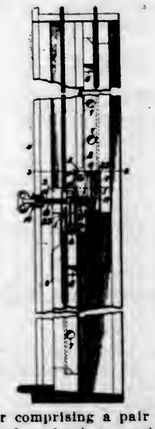
2. The combination of a spindle having a threaded end, and, fast on said spindle, a flanged disk and a resilient bar extending through an opening in the flange of said disk and having at its end a knife edge flange.

3. The combination of a spindle having a threaded end, a flanged disk formed integrally with said spindle, and a resilient bar, rigidly secured on said spindle and in proximity to said disk, extending through openings in the flange of said disk and having, at its ends, knife edge flanges.



4. The combination of a shaft having a central threaded recess in its end face, a spindle having a threaded end constructed to be received in said recess, a flanged disk on said spindle, a resilient bar on said spindle having its ends extending through openings in the flange of said disk and knife edge flanges on the ends of said bar constructed to meet and be held against the said end face when said spindle is in place in said recess.

864,780. SASH-FASTENER. JAMES E. GIBBS, Clifton Forge, Va. Filed Dec. 20, 1906. Serial No. 348,761.



1. A sash fastener comprising a pair of oppositely disposed sash-engaging dogs having openings and provided with front and rear recesses, and a reversible key removably fitted in the openings of the dogs and having a feather or rib for engaging the walls of the recesses, said feather or rib being adapted to be arranged in either the front or rear recess.

2. A sash fastener comprising a pair of oppositely disposed sash-engaging dogs having registering bearing openings and provided with recesses forming opposite shoulders arranged in pairs and extending outwardly from the bearing openings, and a key passing through the bearing openings of the dogs and forming a pivot for the latter and having a rib or feather arranged in the said recesses and adapted to engage the opposite end walls thereof for actuating the dogs independently of each other.

3. A sash fastener comprising a supporting plate provided with a bearing, sash-engaging dogs arranged at opposite sides of the bearing, a key mounted in the bearing and passing through the dogs and provided with means for actuating the same, a spring consisting of arms for engaging the dogs, and an intermediate portion connecting the arms and arranged at the bearing and provided with a bend, and a clamping screw receiving and engaging the said bend, whereby the spring is secured to the bearing.

4. A sash fastener comprising a supporting plate having a substantially rectangular bearing provided at opposite sides with bearing openings and having a threaded aperture at the back, dogs located at opposite sides of the bearing, a key located in the bearing openings and provided with means for actuating the dogs, a spring for engaging the dogs, and a clamping screw mounted in the threaded aperture of the bearing and engaging the spring.

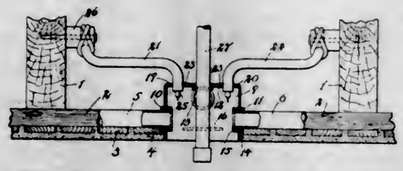
5. A sash fastener comprising a plate having a bearing and provided at opposite sides thereof with inclined seats, sash-engaging dogs arranged on the seats, resilient means for engaging the dogs to hold the same on the seats, and a key mounted in the said bearing and provided with means for actuating the dogs.

6. A sash fastener comprising a plate having a bearing and provided with tapering lugs forming oppositely inclined seats, dogs arranged on the seats, and a key mounted in the bearing and provided with means for actuating the dogs.

7. A sash fastener comprising a supporting plate having oppositely tapered lugs forming seats and provided with side flanges, dogs arranged on the seats, and a key having means for actuating the dogs.

8. A sash fastener comprising a plate provided with end openings, a central bearing, oppositely tapered lugs forming inclined seats and having side flanges, said lugs being located at opposite sides of the bearing, approximately L-shaped dogs arranged on the seats and held against lateral movement by the flanges and the central bearing and adapted to project through the openings, a key mounted in the bearing and provided with means for actuating the dogs, and a spring also mounted in the bearing and engaging the dogs.

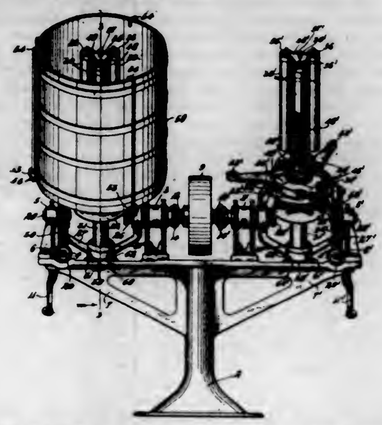
864,781. UNIVERSAL OUTLET OR JUNCTION BOX. JOHN L. GLEASON, Boston, Mass. Filed May 31, 1906. Serial No. 319,472.



1. An outlet box having openings in its side and end walls to receive electrical conduits, a short flat strip of spring metal mounted on the outside of the box with one end near and the other end relatively remote from an opening, and a removable fastening securing the remote end of the strip to the box and normally holding it flat against the wall thereof, the end near the opening having a blunt edge and being recessed on a smooth curve corresponding to the shape of the opening and extending slightly over the edge thereof, whereby this end is sprung outward when a flexible conduit is passed outward through the opening and embraces and indents the conduit, without cutting the same, when an attempt is made to draw it inward.

2. An outlet box having openings in its side and end walls to receive electrical conduits, a short flat strip of spring metal mounted on the outside of the box with one end near and the other end relatively remote from one of said openings, the box wall having a depression or recess in which the strip is contained and which is shaped similarly to the strip, and a removable fastening securing the remote end of the strip to the box and normally holding it flat against the wall thereof, the end near the opening having a blunt edge and being recessed on a smooth curve corresponding to the shape of the opening and extending slightly over the edge thereof, whereby this end is sprung outward when a flexible conduit is passed outward through the opening and embraces and indents the conduit, without cutting the same, when an attempt is made to draw it inward.

864,782. TUMBLING-BARREL. HARRY J. GUTTMAN, Chicago, Ill., assignor of one-third to Alexander E. Keith and one-third to Samuel Cole, Chicago, Ill. Filed Aug. 7, 1905. Serial No. 273,016.



1. A tumbling machine comprising a rotatable tumbling barrel provided internally with electro-plating apparatus all within and projecting upwardly from the bottom thereof.

2. A tumbling machine comprising a rotatable tumbling barrel provided internally with an axially or centrally arranged anode-terminal or electrode extending upwardly from the bottom of the barrel, and with side ribs or portions constituting the cathode-terminal or electrode, together with means for rotating said barrel and supplying a suitable electro-plating-current through a circuit including said anode and cathode when a suitable solution is held within the barrel.

3. A tumbling machine comprising a rotatable barrel having one end left open and its bottom or lower end mounted on an axis, means for tilting or inclining said axis to various angles, a centrally arranged anode-terminal or electrode extending axially of the barrel and insulated therefrom, projecting upwardly from the bottom of the barrel, a cathode-element suitably disposed in the barrel, secured thereto, means for rotating the barrel, and means for supplying the necessary current when a suitable solution is held within the barrel.

4. In a machine of the class described, the combination of a rotatable tumbling barrel, means for changing the angle of said barrel, means for rotating said barrel at any of the different possible angles or positions thereof, an insulated support extending axially from the bottom of said barrel, anode elements mounted on said support, a conductor extending axially through the bottom of the barrel and connected with said anode elements, cathode elements disposed within the barrel and electrically connected therewith, a ring at the bottom of the barrel, electrical connections between said ring and said cathode elements, a source of plating current having its positive pole connected with the said conductor leading to the anode elements, and a brush bearing against the said ring and connected with the negative pole of said source of current.

5. In a machine of the class described, the combination of a rotatable tumbling barrel, means for rotating the barrel, means for varying the angle or inclination of the barrel, a stem or arbor for the barrel, anode elements within the barrel and insulated therefrom, a conductor extending axially through the arbor and the barrel and insulated therefrom, means for electrically connecting the anode elements with the said conductor, a metal bottom member for the barrel, cathode elements within the barrel, electrically connected with said metal member, a source of plating current having its positive pole connected with said conductor, and a brush bearing upon said metal member and electrically connected with the negative pole of the said source of current.

6. An electro-plating machine comprising a rotatable tumbling barrel, means for changing the angle or inclination of the barrel while the same is in motion, a hollow and axially disposed support extending upwardly from the bottom of the barrel and insulated therefrom, a hollow stem or arbor for the barrel, a rod extending longitudinally through the said support and stem or arbor and insulated therefrom, a mounting upon the upper and outer end of said rod, anode elements having their upper and outer ends secured to said mounting, said anode elements extending downwardly within the barrel to a point at or near the bottom thereof, cathode elements within the barrel, a base or body for the machine, means for insulating the cathode elements from the said base or body, a source of plating current, and a circuit including the said source of current and the anode and cathode elements in series, said circuit also including the plating solution held within the barrel.

7. In a machine of the class described, the combination of a rotatable tumbling barrel, cathode elements secured around the inner side walls of the barrel, an inner metal ring secured to the bottom of the barrel, metal strips connecting the cathode elements with the said ring, an outer metal ring for the bottom of the barrel, bolts connecting the two rings together, a spider for the bottom of the barrel, said spider insulated from the cathode elements, a thrust bearing for the bottom of the spider, means for removably securing the barrel to the spider, an anode element disposed centrally within the barrel, means for mounting the anode element upon the bottom of the barrel and insulating same therefrom, means for making electrical connections through the bottom of the barrel with both the anode and cathode elements, and means for rotating the barrel.

8. In a machine of the class described, the combination of a rotatable tumbling barrel, a hollow support disposed axially therein and secured to the bottom thereof, anode elements parallel with and disposed around said hollow support, a rod extending axially through the bottom of the barrel, and extending also longitudinally through the said hollow support, a mounting on the upper or outer end of said rod, means for securing the ends of the anode elements to the said mounting, means for insulating the rod from the balance of the machine, and means at the lower end of the rod for establishing an electrical connection therewith.

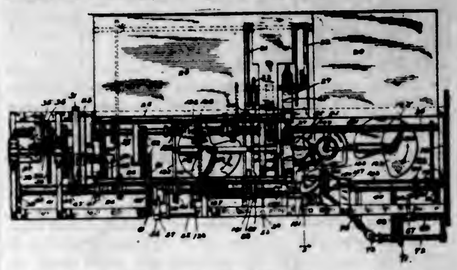
9. In a machine of the class described, the combination of a rotatable tumbling barrel, a spider for the bottom of the barrel, a rotatable stem or arbor for the spider, bearings in which the said stem or arbor is mounted for rotation, and tie-rods hooked over the upper edge of the barrel and secured at their lower ends to the outer ends of the spider-arms.

10. In a machine of the class described, the combination of a rotatable tumbling barrel, a hollow stem or arbor for the bottom of the barrel, an electrode or element within the barrel, and an insulated electrical connection extending longitudinally through the said stem or arbor and suitably connected with the said electrode or element.

864,783. STRAW-BINDER. HARRY A. HANCOCK, Indianapolis, Ind., assignor to The Brown Straw Binder Company, Indianapolis, Ind., a Corporation of Indiana. Filed Oct. 27, 1906. Serial No. 340,872.

1. In a machine of the class described, a bundle-forming cradle comprising a pair of curved fingers adapted to embrace the bundle, a pair of opposed parallel shafts each carrying one of said fingers, means for rocking either of said shafts, and means for revolving said shafts simultaneously about an axis intermediate said rock shafts.

2. In a machine of the class described, the combination with a bundle-holding cradle and means for rotating the same about the axis of the bundle, of means for extracting the butt ends of straws from the bundle during its rotation and twisting the same into a rope encircling the bundle, means for engaging the overlapping ends of such rope and twisting the same together radially of the bundle, and means for securing said twisted ends together.



3. In a machine of the class described, the combination with a bundle-holding cradle and means for rotating the same about the axis of the bundle, of means for extracting the butt ends of straws from the bundle during its rotation and twisting the same into a rope encircling the bundle, means for engaging the overlapping ends of such rope and twisting the same together radially of the bundle, and means for tucking said twisted ends between the encircling rope and the bundle.

4. In a machine of the class described, the combination with a bundle-holder and means for forming a binding rope around said bundle, of means for twisting the overlapping ends of such encircling band together radially of the bundle, and means for tucking such twisted ends into the bundle.

5. In a machine of the class described, the combination with a bundle-holder and means for forming a binding rope around said bundle from the ends of straws in the bundle, of means for twisting the overlapping ends of such encircling band together radially of the bundle, and means for tucking such twisted ends into the bundle.

6. In a machine of the class described, the combination with a bundle-receiving means and means for forming an encircling rope about said bundle, of a twister head comprising jaws adapted to clasp the overlapping ends of said embracing rope, and means for rotating said head about an axis substantially radial to the bundle.

7. In a machine of the class described, the combination with a bundle-receiving means and means for forming an encircling rope about said bundle from the ends of straws extracted from said bundle, of a twister head comprising jaws adapted to clasp the overlapping ends of said embracing rope, and means for rotating said head about an axis substantially radial to the bundle.

8. In a machine of the class described, the combination with a bundle-receiving means and means for forming an encircling rope about said bundle, of a twister head comprising jaws adapted to clasp the overlapping ends of said embracing rope, means for rotating said head about an axis substantially radial to the bundle, and means for tucking said twisted ends into the bundle.

9. In a machine of the class described, the combination with a bundle-receiving means and means for forming an encircling rope about said bundle from the ends of straws extracted from said bundle, of a twister head comprising jaws adapted to clasp the overlapping ends of said embracing rope, means for rotating said head about an axis substantially radial to the bundle, and means for tucking said twisted ends into the bundle.

10. In a machine of the class described, the combination with a bundle-receiving means and means for forming an encircling rope about said bundle, of a twister head comprising jaws adapted to clasp the overlapping ends of said embracing rope, means for rotating said head about an axis substantially radial to the bundle, a finger movable axially of the bundle, means for moving said finger axially of the bundle to shift the twisted ends of the embracing rope from the twisting jaws, a tucker finger, and means for driving said tucker finger into engagement with the deflected twisted ends of the rope and driving the same into the bundle.

11. In a machine of the class described, the combination with a bundle-receiving means and means for forming an encircling rope about said bundle from the ends of straws extracted from said bundle, of a twister head comprising jaws adapted to clasp the overlapping ends of said embracing rope, means for rotating said head about an axis substantially radial to the bundle, a finger movable axially of the bundle, means for moving said finger axially of the bundle to shift the twisted ends of the embracing rope from the twisting jaws, a tucker finger, and means for driving said tucker finger into engagement with the deflected twisted ends of the rope and driving the same into the bundle.

12. In a machine of the class described, the combination with a bundle-receiving means and means for forming an encircling rope about said bundle, of a twister head comprising jaws adapted to clasp the overlapping ends of said embracing rope, means for rotating said head about an axis substantially radial to the bundle, a finger movable axially of the bundle, means for moving said finger axially of the bundle to shift the twisted ends of the embracing rope from the twisting jaws, a pair of spring fingers carried by said last-mentioned finger, and means for clasping said fingers about the twisted ends of said rope, a tucker finger, and means for driving said tucker finger into engagement with the deflected twisted ends of the rope and driving the same into the bundle.

13. In a machine of the class described, the combination with a bundle-receiving means and means for forming an encircling rope about said bundle from the ends of straws extracted from said bundle, of a twister head comprising jaws adapted to clasp the overlapping ends of said embracing rope, means for rotating said head about an axis substantially radial to the bundle, a finger movable axially to the bundle, means for moving said finger axially of the bundle to shift the twisted ends of the embracing rope from the twisting jaws, a pair of spring fingers carried by said last-mentioned finger, and means for clasping said fingers about the twisted ends of said rope, a tucker finger, and means for driving said tucker finger into engagement with the deflected twisted ends of the rope and driving the same into the bundle.

14. In a machine of the class described, the combination with a bundle-holder, of a rope forming mechanism comprising a rotary twister head having an axial opening and a gathering finger delivering thereto, a rotary extractor head arranged adjacent the twister head, and means carried by said extractor head for extracting one end of straws from the bundle and delivering the same to the twister head.

15. In a machine of the class described, the combination with a bundle-holder, of a rope forming mechanism comprising a rotary twister head having an axial opening and a gathering finger delivering thereto, a rotary extractor head arranged adjacent the twister head, means carried by said extractor head for extracting one end of straws from the bundle and delivering the same to the twister head, and tension means carried by the twister head for yieldingly embracing the straws delivered thereto.

16. In a machine of the class described, the combination with a bundle-holder, of a rope forming mechanism comprising a rotary twister head having an axial opening and a gathering finger delivering thereto, and tension means carried by the twister head for yieldingly embracing the straws delivered thereto.

17. In a machine of the class described, the combination with a bundle-holder, of a rope forming mechanism comprising a rotary twister head having an axial opening and a gathering finger delivering thereto, a rotary extractor head arranged adjacent the twister head, means carried by said extractor head for extracting one end of straws from the bundle and delivering the same to the twister head, tension means mounted within said twister head and consisting of two pairs of hinged plates arranged in opposition to each other upon opposite sides of the axial opening in the twister head, and springs for urging said plates toward the axis of the twister head.

18. In a machine of the class described, the combination with a bundle-carrier, of a rotary extractor head, an extractor hook carried by said head and adapted to engage straws in the bundle and extract the same from the bundle, and means for shifting said extractor finger on the head, for the purpose set forth.

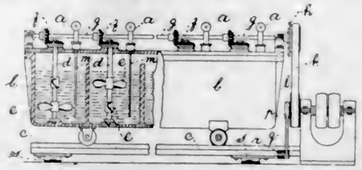
19. In a machine of the class described, the combination with a bundle-carrier, of a rotary extractor head, an extractor hook carried by said head and adapted to engage straws in the bundle carrier and extract the same from the bundle, means for shifting said extractor finger on the head, for the purpose set forth, and means for controlling the bite of the extractor finger.

20. In a machine of the class described, the combination with a bundle carrier and means for rotating the same about the axis of the bundle, of a rotary extractor head, an extractor hook pivotally mounted on said head, and means for swinging said hook upon the head during rotation thereof, for the purpose set forth.

21. In a machine of the class described, the combination with a rotary twister head having an axial opening and an extended gathering finger delivering thereto, of a rotary extractor head, an extractor hook carried by said head, and means for projecting and retracting said hook, for the purpose set forth.

22. In a machine of the class described, the combination with a rotary twister head having an axial opening and a transverse throat leading thereto, of a carrier plate within which said head is journaled, said plate having a throat extending inwardly to the twister throat, a rotary extractor head, an extractor hook pivoted on said head, and means for projecting and retracting said hook during the rotation of the extractor head, whereby material gathered by the hook may be delivered to the plate throat and thence to the twister head throat.

864,784. DEVICE FOR SPRAYING FLUID UPON THE SURFACES OF PAPER, TEXTILE FABRICS, OR THE LIKE. CURT A. HANITZSCH, Manchester, England. Filed Oct. 1, 1906. Serial No. 336,982.



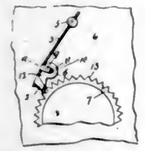
1. Apparatus for spraying fluid, comprising a fluid container *b*. fluid agitators *e* mounted within the same; gearing for operating and connecting said agitators, mounted on the container; air supply pipes *n*. *o*. leading directly into said container; fluid outlet tubes *m*. projecting through the upper part of said container; air outlet nozzle tubes *t*. surrounding said fluid tubes, and leading from the interior of said container, substantially as set forth.

2. In combination, a fluid container, a bored conical seating *u*. on same; a fluid tube *m*. passing through said bored seating; an air tube *t*. surrounding said fluid tube, and having a coned surface fitting said conical seating; and a screw cap *v*. engaging said seating, and covering said coned surface, substantially as set forth.

3. In combination, a sprayer nozzle, having compressed air and fluid passages, a perforated head on said nozzle, and a perforated ring mounted on said head, substantially as herein set forth.

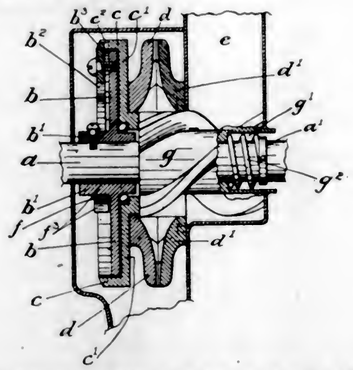
864,785. RATCHET-WHEEL CLICK-SPRING. ERNEST H. HORN, Waterbury, Conn., assignor to The Waterbury Clock Co., Waterbury, Conn., a Corporation. Filed Jan. 7, 1907. Serial No. 351,143.

1. The combination with a ratchet-wheel, of a click engaging with the teeth thereof, and a click-spring provided with a guard-finger engaging with the click at the nose thereof to prevent the lateral displacement of the nose with respect to the teeth of the wheel, and the said spring being also provided with a secondary finger engaged with the heel of the click for preventing the lateral displacement thereof.



2. The combination with a ratchet wheel, of a click engaging with the teeth thereof, a click-spring having a guard-finger for engaging with the nose of the click to prevent the lateral displacement thereof with respect to the teeth of the ratchet wheel, and the said spring being also formed with a secondary finger engaging with the heel of the click and turned inward to form a pivot-bearing therefor.

864,786. DRIVING MECHANISM. HERBERT L. JOHNSTON, Troy, Ohio, assignor to The Hobart Electric Manufacturing Company, Troy, Ohio, a Corporation of Ohio. Filed Apr. 8, 1907. Serial No. 367,103.



1. In a driving connection for a grinding mill or similar mechanism, a driving shaft, a disk connected to said shaft, a pivoted locking device on said disk, an engaging device between said locking device and the part to be driven, and a frictional engaging device located near one end of the locking device, substantially as specified.

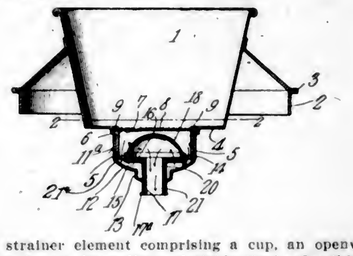
2. In a detachable driving connection, a plate having an annular flange, a disk fitting into said flange, an anti-friction bearing between said parts, a shoulder on one part and a hinged latch adapted to engage said shoulder on the other part, and a yielding catch to hold said latch in its driving position, the connection between said latch and catch being such as to be disengaged by an unusual pressure on said latch, substantially as specified.

3. In a driving connection, a plate having an annular flange, a disk fitted into said flange, anti-friction bearing between the parts, a latch having a driving nose adapted to engage a shoulder on said flange, a spring having an adjustable connection to engage the end of said latch, and a detachable connection between said spring and latch, substantially as and for the purpose specified.

4. In a driving connection for a grinding mill or similar mechanism, a driving shaft, a disk connected to said shaft, a pivoted locking device on said disk, an engaging device between said locking device and the part to be driven, and a spring-pressed frictional engaging device located near one end of the locking device, substantially as specified.

5. The combination with a driving shaft, a disk mounted thereon, a latch and spring-catch on said disk, a plate having an annular flange, an anti-friction bearing between the parts, a shoulder on said flange adapted to be engaged by said latch, and a running bur attached to said plate, a stationary bur opposed to said running bur, and a conveyer having frictional engagement with said plate, and a spring opposed to said conveyer to maintain the frictional connection between said conveyer and plate, substantially as specified.

864,787. STRAINER. WILLARD JONES, Auburn, Me. Filed June 8, 1907. Serial No. 377,992.



1. A strainer element comprising a cup, an openwork head, annular strainers disposed within the head, a thimble for holding the strainers, head and collar frictionally assembled, and a cap detachably combined with the head.

2. A strainer element comprising a cup having a reduced extension, an openwork head having a sleeve, annular strainers arranged within the head, a thimble projecting through the extension and into the sleeve and having a flange bearing against the extension, and a substantially hemispherical cap carried by the head.

3. A strainer comprising a receiver provided with means for attachment to a pail, primary straining elements detachably combined with the receiver, and a supplemental strainer assembled with the receiver and embodying a trap, secondary straining elements arranged therein, and a cap assembled with the trap.

4. A strainer comprising a receiver, primary strainers arranged therein, a trap carried by the receiver, secondary strainers in the trap, and a deflector arranged over the last named strainers and under the first named.

5. A strainer comprising a receiver, primary strainers therein, a trap carried by the receiver, a head disposed within the trap and provided with openings, secondary strainers arranged over the openings, and a deflector carried by the head and covering the last-named strainers and openings.

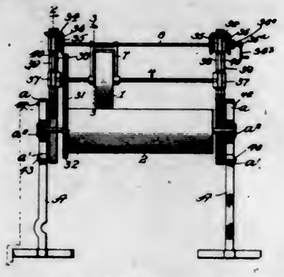
6. A strainer comprising a receiver having a tubular extension provided with a seat, primary strainers disposed in the seat, a trap engaging the extension, a head arranged within the trap and provided with openings, strainers carried by the head and covering the openings thereof, a thimble for holding the head assembled with the trap, and a deflector carried by the head and covering the secondary strainers.

864,788. APPARATUS FOR MARKING MEASUREMENTS ON FABRIC, PIECE GOODS, AND THE LIKE. ERNST KESSLER, Stuttgart, Germany, assignor of one-half to The Firm of Lowenstein & Cie., Frankfort-on-the-Main, Germany. Filed Jan. 7, 1905. Serial No. 240,050.

1. A machine of the class described comprising in combination a cloth roller, a measuring drum adapted to cooperate with said roller, means whereby the drum may be adjusted longitudinally of the roller, and means for adjusting the measuring drum in fixed positions to opposite points of the roller.

2. A machine of the class described comprising in combination a cloth roller, a measuring drum adapted to cooperate therewith, gears connecting said roller and drum to effect operation thereof in unison, means for displacing the drum with respect to the roller to admit goods of different thickness, and means for adjusting the measuring drum in fixed positions to opposite points of the roller.

3. A machine of the class described comprising in combination a cloth roller, a measuring drum adapted to cooperate therewith, gears connecting said roller and drum to effect operation thereof in unison, means for displacing the drum with respect to the roller to admit goods of different thickness, means whereby the drum may be adjusted longitudinally of the roller, and means for adjusting the measuring drum in fixed positions to opposite points of the roller.



4. A machine of the class described comprising supporting standards, a cloth roller journaled thereon, a drum frame pivoted on the shaft of said roller, a drum carried by said frame, and means for anchoring said frame in fixed positions to operate the drum on opposite points of said roller.

5. A machine of the class described comprising supporting standards, a cloth roller journaled thereon, a drum frame pivoted on the shaft of said roller, a drum carried by said frame, means for anchoring said frame in fixed positions to operate the drum on opposite points of said roller, and means for adjusting said drum toward and away from said roller to accommodate different thicknesses of cloth in either of the fixed positions of said drum.

6. A machine of the class described comprising supporting standards, a cloth roller provided with a shaft rotatively mounted thereon and having a gear, a drum frame, arms mounted on the shaft of said roller and adapted to be fixed in diametrically opposite positions with respect to said drum, a drum shaft provided with a gear meshing with the roller gear, a measuring drum mounted on said shaft, an adjusting frame for said drum connected with said adjusting drum shafts, and means for operating said adjusting shaft to displace the drum with respect to the roller.

7. A machine of the class described comprising supporting standards, a cloth roller provided with a shaft rotatively mounted thereon and having a gear, a drum frame, arms mounted on the shaft of said roller and adapted to be fixed in diametrically opposite positions with respect to said drum, a drum shaft provided with a gear meshing with the roller gear, a measuring drum mounted on said shaft, an adjusting frame for said drum connected with said adjusting drum shafts, means for operating said adjusting shaft to displace the drum with respect to the roller, bearings for said adjusting and drum shafts, adjusting rods extending through said bearings on which same are mounted in fixed relation, said rods having threaded engagement with said arms, and gears serving to operate said rods in unison to displace the drum with respect to the roller.

8. A machine of the class described comprising in combination a cloth roller, a drum shaft, an adjusting shaft, a drum frame slidably mounted on said adjusting shaft and displaceable longitudinally with respect to said roller, sleeves mounted on said drum shaft and carried by said frame, a measuring drum mounted on said sleeves, eccentrics for said sleeves, separate printing mechanisms at opposite points on said drum adapted to project through openings in the periphery of the drum, and means operated by said eccentrics to shift said printing mechanism into marking and non-marking positions.

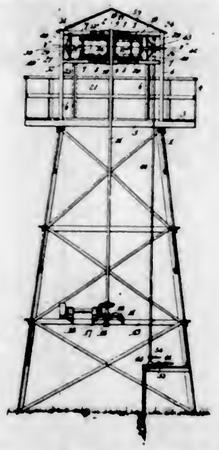
9. A machine of the class described comprising in combination a cloth roller, a drum shaft, an adjusting shaft, a drum frame slidably mounted on said adjusting shaft and displaceable longitudinally with respect to said roller, sleeves mounted on said drum shaft and carried by said frame, a measuring drum provided with spokes having bearing on said sleeves concentrically, said spokes being provided with slots, eccentrics for said sleeves, arms mounted upon said eccentrics, printing mechanism carried by said arms, ratchet wheels for said printing mechanism, and pawls carried by said concentrically mounted arms causing rotation of the printing mechanism when the same is shifted by said eccentrics.

10. A machine of the class described comprising a measuring drum, a shaft on which said drum is concentrically mounted, printing mechanism, means shifting said mechanism into and out of printing positions, and inking mechanism operatively associated with said means to ink said printing mechanism when the same is shifted out of a printing position.

11. A machine of the class described comprising in combination, a cloth roller, a measuring drum adapted to cooperate with said roller, and means for adjusting said measuring drum in different fixed positions with respect to said roller.

12. A machine of the class described comprising in combination a cloth roller, a measuring drum adapted to cooperate with said roller, printing devices associated with said drum and adapted to project and print through the periphery of said drum, and means for adjusting said drum to different fixed positions with respect to said roller.

864,789. WINDMILL. WILLIAM J. KICKBUSH, Buffalo, N. Y. Filed Feb. 27, 1907. Serial No. 359,636.



1. The combination with a derrick, a shaft revoluble therein, and a wind-wheel secured to said shaft, of plates above and below said wind-wheel, wind-scoops arranged around said derrick and pivotally secured at one of their ends, each scoop comprising a curved side-plate and flat top and bottom plates lying respectively above and below the plates arranged above and below the wind-wheel, and means to cause said wind-scoops to move in unison.

2. In a windmill, wind-scoops each comprising an upper angular curved bar, a lower angular curved bar, vertical bars connecting said curved bars at their ends, converging bars at the top and bottom connected together and having their separated ends connected to said curved bars, a curved plate secured to said curved bars, and flat plates secured to said converging bars.

3. In a windmill, wind-scoops, each comprising a curved side, a flat top and a flat bottom, a bar secured to one end of said curved side and provided with trunnions serving as pivots, an outstanding arm at said end of the curved side, and brace-rods connected to the outer end of said arm and diverging toward the opposite end of said curved side and having connection therewith.

4. In a windmill, a tower comprising uprights, two spiders having channeled radial arms, two series of radial bars secured at their inner ends in said channeled arms and connected at their outer ends to said uprights, combined with a shaft rotatable in said spiders, and a wind-wheel affixed to said shaft between the two series of radial arms.

5. In a windmill, a tower comprising uprights, two spiders having channeled radial arms, two series of radial bars secured at their inner ends in said channeled arms and connected at their outer ends to said uprights, combined with a shaft rotatable in said spiders, a wind-wheel affixed to said shaft between the two series of radial arms, plates secured to the series of radial bars above and below the windmill, and wind-scoops around the wind-wheel and pivotally attached between the two series of radial bars.

6. The combination with a derrick, of a shaft rotatable in said derrick, a wind-wheel secured to said shaft, and a step bearing comprising a journal member secured to the derrick and having an opening to receive the lower end of said shaft, and a supporting-member adjustably held to the journal-member and having a stud entering the opening in said journal-member, said stud serving to support said shaft.

7. The combination with a derrick, of a shaft mounted to revolve in said derrick, a wind-wheel affixed to said shaft, wind-scoops pivotally affixed around said wind-wheel, a flexible connection for said wind-scoops to cause them to move in unison, a governor shaft to which said flexible connection is operatively connected, a lever secured to said governor-shaft, and a spring having one end connected to a fixed point and its other end connected to said lever.

8. The combination with a derrick, of a shaft mounted to revolve in said derrick, a wind-wheel affixed to said shaft, wind-scoops pivotally affixed around said wind-wheel, a flexible connection for said wind-scoops to cause them to move in unison, a governor-shaft to which said flexible connection is operatively connected, a lever secured to said governor-shaft and having a series of openings therein, a pin adapted to be thrust into any one of said openings, and a retractile spring having one end connected to a fixed point and its other end connected to said lever.

9. The combination with a derrick, of a shaft mounted to revolve in said derrick, a wind-wheel affixed to said shaft, wind-scoops pivotally affixed around said wind-wheel, a flexible connection for said wind-scoops to cause them to move in unison, a governor-shaft to which said flexible connection is operatively connected a lever secured to said governor-shaft, and a spring adjustably attached at one end to said lever and having its other end connected to a fixed point.

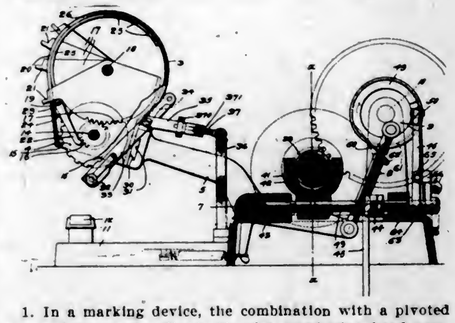
10. The combination with a derrick, of a shaft mounted to revolve in said derrick, a wind-wheel affixed to said shaft, wind-scoops pivotally affixed around said wind-wheel, a flexible connection for said wind-scoops to cause them to move in unison, a governor-shaft to which said flexible connection is operatively connected, a lever secured to said governor-shaft, a weight, a flexible device connecting said weight with said lever, and a pulley over which said flexible device is passed.

11. The combination with a derrick, of a shaft mounted to revolve in said derrick, a wind-wheel affixed to said shaft, wind-scoops pivotally affixed around said wind-wheel, a flexible connection for said wind-scoops to cause them to move in unison, a governor-shaft to which said flexible connection is operatively connected, a lever secured to said governor-shaft, a weight, a chain having one end adjustably attached to said lever and its other end secured to said weight, and a pulley over which said chain is passed.

12. The combination with a derrick, of a shaft mounted to revolve in said derrick, a wind-wheel affixed to said shaft, wind-scoops pivotally affixed around said wind-wheel, a flexible connection for said wind-scoops to cause them to move in unison, a governor-shaft to which said flexible connection is operatively connected, a lever secured to said governor-shaft, a slide-block on said lever, a chain detachably connected at one end to said slide-block, a pulley over which said chain is passed, and a weight secured to the other end of said chain.

13. The combination with a derrick, of a shaft mounted to revolve in said derrick, a wind-wheel affixed to said shaft, wind-scoops pivotally affixed around said wind-wheel a flexible connection for said wind-scoops to cause them to move in unison, a governor-shaft to which said flexible connection is operatively connected, a lever secured to said governor-shaft, a spring attached at one end to said lever and having its other end connected to a fixed point, a second lever secured to said shaft, a chain secured at one end to said lever, a pulley over which said chain is passed, and a weight secured to the other end of said chain.

864,790. NUMBERING OR MARKING MACHINE. GEORGE H. LANG, Boston, Mass. Filed Dec. 20, 1906. Serial No. 348,731.



1. In a marking device, the combination with a pivoted arm and means to vibrate it, of a numbering head comprising a casing, type disks journaled therein, and manually-operated means to set said disks independently, and an inking device mounted on the arm separately from the numbering head, said casing with the type-disks therein being detachably supported by the arm and capable of removal therefrom without disturbing either the type-setting means or the inking device.

2. In a marking machine, the combination with a pivoted arm and means to vibrate it, of a numbering head carried by said arm at one end thereof, said head having a plurality of type disks each provided with gear teeth, a corresponding number of segmental gears meshing with the type disks and each provided with a thumb-piece, a spring pressed locking pawl engaging the gear teeth of each type disk and holding it in adjusted position, and an inking device mounted on the arm separately from the numbering head, said numbering head being bodily removable from said arm without disturbing either said inking device or the means for setting the type-disks.

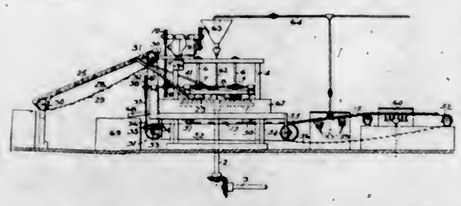
3. In a marking machine, in combination, a platen, a pivoted arm, means to vibrate it, a numbering head detachably carried by the arm at its end, said numbering head comprising a casing, a plurality of type disks journaled therein, each having a gear wheel rigid therewith, a corresponding number of segmental gears also journaled in the casing, each segmental gear having a thumb-piece extended through a slot in the front face of the casing, and a spring-pressed locking pawl coöperating with each gear to lock the corresponding type-disk in adjusted position, said casing having on its backside a dovetailed rib adapted to be received in a dovetailed groove on the arm whereby the numbering head with its type-disk and gears may be removed as an entirety from said arm.

4. In a marking device, in combination, a platen, a vibrating arm, a numbering head carried thereby, said head having type disks, a crank disk connected to said

vibrating arm whereby the latter is given a complete vibration during each rotation of the disk, means to rotate said disk, an ink pad arranged to be brought against the type disks when the head reaches the limit of its upper movement, and means to bring the parts to rest during the upward movement of the head and before it reaches the extreme limit of its upward movement.

5. In a marking device, in combination, a platen, a vibrating arm, a numbering head carried thereby, said head having type disks, a crank disk connected to said vibrating arm whereby the latter is given a complete vibration during each rotation of the disk, means including a clutch to rotate said disk, an ink pad arranged to be brought against the type disks when the head reaches the limit of its upper movement, and means to disconnect the clutch and bring the disk to rest during each upward movement of the head and before it reaches the extreme limit of its upward movement.

864,791. GRINDING-MACHINE. JOHN S. LUCOCK, Washington, Pa. Filed Feb. 14, 1907. Serial No. 357,420.



1. In a grinding machine, the combination of a horizontal rotating grinding disk, a rotating grinding head cooperating therewith, a weighted article holding member pivoted to the head and provided with an arm, and a cam in the path of said arm and arranged to elevate said weighted member to permit the article to enter and to be released.

2. In a grinding machine, the combination of a horizontal rotating grinding disk, a rotating grinding head cooperating therewith, a weighted article engaging member pivoted to the head, an abutment arranged to contact with said member and limit its downward movement, and means for elevating said weighted member to permit the article to enter and to be released.

3. In a grinding machine, the combination of a horizontal rotating grinding disk, a rotating grinding head cooperating therewith, a weighted article engaging member pivoted to said head and provided with an arm, a cam in the path of said arm arranged to elevate the weighted member to permit the article to enter and to be released, and an abutment against which said member contacts and arranged to limit the downward movement thereof.

4. In a grinding machine, the combination of a horizontal rotating grinding head, an article holder coöperating therewith and comprising a pressure member having a teat or projection to engage the article centrally.

5. In a grinding machine, the combination of a horizontal rotating grinding disk, a weight coöperating with said disk and provided with a central teat or projection to engage the article centrally.

6. In a grinding machine, the combination of a horizontal rotating grinding disk, a rotating grinding head cooperating therewith, a weighted article engaging member carried by the head and provided with a central teat or projection to engage the article centrally, and means for elevating said weighted member to permit the article to enter and to be released.

7. In a grinding machine, the combination of a horizontal rotating grinding disk, a rotating grinding head cooperating therewith, a vertically movable article holder carried by said head, a feed spout at one side of said head, and means adjacent to said feed spout for elevating said article holder.

8. In a grinding machine, the combination of a horizontal rotating grinding disk, a rotating grinding head cooperating therewith, a weighted article holder carried by said head, said head being provided with recesses, a curved guard extending along the periphery of said head, a feed spout at one end of said guard, and a stationary cam arranged to elevate said weighted article holder.

9. In a grinding machine, the combination of a horizontal rotating grinding disk, an article holding device at one side of the axis of said disk, means for releasing the article, and means for rotating the disk whereby the article when released is discharged centrifugally.

10. In a grinding machine, the combination of a horizontal rotating grinding disk, an article holding device at one side of the axis of the disk, a hopper arranged at the periphery of the disk, means for releasing the article from the holder, and means for rotating the disk, whereby the article when released is discharged centrifugally into said hopper.

11. In a grinding machine, the combination of a horizontal rotating grinding disk, an article holding device at one side of the axis of the disk, automatically arranged mechanism for causing said holder to engage and disengage the article, and means for rotating the disk, whereby the article when released is discharged centrifugally.

12. In a grinding machine, the combination of a horizontal rotating grinding disk, a rotating grinding head arranged at one side of the axis of the grinding disk, means carried by the head for engaging and releasing the article, and mechanism for rotating the disk, whereby the article when released is discharged centrifugally.

13. In a grinding machine, the combination of a horizontal rotating grinding disk, a rotating grinding head arranged on one side of the axis of said grinding disk, means carried by said head for engaging and releasing the article, a supply spout leading to the grinding head, and mechanism for rotating the grinding disk, whereby the articles when released are discharged centrifugally.

14. In a grinding machine, the combination of a grinding disk, an article holder, feeding mechanism, delivery mechanism, and automatically acting article releasing mechanism.

15. In a grinding machine, the combination of a grinding disk, a coöperative article holder, a feeding conveyer, a spout leading from the same to the article holder, and article delivery mechanism.

16. In a grinding machine, the combination of a horizontal rotating grinding disk, a rotating grinding head cooperating therewith, automatically article holding and releasing mechanism carried by said head, automatically acting feeding mechanism for supplying the articles to said head, and automatically acting delivery mechanism.

17. In a grinding machine, the combination of a horizontal rotating grinding disk, two grinding heads cooperating therewith, a feeding mechanism leading to each head, one on either side of the machine, two delivery means for each head, one located on either side of the machine.

18. In a grinding machine, the combination of a horizontal rotating grinding disk, plural feeding conveyers, plural spouts leading therefrom and leading to opposite sides of the disk, plural movable article holders, and receiving hoppers arranged on opposite sides of the disk.

19. In a grinding machine, the combination of a horizontal rotating grinding disk, plural movable article holding and releasing device coöperating therewith, plural feeding mechanisms for conveying the articles to said holders, and plural delivery mechanisms.

20. In a grinding machine, the combination of a horizontal rotating grinding disk, article holding and releasing means coöperating therewith, receiving hoppers located on opposite sides of the machine, a pair of conveyers leading from said hoppers, and a single conveyer upon which both of said first named conveyers discharge.

21. In a grinding machine, the combination of a horizontal rotating grinding disk, article holding and releasing devices coöperating therewith, a pair of parallel conveyers for delivering the articles from said machine, inclined abutments in the path of the articles carried by said conveyer, and a single conveyer for receiving the articles discharged from the conveyers by said abutments.

864,792. WINDOW-VENTILATOR. ALEXANDER S. MEEK, Washington, Iowa. Filed Apr. 27, 1907. Serial No. 370,721.



1. An adjustable window ventilator, comprising adjustable sections, means securing said sections together, said sections provided with overlapping horizontal bases, a vertical end portion secured to each base at one of its ends and a front portion secured to the front longitudinal edge of each base.

2. An adjustable window ventilator, comprising a pair of adjustable sections, each section provided with a horizontal base, and one base provided with depending means overlapping the lower face of the other section, forming a closure between the contiguous ends of the bases.

3. An adjustable window ventilator, comprising adjustable sections provided with horizontal bases, the bases having their inner ends positioned in the same horizontal plane, and means extending from one of the bases and overlapping and positioned under the other base for closing the opening between the inner ends of said bases.

4. An adjustable window ventilator, comprising adjustable sections, each section provided with a horizontal base, and a plate secured to one of said bases and positioned under and overlapping the other base, forming a closure between the inner, contiguous ends of the bases.

5. An adjustable window ventilator, comprising detachable primary and auxiliary sections, the primary section provided with a base and a front portion, the inner end of the front portion extending beyond the inner end of the base, said auxiliary section provided with a base and a front portion, the inner end of the base of the auxiliary section extending beyond the inner end of the front portion of said section, and means engaging the bottom of said bases and the front portions for spanning the distance between the meeting edges of said bases and front portions.

6. An adjustable window ventilator, comprising a pair of adjustable sections, each section provided with a base portion and a front portion, one section provided with the front portion overlapping the base portion of the other section, and plates secured to the outer faces of said sections and spanning the distance between the meeting edges of the base portions and the front portions.

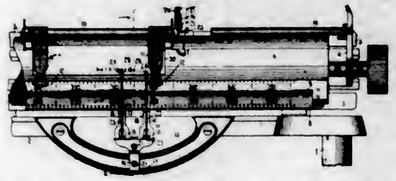
7. An adjustable window ventilator, comprising adjustable sections, a flat plate secured to the bottom of one section and overlapping a portion of the other section, and an angle-plate secured to one section and overlapping the front portion of the other section.

8. An adjustable window ventilator, comprising detachable sections, each section comprising a base portion and a front portion, a horizontal plate secured to one of said base portions and overlapping the other base portion, and an angle-plate secured to the front and base portions of one section and overlapping only the front portion of the other section.

864,793. TYPE-WRITING MACHINE. HENRY W. MERRITT, Syracuse, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed June 3, 1904. Serial No. 210,965.

1. In a front strike typewriting machine, the combination of a platen and a pressure device for paper or cards which is arranged to move bodily up and down tangentially of the platen, and to press directly against the platen or the substance to be written on.

2. In a front strike typewriting machine, the combination of a platen, a pressure device for paper or cards which is arranged to move up and down tangentially of the platen and is movable into and out of contact with the latter, and a support for said pressure device arranged in a plane substantially tangential of the platen.



3. In a typewriting machine, the combination of a platen and a pressure device movable tangentially of the platen into and out of contact with the latter and relatively fixed in respect of the machine frame.

4. In a visible writing machine, the combination of a platen, a scale for holding the paper against the platen below and parallel to the printing line, marginal paper guides movable with the platen during its longitudinal movements for controlling the paper at its side edges, and an independent pressure device for the paper having a fixed position centrally of the machine and acting close to the printing point, said pressure device and said paper guides coöperating to permit the free longitudinal movement of the platen when the parts engage with one another.

5. In a front strike typewriting machine, the combination of a platen, and a horizontally yielding card guide carried by a fixed portion of the machine and adjustable vertically to different set positions.

6. In a front strike typewriting machine, the combination of a platen and a card guide vertically adjustable into and out of working position.

7. In a front strike typewriting machine, the combination of a platen, a platen scale, and a device arranged in the vicinity of the printing point and adapted to control the lower edge of a card after it leaves the control of the platen scale and before it reaches the printing point, said device being mounted for adjustment into and out of working position.

8. In a typewriting machine, the combination of a platen and a pressure device attached to a fixed part of the machine and longitudinally movable in a direction tangential of the platen into and out of contact with the platen, whereby said device is rendered operative or inoperative.

9. In a typewriting machine, the combination with the platen, of fixed means for holding the paper against the platen while the platen is traveling longitudinally, said means being movable into and out of operative relation with the platen.

10. In a typewriting machine, the combination of a platen, means for holding and guiding the paper near its side edges, said means being movable with the platen, and fixed means for guiding and holding the paper near the printing point, said fixed means being adapted to be engaged by and yield to the holding and guiding means so as to permit of the passage by it of said holding and guiding means which move with the platen.

11. In a typewriting machine, the combination of a platen, marginal paper fingers, and a fixed central paper or card holder, adapted to yield to permit either of said marginal paper fingers to pass to either side of it.

12. In a typewriting machine, the combination of a platen, marginal paper fingers, and a fixed central paper or card holder adapted to be cammed off by either of said marginal paper fingers.

13. In a typewriting machine, the combination of a platen and a card holding device comprising a plurality of guide fingers attached to a fixed part of the machine and adjustable into and out of operative position.

14. In a typewriting machine, the combination of a platen and a plurality of spring guide fingers attached to a fixed part of the machine and adjustable into and out of operative position.

15. In a typewriting machine, the combination of a platen and a card holding device comprising a plurality of guide fingers attached to a fixed part of the machine and movable in and out of contact with the platen, whereby said fingers are rendered operative or inoperative.

16. In a typewriting machine, the combination of a platen and a plurality of adjustable spring guide fingers attached to a fixed part of the machine and movable into and out of contact with the platen, whereby said fingers are rendered operative or inoperative.

17. In a typewriting machine, the combination of a movable platen, a support secured on a fixed part of the machine, a card holder mounted to slide in said support into and out of operative engagement with the platen, and a finger piece attached to said card holder for moving it into and out of position.

18. In a typewriting machine, the combination of a movable platen, a support secured on a fixed part of the machine, a card holder mounted in said support and movable into and out of contact with the platen, a finger piece for moving said card holder, and means for limiting the movement of the card holder in either direction.

19. In a typewriting machine, the combination of a movable platen, a support secured on a fixed part of the machine, a card holder, mounted in said support and movable into and out of contact with the platen, a finger piece for moving said card holder, and adjustable means for limiting the movement of the card holder in either direction.

20. In a typewriting machine, the combination of a platen, a support secured on a fixed part of the machine, a card holder mounted in said support and movable into and out of contact with the platen, and a finger piece for moving said card holder, said finger piece acting as a stop to limit the movement of the card holder in either direction.

21. In a typewriting machine, the combination of a platen, an adjustable support secured on a fixed part of the machine, a card holder mounted in said support and movable into and out of contact with the platen, and a finger piece for moving said card holder, said finger piece acting as a stop to limit the movement of the card holder in either direction.

22. In a typewriting machine, the combination of a platen, a support secured on a fixed part of the machine, limiting stops on said support, a card holder mounted in said support and movable into and out of contact with the platen, and a finger piece for moving said card holder, said finger piece being adapted to contact with the said fixed stops on the support to limit the movement of the card holder.

23. In a typewriting machine, the combination of a platen, an adjustable support secured on a fixed part of the machine, limiting stops on said support, a card holder mounted in said support and movable into and out of contact with the platen, and a finger piece for moving said card holder, said finger piece being adapted to contact with the said fixed stops on the support to limit the movement of the card holder.

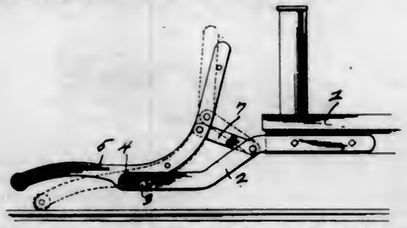
24. In a typewriting machine, the combination of a movable platen, a support secured on a fixed part of the machine, a card holder mounted on said support and movable into and out of operative relation with the platen, and adjustable means for limiting the movement of the card holder in either direction.

25. In a typewriting machine, the combination of a platen, and a pressure device attached to a fixed part of the machine, said device being movable longitudinally of itself and tangentially of the platen into and out of engagement with said platen whereby said device is rendered operative or inoperative.

26. In a front strike typewriting machine, the combination with a platen, of an upstanding spring pressed card holder adapted to press the card against the platen and provided at its upper portion with means constituting a line gage.

27. In a front strike typewriting machine, the combination with a platen, of an upstanding card holder comprising a pair of spring fingers adapted to press the card or work sheet against the platen, the tops of said fingers terminating below the printing point and serving as a line gage.

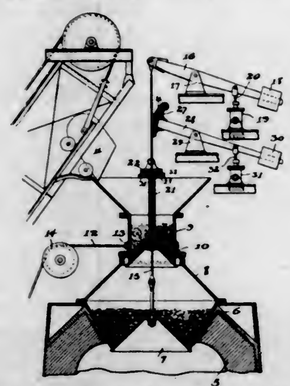
864,794. CAR-FENDER. CARL MEYER, Toledo, Ohio. Filed May 29, 1907. Serial No. 376,380.



1. In a car fender, supporting brackets, a movable fender section supported by said brackets and having sliding connection therewith, the portion of the fender section to the rear of its connection with the supporting brackets being of greater weight than the forward portion thereof, and links connecting the rear portion of the fender section with the supporting brackets to guide said rear portion in a substantially vertical direction.

2. In a car fender, brackets provided with elongated, horizontal slots at their outer ends, a fender section provided with anti-friction rollers upon its sides and adapted to traverse the slots in the brackets, the fender section to the rear of said rollers being of greater weight than the portion forward of the same, and links connecting the rear portion of the fender section with the brackets and adapted to guide said rear portion in a substantially vertical direction.

864,795. METHOD OF CHARGING BLAST-FURNACES. ARTHUR G. MCKEE, Cleveland, Ohio. Filed Nov. 24, 1906. Serial No. 344,939.

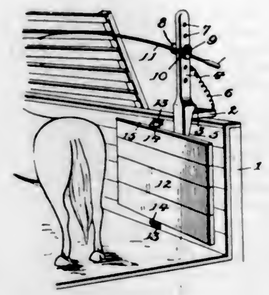


1. A method of charging blast furnaces which consists in delivering the charges into a chamber in such a manner as to cause the material of each charge to roughly separate into two portions one of which is coarse and the other fine, and subsequently depositing such charges from the chamber into the furnace in such a manner that the coarser particles are delivered onto the finer particles of a previously deposited charge and vice versa, substantially as described.

2. A method of charging blast furnaces which consists in delivering the charges into a chamber in the form of annular layers or rings around the vertical axis of the furnace with the coarser particles lying on one side of said axis and the finer particles on the opposite side, partially rotating successive charges in said chamber through different angles, and finally depositing such charges one on top of another in the furnace, whereby the irregularities of successive charges of stock are distributed throughout the entire cross-section of the furnace, substantially as described.

3. A method of charging blast furnaces which consists in delivering the successive portions of material into a hopper or other receptacle in a manner approximating uniform distribution of each portion about the center of said hopper, and rotating said portions through different angles before placing them in the furnace, whereby to equalize any irregularities of quantity or quality, substantially as described.

864,796. DEVICE FOR BREAKING HORSES OF KICKING. WILLIAM T. NEFF, Tremont City, Ohio, assignor to Berzelius Laennec Barr, Tremont City, Ohio. Filed Aug. 9, 1906. Serial No. 329,914.



1. In an apparatus of the class described, the combination with a support, of a kicking-board movably connected to the support, a lever operated by the movement of the kicking-board, and means carried by the lever for adjustably supporting a whip.

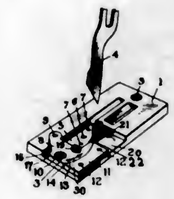
2. In an apparatus of the class described, the combination with a support, of a kicking-board movably connected thereto, a lever operated by the movement of the kicking-board, means carried by the lever for supporting a whip at an angle to the lever, said lever being formed with means to permit adjustment of the whip-supporting means longitudinally of the lever.

3. In an apparatus of the class described, the combination with a support, of a kicking-board movably connected thereto, a lever operated by the movement of the kicking-board, and a whip-clamp carried by the lever and adjustable to vary the inclination of the whip relative to the lever, said lever being formed with means to permit adjustment of the whip-clamp longitudinally of the lever.

4. In an apparatus of the class described, the combination with a support, of a kicking-board, means for pivotally supporting the upper and lower edges of said board, a lever operated by the movement of the board, and a whip-clamp carried by the lever, the face of the board next the support being gradually reduced in thickness toward one end, whereby to increase the throw of the opposite end.

5. In an apparatus of the class described, the combination with a support, of a kicking-board pivotally connected at its upper and lower edges with the support, said connections being arranged to provide unequal lengths of the kicking-board on the respective sides of the pivots, a lever mounted on the support and depending in rear of the longer portion of the board, a whip-clamp carried by the lever, the surface of the shorter length of board next the support being gradually reduced in thickness toward the free end, whereby to allow greater scope of movement for the free end of the longer portion of the board.

864,797. SEAM-TRIMMER THROAT-PLATE FOR SEWING-MACHINES. HERBERT L. PHELPS, Chicago, Ill., assignor, by mesne assignments, to The Singer Manufacturing Company, a Corporation of New Jersey. Filed Nov. 3, 1906. Serial No. 341,957.

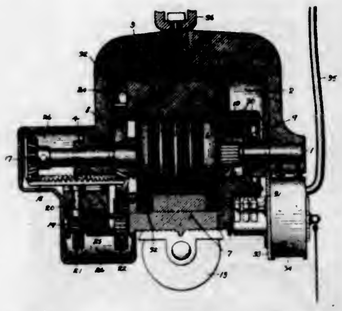


1. In a seam-trimmer throat-plate for sewing machines, the combination of a ledger trimmer plate having a trimming edge and a trimmer blade guard, the latter pivoted on the same side of the trimming line as the trimming edge of the ledger trimmer plate is located.

2. In a seam trimmer throat-plate for sewing machines, the combination of a ledger trimmer plate having a trimming edge, a trimmer blade guard pivoted on the same side of the trimming line as the trimming edge of the ledger trimmer plate is located, and a trimmer blade guard plate, said blade guard and guard plate provided with coacting circular portions to hold said guard down upon the throat-plate.

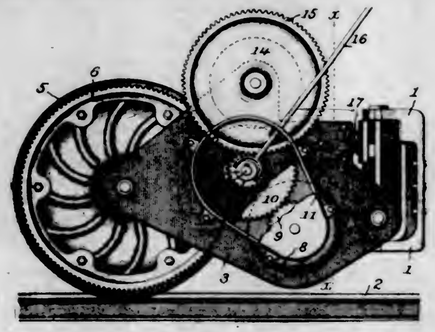
3. In a seam trimmer throat-plate for sewing machines, a ledger trimmer plate having a trimming edge, a trimmer blade guard pivoted on the same side of the trimming line as the trimming edge of the ledger trimmer plate is located, and a trimmer blade guard plate, said blade guard and guard plate provided with coacting circular portions, in combination with a spring to hold said guard pressed in the direction of the ledger trimmer plate.

864,798. PORTABLE HOIST. JAMES L. PILLING, Chicago, Ill. Filed Oct. 3, 1906. Serial No. 337,287.



In a hoist, a suitable frame adapted for suspension, in combination with an electric motor mounted therein and comprising an inner armature part and an outer field part having relative rotation, said outer part constituting a winding drum for a hoisting cable, a horizontal shaft for said armature having its bearings in said frame, a short shaft at substantially right angles to said shaft, beveled gearing connecting said shafts, a worm on said short shaft, a third shaft parallel with said horizontal shaft and having a worm wheel meshing with said worm, a gear upon the field part of said motor and a pinion upon said short parallel shaft and meshing therewith, substantially as and for the purpose described.

864,799. OPERATING MECHANISM FOR TURNTABLES. JAMES L. PILLING, Chicago, Ill. Filed Mar. 5, 1907. Serial No. 360,794.



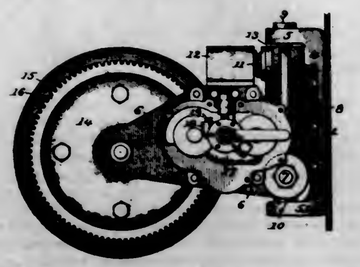
1. A turntable attachment comprising a frame adapted for attachment to an end of a turntable, a traction wheel and a windlass carried by said frame, a driving motor mounted on said frame, and means for operatively engaging said motor with either the traction wheel or the windlass, substantially as set forth.

2. A turntable attachment comprising a frame adapted for attachment to an end of a turntable, a traction wheel and a windlass carried by said frame, a driving motor mounted on said frame, intermediate gearing between the traction wheel and the motor and between the windlass and the motor, and means for engaging the motor with the gearing of the traction wheel or with the gearing of the windlass, substantially as set forth.

3. A turntable attachment comprising a frame adapted for attachment to an end of a turntable, an intermediate universal connection between said frame and the turntable, a traction wheel and a windlass carried by said frame, a driving motor mounted on said frame, and means for operatively engaging said motor with either the traction wheel or the windlass, substantially as set forth.

4. A turntable attachment comprising a frame adapted for attachment to an end of a turntable, a traction wheel and a windlass carried by said frame, a spring imposing tractile contact upon the traction wheel with the tram rail, and means for operatively engaging said motor with either the traction wheel or the windlass, substantially as set forth.

864,800. OPERATING MECHANISM FOR TURNTABLES. JAMES L. PILLING, Chicago, Ill. Filed Apr. 20, 1907. Serial No. 369,212.



1. A mechanism for operating turntables comprising in combination, a turntable, a circular track therefor, and a tractor connected to the turntable by a universal joint and provided with a traction wheel having bearing upon said track, substantially as set forth.

2. A mechanism for operating turntables comprising in combination, a turntable, a circular track therefor, and a tractor connected to the turntable by a universal joint and provided with a traction wheel having bearing upon said track, the universal joint comprising an attaching bracket having vertically alined ears, a vertical intermediate knuckle member connected to said ears by vertical pintles, and a horizontal pintle connecting the knuckle member with the frame of the tractor, substantially as set forth.

3. A mechanism for operating turntables comprising in combination, a turntable, a circular track therefor, and a tractor connected to the turntable by a universal joint and provided with a traction wheel having bearing upon said track, the universal joint comprising an attaching bracket having vertically alined ears, a vertical intermediate knuckle member connected to said ears by vertical pintles and having limited vertical movement thereon, and a horizontal pintle connecting the knuckle member with the frame of the tractor, substantially as set forth.

4. A mechanism for operating turntables comprising in combination, a turntable, a circular track therefor, a tractor connected to the turntable by a universal joint and provided with a traction wheel having bearing upon said track, the universal joint comprising an attaching bracket having vertically alined ears, a vertical intermediate knuckle member connected to said ears by vertical pintles, and a horizontal pintle connecting the knuckle member with the frame of the tractor, and a cushion interposed between the upper end of the frame of the tractor and knuckle member, substantially as set forth.

5. A mechanism for operating turntables comprising in combination, a turntable, a circular track therefor, a tractor connected to the turntable by a universal joint and provided with a traction wheel having bearing upon said track and formed with flanges at each side of its tread, substantially as set forth.

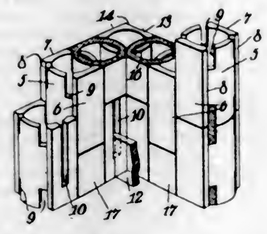
6. A mechanism for operating turntables comprising in combination, a turntable, a circular track therefor, a tractor connected to the turntable by a universal joint and provided with a traction wheel having bearing upon said track and formed with flanges at each side of its tread, the universal joint comprising an attaching bracket having vertically alined ears, a vertical intermediate knuckle member connected to said ears by vertical pintles and a horizontal pintle connecting the knuckle member with the frame of the tractor, substantially as set forth.

7. A mechanism for operating turntables comprising in combination, a turntable, a circular track therefor, a tractor connected to the turntable by a universal joint and provided with a traction wheel having bearing upon said track and formed with flanges at each side of its tread, the universal joint comprising an attaching bracket having vertically alined ears, a vertical intermediate knuckle member connected to said ears by vertical pintles and having limited vertical movement thereon, and a horizontal pintle connecting the knuckle member with the frame of the tractor, substantially as set forth.

8. A mechanism for operating turntables comprising in combination, a turntable, a circular track therefor, a tractor connected to the turntable by a universal joint and provided with a tractor wheel having bearing upon said track and formed with flanges at each side of its tread, the universal joint comprising an attaching bracket having vertically alined ears, a vertical intermediate knuckle member connected to said ears by vertical pintles and a horizontal pintle connecting the knuckle member with the frame of the tractor, and a cushion interposed between the upper end of the frame of the tractor and the knuckle member, substantially as set forth.

9. A mechanism for operating turntables comprising in combination, a turntable, a circular track therefor, a tractor connected to the turntable and provided with a fluid driven motor and with a traction wheel having bearing upon the track aforesaid, and a gland comprising a fixed and rotatable member arranged at the axis of rotation of the turntable, the rotatable member adapted for connection with the motor of the tractor and the fixed member for connection with the source of motive fluid supply, substantially as set forth.

864,801. WALL AND BLOCK FOR MAKING THE SAME. ORLANDO RICHARDS, Bristol, Wis. Filed Aug. 3, 1906. Serial No. 329,109.



1. A corner block comprising a body portion having angularly disposed faces connected by a convex wall and provided with vertical stop shoulders disposed at the juncture of said faces and convex wall, there being locking recesses formed in the convex wall at the opposite ends thereof.

2. A corner block comprising a hollow body portion having angularly disposed faces connected by a convex wall and provided with vertical stop shoulders disposed at the juncture of said faces and convex wall, there being locking recesses formed in the opposite ends of the convex wall, one of said recesses being of greater width than the adjacent recesses.

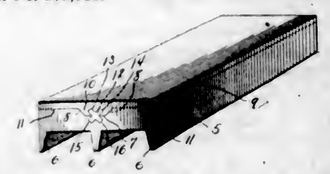
3. A corner block comprising a hollow body portion having angularly disposed faces connected by a convex wall and provided with vertical stop shoulders disposed at the juncture of said faces and convex wall, there being terminal and intermediate locking recesses formed in the opposite ends of the convex wall, the intermediate recess being of greater width than the terminal recesses.

4. A wall formed of a plurality of substantially cylindrical side blocks having oppositely disposed parallel side walls connected by convex end walls, there being locking recesses formed in the opposite ends of the convex end walls and interfitting with the walls of the recesses in an adjacent side block, and corner blocks each having angularly disposed faces connected by a convex wall, the opposite ends of the convex walls of the corner blocks being provided with locking recesses adapted to receive the convex end walls of the adjacent side blocks.

5. A wall formed of a plurality of hollow substantially cylindrical side blocks having oppositely disposed parallel side walls connected by convex end walls, there being locking recesses formed in the opposite ends of the convex end walls and interfitting with the walls of the recesses in the adjacent side blocks, and corner blocks each having angularly disposed faces connected by a convex wall, the opposite ends of which are provided with terminal and intermediate locking recesses, the terminal recesses of the corner blocks being adapted to receive the convex walls of the adjacent side blocks and the intermediate recesses being wider than the terminal recesses for the reception of the convex walls of two of said side blocks.

6. A wall formed of a plurality of substantially cylindrical side blocks having oppositely disposed parallel side walls connected by convex end walls and provided with vertical stop shoulders disposed at the juncture of the side and end walls, there being locking recesses formed in the opposite ends of the convex end walls and interfitting with the walls of the recesses in an adjacent side block, and corner blocks each having angularly disposed faces connected by a convex wall, the convex walls of the corner blocks being provided with oppositely disposed recesses adapted to receive the convex walls of the adjacent side blocks, there being vertical stop shoulders formed on the corner blocks at the juncture of the convex walls and angular faces for engagement with the stop shoulders of the adjacent side blocks.

864,802. STEREOTYPE PLATE AND BASE. BENJAMIN C. SCHMITT, Columbus, Ohio. Filed May 27, 1907. Serial No. 375,832.

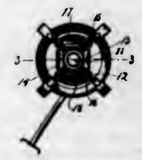


1. In a device of the character described, the combination with a base, of a removable stereotype plate having a depending beveled rib extending along its underside, said beveled rib being adapted to enter a corresponding recess formed in the upper face of the base, an elongated rigid key exhibiting in cross section the form of a cross, there being slots corresponding in shape and size with the arms of the key formed in said depending rib and in the base at the bottom of the recess whereby when the engaging surfaces are in contact and the key inserted within the slots, the stereotype plate and base will be locked together.

2. In a device of the character described, the combination with a base, of a removable stereotype plate having a depending beveled rib extending along its underside, said beveled rib being adapted to enter a corresponding recess formed in the upper face of the base, an elongated rigid key exhibiting in cross section the form of a cross, there being slots corresponding in shape and size with the arms of the key formed in said depending rib and in the base at the bottom of the recess whereby when the engaging surfaces are in contact and the key inserted within the slots the stereotype plate and base will be locked together, the under-surface of the stereotype plate resting directly upon the upper face of the base upon each side of the central recess of said base.

3. In a device of the character described, the combination with a base having a longitudinal channel formed in the upper face thereof and having two furrows formed therein at the base of said channel, which furrows lie at an angle with each other and converge at the surface of a removable stereotype plate having a depending beveled rib conforming in shape to said channel and adapted to enter said channel, said rib having longitudinal furrows formed therein which lie at an angle with each other and which converge to the lower face of the rib, said furrows of the rib being adapted to register with the furrows of the base and said furrows forming when the plate is in position upon the base a cross shaped channel, and a key exhibiting in cross section the form of a cross and adapted to enter said channel.

864,803. SIGNAL-LANTERN BURNER. FRANK A. SCHUETZ, Chicago, Ill., assignor to The Adams & Westlake Company, a Corporation of Illinois. Filed Jan. 15, 1906. Serial No. 296,164.



1. In a burner, in combination, a wick tube, separated flaring wings rising from the end of the tube and on opposite sides thereof, and slotted shield plates extending laterally from the tube between the wings.

2. In a burner, in combination, a round wick tube, separated flaring wings rising from the end of the tube and on opposite sides thereof, and slotted shield plates extending laterally from the tube between the wings.

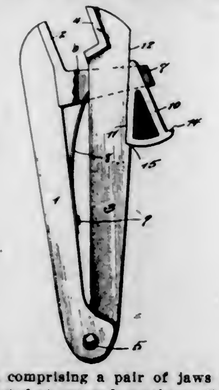
3. In a burner, in combination, a wick-tube, wings rising at opposite sides of and extending beyond the ends of.

the tube, and slotted shield plates extending laterally from the tube between the wings and having upwardly directed and inwardly inclined lips at the outer margins of their slots.

864,804. AGGLOMERATED BODY. WILHELM SCHUMACHER, Osnabrück, Germany, assignor to Ernst Thalmann, New York, N. Y. Original application filed Sept. 16, 1904, Serial No. 224,717. Divided and this application filed Dec. 26, 1906. Serial No. 349,487.

An agglomerated body comprising blast furnace dust or like mineral material, bound into a coherent body by an intimate mixture of silicate of calcium and a very small proportion of silica consisting entirely of jagged particles of the fineness of an impalpable powder, substantially as described.

864,805. ENGINEER'S WRENCH. MAX SCHWENDNER, Reading, Pa. Filed Feb. 6, 1907. Serial No. 355,987.



1. A wrench comprising a pair of jaws having shanks pivotally connected at one end, a yoke on the shank of one jaw, a spring between the shanks, and a wedge disconnected from said yoke and the adjacent shank and disposed between the yoke and shank and held in adjusted position by the tension of said spring, said wedge having a lateral projection at its smaller end to engage said yoke.

2. A wrench comprising a pair of jaws having shanks pivotally connected at one end, a yoke on the shank of one jaw, a spring between the shanks, and a wedge disconnected from said yoke and the adjacent shank and disposed between the yoke and shank and held in adjusted position by the tension of said spring, said wedge having a projection extending from its outer face at its larger end to engage said yoke.

3. A wrench comprising a pair of jaws having shanks pivotally connected at one end, a yoke on the shank of one jaw, a spring between the shanks, a wedge disconnected from said yoke and the adjacent shank and disposed between the yoke and shank and held in adjusted position by the tension of said spring, said wedge having a lateral projection at its smaller end to engage said yoke, and a projection extending from its outer face at its larger end to engage said yoke.

4. In a wrench of the character described, the combination with the fixed jaw and its shank provided with a yoke, of the movable jaw, its shank guided in said yoke and having teeth, and a wedge pendulously mounted and movably held between the outer face of the shank of the movable jaw and the cross portion of said yoke, and having its inner face toothed said wedges being bodily loose from the adjacent shank at all points.

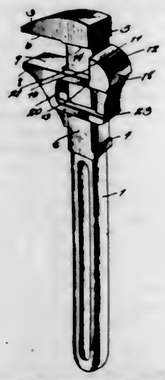
5. In a wrench of the character described, the combination with the fixed jaw and its shank provided with a yoke, of the movable jaw, its shank guided in said yoke and provided with teeth upon its outer face, and a wedge pendulously mounted and movably held between the outer face of said shank and the cross portion of said yoke, and provided upon its inner face with teeth engaging the teeth of said shank and with a lateral projection adapted to engage said yoke.

6. In a wrench of the character described, the combination with the fixed jaw and its shank, of the yoke on said shank, a movable jaw, its shank guided by said yoke, and a wedge pendulously mounted and movably held between the outer face of said shank and the cross portion of the yoke and having a projection to engage said yoke to limit its endwise movement said wedge being bodily loose from the adjacent shank at all points.

7. In a wrench of the character described, a fixed jaw and its shank, a movable jaw and its shank, a yoke on the one jaw-shank and guiding the other shank, the shank of the movable jaw having toothed portion and shoulder, and a wedge pendulously mounted between the yoke and the shank of the movable jaw and having a toothed face coacting with the toothed portion of said shank and adapted to coöperate with said shoulder said wedge being bodily loose from the adjacent shank at all points.

8. In a wrench of the character described, a fixed jaw and its shank, a movable jaw and its shank, a yoke on the one jaw-shank and guiding the other shank, the shank of the movable jaw having toothed portion and shoulder, and a wedge pendulously mounted between the yoke and the shank of the movable jaw and having a toothed face coacting with the toothed portion of said shank and adapted to coöperate with said shoulder and a projection to engage the cross portion of the yoke to limit the endwise movement of the wedge said wedge being bodily loose from the adjacent shank at all points.

864,806. WRENCH. MAX SCHWENDNER, Reading, Pa. Filed Feb. 6, 1907. Serial No. 355,988.



1. In a wrench, a stationary jaw and its shank, and a movable jaw on said shank, the coöperating faces of the movable jaw and shank being toothed, the said movable jaw being recessed and provided with a guide and locking pin, the opposite acting faces of the movable jaw and the acting face of said pin being parallel, whereby when they are in engagement with said shank the movable jaw is locked against movement.

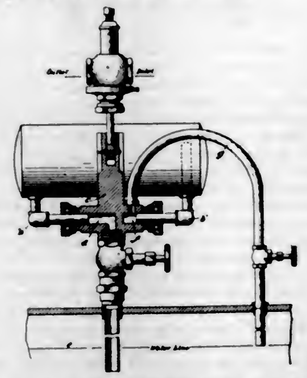
2. In a wrench, a stationary jaw and its shank, and a movable jaw on said shank, the said movable jaw being recessed and provided with a guide and locking pin, the opposite acting faces of the movable jaw and the acting face of said pin being parallel, whereby when they are in engagement with said shank the movable jaw is locked against movement, one of said acting faces of the movable jaw being toothed to engage coöperating teeth on said shank.

3. In a wrench, a stationary jaw, its shank having a rectangular portion with one face provided with fine teeth, and a movable jaw having acting faces parallel with said shank, and a guiding and locking pin, the said pin and one acting face of the jaw being parallel with the other acting face, the distance between them being the same as the width of the rectangular portion of the shank, said movable jaw being mounted for rocking movement on said rectangular portion.

4. In a wrench, a stationary jaw having a beveled acting face, the shank of said jaw, a movable jaw on said shank, the said movable jaw being recessed and provided with a guide and a locking pin and with a right angled acting face, the opposite acting faces of the movable jaw and the acting face of said pin being parallel with each other and with the faces of said shank, whereby when they are in engagement with said shank the movable jaw is locked against movement.

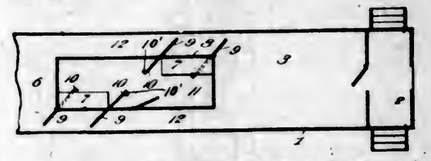
5. In a wrench, a shank and a stationary jaw thereon, a movable jaw mounted for rocking movement on said shank and having a chamber with abutment, a spring in said chamber with one end seated on said abutment, and a screw adjustable in said jaw with one end bearing against the end of the spring and securing it to said abutment, the other end of said screw being accessible from the outside of said jaw.

864,807. BOILER-FEEDER. JOHN F. SENTER, Chattanooga, Tenn., assignor to Senter Manufacturing Company, Chattanooga, Tenn., a Corporation of Tennessee. Filed Apr. 15, 1907. Serial No. 368,289.



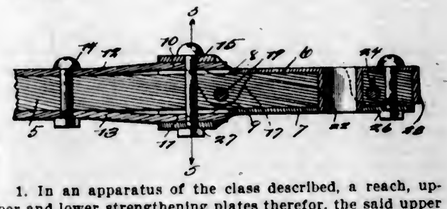
In combination with a generator, a tubular standard mounted thereon and having a pipe connected at its lower end and extending into the generator below the required level, a pair of horizontal outwardly extending tubular projections on said standard, the interior of one of said projections being in communication with the interior of the standard, a governing tank, a pipe connected to one end of said tank at the bottom thereof and provided with a horizontal portion extending into one of the tubular extensions of the standard and placing said tank in communication with the interior of said standard, a second pipe connected to the bottom of the tank, and extending upward therein to a point near the upper side thereof, said pipe being provided with a horizontal portion extending into the other tubular extension of the standard, a pipe connecting the interior of this latter tubular projection to the generator and terminating at the liquid level therein, said pipe between the standard and the generator extending above the normal water level in the governing tank and placing the interior of said tank in communication with the interior of the generator, and the pipes connecting the standard to the governing tank supporting the same and permitting said tank to have an up and down swinging movement, a lever pivoted on the standard and carrying a counter-balance weight at one end, a link connecting the shorter arm of said lever to the tank arms, a pump-controlling valve provided with a depending valve stem, a cam on the lever adapted to engage said stem, and means for normally tending to force said valve to its open position, the cam portion of the lever being adapted to close said valve when the governing tank over-balances the counter-weight on the lever.

864,808. SYSTEM FOR RAILROAD-TRAINS. ELI D. SMALL, Little Rock, Ark. Filed Feb. 15, 1906. Serial No. 301,302.



A car provided with a vestibule and a lobby opening thereinto, an office at the inner end of said lobby and provided with a window, with a passageway at the side thereof, gates pivotally mounted to extend into said passage upon opposite sides of said window, and arms rigid with said gates and extending into said office and having perforated ears whereby said gates may be locked from within the office.

864,809. RUNNING-GEAR. HENRY B. STUDEBAKER, Pagosa Springs, Colo. Filed Apr. 26, 1907. Serial No. 370,391.



1. In an apparatus of the class described, a reach, upper and lower strengthening plates therefor, the said upper plate having a forward flange and rearward ears, designed to be bolted to the said reach, the said strengthening plates, having recesses forming pockets, said reach being provided with upper and lower strengthening bars, the forward ends of which being received by said pockets, substantially as specified.

2. In an apparatus of the class described, a reach, upper and lower strengthening plates therefor, said reach having a bore to receive the usual king pin, the said upper strengthening plate having an integral bushing received by said bore, and with which, said king pin cooperates, said plates having pockets, said reach having strengthening bars, the forward ends of which, being received by said pockets.

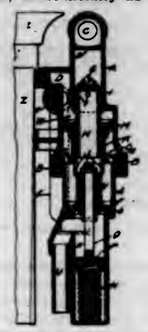
3. In an apparatus of the class described, a reach, upper and lower strengthening plates therefor, the upper plate having an integral bushing, a forward flange and rearwardly positioned ears, said reach having a bore to receive the usual king pin, said bore being designed to receive the said bushing, with which said king pin is designed to coöperate, said plates having pockets, said reach having strengthening bars the forward ends of which being received by said pockets and nuts and bolts for fastening the reach, plates and bars.

864,810. HUMIDIFYING APPARATUS. JOHN TAYLOR, Manchester, England. Filed Feb. 3, 1905. Serial No. 243,993.

1. The combination, with a water-outlet, of a non-reversible strainer or filter through which the water passes to said outlet, and means controlled by the water-pressure for reversing the flow of the water through said strainer or filter to cleanse the same, substantially as described.

2. The combination, with a water-outlet, of a non-

reversible strainer or filter through which the water passes to said outlet, and means operated by a variation of the water-pressure for reversing the flow of the water through said strainer or filter, substantially as described.



3. The combination, with a water-outlet, of a strainer or filter through which the water passes to said outlet, and a plunger controlled by the water-pressure for reversing the flow through said strainer or filter, substantially as described.

4. The combination, with a water-outlet, of a filter for the water flowing thereto, and a hollow plunger forming a conduit for the water and operating to control the flow of water through said filter, substantially as described.

5. The combination, with a water-distributing device, of a filter for the water flowing thereto, and a spring-pressed plunger for controlling the flow of water through said filter, said plunger being moved in one direction by the water-pressure and in the opposite direction by its spring, substantially as described.

6. The combination of a casing containing a filter, said casing being provided with an inlet from the supply pipe, an outlet, a second or waste-outlet, and a plunger provided with a valve for closing said inlet and with a second valve for closing said waste-outlet, said plunger being controlled by the water-pressure, substantially as described.

7. The combination of a casing containing a filter, said casing being provided with an inlet opening from the supply-pipe, and a plunger provided with a valve for closing said inlet, said valve having an area exposed to the water pressure when the valve is seated, and a larger area exposed to said pressure when the valve has moved away from its seat, substantially as described.

8. The combination of a filter, a hollow plunger forming a conduit for leading the water to said filter, said plunger being provided with inlet and outlet ports, and means controlled by the water-pressure for moving said plunger to change the position of said outlet port with relation to the filter, substantially as described.

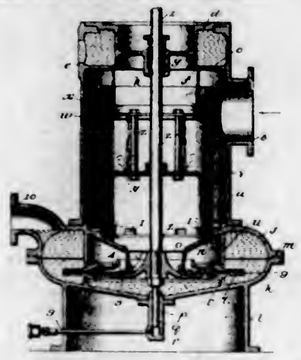
9. The combination of a filter, a hollow plunger forming a conduit for leading the water to said filter, said plunger being provided with inlet and outlet ports, and means controlled by the water-pressure for moving said plunger and its outlet port lengthwise of said filter, substantially as described.

10. The combination of a filter, a hollow plunger forming a conduit for leading the water to said filter, said plunger being provided with inlet and outlet ports, and means controlled by the water-pressure for moving said plunger and outlet port with relation to said filter to change the direction of flow through said filter, substantially as described.

11. The combination of a casing, a filter contained therein, a pressure chamber, the pressure in which is controlled by the water pressure, and means for permitting the pressure in said pressure chamber to become effective to force water through said filter in a direction reverse to the normal flow therethrough, substantially as described.

12. The combination of a casing, a filter contained therein, a storage chamber in which water is stored under pressure, and means controlled by the water-pressure for permitting the water stored in said chamber to be discharged through the filter in a direction reverse to the normal flow therethrough, substantially as described.

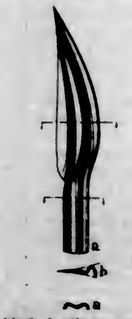
864,811. JET-CONDENSER AND CENTRIFUGAL VACUUM-PUMP. BURCHARD THOENS, New York, N. Y. Filed Mar. 20, 1905. Serial No. 251,085.



1. In a combined jet condenser and centrifugal vacuum pump, the combination of a receptacle for the liquid, a diffusion ring delivering into said receptacle and provided with a flaring inner mouth, and a pump wheel journaled within said diffusion ring, said pump wheel consisting of two parts joined by vanes, said parts being each provided with vanes on their outside edges, the outer edge of said pump wheel entering the flaring mouth on the inner part of the diffusion ring, substantially as described.

2. In a combined jet condenser and centrifugal vacuum pump, the combination of castings forming an annular receptacle for the liquid, a diffusion ring delivering into said receptacle and composed of two plates united by curved vanes, said plates flaring so as to form an enlarged mouth directed towards the interior of the condenser, and a horizontal pump wheel mounted inside of said receptacle and consisting of two parts joined together by vanes, said parts being each provided with curved vanes on their outside edges, and the upper part being provided with an annular opening, the outside edge of said pump wheel entering the flaring mouth of said diffusion ring, substantially as described.

864,812. KNIFE AND OTHER CUTTING BLADE. GEORGE THUILLIER, Nogent-en-Bassigny, Haute-Marne, France. Filed Feb. 27, 1906. Serial No. 303,234.



1. A sheet metal blade having a cutting edge and corrugations for stiffening the same, said corrugations being of a variable depth which increases gradually with the distance of the corrugations from the said cutting edge.

2. A sheet metal blade having a cutting edge and corrugations for stiffening the same, said corrugations being of a variable depth which increases gradually with the distance of the corrugation from the said cutting edge, said corrugations being, moreover, continued straight and of uniform cross-section to the extreme end of the blade which goes into the handle.

3. A sheet metal blade having a cutting edge and corrugations for stiffening the same, said corrugations being variable in direction and of a variable depth which increases gradually with the distance of the corrugation from the said cutting edge.

4. A sheet metal blade having a cutting edge and corrugations for stiffening the same, said corrugations being curved and of a variable depth which increases gradually with the distance of the corrugation from the said cutting edge.

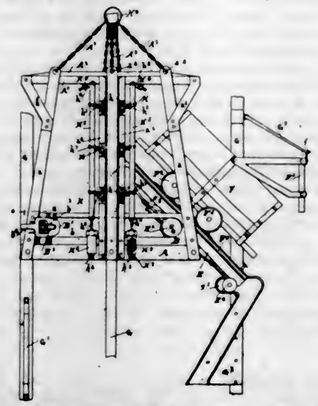
5. A sheet metal blade having a cutting edge and corrugations for stiffening the same, said corrugations being curved to form parallel waves of a variable depth which increases gradually with the distance of the said corrugation from the said cutting edge.

6. A sheet metal blade having mutually inclined faces that intersect to form a sharp cutting edge and corrugations stamped in the body of the blade to stiffen the same, said corrugations being made deeper as their distance from the cutting edge is greater.

7. A sheet metal blade having a cutting edge and a corrugation formed therein to stiffen the said blade, said corrugation being continuous but variable in direction.

8. A sheet metal blade having a cutting edge and corrugations formed therein to stiffen the said blade, said corrugations being variable in direction and arranged to form a series of substantially parallel but curved waves.

864,813. DUMPING-CAGE FOR MINE-CARS. GEORGE TROTTER, Riverton, Ill. Filed Nov. 7, 1905. Serial No. 286,293.



1. The combination of stationary channel plates having upwardly inclined ways adapted to accommodate wheels traveling in said ways, and horizontal ways communicating with said inclined ways and adapted to support wheels running within said inclined ways, a vertically movable cage, a track on said cage, a platform traveling on said track and adapted to tilt at the limit of its forward movement, wheels connected with said platform and adapted to travel in the inclined ways of said channel plates and adapted to support the front end of the tilted platform when said wheels are in the horizontal ways of said channel plates, means for connecting the car with said platform, platform-locking devices adapted to lock said platform in horizontal position, and means for releasing the platform locking devices immediately before the wheels on the front end of the platform enter the inclined ways of said channel plates and again automatically locking the platform immediately after the withdrawal of said last named wheels from the inclined ways in said channel plates.

2. The combination of a cage: parallel plates secured on the sides of said cage and having longitudinal openings adapted to accommodate wheels, upwardly extending ways adapted to limit the tilting of the platform and to accommodate said wheels during the tilting of said platform; wheels adapted to run within the longitudinal openings and upwardly extending ways of said plates; a platform supported upon said wheels; means for tilting said platform; and means for locking the wheels to prevent premature tilting of the platform.

3. The combination of a cage, parallel guide bars, secured on said cage, a series of dogs mounted on said guide bars, bars connecting said dogs, oscillative shafts transverse to said cage, arms secured on said shafts and connected with a hoisting cable, arms secured on said shafts and connected with the bars operating the dogs and springs compressed by upward pulling on the cable and reacting to engage the points of the dogs with the guide rails guiding the movement of the cage.

3. The combination of a cage, parallel guide bars secage and having openings and ways for the travel of wheels, oscillative latches mounted on said plates and having projecting flanges extending across the tread of the wheels used on the plates and also having projecting fingers, and stationary cams acting on the fingers of said latches to turn the latches so as to move the flanges of the latches away from the treads of the wheels.

5. The combination of a platform, oscillative plates mounted on said platform, levers mounted on said platform and provided with pedals, and means connecting said levers with said oscillative plates in such manner that depressing of the pedals will produce corresponding depression of the free ends of the plates.

6. The combination of a platform, oscillative levers mounted on the platform and having pedals and projecting pins, shafts oscillative in bearings on said platform, arms secured to said shafts and having slots in which the pins on said levers travel, inwardly extending arms secured on said shafts, oscillative plates mounted on the platform and having inclined upper edges and inwardly projecting fingers, links connecting said inwardly extending arms with said oscillative plates, downwardly extending arms secured on said shafts and springs connecting said arms and acting to support said oscillative plates in their raised position.

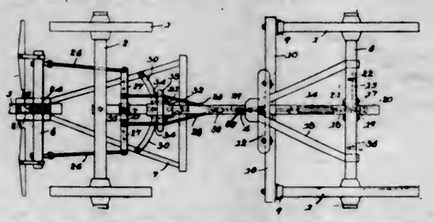
7. The combination of a platform, oscillative levers mounted on the platform and having pedals and projecting pins, shafts oscillative in bearings on said platform, arms secured to said shafts and having slots in which the pins on said levers travel, inwardly extending arms secured on said shafts, oscillative plates mounted on the platform and having inclined upper edges adapted to be engaged by a looped-bar to depress said oscillative plates and inwardly projecting fingers adapted to extend across a looped bar on the under side of the car, links connecting said inwardly extending arms with said oscillative plates, downwardly extending arms secured on said shafts, springs connecting said arms and acting to hold said oscillative plates in their raised position, rails on said platform, a car traveling on said rails and a looped bar secured centrally on said car and adapted to ride on the upper edges of the oscillative plates and fitting under the fingers of said oscillative plates.

8. The combination of a cage, parallel channel plates secured on said cage and having openings and ways adapted to accommodate wheels traveling therein, and a platform having wheels adapted to travel in the openings and ways of said plates.

864,814. AUTOMATIC BRAKE FOR WAGONS. JOHN T. VANNESS and HARRY R. O'BRIAN, Oxford, Ohio. Filed June 9, 1906. Serial No. 321,059.

1. In a brake mechanism, the combination with a vehicle, of a brake beam therefor, brake shoes, a draft device, means connected with the brake beam for holding the

shoes in contact with the wheels of the vehicle, a system of levers and connections between the draft device and brake beam for multiplying the power exerted by the draft device to move said beam to inoperative position, and automatic means controlled by the draft device for rendering said system of levers and connections inoperative when backing the vehicle.



2. In a brake mechanism, the combination with a vehicle comprising running gears and a draft device, a brake beam, shoes thereon for engaging the wheels of the vehicle, means tending to hold the brake shoes in an operative position, and a mechanism between the brake beam and draft device for holding the brake shoes in off position when power is exerted on the draft device for moving the vehicle in either a forward or reverse direction, said mechanism comprising means connecting the draft device with a brake beam, and means operatively related to the first means for holding the brake beam in off position by the upward movement of the tongue of the draft device caused by the horses during the backing movement.

3. In a brake mechanism, the combination with a vehicle comprising running gears and a draft device, a brake beam, shoes thereon for engaging the wheels of the vehicle, means tending to hold the brake shoes in an operative position, and a mechanism between the brake beam and draft device for holding the brake shoes in off position when power is exerted on the draft device for moving the vehicle in either a forward or reverse direction, said mechanism comprising a connection between the draft device and brake beam, a lever mounted on the vehicle, means which is actuated with the tongue of the draft device when the same is raised during the backing of the vehicle, and means between the said connection and the lever whereby the lever operates through the connection to hold the brake beam in inoperative position.

4. In combination, a brake beam, a draft device, flexible members connecting the two, a floating cross bar carried by the members, a lever adapted to engage the cross bar, and means for actuating the lever when the tongue of the draft device is moved in a vertical plane.

5. In combination, a brake beam, a draft device, members flexibly connected with the beam and device, a cross bar carried by the members, a lever for engaging the cross bar, and a segmental member adapted to engage the lever when the tongue of the draft device is raised.

6. In combination, a brake beam, a draft device, members extending rearwardly from the draft device, levers to which the rear ends of said members are connected, two connecting members extending from the levers to the brake beam and adjustably connected to the said levers, and a mechanism engaging the latter connecting members for holding the brake beam in off position during the backing of the vehicle.

7. In combination, a brake beam, a draft device, members extending rearwardly from the draft device, levers to which the rear ends of said members are connected, two connecting members extending from the levers to the brake beam, a mechanism engaging the latter connecting members for holding the brake beam in off position during the backing of the vehicle, said mechanism being operated by the vertical movement of the tongue on the draft device.

8. In combination, a draft device including a tongue, a coupling pole, a brake beam, levers pivoted on said coupling pole, connections extending from the levers respectively to the draft device and brake beam, a frame on the coupling pole, levers mounted on the frame, connections between the levers and the connections extending from the first levers to the brake beam, and means on the draft device actuated by the said tongue for operating the second levers.

9. In combination, a draft device including a tongue, a brake beam, a spring tending to draw the beams toward the wheels of the vehicle, connections between the brake beam and draft device, a pair of vertically extending levers adapted to engage said connections for holding the beams away from the wheels, and means for actuating the levers during the vertical movement of the said tongue during the backing of the vehicle.

10. In combination, a draft device including a tongue, a coupling pole, a brake beam, horizontal levers pivoted on the coupling pole, members connecting the levers respectively with the draft device and brake beam, vertically disposed levers pivoted on the coupling pole, connections between the levers last mentioned and certain of said members for holding the brake beam in off position, and means for actuating the vertical levers by the movement of the tongue.

11. In combination, a draft device including a tongue, a coupling pole, a brake beam, connections between the brake beam and draft device, a cross member thereon, means for engaging the cross member to hold the brake beam in off position when the vehicle is backed, and a pin mounted in the coupling pole in front of the cross member to render the latter inoperative.

12. In combination, a draft device including a tongue, a coupling pole, a brake beam, connections between the brake beam and draft device, a cross member thereon, a frame on the coupling pole, levers supported on the frame for engaging the cross member to hold the brake beam in off position when the vehicle is backed, and a pin adapted to be mounted in said frame in front of the cross member to render the latter inoperative.

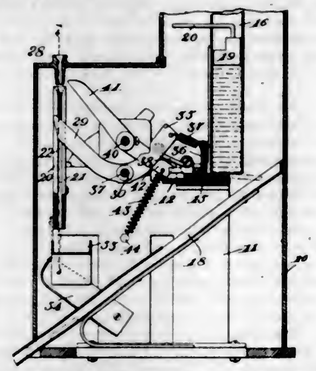
13. In combination, a draft device, a coupling pole, a brake beam, a mechanism connecting the brake beam and draft device, said mechanism comprising connecting members, a frame on the coupling pole, a cross bar disposed transversely of the frame, vertical levers arranged on opposite sides on the frame and engaging the rear of the cross bar, and means carried by the draft device for engaging the free ends of said levers.

14. In combination, a draft device, a brake beam, operating connections between the two for holding the brake beam in off position, a spring arranged to hold the brake beam in set position, an adjustable block attached to the spring, a screw for actuating the block, a lever carrying the block and screw which is adapted to render the spring inoperative, and means for supporting the lever.

15. In combination, a draft device, a brake beam, operating connections between the two for holding the brake beam in off position, a spring arranged to hold the brake beam in set position, an adjustable means for varying the tension of the spring, a lever supporting said means which is adapted to relieve the tension of the spring to permit of the latter being adjusted by said means and to render the spring inoperative, and means for supporting the lever.

864,815. VENDING-MACHINE. HENRY A. WALTERS, Linton, Ind. Filed Apr. 13, 1906. Serial No. 311,583.

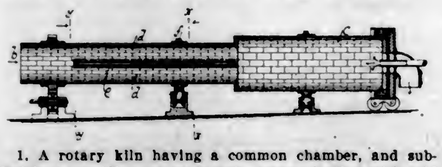
1. In a mechanism of the class described, a coin chute having walls contiguous to the faces of an inserted coin, slotted in the direction of their length; an arm extending through said slots and movable along the same in the plane of travel of and by the inserted coin, in a plane at right angles to the width of the coin; another arm normally exterior to said slots and movable into and along the same in a plane parallel with but displaced with relation to the plane of movement of the first-named arm, said second arm moving the first-named arm through the intermediary of an inserted coin, the said two arms coacting to move the coin along the length of the chute and then to propel it toward a suitable receptacle; means for returning the second arm to its initial position when released from the coin, and a delivery mechanism connected to the second arm and rendered active by the return movement of the said second arm.



2. In a mechanism of the class described, a delivery mechanism; an arm connected therewith; means tending to maintain said arm in a normally inactive position; a coin chute through which said arm extends; another arm normally exterior to the coin chute and having a plane of movement displaced from but parallel with the plane of movement of the first arm, and adapted to enter the coin chute and operate the first arm through the intermediary of an inserted coin, and means for causing the discharge of the inserted coin from between said arms at the completion of the movement thereof in one direction, and thereby permitting the first arm to return to its initial position past the second arm and thus actuate the vending mechanism.

3. In a mechanism of the class described, a coin chute having the walls contiguous to the faces of an inserted coin, slotted in the direction of their length; an arm normally extending through said slots and movable along the same in the plane of travel of and by the inserted coin and at right angles to the width of said coin and also having its upper edge beveled to receive and support the coin; another arm normally exterior to said slots and movable into and across the same in a plane parallel with the movement of the first arm but displaced with relation thereto, and also having a beveled edge to engage the coin, the second arm acting through the intermediary of an inserted coin to propel the first arm and the beveled edges of the two arms coacting to propel the coin laterally from the chute at the completion of the stroke of the arms; means for returning the second arm to its normal position when released from the coin, and a delivery mechanism connected to the second arm and rendered active by the return movement of the latter.

864,816. ROTARY KILN. WILLIAM R. WARREN, New York, N. Y. Filed Feb. 6, 1906. Serial No. 299,772.



1. A rotary kiln having a common chamber, and subdivisions providing compartments communicating with said common chamber, and a fuel intake for generating the flame, the flame passing from the common chamber simultaneously into the several compartments, a portion of the kiln having a space extending transversely therethrough and communicating with the exterior of the kiln at diametrically opposite points, the space being without communication with the interior of the kiln.

2. A rotary kiln comprising a plurality of compartments formed by a sub-division in the body of the kiln and communicating with a common chamber, the sub-division being hollow and having a space communicating with the exterior of the kiln at diametrically opposite points, the space diverging at opposite extremities, and means for feeding fuel to the common chamber.

864,817. SHEET-METAL HANDLE. JAMES B. WISE, Watertown, N. Y. Filed Oct. 27, 1906. Serial No. 340,794.

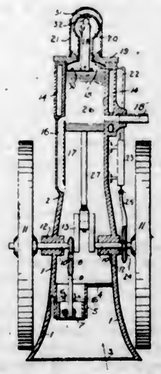


1. A handle of the class described, comprising a web of sheet metal having a hollow annular rim integrally formed on said web with the edge of said rim terminating substantially in the plane of the web, and a centrally disposed sleeve extending from said web on the side thereof on which the edge of the annular rim terminates, substantially as described.

2. A handle of the class described, comprising a web of sheet metal having a hollow annular rim integrally formed on said web with the edge of said rim terminating substantially in the plane of the web, a centrally disposed portion of said web being projected beyond the plane of the web on the side thereof on which the edge of the annular rim terminates, to form a centrally disposed sleeve, substantially as described.

3. A handle of the class described, comprising a web of sheet metal having a hollow annular rim integrally formed on said web with the edge of the rim terminating substantially in the plane of the web, a centrally disposed sleeve extending from said web on the side thereof on which the edge of the annular rim terminates, said sleeve being concentric with a centrally disposed opening in the web, a stem fitting in said sleeve, and a headed screw entering said stem from the side of the web opposite to that on which said sleeve is formed, the head of said screw being of a diameter sufficient to cover the opening in said web, substantially as described.

864,818. EXPLOSIVE-ENGINE. ALVEN E. WOLCOTT, Tacoma, Wash. Filed Jan. 27, 1905. Serial No. 242,899.

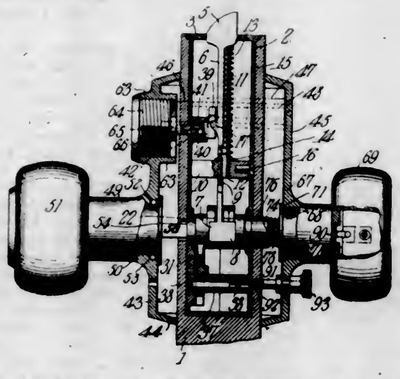


1. An explosion engine comprising a frame with an explosion cylinder formed in one end, a compression chamber formed in the middle, an admission chamber formed in the other end, and an auxiliary compression cylinder formed in the end wall of said compression chamber and having ports from said admission chamber into said auxiliary cylinder; with a reciprocating piston in said explosion cylinder and compressing the air in said compression chamber; an auxiliary piston working in said auxiliary cylinder

with said first piston and uncovering the ports to admit air into said compression chamber from said admission chamber and compressing auxiliarly into said compression chamber and drawing air into said admission chamber; a passage leading from said compression chamber to the lower end of said explosion cylinder and adapted to be uncovered by said first piston to admit air to said explosion cylinder; and an exhaust port from said explosion cylinder at a point opposite to said air passage port.

2. In an explosive engine, a tube centrally secured within the explosion chamber to the piston and being open at the top, a baffle plate secured to the end of the tube and adapted to guide the air therefrom to the sides of the explosion chamber, and an open ended lateral extension to the bottom of said tube passing therefrom along the top of the piston to a point adapted to receive the air from the air passage.

864,819. LOCK. WILLIAM H. F. YOUNG, Muncie, Ind. Filed Apr. 13, 1907. Serial No. 368,060.



1. A lock structure comprising a sliding lock or latch-bolt, a knob and connections for operating said latch-bolt, a lock carried by said knob for operating the latch-bolt independent of the movement of the knob, another knob for operating the latch-bolt independent of the first-named knob, and means carried by the last-named knob for fastening the lock in the first-named knob against movement.

2. A lock structure comprising a suitable lock or latch-bolt, a manipulating knob therefor, a key-operated lock carried by said knob and controlling the latch-bolt independent of the knob, another knob controlling the latch-bolt independent of the first-named knob or the lock carried thereby, and means carried by the second-named knob adapted to be operated by the key of the first-named knob for securing the latch-bolt-actuating part of said lock against operation.

3. A lock structure comprising a suitable latch-bolt, a key-operated lock on one side of the latch-bolt for controlling the same, and means on the other side of the latch bolt responsive to the lock key for securing the latch-actuating part of said lock against operation.

4. A lock structure comprising a suitable sliding latch-bolt, a knob, a roll-back under the control of said knob for engaging and operating the latch-bolt, a key-lock carried by said knob, another knob, another roll-back in operative relation to the latch-bolt, connections between said last-named knob and second-named roll-back, a lock member in the last-named knob constructed to couple the lock member to a fixed portion of the lock structure, connections between the lock member in the first-named knob and the lock member in the last-named knob, a third roll-back in operative relation to the latch-bolt and controlled by the last-named connection between the two locks, and means for locking one of the roll-backs under the control of one of the knobs against movement.

5. A lock structure comprising a suitable latch-bolt, two independently movable knobs in independent operative relation to the latch-bolt, a key-operated lock in one of the knobs for operating the latch-bolt independent of either of the knobs, another lock in the other knob for securing the first-named lock against manipulation, means for locking the knob containing the first-named lock against movement, and a supplemental key-operated lock controlling the latch-bolt independently of the knobs or locks carried thereby.

6. In a lock structure, a suitable latch-bolt, a knob for operating the same, a lock carried by said knob, also in operative relation to the latch-bolt, another knob for operating the latch-bolt, a lock member in said last-named knob connected to and movable with the lock in the first-named knob, and a tumbler in the second knob for locking the same to a fixed portion of the lock and operated by the same key used for operating the first-named lock.

7. In a lock structure, a suitable latch-bolt, a key-lock controlling the same, and another lock connected to the first-named lock and having a lock member movable to locking position on the insertion in the lock of the same key used to actuate the first-named lock.

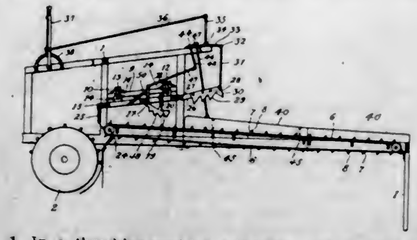
8. In a lock structure, a suitable latch-bolt, a pin-tumbler lock for controlling the same, another lock connected to the first-named lock and provided with a pin-tumbler controllable by the same key adapted to the first-named lock, and a lock member movable by said pin-tumbler into operative relation to a fixed portion of the lock structure.

9. In a lock structure, a latch-bolt, a lock for controlling the same, another lock for securing the latch-bolt-actuating part of the first-named lock against operation, and a third lock for controlling the latch-bolt independently of the other two locks.

10. A lock structure comprising a suitable latch-bolt, a key-operated lock on one side of the latch-bolt for controlling the same, means on the other side of the latch-bolt for securing the latch-actuating part of the lock against operation, and another key-operated lock acting on the latch-bolt independent of the first-named lock.

11. In a lock structure, a sliding latch-bolt, a series of roll-backs in operative relation to said latch-bolt, a knob and connections therefrom to one of the roll-backs, another knob and connections therefrom to another one of the roll-backs, a key-operated lock carried by the first-named knob, connections from said lock to the third roll-back and to the other knob, a lock member carried by the second knob and responsive to the operating key of the lock carried by the other knob, means operated by the lock member in the second knob for coupling said lock member to a fixed portion of the lock structure, connections between the two locks for coupling the same together, means in the lock structure for locking one of the knob-operating roll-backs against movement, and another lock carried by the lock structure at a point removed from the knobs and engaging and operating the latch-bolt independent of the knobs or locks carried thereby.

864,820. SELF-FEEDER FOR THRESHING-MACHINES. AUGUST ZASTROW, Aberdeen, S. D. Filed Dec. 26, 1903, Serial No. 186,527. Renewed Jan. 26, 1907. Serial No. 354,314.



1. In a threshing-machine self-feeder, the combination with the conveyer, of a movable center-board and side-boards having their inner edges hinged and their outer edges free, a rock-shaft provided with arms, and hangers connecting the arms to the center-board and the free edges of the side-boards for vibrating all of said boards in vertical direction, substantially as set forth.

2. In a threshing-machine self-feeder, the combination with the conveyer, of cutting and feeding device carriers, pairs of cranks to which said carriers are connected, means for rotating the crank-shafts, a movable center-board, and mechanism connected with said center-board and said carriers for vibrating it in vertical direction by the movements of said carriers, substantially as set forth.

3. In a threshing-machine self-feeder, the combination with the conveyer, of cutting and feeding device carriers, pairs of cranks to which said carriers are connected, means for rotating the crank-shafts, a movable center-board, and hinged side-boards, and mechanism connecting said center and side boards with said carriers for vibrating all of said boards in vertical direction by the movements of said carriers, substantially as set forth.

4. In a threshing-machine self-feeder, the combination with the conveyer, of a plurality of bars provided with cutting and feeding devices, retarding devices pivotally connected to said bars, pivotally connected hangers for suspending the outer portions of the retarders, crank-shafts to which said bars are connected, and means for rotating said crank-shafts to impart movement to said bars, substantially as set forth.

5. In a threshing-machine self-feeder, the combination with the conveyer, of a plurality of bars provided with cutting and feeding devices, retarders having their inner ends pivoted to said bars, adjustable hangers pivotally connected to the outer ends of the retarders, crank-shafts to which said bars are connected, and means for rotating said crank-shafts to impart movement to said bars, substantially as set forth.

6. In a threshing-machine self-feeder, the combination with the conveyer, of a center-board having its outer end hinged and its inner end free, a rock-shaft having an arm, a hanger connecting it to the free end of the center-board, and means for operating the rock-shaft, substantially as set forth.

7. In a threshing-machine self-feeder, the combination with the conveyer, of cutting and feeding devices, means for operating their carriers in vertical and horizontal direction, retarder carriers pivotally connected to the outer portions of said feed device carriers, and pivoted hangers connected to the outer portions of the retarder carriers, substantially as set forth.

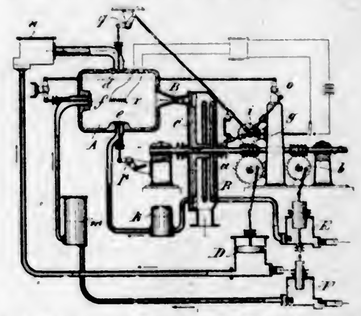
8. In a threshing-machine self-feeder, the combination with the conveyer, of vertically vibrating side and center boards, a series of top-feed devices and means for operating them in vertical and horizontal direction, retarder carriers pivotally connected to the outer portions of said feed device carriers, and pivoted hangers connected to the outer portions of the retarder carriers, substantially as set forth.

9. In a threshing-machine self-feeder, the combination with the conveyer, of a series of cutting and feeding device carriers, a pair of crank-shafts having a corresponding series of cranks arranged at different angles to their shafts for operating said carriers in vertical and horizontal direction, retarder carriers pivotally connected to the outer portions of said feed device carriers, and pivoted hangers connected to the outer portions of the retarder carriers, substantially as set forth.

10. In a threshing-machine self-feeder, the combination with the conveyer, of cutting and feeding devices, means for operating their carriers in vertical and horizontal direction, means for adjusting them toward or away from the conveyer, retarder carriers pivotally connected to the outer portions of the feed device carriers, pivoted hangers connected to the outer portions of the retarder carriers, and means for adjusting said hangers toward or away from the conveyer, substantially as set forth.

864,821. EXPLOSIVE-TURBINE. HEINRICH ZOELLY, Zurich, Switzerland. Filed May 22, 1905. Serial No. 261,583.

1. In a gas or fuel explosion turbine the combination with the explosion chamber and the turbine; of an always open expansion nozzle; pumps for compressing the air, steam and fuel; admission valves for these media to the explosion chamber, and means for controlling the same whereby the air and fuel are supplied to said chamber at the time when the pressure therein has dropped to be equal to the pressure of the compressor pumps; an ignition device; and means for controlling the ignition—substantially as and for the purpose specified.



2. In a gas or fuel explosion turbine the combination with the explosion chamber of an expansion nozzle in constant communication with the explosion chamber, turbine wheel, valves for admitting air, steam and fuel to the explosion chamber, steam generator heated by the exhaust of the turbine, pumps for compressing the air, steam and fuel and means for controlling the admission of the various media to the explosion chamber and for controlling the ignition, substantially as and for the purpose specified.

3. In a gas or fuel explosion turbine the combination with the explosion chamber of an always open expansion nozzle, admission valves for the various media to the explosion chamber, pumps for compressing the various media, an ignition device, and means adapted to open the air admission valve slightly in advance of the gas-admission valve, substantially as and for the purpose specified.

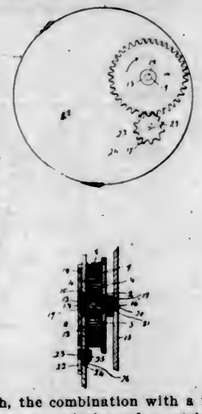
4. In a gas or fuel explosion turbine the combination with the explosion chamber of the always open expansion nozzle, admission valves for the various media to the explosion chamber, pumps for compressing the various media, ignition device and means adapted for igniting the explosive mixture immediately in advance of the admission of the compressed steam to the explosion chamber, substantially as and for the purpose specified.

864,822. WATCH. ARCHIBALD BANNATYNE, Waterbury, Conn., assignor to The Bannatyne Watch Co., Waterbury, Conn., a Corporation. Filed Dec. 21, 1905. Serial No. 292,685.

1. In a watch, the combination with the front and rear movement plates thereof, of a main arbor provided at its rear end with a trunnion which bears directly in the rear movement-plate, a main wheel staked directly upon the said arbor near the rear end thereof, a spring barrel formed integral with and carried by the said main-wheel, a normally stationary winding-hub journaled at its front end directly in the front movement-plate and forming at its front end a bearing for the front end of the main-arbor which enters the said hub from the rear end thereof, a main-spring located in the said barrel and having its outer end attached thereto and its inner end attached to the said hub, and a ratchet-wheel mounted directly upon the projecting front end of the winding-hub and located upon the outside of the front movement-plate.

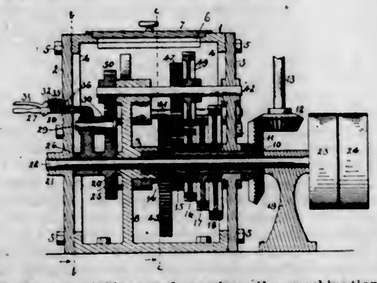
2. In a watch, the combination with the front and rear movement plates thereof, of a main-arbor, a normally stationary winding-hub formed with a circumferential annular groove located between two flanges having registered slots, a spring-barrel rotating with the said main arbor, and a spring having its outer end connected with the said barrel and its inner end formed with a T-shaped head lo-

cated at the end of a neck narrower than the width of the spring, the said head being adapted to enter the said registered slots in the flanges of the hub, and the neck being adapted to enter the groove in the said hub, whereby the spring is held against lateral displacement and its edges cleared from frictional engagement with the main wheel and the front movement-plate.



3. In a watch, the combination with a front movement-plate having a segmental slot, of a ratchet-wheel located on the outside of the said plate, a vibratory locking-pinion also located on the outside of the said plate, a vibratory stud located in the said segmental slot and carrying the said pinion, a friction spring carried by the inner end of the said stud and engaging with the inner face of the said front movement-plate, and a locking-pin or abutment arranged to jam the pinion upon a reverse movement of the ratchet-wheel, whereby the action of the ratchet-wheel in winding is noiseless.

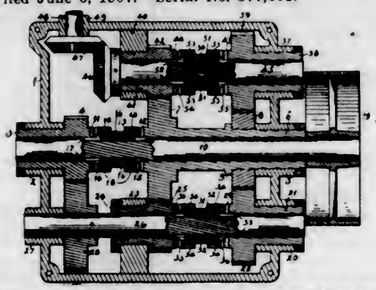
864,823. VARIABLE-SPEED GEARING. JOHN S. BARNES, Rockford, Ill., assignor to W. F. & John Barnes Company, Rockford, Ill., a Corporation of Illinois. Filed June 4, 1907. Serial No. 377,260.



1. In a variable speed gearing, the combination of a driving member, and a driven member, of a plurality of spur gears fixedly connected to the driven member, a plurality of shafts arranged equi-distant from the driven member, a spur gear fixedly connected with each shaft and meshing with one of the spur gears connected to the driven member, a spur gear on the driving member, a secondary spur gear connected to each shaft, and an intermediate spur gear in constant mesh with the spur gear on the driving member and capable of being moved into mesh with any one of the secondary spur gears of the shafts.

2. In a variable speed gearing, the combination of a driving member, and a driven member, of a plurality of spur gears fixedly connected to the driven member, a plurality of shafts arranged equi distant from the driven member, a spur gear fixedly connected with each shaft and meshing with one of the spur gears connected to the driven member, a spur gear on the driving member, a secondary spur gear connected to each shaft, an intermediate spur gear in constant mesh with the spur gear on the driving member and capable of being moved into mesh with any one of the secondary spur gears on the shafts, and means for holding the intermediate spur gear in mesh with any one of the secondary spur gears.

864,824. VARIABLE-SPEED GEARING. JOHN S. BARNES, Rockford, Ill., assignor to W. F. & John Barnes Company, Rockford, Ill., a Corporation of Illinois. Filed June 6, 1907. Serial No. 377,601.



A variable speed gearing comprising a suitable support, a driving shaft, a sub-shaft and a driven-shaft held in proper relation by the support, a spur gear loosely mounted on the driving shaft and provided with a clutch face, a spur gear fixedly connected to the sub-shaft and meshing with the above mentioned gear on the driving shaft, two gears of varying diameters mounted on the driving shaft to revolve in unison, one of said gears provided with a clutch face, a movable double faced clutch section having a driving connection with the driving shaft and adapted to engage the clutch faces of the gears on the driving shaft, two spur gears of varying diameters loosely mounted on the sub-shaft and each provided with a clutch face and in mesh with the two connected gears on the driving shaft, a movable double faced clutch section having a driving connection with the sub-shaft and adapted to engage the clutch faces of the gears on the sub-shaft, two spur gears of varying diameters loosely mounted on the driven shaft and each provided with a clutch face, and in mesh with the two connected gears on the driving shaft, and a movable double faced clutch section having a driving connection with the driven shaft and adapted to engage the clutch faces of the gears on the driven shaft.

864,825. CLUTCH FOR PENCIL-HOLDERS, &c. ALBERT A. BOWERS, New York, N. Y. Filed Nov. 20, 1906. Serial No. 344,203.



1. A clutch comprising a guide so disposed as to embrace a gripping aperture, and an elongated gripper slidable along said guide so as to inclose more or less of said aperture and thereby contract or enlarge the same.

2. A clutch comprising a guide so disposed as to form a curved gripping portion for the active part of the gripping-member and a storage portion which departs from the gripping portion, and elongated gripping means mounted on said guide and movable from said gripping portion to said storage portion.

3. A clutch comprising a curved rod-like guide having a storage extension which departs from the gripping curve, and a flexible tubular gripping-member movable along the curved and storage portions of said guide.

4. A clutch comprising a wire guide formed with a portion embracing a gripping aperture and a storage portion departing externally from said aperture, and an elongated flexible tubular gripping-member inclosing said guide and movable longitudinally thereon.

5. A clutch comprising a guide formed with a curved portion and a storage portion, and a clutching-member longitudinally adjustable on said guide and composed of a wire helix inclosing the guide.

6. A clutch comprising a helical wire guide and a flexible tubular gripping-member movable therealong.

7. A clutch comprising a wire guide formed with a helix and an externally-departing storage portion, and a tubular gripping-member inclosing said guide and adjustable therealong.

8. A clutch comprising a wire guide formed with a plurality of helical convolutions and a storage portion departing therefrom, and a helical wire gripping-member movable along one of the convolutions and the storage portion of said guide and having a manipulative projection engaging another convolution of the guide.

864,826. SINGLE-TRIGGER MECHANISM. WILLIAM H. BROWN, Syracuse, N. Y. Filed May 17, 1902. Serial No. 107,848.



1. In a single-trigger mechanism, a plurality of hammers, sears for the hammers, a trigger, means movable by the trigger for actuating one of the sears, a firing member also movable by the trigger for actuating the other sear, said firing member being acted upon directly by the counter recoil following the shock of the first discharge and thereby momentarily prevented from moving into operative position, and means for moving said member automatically into operative position after said recoil, substantially as and for the purpose described.

2. In a single-trigger mechanism, a plurality of hammers, sears for the hammers, a trigger, means movable by the trigger for actuating one of the sears, and a firing member also movable by the trigger for actuating the other sear, said firing member being acted upon directly by the counter recoil following the shock of the first discharge and thereby momentarily prevented from moving into operative position, said member being forced from operative position by the cocking of the hammers, substantially as and for the purpose specified.

3. In a single-trigger mechanism, a plurality of hammers, sears for the hammers, a trigger, a pair of firing members movable by the trigger for actuating the respective sears, the firing member effecting the second discharge being normally in an inoperative position, and being momentarily prevented by the counter recoil following the shock of the first discharge from moving into operative position, means for moving the last-mentioned firing member automatically into operative position, and movable means for normally preventing said last-mentioned firing member from moving into operative position, said latter means being forced from operative position upon the first discharge, substantially as and for the purpose set forth.

4. In a single-trigger mechanism, a plurality of hammers, sears for the hammers, a trigger, a pair of firing members movable by the trigger, one firing member actuating the sears singly and being movable into position to actuate either sear, and the other firing member actuating the other sear, said other firing member being normally in an inoperative position, and being momentarily prevented by the counter recoil following the shock of the first discharge from moving into operative position, means for moving said other firing member automatically into operative position, and movable means for normally preventing said other firing member from moving into operative position, said latter means being forced from operative position upon the first discharge, substantially as and for the purpose described.

5. In a single-trigger mechanism, a plurality of hammers, sears for the hammers, a trigger, means for actuating one of the sears, a firing member for actuating the other sear, said firing member being momentarily movable backwardly automatically by the counter recoil following the shock of the first discharge and thereby prevented from effecting a premature second discharge, and means for moving said member automatically into operative position, substantially as and for the purpose specified.

6. In a single-trigger mechanism, a plurality of hammers, sears for the hammers, a trigger, a pair of firing members for actuating the respective sears consecutively, the firing member effecting the second discharge being normally in an inoperative position, and being momentarily movable backwardly by the counter recoil following the shock of the first discharge and thereby prevented from moving into operative position, means for moving the last-mentioned firing member automatically into operative position, and movable means for normally preventing said last-mentioned firing member from moving into operative position, said latter means being forced from operative position upon the first discharge, substantially as and for the purpose set forth.

7. In a single-trigger mechanism, a plurality of hammers, sears for the hammers, a trigger, a pair of firing members for actuating the respective sears consecutively, the firing member effecting the second discharge being normally in an inoperative position, and being movable by the trigger from position to operatively engage the sear, and being momentarily movable backwardly by the counter recoil following the shock of the first discharge and thereby prevented from moving into operative position, means for moving the last-mentioned firing member automatically into operative position, and movable means for normally holding said last-mentioned firing member in its inoperative position upon the first discharge, substantially as and for the purpose described.

8. In a single trigger mechanism, a plurality of hammers, sears for the hammers, a trigger, a pair of firing members for actuating the respective sears consecutively, the firing member effecting the second discharge being normally in an inoperative position, and being movable by the trigger above its position assumed to operatively engage the sear and into position to engage a stop-surface of one of the sears for limiting the forward movement of said firing member, and being acted upon directly by the counter recoil following the shock of the first discharge and thereby momentarily movable backwardly and prevented from moving into operative position when the trigger is depressed, means for moving said last-mentioned firing member automatically into operative position, and means for normally holding the last-mentioned firing member in its inoperative position, said latter means being forced from operative position upon the first discharge, substantially as and for the purpose specified.

9. In a single-trigger mechanism, a plurality of hammers, sears for the hammers, a trigger, a pair of firing members movable by the trigger, one firing member being pivoted to the trigger by a substantially vertical pivot and actuating the sears singly and being movable laterally on its pivot into position to actuate either sear, and the other firing member actuating the other sear, said other firing member being normally in an inoperative position, and being momentarily prevented by the counter recoil following the shock of the first discharge from moving into operative position, means for moving said other firing member automatically into operative position, and means for normally holding said other firing member from moving into operative position, said latter means being forced from operative position upon the first discharge, substantially as and for the purpose set forth.

10. In a single-trigger mechanism, a plurality of hammers, sears for the hammers, a trigger, a pair of firing members, one being pivoted to the trigger by a substantially vertical pivot and actuating the sears singly, and

being movable laterally on its pivot into position to actuate either sear, and the other firing member being movable by the trigger and actuating the other sear, and a locking member carried by the trigger for holding the laterally movable firing member in either position, said locking member being movable endwise in a direction substantially parallel to said pivot into and out of engagement with the laterally movable firing member, substantially as and for the purpose described.

11. In a single-trigger mechanism, a plurality of hammers, sears for the hammers, a trigger, a pair of firing members for actuating the respective sears consecutively, the firing member effecting the second discharge being provided with a weighted portion and pivoted to the trigger by a substantially horizontal pivot, said last-mentioned firing member being normally in an inoperative position, and being momentarily movable on its pivot by the counter recoil following the shock of the first discharge and thereby prevented from moving into operative position, means for moving said member effecting the second discharge automatically on its pivot into operative position, and means for normally holding said member from moving into operative position, said latter means being forced from operative position upon the first discharge, substantially as and for the purpose set forth.

12. In a single-trigger mechanism, a plurality of hammers, sears for the hammers, a trigger, means movable by the trigger for actuating one of the sears, and a firing member for actuating the other sear, said firing member being connected to the trigger by a substantially horizontal pivot extending crosswise of the trigger, and being normally out of position to engage said other sear and movable on its pivot in one direction from its normal position into position to engage said other sear after the first discharge, and said firing member being movable on its pivot in the opposite direction from its normal position, preliminary to its first mentioned movement, by the counter recoil following the shock of the first discharge.

13. In a single-trigger mechanism, a plurality of hammers, sears for the hammers, a trigger, a pair of firing members for actuating the respective sears consecutively, the firing member effecting the second discharge being provided with a weighted portion and pivoted to the trigger by a substantially horizontal pivot, said last-mentioned firing member being normally in an inoperative position, and being momentarily movable on its pivot by the counter recoil following the shock of the first discharge, and firing member being normally in an inoperative position, means for normally holding the last-mentioned firing member from moving into operative position, said means being forced from operative position upon the first discharge, and a spring for automatically moving said firing member effecting the second discharge on its pivot into operative position, substantially as and for the purpose specified.

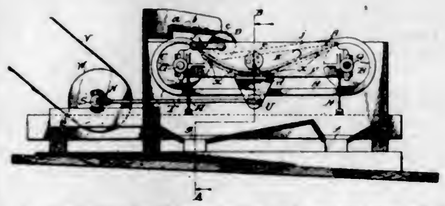
14. In a single-trigger mechanism, a plurality of hammers, sears for the hammers, a trigger, a pair of firing members, one actuating the sears singly and being pivoted to the trigger by a substantially vertical pivot and being movable laterally into its position to actuate either sear, and another firing member actuating the other sear and being pivoted to the trigger by a substantially horizontal pivot at the rear of the pivot of the trigger and being movable forwardly and rearwardly on its pivot into and out of operative position, substantially as and for the purpose set forth.

15. In a single-trigger mechanism, a firing member movable by the trigger, means for preventing the firing member from assuming its operative position, a plurality of hammers, sears for the hammers coöperating with said preventing means for forcing the same from operative position when one of the hammers is released, substantially as and for the purpose described.

16. In a single-trigger mechanism, a pair of firing members movable by the trigger for effecting consecutive firing, means for preventing the firing member effecting the second discharge from assuming an operative position, a plurality of hammers, and sears for the hammers cooperating with said preventing means for forcing the same from operative position when either sear is operated upon the release of one of the hammers, substantially as and for the purpose specified.

17. In a single-trigger mechanism, a pair of firing members movable by the trigger, means for preventing one of the firing members from assuming operative position, sears for forcing the preventing means from operative position, and hammers coöperating with the sears for holding the same in their position assumed when forcing said preventing means from operative position, substantially as and for the purpose set forth.

864,827. SCREEN SIZING AND SEPARATING MACHINERY. JOHN M. CALLOW, Salt Lake City, Utah. Filed Apr. 24, 1905, Serial No. 257,081. Renewed June 1, 1906. Serial No. 319,771.



1. In screen sizing apparatus, the combination of a frame, a water tank thereon, an endless traveling band of screen cloth, means for suporting it at its ends above such tank, intermediate means for deflecting the working portion of the band below the level of the supporting means and into the water, and means for imparting a reciprocating motion to the frame.

2. In screen sizing apparatus, the combination of a frame, means for imparting reciprocating motion thereto, a water tank on the frame, an endless traveling band of screen cloth, means for supporting it at its ends above such tank, intermediate means for deflecting the working portion of the band below the level of the supports and into the water, and means for maintaining a substantially constant amount of water in the tank.

3. In screen sizing apparatus, the combination of a frame, means for imparting a reciprocating motion thereto, a water tank on the frame, an endless traveling band of screen cloth, means for driving said band, means for varying the speed of travel of the same, and means for throwing back the water in the tank at each forward stroke of the machine.

4. In screen sizing apparatus, the combination of a frame, means for imparting a reciprocating motion thereto, a water tank on the frame, an endless traveling band of screen cloth, means for deflecting the working portion of the band into the water, means for maintaining a substantially constant amount of water in the tank, and means for throwing back the water in the tank at each forward stroke of the machine.

5. In screen sizing apparatus, the combination of a frame, means for imparting a reciprocating motion thereto, a water tank on the frame, head and tail rollers, an endless band of screen cloth traveling over said rollers, means for deflecting the working portion of the band into the water, and means for throwing back the water in the tank at each forward stroke of the machine.

6. In screen sizing apparatus, the combination with a frame, means for imparting reciprocating motion thereto, a water tank on the frame, an endless traveling band of screen cloth, a roller arranged to deflect the working portion of the band into the water, and a deflector in the tank adapted to throw back the water at each forward stroke of the machine.

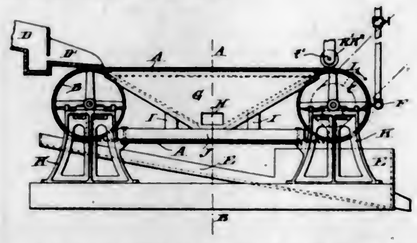
7. In screen sizing apparatus, the combination of a water tank head and tail rollers, an endless traveling band of screen cloth, means for driving said band of screen cloth, means for varying the speed of travel of the same, and means for throwing back the water in the tank over the tail roller.

8. In screen sizing apparatus, the combination of a water tank, head and tail rollers an endless traveling band of screen cloth, means for deflecting said band into the water, means for maintaining a substantially constant amount of water in the tank, and means for throwing back the water in the tank over the tail roller.

9. In a screen sizing apparatus, the combination of a water tank, head and tail rollers, an endless band of screen cloth traveling over said rollers, means for deflecting the band into the water, and means for throwing back the water in the tank over the tail roller.

10. In a screen sizing apparatus, the combination with a water tank, head and tail rollers of an endless traveling band of screen cloth, a roller arranged to deflect the band into the water in the tank, and a deflector in the tank adapted to throw back the water in the tank over the tail roller.

864,828. SCREEN SIZING AND SEPARATING MACHINERY. JOHN M. CALLOW, Salt Lake City, Utah. Filed July 13, 1905, Serial No. 269,463. Renewed June 1, 1906. Serial No. 319,772.



1. In a screen sizing and separating machine, the combination with an endless traveling belt or band of screen cloth, of an end roller constructed in two parts and differential gearing for driving said parts for equalizing the tension in the screen.

2. In a screen sizing and separating machine for screening wet material, the combination with the end rollers, of a single layer endless continuous traveling belt or band of fine meshed perforated screen cloth, main side belts and supplementary belts of more pliable material than the main belts for connecting the screen cloth to the said main belts, thereby preventing undue bending strain on the screen cloth on passing over the rollers.

3. In a screen sizing and separating machine, the combination with an endless traveling belt or band of screen cloth and its end rollers, a feed box at the receiving end of the screen having a sole plate or distributing board from which the materials to be screened are fed across the full width of the screen, a catch box or launder extending the full width of the machine, a hopper beneath the screen for catching the under size and water, and means for spraying water on the tail or oversize roller for removing the oversize from the screen, said hopper beneath the screen having sloping ends, longitudinal transverse slopes for the bottom and a side opening.

4. In a screen sizing and separating machine, the combination with an endless traveling belt or band of screen cloth and its end rollers, a feed box at the receiving end of the screen having a sole plate or distributing board from which the materials to be screened are fed across the full width of the screen, a catch box or launder extending the full width of the machine, a hopper beneath the screen for catching the undersize and water, means for spraying water on the tail or oversize roller for removing the oversize from the screen, said hopper beneath the screen having sloping ends, longitudinal transverse slopes for the bottom and a side opening, and means for submerging the screening side of the screen.

5. In a screen sizing and separating machine, the combination with an endless traveling belt or band of screen cloth and its end rollers, a feed box at the receiving end of the screen having a sole plate or distributing board from which the materials to be screened are fed across the full width of the screen, a catch box or launder extending the full width of the machine, a hopper beneath the screen for catching the undersize and water, means for spraying water on the tail or oversize roller for removing the oversize from the screen, said hopper beneath the screen having sloping ends, longitudinal transverse slopes for the bottom and a side opening, means for guiding the screen laterally, and means for varying the speed of the screen.

6. In a screen sizing and separating machine, the combination with an endless traveling belt or band of screen cloth and its end rollers, a feed box at the receiving end of the screen having a sole plate or distributing board from which the materials to be screened are fed across the full width of the screen, a catch box or launder extending the full width of the machine, a hopper beneath the screen for catching the undersize and water, means for spraying water on the tail or oversize roller for removing the oversize from the screen, said hopper beneath the screen having sloping ends, longitudinal transverse slopes for the bottom and a side opening, and means for guiding the screen laterally.

7. In a screen sizing and separating machine, the combination with an endless traveling belt or band of screen cloth and its end rollers, a feed box at the receiving end of the screen having a sole plate or distributing board from which the materials to be screened are fed across the full width of the screen, a catch box or launder extending the full width of the machine, a hopper beneath the screen for catching the undersize and water, means for spraying water on the tail or oversize roller for removing the oversize from the screen, said hopper beneath the screen having sloping ends, longitudinal transverse slopes for the bottom and a side opening, means for guiding the screen laterally, and means for vertically supporting the screening side of the screen.

8. In a screen sizing and separating machine, the combination with an endless traveling belt or band of screen cloth and its end rollers, a feed box at the receiving end of the screen having a sole plate or distributing board from which the materials to be screened are fed across the full width of the screen, a catch box or launder extending the full width of the machine, a hopper beneath the screen for catching the undersize and water, means for spraying water on the tail or oversize roller for removing the oversize from the screen, said hopper beneath the screen having sloping ends, longitudinal transverse slopes for the bottom and a side opening, means for guiding the screen laterally, means for vertically supporting the screening side of the screen, and means for preventing the sagging of the screen transversely.

9. In a screen sizing and separating machine, the combination with an endless traveling belt or band of screen cloth and its end rollers, a feed box at the receiving end of the screen having a sole plate or distributing board from which the materials to be screened are fed across the full width of the screen, a catch box or launder extending the full width of the machine, a hopper beneath the screen for catching the undersize and water, and means for spraying water on the tail or oversize roller for removing the oversize from the screen, said hopper beneath the screen having sloping ends, longitudinal transverse slopes for the bottom and a side opening, guide bars extending longitudinally of the machine and supporting the upper side of the screen, said guide bars having horizontal legs for supporting the screen, and vertical legs for preventing the screen from curving and sagging transversely.

10. In a screen sizing and separating machine, the combination with an endless traveling belt or band of screen cloth and its end rollers, a feed box at the receiving end of the screen having a sole plate or distributing board from which the materials to be screened are fed across the full width of the screen, a catch box or launder extending the full width of the machine, a hopper beneath the screen for catching the undersize and water, means for spraying water on the tail or oversize roller for removing the oversize from the screen, said hopper beneath the screen having sloping ends, longitudinal transverse slopes

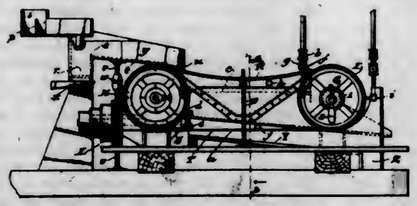
for the bottom and a side opening, and bearing down wheels coöperating with the tail roller.

11. In a screen sizing and separating machine, the combination with an endless traveling belt or band of screen cloth and its end rollers, the driving roller being constructed in two parts, and differential gearing for driving said parts for equalising the tension in the screen, a distributing feed board or apron at the receiving end of the screen, a hopper beneath the screen for catching the undersize and water, and means for spraying water on the tail or oversize roller for removing the oversize from the screen.

12. In a screen sizing and separating machine, the combination with an endless traveling belt or band of screen cloth, of guide bars extending longitudinally of the machine for supporting the upper side of the screen, said rollers and guide bars being constructed to coöperate with the screen, whereby said screen is guided and prevented from curving and sagging transversely, a distributing feed board or apron at the receiving end of the screen, a hopper beneath the screen for catching the undersize and water, and means for preventing a diagonal strain from being placed upon the cloth in passing over the rollers.

13. In a screen sizing and separating machine, the combination with an endless traveling belt or band of screen cloth, of end rollers for the same, one of said rollers being constructed in two parts, one of said parts being fast upon the shaft and the other loose thereon, and the other roller being constructed in two parts and differential gearing for driving said parts for equalizing the tension in the screens, means for feeding material to the screen, and a hopper beneath the screen for catching the undersize and water.

864,829. SCREEN SIZING AND SEPARATING MACHINERY. JOHN M. CALLOW, Salt Lake City, Utah. Filed Nov. 10, 1905. Serial No. 286,738.



1. In a screen sizing and separating machine, the combination with the endless traveling belt screen and rollers, of a feeding device arranged above and to the rear of the head roller, said device comprising a pocket for the reception of the feed, an edge or weir over which the feed flows, an inclined board or sole plate extending from the weir over the head roller, a lip from which the feed falls to the screen and means for adjusting the slope of the sole plate and the relation of the lip to the surface of the screen.

2. In a screen sizing and separating machine the combination with the endless traveling belt screen and rollers, of a feeding device arranged above and to the rear of the head roller, said device comprising a pocket for the reception of the feed, an edge or weir over which the feed flows, an inclined board or sole plate extending from the weir over the head roller and having sides extending first outwardly at an angle from the weir and then extending substantially parallel to the edges of the screen, a lip from which the feed falls to the screen and means for adjusting the slope of the sole plate and the relation of the lip to the surface of the screen.

3. In a screen sizing and separating machine, the combination with the rollers, of an endless traveling belt screen passing over the rollers, sprocket chains at each side of the screen having links with knobs thereon, supplementary edges of pliable material attached to the screen and having holes coöperating with said knobs and teeth on the rollers coöperating with the chains.

4. In a screen sizing and separating machine for screening wet materials, the combination with the head and tail rollers, of a single layer endless traveling belt of fine meshed or perforated screen cloth unsupported throughout the length of its upper side and adapted to sag in the middle, means for driving the upper length of the screen from the head roller towards the tail roller, whereby the upper side of the screen sags in the middle, and means for varying the amount of such sagging.

5. In a screen sizing and separating machine, the combination of a main central frame or girder, shafts rotatably supported on said frame, rollers carried by the overhanging ends of said shafts, endless belt screens traveling over said rollers, and means for driving said rollers.

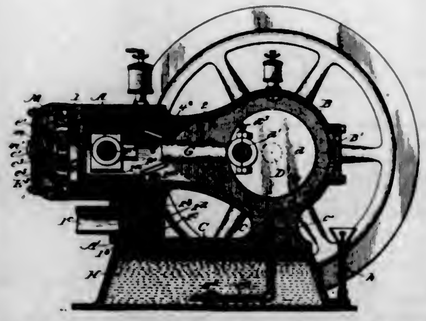
6. In a screen sizing and separating machine, the combination of a main central hollow frame or girder, forming a central gutter for the discharge of under size and water, under size hoppers attached thereto, shafts carried by said frame, rollers carried by the shafts, a belt screen and means for driving the same.

7. In a screen sizing and separating machine, the combination of a main central hollow frame or girder, shafts carried by said frame, rollers loose on said shafts, means for connecting the head rollers to the shaft, a belt screen and means for driving said shafts.

8. In a screen sizing and separating machine, the combination of a main central frame or girder, shafts carried thereby, rollers loosely carried by said shafts, means for connecting and disconnecting the head rollers from the head shaft, endless traveling belt screens passing over said rollers, means for driving the head rollers from a common source, and means for spraying water on the over size roller.

9. In a screen sizing and separating apparatus the combination of head and tail rollers and an endless belt screen passing over said rollers, means for spraying water on the over size roller for removing the over size from the screen, means for spraying water on the return side of the screen for further washing and cleansing the same, means for spraying water on the over size as it passes from the feed to the discharge end of the machine, and means for spraying water beneath the screen to wash the oversize as it passes from the feed to the discharge end of the machine.

864,830. EXPLOSIVE-ENGINE. HOMER CHARLES, Rapid City, S. D. Filed Feb. 10, 1905. Serial No. 245,096.



1. In an explosive engine, the combination of the working-chamber, the pump-chamber, a mixing chamber intermediate the pump and working chambers, and through which the air is passed from the pump-chamber to the working-chamber, means for normally isolating said mixing-chamber from the other chambers, and means for venting said chamber to reduce any retained pressure therein before the oil is admitted thereto, substantially as described.

2. An explosive engine, having a working-chamber, a pump-chamber, mixing-chambers intermediate the pump and working-chambers, means for admitting liquids or fuels into said mixing chambers, and a piston common to and working between the working and pump-chambers, and adapted to establish communication between the mixing-chambers and the pump and working-chambers when at the end of its working stroke, and to isolate the mixing-chambers at other times; with means for relieving the confined pressure in the mixing-chambers before they are again placed in communication with the pump and working-chamber.

3. In an explosive engine, a working-chamber, a pump-chamber, a piston common to both chambers, a mixing-chamber intermediate the working and pump-chambers, normally isolated from both chambers by the piston,—and a port in the piston adapted to establish communication between the pump and mixing chambers when the piston permits communication between the mixing-chamber and working-chamber, and a second port in the piston adapted to relieve pressure in the mixing-chamber before the compression stroke is commenced.

4. In an explosive engine, a working-chamber, a pump-chamber in line therewith, a piston between and common to both chambers, a mixing-chamber in the walls of the cylinder at a point intermediate the pump and working-chambers and normally isolated from both chambers by the piston, means for admitting oil to said mixing-chamber, a port in the piston for relieving pressure in the mixing-chamber before the compression stroke of the piston, and a second port in the piston whereby communication is established between the pump and working-chambers through the mixing-chamber when the piston permits communication between the mixing and working-chambers.

5. In an explosive engine, the combination of a working-chamber, exhaust ports therefrom; a pump-chamber, direct air-inlets thereto, and non-communicating passages in the walls of said chambers respectively connecting with the working-chamber and with the pump-chamber; with a piston also constituting a valve controlling said exhaust and air-ports, and provided with a recess in its side adapted to establish communication between said passages when the piston is at the end of its working stroke, and means for admitting fluid into the passages to be vaporized by the rush of air from the pump to the working-chambers, substantially as described.

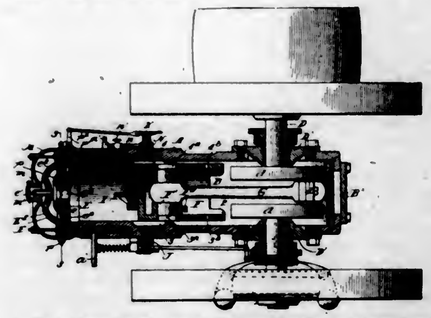
6. The herein described engine, comprising a working-chamber, and a combined crank-case and pump-chamber, a piston between and working in said chambers and forming the main valve, exhaust ports from the working-chamber controlled by said piston, air-inlet ports to said pump-chamber also controlled by said piston, adjacent passages in the walls of the cylinder respectively communicating with the working-chamber and the pump-chamber, and a recess in the side of the piston adapted to establish communication between said passages after the exhaust port is opened and when the piston has about reached the end of its working stroke; with means for admitting liquids into the mixing-chambers to be vaporized by the inrush of air from the pump to the working-chamber, and means for igniting the explosive mixtures after the piston has completed its return stroke, substantially as described.

7. The herein described explosive engine, comprising a working-chamber, a pump-chamber, two isolated mixing-chambers in the walls of the engine intermediate the working and pump-chambers, an air-inlet to the pump-chamber, exhaust ports from the working-chamber, a piston common to said working and pump-chambers and controlling the ports, a fuel reservoir communicating with the pump-chamber, an oil supply-pipe for conducting oil from the reservoir to one of the mixing-chambers, and a valve for the oil supply, means for supplying water to the other of the mixing chambers, said piston having ports for simultaneously establishing communication between the two mixing-chambers and the pump-chamber after the piston has opened communication between the two mixing-chambers and the working-chamber; and an igniter in the working-chamber, substantially as and for the purpose described.

8. The herein described explosive engine, comprising a working-chamber, a pump-chamber, an isolated mixing-chamber in the walls of the engine intermediate the working and pump-chambers, inlets to the pump-chamber, exhaust ports from the working-chamber, and a piston common to said working and pump-chambers and controlling the ports, and adapted to establish communication between the pump and working-chambers through the mixing-chamber; with a fuel reservoir communicating with the pump-chamber, an oil supply pipe for conducting oil from the reservoir to the mixing-chamber, a valve for the oil supply, a valve for the air supply, means for simultaneously actuating the oil and air-valves to maintain a constant relative proportion of elements in the explosive mixture, and an igniter in the working-chamber, substantially as and for the purpose described.

9. An explosive engine comprising working and pump-chambers in opposite ends of its casing, and a piston working between said chambers and controlling their ports and having recesses in its sides, passages respectively connecting with the working and pump-chambers, and adapted to be intermittently put into communication with each other by the recesses in said piston, and means for admitting oil or combustible elements to the said passages; with valves for controlling the admission of elements to said passages, a valve for regulating the admission of air to the pump-chamber, and connections between the air and oil-valves whereby they can be simultaneously varied to maintain approximate uniformity of explosive mixture, substantially as and for the purpose described.

864,831. THERMOSTATIC REGULATOR FOR EXPLOSIVE-ENGINES. HOMER CHARLES, Rapid City, S. D. Original application filed Feb. 10, 1905, Serial No. 245,096. Divided and this application filed Mar. 2, 1906. Serial No. 303,840.



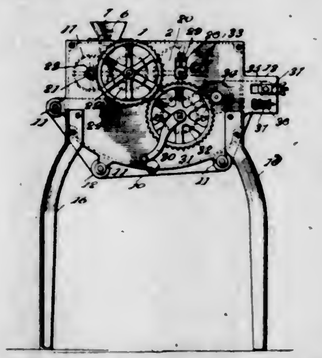
1. In an explosive engine, the combination of a working-chamber, a mixing chamber, an igniter head in the working-chamber, a valve controlling admission of fuel or water to said mixing-chamber, and a thermostat passing through the igniter-head and protected thereby from direct contact with the hot gases, and connections between said thermostat and the valve to regulate the temperature in the working-chamber, substantially as described.

2. In an explosive engine, the combination of the working-chamber, an igniter head in one end thereof, a thermostat passing through the head and protected thereby from direct contact with the gases, a cooling medium supply, a valve for regulating said supply, and connections between said valve and said thermostat whereby the admission of the cooling medium is controlled, substantially as described.

3. In an explosive engine, the combination of the working chamber, an igniter-head arranged in one end thereof, and leaving a transverse opening, a thermostat within said opening and protected by said head from direct contact with hot gases, a supply valve adapted to communicate with said chamber, means for regulating said valve, and amplifying connections between said valve and said thermostat whereby the admission of elements through said valve is controlled by said thermostat, substantially as described.

4. In an explosive engine, the combination of the working chamber, the piston therein, a recess in the walls of the cylinder adapted to be covered and uncovered by the piston, an igniter-head in said chamber; means for admitting fluid to said recess, a valve controlling the admission of fluid, a thermostatic bar concealed in said igniter head and protected thereby from direct contact with the hot gases, and connections between said bar and said valve, exterior to the working chamber, for the purpose and substantially as described.

864,832. PRESS. MORGAN S. CLARK, Roanoke, Va. Filed Aug. 13, 1906. Serial No. 330,475.



A press of the character described comprising a body having a horizontal slot in one of its end walls, horizontally extending arms projecting from the sides of the body at the opposite ends of said slot, said projecting arms being formed with upper and lower transversely alined and horizontally extending slots, apertured ears upon said arms at the outer ends of said slots, bearing blocks slidably mounted in the upper slots, screws carried by said bearing blocks and projecting through the ears at the ends of said slots, adjusting nuts upon said screws, a guide upon the exterior of said body adjacent to its lower end, an endless apron passed between said pressing rollers through the slot in the body and over said guide roller and said guide, blocks slidably mounted in said lower slots, screws carried by the last mentioned blocks and arranged in the apertured ears at the ends of said lower slots, adjusting nuts upon said screws, and a scraper bar having rounded longitudinal edges and provided at its ends with pivot studs mounted in the last mentioned blocks, said scraper bar being arranged vertically beneath said guide roller and being adapted to press said apron against said roller, substantially as shown and described.

864,833. SLICING-BOARD. FRANK J. CREQUE, Cuyahoga Falls, Ohio. Filed Dec. 29, 1906. Serial No. 350,069.

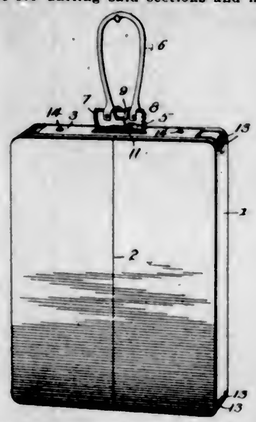
1. A slicing board provided with a recess therein to receive a cutting implement having a suspending handle, and a retaining device carried by said board at one end of said recess for retaining the implement therein with its handle projected beyond the board.

2. A slicing board provided with a recess therein, and a hook carried by said board and disposed in alinement with said recess for retaining the blade of a cutting implement therein.

3. A slicing board composed of sections, each section having a slot therein to form a recess when assembled for receiving the cutting implement, a plate for uniting said sections, and means attached to said uniting plate to engage the implement and retain the same in said recess.

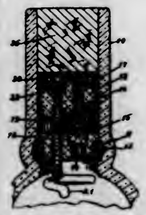
4. A slicing board having a recess therein to receive the blade of a cutting implement, a plate secured to the ends of said board, and a hook secured to said plate for retaining said blade in the recess.

5. A slicing board formed in sections and having a recess formed therein to receive the blade of a cutting implement, a plate for uniting said sections and having a slot



therein disposed in alinement with the recess in said board, and a hook secured to said plate adjacent said slot and disposed above and in alinement with said recess.

864,834. NON-REFILLABLE BOTTLE. FRANK J. DAVIS, Indianapolis, Ind., assignor, by direct and mesne assignments, to The Wagner-Davis Glass Company, Indianapolis, Ind., a Corporation of Indiana. Filed Nov. 2, 1905, Serial No. 285,530. Renewed Feb. 8, 1907. Serial No. 356,460.



1. A non-refillable bottle stopper including inner and outer portions, and a soluble adhesive for holding the parts together prior to and during the insertion thereof in a bottle.

2. A non-refillable bottle stopper formed of inner and outer sections, means for separating said sections to leave a chamber between them and that will not crush while the stopper is being inserted in the neck of the bottle, and means connecting the two sections that is so fragile as to break if any effort be made to withdraw the stopper.

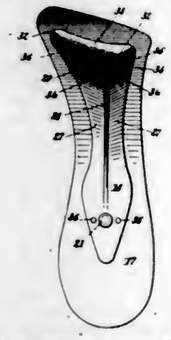
3. A non-refillable bottle stopper including inner and outer sections with a chamber between them and a passageway through the inner section, a valve for closing said passageway that opens into said chamber, lugs on the inner section for separating it from the outer section to form said chamber and so that the stopper may be forced into the bottle without injury to the parts, and a glass air tube extending through said sections of the stopper, said outer section being provided with fluid outlet passages therethrough.

4. A non-refillable bottle stopper including inner and outer sections, the outer section having passageways through it for the fluid and air and an upwardly extending rib between the air and fluid passage-ways, a cap that fits upon said rib, said cap and outer section being grooved along the top and sides, and a band fitting over said parts in said grooves.

5. A non-refillable bottle stopper with a fluid outlet

therethrough on one side of the center thereof, a valve for closing said outlet, and an air tube extending through said stopper on the other side of the center thereof with its inner end horizontally coiled.

864,835. MANUFACTURE OF SHOES. FRANK G. DELBON, Brooklyn, N. Y., assignor to William Lane, Brooklyn, N. Y., a Corporation of New York. Filed Nov. 27, 1906. Serial No. 345,363.



1. The method of making a turn-shoe of cottage-roof style which consists in forming the sole with the cottage-roof formation, applying the same and the upper with their inner side out upon a last having an elongated recess to receive the said cottage-roof formation, lasting the shoe on said last, withdrawing said last and turning the shoe, applying within the recess left within the shoe by the cottage-roof formation an elongated shank-stiffener extending from the heel to the tread portion of the sole, and lasting the shoe on a plain last; substantially as set forth.

2. The method of making a turn-shoe of cottage-roof style which consists in pressing into the sole the cottage roof formation, applying the same and the upper with their inner side out upon a last having an elongated recess to receive and preserve said cottage roof formation, lasting the shoe on said last, withdrawing said last and turning the shoe, and then finishing the shoe; substantially as set forth.

3. The method of making a turn-shoe of cottage-roof style which consists in pressing into the sole the cottage roof formation, applying the same and the upper with their inner side out upon a last having an elongated recess to receive and preserve said formation, lasting the shoe on said last, withdrawing said last and turning the shoe, securing within the recess left within the shoe by said formation a rigid shank-stiffener conforming to said recess, and finishing the shoe; substantially as set forth.

864,836. PROCESS OF TREATING WURTZILITE OR ELATERITE AND OF PRODUCING FUSIBLE SOLUBLE PRODUCTS. WILLIAM F. DOERFLINGER and LEON H. BUCK, Niagara Falls, N. Y., assignors, by mesne assignments, to Marcus Stine, New York, N. Y., and Edward F. C. Young, Jersey City, N. J. Filed Jan. 26, 1906. Serial No. 297,970.

1. The process of treating wurtzilite which consists in heating it in the presence of a suitable fusible resinous substance until homogeneous fusion takes place.

2. The process of treating wurtzilite which consists in heating it in the presence of a suitable fusible resinous substance whereby the resultant compound is soluble in turpentine.

3. The process of treating wurtzilite which consists in heating it in the presence of a suitable fusible resinous substance, allowing the compound to cool and dissolving the same in a suitable liquid vehicle, as turpentine, whereby it may be employed as a coating material.

4. The process of treating wurtzilite which consists in heating it in the presence of a suitable resinous substance to a temperature of about 350° C., maintaining it at such temperature with the exclusion of air until a homogeneous liquid is formed and thereafter allowing the same to cool.

5. The process of treating wurtzilite which consists in heating it in the presence of a fusible resinous substance which is soluble in turpentine, allowing the mass to cool after heating, and dissolving the same in turpentine to form a coating material.

6. The process of treating wurtzilite which consists in heating it in the presence of a fusible resinous substance which is soluble in turpentine, allowing the mass to cool after heating, and dissolving the same in turpentine and linseed oil to form a coating material.

864,837. GUN-CLEANING TOOL. ALFRED H. DURSTON, Syracuse, N. Y. Filed June 9, 1902. Serial No. 110,909.



1. In a gun-cleaner, the combination of a main body comprising a pair of clamping jaws, a supporting member projecting forwardly from the main body and having its rear end arranged between the jaws and projecting laterally beyond the periphery of a portion of the main body, means for operating the jaws, an adjusting part journaled on the periphery of the main body and engaged with the end edges of the laterally projecting portions of the supporting member and an abrasive member mounted on the supporting member, substantially as and for the purpose described.

2. In a gun-cleaner, the combination of a main body provided with a lengthwise slot opening through the periphery thereof, a supporting member having one end movable lengthwise in the slot of the main body and extended laterally beyond the periphery of a portion of the main body, an adjusting part movable on said periphery and engaged with the laterally projecting portion of the supporting member, for moving the supporting member lengthwise, and an abrasive member mounted on the supporting member, substantially as described.

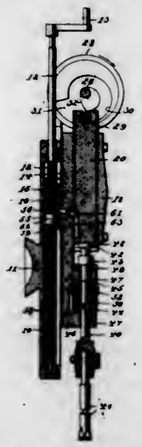
3. In a gun-cleaner, the combination of a main body having means for attaching a rod thereto, a yielding supporting member having its rear end movable lengthwise of the main body and formed with a perforation, an external adjusting part journaled on the main body and engaging the rear end of the supporting member, a screw engaged with the main body and extended through the perforation in the supporting member, and an abrasive member mounted on the supporting member, substantially as and for the purpose described.

4. In a gun-cleaner, the combination of a main body comprising a pair of clamping jaws, said main body being formed with a lengthwise slot opening through the periphery thereof, opposite substantially bow-shaped resilient supporting members having their front ends connected and their rear ends arranged between said jaws and extended in the slot, said members also extending laterally beyond the periphery of the main body, the portions of each of the supporting members between the jaws being formed with a perforation and an adjusting part journaled on the periphery of the main body and engaged with the laterally projecting portions of the supporting members for moving the supporting members lengthwise, a screw passed through the jaws and through the perforations in the supporting members, said screw being of less diameter than the perforations for permitting the lengthwise movement of the supporting members, and an abrasive member mounted on the supporting members, substantially as and for the purpose set forth.

5. In a gun-cleaner, the combination of a main body provided with a pair of clamping jaws at its front end, and being reduced at the rear of the clamping jaws and formed with a lengthwise slot extended into said reduced portion and opening through the periphery thereof, a sup-

porting member having its rear end arranged between the jaws and extended into the lengthwise slot, said member being movable lengthwise of the main body, and having portions extending laterally beyond the periphery of said reduced portion, and an adjusting part journaled on the reduced portion of the main body and engaged with the laterally projecting portions of the supporting member, the periphery of the adjusting part being substantially coincident with the periphery of the front part of the main body, a screw passed through said clamping jaws and through the perforation in the supporting member, and an abrasive member mounted on the supporting members, substantially as and for the purpose described.

864,838. ROCK-DRILL. ROBERT A. FOWDEN, Germantown, Pa. Filed Sept. 14, 1906. Serial No. 334,580.



1. In a rock-drill, a cam having lifting, releasing and driving portions, the latter forming a hammer, and an anvil having a tool connected with said cam, said cam and anvil arranged to form a cam driven drill.

2. In a rock drill, an anvil having a tool, and a cam having lifting, releasing and driving portions, the latter forming a hammer and said cam adapted to impart to said anvil a reciprocatory movement.

3. In a rock-drill, an anvil having a tool, and a cam connected with said anvil and having lifting, releasing and driving portions, the latter forming a hammer, the lifting and hammer portions of the cam adapted to impart to the anvil a reciprocatory movement and the releasing portion arranged to permit said anvil to strike a blow independently of the lifting and hammer portions of said cam.

4. In a rock-drill, an anvil having a tool, and a cam connected with the anvil having lifting, releasing and hammer portions, the lifting and hammer portions of the cam arranged respectively to impart to the anvil a slow upward movement and a quick downward movement, and the releasing portion of the cam arranged to permit the anvil to strike a blow independently of the lifting and hammer portions and to permit of a certain reciprocatory movement of the anvil free of such portions.

5. In a rock-drill, an anvil having a tool, and a cam connected with the anvil having lifting, hammer and releasing portions, the lifting and hammer portions of the cam arranged to respectively impart to the anvil a reciprocatory movement and the releasing and hammer portions of the cam arranged respectively to permit the anvil to strike a blow and to permit a certain free movement up to the checking of the upward movement imparted to the anvil by the lifting portion of the cam.

6. In a rock-drill, an anvil, a chuck carrying a tool connected with said anvil, a cam having lifting, releasing and hammer portions adapted to impart to the anvil a reciprocatory movement, and means engaging the chuck and adapted to rotate the same in one direction in said anvil.

7. In a rock-drill, an anvil, a chuck carrying a tool connected with said anvil, a cam having lifting, releasing and hammer portions adapted to impart to said anvil a reciprocatory movement, means surrounding the chuck and adapted to be rotated thereby in opposite directions, and means engaging the rotating means and adapted to arrest the movement of the same in one direction to permit said rotating means to actuate said chuck.

8. In a rock-drill, an anvil, a cam adapted to reciprocate said anvil, a support carrying said anvil and cam, a bed plate carrying said support, a feeding mechanism for shifting said support on said bed plate and means connected with said feeding mechanism and anvil and adapted to automatically prevent actuation of said feeding mechanism until released by said anvil.

9. In a rock-drill, an anvil carrying a tool, a cam adapted to reciprocate said anvil and tool thereof, a support carrying said anvil and cam, a bed plate carrying said support, a threaded spindle arranged in said bed plate and adapted when rotated to shift said support on the bed plate in a plane parallel to said spindle, means slidably arranged on said spindle, and means carried by said support and adapted to normally engage the sliding means of said spindle to prevent rotation thereof, and said anvil when moved into a certain position with respect to said support adapted to release the engaging means from said sliding means.

10. In a rock-drill, a bed plate, a support carried by the same, feeding means carried by said plate and adapted to shift the support thereon, an anvil, a chuck carrying a tool connected with said anvil, a cam adapted to reciprocate said anvil, chuck and the tool thereof on said support, means carried by said support surrounding said chuck and adapted to rotate the same in one direction with a step by step movement, and locking means for the feeding means, said locking means arranged to prevent feeding of said support and by the same the feeding of said anvil, chuck and the tool thereof until released by said anvil.

11. In a rock-drill, a support having projections, an anvil carried by said support and having a groove, a chuck guided in the projections of said support and having a head engaging the groove of said anvil and means for locking said chuck to said projections and adapted when removed therefrom to permit of the sidewise removal of the chuck from the projections of said support and groove of said anvil.

12. In a rock-drill, a support having projections, an anvil carried by said support and having a groove, means for reciprocating said anvil on said support, a buffer carried by one of the projections of said support, a chuck guided in the projections of said support and having a head engaging the groove of said anvil and a projection, the projection of said chuck adapted when contacting with the buffer to limit by said chuck the downward movement of said anvil, and means for locking the chuck to said projections and adapted when removed therefrom to permit of the sidewise removal of the chuck from the same and said support and the head thereof from the groove of said anvil.

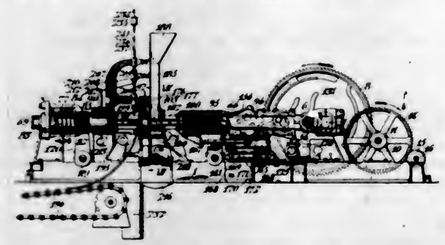
13. In a rock-drill, a plate, a threaded spindle rotatably arranged in the plate, an anvil, a support connected with said spindle and adapted when actuated by the same to shift said support and anvil on said plate, means for reciprocating said anvil on said support, a collar having teeth slidably arranged on said spindle, a lever carried by said support and engaging said anvil and adapted when engaging the teeth of said collar to automatically prevent rotation of said spindle, and said anvil adapted when moved into a certain position by said reciprocating means to automatically disengage the lever from the teeth of said collar so as to permit of the free rotation of said spindle.

14. In a rock-drill, a plate, a threaded spindle rotatably arranged in the plate, an anvil, a support connected with said spindle, said spindle adapted when actuated to shift said support and anvil on said plate, means for reciprocating said anvil on said support, a toothed collar slidably arranged on said spindle, a lever carried by said support and engaging said anvil and adapted when engaging the teeth of said collar to automatically prevent rotation of said spindle, said anvil adapted when moved into a certain position by said reciprocating means to automatically disengage the lever from the teeth of said collar so as to permit of the free rotation of said spindle, means connected with said support and holding said collar in a certain position with respect to said lever and means engaging said lever and adapted to normally hold the same in engagement with the teeth of said collar.

15. In a rock-drill, an anvil, a chuck carrying a tool connected with said anvil, a counterbalanced cam having lifting, releasing and hammer portions adapted to reciprocate said anvil, chuck and tool thereof and to permit said anvil to strike a blow free from said portions of the cam, means for rotating said cam, said counterbalanced cam, when rotated adapted to store up energy, while the anvil is free from the hammer and lifting portions of said cam to absorb the shock caused by the striking of said anvil and to transmit the stored up energy to said anvil at the beginning of the downward movement thereof.

16. In a rock-drill, an anvil, a chuck carrying a tool connected with said anvil, a counterbalanced cam having lifting, releasing and hammer portions adapted to reciprocate said anvil, chuck and the tool thereof, at variable speeds, and permit said anvil to strike a blow free from said portions of said cam, means for rotating said cam, said counterbalanced cam, when rotated, adapted to store up energy while said anvil is free from the hammer and lifting portions of said cam to absorb the shock caused by the striking of said anvil and to transmit the stored up energy to said anvil at the beginning of the downward movement thereof.

864,839. BLOCK-PRESS. JOHN C. FOWLER, Sewaren, N. J., assignor to The Barber Asphalt Paving Company, Philadelphia, Pa., a Corporation of West Virginia. Filed Apr. 30, 1906. Serial No. 314,396.



1. In a block press, the combination of a reciprocating cam actuated plunger, coöperating with an opposed plunger for the compression of a block within a mold frame, and its delivery therefrom; and a cushioning cylinder operatively connected to said plunger, provided with two passes between its extremities, one of which is valved to permit easy motion of the piston of the plunger in that direction which corresponds to the compressive action of the plunger, and the other of which is valved to interpose an adjustable retardation to the motion of the plunger in the opposite direction, substantially as set forth.

2. In a block press, a plunger, a cam-actuated arm by which the plunger is reciprocated, a swiveled cushioning cylinder, a piston in said cylinder connected with said cam-actuated arm, a pass connecting the opposite ends of said cylinder, with a one-way check valve interposed therein, and another pass affording the same connection and provided with an interposed retardation valve, substantially as set forth.

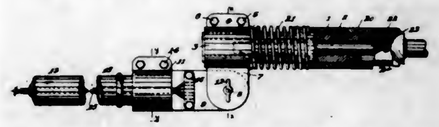
3. In a block press, the combination of opposed reciprocating dies, and a mold frame; said frame comprising a mold box forming its bottom and sides, a mold bridge which depends into the box and forms its top, and a through-bolt uniting the sides of the mold box and passing through the depending portion of the mold bridge, substantially as set forth.

4. In a block press, the combination of the mold frame and dies; a conveyer for the blocks; a curved slide plate reaching from the delivery side of said mold frame to the conveyer, the curvature of said slide being arranged so as to deliver the block to the conveyer at a rate of speed corresponding approximately to that of the conveyer, substantially as set forth.

5. In a block press, the combination of the mold-frame; reciprocating dies; a delivery slide reaching from the delivery side of the mold-frame; and lubricating jets discharging upon the dies while on the delivery side of the frame whereby the excess of lubricant falls upon and lubricates the slide, substantially as set forth.

6. In an asphaltic block press, the combination of the mold frame and dies; a saponaceous lubricant for said dies; a reservoir for holding said lubricant; means for spraying said lubricant upon the dies; a conveyer for the blocks; and a curved slide plate reaching from the delivery side of said mold frame to the conveyer, substantially as set forth.

864,840. APPARATUS FOR ELECTRICALLY REMOVING AND SEVERING METAL. ROYAL E. FRICKEY, Berkeley, Cal. Filed June 29, 1906. Serial No. 324,025.



1. In an apparatus for the described purpose, an electrode, and a graphite holder for the same having an interior bore of two diameters.

2. In an apparatus for the described purpose, an electrode, a tubular electrode holder of graphite to receive said electrode, and an external sleeve of refractory material.

3. In an apparatus for the described purpose, an electrode, a surrounding electrode holder, an external sleeve of magnesia composition and a refractory thimble adapted to fit the end of said sleeve and to be removed therefrom.

4. In an apparatus for the described purpose, an electrode, a surrounding electrode holder, an external sleeve of magnesia composition and a slotted thimble removable from the end of said sleeve.

5. In an apparatus for the described purpose, an electrode, an electrode holder surrounding the same, an external refractory sleeve, and a thimble removable from said sleeve and having a beveled mouth.

6. In an apparatus for the described purpose, a metallic clamp, an electrode holder therein, a refractory sleeve surrounding a portion of the length of said holder and having an internally beveled end and a spring between said clamp and said sleeve.

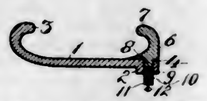
7. In an apparatus for the described purpose, an electrode holder having a bore to receive an electrode, an electrode in such holder projecting beyond it, and a removable yielding sleeve of refractory material surrounding said holder and extending beyond the electrode.

8. In an apparatus for the described purpose, a tubular holder, an electrode therein adapted to project beyond the end of said holder, a sleeve of refractory material surrounding the said holder and extending beyond said electrode, and a tip or thimble at the end of said sleeve; the tip and sleeve being removable from the holder and the tip being independently detachable from the sleeve.

864,841. VEHICLE-RIM. LOUIS B. GAST and JACOB GAST, Jr., Akron, Ohio. Filed Mar. 13, 1906. Serial No. 305,824.

1. A vehicle wheel rim of the class described comprising a tire-seat having a tire-retaining means along one side thereof and provided on the other side with a channel be-

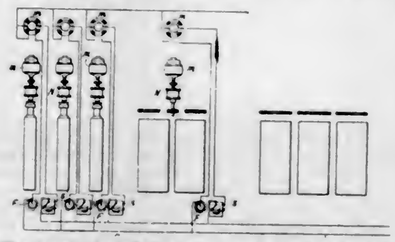
low the tire-seat with an outer wall extending approximately as far as the plane of said tire-seat, said outer wall of said channel being provided with an interrupted series of notches occurring at approximately regular intervals except at the point where a notch is omitted and an endless ring having its outer portion shaped to constitute a tire-retaining element with its base approximately flat and of sufficient width to cover said channel, provided on its inner face with an uninterrupted series of inwardly-projecting lugs spaced apart from each other a distance equal to that intervening between the notches in the side wall of said channel whereby in seating said ring one of the lugs may be passed over the uncut portion of said outer wall and the balance of the ring swung laterally into position, the balance of the lugs on said ring passing through the notches in said wall and interlocking with those portions of the wall between said notches.



2. A vehicle wheel rim of the class described comprising a tire-seat having a tire-retaining means along one side thereof and provided on the other side with a channel below the tire-seat with an outer wall extending approximately as far as the plane of said tire-seat, said outer wall of said channel being provided with an interrupted series of notches occurring at approximately regular intervals except at the point where a notch is omitted, said channel being further provided with an opening through the bottom thereof located opposite the uncut portion of said wall, an endless ring having its outer portion shaped to constitute a tire-retaining element with its base approximately flat and of sufficient width to cover said channel provided on its inner face with an uninterrupted series of inwardly-projecting lugs spaced apart from each other a distance equal to that intervening between the notches in said wall of said channel whereby in seating said ring one of the lugs may be passed over the uncut portion of said outer wall and the balance of the ring swung laterally into position, the balance of the lugs on said ring passing through the notches in said wall and interlocking with those portions of the wall between said notches, and a locking device operating through the opening in said channel for engagement with the lugs on said ring thereby preventing circumferential motion thereof.

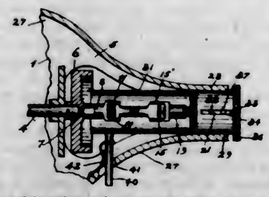
3. A vehicle wheel rim of the class described comprising a tire-seat having a tire-retaining element along one side thereof provided on the other side with a channel below the tire-seat with an outer wall extending approximately as far as the plane of said tire-seat, said outer wall of said channel being provided with an interrupted series of notches occurring at approximately regular intervals except at the point where a notch is omitted, said channel being provided opposite the uncut portion of said side wall with an opening through the bottom thereof, an endless ring having its outer portion shaped to constitute a tire-retaining element with its base approximately flat and of sufficient width to cover said channel provided on its inner face with an uninterrupted series of inwardly-projecting lugs spaced apart from each other a distance equal to that intervening between the notches in the side wall of said channel whereby in seating said ring one of the lugs may be passed over the uncut portion of said outer wall and the balance of the ring swung laterally into position, the balance of the lugs on said ring passing through the notches in said wall and interlocking with those portions of the wall between said notches, and a key operating through the opening in said channel for engagement with the lugs on said ring for preventing circumferential motion thereof, and a spring for maintaining said key in locking position in said channel.

864,842. ELECTRIC DRIVE FOR PAPER-MAKING AND LIKE MACHINES. JAMES R. HAPPER, Linwood, Scotland, assignor of one-half to James Bertram and Son Limited, Edinburgh, Scotland. Filed Jan. 4, 1907. Serial No. 350,762.



The herein described system of electrically driving paper making or like machines composed of sections driven at variable speed, comprising the combination with supply mains of means such as a motor generator for generating a current of variable voltage which may be opposed or added to that from the mains and a separate motor provided for each section having its own regulating device and driven by the current from the mains and the generator.

864,843. VIBRATOR. HERBERT G. HILL, Chicago, Ill., assignor, by mesne assignments, to William Gentry Shelton, Chicago, Ill. Filed Feb. 5, 1906. Serial No. 299,564.



1. The combination of an applicator, means for operating the same, a handle for said applicator, a controller for regulating said contact device and yielding means holding said controller away from said handle.

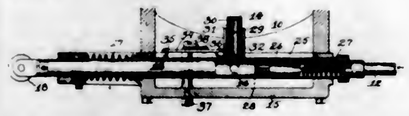
2. The combination of an applicator, means for operating the same, a handle for said applicator, a regulating lever for said applicator and pivoted at its outer end to said handle, and a spring between said handle and lever and holding said lever away from said handle.

3. The combination of a casing, of a rotary member in said casing, an applicator carried by said casing, adjustable operating mechanism connecting said rotary member and contact device, a handle rigidly carried by said casing, a lever pivotally mounted adjacent to said handle and connected with said operating mechanism, and yielding means for holding said member away from said handle.

4. An apparatus of the character described comprising a frame having a collar, a sleeve provided with a spherical bearing and a slot communicating with said bearing at one side and movably located in said collar, a driven shaft mounted to turn on the frame, an applicator shaft adapted to receive and carry an applicator and having a spherical enlargement engaged in the spherical bearing of the sleeve and a pin on said enlargement located in the slot at the side of the sleeve, pivotally connected links, one of which has pivotal connection with the driven shaft and the other loose connection with the applicator shaft, and means for moving the sleeve and thereby throwing the applicator shaft in and out of alinement with the driven shaft.

5. In an apparatus of the character described, the combination of a frame having a collar and a handle, of a sleeve provided with a spherical bearing and movably located in the collar, a driven shaft mounted to turn on the frame, an applicator shaft adapted to engage and carry an applicator and having a spherical enlargement engaged in the spherical bearing of the sleeve, pivotally connected links one of which has pivotal connection with the driven shaft and the other loose connection with the applicator shaft, a casing surrounding said links and connected at one of its ends to the said sleeve, a spring pressed lever pivoted at one end on the handle of the frame and connected at its other end to the said casing, substantially as described.

864,844. HYDROCARBON-ENGINE. EDMUND HUDSON, Templeton, Mass. Filed July 28, 1904. Serial No. 218,565.



1. In combination in a hydrocarbon motor having a combustion chamber and an air compression chamber, an air passage intermediate the air compression chamber and combustion chamber, a piston arranged to control the passage of air intermediate said chambers, a crank shaft, a hydrocarbon pump, having means for maintaining an oil pressure in the pump chamber irrespective of the position of its piston and means intermediate the crank shaft and pump for operating said pump piston, and an opening and closing injection nozzle operatively arranged with reference to the pump and combustion chamber.

2. In combination in a hydrocarbon motor having a combustion chamber and an air compression chamber, an air passage intermediate the air compression chamber and combustion chamber, a piston arranged to control the passage of air intermediate said chambers, a crank shaft, a hydrocarbon pump, having means for constantly maintaining an oil pressure in advance of the pump piston and means intermediate the crank shaft and pump for operating the pump piston, an injection nozzle operatively arranged with reference to the pump and combustion chamber, and means for varying the amount of hydrocarbon passed through said injection nozzle and the instant of its passage.

3. In combination in a hydrocarbon motor having a combustion chamber and an air compression chamber and connections intermediate said chambers, a hydrocarbon tube, a pump piston arranged to reciprocate therein, means for reciprocating said piston, an injection nozzle appurtenant to said pump and adapted to discharge into the combustion chamber, a resilient plug arranged within the hydrocarbon tube, and a valve carried by said resilient plug.

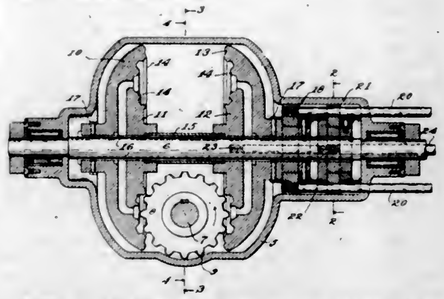
4. In combination in a hydrocarbon motor having a combustion chamber, a hydrocarbon injector arranged appurtenant thereto and comprising a normally closed nozzle, a hydrocarbon tube appurtenant to said nozzle, a piston arranged within said tube, a resilient plug normally resisting the working stroke of said piston, a valve borne by the plug, and connections intermediate the piston and nozzle whereby said nozzle is opened at predetermined instants with reference to the working stroke of the former.

5. In combination in a hydrocarbon motor having a combustion chamber and an air compressing means appurtenant thereto, a piston arranged to control the flow of fluid from the air compressor to the combustion chamber, a hydrocarbon pump having an oil chamber, automatic means for maintaining an oil pressure in said oil chamber and a piston with means for periodically actuating the same to raise the pressure within the oil chamber and automatic means for releasing the oil into the combustion chamber in varying quantities.

6. The combination in a hydrocarbon motor including a combustion chamber, a compression chamber, piston, crank shaft and fly-wheel of an injecting device, including a plunger, a roll carried in the end of said plunger, a movable projection borne in the fly wheel and adapted to engage said roller, and automatic means for varying the position of said projection.

7. In combination in a hydrocarbon motor having a combustion chamber and a hydrocarbon injector appurtenant thereto, a pump piston, a nozzle having two relatively movable parts arranged to control the opening and closing of the nozzle, connections intermediate one of said parts and the pump piston for automatically controlling the opening and closing movements of the nozzle at predetermined instants with reference to the movements of the pump piston, and manually operated means for varying the relative operation of said parts.

864,845. VARIABLE-SPEED TRANSMISSION MECHANISM. CARL A. JANSON, Chicago, Ill. Filed Nov. 23, 1906. Serial No. 344,754.



1. The combination of a driven member having thereon a series of gear teeth, a driving member journaled near said driven member and having thereon a spiral ridge adapted to mesh with the teeth on said driven member, and a second driving member journaled concentrically of the first driving member and having thereon a plurality of spiral ridges also adapted to mesh with the teeth on said driven member, said members being separately movable into and out of mesh with said driven member.

2. The combination of a wheel having gear teeth on its periphery, a pair of members journaled in axial alinement with each other on an axis transverse to that of the wheel, said members having spiral ridges adapted to mesh with the teeth on said wheel, the ridges on different members being respectively adapted to rotate said wheel at different relative speeds, and mechanism for separately shifting said members into and out of mesh with said gear.

3. The combination of a wheel having gear teeth on its periphery, a shaft journaled on an axis which is at right

angles to the axis of said wheel and which lies in the plane of said wheel at one side of its axis, a pair of members mounted on said shaft and movable relatively of each other axially of said shaft, said members having spiral ridges adjacent to the periphery of the wheel and adapted to mesh with the teeth on said wheel, the ridges on different members being respectively of different pitch and being adapted to cause said wheel to rotate at different speeds, and means for shifting either of said members into mesh with said gear.

4. The combination of a wheel having gear teeth on its periphery, a pair of members journaled in axial alinement with each other on an axis transverse to and at one side of the axis of said wheel, said members being located at respectively opposite sides of said wheel and each having thereon a spiral ridge adapted to mesh with the teeth on said wheel, said members being rigidly connected together and spaced apart so that only one at a time may mesh with the teeth on said gear, and means for shifting said members into and out of mesh with the gear.

5. The combination of a wheel having gear teeth on its periphery, a shaft journaled on an axis at right angles to said wheel and lying in the same plane therewith and at one side of the axis thereof, said shaft having thereon a plurality of members located at the same side of said gear in axial alinement with each other and having spiral ridges adapted to mesh with the teeth on said wheel, the ridges on different members being respectively different and adapted to drive said wheel at different relative speeds.

6. The combination of a wheel having gear teeth on its periphery, a shaft journaled on an axis disposed at right angles to the axis of said wheel and at one side thereof, two pairs of driving members mounted on said shaft and located at respectively opposite sides of said wheel, each of said driving members being respectively connected with one of the driving members at the opposite side of said wheel, said members having spiral ridges adapted to mesh with the teeth on said wheel, each connected pair of said members being adapted to be shifted with respect to the other pair, and means for shifting either of said members into and out of mesh with said gear.

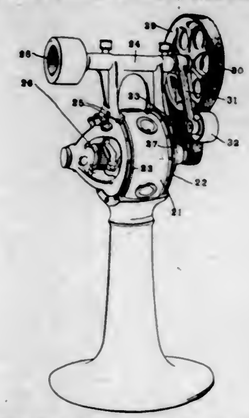
7. The combination of a wheel having gear teeth on its periphery, a shaft journaled on an axis which is at right angles to the axis of said wheel and which lies substantially in the plane of said wheel, a plurality of driving members mounted on said shaft adjacent to said wheel, said members having spiral ridges adapted to mesh with the teeth on said wheel for rotating the same through the rotation of said shaft, each of said members being secured against rotation relatively of said shaft and being adapted to be shifted longitudinally of the axis of said driving shaft into and out of mesh with the teeth on said wheel, and means for shifting each of said members into and out of mesh with said wheel.

8. The combination of a wheel having gear teeth on its periphery, a member journaled on an axis transverse to that of the wheel and having thereon a spiral ridge adapted to mesh with the teeth on the wheel, and a second member arranged concentrically of the first member and having a plurality of spiral ridges also adapted to mesh with the teeth on the wheel, said members being separately movable into and out of mesh with the wheel.

864,846. POWER-TRANSMISSION DEVICE. CHARLES D. JENNEY, Indianapolis, Ind. Filed June 23, 1904. Serial No. 213,836.

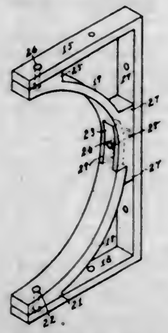
1. In a power transmission device, the combination with a high speed motor having a belt pulley upon its power-shaft, of a countershaft-bracket having a countershaft-bearing, means for attaching said bracket to the motor frame at various points substantially concentric with the power-shaft, a countershaft journaled in said bearing, a comparatively large pulley carried by said countershaft in belting alinement with the power-shaft pulley, a belt connecting said pulleys, an idler pulley carried by the structure, and means for holding said idler pulley in engagement with the said belt.

2. In a power transmission device, the combination with a high speed motor having a belt pulley upon its power-shaft, of a countershaft-bracket having a countershaft-bearing, means for attaching said bracket to the motor frame at various points substantially concentric with the power-shaft, a countershaft journaled in said bearing, a comparatively large pulley carried by said countershaft in



belting alinement with the power-shaft pulley, a belt connecting said pulleys, an arm pivoted upon the countershaft, an idler pulley carried by said arm in the same plane with the belt pulleys, and means for swinging said arm upon the countershaft to hold the idler pulley in engagement with said belt.

864,847. BRACKET. LAZARD KAHN and RINEHART CHRIST, Hamilton, Ohio, assignors to The Estate Stove Company, Hamilton, Ohio, a Corporation of Ohio. Filed Mar. 27, 1906. Serial No. 308,347.



1. A bracket having in combination a vertical standard provided with horizontal bars projecting in the same direction from the respective extremities thereof, similar braces removably secured to and extending from the ends of the bars to the middle portion of the standard, the end portion of one of said braces overlapping the contiguous end portion of the other, and a bolt for removably securing the contiguous portions of the braces together and to the standard.

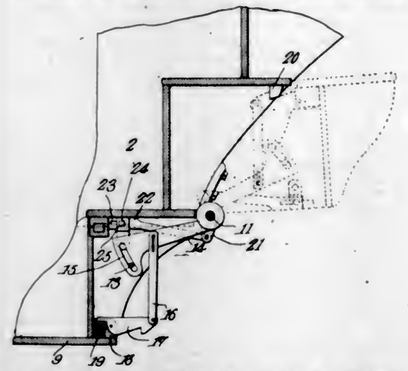
2. A bracket consisting of the assemblage of a frame consisting of a standard provided with bars projecting in the same perpendicular direction from its respective ends, similar braces provided respectively with a different finish and extending from the ends of the bars to the middle portion of the standard, the end of one brace overlapping the contiguous end of the other, and means for securing the braces to the standard and to the bars.

3. The combination of a standard provided with bars extending at right angles from its respective ends in the same direction, a curved brace secured to the middle portion of the standard and to the end portion of the bars, said brace consisting of two members having a tongue and groove connection.

4. The combination of a bracket frame consisting of a standard provided with end bars extending in the same direction and at right angles therefrom, brace members adapted to subtend the respective angles and formed with a tongue and groove connection, and means for securing said members to the frame.

5. The combination of a bracket frame consisting of a standard provided with end bars extending in the same direction and at right angles therefrom, curved brace members adapted to subtend the respective angles, said members being respectively provided with a tongue and a groove adapted to detachably engage with each other, and also provided with heels contiguous to the frame, and means for securing said members to the frame.

864,848. PIVOTED CAR-STEP. ROBERT M. LAMB, Woodbine, Ga. Filed Dec. 24, 1906. Serial No. 349,322.



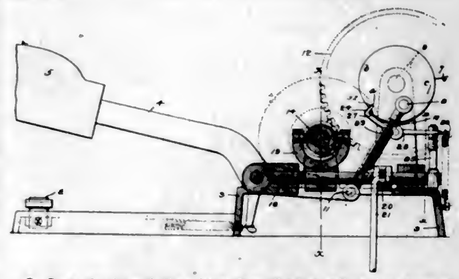
1. In combination with a stair casing, a swinging step comprising a shaft journaled to the stair casing, means for rotating said shaft, a swinging step mounted upon the shaft, an arm mounted upon the shaft and having an elongated slot, a cross-rod attached to the sides of the swinging step and passing through said slot, means for retaining said swinging step in fixed positions at the extremes of its movement one of said means being connected with said arm and the other with the shaft whereby one retaining means is operated at the initial movement of the shaft and the other at the initial movement of the arm.

2. In combination with a stair casing, a swinging step comprising a shaft journaled to the casing, means for rotating said shaft, a swinging step mounted upon the shaft and having elongated openings in its bearings, pins attached to the shaft and being located in said openings, and adapted to actuate the step when they come in contact with the ends of the openings, means for retaining the said swinging step in its extreme positions and means connected with the shaft for operating the said retaining means at the initial movement of the shaft.

864,849. STOP-MOTION. GEORGE H. LANG, Boston, Mass. Filed Oct. 26, 1906. Serial No. 340,629.

1. In a stop motion, a vibrating arm, a crank disk to actuate said arm, a clutch for driving the crank disk, means tending normally to disengage said clutch, and means acted upon by said disk to maintain the clutch in engagement.

2. In a stop motion, a vibrating arm, a crank disk to actuate said arm, a clutch for driving the crank disk, means having continuous engagement with the disk to maintain the clutch in engagement, and means for disengaging the clutch.



3. In a device of the class described, a vibrating arm, a crank-disk to actuate it, a clutch for driving the crank disk, and means acted on continuously by the disk to maintain the clutch in engagement.

4. In a stop motion, a vibrating arm, a crank disk connected thereto, a clutch independent of said crank disk for driving the latter and means to maintain the clutch in engagement during a predetermined length of time.

5. In a stop motion, a vibrating arm, a crank disk connected thereto, a clutch for driving the crank disk, a spring to disengage the clutch, and disk-controlled means to maintain the clutch in engagement during a predetermined length of time.

6. In a device of the class described, a crank disk, a clutch for operating said disk, a rock-shaft for actuating the clutch, means acted on by the disk to maintain the clutch in engagement, and means to disengage the clutch when released by the disk.

7. In a stop motion, an actuating member having a cam surface, a clutch for actuating said member, a rock-shaft for operating the clutch, a member connected to the rock-shaft and bearing against the cam surface and acting to maintain the clutch in engagement, and automatically-operative means to disengage the clutch when such action is permitted by the cam surface.

8. In a device of the class described, a rotary member having a cam surface provided with a high portion and a low portion, a clutch for driving said member, a rock-shaft for operating the clutch, a member connected to the rock-shaft and bearing against said cam surface, said member operating to maintain the clutch in engagement when it bears against the high portion of the cam, and automatically-operative means to disengage the clutch when said member bears against the low portion of the cam surface.

9. In a device of the class described, a vibrating arm, a crank disk to actuate it, said disk having a stop shoulder, a clutch for driving the crank disk, and disk-controlled means to maintain the clutch in operation, and means to disengage the clutch, said disk-controlled means coacting with the stop shoulder to stop the crank disk after the clutch has been disengaged.

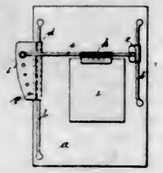
10. In a stop motion, a vibrating arm, a crank disk to actuate said arm, said crank disk having a portion of its periphery concentric and a portion eccentric and also having a stop shoulder, a clutch for driving said disk, clutch actuating mechanism, and a stop member connected to the clutch-actuating mechanism and provided with a nose yieldingly held against the periphery of the disk.

11. In a device of the class described, a rotary actuating disk member having a portion of its periphery concentric and the remainder eccentric and also having a stop shoulder, a clutch for driving said member, a rock shaft for operating the clutch, and a spring pressed stop member connected to the rock shaft and engaging the periphery of the disk, the latter having a locking notch adjacent the shoulder with which the stop member engages when the disk is brought to rest.

12. In a stop mechanism, a vibrating arm, a crank disk

to actuate said arm, a clutch for driving the crank disk, and means controlled by the disk to govern the operation of the clutch and to lock said disk from backward rotation after the disk has been brought to rest.

864,850. WRITING APPARATUS. CARL J. F. LANGE, Berlin, Germany. Filed Aug. 8, 1903. Serial No. 168,844.



1. In a writing apparatus the combination with a base on which a piece of stationery is supported, of guiding means, detachably, and adjustably secured to one of the sides of said piece of stationery, and means in connection with said base for effecting a horizontal angular adjustment of certain of said guiding means.

2. In a writing apparatus the combination with a base on which a piece of stationery is loosely supported, of guides, arranged on said base and stationery holding and retaining means, adjustably arranged upon said guides and means for changing the horizontal angular adjustment of certain of said guides in relation to said base.

3. In a writing apparatus the combination with a base on which a piece of stationery is supported, of stationery holding and retaining means in engagement with one of the sides of said piece of stationery, guides mounted on said base and adjustably connected to said holding means, pivotal connection of certain of said guides with the base and means in connection with said base for securing the said pivoted guiding means in position.

4. In a writing apparatus, the combination with a base of guides arranged on said base and stationery holding and retaining means, adjustably arranged upon said guiding means and means for changing the horizontal angular adjustment of certain of said guiding means in relation to said base.

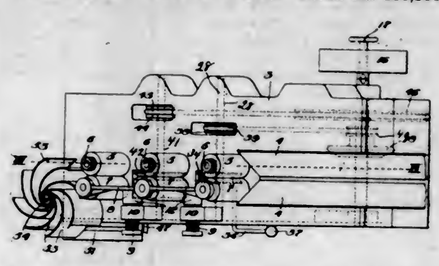
5. In a writing apparatus the combination with a base of a plurality of guiding means upon said base, arranged at right angle to each other, stationery holding and retaining means upon one of said guides and adjustably arranged upon the said guide and pivotal connection of certain of said guides with the said base.

6. In a writing apparatus, the combination with a base of a plurality of guiding means, mounted upon said base at an angle to each other, pivotal connection of certain of said guides with said base, stationery retaining and holding means, adjustably mounted upon one of said guides, means on said pivotal guide and means upon certain of the relatively stationary parts, over which the said pivotal guiding means can move, engaging with each other, for securing the pivotal guiding means in position.

7. In a writing apparatus, the combination with a base of a plurality of guiding means on said base substantially at right angle to each other, stationery holding and retaining means, mounted upon one of said guiding means, pivotal connection of certain of said guiding means with said base and means on said base engaging with said pivotal guiding means for securing the latter in any desired position.

8. In a writing apparatus, the combination with a base, of a plurality of guiding means on said base, sliding upon each other and one at right angle to the other, stationery holding and retaining means upon one of said guiding means and pivotal connection of certain of said guiding means with said base and means on said base engaging with said pivotal guiding means for retaining the latter in any desired angular position.

864,851. IRONING-MACHINE. JOHN M. LOCKHART, Pittsburg, Pa. Filed Dec. 9, 1904. Serial No. 236,146.



1. In an ironing machine, the combination of a base provided with clearance openings, a vertically adjustable wheel provided with a moistening periphery extending upwardly through one of said openings, a resilient mounting for said wheel and means for rotating the wheel, an edging wheel in alinement therewith provided with a V shaped peripheral groove extending similarly upward through the base, means for actuating said edging wheel, a series of vertically arranged feeding rollers extending above the base at one side of the line of feed defined by the peripheries of said moistening and edging wheels, an oppositely arranged laterally adjustable series of similar feeding rollers, and gearing for simultaneously actuating all the rollers of one of said series of feeding rollers, substantially as set forth.

2. In an ironing machine, the combination with a base provided with clearance openings, a wheel provided with a moistening periphery and an edging wheel provided with a V shaped peripheral groove, each of said wheels extending upwardly through said openings in the base, a supporting shaft for each of said wheels, adjustable bearings for each of said shafts and resilient mountings for said bearings, means for actuating each of said shafts and wheels, a series of vertically arranged feeding rollers extending perpendicularly beyond the base, a series of similar contacting companion rollers and a carrying frame therefor, means for adjusting said frame and rollers to vary the pressure of said contacting rollers toward the first named rollers, and gearing for simultaneously actuating all the rollers of one of said sets of feeding rollers, substantially as set forth.

3. In an ironing machine, the combination with a base provided with clearance openings, a wheel provided with a moistening periphery and an edging wheel in alinement therewith provided with a V shaped peripheral groove, each of said wheels extending upwardly through the openings in said base, a supporting shaft for each of said wheels, adjustable bearings for each of said shafts, resilient mountings for said bearings, means for actuating each of said shafts and wheels, a series of vertically arranged feeding rollers extending perpendicularly beyond the base, a series of contacting companion rollers and a carrying frame therefor, means for adjusting the said frame to vary the pressure of said contacting rollers towards the first named rollers, gearing for simultaneously actuating all the rollers of one set of said feeding rollers, and guiding flaring sides mounted upon the base in advance of the feeding rollers and arranged to direct the articles to be treated toward said rollers, substantially as set forth.

4. In an ironing machine, the combination of a base provided with clearance openings, a moistening wheel provided with an inserted peripheral absorbent material, an edging wheel provided with a V shaped peripheral groove, independent shafts for said wheels, means for adjusting the shafts and wheels with relation to the base of the machine, a resilient depressible support for the bearing of each shaft at one end thereof, a series of driven feed rollers extending perpendicularly above the machine base and in suitable relation to the peripheries of said wheels, a series of similar adjustable contacting rollers, with means for driving the moistening wheel, edging wheel and said feeding rollers, simultaneously, substantially as set forth.

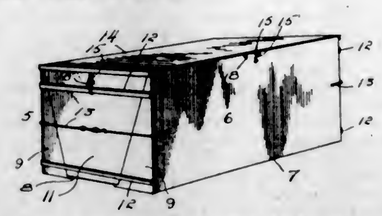
5. In an ironing machine, the combination with a flat base provided with edge treating wheels extending upwardly therethrough, of a vertically arranged series of positively driven feeding rollers, and a corresponding series of bearing rollers with a supporting removable frame therefor, and a resilient backing for said rollers, the meeting peripheries of both series of said rollers being arranged in feeding alinement with the edge treating wheels, substantially as set forth.

6. In apparatus of the class described, the combination of a main base having an inclined surface, a series of feeding rollers mounted thereon, a moistening wheel and an edging wheel extending from beneath into the path of travel of the article to be carried by the feeding rollers, and means for actuating the feeding rollers, moistening wheel and edging wheel, with a rotatable vane wheel arranged to receive the article from the feeding rollers, substantially as set forth.

7. In an ironing machine, the combination of a frame having an inclined flat base provided with clearance openings, an edging wheel and a moistening wheel in peripheral alinement extending upwardly through said openings, positively driven shafts carrying said wheels and mounted in adjustable bearings, the bearings at one end of each of said shafts being provided with a resilient backing, a series of positively driven feed rollers extending upwardly at right angles to said inclined base, a corresponding series of similar bearing rollers adapted to make contact therewith along the line of feed and in alinement with the edges of said edge treating wheels, a removable frame carrying said bearing rollers, and means for providing a cushion backing therefor and for adjusting the pressure to said frame and rollers, with guiding flaring sides mounted upon the base in advance of the feeding rollers, and arranged to guide the articles to be treated toward said feeding rollers, substantially as set forth.

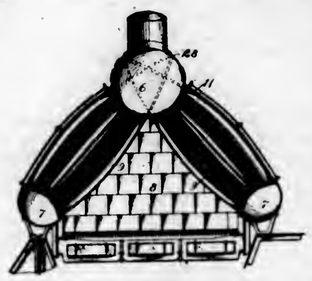
8. In a machine of the class described, the combination with the base provided with an edging wheel and a moistening wheel, and series of driven vertically arranged feed rollers extending perpendicularly beyond the base and arranged in alinement with each other at one side of the line of feed; of a corresponding series of contacting rollers, a carrying frame therefor provided with cushioning springs, adjusting screws arranged to exert pressure against said cushioning springs and plate, and threaded bearings for said screws extending upwardly from the base, substantially as set forth.

864,852. KNOCKDOWN CRATE. IRVIN U. MINEHART and CHARLES C. HUNTER, Rogers, Iowa. Filed Dec. 4, 1905. Serial No. 290,196.



A crate comprising vertical side walls, inwardly extending end pieces carried by the side walls and extending throughout the height thereof, end boards disposed between the end pieces at each end of the crate, cleats carried by the end boards and extending at opposite sides of the end pieces, clamps engaged with the crate to hold the walls against separation, inwardly extending boards secured to the bottoms of the walls, a bottom board disposed between the walls and resting upon the inwardly extending boards, a division piece disposed within the crate, a top for the crate, and means for holding the top in position when the crate is set up, said end pieces being arranged to rest against each other at their inner edges when the crate is in its knock down condition, to hold the walls in spaced relation for the reception of the bottom board, top, division piece, and end pieces therebetween.

864,853. STEAM-GENERATOR. CHARLES D. MOSHER, New York, N. Y. Filed Apr. 19, 1905. Serial No. 256,451.



1. In a steam generator a tube-wall composed of closely-spaced tubes in substantially the same plane, the alternate tubes having their end-portions enlarged and off-set to fix the tube-ends in two rows in the drum, and a drum formed with two rows of holes in which the tube-ends are fixed, those holes receiving the off-set tubes being enlarged to fit the enlarged tube-ends and permit the passage of the off-set tubes into the drum.

2. In a steam generator the combination of a drum, and a tube having an abrupt bend and an enlarged end fastened in a hole in the drum of sufficient size to permit the passage of the bend.

3. In a steam generator, a steam-drum, and a series of water-tubes having abrupt bends near their upper ends and enlarged ends fixed in holes in the drum of sufficient size to permit the passage of the bends, said drum having one or more openings in its wall opposite the ends of the tubes to permit the withdrawal of said tubes.

4. In a steam generator, a steam and a water drum, and a group of water-tubes connecting said drums, adjacent rows of tubes within the group having their bodies located in the same plane to form a tube wall at a depth of one or more tube-rows from the combustion-chamber, the rows between said wall and the combustion-chamber being open-spaced to admit the radiant heat and gases among the tubes.

5. In a steam generator, a steam and a water drum, a group of tubes connecting said drums, and a solid tube-wall within the group adapted to deflect gases and formed by adjacent rows of tubes having their bodies located in the same plane, the steam drum having provisions for the removal from the boiler of the tubes in said tube-wall by passing them into said drum.

864,854. POLE-BASE. MAURICE H. MURRAY, Bakersfield, Cal. Filed Dec. 27, 1906. Serial No. 349,632.

1. A device of the kind described, comprising a concrete base having longitudinally reinforcing straps therein, the straps being arranged in opposed pairs, with the pairs of straps at angles to each other and with the bottoms of the pairs connecting and crossing, the ends of the straps being extended from the base for attachment to a super-structure.

2. A device of the kind described, comprising a concrete base having longitudinally arranged straps embedded therein, with their upper ends only exposed, and a second series of straps adapted to connect to the first series and constructed also for attachment to a post or pole.

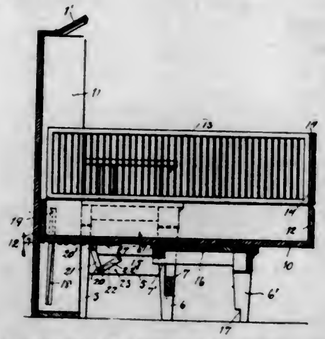
3. A device of the kind described, comprising a concrete base having longitudinally arranged metallic straps wholly embedded therein except at their extreme upper ends,

transverse anchoring means for the straps arranged near the tops of the straps, and a second series of straps having



means for attachment to a pole, and having flanges to abut with the flanges of the first series of straps.

864,855. COMBINED CHAIR AND CRIB. ANDREW B. NIELSEN, Downers Grove, Ill. Filed Dec. 11, 1906. Serial No. 347,328.



1. In a combined chair and crib, an upright supporting frame, a crib reciprocating in and out of said supporting frame, a leg frame and legs secured to said frame member, a chair seat hinged to the bottom of said crib, a second pair of legs rigidly secured to depend from said chair seat, said latter pair of legs supporting the crib when the latter is in use and resting upon the first pair of legs to support the chair seat when the crib is closed within its frame.

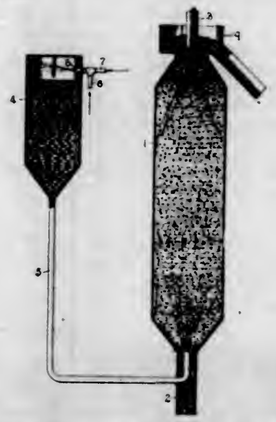
2. In a combined chair and crib, the combination of a box-like supporting member, a crib reciprocating therein, pin and slot connections guiding and limiting the movement of the crib relatively to said supporting member, rails upon said crib adapted to fold inwardly when said crib is closed within said box member, a leg frame and legs rigidly secured to said box member, arms supported by and above said leg frame, a chair seat hinged at one edge to the bottom of the crib, a pair of legs rigidly secured to the opposite edge of said chair seat, said legs being adapted to rest upon the floor and support the crib when the latter is in use, shoulders upon said leg frame upon which the seat-supporting pair of legs rest when the crib is in its vertical closed position, toggles secured to the crib and to the leg frame and stop pins limiting the movement of said toggles whereby the fulcrum axis of the crib is transferred during a part of the former's reciprocatory movement.

3. In a combined chair and crib, a box like supporting member, a crib reciprocating in and out of said member, a pair of supporting legs secured by cross pieces to said box member, a chair seat hinged to the bottom of said crib a second pair of legs rigidly secured to said chair seat, said latter pair of legs being adapted to support the crib when the latter is in use and adapted to rest upon the first pair of legs when the device is used as a chair, and links upon which the crib fulcrums during its shifting movements.

4. In a combined chair and crib, the combination with a supporting frame, of a crib arranged to reciprocate in and out of said frame, a pair of upright supporting members secured by cross pieces to said frame, a chair seat pivotally secured to said crib, depending members rigidly secured to the lower side of said chair seat, said latter members supporting the crib when the latter is in use and resting upon the first pair of members when the crib is closed within its frame, a toggle mechanism upon which said crib fulcrums during part of its reciprocatory movement and a locking mechanism preventing said crib from being closed when in use.

5. In a combined chair and crib, the combination of a supporting frame member, a crib reciprocating in and out of said member, a pair of upright supporting members secured to said frame member, a shoulder upon each of said upright members, a chair seat pivotally connected to the bottom of said crib, a second pair of supporting members rigidly secured to the front of said chair seat and provided with rabbets adapted to rest upon the respective shoulders of the upright members and mechanism upon which said crib fulcrums during its shifting movements.

864,856. METHOD OF SEPARATING THE METALLIC AND ROCKY CONSTITUENTS OF ORES. DUDLEY H. NORRIS, New York, N. Y. Filed Nov. 19, 1906. Serial No. 344,041.



1. The method of separating the metallic and rocky particles of ore, which consists in introducing a stream of water containing air in solution into a mixture composed of crushed ore, oil and water to cause bubbles of air to form in said mixture and rise to the surface thereof to carry off the metallic particles of the ore; substantially as described.

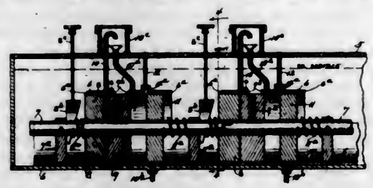
2. The method of separating the metallic and rocky particles of ore, which consists in introducing a mixture composed of crushed ore, oil and water into the upper end of a receptacle, introducing a stream of water containing air in solution into the lower end of said receptacle to cause bubbles of air to form and pass upwardly through the mixture to carry the metallic particles of ore to the surface thereof, conveying away the metallic particles of ore which collect on the surface of the mixture, and carrying away the water and rocky particles of ore from the lower end of said receptacle; substantially as described.

3. The method of separating the metallic and rocky particles of ore, which consists in introducing a continuous stream of water containing air in solution into a mixture composed of crushed ore and water to cause nascent bubbles of air to form continuously in said mixture and rise to the surface thereof to carry off the metallic particles of the ore; substantially as described.

4. The method of separating the metallic and rocky particles of ore, which consists in introducing a flowing mixture composed of crushed ore and water into the upper end of a receptacle, introducing a continuous stream of water containing air in solution into the lower end of said receptacle to cause infinitesimally small nascent bubbles of air to form continuously and pass upwardly through the mixture to carry the metallic particles of ore to the surface thereof, conveying away the metallic particles of ore which collect on the surface of the mixture, and conveying away the water and rocky particles of ore from the lower end of said receptacle; substantially as described.

5. The method of separating the metallic and rocky particles of ore, which consists in introducing a continuously flowing mixture of crushed ore and water into a receptacle which has its upper end open, introducing a continuously flowing stream of water containing air in solution into the lower end of said receptacle to cause infinitesimally small nascent bubbles of air to form continuously and pass upwardly through the mixture and thus carry the metallic particles of the ore to the upper end of the receptacle over the edge of which they overflow and permitting the waste water and rocky particles of the ore to pass out of the lower end of said receptacle; substantially as described.

864,857. AUTOMATIC OILER. ANDREW P. OLSON, Chicago, Ill. Filed Jan. 11, 1907. Serial No. 351,796.



1. In an apparatus of the class described, a pump comprising a cylinder with an intake port and an output port, a piston rod adapted to work within the cylinder, a spring-pressed piston mounted loosely upon the piston-rod and working to open and close the output port, and a piston mounted rigidly upon the piston-rod and working to open and close the intake port.

2. In an apparatus of the class described, a series of pump cylinders, each having an intake port and an output port, a piston-rod extended throughout the cylinders, spring-pressed pistons, respectively, mounted loosely upon the piston-rod within the cylinders, and working in conjunction with the output ports, and pistons respectively mounted rigidly upon the piston rod within the cylinders and working in conjunction with the intake ports.

3. In an apparatus of the class described, a pump comprising a cylinder provided with an air vent and two intake ports and two out-put ports, a piston-rod adapted to work within the cylinder, two spring-pressed pistons mounted loosely upon the piston-rod to work in conjunction with the output ports, and a piston mounted rigidly upon the piston-rod between the loosely-mounted pistons to work in conjunction with the intake and the output ports.

4. In an apparatus of the class described, a pump comprising a cylinder with an intake port, an output port, a stop in conjunction with the output port, a piston-rod adapted to work within the cylinder, a spring-pressed piston mounted loosely upon the piston-rod and adapted to work in conjunction with the output port and stop, and a fixed piston mounted rigidly upon the piston-rod and adapted to work in conjunction with the intake port and loosely-mounted piston.

5. In an apparatus of the class described, a pump comprising a cylinder provided with an intake port and an out-put port, a piston rod adapted to work within the cylinder, a spring-pressed piston mounted loosely upon the piston-rod and a piston mounted rigidly upon the piston-rod both of said pistons being adapted to work in conjunction with the intake port for measuring the charge taken.

6. In an apparatus of the class described, a pump comprising a cylinder provided with an intake port and an output port, a piston rod within the cylinder, a spring-pressed piston loosely mounted upon the piston-rod and a piston rigidly mounted upon the piston-rod and means for regulating the spring-pressure upon the loosely mounted spring-pressed piston.

864,858. AUTOMATIC CIRCUIT-CLOSER. HERMANN G PAPE, New York, N. Y. Original application filed June 16, 1904, Serial No. 212,819. Divided and this application filed Sept. 23, 1905. Serial No. 279,837.



1. The combination with a receiver, of a circuit closer, and a head band for the receiver constituting operating means for moving the switch to closed position upon the positioning of the head band and receiver upon an operator.

2. The combination with a receiver, of a circuit closer, and a curved spring head band for the receiver constituting a support for the same, said band also constituting operating means for moving the switch to closed position upon the positioning of the head band and receiver.

3. The combination with a receiver, of a head-engaging support for the receiver movably connected at one end to the same, and a circuit closer having a portion interposed between the receiver and support and operated upon their relative movement.

4. The combination with a receiver, of a head-engaging support for the receiver movably connected with the same, and a circuit closer including an element carried by the receiver, and an element actuated by the head-engaging support upon the relative movement of the receiver and said support.

5. The combination with a receiver, of a head-engaging support for the receiver movably associated with the same, and a circuit closer actuated upon the relative movement of the receiver and said support.

6. The combination with a head engaging device, of a receiver movably mounted thereon and a circuit closer mounted within the receiver, said closer comprising a pair of yielding contacts, and an actuating stem projecting from the receiver and operated by the head engaging device.

7. The combination with a spring head band, of a receiver movably mounted upon one end of the same, a circuit closer located within the receiver, and an actuating stem for the closer slidably mounted in the casing and having a head borne against by the head band.

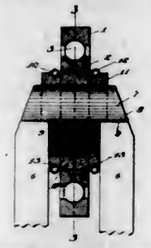
8. The combination with a receiver including a casing, of a head band, a circuit closer operated by the head band, and a detachable pivotal connection between the head band and casing.

9. The combination with a receiver including a casing having a keeper, of a head band provided with a terminal

hook engaging the keeper to effect a hinge connection between the receiver and band, and a circuit closer including an element interposed between the receiver and band and operated on the relative swinging movements thereof.

10. The combination with an instrument of the class described, of a circuit closer arranged within the circuit thereof, and a head-engaging support, said head-engaging support constituting a part of the circuit closer.

864,859. BALL-BEARING. WILLIAM M. POWER, Port Chester, N. Y. Filed Apr. 15, 1905. Serial No. 255,750.



1. The combination with the integral webs and crank-pin, of a bearing having a single continuous inner ball race and a single continuous outer ball race, with a single row of balls within the race, the races being both grooved to sustain thrust in either direction in addition to the radial load, and semi-cylindrical casings introduced between the pin and ball race for holding the ball race in place.

2. The combination, with the webs and crank pin of a bearing having a single continuous ball race, a single row of balls within the race, and semi-cylindrical casings between the pin and ball race, the said casings extending on both sides of the ball race.

3. The combination, with the integral webs and crank pin, of a bearing having a single continuous ball race, with a single row of balls therein, the races being both grooved to sustain thrust in either direction in addition to the radial load, a casing between the pin and race and separate means for holding the casing from endwise movement.

4. The combination with the webs and crank pin, of a bearing having a continuous ball race, a row of balls therein, a casing between the pin and race, the said casing being in the form of two sleeves, one of said sleeves extending beyond the race on each side.

5. The combination with the webs and crank pin, of a bearing having a continuous ball race, balls therein, and a casing between the pin and race, the said casing being in the form of two sleeves, one of said sleeves engaging with a web to prevent rotation.

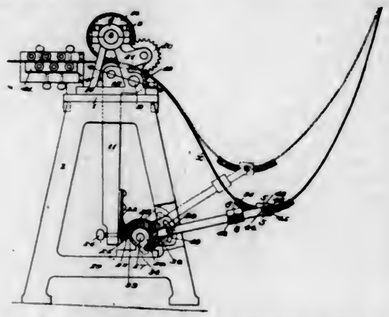
6. The combination with the integral webs and crank-pin, of a bearing having a single continuous ball race, a single row of balls therein, the races being grooved to sustain thrust in either direction in addition to the radial load, and a casing between the pin and race, the said casing being cylindrical and without taper.

7. In a ball bearing, the combination with webs and an integral crank pin, the crank pin being of smaller diameter than the width of the webs, so that shoulders are formed thereon, of a bearing having a continuous annular race, balls within the race, and a support therefor intermediate the pin and the race, the said support comprising two semi-cylindrical sleeves, one of said sleeves resting upon the shoulders.

8. In a ball bearing the combination with webs and an integral crank pin, the crank pin being of smaller diameter than the width of the webs, so that shoulders are formed thereon, of a bearing having a continuous annular race, balls within the race, and a support therefor intermediate the pin and the race, the said support comprising two semi-cylindrical sleeves, one of said sleeves resting upon the shoulders, and means for preventing endwise movement of such sleeve.

9. In a ball bearing the combination with webs and an integral crank pin, the crank pin being of smaller diameter than the width of the webs, so that shoulders are formed thereon, of a bearing having a continuous annular race, balls within the race, and a support therefor intermediate the pin and the race, the said support comprising two semi-cylindrical sleeves, one of said sleeves resting upon the shoulders, and means for preventing endwise movement of such sleeve, such means comprising bands surrounding the pin and sleeves.

864,860. WIRE-FEEDING DEVICE. WILLIAM P. RANDALL, Le Roy, N. Y. Filed Jan. 2, 1907. Serial No. 350,489.



1. In a wire feeding device, the combination with a pair of coöperatively arranged feed rolls, and a pivoted member adjustably supporting one of said rolls in relation to the other roll, of a roll-driving device journaled concentrically with said member and operatively connected to the corresponding feed roll, and operating connections between said roll-driving device and the relatively fixed roll.

2. In a wire feeding device, the combination with a relatively stationary feed roll, an adjustable feed roll adapted to coöperate therewith, and a pivoted pressure lever supporting the adjustable roll, of a roll-driving device mounted concentrically with said lever and cooperating with the roll supported thereon, and a positive driving connection between the relatively stationary roll and said roll-driving device.

3. In a wire feeding device, the combination with the cooperatively arranged feed rolls adapted to receive the wire between them, of a pivoted lever supporting one of said rolls to permit relative adjustment between the rolls, a gear mounted concentrically with said lever, a driving gear for said adjustable roll coöperating with the first-mentioned gear, and a driving connection arranged between the first-mentioned gear and the relatively stationary roll.

4. In a wire feeding device, the combination with a suitable bed, and a relatively fixed feed roll mounted thereon, of a roll-adjusting member having a bearing portion thereon, a roll mounted on said member eccentrically of the bearing portion and adapted to coöperate with the relatively fixed roll, a bearing supported on the bed and coöperating with the bearing portion of the adjusting member as a fulcrum, a roll driving shaft mounted concentrically of the bearing for the adjusting member, an operative connection between the roll driving shaft and the feed roll on the adjusting member, and means for operating the rolls to feed the wire between them.

5. In a wire feeding device, the combination with a suitable bed, and a feed roll mounted to turn thereon, of a roll-adjusting member having a bearing portion thereon, a bearing supported on the bed and coöperating with the bearing portion of the adjusting member, a roll mounted on said member eccentrically of the pivotal center of the latter and adapted to coöperate with the first-mentioned roll, a roll-driving shaft mounted concentrically with the axis of movement of the adjusting lever, coöperating pinions mounted to turn with the roll driving shaft and the feed roll on the adjusting member respectively, and means for operating the rolls to feed the wire between them.

6. In a wire feeding device, the combination with a shaft carrying a set of feed rolls, of a set of pivoted adjusting levers, a feed roll carried by each lever and adapted to coöperate with a corresponding roll on said shaft, a driving shaft mounted in alinement with the axes of said levers, driving devices secured to said driving shaft and operatively connected to the respective feed rolls on said levers, and gearing connecting said shafts for driving the feed rolls.

7. In a wire feeding device, the combination with a support and a relatively fixed feed roll mounted thereon, of a lever, a feed roll mounted thereon and arranged to cooperate with the fixed roll, a bearing fixed to the support and serving as a pivot or fulcrum for said lever, a shaft mounted axially of said lever, a driving device carried by said shaft and operatively connected to the feed roll on said lever, and a driving connection between the said shaft and the stationary feed roll.

8. In a wire feeding device, the combination with a suitable support, and a feed roll mounted thereon, of a feed roll adapted to coöperate with the first-mentioned roll and having a gear connected thereto, a lever carrying the adjustable roll and having a bearing sleeve thereon, a bearing bracket secured to the support and adapted to receive the bearing sleeve of the lever, a shaft passing concentrically through the bearing sleeve of said lever, a gear on said shaft coöperating with that of the adjustable feed roll, and a driving connection arranged between the first-mentioned feed roll and the said shaft.

9. In a wire feeding device, the combination with a pair of coöperatively arranged feed rolls, and a member for relatively adjusting said rolls to control the feed of the wire passing therethrough, of a controlling lever operating on said member for controlling the wire feeding operation of said rolls.

10. In a wire feeding device, the combination with the coöperatively arranged feed rolls, and means for controlling the supply of wire fed between said rolls, of a tension device coöperating with the wire after leaving the feed rolls, means for varying the tension produced on the wire by the tension device, and operative connections between the tension device and the controlling means for the feed rolls.

11. In a wire feeding device, the combination with cooperatively arranged feed rolls for feeding wire between them from a suitable source, and devices for producing a yielding pressure between the feed rolls, of means controlled by the tension of the wire after leaving the feed rolls for controlling the feeding operation thereof.

12. In a wire feeding device, the combination with cooperatively arranged feed rolls for feeding wire from a suitable source, and a pressure member for relatively adjusting the feed rolls, of a controlling lever, and a cam thereon coöperating with the roll adjusting member for controlling the wire feeding operation thereof.

13. In a wire feeding device, the combination with cooperatively arranged feed rolls, and a pressure member for moving the rolls into and out of coöperative relation, of a controlling lever, and a cam thereon coöperating with the pressure member for controlling the wire feeding operation of the rolls.

14. In a wire feeding device, the combination with cooperatively arranged feed rolls, and a pressure member for adjusting the pressure between the rolls, of a controlling lever, and a yielding connection between said lever and member for limiting the amount of pressure exerted between the rolls.

15. In a wire feeding device, the combination with cooperatively arranged feed rolls, a pressure member for controlling the pressure between the rolls, and a spring arranged on the pressure member, of a controlling lever having a cam arranged to coöperate with said spring on the pressure member for operating the latter to control the wire feeding operation of the rolls.

16. In a wire feeding device, the combination with cooperatively arranged feed rolls, and a pressure member for controlling the feeding operation of the rolls, of a controlling member arranged to coöperate with the pressure member to control its operation, and means for adjusting the relation between said members for varying the pressure produced on the wire by the feed rolls.

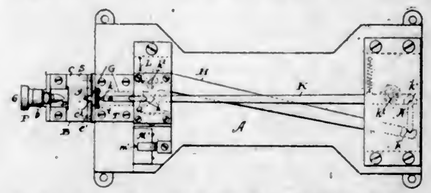
17. In a wire feeding device, the combination with cooperatively arranged feed rolls, and a pressure member for controlling the feeding operation of the rolls, of a controlling lever, a cam operatively connected thereto, a yielding spring mounted on the pressure member and arranged to coöperate with the cam on the controlling lever to produce a yielding pressure on the wire extending between the feed rolls.

18. In a wire feeding device, the combination with cooperatively arranged feed rolls, and a pressure member for moving them into and out of coöperative relation, of a controlling lever arranged to operate the pressure member, a tension device coöperating with the wire after leaving the feed rolls, and a detachable connection between said controlling lever and the tension device.

19. In a wire feeding machine, the combination with cooperatively arranged feed rolls, and a member for relatively adjusting them, of a controlling lever arranged to operate said member to move the feed rolls into and out of coöperative relation, a helical spring surrounding the wire after the latter has left the feed rolls for taking up the slack in the wire, and an operative connection between said spring and controlling lever for operating the latter according to the amount of slack in the wire.

20. In a wire feeding device, the combination with suitable feed devices, and a lever for moving said devices into and out of operative condition, and a tension device cooperating with the wire after leaving the feed devices and operatively connected to the said lever for controlling the operation of the latter according to the amount of slack in the wire, and a device for proportioning the amount of slack in the wire and adapted to interchangeably fit the controlling lever and said tension device embodying a weight having a slot therein adapted to snugly fit the said lever, and a bore adapted to fit the tension device when the weight is applied thereto.

864,861. INDICATOR-GAGE. HORACE A. REYNOLDS, Woonsocket, R. I., assignor to Electric Compositor Company, New York, N. Y., a Corporation of New Jersey. Filed Jan. 16, 1907. Serial No. 352,617.



1. In a gage, the combination of a horizontal seat for a matrix to be tested, and a fixed flange adjacent to the seat and adapted to be engaged by one edge of a matrix resting upon said seat, said flange having a notch through it, with a horizontally movable slide having a gage point projecting over said seat and through the notch in said flange, and indicating apparatus operatively connected with said slide.

2. In a gage, the combination of a horizontal seat for a matrix to be tested, and a fixed flange adjacent to the seat and adapted to be engaged by one edge of a matrix resting upon said seat,—said flange having a notch through it; with a horizontally movable slide having a gage point projecting over said seat and through the notch in said flange, a fixed graduated plate adjacent to said flange, a pivoted gage lever movable across the graduations on said plate, and multiplying mechanism for transmitting motion from the slide to said lever.

3. In a gage, the combination of a horizontal seat for a matrix to be tested, and a fixed flange adjacent to the seat and adapted to be engaged by one edge of a matrix resting

upon said seat, said flange having a notch through it, with a slide having a gage point projecting over said seat and through the notch in said flange, indicating apparatus operatively connected with said slide, and means for adjusting said seat up and down to adapt the device for use with different kinds of matrices.

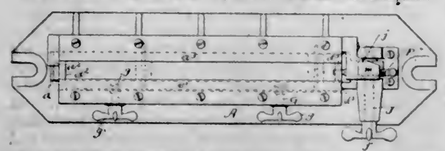
4. In a gage, the combination of a base, a bracket supported thereby, and means for adjusting said bracket vertically relative to said base, a seat upon said bracket for supporting a matrix to be tested, a flange adjacent to the seat and adapted to be engaged by one edge of a matrix upon said seat,—said flange having a notch through it, a slide movably mounted upon the base and having a gage point projecting over said seat and through the notch in said flange, and indicating mechanism operatively connected with said slide.

5. In a gage, the combination of a base, a bracket supported thereby, and means for adjusting said bracket vertically relative to said base, a seat upon said bracket adapted for supporting a matrix to be tested, a flange adjacent to the seat, adapted for engagement by one edge of a matrix resting upon said seat, and having a notch through it, a slide movably mounted upon the base and having a gage point projecting over said seat and through the notch in said flange, indicating mechanism operatively connected with said point, and a pressure slide mounted upon said bracket and movable horizontally in a path at right angles to the said face of said flange and adapted to press a matrix, resting upon said seat against said flange.

6. In a gage, the combination of a base, a vertically adjustable bracket having on its top a seat for a matrix to be tested, a fixed flange adjacent to the seat and having a notch through it, a slide mounted upon the base and having a gage point projecting over said seat through the notch in said flange, a horizontal graduated plate located directly over said slide, a horizontally movable gage lever mounted upon and pivoted to said base and having its free end arranged to swing across said graduated plate, a multiplying lever mounted on said base and operatively connected with said slide and adapted to be moved thereby, and means transmitting motion from said multiplying lever to said gage lever.

7. In a gage, the combination of a base, a vertically adjustable bracket supported on one end thereof, a horizontally adjustable plate upon the top of said bracket and carrying a flange in which there is a notch, means for adjusting the bracket vertically and the plate horizontally, a horizontally movable slide mounted upon the base and having a gage point projecting through the notch in said flange, and indicating mechanism operated by said slide.

864,862. ROUTING-MACHINE FIXTURE. HORACE A. REYNOLDS, Woonsocket, R. I., assignor to Electric Compositor Company, New York, N. Y., a Corporation of New Jersey. Filed Jan. 16, 1907. Serial No. 352,620.



1. A routing-machine fixture comprising, in combination, a vertically movable horizontal seat adapted to support a matrix holder, a vertical rear wall, a vertical end wall, and a flange overhanging said seat, means for raising the seat to bring a row of matrices in a holder resting upon said seat against said overhanging flange, means for applying pressure to the end matrix in the row to move said row endwise, and means for pressing said matrices crosswise of the holder, substantially as specified.

2. A routing-machine fixture comprising, in combination, a vertically movable horizontal seat, a vertical rear wall, a vertical end wall, a movable front clamping plate, mechanism for forcing it toward the rear wall, a flange overhanging said seat, means for raising the seat, mechanism for applying pressure to the end matrix of a row which is in a holder resting upon said seat.

3. A routing-machine fixture comprising, in combination, a floor which is inclined from one end to the other, a vertical rear wall, a vertical end wall, a movable front clamping plate; mechanism forcing said clamping plate in the clamping direction,—that is to say rearward, a wedge block resting upon said inclined floor, mechanism for moving it lengthwise of said floor, a flange overhanging said wedge block, and an endwise movable pressure device adapted to engage with a row of matrices in a holder upon said wedge block.

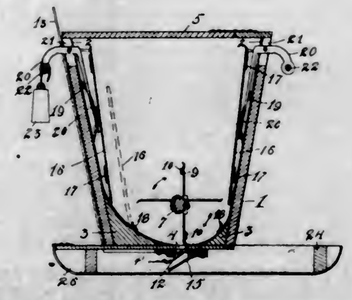
4. A routing-machine fixture, comprising, in combination, a vertically movable horizontal seat, a vertical rear wall, a vertical end wall, a hinged front clamping plate, clamping devices by means of which said plate, when in a substantially vertical position, may be forcibly drawn towards said rear wall, a flange secured to the top of said rear wall overhanging said horizontal seat, means for moving said seat vertically, and an end pressure device for engaging with a row of matrices in a holder resting upon said seat.

5. A routing machine fixture comprising, in combination, a vertically movable horizontal seat, a vertical rear wall, a vertical end wall, a hinged front clamping plate, having on its inner face an inwardly projecting clamping flange, an inwardly projecting flange secured to said rear wall overhanging said seat, means for moving said horizontal seat vertically, means for moving said clamping plate rearwardly, and a clamping device for moving endwise a row of matrices in a holder resting upon said seat.

6. A routing machine fixture comprising, in combination, a floor which is inclined from end to end, a fixed vertical rear wall, a fixed vertical end wall, a flange overhanging said floor, a wedge block resting upon said inclined floor and provided with a rack, a pinion engaging with said rack, means for rotating said pinion, a front clamping plate, and an end clamping device.

7. A routing-machine fixture comprising, a vertically movable horizontal seat adapted to support a matrix holder, a vertical rear wall, a vertical end wall, and a flange overhanging said seat, means for raising the seat to bring a row of matrices in a holder resting upon said seat against said overhanging flange, means applying pressure to the end matrix in the row to move said row endwise, and means for pressing said matrix row crosswise of the fixture, combined with a removable matrix-holder adapted to rest upon said seat and having a base plate, a rear wall and one end wall.

864,863. FERTILIZER-DISTRIBUTER. DAVID M. SAMUELSON, Chandlers Valley, Pa. Filed July 5, 1906. Serial No. 324,725.



1. In a fertilizer distributer, a hopper, movable sides within said hopper, and levers extending between said movable sides and the sides of the hopper, said levers extending out of said hopper to agitate said movable sides.

2. In a fertilizer distributer, a hopper, movable sides within said hopper, springs between said movable sides and the sides of the hopper, and angular levers extending between said movable sides and the sides of the hopper, substantially as and for the purpose specified.

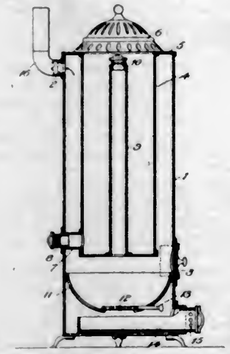
3. In a fertilizer distributer, an axle, wheels on the ends of said axle, a hopper having suitable bearings for said axle, and sled runners under the central portion of said hopper, substantially as and for the purpose specified.

4. In a fertilizer distributer, a hopper, an axle extending through said hopper, wheels on said axle to support and turn the same, a slide at the bottom of said hopper, said hopper and slide having a corresponding series of lengthwise elliptical openings, a series of spring arms on said axle corresponding to said series of openings to resiliently press the fertilizer through said openings, and a lengthwise connecting strip attached to said arms near their outer ends, substantially as and for the purpose specified.

5. In a fertilizer distributer, a hopper 1 having an inner curved bottom, an axle 7 extending horizontally through said hopper, wheels 8 on said axle to support and turn the same, ratchets 8′ on said wheels, a slide 12 in the bottom of said hopper, said hopper and slide having a corresponding series of lengthwise elliptical openings 4, a lever 13 to move said slide, a double series of spring arms 9 on said axle corresponding to said series of openings in the hopper bottom, a lengthwise connecting strip 10 for said arms, inner movable sides 16 for said hopper, and levers 20 extending between said movable sides and hopper to agitate said movable sides, substantially as and for the purpose specified.

6. In a fertilizer distributer, a hopper 1, an axle 7 revolubly mounted in said hopper, wheels 8 attached to the ends of said axle to support and turn the same, and runners 26 on the bottom of said hopper to aid in supporting the same, substantially as and for the purpose specified.

864,864. STOVE. IRA B. SANDERS, Fort Worth, Tex. Filed Nov. 7, 1905. Serial No. 286,285.

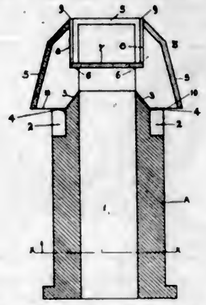


1. A stove having an air chamber, a combustion chamber surrounding said air chamber, a drum in communication with said combustion chamber mounted in said air chamber, said drum and said chambers having the walls thereof concentric whereby each wall becomes a radiating surface, and independent means for regulating the drafts of each of said chambers and of said drum.

2. A stove having a fuel bowl, a combustion chamber in combination with said fuel bowl, an air chamber suspended in said combustion chamber and provided with means for regulating the draft of air therein, a heating drum in communication with said combustion chamber mounted in said air chamber, a draft register for said fuel bowl, and a draft register for said heating drum.

864,865. CHIMNEY TOP OR VENTILATOR. CHARLES SAUNDERS, Saginaw, Mich. Filed Feb. 2, 1907. Serial No. 355,440.

1. A chimney provided with a flue, a cap mounted on the upper end of the chimney, the cap comprising a series of hollow, shouldered cowls, the spaces between which cowls below the shoulders being closed, and a removable plate seated on the shoulders at a point spaced above the upper end of the chimney flue, the upper open ends of the cowls lying in vertical planes above the cover plate, the lower open ends of the cowls lying in horizontal planes below and laterally of the upper open end of the chimney.



2. A chimney provided with a flue, a cap mounted on the upper end of the chimney, the exterior walls of the chimney being recessed, the upper end of the chimney being beveled, the beveled surfaces leading to the upper rear walls of the recesses, horizontally extending baffle plates projecting over the recesses, the cap consisting of a plurality of hollow inclined cowls, the lower open ends of the cowls projecting below the upper ends of the chimney and lying below the upper end of the flue, and laterally of the recesses, the upper ends of the cowls being reduced to form shoulders spaced above the upper end of the flue, a plate removably seated on the shoulders, the upper open ends of the cowls lying in vertical planes above the removable plate.

3. A chimney provided with a flue, the exterior walls of the chimney being recessed, the upper end of the chimney being beveled inward from the rear walls of the recesses to the flue, baffle plates projecting over the recesses, a cap mounted on the upper end of the chimney, the cap provided with hollow inclined cowls, the lower open ends of which lie opposite the beveled upper end of the chimney and laterally of and above the recesses, the lower ends of the cowls having horizontal openings, a plate carried by the cowls intermediate their ends, the plate being spaced above the upper open end of the flue and of greater area than the cross-sectional area of the flue, the upper ends of the cowls opening in vertical planes above the plate.

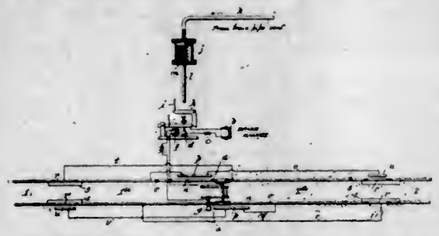
4. A chimney provided with a flue, the exterior walls of the chimney being recessed, the upper end of the chimney being beveled inward from the rear walls of the recesses to the flue, baffle plates projecting over the recesses and a cap mounted on the upper end of the chimney, and the cap provided with hollow inclined cowls, the lower open ends of which lie opposite the beveled upper end of the chimney and laterally of and above the recesses, the lower ends of the cowls having horizontal openings, a plate carried by the cowls intermediate their ends, the plate being spaced above the upper open end of the flue and of greater area than the cross-sectional area of the flue, the upper ends of the cowls opening in vertical planes above the plate.

5. A chimney provided with a flue, a cap mounted on the upper end of the chimney and comprising a plurality of hollow inclined cowls, the lower open ends of which lie below the upper end of the flue, the upper open ends of which lie above the flue, and a removable plate suitably supported above the upper end of the flue.

6. A chimney provided with a flue, a cap mounted on the upper end of the chimney and comprising a plurality of hollow inclined cowls, the lower open ends of which lie below the upper end of the flue, the upper open ends of which lie above the flue, and a removable plate suitably supported above the upper end of the flue, the plate being of greater area than the cross-sectional area of the flue.

7. A chimney provided with a flue, a cap mounted on the flue, the cap comprising a plurality of hollow cowls opening at their lower ends below and laterally of the upper end of the chimney, and a suitably supported plate spaced above the upper end of the chimney and surrounded by the upper open ends of the cowls.

864,866. AUTOMATIC TRAIN-STOP. HIRAM G. SEDGWICK, Mill Valley, Cal. Filed Nov. 28, 1906. Serial No. 345,506.



1. In an apparatus of the class set forth, a brake magnet and circuit on the locomotive and means for opening and closing said circuit, said means embodying relatively movable contacts and a magnet and circuit and also means on the roadbed for closing this last named circuit, means for automatically holding the brake-magnet circuit closed when once closed by the roadbed devices, means for disengaging said holding means, and means for actuating this latter means by the application of the brake.

2. In an apparatus of the class set forth, a brake magnet and circuit on the locomotive and means for opening and closing said circuit, said means embodying relatively movable contacts and a magnet and circuit and also means on the roadbed for closing this last named circuit, and means for automatically holding the brake-magnet circuit closed when once closed by the roadbed devices, and means for opening the brake-magnet circuit operated by the application of the brake.

3. In a railway block system, means on the train for electrically operating the brake mechanism embodying a circuit one branch of which is connected to an insulated brush and the other branch of which is connected to one of the axles, and roadbed devices consisting of a series of rail blocks insulated at *a* from each other, an isolated rail section *s* at the beginning of the right-hand side of each block, and a contact rail along side each isolated rail section in line with the brush on the locomotive and electrically connected to the adjacent end of the right-hand rail of the preceding block, for the purpose set forth.

4. In an apparatus of the class set forth, brake-applying mechanism embodying a circuit one branch of which is connected with the forward axle of the locomotive and the other branch of which is connected to the brush on the locomotive, roadbed devices for closing said circuit embodying an isolated rail section, a contact rail adjacent to and shorter than said isolated rail, this contact rail being electrically connected to the adjacent end of one of the block rails.

5. In a railway block system, means on the train for electrically operating the brake mechanism embodying a circuit one branch of which is connected to an insulated brush and the other branch of which is connected to one of the axles, and roadbed devices consisting of a series of rail blocks insulated at *a* from each other, an isolated rail section *s* at the beginning of the right-hand side of each block, and a contact rail along side each isolated rail section in line with the brush on the locomotive and electrically connected to the adjacent end of the right-hand rail of the preceding block, said contact rail being arranged so that the brush leaves it before the adjacent wheel passes onto the rail to which it is electrically connected, for the purpose set forth.

6. In combination, adjacent blocks whose rails serve as electrical conductors, said blocks being insulated from each other, opposite insulated rail sections at a distance from each end of the blocks, one of each pair of these sections being connected to one of the rails of the next adjacent block and the other of said pair being isolated, a contact rail adjacent this isolated section and electrically connected to the rails of the next adjacent block section, and automatic devices on the train adapted to coöperate with said roadbed devices.

7. In a railway automatic stopping system, a series of block rails insulated from each other at their adjacent ends, a pair of opposite insulated rail sections adjacent to each end of each block, the adjacent main rails of each block being electrically connected around these insulated sections, means electrically connecting one of each pair of these insulated sections to one of the rails of the block next ahead, a contact rail adjacent the other one of said pair of insulated rail sections, and means connecting this contact rail to the other rail of the block next ahead.

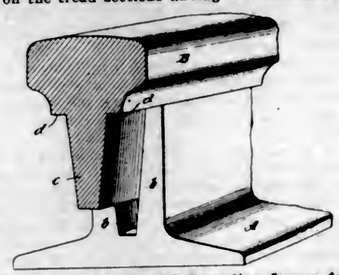
8. In combination with means on the train for setting the brakes, said means embodying a circuit one branch of which is connected to an insulated brush and the other of which is connected to one of the axles, a series of rail blocks insulated from each other at their adjacent ends, an isolated rail section at the right-hand side at the head of each block, a contact rail adjacent each of these isolated rails and electrically connected to the adjacent end of the block rail just ahead, a pair of insulated rail sections *r* and *r'* near the end of each block, the main rails being bonded around these insulated sections, a contact rail adjacent one of each pair of these rails, and means connecting one of each pair of rails to one of the rails of the block next ahead and means electrically connecting the opposite contact rail to the other rail of the block just ahead.

9. In combination with electrical devices on the train embodying a circuit one branch of which is connected to one of the axles and the other branch of which is connected to a contact brush or shoe, of automatic roadbed devices comprising a series of sections of rail blocks insulated from each other at their ends at *o*, these points of insulation being out of line with each other transversely, the one at the right-hand side being at a point just ahead of the one on the left-hand side, so that in moving in either direction the left-hand forward wheel of the locomotive will pass onto the left-hand rail of the block ahead before the right-hand wheel passes over the right-hand joint *o*, and a contact rail at each side adjacent to each joint, this contact rail being so positioned and proportioned as to length that the left-hand wheel passes over the left-hand joint *o* before the brush makes contact with the contact rail and the brush leaves the contact rail before the right-hand wheel passes over the adjacent joint *o*, for the purpose set forth.

10. In combination with automatic electrical devices on the locomotive embodying a circuit one branch of which is connected to one of the axles and the other branch of which is connected to an insulated brush or contact shoe, of roadbed devices embodying blocks of rails insulated from each other at their ends as at *o*, these points of insulation being out of line with each other transversely, the insulated joint at the right side being at a point ahead of its companion joint, and a contact rail on the roadbed adjacent each right hand rail and terminating short of the insulated joint just ahead, and means electrically connecting this rail with the adjacent rail just ahead of the insulated joint.

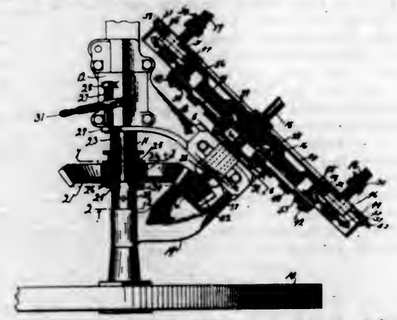
864,867. COMPOUND RAILWAY-RAIL. ALONZO E. SMITH, New York, N. Y. Filed Oct. 10, 1906. Serial No. 338,215.

The herein described continuous rail comprising a plurality of base sections, a plurality of head or tread sections and a series of tie bolts uniformly and equally spaced throughout the length of the entire rail, the abutting ends of the tread and base sections being located midway between two tie bolts, the base sections having each a base flange and two web flanges and the tread sections being each provided with a depending flange, the upper faces of the said web flanges being flat and the depending flanges on the tread sections having flat shoulders located



below the upper parts of said depending flanges for bearing on said web flanges.

864,868. SIDE-DELIVERY RAKE. ERNEST C. SMITH, Hinckley, Ill. Filed Sept. 23, 1905. Serial No. 279,833.



1. In a rake, in combination, a rotatable reel, and radially adjustable rake-heads carried by the reel.

2. In a rake, in combination, a rotatable reel having cross-arms, rotatable rake-heads journaled in boxes longitudinally slidable on the cross-arms, and means for simultaneously and uniformly sliding the boxes at opposite ends of the arms.

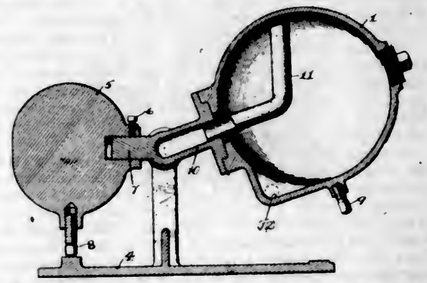
3. In a rake, in combination, a rotatable reel having cross-arms, rotatable rake-heads carried by the cross-arms and being radially adjustable thereon, gearing carried by the cross-arms for effecting the rotation of the rake-heads and being adjustable therewith.

4. In a rake, in combination, a rotatable reel having cross-arms, a stationary gear concentric with the shaft of the reel, rake-heads journaled in adjustable boxes carried by the cross-arms, shafts carried by the cross-arms, a gear on the inner end of each of such last-named shafts and meshing with the stationary gear, a gear slidingly mounted on the outer end of each of said shafts and engaging a gear on the shaft of the adjacent rake-head, and means for simultaneously shifting the sliding gears and the rake-heads.

864,869. STEAM-TRAP. ADOLPH SORGE, Jr., Chicago, Ill., assignor, by mesne assignments, to A. Sorge Jr. Company, Wilmington, Del., a Corporation of Delaware. Filed Nov. 29, 1901, Serial No. 83,992. Renewed Jan. 16, 1905. Serial No. 241,194.

1. A steam trap or drainer comprising a counterweighted receiving chamber mounted upon a hollow trunnion, a valve chest into which the trunnion enters and with which the receiving chamber communicates through the hollow trunnion, a port in the valve chest, and a valve plate for controlling said port mounted within the valve chest upon the hollow trunnion and turning therewith but having a lost motion thereon, substantially as described.

2. A steam trap or drainer comprising a counterweighted receiving chamber mounted upon a hollow trunnion, a valve chest into which the trunnion enters and with which the receiving chamber communicates through the hollow trunnion, steam and exhaust ports in the valve chest, and a valve mounted within the valve chest and turning therein to control said ports, the opposing surfaces of the valve plate and seat of each port extending obliquely to the axis of the trunnion, substantially as described.



3. A steam trap or drainer comprising a counterweighted receiving chamber mounted upon a hollow trunnion, a valve chest into which the trunnion enters and with which the receiving chamber communicates through the hollow trunnion, steam and exhaust ports in the valve chest, and a valve plate mounted within the valve chest upon the hollow trunnion and turning therewith to control said ports and having a limited oscillatory lost motion upon the trunnion, the opposing surfaces of the valve plate and seat of each port extending obliquely to the axis of the trunnion, substantially as described.

4. A steam trap or drainer comprising a counterweighted receiving chamber mounted upon a hollow trunnion, a valve chest into which the trunnion enters through a stuffing box and with which the receiving chamber communicates through the hollow trunnion, steam and exhaust ports in the valve chest, and a valve plate mounted within the valve chest upon the hollow trunnion and turning therewith to control said ports, the opposing surfaces of the valve plate and seat of one port extending obliquely to the axis of the trunnion and the opposing surfaces of the valve plate and seat of the other port also extending obliquely to the axis of the trunnion but at a reverse angle from the surfaces of the first port, substantially as described.

5. A steam trap or drainer comprising a counterweighted receiving chamber mounted upon a hollow trunnion, a valve chest into which the trunnion enters through a stuffing box and with which the receiving chamber communicates through the hollow trunnion, steam and exhaust ports in the valve chest, and a valve plate mounted within the valve chest upon the hollow trunnion and turning therewith to control said ports and having a limited oscillatory lost motion upon the trunnion, the opposing surfaces of the valve plate and seat of one port extending obliquely to the axis of the trunnion and the opposing surfaces of the valve plate and seat of the other port also extending obliquely to the axis of the trunnion but at a reverse angle from the surfaces of the first port, substantially as described.

6. A steam trap or drainer comprising a receiving chamber mounted upon a hollow trunnion and communicating therewith, a weight mounted upon the hollow trunnion opposite the receiving chamber to counter-balance the latter, a flexible pipe connected with the chamber at a distance from the trunnion, a valve chest into which the trunnion enters through a stuffing box and with which the receiving chamber communicates through the hollow trunnion, steam and exhaust ports in the valve chest, and a valve plate mounted within the valve chest upon the hollow trunnion and turning therewith to control said ports, the opposing surfaces of each port extending

obliquely to the axis of the trunnion, substantially as described.

7. A steam trap or drainer comprising a receiving chamber mounted upon a hollow trunnion and communicating therewith, a weight mounted upon the trunnion opposite the receiving chamber to counter-balance the latter, a flexible pipe connected with the chamber at a distance from the trunnion, a valve chest into which the trunnion enters through a stuffing box and with which the receiving chamber communicates through the hollow trunnion, steam and exhaust ports in the valve chest, and a valve plate mounted within the valve chest upon the hollow trunnion and turning therewith to control said ports, the opposing surfaces of the valve plate and seat of one port extending obliquely to the axis of the trunnion and the opposing surfaces of the valve plate and seat of the other port also extending obliquely to the axis of the trunnion but at a reverse angle from the surface of the first port, substantially as described.

8. A steam trap or drainer comprising a receiving chamber mounted upon a hollow trunnion and communicating therewith, a weight mounted upon the trunnion to counterbalance the latter, a flexible pipe connected with the chamber at a distance from the trunnion, a valve chest into which the trunnion enters and with which the receiving chamber communicates through the hollow trunnion, steam and exhaust ports in the valve chest, and a valve plate mounted within the valve chest upon the hollow trunnion and turning therewith to control said ports, and having a limited oscillatory motion upon the trunnion, the opposing surfaces of the valve seat of each port extending obliquely to the axis of the trunnion, substantially as described.

9. A steam trap or drainer comprising a receiving chamber mounted upon a hollow trunnion and communicating therewith, a weight mounted upon the trunnion to counterbalance the latter, a flexible pipe connected with the chamber at a distance from the trunnion, a valve chest into which the trunnion enters and with which the receiving chamber communicates through the hollow trunnion, steam and exhaust ports in the valve chest, and a valve plate mounted within the valve chest upon the hollow trunnion and turning therewith to control said ports and having a limited oscillatory motion upon the trunnion, the opposing surfaces of the valve plate and seat of one port extending obliquely to the axis of the trunnion and the opposing surfaces and seat of the other port also extending obliquely to the axis of the trunnion but at a reverse angle from the surface of the first port, substantially as described.

10. A steam trap or drainer comprising a counterweighted receiving chamber mounted upon a hollow trunnion, a valve chest into which the trunnion enters and with which the receiving chamber communicates through the hollow trunnion, a flexible pipe connected with the chamber at a distance from the trunnion, steam and exhaust ports in the valve chest, and a valve plate mounted upon the trunnion within the valve chest and turning therewith to control said ports, substantially as described.

11. A steam trap or drainer comprising a receiving chamber mounted upon a hollow trunnion and communicating therewith, a weight mounted upon the trunnion opposite the receiving chamber to counter-balance the latter, a flexible pipe connected with the chamber at a distance from the trunnion, a valve chest into which the trunnion enters and with which the receiving chamber communicates through the hollow trunnion, steam and exhaust ports in the valve chest, a valve plate mounted upon the trunnion within the valve chest and turning therewith to control said ports, substantially as described.

12. A steam trap or drainer comprising a receiving chamber mounted upon a hollow trunnion and communicating therewith through a pipe extending up into the chamber to a point near the top thereof, a weight mounted upon the trunnion opposite the receiving chamber to counter-balance the latter, a flexible pipe connected with the chamber near the bottom thereof, and a valve operated by the chamber movement to control the flow therein, substantially as described.

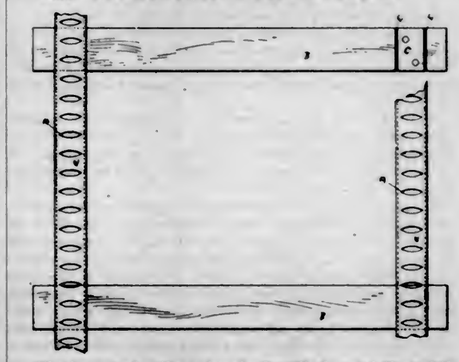
13. A steam trap or drainer comprising a receiving chamber mounted upon a hollow trunnion and communicating therewith through a pipe extending up into the chamber to a point near the top thereof, a weight mounted upon the trunnion opposite the receiving chamber to counter-balance the latter, a flexible pipe connected with the chamber near the bottom thereof, a valve chest into which the hollow trunnion projects, and a valve within said chest mounted upon and turning with the trunnion to control the flow through the receiving chamber, substantially as described.

14. A steam trap or drainer comprising a receiving chamber mounted upon a hollow trunnion and communicating therewith, a counterbalancing weight connected to the chamber, a flexible pipe connected with the chamber at a distance from the trunnion, inlet and outlet pipes connected to this flexible pipe and each being provided with a check valve, a valve chest into which the hollow trunnion extends, a steam inlet entering the valve chest, and valve devices operatively connected to the end of the hollow trunnion within the steam chest.

15. A steam trap or drainer comprising a counterweighted receiving chamber mounted upon a hollow trunnion, said hollow trunnion having communication with the interior of the chamber, inlet and outlet water pipes connected to the receiving chamber at a distance from the trunnion connection, valves in these pipes, a valve chest into which the hollow trunnion extends, and a two-member valve in the chest, one being operatively connected to the trunnion and the other to the chest, this latter member being provided with a steam inlet and exhaust port, substantially as described.

16. A steam trap or drainer comprising a receiving chamber gravitatingly mounted, counterbalancing means connected therewith, a rotatively mounted trunnion or pipe connected to the interior of the receiving chamber, a valve chest inclosing the inlet end of this trunnion, and valve devices within said chest operatively connected to the trunnion, substantially as described.

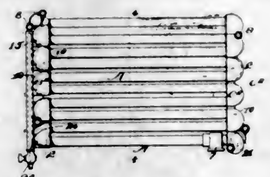
864,870. RAILWAY. HERBERT L. STILLMAN, West Acton, Mass. Filed Dec. 26, 1906. Serial No. 349,529.



The improved railway herein described, consisting of the inverted channel rail with the transverse slots and the retaining web lips, the cross ties with the double transverse furrows and the tie blocks substantially as specified.

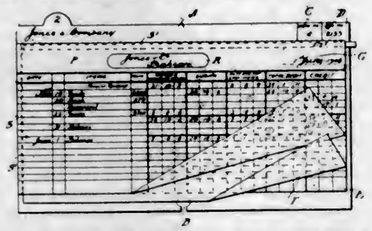
864,871. RADIATOR. REUBEN O. STUTSMAN, Peoria, Ill., assignor to The Bartholomew Company, Peoria, Ill., a Corporation of Illinois. Filed Sept. 1, 1903. Serial No. 171,528.

1. In a radiator for cooling water and the like, an independent section, comprising a series of substantially horisontal pipes, an upright manifold at one end of the series of pipes having unions for the pipe ends and the union at the delivery end of the series having a lateral connection for communication with another section, another upright manifold at the other end of the series of pipes having a series of unions for the pipe ends, and a drain pipe having separate communication with each of the unions of one of the manifolds, substantially as set forth.



2. In a radiator for cooling water and the like, the combination of a series of independent and separable sections each comprising a series of substantially parallel pipes, upright manifolds at the ends of the said series of pipes, the manifolds having unions for the pipe ends, and the unions at the inlet and delivery ends respectively of each series of pipes having a lateral connection, means for uniting a plurality of the sections together to constitute a radiator, and an independent drain pipe for each radiator section having separate communication with each of the unions of one of the manifolds, substantially as set forth.

864,872. ACCOUNT OR LEDGER CARD IN BOOKKEEPING. HENRY W. TEMPLETON, Balaclava, Victoria, Australia. Filed Sept. 8, 1906. Serial No. 333,776.



1. A device of the character described comprising a pair of leaves or slips having printed matter and blank spaces substantially in duplicate, and a card to which said leaves or slips are attached at one edge, the lower leaf or slip being weakened near its attached edge whereby it may be detached, leaving the upper leaf or slip attached to the card.

2. A device of the character described comprising a pair of leaves or slips having printed matter and blank spaces substantially in duplicate, and a card to which said leaves or slips are attached at one edge, the card exceeding the leaves or slips in width to provide a printing space on the card that is not covered by the slips, the lower leaf or slip being weakened near its attached edge whereby it may be detached, leaving the upper leaf or slip attached to the card.

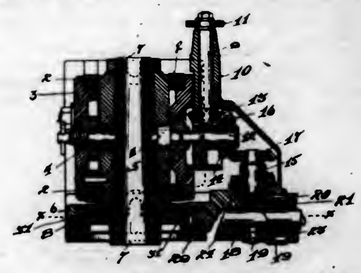
3. The combination with a card having means whereby it may be removably secured in a filing case, of a pair of leaves or slips having substantially duplicate printed matter and blank spaces, said leaves or slips being attached at one edge to the card, and one of them being weakened near its attached edge whereby it may be detached, leaving the other attached to the card.

4. A device of the character described, comprising a card and a folded sheet attached thereto, the under leaf of the folded sheet having a line of perforations near its attached edge.

5. A device of the character described comprising a card and a folded sheet attached thereto, the under leaf of the folded sheet having a line of perforations near its attached edge, said under leaf projecting beyond the upper leaf to form a space for a return request.

6. A device of the character described comprising a card and a folded sheet attached thereto along one end, the fold being at the top and weakened, the under leaf of the folded sheet having a line of perforations near its attached edge.

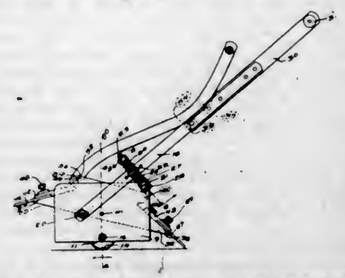
864,873. DIVIDING-HEAD. LOUIS THIEL, Cincinnati, Ohio. Filed June 25, 1906. Serial No. 323,387.



1. In a dividing-head for milling machines, a frame, the head being swiveled on a horizontal axis in said frame, a spindle in the head, and a dividing wheel on the front end of the spindle outside of the head structure, a driving gear wheel journaled on the frame concentrically relative to the horizontal pivots of the head, an intermediate shaft journaled in the head having a gear wheel intermeshing with the driving gear wheel, said intermediate shaft being radially arranged relative to said driving gear wheel, a worm shaft arranged at right angles to and radially relative to said intermediate shaft, intermeshing gear wheels and indexing mechanism connecting said shafts, pivots supporting said worm shaft whereby it is rocked around the intermediate shaft as a center, and means for rocking the inner end of said worm shaft to engage and disengage the dividing worm wheel, substantially as described.

2. In a dividing-head for milling machines, a frame, a head swiveled on a horizontal axis therein, a power wheel suported by the frame, an intermediate shaft journaled in the head, said power wheel being concentrically arranged relative to the said axis and the intermediate shaft being radially arranged relative to the power wheel, an intermediate gear in mesh with the power wheel, a sleeve swiveled in the casing formed by the head at right angles to and radially relative to the intermediate shaft, a worm shaft journaled in said sleeve adapted to engage and disengage the dividing wheel when said sleeve is rocked, and bevel gear wheels and indexing mechanism connecting the said intermediate shafts and worm shafts in driven relationship, substantially as described.

864,874. FLOOR-SCRAPER. LEWIS P. THOMPSON, Minneapolis, Minn. Filed May 15, 1907. Serial No. 373,871.

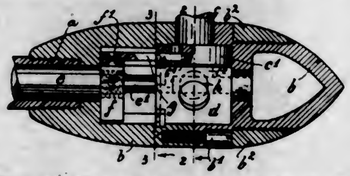


1. In a floor scraper, a carrying frame; a scraper head pivotally mounted in the frame; knives upon each end of the scraper head; a handle connected to the frame; a handle connected to the scraper head; and connections be-

tween the two handles, so as to tip the scraper head back and forth, bringing either knife into action.

2. In a floor scraper, a carrying frame; a scraper head pivotally mounted on the frame; knives upon each end of the scraper head; a handle yieldingly and adjustably connected to the frame; a handle connected to the scraper head; and devices for connecting the two handles rigidly together at different points, so as to tip the scraper head first one way and then the other and bring either knife into action.

864,875. REVERSIBLE PROPELLER FOR SHIPS AND BOATS. GEORGE F. VILLINGER, London, England. Filed Dec. 17, 1906. Serial No. 348,248.



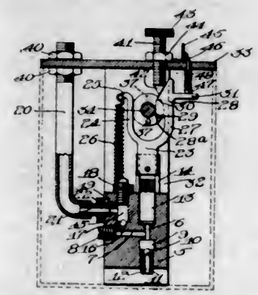
1. In a reversible propeller, the combination with the propeller shaft, of a propeller boss made in parts, blades carried by said boss and capable of angular adjustment thereon, enlargements on said blades bearing against the interior of the boss, slots in said enlargements, eccentric pins passing through said slots, a separate stationary block having a projection at one end entering the boss, said block being fixed in said boss, rotating therewith and acting as a bearing for the inner ends of the blades, a reversing rod, a block fixed on the reversing rod and movable in the boss, pins on said movable block, links on said pins, the other ends of said links entering said slots and being connected to the said eccentric pins carried by the enlargement, substantially as set forth.

2. In a reversible propeller, the combination with the propeller shaft, of a propeller boss made in parts, blades carried by said boss and capable of angular adjustment thereon, recesses in the ends of said blades, enlargements on said blades bearing against the interior of the boss, slots in said enlargements, eccentric pins passing through said slots, a separate stationary block having a projection at one end entering the boss, said block being fixed in said boss, rotating therewith and acting as a bearing for the inner ends of the blades, a ball located in said block against which the ends of the blades take a bearing, a reversing rod, a block fixed on the reversing rod and movable in the boss, pins on said movable block, links on said pins, the other ends of said links entering said slots and being connected to the said eccentric pins carried by the enlargements, substantially as set forth.

3. In a reversible propeller, the combination with the propeller shaft, of a propeller boss made in two parts, screws fastening said parts together, a locking ring screwing on the after part, blades carried by said boss and capable of angular movement thereon, enlargements on said blades bearing against the interior of the boss, slots in said enlargements, eccentric pins passing through said slots, a stationary block, a projection at one end of said block entering part of the boss, a boring at the other end of said block, lugs on said block, this latter being fixed in said boss, rotating therewith and acting as a bearing for the inner ends of the blades, a reversing rod the end of which enters the boring in the stationary block, a block fixed on the reversing rod and movable in the boss, pins on said movable block, links on said pins, the other ends of said links entering said slots and being connected to the said eccentric pins carried by the enlargements, substantially as set forth.

864,876. LUBRICATOR. HENRY A. WEHMAN, Chicago, Ill., assignor of one-half to Edward Dieterla, Chicago, Ill. Filed Apr. 6, 1906. Serial No. 310,322.

1. In a force-feed lubricator, the combination of a tank, a pump, a plunger, a crank, a yoke yieldingly supported by the plunger, and means on said yoke adapted to be engaged by the crank when rotated to intermittently raise the plunger.



2. In a force-feed lubricator, the combination of a tank, a pump, a plunger, a crank, a member yieldingly supported by the plunger, means on said member adapted to be engaged by the crank when rotated to intermittently raise the plunger, and means for returning said plunger.

3. In a force-feed lubricator, the combination of a tank, a pump, a spring-controlled plunger for the pump, a yoke pivotally connected to the plunger, a shaft journaled adjacent the yoke, and means on the shaft adapted to engage the yoke for intermittently raising the plunger against the tension of the spring when the shaft is rotated.

4. In a force-feed lubricator, the combination of a tank, a pump within the tank, a plunger for the pump, a yoke pivoted to the plunger, a shaft, inter-engaging means on the shaft and one of the arms of the yoke for raising the plunger when the shaft is rotated, and a spring engaging the other arm of the yoke for normally holding the inter-engaging means into coöperating position.

5. In a force-feed lubricator, the combination of a tank, a pump, a plunger in the pump, a yoke pivoted to the plunger, a shaft standing between the arms of the yoke, there being a projection on one arm of the yoke, a spring engaging the other arm for normally holding the projection against the shaft, and means on the shaft adapted to engage the projection for raising the plunger when the shaft is rotated.

6. In a force-feed lubricator, the combination of a tank, a pump, a plunger, for the pump, a yoke pivoted to the plunger, a shaft standing between the arms of the yoke, there being a shoulder on one of said arms adjacent the shaft, means on the shaft adapted to engage the shoulder for raising the yoke and plunger when the shaft is rotated, and a spring engaging the other arm of the yoke for holding the shoulder normally in the path of movement of the engaging means on the shaft, and for retracting the plunger.

7. In a force-feed lubricator, the combination of a tank, a pump, a plunger for the pump, a yoke pivoted to the plunger, guides for said yoke, a shaft journaled adjacent the yoke, and means on the shaft adapted to engage and intermittently raise the plunger when the shaft is rotated.

8. In a force-feed lubricator, the combination of a pump embodying a plunger provided with a flexible portion, a lifting means for said plunger engaging the flexible portion, said portion being disengaged from the lifting means, separate means for varying the time of disengagement, and means for returning the plunger when disengaged.

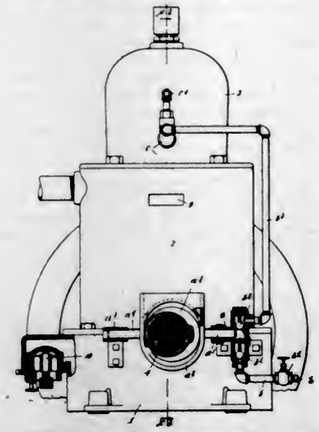
9. In a force-feed lubricator, the combination of a tank, a pump, a plunger, a yoke pivoted to the plunger, guides for the yoke, a shaft standing between the arms, there being a shoulder on one of the arms adjacent the shaft, a crank on the shaft, adapted to engage the shoulder for raising the plunger when the shaft is rotated, and means engaging the yoke for normally holding the shoulder in the path of movement of the crank, and for retracting the plunger.

10. In a force-feed lubricator, the combination of a pump, a plunger, a yoke pivotally connected to the plunger, a crank adjacent the yoke, there being a shoulder on one arm of the yoke adapted to be engaged by the crank to raise the plunger when said crank is rotated, means engaging the other arm of the yoke for normally holding the shoulder in the path of movement of the crank, and means whereby the point of disengagement of the crank and shoulder may be varied.

11. In a force-feed lubricator, the combination of a tank, a pump within the tank, a plunger, a yoke pivotally connected to the plunger, a crank journaled adjacent one arm of the yoke, there being a shoulder on said arm adapted to be engaged by the crank when rotated for raising the plunger, the upper portion of said arm being beveled or inclined, an adjustable member adapted to engage the inclined portion of the arm for varying the point of disengagement of the crank and shoulder, and means tending to normally hold the shoulder in the path of movement of the crank.

12. In a force-feed lubricator, the combination of a tank, a framework, a pump supported by the frame, a plunger for the pump, a yoke pivotally connected to the plunger, a shaft journaled in the frame, a crank on the shaft adjacent the yoke, there being a shoulder on one arm of the yoke adapted to be engaged by the crank when rotated for raising the plunger, the upper portion of said arm being beveled or inclined, means for normally holding the shoulder in the path of movement of the crank, and an adjustable member supported by the frame and adapted to engage the inclined face of the yoke arm for varying the point of disengagement of the crank and shoulder to regulate the stroke of the plunger, said frame being adapted to be placed within the tank with the top thereof forming a closure for the tank.

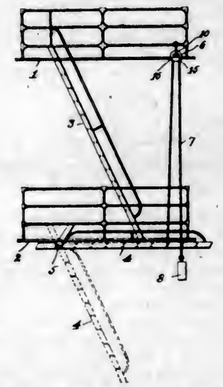
864,877. EXPLOSIVE-ENGINE. ELLIS J. WOOLF, Minneapolis, Minn., assignor to The Woolf Valve Gear Company, Minneapolis, Minn., a Corporation of Minnesota. Filed Jan. 6, 1906. Serial No. 294,862.



1. In an explosive engine, the combination with means for introducing and exploding an explosive agent within the explosion chamber, of a water pump operated by the engine and having a delivery connection to the explosion cylinder, a by-pass and a double acting check valve, in the connections from said pump, subject to the pressure from the working cylinder of the engine for closing the by-pass and permitting the water to be forced by the pump into said cylinder, substantially as described.

2. In an explosive engine, the combination with means for introducing and exploding an explosive agent within the explosion chamber, of a water pump, operated by the engine and having a delivery connection tapping the working cylinder of said engine, intermediate of the limits of the engine piston's travel, for timing the admission of water thereto under the control of said piston, a by-pass and a double acting check valve in the connections from said pump, subject to the pressure from the working cylinder of the engine for closing the by-pass and permitting the water to be forced by the pump into said cylinder, substantially as described.

864,878. ALARM FOR FIRE-ESCAPES. SNOWDEN ASHFORD, Washington, D. C. Filed May 9, 1906. Serial No. 316,020.



1. An alarm for fire escapes comprising a pivoted ladder having its free end adapted to rest on the ground, a wheel or pulley adapted to receive a cable, means for rotatably supporting said wheel or pulley above the pivoted ladder, a cable having one end attached to the free end and supporting the pivoted ladder and passing over the wheel or pulley, an alarm device connected with the wheel or pulley, and means for actuating the alarm by the rotation of the wheel or pulley when the ladder is lowered.

2. An alarm for fire escapes comprising a pivoted ladder having its free end adapted to rest on the ground, a wheel or pulley adapted to receive a cable, means for rotatably supporting said wheel or pulley above the pivoted ladder, a cable having one end attached to the free end and supporting the pivoted ladder and passing over the wheel or pulley, a counterweight on the other end of the cable, a sounding device surrounding the pulley, a hammer for striking the sounding device, and means for actuating the hammer by the rotation of the wheel or pulley when the ladder is disturbed.

3. An alarm for fire escapes comprising a pivoted ladder having its free end adapted to rest on the ground, a wheel or pulley adapted to receive a cable, a shaft connected with said pulley or wheel, a hanger for rotatably supporting said shaft, and pulley above the pivoted ladder, a cable having one end attached to the free end and supporting the pivoted ladder and passing over the wheel or pulley, a counterweight on the other end of the cable, a sounding plate or gong immovably supported on said shaft, a hammer, and means for actuating the hammer against the sounding plate or gong by the rotation of the pulley when the ladder is lowered.

4. An alarm for fire escapes comprising a wheel or pulley adapted to receive a cable supporting a ladder of the fire escape, a shaft connected with said wheel or pulley, a hanger for rotatably supporting said shaft and wheel, a sounding plate or gong having a series of cams or projections and immovably supported on said shaft, a loose collar supported on the shaft, a hammer attached to the said collar and adapted to ride over the said cams or projections, and means attached to the shaft for engaging the loose collar and moving the hammer over the cams and impinging it against the sounding plate or gong.

5. An alarm for fire escapes comprising a wheel or pul-

ley adapted to receive a cable supporting a ladder of the fire escape, a shaft connected with said wheel or pulley, a hanger for rotatably supporting said shaft and wheel, a sounding plate or gong having a series of cams or projections and immovably supported on the shaft, a loose collar provided with a ratchet and surrounding the shaft, a vibratory hammer attached to the said collar and adapted to ride over the said cam or projections and a pawl pivoted to the shaft for engaging the ratchet and moving the loose collar with the shaft and causing the hammer to intermittently strike the sounding plate or gong.

864,879. AUTOMATIC SWITCH MECHANISM. CARROLL M. BELL and AUGUST DYKSTRA, Goodland, Ind. Filed June 26, 1907. Serial No. 380,928.



1. The combination with the main rails and siding, of the switch rails, a stub shaft operatively connected with the switch rails and provided with a tappet, an operating shaft having terminal fingers for engagement with the tappet, and a track device for rotating the operating device to effect the closing of the switch.

2. The combination with the main rails and siding, of the switch rails, a main shaft operatively connected with the switch rails and formed of independent rotatable sections, actuating members operatively connected with some of the shaft sections for effecting the closing of the switch, and cut-out members connected with the adjacent shaft sections for holding the shaft in inoperative position when the actuating members are depressed.

3. The combination with the main rails and siding, of the switch rails, a main shaft provided with actuated fingers and formed of independent rotatable sections, a stub shaft operatively connected with the switch rails, depressible actuating members connected with some of the shaft sections for actuating the fingers to effect the closing of the switch, and depressible cut-out bars connecting the adjacent shaft sections for elevating the fingers when the actuating members are operated.

4. The combination with the main rails and siding, of a switch stand, a bridge bar connecting the switch rails and stand, a stub shaft provided with a tappet and having a depending crank arm, a weighted lever pivotally mounted on the switch stand, a rod forming a pivotal connection between the weighted lever and crank arm of the stub shaft, an operating shaft provided with actuating fingers for engagement with the tappet, and actuating trips operatively connected with the shaft for effecting the closing of the switch.

5. The combination with the main rails and siding, of the switch rails, a switch stand provided with a semaphore arm, a bridge bar forming a connection between the semaphore arm and switch rails, a stub shaft having a crank arm and provided with a tappet, a weighted lever pivotally mounted on the switch stand, a rod forming a connection between the crank arm and weighted lever, a hand operated lever connected with the semaphore arm and disposed in contact with the weighted lever when the switch is in open position, an operating shaft, and actuating trips operatively connected with the shaft for actuating the fingers thereby to close the switch.

6. The combination with the main rails and siding, of the switch rails, a switch stand having a rotatable semaphore arm, a bridge bar connecting the switch rails with one end of the semaphore arm, a rod section pivotally connected with the bridge bar and having a slot formed in one end thereof, a stub shaft provided with a depending crank arm operating within the slot of the rod section, a weighted lever, a rod forming a pivotal connection between the crank arm and the weighted lever, a tappet carried by the stub shaft, and track devices for actuating the tappet to effect the closing of the switch.

7. The combination with the main rails and siding, of the switch rails, a switch stand having a rotatable semaphore arm, a bridge bar forming a connection between the switch rails and one end of the semaphore arm, a rod section pivotally connected with the bridge bar and having one end thereof provided with an elongated slot, a stub shaft provided with a laterally extending pin working in the slot in the rod section, a weighted lever pivotally mounted on the stand, a rod forming a pivotal connection between the lever and stub shaft, a hand operating lever secured to the semaphore arm and normally resting against the weighted end of the lever, a tappet carried by the stub shaft, and a track device for depressing the tappet thereby to effect the closing of the switch.

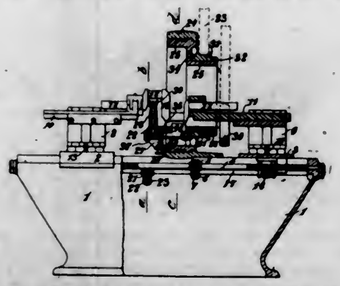
8. The combination with the main rails and siding, of the switch rails, a stub shaft operatively connected with the switch rails and provided with a tappet, a sectional operating shaft provided with terminal actuating fingers adapted to engage the tappet, and spring actuated bars operatively connected with the operating shaft for effecting the closing of the switch.

9. The combination with the main rail and siding, of the switch rails, a sectional shaft operatively connected with the switch rails, a trip bar operatively connected with some of the sections of the shaft and actuated by a passing train to effect the closing of the switch, and a cut-out bar connected with the adjacent shaft sections.

10. The combination with the main rails and siding, of the switch rails, a sectional shaft operatively connected with the switch rails, a toggle connection between some of the sections of the shaft, a track device for rotating the shaft to effect the closing of the switch, and a cut-out device operatively connected with the toggle carrying sections.

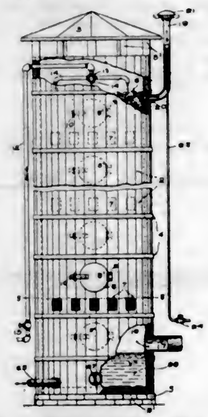
11. The combination with the main rails and siding, of the switch rails, a stub shaft operatively connected with the switch rails and provided with a tappet, an operating shaft including main and auxiliary sections, an actuating finger carried by one end of each main section and adapted to engage the tappet for effecting the closing movement of the switch, auxiliary shaft sections pivotally connected with the main shaft sections, spring pressed actuating trips operatively connected with the auxiliary shaft sections for depressing the actuating fingers, cut-out trips operatively connected with the main shaft sections for elevating the fingers, and a toggle connection between the cut-out trips and auxiliary shaft sections.

864,880. APPARATUS FOR GRINDING CRANK-SHAFTS. GEORG BENICKE, Offenbach-on-the-Main, Germany. Filed Mar. 20, 1906. Serial No. 307,092.



Apparatus for grinding crank shafts consisting of an emery wheel (30), a rotating open ring (25), upon which the emery wheel (30) is mounted, and through which the crank shaft 12 passes, and two arms (10, 11) upon which the crank shaft 12 is supported, and means for moving the arms vertically and longitudinally in the direction of the axis of the shaft.

864,881. TOWER FOR MAKING BISULFITE LIQUOR, JAMES BISHOP, Carthage, N. Y. Filed May 3, 1907. Serial No. 371,722.



1. A tower for making bisulfite liquor, comprising a tubular wooden tower divided into compartments disposed one above the other and separated by grated floors, and having an acid chamber beneath the lowermost grated floor, a plurality of wooden baffle-blocks disposed irregularly in each of said compartments and supported by said floors, a pipe extending to the top of said tower adapted to connect at its lower end with a source of lime-water supply, its upper end arranged to discharge lime-water upon the baffle-blocks of the uppermost compartment, means for admitting a supply of sulfur-dioxid gas to the lower portion of said tower, a steam actuated siphon to force said gas upwardly through said tower and between and around said baffle-blocks, and means for inserting and removing said baffle-blocks from each of said compartments separately, substantially as described.

2. A tower for making bisulfite liquor, comprising a tubular wooden tower or tank divided by means of wooden grates into a number of compartments arranged one above the other, the lower end of said tower being tightly closed, the upper end thereof being open, a pipe adapted to discharge a volume of lime-water into the open end of said tower, a plurality of wooden blocks filling the upper portion of said tower adapted to baffle or retard the flow of said lime-water downwardly through said tower, a series of grates to hold said blocks in place, a pipe, one end of which is adapted to connect with a source of gas supply, the other end connecting with the interior of said tower beneath said blocks, means for drawing sulfur gas upwardly through the mass of blocks in a manner to effect the absorption of said gas by said lime-water as the latter descends through said tower, and means for collecting an acid resulting from the commingling of said limewater and said sulfur gas in the bottom of said tower, substantially as described.

3. A tower for making bisulfite liquor, comprising a wooden tower, a series of baffle-blocks filling the interior of said tower, a lime-water supply pipe extending to the top of said tower and having a series of discharge nozzles connected thereto, a sulfur gas supply pipe entering the lower portion of said tower beneath said baffle-blocks, and a series of manholes provided with tight fitting doors disposed at intervals between the bottom and top of said tower, substantially as described.

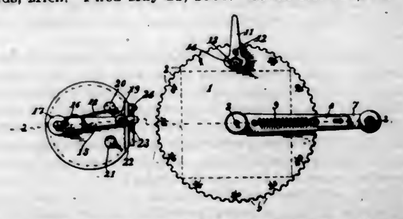
864,882. NUT-WRENCH. WILLIAM H. BRAWLEY, Davenport, Iowa. Filed Dec. 18, 1905. Serial No. 292,256.

1. In a wrench, the combination with a shank, a head provided with a wrench jaw and integral with said shank, teeth on said shank and integral therewith on the opposite side from the jaw and extending transversely of, and at right angles to said shank but of shorter length than the width of the shank as the teeth, one on each side of said teeth and extending from the handle to the head, an adjustable head mounted on said shank and carrying a jaw to cooperate with the rigid jaw on the shank and provided with raised bearing shoulders adapted to bear upon and slide on said slideways, a spring pressed integral collar pivoted to the adjustable head on the side thereof opposite to the jaw, and extending around said shank and head, and guided and prevented from twisting by sliding contact with the sides of said head, a pawl integral with said collar adapted to normally engage the teeth on the shank, and to be moved out of engagement therewith by oscillating the collar on its pivot.



2. In a wrench, the combination with a toothed stock terminating in an integral head forming a jaw, of a movable jaw slidably mounted upon said stock, a spring controlled collar pivotally connected to the movable jaw and extending around said stock and head and guided and prevented from twisting by a sliding contact with the sides of said head, a pawl integral with said collar and adapted normally to engage the teeth on the shank.

864,883. TIME-SWITCH FOR PHOTOGRAPH-PRINTING MACHINES. JOSEPH C. CALHOUN, Holland, Mich., assignor of one-half to George P. Hummer, Grand Rapids, Mich. Filed May 21, 1906. Serial No. 317,974.



1. A time switch, comprising a switch lever, a spring to move the lever, a latch to hold the lever, an arm to engage the latch and release the same, a lever to move the switch lever into engagement with the latch, means for relatively adjusting the arm and lever, and means for simultaneously moving the arm and lever at a predetermined rate per minute.

2. A time switch, comprising a pivoted lever, a spring electrode on the lever, a terminal and stop spaced apart at the respective sides of the lever, a spring to move the lever against the stop, a latch to hold the electrode in contact with the terminal, and clock mechanism to auto-

matically release the latch after a predetermined interval of time.

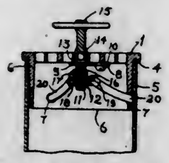
8. In a time switch, the combination of a disk, an arm and a lever relatively adjustable on the disk, clock mechanism to rotate the disk, a switch lever and a terminal arranged in circuit, a spring to move the switch lever and break the circuit, a latch to hold the lever and having a projection engaged by the arm on the disk.

4. In a time switch, in combination with a switch lever arranged to open and close a circuit, a rotative disk having recesses in its periphery, clock mechanism to rotate the disk at a predetermined rate per minute, an arm on the disk to open the switch, a lever near the disk and rotative about the axis thereof, a slide on the lever, and a lug on the slide adapted to engage any one of the recesses in the disk.

5. In a time switch, a pivoted switch lever, a spring to move the lever and open the circuit, a spring electrode on the lever, a terminal engaged by said electrode, a stop engaged by the lever when the lever is moved by the spring, a latch to hold the lever, a rotative disk having recesses in its edge, an arm on the disk to engage and release the latch, a lever adjustable on the disk and adapted to move the switch lever, a slide on the disk lever, a lug on the slide engaging any one of the recesses in the disk, and clock mechanism to rotate the disk at a predetermined rate per minute.

6. In a time switch, the combination of a rotative shaft, a spring to rotate the shaft, a ratchet fixed on the shaft, a gear wheel rotative on the shaft, a series of pawls successively engaging the ratchet at regular intervals, a disk also fixed on the shaft and having recesses, which recesses are in number as many even multiples of the ratchet teeth as there are pawls, and two relatively adjustable members attached to the disk and adapted to operate a switch.

864,884. VENT-CAP. JOSEPH CAPALDI, Providence, R. I. Filed July 20, 1906. Serial No. 326,989.



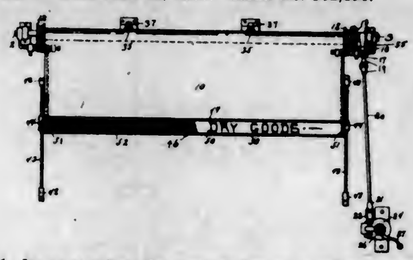
1. As a new article of manufacture, a vent cap for sewer pipes, the same comprising a perforated face plate having a flange to enter a pipe and having a plurality of openings, a threaded rod rotatably mounted in said plate, a spider threaded upon said rod, and arms pivoted to said spider with their free ends passed through the openings in the flange.

2. As a new article of manufacture, a vent cap for sewer pipes, the same comprising a perforated face plate having a flange to enter a pipe and having a plurality of openings, a threaded rod rotatably mounted in said plate, a spider threaded upon said rod, and arms pivoted to said spider with their free ends passed through the openings in the flange, said face plate having an external annular grooved shoulder to receive the end of the pipe.

3. The combination with a stem pipe, of a perforated face plate having exterior grooved annular shoulder receiving the end of said pipe, and a flange extending loosely within the pipe and having openings, a plate secured to the inner face of said face plate and having an opening registering with a central opening in the face plate, a threaded rod passed loosely through said registering openings and having its outer end shaped to receive a key, a spider threaded upon said rod and radial arms each independently pivoted to the spider with their free ends passed loosely through the openings in said flange and engaging the inner wall of the stem pipe.

4. The herein described improved vent cap for sewer pipes comprising a perforated face plate having a right angled flange with openings therethrough, a plate secured to the under side of said face plate, a threaded rod rotatably mounted in coincident openings in said plates, a spider having threaded opening to engage the threads of said rod, radially disposed arms pivotally mounted on said spider and passed through the openings in said flange to engage at their ends against a pipe, and means insertible through the face plate to engage said rod for turning it.

864,885. AWNING. MATHIAS CHALUPSKY, Detroit, Mich. Filed Mar. 15, 1907. Serial No. 362,496.



1. In an awning, the combination of a roller, a shaft projecting from one end, a gear mounted thereon, a bracket to support said shaft, a sleeve mounted in said bracket, in which sleeve said shaft is journaled, a casing carried by said sleeve and a second sleeve attached thereto, a shaft journaled in said second sleeve and a gear mounted on said shaft to engage the gear on the roller shaft, the bracket having an opening in its upper side of less width than the diameter of the sleeve mounted therein but of greater width than the diameter of the neck between said sleeve and the casing.

2. In an awning, the combination of a roller, brackets to support the same, a rope sheave on one end of the roller, frames to support the canvas top of said awning, an arm extending from said bracket inward below said top and provided with a rope guide, a rope extending from the outer end of the frame around said guide to said sheave, rings on said rope, and a side curtain supported by said rings and by said arm.

3. In an awning, the combination of a sheet of flexible material, and frame work to extend the same, a roller, means to operate said roller to roll up and unroll said sheet, a side curtain normally under and within the side edge of said sheet, a cord along the upper edge of the side curtain, rings on said cord to support the side curtain, a horizontal spiral supported near said roller, a tube loosely mounted within said spiral, and a rope sheave at the end of said roller, the parts being so positioned that the cord in passing around with the roller will be guided outward by said spiral into the vertical plane of the rope sheave.

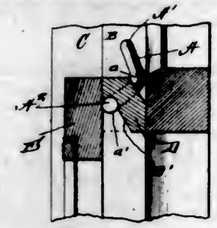
4. In an awning, the combination of a roller, a rope sheave at one end of the roller, a canvas top, a frame to extend the same, a rope extending from the outer edge of the canvas top along the edge of the same to the sheave, a side curtain supported thereby, and means mounted near said sheave to guide said rope from the edge of the canvas top to the winding plane of the sheave.

5. In an awning, the combination of a canvas top, a roller for the same, a sheave mounted at one end of the roller, a side curtain mounted just within a lateral edge of the top, a rope to support the same, and a guide for said rope between the line of the side curtain and the winding plane of the sheave.

864,886. SWINGING SCREEN. JOHN H. CORNELISON, St. Louis, Mo. Filed Sept. 25, 1906. Serial No. 336,154.

1. In combination with the sash of a window and a guide strip upon the frame, a swinging screen frame, a recessed strip projecting from one face thereof, a hanger mounted upon the guide strip and extending the width of the latter and engaging the recess of said strip, a space

intervening between the end of said recessed strip and the outer edge of the upright portion of the screen and in which said hanger is positioned, as set forth.



2. In combination with the sash of a window and a guide strip upon the frame, a swinging screen frame, a recessed strip projecting from one face thereof, a hanger mounted upon the guide strip and extending the width of the latter and engaging the recess of said strip, said hanger being bent at angles at two locations and extending the width of the guide strip, with the portion between its angles positioned intermediate the end of the recessed strip and the guide strip, as set forth.

3. In combination with the sash of a window and guide strip upon the frame, a hanger pivotally connected to the guide strip and bent to extend the width of the guide strip with a pivotal end projecting at right angles from the latter, a screen frame, a laterally projecting recessed strip upon said screen frame, recesses in the under edge of said strip and opening through the ends thereof, the pivotal ends of said hanger engaging said recesses, the portion of the hanger which extends the width of the guide strip filling the space intermediate the end of the recessed strip and the guide strip, as set forth.

4. In combination with the sash and frame of a window, a guide strip upon said frame, a screen frame having a recessed strip fastened upon the inner face thereof adjacent to the top of said screen frame, there being spaces between said guide and recessed strips, a pin or hanger fixed to the guide strip and having pivotal connection with the ends of said recessed strip below the upper end of the screen frame, as set forth.

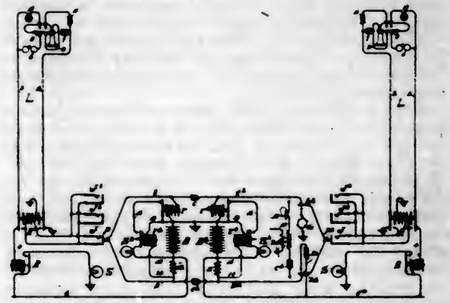
5. In combination with the sash and frame of a window, a guide strip upon said frame, a screen frame having a recessed strip fastened upon the inner face thereof adjacent to the top of said screen frame, there being spaces between said guide and recessed strips, a pin or hanger fixed to the face of the guide strip at the outer edge thereof and having pivotal connection with the ends of said recessed strip below the upper end of the screen frame.

6. In combination with the sash and frame of a window, a guide strip upon said frame, a screen frame having a recessed strip fastened upon the inner face thereof adjacent to the top of said screen frame, there being spaces between said guide and recessed strips, a hanger fixed to the guide strip and bent to extend the width of the guide strip and having its pivotal end extending horizontally and engaging the recesses of said strip below the upper marginal edge of the screen frame, as set forth.

864,887. SUPERVISORY SYSTEM FOR TELEPHONE-LINES. WILLIAM W. DEAN, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Jan. 25, 1904. Serial No. 190,454.

1. In telephone systems, the combination with telephone lines, of a cord circuit to connect with said lines for conversational purposes, a supervisory signal associated with the cord circuit, a relay normally actuated to prevent the operation of said signal, and means whereby when a connection is established with the line by said cord circuit a path around said relay is completed, said path containing a relay adapted to close the circuit of said signal to operate the same, substantially as described.

2. In a telephone system, the combination with a telephone line, of a cord circuit to establish conections therewith for conversation, a supervisory signal associated with the cord circuit, a relay in a circuit of high resistance normally energized to prevent the operation of said signal, and means whereby when a connection is established with the line a portion of the current is shunted from said relay to suitably control it to permit the operation of the signal, substantially as described.



3. In a telephone system, the combination with a telephone line, of a cord circuit to establish connections therewith for conversation, a supervisory signal associated with the cord circuit, a high resistance relay normally energized to prevent the operation of said signal, and means whereby when a connection is established with the line, a low resistance path around said relay is completed whereby said relay permits the operation of said signal, substantially as described.

4. In a telephone system, the combination with a telephone line, of a cord circuit adapted to be connected therewith for conversational purposes, a supervisory signal associated with the cord circuit, a high resistance relay permanently connected in a circuit and serving normally to prevent the operation of said signal, and means whereby when a connection is established with the line a path of comparatively low resistance is established around said relay to deprive the same of operating current to thereby permit the actuation of said signal, substantially as described.

5. In a telephone system, the combination with a telephone line, of a cord circuit to connect therewith, a supervisory signal therefor, a pair of relays to control the circuit of said signal, one of said relays being normally actuated to maintain said signal effaced, the latter being under the control of the operator and the other being under the control of the subscriber, substantially as described.

6. In a telephone system, the combination with a telephone line, of a cord circuit adapted to be connected therewith for conversation, a central source of current associated with said cord circuit, a relay adapted at all times to carry current from said source through its winding, means upon the connection of said cord circuit with said line to vary the current in said relay winding sufficiently to change its condition of actuation and a signal controlled thereby, substantially as described.

7. In a telephone system, the combination with a telephone line, of a cord circuit adapted to be connected therewith, a pair of relays associated with said cord circuit, a signal circuit controlled by said relays, one of said relays being normally actuated to prevent the flow of current in said signal circuit and the other normally unactuated to permit the flow of current in said signal circuit upon a change in the actuation of the first relay, substantially as described.

8. In a telephone system, the combination with a telephone line, of a cord circuit adapted to be connected therewith for conversation, a supervisory signal associated with said cord circuit, a source of current also associated therewith, a relay normally actuated by current from said source to prevent the display of said signal, means to alter the current through said relay to suitably change its

condition of actuation to allow the display of said signal and a second relay to again open the circuit of said signal, substantially as described.

9. In a telephone system, the combination with a telephone line, of a cord circuit adapted to be temporarily connected therewith for conversational purposes, a signal connected with said cord circuit, a source of current also associated therewith, a relay and a resistance normally in series with said source, whereby said relay is normally actuated to prevent the display of said signal, and means to increase the current through said resistance whereby the current is decreased through said relay to change its condition of actuation and allow the display of said signal, substantially as described.

10. In a telephone system, the combination with a telephone line, of a cord circuit adapted to be connected therewith for conversational purposes, a signal associated with said cord circuit, a central source of current also associated therewith, a relay normally connected between one pole of said source and one limb of said cord circuit, a resistance connected between the other pole of said source and said limb of the cord circuit whereby said source is permanently connected with said relay, and means upon the connection of the cord circuit with a line for lowering the potential about said relay whereby its condition of actuation is changed to display said signal, substantially as described.

11. In a telephone system, the combination with a telephone line, of a cord circuit for establishing connections therewith, a supervisory signal for the cord circuit, a source of current, a pair of relays to control the circuit of said source through said signal, one of said relays being normally actuated and under the control of the operator, and the other of said relays being normally unactuated and under the control of the subscriber, substantially as described.

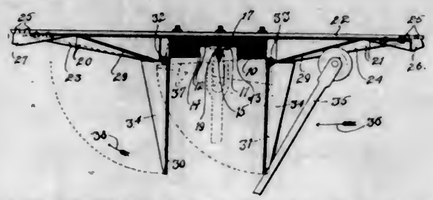
12. In a telephone system, the combination with a telephone line, of a cord circuit to connect therewith, a supervisory signal, a pair of relays associated with the cord circuit and adapted to control the circuit of said signal, one of said relays being normally actuated and adapted to be released when the cord is connected with the line, whereby the signal is displayed, the other of said relays being adapted to be actuated when the subscriber's receiver is off his hook and the cord circuit is connected with the line, whereby the signal is effaced, substantially as described.

13. In a telephone system, the combination with a telephone line, of a switch at a sub-station of the line, a cord circuit to establish connections therewith, a source of current, a signal, a pair of relays to control the circuit of said source through said signal, each of said relays having back contacts, means to control the circuit of said relays, whereby the circuit of said signal is closed through said back contacts when the cord is connected with a line and the switch at the sub-station is open, and means for opening the circuit of said signal when the switch at the sub-station is closed, substantially as described.

14. In a telephone system, the combination with a telephone line, of a cord circuit to establish conversational connections therewith, a source of current, a signal, a pair of relays for controlling the circuit of said source through said signal, said signal being displayed when both of said relays are in their unactuated conditions, and effaced when either of said relays is actuated, and means to control the circuits of said relays, whereby both are unactuated when the cord is connected with a line open at the sub-station, and whereby one of said relays will be actuated when the cord is connected with a line which is closed at the sub-station, substantially as described.

15. In a telephone system, the combination with a telephone line, of a cord circuit adapted to be connected with the line for conversational purposes, a signal circuit, a pair of relays having contacts coöperating to control the signal circuit, one of said relays being normally actuated and under the control of the operator, and the other of said relays being normally unactuated and under the control of the subscriber when a connection is established with the line, substantially as described.

864,888. TROLLEY-WIRE CROSSOVER. DAVID H. DOAK, Morgan Park, Ill., assignor of one-third to Charles Oldenburg, Chicago, Ill., and one-third to W. H. Conrad, Blue Island, Ill. Filed Oct. 11, 1905. Serial No. 282,229.



1. In combination, a block of insulating material, a metal trolley track attached to the lower side of said block and extending continuously across the same, two metal troughs attached to the top of said block and extending to either side of said block, a stationary runway in each of said troughs, and a swinging runway associated with each of said stationary runways, said swinging runways being actuated by the passage of a trolley to span the gap occupied by said continuous trolley track.

2. In a device of the class described, the combination with a block of insulating material having a trough in its under side, of a metal guideway disposed in said trough, a trolley track mounted in said guideway, a metal trough extending from either side of said block and being attached to the top of said block, a stationary runway in each of said troughs, and a swinging runway pivoted in each of said troughs and adapted when swung to one side to span the gap occupied by said trolley track and when swung to the other side to dispose itself within the trough from which it is suspended.

3. In a device of the class described, the combination with a trolley guideway extending continuously in one direction, of a pair of troughs mounted with and insulated from said trolley guideway, a stationary runway in each of said troughs, and a swinging runway pivoted in each of said troughs and adapted when swung in one direction to span the gap occupied by said trolley guideway and when swung to the other side to dispose itself within the trough from which it is suspended.

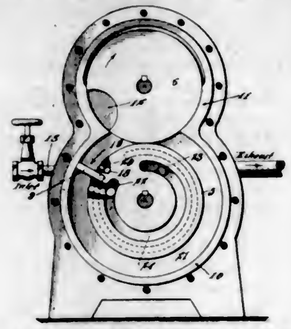
4. In a device of the class described, the combination with a trolley guideway extending in one direction, of a pair of metal troughs extending in another direction mounted with and insulated from said trolley guideway, a swinging runway in each of said troughs adapted when swung to one side to span the gap occupied by said trolley guideway and to engage the other swinging runway to dispose it in the trough from which it is suspended.

864,889. ROTARY ENGINE. ALEXANDER G. EDWARDS, Longbeach, Cal., assignor of one-half to Steetman L. Strickland, Los Angeles, Cal. Filed Feb. 25, 1907. Serial No. 359,041.

1. In a rotary engine, the combination of a piston cylinder and an abutment cylinder, said piston cylinder provided with a piston blade; exhaust grooves and inlet ports, said abutment cylinder being provided with a recess; end plates having annular inlet grooves in their faces and an exhaust port; and a steam cut off adjustably mounted in the inlet grooves.

2. In an engine of the character described, a rotary piston cylinder carrying a piston blade and having in each end thereof an exhaust port communicating therewith; an abutment cylinder having on the periphery thereof a piston blade receiving recess, the said cylinders workably connected by spur gears, in combination with a casing surrounding said cylinders and having in each end thereof adjacent to the piston cylinder an annular inlet groove, the said piston cylinder having on either end thereof an inlet port communicating with the inlet groove; a shut off adjustably secured in the inlet groove, substantially as herein shown and described.

3. In a rotary engine of the character described, a piston cylinder carrying a piston blade the entire length thereof and having in each end thereof an exhaust groove communicating with an exhaust port, the said cylinder being provided at each end with an exhaust port in advance of the piston blades and provided at each end in the rear of the piston blades with inlet ports, in combination with a casing having in each end thereof an annular inlet groove; and a check adjustably secured in the inlet groove.



864,890. TYPE-WRITING MACHINE. CARL GABRIELSON, Syracuse, N. Y., assignor to L. C. Smith and Bros. Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed May 13, 1904. Serial No. 207,830.



1. In a typewriting machine, the combination with the carriage feed rack, the pinion engaging said rack and the ratchet wheel connected with the pinion, of a rocker, a pair of feed pawls independently pivotally connected with the rocker and adapted to coöperate with the ratchet wheel, a lever arranged to engage said pawls and withdraw them from the path of the ratchet wheel and a release bar for operating said lever in any position of the carriage.

2. In a typewriting machine, the combination with the carriage, of a carriage release device comprising a bar having two pairs of oppositely inclined cam surfaces, pins connecting said bar loosely with the carriage and cooperating with said cam surfaces, a spring for holding said surfaces against said pins, and means upon the carriage for moving said bar longitudinally, for the purpose set forth.

3. In a typewriting machine, the combination with the carriage, of the release bar having triangular openings near its ends, pins passing through said openings, a spring centrally connected with the bar to hold it in normal position, and means upon the carriage for moving said bar longitudinally to effect the release of the carriage.

4. In a typewriting machine, the combination with the carriage feed ratchet and pawls, of the release lever arranged to withdraw the pawls from the ratchet, the release bar on the carriage, and means whereby the operation of the bar longitudinally in either direction effects the rocking of the lever and withdrawal of the pawls from the ratchet.

5. In a typewriting machine, the combination with the carriage and its feed mechanism, of means for releasing the carriage from its feed mechanism comprising a movable bar provided with means adapted to release said carriage when the bar is moved in either direction longitudinally.

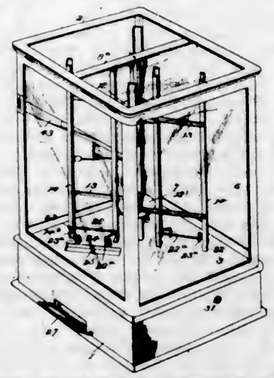
6. In a typewriting machine, the combination with the carriage and its feed mechanism, of a bar provided with means to disconnect the carriage from its feed mechanism at any desired point in the travel of the carriage when said bar is moved from mid-position, and means to normally hold said bar in mid-position.

7. In a typewriting machine, the combination with the carriage and its feed mechanism, of the release bar extending longitudinally of the carriage, and means at each end of the carriage for operating said release bar, said bar being provided with means adapted to release the carriage when it is moved in either direction from its mid position.

8. In a typewriting machine, the combination with the carriage and its feed mechanism, of a release bar longitudinally arranged upon the carriage, pins or projections upon the carriage, reverse inclines or cams upon the bar coöperating with each of said pins or projections, a spring for normally holding said bar in mid position, and means for operating the bar in either direction from mid position to release the carriage.

9. In a typewriting machine, the combination with the carriage and its ratchet, of a rocker, feed pawls carried by the rocker, a coiled spring surrounding the rocker shaft and connected with the rocker, and a cylindrical housing surrounding said spring and holding it from contact with the rocker shaft, the stationary end of said spring being connected to said housing.

864,891. VENDING-MACHINE. JOHN W. GILLETT and GEORGE I. MARTIN, Atlantic, Iowa. Filed Oct. 25, 1906. Serial No. 340,589.



1. A machine of the character described, comprising a revoluble carrier, means for intermittently actuating said carrier, the carrier embodying an article magazine, a casing for the carrier, said casing being provided with a discharge slot or opening in the path of movement of the magazine, stripping mechanism adapted to cause the ejection of an article from the magazine as the latter revolves across the opening, and an alining mechanism coacting with said stripping mechanism.

2. A machine of the character described, comprising a revoluble carrier, means for intermittently actuating said carrier, the carrier embodying an article magazine, a casing for the carrier, said casing being provided with a discharge slot or opening in the path of movement of the magazine, inner and outer stripping fingers adapted to successively engage one side of an article and eject it from the magazine as the latter revolves, and alining mechanism consisting of inner and outer alining devices adapted to successively engage the opposite side of the article as it is being ejected.

3. A machine of the character described, comprising a revoluble carrier, means for intermittently actuating said carrier, the carrier embodying an article magazine, a casing for the carrier, said casing being provided with a discharge slot or opening in the path of movement of the magazine, stripping mechanism adapted to engage one side of an article and cause the ejection of the same from the magazine as the latter revolves across the opening, and

an alining mechanism coacting with said stripping mechanism, the alining mechanism consisting of inner and outer alining devices embodying fingers connected to the magazine and provided with downwardly extending extremities adapted to successively engage the opposite side of the article, as and for the purpose set forth.

4. A machine of the character described, comprising a revoluble carrier, means for actuating said carrier, the carrier embodying a vertical rod mounted to rotate about its longitudinal axis, collars secured on said rod, disks secured to said collars, radiating arms secured at their inner ends to said disks, pairs of vertical channeled bars secured to said arms with their channels facing each other, said channels being open at the top, and the bars being provided at their lower ends with inwardly extending ledges and openings contiguous to and above said ledges, article holding boxes adapted to be slid downwardly between the respective pairs of said bars and rest at their lower end therein and formed with a lateral discharge opening, stripping fingers adapted to sweep an article through the lateral discharge opening of a box as the carrier revolves, a casing for said carrier provided with a discharge opening located in the path described by the boxes, as they revolve, and alining devices provided with downwardly projecting extremities spaced from the discharge opening of the respective box, and one of said alining devices extending across from one bar to the other of the respective pairs and constituting a brace therefor.

5. A machine of the character described, comprising a revoluble carrier embodying vertical frames arranged to revolve in a horizontal plane, means for intermittently actuating said carrier, a casing for the carrier provided with a discharge slot, disposed radially with respect to the carrier, inner and outer stripping fingers located contiguous to one side of said slot and adapted to engage an article and cause its ejection from the carrier as the latter revolves, and alining mechanism adapted to engage the article and register it with the discharge slot or opening.

6. A machine of the character described, comprising a revoluble carrier, means for intermittently actuating said carrier, a casing for the carrier provided with a discharge slot disposed radially with respect to the carrier, inner and outer stripping fingers adapted to successively engage an article and cause its ejection from the carrier as the latter revolves, and outer and inner alining devices adapted to successively engage the article at its ends as it is being ejected.

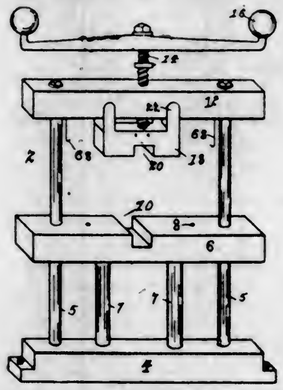
864,892. PROCESS OF MANUFACTURING HARNESS-SADDLES. CASPER H. GRINGS, Dubuque, Iowa, assignor of one-half to Dubuque Harness & Saddlery Company, Dubuque, Iowa, a Corporation of Iowa. Filed Oct. 20, 1906. Serial No. 339,866.

1. The process of manufacturing harness saddles which consist in first compressing the packing in the pad bottoms within the mold, placing the bur-piece upon the compressed packing in mold, removing the mold with the packed pads therein from the press and retaining the pressure on the bur-piece and packing within the mold, then uniting the bur-piece and the pad bottom while the pads and bur-piece are under pressure within the mold.

2. The process for manufacturing harness saddles, which consists in first packing the pads in a mold placing the bur-piece upon the packed pads without releasing the pressure on the packed pads in the mold, then removing the mold with the compressed packing therein and wholly stitching the pad bottoms to the bur-piece after packing while the pads are within the mold and under pressure.

3. The process of manufacturing harness saddles, which consists in placing the pad bottoms in a mold with their edges projecting over the edges of the mold, compressing the packing into the pad bottoms within the mold, placing the bur or top piece over the compressed packing and upon the projecting edges of the pad bottom then uniting the edges of the pad bottoms and the bur piece together while under pressure.

4. The process of manufacturing harness saddles, which consists in placing the pad bottoms in molds with their edges projecting over the molds, compressing the packing into the bottoms within the molds, placing the bur or top piece over the molds and upon the projecting edges of the pad bottoms while the pads are under pressure, then stitching the pad bottoms to the bur-piece while the pads and bur-piece are under pressure.



5. The process for the manufacture of harness pads which consists in compressing the packing into the pad bottoms within the molds with the edges of the pad bottom projecting outwardly over the edges of the molds, clamping the top or bur-piece over the molds upon the edges of the pad bottoms while the pads are under pressure in the molds, removing the pack pads and bur-piece from the press and uniting the bur-piece to the pad bottom after the pads are packed and while under pressure in the molds and by a continuous stitch.

6. The process for manufacturing harness saddles, which consists in placing the pad bottoms in the molds, compressing the packing into the pad bottoms in the molds, retaining the pressure on the pads while the bur or top piece is adjusted over the pad bottoms and compressed packing in the mold, then stitching the pad bottoms to the bur-piece with a continuous or unbroken stitch after the pads are packed and while the pads are under pressure in the mold.

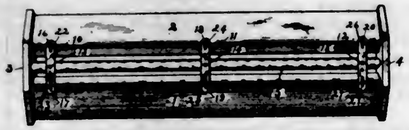
7. The process of manufacturing harness saddles which consists first in placing the pad bottoms in molds with their edges projecting over the edges of the mold, then packing the pad bottoms within the molds, compressing the packing in the molds and holding the packing compressed while the pressure from the press is removed, placing the bur-piece over the compressed packing with the edges resting upon the pad bottoms and retaining the pressure thereon, removing the mold with the compressed packing and bur-piece thereon, and stitching the pads and bur-piece together by a continuous or unbroken stitch after the pads are packed and while the packing and bur-piece are under pressure within the mold.

864,893. PENCIL-HOLDER. JOSEPH T. HASKINS, Portland, Me. Filed May 21, 1907. Serial No. 374,843.



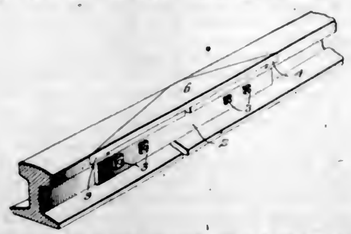
A pencil-holder having a tubular forward end provided with a longitudinal slot, in combination with a pencil telescoped in said end, a collar surrounding said holder and a screw which is mounted in said collar and works through said slot to clamp said pencil at will substantially as set forth.

864,894. CORN-GRADER. CHARLES HUNNICUTT, Wilmington, Ohio. Filed Feb. 26, 1906. Serial No. 302,872.



A corn grader consisting of a portable V-shaped open-bottom trough having end boards, and downward-converging side boards pivoted toward their upper edges on longitudinal axes to said end boards, a dividing bar extending longitudinally of the open bottom of the trough, retaining members secured intermediate their length to said bar and having longitudinal slots at either side thereof, and screws passing through said slots into the lower edges of the side boards, whereby the latter may be adjusted as to inclination and held at the several degrees of adjustment.

864,895. RAIL-JOINT. CARL C. JANTZEN, Hood River, Oreg. Filed Apr. 11, 1907. Serial No. 367,623.



1. In a rail joint, the combination of a pair of abutting rail ends having corresponding corner portions thereof cut away and the cut away portions terminating in diagonally disposed shoulders, and a plate received by the cut away portion of the rail ends and having the ends thereof beveled to correspond to the obliquely disposed shoulders of the cut away portions, the said plate having an interlocking connection with the rail ends.

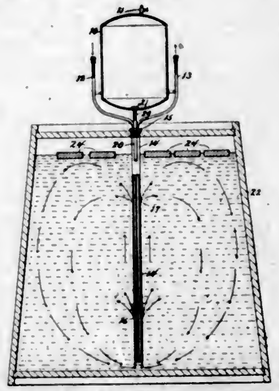
2. In a rail joint, the combination of abutting rail ends having corner portions thereof cut away and terminating in obliquely disposed shoulders, the said cut away portions having depressions formed therein, a plate spanning the joint and received within the cut away portions of the rail ends, the ends of the plate being beveled to correspond to the obliquely disposed shoulders, and projections pendent from the plate and received by the before mentioned depressions in the base of the cut away portions.

3. In a rail joint, the combination of abutting rail ends having corner portions thereof cut away and terminating in diagonally disposed shoulders, the said cut away portions being formed with grooves, a plate spanning the joint and received within the cut away portions of the rail ends, the ends of the plate being beveled to correspond to the said diagonal shoulders, and ribs pendent from the plate and received by the before mentioned grooves.

4. In a rail joint, the combination of abutting rail ends having corner portions thereof cut away and terminating in diagonally disposed shoulders, the said cut away portions being formed with under-cut grooves, a plate spanning the joint and received by the cut away portions of the rail ends, the ends of the plate being beveled to correspond to the before mentioned diagonally disposed shoulders, and ribs pendent from the plate and received within the under-cut grooves.

5. In a rail joint, the combination of abutting rail ends having corner portions thereof cut away and terminating in diagonally disposed shoulders, the said cut away portions being formed with grooves located adjacent the diagonally disposed shoulders, one of the side walls of each of the grooves forming a continuation of its respective shoulder, while the opposite side wall is inclined inwardly, a plate spanning the joint and received by the cut away portions of the rail ends, the ends of the plate being beveled to correspond to the before mentioned diagonally disposed shoulders, and ribs pendent from the plate and located adjacent the beveled ends thereof, the inner side of each of the ribs being inclined outwardly and the said ribs being received within the before mentioned grooves.

864,896. APPARATUS FOR AGING WHISKY. WILLIAM H. JOHNSON, Terre Haute, Ind. Filed Nov. 2, 1906. Serial No. 341,719.



1. An apparatus for aging liquor, consisting of a tank, an inlet pipe for the heating agent, an outlet pipe for the heating agent, said pipes extending adjacent to each other, and the lower ends of said pipes being connected by a return bend, a casing inclosing the pipes, the lower end of said casing being open, means at the upper end of the casing for engaging the bung hole of a receptacle, and a pipe depending from the tank and extending along the outside of the casing for a desired distance.

2. An apparatus for aging liquor, consisting of a tank, an inlet pipe for the heating agent, an outlet pipe for the heating agent, said pipes extending adjacent to each other, and the lower ends of said pipes being connected by a return bend, a casing inclosing the pipes, the lower end of said casing being open and the upper end thereof terminating in a bung, and a pipe depending from the tank and extending through the bung and on the outside of the casing for a desired distance.

3. An apparatus for aging liquor, consisting of a tank, an inlet pipe for the heating agent, an outlet pipe for the heating agent, said pipes extending adjacent to each other, and the lower ends of said pipes being connected by a return bend, a casing inclosing the pipes, the lower end of the casing being open, and said casing provided with sets of perforations arranged a desired distance apart, means at the upper end of the casing for engaging the bung hole of a receptacle, and a pipe depending from the tank and extending along the outside of the casing for a desired distance.

4. The combination with a receptacle for containing liquor, said receptacle provided with a bung hole, of an apparatus for aging the liquor contained in the receptacle, said apparatus consisting of a tank, an inlet pipe for the heating agent, an outlet pipe for the heating agent, said pipes extending adjacent to each other, and the lower ends of said pipes being connected by a return bend, a casing inclosing the pipes, the lower end of said casing being open, a pipe depending from the tank and extending along the outside of the casing, and means at the upper end of the casing for engaging the bung hole of the receptacle, when the casing and the inclosed pipes and the depending pipe are inserted through the bung hole, the lower

end of the casing when the device is so applied terminating at a desired distance above the bottom of the receptacle.

5. The combination with a receptacle for containing liquor, said receptacle provided with a bung hole, of an apparatus for aging the liquor contained in the receptacle, said apparatus consisting of a tank, an inlet pipe for the heating agent, an outlet pipe for the heating agent, said pipes extending adjacent to each other, and the lower ends of said pipes being connected by a return bend, a casing inclosing the pipes, the lower end of the casing being open, and said casing provided with sets of perforations arranged a desired distance apart, a pipe depending from the tank and extending along the outside of the casing, and means at the upper end of the casing for engaging the bung hole of the receptacle, when the casing and the inclosed pipes and the depending pipe are inserted through the bung hole, the lower end of the casing, when the device is so applied, terminating at a desired distance above the bottom of the receptacle.

6. The combination with a receptacle for containing liquor, said receptacle provided with a bung hole, of an apparatus for aging the liquor contained in the receptacle, said apparatus consisting of a tank, an inlet pipe for the heating agent, said pipe extending along one side of the tank, thence beneath the bottom of the tank, and thence downwardly, an outlet pipe for the heating agent, said pipe extending along the opposite side of the tank, thence beneath the bottom of the tank, and thence downwardly parallel with and adjacent to the inlet pipe, the lower ends of said pipes being connected by a return bend, a casing inclosing the pipes, the lower end of said casing being open, a pipe depending from the bottom of the tank along the outside of the casing, and means at the upper end of the casing for engaging the bung hole of the receptacle, when the casing and the inclosed pipes and the depending pipe are inserted through the bung hole, the lower end of the casing, when the device is so applied, terminating at a desired distance above the bottom of the receptacle.

7. An apparatus for aging liquor, consisting of a receptacle provided with an opening, means inserted through said opening and into the receptacle for heating the liquor contained therein, a casing forming part of said means, and said casing provided with inlet and outlet openings whereby the liquor entering into the casing through the inlet opening is heated to a degree above the temperature of the liquor on the outside of said casing, causing the heated liquor to rise in the casing and to be discharged through the outlet opening, thereby producing a circulation of the liquor within the receptacle.

8. The combination with a receptacle for containing liquor, said receptacle provided with a bung hole, charred blocks within the receptacle and adapted to float on the surface of the liquor in said receptacle, of an apparatus for aging the liquor contained in the receptacle, said apparatus consisting of a tank, an inlet pipe for the heating agent, an outlet pipe for the heating agent, said pipes extending adjacent to each other, and the lower ends of said pipes being connected by a return bend, a casing inclosing the pipes, the lower end of said casing being open, a pipe depending from the tank and extending along the outside of the casing, and means at the upper end of the casing for engaging the bung hole of the receptacle, when the casing and the inclosed pipes, and the depending pipe are inserted through the bung hole, the lower end of the casing, when the device is so applied, terminating at a desired distance above the bottom of the receptacle.

9. An apparatus for aging liquor, consisting of a receptacle provided with an opening, and means inserted through said opening and into the receptacle for heating the liquor contained therein, said means arranged and adapted to heat a column of liquor to a degree above the temperature of the liquor adjacent to said column, and to allow said heated column of liquor to flow into the liquor adjacent to said column and thereby produce a rapid circulation of the liquor within the receptacle.

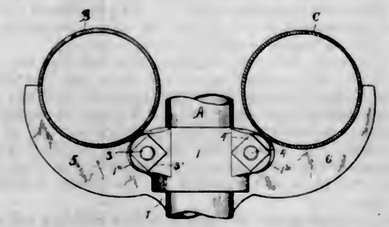
10. An apparatus for aging liquor, consisting of a receptacle provided with an opening, and means inserted through said opening and into the receptacle for heating the liquor contained therein, means for accommodating the overflow of liquor caused by expansion from heating from the receptacle, said heating means arranged and adapted to heat a column of liquor to a degree above the temperature of the liquor adjacent to said column, and to allow said heated column of liquor to flow into the liquor adjacent to said column and thereby produce a rapid circulation of the liquor within the receptacle.

11. An apparatus for aging liquor, consisting of a receptacle provided with an opening, means inserted through said opening and into the receptacle for heating the liquor contained therein, means for accommodating the overflow of liquor caused by expansion from heating from the receptacle, a casing forming part of said heating means, and said casing provided with inlet and outlet openings whereby the liquor entering into the casing through the inlet opening is heated to a degree above the temperature of the liquor on the outside of said casing, causing the heated liquor to rise in the casing and to be discharged through the outlet opening, thereby producing a circulation of the liquor within the receptacle.

12. An apparatus for aging liquor, consisting of a receptacle provided with a threaded opening, and means removably inserted through said opening and into the receptacle for heating the liquor contained therein, said means provided with a threaded portion adapted to engage the threads of the opening and form a liquid tight joint, said heating means arranged and adapted to heat a column of liquor to a degree above the temperature of the liquor adjacent to said column, and to allow said heated column of liquor to flow into the liquor adjacent to said column and thereby produce a rapid circulation of the liquor within the receptacle.

13. An apparatus for aging liquor, consisting of a receptacle provided with a threaded opening, and means removably inserted through said opening and into the receptacle for heating the liquor contained therein, said means provided with a threaded portion adapted to engage the threads of the opening and form a liquid tight joint, means for accommodating the overflow of liquor caused by expansion from heating from the receptacle, said heating means arranged and adapted to heat a column of liquor to a degree above the temperature of the liquor adjacent to said column, and to allow said heated column of liquor to flow into the liquor adjacent to said column and thereby produce a rapid circulation of the liquor within the receptacle.

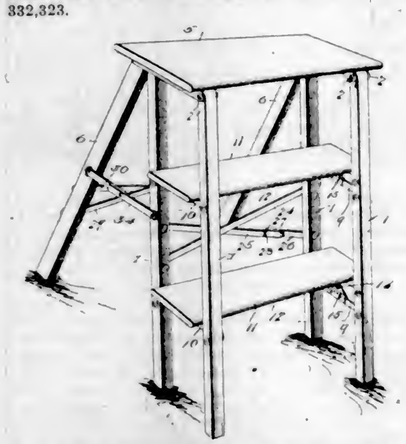
864,897. PIPE-HANGER. JAMES E. JONES, Richmond, Ind. Filed Feb. 11, 1907. Serial No. 356,665.



1. In a pipe-hanger, the combination of a support, a clamp therefor embracing the support and comprising oppositely disposed spaced lugs and a bolt connecting said lugs, and a supporting arm loosely pivoted for lateral movement on said bolt within said space, the base of said arm being extended downwardly to form a tooth adapted to engage said support, substantially as and for the purpose set forth.

2. In a pipe-hanger, the combination of a vertical supporting post, a plurality of similar clamp members each having bolt lugs at its opposite ends, bolts securing the clamp members to the post, there being outwardly diverging spaces between adjacent bolt lugs, and pipe-supporting arms pivoted on said bolts and having lateral play in said spaces, substantially as and for the purpose set forth.

864,898. FOLDING STEP-LADDER. FRANK B. KOUES, Rutherford, N. J. Filed Aug. 28, 1906. Serial No. 332,323.



1. A folding step-ladder, provided with double folding stiles, and steps connected thereto, to permit the stiles, and steps to fold laterally, and the stiles to tilt to and from a vertical position to wedge the steps between the double stiles, whereby they are locked in expanded position, as set forth.

2. A folding step-ladder, provided with double folding stiles, and steps connected thereto, to permit the stiles, and steps to fold laterally, and the stiles to tilt to, and from a vertical position, to wedge the steps between the double stiles, whereby they are locked in expanded position, one end of the steps being connected with said stiles by a hinged brace, and the other end by a hinge, as set forth.

3. A folding step-ladder, provided with double, laterally folding tilting stiles, and laterally folding steps, connected thereto; and a laterally folding top step; said double stiles being pivotally connected to the top step, and the steps being hinged to the double stiles, the latter being adapted to tilt to, and from a vertical position, to wedge the steps between the double stiles, whereby they are locked in expanded position, as herein set forth.

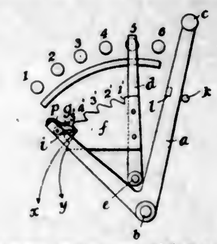
4. A folding step-ladder, provided with double, laterally folding stiles, each pair of double stiles being connected, adjacent to one end of each step, by a pivoted strap, and adjacent to the other end of each step, by two pivoted straps, in combination with laterally folding, rocking steps, each step being connected at one end to a pivoted strap by a sliding hinge, and at the other end by a jointed brace, hinged to the step, and to the lower one of the two pivoted straps, each step resting at both ends upon a pivoted strap, as herein set forth.

5. In a folding step-ladder, a pair of crossing brace straps, one being single, and the other knuckle-jointed, the knuckle-joint having a projection, which serves to lock the two straps together, as herein set forth.

6. A folding step-ladder, provided with double, folding stiles, in combination with folding, rocking steps, each step being connected with the stiles, at one end by a hinge, and with the stiles, at the other end, by an inclined brace, having universal joints, as herein set forth.

864,899. STEP-SWITCH. CHRISTIAN KRÄMER, Frankfort-on-the-Main, Germany, assignor to Felten & Guilleaume-Lahmeyerwerke Actien-Gesellschaft, Frankfort-on-the-Main, Germany. Filed Jan. 16, 1907. Serial No. 352,643.

1. A step by step switch comprising an operating lever and a contact lever eccentrically mounted with relation to each other, and engaging devices on the levers whereby the levers are in operative connection only during a portion of the movement of one of the levers in one direction.



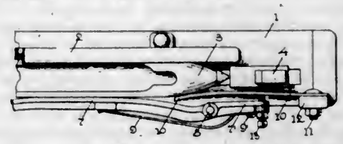
2. A step by step switch comprising an operating lever and a contact lever eccentrically mounted with relation to each other, engaging devices on the levers whereby the levers are in operative connection only during a portion of the movement of one of the levers in one direction, and other engaging devices whereby the levers are in operative connections during the whole of the movement of the operating lever in one direction.

3. A step by step switch comprising two levers eccentrically mounted with relation to each other, a catch mounted on one of the levers, a toothed segment mounted on the other lever, and a lug mounted on the first lever, whereby when the operating lever is moved in one direction the contact lever is moved only during a portion of the movement of the operating lever, and when the operating lever is moved in the other direction the two levers move together.

4. A step by step switch comprising an operating lever, a contact lever, means for connecting said levers only during the latter part of the movement of the operating lever in one direction, and means for connecting said levers throughout the movement of the operating lever in the opposite direction.

5. A step by step switch comprising an angular operating lever, a contact lever, means on one arm of the operating lever for engaging the contact lever during a portion of the movement of the operating lever in one direction, and means on the other arm of the operating lever for engaging the contact lever throughout the movement of the operating lever in the opposite direction.

864,900. LOOM SHUTTLE-CHECK. PETER MACPHERSON, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed Oct. 12, 1905. Serial No. 282,417.

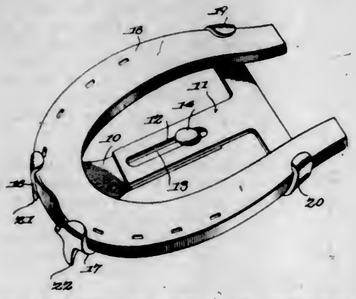


The combination with a shuttle box, and a spring actuated binder having an extension thereon beyond its pivotal support, and an adjusting screw or bolt on said extension, of a spring blade extending at the rear of the shuttle binder, and rigidly secured at one end, independent of the shuttle binder, with its other end extending inwardly at the rear of the binder to engage the outer end of the shuttle, and said spring blade adapted to be engaged by said adjusting screw or bolt.

864,901. ATTACHMENT FOR HORSESHOES. CHARLES E. MAUD, San Francisco, Cal. Filed May 1, 1905, Serial No. 258,223. Renewed June 10, 1907. Serial No. 378,281.

1. An attachment for horse shoes, comprising a Y-shaped toe member having upwardly extending clips at the forward ends for engaging the toe portion of the horse

shoe and with downwardly extending spurs adjacent to the toe clip portions, a T-shaped heel member having upwardly extending clips for respectively engaging the heel portions of a horse shoe and with downwardly extending spurs adjacent to said heel clip portions with the shank portions of said members for overlapping beneath the shoe, and means for adjustably clamping said overlapping portions.



2. An attachment for horse shoes, comprising a Y-shaped toe member having upwardly extending clips at the the forward ends for engaging the toe portion of the horse shoe and with downwardly extending spurs adjacent to the toe clip portions, a T-shaped heel member having upwardly extending clips for respectively engaging the heel portions of a horse shoe and with downwardly extending spurs adjacent to said heel clip portions with the shank portions of said members for overlapping beneath the shoe, and provided with longitudinal slots, a clamp bolt operating through said slots.

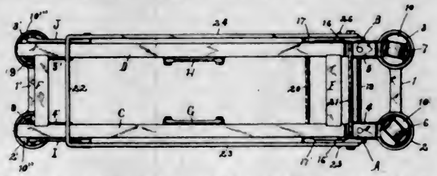
3. An attachment for horse shoes, comprising a Y-shaped toe member having upwardly extending clips at the forward ends for engaging the toe portion of the horse shoe and with V-shaped clefts therethrough for producing tongues for bending into downwardly projecting spurs adjacent to said toe engaging clips, a T-shaped heel member having upwardly extending clips for respectively engaging the heel portions of the horse shoe and with V-shaped clefts therethrough for producing tongues for bending into downwardly projecting spurs adjacent to said heel engaging clips, with the shank portions of said members overlapping beneath the shoe, and means for adjustably clamping said overlapping portions.

4. An attachment for horse shoes, comprising a Y-shaped toe member having upwardly and inwardly extending clips at the forward ends for bearing against the outer face of the toe portion and extending over the top of the horse shoe and with downwardly extending spurs adjacent to the toe clip portions, a T-shaped heel member having upwardly and inwardly extending clips for respectively bearing against the outer faces of the heel portions of the shoe and extending over the top of the same and with downwardly extending spurs adjacent to said heel clip portions with the shank portions of said members for overlapping beneath the shoe, and means for adjustably clamping said overlapping portions.

864,902. LIFTING AND CARRYING TRUCK. THOMAS C. MOORE, Dublin, Ind. Filed Dec. 31, 1906. Serial No. 350,213.

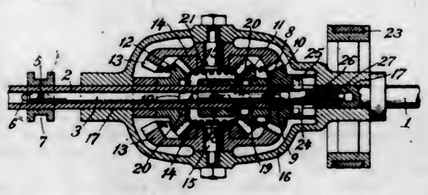
1. A lifting and carrying truck comprising in combination, two frames of equal width, links for connecting said frames in the rear and center, a pair of bell-cranks for connecting the frames in the front, a handle having arms pivotally mounted to said bell-cranks, means for rigidly connecting said arms to the bell-cranks, means for locking the upper frame after it has been raised, and carrying wheels mounted to the corners of the lower frame, all substantially as shown and described.

2. A lifting and carrying truck comprising in combination an upper and a lower frame, links for connecting the frames whereby the upper frame may be raised and lowered without moving the lower frame, a pair of bell-cranks for operating the upper frame, a handle for actuating said bell-cranks to provide means for propelling the truck, ties connecting the side members of the lower frame at its ends, a ring formed integral with each end of each of said



ties, a plate revolubly mounted in said ring, an axle carried by each of said plates, a wheel mounted on said axle, and rollers mounted on the outer ends of said axles and adapted to travel around on the under face of said ring, all substantially as shown and described.

864,903. TRANSMISSION-GEAR. ARTHUR J. MORSE, Torrington, Conn., assignor of one-half to Adelbert P. Hine, Torrington, Conn. Filed Dec. 6, 1905. Serial No. 290,622.



1. A power transmitter comprising a driving member, a driven member, gearing connecting the members and arranged in a train having selective branches, said gearing including planetary gears common to both branches, and means for retarding in varying degree the motion of the planetary gears in their orbit about the other gears of the train to vary the speed of rotation of the driven member.

2. A power transmitter comprising a driving member, a driven member, gearing connecting the members and arranged in a main train having selective branches, said gearing being permanently mounted in intermeshing relation, said gearing including planetary gears common to both branches, and means for retarding in varying degree the motion of the planetary gears in their orbit about the other gears of the train to vary the speed of rotation of the driven member.

3. A power transmitter comprising a driving member, a driven member, permanently-meshed gearing connecting the members and arranged in a train having operatively selective branches, and means independent of the driving member and common to the several branches for varying the power transmitted.

4. A power transmitter comprising a driving member rotating continuously at maximum speed, a driven member, permanently-meshed gearing connecting the members and arranged in a train having operatively selective branches, and means for varying the effective speed of rotation of certain gears common to both branches.

5. A power transmitter comprising a driving member, a driven member, gearing connecting said members arranged in a main train having two branches, said branches being inversely operable to rotate said driven member in either direction, and said main train including gears movable in planetary relation to the gears with which they intermesh, and means for offering varying resistance to the orbital movement of said planetary gears.

6. A power transmitter comprising a driving member, a driven member, gearing arranged in a branched train connecting the members, certain gears of the train and

common to both branches being movable in planetary relation to the gears with which they intermesh, and means common to the several planetary gears to control the planetary movement thereof.

7. A power transmitter comprising a driving member, a driven member, permanently-meshed gearing arranged in a branched train connecting said members and having a driving gear and planetary gears common to both branches, and means for varying the effective speed of rotation of said planetary gears.

8. A power transmitter comprising a driving member, a driven member, and interposed gearing arranged in a single train terminating in selective branches to transmit motion from the driving member to rotate the driven member in either direction, said gearing including planetary members the effective speed of rotation of which is variable.

9. A power transmitter comprising a driving member, a driven member, means for directly connecting said members, a single train of gears terminating in selective branches for transmitting motion from the driving member to rotate the driven member in either direction, said train including planetary gears the effective speed of rotation of which is variable.

10. A power transmitter comprising a driving member, a driven member, means for directly connecting said members, and a single train of gears terminating in selective branches for transmitting motion from the driving member to rotate the driven member in either direction, said train including reducing gears the effective speed of rotation of which is variable.

11. A power transmitter comprising a driving member, a driven member, a gear loosely mounted upon each of the members, clutches coöperating therewith, interposed gears meshing with the gears upon the driving and driven members and movable in planetary relation thereto, and means for varying the effective speed of rotation of said interposed gears.

12. A power transmitter comprising a driving member, a driven member, a gear loosely mounted upon the driving member, oppositely disposed gears loosely mounted upon the driven member, coöperating clutches, interposed gears meshing with the gears carried by said members and movable in planetary relation thereto, and means for varying the effective speed of rotation of said interposed gears.

13. A power transmitter comprising a driving member, a driven member, a gear loosely mounted upon the driving member, oppositely disposed gears loosely mounted upon the driven member, a clutch controlling each of said gears, reducing gears meshing with the gears carried by said members and movable in planetary relation thereto, and means for varying the effective speed of rotation of said reducing gears.

14. A power transmitter comprising a driving member, a driven member, a train of gears connecting the members, the terminal gears of said train being loosely mounted upon said members, requisite clutches controlling said terminal gears, and means for varying the effective speed of rotation of the intermediate gears during transmission of power through the train.

15. A power transmitter comprising a driving member, a driven member, a train of gears connecting the members, the terminal gears of the train being mounted upon said members, requisite clutch mechanism coöperating with the terminal gears, and controlling means by which the intermediate gears may be given a variable speed of rotation during transmission of power through the train.

16. A power transmitter comprising a driving member, a driven member, a train of transmission gearing for rotating the members in the same direction or in opposite directions, clutches coöperating with the gearing, a single controlling device common to the clutches, and means for varying the effective speed of rotation of certain gears of the train during transmission.

17. A power transmitter comprising a driving member, a driven member, a train of reducing gears connecting the members, the terminal gears of the train being mounted upon said members and the intermediate gears movable in planetary relation thereto, and means for varying the effective speed of rotation of said intermediate gears.

18. A power transmitter comprising a driving member, a driven member, a train of reducing gears connecting the members, the terminal gears of the train being loosely mounted upon said members and the intermediate gears movable in planetary relation thereto, requisite clutches coöperating with the terminal gears, and means for varying the effective speed of rotation of the intermediate gears.

19. A power transmitter comprising a driving member, a tubular driven member, a train of gears connecting the members and arranged in permanent intermeshing relation, coöperating clutches controlling the direction and speed of rotation of the driven member, and an operating device within the driven member common to the several clutches.

20. A power transmitter comprising a driving member, a driven member, gearing connecting the members arranged in a branched train driven from a common gear upon the driving member and each branch terminating in a gear upon the driven member, a clutch co-acting with the several terminal gears upon the driven member, and means independent of the clutch for varying the effective speed of rotation of the intermediate gears common to the several branches of the train.

21. A power transmitter comprising a driving member, an independently rotatable driven member, a clutch controlling direct connection between the members, gearing connecting the members for the transmission of power from one to the other and arranged in a branched train, both branches having a common driving gear and common intermediate gears, and controlling means co-acting with said intermediate gears for varying the speed of the driven member.

22. A power transmitter comprising a driving member, a gear mounted thereon, a driven member, oppositely disposed gears mounted upon the driven member, a clutch co-operating with each of said gears, reducing gears interposed between and connecting the gears upon the driving and driven members and movable in planetary relation to the same, and a variable friction device controlling the planetary movement of the reducing gears.

23. A power transmitter comprising a driving member, a gear mounted thereon, a driven member, oppositely disposed gears mounted upon the driven member, a clutch co-operating with each of said gears, twin sets of reducing gears interposed between and connecting the gears upon the driving and driven members and movable in planetary relation to the same, a rotatable casing in which said reducing gears are mounted, and a friction brake controlling the movement of the casing.

24. A tubular driving member, a gear mounted thereon, a tubular driven member, oppositely disposed gears mounted upon the driven member, a clutch coöperating with each of said gears, a sliding rod within said tubular members controlling the clutches, twin sets of reducing gears interposed between and connecting the gears upon the driving and driven members and movable in planetary relation to the same, a rotatable oil tight casing in which said reducing gears are mounted, and a friction brake co-acting with the casing.

25. A power transmitter comprising a driving member, a driven member, a plurality of gears interposed between the members, a selective clutch device controlling direct transmission from one member to the other and indirect transmission through the gears, and means for varying the speed of the gears.

26. A power transmitter comprising a driving member, a driven member, a plurality of gears interposed between the members, a selective clutch device controlling direct transmission from one member to the other and indirect transmission through the several gears, and means independent of the driving member for varying the speed of the gears.

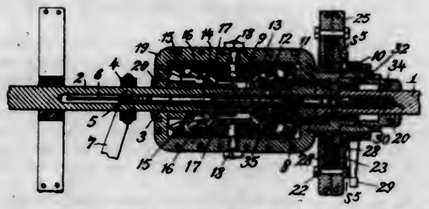
27. A power transmitter comprising a driving member, a driven member, gears interposed between the members and permanently arranged in intermeshing relation, a selective clutch device controlling direct transmission from one member to the other and indirect transmission through

the gears, and means independent of the driving member for varying the speed of the gears.

28. A power transmitter comprising a driving member, a driven member, a train of gears interposed between the members comprising a planetary gear, a selective clutch device controlling direct transmission from one member to the other and indirect transmission through the train, and means for varying the effective speed of rotation of the planetary gear.

29. A power transmitter comprising a driving member, a driven member, a train of gears interposed between the members, said train comprising a planetary gear, a clutch device controlling direct transmission from one member to the other and indirect transmission through the train, and means for varying the effective speed of rotation of the planetary gear.

864,904. TRANSMISSION-GEARING. ARTHUR J. MORSE, Torrington, Conn., assignor of one-half to Adelbert P. Hine, Torrington, Conn. Filed Feb. 19, 1906. Serial No. 301,860.



1. A power transmitter comprising a driving member, a driven member, a plurality of gears interposed between the members, a selective clutch device controlling direct transmission from one member to the other and the disconnection of the gears from both members and indirect transmission through the gears, and means for varying the relative speed of the gears.

2. A power transmitter comprising a driving member, a driven member, a plurality of gears interposed between the members, a selective clutch device controlling direct transmission from one member to the other and the disconnection of the gears from both members and indirect transmission through the several gears, and means independent of the driving member for varying the relative speed of the gears.

3. A power transmitter comprising a driving member, a driven member, gears interposed between the members and permanently arranged in intermeshing relation, a selective clutch device controlling direct transmission from one member to the other and the disconnection of the gears from both members and indirect transmission through the gears, and means independent of the driving member for varying the relative speed of the gears.

4. A power transmitter comprising a driving member, a driven member, a train of gears interposed between the members comprising a planetary gear, a selective clutch device controlling direct transmission from one member to the other and the disconnection of the gears from both members and indirect transmission through the train, and means for varying the effective speed of rotation of the planetary gear.

5. A power transmitter comprising a driving member, a driven member, gears interposed between the members comprising planetary gears, a selective clutch device controlling direct transmission from one member to the other and the disconnection of the gears from both members and indirect transmission through the several gears, and means common to the several planetary gears for varying the effective speed of rotation thereof.

6. A power transmitter comprising a driving member, a driven member, a train of gears interposed between the members, clutches coöperating with the terminal gears of the train to connect or disconnect them from the members, operating means common to the several clutches, and independent means for controlling transmission through the train.

7. A power transmitter comprising a driving member, a driven member, a train of gears interposed between the members, auxiliary gears coöperating therewith clutches selectively operating to connect said driven member with one of the auxiliary gears and directly with said driving member, and operating means common to the several clutches.

8. A power transmitter comprising a driving member, a driven member, gearing interposed between the members, certain of the gears being movable in planetary relation to the members, a selective clutch device controlling direct transmission from one member to the other and indirect transmission at different speeds through the gearing, and means for frictionally controlling the movement of the planetary gears.

9. A power transmitter comprising a driving member, a driven member, gearing interposed between the members, a rotatable casing in which certain of the gears are mounted, and means for disconnecting the gears and for effecting transmission from one member to the other.

10. A power transmitter comprising a driving member, a driven member, gearing interposed between the members, a rotatable casing in which certain of the gears are mounted, means for offering varying resistance to movement of the casing, and means for disconnecting said gearing and for effecting transmission from one member to the other.

11. A power transmitter comprising a driving member, a driven member, gearing interposed between the members, a rotatable casing in which certain of the gears are mounted, and a selective clutch device for controlling indirect transmission through said gearing and disconnecting said gearing for direct transmission from one member to the other.

12. A power transmitter comprising a driving member, a driven member, gearing interposed between the members, a rotatable casing in which certain of the gears are mounted, means for offering varying resistance to movement of the casing, and a selective clutch device for controlling indirect transmission through said gearing and for disconnecting said gearing for direct transmission from one member to the other.

13. A power transmitter comprising a driving member, a driven member, changeable speed gearing interposed between the members, a rotatable casing in which certain of the gears are mounted in planetary relation to the members, a selective clutch device controlling the connection between the planetary gearing and the members, and means for controlling rotation of the casing.

14. A power transmitter comprising a driving member, a driven member, changeable speed gearing interposed between the members, a rotatable casing in which certain of the gears are mounted and movable therewith in planetary relation to the members, a selective clutch device controlling the connection between the planetary gearing and the members, and means for frictionally controlling rotation of the casing.

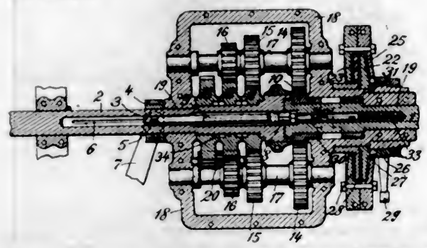
15. A power transmitter comprising a driving member, a driven member, gearing interposed between the members, a rotatable casing in which certain of the gears are mounted and movable in planetary relation to the members, a variable resistance device coöperating with the casing, and a selective clutch device controlling direct transmission from one member to the other and indirect transmission at different speeds through the gearing.

16. A power transmitter comprising a driving member, a driving gear thereon, a driven member, trains of gears interposed between said driving member gear and the driven member, each train terminating in a gear loose upon said driven member, a clutch device for selectively controlling said loose gears and for effecting direct connection between said members independently of said gears, a rotatable casing having certain of the gears mounted therein and movable therewith, and means for controlling rotation of the casing.

17. A power transmitter comprising a driving member, a driven member, gearing interposed between the members, a rotatable casing in which certain of the gears are mounted, and means of effecting transmission from one member to the other and for disconnecting said gearing from the driving member.

18. A power transmitter comprising a driving member, a driven member, mechanism for transmitting motion from the driving member to rotate the driven member at different speeds in other directions, said means including planetary gears whose effective speed of rotation is variable, and means for directly connecting the members and disconnecting said mechanism from the driving member.

864,905. TRANSMISSION-GEARING. ARTHUR J. MORSE, Torrington, Conn., assignor of one-half to Adelbert P. Hine, Torrington, Conn. Filed June 13, 1906. Serial No. 321,471.



1. A power transmitter comprising a driving member, a driven member, gearing interposed between the driving member and the driven member including a plurality of sets of speed changing gears arranged on parallel axes, a clutch device controlling direct transmission from one member to the other, the connection of the gears with the driving shaft and indirect transmission through the gears, and means for varying the speed of the gears.

2. A power transmitter comprising a driving member, a driven member, gearing interposed between the driving member and the driven member, including a plurality of sets of speed changing gears arranged on parallel axes, a clutch device controlling direct transmission from one member to the other and indirect transmission through the trains, and means independent of the driving member for varying the speed of the gears.

3. A power transmitter comprising a driving member, a driven member, a plurality of speed-changing spur-gears interposed between the driving member and the driven member and permanently arranged in intermeshing relation, a clutch device controlling direct transmission from one member to the other and indirect transmission through the gears, and means independent of the driving member for varying the speed of the gears.

4. A power transmitter comprising a driving member, a driven member, a train of spur-gears interposed between the members, said train comprising a planetary gear, a clutch device controlling direct transmission from one member to the other and the disconnecting of the gears from the members and indirect transmission through the train, and means for varying the effective speed of rotation of the planetary gear.

5. A power transmitter comprising a driving member, a driven member, gearing interposed between the driven member and the driving member including a plurality of sets of speed-changing gears arranged on parallel axes, each set of speed-changing gears comprising a planetary gear, a clutch device controlling direct transmission from one member to the other and indirect transmission through the trains, and means common to the several planetary gears for varying the effective speed of rotation thereof.

6. A power transmitter comprising a driving member, a driven member, gearing comprising spur-gears interposed between the members, clutch devices coöperating with the terminal gears of the gearing, operating means common to the several clutch devices, and independent means for controlling transmission through the gearing.

7. A power transmitter comprising a driving member, a driven member, gearing interposed between the members, comprising spur-gears on an auxiliary shaft, certain of the gears being movable in planetary relation to the members, a clutch device controlling direct transmission from one member to the other and the disconnection of the gears from the members and indirect transmission through the gearing, and means for frictionally controlling the movement of the planetary gears.

8. A power transmitter comprising a driving member, a driven member, gearing interposed between the members comprising spur-gears, a rotatable casing in which certain of the gears are mounted and movable in planetary relation to the members, a variable resistance device coöperating with the casing, and a clutch device controlling direct transmission from one member to the other and indirect transmission through the gearing.

9. A power transmitter comprising a driving member, a driven member, gearing connecting the driven member with said driving member including a plurality of sets of speed-changing gears arranged on parallel axes, each set including a planetary gear, and means common to the several sets of planetary gears for retarding in varying degree the orbital motion of the planetary gears.

10. A power transmitter comprising a driving member, a driving gear thereon, a driven member, gearing connecting the driven member with said driving gear including a plurality of sets of speed-changing gears arranged on parallel axes, each set including a planetary gear, the gears of each speed-changing set being permanently mounted in intermeshing relation, and means common to the several sets of planetary gears for retarding in varying degree, the orbital motion of the planetary gears.

11. A power transmitter comprising a driving member, a driving gear thereon, rotatable shafts connected thereto, a driven member, gearing arranged in changeable speed trains connecting said shafts and the driven member, and means common to the several trains for varying the power transmitted without disengaging the gears thereof.

12. A power transmitter comprising a driving member, a driving gear thereon, a rotatable shaft connected thereto, a driven member, gearing arranged in changeable speed trains connecting said shaft and the driven member, the gears of the trains being permanently mounted in intermeshing relation, and means common to the several trains for varying the power transmitted.

13. A power transmitter comprising a driving member adapted to rotate continuously at maximum speed, a driving gear thereon, a rotatable shaft connected thereto, a driven member, gearing arranged in changeable speed trains connecting said shaft and the driven member, the gears of each train being permanently mounted in intermeshing relation, and means common to the several trains for varying the effective speed of rotation of certain gears thereof.

14. A power transmitter comprising a driving member, transmitting gears connected therewith, a driven member, gearing arranged in trains connecting the driven member with said transmitting gears, certain gears of each train being movable in planetary relation to the gears with which they intermesh, and means common to the several planetary gears for controlling the planetary movement thereof.

15. A power transmitter comprising a driving member, transmitting gears connected therewith, a driven member, gearing arranged in changeable speed trains comprising planetary gears and connecting the driven member with said transmitting gears, and a common controlling means for varying the effective speed of rotation of the several planetary gears.

16. A power transmitter comprising a driving member, transmitting gears connected therewith, a driven member, gearing comprising planetary gears permanently arranged in intermeshing relation between and connecting the driven member with said transmitting gears, and means independent thereof for reversing the direction of rotation of the driven member.

17. A power transmitter comprising a driving member, a driven member, mechanism for transmitting motion from the driving member to rotate the driven member at differ-

ent speeds in either direction, said means including reducing spur-gears movable in planetary relation to said members and whose effective speed of rotation is variable, and means for directly connecting the members and disconnecting said mechanism from the driving member.

18. A power transmitter comprising a driving member, a driven member, mechanism for transmitting motion from the driving member to rotate the driven member at different speeds in either direction comprising a gear loosely mounted upon each of the members, clutch devices cooperating therewith, interposed spur-gears meshing with the driving and driven members and movable in planetary relation thereto, and means for varying the effective speed of rotation of said interposed gears.

19. A power transmitter comprising a driving member, a driven member, a train of spur-gears connecting the members, the terminal gears of said train being loosely mounted upon said members, requisite clutch devices controlling said terminal gears, and means for varying the effective speed of rotation of the intermediate gears during transmission of power through the train.

20. A power transmitter comprising a driving member, a driven member, a train of spur-gears connecting the members, the terminal gears of the train being mounted upon said members, requisite clutch mechanism coöperating with the terminal gears, and controlling means by which the intermediate gears may be given a variable speed of rotation during transmission of power through the train.

21. A power transmitter comprising a driving member, a driven member, transmission gearing comprising spur-gears for rotating the members in the same direction or in opposite directions, and clutch devices coöperating with the gears, a single controlling device common to the clutch devices, and means for varying the effective speed of rotation of certain of the gears during transmission.

22. A power transmitter comprising a driving member, a driven member, a train of reducing spur-gears connecting the members, the terminal gears of the train being loosely mounted upon said members and the intermediate gears movable in planetary relation thereto, requisite clutch devices coöperating with the terminal gears, and means for varying the effective speed of rotation of the intermediate gears.

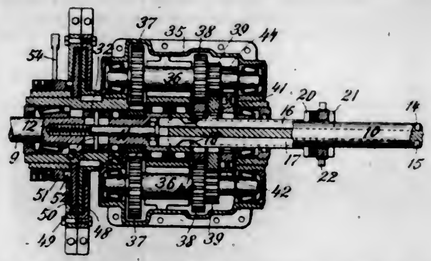
23. A power transmitter comprising a driving member, transmitting gears connected therewith, a driven member, gearing connecting the driven member and said transmitting gears, said gearing being arranged in trains driven from said transmitting gears and terminating respectively in a gear upon the driven member, a clutch device co-acting with the several terminal gears upon the driven member, and means independent of the clutch for varying the effective speed of rotation of certain of the gears of the trains.

24. A power transmitter comprising a driving member, transmitting gears connected therewith, an independently rotatable driven member, a clutch device controlling direct connection between the members, gearing arranged in trains connecting the transmitting gears with the driven member for the transmission of power from one to the other, and a common controlling means co-acting with certain gears of the several trains for varying the speed of the driven member.

864,906. TRANSMISSION-GEAR. ARTHUR J. MORSE, Torrington, Conn., assignor of one-half to Adelbert P. Hine, Torrington, Conn. Filed Oct. 20, 1906. Serial No. 339,857.

1. In combination, a driving member, a driven member, normally-operable gearing including planetary gears connecting the members and arranged in a branched train, means for retarding in varying degree the orbital motion of the planetary gears common to the several branches, and a clutch mechanism selectively operable to connect said driven member with any one of said branches and further operable to directly connect said members and disconnect the gearing therefrom.

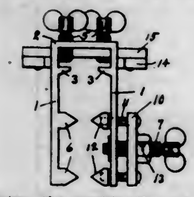
2. In combination, a driving member, a driven member, gearing including planetary gears interposed between the members and arranged in a main train having branches and a loose initial driving gear, said gearing being permanently mounted in intermeshing relation, means for retarding in varying degree the orbital motion of the planetary gears common to the several branches to vary the speed of the driven member when rotated in either direction, and inter-dependent clutches, normally connecting the driving member with the driving gear and the driven member selectively with one of said branches, and operable to directly connect said members and entirely disconnect said gearing therefrom, and common controlling means for the clutches.



3. In combination, a driving member, a driven member, a changeable-speed gear train including planetary gears interposed between the members and terminating in selective gears loose upon said driven member, said selective gears having pockets provided with spring-pressed dogs, a single operating mechanism operable to engage any one of said dogs to selectively connect said driven member with any one of said terminal gears, and means for controlling the orbital motion of said planetary gears.

4. In combination, a driving member, a driven member, a changeable-speed gear train including planetary gears interposed between the members having the initial gear loose upon said driving member and terminating in selective gears loose upon said driven member, said selective gears having pockets provided with spring-pressed dogs, clutch mechanism normally connecting said driving member with said initial gear, a single mechanism operable to disconnect said clutch or to engage any one of said dogs, and means for controlling the orbital motion of said planetary gears.

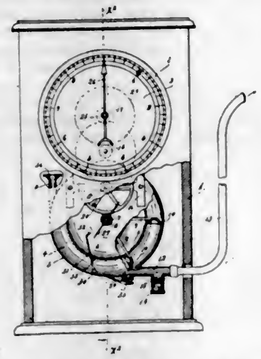
864,907. SAW-JOINTER. JOHN G. MURBACK, Cathlamet, Wash. Filed May 31, 1907. Serial No. 376,512.



In a saw jointer, the combination of a frame comprising a top and two sides, an adjustable guide plate outside of one of the sides, a screw mounted in said side and adapted to position the guide plate, and guide pins carried by said plate and extending through said side and adapted to contact with the saw to position the jointer.

864,908. THERAPEUTIC LUNG-TESTING DEVICE. FREDRICK W. NEBELTHAU, Minneapolis, Minn., assignor to Lung Manufacturing Co., Minneapolis, Minn., a Corporation of Minnesota. Filed Feb. 28, 1905. Serial No. 247,673.

1. In an apparatus of the character described, the combination with a fan, the case thereof having an air inlet and an air outlet, of a suction tube applied to the air outlet of said fan case, whereby said fan may be driven by suction produced by inhalation, a fan trip normally holding the fan head against rotation, and means operating to throw said trip into an inoperative position, to thereby release the said fan head under the initial suction, substantially as described.



2. In an apparatus of the character described, the combination with a fan, the case thereof having an air inlet and an air outlet, of a suction tube applied to said air outlet, whereby said fan may be operated by suction produced by inhalation, the air passage which leads through said fan case having an air vent, and a trip normally holding the fan head against rotation and provided with a valve coöperating with said air vent and adapted to be moved by suction, to close said air vent and to release the fan head, substantially as described.

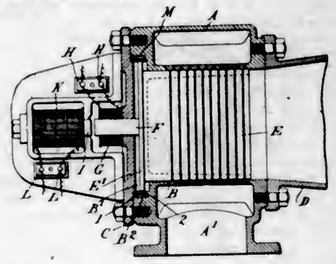
3. In an apparatus of the character described, the combination with a fan comprising a case and a rotating fan head, said case having an air inlet passage, a tubular air outlet passage, and an annular marginal chamber, which is approximately round in cross section, and said fan head having radial arms, provided with cup-shaped legs, working in the annular chamber of said case, the air inlet passage of which case stands in position to discharge a liquid directly into said cup-shaped blades, substantially as described.

4. In a lung tester, the combination with a fan, an indicator driven thereby, and means for causing said fan to be operated by suction, of a tripping lever normally holding said fan against rotation, and means for throwing said tripping lever into an inoperative position under an initial suction, substantially as described.

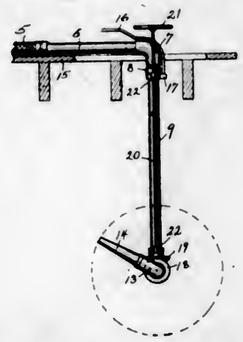
5. In an apparatus of the character described, the combination with a fan and an indicator operated thereby, the case of said fan having an outlet tube provided with an air vent, a blade or arm carried by the rotating head of the fan, and a tripping lever normally engageable with said arm or blade, to prevent rotation of the fan head, and provided with a valve coöperating with said air vent and adapted to be moved by suction, to close said air vent and release the fan head, substantially as described.

864,909. SOUND-PRODUCING DEVICE. JOHN P. NORTHEY, Toronto, Ontario, Canada. Filed July 9, 1906. Serial No. 325,430.

A sound producing device comprising a casing having an inlet for a fluid supply, a cylinder inside same and having annular orifices and an outlet, a cover for one end of such cylinder, a piston having orifices corresponding to those of the cylinder, and an enlarged head, a cushioning device for the head of such piston, a rod carried by the piston and passing through the cylinder cover, a direct current coil around said rod adapted to convert it into a permanent magnet, a core in line with the permanent magnet, and a coil around same which when energized by an alternating current will cause the permanent magnet and piston to reciprocate.



864,910. BASEMENT-PIPE. CHARLES W. O'NEILL, Chicago, Ill. Filed May 23, 1906. Serial No. 318,429.



1. In a device of the class described, a horizontal pipe, a vertical pipe connected to and depending from said horizontal pipe arranged to swivel on a vertical axis, a nozzle connected to the lower end of said vertical pipe arranged to swivel on a horizontal axis, a handle rigidly secured to said vertical pipe to move the same and means for turning said nozzle on its axis.

2. In a device of the class described, a horizontal pipe, a vertical pipe connected to and depending from said horizontal pipe arranged to swivel on a vertical axis, a handle to move said vertical pipe on its axis, a nozzle connected to the lower end of said vertical pipe arranged to swivel on a horizontal axis, a bevel gear secured to said nozzle meshing with a bevel gear mounted on a vertical shaft terminating above said horizontal pipe and a hand wheel secured on the upper end of said shaft to operate said nozzle.

3. In a device of the class described, a horizontal pipe, a vertical pipe connected to and depending from said horizontal pipe, a nozzle connected to the lower end of said vertical pipe arranged to swivel on a horizontal axis, a bevel gear secured to said nozzle meshing with a bevel gear mounted on a vertical shaft terminating above said horizontal pipe and a hand wheel secured on the upper end of said shaft to operate said nozzle.

864,911. VEHICLE-WHEEL RIM. JAMES M. PADGETT, Topeka, Kans. Filed May 3, 1906. Serial No. 315,037.

In combination with a wheel rim having an annular groove, an annular detachable clenching flange to enter said groove and bear against a tire, said detachable clenching flange being cut to form separable, reversely-beveled ends, one to overlap the other, said ends and the said wheel rim being provided with co-acting studs and stud-receiving openings to lock said clenching flange in place, the stud which secures the underlapping end of the de-

tachable clenching flange being movable and having a spring to normally hold it in locking position.



864,912. JOINTED TROLLEY-POLE. HARRY PADLEY, Elyria, Ohio. Filed June 1, 1906. Serial No. 319,727.



1. A trolley pole having a hinge substantially at its middle and the hinge members thereof constructed each with an abutting face at an inclination to a right angle across the section to which it is attached, and the said members hinged at their inner edges where the pole is shortest.

2. A trolley pole consisting of two parts hinged together end to end, said hinge being at the inner side of said pole and a shoulder between said parts outside said hinge adapted to hold the upper part of the pole inward from a straight alinement with the lower part, whereby when the pole backs against an obstruction the hinge will make accommodation and prevent breakage.

3. A sectional trolley pole having hinge portions with transversely inclined abutting faces and the hinge at the inner edges of said face outside the plane of the pole, in combination with a base and spring mechanism thereon engaging the lower pole section and arranged to hold the pole up in working position.

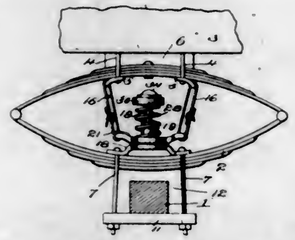
4. A trolley pole comprising two sections hinged together end to end and having unobstructed abutting faces on the line of said hinge constructed to throw the inner section inward from a straight line with the outer section and located at the immediate ends of said sections, in combination with spring pressed mechanism engaging the lower end of the lower of said sections adapted to hold the pole in working position.

5. A two part trolley pole having one part abutting the other and a hinge connecting said parts, said hinge constructed to permit swinging of the upper part inward and downward upon the lower part, and a spring fixed on said lower part to catch and hold the upper part when the pole collapses.

864,913. PROCESS OF DETERMINING THE PERCENTAGE OF WATER IN BUTTER. GEORGE E. PATRICK, Ames, Iowa. Filed July 12, 1907. Serial No. 383,539.

The process of determining water in butter, which consists in heating a weighed portion of butter in an aluminium beaker with constant rotation over a current of hot air till most of the water has boiled away and the final foaming has occurred, then exposing the sides of the beaker to the hot air at a sizzling temperature while just maintaining the bottom heat, then cooling and reweighing.

864,914. SPRING-EQUALIZER. JOHN RAAB and ANDREW RAAB, Tacoma, Wash. Filed Jan. 16, 1906. Serial No. 296,372.



1. In a device of the character described, the combination with a support, of an elliptical spring carried by said support, a stationary member provided with a hollow post, carried by the lower portion of said elliptical spring, a reciprocating member adapted to reciprocate in said post a slidable member positioned upon said stationary member and surrounding said post, a coiled spring positioned upon said slidable member and surrounding said post and reciprocating member, fastening means for securing said coiled spring upon said post and reciprocating means, and means connecting the upper portion of said elliptical spring and said slidable member.

2. In a device of the character described, the combination of a primary spring provided with upper and lower portions, a stationary member provided with a post, engaging the lower portion of said primary spring, a vertically movable member engaging said post, yielding means surrounding said post and engaging said movable member, a hollowed out cap for fastening said yielding means upon said post, and flexible means connecting opposite parts of said movable member and the upper portion of said primary spring.

3. In a device of the character described, the combination of an elliptical spring, a stationary member carried by the lower portion of said spring, said stationary member provided with a central, hollow post, a slidable member engaging said post, said slidable member provided with lateral extensions, a yielding member positioned around said post and engaging said slidable member, a bolt positioned within said post and extending between said yielding member, a cap secured upon the upper end of said bolt and engaging the upper end of said yielding member, and means connecting the upper portion of said spring and the lateral extensions of said slidable member.

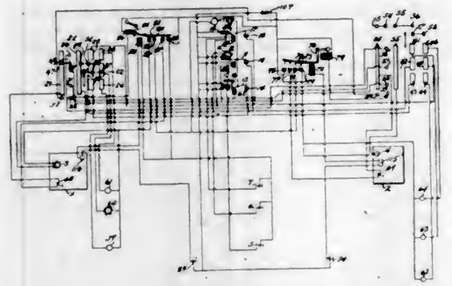
4. In a device of the character described, the combination of an elliptical spring, a vertically movable member positioned between the upper and lower portions of said spring, said member comprising an annular body provided with a seat, said member provided with lateral extensions, each extension provided with an eye upon its outer end, means connecting said eyes and upper portion of said spring, and means normally exerting a downward pressure upon said movable member.

5. In a device of the character described, the combination of an elliptical spring, a stationary member engaging the lower portion of said spring, a movable member provided with lateral extensions, carried by said stationary member, a cap, means connecting said cap to said stationary member, yielding means interposed between said cap and said movable member, and means adjustably connecting said lateral extensions and the upper portion of said elliptical springs.

6. In a device of the character described, the combination of an elliptical spring, a stationary member provided with a post, carried by the lower portion of said spring, a slidable member positioned upon said post, a cap, means connecting said cap to said post, a buffer carried by said cap, and means connecting the upper portion of said spring and slidable member.

7. In a device of the character described, the combination of a primary spring comprising upper and lower portions, a cap interposed between the upper and lower portions of the said primary spring, yielding means carried by the upper portion of said cap, yielding means positioned beneath said cap, and means connecting the upper portion of said spring and the lower portion of the yielding means positioned beneath the cap.

864,915. ELEVATOR SIGNALING APPARATUS. CHARLES A. REINERS, Hoboken, N. J., assignor to Elevator Supply & Repair Company, a Corporation of Illinois. Filed Apr. 9, 1907. Serial No. 367,140.



1. In an elevator signaling apparatus in combination, two elevator cars and shafts, each shaft having visual signaling means for signaling to the operator of the car of that shaft, means for operating the same to indicate to said operator at which of several intermediate floors to stop and comprising a "passenger's controller" operable from each of said floors and, when operated from any such floor, adapted to cause the operators of both cars to be signaled to stop at that floor, devices corresponding to each of said floors for restoring said signaling means of both cars to normal condition, and a "starter's controller" for each car which is operable from the "starting floor" and either of which, when operated, makes the signaling means of only its shaft inoperative for a certain distance of travel.

2. In an elevator signaling apparatus in combination, two elevator cars and shafts, each shaft having visual signaling means for signaling to the operator of the car of that shaft, means for operating the same to indicate to said operator at which of several intermediate floors to stop and comprising a "passenger's controller" operable from each of said floors and, when operated from any such floor, adapted to cause the operators of both cars to be signaled to stop at that floor, and also comprising a part for each car moved correspondingly to the movement of its car and adapted to prevent a signal for any such floor being given except when a car is approaching that floor, devices corresponding to each of said floors for restoring said signaling means of both cars to normal condition, and a "starter's controller" for each car which is operable from the "starting floor" and either of which, when operated, makes the signaling means of only its shaft inoperative for a certain distance of travel.

3. In an elevator signaling apparatus in combination, two elevator cars and shafts, an electrically operated visual signal carried by each car, a "passenger's controller" for each of several intermediate floors and each of which is operable from one of said floors and adapted to control the signals of both cars, a part for each car moved correspondingly to the movement of its car and causing the signal of that car to be operative only when one of said controllers has been operated and that car is approaching the floor from which said controller has been operated, devices for each car corresponding to each of said floors for restoring the signals of both cars to normal condition, and a "starter's controller" for each car operable from the "starting" floor and either of which, when operated, makes the signal of only its car inoperative.

4. In an elevator signaling apparatus in combination, two elevator cars and shafts, an electrically operated visual signal carried by each car, a "passenger's controller" for each of several intermediate floors and each of which is operable from one of said floors and adapted to control the signals of both cars, a part for each car moved correspondingly to the movement of its car and causing the signal of that car to be operative only when one of said controllers has been operated and that car is approaching the floor from which said controller has been operated, devices for each car corresponding to each of said floors for restoring the signals of both cars to normal condition, and a "starter's controller" for each car operable from the "starting" floor and either of which, when operated, makes the signal of only its car inoperative, and means for automatically restoring said "starter's controller" to normal condition when said car reaches a predetermined point in the shaft.

5. In an elevator signaling apparatus in combination, two elevator cars and shafts, an electrically operated visual signal carried by each car, a "passenger's controller" for each of several intermediate floors and each of which is operable from one of said floors and adapted to control the signals of both cars, a part for each car moved correspondingly to the movement of its car and causing the signal of that car to be operative only when one of said controllers has been operated and that car is approaching the floor from which said controller has been operated, devices for each car corresponding to each of said floors for restoring the signals of both cars to normal condition and automatically operated by the movement of said cars, and a "starter's controller" for each car operable from the "starting" floor and either of which, when operated, makes the signal of only its car inoperative.

6. In an elevator signaling apparatus in combination, two elevator cars and shafts, an electrically operated visual signal carried by each car, means controlling the circuits to said signals and comprising push button mechanism at each of several intermediate floors and a part for each car moved correspondingly to the movement of its car and causing the signal circuit of that car to be closed only when one of said buttons has been operated apd that car is approaching the floor at which said button has been operated, electrically operated restoring mechanism corresponding to each of said floors and adapted to restore the signal circuit of both cars to normal condition, and a "starter's controller" for each car operable from the starting floor and either of which, when operated, opens the signal and restoring circuits of its car only.

7. In an elevator signaling apparatus in combination, two elevator cars and shafts, an electrically operated visual signal carried by each car, means controlling the circuits to said signals and comprising push button mechanism at each of several intermediate floors and a part for each car moved correspondingly to the movement of its car and causing the signal circuit of that car to be closed only when one of said buttons has been operated and that car is approaching the floor at which said button has been operated, electrically operated restoring mechanism corresponding to each of said floors and adapted to restore the signal circuit of both cars to normal condition, a "starter's controller" for each car operable from the starting floor and either of which, when operated, opens the signal and restoring circuits of its car only, and means operated by the movement of that car when at a predetermined point in its travel to automatically close the breaks made in said signaling and restoring circuits by said "starter's controller".

8. In an elevator signaling apparatus in combination, two elevator cars and shafts, electrically-operated visual signaling means carried by each car for signaling the operator, an electric signal lamp for each shaft at each of several floors for signaling intending passengers, means, including a "passenger's controller" operable from each floor and a part for each car moved correspondingly to the movement of its car, adapted to cause a floor lamp to be lighted only when its "passenger's controller" has been operated and its car is approaching the floor from which said controller has been operated, restoring means for each shaft for restoring the signal circuits of both cars to normal condition, and a "starter's controller" for each car operable from the starting floor and either of which, when operated, prevents the operation of the restoring means of that shaft only.

9. In an elevator signaling apparatus in combination, two elevator cars and shafts, electrically-operated visual signaling means carried by each car for signaling the operator, an electric signal lamp for each shaft at each of several floors for signaling intending passengers, means, including a "passenger's controller" operable from each floor and a part for each car moved correspondingly to the movement of its car, adapted to cause one of said floor lamps to be lighted only when its "passenger's controller" has been operated and its car is approaching the floor from which said controller has been operated, means for each shaft for restoring the floor lamp circuits of both cars to normal condition, and a "starter's controller" for each car operable from the starting floor and either of which, when operated, prevents the operation of said floor lamp of only the corresponding car.

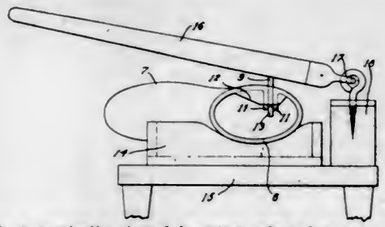
10. In an elevator signaling apparatus in combination, two elevator cars and shafts, electrically operated visual signaling means carried by each car for signaling the operator, an electrically-operated signal for each car at each of several floors for signaling intending passengers, means, including a "passenger's controller" operable from each floor and a part for each car moved correspondingly to the movement of its car, adapted to cause a floor signal and a car signal to be operated only when a "passenger's controller" has been operated and a car is approaching the floor from which said controller has been operated, a separate signal carried by each car for signaling the operator, and a "starter's controller" for each car and either of which, when operated, operates the said separate car signal and cuts out the floor and car signals of only the corresponding car.

11. In an elevator signaling apparatus in combination, two elevator cars and shafts, an electrically operated visual signaling device carried by each car to signal the operator, a "passenger's controller" for each of several intermediate floors and each of which is operable from one of said floors and adapted to control the signaling device of both cars, a part of each car moved correspondingly to the movement of its car and causing the signaling device of that car to be operative only when one of said controllers has been operated and that car is approaching the floor from which said controller has been operated, means for restoring said signaling devices to normal condition, and a controller for each car stationarily located at a floor and either of which, when operated, cuts out the signaling device of its car only.

864,916. APPARATUS FOR MAKING FELTED BOOT-BODIES. HENRY C. RICHARDSON, Haverhill, Mass. Filed Mar. 5, 1907. Serial No. 360,766.

1. The described hollow boot-tree provided with a vertical slot through the wall of its leg portion, from the ankle nearly to the top thereof, in combination with a movable blade adapted to press a fold of the boot-leg fabric through such slot, and with means for pressing and holding such blade and fold therein, substantially as set forth.

2. The improved hollow boot-tree described, formed with a vertical slot through its leg portion, the walls thereof extending inwardly in the general direction of the axis of the leg, in combination with a movable flat blade adapted to press a fold of the boot-leg fabric into said slot, such blade engaging at its upper end with the unslotted metal at top of the boot-tree and with means for manipulating and pressing said blade to form the fold, substantially as set forth.



3. A vertically slotted boot-tree adapted to support a felted boot-body, and a movable flat blade serving to press a fold of the fabric into said slot, in combination with a spring clasp formed at one end with a plurality of notches to engage the back of such blade and adapted, at its other end, to bear against the boot-leg fabric on the tree, substantially as set forth.

864,917. BURNER FOR GASSING YARNS AND OTHER FIBERS. FRED RIVETT, Heaton Chapel, and SAMUEL OLDHAM, Heaton Norris, England. Filed June 4, 1906. Serial No. 320,095.



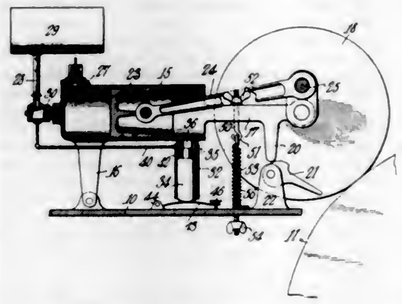
1. A burner for gassing yarn comprising in its construction a base A, provided with a perforation *a* in its horizontal face means therein to direct the yarn close to the base of the flame and a shield or hood mounted there on to inclose the flame and yarn substantially as described.

2. In a burner for gassing yarn the combination with a vertical shield to inclose the flame and yarn provided with a longitudinal opening, of a base A of bifurcated shape provided with a perforation *a* in its horizontal face through which the gas issues with a vertical flame and with a notch *a'* to direct the yarn to the base of the flame, means to guide the yarn to the burner and means to regulate the gas supply substantially as described.

864,918. AUTOMATIC AIR-PUMP. EDWARD J. ROHRBACHER, Blaine, Wash. Filed Apr. 22, 1907. Serial No. 369,591.

1. In combination, an air compressing pump, an actuating means therefor, a compressed air reservoir, a cylinder in communication with the reservoir and through which movement is imparted to the pump to move the same to inoperative position when the pressure reaches a predetermined point, and means for automatically releasing the cylinder pressure to allow the pump to move to operative position when the pressure in the reservoir is lowered to a predetermined point.

2. In combination, an air pump including a cylinder having an inlet and discharge, a piston therein, a friction wheel, a crank pin carried thereby and operatively connected to the piston, a driving wheel with which the friction wheel may engage, a cylinder carried by the pumping cylinder, a piston disposed within said cylinder, means for connecting the cylinder to the discharge of the compressing pump to move said pump to inoperative position, and an adjustable means for preventing movement of the pump until the pressure has reached a predetermined point.



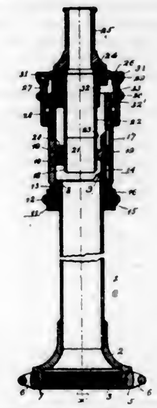
3. In a device of the class specified, a pivotally mounted pump, an arm extending therefrom, a friction wheel journaled in the arm and operatively connected to the pump, a cylinder depending from the pump and provided with bores of two diameters, a piston fitting within the larger bore and having a reduced stem fitting within the smaller bore, there being ports for placing the two bores in communication with each other, and the ports at the smaller bore being under the control of the piston, means for admitting a portion of the compressed fluid to the smaller bore, a spring for resisting downward movement of the plunger, a second spring for resisting upward movement of the pump, and means for adjusting the stress of the springs.

4. In apparatus of the class described, a base, a pivotally mounted pump carried thereby, an arm projecting from the pump, a friction wheel journaled on the arm and operatively connected to the pumping mechanism, a cylinder carried by the pump and provided with bores of two diameters, which are placed in communication with each other by ports, the portion of smaller diameter being in communication with the discharge side of the pump, a piston having portions of two diameters fitting within said cylinders, the portion of small diameter controlling said ports, a leaf spring on which the piston bears, means for adjusting said leaf spring, a hook bolt carried by the arm, a tension spring extending between said hook bolt and the base, means for adjusting said bolt to vary the stress of the tension spring, a limiting bolt also connected to the hook and extending through the base, and an adjustable nut carried by the said limiting bolt, substantially as specified.

5. In combination, a fluid compressing pump, an actuating means therefor, a cylinder, a piston, the cylinder being arranged to receive a portion of the fluid compressed to effect movement of the pump to inoperative position when the pressure reaches a predetermined point, and an automatic valve for permitting the escape of the fluid from the cylinder and the restoration of the pump to operative position.

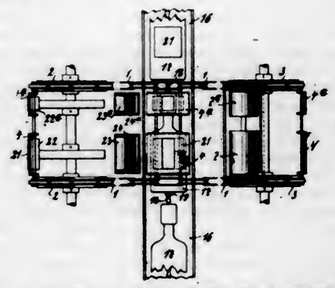
6. In combination, an air pump including a cylinder having an inlet and discharge, a piston therein, a friction wheel, a crank pin carried thereby, and operatively connected to the piston, a driving wheel with which the friction wheel may engage, a cylinder carried by the pumping cylinder, a piston disposed within said cylinder, ports in said piston, a spring closed pressure actuated valve in said piston, said valve controlling the exhaust of air from the cylinder, means for connecting the cylinder to the discharge of the compressing pump to move said pump to inoperative position, and adjustable means for preventing movement of the pump until the pressure has reached a predetermined point.

864,919. ADJUSTABLE HOSE-NOZZLE. CHARLES R. ROSS, Kansas City, Mo., assignor of one-third to Ada E. Streeter, Kansas City, Mo. Filed Aug. 24, 1906. Serial No. 331,826.



In a nozzle, the combination with a tubular casing having an opening in one side and a bearing projecting inward from the other side, an axial bushing in the casing having a plug seat at its lower end, an adjustable sleeve surrounding the casing, and a flange on the casing against which said sleeve may be closed; of a disk removably fitting the opening in the casing and itself having a bearing, a ball-plug of less external diameter than the interior of the casing, trunnions on the plug engaging said bearings, a bevel-gear fast on the trunnion adjacent said disk, a stem swiveled to the casing below and out of contact with the plug, and teeth on the stem engaging said bevel-gear.

864,920. LABELING-MACHINE. WILLY RÜPRICH, Dresden-Trachau, Germany. Filed July 6, 1906. Serial No. 324,990.



1. In a labeling machine of the type described, the combination of a reciprocating label-holder, a flexible endless carrier, a plurality of label-pickers on said carrier, a support for the objects to be labeled, means for intermittently moving said carrier to bring each label-picker in turn first into a position immediately opposite said reciprocating label-holder and subsequently opposite said support, means for supplying adhesive material to the label-pickers on their way to said label-holder, and means for removing the label from the label-picker opposite the support and applying it to the object therein.

2. In a labeling machine of the type described, the combination of a reciprocating label-holder, a flexible endless carrier, a plurality of label-pickers on said carrier, a support for the objects to be labeled, a printing device, means for intermittently moving said carrier to bring each label-picker in turn first into a position immediately op-

posite said reciprocating label-holder then opposite said printing device and subsequently opposite said support, means for supplying adhesive material to the label-pickers on their way to said label-holder, means for operating the printing device to produce an impression on the label in the label-picker opposite said device, and means for removing the label from the label-picker opposite the support and applying it to the object therein.

3. In a labeling machine of the type described, the combination of a reciprocating label-holder, a flexible endless carrier, a plurality of label-pickers on said carrier, a support for the objects to be labeled, a date-stamp, means for intermittently moving said carrier to bring each label-picker in turn first into a position immediately opposite said reciprocating label-holder then opposite said date-stamp and subsequently opposite said support, means for supplying adhesive material to the label-pickers on their way to said label-holder, means for operating the date-stamp to print a date on the label in the label-picker opposite said stamp, and means for removing the label from the label-picker opposite the support and applying it to the object therein.

4. In a labeling machine of the type described, the combination of a reciprocating label-holder, a flexible endless carrier, a plurality of label-pickers on said carrier, each of said label-pickers having a surface adapted to be pasted and adapted not to coincide with the surface of the labels, a support for the objects to be labeled, means for intermittently moving said carrier to bring each label-picker in turn first into a position immediately opposite said reciprocating label-holder and subsequently opposite said support, means for supplying adhesive material to the label-pickers on their way to said label-holder, separate means for applying on their way from said label-holders adhesive material to those portions of the pasted sides of the labels on the pickers which are not in contact with the pasted surface of the pickers, and means for removing the label from the label-picker opposite the support and applying it to the object therein.

5. In a labeling machine of the type described, the combination of a reciprocating label-holder, a flexible endless carrier, a plurality of label-pickers on said carrier, each of said label-pickers being substantially in the form of a plate provided with an opening, a support for the objects to be labeled, means for intermittently moving said carrier to bring each label-picker in turn first into a position immediately opposite said reciprocating label-holder and subsequently opposite said support, means for supplying adhesive material to the label-pickers on their way to said label-holder, and means for removing the label from the label-picker opposite the support and applying it to the object therein.

6. In a labeling machine of the type described, the combination of a reciprocating label-holder, a flexible endless carrier, a plurality of label-pickers on said carrier, each of said label-pickers having a surface which is adapted to be pasted and which is of such a shape that it does not coincide with the surface of the labels presented to it, a support for the objects to be labeled, means for intermittently moving said carrier to bring each label-picker in turn first into a position immediately opposite said reciprocating label-holder and subsequently opposite said support, means for supplying adhesive material to the label-pickers on their way to said label-holder, and means for removing the label from the label-picker opposite the support and applying it to the object therein.

7. In a labeling machine of the type described, the combination of a reciprocating label-holder, a flexible endless carrier, two rollers round which said endless carrier passes, a plurality of label-pickers on said carrier, each of said label-pickers being substantially in the form of a plate provided with an opening, a support for the objects to be labeled, means for intermittently moving said carrier to bring each label-picker in turn first into a position immediately opposite said reciprocating label-holder and subsequently opposite said support, means for supplying adhesive material to the label-pickers on their way to said label-holder, a pasting stamp on one of the rollers carrying the endless band adapted while a picker is passing round the roller to engage with and apply adhesive material to that portion of the pasted side of the label which coincides with the opening in the picker, and means for removing the label from the label-picker opposite the support and applying it to the object therein.

8. In a labeling machine of the type described, the combination of a reciprocating label-holder, a flexible endless carrier, a plurality of label-pickers on said carrier, each of said label-pickers having a surface which is adapted to be pasted and which is of such a shape that it does not coincide with the surface of the labels presented to it, a support for the objects to be labeled, means for intermittently moving said carrier to bring each label-picker in turn first into a position immediately opposite said reciprocating label-holder and subsequently opposite said support, means for supplying adhesive material to the label-pickers on their way to said label-holder, and a reciprocative pusher adapted to engage the label on the picker opposite the support at that portion of said label which is not in contact with the pasted surface of the picker and adapted to push said label off the picker and on to the object in said support.

9. In a labeling machine of the type described, the combination of a plurality of reciprocating label-holders, a flexible endless carrier, a plurality of label-pickers on said carrier, said label-pickers being arranged in pairs, the members forming one pair being placed side by side, a support for the objects to be labeled, means for intermittently moving said carrier to bring each label-picker in turn first into a position immediately opposite one of said reciprocating label-holders and subsequently opposite said support, means for supplying adhesive material to the label-pickers on their way to said label-holders, and means for removing the labels from the label-pickers opposite the support and applying them to the object therein.

10. In a labeling machine of the type described, the combination of a reciprocating label-holder, a flexible endless carrier, a plurality of label-pickers on said carrier, a support for the objects to be labeled, means for intermittently moving said carrier to bring each label-picker in turn first into a position immediately opposite said reciprocating label-holder and subsequently opposite said support, means for supplying adhesive material to the label-pickers on their way to said label-holder, means for removing the label from the label-picker opposite the support and applying it to the object therein, and means for intermittently feeding the objects to be labeled forward through the loop formed by the endless carrier in a direction at right angles to that of the motion of said endless carrier.

11. In a labeling machine of the type described, the combination of a reciprocating label-holder, a flexible endless carrier, a plurality of label-pickers on said carrier, a support for the objects to be labeled, means for intermittently moving said carrier to bring each label-picker in turn first into a position immediately opposite said reciprocating label-holder and subsequently opposite said support, means for supplying adhesive material to the label-pickers on their way to said label-holder, means for removing the label from the label-picker opposite the support and applying it to the object therein, and means for intermittently feeding the objects to be labeled forward through the loop formed by the endless carrier in a direction at right angles to that of the motion of said endless carrier and in time with the intermittent motion of the same.

12. In a labeling machine of the type described, the combination of a label-holder, means for reciprocating the same, a flexible endless carrier, a plurality of label-pickers on said carrier, a support for the objects to be labeled, means for intermittently moving said carrier to bring each label-picker in turn first into a position immediately opposite said reciprocating label-holder and subsequently opposite said support, means for supplying adhesive material to the label-pickers on their way to said label-holder, a pusher for removing the label from the label-picker opposite the support and applying it to the object therein, means for reciprocating said pusher, means for intermittently feeding forward the objects to be labeled, said means for reciprocating the label-holder being in operative connection with said means for reciprocating the pusher and forming together continuously moving gear, and said means for intermittently moving the carrier being in operative connection with said means for intermittently feeding forward the objects to be labeled and forming together intermittently moving gear, means for driving said continuously moving gear and means operatively interconnecting said continuously moving gear with said intermittently moving gear and adapted intermittently to drive the latter from the former.

13. In a labeling machine of the type described, the combination of a label-holder, means for reciprocating the same, a flexible endless carrier, a plurality of label-pickers on said carrier, a support for the objects to be labeled, means for intermittently moving said carrier to bring each label-picker in turn first into a position immediately opposite said reciprocating label-holder and subsequently opposite said support, means for supplying adhesive material to the label-pickers on their way to said label-holder, a pusher for removing the label from the label-picker opposite the support and applying it to the object therein, means for reciprocating said pusher, means for intermittently feeding forward the objects to be labeled, said means for reciprocating the label-holder being in operative connection with said means for reciprocating the pusher and forming together continuously moving gear, and said means for intermittently moving the carrier being in operative connection with said means for intermittently feeding forward the objects to be labeled and forming together intermittently moving gear, means for driving said continuously moving gear and pawl and ratchet-tooth connection operatively interconnecting said continuously moving gear with said intermittently moving gear and an abutment for releasing the pawl from the ratchet-teeth at instants when the intermittently moving gear is to stop.

14. In a labeling machine of the type described the combination of a label-holder, means for reciprocating the same, a flexible endless carrier, a plurality of label-pickers on said carrier, a support for the objects to be labeled, means for intermittently moving said carrier to bring each label-picker in turn first into a position immediately opposite said reciprocating label-holder and subsequently opposite said support, means for supplying adhesive material to the label-pickers on their way to said label-holder, a pusher for removing the label from the label-picker opposite the support and applying it to the object therein, means for reciprocating said pusher, means for intermittently feeding forward the objects to be labeled, said means for reciprocating the label-holder being in operative connection with said means for reciprocating the pusher and forming together continuously moving gear, and said means for intermittently moving the carrier being in operative connection with said means for intermittently feeding forward the objects to be labeled and forming together intermittently moving gear, means for driving said continuously moving gear comprising in combination a shaft, a driving pulley on said shaft, a second shaft, a friction-coupling between the former shaft and the second shaft, a disk having a recess at its circumference mounted on said second shaft, and means for transmitting motion from said second shaft to said continuously moving gear, means operatively interconnecting said continuously moving gear with said intermittently moving gear and adapted intermittently to drive the latter from the former, a spring pressed lever tending during normal running to disengage the coupling and projecting into the path of the objects to be labeled and adapted to be held in such a position by the latter when in their correct positions that it cannot disengage the coupling and adapted when the objects are incorrectly situated to bear against the circumference of the above-mentioned disk and to drop into the recess in the same and lock said second shaft and disengage the coupling.

15. In a labeling machine of the type described the combination of a label-holder, means for reciprocating the same, a flexible endless carrier, a plurality of label-pickers on said carrier, a support for the objects to be labeled, means for intermittently moving said carrier to bring each label-picker in turn first into a position immediately opposite said reciprocating label-holder and subsequently opposite said support, means for supplying adhesive material to the label-pickers on their way to said label-holder, a pusher for removing the label from the label-picker opposite the support and applying it to the object therein, means for reciprocating said pusher, means for intermittently feeding forward the objects to be labeled, said means for reciprocating the label-holder being in operative connection with said means for reciprocating the pusher and forming together continuously moving gear, and said means for intermittently moving the carrier being in operative connection with said means for intermittently feeding forward the objects to be labeled and forming together intermittently moving gear, means for driving said continuously moving gear and means operatively interconnecting said continuously moving gear with said intermittently moving gear and adapted intermittently to drive the latter from the former, a disengageable coupling between said means for driving the continuously moving gear and the latter, and means tending during normal running to disengage said coupling and having a spring-actuated member projecting into the path of the objects to be labeled and adapted to be held in such a position by the latter when in their correct positions that said means cannot disengage the coupling.

16. In a labeling machine, the combination of label supply means, a flexible label carrier having openings therethrough a support for the objects to be labeled, means for moving said carrier to place it in position to receive a label from said supply means and then into position to have the label applied to the object, means for supplying adhesive material, and means for passing the label through the carrier and applying it to the object to be labeled.

17. In a labeling machine, the combination of label supply means, a flexible label carrier having openings therethrough, a support for the objects to be labeled, means for moving said carrier to place it in position to receive a label from said supply means and then into position to have the label applied to the object, means for supplying adhesive material, means for passing the label through the carrier and applying it to the object to be labeled, and means for printing said label while on the carrier.

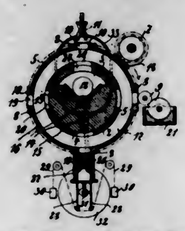
18. In a labeling machine, the combination of label supply means, an endless flexible label carrier, means for feeding the articles to be labeled into position, means for intermittently moving said carrier to bring it in position to receive a label from said supply means and then into position to have the label applied to the object, means for supplying adhesive material to the carrier on its way to the label supply means, and means for pushing the label through the carrier and applying it to the object to be labeled.

19. In a labeling machine, the combination of label supply means, a flexible label carrier having openings therethrough, a support for the objects to be labeled, means for moving said carrier to place it in position to receive a label and then into position to have the label applied to the object, means for supplying adhesive material, and means for passing the label through the carrier and applying it to the object to be labeled.

864,021. LABELING-MACHINE. WILLY RÜPRICH, Dresden-Trachau, Germany. Filed Aug. 29, 1906. Serial No. 332,420.

1. In a labeling machine of the type described, the combination of a reciprocating label-holder, means for intermittently feeding forward the objects to be labeled into the place to be occupied by them while being labeled, means for supporting said objects while being labeled, a rigid revoluble carrier provided with label pickers, said carrier being so arranged that on rotating the pickers describe paths around the place where the object is situated while being labeled, and the carrier and pickers being provided with holes through which the labels can at the proper time be pushed towards the object to be labeled, means for supporting said carrier, means for intermittently revolving said carrier to bring each label-picker in turn first

into a position immediately opposite said reciprocating label-holder and subsequently opposite the object in position to be labeled, means for supplying adhesive material to the label-pickers on their way to said label-holder, and means for removing the label from the label-picker opposite the object in position to be labeled and applying it to the same.



2. In a labeling machine of the type described, the combination of a reciprocating label-holder, means for intermittently feeding forward the objects to be labeled into the place to be occupied by them while being labeled, means for supporting said objects while being labeled, a rigid revoluble carrier having its outer surface raised at intervals to form label pickers, said carrier being so arranged that on rotating the pickers describe paths around the place where the object is situated while being labeled, and the carrier and pickers being provided with holes through which the labels can at the proper time be pushed towards the object to be labeled, means for supporting said carrier, means for intermittently revolving said carrier to bring each label-picker in turn first into a position immediately opposite said reciprocating label-holder and subsequently opposite the object in position to be labeled, means for supplying adhesive material to the label-pickers on their way to said label-holder, and means for removing the label from the label-picker opposite the object in position to be labeled and applying it to the same.

3. In a labeling machine of the type described, the combination of a reciprocating label-holder, means for intermittently feeding forward the objects to be labeled into the place to be occupied by them while being labeled, means for supporting said objects while being labeled, a rigid revoluble annular carrier provided with label pickers, the carrier and pickers being provided with holes through which the labels can at the proper time be pushed towards the object to be labeled, a cylindrical core around and upon which the carrier is revolubly supported, said core having a longitudinal passage with an opening above through which passage the objects to be labeled are fed into position under said opening where they are labeled, means for intermittently revolving said carrier to bring each label-picker in turn first into a position immediately opposite said reciprocating label-holder and subsequently opposite said opening in said passage through the core under which opening the object is in position to be labeled, means for supplying adhesive material to the label-pickers on their way to said label-holder, and means for removing the label from the label-picker opposite the object in position to be labeled and applying it to the same.

4. In a labeling machine of the type described, the combination of a reciprocating label-holder, means for intermittently feeding forward the objects to be labeled into the place to be occupied by them while being labeled, means for supporting said objects while being labeled, a rigid revoluble annular carrier in the form of inner and outer concentric cylindrical sleeves, 15, 16 interconnected by an end portion 17, the outer sleeve having thickened portions 8, 81 forming pickers provided with holes 19, 22 and the inner sleeve having holes 20, 23 corresponding to the holes 19, 22, a cylindrical core around and upon which the carrier is revolubly supported, said core having a longitudinal passage with two openings above, through which passage the objects to be labeled are fed into position under said openings where they are labeled, means for intermittently revolving said carrier to bring each label-picker in turn first into a position immediately opposite said reciprocating label-holder and subsequently opposite its corresponding opening in said passage through the core under which openings the object is in position to be labeled, means for supplying adhesive material to the label-pickers on their way to said label-holder, and means for removing the labels from the label-pickers opposite the object in position to be labeled and applying them to the same.

5. In a labeling machine, the combination of a carrier for holding the article to be labeled, a label carrier having one or more openings therethrough, means for rotating one of said carriers to have the label in position to be applied to the article, means for applying adhesive material, and means for passing the label through each of said openings and applying it to the article.

6. In a labeling machine, the combination of label supply means, a carrier for holding the article to be labeled, a label carrier having openings therethrough, means for rotating one of said carriers to have the label in position to be applied to the article, means for applying adhesive material, and means for pushing the label through each of said openings in the carrier and on to the article to be labeled.

7. In a labeling machine, the combination of label supply means, a holder for the article to be labeled, a rotatable label carrier encircling said article holder and having openings therethrough, means for rotating said carrier to bring the label into position to be applied to the article, means for pushing the labels through said openings, and means for applying adhesive material.

8. In a labeling machine, the combination of label supply means, a holder for the article to be labeled, a rotatable label carrier encircling said article holder and having openings therethrough, means for rotating said carrier to bring the label into position to be applied to the article, means for pushing the labels through said openings, means for applying adhesive material, and means for feeding the article to the article holder.

9. In a labeling machine, the combination of a reciprocating label supply means, means for intermittently feeding forward the article to be labeled, a rotatable carrier encircling the article when the latter is in position to be labeled and provided with label pickers having openings therethrough, means for applying adhesive material to the label pickers on their way to the label supply means, and means for removing the label from the label picker opposite the article to be labeled and applying it to the same.

10. In a labeling machine, the combination of a reciprocating label supply means, means for intermittently feeding forward the article to be labeled, a rotatable carrier encircling the article when the latter is in position to be labeled and provided with label pickers having openings therethrough, means for applying adhesive material to the label pickers on their way to the label supply means, means for removing the label from the label picker opposite the article to be labeled and applying it to the same, and means for intermittently rotating the label carrier.

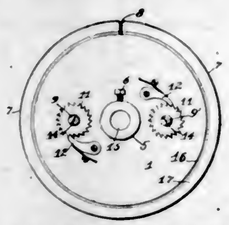
864,922. WIRE BRUSH. JOSEF SALTIEL, Vienna, Austria-Hungary. Filed Nov. 11, 1905. Serial No. 286,934.



In a brush, the combination with a core having a reduced annular portion c, forming a shoulder, of a plurality of rings mounted side by side upon said reduced portion of the core, each of said rings being rectangular in cross-section, a plurality of wires carried by each ring and extending radially therefrom, each of said wires being bent at one end to form a bight or loop through which passes the respective supporting ring, that portion of each

wire which forms the loop lying upon and projecting above the outer faces of the rings whereby the looped portions of the wires of the various rings will lie in frictional contact with each other and the free ends of each of the wires being crossed, a washer bearing against the wires of the outermost ring and a screw working in the reduced portion of the core and adapted to clamp the washer tightly against the wires of said outermost ring.

864,923. SCOURING-WHEEL OR THE LIKE. CHARLES A. L. SAUNDERS, Elgin, Ill. Filed Aug. 9, 1906. Serial No. 329,806.



1. A device of the kind described, comprising a wheel provided with a chamber, and a slot extending from said chamber to the periphery of the wheel, in combination with a pair of rotatable spindles positioned within said chamber, and each attached to one side only of said wheel, means for rotating said spindles, means to normally prevent said spindles from rotating in one direction, and means for attaching said wheel in position.

2. A device of the kind described, comprising a wheel provided with a chamber, and a slot extending from said chamber to the periphery of the wheel, in combination with rotatable spindles positioned within said chamber each spindle permanently attached to one side only of said wheel and loosely supported in the opposite side means for attaching a flexible strip to each spindle, means for rotating said spindles, means to normally control the direction of rotation of said spindles, and means for attaching said wheel in position.

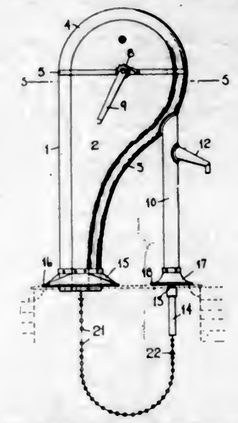
3. In a device of the kind described, a wheel provided with a chamber, and a slot extending from said chamber to the periphery of the wheel, in combination with a plurality of rotatable spindles extending across said chamber, each spindle permanently secured to one wall only of said wheel and adapted to carry a roll of flexible material, means for said spindle for positively engaging one end of said flexible strip, a ratchet and pawl for each spindle, positioned within the chamber for controlling the direction of rotation of the spindles, and means for engaging said spindles to rotate the same.

4. In a device of the kind described, a two part wheel having a chamber between the parts with a slot extending to the periphery of the wheel, a pair of spindles rotatably attached to one part only of said wheel, each spindle adapted to support a roll of flexible material within the chamber, and means for controlling the positions of said spindles.

5. In a device of the kind described, a two part wheel comprising a recessed part, and a flat part adapted to close the open side of said recess, said recessed part having a slot extending from said recess to the periphery of the wheel, in combination with a plurality of rotatable spindles extending across said recess, each attached to the flat part only of said wheel, with means in the recessed part for loosely supporting the free end of said spindles, and means to control the direction of rotation of said spindles.

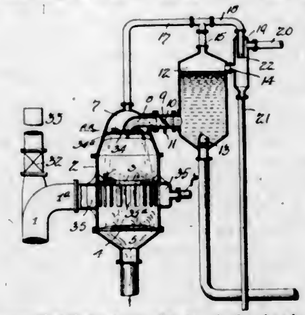
864,924. PUMP-CURB. ARTHUR SCHIMMEL, Evansville, Ind. Filed Apr. 15, 1907. Serial No. 368,341.

A pump curb formed of counter-part sheet metal sections adapted to be secured together at their outer edges to form a pump curb which increases in size from its lower end towards its upper end, a pump barrel connected to one side of said curb, a discharge spout on said pump barrel, flanges secured to the lower end of said curb and barrel, a well or cistern covering plate adapted to receive the lower end of said curb and barrel, fastening devices to



secure said base plates of the curb and pump to said covering plate, lugs on the latter to hold the same in place, a detachable cover on said curb and a water elevating mechanism arranged therein, substantially as described.

864,925. CONDENSER. REINHOLD SCHNEIDER, Sharon, Pa. Filed Sept. 4, 1906. Serial No. 333,164.



1. In combination, a condenser body having equidistant annularly arranged inlet openings for the exhaust steam, a water supply pipe at the upper end of said body, a centrally arranged baffle plate beneath said pipe, and above said openings, and a baffle plate below said inlet openings.

2. In combination, a condenser body having annularly arranged inlet openings for the exhaust steam, a water supply pipe at the upper end of said body, a centrally arranged baffle plate beneath said pipe, an annularly arranged baffle plate beneath said first named plate and above the steam inlet openings and a third and centrally arranged baffle plate below said openings.

3. The combination with a condenser having means for admitting exhaust steam thereto, of an elevated water storage tank, means for feeding water from said storage tank and spraying it upon the steam in the condenser and an overflow pipe to maintain a constant head for regulating the water pressure in the feed pipe and the speed of the pump, motor or engine.

4. In combination, a condenser body for receiving exhaust steam, a storage tank elevated above the level of the condenser body and having a connection for supplying

spray water to said condenser body, a valve in said connection for controlling the passage of the water from the tank to the condenser body, and a water supply to said storage tank, and a vacuum pipe in communication with the upper portion of said condenser body and storage tank.

5. In combination, a condenser body for receiving exhaust steam, a storage tank elevated above the level of the condenser body and connected to the other part thereof to supply spray water thereto, a water supply to the lower part of said storage tank, a separator chamber having its central portion connected to the upper part of said tank, a drain pipe from the lower part of said separator, a vacuum pipe connected to the upper part of the separator, and a pipe depending into said separator below the end of the vacuum pipe and communicating with the upper part of both the condenser body and the storage tank.

864,926. CELLULAR PNEUMATIC TIRE. EDWARD C. SCHOONMAKER, Perham, Minn. Filed Nov. 23, 1906. Serial No. 344,723.



1. A tire of the character described comprising a rim section having annular side flanges, a tire provided with similar flanges to engage the flanges of the rim section, non-heat conducting material upon the flanges of the tire and metallic fastening bands shrunk upon the tire flanges for clamping the latter to the rim flanges, said bands being engaged with said non-heat conducting material to prevent the heat generated in the bands from injuring the tire, substantially as set forth.

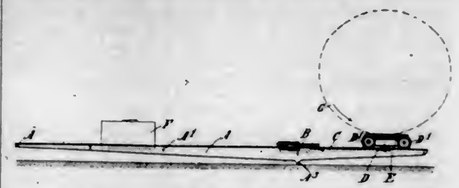
2. A tire of the character described comprising a rim section having annular flanges, a tire casing open around its inner side and having its edges formed with flanges to engage said flanges of the rim section, said flanges being formed with seats, a non-heat-conducting material embedded in said seats, metallic fastening bands shrunk in said seats for fastening said tire-flanges upon said rim section flanges, and a filling for said tire casing.

3. A tire of the character described comprising a rim section formed with outwardly curved flanges, a tire casing open around its inside and formed at its edges with flanges, the latter forming curved seats and having asbestos fabric embedded therein, metallic bands shrunk in said seats for clamping said tire flanges upon said rim section flanges, cellular bodies of elastic material filled with compressed air arranged in said tire casing to fill its entire space, said rim section being formed with a threaded opening communicating with the interior of said casing to permit of the insertion of said bodies, and a screw plug inclosing said threaded opening in the rim section, substantially as described.

864,927. DYNAMOMETER. FRANK SELLERS, London, England. Filed Feb. 26, 1907. Serial No. 359,506.

1. In a dynamometer the combination of a lever, a pivot therefor, a spring balance mounted on the lever, a brake block connected to the spring balance but free to move along the lever, and means acting in conjunction with the lever for pressing the brake block against a wheel as set forth.

2. In a dynamometer the combination of a lever, a pivot therefor, a spring balance mounted on the lever, a carriage connected to the spring balance but free to move along the lever, a brake block mounted on the carriage, and means acting in conjunction with the lever for pressing the brake block against a wheel as set forth.



3. In a dynamometer the combination of a lever, a pivot therefor, a spring balance mounted on the lever, rails on the lever, a carriage connected to the spring balance but free to run along the lever on the rails, a brake block, and means acting in conjunction with the lever for pressing the brake block against a wheel as set forth.

4. In a dynamometer the combination of a lever having two arms, a pivot therefor, a spring balance mounted on the lever, a brake block connected to the spring balance but free to move along one arm of the lever, and a weight adjustable on the other arm thereof as set forth.

5. In a dynamometer the combination of a lever having two arms, a pivot therefor, a spring balance mounted on the lever, a carriage connected to the spring balance but free to move along one arm of the lever, a brake block mounted on the carriage, and a weight adjustable on the other arm of said lever as set forth.

6. In a dynamometer the combination of a lever having an arm, a pivot therefor, a spring balance mounted on the lever, rails on the lever, a carriage connected to the spring balance but free to run along the lever on the rails, a second arm to the lever, and a weight adjustable thereon as set forth.

7. In a dynamometer the combination of a lever, a knife edge on the underside thereof constituting a pivot, a spring balance mounted on the lever, a brake block connected to the spring balance but free to move along the lever, and means acting in conjunction with the lever for pressing the brake block against a wheel as set forth.

8. In a dynamometer the combination of a lever, a knife edge on the underside thereof constituting a pivot, a spring balance mounted on the lever, a carriage connected to the spring balance but free to move along the lever, a brake block mounted on the carriage, and means acting in conjunction with the lever for pressing the brake block against a wheel as set forth.

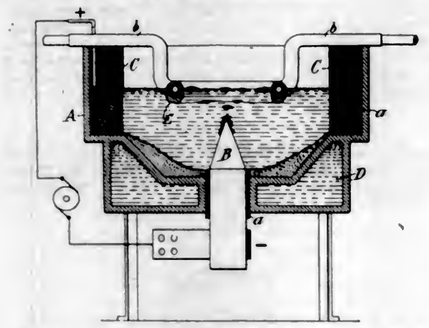
9. In a dynamometer the combination of a lever having two arms, a knife edge on the underside thereof constituting a pivot, a spring balance mounted on the lever, a brake block connected to the spring balance but free to move along the lever, and a weight adjustable on the other arm of said lever.

10. In a dynamometer the combination of a lever having an arm, a knife edge on the underside of the lever constituting a pivot, a spring balance mounted on the lever, a carriage connected to the spring balance but free to move along the lever, a brake block mounted on the carriage, a second arm to the lever, and a weight adjustable thereon as set forth.

11. In a dynamometer the combination of a lever having two arms, a knife edge on the underside thereof constituting a pivot, spring balance mounted on the lever, rails on the lever, a carriage connected to the spring balance but free to run along the lever on the rails, and a weight adjustable on the other arm of said lever as set forth.

864,928. ELECTROLYTIC PRODUCTION OF EARTH-ALKALI METALS. GEORGE O. SEWARD and FRANZ VON KÜGELGEN, Holcombs Rock, Va., assignors to Virginia Laboratory Company, New York, N. Y., a Corporation of New York. Filed Apr. 25, 1906. Serial No. 313,572.

1. Maintaining the current density at a submerged cathode so high that the metal is formed in a molten state, and cooling the metal which separates from the cathode while it is passing through the electrolyte.



2. Maintaining the current density at a submerged cathode so high that the metal is formed in a molten state, maintaining above the cathode a cooler portion of the electrolyte, and causing the metal to separate from the cathode and rise therethrough, whereby it is reduced in temperature.

3. Maintaining the current density at a submerged cathode so high that the metal is formed in a molten state, causing the metal to separate from the cathode and rise through a cooler portion of the electrolyte, whereby its temperature is reduced, and accumulating the metal within a collector.

4. Maintaining the current density at a submerged cathode so high that the metal is formed in a molten state, causing the metal to separate from the cathode and rise through a cooler portion of the electrolyte, whereby its temperature is reduced, and accumulating the metal within a water-cooled collector.

5. Maintaining a current density at a submerged cathode so high that the metal is formed in a molten state, and cooling the metal while rising from the cathode through a cooler portion of the electrolyte, sufficiently to prevent the metal burning in contact with the air, while keeping it sufficiently soft to cause it to form a coherent mass.

6. Producing an earth-alkali metal by electrolyzing a fused salt thereof with a submerged cathode, maintaining at the cathode a current density so high that the earth alkali metal is formed in a molten state and ascends therefrom, maintaining a cooler portion of the electrolyte above, through which the earth-alkali metal passes, whereby its temperature is reduced, and accumulating the same within a suitable collector.

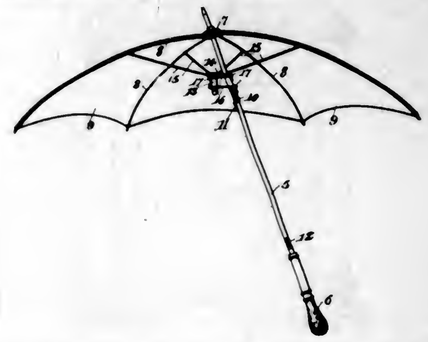
7. Producing calcium by electrolyzing a fused calcium salt with a submerged cathode, maintaining at the cathode a current density so high that the calcium is formed in a molten state and ascends therefrom, maintaining a cooler portion of the electrolyte above, through which the calcium passes, whereby its temperature is reduced, and accumulating the same within a suitable collector.

864,929. UMBRELLA. JAMES R. SHIPMAN and JOSEPH S. CLICK, Bridgewater, Va. Filed Jan. 28, 1907. Serial No. 354,474.

1. In an umbrella, the combination with a rod, of a runner slidable upon the rod, a carrier located at one side of the rod and movable toward and from the same and the runner, said carrier being connected to the runner, ribs, and spreaders connecting the carrier and ribs.

2. In an umbrella, the combination with a rod, of a runner slidable upon the rod, a carrier located at one side of the rod and movable toward and from the same, swinging connections between the carrier and runner that permits the movement of the former toward the latter, ribs, and spreaders connecting the carrier and ribs.

3. In an umbrella, the combination with a rod, of a runner slidably mounted thereon and held against movement transversely of said rod, a carrier located at one side of the rod and connected to the runner, ribs, and stretchers connected to the ribs and to the carrier.



4. In an umbrella, the combination with a rod, of a runner sleeve mounted thereon and held against movement transversely of the rod, a carrier located at one side of the rod and connected to the runner, ribs pivotally connected to the rod, and stretchers pivotally connected to the ribs and pivotally connected to the carrier.

5. In an umbrella, the combination with a rod, of a runner slidably mounted on the rod and held against movement transversely of said rod, a carrier located at one side of the rod and movably connected to the runner, ribs, and stretchers pivotally connected to the ribs and pivotally connected to the carrier.

6. In an umbrella, the combination with a rod, of a runner sleeve slidably mounted thereon, a carrier located at one side of the rod, a link connection between the runner sleeve and carrier, swinging ribs, and stretchers connecting the ribs and carrier.

7. In an umbrella, the combination with a rod, of a runner sleeve slidable thereon, a carrier located at one side of the rod, spaced links connected to the runner sleeve and to the carrier, swinging ribs, and stretchers connecting the ribs and carrier.

8. In an umbrella, the combination with a rod, of a runner slidable thereon, a carrier located at one side of the rod, spaced links of different lengths connected to the runner and to the carrier, swinging ribs, and stretchers connecting the ribs and carrier.

9. In an umbrella, the combination with a rod, of a crown secured thereto, ribs pivoted to the crown, a runner slidably mounted on the rod, a carrier element located at one side of the runner, swinging link connections between the carrier and runner, and radially disposed stretchers pivoted to the carrier and to the ribs.

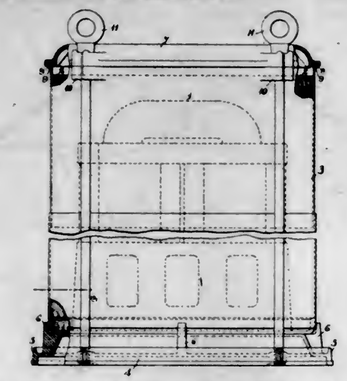
10. In an umbrella, the combination with a rod, of a crown secured thereto, radial ribs pivotally connected to the crown, a runner slidable upon the rod, a carrier located at one side of the runner and rod, links connecting the runner and carrier and surrounding the same, said links being pivoted to both, and radially disposed stretchers pivoted to the carrier and to the ribs.

864,930. RECEPTACLE FOR ELECTRICAL AND OTHER DEVICES. ROBERT SIEGFRIED, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Oct. 3, 1905. Serial No. 281,205.

1. A receptacle for electrical or other devices, comprising a tank, a supporting base, a cover provided with laterally projecting lugs, and bolts that screw into the base and have heads that engage the lugs on the cover.

2. A receptacle for electrical or other devices, comprising a tank, a supporting base having lugs between which the tank fits, a cover, having an annular channel to re-

ceive the top edge of the tank, and means for clamping the tank between the base and the cover.



3. A receptacle for electrical or other devices, comprising a tank, a supporting base having lugs between which the tank fits, a cover having an annular channel to receive the top edge of the tank and provided with laterally projecting split lugs and bolts having heads to engage said lugs to clamp the tank between the base and the cover.

4. A receptacle for electrical or other devices, comprising a tank, a supporting base, a cover having an annular channel to receive the top edge of the tank and provided with laterally projecting lugs and eye bolts screwed into the base and engaging said lugs to serve as clamping devices and also as means whereby the receptacle may be lifted.

5. A receptacle for electrical or other devices, comprising a tank, a supporting base having an annular recess outside the tank, a cover having an annular channel to receive the top edge of the tank and means for clamping the tank between the base and the cover.

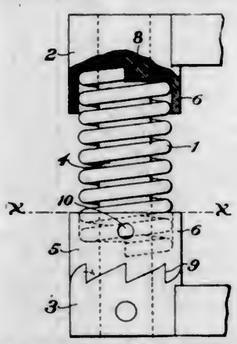
6. A receptacle for electrical or other devices, comprising a tank, a supporting base, a cover having an annular channel to receive the top edge of the tank and provided with laterally projecting lugs, and means which engage said lugs and the supporting base to clamp the tank between the base and the cover.

864,931. COMBINED STORM AND SCREEN DOOR. SAMUEL J. SPICER, Grand Rapids, Mich. Filed Mar. 8, 1906. Serial No. 304,944.



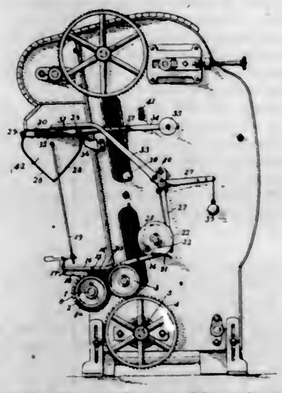
As an article of manufacture, a removable storm panel for screen doors comprising an inner frame, an outer frame, a piece of canvas or other flexible material stretched between said inner frame and outer frame and suitably secured thereto, a piece of glass or other transparent material secured in said canvas, a strip of felt or suitable material secured on the face of said inner frame to engage the frame of a screen door, two or more vertically disposed pins secured to the frame of the storm panel to enter suitable sockets on a screen door and a hook for fastening the storm panel in position on a screen door, substantially as described.

864,932. SPRING-HINGE. ALBERT F. STAPLES, Dorchester, Mass., assignor of one-half to Charles W. Potter, Waltham, Mass. Filed May 3, 1907. Serial No. 371,760.



A spring mechanism comprising a helical spring with unbent ends, and two relatively-rotatable spring-controlled members provided with spring-receiving sockets closely embracing the terminal coils of the spring and with abutments against which the ends of the spring rest, the spring being normally uncoiled beyond its natural form so as to impart a thrust to the abutments and tend to rotate the spring-controlled members in a direction to permit the spring to coil itself.

864,933. FEEDER FOR CARDING-MACHINES. JAMES STEWART, Grand Rapids, Mich. Filed Dec. 7, 1905. Serial No. 290,786.

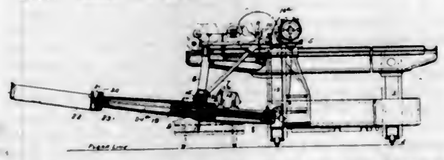


1. In a feeder for carding machines, in combination with weighing mechanism a driving shaft, a clutch member fixed on the shaft, a cam wheel at each side of the clutch member and having opposing cam surfaces adapted to force said wheels apart, one wheel being rotative on the shaft, and the other wheel being both rotative and longitudinally movable on the shaft, a spring on the shaft to move the last named wheel toward the other wheels, a gear attached to said last named wheel and movable therewith, and means for temporarily holding the first named cam wheel, said means being operated by the weighing mechanism.

2. In a feeder for carding machines, in combination with weighing mechanism, a driving shaft, a gear, both rotative and longitudinally movable on the shaft, a spring to slide the gear on the shaft, a cam wheel attached to the gear and movable therewith, a pawl engaging teeth in the cam wheel, a clutch to connect the cam wheel directly with the driving shaft, a second cam wheel freely rotative on the driving shaft, a pivoted lever out of engagement with the wheel having a shoulder to engage a projection on the second cam wheel, a hook to engage and hold the lever, a rod connecting the hook with the weighing mechanism, and a wheel having a projection engaging the lever to reengage the hook with the same.

3. In a feeder for carding machines, in combination with weighing mechanism, a driving shaft, a clutch connecting the shaft with gearing to operate the feeding mechanism, a freely rotative cam wheel to disengage the clutch, a pivoted lever having a shoulder to engage a projection on the cam wheel and hold the same, a hook to engage and hold the lever, a rod connecting the hook and the weighing mechanism to release the hook, a rotating wheel having a roll to engage the lever and reëgage the hook, a bell crank lever adapted to discharge the contents of the weighing mechanism, and a second roll on said rotating wheel to engage and operate the bell crank lever.

864,934. FURNACE-CHARGING APPARATUS. CLARENCE L. TAYLOR, Alliance, Ohio, assignor to The Morgan Engineering Company, Alliance, Ohio. Filed May 6, 1905. Serial No. 259,165.



1. In a furnace charging apparatus, the combination with a casing provided with an upwardly projecting bearing, and a charging bar provided with a double head and mounted to rotate in the casing, of a support, a pin passing through the bearing on the casing and through the support, means carried by the casing for rotating the charging bar, and means for rocking the casing.

2. In a furnace charging machine, the combination with a casing provided on its upper side with an upwardly projecting bearing, and a charging bar provided with a double wedge shaped head and mounted to rotate in said casing, of a depending yoke and a pivot pin passing through the lower end of said yoke and the upwardly projecting bearing on the charging bar.

3. A charging bar having a double wedge shaped head.

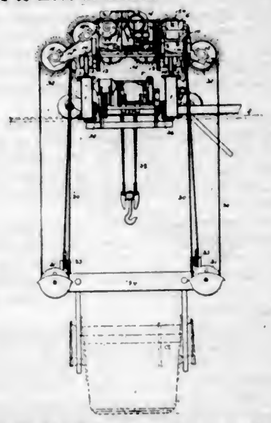
4. A charging bar having a double wedge shaped head and a sliding lock carried by said head.

5. A charging bar having a double wedge shaped head, a sliding lock in the latter and a rod connected to the lock and passing rearwardly through the bar.

6. In a furnace charging apparatus, the combination with a casing and a charging bar having a wedge shaped head the latter being flat on its rear face, of a traveling trolley having a depending support to which the casing is pivoted in a plane above the axis of the charging bar, substantially as set forth.

864,935. CRANE FOR CARRYING LADLES. CLARENCE L. TAYLOR, Alliance, Ohio, assignor to The Morgan Engineering Company, Alliance, Ohio. Filed Mar. 9, 1906. Serial No. 305,107.

1. In a crane for carrying ladles, the combination with a traveling bridge, of a traveling trolley thereon, the said trolley having four drums arranged in pairs at the opposite sides thereof so as to carry the hoist ropes outside the bridge girders, the axes of the four drums being parallel with each other, and the drums of each pair geared together so as to move in unison.



2. A trolley having four drums arranged in pairs, the axes of the four drums being parallel with each other and also with the direction of movement of the trolley, the drums of each pair being geared together so as to move in unison.

3. In a crane for carrying ladles the combination with a traveling bridge, of a traveling trolley thereon, the said trolley carrying four drums arranged in pairs, the drums of each pair being geared together, and the axes of all of said drums being parallel and a motor and gearing for actuating both pairs of drums.

4. A trolley having four drums arranged in pairs the axes of the four drums being parallel with each other and also with the direction of movement of the trolley, the drums of each pair being geared so as to rotate in unison and a motor and gearing for actuating the four drums.

5. The combination with a trackway for a trolley, of a trolley on said trackway, and four drums arranged in pairs, at the opposite sides of the trolley, the drums of each pair being side by side with the axis of each in the direction of travel of the trolley, and a motor and gearing for rotating the drums in unison.

6. The combination with a traveling bridge, of a trolley thereon, four drums arranged in pairs at the opposite sides of the trolley so as to carry the hoist ropes outside the bridge girders, the drums of each pair being parallel side by side with the axis of each in the direction of travel of the trolley, and means for rotating said drums in unison.

7. A trolley having four drums arranged in pairs, the drums of each pair being geared together so as to move in unison, and a series of sheaves loosely mounted adjacent to both ends of one drum of each pair.

8. The combination with a bridge, of a trolley having four drums arranged in pairs at opposite sides of the trolley, with their axis parallel with the bridge, and a series of sheaves loosely mounted adjacent to both ends of the outer drum of each pair.

9. The combination with a bridge, of a trolley thereon, four hoist drums arranged in pairs at the opposite sides of the trolley, gearing connecting the drum of each pair and a single motor, and gearing connecting said motor with the inner drum of each pair.

10. The combination with a bridge, of a trolley thereon, four double drums arranged in pairs on the opposite side of the trolley, the drums of each pair being geared together, a motor, and gearing connecting said motor with the inner drum of each pair.

11. The combination with a bridge, of a trolley thereon, four double drums arranged in pairs on opopsite sides of the trolley, gearing connecting the two double drums of each pair, sheaves loosely mounted adjacent to the outer

ends of the outer double drum of each pair, a motor, and gearing connecting said motor and the inner double drum of each pair.

12. The combination with a traveling bridge, of a main trolley mounted thereon, four drums arranged in pairs on said trolley the two drums of each pair being geared together, a motor, gearing connecting said motor and the two inner drums of each pair and an auxiliary trolley adapted to travel on the bridge in a plane below the main trolley.

13. The combination with a traveling bridge, of a main trolley having four drums arranged in pairs at the opposite sides of the trolley, the axes of the four drums being parallel with each other, gearing for actuating the drums, and an auxiliary trolley mounted on the bridge in a plane below the main trolley.

14. The combination with a traveling bridge, of a main trolley having four drums, the axes of the said drums being parallel with each other and with the direction of travel of the trolley, gearing for actuating the drums and an auxiliary trolley mounted to travel on the bridge in a plane below the main trolley.

15. In a ladle carrying crane the combination with a trolley, of two independent ropes at each end of the trolley, a ladle carrying bar suspended from said ropes and means for winding and unwinding all of said ropes at equal speed.

16. In a ladle carrying crane a trolley having four drums arranged in pairs at the opposite sides thereof the drums of each pair being geared together, two independent sets of hoist ropes carried by each pair of drums, and a ladle carrying bar suspended from the four ropes.

17. In a ladle carrying crane the combination with a trolley having two pairs of hoist drums, of two hoist ropes carried by each pair of drums, and a ladle carrying bar carried by the said hoist ropes.

18. In a ladle carrying crane, the combination with a trolley having two pairs of hoist drums and means for rotating all of said drums in unison of two cables carried by each pair of drums and a ladle carrying bar suspended from said two pairs of cables.

19. In a ladle carrying crane, the combination with a trolley and four drums thereon, the drums being arranged in pairs, one pair at each side of the trolley, of two hoist ropes for each pair of drums, each rope being secured to both drums of the pair, and a ladle carrying bar suspended from said ropes.

20. In a ladle carrying crane the combination with a trolley and four drums thereon arranged in pairs, one pair at each side of the trolley, and means for rotating the drums in unison, of two hoist ropes carried by each pair of drums, and a ladle carrying bar suspended from the ropes of both pairs of drums.

864,936. VERTICAL CHARGING MECHANISM. CLARENCE L. TAYLOR, Alliance, Ohio, assignor to The Morgan Engineering Company, Alliance, Ohio. Filed May 19, 1906. Serial No. 317,750.

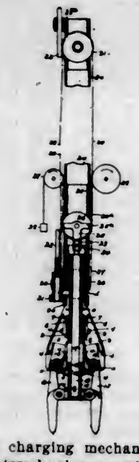
1. In a vertical charging mechanism, the combination with a stem, of tongs carrying frame mounted to rotate and have a limited longitudinal movement on said stem, tongs adapted to close by gravity and means for opening and closing said tongs.

2. In a vertical charging mechanism, the combination with a stem, of tongs carrying frame mounted to rotate and have a limited longitudinal movement thereon, a spring tending to restrain the downward movement of the stem in the frame, tongs constructed and arranged to close by gravity and means for opening said tongs.

3. In a vertical charging mechanism the combination with a depending stem and flexible suspension means for same, of tongs frame having a limited sliding movement on said stem, a spring interposed between the stem and frame and tongs levers carried by said frame.

4. In a vertical charging mechanism the combination with a depending stem, and means for elevating and lowering same, of a tongs frame adapted to have a limited sliding movement on the stem, and also rotate thereon, and gearing for rotating the frame.

5. In a vertical charging mechanism, the combination with a depending stem having a collar thereon and means for elevating and lowering said stem, of a two part tongs frame bolted around the stem and inclosing the collar, a roller bearing interposed between the top of the collar and a shoulder on the tongs frame and supporting the latter, a spring interposed between the lower face of the collar and a shoulder on the tongs frame, and means for rotating the frame.



6. In a vertical charging mechanism, the combination with a depending stem having a peripheral collar thereon, and means for raising and lowering said stem, of a two part frame embracing the stem and having a recess to receive the collar, roller bearing located within said recess and resting on the upper face of said collar, a spring within said recess and bearing against the lower face of said collar, tongs levers the upper ends of which are mounted in inclined ways in the tongs frame, a cross head to which said levers are pivoted, and means for lifting said cross head.

7. In a vertical charging machine, the combination with a depending stem having a peripheral collar, and means for raising and lowering said stem, of a two part tongs frame embracing the stem and having a recess to receive the collar the said recess permitting a limited sliding movement of the stem in the frame, tongs levers the ends of which rest in inclined ways in the frame, a cross head to which said levers are pivoted, means for raising and lowering said cross head and means for rotating the frame on the stem.

8. In a vertical charging machine, the combination with a stem, means for raising and lowering same, a shaft mounted in bearings connected with the stem and a pinion on said shaft, of tongs frame mounted to slide and rotate on said stem, a pinion secured to said frame and having a sliding engagement with the pinion on the shaft, tongs levers the ends of which engage inclined ways in the frame, a cross head to which said levers are pivoted and means for raising and lowering said cross head.

9. In a vertical charging mechanism, the combination with a casing or tube and a stem secured to the lower end thereof, of sheaves located near the lower end of said casing, a sheave near the upper end of same, ropes fast at one end, passing under the lower sheaves and up to a drum, and a second rope fast at one end, passing up over the top sheave and down to the drum, and ingot grasping means carried by the lower end of the stem.

10. In a vertical charging mechanism, the combination with a casing or tube, a stem secured to the lower end thereof, ingot grasping means carried by the lower end of the stem and a rod for opening and closing the tongs, of flexible means for elevating and lowering the casing and stem, and flexible means independent of the elevating and lowering means for lifting the tongs opening and closing rod.

11. In a vertical charging mechanism, the combination with a casing or tube, a stem secured to the lower end thereof, ingot grasping means carried by the lower end of the stem, and a rod within the stem for opening and closing the tongs, of hoist ropes, and a drum, the ropes being secured at one end to a fixed part of the apparatus, passing down under the lower sheaves and thence up to the hoist drum, a second drum, a rope passing several times around same and connected at one end to a counterweight, the other end of said rope passing down under a sheave carried by the opening and closing rod and from thence up to the hoist drum.

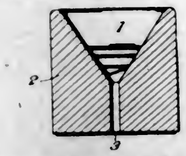
12. In a vertical charging mechanism, the combination with a casing or support carrying ingot grasping levers, and a rod for opening and closing said levers, of a pair of sheaves journaled to the casing or support near the lower end of the latter, a sheave journaled to said casing or support near the upper end of the latter, a main hoist drum, an auxiliary drum, ropes fixed at one end and passing under the lower sheaves on the support and up to the hoist drum, a second rope fixed at one end and passing over the upper sheave on the support, down and around the hoist drum, thence down under the sheave on the tongs opening and closing rod, up and around the auxiliary drum, and a counterweight secured to the free end of said latter rope.

864,937. CLOTHES-LINE FASTENER. CHARLES G. THOMPSON, Wilkinsburg, Pa. Filed Nov. 17, 1906. Serial No. 343,908.



A device of the character described comprising a flat body having the arrow shaped head 1 formed at its tapered outer end 6 with the V-shaped notch 7, said head being also formed at its enlarged rear end with the outwardly and rearwardly projecting horns 5, said horns lying in the longitudinal plane of the body, and the attaching shank 2 projecting rearwardly from the middle of the enlarged rear end of the arrow shaped head and midway between said horns, said shank being also in the longitudinal plane of the body, substantially as shown and described.

864,938. COIN-CUP. BENJAMIN F. TINSLEY, Richmond, Va. Filed Sept. 28, 1906. Serial No. 336,640.

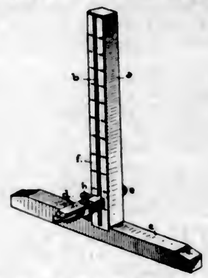


1. A coin cup comprising a block formed with a conical, downwardly tapering coin chamber, said block formed with an opening communicating with, and extending downwardly from the chamber at the apex thereof, whereby downward pressure upon coins in the cup at one edge of said coins, would tend to push the edge of a coin into said opening, and cause the coin to assume an upright position, as and for the purpose set forth.

2. A coin receptacle, consisting of a block, provided with a chamber of conical form said block having an opening leading outwardly from the apex of said chamber to the bottom of said body.

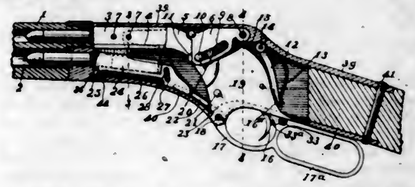
864,939. DRESSMAKER'S SKIRT-GAGE. JEROME TRAUNER, San Francisco, Cal. Filed Dec. 27, 1906. Serial No. 349,615.

In a skirt gage, the combination of two upright separated posts arranged in parallel fixed relation to each other and adapted to form a slot between them, a base for supporting the said posts, an adjustable chalk clamp having a shank slidable in said slot, and a binding screw in the end



of the shank for holding the chalk clamp in its adjusted positions.

864,940. BREECH-LOADING FIREARM. WALTER H. WHITTIER, Grand Rapids, Mich. Filed Apr. 30, 1907. Serial No. 371,197.



1. In a gun, a hollow frame, a manually operated lever extending within the frame and pivoted thereto, a hammer and a trigger carried by the lever, a sear pivoted to the frame and engaging a shoulder on the hammer and also released by the trigger, and a firing pin engaged by the hammer.

2. In a gun, a hollow frame, a manually operated lever extending upward within the frame and pivoted thereto and also having parallel sides spaced apart, a hammer and a trigger each pivoted between said sides and carried thereby, a sear pivoted in the frame and engaging a shoulder on the hammer and also engaged by the trigger to release the hammer, and a firing pin engaged by the hammer.

3. In a gun, a hollow frame, a manually operated lever extending upward within the frame and pivoted thereto, and also having broad parallel sides spaced apart, a hammer between said sides and pivoted thereto, a sear pivoted in the upper part of the frame and engaging a shoulder on the hammer, a trigger pivoted between said sides and having a projection to engage the sear, a spring extending through an opening in the trigger and attached at its respective ends to the lever and to the hammer, and a firing pin engaged by the hammer.

4. In a gun, a hollow frame, a manually operated lever pivoted to the frame and extending upward therein the upper part of the said lever having parallel sides spaced apart, and the lower part having transverse openings, a hammer and a trigger between said sides and pivoted thereto, said trigger having a rearward extension to engage a sear and an opening to receive a spring and also extending within one of the openings in the lever, a spring extending through the trigger and attached to the lever and hammer at its respective ends, a sear pivoted in the upper part of the frame and engaging a shoulder on the hammer, and also engaged by the projection on the trigger, and a safety stop rotative in the lever and having a projection to engage and hold the trigger.

5. In a gun, a slidable breech block, a toggle lever pivoted at one end to the breech block and having a fixed pivot at the other end, said lever also having a shoulder beneath its joint and a manually operated lever connected to the toggle lever to operate the same, and also having one end

engaging the said shoulder to hold the toggle lever in place.

6. In a gun, a hollow frame, a breech block movable in the frame, a toggle lever to operate the breech block, a firing pin, divided into two parts, and extending within the breech block and toggle lever, a hammer to engage the firing pin and means for operating the hammer and breech block.

7. In a gun, a hollow frame, a breech block slidable in said frame, a toggle lever pivoted at its respective ends to the breech block and frame, a transversely divided firing pin extending through the breech block and the adjacent member of the lever, a manually operated lever connected to the toggle lever and having its end engaging a shoulder on the lever to rigidly hold the same, a hammer mounted on the lever to engage the pin and means for operating the hammer.

8. In a gun, a hollow frame, a breech block slidable therein and having a recess in its rear portion, a toggle lever pivoted at its respective ends to the breech block and frame, and having its forward member in the said recess and a recess in the under side of its rear member, a divided firing pin extending longitudinally through the forward part of the breech block and the forward member of the lever, a manually operated lever pivoted in the frame and extending within the recess in the said rear member, a hammer pivoted within said last named lever and engaging the pin, a sear pivoted in the frame and engaging the hammer, and a trigger pivoted in the last named lever and engaging the sear to release the hammer.

9. In a gun, a hollow frame having a concave socket, a breech block slidable in the frame and having a recess and a concave socket in its rear part, a toggle lever having rounded ends engaging the concave sockets in the block and frame, and pivoted therein, a transversely divided firing pin extending through the front of the breech block and the front member of the toggle lever, a hammer to engage the pin, means for operating the hammer and means for operating the toggle lever.

10. In a gun, a hollow frame, a breech block slidable in the frame, a toggle lever pivoted at its respective ends to the block and to the frame, a firing pin extending through the breech block and through the forward member of the toggle lever, and divided concentric with the axis of the forward pivot of said lever, a manually operated lever connected to the toggle lever to operate the same and having its end engaging a shoulder on said lever, a hammer and a trigger pivoted in the manually operated lever, a sear pivoted in the stock and engaging the hammer to hold the same, and also engaged by the trigger to release the hammer, and a spring to operate the hammer.

11. In a gun, a hollow frame, a breech block slidable in the frame and having a recess in the under side of its rear portion, a toggle lever pivoted at its respective ends to the breech block and the frame and having downwardly extended slotted sides on its rear portion, a manually operated lever extending between said sides and engaging a shoulder on the toggle lever, a pin in said lever and engaging the slots, a transversely divided firing pin extending through the breech block and forward members of the toggle lever, a hammer pivoted in the manually operated lever, a sear pivoted in the frame and engaging the hammer to hold the same, a spring to operate the hammer, and a trigger to move the sear and release the hammer..

12. In a breech loading gun, a barrel, a hollow frame, a tube beneath the barrel and open at the rear end, a lifter opposite the said end and vertically movable, a pin in the front end of the lifter and traversing vertical grooves in the frame, a spring beneath the lifter, a breech block slidably engaging the upper side of the lifter to depress the same, and means for operating the breech block.

13. In a breech loading gun, a barrel, a hollow frame, a tube below the barrel and open at the rear, a lifter opposite the tube, a breech block slidable in the frame and engaging the upper side of the lifter to depress the same, a spring to raise the front of the lifter, a pivoted lever to raise the rear of the lifter, and a manually operated lever to move the breech block and having a shoulder to engage and move the lifter operating lever.

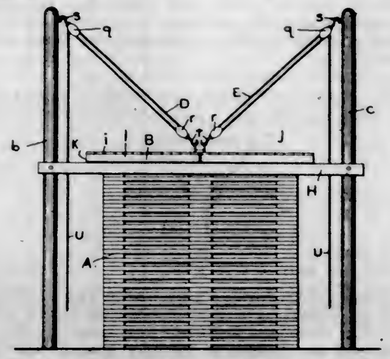
14. In a breech loading gun, a barrel, a hollow frame, a tube beneath the barrel and open at the rear, a lifter, having a pin at one end traversing grooves in the frame and a vertical slot at the other end traversed by a pin in the frame, a spring and lever to raise the lifter, a slidable breech block engaging the upper side of the lifter, and a manually operated lever to operate the breech block and lifter lever.

15. In a breech loading gun, a hollow frame having its top and side portions integral and a removable bottom portion having an opening and upwardly projecting sides, a breech block slidable upon the upwardly projecting sides, an operating lever pivoted in the opening, and a toggle lever operated by the operating lever and engaging the breech block at one end and engaging the integral upper part of the frame at the other end.

16. In a breech loading gun, a frame having its top and sides integral, a removable bottom portion to the frame and having an opening therethrough and also having upwardly projecting sides within the sides of the frame, a breech block slidable in the frame and supported on said upwardly projecting sides, an operating lever pivoted in said opening, a hammer and a trigger mounted within said lever, a toggle lever attached to the breech block at one end and pivoted to the frame at the other end, and a sear pivoted to the frame and engaging the hammer, and also engaged by the trigger.

17. In a breech loading gun, a hollow frame having its top and sides integral, a removable bottom portion to said frame and having an opening for the operating lever and upwardly projecting sides to slidably support the breech block, a lifter mounted on said removable portion and vertically movable between the said sides, an operating lever pivoted in said opening, a breech block slidably supported by said upwardly projecting sides, a hammer and a trigger mounted in the operating lever, a sear pivoted to the upper part of the frame, and a toggle lever attached to the breech block at one end, and pivoted to the upper part of the frame at the other end.

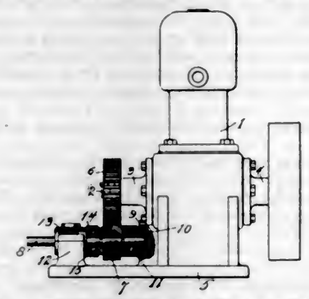
864,941. ADJUSTABLE ROOF. THOMAS WILSON, Ottawa, Ontario, Canada. Filed Oct. 8, 1906. Serial No. 337,965.



1. In an adjustable roof for the purpose specified the combination of four fixed posts at the corners of the piles of material, two separate and disconnected roof sections adapted to abut along their inner edges, tackle extending between the tops of said piles and the inner edge of each section operable from the foot of the posts, and removably secured to both the posts and the roof section and transversely extending members on which the roof sections are adapted to rest as and for the purpose specified.

2. In an adjustable roof for the purpose specified the combination of four fixed posts at the corner of the piles of material, eyelets at the top thereof, two separate and disconnected roof sections adapted to abut along their inner edges, eyelets secured to the same near the inner edges, pulley blocks hooked to the eyelets on the roof sections and on the posts, tackle extending between the pulleys on the post and roof section and operable from the foot of the posts, and transversely extending members on which the roof sections are adapted to rest, removably secured to the posts as and for the purpose specified.

864,942. PROPELLER-GEAR. WILLIAM WITT, Port Clinton, Ohio. Filed Mar. 29, 1907. Serial No. 365,245.

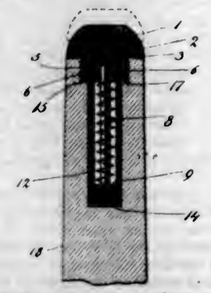


1. In a device of the described character, an engine, a stub-shaft for the engine, a gear-wheel on the shaft, a propeller-shaft, a pinion on the propeller-shaft engaged with the gear-wheel, a bracket upon the base of the engine, a bearing for the propeller-shaft on said bracket, a thrust-bearing upon the body of the engine for the forward end of the propeller-shaft, said pinion being secured to the propeller-shaft between said two bearings.

2. In a device of the described character, an engine having integral with its body a base and a bracket, a propeller-shaft having its bearings upon the bracket, a ball-bearing upon the body of the engine, a pinion fixed to the propeller-shaft between said two bearings, an engine-shaft, and a gear-wheel upon said engine-shaft engaged with said pinion.

3. In a device of the described character, an engine-shaft, a gear-wheel on the shaft, a propeller-shaft, a pinion on the propeller-shaft in engagement with the gear-wheel, a bracket upon which the propeller-shaft is journaled, a thrust-block interposed between the body of the engine and the forward face of the hub of the pinion, a thrust-block interposed between the bracket and the rear face of the hub of the pinion, and ball-bearings between said thrust-blocks and the hub of the pinion.

864,943. DETACHABLE BILLIARD-CUE TIP. VINCENT AJELLO, New York, N. Y. Filed May 20, 1905. Serial No. 261,344.



1. The combination of a cue, a tip, a connecting piece permanently secured thereto, a plate adapted to engage with said connecting piece, a stem extending from said plate into the end of the cue and rigidly connected to said plate, notches within the cue, and pins adapted to engage said notches, and means for normally holding the same in engagement.

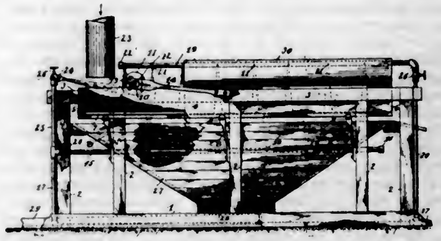
2. The combination of a cue, a tip, a connecting piece permanently secured thereto, a plate adapted to engage with said connecting piece, a stem extending from said plate into the end of the cue, notches within the cue, and pins adapted to engage said notches, and means for normally holding the same in engagement.

3. The combination of a cue, a tip, a connecting piece permanently secured thereto, a plate adapted to engage with said connecting piece, a stem extending from said plate into the end of the cue, a notch within the cue, and a pin adapted to engage said notch, and means for normally holding the same in engagement.

4. A device of the character described comprising a tip and a cue provided with contact surfaces, a spring adapted to hold the same normally in contact and to permit the removal of the tip by manipulation of the same, and means interior to said contact surfaces for positively preventing lateral and rotary movement while the parts are in their normal position.

5. The combination with a tip and a cue of a connecting piece and means connected therewith for holding the parts in their normal position, said connecting piece being provided with means interior to the tip and cue for engaging the tip and cue and for positively preventing lateral and rotary movement of the cue and connecting piece with respect to each other while in normal position, the connection between the tip and said connecting piece being separable.

864,944. APPARATUS FOR REMOVING THE SKIN FROM FRUIT. HERMANUS A. BEEKHUIS, Hanford, Cal., assignor to California Fruit Canners Association, San Francisco, Cal., a Corporation of California. Filed May 25, 1904. Serial No. 209,648.



1. In an apparatus for treating fruit such as peaches, means for removing previously disintegrated skin from the fruit, including a support for the fruit, means for operating the support to shake the fruit, and means for directing peeling water jets upon said fruit while the same is being shaken.

2. In an apparatus for treating fruit such as peaches, means for removing previously disintegrated skin from the fruit including a flat substantially horizontal support for the fruit, means for operating the support to shake the fruit, and means for directing peeling water jets upon said fruit while the same is being shaken.

3. In an apparatus for treating fruit such as peaches, means for removing previously disintegrated skin from the fruit including a foraminous support for the fruit, means for operating the support to shake the fruit, and means for directing peeling water jets upon said fruit from both above and below said foraminated support while the fruit is being shaken.

4. In an apparatus for treating fruit such as peaches, means for removing previously disintegrated skin from the fruit including a substantially horizontal support for the fruit, means for operating the support to cause the fruit to advance over the surface thereof, and means for directing peeling water jets upon said fruit as it advances.

5. In an apparatus for treating fruit such as peaches, means for removing previously disintegrated skin from the fruit including a substantially horizontal foraminated support for the fruit, means for operating the support to cause the fruit to advance over the surface thereof, and

means for directing peeling water jets upon said fruit from both above and below the foraminated support as the fruit advances.

6. In an apparatus for treating fruit such as peaches, means for removing previously disintegrated skin from the fruit including a substantially horizontal support for the fruit, instrumentalities for operating the support to shake the fruit and to cause the same to advance over the surface of the support, and means for directing peeling water jets upon said fruit while being shaken and advanced.

7. In an apparatus for treating fruit such as peaches, means for removing previously disintegrated skin from the fruit including a substantially horizontal foraminated support for the fruit, instrumentalities for operating the support to shake the fruit and to cause the same to advance over the surface of the support, and means for directing peeling water jets upon said fruit from both above and below the foraminated support while the fruit is being shaken and advanced.

8. In an apparatus for treating fruit such as peaches, means for removing previously disintegrated skin from the fruit including a foraminated support for the fruit, means for operating the support to shake the fruit, and means for directing peeling water jets through the foraminated support and upon said fruit while the same is being shaken.

9. In an apparatus for treating fruit such as peaches, means for removing previously disintegrated skin from the fruit including a substantially horizontal foraminated support for the fruit, means for operating the support to cause the fruit to advance over the surface thereof, and means for directing peeling water jets upon said fruit from below and through the foraminated support while the fruit is being shaken.

10. In an apparatus for treating fruit such as peaches, means for removing previously disintegrated skin from the fruit including a substantially horizontal foraminated support for the fruit, instrumentalities for operating the support to shake the fruit and to cause the same to advance over the surface of the support, and means for directing peeling water jets upon said fruit from below and through the foraminated support while the fruit is being shaken and advanced.

11. In an apparatus for treating fruit such as peaches, means for removing previously disintegrated skin from the fruit including a support for the fruit, means for operating the support to shake the fruit, and means for directing peeling water jets upon said fruit while the fruit is being shaken, in combination with means for feeding the fruit to the support, and means for directing a water jet upon the fruit while falling from the feeding means to the support.

12. In an apparatus for treating fruit such as peaches, means for removing previously disintegrated skin from the fruit including a support for the fruit, and means for directing peeling water jets upon said fruit while on said support, in combination with means for feeding the fruit to the support, and means for directing a water jet upon the fruit while falling from the feeder to the support.

13. In an apparatus for removing previously disintegrated skin from fruit, the combination of a device having means for supporting, shaking and advancing the fruit, and a water pipe extending in the direction of the travel of the fruit and having cross-wise slits at intervals adapted to direct peeling water jets upon the fruit in planes transversely of its travel.

14. In an apparatus of the character described, means for removing previously disintegrated skin from fruit including a support for the fruit, means for operating the support to cause the fruit to shake thereon, and means for directing water in fan-like peeling jets upon said fruit.

15. In an apparatus of the character described, means for removing previously disintegrated skin from fruit including a support for the fruit, means for operating the support to cause the fruit to advance over the surface thereof, and means for directing water in fan-like peeling jets upon the fruit in planes running transversely to the direction of travel of the fruit over its support.

16. In an apparatus for treating fruit such as peaches, means for removing previously disintegrated skin from the fruit, including a support for the fruit, means for effecting a change of position of the fruit on said support, and means for directing peeling water jets upon said fruit.

17. In an apparatus for treating fruit such as peaches means for removing previously disintegrated skin from the fruit including a support for the fruit having a screen bottom, means for agitating said support, and means for directing peeling water jets to the fruit upon the support.

18. In an apparatus for removing the previously disintegrated skin from fruit, the combination with means for supporting and advancing the fruit, of means for directing a peeling water jet upon said fruit as it advances.

19. In an apparatus for removing the previously disintegrated skin from fruit, the combination with means for supporting and advancing the fruit, of means for directing peeling jets of water at intervals upon said fruit as it advances.

20. In an apparatus for removing the previously disintegrated skin from fruit, the combination with means for supporting and advancing the fruit, of means for directing peeling jets of water at intervals upon said fruit from above and below as it advances.

21. In an apparatus for removing the previously disintegrated skin from fruit, the combination of means for shaking said fruit, with means for directing a peeling water jet upon the fruit while being shaken.

22. In an apparatus for removing the previously disintegrated skin from fruit, the combination of means for shaking said fruit, with means for directing peeling water jets upon the fruit from above and below while being shaken.

23. In an apparatus for removing the previously disintegrated skin from fruit, the combination of means for shaking and advancing the fruit, with means for directing peeling jets of water at intervals upon said fruit while advancing and being shaken.

24. In an apparatus for removing the previously disintegrated skin from fruit, the combination of means for shaking and advancing the fruit, with means for directing peeling jets of water at intervals upon said fruit from above and below while advancing and being shaken.

25. In an apparatus for removing the previously disintegrated skin from fruit, the combination of a shaking box to which the fruit is fed, and means for directing peeling jets of water upon said fruit while in the box.

26. In an apparatus for removing the previously disintegrated skin from fruit, the combination of a box, means for feeding said fruit to the box at one end, means for shaking the box to shake the fruit therein and cause its advance to the other end, and means for directing peeling jets of water upon said fruit at intervals as it travels through the box.

27. In an apparatus for removing the previously disintegrated skin from fruit, the combination of a shaking box having a screen bottom upon which the fruit is supported and shaken, and means below said box for directing peeling water jets through the screen bottom upon the fruit.

28. In an apparatus for removing the previously disintegrated skin from fruit, the combination of a box having a screen bottom, means for feeding said fruit to the box at one end, means for shaking the box to shake the fruit therein and cause its advance to the other end, and means below said box for directing peeling jets of water through the screen bottom upon said fruit at intervals as it travels through the box.

29. In an apparatus for removing the previously disintegrated skin from fruit, the combination of a shaking box having a screen bottom upon which the fruit is supported, shaken and advanced, means below said box for directing peeling water jets through the screen bottom upon the fruit as it advances through the box, and means above said box for directing jets of water from above upon the fruit in the box.

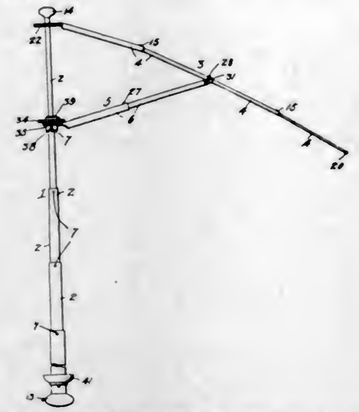
30. In an apparatus for removing the previously disintegrated skin from fruit, the combination of a support for the fruit, means for feeding the fruit to said support, means for directing a peeling jet of water upon the fruit while falling from the feeder to the support, and means for directing a peeling jet of water upon the fruit while on said support.

31. In an apparatus for removing the previously disintegrated skin from fruit, the combination of a shaking box to support and advance the fruit, an overlying spout to feed the fruit to said box, and a nozzle disposed to direct a peeling jet of water upon the fruit while falling from the spout to the box.

32. In an apparatus for removing the previously disintegrated skin from fruit, the combination of a shaking box having a screen bottom to support and advance the fruit, a spout adapted to feed the fruit to the box, a nozzle disposed to direct a water jet upon the fruit while falling from the spout to the box, and means for directing peeling water jets at intervals upon the fruit as it passes through the box.

33. In an apparatus for removing the previously disintegrated skin from fruit, the combination of a shaking box for supporting, shaking and advancing the fruit, and a water pipe extending in the direction of the travel of the fruit of said box and having crosswise slits at intervals adapted to direct peeling water jets upon the fruit in planes transversely of its travel.

864,945. FOLDING UMBRELLA. THEODORE F. BIGELOW, Amsterdam, N. Y. Filed Nov. 21, 1906. Serial No. 344,491.



1. An umbrella of the character described having slidably engaged handle sections, slidably engaged rib sections, slidably engaged brace sections, the sections of said handle, ribs and braces being foldable to positions in parallel relation to each other, a slidable ring upon the handle sections formed in its periphery with notches adapted to receive the ends of the outermost rib sections, the cross pieces 20 upon the tips of said outermost rib sections, said cross pieces being of greater length than the width of the notches in said ring and being adapted to engage the bottom face of said ring, and a cup shaped disk slidable upon one of the handle sections and adapted to engage and inclose the cross pieces 20 to hold the latter in engagement with the bottom face of the notched ring, whereby the slidably engaged sections of the handle, braces and ribs may be simultaneously extended, substantially as described.

2. An umbrella of the character described, having a handle composed of telescoping sections, ribs pivoted at their upper ends to the uppermost handle section and composed of telescoping sections, cross pieces upon the tips of said ribs, a notched ring slidable upon said handle sections, braces pivoted to said notched ring and composed of telescoping sections, wire bails upon the outer ends of said braces and slidably engaged with said ribs, and a cup-shaped disk upon the lowermost handle section adapted to hold the cross pieces on the tips of said ribs in engagement with said notched ring, whereby the sections of the handle, braces and ribs may be simultaneously extended, substantially as shown and described.

3. An umbrella of the character described having a sectional handle, sectional ribs, a sliding sleeve on the handle, braces consisting of slidably engaged sections, catches for holding the sections of said braces in their extended position, pivotal connections between the inner ends of the braces and said sleeve and sliding and pivotal connections between the outer ends of the braces and said ribs.

4. An umbrella of the character described having its handle, ribs and braces composed of slidably engaged sections foldable to positions in parallel relation to each other, means upon said handle for receiving and holding the ribs when in parallel relation therewith, spring catches arranged upon the handle for locking its sections extended, said catches having projecting portions adapted to be engaged and operated by the braces when the latter are pressed inwardly against the handle, and spring catches upon the braces for holding their sections extended, the last-mentioned catches being arranged upon the inner faces of the braces and having projecting portions adapted to engage the handle and to be actuated thereby when the braces are pressed inwardly against the handle, substantially as described.

5. An umbrella of the character described having its handle, ribs and braces composed of slidably engaged sections foldable to positions in parallel relation to each other, a notched ring upon said handle to guide said braces and ribs when in such parallel position, a cup-shaped disk slidable upon said handle and adapted to engage the tips of the ribs when said parts are engaged with said notched ring, and spring catches upon said braces and said handle for holding their sections in extended positions, said catches being arranged upon the opposing faces of the handle and braces whereby they will be released when the braces are pressed against the handle, substantially as shown and described.

6. An umbrella of the character described having slidably engaged handle sections formed with apertures, spring catches for holding said sections extended, said catches consisting of springs arranged within the handle sections and carrying radially projecting studs adapted to project through the apertures in the handle sections and formed with tapered outer ends which latter project beyond the outer faces of the handle sections, and braces adapted to be pressed against said projecting ends of the studs to move the catches to their released position, substantially as described.

7. An umbrella of the character described comprising a handle, ribs, braces between said handle and ribs and composed of slidably engaged sections, and fastening devices upon said braces for holding their sections extended, said fastening devices having inwardly projecting portions adapted to engage the handle and to be thereby moved to released position when said braces are pressed inwardly against said handle, substantially as described.

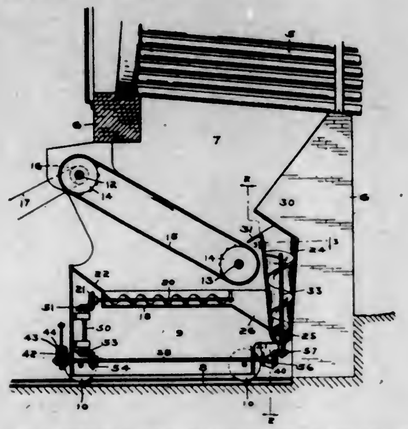
8. An umbrella of the character described, comprising a handle, ribs, braces between said handle and ribs and composed of slidably engaged sections, and catches upon said braces for holding their sections extended, and catches having portions projecting laterally beyond the outer surbraces for holding their sections extended, said catches being adapted to be moved into the braces to released positions when pressed against said handle, substantially as described.

9. In a folding umbrella, a rib composed of telescoping sections having longitudinally extending slits, one of said sections having the seat 16 stamped in it and the cross piece 18 closing the slit adjacent to said seat, and the other section being adapted to enter said seat and having the stop 17 to engage the cross piece or stop 18, substantially as described.

10. In a folding umbrella, a rib composed of slidably engaged sections, a brace of substantially U-shape in cross-section having its open side turned outwardly to permit the sections of said rib to fold into it, a U-shaped bail pivoted upon the outer end of said brace and surrounding said rib for sliding movement thereon, and a band surround-

ing one of the rib sections to serve as a stop to limit the sliding movement of the brace upon said rib section, substantially as described.

864,946. STOKER FOR FURNACES. EUGENE BRETNEY, Indianapolis, Ind., assignor of two-thirds to Edward H. Schmidt and L. P. Rothchild, Indianapolis, Ind. Filed Feb. 18, 1907. Serial No. 358,090.



1. In a furnace, a grate, an approximately vertical fuel-chute at the rear of the grate having a top discharge upon said grate the interior walls of said chute having longitudinal channels, a conveyer-screw rotating in said chute, a second chute under the grate discharging into the lower end of the vertical chute and a conveyer-screw rotating in said second chute.

2. In a furnace, a grate, an upright fuel chute at the rear of the grate having a top discharge upon said grate, the diameter of said chute increasing gradually from bottom to top, the interior walls of said chute having longitudinal channels, a conveyer-screw rotating in said chute and means for supplying fuel to the lower end of said chute.

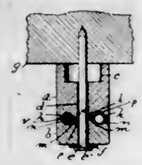
3. In a furnace, a grate, an upright fuel-chute at the rear of the grate having a top discharge upon said grate, the diameter of said chute increasing gradually from bottom to top, inside longitudinal channels in said chute having angular walls one of which is in a plane approximately radial with relation to the center of the chute, a longitudinally disposed revoluble conveyer-screw in said chute rotating toward the radially disposed walls of the longitudinal chute-channels, and means for delivering fuel to the bottom of said chute.

4. In a furnace, a movable grate sloping upwardly from rear to the front of the fire-box, an upright fuel chute discharging upon the rear of the grate said chute having a gradual increase in diameter from the bottom to the top with annular longitudinal inside corrugations, a conveyer-screw rotating in said chute said screw standing longitudinally of the chute and having blades increasing in width proportionately with the increased diameter of the chute said chute having bottom inlets, a second chute under the grate discharging into the lower end of the upright chute, a conveyer-screw rotating in the second chute, and means for advancing the grate to gradually carry the fuel from back to the front of the fire-box.

5. In a furnace, a truck mounted on wheels a grate mounted on said truck, an upright fuel-chute at the rear of the grate having a top discharge upon said grate and carried by said truck, a conveyer-screw rotating in said chute, a second chute under the grate carried by said truck and discharging into the lower end of the vertical-chute and a conveyer-screw in said second chute.

6. In a furnace, a fire-box, rails forming a track on the floor below the fire-box and extending out forwardly of the furnace, a truck, flanged wheels on said truck whereby the latter is mounted on said track, a movable grate sloping upwardly from rear to front of the fire-box and mounted on said truck, an upright fuel chute at the rear of the grate having a top discharge upon said grate, said chute increasing gradually in diameter from bottom to top, a conveyer-screw rotating in said chute, a second chute under the grate carried by said truck and discharging into the lower end of the upright chute, a conveyer-screw rotating in the second chute, and means for advancing the grate to gradually carry the fuel from the back to the front of the fire-box.

864,947. CLAMP FOR ELECTRIC WIRES. ELISHA W. BUFFINTON, Fall River, Mass., assignor of one-half to Marietta M. Huggett, Fall River, Mass. Filed May 1, 1907. Serial No. 371,227.



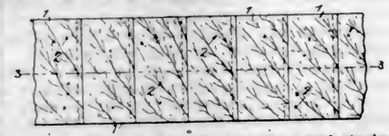
1. The herein described improved clamp or knob for electric wires, consisting of a base provided on its face with two side grooves each adapted to receive a wire and with a long and narrow central groove located between the side grooves and substantially parallel therewith and extending nearly to the opposite sides or edges of said base, walls at the opposite ends of the central groove, and thin walls between the opposite sides of the central groove and the side grooves; and a cap provided on its face with a tongue of size and shape to fit into the central groove of the base and with side grooves registering with the side grooves in said base, the base and cap being provided with central coincident holes in said tongue and central groove for a nail or screw, the holes being of less diameter than the width of the tongue, whereby the cap portion can be quickly and accurately applied to the base, and interlapping walls are produced on the cap and base on opposite sides of the nail-holes.

2. The herein described improved clamp or knob for electric wires, consisting of a base provided on its face with two side grooves each adapted to receive a wire and with a long and narrow V-shaped central groove located between the side grooves and substantially parallel therewith and extending nearly to the opposite sides or edges of said base, walls at the opposite ends of the central groove, and thin walls between the opposite sides of the central groove and the side grooves; and a cap provided on its face with a tongue of size and shape to fit into the central groove of the base and with side grooves registering with the side grooves in said base, the base and cap being provided with central coincident holes in said tongue and central groove for a nail or screw, whereby the cap portion can be quickly and accurately applied to the base and the tongue prevented from either longitudinal or transverse movement in the central groove.

864,948. ART OF MANUFACTURING CIGARS AND ALL-TOBACCO CIGARETTES. GEORGE P. BUTLER, New York, N. Y. Filed Nov. 6, 1906. Serial No. 342,169.

1. As an improvement in the art of manufacturing all tobacco cigarettes or cigars, the herein described method which consists in forming a long wrapper by joining sections of tobacco leaf, and superposing said wrapper to form a plurality of layers, substantially as described.

2. As an improvement in the art of manufacturing all tobacco cigarettes or cigars, the herein described method which consists in forming a long wrapper by joining sections of tobacco leaf, superposing said wrapper to form a plurality of layers, and inclosing said wrapper about a filler, substantially as described.



3. As an improvement in the art of manufacturing all tobacco cigarettes or cigars, the herein described method which consists in forming a long wrapper by joining sections of tobacco leaf, superposing said wrapper to form a plurality of layers, producing a rod by inclosing said wrapper about a filler and then severing said rod into desired lengths, substantially as described.

4. As an improvement in the art of manufacturing all tobacco cigarettes or cigars, the herein described method which consists in joining a number of tobacco leaves to form a long wrapper and thereafter folding said wrapper upon itself, substantially as described.

5. As an improvement in the art of manufacturing all tobacco cigarettes or cigars, the herein described method which consists in joining a number of tobacco leaves to form a long wrapper, and thereafter folding said wrapper upon itself in such manner that one layer will be wider than the other, and will have a pasting edge thereon, substantially as described.

6. As an improvement in the art of manufacturing all tobacco cigarettes or cigars, the herein described method which consists in joining a number of tobacco leaves to form a long wrapper, folding said wrapper upon itself and applying adhesive material between the layers, substantially as described.

7. As an improvement in the art of manufacturing all tobacco cigarettes or cigars, the herein described method which consists in joining a number of tobacco leaves end to end to form a long wrapper, and thereafter folding said wrapper upon itself, substantially as described.

8. As an improvement in the art of manufacturing all tobacco cigarettes or cigars, the herein described method which consists in joining a number of tobacco leaves end to end to form a long wrapper and thereafter folding said wrapper upon itself in such manner that one layer will be wider than the other and will have a pasting edge thereon, substantially as described.

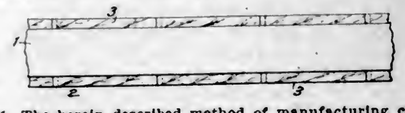
9. As an improvement in the art of manufacturing all tobacco cigarettes or cigars, the herein described method which consists in joining a number of tobacco leaves end to end to form a long wrapper, folding said wrapper upon itself in such manner that one layer will be wider than the other and will have a pasting edge, and applying adhesive material between said layers, substantially as described.

10. The method hereinbefore described of manufacturing all tobacco cigarettes by the "continuous process" which consists in dividing the tobacco leaves to provide a plurality of lengthwise sections, joining said sections to one another, end to end, to provide a strip, doubling said strip over upon itself along a longitudinal line, placing the cigarette filling upon the strip lengthwise of the same, rolling the strip thereabout to form a rod and finally cutting said rod into cigarettes of commercial lengths.

11. The method hereinbefore described of manufacturing all tobacco cigarettes which consist in dividing the tobacco leaves to provide a plurality of longitudinal sections, joining said sections, end to end, to one another and to provide a strip, doubling said strip over upon itself along a longitudinal line, reeling the strip, feeding the doubled strip under tension from said reel, placing the cigarette filling lengthwise of the strip as it is fed from the reel, rolling the strip about the filling to form a rod and cutting the rod into sections to provide cigarettes of commercial lengths.

12. The herein described method of producing all tobacco cigarettes or cigars, consisting in joining a number of tobacco leaves to form a long wrapper, folding said wrapper upon itself, inserting the filler into said wrapper, closing the same about the filler and thereafter cutting the resulting long all tobacco cigarette or cigar into desired lengths, substantially as described.

864,949. MANUFACTURE OF CIGARETTES HAVING TOBACCO WRAPPERS. GEORGE P. BUTLER, New York, N. Y. Filed Nov. 6, 1906. Serial No. 342,170.



1. The herein described method of manufacturing cigarettes with tobacco wrappers, consisting in placing a reinforcement of paper between the filler and a wrapper composed of adjacently arranged sections of tobacco leaf, said paper reinforcement being of less width than said tobacco wrapper, substantially as described.

2. The herein described method of manufacturing cigarettes with tobacco wrappers, consisting in placing adjacent a tobacco wrapper composed of adjacently arranged sections of tobacco leaf a reinforcement of paper of less width than the tobacco wrapper and applying an adhesive substance between the tobacco wrapper and paper reinforcement, substantially as described.

3. The herein described method of manufacturing cigarettes having tobacco wrappers, consisting in placing a number of tobacco leaves upon a paper length to form a wrapper, and thereafter inclosing said wrapper about a filler, substantially as described.

4. The herein described method of manufacturing cigarettes having tobacco wrappers, consisting in placing a number of tobacco leaves upon a length of paper, applying adhesive material between the tobacco leaves and paper, and thereafter inclosing the wrapper thus formed about a filler, substantially as described.

5. The herein described method of manufacturing cigarettes having tobacco wrappers, consisting in joining a number of tobacco leaves end to end and placing the same upon a paper length to form a wrapper, and inclosing said wrapper about a filler, substantially as described.

6. The herein described method of manufacturing cigarettes having tobacco wrappers, consisting in joining a number of tobacco leaves end to end, placing the same upon a paper length to which adhesive material is applied, inclosing the wrapper thus formed about a filler to produce a long cigarette and cutting the long cigarette into desired lengths, substantially as described.

7. The herein described method of manufacturing cigarettes having tobacco wrappers, consisting in joining a number of strips of tobacco end to end, placing the same upon a paper length to which adhesive material is applied, inclosing the wrapper thus formed about a filler to produce a long cigarette and cutting the long cigarette into desired lengths, substantially as described.

8. As an improvement in the art of manufacturing cigarettes having tobacco wrappers, consisting in forming the wrapper by joining a number of tobacco leaves end to end, and associating a paper length with said leaves in such manner that the paper length will be short of the longitudinal edges of the tobacco leaves, thus obtaining a pasting edge at each side of said tobacco leaves, substantially as described.

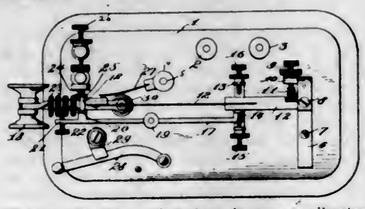
9. As a new article of manufacture, a cigarette having a tobacco wrapper composed of adjacently arranged sections of tobacco leaf and a paper reinforcement of less width than the wrapper associated with the latter, substantially as described.

10. As a new article of manufacture, a cigarette having a tobacco wrapper composed of adjacently arranged sections of tobacco leaf and a paper reinforcement of less width than the wrapper placed between the filler and the wrapper and secured by adhesive material to the latter, substantially as described.

11. The hereinbefore described process of manufacturing cigarettes having tobacco wrappers, which consists in providing a plurality of longitudinal sections, joining said

sections to one another to provide a strip of the length of a plurality of cigarettes of commercial size, superimposing a continuous strip of paper upon said strip and securing the same thereto, placing upon the composite strip and on the paper face thereof the cigarette filling, rolling the composite strip thereabout to form a rod and finally dividing the rod into cigarettes of commercial lengths.

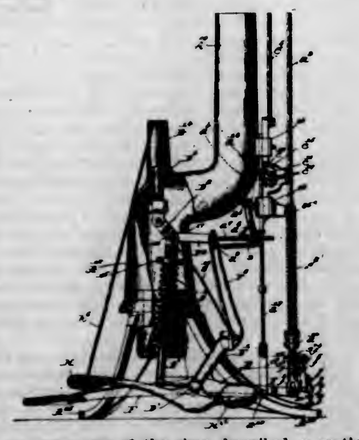
864,950. TELEGRAPH - TRANSMITTER. JOSIAH A. CARTER, Jr., Atlanta, Ga. Filed Mar. 4, 1907. Serial No. 360,328.



1. The combination of a key lever, a vibrator, and auxiliary lever or bar pivoted at its center and in constant contact at its rear end with the vibrator and carrying in its forward end a screw adapted to contact with the key lever, and a stop which upon release of the key lever engages the vibrator and stops it, the key lever being adapted to control the operation of said auxiliary lever or bar.

2. In a telegraphic-transmitter, in combination, a vibrator extending beyond the pivotal point of the key lever, speed adjusting screw weights, an auxiliary lever or bar contacting with the vibrator and with the key lever, a movable stop, and a key lever controlling the action of the vibrator, stop and bar.

864,951. MACHINE FOR INSERTING FASTENINGS. LOUIS A. CASGRAIN, Winchester, Mass., assignor, by mesne assignments, to United Shoe Machinery Company, a Corporation of New Jersey. Filed Aug. 4, 1898. Serial No. 687,682.



1. In an apparatus of the class described, a vertically movable horn or work-support, a driving shaft, a cam thereon, connections between said cam and horn and operated by the former, to positively effect downward movement of the horn, manually controlled means to raise the horn and start the apparatus, and a locking device to retain said means in operative condition and thereby prevent premature descent of the horn during the insertion of a fastening into the work.

2. In an apparatus of the class described, a rising and falling horn or work-support, means including a cam, to effect downward movement of the horn, manually controlled means to raise the horn and start the apparatus, and a locking device to retain said means in operative condition and thereby prevent premature descent of the horn during the insertion of a fastening into the work.

3. In an apparatus of the class described, a rising and falling horn or work-support, manually controlled means to start the apparatus, horn lowering mechanism, a toggle connection between the horn and said mechanism, a positive connection between the toggle and said means, to straighten the toggle manually and thereby raise the horn when starting the apparatus, a lock to prevent descent of the horn during the insertion of a fastening into the work, and means to automatically release the lock and permit lowering of the horn thereafter.

4. In a machine for inserting fastenings, a horn or work-support, a main driving shaft, mechanism controlled thereby to depress the horn periodically, a clutch for the said shaft, controlling means to throw said clutch into or out of operation, a treadle, operating connections between it and said means, to start the machine, and positive connections between the treadle and the horn, to raise the latter manually when the machine is started.

5. In a machine for inserting fastenings, a horn or work-support; means to automatically lower the horn; a toggle connection between the horn and said lowering means; means, including a manually operated treadle, to start the machine, and controlling connections between the toggle and treadle, including an arm rigidly connected with the treadle, and a link positively jointed to said arm and the toggle, to set the toggle and thereby raise the horn by movement of the treadle to start the machine.

6. In a machine for inserting fastenings, a horn or work-support; means to automatically lower the horn; a toggle connection between the horn and said lowering means; means, including a manually operated treadle, to start the machine; positive connections between the toggle and treadle, to set the former and raise the horn when the machine is started, a lock to hold the treadle in position to maintain the toggle set, and means to automatically release said lock as the machine is stopped.

7. In a machine for inserting fastenings, a vertically movable horn, a manually operated means for raising said horn, a starting and stopping mechanism including a rod connected to said manually operated means for actuation thereby to start the machine, said connection permitting a limited independent movement of said means to raise the horn before the starting mechanism is actuated, a lock to secure said horn raising means against movement and maintain the horn raised during a cycle of operations of the machine, and means to release said lock when the cycle of operations is completed.

8. In a machine for inserting fastenings, a driving shaft, a cam thereon to positively effect downward movement of the horn, a vertically movable horn or work-support, a lever, a toggle connection between it and the horn, intermediate mechanism connecting said cam and lever, starting and stopping mechanism for the machine, including a manually actuated member, and a rod or link connected therewith to permit a limited movement of said rod or link relative to the said member, a lock to prevent such relative movement and thereby maintain the toggle set and the horn raised, means operated by said manually actuated member to set the toggle and raise the horn, and means to release said lock at a certain point in the movement of the rod or link to stop the machine.

9. In a machine for inserting fastenings, a vertically movable horn or work-support, a rotatable shaft, a cam on said shaft to effect downward movement of the horn, intermediate mechanism including a toggle, connecting said horn with the cam, brake mechanism to stop the rotation of the shaft and adjusted to stop such rotation when the toggle is broken, and manually operated means to positively set the toggle.

10. In a machine for inserting fastenings, a horn or work-support, a main driving shaft, mechanism controlled by rotation thereof to depress the horn, a toggle between said mechanism and the horn, stopping mechanism for the shaft, adjusted to operate when the horn is lowered, starting means for the machine, and connections between the toggle, the starting means and the stopping mechanism including an arm rigidly connected with the starting means, and a link positively jointed to the arm and toggle, to set the toggle and raise the horn before the machine is started, the connection between the starting means and the stopping mechanism acting at the same time to render the stopping mechanism inoperative.

11. In a machine for inserting fastenings, a horn or work-support, depressing mechanism therefor, to periodically depress the horn to permit feed of the work, a horn lifting spring, a toggle between the horn and said depressing mechanism, one member of the toggle being connected with the spring, and means to cause the depressing mechanism to prevent the spring from lifting the horn when the machine is stopped.

12. In a machine for inserting fastenings, a vertically movable horn spindle, a lever having a fixed fulcrum, a toggle connecting one end of said lever and the spindle, a horn lifting spring connected with one toggle member, means, including a coöperating pawl and rack, to lower the horn when said pawl and rack are engaged, a trip to release them, a starting treadle for the machine positively connected with the toggle to set or break it, and means operated by said treadle when it is moved into position to break the toggle to withdraw the trip and permit the horn lowering means to hold the spring-controlled toggle member against the lifting action of the spring.

13. In a machine for inserting fastenings, a vertically movable horn, means to automatically and periodically lower the horn, a horn lifting spring, and manually controlled means to effect final lowering of the horn when the machine stops, the automatically operating horn lowering means at such time holding the spring under tension and inoperative.

14. In an apparatus of the class described, a horn spindle, a horn movably mounted thereon, starting means for the apparatus, and means rendered operative by actuation of said starting means to prevent movement of the horn with relation to its spindle during the operation of the apparatus.

15. In an apparatus of the class described, a horn spindle, a horn movably mounted thereon, and means to automatically prevent movement of the horn with relation to its spindle during the operation of the apparatus and to permit such movement of the horn when the apparatus is stopped.

16. In an apparatus of the class described, a horn spindle, a horn mounted thereon and movable into and out of operative position, and means to automatically prevent movement of the horn from operative position during the operation of the apparatus.

17. In an apparatus of the class described, a vertically movable horn spindle, a horn mounted to rock thereon in a vertical plane, starting means for the apparatus, and a movable stop operatively connected with the starting means, to prevent rocking of the horn during the operation of the apparatus.

18. In an apparatus of the class described, a vertically movable horn spindle, a bearing therefor, a horn mounted on the spindle to rock in a vertical plane and having a depending arm below its fulcrum, a rocker-arm on the bearing adapted to be moved into engagement with the depending arm, to hold the horn rigid with relation to its spindle, and controlling means for the apparatus, operatively connected with and to actuate the rocker-arm.

19. In a machine of the class described, a horn or work-support, depressing mechanism therefor, a horn-lifting spring, a fixed support for one end of the spring, a toggle between the horn and the depressing mechanism, one member of the toggle being connected to the free end of the spring, and means to set the toggle to elevate the horn.

20. In a machine of the class described, a horn or work-support, a toggle one member of which is directly connected with said horn, a horn lifting spring fixed at one end, its other end being operatively connected with the other member of the toggle, means connected with said latter member to compress the spring and lower the horn, and means to set the toggle to elevate the horn.

21. In a machine of the class described, a horn or work-support, depressing mechanism therefor, a horn-lifting spring, a toggle between the horn and the depressing mechanism, one member of the toggle being directly connected with the spring, and means to set the toggle to elevate the horn.

22. In a machine of the class described, a horn or work-support, depressing mechanism therefor, a horn-lifting spring, a fixed support for one end of the spring, a toggle between the horn and the depressing mechanism, and an adjustable connection between one member of the toggle and the spring, whereby the tension of the latter may be varied.

23. In a machine of the class described, a horn, a support therefor, a connection between said horn and said support whereby the horn may be tipped toward and from operative position, stops to limit said movement, said connection being so located that the horn will remain at rest against either stop, and means for tipping said horn into its operative position and then starting the operation of the machine.

24. In a machine of the class described, a presser, a horn and a support therefor, a connection between said horn and said support whereby the horn may be tipped toward and from operative position, stops to limit said movement, said connection being so located that the horn will remain at rest against either stop, means for tipping said horn and for elevating said horn simultaneously to clamp the work against the presser.

25. In a machine of the class described, a support for a horn, a horn mounted thereon and movable with relation thereto into and out of operative position, and mechanism to effect the operation of the machine and also to move the horn into operative position preliminary to the operation of the machine.

26. In a machine of the class described, starting means for the machine, a support for the horn, a horn mounted thereon and movable with relation thereto into and out of operative position, and means operative by or through the actuation of the starting means for moving the horn into operative position preliminary to the operation of the machine and locking said horn in such position so long as the machine continues in operation.

27. In a machine of the class described, a support for a horn, a horn mounted thereon and movable with relation thereto into and out of operative position, and means to tip the horn into operative position and to lock it in such position while the machine is operating, and to unlock it automatically when the machine ceases to operate.

28. In a machine of the class described, a support for a horn, a horn mounted thereon and movable with relation thereto into and out of operative position, a starting mechanism and means to actuate it, and means connecting said horn and said actuating means whereby the horn is first moved into operative position and thereafter the starting mechanism is actuated.

29. In a machine of the class described, devices for operating on the work, a support for a horn, a horn mounted thereon and adapted to be tipped toward and from said devices, and means for tipping the horn toward said devices and maintaining it in such position during the operation of said devices.

30. In a nailing machine, devices for operating on the work, a work support comprising a horn spindle movable vertically toward and from said devices, a horn mounted on said spindle and movable laterally toward and from said devices, and means for moving said spindle and simultaneously said horn with relation to the spindle, to present the work to the said devices.

31. In a machine of the class described, a pivotally supported horn, means for elevating said horn, and a locking device carried by a fixed part and engaging said horn to hold it against pivotal movement but permitting vertical movement of the horn with relation to the locking device.

32. In an apparatus of the class described, a support for a horn, a horn mounted thereon and movable with relation thereto into and out of operative position, a treadle and

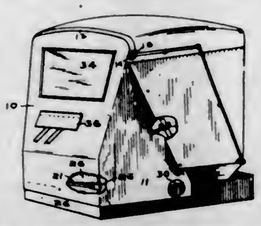
connections for moving the horn into operative position preliminary to the operation of the apparatus, and mechanism for intermittently depressing the horn to allow the work to be fed.

33. In a machine of the class described, a pivotally supported horn, means for elevating said horn, a locking device carried by a fixed part and engaging said horn to hold it against pivotal movement but permitting vertical movement of the horn with relation to the locking device, and mechanism for intermittently depressing the horn to allow the work to be fed.

34. In a machine of the class described, a horn or work-support, a horn lifting-spring, means for depressing the horn to permit the work to be fed, a device movable into and out of a position for rendering said means inoperative, and means under the control of the operator for moving said device while the machine is in operation.

35. In a machine of the class described, a horn or work-support, a horn lifting-spring, means including a movable connecting member for depressing the horn to permit the work to be fed, a device movable into and out of a position for throwing said connecting member out of operation and thus rendering said means inoperative, and a treadle or lever and connections for moving said device.

864,952. STORM-FRONT FOR VEHICLES. OWEN A. CHARLES, Connersville, Ind., assignor to Rex Shield and Manufacturing Company, Connersville, Ind., a Corporation of Indiana. Filed Feb. 5, 1907. Serial No. 353,919.



1. A storm-front having its upper edge formed with a casing, an elastic strap run through the casing and riveted thereto at a middle point of both strap and casing, the ends of the strap on both sides of said middle attachment being free, and hooks secured to the ends of the strap and extending externally of the casing for engagement with forward top joint-pins of a vehicle top.

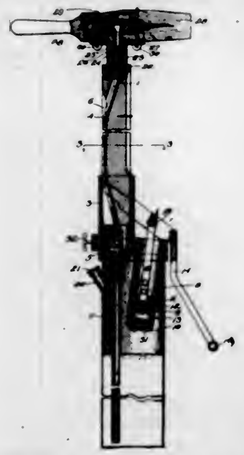
2. A storm-front having its upper edge formed with a casing, a strap run through the casing and riveted at a middle point to the middle of the casing, the ends of the strap on both sides of said middle attachment being free, hooks adjustably secured to the ends of the strap and extending externally of the casing for engagement with forward top joint-pins of a vehicle top, and elastic portions introduced into said strap on each side of its middle attachment, between said middle attachment and said end hooks.

3. A storm-front having its upper edge formed with a casing, an elastic strap run through the casing and riveted thereto at a middle point of the strap and casing, the ends of the strap on both sides of said middle attachment being free, hooks adjustably secured to the ends of the straps and extending externally of the casing for engagement with forward top joint-pins of a vehicle-top, a casing near the lower edge of the storm-front having an elastic strap run freely therethrough and hooks adjustably secured to the ends of the strap and extending externally of the casing for engagement with the opposite upright end-edges of a dash.

4. In a storm-front of flexible material, a rein-hole having material from said hole turned up to form integral marginal flanges, and a metal reinforcing plate having its material for a like hole turned up to form integral marginal flanges, said metal flanges being inserted through the hole in the flexible material with the flanges of the two materials contacting with each other, and rolled together with the flexible material on the inside whereby the two materials will be securely fastened together.

5. In a storm-front the body of which is formed out of a flexible material a rein-hole therethrough reinforced with metal the flexible material and metal being rolled together around the edges of the rein-hole to fasten the two materials together.

864,953. HORTICULTURAL IMPLEMENT. DAVID CRAIG, Melrose, Mass. Filed Dec. 31, 1906. Serial No. 350,218.



1. An implement of the character described, comprising a pole, a reservoir at the bottom of the pole, a duct leading from the lower part of the reservoir to the top of the pole, means for compressing the air within the reservoir to force liquid contained within the reservoir upward through the duct, and a valve to control the duct.

2. An implement of the character described, comprising a pole, a reservoir at the bottom of the pole, a brush removably secured to the top of the pole, a duct leading from the lower part of the reservoir to the top of the pole and discharging into the midst of the bristles of the brush, means for compressing the air within the reservoir to force liquid contained within the reservoir upward through the duct, and a valve to control the duct.

3. An implement of the character described, comprising a pole, a reservoir at the bottom of the pole, a duct leading from the lower part of the reservoir to the top of the pole, a valve to control said duct, and means to compress the air within said reservoir, consisting of a pump having a cylinder, piston and check valve, all contained within the reservoir.

4. An implement of the character described, comprising a pole, a reservoir at the bottom of the pole, a duct leading from the lower part of the reservoir to the top of the pole, a valve to control said duct, a pump communicating with the upper part of the reservoir to compress the air within said reservoir, and a pump lever having a forked end embracing and being pivotally attached to the pole.

5. An implement of the character described, comprising a pole, a reservoir at the bottom of the pole, a duct leading from the lower part of the reservoir to the top of the pole, a valve to control said duct, an air pump secured within the top wall of the reservoir and having its cylinder, piston and check valve all contained within the reservoir, the pump lever having a forked end embracing the pole and pivotally connected therewith, and the piston rod having its outer end pivotally connected with said pump lever.

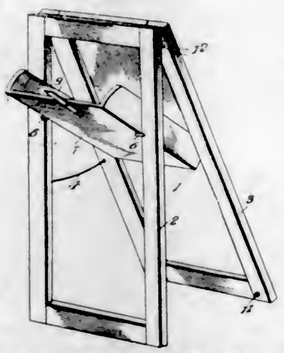
6. An implement of the character described, comprising a pole, a reservoir at the bottom of the pole, a duct leading from the lower part of the reservoir to the top of the pole, means to force liquid from the reservoir upward through the duct, and a nozzle at the upper end of the duct projecting beyond the end of the pole, flattened, and inserted between the bristles of a brush.

7. An implement of the character described, comprising a pole, a reservoir at the bottom of the pole, a duct leading from the lower part of the reservoir to the top of the pole, means to force liquid from the reservoir upward through the duct, a brush removably secured to the upper end of the pole transversely thereof, and a nozzle at the upper end of the duct projecting beyond the end of the pole and discharging among the bristles of the brush, said nozzle being flattened to facilitate inserting it between the bristles.

8. An implement of the character described, comprising a pole, a reservoir at the bottom of the pole, a duct leading from the reservoir to the top of the pole, means to force liquid from the reservoir upward through the duct, a top head comprising a ferrule and a flaring or extended brush support, and fastenings adapted removably to secure a brush to said brush support.

9. An implement of the character described, comprising a pole, a reservoir at the bottom of the pole, a duct leading from the reservoir to the top of the pole, means to force liquid from the reservoir upward through the duct, a top head mounted at the top of the pole having a flaring or extended brush support, and a brush removably secured to the brush support by cords passing underneath the brush support and over the brush.

864,954. SHOE-POLISHING STAND. DICKEY W. CRAIG, Sioux Falls, S. D. Filed Oct. 1, 1906. Serial No. 336,904.

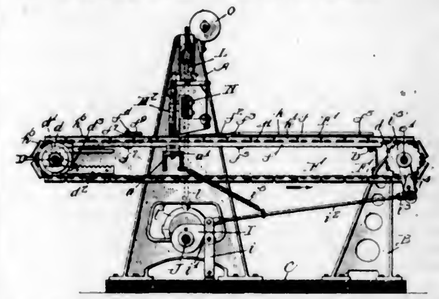


1. A device of the character described, comprising a pair of hinged frames, a box pivotally connected at one end with one of the frames, and means carried by the other frame for automatically moving the opposite end of the box within the frames and underneath the upper ends of the latter when the frames are folded one upon the other, said end of the box being open as well as the top thereof, the said end being designed to be covered by the upper cross bars of the frames, and a top section for the box secured to one of said frames at the upper end thereof and adapted to close the top of the box when the same is moved upwardly within the frames.

2. A device of the character described, comprising a pair of hinged frames, one of said frames being provided with inwardly extending studs, and the other frame being provided with inwardly extending pins, and a box provided at one end with hooks adapted for detachable engagement with said studs, said box being adapted to rest and slide upon the said pins, as and for the purpose set forth.

3. A device of the character described, comprising a pair of hinged frames, one of said frames being provided with a pair of inwardly extending studs and the other frame being provided with a pair of inwardly extending pins in a higher plane than the studs, a box provided with an open end and open top, said box having at one end hooks adapted for removable engagement with said studs and the bottom of the box being slidably supported on said pins whereby the box may be tilted in an open position by opening the frames and moved upwardly to a vertical position upon the closing of the frames, and a top for the box secured to one of said frames at the upper end thereof, the box being movable in the operation of the device, away from and towards its top.

864,955. BOX-BLANK MACHINE. EDWARD CRAIG, St. Joseph, Mich., assignor to William P. Healy, Chicago, Ill. Filed Aug. 22, 1906. Serial No. 331,581.



1. In a machine of the class specified, the combination of a traveling work-holder composed of a pair of endless link belts, means for operating said work-holder, and means including a pair of rack and pinion devices for use in tightening said link belts or permitting a variation in the length thereof by the insertion or removal of links, the pinions movable and the racks stationary.

2. In a machine of the class specified, the combination of a work-holder comprising a pair of endless traveling link belts, means for operating said work-holder, and means including a couple of hand wheels screwed on to a pair of threaded sprocket-wheel shafts for adjusting one link belt toward and away from the other to permit a variation in the width of the work-holder.

3. In a machine of the class specified, the combination of a work-holder composed of two parallel and endless traveling link belts, means for operating said work-holder, means including a pair of rotatable hand wheels for adjusting one link belt toward and away from the other, guides for the upper portions of the link belts and a graduated supporting bar along which the guide of the movable link belt is adjusted to accurately determine the desired distance between the two link belts, each hand wheel rotatable without rotating the other.

4. In a machine of the class specified, the combination of a work-holder comprising a plurality of endless traveling link belts, means including a couple of hand wheels screwed on to a pair of threaded sprocket-wheel shafts for adjusting one link belt toward and away from the other, means for operating said link belts in unison, and a graduated supporting bar extending transversely below said link belts and along which the movable link belt is adjusted to accurately determine any desired width for the workholder.

5. In a machine of the class specified, the combination of an endless traveling work-holder, means for operating said work-holder, and suitable means for operating upon any materials carried by said work-holder, said work-holder comprising a plurality of endless traveling link belts, each link belt provided with longitudinal pockets held end to end, each pocket consisting of inner and outer members providing a trough-like space between them, and a removable miter block in each pocket, said link belts having the links thereof connected by bolts which extend through and clamp in place the two members of each pocket.

6. In a machine of the class specified, the combination of an endless traveling work-holder, means for operating

said work-holder, and suitable means for operating upon any materials carried by said work-holder, said work-holder comprising a plurality of endless traveling link-belts, each link belt provided with longitudinal pockets held end to end, each pocket consisting of inner and outer members providing a trough-like space between them, and a removable miter block in each pocket, said link belts having the links thereof connected by bolts which extend through and clamp in place the two members of each pocket, each pocket provided with longitudinal slots through which said bolts extend, whereby said pockets are adjustable longitudinally of the said link belts.

7. In a machine of the class specified, the combination of an endless traveling work-holder, means for operating said work-holder, and suitable means for operating upon any materials carried by said work-holder, said work-holder comprising a plurality of endless traveling link-belts, each link belt provided with longitudinal pockets held end to end, each pocket consisting of inner and outer members providing a trough-like space between them, and a removable miter block in each pocket, said link belts having the links thereof connected by bolts which extend through and clamp in place the two members of each pocket, each miter block being provided with a rib, and each pocket having its outer member provided with a longitudinal groove adapted to engage said rib, whereby said miter blocks are adjustable longitudinally of their respective pockets without danger of upward displacement therefrom.

8. In a machine of the class specified, the combination of a traveling work-holder, staplers for operating on any materials carried by said work-holder, stationary supports, plates pivoted upon said supports, set screws applied to said pivoted plates to adjustably hold the same in operative position relatively to said supports, and spring holders mounted on said plates and adapted to yieldingly bear upon said materials just after passing from below said staplers.

9. In a machine of the class specified, the combination of an endless traveling work-holder, sprockets over which said work-holder travels, a shaft for the sprockets at one end of the work-holder, a pair of stationary racks, pinions secured to the ends of said shaft, adapted to engage and travel upon said racks, and means on said shaft for rocking or partially rotating said pinions for the purpose of either tightening or loosening the link belts or permitting a variation in the length thereof by the insertion or removal of links.

10. In a machine for making wire-bound and cleat-reinforced box-blanks, the combination of a traveling work-holder, means for operating said work-bolder, and miter blocks on said work-holder adapted to space the cleats apart endwise, each miter block being provided with a longitudinal rib k^5, and said work-holder being provided with longitudinal grooves k^3 adapted to engage said ribs, substantially as set forth.

11. In a machine of the class specified, the combination of a pair of endless traveling link-belts, sprockets for said link belts, split hand-wheels applied to the sprockets of one of said link belts, and threaded shafts supporting said sprockets.

12. A machine for making wire-bound box-blanks, comprising parallel link-belts, pockets in said belts for carrying cleats end to end, adapted to prevent lateral displacement of the cleats, means in said belts for spacing the cleats apart endwise, stationary guides in which said link-belts are supported against lateral displacement, means on said belts for positioning sheet material on said cleats, means for applying binding wires to flexibly connect together the cleat reinforced sections of each blank, and means for suitably moving said belts in said guides.

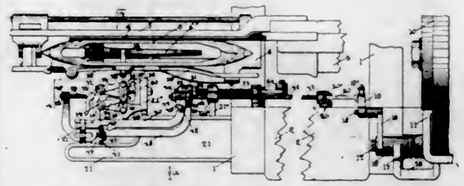
13. A machine for making wire-bound and cleat-reinforced box-blanks, comprising a plurality of link-belts, means on said belts for spacing the cleats apart endwise, means on said belts for preventing lateral displacement of said cleats, spacers on said belts for separating the edges of the sheet material on said cleats, means for suitably operating said belts, and means for applying binding wires to flexibly connect together the spaced or separated sections of each blank.

14. A machine for making wire-bound box-blanks, comprising link-belts, pockets in said belts for holding the cleats end to end, adapted to prevent lateral displacement of said cleats, means for spacing the cleats apart endwise, guides in which said belts are supported, means for operating said belts in said guides, means for applying binding wires to flexibly connect together the sections of each blank, and means for laterally shifting one belt and its guide to change the width of the blanks.

15. A machine for making wire-bound box-blanks, comprising endless link-belts provided with pockets for holding cleats end to end, adapted to space the cleats apart endwise and prevent lateral displacement of the same therefrom, means on said belts for spacing apart the sheet material on said cleats, means for suitably actuating said belts intermittently to successively bring the blanks into position, and means for applying binding wires to flexibly connect together the slightly separated sections of each blank thus brought into position by said belts.

16. In a machine of the class specified, a plurality of link-belts provided with instrumentalities for holding cleats end to end, adapted to space the cleats apart endwise and prevent lateral displacement of the same, and means on said belts for separating the edges of sheet material on said cleats.

864,956. WEFT-REPLENISHING LOOM. JOSEPH T. CYR, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed Oct. 9, 1905. Serial No. 281,867.



1. In a filling detector mechanism for a weft replenishing loom, a pair of feelers of caliper form, adapted to feel for the filling through the front side of a shuttle, two pivoted levers having a parallel motion supporting said feelers, means for moving said levers to move forward the feelers, and connections intermediate said levers and the filling changing mechanism, to cause the operation of said mechanism upon the substantial exhaustion of filling in the running shuttle.

2. In a filling detector mechanism for a weft replenishing loom, having shifting or drop shuttle boxes, a pair of feelers of caliper form, for each shuttle box, adapted to feel for the filling through the front side of a shuttle, two pivoted levers having a parallel motion supporting said feelers, means for moving said levers to move forward the feelers, and connections intermediate said levers and the filling changing mechanism, to cause the operation of said mechanism upon the substantial exhaustion of filling in the running shuttle.

3. In a filling detector mechanism for a weft replenishing loom having shifting or drop shuttle boxes, a pair of feelers of caliper form, for each shuttle box, adapted to feel for the filling through the front side of a shuttle, two pivoted levers having a parallel motion supporting said feelers, means for moving said levers to move forward the feelers, and connections intermediate said levers and the filling changing mechanism to cause the operation of said mechanism upon the substantial exhaustion of filling in the running shuttle, said connections comprising a pivoted longitudinally moving bar connected to the transferrer mechanism of the filling changing mechanism, and a second longitudinally moving bar, carrying means to engage and move the first mentioned bar when held in engagement with said means, and means for operating said second mentioned bar.

4. In a filling detector mechanism for a weft replenishing loom, a movable feeler adapted to feel for the filling through the front side of a shuttle, two pivoted levers having a parallel motion supporting said feeler, means for moving said levers to move forward the feeler, and connections intermediate said levers and the filling changing mechanism, to cause the operation of said mechanism upon the substantial exhaustion of filling in the running shuttle.

5. In a filling detector mechanism for a weft replenishing loom having shifting or drop shuttle boxes, a movable feeler for each shuttle box, adapted to feel for the filling through the front side of a shuttle, two pivoted levers having a parallel motion supporting said feeler, means for moving said levers to move forward the feeler, and connections intermediate said levers and the filling changing mechanism, to cause the operation of said mechanism upon the substantial exhaustion of filling in the running shuttle.

6. In a filling detector mechanism for a weft replenishing loom having shifting or drop shuttle boxes, a movable feeler for each shuttle box, adapted to feel for the filling through the front side of a shuttle, two pivoted levers having a parallel motion supporting said feeler, means for moving said levers to move forward the feeler, and connections intermediate said levers and the filling changing mechanism, to cause the operation of said mechanism upon the substantial exhaustion of filling in the running shuttle, said connections comprising a pivoted longitudinally moving bar connected to the transferrer mechanism of the filling changing mechanism, and a second longitudinally moving bar, carrying means to engage and move the first mentioned bar, when held in engagement with said means, and means for operating said second mentioned bar.

864,957. PORTABLE SEARCH-LIGHT. JOHN DICKENS, Passaic, N. J., assignor, by direct and mesne assignments, to The Standard Sheet Metal Company. Filed Oct. 8, 1904. Serial No. 227,626.

1. In a portable flash light, the combination of a tube, an electric battery therein, an electric lamp secured in said tube, and means for making and breaking contact between the terminals of said lamp and said battery, said means including a spring arm adapted to assume three positions, being permitted in one position to be moved to make and break contact, in another position being locked in contact relation, and in a third position being locked out of contact relation, substantially as described.

2. A portable flash light consisting of a barrel or tube, a plurality of battery cells adapted to fit within the said barrel or tube, a removable cover inclosing one end of said barrel, an electric lamp in said cover, a cylindrical cap adjustably and slidably mounted on said cover and making a telescope joint therewith, a lens carried by said cap, means for reflecting the light from said lamp upon said lens, means for connecting said lamp with said cover, and means for making and breaking contact between said cells and said cover, substantially as set forth and described.

3. In a portable flashlight the combination of a seamless metallic barrel or tube having one end open and the other closed, dry electric battery cells adapted to be contained within said barrel or tube, a metallic screw threaded cover adapted to fit over the said open end and coöperating with a screw thread upon said barrel, said cover being provided with a reflector integral therewith, an electric lamp secured in the center of said reflector, means for connecting said cover with the terminals of said lamp, means for connecting said cells with the said lamp, means for making and breaking contact between the said cells and the said barrel or tube, means for adjustably focusing the light rays from the said lamp, said means consisting of a cylindrical metallic cap movable with relation to said cover, adapted to inclose said cover, and a lens fitting within said cap, substantially as described and set forth.

4. In a portable flash light and in combination with a barrel or tube, a plurality of dry electric battery cells, a lamp affixed at one end of said tube and connected with said cells and said tube, together with a reflector surrounding said lamp and means for focusing the rays from said lamp, of a metallic band surrounding said tube and secured thereto, of a rectangular slot within the surface of said tube, of a slot within said band above the first named slot, the width of a portion of said second slot corresponding with that of the first said slot, the other portion of the second said slot being contracted in width, a metallic spring arm, one end of which lies between the said band and the outer surface of said tube, the other end being free to move up and down within the first said slot, a metallic button on said spring arm, said button and said lever arm being adapted to make contact at a plurality of points with said battery cells, substantially as and for the purposes set forth.

864,958. STREET-LAMP. JOHN DOYLE, New York, N. Y., assignor to Municipal Lighting Company, New York, N. Y., a Corporation of New Jersey. Filed July 29, 1904. Serial No. 218,648.

1. In a street lamp, the combination of a post having a pair of vertical supporting arms in fixed position relative thereto, a gas lamp between said arms, a reflector carried by the lamp and extending beyond the supporting arms, pivotal connections between the reflector and the arms, means for locking the lamp at will against movement in said arms, and means for supplying gas to the lamp, as set forth.

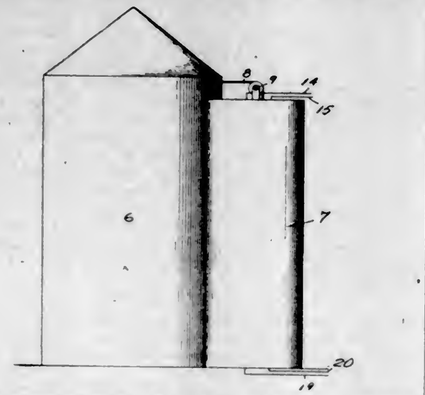
2. In a street lamp, the combination of a post, a pair of vertical supporting arms carried thereby, a gas lamp between the arms, and a horizontal reflector on the lamp, provided with ears pivotally connected with the upper ends of the said arms, as set forth.

3. In a street lamp, the combination of a post, a pair of vertical supporting arms rigidly mounted on the post, and a gas lamp arranged between the arms and provided with a horizontal reflector, extending beyond the arms and pivotally connected thereto, as set forth.

864,959. TANK-ALARM. GLEN F. ELLIOTT, Delmar, Del. Filed Apr. 20, 1907. Serial No. 369,277.

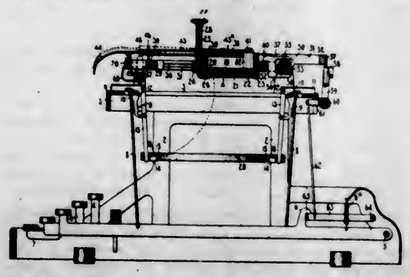
A circuit closing device for tank alarms comprising a pair of insulated blocks supported one above the other, contacts fixed upon the blocks, an electrical circuit in

which the contacts are located, a signal in the circuit, a wire connecting the corresponding ones of the contacts carried by the blocks, a wire disposed in parallel relation with respect to the first mentioned wire, a weight controlled by the rise and fall of a float within the tank, said weight being guided between the wires and being in elec-



trical contact with the first mentioned wire, and contacts carried by the weight, said contacts being in the form of rods threaded through the weight and provided with crank portions whereby they may be turned and adjusted through the weight substantially as described and for the purpose set forth.

864,960. WRITING-MACHINE. HENRY W. ENDERIS, Lincoln, Nebr., assignor to Wyckoff, Seamans & Benedict, Ilion, N. Y., a Corporation of New York. Filed Mar. 21, 1905. Serial No. 251,300.



1. In a writing machine, the combination of a fixed type bar support, a series of type bars mounted thereon, means for actuating said type bars, a platen carrier adapted to be fed in one direction and pivotally mounted so that it may be swung at right angles to the direction of its feed, and a flat platen mounted in the platen carrier and movable relatively thereto for line spacing in a direction at right angles to the direction of feed of the platen carrier.

2. In a writing machine, the combination of a fixed type bar support, a series of type bars mounted thereon, means for actuating said type bars, a platen carrier, carriage feed devices adapted to feed said platen carrier in one direction, said platen carrier being pivotally mounted so that it may be swung at right angles to the direction of its feed, a flat platen mounted in ways in said platen carrier and movable thereon for line spacing, and means constantly tending to draw said platen in a direction at right angles to the direction of feed of the platen carrier.

3. In a typewriting machine, the combination of a platen having a flat printing surface, a pivotally mounted platen carrier on which said platen is slidably mounted, means for enabling said platen to be slid on said platen carrier and maintained in predetermined positions to space between the lines of writing, means for moving said platen carrier and platen step-by-step for letter spacing in a direction at right angles to the line spacing movements of the platen, and printing instrumentalities having a support which remains fixed during letter spacing movements of the platen and platen carrier.

4. In a writing machine, the combination of a platen having a flat facing of suitable material, work holding means coöperating with said platen, a platen carrier in which said platen is slidably mounted, a spring constantly tending to draw said platen towards the rear of said platen carrier, a line spacing member secured to said platen and adapted to coöperate with a detent on said platen carrier to overcome said draw spring and to permit said platen to be moved to any one of a plurality of predetermined positions fore and aft of said platen carrier.

5. In a writing machine, the combination of a platen having a flat facing of suitable material, work holding devices coöperating with said platen to hold the work sheet in fixed relation with the platen during line spacing and letter feeding operations, a pivotally mounted platen carrier in which said platen is slidably mounted, means for moving said platen fore and aft in said platen carrier to space between the lines of writing, means for moving said platen carrier from side to side of the machine a letter space distance at a time, and a series of type bars mounted on a fixed support and adapted to coöperate with said platen.

6. In a writing machine, the combination of a platen having a flat facing of suitable material, work holding devices coöperating with said platen to hold the work sheet in fixed relation with the platen during line spacing and letter feeding operations, a pivotally mounted platen carrier in which said platen is slidably mounted, means for moving said platen fore and aft of said platen carrier to space between the lines of writing, means for moving said platen carrier from side to side of the machine a letter space distance at a time, a fixed support below said platen, and a circularly arranged series of type bars mounted upon said support and adapted to coöperate with the under side of said platen.

7. In a writing machine, the combination of a platen having a flat facing of suitable material, work holding means coöperating therewith to hold the work sheet in fixed relation with the platen during line spacing and letter feeding operations, a platen carrier, means for moving said platen fore and aft of the machine in said carrier to space between the lines of writing, roller bearings mounted in said carrier, fixed tracks or way coöperating with said roller-bearings, means for moving said carrier step-by-step along said fixed ways said platen carrier being pivotally mounted whereby said platen may be swung upward to expose the writing, a type bar support arranged beneath said platen, and a circularly arranged series of type bars mounted on said support and adapted to coöperate with the facing of said platen.

8. In a stencil writing machine, the combination of a fixed support, a series of key actuated puncturing elements pivoted on said support, a swinging flat platen situated above said puncturing elements, means for moving said platen in one direction a letter space distance at a time, and hand operated line spacing means adapted to move said platen predetermined distances fore and aft of the machine at right angles to the direction of letter space movement.

9. In a stencil writing machine, the combination of a platen having a flat facing of suitable material, work holding devices coöperating with said platen, a pivotally mounted platen carrier in which said platen is slidably mounted, line spacing means adapted to move said platen predetermined distances fore and aft in said platen carrier, letter spacing means for moving said platen carrier from one side of the machine to the other, said platen carrier being pivotally mounted so that it may be swung in a direction at right angles to its letter spacing movement and a series of key actuated puncturing elements mounted on a fixed support and adapted to coöperate with said platen.

10. In a stencil writing machine, the combination of a platen having a flat facing of suitable material, work holding means coöperating therewith, a platen carrier, means for moving said platen fore and aft of the machine in said carrier and relatively thereto for spacing between the lines of writing, roller bearings mounted in said carrier, fixed tracks or ways coöperating with said roller bearings, means for moving said carrier step-by-step longitudinally of said fixed tracks, said carrier being pivotally mounted so that it and the platen may be swung at right angles to the direction of step-by-step movement a fixed support beneath said platen, and a circularly arranged series of key actuated puncturing elements mounted on said support and adapted to coöperate with the facing of said platen.

11. In a typewriting machine, the combination of a fixed type bar support, a series of type bars mounted on said support, a carriage truck movable from side to side of the machine, a platen carrier pivotally connected with said carriage truck so that said carrier may be swung upwardly to expose the writing, a flat platen mounted to slide in said platen carrier fore and aft of the machine above the type bars, and work holding means operative to hold the work sheet in a fixed relation with the platen during the writing of a plurality of lines.

12. In a typewriting machine, the combination of a fixed type bar support, a series of type bars mounted on said support, a carriage truck movable from side to side of the machine for letter spacing, a platen carrier pivotally connected with said carriage truck so that said carrier may be swung upwardly to expose the writing, a flat platen mounted to slide in said platen carrier fore and aft of the machine above the type bars for line spacing, and work holding means operative to hold the work sheet in a fixed relation with the platen during both letter spacing and line spacing movements.

13. In a typewriting machine, the combination of printing instrumentalities, a back guide rail, a carriage truck mounted to slide thereon, a platen carrier pivotally connected at its rear with said truck so that said carrier may be swung upwardly to expose the writing, a front guide rail coöperative with said platen carrier when the latter is in operative position, a flat platen slidable on said platen carrier, and a work holding means operative to maintain the work sheet in a fixed relation with the platen as long as said work sheet remains in the machine, said carriage truck, platen carrier and platen being movable together in one direction for letter feeding and said platen being movable relatively to said platen carrier and said truck for line spacing.

14. In a typewriting machine, the combination of a type bar support, type bars mounted thereon, a platen carrier, a flat platen mounted to slide in said platen carrier, and work holding means comprising a spring pressed holding member pivotally mounted on said platen and capable of axial movement in order to hold or release the work sheet.

15. In a typewriting machine, the combination of a type bar support, type bars mounted thereon, a platen carrier, a flat platen mounted to slide in said platen carrier, and work holding and guiding devices comprising oppositely disposed grooved guides fixed to the platen at its sides, a grooved guide fixed to the platen at its rear, and a holding member pivoted to the platen at its front, said holding member being provided with a finger piece and being capable of movement in the direction of its axis in order to hold or release the work sheet.

16. In a typewriting machine, the combination of a flat platen, a platen carrier in which said platen is slidably mounted, means constantly tending to impel said platen towards one side of said platen carrier, a hand actuated line spacing member mounted on the platen and movable relatively thereto, and a detent mounted on the platen carrier and coöperating with said line spacing member to hold the platen against said means.

17. In a typewriting machine, the combination of a flat platen, a platen carrier in which said platen is slidably mounted, means constantly tending to impel said platen towards one side of said platen carrier, a hand actuated line spacing member mounted on said platen and provided with a plurality of openings, and a detent on the platen carrier coöperative with the openings in said line spacing member to hold the platen against said means.

18. In a typewriting machine, the combination of a flat platen, a platen carrier in which said platen is slidably mounted, means constantly tending to impel said platen towards one side of said platen carrier, a line spacing member movable on the platen and provided with an actuating handle, and a detent on the platen carrier coöperative to maintain said member in any one of a plurality of predetermined positions to vary the relation between said platen and said platen carrier.

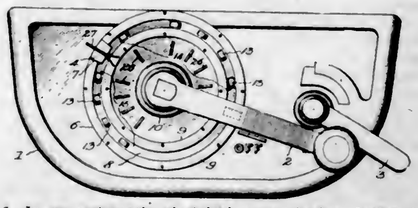
19. In a writing machine, the combination of a type bar support, a series of type bars mounted on said support, a flat platen pivotally supported to swing up and down and adapted to move transversely of the machine for letter spacing purposes and longitudinally of the machine for line spacing purposes.

20. In a stencil writing machine, the combination of a series of stencil types, a carriage adapted to move from side to side of the machine for letter spacing, and a flat stencil-support mounted in said carriage and adapted to move at right angles to the letter spacing movements of said carriage for line spacing purposes, said support being provided with a soft flat facing and with means for clamping a flat stencil sheet upon said facing.

21. In a stencil writing machine, the combination of a series of stencil types, a carriage adapted to move from side to side of the machine for letter spacing, a flat stencil support pivoted to swing up and down, and slidably mounted on said carriage so that said stencil support may be moved for line spacing at right angles to the letter spacing movements of the carriage, a detachable flat facing on said stencil support, and means for clamping a flat stencil sheet on said facing.

22. In a stencil writing machine, the combination of a flat stencil support provided with a stencil pocket adapted to coöperate with three sides of a rectangular stencil sheet, and means for clamping the fourth side of said stencil sheet to said stencil support.

864,961. AUTOMATIC ELECTRIC GONG-RINGING DEVICE FOR STREET-CARS. NATHAN FALLEK and GEORGE F. WOLFE, Denver, Colo., assignors to The Standard Electro-Automatic Signal Device Company, Denver, Colo., a Corporation. Filed Apr. 22, 1907. Serial No. 369,616.



1. In an automatic electrical gong ringing device for street cars, the combination of the controller provided with a stop post, the crank on said controller arranged to swing from one side to the opposite side of said controller, a non-conductive ring secured to said controller in the swinging path of said crank, a plurality of contact terminal points in said ring arranged at predetermined distances apart in the path of said crank and adapted to be engaged in electric circuit by said crank as it is moved over said controller, two of said contact terminals being positioned on opposite sides of said stop post and at a short distance from it, resilient means connected to said stop post and arranged to normally hold said controller crank in contact with either one or the other of said two contact terminals that are positioned adjacent to said stop post, when said crank is moved to either side of said

stop post, and an electrical gong in electric circuit with each of the contact terminals and with said crank and controller.

2. In an automatic gong ringing device for street cars, the combination with the controller provided with a stop post, a controller shaft, and a crank removably fitted to said shaft and adapted to swing from one side of said stop post to its opposite side, of a non-conductive ring secured to said controller concentric to said controller shaft, a plurality of resilient contact terminals positioned in said ring, two of which are positioned adjacent to the opposite sides of said controller stop post, a spring secured to said stop post, and arranged in the swinging path of said crank, and adapted to normally hold said crank far enough away to engage in electrical circuit either one or the other of said two contact terminals that lie adjacent to said stop post, a contact terminal point on said crank arranged and adapted to electrically engage in circuit said resilient contact terminals of said non-conductive ring, when swung through its operative switch circuit on said controller from one side of said stop post to its opposite side, and arranged to be out of contact with either one of said two contact terminals that lie adjacent to said stop post, when manually moved to compress said spring and in engagement with said stop post, and an electrically operating gong in operative electrical circuit with said contact terminal points of said non-conductive ring and with said controller and its crank.

3. In an automatic gong ringing device for street cars, the combination with the controller and its operating crank, of the non-conductive ring provided with a plurality of apertures, a conductive resilient terminal positioned in each aperture and secured to said ring, conductive wires on said ring arranged to connect said contact terminals in circuit, said contact terminals being arranged in the path of said crank's operative movement, and an operative electric alarm gong connected in circuit with said contact terminals and with said controller and its crank.

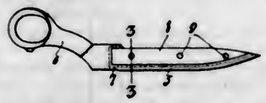
4. In an automatic gong ringing device for street cars, the combination with the operative controller and the alarm gong of a street car, of a non-conductive element secured to said controller, a plurality of independent contact terminal points on said non-conductive element arranged in any predetermined order, an operating crank on said controller arranged to move over and engage in electrical contact said contact terminals in successive order, a stop post on said controller arranged to define the operative current controlling movement of said controller, an operative alarm gong on said car, a source of electric current supply connected to said car, and operative electrical connections between said contact terminals and said gong and said controller and its crank, and means connected to said controller for normally holding said crank in electrical contact with the contact terminals nearest to said stop post at the opposite ends of its operative current controlling movement.

5. In an automatic gong ringing device for street railway cars, the combination of the car provided with an electric current supply, the controller, the stop post on said controller, and the controller crank, of the non-conductive ring arranged on said controller in the path of said crank, said non-conductive ring being provided with two groups of apertures, each group commencing on the said ring on the opposite side of said stop post, and extending around said ring in any predetermined order and arrangement, a resilient contact terminal having a curved engaging surface secured in each aperture of each group of apertures in said ring, circuit supply wires arranged on said ring to connect said contact terminals together, a current cut-out on said ring between any predetermined contact terminal and said current supply wires, resilient means connected to said controller and arranged to normally hold said crank in contact with the contact terminal of each group of contact terminals that is nearest said stop post at the end of the operative movement of the crank, an alarm gong connected to said car, suitable circuit wires arranged to operatively connect said resilient contact terminal points, and said alarm gong, and said controller in an electric circuit, and a contact terminal on said crank arranged and adapted to engage the curved surfaces of said contact terminals as it is moved through its operative movement, and ring said alarm gong.

6. In an automatic gong ringing device for street cars, the combination with a car, provided with a current supply, a resistance controller operatively mounted on said car, provided with an operating crank, a stop post to define the operative movement of said crank, and with radial lines to define the position of said controller's different degrees of resistance, of a non-conductive ring partially embracing said stop post and secured to said controller concentric to said crank's path of operative movement, two groups of resilient contact terminals secured on said ring on either side of said stop post, one group of which extends from said stop post to the end of said controller's indicated series resistance and the other group extends from said stop post to the end of said controller's indicated parallel resistance, said group's contact terminals being separated by a space on said non-conductive ring representing the direct current non-resistance portion of said controller, a spring arranged on said stop post to engage said crank, and normally hold it in engagement with either one of the two contact terminals of said groups of contact terminals that are nearest to said stop post, circuit wires arranged in said ring and connecting said contact terminals in electric circuit, an alarm gong on said car, a source of circuit supply on said car operatively connected to said gong and said contact terminals and to said controller crank, means for cutting out any one or more contact terminals from said electric circuit, and a contact terminal on said crank adapted to engage in successive order said contact terminals as it is moved operatively on said controller.

7. In an automatic gong ringing device for street cars, the combination with the controller, its operating crank, and stop post, of a fiber ring on said controller concentric with the movement of the crank, a plurality of contacts on said ring, two of which lie adjacent to opposite sides of the post, a wire connecting said contacts with a source of electric power, a wire connecting said controller with said source of power, and a gong in the circuit thus produced, a contact on said crank in the radius of the fiber ring contacts and which is adapted to engage said contacts as the crank is turned, springs on said stop post which extend laterally therefrom to engage the crank from either side before it touches the post and cause it to engage the adjacent contact of the ring, a housing for said ring having a slotted cover through which the crank contact extends to the ring contact, and a switch connected with each contact of the ring.

864,962. SCISSORS. JOHANN FEINENBURG, Auf der Höhe, near Solingen, Germany. Filed Sept. 13, 1906. Serial No. 334,371.

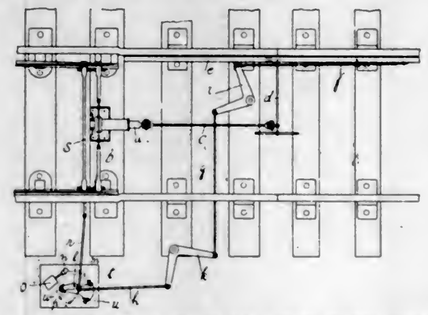


1. Scissors provided with soft metal bodies having an undercut recess, and pins, combined with steel blades having perforations that receive the pins, and a beveled edge engaging the undercut recess, substantially as specified.

2. Scissors provided with soft metal bodies having an undercut recess, and tapering pins, combined with steel blades having flaring perforations that receive the pins, and a beveled edge engaging the undercut recess, substantially as specified.

864,963. MECHANISM FOR MOVING AND LOCKING RAILWAY OR LIKE POINTS. LUIS DE M. G. FERREIRA, London, England, assignor to Siemens & Halske, A. G., Berlin, Germany, a Corporation of Germany. Filed May 16, 1907. Serial No. 373,897.

1. In mechanism for moving and locking railway points the combination of a stretcher bar having detent means, a bolt for engaging said means and locking said bar, a shaft, means for rotating the latter and means revolubly connected at the same center with said bolt and with said bar adapted to be driven by said shaft.



2. In mechanism for moving and locking railway points the combination of a stretcher bar having detent means, a bolt for engaging said means and locking said bar, a shaft, means for rotating the latter and pivoted means revolubly connected at the same center with said bolt and with said bar adapted to be driven by said shaft.

3. In mechanism for moving and locking railway points the combination of a stretcher bar having detent means, a bolt for engaging said means and locking said bar, a shaft, means for rotating the latter, two members pivoted together adapted to be driven by said shaft and means revolubly connected at the same center with one of said members, with said bolt and with said bar.

4. In mechanism for moving and locking railway points the combination of a stretcher bar having detent means, a bolt for engaging said means and locking said bar, a shaft, means for rotating the latter, an arm on said shaft, a link carrying a pin pivoted to said arm, and means engaging said pin connected with said bolt and with said bar.

5. In mechanism for moving and locking railway points the combination of a stretcher bar having detent means, a bolt for engaging said means and locking said bar, a locking bar, means connecting the latter with said bolt, a shaft and means for rotating the latter, with means revolubly connected at the same center with said locking bar and with said stretcher bar adapted to be driven by said shaft as set forth.

6. In mechanism for moving and locking railway points the combination of a stretcher bar having detent means, a bolt for engaging said means and locking said bar, a locking bar, means connecting the latter with said bolt, a shaft and means for rotating the latter, with pivoted means revolubly connected at the same center with said locking bar and with said stretcher bar adapted to be driven by said shaft as set forth.

7. In mechanism for moving and locking railway points the combination of a stretcher bar having detent means, a bolt for engaging said means and locking said bar, a locking bar, means connecting the latter with said bolt, a shaft and means for rotating the latter, with two members pivoted together adapted to be driven by said shaft and means revolubly connected at the same center with one of said members, with said locking bar and with said stretcher bar as set forth.

8. In mechanism for moving and locking railway points the combination of a stretcher bar having detent means, a bolt for engaging said means and locking said bar, a locking bar, means connecting the latter with said bolt, a shaft and means for rotating the latter, with an arm on said shaft, a link carrying a pin pivoted to said arm and means revoluble on said pin connected with said locking bar and with said stretcher bar as set forth.

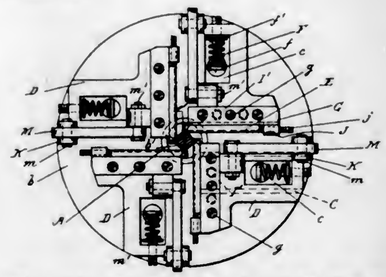
9. In mechanism for moving and locking railway points the combination of a stretcher bar having detent means, a bolt for engaging said means and locking said bar, a shaft, means for rotating the latter, an arm on said shaft, a link carrying a pin pivoted to said arm, a rod revoluble on said pin connected with said bar, another rod revoluble on said pin connected with said bolt, said link being extended beyond said pin and carrying adjustable stops one on each side of said latter rod.

10. In mechanism for moving and locking railway points the combination of a stretcher bar having detent means, a bolt for engaging said means and locking said bar, a shaft, means for rotating the latter, an arm on said shaft, a link carrying a pin pivoted to said arm, a rod revoluble on said pin connected with said bar, another rod revoluble on said pin connected with said bolt, said link being extended beyond said pin and carrying stops one on each side of said latter rod.

11. In mechanism for moving and locking railway points the combination of a stretcher bar having detent means, a bolt for engaging said means and locking said bar, a locking bar, means connecting the latter with said bolt, a shaft and means for rotating the latter, with an arm on said shaft, a link carrying a pin pivoted to said arm, a rod revoluble on said pin connected with said stretcher bar, another rod revoluble on said pin connected with said locking bar, said link being extended beyond said pin and carrying stops one on each side of said latter rod as set forth.

12. In mechanism for moving and locking railway points the combination of a stretcher bar having detent means, a bolt for engaging said means and locking said bar, a locking bar, means connecting the latter with said bolt, a shaft and means for rotating the latter, with an arm on said shaft, a link carrying a pin pivoted to said arm, a rod revoluble on said pin connected with said stretcher bar, another rod revoluble on said pin connected with said locking bar, said link being extended beyond said pin and carrying adjustable stops one on each side of said latter rod as set forth.

864,964. BOLT-CUTTING MACHINE. HENRY L. FISHER, Waynesboro, Pa. Filed Jan. 26, 1907. Serial No. 354,289.



1. The combination, with a head provided with guides and a face-plate, of chaser-slides engaging with the said guides and bearing against the front face of the said face-plate, levers pivoted to the said head and projecting out from the front face of the said face-plate, connecting-rods between the said slides and the front ends of the said levers, and means for operating the said levers.

2. The combination, with a head provided with guides, of chaser-slides engaging with the said guides, levers operatively connected with the said slides, means for operating all the said levers and slides simultaneously, adjustable pivot-pins for the said levers carried by the said head and affording a means for adjusting the position of each said slide independent of the others, and locking-devices for securing the said pivot-pins to the said head after their positions have been adjusted.

3. The combination, with a head provided with guides, of chaser-slides engaging with the said guides, adjustable eccentric pivot pins journaled in the said head, levers pivoted on the said pins and having their front ends operatively connected with the said slides, and abutments engaging with the rear ends of the said levers.

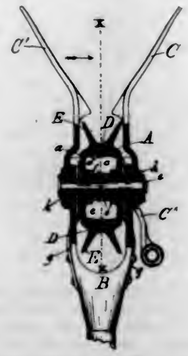
4. The combination, with a chaser-slide provided with a recess and a dovetailed portion, of a clamping-bar arranged in the said recess and provided with a dovetailed rib, a chaser having a dovetailed projection engaging with the socket formed between the said dovetailed projection and rib, and means for securing the said bar in the said recess.

5. The combination, with a head provided with guides, of chaser-slides engaging with the said guides, levers pivoted to the said head and operatively connected with the said slides, and circumferentially adjustable cams for operating the said levers simultaneously, the said cams being arranged in pairs, and the cams of each said pair being of different height and arranged parallel with each other and eccentric of the said head.

6. The combination, with a head provided with guides, of chaser-slides engaging with the said guides, levers pivoted to the said head and having their front ends operatively connected with the said slides, a bearing-ring slidable longitudinally of the said head, a cam-ring carried by the said bearing-ring and provided with cams of different height arranged in pairs the cams of each pair being parallel with each other and eccentric of the said head and engaging with the rear ends of the said levers, and means for adjusting the said cam-ring circumferentially upon the said bearing-ring, whereby the cams of each pair are adjusted simultaneously.

7. The combination, with a chaser-slide provided with a recess and a dovetailed portion, of a clamping-bar arranged in the said recess and also provided with a dovetailed portion, a chaser having a dovetailed projection which is adjustable longitudinally in the socket formed between the two said dovetailed portions, and screws which secure the said bar to the said slide and thereby clamp the said chaser to the said slide.

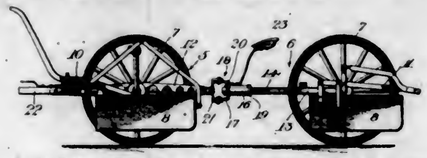
864,965. TROLLEY-HEAD. JAMES D. GIBBS, Louisville, Ky. Filed Jan. 15, 1906. Serial No. 296,078.



1. A trolley wheel composed of a flanged main portion having a hub, a second flange detachably engaging said hub and a collar or tread portion formed in a plurality of sections in the form of segments surrounding the hub and clamped in place thereon by the flanges, said flanges having portions overhanging the segments and the sections of the tread being renewable without removing the wheel or the flanges from the frame.

2. A trolley wheel comprising a flange having an integral hub, a flange threaded upon and adjustable on the said hub by said threaded connection, and a collar or tread portion formed in a plurality of sections in the form of segments surrounding the hub and clamped in place between the fixed and adjustable flanges, said tread portion or collar being renewable without removing the wheel or the flanges from the frame and without altering the frame from its normal condition.

864,966. SCRAPER. LEO G. HAASE, Pasadena, Cal. Filed June 25, 1907. Serial No. 380,747.



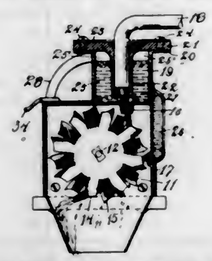
1. In a scraper of the class described, a forward member, a rear member, a horizontally swinging hinge connection between said members, and a tongue pivotally secured to said forward member.

2. In a scraper of the class described, a forward member, a rear member, a horizontally swinging hinge connection between said member, one of said members being connected to said hinge by a swivel joint, and a tongue pivotally secured to said forward member.

3. In a scraper of the class described, a forward wheeled member, a rear wheeled member, each of said members being provided with a scraper pan and operating mechanism therefor, a horizontally swinging hinge connection between said members, one of said members being rigidly connected to said hinge and the other being connected thereto through a swivel joint, and a draft tongue pivoted on the front end of said forward member.

4. In a scraper composed of two members, means to connect the members together comprising a hinge rigidly secured to one of said members and to a swivel joint, said swivel joint being secured to the other of said members.

864,967. WATER-MOTOR. ROBERT O. HAMMOND, Jamestown, N. Y., assignor to Rochester Electric Specialty Company, a Corporation of New York. Filed Apr. 22, 1907. Serial No. 369,485.



1. In a water motor, a wheel, interdished buckets around the periphery of said wheel each having a curved open side toward the next bucket to conserve the force of the stream and direct its course.

2. In a water motor, a wheel, interdished buckets arranged alternately and obliquely as to one another on the periphery of said wheel to give the water reactionary force from one bucket to another, said buckets each having a curved open side toward the next bucket to confine the stream.

3. In a water motor, a wheel composed of a disk having radial cuts in the outer edge to form buckets, said buckets turned alternately and obliquely opposite to one another and interdished with an open curved inner side to conserve the entire stream and give it an alternating impact on said buckets.

4. A water motor consisting of a suitable casing, a water wheel revolubly mounted in said casing, a rubber tube to connect said casing to the water faucet, a pressure chamber in said casing around said tube to hold the same on the spigot, and a nozzle from said chamber to direct the water onto said wheel.

5. A water motor consisting of a suitable casing, a water wheel revolubly mounted in said casing, a pressure chamber in said casing having an opening therefrom to said wheel, and a rubber closure for said pressure chamber having a central tube extending into said pressure chamber for attachment to the spigot, substantially as and for the purpose specified.

6. In a water motor, a casing, a water wheel revolubly mounted in said casing, a pressure chamber on said casing, an insulated attachment to the spigot from said pressure chamber, a conduit on said casing from said pressure chamber and having connection therewith, and a plurality of openings from said pressure chamber and conduit onto said wheel to turn the same.

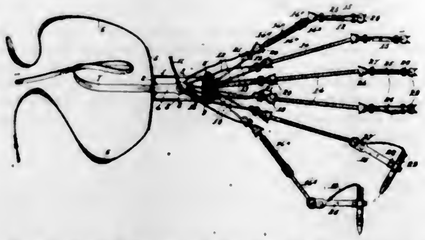
7. The combination of a suitable casing, a water wheel revolubly mounted in said casing, means for admitting the water to said wheel, a dynamo actuated by said water wheel, said casing attached to the field of said dynamo to form a part of said field, substantially as shown.

8. In a water motor, a casing 10, a pressure chamber 19 on said casing, a rubber washer 21 and metal washer 23 to close said pressure chamber, a central tube 22 on said rubber washer extending into said chamber for attachment to the spigot, a water wheel 11 revolubly mounted in said casing, and an opening 16 in said pressure chamber to said wheel.

9. In a water motor, a casing 10, a pressure chamber 19 on said casing, a rubber washer 21 and metal washer 23 to close said pressure chamber, a tubular central portion 22 to said rubber washer extending into said chamber for attachment to the spigot, a conduit 26 leading from said pressure chamber and having connection therewith, a water wheel 11 revolubly mounted in said casing, and nozzles 16 from said pressure chamber and 17 from said conduit for different portions of said wheel.

10. The combination of a casing 10, an insulated attachment to the spigot for said casing, a water wheel 11 revolubly mounted on a suitable shaft in said casing, an armature 29 mounted on said water wheel shaft, a field 28 for said armature, said casing attached to said field to form a part thereof, and a suitable commutator and brushes and connections for said dynamo, substantially as and for the purpose specified.

864,968. MULTIPLE-NEEDLE HOLDER FOR ELECTROLYSIS. EDWARD W. JOHNSON, Chicago, Ill. Filed June 28, 1907. Serial No. 381,340.



1. In a device of the class described, a suitable support in combination with a plurality of needle holders and means for positively holding said needle holders in any position, substantially as described.

2. In a device of the class described, a suitable support in combination with a plurality of needle holders and means adjustably connecting said needle holders to said support, whereby said holders may be held in any position, substantially as described.

3. In a device of the class described, a suitable support, in combination with a plurality of arms connected to said support and a needle holder rigidly fixed to the end of each said arm, substantially as described.

4. In a device of the class described, a suitable support in combination with a plurality of adjustable arms connected to said support and a needle holder rigidly fixed to the end of each said arm, substantially as described.

5. In a device of the class described a suitable support in combination with a plurality of arms pivotally connected to said support and a needle holder rigidly fixed to the end of each said arm, substantially as described.

6. In a device of the class described, a suitable support in combination with a plurality of jointed arms connected to said support and a needle holder rigidly fixed to the end of each said arm, substantially as described.

7. In a device of the class described, a suitable support in combination with a plurality of arms connected to said support and each formed of a plurality of sections, and a needle holder rigidly fixed to the end of each said arm, substantially as described.

8. In a device of the class described, a suitable support in combination with a plurality of arms connected to said support and each formed of a plurality of sections connected by universal joints, and a needle holder rigidly fixed to the end of each said arm, substantially as described.

9. In a device of the class described, a suitable support, and means for attaching the same to the person of the patient, in combination with a plurality of needle holders and means for positively holding said needle holders in any position, substantially as described.

10. In a device of the class described, a suitable support and means for attaching the same to the person of the patient, in combination with a plurality of arms connected to said support and a needle holder rigidly fixed to the end of each said arm, substantially as described.

11. In a device of the class described, a suitable support adapted to be attached to the person of the patient, in combination with a plurality of adjustable arms pivotally connected to said support and a needle holder rigidly fixed to the end of each said arm, substantially as described.

12. In a device of the class described, a suitable support in combination with a needle holder, and means for positively holding said needle holder in any position, substantially as described.

13. In a device of the class described, a suitable support in combination with an extensible arm connected thereto and a needle holder fixed to the end of said arm, substantially as described.

14. In a device of the class described, a suitable support in combination with a jointed, extensible arm, pivotally connected thereto and a needle holder fixed to the end of said arm, substantially as described.

15. In a device of the class described, a suitable support in combination with a universally jointed, extensible arm pivotally connected thereto and a needle holder fixed to the end of said arm, substantially as described.

16. In a device of the class described, a suitable support in combination with a plurality of electrically connected needle holders and means for positively holding said needle holders in any position, substantially as described.

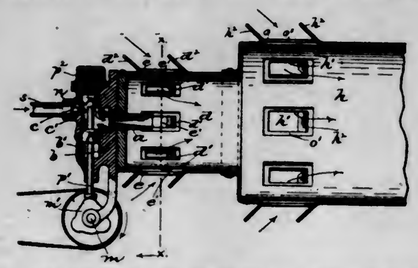
17. In a device of the class described, a suitable support having a socket for an electric plug, a plug in said socket, a jointed arm, connected to said support, a needle holder rigidly fixed at the end of said arm and insulated therefrom, and an electric connection between said plug and said needle holder, substantially as described.

18. In a device of the class described, a suitable support, in combination with a plurality of arms pivotally connected thereto and means for automatically taking up the wear of said arms, substantially as described.

19. In a device of the class described, a suitable support comprising a pair of arms, a bolt connecting said arms, a plurality of needle carrying arms pivotally mounted on said bolt, washers arranged upon said bolt between the ends of said arms, and means for preventing rotation of said washers, substantially as described.

20. In a device of the class described, a suitable support in combination with an arm pivotally connected thereto, and a needle holder arranged at the end of said arm, said arm comprising a flat section pivoted to said support, a central tubular portion jointed thereto and an outer clamp portion jointed to said central portion, substantially as and for the purpose described.

864,969. METHOD OF AND MEANS FOR MOVING A GAS OR VAPOR BY THE DIRECT APPLICATION TO IT OF A SUITABLY-EXPANDED MEDIUM. WILLIAM H. KENERSON and ALBERT J. LOEPSINGER, Providence, R. I. Filed May 7, 1907. Serial No. 372,421.



1. The improvement in the method or system of moving air or other analogous expansible medium to be utilized for increasing the degree of draft, ventilation, &c., which consists in discharging in the form of puffs or impulses steam or other elastic fluid under pressure against said air while the latter is temporarily contained in a suitable receiver.

2. The improvement in the method of moving air or other analogous medium, the same consisting in admitting a charge of steam into a suitable nozzle and expanding it therein, and then discharging the thus expanded steam from the nozzle against the air for pushing the latter to the place of use, the resulting inertia of the thus moving elements greatly exceeding that obtained when the steam is expanded after it mingles with the air.

3. The improvement in the method of moving air through and discharging it from a continuously open duct or receiver, the same consisting in automatically and rapidly introducing successive charges of steam into a suitable nozzle, expanding each charge while it is passing through the nozzle and discharging it therefrom in the form of a puff or impulse against a volume of air so as to move the latter before the next succeeding discharge from the nozzle takes place.

4. The improvement in the method or system of intermittingly moving air or other expansible medium, which consists in automatically introducing a puff or charge of steam or other elastic fluid under pressure into a continuously open nozzle, then expanding said charge of steam in the nozzle, and then discharging the steam against the air and at the same time conducting the latter to the place of use.

5. In a system of the character described, the combination of an apertured air-receiver, a continuously open fixed steam-expanding nozzle having its enlarged or discharge end disposed at or near the intake end of said receiver, and means for successively admitting charges of steam into the smaller end of the nozzle, arranged so that each charge of steam is expanded during its passage through the nozzle and is discharged therefrom in the form of a puff to engage with and move the corresponding charge of air in the receiver.

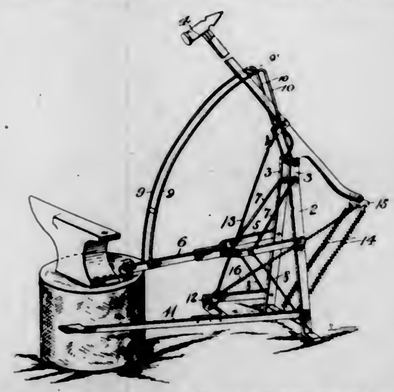
6. In a system of the character described, the combination with a stationary steam-expanding nozzle, and means for intermittently admitting steam thereto, of an air receiver or casing arranged with respect to the nozzle having a series of openings through its wall, and means for directing the flow of air into said openings.

7. In a system of the character described, the combination with a steam-expanding nozzle, and means for admitting steam thereto in an intermittent manner, of an air receiver having a series of perforations disposed around its periphery so as to introduce the air into it in advance of the enlarged or discharge end of the nozzle, for the purpose hereinbefore set forth.

8. In a system of the character herein described, the combination with an air receiver provided with a series of intake openings, of a movable member provided with a plurality of apertures disposed with respect to and arranged to register with said openings for varying the net area of the latter, a suitably mounted expanding steam nozzle having its larger or discharge end located in substantially the same cross-sectional plane with the rear end of said intake openings, and means for admitting steam to the smaller end of the nozzle in an intermittent manner.

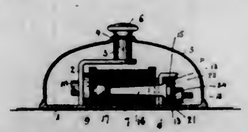
9. In a system of the character described, the combination of an initial casing or envelop having suitable air-intake openings, a similarly devised but materially larger casing into which the former discharges, a stationary steam-expanding open nozzle having its rear or enlarged end in continuous open communication with the chamber of the initial casing, and means for intermittingly admitting charges or impulses of steam into the nozzle to be expanded therein, whereby each charge of thus expanded steam is discharged from the nozzle in advance of the next succeeding charge and pushes the air from the smaller into the larger casing to mingle with and discharge therefrom the air then contained in it, for the purpose hereinbefore set forth.

864,970. POWER-HAMMER. JAMES D. KINSON, Tolar, Tex., assignor of one-half to James M. Wright, Weatherford, Tex. Filed Sept. 24, 1906. Serial No. 336,017.



In combination, a frame, a rocking arm carried by the frame, a treadle pivoted to the frame, a rigid connection pivotally secured to the treadle and the rocking arm, spring connections between the rocking arm and the frame and a spring connected to the treadle at a point in advance of the frame and to the rocking arm at a point on the opposite side of the frame.

864,971. ELECTRIC SIGNALING DEVICE. ALFRED LARSSON, Buffalo, N. Y. Filed June 9, 1906. Serial No. 321,018.



1. In a device of the character described, the combination of a base member carrying electromagnets, a bracket projecting upwardly from said base member and having a perforated arm extending parallel to the base member, the perforation in said arm being designed to register with a perforation in the base member, an armature associated with said electromagnets, a spring carrying a hammer at one end, secured to said armature, perforated lateral flanges formed on said spring, a pin passing through said several perforations and serving as a pivot for the armature, and a spiral spring encircling said pivot, the ends of said spiral spring being secured at points eccentric to said pivot.

2. In a device of the character described, the combination of a base member carrying electromagnets, a bracket projecting upwardly from said base member and having a perforated arm extending parallel to the base member, the perforation in said arm being designed to register with a perforation in the base member, an armature associated with said electromagnets, said armature carrying a spring which is curved toward the electromagnets and carries a hammer at its free end, perforated lateral flanges formed on said spring, a pin passing through said several perforations and serving as a pivot for the armature, and a spiral spring encircling said pin, the ends of said spiral spring being secured at points eccentric to said pivot.

3. In a device of the character described, the combination of a base member carrying an electromagnet, a bracket near the foot and to one side of the center of the electromagnet, a perforation in one arm of said bracket and a corresponding perforation in the base member, an armature associated with said electromagnet, a spring having laterally formed flanges secured to said armature, perforations in said flanges adapted to register with the perforations in the arm of the bracket and in the base member, a pivot passing through said several perforations and being adapted to permit the armature to swing and a spiral spring surrounding said pivot and having a normal tendency to draw the armature away from the electromagnet.

4. In a device of the character described, the combination of a base member carrying an electromagnet, a bracket upon said base member having a perforated arm, a perforation in the base member in line with the perforation in the arm, an armature associated with said electromagnet, a curved spring secured to said armature, said curved spring being provided at one end with lateral flanges and at the opposite end with a hammer, a perforation in each of said lateral flanges adapted to register with the perforations in the arm and in the base member a second perforation in the upper flange at one side of the first perforation, a second perforation in the base member at one side of the first perforation, a pivot passing through the registering perforations and a spiral spring surrounding said pivot and having one end secured in the second perforation in said upper flange and the other end secured in the second perforation in the base member.

864,972. MATERIAL FOR USE IN REFINING IRON AND PROCESS OF PREPARING THE SAME. HORACE W. LASH, Cleveland, Ohio. Filed Dec. 31, 1906. Serial No. 350,103.

1. A material, for use in obtaining refined iron, comprising coherent masses having a consistency and resistance to pressure almost metallic formed by subjecting finely divided iron oxid, finely divided cast iron and carbonaceous material to a heat below the fusing point of the mass and above the fusing point of the finely divided cast iron.

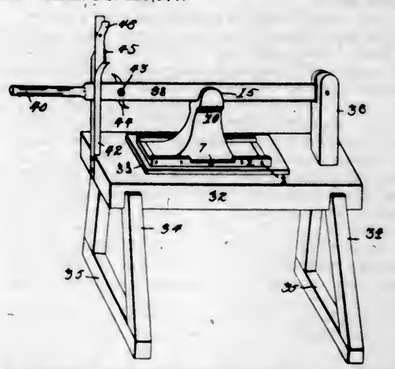
2. A material, for use in obtaining refined iron, comprising coherent masses having a consistency and resistance to pressure almost metallic formed by subjecting a mixture comprising finely divided iron oxid, finely divided cast iron, carbonaceous material and a readily combustible material to a heat below the fusing point of the mass.

3. A material, for use in obtaining refined iron, comprising coherent masses having a consistency and resistance to pressure almost metallic formed by subjecting a mixture comprising finely divided iron oxid, finely divided cast iron, carbonaceous material and saw dust to a heat below the fusing point of the mass.

4. The process of preparing material for use in refining iron which comprises mixing together finely divided iron oxid, finely divided cast iron and finely divided carbonaceous material and subjecting the mixture to a heat below the fusing point of the mass and above the fusing point of the finely divided cast iron.

5. The process of preparing material for use in refining iron which comprises mixing together finely divided iron oxid, finely divided cast iron, finely divided carbonaceous material and a finely divided readily combustible material and subjecting the mixture to a heat below the fusing point of the mass.

864,973. MANUFACTURE OF HARNESS-PADS. MAURICE B. LEE and CASPER H. GRINGS, Dubuque, Iowa, assignors to Dubuque Harness and Saddlery Company, Dubuque, Iowa, a Corporation of Iowa. Filed Sept. 26, 1904. Serial No. 225,977.
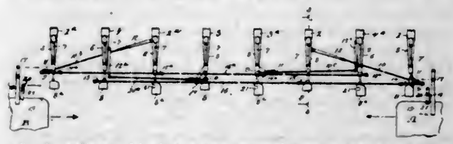


1. In a device of the character described, a double mold for shaping both ends of a harness pad, a metallic follow plate for each side of the mold, a rigid bar spanning both said plates and clamp adapted to be passed transversely of the mold and bar for securing the follow plates in position.

2. In a device of the character described, a double mold for shaping both ends of a harness pad, there being a transverse depression at the middle of said mold and a transverse hole through the mold below said depression, a clamp having one arm fitted to said hole and the other adapted to extend transversely across the mold for holding material in the mold.

3. In a device of the character described, a double mold for shaping both ends of a harness pad, upwardly projecting flanges extending along the longitudinal edges of said mold and having apertures therethrough, pins fitted to said apertures, and follow plates for each end of the mold to be held temporarily in place by said pins.

4. In a device of the character described, a mold, a box over the mold provided with notches in the lower edges of its sides, a follow plate fitted to said box and to the mold, means for forcing the follower down upon packing in the mold and pins adapted to be passed through the edges of the mold and through said notches in the box for temporarily retaining the follower in place in the mold.

864,974. RAILWAY BLOCK SYSTEM AND LOCOMOTIVE EQUIPMENT FOR OPERATING THE SAME. HUBERT LONGAUER, Wauwatosa, Wis., assignor of forty-five one-hundredths to Jacob Guschl, Milwaukee, Wis. Filed May 16, 1907. Serial No. 374,055.



1. A railway block-system comprising a series of connected flags, actuating-mechanism connected to the series of flags at both ends, means carried by a locomotive for engagement with the actuating-mechanism of the flags, whereby the position of said flags is changed as the locomotive enters the block, and restored to their normal position as said locomotive leaves the block, means in connection with the controlling-valves of another locomotive arranged

to be engaged by any one of the aforesaid flags when the position of same has been changed by the first named locomotive on entering the block, a duplicate series of flags, means carried by the last named locomotive for actuating the duplicate series of flags, as said locomotive enters and leaves the block, and means in connection with the controlling valves of said first named locomotive arranged to be engaged by any one of the flags of said duplicate series.

2. A railway block system comprising a series of connected flags, actuating-mechanism connected to the series of flags at both ends, and means carried by a locomotive for engagement with the actuating-mechanism of the flags, whereby the position of said flags is changed as the locomotive enters the block, and restored to their normal position as said locomotive leaves the block, means in connection with the air-brake and throttle valves of another locomotive arranged to be engaged by any one of the aforesaid flags, when the position of same has been changed by the first named locomotive on entering the block, a duplicate series of flags, means carried by the last named locomotive for actuating the duplicate series of flags as said locomotive enters and leaves the block, and means in connection with the air-brake and throttle-valves of said first named locomotive arranged to be engaged by any one of the flags of said duplicate series.

3. A railway block-system comprising duplicate series of connected flags, actuating-mechanism connected to both series of flags at their ends, the first flag of each series being in a different vertical plane from all other flags of its series and upon the same plane as that of the other series; the combination of locomotives provided with means for engaging the actuating-mechanism of one of the series of flags, and other means in connection with the controlling valves of the locomotives for engagement with the flags actuated by the engaging means of the other locomotive.

4. A railway block-system comprising series of connected flags, actuating-mechanism connected to the flags; the combination of a locomotive throttle and air-brake valves, spring-controlled mechanism for actuating the same, means for locking the spring-controlled mechanism, releasing means in connection with the locking-mechanism for engagement with the flags of the block-system, other means projecting from the locomotive for engagement with the actuating-mechanism of the flags, and mechanism in connection with the lock-releasing and flag-engaging means, for shifting the same from side to side of the locomotive.

864,975. METHOD OF BALING FIBROUS MATERIAL AND BALE. CHARLES J. LUCE, Niantic, Conn., assignor to The Luce Compress & Cotton Company, New Orleans, La., a Corporation of Delaware. Filed Apr. 5, 1906. Serial No. 310,126.

1. The method of baling cotton which consists in forming a bale of annular section and then compressing the same into a bale of angular section.

2. The method of baling cotton which consists in forming a bale of annular section by winding a web of cotton spirally upon itself and then compressing the said bale of annular section into a bale of angular section.

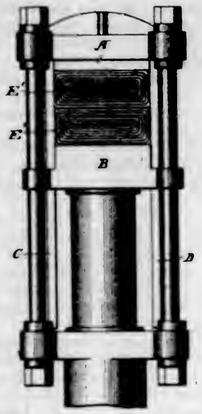
3. The method of baling cotton which consists in forming a bale of annular section and then compressing the same into a bale of rectangular section.

4. The method of baling cotton which consists in forming a bale of annular section by winding a web of cotton spirally upon itself and then compressing the said bale of annular section into a bale of rectangular section.

5. The method of baling cotton which consists in forming the cotton into a bale of annular section and then compressing the said bale in two directions to form a bale of rectangular section.

6. The method of baling cotton which consists in forming a plurality of bales of annular cross-section and then compressing said plurality of bales into a single bale of rectangular cross-section.

7. The method of baling cotton which consists in winding webs of cotton spirally to form a plurality of bales of annular cross-section and then compressing said bales together into a single solid bale of angular cross-section.

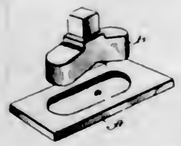


8. As a new article of manufacture, a bale of cotton of angular cross-section comprising a layer or web of cotton wound upon itself from center to periphery.

9. As a new article of manufacture, a bale of cotton of angular cross-section consisting of layers each of which is parallel with the adjacent face of the bale.

10. As a new article of manufacture, a bale of cotton of angular cross-section comprising a layer or web of cotton wound upon itself from center to periphery, each layer being parallel with the adjacent face of the bale.

864,976. STAMPING-DIE. JAMES R. MAIN, Pittsburg, Pa. Filed Sept. 17, 1906. Serial No. 334,906.

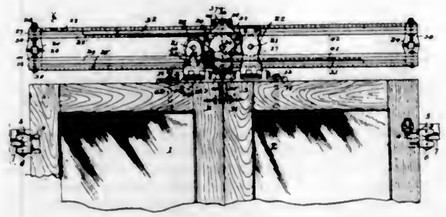


An apparatus for stamping and bending a sheet of metal in one operation, comprising a die block having an aperture a the wall of which extends downward at a right angle from the upper side of the block, and a cutting die, shaped in outline to enter and snugly occupy the said aperture, having vertical sides and also having an under side made up of oppositely disposed flat faces inclined downward at an obtuse angle from the line of separation of said faces, as set forth.

864,977. MECHANISM FOR OPERATING DOUBLE SLIDING DOORS. CARL METTERHAUSEN, Chicago, Ill. Filed Aug. 14, 1905. Serial No. 274,074.

1. In a double sliding door operating mechanism, the combination with a track rail and a pair of doors, of suspension members having traveling engagement with said track rail, and supporting the doors therefrom, a rack for each door, guides within which said racks travel and whereby they are maintained in approximate parallelism, a gear interposed between said racks and slot-and-pin connections between each rack and corresponding door affording vertical play between said connected parts and oscillatory movement of the door in its own plane independently of the rack and a hinge in each of said connections affording movement of the door at right angles to its general plane and independently of the rack.

2. In a mechanism for reciprocally operating double sliding doors, the combination with suitable frame supports of two pairs of guide members mounted upon said supports, the members of each pair being parallel and spaced apart to provide an intervening guide space and a lateral slot-like opening communicating with said space, rack bars arranged between the respective pairs of guide members, a gear mounted between said racks and operatively engaging each through openings formed in those guide members which extend between the racks and gear, a pair of sliding doors operating in the same plane and in a plane parallel with said guide members and supporting arms respectively connected with said doors and the corresponding racks through the lateral openings between said guide members.

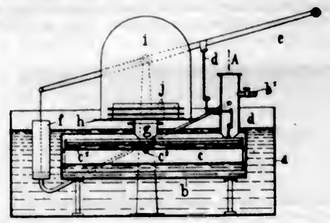


3. In a mechanism for reciprocally operating double sliding doors, the combination with suitable frame supports, of two pairs of guide members mounted upon said supports, the members of each pair being parallel and spaced apart to provide an intervening guide space and a lateral slot-like opening communicating with said space, rack bars arranged between the respective guide members, a gear mounted between said racks and operatively engaging each through openings formed in those guide members which extend between the racks and gear, a pair of sliding doors operating in the same plane and in a plane parallel with said guide members, supporting arms respectively connected with said doors and the corresponding racks through the lateral openings between said guide members, and a channel member mounted upon the upper one of the lower pair of guide members with its channel facing upwardly and supporting wheels mounted upon the respective supporting arms and traveling within said channel member.

4. In a mechanism for reciprocally operating double sliding doors, the combination with suitable frame supports of upper and lower pairs of guide bars arranged parallel with each other and spaced apart, operating rack mounted to slide freely between the respective pairs of guides, a gear journaled between and operatively engaging said racks, a pair of doors, and a suspension arm hinged to the upper portion of each door and operatively connected with the corresponding rack by means of slot-and-pin connections permitting limited vertical movement of the suspension arm independently of the rack, the axes of said hinges being arranged substantially parallel with the racks, substantially as described.

5. In a mechanism for reciprocally operating double sliding doors, the combination with suitable frame supports of two groups of guide members mounted upon said supports, each group comprising a pair of parallel guide members spaced apart to accommodate a rack bar, the lower group being spaced from the upper group and forming a supporting track, rack bars arranged between the respective guide members, a gear mounted between said racks and operatively engaging each, a pair of sliding doors operating in the same plane and in a plane parallel with said guide members, supporting arms connecting said doors and corresponding racks through the openings between said guide members and supporting wheels upon said supporting arms traversing said track support, the diameter of said wheels being approximately equal to the vertical space between the groups of guide members whereby said wheels are confined against rising movement.

864,978. PROCESS OF OBTAINING DRY GLUTEN. LOUIS A. MOREL, Meaux, France. Filed July 1, 1905. Serial No. 267,960.

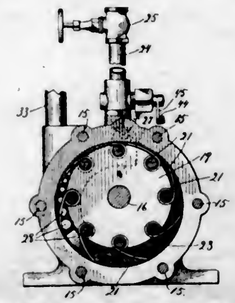


1. A process for the dehydration and bleaching of gluten, which consists in first subjecting the wet gluten to expansion in order to bring the water contained therein into a state of extreme subdivision, then freezing the gluten together with the water, then melting the ice, vaporizing the resulting water and removing it from the gluten.

2. A process for the dehydration and bleaching of gluten, which consists in subjecting the wet gluten to the action of a vacuum, thus causing it to swell, and the water contained therein to become finely subdivided and frozen, and thereupon melting the ice and vaporizing the resulting water by heating under a vacuum and disposing of the vapor.

3. A process for the dehydration and bleaching of gluten, which consists in subjecting the wet gluten to the action of a vacuum, thus causing it to swell, and the water contained therein to become finely subdivided and frozen, and thereupon melting the ice and vaporizing the resulting water by heating under a vacuum and causing the vapor to be taken up by an absorbent.

864,979. ROTARY ENGINE. JOHN A. MOSHER, Chicago, Ill., assignor to The Adams & Westlake Company, a Corporation of Illinois. Filed Aug. 27, 1906. Serial No. 332,207.



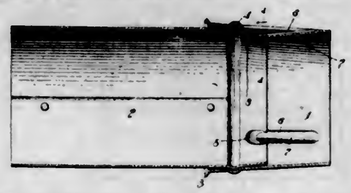
1. In a rotary engine, in combination, a casing, a rotatable head within the casing and having in its periphery a transverse pocket whose walls are curved to the arc of a circle, and an oscillatable wing of sheet metal bent to form a hub conforming to and fitting within the pocket.

2. In a rotary engine, in combination, a casing, a rotatable head within the casing and having in its periphery transverse pockets whose walls are curved to the arc of a circle, and oscillatable wings, each wing being of sheet metal bent to form a hub conforming to and fitting within one of the pockets.

864,980. STOVE-PIPE THIMBLE. CHARLES T. MCCARROLL, Ottumwa, Iowa. Filed Apr. 23, 1906. Serial No. 313,235.

1. The combination with a stove pipe, of a stove pipe thimble provided with a clamping tongue extending longitudinally of the thimble and having means for stiffening it,

said tongue being arranged at an acute angle to the thimble and forming an intervening tapering space, which has its large end facing the outer end of the thimble, said stove pipe being wedged in the tapering space between the outer face of the tongue and the inner face of the thimble.



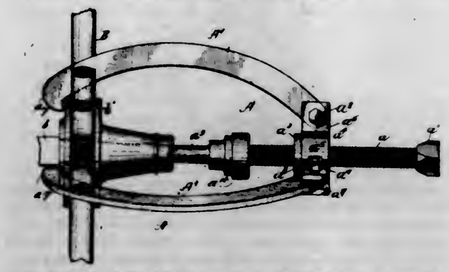
2. The combination with a stove pipe, of a stove pipe thimble provided with a clamping tongue grooved longitudinally to form a stiffening bead and to provide two bearing edges for engaging the inner face of the stove pipe, said tongue being arranged at an acute angle to the thimble to form an intervening tapering space in which the stove pipe is wedged.

3. The combination with a stove pipe, of a stove pipe thimble provided with an integral clamping tongue formed by slitting the sheet metal and bending the partially severed portion inwardly, said tongue being grooved longitudinally to provide a stiffening bead and arranged at an acute angle to the inner face of the thimble to form an intervening tapering space in which the stove pipe is wedged.

4. A device of the class described, provided with an angularly disposed clamping tongue having a stiffening rib or bead formed by grooving or bending the tongue longitudinally, the outer end of the tongue being bent at an angle to form a guide.

5. A stove pipe thimble provided with an interiorly arranged clamping tongue connected at one end to the stove pipe thimble and arranged at an acute angle to the inner face of the same to provide an intervening tapering space, said tongue being grooved longitudinally to form a stiffening bead, which terminates short of the free end of the tongue, and the said free end being deflected for guiding a stove pipe into the tapering space between the tongue and the inner face of the thimble.

864,981. TOOL. ERNEST F. MCCARTHY, Melrose, Mass. Filed Sept. 11, 1906. Serial No. 334,200.

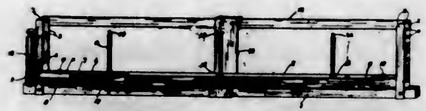


1. A tool of the character specified having in combination a screw, a traveling member thereon, gripping arms connecting with said member, a foot to said screw, and means forming an antifriction bearing between said foot and screw whereby the said screw may turn on said bearing independently of said foot.

2. A tool of the character specified having in combination a screw, a traveling member thereon, gripping arms connecting with said member, a foot to said screw a portion of which forms one part of a bearing, a threaded nut on said screw forming the other portion of said bearing, and balls interposed between the same.

3. A tool of the character specified having in combination a screw, a traveling member thereon, gripping arms connecting with said member, a foot to said screw having a socket in the base portion thereof in which the end of the screw is adapted to be contained and which base portion is incised to form one portion of a bearing, a cup-shaped nut threaded on said screw forming the other portion of said bearing, means fixing said nut to said screw, balls interposed between the two parts of said bearing, and a pin extending through the base portion of said foot and contained in an annular groove in the end of said screw, substantially as described.

864,982. NEWSPAPER-FILE. BERNARD MCGINTY, Doylestown, Pa., assignor of one-half to Thomas H. Heist, Philadelphia, Pa. Filed Feb. 15, 1907. Serial No. 357,445.



1. A file comprising a base bar, guides with inwardly projecting flanges rigidly fixed to said base bar, said guides having holes therein, pins connected with said bar, a clamp bar movable under control of said guides, and reciprocating spring pressed plungers with pins connected to said clamp bar, said pins engaging said holes.

2. A file comprising a base bar, flanged guides fixed to the respective ends of said bar, said guides having holes therein, a clamp bar having its ends engaged between the flanges of said guides, and reciprocating pins for engaging said holes and fixing said clamp bar at various positions to said guides.

3. A file comprising a base bar, transverse guides with flanges fixed to the ends of said bar, a guide fixed to said bar intermediate of said first named guides, pins connected to said bar, a movable clamp bar having its ends engaged between the flanges of said first named guides, and spring pressed plungers reciprocating in the ends of said clamp bar and having means for engaging the guides fixed to the ends of said base bar.

4. A file comprising a base bar, a hollow pin connected thereto, a pin movable within said hollow pin, means for reciprocating said pin within said hollow pin, and clamping means movable relatively to said bar.

5. A file comprising a base bar, pins movable therethrough, a device to which said pins are fixed, said device being movable to and from said bar, means for moving said device to and from said bar, and a clamp bar movable on said pins.

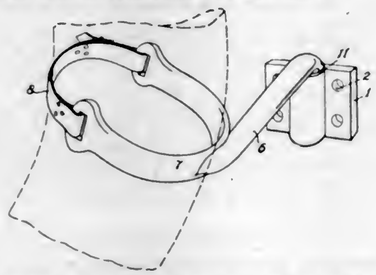
6. A file comprising a bar having hollow pins fixed thereto, needles movable in said pins, a device with a wedging member thereon to which said pins are connected, and a second device with a wedging member thereon for operating said first device through its wedging member.

7. A file comprising a bar having hollow pins fixed thereto, a bar with wedging surfaces, needles movable in said pins and fixed to said wedging bar, a second bar with wedging surfaces engaging said first named wedging surfaces, and a keeper fixed to said first named bar and for holding said wedging bars.

8. A file comprising a base bar, flanged guides fixed to the ends thereof, pins fixed to said bar, a clamp bar movable on said pins under control of said guides, spring actuated reciprocating devices carried within the ends of said clamp bar and adapted for engaging said guides, and means for fixing said devices out of engagement with said guides.

864,983. SPARE-TIRE HOLDER FOR AUTOMOBILES. LEO P. MCKINNEY, Boston, Mass., assignor of one-half to John L. Snow, Boston, Mass. Filed May 14, 1906. Serial No. 316,663.

1. A spare-tire holder for automobiles, having, in combination, a base, and a bracket secured thereto by a bayonet-joint and provided with means for holding a tire, the bayonet-joint including two interlocking engaging surfaces of which one is inclined so as to have a wedging action and to take up lost motion between the parts when the joint is locked, substantially as described.

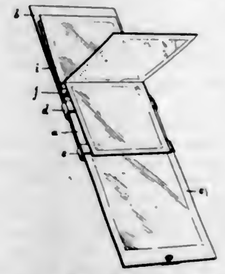


2. A spare-tire holder for automobiles, having, in combination, a base provided with a vertical socket comprising a cylindrical portion and a lateral recess, and with a lip overhanging a portion of the lateral recess, and a bracket provided with means for holding a tire and with a stem for engaging said socket and provided with a vertical key for engaging the lateral recess and interlocking with the lip, substantially as described.

3. A spare-tire holder for automobiles having, in combination, a base and a bracket secured together by a bayonet joint, the bracket being provided with a crotch for engaging and holding a tire and the bayonet joint being arranged to unlock by a movement of the bracket in the direction of the crotch, substantially as described.

4. A spare tire holder for automobiles adapted in cooperation with a device of similar or other suitable character to hold a spare tire on an automobile and comprising in combination a base and a bracket secured together by a bayonet joint, the bracket being provided with a crotch for engaging and holding a tire and a bayonet joint arranged to unlock by a movement of the bracket in the direction of the crotch, substantially as described.

864,984. MAGAZINE CARD-FOLDER, COLIN C. MCPHEE, Westmount, Quebec, Canada. Filed Oct. 22, 1906. Serial No. 340,026.



1. A magazine card folder, comprising a case having a suitable back and cover joined together, and a plurality of leaves formed of a length of suitable material arranged in folds, said folds forming two sets of sections of different lengths and alternately occurring in the said length, the adjoining sections having their inner surfaces joined together to form leaves, the inner leaf being mounted on said back, and means for engaging the uppermost section and displaying the pages of the various leaves in turn, as and for the purpose specified.

2. A magazine card folder, comprising a case formed of a back and a cover slidably arranged one on the other, and a plurality of leaves having the undermost firmly secured to the back and the other leaves immediately thereover and the back-bone formed by these leaves receding from that portion of the lowermost leaf to the uppermost leaf and a tail-piece joined with the uppermost leaf having a slot therethrough, and a tongue extending from the cover through said slot and adapted to pull on said tail-piece on the withdrawal of the cover, as and for the purpose specified.

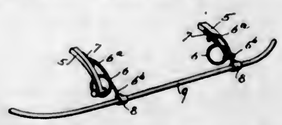
3. A magazine card folder, comprising a case having a cover and a back and a strap secured firmly to said cover at one end and a strap secured firmly to said back at the other end, said cover sliding in said strap secured to said back and said strap secured to said cover sliding over said back, and a plurality of leaves superimposed one on the other having the undermost leaf secured to the said back, and means connected with said cover for engaging the uppermost leaf and turning said leaves over in turn on the withdrawal of the cover, as and for the purpose specified.

4. A magazine card folder, comprising a case, having a cover and a back and straps arranged respectively on said cover and back and holding said two pieces in a slidable arrangement, and a plurality of leaves formed of a length of suitable material folded and secured together and having a tail-piece secured to the uppermost leaf and a reversible back-bone formation, and means connecting said cover with said tail-piece for turning said leaves over on the withdrawal of said cover, as and for the purpose specified.

5. A magazine card folder, comprising a case having a suitable back and cover, a length of material folded in sections to form leaves and a reversible back-bone portion, the uppermost leaf having a tail-piece forming part therewith said tail piece having a slot therein arranged, and a tongue secured to said cover and inserted through said slot and having a cross head at the top thereof engaging said tail piece on the withdrawal of the cover and turning said leaves outwardly and over in turn, as and for the purpose specified.

6. In a device of the class described, in combination, a length of suitable material arranged in folds, said folds forming two sets of sections of different lengths and alternately arranged, the adjoining sections having their inner surfaces joined together and forming leaves, a suitable backing to which the end section is secured, and means engaging the uppermost section for displaying the pages of said leaves, as and for the purpose specified.

864,985. BUFFER. ANDREW P. OLSON, Chicago, Ill. Filed Dec. 19, 1906. Serial No. 348,552.

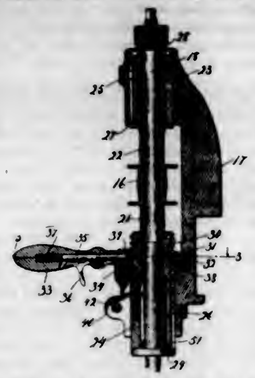


1. In an apparatus of the class described, the combination with a pair of coil springs of a buffer-bar, a pair of attaching-pieces for securing the rear ends of the spring to the frame of the vehicle, and a pair of attaching-pieces for securing the buffer-bar to the front ends of the springs.

2. In an apparatus of the class described, the combination of a pair of coil springs having parts of the coiled bar at its ends extended from the coiled part in opposite directions, a buffer-bar rigidly connected with the extended parts of the coiled springs on one side of the coil, and means for rigidly attaching the extended parts of the coil springs on the opposite side to the frame of the vehicle.

3. In an apparatus of the class described, the combination with a pair of coil springs having integral parts extended from opposite sides, means for attaching the extensions on one side laterally rigid to the vehicle frame a buffer-bar provided with rearwardly curved ends, and means for attaching the buffer-bar to the extensions on the opposite side of the springs.

864,986. ROUTER-HEAD. JOHN A. PEARSON, Chicago, Ill. Filed Jan. 18, 1907. Serial No. 352,907.

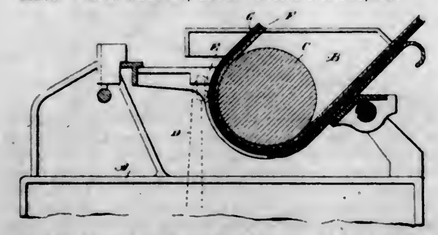


1. In a router head, in combination, a vertically recessed frame, a journal box longitudinally movable within the recess of the frame and being externally threaded, a nut in engagement with the box, an oscillatable handle, a pawl carried by the handle for engaging the nut, and a spindle journaled within the box and secured thereto against relative longitudinal movement.

2. In a router head, in combination, a frame having a pair of alined apertured members, journal boxes longitudinally movable within the apertures of such members, one of said boxes being externally threaded, a spindle journaled within the boxes and engaged by and secured thereto, a nut in engagement with the boxes, an oscillatable handle, and a pawl carried by the handle for engaging the nut.

3. In a router head, in combination, an apertured frame, a journal box within the aperture of the frame, a spindle journaled within the box, a lining for the box forming a bearing for the spindle, such lining being partially split from one end and having a transverse kerf meeting the inner end of the longitudinal kerf, and pressure screws setting through the walls of the box and bearing upon the longitudinally split portion of the lining.

864,987. ATTACHMENT FOR TYPE-WRITERS. JOSEPH I. PORTER, Washington, D. C., assignor of one-third to Charles H. Schott and one-third to Albert P. Kuck. Filed June 28, 1906. Serial No. 323,759.



1. The method of making a plurality of impressions at one stroke of a typewriter key, which consists in placing upon a flexible sheet of material harder than the surface of the platen of the typewriter a sheet of writing paper, and upon this a series of alternate sheets of carbon paper and of writing paper, and then placing all the sheets around a platen, with the sheet of hard flexible material contiguous to such platen, and then printing upon the outermost sheet of paper in the usual manner, substantially as and for the purpose described.

2. The combination with a resilient platen, of a flexible sheet of material harder than the surface of the platen adapted readily to be introduced between the platen and a series of alternate sheets of writing paper and of carbon paper simultaneously with the insertion of such series into the machine, so as to form a hard foundation for the paper, and to be readily removed simultaneously with the removal of such series from the machine, substantially as described.

3. The combination, with a resilient platen of a flexible sheet of material harder than the surface of the platen adapted readily to be introduced between the platen and a series of alternate sheets of writing paper and of carbon paper simultaneously with the insertion of such series into the machine, so as to form a hard foundation for the paper, and to be readily removed simultaneously with the removal of such series from the machine, said flexible sheet of hard material being roughened on its outer surface to prevent the slipping of the paper engaging it, substantially as described.

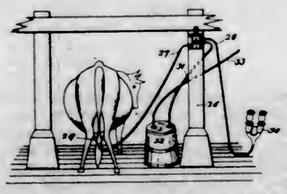
4. The combination, with a resilient platen of a flexible sheet of material harder than the surface of the platen adapted readily to be introduced between the platen and a series of alternate sheets of writing paper and of carbon paper simultaneously with the insertion of such series into the machine, and to be readily removed simultaneously with the removal of such series from the machine, said flexible sheet of hard material being roughened on both surfaces, substantially as and for the purpose described.

5. The combination, with a resilient platen of a flexible sheet of celluloid, the width of which corresponds to the length of the platen and the length of which corresponds to the length of the carbon paper which is used in manifolding work upon such platen, such sheet of celluloid being adapted to be inserted and removed simultaneously with the insertion and removal of a series of alternate sheets of writing paper and of carbon paper, substantially as and for the purpose described.

6. The combination, with a resilient platen of a flexible sheet of celluloid, the width of which corresponds to the length of the platen, and the length of which corresponds to the length of the carbon paper which is used in manifolding work upon the platen, such sheet of celluloid being roughened on one surface, and being adapted to be inserted and removed simultaneously with the insertion and removal of a series of alternate sheets of writing paper and of carbon paper, substantially as and for the purpose described.

7. The combination, with a resilient platen of a flexible sheet of celluloid, the width of which corresponds to the length of the platen, and the length of which corresponds to the length of the carbon paper which is used in manifolding work upon such platen, such sheet of celluloid being roughened on both surfaces, and being adapted to be inserted and removed simultaneously with the insertion and removal of a series of alternate sheets of writing paper and of carbon paper, substantially as and for the purpose described.

864,988. MILKING-MACHINE AND CONNECTIONS. FREDERICK RAVEN, Korrumburra, Victoria, Australia. Filed June 11, 1907. Serial No. 378,370.



1. In a milking machine as herein described the combination and arrangement of the pulsator valve (1) having the chamber (2) and the atmospheric air inlets (3) and (4), arm (8), and the spy or milk inspection glass (5) with the bed or body (16) provided with the ports (22), (23) and (24) as and for the purpose specified.

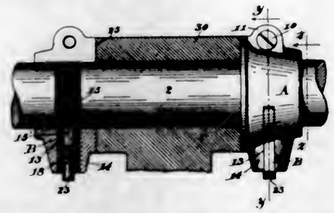
2. In a milking machine as herein described the combination and arrangement with the pulsator valve (1) having the chamber (2) and atmospheric air inlets (3) and (4) of the spy or milk inspection glass (5), cap (17) and spigot (18) as and for the purpose specified.

3. In a milking machine as herein described, the combination and arrangement of a pulsator valve (1), bed or body (16) and tubing (27), (28), (31) and (33) forming the milk and vacuum connections with the pulsator valve (1), bed or body (16) teat cups (34) milk bucket (32) and the double acting vacuum pump as and for the purpose specified.

4. The combination of the teat cup having interior inverted L shaped grooves, a baffle disk, bayonet catches on said disk adapted to engage with the groove and flexible tube connections for the cup.

5. The combination of the teat cup having two grip ribs on its interior wall, a circular mouth piece on the cup, said cup having two bulged out parts 37 and a baffle disk carried by the cup.

864,989. FASTENING DEVICE FOR ADJUSTABLE COLLARS. FRANCIS H. RICHARDS, Hartford, Conn. Filed Dec. 28, 1900, Serial No. 41,348. Renewed Feb. 7, 1906. Serial No. 299,949.



1. The combination with a shaft having a threaded section, of a collar slidably mounted thereon, and a threaded member mounted on the collar and shiftable toward and away from the shaft to engage with and be disengaged from the threaded section thereof.

2. The combination, with an externally-threaded carrier, of a split clamping collar slidably fitted to said carrier; an auxiliary carrier-engaging clamp carried by, and adjustable relatively to, the collar, and having a threaded clamping face coöperative with the threaded portion of the carrier; and means for drawing the ends of the split collar toward each other.

3. The combination, with a carrier, of a split clamping collar slidably fitted to said carrier; an auxiliary threaded clamp carried by, and adjustable relatively to, the collar; and means for drawing the ends of the split collar toward each other.

4. The combination, with a carrier, of a split clamping collar slidably fitted to said carrier; an auxiliary threaded clamp carried by, and adjustable relatively to, the collar; an auxiliary-clamp actuator also carried by said collar; and means for drawing the ends of the split collar toward each other.

5. The combination, with a carrier, of a split clamping collar slidably fitted to said carrier; an auxiliary threaded guided clamp carried by, and adjustable relatively to, said collar and to said carrier; an auxiliary-clamp-adjusting screw carried by said collar; and means for drawing the ends of the split collar toward each other.

6. The combination with a shaft, of a split collar slidably mounted thereon and having means for closing the collar and thereby clamping the same to the shaft and a threaded member mounted on the collar diametrically opposite the opening therein and shiftable toward and away from the shaft to engage with and be disengaged from the threaded section thereof.

7. The combination with a shaft having a threaded section, of a split collar slidably mounted thereon and having means for closing the collar and thereby clamping the same to the shaft and a threaded member mounted in a guideway on the collar diametrically opposite the opening therein and shiftable toward and away from the shaft to engage with and be disengaged from the threaded section thereof.

8. The combination with a shaft, of a split collar slidably mounted thereon and having means for closing the collar and thereby clamping the same to the shaft and a threaded member mounted on the collar diametrically opposite the opening therein and shiftable toward and away from the shaft to engage with and be disengaged from a threaded section thereof, the threaded portion of said member extending a substantial distance around the shaft.

9. The combination with a shaft having a threaded section, of a collar slidably mounted thereon, a threaded member mounted on the collar and shiftable toward and away from the shaft to engage with and be disengaged from the threaded section thereof and means for forcing said member against the shaft and into engagement with the threaded section.

10. The combination with a shaft, of a collar slidably mounted thereon, a threaded member mounted on the collar and shiftable toward and away from the shaft to engage with and be disengaged from a threaded section thereof, and a screw for forcing said member against the shaft and into engagement with the threaded section.

11. The combination with a shaft, of a clamping collar slidably mounted thereon, a threaded member mounted in a guideway of the collar and shiftable toward and away from the shaft to engage with and be disengaged from a threaded section thereof, and a screw for forcing said member against the shaft and into engagement with said threaded section, the threaded portion of said member extending a substantial distance around the shaft.

12. The combination with a shaft, of a split collar slidably mounted thereon, means for closing the collar and thereby clamping the same to the shaft, a threaded member mounted in the guideway of the collar diametrically opposite the opening therein and shiftable toward and away from the shaft to engage with and be disengaged from a threaded section thereof, and a screw for adjusting said member, said screw being located in an opening in the collar and coöperating with the end walls of said opening as well as shoulders on said member.

13. The combination of a shaft, a collar slidably mounted thereon, and a member adjustably mounted on the collar and shiftable toward and away from the shaft to engage with and be disengaged from a threaded section thereof.

14. The combination with a shaft, of a collar mounted thereon, means for frictionally holding said collar upon the shaft against angular and axial displacement relative thereto, and means for axially adjusting the collar upon angular movement thereof and for preventing axial displacement of such collar unaccompanied by angular movement and having a plurality of separated faces coöperating with similar separated parts of the shaft.

15. The combination with a shaft having a threaded section, of a collar slidably mounted thereon, means for tightening the collar, and a threaded member mounted on the collar and shiftable toward and away from the threaded section thereof.

16. The combination with a shaft having a screw threaded section, of a clampable collar slidably mounted thereon, and a member mounted on the collar and shiftable toward and from the shaft to engage and be disengaged therefrom.

17. The combination with a split collar and means for closing the same upon a shaft or the like, of means for engaging the shaft upon the side opposite the split, said shaft and means having each a plurality of coöperating separated engaging faces.

18. The combination of a split collar and means for closing the same upon a shaft or the like, of means for engaging the shaft with screw threaded engagement upon the side opposite the split.

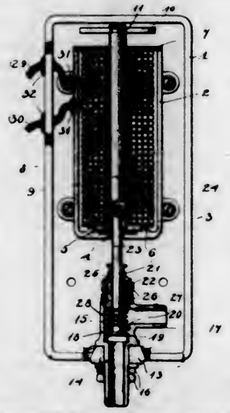
19. The combination with a split collar and means for closing the same upon a shaft or the like, of means for partially embracing the shaft with screw threaded engagement upon the side opposite the split.

20. The combination with a collar and means for closing the same on a member, of means for axially adjusting

the collar relative to said member and comprising a member having a plurality of separated faces engaging corresponding faces on said first member.

21. The combination with a collar and means for clamping the same on a member, of means coöperative with the clamping means when performing its work and for axially adjusting the collar when said clamping means is idle and having a plurality of separated faces engaging corresponding faces on said member.

864,990. WATER-GOVERNOR. WALTER J. RICHARDS and CHARLES P. TOLMAN, Milwaukee, Wis. Filed Oct. 24, 1904. Serial No. 229,880.



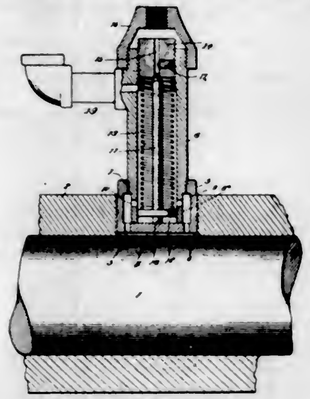
The combination of a compression cylinder surrounded by a water jacket, an electric motor for reciprocating a piston within said cylinder, an electric circuit for said motor, a supply pipe leading to said water jacket, a valve chamber interposed in the path of said supply pipe, a valve in said chamber for normally closing passage through said supply pipe, a stem extending from said valve, a bushing through which said valve stem extends, a collar on said valve stem, a spring interposed between said collar and valve seat to normally hold said valve in a closed position, a solenoid core, a solenoid winding for said core connected in the motor circuit in series with the motor, a piece of non-magnetic material secured to said core and engaging said valve stem, energization of said solenoid causing attraction of said core towards said valve stem to cause the valve to be opened to admit passage of water through said water jacket, said solenoid being energized and deënergized upon closure and opening of the motor circuit.

864,991. EMERGENCY OIL-CUP. RICHARD T. RICKARDS, Philadelphia, Pa. Filed Mar. 28, 1906. Serial No. 308,607.

1. In a device of the character described, the combination of a valve casing designed for attachment to a source of supply and provided with an oil duct, a spring pressed valve designed to close one end of said duct and provided at its other end with a disk the spring acting to unseat the valve, and a fusible plug designed to support the valve in contact with the end of said duct and against the action of said spring, as and for the purpose set forth.

2. In a device of the character described the combination of a valve casing arranged for connection to a source of supply and provided with a duct, a valve designed to close said duct and provided with a spring tending to unseat it, a fusible plug designed to hold the said valve seated, and means for regulating the size of said duct, as and for the purpose set forth.

3. In a device of the character described the combination of a valve casing arranged for connection to a source of supply, a bushing in one end of said valve casing provided with a duct extending therethrough, a regulating screw mounted in said bushing and designed to be projected to a greater or less extent in the said duct whereby to regulate the passage of fluid therethrough, a spring-pressed valve designed to close said duct, and a fusible plug adapted to support said valve in seated position.



4. A device of the character described comprising a bushing adapted to be screwed in a journal bearing or the like, a valve casing mounted in said bushing the interior of the valve casing communicating with the interior of the bushing and the latter being arranged to communicate with a part to be lubricated, the bushing being provided with a web at its inner side, a valve designed to control the admission of oil and arranged to automatically unseat and a fusible plug interposed between the valve and the web of the bushing and adapted to support the valve in seated position.

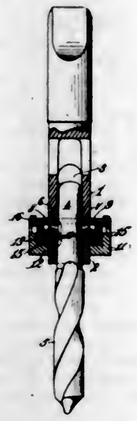
5. A device of the character described comprising a bushing designed to be secured to a journal bearing or the like and provided at its inner end with an apertured web, a valve casing secured in said bushing and producing therewith an annular space, said space being in communication with the apertures of the web and with the interior of the valve casing, means for admitting oil to the interior of the valve casing and permitting it to flow therethrough into the said annular space and through the apertures in the web to the part to be lubricated, the said oil admission means including a valve tending to assume an unseated position, and a fusible plug interposed between a portion of the valve and the web and adapted to hold the valve seated.

6. A device of the character described comprising a bushing adapted to be secured to a journal bearing or the like and provided at its inner end with an apertured web, a valve casing mounted in said bushing and provided with lateral ports communicating with the interior of the bushing and with the apertures in the web thereof, a bushing secured in the outer end of the valve casing and provided with an oil duct, a spring-inserted valve one end of which is adapted to seat against one end of said duct, and the other end of said valve being provided with a disk against which the spring of the valve bears to unseat the same, a fusible plug interposed between said disk and the web of the first named bushing and a cap secured to the outer end of the valve casing and arranged for connection to the source of supply.

7. In a device of the character described the combination of a valve casing designed for attachment to a source of supply and provided with an oil duct, a spring pressed valve designed to close said duct and provided with a spring tending to unseat it, and a fusible plug designed to hold the said valve seated, the valve casing being provided between the point at which the valve is adapted to close the oil duct and its end designed to be located adjacent a shaft or the like, with an extension adapted for attachment to the regular oil cup or source of supply, as and for the purpose set forth.

8. In a device of the character described, the combination of a valve-casing designed for attachment to a source of supply and provided with an oil-duct, a spring-pressed valve designed to close one end of said duct, the spring acting to unseat the valve, and a fusible plug designed to support the valve in contact with the end of said duct and against the action of said spring, as and for the purpose set forth.

864,992. DRILL SOCKET OR CHUCK. CHARLES C. ROBERTS, Ansonia, Conn. Filed Dec. 29, 1904. Serial No. 238,827.

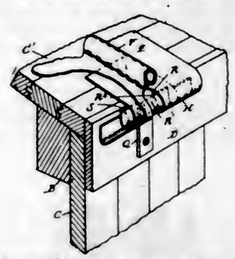


A drill socket comprising the combination with a socket member provided with a pair of openings and recesses and further provided with an exterior screw thread at the lower end thereof, of a collar surrounding said socket and having an inwardly-extending screw-threaded flange engaging the screw threads of said member, said collar adjustable in the direction of the length of the socket, a securing band surrounding the socket member, mounted upon and supported by the flange of the collar and provided with a pair of recesses opposing the openings in the socket member, each of said recesses having an upwardly and outwardly inclined wall, a pair of wedge members of less width than the recesses in the socket member, each of said wedge members having a rounded portion and a downwardly and inwardly-inclined portion, each of said wedge members mounted in a recess in said band and adapted to have the rounded portion thereof extend through a recess in the socket member and directly engage a bit projecting through an opening in the socket member and each of said wedge members having the inclined portion thereof coöperating with the inclined wall of the recess so that when said collar is adjusted in one direction the bit will be clamped in position and moved into the socket, and means mounted upon and connected to the collar for retaining the band and the wedge members therein.

864,993. CAR-ROOF. DELMAR C. ROSS, Detroit, Mich., assignor to C. B. Hutchins & Sons, Detroit, Mich., a Corporation. Filed May 4, 1905. Serial No. 258,797.

1. In a car roof, the combination with a roof sheathing of a plurality of roof plates thereon having flexible sections at their lower edges connected to the car, and yielding closures covering the joints between the flexible sections.

2. In a car roof, the combination with a roof sheathing, of a plurality of metallic roof plates thereon having hook-shaped extensions at their lower edges beyond the sheathing, closures covering the joints between the extensions, and retaining clips on the car engaging the plate hooks and locking the closures against endwise movement.



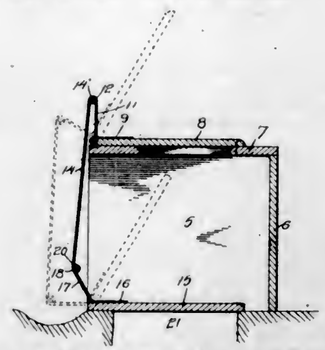
3. In a car roof, the combination with the roof sheathing, of metallic plates thereon having depending extensions at their lower edges, closures covering the joints between the extensions, and means on the car engaging the extensions and locking the closures against endwise movement.

4. The combination with a car, of an inner roof, an outside metal roof thereon, flexible joints connecting the sheets, permitting movement of the sheets longitudinally of the car and means at the eaves for holding the sheets down upon the inner roof, such holding-down means also permitting such longitudinal movement.

5. The combination with a car and its roof, of an outside metal roof thereon, flexible joints connecting the sheets, permitting relative movement of the sheets longitudinally of the roof, downturned hooks on the car and a hook-shaped eave portion on the sheets, said hooks on the side of the car slidably engaging such hook portion of the sheet to hold the sheets upon the inner roof, but to permit longitudinal movement thereof.

6. In a car roof, the combination with the sheathing, of roof plates thereon extending from the eaves to the ridge and holding down means for the plates at the eaves and at the ridge, said holding down means permitting movement of said plates longitudinally of the car.

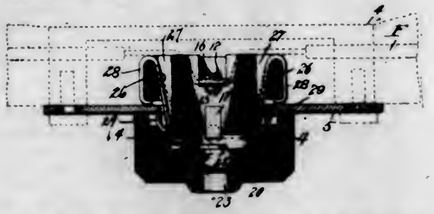
864,994. CLOSET. CLARENCE E. ROUTH, Clark, S. D. Filed Sept. 13, 1906. Serial No. 334,523.



In a device of the class described, the combination with a receptacle having an opening in its top, and a closure for the opening, of a plate secured to the closure, said plate being provided with spaced pintle lugs which are formed at its rear edge, said plate forming one leaf of a hinge, a hinge leaf secured upon the top rearwardly of the opening therein and provided with a pintle lug formed at the middle of its front edge, the said lug being received between the lugs upon the first mentioned hinge leaf, a tongue formed integral with the first mentioned leaf at its rear edge and extending between the pair of pintle lugs formed thereon, the said tongue being directed vertically and being bent to form a pintle lug, a door hinged

for swinging movement to close the lower end of the receptacle, a plate secured to the upper face of the door at its rear edge, said plate being bent to extend upwardly and rearwardly, and a link hinged at its upper end to the upper end of the tongue and at its lower end to the upper end of the last mentioned plate; substantially as described.

864,995. JUNCTION-BOX-COVER ROSETTE. FRANK J. RUSSELL, New York, N. Y. Filed Oct. 20, 1906. Serial No. 339,819.



1. In a rosette, a supporting element, a base section arranged at one side of the supporting element and having a locking connection therewith, said base section carrying the feed wire terminals, and a detachable cap piece fastened to the base section and arranged at the opposite side of said supporting element, said cap piece carrying the service wire terminal.

2. In a rosette, a supporting element, a base section having an independent locking connection with said supporting element and carrying the feed wire terminals, and a detachable cap piece having an adjustable non-rotative telescopic connection with the base section, and arranged upon the opposite side of the supporting element from the base section, said cap piece carrying assembling means and the service wire terminals.

3. A rosette comprising a base section carrying the feed wire terminals and having locking means for independent engagement with a supporting element, and a detachable cap piece having an adjustable telescopic connection with the base section, said cap piece carrying the service wire terminals and assembling connections, the latter providing for securing the rosette with the supporting element interposed between the base section and the cap piece.

4. In a rosette, a junction box cover having an opening therein, a base section arranged at the inner side of the junction box cover and having a projecting portion extending through said opening, and a detachable cap piece arranged upon the outer side of the junction box cover and carrying the service wire terminals and assembling means.

5. In a rosette, the combination with a junction box cover having an angular receiving opening therein, a base section carrying the feed wire terminals and having an angular coupling neck projecting through said opening, an exterior detachable cap piece carrying the service wire terminals and having an angular seating socket telescoping upon said coupling neck, and assembling connections carried by said cap piece.

6. A drop cord rosette comprising a base section having oppositely arranged plate receiving seats and a transverse insulating bridge therebetween, terminal plates fitted within said seats and each provided with wire engaging and binding means, oppositely arranged threaded coupling sleeves fitted in the base section, conductor screws engaging said sleeves and said terminal plates in the base section, a cap section arranged in overlapping relation to the base section, service terminal plates fitted to the base part of the cap section and each provided with a binding screw, and assembling screws mounted in said service terminal plates and arranged to adjustably and detachably engage said threaded coupling sleeves.

7. In a rosette, a supporting element having a receiving opening therein, a base section carrying the feed wire terminals and provided with oppositely arranged locking springs provided at their free ends with catch heads or hooks arranged to have a snapping locking engagement with said supporting element through the opening thereof, and a detachable cap piece carrying the service terminal plates and assembling means.

864,996. PACKING. JASPER L. SACKETT, Melrose, Mass. Filed May 19, 1905. Serial No. 261,109.

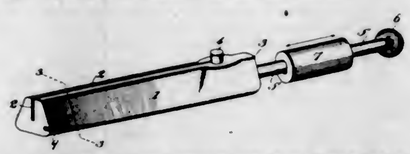


1. In a packing, the combination of a central portion or core, an outer body made up of strands, each of which consists of a fibrous string enveloped in metal, wound transversely around said core in a plurality of layers which are wound alternately in opposite directions in order to break joints, and a covering of suitable material on the upper and lower faces of said outer body.

2. In a packing, the combination of a central body or core, and an outer body entirely surrounding said central body and made up of strands wound transversely around said central body in a plurality of layers; said layers being wound alternately in opposite directions in order to break joints, and each of said strands consisting of fibrous material enveloped in metal.

3. In a packing, the combination of a central body or mass of strands laid in substantial parallelism, and an outer body entirely surrounding said central body and made up of strands wound transversely around said central body in a plurality of layers; said layers being wound alternately in opposite directions in order to break joints, and each of said strands both in the central body and the outer body consisting of fibrous material enveloped in metal.

864,997. GUTTER-INSERTER. DAVID A. SAPP, Towns, Ga. Filed Jan. 18, 1907. Serial No. 352,917.



1. A tool for inserting gutters, the same consisting of an elongated body having in one side a longitudinal slot which is closed adjacent to the head of the tool, said slot being adapted to receive and hold by friction one edge of a gutter and the head being adapted for impact of a hammer for forcing a gutter into a cut in a tree trunk, as described.

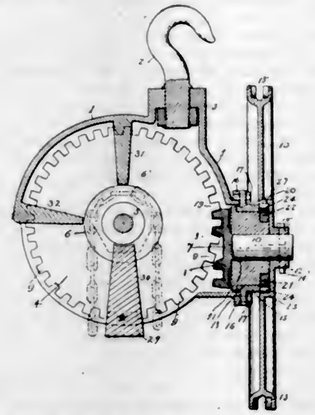
2. The improved tool for inserting gutters, consisting of an elongated body having in one side a longitudinal slot which is closed at the upper end, an impact piece inserted at the head of the slot, and the head of the body being flat and adapted for impact of a hammer, as shown and described.

3. The improved tool for inserting gutters, consisting of an elongated body having in one side a longitudinal slot which is closed adjacent to the head of the tool, an extension from said head which is alined with the body of the tool, and a hammer adapted to slide on such extension and for impact with the head of the body, substantially as described.

4. The improved tool for inserting gutters, comprising an elongated body having in one side a longitudinal slot which is closed at the upper end, an impact piece inserted at the upper end of the slot, the head of the body being flattened, a reduced cylindrical extension 5 which is rigidly connected, and alined with said head, a detachable knob applied to the outer end of the extension, and a hammer

comprising a metal sleeve which is of less length than the said extension and adapted to slide thereon in the manner described.

864,998. HOISTING DEVICE. HENRY J. SCHMICK, Hamburg, Pa., assignor to Hamburg Manufacturing Company, Limited, Hamburg, Pa. Filed May 20, 1907. Serial No. 374,638.



1. In a hoisting device, a revoluble hoisting-member, a revoluble member engaging said hoisting-member and provided with a shaft, a sleeve provided with a bearing for the shaft, a bearing in the casing for said sleeve, a driving member secured to the shaft and provided with a hub, and a friction clutch connecting said sleeve and the hub of the driving member.

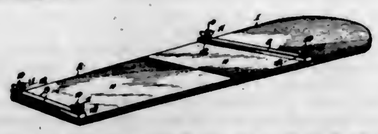
2. In a hoisting device, a revoluble hoisting-member, a revoluble disk or head having working members on the face thereof engaging the hoisting-member and provided with a shaft, separate concentric bearings for the head and its shaft, and means for revolving the disk or head.

3. In a hoisting device, a revoluble hoisting-member, a revoluble disk or head having working members thereon engaging the hoisting-member, and provided with a shaft, a sleeve provided with a bearing for the shaft, separate bearings for the sleeve and the shaft, a driving member, and means for locking said member to said sleeve.

4. In a hoisting device, a revoluble hoisting-member, a revoluble member engaging said hoisting-member and provided with a shaft, a sleeve provided with a bearing for the shaft, a bearing for the sleeve, a clutch-ring secured to said sleeve, and a driving wheel secured to the shaft and engaged by the clutch.

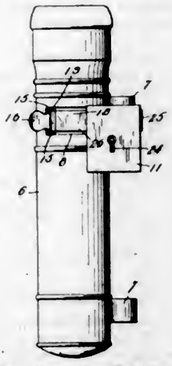
5. In a hoisting device, a revoluble hoisting-member, a revoluble member engaging the hoisting-member and provided with a shaft, a sleeve provided with a bearing for the shaft, a bearing for the sleeve, a clutch-ring secured to said sleeve, rollers in said ring, and a driving-wheel provided with a hub engaged by said rollers.

864,999. TROUSERS-STRETCHER. WILLIAM T. SHOEMAKER, Philadelphia, Pa. Filed June 12, 1906. Serial No. 321,414.



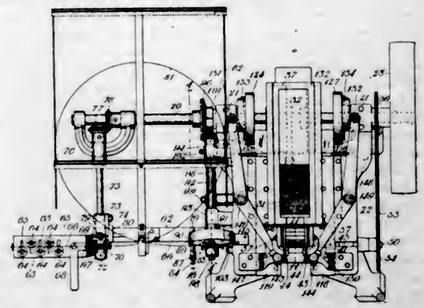
A trousers stretcher comprising two sections, a hinge connecting the inner ends of the sections and arranged to permit the latter to fold flat against each other, a fabric covering for the trousers stretcher embodying a continuous strip or piece disposed on the upper faces of the sections and having its intermediate portion arranged to be stretched over the inner end edges of the sections and over the said hinge, when the sections are folded, and clamping means carried by the sections.

865,000. WHIP-SOCKET LOCK. BENJAMIN H. SHORT, High Point, Mo. Filed Apr. 11, 1907. Serial No. 367,563.



A device of the class described comprising a socket member, a lock casing hinged to the socket, a spring pressed detent in the lock casing, a whip handle gripping member pivoted to the casing and located within the socket member, a bolt pivoted to the gripping member and slidably engaged through the lock casing, said bolt being toothed for the engagement therewith of the detent, a finger piece connected with the whip handle gripping member whereby it may be contracted, the normal tendency being for it to spread, and a strip secured to one face of the bolt and having its lower edge coincident with the points of the teeth of the bolt, the strip having its outer end bent laterally to extend across and beyond the outer end of the bolt whereby complete withdrawal of the bolt from the lock casing will be prevented.

865,001. HANDLE-MAKING MACHINE. MILTON O. THOMPSON, Wollaston, Mass., assignor of one-half to Charles S. Gooding, trustee, Brookline, Mass. Filed Nov. 30, 1906. Serial No. 345,621.



1. In a machine of the character described, means for feeding a wire into a spool with the opposite ends of said wire extending from said spool, two forming blocks located adjacent to the opposite ends, respectively, of said spool, a pair of forming blocks adapted to bend the free ends of said wire to form transverse bends extending away from said spool, a second pair of forming blocks

adapted to form return bends extending toward said spool, a third pair of forming blocks adapted to form final bends extending away from said spool, and mechanism for operating said blocks.

2. In a machine of the character described, means for feeding a wire into a spool with the opposite ends of said wire extending from said spool, a pair of forming blocks adapted to bend the free ends of said wire to form transverse bends extending away from said spool, a second pair of forming blocks adapted to form return bends extending toward said spool, a third pair of forming blocks adapted to form final bends extending away from said spool, and mechanism for operating said forming blocks.

3. In a machine of the character described, means for feeding a wire into a spool with the opposite ends of said wire extending from said spool, two forming blocks located adjacent to the opposite ends, respectively, of said spool, three pairs of forming blocks movable transversely of said spool, said blocks coöperating to bend the free ends of said wire to form a series of transverse bends, and mechanism for operating said blocks.

4. In a machine of the character described, means for feeding a wire into a spool with the opposite ends of said wire extending from said spool, instrumentalities for bending the free portions of said wire to form transverse bends extending away from said spool, return bends extending toward said spool, and final bends extending away from said spool, and means for bending said final bends toward said return bends to form loops.

5. In a machine of the character described, means for feeding a wire into a spool with the opposite ends of said wire extending from said spool, two forming blocks located adjacent to the opposite ends, respectively, of said spool, a pair of slidable forming blocks adapted to bend the free ends of said wire to form transverse bends extending away from said spool, a second pair of slidable forming blocks adapted to form return bends extending toward said spool, a third pair of slidable forming blocks adapted to form final bends extending away from said spool, and mechanism for imparting reciprocatory movements to said slidable forming blocks.

6. In a machine of the character described, means for feeding a wire into a spool with the opposite ends of said wire extending from said spool, two forming blocks located adjacent to the opposite ends, respectively, of said spool, a pair of slidable forming blocks adapted to bend the free ends of said wire to form transverse bends extending away from said spool, a second pair of slidable forming blocks adapted to form return bends extending toward said spool, a third pair of slidable forming blocks adapted to form final bends extending away from said spool, mechanism for imparting reciprocatory movements to said slidable forming blocks, two pivoted forming blocks adapted to bend said final bends toward said return bends to form loops, and mechanism to impart rocking movements to said pivoted forming blocks.

7. In a machine of the character described, means for feeding a wire through a spool, a stop against which one end of said wire is fed, means for severing said wire leaving a piece of wire with its opposite ends extending from said spool, instrumentalities for bending the free ends of said piece of wire to form transverse bends extending away from said spool, return bends extending toward said spool, and final bends extending away from said spool, and means for bending said final bends toward said return bends to form loops.

8. In a machine of the character described, a hopper adapted to contain spools, a raceway adapted to receive and guide spools from said hopper, means for feeding a wire through one of said spools in said raceway, a stop against which one end of said wire is fed, means for severing said wire leaving a piece of wire with its opposite ends extending from said spool, instrumentalities for bending the free ends of said piece of wire to form transverse bends extending away from said spool, return bends extending toward said spool, and final bends extending away from said spool, and instrumentalities for bending said final bends toward said return bends to form loops.

9. In a machine of the character described, a hopper adapted to contain spools, a raceway adapted to receive and guide spools from said hopper, means for feeding a wire into the lowermost spool in said raceway with the opposite ends of said wire extending from said spool, instrumentalities for bending the free ends of said wire to form a series of bends while said spool is in said raceway, and means for ejecting said lowermost spool from said raceway after said wire has been bent.

10. In a machine of the character described, a hopper adapted to contain spools, a raceway adapted to receive and guide spools from said hopper, a movable stop adapted to normally close the outlet of said raceway, means for feeding a wire through the lowermost spool in said raceway, means for severing said wire leaving a piece of wire with its opposite ends extending from said spool, instrumentalities for bending the free ends of said wire while said spool is in said raceway, and instrumentalities for moving said stop from said outlet and ejecting said lowermost spool from said raceway after said wire has been bent.

11. In a machine of the character described, means for feeding a wire through a spool, a movable cutter having a guiding surface, a stationary cutter provided with a passage adapted to guide said wire, said passage inclined at an angle to said guiding surface, means for moving said movable cutter across said passage, thereby severing said wire and leaving a piece of wire with its opposite ends extending from said spool, and instrumentalities for bending the free ends of said piece of wire.

12. In a machine for feeding wire through an orifice, a guide provided with a groove located in alinement with said orifice, and a guide adapted to guide said wire against one surface of said guide block and at an angle to said groove.

13. In a machine of the character described, means for feeding a wire through a spool, a movable cutter having a guiding surface, a stationary cutter provided with a passage adapted to guide said wire, said passage inclined at an angle to said guiding surface, means for moving said movable cutter across said passage, thereby severing said wire and leaving a piece of wire with its opposite ends extending from said spool, and instrumentalities for bending the free ends of said piece of wire to form a series of transverse bends.

14. In a machine of the character described, means for feeding a wire through a spool, a guide block having a guiding surface located between said feeding means and said spool, means to deflect said wire against said guiding surface, a block adapted to deflect said wire from said guiding surface, said second block adapted to guide said wire into said spool, and instrumentalities for bending the free ends of said wire to form a series of transverse bends.

15. In a machine of the character described, means for feeding a wire through a spool, a stop against which one end of said wire is fed, a movable cutter having a guiding surface, a stationary cutter provided with a passage adapted to guide said wire, said passage inclined at an angle to said guiding surface, means for moving said movable cutter across said passage, thereby severing said wire and leaving a piece of wire with its opposite ends extending from said spool, and instrumentalities for bending the free ends of said wire to form a series of transverse bends.

16. In a machine of the character described, means for feeding a wire through a spool, a stop against which one end of said wire is fed, means for preventing rebound of said wire after striking said stop, and instrumentalities for bending the free ends of said wire.

17. In a machine of the character described, a hopper adapted to receive and guide spools from said hopper, means for feeding a wire through the lowermost spool in said raceway, a stop against which said wire is fed, means for severing said wire leaving a piece of wire with its opposite ends extending from said spool, instrumentalities for bending the free ends of said wire to form a series of transverse bends while said spool is in said raceway, and means for ejecting said lowermost spool from said raceway after said wire has been bent.

18. In a machine of the character described, a hopper adapted to contain spools, a raceway adapted to receive and guide spools from said hopper, means for feeding a wire through the lowermost spool in said raceway, means for severing said wire leaving a piece of wire with its opposite ends extending from said lowermost spool, instrumentalities for bending the free ends of said piece of wire, and a rotary ejector adapted to engage said lowermost spool and eject it from said raceway.

19. In a machine of the character described, a hopper adapted to contain spools, a raceway adapted to receive and guide spools from said hopper, means for feeding a wire through the lowermost spool in said raceway, means for severing said wire leaving a piece of wire with its opposite ends extending from said lowermost spool, a movable stop adapted to normally close the outlet of said raceway, instrumentalities for bending the free ends of said piece of wire, a rotary shaft, an ejector mounted on said shaft and adapted to engage said lowermost spool, and a cam mounted on said shaft, said cam adapted to move said stop out of the path of said lowermost spool.

20. In a machine of the character described, means for feeding a wire through a spool, a stop against which one end of said wire is fed, means for severing said wire leaving a piece of wire with its opposite ends extending from said spool, a pair of forming blocks adapted to bend the free ends of said wire to form transverse bends extending away from said spool, a second pair of forming blocks adapted to form return bends extending toward said spool, a third pair of forming blocks adapted to form final bends extending away from said spool, and mechanism for moving said forming blocks.

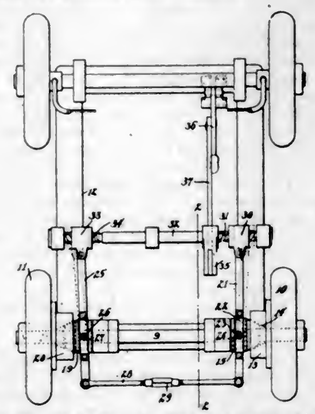
21. In a machine of the character described, means for feeding a wire through a spool, a stop against which one end of said wire is fed, means for severing said wire leaving a piece of wire with its opposite ends extending from said spool, a pair of forming blocks adapted to bend the free ends of said wire to form transverse bends extending away from said spool, a second pair of forming blocks adapted to form return bends extending toward said spool, a third pair of forming blocks adapted to form final bends extending away from said spool, mechanism for moving said forming blocks, a pair of oscillatory forming blocks adapted to bend said final bends toward said return bends to form loops, and mechanism for moving said oscillatory forming blocks.

22. In a machine of the character described, a hopper adapted to contain spools, a raceway adapted to receive and guide said spools from said hopper, means for feeding a wire through the lowermost spool in said raceway, a stop against which one end of said wire is fed, means for severing said wire leaving a piece of wire with its opposite ends extending from said spool, a pair of forming blocks adapted to bend the free ends of said piece of wire to form transverse bends extending away from said spool, a second pair of forming blocks adapted to form return bends extending toward said spool, a third pair of forming blocks adapted to form final bends extending away from said spool, and mechanism for operating said forming blocks.

23. In a machine of the character described, means for feeding a wire continuously toward a spool, means for imparting to said wire an intermittent feeding movement toward said spool, said second-named means located between said first-named means and said spool, means to guide said wire into said spool, means for severing said wire leaving a piece of wire with its opposite ends extending from said spool, and instrumentalities for bending the free ends of said wire.

865,002. VEHICLE-BRAKE. BARTHOLOMEW VIOLA, Brooklyn, N. Y. Filed Aug. 30, 1906. Serial No. 332,563.

1. In a vehicle brake, the combination with an axle and a pair of wheels carried thereby, of a clutch member secured to each of the wheels on its inner side, a pair of clutch members slidable on the axle into engagement with the said clutch members respectively, means for simultaneously shifting the latter clutch members in opposite directions to engage and disengage the wheel clutch members and adjustable means for insuring the equal engagement of the two slidable clutch members.



2. In a vehicle brake, the combination with an axle and a pair of wheels carried thereby, of a pair of members carried by the axle and having cone-shaped faces, clutch members secured to the wheels and provided with coöperating conical surfaces arranged to engage the said cone members respectively, means for simultaneously shifting the cone members on the axle into and out of engagement with the said clutch members and adjustable means for insuring the equal engagement of the two slidable clutch members.

3. In a vehicle brake, the combination with an axle and wheels carried thereby, of a brake member having a cone-shaped surface secured to each wheel, a pair of brake members also having cone-shaped surfaces mounted on the axle and shiftable toward and from said wheel brake members, a pair of levers connected with the shiftable brake members, a rock shaft provided with threaded portions, a pair of nut members on the threaded portions of the rock shaft and connected with said levers, and means for rocking the shaft to shift the nut members and thereby swingingly spread and contract said levers, the spreading of the levers operating to shift the shiftable brake members outwardly into engagement with the wheel brake members thereby to brake the vehicle.

4. In a vehicle brake, the combination with an axle and wheels carried thereby, of a clutch member secured to each wheel, a pair of clutch members on the axle movable to and from said clutch members, a pair of levers connected with the movable clutch members, a rock shaft provided with threaded portions, a pair of nut members on the rock shaft at said portions, said levers being connected with the nut member, means for rocking the shaft to shift the nut members and swing said levers, whereby the clutch members are caused to engage and disengage, a link pivotally connecting said levers whereby the cone members will react to shift the levers and produce an equal pressure in the clutch members, and means for adjusting the length of the link member to vary the engagement of the clutch members by the lever.

5. In a vehicle brake, the combination with an axle and a pair of wheels carried thereby, of a clutch member secured to each wheel, a pair of clutch members shiftable on the axle to engage and disengage said clutch members respectively, a pair of levers connected with the shiftable clutch members, a link member pivotally connecting the levers at one end, a rock shaft adjacent the other end of the levers provided with oppositely threaded portions, nut members engaging said threaded portions and secured to the free ends of the levers, means for rocking the shaft for shifting the nuts and levers, whereby the clutch members are caused to engage and disengage, and means for

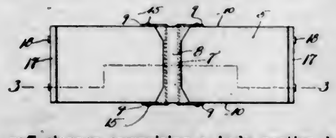
varying the length of said link to cause the pivotal points of the levers to approach or recede.

6. In a vehicle brake, the combination with an axle and a pair of wheels carried thereby, of a brake member secured to each of the wheels on its inner side, a pair of brake members slidable on the axle into engagement with the said brake members respectively, means for simultaneously shifting the latter brake members in opposite directions to engage and disengage the wheel brake members and means connected to the slidable brake member and including an adjustable connecting link for insuring the equal engagement of said slidable brake members.

7. In a vehicle brake, the combination with an axle and a pair of wheels carried thereby, one having a cone-shaped surface, of a member carried by and movable on the axle toward and from said wheel brake member and also having a cone-shaped surface, one of said surfaces having a removable face comprising a series of tapered members carried by dovetailed ribs, and means for shifting the axle member into and out of engagement with the cone-shaped surface of the wheel member.

8. In a vehicle brake, the combination with an axle and a pair of wheels carried thereby, each having cone-shaped bores, of a pair of cone-shaped members carried by the axle, each having a removable face comprising a series of tapered members carried by dovetailed ribs, and means for shifting the cone-shaped members on the axle into and out of engagement with the cone-shaped bores of the wheels.

865,003. GAFF-CLAPPER. ROGER W. WONSON, Gloucester, Mass. Filed Jan. 26, 1906. Serial No. 297,948.



1. A gaff clapper comprising a body portion having a groove extending laterally across one face thereof, and a plate extending over said groove and across said body portion, the opposite ends of said plate extending over the sides of said body portion and fastened thereto.

2. A gaff clapper comprising a body portion having a groove extending laterally across one face thereof, and a plate extending over said groove and across said body portion, the opposite ends of said plate bifurcated, said bifurcated ends extending over the sides of said body portion at opposite sides, respectively, of said groove and detachably fastened to said body portion.

865,004. BOTTLE-SEALING DEVICE. WILSON BAILEY, Philadelphia, Pa. Filed May 4, 1907. Serial No. 371,780.



1. A metallic sealing cap formed from a single piece of metal, comprising a disk-like crown portion and a transversely-divided annular retaining rim therefor, with a bifurcated strip integrally uniting said crown portion with the respective coinciding edges of the divided retaining rim, and bent to detachably maintain said edges in overlapping register on the head of the bottle.

2. A metallic sealing cap formed from a single piece of metal, comprising a disk-like crown having a depending annular flange transversely slitted to form the upper portion of a bifurcated strip integral with the crown, a ring-like retaining rim having an inturned flange overlying the annular edge of the crown, said rim being transversely sectioned peripherally and with the sectional edges thereof overlapping, and each integrally connected with the respective divided ends of said bifurcated crown strip, said strip being then bent upon itself to form a retaining clamp adapted to be again bent against the overlapping sectioned edges of said retaining rim.

3. A sealing device comprising a flanged crown, an encircling flanged rim sectioned at a point in its periphery with one edge of the sectional cut overlapping that of the other, a pair of contiguous connecting strips proceeding from the flanged crown, and each of which is connected to a section of the divided rim, said connecting strips being then brought into overlapping coincidence and bent to form a single strip against the side of and parallel with the exterior rim element of the cap.

4. A sealing device comprising a metallic cap in combination with a bottle having an annular projecting shoulder below the lip, said cap being composed of two sections, namely a flanged crown, a flanged rim surrounding the crown, said rim being transversely sectioned peripherally, detachable connecting strips between the crown section and each edge of the divided rim section, and the latter bent at its lower edge under the shoulder of the bottle; substantially as described.

865,005. MOLDING CASEIN AND PROCESS OF PRODUCING SAME. LEON H. BARNETT, Bellows Falls, Vt., assignor to Micaroid Manufacturing Company, Jersey City, N. J., a Corporation of New Jersey. Filed June 5, 1903. Serial No. 160,281.

1. As a new article of manufacture waterproof molding casein composed of casein and resin precipitated from an alkaline solution in the presence of mineral substances, substantially as set forth.

2. The herein described process of manufacturing molding casein, which consists in precipitating from a solution of casein or of an alkaline caseinate by acids or salts of acid reaction casein in the presence of mineral substances, substantially as set forth.

3. The process of manufacturing waterproof molding casein, which consists in precipitating from a solution of casein or of an alkaline caseinate by acids or salts of acid reaction casein in the presence of mineral substances, and resin, substantially as set forth.

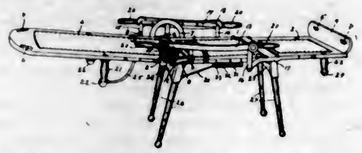
4. As a new article of manufacture, water-proof molding casein, composed of a caseinate of a metal, and resinate of a metal, precipitated from an alkaline solution in the presence of mineral substances, substantially as set forth.

5. As a new article of manufacture waterproof molding casein composed of casein and resinous material precipitated from solution in the presence of mineral substances substantially as set forth.

6. As new article of manufacture waterproof molding casein composed of caseinate of a metal and resinous material precipitated from solution in the presence of mineral substances, substantially as set forth.

865,006. COMBINED AMBULANCE-STRETCHER AND HOSPITAL-CHAIR. CHARLES E. BENSINGER and FRANK L. THOMAS, Sterling, Ill. Filed Oct. 11, 1906. Serial No. 338,374.

1. In a combined ambulance stretcher and hospital chair, the combination of the seat 1, provided at its forward edge with a pair of folding legs 27, and at its rear edge with a pair of folding legs 26; means for locking the legs 27 in open or closed position; similar means for locking the legs 26 in open or closed position; the back 2, hingeably secured to the seat 1, and provided at its outer end with hand-holes 6; the leg-support 3, hingeably secured to the seat 1; a foot-rest 4, fixed to such leg-support, and provided with the hand-holes 5; a pair of links 17, fixed to the sides of the leg-support; a pair of strips 14, provided at their rear ends with plates 15, pivotally secured to the back 2, and at their front ends with the plates 16, pivoted to the free ends of the links 17; the legs 21, fixed to the back 2, and provided with rollers 22; the legs 23, fixed to the leg-support 3, and provided with rollers 24; and means for locking the back 2 in adjusted position with reference to the seat 1; substantially as and for the purpose mentioned.



2. In a combined ambulance stretcher and hospital chair, the combination of the seat 1, provided at its forward edge with a pair of folding legs 27, and at its rear edge with a pair of folding legs 26; means for locking the legs 27 in open or closed position; similar means for locking the legs 26 in open or closed position; the back 2, hingeably secured to the seat 1, and provided at its outer end with hand-holes 6; means for locking the back 2 in adjusted position with reference to the seat 1; the leg-support 3, hingeably secured to the seat 1; the foot-rest 4 fixed to such leg-support, and provided with hand-holes 5; a pair of links 17, fixed to the sides of the leg-support 3, a pair of arms 13, supported at their rear ends by plates 15, pivotally attached to the back 2, and plates 16, pivotally secured to the links 17; handles 20, fixed to the ends of the arms 13; and means for slidably supporting the device when in position as a stretcher, substantially as shown and described.

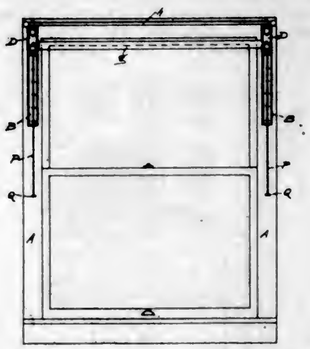
3. In a device of the class named, the combination of the seat 1, provided at its forward edge with a pair of folding legs 26, and at its rear edge with a pair of folding legs 27; means for locking the legs 27 in open or closed position; similar means for locking the legs 26 in open or closed position; the back 2, hinged to the seat 1, and provided with rollers 22; the leg-support 3, hingeably secured to the seat 1, and provided with the rollers 24; a pair of racks 7, fixed to the sides of the seat 1, and provided with corrugations 8 and 37; the arms 9, pivoted to the sides of the racks 7, and provided on their inner faces with corrugations 10, adapted to engage the corrugations 8 and 37; the rod 11, extending through the back 2 and arms 9, and provided with the thumb-screw 12; and means for actuating the leg-support 3 from the back 2, to raise such support when the back is lowered, and lower the same upon the back being raised, substantially as shown and set forth.

865,007. SHADE AND CURTAIN ADJUSTING DEVICE. RUDOLPH A. BREITENFELD, Madison, Wis. Filed Apr. 9, 1907. Serial No. 367,281.

1. The combination, in a shade and curtain adjuster, of a double grooved base strip, a double flanged hollow block, having flanges fitted to grooves in base strip, ratchet teeth on base strip, a spring actuated pawl attached to interior of hollow block and engaging ratchet teeth on base strip, and a shaft with a cam formed as part of said shaft, so arranged that partial rotation of shaft will cause cam to disengage pawl and ratchet, substantially as described.

2. In a shade and curtain adjuster, the combination of a vertically adjustable block, a shade bracket and curtain bracket attached thereto, a base strip guiding said block, a spring pawl on said block, ratchet teeth on said base strip and a shaft journaled in said adjustable block, with a cam formed on end of said shaft for operating spring pawl, substantially as described.

3. In a shade and curtain adjuster, the combination of a pair of vertically guided and adjustable hollow blocks D, a curtain bracket H′ and a shade bracket H attached to each hollow block D, a curtain rod *h* attached to curtain brackets H′, a shade roller *g*, and a block having rectangular opening U and closing lugs V V′ for attaching spring spindle of shade roller to one of shade brackets H, with



a shade roller end formed of cup *a*, concentric sleeve *e* and headed spindle *f* for attaching idler end of shade roller *g* to one of shade brackets H, substantially as described and for the purposes set forth.

865,008. CLOSURE FOR CONTAINING VESSELS. JULIUS BRENZINGER, Mount Vernon, N. Y., assignor to Max Ams Machine Company, New York, N. Y., a Corporation of New York. Filed Nov. 26, 1906. Serial No. 345,039.



1. The combination, with a bottle, jar or the like having an exterior, annular groove at its mouth, of a removable, open ring of spring wire self-pressed into said groove, and a cap pivoted on said ring and adapted to cover said mouth.

2. A container provided with an exterior, annular groove at its mouth, an open ring spring-pressed into said groove, and a cap hinged to said ring and slidable thereon.

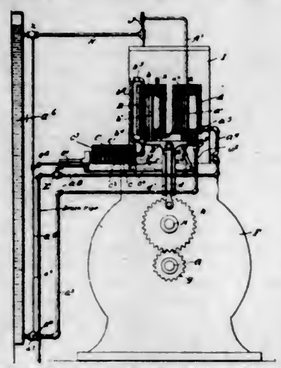
3. A container provided with two exterior, annular ribs at its mouth forming a groove therebetween, a removable wire ring in said groove, and a cap pivoted to and slidable on said ring, said cap being provided with suitable latching means.

4. A container provided with two exterior, annular ribs at its mouth forming a groove therebetween, a ring in said groove, a cap hinged to and slidable on said ring, and a depending lug on said cap indented to correspond with said groove, the uppermost of said ribs having a recess to permit of the passing of the indented portion of said lug.

5. The combination, with a bottle, jar or the like having an exterior, annular groove at its mouth, of an open ring of spring wire self-pressed into said groove, and a cap

secured to said ring and having both pivotal and sliding movement thereon.

865,009. INTERNAL-COMBUSTION ENGINE. CHARLES BRIZZOLARA, Richmond, Va., assignor of one-half to Dominic Leveri, Richmond, Va. Filed Mar. 27, 1907. Serial No. 364,872.



1. In combination with a water-jacketed engine, a storage tank, return and supply pipes connecting the jacket with the tank, means automatically actuated by starting the engine for opening both said pipes, said means comprising a spring-pressed piston and air-forcing devices, and means for draining this jacket, these latter means being operated by the stopping of the engine.

2. In combination with a water-jacketed engine, a water supply pipe, means for closing the supply pipe upon the stopping of the engine and opening the supply pipe upon the starting of the engine, said means comprising an air-forcing cylinder connected up to the engine, an air-receiving chamber containing a spring-pressed piston and means connecting this piston with a valve in the supply pipe, and devices connected to these latter means for automatically venting the air receiving cylinder when the engine stops.

865,010. PICKLING VAT OR BARREL. FREDERICK BROCKHOFF, Chicago, Ill. Filed Dec. 1, 1905. Serial No. 289,925.



1. In combination, a receptacle, a cover therefor including a section detachable from the cover, a common means for positioning and forcing the section to its seat and for locking the section when seated, said means being also adapted to unlock and unseat the section and comprising two members, one of said members being pivotally connected by one end to the said section, the other member being pivotally connected by one end to the receptacle, and means pivotally connecting the two members at a point remote from the ends which are respectively connected to the section and the receptacle.

2. In combination, a receptacle, a cover comprising a fixed and a removable section, a lever carried by the removable section, and means on the lever adapted to engage the receptacle and form a fulcrum at said point of engagement for the lever to seat the section and lock the same when seated, said lever being also adapted to unlock and unseat the section.

3. In combination, a receptacle, a cover having a removable section, a lever pivoted to said section, and a catch pivoted to the lever remote from its point of connection with the section, said catch being adapted to engage the receptacle for locking the section, and to serve as a fulcrum for the lever to unseat the section when the same is unlocked.

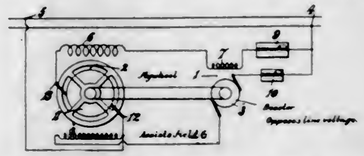
4. In combination, a receptacle, a cover therefor having a removable section, a lever pivoted to the section, and means carried by the lever for engaging the receptacle to lock the section, said lever being provided with two separate fulcrums, one to serve in unlocking and the other in unseating the section.

5. In combination, a receptacle, a cover therefor having a removable section, a lever pivoted to said section, and a link pivoted to the lever and removably engaging the receptacle, the pivot of said link being adapted to be moved about the pivot of the lever for locking the section.

6. In combination, a receptacle, a cover comprising a removable and a stationary section, cleats secured to the removable section and adapted to engage the lower face of the stationary section, a lever pivoted to said removable section, a link pivoted to the lever and provided with an aperture and a recess, and a lug carried by the receptacle, with which the aperture in the link engages, said lever being adapted to be moved about its pivot to bring the recess in the link adjacent said pivot point.

7. In combination, a receptacle, a removable cover, a lever pivoted to the cover and a link pivoted to the lever and removably engaging the receptacle, said lever being movable about its pivotal point of connection with the cover to lock and unlock the same, and about its point of pivotal connection with the link for seating and unseating said cover.

865,011. CONNECTION SYSTEM FOR DIRECT-CURRENT ELECTRIC MOTORS. RAOUL BRUN, Havre, France. Filed Feb. 28, 1906. Serial No. 303,339.



1. The combination of a compound-wound motor provided with a fly wheel, and an auxiliary dynamo-electric machine the speed of which is arranged to vary directly with that of the motor, the armature of the auxiliary machine being connected in series with the shunt field winding of the motor so that the voltage of the said machine is opposed to that of the source of supply and the field winding of the auxiliary machine being connected with the series winding of the motor.

2. The combination with a compound-wound motor provided with a fly wheel, and a supply circuit, of an auxiliary dynamo-electric machine mechanically coupled to said motor and having its armature so connected to the supply circuit in series with the shunt winding of the motor as to reduce the shunt excitation with increasing loads.

3. The combination with a compound-wound motor provided with a fly wheel, and a supply circuit, of an auxiliary dynamo-electric machine mechanically coupled to said motor and having its armature winding so connected to the shunt field magnet winding of the motor as to diminish the shunt excitation as the load increases and to increase said excitation as the load diminishes.

4. The combination with a dynamo-electric machine having armature and shunt and series field magnet windings, of a fly wheel and a booster coupled to the said machine, the booster having armature an dfield magnet windings that are connected in series, respectively, with the shunt field magnet and armature windings of the said machine.

865,012. MANUFACTURE OF CIGARS. WILLIAM H. BUTLER, New York, N. Y. Filed Dec. 17, 1906. Serial No. 348,249.



1. An improvement in the art of manufacturing cigars, consisting in preparing a wrapper from strips of tobacco leaf joined end to end, forming said wrapper into a plurality of layers and winding the same spirally about a filler, substantially as described.

2. An improvement in the art of manufacturing cigars, consisting in joining strips of tobacco leaf end to end, and forming the same into a wrapper comprising a plurality of layers having the veins in adjacent layers cross each other, and winding the wrapper spirally about a filler, substantially as described.

3. An improvement in the art of manufacturing cigars consisting in joining strips of tobacco leaf end to end to form a wrapper, cutting said wrapper into sections, superposing the resulting sections of the wrapper so that the veins thereof will run in the same general direction, and winding the wrapper spirally about a filler, substantially as described.

4. An improvement in the art of manufacturing cigars consisting in joining strips of tobacco leaf end to end as a step in the formation of a wrapper, forming the partially completed wrapper into a plurality of superposed layers and winding the wrapper spirally about a filler, substantially as described.

5. An improvement in the art of manufacturing cigars consisting in joining strips of tobacco leaf end to end as a step in the formation of a wrapper, forming the partially completed wrapper into a plurality of superposed layers, applying adhesive substance between the layers, and winding the wrapper spirally about a filler, substantially as described.

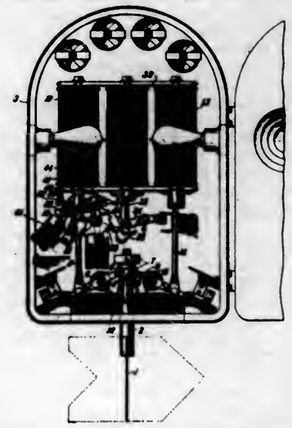
6. An improvement in the art of manufacturing cigars consisting in joining strips of tobacco leaf end to end as a step in the formation of a wrapper, cutting the partially formed wrapper into sections, superposing said sections and applying adhesive substance between the sections which form layers of the completed wrapper, substantially as described.

865,013. RAILWAY BLOCK-SIGNAL SYSTEM. WINTHROP M. CHAPMAN, Needham, Mass. Filed Jan. 24, 1906. Serial No. 297,557.

1. A railway block signal system, having, in combination, a movable signal, signal setting and restoring means, a controller to prevent the restoration of the signal until the last car leaves the block, and means for moving the signal to indicate an actuation of the controller when a car enters the block.

2. A railway block signal system, having, in combination, a signal, signal setting and restoring means, a controller to prevent the restoration of the signal until the last car leaves the block, means for actuating said controller comprising two magnets, means for closing the circuit of one magnet when a car enters the block, means for closing the circuit of the other magnet when a car leaves the block, and means for maintaining said last mentioned magnet energized until the first mentioned magnet is deënergized when cars enter and leave the block simultaneously.

3. A railway block signal system, having, in combination, a signal, signal setting and restoring means, a controller for preventing the restoration of the signal until the last car leaves the block comprising a ratchet wheel, a pawl and means for actuating the pawl to advance the ratchet wheel step by step, a spring for returning the ratchet wheel, a pivoted escapement pallet provided with a detent on each side of its pivot to engage the ratchet wheel, a spring for oscillating the pallet in one direction, a magnet, an armature therefor, and connections between the armature and pallet for oscillating the pallet in the opposite direction.



4. A railway block signal system, having, in combination, a signal, signal setting and restoring means, a controller for preventing the restoration of the signal until the last car leaves the block, comprising a ratchet wheel, a pawl, and means for actuating the pawl to advance the ratchet wheel step by step, a spring for returning the ratchet wheel, an escapement pallet, a spring for oscillating the pallet in one direction, a magnet, an armature therefor, and connections between the armature and pallet for oscillating the pallet in the opposite direction, and connections comprising a spring arranged to allow the pallet to yield in case the pawl is actuated during the oscillation of the pallet by the armature.

5. A railway block signal system, having, in combination, a signal, signal setting and restoring means, a controller for preventing the restoration of the signal until the last car leaves the block, comprising a ratchet wheel, a pawl, and means for actuating the pawl to advance the ratchet wheel step by step, a spring for returning the ratchet wheel, an escapement pallet and projection movable with the armature and arranged to engage the arm and oscillate the pallet in the opposite direction.

6. A railway block signal system, having, in combination, a signal, a magnet, an armature therefor acting when attracted to set the signal, a locking device for preventing the return of the signal to normal position, an actuator for said locking device moved by the armature, mechanism connected with the locking device and arranged to be engaged by said actuator upon a subsequent attraction of the armature, and means for moving said mechanism out of the path of the actuator to allow the locking device to move into locking position when the armature is attracted to set the signal.

7. A railway block signal system, having, in combination, a signal, a locking device for preventing the return of the signal to normal position, a magnet, an armature therefor acting when attracted to set the signal, an actuator for said locking device moved by the armature, a controller comprising mechanism connected with the locking device and arranged to be engaged by said actuator upon a subsequent attraction of the armature, means for actuating the controller to move said mechanism away from the path of the actuator when a car enters the block after the signal has been set, means for energizing said magnet when a car leaves the block, and means operated by the armature for actuating the controller to return said mechanism into the path of the actuator.

8. A railway block signal system, having, in combination, a signal movable from normal to either of two positions, two magnets, armatures for said magnets, and connections between the armatures and the signal arranged to lock the signal in each of its positions acting to move the signal to one position when the signal is in normal position and one magnet is energized, and to move the signal to the other position when the signal is in normal position and the other magnet is energized.

9. A railway block signal system, having, in combination, a target rotatable in opposite directions from normal position to display either side, two magnets, armatures therefor, and connections between the armatures and target acting to rotate the target in one direction when the target is in normal position and one magnet is energized, and to rotate the target in the opposite direction when the target is in normal position and the other magnet is energized.

10. A railway block signal system, having, in combination, a target movable from normal to either of two positions, a rod for actuating the target, two magnets, armatures therefor, connections between the armatures and the rod comprising coöperating pins and grooves constructed to rotate the rod in one direction to move the target from normal to one position when one magnet is energized and to rotate the rod in the other direction to move the target from normal to the other position when the other magnet is energized.

11. A railway block signal system, having, in combination, a target rotatable in opposite directions from a normal edge on position, two magnets, armatures therefor, and connections between the armatures and the target, one magnet acting through said connections to rotate the target in one direction from normal to a safety position and the other magnet acting through said connections to rotate the target in the same direction from safety to an edge on position and to rotate the target in the opposite direction from normal to a danger position.

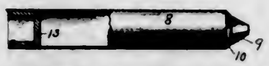
12. A railway block signal system, having, in combination, a magnet, an armature therefor, a signal actuated by the armature, a locking device for preventing the return of the armature to normal position after having been attracted to set the signal means for actuating the locking device upon a subsequent attraction of the armature to release the armature, means for holding the locking device out of locking position during the return of the armature and means for actuating said holding means to release the locking device when the armature is attracted to set the signal.

13. A railway block signal system, having, in combination, a signal at each end of a track section or block movable from normal to a safety or a danger position, two magnets for actuating each signal, armatures for said magnets, connections between the armatures and the signal, acting to move the signal from normal to safety position when one magnet is energized and to move the signal from normal to danger position when the other magnet is energized, and means for energizing a magnet at each end of the block to move the signal at the entering end of the block to safety and the signal at the distant end of the block to danger when a car enters an empty block in either direction.

14. A railway block signal system, having, in combination, a signal at each end of a track section or block movable from normal to a safety or a danger position, two magnets for actuating each signal, armatures for said magnets, connections between the armatures and the signal acting to move the signal to safety position when one magnet is energized and to move the signal to danger position when the other magnet is energized, two line wires, means for closing a circuit when a car enters an empty block in either direction, including one of said line wires and the magnets at each end of the block by which the signal at the entering end of the block is moved to safety and the signal at the distant end of the block is moved to danger, said circuit including one line wire when cars enter the block in one direction and including the other line wire when cars enter the block in the opposite direction, means for closing a circuit including the other line wire and said magnet at the entering end of the block when a car leaves the block and means actuated by said magnet for restoring the signals to normal position.

15. A railway block signal system, having, in combination, a signal at each end of a track section or block movable from normal to a safety or a danger position, two magnets for actuating each signal, armature for said magnets, connections between the armatures and the signal acting to move the signal to safety position when one magnet is energized and to move the signal to danger position when the other magnet is energized, two line wires, means for closing a circuit when a car enters an empty block in either direction including one of said line wires and the magnets at each end of the block by which the signal at the entering end of the block is moved to safety and the signal at the distant end of the block is moved to danger, said circuit including one line wire when cars enter the block in one direction and including the other line wire when cars enter the block in the opposite direction, means for closing a circuit including the other line wire to restore the signals to normal position when a car leaves the block, means for closing a circuit when said last mentioned line wire is connected to a source of current including the magnet at the entering end of the block by which the signal at that end of the block is moved to danger, and means actuated by said magnet when energized by said source of current for preventing the closure of the circuit including the magnet by which the signal is moved to safety.

865,014. DISCHARGE-VALVE FOR FLUID-COMPRESSORS. NIELS A. CHRISTENSEN, Milwaukee, Wis. Original application filed Sept. 9, 1899, Serial No. 729,957. Divided and this application filed Dec. 11, 1899. Serial No. 739,898.



1. A compressor discharge valve comprising, in combination with the compressor casing, a cylinder having its inner end closed and forming a valve proper arranged to seat to close the discharge port, a closed thimble 13 secured in the outer end of the cylinder to close such end, said thimble being open at its outer end to form a socket, a cap having an exteriorly threaded extension screwing into the casing and surrounding and forming a guide for the outer end of such cylinder, and a spring interposed between the thimble and the cap and received within the socket of the thimble.

2. A compressor discharge valve comprising, in combination with a cylinder having a discharge port or passage which is of differential taper inwardly and restrictively towards the inner wall of the cylinder, a stem having an end with corresponding differential tapers, the tapered portion 10 alone seating in said port, and the other portion 9 filling its part of the discharge port but not seating thereon with any pressure.

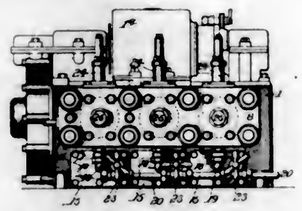
3. A compressor discharge valve comprising, in combination with a cylinder having a discharge port which is of differential taper, a cylinder having a closed inner end of corresponding differential tapers, the tapered portion 10 thereof alone seating and located at the base of the walls of the cylinder.

4. A compressor discharge valve comprising a hollow cylinder whose inner end is closed to form a valve proper to seat upon and govern a discharge port, and a thimble secured in the outer end of such cylinder to seal the same and having a marginal flange against which the outer end of the cylinder bears.

865,015. COMPRESSOR. NIELS A. CHRISTENSEN, Milwaukee, Wis. Filed Aug. 13, 1902. Serial No. 119,485.

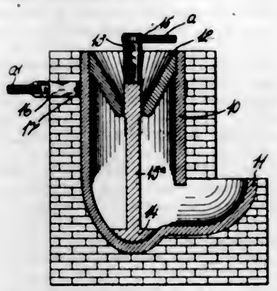
In a compressor, the combination of a casing, a series of cylinders arranged therein for independently compressing air, a corresponding series of pistons, a single crank shaft, a series of connecting rods between the pistons and crank-

shaft, a corresponding series of separate and independent delivery pipes or passages one for each cylinder, a discharge pipe common to all of said delivery pipes and communicating therewith along its length, and a series of independently operating and separately controlled cut-out



valves, one for each delivery pipe whereby any or more of the cylinders may be cut out of service without stopping the compressor or interfering with the function or operation of the remaining cylinder or cylinders.

865,016. ELECTRIC FURNACE. WALTER G. CLARK, New York, N. Y., assignor to Electric Furnace Company, Portland, Me., a Corporation of Maine. Filed Dec. 17, 1906. Serial No. 348,331.



1. An electric furnace having its walls of conducting material of relatively low resistance, and an internal heater or electrode arranged to contact at its lower end with the furnace walls, and being of less resistance at its end portions than at its intermediate portions and means for elevating the electrode.

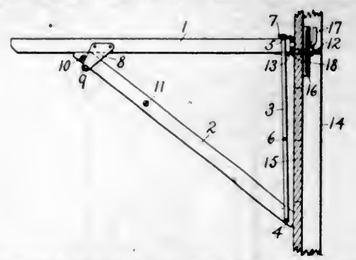
2. An electric furnace having its walls of relatively low electrical resistance, and an internal electrode or heater of relatively high electrical resistance, the said internal heater having its lower end arranged to contact with the furnace wall, and being of higher resistance above its lower end than at the said extreme lower portion and means for elevating the electrode.

3. An electric furnace having a wall of relatively low electrical resistance and an internal heater or electrode of relatively high resistance, the internal heater or electrode having a foot piece of less resistance than its body portion, and having said foot piece shaped to fit snugly against the furnace wall and means for elevating the electrode.

4. An electric furnace having its wall of relatively low electrical resistance, and having an internal electrode or heater of relatively high resistance, the said electrode being movable in and out of the furnace and having its lower end terminating in a foot piece which fits the furnace bottom and means for elevating the electrode.

5. An electric furnace having its wall of relatively low resistance, and with an opening in the side thereof for the removable of material, and an internal electrode or heater of relatively high resistance, movable in and out of the furnace and having its lower end shaped to fit the furnace bottom and means for elevating the electrode.

865,017. BUILDER'S BRACKET. ALBERT H. DANFORTH, Monson, Mass. Filed Mar. 21, 1906. Serial No. 307,205.



1. A builders' bracket comprising two folding members, ears connected at their free ends, rigidly attached to the sides of one of such members, adapted to receive the other member, an outwardly projecting stop on the last mentioned member located forward of one of said ears, and means adapted to lock and release said members when separated at their rear ends.

2. A builders' bracket comprising two folding members, ears connected at their free ends, rigidly attached to the sides of one of such members, adapted to receive the other sliding member, outwardly projecting stops on the last mentioned member, one of said ears being situated between said stops, and means adapted to lock and release said members when separated at their rear ends.

3. The combination, in a builders' bracket, of an arm having a lug mounted thereon at the rear and provided with rigidly attached depending ears connected at the base by a cross piece, such ears being located forward of such lug, a brace having its front terminal introduced between said ears above the cross piece and provided with outwardly projecting stops arranged to limit the sliding movement of the brace relative to said arm and to prevent the brace from being withdrawn from between the ears, and links pivoted at one end to the rear terminal of such brace and having a cross piece at the other terminal adapted to be engaged with and disengaged from said lug.

4. The combination, in a builders' bracket, of an arm having a lug mounted thereon at the rear and provided with rigidly attached depending ears connected at the base by a cross-piece, such ears being located forward of such lug, a brace having its front terminal introduced between said ears above the cross-piece and provided with outwardly projecting stops arranged to limit the sliding movement of the brace relative to said arm and to prevent the brace from being withdrawn from between the ears, links pivoted at one end to the rear terminal of such brace and having a cross-piece at the other terminal adapted to be engaged with and disengaged from said lug, and a retaining member connected with the arm and extending behind the same.

865,018. ARTIFICIAL FUEL. LEWIS DAVIS, Jacksonville, Fla., assignor to Annie L. Powers, Jacksonville, Fla. Filed July 10, 1906. Serial No. 325,529.

1. The herein described artificial fuel composition consisting of rosin, oil, dry metallic paint, absorbent combustible material and lime.

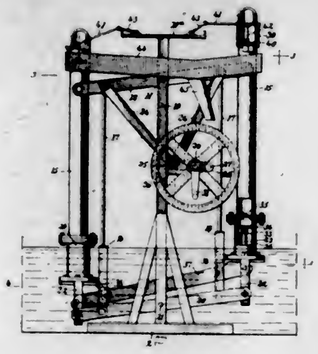
2. The herein described artificial fuel composition consisting of rosin, oil, dry metallic paint, absorbent combustible material, lamp black and lime.

3. The herein described artificial fuel composition consisting of rosin, kerosene, linseed oil, crude oil, dry metallic paint, saw dust, pine needles and burs, lamp black and air slaked lime.

865,019. PUMP. ANTONIO DELLANNA, Salt Lake City, Utah. Filed Sept. 22, 1904. Serial No. 225,469.

1. A pump provided with a stand pipe, means for mounting the stand pipe to move vertically, means for forcing the water upward through the stand pipe, a cup connected with the stand pipe and adapted to receive the discharge

from the upper end thereof, a valve commanding the outlet from the cup, and means for automatically opening the valve as the stand pipe and cup reach the limit of their downward movement.



2. A pump provided with a stand pipe, means for mounting the stand pipe to move vertically, means for forcing the water upward through the stand pipe, a cup connected with the stand pipe and adapted to receive the discharge from the upper end thereof, a valve commanding the outlet from the cup, and means for automatically opening the valve as the stand pipe and cup reach the limit of their downward movement, said means for operating the valve comprising a lever in connection with the valve and a link connection between the lever and a relatively stationary part.

3. A pump, comprising two movable cylinders, a bar pivotally connected to both cylinders, a piston operating in each cylinder, and a connection between each piston and said bar.

4. In a pump, the combination of two movable cylinders, a bar pivoted to both cylinders, a piston in each cylinder, and a sliding connection between each piston and said bar.

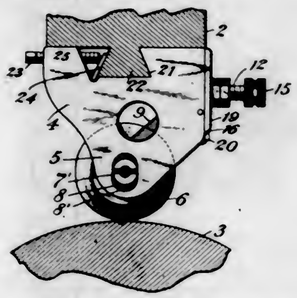
5. In a pump, the combination of two cylinders, a stand pipe connected to each cylinder, a frame, walking beams mounted on the frame and connected to the cylinders and stand pipes to permit the cylinders to move alternately up and down, means at the inner end of the stand pipes for carrying off the discharge from the pump, pistons and rods operating in the cylinders, valves controlling the fluid movement in the cylinders, and a bar having its end portions respectively in pivotal connection with the cylinders, said bar having its ends respectively connected to the piston rods.

865,020. CUTTING-MACHINE. HENRY DE SMITH, Rochester, N. Y., assignor to M. D. Knowlton Company, Rochester, N. Y., a Corporation of New York. Filed Dec. 16, 1904. Serial No. 237,112.

1. In a machine of the character described, the combination with a bed-roll, of a cutter-holder having a cutter-guide arranged in a straight line intersecting the axis of said bed-roll, a cutter adjustably supported by the holder and having connecting means coöperative with said cutter-guide for the guidance of the cutter during adjustment, and means for adjusting the cutter.

2. In a machine of the character described, the combination with a bed-roll, of a cutter-holder having a cutter-guide arranged in a straight vertical line intersecting the axis of said bed-roll, a cutter adjustably supported by the holder and having connecting means coöperative with said cutter-guide for the guidance of the cutter during adjustment, and means for adjusting the cutter.

3. In a machine of the character described, the combination with a bed-roll, of a cutter-holder having a cutter-guide-slot arranged in a straight line intersecting the axis of the said bed-roll, a cutter, an adjustable carrier for said cutter having connecting means coöperative with the said guide-slot in the cutter holder for the guidance of the carrier and supported cutter during adjustment, and means for adjusting the said carrier and supported cutter.



4. In a machine of the character described, the combination with a bed-roll, of a cutter-holder having a cutter-guide-slot arranged in a straight vertical line intersecting the axis of the said bed-roll, a cutter, an adjustable carrier for said cutter having connecting means coöperative with the said guide-slot in the cutter-holder for the guidance of the carrier and supported cutter during adjustment, and means for adjusting the said carrier and supported cutter.

5. An adjustable cutter of the character described, comprising a cutter-holder having two oppositely-located integral extension walls arranged with a space therebetween, a cutter adjustably supported in the space between said extension walls and means for adjusting the cutter relatively to the holder.

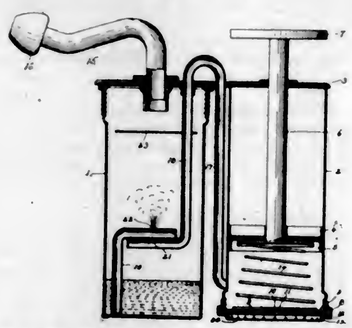
6. An adjustable cutter of the character described, comprising a cutter-holder having two oppositely-located integral extension walls arranged with a space therebetween, a cutter and a carrier therefor both adjustably supported in the space between said extension walls, and means for adjusting the said cutter and its carrier relatively to the holder.

7. An adjustable cutter of the character described, comprising a cutter-holder having two oppositely-located extension walls arranged with a space therebetween and each being provided with an elongated slot registering with each other, an axle-pin movably connecting at its opposite ends with the extension walls through the said elongated slots therein, a cutter mounted upon said axle-pin in the space between said extension walls, and means for adjusting the said axle-pin and supported cutter relatively to the holder.

8. An adjustable cutter of the character described, comprising a cutter-holder having two oppositely-located extension walls arranged with a space therebetween and each being provided with an elongated slot registering with each other, an axle-pin movably connecting at its opposite ends with the extension walls through the said elongated slots therein, a cutter mounted upon said axle-pin in the space between said extension walls, an adjustable cutter-carrier connecting with said axle-pin, and means for adjusting said carrier.

9. An adjustable cutter of the character described, comprising a cutter holder having two oppositely-located extension walls arranged with a space therebetween and each being provided with an elongated slot registering with each other, an axle-pin movably connecting at its opposite ends with the extension walls through the said elongated slots therein, the said axle-pin embodying two headed screws one of which is threaded into the other and both being arranged with their heads engaging the opposite extension walls at their outer sides, a cutter mounted upon said axle-pin in the space between said extension walls, and means for adjusting the said axle-pin and supported cutter relatively to the holder.

865,021. ATOMIZER. FRANK C. DORMENT, Detroit, Mich., assignor to Elmore J. Worst, Ashland, Ohio. Filed May 8, 1907. Serial No. 372,607.



1. An atomizer comprising an atomizing chamber, a compression chamber consisting of a cylinder, a piston reciprocable therein, a vaporizer in the atomizing chamber operatively connected to the compression end of the cylinder, and an air inlet valve in the cap closing the compression end of the cylinder, provided with air inlets radially disposed in the periphery of the cap.

2. In an atomizer having an atomizing chamber, a compression cylinder, a piston therein, and a vaporizer in the atomizing cylinder, operatively connected to the compression cylinder, a hollow cylinder cap closing the compression end of the cylinder, an air inlet valve in the inner wall of the cap, and air inlet ducts in the periphery of the cap.

3. In an atomizer having an atomizing chamber, a compression cylinder, a piston therein, and a vaporizer in the atomizing cylinder, operatively connected to the compression cylinder, a hollow cylinder cap detachably secured in the compression end of the cylinder, an apertured valve seat in the inner wall of the cap, air inlets in the periphery of the cap, a flexible packing disk between the cylinder and cap, and a closure on the seat formed from the body of the packing disk.

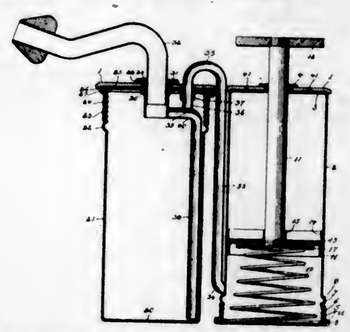
4. An atomizer comprising a compression cylinder, a piston therein, an atomizing cylinder secured in parallel relation thereto, a vaporizer consisting of an air tube connected to the lower compression end of the piston cylinder extending longitudinally of the atomizing cylinder through the upper head, bent transversely to the cylinder near its lower end, a supply tube bent at right angles, between its ends, with one arm supported on the transverse arm of the air tube, jet orifices in the superposed tubes, directed toward the upper end of the cylinder, and a cap removably secured in the lower end of the piston cylinder, provided with an air valve in its inner face, having air inlets in the cap periphery.

5. An atomizer comprising a compression cylinder, a piston therein, an atomizing cylinder secured in parallel relation thereto, a vaporizer consisting of an air tube connected to the lower compression end of the piston cylinder extending longitudinally of the atomizing cylinder through the upper head, bent transversely to the cylinder near its lower end, a supply tube bent at right angles, between its ends, with one arm supported on the transverse arm of the air tube, jet orifices in the superposed tubes, directed toward the upper end of the cylinder, a deflector plate between the jet orifice and upper end of the cylinder, a cap removably secured in the lower end of the piston cylinder, and an air valve on its inner face, having air inlets in the cap periphery.

6. An atomizer comprising a piston cylinder provided with an imperforate piston, a central air valve in the cylinder compression head, radially disposed apertures in the head supplying the valve, and a vaporizing cylinder operatively connected to the piston chamber.

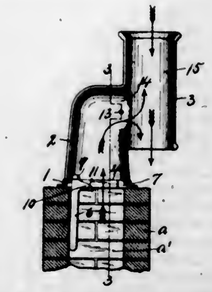
7. An atomizer comprising a piston cylinder, an imperforate piston therein, a hollow cylinder head removably secured in the compression end of the cylinder, a valve in the piston end of the head, air inlet apertures in the peripheral wall of the head, and a vaporizing cylinder operatively connected to the piston chamber.

865,022. ATOMIZER. FRANK C. DORMENT, Detroit, Mich., assignor to Elmore J. Worst, Ashland, Ohio. Filed Apr. 20, 1907. Serial No. 369,305.



An atomizer comprising a horizontal outer plate, an atomizer and cylinder whose lower end is permanently closed, and whose open upper end detachably engages a cap secured to the under side of the plate, a mouth piece removably secured in the aperture through the cap and plate, a vaporizer secured in the cap whose supply tube extends longitudinally to the bottom of the cylinder and has jet orifices near its upper end adapted to throw a spray jet longitudinally down the cylinder and whose air tube extends longitudinally through the cap and plate, a piston cylinder parallel to the atomizer and cylinder whose upper integral head is secured to the under face of the said plate and whose lower compression end is provided with a detachably secured head, a piston whose stem extends through a guide aperture in the upper head and plate, and whose head is provided on its outer face with a cup shaped, flexible packing disk, the lower end of said air tube being connected to the lower compression end of the piston cylinder, air inlets in the piston cylinder above the piston head, and a spring in compression between the lower cylinder head and piston.

865,023. CHIMNEY-TOP. ELLSWORTH P. DOTY, Meridian, N. Y. Filed Dec. 26, 1906. Serial No. 349,395.

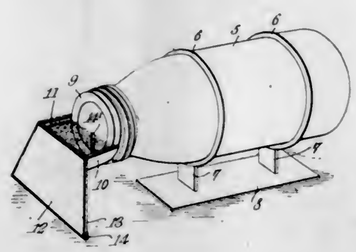


1. A chimney-top comprising a base-frame mounted on the top of the chimney around its flue and provided with a transverse slot, a bracket having one end adjustably connected to and interlocked with the sides of the slot, and its other end depending into and engaging one side

of the chimney-flue, a tubular extension secured to the base-frame and having a lateral passage, a second extension integral with the first named extension and provided with a vertical opening therethrough at one side of the opening in said first-named extension and communicating with the lateral passage.

2. A chimney-top having two intercommunicating passages disposed side by side in different vertical planes, one of the passages being open at the top and bottom, and a bracket in the lower end of the other passage adjustably interlocked with the chimney-top and engaging the inner side of the chimney-flue.

865,024. COMBINED JAR AND DRINKING-FOUNTAIN. JOSEPH J. DROPESKEY, Mount Carmel, Pa. Filed Dec. 18, 1906. Serial No. 348,483.



1. A drinking fountain comprising a liquid containing receptacle provided with a discharge opening, a trough secured to the receptacle at said discharge opening and a guard depending from the trough and forming a support for the adjacent end of the receptacle.

2. A drinking fountain comprising a liquid containing receptacle having a discharge opening formed in one end thereof, a holder for supporting the rear end of the receptacle in elevated position, a trough secured to the front end of the receptacle at said discharge opening, and a flange depending from the trough for supporting the adjacent end of the receptacle.

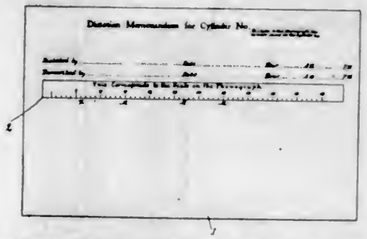
3. A drinking fountain comprising a receptacle having a removable closure provided with a discharge opening, a trough secured to the closure and extending laterally therefrom at said opening, and a flange depending from the trough for supporting the adjacent end of the receptacle.

4. A drinking fountain comprising a receptacle having a threaded cap formed with a discharge opening, a segmental plate secured to the cap beneath the discharge opening and constituting a trough, and a flange depending from the trough and forming a support for the adjacent end of the receptacle, said flange constituting one wall of the trough.

5. A drinking fountain including a liquid containing receptacle provided with a threaded cap having a discharge opening formed therein, a segmental plate secured to and extending laterally from the cap at said discharge opening, and a flange depending from the trough and having its opposite vertical edges inclined towards the free end of the flange, said flange forming one wall of the trough and serving to support the adjacent end of the receptacle.

6. A drinking fountain including a receptacle provided with a removable closure having a discharge opening formed therein, a plate secured to and extending laterally from the closure at said discharge opening and having its free edges bent to form reinforcing flanges, a flange depending from the trough and having its side walls inclined towards the bottom thereof and provided with a marginal reinforcing head, said flange forming one wall of the trough and serving to support the adjacent end of the receptacle.

865,025. DICTATION MEMORANDUM-SHEET. NELSON C. DURAND, East Orange, N. J., assignor to New Jersey Patent Company, West Orange, N. J., a Corporation of New Jersey. Filed Aug. 30, 1905. Serial No. 276,472.



1. A dictation memorandum for talking machines, comprising a sheet carrying the representation of the scale of the talking machine, and properly designated spaces for entering data identifying the talking machine record and persons using the same, and having a blank space at that side of the representation of the scale whereon the subdivisions of the scale appear, substantially as set forth.

2. A dictation memorandum for talking machines comprising a sheet carrying a representation of the scale of the talking machine, and a printed reference to said talking machine scale within the said representation thereof, and having at one side of the said representation properly designated spaces for entering data identifying the talking machine cylinder, the person dictating and the person transcribing and having a blank space at the opposite side of the representation of the scale, whereon the subdivisions of the scale appear, substantially as set forth.

865,026. MASTICABLE TOBACCO PREPARATION. CARLETON ELLIS, White Plains, N. Y., assignor to Ellis-Foster Company, a Corporation of New Jersey. Filed Dec. 15, 1906. Serial No. 347,921.

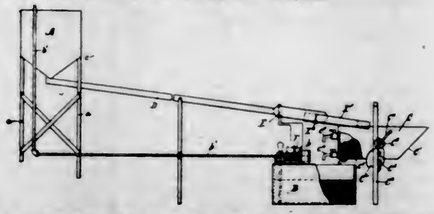
1. A chewing gum comprising a mixture of tobacco and a masticable waterproof waxy body, solid at ordinary temperatures.

2. A chewing gum comprising a mixture of finely comminuted tobacco and a masticable waterproof waxy body, solid at ordinary temperatures.

3. A chewing gum comprising a mixture of snuff and a masticable waterproof waxy body, solid at ordinary temperatures.

4. A chewing gum comprising a mixture of comminuted tobacco and chicle.

865,027. APPARATUS FOR EXTRACTING MINERALS FROM ORE. OSCAR A. ELLIS, San Francisco, Cal. Filed Mar. 24, 1903. Serial No. 149,321.



1. An apparatus for separating minerals from ores, having in combination, a long, inclined, open chute or launder, provided with riffles, and a precipitating box located adjacent the lower end thereof, whereby a mixture of ore and chemical solution will flow by gravity down the launder and through the precipitating box together with means for passing an electric current through said precipitating box, substantially as described.

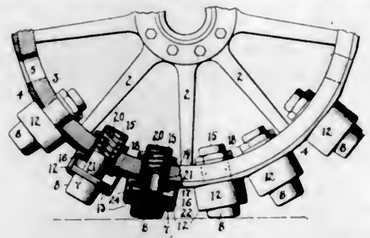
2. An apparatus for separating minerals from ores having in combination, a launder comprising a shallow stationary open chute arranged on an incline and provided with a series of long and short cleats across the bottom thereof whereby a stream of crushed ore and chemical solution will flow down the launder automatically and will be violently agitated, a precipitating box connected with the lower end of the launder, and means for passing an electric current through said precipitating box, substantially as described.

3. An apparatus for separating minerals from ores, having in combination, an inclined chute, an inclined precipitating box connected therewith, a plurality of filtering tanks and means for connecting the precipitating box with any one of the filtering tanks, substantially as described.

4. An apparatus for separating minerals from ores, comprising the hopper A, the open launder D provided with the riffles d^2 and d^3, the precipitating box E and the tank or vat C, the precipitating box being shorter than the open launder, substantially as described.

5. In an apparatus for separating minerals from ores, comprising a hopper A, the open launder D, provided with the riffles d^2 and d^3, the precipitating box E, the tanks or vats C arranged side by side and the chute E′ pivotally supported beneath the precipitating box and arranged to be shifted laterally to discharge into either of the vats C, substantially as described.

865,028. VEHICLE-TIRE. GEORGE O. FANKBONER, Cleveland, Ohio. Filed Oct. 29, 1906. Serial No. 341,044.



1. In spring cushioned wheel tires, a unitary member comprising a shell of two diameters, a shoe adapted to take the tread of the wheel located in the larger part of said shell and a plunger and spring behind said shoe in the smaller part of the shell, said parts constructed to be removed and replaced together.

2. As a new article of manufacture, a unitary member of a spring cushioned tire consisting of a shell of differential diameters circular in cross section and having its inner portion externally threaded, a shoe operatively confined in the outer portion of said shell and a spring pressed plunger bearing against said shoe.

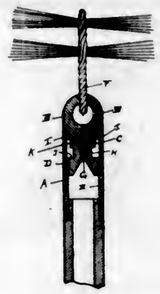
3. A unitary member of a spring tire having a shell of two diameters and threaded about its inner portion a shoe removably engaged in the outer portion of said shell and a plunger and spring behind said shoe.

4. A unitary member of a spring tire consisting of a two part shell of different diameters, a shoe confined in the larger of said parts and a spring pressed plunger for the shoe projecting into the smaller of said parts, in combination with a wheel rim having said shoe outside thereof, and means to secure said shell in the rim.

5. An outer wheel rim, shells of two diameters at intervals mounted removably in said rim from the outside and having shoulders bearing against the outside of said rim, and spring shoes mounted in the outer portion of said shells and adapted to yield inwardly under pressure.

6. The wheel rim having a metallic tire about the same, in combination with a series of mountings in said rim comprising differentially shaped shells projecting through the same from the outside and fastened on the inside of the rim, and spring pressed shoes in said shells.

865,029. BRUSH-HOLDER. RUDOLPH FEHLER and DANIEL MCLAUGHLIN, Milwaukee, Wis. Filed Aug. 1, 1906. Serial No. 328,815.



1. In a brush holder for bottle washing machines, the combination with a tubular sleeve adapted to be connected with a revoluble water duct of the machine, of a pair of brush retaining jaws of similar size and shape and provided with a longitudinal water channel and means for permanently retaining said jaws in said sleeve both when open and closed.

2. In a brush holder for bottle washing machines, the combination of a tubular sleeve having an annular terminal flange and adapted to be connected with a revoluble water duct of the machine, a pair of brush retaining jaws provided with a longitudinal water channel and respectively provided with semi-cylindrical shanks having threaded bearings in said sleeve, an unthreaded bearing formed on said shank adapted to bear against the annular flange of the sleeve and hold said jaws together when said shanks are screwed into said sleeve and means on said jaws for retaining said shank in said sleeve when open and partially removed therefrom.

3. In a brush holder for bottle washing machines, the combination of a screw threaded tubular sleeve provided with an inwardly projecting flange, said sleeve being adapted to be connected with a revoluble water duct of the machine, a pair of brush retaining jaws provided with a longitudinal water channel and respectively provided with semi-cylindrical screw threaded shanks operating in the thread of said sleeve, an annular groove being provided between the screw thread on said shank and said brush retaining jaws for the reception of the inwardly projecting annular flange of said sleeve.

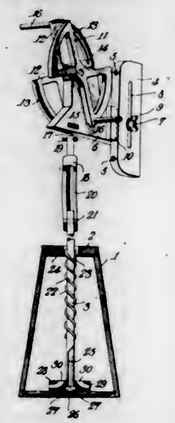
865,030. CHURN. JAMES L. FORBES, Lagrange, Ga. Filed Nov. 22, 1906. Serial No. 344,626.

1. In a churn, the combination with a suitable receptacle, and a dasher mounted to rotate therein, of operating mechanism embodying a bracket adapted to be secured to a suitable support, an arm adjustable vertically relative to said bracket, and operating devices supported on the said arm and operatively connected to the dasher of the churn.

2. In a churn, the combination with a suitable receptacle, a dasher mounted to rotate therein, and means for reciprocating the dasher on its axis during the rotary movement thereof, of operating devices for the dasher embodying a rotary member having its axis arranged in alinement with that of the dasher, devices for operatively connecting said member and dasher and permitting reciprocatory movement of the latter, means coöperating with said rotary member for driving the dasher, and a bracket for supporting the dasher operating mechanism capable of permitting a relatively vertical adjustment thereof.

3. In a churn, the combination with a suitable receptacle, a dasher mounted to turn therein, and means for reciprocating the churn dasher on its axis during its rotary movements, of operating means for the dasher embodying a rotary member, a sleeve operatively connected to the

latter having a longitudinal slot therein, and a pin on a part movable with the dasher and arranged to coöperate with the slot of said sleeve for operatively connecting the rotary member and the dasher irrespective of the relative axial movements of the dasher.



4. The combination of a receptacle, a rotatable dasher mounted therein, said dasher comprising a body having a central opening in its bottom with sets of alternately arranged radial passages extending therefrom, one of said sets being provided with air admitting conduits open at the top side of the dasher.

5. In a churn, the combination with a suitable receptacle, of a dasher embodying a head provided with sets of alternately arranged radial discharge passages, the inner ends of one set of the latter having an opening at the upper side of the head and the other set opening at the bottom thereof, and means for imparting rotary and reciprocatory movements to the dasher.

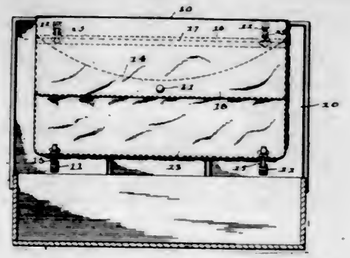
6. In a churn, a dasher having a central chamber opening downwardly, a set of conduits extending outwardly from the said chamber, a set of radially extending conduits having their inner ends turned upwardly and terminating at the top of the dasher, a dasher rod, and a mechanism for rotating the dasher alternately in opposite directions.

7. In a churn, a dasher having a central chamber opening downwardly, two sets of radially extending conduits arranged in staggered relation, one set communicating with the said chamber and the other set having their inner ends open at the top side of the dasher, a dasher rod connected with the dasher, and means for rotating the dasher rod alternately in opposite directions.

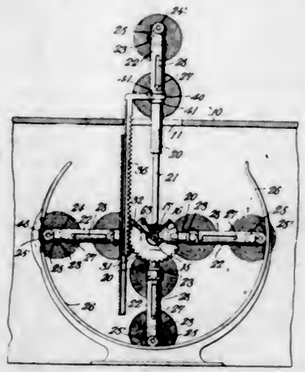
8. In a churn, a dasher composed of two sections, a plurality of passages formed partly in one section and partly in the other, the inner ends of half of the passages opening downwardly and the inner ends of the other passages opening upwardly, means for detachably securing the sections together, a dasher shaft connected with the dasher, and a mechanism for actuating the shaft.

865,031. DASHBOARD-POCKET. CLARRISSA E. GLYNN, Alamosa, Colo. Filed Dec. 18, 1906. Serial No. 348,478.

The combination with the dash-board of a pocket detachably secured thereto at the ends of its upper edge, a flap-strip secured along its central portion to the pocket below its attaching means with the dashboard, the lower portion of said strip being turned over the mouth of the pocket, as a closure thereto and the upper portion being turned forward over the top of the dashboard, protecting the space between the back of the pocket and the forward face of the dashboard.



865,032. MERCHANDISE-HOLDER. DAVID F. GREENAWALT, York, Pa. Filed Nov. 1, 1906. Serial No. 341,617.



1. A revoluble carrier having article supporting arms arranged in pairs, said arms being extensible, and an operating means common to all of the arms, and with which said arms may be moved into engagement.

2. A revoluble carrier having extensile article supporting arms, and elevating members with which said arms may be moved into alinement.

3. A revoluble carrier having end spiders, each spider comprising a plurality of extensile arms, means on the arms to support articles to be displayed, and vertically movable arm elevating members with which the successive pairs of arms are moved into alinement.

4. A revoluble carrier having end spiders each formed of a plurality of extensile article carrying arms, lugs projecting from said arms, vertically movable fingers arranged to engage said lugs to extend the arms, and means for operating said fingers.

5. A revoluble carrier having spiders, each formed of a plurality of extensile arms, lugs projecting from said arms, a pair of racks having lug engaging fingers, a shaft, and pinions arranged on the shaft and engaging the racks.

6. The combination with a counter or casing having an opening at the top, of a revoluble carrier arranged within the counter or casing, said carrier having a plurality of pairs of extensile arms, means on said arms for the support of goods to be displayed, and means for extending the arms to display position through said opening.

7. A counter or casing having an opening at the top, a revoluble carrier arranged within the counter or casing, article carrying members on said carrier, and means within the counter or casing for moving said members through the opening to display position.

8. In a device of the class specified, a shaft, a hollow shaft mounted therein, end spiders at ends of the hollow shaft, each spider being formed of a plurality of extensile arms, article carrying devices on said arms, lugs projecting from the arms, vertically guided racks at the opposite ends of the carrier and provided with lug engaging fingers, a pair of pinions mounted on the shaft and arranged to engage the rack, one of said pinions being slidable on the shaft, means for locking the pinion to the shaft when in engagement with the rack, and clutching members carried by the pinion and by the end of the hollow shaft.

9. In a device of the class specified, a shaft, a hollow shaft supported therein, spiders at the ends of the hollow shaft, each spider being formed of a plurality of telescopic members, the innermost member being in the form of a pin or stud secured to the hub or spider, the outermost member being tubular in form and provided with article supports and with a projecting lug, and an intermediate member having a lug extending through a slot in the outer tubular member, a pair of vertically guided racks having lug engaging fingers, pinions carried by the shaft and arranged to intermesh with the racks, one of said pinions being secured to the shaft, and the other loose thereon, means for locking the loose pinion to the shaft when in engagement with the rack, clutch pins carried by the pinion and the end of the hollow shaft, and a hand wheel secured to said hub or pinion.

865,033. METHOD OF FIREPROOFING COTTON IN BALES. HENRY V. HALEY, Oklahoma, Okla., assignor of one-half to Richard A. Wooldridge, Oklahoma, Okla. Filed Apr. 4, 1907. Serial No. 366,241.

The method of treating cotton bales, which consists in submerging such bales in a protecting and fire proofing bath for a period of time sufficient to cause the bales to become impregnated on their surface and to a limited portion of their depth, such bath consisting of a solution of boric acid and calcium sulfid in substantially the proportions described.

865,034. DRAFT-EQUALIZER. JOHN H. HARDMAN, Smithfield, Nebr. Filed July 20, 1906. Serial No. 327,080.

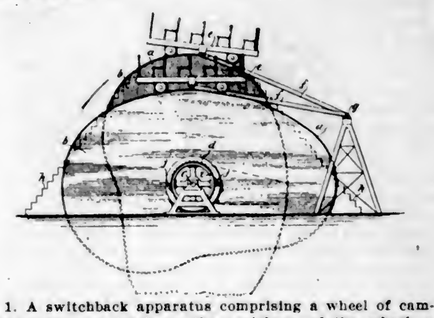


1. In a draft evener, the combination of a tongue, a bracket carried by the tongue, bell crank equalizing levers pivotally mounted upon the bracket on opposite sides of the tongue, a draft bar extending longitudinally of the tongue and having one end pivoted thereto, link members connecting the inner ends of the equalizing levers to the draft bar, and longitudinally adjustable extensions carried by the outer ends of the equalizing levers.

2. In a draft evener, the combination of a tongue, a bracket attached to the rear end portion of the tongue, opposite equalizing levers of bell-crank form pivoted to opposite ends of the bracket aforesaid, an equalizing bar pivoted at its rear end to the tongue, and link members adjustably connected with arms of the levers and with the front end portion of the equalizing bar.

3. In a draft evener, the combination of a tongue, a bracket attached to the rear end portion of the tongue and having its opposite ends extending from opposite sides thereof, bell-crank equalizing levers pivoted to opposite ends of the bracket and embodying short and long arms, the longer arms of the bell-crank levers being tubular, sections mounted in the tubular portions of the bell-crank levers and telescopically connected therewith, a draft bar longitudinally of the tongue and having pivotal connection at its rear end therewith, and links adjustably connected with the short arms of the levers and having adjustable connection also with the front or free end portion of the draft bar aforesaid.

865,035. SWITCHBACK APPARATUS. CYRIL J. HARTLEY, Stone, and ROBERT H. BISHOP, Islington, England, assignors to "The Avernus Wheel Limited," London, England, a Corporation. Filed May 21, 1907. Serial No. 374,967.



1. A switchback apparatus comprising a wheel of cam-like contour, a track on the periphery of the wheel, a vehicle resting on the track, means for anchoring the vehicle, means for rotating the wheel so that rising, dipping, and similar movements is imparted to the vehicle substantially as set forth.

2. In a switch-back apparatus comprising a wheel of cam-like contour, a track on the periphery of the wheel and a vehicle anchored on the track, a free wheel clutch for driving the wheel substantially as set forth.

3. In a switch-back apparatus comprising a wheel of cam-like contour, a track on the periphery of the wheel and a vehicle anchored on the track, means for driving such wheel consisting of alternative trains of gearing, a clutch for engaging the one and a lever and a pinion carried on the end thereof for operating the other, substantially as described.

4. In a switch-back apparatus comprising a wheel of cam-like contour, a track on the periphery of the wheel, a vehicle on the track and means for anchoring the same, a scenic device, means for attaching the same to the anchoring means, and means for traveling the same quickly past the vehicle in order to impart an illusion of traveling to the occupants substantially as set forth.

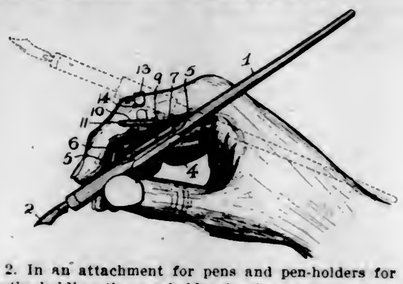
5. In a switch-back apparatus comprising a wheel of cam-like contour, a track on the periphery of the wheel, a vehicle on the track and means for anchoring the same, the scenic device described consisting of pulley wheels carried by the anchoring means, a band running thereon and scenery supports carried by the band substantially as set forth.

6. The switch-back apparatus comprising a pair of wheels of cam-like contour, means for supporting said wheels with their long diameters transverse to each other, means for rotating said wheels, tracks on the periphery of the wheels, vehicles resting on said tracks, bars for anchoring the vehicles while the wheels rotate, a scenic device arranged between the said wheels and means for supporting it on the said anchoring bars and means for imparting traveling motion to the scene substantially as described.

865,036. ATTACHMENT FOR PENHOLDERS. ALBERT L. HATFIELD, Newark, N. J. Filed Apr. 13, 1907. Serial No. 368,043.

1. In an attachment for pens and pen-holders for correctly holding the pen-holder in the hand, comprising a holding or clamping element adapted to be arranged upon the pen-holder, means for mounting the attachment upon the finger of the writer, and means for permitting the rotation of the pen-holder and said holding or clamping

element, consisting of a tubular element on said holding or clamping element, a tubular element connected with said mounting means, and a pair of connected shanks, one of said shanks being permanently secured in one of the tubular elements, and the other shank being loosely and rotatably arranged in the other tubular element, substantially as and for the purposes set forth.



2. In an attachment for pens and pen-holders for correctly holding the pen-holder in the hand, comprising a holding or clamping element adapted to be arranged upon the pen-holder, means for mounting the attachment upon the finger of the writer, and means for permitting the rotation of the pen-holder and said holding or clamping element, consisting of a tubular element on said holding or clamping element, a tubular element connected with said mounting means, and a pair of connected shanks, one of said shanks being permanently secured in one of the tubular elements, and the other shank being loosely and rotatably and slidably arranged in the other tubular element, and means forming a stop upon said slidably arranged shank to prevent its displacement, substantially as and for the purposes set forth.

3. In an attachment for pens and pen-holders for correctly holding the pen-holder in the hand, comprising a holding or clamping element adapted to be arranged upon the pen-holder, a ring-shaped holding member for mounting the attachment upon the finger of the writer, and means for permitting the rotation of the pen-holder and the holding or clamping element, consisting of a tubular element on said holding or clamping element, a tubular element connected with said ring-shaped holding member, and a pair of connected shanks, one of said shanks being permanently secured in one of said tubular elements, and the other shank being loosely and rotatably arranged in the other tubular element, substantially as and for the purposes set forth.

4. In an attachment for pens and pen-holders for correctly holding the pen-holder in the hand, comprising a holding or clamping element adapted to be arranged upon the pen-holder, a ring-shaped holding member for mounting the attachment upon the finger of the writer, and means for permitting the rotation of the pen-holder and the holding or clamping element, consisting of a tubular element on said holding or clamping element, a tubular element connected with said ring-shaped holding member, and a pair of connected shanks, one of said shanks being permanently secured in one of said tubular elements, and the other shank being loosely and rotatably and slidably arranged in the other tubular element, and means forming a stop upon said slidably arranged shank to prevent its displacement, substantially as and for the purposes set forth.

5. In an attachment for pens and penholders for correctly holding the pen-holder in the hand, comprising a holding or clamping element provided with a longitudinally extending opening or slit so as to form clamping members for arranging said holding element upon the pen-holder, a ring-shaped holding member for mounting the attachment upon the finger of the writer, said ring-shaped member being formed with an open part or slit providing a pair of resilient holding portions, and means for permitting the rotation of the pen-holder and the holding or clamping element, consisting of a tubular element on said holding or clamping element, a tubular element connected with said ring-shaped holding member, and a pair of connected shanks, one of said shanks being permanently secured in one of said tubular elements and the other shank being loosely and rotatably and slidably arranged in the other tubular element, and means forming a stop upon said slidably arranged shank to prevent its displacement, substantially as and for the purposes set forth.

6. In an attachment for pens and penholders for correctly holding the pen-holder in the hand, comprising a holding or clamping element provided with a longitudinally extending opening or slit so as to form clamping member for arranging said holding element upon the penholder, a ring-shaped holding member for mounting the attachment upon the finger of the writer, said ring-shaped member being formed with an open or slit providing a pair of resilient holding portions, and means for permitting the rotation of the pen-holder and the holding or clamping element, consisting of a tubular element on said holding or clamping element, a tubular element connected with said ring-shaped holding member, and a pair of connected shanks, one of said shanks being permanently secured in one of said tubular elements and the other shank being loosely and rotatably and slidably arranged in the other tubular element, and means forming a stop upon said slidably arranged shank to prevent its displacement, substantially as and for the purposes set forth.

7. In an attachment for pens and pen-holders for correctly holding the pen-holder in the hand, comprising a holding or clamping element adapted to be arranged upon the pen-holder, a ring-shaped holding member for mounting the attachment upon the finger of the writer, and means for permitting the rotation of the pen-holder and the holding or clamping element, consisting of a tubular element on said holding or clamping element, a tubular element connected with said ring-shaped holding member, a spring-coil, and a shank extending from each end of said coil, one of said shanks being permanently secured in one of said tubular elements, and the other shank being loosely and rotatably arranged in the other tubular element, substantially as and for the purposes set forth.

8. In an attachment for pens and pen-holders for correctly holding the pen-holder in the hand, comprising a holding or clamping element adapted to be arranged upon the pen-holder, a ring-shaped holding member for mounting the attachment upon the finger of the writer, and means for permitting the rotation of the pen-holder and the holding or clamping element, consisting of a tubular element on said holding or clamping element, a tubular element connected with said ring-shaped holding member, a spring-coil, and a shank extending from each end of said coil, one of said shanks being permanently secured in one of said tubular elements, and the other shank being loosely and rotatably and slidably arranged in the other tubular element, and means forming a stop upon said slidably arranged shank to prevent its displacement, substantially as and for the purposes set forth.

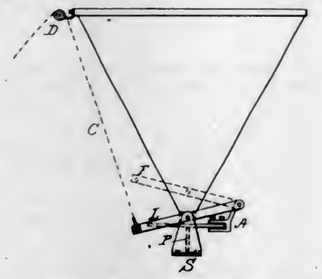
9. An attachment for pens and pen-holders for the correct use of the pen-holder, comprising a holding or clamping element adapted to be arranged upon the pen-holder, means for mounting said attachment upon the finger of the writer, means for permitting the rotation of said holding or clamping element, and means for producing a vibratory action of said holding or clamping element with relation to the mounting means, consisting of a tubular element on said holding or clamping element, a tubular element connected with said ring-shaped holding member, a spring-coil, and a shank extending from each end of said coil, one of said shanks being permanently secured in one of said tubular elements, and the other shank being loosely and rotatably arranged in the other tubular element, substantially as and for the purposes set forth.

10. An attachment for pens and pen-holders for the correct use of the pen-holder, comprising a holding or clamping element adapted to be arranged upon the pen-holder, means for mounting said attachment upon the finger of the writer, means for permitting the rotation of said holding or clamping element, and means for producing a vibratory action of said holding or clamping element with relation to the mounting means, consisting of a tubular element on said holding or clamping element, a tubular element connected with said ring-shaped holding member, a spring-coil, and a shank extending from each end of said coil, one of said shanks being permanently secured in one of said tubular elements, and the other shank being loosely and rotatably and slidably arranged in the other tubular element, and means for moving the plate to actuate the tapping pin, substantially as described.

11. An attachment for pens and pen-holders for the correct use of the pen-holder, comprising a holding or clamping element adapted to be arranged upon the pen-holder, a ring-shaped holding member for mounting the attachment upon the finger of the writer, said ring-shaped member being formed with an open part or slit providing a pair of resilient holding portions, means for permitting the rotation of said holding or clamping element, and means for producing a vibratory action of said holding or clamping element with relation to the mounting means, consisting of a tubular element on said holding or clamping element, a tubular element connected with said ring-shaped holding member, a spring-coil, and a shank extending from each end of said coil, one of said shanks being permanently secured in one of said tubular elements, and the other shank being loosely and rotatably arranged in the other tubular element, substantially as and for the purposes set forth.

12. An attachment for pens and pen-holders for the correct use of the pen-holder, comprising a holding or clamping element adapted to be arranged upon the pen-holder, a ring-shaped holding member for mounting the attachment upon the finger of the writer, said ring-shaped member being formed with an open part or slit providing a pair of resilient holding portions, means for permitting the rotation of said holding or clamping element, and means for producing a vibratory action of said holding or clamping element with relation to the mounting means, consisting of a tubular element on said holding or clamping element, a tubular element connected with said ring-shaped holding member, a spring-coil, and a shank extending from each end of said coil, one of said shanks being permanently secured in one of said tubular elements, and the other shank being loosely and rotatably and slidably arranged in the other tubular element, and means forming a stop upon said slidably arranged shank to prevent its displacement, substantially as and for the purposes set forth.

865,037. TAPPING ARRANGEMENT FOR CRUCIBLES. LIONEL HEYNEMANN, San Francisco, Cal. Filed Apr. 26, 1906. Serial No. 313,872.



1. In combination with a crucible for molten material, a tapping device at the bottom thereof—consisting essentially of the tapping pin, the plate W, of a material to be destroyed by the molten metal, and mechanical means for moving the plate to actuate the tapping pin, substantially as described.

2. In combination with a crucible for molten material, having a tapping pin extending through the bottom thereof, a plate W, of a material to be destroyed by the molten metal, and means for moving the plate and tapping pin, substantially as described.

3. In combination with a crucible for molten material, having a tapping pin extending through the bottom-thereof, a plate W, to be destroyed by the molten metal, and means for moving the plate to actuate the tapping pin, substantially as described.

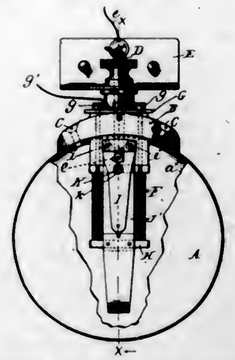
4. In combination with a crucible for molten material, having a tapping pin extending through the bottom thereof, a stirrup S provided with a spout hole H, covered by the plate W, of a material to be destroyed by the molten metal, and means for moving the plate to strike the tapping pin substantially as described.

5. In combination with a crucible for molten material, a tapping device at the bottom thereof consisting of the tapping pin P, the movable stirrup S bearing the plate W, and the means for moving said stirrup and plate to actuate the tapping pin—for the purpose set forth.

6. In combination with a crucible for molten material, having a tapping pin extending through the bottom thereof, the movable stirrup S bearing the plate W, and the means for moving said stirrup and plate to actuate the tapping pin, consisting of the lever L and cord C, substantially as described.

7. A tapping device for crucibles for molten material, consisting of a pin at the bottom thereof, and means for thrusting the pin through the plugging material of said crucible consisting essentially of the movable stirrup S, actuating said tapping pin, lever L moving said stirrup S, and cord C operating said lever L, substantially as described, & for the purposes set forth.

865,038. WATER-TIGHT ELECTRIC BELL. WALTER C. HILL, London, England. Filed May 19, 1906. Serial No. 317,717.

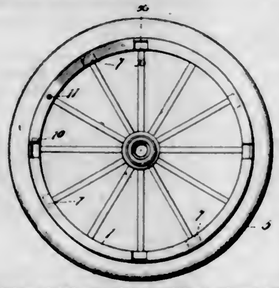


The combination, in an electrical alarm, of a non-conducting head-piece provided with electrical conductors passing therethrough, electrical striking mechanism supported by said head piece, and a hollow cylinder with flat, closed ends forming a resonant bell casing and having an opening through its circumference to permit the insertion of said striking mechanism therethrough, said opening being closed by said head piece whereby said bell-casing is carried free from other contact and outside of the electric circuit and forms a hermetically closed chamber completely inclosing said striking mechanism and adapted to be rung thereby.

865,039. MEANS FOR SECURING SOFT-TREAD TIRES TO RIMS. FRANK M. HILTON, JOHN S. HILTON, and WILLIAM W. HILTON, Akron, Ohio, assignors of one-half to Harvey Musser, Akron, Ohio. Filed May 11, 1906. Serial No. 316,403.

1. A vehicle wheel provided with a rim having a confining flange at one side and a groove, or channel, at the opposite side, the outer wall of the groove, or channel, having notches at intervals, a tire slipped upon the rim and a lock-ring fitted to the grooved side of said rim and having a confining flange coöperating with the confining flange of the rim to prevent lateral displacement of the tire,

said lock-ring having transversely spaced portions to embrace opposite sides of the outer wall of the grooved portion of the rim, the inner spaced portions consisting of lugs adapted to pass through the notches formed in the outer walls of the grooved portion of the rim and to engage the inner, or rear side thereof.

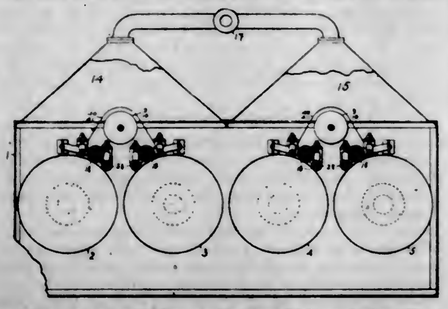


2. A vehicle wheel provided with a rim having a confining flange at one side and a groove, or channel, at the opposite side, the outer wall of the grooved portion having notches at intervals in its length, a stop located in the groove, or channel, and connecting opposite walls thereof, a tire slipped upon the rim and a lock-ring comprising a confining flange, and a rim engaging flange, the latter having portions pressed therefrom to form lugs to pass through the notches in the outer wall of the grooved portion of the rim and engage the inner side thereof, one of said lugs adapted to make contact with the said stop to limit the movement of the lock-ring in one direction.

3. In a vehicle wheel, the combination of a rim having a confining flange at one side, and a wall at the opposite side having notches therein at intervals, a tire slipped upon the rim, a lock-ring having a confining flange and provided at intervals with lugs to correspond with the notches of said wall, said lugs having opposite corners beveled to facilitate their entrance and riding under the said wall when turning the ring in one direction or the other to cause the lugs to pass in the rear of said wall after having been passed through the notches thereof.

4. In a vehicle wheel, the combination of a rim provided at one side with a confining flange and having a channel or groove at the opposite side, the outer wall of said groove or channel being provided at intervals with notches, and a lock-ring having a companion confining flange and provided at intervals with lugs pressed therefrom and adapted to pass through the notches of said wall and to engage with the rear side thereof upon turning the lock-ring in one direction or the other.

865,040. FREEZING-MACHINE FOR ICE MANUFACTURE. DANIEL L. HOLDEN, New York, N. Y., assignor to Federal Ice Company, New York, N. Y., a Corporation of New York. Filed May 1, 1906. Serial No. 314,611.



1. In an ice machine, a freezing tank, a series of rotatable freezing cylinders therein, in pairs, chipping rollers suspended to engage each cylinder, located between each pair of cylinders and rotatable by the cylinders but in opposite directions, a second rotatable chipping roller for each cylinder, and means for its rotation by the first named roller, and in the same direction, but in an opposite direction to its freezing cylinder.

2. In an ice machine, a freezing tank, rotatable freezing cylinders submerged therein, a pair of chipping rollers adjustably suspended to engage each cylinder, means for the rotation of one of the rollers by its freezing cylinder, and means to rotate the second roller by the first roller, and in the same direction.

3. In an ice machine, a freezing tank, a series of rotatable freezing cylinders submerged therein, a pair of spicular surfaced chipping rollers adjustably suspended to engage each freezing cylinder, the first roller of each pair being rotated by its freezing cylinder, and means to rotate the second roller by the first roller.

4. In an ice machine, a freezing tank, a series of rotatable freezing cylinders submerged therein, a spicular surfaced chipping roller pivotally suspended to engage each freezing cylinder in manner for its adjustment to and from the freezing cylinder, a second spicular surfaced chipping roller pivotally supported by the first named roller, having adjustable means for its elevation or depression independent of the means for the same purpose for the first named roller, and means for the rotation of the second roller by the first roller.

5. In an ice machine, a freezing tank and a series of rotatable freezing cylinders therein, a spicular surfaced chipping roller to engage each cylinder, journals for the roller, levers wherein the journals are placed and means to pivotally secure the opposite ends of the levers, adjustable means to elevate and depress the levers and the roller; a second spicular surfaced roller, journals for the roller, levers wherein the journals are placed and means for their pivotal support by the first named levers, and adjustable means for the elevation and depression of the levers and the roller independent of the adjustable means for the first named roller.

6. In an ice machine, a domed freezing tank, a series of rotatable freezing cylinders therein, a pair of spicular faced rollers of different diameters actuated by each cylinder with means for their independent adjustment to their cylinders, and right and left screws to convey ice particles from the ends to the center of the freezing tank and under the center of the dome of the tank.

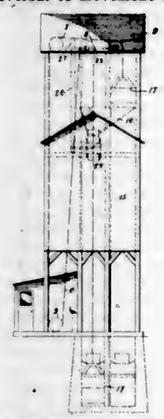
7. In an ice machine, a domed freezing tank, a series of rotatable freezing cylinders therein, spicular faced rollers actuated by the cylinders, right and left screws to convey ice particles from the ends to the center of the freezing tank and under the center of the dome of the tank, and hoods over the screws.

8. In an ice machine, a domed freezing tank, a series of rotatable freezing cylinders therein, spicular faced rollers actuated by the cylinders, right and left screws to convey ice particles from the ends to the center of the freezing tank and under the center of a dome of the tank, and hoods with perforated semicircular top and flaring sides covering the chipping rollers of adjacent cylinders and the intervening screws.

9. In an ice machine, a freezing tank with multiple domes, a series of reversely rotatable freezing cylinders therein, in pairs, right and left screw conveyers within the tank and above the space between each pair of cylinders, and under each dome with means for their rotation and whereby they convey the ice particles to the part of the tank under the center of one of the domes.

865,041. ELEVATING AND CONVEYING MECHANISM. AXEL R. HOLMÉN, Columbus, Ohio. Filed May 31, 1907. Serial No. 376,666.

1. In an elevating and conveying mechanism, the combination with a pair of cars, of a cable connected to said cars the direction of the movement of which is periodically reversed pulleys over which said cable passes, a conveyer, and connections between said pulleys and said conveyer adapted to drive said conveyer always in one direction regardless of the reversal of movement of said pulleys.

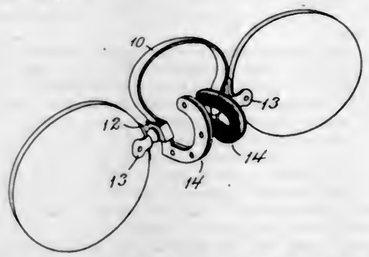


2. In a lifting and conveying mechanism, lifting mechanism the direction of movement of which is periodically reversed, a conveyer, and connections between said lifting mechanism and said conveyer adapted to drive said conveyer always in one direction regardless of the reversal of movement of the lifting mechanism.

3. In a device of the character described, the combination with a pair of cars, of a cable the ends of which are secured to said cars, pulleys over which the bight of said cable passes, a conveyer, and connections between said pulleys and said conveyer adapted to drive said conveyer always in one direction regardless of the reversal of movement of said pulleys.

4. In a lifting and conveying device, the combination with a lifting cable the direction of movement of which is periodically reversed, of pulleys over which said cable passes, a shaft, a conveyer, a driving connection between said shaft and said conveyer, shafts upon which the pulleys are mounted, pinions fast upon said shafts, pinions loosely mounted upon the first named shaft and meshing with the first named pinions, means for connecting one of said shafts to the first named shaft when the cable is moving in one direction, and means for connecting the other of said pinions to the first named shafts when said cable is moving in the opposite direction.

865,042. NOSE-GUARD FOR EYEGLASSES. CLAUDE L. HOWES, Boston, Mass. Filed June 23, 1906. Serial No. 323,099.



1. The combination with an eye-glass bridge, of helical nose-guards fastened thereto and having free upper extremities extending forward, each guard comprising less than a complete convolution of a helix.

2. The combination with an eye-glass bridge, of a pair of nose-guards having ears adapted to be rigidly secured to the bridge, and rearwardly extending portions each comprising less than a complete convolution of a helix and terminating in a free forwardly extending extremity.

3. The combination with an eye-glass bridge of a pair of nose-guards rigidly secured thereto and extending rearwardly therefrom, each formed as less than one convolution of a helix having an upwardly and forwardly curved extremity.

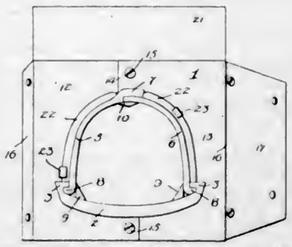
4. The combination with an eye-glass bridge of a pair of nose-guards rigidly secured thereto and extending rearwardly therefrom and curving upwardly and forwardly, the curved portions being formed as converging helices of opposite pitch terminating in free extremities which form the highest portions of the guards.

865,043. SEAL. GARRETT H. HUISING, Chicago, Ill., assignor to Porter Safety Seal Co., Chicago, Ill., a Corporation of Illinois. Filed July 16, 1906. Serial No. 326,302.



A seal including four compressible soft metal shanks, and a common head therefor, from which the said shanks project.

865,044. ROAD-CULVERT AND BANK-RETAINER. WILLIAM ISHAM and FRANK E. MILLER, Butternut, Mich. Filed Dec. 6, 1906. Serial No. 346,607.



1. A culvert provided with a marginal end flange and a bank-retaining wall having an opening to receive the culvert and in which the latter fits, said wall comprising a pair of plates provided with overlapping portions having coincident slots, clamping bolts entered through said slots for adjustably connecting said plates, and substantially Z-shaped clips having their end portions engaged respectively with said end flange and with the inner edges of the plates.

2. A culvert having a marginal end flange and a bank retaining wall having an opening to receive the culvert and in which the latter fits, said wall being arranged to bear against the flange and consisting of a pair of plates having overlapping portions, provided with coincident slots, clamping bolts entered through said slots for adjustably connecting the plates, right angularly disposed flanges formed on the upper edges of the plates and provided with longitudinally extending slots, an extension plate having at its lower edge a flange to seat on said right-angularly disposed flanges and provided with slots, clamping bolts entered through said slots for attaching the extension plate to the wall, and substantially Z-shaped clips having their end portions engaged respectively with the end flange of the culvert and with the inner edge of the retaining wall.

865,045. BUCKET OR CONVEYER. WILLIAM F. JONES, Little Falls, N. J., assignor to Claremont Iron Works Company, a Corporation of New Jersey. Filed Mar. 3, 1905. Serial No. 248,238.

1. In a bucket conveyer, the combination of a dumping bottom hinged at one side thereof, a locking member

adapted to engage and retain said bottom in a closed position, a latch adapted to retain said locking member, and a releasing device adapted to unlock said bottom when said latch is opened, substantially as described.

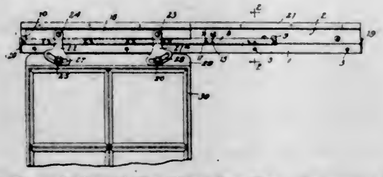


2. In a bottom dumping bucket, the combination of a catch engagement upon one side thereof, and a releasing device enlarged adjacent to said catch engagement, said releasing device being provided with a hand gripping device and being attached to said bucket, and said releasing device being adapted to operate said catch engagement when said hand gripping device is moved, substantially as described.

3. In a bucket conveyer, the combination of a bottom hinged at one side thereof, a locking member upon one side of said bucket conveyer adapted to engage and retain said bottom in a closed position, said locking member comprising a metallic catch normally engaging said bottom, and a combination hand and cable releasing device adapted to disengage said bottom, substantially as described.

4. In a bucket conveyer, the combination of a bottom hinged at one side thereof; a locking member upon one side of said bucket conveyer adapted to engage and retain said bottom in a closed position, binding means for said locking member, and a combination hand and cable releasing and opening device adapted to operate said bottom when said binding means has been released, substantially as described.

865,046. MEANS FOR HANGING LATERALLY-MOVABLE DOORS. JACKSON L. KAIL, Chicago, Ill., assignor to Winslow Bros. Company, Chicago, Ill., a Corporation. Filed Jan. 2, 1907. Serial No. 350,320.



1. In a device of the class described, the combination with a grooved track secured to a frame, of a movable frame adapted to retain ball bearings in said grooved track, a bar adapted to ride upon said bearings, hangers attached to said bar and provided with curved slots, a door, and bolts attached to said door and adapted to be adjustably secured in the slots of said hangers, substantially as and for the purpose set forth.

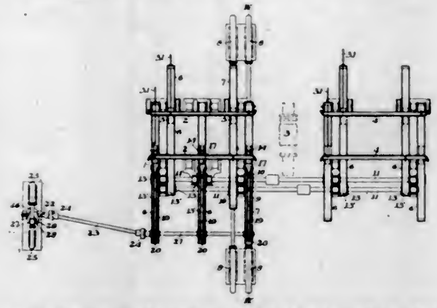
2. In a device of the class described, the combination with a grooved track secured to a supporting frame, of a movable frame having recesses for holding ball bearings, said ball bearings being adapted to run in said grooved track, a bar substantially shorter than said track adapted to ride on said ball bearings, hangers attached to said bar and provided with curved slots, a door, and bolts attached to said door and adapted to be adjustably secured in the slots of said hangers, substantially as described.

3. In a device of the class described, the combination with a door and a grooved track, of a supporting frame for said grooved track, ball bearings, a movable frame having recesses for holding said ball bearings, said ball bearings being adapted to run in said grooved track, a bar adapted to run on said ball bearings, hanger members attached to said bar and having angularly disposed slots, and bolts attached to said door and adapted to be adjustably secured in the slots of said hangers, substantially as and for the purpose set forth.

4. In a device of the class described, the combination with a door and a fixed grooved track, of a movable carriage thereon, said movable carriage comprising parallel side bars extending below said fixed grooved track and adapted to retain spherical rollers upon said fixed grooved track, a bar adapted to ride upon said spherical rollers and extending below the upper edges of said parallel bars, hanger members 21^a and 22 secured to said bar and provided with curved slots, and bolts attached to said door and adapted to be adjustably secured in the slots of said hangers, substantially as described.

5. In a device of the class described, the combination with a door, of a fixed grooved track, a movable carriage therefor, said carriage comprising parallel side bars 7 and 8 with recesses 13 and 14 for retaining spherical rollers, spherical rollers adapted to move with said carriage, spacing blocks 9, 10 and 11, pins 16, 16 adapted to hold said spacing blocks in place, cotter pins 17, 17 for retaining said pins 16, 16, a bar adapted to ride above said carriage, and hanger members 21^a and 22 for securing the said door to said bar, substantially as described.

865,047. INGOT-MANIPULATOR. JULIAN KENNEDY, Pittsburg, Pa. Filed July 20, 1906. Serial No. 326,961.



1. In an ingot manipulator, guide or manipulator bars, transversely movable carriers therefor, and power means for actuating said carriers, said power means including a shaft having a series of shrouded pinions which engage the carrier bars and also form roller carriers therefor; substantially as described.

2. An ingot manipulator having laterally movable manipulators and guides, a plurality of transversely movable carriers therefor having racks, shafts having shrouded pinions engaging the racks and forming bearings for the bars, and means for actuating said shafts; substantially as described.

3. An ingot manipulator having laterally movable guides or manipulators, bars or beams which carry the same, power means for actuating one bar of said manipulators, and a shaft having shrouded pinions thereon engaging the rack bars, and also forming roller supports for the carrier bars; substantially as described.

4. In an ingot manipulator, a movable guide or manipulator bar, a carrier therefor movable therewith, vertically movable manipulator fingers also movable with the bar and carrier, a rock shaft also journaled on the carrier, actuating connections between the fingers and the rock-shaft, a stationary motor, and an angularly movable driving connection between the motor and the rock-shaft; substantially as described.

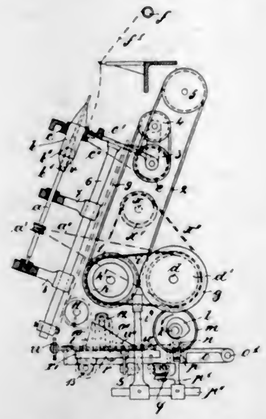
5. In an ingot manipulator, the combination of a laterally movable guide or manipulator bar, a carrier movable therewith, vertically movable fingers also movable with the bar and carrier, actuating means connected with the carrier and fingers for moving the fingers vertically, a shaft extending transversely and journaled on the carrier and movable therewith, a connection between said actuating means and said shaft, a stationary motor located at one side of the carrier and a flexible driving connection between the motor and the said shaft; substantially as described.

6. An ingot manipulator having laterally and vertically movable manipulator fingers, mechanism movable laterally with the fingers for actuating said fingers, a stationary motive device for actuating the finger-actuating mechanism, and a flexible driving connection between the motive device and the laterally movable finger actuating mechanism; substantially as described.

7. An ingot manipulator having a laterally movable manipulator or guide bar, a carrier therefor, vertically movable manipulator fingers mounted therein, actuating mechanism for raising and lowering the fingers and movable with the carrier, a stationary motive device at one side of the carrier, and a flexible driving connection between the motive device and the actuating mechanism arranged to maintain the driving connection in all positions of the carrier; substantially as described.

8. In an ingot manipulator, a laterally-movable manipulator bar and carrier therefor, manipulator fingers mounted in guides thereon, actuating mechanism for the fingers mounted on the carrier, stationary power cylinders located at one side of the laterally movable carrier, and an endwise movable and flexible actuating connection between the cylinders and the said actuating connection; substantially as described.

865,048. RING-SPINNING MACHINE. ACHILLE KLEIN, Roubaix, France. Filed May 31, 1904. Serial No. 210,522.



1. In a ring spinning, winding or doubling machine the combination with a traveler ring, of means comprising a pivoted lever o, a conical roller (s) carried by said lever and intermittingly moved thereupon, a conical roller (q), a lever (p'), a roller (p) carried by lever (p') and a cam disk (m y) acting on the roller (p) for the purpose of automatically actuating the traveler ring to form a cop-bottom, a gearing for driving the spindle and connected with means for driving the ring, and automatic means for varying said gearing, so that the speed of the spindle is varied according to the diameter of the cop to be just wound, substantially as set forth.

2. In a ring spinning, winding or doubling machine, a spindle, means for driving the spindle, a traveler ring, a gearing for driving said ring and connected with said means for driving the spindle, of means comprising a pivoted lever o, a conical roller (s) carried by said lever and intermittingly moved thereupon, a conical roller (q), a lever (p'), a roller (p) carried by lever (p') and a cam disk (m y) acting on the roller (p) for the purpose of automatically actuating the traveler ring to form a cop bottom, automatic means for varying said gearing, so that the speed of the ring is varied according to the axial diameter of the cop to be just wound, substantially as set forth.

3. In a ring spinning winding or doubling machine, the combination of a traveler ring, with a spindle, means for driving both the ring and the spindle, means comprising a pivoted lever o, a conical roller (s) carried by said lever and intermittingly moved thereupon, a conical roller (q), a lever (p') a roller (p) carried by lever (p') and a cam disk (m y) acting on the roller (p) for the purpose of automatically actuating the traveler ring to form a cop bottom, automatic means for simultaneously increasing the speed of the ring, and decreasing the speed of the spindle according to the diameter of the cop to be just wound, substantially as described.

4. In a ring spinning, winding or doubling machine, the combination with a traveler ring, of a spindle, means for driving the ring and means for driving the spindle, a gearing connected with each of said means, means comprising a pivoted lever o, a conical roller (s) carried by said lever and intermittingly moved thereupon, a conical roller (q), a lever (p'), a roller (p) carried by lever (p') and a cam disk (m y) acting on the roller (p) for the purpose of automatically actuating the traveler ring to form a cop bottom, automatic means for reciprocating the ring axially of the cop, and automatic means for simultaneously varying the speed of said gearing, substantially as described.

5. In a ring spinning, winding or doubling machine, the combination of means for driving the spindle, means for driving the ring, gearing connected with each of said means, automatic means for reciprocating the ring axially of the cop, automatic means for simultaneously varying said gearing and means for limiting for a portion of the operation the action of the last named automatic means, substantially as set forth.

6. In a ring spinning, winding or doubling machine, the combination of means for driving the spindle, means for driving the ring, gearing connected with each of said means, automatic means for reciprocating the ring axially of the cop, automatic means for progressively moving the ring axially of the cop, automatic means for simultaneously varying said gearing and means for limiting, for a portion of the operation, the action of the last named automatic means, substantially as set forth.

7. In a ring spinning, winding or doubling machine, the combination of a ring driving pulley shaft, a conical pulley thereon, a spindle driving pulley shaft, a conical pulley thereon, a belt passing over each of said conical pulleys, a cam shaft, gearing for driving said cam shaft simultaneously with said ring and said spindle driving shafts, an oscillatory belt shifter engaging said belt, a sliding frame carrying said ring, a lever, a chain connecting said slider and said lever, a cam on said cam shaft for oscillating said shifter, and a cam on said cam shaft for depressing said lever against the action of the weight of said sliding frame, substantially as set forth.

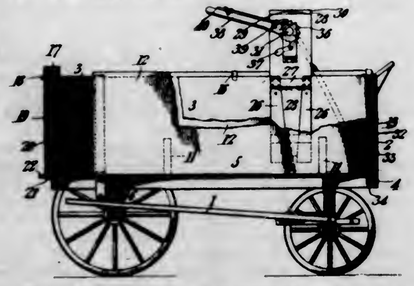
8. In a ring spinning, winding or doubling machine, the combination of a ring driving pulley shaft, a conical pulley thereon, a spindle driving pulley shaft, a conical pulley thereon, a belt passing over each of said conical pulleys, a cam shaft, gearing for driving said cam shaft simultaneously with said ring and said spindle driving shafts, an oscillatory belt shifter engaging said belt, a sliding frame carrying said ring, a lever, a chain connecting said sliding frame and said lever, a cam on said cam shaft for oscillating said shifter, a cam on said cam shaft for depressing said lever against the action of the weight of said sliding frame, a sliding block in said lever, a screw for traversing said block, a ratchet for automatically turning said screw, and a conical pulley on said block for temporarily limiting the amplitude of the oscillations of said shifter, substantially as set forth.

9. In a ring spinning, winding or doubling machine, the combination of a ring driving pulley shaft, a conical pulley thereon, a spindle driving pulley shaft, a conical pulley thereon, a belt passing over each of said conical pulleys, a cam shaft, gearing for driving said cam shaft simultane-

ously with said ring and said spindle driving shafts, an oscillatory belt shifter engaging said belt, a sliding frame carrying said ring, a lever, a chain connecting said sliding frame and said lever, a cam on said cam shaft for oscillating said shifter, a cam on said cam shaft for depressing said lever against the action of the weight of said sliding frame, a sliding block in said lever, a screw for traversing said block, a ratchet for automatically turning said screw, a conical pulley on said block for temporarily limiting the amplitude of the oscillations of the said shifter, guides carried upon said block, an adjustment pulley for said chain mounted in said guides, and an inclined plane upon said lever engaging the spindle of said adjustment roller, substantially as set forth.

10. In a ring spinning, winding or doubling machine, the combination of a ring driving pulley shaft, a conical pulley thereon, a spindle driving pulley shaft, a conical pulley thereon, an axially movable flanged belt pulley, a belt passing over each of said conical pulleys and over said flanged pulley, a cam shaft, gearing for driving said cam shaft simultaneously with said ring and said spindle driving shafts, an oscillatory belt shifter engaging said belt, a sliding frame carrying said ring, a lever, a chain connecting said sliding frame and said lever, a cam on said cam shaft for oscillating said shifter, a cam on said cam shaft for depressing said lever against the action of the weight of said sliding frame, a sliding block in said lever, a screw for traversing said block, a ratchet for automatically turning said screw, a conical pulley on said block for temporarily limiting the amplitude of the oscillations of the said shifter, guides carried upon said block an adjustment pulley for said chain mounted in said guides, and an inclined plane upon said lever engaging the spindle of said adjustment roller, substantially as set forth.

865,049. DUMPING-WAGON. ABBY C. LEMON, Roanoke, Va. Filed May 14, 1907. Serial No. 373,527.



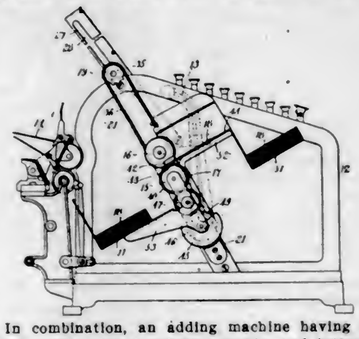
1. In a dumping wagon the combination with an end and side walls; of a tiltable body interposed therebetween and comprising a bottom, side panels removably mounted thereon, an end panel removably mounted thereon and constituting spacing means for the side panels, and standards upon the bottom and constituting abutments for the side panels, and means for tilting the body.

2. In a dumping wagon the combination with an end and side walls; of a tailboard hingedly connected to the side walls, a bottom tiltably mounted between the side walls, means upon the tailboard for locking the bottom against tilting, and means for tilting the bottom.

3. In a dumping wagon the combination with an end and side walls; of a bottom tiltably mounted therebetween, means for actuating said bottom, a hingedly mounted tailboard carried by the side walls, means thereon for engaging the bottom to prevent tilting thereof, and means upon the tailboard for engaging the bottom to lock the tailboard.

4. In a dumping wagon the combination with an end and side walls; of a tiltable body interposed therebetween and comprising a bottom, side panels removably mounted thereon, an end panel removably mounted thereon, removable seat supporting standards slidably engaging the side walls, a shaft journaled therein, oscillatory means for actuating the shaft, a flexible lifting element secured to the shaft and disposed to be fastened to the tiltable bottom, and means for locking the shaft against rotation in one direction.

865,050. APPARATUS FOR MARKING CHECKS. CHARLES H. MARSTON, Reading, and HENRY H. CUMMINGS, Newton, Mass.; said Cummings assignor to said Marston. Filed June 7, 1907. Serial No. 377,743.



1. In combination, an adding machine having an external movable part, a printing couple, and intermediate mechanism for imparting rotary motion from said movable part to the members of the printing couple.

2. In combination, an adding machine having an oscillatory operating lever, a printing couple, and intermediate mechanism for imparting rotary motion from the said lever to the members of the printing couple.

3. In combination, an adding machine having an oscillatory operating lever, a printing couple, and intermediate connections between the lever and the printing couple, comprising a shaft, and means for imparting rotary motion to said shaft from the lever during one of the movements of the lever, said means being inoperative during the opposite movement of the lever.

4. In combination, an adding machine having an oscillatory operating lever, a printing couple, and intermediate connections between the lever and the printing couple, comprising a shaft located above the printing couple, means for imparting rotary motion to the shaft from the lever during one of the movements of the lever only, and means for imparting rotary motion from the shaft to the printing couple.

5. In combination, an adding machine having an oscillatory operating lever, a printing couple, a shaft engaged with the printing couple, and connections between the shaft and the lever whereby the shaft is rotated only during one of the movements of the lever, said connections comprising a rack bar hinged to the lever, a pinion meshing with the rack and mounted to rotate loosely on the shaft, said pinion carrying a clutch member, and a complemental clutch member carried by the shaft, and adapted to engage the first mentioned clutch member during a movement of the pinion in one direction.

6. In combination, an adding machine having an oscillatory operating lever located at one end of the machine casing, printing mechanism supported by the casing, and located at the opposite end thereof, a shaft journaled in bearings on the casing and extending across the same, connections between the shaft and lever, and connections between the shaft and the printing mechanism.

7. In combination, an adding machine having an oscillatory operating lever located at one end of the machine casing, a printing couple supported by the casing and located at the opposite end thereof, means for imparting motion from the lever to the printing couple, and a table for guiding a check to the nip of the members of the couple, one of said members having a longitudinal recess in its periphery, forming a check stop, and check-supporting arms projecting partly across said recess.

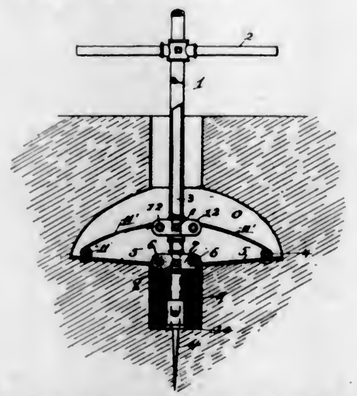
8. A check printing attachment adapted for engagement with the casing and operating lever of an adding machine, and comprising bearing members adapted to be attached to said casing, a printing couple carried by one of said bearing members, a shaft journaled in the bearing members, connections between the shaft and the printing couple, and means for connecting the shaft with the operating lever.

9. A check printing attachment adapted for engagement with the casing and operating lever of an adding machine, and comprising bearing members adapted to be attached to said casing, a printing couple comprising a bed roll and an impression roll rotatively mounted on one of said bearing members, inking rolls mounted on the last-mentioned bearing member and adapted to ink the printing face of the impression roll, a train of gearing connecting said rolls, a shaft journaled in the bearing members, connections between the shaft and the said train, and means for connecting the shaft with the operating lever.

10. A check printing attachment adapted for engagement with the casing and operating lever of an adding machine, and comprising bearing members adapted to be attached to said casing, a printing couple carried by one of said bearing members, a shaft journaled in the bearing members, connections between the shaft and the printing couple, means for connecting the shaft with the operating lever, and two check receptacles supported by the bearing member which carries the printing couple, one of said receptacles being at the front and the other at the rear of the printing couple.

11. In combination, an adding machine having an oscillatory operating lever, a printing couple supported by the casing of the machine, a shaft journaled in bearings on the casing and connected with the printing couple, connections between the shaft and the operating lever whereby the shaft and printing couple are rotated during a forward movement of the lever, and are left at rest during the return movement of the lever, said connections including a bar pivoted to the operating lever and movable longitudinally thereby, and stop members carried by the shaft, and by the bar, and adapted to arrest the shaft when the members of the printing couple reach a predetermined position.

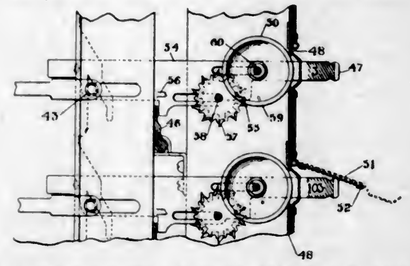
865,051. AUGER FOR ENLARGING THE LOWER ENDS OF HOLES. GEORGE H. MILLER, Norwalk, Ohio. Filed Jan. 29, 1906. Serial No. 298,441.



1. An auger for the purpose specified, comprising in combination with a hollow stem section and handle affixed thereto, a lower and inner stem section inserted in said hollow section and moving freely therein, a shoulder upon said lower section and a terminal point therefor, laterally extending blades pivotally secured at their inner ends to said lower section, and laterally extending links pivotally secured to said upper section at their inner ends, and to said blades at their outer ends, substantially as described.

2. In an auger for the purpose described, in combination, an upper stem section having a handle, a lower stem section slidingly movable therein, a terminal shoulder and centering point therefor, laterally extending cutting blades having their inner ends pivoted upon said lower stem section, a vertically adjustable sleeve in which the bearings for said blades are attached, a vertically adjustable sleeve upon the upper stem section, links pivoted in bearings in said sleeve on the upper section at their inner ends and having their outer ends pivotally secured to said blades, substantially as and for the purpose set forth.

865,052. VOTING-MACHINE. RODERICK MCKENZIE, Jamestown, N. Y., assignor to The U. S. Standard Voting Machine Company, Jamestown, N. Y., a Corporation of New York. Filed Mar. 2, 1901. Serial No. 49,640.



1. The combination in a voting machine of a casing a guide carried thereby, of a curtain suspended therefrom in front of the keyboard, a gate on the end of the machine, means operated by the gate when moved in one direction for moving the curtain to conceal the keyboard, said means being operated by the gate when moved in the other direction to move the curtain to expose the keyboard, substantially as described.

2. The combination in a voting machine having a vertical keyboard, with a barrier suspended in front of said keyboard, and a gate carried on the end of the machine by means of which said barrier may be moved to either expose or conceal the keyboard.

3. The combination in a voting machine, of a casing having a stationary frame extending across the front thereof, a keyboard, a curtain loosely mounted on said frame for alternately exposing and concealing said keyboard, and means for operating said curtain carried on the end of the machine.

4. The combination in a voting machine of a vertical keyboard, a guide carried above said keyboard, a curtain suspended from said guide capable of alternately exposing and concealing the keyboard, means carried on the end of the machine for operating said curtain to alternately expose and conceal the keyboard.

5. The combination in a voting machine of a guide carried on the top of the machine, a divided curtain suspended from said guide, arms for opening and closing said curtain, said arms being pivoted on the top of the machine, and a link connected to said arms, said link being moved by the gate, the movement of said connecting rod causing said arms to simultaneously move in directions opposite to each other.

6. The combination in a voting machine of a mechanical movement for operating the curtain thereof, comprising a lever of the first class and a lever of the third class, a link for operating both simultaneously whereby said levers are caused to move simultaneously in opposite directions toward or away from each other.

7. The combination in a voting machine of a guide carried from the top of the machine, a curtain suspended from said guide in front of the keyboard of said machine, a pair of arms alternately exposing and concealing said keyboard, a link for simultaneously operating both of said arms, and

a connecting rod for transmitting motion from the gate to said link, together with means for transmitting only a part of the connecting rod to said link, substantially as described.

8. The combination in a voting machine of a curtain suspended in front of the keyboard of the machine, arms for operating said curtain, and a link for simultaneously moving said arms, a connecting rod and a gate for moving said link, said arms, said curtain and said parts being so adjusted that the curtain will not be moved to expose the keyboard until the indicators thereon have been reset.

9. The combination in a voting machine, of a locking device therefor consisting of a gate having a recessed arm thereon, a hasp carried on the body of the machine, said hasp being adapted to pass through the recess in the arm of the gate, and a locking device passing through said hasp to prevent the movement of the gate, substantially as described.

10. The combination in a voting machine of a series of voting keys and counters therefor, said keys being movable directly out from the keyboard of the machine to voted position, interlocking devices operated by said keys, means operated by the voter after voting for operating the counters of the selected keys, and positively resetting and locking the keys.

11. The combination in a voting machine of a series of registers, a series of ballot indicators forming part of the permanent structure, one for each register, freely movable into and out of coöperative relation with their corresponding register, said position being reached by pulling the key out, interlocking devices for preventing the operation of more than a predetermined number of indicators, and means for causing the simultaneous operation of all the registers whose indicators are in operative position.

12. The combination in a voting machine of a series of registers, of a series of ballot indicators therefor forming a part of the permanent structure of the machine, said indicators moving in a line perpendicular to the keyboard of said machine, one of said indicators for each register, and freely movable into and out of coöperative relation with its corresponding register, said indicator being moved to voted position by being pulled out from the keyboard, interlocking devices for preventing the operation of more than a predetermined number of indicators, and means for causing the simultaneous operation of all the counters whose indicators have been placed in voted position.

13. The combination in a voting machine, of a key, a cam bar for operating said key, a guide angle for said key and cam bar, said key being located between the cam bar and the guide angle, and said guide angle being provided with guide slots, said key being provided with studs extending through said guide slots, and interlocking fingers carried on the outer end of each of said studs.

14. The combination of a voting machine of a face plate, irregular ballot receptacles carried thereon open at both ends, a gate a slide containing a slot therein, which slide closes the bottom of said receptacle, and connections between the gate and said slide for moving the slide when placed in voted position, thereby causing the slot therein to register with said receptacle, permitting of the passing of the ballot therethrough.

15. The combination in a voting machine, of a face plate, a stationary free ballot receptacle thereon having an opening therethrough, a slide therefor having an opening in its bottom and a plate on top movable by the voter, said slide closing the top of said receptacle when moved out by the voter and bringing the opening in the bottom of the slide into register with the opening in the receptacle, to deliver the ballot therethrough.

16. The combination in a voting machine of a face plate, a stationary free ballot receptacle thereon, a slide therefor normally closing the bottom thereof, a carrier for said slide, a stud mounted thereon, a cam bar for driving said slide by means of said stud when the stud has been placed in engagement therewith, said slide being thereby driven to open the bottom of said receptacle to permit the passage of a ballot, substantially as described.

17. The combination in a voting machine, of a face plate, a stationary free ballot receptacle thereon open at both ends, and means normally closing the bottom of said receptacle and operable by the voter for successively closing the top of said receptacle and opening the bottom thereof.

18. The combination in a voting machine, of a face plate, a free ballot receptacle thereon consisting of a tube open at both ends, and sliding means operable by the voter on said machine, which means when moved by the voter successively closes the top of said receptacle and opens the bottom thereof, substantially as described.

19. The combination in a voting machine of a face plate, a free ballot receptacle thereon, a slide therefor normally closing the bottom thereof, said slide being movable to indicate a vote, means preventing the movement of said slide further than to indicate a vote, said means operated subsequently to permit the depositing of the ballot indicated, substantially as described.

20. The combination in a voting machine, of a face plate, a free ballot receptacle thereon open at both ends, a U-shaped slide which when moved successively closes the top and opens the bottom of said receptacle, voting keys, and interlocking mechanism between said slide and said keys.

21. The combination in a voting machine of a face plate, a series of free ballot receptacles thereon, a series of U shaped slides coöperating with said receptacle to regulate the casting of the ballot, an upturned lip at the bottom of each of said slides, a coupling therefor whereby a plurality of said slides may be joined together for simultaneous operation, and a handle in the middle of said coupling, substantially as described.

22. The combination in a voting machine, of a face plate, a series of free ballot receptacles thereon open at both ends, a slide for each receptacle, which slide when moved successively closes the top of said receptacle and opens the bottom thereof, an operating handle, and means for coupling a plurality of said slides together for simultaneous operation by said handle.

23. The combination in a voting machine of a face plate, a series of free ballot receptacles thereon, said receptacles being formed of a single piece of sheet metal bent to proper shape with lips thereon by which they may be clamped to the face plate, substantially as described.

24. The combination in a voting machine, of a face plate, free ballot devices attached to said face plate, a casing provided with a movable door, means for locking said door, and removable partitions adapted to be placed within said casing when said door is opened, forming compartments for the reception of the free ballots voted.

25. The combination in a voting machine, of a face plate, a casing beneath said face plate provided with grooves and with a movable door, means for locking said door, free ballot devices attached to said face plate, and movable partitions adapted to be placed in the different grooves in said casing, whereby compartments of different sizes for group or single candidate voting may be provided as desired.

26. The combination in a voting machine of a series of boxes in the bottom thereof wherein the irregular ballots are collected, a door in the casing of the machine closing the front of said boxes, whereby said ballots are concealed during the election, and whereon said ballots may be counted after the election, substantially as described.

27. In a voting machine, the combination of keys, counters, interlocking blocks and wedges, and an interlocking channel for said blocks, said channel having a slot which is L shaped in cross-section.

28. In a voting machine, the combination of keys, counters, interlocking blocks and wedges, and an interlocking channel for said blocks having a slot therein which is L-shaped in cross section.

29. In a voting machine, the combination of keys, counters, interlocking blocks and wedges, and an interlocking channel for said blocks, said channel being L-shaped in cross section and open from one end to the other, whereby the interlocking blocks and wedges are free to slide from one end of said channel to the other.

30. In a voting machine, the combination of keys, counters, interlocking blocks and wedges, and an interlocking channel for said blocks, said interlocking channel being L-shaped in cross section, and said blocks being completely surrounded by said channel with the exception of a projecting edge.

31. In a voting machine, the combination of keys, counters, interlocking blocks and wedges, and an interlocking channel for said blocks L-shaped in cross section, said blocks and wedges interlocking on one side of said channel only.

32. In a voting machine, the combination of keys, counters, interlocking blocks and wedges, with an interlocking channel for said blocks, each of said blocks being embraced on five sides by said interlocking channel.

33. In a voting machine, the combination of keys, counters, interlocking blocks and wedges, of an interlocking channel embracing said blocks, each of said blocks having five sides, three of said sides being embraced by said channel, and a part of the other two sides being embraced by said channel.

34. In a voting machine, the combination of keys, counters, interlocking blocks and wedges, and an interlocking channel for said blocks, said blocks projecting out through one side of said channel, and said blocks and wedges interlocking outside of said channel.

35. In a voting machine, the combination of keys, counters, interlocking blocks and wedges, each interlocking block being composed of two ridges, one located at an angle to the other, and an interlocking channel for said blocks, one of the ridges on said interlocking block engaging with the interlocking channel, and the other of said ridges engaging with the interlocking wedges.

36. In a voting machine, the combination of keys, counters, and an interlocking system therefor, comprising a channel, blocks movable in said channel, one or more of said blocks being composed of two parts adjustable towards and away from each other and held by means of a connecting screw, and wedge-like portions actuated by said keys and adapted to engage said blocks.

37. In a voting machine, the combination of keys, counters, and an interlocking system therefor, including a channel, blocks movable therein, one or more of said blocks being composed of two parts adjustable towards and away from each other, a screw therefor having a threaded engagement with one of said parts, a collar thereon bearing against the other part, said block being provided with a bearing for engagement with the shaft of said screw, and spear heads actuated by said keys and engaging said blocks.

38. In a voting machine, the combination of a series of voting keys arranged in pairs, one of each pair representing an affirmative vote, and one a negative vote, counters for each of said keys, and an interlocking system for said keys, said system comprising a plate with interlocking notches therein, wedges engaging the said notches, and a lever pivoted to said plate between said wedges.

39. In a voting machine, the combination of a series of voting keys arranged in pairs, one of each pair representing an affirmative vote and the other a negative vote, and an interlocking system therefor, comprising a plate with interlocking notches at the edge thereof, interlocking wedges engaging the said notches, and an interlocking lever interlocking a pair of said wedges mounted upon said plate and having a sliding engagement therewith.

40. The combination in a voting machine, of the keys a straight ticket voting device including a key therefor, a yielding connection between the key and the rest of the device whereby the force applied to move the keys by the straight ticket device is limited.

41. The combination in a voting machine of a voting device, including a key, a yielding connection between said key and its device whereby the force applied through said key to said device is limited.

42. The combination in a voting machine of counters, a face plate therefor having an opening through which said counters are accessible a shutter pivoted to said face plate, closing said opening, said shutter bearing a label holder.

43. The combination in a voting machine of a plurality of counters arranged in rows, shutters concealing said counters each row of counters lying between two shutters, said shutters bearing labels for said counters, said shutters being so arranged that the proper label only can be displayed in connection with the counters when the counters are exposed to view.

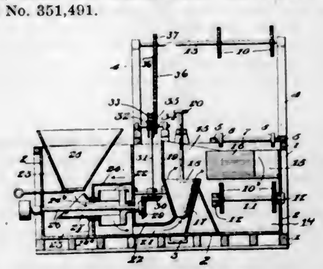
44. The combination in a voting machine of a face plate, a series of shutters pivoted thereto, a locking bar which closes said shutters against said face plate, and means for locking said bar against movement, thereby holding the shutters closed.

45. In a voting machine, the combination of voting keys arranged in single candidate groups, interlocking mechanism therefor, an irregular voting device for each group, and means for combining a plurality of said single candidate groups including the voting keys, irregular voting devices and interlocking mechanism, into a multi-candidate group, said means including devices for rendering ineffective all but one of the irregular voting devices in said group.

46. The combination in a voting machine of a series of registers, a series of ballot indicators therefor forming a part of the permanent structure of the machine, all of said indicators being exposed at all times and said indicators moving in a line perpendicular to the keyboard of said machine, one of said indicators being provided for each register, and freely movable into and out of coöperative relation with its corresponding register, said indicator being moved to voted position by being pulled out from the keyboard, interlocking devices for preventing the operation of more than a predetermined number of indicators, and means for causing the simultaneous operation of all the counters whose indicators have been placed in voted position.

47. The combination, in a voting machine, with the gate thereof, of voting keys, cam bars for resetting and locking said keys, said cam bars being operated in one direction by the gate to reset and lock the keys, said cam bars when operated in the reverse direction serving to unlock said keys for voting operation, and auxiliary means for holding said keys locked for a predetermined interval after having been unlocked by said cam bars.

865,053. MINERAL-SEPARATOR. RICHARD J. McKEONE, Sault Ste. Marie, Mich. Filed Jan. 9, 1907. Serial No. 351,491.



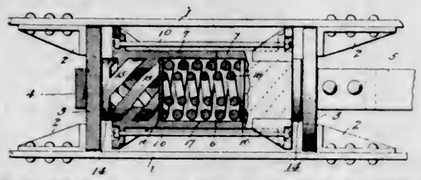
1. In a mineral separator, the combination, with three compartments two of which are connected by a passage at the side of the middle compartment, a sluice box in one of the two said compartments, and a wheel housing in the other of the said compartments, of a centrifugal wheel in said housing, a conical funnel, a vertical screw plug adjustable in the funnel, a throat or channel extending under the said middle compartment and connecting the funnel and the housing, and means to operate the said wheel.

2. In a mineral separator, the combination, with three compartments two of which are connected by a passage externally of the central compartment, and a centrifugal wheel and housing on one side of the central compartment, of a sluice box on the other side thereof, a conical funnel discharging into the sluice box and having a throat or channel extending under said central compartment and opening into the said wheel housing, a conical plug adjustable in the funnel to vary the discharge of the latter, and means to drive the said wheel.

3. In a mineral separator, the combination, with three compartments two of which are connected externally of

the central compartment, a centrifugal wheel and housing, a conical funnel, a funnel plug having a screw threaded stem or shaft, a sluice box receiving from the funnel, a throat leading from the said wheel housing under said central compartment into the bottom of the funnel, and an elevator working around the sluice box, of a wheel driving shaft terminating in the central compartment, a vertical shaft in said central compartment, and provided with a worm pinion and having a gear meshing with a gear on the terminal of the driving shaft, the elevator shafts the shaft having a wheel meshing with the worm pinion, and the chain and sprockets for imparting motion to the elevator.

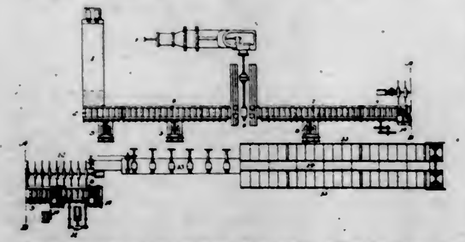
865,054. FRICTION-BUFFER. JOSIAH NICHOLS, Lima, Ohio. Filed Oct. 11, 1906. Serial No. 338,408.



1. A device of the type set forth comprising a working barrel embodying interlocked stationary sections, each of said sections being provided adjacent its outer ends with spaced spiral axially extending projections having a parallel relation, buffers arranged at the ends of said barrel and having restricted movement axially thereof, said buffers each having spaced spiral axial projections movably interfitting in the open spaces between said first named projections, followers within said barrel abutting the ends of said last named projections and cushioning springs interposed between said followers and bearing thereagainst.

2. A device of the type set forth comprising a working barrel provided adjacent its ends with spaced spiral ribs, a buffer having restricted movement axially of said barrel and including a solid head and axially extending projections having free spaces therebetween, said projections being of greater length than said ribs and interfitting the spaces therebetween, followers bearing against the free ends of said projections and cushioning springs bearing against said followers, as and for the purposes set forth.

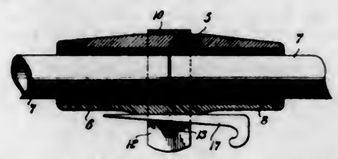
865,055. PROCESS OF ROLLING SHEET METAL. EDWIN NORTON, New York, N. Y. Filed Sept. 17, 1906. Serial No. 335,030.



In a process of forming sheet-metal, rolling a pack or pile of sheets simultaneously at a plurality of places and concurrently therewith stretching the metal between consecutive roll passes, whereby the several sheets composing the pack or pile are prevented from adhering one to another and may be readily separated.

865,056. REPAIR-CLIP FOR PIPES, SHAFTS, &c. WINFIELD S. PALMER, Glenburn, Pa. Filed Apr. 12, 1907. Serial No. 367,787.

1. A coupling including a sectional clamping member, a yoke embracing said clamping member and having one end thereof provided with a transverse pin, and a locking key interposed between the pin and adjacent section of the clamping member.



2. A coupling including mating sections adapted to engage the work, a packing interposed between said sections and the work, a yoke embracing the sections, and a key bearing against the yoke and one of the sections for clamping both sections in engagement with the work.

3. A coupling including mating sections having their inner longitudinal edges inclined and adapted to embrace the work, a packing interposed between the sections and work, a yoke embracing said sections and provided with alined openings, a pin seated in said openings, and a locking key interposed between the pin and the adjacent section for locking said sections in engagement with the work.

4. A coupling including mating sections adapted to engage the work and having their inner longitudinal edges inclined, one of said sections being provided with a curved bearing surface and the adjacent section with a flat bearing surface, a packing interposed between the sections and the work, and a yoke embracing both sections and bearing against the curved portion of the adjacent section, a pin piercing the yoke, and a locking key interposed between the pin and the flat bearing surface of the adjacent section for locking said sections in engagement with the work.

5. A coupling including semi-cylindrical mating sections adapted to embrace the work and having their opposite ends inclined and their inner longitudinal edges curved laterally, a packing interposed between the work and said sections, a yoke embracing the sections, and a key interposed between the yoke and one of said sections for locking both sections in engagement with each other.

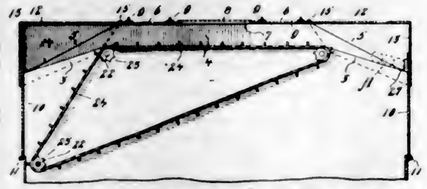
6. A coupling including mating sections adapted to embrace the work and each provided with a longitudinal key seat, a yoke embracing said sections, a transverse pin piercing the yoke, and a wedge interposed between the pin and the adjacent section for clamping said sections in engagement with the work.

7. A coupling including semi-cylindrical mating sections adapted to clamp the work and having their concaved faces provided with longitudinal key seats and their opposite longitudinal edges inclined, a packing carried by each section, a yoke embracing said sections, a transverse pin piercing the yoke, and a locking key interposed between the pin and adjacent section for clamping both sections in engagement with the work.

8. A coupling including semi-cylindrical sections adapted to embrace the work and each provided with a longitudinal key seat, one of said sections being provided with a curved bearing surface and the opposite section formed with a central enlargement having a flat bearing surface, a yoke engaging the curved bearing surface and having its opposite ends extended beyond the adjacent section and provided with alined openings, a pin extending transversely through said openings, a key carried by each section, and a wedge interposed between the pin and the flat bearing surface of the adjacent section for clamping both sections in engagement with the work.

9. A coupling including mating sections having concaved faces for the reception of the work and having their inner longitudinal edges inclined, there being longitudinal grooves formed in the concave face of each section, a packing seated in the groove of each section and extended laterally in alinement with the longitudinal edges of said sections, one of said sections being provided with a curved bearing surface and the opposite section with an enlargement having a flat bearing surface, a yoke engaging the curved bearing surface of one section and having its opposite ends extended beyond the flat bearing surface and provided with alined openings, a pin seated in said openings, and a wedge shaped locking key interposed between the pin and flat bearing surface of the adjacent section for locking both sections in engagement with the work.

865,057. BLUE-PRINT-DRYING MACHINE. CHARLES F. PEASE, Chicago, Ill., assignor of one-half to Williams, Brown & Earle, Philadelphia, Pa., a Firm. Filed Feb. 15, 1907. Serial No. 357,545.



1. A blue print drying machine comprising a casing having at its upper end off-set horizontal shelves on each side thereof and terminating in inclined end portions, and an endless conveyer working in said casing, said casing having door controlled openings at points adjacent said conveyer.

2. A blue print drying machine comprising a casing having at its upper end off-set horizontal shelves on each side thereof and terminating in inclined end portions, and an endless conveyer working in said casing, and having a portion of its travel parallel to and in a plane coincident with said shelves said casing having door controlled openings at points adjacent said conveyer.

3. A blue print drying machine comprising a casing having at its upper end off-set horizontal shelves on each side thereof and terminating in inclined end portions, means for heating the air within said casing, and an endless conveyer working in said casing and having a portion of its travel parallel to and in a plane coincident with said shelves.

4. A blue print drying machine comprising a casing having at its upper end off-set horizontal shelves on each side thereof and terminating in inclined end portions, and an endless conveyer working in said casing and having a portion of its travel parallel to and in a plane coincident with said shelves.

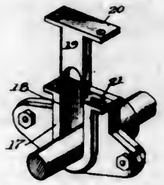
5. A blue print drying machine comprising a casing having at its upper end off-set shelves terminating at their ends in downwardly inclined portions, said casing having at its ends, doors extending the entire width thereof adjacent said inclined shelves, and an endless conveyer working in said casing and having a portion of its travel parallel to and in a plane coincident with said shelves.

6. A blue print drying machine comprising a casing having its sides off-set horizontally adjacent their upper edges to afford shelves, said off-set portions being downwardly inclined at each end thereof, said casing having portions cut-away from its top wall and from the end walls adjacent thereto, downwardly swinging doors provided upon said end walls, swinging doors provided at the ends of said top wall, and having depending portions adapted to overlie said first named end doors, and an endless conveyer working in said casing and having a portion of its travel parallel to and in a plane coincident with said shelves.

865,058. LUBRICATING AND DUST-PROOF GLAND. JOHN ROBERTSON, Chicago, Ill. Filed Apr. 22, 1907. Serial No. 369,621.

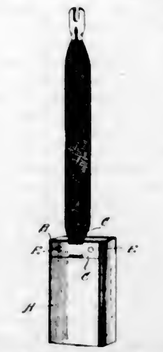
1. The combination with a piston and bearings therefor, of a gland-nut, a removable plate fitting the flanged face of said nut provided with a lubricant-receiving chamber and having an elongated slot cut in one of its edges whereby said plate is adapted to be removed from said piston, and a plate normally closing said slot.

2. The combination with a piston and bearings therefor, of a gland-nut, a removable plate fitting the flanged face of said nut provided with a lubricant-receiving chamber and having an elongated slot cut in one of its edges whereby said plate is adapted to be removed from said piston, and a removable sliding plate normally closing said slot.



3. The combination with a piston and bearings therefor, of a gland-nut the sleeve of which engages packing in said bearings, a slotted plate secured to the outer face of the flanged end of said nut, provided with an opening concentric with the axis of the sleeve and having a portion of the opposing face recessed to receive lubricating material, and a removable plate normally closing the slot in said first mentioned plate.

865,059. MEANS FOR ATTACHING PIGTAILS TO CARBON-BRUSHES. MAXWELL W. ROBERTSON, New York, N. Y. Filed Apr. 29, 1907. Serial No. 370,907.



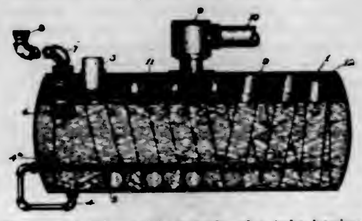
1. An attaching means for holding pigtails to carbons comprising, in combination with a carbon, clamping plates, means for holding the same clamped against the carbon, one of said plates being recessed upon its opposite edges and one face, and a pigtail mounted in said recesses and held by the plates frictionally against said carbon, as set forth.

2. An attaching means for fastening pigtails to carbons comprising, in combination with a carbon having recesses formed in the opposite faces thereof, clamping plates resting upon the shoulders of said recesses, one of said plates having recesses in its opposite edges and in its inner face, a pigtail having its end engaging the recess in the bottom of the plate, resting upon the adjacent shoulder of the carbon, and extending in the recess in the rear of the plate, and screws passing through the plates and adapted to hold the same in clamping engagement with the carbon and said pigtail, as set forth.

865,060. CARBURETER. ALBERT F. ROCKWELL, Bristol, Conn., assignor to The New Departure Manufacturing Company, Bristol, Conn., a Corporation of Connecticut. Filed Dec. 19, 1905. Serial No. 292,441.

1. A carbureter comprising a tank, a coil in said tank having a series of vertical convolutes, one end of said coil being in communication with the outside atmosphere and the other end of said coil being in communication with the interior of the tank, means for permitting liquid from said

tank to enter independent convolutes of the coil, and an outlet port in communication with said tank.



2. The combination with a tank, of a tube having a series of horizontal coils in said tank, one end of said tube being in communication with the outside atmosphere and the other end being within the tank, means for introducing fluid from the tank through the walls of the coils, each of said coils having a separate inlet, and an outlet tube leading from said tank.

3. A carbureter comprising a tank, a horizontally positioned coiled tube within said tank, the inlet end of said tube being in communication with the outside atmosphere and the outlet end of said tube being in communication with the interior of the tank, a tube for conveying part of the liquid in said tank into coils of the tube through separate inlets in said coils, and an air outlet port in communication with said tank.

4. The combination with an elongated tank constructed so that its length is approximately horizontal, a coiled tube within said tank, the series of coils being approximately horizontal, an inlet end for said tube being in communication with the outside atmosphere and the outlet end of said tube being in communication with the interior of the tank, a tube for conveying part of the liquid in said tank into the coils of the tube, and a coöperating air outlet port in communication with said tank.

5. A carbureter comprising a tank, a coiled tube in said tank having a series of convolutes, one end of said coil being in communication with the outside atmosphere and the other end of said coil being in communication with the interior of the tank, means for permitting liquid to pass into the convolutes of the coil, and means for preventing the liquid level in each convolute from rising beyond a predetermined height.

865,061. DISINFECTING APPARATUS. WILLIAM H. ROSE, Baltimore, Md. Filed Aug. 21, 1905. Serial No. 275,105.



1. In a disinfecting apparatus, the combination of a receptacle for disinfectant, a pump in said receptacle having an upper inlet and a lower outlet opening, a piston, a spring for normally holding the piston above the inlet opening, means for operating the piston, and a delivery tube connected with the outlet opening and leading to a level higher than the fluid in the receptacle and provided with a perforation above the level of the fluid to prevent siphoning, said perforation being arranged to discharge into the said receptacle.

2. In a disinfecting apparatus, the combination of a pump for measuring and delivering fixed quantities of disinfectant, an air pump having a discharge arranged to atomize the disinfectant, and means for simultaneously operating said pumps.

3. In a disinfecting apparatus, the combination with a vessel for disinfectant, of a fluid pump and an air pump connected to said vessel, and a common piston rod for said pumps.

4. In a disinfecting apparatus, the combination with a receptacle for disinfectant, of a fluid pump of relatively small diameter, an air pump of relatively large diameter, a common piston rod, and delivery pipes extending from said pumps to a common point, and constituting an atomizer.

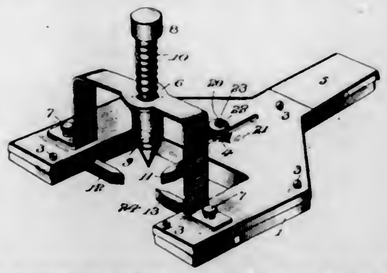
5. In a disinfecting apparatus, the combination with a receptacle for disinfectant, of a fluid pump, an air pump, delivery pipes leading from said pumps to a common point and constituting an atomizer, and a second delivery pipe connected with the fluid pump and adapted to deliver fluid simultaneously with the operation of the atomizer.

865,062. BEE-KNIFE. ISAAC F. SAWYER, Mesa, Colo. Filed Jan. 16, 1907. Serial No. 352,656.



A tool for use in handling or manipulating bee-hives, consisting of a bar-form handle, having at one end a blade with a thin edge extending longitudinally of the handle, and a thin, wedge-shaped edge extending at a right-angle to the handle, and having at its other end a hook.

865,063. CENTER-PUNCH. LAWRENCE W. SHERWOOD, Washington, D. C. Filed Oct. 23, 1906. Serial No. 340,192.

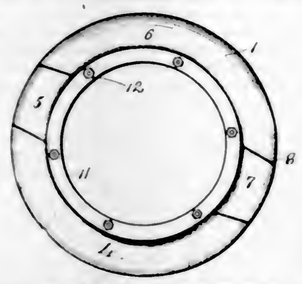


In a centering device a body or bed formed with a space therein for the work to be centered and with a vertically movable punch located over said space; reciprocatory arms radially disposed in the body or bed, having vibrative levers connected at one end with said arms and journaled at the opposite end to the bed, and formed with meshing segmental gears; the intermediate levers connected with one and the same centering arm and said arm connected with means for reciprocating the same whereby the several centering arms may be caused to approach or recede from a point coincident with the axis of the punch substantially as and for the purpose set forth.

865,064. COLLAPSIBLE CORE. WILL C. STATE, Akron, Ohio, assignor to The Goodyear Tire and Rubber Company, Akron, Ohio, a Corporation of Ohio. Filed Dec. 14, 1906. Serial No. 347,884.

1. A device of the character described comprising a plurality of independent segment-shaped members disconnected from and adapted to abut against each other; said members when in abutting engagement forming a collapsible core, and means overlapping the inner portion of said members for maintaining them in abutting engagement.

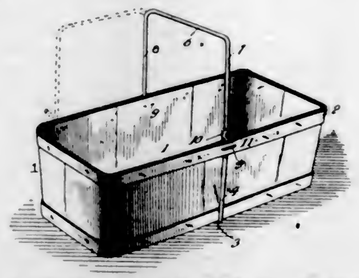
2. A device of the class described comprising a core composed of a plurality of parts, which when united will form an annular member, the lines of severance between the several parts being oblique to the radii of said member, said several parts being provided with inwardly-projecting portions constituting an annular beading, and a pair of rings adapted to clamp said beading between them whereby said members are maintained in proper relation to each other.



3. A device of the class described comprising a plurality of core members adapted when united together to form an annular body, the points of severance being oblique to the radii thereof, each of said core members being provided with inwardly-projecting edges, which when united together will form an annular beading, a pair of rings adapted to clamp said beading between them and means to clamp said rings on said beading.

4. A device of the character described comprising a plurality of independent segment-shaped members disconnected from and adapted to abut against each other, said members when in abutting engagement forming a collapsible core, and means independent of said members for maintaining them in abutting position.

865,065. HANDLE FOR BASKETS. JOHN J. STURM, Glen Lord, Mich. Filed Nov. 28, 1905. Serial No. 289,511.

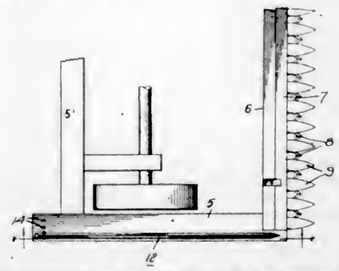


1. In combination with a basket or like receptacle, bracing and carrying means therefor consisting of a single wire having an end portion forming a stay and embracing the bottom and opposite sides of the receptacle and secured thereto, and having the opposite end portion constituting a handle which at all times projects above the receptacle and is adapted to occupy a position either at one side or across the receptacle, one side member of the device occupying a fixed position and the other side member thereof being separable about in the plane of the top of the receptacle.

2. In combination with a basket or like receptacle, a combined stay and handle therefor formed of a single length of wire, the stay embracing the bottom and opposite sides of the receptacle and secured thereto, the handle projecting above the receptacle and adapted to occupy a position either at one side thereof or to extend thereover, the handle being separable from and adapted to make positive connection with the stay at one side of the receptacle and about in the plane of the top thereof, the opposite side member of the device being common to and integral with the stay and handle and adapted to be subjected to torsional strain when the handle is turned to occupy a position in the plane of a side of the receptacle.

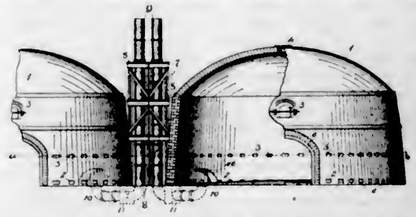
3. In combination, a basket or like receptacle, a wire encircling the bottom and opposite sides of the receptacle and secured thereto, an end of the wire terminating about at the top of a side of the basket in an engaging element, the opposite end portion of the wire projecting above the opposite side of the basket to form a handle and terminating in an engaging element to make detachable connection with the opposite end of the wire to admit of the handle extending across the basket or occupying a position at one side thereof, the continuous member of the wire at one side of the basket being free to adapt itself to torsional strain throughout its length when turning the handle to occupy a position at one side of the basket.

865,066. ATTACHMENT FOR MOWING-MACHINES. HUGH M. TARRANT, Beulahville, Va. Filed Jan. 9, 1907. Serial No. 351,514.



The combination, with the frame of a mowing machine, of guard and cutter plates, a forwardly and rearwardly extending support for said plates secured to the machine frame, said support having a single opening formed therethrough adjacent its front end and a series of openings adjacent its rear end, a rearwardly and upwardly extending vine-cutting blade having its front end fitting loosely in said first-mentioned opening, and a strap connected at one end to said blade towards the rear end thereof, the opposite end of said strap being removably engaged in one of said last-mentioned openings.

865,067. CHARCOAL-KILN. CHARLES D. TRAIN, Belknap, Ill. Filed Apr. 4, 1903. Serial No. 151,127.



1. An improved down-draft charcoal oven, comprising an oven wall having suitable openings, a stack exterior of said oven, a plate arranged at an angle within the oven with one edge resting upon the bottom thereof and the outer edge resting upon the adjacent vertical wall, and an under-ground smoke passage connecting with said stack and with the space beneath said plate, substantially as specified.

2. An improved down-draft charcoal oven, comprising the usual oven body, a stack located exterior of said oven,

an underground passage connecting said stack to the exterior of said oven, a housing forming a part of said underground passage, and a damper movably mounted in said housing, substantially as specified.

3. An improved down-draft charcoal oven, comprising the usual oven body, a stack located exterior of said oven, an underground passage connecting said stack to the interior of said oven, a housing forming a part of said underground passage, a damper movably mounted in said housing, the upper end of said housing being normally open, and means by which said opening may be temporarily closed and sealed, substantially as specified.

4. In a charcoal kiln, the combination with the firing chamber provided with two series of horizontally disposed openings arranged one series above the other, of a discharge chimney having its inlet end connecting with the interior of the firing chamber below the lower series of openings, and a damper controlling the flow through said chimney, the said damper being movable by the pressure of gas in the firing chamber toward the outer end of the chimney.

5. In a charcoal kiln, the combination with the firing chamber provided with a series of openings in its side wall disposed above the floor of the chamber, of a discharge chimney connected to the said chamber below the said series of openings, and a damper for controlling the flow through the chimney, the damper being provided with means for being moved by the pressure of the gas in the chamber so as not to obstruct the chimney.

6. In a charcoal kiln, the combination with the firing chamber provided with a series of openings in its side wall disposed above the floor of the chamber the said chamber floor rising upwardly from its periphery toward the center, of a chimney connected to the chamber below the said series of openings and extending upwardly to a height sufficient to produce the draft requisite for proper combustion in the chamber, and means for controlling the draft through the chimney.

7. In a charcoal kiln, the combination with the firing chamber provided with two series of openings in the wall thereof disposed one series above the other, the floor of the chamber rising from its periphery toward the center, of a chimney connected to the chamber below the lower series of openings and extending to a height sufficient to produce the draft requisite for the proper combustion in the chamber, and means for controlling the flow through the chimney.

8. In a charcoal kiln, the combination with the firing chamber provided with a series of openings in its wall disposed above the floor, of a chimney connected to the chamber below the said openings, a guard in the chamber protecting the inlet to the chimney, a damper for controlling the flow through the chimney, the damper being provided with means by which it is removed by pressure of gas from the chamber from obstructing the passage of gas through the chimney.

9. In a charcoal kiln, the combination with the firing chamber provided with a series of openings in its wall disposed above the floor of the chamber, of a chimney connected to the chamber below the said openings, a guard in the chamber for protecting the inlet of the chimney, and a damper adjustable transversely across the chimney passage and movable by pressure of gas from the chamber toward the chimney outlet.

10. In a charcoal kiln, the combination with the firing chamber provided with a series of openings in its wall, of a chimney connected to the chamber below the said openings, the chimney being provided with an enlarged portion provided with an outlet opening, a cover for said outlet opening, a damper movable in said enlarged portion transversely and lengthwise therein, and a guard protecting the inlet of the chimney in the said chamber.

11. In a charcoal kiln, the combination with the firing chamber provided with a series of openings in its wall, the floor of the chamber rising from its periphery toward the center thereof, of a chimney connected to the chamber below the said openings and discharging above the top of the chamber, a guard protecting the inner end of the chimney in the chamber, and a damper movable transversely across and lengthwise toward the chimney outlet in the chimney passage.

12. In a charcoal kiln, the combination with the firing chamber provided with two series of openings disposed one series above the other, the floor of the chamber rising from its periphery toward the center, of a receptacle disposed outside the said chamber, a conductor for gas leading from the chamber below the lower series of openings to the said receptacle, the receptacle being provided with an opening, a cover for said opening, a damper located in said receptacle and adapted to control the passage into the receptacle of gas from the conductor, the damper being movable by the pressure of the gas from the said conductor so as not to obstruct the passage of gas through the said conductor, and a conductor leading from the said receptacle to a plane above the said chamber.

13. In a charcoal kiln, the combination with the firing chamber provided with a series of openings around its wall, of a chimney connected to the chamber below the said openings, and a damper mounted so as to be slidable transversely across the chimney passage and mounted also so as to be swung by gas pressure from the chamber lengthwise of said passage.

14. In a charcoal kiln, the combination with the firing chamber provided with a series of openings in its wall, of a chimney connected to the chamber below the said openings, a guard extending from the floor of the chamber over the chimney inlet to the side wall of the chamber, and a damper mounted so as to be swung lengthwise in the chimney passage and adjustable transversely across the said passage.

15. In a charcoal kiln, the combination with the firing chamber provided above the floor with suitable air inlet openings, of a receptacle located outside the chamber and provided with an inlet, an outlet and a lateral opening, a removable cover for the lateral opening, a conductor leading from the chamber below the said air inlet openings to the inlet opening of the receptacle, a conductor leading from the outlet opening of the receptacle to a point higher than said chamber, and a damper mounted in said receptacle and movable transversely across the inlet opening thereof and pivotally mounted so as to swing away from the inlet opening of the receptacle.

16. In a charcoal kiln, the combination with the firing chamber provided with a series of suitable inlet openings for air, of a receptacle located outside the chamber and provided with an inlet, an outlet and a lateral opening, a removable cover for the lateral opening, a conductor leading from the chamber below the air inlet openings therein to the inlet opening of the receptacle, a guard in the chamber extending over the inlet opening of said conductor, a conductor leading from the outlet opening of said receptacle to a point higher than the chamber, and a damper mounted in said receptacle and movable transversely across the inlet opening thereof and pivotally mounted so as to swing away from said inlet opening of the receptacle.

17. In a charcoal kiln, the combination with the firing chamber provided with a floor rising from the periphery of the chamber towards its center and having suitable air inlet openings disposed above the said floor in the side wall of the chamber, of a chimney connected with the chamber below the air inlet openings and extending to a sufficient height to produce a draft requisite for proper combustion in the chamber, a guard in the chamber extending over the inlet to the chimney, a lateral opening in the chimney, a cover therefor, and a damper adjustable transversely across the chimney passage and pivotally mounted so as to be swung lengthwise in the chimney.

18. In a charcoal kiln, the combination with the firing chamber provided with suitable air inlet openings, of an upwardly projecting chimney disposed outside of and extending higher than the said chamber, a horizontal conductor disposed lower than the floor of the chamber and having upwardly extending ends, one end being connected to the chamber below the said air inlet openings, and the other end being connected to the lower end of the chimney, a guard in the said chamber extending over the open end of the said horizontal conductor, a receptacle forming part of the said conductor and having an opening in its top, a cover for said opening in the receptacle, and means for controlling the flow of gaseous products through said conductor.

19. In a charcoal kiln, the combination with the firing chamber provided with two series of air inlet openings disposed one series above the other, the floor of the chamber being higher in the center than at the periphery of the chamber, of an upwardly extending chimney projecting higher than the chamber, a horizontal conductor disposed lower than the chamber floor and connecting at one end with the chamber below the lower series of air inlet openings and connecting at the other end with the lower end of the chimney, a guard in the chamber extending over the open end of the said conductor, a receptacle forming part of said conductor and having an opening in the top, a cover for said opening, and a damper transversely movable in said receptacle for controlling the draft therethrough and mounted so as to be swung by gas pressure in the conductor to a position in which the passage of the gas through the conductor will not be obstructed.

20. In a charcoal kiln, the combination with the firing chamber provided with suitable inlet openings for air, of a vertical chimney disposed outside the said chamber and extending higher than the said chamber, the chimney comprising a series of tubular sections disposed vertically adjacent sections being fitted one in the other, a vertical framework provided with a series of transverse braces disposed one above the other and each brace embracing the said chimney, a conductor disposed lower than the floor of the chamber and connected at one end thereto below the air inlet openings, and connected at the other end to the lower end of the chimney, and a damper adjustable transversely across the conductor passage and movable lengthwise therein by the pressure of gas passing therethrough.

21. In a charcoal kiln, the combination with a firing chamber provided with two horizontal series of air inlet openings disposed one series above the other, the floor of the chamber rising from the periphery toward the center of the chamber, of an external chimney of tiling disposed vertically, a framework supporting the said chimney, and a conductor connected at one end to the lower end of the chimney and at the other end to the said chamber below the lower series of openings.

22. In a charcoal kiln, the combination with a firing chamber provided with two horizontal series of air inlet openings disposed one series above the other, of an external chimney of tiling disposed vertically, a framework supporting said chimney, a conductor leading from the said chamber below the lower series of air inlet openings to the lower end of said chimney, a receptacle forming a part of said conductor and having an opening in the top, a cover for said opening, and a damper adjustable transversely in said receptacle for obstructing more or less the passage of gas therethrough and mounted so as to be swung by the pressure of the gas to a position in which the passage of gas will be unobstructed.

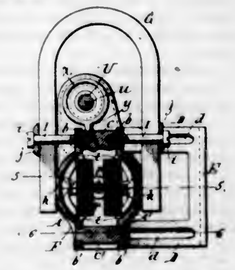
23. In a down draft charcoal kiln, the combination with the oven body, of an exterior stack, a smoke passage leading downward from the oven to said stack, and a damper for controlling the draft through said passage and movable by an excess of gas pressure in said oven so as not to obstruct the passage of gas through said passage.

24. In a down draft charcoal kiln, the combination with the oven body, of an exterior stack, a smoke passage leading downward from said oven to said stack and having a housing forming a part of said passage, and a damper mounted in said housing and movable by an excess of gas pressure in said oven to a position in which it will not obstruct the passage of gas through said passage.

25. In a down draft charcoal kiln, the combination with the oven body, of an exterior stack, a smoke passage leading downward from said oven to said stack and having a housing forming a part of said passage, the said housing having a lateral opening and means by which said opening may be closed, and a damper mounted in said housing.

26. In a down draft charcoal kiln, the combination with the oven body having an air inlet, of a stack exterior of said oven body, a smoke passage leading from said oven below said air inlet to said stack, a guard in said oven over said passage, a housing forming a part of said passage and provided with a lateral opening having a removable closure therefor, and a damper mounted in said housing.

865,068. ELECTRIC GENERATOR. KLAS WEMAN and ALFRED LARSSON, Buffalo, N. Y. Filed May 21, 1906. Serial No. 317,912.



1. An electric generator having two pole pieces, and supporting brackets for one of said pole pieces formed integrally therewith and at opposite ends thereof from sheet metal and each bracket having arms projecting laterally from the pole piece on opposite sides of its longitudinal center, substantially as set forth.

2. An electric generator having front and rear pole pieces each of which is provided on opposite sides with longitudinal flanges, pillars connecting the flanges of one pole piece with the flanges of the other pole piece, pairs of legs projecting laterally from the opposite ends of the flanges of the rear pole piece and each having a longitudinal stiffening rib, and feet connecting the legs of each pair and projecting outwardly in the direction of the length of the pole pieces, said front pole piece being formed out of one sheet of iron and said rear pole piece being formed integrally with said legs, ribs and feet of another sheet of iron, substantially as set forth.

3. An electric generator having two sheet metal curved pole pieces each of which is provided with a longitudinal flat face on the central part of its convex outer side for engagement with a magnet, and with indentations on its concave inner side on opposite sides of the longitudinal center of the pole piece, substantially as set forth.

4. An electric generator having two segmental pole pieces arranged concentrically opposite each other, and armature supporting plates constructed of sheet metal and each extending across a pair of corresponding ends of the pole pieces and provided with an annular row of inwardly bent or indented projections or ribs which have their outer ends arranged concentrically and engaged with the bore of said pole pieces, substantially as set forth.

5. An electric generator having two segmental pole pieces arranged concentrically opposite each other, an armature rotatable between said pole pieces and mounted on a concentric shaft, end plates arranged at opposite ends of the pole pieces and provided with bearings in which said shaft is journaled, and an annular series of radial projections or ribs arranged on the inner side of each end plate and having their outer ends concentric with its bearing and fitting the bore of the adjacent ends of the pole pieces, said end plates being constructed of sheet metal and the projections or ribs being formed integrally thereon by pressing the plates inwardly, substantially as set forth.

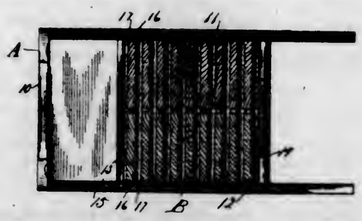
6. An electric generator having two pole pieces arranged opposite each other, sheet metal end plates arranged at opposite ends of said pole pieces, an armature rotatable between said pole pieces and mounted on a shaft which is journaled in bearings on the lower part of said end plates, a driving shaft journaled in bearings in the upper part of said end plates and operatively connected with said armature shaft, and indented annular stiffening ribs ar-

ranged on said end plates concentric with said driving shaft bearings, substantially as set forth.

7. An electric generator having two pole pieces arranged opposite each other, sheet metal end plates arranged at opposite ends of said pole pieces, an armature rotatable between said pole pieces and mounted on a shaft which is journaled in bearings on the lower part of said end plates, a driving shaft journaled in bearings in the upper part of said end plates and operatively connected with said armature shaft, indented annular stiffening ribs arranged on said end plates concentric with said driving shaft bearings, and an indented radial stiffening rib extending downwardly from the annular rib of each end plate, substantially as set forth.

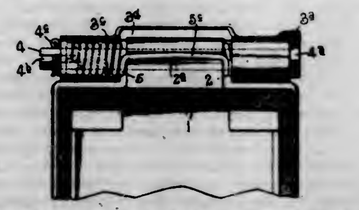
8. An electric generator having two pole pieces arranged opposite each other, an armature rotatable between said pole pieces, a shaft upon which said armature is mounted, sheet metal end plates arranged at opposite ends of the pole pieces and each having a cylindrical socket drawn outwardly on the same and terminating at its outer end in an internal annular flange, and bushing bearings in which said shaft is journaled and each of which consists of a cylindrical inner part arranged in one of said sockets, a contracted outer part arranged within the flange of said socket and forming a shoulder which bears against the inner side of said flange, and a rivet head arranged at the outer end of the contracted part of said bushing bearing and engaging with the outer side of said flange, substantially as set forth.

865,069. LAUNDRY DEVICE. ARCHIBALD R. WILSON, Chicago, Ill. Filed Mar. 4, 1907. Serial No. 360,608.



In a laundry device the combination with a frame, of a plurality of rollers pivoted thereto, substantially one-half of each roller having a right hand spirally corrugated face and substantially one-half of each roller having a left hand spirally corrugated face, said rollers being arranged so that similar spirally corrugated faces lie in juxtaposition.

865,070. JOURNAL-BOX LID. ADOLPH WISSLER, St. Louis, Mo., assignor to Leo Ehrlich, St. Louis, Mo. Filed Sept. 24, 1906. Serial No. 335,908.



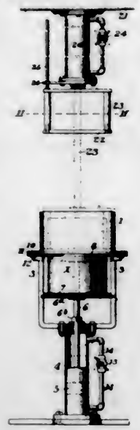
1. The combination of a car axle box provided with a lug to receive a transversely disposed pintle, a pintle in said lug, a lid hinged to said pintle, and a spring having a straight portion which extends parallel to the pintle behind the lug and is adapted to be engaged by a portion on the lid to hold the lid open; substantially as described.

2. The combination of a car axle box having a slotted lug thereon, a lid, a pintle pivotally connecting the lid with said lug, and a spring mounted on the pintle and having a portion entering said slot for engagement with the lid in its raised position; substantially as described.

3. The combination of a car axle box having a lug thereon, a pintle passing through said lug, a lid hinged to said pintle and provided with means to prevent independent rotation of said pintle, a spring having its ends coiled around said pintle on each side of said lug and having a connecting portion bridging said lug, and means on the lid for engaging the connecting portion of the spring when said lid is raised; substantially as described.

4. The combination of a car axle box having a lug thereon, a pintle arranged in said lug, said pintle having a head at one end and a slot in the opposite end, a lid mounted on said pintle and having a projection for engagement with the head on said pintle, a spring having its ends coiled around the pintle on each side of the lug, said coiled portions being connected together by a piece bridging the lug, and one end of one of said coiled portions engaging the slot in the end of the pintle, and a cotter pin in the slotted end of the pintle for holding said pintle against longitudinal movement after the tension of the spring has been adjusted, there being a lip on the lid for engagement with the connecting portion of the spring when the lid is raised; substantially as described.

865,071. MOLDING-MACHINE. WILLIAM H. WOOD, Allegheny, Pa. Filed May 3, 1906. Serial No. 315,003.



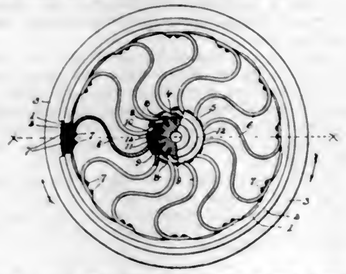
1. In a molding machine, a lower power cylinder, a flask supported thereby, a pattern plate carried by the piston of said cylinder, a stripper plate forming the bottom of the flask and having an opening corresponding in contour to that of the pattern to be molded, an upper power cylinder, and a presser plate carried by the piston of said cylinder and arranged to enter the flask; substantially as described.

2. A molding machine having a flask support, a double-acting power cylinder above the support, a double-acting power cylinder below the support, a presser plate actuated by the upper power cylinder and arranged to enter the flask from the top, and a head carried by the piston of the lower cylinder, arranged to carry a pattern through the bottom of the mold; substantially as described.

865,072. VEHICLE-WHEEL. IRA ABBOTT, Wyandotte, Mich. Filed Jan. 7, 1907. Serial No. 351,040.

1. In a vehicle wheel, the combination with a rim and a hub, of outwardly extending flanges on the hub forming a groove between, S-shaped springs secured at their outer ends to the rim and having their inner ends overlapped within the groove, and bolts passing through the overlapped ends of the springs to secure the same to the hub.

2. In a vehicle wheel, the combination with a rim and a hub, of a series of S-shaped springs secured to the rim at their outer ends and each having an end portion to seat upon the hub and an offset adjacent to said portion to seat upon the end portion of the next adjacent spring, and bolts extending through openings in the end portions and offset portions to secure the ends to the hub.



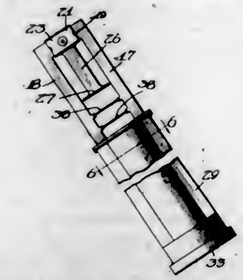
3. In a vehicle wheel, the combination with a rim and a hub, of outwardly extending parallel flanges on the hub forming a groove between, a series of S-shaped springs secured at their outer ends to the rim and formed at their inner ends with end portions to fit between the flanges and seat upon the bottom of the groove, said end portions being provided with slots extending inward from their ends and said springs being each also formed with an outward offset adjacent to its end portion to seat upon the end portion of the next adjacent spring and formed with a hole opposite the slot in said end of said adjacent spring, and bolts passing through said holes and slots and engaging screw-threaded openings in the hub.

865,073. FONT OF MATRICES. JEROME B. BELL, Wilmington, Del. Filed Sept. 13, 1906. Serial No. 334,533.



As an improvement in matrices for linotype machines, a font of matrices comprising not exceeding four groups, the matrices of each of said groups being of uniform body width throughout, the body widths of the respective groups being different from each other and being multiples of the body width of the group having the smallest bodies, for the purpose set forth.

865,074. METHOD AND APPARATUS FOR PLACING INSERTS IN CAKES OF SOAP. WASHINGTON BERRY, Chicago, Ill. Filed May 21, 1906. Serial No. 317,926.



1. In a soap mold, the combination with a tube having longitudinal slots therein, a support adapted to slide within said slots, and a plurality of insert-supporting means carried by said support.

2. In a soap mold, the combination with a tube having oppositely disposed longitudinal slots therein, a support adapted to slide within said slots, and a plurality of insert-supporting means carried by said support.

3. In a soap mold, the combination with a tube having longitudinal slots therein, a separable support adapted to slide within said slots, and a plurality of insert-supporting means carried by said support.

4. In a soap mold, the combination with a tube having oppositely disposed longitudinal slots therein, a separable support adapted to slide within said slots, and a plurality of insert-supporting means carried by said support.

5. In a soap mold, the combination with a tube having oppositely disposed longitudinal slots therein, a sectional support adapted to slide within said slots, and a plurality of insert-supporting means carried by said support.

6. In a soap mold, the combination with a tube having oppositely disposed longitudinal slots therein, a sectional support adapted to slide within said slots, and a plurality of insert-supporting means carried by said support, and removable means for holding said sections together.

7. In a soap mold, the combination with a tube having oppositely disposed longitudinal slots therein, a sectional support adapted to slide within said slots, and a plurality of insert-supporting means carried by said support, and removable means for holding said sections together, said means comprising a plate provided with downwardly extending flanges.

8. In a soap mold, the combination with a tube having oppositely disposed longitudinal slots therein, a sectional support adapted to slide within said slots, and a plurality of insert-supporting means carried by said support, and removable means for holding said sections together, said means comprising a plate provided with downwardly extending flanges, said flanges being adapted to slide within slots formed in the upper and opposite ends of said frame.

9. In a soap mold, the combination with a tube, of oppositely disposed longitudinal slots or pockets opening into said tube, a supporting frame adapted to slide within the said pockets, oppositely disposed insert supports secured to said first-named frame, a series of inserts held by said supports, and a plunger or deflector arranged above said inserts.

10. In a soap mold, the combination with a tube, of oppositely disposed longitudinal slots or pockets opening into said tube, a supporting frame adapted to slide within the said pockets, oppositely disposed insert supports secured to said first-named frame, a series of inserts having metallic edges held by said supports, and a plunger or deflector arranged above said inserts.

11. In a soap mold, the combination with a tube, of oppositely disposed longitudinal slots or pockets opening into said tube, a supporting frame adapted to slide within the said pockets, oppositely disposed insert supports secured to said first-named frame adapted to receive and hold a series of thin inserts provided with metallic edges, and a deflector or plunger secured to said frame.

12. In a soap mold, the combination with a tube, of oppositely disposed longitudinal slots or pockets opening into said tube, a supporting frame adapted to slide within the said pockets, oppositely disposed notched insert supports secured to said first-named frame, a series of inserts held by said supports, and a plunger or deflector arranged above said inserts.

13. In a soap mold, the combination with a tube, of oppositely disposed longitudinal slots or pockets opening into said tube, a supporting frame adapted to slide within the said pockets, oppositely disposed notched insert supports secured to said first-named frame, a series of inserts having metallic edges held by said supports, and a plunger or deflector arranged above said inserts.

14. In a soap mold, the combination with a tube, of oppositely disposed longitudinal slots or pockets opening into said tube, a supporting frame adapted to slide within the said pockets, oppositely disposed notched spring insert supports secured to said first-named frame, a supporting frame adapted to receive and hold a series of thin inserts provided with metallic edges, and a deflector or plunger secured to said frame.

15. The improved process of manufacturing soap with

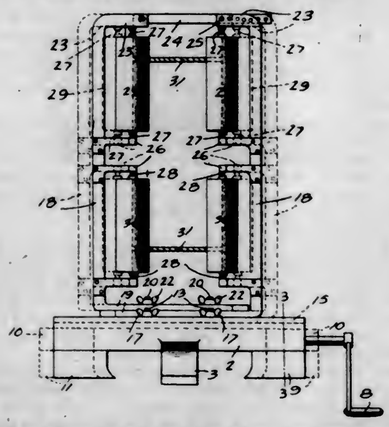
inserts, comprising the spacing of inserts in a suitable frame, the placing of said frame and inserts in a mold tilted at an angle from the perpendicular, the turning of soap into said mold, allowing said soap to harden, the forcing of the frame, soap-bar and inserts from said mold, the separation of said frame from the bar, the subjecting of the sides of said bar to pressure to fill up the openings left therein by said insert supports, the further subjecting of the sides of said bar to a smoothing operation, and the separation of said bar into cakes, each cake containing an insert.

16. The improved process of manufacturing soap with inserts, comprising the spacing of inserts in a suitable frame, the placing of said frame and inserts in a mold tilted at an angle from the perpendicular, the turning of soap into said mold, allowing said soap to harden, the forcing of the frame, soap-bar and inserts from said mold, the separation of said frame from the soap bar and core, the subjecting of the sides of said bar to pressure to fill up the openings therein left by the insert supports, the further subjecting of the sides of said core to a smoothing operation, and the separation of said bar into cakes, each cake containing an insert provided with a metallic edge.

17. The combination with a longitudinally slotted tube, a support adapted to slide within the slots therein, insert supporting means carried by said support, and a series of inserts held by said supporting means.

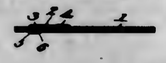
18. The combination with a longitudinally slotted tube, a support adapted to slide within the slots therein, insert supporting means carried by said support, and a series of thin metallic-edged inserts held by said supporting means.

865,075. BELT-HOLDER. REINER BRAUN, Glen Ullin, N. D. Filed May 23, 1907. Serial No. 375,350.



A belt holder of the type set forth, comprising standards, alined bearings provided thereon, pulleys having their trunnions journaled in said bearings, means for mounting said standards on a stationary object, the upper ends of said standards being spaced away, and a displaceable bridge member carried at the upper end of one of said standards and designed for detachable engagement with the upper end of the other of said standards.

865,076. CLOSURE FOR MILK AND CREAM BOTTLES OR JARS. EDWARD BRAUNFELDT, Brooklyn, N. Y. Filed Feb. 7, 1907. Serial No. 356,224.



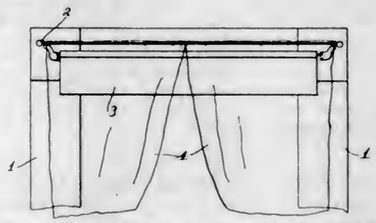
1. A bottle or jar closure comprising a comparatively thin closure and an extractor consisting of a flexible thin sheet metal shank having an enlarged head, and a pointed end adapted to penetrate said closure from its upper to its under side and to be clenched thereto, substantially as described.

2. A bottle or jar closure provided with an extractor consisting of a flexible thin sheet metal shank having a pointed prong at one end passing through the closure and clenched thereto on the under side of the closure, substantially as described.

3. A bottle or jar closure provided with an extractor consisting of a flexible metal shank having an enlarged head at one end and a prong at the other end passing through the closure from its upper to its under side and bent upward to penetrate the closure from its under side and terminating below the top of the closure, substantially as described.

4. A bottle or jar closure provided with an extractor consisting of a flexible shank having a prong passing through the closure at a single point from its upper to its under side and clenched to the under side of the closure, substantially as described.

865,077. COMBINED WINDOW-SHADE AND CURTAIN-ROD SUPPORTING BRACKET. EDWIN L. BROWN, Minneapolis, Minn. Filed May 25, 1907. Serial No. 375,634.



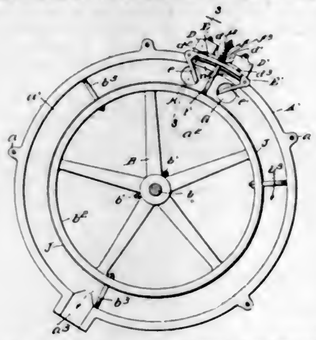
1. In a device of the kind described, the combination with a supporting bar, of a pair of brackets slidably mounted thereon and provided with hinged outer end sections, the inner portions of which brackets are adapted to support a shade roller and the outer of which portions are adapted to support a curtain rod, substantially as described.

2. In a device of the kind described, the combination with a supporting bar which is angular in cross section, of a pair of brackets, each made up of two sections connected by a hinge, the inner sections of which brackets are provided with pronged ends having angular perforations adapting them to slide on said supporting rod and having seats for the reception of the trunnions of a shade roller, and the hinged outer sections of said brackets having projecting pins adapted to be passed through perforations in the curtain rod, substantially as described.

3. In a device of the kind described, the combination with a bar 16 which is angular in cross section and is adapted to be secured to a window casing, of bracket sections 5 having pronged inner ends 8 formed with angular perforations 9 adapting them to slide upon said bar 16, one of said sections 5 having a perforation 14, and the other having a notch 15, and both of said sections 5 having stop fingers 10 and 11, and outer sections 6 connected to said sections 5 by hinges 7 and working between said stop fingers 10 and 11 and provided at their free ends with pins 13 adapted to be inserted through perforations of a curtain rod, substantially as described.

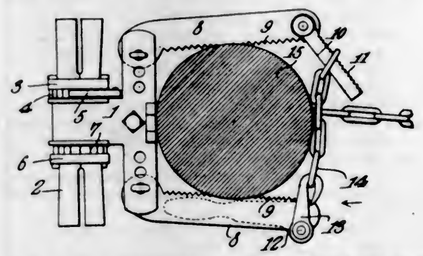
865,078. HYDRAULIC MOTOR. THOMAS P. BULLARD, Richmond, Va. Filed Dec. 13, 1906. Serial No. 347,711.

In a motor, a casing having an annular passage, an exit at one side and a pair of inlets at the opposite side, a radial abutment between these inlets, a wheel carrying radial pistons working in the annular passage in the casing, a finger or arm pivoted to the casing at each side of the abutment and inclining inwardly toward the abutment, each finger being provided with an arm extending across the top of the abutment, said arms lying parallel with each other, a bar and means for resiliently pressing



it upon the upper sides of these arms, and means operated by the rise of said arms to automatically close the inlets.

865,079. WIRE-STRETCHER. LUCIEN A. BUTTS, Russell, Iowa. Filed Feb. 12, 1907. Serial No. 357,020.



1. In a wire stretcher having movable side arms for engagement with a supporting object, a means for drawing said arms together comprising a bar attached to one of the arms, a lever fulcrumed at its ends to the other arm, a hook pivoted to said lever at an intermediate point thereof and a chain linked to said hook and adapted to engage said bar.

2. In a wire stretcher having movable side arms for engagement with a supporting object, a bar pivoted to one of the side arms and having a serrated edge, a lever fulcrumed to the other side arm, a hook pivoted to said lever at a point between its fulcrum and its end and a chain linked to said hook and adapted to engage said bar.

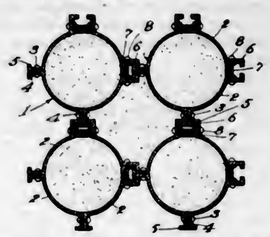
3. In a wire stretcher having movable side arms for engagement with a supporting object, a bar pivoted to one of the side arms and having a serrated edge, a lever fulcrumed at its end to the end of the other side arm, a hook pivoted upon said lever at a point between its free end and its fulcrum and a chain linked into said hook and adapted to engage said bar.

865,080. BUILDING CONSTRUCTION. RAPHAEL R. CANDEE, Bakersfield, Cal. Filed May 24, 1906. Serial No. 318,471.

1. A building construction comprising a plurality of cylinders severally consisting of sectional members joined together and having a reinforcing beam extending in perpendicular alinement with the joint.

2. A building construction comprising a plurality of cylinders joined together, severally consisting of sectional members having flanged extensions, a beam within the space formed by said flanged portions, and means for securing said beam therein.

3. A building construction comprising a plurality of hollow body portions severally consisting of sectional members joined together and having a reinforcing member extending in line with the joint.



4. A building construction comprising a plurality of columns joined together, severally consisting of sectional members joined together and forming a lock for adjacent groups of columns, the point of jointure of adjacent columns being free to receive concrete.

5. A plurality of columns severally consisting of individual sections joined together and forming a lock for each other, and a spacer in line with the joint.

6. A building construction comprising a plurality of cylinders severally consisting of flanged plates joined together, and a reinforcing member in line with the joint.

7. A building construction comprising a plurality of hollow body portions joined together, said body portions consisting severally of curved members joined together, part of which are spaced.

8. A building construction comprising a plurality of hollow bodies severally consisting of sectional members joined together, part of said sectional members being spaced to receive a spacer.

9. A building construction comprising a plurality of hollow bodies joined together, severally consisting of curved plates of varying sizes joined together.

10. A building construction comprising a plurality of hollow bodies severally consisting of sectional flanged members of varying sizes joined together.

11. A building construction comprising a plurality of hollow bodies severally consisting of sectional members of varying sizes joined together, part of said sections being spaced.

12. A building construction comprising a plurality of hollow bodies severally consisting of sectional curved plates of varying sizes joined together.

13. A building construction comprising a plurality of hollow bodies severally consisting of sectional plates of varying sizes joined together, and having a reinforcement in line with the joint.

14. A building construction comprising a plurality of hollow bodies severally consisting of sectional members of different sizes joined together to form a lock for adjacent groups of columns, and means for spacing the individual sections to receive a filler.

15. One or more hollow bodies joined together, severally consisting of plates of unequal sizes, means for securing said plates together, and a spacer in line with the joint of the individual sections.

16. A plurality of hollow bodies severally consisting of sectional curved plates of unequal sizes, the continuity of the curvature of said sections being interrupted by a flange, a spacer in line with the flange, and means for securing the sections together.

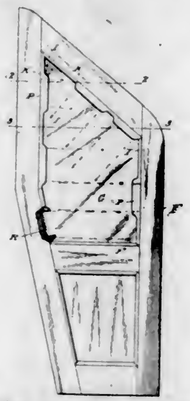
17. A plurality of curved sectional body portions joined together, and a spacer in line with the joint.

18. A plurality of hollow bodies consisting severally of sectional curved plates of unequal sizes, means for securing the sections together, and a reinforcing member in line with the joint.

19. A building construction comprising a plurality of columns joined together, severally consisting of sectional curved members joined together, the joined portion forming a lock for adjacent groups of columns, and the point of jointure of adjacent columns being free to receive concrete or other plastic substance.

20. A building construction comprising a plurality of columns joined together, severally consisting of sectional curved members joined together, the joined portion forming a lock for adjacent groups of columns, a spacer in line with the joint, the point of jointure between said spacer and curved members being free to receive concrete or other plastic substances.

865,081. CONDENSATION-PREVENTER. EDWY O. CAPEN, Buffalo, N. Y. Filed Oct. 16, 1906. Serial No. 339,167.



1. A condensation preventer consisting of a pane of glass and its frame, and openings in the latter next the pane for admitting the external air which strikes the outer face of the glass and directing it from the sides and across its inner face in jets which are out of alinement with each other.

2. A condensation preventer consisting of a pane of glass and its frame, and openings in the latter next the pane for admitting the external air which strikes the outer face of the glass and directing it from the top edge downward over its inner face and from the two upright edges inward over its inner face in jets arranged in staggered relation to each other.

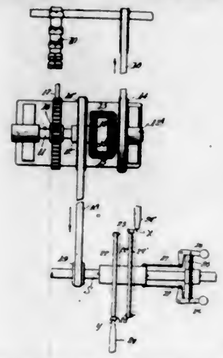
3. A condensation preventer consisting of a pane of glass, a frame surrounding its edges and having recesses at certain points next said edges, and the outer and inner beadings holding the glass in the frame and cut away at points to communicate with said recesses, the recesses in the side bars of the frame being located out of horizontal alinement with each other, for the purpose set forth.

4. A condensation preventer consisting of a pane of glass, a frame surrounding its edges and having recesses at certain points next said edges, and the outer and inner beadings holding the glass in the frame and cut away at points to communicate with said recesses, the inner beading being wider than the outer beading, for the purpose set forth.

5. A condensation preventer consisting of a pane of glass and its frame, and openings in the latter next the pane for admitting the external air which strikes the outer face of the glass and directing it from the sides across its inner face, and additional openings branching from said first-mentioned openings next the inner face of the pane for directing the inflowing air into the corners of the window, for the purpose set forth.

6. A condensation preventer consisting of a pane of glass, a frame surrounding its edges and having recesses at certain points next said edges, the outer and inner beadings holding the glass in the frame and cut away at points to communicate with said recesses, projections on the inner beading at the points where it is cut away, and kerfs in the inner beading next the glass leading from the cut-away portion therein and directed toward the corners of the pane, as and for the purpose set forth.

865,082. GOVERNOR. ELMER F. CASSEL, Seattle, Wash. Filed Mar. 6, 1906. Serial No. 304,562.



1. A governor comprising a reversible reversely governed auxiliary motor, and means for varying the power applied to the element to be governed in proportion to the differences of speed occurring between said governed and said auxiliary motor.

2. A governor comprising an auxiliary motor, means for driving the same, means for varying the power applied to a prime mover in proportion to the differences in speed occurring between the auxiliary motor and the prime mover, and means for counteracting any tendency of the prime mover to drive the auxiliary motor.

3. A governor comprising an auxiliary motor, means for driving the same, means for maintaining said auxiliary motor at a uniform speed under normal conditions, means for varying the power applied to a prime mover in proportion to the differences of speed occurring between the auxiliary motor and the prime mover, and means for counteracting any tendency of the prime mover to drive the auxiliary motor.

4. A governor comprising an auxiliary motor, means for driving the same, means for varying the power applied to a prime mover in proportion to the differences in speed occurring between the auxiliary motor and the prime mover, and means for applying power in opposite directions to said auxiliary motor to counteract any tendency to govern the speed of said auxiliary motor.

5. A governor comprising a reversible auxiliary motor, reversely operated means for maintaining said motor at a uniform speed of rotation, and means for varying the power applied to the element to be governed in proportion to the differences in speed occurring between said governed element and said auxiliary motor.

6. A governor comprising an auxiliary motor provided with reversely operated buckets, means for moving said buckets into and out of their respective lines of impact, and means for varying the power applied to the element to be governed in proportion to the differences in speed between said governed element and said auxiliary motor.

7. A governor comprising an auxiliary motor provided with two members each having buckets arranged to be reversely operated, means for moving said buckets into and out of their respective lines of impact, and means for varying the power applied to the element to be governed in proportion to the differences in speed between said governed element and said auxiliary motor.

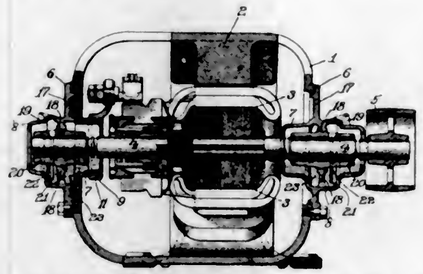
8. A governor comprising an auxiliary motor formed of a pair of disks provided with a common hub, each disk being provided with buckets arranged to be reversely operated, means for moving said buckets into and out of their respective lines of impact, and means for varying the power applied to the element to be governed in proportion to the differences in speed between said governed element and said auxiliary motor.

9. A governor comprising an auxiliary motor, means for driving the same, a planetary gear connected with said auxiliary motor and also with the element to be governed, means controlled by said planetary gear for regulating the power applied to the element to be governed, and means for counteracting any tendency of the governed element to drive the auxiliary motor through said planetary gear.

10. A governor comprising a reversible reversely governed auxiliary motor, a planetary gear connected with said motor and also with the element to be governed, and means controlled by said planetary gear for regulating the power applied to the element to be governed.

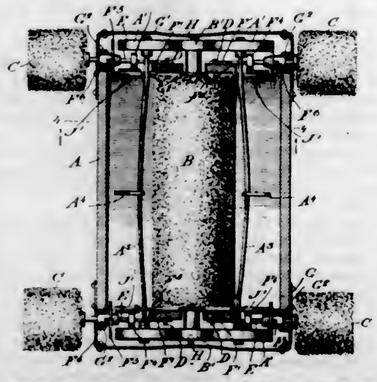
11. A governor comprising an auxiliary motor provided with reversely operated buckets, means for moving said buckets into and out of their respective lines of impact, a planetary gear connected with said motor and also with the element to be governed, and means controlled by said planetary gear for regulating the power applied to the element to be governed.

865,083. LUBRICATING MECHANISM. NIELS A. CHRISTENSEN, Milwaukee, Wis. Filed Apr. 11, 1901. Serial No. 55,388.



In an electric machine, an armature shaft bearing comprising a removable end plate 17 secured to the frame of the machine and having a central casing 7, 8, projecting laterally on both sides to receive and contain oil, said casing having a support 18 arranged outwardly beyond the plane of the plate and provided with a transverse opening for the passage of the oil from one end of the casing to the other, a bushing 20 mounted within said support and provided with a slot at a point outwardly from the latter, and a ring arranged in said slot and depending into the lower end of the casing.

865,084. CARPET-SWEEPER. CHARLES J. DEITCH and OSCAR L. BIDDLE, Elkhart, Ind., assignors of one-third to Missouri N. Knell, Elkhart, Ind. Filed Feb. 16, 1907. Serial No. 357,691.



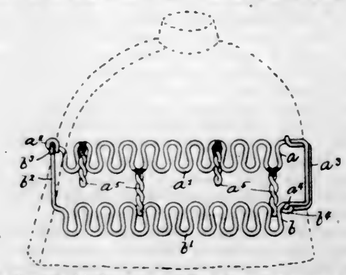
1. In a carpet sweeper, a wheeled casing, a main brush, corner brushes at right angles to the main brush, shafts upon which said corner brushes are mounted, slidable brackets in which said shafts are journaled, friction disks carried by the shafts adapted to be brought into engagement or removed from engagement with the sweeper wheels as the brackets are shifted, means connected with the casing for shifting said brackets to bring said disks alternately into such engagement as the sweeper is moved in opposite directions, and a bail having a handle and connected with said shifting means to move the sweeper and shift the brackets.

2. The combination with a wheeled casing, a main brush, supplemental brushes at right angles to the main brush, movable brackets at the ends of the casing, shafts supporting the supplemental brushes, and journaled in said brackets, friction disks carried by said shafts and adapted to engage the wheels of the casing, pivoted levers adapted to shift said brackets, the levers shifting the brackets at each end of the casing in opposite directions, a link connecting each set of levers, a bail having its ends mounted in said links and a handle connected to the bail as and for the purpose set forth.

3. In a carpet sweeper of the kind described, a casing, wheels supporting said casing, a main brush, a bracket having a central cut out portion, the apex of the bracket being slotted, and extended to form a hook member, a bearing box formed in the apex of the bracket, a shaft having its inner end journaled in said bearing box, a supplemental brush mounted upon the said shaft, a friction disk mounted upon the shaft in proximity to one of the wheels and within the cut out portion of the bracket, a rod carried by the casing and extending into the slot of the bracket, a lever pivoted intermediate its ends upon the end of the casing, the lower end of said lever engaging the hook member of the bracket to shift the disk into and out of engagement with said wheel, a bail, a handle connected to said bail and means connecting the bail to said lever as and for the purpose set forth.

4. In a carpet sweeper having a main brush and supplemental corner brushes at right angles to said main brush, said sweeper being supported upon wheels, sliding brackets carried at each end of the casing, shafts upon which said supplemental corner brushes are mounted, said shafts journaled in the sliding brackets, friction disks carried by said shafts to engage the wheels of the sweeper, pivoted levers engaging the brackets, links connecting the upper ends of the levers, and a bail having its ends pivoted in said links as and for the purpose set forth.

865,085. BROOM-BINDER. NAPOLEON DIONNE, Bradford, Mass., assignor to Archie Le Clair, Haverhill, Mass. Filed Mar. 25, 1907. Serial No. 364,415.

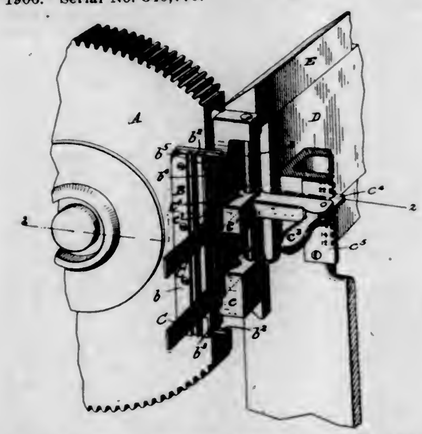


1. A broom binder comprising two clamping sections pivotally connected at one end and having locking means at their opposite ends each section being composed of a continuous length of wire bent to provide a series of oppositely and alternately disposed loops arranged in approximately parallel planes to provide clamping faces, the faces of one of said sections being substantially continuous and the other section having a series of holding projections adapted to extend closely adjacent the opposite clamping face, substantially as described.

2. A broom binder comprising two clamping sections

pivotally connected at one end and having locking means at their opposite ends, each section being composed of a continuous length of wire bent to provide a series of oppositely and alternately disposed loops arranged in approximately parallel planes to provide clamping faces, the faces of one of said sections being substantially continuous, a plurality of the loops of the other section having the portions of the wire of which they are formed extended beyond the end of said loops at right angles to the plane thereof and twisted together to provide rigid projecting fingers, said fingers being adapted to extend adjacent the face of the opposite section, substantially as described.

865,086. LINOTYPE-MACHINE. PHILIP T. DODGE, Washington, D. C., assignor to Mergenthaler Linotype Company, a Corporation of New York. Filed Oct. 26, 1906. Serial No. 340,770.



1. In a linotype machine, a slotted mold variable in length, an ejector variable in width, and connecting means to insure like adjustment of the mold and ejector.

2. In a linotype machine, a mold variable in length, an ejector variable in width, and common means for adjusting the ejector and the mold.

3. In a linotype machine, a mold provided with a slotted liner, an ejector blade, a movable guide for the latter, means combined with the ejector blade for effecting the longitudinal adjustment of the liner.

4. In a linotype machine, a mold having a longitudinal liner, in combination with the adjusting means movable transversely into engagement with the liner at the rear, and thereafter movable in the direction of the length of the liner to cause the adjustment of the latter.

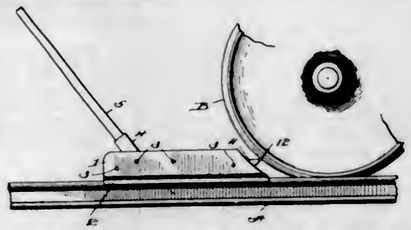
5. In a linotype machine, in combination with the sliding mold liner b^4, the longitudinally and laterally movable ejector blade C′ and finger c^2 arranged to engage the liner.

865,087. CAR-MOVER. JAMES R. DOTY, Knoxville, Tenn. Filed Mar. 28, 1907. Serial No. 365,012.

1. A car mover, comprising spaced side sections, a pivoted wheel dog arranged therebetween, a member loosely engaging said wheel dog to rock the same on its pivot, a lever loosely engaging said last named member, and a pivoted member adapted for engagement with a rail to prevent a rearward movement of the device, substantially as described.

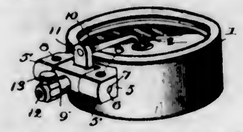
2. A car mover comprising spaced side sections, a pivoted wheel dog arranged therebetween, a member loosely engaging said wheel dog to rock the same on its pivot and a lever loosely engaging said last named member.

3. A car mover of the type set forth comprising spaced side sections, a pivoted wheel dog arranged therebetween and having a rearward extension, a pivoted transmission member loosely engaging said rearward extension, to rock said wheel dog, a lever actuated element loosely engaging said pivoted member to actuate the same in its function, and a spring carried by said wheel dog for establishing a normal engaged relation between said rearward extension and said pivoted member.



4. A car mover, comprising spaced side sections, a pivoted wheel dog arranged therebetween, a member loosely engaging said wheel dog to rock the same on its pivot, a lever loosely engaging said last named member, and a gravity dog pivotally mounted between said sections and having a gripping edge adapted for engagement with a rail to prevent rearward movement of the device, substantially as described.

865,088. MOUNTING FOR THE STYLUS-BAR OF TALKING-MACHINES. LEON F. DOUGLASS, Philadelphia, Pa., assignor to Victor Talking Machine Company, a Corporation of New Jersey. Filed Mar. 8, 1906. Serial No. 304,910.



1. In a sound box for talking machines, a stylus bar, a support having arms fitting against opposite sides of said stylus bar and a torsional spring passing through said stylus bar and said arms.

2. In a sound box for talking machines a stylus bar, a support therefor, a torsional spring passing through said stylus bar and said support and means to prevent the stylus bar from moving in any direction except about the torsional spring as an axis.

3. In a sound box for talking machines the combination with a stylus bar of a support therefor, a torsional spring passing through said support and stylus bar, said support preventing said stylus bar from moving in any direction except about said spring as an axis.

4. In a sound box for talking machines the combination with a stylus bar, a support having arms fitting against opposite sides of said stylus bar, a torsional spring passing through said stylus bar and said arms and means to adjustably hold said spring in said arms and said stylus bar to said spring.

5. In a sound box a torsional spring, a stylus bar and a support engaging opposite sides of said stylus bar, said torsional spring being incased throughout its entire length by said stylus bar and said support.

6. In a sound box the combination with a stylus bar of a torsional spring passing through said stylus bar, and a fixed support for said spring, said support being provided with faces which snugly fit against the opposite sides of said stylus bar.

7. In a sound box a stylus bar, a mounting for said stylus bar comprising a U-shaped block having its extremities engaging opposite sides of said stylus bar, and a torsional spring passing through said block and through said stylus bar and rigidly confined within each of said parts.

8. In a sound box a stylus bar, a support, a torsional spring comprising a pin rigidly connected to said stylus bar at its central portion and having its outer ends rigidly mounted in said support, the torsional portion of said spring being in contact for its entire length with said stylus bar and support.

9. In a sound box the combination with a stylus bar of bearings therefor; a spring passing through said stylus bar and said bearings, means to secure said spring to said stylus bar and to said bearings, said stylus bar fitting snugly between said bearings.

10. In a sound box for talking machines the combination with a stylus bar of a support having arms engaging opposite sides of said stylus bar, a torsional spring comprising a wire passing through said arms and said stylus bar, means for holding said wire rigidly within said bearings and means for rigidly holding said stylus bar on said spring.

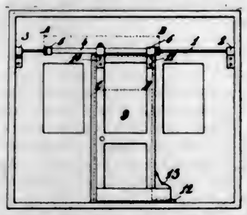
11. In a sound box for talking machines a stylus bar and a support therefor, said stylus bar and support being provided with alined openings and a torsional spring snugly fitting within said openings and means to secure said spring to said support and to said stylus bar.

12. In a sound box for talking machines a stylus bar, a support engaging opposite sides of said stylus bar, said stylus bar and support being provided with alined circular openings, a round torsional spring inserted within said openings and snugly fitting the same, means to rigidly secure the ends of said spring within said support and means to secure said stylus bar to said spring midway between the ends thereof.

13. In a sound box for talking machines, the combination of a stylus bar with a recessed stylus bar support, the said recess and said stylus bar having flat sides engaging each other, each of said sides being disposed in a plane parallel to the plane of oscillation of the stylus bar and a torsional spring passing transversely through said sides, the said spring being in rigid engagement with said bar and support.

14. In a sound box for talking machines, the combination of a stylus bar with a recessed stylus bar support, the said recess and said stylus bar having flat sides engaging each other and disposed in a plane parallel to the plane of oscillation of the stylus bar, a torsional spring passing transversely through said sides and means for adjustably engaging said spring with said stylus bar and with said support.

865,089. DOOR-HANGER. DENIS DOYEN, Schaerbeek, Belgium. Filed Jan. 10, 1906. Serial No. 295,443.

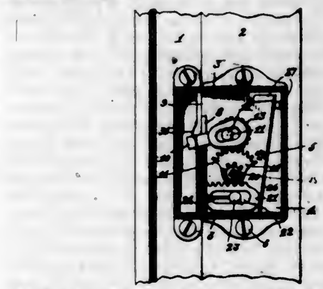


In combination with a door, a guide rod and a guide sleeve, of a plurality of disks of vegetable material mounted in the sleeve and surrounding the guide rod and arranged to slide thereon.

865,090. SASH-LOCK. LAWRENCE R. EDDY, Elizabeth, N. J. Filed May 16, 1907. Serial No. 373,971.

1. In a sash-lock, the bolt provided with an elongated bearing, a gear on said bolt, a gear-segment engaging said gear, a pinion on said gear-segment, a rack-block engaging said pinion, and means for moving said rack-block to operate said bolt.

2. In a sash-lock, the bolt provided with an elongated bearing, a pivot for said bearing, a gear on said bolt, a gear-segment engaging said gear, a pinion on said gear-segment, a rack-block engaging said pinion, a spring pressing said rack-block to normally advance the bolt, and means for turning said gear-segment against the action of said spring to retract the bolt.

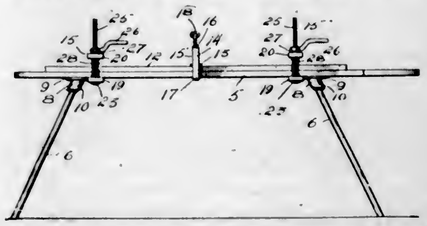


3. In a sash-lock, the bolt provided with an elongated bearing, a pivot for said bearing, a gear on said bolt, a gear-segment engaging said gear, a pinion on said gear-segment, a rack-block engaging said pinion, a spring pressing said rack-block to normally advance the bolt, a pivoted latch to hold the bolt against the action of said spring, and means for moving the latch to free the bolt.

4. In a sash-lock, the meeting-rails of a window, a casing on one of said meeting-rails, a spring-pressed bolt movably mounted in said casing normally projecting from the same, a latch pivoted to said casing and operating to hold said bolt within its casing, and a second casing on the other meeting-rail to receive the head of the bolt and operating to move said latch to release the bolt when the meeting rails come together.

5. In a sash-lock, the meeting-rails of a window, a casing on one of the meeting rails, a spring-pressed bolt movably mounted in said casing normally projecting from the same, a latch pivoted to said casing to hold said bolt in a retracted position, a lip projecting from said latch, and a second casing on the other meeting-rail to engage the head of the bolt when advanced provided with a socket to engage said lip to move the latch to release the bolt when the meeting-rails come together.

865,091. GARMENT-PRESSER. ALBERT W. ELIASON, Lindsborg, Kans. Filed Dec. 4, 1905, Serial No. 290,194. Renewed Apr. 10, 1907. Serial No. 367,425.

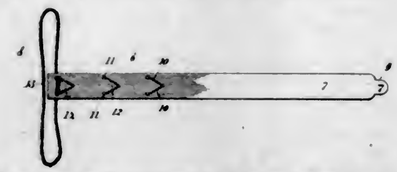


1. A device of the class described comprising a main board and a supplemental board, plates disposed above and below said boards, said plates being provided at their ends with apertures, the apertures in the upper and lower plates being in alinement, the apertures in the upper plates being circular and those in the lower plates square, bolts engaged through the corresponding apertures in the plates, each of the bolts having a squared portion adjacent its head which is received in the squared apertures in the corresponding lower plate, hand nuts engaged upon the bolts and adapted to bear against the upper faces of the upper plates, and springs engaged upon the bolts and bearing at their lower ends against the upper face of the respective lower plates and at their upper ends against the under face of the respective upper plates.

2. A device of the class described comprising a main board and a supplemental board, plates disposed beneath the main board and permanently secured thereto, plates

disposed above said supplemental board and entirely free therefrom, each set of plates being provided adjacent their ends with apertures, the apertures in the corresponding upper and lower plates of the two sets being in alinement, the apertures in the upper plates being circular and those in the lower plates being rectangular, bolts engaged through the corresponding apertures in the plates, each of the bolts having a squared portion adjacent its head which portion is received within the rectangular aperture in the corresponding one of the lower plates, springs engaged upon the bolts between the upper and lower plates, the said springs bearing at their lower ends against the upper faces in the corresponding lower plates and bearing at their upper ends against the under sides of the corresponding upper plates and tending to normally raise said upper plates out of engagement with the supplemental board, and hand nuts engaged upon the bolts whereby the said upper plates may be forced, against the tension of the springs, into clamping engagement with the said supplemental board.

865,092. BOOK-MARK. KNUTE ERICKSON, New York, N. Y. Filed Oct. 24, 1906. Serial No. 340,324.



1. A book-mark comprising an endless flexible member, an indicating slip, and means arranged upon said indicating slip for slidably attaching the same to said endless flexible member, substantially as specified.

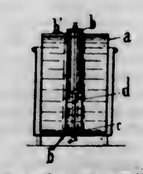
2. A book-mark comprising a flexible member, an indicating slip, and a plurality of attaching devices arranged upon said indicating slip for securing the same to said flexible member, substantially as specified.

3. A book-mark comprising a flexible member, an indicating slip, and a plurality of integral attaching prongs arranged adjacent to one end of said indicating slip for securing said indicating slip to said flexible member, substantially as specified.

4. A book-mark comprising an endless flexible member, an indicating slip, and a plurality of integral attaching prongs having recesses at their inner ends adapted to receive said endless flexible member whereby to hold said indicating slip to its adjusted position thereon, substantially as specified.

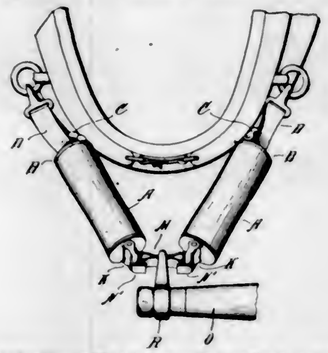
5. A book-mark comprising an endless elastic member, an indicating slip, and a plurality of integral attaching prongs arranged adjacent to one end of said indicating slip for securing said indicating slip to said endless elastic member, substantially as specified.

865,093. CURRENT-TRANSFORMER. OSWALDO DE FARIA, Paris, France. Filed Feb. 4, 1905. Serial No. 244,133.



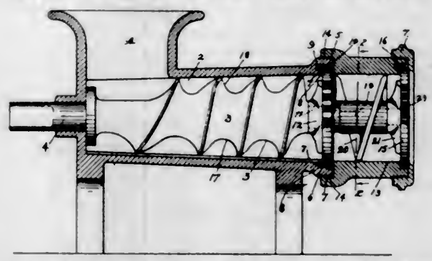
In an electrolytic transformer, a cell comprising a vessel of insulating material, a hollow carbon electrode within said vessel provided at its top and bottom only with horizontal series of perforations, a metallic electrode within said hollow electrode, and an electrolytic liquid contained in said vessel, the circulation of such liquid through the openings of said hollow electrode being identical with that which is produced in a thermo-siphon.

865,094. NECK-YOKE ATTACHMENT FOR TAKING UP VIBRATIONS. LESTER FIELDS, Montfort, Wis. Filed Mar. 30, 1907. Serial No. 365,520.



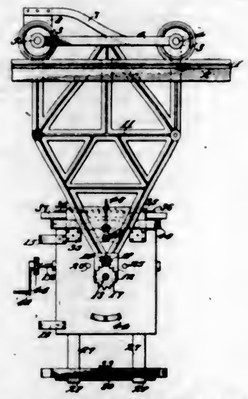
In combination with a hame collar, casings, each having a threaded plug at one end, a bail pivotally connected to said plug, straps connecting the bails with the rings upon the hame, a spring-actuated plunger mounted within each casing, a bail pivotally connected to each plunger, a double ended snap hook connecting the bails upon the plungers, a neck yoke and connection between the same and said snap hook, as set forth.

865,095. MEAT-CHOPPER. GEORGE L. FORREST, Chicago, Ill. Filed June 26, 1906. Serial No. 323,518.



A meat-chopper comprising a barrel provided adjacent one end with a feed opening, a foraminated plate disposed in the delivery end of said barrel, the latter being tapered and of greater diameter at its delivery than at its inlet end, said delivery end being annularly enlarged and externally threaded and provided with an annular recess adapted to receive the peripheral portion of and limit the inward movement of said foraminated plate, a worm revolubly disposed in said barrel and provided at its delivery end with a central projection passing through a central opening in said foraminated plate, the free end of said projection being polygonal, a short cylindrical chamber provided at one end with an internally threaded annular flange adapted to engage the external thread at the delivery end of said barrel, said end of said chamber bearing upon the outer face of said foraminated plate to hold the latter in place, the delivery end of said chamber being externally threaded and provided with an internal annular recess, a second foraminated plate disposed in said recess, a worm having a polygonal recess in one end to receive said polygonal projection of said first-named worm revolubly disposed in said chamber and having greater pitch than said first named worm, a nut disposed on the delivery end of said chamber, an annular flange adapted to bear upon the last-named foraminated plate, said nut being interchangeable with said chamber on said barrel, means holding said plates against rotation, and rotating knives rigid with said worms coacting with said plates to finely divide the meat.

865,096. PIPE-TURNING MACHINE. GEORGE E. FOSTER, East Alton, Ill. Filed May 1, 1907. Serial No. 371,267.



1. In a pipe turning machine, a U-shaped truck frame mounted on wheels, two adjustable vertical side frames suspended from said truck, means connected with said vertical side frames for moving them inward from and outward toward the truck wheels, and a receiver frame carried by said pipe frames, substantially as specified.

2. In a pipe turning machine, a truck frame, two inwardly and outwardly adjustable side frames suspended therefrom, a brace 21 connected to said side frames and adjustable to move said side frames inward and outward, an enlarged portion on the lower end of each side frame, trunnions supported in said enlarged portions, and a receiver frame supported by said trunnions, substantially as specified.

3. In a pipe turning machine, two inwardly and outwardly adjustable side frames, two housing frames revolubly supported by said frames, two hooks at one end of each of said housing frames, a plate connecting the hooks on each housing frame, two trunnions supported by each housing frame, a worm wheel and pinion on each trunnion, a rack meshing with each pinion, a board supported by said racks, and means for operating the pinions to raise and lower the racks, substantially as specified.

4. In a pipe turning machine, two housing frames, two trunnions in each frame, a worm wheel and a pinion on each trunnion, two racks extending into each housing frame, one of said racks being meshed with each pinion, hooks on said racks, a shaft journaled in each housing frame, worms on said shafts meshing with said worms on said trunnions, and means to operate said shafts, substantially as specified.

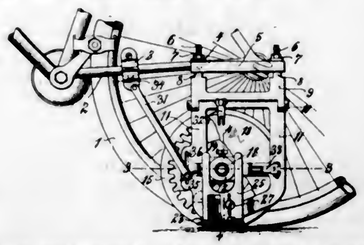
5. In a pipe turning machine, two housing frames, two trunnions in each housing frame, a worm wheel and a pinion on each trunnion, racks meshing with said pinions, a board carried by said racks, means in connection with said worms for operating said pinions to raise and lower the racks, hooks attached to one end of said housing frames, bolts operating in holes in said hooks, plates connected to said bolts, springs for actuating the bolts in one direction, cams for actuating the bolts in the other direction, and a plug board between said plates and said hooks.

6. In a pipe turning machine, the combination with the parts 27 and the hooks thereon, of bolts operating through holes in said parts 27, angle-iron members on the inner ends of said bolts, bars connecting the outer ends of said bolts, springs for actuating said bolts outward, cams for actuating said bolts inward, and a board adapted to be supported in one position by the hooks on said parts 27 and in another position by said angle-irons, substantially as specified.

7. In an apparatus of the character described, two frames, means for adjusting said frames different distances apart, two side frames pivoted to said first named frames, two racks in each of said side frames, a crank, two shafts arranged to be rotated by said crank, gear connections between said crank and said shafts, a platform carried by said racks, a platform at the opposite end of said two side frames, means to turn the side frames end for end, and a lock to hold them in different positions, substantially as specified.

8. In an apparatus of the character described, a truck, two depending frames attached to said truck, means for adjusting said frames different distances apart, two side frames pivoted to said first-named frames, two racks in each side frame, manually operable means to move the racks vertically, a platform carried by said racks, angle irons carried by said racks, means for revolving the two side frames synchronously, angle irons carried by the racks, means for moving the angle irons to support the platform at required times, and a platform at the opposite end of the side frames, substantially as specified.

865,097. LAWN-MOWER. EMIL FRANKE, Astoria, N. Y. Filed Oct. 7, 1905. Serial No. 281,831.



1. The combination with a bicycle, of a lawn mower supported solely from the rear fork thereof, the lawn mower being connected for independent vertical movement relative to the bicycle.

2. The combination with a bicycle, of a lawn mower supported solely from the rear fork thereof, the lawn mower being mounted to permit independent movement of the end remote from the bicycle.

3. The combination of a bicycle, a frame pivotally connected therewith, a ground wheel journaled upon the frame, a movable cutter bar operated by the ground wheel, and a supporting wheel for the outer end of the cutter bar.

4. The combination of a bicycle, a supporting member adjustably secured thereto, a frame pivotally connected with the supporting member, an axle extending through the frame, an internally toothed ground wheel at one end of the axle, a supporting wheel at the other end of the axle, a stationary cutter bar having upwardly extending and vertically adjustable forked brackets, a movable cutter bar mounted upon the stationary cutter bar, gearing for operating the movable cutter bar from the toothed ground wheel, a guard plate mounted adjacent to the ground wheel and brace rods connected with said axle and said frame, substantially as described.

5. The combination with a bicycle, of a lawn mower supported solely from the rear fork thereof and comprising a frame mounted for a direct vertical movement and for a swinging vertical movement independent of the bicycle.

865,098. BUFFING AND POLISHING BRUSH. EDWARD N. GAUDRON, Newark, N. J., assignor to William Dixon, Newark, N. J. Filed Mar. 30, 1907. Serial No. 365,580.

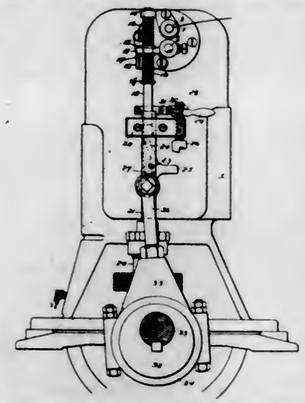
1. A brush comprising a stock and an element applied to said stock and consisting of a member having loops, and tufts held in said loops, said member being twisted a

number of times between said loops to secure the tufts in the latter.



2. In a brush, a buffing or polishing element comprising wire strands having a series of loops, and tufts held at their middle portions in said loops, said strands being twisted a number of times between the loops to secure the tufts therein.

865,099. ENGINE. GEORGE GRAY, Mianus, Conn., assignor to The Mianus Motor Works, Mianus, Conn. Filed Mar. 28, 1907. Serial No. 365,127.



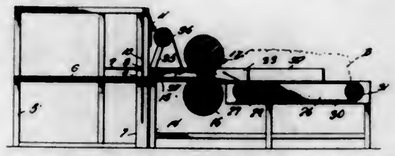
1. In a sparking mechanism, the combination with a fixed electrode, a spindle carrying a movable electrode, an arm on said spindle and a stop to receive said arm when in its normal position, of a vertically movable rod passing through said arm, a guide through which said rod moves, a fixed collar on the rod, a spring between said fixed collar and guide, means for engaging said rod to raise it and turn the spindle of the movable electrode to cause the latter to engage the fixed electrode and means for releasing said rod and permitting it to descend after the fixed collar thereon shall have moved above the arm on the spindle of the movable electrode.

2. In a sparking mechanism, the combination with a fixed electrode and a spindle provided with a movable electrode, of an arm secured to said spindle, a rod passing through said arm, springs on said rod above and below said arm, a hollow rod connected with the driven shaft of an engine, a trip-lever mounted in said hollow rod to engage the first-mentioned rod, and adjustable means for tripping said lever.

3. The combination with the pump rod and the driven shaft of an internal combustion engine, of a vertically movable rod guided in the upper end of the pump rod, sparking devices connected with said vertically movable rod, a trip-lever carried by the pump rod, a spring for maintaining the trip lever normally in line with the lower end of the vertically movable rod, an adjustable device for tripping the trip lever, and means connecting the pump rod with the driven shaft.

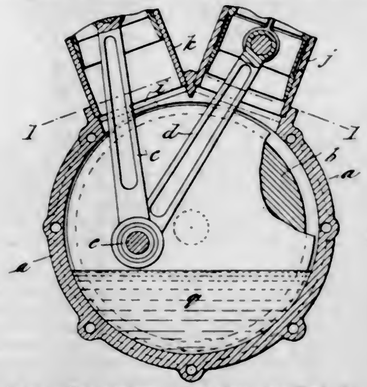
4. The combination with the pump rod and the driven shaft of an internal combustion engine, of a vertically movable rod, sparking devices, spring connections between said sparking device and the vertically movable rod, a trip-lever carried by the pump rod and maintained normally in line with the vertically movable rod, means for tripping said lever, an eccentric on the driven shaft of the engine, a strap on said eccentric provided with an arm and a pitman connected at one end with the pump-rod and adjustably connected at its other end with the arm on the eccentric strap.

865,100. MATTRESS-MAKING MACHINE. JOSEPH T. HARRIS, Bloomingdale, Fla. Filed July 19, 1906. Serial No. 326,896.



A machine of the class described comprising a frame, a platform in the frame, a tick distender located above the platform at the forward end thereof, vertical guides at the forward end of the frame, a knife slidably mounted in the guides, means for holding the knife yieldably at the upward limit of its movement, means for moving the knife downwardly, a frame located forwardly of the first named frame, a shaping box at the rearward end of the second frame and having an opening in its top, a bracket extending above the shaping box and adapted to receive material for the passage of said material therefrom through the opening of the shaping box, separable rollers journaled in the second frame forwardly of the shaping box for the passage of material therebetween to said shaping box, means for holding the rollers yieldably against separation, sprockets connected with the rollers, longitudinally spaced drums mounted in the frame forwardly of the rollers, a continuous belt engaged with the drums and arranged to discharge between the rollers, a sprocket wheel connected with one of the drums, a chain engaged around the sprocket wheel of one of the rollers and with that of the drum, an idler for the chain, the sprocket wheel of the other drum having its teeth at one side engaged in the chain, and an operating crank carried by one of the sprocket wheels.

865,101. LUBRICATING MEANS FOR INTERNAL-COMBUSTION ENGINES. CARL O. HEDSTROM, Springfield, Mass. Filed June 12, 1907. Serial No. 378,558.

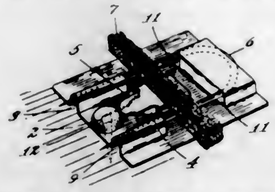


1. In an oiling system of the class described, in combination, a casing, a rotary member mounted therein, a plurality of cylinders secured to the casing and having pistons therein connected to the rotary member, the rotary member having two sections or portions and located under oppositely disposed plates or webs that partially close the opening to the cylinders, whereby the lubricant which is contained in the casing may be equally distributed by the centrifugal action of the rotary member to the cylinders, said plates being also provided with diagonally disposed openings over the rotary member, as described.

2. In combination with a casing, a rotary member made in two sections and located therein, a casing having openings in one side thereof and provided with the oppositely disposed plates partially closing said openings and located over opposite edges of the rotary member, cylinders secured to the casing and in the openings thereof, whereby during the movement of the rotary member the lubricant will be equally distributed to the cylinders by the centrifugal action of the rotary members, said plates being also provided with oppositely disposed openings, as described.

3. In an oiling system of the centrifugal type, a casing for containing a lubricant in the lower portion thereof, a rotary member mounted in the casing in contact with the lubricant, the casing being provided with openings at one side thereof and having plates located in the openings and partially closing the same, said plates being located over the opposite edges of the rotary member, whereby the lubricant can be equally distributed by the opposite edges of said member through the openings in the casing, as described.

865,102. RUG-FASTENER. ELIJAH HUNTLEY, Seattle, Wash. Filed July 17, 1906. Serial No. 326,628.

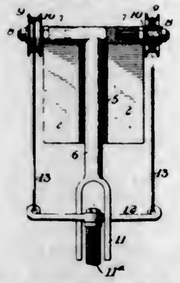


1. A fastener of the type set forth comprising a body provided with a recess, and having a slot extending into the side wall of said recess, and a yielding keeper spaced from and extending over said slot, for the purpose specified.

2. A fastener of the type set forth comprising a body provided with spaced apart seats and formed with a slot having an enlargement, and a securing means for said body consisting of a pin removably engaged in said seats.

3. A fastener of the type set forth comprising a body formed with a slot having an enlargement and provided at each side of said slot and adjacent one end thereof with a seat, and an approximately U-shaped pin having its closed end seated in the seat adjacent the end of said slot and its prongs removably fitted in the other of said seats.

865,103. DEEP-WELL-DRILLING APPARATUS. JAMES A. JACKSON and JOHN H. DOWER, Bruin, Pa. Filed Feb. 15, 1907. Serial No. 357,477.



1. In deep well drilling apparatus, a temper screw having a cross bar, a tee head having wheels or pulleys mounted at its opposite ends, flexible connections extending from the cross bar of the screw over the wheels or pulleys, and a counterweight attached to said connections; substantially as described.

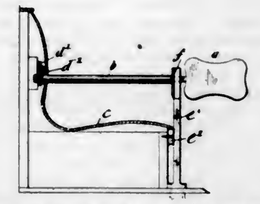
2. In deep well drilling apparatus, a temper screw having a tee head, and wheels or pulleys mounted upon the opposite ends of said head; substantially as described.

3. In a deep drilling apparatus a tee head temper screw having pins inserted in the ends of the tee head and pulleys or wheels mounted on said pins; substantially as described.

4. In deep well drilling apparatus, a temper screw having a head, a tee-head mounted on the walking beam over the screw, wheels or pulleys on said tee, and counterweighted flexible connections from the head of the screw passing over said wheels or pulleys; substantially as described.

5. In deep well drilling apparatus, a temper screw having a cross head, a tee-head having reins embracing the screw, wheels or pulleys journaled on the tee head, flexible connections extending from the cross head of the screw over said wheels or pulleys, and a counterweight connected to the flexible connections; substantially as described.

865,104. AUXILIARY CAR-SEAT. NIELS JOERGENSEN, West Hoboken, N. J. Filed Apr. 26, 1907. Serial No. 370,343.



1. The combination, with an ordinary car-seat, of a rod extending transversely across the seat, a socket formed in the back of the seat in which the inner end of the transverse rod can turn and have a slight up and down play, a seat attached to the outer end of the transverse rod, said rod being provided with a square portion adjacent to the seat, an upright standard attached to the floor and car-seat and provided with an opening at its upper end, the lower part of which is square and the upper part circular for permitting the turning of the transverse rod with its auxiliary seat when lifting the square portion of the transverse rod into the upper circular part of the opening and locking the transverse rod and the car-seat into the square part of the opening when dropping the same.

2. The combination, with an ordinary car-seat, of a rod extending transversely across the seat, a socket formed in the back of the seat in which the inner end of the transverse rod can turn and have a slight up and down play, a seat attached to the outer end of the transverse rod, said rod being provided with a square portion adjacent to the seat, an upright standard attached to the floor and car-seat and provided with an opening, a guard-plate arranged at the inner edge of the guide-opening in the upper end of the standard and placed on the square portion of the transverse rod, and means for guiding the guard-plate at the upper end of the standard.

865,105. SOUND-BOX FOR TALKING-MACHINES. ELDRIDGE R. JOHNSON, Philadelphia, Pa., assignor to Victor Talking Machine Company, a Corporation of New Jersey. Filed Apr. 7, 1903. Serial No. 151,453.

1. In a sound recording and reproducing machine, the combination with a sound box casing of a diaphragm, a stylus bar, a transverse bearing located on the exterior of the sound box casing, said bearing holding said stylus bar against longitudinal movement in one direction, the said stylus bar having an opening adjacent said bearing, an elastic suspension loop passing through said opening, and means at the opposite side of the casing for adjustably supporting said loop.

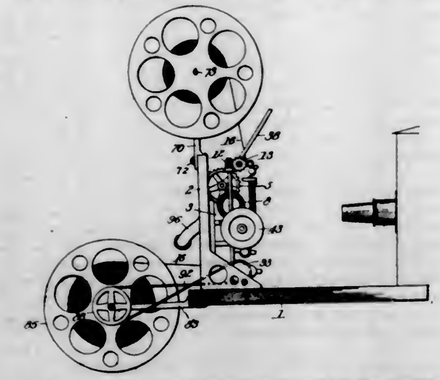
2. In a sound recording and reproducing machine, the combination with a sound box casing of a diaphragm, a stylus bar having a transverse bearing journaled on the exterior of the sound box casing, an elastic suspension loop passing through an opening in said stylus, and a screw threaded hook at the opposite side of said casing for adjustably supporting said loop.



3. In a sound box for talking machines, a casing having a diaphragm, a stylus bar projecting through an opening in said casing and having a transverse bearing journaled on the exterior of said casing, an elastic suspension loop passing through an opening in said stylus bar within the sound box casing, and between the limbs of which said stylus bar is situated, a screw threaded hook at the other end of said loop, the screw threaded portion of said hook passing through an opening on outside of the sound box casing opposite that through which the stylus bar projects, and an adjusting nut situated on the outside of the casing and engaging said screw threaded portion of the hook.

4. In a sound box recording and reproducing machine, the combination with a sound box casing of a diaphragm, a stylus bar, an axial bearing located on the exterior of the sound box casing, the said bearing holding said stylus bar against longitudinal movement in one direction, a suspension wire passing through an opening in said stylus bar adjacent said bearing, said wire tensioning said bearing against said casing, and means at the opposite side of the casing for adjustably supporting said wire.

865,106. KINETOSCOPE. BOYD H. KELLER, New York, N. Y. Filed Feb. 8, 1907. Serial No. 356,467.



1. In apparatus of the character described, the combination with the stationary portion of the frame having an aperture through which the picture is projected, and a rotary shutter mounted on said stationary frame, of a carriage adjustable relative to said frame and to the shutter, and provided with film-feeding devices, means for operating the film-feeding devices, said means including a long spiral gear on the frame and a spiral gear on the carriage movable vertically over the first-named gear when the carriage is being adjusted, and means for adjusting the carriage to center the picture relative to the projection-aperture of the stationary frame and to the shutter.

2. In apparatus of the character described, the combination with the stationary portion of the frame, having a projection aperture, and the rotary shutter mounted in said frame, of a carriage slidable on the frame and vertically adjustable relative to the projection-aperture thereof, and to the shutter, film-feeding devices on said carriage, means for operating the film-feeding devices, said means including a long spiral gear on the frame and a spiral gear on the carriage movable vertically over the first-named gear when the carriage is being adjusted, and means permitting the carriage to be adjusted during the movement of the film and without stopping the machine.

3. In apparatus of the character described, the combination with the stationary part of the frame, having a projection-aperture, and a rotary shutter mounted in said frame, of a carriage separate from the frame and slidably guided thereon, film-feeding devices mounted on the carriage, means for operating the film-feeding devices, said means including a long spiral gear on the frame and a spiral gear on the carriage movable vertically over the first-named gear when the carriage is being adjusted, and means for raising and lowering the carriage and its film-feeding devices relative to said shutter and to the projection-aperture of the fixed frame, said means including a rack-bar connected to the carriage and an oscillating toothed segment engaging said bar.

4. In apparatus of the character described, the combination with the stationary portion of the frame, having a projection-aperture, and a rotary shutter, a main shaft, upper and lower film-feeding devices mounted on the stationary frame, and means for operating said film-feeding devices, of a carriage slidably mounted on the stationary frame and adjustable relative to the projection-aperture thereof and to the shutter, intermittent film-feeding mechanism mounted on the carriage, and means including a fixed vertical shaft having a spiral gear and a spiral gear on the carriage for operating the film-feeding devices thereof, said last-named gear having, also, a slidable movement on the gear of the fixed shaft to enable the carriage to be raised and lowered without disarranging the gears or stopping the motion of the apparatus.

5. In apparatus of the character described, the combination with a stationary frame, having a projection-aperture, a main shaft, a rotary shutter mounted in said frame, means for operating the shutter, and upper and lower film-feeding devices mounted on said frame, of a carriage slidably mounted on the frame and adjustable relative to the projection-aperture thereof and to the shutter, intermittent film-feeding devices on the carriage, worm-gearing for operating the upper and lower film-feeding devices, a vertical shaft extending between the upper and lower film-feeding devices having a member of the worm-gearing fixed to its opposite ends, a spiral gear on said vertical shaft intermediate of the ends thereof, and a spiral gear connected to the intermediate film-feeding devices and arranged in mesh with the spiral gear of the vertical shaft and adapted to move over the same when the carriage is raised or lowered.

6. In apparatus of the character described, the combination of a stationary frame having a projection-aperture, a rotary shutter mounted within said frame, a carriage vertically movable relative to the stationary frame and its shutter, upper and lower film-feeding devices on the stationary frame, intermittent film-feeding devices mounted on the carriage, means for operating the upper and lower film-feeding devices, and means for operating the intermittent film-feeding devices said last means including a long spiral-gear mounted to rotate on the stationary frame in unison with the upper and lower film-feeding devices, and a spiral gear mounted on the carriage adapted to travel over said long gear while in operative mesh therewith.

7. In apparatus of the character described, the combination of a stationary frame, a main shaft mounted thereon, a vertical shaft journaled at the side of the frame, upper and lower film-feeding devices mounted on the frame, worm-gearing between the vertical shaft and the upper and lower film-feeding devices, gearing between the main shaft and the vertical shaft, a rotary shutter mounted in the frame, a long spiral gear fixed to the vertical shaft, a carriage slidably mounted relative to the frame and to the rotary shutter, intermittently-operating film-feeding devices mounted on the carriage, a spiral gear for operating the intermittently film-feeding devices, said gear meshing with and adapted to move vertically over the long spiral gear when the carriage is adjusted, and means for adjusting the carriage.

8. In apparatus of the character described, the combination of the stationary frame having a projection-aperture, a rotary shutter mounted in said frame, a carriage vertically shiftable relative to the stationary frame and its shutter said carriage being provided with film-feeding devices, film-feeding devices also mounted on the stationary frame, a main-shaft and connections for operating said film-feeding devices, said connections including a driven shaft mounted on the carriage and intermeshing spiral gears for operating the shaft, and connections between said driven shaft the rotary shutter said last-named connections comprising a vertically slidable, rotatable shaft, gearing between said shaft and the drive shaft, a gear fixed to the shutter, and a gear loose on the vertical shaft and engaging the shutter gear, and a key and key-way connection between the vertical shaft and the loose gear adapted to allow the shaft to be moved vertically with the carriage without disturbing the portion of the rotary shutter.

9. In apparatus of the character described the stationary main frame and the carriage vertically adjustable relative thereto, said main frame having a rotary shutter and a projection-aperture, film-feeding devices on the main-frame and carriage, means for operating the shutter, said last-named means including a vertical shaft fixed to the carriage and slidably guided on the stationary main frame whereby it is raised and lowered with the carriage, a driven-shaft mounted horizontally on the carriage, gearing between the vertical and horizontal shafts, a horizontal shaft for the shutter, a gear fixed to the shutter-shaft gear, whereby the carriage with its film-feeding devices may be adjusted relative to the projection aperture of the stationary frame and to the shutter, for centering the picture substantially as described.

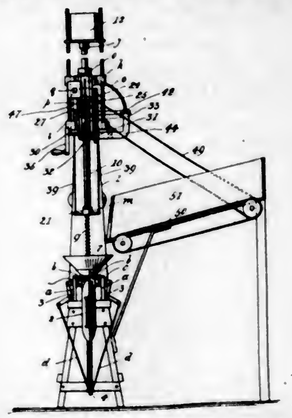
10. In apparatus of the character described, the combination with a film-carrying spool, of a shaft therefor, a spring having one end secured to said shaft at a point back of the end thereof, said spring extending along the shaft and having its free end exposed near the outer end of said shaft and provided with an off-set or catch whose wall is arranged substantially at right angles to the axis of the shaft and adapted to engage the edge of the shaft opening in the spool, to hold said spool to the shaft.

865,107. MACHINE FOR STUFFING PINCUSHIONS. EDWARD S. KIDWELL, Baltimore, Md. Filed Oct. 16, 1906. Serial No. 339,244.

1. In a machine for stuffing pin-cushions, a frame, a mold supported by the frame adapted to inclose an open pin-cushion casing, means to clamp the upper end of the said casing within the mold, combined with means to conduct stuffing material to the open casing in the mold, a screw, devices to rotate the screw within the casing in the mold, and other devices to yieldingly hold down the said screw within the mold, substantially as specified.

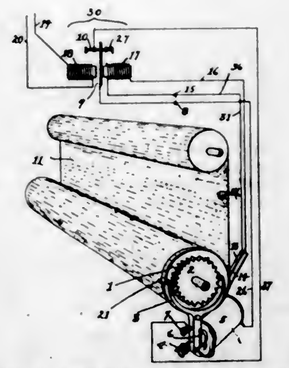
2. In a machine for stuffing pin-cushions, a frame and a mold supported by the frame adapted to inclose an open pin-cushion casing, means to clamp the upper end of the said casing within the mold, combined with means to conduct stuffing material to the open casing in the mold, a screw, devices to rotate the screw in an unscrewing direction within the casing in the mold, and other devices to yieldingly hold down the said screw within the mold, substantially as specified.

3. In a machine for stuffing pin-cushions, a frame, and a detachable mold supported by the frame, the said mold having a contracted filling opening, means to clamp the said casing in filling position in the mold, combined with means to conduct stuffing material to the contracted filling opening, a stuffing screw, devices to rotate the screw in an unscrewing direction within the casing in the mold, other devices to effect a resistance to the unscrewing of the screw from the stuffing material, and means to



temporarily retain the screw in an elevated position when the same is unscrewed from the mold, substantially as specified.

865,108. PRINTING TELEGRAPHY. ISIDOR KITSEE, Philadelphia, Pa. Filed June 29, 1907. Serial No. 381,430.



1. In printing telegraphy, means to carry blanks, adapted to have printed thereon the message, to a predetermined position, said means comprising means adapted to be operated from the sending station to move said blanks, and means adapted to be operated at the receiving station to stop said movement.

2. In combination with a typing mechanism, a continuous sheet of paper divided into a series of blanks, means to move said blanks, independent of the received message, through transmitted impulses, and means to discontinue said movement through impulse locally generated.

3. In combination with a printing telegraph, means located at the receiving station and adapted to be operated in part through transmitted impulses and in part through localized impulses to carry blanks adapted to have printed thereon the message received to the required position.

4. In combination with a printing mechanism, a sheet of paper representing a series of blanks and means adapted to be operated through incoming impulses to move said sheet of paper, independent of the stoppage of the message proper, and stop the moving of the paper, independent of the commencing of a new message.

5. In combination with a printing mechanism, a step-by-step mechanism, adapted to be operated through the closing of a circuit, due to incoming impulses, in combination with local means to estop said step-by-step movement from further operation.

865,109. SHEET-METAL FIREPROOF STUD FOR PLASTERED PARTITIONS. CHARLES H. KNAPP, Chicago, Ill., assignor to Knapp Bros. Manufacturing Company, a Corporation of Illinois. Filed Apr. 19, 1906. Serial No. 312,617.



1. A metal stud formed of a single sheet of metal, having a front face member and side members at angles thereto, and a longitudinal strengthening rib formed in and projecting in front of said face member.

2. A metal stud formed of a single sheet of metal having a front face member and side members at angles thereto, and a longitudinal rib formed in and projecting in front of the face member, having perforations for the reception of fastening devices.

3. A metal lathing stud formed of a single sheet of metal, having a front face member and side members at angles thereto, and a longitudinal rib formed in and projecting in front of said face member, having perforations for tie wires by which to secure lathing fabric thereto, and tie wires taking through said perforations.

4. A metal lathing stud formed of a single strip of metal, having a front face member, a strengthening rib projecting from the front of said face member, side members extending backward and at angles thereto, said structure provided with perforations at the juncture of said rib and face member through which to secure attaching devices.

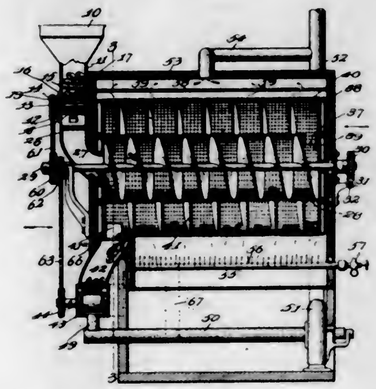
5. A metal lathing stud or strip formed of a single sheet of metal, comprising a face, two laterally flanged sides at substantially right angles thereto, having a strengthening rib formed in said face projecting in front and extending longitudinally thereof.

865,110. ROASTER. GEORGE F. KNAPP, St. Louis, Mo., assignor to St. Louis Tin & Sheet Metal Working Company, a Corporation of Missouri. Filed Feb. 19, 1907. Serial No. 358,304.

1. In a device of the class described, a pair of concentric cylinders having their walls perforated, a single shaft carrying the cylinders, screw-conveyers mounted within the cylinders, burners for heating the cylinders and a worm mechanism whereby the shaft is revolved, substantially as specified.

2. In a device of the class described, a pair of concentric roasting cylinders having perforated walls, a single shaft carrying the cylinders, screw-conveyers mounted within the cylinders, burners for heating the cylinders, a worm mechanism whereby the shaft is revolved and a pulley mechanism for imparting motion to the worm mechanism, substantially as specified.

3. In a device of the class described, a hopper, a plurality of concentric cylinders, a shaft carrying said cylinders, a wheel having a chamber situated between the hopper and the inner cylinder for regulating the supply of substance to be roasted, screw guides for conveying the material from the inner cylinder to the outer cylinder, a worm mechanism whereby the shaft is revolved and burners for heating the cylinders, substantially as specified.



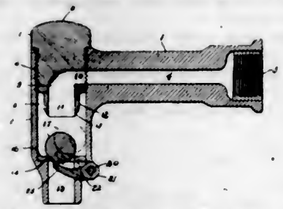
4. In a device of the class described, a hopper, an inlet-pipe, a wheel provided with an adjustable compartment seated within the inlet-pipe, the pipe adapted to receive the charge from said compartment, a roasting cylinder adapted to receive the charge from the last-named pipe, a screw-conveyer mounted in said cylinder, a second cylinder concentrically mounted with the first-named cylinder and adapted to receive the partially roasted charges therefrom, a screw-conveyer mounted in the last-named cylinder and adapted to convey the charge along the length of said cylinder, a shaft whereby said cylinders are carried, means for revolving said shaft and a suitable means of heat supply, substantially as specified.

5. In a device of the class described, a housing, burners for generating heat within the interior of the housing, a shaft horizontally mounted through said housing, concentric perforate roasting cylinders carried by said shaft, oppositely disposed screw-conveyers mounted in each of said cylinders, means for regulating the supply of the substance to be roasted, a blower and means for revolving said shaft and blower, substantially as specified.

6. In a device of the class described, the combination of a motor, a secondary cylinder driven by said motor, a primary cylinder concentrically mounted about said secondary cylinder and driven by said motor, burners for heating said cylinders, a wheel having an adjustable bottomed chamber for feeding the substance to be roasted to the interior of the secondary cylinder at one end, means for conveying said substance to the opposite end of the secondary cylinder and into the primary cylinder, means for conveying the substance thus conveyed in the primary cylinder to the opposite end of the primary cylinder and discharge it therefrom, a blower and means for subjecting the substance thus discharged to the action of the blower, substantially as described.

7. A coffee roaster, comprising an outer casing, a hopper located at one end of said casing, a shaft extending through the casing and through the inlet through which the material is fed into the casing, a screw-conveyer mounted upon the shaft, a cylinder of perforate material located around the conveyer, a second conveyer located upon the cylinder, and a cylinder of perforate material located upon the periphery of the outer conveyer, a wheel located in the hopper, a chamber provided with an adjustable bottom formed in the wheel whereby the material is deposited into the inner cylinder, an endless conveyer located on the one side of the casing on to which the material is passed after being discharged from the cylinders, and a blower and blower connections communicating with the endless conveyer to extract the chaff and to the upper portion of the casing to extract the odors, and a motor for imparting motion to the shaft wheel and endless conveyer, substantially as specified.

865,111. FAUCET. ALEXANDER KOERBER, Jr., EUGENE M. DEILLER, and MARTIN DEILLER, Newark, N. J.; said Koerber assignor to said Eugene M. Deiller and Martin Deiller. Filed Sept. 1, 1906. Serial No. 332,922.



1. In a faucet, an elbow-shaped body providing a normally horizontal portion with a longitudinal flow passage and adapted to be coupled to a source of supply, and an upright portion having a chamber opening at its upper end through the top of the faucet and having near its lower end an interior annular shoulder, a plug closing the top of said chamber and having a reduced lower end with a passage leading therethrough and opening out through the side of the plug to register with the flow passage of the longitudinal portion, a valve normally seated on said shoulder, and means for unseating it from the exterior of the faucet.

2. In a faucet, an elbow-shaped body providing a normally horizontal portion with a longitudinal flow passage and adapted to be coupled to a source of supply, and an upright portion having a chamber opening at its upper end through the top of the faucet and having near its lower end an interior annular shoulder, a plug closing the top of said chamber and having a reduced lower end with a passage leading therethrough and opening out through the side of the plug to register with the flow passage of the longitudinal portion, a ball valve normally seated on the said annular shoulder at the lower part of the upright portion, and means for displacing said ball from its seat.

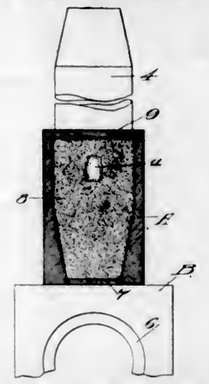
3. In a faucet, an upright portion having an interior annular shoulder with an enlarged chamber above it and a reduced nozzle below, a ball valve normally seated on the shoulder, a shaft journaled in bearings outside of said nozzle and having a handle, an upwardly-curved arm fast on the shaft and leading through a slot in the nozzle to a point beneath the ball, and a radial detent on the shaft adapted to engage a recess on the faucet-body to hold said arm in one of its extreme positions.

4. In a faucet, an elbow-shaped body whose horizontal portion has a longitudinal flow-passage and a coupling at its outer end and whose upright portion has a chamber considerably larger than said passage, the chamber opening through the top of the elbow and being threaded, a nozzle and valve at the lower end of said upright portion, and a threaded plug fitting the threaded upper end of the chamber and itself having an elbow-shaped passage comprising a large axial opening at its lower end, a reduced opening in one side adapted to register with said flow-passage, and a curved or rounded connection between said openings.

865,112. METHOD FOR CONTOURING GOLD TOOTH-CROWNS. FRANCIS LA CHAPELLE, San Francisco, Cal. Filed Feb. 20, 1907. Serial No. 358,455.

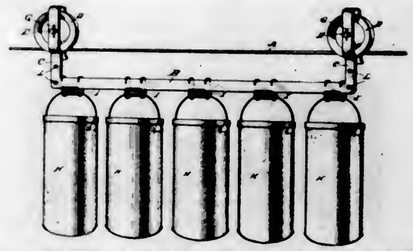
1. The method herein described of contouring tooth crowns, said method consisting in supporting the partially-shaped crown upon a fusible fac-simile of the tooth upon and in the midst of a bed of substantially granulated metal so that all of its outer surfaces will be in contact with said metal, then compacting and substantially solidifying the metal particles by pressure to cause the surplus gold to be pushed towards the gum portion or cervex of the tooth, and then subjecting the metal bed to a superior pressure to cause the metal bed and its contained metal tooth and crown to move together and the metal of the bed to flow laterally and thereby press the proposed crown into the irregularities of the metal tooth.

2. The method herein described of contouring tooth crowns, said method consisting in supporting a partially shaped crown upon a metal fac-simile of the tooth in the midst of a body of mobile material, then compacting said material by pressure, and then forcing the material and the tooth crown embedded therein through a chamber of gradually reducing area to cause the material to flow laterally and complete the crown by shaping it to the irregularities of the metal fac-simile.



3. The method herein described of contouring tooth crowns, said method consisting in supporting a partially shaped crown upon a metal fac-simile of the tooth in the midst of a body of granulated soft metal, then compacting the granules to form substantially a solid mass thereof, then forcing the metal mass and its contained crown and metal tooth through a restricted passage to cause the metal to flow in lateral planes to thereby complete the shaping of the crown by forcing the gold into the irregularities of the metal fac-simile, and then fusing the metal fac-simile.

865,113. ELEVATED CARRIER. WILLIAM LOUDEN, Fairfield, Iowa. Filed Nov. 22, 1905. Serial No. 288,522.



1. In elevated carriers, an overhead track, a single carrier bar horizontally disposed immediately below the track and having integral upturned ends substantially in line with the track and with the body of the bar, wheels mounted on said upturned ends to run on the track, and means adapted to be removably connected to the bar at sundry points thereon for the suspension of articles thereto.

2. In elevated carriers, an overhead track, a single carrier bar horizontally disposed immediately below the track and having integral upturned ends substantially in line with the track and with the body of the bar, wheels mounted on said upturned ends to run on the track, and means adapted to be interchangeably connected to the bar at sundry points thereon for the suspension of articles thereto.

3. In elevated carriers, an overhead track, a single car-

rier bar horizontally disposed immediately below the track and having integral upturned ends substantially in line with the track and with the body of the bar; wheels mounted on said upturned ends to run on the track, and hangers removably connected to the bar at sundry points thereon for the suspension of articles thereto.

4. In elevated carriers, an overhead track, a single carrier bar horizontally disposed immediately below the track and having integral upturned ends substantially in line with the track and with the body of the bar, wheels mounted on said upturned ends to run on the track, and hangers removably connected to the upturned ends of the bar, and a receptacle secured to the lower ends of the hanger.

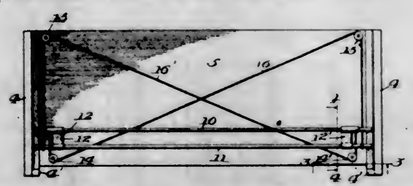
5. In a device of the character described, a track, a wheel to run upon the track, a casing for the wheel, a stud pin having a hole in one of its ends passed through the wheel and casing, a pin having one of its ends bent at right angles to its body, passed through said hole in the stud pin, and a hole in the adjacent side to the casing to receive the bent end of the pin.

6. In a device of the character described, a track, a wheel to run upon the track, a casing for the wheel, a stud pin having a shoulder and threaded nut on one end, and a hole in the other end, said stud pin being passed through the wheel and casing, a pin having one of its ends bent at right angles to its body, and a hole in the adjacent side of the casing to receive and hold the bent end of the pin.

7. In elevated carriers, an overhead track, a single carrier bar horizontally disposed immediately below the track and having integral upturned ends substantially in line with the track and with the body of the bar, wheels mounted on said upturned ends to run on the track, and hangers connected to opposite sides of the upturned ends and downwardly and outwardly diverged, and a receptacle secured to the lower ends of the hangers.

8. In elevated carriers, an overhead track, a single carrier bar horizontally disposed immediately below said track, and having upturned ends in line therewith and with the body of the bar, wheels mounted on said upturned ends to run on the track, holes in said upturned ends, bolts passed therethrough, hangers connected to the opposite sides of the upturned ends by means of said bolts, and a receptacle attached to the lower ends of the hangers.

865,114. BOOKCASE. DORCHESTER MAPES, Chicago, Ill., assignor to Clarence K. Chamberlain, Chicago, Ill. Filed June 7, 1906. Serial No. 320,510.



1. In a furniture unit, a door carrier slidably mounted therein, a door hinged to the carrier, sheaves at either end of the unit adjacent to the front edge, corresponding sheaves at the rear portion thereof, and cords passing between the front and rear sheaves and severally attached to the carrier so that an impulse given to either end of the carrier will be communicated independently thereof in the same direction to the other end of the carrier.

2. In a furniture unit, a door carrier slidably mounted therein, a door hinged to the carrier, sheaves at either end of the unit adjacent to the front edge, corresponding sheaves at the rear portion thereof, and cords passing diagonally from front to rear sheaves and severally attached to the carrier so that an impulse given to either end of the carrier will be communicated independently thereof in the same direction to the other end of the carrier.

3. In a furniture unit, a door carrier slidably mounted therein, a door hinged to the carrier, sheaves at the front corners of the unit, sheaves placed diagonally from the first mentioned sheaves, and cords passing over the sheaves and having their ends connected to the opposite ends of the carrier.

4. In a furniture unit, a door carrier slidably mounted therein, a door hinged to the carrier, a horizontal partition in the unit, sheaves at opposite corners of the partition, and a flexible connecting means passing over the sheaves and having its ends connected to the ends of the carrier.

5. In a furniture unit, a door carrier slidably mounted therein, a door hinged to the carrier, sheaves at the front and rear corners of the unit, and cords having their ends attached to opposite ends of the carrier and being intermediately passed over diagonally opposite front and rear sheaves.

6. In a furniture unit, a runway on the inner faces of the ends, a carrier adapted to move in the runway, a door pivotally attached to the carrier, a horizontal partition below the door, and means mounted on the said partition for causing the carrier to remain parallel to the front and rear edges of the unit.

7. In a furniture unit, a door carrier, guiding means therefor, a door hinged to the carrier, sheaves at opposite front and rear corners of the unit, and cords passing over the sheaves and having their ends connected to the opposite ends of the carrier.

8. In a furniture unit, a door carrier, a runway therefor, a door hinged to the carrier, sheaves at opposite front and rear corners of the unit below the runway, and cords passing over the sheaves and having their ends connected to the opposite ends of the carrier.

9. In a furniture unit, a door carrier, a runway therefor, a door hinged to the carrier, a horizontal partition below the runway, sheaves mounted at the front and rear corners of the partition, and cords passing over the sheaves and having their ends connected to the opposite ends of the carrier.

10. In a furniture unit, a door carrier, guiding means therefor, a door hinged to the carrier, sheaves at opposite front and rear corners of the unit, and flexible connecting means passing over the sheaves and secured to the opposite ends of the door carrier, so that an impulse given to either end of the carrier will be communicated independently thereof in the same direction to the other end of the carrier.

11. A furniture unit having ends provided with runways, a plurality of rods spaced longitudinally of the unit and adapted to move in said runways and constituting a door carrier, means for securing the rods together whereby they move in unison in the runways, a door having a top rail provided with a longitudinal groove, means for securing one of said rods of the door carrier in said groove to form a pivotal connection of the door therewith, and means connected with said door carrier for maintaining the same parallel at all times with the front and rear portions of the unit.

12. A furniture unit embodying ends having runways, a plurality of rods adapted to move in said runways and constituting a door carrier, clips securing the rods of the carrier together to cause them to move in unison, a door, means for pivotally securing said door to one of the rods of said carrier, and means connected to the carrier for maintaining the same parallel at all times with the front of said unit.

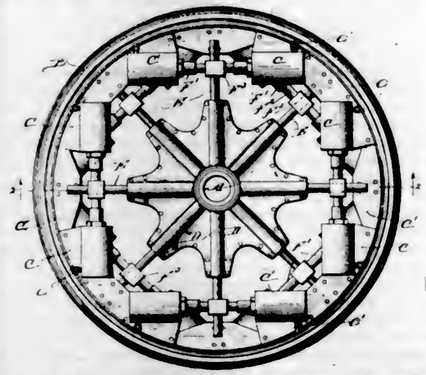
13. In combination with a furniture unit having runways in the ends, and having a slidable door, a pair of rods spaced apart and secured together to slide in said runways and constituting a door carrier, means for pivotally securing the door to said carrier, and means connected to the carrier for maintaining the same parallel at all times with the front of the unit.

14. In a furniture unit having runways in the ends, a door carrier comprising a principal member and a hinging rod or member placed longitudinally of the unit, means for securing the members together, a door having a top rail with a longitudinal groove, and means for securing the hinging rod in said groove to form a pivotal connection of the door therewith.

15. In a furniture unit having runways in the ends, a door carrier comprising a principal member and a hinging member adapted to move in said runways, clips to secure the said members together, a door for the unit, and means for pivotally securing the door to one of said members.

16. In combination with a furniture unit having runways in its ends, a slidable door, a carrier slidable within the runways and comprising a principal member or rod, and a hinging rod, means for securing the member and rod together, and means for pivotally attaching the door to the hinging rod.

865,115. WHEEL. EDWARD D. MARKHAM, Chicago, Ill. Filed Sept. 17, 1906. Serial No. 334,907.



1. A wheel comprising a hub, a rim, spokes secured to the hub and out of engagement with the rim, cylinders carried by the rim, pistons therein and piston rods connected to said pistons, the free ends of the spokes being loosely connected to said rods.

2. A wheel of the kind described comprising a plurality of cylinders arranged in pairs equi-distant apart, a piston in each cylinder, a piston rod connecting the pistons of each pair of cylinders, a hub, spokes carried by the hub, and a rim supporting the cylinders, the spokes passing loosely through the said piston rods.

3. A wheel comprising a rim, cylinders arranged in pairs carried by said rim, the cylinders of each pair being arranged at an angle to adjacent pairs, means for admitting a fluid under pressure to said cylinders, pistons in the cylinders, piston rods connecting cylinders of a pair, a hub, and spokes carried by said hub and terminating short of the rim, said spokes working loosely through and at right angles to said pistons.

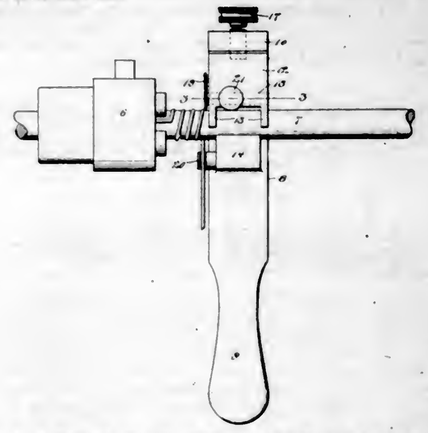
4. A rim having a plurality of pairs of cylinders carried thereby, said cylinders of each pair being in alinement means for simultaneously admitting compressed air to all of the cylinders, pistons in said cylinders, a common piston rod for the piston of each pair of cylinders, a hub movable radially with respect to the rim and spokes carried by said hub and passing loosely and transversely through the said piston rods.

865,116. WINDING-TOOL FOR COILS. JAMES L. MOORE, Atlanta, Ga. Filed Dec. 20, 1906. Serial No. 348,738.

1. A winding tool for coils, having a pair of jaws adapted to engage a mandrel and slidable along the same, and wire guides located beside the mandrel upon the opposite jaws respectively, one of said guides being adjustable to vary the pitch of the coils.

2. A winding tool for coils, having a pair of jaws adapted to engage a mandrel and slidable along the same, and a wire guide adjustable along the mandrel laterally with respect to the jaws, to vary the pitch of the coils.

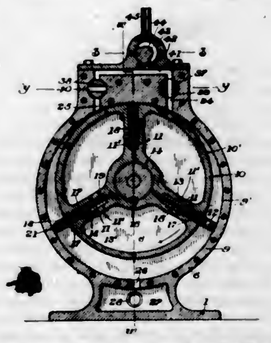
3. A winding tool for coils, having a pair of jaws adapted to engage a mandrel and slidable along the same, and wire guides located beside the mandrel upon the opposite jaws respectively, one of said guides being adjustable to or from the same.



4. A winding tool for coils, having a pair of jaws adapted to engage a mandrel, and wire guides located beside the mandrel upon the opposite jaws respectively, one of said guides comprising a shank adjustable lengthwise and rotatable in one of the jaws, and a head upon said shank, arranged to be turned to or from the mandrel.

5. The combination with a mandrel, of a bar having fixed and movable jaws thereon between which the mandrel is located, and means to fix the movable jaw at adjustment, a grooved stud on the side of one jaw, forming a feeding wire guide, and an adjustable wire guide on the side of the other jaw, forming a pitch gage for the coils.

865,117. ROTARY ENGINE. ERNST MÜHL, Philadelphia, Pa. Filed Oct. 8, 1906. Serial No. 337,855.



1. In a device of the character described, a fixed cylinder, a movable cylinder eccentric thereto, pistons operating in the movable cylinder, an inlet port, a valve, a crank arm operating said valve, a rod connected with said crank arm, and a plurality of pins operating said rod with rotation of the movable cylinder.

2. In a device of the character described, fixed and movable cylinders in eccentric relation, a valve controlling admission of steam thereto, a rod operating said valve, a pin engaging said rod, a lug upon the rod, a lever arm adapted to engage said lug, and means for maintaining the lever arm normally out of contact with said lug.

3. In a device of the character described, a general ad-

mission valve, a plurality of valves controlling forward and reverse passages therefrom, a hand lever, and means for moving the general admission valve by said hand lever.

4. In a device of the character described, a fixed cylinder, a movable cylinder eccentric thereto, pistons operating the movable cylinder, an inlet port, a main valve, a crank arm operating said main valve, a rod connecting with said crank arm, a hand lever, and means upon said rod engaged by the hand lever for operating the same.

865,118. CHAIN SAW. REGINALD L. MUIR, San Francisco, Cal., assignor to West Coast Machinery Company, San Francisco, Cal., a Corporation of California. Filed Nov. 15, 1905. Serial No. 287,455.



1. An endless flexible saw comprising single plates having teeth upon one side and lugs projecting from the opposite side, said plates having their ends offset in opposite directions and with the offset portions of adjacent plates overlapping and pivoted together the said teeth being alternately offset to substantially correspond to the thickness of the joints at the said overlapping offset ends of the plates.

2. In a sawing apparatus, a chain composed of plates pivoted together having teeth projecting from their outer edges and lugs from their inner edges, a distance-piece having journal-boxes at each end, sprockets mounted upon shafts which are journaled in said boxes, one of said shafts being connected with a motor shaft, and means for reversing or changing the angle of said shaft with relation to the motor shaft.

3. In a sawing apparatus, an endless chain of plates pivoted together having teeth upon the outer edges and lugs projecting inwardly, a grooved or channeled distance plate within which the lugs are guided, grooved sprockets having teeth with which the lugs engage and by one of which sprockets the saw is driven, a shaft upon which the driving sprocket is carried, a frame, with journal-boxes in which said shaft is turnable, one of said boxes having a hinged cap member whereby the shaft is readily detachable, a supplemental bearing for the driving sprocket consisting of a plate bolted to the distance piece having a sleeve or box within which the hub of the sprocket is turnable.

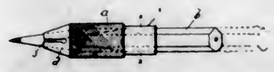
4. In a sawing apparatus, an endless flexible chain of plates pivoted together having teeth upon their outer sides and lugs projecting from their inner edges, a channeled distance piece with grooves in which the lugs are guided, grooved sprockets journaled at the ends of the distance-piece having teeth with which the lugs engage, a yoke or frame in which the driving sprocket is journaled, a motor shaft journaled in said frame, a disk fixed to said frame said disk being mounted concentric with the motor shaft and having annular grooves in its face, connections between the sprocket-carrying frame and said disk whereby the frame may be turned or reversed with relation to the disk.

5. In a sawing apparatus an endless sectional saw composed of links pivoted together, a distance-piece with sprockets journaled in its ends, over which sprockets the saw passes, a shaft through which power is transmitted to one of the sprockets, a frame having step-bearing on one arm and a box with a hinged cap on the other arm in which the shaft is reversible, and mechanism through which motion is transmitted to the shaft and saw when in either position.

6. In a sawing apparatus an endless chain of pivoted links with integral cutting teeth and driving lugs, a distance-piece and guide with sprockets journaled at opposite ends, and over which the saw passes, a slotted frame in which the shaft of the driving sprocket is journaled, a fixed support and means whereby the frame may be vertically adjusted relative to said support, a motor shaft journaled in the slot of said frame, and adjustable gearing between the motor shaft and driving sprocket shaft for maintaining operative connection therebetween when the frame is adjusted.

7. An endless flexible saw comprising single plates having teeth upon one side, said plates having their ends offset in opposite directions and with the offset portions of adjacent plates overlapping and pivoted together; the said teeth being alternately offset to substantially correspond to the thickness of the joints at the said overlapping offset ends of the plates.

865,119. LEAD-PENCIL ATTACHMENT. OSCAR MUSSINAN, New York, N. Y. Filed Sept. 29, 1906. Serial No. 336,735.



1. A pencil point protector comprising a main portion of greater interior diameter than the diameter of a lead pencil, a portion of reduced cross section at one end of the said main portion and adapted to engage and frictionally bind the surface of the pencil, and means at the opposite end of the said main portion for limiting the distance that the pointed end of the pencil may be protruded from the said main portion of the protector and for yieldingly engaging the said pointed end of the pencil when the same is in use.

2. A pencil point protector comprising a main portion of greater interior diameter than the diameter of a lead pencil, a portion of reduced cross section at one end of the said main portion and adapted to engage and frictionally bind the surface of the pencil, and a portion also of reduced cross section at the opposite end of the said main portion and adapted to yieldingly engage the pencil point when the pencil is in use and to limit the distance that the pointed end of the pencil may be protruded from the said main portion of the protector.

3. A pencil point protector comprising a main portion of greater interior diameter than the diameter of a lead pencil, a portion of reduced cross section at one end of the said main portion and adapted to engage and frictionally bind the surface of the pencil, and a portion also of reduced cross section and provided with a longitudinally disposed slot at the opposite end of the said main portion and adapted to yieldingly engage the pointed end of the pencil and limit the distance that the same may be protruded from the said main portion of the protector.

4. A pencil point protector comprising a main portion of greater interior diameter than the diameter of a lead pencil, a portion of reduced cross section at one end of the said main portion and adapted to engage and frictionally bind the surface of the pencil, and a conical open ended portion provided with a longitudinally disposed slot at the opposite end of the said main portion and adapted to yieldingly engage the pointed end of the pencil and limit the distance that the same may be protruded from said main portion of the protector.

5. A pencil point protector comprising a cylindrical main portion adapted to fit freely over a lead pencil and to be gripped by the writer in using the same, a reduced elliptical portion at one end of the said main portion, the minor inner diameter of said elliptical portion being somewhat less than the diameter of a lead pencil so that this portion frictionally engages the surface of the pencil to normally maintain the protector in the desired position thereon.

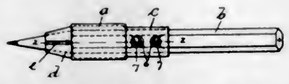
6. A pencil point protector comprising a cylindrical main portion adapted to fit freely over a lead pencil and to be gripped by the writer in using the same, a reduced elliptical portion at one end of the said main portion, the minor inner diameter of said elliptical portion being somewhat less than the diameter of a lead pencil so that this portion frictionally engages the surface of the pencil to normally maintain the protector in the desired position thereon, and a slotted tapering and reduced portion at the opposite end of the said main portion adapted to yieldingly engage the pointed end of a lead pencil and limiting the distance that the same may be protruded beyond the said main portion.

865,120. LEAD-PENCIL ATTACHMENT. OSCAR MUSSINAN, New York, N. Y. Filed Oct. 11, 1906. Serial No. 338,376.



A pencil point protector comprising a main part of greater diameter than the diameter of a lead pencil, a part of reduced cross section at one end of the said main part and having longitudinally and transversely slotted and cut away portions providing for transversely disposed wings adapted to frictionally engage the surface of the lead pencil, and a conical part integral with the other end of the said main part and provided with a longitudinally disposed slot, so that the said conical part yieldingly engages the sharpened end of the lead pencil when the same is in use and limits the distance that the lead pencil may be protruded, also fixing the relation of the pencil and protector in use.

865,121. LEAD-PENCIL ATTACHMENT. OSCAR MUSSINAN, New York, N. Y. Filed Oct. 11, 1906. Serial No. 338,377.



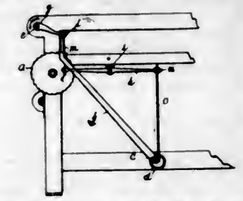
1. A pencil point protector comprising a main part of relatively greater interior diameter than the diameter of a lead pencil, a part of reduced cross section at one end of the said main part and having slots providing for longitudinally and oppositely disposed tongues adapted to frictionally engage the surface of the lead pencil and means at the other end of the said main part for yieldingly engaging the sharpened end of the lead pencil when the same is in use and limiting the movement of the pencil within the protector.

2. A pencil point protector comprising a main part of relatively greater interior diameter than the diameter of a lead pencil, a part of reduced cross section at one end of the said main part and having slots providing for longitudinally and oppositely disposed tongues in alinement on diametrically opposite sides of the said part of reduced cross section, which tongues are adapted to frictionally engage the surface of the lead pencil and means at the other end of the said main part for yieldingly engaging the pointed end of the lead pencil when the same is in use and for limiting the movement of the pencil in one direction within the protector.

3. A pencil point protector comprising a main part of relatively greater interior diameter than the diameter of a lead pencil, a part of reduced cross section at one end of the said main part and having slots providing for longitudinally and oppositely disposed tongues in alinement on diametrically opposite sides of the said part of reduced cross section, which tongues are adapted to frictionally engage the surface of the lead pencil and a conical part integral with the other end of the said main part and provided with a longitudinally disposed slot whereby the said conical part is adapted to frictionally engage the pointed end of the lead pencil when in use, to limit the movement of the lead pencil in one direction within the protector and fix the relation of the pencil and protector for writing.

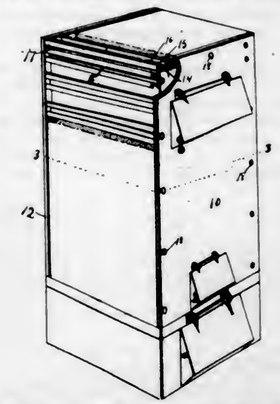
865,122. LOOM. MOSES PERREAULT, New Bedford, Mass. Filed Mar. 13, 1906. Serial No. 305,829.

1. In a loom, a take-up mechanism, a cam shaft provided with an eccentric having a clutch face, another clutch face fixed upon the shaft, means for holding the clutch faces normally together, a rock shaft, a lever having connection with the rock shaft, and a rod having connection with said lever and provided at one end with an enlargement for engagement between the clutch faces to separate them to arrest the take-up mechanism.



2. In a loom, a take-up mechanism, a cam shaft provided with an eccentric having a clutch face, another clutch face fixed upon the shaft, means for holding the clutch faces normally together, and means having connection with the take-up mechanism and provided with means normally free of the clutch faces and for engagement between them to separate them and automatically arrest the take-up mechanism.

865,123. FURNACE-CASING. CHARLES PHELPS, Oskaloosa, Iowa. Filed Jan. 19, 1906. Serial No. 296,837.



1. In a furnace casing, the combination of front and rear furnace walls, furnace side walls offset from the edges of the front and rear walls, projections on said side walls for retaining plastic material and means for connecting the side walls with the front and rear walls.

2. In a furnace casing, the combination of front and rear furnace walls, furnace side walls offset from the edges of the front and rear furnace walls, projections on said side walls for retaining plastic material and rods connected with the front and rear walls and extended adjacent to the outer faces of the side walls.

3. The combination with a furnace front and rear walls, of sheet metal sides offset from the edges of the front and rear walls, reinforcing and retaining strips on the sides, rods connected with the front and rear and passed through the reinforcing and retaining strips.

4. The combination of a furnace front and rear walls, of sheet metal sides offset from the adjacent edges of the furnace front and rear walls, a series of reinforcing and retaining strips on the furnace sides and rods connecting the furnace front and rear with their body portions engaging the furnace sides to prevent them from buckling outwardly.

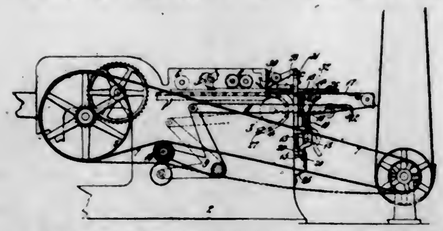
5. The combination with a furnace front and rear walls, sheet metal side portions offset from the adjacent edges of

the furnace front and rear walls, the edge portions of the said front and rear formed with openings, a series of sheet metal reinforcing and retaining strips secured to each side and each comprising a body portion, edge portions projected outwardly from the body portion and toward each other, the margins of which are extended away from each other, rods passed through the openings in the front and rear walls with their body portions extended through the said strips and lying against said strips to prevent said sides from buckling outwardly, and plaster on the sides filling the spaces between the strips and sealing the joints between the sides and the furnace front and rear walls.

6. The combination with a furnace front and rear walls, sheet metal side portions offset from the adjacent edges of the furnace front and rear walls, the edge portions of the said front and rear formed with openings, a series of sheet metal reinforcing and retaining strips secured to each side and each comprising a body portion, edge portions projected outwardly from the body portion and toward each other, the margins of which are extended away from each other, rods passed through the openings in the front and rear walls with their body portions extended through the said strips and lying against said strips to prevent said sides from buckling outwardly, plaster on the sides filling the spaces between the strips and sealing the joints between the sides and the furnace front and rear walls, a furnace top formed of a sheet metal body portion with its front and rear edges engaging the front and rear walls of the furnace and spaced apart from the top thereof and with its side edges projecting over the furnace sides, reinforcing and retaining strips thereon, and plaster covering the top and sealing the joints between the top and the furnace front and rear walls.

7. In a furnace casing, the combination of a flat furnace wall and a series of reinforcing and retaining strips secured thereto, each strip comprising a flat base, sides extending outwardly from the sides of the base and converging toward each other and edge margins on the sides projected away from each other, the edge margins of the adjacent reinforcing strips being spaced apart to admit plastic material between them.

865,124. DEVICE FOR AUTOMATICALLY STOPPING A PLANING-MACHINE. THOMAS B. RICE, Jr., Philadelphia, Pa. Filed May 16, 1907. Serial No. 373,990.



1. In a device of the character described, a belt adapted to impart motion to the operating parts of the machine, a conveyer, a plate situated adjacent said conveyer and adapted to permit free passage of the same when said conveyer is in its normal position and to be elevated by said conveyer, belt tightening means normally held against said belt, a lever, and means actuated by the movement of said plate to release the lever and to move the said belt tightening means to slacken the belt.

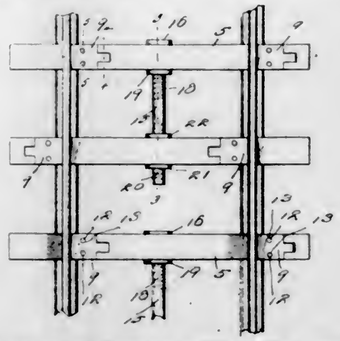
2. In a device of the character described, a belt adapted to impart motion to the operating parts of the machine, a conveyer suitably actuated, a plate situated adjacent said conveyer and permitting free passage thereof when said belt is in its normal position and adapted to be actuated by said conveyer if the latter is forced from its normal position, a rod connected with said plate, a lever pivotally mounted and connected with said rod, a second lever normally in contact with said pivoted lever, a tightening device for said belt, a rod connected therewith and removably attached to said second lever.

3. In a device of the character described, a belt adapted to impart motion to the operating parts of the machine, a tightening device for said belt, a rod connected with said tightening device, teeth on said rod, a lever having a portion thereof engaging with said teeth, a pivoted lever normally holding said first mentioned lever in engagement with said teeth, a rod connected with said lever, a yieldable fulcrum for said lever, a plate connected with said rod, a conveyer normally passing said plate and adapted to actuate the same when raised from its normal position, whereby the machine will be stopped.

4. In a device of the character described, a belt adapted to impart motion to the operating parts of the machine, a tightening device for the belt, a lever normally holding said tightening device in proper position, a pivoted lever controlling said first mentioned lever, a rod connected with said lever and a pivoted plate, a rod pivotally connected therewith and supported on said lever and allowing a board to pass freely to the machine and adapted to be actuated if a plurality of boards are fed thereto to release said lever and stop the machine.

5. In a device of the character described, a belt adapted to impart motion to the operating parts of the machine, a tightening device for said belt, a lever, means for holding said lever in its normal position to normally hold said tightening device against said belt, a rod connected with said lever, a pivoted bar connected with said rod adapted to be actuated to stop the machine should a plurality of boards be fed thereto, a second rod connected with said lever, a plate connected with said second mentioned rod, and a conveyer freely passing said plate when in normal position and adapted to actuate the machine when moved from its normal position.

865,125. RAILWAY-RAIL TIE. JOHN ROBERTS and JAMES E. BLISS, Faust, N. Y. Filed June 27, 1906. Serial No. 323,644.



A tie having rail receiving recesses formed therein, and having minor recesses, communicating with the rail receiving recesses, rail-engaging plates having stem portions hinged in the last mentioned recesses and having their body portions filling that portion of the rail receiving recesses not occupied by the rail flanges, and means for positively holding the plates in engagement with the rails.

865,126. GARMENT-RIPPING TOOL. ASTRID S. ROSING, Chicago, Ill. Filed Dec. 6, 1906. Serial No. 346,595.

1. A garment ripping tool comprising a flat bar of metal terminating at one end in a knife-edge disposed at an incline to the side edges thereof, one of said side edges being provided with a concave recess having a knife-edge wall terminating at one end in the projecting end of said first-named knife-edge.

2. A garment ripping tool comprising a flat bar of metal terminating at one end in a knife-edge disposed at an incline to the side edges thereof, one of said side edges being provided with a concave recess having a knife-edge wall



terminating at one end in the projecting end of said first-named knife-edge and a hook at the other end of said bar terminating in a dull point.

865,127. WRENCH. ELDRIDGE E. SCALES, Braddock, Pa. Filed June 24, 1907. Serial No. 380,466.

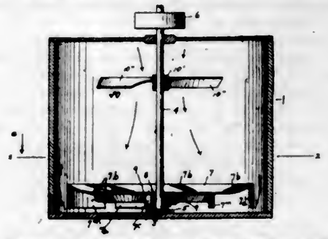


1. A wrench embodying two metallic members slidably connected together, a handle carried by each member, a jaw carried by each member, one of said members having a slot formed therein, a headed pin carried by the other member and extending through said slot, said slotted member having teeth formed on its rear edge, a yoke carried by the other member and having a side arm for engaging said teeth, a bar carried by said member for engaging said teeth, and a lug carried by said slotted member for engaging the jaw of the other member.

2. A wrench embodying two members slidably connected together, handles carried by said members, jaws carried by said members, one of said members having a slot formed therein, a pin carried by the other member and extending through said slot, a yoke carried by the last mentioned member, and adapted to engage teeth formed in said slotted member, and a lug carried by said slotted member for limiting the movement thereof.

3. A wrench embodying two members slidably connected together, a jaw carried by each member, one of said members having a slot formed therein, a pin carried by the other member and protruding through said slot, said slotted member having teeth formed in one edge, and a yoke carried by the other member and adapted to engage the teeth of said slotted member.

865,128. AGITATOR OR MIXING APPARATUS. RICHARD SMITH, Worcester, Mass., assignor to Smith Paper Machinery Company, Portland, Me., a Corporation of Maine. Filed Apr. 1, 1907. Serial No. 365,646.

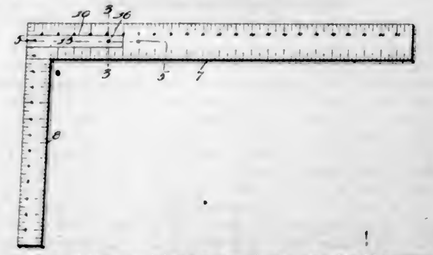


1. In a mixing apparatus, the combination with a rotary shaft, and a hub made separate therefrom and secured thereon, of an agitator made in sections, each section of curved shape and provided with a plate or plates on the under side thereof, and a fin or fins on the upper side thereof, and the contiguous ends of the sections secured together, to form a ring or disk having its central part open for the passage of the material to be mixed, and each section having an attaching arm thereon—extending inwardly therefrom, and having a vertically extending lug on its attaching end, adapted to be secured to said hub.

2. In a mixing apparatus, the combination with a rotary shaft, and a hub made separate therefrom and secured thereon, of an agitator made in sections, each section of curved shape and provided with a plate or plates on the underside thereof, and a fin or fins on the upper side thereof, and the contiguous ends of the sections secured together, to form a ring or disk, having its central part open for the passage of the material to be mixed, and each section having an attaching arm integral therewith—extending inwardly therefrom, and at its outer end extending to the outer edge of the section, and at its inner end having a vertically extending lug thereon adapted to be rearwardly secured to said hub.

3. In a mixing apparatus, the combination with a rotary shaft, and an agitator made in sections, each section of curved shape, and provided with a plate or plates on the underside thereof, and a fin or fins on the upper side thereof, and an attaching arm extending inwardly therefrom, and the contiguous ends of the sections secured together, to form a ring or disk having its central part open for the passage of the material to be mixed, of an auxiliary propeller located above the agitator, and secured on said shaft to revolve in the same direction as the agitator.

865,129. SQUARE. TAHASKA SPARKS, St. Louis, Mo. Filed Feb. 6, 1907. Serial No. 356,123.



1. A square comprising two sections, one of said sections provided with an elongated groove on its one side and a recess on the opposite side, a projection formed on the other section provided with an aperture and arranged to fit one with the other, forming a true square and a spring strip for locking the same together, substantially as specified.

2. A square comprising two sections, a dove-tailed

groove formed in one section, a dove-tailed strip carried by the other section, the one section provided with a mortise, the other section with a tenon, said sections arranged to be inserted one within the other to form a true right-angle, and a spring locking device for securing said sections together, substantially as specified.

3. A device of the class described comprising two sections, a tenon formed on one section, a dove-tailed strip provided with an aperture connected to the tenon and projecting at right-angles thereto, a dove-tailed groove formed in the other member to receive the strip, a mortise formed in the second member to receive the tenon, a spring-strip provided with a pin to engage in an aperture formed in the strip to lock said sections together, the several parts when connected forming a true right-angle and preventing the same from becoming out of square, substantially as specified.

4. A square of the class described comprising two sections, a tenon formed on one section, an elongated dove-tailed strip formed integral with said tenon and projecting at right angles therefrom, a mortise formed in the other section for the insertion of the tenon, an elongated dove-tailed groove formed in said section for receiving the elongated dove-tailed strip, the said strip and the member in which it is inserted being provided with apertures both in alinement when the sections are in position, a recess formed in the one section opposite to the elongated dove-tailed groove, a spring strip located in the recess, and a pin carried by the spring strip to pass through the apertures for locking the sections together, substantially as specified.

865,130. APPARATUS FOR RAISING SUNKEN VESSELS. FERNANDO STAUD Y XIMÉNEZ, Chicago, Ill. Filed Aug. 6, 1906. Serial No. 329,397.



1. A submergible pontoon for the purpose set forth, comprising a shell equipped with an air-pressure and water inlet valve and a water outlet valve, said valves being connected together to adapt them to work simultaneously, and a guide-tube through the shell for a lifting-cable to direct the shell, by filling it with water for sinking it, toward the point of attachment of said cable to a sunken vessel to be raised.

2. A submergible pontoon comprising a shell having a guide-tube extending through it for a lifting cable attachable to a sunken vessel to be raised, an air-and-water inlet valve, a water outlet valve and an air-vent, a rod carried by the water outlet valve, and means for releasably connecting said inlet valve to said rod, whereby said inlet valve may be operated independently of or simultaneously with said outlet valve.

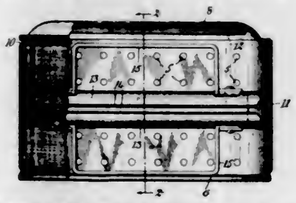
3. A submergible pontoon comprising a shell, having a guide-tube extending through it for a lifting-cable attachable to a sunken vessel to be raised, an air and water inlet valve carrying a sleeve, a water outlet valve and an air-vent, a rod carried by the water outlet valve extending into said sleeve and provided with a stop below the same, and means for releasably fastening said sleeve to said rod, whereby the air and water valve may be operated independently of or simultaneously with said water outlet valve.

4. A submergible pontoon comprising a valve-equipped shell, a tube extending through the shell and adapted to receive a lifting-cable for directing the shell toward the point of attachment of said cable to a sunken vessel to be raised, longitudinal ribs on the inner wall of said tube, and clutch-mechanism comprising series of spring-pressed teeth pivoted to said ribs and adapted to normally extend laterally into the path of the cable to permit the pontoon to be lowered and prevent it from rising thereon.

5. A submergible pontoon comprising a shell provided with an air inlet valve and a water outlet valve, and means for attaching the shell to a sunken vessel to be raised, a tube extending into the shell, through which a portion of its water-contents is expelled, a conduit leading from said tube, and a valved float on the end of said conduit, for the purpose set forth.

6. A submergible pontoon comprising a shell, means for attaching the shell to a sunken vessel to be raised, an air-and-water inlet valve and a water outlet valve on the shell, a valved air-outlet tube and a valved water-outlet tube extending into said shell and having a pipe-connection, and a conduit leading from said common pipe and terminating in a valved float, for the purpose set forth.

865,131. BODY-HEATER. PHILIP STEIN, San Jose, Cal. Filed Jan. 7, 1907. Serial No. 351,129.



1. In a device of the class described, a perforated casing, and a holder within said casing, said holder having a receiving portion, brackets adapted to engage with the top and bottom of the casing and flanges adapted to engage with the side walls of the casing to hold the receiving portion in a substantially central position in respect to the casing.

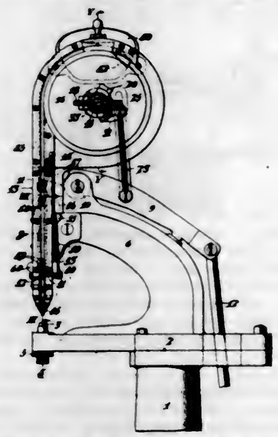
2. A device of the class described, comprising a perforated casing, and a holder for combustible material, said holder comprising a plurality of members each having a semi-cylindrical portion and an intermediate member having oppositely disposed semi-cylindrical portions.

3. A holder for a combustible material, comprising a plurality of members, each member having a receiving portion and outwardly extending portions for supporting the same, and an intermediate member having oppositely disposed receiving portions which coact with the receiving portions of the first mentioned members to form a plurality of pockets.

4. A device of the class described, comprising a perforated casing, a holder within said casing, said holder comprising two similar separable parts, each part comprising a semi-cylindrical receiving portion provided with perforations, a bracket adapted to engage with one wall of the casing, and flanges adapted to engage with other walls of the casing.

5. In a device of the class described, a casing and a removable holder within said casing, said holder comprising two similar separable parts, each part having a semi-cylindrical sheet metal perforated receiving portion, a bracket for engagement with one wall of the casing, and flanges integral with the receiving portion for engagement with opposite sides of the casing.

865,132. RIVETING-MACHINE. MARC STERNBERG, Philadelphia, Pa., assignor to Metallic Specialty Manufacturing Company, Philadelphia, Pa., a Corporation of New Jersey. Filed May 12, 1905. Serial No. 260,174.



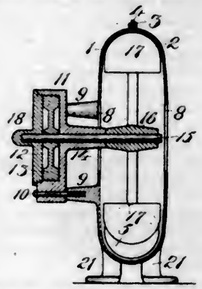
1. In a riveting machine, a pawling mechanism for imparting motion to a rotary hopper consisting of a shaft upon which the hopper is mounted; a ratchet wheel set thereupon; a pawling arm freely mounted upon the shaft; a spring pressed pawl carried by the pawling mechanism; a stud upon the free end of said pawling arm; a lever by which the riveting mechanism is operated; a link connection between the lever and stud including a slot which receives the stud; and, an elastic connection between the stud and the lever, substantially as set forth.

2. In a riveting machine, the combination of a race-way for feeding rivets from a hopper to a plunger; a reciprocating feed plate interrupting the head receiving portion of said race way and delivering one rivet at a time; said feed plate being provided with alternating teeth, the inner edges of which reach into the head receiving portion of said race-way so as to handle the shanks of the rivets in immediate proximity to the head; and the edges of the slot of the race way being correspondingly cut through to receive said teeth, substantially as set forth.

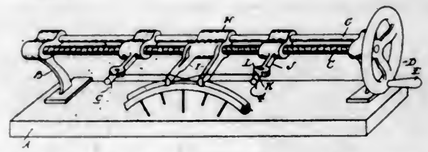
3. In a riveting machine, the combination of a race way for feeding rivets from a hopper to a plunger; a reciprocating feed plate mounted athwart the race way provided with two alternating teeth, the lower of which is beveled on the outward side near its point but straight on the inward side to form a support for the rivet shank and so set in relation to the race way as to bring the straight inner edge of the tooth into immediate proximity to the head of the rivet which rests upon the tooth, substantially as set forth.

865,133. ROTARY FAN-MOTOR. WILLIAM C. STEVENS, Akron, Ohio, assignor to The Crown Drilling Machine Company, Akron, Ohio, a Corporation of Ohio. Filed Jan. 29, 1906. Serial No. 298,530.

The combination in a device of the class designated, of an upright fan casing provided with a plurality of integral laterally-extending posts having in their ends longitudinally-arranged threaded holes, a motor casing having an opening in one face and comprising a hollow cylindrically-formed member with projecting ears provided with means through which may be passed holdfast devices for engagement with the holes in said posts for retaining said casing detachably in position, said casing being further provided with an integrally-depending outlet from the interior thereof and having an interiorly-threaded portion adjacent said opening, said motor casing also provided with an integrally-projecting sleeve extending from one face thereof to said fan casing, a shaft mounted in said sleeve extending into said fan casing, a fan mounted on said shaft within said fan casing, a rotary motor provided with peripheral buckets mounted in said motor casing, a fluid inlet in said motor casing, an exteriorly-threaded cap arranged to engage in the threads in the opening in said motor casing and close the same, said cap being provided with an elongated hollow lug, the opening in which is arranged to inclose and support the extended end of said shaft when said cap is secured in position.



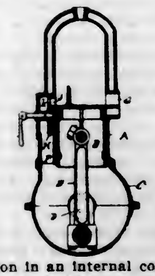
865,134. RUBBER-TIRE SETTER. HENRY L. STOUP, Ypsilanti, Mich. Filed Mar. 9, 1907. Serial No. 361,585.



1. A machine of the character described, comprising a shaft having right and left threaded portions, a guide parallel to said shaft, wire-engaging members respectively engaging said right and left threaded portions of said shaft, and longitudinally slidably engaging said guide, and a bifurcated arm intermediate said wire-engaging members and sleeved upon said shaft and guide.

2. A machine of the character described, comprising a shaft having a right and left threaded portion, a parallel guide shaft, wire-engaging arms respectively engaging the right and left threaded portions of said shaft, and longitudinally slidably engaging said guide, tire-brake shoes detachably engaging sockets in said wire-engaging members and swiveled therein, and a bifurcated arm intermediate said wire-engaging members sleeved upon said shaft and guide.

865,135. INTERNAL-COMBUSTION MOTOR. BENJAMIN L. TOQUET, Westport, Conn. Filed Jan. 6, 1906. Serial No. 294,960.



1. The combination in an internal combustion motor, of a working cylinder, a chamber to supply the explosive

mixture to the working cylinder, connecting means between the cylinder and the chamber, and a screen and valve means whereby the explosive mixture is directed either wholly or partly through the screen or clear of it.

2. The combination in a two-cycle internal combustion motor, of a working cylinder, a crank case, connecting means between the crank case and cylinder and a screen and valve means whereby the explosive mixture is directed either wholly or partly through the screen.

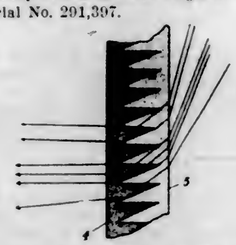
3. The combination of the working chamber of a two-cycle internal combustion motor with a crank case and connecting by-pass and a valve in the by-pass having a clear passage and carrying a screen, whereby, on movement of the valve, the explosive mixture may be directed either through the screen or through the clear passage or through both for the purpose set forth.

4. The combination of the working chamber of a two-cycle internal combustion motor with a crank case and connecting by-pass, and a valve in the by-pass having an opening and a screen partly closing said opening, for the purpose set forth.

5. The combination in an internal combustion motor, of a working cylinder, a chamber to supply the explosive mixture to the working cylinder, connecting means between the cylinder and the chamber, and a screen and means whereby the explosive mixture is directed either wholly or partly through the screen or clear of it.

6. The combination in an internal combustion motor, of a working cylinder, a chamber to supply the explosive mixture to the working cylinder, connecting means between the cylinder and the chamber, and a movable screen whereby the explosive mixture is directed either wholly or partly through the screen or clear of it.

865,136. METHOD OF MAKING PRISM-GLASS. FRANK L. O. WADSWORTH, Pittsburg, Pa., assignor to Pressed Prism Plate Glass Company, Morgantown, W. Va., a Corporation of West Virginia. Filed Dec. 12, 1905. Serial No. 291,397.



1. The method of making prism glass which consists in forming a transparent sheet with a prism surface and then forming a second sheet of transparent material of different density thereon, filling the cavities of the prism surface.

2. The method of making prism glass which consists in rolling a glass sheet, pressing a prism pattern on its surface, and then forming a second sheet of transparent material of different density thereon, filling the cavities of the prism surface.

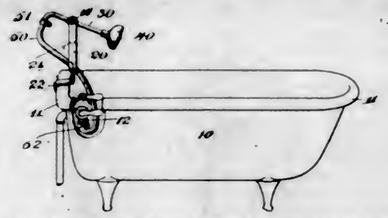
3. The method of making compound multi-layer glass sheets which consists in forming a glass sheet with a figured surface, and then forming a second sheet of glass thereon, filling the cavities of the figured surface.

4. The method of making prism glass which consists in forming a glass sheet with a prism surface and while it is hot forming a second sheet of glass of different density thereon, filling the cavities of the prism surface.

5. The method of making prism glass which consists in rolling a glass sheet, pressing a prism pattern on its surface, and while it is hot forming a second sheet of glass of different density thereon, filling the cavities of the prism surface.

6. The method of making compound multi-layer glass sheets which consists in forming a glass sheet with a figured surface, and while it is hot forming a second sheet of glass thereon, filling the cavities of the figured surface.

865,137. SHOWER-BATH APPARATUS. NANNIE L. WALLEN, Chicago, Ill. Filed Sept. 1, 1906. Serial No. 332,936.



1. In a shower bath apparatus, the combination with a standard having means for detachably connecting it with a tub, of a spray device comprising a tubular stem and a spraying head, a friction device interposed between the spray device and standard having a swivel connection with the standard extending transversely of the stem and adapted to hold the spray device in any angular or longitudinal position relative to the standard, and a flexible connection between the spray device and the faucet of the tub.

2. In a shower bath apparatus, the combination with a standard containing means for embracing the flange of a bath tub, and a set screw for clamping the standard thereto, of a spray device comprising a tubular stem and a spraying head, a friction device interposed between the spray device and standard having a swivel connection with the standard extending transversely of the stem and adapted to retain the spray device in any angular position relative to the standard, and a flexible connection between the spray device and the faucet of the tub.

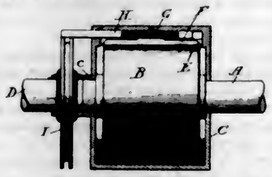
3. In a shower bath apparatus, the combination with a standard having means for detachably connecting it with the flange of a tub, a perforated block, a socket containing perforations adapted to register with the perforation in the block, and bearing against the standard, a screw threaded stud extending through a perforation in the standard and forming a swivel connection between the socket and standard, a nut threaded upon said stud, a shower device containing a tubular stem extending through the perforations in the block and socket, and a flexible connection between the stem and faucet of the tub.

4. In a shower bath apparatus, the combination with a standard having means for detachably connecting it with the flange of a tub, of a socket bearing upon one face of said standard, a block seated in said socket and movable with respect thereto, a screw threaded stud upon said block extending through perforations in the socket and standard and forming a swivel connection between the socket and standard, a nut threaded upon said stud and bearing against the opposite face of the standard, a spray device containing a tubular stem extending through perforations in the block and socket and adapted to be clamped therein by the action of the nut, and a flexible connection between said stem and the faucet of the tub.

5. In a shower bath apparatus, the combination with a standard having means for detachably connecting it with the flange of a bath tub, of a socket bearing upon one face of the standard, a perforated block seated in said socket, a screw threaded stud upon said block extending through a perforation in the standard, and forming a swivel connection between the socket, block and standard, a washer surrounding said stud and having a tongue which engages with a slot in the stud, a nut threaded upon the stud and bearing upon the washer, a spray device containing a tubular stem mounted in the socket and block and a flexible connection between the stem and the faucet of the tub.

865,138. POWER-TRANSMISSION DEVICE. EDWARD P. WARNER, Chicago, Ill., assignor, by mesne assignments, to Warner Clutch Company, a Corporation of Illinois. Filed Sept. 4, 1906. Serial No. 333,244.

1. A transmission device comprising a power-shaft; a driven-shaft independent thereof; a shell secured to said driven-shaft and inclosing a portion of said power-shaft; a band mounted on the interior of said shell and surrounding said power-shaft; a toggle-joint having one of its links engaging said shell and the other link engaging the free end of said band; and means for operating said toggle-joint whereby said band is gradually tightened around said power-shaft.



2. A transmission device comprising a power-shaft; a drum mounted thereon; a driven-shaft independent of said power-shaft; a shell secured to said driven-shaft and inclosing said drum; a band mounted on the interior of said shell and surrounding said drum; a toggle-joint having one of its links engaging said shell and the other link engaging the free end of said band; and means for operating said toggle-joint whereby said band is gradually tightened around said drum.

3. A transmission device comprising a power-shaft; a driven-shaft independent thereof; a shell secured to said driven-shaft and inclosing a portion of said power-shaft; a band mounted on the interior of said shell and surrounding said power-shaft; a toggle-joint having one of its links engaging said shell and the other link engaging the free end of said band; a pinion having one end of its spindle screw-threaded and tapped into a bearing in said shell, and the opposite end engaging said toggle; and means for revolving said pinion whereby said toggle is operated to gradually tighten said band around said power-shaft.

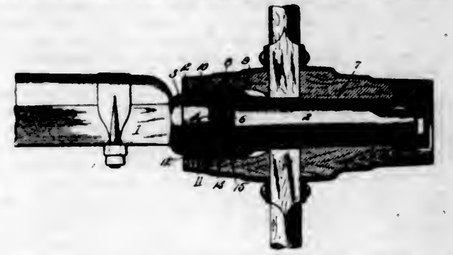
4. A transmission device comprising a power-shaft; a drum mounted thereon; a driven-shaft independent of said power-shaft; a shell secured to said driven-shaft and inclosing said drum; a band mounted on the interior of said shell and surrounding said drum; a toggle-joint having one of its links engaging said shell and the other link engaging the free end of said band; a pinion having one end of its spindle screw-threaded and tapped into a bearing in said shell, and the opposite end engaging said toggle; and means for revolving said pinion whereby said toggle is operated to gradually tighten said band around said power-shaft.

5. A transmission device comprising a power-shaft; a driven-shaft independent thereof; a shell secured to said driven-shaft and inclosing a portion of said power-shaft; a band mounted on the interior of said shell and surrounding said power-shaft; a toggle-joint having one of its links engaging said shell and the other link engaging the free end of said band; a pinion having one end of its spindle screw-threaded and tapped into a bearing in said shell, and the opposite end engaging said toggle-joint; and a reciprocal rack-bar adapted to revolve said pinion whereby said toggle is operated to gradually tighten said band around said power-shaft.

6. A transmission device comprising a power-shaft; a drum mounted thereon; a driven-shaft independent of said power-shaft; a shell secured to said driven-shaft and inclosing said drum; a band mounted on the interior of said shell and surrounding said drum; a toggle-joint having one of its links engaging said shell and the other link engaging the free end of said band; a pinion having one end of its spindle screw-threaded and tapped into a bearing in said shell, and the opposite end engaging said toggle; and a reciprocal rack-bar adapted to revolve said pinion whereby said toggle is operated to gradually tighten said band around said drum.

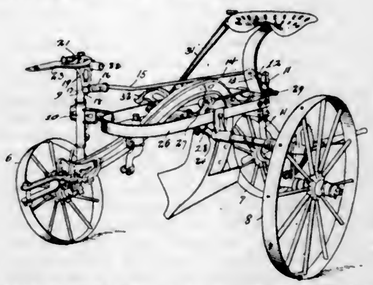
865,139. COMBINED SPINDLE AND VEHICLE-WHEEL AXLE-BOX. CHARLES N. WATERHOUSE, St. Louis, Mo. Filed Jan. 24, 1907. Serial No. 353,830.

The combination of a spindle formed with an annular shoulder at its rear end, with a rear plain circular portion in advance of the annular shoulder, with an inner screw thread turned in one direction in advance of the rear plain circular portion and with a reduced portion having an outer screw thread turned in the opposite direction to the inner screw thread, an axle-nut formed with an annular vertical rim bearing against the annular shoulder of the spindle and with an external screw thread and mounted on the rear plain circular portion of the spindle, the inner take-up nut mounted on the inner screw thread of the spindle, and bearing against the axle-nut, the outer



jam nut of the same diameter as the inner take-up nut and mounted on the outer screw thread of the reduced portion of the spindle and bearing against the inner take-up nut, and the axle box mounted on the spindle and having an enlargement formed with an internal plain circular portion mounted on the inner take-up and outer jam nuts, and with an internal screw thread, engaging the external screw thread of the axle nut and bearing against the vertical rim of the latter.

865,140. WHEELED PLOW. IRA A. WEAVER, Springfield, Ill. Filed Dec. 16, 1903, Serial No. 185,385. Renewed Dec. 30, 1904. Serial No. 238,875.



1. In a wheeled plow, the combination with a caster wheel and a front furrow wheel, of a thrust rod connecting said wheels, said thrust rod being connected to the caster wheel standard by a vertically swinging link, substantially as described.

2. In a wheeled plow, the combination with a caster wheel standard and arm carried thereby, a thrust rod pivotally connected to said arm and a swinging link connection the forward end of said thrust rod to the standard, the axis of said link being arranged adjacent and at a right angle to the standard and the connection between the rod and the link being adapted to permit the latter to swing through the arc of a circle in turning, substantially as described.

3. In a wheeled plow, the combination with a caster wheel standard adapted to turn in its bearings, an arm rigid with said standard, a thrust rod pivotally connected with said arm, a front furrow wheel swiveled on said frame, a swinging link having a sleeve connection with the forward end of said thrust rod, and said link being mounted on a pivotal axis carried by the front furrow wheel standard at right angles thereto and to said sleeve, substantially as described.

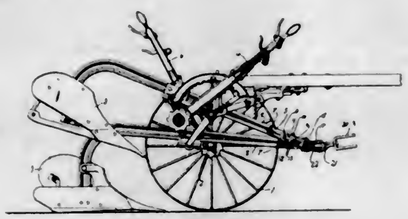
4. In a wheeled plow, the combination with the carrying

wheels and frame of a wheel axle journaled to the frame and provided with a bail, an arm connected with the bail, a rod connecting the frame and said arm, said rod having a slotted connection with the arm and a lifting spring connected with the bail and the frame, substantially as described.

5. In a wheeled plow, the combination with a carrying wheel having an axle provided with a bail, of a frame mounted on said axle, a plow beam pivotally connected with the bail, an arm connected with the bail, a rod having a slotted connection with the arm, a lifting-spring connected with the bail and with the frame, and a bell-crank lever pivoted on the frame and connected to the rear end of the plow beam and to the end of said rod, substantially as described.

6. In a wheeled plow, the combination with the carrying wheels and frame, of a plow beam, a bail pivotally connecting the plow beam and frame for raising and lowering the plow, and a bell crank pivotally mounted in the frame in rear of the plow upon an axle supported at each end in the frame, one arm of said bell crank being pivotally connected with the rear portion of said plow beam and the other arm connected with the bail, substantially as described.

865,141. PLOW. HARRY WIARD, Syracuse, N. Y. Filed Oct. 17, 1906. Serial No. 339,331.



1. In a plow, a pair of plow-carrying beams, means for shifting the rear end of one of the beams vertically relatively to the rear end of the other beam, and for simultaneously shifting the front end of said one of the beams relatively to the front end of the other beam, the front ends of said beams being in substantially the same horizontal plane when their rear ends are out of horizontal alinement, a bar having its ends supported by the front ends of said beams, and having each end held from substantial vertical movement relatively to the front end of the contiguous beam, the bar inclining rearwardly from one of the beams when the plow carried by said beam is in its plowing or depressed position, and a draft-member movable lengthwise of the bar, substantially as and for the purpose described.

2. In a plow, a pair of plow-carrying beams, each comprising at its front end a connecting member movable substantially horizontally relatively to the remaining part of the beam and prevented from substantial vertical movement relatively to said remaining part, means for shifting the rear end of one of the beams vertically relatively to the other beam, and for simultaneously shifting the front end of said one of the beams relatively to the front end of the other beam, the front ends of said beams being in substantially the same horizontal plane when their rear ends are out of horizontal alinement, a bar having its ends supported by the front ends of the connecting members, and having each end held by the contiguous connecting member from substantial vertical movement relatively to the front end of the contiguous beam, the bar inclining rearwardly from one of the beams when the plow carried by said beam is in its plowing or depressed position, and a draft-member movable lengthwise of the bar, substantially as and for the purpose specified.

3. In a plow, a pair of plow-carrying beams, each comprising at its front end a horizontally-flattened portion having substantially vertical openings, a connecting member having a slot opening from its rear edge for receiving, and substantially fitting, said flattened portion, and a pivot for the connecting member passed through one of said vertical openings, means for shifting the rear end of one of the beams vertically relatively to the other beam, and for simultaneously shifting the front end of said one of the beams relatively to the front end of the other beam, the front ends of said beams being in substantially the same horizontal plane when their rear ends are out of horizontal alinement, a bar having its ends supported by the connecting members, and having each end held by the contiguous connecting member from substantial vertical movement relatively to the front end of the contiguous beam, the bar inclining rearwardly from one of the beams when the plow carried by said beam is in its plowing or depressed position, and a draft-member movable lengthwise of the bar, substantially as and for the purpose set forth.

4. In a plow, a pair of plow-carrying beams, each comprising at its front end a horizontally-flattened portion having substantially vertical openings, a connecting member having a slot opening from its rear edge for receiving, and substantially fitting, said flattened portion, and having a horizontally-extending eye in its front end, and a pivot for the connecting member passed through one of said vertical openings, means for shifting the rear end of one of the beams vertically relatively to the other beam, and for simultaneously shifting the front end of said one of the beams relatively to the front end of the other beam, the front ends of said beams being in substantially the same horizontal plane when their rear ends are out of horizontal alinement, a bar having its ends supported by the horizontally-extending eyes of the connecting members, and having each end held by the contiguous connecting member from substantial vertical movement relatively to the front end of the contiguous beam, the bar inclining rearwardly from one of the beams when the plow carried by said beam is in its plowing or depressed position, and a draft-member movable lengthwise of the bar, substantially as and for the purpose described.

5. In a plow, a pair of plow-carrying beams, each comprising at its front end a vertically-adjustable connecting member formed with a horizontally-flattened portion having substantially vertical openings, means for holding the connecting member in its adjusted position relatively to the main part of the beam, a second connecting member having a slot opening from its rear edge for receiving, and substantially fitting, said flattened portion, and having a horizontally-extending eye in its front end, and a pivot for the rear end of the second connecting member passed through one of said vertical openings, means for shifting the rear end of one of the beams vertically relatively to the other beam, and for simultaneously shifting the front end of said one of the beams relatively to the front end of the other beam, the front ends of said beams being in substantially the same horizontal plane when their rear ends are out of horizontal alinement, a bar having its ends supported by the horizontally-extending eyes of the connecting members, and having a limited movement horizontally relatively thereto, and having each end held by the contiguous connecting member from substantial vertical movement relatively to the front end of the contiguous beam, the bar inclining rearwardly from one of the beams when the plow carried by said beam is in its plowing or depressed position, and a draft-member movable lengthwise of the bar, substantially as and for the purpose specified.

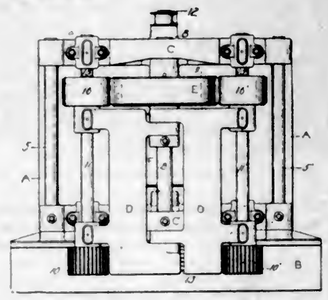
6. In a plow, a pair of plow-carrying beams having horizontally-extending eyes in their front ends formed with cup-shaped outer portions, means for shifting one of the beams relatively to the other, a bar supported by the horizontally-extending eyes, and having a limited movement horizontally relatively thereto, said bar having semi-spherical surfaces coacting with the cup-shaped outer portions of the eyes, and a draft-member movable lengthwise of the bar, substantially as and for the purpose set forth.

7. In a plow, a pair of plow-carrying beams having horizontally-extending eyes in their front ends, said eyes being formed with convex inner surfaces, means for shifting the rear end of one of the beams vertically relatively to the rear end of the other beam, and for simultaneously shifting the front end of said one of the beams relatively to the front end of the other beam, the front ends of said beams being in substantially the same horizontal plane when their rear ends are out of horizontal alinement, a cylindrical bar supported by the horizontally-extending eyes, and having a limited movement horizontally relatively thereto, the bar being provided with enlarged ends having opposing semi-spherical surfaces coacting with the convex inner surfaces of the eyes, and said bar inclining rearwardly from one of the beams when the plow carried by said beam is in its plowing or depressed position, and a draft-member movable lengthwise of the bar, substantially as and for the purpose described.

8. In a plow, a pair of plow-carrying beams, each comprising at its front end a vertically-adjustable connecting member formed with a horizontally-flattened portion having substantially vertical openings, means for holding the connecting member in its adjusted position relatively to the main part of the beam, a second connecting member having a slot opening from its rear edge for receiving, and substantially fitting, said flattened portion, and having a horizontally-extending eye in its front end formed with a convex inner surface, and a pivot for the rear end of the second connecting member passed through one of said vertical openings, means for shifting the rear end of one of the beams vertically relatively to the other beam, and for simultaneously shifting the front end of said one of the beams relatively to the front end of the other beam, the front ends of said beams being in substantially the same horizontal plane when their rear ends are out of horizontal alinement, a cylindrical bar having its ends supported by the horizontally-extending eyes of the connecting members, and having a limited movement horizontally relatively thereto, and having each end held by the contiguous connecting member from substantial vertical movement relatively to the front end of the contiguous beam, the bar being provided with enlarged ends having opposing semi-spherical surfaces coacting with the convex inner surfaces of the eyes, and said bar inclining rearwardly from one of the beams when the plow carried by said beam is in its plowing or depressed position, and a draft-member movable lengthwise of the bar, substantially as and for the purpose specified.

9. In a plow, a pair of plow-carrying beams, each comprising at its front end a vertically-adjustable connecting member formed with a horizontally-flattened portion having substantially vertical openings, means for holding the connecting member in its adjusted position relatively to the main part of the beam, a second connecting member having a slot opening from its rear edge for receiving, and substantially fitting, said flattened portion, and having a horizontally-extending eye in its front end formed with a convex inner surface, and a pivot for the rear end of the second connecting member passed through one of said vertical openings, means for shifting the rear end of one of the beams vertically relatively to the other beam, and for simultaneously shifting the front end of said one of the beams relatively to the front end of the other beam, the front ends of said beams being in substantially the same horizontal plane when their rear ends are out of horizontal alinement, a cylindrical bar having its ends supported by the horizontally-extending eyes of the connecting members, and having a limited movement horizontally relatively thereto, and having each end held by the contiguous connecting member from substantial vertical movement relatively to the front end of the contiguous beam, the bar being provided with enlarged ends having opposing semi-spherical surfaces coacting with the convex inner surfaces of the eyes, and said bar inclining rearwardly from one of the beams when the plow carried by said beam is in its plowing or depressed position, and a draft-member movable lengthwise of the bar and provided with a roller coacting with the rear surface of the bar, substantially as and for the purpose described.

865,142. LATH-MILL. CHARLES W. WILLETT, Everett, Wash., assignor of one-half to Sumner Iron Works, Everett, Wash., a Corporation. Filed Apr. 22, 1907. Serial No. 369,662.



1. In a lath-mill, the combination with a sawing table B, having a side guide, of reversible presser and feed roller mechanism, consisting of an idler wheel 9, of suitable diameter, rotatively mounted on a shaft 8, placed at a suitable height on the frame, oppositely disposed members D D', loosely mounted on the shaft 8 and carrying parallel to said shaft at their respective outer sides, shafts 11, 11', at one end of which latter shafts are mounted presser rollers 10, 10', and at the opposite ends thereof pulleys 16, 16', also feed rollers 14, 14' mounted on the shafts 15, 15' in the frame below the presser rollers, a continuous power transmitting belt E, connected with a suitable power source and so arranged upon the pulleys of the shafts 11, 11' and 15, 15' and the idler 9 as to cause the feed rollers to rotate in an opposite direction to that of the saws, and the presser rollers to rotate in the opposite direction to that of the feed rollers, substantially as described.

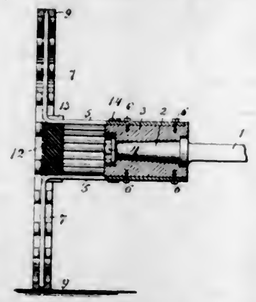
2. In a lath-mill, the combination with a gang saw 13, suitably mounted in a frame A, provided with a sawing table B, of reversible presser and feed roller mechanism, consisting of an idler wheel 9, of suitable diameter, rotatively mounted on a shaft 8, placed at a suitable height on the frame, oppositely disposed members D D', loosely mounted on the shaft 8 and carrying parallel to said shaft at their respective outer sides, shafts 11, 11', at one end of which latter shafts are mounted presser rollers 10, 10', and at the opposite ends thereof pulleys 16, 16', also feed rollers 14, 14' mounted on the shafts 15, 15' in the frame below the presser rollers, a continuous power transmitting belt E, connected with a suitable power source and so arranged upon the pulleys of the shafts 11, 11' and 15, 15' and the idler 9 as to cause the feed rollers to rotate in the opposite direction to that of the saws, and the presser rollers to rotate in the opposite direction to that of the feed rollers, substantially as described.

3. In a lath-mill, the combination of a continuous power transmitting belt E, connected with a suitable source of power, of reversible presser and feed roller mechanism consisting of an idler wheel 9, of suitable diameter, rotatively mounted on a shaft 8, placed at a suitable height on the frame of the machine, oppositely disposed members D D', loosely mounted on the shaft 8 and carrying parallel to said shaft at their respective outer sides, shafts 11, 11', at one end of which latter shafts are mounted presser rollers 10, 10', and at the opposite ends thereof pulleys 16, 16', also feed rollers 14, 14' mounted on the shafts 15, 15' in the frame below the presser rollers, the belt E being so arranged upon the pulleys of the shafts 11, 11' and 15, 15' and the idler 9 as to cause the feed rollers to rotate in the opposite direction to that of the gang saws of the mill, and the presser rollers to rotate in the oposite direction to that of the feed rollers, substantially as described.

4. A lath-mill comprising a frame A, saws suitably mounted on a saw arbor, a sawing table B, having a side guide, and reversible presser and feed roller mechanism consisting of an idler wheel 9, of suitable diameter, rotatively mounted on a shaft 8, placed at a suitable height on

the frame, oppositely disposed members D D', loosely mounted on the shaft 8 and carrying parallel to said shaft at their respective outer sides, shafts 11, 11', at one end of which latter shafts are mounted presser rollers 10, 10', and at the opposite ends thereof pulleys 16, 16', also feed rollers 14, 14' mounted on the shafts 15, 15' in the frame below the presser rollers, a continuous power transmitting belt E, connected with a suitable power source and so arranged upon the pulleys of the shafts 11, 11' and 15, 15' and the idler 9 as to cause the feed rollers to rotate in an opposite direction to that of the saws, and the presser rollers to rotate in the opposite direction to that of the feed rollers substantially as described.

865,143. VEHICLE-WHEEL. GEORGE R. WILLIAMS, Little Rock, Ark. Filed Aug. 22, 1906. Serial No. 331,588.



1. A vehicle-wheel having a hub, a plurality of longitudinally disposed bars attached to said hub and extending therebeyond, a member received between said bars at a point removed from said hub, and a felly attached to said bars, near the plane of the outer extremities thereof.

2. A wheel comprising a hub having a plurality of bars attached thereto and extending beyond the end of said hub, said bars having lateral extensions disposed substantially radially from the axis of said wheel, whereby they constitute spokes, a felly attached to the end of said spokes, and a resilient block received between the said bars and reinforcing the same.

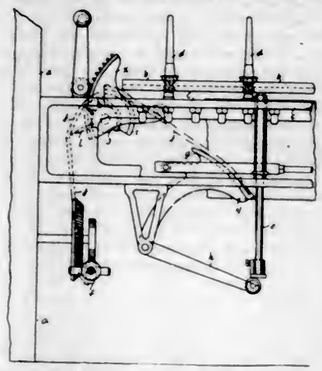
3. A wheel comprising a hub having a plurality of bars attached thereto and extending beyond the end thereof, said bars having radial extensions, whereby they constitute spokes, a felly attached to said radial extensions, and a resilient block disposed between said bars and having grooves in the edge thereof, receiving said bars.

4. A wheel comprising a hub having a plurality of longitudinally-extending bars, projecting beyond the end thereof and forming a cage, said bars having radial extensions constituting spokes, a felly consisting of a plurality of jointed links attached to said spokes, and a resilient block received in said cage.

5. A wheel comprising a hub having a plurality of bars attached to the outer face thereof and extending longitudinally beyond the end of said hub to form a cage, said bars having radial extensions whereby they constitute spokes, a felly consisting of a plurality of links joined together, said links being mounted respectively upon said spokes, and a resilient block received in the end of said cage and having grooves in the periphery thereof, respectively receiving said bars.

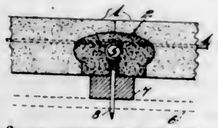
865,144. RING-SPINNING MACHINE. THOMAS YATES, Greengate Mills, Salford, England, assignor to Langworthy Brothers & Company Limited, Greengate Mills, Salford, England. Filed Sept. 2, 1905. Serial No. 276,902.

In a ring spinning machine, a ring rail, a lifting rod therefor, a lever actuating said lifting rod, a chain secured to said lever, and means for actuating said chain, in combination with a pulley having arms adjustable in relation



to their length, whereby the speed at which said lever is effected may be varied at will.

865,145. REINFORCED CONCRETE CONSTRUCTION. SAMUEL B. ZIMMER, Oakland, Cal. Filed Oct. 13, 1906. Serial No. 338,703.



1. Walls or floors constructed of integral slabs having vertical and transverse reinforcing rods and wires, channels made at the edges of the slabs having rods extending lengthwise thereof, around which the transverse wires are wound and secured, nails arranged at right angles to the rods and about which the said transverse wires are wound or twisted, and a filling of binding material inclosing the rods in the channels and the wound portion of the nails and locking the slabs together.

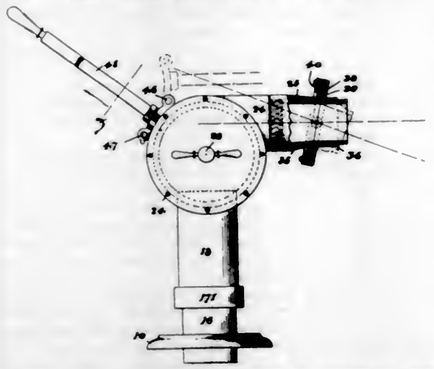
2. In a wall, floor and like construction, a series of integral slabs having grooves or channels made at their meeting edges, rods extending lengthwise within said channels, wires and rods molded into the concrete slabs when they are constructed said wires having their ends projecting so as to enter the channels between the slabs, and being wound around the rods to secure the slabs together, nails arranged at right angles to the rods and having heads proximate thereto and about which the transverse wires are also wound or twisted, and a filling of concrete or binding material within which the rods in the channels and the headed ends of the nails and projecting ends of the wires are embedded.

3. In a wall, floor and like construction, integral slabs of concrete having rods and wires embedded transversely within them, said slabs having grooves or channels at their meeting edges, rods extending longitudinally of said channels, around which rods the projecting ends of the wires are coiled and secured, a filling of concrete or binding material within the channels, nails embedded in the concrete, said nails having headed ends proximate to the rods and about which the ends of the wires are wound or twisted, said nails having their points projecting outwardly, and furring strips secured upon the projecting points of said nails.

4. In a wall, floor and like construction, integral slabs of concrete having rods and wires embedded transversely within the material during the formation of the slab, grooves or channels at the edges, means for securing the projecting ends of the wires to bind the slabs together, a filling of concrete binding material, nails embedded in said filling, said nails having headed ends proximate to the rods and about which heads the transverse wires are wound or twisted, said nails projecting outwardly having furring strips secured to the projecting ends of the nails, lathing supported upon said furring strips forming an open space between the slabs and the lathing, and a finished covering of plaster secured to the wall.

5. In a wall, floor and like structure, integral concrete slabs having longitudinally registering grooves or recesses between their meeting edges, rods extending through the slabs parallel with the recesses, a filling of concrete in said recesses, nails having their heads embedded in the said cement filling, transverse wires embedded in the slabs with their ends projecting into the recesses, and wound or twisted about the rods and the nail heads.

865,146. HOSE-NOZZLE. HONESTUS M. ALBEE, Nutley, N. J. Filed Oct. 25, 1905. Serial No. 284,284.

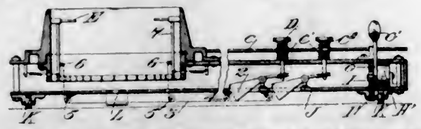


1. An improved nozzle, comprising a supporting pipe, a sleeve arranged to turn on the supporting pipe, a cylindrical head secured to the sleeve and having a slot therein, a cylindrical carrier outside the head, a nosing tangentially arranged in the periphery of the carrier, a handle on the carrier having a transverse arm on its end, one end of the arm being pivoted to the carrier, and means for detachably securing the other end of the arm to the carrier.

2. An improved nozzle comprising a vertical pipe arranged to rotate, a cylindrical head comprising an inner and outer member, and a nosing arranged on the outer member to provide a tangential outlet for water from the head to the nosing, and a nozzle on the end of the nosing.

3. An improved nozzle comprising a vertical pipe arranged to rotate, a cylindrical head comprising an inner and outer member, and a nosing arranged on the outer member having its outside edge arranged tangentially to the casing of the cylindrical head forming an unbroken path for the water to emerge from the head, and a nozzle on the end of the nosing.

865,147. TYPE-WRITER. GEORGE A. ALDRICH, San Francisco, Cal. Filed Sept. 29, 1905. Serial No. 280,607.



1. In a typewriter, the combination of a carriage having bearing wheels upon which it is movable, type-carrying bars, keys, and levers, a spring-pressed plate horizontally disposed beneath the keys with which each key contacts when depressed, a spring-pressed escapement actuated by the depression of said plate, and connections between the escapement and the bearing wheels of the carriage whereby the carriage is moved at each impulse a distance equal to the space between characters.

2. In a typewriter, a carriage having bearing wheels upon which it is movable transversely, fulcrumed type-carrying bars, keys and levers by which said type bars are actuated, a spring-pressed member underlying the keys and actuated by the latter, a spring-pressed escapement actuated by said member in unison with the depression of any key, said escapement comprising a ratchet wheel and a detent lever said lever having two pawls to engage said ratchet wheel, and having an arm which extends through the said spring-pressed member, and gearing between the escapement and bearing wheels whereby the latter are simultaneously revolved to advance the machine.

3. In a typewriter, a frame or body, wheels upon which it is movable transversely, fulcrumed type bars, rollers and an inking ribbon passing thereover in a plane between the frame and the surface over which it is movable, an opening through the frame through which the types may be propelled to imprint through the ribbon upon the surface beneath, depressible keys by which the type bars are actuated, a plate beneath the keys with which each key contacts when depressed, spring-pressed escapement mechanism actuated by the depression of the plate, and gearing between said escapement and the bearing-wheels whereby the latter are moved at each impulse to advance the machine a space equal to that between the letters.

4. In a typewriter, a frame having hinged bars carrying types upon their ends, keys by which said types are moved and the type projected through the center of the frame, an inking ribbon carried below said frame and parallel with the surface to be imprinted, bearing rollers or wheels journaled to travel parallel with the lines to be imprinted, an escapement and intermediate gearing whereby the wheels are turned to advance the carriage, a plate through which the stems of the finger-keys pass, springs upon said key stems located above and below the plate, said plate being depressible in unison with the key movement, and an escapement pawl carried by the plate.

865,148. DRILLING-MACHINE. ERNST ALSLEBEN, Charlottenburg, near Berlin, Germany, assignor of one-half to Max Steinberg, Charlottenburg, near Berlin, Germany. Filed May 23, 1907. Serial No. 375,239.

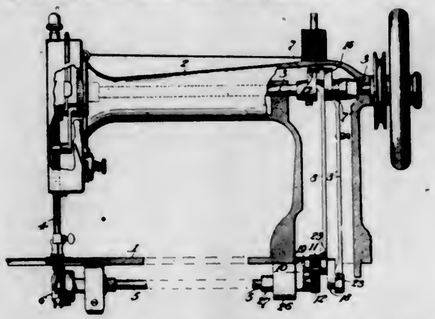


1. A rotary drilling machine, comprising a rotating hollow driving shaft, a tubular and toothed feed bar arranged therein, a rotary driver tube arranged in the tubular feed bar and having a sliding key, a grooved and slidably connected hollow bar arranged in the driver tube, a drill spindle arranged inside said slidably connected and grooved bar, a back-thrust pressure regulating spring ar-

ranged concentrically behind the drill spindle and its surrounding grooved bar and between them and the feed bar, to be compressed by the drilling strain, a toothed transmission gear meshing with the tubular and toothed feed bar and a friction clutch arranged in the transmission gear and adapted to yield under a more than normal compression of the spring behind the drill spindle and its inclosing hollow bar.

2. A rotary drilling machine, comprising a rotating hollow driving shaft, a tubular and toothed feed bar arranged therein, a rotary driver tube arranged in the tubular feed bar and having a sliding key, a grooved and slidably connected hollow bar arranged in the driver tube, a drill spindle arranged inside said slidably connected and grooved bar, a back-thrust pressure regulating spring arranged concentrically behind the drill spindle and its surrounding grooved bar and between them and the feed bar to be compressed by the drill strain, a toothed transmission gear meshing with the hollow and toothed feed bar and deriving motion from the outer driving shaft, a friction clutch arranged in the transmission gear and adapted to yield under a more than normal compression of the back-thrust spring, said friction clutch having its shaft extending through the casing and provided with a hand wheel and a rigid interlocking clutch and means for connecting or disconnecting said hand wheel to the shaft of the friction clutch at the will of the operator.

865,149. SEWING-MACHINE. WILLIAM M. AMMERMAN, New Haven, Conn., assignor to The Edwin J. Toof Company, New Haven, Conn., a Corporation of New Jersey. Filed Sept. 18, 1906. Serial No. 335,089.



1. In a sewing machine, the combination of a driving crank, a driven crank, a link operatively connecting said cranks and being provided with a gear rigidly attached thereto, a shaft having a gear in operative connection with the link gear to receive motion therefrom, and a looper actuated from said shaft.

2. In a sewing machine, the combination of a driving shaft having a driving crank, a driven crank, a link operatively connecting said cranks and being provided with a gear rigidly attached thereto, a looper shaft having a gear in operative connection with the link gear to receive motion therefrom, a looper actuated from said looper shaft, and a needle-bar actuated from the driving shaft.

3. In a sewing machine, the combination of a driving shaft having a driving crank, a driven crank, a link operatively connecting said cranks and being provided with a gear rigidly attached thereto, a looper shaft having a gear in operative connection with the link gear to receive motion therefrom, a looper actuated from said looper shaft, a feed-operating-device actuated from said driven crank, and a needle-bar actuated from the driving shaft.

4. In a sewing machine, the combination of a driving shaft having a driving crank, a driven crank, a link operatively connecting said cranks and being provided with a gear rigidly attached thereto, a looper shaft provided with a gear having the same number of teeth as the link gear and being held in mesh with the latter to receive motion therefrom, a looper actuated from said looper shaft, and a needle-bar actuated from the driving shaft.

5. In a sewing machine, the combination of a driving shaft having a driving crank, a driven crank, a link operatively connecting said cranks and being provided with a gear rigidly attached thereto, a looper shaft provided with a gear having the same number of teeth as the link gear and being held in mesh with the latter to receive motion therefrom, a feed-operating-device actuated from said driven crank, and a needle-bar actuated from the said driving shaft.

6. In a sewing machine, the combination of a driving crank, a driven crank, a link operatively connecting said cranks and being provided with a gear rigidly attached thereto, a shaft having a gear in operative connection with the link gear to receive motion therefrom, a looper actuated from said shaft, a hollow shaft fitted over the looper shaft and having connection with the driven crank to be revolved thereby, and a feed-operating-device carried and actuated by said hollow shaft.

7. In a sewing machine, the combination of a driving crank, a driven crank, a link operatively connecting said cranks and being provided with a gear rigidly attached thereto, an eccentric bushing adjustably interposed between the link and one of the cranks, a shaft having a gear in operative connection with the link gear to receive motion therefrom, and a looper actuated from said shaft.

8. In a sewing machine, the combination of a driving crank, a driven crank, a link operatively connecting said cranks, a gear rigidly attached to said link and having a hollow eccentric hub interposed as a bushing between the link and one of the cranks, a looper, and a looper shaft having a gear in operative connection with the link gear to receive motion therefrom.

9. In a sewing machine, the combination of a double driving crank the two members of which are set at an angle to each other, a double driven crank the two members of which are set at an angle to each other corresponding to that of the driving crank, two links operatively connecting said cranks and one being provided with a gear rigidly attached thereto, a looper, and a looper shaft having a gear in operative connection with the link gear to receive motion therefrom.

10. In a sewing machine, the combination of a double driving crank the two members of which are set at an angle to each other, a double driven crank the two members of which are set at an angle to each other corresponding to that of the driving crank, two links operatively connecting said cranks and one being provided with a gear rigidly attached thereto, an eccentric bushing adjustably interposed between each of the two links and one of the connecting cranks, a looper, and a looper shaft having a gear in operative connection with the link gear to receive motion therefrom.

865,150. MORTAR MIXER OR HOE. NIELS ANDERSON, Philadelphia, Pa. Filed Apr. 29, 1907. Serial No. 370,769.

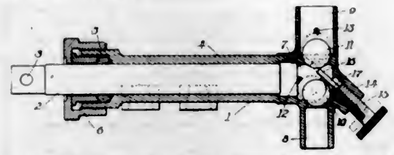


1. In a device of the character described, a blade having a plurality of rows of apertures therein in different horizontal planes, there being a uniform width of the solid portion of said blade between said apertures, and a handle secured to said blade.

2. In a device of the character described, a blade having a plurality of polygonal shaped apertures therethrough arranged in different vertical and horizontal planes, two sides of said apertures being parallel respectively with the bottom and sides of said blade, and a handle having an arm secured to said blade, said arm extending downwardly between the parallel walls of the adjacent slots, whereby said blade is reinforced.

3. In a device of the character described, a blade having a plurality of polygonal-shaped apertures therein arranged in horizontal alinement, the sides of said apertures extending in substantially horizontal lines between the top of said blade and its base, and a handle having an arm secured to said blade, said arm projecting down one side of said blade between the walls of the central pair of slots, whereby said blade is strengthened and reinforced.

865,151. FORCE-PUMP. WILLIAM K. ANDREW, Milwaukee, Wis., assignor to International Harvester Company, a Corporation of New Jersey. Filed May 13, 1907. Serial No. 373,288.



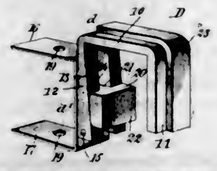
1. A force pump having, in combination, a cylinder, a piston operative therein, inlet and outlet pipes communicating therewith, valves controlling the flow of fluid through said pipes, and single means comprising a movable plug adapted to contact with said valves in a manner to lift them from their seats.

2. A force pump having, in combination, a cylinder, a piston operative therein, inlet and outlet pipes communicating therewith, valves controlling the flow of fluid through said pipes, and means comprising a movable plug having a shoulder portion adapted to contact with one of said valves, and a reduced end portion with the other in a manner to lift them from their seats.

3. A force pump having, in combination, a cylinder, a piston operative therein, inlet and outlet pipes communicating therewith, valves controlling the flow of fluid through said pipes, means comprising a movable plug adapted to contact with said valves in a manner to lift them from their seats, and cross pins through said pipes, said pins adapted to limit the opening movement of said valves.

4. A force pump having, in combination, a cylinder, a piston operative therein, inlet and outlet pipes communicating therewith and extending laterally in opposite directions therefrom, valves controlling the flow of fluid through said pipes, a threaded opening communicating with the interior of said cylinder and arranged at an angle with said pipes, a threaded plug received by said opening and having a reduced inner end engaging with one of said valves, and a shoulder portion with the other, said plug being operative to lift the valves from their seats when adjusted in one direction.

865,152. VEHICLE-SEAT LOCK. JOHN ARCOREN, Rosebud, S. D. Filed Jan. 15, 1907. Serial No. 352,336.



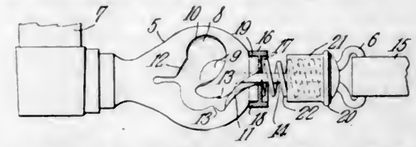
1. A lock for vehicle seats comprising a supporting member and a bracket member slidably mounted upon the supporting member, and a projection from the bracket member that moves in an outwardly direction as the bracket is carried to a low position.

2. A vehicle seat and a lock therefor comprising a supporting member and a slidably connected bracket member, and a button carried by the bracket member extending within the supporting member, the opposing and engaging faces of the button and the supporting member being oppositely inclined.

3. A lock for vehicle seats consisting of a substantially inverted U-shaped supporting member, the inner leg whereof is provided with a longitudinal slot and a downwardly and outwardly inclined outer face, a bracket member, a button attached to the bracket member, the shank whereof extends through the slot in the inner leg of the supporting member, the inner face of the button being inclined for engagement with the inclined surface of the supporting member.

4. In a lock for vehicle seats, the combination with an inverted U-shaped supporting member, the inner leg whereof is provided with a longitudinal slot and with an inclined outer face, said leg being widest at its lower end, of a seat support, a bracket secured to said support, a shank extending from said bracket through the slot in the inner leg of the supporting member, and a button formed at the outer end of said shank, the inner face of which button is inclined correspondingly to the inclined surface of the inner leg of the supporting member.

865,153. COUPLING. GEORGE BACH, Lyndon Station, Wis. Filed Apr. 11, 1906. Serial No. 311,164.



1. A coupling comprising mating members normally extending in the same longitudinal plane, one of said members being provided with a socket and the other with a spherical head adapted to enter the socket, spaced heads carried by one of said members, and a spring interposed between the heads for yieldably supporting one of the members in engagement with the adjacent member.

2. A coupling comprising mating members normally extending in the same longitudinal plane, one of said members being provided with a socket and the other with a spherical head adapted to enter the socket, a locking collar slidably mounted on the head carrying member and adapted to engage the end of the adjacent member, and means for yieldably holding the collar in contact with said member.

3. A coupling comprising mating members normally extending in the same longitudinal plane one of which is provided with a socket and the other with a spherical head adapted to enter the socket, a locking collar slidably mounted on the head carrying member and provided with a flange adapted to embrace the end of the adjacent member, and a spring bearing against said collar.

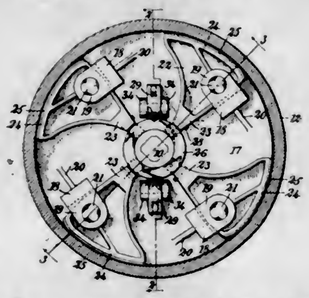
4. A coupling comprising mating members normally extending in the same longitudinal plane, one of said members being provided with a socket and the other with a spherical head adapted to engage said socket, there being an aperture formed in the wall of the socket and opening through one end of said member, a locking collar carried by the head and adapted to engage the slotted end of the socket member, and means for yieldably clamping the collar in engagement with said member.

5. A coupling comprising mating members, a locking collar slidably mounted on one member and provided with a transverse perforated diaphragm defining a flange for engagement with the adjacent member, a spring engaging head spaced from the collar, and a spring interposed between the head and collar.

6. A coupling comprising a pair of mating members one of which is provided with a socket and the adjacent mem-

ber with a spherical head having a reduced shank terminating in an attaching loop, a locking collar slidably mounted for longitudinal movement on the shank and provided with a perforated diaphragm defining oppositely disposed flanges one of which engages the adjacent mating member, a spring engaging head rigidly secured to the shank and spaced from the collar, and a spring interposed between said head and one of the flanges on the locking collar.

865,154. CLUTCH. FRANKLIN H. BACHMAN, Allentown, and JAMES D. BACHMAN, Catasauqua, Pa. Filed Mar. 8, 1907. Serial No. 361,213.



1. A clutch, comprising a casing having an inner contact surface, a plurality of shoes pivotally mounted adjacent said surface and having end portions extending inward radially in respect to the casing, a collar having a plurality of recesses, and a plurality of detachable extensions carried by said shoes at the inner ends thereof and terminating in balls normally mounted within said recesses.

2. A clutch, comprising a casing having an inner contact surface, a plurality of shoes pivotally mounted adjacent thereto, a rotatable collar in engagement with each of said shoes for forcing the latter into engagement with the contact surface, and longitudinally movable links substantially parallel to the axis of rotation of said collar and operatively connected to said collar for rotating the same.

3. A clutch, comprising a cylindrical casing having an inner contact surface, a plate forming an end wall for said casing, a plurality of shoes pivotally mounted upon said plate and adapted to engage with said casing, a sleeve forming a bearing for said plate and extending into said casing, a rotatable collar upon the inner end of said sleeve and in operative engagement with said shoes, a slidable collar concentric with said plate and adjacent thereto, and means connecting said collars whereby sliding movement of the outer collar causes a rotary movement of the inner collar and an engagement of the shoes with the contact surface.

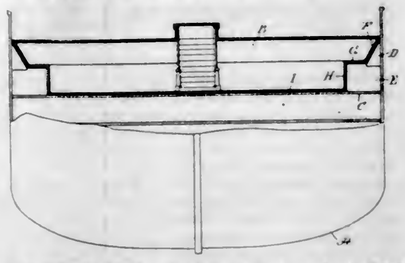
4. A clutch, comprising a casing having an inner contact surface, a plate forming an end wall for said casing and having a plurality of shoes pivotally mounted thereon, a rotatable collar within said casing and in operative engagement with said shoes, a slidable collar outside of said casing, and means connecting said collars whereby a sliding movement of the last mentioned collar causes a rotary movement of the first mentioned collar and an engagement of the shoes with the contact surface.

5. A clutch, comprising a casing having an inner contact surface, a plurality of shoes pivotally mounted adjacent thereto, a rotatable collar in engagement with each of said shoes for forcing the same into engagement with the contact surface, and means for rotating said collar, said means comprising a member having a helical extension in engagement with said collar, and means for oscillating said member.

6. A clutch, comprising a casing having a contact surface, a plurality of shoes pivotally mounted adjacent thereto and adapted to engage therewith, a rotatable collar in engagement with each of said shoes for operating the latter, and means for rotating said collar, said means including a pivotally mounted member having a helical extension in engagement with said collar, a link connected to said member for oscillating the same, and means for moving said link longitudinally.

7. A clutch, comprising a casing having a cylindrical contact surface, an end plate supported adjacent said casing and unattached thereto, a plurality of shoes pivotally mounted upon said plate and adapted to engage with the inner surface of said casing, each of said shoes being provided with an inwardly extending portion radially disposed in respect to the casing, a rotatable collar having a ball and socket connection to each of said inwardly extending portions, a pivotally mounted member carried by said end plate and having a helical extension in engagement with the circumferential face of said collar, and means for oscillating said member to rotate the collar and force the shoes into engagement with the casing.

865,155. MARINE VESSEL. THOMAS S. BARWIS, Vancouver, British Columbia, Canada, assignor of one-half to Frederick Coate Wade, Vancouver, Canada. Filed Apr. 12, 1907. Serial No. 367,770.



1. A marine vessel provided with a deck, a floatable cabin resting on the deck, the said floatable cabin having sides and ends inclined downwardly and inwardly for a distance, the sides of the floatable cabin being built inwardly below the inclined portion to form passage-ways between the floatable cabin and the sides of the vessel, and gussets on the vessel, which are adapted to fit the tumbled-in sides and ends of the floatable cabin.

2. A marine vessel, provided with a deck and side walls, a floatable cabin resting on the deck, the said floatable cabin extending from wall to wall at its top and having sides inclined downwardly and inwardly for a distance, the said sides of the floatable cabin being built inwardly below the inclined portions to form passage ways between the floatable cabin and the side walls, and gussets on the side walls which are adapted to fit the inclined side of the floatable cabin.

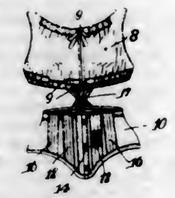
3. A marine vessel, provided with a deck and side walls, a floatable cabin, the said floatable cabin extending from wall to wall and having sides inclined downwardly and inwardly for a distance, the said sides of the floatable cabin being built inwardly below the inclined portions to form passage-ways between the floatable cabin and the side walls, and gussets on the side walls which are adapted to fit the inclined sides of the floatable cabin.

4. A marine vessel, provided with a deck and side walls, a floatable cabin, the said floatable cabin extending from wall to wall and having sides inclined downwardly and inwardly for a distance, the said sides of the floatable cabin being built inwardly below the inclined portions to form passage-ways between the floatable cabin and the side walls, and means to support the floatable cabin on the side walls.

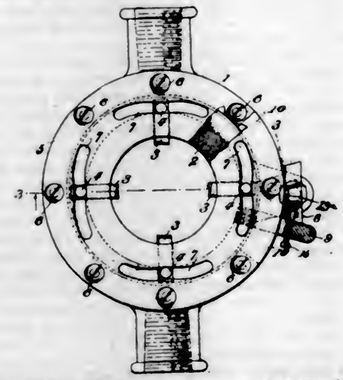
865,156. CORSET. GERTRUDE BERGOREN, Chicago, Ill. Filed Mar. 25, 1907. Serial No. 364,435.

A garment comprising a waist having an upper unstiffened part or waist having shoulder straps and a

shirred front, a separate lower stiffened part fitting the hips of the wearer, and adjustable elastic straps at the back, connecting the said parts.



865,157. ADJUSTABLE DIE-STOCK. BRADFORD BORDEN, Warren, Ohio, assignor to The Borden Company, Warren, Ohio, a Corporation of Ohio. Filed Apr. 13, 1905. Serial No. 255,341.



1. A die stock comprising a housing, a series of chasers, a holder therefor mounted in said housing rotatable with and independently thereof during the cutting operation, a plate fixedly held to said housing having cam slots, studs projecting from said chasers into said slots, and means rotatable with said housing and relative to the plane of rotation of which the latter is movable at right angles, for automatically rotating said holder independently of its rotation with the housing as the work progresses, said studs thereby traveling in said cam slots during the cutting operation to effect the outward movements of the chasers.

2. A die-housing having a circular chamber, a ring fitted in said chamber, chasers mounted in said ring having outwardly-projecting studs, a cover plate rigidly secured to said housing over said ring and having a series of cam slots into which said studs project, and means rotatable with said housing and relative to the plane of rotation of which the latter is movable at right angles, for causing said studs to automatically travel in said slots in the direction in which the housing is rotated as the work progresses.

3. A die-housing having a circular chamber, a ring fitted in said chamber, chasers mounted in said ring having outwardly projecting studs, a cover plate rigidly secured to said housing over said ring and having a double series of cam slots into which said studs project, and means for causing said studs to travel outwardly in either series of slots, according as the chasers are cutting right or left hand threads.

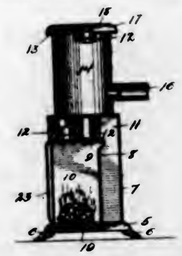
4. A die stock comprising a housing, a series of chasers, a holder therefor mounted in said housing and capable of being rotated with and independently thereof, a fixed plate having cam slots, studs projecting from said chasers into said slots, a pin projecting laterally from said chaser holder, and a wedge rotatable with the housing and with which said pin is designed to engage, the wedge and the housing having a relative movement at right-angles to the plane of rotation.

5. A die stock comprising a housing, a series of chasers, a holder therefor mounted in said housing and capable of being rotated with and independently thereof, a fixed plate having a series of double cam slots, studs projecting from said chasers into either slot of a pair thereof, a pin projecting laterally from said chaser holder, and a wedge having two tapered side edges with either of which said pin is designed to engage, the wedge and the housing having a relative movement at right-angles to the plane of rotation.

6. The combination with the housing, the leader screw, and the work holder with which said screw engages, of the radially adjustable chasers, the holder therefor having a pin projecting outwardly through said housing, a wedge rotatably mounted on said work holder for engaging said pin, said wedge having a spline connection with the housing, and means for drawing the chasers outwardly as the holder therefor is rotated independently of the housing by the engagement between said wedge and pin.

7. The combination with the housing, the leader screw, and the workholder with which said screw engages, of the radially adjustable chasers, the holder therefor having a pin projecting outwardly through said housing, a wedge rotatably mounted on said work holder for engaging said pin, said wedge having a spline connection with the housing, a fixed plate having cam slots, and studs projecting from said chasers into said cam slots.

865,158. GAS-STOVE. WILLIAM H. CALKINS, Columbus, Ohio. Filed June 2, 1906. Serial No. 319,830.

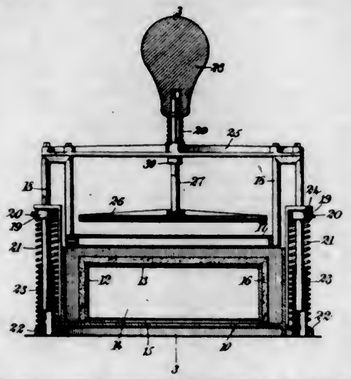


1. A gas stove comprising a combustion chamber open at the front side, a gas burner located in said combustion chamber, an air chamber located partly in the rear of the combustion chamber and partly above said combustion chamber, said air chamber being open at the bottom to the atmosphere and likewise being open to the atmosphere at the front side of the stove, means for conducting the products of combustion from said combustion chamber, said means comprising a drum located above the air chamber which is closed at its lower end and open at its upper end, a compartment into which the upper end of said drum opens, a plurality of flues leading from the combustion chamber to said compartment and a flue leading from the lower portion of said drum.

2. In a gas stove, a casing comprising a combustion chamber, a gas burner located in said combustion chamber, a second casing larger than the combustion chamber and forming an air chamber between the rear wall of said combustion chamber and the rear wall of said casing and between the upper wall of the combustion chamber and the upper wall of said casing, said air chamber extending across the top of the combustion chamber, the front wall of said second casing being open at the front portion above the combustion chamber, and the air chamber formed between the rear wall of the combustion chamber and the rear wall of the second casing being open to the atmosphere at the bottom thereof, a large centrally located drum which is closed at the bottom and open at the top, a flue leading from said drum, a chamber located above said drum into which said drum opens, and a plurality of flues which extend from the last named chamber

through the upper wall of the second casing and through the air chamber which lies above the combustion chamber and establish communication between said combustion chamber and the chamber which is located above the drum, the products of combustion passing through said flues upwardly to said chamber and then downwardly through the drum to the flue that leads from the drum.

865,159. LABEL-MOISTENER. HARRY G. CAMPBELL, New York, N. Y. Filed Dec. 30, 1905. Serial No. 293,907.



1. A moistening machine comprising a receptacle, a table therein having vertical end walls and inwardly inclined side walls spaced from the bottom of the receptacle, the receptacle being provided with an upwardly slanting wall adjacent to one of the slanting sides of the table.

2. A moistening machine comprising a receptacle, a table therein having inwardly inclined side walls spaced from the bottom of the receptacle, said table also having a removable perforated top, and the receptacle being provided with an upwardly slanting wall adjacent to one of said slanting sides of the table.

3. A moistening machine comprising a receptacle, a table therein having vertical end walls secured to the bottom of the receptacle, and inwardly inclined side walls spaced from the bottom of the receptacle, said table also having a removable perforated top and the receptacle being provided with an upwardly slanting wall adjacent to one of said slanting sides of the table.

4. A moistening machine comprising a receptacle, a table therein having vertical end walls secured to the bottom of the receptacle and inwardly inclined side walls spaced from the bottom of the receptacle, said table also having a removable perforated top and the receptacle being provided with an upwardly slanting wall adjacent to one of said slanting sides of the table, and a sheet of absorbent material covering the top of the table and hanging down upon all sides into the receptacle and reaching nearly to the bottom thereof, and a movable plate for supporting labels above said absorbent material.

5. A moistening machine comprising a receptacle, a table therein having vertical end walls secured to the bottom of the receptacle and inwardly inclined side walls spaced from the bottom of the receptacle, said table also having a removable perforated top, the receptacle being provided with an upwardly slanting wall adjacent to one of said slanting sides of the table, a sheet of absorbent material covering the top of the table and hanging down upon all sides into the receptacle and reaching nearly to the bottom thereof, a movable plate for supporting labels above said absorbent material, and means for resiliently supporting the plate at a distance above the table.

6. A moistening machine comprising a receptacle, a table therein, a sheet of absorbent material covering the top of the table and hanging down on all sides into the receptacle and reaching nearly to the bottom thereof, a movable plate for supporting labels above said absorbent material, a plate, and means located outside the receptacle for resiliently supporting said plate at a distance above the table.

7. A moistening machine comprising a receptacle, a table therein extending nearly to the top of the receptacle, a plate adapted to permit the passage of a liquid therethrough, a pair of U-shaped rods for supporting said plate, a guide for one end of each rod, and resilient means for forcing said rods upwardly into said guides.

8. A moistening machine comprising a receptacle, a table therein extending nearly to the top of the receptacle, a plate adapted to permit the passage of a liquid therethrough, a pair of U-shaped rods for supporting said plate, a guide for one end of each rod, a spring for forcing the rods upwardly, and a collar adjustably mounted on each rod adapted to engage the top of said spring.

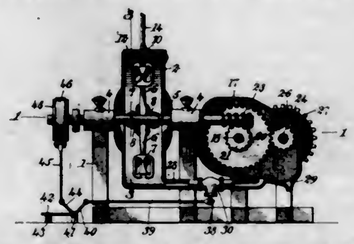
9. A moistening machine comprising a receptacle, a perforated plate, means for resiliently supporting the plate at a distance above the receptacle, said means comprising a pair of inverted U-shaped bars, a spring for forcing them upwardly, a cross bar extending from one of said bars to the other, and a handle supported by said bar forcing the plate toward the table.

10. A moistening machine comprising a receptacle, a table therein, a perforated plate, means for resiliently supporting the plate at a distance above the table, a cross bar mounted on said means, a platen supported by said cross bar above the plate, a handle for said platen, and resilient means for supporting the platen on the cross bar.

11. In a moistening machine, the combination of a receptacle, a table therein having a perforated top and means for permitting liquid to pass from it to the receptacle, a sheet of absorbent material over said table, a perforated plate, means for supporting said plate above the table and automatically forcing it away from the table, a platen above the plate for holding labels and the like on the plate, resilient means for holding the platen at a distance above the plate, and a handle connected with said platen whereby the application of pressure to the handle will force the platen against the plate and the plate against the absorbent material.

12. A moistening machine comprising a receptacle, a plate, means for resiliently supporting the plate at a distance above the receptacle, a cross bar mounted on said means, a platen supported by said cross bar above the plate, and resilient means for supporting the platen on the cross bar.

865,160. STEAM-TURBINE. JOSEPH K. CLARK, Honolulu, Hawaii. Filed Jan. 29, 1907. Serial No. 354,699.



1. The combination of a steam turbine, transmiasion gearing driven by the turbine, a casing inclosing said gearing, and means connecting the exhaust of the turbine with the casing to lubricate the gearing by said exhaust.

2. A steam turbine having an exhaust pipe, a valve attached to the exhaust pipe, means adapted to automatically open said valve, and a foot lever operable to close the valve, for the purpose described.

3. A steam turbine comprising an exhaust pipe, a valve connected to the exhaust pipe, a brake, and means operable to simultaneously close the valve and apply the brake.

4. The combination of a steam turbine, comprising a driving shaft and an exhaust pipe, a valve connected to the exhaust pipe, a friction-wheel attached to the driving shaft, a brake passing over the friction-wheel, and means operable to simultaneously apply the brake to the wheel and close said valve.

5. A steam turbine comprising a driving shaft and an exhaust pipe, a valve connected to the exhaust pipe, a friction-wheel secured to the driving shaft, a belt passing over the friction-wheel, and a foot-treadle connected to both the valve and to the belt operable when depressed to close the valve and apply the belt to the friction-wheel, for the purpose described.

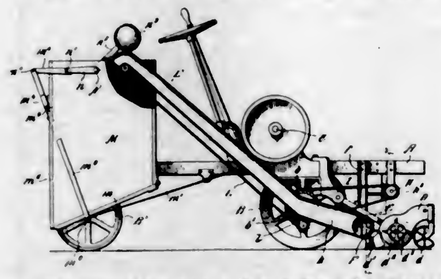
6. A steam turbine comprising a cylinder, a driving shaft passing through the cylinder and having a piston connected thereto, transmission gearing arranged at one side of the cylinder directly driven from said shaft, a casing inclosing said gearing, an exhaust pipe connecting the cylinder with the casing, a valve carried by the exhaust pipe, a brake carried by the driving shaft, and means operable to simultaneously close the valve and apply the brake.

7. A steam turbine comprising a piston composed of a series of radiating spokes, and a head secured to the outer end of each spoke, said head having an oblong rounded recess at each side thereof.

8. A steam turbine comprising a piston composed of a series of radiating spokes, each spoke having a head secured to the outer end thereof, said heads having recesses in both their front and rear faces.

9. A steam turbine comprising a cylinder, a piston loosely fitting and revolubly mounted in the cylinder, composed of a series of spokes having heads at the outer ends thereof, nozzles passing into the cylinder adapted to eject jets of steam against said heads to drive the piston in one direction, valves simultaneously operable to control the admission of the steam to said nozzles, a nozzle arranged intermediate and oppositely directed to said first nozzles adapted to direct a jet of steam against the opposite faces of the heads in driving the piston in the opposite direction, and a valve controlling the admission of the steam to said intermediate nozzle.

865,161. LAWN-MOWER. WILLIAM H. COLDWELL, Newburgh, N. Y. Filed Feb. 20, 1907. Serial No. 358,381.



1. The combination with a lawn mower, of a grass receptacle located adjacent to the cutting mechanism, extending transversely of the machine, and provided with a discharge aperture at one side of the machine, and mechanism for feeding the cut grass longitudinally of said receptacle toward the discharge aperture, substantially as described.

2. The combination with a lawn mower, of a grass receptacle, located adjacent to the cutting mechanism, and constructed to receive the cut grass therefrom, said receptacle extending transversely across the machine and having a discharge aperture at one end, feeding mechanism for carrying the cut grass longitudinally of said receptacle toward the discharge aperture, and mechanism for continuously operating said feeding mechanism, substantially as described.

3. The combination with a lawn mower, of a grass receptacle located adjacent to the cutting mechanism and constructed to receive the cut grass therefrom, said receptacle extending transversely of the machine, feeding mechanism for feeding the cut grass in said receptacle toward one end of said receptacle, a grass box, and mechanism for conveying the cut grass from the discharge end of the grass receptacle to the grass box, substantially as described.

4. The combination with a lawn mower, of a grass receptacle located adjacent to the cutting mechanism disposed transversely of the machine and constructed to receive the cut grass therefrom, a feed bar disposed transversely of the machine and provided with teeth extending into said receptacle, crank shafts and cranks supporting said feed bar, and mechanism for operating said cranks to feed the cut grass in said receptacle toward one end of the same, substantially as described.

5. The combination with a lawn mower, of a grass receptacle located adjacent to the cutting mechanism, constructed to receive the cut grass therefrom, said receptacle extending transversely of the machine, feeding mechanism for feeding the cut grass in said receptacle toward one end thereof, a conveyer located at one side of the machine, constructed to receive the cut grass from said receptacle, a grass box carried by the lawn mower, located adjacent to the delivery end of said conveyer, and means for dumping the contents of said grass box, substantially as described.

6. In a motor lawn mower, the combination with a motor frame provided with a lawn rolling roller, and a mower frame provided with cutting mechanism, of a grass receptacle located adjacent to said cutting mechanism and disposed transversely of the machine, feeding mechanism for feeding the cut grass in said receptacle toward one end of the same, a grass box carried by said motor frame, and a conveyer for carrying the cut grass from the discharge end of said receptacle to the grass box, substantially as described.

7. The combination with a lawn mower provided with a lawn rolling roller, and cutting mechanism, arranged in front of said roller, of a grass receptacle located adjacent to the cutting mechanism, between said cutting mechanism and said rollers, and disposed transversely of the machine, feeding mechanism for feeding the cut grass in said receptacle longitudinally thereof toward one end of said receptacle, a grass box carried by the lawn mower, and a conveyer for carrying the cut grass from the discharge end of said receptacle to the grass box, substantially as described.

8. The combination with a lawn mower having a lawn rolling roller, and cutting mechanism located forward of said roller, of a grass receptacle extending transversely across the machine, adjacent to the cutting mechanism, and forward of the lawn rolling roller, said receptacle having a discharge aperture at one end, a feeding mechanism for said receptacle for feeding the cut grass toward said discharge aperture, and mechanism for operating said feed mechanism continuously, substantially as described.

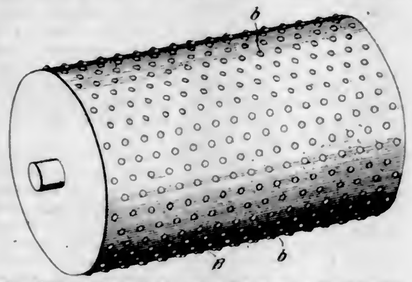
9. The combination with a lawn mower provided with a motor frame provided with a lawn rolling roller, and a separate frame forward of the said roller, carrying the cutting mechanism, and connections between said frames permitting them to move with respect to each other, of a grass receptacle, carried by said motor frame extending transversely across the machine, located adjacent to the cutting mechanism, and having a discharge aperture at one end, a feeding mechanism for feeding the cut grass in said receptacle toward said discharge aperture, and mechanism carried by the motor frame, for supporting and continuously operating said feeding mechanism, substantially as described.

865,162. TRACTION AND LAWN-ROLLING ROLLER. WILLIAM H. COLDWELL, Newburgh, N. Y. Filed May 16, 1907. Serial No. 374,003.

1. A traction and lawn rolling roller, having a plain cylindrical surface, provided with projections, separated from each other in all directions, and of such size as to provide traction without marring a lawn, substantially as described.

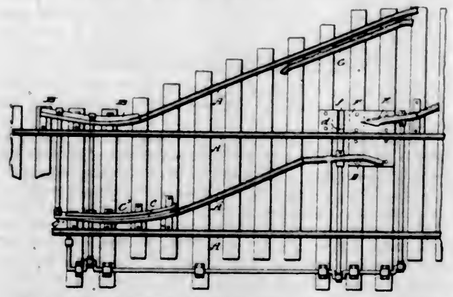
2. A traction and lawn rolling roller having a plain cylindrical surface, provided with projections separated

from each other in all directions, and of such size as to provide traction without marring a lawn, said projections being in the form of a segment of a sphere, and having



their altitude less than their diameter, substantially as described.

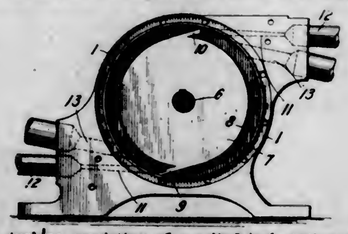
865,163. RAILWAY-SWITCH. JOSEPH A. COPPOCK, Pinehurst, Ga. Filed June 11, 1907. Serial No. 378,375.



1. A railway switch having a pair of cross-over points located on opposite sides of the rail head, the heads of said points being raised and extended to close over the rail head, a plate, under the rail and points, having a groove extending across under the rail, and a bar fixed to one of the points and slidable in the groove, under said rail.

2. A railway switch having a pair of cross-over points located on opposite sides of the rail head, the heads of said points being raised and extended to close over the rail head, a bar fixed to one of the points, and extending beneath the rail, said bar being slidable thereunder for the purpose set forth.

865,164. TURBINE. JULES H. CORTHÉSY, London, England, assignor of one-half to Gerard Featherstone Griffin, London, England. Filed Jan. 2, 1907. Serial No. 350,513.



1. A turbine consisting of a cylindrical stationary casing having pairs of passages formed through its circular wall and communicating with the interior of the casing, each pair composed of a tangentially-directed steam inlet passage of sufficient length to give direction to the steam, and an exhaust passage immediately at the rear of the inlet passage, a revoluble shaft passing axially through the end covers of the casing, and a rotor on said shaft within the casing but of such diameter as to leave an annular chamber within said casing about the periphery of the rotor, pistons proceeding from and carried by the periphery of the rotor fitting such annular chamber, and means for supplying pressure fluid by the steam inlet passages aforesaid, the number of pairs of steam inlet and exhaust passages in the casing being equal to the number of pistons on the rotor, whereby the steam in front of the tangentially-directed jets passing in by the inlet passages is at a high pressure, while the steam behind the jet is at a lower pressure and freely open to the exhaust substantially as set forth.

2. In a turbine; the combination with a cylindrical casing having a tangentially-directed steam inlet passage through its circular wall of sufficient length to give direction to the steam, and having also an exhaust passage opening into the casing at the rear of the inlet passage; of a revoluble shaft passing axially through said casing, a rotor disk on said shaft located within the casing and of such diameter as to leave an annular chamber within said casing, and a piston proceeding from the periphery of the rotor to divide said annular chamber, whereby the steam in front of the tangential jet entering by the inlet passage is at high pressure, while the steam behind said jet is at low pressure and freely open to the exhaust by the said exhaust passage.

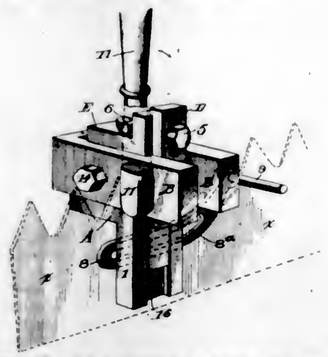
3. In a turbine; the combination with a cylindrical casing having a tangentially-directed steam inlet passage through its circular wall of sufficient length to give direction to the steam, and having also an exhaust passage opening into the casing at the rear of the inlet passage, the openings of said steam inlet passage and exhaust passage on the interior circular periphery of the casing being of a width equal to the width of the interior of the casing; of a revoluble shaft passing axially through said casing, a rotor disk on said shaft located within the casing and of such diameter as to leave an annular chamber within said casing, and a piston proceeding from the periphery of the rotor to divide said annular chamber, whereby the steam in front of the tangential jet entering by the inlet passage is at high pressure, while the steam behind said jet is at low pressure and freely open to the exhaust by the said exhaust passage.

4. In a turbine; the combination with a cylindrical casing having pairs of passages formed through its circular wall communicating with the interior of the casing, each pair consisting of a tangentially-directed steam inlet passage of sufficient length to give direction to the steam, and an exhaust passage immediately at the rear of the inlet passage; of a revoluble shaft passing axially through said casing, a rotor disk on said shaft located within the casing and of such diameter as to leave an annular chamber within said casing, and a plurality of pistons proceeding from the periphery of said rotor disk to divide said annular chamber, the number of the pistons being equal to the number of pairs of said passages through the casing, substantially as set forth.

5. In a turbine; the combination with a cylindrical casing having a pair of passages formed through its circular wall at one part communicating with the interior of the casing, said pair of passages consisting of a tangentially-directed steam inlet passage of sufficient length to give direction to the steam, and an exhaust passage immediately at the rear of the inlet passage, and a similar pair of passages through the casing entering the latter diametrically opposite to the aforesaid first pair of passages; of a revoluble shaft passing axially through said casing, a rotor disk on said shaft located within the casing and of such diameter and width as to leave an annular chamber within said casing, and two pistons proceeding from the rotor to divide said annular chamber, one piston on said rotor being diametrically opposite to the other piston, and means for supplying pressure steam to each tangentially-directed steam inlet passage, whereby steam entering the first steam inlet passage of one pair will exhaust by the exhaust passage of the next pair, and so on, substantially as set forth.

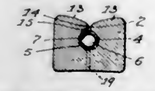
6. In a turbine; the combination with a stationary casing having an internal cylindrical chamber and having pairs of passages formed through its circular wall communicating with said chamber, each pair consisting of a tangentially-directed steam inlet passage of sufficient length to give direction to the steam and an exhaust passage immediately at the rear of the inlet passage; of a revoluble shaft, axial bearings in the end covers of the casing to carry said shaft, a disk of lesser diameter than the chamber fixed concentrically upon said shaft, circular side plates on the disk equal in diameter to said chamber, pistons fixed to and extending from the disk and fitting the remaining annular space within the casing, and means for supplying steam to the tangentially-directed steam inlet passages substantially as set forth.

865,165. SAW-SET. THEODORE W. CROSS, Everett, Wash. Filed Mar. 21, 1907. Serial No. 363,628.



An improved saw-set comprising a vertical frame having an anvil on its front side, a horizontal forked frame which is adjustable horizontally on said vertical frame, and means for adjusting and clamping it as required, a rotary cam journaled in said horizontal frame in a plane below the top portion of the anvil and a vertically adjustable tooth gage arranged in the horizontal frame and above the anvil, as shown and described.

865,166. AUTOMATIC OR SELF-THREADING SHUTTLE. ROBERT L. CUMNOCK, Anderson, S. C. Filed June 4, 1906. Serial No. 320,150.



1. An automatic or self threading shuttle comprising the shuttle body having a thread eye with the longitudinally extending threading slit and a laterally extending slot leading to the thread-eye, and a threading device arranged below said longitudinally extending slit and having a central opening with its axis coinciding with the longitudinal axis of the shuttle body, the said threading device having a slit extending longitudinally thereof and straight from end to end, and communicating with the central opening of the threading device, said slit of the threading device being located to one side of the threading slit of the shuttle body and beneath an overhanging portion of said shuttle body, the forward end of the threading device lying at the juncture of the laterally extending slot and the longitudinally extending threading slit of the shuttle body, substantially as described.

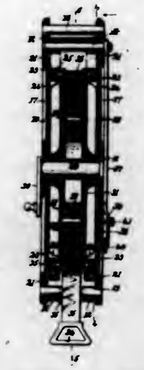
2. An automatic or self threading shuttle comprising the shuttle body having therein a threading slit and having also an overhanging portion, a threading device arranged beneath said overhanging portion of the shuttle body with a crevice or slot formed by and between the outer side of said device and the overhang, said threading device having a central opening with an upwardly opening slot leading thereto substantially tangential to the said opening and forming a continuation of said crevice into which the thread is whipped as it leaves the bobbin, the inner edge of said slot in the threading device inclining upwardly and forwardly, substantially as described.

3. An automatic or self threading shuttle comprising the shuttle body having therein a threading slit and a threading device of hollow tapered form, with the small end directed forwardly toward the adjacent end of the shuttle, said threading device being arranged below the threading slit and under overhanging parts of the shuttle body, the overhanging part on one side being slightly away from the outer surface of the threading device to leave a crevice in between forming a continuation of the threading slit, said tapered threading device having a straight slit in its side extending from end to end, substantially as described.

4. A self threading shuttle having a threading slot and overhanging portions, a hollow tapered threading device arranged beneath the said slot and overhanging portions and having a slit arranged to one side of the threading slot and extending straight from end to end of the tapered device, the space between the threading device and the shuttle body being free for the whipping in action of the thread, the overhanging portion of the shuttle body providing a shoulder at 16 to prevent de-threading, the opening through the said threading device being also tapered and the inner edge of the slit in the said threading device inclining upwardly and forwardly, substantially as described.

5. In combination with a shuttle having a threading slit, a threading device of tubular form having a thread receiving slot extending from end to end thereof, said device lying with a crevice between its outer side and the overhanging part of the shuttle body adjacent the threading slot of the shuttle and said threading slot of the threading device opening upwardly and extending in a direction substantially tangential to the interior bore of the threading device and forming a continuation of the said crevice, substantially as described.

865,167. FIRE-ESCAPE. SAMUEL P. DEEDS, Circleville, Ohio. Filed May 19, 1906. Serial No. 317,804.



1. A fire escape, comprising a casing having inwardly projecting brackets on the inner faces of its sides between the center and periphery thereof, a drum mounted in the casing and provided with ratchet teeth on the outer faces of its sides adjacent to the periphery thereof, rings mounted to turn on the brackets of the casing, one at each side of the drum, the rings being each provided with a plurality of recesses opposite the teeth of the drum, and leading out through the inner faces thereof, a pawl mounted to slide but not turn in each recess of the rings, springs in the recesses for forcing the pawls out into engagement with

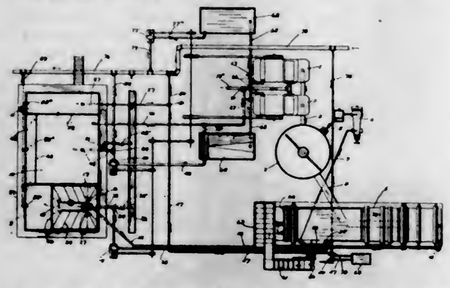
the teeth of the drum, a shaft mounted in the casing, strap brakes in engagement with the rings, said brakes having one end secured to fixed supports in the casing and their other ends to the said shaft, an operating arm on one end of the shaft outside of the casing for operating the said shaft to increase or decrease the frictional resistance of the brakes on the rings, and means for locking the said arm in position.

2. A fire escape, comprising a casing having inwardly projecting members on the inner faces of its sides between the center and periphery thereof, a drum mounted in the casing and provided with ratchet teeth on the outer faces of its sides adjacent to the periphery thereof, rings mounted to turn on the inwardly projecting members of the casing, one at each side of the drum, the rings being provided with recesses opposite the teeth of the drum, sliding and spring pressed pawls in the recesses, strap brakes in engagement with the rings, each brake having one end secured to a fixed support in the casing, a shaft mounted in the casing and to which the other ends of the brake straps are secured, and means for operating said shaft.

3. In a fire escape, a casing formed of circular spaced side pieces each having a central opening, spaced rollers mounted in the lower portion of the side pieces, and a strip arranged between and connecting the side pieces, the ends of the strip being bent around the rollers and having their intermediate portions cut away to expose the said rollers, a drum mounted in the casing, means for controlling the revolution of the drum, and a tape on the drum and having one end extending out between the rollers of the casing.

4. In a fire escape, the combination of a casing, a drum mounted in the casing, a tape on the drum and extending out through the casing, friction rings within the casing on opposite sides of the drum and controlling the revolution thereof, strap brakes for the rings, a stationary support for one end of the brakes, a rotary support for the other end of the said brakes, an arm on one end of the rotary support outside of the casing, the arm having spaced members at its free end, an indicating strip on the outside of the casing and between the members of the said arm, and a screw engaging the members of the arm to clamp the same to the indicating strip.

865,168. MANUFACTURE OF PULP AND PAPER. JOSEPH M. DOHAN, Darlington, Pa. Filed Feb. 9, 1907. Serial No. 356,517.

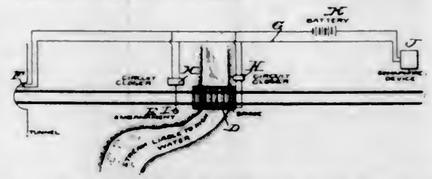


1. In the manufacture of pulp and paper, the method which consists in collecting the bulk of the water and solid matter discharged in the operation of forming the web, concentrating the solid matter and separating it with the water containing it from the water from which it is concentrated, and returning and reincorporating at different stages in the process of manufacture the concentrated solid matter with the water containing it and the water from which said solid matter is concentrated.

2. In the manufacture of pulp and paper, the method which consists in collecting the bulk of water and solid matter discharged from fibrous material in process of forming a web, circulating and baffling said water with precipitation of solid matter, flowing off the water from which said solid matter is precipitated and returning it for reincorporation in the treatment of the fibrous material in process of manufacture, and flowing off the precipitated solid matter with the water containing it for separate reincorporation in the process of treating said fibrous material.

3. In the manufacture of pulp and paper, the method which consists in collecting substantially all the water and solid matter discharged from fibrous material in forming a web, circulating and baffling said water with precipitation of solid matter, flowing off the partially clarified water at a higher level and water containing the precipitated matter at a lower level, collecting said partially clarified water and effecting precipitation of solid matter contained therein, and returning the clarified water and the solids separated therefrom by different courses for separate incorporation in the treatment of said fibrous material.

865,169. SIGNAL. CHARLES R. DOWLER, Denver, Colo., assignor to The Colorado Railway Signal Company, Lamar, Colo., a Corporation of Colorado. Filed Sept. 12, 1906. Serial No. 334,317.



1. A signal comprising a semaphore device, gravity operating means adapted to set the semaphore device at danger-adjustment, power operating means adapted to set the semaphore device at safety, an electro-magnet, an oscillating device, weighted at one end, and provided with an armature at its other end, a device on the oscillating arm, adapted to be adjusted into holding engagement with said power operating means, a battery, wiring electrically connecting the battery and electro-magnet, and a circuit closer in operative arrangement between the battery and said electro-magnet.

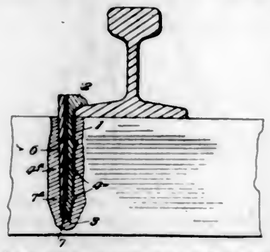
2. A signal comprising a post, an adjustable semaphore on the post, means holding the semaphore at safety, comprising a lever weighted at one end, means counterweighting the semaphore and adapted when released by said holding means, to automatically adjust the semaphore to danger, an armature on the holding means, an electro-magnet, automatically operating circuit breakers, and circuit wiring connecting the circuit breakers, and an electro-magnet with suitable source of current supply.

3. A signal comprising a post, a pivoted bar on the post, counterweighting devices operating to adjust the bar to danger, a drum and cable with the latter attached to the bar operating devices, gearing wherethrough to operate the drum, means adapted to retard operation of the gearing, means adapted for adjustment into holding engagement with the gearing, comprising a lever weighted at one end, and electro-magnet devices in circuit with current supply and automatically operating circuit breakers, the gear holding means being held in action during completion of circuit energizing the electro-magnet, and adapted to permit automatic adjustment of the signal bar to danger upon open circuit demagnetizing the electro-magnet.

865,170. SPIKE. LOUIS DURÉ, Albany, N. Y. Filed May 25, 1906. Serial No. 318,769.

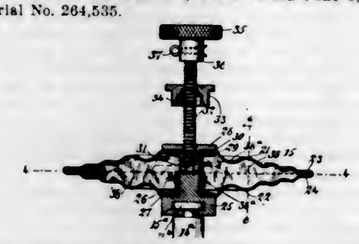
1. A spike consisting of two parts, the first part having one surface beveled and provided with outwardly projecting teeth, the second part being beveled and having a flat face, one part having a projection and the other part a groove, the groove extending from one end to a point near the other end of said grooved part, the projection fitting in the groove to guide the said second part parallel with the first part to insure of all the teeth being uniformly driven laterally into the wood which receives the spike.

2. A spike consisting of two parts, the first part having one surface provided with outwardly projecting teeth, and having a groove formed on its opposite surface, said groove extending from one end to a point near the other end, the



second part having a projection which fits in the groove to guide said second part parallel with the first part to insure of all the teeth being uniformly driven laterally into the wood which receives the spike.

865,171. THERMOSTATIC CONTROLLER. CLAYTON A. DUNHAM, Marshalltown, Iowa. Filed June 9, 1905. Serial No. 264,535.



1. An expansion disk for thermostatic controllers, said disk having sheet metal walls, of which the one has its edge lapped over the edges of the other, said walls being soldered together at their engaging inner surfaces, and the lapping edge of the first wall being soldered to the outer surface of the second wall.

2. In a thermostatic controller, a chambered expansion disk, and a brace located in the disk and extending across the interior thereof to engage the walls of the disk at various points along the length of the brace, whereby to prevent collapse of the disk.

3. In a thermostatic controller, a chambered expansion disk, and a plate in the disk set edgewise against its walls and forming a brace to resist the collapse of the disk.

4. In a thermostatic controller, an expansion disk, and a radially disposed brace within the disk to resist the collapse of the disk.

5. In a thermostatic controller, a chambered expansion disk, and radial braces within the disk to resist the collapse thereof, said braces being joined in pairs by reduced connecting portions and said reduced connecting portions lying against each other.

6. In a thermostatic controller, a chambered expansion disk with an interiorly projecting plug at approximately the center thereof, and radial braces joined in pairs by curved and reduced portions lying against each other and surrounding the inner portion of the plug.

7. In a thermostatic controller, a chambered expansion disk with interiorly projecting plugs in its sides, said plugs being juxtaposed to limit the contracting action of the disk, and radial projecting braces contained within the disk, also to limit the contracting action thereof.

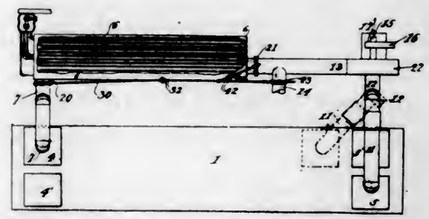
8. In a thermostatic controller, a chambered expansion disk with interiorly projecting plugs in its sides, said plugs being juxtaposed to limit the contracting action of the disk, and radially projecting braces contained within the disk and also to limit the contracting action thereof, said braces being joined in pairs by reduced connecting portions lying against each other and embracing the inner portions of the plugs.

9. In a thermostatic controller, a casing, an expansion disk therein, said disk being provided with a part having a filling opening, a threaded pin adapted to close said opening, the pin screwing into the casing, and a combined stuffing box and lock nut screwing on the threaded pin and adapted to engage the casing.

10. In a thermostatic controller, a casing, an expansion disk, an orifice plug secured in the wall of the disk, a threaded rod screwed in the plug to close the orifice thereof, and a combined stuffing box and lock nut screwing on the rod and adapted to engage the casing.

11. In a thermostatic controller, a casing, an expansion disk therein, said disk being provided with a part having a filling opening, a threaded pin screwing into the casing and adapted to close said filling opening, a combined stuffing box and lock nut screwing on the pin and adapted to engage the casing, a thumb wheel, and means for removably connecting the same with the outer end of the pin.

865,172. INTERMITTING APPARATUS FOR COOLING CARS, &c. CHARLES F. EDSON, Los Angeles, Cal., assignor to Louis A. Roy, Chicago, Ill. Filed June 7, 1906. Serial No. 320,661.



1. In a refrigerating apparatus, a chamber, a conduit connected therewith provided with an opening to the atmosphere, a blower and valve, said valve being between the blower and the chamber, and being adapted to control the passage through the conduit, a second valve adapted to control the opening to the atmosphere, and means connecting said valves whereby they may be intermittently and simultaneously operated, and a coil in the conduit.

2. An apparatus for cooling perishable fruits and like articles, comprising a central storage compartment, tanks or compartments at each end of the said storage compartment, a cold air generator connected with said central storage compartment and with the end compartments forming one continuous conduit, said conduit having an opening to the outer atmosphere, an apparatus comprising a blower and three valves, one of said valves controlling the opening to the outer atmosphere, the other valves coöperating with each other to inclose the cold air within the generator, and means for simultaneously operating the said three valves.

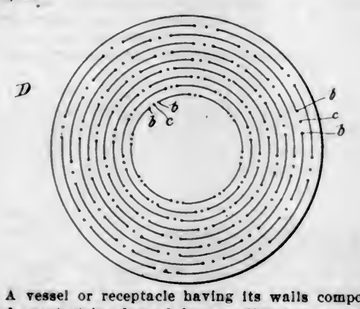
3. A refrigerating apparatus, comprising a central storage chamber, a cold air generator connected therewith forming one continuous chamber, said chamber having an opening to the outer atmosphere, a blower and three connected valves, the said valves being located between the said central storage chamber and the blower, two of said valves being adapted to control the passage of air through the generator and the other valve being adapted to control the opening from the continuous chamber to the outer atmosphere.

4. A refrigerating apparatus, formed of one continuous chamber, comprising a central storage compartment, a cold air generator provided with a coil therein, said generator having an opening to the outer air, and means for communication between the said central storage compartment and the cold air generator, an apparatus for exhausting the warm air from the central storage compartment, and an apparatus comprising three connected valves, one of said

valves being adapted to control the opening from the cold air generator or conduit to the outer air, and the other two valves adapted to inclose the cold air within the cold air generator or conduit.

5. A refrigerating apparatus comprising a storage chamber, tanks at the ends of said storage chamber, a cold air generator having an opening to the outer atmosphere, and exhaust apparatus and three valves, one of said valves being adapted to control the opening between the cold air generator and the outer atmosphere, the other two valves inclosing the cold air within the generator, and means whereby said three valves may be simultaneously operated.

865,173. EXPANDED RECEPTACLE. OTTO F. EICHBERG, New York, N. Y. Filed Sept. 12, 1906. Serial No. 334,319.



1. A vessel or receptacle having its walls composed of spaced apart strips formed from a slitted expanded sheet and supported by stays or braces which engage the several strips of the walls of the vessel whereby to hold them in expanded position.

2. A vessel or receptacle having its walls formed in spaced apart strips from a slitted sheet, and means combined with said walls and in connection with the several strips thereof, whereby to hold the same expanded out of the plane of the base.

3. A collapsible vessel having a body expanded from a central sheet and forming side walls composed of spaced apart strips, and means whereby to hold the walls expanded out of the plane of the base and exerting a direct bracing action upon the several strips of the side walls.

4. A vessel or receptacle having its walls expanded from a slitted sheet forming integral strips connected in the form of a mesh, and a brace for the said walls in the form of a plate slotted from one edge and fitted to the walls with the strips thereof entering the slots of the brace plate.

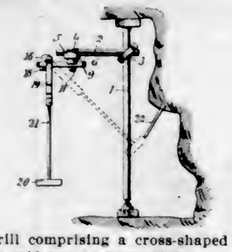
5. An expanded body composed of strips spaced apart and a brace plate conforming longitudinally to the shape of the body and having edge slots receiving the several strips of said body whereby to brace the latter in expanded position.

6. A vessel or receptacle formed from a slitted sheet and expanded to produce a wall composed of integral connected strips and a brace plate having slots receiving the individual strips whereby it is engaged with said walls to stay the same in expanded position.

7. The combination with a wall expanded from a slitted sheet and comprising integral strips in open mesh form, of a brace or stay engaged at intervals throughout its length with the several integral strips of said wall whereby to hold the same in expanded position.

865,174. ROCK-DRILL. EVAN W. EVANS, Greenwood, British Columbia, Canada. Filed Jan. 2, 1907. Serial No. 350,337.

1. A rock drill comprising an arm, a supporting-bar, means slidable on the arm connecting it with the supporting bar, a hammer swingingly supported from said bar, and a wedge member intermediate said arm and supporting-bar adapted to change their angular position with respect to each other.



2. A rock drill comprising a cross-shaped arm, an eye-bolt slidable on said arm, a supporting-bar carried on said eye-bolt, a cross-bar having wedge-shaped ends interposed between said arm and supporting-bar, and a hammer swingingly suspended at one end of said bar.

3. A rock drill comprising an arm, an eye-bolt slidably mounted on said arm, a slotted supporting-bar carried on said bolt, a slotted crossbar having means to shift the angular position of the supporting-bar with respect to said arm and interposed between said arm and bar on said bolt, and a hammer swingingly suspended from said supporting-bar.

4. A rock drill comprising a hammer having a pivot on which the hammer is mounted to swing, a slotted support on which the pivot is removably secured by a clamping-bolt, a slotted crossbar having wedge-shaped ends and adapted to slide lengthwise and transversely on said support, and means for securing said slotted support and crossbar in position.

5. A rock drill comprising a cross-shaped arm, an eye-bolt slidable on said arm, a slotted supporting-bar carried by and adjustable on said bolt, a pivot having trunnions detachably secured near one end of said bar, and a hammer having a fork rigidly secured to the handle thereof and swingingly mounted on said trunnions.

6. A rock drill comprising a column, a cross-shaped arm adjustably secured on said column, an eye-bolt slidable on said arm, a slotted supporting-bar carried by and adjustable on said bolt, a washer positioned on said bolt adjacent to said arm, a crossbar interposed between said arm and said washer, having each end of the under face thereof reversely inclined, a pivot-bolt detachably secured near one end of the supporting-bar and having trunnions, and a hammer having a fork rigidly attached to the handle thereof swingingly mounted on said trunnions.

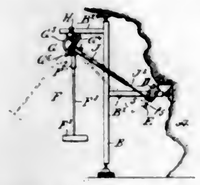
7. A rock drill comprising an arm, a slotted supporting-bar slidably connected with said arm, said arm having a cross-slot therein, a pivot having a square central portion to fit said slot, trunnions at each end of the pivot, means detachably securing the pivot and bar together, and a hammer having a fork rigidly attached to the handle thereof and swingingly suspended on said trunnions.

8. A rock drill comprising an arm, an eye-bolt slidable on said arm, a slotted supporting-bar carried by and slidable on said bolt, a slotted crossbar arranged on said bolt and interposed between said arm and supporting-bar, said crossbar having wedge-shaped ends adapting the angular position of the arm and crossbar to be changed with respect to each other, and a hammer swingingly suspended from the supporting-bar.

9. A rock drill comprising an arm, a slotted supporting-bar, means slidably connecting the supporting-bar with the arm, a slotted crossbar having wedge-shaped ends carried by said means and interposed between the arm and supporting-bar, a pivot detachably connected to the supporting-bar, and a hammer swung from said pivot.

865,175. ROCK-DRILL. EVAN W. EVANS, Marysville, British Columbia, Canada, assignor of one-half to Charles George Evans, Marysville, Canada. Filed Jan. 13, 1906. Serial No. 295,878.

1. A rock drill comprising a hammer for striking the drilling tool, a cross head on which the handle of the hammer is fulcrumed, the said hammer normally hanging vertically, a screw rod screwing in the said cross head, a carrier in which the screw rod is mounted to turn, a segment connected with the said carrier, and a support having a guideway in which the said segment is adjustable.



2. In a rock drill, a support, a carrier adjustably held in said support, a screw rod mounted to turn in said carrier, a cross head carried by the screw rod, and provided with a transversely extending pivot, the said carrier having longitudinal slots in its sides through which the ends of the said pivot extend, and a hammer fulcrumed on the said pivot and normally vertically disposed.

3. In a rock drill, a supporting bar, a clamp adjustably secured to said bar, a bearing abutting against the lower member of the clamp, guideways formed in the under side of said bearing, segments fitting said guideways and adapted to be turned therein, means for adjustably securing the segments in position in said guideways, a carrier supported by the lower ends of the segments, a screw rod carried by said carrier and having its ends mounted to turn in the ends of the carrier, a cross head mounted to slide lengthwise on the carrier, and in which the said screw rod screws, and a hammer pivoted on the cross head and normally vertically disposed.

4. In a rock drill, a support, a clamp secured to said support, a bearing engaging the lower member of the clamp and the under side of said support, guideways formed in the under side of said bearing, segments engaging said guideways and adapted to be turned therein, means for adjustably securing the segments in position in said guideways, a carrier supported by the ends of said segments and having longitudinal slots in its sides, a cross head carried by said carrier and provided with a transversely extending pivot extending at its ends through the slots in the sides of the carrier, a screw rod screwing in said cross head and mounted to turn in the ends of said carrier, and a hammer having the end of its handle fulcrumed on the said pivot.

5. In a rock drill, a support, a clamp adjustably secured to said support, a ring-shaped bearing abutting against the under side of said support, guideways formed in the under side of said bearing, segments engaging said guideways and adapted to be turned therein, a bolt depending from the clamp and extending through said bearing, a washer on the bolt for engaging the inner edge of the segments, a nut engaging said washer to clamp the segments in adjusted position in said guideways, a carrier supported by the segments, a cross head adjustably carried by said carrier, a hammer pivoted on the cross head, and a holder for the drilling tool arranged for the hammer to strike said tool on imparting a swinging motion to the hammer.

6. A rock drill comprising an adjustable cross head, a support for the same, the cross head being provided with a pivot, a hammer mounted to swing on said pivot, an L-shaped arm held on said pivot and provided with a radial slot and a segmental slot, a bolt extending through the segmental slot and securing said arm to the hammer handle, a bolt adjustably secured in the radial slot of said arm, a link fulcrumed on said bolt, a holder for the drilling tool to turn and to slide in, means for intermittently turning said drilling tool, and a connection between said means and the said link.

7. A rock drill comprising an adjustable cross head, means for supporting the same, the said cross head being provided with a pivot, a hammer mounted to swing on said pivot, an L-shaped arm held on said pivot, and provided with a radial slot and a segmental slot, a bolt extending through the segmental slot, and securing said arm to the hammer handle, a bolt adjustably secured in the radial slot, a link fulcrumed on said bolt and provided with a longitudinal slot, an extension rod adjustably connected with said link, a holder for the drilling tool, and means connected with said extension rod for turning the drilling tool.

8. A rock drill comprising an adjustable cross head, a support for the same, a hammer pivoted on the cross head, an arm mounted on the pivot of the hammer, means for adjustably securing said arm to the hammer handle, a holder for the drilling tool to turn and to slide in, means for intermittently turning the said drilling tool and provided with a cam for engaging a cam surface on the holder, and partly withdrawing the drilling tool, and an adjustable connection between the said means and the said arm.

9. A rock-drill provided with a hammer for striking the drilling tool, a cross head on which the said hammer is fulcrumed, a screw-rod screwing in the said cross head, a carrier in which the screw rod is mounted to turn a segment connected at its ends with the said carrier, a support having guideways on its under side for the said segment to turn in, and means for securing the said segment to the said support.

10. A rock-drill provided with a hammer for striking the drilling tool, a cross head on which the said hammer is fulcrumed, a screw-rod screwing in the said cross head, a carrier having bearings at its ends in which the screw rod is mounted to turn, segments supporting the said carrier, a support having guideways on its under side for the said segments to turn in, a clamping device adjustably secured to a supporting bar, a bolt depending from the clamping device and extending through the said support in which the segments turn, and means on said bolt for clamping the segments in position in said guideways.

11. A rock-drill provided with a tool holder having a bearing for the drilling tool to slide and to turn in, a spring on the said holder for engaging the drilling tool, a clamping device mounted to rock on the said holder and engaging the drilling tool for turning the same on rocking the clamping device in one direction, and means for imparting a rocking motion to the said clamping device.

12. A rock-drill provided with a tool holder having a bearing for the drilling tool to slide and to turn in, a cover on said holder and a spring secured to the under surface of the cover for engaging the drilling tool, a clamping device mounted to rock on the said holder and engaging the drilling tool for turning the same on rocking the clamping device in one direction, means for imparting a rocking motion to the said clamping device, and a spring on the said holder for engaging the said clamping device to hold the latter in position on the said holder.

13. A rock-drill provided with a tool holder having a bearing for the drilling tool to slide and to turn in, a spring on the said holder for engaging the drilling tool, a clamping device mounted to rock on the said holder and engaging the drilling tool for turning the same on rocking the clamping device in one direction, the said clamping device having a cam for engaging the said holder to partly withdraw the drilling tool in the drill hole, and means for imparting a rocking motion to the said clamping device.

14. A rock-drill provided with a tool holder having a bearing for the drilling tool to slide and to turn in, a spring on the said holder for engaging the drilling tool, a clamping device mounted to rock on the said holder and engaging the drilling tool for turning the same on rocking the clamping device in one direction, the said clamping device comprising a jaw and a jaw lever fulcrumed on the said jaw, the said jaw having a cam face for engaging a cam surface on the said holder to partly withdraw the drilling tool, and means connected with the said jaw lever for rocking the clamping device to turn the drilling tool on rocking the clamping device in one direction.
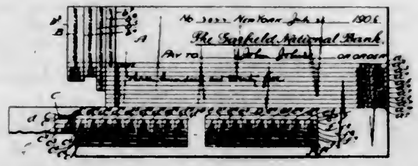
15. In a rock drill an adjustable cross head, means for supporting the same, the cross head being provided with a pivot, a hammer mounted to swing on said pivot, an L-shaped arm held on said pivot and provided with a segmental slot a bolt extending through the segmental slot and securing said arm to the hammer handle, a holder for

the drilling tool, and means for turning the drilling tool and connected with the said arm.

16. A rock drill comprising a holder for the drilling tool to turn and to slide in, a cross head provided with a transversely extending pivot, a screw rod screwing in the said cross head, a carrier having bearings at its ends in which the screw rod is mounted to turn, the said carrier having longitudinal slots in its sides through which the ends of the pivot of the cross head extend, a support in which the said carrier is adjustably held to allow of setting the carrier to a desired angle to bring the screw rod parallel to the said drilling tool, and a hammer having the upper end of its handle fulcrumed on the said pivot, the said hammer normally hanging vertically and adapted to strike the drilling tool, on imparting a swinging motion to the hammer.

17. In a rock drill, a support having guideways on its under side, a carrier, segments connected at their ends with said carrier and mounted to turn in said guideways, means for holding the segments in adjusted position, a cross head adjustable on the carrier, and a hammer for striking the drilling tool, the hammer being pivoted on the cross head.

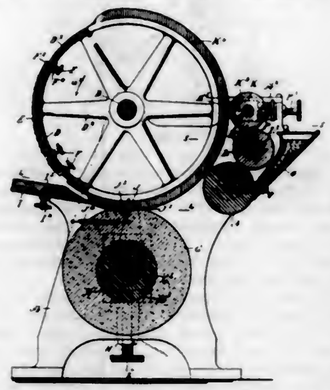
865,176. INSTRUMENT REPRESENTING THE TRANSFER OF MONEY. MARCUS H. FOX, Flushing, N. Y. Filed Aug. 10, 1906. Serial No. 330,024.



1. In an instrument of the character described, a table having longitudinal lines forming spaces, transverse lines intersecting the longitudinal lines at one end and forming intersecting columns, digits in the spaces at the side of the columns, numbers in the spaces intersected by the columns, the first digit of each of which is identical with the digit in the same space at the side of the columns, a second table having longitudinal lines forming spaces, transverse lines intersecting the longitudinal lines at one end and forming intersecting columns, numbers in said columns, the first digit of each of which designates the column in which it is located and numbers in the same spaces at the side of the columns beginning with the same digit as the numbers in the first column, and a third table embodying longitudinal lines forming spaces, transverse lines intersecting the longitudinal lines and forming intersecting columns and numbers in each of said columns, the first digit of each of which designates the column in which it is located, substantially as described.

2. In an instrument of the character described, a table having longitudinal lines forming spaces, transverse lines intersecting the longitudinal lines at one end and forming intersecting columns, the transverse lines forming the columns and the portions of the longitudinal lines intersected by said transverse lines being scored, digits in the spaces at the side of the columns, numbers in the spaces intersected by the columns, the first digit of each of which is identical with the digits in the same space at the side of the columns, a second table having longitudinal lines forming spaces, transverse lines intersecting the longitudinal lines at one end and forming intersecting columns, the portions of the longitudinal lines at the side of the transverse lines being scored, numbers in said columns, the first digit of each of which designates the column in which it is located and numbers in the spaces at the side of the columns beginning with the same digit as the numbers in the first column, and a third table embodying longitudinal lines forming spaces, transverse lines intersecting the longitudinal lines at one side and forming intersecting columns and numbers in each of said columns, the first digit of each of which designates the column in which it is located, substantially as described.

865,177. PRINTING-PRESS. ARTHUR G. HALFPENNY, West Hoboken, N. J., and ALBERT A. HOPKINS, New York, N. Y. Filed Mar. 25, 1907. Serial No. 364,247



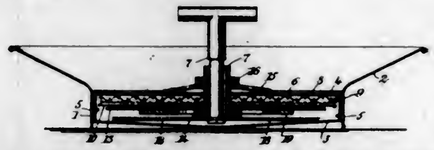
1. In a printing press, the combination of a revoluble segmental support having fastening means for securing the segmental printing plate in position on the said support, an impression roller arranged below the said segmental support and rotating in unison with the said support, a feed table for feeding the sheet between the said segmental support and the said impression roller, a gage mounted to swing loosely on the shaft of the said impression roller and extending across the top of the said impression roller in front of the said feed table and in front of the beginning point of the said segmental support, the sheet in advancing abutting against the said gage and swinging the same rearward out of the path of the advancing segmental support and its printing plate, and a spring connected with the said gage for returning the latter to normal position.

2. A printing press provided with a support for carrying the printing plates comprising a revoluble shaft, a rim section having apertures, spiders secured on the said shaft and integrally connected with the said rim section at the sides thereof, and bolts extending through the said apertures and having beveled heads on the outer face of the said rim section, for fastening the printing plates in position on the said rim section, the nuts of the bolts screwing against the inner face of the said rim section at points between the spiders.

3. A printing press comprising a revoluble rim section, means on the said rim section for removably securing segmental printing plates thereon, an impression roller rotating in unison with the said rim section, an inking roller for inking the said printing plates, a cam on the said rim section for controlling the said inking roller, a fountain, a fountain roller rotating in unison with the said rim section, a distributing roller in contact with both the said inking roller and the said fountain roller, and means controlled from the said fountain roller for moving the said distributing roller in an axial direction.

4. A printing press comprising a revoluble rim section, means on the said rim section for removably securing segmental printing plates thereon, an impression roller rotating in unison with the said rim section, an inking roller for inking the said printing plates, slidable spring-pressed bearings in which the inking roller is journaled, a cam on the rim section controlling the said bearings, a fountain, a fountain roller rotating in unison with the said rim section, a distributing roller in contact with both the inking roller and the said fountain roller, and means controlled from the said fountain roller for moving the said distributing roller in an axial direction.

865,178. MINER'S PAN. PENTON A. HARDWICK, Colorado City, Colo. Filed Oct. 31, 1906. Serial No. 341,443.



1. A pan having a lower portion, a wall of which extends straight upward, a flaring portion extended from the lower portion, a ring having legs for engaging on the bottom of the pan, spokes extended inward from the ring and having an opening at the center, a sleeve for passing through said opening, the upper end thereof being threaded, metal sieves arranged below the ring, a diaphragm of cheese-cloth arranged below the sieves, a clamping disk engaging around the sleeve and pressing upon the spokes of the ring, a nut engaging with the thread of the sleeve, for forcing said plate to clamping position, a shaft extended through the sleeve, and an agitator on the lower end of the shaft.

2. A miners' pan having a lower portion, the wall of which is substantially vertical, and an upper portion flared outward from the lower portion, a ring having legs for resting on the bottom of the pan, spokes extended inward from the ring, and having an opening at the center, a sleeve passing through said opening, a disk carried by the sleeve at the lower end, a sieve material arranged around the sleeve between said disk and ring, and means for clamping the parts together.

3. In a device of the class described, comprising a pan, metallic sieves aranged in the lower part thereof, a diaphragm of non-metallic fabric material between the sieves, and a spring ring with which the edge of the diaphragm engages, the said ring engaging with the wall of the pan whereby to secure the diaphragm in place.

4. In a miners' pan, a sleeve, a ring supported by the sleeve, within the pan, a perforated disk supported on the lower portion of the sleeve, a permanent magnet carried by said disk, sieve material arranged between the disk and ring, a shaft extended through the sleeve, and an agitator attached to the lower end of the ring.

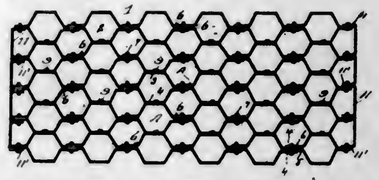
865,179. COMPOSITION OR CONCRETE POST. HARVEY G. HAYS and JOSEPH W. HAYS, Chicago, Ill. Filed Dec. 27, 1905. Serial No. 293,526.



1. In a composition or concrete post, the combination of an inner core of coarse substances, cemented together by a binding substance; a thin outer shell of plastic and homogeneous composition; a meshed reinforcing element, disposed between said inner core and outer shell,—said reinforcing element immediately enveloping said inner core and running longitudinally therewith.

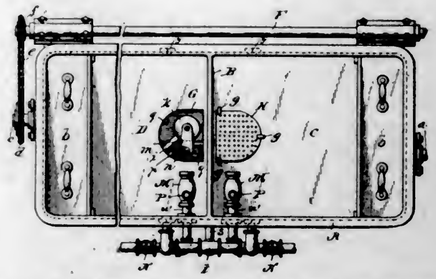
2. In a composition or concrete post, the combination of an inner core of coarse substances, cemented together by a binding substance; a thin outer shell of plastic and homogeneous composition; a reinforcing element, composed of a multiplicity of longitudinal members, spaced apart at intervals and maintained at such intervals by a multiplicity of transverse members, said transverse members being of smaller size and less strength than said longitudinal members, said reinforcing element completely enveloping said inner core and running longitudinally therewith.

865,180. FLOOR-MAT. JOHN W. HOAGER, Revere, Mass. Filed Apr. 6, 1907. Serial No. 366,772.



A mat comprising longitudinal and transverse rows of rings, each ring consisting of a pair of independent segmental sections, said sections having their ends outturned to provide connecting arms, the arms of each ring section being arranged in lapping relation to the arms of adjacent ring sections, independent pivot pins or rivets separately pivotally connecting each ring with adjacent rings of a row extending in one direction and fastenings between the abutting ends of the rings extending in the reverse direction, each fastening being composed of a slot formed in the abutting side of the section of one ring, a tongue upon the abutting side of the section of the next adjacent ring, said tongue being inserted through said slot and clenched to fixedly couple the links together, the projecting ends of the opposite outer end rows being lapped together, and sectional border strips each having right angular arms on opposite ends lapped and pivoted consecutively to said lapped ends of said outer end rows and also lapped with each other, substantially as specified.

865,181. DISH-WASHING MACHINE. ALFRED INSINGER, Philadelphia, Pa. Filed July 13, 1905. Serial No. 269,505.



1. A dish washing machine having a washing chamber and a rinsing chamber each of which is formed with a bottom discharge opening, a casting extending over said openings formed with outlets, valves for said outlets, and a chamber common to both of said outlets to receive the discharges therefrom.

2. A dish washing machine having a washing chamber and a rinsing chamber each of which is formed with a bottom discharge opening, a casting having recessed chambers having outlets extending over said discharge openings, valves for said outlets, a chamber to receive the discharge from both outlets, and handles for operating said valves.

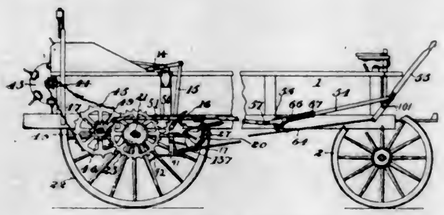
3. A dish washing machine having a washing chamber

and a rinsing chamber each of which is formed with a discharge opening, perforated plates covering said openings, a casting having recessed chambers formed with outlets arranged to receive the discharge from both of said openings, valves arranged within said recessed chambers to control the discharge therefrom, handles or levers connected to said valves for operating the same, a chamber arranged to receive the discharge from both of said outlets, and a discharge pipe for said last named chamber.

4. A device for controlling the discharge from adjacent washing and rinsing chambers of a dish washing tank, comprising a casting having two recessed chambers each having an outlet, a flat rib terminating in a circular vertical flange formed in each of said chambers, valves adapted to slide on said ribs and to be seated on said flanges, a chamber to receive the discharge from both of said outlets, a pipe leading from said last named chamber, and handles or levers for operating said valves.

5. A dish washer comprising a tank having two adjacent chambers, a bottom discharge opening for each of said chambers, a casting having recessed chambers formed with outlets arranged to cover said discharge openings, a chamber to receive the discharge from said outlets, valves to control said outlets, a pipe for conveying off the discharge from said last named chamber, overflow openings formed in the walls of said washing and rinsing chambers, pipes leading therefrom to the last named chamber, and pipes for supplying said washing and rinsing chambers with water.

865,182. MANURE-SPREADER. ANDREW JOHNSTON, Toronto, Ontario, Canada, assignor to Massey-Harris Company, Limited, Toronto, Canada. Filed Oct. 1, 1906. Serial No. 337,012.



1. In a manure spreader the combination of a vertically movable tail board; a ground wheel; manually controlled means whereby the rotation of the ground wheel will be caused to raise the tail board; and means for automatically throwing the raising means out of gear as soon as the tail board has been raised to a predetermined height, substantially as described.

2. In a manure spreader the combination of a vertically movable tail board; a ground wheel; manually controlled means whereby the rotation of the ground wheel may be caused to raise the tail board; means for automatically throwing the raising means out of gear as soon as the tail board has been raised to a predetermined height; and releasable means for automatically locking the tail board in its raised position, substantially as described.

3. In a manure spreader the combination of a vertically movable tail board; a ground wheel; manually controlled means whereby the rotation of the ground wheel may be caused to raise the tail board; means for automatically throwing the raising means out of gear as soon as the tail board has been raised to a predetermined height; releasable means for automatically locking the tail board in its raised position; a longitudinally movable bed; means for moving said bed rearwardly and forwardly; and means whereby the bed at a predetermined point in its movement releases the said tail board and permits it to drop, substantially as described.

4. In a manure spreader the combination of a ground wheel; a gear wheel rotating therewith; a gear segment slidably journaled so that it may be moved into or out of gear with the said gear wheel; manually operated means for moving the segment into gear; a vertically movable tail board; means whereby when the machine is in motion and the gear segment is in gear the latter will raise the tail board; automatic means for throwing the segment out of gear as soon as the tail board is raised; and releasable means for automatically locking the tail board in its raised position, substantially as described.

5. In a manure spreader the combination of a ground wheel; a gear wheel rotating therewith; a gear segment slidably journaled so that it may be moved into or out of gear with the said gear wheel; manually operated means for moving the segment into gear; a latch adapted to automatically lock the segment in gear; a vertically movable tail board; means whereby when the machine is in motion and the gear segment is in gear the latter will raise the tail board; automatic means for throwing the segment out of gear as soon as the tail board is raised; means for automatically withdrawing the latch just previous to the moving of the segment out of gear; and releasable means for automatically locking the tail board in its raised position, substantially as described.

6. In a manure spreader the combination of a ground wheel; a gear wheel rotating therewith; a gear segment slidably journaled so that it may be moved into or out of gear with the said gear wheel; a smooth rimmed segment rigid with the gear segment, extending in the opposite direction thereto, and provided at one end with a notch; a pivoted lever adapted to engage the smooth segment to throw the gear segment into gear; a vertically movable tail board; means whereby when the machine is in motion and the gear segment is in gear the latter will raise the tail board, the aforesaid lever being adapted to engage the aforesaid notch to hold the gear segment with the tail board raised; and automatic means for throwing the segment out of gear as soon as the tail board is raised, substantially as described.

7. In a manure spreader the combination of a ground wheel; a gear wheel rotating therewith; a gear segment slidably journaled so that it may be moved into or out of gear with the said gear wheel; a smooth rimmed segment rigid with the gear segment, extending in the opposite direction thereto, and provided at one end with a notch; a pivoted lever adapted to engage the smooth segment to throw the gear segment into gear; a vertically movable tail board; means whereby when the machine is in motion and the gear segment is in gear the latter will raise the tail board, the aforesaid lever being adapted to engage the aforesaid notch to hold the gear segment with the tail board raised; and a wing on the gear segment adapted to engage the gear wheel to throw the segment out of gear as soon as the tail board is raised, substantially as described.

8. In a manure spreader the combination of a ground wheel; a gear wheel rotating therewith; a gear segment slidably journaled so that it may be moved into or out of gear with the said gear wheel; a smooth rimmed segment rigid with the gear segment, extending in the opposite direction thereto, and provided at one end with a notch; a pivoted lever adapted to engage the smooth segment to throw the gear segment into gear; a vertically movable tail board; means whereby when the machine is in motion and the gear segment is in gear the latter will raise the tail board, the aforesaid lever being adapted to engage the aforesaid notch to hold the gear segment with the tail board raised; a wing on the gear segment adapted to engage the gear wheel to throw the segment out of gear as soon as the tail board is raised; and a spring tending to hold the gear segment out of gear, substantially as described.

9. In a manure spreader the combination of a ground wheel; a gear wheel rotating therewith; a gear segment slidably journaled so that it may be moved into or out of catch with the said gear wheel; a smooth rimmed segment rigid with the gear segment, extending in the opposite direction thereto, and provided at one end with a notch; a pivoted part adapted to engage the smooth segment to throw the gear segment into gear; a vertically movable tail board; means whereby when the machine is in motion and the gear segment is in gear the latter will raise the tail board, the aforesaid part being adapted to engage the aforesaid notch to hold the gear segment with the tail board raised; a wing on the gear segment adapted to engage the gear wheel to throw the segment out of gear as soon as the tail board is raised; and a releasable pivoted latch adapted to retain the gear segment in gear, the smooth rimmed segment and the latch being adapted to engage to release the latch just before the gear segment is thrown out of gear, substantially as described.

10. In a manure spreader the combination of a ground wheel; a gear wheel rotating therewith; a gear segment slidably journaled so that it may be moved into or out of gear with the said gear wheel; a smooth rimmed segment rigid with the gear segment, extending in the opposite direction thereto, and provided at one end with a notch; a pivoted lever adapted to engage the smooth segment to throw the gear segment into gear; a vertically movable tail board; means whereby when the machine is in motion and the gear segment is in gear the latter will raise the tail board, the aforesaid lever being adapted to engage the aforesaid notch to hold the gear segment with the tail board raised; a wing on the gear segment adapted to engage the gear wheel to throw the segment out of gear as soon as the tail board is raised; and a releasable pivoted latch adapted to retain the gear segment in gear, the smooth rimmed segment and the latch being adapted to engage to release the latch just before the gear segment is thrown out of gear, a spring engaging both the latch and the pivot of the gear segment tending to draw down the former to its locking position and to draw the segment out of gear, substantially as described.

11. In a manure spreader the combination of a ground wheel; a gear wheel rotating therewith; a gear segment slidably journaled so that it may be moved into or out of gear with the said gear wheel; a smooth rimmed segment rigid with the gear segment, extending in the opposite direction thereto, and provided at one end with a notch; a pivoted lever adapted to engage the smooth segment to throw the gear segment into gear; a vertically movable tail board; means whereby when the machine is in motion and the gear segment is in gear the latter will raise the tail board, the aforesaid lever being adapted to engage the aforesaid notch to hold the gear segment with the tail board raised; automatic means for throwing the segment out of gear as soon as the tail board is raised; a longitudinally movable bed; means for moving said bed rearwardly and forwardly; a lever adapted to be engaged by a part on the bed as soon as the latter reaches a predetermined position; and a link connecting said lever with the segment operating lever, substantially as described.

12. In a manure spreader the combination of a vertically movable tail board; mechanism driven from the ground wheel for raising the same and holding it as raised; a rotary beater; a driving shaft; driving connections between the shaft and the beater; a clutch in said connections; a rod adapted to control said clutch and pivotally connected to a controlling lever; a rod also pivoted on said lever, adapted when moved in one direction to condition the tail board mechanism to operate, and adapted when in its normal position to permit of the tail board being released and dropped; a spring tending to maintain the controlling lever in its normal position; a latch adapted to hold the lever and rods in the position they assume when the lever has been moved to cause the tail board to rise and the beater to operate; a finger adapted to release said latch; a longitudinally movable bed; means for moving said bed rearwardly and forwardly; and a part on said bed adapted to engage said finger at a predetermined time to release the latch and cause the rods and lever to assume their normal position, substantially as described.

13. In a manure spreader the combination of a vertically movable tail board; mechanism driven from the ground wheel for raising the same and holding it as raised; a rotary beater; a driving shaft; driving connections between the shaft and the beater; a clutch in said connections; a rod adapted to control said clutch and pivotally connected to a controlling lever; a rod also pivoted on said lever, adapted when moved in one direction to condition the tail board mechanism to operate, and adapted when in its normal position to permit of the tail board being released and dropped; a spring tending to maintain the controlling lever in its normal position; a latch adapted to hold the lever and rods in the position they assume when the lever has been moved to cause the tail board to rise and the beater to operate; a finger adapted to release said latch; a longitudinally movable bed; means for moving said bed rearwardly and forwardly; a part on said bed adapted to operate said releasing means after the lever and rods have assumed their normal position, substantially as described.

14. In a manure spreader the combination of an endless movable bed; a rotary beater at one end of the spreader; a vertically movable tailboard in front of the spreader; a driving shaft; means for driving the bed from the shaft in either direction; means for driving the beater from the shaft; means driven by the shaft for raising the tail board; a single controlling lever adapted to simultaneously condition the bed driving means to drive the bed rearwardly, to condition the tailboard, raising means to raise the tail board and to condition the beater driving means to operate; means for automatically conditioning the bed driving means to drive the bed forwardly after the bed has reached a predetermined rearward limit and for conditioning the beater driving means to stop; means for automatically conditioning the tail board operating means to lower the tail board subsequent to the cessation of the rearward movement of the bed; and means for automatically stopping the forward movement of the bed as soon as it returns to its normal position, substantially as described.

15. In a manure spreader the combination of a driving shaft; a movable bed; a shaft adapted to drive the same; a longitudinal shaft geared to the driving shaft; a direct gearing between the longitudinal and the bed shaft; reverse gearing between the two shafts; manually controlled means for putting the direct gearing into gear; means for automatically throwing it out of gear at a predetermined time and subsequently and automatically throwing the reverse gearing into gear; and automatic means for throwing the reverse gearing out of gear at a predetermined time, substantially as described.

16. In a manure spreader the combination of a driving shaft; a movable bed; a shaft adapted to drive the same; a longitudinal shaft geared to the driving shaft; a direct gearing between the longitudinal shaft and the bed shaft; reverse gearing between the two shafts; manually controlled means for putting the direct gearing into gear; means for automatically throwing it out of gear at a predetermined time and subsequently and automatically throwing the reverse gearing into gear; automatic means for throwing the reverse gearing out of gear at a predetermined time; and means preventing the direct gearing being put into gear while the reverse gearing is in gear, substantially as described.

17. In a manure spreader the combination of a driving shaft; a movable bed; a shaft adapted to drive the same; a worm wheel on the bed shaft; a longitudinal shaft geared to the driving shaft; a worm thereon adapted to engage the worm wheel on the bed shaft; means for throwing the worm and worm wheel into and out of gear; a bevel gear revolubly connected with the bed shaft; a frame journaled on the bed shaft; a shaft journaled thereon; a bevel pinion fast thereon meshing with the aforesaid bevel gear; a bevel gear fast at the other end thereof; a bevel gear fast on the longitudinal shaft; and means for rocking the frame to throw the bevel gear fast on the end of the shaft on the frame into and out of gear with the bevel gear on the longitudinal shaft, substantially as described.

18. In a manure spreader the combination of a driving shaft; a movable bed; a shaft adapted to drive the same; a worm wheel on the bed shaft; a longitudinal shaft

geared to the driving shaft; a worm thereon adapted to engage the worm wheel on the bed shaft; a slide movable on the frame of the machine to and from the bed shaft and having the rear end of the longitudinal shaft loosely journaled thereon, the other end of the shaft being loosely journaled adjacent to the main shaft; a bevel gear revolubly connected with the bed shaft; a frame journaled on the bed shaft; a shaft journaled thereon; a bevel pinion fast thereon meshing with the aforesaid bevel gear; a bevel gear fast at the other end thereof; a bevel gear fast on the longitudinal shaft; and means for rocking the frame to throw the bevel gear fast on the end of the shaft on the frame into and out of gear with the bevel gear on the longitudinal shaft, substantially as described.

19. In a manure spreader the combination of a driving shaft; a movable bed; a shaft adapted to drive the same; a longitudinal shaft geared to the driving shaft; direct drive gearing between the longitudinal shaft and the bed shaft; reverse gearing between the two shafts; means for putting the direct drive into and out of gear; a sliding bolt adapted to put the reverse into and out of gear; yielding means tending to move the bolt to put the reverse in gear; automatic means adapted at a predetermined time to press the bolt into the position it assumes when the reverse is out of gear; a dog adapted to hold the bolt in the position it assumes when the reverse is out of gear; and means whereby when the direct drive is drawn out of gear the aforesaid dog is released and the bolt left free to move the reverse into gear substantially as described.

20. In a manure spreader the combination of a driving shaft; a movable bed; a shaft adapted to drive the same; a longitudinal shaft geared to the driving shaft; direct drive gearing between the longitudinal shaft and the bed shaft; reverse gearing between the two shafts; means for putting the direct drive into and out of gear; automatic means for throwing the reverse into gear; means tending when the reverse is in gear to throw it out of gear; a dog adapted to hold the reverse out of gear; and means where by the act of throwing the direct drive out of gear releases the said dog substantially as described.

21. In a manure spreader the combination of a driving shaft; a movable bed; a shaft adapted to drive the same; a longitudinal shaft geared to the driving shaft; direct drive gearing between the longitudinal shaft and the bed shaft; reverse gearing between the two shafts; means for putting the direct drive into and out of gear; means for throwing the reverse into gear; means tending when the reverse is in gear to throw it out of gear; a dog adapted to hold the reverse out of gear; and means whereby the act of throwing the direct drive out of gear releases the said dog substantially as described.

22. In a manure spreader the combination of a driving shaft; a movable bed; a shaft adapted to drive the same; direct drive gearing between the two shafts; reverse gearing between the two shafts; means for putting the direct drive into and out of gear; a sliding bolt adapted to put the reverse into and out of gear; yielding means tending to move the bolt to put the reverse in gear; automatic means adapted at a predetermined time to press the bolt into the position it assumes when the reverse is out of gear; a dog adapted to hold the bolt in the position it assumes when the reverse is out of gear; and means whereby when the direct drive is drawn out of gear the aforesaid dog is released and the bolt left free to move the reverse into gear, substantially as described.

23. In a manure spreader the combination of a driving shaft; a movable bed; a shaft adapted to drive the same; direct drive gearing between the two shafts; reverse gearing between the two shafts; means for putting the direct drive into and out of gear; automatic means for throwing the reverse out of gear; means tending when the reverse is out of gear to throw it in gear; a dog adapted to hold the reverse out of gear, and means whereby the act of throwing the direct drive out of gear releases the said dog substantially as described.

24. In a manure spreader driving and reversing gear for the bed comprising the following elements a transmission shaft; a bed shaft; direct drive gearing between the two; reverse drive gearing between the two; means for putting the direct drive into and out of gear; a sliding bolt adapted to control the reverse; a spring normally tending to move the bolt to throw the reverse in gear; a dog adapted to engage the bolt to hold the reverse in gear; means for creating a spring pressure on the bolt greater than and in an opposite direction to the first mentioned spring; and a dog adapted to engage the bolt to hold the reverse out of gear, substantially as described.

25. In a manure spreader driving and reversing gear for the bed comprising the following elements; a transmission shaft; a bed shaft; direct drive gearing between the two; reverse drive gearing between the two; means for putting the direct drive into and out of gear; a sliding bolt adapted to control the reverse; a spring normally tending to move the bolt to throw the reverse in gear; a dog adapted to engage the bolt to hold the reverse in gear; means for creating a spring pressure on the bolt greater than and in an opposite direction to the first mentioned spring; and a dog adapted to engage the bolt to hold the reverse out of gear, substantially as described.

26. In a manure spreader driving and reversing gear for the bed comprising the following elements: a transmission shaft; a bed shaft; direct drive gearing between the two; reverse drive gearing between the two; means for putting the direct drive into and out of gear; a sliding belt adapted to control the reverse; a spring normally tending to move the bolt to throw the reverse in gear; a dog adapted to engage the bolt to hold the reverse out of gear; a trip bar connected with the aforesaid means and adapted when the direct drive is thrown out of gear to engage and trip the aforesaid dog; means for creating a spring pressure on the bolt greater than and in an opposite direction to the first mentioned spring; and a dog adapted to engage the bolt to hold the reverse in gear, the said means being adapted to release the said dog after the pressure of the first mentioned spring has been overcome, substantially as described.

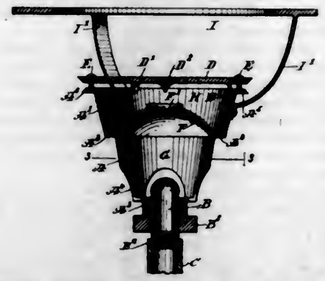
27. In a manure spreader driving and reversing gear for the bed, comprising the following elements; a transmission shaft; a bed shaft; direct drive gearing between the two; reverse drive gearing between the two; means for putting the direct drive into and out of gear; a sliding bolt adapted to control the reverse; a spring normally tending to move the bolt to throw the reverse in gear; a dog adapted to engage the bolt to hold the reverse in gear; a spring normally inactive and stronger than the first mentioned spring; a part movable to cause the spring to exert pressure on the bolt in the reverse direction to the first mentioned spring; a dog adapted to engage the bolt to hold the reverse in gear; and means whereby the said moving part is adapted to release the said dog after the tension of the first mentioned spring has been overcome, substantially as described.

28. In a manure spreader driving and reversing gear for the bed comprising the following elements; a transmission shaft; a bed shaft; direct drive gearing between the two; reverse drive gearing between the two; means for putting the direct drive into and out of gear; a sliding bolt adapted to control the reverse; a spring normally tending to move the bolt to throw the reverse in gear a dog adapted to engage the bolt to hold the reverse out of gear; a trip bar connected with the aforesaid means and adapted when the direct drive is thrown out of gear to engage and trip the aforesaid dog; a spring normally inactive and stronger than the first mentioned spring; a part movable to cause the spring to exert pressure on the belt in the reverse direction to the first mentioned spring; a dog adapted to engage the bolt to hold the reverse in gear; and means whereby the said moving part is adapted to release the said dog after the tension of the first mentioned spring has been overcome, substantially as described.

29. In a manure spreader driving and reversing gear for the bed comprising the following elements: a transmission shaft; a bed shaft; direct drive gearing between the two; reverse drive gearing between the two; means for putting the direct drive into and out of gear; a sliding bolt adapted to control the reverse; a spring normally tending to move the bolt to throw the reverse in gear; a dog adapted to engage the bolt to hold the reverse in gear; a trip bar connected with the aforesaid means, and adapted when the direct drive is thrown out of gear to engage and trip the aforesaid dog; means for creating a spring pressure on the bolt greater than and in an opposite direction to the first mentioned spring; a dog adapted to engage the bolt to hold the reverse in gear; a pivoted arm adapted to engage the trip bar to move it to an inoperative position; and a toe on the bolt adapted when the bolt is moved to the position in which the reverse is in gear to engage the pivoted arm to throw the trip bar to the inoperative position, substantially as described.

30. In a manure spreader driving and reversing gear for the bed comprising the following elements; a transmission shaft; a bed shaft; direct drive gearing between the two; reverse drive gearing between the two; means for putting the direct drive into and out of gear; a sliding bolt adapted to control the reverse, a spring normally tending to move the bolt to throw the reverse in gear; a dog adapted to engage the bolt to hold the reverse out of gear; a trip bar connected with the aforesaid means and adapted when the direct drive is thrown out of gear to engage and trip the aforesaid dog; a spring normally inactive and stronger than the first mentioned spring; a part movable to cause the spring to exert pressure on the bolt in the reverse direction to the first mentioned spring; a pivoted arm adapted to engage the trip bar to move it to an inoperative position; a dog adapted to engage the bolt to hold the reverse in gear; and means whereby the said moving part is adapted to release the said dog after the tension of the first mentioned spring has been overcome, the movable part being adapted to engage the pivoted arm to hold the trip bar in its inoperative position while the bolt is moving to the "direct drive" position, substantially as described.

865,183. BURNER. ADOLPH G. KAUFMAN, New York, N. Y., assignor to The A. G. Kaufman Manufacturing Company, New York, N. Y., a Corporation of New York. Filed July 7, 1904. Serial No. 215,623.



1. A gas burner comprising a preliminary mixing chamber connected with a gas supply and having air inlets, the mixing chamber being approximately in the form of a hollow inverted frustum of a cone and having a dome-shaped and apertured top, a heating and final mixing chamber around and over the said top, the said heating and final mixing chamber having outwardly flaring sides and provided with air inlets at the lower end, and a top plate spaced from the top edge of the chamber to form a discharge passage at the side, directly under the top, as set forth.

2. A gas burner comprising a preliminary mixing chamber connected with a gas supply and having air inlets, the mixing chamber being approximately in the form of a hollow inverted frustum of a cone and having a dome-shaped and apertured top, a heating and final mixing chamber around and over the said top, the said heating and final mixing chamber being approximately in the form of a hollow inverted frustum of a cone and having air inlets at the lower end, and a top plate spaced from the top of the said chamber to form a discharge passage at the side, directly under the top, said top plate being provided with a conical spreader depending therefrom, in alinement with the opening in the top of the mixing chamber, as set forth.

3. A gas burner comprising a preliminary mixing chamber connected with a gas supply and having air inlets, the top of the mixing chamber being dome-shaped and apertured, a heating and final mixing chamber around and over the said top, the said heating and final mixing chamber having air inlets at the lower end, and a top plate spaced from the top of the said chamber to form a discharge passage at the side, directly under the top, and means for adjustably holding the said plate in position, to regulate the size of the said discharge passage, as set forth.

4. In a gas burner a mixing chamber, approximately in the form of a hollow inverted frustum of a cone, and a heating and final mixing chamber in the form of an inverted frustum of a cone, integrally connected at its apex end by an apertured flange with the base end of the said mixing chamber, as set forth.

5. A gas burner comprising a mixing chamber, approximately in the form of a hollow inverted frustum of a cone, a heating and final mixing chamber in the form of an inverted frustum of a cone, integrally connected at its apex end by an apertured flange with the base end of the said mixing chamber, a dome-shaped top removably seated on the base end of the mixing chamber, and a top plate for the heating and mixing chamber, spaced from the top edge of the chamber, to form a discharge passage, as set forth.

6. A gas burner, comprising a mixing chamber approximately in the form of a hollow inverted frustum of a cone, a heating and final mixing chamber in the form of an inverted frustum of a cone and connected at its apex by an apertured flange with the base of the mixing chamber, a dome-shaped top on the base end of the mixing chamber and having a central opening therein, and a top plate spaced from the top of the mixing chamber to form a discharge passage, said top plate being provided with a deflector on its under face above the opening of the said dome.

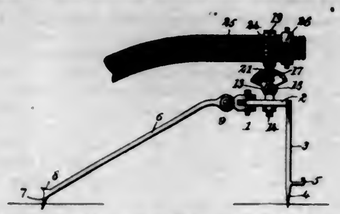
7. A gas burner, comprising a chamber approximately in the form of an inverted frustum of a cone, and having openings formed partly in its bottom and sides, a second chamber in the form of an inverted frustum of a cone above the first chamber and connected with the base thereof by an apertured flange, a dome-shaped top on the base of the first chamber and having a central outwardly flaring opening, an adjustable top plate supported above the top of the second chamber to form between it and said chamber a discharge passage, said top plate having a deflector on its under side above the opening of the dome, and an adjustable nozzle projecting into the first chamber.

8. In a gas burner, the combination of a preliminary mixing chamber provided with a dome-shaped top having a central opening, a heating and final mixing chamber into which the dome-shaped top of the preliminary chamber projects above the bottom thereof, said heating and final mixing chamber having air inlets and provided with an outwardly projecting flange at its upper end, a top plate for the heating and final mixing chamber, said plate having depending lugs on its inner face fitting against the inner face of the said chamber and a deflector over the central opening of the dome-shaped top of the preliminary mixing chamber, and screws engaging the top plate and the flange of the heating and final mixing chamber for adjusting the said plate with respect to the top of said chamber.

865,184. FIRE-HOSE HOLDER. JOHN KENLON, New York, N. Y. Filed July 6, 1906. Serial No. 324,968.

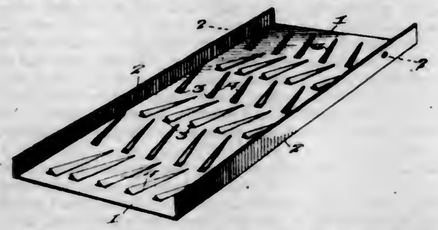
In a device of the class described, in combination, a frame having a substantially horizontal plate, a swivel-head mounted in said plate having two upwardly projecting wings with alining openings, a yoke having a tongue pivotally mounted between said wings and having an open-

ing which may aline with said first openings, a removable pin adapted to pass through said openings to fix said yoke, said plate having rigid fore legs adapted to engage the floor, and movable inclined rear legs having universal joint



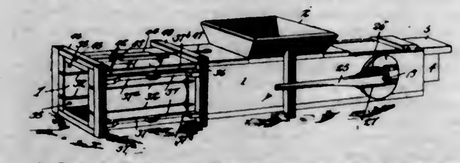
connections with said plate, said rear legs having downwardly projecting points with driving butts formed thereabove.

865,185. SLATE-JIG. STEPHEN J. KERRIGAN, Gilberton, Pa. Filed Nov. 24, 1906. Serial No. 344,907.



A jig screen comprising a flat plate with vertical upturned opposite sides, the body of the plate between the sides having transverse parallel rows of oppositely inclined triangular shaped openings struck therefrom, said openings being so constructed as to decrease in size from one of their ends to the other, the ends of one row being arranged to point between the ends of the openings in the succeeding row, the cut-away portions from the openings being bent upwardly from their connection with the plate at an angle thereto to its surface to provide inclined sheds serving to cover said openings.

865,186. BALING-PRESS. JACOB KING, Corinth, Miss. Filed Apr. 17, 1907. Serial No. 368,709.



1. In a baling press, the combination of a baling box, spring bars arranged on opposite sides of the baling box and providing front and rear sets of spring arms, rear retaining dogs carried by the rear spring arms, front retaining dogs carried by the front spring arms, means acting on said arms to retract the front retaining dogs, a plunger operating in the box, and means for actuating the plunger.

2. In a baling press, the combination of a baling box, spring bars centrally secured on the sides of said box and providing front and rear sets of spring arms, rear retaining dogs carried by the rear spring arms, front retaining dogs carried by the front spring arms, crank shafts engaging the front spring arms, means for actuating said shafts to retract the front dogs, and compression mechanism.

3. In a baling press, the combination of a baling box, front and rear spring arms arranged upon the sides of the box, rear retaining dogs carried by the rear arms, front retaining dogs carried by the front arms, crank shafts controlling the front arms, an operating device on the top of the baling box for actuating said shafts, and compression mechanism.

4. In a baling press, the combination of a baling box, a plunger operating therein front and rear sets of spring arms arranged upon the sides of the box, sets of dogs carried by said arms, the rear dogs being adapted to be forced back by the plunger, crank shafts engaging the front spring arms and provided with operating arms projecting over upon the top of the baling box, a sliding bar having cam surfaces coacting with said arms to operate the rock shafts, and means for operating the bar.

5. In a baling press, the combination of a baling box, bars centrally secured to the sides of the baling box and providing front and rear sets of spring arms, rear retaining dogs carried by the rear spring arms, front retaining dogs carried by the front spring arms, crank shafts engaging the front spring arms and provided with operating arms terminating in fingers, a sliding controlling bar having notches receiving the fingers and provided with cam surfaces to act thereon to rock the shafts, means for operating the bar, and compression mechanism.

6. In a baling press the combination of a baling box, a plunger provided with upper and lower sets of teeth alternating in arrangement, upper and lower sets of pawls to act upon said teeth, a lever for operating both sets of pawls, and yielding controlling connections carried by the lever, operative upon the movement of the lever to different positions to retract one pawl of each set and project the other pawl thereof.

7. In a baling press, the combination of a baling box, a plunger provided with sets of teeth, a rocking support, a lever for rocking said support, said lever being pivotally mounted on said support for movement to different operative positions, opposite sets of yielding pawls mounted on the support, and means whereby the swinging movement of the lever will throw the pawls of each set alternately into and out of operative position.

8. In a baling press, the combination of a baling box, a plunger provided with sets of teeth, sets of pawls for acting on said teeth to reversely move the plunger, and a lever for actuating said pawls, said lever being adjustable to different positions to project one set of pawls and retract the other and vice versa.

9. In a baling press, the combination of a baling box, a plunger operative therein and provided with sets of teeth, a rocking support, sets of sliding pawls arranged in pairs to engage said teeth, a lever for rocking the support, said lever being pivoted thereon for movement to different positions, and means controlled by the pivotal movements of the lever for throwing the different sets of pawls into and out of operative position.

10. In a baling press, the combination of a baling box, a plunger arranged therein and provided with sets of teeth, a rocking support, a lever for rocking said support, said lever being pivoted for movement to different operative positions, sets of sliding pawls for engagement with the teeth to intermittently move the plunger backward or forward, and spring arms carried by the lever and engaging the sets of pawls, said arms operating in the different swinging movements of the lever to slide the pawls alternately in and out of operative position.

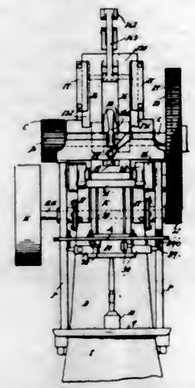
865,187. JAR-CLOSURE CLAMP. JOHN KUNKEL, Wellsburg, W. Va. Filed July 11, 1907. Serial No. 383,274.



1. The combination with a jar or the like, provided with a rim bead, and a disk closure on said bead, of a clamp comprising four spring arms integrally connected together at their inner ends from which they diverge at right angles to each other, all of said arms sloping towards the center of the clamp, one of said arms being provided at its outer end with a downwardly and inwardly facing hooked extremity and beyond the hook with an outwardly and upwardly curled finger piece, and the two adjacent arms being provided with downwardly and inwardly facing hooked extremities that are adapted to fit the said rim bead, the two said arms being substantially of a length, combined, equal to the outside diameter of the rim bead, whereby the clamp may be slid laterally upon the rim bead until the three named hooks engage the sides of the same, the equidistant divergence of the arms and their sloping towards the center, serving to distribute the pressure of the clamp upon the disk and also serving to focalize the pressure at the center of the latter.

2. As a new article of manufacture, a clamp for jar closures comprising divergent spring arms 5, having their outer ends downwardly and inwardly bent to form hooks, the hooks of one of the arms being upwardly bent to form a finger piece, an extension 8 projecting from the adjacent arms 5 aforesaid, said extension terminating adjacent the peripheral portion of the closure, the inner end portions of the arms 5 and the extension 8 being in a plane lower than the outer end portions.

865,188. FLUTING-MACHINE. REINHART F. KUNZE, Detroit, Mich. Filed Apr. 9, 1903, Serial No. 151,722. Renewed Apr. 15, 1907. Serial No. 368,246.



1. In a machine for grooving a blank, in combination with means for holding the blank, a tool holder carriage, means for actuating the tool holder carriage along the axis of the blank, individual tool holders held radially in the carriage, guides in sliding relation to the carriage provided with means for actuating the tool radially contemporaneously with the travel of the carriage, substantially as described.

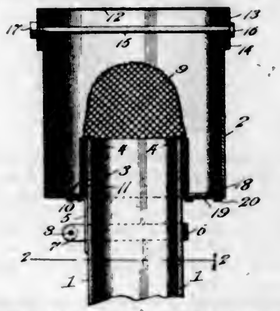
2. In a machine for grooving a blank, the combination of means for holding the blank, a tool holder carriage, means for actuating the carriage, individual tool holders held radially in the carriage, guides slidingly held to the carriage engaging the individual tool holders and causing each to move radially contemporaneously with the travel of the carriage, substantially as described.

3. In a machine for grooving a blank, in combination with means for holding the blank, a tool holder carriage, means for actuating the tool holder carriage to travel along the axis of the blank, individual tool holders held radially in the carriage, means for producing radial travel of the individual tool holders with respect to the carriage, and means for advancing the tool with respect to the individual holder, substantially as described.

4. In a machine for grooving a blank, in combination with a tail stock and its support, a head stock, a tool holder carriage arranged for travel along the axis of the head stock, means for holding the head stock, individual tool holders held in radial openings through the tool holder carriage, guides in sliding relation with the carriage for the individual tool holders, means for producing an independent motion of said guides along the axis of the main tool holder, and means for advancing the individual tool holders along a radius of the carriage, substantially as described.

5. In a machine for grooving a blank, in combination with means for holding the blank, a tool holder carriage, individual tool holders carried by the carriage, means for producing movement of the individual tool along the individual tool holder, an intermitting actuator for the carriage, guides for the individual tool holders held in sliding relation to the carriage, and an independent intermitting actuator for the guides, substantially as described.

865,189. SPARK-ARRESTER. RICHARD LAMB, Lawrence, Mass. Filed Feb. 28, 1907. Serial No. 359,755.



1. In a spark arrester, a drum having a flue engaging aperture in the bottom thereof, upward projecting arms adjacent to said aperture and having terminal hooks, and downward engaging arms adjacent to said aperture, in combination with a clamping ring engaging the downward extending arms, a flue engaging screen hood disposed within the drum exterior of the upward extending arms, and a top cover detachably engaging the drum and including a screen of finer texture than the hood with the drum.

2. In a spark arrester, a hood having a flue engaging aperture in the bottom thereof and provided with a door and means for securing said door in closed position, means for mounting and supporting the drum upon a flue, a flue engaging screen hood supported within the drum, and a top cover detachably engaging the drum and including a screen of finer texture than the hood screen within the drum.

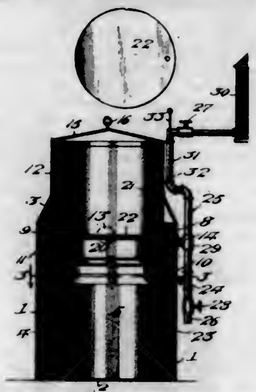
865,190. CANNING APPARATUS. LILFORD L. LAWRENCE, Bridgeport, Ala. Filed Apr. 7, 1906. Serial No. 310,520.

1. The combination of a casing, a fire box therein, a lining within the casing spaced from and arranged above the fire box and forming an air chamber open at top and in communication with air inlets in the side of the casing, and a vat suspended in the lining and forming an outlet therearound for the products of combustion.

2. The combination of a casing having air inlets in the sides thereof, a fire box therein, a lining within the casing arranged above the fire box, said lining being spaced from the casing to form an air chamber open at top and communicating with said air inlets in the sides of the casing, a vat supported within the lining and terminating above the bottom of the same, said vat being of greater diameter or area than the fire box and spaced from the lining to form an intervening outlet therearound for the products of combustion.

3. The combination of a casing, a fire box therein partially spaced from the wall of the casing, an interior

lining arranged above the fire box and spaced therefrom and forming an air chamber therein closed at bottom and open at the top and communicating with inlets in the sides of the casing, a vat supported within the lining above the fire box and bottom of the lining and of greater area than the fire box, and deflectors inclosing the vat and secured to the lining.



4. The combination of a casing, a vat supported therein, a hollow float arranged in the vat, and a pipe extending upward from the float for conducting steam from the top of the vat to the float.

5. The combination of a casing, a vat therein, a float within the vat, and a weighting plate carried by the float and projecting beyond the same to govern the circulating space between the vat and float.

6. The combination of a casing, a vat therein, a hollow float within the vat and of less diameter than the same, a steam supply pipe carried by the float and extending into the top of the vat, and a plate carried by the float and extending beyond the edges of the float.

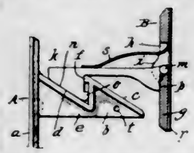
7. The combination of a casing, a vat therein, a float within the vat, valved pipe connection for supplying and withdrawing water to and from the vat, said connections having a vertical portion, and a gage member movable in said portion for indicating the amount of water in the vat.

8. In a preserving apparatus, the combination of a casing, a fire box arranged in the bottom thereof, the casing being provided above said box with air inlets, a lining disposed within the casing above and separated from the fire box and forming an air chamber closed at bottom, open at top and communicating with said air inlets, the said lining being of greater diameter than the fire box, and a vat extending into the top of the casing and suspended in the lining and forming an intervening outlet for the products of combustion, said vat being of less diameter than the lining and of greater diameter than the fire box.

9. In a preserving apparatus, the combination of a casing having a frusto-conical top, a fire box arranged in the base of the casing, the latter being provided below the frusto-conical top and above the fire box with air inlets, an annular shell or lining arranged within the casing between the fire box and frusto-conical top and forming an intervening air chamber communicating with the air inlets and open at top and closed at the bottom thereof, and a vat extending through the frusto-conical top and suspended at its base within the lining, said vat having its bottom terminating above the bottom of the lining and being of greater diameter than the fire box and of less diameter than the lining to provide an intervening outlet for the circulation of the products of combustion.

10. In a preserving apparatus, the combination of a casing, a vat therein, a float within the vat, an exterior water supply tank, a supply pipe, a valved conducting pipe leading from the tank to the vat, said pipe being provided with branches and valves for regulating the action and discharge of water to and from the vat and having a vertical portion, and a gage member movable in said vertical portion for indicating the amount of water in the vat.

865,191. CAR-DOOR LATCH. WILLIAM E. LEMP, Mobile, Ala. Filed May 15, 1907. Serial No. 373,783.

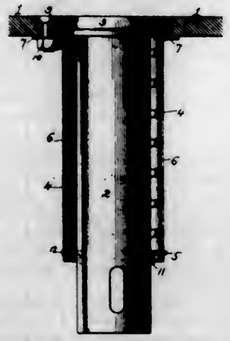


1. A latch comprising a stationary member having two inclined faces one in the rear of the other upon its upper side, a vertical shoulder separating the two inclined faces, and a gravitating member and means for pivotally attaching it to a support, this gravitating member being provided with a head whose under side is inclined and adapted to normally bear and slide upon the rear one of the inclines of the stationary member, for the purpose set forth.

2. In a latch, the combination of a stationary member adapted to be attached to a support and having an inclined surface and a vertical shoulder, the upper end of this shoulder being provided with an inwardly extending lip, and a movable member and means for pivotally attaching it to a support, this movable member being provided with a head whose lower end is provided with an outwardly extending lip, for the purpose set forth.

3. A latch comprising a stationary member having two inclined surfaces, one to the rear of the other, and a lip and means for securing it to a support, and a pivoted member having an inclined face and integral pintles, and means for securing it to a support, and a spring adapted to contact with the pivoted member.

865,192. BOTTLE-WASHING MACHINE. BENJAMIN E. LINFOOT, Philadelphia, Pa. Filed May 1, 1907. Serial No. 371,302.



1. The combination of the casing and the spring-supported sleeve or nozzle of a bottle washing machine, with a cage comprising a base member for the support of the spring and a plurality of legs, each composed of sheet metal and having, at its upper end, a bent flange secured to the top of the casing.

2. The combination of the casing and the spring-supported sleeve or nozzle of a bottle washing machine, with a cage consisting of a base member, and a plurality of sheet metal legs separate from but secured to said base member, and each having, at its upper end, a flange secured to the top plate of the casing.

3. The combination of the casing and the spring-supported sleeve or nozzle of a bottle washing machine, with a cage consisting of a base member with outwardly projecting lugs thereon, and a plurality of sheet metal legs slotted for the reception of said lugs and each having, at its upper end, a projecting flange secured to the top plate of the casing.

4. The combination of the casing and the spring-supported sleeve or nozzle of a bottle washing machine, with a cage comprising a base member composed of sheet metal and having a central opening surrounded by a depending flange and a plurality of sheet metal legs connected to said base member and each having, at its upper end, a flange secured to the underside of the top plate of the casing.

5. The within described cage for the spring-supported nozzle of a bottle washing machine, said cage consisting of a base member and a plurality of sheet metal legs, said members being connected by means of lugs on one passed through notches in the other, and then riveted, the upper ends of the legs being disconnected, and each having a bent portion forming a flange.

865,193. SHIP-SALVAGE SYSTEM. ATHOL B. MACKLIN, Ottawa, Ontario, Canada. Filed Dec. 28, 1906. Serial No. 349,817.

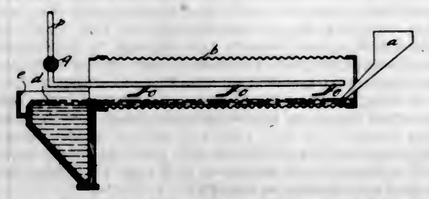


1. In a ship salvage system, the herein described means for raising the ship consisting of means for artificially creating a number of separate waves at a distance removed from the ship, the said waves being adapted, on approach to the ship, to unite in one large lifting wave, and raise the ship, by the power of flotation, in combination with a cable extending from the ship to a suitable support, and pneumatically operated means intermediate of the length of the cable, for creating a stress therein, and contracting the same as soon as the ship is free to move, as and for the purpose specified.

2. In a ship salvage system the combination with the means for raising the ship, of a cable secured to the ship and to a fixed support, a co-acting cylinder, and its piston inserted intermediate of the length of the cable, means for storing compressed air in one end of the cylinder, whereby when the vessel is raised, the said compressed air may expand and shorten the cable, as and for the purpose specified.

3. In a ship salvage system, the combination with the means for raising the ship, of a cable exerting a lateral pull thereon, a cylinder, a piston operating therein, means for limiting the outward movement of the piston to leave a dead space at the end of the cylinder, and means for introducing compressed air into said dead space, as and for the purpose specified.

865,194. PROCESS FOR SEPARATING SOLIDS. ARTHUR P. S. MACQUISTEN, Glasgow, Scotland. Filed July 3, 1905. Serial No. 268,276.



1. A process for separating solids having different surface affinities for liquids, consisting in forming a pulp of the mixture, bringing the commingled particles through the surface of a gently flowing stream of liquid and returning the same to the stream in a direction transverse to the flow of the stream, and collecting the concentrates thereby caused to float upon the stream; substantially as described.

2. A process for separating solids having different surface affinities for liquids, consisting in forming a pulp of the mixture, repeatedly bringing the commingled particles through the surface of a gently flowing stream of liquid and returning the same to the stream in a direction transverse to the flow of the stream, and collecting the concentrates thereby caused to float upon the stream; substantially as described.

3. A process for separating solids having different surface affinities for liquids, consisting in forming a pulp of the mixture, repeatedly bringing the commingled particles through the surface of a gently flowing stream of liquid and returning the same to the stream by a rolling motion in a direction transverse to the flow of the stream, and collecting the concentrates thereby caused to float upon the stream; substantially as described.

4. A process for separating solids having different surface affinities for liquids, consisting in forming a pulp of the mixture, bringing the commingled particles through the surface of a gently flowing stream of liquid and returning the same to the stream in a direction transverse to the flow of the stream, accelerating the surface flow of the liquid, and collecting the concentrates thereby caused to float upon the stream; substantially as described.

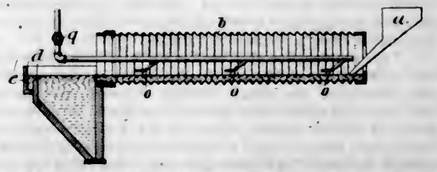
5. A process for separating solids having different surface affinities for liquids, consisting in forming a pulp of the mixture, bringing the commingled particles through the surface of a gently flowing stream of liquid and returning the same to the stream in a direction transverse to the flow of the stream, modifying the surface tension or capillarity of the liquid, and collecting the concentrates thereby caused to float upon the stream; substantially as described.

6. The process of separating materials having different surface affinities for liquids, consisting in repeatedly passing the material up through the surface of a gently flowing stream of liquid, exposing the material above the liquid surface to air currents, and collecting the materials floated by the liquid.

7. A process for separating solids having different surface affinities for liquids, consisting in forming a pulp of the mixture, repeatedly bringing the commingled particles through the surface of a liquid and returning the same to the liquid by a rolling motion, and collecting the concentrates thereby caused to float upon the stream.

8. The process for separating solids having different surface affinities for liquids which consists in forming a pulp of the material containing such solids and causing a constantly shifting inclined mass of such pulp to pass up through the surface of the liquid until the particles having a surface affinity for the liquid are held in suspension on the surface.

865,195. APPARATUS FOR SEPARATING SOLID PARTICLES FROM EACH OTHER. ARTHUR P. S. MACQUISTEN, Glasgow, Scotland. Filed Mar. 17, 1906. Serial No. 306,588.



1. Means for separating a mixture of finely divided particles of ore, comprising a cylinder arranged to rotate in contact with a body of liquid, said cylinder passing through the surface of the liquid in such direction as to carry the particles therethrough and to cause them to roll back to

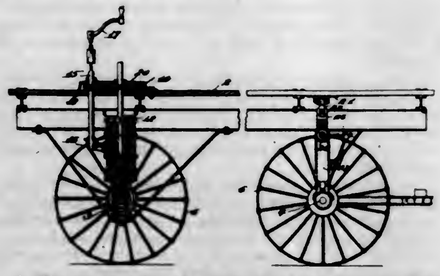
the surface of the liquid, said cylinder having a ribbed interior surface.

2. Means for separating a mixture of finely divided particles of ore, comprising a cylinder arranged to rotate in contact with a body of liquid, said cylinder passing through the surface of the liquid in such direction as to carry the particles therethrough and to cause them to roll back to the surface of the liquid, said cylinder having a helically ribbed interior surface.

3. Means for separating a mixture of finely divided particles of ore, comprising a support for said particles arranged to move in contact with a body of liquid, said support passing through the surface of the liquid in such direction as to carry the particles therethrough and to cause them to roll back to the surface of the liquid, and means for creating a surface current of the liquid.

4. Means for separating a mixture of finely divided particles of ore, comprising a support for said particles arranged to move in contact with a body of liquid, said support passing through the surface of the liquid in such direction as to carry the particles therethrough and to cause them to roll back to the surface of the liquid, and means for creating a surface current of the liquid, said means consisting of blast devices by which a current of air is projected over the surface of the liquid.

865,196. LEVELING MECHANISM. WHITLEY E. MARTIN, Winston Salem, N. C., assignor, by direct and mesne assignments, to Standard Cross Tie Machine Company, New Orleans, La., a Corporation of Louisiana. Filed Sept. 7, 1906. Serial No. 333,730.



1. The combination of a deck, a bearing member, a bolster between the deck and bearing member and tiltable with respect to the latter, leveling screws supported by said bearing member and located at opposite sides of the center of motion of said bolster, and nuts movable with the bolster and through which the screws pass, each nut and cooperating bolt having a thread opposite to that of the other nut and coöperating bolt.

2. The combination of a deck, a bearing member, a bolster between the deck and bearing member and tiltable with respect to the latter, leveling screws supported by said bearing member and located at opposite sides of the center of motion of said bolster, and nuts through which the screws pass, each nut and coöperating bolt having a thread opposite to that of the other nut and coöperating bolt, and an operative connection between the two screws for causing their simultaneous turning.

3. The combination of a deck, a bearing member, a bolster between the deck and bearing member and tiltable with respect to the latter, leveling screws supported by said bearing member and located at opposite sides of the center of motion of said bolster, nuts through which the screws pass, each nut and coöperating bolt having a thread opposite to that of the other nut and coöperating bolt, an operative connection between the two screws for causing their simultaneous turning, and a shaft operatively connected to one of the screws and extending upward from said deck.

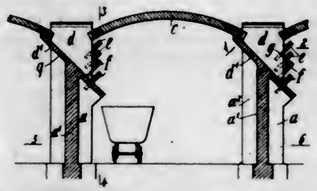
4. The combination of a wheeled axle, a deck, a bolster connected with the deck and jointed with the axle for tilting movement, right and left handed screws operatively connected and located at opposite sides of the center of motion of the bolster, said screws having a bearing against said axle, and nuts connected fixedly with the bolster for receiving the respective screws.

5. The combination of a wheeled axle, a deck, a bolster connected with the deck and jointed with the axle for tilting movement, right and left handed screws operatively connected and located at opposite sides of the center of motion of the bolster, said screws having a bearing against said axle, nuts connected fixedly with the bolster for receiving the respective screws, and a manually operated shaft geared to one of said screws.

6. The combination of a wheeled axle, a deck, a bolster connected with the deck and jointed with the axle for tilting movement with respect to the latter, oppositely threaded screws at opposite sides of the center of motion of the bolster, bearing against said axle, feed nuts fixedly connected with the bolster and through which the respective screws pass and work, wheels movable with the bolster and feathered on the shanks of said screws, a driving connection between the wheels, and means for turning one of the shafts.

7. The combination of a deck, front and rear axles, leveling means between the deck and one of the axles, and longitudinally adjustable supporting means between the other axle and the deck.

865,197. STORAGE PLANT. ERNST MEIER, Schöneberg, near Berlin, Germany. Filed Apr. 16, 1907. Serial No. 368,553.



1. In a structure for storage purposes or the like, a floor, supporting piers therefor, and integral binding arches between said piers, said floor having openings directly over said piers and between said binding arches, in combination with chutes beneath said openings, substantially as described.

2. In a structure for storage purposes or the like, piers arched at their upper ends, an arched floor having openings over said piers, in combination with inclined chutes beneath said openings.

3. In a structure for storage purposes or the like, arch piers and arched floor having openings over said piers, integral binding arches between said piers, in combination with inclined chutes beneath said openings.

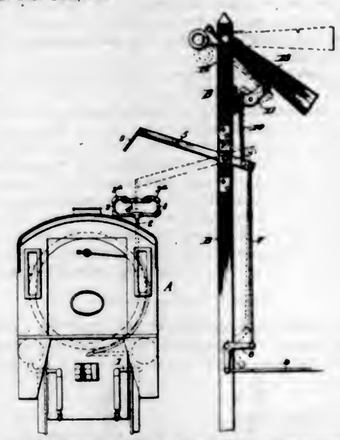
4. In a structure for storage purposes or the like, floor piers having flanges with a connecting web, a floor supported thereby having openings directly over the webs of said piers and inclined chutes below said openings, substantially as described.

5. In a structure for storage purposes or the like, floor piers having flanges with a connecting web, a floor supported thereby having openings directly over said piers and inclined chutes beneath said openings, in combination with removable grates mounted on the sides of said piers for closing said chutes, substantially as described.

6. In a structure for storage purpose or the like, integral floor piers, the floor supported thereby, having openings directly over said piers and inclined chutes beneath said openings, in combination with removable grates pivotally mounted on the flanges of said piers for closing said chutes, substantially as described.

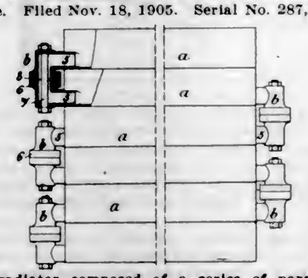
7. In a structure for storage purposes or the like, integral floor piers having flanges with connecting webs, a floor supported thereby, having openings directly over said piers and inclined chutes beneath said openings, in combination with a closing device for said chute consisting of bars pivotally mounted on said piers, brackets on said bars and transverse members loose on said brackets, substantially as described.

865,198. EMERGENCY AIR-BRAKE APPLIANCE. HIRAM W. MEIGS, Birmingham, Ala. Filed Mar. 23, 1907. Serial No. 364,010.



The combination with a track and locomotive and a pipe 2 connected with the locomotive, of an air brake system, said pipe 2 extending through the roof of the locomotive, and having branch pipes 3 whose free ends curve inward towards each other, and a detachable pipe section 4 which normally connects such ends, and an apparatus arranged alongside the track, the same comprising a vertical post and an arm pivoted thereto and provided at its free end with a hook, which, when the bar is swung down over the track, will engage the attachment 4 and release it from its connection, for the purpose specified.

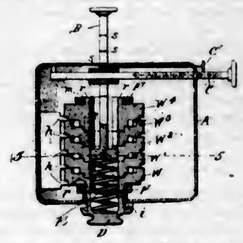
865,199. RADIATOR. GEORGES MENNESSON, Troyes, France. Filed Nov. 18, 1905. Serial No. 287,995.



1. A radiator composed of a series of parallel sheet metal radiating elements, and pipe connections connecting said elements in series, each element comprising a wedge-shaped body portion having a rounded base and enlarged cylindrical end portions, the ends of the pipe connections entering said cylindrical end portions and said elements being arranged with their longitudinal axes in one plane and with their body portions inclined at an oblique angle to said plane.

2. A steam radiator composed of a series of parallel tubes, and pipe connections connecting said tubes in series, each tube comprising a wedge-shaped body portion having a rounded base, and enlarged cylindrical end portions, and each pipe connection comprising two pipe elbows having abutting ends secured together and their other ends entering the ends of the corresponding tubes.

865,200. ADDING-MACHINE. CHARLES P. MOORE and THOMAS G. MOORE, Ravenswood, W. Va. Filed Jan. 4, 1907. Serial No. 350,716.



1. An adding machine, comprising a case with adding wheels and two plungers at right angles to each other, one of which is arranged to select the adding wheel and the other to turn the adding wheel.

2. An adding machine, comprising a case with adding wheels, a selecting plunger for selecting the adding wheel, and a turning plunger for turning the adding wheel, the case and plungers being made of dimensions to be held in one hand and be operated by the thumb and a finger of that hand.

3. An adding machine, comprising a case, a series of wheels each having a registering central channel of polygonal form, a plunger movable through said channels and having a polygonal head closely fitting the central channels for interlocking with any wheel, annular bearings smaller than the wheels and of greater diameter than the central channel located at the ends of the series of wheels and outside of the same, for holding the end wheels in alinement to form an open central channelway, means for holding the inner wheels in alinement and means for turning the wheels.

4. An adding machine, comprising a case, a series of centrally perforated adding wheels, annular bearings smaller than the wheels located outside of the end wheels of the series for holding the wheels in alinement to form an open central channelway, said annular bearings being larger than the central channelway, means for holding the inner wheels in alinement, a selecting plunger with a locking head movable through the wheels into the plane of any one of the wheels and an operating plunger arranged at right angles to the selecting plunger and means connecting the two plungers for converting the reciprocating movement of one into a rotary movement of the other.

5. An adding machine, comprising a case, a series of centrally perforated adding wheels, annular bearings smaller than the wheels located outside the end wheels of the series for holding the end wheels in alinement to form an open central channelway, the annular bearing being larger than the central channelway, means for holding the inner wheels in alinement, a plunger with interlocking head, an attached marker for the plunger extending over the tops of the adding wheels and inside the case to indicate the plane of the interlocking head, and means for turning said head.

6. An adding machine, comprising a case, centrally perforated adding wheels, a plunger with interlocking head movable through all the wheels, said plunger having equally spaced transverse grooves corresponding to the spacing of the adding wheels, and a locking device engaging said grooves to hold said plungers to a fixed position as regards longitudinal movement.

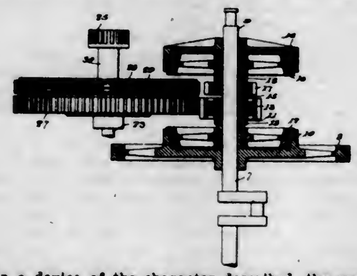
7. An adding machine, comprising a series of alined centrally perforated adding wheels, an axial selecting plunger movable at right angles to the plane of the wheels, a central spring for forcing the plunger in one direction and a removable holder for the end of the spring.

8. In an adding machine, the carrying devices, consisting of ratchet teeth on one wheel and an elbow spring on the adjacent wheel lying in the plane of the above named ratchet teeth and projecting beyond the periphery of the wheel, and a stationary cam-bar arranged to be struck by the elbow springs to force the latter into engagement with the ratchet teeth within.

9. In an adding machine, the combination with a set of adding wheels having projecting carrying springs; of a yoke-shaped cam-bar hung coaxially to the adding wheels and an external axially arranged handle for axially swinging the yoke-shaped cam-bar and means for locking the same.

10. In an adding machine, a series of coaxially arranged adding wheels having an open central channelway and interlocking and swiveling collars and recesses, the end wheels having also external collars, supporting bearings for these external collars, and means for selecting and turning the adding wheels.

865,201. REVERSIBLE TRANSMISSION-GEAR. WALTER S. MORTON, Upper Sandusky, and MOSES W. KOUNS, Columbus, Ohio, assignors to The Ohio Manufacturing Company, Upper Sandusky, Ohio, a Corporation of Ohio. Filed Feb. 23, 1907. Serial No. 358,795.



1. In a device of the character described, the combination, with a shaft and a plurality of gears mounted thereon and adapted to be connected one to the other, of a second shaft, a pinion mounted on said second shaft and adapted to mesh with one of said gears, a second pinion mounted on said second shaft, a flexible driving member adapted to connect said second pinion with another of said gears, and means for connecting said pinions to said shaft.

2. In a device of the character described, the combination with a driving shaft, a plurality of pinions thereon, and clutches adapted to connect said pinions to said shaft, of a driven shaft, a gear carried by said driven shaft, adapted to engage with one of said pinions, and a second gear adapted to be connected to said first mentioned gear, and a flexible driving member adapted to connect said last mentioned gear with another of said pinions, substantially as described.

3. In a device of the character described, the combination with a driving shaft, a plurality of pinions mounted thereon, and clutches adapted to connect said pinions to said shaft, of a driven shaft, a gear mounted on said driven shaft adapted to mesh with one of said pinions, a second gear mounted to slide longitudinally of said driven shaft, means for connecting said second gear with said first mentioned gear, and a flexible driving member for connecting said second gear with another of said pinions, substantially as described.

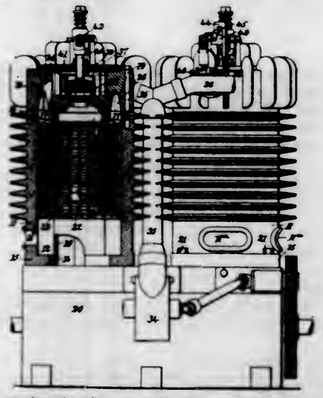
4. In a device of the character described, the combination with the driving shaft, a plurality of pinions mounted thereon, clutches adapted to connect said pinions to said shaft, of a driven shaft, a gear mounted on said driven shaft having teeth on one face thereof and adapted to mesh with one of said pinions, a second gear mounted to move longitudinally of said driven shaft and provided with teeth adapted to engage with the teeth on said first mentioned gear, and a flexible driving member adapted to connect said second gear with another of said pinions, substantially as described.

5. In a device of the character described, the combination with a driving shaft, oppositely facing clutches carried by said shaft, pinions connected with each of said clutches, one of said pinions being of smaller diameter than the other, of a driven shaft, a gear carried by said driven shaft adapted to mesh with the larger of said pinions, a second gear mounted on said driven shaft of less diameter than said first mentioned gear, and adapted to be connected to said first-mentioned gear and a driving member adapted to connect said last mentioned gear with the smaller of said pinions, substantially as described.

6. A reversible gear comprising a driving shaft, a plurality of pinions mounted thereon, a driven shaft, a gear permanently secured to said driven shaft and meshing with one of said pinions to rotate said driven shaft in a forward direction, a part adapted to be connected to said gear and flexible means for connecting the other pinion to said part to rotate said gear and said driven shaft in a reverse direction.

7. In a device of the character described, the combination, with a driving shaft, and a plurality of pinions mounted thereon, of a driven shaft, a gear mounted thereon, means for connecting said gear to one of said pinions to rotate said driven shaft in one direction, a second gear mounted on said driven shaft, means for connecting said second gear to another of said pinions to rotate said driven shaft in the opposite direction, and means for connecting said gears one to the other, whereby, when said driven shaft is rotated in one direction, said gears move in unison, and when said driven shaft is rotated in the opposite direction, one of said gears remains stationary.

865,202. INTERNAL-COMBUSTION ENGINE. CHARLES J. MUNDHENK, Freeport, Ill. Filed Feb. 14, 1906. Serial No. 301,009.



1. An engine having a cylinder, a jacket surrounding the same and spaced therefrom, internal ribs connected with the jacket and running longitudinally thereof, annular ribs connected with the cylinder, the ribs of the cylinder engaging the ribs of the jacket to brace the cylinder against the jacket, and radiating strips connected with the cylinder and projecting outward between the longitudinal ribs of the jacket.

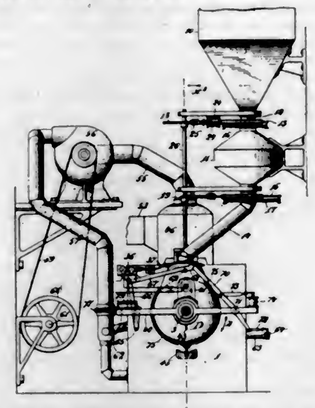
2. An engine having a cylinder, a jacket surrounding the same and spaced therefrom, a plurality of parallel ribs carried by the cylinder and extending outwardly therefrom, a plurality of ribs carried by the jacket and extending inwardly therefrom and in engagement with the ribs of the cylinder, the two sets of ribs being arranged at an angle to each other, and radiating strips carried by the cylinder and projecting outwardly therefrom and between the ribs of the jacket, said radiating strips having their outer edges split and bent in staggered relation.

3. An engine having a cylinder, a jacket surrounding the same and spaced therefrom, a plurality of parallel ribs carried by the jacket and extending inwardly toward the cylinder, and a plurality of radiating strips substantially parallel to said ribs, and carried by the cylinder and extending outwardly therefrom into the spaces between said ribs, each of said strips being formed of sheet metal inserted within a groove in the wall of the cylinder and having its outer edge provided with slits, the portions between said slits being bent at divergent angles.

4. An engine having a cylinder of thin material and having outwardly-directed flanges adjacent each end thereof, a jacket having an inwardly-directed flange at one end and adapted to fit the outwardly-directed flange at one end of the cylinder, the body of said jacket adapted to fit the outwardly-directed flange at the opposite end of the cylinder, means intermediate said cylinder and jacket for properly bracing the former, said means comprising a plurality of outwardly-directed ribs on the cylinder, a plurality of inwardly-directed ribs on the jacket and at an angle to the first mentioned ribs, and means for circulating a cooling medium between said cylinder and said jacket.

5. An engine, comprising a cylinder, a jacket surrounding the same, means intermediate said cylinder and said jacket for spacing and bracing the jacket, outwardly-directed flanges adjacent the ends of the cylinder, and in engagement with the jacket means for circulating a cooling medium between said cylinder and said jacket, and a plurality of radiating strips upon the cylinder intermediate the bracing and spacing means, each of said strips being formed of sheet metal and having its outer edge extending in an irregular line.

865,203. AUTOMATIC COFFEE-ROASTER. HENRY MUSTONEN and TOIMI A. NISSINEN, Union Hill, N. J. Filed Jan. 12, 1907. Serial No. 352,001.



1. A device for the purpose specified, having a rotating roaster, a furnace for heating the same, means for supplying a charge to the roaster, mechanism for actuating the supplying means, electromagnetic means for setting said mechanism in motion, and automatic means for closing the circuit through the electromagnet forming a part of said means.

2. A device for the purpose specified, having a rotating roaster, a furnace for heating the same, means for discharging the contents of the roaster when the temperature thereof shall have risen to a predetermined point, said means comprising a head D adapted to be locked to the rotating roaster, electromagnetic means for permitting said locking, and a thermostat for closing the circuit through said means when the temperature shall have risen above a predetermined point in the roaster.

3. A device for the purpose specified, having a continuously rotating roaster, a head D, capable of rotating with the roaster, for discharging the contents of the latter, automatic means for locking the head D to the roaster during one-half of a rotation of the head, thus inverting the same, automatic means for unlocking said head when it shall have been inverted, automatic means for again locking said head to the roaster for righting it when the roaster is emptied, automatic means for unlocking the head when righted, and automatic means for supplying the roaster with a fresh charge.

4. A device for the purpose specified, having a rotating roaster R, open at the end, means for heating the roaster, a normally stationary head D, for the roaster, said head having a conduit through which the coffee, or the like, is supplied to and discharged from the roaster, means for momentarily locking said head D to the roaster, an electromagnet and its armature adapted to put the locking mechanism in operative condition, an electric circuit having in it a break and including a generator and said electromagnet, a thermometer-thermostat adapted to close the break in said circuit and complete it through said electromagnet when the temperature in the roaster rises to a predetermined point, a cam which automatically unlocks the head D from the roaster when said head shall have been inverted, means for closing another break in said circuit, comprising a cam on the shaft of the roaster, a pawl actuated operatively by said cam, a ratchet-wheel actuated by said pawl, and a circuit-closer carried by said wheel for closing the said break, said ratchet wheel having a space *y* denuded of a tooth or teeth, and means for turning said wheel to the extent of a tooth to effect engagement with the pawl, when the head D is dumped or inverted.

5. A device for the purpose specified, having a rotary roaster, means for heating the same, a normally stationary head D, for the roaster, adapted to rotate with the roaster for dumping when locked to the latter, means for effecting said locking when the charge in the roaster is roasted, a reservoir, 10, for the material, as coffee, to be roasted, a measuring vessel 11, for a charge of coffee, a conduit 12 connecting the said reservoir with the vessel, a valve 13 in said conduit, a conduit 14 connecting the measuring vessel with the head D, a valve 15 in said conduit, an upright shaft 20, cams 18 and 19 on said shaft and adapted to operate the respective valves 13 and 15 to close them alternately, a pinion on said shaft 20, and two racks 22 and 23 on the head D, one adapted to rotate the pinion when the head is inverted and the other to rotate it when the head is righted.

6. A device for the purpose specified, having a rotating roaster, a fixed head or end-piece 7 for same, provided with an outlet 8 for gases, a furnace in which the roaster rotates, said furnace having an outlet for gases, a casing 46 mounted on the furnace and provided with an inlet for air at the bottom, and interiorly with chambers connected with the interior of the furnace and with the interior of the roaster, for heating the air passing through the casing 46, a blower, a pipe connecting the induction side of the blower with said casing, a branched pipe connecting the eduction side of the blower, respectively with the furnace and the roaster, a valve in said pipe, means for opening and closing said valve, a head D for the roaster, means for locking said head to the roaster for inverting the head and righting it, and means carried by the said head for operating the said air-valve-closing means.

7. In a device for the purpose specified, a furnace, a roaster rotating in said furnace, a head D for said roaster, automatic means for locking said head to the roaster for inverting and righting said head, automatic means for supplying a charge to the roaster, means for heating and forcing air to the roaster, means for supplying water to the roaster, and mechanism actuated by the said head D when it is inverted for cutting off the supply of air and admitting water to the roaster.

8. A device for the purpose specified, having a furnace 1, a shaft 3 rotative therein, a roaster on said shaft, a rotatable head D for the roaster, said head having a conduit 9 for receiving the unroasted material and for discharging the same, automatic means for locking the head D to the roaster when the roasted charge is to be emptied, so as to rotate the head to an inverted position, automatic means for righting the head D, an air-heating and forcing device, a pipe, with branches leading the air from the blower to the roaster and the furnace, respectively, an air-valve 77 in said air-pipe, a water pipe to supply water to the roaster, a cock 64 in said water-pipe, and means for actuating said air-valve 77 and cock 64 when the head D is rotated, said means comprising an elbow-lever 78, one arm

of which is coupled to the air-valve 77, a spring 79, coupled to the other arm of the elbow-lever and tending to close the air-valve, a lever 66, which normally engages the lever 78 and holds the air-valve open, a pin 69 in the head D, the slotted arm 67, coupled at one end to the lever 66 and provided with a shoulder 68 which normally engages the pin 69, a lever 70 coupled by one arm to the water-controlling cock 64 to open it, the other or upper arm of said lever engaging loosely the slot in the end of the arm 67, and means for closing the cock 64.

9. A device for the purpose specified, having a furnace, a rotating roaster R therein open at its end and provided with a bolt-socket 32, a rotatable head D for said roaster, said head having a conduit 9 through which the material to be roasted passes to and from the roaster, a spring bolt 30 on said head and adapted, when freed, to engage the socket in the head and lock the head to the roaster, a slidable supporting device for upholding said bolt, a toggle 33 which upholds said slidable device, a pin 35 for breaking the knuckle of the toggle so that the slidable device may operate and free the bolt, an electromagnet, the lever-like armature of said magnet, one arm of which bears on said pin, through which it breaks the knuckle of the toggle when the electromagnet is excited, a normally open electric circuit including a generator and said electromagnet, and automatic means for completing said circuit at proper times.

865,204. WEATHERPROOF FITTING FOR WINDOWS. WILLIAM NICOL, Glasgow, Scotland. Filed Oct. 11, 1904. Serial No. 228,049.



1. In swinging windows and the like, storm plates borne on separate parts and having their front and back edges correspondingly hooked and offset substantially as described, so as to doubly interlock when the window is closed.

2. In swinging windows and the like, having interlocking storm plates borne on separate parts which adjoin when the window is closed, comprising a sill plate provided with drainage openings and inclined towards such openings so as to drain the chamber formed by said interlocking plate.

3. In swinging windows and the like, having interlocking storm plates borne on separate parts which adjoin when the window is closed, comprising a sill plate provided with drainage openings and arched so as to present inclined surfaces leading to said openings so as to drain the chamber formed by said interlocking plates.

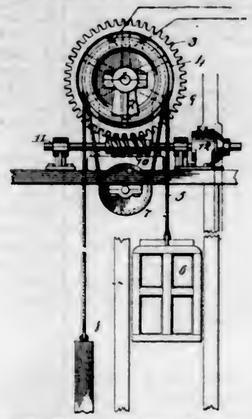
4. In swinging windows and the like, interlocking storm plates borne on separate parts which adjoin when the window is closed, in combination with drainage openings from the chamber formed by said interlocking plates, and baffle plates arranged over said drainage openings.

5. In swinging windows and the like, interlocking storm plates borne on separate parts which adjoin when the window is closed, in combination with drainage openings, baffle plates covering the same and drainage openings through said baffle plates.

865,205. ELEVATOR. CHARLES R. PRATT, New York, N. Y. Filed Jan. 4, 1907. Serial No. 350,745.

1. In an elevator, the combination of a car, two motors, mechanism connecting one of said motors to said car to operate the same and capable of being driven by the action of gravity on the elevator, and other power transmission means positively connecting the other motor to the first-mentioned motor and controlling its movement in both directions and which cannot be driven by action of gravity on the elevator but can be driven by its motor in the direction such action of gravity would tend to drive it.

2. In an elevator, the combination of a car, two motors, mechanism connecting one of said motors to said car to operate the same and capable of being driven by the action of gravity on the elevator, and a worm and worm wheel connecting the other motor to said mechanism and which cannot be driven by action of gravity on the elevator.



3. The combination with a rotatable member, of two motors, and two means of power transmission, one of which connects one motor to said rotatable member and can be driven therefrom, while the other power transmission means connects the other motor to the rotatable member and cannot be driven therefrom although its motor can drive it in either direction.

4. In an elevator mechanism of the type herein set forth, a car, a counter-balance, a cable supporting both car and counter-balance, a pulley receiving said cable, a motive device, means connecting said motive device to the said pulley and adapted to transmit movement in both directions between said parts, a worm wheel connected with said pulley, a worm engaging said worm-wheel, and a separate motive device for driving said worm.

5. In an elevator mechanism of the type herein set forth, a car, a counter-balance, a cable supporting both car and counter-balance, a pulley receiving said cable, a shaft carrying said pulley, an electric motor directly coupled to said shaft, a toothed gear on said shaft, a worm engaging said toothed gear, and a second electric motor for rotating said worm.

6. In an elevator, the combination with a car, a cable connected to said car, and a rotatable member to receive said cable, of driving and controlling mechanisms connected to said rotatable member, each adapted to turn it in either direction and one of them capable of being driven by the action of gravity on the elevator while the other cannot be so driven, and means for supplying energy.

7. In an elevator, the combination with a car, a cable connected to said car, and a rotatable member to receive said cable, driving mechanism connected to said rotatable member adapted to turn it in either direction and capable of being driven by the action of gravity on the elevator, mechanism positively and continuously controlling the rotation of said rotatable member, and means for supplying energy to said mechanisms independently.

8. In an elevator, the combination with a car, a cable connected to said car, and a rotatable member to receive said cable, a low speed driving motor, power transmission means connecting said driving motor to said rotatable member to turn it in either direction and capable of being driven by the action of gravity on the elevator, means for positively locking said rotatable member, and a high speed motor controlling said locking means.

9. In an elevator, the combination with a car, a cable connected to said car, and a rotatable member to receive said cable, motive means, means connecting said motive means to said rotatable member to turn it in either direction and capable of being driven by the action of gravity on the elevator, continuously operating means for positively locking said rotatable member in any position, and means for controlling the said locking means independently of said motive means.

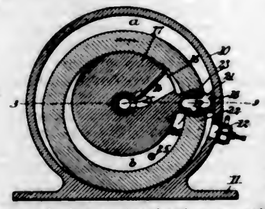
10. The combination of an elevator car, a source of motive power, power transmission apparatus connecting said source of power to said car to operate the same and capable of being driven by the action of gravity on the elevator, and controlling means positively connected to said power transmitting apparatus adapted to synchronize with all normal action thereof and to resist all abnormal action, as set forth.

11. The combination of an elevator car, a source of motive power, power transmission apparatus connecting said source of power to said car to operate the same and capable of being driven by the action of gravity on the elevator, controlling means positively connected to said power transmitting apparatus adapted to synchronize with all normal action thereof and to resist all abnormal action, as set forth, and means for regulating said controlling means.

12. In an elevator, the combination of a car, means adapted to transmit motive power to said car capable of being driven by the action of gravity on the elevator, and independently driven controlling means positively geared to said transmission means having driving and driven members in which the driving member cannot be moved or driven by the driven member.

13. In an elevator mechanism and in combination with the rotary hoisting shaft thereof, an electric motor having its armature on said shaft, mechanism for positively controlling the rotation of said shaft, and a second electric motor actuating said controlling means.

865,206. ROTARY EXPLOSIVE-ENGINE. JOHN V. B. RANCK, Cleveland, Ohio. Filed June 22, 1906. Serial No. 322,856.



1. A rotary explosive engine having a casing, a rotor comprising a central portion and a relatively movable annulus or ring surrounding the same, said parts forming an outer chamber and an inner chamber, one of said chambers adapted to serve as a compression chamber and the other of said chambers adapted to serve as a working chamber; a wing attached to the inner part of the rotor and extending radially through the ring or annulus, said wing having a chamber therein, and having ports adapted respectively to communicate with the compression and working chambers.

2. A rotary explosive engine having a casing, a rotor comprising a central portion and a relatively movable annulus or ring surrounding the same, said parts forming an outer chamber and an inner chamber, one of said chambers adapted to serve as a compression chamber and the other of said chambers adapted to serve as a working chamber; a wing attached to the inner part of the rotor and extending radially through the ring or annulus, said wing having a chamber therein, and having ports adapted respectively to communicate with the compression and working chambers, said shell or casing having an admission port therein, and the inner part of the rotor having an exhaust port passing out through the axis thereof.

3. A rotary explosive engine having a casing, a rotor comprising a central portion and a relatively movable annulus or ring surrounding the same, said parts forming an outer chamber and an inner chamber, one of said chambers adapted to serve as a compression chamber and the other of said chambers adapted to serve as a working chamber; a wing attached to the inner part of the rotor and extending radially through the ring or annulus, said wing having a chamber therein, and having ports adapted respectively to communicate with the compression and working chambers, said inner part of the rotor turning concentrically, and the ring or outer part of the rotor turning eccentrically to the casing.

4. A rotary explosive engine having a casing, a rotor comprising a central portion and a relatively movable annulus or ring surrounding the same, said parts forming an outer chamber and an inner chamber, one of said chambers adapted to serve as a compression chamber and the other of said chambers adapted to serve as a working chamber; a wing attached to the inner part of the rotor and extending radially through the ring or annulus, said wing having a chamber therein, and having ports adapted respectively to communicate with the compression and working chambers, said inner part of the rotor turning concentrically, and the ring or outer part of the rotor turning eccentrically to the casing, and the side walls of the shell or chamber having eccentric guides therein receiving the edges of the ring.

5. A rotary explosive engine having an outer casing or shell, and a rotor therein, the rotor comprising an inner member and a relatively movable annulus or ring surrounding the same, said parts forming an outer chamber and an inner chamber, one of said chambers adapted to serve as a compression chamber and the other of said chambers adapted to serve as a working chamber; and means controlling fluid movement between said chambers.

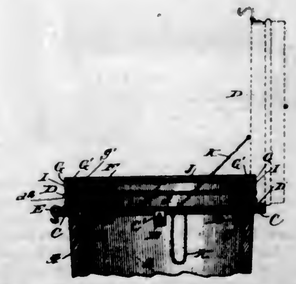
865,207. PUZZLE. OSCAR M. REED, Manchester, N. H. Filed Apr. 29, 1907. Serial No. 370,843.



1. A puzzle comprising a key consisting of a body portion extending beyond the ward and a removable end portion having an invisible joint with said body portion, and a ring on the shank of said body portion of such size that it cannot be removed therefrom when said end portion is in place but may be removed when said end portion is separated from said body portion.

2. A puzzle comprising a key consisting of a body portion extending beyond the ward, the shank of said body portion provided with a bead or collar for the purpose specified, and an end portion having an invisible joint with said body portion, and a ring on the shank of said body portion of such size that it cannot be removed therefrom when said end portion is in place but may be removed when said end portion is separated from said body portion.

865,208. DISPLAY-COVER. GUSTAVE E. H. RICHTER, Chattanooga, Tenn. Filed Mar. 9, 1907. Serial No. 361,437.



1. A display cover for tubs and the like, comprising a base ring having at its inner edge depending lugs and

screws turning through the same to secure the ring upon the upper end of the tub, a lid hinged at one edge to the base ring and comprising a bottom plate and an upwardly projecting rim, a latch for securing the swinging edge of the lid to the base ring, a top having a frame provided with a depending flange and an inwardly projecting flange, the depending flange having in its lower edge L-shaped slots coöperating with the studs on the rim of the lid in forming bayonet joints, keepers on the inwardly projecting flange of the top and spaced apart from the depending flange thereof, and a transpicuous closure held by said keepers, the upper edge of the rim of the lid fitting around the transpicuous closure and bearing against the inwardly projecting flange of the top, substantially as set forth.

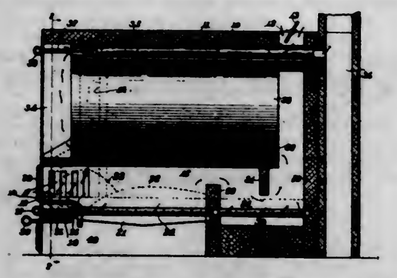
2. A display cover having a hinged lid, provided with a removable top having a transpicuous closure whereby to contain samples and expose the same to view, the top and the transpicuous closure being movable on the hinge of the lid to expose the upper end of a tub to which the cover may be applied, and the said top being removable bodily from the lid to permit unobstructed access to the sample chamber, substantially as set forth.

3. A display cover having a lid provided with a bottom plate and an upwardly projecting rim on said bottom plate and provided with a bead and above the same with lateral studs and a top having a depending flange to fit over the rim of the lid and abut the bead thereof and provided with L-shaped slots to receive the studs on said rim, the top forming a cover for a sample chamber and being removable to permit access to the samples without displacing the lid.

4. A display cover comprising a base ring, a lid hinged at one edge to said base ring and provided with the upwardly projecting rim concentric with the base ring, a top fitting detachably on said rim and having a transpicuous closure to retain samples and expose the same to view, and a latch at the swinging edge of the lid and adapted to engage with the base ring, substantially as set forth.

5. A display cover for tubs having a lid provided with a bottom plate or ring to fit the mouth of the tub, means for holding the ring to a tub and a top hinged to the ring and having a sample chamber and movable on its hinge with said chamber to a closed position over the ring to cover the tub or to an open position to expose the contents of the tub and a closure for said chamber removable bodily therefrom, substantially as set forth.

865,209. COMBUSTION APPARATUS. WILLIAM H. RICKER, Cambridge, Mass. Filed Mar. 20, 1907. Serial No. 363,373.



1. In a combustion apparatus, the combination of a fire-pot; means for admitting air to the front end of said fire-pot; a chamber at the front end of said fire-pot communicating therewith by a plurality of perforations; a perforated pipe extending along each side of said fire-pot and communicating with the interior of said chamber; and a steam nozzle extending into the mouth of each pipe adapted to draw some of the heated gases directly from said fire-pot through the perforations in said chamber casing into said chamber and to force them therefrom into said fire-pot through said pipes.

2. In a combustion apparatus, the combination of a fire-pot; means for admitting air to the front end of said fire-pot; a chamber at the front end of said fire-pot communicating therewith by a plurality of perforations; a movable bottom to said chamber; a perforated pipe extending along each side of said fire-pot and communicating with the interior of said chamber; and a steam nozzle extending into the mouth of each pipe adapted to draw some of the heated gases directly from said fire-pot through the perforations in said chamber casing into said chamber and to force them therefrom into said fire-pot through said pipes.

3. In a combustion apparatus, the combination of a fire-pot; means for admitting air to the front end of said fire-pot; a chamber at the front end of said fire-pot communicating therewith by a plurality of perforations; means for opening and closing the bottom of said chamber; a perforated pipe extending along each side of said fire-pot and communicating with the interior of said chamber; and a steam nozzle extending into the mouth of each pipe adapted to draw some of the heated gases directly from said fire-pot through the perforations in said chamber casing into said chamber and to force them therefrom into said fire-pot through said pipes.

4. In a combustion apparatus, the combination of a fire-pot; means for admitting air to the front end of said fire-pot; a chamber at the front end of said fire-pot communicating therewith by a plurality of perforations; a perforated pipe extending along each side of the fire-pot and communicating with the interior of said chamber; and a device within said chamber for creating a suction and adapted to draw some of the heated gases directly from said fire-pot through the perforations in said chamber casing into said chamber and to force them therefrom into said fire-pot through said pipes.

5. In a combustion apparatus, the combination of a fire-pot; a chamber at the front end of said fire-pot and communicating therewith by a plurality of perforations; air passages surrounding said fire-pot and communicating therewith through a plurality of perforations; a perforated pipe extending along each side of said fire-pot and communicating with the interior of said chamber; and a steam nozzle extending into the mouth of each pipe adapted to draw some of the heated gases directly from said fire-pot through the perforations in said chamber casing into said chamber and to force them therefrom into said fire-pot through said pipes.

6. In a combustion apparatus, the combination of a fire-pot; a chamber above said fire-pot and separated therefrom; a plurality of pipes extending lengthwise of said chamber and communicating at one end with the chimney and at the other indirectly with said fire-pot; means for admitting air to said chamber around said pipes; means for admitting said air to the front end of the fire-pot; a perforated chamber at said front end; a perforated pipe extending therefrom at each side of the fire-pot; and a suction device coöperating therewith to force air and gases up through the coal in the fire-pot where combustion is taking place.

7. In a combustion apparatus, the combination of a fire-pot; a chamber above said fire-pot and separated therefrom; a plurality of pipes extending lengthwise of said chamber and communicating at one end with the chimney and at the other indirectly with said fire-pot; means for admitting air to one end of said chamber around said pipes; means for admitting said air to the front end of the fire-pot from the opposite end of said chamber; a perforated chamber at said front end; a perforated pipe extending therefrom at each side of the fire-pot; and a suction device coöperating therewith to force air and gases up through the coal in the fire-pot where combustion is taking place.

8. In a combustion apparatus, the combination of a fire-pot; a chamber opening to the air; pipes in said chamber for the passage of the products of combustion escaping from said fire-pot; a passage communicating with said chamber; a plurality of openings from said passage to the front of said fire-pot above the unburned coal therein; a second chamber below the unburned coal with perforations in its upper wall; conduits communicating with said last-mentioned chamber and extending into said fire-pot; and means within said second chamber to indraw air through said perforations, unburned coal, and air chamber, and force said air through said conduit up through the coal in said fire-pot where combustion is taking place.

9. In a combustion apparatus, the combination of a fire-pot; a chamber opening to the air; a passage communicating with said chamber; a plurality of openings from said passage to the front of said fire-pot above the unburned coal therein; a second chamber below the unburned coal with perforations in its upper wall; conduits communicating with said last-mentioned chamber and extending into said fire-pot; means within said second chamber to indraw air through said perforations, unburned coal, and air chamber, and force said air through said conduits up through the coal in said fire-pot where combustion is taking place; a series of pipes leading through said air chamber indirectly communicating at one end with the fire-pot; and a steam jet adapted to force the hot gases from the fire-pot through said pipes.

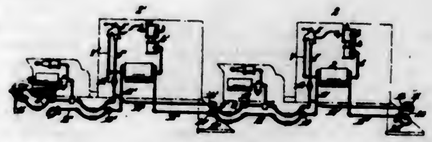
10. In a combustion apparatus, the combination of a fire-pot; a chamber opening to the air; pipes in said chamber for the passage of the products of combustion escaping from said fire-pot; a passage communicating with said air chamber; a plurality of openings from said passage to the front of said fire-pot above the unburned coal therein; a second chamber below the unburned coal with perforations in its upper wall; conduits communicating with said last-mentioned chamber and extending into said fire-pot; and a steam jet adapted to draw air through said perforations, unburned coal, and air chamber, and force it through said conduits to the portion of the fire-pot where combustion is taking place.

11. In a combustion apparatus, the combination of a fire-pot; a chamber opening to the air; pipes in said chamber for the passage of the products of combustion escaping from said fire-pot; a passage communicating with said air chamber; a plurality of openings from said passage to the front of said fire-pot above the unburned coal therein; a second chamber below the unburned coal with perforations in its upper wall; a conduit communicating with said second chamber and having perforations in one portion admitting air to the coal in process of combustion, and in another portion having perforations admitting air to the flame and gases after said flame and gases have left the immediate vicinity of the fire-pot; and means within said second chamber to indraw air through said perforations, unburned coal, and air chamber, and force said air through said conduits.

12. In a combustion apparatus, the combination of a fire-pot; a chamber opening to the air; pipes in said chamber for the passage of the products of combustion escaping from said fire-pot; a passage communicating with said air chamber; a plurality of openings from said passage to the front of said fire-pot above the unburned coal therein; a second chamber below the unburned coal with perforations in its upper wall; conduits communicating with said second chamber having perforations in one portion admitting air to the coal in process of combustion, and in another portion having perforations admitting air to the flame and gases after said flame and gases have left the immediate vicinity of the fire-pot; means within said second chamber to indraw air through said perforations, unburned coal, and air chamber, and force said air through said conduit, and to thoroughly mix said air with said flame and gases.

865,210. AIR-BRAKE APPARATUS. WILLIAM T. ROBINSON, JAMES W. NEIGHBOURS, and WILBOURN O. PIERCE, Pulaski, Va. Filed June 10, 1907. Serial No. 378,238.

1. The combination of a main reservoir, an air pump for supplying air to said reservoir, a brake valve in communication with said reservoir, a train pipe leading from the said brake valve, and pipes extending from the main reservoir for the conduct of air therefrom in opposite directions.



2. The combination of a main reservoir, an air pump for supplying air to said reservoir, a brake valve in communication with said reservoir, a valved train pipe leading from said brake valve, and pipes extending from the main reservoir for the conduct of air therefrom in different directions, each of said last mentioned pipes having a cock.

3. The combination of a main reservoir, an air pump for supplying air to said reservoir, a brake valve in communication with said reservoir, a train pipe leading from said brake valve, an auxiliary train pipe connected with said other train pipe, and pipes extending from the main reservoir for the independent conduct of bodies of air therefrom.

4. The combination of a main reservoir, an air pump for supplying air to said main reservoir, a brake valve in communication with said reservoir, a main train pipe leading from said brake valve, an auxiliary train pipe communicating with and leading from the main train pipe, the main and auxiliary train pipes having cocks, a valve in the main train pipe between the auxiliary train pipe and the brake valve, and pipes extending from the main reservoir for the conduct of air therefrom in different directions, each of said last mentioned pipes having a cock.

5. The combination of a main reservoir, an air pump, a pipe for conducting air from the air pump to said reservoir, a brake valve, a second pipe extending from the main reservoir to the brake valve, a valved train pipe leading from said brake valve, and other pipes extending from the main reservoir for the conduct of air therefrom in opposite directions, each of said last mentioned pipes having an angle-cock.

865,211. BINDING-POST. EARL H. ROLLINSON, Albany, N. Y. Filed Nov. 12, 1906. Serial No. 342,953.

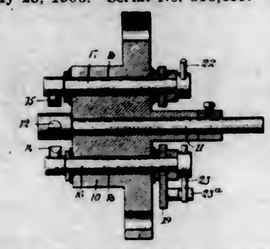


1. A three part binding post, comprising a rod; a washer; and a nut; a disk formed on the rod; ears on the periphery of said washer projecting from each surface thereof in opposite directions; and said washer placed in contact with said disk.

2. In a binding post; a rod; a disk thereon; a washer in contact with said disk; oppositely disposed projections on the periphery of said washer extending substantially at right angles to each face thereof; said projections so arranged that those projecting from one face will engage said disk, while those projecting from the opposite face will furnish bearing edges for a wire extending across the washer from one side to the other and bent to pass said rod; with a nut on said rod adapted to engage said wire and washer.

3. In a binding post; a rod; a disk and a nut thereon; a washer comprising a flat thin metallic plate; ears on the periphery thereof projecting from each surface in opposite directions; said washer adapted to be placed on said rod between said disk and said nut; a means for locking said nut.

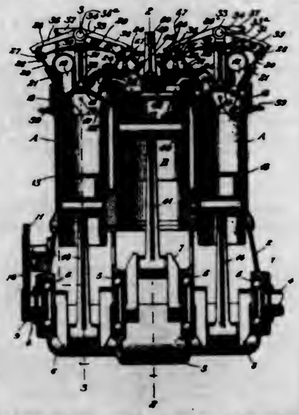
865,212. SPARK-PLUG. GEORGE W. SAGE, Eureka, Cal. Filed May 25, 1906. Serial No. 318,659.



1. A contact and release igniter, comprising a body, a rotary electrode mounted thereon, electrodes mounted for rotation in the body at spaced angular intervals with respect to the first-named electrode and insulated from the body, said last-named electrodes being provided with projections for engagement by the rotary electrodes, a bracket plate supported by the electrode, and springs connected with the electrodes and the bracket.

2. A contact and release igniter having a body, a rotating electrode mounted therein, rocking electrodes mounted in and insulated from the body and adapted to be successively engaged by the rotating electrode, and means for holding the rocking electrodes in normal position, said means comprising a bracket plate, and springs connecting the bracket plate and the rocking electrodes.

865,213. ENGINE. JOSEPH SCHAEFFERS, New York, N. Y. Filed Aug. 15, 1906. Serial No. 330,678.



1. In an engine in combination, an internal combustion cylinder having means for spraying a liquid thereinto near the end of the power stroke, a second cylinder adapted to exhaust into the atmosphere, and means for exhausting said first cylinder into said second cylinder.

2. In an engine in combination, two internal combustion four-cycle cylinders having means for introducing liquid thereinto near the end of the power strokes, a two-cycle cylinder, and means for exhausting said four-cycle cylinders alternately into said two-cycle cylinder.

3. An engine comprising two internal combustion four-cycle cylinders, a two-cycle cylinder, means for introducing liquid into said four-cycle cylinders near the end of the power stroke thereof, and means for exhausting said four-cycle cylinders alternately into said two-cycle cylinder, the arrangement being such that when one four-cycle cylinder is giving a power stroke the other four-cycle cylinder is drawing in a charge, and the two-cycle cylinder is exhausting.

4. An engine comprising a four-cycle cylinder having inlet and exhaust openings and valves to close the same, a two-cycle cylinder having an inlet, said exhaust opening of said four-cycle cylinder communicating with said inlet of said two-cycle cylinder, a rocking member adapted to be actuated from a cam shaft and alternately to open said valves of said four-cycle cylinder, and means for locking said exhaust valve of said four-cycle cylinder when said valve is normally closed.

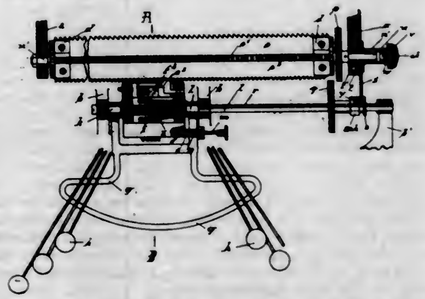
5. An engine having two internal combustion four-cycle cylinders having inlet and exhaust openings, intermediate of said cylinders, a two-cycle cylinder having two inlet openings, an exhaust opening of each of said four-cycle cylinders communicating with an inlet opening of said two-cycle cylinder, means for spraying liquid into said four-cycle cylinders near the end of the power strokes of the same, and means for alternately exhausting said four-cycle cylinders into said two-cycle cylinders.

6. An engine comprising two internal combustion four-cycle cylinders having inlet and exhaust openings, a two-cycle cylinder having two inlet openings, an exhaust opening of each of said four-cycle cylinders communicating with an inlet opening of said two-cycle cylinder, valves to close said inlet openings of said four-cycle cylinders, and valves to cut off communication between said exhaust openings of said four-cycle cylinders and said inlet openings of said two-cycle cylinder, means for spraying liquid into said four-cycle cylinders near the end of the power stroke of the same, and means for exhausting said four-cycle cylinders alternately into said two-cycle cylinders.

7. In an engine, in combination, an internal combustion cylinder having inlet and exhaust openings, a second cylinder having inlet and exhaust openings, said exhaust openings of said first cylinder communicating with said inlet openings of said second cylinder, a valve to close said exhaust openings of said first cylinder, and means for locking said valve when the same is normally closed.

8. An engine, comprising a four-cycle internal combustion cylinder having inlet and exhaust openings and valves to close the same, a two-cycle cylinder having an inlet and an exhaust opening, and a valve to close said exhaust opening, said exhaust opening of said four-cycle cylinder communicating with said inlet of said two-cycle cylinder, a rocking member adapted to be actuated from a cam shaft alternately to open said valves of said four-cycle cylinder, and means controlled by said rocking member for locking said exhaust valve of said four-cycle cylinder when said valve is normally closed.

865,214. FEED MECHANISM FOR TYPE-WRITERS. FRANZ SCHÜLER, Berlin, Germany. Filed Apr. 10, 1906. Serial No. 310,932.



1. The combination, with a typewriter carriage, of a plurality of independent escapement sets each comprising a separate ratchet member and a separate detent member, and means for bringing the different escapement sets alternatively into operation.

2. The combination, with a typewriter carriage, of a feed mechanism comprising a plurality of diverse escape members and a plurality of corresponding detent members, and means for bringing the different pairs of the respective escape and detent members into operative relation to the carriage to vary the feed.

3. A feed mechanism for typewriting machines, comprising, in combination, a rack having several sets of teeth of different pitch, several detents one to fit each of said sets of teeth, and means for interchangeably bringing the different sets into use.

4. A feed mechanism for typewriting machines, comprising, in combination, a rack having several sets of teeth of different pitch arranged radially about a common axis, several detents one to fit each of said sets of teeth, and means for interchangeably bringing the different sets into use.

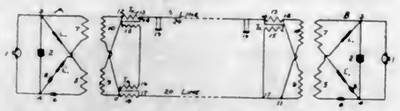
5. A feed mechanism for typewriting machines, comprising, in combination, a rack having several sets of teeth of different pitch arranged radially about a common axis, several detents one to fit each of said sets of teeth and adapted to turn about a common axis, and means for interchangeably bringing the different sets into use.

6. A feed mechanism for typewriting machines, comprising a rack member having several sets of teeth of different pitch, adjustable detents arranged to fit each of said sets of teeth, means for bringing the different sets of teeth alternatively into operative position, and means for adjusting the detents to correspond to the change in teeth.

7. A feed mechanism for typewriting machines, comprising, in combination, an adjustable rack having several sets of teeth of different pitch, adjustable detents one to fit each of said sets of teeth, and means to simultaneously adjust said detents upon adjusting said sets of teeth.

8. A feed mechanism for typewriting machines, comprising in combination a rack having several sets of teeth of different pitches arranged radially about a common axis, detents to fit said sets of teeth and adapted to turn about a common axis, a handle to turn said rack and adapted to slide relatively to said rack, a spur-wheel adapted to turn with said detents, and means connecting said handle with the spur-wheel adapted to turn with said detents, when said handle is moved longitudinally in reguard to said rack.

865,215. ART OF TELEPHONY. DANIEL M. THERRELL, Charleston, S. C. Filed July 23, 1904. Serial No. 217,846.



1. In the art of the electrical transmission and reproduction of sound, means for producing resonance in the transmitter circuit, substantially as set forth.

2. In the art of the electrical transmission and reproduction of sound, means for producing and determining electrical resonance in the transmitter circuit, substantially as set forth.

3. In the art of the electrical transmission and reproduction of sound, means for producing electrical resonance in the primary circuit or circuits, whereby the current is increased in the said circuit or circuits, substantially as set forth.

4. In the art of the electrical transmission and reproduction of sound, means for producing electrical consonance in the primary and secondary circuits, substantially as set forth.

5. In the art of the electrical transmission and reproduction of sound, means for producing and determining electrical consonance in the transmitter circuits, whereby the current is increased, substantially as set forth.

6. In the art of the electrical transmission and reproduction of sound, means for attuning the transmitter circuit to the essential frequencies of the sound to be transmitted, substantially as set forth.

7. In the art of the electrical transmission and reproduction of sound, means for electrically attuning the transmitter circuit for the essential harmonic frequencies of the sound to be transmitted, whereby the current is increased in the said transmitter circuit, substantially as set forth.

8. In the art of the electrical transmission and reproduction of sound, means for electrically attuning the transmitter and line circuits for the essential frequencies to be transmitted, substantially as set forth.

9. In the art of the electrical transmission and reproduction of sound, means for electrically attuning the transmitter and line circuits for the essential frequencies to be transmitted, whereby the current is increased in the said circuits, substantially as set forth.

10. In the art of the electrical transmission and reproduction of sound, means for reducing the terminal impedance to incoming line currents, substantially as set forth.

11. In the art of the electrical transmission and reproduction of sound, means for reducing the terminal impedance of the line to incoming voice or sound currents, whereby the line current is increased, substantially as set forth.

12. In the art of the electrical transmission and reproduction of sound, means for generating alternating currents in a branch of the transmitter circuit containing the primary coil, substantially as set forth.

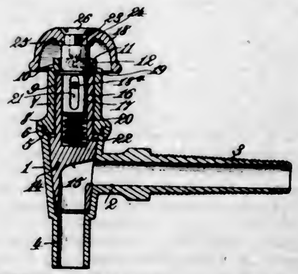
13. In the art of the electrical transmission and reproduction of sound, means for generating alternating currents in circuits derived from the transmitter circuit and containing the primary coils of a plurality of transformers, substantially as set forth.

14. In the art of the electrical transmission and reproduction of sound, the combination of a transmitter, a source of energy and a transformer in a circuit attuned for the essential sound or voice frequencies and in operative relation to the main line and receivers, substantially as set forth.

15. In the art of the electrical transmission and reproduction of sound, the combination of a transmitter, a source of energy and transformers in derived circuits attuned for the essential voice or sound frequencies and in operative relation to the main line and receivers, substantially as set forth.

16. In the art of the electrical transmission and reproduction of sound, the combination of a transmitter, a source of energy and transformers in circuits attuned for the essential sound or voice frequencies and in operative relation to the main line and receivers and compensating transformers in the main line, substantially as set forth.

865,216. FAUCET. ALBERT ULLMANN, Macon, Ga. Filed Apr. 10, 1906. Serial No. 310,946.



1. A faucet comprising a plug, means for locking the plug from movement, said means when released constituting a stop to limit the turning movement of the plug in either direction, and means within the shank of the plug for automatically packing the plug.

2. A faucet comprising a body-portion, a plug mounted therein and having a hollow stem, a handle-shank extending in and connected to the stem, means within the stem and bearing against the shank and plug for automatically packing the plug, and a locking means engaging in the shank to prevent the turning of the plug.

3. A faucet comprising a body-portion, a plug mounted therein and having a hollow stem, a handle-shank extending in and connected to the stem, means within the stem and bearing against the shank and plug for automatically packing the plug, and a locking means engaging in the shank to prevent the turning of the plug, said means when released adapted to engage the shank at two points to limit the turning movement of the plug in either direction.

4. A faucet comprising a body-portion, a sleeve connected thereto and provided with a shoulder, a plug mounted in the body-portion and having a hollow stem extending in the sleeve, a handle-shank arranged in the sleeve and extending in and connected to the stem, said shank provided with a flange abutting against the shoulder of the sleeve, a spring mounted in the stem and bearing against the shank and plug for automatically packing the plug, and a locking means extending through the sleeve and engaging in the handle shank to prevent the turning of the plug.

5. A faucet comprising a body-portion, a sleeve connected thereto and provided with a shoulder, a plug mounted in the body-portion and having a hollow stem extending in the sleeve, a handle-shank arranged in the sleeve and extending in and connected to the stem, said shank provided with a flange abutting against the shoulder of the sleeve, a spring mounted in the stem and bearing against the shank and plug for automatically packing the plug, and a locking means extending through the sleeve and engaging in the handle to prevent the turning of the plug, said means when released adapted to engage the shank at two points and constitute a stop to limit the turning movement of the plug in either direction.

6. A faucet comprising a body-portion, a sleeve connected thereto and provided with a shoulder, a plug mounted in the body-portion and having a hollow stem extending in the sleeve, a handle-shank arranged in the sleeve and extending in and connected to the stem, said shank provided with a flange abutting against the shoulder of the sleeve, a spring mounted in the stem and bearing against the shank and plug for automatically packing the plug, a locking means extending through the sleeve and engaging in the handle to prevent the turning of the plug, said means when released adapted to engage the shank at two points and constitute a stop to limit the turning movement of the plug in either direction, and means for operating said locking means.

7. A faucet comprising a body-portion, a plug mounted therein and having a hollow stem, a handle-shank extending in and connected to the stem, means within the stem and bearing against the shank and plug for automatically packing the plug, a locking means engaging in the shank to prevent the turning of the plug, said means when released adapted to engage the shank at two points to limit the turning movement of the plug in either direction, and means for operating said locking means.

8. A faucet comprising a plug, a handle element for turning the plug a pin and elongated slot connection between the handle element and the plug for permanently connecting the plug and element together and causing thereby the turning of the plug when the handle element is shifted, a locking means engaging the handle element to prevent movement of the plug, said locking means when moved to released position adapted to constitute a stop engaging with the handle element to limit the turning movement of the plug, and means interposed between the handle element and the plug for automatically packing the plug.

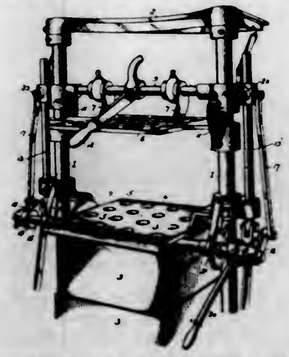
9. A faucet comprising a body-portion having an inlet and an outlet, a turnable plug mounted in the body-portion and having a passage associating with said inlet and outlet, said plug provided with a hollow stem, a sleeve connected with the body-portion and surrounding said plug and provided with a shoulder, a handle element extending in said stem and provided with a flange adapted to engage said shoulder, a turning pin fixed to the stem and extending through the handle element, means interposed between the handle element and the plug for automatically packing the plug, a releasable locking pin extending through the sleeve and engaging in the handle element for locking the plug from movement, and means for releasing the locking pin, said pin when released adapted to engage said handle element at two points, thereby constituting a stop for limiting the turning movement of the plug in either direction.

10. A faucet comprising a body-portion having an inlet and an outlet, a turnable plug mounted in the body-portion and having a passage associating with said inlet and outlet, said plug provided with a hollow stem, a sleeve connected with the body-portion and surrounding said plug and provided with a shoulder, a handle element extending in said stem and provided with a flange adapted to engage said shoulder, a turning pin fixed to the stem and extending through the handle element, means interposed between the handle element and the plug for automatically packing the plug, and a releasable locking pin extending through the sleeve and engaging in the handle element for locking the plug from movement.

11. A faucet comprising a body-portion having an inlet and an outlet, a turnable plug mounted in the body-portion and having a passage associating with said inlet and outlet, said plug provided with a hollow stem, a sleeve connected with the body-portion and surrounding said plug and provided with a shoulder, a handle element extending in said stem and provided with a flange adapted to engage said shoulder, a turning pin fixed to the stem and extending through the handle element, means interposed between the handle element and the plug for automatically packing the plug, a releasable locking pin extending through the sleeve and engaging in the handle element for locking the plug from movement, and means for releasing the locking pin.

12. A faucet comprising a body-portion having an inlet and an outlet, a turnable plug mounted in the body-portion and having a passage associating with said inlet and outlet, said plug provided with a hollow stem, a sleeve connected with the body-portion and surrounding said plug and provided with a shoulder, a handle element extending in said stem and provided with a flange adapted to engage said shoulder, a turning pin fixed to the stem and extending through the handle element, means interposed between the handle element and the plug for automatically packing the plug, a releasable locking pin extending through the sleeve and engaging in the handle element for locking the plug from movement, and means for releasing the locking pin, said pin when released adapted to engage said handle element at two points, thereby constituting a stop for limiting the turning movement of the plug in either direction.

865,217. BOTTLE-WASHING MACHINE. HENRY W. VAN LEER, Philadelphia, Pa., assignor to S. S. Wenzell Machine Company, Charleston, W. Va., a Corporation of West Virginia. Filed May 1, 1907. Serial No. 371,301.



1. The combination of a clamping plate, a cam shaft and its bearings and means operatively connecting the same, the whole constituting the upper clamping device of a bottle washing machine, a transverse adjusting shaft mounted in suitable bearings and positive connections between said shaft and said cam shaft bearings, whereby movement of said adjusting shaft will effect vertical adjustment of said cam shaft without affecting the proper alinement of the same.

2. The combination of a clamping plate, a cam shaft and its bearings and means operatively connecting the same, the whole constituting the upper clamping device of a bottle washing machine, reciprocating devices with which said clamping device is normally connected, an adjusting shaft having bearings likewise connected to said reciprocating devices, and connections between said shaft and the cam shaft bearings, whereby the latter, when free from the control of the reciprocating devices, can be adjusted vertically independently of the latter.

3. The combination of a cam shaft forming one of the members of the clamping device of a bottle washing machine, vertically guided bearings for said cam shaft, an adjusting shaft, bearings for the latter and cranks on said shaft, each connected to one of said cam shaft bearings, whereby like adjustment of each of the latter can be simultaneously effected.

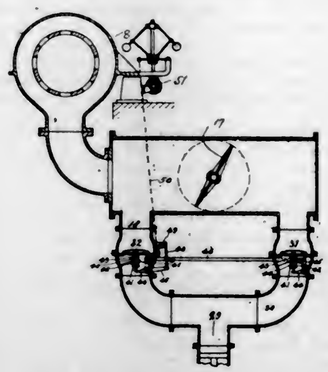
4. The combination of a cam shaft constituting one of the elements of the clamping device of a bottle washing machine, vertically guided bearings for said cam shaft, an adjusting shaft bearings therefor, cranks on said adjusting shaft, each connected to one of said cam shaft bearings, and a pointer and dial whereby the partial rotative movement of said adjusting shaft can be indicated.

5. The combination in a bottle washing machine of the telescopic brush casing and its top plate and bottle mouth supports, bottle clamping devices comprising a clamping plate, a shaft, cams upon the latter vertically guided bearings for said shaft, and connections between said shaft bearings and the plate, an adjusting shaft, bearings therefor, and connections between said adjusting shaft and the cam shaft bearings whereby corresponding vertical movement can be simultaneously imparted to both of said cam shaft bearings.

6. The combination of the upper clamping devices of a bottle washing machine, means for reciprocating the same, and adjusting devices also connected to said reciprocating mechanism, and to the clamping devices whereby the latter can be uniformly adjusted in respect to the reciprocating devices, when free from the control of the latter.

7. The combination of the upper clamping devices of a bottle washing machine, means for reciprocating the same, and adjusting devices which are connected both to the reciprocating mechanism and to the clamping devices, provide support for the latter when they are free from the reciprocating mechanism, and also serve to adjust them in respect to said mechanism.

865,218. AIR-SUPPLYING MEANS FOR EXPLOSIVE-ENGINES. AUGUST WAGENER, Berlin, Germany, assignor to Society Deutsche Kraftgas-Gesellschaft M. B. H., Berlin, Germany. Filed July 20, 1903. Serial No. 166,369.



1. The combination, in an explosion-engine, of an air-compressor, a driving cylinder, an air-conduit connecting said air-compressor and said driving-cylinder, and through which the whole of the compressed air passes to said cylinder, a device for throttling part of the air in said conduit, and means for varying the proportion which the throttled air bears to the unthrottled air in said conduit.

2. The combination, in an explosion-engine, of an air-compressor, a driving cylinder, an air-conduit connecting said air-compressor and said driving cylinder, and through which the whole of the compressed air passes to said cylinder, a device for throttling part of the air in said conduit, means for adjusting the amount of throttling exercised by said device, and means for varying the proportion which the throttled air bears to the unthrottled air in said conduit.

3. The combination, in an explosion-engine, of a pump-cylinder and a piston therein, a driving cylinder having two series of ports, a gaseous-fuel-conduit connecting the series of ports nearest one end of the driving cylinder with one end of said pump-cylinder, an air-conduit connecting the other series of ports with the other end of said pump-cylinder, a throttling device arranged between the ends of said air-conduit, and a piston in said driving-cylinder for successively opening and closing said series of ports.

4. The combination, in an explosion-engine, of a pump, a driving-cylinder, an air-conduit communicating at one end with said driving cylinder, a throttling device arranged between the ends of said conduit, pipes connecting said pump with said conduit at each side of the throttling device, and valves in said pipes.

5. The combination, in an explosion-engine, of a pump, a driving-cylinder, an air-conduit communicating at one end with said driving cylinder, a throttle device arranged between the ends of said conduit, pipes connecting said pump with said conduit at each side of the throttling device, valves in said pipes, and means for opening and closing said valves.

6. The combination, in an explosive-engine, of a pump, a driving-cylinder, an air-conduit communicating at one end with said driving cylinder, a throttling device arranged between the ends of said conduit, means for varying the amount of throttling exerted by said device, pipes connecting said pump with said conduit at each side of the throttling device, and valves in said pipes.

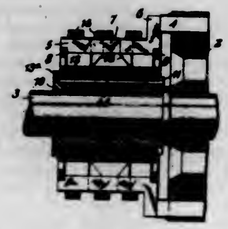
7. The combination, in an explosion engine, of a pump, a driving-cylinder, an air-conduit communicating at one end with said driving cylinder, a throttling device arranged between the ends of said conduit, means for varying the amount of throttling exerted by said device, pipes connecting said pump with said conduit at each side of the throttling device, valves in said pipes, and means for varying the proportion the throttled air bears to the unthrottled air in said conduit.

8. The combination, in an explosion-engine, of a pump, a driving-cylinder, an air conduit communicating at one end with said driving cylinder, a throttling device arranged between the ends of said conduit, means for varying the amount of throttling exerted by said device, pipes connecting said pump with said conduit at each side of the throttling device, valves in said pipes, cylinders arranged at the ends of said conduit, and pistons adjustable in said cylinders.

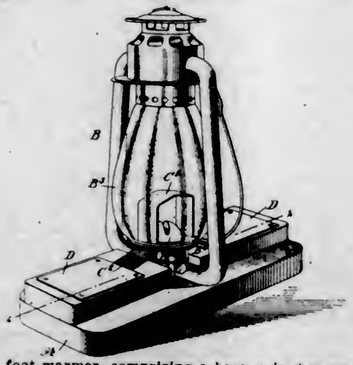
865,219. END CONNECTION FOR CONDUCTORS ON FIELD-MAGNETS OF ALTERNATE-CURRENT GENERATORS. MILES WALKER, Hale, Altrincham, England, assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed July 13, 1907. Serial No. 383,658.

In a dynamo-electric machine, a rotatable member comprising a slotted core, conductors located in and projecting from the core slots, a plurality of annular conductors mounted concentrically with the core having outwardly and laterally projecting lugs, the said annular conductors being arranged in two spaced groups with the lugs of the two groups projecting toward each other, longitudinally extending conducting bars connected, respectively, to the said lugs and provided with outwardly projecting radial portions that connect to the ends of the core conductors.

865,219.



865,220. FOOT-WARMER. CHARLES H. WHITAKER, Bordentown, N. J. Filed Aug. 11, 1906. Serial No. 330,244.



1. A foot warmer, comprising a base, a lantern mounted thereon, a U-shaped conducting plate arranged above the flame, the arms of the plate extending outside of the lantern and resting on the base.

2. A foot warmer, comprising a base, a lantern mounted thereon, a conducting plate extending over the flame of the lantern and to the outside thereof, the exterior portion being on top of the base, and covering plates attached to the base and extending over the outer portions of the conducting plate.

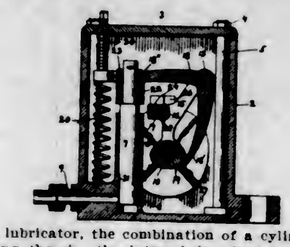
3. A foot warmer, comprising a base, a lantern mounted thereon, and a metal plate having an inverted U-shaped heat-receiving portion within the lantern and heated by the flame thereof, the metal plate also having an exterior portion resting on the said base.

4. A foot warmer, comprising a base, a lantern mounted thereon, and a metal plate having an inverted U-shaped heat receiving portion within the lantern and heated by the flame thereof, the lower ends of the said heat receiving portion terminating in heat delivering flanges extending in opposite directions from the lantern and overlying the top of the said base.

5. A foot warmer provided with a lantern, and a metal plate having an inverted U-shaped heat receiving portion and heat delivering flanges, the said heat receiving portion having its middle part extending over the flame of the burner within the chimney of the lantern, and the side arms of the said heat receiving portions extending downward on opposite sides of the flame and through the bottom of the lantern burner to the outside of the lantern, the said side arms terminating in the said flanges extending outwardly in opposite directions from the said lantern.

865,221. LUBRICATOR. FRANK D. WINKLEY, Madison, Wis., assignor to Madison-Kipp Lubricator Company, Madison, Wis., a Corporation of Wisconsin. Filed July 18, 1906. Serial No. 326,682.

1. In a lubricator, the combination of a cylinder, a piston working therein free to reciprocate longitudinally and to oscillate about its axis, a drive shaft, two cams on the drive shaft, one arranged to give motion toward and from the axis of the shaft and the other motion in lines parallel with the shaft, and connections between the said cams and the piston arranged respectively to reciprocate and to turn axially the piston, substantially as set forth.



2. In a lubricator, the combination of a cylinder, a piston working therein, the latter being free to reciprocate longitudinally and to oscillate about its axis, a drive shaft, means between the drive shaft and plunger for reciprocating it, and other means between the drive shaft and plunger for oscillating it, the said means for operating the piston being arranged to operate alternately, that is to say, the piston being reciprocated while at rest as to oscillatory movements, and vice-versa, substantially as set forth.

3. In a lubricator, the combination with a cylinder and a piston free to reciprocate longitudinally and to oscillate therein, of means for reciprocating the piston, a reciprocating slide, and means between the slide and piston for oscillating the latter, substantially as set forth.

4. In a lubricator, the combination of a cylinder, a piston, a lever for reciprocating the piston, means for operating the lever, an arm secured to and projecting out from the piston, and means for oscillating the arm, substantially as set forth.

5. In a lubricator, the combination of a cylinder, a piston therein free to reciprocate longitudinally and to oscillate about its axis, means for reciprocating the piston, means for oscillating the piston, said parts being arranged to hold one of said sets of piston-operating means stationary while the other is in operation, substantially as set forth.

6. In a lubricator, the combination of a cylinder, a piston working therein, a main drive shaft, a pair of cams on the said shaft, connections between one of the cams and the piston through which the latter is reciprocated, and connections between the other cam and the piston through which the latter is oscillated, substantially as set forth.

7. In a lubricator, the combination of a cylinder, a piston working therein, a main drive shaft, a pair of cams mounted thereon, one being arranged to impart movement in a direction transverse to the axis of the shaft, and the other to impart movement in a direction parallel with such axis, and means between one of the cams and the piston for reciprocating it, and connections between the other of said cams and the piston for oscillating it, substantially as set forth.

8. In a lubricator, the combination of a cylinder, a piston working therein, a main drive shaft, a lever connected with the piston, a slide, connections between the slide and the piston for oscillating the latter, and a cam on the shaft for reciprocating the slide, substantially as set forth.

9. In a lubricator, the combination of a cylinder, a piston working therein, means for reciprocating the piston, a main shaft, a slide parallel therewith, a cam on the shaft for operating the slide, and connections between the slide and the piston for oscillating the latter, substantially as set forth.

10. In a lubricator, the combination of a cylinder, a piston working therein, a main shaft, a cam mounted thereon, a bell crank connected with the piston and operated by the said cam, a slide parallel with the main shaft, a cam on the shaft for reciprocating the said slide, and connections between the slide and piston by which the latter is oscillated as the slide is reciprocated, substantially as set forth.

11. In a lubricator, the combination of a cylinder, a piston working therein, a main shaft, a cam mounted thereon, a lever bearing upon the cam and connected with the piston and arranged to reciprocate the latter, a spring for moving the lever and holding it in engagement with the cam, a slide, connections between the slide and the piston by which the latter is oscillated as the slide is moved, and means for operating the slide, substantially as set forth.

12. In a lubricator, the combination of a series of cylinders, pistons working therein, the pistons being each free to be reciprocated longitudinally and oscillated about its axis, independent means for reciprocating each piston, and a common means for oscillating the pistons, substantially as set forth.

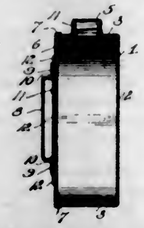
13. In a lubricator, the combination of a series of cylinders, pistons working therein, each piston being free to be reciprocated longitudinally and oscillated about its axis, independent means for reciprocating each piston, and means common to the several pistons for oscillating them, the said means for operating the pistons being arranged to operate alternately, that is to say, the pistons being reciprocated while at rest as to axial movement, and vice versa, substantially as set forth.

14. In a lubricator, the combination of a series of cylinders, pistons working therein, a main shaft upon which are a series of cams, levers operated by the said cams and connected with the pistons for reciprocating them, a single slide, a cam on the main shaft for reciprocating the slide, and connections between the several pistons and the slide for oscillating the former, substantially as set forth.

15. In a lubricator, the combination of a series of cylinders, pistons working therein, a main shaft upon which are a series of cams corresponding in number with the pistons, levers operated by the cams and connected with the pistons for reciprocating them, the said cams being so arranged that part of the pistons are moved in one direction while the rest are being moved in the opposite direction, a single slide, means for reciprocating the slide, and connections between the said pistons and the slide for oscillating the former, substantially as set forth.

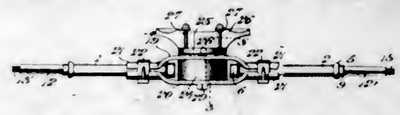
16. In a lubricator, a pump-like device comprising a cylinder with an oil inlet port and an oil outlet port, a plunger or piston adapted to work within the cylinder and provided near its inner end with a pair of grooves 31–31 extending quite to the end of the plunger, but terminating below the upper end of the cylinder, and means for reciprocating and oscillating the plunger in the cylinder chamber, the grooves being arranged as set forth, whereby one of them registers with the inlet port when the plunger moves outward, and the other registers with the outlet port when the plunger moves inward, substantially as set forth.

865,222. OIL-CAN. JESSE G. WOODWARD, Jellico, Tenn., assignor of one-half to John B. Andrews, Coal Creek, Tenn. Filed Dec. 1, 1906. Serial No. 345,879.



The herein described oil can comprising a body portion stamped up from a single sheet of material and provided with an integral nozzle and a cap therefor, a disk for covering one side of said body portion, said disk having an angularly extended annular flange around the periphery thereof engaged with the body portion of the can, a belt loop provided with outwardly extending feet and a strip of sheet metal having oppositely disposed slots and recesses for said feet, said strip being soldered to the disk to hold said belt loop in position, substantially as described.

865,223. VEHICLE-AXLE. DOCTOR A. YORK and SAMUEL A. DARR, Mineola, Tex. Filed Aug. 15, 1906. Serial No. 330,760.



1. An axle comprising a pair of sections, each composed of a bearing sleeve and a spindle rotative therein, and a coupling connecting said sleeves and adapted for pivotal mounting upon a vehicle.

2. A vehicle axle comprising a pair of independent sections, each composed of a bearing sleeve and a spindle adapted to turn therein, and a coupling detachably connecting said sleeves, and adapted for pivotal mounting upon a vehicle.

3. A vehicle axle comprising a pair of independent sections, each section consisting of a bearing sleeve having a spindle revoluble therein, and a coupling connecting said sleeves, said coupling being constructed to form one member of a fifth wheel, whereby the device may be mounted on an ordinary vehicle.

4. A vehicle axle comprising a pair of independent sections, each comprising a bearing hub or sleeve having a spindle rotative therein, and a coupling member connecting said hubs or sleeves and having spaced plates forming a reach-receiving yoke, one forming a fifth wheel member, whereby the axle is adapted to be mounted upon a vehicle.

5. A vehicle axle comprising a pair of sections, each consisting of a hub or bearing sleeve having a spindle rotative therein, and a coupling connection between said sleeves adapted for connection with a reach and to form one member of a fifth wheel.

6. A vehicle axle comprising a pair of sections, each consisting of a hub or sleeve having a spindle rotative therein, and a sectional coupling connecting said sections, said coupling being adapted for connection with a reach and to form one member of a fifth wheel.

7. A vehicle axle comprising a pair of sections, each consisting of a hub or sleeve having a spindle rotative therein, a coupling comprising sections adapted for connection with the reach and to form one of the members of a fifth wheel, and means for detachably coupling said sections to the spindle hubs.

8. A vehicle axle comprising two sections, each consisting of a hub or sleeve provided with cups, spindles rotative therein and provided with cones, said cups and cones forming raceways, anti-friction bearings in said raceways, and a coupling connection between said sections adapted to form one member of a fifth wheel.

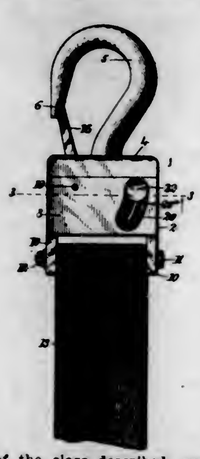
9. A vehicle axle comprising two sections, each consisting of a hub or sleeve provided with cups, a spindle revoluble therein and provided with cones, said cups and cones forming raceways, anti-friction bearings in said raceways, each spindle being formed of adjustably connected sections, and a coupling connection between the axle sections adapted to form one member of a fifth wheel.

865,224. TRACE-HOOK. HOWARD APPLEGATE, Long Branch, N. J. Filed June 12, 1906. Serial No. 321,341.

1. In a device of the class described comprising a body having a chamber and a hook, said chamber having a slot in the side thereof, a lever pivotally mounted in said chamber, having a tongue extending toward the point of said hook, and an arm lying within said chamber, said arm having a projection in said slot adapted to be actuated to press said tongue from said hook, means for normally holding said tongue against said hook, and means for attaching the device.

2. A device of the class described, comprising a body having a chamber, an opening and a hook, said chamber

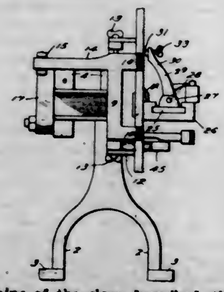
having a slot in the side thereof, an elbow lever pivotally mounted in said chamber, having a tongue extending through said opening toward the point of said hook and an arm lying within said chamber, said arm having a projection in said slot adapted to be actuated to press said tongue from said hook, a spring adapted to hold said tongue against said hook, and means for attaching the device.



3. A device of the class described, comprising a body having a chamber with a slot in the side thereof and a hook, an elbow lever pivotally mounted in said chamber, having a tongue extending normally toward the point of said hook, an arm lying within said chamber and a recess, said chamber having a projection adapted to extend into said recess when said lever is moved from a normal position, a spring upon said projection adapted to hold said lever in a normal position, said arm having a lateral projection passing through said slot wherewith said arm may be depressed to force said lever from a normal position, and means for attaching the device.

4. A device of the class described, comprising a body having a chamber with a slot in the side thereof, and a hook with a recess near the point thereof, an elbow lever in said chamber, having a tongue extending toward the point of said hook and seating normally in said recess, an arm lying within said chamber, and a projection in said slot adapted to be depressed to throw said lever from a normal position, a spring adapted to hold said lever in said normal position, and means for attaching the device.

865,225. SAW FILING AND SETTING MACHINE. SIDNEY E. ARNEY, Roswell, N. Mex. Filed Jan. 26, 1907. Serial No. 354,323.



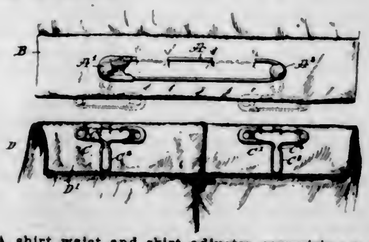
1. In a machine of the class described, the combination of a saw clamp, a stationary guide, a slidable plate in the guide movable back and forth with respect to the clamp, upwardly extending arms hingedly mounted on the slide to swing on an axis parallel to the movement of the latter, means for supporting a file on the arms, a laterally extending member attached to the arms to move therewith, a grooved plate arranged on the guide to receive the extremity of the said member for rocking the file holding arms, and means on the plate for guiding the member into one end of the groove and out of the other end.

2. In a machine of the class described, the combination of a saw clamp arranged to hold a saw in a vertical position, a horizontal guide, a slide movable in the guide, a file holder movable with and hinged on the top side of the slide to swing on an axis parallel to the movement of the latter, a switch device supported adjacent the slide, and a laterally extending member fixed on the file holder and cooperating with the switch device to rock the file holder by the reciprocation of the slide.

3. In a machine of the class described, the combination of a saw clamp, a slide, a guide therefor, a file holder hingedly mounted on the slide, a grooved plate supported on the guide at one side of the file holder, a finger on the file holder movable in and out of the groove of the plate for rocking the file holder by the reciprocation of the slide, and a deflector arranged on the plate for guiding the said member into the groove.

4. In a machine of the class described, the combination of a saw rest, a clamp coöperating therewith, saw stops on the rest, and a common means for hingedly mounting the clamp and securing the stops on the rest.

865,226. SHIRT-WAIST AND SKIRT ADJUSTER. LEWIS BARNETT, Millville, N. J. Filed Jan. 25, 1907. Serial No. 354,036.



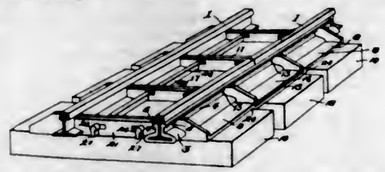
1. A shirt waist and skirt adjuster comprising a shirt waist safety pin for engagement with the shirt waist and provided at its ends with studs, and a pair of skirt safety pins for attachment to the skirt at the inside of the waist band and on opposite sides of the back slit, the stationary shank of each skirt safety pin having a loop for engagement with the corresponding stud on the said shirt waist safety pin.

2. A shirt waist and skirt adjuster comprising a shirt waist safety pin for engagement with the shirt waist and provided at its ends with studs, and a pair of skirt safety pins for attachment to the skirt at the inside of the waist band and on opposite sides of the back slit, the stationary shank of each skirt safety pin having its middle portion formed into an upwardly extending loop for engagement with the corresponding stud on the said shirt waist safety pin, the entrance end of each loop being contracted.

865,227. RAIL-JOINT. JOSEPH F. BASTEL, St. Louis, Mo. Filed May 3, 1907. Serial No. 371,686.

1. A rail joint comprising a rail chair for inclosing the meeting ends of the rails, said rail chair having notches in the flange portions thereof, transverse braces provided with recesses to accommodate the rails and the rail chair, said transverse braces engaging the notches in the rail chair, and notches in the base flanges of the rails.

2. A rail joint comprising a rail chair to inclose the meeting ends of the rails, said rails and chair being provided with alined notches, transverse brace bars provided with recesses, the walls of which engage said notches, gage bars fitted to the braces inside the rails, said brace bars and gage bars each having apertures therein, and means extending through the apertures for holding the brace bars and gage bars in position.



3. A rail joint comprising a rail chair to engage the meeting ends of the rails, brace bars formed upon a base plate and provided with apertures or recesses for the rails and rail chair, gage bars extending inside from rail to rail and provided with recesses to engage the rail flange and rail chair, said brace bar and gage bar being provided with registering keyhole slots, and a key bar for locking said brace bars and gage bars together.

4. A rail joint comprising a rail chair, a base plate, brace bars formed thereon, said base plate having a central depression, a base plate fitted in said depression and provided with brace bars for engaging the rails, gage bars fitted to the brace bars, and provided with alined apertures, and key bars fitted in the apertures, substantially as described.

5. In a rail joint, a rail chair, a notched longitudinal supporting bar in the chair, transverse brace bars, gage bars fitted to the brace bars, and means for holding the brace bars and gage bars together, substantially as described.

865228. VAMP-HOLDER. JOHN U. BERGQUIST, Manchester, N. H. Filed Apr. 17, 1907. Serial No. 368,720.



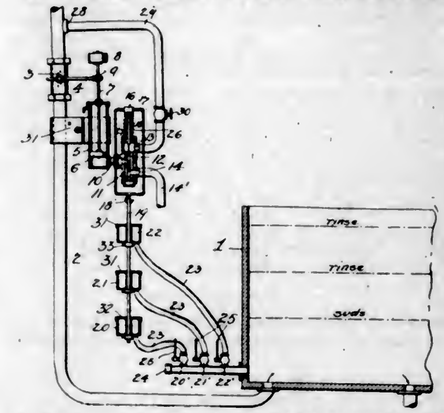
1. A vamp-holding device comprising a central member, rotatable heads having contacting ends thereon, parallel arms arranged on the heads and anchored in the contacting ends, and flexible elements between the free ends of the arms and central member.

2. In a vamp-holding device, the combination of a central member having a ring, rotatable heads thereon, wire arms having corresponding ends bent inwardly and anchored in the heads, hooks at the opposite ends of the arms, and flexible elements connected with the hooks and the ring of the central member.

3. The combination of a supporting member, sets of arms extending along the member and having their ends bent inwardly and longitudinally, a head for each set of arms and provided with apertures for receiving the longitudinal extremities of the arms, means for rotatably mounting the heads on the central member, a ring formed on the central member, and flexible elements detachably connecting the ring with the arms.

4. A vamp-holding device comprising a central member having an enlargement, a pair of heads arranged in contact and having openings extending inwardly from the contacting ends, means for preventing longitudinal movement of the heads, a set of resilient arms on each head having their ends bent to engage in the openings thereof, rings formed on the central member, and flexible elements between one of the rings and the free ends of the arms.

865,229. APPARATUS FOR DETERMINING HEIGHTS OF LIQUIDS IN RECEPTACLES. GEORGE M. BOONE, Baltimore, Md. Filed Dec. 13, 1906. Serial No. 347,645.



1. In combination with a receptacle, a supply valve therefor, means for operating the said valve, controlling means for said operating means comprising a plurality of buckets or vessels at different heights to severally operate when the water reaches certain heights each having a connection with the tank and means for controlling the passage through each of said connections, said buckets severally receiving the water from the tank and by the weight thereof, operating the said controlling means, substantially as described.

2. In combination with a receptacle, a plurality of vessels at different heights movably supported, valved connections between said vessels and the receptacle whereby the vessels receive the water severally and at different heights, and means controlled by the filling and movement of said vessels for controlling the supply of fluid to the receptacle, substantially as described.

3. In combination with a receptacle, a plurality of vessels at different heights, movably supported and independently having connection with the receptacle to receive water therefrom, a valve for controlling the supply of water to the receptacle, power operating means for said valve, a controlling valve for supplying pressure fluid to the said power operating means, said controlling valve having connection to and being operated by the filling of either vessel, substantially as described.

4. In combination with a receptacle, a plurality of buckets or vessels at different heights having each an independent connection with the receptacle whereby they may individually receive water from said receptacle when certain heights are reached, a movable rod carrying all of the said buckets, and means controlled by the movement of the said rod for shutting off the supply when the predetermined height is reached in the receptacle, substantially as described.

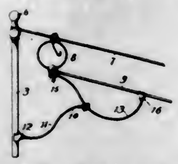
5. In combination with a tank or receptacle, means for supplying water, a plurality of buckets or vessels at different heights, independent valved connections between the buckets and the receptacle whereby the buckets individually receive water when different levels are reached in the tank, means whereby the movement of the vessel which has received water is transmitted to the supply means to

control the same and means for moving the said vessel upwardly to operate the supply means in the reverse direction when the water is discharged from said vessel as a result of drawing the water off from said receptacle, substantially as described.

6. In combination with a receptacle, a supply valve, a cylinder and piston with connections to the valve for operating the same, a valve for controlling the pressure fluid to the cylinder and discharging it therefrom, and a plurality of buckets arranged at different heights and individually connected with the receptacle with a valve in each connection, and a connection between the buckets and the controlling valve to operate the same when either bucket lowers on receiving water, due to the water reaching the predetermined height in the receptacle, substantially as described.

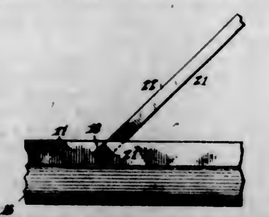
7. In combination with a rceptacle, a supply valve, a cylinder and piston with connections to the valve for operating the same, a valve for controlling the pressure fluid to the cylinder and discharging it therefrom, and a plurality of buckets arranged at different heights and individually connected with the receptacle with a valve in each connection, and a connection between the buckets and the controlling valve to operate the same when either bucket lowers on receiving water, due to the water reaching the predetermined height in the receptacle and the spring for lifting the valve and the buckets to allow the water to be discharged from the cylinder, thus shutting off the supply valve, substantially as described.

865,230. CANOPY-BRACKET. HOMER H., BOWLAND, Chicago, Ill. Filed Apr. 12, 1907. Serial No. 367,793.



The combination with a bed-upright, of an upper rod extending laterally therefrom and having its inner end removably connected thereto, a connection depending from said upper rod at a point somewhat removed from said upright, a lower rod substantially parallel with said upper rod and having its inner end attached to said connection, a member having its inner end removably attached to said connection and curving downwardly and upwardly to the other end where it is formed with a socket for engagement with said lower rod, and a brace attached to said curved member and having a free end formed with a socket arranged to engage said upright.

865,231. REINFORCED CONCRETE STRUCTURE. ELDRIDGE R. BOYLE and WILLIAM B. UPTON, Washington, D. C. Filed Oct. 9, 1906. Serial No. 338,141.



1. In a structure of the character described, the combination with a reinforcing bar having a single fin along one side only, said fin being of substantially the same thickness throughout its width, the free edge of the fin constituting the corresponding edge of the bar, said fin being provided with openings therethrough, of reinforcing arms passing through the openings and being of a size in cross section substantially equal to the area of the openings, said arms thus fitting snugly in and substantially filling the openings and being disposed at an inclination to said bar.

2. In a structure of the character described, the combination with a reinforcing bar having a thin narrow fin on its upper side, said fin being of substantially the same thickness throughout its width, and having its upper thin edge forming the corresponding edge of the bar, said fin being provided with openings therethrough, of reinforcing arms passing through the openings and being of a size in cross section substantially equal to the area thereof, said arms thus fitting snugly in and substantially filling the openings and being disposed at an inclination to and wholly above the bar.

3. In a structure of the character described, the combination with a reinforcing bar having a thin outstanding fin along one side, said fin being provided with angular openings therethrough, of reinforcing arms snugly passing through the openings and having the portions in said openings, also angular in cross section, to prevent the swinging of the arms.

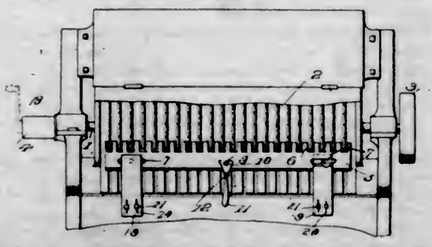
4. In a structure of the character described, the combination with spaced reinforcing bars, each having a longitudinal fin along its upper side, said fin being provided with openings, of yokes connecting the fins and disposed wholly above the bars, said yokes having arms that are disposed at an inclination to the bars and snugly engage in the openings of the fins.

5. In a structure of the character described, the combination with spaced reinforcing bars, each having a longitudinal fin along one side, said fin being provided with angular openings, of yokes connecting the bars, said yokes having arms, the terminal portions of which are angular in cross section and snugly engage in the openings in the fins.

6. In a structure of the character described, the combination with a reinforcing bar having an outstanding fin upon its upper side, said fin being provided with an angular opening therethrough, of a reinforcing yoke snugly passing through the opening and having the portion therein angular in cross section, said yoke being disposed wholly above the bar and being held by its engagement in the opening at an inclination to said bar.

7. In a structure of the character described, the combination with a reinforcing bar having its greatest width above its bottom edge or face and furthermore having a single central integral fin projecting from its top face, said fin being thinner than the bar throughout its entire extent and having its upper edge constituting the upper edge of the bar, of a reinforcing arm passing through the fin and extending at an inclination above the bar and above said fin, said arm being located wholly above the widest portion of the bar.

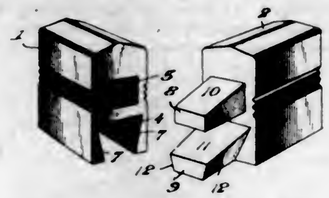
865,232. GIN-SAW CLEANER. MCDUFFEE BRADFORD, Nocona, Tex. Filed Feb. 23, 1907. Serial No. 358,850.



1. In a cotton gin and in combination with the gin saws, a cleaner, plates supporting the cleaner, a pin and slot connection between the cleaner and plates to admit of longitudinal movement of the former, and means for moving the cleaner.

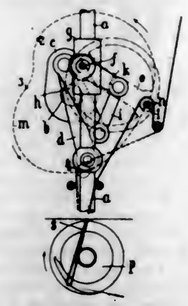
2. In a cotton gin and in combination with the gin saws, a cleaner provided with a series of teeth to enter the space between the gin saws, plates supporting the cleaner and adjustably connected to the frame of the gin whereby the cleaner may be adjusted to project the teeth into the spaces between the gin saws to a greater or less extent, a pin and slot connection between the cleaner and plates to admit of a longitudinal movement of the former, and means for moving the cleaner.

865,233. STAIR-RAIL JOINT. WALTER W. BURNS, Frostburg, Md. Filed Oct. 11, 1906. Serial No. 338,340.



In a rail joint, a rail section having an upper mortise provided with an inwardly and downwardly inclined top wall and a lower dovetailed mortise having a similarly inclined top wall, in combination with a second rail section provided with an upper tongue to enter the upper mortise and having a beveled upper surface and a lower dovetailed tongue having an upper beveled surface, said beveled surfaces of the mortise and tongues operating to force the tongues downward in the mortises when the rails are brought together.

865,234. THREAD TAKE-UP FOR SEWING-MACHINES. WILHELM BÜSCHER, Bielefeld, Germany, assignor to The Firm of Ankerwerke Aktien-Gesellschaft vormals Hengstenberg & Co., Bielefeld, Germany. Filed Apr. 13, 1906. Serial No. 311,459.



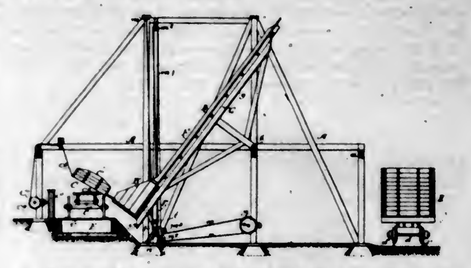
1. A rotating take-up for sewing machines, a reciprocating part upon which the rotating take-up is mounted and means to rotate the take-up during its reciprocation.

2. In a sewing machine, a reciprocating part, a rotating take-up having its shaft mounted on said reciprocating part, a crank shaft, and connections between the crank shaft and the take-up to rotate the same during its reciprocation.

3. In a sewing machine, a needle-bar, a rotating take-up mounted on the needle-bar, a crank shaft, and connections between the crank shaft and the take-up to rotate the latter during its reciprocation.

4. In a sewing machine, a reciprocating needle-bar, a crank shaft, connections between the crank shaft and the needle-bar to reciprocate the latter, a shaft mounted in a bearing on the needle-bar, a take-up carried by said shaft, a crank arm on said shaft, and link connection between the latter and the crank shaft.

865,235. BEET DUMPING AND SCREENING APPARATUS. LOUIS T. CARSON, Fort Collins, Colo. Filed Nov. 8, 1906. Serial No. 342,445.



1. The combination in a dumping and screening apparatus, of a frame, a chute pivoted to the frame, said chute having a screen, a receptacle under the screen, said chute being open to allow the material to discharge at one end thereof, said receptacle being open at the end opposite the open end of the chute to allow the screenings to discharge from the receptacle when the chute is tilted after discharging, substantially as described.

2. The combination in a dumping and screening apparatus, of a frame, a chute pivoted to the frame, a screen in the chute, a receptacle under the screen, a hopper at one end of the chute, said chute open at the opposite end, the receptacle closed at the discharge end of the chute and open at the receiving end so that the screenings are not discharged until the chute is tilted to receive another load, substantially as described.

3. The combination of a frame, a chute pivoted to the frame, having a hopper with a closed bottom at one end and open at the opposite end, a screen extending from the bottom of the hopper to the discharge end, a screenings receptacle carried by the chute directly under the screen, said receptacle being closed at the discharge end of the chute and open at the hopper end, substantially as described.

4. The combination in a dumping and screening apparatus, of a frame, a chute pivoted to the frame, the bottom of the chute being formed of a screen, a receptacle carried by the chute and situated directly under the screen, said receptacle being closed at the discharge end of the chute and open at the feed end, a platform at one end of the structure upon which a wagon can be run, said platform being in such a position that the chute when tilted will receive a load from the wagon and when the contents of the chute are discharged and the chute tilted to its original position the screenings will flow into the wagon, substantially as described.

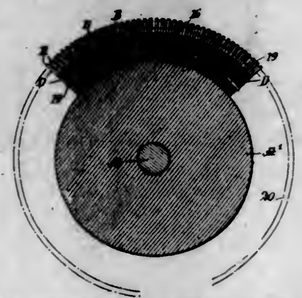
5. The combination of a frame, a chute pivoted to the frame and arranged to receive material at one end and discharge the material from the other end, a vertical guide on the frame, a slide on the guide, a link connecting the slide with the chute, and means for causing the slide to travel on the guide to tilt the chute, substantially as described.

6. The combination of a frame, a chute pivoted to the frame, a screen in the chute, a vertical guide, a slide mounted in the guide, two ropes, fixed pulleys for said ropes, and pulleys carried by the slide, both the ropes extending to the drum of a windlass so that on turning the drum one rope will be wound upon the drum while the other will be paid out, thus causing the slide to move on its guide to tilt the chute, substantially as described.

865,236. IMPALING-ROLL FOR RAISIN-SEEDERS. EMORY L. CHADDOCK, Fresno, Cal. Filed Feb. 18, 1907. Serial No. 357,926.

1. An impaling roll for raisin seeders, comprising a core, a series of longitudinally arranged combs, each comprising a plate of thin material provided upon one edge with a series of impaling teeth, and a series of spacing elements intermediate the combs, each of said elements comprising a plate provided upon one edge with teeth, the teeth of the

spacing elements being of lesser length than the teeth of the combs and registering therewith, said last named plate being wedge shape for the purpose set forth, all of said plates being provided with transverse slots, and pins passing through the slots, the ends of said first named series of plates being reduced in width to equal the width of the second named series, and bands engaging the ends of all the plates to retain them on the roll.



2. In an impaling roller for raisin seeders and similar machines, a saw or comb, a spacing element for the same, the spacing element being provided with teeth registering with those of the saw or comb and of lesser length, and adapted for engagement with the base portion of the teeth of said saw or comb.

3. In an impaling roll, saws or combs, wedge-shaped spacing elements located between opposing saws or combs, the spacing elements being narrower than the saws or combs and provided with teeth registering with those of the saws or combs and of lesser length and adapted for bracing contact with the base portion of the saw or comb teeth, and means for tying the combs or saws and their spacing elements in series.

865,237. MECHANICAL DEVICE FOR ADVERTISING PURPOSES. SAMUEL CHANDLER and JOSIAH CHANDLER, Westminster, England, assignors to Living Letters Limited, Westminster, London Co., England. Filed Dec. 28, 1906. Serial No. 349,875.



1. A device for advertising, spectacular, or similar purposes, comprising a series of tubes of transparent material constituting the design to be displayed, a plurality of main supply tanks containing differently colored liquids, a corresponding number of open secondary supply tanks in connection with said main tanks each with each, float valves in said secondary tanks operating to maintain a constant level of liquid therein, an aspirator external to said secondary tanks and operated on by the pressure of the liquid therein to deliver alternating columns of liquid and air to the series of tubes, and a multiple way cock to admit liquid from any one of said secondary tanks to the said aspirator, substantially as described.

2. A device for advertising, spectacular, or similar purposes, comprising a plurality of tubes of transparent material constituting a design to be displayed, a plurality of main supply tanks containing differently colored liquids, a corresponding number of open secondary supply tanks in connection with said main tanks each with each for supplying differently colored liquids to different parts of the design, float valves in said secondary tanks operating to maintain a constant level of liquid therein, a plurality of aspirators external to said supply tanks, and operated on by the pressure of the liquid therein to deliver alternating columns of liquid and air to the said plurality of tubes, and a multiple commutating cock for regulating the supply of liquid to the said aspirators, substantially as described.

865,238. FIREPLACE-HEATER FOR RADIATOR SYSTEMS. WILLIAM G. CONKLE, Knoxville, Ohio, assignor of one-half to Frank Geisse and one-fourth to Frank M. Thompson, Wellsville, Ohio. Filed Nov. 12, 1906. Serial No. 343,011.

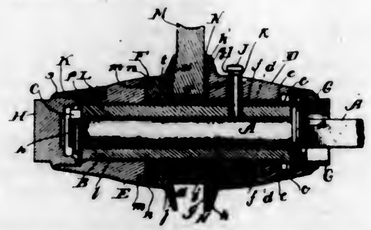


1. A fire place water heater, consisting of a hollow, upright, flat, shell, having front and back walls and top and bottom ends, said shell having a vertical upward extension of the back wall at the top and a vertical downward extension of the front wall at the bottom, both said extensions being cast with the shell and formed with openings, dampers for controlling said openings, and means for operating them, detachable flue tubes extending entirely through the shell and through the upper and lower ends thereof, fireproof packing arranged about the ends of the tubes and screw nuts arranged about the ends of the tubes to compress the packing and form a water tight joint.

2. A fire place heater, consisting of a hollow, upright, flat, shell having a front and back wall with vertical ribs on the inside and top and bottom ends, said shell having a vertical upward extension of the back wall at the top and a vertical downward extension of the front wall at the bottom, both said extensions being formed with openings, all of said parts being cast in one piece, dampers controlling said openings and means for operating them, and vertical flue tubes extending through the shell and through the top and bottom ends thereof at points alternating with the vertical interior ribs of the shell, and a fireproof packing at the ends of the tubes.

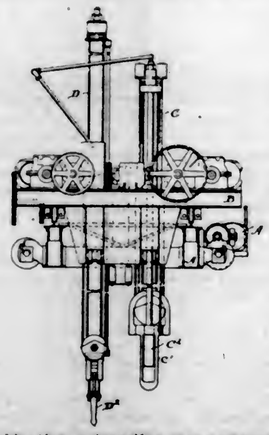
865,239. WHEEL-HUB. WILLIAM J. CONNALLY, Atlanta, Ga. Filed Feb. 25, 1907. Serial No. 359,246.

1. A wheel hub comprising a box having a boss at its inner end and also having one or more exterior longitudinal ribs, an inner body section arranged on the box in engagement with the rib or ribs thereof and having a square outer end and also having a circular series of projections extending longitudinally from the inner portion of said square end and beveled at their free ends, an annulus arranged on the box and in engagement with the rib or ribs thereof and having its inner side inclined or beveled, an outer body section arranged at the outer side of the annulus and threaded on the box, spokes interposed between the body sections and having straight sides presented to the inner body section and inclined sides presented to the annulus or intermediate body section and also having reduced ends or tongues disposed between the projections on the first mentioned section, a dust cap threaded in the inner end of the inner body section, a dust cap threaded in the outer end of the outer body section, and fastening means on the outer body section detachably engaged with the last mentioned dust cap and arranged to hold the same against casual displacement.



2. The combination in a wheel hub, of a box, a body section arranged on the box, an annulus arranged on the box, spokes interposed between the section and the annulus, an outer body section arranged at the outer side of the annulus and threaded on the box and having a longitudinal groove in its outer portion, a dust cap threaded into the outer end of the outer body section and having a notch adapted to be alined with the groove in said section, a fastening bar removably arranged in said groove and notch, and a screw extending through said bar and outer body section and arranged to be set against the thread on the box.

865,240. COMBINED INGOT STRIPPER AND CHARGER. JOHN C. CROMWELL and HORACE W. LASH, Cleveland, Ohio, assignors to The Garrett-Cromwell Engineering Company, Cleveland, Ohio, a Corporation of Ohio. Filed Feb. 14, 1906. Serial No. 300,967.

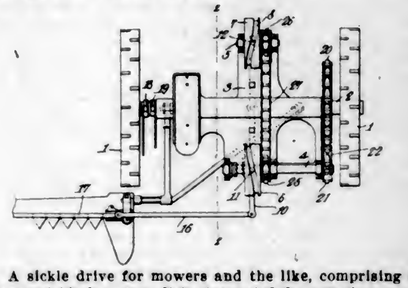


1. In combination, a traveling crane supporting a traveling carriage, ingot stripping mechanism and ingot carrying mechanism supported by said carriage, said stripping and carrying mechanisms, being structurally separate from each other.

2. In combination, a traveling crane supporting a traveling carriage, an ingot stripper and an ingot carrier separately mounted on said carriage.

3. In combination, a traveling crane supporting a traveling carriage, an ingot stripper and an ingot carrier separately mounted on said carriage in a line parallel with the direction of travel of one of the above mentioned traveling members.

865,241. SICKLE-DRIVE FOR MOWERS AND THE LIKE. CHARLES A. DARRAH, Ottumwa, Iowa. Filed Jan. 24, 1907. Serial No. 353,855.



1. A sickle drive for mowers and the like, comprising a frame, a sickle bar, two disks journaled for rotation upon the frame, said disks having cam grooves the inner portion of one of which is lowermost when the outer portion of the other is lowermost and vice versa, a lever fulcrumed at a point equidistant of said disks and having studs which enter said grooves, a pitman connected at one end to said lever and at its other end to the sickle bar and means for rotating the said disks.

2. A sickle drive for mowers and the like, comprising a frame, a sickle bar, a plurality of disks journaled for rotation upon the frame, said disks having cam grooves, a lever fulcrumed to the frame at a point between said disks and having studs which enter said grooves, a sickle bar pitman connecting said lever with the sickle bar and means for rotating the said disks.

3. A sickle drive for mowers and the like, comprising a frame, a sickle bar disks journaled for rotation upon the frame, said disks having cam grooves, a lever fulcrumed to the frame of the implement at a point between said disks, rollers journaled upon and supporting said lever, a sickle bar pitman connecting the lever with the sickle bar and means for rotating said disks.

4. A sickle bar drive for mowers and the like comprising a frame, a sickle bar, an axle, traction wheels mounted thereon, shafts located upon opposite sides of the axle, a sprocket wheel fixed to the axle, a sprocket wheel fixed to one of said shafts, a sprocket chain passing around the said sprocket wheels, sprocket wheels located upon said shafts in alinement with each other, a sprocket chain passing around the last said sprocket wheels, disks mounted upon said shafts, said disks having cam grooves, a lever fulcrumed to the frame and having studs which enter said grooves and a sickle bar pitman connecting said lever with the sickle bar of the implement.

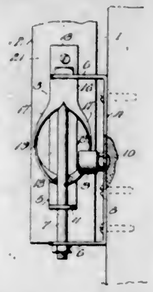
865,242. RING-TRAVELER FOR RING-SPINNING AND RING-TWISTING FRAMES. THEODOR DEMOULIN, Bielitz, Austria-Hungary. Filed Dec. 8, 1906. Serial No. 346,972.



A ring comprising a conical supporting portion and a track at the upper end of and extending inwardly and outwardly from said supporting portion, said track being inclined downwardly and inwardly toward the interior of the

supporting portion and the inwardly extending portion being narrower than the outwardly extending portion thereof, combined with a traveler to straddle said track and part of said conical supporting portion, said traveler during normal action engaging two points only of the ring, namely, on the under surface of the narrower portion of the track and the exterior surface of the conical supporting portion.

865,243. GATE-HINGE. JOHN V. DUNN, Provo, Utah. Filed May 3, 1907. Serial No. 371,724.



1. A hinge of the class described comprising a pair of members having laterally extending arms, a pintle passing through the arms for hingedly connecting the members, a pair of inclined cams extending from a point between the arms of one member outwardly toward one of the arms thereof, and a device supported on the other member at a point between its arms for engagement with the cams.

2. A hinge of the class described comprising a pintle-carrying member, a second member having one end bent into an arm to engage the pintle and the other end divided into downwardly inclined cams, and a roller on the first member arranged in coöperative relation with the cams.

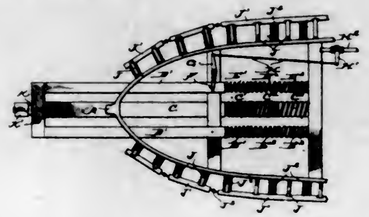
3. A hinge of the class described comprising a member having one end provided with an apertured arm and bent back upon itself and the other extremity split and shaped into symmetrically inclined cams with their extremities secured to the body portion of the member, a pintle extending through the said arm, a second member supporting the pintle, and a roller on the second member engaging the cams.

4. A hinge of the class described comprising a strip of metal having one end bent laterally to form an arm and an intermediate portion bent laterally to form a second arm and provided with a divided extremity inclined toward the body portion of the strip and secured to the latter to form cams, a pintle slidable through the arm and between the cams, a member supporting the pintle, and a device on the latter member engaging the cams.

5. A hinge of the class described comprising a strip of metal having an apertured arm at one end and doubled back on itself at an intermediate point and bent into an arm thereat and having its other extremity split longitudinally and the split portions symmetrically curved and inclined with their ends secured to the body of the strip intermediate the said arms, a second strip having its ends bent into arms, a pintle extending through the arms of both strips, and an anti-friction roller arranged on the second strip to engage the inclined and curved portions of the first strip, the said portions being curved around the axis of the pintle as a center.

865,244. PROTECTOR FOR VESSELS IN CASE OF COLLISION. NIELS C. YORGENSEN-GUNDHOLM, Bradfordville, Fla. Filed May 3, 1906. Serial No. 315,118.

1. The combination with a vessel, a casing carried by the keel, of the vessel having a buffer beam working in the casing and projecting in advance of the bow of the vessel, and a plurality of spiral springs arranged in said casing in the rear of the inner end of the buffer beam, said springs increasing in size and strength as the rear end of the casing is approached.

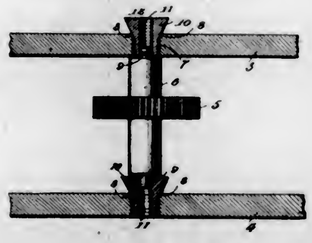


2. The combination with a vessel, a plurality of coil springs carried thereby, buffers bearing upon said springs and connected together, a pivoted lever, a cable having one end attached to said lever and means carried by one of the buffers for moving the lever upon movement of the buffer inwardly.

3. In a vessel having keel and stem, springs carried by the keel, boxes opening through the vessel bow, springs in said boxes, a buffer frame comprising beams projecting in advance of the stem, and bearing on said springs, and means connecting the beams.

4. The combination with the bow portion of a vessel, of a casing carried by the keel, boxes parallel to the keel and opening through the bow of the vessel on opposite sides of the stem, buffer beams working respectively in the casing and in the boxes and bearing on the springs, a cross piece connecting the beams working in the boxes, and a block connected to the outer end of the beam working in the casing, and to the cross piece between the remaining beams.

865,245. JOURNAL-BEARING. FREDERICK E. HARDEN, Atlanta, Ga. Filed Mar. 30, 1907. Serial No. 365,464.

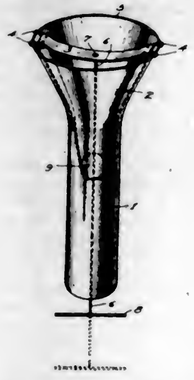


1. The combination with upper and lower plates having tapered bearing sockets in the upper sides thereof, of a vertical spindle between the plates, and tapered sleeves screwed on opposite ends of the spindle, with their large ends above, and fitting in the sockets.

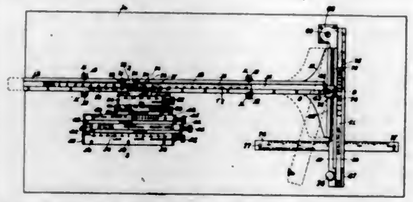
2. The combination with upper and lower plates provided with openings, of a vertical spindle between the plates, and tapered sleeves screwed on opposite ends of the spindle with their large ends above and fitting in the openings.

865,246. TOY. JACOB HELTZEL, York, Pa. Filed Jan. 12, 1907. Serial No. 352,005.

The herein described toy comprising a tube having a funnel shaped mouth, a resilient band connected at its ends to the opposite sides of the mouth of the funnel, said resilient band extending across the mouth of said funnel, an operating cord secured centrally to the resilient band and extending through the tube, and a cross bar connected to the outer end of said cord, substantially as described.



865,247. AUTOMATIC GUNNERY-CORRECTING DEVICE. ELMER W. HUBBARD, U. S. Army. Filed Aug. 18, 1906. Serial No. 331,124.



1. The combination of an arm adapted to be moved about a center; means by which the movement of said arm may be regulated to any predetermined point; a movable scale pivoted to said arm and slidable in a fixed path at right angles to the normal position of said arm; and an automatic computing device independent of said scale but coöperating therewith to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

2. The combination of an arm adapted to be moved about a center; a scale pivoted thereto and movable thereby in a fixed path at right angles to the normal position of said arm; and an automatic computing device independent of but coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

3. The combination of an arm adapted to be moved about a center; a fixed scale by which the movement of said arm may be regulated; a scale pivoted to said arm movable in a fixed path at right angles to the normal position of said arm; and an automatic computing device independent of but coöperating with said scale and adapted to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

4. The combination of an arm adapted to be moved about a center; a scale movable in a fixed path at right angles to the normal position of said arm; means interposed between said scale and arm for varying the movement of the scale by the movement of said arm; and an automatic computing device independent of but coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

5. The combination of an arm adapted to be moved about a center; a scale movable in a fixed path at right angles to the normal position of said arm; a connector between said scale and arm; and an automatic computing device independent of but coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

6. The combination of an arm adapted to be moved about a center; a scale movable in a fixed path at right angles to the normal position of said arm; an adjustable connector between said scale and arm adapted to vary the movement of said scale; and an automatic computing device independent of but coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

7. The combination of an arm adapted to be moved about a center; a scale movable in a fixed path at right angles to the normal position of said arm; means by which the movement of said arm may be regulated to any predetermined point; an adjustable connector between said scale and arm adapted to vary the amount of movement of said scale by the movement of said arm; and an automatic computing device coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

8. The combination of an arm adapted to be moved about a center; a scale movable in a fixed path at right angles to the normal position of said arm; a connector between said scale and arm; means for moving said connector to and from said center to vary the movement of said scale; and an automatic computing device independent of but coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

9. The combination of an arm adapted to be moved about a center; means by which the movement of said arm may be regulated to any predetermined point; a scale movable in a fixed path at right angles to the normal position of said arm; a connector between said scale and arm; means for moving said connector to and from said center to vary the movement of said scale; and an automatic computing device coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

10. The combination of an arm adapted to be moved about a center; a plurality of graduations thereon; a scale movable in a fixed path at right angles to the normal position of said arm; a connector between said scale and arm adapted to be adjusted to register with any predetermined graduation on said arm; and an automatic computing device coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

11. The combination of an arm adapted to be moved about a center; an interchangeable member thereon provided with a plurality of graduations; a scale movable in a fixed path at right angles to the normal position of said arm; a connector between said scale and arm adapted to be adjusted to register with any predetermined graduation on said member; and an automatic computing device coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

12. The combination of an arm adapted to be moved about a center and provided with a longitudinal groove; an interchangeable scale slidable in said groove; a scale movable in a fixed path at right angles to the normal position of said arm; a connector between said scale and arm adapted to be adjusted to register any predetermined graduations on said scale; and an automatic computing device coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

13. The combination of an arm adapted to be moved about a center; a graduated member slidable thereon; a fixed scale adapted to locate the position of said graduated member; a scale movable in a fixed path at right angles to the normal position of said arm; a connector between said scale and arm adapted to be adjusted to register with any

predetermined graduations on said slidable member; and an automatic computing device independent of but coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

14. The combination of an arm adapted to be moved about a center; a time of flight scale thereon; a scale movable in a fixed path at right angles to the normal position of said arm; a connector between said scale and arm adapted to be adjusted to register with any given range on said time flight scale; and an automatic computing device coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

15. The combination of an arm adapted to be moved about a center; an interchangeable time of flight scale thereon; a scale movable in a fixed path at right angles to the normal position of said arm; a connector between said scale and arm adapted to be adjusted to register with any given range on said time of flight scale; and an automatic computing device independent of but coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

16. The combination of an arm adapted to be moved about a center; an interchangeable time of flight scale slidable thereon; a scale movable in a fixed path at right angles to the normal position of said arm; a connector between said scale and arm adapted to be adjusted to register any given range on said time of flight scale; and an automatic computing device coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

17. The combination of an arm adapted to be moved about a center; a time of flight scale slidable thereon; a prediction interval scale registering therewith; a scale movable in a fixed path at right angles to the normal position of said arm; a connector between said scale and arm adapted to be adjusted to register with any given range on said time of flight scale; and an automatic computing device coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

18. The combination of an arm adapted to be moved about a center; a member pivotally connected thereto and movable thereby in a fixed path at right angles to the normal position of said arm; a scale movably mounted upon said member; and an automatic computing device independent of but coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

19. The combination of an arm adapted to be moved about a center; a member pivotally connected thereto and movable thereby in a fixed path at right angles to the normal position of said arm; a reversible scale movably mounted upon said member; and an automatic computing device independent of but coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

20. The combination of an arm adapted to be moved about a center; a member movable in a fixed path at right angles to the normal position of said arm; a scale slidably mounted thereon; an adjustable connector between said arm and movable member; and an automatic computing device independent of but coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

21. The combination of an arm adapted to be moved about a center; a member movable in a fixed path at right angles to the normal position of said arm; a scale slidably mounted thereon; a time of flight scale on said arm; a connector between said movable member and said arm movable to register with any given range on said time of flight scale; and an automatic computing device independent of but coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

22. The combination of an arm adapted to be moved about a center; means for regulating the movement of said arm to any predetermined point; a member pivotally connected to said arm and movable thereby in a fixed path at right angles to the normal position of said arm; a scale movably mounted upon said member; and an automatic computing device independent of but coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

23. The combination of an arm adapted to be moved about a center; a member pivotally connected thereto and movable thereby in a fixed path at right angles to the normal position of said arm; a scale movably mounted upon said member; an index on said member registering with said scale; and an automatic computing device independent of but coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

24. The combination of an arm adapted to be moved about a center; a member movable in a fixed path at right angles to the normal position of said arm; a scale slidably mounted thereon; an index adjustably secured to said member and registering with said scale; an adjustable connector between said arm and movable member; and an automatic computing device independent of but coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

25. The combination of an arm adapted to be moved about a center; a laterally movable member; a scale slidably mounted thereon; a slidable graduated member on said arm; a fixed scale on said arm to register the position of said slidable member; a connector between said movable member and said arm movable to register with any predetermined graduation on said slidable graduated member; and an automatic computing device coöperating with said scale and adapted to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

26. The combination of an arm adapted to be moved about a center; a member movable in a fixed path at right angles to the normal position of said arm; a scale slidably mounted thereon; a slidable graduated member on said arm; a connector between said movable member and said arm movable to register with any predetermined range on said range scale; and an automatic computing device coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

27. The combination of an arm adapted to be moved about a center; a member movable in a fixed path at right angles to the normal position of said arm; a scale slidably mounted thereon; a slidable time of flight scale on said arm; a connector between said movable member and said arm movable to register with any given graduation on said graduated member; and an automatic computing device coöperating with said scale to make gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

28. The combination of an arm adapted to be moved about a center; a laterally movable member; a head thereto provided with a guide at right angles to said movable member; a trammel movable upon said guide provided with an index; a graduated member upon said arm with which said index is adapted to register; a pin upon said trammel extending into a groove in said arm; a scale slidable upon said movable member; and an automatic computing device coöperating with said scale and adapted to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

29. The combination of an arm adapted to be moved about a center; a laterally movable member; a head thereto provided with a guide at right angles to said movable member; a trammel movable upon said guide provided with an index; a time of flight scale upon said arm with which said index is adapted to register; a pin upon said trammel extending into a groove in said arm; a scale slidable upon said movable member; and an automatic computing device coöperating with said scale and adapted to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

30. The combination with a scale, and an automatic computing device coöperating with said scale and adapted to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying; of a fixed graduated member; and a screw mounted in bearings in said member and threaded to a nut on said computing device adapted to move the latter lengthwise of said graduated member.

31. The combination with a movable member provided with a longitudinal groove; a scale slidable in said groove; an index plate hinged to said member and registering with said scale; and an automatic computing device coöperating with said scale and adapted to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

32. The combination with a movable member provided with a longitudinal groove; a scale slidable in said groove; a plate hinged to said member; an index adjustably mounted thereon and registering with said scale; and an automatic computing device coöperating with said scale and adapted to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

33. The combination with a movable member provided with a longitudinal groove; a scale slidable in said groove; an index fixed relative to said grooved member and registering with said scale; another index movable relative to said grooved member registering with said scale; and an automatic computing device coöperating with said movable index adapted to make various gunnery corrections and cause said index to indicate on said scale the actual corrected data to be used in aiming and laying.

34. The combination with a movable member provided with a longitudinal groove; a scale slidable in said groove; an index fixed relative to said grooved member and registering with said scale; a plate movable relative to said grooved member and provided with two indexes adapted to register respectively with said scale, and a plurality of graduations on said movable member; and an automatic computing device coöperating with said scale and adapted to make various gunnery corrections and indicate upon said scale and graduations the actual corrected data to be used in aiming and laying.

35. The combination with a movable member provided with a longitudinal groove; a scale slidable in said groove; an index movable relative to said grooved member adapted to register with said scale; and a plurality of interlocked slidable members adapted to be moved together or independently of each other, each of said members being provided with a plurality of graduations adapted to register with an index on an adjacent member to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

36. The combination with a movable member provided with a longitudinal groove; a scale slidable in said groove; a member movable relative to said grooved member provided with two indexes one of which is adapted to register with said scale; a nut secured to said index member; a member provided with a plurality of graduations with which the other index is adapted to register; and a screw revoluble in said member and threaded to said nut whereby a gunnery correction may be made on said graduated member and the corrected data to be used in aiming and laying indicated upon said slidable scale.

37. The combination with a movable member provided with a longitudinal groove; a scale slidable in said groove; a member movable relative to said grooved member provided with two indexes one of which is adapted to register with said scale; a member parallel thereto provided with a plurality of graduations with which the other index is adapted to register; and means interposed between said members whereby one of said members may be adjusted relative to the other and secured in adjusted position to cause a gunnery correction to be made and the actual corrected data to be used in aiming or laying to be indicated on said slidable scale.

38. The combination with a movable member provided with a longitudinal groove; a scale slidable in said groove; a member movable relative to said grooved member provided with two indexes one of which is adapted to register with said scale; a member parallel thereto provided with a plurality of graduations with which the other index is adapted to register and also with another index; means for adjusting one of said members lengthwise of the other; a third member parallel to the others; a correction scale; and means for removably attaching said scale to said third member whereby the index on the second member may register therewith; means for adjusting one of the last-mentioned members relative to the other whereby various gunnery corrections may be made and indicate upon said slidable scale the actual corrected data to be used in aiming and laying.

39. The combination of an arm adapted to be moved about a center; a scale indicating intervals of travel by which the movement of said arm may be regulated; a movable scale pivoted to said arm movable in a fixed path at right angles to the normal position of said arm; and an automatic computing device independent of but coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

40. The combination of an arm adapted to be moved about a center; a time of flight scale thereon; a prediction interval scale by which to set said time of flight scale; a movable scale; a connector between said scale and arm adapted to be adjusted to register with any given range on said time of flight scale; and an automatic computing device coöperating with said scale and adapted to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

41. The combination of an arm adapted to be moved about a center; a time of flight scale thereon; a prediction interval scale on said arm to set said time of flight scale; a travel interval scale by which to set said arm; a movable scale; a connector between said scale and arm adapted to be adjusted to register with any given range on said time of flight scale; and an automatic computing device coöperating with said scale and adapted to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying.

42. The combination of an arm adapted to be moved about a center; a member carrying two scales adapted for longitudinal movement pivotally connected to said arm and movable at right angles to the normal position of said arm; and an automatic computing device independent of but coöperating with scales to indicate on one the corrected range to be used at the gun and on the other the sum of all the corrections to be applied for various causes.

43. The combination of a pendent swinging arm; a handle secured thereto for moving said arm; a scale pivoted to said arm and movable between guides in a horizontal path; and an automatic computing device independent of but coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying said device, consisting of a plurality of scaled members parallel with said scale and adapted for longitudinal movement relative to each other.

44. The combination of a pendent swinging arm; a handle secured thereto for moving said arm; a scale pivoted to said arm and movable between guides; another scale slidable longitudinally of said first mentioned scale; and an automatic computing device independent of but coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying said device, consisting of a plurality of scaled members parallel with said scale and adapted for longitudinal movement relative to each other.

45. The combination of a pendent swinging arm; a handle secured thereto for moving said arm; a member pivoted

to said arm and movable between guides; a scale slidable longitudinally of said member; and an automatic computing device independent of but coöperating with said scale to make various gunnery corrections and indicate upon said scale the actual corrected data to be used in aiming and laying said device, consisting of a plurality of scaled members parallel with said scale and adapted for longitudinal movement relative to each other.

46. The combination of a frame; a scale normally fixed thereon; a computing device consisting of a plurality of scales parallel to each other and to said fixed scale, adjustable relative to each other to secure various readings and relative to said fixed scale for correcting for too great or too short a range; and a slidable scale mounted upon said frame coöperating with the side of said computing device furthest removed from said fixed scale and adapted to indicate thereon the actual corrected data to be used in aiming and laying the gun.

865,248. LUBRICATOR. WILLIAM JAMIESON, McDonald, Pa., assignor of one-third to August Valentour and one-third to William Jamieson, Jr., McDonald, Pa. Filed March 4, 1907. Serial No. 360,430.



1. The combination with an axle and a wheel, of a sleeve carried by said axle on which the wheel is mounted for rotation and extending in advance of the end of the axle and closed at the outer end, whereby a lubricant reservoir is formed within the sleeve in advance of the axle, said sleeve having a flanged inner end and an externally threaded outer end and a lateral lubricant aperture providing communication between said lubricant reservoir and the hub of the wheel, and a stop collar engaging the threaded end of the sleeve and retaining the wheel thereon, and means for supplying lubricant to said reservoir.

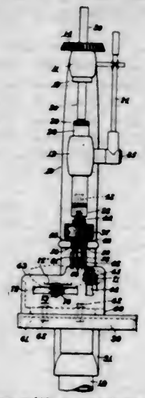
2. The combination with an axle and a wheel, of a sleeve carried by said axle and on which the wheel is mounted for rotation, said sleeve being flanged at the inner end and internally threaded at the outer end and externally threaded near the outer end, and extending in advance of the end of the axle to provide a lubricant reservoir within the sleeve and provided with a lateral lubricant aperture providing communication between said lubricant reservoir and the hub of the wheel, an internally threaded stop collar engaging the external threads of the sleeve and bearing against the wheel hub, a threaded plug engaging the internal threads of the sleeve to form a closure to said reservoir, and a threaded plug extending through said sleeve between said stop collar and threaded closure plug.

865,249. MULTIPLE-DRILL ATTACHMENT FOR DRILLING-MACHINES. HARRY J. JAQUITH, Boston, Mass. Filed Dec. 17, 1906. Serial No. 348,153.

1. The combination with a revoluble chuck adapted for endwise movement; of a plurality of drills operated thereby; a table; a member adjustable transversely thereof beneath said drills; and a horizontally projecting work support thereon.

2. The combination with a revoluble chuck adapted for endwise movement; of a plurality of drills operated thereby; a table; a member adjustable transversely thereof beneath said drills; and a work supporting pin thereon adapted to enter the socket of a last and adjustable at right angles to said member.

3. The combination with a revoluble chuck adapted for endwise movement; of a plurality of drills operated thereby; a table; a member adjustable transversely thereof beneath said drills; and a shouldered work supporting pin thereon adjustable at right angles to said member.



4. The combination with a revoluble chuck adapted for endwise movement; of a plurality of drills operated thereby; a table; and a work supporting pin adjustable toward and from said table and adapted to enter the socket of a last to position it during the operation of drilling.

5. The combination with a revoluble chuck adapted for endwise movement; of a plurality of drills operated thereby; a table; a work supporting pin adjustable toward and from said table and adapted to enter the socket of a last to position it during the operation of drilling; and a rest for the free end of said work.

6. The combination with a revoluble chuck adapted for endwise movement; of a plurality of drills operated thereby; a table; a work supporting pin adjustable toward and from said table and adapted to enter the socket of a last to position it during the operation of drilling; and an adjustable rest for the free end of said work.

7. The combination with a revoluble chuck adapted for endwise movement; of a plurality of drills operated thereby; a table; a work supporting pin adjustable toward and from said table and adapted to enter the socket of a last to position it during the operation of drilling; and a rest adjustably secured to said member and movable toward and from said work supporting pin.

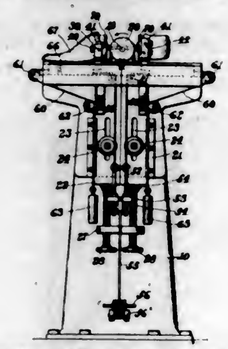
8. The combination with a revoluble chuck adapted for endwise movement; of a plurality of drills operated thereby; a table; a member adjustable transversely of said table; a work supporting pin thereon adapted to enter the socket of a last; and an adjustable rest secured to said member adjustable to and from said work support and also adjustable in a direction at right angles to said member.

9. The combination with a revoluble chuck adapted for endwise movement; of a plurality of drills operated thereby; a table; a member adjustable transversely of said table; a work supporting pin thereon adapted to enter the socket of a last and provided with an index; and a scale on said member to register the position of said support.

10. The combination with a revoluble chuck adapted for endwise movement; of a plurality of drills operated thereby; a table; a member adjustable transversely of said table; a work supporting pin thereon adapted to enter the socket of a last and provided with an index; a scale on said member to register the position of said support; an adjustable rest; and a scale on said member to register the position of said rest.

865,250. DEVICE FOR SAWING LAST-BLOCKS. HARRY J. JAQUITH, Boston, Mass. Filed Dec. 17, 1906. Serial No. 348,154.

1. The combination with a revoluble circular saw; of two slides movable in the plane of movement of said saw; supports upon each of said slides for holding the articles to be operated upon; and means for moving said slides simultaneously toward each other into position for the articles thereon to be acted upon by said saw.



2. The combination with a revoluble circular saw; of two slides movable in the plane of movement of said saw; supports upon said slides for holding the articles to be acted upon; and a treadle connected to said slides for moving them simultaneously toward each other into position for the articles supported thereby to be acted upon by said saw.

3. The combination with a circular saw; of two slides movable in the plane of movement of said saw; supports upon said slides for holding the articles to be acted upon; means for moving said slides simultaneously toward each other into position so that the articles may be acted upon by said saw; and means for simultaneously moving said slides away from said saw.

4. The combination with a revoluble circular saw; of two slides movable in the plane of movement of said saw; supports upon said slides for holding the articles to be operated upon; a vertically adjustable table for each of said slides; and means for moving said slides simultaneously toward each other into position for the articles thereon to be acted upon by said saw.

5. The combination with a revoluble circular saw; of two slides movable in the plane of movement of said saw; supports upon said slides for holding the articles to be operated upon; a vertically adjustable table for each of said slides; means for retaining said table in adjusted position; and means for moving said slides simultaneously toward each other into position for the articles thereon to be acted upon by said saw.

6. The combination with a revoluble circular saw; of two slides movable in the plane of movement of said saw; supports upon said slides for holding the articles to be operated upon; means for moving said slides simultaneously toward each other into a position for the articles thereon to be acted upon by said saw; and stops to limit said movement of said slides.

7. The combination with a revoluble circular saw; of two slides movable in the plane of movement of said saw; supports upon said slides for holding the articles to be operated upon; means for moving said slides simultaneously toward each other into a position for the articles thereon to be acted upon by said saw; and adjustable stops to limit said movement of said slides.

8. The combination with a revoluble circular saw; of two slides movable in the plane of movement of said saw; a fixed work support at one side of each slide; a movable work support at the opposite side of said slide coöperating with said fixed support; and means for moving said slides simultaneously toward each other into position for the articles thereon to be acted upon by said saw.

9. The combination with a revoluble circular saw; of two slides movable in the plane of movement of said saw; an adjustable support at one side of each slide; means for securing said adjustable supports in their adjusted position; a movable support on the opposite side of said slide coöperating with each adjustable support and means for moving said slides simultaneously toward each other into position for the articles thereon to be acted upon by said saw.

10. The combination with a revoluble circular saw; of two slides movable in the plane of movement of said saw; an adjustable support at one side of each slide; means for securing said adjustable supports in their adjusted position; a scale on said slides to determine the position of each of said adjustable supports; a movable support on the opposite side of said slide coöperating with each adjustable support and means for moving said slides simultaneously toward each other into position for the articles thereon to be acted upon by said saw.

11. The combination with a revoluble circular saw; of two slides movable in the plane of movement of said saw; means for simultaneously moving said slides toward each other; an adjustable support at one side of each slide; means for securing said adjustable supports in their adjusted position; a scale extending transversely of said slides; an index on said adjustable supports coöperating with said slides; a movable support on the opposite side of said slide coöperating with each adjustable support and means for moving said slides simultaneously toward each other into position for the articles thereon to be acted upon by said saw.

12. The combination with a revoluble circular saw; of two slides movable toward and from each other in the plane of movement of said saw; members movable transversely of said slides; adjustable pins supported by said members extending toward each other in alinement on either side of the path of said saw; and means for simultaneously moving said slides lengthwise into position for the work to be operated upon by said saw.

13. The combination with a revoluble circular saw; of two slides movable in the plane of movement of said saw; members movable toward and from each other transversely of said slides; adjustable pins supported by said members extending toward each other in alinement on either side of the path of said saw; means for securing said pins therein; and means for simultaneously moving said slides lengthwise into position for the work to be operated upon by said saw.

14. The combination with a revoluble circular saw; of two slides movable in the plane of movement of said saw; an adjustable support at one side of each slide; a work gage secured to each adjustable support; means for securing said adjustable supports in their adjusted position; a scale extending transversely of said slides; an index on said adjustable supports coöperating with said slides; a movable support at the opposite side of each slide coöperating with each adjustable support; and means for simultaneously moving said slides lengthwise into position for the work to be operated upon by said saw.

15. The combination with a revoluble circular saw; of two slides movable in the plane of movement of said saw; an adjustable support at one side of each slide; a work gage secured to each adjustable support and having an inclined side; means for securing said adjustable supports in their adjusted position; a scale extending transversely of said slides; an index on said adjustable supports coöperating with said slides; a movable support at the opposite side of each slide coöperating with each adjustable support; and means for simultaneously moving said slides lengthwise into position for the work to be operated upon by said saw.

16. The combination with a revoluble circular saw; of two slides movable in the plane of movement of said saw; an adjustable support at one side of each slide; an adjustable work gage secured to each adjustable support and having an inclined side; means for securing said adjustable supports in their adjusted position; a scale extending transversely of said slides; an index on said adjustable supports coöperating with said slides; a movable support at the opposite side of each slide coöperating with each adjustable support; and means for simultaneously moving said slides lengthwise into position for the work to be operated upon by said saw.

17. The combination with a revoluble circular saw; of two slides movable in the plane of movement of said saw; an adjustable support at one side of each slide; a work gage secured to each adjustable support; means for secur-

ing said gage in adjusted position; means for securing said adjustable supports in their adjusted position; a scale extending transversely of said slides; an index on said adjustable supports coöperating with said slides; a movable support at the opposite side of each slide coöperating with each adjustable support; and means for simultaneously moving said slides lengthwise into position for the work to be operated upon by said saw.

18. The combination with a revoluble circular saw; of two slides movable in the plane of movement of said saw; an adjustable support at one side of each slide; an adjustable work gage secured to each adjustable support; a scale on said adjustable work gage; an index on said adjustable support; means for securing said adjustable supports in their adjusted position; a scale extending transversely of said slides; an index on said adjustable supports coöperating with said slides; a movable support at the opposite side of each slide coöperating with each adjustable support; and means for simultaneously moving said slides lengthwise into operative position for the work to be operated upon by said saw.

19. The combination with a revoluble circular saw; of two slides movable in the plane of movement of said saw; supports on said slides for holding the articles to be operated upon; an adjustable table for each of said slides; a treadle; a flexible connector interposed between said treadle and each slide; and means for taking up the slack in said flexible connector.

20. The combination with a revoluble circular saw; of two work supports adapted to hold the articles to be operated upon in the plane of movement of said saw; and means for simultaneously moving said articles and saw into position for the latter to operate upon the former.

21. The combination with a revoluble circular saw; of two tables adapted for vertical adjustment independent of each other; a work support on each table on either side of the saw mandrel adapted to hold the work to be operated upon by said saw; and means for bringing said saw and the work on each support into position whereby alined slots may be cut in both articles.

22. The combination with a revoluble circular saw; of two pairs of separated work supports each pair of which is on an opposite side of the saw mandrel from the other, and the members of each pair of which are on opposite sides of the plane of movement of said saw and are adapted to hold an article; and means for bringing said saw and articles on each pair of supports into position whereby alined slots may be cut in both articles.

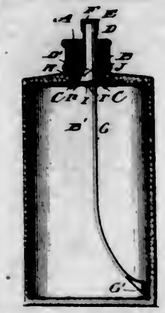
23. The combination with a revoluble circular saw; of two pairs of separated work supports each pair of which is on an opposite side of the saw mandrel from the other, and the members of each pair of which are on opposite sides of the plane of movement of said saw and are provided with oppositely opposed pins each pair of which are adapted to enter opposite ends of a hole in an article to be operated upon; and means for bringing said saw and articles on each pair of supports into position whereby alined slots may be cut in both articles.

24. The combination with a revoluble circular saw; of two slides on opposite sides of the saw mandrel and movable in the plane of movement of said saw; a pair of separated work supports on each slide provided with oppositely opposed pins each pair of which are adapted to enter a hole in an article to be operated upon; and means for bringing said saw and the work on each support into position whereby alined slots may be cut in both articles.

25. The combination with a revoluble circular saw; of two slides on opposite sides of the saw mandrel and movable in the plane of movement of said saw; a pair of separated work supports on each slide provided with oppositely opposed pins each pair of which are adapted to enter a hole in an article to be operated upon; a table for each slide; means for adjusting the height of either table independently of the other; and means for bringing said saw and the work on each support into position whereby alined slots may be cut in both articles.

26. The combination with a revoluble circular saw; of two adjustable work supports, each support consisting of two separated members on opposite sides of the plane of movement of said saw; and means for bringing said saw and the work on each support into position whereby alined slots may be cut in both articles simultaneously.

865,251. NON-REFILLABLE BOTTLE. OTTO JOHNSON, Beatty, Nev. Filed June 13, 1907. Serial No. 378,811.



1. In a non-refillable bottle a stopper provided with means whereby it may be fastened in a bottle neck, a tube extending longitudinally within said stopper and projecting at its outer end beyond the stopper and having at its inner end a laterally extending valve chamber, a valve seat at the lower end of said chamber, a stop projection above said valve seat and spaced apart therefrom, an air venting tube extending through the longitudinal tube and a check valve hinged to the longitudinal tube at one side of the air venting tube and movable at its free edge between the valve seat and the stop projection, and a cap for closing the outer end of the longitudinal tube, substantially as set forth.

2. In a non-refillable bottle, a stopper combined with a tube extending longitudinally therein and projecting at its outer end beyond the outer end of the stopper and having at its inner end a laterally extending valve chamber, a flap valve operating in said chamber and a cap for closing the outer end of the longitudinal tube, substantially as set forth.

3. In a non-refillable bottle a stopper provided with a longitudinal tube having at its inner end at one side a lateral chamber, an air venting tube extending through the longitudinal tube at the opposite side thereof from the lateral chamber, and a valve hinged to the longitudinal tube between the air venting tube and the lateral chamber and swinging in said lateral chamber between open and closed positions, substantially as set forth.

4. A bottle stopper combined with a tube extending longitudinally therein and projecting at its outer end beyond the stopper, a check valve in the said longitudinal tube, an air venting tube extending within the longitudinal tube and projecting at its outer end into coincidence with the outer end of the longitudinal tube, a packing for closing the outer ends of both said tubes, and a cap screwing on the longitudinal tube and pressing said packing to its place, substantially as set forth.

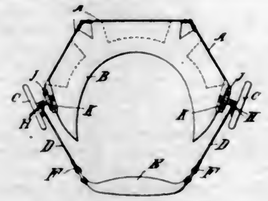
865,252. AZO DYE. MYRTIL KAHN, Elberfeld, and RICHARD KOTHE, Vohwinkel, near Elberfeld, Germany, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed June 5, 1907. Serial No. 377,324.

The herein-described new azo-dyestuff, which can be obtained by combining diazotized 4-chloro-2-aminophenol-6-sulfonic acid with 1-naphthol-5-sulfonic acid, which dyestuff is, after being dried and pulverised in the shape of its sodium salt a dark powder soluble in water with a violet color and in concentrated sulfuric acid with a reddish-violet color; yielding upon reduction with stannous chlorid and hydrochloric acid 4-chloro-2-aminophenol-6-sulfonic acid and 2-amino-1-naphthol-5-sulfonic acid; and dyeing wool from acid baths bluish-red shades which are changed to blue when chromed after dyeing, substantially as hereinbefore described.

865,253. AZO DYE. MYRTIL KAHN, Elberfeld, and RICHARD KOTHE, Vohwinkel, near Elberfeld, Germany, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed June 5, 1907. Serial No. 377,325.

The herein-described new azo-dyestuff, which can be obtained by combining diazotized 4-chloro-2-aminophenol-6-sulfonic acid with 1-naphthol-4-sulfonic acid, which dyestuff is, after being dried and pulverized in the shape of its sodium salt a dark powder soluble in water with a reddish-violet color and in concentrated sulfuric acid with a reddish-violet color; yielding upon reduction with stannous chlorid and hydrochloric acid 4-chloro-2-aminophenol-6-sulfonic acid and 2-amino-1-naphthol-4-sulfonic acid; and dyeing wool from acid baths bluish-red shades which are changed to bluish-violet when chromed after dyeing, substantially as hereinbefore described.

865,254. SURGICAL OR MEDICAL BANDAGE. PAUL F. W. KAPPMEIER, Alt Kloster, Germany. Filed Nov. 15, 1905. Serial No. 287,434.



1. The combination of a metallic container the inner side of which corresponds with the form of the cranium, said container being provided with heating means and further provided upon its inner side with a moisture absorbing layer, a retaining device bearing against the occiput and a tensioning device arranged between said container and said retaining device.

2. The combination of a plurality of metallic containers, the inner sides of which correspond with the form of the cranium, said containers are provided with heating means and further provided upon their inner side with a moisture absorbing layer, means for connecting said containers, a retaining device bearing against the occiput, and a tensioning device arranged between said containers and said retaining device.

3. The combination with a plurality of metallic containers having hinged connection, the inner sides of which containers correspond to the form of the cranium, means for heating the containers, moisture-absorbing pads located at the inner faces of the containers, a retaining device adapted for bearing against the occiput, spindles mounted at the outer end portions of the chain of containers, flexible connections between the spindles and the retaining device, and ratchet and pawl connections between the said spindles and the said chain of containers.

4. In surgical or medical bandages, a head compress adapted to conform to the forehead and temples, a moisture absorbing lining for the compress, means for heating the compress, which means are a portion thereof, a rear member adapted to have bearing against the occiput, and a tension device arranged between said compress and said rear member.

865,255. SIGN CHARACTER. WILLIAM V. D. KELLEY, Newark, N. J., assignor of one-half to Howard S. Jones, Brooklyn, N. Y. Filed June 6, 1907. Serial No. 377,495.

1. A sign character visible in transmitted light comprising an opaque body portion and separated light-transmitting shadow portions of such contour as, when illuminated by transmitted light, to create the illusion of a complete letter.



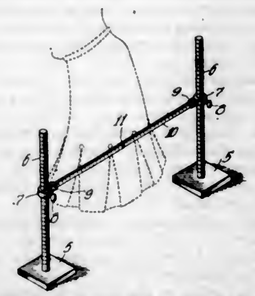
2. A sign character comprising an opaque background, a body portion contrasting therewith, and light-transmitting shadow portions.

3. A sign character comprising an opaque background, a body portion contrasting therewith, and separated light-transmitting shadow portions.

4. A sign character comprising an opaque background, a character body thereon, and separated light-transmitting shadow portions on the shadow side of said body portion.

5. A sign character comprising an opaque background, a continuous character body thereon, and separated light-transmitting shadow portions on the shadow side of said body portion.

865,256. DRESSMAKER'S SKIRT-GAGE. ORCEAL KENNEY, Longbeach, Cal. Filed Oct. 15, 1906. Serial No. 339,127.



1. As an article of manufacture, a portable dressmakers' skirt gage consisting of a pair of standards having a graduated scale marked thereon, bases for which these standards are erected, collars adjustably secured to the standards and a rigid metallic bar secured to the collars and constituting the sole means of connection between the two standards.

2. A device of the class described, comprising two base plates each provided with vertical cylindrical standards, said standards having each a graduated scale marked thereon; adjustable collars slidably mounted upon said standards; and a hinged bar with a graduated scale marked thereon secured to said collars.

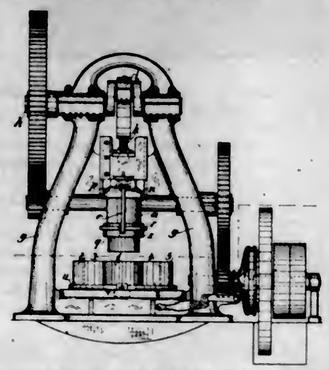
3. A skirt gage, comprising two base plates; a standard on each of said base plates and having graduations thereon; collars slidably mounted on said standards; means on the collars to secure them at any point on the standards; a bar secured to said collars and having graduations thereon; and a hinge near the center of said bar dividing said bar into two parts adapted to fold on each other.

865,257. APPARATUS FOR NARROWING THE WALLS OF HOLLOW BODIES. HERMANN KOHL, Rodenkirchen, near Cologne, Germany. Filed Apr. 15, 1903. Serial No. 152,799.

1. In a device of the character described, the combination with a fixed die consisting of an outer member and an inner member, of a holder adapted to carry a blank, and means for reciprocating the holder to force the blank into engagement with the die and to withdraw it therefrom.

2. In a device of the character described, the combina-

tion with a fixed die consisting of an outer member and an inner member separated from the outer member by an annular space having an enlarged mouth, of a holder adapted to carry a cup-shaped blank having an open end, and means for reciprocating the holder for the purpose of forcing the open end of the blank between the members of the die and for withdrawing it therefrom.



3. The combination with a series of graduated diameter decreasers, of a holder adapted to carry a blank, means for reciprocating the holder, and a movable support for the diameter decreasers adapted to be carried in position to bring any diameter-decreaser of the series into alinement with the holder.

4. The combination with a holder adapted to carry a cup-shaped blank having an open end, of a rotatable series of graduated diameter decreasers, means for reciprocating the holder to bring the open end of the blank into and out of engagement with the dies of the series as they are rotated successively into alinement with the holder, and means for reinforcing the portion of the blank not operated upon by the dies.

5. The combination with a rotatable series of dies each die consisting of an outer member and an inner member, the latter separated from the former by an annular shaping space, the diameter of the shaping space increasing throughout the series of dies, of a holder consisting of a base and a ring detachably connected thereto the ring having an inwardly projecting rim the holder being adapted to carry a cup-shaped blank having an open end of lesser diameter than its closed end, the closed end being seated against the base of the holder and the shoulder formed by the reduction of the blank, being engaged by the rim of the ring of the holder, a cross-head carrying the holder, a pitman attached to the cross-head, and means adapted to reciprocate the pitman for the purpose of carrying the open end of the cup-shaped blank into and out of engagement with the dies as they are brought into alinement with the holder.

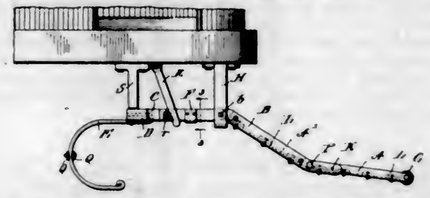
6. The combination with a rotatable table; of means adapted to lock the table in operative position; a graduated series of dies carried by the table each die consisting of an outer member and an inner member, the latter separated from the former by an annular space having an enlarged mouth; of a holder adapted to carry a cup-shaped blank having an open end the holder consisting of a base, hooks carried by the base, and a ring detachably carried by the hooks; a cross-head and pitman; a crank-shaft adapted to operate the pitman; a gear carried by the crank-shaft; a counter-shaft; a gear on the counter-shaft in mesh with the gear on the crank-shaft; a second gear on the counter-shaft; a driven shaft; a gear on the driven shaft in mesh with the second gear on the counter-shaft; a clutch on the driven shaft; and means on the driven shaft for receiving power.

7. A holder consisting of an annular recessed head, hooks pivoted thereto, and an annular ring detachably supported by the hooks and having an inwardly projecting rim.

8. A die consisting of an outer hollow cylindrical member having its bore increased at one end by an annular flaring recess terminated by an annular recess having a rounded end, and an inner cylindrical member positioned within the bore of the outer member and separated from the inner periphery of the latter.

9. The combination with a rotatable table, of a series of dies carried by the table each die consisting of an outer member and an inner member separated from the outer member by an annular space the diameter of the annular space varying in order throughout the series.

865,258. CAR-FENDER. HENRY M. LAMBERT, Portland, Oreg. Filed May 31, 1907. Serial No. 376,673.



1. The combination with hangers under a car platform, of levers at each side, pivoted to the hangers, a front fender carried by the front arms of the levers, a rear fender having side bars pivoted to the hangers, and hooked lugs on the rear arms of the levers, engaging and supporting said side bars and rear fender, the excess of weight being on the front arms of the levers.

2. The combination with side supports connected to the car platform, of a folding fender formed in front and rear sections, the rear section being fixed to the supports and the front section being pivoted thereto, and a latch engaging between the supports and the front section, to lock the latter against movement.

3. The combination with hangers under a car platform, of a forefender pivotally connected to the hangers and having levers extending rearwardly thereof, a rear curved fender having bars at the top pivoted at their front end to the hangers, supporting devices attached to the levers and engaging the said bars, and a latch pivoted under the car platform and hanging beside the rear ends of the levers and arranged to engage the same and hold said ends depressed when the front fender is lifted.

865,259. VEHICLE-SPRING. GUSTAV W. LOEFFLER, Tampa, Fla. Filed Mar. 2, 1907. Serial No. 360,131.



1. A vehicle spring comprising a head composed of horizontal coils a part extending from the same, and provided at its end with means for attachment to the running gear, said part provided with an intermediate vertically disposed spring coil, and means for attaching the head to the body of the vehicle.

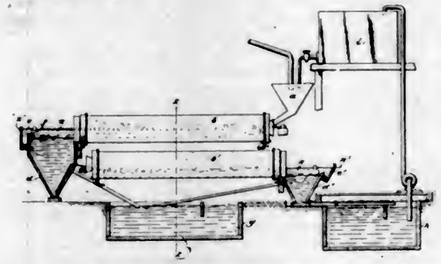
2. A spring for vehicles comprising a continuous bar, bent to form an intermediate vertical coil, an eye at the outer end of said bar, a series of horizontal coils below said eye, and an eye at the lower end of said horizontal coils.

3. A vehicle spring consisting of a bar having at its inner end means for attachment to an axle, an intermediate vertical coil, a horizontally disposed eye at the upper end of the bar for attachment to a vehicle body or bar, a series of horizontal coils below said eye, and an eye at the lower end of said horizontal coils for attachment to the axle of the vehicle.

4. The combination with an axle, a bolster or plate, of a spring comprising a head composed of horizontal coils, a part extending from same and provided at its ends with means for attachment to the axle, said part provided with an intermediate vertical spring coil, and means for attaching the head to the said bolster or plate, and axle.

5. The combination with an axle and a body hanger, secured thereto, of a spring comprising a head composed of horizontal coils, a part extending from the same and provided at its end with means for attachment to the axle, said part provided with an intermediate vertically disposed spring coil, and means for securing the head member to the hanger ends and to the body of the vehicle.

865,260. APPARATUS FOR SEPARATING SOLID PARTICLES FROM EACH OTHER. ARTHUR P. S. MACQUISTEN, Glasgow, Scotland. Filed Nov. 16, 1905. Serial No. 287,720.



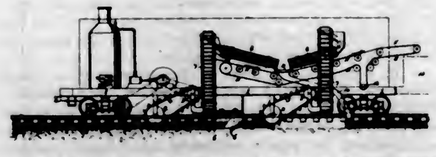
1. Means for separating a mixture of finely-divided particles of ore, comprising a support for said particles arranged to move in contact with a body of liquid, said support passing through the surface of the liquid in such direction as to carry the particles therethrough and to cause them to roll back to the surface of the liquid.

2. Means for separating a mixture of finely divided particles of ore, comprising a support for said particles arranged to rotate in contact with a body of liquid, said support passing through the surface of the liquid in such direction as to carry the particles therethrough and to cause them to roll back to the surface of the liquid.

3. Means for separating a mixture of finely divided particles of ore, comprising a cylinder arranged to rotate in contact with a body of liquid, said cylinder passing through the surface of the liquid in such direction as to carry the particles therethrough and to cause them to roll back to the surface of the liquid.

4. Means for separating a mixture of finely-divided particles of ore, comprising a cylinder arranged to rotate in contact with a body of liquid, said cylinder passing through the surface of the liquid in such direction as to carry the particles therethrough and to cause them to roll back to the surface of the liquid, and a baffle longitudinally disposed in said cylinder for preventing transverse liquid currents therein.

865,261. RAILWAY BALLAST HANDLING AND CLEANING APPARATUS. DAVID R. MEHAFFEY, Philadelphia, Pa. Filed July 10, 1906. Serial No. 325,504.



1. Railway ballast handling and cleaning apparatus comprising a wheeled car or other support carrying means for breaking out the ballast an excavator for removing the dirty ballast from the ditch, a screen for cleaning said ballast, and means for returning the cleaned ballast to the ditch.

2. Railway ballast handling and cleaning apparatus comprising a wheeled car or other support carrying means for breaking out the ballast a screen for cleaning the ballast, means for conveying the dirty ballast to said screen, and means for returning the cleaned ballast to the ditch.

3. Railway ballast handling and cleaning apparatus comprising a wheeled car or other support carrying means for breaking out the ballast a screen for cleaning the ballast, means for conveying the dirty ballast to said screen, and means for independently disposing of the tailings from the screen and of the material which passes through the meshes of the screen.

4. Railway ballast handling and cleaning apparatus comprising a wheeled car or other support carrying a screen for cleaning the ballast, means for conveying the dirty ballast to said screen, means for returning the cleaned ballast to the ditch, and an endless conveyer for receiving the material which passes through the meshes of the screen.

5. Railway ballast handling and cleaning apparatus comprising a wheeled car or other support carrying a screen for cleaning the ballast, means for conveying the dirty ballast to said screen, means for returning the cleaned ballast to the ditch, an endless conveyer for receiving material which passes through the meshes of the screen and means for extending and contracting said conveyer.

6. Railway ballast handling and cleaning apparatus comprising a wheeled car or other support carrying a screen for cleaning the ballast, means for conveying the dirty ballast to said screen, means for returning the cleaned ballast to the ditch, an endless conveyer for receiving the material which passes through the meshes of the screen, and means whereby said conveyer delivers its load at a point outside of the car which carries the screening mechanism.

7. Railway ballast handling apparatus comprising a wheeled car or other support carrying, at one side, a plurality of excavators, one in advance of the other, for removing the dirty ballast from the ditch.

8. Railway ballast handling and cleaning apparatus comprising a wheeled car or other support carrying, at one side, a plurality of excavators, one in advance of the other, for removing the dirty ballast from the ditch, a screen for cleaning said ballast, and means for returning the cleaned ballast to the ditch.

9. Railway ballast handling apparatus comprising a wheeled car or other support carrying, at one side, a plurality of excavators for removing the dirty ballast from the ditch, each of said excavators being of less width than the width of the ditch containing the ballast.

10. Railway ballast handling and cleaning apparatus comprising a wheeled car or other support carrying, at one side, a plurality of excavators for removing the dirty ballast from the ditch, each of said excavators being of less width than the width of the ditch containing the ballast, a screen for cleaning the ballast, and means for returning the cleaned ballast to the ditch.

11. Railway ballast handling apparatus comprising a wheeled car or other support carrying, at one side, a plurality of excavators disposed one in advance of another, for removing the dirty ballast from the ditch, each of said excavators being of less width than the width of said ditch.

12. Railway ballast handling and cleaning apparatus comprising a wheeled car or other support carrying, at one side, a plurality of excavators disposed one in advance of another, for removing the dirty ballast from the ditch, each of said excavators being of less width than the width of said ditch, a screen for cleaning the ballast, and means for returning the cleaned ballast to the ditch.

13. Railway ballast handling apparatus comprising a wheeled car or other support carrying, at one side, a plurality of excavators disposed one in advance of another; and in the same path, for removing the dirty ballast from the ditch, each of said excavators being of a width less than the width of the ditch, and means for displacing the ballast untouched by the leading excavator and throwing the same into the path of the following excavator.

14. Railway ballast handling and cleaning apparatus comprising a wheeled car or other support carrying, at one side, a plurality of excavators disposed one in advance of another, and in the same path, for removing the dirty ballast from the ditch, each of said excavators being of a width less than the width of the ditch, means for displacing the ballast untouched by the leading excavator and throwing the same into the path of the following excavator, a screen for cleaning the ballast, and means for returning the cleaned ballast to the ditch.

15. Railway ballast handling and cleaning apparatus comprising a wheeled car or other support carrying an excavator for removing the dirty ballast from the ditch, a screen for cleaning the ballast, an elevating belt conveyer interposed between the excavator and the screen, and means for returning the cleaned ballast to the ditch.

16. Railway ballast handling and cleaning apparatus comprising a wheeled car or other support carrying means for breaking out the ballast a plurality of excavators for removing the dirty ballast, a plurality of screens for cleaning said ballast, and means for returning the cleaned ballast.

17. Railway ballast handling and cleaning apparatus comprising a wheeled car or other support carrying means for breaking out the ballast a plurality of excavators for removing the dirty ballast, a plurality of screens, one coöperating with each excavator for cleaning the ballast, and means for returning the cleaned ballast.

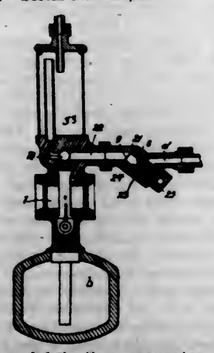
18. Railway ballast handling and cleaning apparatus comprising a wheeled car or other support having at each side, means for breaking out the ballast one or more excavators for removing the dirty ballast from the ditches, one or more screens for cleaning the ballast, and means for returning the cleaned ballast.

19. Railway ballast handling and cleaning apparatus comprising a wheeled car or other support having a plurality of excavators for removing the dirty ballast, a plurality of screens for cleaning the ballast, and means common to both screens for returning the cleaned ballast.

20. Railway ballast handling and cleaning apparatus comprising a wheeled car or other support having a plurality of excavators for removing the dirty ballast, a screen, common to said plurality of excavators, for cleaning the ballast, and means for returning the cleaned ballast.

21. Railway ballast handling and cleaning apparatus comprising a wheeled car or other support having a plurality of excavators for removing the dirty ballast from a plurality of ditches, a screen, common to said plurality of excavators, for cleaning the ballast, and means for carrying the cleaned ballast from said screen partly to one ditch and partly to the other.

865,262. STEAM LUBRICATING APPARATUS. WILHELM MICHALK, Deuben, near Dresden, Germany. Filed Jan. 31, 1906. Serial No. 298,857.



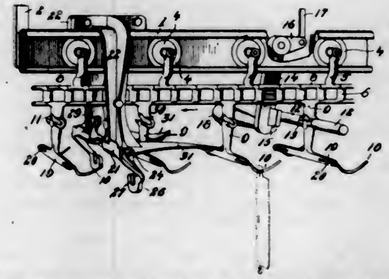
1. In a steam lubricating apparatus, the lubricator proper having an outlet passage for steam and oil, a nozzle chamber connected with the lubricator and in communication with said passage, said nozzle chamber having a distributing pipe connection therewith, and a ported throttle nozzle arranged in the nozzle chamber and interposed between the said distributing pipe and the outlet passage of the lubricator proper.

2. In a steam lubricating apparatus, the lubricator proper having an outlet passage for steam and oil, a nozzle chamber connected with the lubricator proper and in communication with said passage, said nozzle chamber having a distributing pipe connection therewith, a throttle nozzle arranged in said chamber between the distributing pipe connection and the outlet passage for the lubricator proper, and a strainer sieve arranged between the nozzle and the outlet passage for the lubricator proper.

3. In a steam lubricating apparatus, the lubricator proper having an outlet passage for steam and oil, an exterior nozzle chamber connected with the lubricator proper and in communication with said outlet passage, a distributing pipe connecting with the nozzle chamber, and a ported throttle nozzle detachably mounted in said nozzle chamber and carrying a strainer sieve.

4. In a steam lubricating apparatus, the lubricator proper having an outlet passage for steam and oil, an exterior nozzle chamber connected with the lubricator proper and in communication with the outlet passage thereof, a distributing pipe having a lateral connection with one side of the nozzle chamber, a throttle nozzle mounted in said chamber and having a longitudinal opening and lateral openings to provide communication between said outlet passage and the distributing pipe connection, and a strainer sieve at the side of the nozzle next to the outlet passage from the lubricator proper.

865,263. CONVEYER-STRIPPER. SIVERT MOE, Chicago, Ill., assignor to Troy Laundry Machinery Company, Limited, Troy, N. Y., a Corporation of New York. Filed May 23, 1907. Serial No. 375,233.



1. In a conveyer stripper, a conveying device, a goods support carried thereby, and a movable stripper mounted upon a part fixed relative to said conveyer and actuated by said conveyer to remove the goods therefrom.

2. In a conveyer stripper, a conveyer, a goods support carried thereby, and an oscillating stripper mounted upon a part fixed relative to said conveyer and adapted to be actuated by said conveyer to remove the goods therefrom.

3. In a conveyer stripper, a conveyer, a goods support carried thereby, an oscillating stripper mounted upon a part fixed relative to said conveyer and adapted to be actuated by said conveyer to remove the goods therefrom, and a stripper head adapted to traverse the goods supporting means of said conveyer.

4. In a conveyer stripper, a conveying chain, a hanger depending therefrom, goods supporting pins extending from said hanger longitudinally with said chain, a pivotally mounted stripper supported independently of the conveying chain, and means carried by said hanger to actuate said stripper.

5. In a conveyer stripper, a conveying chain, a hanger depending therefrom, goods supporting pins extending from said hanger longitudinally with said chain, a pivotally mounted stripper supported independently of the conveying chain, means carried by said hanger to actuate said stripper, and a slotted head carried by one end of said stripper to traverse said pins.

6. In a conveyer stripper, a conveying chain, a hanger depending therefrom, goods supporting pins extending from said hanger longitudinally with said chain, a pivotally mounted stripper, means carried by said hanger to actuate said stripper, a slotted head carried by one end of said stripper to traverse said pins, and an operating head carried by said stripper and disposed in the path of said hanger to be engaged thereby.

7. A chain link for a conveyer stripper provided with a depending hanger therefrom having an open sided bar slot in one face, and a goods supporting pin extending laterally from said hanger in the plane of the length of said chain.

8. A conveyer link for a stripper comprising a hanger provided with an open sided bar socket intermediate of its ends, and a goods supporting device at its lower end.

9. A conveyer link for a stripper comprising a hanger provided with an open sided bar socket intermediate of its ends, a goods supporting device at its lower end, and a bar provided with a portion intermediate of its ends to fit said socket and retain the bar against lateral movement therein.

10. A conveyer link provided with a depending hanger, a lateral arm extending therefrom, and a curved conveyer pin passing through said arm and along the rear thereof with its end inserted in the arm.

11. In a conveyer stripper, a track, a carrier wheel mounted therein, a hanger member supported by said track, a carrier chain supported from said wheel and provided with a goods support, a movable stripping mechanism carried by said member to be actuated by said chain and remove goods from said support.

12. In a conveyer stripper, a track, a carrier wheel mounted therein, a hanger member supported by said track, a carrier chain supported from said wheel and provided with a goods support, movable stripping mechanism carried by said member to be actuated by said chain and remove goods from said support, and inclined guide plates for guiding said goods support into contact with the operating mechanism of said stripper.

13. In a conveyer stripper, a track, a carrier wheel supported therefrom, a conveyer chain carried by said wheel, a depending hanger from said chain having lateral projections therefrom, a goods support at the lower end of said hanger, a yoke carried by said track, a stripping device carried by the lower end of said yoke and adapted to engage the lateral projection of said hanger, a goods supporting hook carried by said hanger and extending in the direction of the length of said chain, and a stripper head slotted to embrace said hook.

14. In a conveyer stripper, a track, a carrier wheel supported therefrom, a conveyer chain carried by said wheel, a depending hanger from said chain having lateral projections therefrom, a goods support at the lower end of said hanger, a yoke carried by said track, a stripping device carried by the lower end of said yoke and adapted to engage the lateral projection of said hanger, a goods supporting hook carried by said hanger and extending in the direction of the length of the chain, a stripper head slotted to embrace said hook, an operating head carried by said stripper between the yoke members, and a guide plate inwardly inclined to dispose said hanger in the path of said head.

15. In a conveyer stripper, a track, a carrier chain adapted to travel thereon, a hanger from said chain having a bar slot in its front face, a stop bar in said slot, and a cut off lever disposed in the path of travel of said bar to be actuated thereby.

16. In a conveyer stripper, a track, a carrier adapted to travel thereon, a hanger from said carrier provided with a downwardly extending slot therein, and a stop bar having a reduced portion intermediate of its ends to fit said recess.

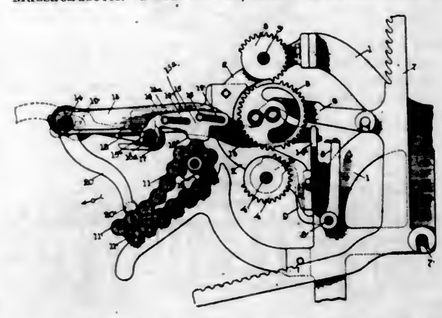
17. In a conveyer stripper, a track, a carrier mounted to travel thereon, a support depending from said track, a stripper provided with lugs to embrace said support, a depending stripper head from one of said lugs, and an operating head extending upward from the opposite lug.

18. In a device of the class described, a goods support, an independent stripper support, a movable stripper mounted thereon, means upon the goods support to engage the stripper, and means for moving one of said supports past the other.

19. In a device of the class described, a goods support, an independent stripper support, a stripper pivotally mounted thereon and having a free end to traverse a portion of the goods support, and means for moving one of said supports past the other.

20. In a device of the class described, a conveyer provided with goods supporting means, and a movable stripper mounted independently of and actuated by said conveyer to remove the goods from said means simultaneous with the movement thereof.

865,264. LOOM HARNESS-EVENER MECHANISM. BENJAMIN F. MCGUINESS, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed Nov. 20, 1905. Serial No. 288,147.



1. In a harness motion, a pattern surface, vibrator levers extending over said pattern surface, and a harness evener mechanism, comprising a movable run, having an incline or cam surface thereon attached to every alternate vibrator lever, and adapted to engage with and be disengaged from a pin or projection on a contiguous vibrator lever, and said pin or projection and means for moving the run, to cause it to be moved into its operative position over the pattern surface, and out of engagement with said pin or projection, or to be moved into its inoperative position, and into engagement with said pin or projection.

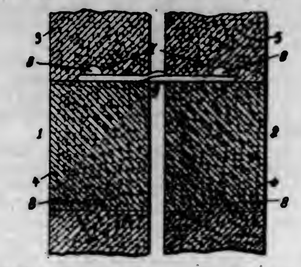
2. A harness evener mechanism for a harness motion having vibrator levers, said mechanism comprising a longitudinally moving slide or run attached to alternate vibrator levers, and adapted to be moved into an operative position over the pattern surface, and to be moved into an inoperative position away from the pattern surface, and said pattern surface and means for moving said movable run, and a pin or projection on a contiguous vibrator lever, extending into the path of, and adapted to be engaged by said movable run, and be disengaged therefrom.

3. In a harness motion, the combination with every alternate vibrator lever, of a movable run mounted thereon, adapted to be moved into a position over the pattern surface, and into a position away from the pattern surface, and said pattern surface and means for moving said run, and a pin or projection on each of the other vibrator levers, said pin extending in the path of and adapted to be engaged by, and disengaged from said run, for the purpose stated.

865,265. CONCRETE CONSTRUCTION. ALBERT A. PAULY, Youngstown, Ohio. Filed June 3, 1905. Serial No. 263,521.

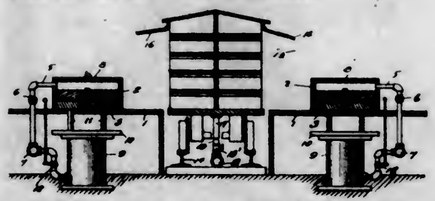
A concrete building construction consisting of two parallel walls each composed of concrete blocks each block

having an integral projection on one side and a recess on the other side extending from one side facing inwardly and with the sides converging towards the face of the block and with a depression in the inner larger end of the re-



cess to receive the projection of the adjacent block, and metallic tie members substantially figure 8 shaped and engaging the projections and corresponding to and engaging the sides of the recesses.

865,266. APPARATUS FOR FORMING BUILDING-BLOCKS AND ARTIFICIAL STONE FROM PLASTIC MATERIAL. ALBERT A. PAULY, Youngstown, Ohio. Filed Apr. 30, 1907. Serial No. 371,141.



1. An apparatus of the type described consisting of supports, molding frames arranged upon said supports, doors normally closing said frames, ejectors located beneath said supports and extending into said frames, steam pipes connecting with said ejectors and with said frames, and means for controlling the operation of said ejectors.

2. A plant for forming concrete blocks comprising two parallel spaced platforms, a trackway between the platforms and arranged below the same, a plurality of molding-frames supported on said platforms, a steam supply line, pipes connecting said steam-supply line with each of said molding-frames, and block ejecting means also operated by steam from said steam-supply line for ejecting blocks from said molding-frames.

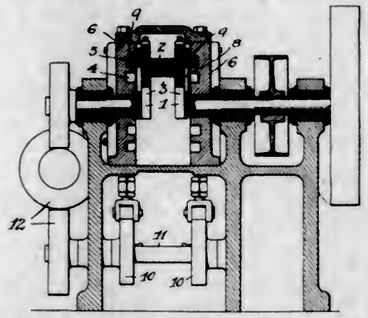
3. In a concrete block forming apparatus, a supporting platform, a trackway arranged along side and below said platform, a plurality of molding-frames supported on said platform, a steam-supply line located beneath the platform, independent branch-pipes leading from said steam-supply line to each of said molding-frames, and independent ejecting-means for each molding-frame, said ejecting-means being actuated by steam from said steam supply line.

4. Concrete block forming means, comprising a supporting platform, a plurality of molding-frames supported on said platform, a steam supply line beneath the platform, steam pipes connecting said steam-supply line with each of said molding-frames, block-ejecting means for each molding frame comprising a cylinder located beneath the platform having a movable head, plungers carried by said head and projecting through the platform into the molding frame, a piston in said cylinder for engaging said movable head, connections between the cylinder and said steam-supply line, and means operated from the platform for controlling passage of steam from the steam supply line to said cylinder.

5. In concrete block forming apparatus, a supporting-platform, a plurality of molding frames supported on said platform, a steam supply line underneath the platform, and independent steam pipes connecting each molding frame with the steam supply line, substantially as described.

6. In a concrete block forming apparatus, a supporting platform, a car-receiving trackway arranged along side the platform and below the same, a steam-supply pipe arranged in said trackway for supplying steam to a car on the trackway, a plurality of molding-frames supported on the platform, and means for independently supplying steam to each of the molding-frames.

865,267. GAS-ENGINE. HENRY POLLARD, Paisley, Scotland. Filed July 2, 1907. Serial No. 381,869.

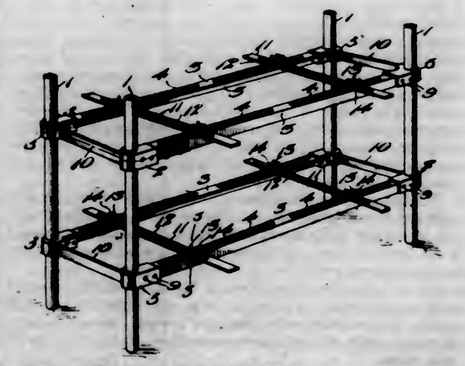


1. In a gas engine, the means for giving to the piston a long and a short stroke consisting of the grooves in the frame for receiving an extension of the crank pin which is arranged to shift along the crank arm, substantially as described.

2. In a gas engine, the means for giving the piston a long and a short stroke, consisting of the grooves for receiving an extension of the crank pin and the switch piece having the complement of said grooves with means for shifting said switch piece, the said crank pin being movable along the crank arm, substantially as described.

3. In combination with the crank arm and crank pin of a gas engine, a grooved member and a grooved reciprocating switch block coöperating therewith and receiving a part of the crank pin to control the stroke, said crank pin being movable along the crank arm, substantially as described.

865,268. DISPLAY-RACK FOR METAL BEDSTEADS. HENRY L. POWELL, Tampa, Fla. Filed Feb. 26, 1907. Serial No. 359,339.

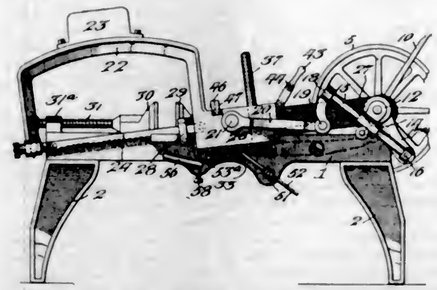


1. In a display rack for bedsteads, corner posts, each provided with a series of mortises, corner post brackets provided with angular recesses, side rails formed of angle

bars fitted in the angular recesses in the corner post brackets and provided with longitudinal slots, end bars fitted in the corner post brackets and seated in the mortises in the corner posts, supporting bars extending across the side rails and provided with slots, bolts passing through the slots in the side rails and the supporting bars, and winged nuts for holding the supporting bars in adjusted position.

2. A display rack for iron bedsteads comprising mortised corner posts, corner post brackets secured to the corner posts, slotted side rails secured to the corner post brackets, and bars fitted in the corner post brackets and seated in the mortises in the corner posts, and adjustable, slotted supporting bars resting upon the side rails, and means for securing said supporting bars in adjusted position thereon.

865,269. HACKSAW-MACHINE. EDWARD RENKENBERGER, Buffalo, N. Y. Filed Apr. 28, 1906. Serial No. 314,220.



1. In a hack saw machine, the combination with the machine frame, of a drive-shaft located at one end thereof, a guide-rail having one end pivoted on said shaft, a saw-frame mounted on said guide-rail, a cam on the drive-shaft, a lever operated by said cam, a post carried by said lever, a divided clamp for said post carried by the guide-rail, and means controlled by the movement of the saw-frame for operating said clamp in each stroke of the saw frame.

2. In a hack saw machine, the combination with a reciprocatory saw frame, and a guide-rail therefor, of a vertically-movable post adapted to support the guide-rail, a lever and cam for moving said post, a clamp on the guide-rail for engaging said post, and means controlled by the saw-frame for operating said clamp to disengage the supporting post.

3. In a hack saw machine, the combination of a reciprocatory saw frame, a guide rail on which the saw frame moves, a supporting post for said guide rail, a pivoted lever to which said post is pivoted, a cam shaft, a cam thereon for actuating said lever, and a saw frame clamp for engaging and disengaging said post, substantially as described.

4. In a hack saw machine, the combination of a reciprocatory saw-frame, a guide-rail on which the saw-frame slides, a drive-shaft having operative connection with said saw-frame, a lever operated by a cam on said shaft, a guide-rail supporting post carried by said lever, a clamp for said post connected with the guide-rail, and means on the saw-frame for actuating a part of said clamp during the movement of the saw-frame.

5. In a hack saw, the combination of a reciprocatory saw frame, a guide rail on which the saw frame slides, means for driving the saw frame, a supporting post, a lever pivoted to said post and to the frame, said post supporting said guide rail, a cam shaft, a cam thereon for actuating said lever to raise said guide rail at the end of its active stroke, a post clamping device carried by the guide rail, and means carried by the saw frame for disengaging the clamp from the post at one end of the movement of the saw frame.

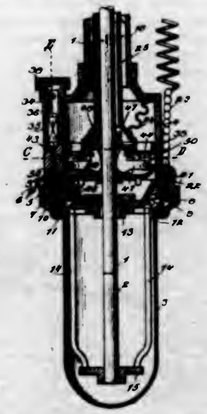
6. In a hack saw machine, the combination of a reciprocatory saw-frame, a guide-rail on which said frame slides, means for driving said saw-frame, a vertically movable post on which the guide-rail is supported, a cam lever for moving said post, a two-part clamp carried by the guide-rail, a lever controlling one part of said clamp for moving the latter into and out of engagement with the post, and means carried by the saw-frame for rocking said lever to throw the clamp out of engagement with the post.

865,270. BOILER-CLEANER. JOHN W. RIETZKE, East Liverpool, Ohio. Filed May 3, 1906. Serial No. 314,089.



The combination with a vertical boiler having a concave bottom provided with a central opening, of a tubular body connected at one end with said bottom through said opening and provided near its outer end with a pair of nipples, a drain pipe connected to one of said nipples, a rod extending through the body, a spider within the body through which said rod passes and from which the rod is suspended, a scraper pivoted to the upper end of said rod and conforming to the concave bottom of the boiler, and a wheel on the lower end of said rod, substantially as described.

865,271. LONG-BURNING ARC-LAMP. JOSEF ROSENMEYER, Lindenthal, Germany, and GUSTAVE DIVE, Bressoux, Belgium. Filed Mar. 7, 1905. Serial No. 248,793.



1. In an arc lamp a casing of conducting material closed at one end and open at the other, provided with an aperture near the open end, a ring of insulating material in the latter end, an annular conducting member supported in said insulating material, a lower carbon holder

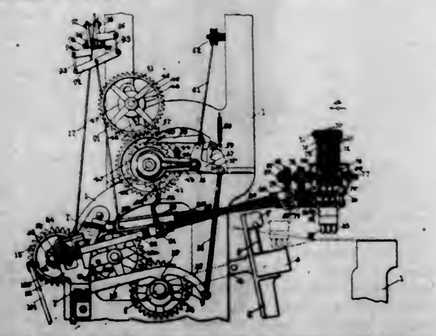
formed of conducting material and having a portion adapted to contact with said annular conducting member, an insulating bushing in said aperture, a conducting member extending through said bushing into contact with said annular conducting member, and a globe inclosing the carbon holder and secured to the casing.

2. In an arc lamp, a casing of conducting material closed at one end and open at the other, provided with an aperture near the open end, a ring of insulating material in the latter end, an annular conducting member supported in said insulating material, a lower ring formed of conducting material and having a portion adapted to contact with said annular conducting member, an insulating bushing in said aperture, a conducting member extending through said bushing into contact with said annular conducting member, and a globe inclosing the carbon holder and secured to the casing, and a guide for the positive carbon carried by the lower end of said ring.

3. In an arc lamp, a casing of conducting material closed at one end, and open at the other, provided with an aperture near the open end, a ring of insulating material in the latter end, an annular conducting member supported in said insulating material, a lower ring formed of conducting material and having a portion adapted to contact with said annular conducting member, an insulating bushing in said aperture, a conducting member extending through said bushing into contact with said annular conducting member, and a globe inclosing the carbon holder and secured to the casing, said ring being conical shaped, a guide for the positive carbon, carried by the lower end of said ring, and a holder for the negative carbon supported from said ring.

4. In an arc lamp, a casing of conducting material closed at one end, and open at the other, provided with an aperture near the open end, a ring of insulating material in the latter end, an annular conducting member supported in said insulating material, a lower ring formed of conducting material and having a portion adapted to contact with said annular conducting member, an insulating bushing in said aperture, a conducting member extending through said bushing into contact with said annular conducting member, and a globe inclosing the carbon holder and secured to the casing, said ring being conical shaped, a guide for the positive carbon, carried by the lower end of said ring, and a holder for the negative carbon supported from said ring, said globe being held directly to the casing and hermetically connected therewith, and the insulated screw connected with the parts of negative polarity insulated within said casing.

865,272. SWIVEL-LOOM. EPPA H. RYON, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed June 22, 1905. Serial No. 266,308.



1. In a loom of the class described, a lay, a swivel shuttle rail independent of the lay, a crank shaft operatively connected to said shuttle rail, a pattern mechanism, a driven gear on said crank shaft, a driving gear adapted to mesh with said driven gear, operative means connected with said driving gear and driven gear, under the control of the pattern mechanism, to cause said driving gear to start and operate said driven gear.

2. In a loom of the class described, a lay, a swivel shuttle rail carrying a shuttle rack, a movable support for said rail independent of the lay, a shuttle rack operating mechanism attached to said support and movable therewith, to operate said shuttle rack, and a rotary shaft, operated from a driven shaft of the loom, to operate said rack mechanism, and said driven shaft.

3. In a loom of the class described, a swivel shuttle rail, a shuttle rack, a rotary gear having a cam surface thereon and movable with said swivel shuttle rail, connections from said cam to said shuttle rack, and means to operate said gear to communicate motion to said shuttle rack.

4. In a loom of the class described, a shaft, a mutilated gear thereon having a sliding tooth, a driving gear having an engaging arm fast thereon, means to move said sliding tooth into the path of said engaging arm, and a stop for said sliding tooth, for the purpose stated.

5. In a loom of the class described, a swivel shuttle rail, a crank shaft connected thereto, picking mechanism to operate the fly shuttle, a swivel shuttle rack, and means connected with said crank shaft to operate said swivel shuttle rack and control the operation of said picking mechanism.

6. In a loom of the class described, a swivel shuttle rail having two or more racks, a support for said rail, master gears having cams thereon carried by said support to move said racks longitudinally, a sliding mutilated pinion adapted to mesh with said master gears, and means to communicate lateral and rotary motion to said pinion.

7. In a loom of the class described, a crank shaft, a bevel pinion thereon, meshing with and operating a bevel pinion having a sleeve bearing for a longitudinally sliding shaft, and said pinion, and said shaft, and pivotal or flexible connections from said shaft to the swivel shuttle motion on the swivel shuttle rail, and said swivel shuttle motion and swivel shuttle rail.

8. In a loom of the class described, a longitudinally moving shuttle rail, a movable support therefor, a rotatable shaft connected to and movable with said rail, a second shaft pivotally or flexibly connected to said rotatable shaft, and means to rotate said second shaft.

9. In a loom of the class described, swivel shuttles, pinions for operating said shuttles, shuttle racks for operating said pinions, gears having dwell portions thereon, and cam grooves therein, levers operated by said gears, and connections intermediate said levers and shuttle racks, a mutilated pinion to operate said gears, a cam plate, connections intermediate said plate and the pattern mechanism, to move said plate according to the indications of the pattern mechanism, and connections intermediate said plate and the mutilated pinion, to move said pinion into and out of mesh with one or the other of said gears.

10. In combination, a ratchet wheel, a pawl to turn said ratchet wheel, a lever on which said pawl is fulcrumed, a cam, a lever operated by said cam, connections between said cam lever and said pawl lever, a latch to engage the pawl lever and normally hold said pawl inoperative, and connections between said latch and pattern mechanism to release the latch.

865,273. PEN-WIPER. DAVID SEIP, Chillicothe, Ohio. Filed Mar. 25, 1907. Serial No. 364,489.

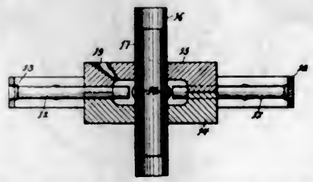


1. In a pen wiper, a backing provided with wings at its opposite ends, means for attaching the wings to an article, brackets secured to the wings and spaced apart, and clamping means carried by the bracket.

2. In a pen wiper, a backing, brackets secured to and upstanding from the backing, clamping screws inserted through the brackets adjacent the extremity spaced from the backing, and a fabric clamped between the clamping screw and the backing.

3. In a pen wiper, a backing, a bracket secured to the backing, and embodying an extremity spaced from the backing, a clamping screw inserted through the spaced extremity, a bearing plate carried by the screw, and a fabric clamped between the plate and the backing.

865,274. WHEELBARROW-WHEEL. THOMAS L. SMITH and CHARLES A. BAKER, Milwaukee, Wis., assignors to Sterling Wheelbarrow Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed Mar. 28, 1906. Serial No. 308,428.



1. A wheelbarrow wheel, comprising a rim, spokes connected thereto, a tubular sleeve to which the spokes are connected, a second tubular sleeve shorter than the first mentioned sleeve and fitting therein to strengthen it and form internal shoulders, a shaft passing through the sleeves, and rollers confined between the shaft and the first mentioned sleeve and held in position by the shoulders formed by the inner sleeve.

2. A wheelbarrow wheel, comprising a rim, spokes connected thereto, a tubular sleeve to which the spokes are connected, a second tubular sleeve shorter than the first mentioned sleeve and fitting therein to strengthen it and form internal shoulders, means for connecting the two sleeves together, a shaft passing through the sleeves, and rollers confined between the shaft and the first mentioned sleeve and held in position by the shoulders formed by the inner sleeve.

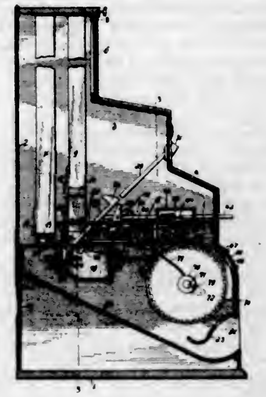
3. A wheelbarow wheel, comprising a rim, spokes connected thereto, an axially disposed tubular sleeve, a cast hub connecting the sleeve with the spokes and giving tension to the spokes, a second tubular sleeve shorter than the first mentioned sleeve and fitting therein to strengthen it and form internal shoulders, said tubular sleeves having registering openings into which the metal of the cast hub projects to lock them together, a shaft passing through the sleeves, and rollers confined between the shaft and the first mentioned sleeve and held in position by the shoulders formed by the inner sleeve.

4. A wheelbarrow wheel, comprising a rim, spokes connected thereto, an axially located sleeve, another sleeve fitting therein, both sleeves being provided with registering openings, and a cast hub connecting the first mentioned sleeve with the spokes and giving tension to the spokes and entering the registering openings of the sleeves to lock the sleeves together.

5. A wheelbarrow wheel comprising a rim, spokes connected thereto, a cylindrical tubular outer sleeve to which the spokes are connected, a cylindrical tubular inner sleeve shorter than the outer sleeve and fitting therein, being spaced from the ends of the outer sleeve, a shaft passing through the sleeves without contacting therewith, and rollers seated in the roller casings formed by the ends of the outer sleeve and bearing on said casings and the shaft with their ends bearing on the ends of the inner sleeve.

6. A wheelbarrow wheel, comprising a metal rim having tapering openings therein, spokes provided with shoulders fitting against the rim and having their ends upset within the tapering openings to rivet them to the rim, an axially located sleeve, a shorter sleeve centrally located therein, said sleeves having registering openings, a cast hub connecting the spokes with the first mentioned sleeve to give tension to the spokes and entering the registering openings of the sleeves to lock the sleeves together, a shaft passing through the sleeves, bearing rollers between the shaft and the first mentioned sleeve and confined in position by the inner sleeve, end brackets having cup shaped sockets fitting over the ends of the outer sleeve to form dust proof connections therewith, shoulders on the shaft, and nuts threaded on the ends of the shaft for clamping the end brackets against the shoulders.

865,275. VENDING-MACHINE. ERNEST L. SONS, CLIFFORD A. FOGEL, and ALFRED C. MCCOY, Pittsburg, Pa. Filed Apr. 6, 1906, Serial No. 310,383. Renewed July 22, 1907. Serial No. 384,919.



1. In a vending machine, the combination with a suitable casing, of two casings supported within said casing and havings sets of compartments formed therein, adapted to contain pieces of merchandise, levers pivotally mounted adjacent to each set of compartments and adapted to move within said compartments to force a piece of merchandise out of said compartments, spring held plungers adapted to actuate said levers, a revoluble advertising roll journaled in said casing and actuated by said plunger, means actuated at predetermined times by said roll to control the operation of some of said levers, and means to deliver said articles of merchandise after leaving their respective compartments, substantially as described.

2. In a vending machine, the combination with a suitable casing, of casings supported within said casing and having sets of compartments formed therein adapted to contain merchandise, levers mounted adjacent to each set of compartments and adapted to move therein to deliver said merchandise, plungers mounted in said casing and adapted to actuate said levers, a revoluble advertising roll mounted in said casing and actuated by said plungers, and means carried by said plungers to temporarily lock said levers in a fixed position, substantially as described.

3. In a vending machine, the combination with a casing, of two casings mounted within said casing and having sets of compartments formed therein adapted to contain merchandise, a revoluble advertising roll mounted in said casing, a plurality of plungers mounted in said casing, controlling mechanism actuated by said plungers and adapted to move said merchandise from said compartments, means actuated by said plungers to revolve said roll, and means actuated by said roll to govern said controlling mechanism, substantially as described.

4. In a vending machine, casings, said casings having sets of compartments formed therein, levers adapted to enter said compartments, plungers mounted in said casing and adapted to actuate said levers, a roll mounted in said casing and actuated by said plungers, and controlling

mechanism actuated by said plungers, and governed by said roll, substantially as described.

5. A vending machine consisting of casings having sets of compartments formed therein adapted to contain merchandise, levers adapted to move ipto said compartments to move said merchandise, a roll journaled in said casing and governing the movement of some of said levers, means to move the other of said levers and said roll, substantially as described.

6. In a vending machine, the combination of casings having compartments formed therein, an advertising roll journaled in said casing, controlling mechanism mounted in said casing, means to simultaneously revolve said roll and move the merchandise out of one of said compartments, and means governed by said roll to move the merchandise out of the other of said compartments, substantially as described.

7. A vending machine for chewing gum consisting of two casings having compartments formed therein, controlling mechanism, a revoluble roll, means to move chewing gum out of one of said casings, and means controlled by said roll to move gum out of the other of said casings, substantially as described.

865,276. ART OF ETCHING. EMANUEL SPITZER, Munich, Germany. Filed Oct. 29, 1904. Serial No. 230,620.

1. The process of etching, which consists in applying directly to the surface of the body to be etched a sensitized coating, then photographically printing an image upon said sensitized coating, and then exposing directly all portions of the surface of the sensitized coating to the action of an etching agent.

2. The process of etching which consists in applying directly to the surface of the body to be etched a sensitized coating, then photographically printing an image upon said sensitized coating, then exposing directly all portions of the surface to the sensitized coating to the action of an etching agent, and leaving the deposits formed by the etching action undisturbed until the completion of the etching action.

3. The process of etching which consists in applying directly to the surface of the body to be etched a sensitized coating, photographically printing an image upon the sensitized coating, introducing said body to be etched into an etching bath and regulating the etching operation by modifying the temperature of the bath.

4. The process of etching which consists in applying directly to the surface of the body to be etched a sensitized coating, photographically printing an image upon the sensitized coating, introducing said body to be etched into an etching bath and then into progressively modifying the temperature of the bath to regulate the etching.

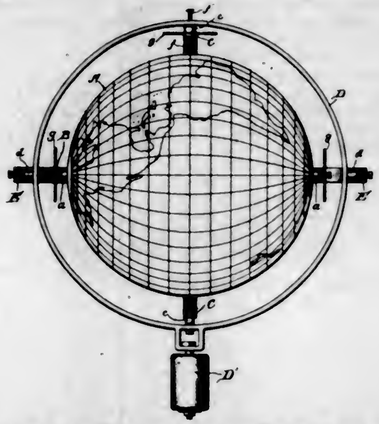
5. The process of etching which consists in applying directly to the surface of the body to be etched a sensitized coating, photographically printing an image upon the sensitized coating, introducing said body to be etched into an etching bath and introducing additional etching fluid of a lower degree of concentration during the etching operation, whereby the etching bath is progressively diluted.

6. The process of etching which consists in applying directly to the surface of the body to be etched a sensitized coating, drying said coating by centrifugal action, photographically printing an image upon the sensitized coating, and directly exposing all portions of the surface of said coating to the action of the etching agent.

865,277. NAUTICAL INDICATING DEVICE. JAY D. STANNARD, Phoenix, Ariz. Filed Feb. 23, 1907. Serial No. 338,813.

1. A nautical indicating device comprising a globe capable of being adjusted to set its axis parallel with the earth's axis, means for retaining the globe in such position in the course of travel of the vessel, an indicator adapted to coöperate with the globe, and means whereby during the progress of the vessel the indicator will change its set position to denote the course of travel and the position of the vessel on the globe.

2. A nautical indicating device comprising a globe capable of being adjusted to set its axis parallel with the earth's axis, a gyroscope for retaining the globe in such position in the course of travel of the vessel, an indicator adapted to coöperate with the globe, means for holding the indicator in a determined position, and means whereby during the course of the vessel the relative position between the globe and indicator will vary to denote the course of travel and the position of the vessel on the globe.



3. A nautical indicating device comprising a globe capable of being adjusted to set its axis parallel with the earth's axis, rotating means within the globe for retaining the same in such position in the course of travel of the vessel, an indicator adapted to coöperate with the globe, and a support for the indicator uninfluenced by the motion of the vessel, the construction being such as to produce a relative motion between the globe and indicator, whereby the latter is adapted to denote the course of travel and the position of the vessel on the globe.

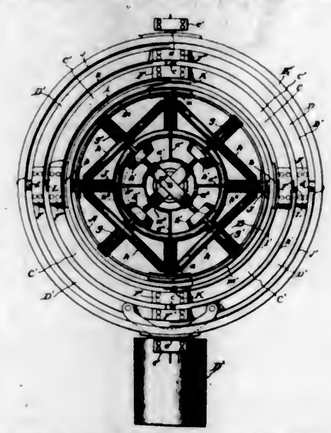
4. A nautical indicator comprising a globe, a support on which the globe is revoluble in one direction, said support being adjustable at an angle to the globe, whereby the latter may be adjusted to set its axis parallel with the earth's axis, an indicator, a support for the indicator normally maintained in a vertical position, said support being movable at an angle to the direction of movement of the globe and its support, a main support for pivotally mounting the device upon the vessel to adapt it to be uninfluenced by the motion thereof, the construction being such that a relative motion between the globe and indicator will be produced during the course of travel of the vessel, whereby the indicator will act to indicate the position of the vessel on the globe, and means for determining through the angular relation of the parts the bearing of the vessel.

5. A nautical indicating device comprising a globe, means for rendering the globe capable of adjustment to set its axis parallel with the earth's axis, means for retaining the globe in such position in the course of travel of the vessel, and gravity-controlled means movable relatively to the globe during the travel of the vessel for indicating the position of the latter on the globe.

865,278. NAUTICAL INDICATING DEVICE. JAY D. STANDARD, Phœnix, Ariz. Filed Feb. 25, 1907. Serial No. 359,191.

1. A nautical indicating device comprising a member adjustable to set its axis parallel with the earth's axis, means for maintaining said member in such position in the course of travel of the vessel, and a plurality of coacting pairs of relatively movable angle indicators coöperating with said member and influenced by the travel of the vessel, whereby the position of the latter on the surface of the earth may be determined.

2. A nautical indicating device comprising a member adjustable to set its axis parallel with the earth's axis, rotating means within said member for maintaining the same in such position in the course of travel of the vessel, and a plurality of coacting pairs of relatively movable angle indicators coöperating with said member and influenced by the travel of the vessel, whereby the position of the latter on the surface of the earth may be determined.



3. A nautical indicating device comprising a member adjustable to set its axis parallel with the earth's axis, rotating means for maintaining said member in such position in the course of travel of the vessel, electrical driving means for said rotating means, and a plurality of coacting pairs of relatively movable angle indicators coöperating with said member and influenced by the travel of the vessel, whereby the position of the latter on the surface of the earth may be determined.

4. A nautical indicating device comprising a member, adjustable to set its axis parallel with the earth's axis, a gyroscope supported within said member for maintaining the same in such position in the course of travel of the vessel, friction gearing for driving the gyroscope, an electric motor for driving the friction gearing, means for operating the gyroscope, and means coöperating with said member and influenced by the travel of the vessel, whereby the position of the latter on the surface of the earth may be determined.

5. A nautical indicating device comprising a member adjustable to set its axis parallel with the earth's axis, a gyroscope comprising a plurality of pairs of elements arranged to rotate in planes perpendicular to each other and adapted to maintain said member in such position in the course of travel of the vessel, means for operating the gyroscope, and means coöperating with said member and influenced by the travel of the vessel, whereby the position of the latter on the surface of the earth may be determined.

6. A nautical indicating device comprising a member adjustable to set its axis parallel with the earth's axis, a gyroscope comprising a plurality of rotors rotating in planes perpendicular to each other and supported by said member for maintaining the same in such position in the course of travel of the vessel, an electric motor housed within the gyroscope, electrical circuit connections therefor to connect the same with an exterior source of electric energy, gearing driven by the motor for actuating said rotors, and means coöperating with said member and influenced by the travel of the vessel, whereby the position of the latter on the surface of the earth may be determined.

7. A nautical indicating device comprising a member adjustable to set its axis parallel with the earth's axis, a gyroscope comprising a plurality of rotors rotating in planes perpendicular to each other for retaining said member in such position in the course of travel of the vessel, a plurality of coöperating sets of relatively movable members arranged at an angle to each other, gravity means for maintaining one of said members in a perpendicular position, and coöperating indicating devices on the several members controlled by the relative movement thereof to indicate the latitude, longitude and bearing of the vessel at any point in its course, whereby the position of the vessel on the surface of the earth may be determined.

8. A nautical indicating device comprising a frame adjustable to set its axis parallel with the earth's axis and provided with an indicating member, a gyroscope supported by said frame for maintaining the same in such position in the course of travel of the vessel, a plurality of members arranged at an angle to each other and to the frame and relatively adjustable to different angles, said members being provided with indicators to coact with each other and the indicator on the frame, whereby the bearing of the vessel and its position on the earth's surface may be determined, one of said members being gravity-controlled to maintain a determinate position, and means for driving the gyroscope.

9. A nautical indicating device comprising a frame adjustable to set its axis parallel with the earth's axis, a gyroscope supported by and within said frame for maintaining the same in such position during the travel of the vessel, a plurality of coöperating members adjustable to different relative angles to the frame and to each other, gravity means for maintaining one of said members in a perpendicular position coöperating indicating devices on the frame and member affected by the change in the angular relation thereof produced by a relative motion of the parts during the course of travel of the vessel, whereby the position of the latter on the earth's surface may be determined, and driving means for operating the gyroscope from an external source of power.

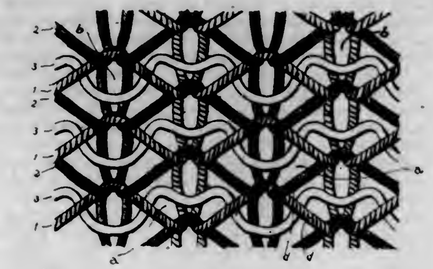
10. A nautical indicating device comprising a support pivotally mounted in stationary bearings, a frame adjustable to set its axis parallel with the earth's axis, a gyroscope carried by the frame for maintaining the same in such position during the travel of the vessel, means for operating the gyroscope, a plurality of rings pivotally connected with each other and with the frame and support, said rings being arranged at different angles to each other and to the support, gravity means for normally maintaining one of the rings in a perpendicular position, and coacting indicators on the frame and rings operative by the variations in the angular relation thereof produced by a relative motion of the parts during the course of travel of the vessel to indicate the position of the latter on the earth's surface.

11. A nautical indicating device comprising a member adjustable to set its axis parallel with the earth's axis, means carried by said member for maintaining the same in such position in the course of travel of the vessel, a support for said member adjustable at an angle thereto, coöperating indicating devices on the member and support for indicating degrees of longitude through their relative changes in position, coöperating supports for the first named support arranged at different angles thereto and to each other and adjustable to different angular positions, coacting indicating devices carried by said coöperating supports for indicating degrees of latitude and the bearing of the vessel through their relative changes in position, and means operative to effect variations in the angular positions of the parts through the action of gravity in the course of travel of the vessel for influencing the respective indicating devices.

12. A nautical indicating device comprising a main horizontal ring having pivotal supports, an outer vertical ring pivoted to the main horizontal ring, an inner vertical ring pivoted to the outer vertical ring and arranged at an angle thereto, an inner horizontal ring pivoted to said inner vertical ring at an angle to the axis of the horizontal ring, gravity-controlled means for maintaining the outer vertical ring in a perpendicular position, a frame pivotally supported within the inner horizontal ring for adjustment to set its axis parallel with the earth's axis, means carried by said frame for maintaining the same in such position in the course of travel of the vessel, and indicating de-

vices on the frame and rings operative by variations in the relation of said parts in the travel of the vessel to indicate the bearing of the vessel and latitude and longitude of the point of the earth's surface on which the vessel is situated.

865,279. KNITTED FABRIC. BERNARD T. STEBER, Utica, N. Y., assignor to The Steber Machine Company, Utica, N. Y., a Corporation of New York. Filed Feb. 26, 1906. Serial No. 303,011.



1. A knit fabric comprising at the front face wales each knit of one only of two body yarns, each loop of each wale including a portion of yarn connecting at the back two adjacent like wales, and a fleecing yarn passing in front of certain of the connecting portions and extending in loops at the back of the fabric.

2. A fabric knit from two yarns, all of the knit loops of which appear in wales upon one face, loops of each yarn being drawn through loops of its own kind only, and having a fleecing yarn looped between the connecting legs of the knit stitches on the opposite face.

3. A knit fabric comprising two alternating series of wales of knit loops, the connecting thread of adjacent wales of each series being caught in and embraced by the knit loops of the intervening wales of the other series and a fleecing yarn looped between the connecting threads.

4. A fleeced knit fabric having a base whose face is formed of an alternating series of longitudinal wales knit each from a different yarn, the stitches forming the wales all being drawn toward the same side of the fabric, the loops forming each wale, each including a portion of the other yarn connecting the two neighboring loops at the back of the fabric, the connecting portions of the loops forming four sided meshes on the back of the fabric, thus exhibiting on one face parallel longitudinal wales alternately of different yarns and on the other side lozenge shaped meshes formed by the connecting legs of the loops, and an independent supplemental fleecing thread having loops extending through the said lozenge shaped meshes.

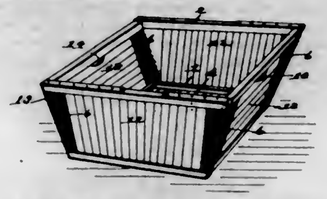
5. A knit fabric, all of the knit loops of which appear in wales upon one side, the loops of said wales being drawn between the floats or connecting threads of the adjoining wales, and a fleecing yarn looped loosely through said connecting threads.

6. A fabric knit from two yarns, all of the knit loops of which appear in wales upon one face, loops of each yarn being drawn through loops of its own kind only, and having a fleecing yarn looped between each of the connecting legs of the knit stitches on the opposite face.

7. A knitted fabric, all of the knit loops of which appear in wales upon one side, the loops of said wales being drawn between and including a portion of the floats or connecting threads of the adjoining wales, and a fleecing yarn looped loosely through said connecting threads.

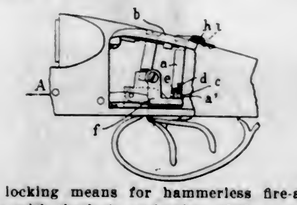
8. A fabric knit from two yarns, all of the knit loops of which appear in wales upon one face, loops of each yarn being drawn through loops of its own kind only, and including a portion of the other yarn, and having a fleecing yarn looped between the connected legs of the knit stitches on the opposite face.

865,280. BOX. WILLIAM STRAUB, Toledo, Ohio. Filed Aug. 24, 1905. Serial No. 275,641.



A box of the kind described comprising outwardly sloping sides, said sides being of less length than the width of the box, wedge-shaped corner pieces connecting adjacent ends of the sides, each corner piece consisting of two sections arranged at right angles to each other, one of said sections being provided with a groove and the other section being provided with a tongue to engage said groove, a rectangular frame carried by the sides and extending across said corner sections, the said frame being grooved, and tongues carried by said corner sections and engaging the grooves of the frame, as and for the purpose set forth.

865,281. SAFETY-LOCK FOR FIREARMS. JOSEPH TAMBOUR, Nanterre, near Paris, France. Filed Mar. 19, 1906. Serial No. 306,892.



1. In a locking means for hammerless fire-arms, the combination with the lock mechanism of the arm, of a rotatable bolt having a spring actuated pivoted locking piece to engage a portion of the said lock mechanism of the fire-arm.

2. In a locking means for hammerless fire-arms, the combination with the firing mechanism, of an exteriorly accessible rotatable bolt to engage portions of the said firing mechanism and operative to lock one part of the mechanism and leave another portion free for action and also adapted to be actuated when the gun has been fired and capable of being brought into locking position also when the hammers have been thrown forward or brought to half cock.

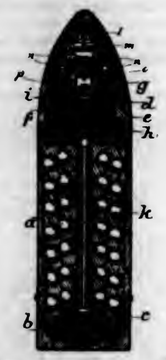
3. In a locking device for hammerless fire-arms, the combination with the firing mechanism, including sears, of a rotatable bolt carrying a pivoted spring actuated locking piece to engage either one or both of the sears.

4. In a locking device for hammerless fire-arms, the combination with firing mechanism including movable controlling members, of a rotatable bolt having a locking piece movably attached thereto to coöperate with the said movable members, and a device for automatically turning the said locking bolt, consisting of a locking slide having a projection to engage a portion of the locking bolt and effect turning of the latter.

865,282. EXPLOSIVE PROJECTILE. KARL VÖLLER, Düsseldorf, Germany, assignor to Rheinische Metallwaren- und Maschinenfabrik, Düsseldorf, Germany. Filed Nov. 15, 1906. Serial No. 343,526.

1. In an explosive projectile, the combination, with a shrapnel charge, a grenade charge, and a time fuse communicating with both the shrapnel and grenade charges, of retarding means arranged between the time fuse and grenade charge.

2. In an explosive projectile, the combination, with a shrapnel charge, a grenade charge, and a time fuse communicating with both the shrapnel and grenade charges, of retarding means arranged between the time fuse and grenade charge, and a percussion fuse communicating with the grenade charge.

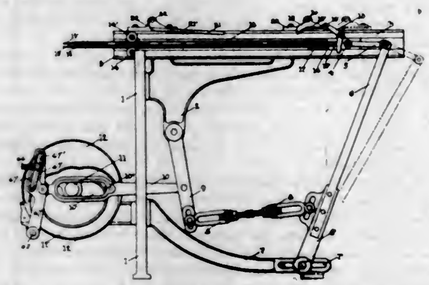


3. In an explosive projectile, the combination, with a shrapnel charge, a grenade charge, and a time fuse communicating with both the shrapnel and grenade charges, of a slow burning composition arranged in the path from the fuse to the grenade charge.

4. In an explosive projectile, the combination, with a shrapnel charge, an explosive acting thereon, a grenade charge, and a detonator therefor, of a time fuse communicating both with the explosive and with the detonator, and a slow burning composition interposed between the fuse and the detonator.

5. In an explosive projectile, the combination, with a shrapnel charge, an explosive acting thereon, a grenade charge and a detonator therefor, of a time fuse communicating both with the explosive and the detonator, retarding means in the form of a slow burning composition arranged between the time fuse and the detonator, and a percussion fuse arranged to act upon the detonator.

865,283. CANE-LOOM. WILLIAM WATTIE, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed Feb. 3, 1905. Serial No. 243,925.



1. In a loom, the combination with a needle operating mechanism, a guide block and holding device for the filling, movably supported, and adapted to be moved outwardly, when engaged by the needle, of a filling let-off mechanism, and means for operating the same.

2. In a loom of the class described, the combination with the needle operating mechanism, and a guide block and holding device for the filling, movably supported and adapted to be moved outwardly when engaged by the needle, of a filling let-off mechanism, and intermediate connections to operate the filling let-off mechanism simultaneously with the needle operating mechanism, on the withdrawal of the needle through the shed.

3. In the cutting or shearing mechanism of a loom of the class described, the combination with a rocking shaft, and means for positively rocking the same, of an arm fast on said shaft and having a cutting blade thereon, a stud on said arm, a second arm having a cutting blade thereon pivotally mounted on said stud, and also having a curved slot therein, the axis of the arc of the curvature of a portion of which corresponds with the axis of the rocking shaft, and a stationary stud or pin extending into said slot to cause a pivotal motion of said arm, and the moving together and moving apart of the cutting blades, on the rocking of said shaft.

4. In a loom of the class described, the combination with the needle operating mechanism, and the cane filling let-off mechanism, of intermediate connections, to operate the cane filling let-off mechanism simultaneously with the needle operating mechanism, on the withdrawal of the needle through the shed, substantially as shown and described.

5. In a loom of the class described, the combination with the needle operating mechanism, and the cane filling let-off mechanism, of intermediate connections, comprising a driven cam, connections therefrom to the needle carriage, and connections therefrom to a ratchet and pawl mechanism, forming a part of the filling let-off mechanism, and said ratchet and pawl mechanism.

6. In a loom of the class described, the combination with the needle operating mechanism, and the cane filling let-off mechanism, of intermediate connections, comprising a driven cam, connections therefrom to the needle carriage, and connections therefrom to a ratchet and pawl mechanism, forming a part of the filling let-off mechanism, and said ratchet and pawl mechanism, and means for making the ratchet and pawl mechanism inoperative, to allow of the moving of the let-off mechanism independently of its operating mechanism.

7. In the let-off mechanism of a loom of the class described, the combination with a friction drum loosely mounted, a pawl carried thereon, a ratchet engaging said pawl to turn said drum, said ratchet fast on a shaft, a second ratchet wheel, a gear connected therewith, a pawl carried on a pawl arm fast on said shaft and adapted to engage said ratchet, and to be held out of engagement therewith, and means for rocking said shaft, and through ratchet and pawl mechanism rotating the friction drum in one direction only.

8. In a loom of the class described, a multiple let-off mechanism for the cane filling, comprising two or more spools, friction drums for rotating the same, connections between said friction drums, and means for rotating the same, a moving guide and holding device for the cane filling, and means for moving said guide at predetermined intervals.

9. In a loom of the class described, a multiple let-off mechanism for the cane filling, comprising two or more spools, friction drums for rotating the same, connections between said friction drums, and means for rotating the same, a moving guide and holding device for the cane filling, and means for moving said guide at predetermined intervals, and means for taking up the slack in the cane filling, as it is delivered from the spools.

10. In a loom of the class described, a multiple let-off mechanism for the cane filling, comprising two or more spools, friction drums for rotating the same, connections between said friction drums, and means for rotating the same, a moving guide and holding device for the cane filling, and means for moving said guide at predetermined intervals, a ratchet and pawl mechanism for rotating the drums, the pawl being adapted to be disengaged from and held out of engagement with the ratchet wheel, to allow the free rotation of the drums, independently of the driving mechanism.

865,284. EYEGLASSES. DANIEL WOOLF, New York, N. Y. Filed Sept. 14, 1906. Serial No. 334,564.

1. Eye glasses having clamps provided with means for supporting lenses, a stiff or rigid bridge pivotally connected to the clamps, nose guards, and provision on the

clamps permitting the attachment and detachment of said nose guards without interfering with the connections of the lenses and pivotal connections of the stiff bridge to the clamps.



2. Eye glasses having clamps provided with means for supporting lenses, a stiff or rigid bridge pivotally connected to the clamps, nose guards, and provision on the clamps permitting the attachment and detachment of said nose guards without disconnecting or loosening the pivotal connections of the stiff bridge or interfering with the connections of the lenses to the clamps.

3. A lens clamp for eye glasses provided with means for supporting the lens, means for pivoting a bridge therein, and means for detachably connecting a guard thereto, independently of the provision for supporting the lens.

4. A lens clamp for eye glasses provided with means for supporting the lens, means for pivoting a bridge thereon, and separate means for detachably connecting a guard thereto independently of the provision for holding the lens and the pivotal bridge connections.

5. A lens clamp for eye glasses having ears for pivoting a bridge thereon, and a box independent of the lens supporting portion and ears for connecting a guard to the clamp.

6. A lens clamp for eye glasses having ears for pivoting a bridge thereon, and a box independent of the ears and means for holding the lens, for detachably connecting a guard to the clamp.

7. Eye glasses having lens clamps, ears on said clamps, a bridge pivotally connected to said ears, recessed boxes on said clamps, and guards connected to said boxes independently of the ears for the bridge.

8. Eye glasses having lens clamps, ears on said clamps, a bridge pivotally connected to said ears, recessed boxes on said clamps, and guards detachably connected to said boxes independently of the ears for the bridge.

9. Eye glasses having lens clamps provided with ears, a bridge pivotally connected to said ears, a spring bearing against the bridge, stops for limiting the movement of the bridge, and boxes independent of the lens supports and ears for connecting guards to the clamps.

10. Eye glasses having lens clamps provided with ears, and a bridge having hooked ends adapted to engage an ear on each clamp.

11. A lens clamp for eyeglasses provided with lens supporting means, means for pivotally receiving a bridge end, and means independent of said lens supporting and bridge receiving means for detachably receiving a nose guard.

12. Eye glasses having clamps provided with lens supporting means, means for pivotally receiving bridge ends, means independent of said lens supporting and bridge receiving means for detachably receiving nose guards, and a stiff or rigid bridge having its ends pivotally connected to said clamps.

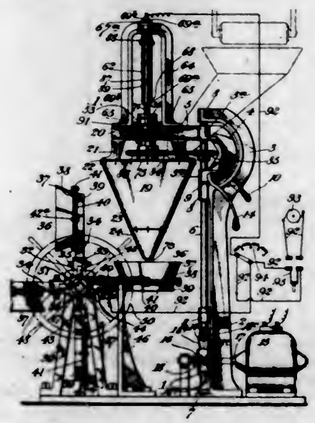
13. Eye glasses having clamps provided with lens supporting means, means for pivotally receiving bridge ends, means independent of said lens supporting and bridge receiving means for detachably receiving nose guards, a stiff or rigid bridge having its ends pivotally connected to said clamps, and springs bearing against said bridge.

14. Eye glasses having clamps provided with lens supporting means, means for pivotally receiving bridge ends, means independent of said lens supporting and bridge receiving means for detachably receiving nose guards, a stiff or rigid bridge having its ends pivotally connected to said clamps, and springs independent of said bridge bearing against said bridge.

15. Eyeglasses having lens clamps provided with means for supporting the lenses, means for pivoting a bridge thereon, means for detachably connecting guards thereto, independently of the provision for supporting the lenses, and a stiff or rigid bridge pivoted at each end to said clamps.

16. Eyeglasses having lens clamps provided with means for supporting the lenses, means for pivoting a bridge thereon, means for detachably connecting guards thereto, independently of the provision for supporting the lenses, a stiff or rigid bridge pivoted at each end to said clamps, and springs independent of said bridge bearing against said bridge.

865,285. ELECTRIC SMELTING APPARATUS. JAMES C. YOUNG, Jersey City, N. J. Filed Jan. 16, 1907. Serial No. 352,483.



1. In an electric smelting apparatus, a carbon forming one pole and a series of spaced receptacles mounted for rotation in a vertical plane and forming the other pole, whereby an arc is adapted to be established or interrupted between said receptacles, one at a time, and the carbon, substantially as described.

2. In an electric smelting apparatus, a carbon forming the one pole, a series of spaced receptacles mounted for rotation in a vertical plane and forming the other pole, whereby an arc is adapted to be established or interrupted between said receptacles, one at a time, and the carbon, and means for feeding material to said arc, substantially as described.

3. In an electric smelting apparatus, a carbon forming one pole, a series of spaced receptacles mounted for rotation in a vertical plane and forming the other pole, whereby an arc is adapted to be established or interrupted between said receptacles, one at a time, and the carbon, and a hopper adapted to feed material to said arc, substantially as described.

4. In an electric smelting apparatus, a carbon forming one pole, a series of spaced receptacles mounted for rotation in a vertical plane and forming the other pole, whereby an arc is adapted to be established or interrupted between said receptacles, one at a time, and the carbon, and a laterally movable hopper adapted to feed material to said arc, substantially as described.

5. In an electric smelting apparatus, a carbon forming one pole, a series of spaced receptacles mounted for rotation in a vertical plane and forming the other pole, whereby an arc is adapted to be established or interrupted between said receptacles, one at a time, and the carbon, a hopper adapted to feed material to said arc and means for agitating the material in said hopper and forcing it therefrom, substantially as described.

6. In an electric smelting apparatus, a carbon forming one pole, a series of spaced receptacles mounted for rotation in a vertical plane and forming the other pole, whereby an arc is adapted to be established or interrupted between said receptacles, one at a time, and the carbon, a hopper adapted to feed material to said arc and means rotatable in said hopper for agitating the material and forcing it therefrom, substantially as described.

7. In an electric smelting apparatus, a carbon forming one pole, a series of spaced receptacles mounted for rotation in a vertical plane and forming the other pole, whereby an arc is adapted to be established or interrupted between said receptacles, one at a time, and the carbon, a laterally movable hopper adapted to feed material to said arc and means rotatable in said hopper for agitating the material and forcing it therefrom, substantially as described.

8. In an electric smelting apparatus, a carbon forming one pole, a series of spaced receptacles mounted for rotation in a vertical plane and forming the other pole, whereby an arc is adapted to be established or interrupted between said receptacles, one at a time, and the carbon, a hopper having a perforated bottom and adapted to feed material to said arc, substantially as described.

9. In an electric smelting apparatus, a carbon forming one pole, a series of spaced receptacles mounted for rotation in a vertical plane and forming the other pole, whereby an arc is adapted to be established or interrupted between said receptacles, one at a time, and the carbon, a laterally movable hopper having a perforated bottom, and adapted to feed material to said arc, substantially as described.

10. In an electric smelting apparatus, a carbon forming one pole, a series of spaced receptacles mounted for rotation in a vertical plane and forming the other pole, whereby an arc is adapted to be established or interrupted between said receptacles, one at a time, and the carbon, a laterally movable hopper having a perforated bottom and adapted to feed material to said arc and means rotatable in said hopper for forcing the material therefrom, substantially as described.

11. In an electric smelting apparatus, a carbon forming one pole, a series of spaced receptacles mounted for rotation in a vertical plane and forming the other pole, whereby an arc is adapted to be established or interrupted between said receptacles, one at a time, and the carbon, a laterally movable hopper having a perforated bottom and adapted to feed material to said arc, and means rotatable in said hopper for agitating the material and forcing it therefrom, substantially as described.

12. In an electric smelting apparatus, an adjustable carbon forming one pole, and a series of spaced receptacles mounted for rotation in a vertical plane and forming the other pole, whereby an arc is adapted to be established or interrupted between said receptacles, one at a time, and said carbon, substantially as described.

13. In an electric smelting apparatus, an adjustable carbon forming one pole, a series of spaced receptacles mounted for rotation in a vertical plane and forming the other pole, whereby an arc is adapted to be established or interrupted between said receptacles, one at a time, and said carbon and means for feeding material to said arc, substantially as described.

14. In an electric smelting apparatus, an adjustable carbon forming one pole, a series of spaced receptacles mounted for rotation in a vertical plane and forming the other pole, whereby an arc is adapted to be established or interrupted between said receptacles, one at a time, and said carbon, means for agitating the material and means for feeding said material to said arc, substantially as described.

865,286. METALLIC WINDOW. WILLIAM E. ZAHNER, Kansas City, Mo. Filed July 31, 1906. Serial No. 328,593.

1. A sash having in one vertical edge a vertical groove open at one end, a longitudinal filler insertible in said groove through the open end thereof, and releasable means for closing said open end.

2. A sash having at one vertical edge a vertical groove open at one end, a longitudinal filler movable inward and outward horizontally in said groove and insertible and removable through the open end of the groove, releasable means for closing said open end of the groove, and means for normally forcing said filler normally horizontally outward.



3. A sash having at one vertical edge a vertical groove open at one end, a longitudinal filler movable horizontally inward and outward in the groove and insertible and removable through the open end of the groove, resilient means for normally forcing said filler horizontally outward, and releasable means for normally closing the open end of said groove.

4. A sash having at one vertical edge a vertical groove open at one end, a longitudinal filler movable horizontally inward and outward in said groove and insertible and removable through said open end of the groove, a plate for closing said open end, and releasable means for securing the plate to the sash.

5. A sash having at one vertical edge a vertical groove open at one end, a longitudinal filler horizontally movable inward and outward in said groove and insertible and removable through said open end, resilient means for normally forcing said filler horizontally outward, a plate for closing said open end of the groove, and means for securing the plate to the sash.

6. In a sheet metal sash, a tubular stile having in its outside edge a vertical groove, the groove having one open and one closed end, a removable closure for the open end, and a filler horizontally movable in said groove and insertible and removable through the open end of the groove when the closure is removed.

7. In a sheet metal sash, a tubular stile having in its outside edge a vertical groove, the groove having one open and one closed end, a removable closure for the open end, a filler horizontally movable in said groove and insertible and removable through the open end of the groove when the closure is removed, and means for normally forcing said filler horizontally outward.

8. In a sheet metal sash, a tubular stile having in its outside edge a vertical groove having one closed and one open end, a removable closure for the open end of the groove, a filler insertible and removable through said open end, and resilient means for normally forcing the filler horizontally outward in said groove.

9. A sheet metal sash having tubular stiles each having in its outer edge a vertical groove having one open and one closed end, removable closures for said open ends of said grooves, two fillers insertible and removable respectively through the open ends of said grooves when the closures are removed, and resilient means for normally forcing said fillers outward horizontally in said grooves.

10. In a sheet metal sash, the tubular sheet metal rails secured to the stiles, one of the stiles having in the side which forms the side edge of the sash a vertical groove, a vertical binder plate in said groove and connected to the stile at opposite sides of said groove a filler mounted longitudinally in said groove, and means for normally forcing said filler horizontally outward.

11. In a sheet metal sash, the tubular sheet metal rails secured to the stiles, one of the stiles having in the side which forms the side edge of the sash a vertical groove having one open and one closed end, a removable closure for the open end of the groove, a filler mounted lengthwise in said groove, and means for normally forcing the filler horizontally outward, the filler being insertible and removable through the open end of the groove when the closure is removed.

12. In a sheet metal sash, a sash stile comprising a channel formed vertical member, and a vertical binder plate of channel form secured immovably to and between

the sides of the channel formed member, the grooved side of the binder plate forming the outer vertical edge of the sash, the two parallel sides of the binder plate being folded over the vertical edges of the adjacent sides of the channel member.

13. In a sheet metal sash, sash stiles and rails each comprising a channel formed member and a binder plate secured immovably to and between the sides of the channel formed member and forming one edge of the sash, the binder plate having a chanel form and having its parallel sides secured to the adjacent sides of the channel member, the ends of the stiles being secured to the ends of the rails respectively.

14. A sheet metal sash comprising tubular stiles and rails, the inner sides of the stiles having each a vertical groove to receive the glass, and two vertical members between which the glass is secured intermediate the stiles, one of said members being secured at its ends to the rails, the other member having means for being releasably secured to the member secured to the rails.

15. In a sheet metal sash, the stiles formed of sheet metal and having each in the side forming the side edge of the sash a vertical groove, the rails secured to opposite ends of the stiles, one rail closing one end of each of said grooves, the other end of each groove being open, and removable closures mounted on the other rail and closing said grooves respectively at the open ends.

16. The combination with the frame, of the sash vertically slidable in the frame and having at one side edge a vertical groove, a filler disposed lengthwise in the groove and insertible and removable through one end of the groove while the sash is in operative position in the frame, and means for normally forcing the filler toward the frame.

17. The combination with the frame, of a sash vertically slidable in the frame and having at one side edge a vertical groove, a filler disposed lengthwise in said groove, and insertible in and removable from said groove and detachable from the sash and frame while the sash is in operative position in the frame, and means for normally forcing the filler laterally toward the frame.

18. A window frame having front and rear vertical stops between which the sashes slide and provided with a pocket opening extending the full width between the stops and the full length of travel of the sashes, and a pocket plate releasably secured to said frame and closing said opening.

19. A window frame having front and rear vertical stops between which the sashes slide and provided with a pocket opening extending the full width between the stops and the full length of travel of the sashes, a pocket plate for closing said opening, and means for releasably securing the pocket plate to the frame.

20. A window frame having front and rear vertical stops between which the sashes slide and provided with a pocket opening extending the full length of travel of the sashes and the full width between the stops, and a pocket plate secured to the frame and closing said opening, and provided with a vertical rib forming a parting strip to separate the sashes.

21. A window frame having front and rear vertical stops between which the sashes slide and provided with a pocket opening extending the full length of travel of the sashes and the full width between the stops, a pocket plate releasably secured to the frame and closing said opening and having a vertical channel formed rib on the side adjacent the sashes and serving as a parting strip to separate the sashes, and a vertical plate mounted in the channel of the rib on the side of the pocket plate distant from the sashes and serving to separate the sash weights.

22. A window frame having front and rear vertical stops between which the sashes slide and provided on each side with a pocket opening extending the full length of travel of the sashes and the full width between the stops, two pocket plates releasably secured to the frame and closing said openings and provided each with a vertical channel formed rib, two sashes vertically slidable between said stops and at opposite sides of said rib, two vertical plates secured respectively in the channels of said pocket ribs, and four sash weights secured two to each sash and disposed upon opposite sides of the adjacent ones of the last named vertical plates.

23. A window frame having front and rear vertical stops between which the sashes slide and provided at each side of the frame with a pocket opening extending the full length of travel of the sashes and the full width between the stops, two pocket plates releasably secured to the frame and closing respectively said openings and provided each with a vertical rib, forming a parting strip, and two sashes vertically slidable between the stops and at opposite sides of said rib.

24. A window frame having at each side next the sashes front and rear vertical stops, and provided at each side between the stops and the full length of travel of the sashes with a pocket opening, the sides of the frame at each side of each of said openings having a vertical groove facing the sashes, and two pocket plates releasably secured to the frame and closing respectively said openings each pocket plate having its vertical edges turned in a direction away from the sashes and fitted in the adjacent grooves of the frame.

25. A window frame having front and rear vertical stops at each side of the frame, and having at each side of the frame a pocket opening extending the full travel of the sashes and the full width between the stops, the sides of the frame at opposite edges of each of said openings having vertical grooves, the grooves being on the side of the frame adjacent the sashes, and two pocket plates releasably secured to the opposite sides of the frame and closing respectively said openings and provided each with a vertical rib which serves as a parting strip for the sashes the vertical edges of each pocket plate being turned away from the sashes and fitted in the adjacent grooves of the sides of the frame.

26. A window frame having front and rear stops at each side of the frame, and having at opposite sides of the frame two pocket openings which extend the full length of travel of the sashes and the full width between the adjacent stops, the sides of the frame at both sides of each pocket opening having vertical grooves, two vertical pocket plates releasably secured to opposite sides of the frame and closing said pocket openings and provided each at its vertical edges with flanges fitted in said grooves of the frame, each pocket plate having a vertical channel formed rib which serves as a parting strip for the sashes, and two plates secured respectively in said channels of opposite ribs respectively, the last named plates serving to separate the sash weights adjacent thereto and disposed at the sides of the frame distant from the sashes.

27. In a window frame, two bearing plates secured releasably to the vertical sides of the frame and extending the full length and width of the path of travel of the sashes, and serving as edge bearings for the sashes.

28. In a window frame, two bearing plates secured releasably to the vertical sides of the frame adjacent the sashes and extending the full length and width of the path of travel of the sashes and serving as bearings for the sashes, each plate having a vertical rib serving as a parting strip to separate the sashes.

29. The combination with the window frame, of a laterally adjustable vertical stop having a plurality of transverse slots, screws mounted in said slots respectively, and a plurality of members secured to the adjacent vertical side of the frame and provided with threaded openings to receive respectively said screws, the said members at the side adjacent the stop being each counter sunk around the threaded opening therethrough, so as to guide into said threaded opening the adjacent screw.

30. A device for receiving the threaded end of a screw comprising a body having a head and a screw threaded shank and provided with a threaded hole extending longitudinally through the head and shank, the head around said threaded hole having an annular recess beveled to said hole.

31. In a metal window, the combination with the frame, of the sash vertically slidable therein, one side edge of the sash having a vertical groove, a channel formed filler disposed lengthwise in said groove and adapted to bear against the adjacent side of the frame, the ends of the filler being turned toward the sash, the sash having means for holding the filler against lengthwise movement, and resilient means for normally forcing the filler against the frame.

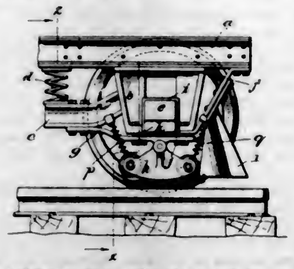
32. In a metal window, the combination with the frame, of the sash vertically slidable therein, one side edge of the sash having a vertical groove having an open and a closed end, a longitudinal filler insertible in and removable from the groove through the open end and adapted to bear against the frame, the ends of the filler being turned toward the sash, a removable closure on the sash for the open end of the groove, and resilient means for normally forcing the filler against the frame.

33. In a metal window, the combination with the frame having side bearing plates removably secured to the body of the frame and provided each with a vertical rib which serves as a parting strip to separate the sashes, vertical stops secured to the window frame at opposite vertical sides of the frame next the sashes and at opposite sides of said ribs, the sashes slidable at opposite sides of said ribs and between the stops, two fillers carried one on each sash and disposed vertically intermediate the sashes and the adjacent bearing plates respectively, and means for normally forcing the fillers laterally toward the adjacent bearing plates.

34. The combination with the frame, of the sash vertically slidable in the frame, and a longitudinal filler intermediate the sash and frame and vertically movable with the sash, and detachable from the sash and frame without removing the sash from operative position in the frame, the filler being movable toward and from the sides of the frame.

35. The combination with the frame, of the sash vertically slidable in the frame and having at one side edge a vertical groove, and a longitudinal filler in said groove and movable laterally relative to the sides of the frame, the filler being insertible in and removable from said groove and detachable from the sash and frame while the sash is in operative position in the frame.

865,287. SAFETY APPLIANCE FOR RAILROAD-CARS. JAMES T. ANDREW, Montgomery, Ala. Filed Mar. 18, 1907. Serial No. 362,975.



1. In a safety appliance for cars and locomotives, the combination of trucks and means carried thereby for automatically lifting said trucks and applying the braking action in case of accident, said means including spring supported shoes and anti-friction rollers located near each end of said shoes, substantially as described.

2. In a safety appliance for cars and locomotives the combination of trucks having side beams, pedestals and equalizers, of a pair of spring-controlled shoes for each wheel, on either side thereof, said shoes being each provided with anti-friction rollers near their ends, substantially as described.

3. In a safety appliance for cars and locomotives the combination of the car frame, pedestals, equalizer bars, car axle and journal box with a pair of shoes for each wheel each shoe being provided with anti-friction rollers near each end, one of said shoes being mounted on the car axle inside the car wheel, and a shoe frame bolted to the equalizer bar and carrying the other of said shoes, and hangers passing through said shoe frame and around said journal box, substantially as described.

865,288. TREAD FOR PNEUMATIC TIRES. ERLE K. BAKER and CHARLES G. HAWLEY, Chicago, Ill. Filed May 16, 1907. Serial No. 374,059.



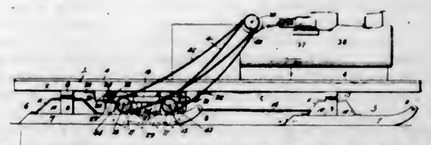
1. A resilient tire for vehicles, having a tread portion containing an interference strip of fabric, vulcanized therein, and also containing a large number of staple-like metallic parts having closed, rounded ends in substantial contact with said interference strip and presenting their ends at the surface of said tread portion, substantially as and for the purpose specified.

2. A pneumatic tire having a tread portion, containing an interference strip, vulcanized therein, and also containing a large number of diagonally positioned staple-like metallic parts having closed, rounded ends in substantial contact with said interference strip and presenting their ends at the surface of said tread portion, substantially as and for the purpose specified.

3. A pneumatic tire having a tread portion containing two interference strips of fabric, vulcanized therein, and also containing a large number of U-shaped metallic parts, extending through the outermost interference strip, having closed, rounded ends in substantial contact with the inner interference strip and presenting their ends at the surface of said tread portion, substantially as and for the purpose specified.

4. A pneumatic tire having a vulcanized tread portion, containing a large number of U-shaped metallic parts having closed, rounded ends and straight sides or legs, said metallic parts being embedded in said tread portion and presenting their open ends at the surface thereof, substantially as and for the purpose specified.

865,289. SELF-PROPELLED SLED. EDWARD F. BARTLETT, Houlton, Me. Filed Jan. 18, 1907. Serial No. 352,954.



1. A machine of the character described comprising a body, runners for supporting the same, a yieldably mounted frame upon said body, shafts mounted in said frame, eccentrics upon said shafts, eccentric straps upon said eccentrics, stepping bars connecting said eccentric straps, and means for rotating said shafts.

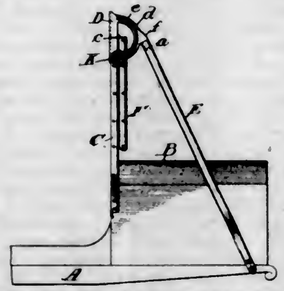
2. A machine of the character described comprising a body, runners for supporting the same, a frame mounted for vertical sliding movement upon said body, springs for forcing said frame downwardly, shafts mounted upon said frame, eccentrics upon said shafts, eccentric straps upon said eccentrics, stepping bars connecting said eccentric straps, and means for rotating said shafts.

3. A machine of the character described comprising a body, runners for supporting the same, a frame mounted for vertical sliding movement upon said body, springs for forcing said frame downwardly, shafts mounted upon said frame, eccentrics upon said shafts, eccentric straps upon said eccentrics, stepping bars connecting said eccentric straps, a motor upon said body, sprocket wheels upon said

motor and said shafts, and sprocket chains connecting said sprocket wheels, substantially as shown and described.

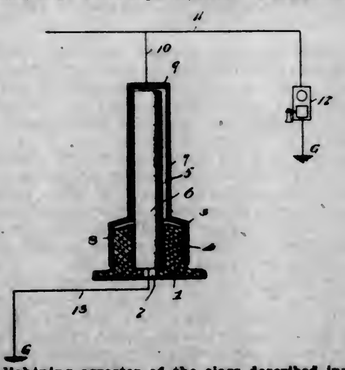
4. A machine of the character described comprising a platform, rocker beams connected thereto, front and rear sleds each comprising runners connected by cross beams, pivots connecting the cross beams of said runners and said rocker-bars, crossed connections between the front and rear sleds, a guide upon said platform, longitudinal beams slidably engaged with said guides, guide bolts depending from said platform and extending through said longitudinal beams, springs upon said guide bolts between said beams and said platform, bearings upon said longitudinal beams, transverse shafts journaled in said bearings, eccentrics upon said shafts, eccentric straps upon said eccentrics, stepping bars connecting said eccentric straps and provided with calks, and means upon said platform for rotating said shafts, substantially as shown and described.

865,290. WIND-SHIELD FOR VEHICLES. WALTER N. BEECHER, Chicago, Ill. Filed Jan. 16, 1907. Serial No. 352,638.



A wind-shield for vehicles comprising a stationary lower sash and an upper sash hinged thereto, a bracket secured to and projecting from the stile of the lower sash and extending up above the same and having a semicircular slot therein and a stud projecting from the edge thereof farthest from said stile, a brace having a socket in its upper end into which said stud enters and is secured and having its lower end secured to the body of the vehicle, a suitable block secured to the lower portion of the stile of the upper sash, and a screw extending through said slot and into said block and adapted to clamp said bracket against the same.

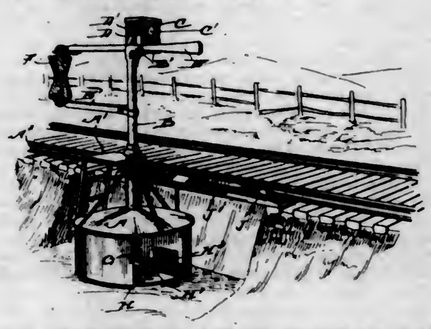
865,291. LIGHTNING-ARRESTER. WILLIAM J. BELL, Deerfield, Wis., assignor of one-third to Howell B. Fargo, Deerfield, Wis. Filed Sept. 25, 1906. Serial No. 336,102.



1. A lightning arrester of the class described involving a non-conductive base having an annular flange forming a socket, a carbon element extending a distance from said base and mounted in the said socket, and a metallic covering surrounding the carbon element of greater circumference than the latter to afford an air space between the said carbon element and the interior surface of the covering.

2. A lightning arrester including a non-conductive base having an annular flange forming a socket, a cylindrical carbon element removably mounted in the socket, a metallic covering correspondingly shaped to the carbon element and flange and supported by the latter, said covering being of increased interior diameter with respect to the circumference of the carbon element to form an air space between the said covering and carbon element throughout the free portion of the latter, a main line wire having connection with the covering, and a ground wire having connection with the carbon element.

865,292. MAIL-CRANE. JOHN BOUR, Sedalia, Mo. Filed Nov. 23, 1906. Serial No. 344,714.



1. A device of the kind described, comprising a rotatable post, pivoted arms carried by said post, means for rotating the post to throw the arms at right angles to a track, and an incandescent lamp, the lamp circuit being completed when the arms are parallel to each other.

2. A device of the kind described comprising a rotatable post, upper and lower arms connected thereto for supporting a mail sack, means for locking the post against rotation, means for automatically releasing the post and giving the same a one-fourth revolution at a predetermined time, a signal lamp adjacent the upper arm, and means for lighting said lamp when the arm is in an operative position.

3. A device of the kind described comprising a post, pivoted arms carried by the post for supporting a mail bag, a signal lamp carried by the post, a swinging arm bearing a transparent tinted panel, said arm being angled, and an angled plate carried by the arm to engage the angled end of the swinging arm and throw the panel into alinement with the lamp.

4. A device of the kind described comprising a rotatable post, arms carried thereby, a spring adapted to rotate the post in one direction, a lever carried by the post for rotating the same in the opposite direction, locking mechanism adapted to be engaged by said lever, releasing means included in an electric circuit normally open and means carried by a mail train for completing said circuit.

5. A device of the kind described comprising a rotatable post, a signal lamp supported by the post, batteries in circuit with said lamp, the circuit being broken at the top of the post, an arm for holding a mail sack pivotally carried by the post, the said circuit being closed when the arm is thrown into a horizontal position and means for automatically rotating the post and throwing the said arm into a position at right angles with respect to a track upon the approach of the mail train.

6. A device of the kind described comprising a rotatable post, a signal light carried thereby, a mail sack holding arm pivotally carried by the post, an electric circuit including the signal light, said circuit being automatically closed when the arm is thrown into operative position and broken when the arm falls into inoperative position, an arm carrying a disk forming a danger signal adapted to register with the signal light the last mentioned arm being engaged and brought into upright position by the first mentioned arm, and means for automatically throwing the first mentioned arm at right angles to a track and bringing the danger signal into view of an approaching train at a predetermined time.

7. A device of the kind described comprising a rotatable post, sack holding arms carried thereby, a lever connected to the post, a spring encircling the post and having one end bearing upon said lever, a lever provided with a hook end adapted to engage the first mentioned lever, an armature adapted to trip the last mentioned lever and release the lever carried by the post, electro-magnets for attracting the armature, an electric circuit including said magnets, said circuit being broken at a point adjacent a railway track, contact points arranged adjacent said track, and means carried by a moving train for bringing said contact points together thereby closing the circuit.

8. A device of the kind described comprising a rotatable post, pivoted arms carried thereby, a signal light carried thereby, a spring adapted to be wound by rotation of the post in one direction and to rotate the post upon unwinding, a lever carried by the post, a pivoted lever adapted to engage the one first mentioned and lock the post against rotation by the spring, electrically operated means for tripping said last mentioned lever, a transparent danger signal, said signal being engaged by one of the arms when thrown in the operative position bringing the danger signal into alinement with the signal light and holding it there, an electrical circuit including the signal light, said circuit being completed when the arm last mentioned is in operative position, an electrical circuit including the lever tripping means and broken adjacent a track, and means arranged in part adjacent the track and in part carried by a train for completing the last mentioned circuit.

865,293. BROOM. GEORG BAUSTLE, Stuttgart, Germany. Filed Mar. 21, 1907. Serial No. 363,703.

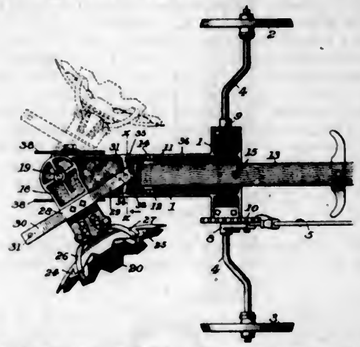


In a device for attaching brooms to handles, a socket or shell for the handle, arms pivoted to said socket and provided with inwardly extending points to engage the brooms, one of said arms being provided with a hook, and a chain adapted to be passed around the broom and the other arm, and attached to the hook, substantially as described and shown and for the purpose set forth.

865,294. PLOWING-MACHINE. GEORGE M. CLARK, Higganum, Conn. Filed Jan. 20, 1903. Serial No. 139,811.

1. In a plowing machine, the combination of a wheel mounted frame, an arm pivotally secured thereto, a rotary plowshare mounted on said arm, the latter being adapted to be secured in a position forward of its pivotal support and thus support said plowshare in working position forward and to the one side of said pivotal support, and also adapted to swing rearwardly around said pivotal support to a corresponding position on the opposite side thereof for reversing the plowshare.

2. In a plowing machine, the combination of a wheel mounted frame, an arm pivotally secured thereto, a concavo-convex revolving disk mounted on said arm with its convex side facing the pivotal support of said arm, the latter being adapted to support said disk forward and to the one side of the pivotal support of said arm, and also adapted to swing rearwardly around said pivotal support to a corresponding position on the opposite side thereof for reversing the disk, and means for locking said arm in either of its positions of adjustment.



3. In a plowing machine, the combination of a wheel mounted frame, an arm pivotally secured thereto, a rotary plowshare mounted on said arm, the latter being adapted to be secured in a position forward of its pivotal support and thus support said plowshare forward and to the one side of said pivotal support, and also adapted to swing rearwardly around said pivotal support to a corresponding position on the opposite side thereof for reversing the plowshare, and a rotary disk supported by said frame and adapted to hold the machine against the side thrust of the plowshare.

4. In a plowing machine, the combination of a wheel mounted frame, an arm pivotally secured thereto, a rotary plowshare mounted on said arm, the latter being adapted to be secured in a position forward of its pivotal support and thus support said plowshare forward and to the one side of said pivotal support, and also adapted to swing rearwardly around said pivotal support to a corresponding position on the opposite side thereof for reversing the plowshare, and spring latching mechanism for locking said arm in either of its positions of adjustment.

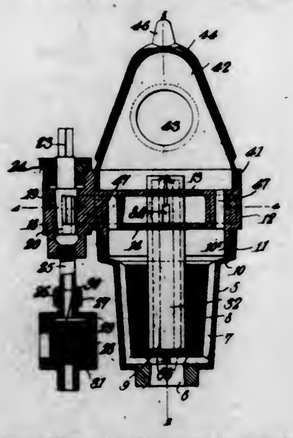
5. In a plowing machine, the combination of a wheel mounted frame, a swinging arm pivotally mounted thereon and adapted to be swung in a horizontal plane from one side to the other of its pivotal support, spring arms projecting from opposite sides of said swinging arm, each of said spring arms being provided with a latching member, a coöperating latching member on said frame with which the latching members on said arms may alternately engage for holding the swinging arm on one side or the other of its pivotal support, and a rotary plowshare mounted on said arm and adapted to be reversed by the movements thereof for turning a furrow to the right or left of the line of draft, substantially as described.

6. In a plowing machine, the combination of a wheel mounted frame, a swinging arm pivotally mounted thereon and adapted to be swung in a horizontal plane from one side to the other of its pivotal support, spring arms projecting from opposite sides of said swinging arms, each of said spring arms being provided with a latching member, a coöperating latching member on the main frame with which the latching members on said spring arms may alternately engage for holding the swinging arm on one side or the other of its pivotal support, a rotary plowshare mounted on said arm and adapted to be reversed by the movements thereof for turning a furrow to the right or left of the line of draft, and a lever for raising said spring arms and releasing the latching members, substantially as described.

7. In a plowing machine, the combination of a wheel-mounted frame, an arm pivotally secured to said frame and adapted to swing around the rear end thereof, means for locking said arm in a forward position on either side of its pivotal support, a rotary plowshare carried by said arm and adapted to be reversed by the swinging movement of said arm for turning a furrow to the right or left of the line of draft, and a rotary disk mounted on said frame below said arm and substantially between the two reverse positions of the plowshare.

8. In a plowing machine, the combination of a wheel-mounted frame, a driver's seat mounted thereon, an arm pivotally secured to said frame and adapted to swing in a horizontal plane around the rear end thereof, spring latching mechanism for securing said arm in a position forward of its pivotal support on either side thereof, a rotary plowshare carried by said arm and adapted to be reversed by the swinging movement of said arm for turning a furrow to the right or left of the line of draft, and means for releasing said latching mechanism, said means being within reach of the operator seated upon said seat.

865,295. HUMIDIFIER. ALFRED R. CLARKSON, Spartanburg, S. C. Filed Jan. 3, 1907. Serial No. 350,577.



1. In a humidifier, a liquid receptacle, a fluid receptacle, an atomizer having one end thereof communicating with the liquid receptacle and its opposite end extended through and communicating with the interior of the fluid receptacle, and means for controlling the supply of fluid to the latter receptacle.

2. In a humidifier, a liquid receptacle, a fluid receptacle having a plurality of compartments, an atomizer forming a source of communication between the liquid receptacle and the several compartments, and means for controlling the flow of fluid to said compartments.

3. In an atomizer, a casing, a liquid receptacle, a fluid receptacle, an atomizer housed within the casing and forming a source of communication between the liquid and fluid receptacles, a valve for controlling the supply of fluid to the fluid receptacle, and a screen interposed between the valve and fluid supply.

4. In a humidifier, a liquid receptacle, a fluid receptacle, a core extending within the liquid receptacle and provided with a longitudinal passage, and a port forming a source of communication between the longitudinal passage and the fluid receptacle.

5. In a humidifier, a liquid receptacle, a fluid receptacle having a partition defining a plurality of compartments, said partitions being provided with fluid receiving pockets, a core extending through said compartments and projecting within the liquid receptacle, ports communicating with the longitudinal passages, and passages forming a source of communication between the ports and the fluid receiving pockets.

6. In a humidifier, a liquid receptacle, a fluid receptacle having a partition defining a plurality of compartments, a core extending through the compartments and projecting within the liquid receptacle, said core being provided with longitudinal passages having ports communicating therewith and with the compartments, a cover forming an auxiliary compartment, and vent openings formed in the partition and communicating with the auxiliary compartment and liquid receptacle.

7. In a humidifier, a liquid receptacle, a fluid receptacle, a core extending within the liquid receptacle and projecting above the fluid receptacle, said core being provided with ports communicating with the liquid and fluid receptacles, a housing covering the fluid receptacle, openings connecting the interior of the cover and liquid receptacle, and a valve for controlling the supply of fluid to the fluid receptacle.

8. In a humidifier, a liquid receptacle, a fluid receptacle having spaced heads connected by a transverse partition forming a plurality of compartments, a core projecting above one of the heads and extending within the liquid receptacle, said core being provided with longitudinal passages, discharge ports communicating therewith, pockets formed in the core and communicating with the fluid compartments, and a valve for controlling the supply of fluid to the compartments, there being inclined passages connecting the ports and the pockets.

9. In a humidifier, a liquid receptacle, a fluid receptacle having spaced heads and provided with a transverse partition forming independent compartments, a core projecting above one of the heads and extending within the liquid compartment, said core being provided with longitudinal passages and having discharge ports communicating with the passages, pockets formed in the core and opening in the compartments, there being inclined openings connecting the ports and pockets, respectively, a dome forming a housing for the ports and provided with discharge openings, a cover closing the discharge openings, and a valve for controlling the supply of fluid to the compartments.

10. In a humidifier, a liquid receptacle, a fluid receptacle provided with spaced heads and having a transverse partition defining compartments, a core having one end thereof extended above one of the heads and its opposite end projected through said compartments and extended within the liquid receptacle, said core being provided with longitudinal passages having discharge ports communicating therewith, and fluid containing pockets formed in the core and communicating with the compartments and ports, respectively.

11. In a humidifier, a liquid receptacle, a fluid receptacle having spaced heads and provided with a transverse partition forming a plurality of compartments, a core projecting above one head and extended through the compartments and projecting within the liquid receptacle, said core being provided with longitudinal passages and having discharge ports communicating therewith, there being fluid pockets formed in the core and connected with the ports, said partitions being provided with spaced openings piercing the heads of the fluid receptacle and communicating with the liquid receptacle.

12. In a humidifier, a liquid receptacle, a fluid compartment provided with spaced heads and having a transverse partition defining a plurality of compartments, said fluid receptacle being provided with a lateral enlargement having a valve seat formed therein and provided with fluid passages communicating with the valve seat and compartments, a core projecting above one of the heads of the fluid receptacle and extending within the liquid receptacle, said core being provided with longitudinal passages having discharge ports communicating therewith and with the interior of the compartments, a valve mounted in the valve-seat and adapted to register with the fluid ports, and a source of fluid supply connected with the valve.

13. In a humidifier, a liquid receptacle provided with a laterally extending shoulder and terminal flange, a fluid receptacle having a plurality of compartments and provided with a depending flange resting on the shoulder, an atomizer disposed within the liquid receptacle and extending through and communicating with the several compartments, respectively, and a valve for controlling the supply of fluid to the compartments.

14. In a humidifier, a liquid receptacle having an intake at one end thereof and provided at its opposite end with an inclined shoulder defining a vertically disposed flange, a fluid receptacle provided with compartments and having a depending flange resting on the inclined shoulder, a core extending through the compartments and projecting within the liquid receptacle, said core being provided with longitudinal passages having ports communicating therewith and with the interior of the compartments, a housing engaging the fluid receptacle and provided with discharge openings, a cover inclosing the discharge openings, a valve for controlling the supply of fluid to the compartments, and a source of fluid supply connected with the valve.

15. In a humidifier, a liquid receptacle, a fluid receptacle provided with oppositely disposed heads and having a transverse partition defining separate compartments, a core extending through the compartments and projecting within the liquid receptacle, said core being provided with longitudinal passages having ports communicating therewith and with the interior of the compartments, a valve for controlling the supply of fluid to the compartments, there being openings extending vertically through the heads of the fluid receptacle, cleaning ports formed in the walls of the compartments of said receptacle, and plugs for normally closing the cleaning ports.

16. In a humidifier, a liquid receptacle, a fluid receptacle provided with spaced heads having a transverse partition defining a plurality of compartments, a core projecting above one of the heads and extending through the compartments and within the liquid receptacle, said core being provided with longitudinal passages having ports communicating therewith, a housing covering the ports and provided with discharge openings, there being inclined openings formed in the core and communicating with the compartments and ports, respectively, said openings being disposed in alinement with the discharge openings in the housing, a source of fluid supply communicating with the compartments, and a valve for controlling the supply of fluid to said compartments.

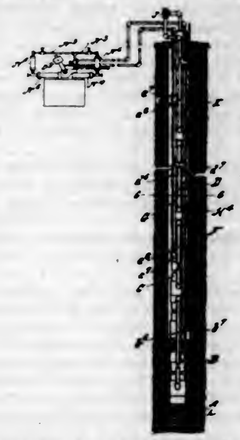
17. In a humidifier, a liquid receptacle having an intake and provided with spaced ribs extending vertically of the walls of the receptacle and between said walls and the intake at the bottom of the receptacle, a screen resting on said ribs, a fluid receptacle having spaced heads and provided with a transverse partition defining compartments, a core projecting above one of the heads and extending through the compartments and projecting into the liquid receptacle, said core being provided with longitudinal passages having ports communicating therewith and with the interior of the compartments, a liquid supply pipe communicating with the interior of the compartments, and a valve for controlling the supply of fluid to said compartments.

18. In a humidifier, a liquid receptacle, a fluid receptacle, an atomizer forming a source of communication between the two, a fluid supply pipe, a valve connected with one end of the supply pipe for controlling the flow of fluid to the fluid receptacle, a box engaging the opposite end of the fluid pipe and provided with spaced shoulders defining an intermediate recess communicating with the fluid pipe, and a screen disposed within the box and bearing against said shoulders.

19. In a humidifier, a casing, a liquid receptacle, a fluid receptacle, an atomizer housed within the casing and forming a source of communication between said receptacles, and means for controlling the supply of fluid to the fluid receptacle.

20. In a humidifier, a casing, a liquid receptacle, a fluid receptacle, an atomizer forming a source of communication between the two, a dome covering one end of the atomizer and provided with a discharge opening, a cover for regulating the discharge through said opening, and means for controlling the supply of fluid to the fluid receptacle.

865,296. MEANS FOR ACTUATING FLUIDS. RUDOLPH CONRADER, Erie, Pa. Filed Feb. 24, 1903, Serial No. 144,712. Renewed Jan. 14, 1907. Serial No. 352,293.



1. In an apparatus for actuating liquids, the combination of a pump chamber; means for conveying liquid from said chamber; a connection between said chamber and a source of actuating fluid supply; a by-pass leading from said connection said by-pass leading to the well and having a minute opening; a motor connected with said by-pass at the opposite side of the minute opening from the connection; a passage for permitting the leak from said minute opening to an exhaust; and means actuated by the liquid in the well for closing said passage.

2. In an apparatus for actuating liquids, the combination of a pump chamber; means for conveying liquid from said chamber; a connection between said chamber and a source of actuating fluid supply; a by-pass leading from said connection said by-pass leading to the well and having a minute opening; a motor connected with said by-pass at the opposite side of the minute opening from the connection; a passage for permitting the leak from said minute opening to an exhaust; and means actuated by the liquid in the well outside of the pump chamber for closing said passage to the exhaust.

3. In an apparatus for actuating liquids the combination of a pump chamber; means for conveying liquid from said chamber; a connection between said chamber and a source of actuating fluid supply; means controlled by liquid in the well for opening said connection; and a main valve mechanism for controlling the pumping action after the connection is open.

4. In an apparatus for actuating liquids the combination of a pump chamber; means for carrying liquid from said chamber; a connection between said chamber and a source of actuating fluid supply; means controlled by liquid in the well for opening and closing said connection; and a main valve mechanism for controlling the pumping action after the connection is open.

5. In an apparatus for actuating liquids the combination of a pump chamber; means for conveying liquid from said chamber; a connection between said chamber and a source of actuating fluid supply; means controlled by liquid in the well for opening said connection; and a main valve mechanism controlling said main valve action being arranged to alternately open said connection to the air supply and to an exhaust.

6. In an apparatus for actuating liquids the combination of a pump chamber; means for conveying liquid from said chamber; a connection between said chamber and a source of actuating fluid supply; means controlled by liquid in the well for opening said connection; a main valve mechanism for controlling the pumping action after the connection is open, said valve being arranged at a

distance remote from the pump chamber as at the top of the well.

7. In an apparatus for actuating liquids the combination of the pump chamber; means for conveying liquid from said chamber; a connection between said chamber and a source of actuating fluid supply; a valve controlling said connection; a motor controlling said valve, said motor being at a distance from the pump chamber as the top of the well; means actuated by the liquid in the well for controlling said motor and a main or pumping action for controlling the pumping valve after the connection is open.

8. In an apparatus for actuating liquids the combination of a pumping chamber arranged to actuate liquid by bringing an actuating fluid in direct contact therewith; a valve mechanism adapted to control a heated fluid so as to effect a pumping action; means for conveying liquid from said pump chamber and a return connection to the well.

9. In an apparatus for actuating liquids by the direct contact of the actuating fluid with the liquid, the combination of a pump chamber; means for conveying liquid from said chamber by introducing the actuating fluid above the liquid and forcing the liquid from said chamber; a valve mechanism used to control a heated actuating fluid for effecting a pumping action and a return connection to the well from the means for conveying liquid from said chamber.

10. In an apparatus for actuating liquid by direct contact of the actuating fluid with the liquid, the combination of a series of pump chambers; a valve mechanism adapted to control a heated actuating fluid and introduce it to alternate chambers in said series alternately; means for conveying liquid from one to the other of said chambers and for conveying liquid from the last of the series of chambers to the well.

11. In an apparatus for actuating liquids in Artesian wells the combination of a series of cylindrically shaped pump chambers; headers for said chambers having ducts leading to one side of said chambers; and pipes for conveying actuating fluid to said chambers connected with said chambers through said headers, said pipes being arranged entirely at one side of said chambers.

12. In an apparatus for actuating liquids in Artesian wells the combination of a series of pump chambers connecting pipes supporting said chambers separate from the pipes conveying actuating fluid; and pipes for conveying actuated fluid from said chambers arranged entirely at one side of said pumping chambers.

13. In an apparatus for actuating liquids in Artesian wells the combination of a series of chambers; supporting pipes connecting said chambers, said pipes being separate from the pipes conveying actuating fluid to said chambers and actuated fluid from said chambers, said pipes conveying actuating and actuated fluid being arranged entirely at one side of said chambers and connecting pipes.

14. In an apparatus for actuating liquids in Artesian wells the combination of a series of pump chambers; connecting and supporting pipes being in a line with said chambers of approximately the diameter of said chambers, said supporting pipes being separate from the air pipes conveying actuated fluid from said chamber and said pipes for conveying actuating fluid.

15. In an apparatus for actuating liquids in Artesian wells the combination of a series of pump chambers; connecting and supporting pipes being in a line with said chambers of approximately the diameter of said chambers, said supporting pipes being separate from the air pipes conveying actuating fluid arranged entirely at one side of said chambers and connecting pipes.

16. In an apparatus for actuating liquids in Artesian wells the combination of a series of pump chambers having headers with ducts leading to the side of the chambers and connecting or supporting pipes secured to said headers and arranged in line with the pump chambers; and pipes for conveying actuating fluid to said chambers through said headers.

17. In an apparatus for actuating fluids in Artesian wells the combination with the pump chambers B and C; the headers thereon having ducts leading to the sides of the chamber; the eduction tubes b^6 and c^6 and the air pipes F and G connected with said chambers through said headers.

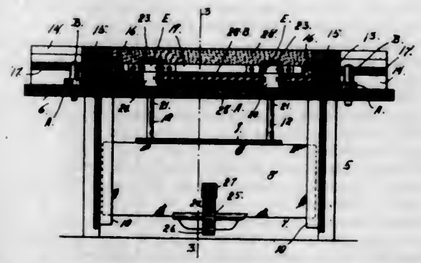
18. In an apparatus for actuating liquids, the combination with the pump chamber B having the header B^3 thereon with the passage B^4 and b^3 therein, the header at the bottom of said chamber having the elbow b^5 extending therefrom and check valve B^2 therein; and a float b' arranged in said chamber adapted to operate upon the passages b^2 and b^3.

19. In an apparatus for actuating liquids the combination with the chamber B of a header B^3 having a lateral passage B^4, passage b^3 and an upwardly extending fitting for connecting the support for the chamber and an air pipe connected with the passage B^4.

20. In an apparatus for actuating fluids the combination of a pump chamber; a connection for carrying actuating fluid to said chamber; a valve mechanism controlling said connection; a motor controlling said valve mechanism, said valve mechanism controlling a valve for a passage leading to the motor; an exhaust valve for said motor; and means for opening said exhaust valve after the closing of the supply to said motor.

21. In an apparatus for actuating fluids the combination of a pump chamber; a connection for carrying actuating fluid to said chamber; a valve mechanism controlling said connection; a motor controlling said valve mechanism, said valve mechanism controlling a valve for a passage leading to the motor; an exhaust valve for said motor; means for opening said exhaust valve after the closing of the supply to said motor; a cam operated by said motor; and means operated by the cam for operating said exhaust valve.

865,297. MOLD FOR PORTABLE WALL BLOCKS OR SECTIONS. HUGH B. COPELAND, Denver, Colo. Filed Oct. 29, 1906. Serial No. 341,072.



1. The combination with a mold of the class described, of vertical hollow cores mounted thereon and projecting into the chamber of the mold, said cores arranged to support an anchoring bar and metal caps for the purpose set forth.

2. A mold for portable wall blocks having hollow bifurcated cores mounted therein adapted to maintain an anchoring bar, said cores being fitted with metal caps substantially as described.

865,298. TIME-FUSE. HERMANN DAHLKE, Dreysepiatz, Germany, assignor to Rheinische Metallwaren-und Maschinenfabrik, Düsseldorf-Derendorf, Germany. Filed Sept. 6, 1905. Serial No. 277,274.



1. In a fuse, the combination, with a fuse-body carrying a time train, of a collar of relatively harder metal surrounding the same in the plane of the train to prevent upsetting thereof by the set-back upon firing.

2. In a fuse, the combination, with a fuse body, and a time train carried thereby, of a highly resistant collar separating the time train from the fuse body to prevent injury to the train by the set-back upon firing.

3. In a fuse, the combination, with a fuse body having its stem bored out to receive the firing mechanism, and a time ring surrounding said stem, of a collar of highly resistant metal arranged about the stem inside the time ring to prevent the upsetting of the stem and the consequent deformation of the time ring by the set-back.

4. In a fuse, the combination, with a fuse body having its stem bored out to receive the firing mechanism, and a time ring surrounding said stem, of a collar of highly resistant metal arranged about the stem inside of the time ring and provided with an outwardly extending flange underlying the time ring, to prevent the upsetting of the stem and protect the action of the fuse against the effect of set-back.

5. In a fuse, the combination, with a fuse body having its stem bored out to receive the firing mechanism, and a double time ring surrounding said stem, of a collar of highly resistant metal arranged about the stem inside the time ring and provided with an outwardly extending flange underlying the time ring, to prevent the upsetting of the stem and protect the action of the fuse against the effect of set-back.

6. The combination, with a fuse body having its stem bored out to receive the firing mechanism, and a double time ring surrounding said stem, of a collar of highly resistant metal arranged about the stem inside the time ring and provided with an outwardly extending flange underlying each portion of the double time ring, to prevent the upsetting of the fuse body and the consequent deformation of the time ring upon firing.

7. The combination, with a fuse body having its stem bored out to receive the firing mechanism, and a double time ring surrounding said stem, of a stepped collar of highly resistant metal arranged about the stem inside the time rings and provided at its lower portion with an outwardly extending flange, the upper time ring resting upon the stepped portion of the collar and the lower time ring resting upon the flange, to prevent the upsetting of the fuse-body and the consequent deformation of the time rings upon firing.

8. In a fuse, the combination, with a fuse body arranged to be fitted to a projectile, of a time train isolated from the fuse body by an incombustible non-distortable shield.

9. In a fuse, the combination, with a fuse body, and a time train, of incombustible non-distortable means independent of the fuse body for supporting the time train.

10. In a fuse, the combination, with a fuse body arranged to be fitted to a projectile, and a time train, of non-distortable means interposed between the time train and fuse body to prevent the action of the former being affected by distortion of the latter due to set-back.

11. In a fuse, the combination, with a fuse body arranged to be fitted to a projectile, and a time train, of an incombustible non-distortable shield interposed between the train and the fuse body to prevent the action of the former being affected by distortions of the latter due to set-back.

12. In a fuse, the combination, with a fuse body, and a time train, of incombustible non-distortable means underlying and supporting the train to protect its action against set-back.

13. In a fuse, the combination, with a fuse body arranged to be fitted to a projectile, and a time train, of incombustible non-distortable means underlying the time train and separating the train from the fuse body to prevent the action of the train being affected by distortion of the fuse body due to set-back.

14. In a fuse body, the combination, with a fuse body arranged to be fitted to a projectile, and a time train, of a non-distortable shield arranged about the fuse body and beneath the train to protect the latter from injury due to deformation of the former.

15. In a fuse, the combination, with a fuse body, of a time train, and an incombustible and non-distortable supporting annulus arranged between the base of the fuse body and the train.

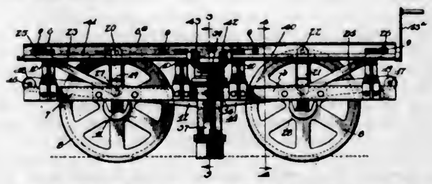
16. The combination, with a fuse body, adapted to be seated in a projectile, and a time train carried thereby, of a highly resistant collar separating the time train from the fuse body without and independent of the projectile to prevent the upsetting of the fuse body and the consequent deformation of the train by the set-back.

17. In a fuse, the combination, with a fuse body adapted to be seated in a projectile and having its stem bored out to receive the firing mechanism, and a time ring surrounding said stem, of a collar of highly resistant metal arranged about the stem inside the time ring and without and independent of the projectile to prevent the upsetting of the stem and the consequent deformation of the time ring by the set-back.

18. In a fuse, the combination, with a fuse body adapted to be seated in a projectile and having an integral stem bored out to receive the firing mechanism, and a time ring surrounding said stem, of a collar of highly resistant metal arranged about the stem inside of the time ring and without and independent of the projectile and provided with an outwardly extending flange underlying the time ring, to prevent the upsetting of the stem and protect the action of the fuse against the effect of set-back.

19. In a fuse, the combination, with a fuse body adapted to be seated in a projectile and having an integral stem bored out to receive the firing mechanism, and a double time ring surrounding said stem, of a collar of highly resistant metal arranged about the stem inside the time ring and without and independent of the projectile and provided with an outwardly extending flange underlying the time ring, to prevent the upsetting of the stem and protect the action of the fuse against the effect of set-back.

865,299. VEHICLE FOR CARRYING BRICK. JOHN J. GLEDHILL, St. Louis, Mo. Filed Apr. 5, 1906. Serial No. 309,988.



1. In a vehicle of the class described, the combination with a movable supporting frame, of a rigid frame, a yoke secured to said frame, rollers secured thereto, a series of levers secured to said frame and seated on said rollers, and means for actuating said levers.

2. In a vehicle of the class described, the combination with an upper movable frame and a lower rigid frame, of means for changing the elevation of said movable frame, said means comprising a yoke mounted on said rigid frame, rollers mounted on said yoke, screw means for varying the elevation of said yoke, a series of lifting levers pivotally secured to said frames, one end of each of said levers engaging one of said rollers.

3. In a vehicle of the class described, the combination with an upper movable frame and a lower rigid frame, of means for changing the elevation of said movable frame, said means comprising a yoke mounted on said rigid frame, rollers mounted on said yoke, screw means for varying the elevation of said yoke, comprising a screw, crank shaft and connecting gearing, and a series of lifting levers pivotally secured to said frames, one end of each of said levers engaging one of said rollers.

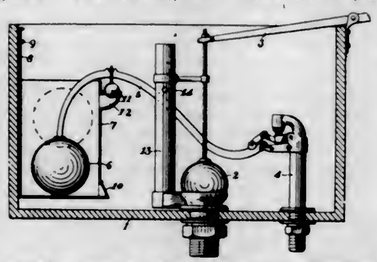
4. In a vehicle of the class described, the combination with an upper movable frame and a lower rigid frame, of means for changing the elevation of said movable frame, said means comprising a yoke mounted on said rigid frame, rollers mounted on said yoke, screw means for varying the elevation of said yoke, comprising a screw, crank shaft and connecting gearing, and a series of lifting levers

pivotally secured to said frames, one end of each of said levers engaging one of said rollers.

5. In a vehicle of the class described, the combination with an upper movable frame and a lower rigid frame, of means for changing the elevation of said movable frame, said means comprising a yoke mounted on said rigid frame, rollers mounted on said yoke, screw means for varying the elevation of said yoke, comprising a screw mounted on said yoke, a crank shaft and connecting gearing, and a series of lifting levers pivotally secured to said frames, one end of each of said levers engaging one of said rollers.

6. In a vehicle of the class described, the combination with a rigid frame, a movable frame, a yoke mounted on said rigid frame, rollers mounted on said yoke, lifting levers pivotally secured to said frame and loosely mounted on said rollers, means for operating said lifting levers whereby the elevation of said movable frame is varied, said means comprising a screw seated in said yoke, a threaded bearing secured to said rigid frame, a crank shaft, and gearing connecting said crank shaft and screw.

865,300. FLUSH-TANK. OSCAR F. GLIDDEN, Grand Rapids, Mich. Filed Oct. 24, 1905. Serial No. 284,219.



1. In a flush tank, a stand pipe in communication with the flush pipe below the flush valve and having a restricted opening near the upper water level, a supply valve of greater capacity than said opening, and means for closing the supply valve after water has risen and flowed through said restricted opening to supply the "after fill."

2. In a flush tank, an overflow pipe connected to the flush pipe at the bottom and open at the top, a restricted opening in the side of said pipe near the water level, a supply valve of greater capacity than said opening, a float to operate the valve, a separate tank for the float, and means for filling the separate tank after the water has risen to said restricted opening and flowed through the same.

3. In a flush tank, the combination of an outer tank, an inner tank, a supply valve, a lever to operate the valve and extending within the inner tank, a float on said lever, an outlet valve near the bottom of the inner tank, and an inlet valve near the top of the inner tank and connected to the float lever.

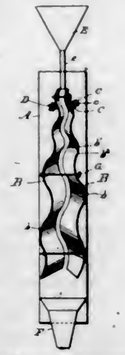
4. In a flush tank, an outer tank, a pipe connected to the flush pipe at its lower end and having a restricted opening near the water level, an inner tank, a supply valve of greater capacity than said opening, a lever to operate the said valve and extending over the top of the inner tank and downward within the same, a float attached to the end of the lever, a valve to admit water to the inner tank, and means for connecting the valve to the float lever.

5. In a flush tank, the combination of an outer tank, an inner tank vertically adjustable therein, an outlet valve near the bottom of the inner tank, an inlet valve near the top of the inner tank, a supply valve, a lever to operate the supply valve and extending within the inner tank, a float in the inner tank and attached to said lever, and means for connecting the inlet valve with the lever.

6. In a flush tank, a stand pipe having a restricted opening in its side near the upper water level, an outer tank a smaller tank within the outer tank, and adjustably attached thereto, a supply valve in the outer tank, a float in the inner tank, a lever connecting the float with the supply valve, an outlet check valve near the bottom of the inner tank, an inlet valve near the top of the inner tank, said inlet valve being connected to the lever, and opened thereby.

7. In combination, a flushing tank, an inlet valve thereto, an outlet valve, an overflow-tube provided with a small hole near its upper end; with means whereby the inlet valve is closed after the water level in the tank has risen above the small hole in the overflow tube.

865,301. CLASSIFIER. SNYDER L. HAGUE, Salt Lake City, Utah; William Igleheart special administrator of said Hague, deceased. Filed Sept. 26, 1905. Serial No. 280,182.



1. A classifier comprising approximately vertically supported corrugated plates, mutually divergent from their supported edges, as herein set forth.

2. A classifier comprising vertical corrugated plates mutually divergent from their inner edges, each of said corrugations being wider than the one above it, as described.

3. A classifier comprising a vertical support, vertical corrugated plates adjustably secured to said support, and means to maintain the unattached edges of said plates, in the desired position, as described.

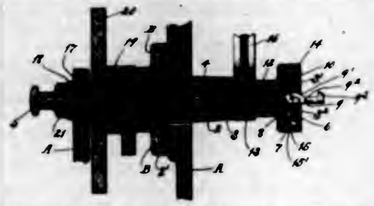
4. A classifier comprising approximately parallel, mutually divergent and vertically disposed corrugated plates said corrugations inclining downwardly in the direction of their divergence and means to receive and convey away the classified material, as herein set forth.

5. A pulverized metallic ore classifier composed of a vertical support, corrugated plates having lateral, slotted ears, set screws adapted to secure said plates to said support through said slots, thumb screws adapted to maintain the unattached edges of said plates in operative position, said corrugations being angular or curved and inclined downward from their inner edges, the projections on each plate being opposite the depressions on the other plate, as herein set forth.

6. In a classifier a series of adjustable smooth surfaces, in two rows approaching the vertical, diverging from the common axis of convergence and slanting downward as the distance increases horizontally from said axis of convergence; said surfaces being so arranged that material dropped between the two rows and upon the upper of said surfaces will strike each of said surfaces going from one row to the other alternately, as it passes downward.

865,302. CLUTCH MECHANISM. BENOT M. W. HANSON, Hartford, Conn., assignor to Pratt & Whitney Company, Hartford, Conn., a Corporation of New Jersey. Filed Aug. 9, 1905. Serial No. 273,477.

1. The combination, with framework, of a sleeve-bearing projecting therefrom; a tubular driving-shaft mounted in said sleeve-bearing, and having a chambered head; a clutch-plunger having a transverse slot mounted in the chamber of the head; a spring for throwing said clutch-plunger in one direction; a rod movable in the bore of the driving-shaft, and having its end shaped to enter said transverse slot, and actuate the clutch-plunger against the stress of the spring; a power-transmitting sleeve surrounding the driving-shaft and its chambered head; and a complemental clutch-element carried by said sleeve.



2. The combination, with a sleeve-bearing, and with means for supporting the same, of a tubular driving-shaft having a chambered head; a transversely-slotted clutch-plunger mounted in the chamber of said head; a spring for throwing said clutch-plunger in one direction; a rod movable in the tubular driving-shaft, and having an inclined portion entering the slot of the clutch-plunger, and serving to actuate said plunger against the stress of the spring; and a sleeve surrounding said driving-shaft and its chambered head.

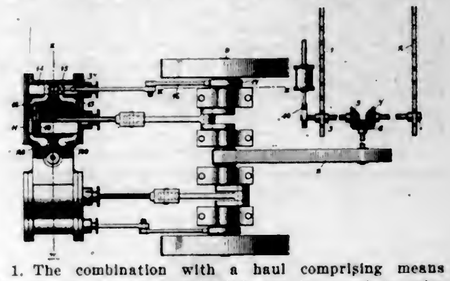
3. The combination, with a sleeve-bearing, of a tubular driving-shaft mounted therein, said shaft having a chambered head; a clutch-plunger mounted in the chamber of said head; a spring backing said clutch-plunger; a rod mounted in the bore of the driving-shaft; means carried by said rod for actuating the clutch-plunger against the stress of the spring; a sleeve surrounding the driving-shaft, and having a head enveloping the head of said driving-shaft; a clutch-element carried by the sleeve; and a power-transmitting element also carried by the sleeve.

4. The combination, with a sleeve-bearing, of a tubular driving-shaft mounted in said sleeve-bearing, said driving-shaft having a chambered head; a transversely-slotted clutch-plunger mounted in the chamber of said head; a helical spring backing said plunger; a rod movable in a bore of the driving-shaft, and having a head provided with inclined and straight portions, said head passing through the slot of the plunger; a power-transmitting sleeve loose on the driving-shaft, and also having a head surrounding the head of said driving-shaft; a clutch-element carried by the head of the sleeve; and means for actuating said tubular driving-shaft.

5. The combination, with a bearing-sleeve, of a tubular driving-shaft mounted in said bearing-sleeve, said driving shaft having a chambered head; a transversely-slotted clutch-plunger movable in the chamber of said head; a spring for normally throwing said clutch-plunger to its clutching-position; a rod mounted in the bore of the driving-shaft; a manipulating-device carried by said rod; a head on the slotted end of the rod, said head passing through the slot of the clutch-plunger, and having inclined and straight portions and a stop projection; a power-transmitting sleeve having a head conforming to the head of the driving-shaft, said sleeve being loosely-mounted on the driving-shaft; and a clutch-element carried by the sleeve, and coöperating with said clutch-plunger.

6. The combination, with a bearing-sleeve, of a tubular driving-shaft mounted in said sleeve and having a chambered head; a transversely-slotted clutch-plunger movable in the head; a spring for throwing said clutch-plunger to its clutching-position; a rod movable in the bore of the driving-shaft, and having a manipulating knob; a flattened head on said rod, said flattened head having inclined and straight portions and a stop, and being movable in the slot of the clutch-plunger; a clutch-lock carried by the clutch-plunger; a power-transmitting sleeve surrounding the driving-shaft, and having a head encircling the head of said driving-shaft; and a plug carried by the head of said power-transmiting sleeve, and having a notch to receive the tooth of the clutch-plunger.

865,303. MINE-HAUL. FORD W. HARRIS, Wilkinsburg, Pa. Filed Feb. 19, 1906. Serial No. 301,956.



1. The combination with a haul comprising means whereby the lowering of loaded cars is caused to raise empty cars, of means for storing the excess of energy exerted by the lowering of the loaded cars over that required to raise the empty cars, and for utilizing the stored energy to operate the haul when it is not operated by the loaded cars.

2. The combination with a haul comprising means whereby the lowering of loaded cars is caused to raise empty cars, of means for storing the excess of energy exerted by the lowering of the loaded cars over that required to raise the empty cars, and for utilizing the stored energy to operate the haul when it is not operated by the loaded cars and means for causing the character of the aforesaid means to change automatically.

3. The combination with a haul comprising means whereby the lowering of loaded cars is caused to raise empty cars, of means for utilizing the excess of energy exerted by the lowering of the loaded cars over that required to raise the empty cars to compress fluid and for utilizing the compressed fluid to operate the haul when it is not operated by the loaded cars.

4. The combination with a haul comprising means whereby the lowering of loaded cars is caused to raise empty cars, of means for utilizing the excess of energy exerted by the lowering of the loaded cars over that required to raise the empty cars to compress fluid and for utilizing the compressed fluid to operate the haul when it is not operated by the loaded cars and means for causing the character of the aforesaid means to change automatically.

5. The combination with a haul comprising means whereby the lowering of loaded cars may be caused to raise empty cars, of a device that may be operated as a fluid compressor when the power exerted by the lowering of the loaded cars exceeds that required to raise the empty cars and that may be caused to operate as a prime mover for the haul when it is not operated by the loaded cars.

6. The combination with a haul comprising means whereby the lowering of loaded cars may be caused to raise empty cars, of a device that may be operated as a fluid compressor when the power exerted by the lowering of the loaded cars exceeds that required to raise the empty cars and that may be caused to operate as a prime mover for the haul when it is not operated by the loaded cars and means for causing the device to change its character automatically.

7. The combination with means that may either receive or yield power, of other means that are connected thereto and that may also either receive or yield power automatically, the function of the latter means changing automatically in accordance with the speed of operation thereof.

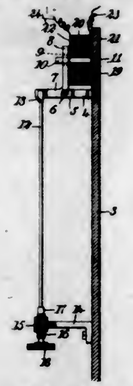
8. The combination with means that may either receive or yield power, of other means that are connected thereto and that may also either receive or yield power, the function of the latter means changing automatically in accordance with the speed of operation thereof, and the functions of the respective means being different at a given instant.

9. The combination with a haul that is normally operated by the lowering of loads, of means for storing the excess of energy exerted by the lowering of the loads and for utilizing the stored energy to operate the haul when there are insufficient loads available for the purpose, and

means for causing the character of the aforesaid means to change automatically.

10. The combination with means that is normally actuated by gravity and that may yield an excess of energy, of means for storing the excess of energy and for utilizing the stored energy to effect operation of the aforesaid means when gravity alone is incapable of effecting operation thereof, and means for causing the function of the energy storing and utilizing means to change automatically.

865,304. THERMOSTAT. JAMES M. HARRISON, New York, N. Y. Filed Nov. 14, 1906. Serial No. 343,375.

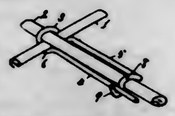


1. The combination of a plurality of carbon disks provided with apertures, a pin extending through said apertures for supporting said carbon disks, and heat-controlled mechanism for forcing said carbon disks together with varying degrees of pressure.

2. A thermostat comprising a number of bodies of conducting material provided with apertures, a supporting member extending through said apertures for sustaining said bodies, and means controllable by temperature for varying the degree of pressure upon said bodies.

3. A thermostat comprising a plurality of bodies of conducting material, the electrical resistance of which is sensitive to pressure, said bodies being provided with apertures, a supporting member extending through said apertures for sustaining said bodies, temperature-controlled mechanism for varying the degree of pressure upon said bodies, and means controllable at will, for adjusting said temperature-controlled mechanism relatively to said bodies.

865,305. LOCKING DEVICE FOR CROSS-WIRES. ADAM HEIM, Brownsville, Ind., assignor of one-half to Charles A. Rieman, Connersville, Ind. Filed July 11, 1906. Serial No. 325,666.



1. As a new article of manufacture, a temporary locking device for cross wire structures, consisting of a single piece of resilient wire doubled upon itself substantially midway of its length to form a bend and two legs, each leg being bent at its inner end substantially at right angles to the plane of the first mentioned bend and provided with a curve to form a yoke, the free end of one of said wires being bent laterally toward the other leg and provided with a curve to correspond with the first mentioned bend and terminating beyond the curve in an oppositely bent hook, and the free end of the other leg normally lying below said hook and adapted to be lifted thereinto, said hook and extended end forming projections for manipulating the device.

2. In a cross wire structure, the combination with wires crossed at right angles to each other, of temporary locking devices therefor, each device being formed from a single piece of resilient wire doubled upon itself substantially at its middle to form a bend adapted to engage with one of the cross wires and two legs which are adapted to engage with the cross wire and extend substantially longitudinally upon opposite sides of the first mentioned wire, the free end of one of the legs being bent laterally and curved to engage with said first mentioned wire and terminating in a hook bent oppositely to the curve and located beyond the opposite side of the wire, and the free end of the other leg normally lying below the hook and being adapted to be moved into and out of said hook and extending beyond the same, the bends of said locking wire being such that when the leg is in the hook the cross wires will be held against movement but when the leg is out of the hook the cross wires can be moved without entirely removing the device from the cross wires.

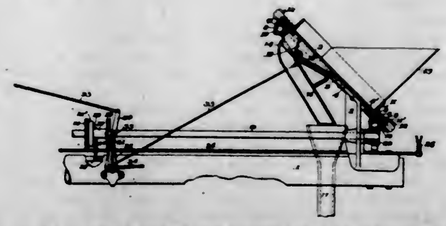
865,306. MEANS FOR SECURING SOFT-TREAD TIRES TO RIMS. FRANK M. HILTON, JOHN S. HILTON, and WILLIAM W. HILTON, Akron, Ohio, assignors of one-half to Harvey Musser, Akron, Ohio. Filed May 12, 1906. Serial No. 316,563.



1. In a vehicle wheel, the combination of a rim provided at one side with a confining flange, a lock-ring slipped upon the opposite side of the rim and having a corresponding confining flange, a split spring annular binder fitted to the rim and adapted to prevent outward displacement of the lock-ring, and a keeper at one end of the binder having an opening therein to receive the opposite end of the said binder and having a slot in its side to provide ingress and egress to the said opposite end of the binder.

2. In a vehicle wheel, the combination of a rim provided at one side with a confining flange and having a seat at the opposite side and an opening extended from said seat, a lock-ring slipped upon the rim, a split spring annular binder fitted to the said seat of the rim and having projections to enter the openings leading from the seat of said rim, and a keeper at one end of the annular binder having an opening to receive the opposite end of said binder and provided with a projection to enter an opening of the seat of the rim to prevent transverse displacement of the adjacent ends of the binder when the parts are assembled.

865,307. SEED-DROPPING MECHANISM FOR CORN-PLANTERS. EDWARD A. JOHNSTON, Sterling, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed Apr. 25, 1907. Serial No. 370,176.



1. In a seed dropping mechanism for corn planters, in combination, a hopper having an inclined bottom and a

seed opening at the highest point therein, a seed plate, a shaft, a driving connection between said shaft and seed plate, a continuously moving driving member, and means for intermittently engaging said driving member and seed shaft.

2. In a seed dropping mechanism for corn planters, in combination, a seed hopper having an inclined bottom and a seed opening at the highest point therein, a seed plate, a bevel gear plate underlying and rotatively fixed to said seed plate, a shaft, a bevel pinion fixed thereon which meshes with and drives said bevel gear plate, a continuously moving driving member, and means for intermittently engaging said driving member and seed shaft.

3. In a seed dropping mechanism for corn planters, in combination, a seed hopper having an inclined bottom, a seed plate mounted in the bottom thereof and provided with a seed outlet at its highest point, a seed duct communicating with said outlet and leading from the hopper, means operable for a variable length of time for shutting off the communication between the seed outlet and the seed duct, and means for rotating said plate.

4. In a seed dropping mechanism for corn planters, in combination, a seed hopper having an inclined bottom, a seed plate mounted in the bottom thereof, a seed opening located at the highest point in said bottom, a seed duct communicating with said seed opening, a pocket formed in the hopper bottom and communicating also with the seed opening, means for diverting the seed either into the seed duct or into the pocket, and means for imparting an intermittent motion to the seed plate.

5. In a seed dropping mechanism for corn planters, in combination, a seed hopper having an inclined bottom, a seed plate mounted in the bottom thereof, a seed opening located at the highest point in said bottom, a seed duct communicating with said seed opening, a pocket formed in the hopper bottom and communicating also with the seed opening, means operable for predetermined and variable lengths of time for diverting the seed either into the seed duct or into the pocket, and means for imparting an intermittent motion to the seed plate.

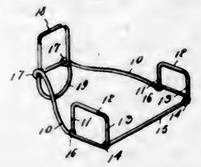
6. In a seed dropping mechanism for corn planters, in combination, a seed hopper having an inclined bottom, a seed plate mounted in the bottom thereof, a seed opening located at the highest point in said bottom, a seed duct communicating with said seed opening, a pocket formed in the hopper bottom and communicating also with the seed opening, a gate for diverting the seed either into the seed duct or into the pocket, an intermittently rotating shaft having a gear connection with the seed plate, a member secured to said shaft and provided with a cam projection of adjustable length, and an operative connection between said cam projection and the said gate.

7. In a seed dropping mechanism for corn planters, in combination, a seed hopper having an inclined bottom provided at its upper side with a seed opening, a seed plate mounted in said bottom, a duct communicating with said opening, means for closing said duct, an intermittently rotating shaft having a gear connection with the seed plate, and a driving connection between the shaft and duct closing means.

8. In a seed dropping mechanism for corn planters, in combination, a seed hopper having an inclined bottom provided at its upper side with a seed opening, a seed plate mounted in said bottom, a seed duct communicating with said opening, means for closing said duct, an intermittently rotating shaft having a gear connection with the seed plate, a continuously rotating clutch member on said shaft, a coacting clutch member fixed to said shaft, and an operative connection extending between the fixed clutch member and the means for closing the seed duct.

9. In a seed dropping mechanism for corn planters, in combination, a seed hopper having an inclined bottom, the said bottom being provided with a seed opening and a pocket at its upper side and an annular depressed channel formed about its periphery for housing the seed plate and bevel gear plate, a seed plate and bevel gear plate rotatively fixed to each other and mounted in said channel, a seed duct communicating with the seed opening, a gate for diverting the seed either into the pocket or into the duct, a shaft, a continuously rotating member loose on said shaft, a clutch member fixed to the shaft and adapted to be engaged with said rotating clutch member for intermittently actuating the seed dropping mechanism, a cam projection movable with said shaft, a lever in operative relation with said cam, and a rod connecting with said lever and gate for controlling the latter, substantially as and for the purpose specified.

865,308. COMBINED HALTER AND BRIDLE. DAVID H. KNIGHT and SALATHIEL S. ADAMS, Lafayette, Tenn. Filed July 10, 1906. Serial No. 325,526.

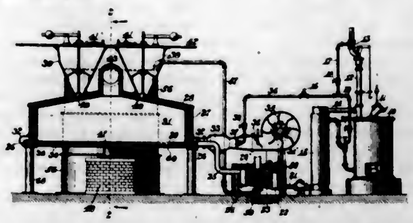


1. In a combined halter and bridle, a pair of spaced bars, each having at its front end a loop, a bit-bar having its ends formed with eyes through which the looped portions of the bars extend, and means for retaining the bit on the bars.

2. In a combined halter and bridle, a pair of spaced bars, each having at its front end a loop, and the extremities of said bars being formed into a hook, a bit-bar mounted on the looped portions of the spaced bars above the hooks, said bit-bar having its ends formed with eyes through which said spaced bars extend, retaining links fitting over the spaced bars above the bit-bar, and a nose-strap fastened to the loops above the links.

3. In a combined halter and bridle, a pair of spaced bars formed at one end with eyes and connected by a loop, a ring extending through the eyes, and a bit-bar secured to the opposite ends of the bars.

865,309. APPARATUS FOR ROASTING ORES AND SEPARATING BY-PRODUCTS THEREFROM. ALVA D. LEE, Brookline, Mass. Filed Sept. 27, 1906. Serial No. 336,399.



1. The combination of a casing forming a chamber closed at the sides and bottom; a plurality of inlets into said chamber immediately above the bottom for the admission of inflammable gas; and means for forcing air into said chamber through passages surrounding said gas inlets.

2. The combination of a casing forming a chamber closed at the sides and bottom; a plurality of inlets into said chamber immediately above the bottom for the admission of inflammable gas; and means for forcing steam into said chamber through passages surrounding said gas inlets.

3. The combination of a casing forming a chamber closed at the sides and bottom; a plurality of inlets into said chamber immediately above the bottom for the admission of inflammable gas; and means for forcing steam and air into said chamber through passages surrounding said gas inlets.

4. The combination of a casing forming a chamber closed at the sides and bottom and having a plurality of passages extending into said chamber immediately above said bot-

tom; means for forcing air through said passages; and a gas discharge nozzle in each passage.

5. The combination of a casing forming a chamber closed at the sides and bottom and having a plurality of passages extending into said chamber immediately above said bottom; means for forcing air through said passages; a gas inlet nozzle in each passage; and a steam discharge nozzle communicating with a conduit leading to each of said passages.

6. The combination of a casing forming a chamber closed at the sides and bottom and having a plurality of passages extending into said chamber immediately above the bottom for the admission of inflammable gas; a gas nozzle in each passage; means for forcing air through said passages and surrounding said gas nozzles; a steam discharge nozzle communicating with a conduit leading to each of said passages; and means for heating said gas before its discharge through said inlets.

7. The combination of a casing forming a chamber closed at the sides and bottom and having a plurality of passages extending into said chamber; a gas nozzle in each passage; means for forcing air through said passages; means for heating said gas before its discharge into said nozzles; a conduit communicating with said passages; a steam discharge nozzle therein; and an aspirator in said conduit adapted to operate in connection with said steam nozzle.

8. The combination of a casing forming a chamber closed at the sides and bottom; a bottom hinged thereto; means for normally retaining said bottom in closed position; a plurality of gas inlet passages communicating with said chamber; and means for forcing air into said chamber through said passages and surrounding said gas inlets.

9. The combination of a casing forming a chamber closed at the sides and bottom; a bottom hinged thereto; means for normally retaining said bottom in closed position; a plurality of gas inlets into said chamber immediately above said bottom; means for forcing air into said chamber around said gas inlets; and means for forcing steam into said chamber with said air.

10. The combination of a casing forming a chamber closed at the sides and bottom; an air conduit surrounding the base of said furnace and communicating with said chamber by a plurality of air passages; a pipe within said conduit provided with a plurality of nozzles one of which extends through each of said air passages; means for forcing air through said conduit; means for admitting steam into said conduit; and a gas reservoir communicating with said pipe.

11. The combination of a casing forming a chamber closed at the sides and bottom; an air conduit surrounding the base of said furnace and communicating with said chamber by a plurality of air passages; a pipe within said conduit provided with a plurality of nozzles one of which extends through each of said air passages; means for forcing air through said conduit; means for admitting steam into said conduit; a gas reservoir communicating with said pipe; and means for heating the gas contained within said reservoir.

12. The combination of a casing forming a chamber closed at the sides and bottom; an air conduit surrounding the base of said furnace and communicating with said chamber by a plurality of air passages; a pipe within said conduit provided with a plurality of nozzles one of which extends through each of said air passages; means for forcing air through said conduit; means for admitting steam into said conduit; a gas reservoir communicating with said pipe; an outer casing to hold said gas reservoir; and means for heating the gases contained within the reservoir.

13. The combination of a casing forming a chamber closed at the sides and bottom; an air conduit surrounding the base of said furnace and communicating with said chamber by a plurality of air passages; a pipe within said conduit provided with a plurality of nozzles one of which extends through each of said air passages; means for forcing air through said conduit; means for admitting steam into said conduit; a gas reservoir communicating with said pipe; an outer casing to hold said gas reservoir; and a gas burner beneath said gas reservoir adapted to heat the gases contained therein.

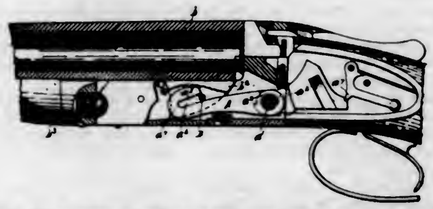
14. The combination of a casing forming a chamber closed at the sides and bottom; a plurality of gas inlets into said chamber; a pipe with which said inlets communicate; a drum communicating with said pipe; a second drum; pipes connecting said drums; a pipe for admitting gas to the last mentioned drum; a casing inclosing said drums and pipes; and means within said casing beneath said pipes for heating the gas passing through said pipes from one drum to the other.

15. The combination of a casing forming a chamber closed at the sides and bottom and having a plurality of passages extending into said chamber; a gas inlet nozzle in each of said passages; a pipe communicating with said nozzles; a gas superheater communicating with said pipe; an air chamber surrounding said gas superheater adapted to superheat the air contained therein; a conduit communicating with said passages; and a pipe connecting said chamber with said conduit.

16. The combination of a casing forming a chamber closed at the sides and bottom and having a plurality of passages extending into said chamber; a gas inlet nozzle in each of said passages; a pipe communicating with said nozzles; a gas superheater communicating with said pipe; an air chamber surrounding said gas superheater adapted to superheat the air contained therein; a conduit communicating with said passages; a pipe connecting said chamber with said conduit; and means for forcing the superheated air from said chamber through said conduit and passages into said closed chamber.

17. The combination of a casing forming a chamber closed at the sides and bottom; means for heating said chamber; an outlet extending from the top of said chamber downwardly; a plurality of scrubbers communicating with said outlet; a gasometer communicating with the outlet from said scrubbers; a superheater provided with passages for the gas passing to said chamber; means for supplying gas to said chamber through said passages; and means extending from said gasometer to said superheater for the passage of gas from the former to the latter, and adapted to heat the other gases passing through said passages.

865,310. COCKING MECHANISM FOR GUNS. CHARLES F. LEFEVER, Syracuse, N. Y., assignor to Lefever Arms Company, Syracuse, N. Y., a Corporation of New York. Filed Apr. 2, 1898. Serial No. 676,180.



1. In a breech-loading gun, the combination with a hammer and a barrel, of engaging means associated with the barrel, an elongated surface associated with the hammer slidably engaged by said means during the dropping of the barrel for cocking the hammer, and a second surface engaged by said means to arrest dropping of the barrel, said means substantially passing from beneath the end of the first surface as the barrel reaches a substantially closed position, substantially as and for the purpose specified.

2. In a breech-loading gun, the combination with a barrel, a hammer and a cocking lever, of an elongated bearing surface rigid with the lever, substantially unobstructed at one end and having an abutment at its opposite end, and engaging means associated with the barrel occupying a position adjacent the unobstructed end of the surface when the barrel is in closed position, and traveling along said surface and coacting therewith to shift the cocking lever as the barrel is dropped, and engaging said abutment at the limit of its travel to arrest the dropping of the barrel, substantially as and for the purpose described.

3. In a breech-loading gun, the combination with a barrel, a hammer and a cocking lever, of parts rigid with the barrel and cocking lever and coacting with each other for shifting the cocking lever during the dropping of the barrel and for arresting the movement of the barrel, the part associated with the cocking lever having its surface for coacting with the part associated with the barrel to shift the cocking lever during the dropping of the barrel, arranged when the hammer is uncocked, out of the path in which the part associated with the barrel moves during the detachment and replacement of the barrel, substantially as and for the purpose described.

4. In a breech-loading gun, the combination with a barrel, a hammer and a cocking lever, of parts rigid with the barrel and cocking lever and slidably coacting with each other for shifting the cocking lever during the dropping of the barrel said parts coacting with each other for arresting the movement of the barrel, the part associated with the cocking lever having its surface for coacting with the part associated with the barrel to shift the cocking lever during the dropping of the barrel, normally arranged substantially in front of the path in which the part associated with the barrel moves during the removal and replacement of the barrel, substantially as and for the purpose set forth.

5. In a breech-loading gun, the combination with a barrel, a hammer and a cocking lever, of an element rigid with the barrel, engaging surfaces on the lever at gradually increasing distances from the pivot thereof said surfaces being rigid with the lever and coacting with said element for shifting the cocking lever as the barrel is dropped, and a surface disposed at an angle to the other surfaces for arresting the dropping of the barrel, substantially as and for the purpose specified.

6. In a breech-loading gun, the combination with a barrel, a hammer and a cocking lever, of an element rigid with the barrel, engaging surfaces on the lever at gradually increasing distances from the pivot thereof said surfaces being rigid with the lever and coacting with said element for shifting the cocking lever as the barrel is dropped, and a surface disposed at an angle to the other surfaces for arresting the dropping of the barrel, said first-mentioned surfaces, when the hammer is uncocked, being arranged out of the path in which said element is movable with the barrel during the detachment and replacement of the barrel, substantially as and for the purpose described.

7. In a breech-loading gun, the combination with a barrel, a hammer and a cocking lever, of an element rigid with the barrel, engaging surfaces on the lever at gradually increasing distances from the pivot thereof said surfaces being rigid with the lever and coacting with said element for shifting the cocking lever as the barrel is dropped, and a surface disposed at an angle to the other surfaces for arresting the dropping of the barrel, said first-mentioned surfaces being normally arranged substantially in front of the path in which said element is movable with the barrel during the detachment and replacement of the barrel, substantially as and for the purpose set forth.

8. In a breech-loading gun, the combination of a hammer, a barrel provided with engaging means, and a cocking lever for the hammer, said cocking lever having a surface rigid therewith arranged above the engaging means provided on the barrel and coöperating with such means for causing the cocking lever to cock the hammer, and said cocking lever also having a surface arranged in front of said engaging means and coöperating therewith for limiting the dropping movement of the barrel, substantially as and for the purpose specified.

9. In a breech-loading gun, the combination of a hammer, a barrel provided with engaging means, and a cocking lever for the hammer, said cocking lever being provided at its front end with an extension rigid therewith having a surface arranged above the engaging means provided on the barrel and slidably coöperating with such means for causing the cocking lever to cock the hammer, said extension also having a surface arranged in front of said engaging means and coöperating therewith for limiting the dropping movement of the barrel, substantially as and for the purpose described.

10. In a breech-loading gun, the combination of a hammer, a barrel provided with engaging means fixed thereto, and a cocking lever for the hammer, said cocking lever being provided with a part rigid therewith having a surface arranged above the engaging means fixed to the barrel and engaging the upper face of such means for causing the cocking lever to cock the hammer, said part also having a surface arranged in front of said engaging means and engaging the front face of such means for limiting the dropping movement of the barrel, substantially as and for the purpose set forth.

11. In a breech-loading gun, the combination of a hammer, a barrel provided with engaging means, and a cocking lever, said cocking lever having a part thereof rigid therewith and arranged below the engaging means provided on the barrel and also having a part rigid with the former part and projecting therefrom in front of such engaging means and having a surface above such engaging means and slidably coöperating therewith for causing the cocking lever to cock the hammer, substantially as and for the purpose specified.

12. In a breech-loading gun, the combination with a barrel and a hammer, of a cocking lever having a rigid part formed with a slot therein provided with a closed end and an open end, the latter end of the slot opening through the upper face of the cocking lever, and fixed means carried by the barrel and slidably coacting with the wall of the slot to effect the cocking of the hammer, said means traveling toward the closed end of the slot in the cocking action, substantially as and for the purpose described.

13. In a breech-loading gun, the combination with a barrel, and a hammer, of a cocking lever having a part rigid therewith formed with a slot therein provided with a closed end and an open end, and fixed means carried by the barrel and slidably coacting with the wall of the slot to effect the cocking of the hammer, said means traveling toward the closed end of the slot in the cocking action, and passing substantially through the open end of the slot as the barrel reaches its closed position, substantially as and for the purpose set forth.

14. The combination of a hammer, a cocking lever connected to the hammer and having a rigid engaging surface, and a barrel provided with a fixed shoulder for engaging said rigid surface to actuate the cocking lever, said surface, when the hammer is uncocked, being arranged out of the path in which said shoulder is movable with the barrel during the detachment and replacement of the barrel, substantially as and for the purpose specified.

15. The combination of a hammer, a cocking lever having a rigid engaging surface, means connecting the cocking lever to the hammer for cocking the hammer and permitting said cocking lever to move independently of the hammer when cocked, and a barrel provided with a fixed shoulder for engaging said rigid engaging surface to actuate the cocking lever, said surface, when the hammer is uncocked, being arranged out of the path in which said shoulder is movable with the barrel during the detachment and replacement of the barrel, substantially as and for the purpose described.

16. The combination of a hammer, a cocking lever connected to the hammer and provided with a lengthwise rigid shoulder, and a barrel provided with means for slidably engaging said lengthwise shoulder and actuating the cocking lever, said shoulder being normally arranged substantially in front of the path in which said means is movable with the barrel during the detachment and replacement of the barrel, substantially as and for the purpose set forth.

17. The combination of a hammer, a cocking lever connected to the hammer and provided at its free end with a lengthwise shoulder having its front extremity rigid with the remaining portion of the cocking lever and its lower face and rear extremity separated from the contiguous portion of said lever, and a barrel provided with means for slidably engaging said lengthwise shoulder and actuating the cocking lever, substantially as and for the purpose specified.

18. The combination of a hammer, a cocking lever provided at its free end with a lengthwise shoulder having its front extremity rigid with the remaining portion of the cocking lever and its lower face and rear extremity sepa-

rated from the contiguous portion of said lever, means for connecting the cocking lever to the hammer for cocking the hammer and permitting said cocking lever to move independently of the hammer when cocked, and a barrel provided with means for slidably engaging said lengthwise shoulder and actuating the cocking lever, substantially as and for the purpose described.

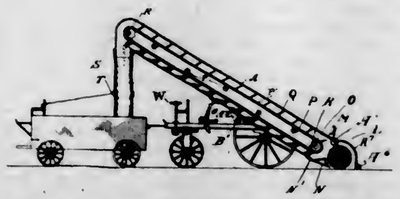
19. The combination of a hammer, a cocking lever connected to the hammer and provided at its free end with a lengthwise shoulder having its front extremity rigid with the remaining portion of the cocking lever and its lower face and rear extremity separated from the contiguous portion of said lever, and a barrel provided with a fixed shoulder for slidably engaging the former shoulder and actuating the cocking lever, said barrel being movable endwise for disengaging its shoulder from the cocking lever, substantially as and for the purpose set forth.

20. The combination of a hammer, a cocking lever connected to the hammer and having a rigid part provided with a forwardly-extending slot open at its rear end, and a barrel provided with a shoulder movable in said slot, substantially as and for the purpose specified.

21. The combination of a hammer, a cocking lever connected to the hammer and having a rigid part provided with a slot extending downwardly and forwardly from its upper face, and a barrel provided with a fixed shoulder movable in said slot, substantially as and for the purpose described.

22. The combination of a hammer, a cocking lever connected to the hammer and having a rigid part provided with a forwardly-extending slot open at its rear end, and a barrel having a lug provided with a groove for receiving the cocking lever and a shoulder projecting from one of the inner faces of the groove in said lug for entering the slot of the cocking lever, said barrel being movable endwise for removing the shoulder from the open rear end of the slot in the cocking lever, substantially as and for the purpose specified.

865,311. STREET-CLEANER. ISRAEL LUDLOW, New York, N. Y. Filed Nov. 18, 1902. Serial No. 131,828.

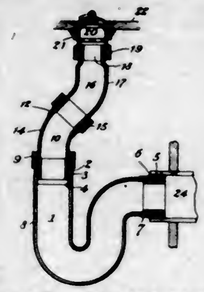


In combination with a suitably supported casing, a conveyer arranged therein, a brush mounted within the casing, a hinged section on the casing extending above the brush, a wheel carried by the hinged section, and teeth depending from the hinged section engaging the brush for cleansing the same, and mechanism for operating the brush and conveyer.

865,312. WASTE-WATER TRAP. CHARLES H. MOORE, New York, N. Y. Filed Aug. 8, 1905. Serial No. 273,233.

1. A leaden or soft metal waste water trap having a thread cut on the outside of the inlet end, a quantity of harder metal than lead and of sufficient thickness to stiffen the thread and the inner wall of the inlet end, put on the said thread and inlet end, a nut screwed on the inlet end, a tube to connect the trap with a wash-basin, sink, or bath-tub, and the necessary coupling nuts to complete the connection substantially as described.

2. A leaden or soft metal waste water trap having a thread cut on the outside of the inlet end, a quantity of harder metal than the trap and of sufficient thickness to stiffen the thread, put on the said thread, a nut screwed thereon, a tube to connect the trap with a wash-basin, sink, or bath-tub, and the necessary coupling nuts to complete the connection substantially as described.



3. A leaden or soft metal waste water trap having a threaded fitting of stiffer material than the trap secured to the discharge end, by which the trap is secured to the waste pipe, a threaded fitting of stiffer material than the trap secured to the inlet end, and to be placed under the floor, and a pipe 31 screwed to the last named fitting under the floor, and extending through the floor far enough to be cut off to connect with a bath-tub fixture and having the upper end closed for testing purposes.

4. A leaden or soft metal waste water trap having a thread cut on the outside of the inlet end, a quantity of harder metal than the trap and of sufficient thickness to stiffen the thread, put on the said thread, a nut screwed thereon, a tube to connect the trap with a wash-basin or sink, the necessary coupling nuts to complete the connection between the inlet end of the trap and the basin coupling, and a metal fitting secured to the discharge end of the trap and arranged to be connected to an iron or brass waste pipe.

5. A leaden or soft metal waste water trap having a thread cut on the inlet end, a quantity of harder metal than the trap and of sufficient thickness to stiffen the threads, on the said threads and outside surface of the trap, a tube to connect the trap with a wash-basin or sink and the necessary coupling nuts to complete the connection substantially as described.

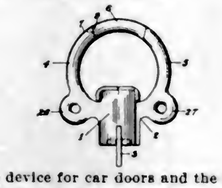
6. A leaden or soft metal waste water trap having a reinforcing socket and guide of stiffer material than the trap fitted closely to the wall of the inlet end and secured thereto, a thread cut on the end of the reinforcing socket, a quantity of harder metal than the trap and of the thickness of thin sheet brass, put on the outer surface of the trap and the lower end of the reinforcing socket, a nut screwed on the said socket, a tube to make the connection between the basin coupling and trap, and the necessary nuts to complete the connection, substantially as described.

7. A leaden or soft metal waste water trap reinforced within the inlet end by a lining of stiffer material than the trap permanently secured therein, a threaded ferrule or ring of stiffer material than the trap secured on the outside and below the top edge of the inlet end, a nut screwed thereon, a tube whereby the trap is lengthened vertically, and the necessary coupling nuts to complete the connection with a basin or sink.

8. A leaden or soft metal waste water trap reinforced within the inlet and outlet ends by a lining of stiffer material than the trap and permanently secured therein, a threaded ferrule or ring of stiffer material than the trap secured on the outer surface of the inlet and outlet ends, a nut screwed on the inlet end, a tube whereby the trap can be lengthened vertically and the necessary coupling nuts to complete the connection with a basin or sink.

9. A leaden or soft metal waste water trap reinforced within the inlet end by a lining of metal to act as a guide for the inlet tube of the trap, a threaded ferrule or ring of stiffer material than the trap secured permanently on the outside of the inlet end, a nut screwed thereon, a threaded ferrule or ring of stiffer material than the trap secured on the outside of the discharge end and arranged to be connected to an iron or brass waste pipe, in combination with fittings on the inlet end of the trap to complete the connection with a basin or sink.

865,313. SEAL-PADLOCK. JAMES B. ORBISON, FREDERICK C. KINGSBURY, and ALVAH J. PRAY, Columbus, Ohio. Filed June 4, 1906, Serial No. 320,013. Renewed Aug. 1, 1907. Serial No. 386,509.



1. A sealing device for car doors and the like comprising two members adapted to be placed in overlap relation, means thereon for preventing separation laterally, lateral curved arms on said members adapted to be inserted through a staple and to overlap at the outer ends, and a frangible key adapted to be applied to said members to lock the same together.

2. A lock for car doors and the like comprising two similarly formed members adapted to be placed in contact along their inner faces, a curved flange on each member adapted to engage a curved edge on the other member, a curved arm on each member adapted to abut against said curved flange on the other member, said curved members lying in contact at their outer ends, and means for securing said members together.

3. The combination with a staple and a hasp engaging therewith, of a separable ring constructed with overlapping parts, means thereon to prevent vertical and lateral separation of said parts, means applied to said parts to lock the same together, said parts when inserted through said staple and positioned against said hasp and secured together forming a locking device for securing said hasp against separation from said staple.

4. A padlock composed of two similarly formed members, each member having a body portion and an arm curving laterally therefrom, a flange extending along one edge of said body portion, a shoulder near the outer end of said body portion, a notch at the outer end of said body portion, said arm being provided with a shoulder adjacent said flange, said body portions being adapted to be placed in contact along their inner faces, and said arms being adapted to overlap at their outer extremities.

5. A padlock composed of two similarly formed members, each member having a body portion and a curved arm extending outwardly therefrom, said body portion being channeled longitudinally for the reception of a key and having a flange along one edge, a shoulder in said channel near the outer end thereof and a notch in the outer end of said body portion.

6. A padlock composed of two similarly formed members, each member having a body portion, a curved arm extending outwardly therefrom, said body portion being provided with a flange adjacent its inner end, a flange along one side, a shoulder near the outer end, a notch in the outer end, said body portion being recessed for the reception of a key.

7. A padlock composed of two similarly formed members, each member having a body portion and a curved arm extending laterally therefrom, the inner end of said arm forming a shoulder adjacent the body portion, said body portion having a flange adjacent its inner end, a notch in its outer end, a channel for the reception of the key, and a shoulder near the outer end of said channel.

8. A padlock composed of two similarly formed members, each member having a body portion and a curved arm, said body portions being adapted to be placed in overlap relation along their inner faces, said arms being adapted to be placed in overlap relation adjacent their outer ends, projections on each body portion adapted to prevent lateral separation of parts outwardly when said parts are in operative relation, and means adapted to be applied to said body portions adjacent their outer ends to lock the same together, and means for securing said means in operative position.

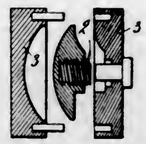
9. A padlock composed of two similarly formed members, each member having a body portion and a curved arm, said body portions being adapted to be placed in overlap relation along their inner faces, said arms being adapted to be placed in overlap relation adjacent their outer ends, projections on each body portion adapted to prevent lateral separation of parts outwardly and vertical separation of the parts when said parts are in operative relation, and means adapted to be applied to said body portions adjacent their outer ends to lock the same together, and means for securing said means in operative position.

10. A padlock composed of two similarly formed members, each having a body portion and a curved arm, a shoulder adjacent the outer end of said arm, said body portions being adapted to be placed in overlap relation along their inner faces, said arms being adapted to be placed in overlap relation adjacent their outer ends, projections on each body portion adapted to prevent lateral separation of the parts outwardly and vertical separation of the parts, projections upon each body portion adapted to coact with the inner ends of the curved arms in conjunction with the engagement of the outer ends of said arms with said shoulders to prevent lateral separation of the parts inwardly, and means adapted to be applied to said body portions adjacent their outer ends to lock the same together.

11. A padlock composed of two similarly formed members, each member having a channeled body portion, a curved arm extending from said body portion, said arms being adapted to overlap at their outer ends, and said body portions being adapted to be placed in overlap relation to leave an opening between the same at their outer ends, a key adapted to be inserted into said opening longitudinally, means for preventing said key from being retracted, and extensions on said key adapted to engage said body portions on their external sides to lock the same together.

12. A padlock composed of two similarly formed members each having a channeled body portion, said members being adapted to be placed in overlap relation to leave an opening between the same adjacent their outer ends, a key adapted to be inserted into said opening longitudinally, extensions on said key adapted to engage said body portions on their external sides to prevent separation of said members by a twisting movement in one direction, lateral arms on said members adapted to overlap at their outer ends, said overlapping of said arms and said members respectively being adapted to prevent separation by a twisting movement in the opposite direction.

865,314. METHOD OF PRODUCING THREADS AND UNDERCUTS IN PORCELAIN AND OTHER VITREOUS SUBSTANCES. HENRY P. OSBORN, Bayonne, N. J. Original application filed May 9, 1904, Serial No. 207,104. Divided and this application filed May 6, 1905. Serial No. 259,103.



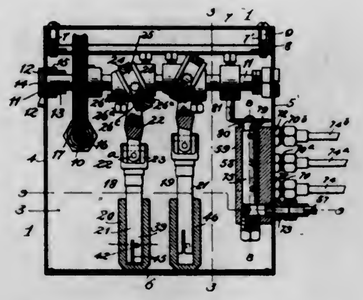
1. A process of forming reëntrant or undercut cavities in vitreous material, which consists in molding into such material a soluble core of heat resisting material corresponding in shape to the desired undercut shape, baking the material with the core in place and retaining such core in full contact with the walls of said undercut shape during the entire baking operation, and after said material has become hard, dissolving out said core by means of a solvent.

2. A process of forming reëntrant or undercut cavities in vitrified plastic material, which consists in molding into such material, while plastic, a soluble core of heat resisting material corresponding in shape to the desired undercut shape, baking such molded material with the core in place therein and retaining the core in full contact with the walls of said undercut shape during the entire baking operation, and then dissolving out said core by means of a solvent.

3. A process of forming screw-threaded cavities in vitrified plastic material, which consists in molding into such material, while plastic, a screw-threaded core of soluble heat-resisting material, baking such molded article with the core in place therein, and then dissolving out said core by means of a solvent.

4. A process of forming reëntrant or undercut cavities in vitreous material, which consists in molding into such material a hollow soluble core of heat resisting material corresponding in shape to the desired undercut shape, and after the material has become hard, applying a liquid solvent to the interior of said core and so dissolving the core.

865,315. LUBRICANT FEEDING AND DISTRIBUTING MECHANISM. WILLIAM E. PARR, Madison, Wis., assignor to The Madison Kipp Lubricator Company, Madison, Wis., a Corporation of Wisconsin. Filed Mar. 13, 1905. Serial No. 249,849.

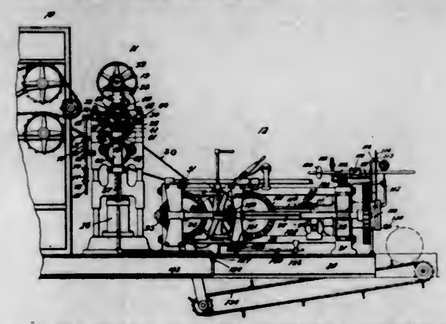


1. In a lubricating mechanism, the combination of the lubricant receptacle, a pump fitted therein and having its cylinder secured to the inner face of one of the walls of the casing of the receptacle, a distributer, also secured to the inner face of one of the walls of the receptacle, and having a lubricant chamber, connections between the pump and the distributer arranged outside the receptacle and extending through the walls thereof to make connections with the said parts respectively, means for operating the pump arranged within the receptacle, and a valve within the lubricant chamber of the distributer also operated from within the receptacle, substantially as set forth.

2. In a lubricating mechanism, a distributer through which the lubricant passes having a chamber and a series of delivery ducts communicating therewith, a screw-threaded plug or closure for the said chamber, a valve for opening and closing the said ducts, a star wheel 79 secured to a projecting end of the said valve, and a spring for holding the valve in place in the lubricant chamber of the distributer, substantially as set forth.

3. In a lubricating mechanism, the combination with the lubricant receptacle, of the pump situated in the receptacle, the pump actuating devices in the receptacle, the shaft 11 also within the receptacle, the bearing thimble 12 inserted through the wall of the receptacle and having a bearing cavity for the shaft 11, and the clamping means at 15 for securing the bearing thimble to the wall with an oil tight joint, substantially as set forth.

865,316. BALE-FORMING APPARATUS. EDGAR REAGAN, San Antonio, Tex., assignor, by mesne assignments, to Reagan Bale Company, San Antonio, Tex. Filed July 7, 1906. Serial No. 325,121.



1. A bale forming mechanism embodying a preliminary core forming press, and a main bale forming press, and means for conveying the core from the former to the latter.

2. A bale forming mechanism embodying a preliminary core forming press, a main bale forming press, the former being adapted to receive a continuously fed bat, and means for transferring a complete core from the former to the latter.

3. Baling mechanism embodying a preliminary press and a main press, each having bat winding means, that of the former to form a core and that of the latter to complete the bale and means controlled by the latter for stopping the core forming operation of the former.

4. Baling mechanism having a preliminary press and a main press, each provided with bat winding means, and the former of which is alternately operable as a core former and a condenser, and means actuated by the main press for reversing the motion of the preliminary press.

5. Baling mechanism having a preliminary press and a main press, each provided with bat winding means, means for transferring a partly formed bat from the former to the latter, the preliminary press having bat feeding members from which the bat passes during the winding thereof by the main press, and means controlled by the main press for stopping the feeding movement of said feeding press.

6. A baling system comprising the following instrumentalities:—a bat forming means, a preliminary press to which the bat is fed and by which it is rolled to form a core, a main roller press, and means for transferring the core from the preliminary press to the main press.

7. A baling system comprising the following instrumentalities:—a bat forming means, a preliminary press to which the bat is fed, and by which it is wound into the form of a core, a main roller press, means for adjusting the preliminary press to form a bat condenser during the operation of the main press, and automatic means for effecting the severing of the bat at the preliminary press when the bale is nearly completed.

8. In baling apparatus, a roller press, and means for feeding to the press a previously formed core of rolled cotton.

9. In baling apparatus, a roller press, and means for feeding to the press an unbroken bat the end of which has been wound to form a core.

10. In baling apparatus, an intermittently operable baling press, and means for rolling a bat into the form of a core or small bale between intervals of operation of the press.

11. In baling apparatus, means for winding a portion of a bat in the form of a core or small bale, a roller press, and means for transferring the core or small bale to the roller press, to permit the winding and compressing of the bat into the form of a complete bale.

12. In baling apparatus, an intermittently operable baling press, a preliminary press serving as a bat condenser during the bale forming operation, and means for adjusting the preliminary press to wind the end of the bat into the form of a core between intervals of operation of the main press.

13. In a baling system, the combination of the following instrumentalities:—a roller press, and a means for taking care of a bat between intervals of operation of the press, said means including a bat condenser adjustable to wind the bat to form a small bale or core while the main press is idle.

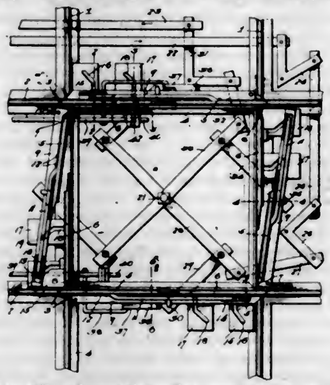
14. In a baling system, the combination of a preliminary press to which the bat is fed, a main press, an apron for delivering the products of the preliminary press to the main press without breakage of the bat, and automatic means under the control of the main press for adjusting the preliminary press to sever the bat after the main bale is nearly completed.

15. In baling systems, a roller press, and an adjustable means for automatically controlling the operation of the press to produce bales of different diameters.

16. In baling apparatus, an intermittently operable roller press, a continuously operable bat engaging member between the bat forming member and the press, and automatic means under the control of the press for adjusting the intermediate mechanism to alternately act as a core forming means and as a bat condenser.

17. In baling apparatus, an intermittently operable roller press, a bat engaging mechanism between the forming means and the press, and mechanism under the control of the press for governing the operation of said bat engaging mechanism.

865,317. RAILROAD-CROSSING. JOHN E. REESE, Louisville, Ky. Filed Feb. 1, 1907. Serial No. 355,302.



1. In a railroad crossing, the combination with fixed main and crossing rails, of intervening movable sections having a scarf-jointed abutment with the ends of the fixed main and crossing rails, each intervening section embodying overlapping members, and a single operating device and connections adapted to simultaneously separate the ends of the intervening section members from the corresponding ends of the fixed main and crossing rails.

2. In a railroad crossing, the combination with fixed main and crossing rails, of intervening movable rail sections each embodying relatively movable members connected for simultaneous operation, and operating means for shifting one member and causing it to shift the member to which it is connected.

3. In a railroad crossing, the combination with fixed main and crossing rails, of intervening movable rail sections each embodying relatively movable overlapping members, means connecting said members with one another to effect their simultaneous movement, and means for shifting one of said members, thereby causing it to turn to shift the member to which it is connected.

4. In a railroad crossing, the combination with fixed main and crossing rails, of intervening movable rail sections each embodying relatively movable members which overlap and are connected by means by which in the swinging or lateral movement of one member the member connected therewith is moved endwise, and means connected with the laterally movable member for shifting the same.

5. In a railroad crossing, the combination with fixed main and crossing rails, of intervening movable rail sections having a scarf-jointed abutment with the ends of the fixed rails and each embodying relatively movable members connected for simultaneous operation, and operating means for shifting one member and causing it to shift the member to which it is connected.

6. In a railroad crossing, the combination with fixed main and crossing rails, of intervening movable rail sections having a scarf-jointed abutment with the ends of the fixed rails, each intervening section embodying relatively movable members, connected for simultaneous operation, and means for shifting the sections of one track out of position and the sections of the other track into position and vice versa so that the ends of one pair of sections will occupy the same space previously occupied by the ends of the other pair.

7. In a railroad crossing, the combination with fixed main and crossing rails, of intervening rail sections each comprising relatively movable members having a scarf-jointed abutment with the ends of the fixed rails and connected together for simultaneous operation, and means for shifting the section members of one track out of position and the section members of the other track into position and vice versa so that the ends of one pair of sections will occupy the same space previously occupied by the ends of the other pair.

8. In a railroad crossing, the combination with fixed intersecting track rails, of intervening rail sections each divided to comprise end to end separable members one of which is adapted to be moved endwise and the other both endwise and laterally, means connecting said members for causing such relative movement, and means for shifting one member and thereby effecting the movement of the member connected therewith.

9. In a railroad crossing, intersecting track rails each embodying a movable section divided to comprise end to end separable members, and means for shifting the members into and out of position including a lever and an operative connection between the members whereby one member is caused to move the member to which it is connected.

10. In a railroad crossing, the combination with fixed track rails, of movable sections thereof having a scarf-jointed abutment with the ends of the fixed rails and divided to comprise end to end separable members, and means for shifting the members into and out of position including a lever, and means for locking said lever.

11. In a railroad crossing, intersecting track rails each embodying a movable section divided to comprise end to end separable members, and means for shifting the members into and out of position including toggle levers and an operating device for said toggle levers.

12. In a railroad crossing, intersecting track rails each embodying a movable section divided to comprise end to end separable members, a guide on one member, a guide-engaging projection on the adjoining member, and means for shifting one member.

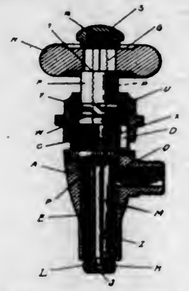
13. In a railroad crossing, intersecting track rails each embodying a movable section divided to comprise end to end separable members, a fixed guide for one member, a guiding and actuating device carried by one member and engaging the adjacent member, and means for shifting one member and causing it to shift the adjacent member.

14. In a railroad crossing, intersecting track rails each embodying a movable section divided to comprise end to end separable members, a slotted guide and actuating plate carried by one member and engaging a projection on the adjacent member whereby one member is adapted to move the other, and means for shifting one of said members.

15. In a railroad crossing, intersecting track rails each embodying a movable section divided to comprise end to end separable members, and means for simultaneously shifting the members of opposite sections into and out of position including a double set of toggle levers.

16. In a railroad crossing, intersecting track rails each embodying a movable section divided to comprise end to end separable members, and means for simultaneously shifting the members of opposite sections into and out of position including oppositely arranged sets of toggle levers pivotally connected together by a common connection.

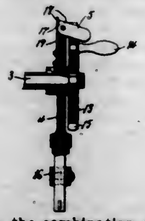
865,318. VALVE. WILLIAM H. ROBERTS, Detroit, Mich., assignor to D. H. Roberts, Detroit, Mich. Filed Oct. 30, 1905. Serial No. 285,103.



1. In a valve, the combination with a valve casing provided with an inlet and having a threaded extension at one end, of a longitudinally bored plug valve seated in the casing and having an inlet arranged to communicate with said casing inlet, one end of said valve projecting and having a shoulder outside of said casing, a coupler sleeved on the projecting end of said plug and engaging the threaded extension of said casing, a resilient member sleeved on said plug and engaged by said shoulder and said coupler, a needle valve in said plug valve and a hand operated member for adjusting said plug valve, for the purpose described.

2. In a valve, the combination with a valve casing provided with an inlet, of a plug valve seated within the casing and extending outside thereof having a discharge passage and an inlet port adapted to establish communication between said passage and the casing inlet, a needle valve within the plug controlling the discharge, an operating member for the plug valve sleeved on the outward extension thereof, and a cap covering the end of the needle valve and having a screw threaded engagement with the plug extension for retaining said operating member.

865,319. LUBRICATOR. JOHN SHERRY, Rochester, N. Y. Filed Oct. 14, 1902. Serial No. 127,220.



1. In a lubricator, the combination of oscillating driven and driving parts, with a locking member for moving the driven part with the driving part, the locking member being pivoted to one of said parts and detachably connected to the other, a reservoir for the lubricant, and a pump for discharging the lubricant, said pump being connected to the driven part, substantially as and for the purpose described.

2. In a lubricator, the combination of a shaft and an oscillating actuating lever, with a locking member for moving the shaft with the actuating lever, the locking member being pivoted to one of said parts and detachably connected to the other, a reservoir for the lubricant, and a pump for discharging the lubricant, said pump being connected to the shaft, substantially as and for the purpose specified.

3. In a lubricator, the combination of a shaft, and an oscillating actuating lever, with a locking member for moving the shaft with the actuating lever, the locking member being pivoted to one of said parts and detachably connected to the other, a spring for holding the locking member in its operative and inoperative positions, a reservoir for the lubricant, and a pump for discharging the lubricant, said pump being connected to the shaft, substantially as and for the purpose set forth.

4. In a lubricator, the combination of a shaft, a power-transmitting part movable with the shaft and formed with a socket, an actuating lever movable in reverse directions, a locking member pivoted to the actuating lever and movable into and out of the socket and coöperating with opposite walls of the socket for moving the power-transmitting part with the lever, a reservoir for the lubricant, and a pump for discharging the lubricant, said pump being connected to the shaft, substantially as and for the purpose described.

5. In a lubricator, the combination of a shaft, a power-transmitting part movable with the shaft and formed with a socket, an actuating lever movable in reverse directions, a locking member having one end pivoted to the actuating lever and provided with a cam-shaped portion and its other end movable into and out of the socket and coöperating with opposite walls of the socket for moving the power-transmitting part with the actuating lever, and a spring for engaging said cam-shaped portion and holding the locking member in its operative and inoperative positions, a reservoir for the lubricant, and a pump for discharging the lubricant, said pump being connected to the shaft, substantially as and for the purpose specified.

6. In a lubricator, the combination of a shaft, a power-transmitting part movable with the shaft, an actuating lever movable in reverse directions, a locking member pivoted to the actuating lever and movable into and out of engagement with the power-transmitting part and cooperating therewith for moving said part in reverse directions with the actuating lever, said locking member projecting beyond the contiguous portion of the power-transmitting part when in its operative position and projecting beyond the contiguous portion of the actuating lever when in its inoperative position for facilitating manipulation of the locking member, a reservoir for the lubricant, and a pump for discharging the lubricant, said pump being connected to the shaft, substantially as and for the purpose described.

7. In a lubricator, the combination of a shaft, a power-transmitting part fixed to the shaft, an actuating lever loosely mounted on the shaft at the inner side of the power-transmitting part and movable in reverse directions, a locking member pivoted to the actuating lever and movable into and out of engagement with the power-transmitting part and coöperating therewith for moving said part in reverse directions with the actuating lever, said locking member projecting beyond the outer face of the power-transmitting part when in its operative position and projecting beyond the contiguous portion of the actuating lever when in its inoperative position for facilitating manipulation of the locking member, a reservoir for the lubricant, and a pump for discharging the lubricant, said pump being connected to the shaft, substantially as and for the purpose specified.

8. In a lubricator, the combination of a shaft, a power-transmitting part fixed to the shaft and formed with peripheral sockets, an actuating lever loosely mounted on the shaft at the inner side of the power-transmitting part and movable in reverse directions, a locking member having one end pivoted to the actuating lever and provided with a cam-shaped portion having angularly-arranged faces and its other or free end movable into and out of the peripheral sockets and coöperating with opposite walls of the sockets for moving said part in reverse directions with the actuating lever, the free end of the locking member projecting beyond the outer face of the power-transmitting part when in its operative position and projecting beyond the contiguous portion of the actuating lever when in its inoperative position for facilitating manipulation of the locking member, a spring for engaging said angularly-arranged faces alternately and holding the locking member in its operative and inoperative position, a reservoir for the lubricant, and a pump for discharging the lubricant, said pump being connected to the shaft, substantially as and for the purpose set forth.

9. In a lubricator the combination of a shaft, a power-transmitting part fixed to the shaft and formed with peripheral sockets, an actuating lever loosely mounted on the shaft and movable in reverse directions, a locking member having one end pivoted to the actuating lever and provided with a cam-shaped portion having faces arranged at an angle of less than a right angle to each other and its free end movable into and out of the peripheral sockets, a flat spring having one end fixed and its other end free, the free end thereof engaging said faces alternately for holding the locking member in its operative and inoperative positions, a reservoir for the lubricant and a pump for discharging the lubricant, said pump being connected to the shaft, substantially as and for the purpose specified.

865,320. RAIL-BRACE. LOWZELLE W. SPRAGUE, Osakis, Minn. Filed Feb. 16, 1907. Serial No. 357,682.



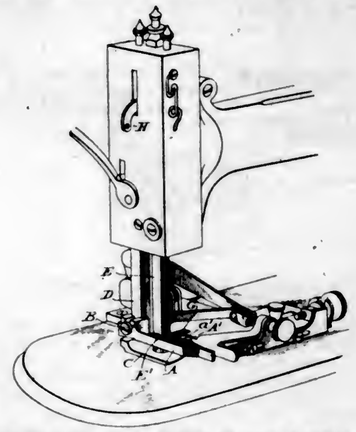
1. A rail brace comprising a plate having an end portion formed for engagement over a base flange of a rail, a second plate disposed upon the first plate and having its end adjacent to the rail-engaging end of the first plate bent for engagement over the base flange of a rail, the opposite end of the second plate being formed for engagement of the base flange of a rail, and a member disposed upon the second plate and arranged for engagement with the base flange of a rail, said member and plates being secured together.

2. A rail brace comprising a base plate, a plate disposed upon the base plate, an end of each plate being arranged for engagement with a single rail to hold the latter against movement, the other end of the second plate being also arranged for holding engagement with a rail, and a member disposed upon the second plate and arranged for engagement of a rail engaged by the second named end of said plate, said plates and member being secured together.

3. A rail brace comprising a base plate having an end bent upwardly and inwardly for engagement over the outer base flange of a rail said inwardly bent portion having an upwardly turned extremity for engagement of the web of a rail, a second plate disposed upon the first named plate and having its end remote from the bent end of the base plate turned upwardly and inwardly for engagement over the outer base flange of a rail, the inwardly turned portion having an extremity turned upwardly for engagement of the web of a rail, brace members engaged with the bent ends of the two plates and having portions extending therebeneath, the end of the second plate adjacent to the bent end of the base plate being offset upwardly for engagement over the inner base flange of a rail, a rail-engaging member comprising oppositely offset end portions and a connecting angular central portion disposed with an end portion upon the second plate and with its other end portion in position for engagement over the inner base flange of a rail, and fastening devices engaged in the member and the two plates.

865,321. ATTACHMENT FOR SEWING-MACHINES. GEORGE J. STEVENS, London, England, assignor, by mesne assignments, to American Attachment Company, Portland, Me., a Corporation of Maine. Filed July 12, 1902. Serial No. 115,375.

1. In combination in an overseaming attachment an arm having resilience to return to normal position when moved therefrom, said arm being arranged to cross the path of movement of the needle, to receive the thread thereon in the form of loops and means for acting on the cloth at every alternate stroke of the needle bar at a point adjacent the needle said means contacting with the flexible arm to move it aside, substantially as described.



2. In combination in a sewing machine, a needle bar and a needle, a flexible arm mounted upon a sewing machine and interposed between the needle and the take-up, means for moving the said arm in a plane crossing the path of the needle at every alternate stitch so that the needle will stitch alternately upon the two sides of the arm and form loops of thread upon the arm, and means for regulating the length of the thread forming the loop, substantially as shown and described.

3. In combination in a sewing machine, a needle and needle bar, two arms one of which is attached to the presser-bar of the machine and projects forward past the needle, the other arm of which is flexible and projects backwardly from its junction with the first arm to a point back of the needle, and means for moving the flexible arm in a plane across the path of the needle at every alternate stitch, so that a loop of thread will be formed upon the flexible arm, substantially as shown and described.

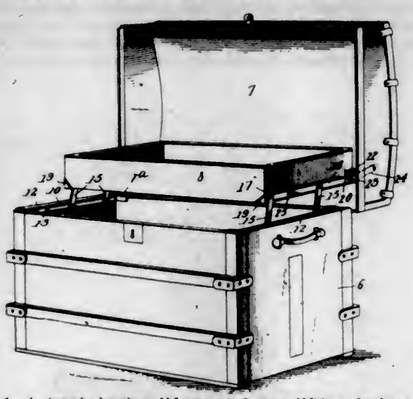
4. In combination in a sewing machine, a needle and a needle bar, two arms one of which is attached to the presser-bar of the machine and projects forward past the needle, the other arm of which is flexible and projects backwardly from its junction with the first arm to a point back of the needle means for moving the flexible arm in a plane across the path of the needle at every alternate stitch, so that a loop of thread will be formed upon the flexible arm, and means for adjusting the attachment upon the presser-bar in order to regulate the length of the stitch.

5. In combination in a sewing machine, a needle bar and needle, a take up, a resisting element arranged to prevent the take up from taking up the thread between stitches and a pusher acting against the cloth and controlling the resisting element to cause the needle to form a stitch first upon one side and then upon the other of said resisting element, substantially as described.

6. In combination in a sewing machine for overseaming a needle bar a take up, a pusher to act on the cloth and push the same away from the needle for overseaming and an arm movable across the path of the needle and against which the pusher acts, said arm receiving the thread thereon and resisting the taking up action of the take up, substantially as described.

7. In combination in a sewing machine for overseaming, a needle bar, a resilient arm, and a pusher to act on the cloth, said pusher acting also against the resilient arm to change its position in relation to the needle to lie first on one side of the needle path and then on the other, substantially as described.

865,322. TRUNK. CHARLES C. WIGINGTON, Morristown, Tenn. Filed Feb. 18, 1907. Serial No. 357,877.

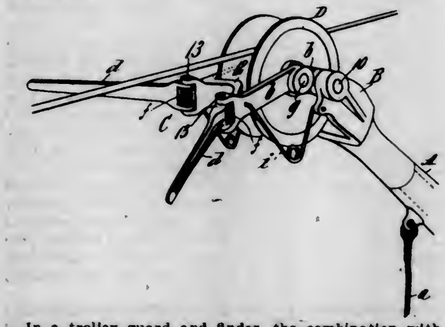


1. A trunk having lid-operated tray-lifting devices including angle bars with lower flanges on which the tray rests, the lower flanges being cut away at their rear ends and the upper flanges having notches at their rear ends, and pivot studs projecting from the sides of the tray into the notches.

2. A trunk having lid-operated tray-lifting devices including angle bars with lower flanges on which the tray rests and having notches at the rear ends of the upper flanges, and corner pieces fitting the rear corners of the tray and having pivot studs projecting into the notches.

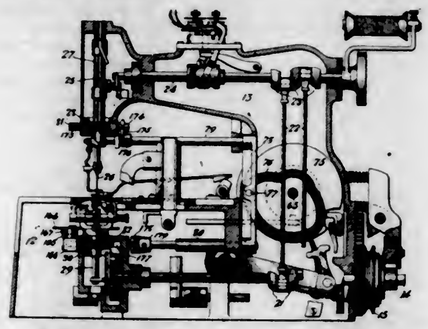
3. A trunk having lid-operated tray-lifting devices including angle bars with lower flanges on which the tray rests and having notches at the rear ends of the upper flanges, and corner pieces fitting the rear corners of the tray and having headed pivot studs projecting into the notches, with the heads engaging the outer sides of the bars to prevent spread thereof.

865,323. TROLLEY. LESLIE S. WILDER, Northampton, Mass., assignor of one-half to Henry S. Wilder, Easthampton, Mass. Filed Jan. 10, 1906. Serial No. 295,410.



In a trolley guard and finder, the combination with a harp, and a trolley wheel, of a stirrup-shaped lever consisting of side bars angled rearward closely adjacent their inner ends and pivoted at such inner ends to the harp, and consisting also of a grooved uniting member formed integral with the outer ends of said side bars, an axle for the trolley wheel extending between and connecting said side members at the points of angling, pivots carried at the junctions of said side bars and uniting member, guiding fingers mounted on said pivots, coil springs encircling said pivots and maintaining said fingers normally divergent, and a pair of bent rod springs secured at their inner ends to the rear portion of the harp and at their outer ends to said side bars considerably beyond the points of angling thereof.

865,324. BUTTONHOLE-STITCHING MACHINE. EDWARD B. ALLEN, Bridgeport, Conn., assignor to The Singer Manufacturing Company, a Corporation of New Jersey. Original application filed Mar. 7, 1906, Serial No. 304,732. Divided and this application filed Oct. 30, 1906. Serial No. 341,203.



1. In a button-hole stitching-machine, the combination with upper and lower stitch-forming devices rotatively mounted on the machine frame, of pinions for periodically turning said stitch-forming devices, sliding racks for engaging said pinions, sliding rods for operating said racks, a vertical bar to which said sliding rods are attached, a stud or pin on said vertical rod midway between said sliding rods, or approximately so, to impart equal and parallel movements to said rods without tendency to bind, and a grooved operating cam entered by said stud or pin and by which positive rotating movements in both directions will be imparted to said stitching devices.

2. In a button-hole stitching-machine, the combination with upper and lower stitch-forming devices rotatively mounted on the machine frame, of pinions for periodically turning said stitch-forming devices, sliding racks for operating said pinions, sliding rods with which said racks are adjustably connected, and means for operating said sliding rods.

3. In a button-hole stitching-machine, the combination with upper and lower stitch-forming devices rotatively mounted on the machine frame, of pinions for periodically turning said stitch-forming devices, sliding racks for operating said pinions, sliding rods with which said racks are connected, adjustable guides in which said racks are mounted, and means for operating said sliding rods.

4. In a button-hole stitching machine, the combination with work-holding and upper and lower stitch-forming devices, of a cord-guide movably mounted beneath the work-support of the machine so that it may be displaced from working position for convenience in threading, said cord-guide having a guiding portion which is approximately concentric with said lower stitch-forming devices when said cord guide is in working position.

5. In a button-hole stitching machine, the combination with work-holding and upper and lower stitch-forming devices, of a cord-guide movably mounted beneath the work-support of the machine so that it may be displaced from working position for convenience in threading, and means for holding said cord-guide in working position, said cord-guide having a guiding portion which is approximately concentric with said lower stitch-forming devices when said cord guide is in working position.

6. In a button-hole stitching machine, the combination with work-holding and upper and lower stitch-forming devices, of a cord-guide pivotally mounted beneath the work-support so that it may be swung outward horizontally for convenience in threading, said cord-guide having a guiding portion which is approximately concentric with said lower stitch-forming devices when said cord-guide is in working position.

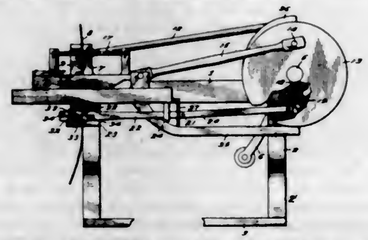
7. In a button-hole stitching machine, the combination with work-holding and upper and lower stitch-forming devices, of a cord-guide pivotally mounted beneath the work-support so that it may be swung outward horizontally for convenience in threading, and a spring for holding said cord-guide in working position, said cord-guide having a guiding portion which is approximately concentric with said stitch-forming devices when said cord-guide is in working position.

8. In a button-hole stitching machine, the combination with stitch-forming and work-holding devices, of a pivotally mounted block 165, the cord-guide 164 consisting of a horizontally swinging arm extending beneath the work-support and having a cord-guiding eye at its inner end, said arm being mounted on said block, and a spring pressing against said block and serving to hold said cord-guide in working position.

9. In a button-hole stitching-machine, the combination with upper and lower stitch-forming devices rotatively mounted on the machine frame, of pinions for periodically turning said stitch-forming devices, sliding racks for operating said pinions, sliding rods with which said racks are adjustably connected, adjustable guides in which said racks are mounted, and means for operating said sliding rods.

10. In a button-hole stitching-machine, the combination with upper and lower stitch-forming devices rotatively mounted on the machine frame, of pinions for periodically turning said stitch-forming devices, sliding racks for engaging said pinions, sliding rods for operating said racks and to which rods said racks are adjustably attached, a vertical bar to which said sliding rods are attached, a stud or pin on said vertical rod midway between said sliding rods, or approximately so, to impart equal and parallel movements to said rods without tendency to bind, and a grooved operating cam entered by said stud or pin and by which positive rotating movements in both directions will be imparted to said stitching devices.

865,325. SAW-SETTING MACHINE. SIDNEY E. ARNEY, Roswell, N. Mex. Original application filed Jan. 26, 1907, Serial No. 354,323. Divided and this application filed May 21, 1907. Serial No. 374,894.



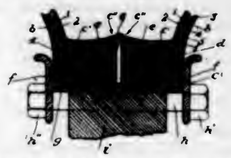
1. In a machine of the class described, the combination of a saw blade feeding device, an oscillatory member provided with a slot for receiving the saw teeth, a slotted member into which one extremity of the first member extends for actuating the latter, and dogs carried by the second member for releasably engaging said extremity.

2. In a machine of the class described, the combination of a reciprocatory actuator having spaced abutments, an oscillatory saw-setting member disposed between the abutments and alternately engaged thereby for producing the minimum set of teeth of the saw, and dogs carried by the actuator and adapted to be thrown into or out of engagement with the member for producing a greater set of the teeth.

3. In a machine of the class described, the combination of an oscillatory saw-setting member having a slot for receiving the teeth of a saw, a reciprocatory actuator provided with spaced abutments between which one extremity of the member extends and constituting a lost motion connection between the actuator and member, and pivoted dogs on the actuator and coöperating with the member for reducing the lost motion and thereby increasing the set of the teeth.

4. In a machine of the class described, the combination of an oscillatory saw setter comprising a member having spaced jaws at one end for engaging the teeth of the saw blade, a reciprocatory actuator provided with a slot into which the opposite end of the member projects, and oppositely disposed dogs on the actuator adapted to be adjusted into or out of engagement with the said member.

865,326. PNEUMATIC TIRE CASING OR SHOE. ERLE K. BAKER and CHARLES G. HAWLEY, Chicago, Ill. Filed May 18, 1907. Serial No. 374,375.



1. A tire casing provided with inwardly extending base portions which meet at their inner edges and have endless metal rings embedded in their outer parts and coöperating fillers embedded in their inner parts, substantially as described.

2. A tire casing having inwardly extending base portions adapted to abut, and containing endless cables in their outer parts and coöperating fillers *e*, *e*, in their inner parts, substantially as described.

3. A tire casing provided with inwardly extending base portions adapted to abut, and having endless cables embedded in their outer portions and coöperating fillers embedded in their inner portions, substantially as described.

4. A tire casing comprising a number of layers or courses of fabric and a cover of rubber, said casing having inwardly extending base portions, metal rings embedded in said base portions, and said layers or courses passing beneath said rings and having their edges formed into substantially incompressible thickened portions to coact with said rings, the whole being vulcanized, substantially as described.

5. An article of the class mentioned comprising a number of layers of fabric, and a covering of rubber, and formed with inwardly extending base portions the edges of said layers being wrapped about suitable fillers in said base portions and therewith forming substantially incompressible inner edges for said base portions, and endless rings of less diameter than said inner edges embedded in the outer parts of said base portions, and each composed of a plurality of strands of non-stretchable material, substantially as described.

6. An article of the class described comprising a number of layers or courses of fabric, in combination with endless metal rings, ring-like fillers parallel with respective rings, the edges of the fabric being carried downward and upward around said metal rings, and thence inward, downward and outward around respective fillers, rubber fillers enveloping said rings, a covering of rubber forming a tread portion, the whole vulcanized and comprising a unitary structure, substantially as described.

7. A tire casing having thick inwardly extending base portions or flanges, endless metal rings embedded in the outer parts of respective base portions, respective coöperating fillers in the inner parts of said base portions the inner edges of said base portions being provided with flexible joint closing lips, and the whole constituting a unitary structure, substantially as described.

8. A tire casing comprising a number of layers or courses of fabric, and a covering of rubber forming a tread portion, sides, and inwardly extending base portions having flexible lips and separate strips of fabric embedded in said lips, as and for the purpose specified.

9. A tire casing comprising a number of layers or courses of fabric, metal rings, the edges of said layers being carried downward and thence inward and upward around said rings, separate pieces of fabric closing the spaces above said rings, and suitable fillers and coverings,

the whole vulcanized and forming a unitary structure, substantially as described.

10. A tire casing or shoe comprising a number of layers of fabric, and a covering of rubber, and formed with inwardly extending base portions, and endless metal rings embedded in said base portions said layers passing beneath said rings in respective base portions, rising at the inner sides thereof and formed into substantially incompressible inner edges, substantially as described.

11. A tire casing or shoe comprising a number of layers of fabric together with endless metal rings and a covering of rubber, and formed with inwardly extending base portions, said layers passing beneath said rings in respective base portions, rising at the inner sides thereof, and making the edges of the base portions substantially incompressible, and separate pieces of fabric enveloping said rings and embedded in respective base portions, substantially as described.

12. A tire casing comprising a plurality of layers or courses of fabric, and a covering of rubber, said casing having inwardly extending base portions or flanges, endlesa metal rings embedded in said base portions, fillers in said base portions, the edges of said layers of fabric all passing beneath respective rings and vulcanized upon said fillers, and the inner course or layer of fabric, having its edges extended outwardly and upwardly at the outer sides of the casing, the whole being vulcanized and constituting a unitary structure, substantially as described.

13. A tire casing comprising fillers, c^3, strips of fabric, 6, 6, endless metal rings enveloped by the edges of respective strips, a plurality of courses or layers of fabric, a tread portion and covering of rubber, the edges of said layers of fabric being passed downwardly beneath said rings and bent upwardly and inwardly, forming incompressible base edges, and the whole being vulcanized and constituting a unitary structure, substantially as described.

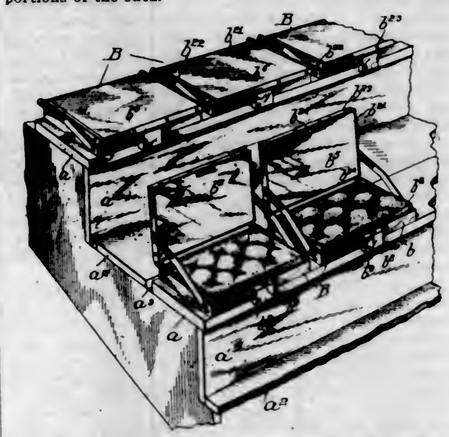
14. A tire casing or shoe, comprising a plurality of layers or courses of fabric, in combination with endless metal rings, ring-like fillers parallel with respective rings, the edges of the layers of fabric being carried downward and inwardly beneath said rings and thence upwardly and downwardly around said fillers, separate strips of fabric extending inwardly from said rings and therewith embedded in soft rubber, the whole being vulcanized and comprising a unitary structure, substantially as described.

15. A tire casing or shoe, comprising a plurality of layers of fabric and the edges of which are formed into inwardly extending base portions, together with endless metal rings embedded in said base portions, said layers passing beneath the rings in respective base portions, rising at the inner sides thereof and making the inner edges of said base portions substantially incompressible, inwardly extending lips of rubber projecting from said inner edges of the base portions and separate pieces of fabric embedded in said lips, the whole being vulcanized and forming a unitary structure, substantially as described.

16. A tire casing or shoe, comprising a plurality of layers of fabric and a covering of rubber, the edges of said layers of fabric being formed into inwardly extending base portions or flanges, endless metal cables embedded in respective base portions, the edges of said layers of fabric being passed downwardly beneath respective cables and thence upwardly at the inner sides thereof and thence downwardly, fillers coöperating with the edges of the layers to form substantially incompressible inner edges for said base portions and separate strips of canvas covering said cables and extending therefrom to the inner edges of the base portions, the whole being vulcanized and forming a unitary structure.

865,327. SEAT. HAROLD G. BARRETT, Wilmette, Ill., assignor, by mesne assignments, to Diamond Bleacher Seat Company, Chicago, Ill., a Corporation of Illinois. Filed May 21, 1906. Serial No. 317,958.

1. The combination of a seat-frame, a cushion-seat movably mounted therein and sheathed within the frame, a back pivotally joined to the seat-frame, and seat-actuating links joined by pin and slot connection to the lateral edge-portions of the back.



2. The combination of a seat-frame, a cushion-seat movably sheathed therein, an inclosing pivotally connected back, links having lost-motion connection with the back, and seat-elevating means actuated by said links and having cam-connections with said frame.

3. The combination of a seat-frame, a cushion-seat pivotally connected near its rear edge with said seat-frame, a shaft supporting said cushion-seat near its front edge and having cam-connection with said seat-frame, a back pivotally connected with said seat-frame, and shaft-actuating links having lost-motion connection with said back.

4. The combination of a seat-frame, a seat movably sheathed therein, a back pivoted to said frame, and bent links serving to actuate said seat and having lost-motion connection with said back, said links lying closely adjacent to the lateral edges of the back in the folded condition of the device.

5. The combination with a bleacher-seat, of a plurality of convertible cushion-seats supported thereon, and spacing clips connecting the frames of said convertible seats to said bleacher-seat, each convertible seat comprising a frame and a cushion-seat sheathable within said frame.

6. A convertible seat for the purpose set forth, comprising a shallow seat-frame adapted to rest upon a bleacher-seat and form therewith a box, a cushion-seat sheathable within said frame, a back resting upon the seat-frame and forming a closure therefor, and seat-actuating means connected with said back, said back having a plain uncushioned upper surface serving in the folded condition of the seat as an uncushioned seat.

7. A convertible seat for the purpose set forth, comprising a seat-frame, a movable cushion-seat sheathed within said frame, a back pivotally connected with said frame, and curved seat-actuated links having lost-motion connection with said back, whereby the links are maintained substantially below the upper surface of the back in the folded condition of the device.

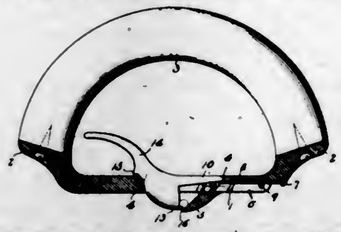
8. A convertible seat for the purpose set forth, comprising a seat-frame, a cushion-seat sheathed therein, a back resting upon and forming a closure for said seat-frame and having pivotal connection with the seat-frame, and seat-actuating means connected with the back and including links having lost-motion connection with the back, said links being of suitable length to permit the back to incline rearwardly in the standing position of the back.

9. A convertible seat for the purpose set forth, comprising a metal bar bent into rectangular form and forming a seat-frame, a movable cushion-seat sheathed within said frame, pivot-brackets applied to the rear member of said seat-frame and projecting in the rear thereof, a back pivotally connected with said brackets and resting upon and forming a closure for the seat-frame, and seat-actuating means including links having lost-motion connection with said back a short distance from the pivot thereof.

10. A seat-frame for the purpose set forth, comprising a metal bar bent to form four sides of a rectangle, the lateral members of said frame being provided with cam-slots, and a plate connecting the free ends of the bar at the front side of the frame.

11. The combination with a bleacher-seat, of a convertible seat applied thereto, comprising a shallow seat-frame resting upon and forming with the bleacher-seat a box, a cushion-seat movably mounted and sheathed within said frame, and a closure-forming seat-actuating back pivotally joined to said frame and serving, in the folded condition, to cover the seat and frame, the upper or back surface of said back serving as an uncushioned seat in the folded condition of the device.

865,328. SAD-IRON HANDLE. WILLIAM G. BOUGHTON, Cleveland, Ohio, assignor to Fred Hoehn, Clifton Park, Ohio. Filed Apr. 5, 1906. Serial No. 310,109.



In a handle for sad irons the combination with a longitudinally grooved base having a slot therethrough at one end of the groove, a depending lip extending transversely of the groove and adjacent the slot, and a stop projection adjacent the other end of the groove; of a pivot pin extending transversely within the slot, a latch, a shouldered stem projecting therefrom and normally bearing on the base, a shank extending from the other end of the latch and normally seated within the slot, a hook depending from the shank at a point between the ends thereof and engaging the pivot pin, a spring strip within the groove and contacting therewith throughout the length thereof, one end of said strip bearing against the stop projection and the other end bearing against the hook and the adjoining portion of the shank, and a pin extending transversely of the groove for holding the spring strip against one wall of the groove, said hook, stop projection and pin being disposed to prevent displacement of the spring strip.

865,329. WORK-GAGE FOR NAILING-MACHINES. LOUIS A. CASGRAIN, Winchester, Mass., assignor to United Shoe Machinery Company, Boston, Mass., a Corporation of New Jersey. Original application filed Aug. 4, 1898, Serial No. 687,682. Divided and this application filed Aug. 18, 1902. Serial No. 120,044.



1. A work-gage comprising a yieldingly-controlled work-engaging member adapted to guide the work and movable in a vertical path, and adjustable means to positively regulate such movement in both directions.

2. A work-gage comprising a spring-controlled support movable in a vertical path, a work-engaging member mounted on the support, and adjustable means to regulate the amplitude of vertical movement of the latter.

3. In a mechanism for inserting fastenings, a presser, a yieldingly mounted support adjacent thereto and movable in a vertical path relatively to said presser, a work-engaging member on said support, and adjustable means to positively regulate the extent of movement of the latter in both directions.

4. In a mechanism for inserting fastenera, a presser, a bracket adjacent thereto, a spring-controlled arm pivotally mounted on the bracket and vertically movable relatively to said presser, a rotatable work-engaging member on the arm, and means to adjustably limit the movement of the arm.

5. In a mechanism for inserting fastenings, a yieldingly controlled work-engaging member, sustaining means therefor, a plurality of different sized stops movably mounted on one of said parts, and means on the other of said parts constructed and arranged to engage said stops singly to limit the movement of said work-engaging member.

6. In a mechanism for inserting fastenings, a bracket, a yieldingly controlled arm connected therewith, one of said parts having a recess, a plurality of different sized stops movably mounted on the other of said parts to enter singly said recess to limit the movement of said arm, and a work-engaging member carried by said arm.

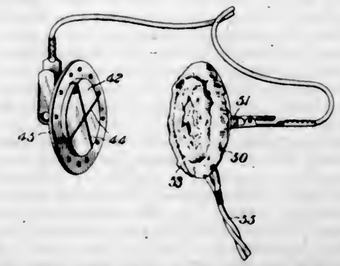
7. In a mechanism for inserting fastenings, a bracket, a spring-controlled arm pivotally mounted on the bracket, a plurality of connected stops of different width movably mounted on one of said parts to enter singly a notch in the other, to limit the movement of the arm, one of said parts having a notch, and a rotatable work-engaging member carried by the arm.

8. A work-gage comprising a bracket, a spring-controlled arm pivotally connected therewith, a plurality of connected stops of different width movably mounted on one, to coöperate singly with a notch in the other, of said members, to adjustably limit swinging movement of the arm, one of said members having a notch, and a work-engaging member carried by the arm.

9. A work-gage comprising a bracket, a spring-controlled arm pivotally connected therewith, a plurality of connected, radial stops of different width rotatably mounted on one of said members, to coöperate singly with a notch in the other member, to adjustably limit swinging movement of the arm, one of said members having a notch, means to retain the stops in adjustment, and a rotatable work-engaging member carried by the arm.

10. A work-gage comprising a yieldingly controlled work-engaging member mounted to have movement in a vertical path only, and adjustable means to regulate the amplitude of such movement.

865,330. BATTERY. REUBEN S. CLYMER and THOMAS M. WOODHOUSE, Allentown, Pa.; said Woodhouse assignor to said Clymer. Filed Nov. 7, 1906. Serial No. 342,383.



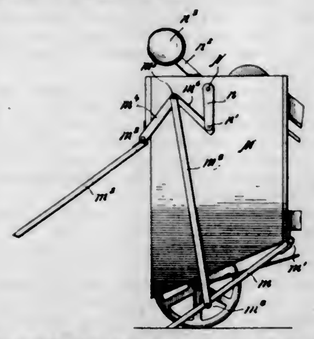
1. In apparatus of the class described, a source of energy and a pair of electrodes connected to the opposite poles thereof, the therapeutic electrodes being connected to the positive pole and being formed of a conducting plate, an absorbent material secured thereto, and current conducting means between the plate and absorbent material and also on the active face of the latter; and the indifferent electrode being provided with heating means.

2. In an apparatus of the class described, a source of energy; a therapeutic electrode formed of a conducting

plate having a centrally-located projecting pin, a disk of absorbent material having a central opening for receiving the pin to removably secure the said disk to the conducting plate, and current conducting means between the plate and the absorbent material and also on the active face of the latter; and an indifferent electrode having absorbent material secured thereto, a resistance element embedded in said absorbent material away from the active face thereof and held to the electrode by said absorbent material, and a source of electrical energy connected to the resistance element for raising the temperature thereof.

3. In an apparatus of the class described, an electrode comprising a metallic disk having a central projecting pin, a disk of absorbent material having a central opening into which the pin extends, and conducting wires passing through the central opening and between the absorbent and metallic disks and also along the active face of the absorbent disk.

865,331. LAWN-MOWER. WILLIAM H. COLDWELL, Newburgh, N. Y. Original application filed Feb. 20, 1907, Serial No. 358,381. Divided and this application filed Apr. 30, 1907. Serial No. 371,057.



1. The combination with a receptacle having its bottom and one side provided with hinged discharging doors, disposed angularly to each other and having their free ends meeting when in closed position, of an arm connected to one of said doors adjacent to its hinge connection and a supporting link intersecting the axis of said hinge connection when the doors are closed and connected with said arm and with the other door, substantially as described.

2. The combination with a receptacle having its bottom and one side provided with hinged discharging doors, disposed angularly to each other and having their free ends meeting when in closed position, of an arm connected to one of said doors adjacent to its hinge connection and a supporting link intersecting the axis of said hinge connection when the doors are closed and connected with said arm and with the other door, and means for locking said arm for holding both doors in closed position, substantially as described.

3. The combination with a receptacle having its bottom and one side provided with hinged discharging doors, disposed angularly to each other and having their free ends meeting when in closed position, of an arm connected to one of said doors adjacent to its hinge connection and a supporting link intersecting the axis of said hinge connection when the doors are closed and connected with said arm and with the other door, operating means connected with said arm for opening said doors simultaneously, and means for locking said arm to hold said doors in closed position, substantially as described.

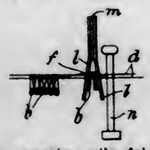
4. A grass box for a lawn mower having a hinged bottom, and a hinged door located in one of its side walls, and having its free end adjacent to the free end of said hinged bottom, when both are in closed position, a vertically disposed link connected to said bottom, and extending normally above and intersecting the axis of the hinge of said door, and an arm connected to said door, and extending therefrom in line with said link, and pivotally connected to said link, whereby, when said door is in closed position, the bottom is also held in closed position, substantially as described.

5. A grass box for a lawn mower having a hinged bottom, and a hinged door, located in one of its side walls, and having its free end adjacent to the free end of said hinged bottom when both are in closed position, a vertically disposed link connected to said bottom, and extending normally above and intersecting the axis of the hinge of said door, and an arm connected to said door, and extending therefrom in line with said link, and pivotally connected to said link, whereby when said door is in closed position the bottom is also held in closed position, a crank shaft provided with a crank, a link connecting said crank to the said operating arm, and means for operating said crank shaft to open and close said door and bottom simultaneously, substantially as described.

6. A grass box for a lawn mower, having a hinged bottom, and a hinged door located in one of its side walls, and having its free end adjacent to the free end of said hinged bottom, when both are in closed position, a vertically disposed link connected to said bottom, and extending normally above and intersecting the axis of the hinge of said door, and an arm connected to said door, and extending therefrom in line with said link, and pivotally connected to said link, whereby when said door is in closed position the bottom is also held in closed position, a crank shaft provided with a crank, a link connecting said crank to the said operating arm, the pivoted connections of said link and crank lying in a straight line with the crank shaft when the door and bottom are in closed position and forming a lock for the same, and means for operating said crank shaft to open and close said door and bottom simultaneously, substantially as described.

7. A grass box for a lawn mower, having a hinged bottom, and a hinged door, located in one of its side walls, and having its free end adjacent to the free end of said hinged bottom, when both are in closed position, a vertically disposed link connected to said bottom, and extending normally above and intersecting the axis of the hinge of said door, and an arm connected to said door, and extending therefrom in line with said link, and pivotally connected to said link, whereby when said door is in closed position the bottom is also held in closed position, a crank shaft provided with a crank, a link connecting said crank to the said operating arm, the pivotal connections of said link and crank lying in a straight line with the crank shaft when the door and bottom are in closed position, and a weighted lever secured to said crank shaft, substantially as described.

865,332. LOOM FOR WEAVING PILE FABRICS. ALBERT G. COWELL, Kidderminster, England. Filed Dec. 28, 1906. Serial No. 349,847.

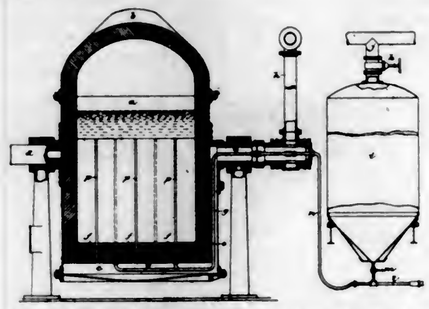


1. In a loom for weaving pile fabrics, a double comb constructed and operating as herein described, to force the pile ends of the flat strip of pile weft downwards between the ground warps.

2. In a loom for weaving pile fabrics by means of strips of flat chenille, a double comb the teeth of which project at the bottom and are set at an angle to each other, substantially as herein set forth.

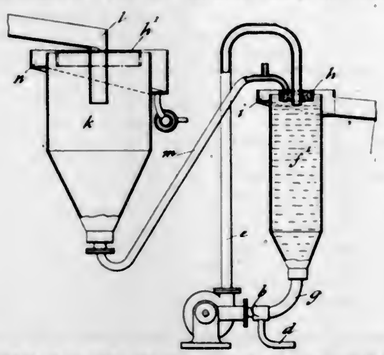
865,333. PROCESS OF SMELTING ORE AND CONVERTING MATTE. ARTHUR M. DAY, Bingham Canyon, Utah. Original application filed Apr. 19, 1905, Serial No. 256,484. Divided and this application filed Dec. 28, 1905. Serial No. 293,556.

1. The process of smelting ore and converting matte, consisting in forcing air into the charge and injecting powdered silica or silicious material in a fluent form through one or more twyers with an air blast separate and distinct from the air supply to either twyers, substantially as described.



2. The process of smelting ore and keeping the twyers open, consisting in covering the charge of ore with a molten substance containing sufficient heat to start fusion of the charge, supplying air to the charge at or near the melting level as fusion progresses downward, and injecting powdered silica or silicious material in a fluent form with an air blast delivered at or near the melting level through one or more twyers separate from the air supply to other twyers, substantially as described.

865,334. APPARATUS FOR CONCENTRATING ORES. ALEXANDER S. ELMORE, London, England, assignor to The Ore Concentration Company (1905) Limited, London, England. Filed Dec. 11, 1903. Serial No. 184,817.

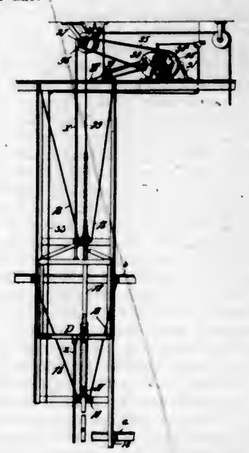


Apparatus for the treatment of ores with oil, comprising a mixing tank, a mixing device for intimately mixing a pulp of the ore with oil in the mixing tank, and a floating seal of oil inclosed by a ring for excluding air from the said tank during the mixing process, substantially as described.

865,335. ELEVATOR-GATE-OPERATING MECHANISM. JOHN E. W. FOGAL, Quincy, Ill., assignor to Quincy Elevator Gate Co., Quincy, Ill. Filed Nov. 17, 1906. Serial No. 343,883.

1. The combination with an elevator gate, of an operating bar suspended within the shaft and provided with a perforation, a block mounted on the bar, a pivoted cam arm, a spring normally holding the same outward from the bar, a hooked pawl arranged on the cam arm and adapted to enter the perforation, a car carried means for engaging said cam arm, and means for raising and lowering the bar.

2. In combination, an elevator gate, an operating bar suspended within the shaft and provided with a perforation, a frame or bracket forming a guide for the bar, a pair of sheaves mounted in the frame or bracket, cables passing around the sheaves and connected at one end to the block, and at the other end to the gate, a cam arm pivoted to said block, a hooked pawl carried by the cam arm and arranged to enter the perforation of the bar, a spring tending to force the cam arm outward from the bar, means on the car for engaging the cam arm and forcing the pawl into the perforation, and means for raising and lowering said bar.



3. The combination with an elevator gate, of an actuating member suspended within the shaft and adapted for connection to the gate, a cable carrying said actuating member, a shaft, a crank member carried thereby, multiplying sheaves over which the cable passes, one set of sheaves being supported by the crank member, and the other being connected to a fixed point, and means under the control of the operator for imparting movement to the shaft.

4. In combination with an elevator gate, of an actuating member adapted for connection to said gate, a cable carrying said member, a shaft, a crank member carried thereby, multiplying sheaves, one set of which is carried by the crank member, and the other being connected to a fixed point, the cable being arranged to pass around said sheaves, a shaft driving member mounted loosely on the shaft, and receiving motion from a part of the hoisting mechanism, and means under the control of the attendant for clutching said member to the shaft.

5. In combination, an elevator gate, an actuating bar therefor, means for connecting the gate to the bar, a shaft, a crank member carried thereby, multiplying sheaves, one set of which is carried by the crank member, and the other set being connected to a fixed point, a bar carrying cable passing around the sheaves, a shaft driving gear mounted loosely on the shaft, and means under the control of the elevator attendant for clutching said gear to said shaft.

6. In combination, an elevator gate, a gate actuating member suspended therein and adapted for connection to said gate, a shaft, a crank member carried thereby, multiplying sheaves, one set of which is connected to the crank member and the other to a fixed point, a suspension cable passing around the multiplying sheaves and connected to said actuating member, a loose driving member mounted on the shaft, a clutch disk feathered to the shaft, and means under the control of the elevator attendant for forcing said disk into engagement with the driving member.

7. In combination, an elevator gate, an actuating member therefor, a shaft, a crank carried thereby, multiplying sheaves, one set of which is carried by the crank, and the other being connected to a fixed point, an operating cable

passing around the sheaves and connected to said actuating member, a driving member mounted loosely on the shaft, a disk feathered to the shaft and arranged to frictionally engage said driving member, cam levers for forcing the disk into clutching position, an actuating lever for said cam levers, an anti-friction roller carried by the actuating lever, the disk being provided with a recess having cam faces in which the roller normally rests.

8. In mechanism of the class described, a gate actuating member, a normally idle operating shaft connected to said member, a shaft driving member, a clutching means under the control of the elevator attendant for connecting the shaft to the driving member, and means for automatically holding the clutch in engagement during a single complete rotative movement of the shaft and then releasing the shaft.

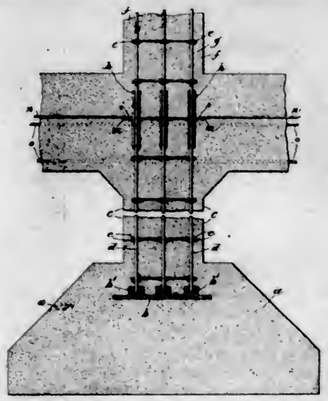
9. In combination, an elevator gate, an actuating bar suspended within the shaft and provided with perforations, a guiding frame or bracket for said actuating member, a block arranged to rest on said frame or bracket, a cam arm pivoted to the block, a hooked pawl arranged to enter the perforation, a spring normally tending to move the cam arm outward from the actuating means, sheaves carried by the frame or bracket, gate operating cables passing over the sheaves and connected to the block, cam shoes arranged on the car and adapted to engage the cam arm, a shaft, a crank member carried thereby, multiplying sheaves, one set of which is carried by the crank member and the other being connected to a fixed point, a suspension cable for the actuating member, said cable passing around the multiplying sheaves, a sprocket wheel loosely mounted on the shaft, means for actuating said sprocket wheel, said sprocket wheel having a friction face and being provided with an angular undercut groove, bolts having headed ends mounted within said groove, a friction disk having openings for the passage of the bolts, cam levers pivoted to the bolts and arranged to bear against the friction disk, the periphery of said disk having a recessed flange, an operating lever, a collar mounted on the shaft and with which said operating lever engages, said collar being also in engagement with the cam levers, an anti-friction roller carried by the actuating lever, and normally entered in the recess of the cam disk, and a flexible member extending from the actuating lever down through the car.

10. In mechanism of the class described, the combination with an elevator gate, of an actuating device therefor, a car-carried cam shoe for automatically connecting the gate to the actuating device, a pair of pins carrying each shoe, the connection between the shoe and one of the pins being pivotal, a support for the pins in which the latter are movable in the direction of their length, and springs one carried by each pin and tending to force the shoe outward to operative position.

865,336. BUILDING STRUCTURE. HOWARD S. GARDNER, Cape May, N. J. Filed June 18, 1906. Serial No. 322,337.

1. A building structure comprising an outer wall, a plurality of columns spaced from one another and each including a cementitious part, a set of lengthwise extending strands formed in sections arranged end to end, coupling sleeves joining the adjacent ends of the sections of each strand, and sheet metal plates or bars for spacing the strands from one another, said bars or plates engaging the coupling sleeves, tie rods extending between the outer walls of the building to the plates or bars of adjacent columns and other tie rods extending between the several columns and engaging at their ends, the said plates or bars thereof.

2. A building structure comprising a plurality of columns and cementitious floor partitions, each of the columns including a series of superimposed sections, each section comprising a cementitious or concrete part and a plurality of longitudinally extending strands spaced from one another and having their ends projecting beyond the ends of said cementitious part, sleeves coupling the strands of adjacent sections to one another, connecting plates coöperating with the sleeves and horizontally disposed tie rods extending from the plates of one column to the plates of adjacent columns, substantially as described.



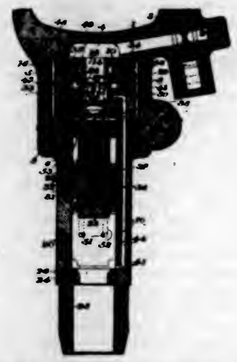
3. A frame work for buildings, comprising column footings, columns mounted thereupon of reinforced plastic material, each comprising a series of sections, each section being formed of plastic material with reinforcing strands having their ends projecting beyond the ends of the plastic material, the projecting ends at the upper ends of the sections and the projecting ends at the lower ends of the superimposed sections being coupled to one another, said points of coupling occurring substantially at the line of the floor partitions and a set of tie-bars located at each of said points of couplings, said tie-bars comprising plates having openings to receive the strands and additional openings outside of the first named openings and bars having hooked ends to engage the additional openings and adjusting means intermediate of their ends, substantially as described.

4. A building structure comprising a plurality of perpendicular columns, constructed of tiers of reinforced plastic column sections, a base for each column, the sections of the columns each having the reinforcing strands thereof projecting beyond the ends of the plastic portions of the same, the members of the first tier of sections having the strands at their lower ends held in the base associated therewith, means for coupling the projecting strands at the upper ends of the lower tier members to the projecting strands at the lower ends of the members of the second tier of sections, plates secured to the strands of the columns between the adjacent ends of the plastic sections thereof and tie-bars connecting the columns to one another, secured at their ends in said plates, substantially as described.

5. A building structure comprising a plurality of columns of cementitious material reinforced by longitudinally extending strands, each column comprising a plurality of sections having the ends of the strands associated therewith extending beyond the ends of the cementitious portion of the same, the contiguous registering ends of the strands being coupled together by encircling sleeves, a filling for the sleeves rigidly retaining the ends therein, tie rods for holding the columns plumb and a foundation plate for each column provided with sockets for the lower ends of the strands of the columns with which it is associated, said strands extending into said sockets and being held therein by a filling, substantially as described.

865,337. PNEUMATIC TOOL. FREDERICK S. GRAHAM, Philadelphia, Pa., assignor of one-third to Ralph M. Seaman and one-third to Charles A. Strunts. Filed Nov. 9, 1906. Serial No. 342,715.

1. In a pneumatic tool, the combination of a casing, a reciprocating piston therein, and a valve mechanism comprising a valve casing, a cup-shaped valve of uniform diameter therein, a valve cover having a depending flange with the outer periphery of which the inner periphery of said valve engages, said valve having ports through the side thereof controlled by said flange and controlling the admission of motive fluid to advance the piston, and said valve having ports through the side thereof near its lower end for controlling the passage of motive fluid to return the piston.



2. In a pneumatic tool, the combination of a casing, a reciprocating piston therein and a valve mechanism comprising a valve casing, a cup-shaped valve of uniform diameter therein, a valve cover having a depending flange with the outer periphery of which the inner periphery of said valve engages, said valve having ports through the side thereof controlled by said flange and controlling the admission of motive fluid to advance the piston, said valve having ports through the side thereof near its lower end controlling the passage of motive fluid to return the piston, said valve casing having a series of exhaust ports therethrough, and an annular groove in proximity to said ports, and an annular groove on said valve adapted to permit exhaust fluid to pass from the groove in said valve casing into said series of exhaust ports.

3. In a valve mechanism for pneumatic tools, the combination of a casing having a bore of uniform diameter, a cup-shaped valve within said casing having an imperforate bottom, a series of ports through the side of said valve intermediate the ends thereof, a cover for said casing having a depending flange controlling said ports an annular groove on the outer periphery of said valve with which said ports communicate, an annular groove in said casing always in communication with the annular groove on said valve and passages for live and exhaust motive fluid leading from said casing and controlled by said valve.

4. In a valve mechanism for pneumatic tools, the combination of a casing having a bore of uniform diameter therein and an internal annular groove, a series of exhaust ports extending through said casing, passages communicating with said ports and extending through the bottom of the casing, a cup-shaped valve having an annular groove intermediate the end thereof and engaging said bore, a series of ports through said valve communicating with said groove, inlet ports through the side of said valve near the lower end thereof, ports extending through the forward end of said casing with which said ports communicate, a cover having a depending flange, the outer periphery of which engages the inner periphery of said valve, a passage extending through said cover and said casing, and a passage extending through the bottom of said casing beneath said valve.

5. In a valve mechanism for pneumatic tools, the combination of a casing having a uniform bore and an annular groove, a series of exhaust ports leading from said groove through the bottom of said casing, a cup-shaped valve within said bore and having an annular groove registering at all times with the annular groove in said casing, a cover having a depending flange the outer periphery of which

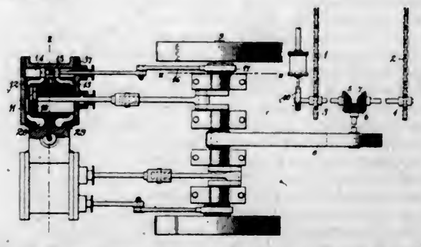
the inner periphery of said valve engages, said valve controlling said inlet ports, a port through the side of said valve near the bottom thereof, a passage through the casing co-acting therewith, a passage through said cover and extending through the bottom of said casing, a passage through the bottom of said casing beneath said valve and exhaust passages through said casing.

6. In a pneumatic tool, the combination of a casing, a reciprocating piston and a valve mechanism comprising a valve casing, a cup-shaped valve of uniform diameter therein, a valve cover having a depending flange with the outer periphery of which the inner periphery of said valve engages, said valve having inlet ports through the side thereof controlled by said flange, there being an annular groove in said valve always registering with an annular groove in said casing, inlet passages leading from the groove in said casing through which motive fluid passes to advance the piston, said valve having ports through the side thereof for controlling the passage of motive fluid to return the piston, a live air inlet passage through said cover and casing and a passage through said casing and opening thereinto beneath said valve.

7. In a pneumatic tool, the combination of a casing, a reciprocating piston therein, and a valve mechanism comprising a valve casing, a cup-shaped valve of uniform diameter therein, a valve cover having a depending flange with the outer periphery of which the inner periphery of said valve engages, said valve having ports through the side thereof controlled by said flange and controlling the admission of motive fluid to advance the piston, said valve having ports through the side thereof near its lower end for controlling the passage of motive fluid to return the piston, and means for changing the valve.

8. In a pneumatic tool, the combination of a casing, a reciprocating piston therein, and a valve mechanism comprising a valve casing, a cup-shaped valve of uniform diameter therein, a valve cover having a depending flange with the outer periphery of which the inner periphery of said valve engages, said valve having ports through the side thereof controlled by said flange and controlling the admission of motive fluid to advance the piston, said valve having ports through the side thereof near its lower end for controlling the passage of motive fluid to return the piston, means for changing the valve, and means for permitting the exhaust of fluid pressure in the rear of said valve from the space between said flange and said casing.

865,338. POWER YIELDING AND RECEIVING MEANS. FORD W. HARRIS, Wilkinsburg, Pa. Original application filed Feb. 19, 1906, Serial No. 301,956. Divided and this application filed July 16, 1906. Serial No. 326,475.



1. The combination with an engine cylinder, a piston, and a valve, that governs the admission of fluid to the cylinder of means for causing the travel of the valve to be dependent upon the speed of the piston, passages that communicate, respectively, with opposite ends of the cylinder, high and low pressure chambers, respectively, on opposite sides of the passages, and means that govern communication thereof with the passages.

2. The combination with an engine cylinder, a piston, a valve that governs the admission of fluid to the cylinder and a valve chest, of means for causing the travel of the

valve to be dependent upon the speed of the piston, passages that communicate, respectively, with opposite ends of the cylinder, high and low pressure chambers, respectively, on opposite sides of the passages, means that govern communication thereof with the passages, and means for connecting the valve chest with the high pressure chamber.

3. The combination with an engine cylinder, a piston, a valve that governs the admission of fluid to the cylinder and a valve chest having an exhaust port, of means for causing the travel of the valve to be dependent upon the speed of the piston, passages that communicate, respectively, with the opposite ends of the cylinder, high and low pressure chambers, respectively, on opposite sides of the passages, means that govern communication thereof with the passages, means for connecting the valve chest with the high pressure chamber, and means for connecting the low pressure chamber to the exhaust port.

4. The combination with an engine cylinder, a piston, a valve that governs the admission of fluid to the cylinder and a valve chest having an exhaust port, of a governor for causing the travel of the valve to be dependent upon the speed of the piston, passages that communicate, respectively, with opposite ends of the cylinder, high and low pressure chambers, respectively, on opposite sides of the passages, means for effecting communication between the low pressure chamber and the said passages when the pressure within the cylinder falls below that within the low pressure chamber and means for effecting communication between the cylinder and the high pressure chamber when the pressure within the cylinder exceeds that in the high pressure chamber.

5. The combination with an engine cylinder, a piston, a valve that governs the admission of fluid to the cylinder and a valve chest having an exhaust port, of a governor for causing the travel of the valve to be dependent upon the speed of the piston, passages that communicate, respectively, with opposite ends of the cylinder, high and low pressure chambers, respectively, on opposite sides of the passages, means for effecting communication between the low pressure chamber and the said passages when the pressure within the cylinder falls below that within the low pressure chamber, means for effecting communication between the cylinder and the high pressure chamber when the pressure within the cylinder exceeds that in the high pressure chamber, and means connecting the valve chest with the high pressure chamber.

6. The combination with an engine cylinder, a piston, a valve that governs the admission of fluid to the cylinder and a valve chest having an exhaust port, of a governor for causing the travel of the valve to be dependent upon the speed of the piston, means for storing fluid at high pressure, means for governing communication between the cylinder and the storage means that are operated only when the pressure within the cylinder exceeds that within the storage means, means connecting the valve chest and the high pressure storage means and means for governing communication of the cylinder with a source of fluid at low pressure that will operate only when the pressure within the cylinder falls below that of the source.

7. The combination with an engine cylinder, a piston, and a valve that governs the admission of fluid to the cylinder of means for causing the travel of the valve to be dependent upon the speed of the piston, passages that communicate, respectively, with opposite ends of the cylinder, high and low pressure chambers, and means that govern communication thereof with the passages.

8. The combination with an engine cylinder, a piston, a valve that governs the admission of fluid to the cylinder and a valve chest, of means for causing the travel of the valve to be dependent upon the speed of the piston, passages that communicate, respectively, with opposite ends of the cylinder, high and low pressure chambers, means that govern communication thereof with the passages, and means for connecting the valve chest with the high pressure chamber.

9. The combination with an engine cylinder, a piston, a valve that governs the admission of fluid to the cylinder and a valve chest having an exhaust port, of a governor for causing the travel of the valve to be dependent upon the speed of the piston, passages that communicate, respectively, with opposite ends of the cylinder, high and low pressure chambers, means for effecting communication between the low pressure chamber and the said passages when the pressure within the cylinder falls below that within the low pressure chamber and means for effecting communication between the cylinder and the high pressure chamber when the pressure within the cylinder exceeds that in the high pressure chamber.

10. The combination with an engine cylinder, a piston, a valve that governs the admission of the fluid to the cylinder and a valve chest having an exhaust port, of a governor for causing the travel of the valve to be dependent upon the speed of the piston, passages that communicate, respectively, with opposite ends of the cylinder, high and low pressure chambers, means for effecting communication between the low pressure chamber and the said passages when the pressure within the cylinder falls below that within the lower pressure chamber, means for effecting communication between the cylinder and the high pressure chamber when the pressure within the cylinder exceeds that in the high pressure chamber, and means connecting the valve chest with the high pressure chamber.

11. The combination with a device that may serve either as a prime mover or as a fluid-compressor, of means for causing the function of said device to depend upon the speed of operation thereof.

12. A device having governing means responsive to the speed of operation thereof that causes the same to yield energy in a form that may be stored when operated above a predetermined speed, and to absorb the previously yielded energy for actuating the same as a prime mover at less than the said predetermined speed.

13. The combination with an engine cylinder, a piston, and a valve, of means for causing the travel of the valve to be dependent upon the speed of the piston, a high pressure chamber, and means that govern communication of both ends of the cylinder therewith and with fluid at low pressure.

14. The combination with an engine cylinder, a piston, and a valve, of means for causing the travel of the valve to be dependent upon the speed of the piston, a high pressure chamber, and means that govern communication of both ends of the cylinder therewith and with fluid at low pressure that are dependent in operation upon the fluid-pressure within the cylinder.

15. The combination with an engine cylinder, a piston, and a valve, of means for causing the travel of the valve to be dependent upon the speed of the piston, a high pressure chamber, means that govern communication of both ends of the cylinder therewith and with fluid at low pressure, and means for connecting the valve chest with the high pressure chamber.

16. The combination with an engine cylinder, a piston, and a valve, of means for causing the travel of the valve to be dependent upon the speed of the piston, a high pressure chamber, means that permit communication of the ends of the cylinder therewith when the fluid-pressure therein exceeds a predetermined amount, and with fluid at low pressure when the pressure in the cylinder falls below a predetermined amount.

17. A device having governing means responsive to the speed of operation thereof that causes the same to either yield energy in a form that may be stored or to operate as a prime mover utilizing the previously yielded energy as the actuating means.

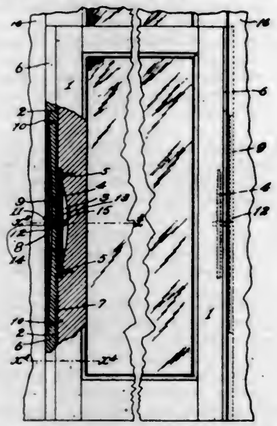
865,339. SASH FASTENER AND TIGHTENER. NEWTON S. HILLYARD, St. Joseph, Mo. Filed Mar. 28, 1907. Serial No. 365,076.

In an adjustable sash fastener and tightener the combination with a perforated plate attached on the face of a stile of an upper sash, of a lock case of rhomboidal form rigidly attached forward of said plate on the meeting-rail of a lower sash provided with a vertical slot in its front and two shorter vertical slots in its rear, a flat lock bolt set edgewise, adapted to travel through said front slot, and its narrowed end adapted to travel in one of said rear slots, a shoulder on said bolt adapted to engage with the front of the case at the bottom of the front slot and automatically hold said bolt in unlocked position, upper and lower shoulders vertical with each other on said bolt and a spiral spring encircling said narrowed end of the bolt engaging said shoulders, the oblique angle in said narrowed



end of the bolt, and the reverse taper end thereof, adapted to engage with the perforations in said plate and with the slots in the rear of the case, and a thumb piece bearing toward the top slightly backward, to assist in carrying the front shoulder down into engagement with the case, substantially as shown and set forth.

865,340. REVERSIBLE WINDOW. DAVID E. HIPOLITO, San Jose, Cal. Filed Feb. 18, 1907. Serial No. 358,125.



1. In a reversible window provided with a stile and supplemental stile, a pivoted plate and a spring, one fastened to the stile and the other to the outside of the supplemental stile and each provided with a screwthreaded hole, said holes being coaxial and a pivot screwthreaded at both ends and screwed into said holes.

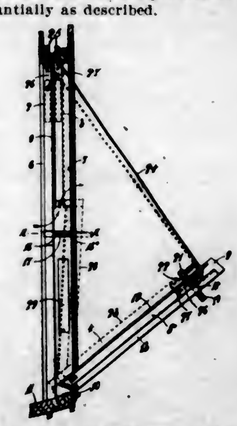
2. In a reversible window provided with a stile and supplemental stile, a plate fastened to the stile, a flat spring fastened to the outside of the supplemental stile and being of considerable thickness at the middle and there provided with a screwthreaded hole and a pivot screwthreaded at its ends and screwed into said plate and spring.

3. In a reversible window, a stile, a plate fastened to said stile and provided with a screwthreaded hole, a supplemental stile provided with a hole, a spring on said supplemental stile provided with a screwthreaded hole and a pivot screwthreaded at its ends and smooth at the middle inserted through the hole in the supplemental stile and screwed into said plate and spring.

4. In a reversible window, the combination with a grooved stile, of a plate secured in the groove thereof, a tongued supplemental stile, a flat spring outside the supplemental stile and a pivot screwed into the plate and spring and connecting the same pivotally together.

865,341. WINDOW. GEORGE E. HUMPHRIES, Wellington, New Zealand. Filed Dec. 29, 1906. Serial No. 350,061.

1. In a window, the combination of a window frame and the usual upper and lower sashes, outer facings, parting strips, and inner strips carried by said window frame, an adjustable frame hinged to said window frame, means for latching said adjustable frame in its normal closed position, parting strips and inner strips carried by said adjustable frame to form continuations of the corresponding elements on the window frame in the closed position of said adjustable frame, and guides carried by said adjustable frame to form continuations of the outer facings on the window frame in the closed position of said adjustable frame, substantially as described.



2. In a window, the combination of a window frame and the usual upper and lower sashes, outer facings, parting strips, and inner strips carried by said window frame, an adjustable frame hinged to said window frame, means for latching said adjustable frame in its normal closed position, parting strips and inner strips carried by said adjustable frame to form continuations of the corresponding elements on the window frame in the closed position of said adjustable frame, guides carried by said adjustable frame to form continuations of the outer facings on the window frame in the closed position of said adjustable frame, and means for preventing spreading of said adjustable frame when swung in open position, substantially as described.

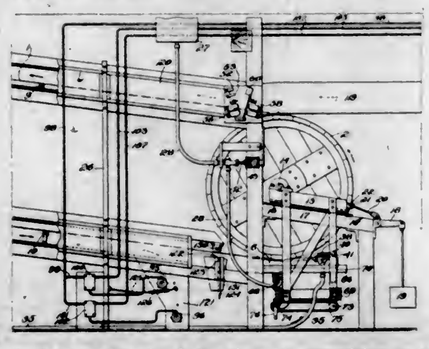
3. In a window, the combination of a window frame and the usual upper and lower sashes, outer facings, parting strips, and grooved inner strips carried by said window frame, an adjustable frame hinged to said window frame, means for latching said adjustable frame in its normal closed position, parting strips and grooved inner strips carried by said adjustable frame to form continuations of the corresponding elements on the window frame in the closed position of said adjustable frame, guides carried by said adjustable frame to form continuations of the outer facings on the window frame in the closed position of said adjustable frame, and tongues carried by the lower sash for engaging the grooved inner strips of said adjustable frame for preventing spreading of the latter when swung in open position, substantially as described.

4. In a window, the combination of a window frame and the usual upper and lower sashes, outer facings, parting strips, and inner strips carried by said window frame, an adjustable frame hinged to said window frame, stop plates secured to said window frame and provided with a series of recesses, catches secured to said adjustable frame for engaging said recesses, parting strips and inner strips carried by said adjustable frame to form continuations of the corresponding elements on the window frame in the closed position of said adjustable frame, guides carried by said adjustable frame to form continuations of the outer facings on the window frame in the closed position of said adjustable frame, and tongues carried by the lower sash for engaging the grooved inner strips of said adjustable frame for preventing spreading of the latter when swung in open position, substantially as described.

5. In a window, the combination of a window frame and

the usual upper and lower sashes, outer facings, parting strips, and inner strips carried by said window frame, an adjustable frame hinged to said window frame, stop plates secured to said window frame and provided with a series of recesses, catches secured to said adjustable frame for engaging said recesses, parting strips and inner strips carried by said adjustable frame to form continuations of the corresponding elements on the window frame in the closed position of said adjustable frame, and guides carried by said catches to form continuations of the outer facings on the window frame in the closed position of said adjustable frame, substantially as described.

865,342. APPARATUS FOR DESICCATING EGGS. JOHN M. HUSSEY, Cambridge, Mass. Filed Mar. 8, 1907. Serial No. 361,225.



1. An apparatus for desiccating eggs comprising an egg-receiving tray and an egg-receiving belt located with its under run adjacent said egg-receiving tray, so that said run of the belt may contact with the egg contents of the tray, said belt being adapted to receive the egg directly upon the outer face thereof from said tray, the upper run of said belt being maintained in a plane sufficiently approaching the horizontal to permit the drying of the egg upon said belt in an even layer, and means for supporting and driving said belt.

2. An apparatus for desiccating eggs comprising an egg-receiving tray and an egg-receiving belt located with its under run adjacent said egg-receiving tray, so that said run of the belt may contact with the egg contents of the tray, said belt being adapted to receive the egg directly upon the outer face thereof from said tray, the upper and lower runs of said belt being maintained substantially horizontal, and means to support and drive said belt.

3. An apparatus for desiccating eggs comprising an egg-receiving tray and an endless egg-receiving belt located with its under run adjacent said egg-receiving tray, so that said run of the belt may contact with the egg contents of said tray, said belt being adapted to receive the egg directly upon the outer surface thereof from said tray and supported to have the runs thereof slightly inclined upward from the egg-receiving tray, means to so support the belt, and means to drive the same.

4. An apparatus for desiccating eggs comprising an egg-receiving tray and an endless egg-receiving belt located with its under run adjacent said egg-receiving tray, so that said run of the belt may contact with the egg contents of said tray, said belt being adapted to receive the egg directly upon the outer surface thereof from said tray, the lower run of said belt being maintained in a plane slightly inclined upward from the horizontal whereby the drive or travel of the belt is slightly downward toward the egg-receiving tray, means to so support said belt and means to drive the same.

5. An apparatus for desiccating eggs comprising means to receive a liquid egg supply, an egg-receiving belt, said belt having a lower run supported above and in close proximity to said liquid egg supply, said run constituting an egg-receiving surface and supported in a plane whereby the movement of said belt toward said egg supply is slightly downward, said belt having an uprising portion or surface and an elongated substantially horizontal egg-drying surface, means for so supporting said belt and means for driving the same.

6. An apparatus for desiccating eggs comprising means to receive an egg supply, an egg-receiving belt having a portion thereof adjacent said egg supply and adapted to contact therewith and having its runs disposed substantially horizontal and arranged so that the egg-receiving surface of the belt may be preserved from external contact during a plurality of revolutions of said belt, means to so support said belt, and means to drive the same.

7. An apparatus for desiccating eggs comprising a substantially horizontally disposed belt, drums for supporting and driving the same, an egg-batter-receiving tray supported in close proximity to the under horizontally disposed run of said belt, so that the outer surface of the belt may contact with the contents of said tray and receive egg-batter therefrom, and means to adjust said tray relatively to the egg-receiving surface of said belt.

8. An apparatus for desiccating eggs comprising an egg supply, a traveling egg-receiving carrier in operative relation to said egg supply, guides for said egg-receiving carrier, and means to provide longitudinal cleared tracks upon said egg-receiving carrier for said guides.

9. An apparatus for desiccating eggs comprising means to receive an egg supply, an egg-receiving belt in operative proximity to said egg supply, means to provide longitudinal cleared tracks upon the egg-receiving surface of said belt and guide rollers contacting with said belt in said cleared tracks.

10. An apparatus for desiccating eggs comprising an egg-receiving tray, a traveling egg-receiving belt having its lower run inclined slightly from the horizontal, a pair of drums for supporting said belt, the lower run of said belt moving toward said tray and inclined slightly downwardly with respect thereto, thereby preventing escape of the egg at that edge of the tray that is approached by said belt, and means to prevent escape of the egg at the edges of the belt.

11. An apparatus for desiccating eggs comprising an egg-receiving tray, a traveling egg-receiving belt in operative relation to said tray, a pair of drums to support said belt, said tray being hollow to receive a cooling medium and having a concaved upper face, the lower run of said belt being directed slightly downward toward said tray, and flexible dams upon said tray to prevent escape of the egg at the edges of the belt.

12. An apparatus for desiccating eggs comprising an egg-receiving tray, a traveling egg-receiving carrier in operative relation thereto and yielding dams upon said tray to prevent lateral escape of the egg from said tray.

13. An apparatus for desiccating eggs comprising an egg-receiving tray, a traveling egg-receiving carrier in operative relation thereto, and dams upon said tray to prevent the escape of said egg at the edges of the belt and comprising rubber tubing.

14. An apparatus for desiccating eggs comprising an egg-receiving tray, a traveling carrier located above the same and in operative relation thereto, and expansible dams between said tray and said traveling carrier and in contact with both of them to prevent escape of the egg from said tray.

15. An apparatus for desiccating eggs, comprising an egg-batter-receiving receptacle, an egg-batter-receiving belt located with its run or runs substantially horizontal, such belt having a substantially horizontal run thereof located adjacent said egg-receiving receptacle, whereby such run may contact with the egg contents of the receptacle, a plurality of heaters, and means automatically to render one or more of them inoperative.

16. An apparatus for desiccating eggs comprising an egg batter receiving receptacle, a traveling egg receiving belt located with its lower portion thereof adjacent said batter receiving receptacle, so that such portion of the belt may contact with the egg batter in said receptacle, the said belt being adapted to receive egg batter upon its outer surface from said receptacle, means to support and drive said belt, means to subject the egg batter deposited upon said belt to the action of a heated drying medium, and means whereby the egg batter in said receiving receptacle at the point of application of the batter to the belt may be maintained at a temperature below 55° F.

17. An apparatus for desiccating eggs comprising an egg batter receiving receptacle, a traveling egg receiving belt located with its lower portion thereof adjacent said batter receiving receptacle, so that such portion of the belt may contact with the egg batter in said receptacle, the said belt being adapted to receive egg batter upon its outer surface from said receptacle, means to support and drive said belt, means to subject the egg batter deposited upon said belt to the action of a heated drying medium, and means for subjecting the egg batter while in the receiving receptacle and prior to the depositing thereof upon the belt to the action of a circulatory cooling medium.

18. An apparatus for desiccating eggs comprising an egg batter receiving receptacle, a traveling egg receiving belt located with a portion thereof adjacent said egg batter receiving receptacle, means to support and drive said belt, said receiving receptacle being located adjacent said belt near a point of support of the latter, whereby egg batter may be received upon said belt from the receptacle near such point of support of such belt, and dams to prevent contact of the egg batter with such belt support.

19. An apparatus for desiccating eggs comprising an egg batter receiving receptacle, a traveling egg receiving carrier or support located with a portion of the receiving surface thereof adjacent said egg batter receiving receptacle, so that the receiving surface of said carrier or support may contact with the contents of the said receptacle and receive batter therefrom, and supplying passages for supplying egg batter to said receptacle, said supplying passages communicating with the receiving portion of said receptacle adjacent the opposite edges of said traveling carrier or support.

20. An apparatus for desiccating eggs comprising an egg batter receiving receptacle, an egg batter receiving belt with its lower portion in proximity to said receptacle so as to receive egg batter therefrom, means for supporting and driving said belt, and automatic means for maintaining a uniform level of egg batter in said receptacle.

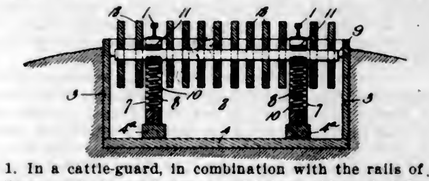
21. An apparatus for desiccating eggs comprising a traveling carrier or support having a surface adapted to receive a layer or layers of egg batter thereon, means to support and drive said carrier or support, an egg batter receiving receptacle located in close proximity to said carrier or support, so that the receiving surface of the latter may receive egg batter from said receptacle, means to prevent contact of the edges of the carrier or support with the egg batter, means to subject the layer of egg batter upon said carrier to the action of a heated drying medium, and means to subject the egg batter in said receptacle to the action of a cooling agent, whereby the egg batter as it is received upon the carrier or support is maintained cold and whereby the egg batter after it is received as a layer upon said carrier or support is raised in temperature by the action of said heated drying medium.

22. An apparatus for desiccating eggs comprising a traveling carrier or support having a surface adapted to receive a layer or layers of egg batter thereon, means to support and drive said carrier or support, an egg batter receiving receptacle located in close proximity to said carrier or support, so that the receiving surface of the latter may receive egg batter from said receptacle, means to prevent contact of the edges of the carrier or support with the egg batter, means to subject the layer of egg batter upon said carrier to the action of a heated drying medium, means to subject the egg batter in said receptacle to the action of a cooling agent, whereby the egg batter as it is received upon the carrier or support is maintained cold and whereby the egg batter after it is received as a layer upon the said carrier or support is raised in temperature by the action of said heated drying medium, and means automatically to control the level of egg batter in said receptacle.

23. An apparatus for desiccating eggs comprising a traveling egg receiving belt, supporting and driving means for said belt including a supporting drum, an egg receiving receptacle located in close proximity to the said belt where the latter is supported by said drum, whereby the outer surface of the belt may contact with and receive egg batter from said receptacle, said receiving receptacle being of reduced extent in the direction of travel of said belt to provide a restricted zone of contact between the receiving surface of said belt and the egg batter in said receiving receptacle, said zone of contact being less than the diameter of the receiving drum for the belt adjacent said receptacle, and dams to prevent contact of said supporting drum with the egg batter in said receiving receptacle.

24. An apparatus for desiccating eggs comprising an egg-receiving tray, a traveling egg-batter-receiving carrier supported in close proximity to the contents of said tray, and dams upon said tray to prevent lateral escape of the egg-batter from said tray.

865,343. CATTLE-GUARD. VASSAL A. KELLEY, Cement, Okla. Filed Dec. 21, 1905. Serial No. 292,809.

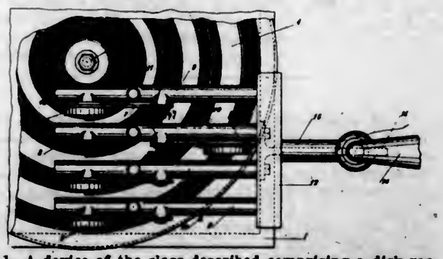


1. In a cattle-guard, in combination with the rails of a railway, an inclosure between and below said track defined by a subway structure comprising a floor, sidings on either side of the track, and end-pieces, a rotative guard-member operative within said inclosure, and means for supporting said guard-member.

2. In a cattle-guard, the combination with the rails of a railway, of a subway construction defining an open space between said rails, a rotative guard-member and means for yieldingly supporting the rotative guard-member upon said subway structure, said means comprising boxings affixed to said subway structure containing springs upon which the rotative member rests, and means for allowing vertical play to said member.

3. In a cattle-guard, the combination with the rails of a railway, of a subway construction defining an open space between said rails, a rotative guard-member and means for yieldingly supporting the rotative guard-member upon said subway structure, said means comprising boxings affixed to said subway structure containing springs upon which the rotative member rests, and means for insuring true vertical play of said guard-member.

865,344. MULTIPLE GRAMOPHONE. ALEXANDER T. MOORE, New Orleans, La. Filed Sept. 11, 1903. Serial No. 172,811.



1. A device of the class described comprising a disk record tablet provided with independent record grooves thereon, a plurality of sound conveying tubes mounted upon a single pivot, and sound boxes carried by said tubes at different distances radially to the axial center of the tablet to engage independent record grooves on said tablet.

2. A device of the class described comprising a disk record tablet, a plurality of parallel sound conveying tubes mounted upon a single pivot, and sound boxes carried by said tubes at different distances radially to the axial center of the tablet to engage independent record grooves on said tablet and be thereby simultaneously fed across the tablet.

3. A device of the class described comprising a disk record tablet, a plurality of sound conveying tubes of equal length, and sound boxes carried by said tubes to engage said record tablet at points on a radial line at different distances from its center.

4. In a device of the class described, a plurality of tubes, plates pivotally mounted thereon, sound boxes carried by the free ends of said plates, and a chamber connecting said tubes at one end.

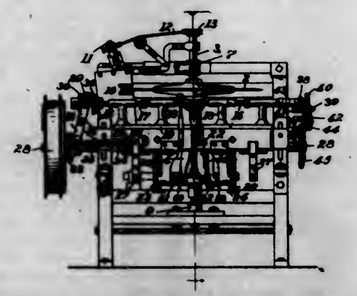
5. In a device of the class described, a plurality of sound boxes mounted opposite apertures in said tubes, a chamber connecting said tubes, and a connection nipple thereon.

6. In a device of the class described, a plurality of tubes, a sound box mounted opposite an aperture in each tube, a chamber connecting said tubes at one end, a casing and driving disk, a bracket from said casing, a horn supported by said bracket, and a connecting tube from the horn to said chamber.

7. In a device of the class described, a casing, a bracket secured thereto, a pivoted tube mounted upon said bracket, a chamber secured to the end of said tube, parallel conducting tubes projecting from said chamber, plates pivoted to said conducting tubes, a sounding box carried by each plate, a stop upon each conducting tube to limit the travel of said plate in one direction, and means to support a record adjacent to said box.

8. The combination with a sound record disk provided with independent duplicate records disposed concentric and relative to each other, of means mounted upon a single pivot and provided with a plurality of sound boxes disposed at different distances from the center of the disk to independently engage said records and be simultaneously fed thereby across said tablet.

865,345. CORK-CUTTING MACHINE. HERMAN F. BUSCH, Millvale, Pa., assignor to Armstrong Cork Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Apr. 14, 1905. Serial No. 255,489.



1. In a cork-cutting machine, a rotary knife, a cork-holding device, means for intermittently rotating the cork-holding device, withdrawing mechanism arranged to release the cut cork, a positioning device arranged to present the successive blanks to the chucks in the same angular relation to the knife, connections arranged to give the knife and chucks a plurality of motions toward and from each other during a single rotation of the chucks, and mechanism for timing the beginning of rotation of the blank in a specified relation to the relative motions of the knife and chucks; substantially as described.

2. In a cork-cutting machine, a rotary knife arranged to rotate in a fixed plane, a frame carrying rotary cork chucks, connections arranged to intermittently rotate the cork chucks and provide periods of rest, mechanism for giving a plurality of motions to the chuck carrier to and from the knife during a single rotation of the chucks, a feed device arranged to present each blank to the gripping chucks in a specified angular relation to the knife, and connections arranged to start the rotation of the cork chucks in a predetermined relation to the beginning of the reciprocatory movement of the chuck carrier whereby the corners of the cork are cut from the corners of the blank; substantially as described.

3. In a cork-cutting machine, a rotary knife, a cork-holding device, means for intermittently rotating the cork-holding device, a friction brake device, withdrawing mechanism arranged to release the cut cork, a positioning device arranged to present the successive blanks to the chucks in the same angular relation to the knife, connections arranged to give the knife and chucks a plurality of motions toward and from each other during a single rotation of the chucks, and mechanism for timing the beginning of rotation of the blank in a specified relation to the relative motions of the knife and chucks; substantially as described.

4. In a cork-cutting machine, a rotary knife, a cork-holding device, positive gear driving mechanism for intermittently rotating the cork-holding device, withdrawing mechanism arranged to release the cut cork, a positioning device arranged to present the successive blanks to the chucks in the same angular relation to the knife, connections arranged to give the knife and chucks a plurality of motions toward and from each other during a single rotation of the chucks, and mechanism for timing the beginning of rotation of the blank in a specified relation to the relative motions of the knife and chucks; substantially as described.

5. In a cork-cutting machine, the combination with a knife-operating in a fixed plane, of a chuck frame, a chuck-rotating shaft carried by the frame, means for reciprocating said frame while a cork is being cut and for holding the frame stationary while a cork is being placed in the chuck, mutilated driving gearing for the said shaft arranged to rotate it while the frame is being reciprocated, and to hold it stationary while the frame is at rest, and means for maintaining the proper relation of the gearing during the reciprocation of the frame; substantially as described.

6. In a cork-cutting machine, a relatively fixed knife, a reciprocable chuck-carrying frame, mechanism for reciprocating said frame during a single rotation of the chuck a chuck-rotating shaft carried by the said frame, gearing for driving said shaft having a movable member carried by said frame, and a mutilated driving member, and a pawl device arranged to control the proper meshing of the mutilated gear; substantially as described.

7. The combination of a knife or cutter arranged to rotate in a fixed plane, a movable chuck frame, means for moving said frame towards and away from the knife, rotary chucks mounted on the frame, a gear wheel on one of the chuck shafts, a gear wheel in mesh with the first named wheel and arranged to move with the chuck frame, a shaft on which said wheel moves, and a mutilated gear wheel for driving said shaft; substantially as described.

8. In a machine of the character described, the combination with a vertically-movable chuck frame, and chucks mounted thereon, one of said chucks having its shaft provided with a driving pinion, a shaft having a movable intermeshing pinion connected to the chuck-frame, a mutilated gear-wheel geared to the last named shaft, and a pawl device for insuring the proper action of the mutilated gear; substantially as described.

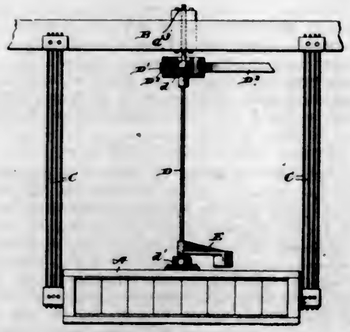
9. In a machine of the character described, the combination with a vertically-movable chuck frame, and chucks mounted thereon, one of said chucks having its shaft provided with a driving pinion, a shaft having a movable intermeshing pinion connected to the chuck-frame, a mutilated gear-wheel geared to the last named shaft, and a pawl device for insuring the proper action of the mutilated gear, together with a brake device for checking movement of the shaft having the movable pinion; substantially as described.

10. A cork cutting machine comprising in combination a rotating disk knife, a chuck frame mounted to slide toward and from the plane of said knife, a shaft in the plane of travel of said chuck frame, a mutilated gear driving said shaft, a chuck geared to said shaft, means permitting reciprocation thereof with the chuck frame while maintaining engagement of said gear and a cam moving said chuck frame from a work receiving position to a position within the cutting range of said knife and then reciprocating it within such cutting range, the mutilation of the gearing and the throw of the cam being so timed that the chuck is not driven while at its work receiving position.

11. In a cork cutting machine, a rotary knife, a frame carrying rotary cork chucks, connections arranged to intermittently rotate the cork chucks and provide periods of rest therefor, a continuously rotating cam having steps arranged to give a plurality of motions of the chuck carrier to and from the knife during a single rotation of the chucks, said cam having a plain portion to hold the chucks stationary during insertion of the blank, a positioning device arranged to present the successive blanks to the chucks in the same angular relation to the knife, and connections arranged to start each period of rotation of the cork chucks in a predetermined relation to the beginning of the reciprocatory movement of the chuck carrier, whereby the corners of the cork are cut from the corners of the blank; substantially as described.

12. In a cork cutting machine, a rotary knife, a frame carrying rotary cork chucks, positive gear driving connections arranged to intermittently rotate the cork chucks and provide periods of rest therefor, a continuously rotating cam having steps arranged to give a plurality of motions of the chuck carrier to and from the knife during a single rotation of the chucks, said cam having a plain portion to hold the chucks stationary during the insertion of the blank, a positioning device arranged to present the successive blanks to the chucks in the same angular relation to the knife, and connections arranged to start each period of rotation of the cork chucks in a predetermined relation to the beginning of the reciprocatory movement of the chuck carrier, whereby the corners of the cork are cut from the corners of the blank; substantially as described.

865,346. FLOUR-BOLTING MACHINE. THOMAS W. GRAHAM, Dubuque, Iowa. Filed Dec. 30, 1904. Serial No. 238,946.



1. In a device of the character described, a supporting member, a sieve carrying frame suspended therefrom by flexible hangers, a rigid drive shaft interposed between the supporting member and sieve carrying frame, the ends of said drive shaft being directly connected by universal joints respectively to the supporting member intermediate its connection with the hangers and to the center of the top of the sieve carrying frame, and an offset weight for causing the lower end of the drive shaft to travel in an orbit upon rotation.

2. In a device of the character described, a supporting member, a sieve carrying frame suspended therefrom by flexible hangers, a rigid drive shaft flexibly suspended from the supporting member centrally of its connection with the hangers by means permitting a longitudinal movement thereof, and having its lower end directly connected by a flexible connection to the center of the sieve carrying frame, and an offset weight carried by said drive shaft.

3. In a device of the character described, a supporting member, a sieve carrying frame suspended therefrom by flexible hangers, and a single driving means for imparting a gyratory movement to said frame comprising a straight rigid drive shaft interposed between the supporting member and the sieve carrying frame, flexible joints directly connecting the ends of the drive shaft with the supporting member, and sieve carrying frame intermediate their connections with the flexible hangers, and means carried by the rigid drive shaft for causing the end thereof connected to the sieve carrying frame to move in an orbit upon rotation.

4. In a device of the character described, a supporting member, a sieve carrying frame suspended therefrom by flexible hangers, and a single driving means for imparting a gyratory movement to said frame comprising a straight rigid drive shaft interposed between the supporting member and the sieve carrying frame at points equi-distant their connections with the flexible hangers, means permitting a longitudinal movement of said shaft during rotation thereof, an offset weight carried by said shaft adjacent its connections with the sieve carrying frame, and means for rotating said shaft.

5. In a device of the character described, a supporting member, a sieve carrying frame suspended therefrom by flexible hangers, a drive shaft, a vertically movable rod mounted in said supporting member intermediate the upper ends of the hangers, a universal joint connection between the upper end of the drive shaft and the lower end of the vertically movable rod, a universal joint connection between the lower end of the drive shaft and the top of the sieve carrying frame and intermediate its connection with the hangers, a drive pulley secured to the upper end of the said shaft and an offset weight carried by the lower end of said shaft.

6. The combination of a gyratory separator frame, a driving shaft connected with said frame by a universal joint and capable of changing its angle with reference to said frame, means for rotating said shaft, and a gyratory weight mounted eccentrically on said driving shaft, substantially as set forth.

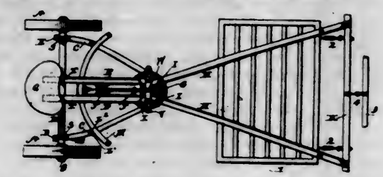
7. The combination of a gyratory separator frame, a driving shaft having its end connected with said frame by a ball and socket joint and capable of changing its angle with reference to said frame, means for rotating said shaft, and a gyratory weight mounted eccentrically on said driving shaft, substantially as set forth.

REISSUES.

12,690. RIDING ATTACHMENT FOR HARROWS. SAMUEL B. HAZARD, Peoria, Ill., assignor to Illinois Implement Company, Peoria, Ill., a Corporation of Illinois. Filed Oct. 5, 1906. Serial No. 337,664. Original No. 796,330, dated Aug. 1, 1905, Serial No. 233,589.

1. In combination with a harrow, a bar forward of the same with which it is connected, draft attachments on said bar, a pair of wheels rearward of the harrow, a pair of hounds carried between the wheels, a seat carried on the

hounds, a reach comprising two arms pivoted at the forward ends of the hounds and lying parallel with one another rearward of the pivot, but diverging and extending forward from the pivot, the forward ends having attachment with the bar forward of the harrow, and means rearward of the pivot of the reach for sustaining the said reach as against vertical movement but permitting a free horizontal movement for the purposes set forth.



2. In combination with a harrow, a bar forward thereof and to which it is connected, draft attachments for the bar, a wheeled frame in the rear of the harrow, a seat carried thereby, a bifurcated reach pivoted to the said wheeled frame, the extremities extending forward and diverging and having connection with the bar forward of the harrow substantially as shown, means for preventing vertical movement of the reach at its rear end, and a foot-rest placed at the pivot of said reach for the purposes set forth.

3. In combination with a harrow, a bar forward thereof and having connection therewith, draft attachments on the bar, a pair of reaches attached at their forward ends to the bar and extending rearward and converging near their rear ends and thence extending parallel with each other, a supporting plate beneath the first, a wheeled frame to which the second plate is secured, a guide carried by the wheeled frame between which the rear ends of the reach members are slidably held for the purposes set forth, and a pivot for the plates for permitting horizontal pivotal movement of the reaches and wheeled frame.

4. In combination with a harrow, a bar forward thereof and having connection therewith, draft attachments on the bar, a pair of reaches attached at their forward ends to the bar and extending rearward and converging near their rear ends and thence extending parallel with each other, a supporting-plate to which the converging ends are secured, a second plate beneath the first, a wheeled frame to which the second plate is secured, a guide carried by the wheeled frame between which the rear ends of the reach members are slidably held for the purposes set forth, a pivot for the plates for permitting horizontal pivotal movement of the reaches and wheeled frame, a seat carried on the wheeled frame, and a foot-rest located at the said pivot substantially as set forth.

5. In combination with a harrow, a draft-bar forward thereof and with which it is connected, a wheeled frame rearward of the harrow, a pair of reach-arms of angle-iron secured at their forward ends to the draft-bar, and extending upward and then rearward therefrom, said arms converging near their rear ends and lying parallel with each other at the rear ends, the extremities being flattened and slidably held within the said wheeled frame, and pivotal connection between the reaches and said frame, the latter preventing vertical tilting movement of the frame and reaches at the pivot thereof.

6. In a riding attachment of the class described, the combination with convergently disposed reach bars having their rear ends connected, of a trailing wheel frame pivotally connected at its front end to the reach-bars in advance of their connected rear ends and having a free swinging movement with respect thereto, said frame being wider at its rear than at its front end, and including an axle, mounted on its rear end and spaced wheels journaled on the axle and disposed on opposite sides of the frame and the rear connected ends of the reach bars.

7. In a riding attachment of the class described, the combination with convergently disposed reach bars having their rear ends connected, of a plate connecting the reach bars in advance of their connected ends and a trailing supporting frame having its front end connected to a plate, which said plate is pivotally connected to the plate connecting the reach bars, said wheel frame including an axle having its ends projecting beyond the opposite sides of the frame, and wheels journaled on the projecting ends and disposed in vertical planes that extend on opposite sides of the rear ends of the reach bars.

8. In a riding attachment of the class described, the combination with convergently disposed reach bars having their rear ends connected, of a member connecting the reach bars in advance of their connected ends, and a trailing supporting frame having its front end pivoted to the said member and having a free swinging movement with respect thereto, said wheel frame including an axle having its ends projecting beyond the opposite sides of the frame, and wheels journaled on the projecting ends and disposed in vertical planes that extend on opposite sides of the rear ends of the reach bars.

12,691. MAGNETIC COMPOSITION AND METHOD OF MAKING THE SAME. ROBERT A. HADFIELD, Sheffield, England. Filed July 31, 1907. Serial No. 386,492. Original No. 745,829, dated Dec. 1, 1903, Serial No. 161,228.

1. A magnetic material containing iron with an admixture of from one to five per cent of silicon, and treated by heat to at least between 700° and 850° C. said treated material having magnetic permeability and electrical resistance increased and the hysteresis quality decreased to figures above and below respectively those which obtain with the purest iron commercially obtainable.

2. A magnetic material containing iron with from one to five per cent. of silicon and showing a magnetic permeability and an electrical resistance higher, and a hysteresis action lower than the purest iron commercially obtainable.

3. The herein-described process of producing a magnetic material of high permeability and low hysteresis action, which consists in alloying a magnetic body with silicon, heating the alloy to between about 900° and 1,100° centigrade, allowing it to cool, and then reheating it to between about 700° and 850° centigrade, and thereupon allowing it to cool slowly.

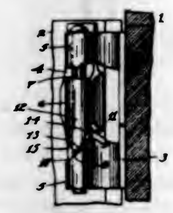
4. The herein-described method of producing a magnetic material of high permeability and a low hysteresis action, which consists in alloying a magnetic body with silicon, heating the alloy to a relatively high temperature below its melting-point, allowing the alloy to cool, reheating it to a temperature below that first employed, and allowing it to cool slowly.

5. The herein-described process of producing a magnetic material of high permeability and low hysteresis action which consists in alloying a magnetic body with from one to five per cent. of silicon, heating the resulting mixture to a relatively high temperature below its melting point, allowing it to cool, reheating it to a temperature below that first employed, and then allowing it to cool slowly.

12,692. HINGE. RUDOLPH G. WINTER, Milwaukee, Wis. Filed Apr. 29, 1905. Serial No. 258,122. Original No. 785,143, dated Mar. 21, 1905, Serial No. 206,791.

1. In a gravity-acting hinge, the combination with the hinge members, one thereof having a cam-surface 8—9, the other member having a cam-nose 13 and cam-surface 14, which nose 13 and cam-surface 8 engage in one extreme position of the hinge, and hold the cam-surfaces 9 and 14 out of contact, but which cam-surfaces 9 and 14 are brought into engagement by movement of the hinge members on their pivot, substantially as described.

2. In a gravity-actuated hinge, the combination with a pair of hinge-members, the one having perforated lugs 5, and the other having a perforated lug 6 connected by a bolt 7, one of said lugs 5 having the cam-surface 8—9 and 11, and depression 10, and the said lug 6 having the cam-nose 13, cam-surface 14 and cam-surface 15, said nose 13 and cam-surface 8 adapted tb normally engage and hold said cam-surfaces 9 and 14 out of contact, said surfaces 9 and 14 being engageable by a pivotal movement of one hinge-member with respect to the other, and said cam-surfaces 11 and 15 being engageable by an extreme pivotal movement of one of the said hinge-members, substantially as described.



3. A gravity-acting hinge comprising a pair of leaves having lugs connected together on a vertical pivot, the lug on the fixed leaf having a cam-surface, and the lug on the swinging leaf having a projecting part coöperating with said surface; said surface being comparatively steep on that portion thereof on which said projecting part rests in the open position of the door, and less steep on that portion thereof whereon said projecting part rests in the closed position of the door, and said fixed lug having further a cut-out portion or depression 10 at the lower end of said cam-surface.

4. A gravity-acting hinge comprising a pair of leaves having lugs connected together on a vertical pivot, the lug on the fixed leaf having a cam-surface, and the lug on the swinging leaf having a projecting part coöperating with said surface, said surface being comparatively steep on that portion thereof on which said projecting part rests in the open position of the door, and less steep on that portion thereof whereon said projecting part rests in the closed position of the door: said fixed lug having further a second cam-surface sloping in the opposite direction on which said projecting part of the pivoted lug is adapted to rest in the extreme open position of the door.

12,693. PRESERVATIVE. KARL RÜCKER and DANIEL J. PICKÉE, Berlin, Germany. Filed June 24, 1905. Serial No. 266,899. Original No. 784,503, dated Mar. 7, 1905, Serial No. 201,583.

1. A preservative compound comprising oil, shellac, resin and wax, substantially as described.

2. A preservative compound comprising oil, shellac, resin, wax and glycerin, substantially as set forth.

3. A preservative compound consisting of more than fifty per cent. of linseed-oil, substantially equal quantities of shellac and resin, and a mixture of wax and glycerin, substantially as described.

4. A preservative compound solid at ordinary temperatures and liquid at higher temperatures, consisting of an oxidized oil and a resin-containing thickening compound, substantially as described.

5. A preservative compound consisting of an oxidized oil, thickening material mixed therewith, and a wax-like body mixed therewith to render the same sufficiently flexible, substantially as described.

6. A preservative compound comprising 60 per cent. of oxidized linseed oil, 20 per cent, of a resin-containing compound, and 20 per cent. of shellac mixed with a small percentage of wax and glycerin.

7. As a new article of manufacture, a drying oil product consisting of oxidized oil, resin, and a wax-like body, combined in such proportion that the product, when heated, will begin to soften at about fifty degrees C and becomes fully liquid as a homogeneous mass at a higher temperature, substantially as described.

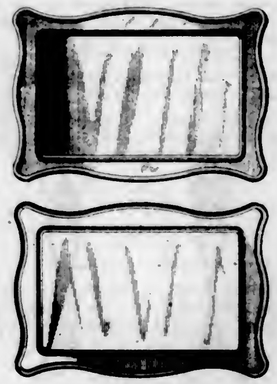
DESIGNS.

38,779. PLATE. HENRY T. WILHELM and JOSEPH O. BENJAMIN, New York, N. Y. Filed June 26, 1907. Serial No. 380,982. Term of patent 7 years.



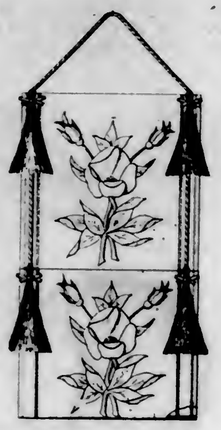
The ornamental design for a plate as shown.

38,780. PICTURE-FRAME. HARRY L. BEACH, Coshocton, Ohio. Filed July 8, 1907. Serial No. 382,798. Term of patent 14 years.



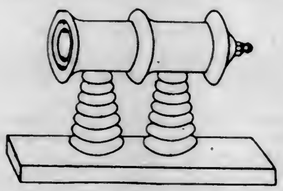
The ornamental design for a picture frame, as shown.

38,781. WALL-POCKET OR SIMILAR ARTICLE. ELEONORA FLANAGAN, Portland, Oreg. Filed May 6, 1907. Serial No. 372,288. Term of patent 3½ years.



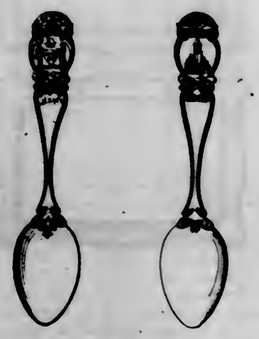
The ornamental design for a wall pocket, or similar article, as shown.

38,782. CASING AND SUPPORT FOR LIGHTNING-ARRESTERS. FREDERIC W. LORD, New York, N. Y. Filed May 15, 1907. Serial No. 373,884. Term of patent 7 years.



The ornamental design for a casing and support for a lightning arrester, as herein shown and described.

38,783. SPOON. CHARLES SELKIRK, Albany, N. Y. Filed Aug. 5, 1907. Serial No. 387,246. Term of patent 7 years.



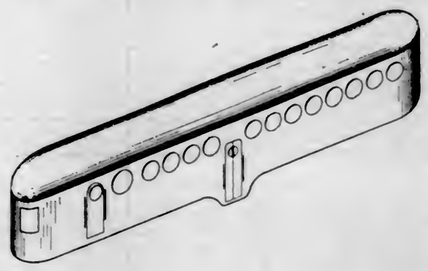
The ornamental design for spoon, as shown.

38,784. HANDLE FOR SPOONS, FORKS, OR SIMILAR ARTICLES. HENRIK HILLBOM, Wallingford, Conn., assignor to R. Wallace & Sons Mfg. Co., Wallingford, Conn., a Corporation. Filed July 25, 1907. Serial No. 385,592. Term of patent 7 years.



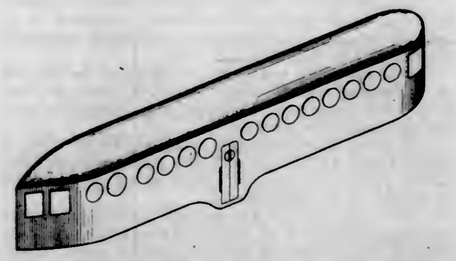
The ornamental design for a handle for a spoon, fork or similar article as shown.

38,785. CAR-BODY. WILLIAM R. MCKEEN, Jr., Omaha, Nebr. Filed Jan. 17, 1907. Serial No. 352,835. Term of patent 14 years.



The ornamental design for a car body as shown.

38,786. CAR-BODY. WILLIAM R. MCKEEN, Jr., Omaha, Nebr. Filed Jan. 17, 1907. Serial No. 352,837. Term of patent 14 years.



The ornamental design for a car body as shown.

TRADE-MARKS.

PUBLISHED SEPTEMBER 3, 1907.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 2,275. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) BIGBIE BROS. & Co., Lynchburg, Va. Filed Apr. 19, 1905.

OLD VELVET

Particular description of goods.—Whisky.

Ser. No. 4,343. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) COVERT MFG. CO., Watervliet, N. Y. Filed May 5, 1905.



Particular description of goods.—Metallic Bull-Leads and Trimmings Therefor, Chains, Metallic Trimmings for Breast-Straps, Metallic Trimmings for Leads, Metallic Hitching-Pins and Hitching-Posts and Trimmings Therefor, Hammock-Trimmings, Metallic Hitching Devices, Breach-Irons, Combination Lariat, Tether, and Picket Pin Formed of Metal, Breast-Strap Protectors, Hooks, Combination Snaps and Thimbles, Metallic Trimmings for Trace-Carriers, Metallic Tie-Trimmings and Buckles, Cockeyes, Snap-Eyes, Animal-Weights, Thimbles, and Snaps.

Ser. No. 8,670. (CLASS 14. METALS, UNWROUGHT AND PARTLY WROUGHT.) BALDWINS LIMITED, Wilden Iron Works, near Stourport, England. Filed June 21, 1905. Used ten years.

Particular description of goods.—Tin, Terne, Leaded, and Black Sheets.

Ser. No. 8,671. (CLASS 14. METALS, UNWROUGHT AND PARTLY WROUGHT.) BALDWINS LIMITED, Wilden Iron Works, near Stourport, England. Filed June 21, 1905.

Particular description of goods.—Tin Plates.

Ser. No. 8,744. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) W. E. COMPTON, Redditch, England. Filed June 21, 1905.



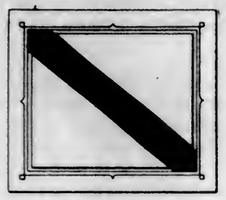
Particular description of goods.—Fish-Hooks.

Ser. No. 8,932. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) JESSE MOORE HUNT CO., San Francisco, Cal. Filed June 24, 1905. Used ten years.

ROBINSON'S

Particular description of goods.—Whisky.

Ser. No. 9,767. (CLASS 51. MALT PREPARATIONS NOT OTHERWISE CLASSIFIED.) ANHEUSER-BUSCH BREWING ASSOCIATION, St. Louis, Mo. Filed July 3, 1905.



The diagonal band is red.
Particular description of goods.—Beer.

Ser. No. 10,315. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) GALENA-SIGNAL OIL COMPANY, Franklin, Pa. Filed July 14, 1905.

GALENA



Particular description of goods.—Lubricating-Oil.

Ser. No. 10,317. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) GALENA-SIGNAL OIL COMPANY, Franklin, Pa. Filed July 14, 1905.



Particular description of goods.—Lubricating-Oils.

Ser. No. 10,499. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) MOUNT VERNON-WOODBERRY COTTON DUCK COMPANY, Baltimore, Md. Filed July 18, 1905. Used ten years.

YEMASSEE

Particular description of goods.—Cotton Duck.

Ser. No. 10,502. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) MOUNT VERNON-WOODBERRY COTTON DUCK COMPANY, Baltimore, Md. Filed July 18, 1905. Used ten years.

Parneton

Particular description of goods.—Cotton Duck.

Ser. No. 10,503. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) MOUNT VERNON-WOODBERRY COTTON DUCK COMPANY, Baltimore, Md. Filed July 18, 1905. Used ten years.

RICHLAND

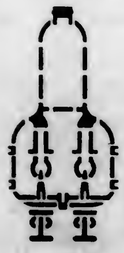
Particular description of goods.—Cotton Duck.

Ser. No. 10,504. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) MOUNT VERNON-WOODBERRY COTTON DUCK COMPANY, Baltimore, Md. Filed July 18, 1905. Used ten years.

DRUID MILLS

Particular description of goods.—Cotton Duck.

Ser. No. 10,783. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) GALENA-SIGNAL OIL COMPANY, Franklin, Pa. Filed July 25, 1905.



Particular description of goods.—Lubricating-Oil.

Ser. No. 10,840. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) MOUNT VERNON-WOODBERRY COTTON DUCK COMPANY, Baltimore, Md. Filed July 26, 1905. Used ten years.

LAUREL

Particular description of goods.—Cotton Duck.

Ser. No. 11,489. (CLASS 51. MALT PREPARATIONS NOT OTHERWISE CLASSIFIED.) NORTHERN BREWERY COMPANY, Portland, Oreg. Filed Aug. 10, 1905.

Koh Gold

Particular description of goods.—Beer.

Ser. No. 11,491. (CLASS 51. MALT PREPARATIONS NOT OTHERWISE CLASSIFIED.) UNION BREWING & MALTING CO., San Francisco, Cal. Filed Aug. 10, 1905.

CASCADE

Particular description of goods.—Beer.

Ser. No. 11,912. (CLASS 17. WOOD MANUFACTURES NOT OTHERWISE CLASSIFIED.) BARNES & MAUK, Seattle, Wash. Filed Aug. 22, 1905.

HOMESTEAD BRAND

Particular description of goods.—Shingles.

Ser. No. 11,984. (CLASS 14. METALS, UNWROUGHT AND PARTLY WROUGHT.) TH. GOLDSCHMIDT, Essen-on-the-Ruhr, Germany. Filed Aug. 18, 1905.

THERMIT

Particular description of goods.—Iron, Steel, Copper, Tin, and Alloys of These Metals, Chromium, Manganese, Alloys of Manganese, Molybdenum, Alloys of Molybdenum, Ferroboron, Titanium, Ferrotitanium, Vanadium, Ferrovanadium, Wolfram, Tantalium, Cerium, and Their Alloys, Metals of Earth—viz., Aluminium and Beryllium and Their Alloys—the Metals of Alkaline Earths—viz., Calcium, Barium, Strontium, Magnesium, and Their Alloys.

Ser. No. 12,062. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE C. S. MOREY MERCANTILE COMPANY, Denver, Colo. Filed Aug. 28, 1905.

SOLITAIRE



Particular description of goods.—Dried Fruits, Olives, Canned Fruits and Vegetables.

Ser. No. 12,313. (CLASS 64. MEDICAL AND SURGICAL APPARATUS, APPLIANCES, AND INSTRUMENTS.) CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), Berlin, Germany. Filed Sept. 7, 1905.

FORMALIN

Particular description of goods.—Disinfecting and Deodorizing Apparatus.

Ser. No. 12,449. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) MOUNT VERNON-WOODBERRY COTTON DUCK COMPANY, Baltimore, Md. Filed Sept. 11, 1905. Used ten years.

GREEN WOODS

Particular description of goods.—Cotton Duck.

Ser. No. 13,173. (CLASS 55. WINES.) J. PETIT LAROCHE & Co., Bordeaux, France. Filed Sept. 30, 1905.



Particular description of goods.—Claret and Sauterne Wines.

Ser. No. 13,604. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) JOHANNES ARTHUR SANDER, Hamburg, Germany. Filed Oct. 14, 1905.

BACILLOL

Particular description of goods.—Disinfectants in Liquid Form and in the Form of Powder, Deodorants, Germ-Destroyers, and Sheep-Dip.

Ser. No. 16,250. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) ALBERGER CONDENSER COMPANY, New York, N. Y. Filed Jan. 17, 1906. Used ten years.

WAINWRIGHT

Particular description of goods.—Water-Heaters and Heat-Extractors.

Ser. No. 16,251. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) ALBERGER CONDENSER COMPANY, New York, N. Y. Filed Jan. 17, 1906. Used ten years.

CORRUGATED TUBE

Particular description of goods.—Water-Heaters and Heat-Extractors.

Ser. No. 16,934. (CLASS 9. EXPLOSIVES.) JÖNKÖPINGS OCH VULCANS TÄNDSTICKSFABRIKSAKTIEBOLAG, Jönköping, Sweden. Filed Feb. 12, 1906. Used ten years.



Particular description of goods.—Matches.

Ser. No. 18,772. (CLASS 1. ANIMAL.) BECKER BROS. & Co., New York, N. Y. Filed Apr. 13, 1906.



Particular description of goods.—Furs and Skins.

Ser. No. 19,608. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) DAIMLER-MOTOREN-GESELLSCHAFT, Untertürkheim, near Stuttgart, Germany. Filed May 16, 1906.

MERCÉDÈS

Particular description of goods.—Sheet-Rubber, Solid and Pneumatic Rubber Tires, and Rubber Boots, Shoes, Leggings, Hats, Caps, Jackets, Waistcoats, Cloaks, Collars, Capes.

Ser. No. 19,870. (CLASS 43. THREAD AND YARN.) BLODGETT & ORSWELL Co., Pawtucket, R. I. Filed May 26, 1906.



The words, monogram, circles, and panel being red.
Particular description of goods.—Spool-Cotton or Sewing-Thread.

Ser. No. 19,878. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) FABRIK STOLZENBERG DEUTSCHE BUREAU-EINRICHTUNGS-GESELLSCHAFT MIT BESCHRÄNKTER HAFTUNG, Oos, Germany. Filed May 26, 1906.

Mercedes

Particular description of goods.—Type-Writing Machines.

Ser. No. 20,501. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) J. SCHOENEMAN, Baltimore, Md. Filed June 22, 1906.



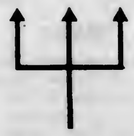
Particular description of goods.—Pantaloons.

Ser. No. 20,804. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JOHN D. SHULER, Vernal, Utah. Filed July 9, 1906.



Particular description of goods.—A Liniment.

Ser. No. 20,811. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) ED. WÜSTHOF, Solingen, Germany. Filed July 9, 1906.



Particular description of goods.—Cutlery and All Kinds of Hand Edge-Tools.

Ser. No. 20,952. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) THE WILLIAM CARTER Co., Highlandville, Mass. Filed July 16, 1906. Used ten years.

CARTER'S

Particular description of goods.—Knitted Union Suits, Corset-Covers, Vests, Drawers, Abdominal Bands, Shirt-Bands.

Ser. No. 21,736. (CLASS 19. BOATS AND ROAD-VEHICLES.) DAIMLER-MOTOREN-GESELLSCHAFT, Untertürkheim, near Stuttgart, Germany. Filed Aug. 24, 1906.

DMG

Particular description of goods.—Carriages, Automobiles, Motor-Cycles, Sleighs, Motor-Sleighs, Boats, and Motor-Boats.

Ser. No. 21,815. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) SMITH LICHTY & HILLMAN COMPANY, Waterloo, Iowa. Filed Aug. 30, 1906.



Particular description of goods.—Mince-Meat, Dried Fruits, and Flavoring Extracts.

Ser. No. 23,157. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THOMAS M. CHILDS, Providence, R. I. Filed Nov. 7, 1906.



Particular description of goods.—A Liquid Tooth-Cleansing Compound.

Ser. No. 23,248. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) WM. SANDERSON & SON, Leith, Scotland. Filed Nov. 10, 1906.



Particular description of goods.—Whisky.

Ser. No. 23,411. (CLASS 51. MALT PREPARATIONS NOT OTHERWISE CLASSIFIED.) CENTRAL BREWING Co., East St. Louis, Ill. Filed Nov. 16, 1906.



The leaf is green and the monogram red.
Particular description of goods.—Beer.

Ser. No. 23,593. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) J. G. HUTCHISON & Co., Ottumwa, Iowa. Filed Nov. 26, 1906.

WAPELLO CHIEF

Particular description of goods.—Buckwheat-Flour, Breakfast Cereal Foods, Wheat-Flour, Oatmeal, Cornmeal, Rice, Rolled Oats, Corn-Starch, and Crackers.

Ser. No. 24,253. (CLASS 3. VEGETABLE.) THE ALBERT DICKINSON COMPANY, Chicago, Ill. Filed Dec. 24, 1906.



Particular description of goods.—Field and Grass Seed.

Ser. No. 24,491. (CLASS 68. PUBLICATIONS.) BERNARD P. GRUNAUER, Cleveland, Ohio. Filed Jan. 7, 1907.

Credograph

Particular description of goods.—Statements of Credit Ratings Periodically Issued.

Ser. No. 25,168. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) SAMUEL CLELAND DAVIDSON, Belfast, Ireland. Filed Feb. 6, 1907. Used ten years.

SIROCCO

Particular description of goods.—Centrifugal Fans, Blowers, Propeller-Fans, Centrifugal Pumps, Forges, Tobacco-Curing Machinery, Twyers, Apparatus for Moistening and Apparatus for Drying Tobacco, Tea, or other Substances in Loose Portable Form, Pneumatic Conveyers, Apparatus for Filtering Air by Passing It Through a Filtering Medium, Apparatus for Cooling Air Wherein the Air is Brought into Contact with the Cooling Medium, and Apparatus for Moistening Air Wherein the Air is Brought into Contact with Water or other Fluid.

Ser. No. 25,169. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) SAMUEL CLELAND DAVIDSON, Belfast, Ireland. Filed Feb. 6, 1907. Used ten years.

SIROCCO

Particular description of goods.—Stoves, Furnaces, Steam-Boilers, Furnace Draft Apparatus, Ventilating-Fans, and Ventilating Apparatus.

Ser. No. 25,362. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) BENTLEY & OLMSTED COMPANY, Des Moines, Iowa. Filed Feb. 18, 1907.



Particular description of goods.—Leather Boots and Shoes.

Ser. No. 25,731. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THOMAS W. ALGEO, Chicago, Ill. Filed Mar. 4, 1907.

PNEUMOSEPTIN

Particular description of goods.—An Antiseptic Antefebrile Unguent External Medicine.

Ser. No. 25,953. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) STANDARD SANITARY MFG. CO., Pittsburg, Pa. Filed Mar. 13, 1907.



Particular description of goods.—Metal Bath-Tubs, Sinks, Water-Closets, Tanks, and Pipes and Fittings Belonging Thereto.

Ser. No. 26,265. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) SELIG SONNENTHAL & Co., London, England. Filed Mar. 26, 1907.

SUNDALE

Particular description of goods.—Corundum and Emery Grinding-Wheels.

Ser. No. 26,525. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) DEUTSCHE WEINMOSTKELTEREI ALKOHOLFREIER OBST UND TRAUBENSAFTE H. LAMPE & Co. WORMS A/RH. G. M. B. H., Worms-on-the-Rhine, Germany. Filed Apr. 6, 1907.



Particular description of goods.—Must or Grape-Juice.

Ser. No. 26,602. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE H. B. CLAFLIN COMPANY, New York, N. Y. Filed Apr. 10, 1907.

ANTISEPTINE

Particular description of goods.—Tooth Powders and Pastes.

Ser. No. 26,605. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) F. A. PATRICK & Co., Duluth, Minn. Filed Apr. 10, 1907.



Particular description of goods.—Dresses, Skirts, Gowns, Petticoats, Shirt-Waists, Corset-Covers, Drawers, Wrappers, Dressing-Sacks, Kimonos, Aprons, Cloaks, Rain-Coats, Hoods, Leggings, Waistcoats, Undervests, and Shawls, All Made Wholly or Principally of Woven Cloth, and Fur and Woven-Cloth Muffs, Fur Doubles, Fur Clusters, and Fur Sets.

Ser. No. 26,659. (CLASS 61. JEWELRY AND SOLID AND PLATED PRECIOUS-METAL WARE.) KAUTZMANN & SUSSFELD, Newark, N. J. Filed Apr. 12, 1907.



Particular description of goods.—Bracelets, Rings, Necklaces, Pendants, Brooches, Pins, Buttons, and Studs.

Ser. No. 26,741. (CLASS 51. MALT PREPARATIONS NOT OTHERWISE CLASSIFIED.) FRANK M. DOYLE, Boston, Mass. Filed Apr. 16, 1907.

NUTRITONE

Particular description of goods.—A Compound of Malt and Hops.

Ser. No. 26,745. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) ROEWEKAMP BROS., Oshkosh, Wis. Filed Apr. 16, 1907.

Split Rock

Particular description of goods.—Whisky.

Ser. No. 26,762. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) EGBERT J. SORMANI, Brooklyn, N. Y. Filed Apr. 17, 1907.



Particular description of goods.—Cough Remedies.

Ser. No. 26,780. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) THE WALL-ROGALSKY MILLING Co., McPherson, Kans. Filed Apr. 18, 1907.

UTILITY

Particular description of goods.—Wheat-Flour.

Ser. No. 26,898. (CLASS 14. METALS, UNWROUGHT AND PARTLY WROUGHT.) GANE BROTHERS & Co., New York, N. Y. Filed Apr. 25, 1907.



Particular description of goods.—Imitation Metal Leaf.

Ser. No. 26,900. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE HANLON-SHARPS Co., Wheeling, W. Va. Filed Apr. 25, 1907.

Gold

Particular description of goods.—Wrapping-Paper.

Ser. No. 26,901. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE HANLON-SHARPS Co., Wheeling, W. Va. Filed Apr. 25, 1907.

Silver

Particular description of goods.—Wrapping-Paper.

Ser. No. 27,077. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) GEORGE E. WHITTAKER, Somerville, Mass. Filed May 2, 1907.

EUREKA

Particular description of goods.—Cough Medicine or Medicinal Cordial.

Ser. No. 27,159. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) F. SCHACHT, Brunswick, Germany. Filed May 6, 1907.



Particular description of goods.—Preparations of Tar to be Used as Preservatives of Fruits and Vegetables.

Ser. No. 27,175. (CLASS 51. MALT PREPARATIONS NOT OTHERWISE CLASSIFIED.) WM. PFEIFER BERLIN WEISS BEER Co., Chicago, Ill. Filed May 6, 1907. Used ten years.

PFEIFER'S

Particular description of goods.—Beer.

Ser. No. 27,273. (CLASS 19. BOATS AND ROAD-VEHICLES.) OESTERREICHISCHE DAIMLER-MOTOREN-GESELLSCHAFT GESELLSCHAFT MIT BESCHRÄNKTER HAFTUNG, Vienna, Austria-Hungary. Filed May 10, 1907.

BRINKIA

Particular description of goods.—Automobiles.

Ser. No. 27,307. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) HUGO EMIL SCHRADER, Chicago, Ill. Filed May 11, 1907.



Particular description of goods.—Feed Composed of Crushed Grain.

Ser. No. 27,370. (CLASS 68. PUBLICATIONS.) ROLLAND R. FISHER, Freeport, Ill. Filed May 14, 1907.



Particular description of goods.—Magazines.

Ser. No. 27,420. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) MAX LOEWENSTEIN, New York, N. Y. Filed May 16, 1907.

MAGIC



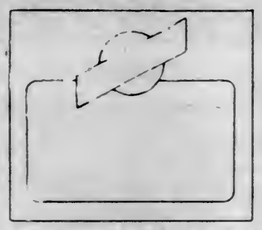
Particular description of goods.—Metal-Polish.

Ser. No. 27,424. (CLASS 19. BOATS AND ROAD-VEHICLES.) OESTERREICHISCHE DAIMLER-MOTOREN-GESELLSCHAFT GESELLSCHAFT MIT BESCHRÄNKTER HAFTUNG, Wiener-Neustadt, near Vienna, Austria-Hungary. Filed May 16, 1907.

MAIA

Particular description of goods.—Automobiles.

Ser. No. 27,744. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) SUSQUEHANNA SILK MILLS, New York, N. Y. Filed May 29, 1907.



Particular description of goods.—Silk Piece Goods and Silk-Mixed Piece Goods.

Ser. No. 27,880½. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) THE ASSOCIATED SHOE COMPANY, Boston, Mass. Filed June 4, 1907.

TRADE TASCO MARK

Particular description of goods.—Oil Blackings, Paste Blackings, Shoe-Dressings, and Leather-Dressings.

Ser. No. 27,892. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) C. ROHDE, Hamburg, Germany. Filed June 5, 1907.



Particular description of goods.—Writing-Paper, Packing-Paper, Casing-Paper, Tissue or Silk Paper, Fancy or Note Paper, Colored Paper, Printing-Paper, Drawing-Paper, Tinted Paper, Parchment-Paper, Pasteboard, Cardboard, and Cardboard Paper.

Ser. No. 28,129. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) UNITED STATES WHIP COMPANY, Westfield, Mass. Filed June 14, 1907. Used ten years.

VULCANITE

Particular description of goods.—Whips.

Ser. No. 28,326. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) AMERICAN WRITING PAPER COMPANY, Holyoke, Mass. Filed June 24, 1907. Used ten years.

CROCKER'S

Particular description of goods.—Cover-Paper.

Ser. No. 28,334. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) AMERICAN WRITING PAPER COMPANY, Holyoke, Mass. Filed June 24, 1907. Used ten years.

CELTIC

Particular description of goods.—Writing and Printing Paper.

Ser. No. 28,336. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) AMERICAN WRITING PAPER COMPANY, Holyoke, Mass. Filed June 24, 1907. Used ten years.

COUPON

Particular description of goods.—Writing and Printing Paper.

Ser. No. 28,337. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) AMERICAN WRITING PAPER COMPANY, Holyoke, Mass. Filed June 24, 1907. Used ten years.

PERSIAN

Particular description of goods.—Writing and Printing Paper.

Ser. No. 28,341. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) AMERICAN WRITING PAPER COMPANY, Holyoke, Mass. Filed June 24, 1907. Used ten years.

AMERICAN

Particular description of goods.—Writing and Printing Paper.

Ser. No. 28,344. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) AMERICAN WRITING PAPER COMPANY, Holyoke, Mass. Filed June 24, 1907. Used ten years.

WISCONSIN

Particular description of goods.—Writing and Printing Paper.

Ser. No. 28,350. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) ROBERT LEE DUFFY, Newbern, N. C. Filed June 24, 1907.

Pep-Tano

Particular description of goods.—Tonic Beverages.

Ser. No. 28,408. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) DEXTER BROTHERS COMPANY, Boston, Mass. Filed June 26, 1907.

PETRIFAX

Particular description of goods.—Damp-Proof Paint for Cement, Brick, Stone, Wood, or Iron Work.

Ser. No. 28,454. (CLASS 60. INKS AND INKING MATERIALS.) THE MONARCH TYPEWRITER COMPANY, Syracuse, N. Y. Filed June 28, 1907.



Particular description of goods.—Type-Writer Ribbons and Type-Writer Carbon-Paper.

Ser. No. 28,458. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) WASHBURN CROSBY COMPANY, Minneapolis, Minn. Filed June 28, 1907.



Particular description of goods.—Wheat-Flour.

Ser. No. 28,562. (CLASS 32. FURNITURE AND UPHOLSTERY NOT OTHERWISE CLASSIFIED.) THE HOOSIER MFG. CO., Newcastle, Ind. Filed July 2, 1907.



Particular description of goods.—Kitchen-Cabinets.

Ser. No. 28,604. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) DR. PIERRE CHEMICAL COMPANY, Chicago, Ill. Filed July 5, 1907. Used ten years.

Dr. Pierre's

Particular description of goods.—Suppositories, Tablets, and Pills.

Ser. No. 28,662. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) VOIGT & CO., Chattanooga, Tenn. Filed July 8, 1907.

RICOL

Particular description of goods.—Tasteless Castor-Oil.

Ser. No. 28,667. (CLASS 68. PUBLICATIONS.) THE GRAFTON PRESS, New York, N. Y. Filed July 8, 1907.

THE AMERICAN JOURNAL OF UROLOGY

Particular description of goods.—A Magazine.

Ser. No. 28,697. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) THE H. B. CLAFLIN COMPANY, New York, N. Y. Filed July 10, 1907.

ANTISEPTINE

Particular description of goods.—Liquid Antiseptic Medicines.

Ser. No. 28,699. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ELMER E. HESS, Brook, Ind. Filed July 10, 1907.

W.H.C.

Particular description of goods.—Witch-Hazel Cream.

Ser. No. 28,730. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) C. S. WELCH & CO., New York, N. Y. Filed July 11, 1907.

"WELCO"

Particular description of goods.—Depilatories, Toilet Cream, Hair-Tonic, Shampooing Preparations, Skin-Ointment, Complexion-Pills, Troches, Toilet Powder, Face-Lotion, and Corn Cure.

Ser. No. 28,742. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) THE GOODYEAR'S METALLIC RUBBER SHOE CO., Naugatuck, Conn. Filed July 12, 1907. Used ten years.

WALES GOODYEAR

Particular description of goods.—Rubber Boots and Shoes.

Ser. No. 28,743. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) THE GOODYEAR'S METALLIC RUBBER SHOE CO., Naugatuck, Conn. Filed July 12, 1907. Used ten years.

"WALES GOODYEAR"

Particular description of goods.—Rubber Boots and Shoes.

Ser. No. 28,765. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) KEIFFER BROS., New Orleans, La. Filed July 13, 1907.

KORKER

Particular description of goods.—Leather and Canvas Shoes.

Ser. No. 28,766. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) KEIFFER BROS., New Orleans, La. Filed July 13, 1907.

LEANDER

Particular description of goods.—Leather and Canvas Shoes.

Ser. No. 28,770. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) KEIFFER BROS., New Orleans, La. Filed July 13, 1907.

MAID OF ORLEANS

Particular description of goods.—Leather and Canvas Shoes.

Ser. No. 28,772. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) KEIFFER BROS., New Orleans, La. Filed July 13, 1907.

PRUDENCE

Particular description of goods.—Leather and Canvas Shoes.

Ser. No. 28,795. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) STANDARD WAFER CO., New York, N. Y. Filed July 13, 1907.

CREMO

Particular description of goods.—Biscuits.

Ser. No. 28,800. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) WM. B. RIKER & SON CO., New York, N. Y. Filed July 15, 1907.

ANTISEPTIS

Particular description of goods.—Deodorants and Antiseptics.

Ser. No. 28,805. (CLASS 19. BOATS AND ROAD-VEHICLES.) STEVENS-DURYEA COMPANY, Chicopee Falls, Mass. Filed July 15, 1907.



Particular description of goods.—Automobiles.

Ser. No. 28,807. (CLASS 33. GLASSWARE NOT OTHERWISE CLASSIFIED.) HAMMEL, RIGLANDER & CO., New York, N. Y. Filed July 15, 1907.



Particular description of goods.—Watch-Glasses.

Ser. No. 28,812. (CLASS 54. SEA FOODS.) AMERICAN TRADING COMPANY (PACIFIC COAST), San Francisco, Cal. Filed July 15, 1907. Used ten years.

MEDALLION BRAND

Particular description of goods.—Canned Salmon.

Ser. No. 28,813. (CLASS 54. SEA FOODS.) AMERICAN TRADING COMPANY (PACIFIC COAST), San Francisco, Cal. Filed July 15, 1907. Used ten years.

MONARCH BRAND

Particular description of goods.—Canned Salmon.

Ser. No. 28,829. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) MICHAEL J. MCHUGH, Jersey City, N. J. Filed July 16, 1907.

U-Kno

Particular description of goods.—A Tonic Beverage.

Ser. No. 28,861. (CLASS 61. JEWELRY AND SOLID AND PLATED PRECIOUS-METAL WARE.) CARTER, QVARNSTROM & REMINGTON, Attleboro, Mass. Filed July 18, 1907.

C Q&R

Particular description of goods.—Jewelry for Personal Adornment.

Ser. No. 28,881. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) TIDE WATER OIL CO., New York, N. Y. Filed July 19, 1907. Used ten years.



Particular description of goods.—Illuminating-Oil.

Ser. No. 28,898. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) SELZ, SCHWAB & COMPANY, Chicago, Ill. Filed July 19, 1907.



The color being purple.

Particular description of goods.—Leather Boots and Shoes.

Ser. No. 28,899. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) SELZ, SCHWAB & COMPANY, Chicago, Ill. Filed July 19, 1907.



The color being blue.

Particular description of goods.—Men's, Women's, Misses', Children's, Boys', and Youths' Leather Boots and Shoes.

Ser. No. 28,948. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) CHARLES HEWITT & SONS CO., Des Moines, Iowa. Filed July 22, 1907.

OPAL



Particular description of goods.—Canned Fruits and Vegetables, Dried Fruits, Flavoring Extracts, Spices, Mince-Meat.

Ser. No. 28,952. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE BURT OLNEY CANNING CO., Oneida and Albion, N. Y. Filed July 22, 1907.

Holiday

Particular description of goods.—Canned Fruits and Vegetables.

Ser. No. 28,977. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) AMERICAN WRITING PAPER COMPANY, Holyoke, Mass. Filed July 22, 1907. Used ten years.

PARSONS

Particular description of goods.—Writing and Printing Paper.

Ser. No. 28,999. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) FANNIE HARKNESS, Brooklyn, N. Y. Filed July 23, 1907.

LAUREEN

Particular description of goods.—A Salve for Burns, Frost-Bites, and Sores.

Ser. No. 29,013. (CLASS 47. CONFECTIONERY.) ALLEN-DAY COMPANY, New York, N. Y. Filed July 24, 1907.

NESTA

Particular description of goods.—Chocolates and Candies.

Ser. No. 29,019. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) JONES-PADDOCK CO., San Francisco, Cal. Filed July 24, 1907.



Particular description of goods.—Tea.

Ser. No. 29,021. (CLASS 59. HOROLOGICAL INSTRUMENTS.) BYRON L. STRASBURGER, New York, N. Y. Filed July 24, 1907.

ELROY

Particular description of goods.—Watches and Watch-Movements.

Ser. No. 29,030. (CLASS 2. MINERAL.) COLEMAN MINING CO., Louisville, Ky. Filed July 25, 1907.



Particular description of goods.—Coal.

Ser. No. 29,031. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) UPHAM BRO'S, New York, N. Y. Filed July 25, 1907.

Lucky Cross

Particular description of goods.—Teas and Coffees.

Ser. No. 29,066. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) PACIFIC NOVELTY COMPANY, New York, N. Y. Filed July 27, 1907.



Fluffy Ruffles

Particular description of goods.—Ladies' Hair-Combs Made of Celluloid and Metal.

Ser. No. 29,067. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) THE E. A. PFLUEGER COMPANY, Akron, Ohio. Filed July 27, 1907.

P

Particular description of goods.—Fish-Hooks, Leaders, Artificial Flies, Baits, Spoons, Swivels, Sinkers, Fish-Scalers, Fish-Spears, Hook-Extractors, Fish-Stringers, Lines, Floats, Guts, Spinners, Trollers, Line-Spreaders, Clearing-Rings, Set-Line Snaps and Rings, Connecting-Links, Chugging-Rigs, and Reels.

Ser. No. 29,068. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE E. A. PFLUEGER COMPANY, Akron, Ohio. Filed July 27, 1907.

P

Particular description of goods.—Harness Rosettes and Ornaments, Buckle-Shields, Loops, Harness Letters and Figures, Harness Spots and Nails, Brow-Bands, Housing-Plates, Nose-Band Guards.

Ser. No. 29,079. (CLASS 63. MEASURING AND SCIENTIFIC APPARATUS, APPLIANCES, AND INSTRUMENTS.) RICHARD KLINGER, Gumpoldskirchen, near Vienna, Austria-Hungary. Filed July 20, 1907.

R. K.

Particular description of goods.—Glass Tubes for Water-Gages.

Ser. No. 29,093. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) MILLER HAPGOOD SHOE CO., Lynn, Mass. Filed July 29, 1907.

THE CHARTER OAK SHOE

Particular description of goods.—Leather Boots, Shoes, Slippers, and Leggings.

Ser. No. 29,114. (CLASS 51. MALT PREPARATIONS NOT OTHERWISE CLASSIFIED.) PARAGON MALT EXTRACT CO., New York, N. Y. Filed July 30, 1907.



Particular description of goods.—Malt Extract.

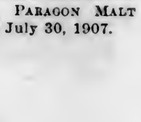
Ser. No. 29,125. (CLASS 43. THREAD AND YARN.) THE AMERICAN THREAD COMPANY, Jersey City, N. J. Filed July 31, 1907.

GEB

Particular description of goods.—Spool-Cotton, Sewing-Cotton, and Thread.

Ser. No. 29,136. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) LAFAYETTE SUSPENDER COMPANY, Easton, Pa. Filed July 31, 1907.

LAFAYETTE SUSPENDER



Particular description of goods.—Suspenders.

Ser. No. 29,140. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) JAMES F. GREGORY, St. Louis, Mo. Filed July 31, 1907.



Particular description of goods.—Artificial Bait for Fish.

Ser. No. 29,143. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE GREAT WESTERN CEREAL COMPANY, Chicago, Ill. Filed July 31, 1907.

DAISY

100 LBS.

DAIRY FEED

Particular description of goods.—Cattle Feed, Consisting of Mixtures of Molasses, Grains, and Their By-Products.

Ser. No. 29,163. (CLASS 61. JEWELRY AND SOLID AND PLATED PRECIOUS-METAL WARE.) S. & B. LEDERER COMPANY, Providence, R. I. Filed Aug. 1, 1907.

Fluffy Ruffles

Particular description of goods.—Jewelry for Personal Adornment.

Ser. No. 29,170. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) JOSEPH E. PATTERSON, Wilkes-Barre, Pa. Filed Aug. 1, 1907. Used ten years.

GLEN SUMMIT WATER

Particular description of goods.—Spring-Water.

Ser. No. 29,177. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) HENRY MATTHAEI, Kansas City, Mo. Filed Aug. 2, 1907.

Bear

Particular description of goods.—Bread.

Ser. No. 29,181. (CLASS 63. MEASURING AND SCIENTIFIC APPARATUS, APPLIANCES, AND INSTRUMENTS.) CHARLES MICHAEL YOUNG, San Francisco, Cal. Filed Aug. 2, 1907.

"Multi-Sum"

Particular description of goods.—Calculators.

Ser. No. 29,185. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) PACIFIC COAST RUBBER CO., Seattle, Wash. Filed Aug. 3, 1907.

RED DEVIL

Particular description of goods.—Rubber Tires and Inner Tubes.

Ser. No. 29,193. (CLASS 68. PUBLICATIONS.) MEYER AUERBACH, New York, N. Y. Filed Aug. 3, 1907.

NEW-YORKER HANDELS-ZEITUNG.

Particular description of goods.—A Financial and Commercial Newspaper.

Ser. No. 29,201. (CLASS 47. CONFECTIONERY.) TROWBRIDGE CHOCOLATE CHIP CO., Meadville, Pa. Filed Aug 3, 1907.

TRO TRO

Particular description of goods.—Candies.

Ser. No. 29,202. (CLASS 47. CONFECTIONERY.) TROWBRIDGE CHOCOLATE CHIP CO., Meadville, Pa. Filed Aug. 3, 1907.

Krunch

Particular description of goods.—Candies.

Ser. No. 29,206. (CLASS 47. CONFECTIONERY.) SAUERSTON & BROWN, Cincinnati, Ohio. Filed Aug. 3, 1907. Used ten years.

Favorite

Particular description of goods.—Candy.

Ser. No. 29,212. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THO'S. B. CLEWELL & SON, Allentown, Pa. Filed Aug. 5, 1907.

KEYSTONE POTATO CHIPS

THOS B. CLEWELL & SON ALLENTOWN, PA

Particular description of goods.—Potato-Chips.

Ser. No. 29,220. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) COVERT MANUFACTURING CO., Watervliet, N. Y. Filed Aug. 5, 1907.

GIANT

Particular description of goods.—Snap-Hooks.

Ser. No. 29,223. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) MOUNT VERNON-WOODBERRY COTTON DUCK COMPANY, Baltimore, Md. Filed Aug. 5, 1907. Used ten years.

LAUREL MILLS EXTRA

Particular description of goods.—Cotton Duck.

Ser. No. 29,238. (CLASS 63. MEASURING AND SCIENTIFIC APPARATUS, APPLIANCES, AND INSTRUMENTS.) E. I. HORSMAN CO., New York, N. Y. Filed Aug. 5, 1907.

WONDERGRAPH

Particular description of goods.—Automatic Instruments for Making Conventional Figures.

Ser. No. 29,239. (CLASS 29. BROOMS, BRUSHES, AND DUSTERS.) WM. L. MARTIN, New York, N. Y., assignor to Deitsch Brothers, New York, N. Y., a Firm. Filed Aug. 5, 1907.

1084

Particular description of goods.—Tooth and Nail Brushes.

Ser. No. 29,329. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) H. P. TAYLOR, Jr., Richmond, Va. Filed Aug. 10, 1907.

POCAHONTAS

Particular description of goods.—Canned Fruits and Vegetables.

TRADE-MARKS

REGISTERED SEPTEMBER 3, 1907.

64,956. TYPE-WRITER PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed June 7, 1907. Serial No. 27,922. PUBLISHED JULY 9, 1907.

64,957. SPRING-BOTTOMS FOR BEDS. ATLANTA SPRING BED CO., Atlanta, Ga.
Filed May 29, 1907. Serial No. 27,761. PUBLISHED JULY 9, 1907.

64,958. LEATHER SHOES. GEORGE E. BARTLETT, Boston, Mass.
Filed June 3, 1907. Serial No. 27,848. PUBLISHED JULY 9, 1907.

64,959. LEATHER BOOTS, SHOES, AND SLIPPERS. WILLIAM BERNSTEIN, New York, N. Y.
Filed June 1, 1907. Serial No. 27,828. PUBLISHED JULY 9, 1907.

64,960. WRITING AND DRAWING PENS. C. HOWARD HUNT PEN COMPANY, Camden, N. J.
Filed April 6, 1905. Serial No. 690. PUBLISHED JULY 9, 1907.

64,961. CHAIRS. CORRY CHAIR CO., Erie, Pa.
Filed June 10, 1907. Serial No. 27,996. PUBLISHED JULY 9, 1907.

64,962. LARD SUBSTITUTE. THE CUDAHY PACKING COMPANY, Chicago, Ill., and Los Angeles, Cal.
Filed May 28, 1907. Serial No. 27,732. PUBLISHED JULY 2, 1907.

64,963. LEAD-PENCILS. EAGLE PENCIL COMPANY, New York, N. Y.
Filed June 7, 1907. Serial No. 27,919. PUBLISHED JULY 9, 1907.

64,964. CERTAIN LEATHER MANUFACTURES. FRANK PAYNE COMPANY, Charleston, W. Va.
Filed May 13, 1907. Serial No. 27,333. PUBLISHED JULY 9, 1907.

64,965. WRITING-PAPER AND TABLETS AND PADS OF SUCH PAPER. JOHN WALKER & CO. LIMITED, London, England.
Filed December 18, 1905. Serial No. 15,485. PUBLISHED JULY 9, 1907.

64,966. SOAP. THE M. WERK CO., Cincinnati, Ohio.
Filed June 10, 1907. Serial No. 28,021. PUBLISHED JULY 9, 1907.

64,967. STRINGED INSTRUMENTS OF THE NATURE OF MANDOLINS. BERT R. MCMAINS, Columbus, Ohio, assignor to The McMains Novelty Company, Columbus, Ohio, a Corporation of Ohio.
Filed October 20, 1906. Serial No. 22,811. PUBLISHED JULY 9, 1907.

64,968. CERTAIN GAME. MILTON BRADLEY CO., Springfield, Mass.
Filed June 11, 1907. Serial No. 28,044. PUBLISHED JULY 9, 1907.

64,969. SOAP AND BATH POWDER. PACIFIC COAST BORAX CO., Oakland, Cal.; New York, N. Y., and Chicago, Ill.
Filed May 31, 1907. Serial No. 27,778. PUBLISHED JULY 9, 1907.

64,970. LEATHER HAND-BAGS AND RETICULES. ROBBINS & PROKESCH, New York, N. Y.
Filed May 23, 1907. Serial No. 27,604. PUBLISHED JULY 9, 1907.

64,971. MAGAZINES. SCIENTIFIC STATION FOR PURE PRODUCTS, New York, N. Y.
Filed May 29, 1907. Serial No. 27,758. PUBLISHED JULY 9, 1907.

64,972. CERTAIN WOOD MANUFACTURES. SIMMONS HARDWARE COMPANY, St. Louis, Mo.
Filed June 10, 1907. Serial No. 28,018. PUBLISHED JULY 9, 1907.

64,973. LEATHER BOOTS AND SHOES. SMITH-WALLACE SHOE COMPANY, Chicago, Ill.
Filed June 3, 1907. Serial No. 27,858. PUBLISHED JULY 9, 1907.

64,974. WRITING-PAPER. THE TAYLOR-ATKINS PAPER COMPANY, Burnside, Conn.
Filed February 25, 1907. Serial No. 25,608. PUBLISHED JULY 9, 1907.

64,975. ICE-MAKING MACHINERY, AMMONIA-COMPRESSORS, AMMONIA-CONDENSERS. THE TRIUMPH ELECTRIC CO., Cincinnati, Ohio.
Filed April 15, 1907. Serial No. 26,730. PUBLISHED JULY 9, 1907.

64,976. TALKING-MACHINES AND TALKING-MACHINE RECORDS. VICTOR TALKING MACHINE COMPANY, Camden, N. J.
Filed March 28, 1906. Serial No. 18,313. PUBLISHED JULY 9, 1907.

64,977. SPOOL-COTTON, SEWING-COTTON, AND THREAD. THE AMERICAN THREAD COMPANY, Jersey City, N. J.
Filed March 4, 1907. Serial No. 25,716. PUBLISHED JULY 9, 1907.

64,978. TWIST-TOBACCO FOR SMOKING AND CHEWING. AXTON-FISHER TOBACCO COMPANY, Louisville, Ky.
Filed June 14, 1907. Serial No. 28,131. PUBLISHED JULY 9, 1907.

64,979. CAMERAS AND CAMERA STANDS AND TRIPODS. BLAIR CAMERA COMPANY, Portland, Me., and Rochester, N. Y., assignor to Eastman Kodak Company, Rochester, N. Y., a Corporation of New York.
Filed May 29, 1907. Serial No. 27,762. PUBLISHED JULY 9, 1907.

64,980. ELECTRIC TESTING APPARATUS. EVERSHED & VIGNOLES LTD., London, England.
Filed March 3, 1906. Serial No. 17,497. PUBLISHED JULY 9, 1907.

64,981. SILVER AND METAL POLISHES. J. A. WRIGHT & CO., Keene, N. H.
Filed May 28, 1907. Serial No. 27,729. PUBLISHED JULY 9, 1907.

64,982. SMOKING AND CHEWING TOBACCO. THE J. F. ZAHM TOBACCO CO., Toledo, Ohio.
Filed June 15, 1907. Serial No. 28,145. PUBLISHED JULY 9, 1907.

64,983. SMOKING AND CHEWING TOBACCO. THE J. F. ZAHM TOBACCO CO., Toledo, Ohio.
Filed June 15, 1907. Serial No. 28,146. PUBLISHED JULY 9, 1907.

64,984. MINERAL OILS SOLUBLE IN WATER. ERNST JUNGINGER, Wiesbaden, Germany, assignor to Ashton Lee, Lawrence, Mass.
Filed January 4, 1906. Serial No. 15,893. PUBLISHED JULY 9, 1907.

64,985. CERTAIN PAINTS AND PAINTERS' MATERIALS. THE LOWE BROS. CO., Dayton, Ohio.
Filed November 20, 1905. Serial No. 14,818. PUBLISHED JULY 9, 1907.

64,986. FINGER-RINGS. LYONS MANUFACTURING CO., Providence, R. I.
Filed May 22, 1907. Serial No. 27,567. PUBLISHED JULY 9, 1907.

64,987. WITHDRAWN.

64,988. CIGARS. OMACHT & STEDMAN, South Bend, Ind.
Filed June 10, 1907. Serial No. 28,007. PUBLISHED JULY 9, 1907.

64,989. WHITE LEAD IN OIL. SELBY SMELTING & LEAD CO., San Francisco, Cal.
Filed April 9, 1907. Serial No. 26,598. PUBLISHED JULY 9, 1907.

64,990. SHOTGUN, RIFLE, AND PISTOL CARTRIDGES, CAPS, AND PRIMERS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn.
Filed May 29, 1907. Serial No. 27,753. PUBLISHED JULY 9, 1907.

64,991. SHOTGUN, RIFLE, AND PISTOL CARTRIDGES, CAPS, AND PRIMERS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn.
Filed May 29, 1907. Serial No. 27,754. PUBLISHED JULY 9, 1907.

64,992. SHOTGUN, RIFLE, AND PISTOL CARTRIDGES AND PRIMERS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn.
Filed April 19, 1907. Serial No. 26,791. PUBLISHED JULY 9, 1907.

64,993. CANDLES. THE WILL & BAUMER COMPANY, Syracuse, N. Y.
Filed June 27, 1905. Serial No. 9,160. PUBLISHED JULY 9, 1907.

64,994. SYNTHETIC MEDICINES AND PREPARATIONS MADE THEREFROM. ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany.
Filed September 7, 1905. Serial No. 12,333. PUBLISHED JULY 9, 1907.

64,995. PERFUMERIES. ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany.
Filed May 11, 1906. Serial No. 19,457. PUBLISHED JULY 9, 1907.

64,996. BELTING AND HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,103. PUBLISHED JULY 9, 1907.

64,997. BELTING. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,104. PUBLISHED JULY 9, 1907.

64,998. BELTING. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,105. PUBLISHED JULY 9, 1907.

64,999. BELTING. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,106. PUBLISHED JULY 9, 1907.

65,000. BELTING. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,108. PUBLISHED JULY 9, 1907.

65,001. HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,109. PUBLISHED JULY 9, 1907.

65,002. HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,110. PUBLISHED JULY 9, 1907.

65,003. HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,112. PUBLISHED JULY 9, 1907.

65,004. HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,113. PUBLISHED JULY 9, 1907.

65,005. HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,114. PUBLISHED JULY 9, 1907.

65,006. HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,116. PUBLISHED JULY 9, 1907.

65,007. HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,118. PUBLISHED JULY 9, 1907.

65,008. HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,119. PUBLISHED JULY 9, 1907.

65,009. HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,120. PUBLISHED JULY 9, 1907.

65,010. HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,121. PUBLISHED JULY 9, 1907.

65,011. HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,122. PUBLISHED JULY 9, 1907.

65,012. HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,123. PUBLISHED JULY 9, 1907.

65,013. HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,124. PUBLISHED JULY 9, 1907.

65,014. HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,125. PUBLISHED JULY 9, 1907.

65,015. HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 14, 1907. Serial No. 28,126. PUBLISHED JULY 9, 1907.

65,016. FILLED CHAINS OF ALL KINDS. SIDNEY O. BIGNEY, Attleboro, Mass.
Filed May 18, 1907. Serial No. 27,489. PUBLISHED JULY 9, 1907.

65,017. BAKING-POWDER. C. A. MURDOCK MFG. CO., Kansas City, Mo.
Filed May 18, 1907. Serial No. 27,477. PUBLISHED JULY 9, 1907.

65,018. CERTAIN MEDICINES. ANDREW DUKA, Bridgeport, Conn.
Filed May 29, 1907. Serial No. 27,764. PUBLISHED JULY 9, 1907.

65,019. BOILER-CLEANING COMPOUNDS. FREEPORT PLUMBING AND HEATING CO., Freeport, Ill.
Filed May 17, 1907. Serial No. 27,440. PUBLISHED JULY 9, 1907.

65,020. CERTAIN MEDICINES. FREDERICK HAMILTON, GREEN, Muscatine, Iowa.
Filed May 11, 1907. Serial No. 27,311. PUBLISHED JULY 9, 1907.

65,021. MEDICATED LOZENGES. GEORGE INGLIS HUDSON, Ipswich, Queensland, Australia.
Filed August 28, 1906. Serial No. 12,048. PUBLISHED JULY 9, 1907.

65,022. BROOMS. LEE BROOM & DUSTER COMPANY, Lincoln, Nebr.
Filed June 13, 1907. Serial No. 28,087. PUBLISHED JULY 9, 1907.

65,023. HAIR-TONICS. LOUIS MÉGROZ, New York, N. Y.
Filed May 18, 1907. Serial No. 27,494. PUBLISHED JULY 9, 1907.

65,024. CANDLES. THE MERKLE WAX AND CANDLE COMPANY, St. Louis, Mo.
Filed May 7, 1907. Serial No. 27,197. PUBLISHED JULY 9, 1907.

65,025. LEATHER BELTING. NEW YORK LEATHER BELTING CO., New York, N. Y.
Filed June 12, 1907. Serial No. 28,075. PUBLISHED JUNE 9, 1907.

65,026. RHEUMATIC, KIDNEY, AND BLADDER REMEDIES. OLD FORT CHEMICAL COMPANY, Fort Wayne, Ind.
Filed March 26, 1907. Serial No. 26,271. PUBLISHED MAY 21, 1907.

65,027. CERTAIN PHARMACEUTICAL PREPARATIONS. PARCHEN DRUG CO., Helena, Mont.
Filed November 13, 1906. Serial No. 23,318. PUBLISHED JULY 9, 1907.

65,028. LEATHER BELTING AND FABRIC BELTING. J. E. RHOADS & SONS, Philadelphia, Pa., and Wilmington, Del.
Filed June 13, 1907. Serial No. 28,095. PUBLISHED JULY 9, 1907.

65,029. SKIN FOOD. ELISE HANSEN SILLJAN, New York, N. Y.
Filed May 27, 1907. Serial No. 27,682. PUBLISHED JULY 9, 1907.

65,030. CHEMICAL SWEEPING COMPOUND. WILLIAM F. SMITH, New York, N. Y., assignor to H. Clark Barber, New York, N. Y.
Filed May 13, 1907. Serial No. 27,327. PUBLISHED JULY 9, 1907.

65,031. SHOTGUN, RIFLE, AND PISTOL CARTRIDGES AND PRIMERS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn.
Filed April 19, 1907. Serial No. 26,792. PUBLISHED JULY 9, 1907.

65,032. SHOTGUN, RIFLE, AND PISTOL CARTRIDGES AND PRIMERS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn.
Filed May 9, 1907. Serial No. 27,263. PUBLISHED JULY 9, 1907.

65,033. SHOTGUN, RIFLE, AND PISTOL CARTRIDGES AND PRIMERS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn.
Filed May 9, 1907. Serial No. 27,264. PUBLISHED JULY 9, 1907.

65,034. SHOTGUN, RIFLE, AND PISTOL CARTRIDGES AND PRIMERS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn.
Filed May 14, 1907. Serial No. 27,347. PUBLISHED JULY 9, 1907.

65,035. SHOTGUN, RIFLE, AND PISTOL CARTRIDGES AND PRIMERS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn.
Filed May 14, 1907. Serial No. 27,348. PUBLISHED JULY 9, 1907.

65,036. CARTRIDGE-SHELLS, BULLETS, AND WADS. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn.
Filed May 29, 1907. Serial No. 27,752. PUBLISHED JULY 9, 1907.

65,037. STOCK AND TABLE SALT. UTILITY SALT CO., Wheeling, W. Va.
Filed May 14, 1907. Serial No. 27,360. PUBLISHED JULY 9, 1907.

65,038. DYES. WELLS & RICHARDSON COMPANY, Burlington, Vt.
Filed May 15, 1907. Serial No. 27,398. PUBLISHED JULY 9, 1907.

65,039. CANNED, DRIED, AND FRESH FRUITS. BALFOUR, GUTHRIE & CO., San Francisco, Cal.
Filed June 11, 1907. Serial No. 28,043. PUBLISHED JULY 9, 1907.

65,040. TACKS, STAPLES, AND BLIND STAPLES. BUFFALO SPECIALTY COMPANY, Buffalo, N. Y.
Filed June 4, 1907. Serial No. 27,874. PUBLISHED JULY 9, 1907.

65,041. SEWING-MACHINES AND ATTACHMENTS. E. CORNELY & FILS, Paris, France.
Filed May 6, 1907. Serial No. 27,163. PUBLISHED JULY 9, 1907.

65,042. NON-ALCOHOLIC CARBONATED BEVERAGES. DIXIE CARBONATING CO., Augusta, Ga.
Filed May 21, 1907. Serial No 27,548. PUBLISHED JULY 9, 1907.

65,043. CENTRIFUGAL LIQUID-SEPARATING MACHINES. EMPIRE CREAM SEPARATOR COMPANY, Bloomfield, N. J.
Filed June 10, 1907. Serial No. 28,026. PUBLISHED JULY 9, 1907.

65,044. CREAM-SEPARATORS. EMPIRE CREAM SEPARATOR COMPANY, Bloomfield, N. J.
Filed June 10, 1907. Serial No. 28,027. PUBLISHED JULY 9, 1907.

65,045. COCOA, CHOCOLATE, AND PREPARATIONS THEREOF. BALDUIN EMIL ENGE, Oberlössnitz, near Dresden, Germany.
Filed May 31, 1907. Serial No. 27,789. PUBLISHED JULY 9, 1907.

65,046. SYRUP AND MOLASSES. E. FEIBLEMAN SONS & CO., New Orleans, La.
Filed June 8, 1907. Serial No. 27,974. PUBLISHED JULY 9, 1907.

65,047. SYRUP AND MOLASSES. E. FEIBLEMAN SONS & CO., New Orleans, La.
Filed June 8, 1907. Serial No. 27,976. PUBLISHED JULY 9, 1907.

65,048. CHOCOLATES. THE GINTER GROCERY CO., Boston, Mass.
Filed May 24, 1907. Serial No. 27,640½. PUBLISHED JULY 9, 1907.

65,049. CERTAIN MACHINERY. GOULD & EBERHARDT, Newark, N. J.
Filed May 28, 1907. Serial No. 27,737. PUBLISHED JULY 9, 1907.

65,050. CORNMEAL. GULFPORT GROCERY CO., Gulfport, Miss.
Filed May 31, 1907. Serial No. 27,794. PUBLISHED JULY 9, 1907.

65,051. CANNED FRUITS AND VEGETABLES. H. F. HEMINGWAY & CO., Baltimore, Md.
Filed May 28, 1907. Serial No. 27,719. PUBLISHED JULY 9, 1907.

65,052. REGULATING AND BALANCE VALVES. H. MUELLER MANUFACTURING COMPANY, Decatur, Ill.
Filed June 10, 1907. Serial No. 28,029. PUBLISHED JULY 9, 1907.

65,053. CHEWING-GUM. NATIONAL VENDING MACHINE COMPANY, Chicago, Ill.
Filed May 10, 1907. Serial No. 27,275. PUBLISHED JULY 9, 1907.

65,054. CANDIES, CRYSTALLIZED FRUITS, AND GLACÉ FRUITS. OLIVER-FINNIE CO., Memphis, Tenn.
Filed May 28, 1907. Serial No. 27,701. PUBLISHED JULY 9, 1907.

65,055. HAIR-PINS, COMBS, AND HAIR ORNAMENTS. PACIFIC NOVELTY COMPANY, New York, N. Y.
Filed May 17, 1907. Serial No. 27,436. PUBLISHED JULY 9, 1907.

65,056. CANNED PEAS. F. P. ROE & BRO., Greensboro, Md.
Filed June 1, 1907. Serial No. 27,814. PUBLISHED JULY 9, 1907.

65,057. SILK PIECE GOODS AND SILK-MIXED PIECE GOODS. SUSQUEHANNA SILK MILLS, New York, N. Y.
Filed June 4, 1907. Serial No. 27,877. PUBLISHED JULY 9, 1907.

65,058. CHOCOLATES. TOURAINE CONFECTIONERY CO., Boston, Mass.
Filed May 23, 1907. Serial No. 27,597. PUBLISHED JULY 9, 1907.

65,059. COTTON PIECE GOODS OF PLAIN WEAVE. A. G. HYDE & SONS, New York, N. Y.
Filed May 28, 1906. Serial No. 19,895. PUBLISHED JULY 9, 1907.

65,060. VALVES. AJAX VALVE COMPANY, Chicago, Ill.
Filed April 15, 1907. Serial No. 26,705. PUBLISHED JULY 9, 1907.

65,061. COTTON PIECE GOODS AND BLANKETS. ATLANTIC COTTON MILLS, Lawrence, Mass.
Filed April 15, 1907. Serial No. 26,707. PUBLISHED JULY 9, 1907.

65,062. WHISKY. THE D. L. AREY DISTILLING CO., Salisbury, N. C.
Filed April 4, 1907. Serial No. 26,447. PUBLISHED JULY 9, 1907.

65,063. HYDRAULIC JACKS. WILLIAM M. DUDGEON, New York, N. Y., executor of Richard Dudgeon, deceased.
Filed January 8, 1907. Serial No. 24,514. PUBLISHED JULY 9, 1907.

65,064. HYDRAULIC JACKS AND PRESSES AND FORCE-PUMPS THEREFOR AND TUBE-EXPANDERS. WILLIAM M. DUDGEON, New York, N. Y., executor of Richard Dudgeon, deceased.
Filed January 8, 1907. Serial No. 24,515. PUBLISHED JULY 9, 1907.

65,065. HYDRAULIC JACKS, PRESSES, AND PUMPS. WILLIAM M. DUDGEON, New York, N. Y., executor of Richard Dudgeon, deceased.
Filed February 11, 1907. Serial No. 25,229. PUBLISHED JULY 9, 1907.

65,066. HYDRAULIC JACKS. WILLIAM M. DUDGEON, New York, N. Y., executor of Richard Dudgeon, deceased.
Filed February 11, 1907. Serial No. 25,231. PUBLISHED JULY 9, 1907.

65,067. HYDRAULIC JACKS AND PRESSES AND FORCE-PUMPS THEREFOR AND TUBE-EXPANDERS. WILLIAM M. DUDGEON, New York, N. Y., executor of Richard Dudgeon, deceased.
Filed February 11, 1907. Serial No. 25,232. PUBLISHED JULY 9, 1907.

65,068. SILK BOLTING-CLOTH. ROBT. L. LATIMER & CO., Philadelphia, Pa.
Filed February 26, 1907. Serial No. 25,624. PUBLISHED APRIL 9, 1907.

65,069. CANVAS INTERLININGS. SIMON NACHTIGALL, New York, N. Y.
Filed May 8, 1907. Serial No. 27,222. PUBLISHED JULY 9, 1907.

65,070. BUTTER. E. G. PÉREZ & Co., New York, N. Y.
Filed May 18, 1907. Serial No. 27,496. PUBLISHED JULY 9, 1907.

65,071. WHEAT-FLOUR, PANCAKE-FLOUR, CAKE AND PASTRY FLOUR. THE PORTLAND FLOURING MILLS CO., Portland, Oreg.
Filed April 27, 1907. Serial No. 26,963. PUBLISHED JULY 9, 1907.

65,072. LEGGINGS MADE FROM TEXTILE FABRIC. S. RAUH & COMPANY, New York, N. Y.
Filed March 13, 1907. Serial No. 25,943. PUBLISHED JULY 9, 1907.

65,073. LEGGINGS MADE FROM TEXTILE FABRIC. S. RAUH & COMPANY, New York, N. Y.
Filed May 15, 1907. Serial No. 27,375. PUBLISHED JULY 9, 1907.

65,074. HAIR-DYE. LOUIS SPIRO, New York, N. Y.
Filed April 13, 1907. Serial No. 26,604. PUBLISHED JULY 9, 1907.

65,075. SUBSTITUTE FOR LARD. STREETT AND CORRAN COMPANY, Baltimore County and Baltimore, Md.
Filed May 23, 1907. Serial No. 27,594. PUBLISHED JULY 9, 1907.

65,076. RAZORS. CHARLES JOSEPH TAGLIABUE, New York, N. Y.
Filed April 12, 1907. Serial No. 26,666. PUBLISHED JULY 9, 1907.

65,077. GIN AND CORDIALS. TANQUERAY, GORDON & CO. LIMITED, London, England.
Filed April 15, 1907. Serial No. 26,732. PUBLISHED JULY 9, 1907.

65,078. WHISKY. H. WEIL & SONS, Paducah, Ky.
Filed July 15, 1905. Serial No. 10,351. PUBLISHED OCTOBER 2, 1906.

65,079. BRANDIES. WM. HOELSCHER AND CO., INC., San Francisco, Cal.
Filed May 22, 1905. Serial No. 6,304. PUBLISHED DECEMBER 12, 1905.

65,080. JUMPERS AND OVERALLS. BURNHAM HANNA MUNGER DRY GOODS CO., Kansas City, Mo.
Filed June 4, 1907. Serial No. 27,870. PUBLISHED JULY 9, 1907.

65,081. CHOCOLATE AND COCOA. CADBURY BROTHERS LIMITED, Birmingham, England.
Filed April 6, 1907. Serial No. 26,520. PUBLISHED JULY 9, 1907.

65,082. CERTAIN FOODS. EDWARD C. FLACCUS, Wheeling, W. Va.
Filed April 23, 1907. Serial No. 26,865. PUBLISHED JULY 9, 1907.

65,083. SILK AND COTTON PIECE GOODS. SOL FRIEDMAN & Co., New York, N. Y.
Filed May 27, 1907. Serial No. 27,673. PUBLISHED JULY 9, 1907.

65,084. BUTTONHOLE-STRIPS FOR GARMENTS. GEO. P. IDE & Co., New York, N. Y.
Filed May 25, 1907. Serial No. 27,651. PUBLISHED JULY 9, 1907.

65,085. CORSETS. KOPS BROS., New York, N. Y.
Filed May 11, 1905. Serial No. 5,093. PUBLISHED JULY 9, 1907.

65,086. FLAVORING EXTRACTS. MCCORMICK & Co., Baltimore, Md.
Filed September 18, 1906. Serial No. 22,166. PUBLISHED JULY 9, 1907.

65,087. CERTAIN MEDICINES. FRANCES MOLLERING, St. Louis, Mo.
Filed May 9, 1907. Serial No. 27,260. PUBLISHED JULY 9, 1907.

65,088. CERTAIN BEVERAGES AND PREPARATIONS FOR MAKING BEVERAGES. OLIVER-FINNIE CO., Memphis, Tenn.
Filed May 28, 1907. Serial No. 27,694. PUBLISHED JULY 9, 1907.

65,089. PILLS FOR CURING RHEUMATISM AND GOUT. ROBERT SCHOELLKOPF, Munich, Germany.
Filed April 25, 1907. Serial No. 26,726. PUBLISHED JULY 9, 1907.

65,090. SILK PIECE GOODS AND SILK-MIXED PIECE GOODS. SUSQUEHANNA SILK MILLS, New York, N. Y.
Filed June 4, 1907. Serial No. 27,878. PUBLISHED JULY 9, 1907.

TRADE-MARKS CANCELED.

53,489. SOAP. LEVER BROTHERS COMPANY, Cambridge, Mass.
Registered June 5, 1906. Canceled August 20, 1907.

LABELS

REGISTERED SEPTEMBER 3, 1907.

13,770.—*Title:* "PENN'S HIGH GRADE SMOKING AND CHEWING TOBACCO." (For Smoking and Chewing Tobacco.) PENN TOBACCO COMPANY, Wilkes-Barre, Pa. Filed August 9, 1907.

13,771.—*Title:* "DUCO SMOKING AND CHEWING TOBACCO." (For Smoking and Chewing Tobacco.) PENN TOBACCO COMPANY, Wilkes-Barre, Pa. Filed August 9, 1907

13,772.—*Title:* "JERSEY QUEEN." (For Condensed Milk.) NOOKSACK VALLEY CONDENSED MILK COMPANY, Everson, Wash. Filed July 15, 1907.

13,773.—*Title:* "MADAME ELISE INIMITABLE PERFECTION SKIN FOOD." (For Massage-Cream.) ELIZABETH T. MCCANN, New York, N. Y. Filed August 10, 1907.

13,774.—*Title:* "LINCOLN HAIR POMADE." (For a Hair Preparation.) PAUL C. BILISOLY, Norfolk, Va. Filed August 9, 1907.

13,775.—*Title:* "BEHRENS' GLYCO THEION." (For a Soluble Sulfur Compound.) THE THEION CHEMICAL COMPANY, New York, N. Y. Filed May 9, 1907.

13,776.—*Title:* "TROCADERO PARISIAN COLOGNE." (For Cologne.) CHAS. RAHAYEL, New York, N. Y. Filed August 2, 1907.

13,777.—*Title:* "ELSTON THE ORIGINAL PAINT AND VARNISH REMOVER." (For a Varnish-Remover.) CHICAGO WOOD FINISHING CO., Chicago, Ill. Filed July 29, 1907.

13,778.—*Title:* "CENTURY PRINTS." (For Pictures.) THE CENTURY CO., New York, N. Y. Filed August 7, 1907.

PRINTS

REGISTERED SEPTEMBER 3, 1907.

2,098.—*Title:* "HIGHEST GRADE." (For Cocoa.) RUNKEL BROTHERS INCORPORATED, New York, N. Y. Filed June 28, 1907.

2,099.—*Title:* "MEN'S AND BOYS' APPAREL." (For Men's and Boys' Apparel.) H. C. LYTTON, Chicago, Ill. Filed August 10, 1907.

2,100.—*Title:* "HEADQUARTERS FOR SOUVENIR POST CARDS." (For Post-Cards.) THE GLOBE SIGN AND POSTER COMPANY, Akron, Ohio. Filed July 29, 1907.

2,101.—*Title:* "MELD BACK, 48. PINOCHLE PLAYING CARDS." (For Playing-Cards.) THE UNITED STATES PLAYING CARD COMPANY, Cincinnati, Ohio. Filed August 13, 1907.

2,102.—*Title:* "PNEUMATIC BACK, BICYCLE PLAYING CARDS." (For Playing-Cards.) THE UNITED STATES PLAYING CARD COMPANY, Cincinnati, Ohio. Filed August 13, 1907.

2,103.—*Title:* "SCHOENHUT'S HUMPTY DUMPTY CIRCUS, THE TOY WONDER." (For Toys.) THE A. SCHOENHUT COMPANY, Philadelphia, Pa. Filed July 27, 1907.

2,104.—*Title:* "EMPIRE STATE REFRIGERATING MACHINE." (For Ice and Refrigerating Machinery.) EMPIRE STATE ENGINEERING COMPANY, New York, N. Y. Filed August 6, 1907.

2,105.—*Title:* "VICTOR." (For Type-Writers.) VICTOR TYPEWRITER CO., New York, N. Y. Filed August 13, 1907.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE GREEN.

Decided March 11, 1907.

1. FINAL REJECTION—FORMAL OBJECTION DOES NOT RENDER PREMATURE.

Where the Examiner points out certain formal objections in his letter finally rejecting the claims of an application, *Held* that the final rejection is not thereby rendered premature.

2. ABANDONMENT—CLAIMS PRESENTED AFTER FINAL REJECTION UNACCOMPANIED BY SHOWING DOES NOT AVOID.

Where after final rejection the applicant presents an amendment curing informalities and containing claims which differ substantially from those finally rejected, but does not make a showing of good and sufficient reasons why the amendment was not earlier presented, *Held* that the amendment is inadmissible, although it would have been proper to cure the informalities by proper amendment, and that such action does not relieve the application from its condition as subject to appeal or save it from abandonment.

ON PETITION.

METHOD FOR EXTRACTING, CONVEYING, STERILIZING, AND MOISTENING DIRT.

Mr. Nicholas Du Bois for the applicant.

MOORE, *Acting Commissioner:*

This petition requests that the Examiner be advised that—

> • • • your petitioner's proposed amendments dated March 17, 1906, and April 20, 1906, respectively be admitted and considered without withdrawing the application from the condition of appeal, and that he be directed to incorporate said proposed amendment, to the end that the claims may, upon appeal to the Board of Examiners-in-Chief, be in condition for intelligent action on the merits by that tribunal.

Following several actions in the case, all the claims were rejected on December 20, 1905. On January 8, 1906, applicant amended by canceling claims 1 and 2 and substituting two new claims therefor. Concerning these claims, applicant stated in his amendment:

> The foregoing claims 1 and 2 are in substance the same as the claims on which the Examiner's action was based.

In his action of February 24, 1906, the Examiner criticised and finally rejected the claims as follows:

> The parenthetical clause in claims 1 and 2 should be canceled, because it is not clear and because it sets out nothing positively. The expression "moist suction" is meaningless.
>
> The claims are again rejected on the references and reasons of record, and as the claims have not been amended in matter of substance, this action is made final.
>
> Appeal lies to the Examiners-in-Chief.

Petitioner contends that—

> • • • in view of the new objection raised by the Examiner the final rejection at this time was premature.

The claims, as applicant admits, had not been amended in matter of substance. No new grounds of rejection were cited by the Examiner. The final rejection was therefore not premature. The fact that certain formal objections were made did not prevent the final rejection from being proper.

The circumstances in this case are similar to those in the case of *ex parte Severy*, (97 O. G., 2745,) in which it was stated:

> The petitioner contends that the requirement for a showing does not apply, since in his opinion the application was not in condition for appeal. He calls attention to the rule which requires that all formal matters be settled before appeal is taken and argues that since such matters had not been settled when the letter referred to was written the consideration of the merits of the case could not properly be closed by the Examiner.
>
> All of the rules must be construed together, and when so construed the Examiner clearly has authority to finally reject the claims before all formal matters are settled, and such final rejection has as much force as if there were no controversy as to formal matters. It is merely necessary that the formal matters be disposed of before an appeal is forwarded. This subordination of formal defects to matters of merits is for the purpose of facilitating the prosecution of the case upon its merits and is believed to be founded upon good reason and to work to the interest of parties having business before the Office. The question of main interest is the merits, and the postponement of formal matters is for the purpose of preventing delay in reaching a conclusion upon that question. To permit the postponement of such matters to result in delays in settling questions of merits would be to defeat the very purpose for which the rule was adopted.

The Examiner holds that the claims which applicant seeks to have admitted differ substantially from the finally-rejected claims. This is admitted by applicant, for in the proposed amendment containing said claims he says:

> The claims now submitted are in substance different from the canceled claims in that they clearly recite that the suction is induced by an agent not in contact with the article being operated upon and that the dirt is extracted by the suction of air free from moisture likely to be injured by wetting the article to which it is applied.

Applicant did not make a showing duly verified of good and sufficient reasons why the amendments were not earlier presented, as required by Rule 68. Without such a showing the amendments submitted were not admissible, although it would have been proper to cure the informalities by proper amendment. (*Ex parte Paige*, 108 O. G., 1587.) Such an amendment, however, under the provisions of Rule 68 would not relieve the application from its condition as subject to appeal or save it from abandonment.

The final rejection of February 24, 1906, having been proper, a responsive action thereto such as would save the case from abandonment would have been an appeal to the Examiners-in-Chief. Inasmuch as no such action has been taken within the year provided by statute, the application is abandoned. (*Ex parte Thayer*, 122 O. G., 1724.)

The petition is denied.

EX PARTE THE RAT BISCUIT COMPANY.

APPLICATION FOR REGISTRATION OF TRADE-MARK.

Decided August 3, 1907.

TRADE-MARKS—"RAT BIS-KIT" FOR POISONOUS COMPOUND FOR RATS AND MICE—DESCRIPTIVE—NOT REGISTRABLE.

The words "Rat Bis-Kit" indicate a product to be eaten by rats, which would be understood by the public to contain a rat-poison. *Held*, therefore, to be descriptive and not registrable as a trade-mark for a poisonous compound for rats and mice.

ON APPEAL.

TRADE-MARK FOR POISONS FOR ANIMALS.

Mr. H. A. Toulmin for the applicant.

BILLINGS, *Assistant Commissioner:*

This is an appeal by The Rat Biscuit Company from the decision of the Examiner of Trade-Marks refusing to register the words "Rat Bis-Kit" as a trade-mark for a poisonous compound for rats and mice.

Registration was refused on the ground that the mark is descriptive of the character or quality of the goods.

Section 5 of the Trade-Mark Act of February 20, 1905, provides that no mark shall be registered which consists—

merely in words or devices which are descriptive of the goods with which they are used or of the character or quality of such goods.

The words are not descriptive of the goods, but are descriptive of the character and use thereof. The word "Bis-Kit," which is merely a misspelling of the word "biscuit," indicates that the compound is something to be eaten and the word "Rat" that it is to be eaten by rats. As it is not customary to feed rats, it will be understood by every one that the compound is a rat-poison put up in the form of a biscuit, which might be of rectangular form, like the well-known "Uneeda" biscuit.

In the case of *Barrett Chemical Co.* v. *Stern*, (176 N. Y., 27; 68 N. E. Rep. 65,) where the word "Roachsault," used on a compound for destroying insects, was held to be descriptive, and therefore not a valid trade-mark, the Court of Appeals of New York said:

The word "roach" can be used as descriptive of the common insect whose life is sought to be destroyed by the use of the article and so the word "salt" may be used since it is a word in common use to describe chemical preparations and an article for the preparation of food. The two words may be written and used as one word to describe a salt to be used for the purpose of destroying roaches. * * * The case in its legal aspect is the same as if each party had labeled his goods "Roach Poison" instead of "Roach Salt."

The principles thus announced by the court are applicable to the facts in this case.

The decision of the Examiner of Trade-Marks is affirmed.

DECISIONS OF THE U. S. COURTS.

Court of Appeals of the District of Columbia.

LEWIS AND WILLIAMS *v.* CRONEMEYER.

Decided March 5, 1907.

1. INTERFERENCE—REDUCTION TO PRACTICE—TEST.

Where it appears that L. and W. constructed a machine embodying the tin-plate catcher set forth in the issue and secretly tested the same August 23, 1902, but it is not clear that freshly-tinned plates were used in the test, and the machine was at once dismantled, and that subsequently, in October, 1903, another machine was constructed which is said to have been operated until November 18, 1903, but was not again used until September, 1904, after L. and W. heard of C.'s patent, and no sheets which were run through this catcher are produced, and where another machine, which was made in February, 1905, in conformity with the first machine and tested in the presence of witnesses called in this case, required frequent adjustments of the catcher-disks to prevent the sheets from slipping and yet to place them far enough apart to avoid denting the sheets, *Held* that the experimental stage of the invention had not been passed and that such tests did not establish reduction to practice of the invention.

2. SAME—SAME—DILIGENCE.

Where L. and W. made and secretly tested a machine embodying the invention August 23, 1903, and at once dismantled the same, made and tested another machine October, 1903, but did not use the same again until September, 1904, and where L and W. consulted their attorneys in November, 1903, and had the application papers prepared in January, 1904, but did nothing further toward filing their application until June, 1904, after they had heard of C.'s patent, *Held* that L. and W. were lacking in diligence and cannot prevail over C., who reduced the invention to practice and filed his application in September, 1903.

Mr. Harry Frease for Lewis and Williams.

Mr. C. P. Byrnes for Cronemeyer.

MCCOMAS, *J:*

The three tribunals of the Patent Office concurred in awarding priority of invention in this case to Cronemeyer and we must affirm the decision of the Commissioner of Patents appealed from. Such unanimity relieves us from a prolonged discussion of the case. The issues are:

1. A catcher for tinning-machines comprising a pair of positively driven rollers having gripping portions provided with soft material to prevent marking of the plates.

2. A plate-catcher having positively-driven catcher-rolls, said rolls having separated registering gripping portions of soft material.

3. A plate-catcher having a pair of driven rolls with soft gripping portions, a deflector above them, a raised support below the deflector, and an inclined chute for the sheets as they leave the deflector.

4. In a plate-catcher a pair of driven feed-rollers above the tinning-machine and having soft gripping portions, and means for yieldingly pressing at least one of said rollers toward the other.

It thus appears that the invention in issue is a catcher for tinning-machines. It is the office of this catcher to take hold of the tin-plate when it emerges from the rolls of the tinning-machine and discharge it from the machine. Cronemeyer is the senior party to whom was granted a patent six months before the application of Lewis and Williams, the appellants, was filed. In this interference, therefore, the burden of proof is upon them in an unusual degree. Mechanical catchers for tinning-machines were in use before Cronemeyer filed his application. In February, 1899, a patent was issued to Burson for a metal-plate catcher, which consisted of two steel rolls similar to the tinning-rolls, and as the tin-plate emerged from the tinning-rolls, Burson's machine caught it up by these steel rolls and discharged it from the machine.

In the invention in issue, instead of the rolls of Burson's patent, shafts are employed, having a series of pairs of disks between which the tin-plate sheet is caught when it emerges from the tinning-rolls. In Cronemeyer's patent these disks are formed of a number of linen disks clamped between sleeves on the shaft. In the application of Lewis and Williams it appears that the disks are made of tin and clamped in position on the shafts by threaded sleeves, or cast on the shaft. Burson's steel rolls mounted over a tinning-bath successfully seized and discharged freshly-tinned plates but in practice it was found that these steel rolls greatly marred the polished surface of the plates.

It was the purpose of the invention of each of the parties to produce a catcher which would receive and discharge plates without marking or defacing their polished surfaces. Therefore, the important feature of the invention of this issue is the "gripping portions" on the feed-rollers "provided with soft material to prevent marking of the plate." Expedients for guiding the plates as they are discharged from the rollers are incidental, in the more limited counts of the issue.

Cronemeyer sought to avoid the defect in Burson's catcher by the use of the linen disks described. Lewis and Williams tried to avoid Burson's difficulty by the use of tin disks, which they claim are relatively soft and at least not hard enough to mark the freshly-tinned surfaces of the plates.

Lewis was the superintendent, and Williams was a foreman of the Morewood works of the American Tin Plate Company at Gas City, Indiana. They jointly conceived this invention before July 1, 1902, and about that date, they disclosed it to Smith and Hook, who under the instruction of Lewis and Williams, built a test machine which when completed was tested in the tin-house of the Morewood works on August 23, 1902, in the presence of four or five persons. Because they wished to keep secret their invention, after a few hours testing, Lewis and Williams had this machine broken up. Soon after, Williams departed from Gas City and became a superintendent for the Carnahan Tin Plate and Sheet Company at Canton, Ohio. Lewis joined him there in the same employment in July, 1903. Lewis and Williams discussed with Blecker, the secretary of the company, the merits of their tin-disk catcher, and soon completed and put into operation a catcher about the 1st of October, 1903. It remained in use until the middle of November following. Its use was discontinued for a long time and it was again in operation in September, 1904.

It is clear that Lewis and Williams were the first to conceive the invention in issue. All the tribunals of the Patent Office agree that the construction and testing of the machine at Gas City was not a reduction to practice of the invention in issue. As we have said, the Burson catcher with its steel rolls, successfully caught the plate but it marred them in so doing. Lewis and Williams testify, and they are corroborated by Smith and Hook, that a number of sheets were run through the machine at Gas City and there were no marks upon the plates. Thornburg says these plates had a little oil but no marks on them. Blackburn says the plates showed some abrasion but after they passed through the dusting and polishing machines, this abrasion was not noticeable.

At the time the appellants secretly tested their machine at Gas City, the plant was shut down and there is no satisfactory evidence that the particular tin-pot on which the new catcher was mounted contained molten tin. On the contrary, the evidence is most persuasive that tin plates no longer fresh were used in the experiment, and there is no evidence that the sheets used were retinned at the time. This experiment continued only for an hour or two and none of these sheets were preserved. The positive opinions of witnesses that these sheets showed no marks after passing through the cleaning and polishing machines would be more weighty had the test not occurred two days after the tin-house had shut down for the season, at which time the tin ordinarily would have been removed from the pot. Undue importance is given to the statement that the light in the tin-house was poor. It was the building in which tin plates were dipped and we infer there was light enough from the windows for the business therein conducted. This machine at Gas City was tested and dismantled on August 23, 1902. We are not satisfied beyond a reasonable doubt that this test was a successful reduction to practice.

The machine built in the Carnahan plant at Canton was installed on the 5th of October, 1903, and taken off on November 18, 1903. Williams says none of the sheets run through this catcher were marked and Thornburg says it worked well. No plates then produced appear among the exhibits. Lewis testifies that another machine was built and put in operation in the Carnahan works on February 14, 1905, and this machine was later made to conform to the construction of the first machine tested at Gas City and he insists that the machine worked as well after this change as before. A series of plates caught up by this machine were exhibited and Lewis admits that some of them were marked but not marked to such an extent "that an assorter could turn them back as wasters or menders." When this machine was tested, before witnesses on both sides who appear in this case, it required frequent adjustment in order that the disks might be close enough together to prevent the sheets from slipping and yet far enough apart to avoid denting the sheets which often vary in thickness. Kimball, an intelligent witness for Cronemeyer, says the machine was adjusted every few minutes, which indicated that the machine did not successfully do its work. Lewis and Williams occupied important positions in the Carnahan plant and it is significant that after their second machine had been in operation for six or seven weeks in the fall of 1903 it was not used again until September, 1904. The applicants say it was taken off for repairs but the repairs necessary, Thornburg says, consumed only one day's work, and it is significant that it was not restored to use until after these applicants had heard that the patent had been granted Cronemeyer and that his invention was in use, and at no time does it appear that Lewis and Williams made use of more than one of their catchers at the same time upon tinning-pots in the Carnahan establishment. The Examiners-in-Chief fairly infer that the experimental stage of the invention had not been passed.

Nor were Lewis and Williams diligent in filing their application for a patent. Mr. Frease who so well presented appellants' case in this court says he was consulted about the 1st of November, 1903, and prepared the papers in January following; that Secretary Blecker, who had arranged to pay the fees, held back, and the matter was taken up in July, 1904, and the first application filed August 9, 1904, and though it is true the attorney says the appellants applied to him in June, 1904, to know why the application had not been filed, this interview did not occur until after they had heard of Cronemeyer's patent. We conclude that Lewis and Williams have failed to prove beyond a reasonable doubt that the tests of their catchers in 1902 and 1903 were so successful as to constitute a reduction to prac-

tice of the invention. They are the junior parties, and they were joint inventors, but they must in this case rely upon the success of the tests just mentioned to establish priority over Cronemeyer, the patentee, and these tests are not convincing. (*Guilbert* v. *Killinger*, 13 App. D. C., 108; *Meyer* v. *Sarfert*, 21 App. D. C., 28; *Dashiell* v. *Tasker*, 21 App. D. C., 68; *Neilson* v. *Bradshaw*, 16 App. D. C., 96; *Kelly* v. *Fynn*, 16 App. D. C., 577.)

It was during this period that Cronemeyer appeared and reduced the invention to practice.

Cronemeyer testifies that in November, 1902, he conceived the idea of a catcher having gripping-rolls for use with a tin-plate machine. In December of 1903, he experimented with rolls having soft gripping portions; he tried rubber and asbestos, and by the first week in September of that year he used rolls, the gripping portions of which consisted of linen disks. Three witnesses testify that a catcher having linen or cotton disks was in use just before Cronemeyer took his vacation on September 5, 1903. The proof is satisfactory that Cronemeyer's catcher worked well until the disk were worn down, and his patent was applied for on September 21, 1903, and granted February 9, 1904. Lewis and Williams filed their application as we have stated, October 13, 1904, and when the testimony was taken Fraser stated that he had placed over fifty of the Cronemeyer catchers in the plants of the American Sheet and Tin Plate Company. It is unnecessary to review the ingenious argument of appellants' counsel that the Patent Office tribunals decided this case adversely to the appellants because their invention was not operative. We think the Commissioner appreciated that upon this interference priority of invention was the sole question to be determined and he rightly held that the appellants failed to prove beyond a reasonable doubt that they had reduced their conception of the invention to successful practice.

The decision of the Commissioner of Patents in this case must therefore be affirmed and the clerk of this court will certify this decision and opinion to the Commissioner of Patents in accordance with law.

Supreme Court of the District of Columbia.

THE UNITED STATES OF AMERICA, *ex rel.* THE NEWCOMB MOTOR CO., *v.* FREDERICK I. ALLEN, (EDWARD B. MOORE SUBSTITUTED,) COMMISSIONER OF PATENTS.

Decided June 21, 1907.

1. MANDAMUS NOT GRANTED—WHERE OTHER LEGAL REMEDIES EXIST.

Where the relator is not without other complete and adequate remedies, a writ of mandamus will not lie.

2. SAME—MERELY TO EXPEDITE THE CASE.

Although the writ of mandamus might serve as an inexpensive and summary conclusion of the whole matter, providing this court had jurisdiction to issue the writ, yet neither economy of time, nor expense can weigh anything as against the orderly procedure under the law of a given case.

3. SAME—WHERE COURT IS WITHOUT JURISDICTION.

Where the Commissioner has in fact acted and rendered his decision touching the very matter here in controversy and has the clear legal right to act and decide for himself, this court is without jurisdiction to review his action and above all to compel him by its writ to undo what he has done.

4. MANDAMUS—PRACTICE.

Where the Commissioner had the power to act and has acted, *Held* that it is wholly immaterial whether in the judgment of the court he was right or wrong in his determination and that in overruling the motion for a writ of mandamus no opinion will be expressed as to the merits of the relator's contentions.

Mr. Charles H. Duell, *Mr. Robert N. Kenyon*, and *Mr. Walter F. Rogers* for the petitioner.

Mr. Fairfax Bayard and *Mr. W. S. Ruckman* for the respondent.

Mr. Melville Church of counsel for the respondent and representing the General Electric Company.

ANDERSON, *J.*:

This case is before the court upon motion of the relator, based upon the petition and return herein, for a writ of mandamus against the respondent, Commissioner of Patents, directing him to vacate and set aside certain proceedings in the Patent Office bearing upon the subject-matter of certain interferences which had been declared and dissolved in that Office.

The interferences referred to involved, on the one side, two certain patents of the relator, and, on the other side, four certain pending applications for patents of parties named Thomson and Lemp.

The relator contends that upon the expiration of the limit of appeal fixed by the Examiner from his decision in the interferences that relator's opponents had no right to make the claims involved in the issues of interference and dissolving such interferences in consequence thereof, that such decision became final and *res judicata*, and that all further proceedings in the Patent Office respecting the right of the relator's opponents to make the claims were outside of and beyond the jurisdiction of the Office.

It is by no means clear to the court, however, that the respondent has exceeded his jurisdiction in allowing these further proceedings. The determination of the question involved the construction of certain statutes prescribing the rights of parties before the Patent Office, and the respondent gave careful consideration to the whole question, and decided that the provision of the rules for interlocutory motions to dissolve interferences and appeals in connection therewith, was entirely independent of, and in no wise affected, the unconditional right given to applicants for patents by section 4909 Revised Statutes of the United States of appealing whenever their claims are, "twice rejected," by the Primary Examiner, and that it would be neither legal nor cosistent with the statute to hold that a party's failure to exercise a right of appeal not given by the statute and resting solely upon, and being the creature of, the rules of the Patent Office, estops him from exercising a right of appeal *unconditionally* given to him by the statute.

If the respondent is right in his construction of section 4909 of the Revised Statutes of the United States, namely, that applicants for patents are thereby given the indisputable right of appeal whenever their claims are twice rejected by the Primary Examiner, and that Rules 122 and 124 have no application to such cases, but are limited to interlocutory motions to dissolve interferences and appeals in connection therewith, then clearly these rules cannot avail anything as against the statute, and cannot be invoked in support of the application for a writ of mandamus in this case.

Whether the distinction thus pointed out by the respondent actually exists under a right interpretation of the law and the rules themselves is not for this court to decide, as the court is without jurisdiction so to do.

As was said by the United States Supreme Court in *Riverside Oil Co* v. *Hitchcock*, (190 U. S., 324:)

Whether he decided right or wrong, is not the question. Having jurisdiction to decide at all, he had necessarily jurisdiction, and it was his duty to decide as he thought the law was, and the courts have no power whatever under those circumstances to review his determination by mandamus or injunction.

OTHER REMEDIES.

It seems to me that this is clearly not a case where the relator is without other legal remedy than that afforded by writ of mandamus, in order to rightly determine and enforce his rights in the premises, and thereby save himself harmless from any possible error in the decisions of which it complains. If the questions involved are in fact and in law *res judicata* as the relator contends, ample opportunity will be afforded it to fully and fairly press that contention for final determination upon appeal from the final decision in the interference proceedings between the relator and Thomson and Lemp, that must necessarily be prosecuted to a final conclusion before patents can issue to the latter for the inventions covered by the relator's patents. Moreover, if the Commissioner should decide against the relator's contentions, his right of appeal from such decision to the court of appeals would seem to be unquestionable, and, if the relator should prevail on such appeal, it necessarily follows that the court would reverse the Commissioner and enter an order of priority in its favor, as was done in *Blackford* v. *Wilder*, (decided Jan. 8, 1907, 127 O. G., 1255.) While, on the other hand, if the court of appeals should decide against the relator, then its opponents would be entitled to their patents, with the right still reserved to the relator to avail himself of any error in the decisions leading to the granting of such patents in an interfering patent suit as provided under section 4918 Revised Statutes. Without undertaking to enumerate and define the specific statutory remedies available to the relator against the alleged errors in the decisions of which it complains; it is sufficient to say, in a word, that in the opinion of the court the relator is not without other complete and adequate legal remedies suited to the exact situation of this case.

While it is true that, if the questions here involved are *res judicata*, the writ of mandamus invoked by the relator would serve as an inexpensive and summary conclusion of the whole matter, providing this court had jurisdiction to issue the writ, yet neither economy of time or expense can weigh anything as against orderly procedure under the law of a given case.

As was said by the Supreme Court of the United States in *Bayard* v. *United States*, (127 U. S., 426, at p. 250:)

The writ of mandamus is a remedy to compel the performance of a duty required by law, where the party seeking relief has no other legal remedy and the duty sought to be enforced is clear and indisputable.

The Commissioner has decided that the failure of Thomson and Lemp to prosecute their appeal from the decisions of the Primary Examiner dissolving the interferences, is not conclusive of the questions here involved; or, in other words, that these questions are not, by virtue of the decision of the Primary Examiner, *res judicata*. In so deciding, the Commissioner was necessarily required to study, compare and interpret, according to his own best judgment, aided presumably by the legal advisers of his Office; the various sections of the statutes relating thereto. And in so deciding he was acting clearly within his jurisdiction, as the head of the Office charged with the duty of exercising his judgment and discretion, as contradistinguished from the performance of a mere ministerial act or duty. It therefore follows, in the opinion of the court, that inasmuch as the Commissioner has in fact acted and rendered his decision touching the very matter here in controversy, and having the clear legal right to act and decide for himself, this court is without jurisdiction to review his action and above all to compel him by its writ to undo what he has done.

As was said by Mr. Justice Miller, in *Johnson* v. *Towsley*, (13 Wall., 72, 83:)

When the law has confined to a specific tribunal, the authority to hear and determine such matters arising in the course of its duties, the decision of that tribunal, within the scope of its authority, is conclusive upon all others.

In the case of *Dunlap* v. *Black*, (128 U. S., p. 48,) it was also said by the Supreme Court of the United States:

The Court will not interfere by mandamus with the executive officers of the Government in the exercise of their ordinary official duties, even where those duties require an interpretation of the law, the Court having no appellate power for that purpose. Whether, if the law were properly before us for consideration, we should be of the same opinion or of a different opinion is of no consequence in the decision of the case.

In *Kirwin* v. *Murphy*, (189 U. S., 55,) the Court quoted with approval the following passage found in the case of *Litchfield* v. *The Register and Receiver*, (9 Wall., 577, 579:)

The principle has been so repeatedly decided in this Court, that the judiciary cannot interfere either by mandamus or injunction with executive officers such as the respondents here, in the discharge of their official duties, unless those duties are of a character purely ministerial, and involving no exercise of judgment or discretion, that it would be useless to repeat it here.

Having thus decided this court is without jurisdiction to require the respondent to undo what, in the exercise of his judgment and discretion and under his interpretation of the law and of the rules of his Office, he has done, it is wholly immaterial whether in the judgment of this court he is right or wrong in his determination of these questions; and I therefore express no opinion as to the merits of the relator's contentions in such connection, but content myself with thus briefly stating my reasons for overruling the relator's motion that the writ of mandamus issue notwithstanding the respondent's answer or return to the relator's petition.

The motion will therefore be overruled, the rule to show cause discharged, and the petition dismissed.

PROTECTION OF PATENTS IN MOROCCO.

DEPARTMENT OF STATE,
Washington, July 13, 1907.

The Honorable The SECRETARY OF THE INTERIOR.

SIR: I have the honor to inclose for communication to the Commissioner of Patents a copy of a despatch from the Legation at Tangier transmitting copies of notes exchanged by the American and British Minis-

ters at that capital with a view to effecting the reciprocal protection in Morocco of patents issued by their respective Governments.

I have the honor to be, Sir,

Your obedient servant,

(Signed) ALVEY A. ADEE,
Acting Secretary.

Inclosure: From Morocco, unnumbered, June 24, 1907, with six inclosures.

AGREEMENT EFFECTED BY EXCHANGE OF NOTES.

TANGIER, *February 4, 1907.*

MR. MINISTER AND DEAR COLLEAGUE:

Referring to the correspondence which has taken place between our two Legations on the subject of the protection of trade-marks, I have the honor to suggest to you the utility of extending to patents of inventions the arrangement which is in force with respect to trade-marks.

To this end I have the honor to inform you that protection will be accorded by the British consular tribunals in Morocco to American patents of inventions which have been duly registered in Great Britain in conformity with "Patents, Designs and Trade-Marks Acts 1883-1888," on condition that protection, under the same conditions will be assured in Morocco, by the American authorities, to English patents of invention.

Begging you to have the kindness to communicate to me your opinion on this subject, accept the assurances of my high consideration.

GERARD LOWTHER.

To His Excellency Mr. S. R. GUMMERÉ,
American Minister, etc., etc., etc.,
Tangier.

TANGIER, *February 15, 1907.*

MR. MINISTER AND DEAR COLLEAGUE:

I have the honor to acknowledge the receipt of your letter of the 4th of February 1907, in which, referring to the correspondence which has taken place between our two Legations, on the subject of trade-marks, you set forth the utility of extending to patents of inventions the arrangement which is in force with respect to trade-marks.

To this end you inform me that protection will be accorded by the British consular tribunals in Morocco to American patents of invention which have been duly registered in Great Britain in conformity with "Patents, Designs and Trade-Marks Acts 1883-1888," on condition that protection under the same conditions will be assured in Morocco by the American authorities to English patents of invention.

I have the honor to inform Y. E. that I have submitted to my Government your proposition regarding the extension to patents of invention the arrangement which is in force with respect to trade-marks and will at once inform you of their decision on the subject.

With apologies for delay in sending my response, occasioned by my illness, accept Mr. Minister and dear colleague the assurances of my high consideration.

S. R. GUMMERÉ.

To His Excellency Mr. GERARD LOWTHER,
British Minister, etc., etc., etc.,
Tangier.

TANGIER, *April 29, 1907.*

MR. MINISTER AND DEAR COLLEAGUE:

Referring to our correspondence on the subject of the utility of extending to patents of invention the arrangement in force in Morocco between our two Governments regarding trade-marks, I have the honor to inform you that I have received instructions from my Government to the effect that protection by the consular courts of the United States in Morocco will be accorded to British patents of invention, duly registered in the United States, on condition that protection under the same conditions shall be assured in Morocco by the British authorities to American patents of invention.

Accept Mr. Minister and dear colleague the assurance of my high consideration.

S. R. GUMMERÉ.

His Excellency Mr. GERARD LOWTHER,
H. B. M. Minister, etc., etc., etc.,
Tangier.

TANGIER, *June 20, 1907.*

MR. MINISTER AND DEAR COLLEAGUE:

In reply to your letter of April 29th, I have the honor to inform you that I am authorized by my Government to declare to you that protection will be accorded by the British consular tribunals in Morocco to the patents of inventions of the United States of America, which have been duly registered in England in conformity with the "Patents, Designs and Trade-Marks Acts 1883 to 1902," and that I am prepared to give instructions to that effect to the British consular officers, to the end that the accord shall enter into force immediately. May I hope that your excellency will give similar instructions to the consular officials of the United States of America.

I take this occasion, Mr. Minister and dear colleague to renew the assurances of my very high consideration.

GERARD LOWTHER.

His Excellency Mr. S. R. GUMMERÉ,
Minister of the United States of America,
etc., etc., etc.,
Tangier.

TANGIER, *June 24, 1907.*

MR. MINISTER AND DEAR COLLEAGUE:

I have the honor to acknowledge the receipt of your letter of the 20th of June informing me that you are authorized by your Government to declare that protection will be accorded by the British consular tribunals in Morocco to patents of invention of the United States of America, which have been duly registered in England, in conformity with the "Patents, Designs and Trade-Marks, Acts 1883 to 1902," and that you are ready to give instructions to that effect to the British consular officials to the end that the accord shall be put in force at once.

I have the honor to inform your excellency that I am also authorized by my Government to declare to you that protection will be accorded by the American consular tribunals in Morocco to [British] patents of invention duly registered in the United States and that I will give instructions to that effect to the American consular officials to the end that the accord shall be entered into at once.

Pray accept, Mr. Minister and dear colleague the assurance of my high consideration.

S. R. GUMMERÉ.

His Excellency Mr. GERARD LOWTHER,
H. B. M. Minister, etc., etc., etc.,
Tangier.

Interference Notice.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., July 22, 1907.

Henry T. Miller & Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of Carleton Dry Goods Company, of St. Louis, Mo., for registration of a trade-mark and a trade-mark registered to Henry T. Miller & Company, of Richmond, Va., and the notice of declaration mailed by the Patent Office in the usual manner to said Henry T. Miller & Company has been returned by the Post-Office Department with the statement "Unclaimed." The record of the case also shows that other efforts to locate said party have been unsuccessful.

Notice is therefore hereby given to the said Henry T. Miller & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will proceed as in case of default.

E. B. MOORE, *Commissioner.*

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.
[BY AUTHORITY OF CONGRESS.]

VOL. 130—NO. 2. TUESDAY, SEPTEMBER 10, 1907. PRICE—$5 per year.

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ISSUE OF SEPTEMBER 10, 1907.

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Austria-Hungary	2	.....	Queensland	1	.....
Belgium	1	.....	Russia	2	.....
Canada	9	1	Scotland	1	1
Cuba	2	3	Sweden	1	.....
England	16	2	Switzerland	5	.....
France	2	1	Turkey	1	.....
Germany	21	5			
Ireland	1	.....	Total to citizens of foreign countries	67	13
Italy	1	.....			
Netherlands	1	.....			

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	4	.....	Nebraska	10	1
Arkansas	1	.....	New Hampshire	3	.....
California	23	5	New Jersey	33	3
Colorado	9	1	New Mexico Ter't'y	.....	2
Connecticut	20	2	New York	87	56
District of Columbia	6	1	North Carolina	2	1
Florida	1	.....	North Dakota	2	1
Georgia	3	.....	Ohio	56	7
Idaho	1	.....	Oklahoma Territ'y	2	.....
Illinois	54	6	Oregon	7	.....
Indian Territory	3	.....	Pennsylvania	58	8
Indiana	18	1	Rhode Island	4	.....
Iowa	13	7	South Dakota	2	1
Kansas	12	.....	Tennessee	4	8
Kentucky	3	.....	Texas	11	.....
Louisiana	6	2	Utah	3	.....
Maine	1	.....	Vermont	2	.....
Maryland	10	3	Virginia	4	3
Massachusetts	29	12	Washington	7	.....
Michigan	21	3	West Virginia	5	1
Minnesota	10	7	Wisconsin	12	2
Mississippi	2	.....			
Missouri	15	6	Total to citizens of the United States	582	150
Montana	3	.....			

Patents	635	No. 865,347 to No. 865,981, inclusive.
Designs	14	No. 38,787 to No. 38,800, inclusive.
Trade-Marks	144	No. 65,091 to No. 65,234, inclusive.
Labels	14	No. 13,779 to No. 13,792, inclusive.
Prints	5	No. 2,106 to No. 2,110, inclusive.
Reissues	1	No. 12,694.
Total issue	813	

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., July 31, 1907.

In view of the great volume of work to be done in this Office and also in the Government Printing Office, it has become necessary to extend the period for the preparation of patents for issue, following the payment of final fees. To this end, notice is hereby given that all patents on which final fees are paid during the week ending Thursday, September 5, 1907, will be issued on Tuesday, September 24, following, in accordance with the usual practice; that all patents on which the final fees are paid on September 6, 7, and 9 will be issued on Tuesday, October 1; that all patents on which the final fees are paid on September 10, 11, and 12 will be issued on Tuesday, October 8, and that thereafter the issue will close on Thursday of each week and the patents be issued on the fourth Tuesday following, instead of the third Tuesday, as heretofore.

(Signed) E. B. MOORE,
Commissioner.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business September 3, 1907.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Aug. 14	July 31	172
303	XVII. Clutches, Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Aug. 12	July 30	186
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Aug. 12	July 10	152
232	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Iron Structures, Loading and Unloading, and Towers.	Aug. 8	July 30	224
147	XXIX. Coopering, Fire-Escapes, Ladders, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools, Woodworking.	Aug. 7	June 10	240
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Aug. 6	July 18	205
312	VII. Games and Toys, Mechanical Motors, Optics, Paper Manufactures, Velocipedes.	Aug. 2	July 19	313
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Aug. 2	July 18	201
321	I. Tillage, etc., Fences	Aug. 1	July 11	306
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	July 30	July 3	284
244	XXXV. Baths and Closets, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Garment-Supporters, Toilet, Signals.	July 30	June 24	638
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Educational Appliances, Fishing and Trapping, Stationery, Stone-Working.	July 27	July 16	425
324	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	July 25	July 1	544
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	July 22	July 15	265
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	July 22	June 3	479
322	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Windwheels.	June 20	July 19	403
327	XVIII. Steam-Engineering, etc.	July 15	June 17	304
307	XIV. Compound Tools, Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Sheet-Metal Ware, Making, Tools, Wire-Working.	July 15	May 31	270
148	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Refrigeration.	July 13	May 11	509
167	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	July 13	May 10	471
173	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	July 12	July 10	247
332	X. Carriages and Wagons	July 12	July 1	426
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Time-Controlling Mechanism.	July 10	July 10	300

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
330	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making, etc.	July 10	July 3	475
122	XIX. Heating and Cooking Stoves, Liquid and Gaseous Fuel, Stoves and Furnaces, and Furnaces.	July 5	July 10	410
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	July 2	July 13	359
142	IX. Air and Gas Pumps, Fire-Extinguishers, Hydraulic Motors, Pumps, and Sewerage.	July 2	July 1	273
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery.	July 2	July 1	304
175	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	July 1	June 12	465
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	June 28	July 22	265
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufactures, Nailing and Stapling, Whips and Whip Apparatus.	June 28	June 24	314
382	XXVIII. Miscellaneous Heat-Engines, Internal-Combustion Engines.	June 27	June 27	533
343	XXXIX. Water Distribution	June 22	May 27	642
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	June 22	May 22	455
167	V. Bookbinding, Harvesters, Jewelry, and Music.	June 21	June 7	416
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	June 21	May 6	459
128	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Pneumatics, Presses, Store-Service, Tobacco, etc.	June 19	July 1	239
109	XVI. Telegraphy and Telephony	June 14	June 4	568
280	XL. Baggage, Check-Controlled Apparatus, Cloth, Leather, and Rubber Receptacles, Deposit and Collection Receptacles, Fine Arts, Lighting-Fixtures, Package and Article Carriers, Paper Receptacles, Special Receptacles and Packages, Wooden Receptacles.	June 13	June 3	1052
352	XLI. Railway Draft Appliances, Railway-Rails and Joints, Railway-Ties and Fasteners, Resilient Tires and Wheels.	May 24	May 2	1037
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel Gases, Hydraulic Lime and Cement, Paper-Making, Paving and Plastics, Photography.	May 20	May 18	566

Total number of applications awaiting action 16,396

159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Trade-Marks	Aug. 28	Aug. 14	259
	Designs	Aug. 28	Aug. 30	9
	Labels and Prints			

Full Names of Applicants.

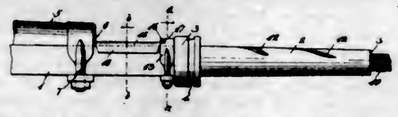
* * * All applications which disclose the full name of the applicant in the preamble of the specification will be received and considered as a sufficient compliance with Rule 40 of the Rules of Practice. (Order 521.)

When the full first name of the applicant does not appear either in his signature or in the preamble to the specification, the Examiner will, in his first official letter, require an amendment supplying the omission, and he will not pass the application to issue until the omission has been supplied, unless an affidavit shall have been filed setting forth that the full first name of the applicant is the one originally given by him. (Order 600.)

PATENTS

GRANTED SEPTEMBER 10, 1907.

865,347. AXLE-LUBRICATOR. JOSEPH ADEN, Rural Hall, N. C. Filed Jan. 7, 1907. Serial No. 351,253.



1. An axle having a lubricant receiving and conducting groove in the upper side of the spindle, extending longitudinally thereof and open at its inner end, a removable stopper having a portion to enter the inner end of said groove, and a thin broadened inner portion to lie on the axle, and a cover to close on said thin broadened inner portion of the stopper and retain the same in place.

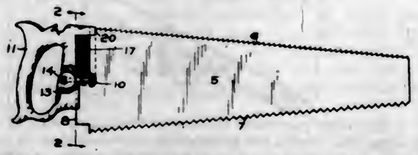
2. An axle having a lubricant-receiving and conducting groove in the upper side of its spindle, extending longitudinally thereof and open at its inner end, a removable stopper for the inner end of said groove, a cuff on said axle, and a cover hinged to the cuff and adapted to close on said stopper to retain the same in place.

3. An axle having a lubricant-receiving and conducting groove in the upper side of its spindle, extending longitudinally thereof and open at its inner end, a removable stopper for the inner end of said groove, a clip on said axle, and a cover hinged to the clip and adapted to close on said stopper to retain the same in place, said cover having side flanges to embrace opposite sides of the square portion of the axle when the cover is closed, and locked by spring action.

4. An axle having a spindle provided with a longitudinal groove to receive and convey lubricant, a collar at the inner end of said spindle, through which said groove extends, and a shoulder on the upper side of the axle spaced from said collar, the said groove having its inner end extending nearly to said shoulder and open to admit the insertion of the spout of an oil or lubricant cup therein, a cuff on the square portion of the axle abutting against the inner side of the shoulder, a removable stopper for the inner end of the groove, and a cover for the inner end of the groove and hinged to the said cuff, substantially as described.

5. An axle having a collar and a spindle and provided with a longitudinal groove in the peripheral surface of the spindle and extending across the collar, the inner end of said groove being open, a cuff on the axle, against the collar and having a tongue extending into and closing the upper portion of the groove in said collar, and a cover for the inner end of said groove, said cover being hinged to the said cuff.

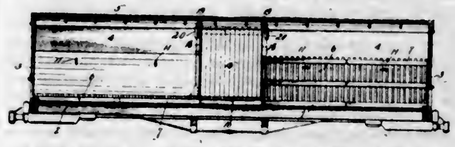
865,348. SAW. JAMES M. ALLISON, Indianapolis, Ind., assignor of one-half to William C. Freed, Indianapolis, Ind. Filed Feb. 18, 1907. Serial No. 358,107.



1. The combination with a saw-blade having cutting teeth at its two longitudinal opposite edges, of a handle hinged at an end of the blade to permit the handle to be reversed by a lateral swinging movement, and means for moving the handle longitudinally of the blade in securing it, in a fixed position.

2. A saw-blade having cutting teeth along both of its longitudinal edges, the handle-end of said blade having an extension from near one edge to the mid line longitudinally of the blade an eye longitudinally of the blade on said mid line a bolt passing through said eye, a handle, and a cam-lever pivoted to the handle and to the said bolt, the cam of said lever being adapted to contact with the eye of the blade when closed and lock the handle to the blade.

865,349. RAILROAD-CAR. HENRY S. BAYER, Jacksonville, Fla., assignor to Patent Ventilated Car Company, Charleston, S. C., a Corporation of South Carolina. Filed Nov. 13, 1906. Serial No. 343,278.



1. In a box car, the combination with a ventilating floor, of an imperforate floor movably secured to the car and adapted, when in service, to cover said ventilating floor.

2. In a box car, the combination with a main floor, of a ventilating floor adjacent thereto, an imperforate floor movably secured to the car, and means for lowering and raising said imperforate floor into and out of service.

3. In a box car, the combination with a main floor, of a ventilating floor adjacent to said main floor, and defining therewith a ventilating space, an imperforate floor movably secured to the car and adapted, when in service, to cover said ventilating floor, and means for lowering and raising said imperforate floor into and out of service.

4. The combination with a box-car, of separate sections of a floor, means for movably uniting said sections, respectively, to the car, means for securing said sections in the raised and lowered positions, respectively, and hinged supports upon the respective sections for supporting them above the car floor when secured above the same.

5. The combination with a box-car, of a floor consisting of separable, movable sections permanently secured, respectively, to the car, means for lowering and raising the sections into and out of service, and means upon the sections for supporting the same above and adjacent to the main floor when in service.

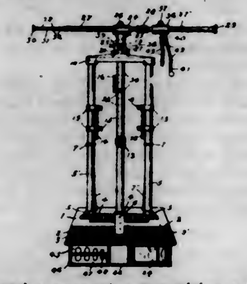
6. The combination with a box-car provided with a door, of a floor section permanently secured to the car and adapted to be moved into an upright position, and a floor section adjacent to said door and adapted to be raised bodily out of service.

7. The combination with a box-car provided with a door, of an imperforate floor section permanently secured to the car and adapted to be moved into an upright position, and an imperforate floor section adjacent to said door and adapted to be raised bodily out of service.

865,350. MEASURING APPARATUS. DAVID BERENBERG, St. Joseph, Mo. Filed June 22, 1906. Serial No. 322,948.

1. In a measuring apparatus, a platform or base, provided with suitable storing compartments therein; two

scales of measure, on said base, adapted to show the respective measurements of the full length of the two feet of a person standing thereon; a plain, fixed abutment strip, adapted to abut and stop the inner sides of said feet; in combination with a plain, fixed heel abutment strip secured on said base, and two scales of measure, adapted to show the measurements of the full width of said feet; all of said scales being provided with glass coverings, secured on said base.



2. A measuring apparatus comprising a base, a braced framework detachably secured on said base, composed of two uprights and a tie piece on the upper ends of said uprights, and a tube centrally situated between said uprights, whereby said frame work is secured together; two knee securing brackets each being provided with suitable apertures for the reception of suitable straps, slidable securing means, for slidably securing said brackets, one on each of said uprights.

3. A measuring apparatus, comprising a base, a suitably braced vertical tube, detachably secured on said base, a smaller tube, provided with scales of measure thereon, and telescoped and slidable in said vertical tube, clamping means for holding said smaller tube at any desired height, a horizontal tube, adjustably secured on the upper end of said smaller tube and a head plate adjustably secured on said horizontal tube; the whole adapted to be operated as a height measuring device.

4. A measuring apparatus comprising a base, a suitably braced vertical tube, detachably secured on said base, a smaller tube, provided with scales of measure thereon, and telescoped and slidable in said vertical tube, clamping means, for holding said smaller tube at any desired height, a horizontal tube adjustably secured on the upper end of said smaller tube, a smaller horizontal tube, provided with scales of measure thereon, and slidable in said horizontal tube, and two end pieces, one of which is secured on the free end of each of said horizontal tubes; the whole adapted to be operated as an arm measuring device.

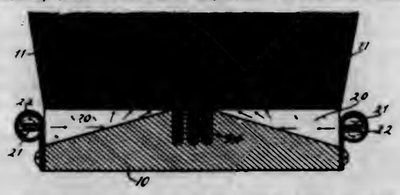
5. A measuring apparatus, comprising a base, a braced framework, detachably secured on said base, composed of two uprights, and a tie piece, on the upper ends of said uprights, a vertical tube, centrally situated between said uprights and supported by said frame-work, and provided with one or more scales of measure, thereon; in combination with a bracket, provided with a handle and means whereby said bracket may be detachably attached to and be slidable on said vertical tube, the whole adapted to be operated as a leg measuring device.

6. A measuring apparatus comprising a base, a vertical tube, suitably braced and secured on said base, a smaller tube, telescoped and slidable in said vertical tube, a horizontal tube, adjustably mounted on the upper end of said smaller tube, a head plate, provided with a slot, and slidably mounted on said horizontal tube, and a tape-line, adapted to be detachably held in said slot.

7. A measuring apparatus, comprising a base, a vertical tube, detachably braced and detachably secured on said base, a smaller tube, slidable in said vertical tube, a hinge bracket, secured on the upper end of said smaller tube, a split sleeve, hinged to said hinge bracket, a horizontal tube, slidable in, and adjustably secured in said split sleeve and measuring devices on said horizontal tube, the whole adapted to allow said horizontal tube to be brought to a vertical position, by the rotation of said hinged split sleeve, upon the hinge, by which said split sleeve is hinged to said hinge-bracket.

8. A measuring apparatus, comprising a base, two separably jointed uprights, detachably secured on said base, two braces, detachably secured to said uprights and to said base, as shown, a vertical tube, provided with suitable scales of measure thereon, and composed of two parts, adapted to be secured together by a right and left threaded coupling, a detachably jointed smaller tube, slidable in said vertical tube, a separably jointed horizontal tube detachably mounted on the upper end of said smaller tube and a smaller horizontal tube, slidable in said horizontal tube, a slotted head plate detachably and adjustably secured on said smaller horizontal tube; knee brackets, slidably and detachably secured on said uprights as shown, and a leg bracket slidable on and detachable from said vertical tube; the whole arranged to form measuring devices, detachable and separable, for storing in a minimum amount of space.

865,351. FOUNTAIN-BRUSH. HENRY A. BIERLEY, Portsmouth, Ohio. Filed Dec. 20, 1906. Serial No. 348,759.



1. A fountain brush including a head longitudinally recessed at each end, said recesses opening into the fibers of the brush, and means for injecting a stream of water into said recesses substantially longitudinally of said brush.

2. A fountain brush including a head longitudinally recessed at each end, said recesses opening into the fibers of the brush, means for injecting a stream of water into said recesses substantially longitudinally of the brush, said recesses tapering towards the middle of the brush to furnish an inclined back surface that deflects the water towards the fibers of the brush.

3. A fountain brush including a head longitudinally recessed at each end, said recesses opening into the fibers of the brush, means for injecting a stream of water into said recesses substantially longitudinally of said brush, and brush fibers in the middle portion of the brush separating the recesses at each side of said middle fibers.

4. A fountain brush including a brush head recesses at each end with the recesses opening into the brush fibers, a tubular brush holder mounted in connection with the brush head, means for supplying water to said tubular brush holder, and a nozzle in each end of the tubular brush holder that extends longitudinally of the brush.

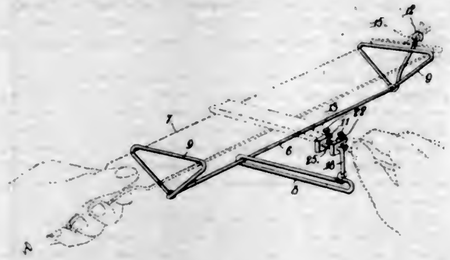
865,352. CHAIN-TIGHTENER. FREDERIC W. BLOXHAM, Grundy Center, Iowa. Filed Sept. 13, 1906. Serial No. 334,506.



A chain-belt tightener for a wagon-box, comprising the combination, with a longitudinal strap adapted to be pivoted at one end to the box the said strap being centrally offset, and a sprocket wheel rotatably supported on the offset portion of said strap, of a vertical strap connected with the supporting means for the first-mentioned strap

and having an apertured offset lower end, 18', a threaded bolt extended through the aperture of said offset and itself offset at its lower end and pivotally connected with the free end of the first-mentioned strap, a nut turned on the upper end of said bolt, and a spring interposed between the nut and said offset end of the vertical strap to hold the said sprocket-wheel in connection with a chain-belt, the said nut and spring being employed to cause the sprocket-wheel to bear with greater or less energy on the chain to tighten the same.

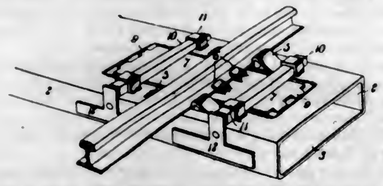
865,353. ATTACHMENT FOR RAZOR-STROPS. WURTEM A. BREED, Painesville, Ohio. Filed May 31, 1907. Serial No. 376,676.



1. A stropping device comprising a guide rod having upstanding loops at the end to receive the strop, with the rod extending lengthwise thereunder, and a loop slidable along the rod and having an upright provided with a swiveling clamp attachable to a razor or the like.

2. A stropping device comprising a guide extending lengthwise under the strop, and an elongated loop slidable along the rod and having an upright at one end with an inwardly-extending pivot piece at the top, and a swiveling clamp on said pivot piece, attachable to a razor or the like.

865,354. RAILWAY-TIE. WILLIAM T. BRISTER, Liberty Hill, Tex., assignor of one-half to Leroy Stipp, Liberty Hill, Tex. Filed Dec. 27, 1906. Serial No. 349,670.



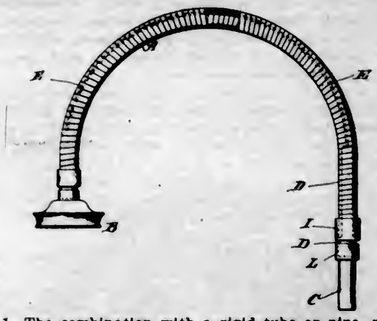
1. In a railway tie, the combination of a top plate, vertically-disposed side plates, bottom plates between the ends of said side plates and transverse partitions extending upwardly from the inner edges of said bottom plates, substantially as described.

2. In a railway tie, the combination of a top plate, adapted to have a rail rest thereon, an auxiliary plate, means upon the auxiliary plate for holding the rail, loops secured to said top plate, and a pin passing through said loops to hold the auxiliary plate in position.

3. In a railway tie, the combination of a top plate, adapted to have a rail rest thereon, an auxiliary plate, inwardly-extending studs upon said auxiliary plate for holding the rail, loops secured to said top plate, and a tapering pin passing through said loops and securing said plates in position.

4. The combination with a railway tie having a top plate, a rail resting upon said tie, studs upon said top plate to secure the rail against lateral movement, an auxiliary plate having an inner end engaging in an aperture, and an outer end engaging in another aperture provided therefor in said top plate, loops secured to said top plate upon opposite sides of said auxiliary plate, a tapering pin engaging in said loops to hold said auxiliary plate in position, means to lock said pin in said loops, and means upon said auxiliary plate to retain said rail against vertical or lateral movement.

865,355. SPRAYING DEVICE. IRVING CALLMANN and JOSEPH SABATELLI, New York, N. Y. Filed Apr. 19, 1907. Serial No. 369,177.



1. The combination with a rigid tube or pipe, provided with a flexible wire or rod extending longitudinally therefrom, of a flexible tube or pipe secured to the end of the rigid tube or pipe; the flexible wire or rod extending into the bore of the flexible tube or pipe and being adapted to strengthen the same and to tend to hold the same in any position into which it may be bent or placed.

2. The combination with a rigid tube or pipe, provided with a flexible wire or rod extending longitudinally therefrom, of a flexible tube or pipe secured to the end of the rigid tube or pipe and bearing at its outer end a spray or shower device; the flexible wire or rod extending into the bore of the flexible tube or pipe and being adapted to strengthen the same and to tend to hold the same in any position into which it may be bent or placed.

865,356. DISPLAY-SIGN. GEORGE W. CARR, Cleveland, Ohio. Filed Apr. 25, 1906. Serial No. 313,592.



1. In a display machine, a multi-sided display member and a shaft central thereof on which said member is mounted, in combination with rotatably mounted carriers having open slots engaging the ends of said shaft, a guide way for said shafts having a straight portion adapted to provide a straight travel for the exhibition of the different sides of said member, and means for independently rotating said member during its straight travel.

2. In a display machine, a plurality of multi-sided dis-

play members having shafts and rotatable carriers therefor having segmentally curved slots in their edges, connecting means for said members and said carriers adapted to control the movement of the shafts within said slots, a guide way for said shafts partly circular and partly straight and means providing rotation of said members during their travels about said straight portion of the guide-way.

3. In a display machine, a plurality of multisided display members and rotatable carriers therefor having open slots about their edges, and means to mount said members on said carriers comprising a shaft for each member engaged at its ends in the slots in said carriers, and a link for each shaft top and bottom pivoted on said carriers concentrically with said slots.

4. In a display machine, a plurality of independently rotatable display members and a central shaft on which each member is mounted, and rotatable carriers at the ends of said members having slots in which said shafts are engaged, combined with a circular guide-way having a straight front portion also engaged by said shafts, and means to independently rotate said members in said slots during the travel of said shafts in said straight portion of the guide-way.

5. In a display machine, a plurality of multisided display members adapted to rotate independently and having axles projecting beyond their ends, slotted carriers engaging said axles and links connecting said axles pivotally with said carriers.

6. In a display machine, a plurality of multisided display members and shafts through said members, rotatable carriers having curved slots open at their outer ends and engaging said shafts and links pivoted on said carriers and engaging said shafts, the lower of said links having rollers resting on the carrier.

7. A display machine having a series of independently rotatable multi-sided display members, an orbit of travel for the said members comprising an alining portion with parallel sides, means to carry said display members about said orbit comprising top and bottom slotted carriers and devices to aline a plurality of members in the same series on the front of the machine between said parallel sides.

8. In a display machine, a plurality of multisided display members having flat sides at an angle to each other, rotatable disk shaped carriers having substantially radial slots in which said members are rotatably mounted, and a guide for said members having a circular rear portion and substantially parallel side portions and a straight display line for said members between said sides of the guide member.

9. In a display machine, a series of operatively connected independently rotatable display members having each a shaft projecting centrally through its ends, means to rotate said members in circuit comprising carriers having open slots engaging at the ends of said shafts, and means to aline two or more of said members at the same time, said means comprising an alining space having parallel walls confining the shafts of said members front and rear at both ends.

10. In a display machine, a plurality of multisided display members and rotatable carriers therefor having open slots about their edges, shafts carrying said display members and engaged in said slots, an orbit for said members having parallel walls top and bottom engaged by the ends of said shafts and constituting the display line of the machine, and means to cause said shafts to follow each other along said walls and to rotate about their axis as they travel forward.

11. In a display machine, a set of independently mounted display members and carriers at the ends of said members whereby they are moved in their orbit together, link connections between said members and said carriers and means to move a given number of said members at a time into display alinement.

12. In a display machine, a suitable frame having circular rear portions top and bottom and a straight display line at its front, a set of carriers centrally mounted in respect to said circular portions of the frame and provided with a series of radial curved open slots in their edges, and a series of independently rotatable display members mounted in the said slots in said carriers and adapted to be moved outward in said slots to travel in said straight display line.

13. In a display machine, a frame having an orbit of travel for display members straight at the front and circular at the rear, in combination with a series of display members vertically disposed in said orbit, means to carry said members about said orbit together and means to rotate said members separately in said straight portion comprising separate engaging devices for each of said display members.

14. In a display machine, a main frame having rigid curved rear portions and straight front portions, rotatable carriers concentric with said curved portions and a shaft on which said carriers are mounted, and a series of multi-faced display members mounted on said carriers and adapted to be alined in groups of three successively by said straight front portions.

15. In a display machine, a unitary mechanism comprising a series of centrally pivoted multi-sided display members and means to rotate all said members in unison, in combination with means to aline three several of said members at the same time in a display line comprising guide frames at the ends of said members constructed to move said members outward as the display line is approached.

16. In a display machine, a unitary mechanism comprising a series of multisided display members centrally pivoted, and means operatively connecting said members, in combination with means to aline a plurality of said members at the same time comprising a straight alining wall, devices adapted to rotate the said members axially and means to carry said members forward in a straight line as they rotate.

17. In a display machine, a unitary mechanism comprising a series of independently pivoted display members and means to rotate said members in unison about a common center, in combination with means to aline three several of said series of members at a time in the display field, said alined members having a greater joint width than a cross section of the mechanism of which they constitute a part.

18. In a display machine, a series of multi-sided display members operatively united, slotted carriers for said members, means to aline a plurality of said members at the same time, means to cause said members to traverse the display line successively and to rotate from one display position to another, and means to make a positive alinement of said several members after each rotation.

19. In a display machine, a plurality of unitary members and a shaft about which said members are adapted to rotate, carriers for said members having open slots, shafts in said members engaged in said slots and guides top and bottom engaging said shafts outward from the inner portions of said slots.

20. In a display machine, a plurality of rotatable display members having shafts, carriers with open slots engaging said shafts, an orbit for said members having top and bottom parts adapted to confine said shafts in said slots, and a straight cross portion connecting the sides of said orbit and forming a display line for said display members, said cross portion adapted to confine the said shafts to a direct line of travel from one side of said orbit to the other.

21. In a display machine, a unitary mechanism comprising a series of members having faces at an angle to each other, means to aline a plurality of said members at the same time and means to cause said chambers to traverse the display line successively from side to side and to turn each member a third of the way round three several times to complete their successive alinements.

22. In a display machine, a series of vertically disposed multisided display members, positively actuated carriers for rotating said members in unison, mechanism for independently rotating each member, and means to bring three of said members into facial alinement at the same time, said means comprising devices to move the outer of said three members outward in their carriers.

23. In a display machine, a series of rotatable display members and shafts in their centers carrying the same, a fixed circuit in which said members are adapted to travel, upper and lower circular carriers having open slots engaging the ends of said shafts, means to aline a plurality of said members at the same time, edge to edge, and means to lock said members against rotation while in alinement.

24. In a display machine, rotatable displayed members operatively connected about a common axis, mechanism to rotate said members into alining position and means to lock said mechanism, in combination with slotted carriers for said members and means to move said members in said slots to aline the same.

25. In a display machine, a series of rotatable display members operatively connected about a common axis, means to aline a plurality of said members in display alinement at the same time comprising a circular guide-way with a straight guiding portion at its front, shafts carrying said members, and slotted carriers engaging the ends of said shafts and adapted to move said members into alining position during the period of display.

26. In a display machine, a series of rotatable display members operatively connected and an orbit for said members having a straight alining portion at its front in which the said members are adapted to travel successively, said straight portion constructed to be occupied by a plurality of said members at the same time, and means to simultaneously turn said members axially in said straight alining portion.

27. In a display machine, a central shaft and carriers fixed thereon having curved open slots about their edges, in combination with display members having each a shaft mounted in corresponding slots in said carriers, and means for separately alining and rotating said display members in the place of display.

28. In a display machine, a set of rotatable carriers, display members having shafts operatively engaged by said carriers and said shafts having each an angular device fixed to one end thereof, and a wall engaged by said device adapted to prevent the rotation thereof and keep the corresponding display member in a given line of travel.

865,357. TAKE-DOWN FIREARM. FRANK C. CHADWICK, Utica, N. Y., assignor to The Savage Arms Company, Frankfort, N. Y., a Corporation. Filed May 3, 1906. Serial No. 314,934.



1. In a take down mechanism for a fire arm the combination of a frame having a barrel socket with interrupted screw threads, a barrel having interrupted screw threads adapted to enter said socket, a removable fore arm having means for detachably securing the same to the barrel and having a portion adapted to engage the frame when assembled and a bit 10 adapted to engage a suitable recess in the underside of the barrel at a point contiguous to the socket and protected by the fore stock and lock it from rotation, substantially as set forth.

2. In a take down mechanism for fire arms the combination of a frame having a barrel socket with interrupted screw threads, a barrel having interrupted screw threads adapted to enter said socket, a removable fore arm having means for detachably securing the same to the barrel and having a bit 10 adapted to engage in suitable alining recesses in the socket and barrel respectively and lock the barrel from rotation, substantially as set forth.

3. In a take down mechanism for fire arms the combination of a frame having a barrel socket with interrupted screw threads and the fore arm socket under the barrel socket, a barrel having interrupted screw threads adapted to enter said barrel socket, a removable fore arm having means for detachably securing the same to the barrel and having a portion received in said fore arm socket and a bit projecting from the side fitting the barrel engaging a suitable recess in the barrel and adapted to lock the barrel from rotation with reference to the frame, substantially as set forth.

4. In a fire arm the combination of a frame having a barrel socket with interrupted screw threads, a barrel adapted to be received in said socket and having interrupted screw threads and having a stud or projection, a fore-arm grooved to fit the barrel and having a socket to receive said barrel stud or projection whereby when the fore-arm is placed and said socket engaged with said stud or projection it is adapted to serve as a wrench for the barrel, substantially as set forth.

865,358. REPEATING MECHANISM FOR TIMEPIECES. GIUSEPPE CITELLI, La Chaux-de-Fonds, Switzerland. Filed May 18, 1906. Serial No. 317,548.



1. In a device of the class described the combination of an hour snail, a quarter hour wheel rigidly secured thereto and provided with teeth, a constantly driven wheel loosely connected with said quarter hour wheel, a ratchet lever effecting intermittent movement of said quarter hour wheel, a segment lever provided with a projection or tooth adapted to engage said snail for limiting movement of said lever in one direcito, a spring for restoring said lever to an initial position, an hour and a quarter hour gong, hour and quarter hour strikers therefor, striker operating mechanism, a regulating train therefor, a pivotally mounted bridge carrying said striker operating mechanism and regulating train and permitting movement of said striker operating mechanism into and out of driving relation with said strikers, said segment lever being provided with a rack driving said striker operating mechanism and serving when the segment lever is swung in opposite directions to throw said striker operating mechanism into and out of operative relation with said strikers, and quarter hour limiting mechanism coöperating with the teeth of said quarter hour wheel and said segment lever.

2. In a device of the class described comprising in combination, an hour snail, means for imparting a step by step movement thereto, a segment lever provided with a projection or tooth adapted to engage said snail for limiting movement of said lever in one direction, a spring for restoring said lever to an initial position, an hour gong, a striker therefor, striker operating mechanism, a regulating train therefor, and a pivotally mounted bridge carrying said striker operating mechanism and regulating train and permitting movement of said striker operating mechanism into and out of relation with said striker, said segment lever engaging said striker operating mechanism and serving to throw the same into and out of driving relation with said striker when said lever is swung in opposite directions.

3. In a device of the class described comprising in combination, an hour snail adapted to be operated by the movement, a swinging operating lever engaging said snail

whereby its movement in one direction is limited by said snail, an hour gong, a striker therefor, striker operating mechanism, a regulating train for said mechanism, and a pivotally mounted bridge carrying said striker operating mechanism and regulating train and permitting movement of said mechanism into and out of relation with said striker, said lever engaging said striker operating mechanism and serving to throw the same into and out of driving relation with said striker when said lever is swung in opposite directions.

4. In a device of the class described comprising in combination, an hour snail adapted to be operated by the movement, a swinging operating lever engaging said snail whereby its movement in one direction is limited by said snail, an hour gong, a striker therefor, striker operating mechanism, and a pivotally mounted bridge carrying said operating mechanism and permitting movement thereof into and out of driving relation with said striker, said lever engaging said mechanism and serving to throw the same into and out of driving relation with said striker when said lever is thrown in opposite directions.

5. In a device of the class described comprising in combination, an hour snail adapted to be driven by the movement, an operating member adapted to engage said snail whereby its movement is limited, an hour gong, striker operating mechanism, a regulator therefor, and a pivotally mounted bridge for said mechanism permitting movement thereof into and out of operative relation with said striker when said mechanism is engaged by said member.

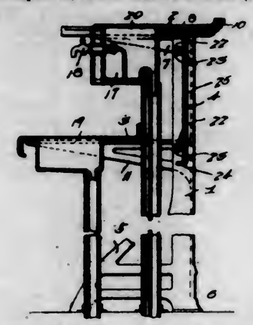
6. In a device of the class described comprising in combination, an hour snail adapted to be driven by the movement, an operating member adapted to engage said snail whereby its movement is limited, an hour gong, striker operating mechanism, and a movable mounting for said striker operating mechanism permitting movement thereof into and out of operative relation with said striker when said mechanism is engaged by said member.

7. In a device of the class described comprising in combination, an hour snail and a quarter hour wheel adapted to be driven from the movement, an operating member adapted to engage said snail whereby its movement is limited, hour and quarter hour gongs, hour and quarter hour strikers, striker operating mechanism therefor, a movable mounting for said striker operating mechanism permitting movement thereof into and out of operative relation with said strikers when said mechanism is engaged by said operating member, and quarter hour limiting mechanism coöperating with said quarter hour wheel and said member.

8. In a device of the class described comprising in combination, an hour snail and a quarter hour wheel adapted to be driven from the movement, an operating member adapted to engage said snail whereby its movement is limited, hour and quarter hour gongs, hour and quarter hour strikers, striker operating mechanism therefor, a movable mounting for said striker operating mechanism permitting movement thereof into and out of operative relation with said strikers when said mechanism is engaged by said operating member, and quarter hour limiting mechanism comprising a sectional lever coöperating with said quarter hour wheel and said member.

9. In a device of the class described comprising in combination, an hour snail and a quarter hour wheel adapted to be driven from the movement, an operating member provided with a stud adapted to engage said snail whereby its movement is limited, hour and quarter hour gongs, hour and quarter hour strikers, striker operating mechanism therefor, a movable mounting for said striker operating mechanism permitting movement thereof into and out of operative relation with said strikers when said mechanism is engaged by said operating member, and quarter hour limiting mechanism comprising a sectional lever composed of two sections, said sections being pivotally united and one of said sections being pivotally mounted and each of said sections having stepped portions or teeth adapted to engage the stud of said actuating member and the teeth of said quarter hour wheel respectively.

865,359. SANITARY BAR. WILLIAM G. CLARK, Altoona, Pa. Filed Apr. 25, 1907. Serial No. 370,278.



1. A bar comprising a plurality of supporting pedestals, a counter top supported from the upper end of said pedestals, a work table supported at the inner sides of the pedestals below the counter top, and a fencing carried by the pedestals beneath the counter top and spaced a distance above the floor upon which the pedestals rest.

2. A bar comprising a series of upright spaced supporting pedestals provided with horizontal brackets, a counter top carried by certain of the brackets, an inside work table carried by other brackets of the pedestals, and a fencing carried by the pedestals and arranged a distance above the lower ends of the latter.

3. A bar comprising a series of upright spaced supporting pedestals having inwardly extending horizontal brackets respectively at the top and at an intermediate point thereof, a counter top supported upon the uppermost brackets, a sectional work table carried upon the intermediate brackets, and grille sections secured to the pedestals in a plane above the lower ends of the latter.

4. A bar comprising a plurality of metallic supporting pedestals provided at their upper ends and at intermediate points with inwardly extending horizontal brackets, a counter top fastened to the top brackets of the pedestals, a sectional work table mounted on the intermediate brackets of the pedestals, and grille sections fastened to the pedestals in a plane above the lower ends of the latter.

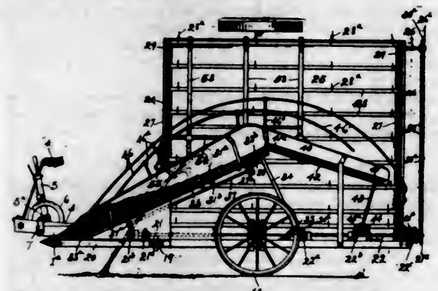
5. A bar comprising a series of metallic supporting pedestals having widened foot pieces and provided at the top and at an intermediate point with inwardly extending horizontal brackets respectively of different lengths, a counter top mounted on the top brackets of the pedestals, a sectional work table mounted on the longer intermediate brackets of the pedestals, and grille sections detachably mounted on and between the pedestals in a plane above the lower end of the latter.

6. A bar comprising a series of supporting pedestals having a plurality of horizontal brackets, a counter, grille sections detachably mounted in the sections, and means for supporting glass guards immediately behind the grille sections.

865,360. CORN-HARVESTING MACHINE. GUYARIE S. COFFMAN, Coldwater, Mich. Filed Nov. 4, 1905. Serial No. 285,942.

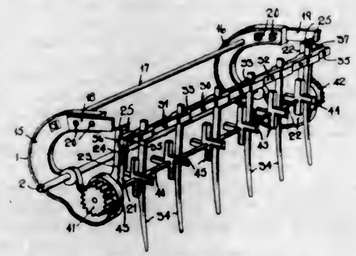
1. In a machine of the character described the combination with a portable frame having a cutter; of a laterally extending upwardly inclined conveyer in rear of and to one side of the cutter, means for directing material upward from the cutter and depositing it upon the conveyer, packing members pivotally mounted above the conveyer and extending longitudinally thereof, the free ends of said members loosely resting upon the conveyer, and an endless top engaging device movable in unison with the conveyer at the rear of the machine and spaced from said conveyer.

2. In a machine of the character described the combination with a portable frame having a cutter; of a laterally extending upwardly inclined conveyer at one side and in rear of the cutter, oppositely disposed feed chains for directing material upward from the cutter, a downwardly and rearwardly inclined extension adjacent the upper end of said feed chains for directing material onto the conveyer, a feed chain carried by said extension, curved rods extending from points adjacent the front ends of the feed chains to the rear of the extension, and mechanism operated by the movement of the machine for actuating the feed chains and the conveyer.



3. In a machine of the character described the combination with a portable frame having a cutter; of a laterally extending upwardly inclined conveyer at one side and in rear of the cutter, oppositely disposed feed chains for directing material upward from the cutter, a downwardly and rearwardly inclined extension adjacent the upper end of said feed chains for directing material onto the conveyer, a feed chain carried by said extension, curved rods extending from points adjacent the front ends of the feed chains to the rear of the extension, mechanism operated by the movement of the machine for actuating the feed chains and the conveyer, an endless flexible member spaced from but movable in unison with the conveyer, and means carried by said member for engaging rearwardly projecting tops.

865,361. VINE-CUTTER. WILLIAM K. COOPER, Lakewood, N. J. Filed Dec. 31, 1906. Serial No. 350,168.

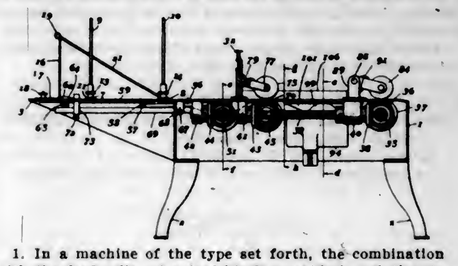


1. In a vine-cutting machine, the combination of an axle having wheels, a cutter frame comprising two arc-shaped plates journaled on said axle, said plates having arms at one end extended at right angles thereto, a rake head adjustably mounted in said arms and provided with tines having cutting edges, a cutter shaft loosely mounted in said plate means for rotating said shaft independently of said frame and spaced cutters secured to said shaft in position to cut with the edges of said tines.

2. In a vine cutting machine, a cutter frame having cutters and provided with slotted arms, said slotted arms having teeth on their front faces and a rake head having tines for coöperation with said cutters and provided with shoes having teeth for engaging the teeth of the arms to provide for the adjustment of said head in said frame.

3. In a vine cutting machine, a cutter frame having cutters and provided with slotted arms, and a rake head having tines for coöperation with said cutters and provided with shoes having bolts engaging said slotted arms to provide for the adjustment of said head in said frame.

865,362. SEALING-MACHINE. CHARLES F. DAVIS, Providence, R. I., assignor to Automatic Envelope Sealing and Stamping Machine Company, a Corporation of Rhode Island. Filed Dec. 15, 1906. Serial No. 347,984.



1. In a machine of the type set forth, the combination with the feed rolls, of a feed block movable in relation to the feed rolls, means for moving the block toward and away from said rolls and a vertically movable finger actuated by the movement of the envelop to rise above the plane of said block and sustain the envelop in such position.

2. In a machine of the type set forth the combination with the feed rolls and means for rotating the same, of a feed block movable in relation to the feed rolls, a separating device intermediate the block and rolls, a vertically movable finger, and a lever carrying the same and depressible by the moving envelop and means for reciprocating the block and connections between the same and the feed-roll actuating means.

3. In a machine of the type set forth the combination with the feed-block adapted to advance an envelop and means for reciprocating said block, of a vertically movable finger, and a lever carrying the same and depressible by the moving envelop a separator strip in the line of travel of the block under whose end the envelop may pass.

4. In a machine of the type set forth the combination with the runway, the feed rolls upon the runway, and means for advancing the envelop along the runway to the feed rolls, of a yoke upon the runway intermediate the feed rolls and envelop advancing means, a slidable separator plate mounted in the yoke, a vertically movable finger, and a lever carrying the same and depressible by the moving envelop and means for downwardly pressing the plate into contact with the runway.

5. In a machine of the type set forth the combination with the runway and means for feeding an envelop to be sealed along the runway, of a flap moistening apparatus coöperating with the runway, said moistening apparatus comprising a conical moistening roller with its conical surface diagonally disposed in relation to the runway, a presser roll whose side is adapted to contact with the face of the moistening roller and a supply roll also coacting with the face of the moistening roller.

6. In a machine of the type set forth the combination with the casing, of a reservoir fixed within the casing, a supply roll mounted in the reservoir, a conical moistening roll vertically mounted upon the reservoir wall, an absorbent material upon the face of the moistening roll contacting with the supply roll, and a presser roll also mounted in the reservoir contacting with the absorbent material upon the moistening roll.

7. In a machine of the type set forth the combination with the runway and yoke, of a feed roll mounted in the runway, a second feed roll resting upon the first and pivotally connected with the yoke, a separator plate vertically adjustable in said yoke, and spring means for forcing the second sealing roll in contact with the first.

8. In a machine of the type set forth the combination with the feed rolls and a feeding block movable towards and away from the rolls, of means for actuating the rolls and block, and means for raising the articles to be fed, out of the path of the block.

9. In a machine of the type set forth, the combination with a lower roller, of a ribbed sealing roller mounted thereover and a loosely mounted frame in which the shaft of said ribbed roll is carried.

10. In a machine of the type set forth, a reciprocatory

block, a tilting lever actuated by the movement of an envelop, a vertically disposed finger carried by said lever vertical adjustable means for retaining an envelop pack.

11. In a machine of the type set forth, a reciprocatory block, a tilting lever actuated by the movement of an envelop, a vertically disposed finger carried by said lever vertical adjustable means for retaining an envelop pack, and a pivotally mounted retaining arm.

865,363. METHOD OF MAKING BIFOCAL LENSES. CARL F. DIECKMANN, New York, N. Y., assignor, by mesne assignments, to Kryptok Company, a Corporation of New York. Filed July 2, 1907. Serial No. 381,894.



1. The process of welding or uniting together blanks for bi-focal lenses, which consists in supporting them in spaced apart relation by means independent of the blanks themselves and subjecting them to a welding or uniting temperature, whereby one of the blanks is caused to soften and settle down upon and adhere to the other.

2. The process of welding or uniting together blanks for bi-focal lenses, which consists in supporting them in spaced apart relation by an intermediate foreign body, and subjecting them to a welding or uniting temperature, whereby one of the blanks is caused to soften and settle down upon and adhere to the other.

3. The process of welding or uniting together blanks for bi-focal lenses, which consists in supporting them in spaced apart relation by an intermediate foreign body at the circumference of one of the blanks, and subjecting them to a welding or uniting temperature, whereby one of the blanks is caused to soften and settle down upon and adhere to the other.

4. The process of making bi-focal lenses, which consists in grinding a blank to form a depressed portion thereon, supporting a supplemental blank in spaced apart relation therefrom at one or more points by means independent of the blanks themselves, and subjecting the blanks to a welding or uniting temperature whereby one of the blanks is caused to soften and settle down upon and adhere to the other, and grinding and polishing the resultant product.

5. The process of making bi-focal lenses, which consists in grinding a blank to form a depressed portion thereon, supporting a supplemental blank in spaced apart relation therefrom at one or more points by an intermediate foreign body, subjecting the blanks to a welding or uniting temperature whereby one of the blanks is caused to soften and settle down upon and adhere to the other, and grinding and polishing the resultant product.

6. The process of welding or uniting together blanks for bifocal lenses, which consists in grinding a blank to form a depressed portion thereon, supporting a supplemental blank in spaced apart relation therefrom at one or more points near the circumference by an intermediate foreign body, subjecting the blanks to a welding or uniting temperature, whereby one of the blanks is caused to soften and settle down upon and adhere to the other and grinding and polishing the resultant product.

865,364. PROPELLER. FREDERICK A. DOUSE, Seattle, Wash. Filed Nov. 1, 1906. Serial No. 341,553.

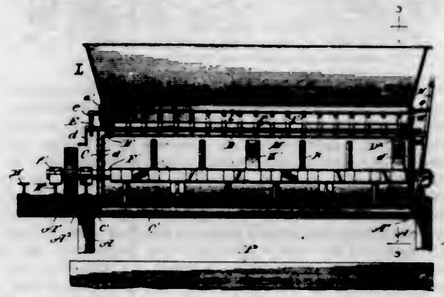
1. A screw propeller provided with a hub tapered toward one end and having oppositely flattened side surfaces, and two helical blades extending at one end from the remaining opposite sides of the hub in diverging curved lines, said blades being formed with increasing pitch and increasing in width from the roots to the outer ends.

2. A screw propeller comprising a hub having flattened opposite sides and with two blades extending from the remaining opposite sides of the hub in diverging curved lines, and with progressively angular inclinations increasing in width toward their outer ends.

3. In combination with a shaft, two propellers, each consisting of a hub having oppositely flattened surfaces and with two helical blades extending from the remaining opposite sides of the hub in diverging curved lines and increasing in pitch and likewise in width toward their free end and arranged upon the shaft and with the blades extending in opposite directions.



865,365. MIXING APPARATUS. CHESTER T. DRAKE, Chicago, Ill. Filed Nov. 13, 1903. Serial No. 180,997.



In an apparatus of the character described, the combination with a supporting frame work comprising parallel side sills and transverse end sills, a mixing chamber located between and supported by said side sills, parallel rotary shafts extending through said mixing chamber, bearings for said shafts mounted upon said transverse sills, radial blades fixed to said rotary shafts, vertical brackets supported upon said parallel side sills between which the mixing chamber is supported, transverse beams supported by said brackets above and at each end of said mixing chamber, a longitudinal shaft extending through and journaled in said transverse beams, downwardly swinging doors closing the bottom of said mixing chamber, flexible connections connecting said doors with the ends of said shaft, means for rotating said shaft to lift said doors against the mixing chamber to close the same, a measuring box supported by said vertical brackets above said mixing chamber, a dumping bottom for closing said measuring box, a lever for opening and closing said dumping bottom pivoted at its lower end to one of said transverse sills.

865,366. GLOBE-FASTENER. LENNA G. DUER, Colorado Springs, Colo. Filed July 8, 1905. Serial No. 268,892.



1. A globe fastener comprising a plate, provided with a central opening, having a clamping flange extending upwardly therefrom, of grooved clamping jaws pivotally connected to said plate, and spring means connected to said jaws for closing said jaws, for the purpose described.

2. A globe fastener comprising a plate, having arms extending therefrom, an opening formed in said plate, provided with an upwardly extending clamping flange, the ends of said flange being connected together by an adjusting screw, of spring actuated jaws carried by said plate and means connected to said jaw for opening said jaws, for the purpose described.

3. A globe fastener comprising a plate provided with clamping members, of clamping jaws carried by an arm secured to said plate, plates secured to said jaws having wings provided with ears, a pin passing through the supporting arm, and said ears, and spring means carried by said pin for closing said jaws, for the purpose described.

4. In a globe fastener, the combination with a plate provided with a central opening having an upwardly extending flange provided with outwardly extending perforated ends, of grooved jaws carried by said plate, one of the jaws being provided with a slot in the wall of the groove, a curved plate carried by the other jaw provided with a pin working in said slot, and means connected to said jaws for operating the same.

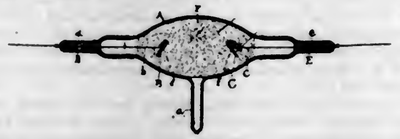
5. In a globe fastener, the combination with a plate having outwardly projecting arms, a central opening formed in said plate provided with an upwardly projecting flange, cutaway adjacent to one end, the ends of said flange being turned outwardly forming perforated ears, a screw adapted to work in said ears, of spring actuated grooved jaws carried by an arm connected to said plate, and means connected to said jaws for limiting the outward movement of the same, for the purpose described.

6. In a globe fastener, the combination with a plate provided with outwardly projecting arms, a central opening formed in said plate provided with an upwardly projecting flange having outwardly extending apertured ends, the flange being cut away from the plate adjacent one end, a screw adapted to work in said ends, of an arm secured to one of the arms of the plate provided with a downwardly projecting pin, wings mounted on said pin, a coil spring surrounding said pin, the ends of which engage the wings, and grooved jaws connected to said wings provided with means for limiting the outward movement of the same, for the purpose described.

7. In a globe fastener, the combination with a plate having outwardly projecting arms, of a central opening formed in said plate provided with an upwardly projecting flange cut away adjacent one end, grooved jaws pivoted to said plate and spring means for holding said jaws around said plate, for the purpose described.

8. In a globe fastener, the combination with a plate having outwardly extending arms and a central opening, of clamping members surrounding said openings, a supporting arm secured to one of the arms of said plate, plates provided with wings pivoted on a pin carried by said supporting arm, grooved jaws carried by said plates, and a spring surrounding said pin adapted to throw the jaws into engagement with the arms of the plates, for the purpose described.

865,367. FLUORESCENT ELECTRIC LAMP. THOMAS A. EDISON, Llewellyn Park, N. J. Filed May 19, 1896, Serial No. 592,112. Renewed Apr. 29, 1902. Serial No. 105,233.



1. A fluorescent screen or surface composed of tungstate of calcium, substantially as set forth.

2. A fluorescent screen composed of glass with a fluorescent crystalline powder fused thereto, substantially as set forth.

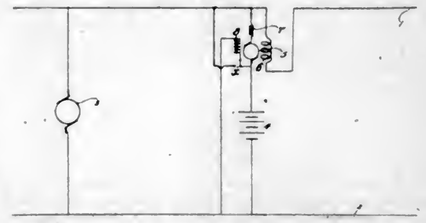
3. In a fluorescent electric lamp, the combination of a vacuum tube and a fluorescent screen excited thereby and composed of glass, and a crystalline powder fused thereto, substantially as set forth.

4. A fluorescent electric lamp having in combination a vacuum tube and a crystalline fluorescent powder fused to the inner surface of the vacuum tube, substantially as set forth.

5. A fluorescent electric lamp having in combination a vacuum tube, chemicals placed within the vacuum, which fluoresce when subjected to the X ray of Röntgen, and electrodes placed at an angle, substantially as set forth.

6. A fluorescent electric lamp having in combination a vacuum tube, chemicals placed therein which fluoresce when subjected to the X ray of Röntgen, and electrodes having their centers cut away, substantially as set forth.

865,368. SYSTEM OF ELECTRICAL DISTRIBUTION. JUSTUS B. ENTZ, Philadelphia, Pa. Filed Dec. 30, 1905. Serial No. 293,972.



1. A system of electrical distribution comprising a working circuit and its generator, a battery circuit including a battery and its booster, a series coil arranged in the working circuit and responsive to changes in the whole load thereon and adapted to influence the booster field to cause the battery to discharge upon increase of load, a series coil in the battery circuit opposed to the first mentioned coil on discharge and adapted to influence the booster field to cause the booster to work in opposition to current from the battery, and a third coil adapted to influence the booster field and to oppose the first mentioned coil, substantially as described.

2. A system of electrical distribution comprising a working circuit and its generator, a battery circuit including a battery and its booster, a series coil arranged in the working circuit and responsive to changes in the whole load thereon and adapted to influence the booster field, a series coil in the battery circuit opposed to the first mentioned coil on discharge and adapted to influence the booster field, and means for opposing the effect of the first mentioned coil, substantially as described.

3. A system of electrical distribution comprising a booster having three field influencing coils of which one is responsive to the whole load and another is opposed during battery discharge to the first and is in series with the booster armature and battery and the third is a balancing coil for opposing the first mentioned coil, a load circuit, a battery, and a generator, substantially as described.

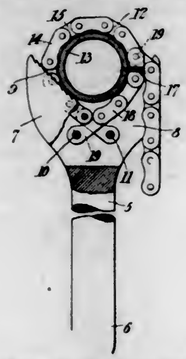
4. A system of electrical distribution comprising a booster having two field influencing coils of which one is responsive to the whole load and another is opposed to the first on battery discharge and is in series with the booster armature and battery, means for opposing the first mentioned coil, a working circuit, a battery, and a generator, substantially as described.

5. A system of electrical distribution comprising a generator having an alternating current circuit and a direct current circuit, a battery and booster in the direct current circuit, a coil in the alternating current circuit for influencing the booster fields, a coil in the direct current circuit opposed to the first mentioned coil and adapted to influence the booster field, and means for opposing the first mentioned coil, substantially as described.

6. A system of electrical distribution comprising a generator having a direct current circuit and an alternating current circuit, a battery and booster in the direct current circuit, opposed coils adapted to influence the booster field and whereof one is in the alternating current circuit and the other is in the direct current circuit, and a third

coil for opposing the coil in the alternating current circuit, substantially as described.

865,369. PIPE-TONGS. EDWARD L. FESLER, Santa Maria, Cal. Filed Oct. 19, 1906. Serial No. 339,696.



1. A wrench having angularly related jaws, said jaws being recesses, and flexible gripping elements, each having one end secured to the wrench, said ends intersecting each other and the opposite ends of said flexible members being arranged to interlock.

2. A wrench having spaced jaws defining an intermediate chamber, and flexible gripping elements having intersecting end portions secured within the chamber, the opposite ends of said elements being provided with interlocking parts.

3. A wrench having spaced jaws defining an intermediate chamber, and flexible gripping elements of different lengths secured within the chamber and having their free ends provided with interlocking parts, one of the gripping elements being extended beyond the interlocked portion thereof.

4. A wrench having spaced jaws defining an intermediate chamber, and intersecting flexible gripping elements each having one end thereof secured within the chamber and their free ends provided with interlocking parts, one of the gripping elements being extended beyond the interlocked portion thereof.

5. A wrench having spaced jaws defining an intermediate chamber, and flexible gripping elements pivotally mounted within the chamber and intersecting each other, such gripping elements having interlocking members at their free ends.

6. A wrench having a handle and provided with spaced jaws defining an intermediate recess, and flexible gripping elements secured within the chamber on opposite sides of the longitudinal axis of the handle and intersecting each other, the opposite ends of said elements being provided with interlocking parts.

7. A wrench having spaced jaws defining an intermediate chamber, a gripping chain pivotally mounted within the chamber and provided with laterally extending lugs, and a second gripping chain also pivotally mounted within said chamber and provided with a terminal link the inner walls of which are formed with locking recesses adapted to receive the lugs for locking said chains in engagement with each other.

8. A wrench comprising a stock provided with spaced V shaped gripping jaws defining an intermediate chamber, a gripping chain pivotally mounted in said chamber and adapted to embrace the object to be operated upon, lugs extending laterally in opposite directions from the gripping chain, a locking chain intersecting the gripping chain, and spaced plates carried by the free end of the gripping chain and provided with coincident recesses adapted to receive the lugs for locking the chains in engagement with each other.

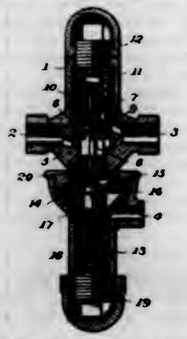
9. A wrench comprising a stock provided with spaced inclined gripping jaws defining an intermediate chamber, pins extending transversely across the chamber and disposed to alinement with the gripping jaws, a gripping chain pivotally mounted on one of said pins and adapted to embrace the object to be operated upon, and a locking chain pivotally mounted on the other pin and intersecting the gripping chain, said chains being provided with interlocking parts.

10. A wrench comprising a stock having one end thereof terminating in a handle and its opposite end provided with spaced V shaped gripping jaws defining an intermediate chamber opening through the opposite side of the stock, pins extending transversely across the chamber and disposed in alinement with the active faces of the gripping jaws, a gripping chain pivotally mounted on one of the pins and adapted to embrace the object to be operated upon, and a locking chain pivotally mounted on the adjacent pin and intersecting the gripping chain, said chains being provided with interlocking parts.

11. A wrench having a handle and provided with a gripping jaw, a chain carried by the jaw and formed of pivotally united links having laterally extending lugs, a second chain extending through the first mentioned chain and also formed of pivotally united links, there being recesses formed in the last mentioned chain for the reception of the lugs.

12. A wrench including spaced supporting jaws defining an intermediate chamber, a chain pivotally mounted within the chamber and adapted to embrace the object to be operated upon, said gripping chain being provided with laterally extending lugs, and a locking chain also pivotally mounted within the chamber and intersecting the gripping chain, and supporting plates carried by the free end of the locking chain and provided with coincident recesses adapted to receive the lugs for locking said chains in engagement with each other.

865,370. RETAINING-VALVE. CHARLES M. FESSLER, Sunbury, Pa. Filed May 27, 1907. Serial No. 375,912.

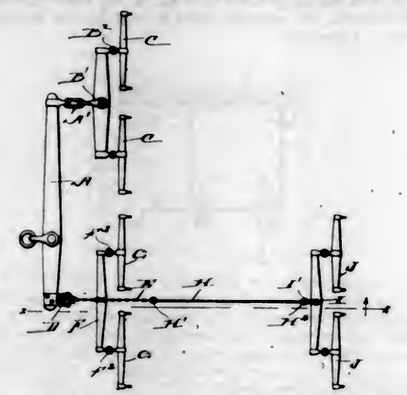


1. A retaining valve having triple valve and brake cylinder ports and connections, a valve between said ports, a perforated release valve fitting against said valve, a spring pressed piston fitting against said release valve for operating the same, and means for admitting train pipe pressure to said piston.

2. A retaining valve casing having the triple valve and brake cylinder ports or connections, a valve between said ports or connections, normally held in place by the pressure from the brake cylinder, a perforated release valve fitting against said valve, a piston fitting against said release valve, and means for admitting train pipe pressure to said piston.

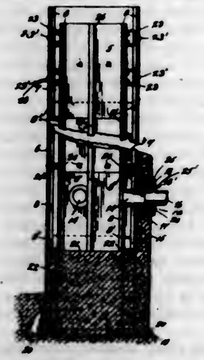
3. A retaining valve comprising a valve casing having triple valve and brake cylinder ports or connections, a valve between said ports seated on a perforated release valve, a piston for operating said release valve actuated by abnormal train line pressure, and means for admitting the train line pressure to said piston.

865,371. DRAFT-EQUALIZER. OLIVER M. FISHER, Washburn, Ill. Filed Apr. 12, 1906. Serial No. 311,323.



In a draft equalizer, the combination with a double tree having a clevis at one side of its center, of a double tree connected to the end of the greater length by means of a link and clevis, a pulley connected to the shorter end, a chain passing over said pulley, a double tree connected to one end of said chain, a rod provided with hooked ends connected to the other end of said chain and a double tree connected to said rod, substantially as described.

865,372. CHIMNEY. JOHN T. FLYNN, San Francisco, Cal. Filed June 2, 1906. Serial No. 319,879.



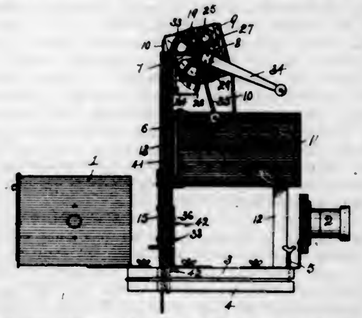
1. A chimney formed of an inner metallic shell and an outer metallic shell with a space therebetween, said shells being each comprised of a plurality of interfitting sections, a transverse vertical partition within each section of the inner shell, stay connections between said shells comprising bolts and intervening pipes, resilient members severally secured to one of said shells and bearing against the other one, a branch intake conduit for said inner shell and extending through the outer shell, a vent conduit passing through said outer shell and communicating with the space between the shells, and means to regulate the opening of said vent conduit.

2. A chimney formed of an inner metallic shell and an outer metallic shell with a space therebetween, said shells being each comprised of a plurality of interfitting sections, stay connections between said shells comprising bolts and intervening pipes, resilient members severally secured to one of said shells and bearing against the other one, a branch intake conduit for said inner shell and extending through the outer shell, a vent conduit passing through said outer shell and communicating with the space between the shells, and means to regulate the opening of said vent conduit.

3. A chimney formed of interfitting sections, said sections consisting of bars, and ends and sides, each of said bars extending from within a short distance below the top edges of the sides and ends to some distance below the bottom edges thereof.

4. A chimney formed of interfitting sections, said sections comprising angle bars, sides and ends secured to said angle bars, each of said bars extending from within a short distance below the top edges of the sides and ends to some distance below the bottom edge thereof, said last named protruding ends of the bars being formed with apertures, said sides and ends adjacent the top edge thereof being provided with apertures.

865,373. AUTOMATIC LANTERN-SLIDE-MOVING DEVICE. WILLIAM FREDRICK, Clyde, Ohio, assignor of one-half to Homer Metzger and one-half to Taylor Fuller, Clyde, Ohio. Filed Oct. 2, 1906. Serial No. 337,141.



1. In combination, a reel, a series of connected views associated therewith, a ratchet-wheel fixed to the reel, means normally coacting with the ratchet-wheel to prevent an unwinding movement of the reel, and means movable relative to said wheel to effect a release of said first means and to retard the forward movement of the reel.

2. In combination, a reel, a series of connected views associated therewith, a toothed member fixed to the reel, means coöperating with said member to normally prevent a rotation of the reel in one direction, and means rotatable relative to said member to effect a release of said first means from the toothed member and to retard the released movement of the reel.

3. In combination, a reel, a series of connected views coacting therewith, a member fixed to the reel, means cooperating with the member to normally prevent a rotation of the reel in one direction, a shutter, and means having a common axis with and rotatable relative to said member to effect a release of said first means from the member and an operation of the shutter.

4. In combination, a reel, a series of connected views associated with the reel, a member coöperating with the reel to normally prevent a rotation thereof in one direction, a shutter, an element movable relative to the reel for effecting a release of said member and an operation of the shutter, said reel being retarded in its movement by said element, substantially as described.

5. In combination, a reel, a series of connected views associated with the reel, a member coöperating with the reel to normally prevent a rotation thereof in one direction, a shutter, an element having a common axis with and rotatable relative to the reel to effect a release of the member whereby to permit a movement of the reel, and connection between the shutter and said element to impart a movement from one to the other.

6. In combination, a reel a series of connected views associated with the reel, a toothed member fixed to the reel, a pawl coöperating with said member to normally

prevent a rotation of the reel in one direction, an element having a common axis with and rotatable relative to the reel, and means carried by said element to effect a release of the pawl at a predetermined point in the rotation of the element whereby to permit a movement of the reel.

7. In combination, a reel, a series of connected views associated with the reel, a toothed member fixed to the reel, a pawl coöperating therewith to normally prevent a rotation of the reel in one direction, a wheel rotatable relative to said member, means carried by the wheel to effect a release of the pawl at a predetermined point in the rotation of the wheel, and means carried by the wheel for retarding the movement of the reel to that of the wheel when said pawl is released, substantially as described.

8. The combination with a picture display apparatus, of a rotatable member, a series of flexibly connected views associated therewith, a shutter, an element having a common axis with and rotatable relative to said member and having connection both with it and with the shutter for controlling their movements.

9. In combination, a reel, a series of flexibly connected views, a toothed member fixed to the reel, a pawl coöperating with said member to normally prevent a movement thereof in one direction, a rotatable member movable relative to the toothed member, a weighted element carried by said rotatable member to effect an automatic release of the pawl at a predetermined point in the rotation of said latter member, and a weighted pawl carried by the rotatable member for coöperating with the toothed member to retard its movement to that of the rotatable member when the first mentioned pawl is released, substantially as described.

10. In an apparatus of the class described, a rotatable member having a ratchet-wheel at one end thereof, a pawl for coöperating with said wheel to limit its rotation in one direction, an element rotatable relative to said wheel and carrying gravity means for effecting a release of said pawl at a predetermined point in the rotation of said element and a gravity controlled pawl for engaging the ratchet-wheel to effect a slight movement thereof in the opposite direction to the engagement of the first mentioned pawl, and a series of flexibly connected views movable by said member through the apparatus.

11. In combination a plurality of views, metal binding strips secured to the side edges of the views and having their ends extended beyond the ends of the views and perforated, and links flexibly connecting the ends of the views and each comprising a U-shaped spring-metal member having its loop pivotally engaging the ends of the strips at one end of a view and having its terminals bent inwardly and in pivotal engagement with the ends of the contiguous strips at one end of another view.

12. In combination a pair of view plates, and a substantially U-shaped spring-metal member flexibly connecting an end of one to an end of the other plate, said member being removable therefrom by an outward withdrawal of its legs.

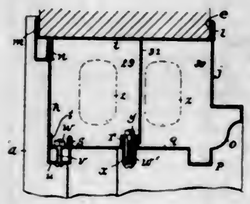
13. In combination, a pair of view-plates, and a single-piece link member removably connecting the side edges thereof in spaced relation.

14. The combination with a pair of view plates, of a flexible single-piece link member pivotally engaged to the end of one plate and having its ends bent to form coöperating parts for pivotally engaging an end of the other plate.

865,374. FIREPROOF WINDOW FRAME AND SASH. PAUL W. FRENKEL, Passaic, N. J., assignor to The Falstrom & Tornqvist Company, Passaic, N. J., a Corporation of New Jersey. Filed Apr. 17, 1907. Serial No. 368,619.

1. A hollow sheet metal window frame having a removable section forming the interior wall of each of its sides, said section being removable from the frame in the plane of said section when arranged in the frame, substantially as described.

2. A hollow sheet metal window frame having a removable section forming the interior wall of each of its sides, and having grooves opening in the same direction and receiving the opposite edges of said section, substantially as described.



3. A hollow sheet metal window frame having a removable section forming the interior wall of each of its sides, and having grooves opening in the same direction and receiving the opposite edges of said section, and means for securing said section with its edges in said grooves, substantially as described.

4. A hollow sheet metal window frame having a removable section forming the interior of each of its sides, and a vertical partition substantially parallel with said section and extending short of the sill surface of said frame, substantially as described.

5. In a hollow sheet metal window frame, a side thereof having a vertical groove in its jamb-portion and comprising a section disposed at an angle to said jamb-portion and having one edge bent back and inserted in said groove, substantially as described.

6. In a hollow sheet metal window frame, a side thereof having a vertical groove in its jamb-portion and comprising a section disposed at an angle to said jamb-portion, said section abutting against the edge of said jamb-portion and having one edge bent back and inserted in said groove, substantially as described.

7. In a hollow sheet metal window frame, a side thereof having a vertical groove in its jamb-portion and comprising a section disposed at an angle to said jamb-portion and having one edge bent back and inserted in said groove, said section projecting beyond the surface of said jamb-portion and forming a bead, substantially as described.

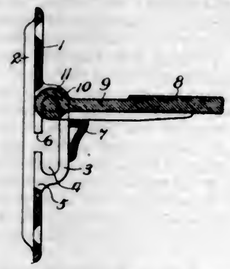
8. In a hollow sheet metal window frame, a side thereof having vertical parallel grooves in its jamb-portion and comprising a section disposed at an angle to said jamb-portion and having one edge bent back and inserted in one of said grooves and also comprising a bead arranged in the other groove, substantially as described.

9. A window sash comprising two sheet metal opposed spaced members in its astragal adapted to receive between them the edge or edges of a pane or panes of glass, each member having its longitudinal edge-portions standing in substantially the same plane and projecting toward each other, in combination with a channeled strip interposed between said members and adapted to receive the edge of a pane or panes of glass and means, engaging the exterior walls of said members, for drawing said members together and thus clamping the pane or panes between them, substantially as described.

10. A window sash comprising two opposed spaced sheet metal exteriorly recessed members adapted to receive between them the edges of adjoining panes of glass, in combination with a channeled strip interposed between said members and receiving the edge of one pane, and means, extending through the recessed portions of said members, for clamping said members together, substantially as described.

11. A window sash comprising two horizontal opposed members arranged to form a vertical space between them and adapted to receive in said space the edges of superposed panes of glass, in combination with a channeled strip interposed between the members with its open side up and adapted to receive the lower edge of the upper pane, substantially as described.

865,375. COLLAPSIBLE STEP. CHARLES E. FRYE, Laconia, N. H. Filed June 20, 1907. Serial No. 379,867.



1. A collapsible step, comprising a bracket having a vertical guideway, a step support in front of the guideway, and a step provided with means to engage said guideway slidably and rotatably, whereby the step may be supported in operative position by the step support, or swung into upright position behind the step support.

2. A collapsible step, comprising a bracket having a pair of vertical guideways, a step support in front of the guideways, and a step having a pair of projections in sliding and rotative engagement with said guideways, whereby the step may be held in operative position by the step support or may be swung into upright position behind the step support.

3. A collapsible step comprising a bracket having a pair of opposed vertical slots, a step support in front of said slots, and a step provided with a pair of trunnions having a sliding and rotative engagement with said slots, whereby the step may be held in operative position by the step support or may be swung into upright position behind the step support.

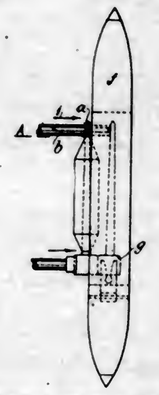
4. A collapsible step, comprising a plate, a pair of vertically arranged wings projecting therefrom, the wings each having an inwardly facing vertical slot, a step support on said wings in front of the slots, and a step provided with a pair of trunnions, having a sliding and rotative engagement with said slots whereby the step may be held in operative position by the step support or may be swung into upright position behind the step support.

5. A collapsible step, comprising a plate having an aperture therein, a pair of vertically arranged wings projecting from the plate at either side of the aperture, each wing having an inwardly facing vertical slot, a step support on the front of said wings forming behind it a recess or pocket, and a step provided with a pair of trunnions having a sliding and rotative engagement with said slots, whereby the step may be supported in operative position by the step support or may be swung into upright position and be held in said recess or pocket behind the step support.

6. A collapsible step, comprising a plate, a pair of vertically arranged wings projecting from the plate, each wing having an inwardly facing vertical slot, a step support on the front of said wings forming behind it a recess or pocket, and a step having a tread, a shank, and a pair of trunnions on the shank in sliding and rotative engagement with the slots, whereby the shank of the step may be supported in horizontal position by the step support, or may be swung into upright position and be held in said recess or pocket behind the step support and between the wings.

7. A collapsible step, comprising a plate having an aperture therein, a pair of vertically arranged wings projecting from the plate at either side of the aperture, each wing having an inwardly facing vertical slot, a step support between the front faces of said wings forming behind it a recess or pocket, and a step having a tread, a shank, and a pair of trunnions at the end of the shank in sliding and rotative engagement with the slots, the parts being so formed that when the step is in upright position the shank of the step will be held in said recess or pocket and will substantially fill the space between the wings, and the tread of the step will be held above said wings, no part of said step projecting forward beyond the face of the wings.

865,376. BOBBIN-FEEDING DEVICE FOR WEFT-REPLENISHING LOOMS. JOHANNES GABLER and ROBERT KUNZ, Mülhausen, Germany. Filed June 28, 1906. Serial No. 323,850.

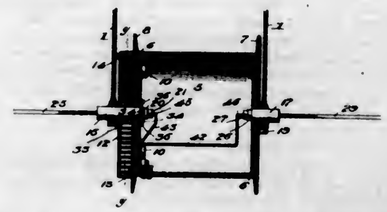


1. In a bobbin feeding device, a feeder provided with pivoted means for engaging with the tail of the exhausted bobbin and assisting in removing the bobbin.

2. In a bobbin feeding device, a feeder, and a spring pressed finger secured thereto in position for engaging with the tail of the exhausted bobbin and assisting in removing the bobbin.

3. In a bobbin feeding device, a feeder, an L-shaped finger pivotally secured thereto in position for engaging with the tail end of an exhausted bobbin to assist in ejecting the bobbin, and a spring for holding the finger in its normal position.

865,377. AUTOMATIC SUSPENDING-REEL FOR ELECTRIC INCANDESCENT LAMPS. JOHN H. GORDON, Snoqualmie, Wash. Filed Jan. 11, 1907. Serial No. 351,807.



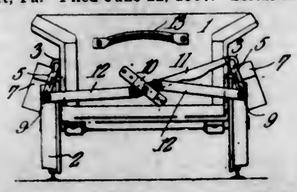
1. In an automatic suspending reel, the combination with a rotary reel or drum, of electrical contacts disposed substantially at the axis of rotation of the drum, resilient electrical contacts carried by the drum and each bearing yieldingly against the respective electrical contacts aforesaid, and electrical conductors leading to the respective electrical contacts, one set of electrical conductors being adapted to wind on the drum.

2. In an automatic suspending reel, the combination with a rotary reel or drum, of stationary axles constituting a support for said drum, electrical contacts carried by said stationary axles and adjustable lengthwise thereof, yieldable electrical contacts carried by the drum and bearing against the respective electrical contacts aforesaid, and electrical conductors leading to the respective electrical contacts, one set of electrical conductors being adapted to wind on the drum.

3. In an automatic suspending reel, the combination with a rotary reel or drum, of electrical contacts disposed substantially at the axis of rotation of the drum and adjustable axially of themselves on being turned, said electrical contacts having eyes, electrical conductors attached to said eyes, electrical contacts carried by the drum and bearing against the electrical contacts aforesaid, and electrical conductors connected to the drum contacts and adapted to wind on the drum.

4. In an automatic suspending reel, the combination with a rotary reel or drum, of independent electrical contacts carried by the drum, electrical conductors connected to said electrical contacts and adapted to wind on the drum, stationary hollow axles on which said drum turns, electrical contacts carried by said hollow axles and bearing against the respective independent electrical contacts aforesaid, and electrical conductors attached to said electrical contacts last named.

865,378. BRAKE FOR MINE-CARS. SAMUEL R. GREEN, Grassflat, Pa. Filed June 22, 1907. Serial No. 380,330.

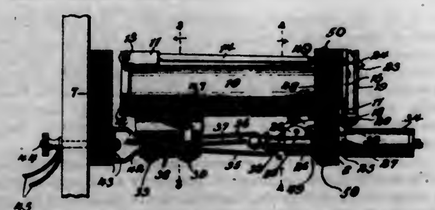


1. The combination with a car; of a brake block, means for swinging said block in a plane extending transversely of the car to apply it to the periphery of a wheel of the car, and yieldable means interposed between the block and car for holding the block normally out of contact with the wheel.

2. The combination with a car; of brake blocks pivotally connected to opposite portions thereof, springs interposed between the blocks and car for holding said blocks normally out of contact with the wheels, an actuating device upon the car, means operated thereby for simultaneously swinging the blocks in a plane extending transversely of the car to tension the springs and contact with the peripheries of the wheels, and means for locking the actuating means against movement.

3. The combination with a car; of a rod mounted upon one side thereof, a brake block carried thereby, a spring interposed between said block and the car for holding the block normally out of contact with the wheels of the car, an actuating lever fulcrumed upon the car, and means for transmitting motion from the lever to the block to swing the block against the face of its spring and into contact with the peripheries of the wheels.

865,379. COMBINED JACK AND RESTORING-DROP. EMADIA J. GRENIER, Menominee, Mich. Filed Apr. 18, 1906. Serial No. 312,421.



1. In a combined drop and jack, the combination with a support, of a signal plate mounted thereon and having separate outstanding integral pintles on the lower portions of its opposite edges, a shutter coacting with the plate and having inwardly extending ears journaled on the pintles, a latch for holding the shutter over the signal plate, an electro-magnet for operating the latch, and means for restoring the shutter and cutting out the electro-magnet from its operating circuit.

2. In a combined drop and jack, the combination with a supporting block, of a shutter pivotally mounted thereon and having an inwardly extending lug, said block having an opening disposed in rear of the lug, a plug-receiving thimble extending through the block, and comprising clamping sleeve sections threaded together and embracing said block, a restoring trip comprising a lever fulcrumed between its ends on the inner section, the outer arm of the lever operating in the opening of the block and bearing against the lug of the shutter, the inner arm being movable into the path of movement of a plug inserted in the thimble, an electro-magnet, a latch for the shutter operated by the magnet, and an electric cut-out disposed in rear of the thimble.

3. In a combined drop and jack, the combination with a shutter, of a movable restoring trip coacting therewith, a support for the trip, a current conducting device in constant electrical connection with the support and thereby with the trip, a contact device disposed in the path of movement of the trip and engaged thereby during its swinging movement, an electro-magnetic device controlling the movement of the shutter, and an electric cut-out therefor arranged in rear of the trip.

4. In a combined drop and jack, the combination with a block, of separate current conducting devices associated with the block, a sleeve comprising connected sections that clamp the block and one of the current conducting devices between them, a shutter, a trip for the shutter mounted on the sleeve and movable into and out of engagement with the other current conducting device, an electro-magnetic device controlling the movement of the shutter, and an electric cut-out for the device disposed in the path of movement of a plug placed in the sleeve.

5. In a combined drop and jack, the combination with a support, of a shutter pivotally mounted thereon, a plug-receiving thimble carried by the support, a restoring trip pivoted on the thimble and coacting with the shutter, a current conducting device mounted on the support and grounded on the thimble, a coacting current conducting device also mounted on the support and having a yielding contact disposed in the path of movement of the trip, an electro-magnetic device controlling the movement of the shutter, and an electric cut-out arranged in rear of the thimble.

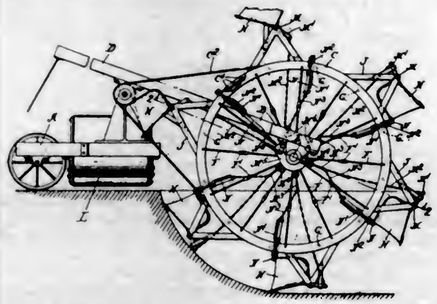
6. In a combined drop and jack, the combination with a supporting block, of a shutter pivotally mounted thereon, a plug-receiving thimble extending through the block, a restoring trip pivotally mounted on the thimble and coacting with the shutter, a current conducting plate secured to the inner side of the block and having an offset portion clamped by the thimble, another current conducting plate secured to the inner side of the block in spaced relation to the first mentioned trip, and having an offset spring extending above and in the path of movement of the trip, an electro-magnetic device controlling the movement of the shutter, and an electric cut-out for the device disposed in rear of the thimble.

7. In a combined drop and jack, the combination with a rear block, of a magnet, shutter mechanism operated thereby, insulated switch springs located on one side of and secured to the magnet, said switch springs having offset arms provided with angularly disposed ears located against one face of the rear block, binding posts passing through the ears and block and projecting beyond the latter for securing the same to a support, said posts constituting means for fastening the ears to the block and thereby supporting the springs, the magnet and the shutter mechanism on said block, and shutter restoring means disposed in advance of the switch springs and actuated by a plug placed between said springs.

8. In a combined drop and jack, the combination with a front block, and a rear block, of a magnet secured at its front end to the front block, a shutter pivotally mounted on the front block and having an opening, an armature pivoted on the rear portion of the magnet, and coacting therewith, said armature having a forwardly extending

arm arranged to pass through the shutter opening when said shutter is in a predetermined position, a depending detent shoulder carried by the arm and engaging the shutter, an inclined track portion carried by the arm and engaging the shutter when the shoulder is released from said shutter, a sectional plug-receiving thimble passing through the front block, a restoring trip pivoted on the inner section of the thimble and engaging the shutter to swing the same into engagement with the arm, a current conducting device grounded on the thimble, another current conducting device having a contact spring disposed in the path of movement of the trip, a plurality of insulating contact springs carried by the under side of the magnet, and having their free portions disposed in line with the inner end of the plug receiving thimble, said springs having integral offset arms provided with terminal ears disposed alongside the rear block, and binding posts securing said ears to the block.

865,380. EXCAVATING-WHEEL. FITZROY N. GRIFFIN, Chicago, Ill., assignor to Robert P. Dunston, Hancock, Mich. Filed Oct. 17, 1906. Serial No. 339,279.



1. In excavating apparatus, an excavating wheel comprising a double rim, and an excavating bucket pivoted between the sections of said rim.

2. In excavating apparatus, an excavating wheel comprising a hub, spokes and a double rim, in combination with an excavating bucket pivoted at its forward side between the sections of said rim.

3. In excavating apparatus, an excavating wheel comprising a double rim, sprocket teeth on the sections of said rim, and an excavating bucket pivoted between the sections of said rim.

4. In excavating apparatus, an excavating wheel comprising a double rim, a bucket supporting frame work extending outwardly from the sections of said rim, and an excavating bucket pivoted in said frame work.

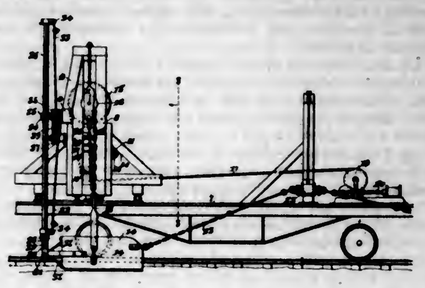
5. In excavating apparatus, an excavating wheel comprising a double rim, a bucket supporting frame work extending from the sections of said rim, and an excavating bucket pivoted at the forward side in said frame work.

6. In excavating apparatus, an excavating wheel comprising a hub, a double rim, spokes connecting each section of the rim with the corresponding ends of the hub, crossed spokes connecting each section of the rim with the opposite ends of the hub and excavating buckets pivotally mounted between the rim sections.

7. In an excavating machine, the combination of an excavating wheel comprising a hub, a double rim, and spokes connecting the hub with the rim, in combination with buckets pivotally mounted between the rims, and means for tilting the buckets so as to throw them out of the digging circle.

865,381. DITCHING-MACHINE. GEORGE C. GRIFFIN, Houston, Tex. Filed Feb. 28, 1907. Serial No. 359,809.

1. In a machine of the character set forth, the combination with a shovel, of means for elevating the same, draft mechanism for the shovel, and upwardly extending longitudinally movable guiding means for the shovel that permits the sidewise or substantially horizontal swinging of said shovel.



2. In a machine of the character set forth, the combination with a shovel, of means for elevating the same, draft mechanism for the shovel, and longitudinally movable guiding means for the shovel having a hinged connection therewith that permits the sidewise swinging of said shovel.

3. In a machine of the character set forth, the combination with a shovel, of means for elevating the same, draft mechanism for the shovel, and swinging guiding means for the shovel having a universal joint connection therewith.

4. In a machine of the character set forth, the combination with a car, of a shovel associated therewith, draft means connecting the car and shovel, means mounted on the car for elevating and lowering the shovel, and upwardly extending means longitudinally slidable on the car for guiding the shovel and permitting its sidewise or substantially horizontal swinging movement.

5. In a machine of the character set forth, the combination with a shovel, of a guide element, and a guide stem connected to the shovel and slidably engaging the guide element.

6. In a machine of the character set forth, the combination with a shovel, of a guide collar, and a guide stem connected to the shovel and slidably passing through the collar.

7. In a machine of the character set forth, the combination with a shovel, of a pivotally mounted guide element, and a swinging guide stem connected to the shovel and slidably engaging the guide element.

8. In a machine of the character set forth, the combination with a support, of a yoke pivotally mounted thereon, a collar pivotally hung in the yoke, a shovel, and a swinging guide stem connected to the shovel and slidably passing through the guide element.

9. In a machine of the character set forth, the combination with a car, of a shovel carried thereby, a stem slidably mounted on the car, and a universal joint connection between the stem and shovel.

10. In a machine of the character set forth, the combination with a car, of a supporting frame mounted thereon, a yoke pivotally mounted in the frame, a collar pivotally hung in the yoke, a shovel, a stem having a universal joint connection with the shovel and slidably mounted in the collar, means for elevating and lowering the shovel, and draft means for said shovel.

11. In a machine of the character set forth, the combination with a shovel, of cables connected to the shovel and simultaneously movable in opposite directions, and means for effecting their simultaneous movements.

12. In a machine of the character set forth, the combination with a shovel, of a guide, a stem connected to the shovel and slidably mounted in the guide, and means associated with the stem for controlling its sliding movement in the guide.

13. In a machine of the character set forth, the combination with a shovel, of a stem connected thereto, and cables connected to the end portions of the stems for controlling its movement.

14. In a machine of the character set forth, the combination with a shovel, of a pivotally mounted guide collar, a swinging stem connected to the shovel and slidably passing through the collar, and cables connected to the ends of the stem for controlling the movement thereof through the collar.

15. In a machine of the character set forth, the combination with a shovel, of cables connected to the shovel, and simultaneously movable in opposite directions, a rotary drum on which the cables are oppositely wound, and means for controlling the rotation of the drum.

16. In a machine of the character set forth, the combination with a shovel, of cables connected to the shovel, and simultaneously movable in opposite directions, a rotary drum on which the cables are oppositely wound, operating means for the drum geared thereto, and mechanism for disassociating the operating means and the drum.

17. In a machine of the character set forth, the combination with a shovel, of cables connected to the shovel, and simultaneously movable in opposite directions, a rotary drum on which the cables are oppositely wound, a hand wheel, gearing connecting the hand wheel and drum, and means for disconnecting the gearing to disassociate the hand wheel and drum.

18. In a machine of the character set forth, the combination with a supporting frame, of a collar pivotally mounted thereon, a shovel, a guide stem pivoted to the shovel, and slidably mounted in the collar, a drum, cables oppositely wound on the drum and connected to the ends of the stem, a hand wheel, gearing connecting the hand wheel and the drum, and means for throwing the gearing into and out of mesh.

19. In a machine of the character set forth, the combination with a shovel, of movable means for directing the shovel, said means including a safety holding member for maintaining the shovel in a predetermined position yet permitting its movement upon its encounter with an abnormal resistance.

20. In a machine of the character set forth, the combination with a shovel, of movable means for directing the shovel, said means including a safety friction member for maintaining the shovel in a predetermined position yet permitting its movement upon its encounter with abnormal resistance.

21. In a machine of the character set forth, the combination with a shovel, of draft mechanism and raising and lowering means connected to the shovel, and movable guide means for directing the shovel, said means including a safety holding member for maintaining the shovel in a predetermined position yet permitting its movement upon its encounter with abnormal resistance.

22. In a machine of the character set forth, the combination with a shovel, of a rotary member having a connection with the shovel, and a band brake for controlling the rotation of the member.

23. In a machine of the character set forth, the combination with a shovel, of movable means for directing the shovel, said means including a stem connected to the shovel, a rotary drum, a cable connection between the stem and drum, and means for holding the drum against rotation.

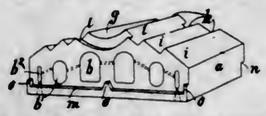
24. In a machine of the character set forth, the combination with a shovel, of movable means for directing the shovel, said means including a longitudinally movable stem connected to the shovel, a rotary drum, cables connected to the stem and oppositely wrapped upon the drum, and a friction band brake for controlling the rotation of the drum.

25. In a machine of the character set forth, the combination with a car, of a supporting frame mounted thereon, a shovel, means for raising and lowering the shovel, said means being mounted on the supporting frame, a guide carried by the supporting frame, a guide stem connected to the shovel and slidably engaged with the guide, cables connected to the ends of the stem, a drum upon which said cables are oppositely wrapped, a hand wheel having a geared connection with the drum, and a band brake for resisting the rotation of the drum.

26. In a machine of the character set forth, the combination with a car, of a supporting frame mounted on the car and including a cross bar, shovels located on opposite sides of the car, means mounted on the frame for raising and lowering the shovels, draft connections between the car and shovels, guide collars pivotally mounted on the ends of the cross bar, swinging stems having universal joint connections with the shovels and slidably passing through the collars, drums journaled on the supporting frame, cables wrapped upon the drums and connected to the ends of the guide stems, hand wheels having geared connections between the hand wheels and the drums, means for moving the gears into and out of mesh to disconnect the hand wheels from the drums, and band brakes for controlling the movement of the drums, said hand brakes including levers.

27. In a machine of the character set forth, the combination with a shovel, of a guide element, a stiff guide member connected to the shovel and slidably engaged with the guide element, said member constituting means for directing the shovel, and means connected to the guide member for moving the same.

865,382. INVERT OR BLOCK FOR SEWERS AND PIPES. WATKIN HALL, Great Crosby, near Liverpool, England. Filed Feb. 26, 1906. Serial No. 303,097.



1. An invert or sole block having continuous land drainage channels the upper portions only of such channels being in communication with each other to allow said channels to act as settling chambers, there being water entrance openings extending downward from certain of the channels to the base of the invert.

2. An invert or sole block having a series of continuous communicating land drainage channels connected in series, there being water entrance openings extending downward from the primary channel to the base of the invert.

3. An invert or sole block having channels in its base to form continuous passages and clarifying chambers for land water, said channels being connected in series with the base by rising channels or openings.

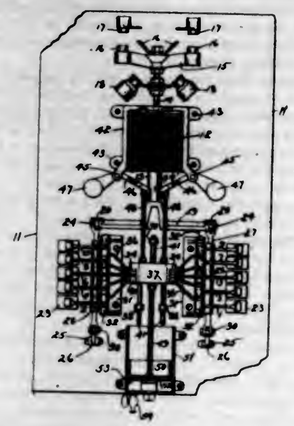
4. The combination with inverts or blocks for pipes made with channels in the base, and perforations for admitting land water into said channels, of a bed or foundation for the block, consisting of a framework made of longitudinal bars and cross-pieces with a filling of cement, said framework being so made as to keep the cement away from the said perforations, and a filling of rubble at each side of the said framework.

865,383. CONTROLLING DEVICE. ARTHUR E. HANDY, Providence, R. I., assignor to The Rhode Island Elevator and Machine Company, Providence, R. I., a Corporation of Rhode Island. Filed Dec. 31, 1904. Serial No. 239,179.

1. An electric controller comprising an electro magnet provided with a plunger core, an armature for said magnet, a resistance, means positively connected with and controlled by the armature to permit the cutting out of said resistance step by step, and means operated by the plunger core to return said cutting out means to its normal position when said magnet is deënergized.

2. An electric controller comprising an electro magnet provided with a plunger core, an armature for said magnet, a resistance, a plurality of circuit closing fingers, means positively connected to said armature to successively release said fingers to cut out said resistance step by step, and means operated by the plunger core for simultaneously rendering all of said fingers inoperative.

3. An electric controller comprising an electro magnet provided with a plunger core, an armature for said magnet, a resistance, a plurality of circuit closing fingers, means positively connected to said armature to successively release said fingers to cut out said resistance step by step, means for controlling the intervals between the successive operations of said fingers, and means operated by the plunger core for simultaneously rendering all of said fingers inoperative.



4. An electric controller comprising an electro magnet provided with a plunger core, an armature for said magnet, a resistance, a plurality of circuit closing fingers, means to hold said fingers normally inoperative, connections between said holding means and said armature, whereby the fingers are successively released to cut out the resistance step by step, and means operated by the plunger core to simultaneously render all of said fingers inoperative.

5. An electric controller comprising an electro magnet provided with a plunger core, an armature for said magnet, a resistance, a plurality of circuit closing fingers, a plate connected to said armature and engaging the contiguous ends of all of said fingers, whereby movement of the plate permits said fingers to successively drop to cut out said resistance step by step, and means operated by the plunger core to simultaneously render all of said fingers inoperative.

6. An electrical controller comprising an electro magnet provided with a plunger core, an armature for said magnet, a resistance, a plurality of circuit closing fingers arranged in sets, means connected to the armature to alternately release the fingers of each set to cut out said resistance step by step, and means operated by the plunger core for simultaneously rendering all of said fingers inoperative.

7. An electric controller comprising an electro magnet provided with a plunger core, an armature for said magnet, a resistance, a plurality of circuit closing fingers arranged in sets, a plate connected to said armature and engaging the contiguous ends of the fingers of each set, said plate being constructed to alternately release the fingers of each set to cut out said resistance step by step, and means operated by the plunger core to simultaneously render all of said fingers inoperative.

8. An electric controller comprising an electro magnet provided with a plunger core, an armature for said magnet, a resistance, a plurality of circuit closing fingers arranged in sets, a plate interposed between the sets of fingers and engaging all of them, the engaging portion of the plate on one side being wider than the corresponding portion on the other side, whereby the fingers of each set are alternately released to cut out said resistance step by step, and means operated by the plunger core to simultaneously render all of said fingers inoperative.

9. An electric controller comprising an electro magnet provided with a plunger core, an armature for said magnet, a resistance, a plurality of circuit closing fingers, means positively connected to the armature to successively release said fingers to cut out said resistance step by step, and a pivoted member connected to the plunger core for simultaneously rendering all of said fingers inoperative.

10. An electric controller comprising an electro magnet provided with a plunger core, an armature for said magnet, a resistance, a plurality of circuit closing fingers, means to hold said fingers normally inoperative, connections between said holding means and said armature, whereby the fingers are successively released to cut out the resistance step by step, and a pivoted member connected to the plunger core to simultaneously render all of said fingers inoperative.

11. An electric controller comprising an electro magnet provided with a plunger core, an armature for said magnet, a resistance, a plurality of circuit closing fingers arranged in sets, means connected to the armature to alternately release the fingers of each set to cut out said resistance step by step, and pivoted members connected to the plunger core to simultaneously render all of said fingers inoperative.

12. An electric controller comprising an electro magnet provided with a plunger core, pivotally supported armatures for said magnet provided with counterweights, a resistance, a plurality of circuit closing fingers, means positively connected with said armatures to successively release said fingers to cut out said resistance step by step, and means operated by the plunger core for simultaneously rendering all of said fingers inoperative.

13. An electric controller comprising an electro magnet provided with a plunger core, a main contact carried by said core, an armature, a resistance, a plurality of circuit closing fingers, means positively connected with said armature to successively release said fingers to cut out the resistance step by step, and means operated by the plunger core for simultaneously rendering all of said fingers inoperative.

14. An electric controller comprising an electro magnet provided with a plunger core, an armature for said magnet, a resistance, a plurality of circuit closing fingers, a plate connected to said armature and engaging the contiguous ends of said fingers, whereby movement of the plate permits said fingers to successively drop to cut out said resistance step by step, means connected to said plate to regulate the speed of movement thereof, and means operated by the plunger core to simultaneously render all of said fingers inoperative.

15. An electric controller comprising an electro magnet provided with a plunger core, pivoted armatures for said magnet provided with counterweights, a resistance, a plurality of circuit closing fingers, a plate connected to said armatures and engaging the contiguous ends of said fingers, whereby movement of the plate permits said fingers to successively drop to cut out said resistance step by step, a dash pot having its piston connected to said plate to regulate the speed thereof, and means operated by the plunger core to simultaneously render all of said fingers inoperative.

16. An electric controller comprising an electro magnet, a resistance, a main contact, a plurality of contact fingers, means for supporting said contact fingers in normally inoperative position, and means operated by said magnet to operate said main contact and subsequently to successively withdraw the support from said fingers to cut out the resistance step by step.

17. An electric controller comprising an electro magnet, a resistance, a main contact, a plurality of contact fingers, means for supporting said contact fingers in normally inoperative position, means operated by said magnet to move said main contact and subsequently to successively withdraw the support from said fingers to cut out said resistance step by step, and means to simultaneously disengage all of said fingers when said magnet is deënergized.

18. An electric controller comprising a motor, a resistance, a main switch, contact fingers, an electro magnet having one of its poles divided, a plunger core forming the other pole of said magnet, a plurality of pivotally hung armatures, means whereby the raising of said core closes said main switch and causes an increase of the magnetic force of said magnet to operate said armatures, and means operated by said armatures for successively

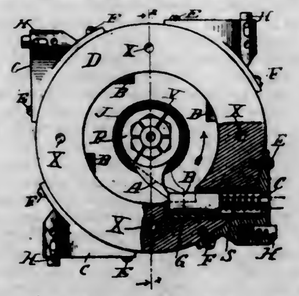
releasing said contact fingers to cut out said resistance step by step.

19. An electric controller comprising a motor, a resistance therefor, a main switch, contact fingers, an electro magnet having one of its poles divided, a plunger core forming the other pole of said magnet, an armature, means whereby the raising of said core closes said main switch and causes an increase of the magnetic force of said magnet to operate said armature, means moved by said armature to release said contact fingers intermittently to cut out said resistance step by step, and means for controlling the speed of said armature.

20. An electric controller comprising a motor, a resistance therefor, a main switch, a spring actuated contact fingers, an electro magnet provided with a plunger core, an armature for the magnet, means whereby the raising of said core closes said main switch and causes an increase in the magnetic force of said magnet to draw up said armature, means connected to the armature and moving therewith to release said contact fingers intermittently to cut out said resistance step by step, means for controlling the speed of said armature, and means connected to the core to simultaneously raise all of said fingers and break their connection when the magnet is deënergized.

21. An electric controller comprising an electro magnet provided with an armature, a resistance, a plurality of circuit closing fingers provided with arms or extensions, a plate to engage said arms or extensions, connections between said plate and armature, and automatic means for simultaneously moving all of said arms or extensions out of the plane of movement of said plate and in a position to be engaged thereby when said magnet is deënergized.

865,384. TIMER. CHARLES S. HARDY, Summit, N. J. Filed Jan. 21, 1907. Serial No. 353,248.



1. In a timer, the combination with a contact; of a member, normally operatively rotatable in a single continuous direction, on which member said contact is supported; a second contact; means for supporting the second contact directly in the path of movement of the first contact, whereby the two contacts engage directly with each other; and means for permitting a yielding movement of one contact with respect to the other, in a direction substantially in line with the path of movement of the contact which is supported on the rotatable member, at the time of contact-making impact.

2. In a timer, the combination with a rotatable contact maker, of a contact having its bearings substantially in line with the direction of motion of the contact maker at the time of contact-making impact; and means for permitting a yielding movement of at least one of the parts in a direction substantially in line with the direction of movement of the contact-maker at the instant of contact-making impact.

3. In a timer, the combination with a rotatable contact maker, of a coöperating reciprocable contact mounted to lie in the path of movement of the contact-maker at the time of impact; and means for causing a yielding movement of at least one of the parts in a direction substantially in line with the path of movement of the contact-maker at the time of impact.

4. In a timer, the combination with a rotatable contact maker, of a contact having its bearings substantially in line with the direction of motion of the contact-maker at the time of contact-making impact; and means for permitting the contact-maker to be disengaged from contact.

5. In a timer, the combination with a rotatable contact-maker, of a coöperating reciprocable contact mounted to be movable in a direction substantially in line with the direction of movement of the contact-maker at the instant of contact-making impact.

6. In a timer, the combination with a rotatable contact-maker, of a contact having its bearings substantially in line with the direction of motion of the contact-maker at the time of contact-making impact, said contact being movable in its bearings away from the contact-maker; and means for restoring the contact to its normal operative position in the path of movement of the contact maker.

7. In a timer, the combination with a rotatable contact-maker, of a contact having its bearings substantially in line with the direction of motion of the contact maker at the time of contact-making impact, said contact being movable in its bearings away from the contact maker, and free to rotate in its bearings; and means for restoring the contact to its normal operative position in the path of movement of the contact-maker.

8. In a timer, the combination with a rotatable contact-maker; of a coöperating reciprocable contact; a support therefor; and a metallic bearing for said contact in the support, the bearing being substantially in line with the direction of movement of the contact-maker at the time of impact, and having an opening to expose the contact to the action of the contact-maker.

9. In a timer, the combination with a rotatable contact-maker; of a coöperating reciprocable contact; a support therefor; and a metallic bearing in the support, for the lateral surface of said contact, said bearing having a lateral opening to expose a part of the end of the contact to the action of the contact-maker, and said bearing being substantially in line with the direction of movement of the contact-maker at the time of impact of the contacts.

10. In a timer, the combination with a rotatable contact-maker; of a coöperating reciprocable contact; a support therefor; a metallic bearing for said contact in the support, the bearing being substantially in line with the direction of movement of the contact-maker at the time of impact, and having an opening to expose the contact to the action of the contact-maker; and a spring bearing on the contact to hold it normally in the path of movement of the contact-maker.

11. In a timer, the combination with a rotatable contact-maker; of a coöperating reciprocable contact; a support therefor; a metallic bearing for said contact in the support, the bearing being substantially in line with the direction of movement of the contact-maker at the time of impact, and having an opening to expose the contact to the action of the contact-maker; a spring bearing on the contact to hold it normally in the path of movement of the contact-maker; and a bearing for the spring, secured to the support.

12. In a timer, the combination with a contact; of a member which normally and operatively is continuously rotatable in a single direction, on which member said contact is supported; a second contact; means for supporting the second contact normally directly in the normal path of continuous rotation of the first contact, whereby the two contacts engage each other face to face and with the impact of full speed of continuous rotation; at least one of said contacts being movable, by the impact of contact making with the other, out of the normal path of continuous rotation of the first contact, to permit the unobstructed continuous advancing rotation of the first contact and to prevent thrusting strains on the supports; and means for restoring said contact so movable, as soon as the two contacts are separated due to the continuous rotation of the first contact, to its normal operative contact-making position directly in the normal path of the rotation of the contact which is supported on the rotatable member.

13. In a timer, the combination with a contact-maker which normally and operatively is continuously rotatable in a single direction; of a coöperating contact mounted to normally lie directly in the normal path of rotation of the contact-maker, whereby the two contacts engage against each other face to face and with the impact of full speed of continuous rotation; means for permitting the contact-maker in its normal direction of rotation to pass by the contact immediately after having established contact therewith; means for rotating the contact maker; and means for permitting the unlimited movement of said rotating means but not of the contact maker, in the direction opposite to that of the normal rotation of the contact maker.

14. In a timer, the combination with a rotatable contact-maker, of a shaft on which the contact-maker is loosely mounted; a coöperating contact mounted in the path of the contact-maker; a collar rigid with the contact-maker shaft, the contact-maker and collar being provided with interlocking mechanism to cause the rotation of the contact-maker in its normal direction; means for permitting the contact-maker in its normal direction of rotation to pass by the coöperating contact after having established contact therewith; and said collar and contact-maker being provided with unlocking mechanism, to permit the contact-maker to be held by the coöperating contact from rotation in the reverse direction, by permitting the contact-maker shaft to freely rotate in the direction opposite to its normal direction.

15. In a timer, the combination with a rotatable contact-maker, of a shaft on which the contact-maker is loosely mounted; a coöperating contact mounted in the path of the contact-maker; a stop-cam collar on the contact maker shaft; a coöperating stop on the contact-maker, a spring to hold the collar and contact-maker in cooperative relation; and means for permitting the contact maker in its normal direction of rotation to pass by the cooperating contact after having established contact therewith.

16. In a timer, the combination with a contact-maker which normally and operatively is continuously rotatable in a single direction; of a contact mounted to normally lie directly in the path of the rotation of the contact-maker, whereby the two contacts engage against each other face to face and with the impact of full speed of contact rotation; means for supporting both members in coöperative relation; means for preventing angular thrusting strains on the supporting means; means for permitting the contact-maker in its normal and operative direction of rotation, to pass by the contact after having established contact therewith; means for rotating the contact-maker; and means for permitting unlimited movement of said rotating means but not of the contact-maker, in the direction opposite to that of the normal rotation of the contact-maker.

17. In a timer, the combination with a rotatable contact-maker, of a contact having its bearings substantially in line with the direction of motion of the contact maker at the time of contact-making impact; means for permitting a yielding movement of at least one of the parts in a direction substantially in line with the normal path of movement of the contact-maker at the instant of contact-making impact, when the contact-maker has its normal direction of movement; and means for preventing the contact-maker, in its opposite direction of movement, from passing by the contact.

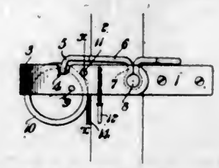
18. In a timer, the combination with a rotatable contact-maker; of a coöperating contact mounted to lie in the path of movement of the contact-maker; means for causing a yielding movement of at least one of the parts in a direction substantially in line with the normal path of movement of the contact-maker at the time of impact, when the contact-maker has its normal direction of movement; and means for preventing the contact-maker, in its opposite direction of movement, from passing by the contact.

19. In a timer, the combination with a rotatable contact-maker, of a contact having its bearings substantially in line with the direction of movement of the contact-maker at the time of contact-making impact; means for permitting a yielding movement of at least one of the parts in a direction substantially in line with the path of movement of the contact-maker at the time of contact-making impact, when the contact-maker has its normal direction of movement; and means for preventing the disengagement of the contact-maker from contact, in its opposite direction of movement.

20. In a timer, the combination with a contact-maker which normally and operatively is continuously rotatable in a single direction; of a coöperating contact mounted to normally lie directly in the path of rotation of the contact-maker; means for rotating the contact-maker; means for permitting the contact-maker in one direction of rotation to pass by the contact after having established contact therewith; means for permitting the rotating means to operate unlimitedly in the opposite direction without moving the contact-maker past the coöperating contact; and means for taking up lost motion between the contact maker and its rotating means.

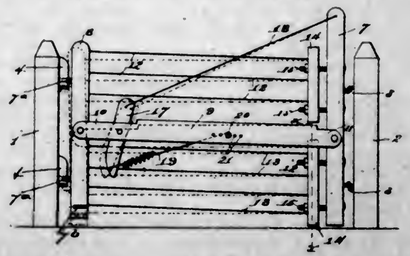
21. In a timer, the combination with the rotatable contact-maker; of a coöperating contact reciprocable in substantially the direction of movement of the contact-maker at the time of impact; a support for the contacts; a spring pressing the contact toward the contact-maker; a bearing for the spring; and screws for said bearing, secured in the support, one substantially parallel and the other at substantially right angles with the reciprocable contact.

865,385. GATE-LATCH. HENRY F. HARFST, Meta, Mo. Filed Feb. 18, 1907. Serial No. 357,984.



A latch comprising a metal strip looped or folded to form a guide, said loop having reduced openings in the sides thereof for the reception of locking means, a holding pin disposed transversely within the loop, a ring loosely mounted within the loop and surrounding the pin, the diameter of the ring being greater than the distance from the openings to the end of the loop, a pivot pin within and connecting the sides of the loop, a lever formed of a single length of wire bent at an intermediate point to form an eye mounted upon the last mentioned pin, said lever terminating at one end in a depending loop and detachably engaging the ring, there being a laterally extending loop at the other end of the lever and constituting a finger piece, the walls of the guide loop being notched to receive the depending portion of the lever when in normal position.

865,386. GATE. EDWARD L. HARPER, Topeka, Kans. Filed June 15, 1907. Serial No. 379,202.



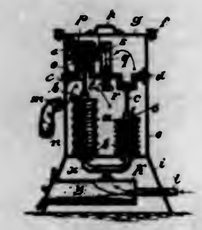
1. In a gate, the combination, with the front and rear uprights, of a central beam pivotally connecting the uprights, wires connected to the uprights above the beam, wires having one end secured to the front upright below

the beam, and a tightener carried by the rear upright and having the other end of the said wires secured thereto.

2. In a swinging lift-gate, the combination, with the catch-blocks secured to one of the gate-posts and having a bottom notch, and means to lift the gate, of the pins projecting from the gate and adapted to engage the said notches for locking the gate, and the foot-lugs for depressing the gate to unlock it.

3. In a swinging lift-gate, the combination, of the grooved beam pivotally connecting the gate-uprights, a lift lever pivoted to and between the extensions of the beam, a spring wire attached to the lever and secured centrally of the said groove, and a wire connecting the lever with one of the said uprights.

865,387. PORTABLE DUST-SUCTION APPARATUS WORKED BY MEANS OF AN ELECTROMOTOR. ADOLF HEIN, Berlin, Germany, assignor to Vacuum Cleaner Company, a Corporation of New Jersey. Filed Feb. 21, 1906. Serial No. 302,185.



1. In a portable dust suction apparatus, the combination of two suction bellows, a shell inclosing said bellows, a double throw crank shaft for working said bellows and mounted within said shell, an electric motor, pulleys carried by said motor and by said crankshaft, flexible transmission means connecting the pulleys referred to, and a dust-tight casing inclosing the pulley gear, substantially as described.

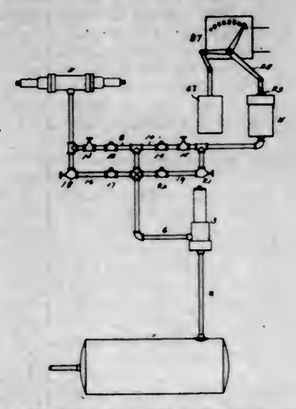
2. In a portable dust suction apparatus, the combination of two suction bellows, a shell inclosing the same, a double throw crankshaft for working said bellows and mounted within said shell, a bracket carried by said shell, an electric motor supported by said bracket, pulleys carried by said motor and by said crankshaft, flexible transmission means connecting the pulleys referred to, and a dust-tight casing inclosing the pulley gear, substantially as described.

3. In a portable dust suction apparatus, the combination of two suction bellows, a shell inclosing the same, a double throw crankshaft for working said bellows and mounted within said shell, a bracket carried by said shell, an electric motor supported by said bracket, pulleys carried by said motor and by said crankshaft, flexible transmission means connecting the pulleys referred to, and a dust-tight casing inclosing the pulley gear and consisting of a lower part and an upper part detachable therefrom, substantially as described.

4. In a portable dust suction apparatus, the combination of two suction bellows, a shell inclosing the same and divided into top and base compartments, a double throw crankshaft for working said bellows and mounted within the top compartment of said shell, an electric motor, pulleys carried by said motor and by said crankshaft, flexible transmission means connecting the pulleys referred to, and a dust-tight casing inclosing the pulley gear, substantially as described.

5. In a portable dust suction apparatus, the combination of a plurality of suction bellows, a shell inclosing said bellows, a shaft for working said bellows successively and mounted within said shell, an electric motor, operating connections from said motor to said shaft, and a dust-tight casing inclosing said operating connections, substantially as described.

865,388. CONTROL OF AN ELECTRICALLY-DRIVEN AIR-COMPRESSOR. EBENEZER HILL, Norwalk, Conn. Filed Apr. 1, 1907. Serial No. 365,877.



1. The combination of an air control, a compressor unloader, a motor regulator, pipes connecting the air control with the unloader and the regulator, and check valves for controlling the flow of air through said pipes, substantially as specified.

2. The combination of an air control, a compressor unloader, a motor regulator, pipes connecting the air control with the unloader and the regulator, and throttle valves for controlling the flow of air through said pipes, substantially as specified.

3. The combination of an air control, a compressor unloader, a motor regulator, pipes connecting the air control with the unloader and the regulator, check valves and throttle valves for controlling the flow of air through said pipes, substantially as specified.

4. The combination of an air control, a compressor unloader, a motor regulator, pipes connecting the air control with the unloader and regulator, a check valve for controlling the flow of air through said pipes to the unloader and means for retarding the flow of air from the unloader, substantially as specified.

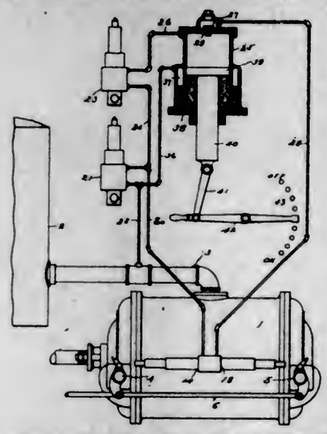
5. The combination of an air control, a compressor unloader, a motor regulator, pipes connecting the air control with the unloader and the regulator, a check valve in the pipe leading from the air control to the unloader, a by-pass around the check valve, and means in the by-pass for retarding the flow of air through said by-pass, substantially as specified.

6. The combination of an air control, a compressor unloader, a motor regulator, pipes connecting the air control with the unloader and the regulator whereby air flowing through the air control will act simultaneously upon the unloader and regulator, and means for retarding the movement of the unloader, substantially as specified.

7. The combination of an air control, a compressor unloader, a motor regulator, pipes connecting the air control with the unloader and regulator whereby the unloader and regulator are actuated simultaneously when the air control opens, and means which retard the actuation of the unloader with relation to the regulator when the air control closes, substantially as specified.

865,389. CONTROL OF ELECTRICALLY-DRIVEN AIR-COMPRESSOR. EBENEZER HILL, Norwalk, Conn. Filed May 24, 1907. Serial No. 375,431.

1. The combination with the compression cylinder of an air compressor and the valves thereof, of independently operating means for rendering the valves ineffective, an air control connected with the system and one valve control for operating that valve control when the pressure reaches a predetermined height, and an air control connected with the former air control and with another valve control for operating the latter valve control when the pressure reaches a higher degree than that required to operate the first air control, substantially as specified.



2. The combination with the compression cylinder of an air compressor and the valves thereof, of independently operating means for rendering the valves ineffective, and air controls connected in series so that one will not work until after the other, said air controls being connected with each other and one being connected with the discharge from the compression cylinder and one valve control, and the other air control being connected with the other valve control, substantially as specified.

3. The combination with the compression cylinder of an air compressor and the valves thereof, of independently operating means for rendering the valves ineffective, air controls connected with the discharge from the compressor and with each other, and also connected with the valve controlling means, an electric motor switch, and means operated by the air pressure admitted by the air controls for actuating the switch, substantially as specified.

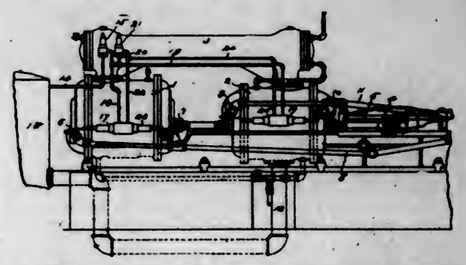
4. The combination with the compression cylinder of an air compressor and the valves thereof, of independently operating means for rendering the valves ineffective, air controls connected with each other and with the discharge from the compressor and with the valve unloading mechanisms, an electric motor switch, means for operating the switch, and connections between the switch operating means and the air controls whereby the switch is operated by the variation of pressure in the discharge pipe from the compression cylinder and the discharge pipe from the second air control, substantially as specified.

5. The combination with the compression cylinder of an air compressor and the valves thereof, of means for rendering the valves ineffective, an air control connected with the discharge from the compression cylinder, and also connected to and operating said valve controlling means, an electric motor switch, means for operating the motor switch, connections between the switch operating means and the air control for operating said means, and liquid in the switch operating means for causing said means to move slowly, substantially as specified.

6. The combination with the compression cylinder of an air compressor and the valves thereof, of means for rendering the valves ineffective, an air control connected with said means and with the system for operating said means, an electric motor switch, means for operating the motor switch, connections between the switch operating means and the air control whereby said means is actuated for operating the switch by variations of pressure in the system, and a check valve arranged to hold the air pressure on the valve controlling means until the switch operating means has moved sufficiently to turn the full current on the motor, substantially as specified.

7. The combination with a compressor and the valves thereof, of a plural number of air controls for regulating in sequence the effective operations of the compressor, one control taking air from a supply of predetermined pressure, and the following air control taking air from the preceding, substantially as specified.

865,390. MEANS FOR UNLOADING AIR-COMPRESSORS. EBENEZER HILL, Norwalk, Conn. Filed May 24, 1907. Serial No. 375,432.



1. The combination with a compound air compressor of means for temporarily rendering ineffective intake valves on opposite ends of the cylinders, and means for actuating the said valve controls on opposite ends of the cylinders simultaneously, whereby the cylinders are unloaded proportionately, substantially as specified.

2. The combination with a compound air compressor of means for temporarily rendering ineffective intake valves, and air controls for actuating the said valve controls at the complementary ends of the two cylinders simultaneously, substantially as specified.

3. The combination with a compound air compressor of means for temporarily rendering ineffective the intake valves at opposite ends of both cylinders, and air controls arranged to actuate the said valve controls on the opposite ends of the cylinders simultaneously, substantially as specified.

4. The combination with a compound air compressor of means for controlling the intake valves, and air controls actuated by the pressure produced by the compressor, one control operating to actuate the valve controlling means at complementary ends of both cylinders, and the second air control connected with the first air control and arranged to actuate the valve controlling means at the other complementary ends of both cylinders, substantially as specified.

5. The combination with a compound air compressor of an independent valve control for each intake valve, air controls connected with each other and adapted to be actuated by the pressure produced by the compressor, one air control being arranged to act upon the valve controls at complementary ends of the two cylinders and the other air control being arranged to act upon the valve controls at the other complementary ends of the two cylinders subsequently to the action of the first air control, substantially as specified.

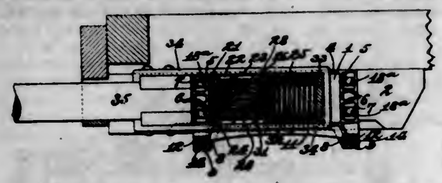
6. The combination with a compound air compressor of valve controls for temporarily rendering ineffective intake valves, and means actuated by air pressure which actuate complementary valve controls and unload the cylinders proportionately, substantially as specified.

865,391. FRICTION DRAFT-GEAR. JOHN J. HOFFMAN, St. Louis, Mo., assignor to Peter H. Murphy, St. Louis, Mo. Filed July 9, 1906. Serial No. 325,197.

1. A guide and carrier for draft gear comprising cheek-plates having upper flanges, end flanges constituting limit stops, and supporting lugs, a carrier frame adapted to rest upon said supporting lugs between said cheek-plates, said carrier frame comprising integral angular side bars and channel end bars, said cheek-plates and said carrier frame being provided with alining perforations, and bolts for securing said carrier frame to said cheek-plates, said bolts being passed through said alining perforations.

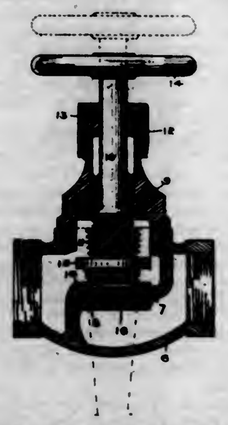
2. A guide and carrier for draft gear comprising cheek-

plates having top flanges, end flanges provided with reinforcing ribs and constituting limit stops, and depending extensions having supporting lugs formed thereon, and also provided with perforations, a carrier frame adapted to rest upon said supporting lugs, said carrier frame comprising integral angular side bars and channel end bars,



said side bars being provided with perforations near the ends in alinement with the channel of said end bars, and adapted to aline with the perforations in said cheek-plate extensions, and bolts adapted to be passed through said alining perforations to secure said carrier frame to said cheek-plates.

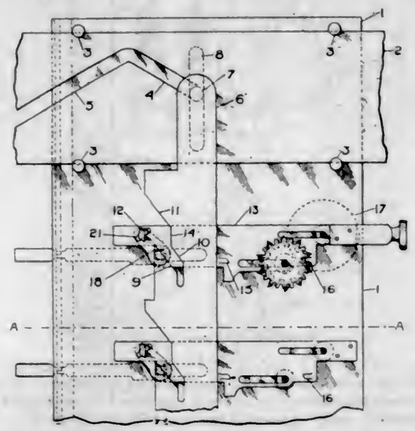
865,392. SCREW-SEAT VALVE. CHARLES M. HOSE, Indianapolis, Ind. Filed Feb. 6, 1906. Serial No. 299,679.



1. A valve-body having a screw-threaded tapering opening to form a valve-seat, and a stem having an annular flange adapted to be seated on the valve-seat, said stem also having a screw-threaded tapering end below the flange to screw into the threaded seat and form a closure, said extension being recessed from its end, approximately as far in as the threads extend on its outside, to form walls of approximately the same thickness as the walls of the valve-seat, said valve-body having a recess to form a seat for the flange when the valve is open to assist in preventing leakage around the stem.

2. A valve-body divided into two compartments by a partition, said partition having a plane surface, a tapering screw-threaded hole through the partition in said plane surface, a valve stem having a tapering screw-threaded inner end and a flange above said threaded portion adapted to bear upon the plane surface when the said threaded end of the stem is screwed fully into the tapering hole, said threaded end being recessed in from its outer end to the depth of the outside thread to form walls of approximately the same thickness as the walls of the valve-seat, said stem being threaded above the flange, said valve-body having an opening, a cap screwed into said opening, said cap having a threaded opening to receive the threaded portion of said stem, and said cap opening being enlarged at its inner end to receive the flange of the stem with a close fit, said flange when the valve is open making a tight fit against the end of said enlargement.

865,393. VOTING-MACHINE. OTTO T. JOHNSON, Jamestown, N. Y., assignor, by mesne assignments, to U. S. Standard Voting Machine Co., Rochester, N. Y., a Corporation of New York. Filed Apr. 19, 1900. Serial No. 13,526.



1. The combination in a voting machine, of a voting key, a universal bar for operating the keys voted, and means carried by each key movable independently of the key to prevent the obstruction of said universal bar in its movement.

2. The combination in a voting machine, of a voting key retractable by a voter to indicate a vote, a cam for operating it, said key and cam reciprocating transversely of each other, and means carried by each key movable independently of the keys to prevent the obstruction of the cam by the movement of the key.

3. The combination in a voting machine of a voting key, a universal bar for operating the keys voted, and an oscillating stud carried on each key to insure the operation of the bar on said key.

4. The combination in a voting machine of a voting key movable freely into and out of voted position, a stud carried on said key, and a cam for operating on said key through said stud, said stud having a movement on said key independent of said key.

5. The combination in a voting machine of a voting key, an arm pivoted on said key on one side, and a stud carried on said pivoted arm projecting from the other side of said key, said key having a slot limiting the movement of said stud.

6. The combination in a voting machine of a voting key, an arm pivoted on one side of the key, and an oscillating stud carried on said arm extending through and beyond the key, said key having a slot limiting the oscillating movement of said stud.

7. The combination in a voting machine of a voting key, an arm pivoted on said key, and a stud carried by said arm, said stud having an oscillating movement independent of its key, which movement is limited by a slot in said key.

8. The combination in a voting machine of a voting key, an arm fastened to said key, a stud carried on said arm, said stud being capable of an upward and forward movement if caught on a dead center, so that it will not remain there.

9. The combination in a voting machine of a voting key, a pin carried on said key, an arm capable of movement on said key controlled by said pin and a slot in said key, a stud carried on said arm, and driving means for said stud, said stud having an upward and forward movement by means of which it is carried off of a dead center by said driving means.

10. The combination in a voting machine of a key longitudinally movable to voted position, a cam reciprocating transversely to said key, said key being reciprocated to operate and lock the counter, said cam driving said key through a stud carried on said key, and said stud having a movement independent of its key by means of which it is prevented from obstructing the movement of its cam.

11. The combination in a voting machine of counter actuating means, a reciprocating device to impart movement to said counter actuating means, said means and said device reciprocating transversely to each other, and means carried by said counter actuating means by which it may be engaged or disengaged with said reciprocating device, said means being movable relatively to said counter actuating means to automatically adjust itself with said reciprocating device.

12. The combination in a voting machine of a counter actuating device, a reciprocating device for operating said counter actuating device, said devices reciprocating across each other, and means carried by said counter actuating device for engaging or disengaging it with its reciprocating device, said means having a short oscillating movement at an acute angle with the line of motion of the counter actuating device whereby it can engage with but not obstruct the movement of said reciprocating device.

13. The combination in a voting machine of a voting key, an arm carried on said key, and a stud carried on said arm, said stud having a short movement at an angle of 45 degrees to the line of motion of the key.

14. The combination in a voting machine of a voting key, an arm carried on said key, and a stud carried on said arm, said stud having a movement at an acute angle to the line of movement of the key, said movement being limited by a slot in said key.

15. The combination in a voting machine of a voting key, an arm on said key and a stud mounted on said arm having an independent movement at an acute angle to the line of movement of the key.

16. The combination in a voting machine of a voting key, a stud mounted on said key, and driving means for said voting key said stud having an independent movement at an acute angle to the line of movement of said driving means.

17. The combination in a voting machine of a voting key, a stud mounted on said key, and driving means for said key, said stud having an independent movement across the line of movement of said driving means.

18. The combination in a voting machine of a voting key, movable freely into and out of voted position, means for driving said key to operate the counter when placed in voted position and a stud mounted on said key engaging said driving means, said stud having an independent movement at an acute angle to the line of movement of the key and the line of movement of said driving means.

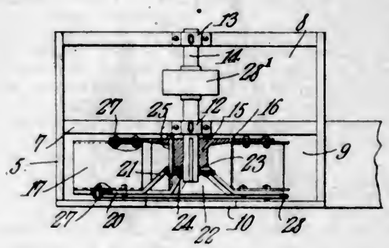
19. The combination in a voting machine of a voting key, an arm fastened to said key, a stud carried on said arm, said stud being capable of an upward and lateral movement if caught on a dead center, and reciprocating means adapted to engage said stud after the movement of the key.

20. The combination in a voting machine of a voting key, and a stud mounted on said key, said stud having an upward and a lateral movement relative to its key.

865,394. SAWDUST-BLOWER. GEORGE T. KERINS and ELLSWORTH G. NAYLOR, Oakland, Md. Filed May 20, 1907. Serial No. 374,649.

1. A device of the class described including a casing having an air-intake, a shaft mounted for rotation in the casing, a hub secured to the shaft and provided with a lateral flange, spokes spaced from the flange and bearing against one end of the hub, blades interposed between the spokes and flange, and fastening devices engaging the flange for clamping the spokes in engagement with the hub.

2. A device of the class described including a casing provided with an air-intake, a shaft mounted for rotation in the casing, a hub secured to the shaft and provided with a laterally extending flange, spokes spaced from the flange and having their inner ends deflected laterally for engagement with the adjacent end of the hub, blades interposed between the spokes and flange, respectively, a disk bearing against the inner ends of the spokes, and clamping devices piercing the disk and flange for clamping the spokes in engagement with the hub.



3. A device of the class described including a casing provided with an air-intake, a shaft mounted for rotation in the casing, a hub secured to the shaft and provided with a laterally extending flange, spokes spaced from the flange and having their inner ends deflected laterally and provided with terminal bearing arms adapted to engage the adjacent end of the hub, blades interposed between the spokes and flange and terminating short of the hub, a disk surrounding the shaft and bearing against the terminal arms of the spokes, and clamping devices carried by the disk and piercing the arms and flange, respectively for clamping the several parts in assembled position.

4. A device of the class described including a casing provided with an air-intake, a shaft journaled in the casing, a hub secured to the shaft and provided with a laterally extending flange, spokes spaced from the flange and having their inner ends bent inwardly and provided with terminal bearing arms adapted to engage the adjacent end of the hub, blades interposed between the flange and spokes, respectively and provided with laterally extending attaching flanges, a disk surrounding the shaft and engaging the terminal bearing arms, fastening devices piercing the disk and flange, respectively, for clamping the bearing arms in engagement with the hub, the flange of said hub extending to approximately the center of each blade.

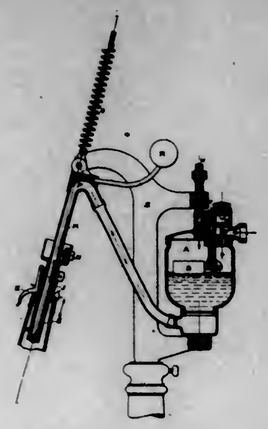
5. A device of the class described including a casing provided with an air-intake and having a chute communicating with the interior of the casing, a shaft mounted for rotation in the casing, a hub secured to the shaft and provided with a laterally extending flange, spokes spaced from the flange and having their inner ends bent laterally and provided with terminal bearing arms adapted to engage the adjacent end of the hub, blades interposed between the flange and spokes, respectively, and provided with spaced longitudinal attaching flanges, a disk surrounding the shaft and engaging the bearing arms, bolts carried by the disks and pierced by the bearing arms of the spokes and flange, respectively, the inner ends of said blades being spaced from the hub, and a reinforcing band secured to the spokes and disposed concentric with the shaft.

865,395. BOTTLE-FILLING MACHINE. KARL KIEFER, Cincinnati, Ohio. Filed Apr. 1, 1901. Serial No. 53,784.

1. In a bottle filling machine, the combination of a siphon tube with a reciprocating sleeve adapted to start or check the flow of the liquid, carrying a cup shaped body and a traverse attached to said sleeve, of a spiral spring located above the siphon and adapted to be engaged by said traverse.

2. In a bottle filling machine the combination of a siphon tube F, a reciprocating sleeve H, and an expansion spring O, actuating the reciprocating sleeve suspended on a traverse P, the latter one fastened to the sleeve H.

865,395.



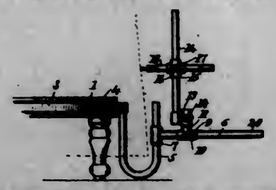
865,396. RESILIENT TIRE. HERMANN KLINGLER, Sitterdorf, Switzerland. Filed Jan. 9, 1906. Serial No. 295,315.



1. A tire comprising an exteriorly flanged rim, a plurality of cross-pieces integral with the base and flanges of said rim and forming with the flanges thereof exteriorly open pockets, said cross-pieces being flush with the flanges; resilient cushions located in said pockets and lateral noses on said cross-pieces for securing the cushions in the pockets substantially as described.

2. A tire comprising an exteriorly flanged rim, a plurality of cross-pieces integral with the said rim and forming with the flanges thereof exteriorly open pockets, resilient cushions located in said pockets lateral noses on said cross-pieces for securing the cushions in the pockets and metal wires traversing said cushions substantially as described.

865,397. DRESS-SKIRT MARKER. CARL KNOPF, New York, N. Y. Filed Dec. 22, 1906. Serial No. 349,080.

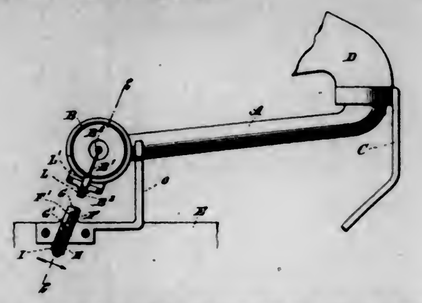


1. A device for the purpose specified, comprising a pedestal, a plurality of rollers adjacent the circumference of said pedestal, a movable band surrounding said pedestal and mounted to rotate upon said rollers, and means carried by said band for supporting a marker.

2. A device for the purpose specified, comprising a pedestal, a band movable around the periphery thereof, a substantially U-shaped hanger attached to the band and entirely supported thereby, a horizontally disposed rod carried by said hanger, a vertically disposed rod adjustable longitudinally of the first mentioned rod, and a crayon holder adjustable longitudinally of the last mentioned rod.

3. A device for the purpose specified, comprising a pedestal, a band mounted to rotate upon the periphery of the pedestal, a U-shaped hanger attached to said band and entirely supported thereby, the opposite ends of said hanger being vertically disposed and terminating adjacent the horizontal plane of the band, and a vertically and laterally adjustable crayon holder supported by the outer member of said hanger.

865,398. TALKING-MACHINE ATTACHMENT. HENRY KOCH, Rahway, N. J., assignor to The Regina Company, Rahway, N. J., a Corporation of New Jersey. Filed Jan. 8, 1906. Serial No. 295,022.



1. In a talking machine, the combination of a movable sound-conducting tube, the sound box carried thereby and the stylus-holder on the sound box, with a support in permanent engagement with said sound-conducting tube, another support adapted for temporary engagement with said sound-conducting tube and a stylus-inserting device which registers with the stylus-holder when the sound-conducting tube is in temporary engagement with the second-named support.

2. In a talking machine, the combination of the pivotally supported sound-conducting tube, the sound-box carried thereby, and the stylus-holder on the sound-box, with a support for holding said tube in its inactive position, and a stylus-inserting device which registers with said holder when the sound-conducting tube rests on said support.

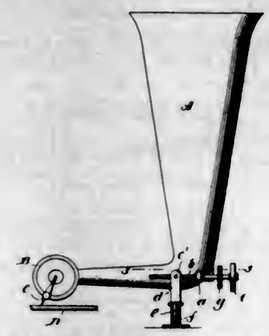
3. In a talking machine, the combination with the movable sound conductor, a sound box carried thereby and a stylus holder on said sound box, of a positioning device arranged in a plane at an angle to the plane of the sound box and provided with two members adapted to engage the sound conductor at the front and rear thereof when the sound box is in the stylus-receiving position and a stylus inserting device which registers with the stylus-holder when the sound box is positioned by said positioning device.

4. In a talking machine, the combination, with the movable sound-box having a stylus-holder, of a plunger movable toward and from the holder and in registry therewith in a predetermined position of the sound-box, the said plunger being provided with a tapering recess or socket for temporarily holding a stylus.

865,399. TALKING-MACHINE HORN. HENRY KOCH, Rahway, N. J., assignor to The Regina Company, Rahway, N. J., a Corporation of New Jersey. Filed May 1, 1906. Serial No. 314,707.

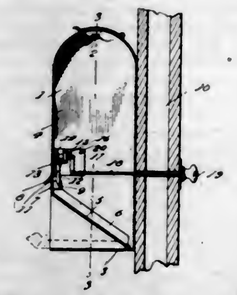
1. The combination of a reproducer carrying horn, a member having a pivot for said horn, the axis of which pivot intersects the said horn, a supporting member with which said first named member is connected by a joint allowing a swinging motion about an axis corresponding to the progressive motion of the horn during operation, provision being made to permit the position of said horn to be changed on said first named member to vary the distance between the reproducer and the pivot of the said horn.

2. The combination of a reproducer-carrying sound conduit, a support having a pivot for said conduit, the axis of which pivot intersects the sound conduit, and means adapted to permit the position of the said sound conduit to be changed on said support to vary the distance between the reproducer and the said support.



3. The combination of a reproducer carrying sound conduit, a jointed support having a pivot for said sound conduit, the axis of which pivot intersects the sound conduit, and means adapted to permit the position of said sound conduit to be changed on said support to vary the distance between the reproducer and the support.

865,400. HOUSE LETTER-BOX. VIRGIL C. KOONS, Colorado Springs, Colo. Filed July 12, 1906. Serial No. 325,877.



1. A house letter box having a gravity drop bottom with an upturned outer free end provided with a keeper at its inner face and adapted to close against the lower end of a vertical wall of the box, in combination with a latch behind said wall and adapted to engage said keeper to lock the bottom in elevated closed position, and operating mechanism for the keeper and to extend to an accessible point within a house to the exterior of which said box is secured.

2. In combination, in a house letter box having a mail egress opening, a movable door to close said opening, spring impelled locking mechanism for said door arranged entirely within the box and comprising an elbow lever arranged at the inner surface of the box, and a manually actuated longitudinally reciprocatory operating connection for swinging said elbow lever and extending from a point within the box to the exterior thereof and adapted to extend to an accessible point within a house at the exterior of which said box is arranged.

3. In combination, in a house letter box, movable means to close the letter egress opening from the box, a swinging spring actuated latch within the box to lock said means in closed position, an angle lever within the box and adapted to swing said latch to release said means, and a longitudinally reciprocatory actuating connection for said angle lever extending rearwardly therefrom within the box and adapted to extend to and be operated from an accessible point within the house.

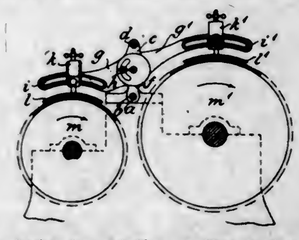
4. In combination, in a house letter box, a movable closure adapted to close the letter egress opening from the box and provided with a keeper, a lock within the box adapted to engage said keeper to lock said closure in closed position, an angle lever arranged within the box for operating the lock to release said closure, and a longitudinally reciprocating connection coupled to one arm of said lever and extending rearwardly from the box and adapted to extend to and be reciprocated from an accessible point within the house.

5. In combination, in a house letter box, a movable closure adapted to close the letter egress opening of the box, a swinging latch within the box adapted to lock said closure in closed position, an angle lever within the box adapted to engage said latch to swing the same to release said closure, and a pull connection coupled to said lever and adapted to extend to and be operated from an accessible point within the house.

6. A house letter box having a drop bottom at its inner end hinged approximately at the adjacent vertical wall of the box, said bottom when closed forming the letter receiving floor of the box and extending outwardly and upwardly with its free end meeting the lower end of an outer wall of the box, means supporting said bottom in open about horizontal position, said bottom formed with an upwardly extending front edge flange, and means behind the box front wall for locking said bottom in closed position.

7. A house letter box having a letter egress opening in a vertical wall thereof, a movable door to close said opening and provided with an inwardly projecting keeper, a lock mechanism arranged entirely within the box for locking said door and comprising a bolt arranged behind said vertical wall to engage said keeper and a swinging elbow lever arranged beside the adjacent side wall and having a vertically disposed arm, and a manually actuated longitudinally movable connection acting on said arm to rock said lever and arranged within said box at the inner face of said side wall, and extending through the rear wall of the box to an accessible point at the exterior of said box.

865,401. MEANS FOR GRINDING CARDING-CYLINDERS. GUSTAV KÖSTER, Neumünster, Germany, assignor to Bestmann & Co., Maschinenfabrik zu Neumünster G. M. B. H. in Neumünster, Neumünster, Germany. Filed Nov. 26, 1906. Serial No. 345,253.

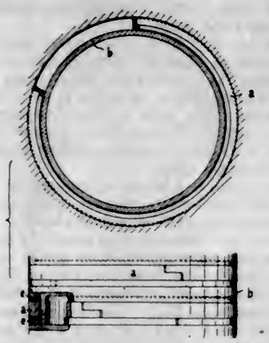


1. In a device for grinding carding engine cylinders, a frame, a rotary feed screw journaled therein, a nut arranged for travel on said screw and for movement by the latter, a guide rod sustained on the frame and operatively engaged with the nut for guiding the same in its movements, a pair of oppositely-projecting arms adjustably connected with the nut for relative movement in a vertical plane, and grinding devices adjustably mounted on the arms for movement longitudinally thereof.

2. In a device for grinding carding engine cylinders, a frame, a rotary feed screw journaled therein, a nut arranged for travel on the screw and for movement by the latter, a guide rod sustained above the screw and having operative connection with the nut for guiding the same in its movements, a pair of oppositely-extended arms pivoted to the nut for vertical swinging movement, means for fixing the arms in adjusted position, said arms being provided at their outer ends with longitudinal slots, supports slidably mounted on the arms, clamping screws entered through the slots for fixing the supports in adjusted

positions, and grinding members carried by and movable with the supports.

865,402. PISTON PACKING-RING. JULIUS KRITZLER, Kiel, Germany. Filed Nov. 21, 1905. Serial No. 288,355.



1. In combination with a piston having an integral cylindrical face, said face having an annular channel-shaped groove therein, a spring-ring adapted to enter said groove, interengaging projecting parts between one face of said groove and the adjacent face of said spring-ring, said parts being adapted to engage when said spring-ring is moved axially toward said face of the groove whereby the expansion of said spring-ring is limited, and means for locking said spring-ring when in said position against axial movement.

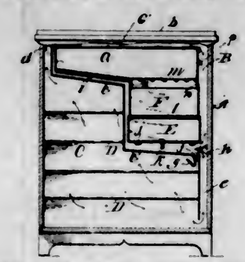
2. In combination with a piston having an integral cylindrical face, said face having an annular channel-shaped groove therein, a spring-ring adapted to enter said groove, interengaging projecting parts between one face of said groove and the adjacent face of said spring-ring, said parts being adapted to engage when said spring-ring is moved axially toward said face of the groove whereby the expansion of said spring-ring is limited, and a second ring adapted to fit in the annular groove at the opposite side of said spring-ring from said projection and thereby prevent said spring-ring from axial movement.

3. In combination with a piston having an integral cylindrical face, said face having a channel-shaped groove therein and said groove being provided on one of its lateral faces with a secondary groove, a spring-ring having on one of its lateral faces an annular projection adapted to fit loosely in said secondary groove, said spring-ring being adapted to enter said main groove and to engage with said secondary groove as aforesaid when moved axially, and means for maintaining said spring-ring when so placed against axial movement.

4. In combination with a piston having an integral cylindrical face, said face having a channel-shaped groove therein and said groove being provided on one of its lateral faces with a secondary groove, a spring-ring having on one of its lateral faces an annular projection adapted to fit loosely in said secondary groove, said spring-ring being adapted to enter said main groove and to engage with said secondary groove as aforesaid when moved axially, and an auxiliary ring adapted to enter said main groove at the side of said first-named ring opposite the projection thereon, thereby filling the vacant portion of said main groove and preventing axial movement of said main ring.

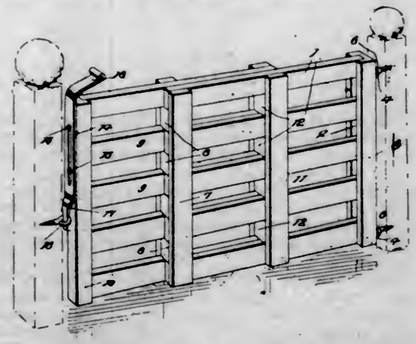
5. In combination with a piston having an integral cylindrical face, said face having a channel-shaped groove therein and said groove being provided on one of its lateral faces with a secondary groove, a spring-ring having on one of its lateral faces an annular projection adapted to enter said main groove and to engage with said secondary groove as aforesaid when moved axially, and an auxiliary inwardly springing ring adapted to fit in the vacant space in said main groove at the side of said spring-ring and prevent it from axial movement, said second ring resiliently hugging the bottom of said groove.

865,403. REFRIGERATOR. WILFRED LANDRY, New Orleans, La. Filed Feb. 21, 1907. Serial No. 358,570.



In a refrigerator, a casing, a cooling chamber, a provision chamber, a wall separating said chambers and having lower and upper inclined stretches, a vertical portion connecting the inner ends of said stretches, a portion extending upward from the outer end of the upper inclined stretch, a trough arranged to receive from the lower and outer end of the lower stretch, and a portion depending from the trough, a pure water receptacle supported in the lower portion of the cooling chamber, a filter box the lower portion of which is removably nested in the pure water receptacle, and an ice box, of greater area than the filter box, containing an ice support and having a removable cover and also having an opening in its bottom and a flange surrounding said opening and nested in and removable from the filter box; the said pure water receptacle, filter box and ice box being arranged with passages between them and the casing and separating wall, substantially as and for the purpose set forth.

865,404. GATE. ANDREW J. LAURENT, Indiana, Pa. Filed June 28, 1907. Serial No. 381,234.



1. In a swinging gate, of the character described, the combination of a main gate section comprising a plurality of horizontal bars having the outer ends thereof connected to an upright while the inner ends are received between vertical strips spaced by blocks fitted between the horizontal bars, the said blocks being of greater thickness than the bars, and an extension comprising horizontal bars sliding against the horizontal bars of the main section of the gate and received between the vertical strips of the main gate section, the outer extremities of the bars being connected to an upright while the inner extremities are received between a second pair of vertical strips separated by spacing blocks extending between the horizontal bars of both the main gate section and the extension.

2. In a gate of the character described, the combination, of a main section comprising a plurality of horizontal bars having their outer extremities fitted within a groove in an upright while their inner extremities are received between a pair of vertical strips separated by blocks fitting between the horizontal bars and of a greater thickness than the same, and an extension comprising a plurality of horizontal bars received between the vertical strips of the main gate section, the outer extremities of the said bars being fitted within a longitudinal groove in a second upright, while the inner extremities are received between a second pair of vertical strips separated by spacing blocks fitting between the horizontal bars of both the main gate section and the extension.

865,405. BOTTLE-STOPPER. PAUL H. A. LEDER, Baltimore, Md., and BERNARD F. SCHUBERT, Washington, D. C. Filed Nov. 1, 1905. Serial No. 285,445.

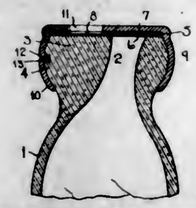


1. In combination with a bottle neck, a ring having an internal flange forming an opening of larger diameter than the mouth of the bottle, a grooved sealing member seated in the ring, a cap to receive the ring having a groove taking into the groove of the sealing member, and a bail mounted in the groove of the cap.

2. In combination with a bottle neck, a ring having an internal flange forming an opening of larger diameter than the mouth of the bottle, a flexible sealing member seated on said flange, a grooved rigid member seated on the flexible member, a cap to receive the ring having a groove taking into the groove of the rigid member and a bail mounted in the groove of the cap.

3. In combination with a bottle neck, a screw-threaded ring having an internal flange forming an opening of larger diameter than the mouth of the bottle, a flexible sealing member seated on said flange, a grooved rigid member seated on said flexible member, a screw-threaded cap having a groove taking into the groove of the rigid member and a bail mounted in the groove of the cap.

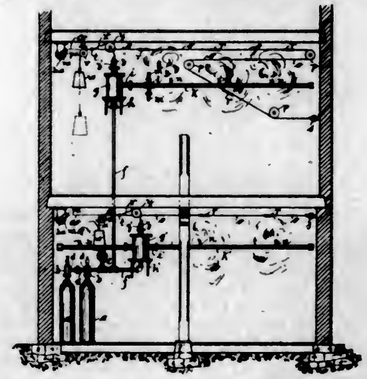
865,406. BOTTLE-STOPPER. MOSES LINKER, New York, N. Y. Filed Oct. 1, 1906. Serial No. 336,983.



1. A bottle having its discharge opening disposed eccentrically near one side of the neck, having a bead around the neck and curved in cross section, said bottle presenting a circular broadened flattened surface at its mouth, through which the discharge opening eccentrically extends, in combination with a cap having a flange extending around and engaging the bead, said cap having an opening to register with the discharge opening and being revoluble on the mouth of the bottle, and a washer between the cap and the mouth of the bottle and having an opening registering with that of the cap, said washer being revoluble with the cap on the broadened flattened mouth of the bottle.

2. A bottle having its discharge opening disposed eccentrically near one side of the neck, having a bead around the neck and curved in cross section, said bottle presenting a circular broadened flattened surface at its mouth, through which the discharge opening eccentrically extends, in combination with a cap having a flange extending around and engaging the bead, said cap having an opening to register with the discharge opening and being revoluble on the mouth of the bottle, and a washer between the cap and the mouth of the bottle and having an opening registering with that of the cap, said washer having a friction surface presented to the cap and an anti-friction surface presented to the broadened flattened mouth of the bottle.

865,407. AUTOMATIC FIRE-EXTINGUISHER. JACOB A. LOEB, HUGO D. LOEB, and JUSTUS C. GOOSMANN, Chicago, Ill. Filed Feb. 26, 1906. Serial No. 302,847.



1. In a fire extinguishing apparatus of the class specified, the combination, of a plurality of steel cylinders containing liquid carbonic acid or gas under pressure, with pressure reducing valves by means of which a predetermined low gas pressure can be obtained, a distributing pipe system, operating valves placed in each room, flexible disks in each operating valve, a weight attached to the said flexible disks whereby the latter are made to impinge against the wall of the housing of the said valves, and means to open the said operating valves as soon as a fixed predetermined temperature has been reached, for the purpose and substantially as described.

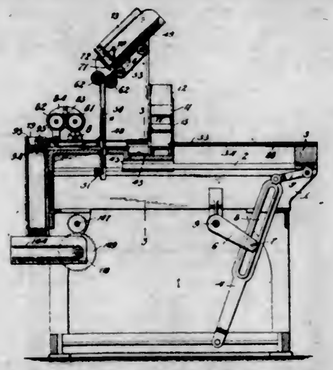
2. In a fire extinguishing apparatus of the class specified, the combination, of a plurality of steel cylinders containing liquid carbonic acid or gas under pressure, with a pressure reducing valve by means of which a predetermined low gas pressure can be obtained, a distributing pipe system, operating valves placed in each room, flexible disks in each operating valve, which, when compressed impinge against the wall of the housing of the said valves, means attached to the said valves for the purpose of compressing the said flexible disks, and means to open the said operating valves as soon as a fixed predetermined temperature has been reached for the purpose and substantially as described.

3. In a fire extinguishing apparatus, the combination of receptacles containing a fire extinguishing medium under pressure, pressure reducing valves, operating valves provided with flexible disks 11 and 12, which are compressed by weight 15 so that they are made to impinge against the wall of said operating valve, thereby preventing the leakage of the fire extinguishing medium through said valve, substantially as described.

4. In a fire extinguishing apparatus, the combination of receptacles containing a fire extinguishing medium un-

der pressure, pressure reducing valves, operating valves provided with flexible disks, means to compress said flexible disks whereby they are made to expand and impinge against the wall of said operating valve, thereby preventing the leakage of the fire extinguishing medium through said valve, substantially as described.

865,408. WRAPPING-MACHINE. PERFECTO F. LOPEZ and JOSE P. ZAMORA, Habana, Cuba, assignors to International Packing Machine Company, a Corporation of New York. Filed Dec. 7, 1906. Serial No. 346,814.



1. In a machine of the character specified, the combination with a hopper, of a plurality of receiving chambers of suitable width to admit articles singly, said chambers being in a plurality of groups and the chambers of each group having their bottoms in a plane different from the plane of the bottoms of the chambers in any other group, means for removing from each group of chambers the series of articles at the bottom thereof, and means for bringing the articles so removed together in a plurality of superposed layers.

2. In a machine of the character specified, the combination with a hopper, of a plurality of receiving chambers of suitable width to receive articles singly, said chambers being in a plurality of groups, means for removing the articles at the bottoms of all of said chambers, and means for assembling said articles in a plurality of superposed layers.

3. In a machine of the character specified, the combination with a hopper, of a plurality of receiving chambers of suitable width to admit articles singly, said chambers being arranged in groups and the chambers in each group having their bottoms in a plane different from the plane of the bottoms of the chambers in any other group, means for removing the articles at the bottoms of all the chambers and means for bringing the articles so removed together in a plurality of superposed layers and compressing the articles in said layers laterally.

4. In a machine of the character specified, the combination with a hopper, of a plurality of receiving chambers of suitable width to admit articles singly, said receiving chambers being in groups, means for removing the articles at the bottoms of the chambers in each group separately, and means for bringing the articles removed from the several groups of chambers together in a plurality of superposed layers, the number of layers corresponding to the number of groups of chambers.

5. In a machine of the character specified, the combination with a hopper, of a plurality of receiving chambers beneath the hopper, said chambers being arranged in groups, a packing chamber in front of each group of receiving chambers, means for forcing the articles at the bottoms of said receiving chambers into the packing chambers, and means for compressing the articles in the packing chambers and for bringing them together in a plurality of superposed layers.

6. In a machine of the character specified, the combination with a hopper, of a plurality of receiving chambers arranged in groups and adapted to receive articles from the hopper, a packing chamber in front of each group of receiving chambers, a packing member working in each packing chamber, and means for simultaneously operating said packing members to compress the articles in the packing chambers and bring them together in a plurality of superposed layers.

7. In a machine of the character specified, the combination with a hopper, of a plurality of receiving chambers arranged beneath the hopper in groups, packing chambers in front of said receiving chambers, means for removing articles from said receiving chambers to said packing chambers, packing members working in said packing chambers to bring said articles together in a plurality of superposed layers and compress the same laterally and means for removing articles from the packing chambers after each operation of the packing members and before the transfer of articles from the receiving chambers to the packing chambers.

8. In a machine of the character specified, the combination with a hopper, of a plurality of receiving chambers having their bottoms arranged in different horizontal planes packing chambers in front of said receiving chambers, fingers working in said receiving chambers to force the lowermost layers of articles therefrom and into the packing chambers, and a plunger extending forward beyond the fingers and movable therewith to remove articles from the packing chamber before the entry of the fingers into the receiving chambers.

9. In a machine of the character specified, the combination with a hopper and a plurality of receiving chambers adapted to receive articles from the hopper, said receiving chambers being arranged in two groups spaced apart, fingers working in said receiving chambers to force articles forward therefrom, a plunger working between said groups of receiving chambers and extending forward beyond the fingers, and means in front of said receiving chambers for forcing the articles discharged therefrom into the path of the plungers.

10. In a machine of the character specified, the combination with a hopper and a plurality of receiving chambers adapted to receive articles therefrom, said receiving chambers being arranged in groups which are spaced apart, a packing chamber in front of each group of receiving chambers, the inner ends of said packing chambers being superposed, plungers working between said groups of receiving chambers and passing through the overlapping portions of said packing chambers, means for forcing articles forward from the bottoms of said receiving chambers and into the packing chambers, and packers working in said packing chambers to force said articles laterally into the superposed portions of said chambers and into the path of the plungers.

11. In a machine of the character specified, the combination of a hopper and a plurality of receiving chambers, adapted to receive articles from the hopper, of packing chambers having packers working transversely thereof, means for forcing articles from the bottoms of said receiving chambers into said packing chambers, plungers working longitudinally of said packing chambers, and operating devices for said packers, whereby said packers are held in operative position during the forward movement of the plungers through the packing chambers.

12. In a machine of the character specified, the combination with a hopper, of a plurality of receiving chambers beneath the hopper of such width as to admit the articles singly, said receiving chambers being arranged in groups having their bottoms in different horizontal planes the hopper being longer than the entire series of receiving chambers, and a reciprocatory box or frame arranged between the hopper and the receiving chambers, said box or frame being open and having a limited movement, such that the walls of the box never overlie any of the receiving chambers.

13. In a machine of the character specified, the combination with a hopper having movable inclined walls which converge downwardly towards the bottom of the hopper, of a reciprocatory frame upon which said inclined walls are supported, and a plurality of receiving chambers formed into groups having their bottoms in different horizontal planes arranged beneath said frame and having a total length less than that of the frame.

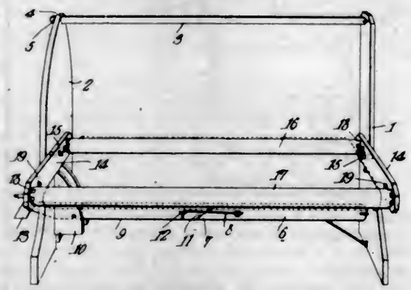
14. In a machine of the character specified, the combination with a hopper having fixed vertical walls and movable inclined walls, said inclined walls converging downwardly toward the bottom of the hopper, of a reciprocatory frame upon which said inclined walls are supported, and a plurality of receiving chambers arranged in separate groups below said frame and having a total length less than that of the frame.

15. In a machine of the character specified, the combination with a hopper, of a plurality of receiving chambers beneath the hopper, said receiving chambers being arranged in groups and having a plate extending between the tops of the adjacent chambers in the said groups, and a reciprocatory frame or box arranged between said hopper and said receiving chambers and having an arched member overlying said plate, the movement of said arch being such that it never projects beyond the edge of the plate.

16. In a machine of the character specified, the combination with mechanism for folding a wrapper about one or more articles and leaving a flap of the wrapper unsealed, of a discharge chute into which the partially formed package is delivered from the folding mechanism, means for applying paste to the exterior of the wrapper in position to secure an unsealed flap, and means for forcing the partially completed package outward in the discharge chute to a sufficient distance to partially fold the unsealed flap and leave the extremity thereof in the path of the next partially completed package to enter the discharge chute.

17. In a machine of the character specified, the combination with article-presenting mechanism and means for supplying a wrapper in the path of the articles presented, of a folding box through which the articles and wrapper are forced to fold the wrapper around the articles, said folding box being provided with spring fingers extending longitudinally thereof and carrying knobs or bosses directed towards each other and which engage the corner flaps of the wrapper to partially fold them as the wrapper and the articles inclosed thereby pass through the folding box.

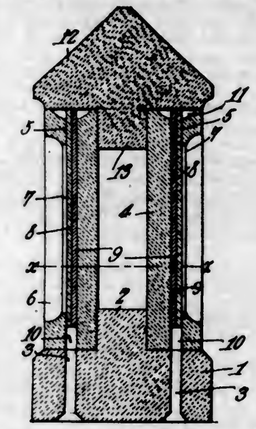
865,409. COMBINED QUILTING-FRAME AND IRONING-BOARD. MOSES M. LOWRY, Hodges, Tex. Filed Feb. 4, 1907. Serial No. 355,650.



1. A device of the character described comprising uprights, a cross-bar pivoted to one upright and engaging the other upright, a bar pivoted to one upright and having a chamfered end, a prop pivoted to the other upright and having a chamfered end, a means for connecting the last said bar and said prop together, detachable arms mounted upon the uprights and detachable rollers journaled between the said arms.

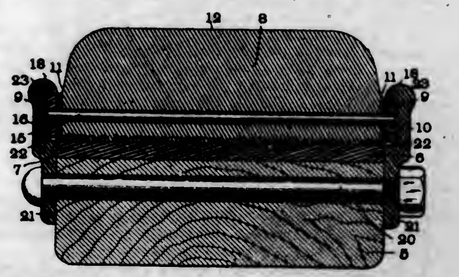
2. A device of the character described comprising uprights, one of which may be used as an ironing board, a bar pivoted to the upright, not intended for such use, and engaging the ironing board upright, a prop pivotally attached to the ironing board upright and projecting through the same and having a notch located beyond the outer sides of said uprights and being chamfered at its inner end, a bar pivoted to the other upright and having a chamfered end for abutment against the chamfered end of the prop, means for securing the last said bar and said prop together, detachable arms mounted upon the uprights and detachable rollers journaled between the said arms.

865,410. MONUMENT. PETER E. MAEL, Mount Horeb, Wis. Filed Mar. 2, 1907. Serial No. 360,189.



A monument comprising a base having drain apertures therethrough, a body mounted upon the base and having a pocket extending thereinto from the top thereof, said pocket having an open face and an opening extending downward from the bottom of the pocket and registering with a drain aperture in the base, a transparent plate removably mounted within the pocket and constituting a closure for the open face thereof, the upper end of said pocket being recessed at opposite sides of the plate to permit the insertion of fingers for the withdrawal of the plate, and a cap upon the body and closing the upper end of the pocket and the recess therein, said cap extending over the upper end of the plate.

865,411. CUSHION-TIRE WHEEL. CHARLES A. MARIEN, St. Louis, Mo. Filed Aug. 27, 1906. Serial No. 332,125.



1. The combination with the rim of a wheel, of a tire of resilient material seated on said rim, cross bars passing through said tire, annular members of rigid material engaging the ends of said bars, and retaining plates removably secured to said rim and locking said annular members against radial movement.

2. The combination with the rim of a wheel, of a tire of resilient material seated on said rim, cross bars passing through said tire, annular members of rigid material engaging the ends of said bars, and retaining plates remov-

ably secured to said rim and engaging the outer edges of said annular members.

3. The combination with the rim of a wheel, of a tire of resilient material seated on said rim, cross bars passing through said tire, annular members of rigid material engaging the ends of said bars and provided with beveled outer edges, and retaining plates removably secured to said rim and provided with beveled faces engaging with the beveled edges of said annular members.

4. The combination with the rim of a wheel, of a tire of resilient material seated on said rim and provided with vertical sides, cross bars passing through said tire, annular members of rigid material engaging the ends of said bars and bearing against the vertical sides of said tire, and retaining plates removably secured to said rim and provided with annular grooves receiving said annular members.

5. The combination with the rim of a wheel, of a tire of resilient material seated on said rim, cross bars passing through said tire, annular members of rigid material engaging the ends of said bars and provided with beveled outer edges, and retaining plates removably secured to said rim and provided with annular grooves receiving said annular members, the outer walls of said grooves being beveled to coöperate with the bevels on said annular members.

6. The combination with the rim of a wheel, of a tire of resilient material seated on said rim and provided with vertical sides, cross bars passing through said tire, annular members of rigid material engaging the ends of said bars and bearing against the vertical sides of said tire, the outer edges of said members being beveled, and retaining plates removably secured to said rim and provided with annular grooves receiving said annular members, the outer walls of said grooves being beveled to coöperate with the bevels on said annular members.

7. The combination with the rim of a wheel, of a tire of resilient material seated on said rim, cross bars passing through said tire, split metal rings engaging the ends of said bars, and means for drawing said rings toward the center of the wheel.

8. The combination with the rim of a wheel, of a tire of resilient material seated on said rim, cross bars passing through said tire, split metal rings engaging the ends of said bars and having their outer edges beveled, and retaining plates removably secured to said rim and provided with beveled faces coöperating with the bevels on said rings.

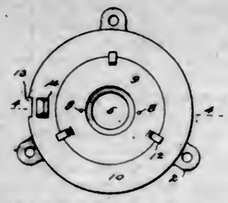
9. The combination with the rim of a wheel, of a tire of resilient material seated on said rim, cross bars passing through said tire, split metal rings engaging the ends of said bars and having their outer edges beveled, and retaining plates removably secured to said rim and provided with annular grooves receiving said rings, the outer walls of said grooves being beveled to coöperate with the bevels on said rings.

10. The combination with the rim of a wheel, of a tire of resilient material seated on said rim and of equal width therewith, cross bars passing through said tire, annular retaining plates secured to the sides of said rim and provided with annular recesses, and annular members of rigid material engaging the ends of said rods and seated in said recesses with their inner sides flush with the sides of said rim.

865,412. ATTACHMENT FOR ELECTRIC-MOTOR CONTROLLERS. ALBERT H. MATHEWSON, Thompsonville, Conn. Filed Mar. 28, 1907. Serial No. 364,964.

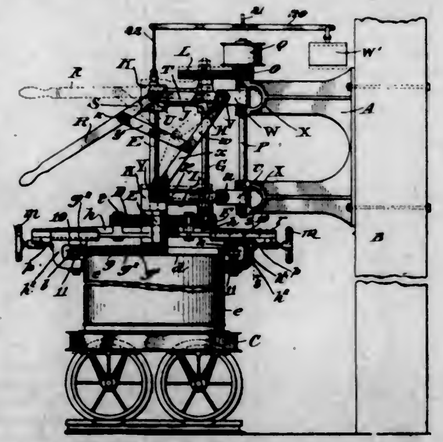
1. A controller attachment having a base with inclined pockets, balls located in the pockets, a finger adapted to be moved with the handle and arranged to be engaged with the balls when moved in one direction and pass the balls freely when moved in the opposite direction, said finger being shaped to permit the escape of a ball when the finger is stopped in the correct position, but to hold a ball when the finger is not stopped in the necessary position, substantially as specified.

2. A controller attachment having a base, inclined ribs extending inwardly and outwardly in the interior of the base with an annular channel between the edges of the ribs, balls located between the ribs and a finger movable in the annular channel and adapted to raise the balls when moved in one direction and to pass over the balls when moved in the opposite direction, said finger having an opening whereby the balls will be released if the finger in its movement is paused at the necessary positions, and means for causing the balls to roll down after having been released from the finger into the space between the ribs, substantially as specified.



3. A controller attachment having stationary pockets in the interior, a ball located in each pocket, a movable finger adapted to, in sequence, engage and cause each ball to be lifted in each pocket when moved in one direction and to pass the balls when moved in the opposite direction, and means whereby each ball escapes from the finger sidewise into its pocket, if the finger is paused at the proper position, substantially as specified.

865,413. DRUMHEADING-MACHINE. MAX MAURAN, Niagara Falls, N. Y. Filed Aug. 10, 1906. Serial No. 329,955.



1. In a drum-heading machine, the combination of a vertically immovable support or carriage for the drum a circular base, a rotary arm centrally pivoted to said base, an independently adjustable upsetting mechanism mounted on said arm, power-driven means for mechanically rotating said arm and upsetting mechanism, means for mechanically raising and lowering said circular base and arm and means for swinging said parts sidewise.

2. In a drum-heading machine, the combination of a vertically immovable support or carriage for the drum rotary means for upsetting the drum-head, power-driven means for mechanically operating said upsetting mechanism, means for raising and lowering said mechanism, and means for swinging said parts sidewise.

3. In a drum-heading machine, the combination of a vertically immovable support or carriage for the drum a circular base, a rotary arm centrally pivoted to said base, an independently adjustable upsetting mechanism mounted on said arm, the same comprising a slide moving in a right line, an adjusting screw therefor mounted on said arm and positively moving said slide in both directions, power-driven means for operating the rotary arm, means for mechanically raising and lowering said circular base and arm, and means for swinging said parts sidewise.

4. In a drum-heading machine, the combination of a vertically immovable support or carriage for the drum a circular base, which also constitutes a skeleton-head or center and is adapted to be carried and supported by the article to be headed, a rotary arm centrally pivoted to said base or false-head, an independently adjustable upsetting mechanism mounted on said arm, the same comprising a slide moving in a right line and an adjusting screw therefor mounted in said arm and positively moving said slide in both directions, power-driven means for operating said rotary arm, mechanical means for raising and lowering said circular base and arm, and means for swinging said parts sidewise.

5. In a drum-heading machine, the combination of a vertically immovable support or carriage for the drum rotary means for upsetting the drum-head, a counterbalance therefor, power-driven means for rotating said upsetting mechanism, mechanical means for raising and lowering said mechanism, and means for swinging said parts sidewise.

6. In a drum-heading machine, the combination of a vertically immovable support or carriage for the drum a circular base, a rotary arm centrally pivoted to said base, an independently adjustable upsetting mechanism mounted for movement upon said arm, adjusting means therefor mounted on said arm and positively moving the upsetting mechanism in both directions, power driven means for operating the rotary arm, means for mechanically raising and lowering said circular base and arm, and means for swinging said parts sidewise.

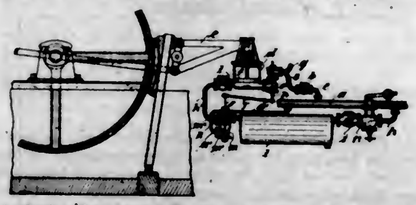
7. In a drum-heading machine, the combination of a vertically immovable support or carriage for the drum rotary mechanism for upsetting the drum-head, and means for raising and lowering said mechanism to permit a drum to be placed beneath the machine, and means for swinging said mechanism centrally over the drums to be headed.

8. In a drum heading machine, power driving means, a support, a swinging frame thereon carrying a rotatable upsetting mechanism, means for raising and lowering the frame, and driving connections between the upsetting mechanism and the power driving means.

9. In a drum heading machine, power driving means, a support, a swinging frame thereon carrying a rotatable upsetting mechanism, means for raising and lowering the frame comprising a toggle mechanism and driving connections between the upsetting mechanism and the power driving means.

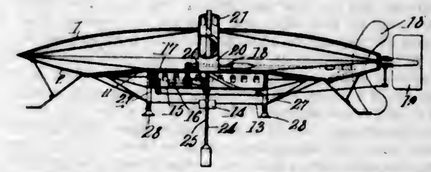
10. In a drum heading machine power driving means, a support, a swinging frame thereon carrying a rotatable upsetting mechanism, means for raising and lowering the frame and gearing carried thereby and connecting the upsetting mechanism with the power driving means.

865,414. STEAM-BRAKE. WALDEMAR MAUVE, Sosnowice, Russia. Filed May 17, 1907. Serial No. 374,195.



A device for automatically preventing the release of steam-brakes, in the case of accidental interruption of steam-pressure comprising in combination a main steam pipe, a piston cylinder an auxiliary conduit connected to the main steam pipe and piston cylinder, a steam drum in said auxiliary conduit, means for supplying said drum with steam at a lower pressure than the steam in the steam pipe, a double coned valve normally cutting off from said drum communication with the cylinder controlled by the steam in the main pipe and adapted to be operated by the pressure in the steam drum when the pressure in the main pipe is discontinued, so that said valve when so operated interrupts communication between the steam-drum and main pipe and opens communication between the drum and the cylinder and a lever actuated by said double coned valve to close a valve controlling the steam discharge pipe, so that the steam flowing from the auxiliary conduit into the cylinder actuates the brake operating piston.

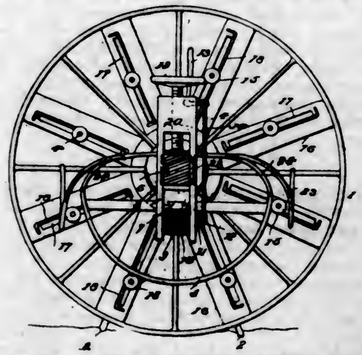
865,415. AIR-SHIP. WLADYSLAW S. MIELCAREK, St. Louis, Mo. Filed Apr. 5, 1907. Serial No. 366,614.



1. In an air ship, a gas field comprising a gas tank having concavo-convex top and bottom sections placed edge to edge with the convex faces outermost, the bottom having a dished central concavity that tapers gradually toward the convex surface at both ends and sides, and a car arranged within said concavity.

2. An air ship comprising a casing forming a gas tank, a car supported centrally of the casing, a tower rising from the car, a vertically movable mast passing through the car and tower, and means for raising said mast.

865,416. TRACTION-WHEEL. ISAIAH MITCHELL, Bell City, La. Filed Oct. 15, 1906. Serial No. 339,055.



1. The combination with a traction wheel provided with movable cogs, of a track for moving said cogs, a support for said track, means for moving the track vertically for regulating the distance of projection of the cogs beyond the tread surface of the wheel, means for moving said track laterally into and out of operative relation with the cogs, and a stationary track adapted to retract said cogs.

2. In combination with a traction wheel provided with movable cogs, a track coöperating therewith, means for vertically adjusting said track, and other means for moving the track laterally into or out of the path of the cogs and the operating projections thereof.

3. In combination, a traction wheel provided with movable cogs, a track for coöperation with said cogs to effect operation thereof, a rack bar extended from said track, a

toothed operating element in mesh with the teeth of the rack bar, and an operating lever having connection with said toothed element to admit of throwing the rack bar into and out of operative position.

4. In combination, a traction wheel provided with movable cogs, a fixed retracting track for withdrawing said cogs, a projecting track for throwing said cogs into operative position, a vertically adjustable frame having the projecting track connected therewith to admit of varying the distance of projection of the cogs beyond the tread surfaces, and other means coöperating with the projecting track and vertically adjustable frame to throw the projecting track into and out of the path of the aforesaid cogs or operating projections thereof.

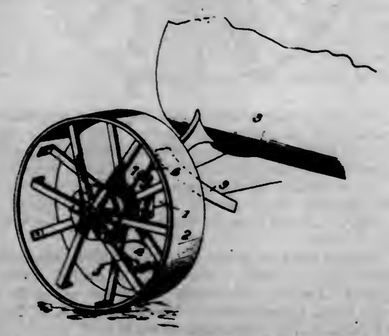
5. In combination, a traction wheel provided with guides, cogs mounted in said guides, means for moving said cogs into or out of operative position, slotted plates, arms projected from the respective cogs and passed through the slots of said plates, and springs arranged at one side of said slots and exerting a pressure upon the arms of the cogs to hold the latter in a given position.

6. The combination with a traction wheel provided with movable cogs and an axle on which said wheel is journaled, of a track adapted to project said cogs, a support for said track movable longitudinally of the axle whereby to carry the track into and out of operative relation to the cogs, and means for raising or lowering said support on the axle whereby to vary the distance of projection of said cogs beyond the tread surface of the wheel.

7. The combination with a traction wheel provided with movable cogs and an axle on which said wheel is journaled, of a projecting track, a rack bar to which said track is connected, a support mounted upon the axle and carrying a toothed wheel meshing with said rack, means for revolving said wheel whereby to carry the track into and out of operative relation to the cogs, a nut carried by said support, and an adjustable screw working in said nut and adapted to work against a bearing on the axle whereby to raise or lower the support, as and for the purpose set forth.

8. In combination with a traction wheel provided with movable cogs and an axle on which said wheel is journaled, a track adapted to project said cogs, a rack to which said track is connected, a support for said rack, said support being provided with a gear wheel meshing in said rack, means for operating said gear wheel, the support being forked and embracing the axle and slidably mounted thereon in a vertical direction, and a screw working in said support and adapted to also work against a bearing on the axle whereby to raise and lower the support.

865,417. ANTISLIPPING DEVICE FOR TRACTION-ENGINES. ISAIAH N. MITCHELL, Bell City, La. Filed July 13, 1906. Serial No. 326,073.



1. In combination with the steering wheel of a road machine, a retarder or anti-slipping device coöperating therewith, supporting means for said retarder, and an inclined track to effect depression of the retarder upon moving the steering wheel from a direct course.

2. In combination, a steering wheel, a retarder or anti-slipping device coöperating therewith, a stem having the retarder connected therewith, a spring normally supporting the retarder in a given position, and an inclined track adapted to effect depression of the retarder and the change or deflection of the steering wheel from a direct line.

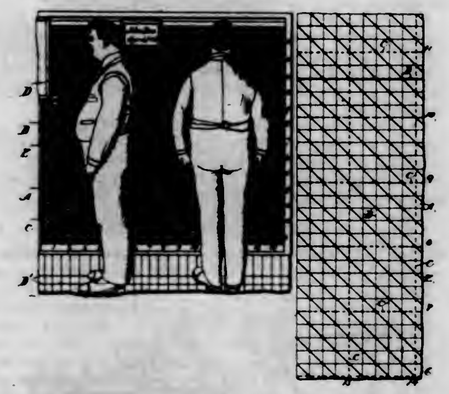
3. In combination, a steering wheel, a disk retarder, a stem having the retarder connected therewith, a spring normally holding the retarder in a given position, a stop adjustable with reference to the spring and stem to fix the normal position of the retarder, a roller carried by said stem, and an inclined track to effect depression of the retarder upon changing or moving the steering wheel from a direct line.

4. In combination with a steering wheel of a road machine, a retarder or anti-slipping device coöperating therewith and spring pressed upwardly, and stationary means against which a portion of the anti-slipping device is adapted to engage when the steering wheel turns, so as to depress the said device.

5. The combination with the steering wheel of a road machine, of a retarder or anti-slipping device coöperating therewith, a stem carrying said retarder, a support in which said stem is slidingly mounted to move in a longitudinal direction, the upper end of the stem protruding through the support, a spring incased in said support and connected to said stem to move same upwardly, and means engaging the upper end of the stem upon a turn of the wheel to the right or left and adapted to move said stem downwardly.

6. The combination with a steering wheel of a road machine of a retarder in the form of a disk, a stem adapted to carry said disk, a box in which said stem is longitudinally slidable, said stem being provided with a stop and projecting beyond the stop through the upper end of the box, a spring in said box and bearing against said stop, and an inclined track adapted to be engaged by the upper end of the stem upon a turn of the steering wheel to the right or left, as and for the purpose set forth.

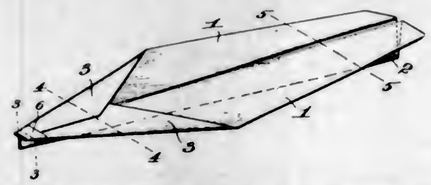
865,418. BACKGROUND FOR PHOTOGRAPHIC MEASUREMENTS. GERHARD MOE, Ladysmith, Wis. Filed Apr. 10, 1905. Serial No. 254,786.



1. The combination with a graduated back ground for securing photographic outline measurements for tailoring purposes having upon its surface a series of intersecting lines disposed at predetermined distances apart and having indicating characters thereon, of a support in advance of said background provided with a positioning indication spaced at a predetermined distance from the background.

2. The combination with a background for securing photographic outline measurements having upon its surface a series of intersecting lines provided with indicating characters and a distinguishing horizontal line, and a camera having its lens disposed at the elevation of the horizontal line, of a positioning indication disposed upon a support in advance of said background and at a predetermined distance from the background and said camera.

865,419. AEROPLANE. DENNIS L. MOORHEAD, St. Louis, Mo. Filed Nov. 30, 1906. Serial No. 345,646.



1. The herein described aeroplane, consisting of wings, having their front portions folded so as to produce a tapered end, which tapered end lies wholly forward of the longitudinal center of the aeroplane; and a centrally located rib; substantially as specified.

2. The herein described aeroplane, consisting of wings, having their front portions folded so as to produce a tapered end, a centrally located rib, and a reinforcing device located in said rib; substantially as specified.

3. The herein described aeroplane, consisting of wings, having their front portions folded so as to produce a tapered end, a centrally located rib, a reinforcing device located in said rib, and a nose piece; substantially as specified.

4. The herein described aeroplane, consisting of wings, having their front ends folded so as to produce a tapered end, and the corners of the rear ends bent, a centrally located rib, a reinforcing device located in said rib, and a nose piece; substantially as specified.

5. The herein described aeroplane, consisting of wings, having their front ends folded so as to produce a tapered end, and the corners of the rear ends bent, a centrally located rib having its rear end bent, a reinforcing device located in said rib, and a nose piece; substantially as specified.

6. The herein described aeroplane, consisting of horizontally disposed wings which gradually taper in width toward their rear ends, the forward ends of which wings are folded so as to produce a triangular front portion which lies wholly in advance of the longitudinal center of the aeroplane, and a vertically disposed rib extending longitudinally the entire length of the aeroplane on the under side thereof.

865,420. JOLLY BALANCE. WILLIAM A. MOORE and JESSE C. MOORE, Indianapolis, Ind., assignors to The Columbia School Supply Company, Indianapolis, Ind., a Corporation of Indiana. Filed Oct. 26, 1905. Serial No. 284,565.

1. In a Jolly balance, a frame, a spiral spring means for adjustably suspending said spring by its upper end, a downwardly projecting finger at the lower end of said spiral spring, and a visible horizontal fixed stop plate that projects under said spring and finger.

2. In a Jolly balance, a frame, a spiral spring means for adjustably suspending said spring by its upper end, a downwardly projecting finger secured to the lower end of said spring, a visible horizontal fixed stop plate that projects under said spring and finger, and means for guiding the vertical movement of said finger.

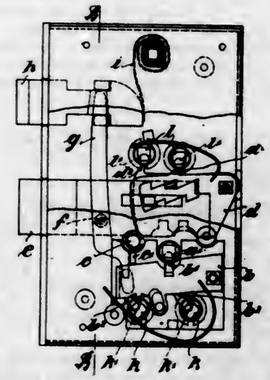
3. In a Jolly balance, a frame, a spiral spring suspended by its upper end, a downwardly projecting finger at the lower end of said spring, a horizontal stop plate that projects under said spring and finger, and a horizontally disposed guide-ring through which said finger may move and be guided.

4. In a Jolly balance, a frame, a spiral spring suspended by its upper end, a stirrup suspended from the lower end of the spring with a finger extending downward centrally in said stirrup, a plate secured to the frame and projecting



horizontally through said stirrup, and a ring stationary above said plate within said stirrup, said plate and ring permitting the free movement of said stirrup and finger within limits.

865,421. LOCK. PAUL MÜLLER, Breslau, Germany. Filed Apr. 6, 1907. Serial No. 366,766.

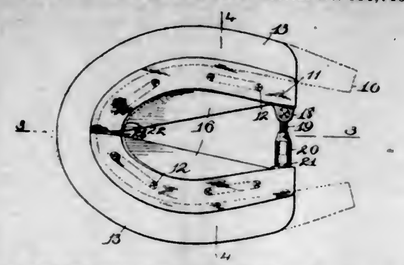


1. In a lock the combination of a lock case, a dead bolt, tumblers therefor, a rotatable main key inclosed in the lock case and retained thereby adapted on revolution to operate the dead bolt, further tumblers for engaging said main key and locking it against revolution, and means permitting a removable auxiliary key to retract said further tumblers.

2. In a lock the combination of a lock case, a dead bolt, tumblers therefor, a rotatable main key inclosed in the lock case and retained thereby adapted on revolution to operate the dead bolt, further tumblers for engaging said main key and locking it against revolution, means permitting a removable auxiliary key to retract said further tumblers, a lever pivoted to the dead bolt and a latch adapted to be operated by movement of said lever when within the circle described by the main key bit.

3. In a lock the combination of a lock case, a dead bolt, tumblers therefor, a rotatable main key inclosed in the lock case and retained thereby adapted on revolution to operate the dead bolt, further tumblers for engaging said main key and locking it against revolution, means permitting a removable auxiliary key to retract said further tumblers and rotatable recessed pins operating to prevent disengagement movement of the tumblers.

865,422. HORSESHOE-PAD. JEROME B. MCARDLE, West Orange, N. J. Filed Jan. 4, 1907. Serial No. 350,746.

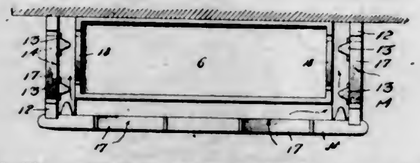


1. A pad for horseshoes, comprising a pad portion to fit the bottom and inside edge of a horse-shoe, a metallic plate secured on each side to the top of the pad member, staples projecting from the metallic plates and secured to the pad by being embedded therein, and a tension device on the ends of the pad to force the ends apart.

2. A pad for horseshoes, comprising a pad portion arranged to fit the bottom and inside edge of a horse-shoe, a metallic plate secured to the top edge on each side of the pad, staples secured to the plate and embedded in the pad, the pad having a V-shaped recess projecting longitudinally from its back end, and a tension device at the mouth of the recess to force the ends of the pad apart.

3. A pad for horseshoes, comprising a pad portion, a metallic plate arranged on the top of the pad on each side thereof to bear partly on the top edge of a horse-shoe, staples secured to the plates, the staples being embedded in the pad, the pad portion engaging the inside edge and the bottom of the horse-shoe, the tread of the pad being cut away at its forward end, and a tension device between the ends of the metallic plates to force them apart.

865,423. FLUSHING-TANK. WILLIAM MCCORMICK and HARRY BARNES, Cleveland, Ohio. Filed Nov. 17, 1906. Serial No. 343,892.



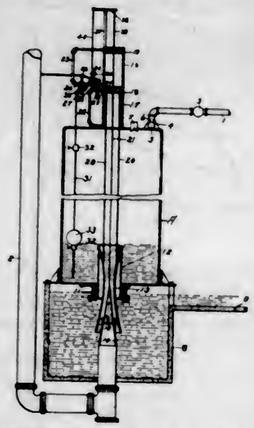
1. The combination of a tank having flanges projecting from the side walls thereof and provided with holes, and an outer casing extending around and spaced from the tank and having brackets with inwardly projecting hooked lugs engaging in the holes.

2. The combination of a tank, plates secured to the ends thereof having flanges at the top, bottom and rear edges, and an outer casing extending around and spaced from the tank and having brackets with inwardly projecting lugs resting on the top and bottom flanges.

865,424. AIR-COMPRESSOR. GEORGE C. MCFARLANE, Bay City, Mich. Filed Mar. 28, 1906. Serial No. 308,609.

1. A hydraulic air compressor comprising a stationary chamber, means for admitting air thereto, means for conveying compressed air therefrom, a single means for admitting liquid under pressure into the chamber and for subsequently permitting the evacuation of the liquid therefrom by gravity, and means for increasing the pressure of the liquid entering the chamber as the chamber is filling.

2. A hydraulic air compressor comprising a chamber, means for admitting air thereto, means for conveying compressed air therefrom, a single means for admitting a liquid under pressure to the chamber and for subsequently permitting the discharge of the liquid therefrom by gravity, means for controlling the liquid under pressure, a motor connected with said last named means, and means actuated by the level of liquid within the chamber for causing the actuation of the motor.



3. An air compressor comprising a chamber into which air and liquid are alternately admitted, means for conveying the compressed air from the chamber, means controlling the admission of "live" liquid to the chamber, and a movable hollow member, the movement of which is controlled by the level of liquid in the chamber, for draining the chamber of liquid.

4. An air compressor comprising a chamber into which air and liquid are alternately admitted, means for conveying the compressed air from the chamber, means controlling the admission of "live" liquid to the chamber, and a sliding hollow member, the movement of which is controlled by the level of liquid within the chamber, the member alternately admitting liquid to the chamber and draining the liquid from the chamber by gravity.

5. An air compressor comprising a chamber, into which air and liquid are alternately admitted, means for conveying the compressed air from the chamber, means controlling the admission of "live" liquid to the chamber, a movable hollow member, a motor connected therewith, and means controlled by the level of liquid within the chamber for causing the actuation of the motor to raise or lower the member.

6. An air compressor comprising a chamber, means for admitting air thereto and for conveying compressed air therefrom, a conduit for conveying liquid under pressure to the chamber, a liquid-filled reservoir in which the discharge end of the conduit is submerged, a sliding hollow member in communication with the chamber and with the discharge end of the conduit, the lower end of the member being submerged beneath the level of the liquid in the reservoir and being of larger diameter than the discharge end of the conduit and means for raising and lowering the member.

7. An air compressor comprising a chamber, means for admitting air thereto and for leading compressed air therefrom, a single means for admitting liquid under pressure to the chamber, and for permitting its discharge therefrom by gravity, a conduit for discharging liquid under pressure through said last named means into the chamber, a plug for said conduit, a motor connected with the plug and means controlled by the level of the liquid within the chamber for causing a gradual opening and a swift closing of the conduit.

8. An air compressor comprising a chamber, means for supplying air thereto, a conduit for supplying liquid thereto under pressure, a plug for regulating the stream of liquid issuing from the conduit, a motor to which the plug is connected, a valve for controlling the actuation of the motor, a valve rod received in the chamber and adapted to operate the valve, and a float controlled by the level of the liquid in the chamber and adapted to actuate the rod.

9. An air compressor comprising a chamber, means for supplying air thereto, a conduit for supplying liquid to the chamber, a plug for controlling the issuance of liquid from the conduit, a cylinder, a piston therein, means connecting the plug and piston, means for conducting power to one side or the other of the piston, a valve controlling the direction of application of the power, a valve rod connected to the valve, and depending into the chamber, adjustable tappets on the rod and a float adapted to alternately engage the tappets to oscillate the valve and move the plug to open or closed position relative to the conduit.

10. An air compressor comprising a chamber, means for furnishing air thereto, a conduit for supplying liquid under pressure to the chamber, an injector communicating with the chamber, and surrounding the open end of the conduit, a reservoir into which the injector depends, and a cutoff for controlling the issuance of liquid from the conduit.

11. An air compressor comprising a chamber, means for supplying air thereto, a liquid holding reservoir beneath the chamber, an injector communicating with the chamber and depending into the reservoir and means for causing a supply of water from the reservoir to enter the chamber through the injector.

12. An air compressor comprising a chamber, a liquid holding reservoir, an injector communicating with the reservoir and depending beneath the level of liquid in the reservoir, and means for discharging a liquid under pressure into the injector.

13. An air compressor comprising a chamber, a liquid holding reservoir adjacent thereto, a movable injector communicating with the chamber, and depending beneath the level of the liquid in the reservoir, a nozzle received within the lower end of the injector and adapted to discharge a stream of liquid under pressure thereinto, and means for controlling the stream of liquid discharged from the nozzle.

14. An air compressor comprising a chamber, a liquid holding reservoir, an injector communicating with the chamber, and depending beneath the level of the liquid in the reservoir, means for causing the passage of the liquid in the reservoir through the injector into the chamber, and means for moving the injector to retain its depending position beneath the level of the liquid in the reservoir as such level decreases.

15. An air compressor comprising a chamber, means for supplying air thereto, a liquid holding reservoir, an injector, one end of which remains in communication with the chamber, the opposite end of the injector depending below the level of liquid in the reservoir, a nozzle for discharging liquid under pressure into the lower end of the injector and means for gradually lowering the end of the injector with the decreasing level of liquid in the reservoir, the injector at one limit of its movement adapted to cut off communication between the reservoir and the interior of the chamber.

16. An air compressor comprising a chamber, means for supplying air thereto, a liquid holding reservoir, an injector, one end of which remains in communication with the chamber, the opposite end of the injector depending below the level of liquid in the reservoir, a nozzle for discharging liquid under pressure into the lower end of the injector, means for gradually lowering the lower end of the injector with the decreasing level of liquid in the reservoir, and means for gradually increasing the stream of liquid issuing from the nozzle.

17. An air compressor comprising an air chamber, having an aperture at its lower end, an injector slidingly received in the aperture, a reservoir beneath the chamber, the lower end of the injector depending into the reservoir below the level of the liquid therein, means for drawing the liquid through the injector from the reservoir into the chamber to partially fill the chamber and decrease the level of liquid in the reservoir, and means for moving the injector downward to retain its lower end beneath the level of liquid in the reservoir as the latter decreases.

18. An air compressor comprising an air chamber, having an aperture at its lower end, an injector slidingly received in the aperture, a reservoir beneath the chamber, the lower end of the injector depending into the reservoir below the level of the liquid therein, means for drawing the liquid through the injector from the reservoir into the chamber to partially fill the chamber and decrease the level of liquid in the reservoir and means for moving the injector downward to retain its lower end beneath the level of liquid in the reservoir as the latter decreases.

19. An air compressor comprising an air chamber, having an aperture at its lower end, an injector slidingly received in the aperture, a reservoir beneath the chamber, the lower end of the injector depending into the reservoir below the level of the liquid therein, means for drawing the liquid through the injector from the reservoir into the chamber to partially fill the chamber and decrease the level of liquid in the reservoir and means for moving the injector downward to retain its lower end beneath the level of liquid in the reservoir as the latter decreases, and for raising the injector to permit the liquid within the chamber to drain therethrough back to the reservoir to fill the latter.

20. An air compressor comprising a chamber, means for supplying air thereto, a reservoir, a movable injector communicating with the chamber, the lower end of the injector depending below the level of liquid in the reservoir, a nozzle for supplying liquid under pressure to the injector and chamber, whereby to draw a large portion of liquid from the reservoir into the chamber, means for moving the injector to retain its lower end beneath the constantly decreasing level of liquid in the reservoir and means for simultaneously causing an increasing volume of liquid to issue from the nozzle.

21. The combination, in an air compressor, of a liquid-holding reservoir, a chamber, a means for supplying liquid under pressure to the chamber and means into which the liquid under pressure is discharged for causing said liquid under pressure to draw therewith the liquid in the reservoir.

22. An air compressor comprising a liquid-receiving chamber, a reservoir containing a body of liquid, a conduit member communicating with the reservoir and with the chamber respectively to form a combined inlet and outlet for the chamber, the liquid in the reservoir having free access to the conduit member, and means for discharging fluid under pressure to the conduit member so as to cause the liquid in the reservoir to be drawn into the chamber with the fluid under pressure.

23. An air compressor comprising a compression chamber, having a combined inlet and outlet opening for liquid, a reservoir open to the atmosphere and constituting a receptacle for a body of idle liquid, means discharging a jet of fluid under pressure into the combined inlet and outlet opening of the compression chamber, means for intermittently cutting off the jet of fluid to allow the liquid in the compression chamber to drain back through the combined inlet and outlet opening into the reservoir, the liquid in the reservoir having access to the fluid jet, whereby it is carried therewith into the compression chamber, and means actuated by the escape of the liquid from the chamber to admit air to the chamber.

24. An air compressor comprising a chamber, a reservoir, an injector communicating with the chamber, the injector comprising a sleeve, and a tube flared at both ends, the lower end of the tube depending beneath the level of the liquid in the reservoir and means discharging into the injector for causing the liquid in the reservoir to travel through the injector into the chamber.

25. An air compressor comprising a compressing chamber, a reservoir, a sliding injector communicating with the chamber, the lower end of the injector depending beneath the level of liquid in the reservoir, a discharge pipe emptying into the lower end of the injector, a cutoff controlling the amount of liquid discharged into the injector, and means for simultaneously moving the injector to retain its lower end beneath the level of the liquid in the reservoir and for gradually increasing the discharge from the pipe.

26. An air compressor comprising a compression chamber, a liquid holding reservoir, a combined inlet and outlet member for the chamber, the liquid in the reservoir having free access to the member, and means for intermittently supplying fluid under pressure to the compression chamber through the member to induce a flow of idle liquid from the reservoir into the chamber with said fluid under pressure.

27. An air compressor comprising a compressing chamber, means for supplying a stream of liquid under pressure thereto, means for inducing the flow of idle liquid with said stream, and means for increasing the stream as the supply of idle liquid diminishes.

28. An air compressor comprising a compressing chamber, means for supplying a stream of liquid under pressure thereto, means for inducing the flow of idle liquid with said stream, and means for increasing the stream of liquid under pressure and decreasing the amount of accompanying idle liquid as the pressure within the chamber increases.

29. An air compressor comprising a compression chamber, a reservoir for idle liquid, an injector communicating with the chamber, the lower end of the injector depending beneath the level of liquid in the reservoir, a supply pipe adapted to discharge a stream of fluid under pressure into the lower end of the injector, a cutoff for regulating the size of the stream of fluid, means for simultaneously and non-synchronously moving the injector to maintain its lower end beneath the decreasing level of idle liquid and for gradually increasing the volume of the stream of liquid discharged into the injector, as well as to cut off the stream of water and raise the injector.

30. An air compressor comprising a compressing chamber, a reservoir, an injector communicating with the chamber, the lower end of the injector submerged beneath the level of liquid in the reservoir and a nozzle projecting into the lower end of the injector and adapted to discharge a stream of liquid under pressure thereinto.

31. An air compressor comprising a compressing chamber, a reservoir, an injector communicating with the chamber, the lower end of the injector submerged beneath the level of liquid in the reservoir and a nozzle projecting into the lower end of the injector and adapted to discharge a stream of liquid under pressure thereinto, a cutoff for regulating the stream of liquid from the nozzle, a pair of motors, means connecting the cutoff and the injector to the respective motors, valves for admitting motive power to the motors, means connecting the valves, means affected by the height of water in the compressing chamber for actuating the valves simultaneously to cause a movement of the injector and cutoff, and for operating a single valve to cause the actuation of the cutoff to stop the flow of liquid from the nozzle, and means actuated by the cutoff motor to operate the valve of the injector motor to raise the injector.

32. An air compressor comprising a compression chamber, a reservoir, an injector communicating with the chamber, the lower end of the injector depending beneath the liquid level in the reservoir, a nozzle discharging into the injector, a cutoff controlling the volume of discharge, motors to which the cutoff and injector are respectively connected, valves for admitting power to one side or the other of the motors, a slotted bar connected to one of the valves, a kicker rod adapted to be engaged by the cutoff motor as it approaches one limit of movement, a lever to which the kicker rod is connected, a thrust rod operated by the lever and connected to the injector motor valve, through the slot in the bar and means actuated by the height of liquid in the compressing chamber for operating both valves simultaneously to admit liquid to the chamber or to operate the valve for the cutoff motor to stop the discharge from the nozzle.

33. An air compressor comprising a compressing chamber, a reservoir, an injector communicating with the chamber, the lower end of the injector depending beneath the liquid level in the reservoir, a nozzle discharging into the injector, a cutoff controlling the discharge, and automatic means for simultaneously and non-synchronously operating the cutoff and injector to admit liquid to the chamber and for successively operating the cutoff and injector to stop the discharge from the nozzle and permit the liquid in the chamber to escape.

34. An air compressor comprising an air chamber, a movable hollow member for admitting liquid under pressure thereto, means for supplying liquid under pressure to the hollow member, and a liquid holding reservoir with which the member communicates, the hollow member permitting the liquid in the chamber to drain out by gravity into the reservoir subsequent to the compression of a charge.

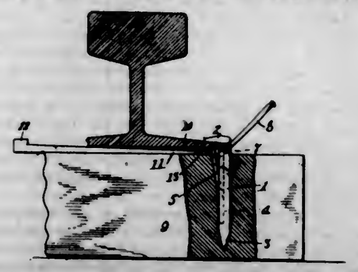
35. An air compressor comprising a chamber, means for admitting air thereto and for conveying compressed air therefrom, a conduit for conveying liquid under pressure to the chamber, a liquid-filled reservoir in which the discharge end of the conduit is submerged, a sliding hollow member in communication with the chamber and with the discharge end of the conduit respectively, the lower end of the member being submerged beneath the level of the liquid in the reservoir and being of larger diameter than the discharge end of the conduit, a plug for controlling the emission of liquid from the conduit, and means set in motion by the level of the liquid in the chamber for gradually lowering the member around the discharge end of the conduit to restrict the amount of idle liquid drawn thereinto and for actuating the plug to gradually increase the amount of live liquid discharged from the conduit as the chamber is filling and to swiftly close the discharge end of the conduit when the chamber is filled.

36. An air compressor comprising a compressing chamber, a liquid-holding reservoir, a movable injector communicating with the chamber and with the liquid in the reservoir, a conduit discharging liquid under pressure into the injector, a cut-off controlling said discharge and automatic means for operating the cut-off to cause a gradually increasing discharge from the conduit, and for successively actuating the cut-off and injector to swiftly stop the discharge from the conduit and permit the liquid in the chamber to escape into the reservoir to replenish the latter.

37. An air compressor comprising a chamber, a liquid holding reservoir, means for conveying a liquid under pressure into the chamber and for drawing the liquid in the reservoir into the chamber and for permitting the liquid in the chamber to replenish the reservoir.

38. An air compressor comprising a compression chamber, a liquid-holding reservoir constituting a receptacle for an inert body of liquid and a single means operating as a combined inlet and outlet for the chamber, adapted to receive intermittently a fluid under pressure for drawing the inert liquid from the reservoir directly into the chamber, the inert liquid having free access to the combined inlet and outlet means.

865,425. SPIKE. JOHN MCNEIL, Reserve Mines, Nova Scotia, Canada. Filed June 3, 1907. Serial No. 376,982.



1. A railroad spike comprising a body, a tongue having one end secured to the body, and means permitting the tongue being bent away from the body at one of its ends.

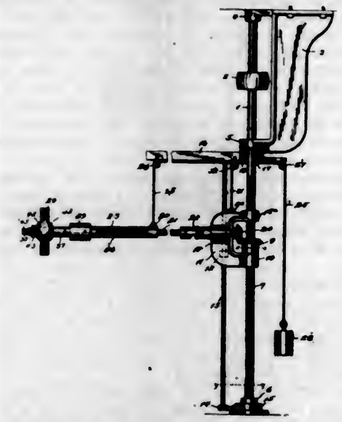
2. A railroad spike comprising a body provided with a slot, a tongue having one end secured to the body and being arranged in the slot, and means permitting the insertion of an instrument for forcing the opposite end of the tongue away from the body and out of the slot.

3. A spike comprising a body, a tongue secured on one side of the body and having one end free, and an opening through the body adjacent the free end of the tongue.

4. A spike comprising a body, a tongue having one end secured to the body and having a free end, and said body being provided with an opening therethrough arranged at an angle to its axis and extending to a point adjacent the free end of the tongue.

5. A spike comprising a body having a longitudinal slot in its rear side, a tongue disposed in the slot and having its lower end secured to the body, and said body being provided with an opening intersecting said slot at its upper end.

865,426. GRINDING APPARATUS. GEORGE E. NORRIS and GEORGE R. SHOEMAKER, Columbus, Ohio, assignors to Columbus Aseptic Furniture Company, Columbus, Ohio, a Firm. Filed May 26, 1906. Serial No. 318,969.

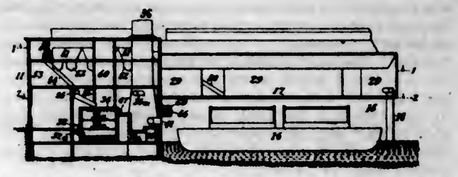


1. In a device of the character described, a drive shaft, a yoke movably supported upon the drive shaft, and a grinding wheel universally supported from the yoke and driven by the drive shaft, in combination with a support swingingly mounted about the drive shaft, counterbalancing means suspended from the support for holding the grinding wheel in position, counterbalancing means suspended from the support and connected to the yoke for holding the same in position, and means for causing the yoke and the support to swing in unison.

2. In a device of the character described, the combination with a drive shaft having a key-way, of a pinion having a projection engaging in the key-way longitudinally movable upon the shaft, a vertically and horizontally movable yoke loosely engaging the shaft, counterbalancing means for holding the yoke in vertical position, a gear rotatably supported from the yoke engaging with the pinion, a driven shaft universally connected with the gear, a sleeve longitudinally movable upon the driven shaft, a grinding wheel connected to the sleeve and the driven shaft, and counterbalancing means connected to the sleeve for supporting the grinding wheel in position.

3. In a device of the character described, the combination with a vertical drive shaft, of a driven shaft, a support for the driven shaft which is slidably disposed upon the vertical drive shaft, connections between the drive shaft and the driven shaft, a horizontal sleeve, a shaft journaled in said sleeve, a grinding wheel secured to said shaft, a universal connection between the last named shaft and the driven shaft, a flexible member secured to the support which is slidably disposed upon the drive shaft, a supporting pulley over which said flexible member passes, a counter weight carried by said flexible member, a second flexible member connected to the horizontal sleeve, a supporting pulley over which said second flexible member passes and a counter-weight connected to said second flexible member.

865,427. SYSTEM OF REFUSE DISPOSAL. ARTHUR N. PIERSON, Westfield, N. J. Filed Jan. 21, 1907. Serial No. 353,173.



1. In a system of refuse disposal, the combination of an inclosed garbage scow-berth, an exhauster, a furnace, and an exhaust conduit leading from the berth and controlled by the exhauster and entering the furnace in advance of the seat of combustion therein.

2. In a system of refuse disposal, the combination of a garbage scow-berth, an exhauster, a furnace, an exhaust conduit leading from the berth and controlled by the exhauster and entering the furnace in advance of the seat of combustion therein, a draft-conduit from the furnace, a by-pass leading from the exhaust conduit to the draft-conduit, and means for closing the exhaust conduit or by-pass.

3. In a system of refuse disposal, the combination of a garbage scow-berth, an exhauster, a refuse-consuming furnace, an exhaust conduit leading from the berth and controlled by the exhauster and entering the furnace in advance of the seat of combustion therein, a draft-conduit from the furnace, a by-pass leading from the exhaust-conduit to the draft-conduit, the draft-conduit having a fire-bed therein, and means for closing the exhaust conduit or by-pass.

4. In a system of refuse disposal, the combination of an inclosed ash scow-berth, an exhauster, a depositing chamber, an exhaust conduit leading from the berth and controlled by the exhauster and entering the depositing chamber, and means in the depositing chamber for separating dust from the air conveyed to the chamber by the exhaust conduit.

5. In a system of refuse disposal, the combination of an inclosed ash scow-berth, an exhauster, a depositing chamber, an exhaust conduit leading from the berth and controlled by the exhauster and entering the depositing chamber, and a fluid-screen in the depositing chamber in the path of the dust laden air therein.

6. In a system of refuse disposal, the combination of an inclosed ash scow-berth, an exhauster, a depositing chamber, an exhaust conduit leading from the berth and controlled by the exhauster and entering the depositing chamber, and a fluid-screen and detention wall in the depositing chamber in the path of the dust laden air therein.

7. In a system of refuse disposal, the combination of an inclosed ash scow-berth, an exhauster, a combined furnace flue and depositing chamber, an exhaust conduit leading from the berth and controlled by the exhauster and entering the combined flue and chamber, a furnace the exit-flue of which enters the combined flue and chamber, and means in the combined flue and chamber for separating dust from the air conveyed thereto by the exhaust conduit and separating floating particles from the products of combustion from the furnace.

8. In a system of refuse disposal, the combination of an inclosed ash scow-berth, an exhauster, a combined furnace flue and depositing chamber, an exhaust conduit leading from the berth and controlled by the exhauster and entering the combined flue and chamber, a furnace the exit-flue of which enters the combined flue and chamber, and a fluid screen in the combined flue and chamber in the path of the dust-laden air and products of combustion.

9. In a system of refuse disposal, the combination of an

inclosed ash scow-berth, an exhauster, a combined furnace flue and depositing chamber, an exhaust conduit leading from the berth and controlled by the exhauster and entering the combined flue and chamber, a furnace the exit-flue of which enters the combined flue and chamber, and a fluid screen and detention wall in the combined flue and chamber in the path of the dust-laden air and products of combustion.

10. In a system of refuse disposal, the combination of an ash scow-berth, an exhauster, a combined furnace flue and depositing chamber, an exhaust conduit leading from the berth and controlled by the exhauster and entering the combined flue and chamber, a refuse-consuming furnace the exit-flue of which enters the combined flue and chamber, a fire-bed in the combined flue and chamber, and means in the combined flue and chamber for separating dust from the air conveyed thereto by the exhaust conduit and separating floating particles from the products of combustion from the furnace.

11. In a system of refuse disposal, the combination of an ash scow-berth, an exhauster, a combined furnace flue and depositing chamber, an exhaust conduit leading from the berth and controlled by the exhauster and entering the combined flue and chamber, a refuse-consuming furnace the exit-flue of which enters the combined flue and chamber, a fire-bed in the combined flue and chamber, and a fluid-screen in the combined flue and chamber in the path of the dust-laden air and product of combustion.

12. In a system of refuse disposal, the combination of an ash scow-berth, an exhauster, a combined furnace flue and depositing chamber, an exhaust conduit leading from the berth and controlled by the exhauster and entering the combined flue and chamber, a refuse-consuming furnace the exit-flue of which enters the combined flue and chamber, a fire-bed in the combined flue and chamber, and a fluid-screen and detention wall in the combined flue and chamber in the path of the dust-laden air and product of combustion.

13. In a system of refuse disposal, the combination of a dump-floor, an inclosed scow-berth, the dump-floor having an opening leading to the scow-berth, and means for exhausting air from the inclosed scow-berth.

14. In a system of refuse disposal, the combination of a dump-floor, an inclosed scow-berth, the dump-floor having an opening leading to the scow-berth, yielding self-closing means controlling such opening, and means for exhausting air from the inclosed scow-berth.

15. In a system of refuse disposal, the combination of an inclosed garbage scow-berth, an exhaust conduit leading from the berth and means for exhausting the air and gases from the scow-berth and subjecting them to heat.

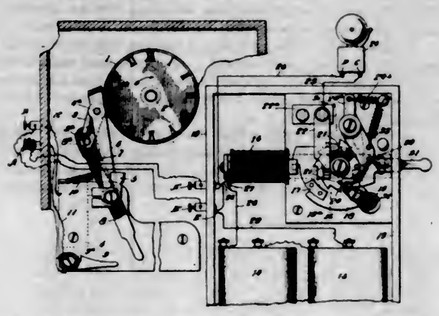
16. In a system of refuse disposal, the combination of an inclosed garbage scow-berth, a furnace, an exhaust conduit leading from the berth and entering the furnace, and a draft-stack for the furnace.

17. In a system of refuse disposal, the combination of an inclosed ash scow-berth, a combined furnace flue and depositing chamber, an exhaust conduit leading from the berth and entering the combined flue and chamber, means in the combined flue and chamber for separating dust from the air conveyed thereto by the exhaust-conduit, a furnace the exit-flue of which enters the combined flue and chamber, and a draft-stack from the combined flue and chamber.

18. In a system of refuse disposal, the combination of an inclosed ash scow-berth, a combined furnace flue and depositing chamber, an exhaust conduit leading from the berth and entering the combined flue and chamber, a furnace the exit-flue of which enters the combined flue and chamber, and a fluid-screen in the depositing chamber in the path of the dust-laden air and products of combustion.

19. In a system of refuse disposal, the combination of an inclosed ash scow-berth, a combined furnace flue and depositing chamber, an exhaust conduit leading from the berth and entering the combined flue and chamber, a furnace the exit-flue of which enters the combined flue and chamber, and a fluid-screen and a detention wall in the depositing chamber in the path of the dust-laden air and products of combustion.

865,428. AUTOMATIC TIME SWITCH AND ALARM. FRANK H. QUADE, Jr., San Francisco, Cal. Filed Dec. 28, 1906. Serial No. 349,894.



1. In an automatic switch adapted to be operated by clock mechanism, the combination of a disk adapted to fit upon the spindle of a clock hand so as to move therewith, and provided with a tripping pin, a trip device pivoted intermediate of its ends and adapted to be engaged at one end by said pin, an arm to which said trip device is pivoted, switch blades, and a switch lever fulcrumed intermediate of its ends and arranged for engagement with said blades at one end, the other end of said lever having a loose pivotal connection with the said trip device.

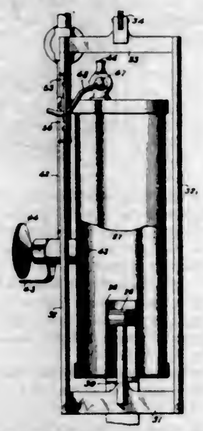
2. In an automatic switch adapted to be operated by clock mechanism, the combination of a disk adapted to fit upon the spindle of a clock hand so as to move therewith, and provided with a tripping pin, a trip device pivoted intermediate of its ends and adapted to be engaged at one end by said pin, an arm to which said trip device is pivoted, switch blades, a switch lever fulcrumed intermediate of its ends and arranged for engagement with said blades at one end, the other end of said lever having a loose pivotal connection with the said trip device, and a spring connected to said lever and adapted to swing the same out of engagement with said blades.

3. In an automatic switch mechanism adapted to be operated by a clock mechanism, the combination of a disk adapted to fit upon the spindle of a clock hand so as to move therewith and provided with a tripping pin, a trip device pivoted intermediate of its ends and adapted to be engaged at one end by said pin, an arm pivotally mounted at one end and spring pressed towards said disk, said arm carrying the said trip device, contact blades, a switch lever fulcrumed intermediate of its ends and provided at one end with a slot, the other end of the trip device being provided with a pin working in said slot and the other end of said lever being arranged for contact with said blades, and a spring adapted to swing said lever out of engagement with said blades.

4. In an automatic alarm mechanism, the combination of an electro-magnet, means for automatically energizing said magnet at a predetermined time, a segment mounted to swing in juxtaposition to the core of said magnet, an armature for said magnet carried by the said segment, the segment being adapted for actuation by the attraction of said mechanism for its armature and the said segment being provided with a pawl, a freely turning ratchet arranged for actuation by said pawl and provided with a series of contact studs, a contact arranged for engagement by said studs successively, an alarm device included in the circuit of said electro magnet and said contact, and a source of electric supply for said alarm and electro magnet.

5. In an automatic alarm device, the combination with an electrically operated alarm, a source of electric supply, an electro-magnet adapted to be included in the circuit of said alarm and source of supply and arranged for energization at a predetermined time, a segment adapted to swing in juxtaposition to said magnet, an armature for said electro-magnet carried by said segment, a ratchet wheel, a pawl carried by said segment and adapted to actuate said ratchet, the ratchet being provided with a series of contact studs, and the alarm circuit including the contact adapted for engagement by said studs successively, and a throwout lever provided with a handle for its actuation and adapted to engage a stud of the ratchet, whereby to turn the ratchet wheel so as to break the contact between the ratchet wheel and the said contact of the alarm.

865,429. OIL-HOISTING APPARATUS FOR WELLS. JOHN M. RETTIG, Chanute, Kans. Filed Nov. 19, 1906. Serial No. 344,116.



1. The combination with a well casing and a pipe for directing fluid under pressure thereinto; of a valve within the pipe, a pivotally mounted beam normally holding the valve closed, a casing, a piston therein, a connection between the piston and beam, means for admitting fluid under pressure to the casing from the pipe, and adjustable means actuated by the piston for exhausting the compressed fluid from the casing.

2. The combination with a well casing and a pipe for directing fluid under pressure thereinto; of a valve within the pipe, a pivotally mounted beam normally holding the valve closed, a casing, a piston therein, a connection between the piston and beam, means for admitting fluid under pressure to the casing from the pipe, a valve in the casing and adjustable means movable with the piston for opening and closing said casing valve during opposite strokes of the piston.

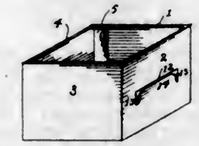
3. The combination with a well casing and a pipe for directing fluid under pressure thereinto; of a valve within the pipe, a pivotally mounted beam normally holding the valve closed, a casing, a piston therein, a connection between the piston and beam, means for admitting fluid under pressure to the casing from the pipe, means for controlling the admission of fluid to the casing, and a time indicating device carried by said means.

4. In apparatus of the character described the combination with a well casing and a pipe for conveying fluid under pressure thereto; of a valve within the pipe, a weighted lever connected to and disposed to actuate the valve in one direction, a casing, a tubular projection therein, a piston disposed to reciprocate within said projection, means operated by the piston for actuating the valve, means for permitting the leakage of fluid from the pipe into the casing, and manually operated means for controlling said leakage.

5. The combination with a well casing and a pipe for conveying fluid under pressure thereto; of a valve within the pipe, a weighted lever for holding the valve normally closed, a casing, a piston mounted to reciprocate therein, means operated by the piston for shifting the valve out of normal position, means for permitting leakage of fluid from the pipe into the casing to actuate the piston at predetermined intervals, manually operated means for controlling said leakage, and means for indicating the intervals between the operations of the piston.

6. The combination with a well casing and a pipe for conveying fluid under pressure thereto; of a valve within the pipe, a weighted lever for holding the valve normally closed, a casing, a piston mounted to reciprocate therein, means operated by the piston for shifting the valve out of normal position, means for permitting leakage of fluid from the pipe into the casing to actuate the piston at predetermined intervals, manually operated means for controlling said leakage, and adjustable means operated by the piston for exhausting the fluid in the casing.

865,430. KNOCKDOWN BOX. LEANDER E. REYNOLDS, Grand Rapids, Mich. Filed May 29, 1905. Serial No. 262,786.



1. In a box of the class described, a plurality of collapsible side-section members, one of the latter having an upwardly projecting locking strip defined by a horizontal slot and end slots at an angle to such horizontal slot, and a bottom having a slotted flap member adapted to be turned at an angle, the locking strip passing through the slot of the flap member of the bottom, the flap projecting through the horizontal slot and into the angular slots when the bottom and side section members are associated, thereby locking the bottom against movement in both vertical directions.

2. A box of the class described comprising a body composed of a plurality of collapsible side-section members having slots formed in opposite members to provide upwardly projecting locking strips, and a bottom with edge flaps, two of the flaps being longitudinally slotted to receive the locking strips when the bottom is inserted in the body, the flaps of the bottom being projected outwardly and having the free edges thereof adjacent to the edges of the slots in the side section members to lock the bottom against movement in both vertical directions.

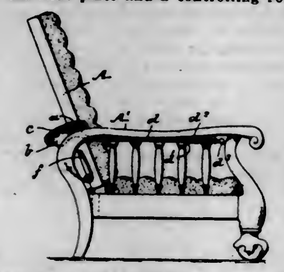
3. In a box of the class described, the combination of side and bottom members, one member having a slot therein and the other member having a slot at an angle to the slot of the first mentioned member, whereby there is formed an intervening tongue with a free end, and the other of said members having a flap with two free sides adapted to enter said slots in the first member and engage the tongue, the tongue and flap projecting in reverse directions when the bottom and side members are associated, and said tongue and flap preventing the bottom from having upward or downward movement.

4. In a box of the class described, the combination of side and bottom members, two of the side members having slots therein intersected by angular slots to provide upwardly projecting tongues, and the bottom member having edge flaps which are adapted to be projected upwardly, two of the flaps being longitudinally slotted to receive the tongues of the side members and project outwardly through the slots of the latter to obstruct upward movement of the bottom, the tongues preventing the said bottom from having downward movement.

865,431. CHAIR HAVING ADJUSTABLE BACK. SENECA BISLEY and FORREST E. RUGER, Binghamton, N. Y. Filed Jan. 18, 1906. Serial No. 296,649.

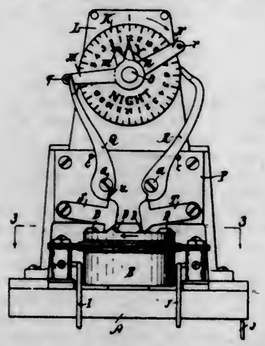
In a chair, a frame, a movable back connected thereto, a rotatable rod carried by the back, and provided with cranks at its ends, rack plates carried by the chair frame

and engaged by the said cranks, a movable cam plate carried by the rack plate and a controlling rod connected



with the cam plate and bracketed to the frame of the chair for actuating the cam plate.

865,432. ELECTRIC TIME-SWITCH. WILLIAM D. ROSS, Providence, R. I. Filed Dec. 1, 1906. Serial No. 345,946.



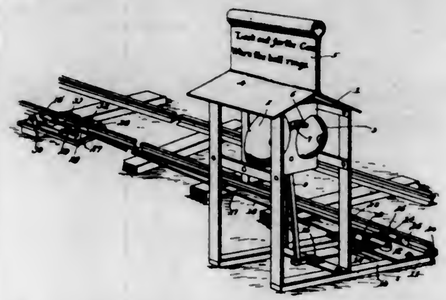
1. In an electric time switch, the combination of a rotary dial, the indicating arms adjustable relatively to the dial and carried therewith, the pins projecting outward from the said arms, the escapement levers adapted to be engaged by the pins of the indicating arms, the rotary switch provided with the escapement projections, and the escapement pawls operating between the escapement levers and the escapement projections of the switch.

2. In an electric time switch, the combination of a rotary dial, the indicating arms adjustable relatively to the dial and provided with outwardly projecting pins, one of the said arms being made longer than the other and provided with the longer pin, with an escapement lever adapted to receive the action of the longer pin and offset sufficiently to allow the unobstructed passage of the shorter pin, and an oppositely arranged escapement lever adapted for the engagement of the said shorter pin therewith, and means for limiting the backward movement of the said levers.

3. In an electric time switch, the combination of a rotary switch provided with the escapement projections, the escapement levers, means for limiting the outward movement of the said levers, and the escapement pawls which operate between the escapement levers and the escapement projections of the switch.

865,433. RAILWAY-SIGNAL. BYRON W. ROWE, Plymouth, Wis. Filed Apr. 3, 1907. Serial No. 366,177.

1. In railway safety appliances, the combination of a signal comprising a framework having a plate extended beneath a rail of the track, a lug projected from the plate and engaged over the foot of the rail at opposite sides thereof, a trip device embodying a plate having a portion extended beneath a rail of the track, flanges projected from the plate and engaging over the foot of the rail at opposite sides thereof and clamped thereto, and intermediate connecting means between the trip device and the signal.



2. In railway safety appliances, the combination of a signal, beams projected therefrom, a plate extended beneath a rail of the track and having lugs to engage over the foot of the rail upon one side thereof, a second lug secured to the plate and engaging over the foot of the rail upon the opposite side thereof, the aforesaid timbers resting upon the plate, a second plate placed upon the timbers and secured thereto and to the lower plate, and actuating means for the signal having a portion mounted upon said upper plate.

3. In safety appliances for railways, the combination of a pair of gong bells, a hammer arranged to operate between the bells, a lever carrying the hammer and provided with a fork, and a lever arranged to play between the members of said fork for imparting oscillatory movement to the lever to effect sounding of said gong bells.

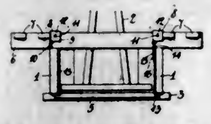
4. In safety appliances for railways, a plate extended beneath the rail of the track and provided with lugs to engage over the foot of the rail upon one side thereof, a second lug secured to the rail and engaging over the foot thereof upon the opposite side, a set screw threaded into the last mentioned lug and adapted to bear against the side of the rail to prevent displacement of said plate, a framework supporting the signaling means and secured to said plate, and actuating means for the signal supported by means of said framework and the plate attached to the rail.

5. In railway safety appliances, the combination of a signal, crank shafts located a distance from the signal and having angularly disposed crank arms, connecting means between a crank arm of each crank shaft and the signal, vertically arranged trips, each having a slot to receive the other crank arm of each of said crank shafts, the parts being arranged so that depression of one of said trips effects elevation of the other trip.

6. In railway safety appliances, the combination of a signal, a plate located a distance from the signal and extending beneath a rail of the track and clamped thereto, crank shafts mounted in bearings applied to said plate and arranged beneath said rail, each crank shaft having crank arms arranged upon opposite sides of the said rail, connecting means between a crank arm of each crank shaft and the signal, and vertically arranged trips having loose connection with the other arms of said crank shafts.

7. In railway safety appliances, the combination of a signal, a plate located a distance from the signal and extending beneath a rail of the track and clamped thereto, crank shafts mounted in bearings applied to said plate and arranged beneath said rail, each crank shaft having crank-arms arranged upon opposite sides of the said rail, connecting means between a crank arm of each crank shaft and the signal, and vertically arranged trips having loose connection with the other arms of said crank shafts, said trips having lateral extensions arranged at a right angle to the length of the track to sustain the thrust incident to contact of the operating wheel therewith.

865,434. CLASP. AUGUST SCHUCH, Waseca, Minn. Filed Apr. 1, 1907. Serial No. 365,755.

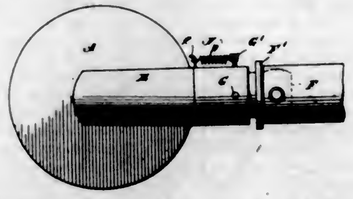


1. A clasp for hay racks comprising a plate, the diagonally opposite corners of which are provided with attaching means, a flexible member connected with each of said means, one of which is provided with a lever for detachably engaging with the other member.

2. In a clasp for hay racks, a plate, the ends of which are bent down to form triangular ears, said ears being perforated and provided with attaching means for diagonally opposite corners of the plate, and a chain secured to each ear, the free end of one of said chains being provided with a lever which is adapted to be passed through the other chain, and means for locking said lever to its chain after it has been passed through said other chain.

3. A hay rack comprising an upper portion and a lower portion, the lower portion being provided with sills and the upper portion being provided with cross pieces and grain boards, clasps for securing said portions together, each clasp comprising a plate adapted to be secured to said cross pieces and provided with chains for two of its diagonally opposite corners, the free end of one of said chains being provided with a lever, which is adapted to be passed under the sill and through the other chain, and means for securing the free end of the lever adjacent to its chain after it has been so passed through.

865,435. REPRODUCER FOR PHONOGRAPHS. WILLIAM SCHUBERT, Rahway, N. J., assignor to The Regina Company, Rahway, N. J., a Corporation of New Jersey. Filed Sept. 11, 1906. Serial No. 334,160.



1. A reproducer comprising a plurality of connected sections, one of which carries the stylus and the other of which is adapted for connection with the feed mechanism, and means for normally flexing the connection between the stylus-carrying section relatively to the other section so that the stylus-carrying section is normally pressed in the direction of its reproducing movement independently of the other section.

2. A reproducer comprising a plurality of connected sections, one of which carries the stylus and the other of which is adapted for connection with the feed mechanism, and a spring for normally flexing the connection between the stylus-carrying section relatively to the other section so that the stylus-carrying section is normally pressed in the direction of its reproducing movement independently of the other section.

3. A reproducer comprising a plurality of sections one of which carries the stylus and the other of which is adapted for connection with the feed mechanism and which is pivotally connected with the stylus-carrying section about an axis transverse to the path in which the reproducer travels, and means for flexing the connection between the sections relatively to each other so that the stylus-carrying section is normally pressed in the direction of its reproducing movement independently of the other section.

865,436. SUPPORTING DEVICE FOR TOILET-PAPER PACKAGES. ARTHUR H. SCOTT, Philadelphia, Pa. Filed Jan. 24, 1907. Serial No. 353,849.



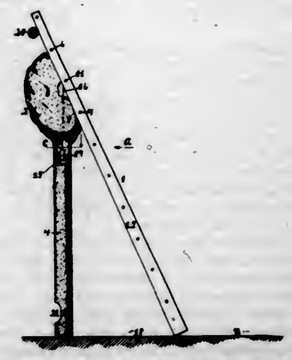
1. In means for supporting toilet paper, the combination of the paper packet having the backing J provided with a slot J' and a tongue L, with an upwardly directed arm extending through the slot and notched at its top to receive the tongue.

2. In means for supporting toilet paper, the combination of the paper packet having the backing J provided with a slot J' and a tongue L, with a hinged frame having an upwardly directed arm extending through the slot and notched at its top to receive the tongue, a discharging roller operating upon the face of the paper packet, and a spring to press the frame forward against the paper packet at its lower part and cause it to press against the roller.

3. In means for supporting toilet paper, the combination of the paper packet having a backing provided with a slot and a laterally extending part between the backing and paper of the packet, and an upwardly directed arm extending through the slot and engaging the laterally extending part of the back.

4. In means for supporting toilet paper, a packet of paper having secured to it a backing having an opening and alos a lateral extension directed toward the paper of the packet, combined with an arm extending through the opening in the backing and engaging the lateral extension.

865,437. DEVICE FOR GATHERING FRUIT. MAURICE J. SHEAHAN, Rochester, N. Y. Filed Apr. 5, 1907. Serial No. 366,562.



1. A device for gathering fruit, consisting of a pouch, a conveyer pending from the pouch, a diaphragm within the conveyer adapted to move from the pouch to the ground and means for controlling the diaphragm.

2. A device for gathering fruit, comprising a pouch, a conveyer communicating between the pouch and the

ground, a movable diaphragm in the conveyer, and means for controlling the descent of the diaphragm and for keeping it in planes at right angles with the axis of the conveyer.

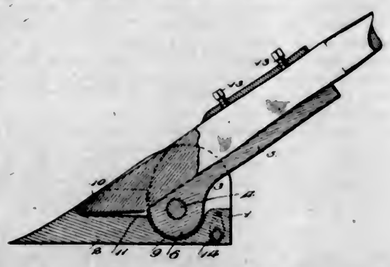
3. A device for gathering fruit, consisting of an expanded part for receiving the fruit, a hollow reduced part pending from said expanded part to convey the fruit, and a diaphragm in said reduced part adapted to traverse the length thereof, with means for suspending the diaphragm in said reduced part.

4. A device for gathering fruit, consisting, in combination with a ladder, of a fibrous receiver for the fruit, metallic expanders for the receiver held by the ladder, a conveyer for the fruit below the receiver, and means for controlling the fruit in the conveyer.

5. A device for gathering fruit, consisting, in combination with a ladder, of a yielding receiver with opening for the fruit, metallic expanders for the receiver, a conveyer for the fruit pending from the receiver and means for controlling the fruit in the conveyer, the expanders being right and left and secured to rungs of the ladder at either side.

6. A device for gathering fruit, consisting, in combination with a ladder, of an open pouch for the fruit, metallic holders for the pouch, a conveyer for the fruit pending from the pouch and means for controlling the descent of the fruit therein, each of said holders consisting of a straight member to which an edge of the pouch is secured, and a bowed member for expanding the pouch, said members being joined to rungs of the ladder.

865,438. CAR-MOVER. MASON N. SHELL, Eckman, W. Va. Filed May 22, 1907. Serial No. 375,079.



1. In a car mover, the combination of a fulcrum member, a sleeve pivotally mounted upon the fulcrum member, and an operating lever adjustably received within the sleeve.

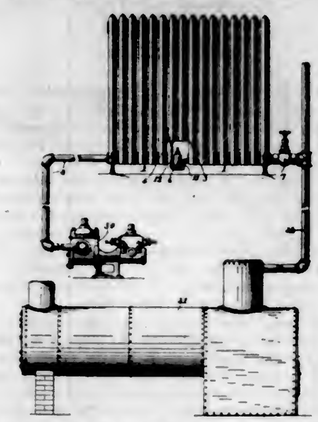
2. In a car mover, the combination of a fulcrum member comprising a base and sides, a pivot pin connecting the sides, a sleeve provided with an enlargement receiving the pivot pin, and an operating lever mounted within the sleeve.

3. In a car mover, the combination of a fulcrum member comprising a base and sides, the base being formed with a depression, a pin connecting the sides, a sleeve provided with an enlargement received within the depression and pivotally mounted upon the pin, and an operating lever mounted within the sleeve.

4. In a car mover, the combination of a fulcrum member comprising a base having a recess formed in the forward portion thereof and a depression in the rear portion thereof, a pin connecting the sides, a sleeve provided with an enlargement received within the depression and pivotally mounted upon the pin, and an operating lever mounted within the sleeve and having the inner end thereof normally received within the before mentioned recess.

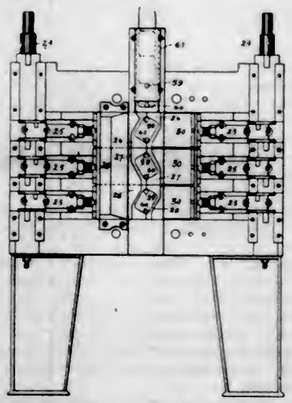
5. In a car mover, the combination of a fulcrum member having a depression formed therein, a sleeve pivotally mounted upon the fulcrum member and provided with an enlargement received within the depression, and an operating lever adjustably mounted within the sleeve.

865,439. HEATING SYSTEM. FRANK A. SIMONDS, Grand Rapids, Mich., assignor to The Simonds Heating and Specialty Company, Fremont, Mich., a Corporation of Michigan. Filed Nov. 25, 1904, Serial No. 234,177. Renewed Dec. 14, 1905. Serial No. 291,731.



The combination of a radiator divided into two separate parts, means for supplying steam under pressure to one part, a steam trap between the parts and connecting the same, and a vacuum pump connected to the second part.

865,440. FLANGING-MACHINE. CHARLES W. SLEEPER, Lancaster, N. H. Filed Nov. 30, 1906. Serial No. 345,829.



1. In a machine for forming flanges on can bodies, the combination of a pair of side dies adapted to fit the exterior of the can body, a punch adapted to enter the interior of the can body between the side dies, said dies and punch being arranged horizontally, a cam shaft, means operated by the cam shaft for reciprocating the side dies and for reciprocating the punch, and a channel extending between the side dies through which cans are fed by gravity, the means for reciprocating the side dies being adapted to hold the side dies closed during the operation of the punch.

2. In a machine for forming flanges on can bodies, the combination of a pair of side dies adapted to fit the exterior of the can body, a punch adapted to enter the interior of the can body between the side dies, said dies and punch being arranged horizontally, means for reciprocating the side dies and for reciprocating the punch, a channel extending between the side dies through which cans are fed by gravity, a chute leading to the channel between the side dies, and means for controlling the feeding of the can bodies to the side dies.

3. In a machine for forming flanges on can bodies, the combination of a pair of side dies adapted to fit the exterior of the can body, a punch adapted to enter the interior of the can body between the side dies, said dies and punch being arranged horizontally, means for reciprocating the side dies and for reciprocating the punch, a channel extending between the side dies through which cans are fed by gravity, a chute leading to the channel between the side dies, and means for controlling the feeding of the can bodies to the side dies adapted to position the can bodies between the side dies.

4. In a machine for forming flanges on can bodies, the combination of a pair of side dies adapted to fit the exterior of the can body, a punch adapted to enter the interior of the can body between the side dies, said dies and punch being arranged horizontally, a cam shaft, means operated by the cam shaft for reciprocating the side dies and for reciprocating the punch, a channel extending between the side dies through which cans are fed by gravity, a chute leading to the channel between the side dies, and means operated by the cam shaft for controlling the feeding of the can bodies to the side dies.

5. In a machine for forming flanges on can bodies, the combination of a pair of side dies adapted to fit the exterior of the can body, a punch adapted to enter the interior of the can body between the side dies, said dies and punch being arranged horizontally, a cam shaft, means operated by the cam shaft for reciprocating the side dies and for reciprocating the punches, a channel extending between the side dies through which cans are fed by gravity, a chute leading to the channel between the side dies, and means operated by the cam shaft for controlling the feeding of the can bodies to the side dies adapted to postion the can bodies between the side dies.

6. In a machine for forming flanges on can bodies, the combination of a vertically arranged series of pairs of side dies adapted to fit the exterior of a can body, a vertically arranged series of punches each coresponding to one of the pairs of side dies and adapted to enter the can body between the side dies, said dies and punches being arranged in horizontal planes, means for simultaneously reciprocating the side dies, and for reciprocating the punches, a channel extending between the side dies through which cans are fed by gravity, a chute leading to the channel between the side dies, and means for controlling the feeding of the can bodies to the side dies.

7. In a machine for forming flanges on can bodies, the combination of a vertically arranged series of pairs of side dies adapted to fit the exterior of a can body, a vertically arranged series of punches each corresponding to one of the pairs of side dies and adapted to enter the can body between the side dies, said dies and punches being arranged in horizontal planes, means for simultaneously reciprocating the side dies, and for reciprocating the punches, a channel extending between the side dies through which cans are fed by gravity, a chute leading to the channel between the side dies, and means for controlling the feeding of the can bodies to the side dies adapted to position the can bodies between the side dies.

8. In a machine for forming flanges on can bodies, the combination of a vertically arranged series of pairs of side dies adapted to fit a can body, a vertically arranged series of punches each corresponding to one of the pairs of side dies and adapted to enter the can body between the side dies, said dies and punches being arranged in horizontal planes, means for simultaneously reciprocating the side dies and for reciprocating the punches, and a channel extending between the side dies through which cans are fed by gravity, the means for reciprocating the side dies being arranged to hold the side dies in closed position while the punch is operating on the can body.

9. In a machine for forming flanges on can bodies, the combination of a vertically arranged series of pairs of side dies adapted to fit a can body, a vertically arranged series of punches each corresponding to one of the pairs of side dies and adapted to enter the can body between the side dies, said dies and punches being arranged in horizontal planes, means for simultaneously reciprocating the side dies and for reciprocating the punches, the means for reciprocating the side dies being arranged to hold the side dies in closed position while the punch is operating on the can body, means whereby cans are fed by gravity into positions to be operated upon by said punches, and means for controlling the feed of the can bodies to the successive pairs of side dies.

10. In a machine for flanging can bodies, a vertically arranged series of pairs of horizontally movable side dies, means for forcing the dies of each pair together to hold a can body and for separating them to permit the can bodies to descend by gravity from one pair of side dies to another, and means for controlling the movement of the can bodies from one pair of side dies to another.

11. In a machine for flanging can bodies, a vertically arranged series of pairs of horizontally movable side dies, means for forcing the dies of each pair together to hold a can body and for separating them to permit the can bodies to descend by gravity from one pair of side dies to another, and means for controlling the movement of the can bodies from one pair of side dies to another adapted to position the can bodies between the side dies.

12. In a machine for flanging can bodies comprising a vertically arranged series of pairs of side dies and means for forcing the dies of each pair together to hold a can body and for separating them to permit the can bodies to pass from one pair of dies to another, means for controlling the movement of the can bodies from one pair of dies to another consisting of pairs of pins adapted to enter the space between the side dies and means for withdrawing the pins of each pair alternately.

13. In a machine for flanging can bodies comprising a vertically arranged series of pairs of side dies and means for forcing the dies of each pair together to hold a can body and for separating them to permit the can bodies to pass from one pair of dies to another, means for controlling the movement of the can bodies from one pair of dies to another consisting of pairs of pins adapted to enter the space between the side dies and means for withdrawing the pins of each pair alternately, and side guides for guiding the can bodies in their passage from one pair of dies to another.

14. In a machine for flanging can bodies, a vertically arranged series of pairs of horizontally movable side dies, means for forcing the dies of each pair together to hold a can body and for separating them to permit the can bodies to descend by gravity from one pair of dies to another, and means for controlling the movement of the can bodies from one pair of side dies to another consisting of pairs of pins adapted to enter the space between the side dies and yielding means for thrusting the pins into and withdrawing them from said space.

15. In a machine for flanging can bodies comprising a vertically arranged series of pairs of side dies and means for forcing the dies of each pair together to hold a can body, and for separating them to permit the can bodies to pass from one pair of dies to another, means for controlling the movement of the can bodies from one pair of side dies to another consisting of pairs of pins adapted to enter the space between the side dies, and yielding means for thrusting the pins into and withdrawing them from said space, said means being arranged to withdraw the pins of each pair alternately.

16. In a machine for flanging can bodies, a vertically arranged series of pairs of horizontally movable side dies, means for forcing the dies of each pair together to hold a can body and for separating them to permit the can bodies to descend by gravity from one pair of dies to another, a vertically arranged series of punches adapted to enter the can bodies between the dies, and means for controlling the movement of the can bodies from one pair of side dies to another comprising pairs of pins adapted to enter the space between the side dies of each pair and means for withdrawing said pins and yielding means for thrusting said pins into said space, said dies and punches being arranged in horizontal planes.

17. In a machine for flanging can bodies, comprising a vertically arranged series of pairs of side dies and means for forcing the dies of each pair together to hold a can body and for separating them to permit the can bodies to pass from one pair of dies to another, and punches adapted to enter the can bodies between the dies, means for controlling the movement of the can bodies from one pair of side dies to another, comprising pairs of pins adapted to enter the space between the side dies of each pair, means for withdrawing said pins and yielding means for thrusting said pins into said space, said means for withdrawing the pins being arranged to withdraw the pins of each pair alternately.

18. In a machine for flanging can bodies comprising a pair of side dies and a punch adapted to enter between the side dies, a cam shaft and means actuated thereby for reciprocating the side dies and the punch, the means for reciprocating the side dies comprising a slide having a cross groove therein, a crank pin extending into said cross groove, carried by a spindle, a disk carried by the cam shaft in which the spindle is journaled, a pinion on the spindle and a stationary gear with which the pinion is in mesh, the parts being so arranged that as the spindle is revolved about the axis of the disk it is caused to rotate by the engagement of its pinion with the fixed gear.

19. In a machine for flanging can bodies comprising a pair of side dies and a punch adapted to enter between the side dies, means for reciprocating the punch, and means for reciprocating the side dies comprising a slide, means for guiding the slide and a spindle carried by a rotary disk having an eccentric pin engaging the slide to reciprocate it, the spindle being also provided with a pinion, and a fixed gear in mesh with the pinion, the parts being so arranged that as the spindle is revolved about the axis of the disk it will be rotated by the fixed pinion.

20. In a machine for flanging can bodies comprising a pair of side dies and a punch adapted to enter between the side dies, a cam shaft provided with an eccentric, connections between the eccentric and the punch for reciprocating it, a disk carried by the cam shaft having a spindle mounted to rotate therein, provided with a pinion, a fixed gear engaging the pinion, an eccentric pin carried by the spindle, and a slide operatively connected with the side dies, and arranged to be reciprocated by the eccentric pin.

865,441. ROLLER-SKATE. GEORGE S. SLOCUM, Newport, R. I. Filed Dec. 6, 1906. Serial No. 346,601.



1. A roller skate having in combination a foot plate, forward and rear saddles provided with oppositely inclined bearings, roller carrying trucks mounted in said bearings, alining devices for returning the trucks to mid position when deflected in either direction, leaf springs connecting the inner ends of the saddles with the foot plate, and springs interposed between the foot plate and the outer ends of the saddles on opposite sides of the pivotal axes of the trucks.

2. A roller skate having in combination a foot plate, forward and rear saddles, roller carrying trucks mounted therein, leaf springs connecting the inner ends of the saddles with the foot plate, and springs interposed between the outer ends of the saddles and the foot plate.

3. A roller skate having in combination a spring foot plate, forward and rear saddles, roller carrying trucks mounted therein, leaf springs connecting the inner ends of the saddles with the foot plate, and springs interposed between the outer ends of the saddles and the foot plate.

4. A roller skate having in combination a roller carrying truck, a saddle having an inclined bearing in which the truck is mounted, a leaf spring supporting the inner end of the saddle, and springs supporting the outer end of the saddle on opposite sides of the pivotal axis of the truck.

5. A roller skate having in combination a roller carrying truck provided with a cylindrical bearing surface, a saddle provided with a coöperating bearing, a slot in said bearing, a lug on the truck playing between the sides of said slot, a surface at the end of the truck inclined to the axis of the bearing, a coöperating surface on the saddle, and a spring for holding said surfaces together.

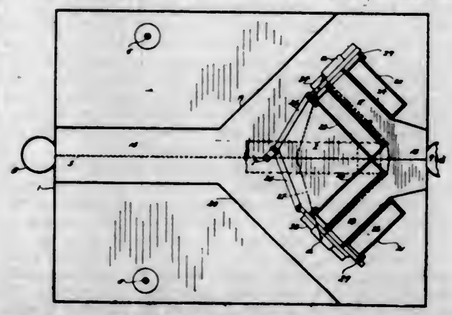
6. A roller skate having in combination a saddle 7 provided with a bearing surface 8 and a slot 9, a truck 4 provided with a cylindrical part 5 and a lug 10, an inclined surface 11 on the end of the part 5, a coöperating surface 12 on the saddle, a plate 16 secured to the saddle, and a spring 13 interposed between the plate and the truck.

7. A roller skate having in combination a saddle 7 provided with a bearing 8, a truck 4 provided with a cylindrical part 5, a surface 11 on the end of the part 5, a corresponding surface 12 on the saddle, a plate 16 secured to the saddle, and a spring 13 interposed between the plate and the truck.

8. A roller skate having in combination a saddle 7 provided with a bearing 8, a truck 4 provided with a cylindrical part 5, an inclined surface 11 at the end of the part 5, a coöperating surface 12 on the saddle, a recess 14 in the truck, a plate 16 connected with the saddle, and a spring 13 within the recess 14 and bearing against the plate 16.

9. A roller skate having in combination a saddle, a roller carrying truck mounted in the saddle, a leaf spring 25 on which the inner end of the saddle is mounted, studs 26 supporting the outer end of the saddle, and springs 30 mounted upon said studs.

865,442. GAS-METER. BREWSTER H. SPANGENBERG, Philadelphia, Pa., assignor to The United Gas Improvement Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Mar. 11, 1905. Serial No. 249,549.



1. A gas meter having its valve chamber superposed upon its bellows chamber and having a gas opening through which drainage may occur from the valve chamber to the bellows chamber, and gas inlet and outlet passages or conduits having their top portions throughout their lengths above the effective level of said gas opening, whereby they may drain into the valve chamber and thence into the bellows chamber, substantially as described.

2. A gas meter having its valve chamber superposed upon its bellows chamber and having a gas opening through which drainage may occur and from the valve chamber to the bellows chamber, and a gas inlet passage or conduit having its top portion throughout its length above the effective level of said gas opening whereby it may drain into the valve chamber and thence into the bellows chamber, substantially as described.

3. A gas meter having its valve chamber superposed upon its bellows chamber and having a gas opening through which drainage may occur from the valve chamber to the bellows chamber, and a gas outlet passage or conduit having its top portion throughout its length above the effective level of said gas opening whereby it may drain into the valve chamber and thence into the bellows chamber, substantially as described.

4. A gas meter having its valve chamber superposed upon its bellows chamber and having a gas opening through which drainage may occur from the valve chamber to the bellows chamber, an upright valve and its seat and housing for controlling said gas opening, and a gas outlet passage or conduit having its top portion throughout its length above the effective level of said gas opening, substantially as described.

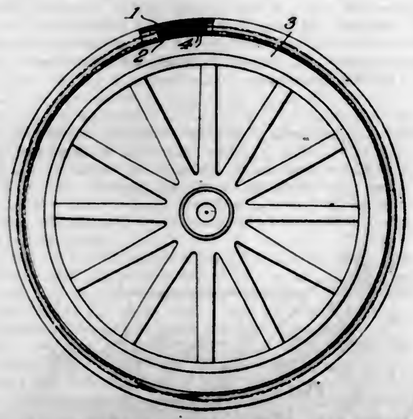
5. In a gas meter the combination with the lower bellows chamber and outlet connections and horizontal partition having openings to the bellows chamber of, an open ended housing of which the top portion throughout its length is arranged above the effective level of the openings and which is internally provided with passages connecting said openings with the outlet connections, substantially as described.

6. The combination with the housing and valve chamber of a gas meter, of a gas inlet passage arranged above the floor level of said chamber and widened so that its side walls extend to the side walls of the housing, branch outlet passages or conduits arranged above the floor level of said chamber and between the walls of the widened part of said passage, housings arranged opposite said branches and constituting bellows' passages, and upright valves for controlling the outlet of the bellows' passages, substantially as described.

7. The combination in a gas meter of a horizontal partition constituting a valve chamber floor and provided with an opening, a bellows and outlet connections, a housing arranged above the partition and having three passages of which one communicates with said opening and the others with the outlet and interior of the bellows, and ports in said housing having the bottom portions of the port openings at different heights and communicating with the respective passages, substantially as described.

8. A gas meter provided with a housing, a hanger consisting of a tubular portion provided with a flat shank alined with the exterior of the tubular portion, said flat shank being applied to the wall of the meter, and a metallic sheet encircling the hanger and soldered to the housing, substantially as described.

865,443. TIRE-SHIELD. THOMAS J. SPRINKLE, Hillsboro, Ohio. Filed Sept. 10, 1906. Serial No. 334,013.



1. In combination with a tire, a shield, wires embedded therein and extending longitudinally of the shield and lying upon opposite sides of the longitudinal axis thereof, said wires being volute with one of the volutions embedded in the material at the edge of the shield and the other volution embedded in the material in the vicinity of the middle thereof.

2. In combination with a tire, a shield comprising a continuous rubber tread which is crescent shape in cross-section, a layer composed of a mixture of rubber and fiber lining the inner surface of the tread and continuous wires embedded in said layer and extending longitudinally of the shield and lying upon opposite sides of the longitudinal axis of the shield, said wires being volute with one of the volutions embedded in the material at the edge of the shield and the other volution embedded in the material in the vicinity of the middle thereof.

865,444. PLATE-GLASS LIFTER. ORAN N. STALEY, Hastings, Nebr. Filed Mar. 30, 1907. Serial No. 365,528.



1. A plate glass lifter comprising a substantially U-shaped frame or body adapted to receive one edge of a plate of glass and having terminal interiorly threaded eyes, screws extending through and projecting inwardly and outwardly from the eyes, handles carried by the outer ends of the screws and arranged to extend from the opposite sides of the plate of glass, and heads carried by the inner ends of the screws and provided at their engaging faces with yieldable material.

2. A plate glass lifter comprising a substantially U-shaped frame or body adapted to receive a plate of glass and provided at opposite slues thereof with interiorly threaded eyes, adjusting screws extending through the eyes and provided at their inner ends with smooth portions having threaded bores, heads having sockets of greater diameter than the smooth portions of the adjusting screws, attachment screws piercing the heads and engaging the threads of the bores of the said adjusting screws and retaining the heads on the latter, said heads being swiveled to the adjusting screws to permit the latter to rotate independently of them to avoid breaking the glass, and handles carried by the outer ends of the screws and arranged to extend from opposite sides of the plate of glass.

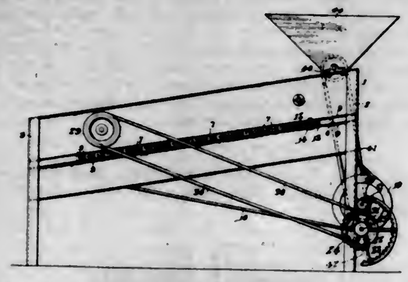
3. A plate glass lifter comprising a substantially U-shaped frame or body adapted to receive one edge of a plate of glass and having terminal interiorly threaded eyes, screws extending through and projecting inwardly and outwardly from the eyes, handles carried by the outer ends of the screws and arranged to extend from opposite sides of a plate of glass, and opposing heads carried by the inner ends of the screws and provided at their engaging faces with yieldable material, said heads being swiveled on the screws.

865,445. MACHINE FOR STEMMING PEANUTS. JOHN W. STEEL and JOHN C. TITUS, Norfolk, Va. Filed Nov. 14, 1905. Serial No. 287,262.

1. In a machine of the class described, the combination of a series of contiguous stem-engaging rolls having their contiguous faces moving in the same direction, the alternate contiguous faces of the rolls moving downwardly and the contiguous faces of the other rolls moving upwardly, and means for automatically reversing the rotation of the rolls to change the positions of the downwardly moving faces in the series.

2. In a machine of the class described, the combination of a plurality of rolls arranged in separate sets or series, gearing connecting the rolls of each set or series, idler

rolls interposed between the sets or series of rolls, and means for rotating the rolls, said means being arranged to rotate the adjacent sets or series in opposite directions.



3. In a machine of the class described, the combination of a plurality of rolls arranged in separate sets or series, each set or series having the contiguous stem-engaging faces of its rolls moving in the same direction, gearing connecting the rolls of each set or series, means for rotating the rolls of all the sets or series, the rolls of the adjacent sets or series being rotated in opposite directions, and means for passing the material along the sets or series of the rolls.

4. In a machine of the class described, the combination of a plurality of rolls having contiguous stem engaging faces adapted when moving downwardly to carry the stems betwen the rolls, gearing connecting the rolls, and means for automatically reversing the rotation of the rolls, said means embodying a pinion and an actuating gear having toothed segments located at different distances from the center of the gear at different portions of the same and having reversely arranged teeth for engaging the pinion at opposite sides thereof.

5. In a machine of the class described, the combination of a plurality of rolls having contiguous stem engaging portions, means for rotating the rolls, and means for automatically reversing the rotation of the rolls, the latter means embodying a rotary element and an actuating element having curved engaging portions located at different distances from the center of the actuating element and arranged to engage the rotary element at opposite sides thereof to change the direction of the rotation of the same.

6. In a machine of the class described, the combination of a plurality of contiguous stem-engaging rolls, each set or series having the rolls composing the set or series moving in the same direction, the alternate contiguous faces of the rolls moving downwardly to engage and carry the stems between the rolls, and the contiguous faces of the other rolls moving upwardly to change the position of the material operated on, and means for rotating the rolls a predetermined number of revolutions in one direction and a predetermined number of revolutions in the opposite direction.

7. In a machine of the class described, the combination of a plurality of contiguous stem engaging rolls arranged in separate sets and the contiguous faces of the rolls of each set being movable in the same direction, and the alternate engaging faces moving downwardly to carry the stems between the rolls, and gearing for reversely rotating the sets of rolls.

8. In a machine of the class described, the combination of a plurality of contiguous stem engaging rolls arranged in separate sets and the contiguous faces of the rolls of each set being movable in the same direction, and the alternate engaging faces moving downwardly to carry the stems between the rolls, and gearing for reversely rotating the sets of rolls, said gearing being also provided with means for automatically reversing the rotation of the rolls.

9. In a machine of the class described, the combination of a plurality of rolls, an endless conveyer for forcing the material against the rolls, and pivotally mounted oscillatory inclined gravity devices located at the end portions of the conveyer and diverging downwardly towards the same.

10. In a machine of the class described, the combination of a plurality of rolls, an endless conveyer for forcing the material against the rolls, pivotally mounted arms, and rolls caried by the pivotally mounted arms, said arms being hung between the stretches of the conveyer and diverging downwardly and engaging the lower stretch of the conveyer.

11. In a machine of the class described, the combination of a plurality of contiguous stem engaging rolls, a conveyer located above the rolls and spaced from the same, a hopper, and means for directing the material from the hopper into the spaces between the conveyer and the rolls.

12. In a machine of the class described, the combination of a plurality of contiguous stem engaging rolls, an endless conveyer located above the rolls, a hopper, and an inclined chute for directing the material from the hopper to the rolls, said chute being spaced from a portion of the endless conveyer and coöperating with the same to provide a positive feed.

13. In a machine of the class described, the combination of a plurality of rolls, a hopper having a bottom opening, and a feed roll operating within the hopper at the bottom opening thereof and having grooves for positively and uniformly feeding the material to the said rolls.

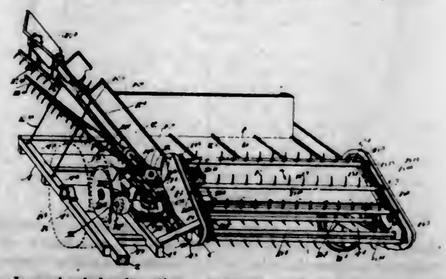
14. In a machine of the class described, the combination of a plurality of rolls arranged in separate sets or series, means for rotating the rolls of each set or series, idler rolls interposed between the sets or series of rolls, and means for holding the rolls in yielding engagement with each other.

15. In a machine of the class described, the combination of a plurality of rolls arranged in separate sets or series, gearing connecting the rolls of each set or series, and idler rolls interposed between the sets or series of rolls, all of the said rolls being in contact for engaging the stems of the peanuts.

16. In a machine of the class described, the combination of a plurality of contiguous stem-engaging rolls arranged in separate sets or series and having contiguous downwardly moving faces arranged at intervals, gearing for reversely rotating the sets or series to change the position of the downwardly moving faces in the sets or series, and idler rolls interposed between the sets or series of rolls.

17. In a machine of the class described, the combination of a series of closely-arranged smooth-faced rolls of small diameter arranged with their faces in contact, the alternate contiguous faces of the rolls moving downwardly and the intervening contiguous faces moving upwardly, means for rotating the rolls, and means for holding the rolls in yielding engagement with each other, said rolls being sufficiently small in diameter to grasp the stems thereof and not damage the shells.

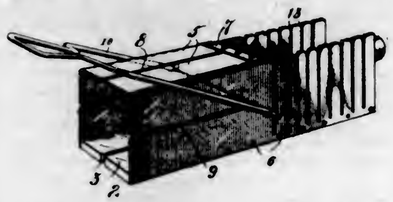
865,446. LOADER FOR SHOCKS OR SHEAVES OF GRAIN. DAVID A. STEWART, JOHN F. STEWART, and ROBERT C. STEWART, Molesworth, Ontario, Canada. Filed Nov. 21, 1905. Serial No. 288,477.



In a shock loader, the combination with the main frame and supporting wheels, of an elevating carrier comprising

side boards having grooves therein, the form of one of which is different from the opposite one, upper and lower sprocket wheels and connecting chains, pronged cross rods journaled on the links provided with arms coacting with the grooves in the side boards and a driving connection between the main supporting wheel and sprockets of the elevator carrier, as and for the purpose specified.

865,447. BUTTER-CUTTER. RICHARD F. STEWART, Pocantico Hills, N. Y. Filed Feb. 12, 1907. Serial No. 356,986.



1. In a device of the class described, a cutter box, one portion of which is provided with longitudinal cutter-receiving slots, the other portion of said box having transverse cutter-receiving slots.

2. In a device of the class described, a cutter box, one portion of which is provided with longitudinal cutter-receiving slots arranged in planes at an angle to each other, the other portion of said box having a plurality of transverse cutter-receiving slots lying in planes at right angles to said longitudinal slots.

3. In a device of the class described, a cutter box having an inclosed portion provided with longitudinal cutter-receiving slots arranged in planes at right angles to each other, and an open-topped portion the side walls of which are provided with transverse cutter-receiving slots.

4. In a device of the class described and in combination, a cutter box slotted longitudinally through a portion of its length and having transverse slots in the walls of its remaining portion, a cutter-receiving abutment having cutter-receiving grooves in its face, and a cutting tool adapted to traverse the longitudinal and transverse slots.

5. In a device of the class described and in combination, a cutter box having longitudinal slots throughout a portion of its length and transverse slots in the walls of the remaining portion, a cutter-receiving abutment having cutter-receiving grooves therein of gradually increasing depth toward their ends, and a cutting tool adapted to traverse the slots in said cutting box.

6. In a device of the class described and in combination, a cutter box having cutter-receiving slots traversing its walls, a cutter-receiving abutment having a groove in the face thereof to receive the cutting tool, and a cutting tool adapted to traverse said cutter-receiving slots and enter said grooved abutment.

7. In a device of the class described and in combination, a cutter box having cutter-receiving slots, an abutment having a cutter-receiving groove of unequal depth, and a cutting tool adapted to traverse said slots and enter said grooved abutment.

8. In a device of the class described and in combination, a cutter box having cutter-receiving slots, an abutment having a groove which gradually increases in depth from its center to its ends, and a cutting tool adapted to traverse said slots and enter said grooved abutment.

9. In a device of the class described and in combination, an open ended cutter box inclosed on its four longitudinal sides for substantially half its length, and having longitudinal slots in the walls of said inclosed portion, the planes of which are substantially at right angles to each other, said box throughout the remainder of its length being open at its top and having its side walls provided with a plurality of coincident slots, and a cutting tool adapted to traverse the said longitudinal and transverse slots.

10. In a device of the class described, a base-board slotted longitudinally through a portion of its length and kerfed transversely of its other portion, and inclosing walls carried by said base-board and provided with longitudinal slots and transverse slots coöperating with said slotted and kerfed base-board, respectively.

865,448. CAR-STAKE. JOHN W. STOKOE, Jeanerette, La., assignor of one-half to Henry O. Scranton, Jeanerette, La. Filed May 4, 1907. Serial No. 371,838.



1. The combination with a fixed support having oppositely disposed communicating sectoral recesses and a projecting device within the support and at the point of communication between the recesses; of a stake slidably mounted within the recesses and disposed to swing therein to assume an upright or a non-upright position, said stake having a longitudinal groove into which the projecting device extends, said support having an aperture to receive one end portion of the stake to hold it when in an upright position.

2. The combination with a fixed support having oppositely disposed communicating sectoral recesses, and a projecting device within the support at the point of communication between the recesses; of a stake slidably mounted within said support and disposed when partly withdrawn therefrom to swing within the recesses to assume an upright or a non-upright position, said stake having a longitudinal groove into which the projecting device extends to limit the longitudinal movement of the stake, said support having means to hold the stake when in an upright position and to prevent the swinging movement thereof when extending through the support in a non-upright position.

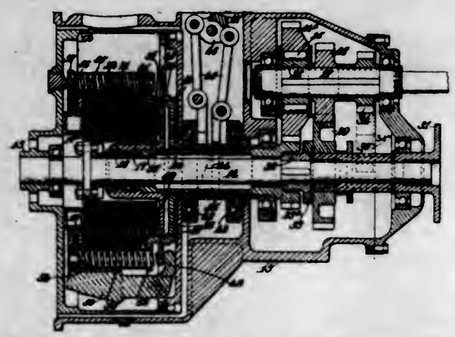
3. The combination with a fixed support having oppositely disposed communicating sectoral recesses, and a projecting device within the support at the point of communication between the recesses; of a stake slidably mounted within said support and disposed when partly withdrawn therefrom to swing within the recesses to assume an upright or a non-upright position, said stake having a longitudinal groove into which the projecting device extends to limit the longitudinal movement of the stake, said support having means to hold the stake when in an upright position and to prevent the swinging movement thereof when extending through the support in a non-upright position, and a weighted flexible device normally housed within the stake and disposed to be partly withdrawn therefrom.

865,449. CLUTCH-DEVICE POWER-TRANSMITTING MECHANISM. THOMAS L. STURTEVANT, Quincy, and THOMAS J. STURTEVANT, Wellesley, Mass., assignors to Sturtevant Mill Company, Portland, Me., a Corporation of Maine. Filed Jan. 21, 1907. Serial No. 353,338.

1. In a power-transmitting mechanism, the combination with a driving and driven part, of a plurality of nested clutch devices, and suitable gearing connections whereby different speeds may be imparted to the said driven part from the said driving part through said clutch devices.

2. In a power-transmitting mechanism, the combination with a driving and driven part, of a plurality of nested, multiple-disk clutch devices, and suitable gearing connections whereby different speeds may be imparted to the said driven part from the said driving part through said clutch devices.

3. In a power-transmitting mechanism, the combination with a driving and driven part, of a plurality of nested automatic clutch devices, and suitable gearing connections whereby different speeds may be imparted to the said driven part from the said driving part through said clutch devices.



4. In a power-transmitting mechanism, the combination with a driving and driven part; of a plurality of nested, centrifugally-engaged clutch devices, and suitable gearing connections whereby different speeds may be imparted to the said driven part from the said driving part through said clutch devices.

5. In a power-transmitting mechanism, the combination with a fly-wheel, of a plurality of clutch devices, inclosed within said fly-wheel and one nested within the clutch circle of the other, of a driven part, and gearing connections between said clutch devices and said driven part whereby different speeds may be imparted to the latter from the said fly-wheel through said clutch devices.

6. In a power-transmitting mechanism, the combination with a fly-wheel, of a plurality of multiple-disk clutch devices inclosed within said fly wheel and one nested within the clutch circle of the other, of a driven part, and gearing connections between said clutch devices and said driven part whereby different speeds may be imparted to the latter from the said fly-wheel.

7. In a power transmitting mechanism, the combination with a fly-wheel, of a plurality of automatic clutch devices inclosed within said fly-wheel and one nested within the clutch circle of the other, of a driven part, and connections between said clutch devices and said driven part whereby different speeds may be imparted to the latter from the said fly-wheel.

8. In a power-transmitting mechanism, the combination with a fly-wheel, of a plurality of centrifugally engaged clutch devices inclosed within said fly wheel and one nested within the clutch circle of the other, of a driven part, and connections between said clutch devices and said driven part whereby different speeds may be imparted to the latter from the said fly-wheel.

9. In a power-transmitting mechanism, the combination with a driving and driven part and suitable gearing, of normally disconnected friction clutch mechanism, automatic means whereby the members of said mechanism are forced in frictional engagement with each other and whereby also speed changes are automatically effected, and a manual controlling device for the automatic clutch mechanism.

10. In a power transmitting mechanism, the combination with a driving and driven part and suitable gearing, of automatic, multiple-disk, speed-changing clutch devices, and a manual controlling device for said automatic clutch devices.

11. In a power-transmitting mechanism, the combination with a driving and driven part and suitable gearing, of normally disconnected friction clutch mechanism, centrifugally-acting means whereby the clutching members of said mechanism are automatically forced into frictional clutching engagement with each other and whereby also speed changes are automatically effected, and a manual controlling device for the centrifugally-engaged clutch mechanism.

12. In a power transmitting mechanism, the combination with a driving and driven part and suitable gearing, of high and low speed clutch devices, one nested within and being driven by the other.

13. In a power transmitting mechanism, the combination with driving and driven parts and suitable gearing, of high and low speed, multiple-disk clutch devices, one nested within and being driven by the other.

14. In a power transmitting mechanism, the combination with driving and driven parts and suitable gearing, of high and low speed clutch devices, one nested within and being driven by the other, and manual controlling devices for the said clutch devices.

15. In a power-transmitting mechanism, the combination with a driving and driven part and suitable gearing, of high and low speed friction clutch devices normally disconnected from each other, automatic means for forcing the clutching parts thereof into frictional engagement with each other, and a manual controlling device whereby the automatic clutch action may be prevented when desired.

16. In a power-transmitting mechanism, the combination with a driving and driven part and suitable gearing, of high and low speed, multiple-disk clutch devices, automatic means for forcing the parts thereof into clutching engagement, and a manual controlling device whereby the automatic clutch action may be prevented when desired.

17. In a power transmitting mechanism, the combination with a driving and a driven part and a suitable gearing, of normally disconnected high and low speed friction clutch devices, centrifugally acting means for forcing the clutching parts thereof into frictional engagement with each other, and a manual controlling device whereby the automatic clutch action may be prevented when desired.

18. In a power-transmitting mechanism, adapted to be used in vehicles, the combination with a driving part, a gear-box, and gearing within said gear-box, of an automatic clutch device located between said driving part and said gear-box, and a manual controlling device for said automatic clutch device.

19. In a power-transmitting mechanism, adapted to be used in vehicles, the combination with a driving part, a gear-box and gearing within said gear-box, of an automatic clutch device located between said driving part and said gear-box, a fly-wheel within which the parts of said automatic clutch device are housed, and a manual controlling device for said automatic clutch device.

20. In a power-transmitting mechanism adapted to be used in vehicles, the combination with a driving part, a gear-box, and gearing within said gear-box, of a multiple-disk, automatic clutch device located between said driving part and said gear-box, and a manual controlling device for said automatic clutch device.

21. In a power-transmitting mechanism adapted to be used in vehicles, the combination with a driving part, a gear-box, and gearing within said gear-box, of a multiple disk, automatic clutch device located between said driving part and said gear-box, a fly-wheel within which the parts of said automatic clutch device are housed, and a manual controlling device for said automatic clutch device.

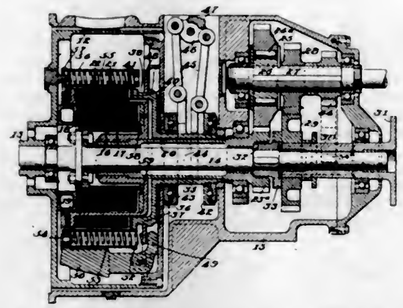
22. In a power-transmitting mechanism adapted to be used in vehicles, the combination with a driving part, a gear-box, and gearing within said gear-box, of a centrifugally-controlled, friction clutch device located between said driving part and said gear-box, and a manual controlling device whereby the automatic clutching action of said clutch device may be prevented, when desired.

23. In a power-transmitting mechanism adapted to be used in vehicles, the combination with a driving part, a gear-box, and gearing within said gear-box, of a multiple-disk, centrifugally-controlled, friction clutch device located between said driving part and said gear-box, and a manual controlling device whereby the automatic clutching action of said clutch device may be prevented, when desired.

24. In a power-transmitting mechanism adapted to be used in vehicles, the combination with a driving part, a gear-box, and gearing within said gear-box, of a centrifugally-controlled, friction clutch device located between said driving part and said gear-box, a fly-wheel within which all of the parts of said centrifugally-controlled clutch device are housed, and a manual controlling device whereby the automatic clutching action of said clutch device may be prevented, when desired.

25. In a power-transmitting mechanism adapted to be used in vehicles, the combination with a driving part, a gear-box, and gearing within said gear-box, of a multiple-disk, centrifugally-controlled, friction clutch device located between said driving part and said gear-box, a fly-wheel within which all of the parts of said centrifugally controlled clutch device are housed, and a manual controlling device whereby the automatic clutching action of said clutch device may be prevented, when desired.

865,450. CLUTCH DEVICE. THOMAS L. STURTEVANT, Quincy, and THOMAS J. STURTEVANT, Wellesley, Mass., assignors to Sturtevant Mill Company, Portland, Me., a Corporation of Maine. Filed Mar. 28, 1907. Serial No. 365,055.



1. In a power-transmitting mechanism, adapted for use in motor vehicles, the combination with driving and driven parts, of a normally disengaged, multiple-disk friction clutch device, automatic means for forcing the parts thereof into clutching engagement when said driving part reaches a certain predetermined speed of rotation, and a manual device by which the frictional clutch pressure of the clutching disks against each other may be controlled so that the clutching action of the clutch device may be effected or prevented and also so that the speed of the said driven part may be regulated or varied without changing the running speed of the driving part.

2. In a power-transmitting mechanism, adapted for use in motor vehicles, the combination with driving and driven parts and a closed casing adapted to hold a liquid lubricant, of a multiple-disk, friction clutch device tightly inclosed within said casing, automatic means for forcing the parts of said clutch device into clutching engagement when said driving part reaches a certain predetermined speed of rotation, and a manual device by which the frictional clutching pressure of the said disks against each other may be controlled so that the clutching action of the clutch device may be effected or prevented and also so that the speed of the said driven part may be regulated or varied without changing the running speed of the said driving part.

3. In a power-transmitting mechanism, adapted for use in motor vehicles, the combination with driving and driven parts and a closed casing adapted to hold a liquid lubricant, of a multiple-disk friction clutch device tightly inclosed within said casing, automatic means, also inclosed within said casing, for forcing the parts of said clutch device into clutching engagement when said driving part reaches a certain predetermined speed of rotation, and a manual device by which the frictional pressure of the said disks against each other may be controlled so that the clutching action of the clutch device may be effected or prevented and also so that the speed of the said driven part may be regulated or varied without changing the running speed of the said driving part.

4. In a power-transmitting mechanism, adapted for use in motor vehicles, the combination with driving and driven parts and a closed casing adapted to hold a liquid lubricant, of a multiple-disk, friction clutch device tightly inclosed within said casing, centrifugally acting means also inclosed within said casing, for forcing the parts of said clutch device into clutching engagement, and a manual device by which the frictional clutching pressure of the said disks against each other may be controlled so that the clutching action of the clutch device may be effected or prevented, and also so that the speed of the said driven part may be regulated or varied without changing the running speed of the said driving part.

5. In a power-transmitting mechanism, adapted for use with motor-vehicles, the combination with a tightly-closed fly-wheel adapted to hold a liquid lubricant, of a normally-disengaged, multiple-disk clutch-device inclosed within the same, automatic means, also inclosed within said fly-wheel, for forcing the parts of the said clutch device into clutching engagement when a certain predetermined speed of rotation is reached, and a manual controlling device for the said automatic clutch device.

6. In a power-transmitting mechanism, adapted for use with motor vehicles, the combination with a tightly closed fly-wheel adapted to hold a liquid lubricant, of a normally-disengaged, clutch-device inclosed within the same, centrifugally actuated means, also inclosed within said fly-wheel, for forcing the parts of the said clutch device into clutching engagement, and a manual controlling device for the said centrifugally engaged clutch device.

7. In a power-transmitting mechanism, the combination with driving and driven parts, of high and low speed, multiple-disk clutch devices, one nested within and being driven by the other.

8. In a power-transmitting mechanism, the combination with driving and driven parts, of high and low-speed clutch devices, one nested within and being driven by the other, and manual controlling devices for the said clutch-devices.

9. In a power-transmitting mechanism, the combination with a driving and driven part, of high and low speed, multiple-disk clutch-devices, automatic means for forcing the clutching parts thereof into clutching engagement, and a manual controlling device whereby the automatic clutch action may be prevented when desired.

10. In a power-transmitting mechanism, the combination with a normally-disengaged clutch-device and centrifugally-acting, automatic means, housed within a rotating part, for forcing the clutching parts thereof into clutching engagement, of a manual controlling device for said clutch device whereby the automatic engagement of the clutching parts may be prevented, or whereby the clutching engagement of said parts may be effected independently of the centrifugally-acting automatic engaging devices.

11. In a power-transmitting mechanism, the combination with a driving and a driven part, of a normally disengaged clutch device, automatic means for causing engagement of the clutching parts when the driving part reaches a certain predetermined speed of rotation, for the purpose of setting the driven part in motion, a manual controlling device by which clutch engagement of the parts may be prevented or effected, one or more "manual-control" springs and one or more "automatic-control" springs cooperating, respectively, with the manual controlling device and the automatic clutch-engaging means.

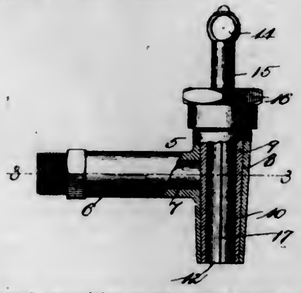
12. In a power-transmitting mechanism, the combination with a driving and a driven part, of a normally disengaged clutch device, a fly-wheel within which said clutch device is inclosed, automatic means within said fly-wheel for causing engagement of the clutching parts when the driving part reaches a certain predetermined speed of rotation, for the purpose of setting the driven part in motion, a manual controlling device, outside said fly-wheel, by which clutch engagement of the parts may be prevented or effected, one or more "manual-control" springs and

one or more "automatic-control" springs coöperating, respectively, with the manual controlling device and the automatic clutch-engaging means.

13. In a power-transmitting mechanism, the combination with a driving and a driven part, of a normally disengaged multiple-disk clutch device, centrifugally-controlled means for causing engagement of the clutching parts when the driving part reached a certain predetermined speed of rotation, for the purpose of setting the driven part in motion, a manual controlling device by which clutch engagement of the parts may be prevented or effected, one or more "manual-control" springs and one or more "automatic-control" springs coöperating, respectively, with the manual controlling device and the automatic clutch-engaging means.

14. In a power-transmitting mechanism, the combination with a driving and a driven part, of a normally disengaged clutch device, a fly-wheel within which said clutch device is inclosed, centrifugally-controlled means within said fly-wheel for causing engagement of the clutching parts when the driving part reaches a certain predetermined speed of rotation, for the purpose of setting the driven part in motion, a manual controlling device, outside said fly-wheel, by which clutch engagement of the parts may be prevented or effected, one or more "manual-control" springs and one or more "automatic-control" springs coöperating, respectively, with the manual controlling device and the automatic clutch-engaging means.

865,451. FAUCET. WILLIAM H. SWIFT, Everett, Mass. Filed Sept. 12, 1906. Serial No. 334,225.



1. A faucet comprising in its construction a casing provided with an inlet chamber, a valve rotatably mounted in said casing and extending transversely across said chamber, and a partition fast to said valve extending longitudinally thereof and rotatable therewith, whereby when said valve is rotated one edge of said partition will be moved across and adjacent to the inner end of said inlet chamber.

2. A faucet comprising in its construction a casing provided with an inlet chamber, a valve rotatably mounted in said casing and extending transversely across said chamber, said valve having a passage extending longitudinally thereof and having an inlet port opening into said inlet chamber and provided with an orifice opening through the bottom of said valve, a partition fast to said valve and rotatable therewith extending longitudinally of and laterally across said valve passage, the inner edge adjacent to and extending across said port.

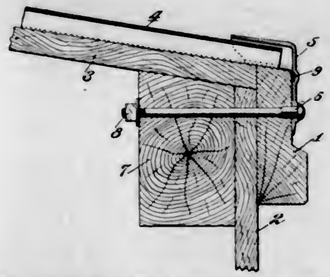
3. A faucet comprising in its construction a valve, a casing having a valve chamber therein adapted to receive said valve, said casing provided with an inlet chamber which opens into a passage extending longitudinally of said valve and opening out of one end thereof, and a partition fast to said valve and rotatable therewith extending longitudinally of and laterally across said valve passage.

4. A faucet comprising in its construction a conical valve, a casing having a conical valve chamber therein adapted to receive said valve, said casing provided with an inlet chamber which opens into a passage extending longitudinally of said valve and opening out of one end thereof, means to force said valve longitudinally thereof into said valve chamber, said valve provided in its periphery between said inlet passage and said forcing means with an annular groove, and a partition extending longitudinally of and across said valve passage.

5. A faucet comprising in its construction a casing provided with an inlet chamber, a conical valve extending transversely across said chamber and rotatably mounted in a conical valve chamber provided in said casing, said valve having a passage extending longitudinally thereof and having an inlet port opening into said inlet chamber and provided with an orifice opening through the bottom of said valve, said valve also provided with an annular groove in its periphery between the top thereof and said port, and a partition extending longitudinally of said valve passage and across said port.

6. A faucet comprising in its construction a T-shaped casing, one arm of said T having a conical valve chamber therein, a conical valve fitting in said chamber, said valve having a passage extending longitudinally thereof and having an inlet port therein opening into an inlet chamber provided in the other arm of said T, said passage opening out of the bottom of said valve, and a partition fast to said valve and rotatable therewith extending entirely across and substantially the entire length of said valve passage, one edge of said partition adjacent to and extending across said port.

865,452. CAR-ROOF. JOHN J. TATUM, Baltimore, Md., assignor to Peter H. Murphy, St. Louis, Mo. Filed June 25, 1906. Serial No. 323,328.



1. The combination with a car, of an eaves fascia secured on the side sheathing flush with the upper face of the wooden roof, the lower portion of the fascia being thicker than the upper portion and extending beyond the lines of the car roof, and a metal roof having a downturned margin overhanging the upper portion of the fascia and roof clips secured to the upper portion of the fascia, whereby said margin and clips are protected, by the lower thicker portion of the fascia against cornering and side scraping.

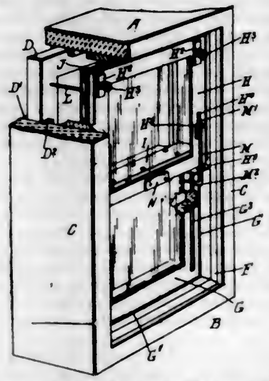
2. A car having a fascia, the upper portion of which is thinner than the lower portion to provide a seat for the roof sheets and clips within the lines of the fascia.

3. A box car having a fascia and a roof having a downturned margin overhanging the fascia, the lower portion of the fascia being thicker than the upper portion and extending below said margin.

4. A box car having a fascia whose lower portion is thicker than its upper portion, a metal roof whose margin overhangs the upper portion of the fascia, and clips for fastening said metal roof, said clips being mounted on the upper portion of said fascia whereby they are protected by the lower thicker portion against side scraping.

865,453. STORM-SASH FOR WINDOWS. DAVIDSON TODD, Toronto, Ontario, Canada. Filed July 2, 1906. Serial No. 324,476.

1. In storm sashes for windows, the combination with the ordinary top and lower sashes, of a storm sash provided with top and bottom and side weather strips, a top plate bridging the tops of the ordinary bottom sash and storm sash and secured to the same as and for the purpose specified.



2. In storm sashes for windows, the combination with the ordinary top and lower sashes, of a storm sash provided with top and bottom and side weather strips, a top plate bridging the tops of the ordinary bottom sash and storm sash and secured to the same, and a pin extending through the bottom rails of the storm and ordinary lower sashes as and for the purpose specified.

3. In storm sashes for windows, the combination with the upper sash, of a detachable storm sash located to the inside of the lower sash, and detachable means for connecting it to the upper sash, whereby they may move in unison as and for the purpose specified.

4. In storm sashes for windows, the combination with the upper sash, of a detachable storm sash located to the inside of the lower sash, and hooks screwed into the ordinary upper sash and eyes extending through the storm sash through which the hooks extend, and detachable means for connecting the bottom of the storm sash to the bottom of the ordinary lower sash as and for the purpose specified.

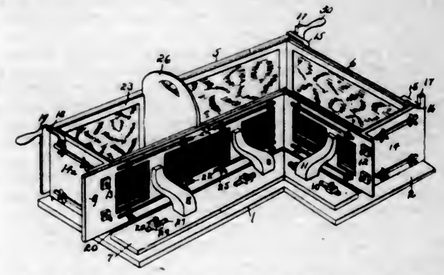
5. In storm sashes for windows, the combination with the upper sash, of a detachable storm sash located to the inside of the lower sash, and hooks screwed into the ordinary upper sash and eyes extending through the storm sash through which the hooks extend, the lower storm sash secured to the lower ordinary sash and provided with suitable weather strips, and the L-shaped bars held in suitable brackets and extending into slots in the upper storm sash and lower storm sash as and for the purpose specified.

6. In storm sashes for windows, the combination with the ordinary upper and lower sashes, of the upper and lower storm sashes, the lower one being securely affixed to the ordinary lower sash and the upper one being detachably connected at the top to the upper sash, so that it will swing on the connection, and L-shaped bars extending into slots in the upper and lower storm sashes, the lower slot in the lower storm sash being under-cut and provided with a lateral enlargement at the top as and for the purpose specified.

865,454. MACHINE FOR MAKING CONCRETE BLOCKS. WALLACE G. TOWER, Kansas City, Mo., assignor of three-fourths to Edward E. Evans, Kansas City, Mo. Filed Sept. 26, 1905. Serial No. 280,167.

1. In a device of the class described, a suitable platform, side and end gates having slots therein carried on said platform, mold plates having studs thereon mounted on said gates with said studs projecting through the slots in said gates and nuts on said studs substantially as and for the purpose set forth.

2. In a concrete-block machine, a plurality of interchangeable face-plates provided with outwardly-projecting screw-studs, in combination with a hinged mold member which is provided with openings adapted to receive said studs.



3. In a concrete-block machine, a hinged mold member provided with a slot, and a detachable face-plate provided with means passing through the slot for attaching the face-plate to the mold member.

4. In a concrete-block machine, a hinged mold member provided with two slots, and a detachable face-plate provided with means passing through the slots for attaching the face-plate to the mold member.

5. In a concrete-block machine, a hinged mold member having openings adapted to receive projections on a detachable face-plate in combination with a detachable face-plate which is provided with such projections, and nuts for securing said projections in position.

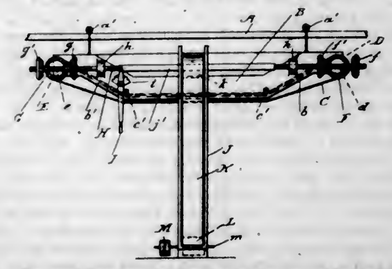
6. In a device of the class described, a platform having slots therein, suitable front and end gates, a slotted base plate movable on said platform, a back plate mounted on said base plate, and means extending through the slots in said platform and base plate for binding said base plate to said platform.

7. In a device of the class described, a platform having slots therein, suitable front and end gates, a base plate movable on said platform and having slots therein extending at right angles to the slots in said platform, and bolts extending through said slots for binding said base plate and platform together.

8. In a device of the class described, a platform having slots therein, a front gate hinged to said platform, a slotted base plate movable on said platform and carrying a back gate, end gates rigid on said back gate, and means for binding said base plate to said platform.

9. In a device of the class described, a slotted platform, a front gate hinged to said platform, a base plate movable on said platform and having slots therein extending at right angles to the slots in the platform, end gates rigid on said back plate, latches on said end gates engaging said front gate and separate mold plates carried by said gates for the purpose set forth.

865,455. CONVEYER. JEREMIAH D. TRAVIS, Fairbury, Ill. Filed Jan. 31, 1907. Serial No. 355,051.



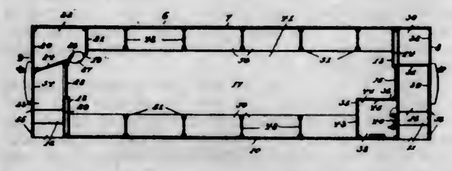
1. The combination, with an elevator provided with an endless apron, of a conveyer arranged at a right-angle to

the said elevator and also provided with an endless apron, a beveled toothed wheel at each end of the said conveyer for driving it, a longitudinally slidable shaft driven by the said elevator, and beveled toothed wheels secured in pairs on the end portions of the said shaft and slidable with it into and out of gear with the aforesaid beveled wheels.

2. The combination, with an elevator provided with an endless apron, of a conveyer trough arranged at a right angle to the said elevator and at the upper end thereof and provided with upwardly and outwardly inclined end portions, an endless conveyer apron working in the said conveyer trough, driving devices provided with beveled toothed wheels for driving each end of the said conveyer apron, a longitudinally slidable shaft driven by the upper end portion of the said elevator, and beveled toothed driving wheels arranged in pairs and secured on the opposite end portions of the said slidable shaft and movable into and out of engagement with the aforesaid beveled wheels.

3. The combination, with an elevator provided with an endless apron and a driving drum at the upper end of the said apron having a square hole, of a conveyer arranged at a right angle to the said elevator, a longitudinal driving shaft having a square portion which is slidable in the hole of the said driving drum, and reversible driving devices operatively connecting both end portions of the said shaft with the respective end portions of the said conveyer.

865,456. PASSENGER STREET-CAR. WILLIAM S. TWINING. Philadelphia, Pa. Filed June 24, 1907. Serial No. 380,494.



1. In a car of the character described, a car-body structure having a floor and landings, steps terminating at said landings, one of said landings being arranged below the floor of said structure and above the steps leading thereto and a cab for a motorman arranged within the body of the structure behind the lower landing and steps thereof.

2. In a car of the character described, a car-body structure having an extension at one end and a floor, a structure forming a cab for a conductor and arranged partly in said extension and partly in said body structure, a landing arranged in alinement with the floor of said structure and opposite said extension, a second structure forming a motorman's cab arranged within said body structure, a second landing carried by said structure and arranged below the floor thereof and steps connected with each of said landings.

3. In a car of the character described, a body having a sand box attachment at one end parallel to one of the longitudinal walls thereof, a cab arranged at the opposite end and in alinement with said attachment, landings extending respectively from said attachment and cab, and steps leading to said landings and arranged on the other of the longitudinal walls of said body.

4. In a car of the character described, a car-body structure having a floor and openings arranged in each end and in the longitudinal central axis thereof, a door arranged to open and close each of the openings, entrance and exit landings arranged respectively in alinement with the floor and below the same in front of the doors, entrance and exit steps at the ends terminating at the landings, a structure forming a cab for a conductor arranged in an extension partly outside of the body of said structure and terminating opposite the exit landing and steps, a structure forming a cab for a motorman arranged within said body structure at the entrance end thereof and both of said structures being arranged sidewise of the longitudinal central axis of said body structure.

5. In a car of the character described, a car-body structure having openings arranged in each end and in the longitudinal central axis thereof, a door arranged to open and close each of the openings, entrance and exit landings in front of the doors, entrance and exit steps at the ends and terminating at the landings, a structure forming a cab for a conductor in an extension of the body of said structure and terminating within said body, a second structure arranged within said body structure and forming a motorman's cab and means for opening said doors from within the conductor's and motorman's cabs.

6. In a car of the character described, a car body structure having side and transverse walls, a floor and a roof, a structure formed of walls connected with each other and respectively with one of the side and transverse walls, a series of partition-walls arranged alongside of each of the side-walls and connected with the same and floor and projecting a certain distance therefrom, seats carried by the partition walls, and a rod supported by each of the partition walls and connected with the roof of said body structure.

7. In a car of the character described, a car body structure having side and transverse walls, a floor and a roof, structures formed of walls respectively connected with one of the sides and one of the transverse walls thereof arranged in opposite corners of the body, a series of partition-walls arranged alongside of the side-walls and connected with the same and floor and projecting a certain distance therefrom, seats carried by the partition walls, and a rod supported by each of the partition-walls and connected with the roof of said body structure.

8. In a car of the character described, a car body structure consisting of side-walls of different lengths and transverse walls extending from the ends of the side-walls of shorter length, a landing carried by the body at each end thereof and arranged with the outer edge in alinement with the ends of the longer side wall of the body, and a structure formed of walls respectively connected with the longer one of the side walls and one of the transverse walls and extending for a certain portion on both sides thereof.

9. In a car of the character described, a car body structure having step-like landings and doors at both ends, a sand-box attachment located opposite one of said landings, motorman and conductor cabs both arranged within the structure and one arranged to form an extension of the body of said structure, the sand-box attachment of said structure arranged to be instantly accessible from outside of the body of said structure.

10. In a car of the character described, a car body structure having landings leading directly to openings, doors respectively connected with said body structure and motorman and conductor cabs respectively located within and partially within and outside of the body of the car-structure.

11. In a car of the character described, a car body structure, consisting of side walls of different length and transverse walls extending from the ends of the side wall of shorter length, a landing carried by the car body structure at each end and arranged with the outer edge in alinement with the ends of the longer side wall, a structure formed of walls respectively connected with the shorter side wall and one of the transverse walls, and a second structure formed of walls respectively connected with the longer side wall and one of the transverse walls and extending for a certain portion on both sides thereof.

12. In a car of the character described, a car body structure, consisting of side walls of different length and transverse walls extending from the ends of the side wall of shorter length, a landing carried by the car body structure at each end and arranged with the outer edge in alinement with the ends of the longer side wall, a structure formed of walls respectively connected with the shorter side wall and one of the transverse walls, a second structure formed of walls respectively connected with the longer side wall and one of the transverse walls and extending for a certain portion on both sides thereof and a series of partition walls arranged within the car body structure and opposite the side walls thereof.

13. In a car of the character described, a car body structure consisting of side walls of different lengths and transverse walls extending from the ends of the side wall of shorter length, a landing carried by the car body structure at each end and arranged with the outer edge in alinement with the ends of the longer side wall, a structure formed of walls respectively connected with the shorter side wall and one of the transverse walls, a second structure formed of walls respectively connected with the longer side wall and one of the transverse walls and extending for a certain portion on both sides thereof, a series of partition walls arranged within the car body structure and opposite the side walls thereof and seats carried by said partition walls.

14. In a car of the character described, a car body structure, consisting of side walls of different lengths and transverse walls extending from the ends of the side wall of shorter length, a landing carried by the car body structure at each end and arranged with the outer edge in alinement with the ends of the longer side wall, a structure formed of walls respectively connected with the shorter side wall and one of the transverse walls, a second structure formed of walls respectively connected with the longer side wall and one of the transverse walls and extending for a certain portion on both sides thereof, a series of partition walls arranged within the car body structure and opposite the side walls thereof, seats carried by said partition walls and rods carried by each of said partition walls to form handholds.

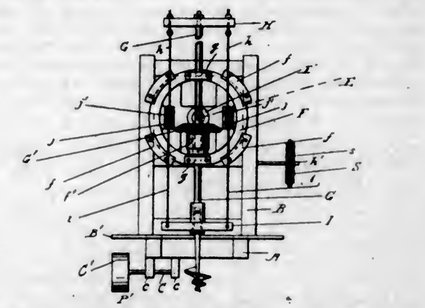
15. In a car of the character described, a car body structure consisting of a floor and roofs, side walls of different lengths with respect to each other, transverse walls extending from the ends of the side walls of shorter length and connected with the floor and one of the roofs, a landing carried by the car body structure at each end and arranged with the outer edge in alinement with the ends of the longer side wall, a structure formed of walls respectively connected with the longer side wall and one of the transverse walls and extending for a certain portion on both sides thereof, a series of partition walls supported by said floor and arranged within the car body structure and connected with the side walls thereof, seats carried by said partition walls, rods carried by said partition walls and forming in conjunction therewith supports for said roofs.

16. In a car of the character described, a car body structure consisting of a floor and roofs, side walls of different lengths with respect to each other, transverse walls extending from the ends of the side wall of shorter length and connected with the floor and one of the roofs, a landing carried by the car body structure at each end and arranged with the outer edge in alinement with the ends of the longer side wall, a structure formed of walls respectively connected with the shorter side wall and one of the transverse walls, a second structure formed of walls respectively connected with the longer side wall and one of the transverse walls and extending for a certain portion on both sides thereof, a series of partition walls supported by said floor and arranged within the car body structure and connected with the side walls thereof, seats carried by said partition walls and forming in conjunction therewith supports for said roofs.

17. In a car of the character described, a car body structure, consisting of a floor and roofs, side walls of different lengths with respect to each other, transverse walls extending from the ends of the side wall of shorter length and connected with the floor and one of the roofs, a landing carried by the car body structure at each end and arranged with the outer edge in alinement with the ends of the longer side wall, a structure formed of walls respectively connected with the shorter side wall and one of the transverse walls, a second structure formed of walls respectively connected with the longer side wall and one of the transverse walls and extending for a certain portion on both sides thereof, a series of partition walls supported by said floor and arranged within the car body structure and connected with the side walls thereof, seats carried by said partition walls, rods carried by said partition walls and forming in conjunction therewith supports for said roofs and doors arranged in each of said transverse walls and in the central longitudinal axis of said car body structure and opposite the landings thereof.

18. In a car of the character described, a car body structure, consisting of a floor and roofs, side walls of different lengths with respect to each other, transverse walls extending from the ends of the side wall of shorter length and connected with the floor and one of the roofs, a landing carried by the car body structure at each end and arranged with the outer edge in alinement with the ends of the longer side wall, a structure formed of walls respectively connected with the shorter side wall and one of the transverse walls, a second structure formed of walls respectively connected with the longer side wall and one of the transverse walls and extending for a certain portion on both sides thereof, a series of partition walls supported by said floor and arranged within the car body structure and connected with the side walls thereof, seats carried by said partition walls, rods carried by said partition walls and forming in conjunction therewith supports for said roofs, doors arranged in each of said transverse walls and in the central longitudinal axis of said car body structure and opposite the landings thereof and a railing carried by said landing and arranged parallel to said doors.

865,457. POST-HOLE-BORING MACHINE. LYNDON J. VAN KIRK, Rush Lake, Wis. Filed Feb. 28, 1907. Serial No. 359,916.



1. The combination, with a supporting base, of a frame pivoted at one end to the said base, a vertical driving-shaft passing through the pivot of the said frame and provided with means for revolving it, a boring-shaft arranged at the free end portion of the said frame in a plane parallel to the said driving shaft, disengageable feed-mechanism operated from the said driving-shaft for moving the said boring-shaft longitudinally, and intermediate driving mechanism between the said vertical shaft and the said boring-shaft.

2. The combination, with a supporting frame provided with curved guides, of a plate journaled in the said guides and provided with bearings, guide-sheaves carried by the said plate a boring-shaft mounted in the said bearings, a driving-wheel splined to the said boring-shaft for revolving it, a crossbar mounted on the said boring-shaft, and flexible connections connected to the said cross-bar and passing over the said guide sheaves for moving the said boring-shaft longitudinally.

3. The combination, with a supporting frame provided with curved guides, of an annular plate provided with bearings and adjustable in the said guides, a boring-shaft slidable longitudinally in the said bearings, crossbars carried by the upper and lower portions of the said boring-shaft, a revoluble feed-barrel journaled in the said frame, a revoluble lifting-barrel also journaled in the said frame, ropes wound on the said barrels and connected with the upper and lower crossbars respectively, guide-sheaves for the said ropes carried by the said annular plate, and driving-mechanism for revolving the said boring-shaft.

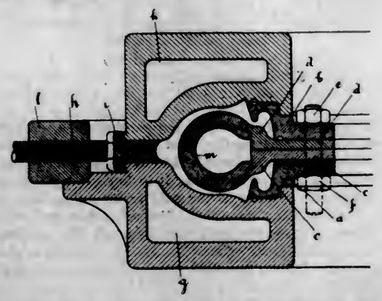
4. The combination, with a boring-shaft, and driving-

mechanism for the said boring-shaft provided with a beveled toothed wheel; of a supporting frame, a driving-shaft journaled in the said frame, two beveled toothed pinions each provided with a clutch-member and gearing into the said wheel, clutch-members splined to the said driving-shaft and slidable into engagement with the aforesaid clutch-members, a feed-barrel and a lifting-barrel also journaled in the said frame, and disengageable driving-mechanism for connecting the said barrels alternately with the said shaft.

5. The combination, with a supporting frame, of a feed-barrel and a lifting-barrel each provided with a shaft and journaled in the said frame, a driving-shaft also journaled in the said frame and provided with means for revolving it in each direction, a clutch-member secured on the lifting-barrel shaft, a clutch-member loose on the said lifting-barrel-shaft, a wheel loose on the shaft between the two said clutch-members and provided with clutch-members for engaging with them alternately, means for sliding the said wheel longitudinally on its shaft, driving-mechanism connecting the said loose clutch-member with the feed-barrel shaft, and means for driving the said wheel from the said driving-shaft.

6. The combination, with a supporting frame, of a feed-barrel and a lifting-barrel each provided with a shaft and journaled in the said frame, a driving-shaft also journaled in the said frame and provided with clutch-mechanism for starting and stopping it, a clutch-member secured on the lifting-barrel shaft, a clutch-member loose on the said lifting-barrel shaft, a wheel loose on the shaft between the two said clutch-members and provided with clutch-members for engaging with them alternately, a single operating lever for sliding the said wheel longitudinally on its shaft and for operating the aforesaid clutch-mechanism on the driving-shaft, driving devices connecting the said loose clutch-member with the feed-barrel shaft, and means for driving the said wheel from the said driving-shaft.

865,458. MOLD FOR PNEUMATIC TIRES. FRIEDRICH VEITH, Veithwerk, near Höchst, Germany. Filed Sept. 28, 1906. Serial No. 336,522.



1. A mold for the outer casings of pneumatic tires, comprising upper and lower mold sections adapted to receive the unfinished casing between them, and having an annular groove or slot between them, and a contractile ring movable in said groove or slot.

2. A mold for the outer casings of pneumatic tires, comprising upper and lower mold sections adapted to receive the unfinished casing between them, and having an annular groove or slot between them, and a segmental ring the segments of which are movable radially in said groove or slot.

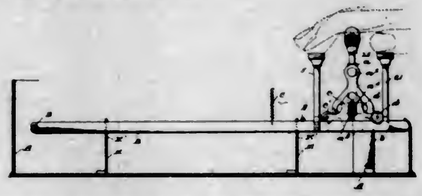
3. A mold for the outer casings of pneumatic tires, comprising upper and lower mold sections adapted to receive the unfinished casing between them, a ring surrounding the mold, segments movable radially in said groove or slot, and adjusting screws extending from said ring to the segments.

4. A mold for the outer casings of pneumatic tires, comprising a stationary core made in sections, and movable outer mold-sections coöperating with the core sections.

5. A mold for the outer casings of pneumatic tires, comprising a core consisting of a core ring, and of upper and lower inner core sections fitted against said ring, edge-forming sections engaging said inner core sections, and outer sections embracing the edge-forming sections and surrounding the core sections.

6. A mold for the outer casings of pneumatic tires, comprising a core consisting of a core ring and of movable inner sections, edge-forming sections each connected individually with one of the inner core sections, so as to clamp each edge of the outer casing separately, and outer sections surrounding the core sections.

865,459. KEYBOARD FOR TYPE-WRITING AND OTHER MACHINES ON WHICH A KEYBOARD IS USED. JOHN B. VIDAL, Habana, Cuba. Filed Jan. 24, 1907. Serial No. 353,808.



1. In a typewriter keyboard, the combination with the key levers, of a series of multiple operation keys comprising a supporting standard, a sleeve pivotally mounted on said standard, said key being slidably mounted through said sleeve and alined with one of said key levers, a pair of levers pivoted on said standard and each arranged on one of said key levers and means for actuating said levers to depress their corresponding key lever on the forward or backward movement of said keys, substantially as described.

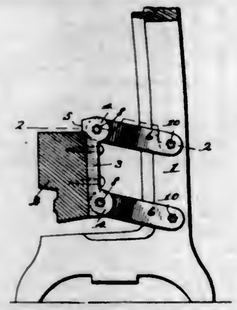
2. In a typewriter key board, the combination with the key levers, of a series of multiple operation keys comprising a vertical support to which the key is slidably attached above one of said key levers, a pair of levers mounted adjacent said key and each arranged on one of said key levers, and means for actuating said levers to depress their corresponding key lever on the forward or backward movement of said keys, substantially as described.

3. In a typewriter key board, the combination with the key levers, of a series of keys arranged to be operated by the fingers, a second series of keys adapted to be operated by the thumbs, and a series of keys, each capable of more than one operation, comprising a vertical support to which the key is slidably and movably mounted above one of said key levers, a pair of levers mounted adjacent said key and each arranged on one of said key levers, and means for actuating said levers to depress their corresponding key lever on the forward or backward movement of said key, substantially as described.

4. In a typewriter key board, the combination with the key levers, of a series of keys arranged to be operated by the fingers, a second series of keys adapted to be operated by the thumbs, and a series of keys arranged between said first two series, each key of said last named series being capable of operating three of said key levers and comprising a vertical support, a sleeve pivotally mounted on said support, said key being slidably mounted through said sleeve and alined with one of said key levers, a pair of levers pivoted on said standard and each arranged on one of said key levers and means for actuating said levers to depress their corresponding key lever, on the forward or backward movement of said keys, substantially as described.

5. In a typewriter key board, the combination with the key levers of a series of keys each capable of actuating three of said levers, comprising a vertical support, a sleeve pivotally mounted on said support, said key being slidably mounted through said sleeve and alined over one of said key levers, said vertical support being provided with a transverse slot, a pair of oppositely disposed bell-crank levers pivoted beneath said slot, having their vertical arms adjacent one another and their horizontal arms each arranged on one of said key levers, said key sleeve being provided with a pin extending through said slot and between said bell-crank levers and adapted to actuate said levers to depress their corresponding key lever on the forward or backward movement of the key, substantially as described.

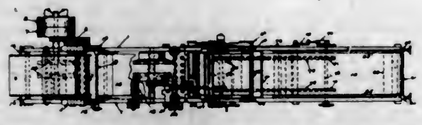
865,460. PIANO-ACTION RAIL-SUPPORT. WILLIAM C. VOGEL and HARRY K. SNELL, Rockford, Ill. Filed Nov. 17, 1906. Serial No. 343,869.



1. In a piano, the combination with a lower lever rail and a vertical action bracket, a plate carried by the rail and having two pairs of lugs, links each having a bifurcated portion, the non-bifurcated end portion of each link resting between a pair of the said lugs, and the bifurcated portion straddling the vertical action bracket, and pins pivotally connecting said links to the plate and to the action bracket respectively.

2. A device of the kind described comprising in combination, a lower lever rail, a vertical action bracket, a plate having upwardly extending and depending lugs arranged in pairs, the upper lugs having shoulders formed thereon, said shoulders overhanging and resting upon the lever rail and links each bifurcated at their forward ends, the non-bifurcated ends of the links being pivoted between the lugs, and their bifurcated ends straddling the action bracket and being pivotally connected thereto, as and for the purpose set forth.

865,461. MACHINE FOR CUTTING CRACKERS AND THE LIKE. PAUL S. WARD, Covington, Ky., assignor to The J. H. Day Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Apr. 23, 1906. Serial No. 313,247.



1. In a machine for cutting crackers and the like, means for feeding the sheet of dough continuously through the machine, reciprocating mechanism for cutting same into cakes, with means for moving the cutting mechanism during the cutting operation in line with and at the same rate of speed as the continuously moving sheet.

2. In a machine for cutting crackers and the like, means for feeding the sheet of dough continuously through the machine, reciprocating mechanism for cutting same into cakes, with means for moving the cutting mechanism during the cutting operation in line with and at the same rate of speed as the continuously moving sheet, with means for removing the scrap from the cut sheet.

3. In a machine for cutting crackers and the like, means for feeding the sheet of dough continuously through the machine, a cutter acting at right angles to the sheet, a frame carrying the cutter, with connecting mechanism therefor with the means for feeding the sheet, whereby the frame and cutter may be moved in unison, and in line with the continuously moving sheet.

4. In a machine for cutting crackers and the like, an endless apron, with means for moving same to carry the sheet of dough continuously through the machine, reciprocating mechanism for cutting same into cakes, with means for moving the cutting mechanism during the cutting operation in line with and at the same rate of speed as the endless apron.

5. In a machine for cutting crackers and the like an endless apron, with means for moving same to carry the sheet of dough continuously through the machine, a cutter acting at right angles to the apron, a frame carrying the cutter, with connecting mechanism therefor with the apron moving mechanism, whereby the frame and cutter may be moved in unison, and in line with the apron.

6. In a machine for cutting crackers and the like, an endless apron, with means for moving same to carry the sheet of dough continuously through the machine, reciprocating mechanism for cutting the dough sheets into cakes, with means for moving the cutting mechanism during the cutting operation in line with and at the same rate of speed as the continuously moving sheet.

7. In a machine for cutting crackers and the like, rollers for forming a sheet of dough, means for feeding the sheet of dough continuously through the machine, reciprocating mechanism for cutting same into cakes, with means for moving the cutting mechanism during the cutting operation in line with and at the same rate of speed as the continuously moving sheet.

8. In a machine for cutting crackers and the like, rollers for forming the sheet of dough, an endless apron, with means for moving same to feed the sheet continuously through the machine, reciprocating mechanism for cutting same into cakes, with means for moving the cutting mechanism during the cutting operation in line with and at the same rate of speed as the continuously moving sheet.

9. In a machine for cutting crackers and the like, rollers for forming the sheet of dough, an endless apron, with means for moving same to feed the sheet continuously through the machine, a cutter acting at right angles to the sheet, a frame carrying the cutter, with connecting mechanism therefor with the means for moving the apron, whereby the frame and cutter may be moved in unison and in line with the traveling apron.

10. In a machine for cutting crackers and the like, means for feeding the sheet of dough continuously through the machine, reciprocating mechanism for cutting same into cakes, a crank shaft with adjustable crank thereon and connecting mechanism therefor with the cutting mechanism and the sheet feeding means, whereby the movement of the cutting mechanism in unison with the travel of the dough sheet may be equalized.

11. In a machine for cutting crackers and the like, means for feeding the sheet of dough continuously through the machine, a cutter acting at right angles to the sheet, a frame carrying the cutter, a crank shaft with adjustable crank thereon, connecting mechanism therefor with the cutting bed and the sheet feeding means, whereby the movement of the cutting bed in unison with the travel of the dough sheet may be equalized.

12. In a machine for cutting crackers and the like, an endless apron, with means for moving same to carry the sheet of dough continuously through the machine, a cutter acting at right angles to the apron, a frame carrying the cutter between which and the cutter the apron passes, a crank shaft with adjustable crank thereon, and connecting mechanism therefor with the cutting bed and the driving mechanism for the endless apron, whereby the movement of the cutting bed in unison with the travel of the apron may be equalized.

13. In a machine for cutting crackers and the like, means for feeding the sheet of dough continuously through the machine and cutting mechanism for cutting the sheet into cakes, with means for moving the cutting mechanism

in unison with the travel of the dough sheet comprising a crank shaft with adjustable crank thereon, a bell crank lever, one end of which is connected with the cutting mechanism, and the other with the adjustable crank, with means for operating the crank shaft and the feeding mechanism for the dough sheet simultaneously.

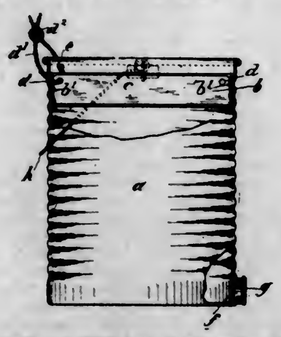
14. In a machine for cutting crackers and the like, means for feeding the sheet of dough continuously through the machine, mechanism for cutting same into cakes, a crank shaft with adjustable crank thereon and connecting mechanism therefor with the cutting mechanism and the sheet feeding means, whereby the movement of the cutting mechanism in unison with the travel of the dough sheet may be equalised, with means for indicating the travel of the sheet between successive strokes of the cutter.

865,462. SHOE-HORN. HENRY G. WEEKS, Pittston, Pa. Filed June 26, 1906. Serial No. 323,420.



As a new article of manufacture, a handleless, reversible flexible shoe-horn made of celluloid and provided with rear and front faces which are plane surfaces and which converge towards one end, whereby the shoe-horn is given varying degrees of flexibility throughout its length; the thin end of said shoe-horn being adapted for use with a child's low shoe while the opposite thick end is adapted for use with an adult's shoe.

865,463. PAINT-CAN. RUDOLF WEISS, Biel, Switzerland. Filed Aug. 9, 1906. Serial No. 329,894.

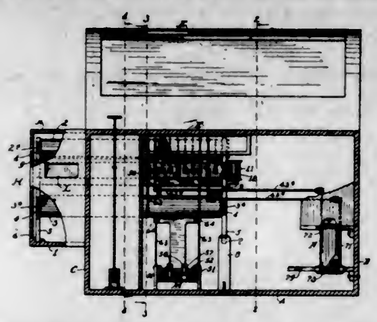


A can for paint or thick-flowing material comprising in combination a cylindrical vessel closed below and open above and having its wall helically corrugated, a cover adapted to engage therein comprising a disk and an upstanding cylindrical flange around the disk said flange being helically corrugated and a cross plate for operation as a handle and a controlled outlet in the side of said vessel near the base thereof for the purpose set forth.

865,464. CASH-REGISTER. JOHN N. WELLER, Knoxville, Tenn. Filed Jan. 24, 1906. Serial No. 297,685.

1. In a machine of the nature described, the combination with a casing, of mechanism for carrying a record sheet, hinged type-bars adjacent the position for said record sheet, springs for pressing said type-bars toward said sheet, money holders located within said casing and adapted to receive and deliver pieces of money singly, and mechanism in operative relation with said holders for moving said type-bars in opposition to said springs, substantially as described.

2. In a machine of the nature described, the combination with a casing, of mechanism for carrying a record-receiving member, printing mechanism for making records upon said member, and a paper money holder comprising a group of superposed hinged plates in operative relation with said printing mechanism, substantially as described.



3. In a machine of the nature described, the combination with a casing, of mechanism for carrying a record-receiving member, printing mechanism for making records upon said member, a rocker, 55, in operative relation with said printing mechanism, and a paper money holder comprising a group of superposed hinged plates in operative relation with said rocker, substantially as described.

4. In a machine of the nature described, the combination with a casing, of mechanism for carrying a record-receiving member, printing mechanism for making records upon said member, a paper money holder comprising a group of superposed hinged plates in operative relation with said printing mechanism, and gravity stops for controlling said plates, substantially as described.

5. In a machine of the nature described, the combination with a casing, of mechanism for carrying a record-receiving member, printing mechanism for making records upon said member, a rocker, 55, in operative relation with said printing mechanism, a paper money holder comprising a group of superposed hinged plates in operative relation with said rocker, and gravity stops for controlling said plates, substantially as described.

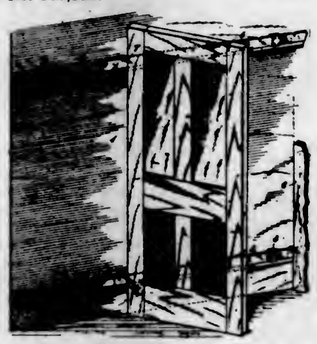
6. In a machine of the character described, the combination of money holders adapted to receive and deliver pieces of money singly; mechanism for carrying a member for receiving a record; mechanism in operative relation with said holders for making upon said member a record of the pieces of money put into and taken out of said holders; and mechanism for locking said holders against the repeating of operations without intermediate shifting of said record-receiving member, substantially as described.

7. In a machine of the character described, the combination with a casing, of money holders located within said casing and adapted to receive and deliver pieces of money singly; mechanism for supporting a member for receiving a record; mechanism in operative relation with said holders for making upon said member a record of the pieces of money put into and taken out of said holders; a door in said casing for affording access to said holders; mechanism for actuating the mechanism for supporting said record-receiving member, said mechanism being in operative relation with said door; and mechanism for locking said holders against the repeating of operations without intermediate shifting of said record-receiving member, substantially as described.

8. In a machine of the nature described, the combination with a casing, of money holders adapted to receive and deliver pieces of money singly, mechanism for carrying a member for receiving a record, mechanism in operative relation with said holders for making upon said member a record of the pieces of money put into and taken out of said holders, a door for said casing, mechanism in operative relation with said door for locking said holders against the repeating of operations without intermediate shifting of said record-receiving member, substantially as described.

9. In a machine of the nature described, the combination with a casing comprising a door, holders adapted to receive and deliver pieces of money singly, mechanism for carrying a member for receiving a record, mechanism in operative relation with said holders for making upon said member a record of the pieces of money put into and taken out of said holders, a rock-shaft in operative relation with said door, and locking mechanism in operative relation with said rock-shaft for locking said holders against the repeating of operations without intermediate shifting of said door, substantially as described.

865,465. DISPLAY MEANS FOR DOORS OR THE LIKE. FRANK L. WILLIAMS, Salem, Ill. Filed Mar. 4, 1907. Serial No. 360,524.



1. In display means of the class described, the combination of a support, upper and lower horizontal pieces applied to said support, plates arranged against the outer sides of the horizontal pieces aforesaid and having their upper edge portions projecting slightly above the upper edges of said horizontal pieces and spaced from the support, fastenings securing the plates and horizontal pieces to the support, notches being provided in the upper edge portions of the plates and those of the upper and lower plates being in vertical alinement, doors, and members projecting horizontally from an edge portion of each of said doors and loosely received in the vertically alined notches of the plates aforesaid.

2. In display means of the class described, the combination of a support, horizontal wooden pieces secured to said support and arranged one above the other in spaced relation, plates applied to the outer sides of said horizontal pieces and having their upper edges projecting above the upper edges of said pieces and formed with downwardly extending notches flared at the mouths thereof, the projecting upper edges of the plates being spaced from the supports, fastenings passing through the plates and the wooden pieces and entering the support to secure the plates and pieces together and to the support, doors, and members projecting from an edge portion of each door and loosely received in the vertically alined notches in the upper and lower plates, detachably securing the doors to the support, each of said members having a head of spherical form adjacent the notch in which the member is loosely received.

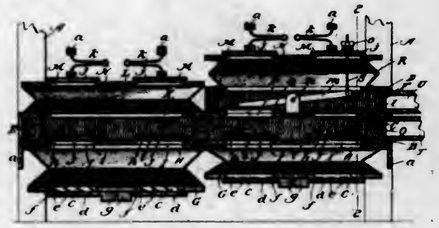
865,466. REEL AND DISPLAY DEVICE FOR VEILINGS, LACES, AND LIKE FABRICS. JESSE WINEBURGH and ABRAHAM WINEBURGH, New York, N. Y., and FRANK B. IVY, Essex Fells, N. J. Filed Apr. 6, 1906. Serial No. 310,254.

A reel and display device for veilings, laces and like fabrics or materials, comprising a reel on which the fabric is reeled and a display card hinged to one end of the reel, and having on its face the representation of the head of a female, the display card being adapted to underlie the outer end portion of the fabric to display the same over the said head representation, the length of the display



card being less than that of the reel to display a portion of the fabric in the piece.

865,467. MULTIPRESSURE BELLOWS FOR PIPE-ORGANS. PHILIPP WIRSCHING, Salem, Ohio, assignor to The Wirsching Organ Company, Salem, Ohio, a Corporation of Ohio. Filed Sept. 29, 1905. Serial No. 280,703.



1. In a multipressure bellows for pipe organs the combination with high and low pressure wind boxes in controllable communication, of a feeder for supplying wind to said boxes, a low pressure reservoir, a valve adapted to close communication between said wind boxes, a rock lever for carrying said valve, and an adjustable connection between the opposite end of said lever and the movable member of said low pressure reservoir, substantially as described.

2. In a multipressure bellows for pipe organs the combination with high and low pressure wind-boxes in controllable communication, of a feeder for supplying wind to said boxes, a low pressure reservoir, a valve adapted to close communication between said wind boxes, a rock-lever fulcrumed in said low pressure wind box carrying the said valve, and an adjustable connection between said lever at the opposite side of its fulcrum and the movable member of said low pressure reservoir, substantially as described.

3. In a multipressure bellows for pipe organs the combination with high and low pressure wind-boxes in controllable communication, of a feeder for supplying wind to said boxes, a counterweighted low pressure reservoir surmounting said low pressure wind box, a valve adapted to close communication between said wind boxes, a rock lever for carrying said valve, an adjustable connection between said lever at the opposite side of its fulcrum and the movable member of said low pressure reservoir, and

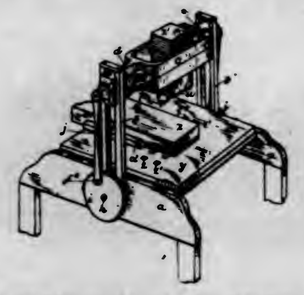
closed arm holes in said reservoir and wind-boxes whereby access may be had to the interiors thereof, substantially as described.

4. In a multipressure bellows for pipe organs the combination with high and low pressure wind-boxes and a suitable feeder, of a low pressure reservoir surmounting said low pressure wind box, repair openings in said reservoir and wind-boxes, closures for said repair openings, a valve interposed between the low pressure wind-box and said high pressure wind box for controlling communication between them, a lever fulcrumed in said low pressure wind-box carrying said valve, and an adjustable connection between the free end of said lever and the movable member of said low pressure reservoir, substantially as described.

5. In a multipressure bellows for pipe organs the combination with high and low pressure wind boxes a feeder and a low pressure reservoir, of repair openings in each of said wind boxes feeder and reservoir members arranged in alinement, and removable closures for each of said openings, substantially as described.

6. In a multipressure bellows for pipe organs the combination with high and low pressure wind boxes a feeder and a low pressure reservoir, of repair openings in each of said wind boxes feeder and reservoir members arranged in alinement, removable closures for each of said openings, intake valves carried by said feeder and high pressure wind box closures, and an automatic valve controlling communication between said wind boxes, substantially as described.

865,468. VENEER-BOX-SHAPING MACHINE. SAMUEL E. WRENN and DANIEL MARTIN, Portland, Oreg. Filed Oct. 16, 1905. Serial No. 282,991.

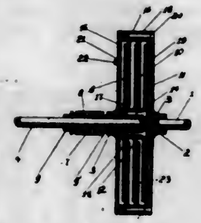


1. In a machine of the character described, the combination with supporting guides, and reciprocating mechanism, of a reciprocable frame made with interior shoulders or abutments, and with a series of threaded perforations below such abutments, set screws in such perforations, a knife-carrier removably secured by said set screws in said frame, and bearing against the abutments thereof, interior abutments on the knife-carrier, and knives secured in the latter and bearing against the abutments thereof.

2. In a machine of the character described, the combination with the knife-carrier, of rods affixed transversely in the ends of the former, arms having inturned hooks at their lower extremities and pivotally suspended from the rods, threaded bolts and nuts thereon, said bolts being inserted through said ends and adjustably holding the arms below their pivotal points, and coil-springs on said bolts arranged to allow the extremities of said arms to be deflected during the down or cutting stroke of the knife-carrier.

3. A machine of the character described comprising a table, and guides thereon, a frame reciprocable in said guides and made with interior shoulders or abutments, and having a series of perforations below such abutments; set screws in such perforations; mechanism for reciprocating the frame; a knife-carrier removably secured by said set screws in said frame and bearing against the abutments thereof; interior abutments on the knife-carrier, knives secured in the latter and bearing against the abutments thereof; rods affixed transversely in the ends of the knife-carrier, arms having inturned hooks at their lower extremities and pivotally suspended from the rods, threaded bolts and nuts thereon said bolts being inserted through said ends and adjustably holding the arms below their pivotal points, and coil-springs on said bolts arranged to allow the extremities of said arms to be deflected during the down or cutting stroke of the knife-carrier.

865,469. CLUTCH. EARL E. WRIGHT, Mansfield, Ohio. Filed Oct. 27, 1906. Serial No. 340,832.



1. In a clutch, a drive shaft, and a driven shaft connected thereto, a hub on the driven shaft, a disk carried by the inner end of the said hub, a plurality of disks mounted on the driven shaft and connected to the said hub to rotate in unison therewith, a plate mounted on the hub to revolve independently thereof, a plate keyed to the drive shaft, a plurality of plates interposed between the first named plates and securely fastened thereto to revolve therewith, and a spring on the driven shaft normally holding said plurality of plates in frictional engagement with the disks.

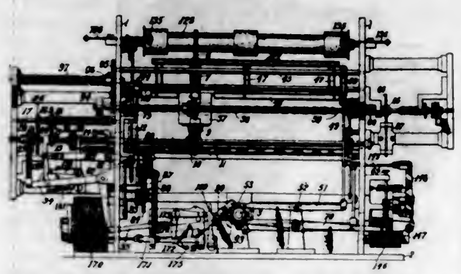
2. In a clutch, a drive shaft, and a driven shaft connected thereto, a hub on the driven shaft, a disk carried by the inner end of said hub, a second disk mounted on the driven shaft and connected to said hub to rotate in unison therewith, a plate mounted on the hub to revolve independently thereof, a plate keyed to the drive shaft, a second plate interposed between said first named plates and securely fastened thereto to revolve therewith, and a spring on the driven shaft normally holding said second named disk in engagement with the said interposed plate.

3. In a clutch, a drive shaft, and a driven shaft connected thereto, a hub free to revolve on the driven shaft and having sleeve or housing on one end, a disk carried by the opposite end of said hub, a plurality of disks mounted on the driven shaft and connected with said hub to rotate in unison therewith, a plate mounted on the hub to revolve independently thereof, a second plate keyed to the drive shaft, a plurality of plates interposed between said first named plates and connected adjacent their peripheries to said first named plates so as to revolve in unison therewith, a collar on the driven shaft, and a spring within the sleeve or housing of said hub having its one end abutting said collar and normally holding the interposed plates and disks in frictional engagement.

865,470. PRINTING-TELEGRAPH. JOHN E. WRIGHT, New York, N. Y. Filed May 6, 1904. Serial No.

1. In a printing telegraph receiver, the combination of two independent line circuits, a type wheel having a plurality of circular rows of characters thereon, electromagnetic means in one of the independent circuits for adjusting the type wheel step by step in line with its axis, and electromagnetic means in the second independent circuit for simultaneously rotating the type wheel about its axis, as set forth.

2. In a printing telegraph receiver, the combination with two circuits, of a type-wheel having a plurality of circular rows of characters thereon, means for adjusting the type-wheel in line with its axis to bring a desired row to the printing position, a quick-acting magnet in one of the circuits for controlling said adjusting means, devices for rotating the type wheel step-by-step through spaces corresponding to two characters, a magnet in the second circuit for controlling said rotating devices, mechanism for turning the type-wheel a limited extent from any position to which it may be brought by the said rotating devices, and a slow-acting magnet in the first circuit for controlling said mechanism, as set forth.



3. In a printing telegraph receiver, the combination with a traveling type wheel carriage, a type wheel thereon and capable of rotation about a central axis and of vertical adjustment in line with its axis, of an escapement mechanism in gear with the type wheel shaft and adapted to rotate the same, a second escapement mechanism operatively connected with the type wheel to adjust the same step by step in line with its axis, and independent electromagnets in independent circuits for actuating the respective escapement shafts, as set forth.

4. In a printing telegraph receiver, the combination with two circuits, of a type-wheel, means for shifting the type-wheel in line with its axis, a magnet in one of the circuits for controlling said shifting means, mechanism under the control of the second circuit for rotating the type-wheel step-by-step, devices for turning the type-wheel a half-step from any position to which it may be brought by the said rotating mechanism, and a slow-acting magnet in the first circuit for controlling said devices, as set forth.

5. In a printing telegraph receiver, the combination with two circuits, a type-wheel and means under the control of one circuit for rotating the same, of means under the control of the other circuit for adjusting the type-wheel in line with its axis, and means controlled by prolonged impulses of current in the last mentioned circuit for turning the type-wheel backward a limited extent, as set forth.

6. In a printing telegraph receiver the combination with the type-wheel of two escapement mechanisms under the control of independent circuits, one adapted to rotate and the other to vertically adjust the said type wheel step by step, the said escapement mechanism also being capable of simultaneous operation, a constantly driven power shaft, a releasing mechanism therefor under the control of the circuit that effects the rotation of the type-wheel, and printing and feeding mechanism operated by the rotation of said shaft, as set forth.

7. In a two circuit printing telegraph receiver the combination with a type-wheel and an escapement mechanism under the control of one circuit for rotating the same, of an escapement mechanism under the control of the second circuit for vertically adjusting the type-wheel, means for imparting a backward movement of limited extent to the type-wheel, and a magnet in said second circuit capable of responding to prolonged impulses of current only, and controlling the operation of said means, as set forth.

8. In a page-printing telegraph receiver, the combination with a type-wheel, escapement mechanism for rotating the same, and means for shifting the type-wheel across the page from an initial position, of mechanism for returning the type-wheel to its initial position from any point in its line of travel, and automatic unison mechanism adapted to be brought into operation whenever the said returning mechanism is actuated, as set forth.

9. In a two circuit page printing telegraph receiver the combination with the type-wheel, a quick acting escapement magnet in one circuit, and a slow acting magnet in the other circuit; and means for turning the type-wheel to bring any given character thereon into alinement with the printing position, controlled by the action of said two magnets, a slow acting magnet in the first circuit, printing and feed mechanisms controlled thereby, a quick acting magnet in the second circuit, and means for vertically adjusting the type-wheel and restoring the same to its initial position controlled by said magnet, as set forth.

10. In a printing telegraph receiver, the combination with a longitudinally movable type wheel having circular rows of characters thereon, of means for actuating the same, an escapement for controlling the actuating means to produce a step-by-step movement of the type wheel to bring a desired row of characters to the printing position, an electromagnet for controlling the escapement, and automatic means for returning the typewheel to its initial position after a character has been printed, as set forth.

11. In a printing telegraph receiver the combination with a type-wheel of means for imparting thereto a step-by-step movement of rotation, means for imparting thereto a step-by-step movement in line with its axis and independent simultaneously operating escapements for controlling the operation of said means respectively, as set forth.

12. In a printing telegraph receiver the combination with a type-wheel, of means for imparting thereto a step-by-step movement of rotation, means for imparting thereto a step-by-step movement in line with its axis, and independent line magnets in independent transmission circuits for controlling the said means respectively.

13. In a printing telegraph receiver, the combination with a traveling type-wheel carriage, a type-wheel thereon capable of rotation on a central axis, and an escapement shaft in gear with the type-wheel, of means for rotating the shaft, a yielding connection between said means and said shaft, means for vertically adjusting the type-wheel, and means for justifying the type-wheel in any printing position, as set forth.

14. In a printing telegraph receiver, the combination with a traveling type-wheel carriage and a type-wheel thereon, of a worm or screw on which said carriage is loosely mounted, means for rotating said worm, to cause the carriage to travel, means for reversing the worm or screw to return the type-wheel carriage, and independent line-magnets in independent transmission circuits controlling said actuating and said releasing means, as set forth.

15. In a printing telegraph receiver, the combination with a traveling type-wheel carriage and a type-wheel thereon, of a worm or screw on which said carriage is loosely mounted, a spring normally actuating the worm in the reversed direction, means for rotating the worm or screw against the tension of the spring to advance the carriage, means for releasing said rotative means, and independent line-magnets in independent transmission circuits controlling said rotative and said releasing means, as set forth.

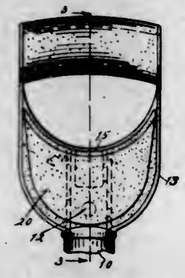
16. The combination with a traveling type-wheel carriage, a worm or screw on which said carriage is loosely mounted, and spring devices normally actuating the worm in the reversed direction, of means for locking said spring devices, mechanism for actuating the locking means to rotate the worm against the spring devices to advance the carriage, means for releasing the locking means, and independent line-magnets in independent transmission circuits controlling said actuating and said releasing means, as set forth.

17. In a printing telegraph receiver, the combination with a type-wheel capable of vertical movement on a central shaft, a rotatable shaft for effecting such movement, and a spring normally rotating the shaft to raise the type-wheel, of means for reversely rotating the shaft against the tension of the spring to lower the type-wheel, as set forth.

18. In a printing telegraph receiver, the combination with the type-wheel and means for rotating the same, of an escapement controlling said means, and means for permitting an abnormal release of said escapement to bring the type-wheel into unison therewith, dependent for operation upon the movement of the mechanism for returning the type-wheel to its initial position from any point in its line of travel, as set forth.

19. In a printing telegraph receiver, the combination with a type-wheel, means for adjusting the same, and a circuit for controlling said means, of mechanism for imparting a backward movement of limited extent to the type-wheel, a second circuit, and a neutral magnet in the second circuit to control said mechanism, as set forth.

865,471. D-HANDLE. THOMAS W. WRIGHT, Anderson, Ind. Filed May 9, 1907. Serial No. 372,797.



1. A D-handle consisting of a ferrule, a bar extending from each side thereof upwardly, a transversely extending hand grip between the upper ends of said bars, a substantially semicircular bar between said side bars, and plastic material filled in and upon the frame thus formed for filling out and finishing the handle.

2. A D-handle consisting of a ferrule, a bar extending from each side thereof upward, a transversely extending hand grip between the upper ends of said bars, and a substantially semi-circular bar between said side bars, the lower end of said semi-circular bar being secured to the upper end of the ferrule.

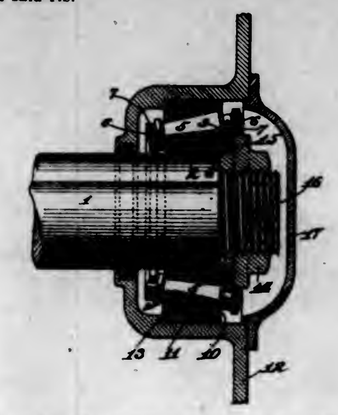
3. A D-handle consisting of a ferrule, a bar extending from each side thereof upward, a transverse bar connecting the upper ends of said side bars, a substantially semi-circular bar between said side bars, plates connecting the lower end of said semi-circular bar with the lower end of the ferrule, and plastic material filled in between the side bars and semi-circular bar and also about said transverse bar at the upper end, substantially as set forth.

865,472. ROLLER-BEARING. HERBERT W. ALDEN, Canton, Ohio, assignor to Timken Roller Bearing Axle Company, Canton, Ohio, a Corporation of Ohio. Filed Sept. 21, 1906. Serial No. 335,539.

1. A roller bearing comprising a conical inner bearing piece, a conical outer bearing piece, and a series of conical rollers between said bearing pieces, each of said rollers having a rib extending radially beyond the bearing surface of the roller and overlapping the smaller end of the inner bearing piece.

2. A roller bearing comprising a conical inner bearing piece whose larger end has a rib, extending radially inward beyond the main bearing surface of said bearing piece a conical outer bearing piece, and a series of rollers between said bearing pieces, each of said rollers having a shoulder at its larger end arranged to coöperate with the shoulder on said rib.

3. A roller bearing comprising a conical inner bearing piece whose larger end has a rib extending radially inward beyond the main bearing surface of said bearing piece and a groove at the base of said rib, a conical outer bearing piece, and a series of rollers between said bearing pieces, each of said rollers having its diameter reduced at its larger end to form a shoulder to coöperate with the shoulder on said rib.



4. A roller bearing comprising a conical inner bearing piece provided with a rib at its larger end, a conical outer bearing piece, and a series of rollers between said bearing pieces, each of said rollers having a rib on its smaller end extending radially beyond the bearing surface of the roller and arranged to overlap and bear against the smaller end of said inner bearing piece, and the larger end of said roller being arranged to bear against the rib of said piece.

5. A roller bearing comprising a conical inner bearing piece provided with a rib at its larger end extending radially inward beyond the main bearing surface of said bearing piece and having said rib and its smaller end beveled, a conical outer bearing piece, and a series of rollers between said bearing pieces, each of said rollers having a beveled rib on its smaller end extending radially beyond the bearing surface of the rollers and arranged to bear against the beveled smaller end of said inner bearing piece, and the larger end of said roller being arranged to bear against the beveled portion of the rib of said inner bearing piece.

6. A roller bearing comprising a conical inner bearing piece provided with a rib at its larger end and extending radially inward beyond the main bearing surface of said bearing piece a groove alongside of said rib and having said rib and its smaller end beveled, a conical outer bearing piece, and a series of rollers between said bearing pieces, each of said rollers having a beveled rib on its smaller end extending radially beyond the bearing surface of the roller and arranged to bear against the beveled smaller end of said inner bearing piece, and the upper end of said roller being arranged to bear against the beveled portion of the rib of said inner bearing piece.

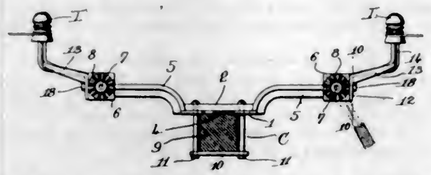
7. A roller bearing comprising a conical inner bearing piece having a rib at its smaller end, a conical outer bearing piece, and a series of rollers between said bearing pieces, each of said rollers having a rib extending radially beyond the bearing surface of the roller and overlapping the smaller end of the inner bearing piece and a groove cooperating with the rib on said inner bearing piece.

8. A roller bearing comprising an inner bearing piece provided with a rib at its larger end extending radially inward beyond the main bearing surface of said bearing piece and having said rib and its smaller end beveled, a conical outer bearing piece, and a series of rollers between said bearing pieces, each of said rollers having a beveled rib on its smaller end extending radially beyond the bearing surface of the roller and arranged to bear against the beveled smaller end of said inner bearing piece, and the larger end of said roller being arranged to bear against the beveled portion of the rib of said inner bearing piece, and means for effecting endwise relative movement of said bearing pieces to adjust said bearing.

9. A roller bearing comprising a conical inner bearing piece provided with beveled ribs at its ends, extending radially inward beyond the main bearing surface of said bearing piece, a conical outer bearing piece, and a series of rollers between said bearing pieces, each of said rollers having a groove to coöperate with the rib at the smaller end of said inner bearing piece and having a rib at its smaller end extending radially beyond the bearing surface of the roller and overlapping said rib, each of said rollers also having a shoulder at its larger end arranged to bear against the shoulder of the rib on the larger end of said inner bearing piece.

10. A roller bearing comprising a conical inner bearing piece provided with a rib at its larger end and having said rib and its smaller end beveled, a conical outer bearing piece and a series of spaced rollers between said bearing pieces, said rollers being mounted in a skeleton cage, each of said rollers having a beveled rib on its smaller end arranged to bear against the beveled smaller end of said inner bearing piece and the larger ends of said roller bearings arranged to bear against the beveled portion of the rib of said inner bearing piece.

865,473. BREAK-ARM FOR ELECTRIC WIRING. WALTER A. ARTHUR, Manchester, N. H. Filed Apr. 5, 1907. Serial No. 366,523.



1. A break-arm for electric wiring, comprising an attaching base having rigid branches oppositely extended therefrom, a plurality of bracket-seats on each branch, a bracket adapted to carry an insulator, said bracket having a seating face to engage any one of the seats on a branch, and means to clamp the seating face of the bracket upon the seat in an angularly adjusted position.

2. A break-arm for electric wiring, comprising a casting having an apertured attaching base and rigid branches extended therefrom, a radially corrugated seat on each branch, an insulator bracket having a correspondingly corrugated base to engage the seat, and a clamping bolt extended through the centers of the bracket base and the seat, to clamp the bracket in angularly adjusted position on the branch.

3. A break-arm for electric wiring, comprising a cast-metal attaching base having rigid branches extended therefrom, a roughened seat on the outer end of each branch, an insulator bracket detachably mounted on the seat and adjustable angularly thereon, said bracket having a roughened face to engage the seat, and a device to clamp the face of the bracket upon the seat in such adjusted position.

4. A break-arm for electric wiring, comprising a flat cast-metal attaching base provided with bolt-receiving openings, rigid branches extended oppositely from the base, a plurality of bracket-seats on the outer end of each branch, an insulator bracket having a seating face, and means to clamp the seating face of the bracket upon one of the seats on the branch.

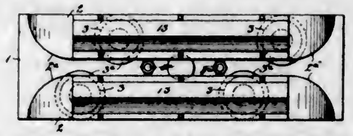
5. A break-arm for electric wiring, comprising a flat cast-metal attaching base provided with bolt-receiving openings, rigid branches extended oppositely from the base, each branch having a box-like outer end provided with radially corrugated faces to form bracket seats, insulator brackets mounted on the branches, each bracket having a radially corrugated seating portion to coöperate with one of the bracket seats, and a clamp bolt extended through the centers of the opposed seat and the seating portion of the bracket, the bracket being angularly adjustable on the seat and being held by the corrugations in adjusted position when the clamp bolt is tightened.

6. A break-arm for electric wiring, comprising a flat cast-metal attaching base provided with bolt-receiving openings, rigid branches extended oppositely from the base, a plurality of centrally apertured and radially corrugated seats on the outer end of each branch, brackets having correspondingly corrugated and apertured portions to rest upon the seats, and clamping bolts passed through the apertures to clamp a bracket on the seat, said brackets having insulator-carrying arms.

7. A break-arm for electric wiring, comprising a flat cast-metal base having a longitudinal slot and lateral, apertured ears, rigid branches extended oppositely from the base, an apertured, roughened seat on the outer end of each branch, an insulator bracket having a roughened face to engage the seat, and a clamping bolt extended through the said face and through the seat aperture to clamp the bracket on the branch, the bracket being angularly adjustable on the seat.

8. A break-arm for electric wiring comprising a flat cast-metal base having a longitudinal bolt-receiving slot extending from end to end thereof and rigid branches extended oppositely from the base, insulator brackets connected with the branches, a slotted flat back-plate, and bolts adapted to pass through the slots of the base and back-plate at opposite sides of a cross-bar, to rigidly connect the break-arm thereto, the slots permitting adjustment of the bolts to conform to different widths of a cross-arm.

865,474. TROLLEY. JOSEPH ASHURST, Chicago, Ill. Filed Mar. 25, 1907. Serial No. 364,529.



1. A trolley having a vertically oscillating head, and guards extending under the head from front to back thereof.

2. A trolley having a vertically oscillating plate extending lengthwise with respect to the current wire, current collectors mounted on said plate and adapted to contact with the wire, and guards comprising arched pieces extending under the plate from the front to the rear end thereof.

3. A trolley comprising a support, a plate rotatably mounted thereon by a vertical pivot and extending lengthwise under the wire, and a pair of wheels on vertical axes at each end of the plate, the wheels of each pair being spaced apart to receive the wire therebetween.

4. A trolley comprising a support, a lower plate mounted thereon and extending lengthwise under the wire, a pair of wheels on vertical axes at each end of the plate, the wheels of each pair being spaced apart to receive the wire therebetween, and an upper plate at each side, connecting the upper ends of the axes of the wheels on that side.

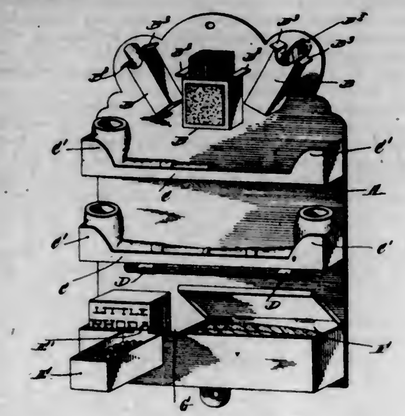
5. A trolley having a pair of current collecting wheels standing side by side on vertical axes, said wheels being spaced to receive a wire therebetween and having flanges at their lower ends on which the wire rests.

6. A trolley comprising a plate having front and rear pairs of current collecting wheels thereon, an upper bearing member fixed to the under side of the plate, a lower bearing member under the upper member, permitting turn on a vertical axis, a socket piece for the end of the trolley pole, a hinge between the socket piece and said lower member having a horizontal axis, and oppositely acting springs connected between the opposite hinge members and tending to hold the head level.

865,475. SMOKER'S SET. NAZAIRE BELISLE, Manchaug, Mass. Filed Oct. 17, 1906. Serial No. 339,283.

1. As an article of manufacture, a smokers' set comprising a shelf having a back, and a resilient wall adapted to engage and hold the bowl of the pipe by friction, said

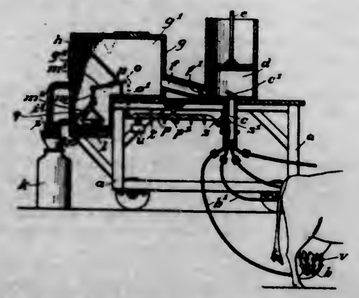
wall being cut away in front to allow access to the stem of the pipe.



2. As an article of manufacture, a smokers' set comprising a receptacle, a false bottom therefor having resilient sides extending upwardly from the bottom and normally pressing against the sides of the receptacle, and ears on said sides which may be pressed toward each other to release the false bottom from the receptacle and remove it therefrom.

3. As an article of manufacture, a smokers' set comprising a receptacle, a false bottom having an open front and back located in said receptacle, the false bottom having resilient sides extending upwardly therefrom and normally pressing against the sides of the receptacle, and ears on said sides projecting laterally from the top of the receptacle, whereby the ears may be pressed to release the false bottom from the receptacle and to remove it therefrom.

865,476. MACHINE AND APPARATUS FOR MILKING. STEFAN BREITE, Dresden, Germany. Filed Feb. 23, 1907. Serial No. 359,026.



1. In a milking machine the combination with an air exhauster, and milk ducts leading thereto from the teats of the cow, of automatic means for admitting air to the exhauster when the flow of milk is below the maximum.

2. In a milking machine the combination with an air exhauster, and milk ducts leading thereto from the teats of the cow, of automatic means for admitting air to the exhauster when the flow of milk is below the maximum, and decreasing the inflow of air as the flow of milk increases.

3. In a milking machine the combination with an air exhauster, and milk ducts leading thereto from the teats of the cow, of automatic means for admitting air to the exhauster when the flow of milk is below the maximum, and means for cutting off the inflow of air when the maximum flow of milk is reached.

4. In a milking machine the combination with an air exhauster, and milk ducts leading thereto from the teats of the cow, of automatic means for admitting air to the exhauster when the flow of milk is below the maximum, and increasing the inflow of air as the milk decreases.

5. In a milking machine the combination with an air exhauster, and a milk duct for each teat of a cow communicating with the exhauster, of independent means for admitting air to each duct while the flow of milk therein is below the maximum.

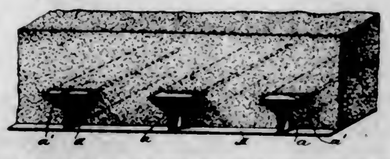
6. In a milking machine the combination with an air exhauster, and a milk duct for each teat of a cow communicating with the exhauster, of independent means for admitting air to each duct while the flow of milk therein is below the maximum, and increasing or decreasing the inflow of air as the flow of milk is varied.

7. In a milking machine, the combination with an air exhauster and milk ducts leading into it from the teats of a cow, of an air inlet valve in said ducts, a milk receptacle, and a float valve in the milk receptacle governing the air inlet valve.

8. In a milking machine, the combination with an air exhauster and milk ducts leading into it from the teats of a cow, of an air inlet valve in said ducts, a milk receptacle, a milk exit valve, and a float valve in the milk receptacle governing the air inlet valve and the milk exit valve.

9. In a milking machine, the combination with an air exhauster and milk ducts leading into it from the teats of a cow, of an air inlet valve in said ducts, a milk receptacle, a scale beam attached to the air inlet valve, and a float valve in the milk receptacle attached to the scale beam and governing the air inlet valve.

865,477. REINFORCED CONCRETE STRUCTURE. HERBERT F. COBB, Cleveland, Ohio. Filed Feb. 18, 1907. Serial No. 357,799.



1. As a new article of manufacture, a combined centering and reinforcement for structures of concrete, comprising a metallic sheet crimped to form a series of integral spaced corrugations, such corrugations having a cross section of substantially T-shape and the contiguous faces thereof being brought into intimate contact so as to prevent the circulation of air through the corrugation.

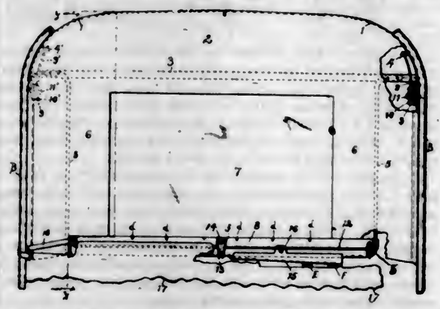
2. In structures of the class described, the combination with supporting beams or walls; of a cement filling and a combined centering and reinforcement for such filling comprising a metallic sheet crimped to form a series of integral spaced corrugations on its upper face transversely disposed with respect to said supporting walls, each corrugation having a lower web portion the contiguous faces of which are brought into intimate contact so as to prevent the circulation of air through the corrugation and an outer transversely expanded portion of a cross-section adapted to resist lateral bending of the corrugation and thus to assist the sheet in sustaining said cement filling while wet, such outer portion being adapted to enter into the completed structure as a reinforcing member independently of any connection with said sheet when said cement filling has set.

3. In structures of the class described, the combination with supporting beams or walls; of a combined centering and reinforcement comprising a metallic sheet crimped to form a series of integral spaced corrugations on its upper face transversely disposed with respect to said supporting walls, each corrugation having a lower web portion and a continuous outer portion bent away from a plane which is perpendicular to the surface of said sheet at the line of junction of said corrugation therewith, the contiguous faces of such web portion being brought into intimate contact so as to prevent the circulation of air through the corrugation; and a cement filling applied to such face of said sheet and embedding said corrugations.

4. In structures of the class described, the combination with supporting beams or walls; of a combined centering and reinforcement comprising a metallic sheet crimped to form a series of integral spaced corrugations on its upper face transversely disposed with respect to said supporting walls, each corrugation having a lower web portion and a continuous upper laterally divergent portion, the contiguous faces of such web portion being brought into intimate contact so as to prevent the circulation of air through the corrugation; and a cement filling applied to such face of said sheet and embedding said corrugation.

5. In concrete structures of the class described, the combination with supporting beams or walls; of a combined centering and reinforcement comprising a metallic sheet crimped to form a series of integral spaced corrugations, said corrugations being closed and having a cross-section of substantially T-shape, said corrugations being further disposed transversely of said supporting walls and adapted to serve as reinforcing members in the completed structure independently of said sheet; and a cement filling applied to such face of said sheet and embedding said corrugations.

865,478. SAFETY STORM-FRONT. LEWIS COCKERILL, Richmond, Ind. Filed May 6, 1907. Serial No. 372,026.



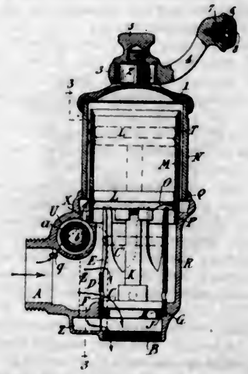
1. A safety front for vehicles comprising a frame covered by fabric, means for eccentrically mounting the frame to the vehicle bow, springs for normally retaining the front out of position and located in the vehicle top, a lap curtain attached to the vehicle dash, and having its rear edge doubled upon itself, a shaft eccentrically mounted near the lower edge of the inner face of the front to provide means for detachably connecting the rear portion of the lap curtain to the front after the front has been turned to position against the resiliency of the springs, a catch for holding the front and the curtain connected, and a trip for releasing said catch to allow the front to be raised by said springs and to allow the curtain to drop, all substantially as shown and described.

2. In a storm front, the combination with a vehicle top, a rim detachably connected to the underside of the vehicle bow, an auxiliary rim pivoted at its ends to the first named rim, a flexible hood connecting said rims, a yoke extending from the second named rim, a fabric covering the frame formed by the second rim and said yoke, a shaft eccentrically mounted to the lower portion of said frame, a member surrounding the lower horizontal portion of said frame and having an aperture therethrough near its center, a catch secured to the center of said shaft, a hook projecting from said catch and adapted to enter said aperture, a trip pivoted around the lower edge of said frame and having a point to engage said hook, springs for normally raising said frame out of operative position, a lap curtain, means for attaching the lap curtain to said shaft whereby it will be released when said catch is released, all substantially as shown and described and for the purposes set forth.

3. A storm front detachably secured to a vehicle bow and adapted to be turned back substantially parallel with the top or to be turned down substantially parallel with the dash, springs for normally retaining the front back out of operative position, a lap curtain having its upper edge thickened, a shaft carried on the lower edge of the front and adapted to receive thereover said upper edge of the lap curtain thereby providing means for connecting the upper edge of said curtain to the lower edge of the front, and means whereby the connection of the front and of said curtain may be released to allow the parts to assume their normal positions, all substantially as shown and described.

4. In a storm front for vehicles, the combination with the vehicle-top, an eccentrically mounted front adapted to turn up within the vehicle top, a pair of helical springs normally retaining the front in the last named position, a lap-curtain extending up from the vehicle-dash with its upper edge adapted to be connected to the lower edge of the front when the front is in operative position, means for detachably connecting the curtain and the front, and a trip for releasing said connection by the movement of the lines upward in contact with the trip, all substantially as shown and described.

865,479. FLUSHING-VALVE. WILLIAM S. COOPER, Philadelphia, Pa. Filed Apr. 3, 1906. Serial No. 309,665.



1. A flushing valve having a valve proper normally exposed to both an opening and a closing hydraulic pressure, the valve having a casing in two parts, the upper part being provided with a passage for relieving and for restoring the closing pressure, and the lower part being provided with a chamber adapted to register with said passage in various adjustments of the relative angular positions of the two parts of the casing, and through which the pressure is both relieved and restored.

2. A flushing valve having a valve proper, a piston controlling the movement of said valve proper, a cylinder for said piston and a casing surrounding said cylinder with an annular passage between them, and means for admitting pressure to the top of said piston and for relieving it through said annular passage.

3. A flushing valve having a valve proper, a piston controlling the movement of said valve proper and exposed to both an opening and a closing hydraulic pressure, and a casing in two parts, the lower part having a chamber, a passageway directly from the inlet to the outlet, a passageway from the inlet to said chamber and a passageway from said chamber to the outlet, the upper part having a cylinder in communication with said chamber and in which said piston works, and means in said chamber for controlling the communication of said chamber with the pas-

sageways thereto and therefrom and for thus varying the relative pressures on opposite sides of said piston to open or close the valve.

4. A flushing valve having a valve proper arranged to slide in a cage having a series of slots therein of decreasing width toward the valve seat, so as to gradually decrease the quantity of water passing as the valve moves toward its seat, and having below said slots one or more small holes of just sufficient cross-section to provide a small after-flow after the main flow has stopped by reason of the valve passing the ends of said slots.

5. A flushing valve having a valve proper normally exposed to both an opening and a closing pressure, means for relieving the closing pressure, and means for restoring the closing pressure comprising a cage t communicating with the supply and with the closing pressure chamber, and a valve v regulating the communication with the closing pressure chamber and accessible from the outside without cutting off the supply.

6. A flushing valve having a valve proper C, a cage D in which said valve is guided and which has passages E tapering toward the valve seat and a small aperture F below the end of the passages E, and means for effecting a slow-closing movement of the valve.

7. A flushing valve having a valve proper C, a cage D in which said valve is guided and which has passages E tapering toward the valve seat and a small aperture F below the end of the passages E, and means for effecting a slow-closing movement of the valve, the cage D being fastened by screwing into a socket G immediately surrounding the valve seat.

8. A flushing valve having a single upper passage for relieving the pressure so as to permit the opening of the valve and for restoring the pressure so as to close the valve, a chamber communicating with said passage, two separate lower passages, one from the valve inlet to said chamber and the other from the valve outlet to said chamber, and means at opposite ends of said chamber for controlling communication with the respective lower passages.

9. A flushing valve having a passage for relieving the pressure so as to permit the opening of the valve and for restoring the pressure so as to close the valve, a chamber U forming a part of each of said passages, and means at opposite ends of said chamber for controlling the respective passages, the valve having an admission branch A, and having an upwardly extending casing carrying part of the slow-closing mechanism, said chamber U being arranged in the angle between the branch A and the upward portion and extending transversely to the plane of said parts.

10. A flushing valve having a valve proper exposed to an opening hydraulic pressure, and having a pressure chamber for closing the valve, a chamber U having an aperture X communicating with said pressure chamber and an aperture Y communicating with the discharge, and a valve e the port of which is approximately equal to the inside diameter of the chamber U, and which serves to open or close communication between said apertures.

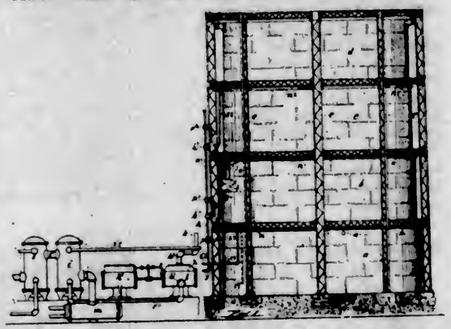
11. A flushing valve having a valve proper exposed to an opening hydraulic pressure, and having a pressure chamber for closing the valve, a chamber U having an aperture X communicating with said pressure chamber and an aperture Y communicating with the discharge, a valve e, a ring o of packing material constituting the seat of the valve e, and a cage e having a ring f which presses against the packing ring, the outer portion of the cage being screwed into a threaded socket g constituting the end of the chamber U.

12. A flushing valve having a valve proper exposed to an opening hydraulic pressure, and having a pressure chamber for closing the valve, a chamber U having an aperture X communicating with said pressure chamber and an aperture Y communicating with the discharge, and a valve e the port of which is approximately equal to the inside diameter of the chamber U, and which serves to open or close communication between said apertures, a flexible diaphragm l, a pin j at the center engaged with the stem of said valve, and means for reciprocating said pin.

13. A flushing valve operated by the releasing and restoring of pressure in a pressure cylinder, and having a chamber U between the inlet and said pressure cylinder, a cage t in one end of said chamber, a passage through said cage and through which water may be admitted from the inlet to said chamber and thence to the pressure cylinder, the passage through said cage being controlled by a valve v.

14. A flushing valve having an arm carrying a buffer, said buffer consisting of a butten 6 of rubber fastened by a screw 7, the rubber being provided with a slit 8 which is normally closed but through which the end of a screw driver may be inserted to engage the head of the screw.

865,480. GAS-HOLDER. GEORGE E. CROSBY, Allston, Mass. Filed Apr. 11, 1907. Serial No. 367,665.



1. A gas holder embodying in combination a tank, a bell, a water seal between said tank and said bell, means whereby water may be discharged into said seal means constantly forcing water through said first mentioned means to said seal, to set up a continuous circulation of water therein and connections between said last mentioned means and a source of water supply.

2. A gas holder embodying in combination a tank, a bell, a water seal between said tank and said bell, means whereby water may be discharged into said seal, means constantly forcing water through said first mentioned means to said seal to set up a continuous circulation of warm water therein, a water heater, and connections between said heater and said last mentioned means, and a source of water supply respectively.

3. A gas holder embodying in combination a tank, a bell, and a water seal between said tank and said bell, and a feed water system comprising a distributing pipe discharging into the surface water of that in said seal whereby water therefrom will set up a surface circulation in said seal, a force pump and pipes between said pump and said distributing pipe, and between said pump and a source of supply.

4. A gas holder embodying in combination a tank, a telescopic bell and a plurality of water seals between said tank and the lowermost section of said bell and between adjoining sections of said bell, and a feed water system comprising a stand pipe, a distributing pipe carried by said tank, and by said bell sections adjacent to and discharging into the surface water of that in each said water seal, a suitable pipe connection between said stand pipe and each said distributing pipe, a force pump, and pipes between said pump and said stand pipe, and between said pump and a source of supply.

5. A gas holder embodying in combination a tank, a bell and a water seal between said tank and said bell, and a feed water system comprising a distributing pipe discharging into said water seal, a feed water heater, means whereby exhaust steam is passed through said heater, a pipe between said heater and a source of water supply, a force pump and pipes between said pump and said feed water heater and between said pump and said distributing pipe.

6. A gas holder embodying in combination a tank, a bell and a water seal between said tank and said bell, and a feed water system comprising a distributing pipe discharging into said water seal, a boiler feed water heater, a water seal feed water heater, means whereby exhaust steam is passed successively through said boiler feed water heater and said water seal feed water heater, a pipe between said water seal feed water heater and a source of water supply, a force pump and pipes between said pump and said feed water heater, and between said pump and said distributing pipe.

7. A gas holder comprising in combination a tank, a bell and a water seal between said tank and said bell and a feed water system comprising a distributing pipe discharging into said seal, a force pump, and pipes between said pump and said distributing pipe and between said pump and said tank.

8. A gas holder comprising in combination a tank, a bell and a water seal between said tank and said bell, and a feed water system comprising a distributing pipe, a discharge nozzle therefor directed at an acute angle into said seal, a force pump, and pipes between said pump and said distributing pipe, and between said pump and a source of water suplpy.

9. A gas holder comprising in combination a tank, a bell and a water seal between said tank and said bell, and a feed water system comprising a distributing pipe encircling said tank about the outer top edge thereof, and having a plurality of jet nozzles disposed about said water seal and directed diagonally downwardly into said seal, all at substantially the same angle, and in the same direction, a force pump and pipes between said pumps and said distributing pump, and between said pump and a source of water supply.

10. A gas holder comprising in combination a tank, a telescopic bell, and a plurality of water seals between said tank and the lowermost section of said bell and between adjoining sections of said bell, and a feed water system comprising a stand pipe, a distributing pipe encircling said tank and each said bell sections about the outer top edge thereof adjacent to the water seal and having a plurality of jet nozzles disposed about said seal and directed diagonally downwardly into said seal, all at substantially the same angle and in the same direction, suitable connections between said stand pipe and said distributing pipes respectively, a feed water heater, a pump and pipe connections between said heater and said tank, and between said pump and said stand pipe.

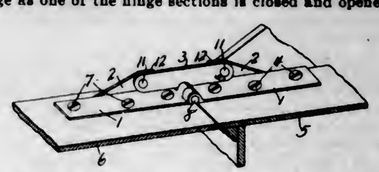
11. A gas holder embodying in combination a tank, a bell and a water seal between said tank and said bell, and a feed water system comprising a distributing pipe discharging into said water seal, a closed feed water heater, means whereby exhaust steam is passed through said heater, a pipe between said heater and a source of water supply, a force pump and pipes between said pump and said feed water heater, and between said pump and said distributing pipe.

12. A gas holder embodying in combination a tank, a bell and a water seal between said tank and said bell, and a feed water system comprising a distributing pipe discharging into said water seal, a closed feed water heater, means whereby exhaust steam is passed through said heater, a pipe between said heater and a source of water supply, a force pump and pipes between said pump and said feed water heater, and between said pump and said distributing pipe, and a condenser.

865,481. DESK-LID SUPPORT. ROBERT E. DECKS, New York, and JOHN O. DRENNAN, Syracuse, N. Y. Filed Feb. 11, 1907. Serial No. 356,885.

1. A desk lid support comprising two similar hinge sections pivoted to each other, levers pivoted to said section equi-distant from and at opposite sides of the hinge pin, a link pivotally connected to the levers, a limiting stop on the hinge sections adapted to be engaged by said levers for limiting the down movement of the hinge sections.

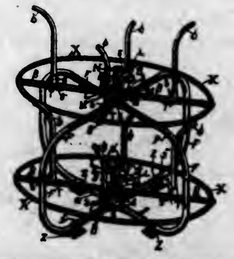
2. A desk lid support comprising a hinge having similarly constructed leaves of substantially the same form and size, shoulders on said leaves, levers pivoted to said leaves at opposite sides of the swinging axis of the hinge sections and movable into and out of engagement with said shoulders as the hinge is opened and closed, and a link pivotally connected to the levers and movable therewith into and out of engagement with the central portion of the hinge as one of the hinge sections is closed and opened.



3. A desk lid support comprising the opposite leaves of a hinge, said hinge having shoulders equi-distant from the swinging axis of said leaves, levers pivoted at one end to their respective leaves equi-distant from the swinging axis of the hinge sections, and a link pivotally connected to the opposite ends of said levers.

4. A desk lid comprising two hinge sections pivoted to each other and provided with shoulders equi-distant from and at opposite sides of the swinging axis of the hinge, levers pivoted to their respective hinge sections, a link having its opposite ends pivoted to said levers, and stop pins on the link adapted to be engaged by said levers for limiting the movement of the levers relatively to the link during the opening of the hinge.

865,482. WIRE-PAYOUT REEL. JOHN F. DELPHEY, Toledo, Ohio. Filed Apr. 8, 1904. Serial No. 202,266.

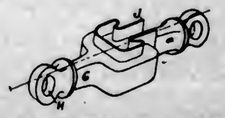


1. In a wire pay-out reel, a frame comprising a plurality of substantially U-shaped members joined together at their ends, pivots supported at the juncture of said ends, and reels rotatable upon said pivots.

2. In a wire pay-out reel, a frame comprising a plurality of substantially U-shaped members assembled with their ends adjacent to each other, pivot bases connecting said ends together, and reels rotatable upon the pivot bases.

3. In a wire pay-out reel, a plurality of substantially U-shaped members disposed in vertical planes radiating from a common axis and having their ends arranged in two groups adjacent to said axis, each group connected by and supporting a pivot, and a reel rotatable upon each pivot.

865,483. INSULATING-COUPLING. GUSTAVE F. DREHER, Schenectady, N. Y., assignor of one-half to Gustave F. E. Dreher, Schenectady, N. Y. Filed Apr. 9, 1906. Serial No. 310,628.



1. An insulated coupling consisting of two members one provided with a head, two oppositely disposed hooks on said head; the other member provided with a corresponding opening adapted to receive said head; the hooks on said

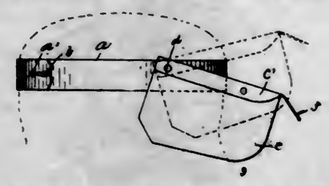
head adapted to engage with correspondingly hooked projections in the opposite member; said members brought together by a movement in a direction at right angles to the direction of the strain when they are coupled; a piece of continuous insulating material placed between adjacent parts of the two members; said insulating material extending beyond the face of the two members when coupled, substantially as described.

2. A coupling comprising two members; one provided with a head carrying a hooked projection on each side of a shank, the other member provided with an opening adapted to receive said head, inwardly extending hooked projections adapted to engage the hooked projections on said head; a continuous insulating strip extending between the adjacent portions of the two members; with an insulated composition placed about both members at and near their place of engagement.

3. Two members a continuous strip of insulating material, placed between their adjacent parts, a plastic substance placed about both members; powdered mica placed on said plastic substance a composition, superimposed on said powdered mica and on said plastic substance, substantially as described.

4. An insulated coupling comprising two parts, one provided with a head, the other with a corresponding opening adapted to receive said head; projections on said head adapted to engage projections in the opposite member; a means for locking the projections on said head with said projections in the opposite member; a continuous piece of insulating material placed between adjacent parts of the two members on the coupling; japan placed on said members; powdered mica placed on said japan; insulating composition placed on said mica, substantially as described.

865,484. EYE-SHADE. FRANK O. ELLIS, Sandwich, Mass. Filed July 7, 1906. Serial No. 325,096.



1. An eye shade comprising a supporting head-band, a visor having depending portions pivotally mounted on the outer side of said band at opposite sides thereof and formed and disposed with relation to said band to permit it to be swung from a position below to a position above the band, substantially as described.

2. An eye-shade comprising a head-encircling band and a visor in front of said band having depending side shades at each side thereof, said side shades extending rearwardly at opposite sides of said band and being connected to the outer sides thereof, substantially as described.

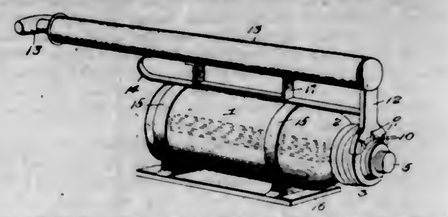
3. An eye-shade comprising a head-encircling band, and a visor having depending ears pivotally connected to the side of said band, said visor being thereby adapted to be adjusted to different inclinations, substantially as described.

4. An eye-shade comprising a head-encircling band, a horisontally disposed visor having depending ears pivotally connected to the side of said band, and having a curved rear edge corresponding to the shape of said band and extending between said ears, substantially as described.

5. An eye-shade comprising a head-encircling band, a horisontally disposed visor having depending side shades at each side thereof, and a pivoted connection between said side shades and said band, substantially as described.

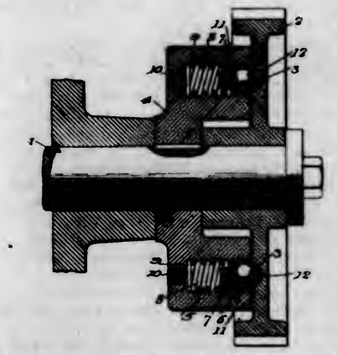
6. An eye-shade comprising a head-encircling band, a horisontally disposed visor connected to and partly encircling said side band, said visor having depending side shades at each side thereof extending forwardly and downwardly from opposite sides of the band, substantially as described.

865,485. HAND-SPRAYER. ALONZO O. FREEMAN, Ionia, Mich.. Filed Feb. 10, 1904. Serial No. 193,003.



In a sprayer, the combination with the reservoir and the air supplying means, of a cover for the reservoir having a plurality of fluid tubes with their delivery ends disposed outside of the cover, a separate exterior crescent shaped air chamber mounted directly on the external periphery of the cover and having its outer wall overlapping and fastened to the front face of the cover, the front wall of said air chamber being further provided with jet orifices disposed contiguous to the ends of said tubes, and an air trunk connection between said chamber and the air supplying means.

865,486. YIELDABLE GEARING. THOMAS H. GANNON, Springfield, Ohio. Filed Mar. 28, 1907. Serial No. 364,985.



1. In a gearing of the character described, the combination, with a shaft, a gear mounted on said shaft and having a recess in one side thereof, a clutch member mounted on said shaft and having a recess in the side adjacent to said gear, one of said members being loosely mounted on said shaft and the other member fixed thereto, of a rotatable locking part loosely supported by one of said members and adapted to automatically engage and disengage the recess in the other member.

2. In a gearing of the character described, the combination, with a shaft, a gear mounted on said shaft and having a recess in one side thereof, a clutch member mounted on said shaft and having a recess in the side thereof adjacent to said gear, one of said members being loosely mounted on said shaft and the other member fixed thereto, of a rotatable locking part loosely supported by one of said members, and yieldable means for retaining said locking part normally in locking engagement with the recess in the other member.

3. In a gearing of the character described, the combination, with a shaft, a gear loosely mounted on said shaft and having a recess in one face thereof, and a clutch member fixed to said shaft, of a rotatable locking part loosely mounted in said clutch member, and yieldable means for retaining the same normally in locking engagement with the recess in said gear.

4. In a gearing of the character described, the combination, with a shaft, a gear mounted on said shaft and having a recess in one side thereof, a clutch member mounted on said shaft and having a recess in the side adjacent to said gear, one of said members being loosely mounted on said shaft and the other member fixed thereto, of a ball carried by one of said members and adapted to engage the recess in the other member.

5. In a gearing of the character described, the combination, with a shaft, a gear loosely mounted on said shaft and having a recess in one face thereof, and a clutch member fixed to said shaft, of a ball carried by said clutch member and adapted to engage the recess in said gear.

6. In a gearing of the character described, the combination, with a shaft, a gear loosely mounted on said shaft and having a recess in one face thereof, and a clutch member fixed to said shaft, of a ball carried by said clutch member and adapted to engage the recess in said gear, and yieldable means for retaining said ball in engagement with said recess.

7. In a gearing of the character described, the combination, with a shaft, and a gear loosely mounted on said shaft and having a recess in one face thereof, of a clutch member fixed to said shaft and having a recess therein, a spring-pressed bearing block mounted in said recess and provided with a seat, and a rotatable locking part loosely mounted in said seat and adapted to engage the recess in said gear.

8. In a gearing of the character described, the combination, with a shaft, and a gear loosely mounted on said shaft and having a recess in one face thereof, of a clutch member fixed to said shaft and having a recess therein, a bearing block slidably mounted in said recess, a spring confined in said recess and engaging said bearing block, means for adjusting the tension of said spring, and a rotatable locking part loosely mounted in said bearing block and adapted to engage the recess in said gear.

9. In a gearing of the character described, the combination, with a shaft, and a gear loosely mounted on said shaft and having a series of recesses in one face thereof, of a clutch member fixed to said shaft and having a series of recesses therein, a spring-pressed bearing block mounted in each of said recesses, a rotatable locking part loosely mounted in each of said bearing blocks and adapted to engage one of the recesses in said gear, the number of recesses in said gear being greater than the number of locking parts.

10. In a gearing of the character described, the combination, with a shaft, a gear mounted on said shaft, and a clutch member mounted on said shaft, one of said members being loosely mounted on said shaft and the other member fixed thereto, of a rotatable locking part loosely mounted in one of said members, the other member having a recess adapted to be engaged by said locking part.

11. In a gearing of the character described, the combination, with a shaft, and a gear loosely mounted on said shaft and having a plurality of recesses in one face thereof, of a clutch member fixed to said shaft having a recess extending substantially parallel to said shaft, a spring-pressed bearing block mounted in said recess and having a bearing formed therein, and a rotatable locking part supported in said bearing and adapted to engage one of the recesses in said gear.

865,487. WASHBOARD SUPPORT AND SHIELD. ANDREW GEIBEL, Chicago, Ill. Filed Mar. 20, 1907. Serial No. 363,395.



1. A washboard holder, comprising a frame, having means for attaching it to the side of a wash-tub, a shield mounted on said frame, being inclined toward the tub and extending across the rim thereof, and movable clamping lugs for detachably mounting a washboard above said shield.

2. A washboard holder comprising a frame, a forked clamp adapted to straddle the rim of a wash-tub for securing said frame to the side of such wash-tub, adjustable clamping means on said frame for rigidly holding a washboard in an elevated inwardly inclined position across the rim of the tub, and a shield on said frame for conducting into the tub drippings from said washboard.

3. In a washboard holder, the combination of a support comprising a shield plate and means for attaching it to the rim of a wash-tub in an inwardly inclined position, a projection on said support adapted to engage the lower edge of a washboard for supporting it clear of the bottom of the tub, and a clamp on said support for detachably securing said board against lateral shifting thereon.

4. In a washboard holder, the combination of a support comprising a shield plate and means for attaching it to the rim of a wash-tub in an inwardly inclined position, a projection on said support adapted to engage the lower edge of a washboard for supporting it clear of the bottom of the tub, and a pair of shoulders on said support, spaced apart laterally and adapted to engage opposite side edges of the washboard, one of said pair of shoulders being adjustable toward and away from the other.

5. A washboard support comprising a pair of arms connected together, each being forked so as to straddle the rim of a wash-tub and having an inclined upper surface for supporting a washboard, and shoulders on said arms adapted to engage the sides of a washboard supported by said arms and adjustable toward and away from each other for securing the washboard against shifting.

6. A washboard holder comprising a pair of arms, a transverse member connecting them, clamps for attaching said arms to a tub, said arms being pivotally connected to said transverse member and spaced to underlie the sides of a washboard, shoulders on said arms for engaging the sides of such washboard, and means for drawing said arms together to cause said shoulders to grip the board.

7. A holder for washboards provided with side bars, comprising a transverse member, a pair of arms each pivotally connected to said transverse member and spaced to underlie the side bars of the washboard, means for shifting one of said pivotal connections toward or from the other, said arms being provided with clamps for attachment to a tub, means at one side of the pivotal axes of said arms for engaging the outer sides of the bars of the washboard, means at the other side of their pivots for engaging the inner sides of said bars, and means for swinging said arms in opposite directions on their pivots to clamp the washboard between them.

8. A holder for washboards provided with side bars, comprising a transverse member, a pair of arms each pivotally connected to said transverse member and spaced to underlie the side bars of the washboard, said arms being provided with clamps for attachment to a tub, means at one side of the pivotal axes of said arms for engaging the outer sides of the bars of the washboard, means at the other side of their pivots for engaging the inner sides of said bars, and means for swinging said arms in opposite directions on their pivots to clamp the washboard between them.

9. A washboard holder comprising a transverse member, a pair of arms each pivotally connected to said transverse member and spaced to underlie the sides of a washboard, said arms being provided with clamps for attachment to a tub, a lug upon the inner side of the lower end of each arm; a lug upon the outer side of the upper end of each arm for engagement with the sides of a washboard; and means for drawing together the outer ends of said arms.

10. A washboard holder comprising a transverse member, a pair of arms each pivotally connected to said transverse member and spaced to underlie the sides of a washboard, means for shifting one of said pivotal connections toward or from the other, said arms being provided with clamps for attachment to a tub, a lug upon the inner side of the lower end of each arm, a lug upon

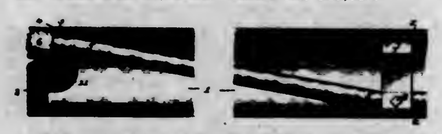
the outer side of the upper end of each arm for engagement with the sides of a washboard, and means for drawing together the outer ends of said arms.

11. A washboard holder comprising a transverse member, a pair of arms pivotally connected to said transverse member and spaced to underlie the sides of a washboard, said arms being provided with tub-clamps, means at one side of the pivots of said arms for engagement with the side bars of the washboard; and a turnbuckle interposed between said arms and adapted to force said means into clamping engagement with the washboard.

12. A washboard support, comprising a shield plate, a pair of arms each pivotally connected to the lower face of said plate, said arms being spaced to underlie the sides of a washboard, said arms being provided with clamps for attachment to a tub, means at one side of the pivots of said arms for engaging the side bars of the washboard, and means for drawing together adjacent ends of said arms.

13. A washboard support, comprising a shield plate, a pair of arms spaced to underlie the side bars of a washboard, being pivotally connected to said plate adjacent to its lower edge and having sliding connection therewith adjacent to its upper edge, a lug upon the inner side of the lower end of each arm, a lug upon the outer side of the upper end of each arm, and means for drawing the upper ends of said bars toward each other.

865,488. BUILDING GIRDER AND COLUMN. GEORGE M. GRAHAM, Chicago, Ill., assignor, by direct and mesne assignments, to G. A. Edward Kohler, Chicago, Ill. Filed Dec. 27, 1906. Serial No. 349,682.



1. The combination of a main shell, heads arranged at each end of the same, and one or more tension members arranged within said shell and extending diagonally across the longitudinal axis thereof and connected to said heads near the margins thereof substantially, as set forth.

2. The combination of a main shell, heads arranged at each end of the same, one or more tension members arranged within said shell and extending diagonally across the longitudinal axis thereof and connected to said heads, near the margins thereof and a strut arranged within the shell intermediate of its length and adapted to maintain said tension member or members in the diagonal relation aforesaid, substantially as set forth.

3. The combination of a main shell, apertured heads arranged at each end of the same, and one or more tension members arranged within said shell and extending diagonally across the longitudinal axis thereof and connected to said heads, near the margins thereof substantially as set forth.

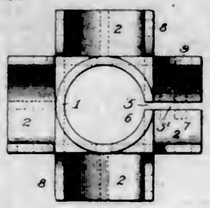
4. The combination of a main shell, apertured heads arranged at each end of the same, one or more tension members arranged within said shell and extending diagonally across the longitudinal axis thereof and connected to said heads, near the margins thereof and an apertured strut arranged within said shell intermediate its length and adapted to maintain said tension member or members in the diagonal relation aforesaid, substantially as set forth.

5. The combination of a main shell, offset heads arranged at each end of the same, and one or more tension members arranged within said shell and connected to said heads by nuts or heads occupying the offset portions of the heads aforesaid, substantially as set forth.

6. The combination of a main shell, offset heads arranged at each end of the same, and one or more tension members arranged diagonally within said shell and connected to said heads by nuts or heads occupying the offset portions of the heads aforesaid, substantially as set forth.

7. The combination of a main shell, offset heads arranged at each end of the same, one or more tension members arranged within said shell and connected to said heads by nuts or heads occupying the offset portions of the heads aforesaid, and a strut arranged within the shell and adapted to a diagonal position upon said tension member or members, substantially as set forth.

865,489. FITTING FOR METAL REINFORCE CONSTRUCTIONS. GEORGE M. GRAHAM, Chicago, Ill., assignor, by direct and mesne assignments, to G. A. Edward Kohler, Chicago, Ill. Filed Dec. 27, 1906. Serial No. 349,683.



1. A fitting for connecting tubular building frames together, the same comprising a main shell, and one or more integrally formed lateral branches, of a U shape the side walls of which extend above a transverse plane intersecting the longitudinal axis of said branches the said shell having an opening along its length and provided with lugs or ears on its exterior for the passage of a clamping bolt, substantially as set forth.

2. A fitting for connecting tubular building frames together, the same comprising a main shell, and one or more integrally formed lateral branches of a U shape, the side walls of which extend above a transverse plane intersecting the longitudinal axis of said branches and formed with bolt holes on said transverse plane the said shell having an opening along its length and provided with lugs or ears on its exterior for the passage of a clamping bolt, substantially as set forth.

3. A fitting for connecting tubular building frames together, the same comprising a main shell, and one or more integrally formed lateral branches of a U shape, the side walls of which extend above a transverse plane intersecting the longitudinal axis of said branches and formed with bolt holes on said transverse plane the shell having an opening along its length and provided with lugs or ears on its exterior for the passage of a clamping bolt, said opening extending through the wall of a lateral branch aforesaid, substantially as set forth.

4. A fitting for connecting tubular building frames together, the same comprising a main shell, and one or more integrally formed lateral branches, of a U shape the side walls of which extend above a transverse plane intersecting the longitudinal axis of said branches the bores thereof opening into each other, the said shell having an opening along its length and provided with ears or lugs on its exterior for the passage of a clamping bolt, substantially as set forth.

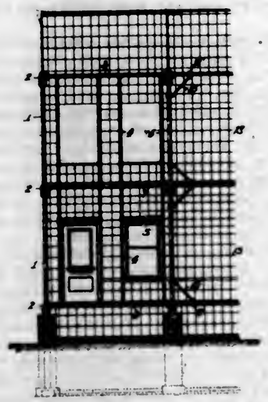
5. A fitting for connecting tubular building frames together, the same comprising a main shell, and one or more integrally formed lateral branches of a U shape, the side walls of which extend above a transverse plane intersecting the longitudinal axis of said branches and formed with bolt holes on said transverse plane the bores thereof opening into each other, the said shell having an opening along its length and provided with ears or lugs on its exterior for the passage of a clamping bolt, substantially as set forth.

6. A fitting for connecting tubular building frames together, the same comprising a main shell, and one or more integrally formed lateral branches arranged in pairs in a horizontal plane, said branches having a U shape with the side walls extending above a transverse plane intersecting the longitudinal axis of said branches the said shell having an opening along its length and provided with lugs or ears on its exterior for the passage of a clamping bolt, substantially as set forth.

7. A fitting for connecting tubular building frames together, the same comprising a main shell, and one or more integrally formed lateral branches of a U shape arranged in pairs in a horizontal plane, said branches having a U shape with the side walls extending above a transverse plane intersecting the longitudinal axis of said branches the said shell having an opening along its length and provided with lugs or ears on its exterior for the passage of a clamping bolt, substantially as set forth.

8. A fitting for connecting tubular building frames together, the same comprising a main shell, and one or more integrally formed lateral branches of a U shape arranged in pairs in a horizontal plane, said branches having a U shape with the side walls extending above a transverse plane intersecting the longitudinal axis of said branches the shell having an opening along its length and provided with lugs or ears on its exterior for the passage of a clamping bolt, said opening extending through the wall of a lateral branch aforesaid, substantially as set forth.

865,490. REINFORCED CONCRETE CONSTRUCTION. GEORGE M. GRAHAM, Chicago, Ill., assignor, by direct and mesne assignments, to G. A. Edward Kohler, Chicago, Ill. Filed Dec. 27, 1906. Serial No. 349,684.



1. In a building, a rectangular marginal frame formed of round tubing, a continuous wrapping of wire wound around the circular periphery of the tubing to form a skeleton center and formed of a single length of wire, and a mass of concrete inclosing said frame and center.

2. In a building a rectangular marginal frame formed of round tubing, continuous wrappings of wire wound around the circular periphery of the tubing in right-angle relation to form a skeleton center and formed of a single length of wire, and a mass of concrete inclosing said frame and center.

3. In a building, a rectangular marginal frame formed of round tubing, a continuous wrapping of wire wound around the circular periphery of the tubing to form a skeleton center, and formed of a single length of wire, a mass of concrete inclosing said frame and center, the center having a dished form in the concrete mass.

4. In a building, a rectangular marginal frame formed of round tubing, a continuous wrapping of wire wound around the circular periphery of the tubing to form a skeleton center and formed of a single length of wire, a supplementary diagonal winding of wire on said marginal frame and forming a portion of the center, and a mass of concrete inclosing said frame and center.

5. In a building, a rectangular marginal frame formed of round tubing, continuous wrappings of wire wound around the circular periphery of the tubing in right-angle relation to form a skeleton center and formed of a single length of wire, supplementary diagonal windings of wire in right angle relation on said marginal frame and forming a portion of the center, and a mass of concrete inclosing said frame and center.

6. In a building, a rectangular marginal frame formed of round tubing, a continuous wrapping of wire wound around the circular periphery of the tubing to form a skeleton center and formed of a single length of wire, supplementary diagonal windings of wire in right angle relation on said marginal frame and forming a portion of the center, and a mass of concrete inclosing said frame and center.

7. In a building, a rectangular marginal frame formed of round tubing, continuous wrappings of wire wound around the circular periphery of the tubing in right-angle relation to form a skeleton center and formed of a single length of wire, supplementary diagonal windings of wire in right angle relation on said marginal frame and forming a portion of the center, and a mass of concrete inclosing said frame and center.

8. In a building, a rectangular marginal frame formed of round tubing and provided with diagonal braces of round tubing at its corners, a continuous wrapping of wire wound around the circular periphery of the frame tubing to form a skeleton center and formed of a single length of wire, and a mass of concrete inclosing said frame and center.

9. In a building, a rectangular marginal frame formed of round tubing and provided with diagonal braces of round tubing at its corners, continuous wrappings of wire wound around the circular periphery of the frame tubing in right angle relation to form a skeleton center and formed of a single length of wire, and a mass of concrete inclosing said frame and center.

10. In a building, a rectangular marginal frame formed of round tubing and provided with diagonal braces of round tubing at its corners, a continuous wrapping of wire wound around the circular periphery of the frame tubing to form a skeleton center and formed of a single length of wire, and a mass of concrete inclosing said frame and center, the center having a dished form in the mass of concrete.

11. In a building, a rectangular marginal frame formed of round tubing and provided with diagonal braces of round tubing at its corners, a continuous wrapping of wire wound around the circular periphery of the frame tubing to form a skeleton center and formed of a single length of wire, a supplementary diagonal winding of wire on said marginal frame and forming a portion of the center, and a mass of concrete inclosing said frame and center.

12. In a building, a rectangular marginal frame formed of round tubing and provided with diagonal braces of round tubing at its corners, continuous wrappings of wire wound around the circular periphery of the frame tubing in right angle relation to form a skeleton center and formed of a single length of wire, supplementary diagonal windings of wire in right angle relation on said marginal frame and forming a portion of the center, and a mass of concrete inclosing said frame and center.

13. In a building, a rectangular marginal frame formed of round tubing and provided with diagonal braces of round tubing at its corners, said braces having a smaller diameter than the frame tubing and arranged in non-central relation thereto, a continuous wrapping of wire wound around the circular periphery of the frame tubing to form a skeleton center and formed of a single length of wire, and a mass of concrete inclosing said frame and center.

14. In a building, a rectangular marginal frame formed of round tubing and provided with diagonal braces of round tubing at its corners, said braces having a smaller diameter than the frame tubing and arranged in non-central relation thereto, continuous wrappings of wire wound around the circular periphery of the frame tubing in right-angle relation to form a skeleton center and formed of a single length of wire, and a mass of concrete inclosing said frame and center.

15. In a building, a rectangular marginal frame formed of round tubing and provided with diagonal braces of round tubing at its corners, said braces having a smaller

diameter than the frame tubing and arranged in non-central relation thereto, a wrapping of wire wound on said frame to form a skeleton center and formed of a single length of wire, and a mass of concrete inclosing said frame and center, the center having a dished form in the mass of concrete.

16. In a building, a rectangular marginal frame formed of round tubing, a skeleton center therefor formed by a continuous wrapping of wire around the circular periphery of the frame tubing, and formed of a single length of wire perforated lathing carried by said center, and a mass of concrete inclosing said frame and center.

17. In a building, a rectangular marginal frame formed of round tubing, a skeleton center therefor formed by continuous wrappings of wire around the circular periphery of the frame tubing in right angle relation and formed of a single length of wire, perforated lathing carried by said center, and a mass of concrete inclosing said frame and center.

18. In a building, a rectangular marginal frame formed of round tubing, a skeleton center therefor formed by a continuous wrapping of wire around the circular periphery of the frame tubing, and formed of a single length of wire perforated lathing carried by said center, and a mass of concrete inclosing said frame and center, the center having a dished form in the concrete mass.

19. In a building, a rectangular marginal frame formed of round tubing, a skeleton center therefor formed by a continuous wrapping of wire around the circular periphery of the frame tubing, and formed of a single length of wire perforated lathing carried by said center, and a mass of concrete inclosing said frame and center, the center having a dished form in the concrete mass, and the lathing a parallel relation to one surface of the concrete mass.

20. In a building, a rectangular marginal frame formed of round tubing and provided with diagonal braces of round tubing at its corners, a skeleton center therefor formed by a continuous wrapping of wire around the circular periphery of the frame tubing, and formed of a single length of wire perforated lathing carried by said center, and a mass of concrete inclosing said frame and center.

21. In a building, a rectangular marginal frame formed of round tubing and provided with diagonal braces of round tubing at its corners, a skeleton center therefor formed by continuous wrappings of wire around the circular periphery of the frame tubing in right angle relation and formed of a single length of wire, perforated lathing carried by said center, and a mass of concrete inclosing said frame and center.

22. In a building, a rectangular marginal frame formed of round tubing and provided with diagonal braces of round tubing at its corners, a skeleton center therefor formed by a continuous wrapping of wire around the circular periphery of the frame tubing, and formed of a single length of wire perforated lathing carried by said center, and a mass of concrete inclosing said frame and center, the center having a dished form in the mass of concrete.

23. In a building, a rectangular marginal frame formed of round tubing and provided with diagonal braces of round tubing at its corners, a skeleton center therefor formed by a continuous wrapping of wire around the circular periphery of the frame tubing, and formed of a single length of wire perforated lathing carried by said center, and a mass of concrete inclosing said frame and center, the center having a dished form in the mass of concrete, and the lathing a parallel relation to one surface of the concrete mass.

24. In a building, a rectangular marginal frame formed by round tubing and provided with diagonal braces of round tubing at its corners, said braces having a smaller diameter than the frame tubing and arranged in non-central relation thereto, a skeleton center therefor formed by a continuous wrapping of wire around the circular periphery of the frame tubing, and formed of a single length of wire perforated lathing carried by said center, and a mass of concrete inclosing said frame and center.

25. In a building, a rectangular marginal frame formed by round tubing and provided with diagonal braces of round tubing at its corners, said braces having a smaller diameter than the frame tubing and arranged in non-central relation thereto, a skeleton center therefor formed by continuous wrappings of wire wound upon said circular periphery of the frame tubing in right-angle relation, and formed of a single length of wire perforated lathing carried by said center, and a mass of concrete inclosing said frame and center.

26. In a building, a rectangular marginal frame formed by round tubing and provided with diagonal braces of round tubing at its corners, said braces having a smaller diameter than the frame tubing and arranged in non-central relation thereto, a skeleton center therefor formed by a continuous wrapping of wire around the circular periphery of the frame tubing, and formed of a single length of wire perforated lathing carried by said center, and a mass of concrete inclosing said frame and center, the center having a dished form in the mass of concrete.

27. In a building, a rectangular marginal frame formed by round tubing and provided with diagonal braces of round tubing at its corners, said braces having a smaller diameter than the frame tubing and arranged in non-central relation thereto, a skeleton center therefor formed by a continuous wrapping of wire around the circular periphery of the frame tubing, and formed of a single length of wire perforated lathing carried by said center, and a mass of concrete inclosing said frame and center, the center having a dished form in the concrete mass, and the lathing a parallel relation to one surface of the concrete mass.

28. In a building, a rectangular marginal frame formed by round tubing and provided with diagonal braces of round tubing at its corners, said braces having a smaller diameter than the frame tubing and arranged in non-central relation thereto, a skeleton center therefor formed by a continuous wrapping of wire around the circular periphery of the frame tubing, and formed of a single length of wire perforated lathing carried by said center,, short and long supporting links forming the connection between the lathing and center to impose a dished form upon one of the parts in relation to the other, and a mass of concrete inclosing the frame and center.

29. In a building, a series of rectangular marginal frames formed of round tubing and arranged in angular relation to each other, a continuous wrapping of wire encompassing the series of frames and forming skeleton centers therefor and formed of a single length of wire, and a mass of concrete inclosing the frames and centers.

30. In a building, a series of rectangular marginal frames formed of round tubing and arranged in angular relation to each other, a continuous wrapping of wire encompassing the series of frames and forming skeleton centers therefor and formed of a single length of wire, perforated lathing carried by said centers, and a mass of concrete inclosing the frames and centers.

31. In a building, a series of rectangular marginal frames formed of round tubing and arranged in angular relation to each other, a continuous wrapping of wire encompassing the series of frames and forming skeleton centers therefor and formed of a single length of wire, a supplemental winding of wire around each frame in right angle relation to the continuous winding aforesaid and forming part of the frame center, and a mass of concrete inclosing the frames and centers.

32. In a building, a series of rectangular marginal frames formed of round tubing and arranged in angular relation to each other, a continuous wrapping of wire encompassing the series of frames and forming skeleton centers therefor and formed of a single length of wire, perforated lathing carried by said centers, and a mass of concrete inclosing the frames and centers, the centers having a dished form in the concrete mass.

33. In a building, a series of rectangular marginal frames formed of round tubing and arranged in angular relation to each other, a continuous wrapping of wire encompassing the series of frames and forming skeleton centers therefor and formed of a single length of wire, perforated lathing carried by said centers, and a mass of concrete inclosing the frames and centers, the centers having a dished form in the concrete mass and the lathing a parallel relation to one surface of such concrete mass.

34. In a building, a series of rectangular marginal frames formed of round tubing and arranged in angular relation to each other, a continuous wrapping of wire encompassing the series of frames and forming skeleton centers therefor and formed of a single length of wire, perforated lathing carried by said centers, short links forming the connections between the lathing and the centers, and a mass of concrete inclosing the frames and centers.

35. In a building, a series of rectangular marginal frames formed of round tubing and arranged in angular relation to each other a continuous wrapping of wire encompassing the series of frames and forming skeleton centers therefor and formed of a single length of wire, perforated lathing carried by said centers, a supplemental diagonal winding of wire around each marginal frame and forming a portion of the center thereof, and a mass of concrete inclosing the frames and centers.

36. In a building, a series of rectangular marginal frames formed of round tubing and arranged in angular relation to each other, a continuous wrapping of wire encompassing the series of frames and forming skeleton centers therefor and formed of a single length of wire, perforated lathing carried by said centers, supplemental diagonal windings of wire in right angle relation around each marginal frame and forming a portion of the center thereof, and a mass of concrete inclosing the frames and centers.

37. In a building, a series of rectangular marginal frames formed of round tubing and arranged in angular relation to each other, two continuous wrappings of wires extending in opposite directions and encompassing the series of frames to form skeleton centers therefor, each of said wrappings comprising a single length of wire, and a mass of concrete inclosing the frames and centers.

38. In a building, a series of rectangular marginal frames formed of round tubing and arranged in angular relation to each other, two continuous wrappings of wires extending in opposite directions and encompassing the series of frames to form skeleton centers therefor, each of said wrappings comprising a single length of wire, perforated lathing carried by said centers, and a mass of concrete inclosing the frames and centers.

39. In a building, a series of rectangular marginal frames formed of round tubing and arranged in angular relation to each other, two continuous wrappings of wires extending in opposite directions and encompassing the series of frames to form skeleton centers therefor, each of said wrappings comprising a single length of wire, a supplementary winding of wire around each frame in right-angle relation to said continuous windings and forming part of the frame center, and a mass of concrete inclosing the frames and centers.

40. In a building, a series of rectangular marginal frames formed of round tubing and arranged in angular relation to each other, two continuous wrappings of wires extending in opposite directions and encompassing the series of frames to form skeleton centers therefor each of said wrappings comprising a single length of wire, perforated lathing carried by said centers, and a mass of concrete inclosing the frames and centers, said centers having a dished form in the concrete mass.

41. In a building, a series of rectangular marginal frames formed of round tubing and arranged in angular relation to each other, two continuous wrappings of wires extending in opposite directions and encompassing the series of frames to form skeleton centers therefor each of said wrappings comprising a single length of wire, perforated lathing carried by said centers, and a mass of concrete inclosing the frames and centers, said centers having a dished form in the concrete mass and the lathing a parallel relation to one surface of such concrete mass.

42. In a building, a series of rectangular marginal frames formed of round tubing and arranged in angular relation to each other, two continuous wrappings of wires extending in opposite directions and encompassing the series of frames to form skeleton centers therefor each of said wrappings comprising a single length of wire, perforated lathing carried by said centers, short links forming the connections between the lathing and the centers, and a mass of concrete inclosing the frames and centers.

43. In a building, a series of rectangular marginal frames formed of round tubing and arranged in angular relation to each other, two continuous wrappings of wires extending in opposite directions and encompassing the series of frames to form skeleton centers therefor each of said wrappings comprising a single length of wire, perforated lathing carried by said centers, a supplemental diagonal winding of wire around each marginal frame and forming a portion of the center thereof, and a mass of concrete inclosing the frames and centers.

44. In a building, a series of rectangular marginal frames formed of round tubing and arranged in angular relation to each other, two continuous wrappings of wires extending in opposite directions and encompassing the series of frames to form skeleton centers therefor each of said wrappings comprising a single length of wire, perforated lathing carried by said centers, supplemental diagonal windings of wire in right angle relation on each marginal frame and forming a portion of the center thereof, and a mass of concrete inclosing the frames and centers.

45. In a building, a rectangular marginal frame formed of duplicate sections of round tubing arranged in parallel and adjacent relation, a wrapping of wire wound around the circular periphery of the tubing to form a skeleton center and formed of a single length of wire, and a mass of concrete inclosing said frame and center.

46. In a building, a rectangular marginal frame formed of duplicate sections of round tubing arranged in parallel and adjacent relation, wrappings of wire wound around the circular periphery of the tubing in right angle relation to form a skeleton center and formed of a single length of wire, and a mass of concrete inclosing said frame and center.

47. In a building, a rectangular marginal frame formed of duplicate sections of round tubing arranged in parallel and adjacent relation, a wrapping of wire wound around the circular periphery of the tubing to form a skeleton center and formed of a single length of wire, and a mass of concrete inclosing said frame and center, said center having a dished form in the concrete mass.

48. In a building, a rectangular marginal frame formed of duplicate sections of round tubing arranged in adjacent horizontal relation, a wrapping of wire wound around the circular periphery of the tubing to form a skeleton center and formed of a single length of wire, and a mass of concrete inclosing said frame and center.

49. In a building, a rectangular marginal frame formed of duplicate sections of round tubing arranged in adjacent horizontal relation, wrappings of wire wound around the circular periphery of the tubing in right angle relation to form a skeleton center and formed of a single length of wire, and a mass of concrete inclosing said frame and center.

50. In a building, a rectangular marginal frame formed of duplicate sections of round tubing arranged in adjacent horizontal relation, a wrapping of wire wound around the circular periphery of the tubing to form a skeleton center and formed of a single length of wire, and a mass of concrete inclosing said frame and center, said center having a dished form in the concrete mass.

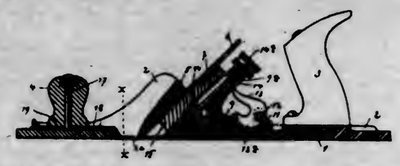
51. In a building, a rectangular marginal frame formed of duplicate sections of round tubing arranged in adjacent vertical and horizontal relations, a wrapping of wire wound around the circular periphery of the tubing to form a skeleton center and formed of a single length of wire, and a mass of concrete inclosing said frame and center.

52. In a building, a rectangular marginal frame formed of duplicate sections of round tubing arranged in adjacent vertical and horizontal relations, wrappings of wire wound around the circular periphery of the tubing in right-angle relation to form a skeleton center and formed of a single length of wire, and a mass of concrete inclosing said frame and center.

53. In a building, a rectangular marginal frame formed

of duplicate sections of round tubing arranged in adjacent vertical and horizontal relations, a wrapping of wire wound around the circular periphery of the tubing to form a skeleton center and formed of a single length of wire, and a mass of concrete inclosing said frame and center, said center having a dished form in the concrete mass.

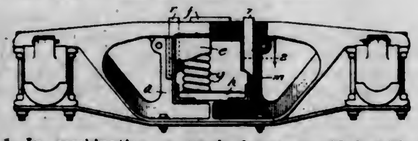
865,491. BENCH-PLANE. BURTON M. GRAVES and FRANK N. LOSON, Lowville, N. Y. Filed May 7, 1906. Serial No. 315,549.



1. A plane having a throat-opening enlarged forwardly of the blade and bounded on the side by the side rails of the plane, the said rails having their lower edges notched on the inner face thereof from about the blade-tip to the forward end of the throat, and a plate slidably mounted on the fore-stock and between the rails and extended to and into the throat and thence bent to provide a bottom face level with the bottom face of the stock, the plate at said end having an edge extended to fit into the said notch in the side rails, substantially as described.

2. A plane having a forwardly extended throat and an adjusting plate adjustably mounted on the forestock and extending into the throat and of a width equal to the distance between the side rails at the top of the throat-opening but widening at the bottom of said opening to extend laterally beyond the inner faces of the side rails, the bottom edges of the side rails being cut out and partly therethrough to receive the said widened portion of the plate, substantially as shown.

865,492. CAR-TRUCK. HARRY S. HART, Chicago, Ill. Filed Dec. 17, 1906. Serial No. 348,268.



1. In combination, a truck frame provided with an opening, and a bolster provided with projections adapted to engage the opposite sides of the truck frame adjacent the opening therein, the portion of the truck frame engaged by said projections consisting of keys engaging grooves in the truck frame.

2. A side frame having an opening in one of its arch bars, and a registering groove in the inner face of the column, in combination with a bolster and a locking member co-acting with said bolster and said groove.

3. In combination, a side frame having an opening in its upper member, a column provided with a groove registering with said opening, a bolster, and a locking member co-acting with said groove and the bolster.

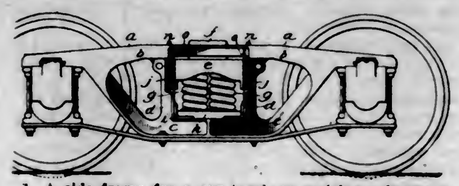
4. In combination, a side frame having an opening in its upper member, a column provided with a groove registering with said opening, and a locking member supported by the end of the groove and co-acting with a groove in the bolster.

5. In combination, a side frame having an opening in its upper member, a column provided with a groove registering with said opening, a bolster provided with a groove, and a locking member co-acting with said groove.

6. A side frame having an opening in one of the arch bars, in combination with a locking member inserted in said opening and engaging the bolster.

7. In a car, a bolster, a side frame provided with an opening to receive the bolster, the side walls of said opening being provided with key-ways, the upper wall of said opening having perforations communicating with said key-ways, and keys coöperating with said key-ways and said bolster.

865,493. CAR-TRUCK. HARRY S. HART, Chicago, Ill. Filed Dec. 17, 1906. Serial No. 348,269.



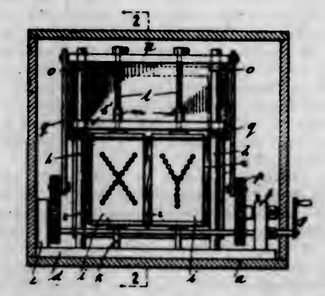
1. A side frame for a car truck comprising columns removable interlocking members for the bolster, said interlocking members being secured to the columns by means of keys.

2. A side frame for a truck having an opening to receive the end of the bolster, the side faces of said opening being recessed, removable interlocking members engaging said recesses, and keys securing said interlocking members to the side frame.

3. A side frame for a truck comprising columns spaced apart to receive the end of a bolster, recesses in the inner faces of said columns at their upper ends, keyways in the walls of said recesses, removable members adapted to fit said recesses and provided with keyways, and keys adapted to co-act with said keyways.

4. In a car, a bolster, a side frame, column-guides, removable members forming part of said column-guides, said removable members and the fixed parts of said column-guides being provided with key-ways, the top of said side frame being provided with perforations registering with said key-ways, and keys coöperating with said key-ways.

865,494. ADVERTISING APPARATUS. WILLY HENKE, Jersey City Heights, N. J. Filed Nov. 1, 1906. Serial No. 341,574.



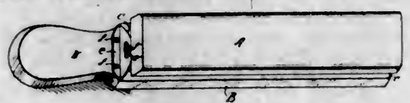
1. An advertising apparatus consisting of flexible plates bearing the advertising matter, said plates being capable of being bent, stretched and twisted, and means for changing the shape of said plates, substantially as and for the purpose specified.

2. An advertising apparatus, comprising flexible plates on which the advertising matter is formed by perforations, said plates being capable of being alternately bent, stretched and twisted, whereby the advertising matter is brought into different shape, and means for changing the shape of the plates, substantially as and for the purpose specified.

3. An advertising apparatus, comprising a casing having a window covered with canvas, flexible plates pivotally secured in the casing, and having their upper ends movable in vertical direction, the advertising matter being formed by perforations made on said plates, and means for moving the upper ends upward and downward,

whereby the said plates become alternately bent, stretched and twisted, substantially as and for the purpose specified.

865,495. RAZOR-STROP. GEORGE P. HENSLEY, Girard, Kans., assignor of one-half to E. N. Richardson, Girard, Kans. Filed Mar. 2, 1907. Serial No. 360,265.



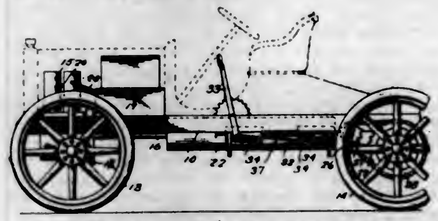
1. As an article of manufacture, an oscillating razor strop A having a rectangular body with its face and edges padded, its face edges and ends covered and having a triangular body member C secured to its under side and resting upon balls D embedded in its lower angle and the face of the body portion B of the handle the movements of the strop being limited by the screws *d'* and *f'* vibrating in the slots *c'* and *e'* of the supporting plates *c* and *e* secured to the body portion B of the strop handle, as shown and described.

2. In an oscillating razor strop, the triangular body member C secured to the under side of the said strop and being slightly shorter and having its lower angle rest upon balls embedded near a third of their size in the face of the handle body B having secured thereto the supporting plates *c* and *e* provided with slots *c'* and *e'* for the oscillating movement of the screws *d'* and *f'* driven into the ends of the said strop body member C, substantially as described.

3. In an oscillating razor strop, the rectangular strop A having a shorter triangular body portion secured to its under surface, the balls D partly embedded in the lower angle of said body portion and the face of the body portion of the handle having secured thereto the supporting plates *c* and *e* provided with the slots *c'* and *e'* in which oscillate the screws *d'* and *f'* secured in the ends of the said triangular body portion C of the strop, as described.

4. In an oscillating razor strop, the covered strop A with its shorter triangular body portion secured to its under surface, the pivotal ball-bearings D, the slotted supporting plates *c* and *e* secured to the body portion B of the strop handle, as described and for the purposes set forth.

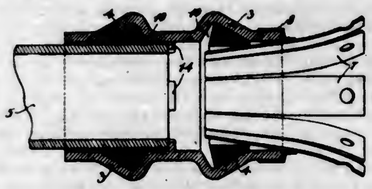
865,496. COMPRESSED-AIR MOTOR FOR AUTOMOBILES. FRED G. HERRINGTON, Decatur, Ill. Filed May 25, 1907. Serial No. 375,692.



1. A motive power for vehicles comprising a drive axle, a compressed air motor, gear connections between the power shaft of the motor and the drive axle, a main compressed air storage tank, a pipe establishing communication between the tank and the motor whereby the latter may be operated, sub-storage tanks in communication with the main storage tank, air compressors arranged to discharge into the sub-storage tanks, gearing between the said compressors and the drive axle whereby the former may be operated, a compressor arranged to discharge into the main storage tank, and a motor for operating said compressor, said motor being independent of the drive mechanism for the drive axle.

2. A motive power for vehicles comprising a drive axle, a compressed air motor, gear connections between the power shaft of the motor and the drive axle, a main compressed air storage tank, a pipe establishing communication between the tank and the motor whereby the latter may be operated, sub-storage tanks in communication with the main storage tank, air compressors arranged to discharge into the sub-storage tanks, crank shafts, connections between the crank shafts and the compressor pistons, a sprocket carried by each of the crank shafts, a sprocket loosely carried upon the drive axle adjacent each end thereof, sprocket chains connecting the sprockets at each side of the vehicle, a clutch for clutching each of the last mentioned sprocket gears with the drive axle, means whereby the said sprocket gears may be shifted upon the axle to render such clutch effective, an air compressor arranged to discharge into the main storage tank, and an electric motor for operating the compressor.

865,497. PIPE-COUPLING AND METHOD OF APPLYING SAME. DANIEL M. KENYON, Bradford, Pa., assignor of one-half to James B. Etherington, Bradford, Pa. Filed Oct. 11, 1905. Serial No. 282,247.



1. A pipe joint consisting of two tubular members the end of one member being inserted into the end of the other, the latter having an integral-walled recess containing an annular packing ring of compressible material having its inner portion wider than its outer portion and substantially filling said recess, and being compressed between the exterior wall of the smaller member and interior wall of the larger member, the exterior wall of the smaller member and the interior wall of the larger member being formed so that an increase of the pressure of the fluid tends to compress the packing more tightly into the space occupied by the packing, said ring before compression being sufficiently thicker than the width of the space between the two members to prevent the assembling of the members solely by the insertion of one member within the other.

2. A pipe joint consisting of a coupling formed of a single piece of material and embracing the adjacent ends of two lengths of pipe, and said coupling having a recess containing an annular packing ring of compressible material having its inner portion wider than its outer portion and substantially filling said recess and being compressed between the exterior wall of each length of pipe and the interior wall of the coupling, the exterior wall of the pipe and interior wall of the coupling being formed so that an increase of the pressure of the fluid tends to compress the packing more tightly into the space occupied by said packing, said ring before compression being sufficiently thicker than the width of the space between the coupling and pipe to prevent the insertion of the pipe within the coupling solely by slipping the pipe into the coupling.

3. A pipe coupling formed of a single piece of material and having therein annular recesses, each recess decreasing in diameter towards the nearer end of said coupling, annular rings of compressible material having their inner portions wider than their outer portions and substantially filling said recesses, said packing being maintained under the pressure of the confined gas or fluid, and each of said rings before compression being sufficiently thicker than the width of the space between the coupling and the pipe to be inserted therein to prevent the insertion of the pipe within the coupling solely by slipping the pipe into the coupling.

4. A pipe joint consisting of a coupling formed of a single piece of material and inclosing the adjacent ends of three lengths of pipe, the said coupling having three an-

nular recesses in its interior surface and the extremity of each length of pipe being located between two of said recesses, and said recesses having annular rings of yielding packing located therein and having their inner portions wider than their outer portions and substantially filling said recesses and closing the space between the interior surface of the coupling and the exterior surface of the pipe, and each of said rings before compression being sufficiently thicker than the width of the space between the coupling and pipe members to prevent the assembling of the members solely by the insertion of one member within the other.

5. A method of coupling pipe having a compressible ring of packing located in a recess in the interior surface of the larger pipe, said ring being of less diameter than the exterior diameter of the inner pipe, which consists in compressing said ring, then introducing the smaller pipe within said packing while the said packing is compressed, and then releasing the pressure on said packing to permit contact of the same with the pipe.

6. A method of coupling pipe in which couplings are employed having compressible rings of packing located in recesses in the interior surface of said coupling, said rings being of less diameter than the exterior diameter of the pipe, which consists in compressing the said rings, then introducing the pipe within said packing while the said packing is compressed, and then releasing the pressure on said packing to permit contact of the same with the pipe.

7. A method of coupling pipe containing rings of compressible packing located in recesses in the interior surface of said coupling, said rings being of less diameter than the exterior diameter of the pipe, which consists in compressing said rings by introducing therein a plurality of longitudinally curved strips adapted to fit the interior of said coupling, together with means for retaining said strips in said position, and then compressing said packing by pressing outwardly the said strips, and inserting said pipe between said strips, and after said insertion removing said strips.

8. A method of coupling pipe containing rings of compressible packing located in recesses in the interior of said coupling, said rings being of less diameter than the exterior diameter of the pipe, which consists in first compressing said rings by introducing therein a plurality of longitudinally curved strips adapted to fit the interior of said coupling, then compressing said packing by expanding the circle formed by the inner ends of said strips, then inserting said pipe within the compressed packing, and then removing said strips.

9. A method of coupling pipe having a compressible ring of packing located in the space between the walls of two tubular members, one of which is inserted within the other, said ring being thicker than the space between said walls, which method consists in compressing said ring, then introducing the smaller member within the larger member while the said packing is compressed, and then releasing the pressure on said packing to permit the packing to expand.

10. A pipe joint consisting of two tubular members, the end of one member being inserted into the other and having an annular space between the exterior wall of the inner member and the interior wall of the outer member, said space being occupied by an annular ring of yielding material held under compression, said annular ring before compression being sufficiently thicker than the width of said space to prevent the assembling of the members solely by the insertion of one member within the other.

11. A pipe joint consisting of two tubular members, the end of one member being inserted into the other, and having an annular space between the exterior wall of the inner member and the interior wall of the outer member, one of said members having an annular recess in its wall connecting with said space, said recess being occupied and substantially filled by an annular ring of yielding material held under compression, and said annular ring before compression being sufficiently thicker than the width of said space to prevent the assembling of the members solely by the insertion of one member within the other.

12. A pipe joint consisting of two tubular members, the end of one member being inserted into the other and having an annular space between the exterior wall of the inner member and the interior wall of the outer member, said space being occupied by an annular ring of yielding material held under compression, said annular ring before compression being sufficiently thicker than the width of said space to prevent the assembling of the members solely by the insertion of one member within the other, and the exterior wall of the smaller member and the interior wall of the larger member being so formed that an increase of the pressure of the fluid tends to compress the packing more tightly into the space occupied by said packing.

13. The herein described method of forming a joint between sections of pipe consisting in placing a gasket in a suitable recess in a socket, inserting a tool within the gasket, inserting the end of the pipe within the tool and then withdrawing the tool.

14. A method of coupling pipe having a compressible ring of packing located in a recess in the interior surface of the larger pipe, the ring being of less diameter than the exterior diameter of the inner pipe, which consists in compressing the packing and introducing the smaller pipe within the packing while the packing is compressed, and then releasing the packing to permit contact of the packing with the pipe.

15. A method of coupling pipe in which couplings are employed having compressible rings of packing located in recesses in the interior surface of the coupling, the packing rings being of less diameter than the exterior diameter of the pipe, which consists in compressing the rings and introducing the pipe within the packing while the packing is compressed, and then releasing the packing to permit contact of the same with the pipe.

16. A method of coupling pipe containing a ring of compressible packing located in a recess in the interior of a coupling, the ring being of less diameter than the exterior diameter of the pipe, which consists in introducing a plurality of longitudinally inclined strips adapted to fit the interior of the coupling, then compressing the packing by the insertion of the pipe within the strips, and then removing the strips.

17. A method of coupling pipe having a compressible ring of packing located in the space between the walls of two tubular members, one of which is inserted within the other, the packing ring being thicker than the space between the walls of the members, which method consists in compressing the packing ring and introducing the smaller member within the larger member while the packing is compressed, and then releasing the packing.

18. A pipe joint consisting of two tubular members, the end of one member being inserted in the end of the other, the latter having an integral-walled recess containing an annular packing ring of compressible material having its inner portion wider than its outer portion, and being so compressed between the exterior walls of the smaller member and the interior wall of the larger member and the wall of the larger member being so formed that an increase of the pressure of the fluid tends to compress the packing ring more tightly into the space occupied by the packing ring, the packing before compression being so much thicker than the width of the space between the two members as to prevent the assembling of the members solely by the insertion of one member within the other.

19. A pipe joint consisting of a coupling formed of a single piece of material and embracing the adjacent ends of two lengths of pipe, the coupling having a recess containing an annular packing ring of compressible material having its inner portion wider than its outer portion and being so compressed between the exterior wall of each length of pipe and the interior wall of the coupling and the interior wall of the coupling being so formed that an increase of the pressure of the fluid tends to compress the packing more tightly into the space occupied by the packing, the packing before compression being so much thicker than the width of the space between the coupling and pipe as to prevent the insertion of the pipe within the coupling solely by slipping the pipe into the coupling.

20. A pipe coupling formed of a single piece of material and having therein annular recesses, each recess decreasing in diameter toward the waist of the coupling, annular rings of compressible material having their inner portions wider than their outer portions, these rings being maintained under the pressure of the confined gas or fluid, and each of the rings before compression being so much thicker than the width of the space between the coupling and the pipe to be inserted therein as to prevent the insertion of the pipe within the coupling solely by slipping the pipe into the coupling.

21. A pipe joint consisting of two tubular members, the end of one member being inserted into the end of the other and having an annular space between the exterior wall of the inner member and the interior wall of the outer member, this space being occupied by an annular ring of yielding material held under compression, the annular ring before compression being so much thicker than the width of the space as to prevent the assembling of the members solely by the insertion of one member within the other.

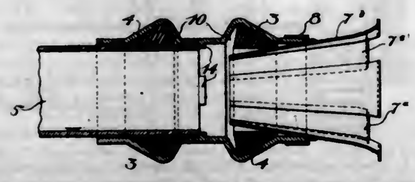
22. A pipe joint consisting of two tubular members, the end of one member being inserted into the end of the other and having an annular space between the exterior wall of the inner member and the interior wall of the outer member, this space being occupied by an annular ring of yielding material held under compression, the annular ring before compression being so much thicker than the width of the annular space as to prevent the assembling of the members solely by the insertion of one member within the other, and the annular ring and the interior wall of the larger member being so formed that an increase of the pressure of the fluid tends to compress the packing more tightly into the space occupied by the packing.

23. A method of coupling pipe having a compressible ring of packing located in a recess in the interior surface of the larger pipe, said ring having an exterior diameter substantially the same as the diameter of said recess, and said ring being of less interior diameter than the exterior diameter of the inner pipe, which consists in compressing said ring, then introducing the smaller pipe within said packing while the said packing is compressed, and then releasing the pressure on said packing to permit contact of the same with the inner pipe.

24. A pipe joint consisting of two tubular members, the end of one member being inserted into the other and having an annular space between the exterior wall of the inner member and the interior wall of the outer member, said space being occupied by an annular ring of yielding material held under compression, said annular ring before compression having an exterior diameter substantially the same as the interior diameter of the outer member at the point where said ring is located, and being sufficiently thicker than the width of said space to prevent the assembling of the members solely by the insertion of one member within the other.

865,498. IMPLEMENT FOR COUPLING PIPE.

DANIEL M. KENYON, Bradford, Pa., assignor of one-half to James B. Etherington, Bradford, Pa. Filed Apr. 27, 1906. Serial No. 313,908.



1. An implement for coupling pipe containing compressible packing, consisting of a plurality of strips adapted to be inserted between the packing and the contiguous pipe wall to compress said packing, to permit the two pipe members to be assembled, said strips being also adapted to project from the joint to enable them to be withdrawn after the members are assembled.

2. An implement for coupling pipe containing compressible packing, consisting of a plurality of longitudinally curved strips adapted to be inserted between the packing and the contiguous pipe wall to compress said packing to permit the two pipe members to be assembled, said strips being also adapted to project from the joint to enable them to be withdrawn after the members are assembled.

3. An implement for coupling pipe containing compressible packing, consisting of a plurality of strips adapted to be inserted between the packing and the contiguous pipe wall to compress said packing to permit the two pipe members to be assembled, combined with means for holding said strips in place when the pipe is inserted, said strips being also adapted to project from the joint to enable them to be withdrawn after the members are assembled.

4. An implement for coupling pipe containing compressible packing, consisting of a plurality of longitudinally curved strips adapted to be inserted between the packing and the contiguous pipe wall to compress said packing to permit the two pipe members to be assembled, combined with means for holding said strips in place when the pipe is inserted, said strips being also adapted to project from the joint to enable them to be withdrawn after the members are assembled.

5. An implement for coupling pipe containing compressible packing, consisting of a number of longitudinally curved strips adapted to be inserted within the packing ring and to compress said packing into its recess to permit the introduction of the pipe into the packing ring, combined with a resilient finger attached to each of said strips and constructed to engage the outer edge of said coupling and to hold the said strips in place.

6. An implement for coupling pipe containing compressible packing, consisting of a number of longitudinally curved strips adapted to be inserted within the packing ring and to compress said packing into its recess to permit the introduction of the pipe into the packing ring, combined with a resilient finger attached to each of said strips and constructed to engage the outer edge of said coupling and to hold the said strips in place and means for readily removing said strips after the pipe is inserted.

7. An implement for coupling pipe containing compressible packing, consisting of a plurality of strips adapted to be inserted between the packing and the contiguous pipe wall to compress said packing to permit the two pipe members to be assembled, each of said strips having a small portion of one end thereof turned at an angle to the same.

8. An implement for coupling pipe containing compressible packing, consisting of a plurality of longitudinally curved strips adapted to be inserted between the packing and the contiguous pipe wall to compress said packing to permit the two pipe members to be assembled, each of said strips having a small portion of one end thereof turned at an angle to the same.

9. An implement for coupling pipe containing compressible packing, consisting of a number of strips adapted to be inserted within the packing ring and to compress said packing into its recess to permit the introduction of the pipe into the packing ring, each of said strips having an enlargement at one end thereof so as to engage the surface of a removal collar.

10. An implement for coupling pipe containing compressible packing, consisting of a number of longitudinally curved strips adapted to be inserted within the packing ring and to compress said packing into its recess to permit the introduction of the pipe into the packing ring, each of said strips having an enlargement at one end thereof so as to engage the surface of a removal collar.

11. An implement for coupling pipe containing compressible packing, consisting of a plurality of strips adapted to be inserted between the packing and the contiguous pipe wall with their edges overlapping to compress said packing to permit the two pipe members to be assembled, said strips being also adapted to project from the joint to enable them to be withdrawn after the members are assembled.

12. An implement for coupling pipe containing compressible packing, consisting of a number of longitudinally curved strips adapted to be inserted within the packing ring so that their edges overlap and to compress said packing into its recess to permit the introduction of the pipe into the packing ring.

13. An implement for coupling pipe containing compressible packing, consisting of a plurality of strips of different lengths adapted to be inserted between the packing and the contiguous pipe wall to compress said packing to permit the two pipe members to be assembled, said strips being also adapted to project from the joint to enable them to be withdrawn after the members are assembled.

14. An implement for coupling pipe containing compressible packing, consisting of a plurality of longitudinally curved strips of different longths adapted to be inserted between the packing and the contiguous pipe wall to compress said packing to permit the two pipe members to be assembled, said strips being also adapted to project from the joint to enable them to be withdrawn after the members are assembled.

15. An implement for coupling pipe containing compressible packing, consisting of a number of strips of different lengths adapted to be inserted within the packing ring and to compress said packing into its recess to permit the introduction of the pipe into the packing ring, and said strips at one end thereof bearing a boss constructed to engage the surface of a removal collar.

16. An implement for coupling pipe containing compressible packing, consisting of a number of longitudinally curved strips of different lengths adapted to be inserted within the packing ring and to compress said packing into its recess to permit the introduction of the pipe into the packing ring, and said strips at one end thereof bearing a boss constructed to engage the surface of a removal collar.

17. An implement for coupling pipe containing compressible packing, consisting of a plurality of strips adapted to be inserted between the packing and the contiguous pipe wall to permit the packing to be compressed and the two pipe members to be assembled, these strips being also adapted to project from the joint to enable them to be withdrawn after the members are assembled.

18. An implement for coupling pipe containing compressible packing, consisting of longitudinally inclined strips adapted to be inserted between the packing and the contiguous pipe wall, to enable the packing to be compressed and the two pipe members to be assembled, the strips being also adapted to project from the joint to enable them to be withdrawn after the members are assembled.

19. An implement for coupling pipe containing compressible packing, consisting of a plurality of strips adapted to be inserted between the packing and a contiguous pipe wall to enable the packing to be compressed and the two pipe members to be assembled, the strips having a small portion of one end thereof turned at an angle to the same.

20. An implement for coupling pipe containing compressible packing, consisting of a plurality of longitudinally inclined strips adapted to be inserted between the packing and the contiguous wall to enable the packing to be compressed and the two pipe members to be assembled, the strips having a small portion of one end thereof turned at an angle to the same.

865,499. CAR-WINDOW. WILLIAM F. KIESEL, Jr., Altoona, Pa. Original application filed Mar. 6, 1906, Serial No. 304,534. Divided and this application filed Dec. 24, 1906. Serial No. 349,252.

1. In a sash frame for railway cars, a middle side plate provided along its outward edge with a hollow bead adapted to form the inner wall of the sash slide, and having a groove for a window shade formed on the plate back of said bead, the bottom of said groove being provided with holes to receive attaching screws.

2. In a sash-frame for railway cars, a middle side plate adapted to be attached to a frame post and provided along its outward edge with a hollow bead, the outward side of said bead being adapted to overlie an outer side plate and form the inner wall of the sash slide, a groove for a window shade formed on the plate back of said bead, and a rabbet along the inward edge of the plate to receive an inner side plate.



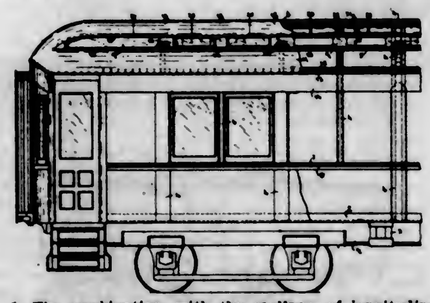
3. In a sash-frame for railway cars, an outer side plate provided with an outside bead for the sash-slide, in combination with a second side plate provided with a hollow inside bead, the outward side of said inside bead being adapted to overlap the outer side plate and to act as a spring strip to hold the sash against the outside bead.

4. In a sash frame for railway cars, an outer side plate forming an outside bead for the sash-slide, in combination with a second side plate provided with a hollow inside bead, the outward side of said inside bead being bent inward at an angle where it joins the head of the bead and being left free along its outer edge to adapt it to act as a spring strip to hold the sash against the outside bead.

5. In a sash frame for railway cars, the side plates 14, 15 and 16, of metal formed and fitted together substantially as herein set forth.

6. A sash frame for railway cars, comprising the outer sill plate 4, the side plates 14, 15 and 16 and the lintel 13 of metal formed and fitted together substantially as herein set forth.

865,500. STEEL RAILWAY-CAR. WILLIAM F. KIESEL, Jr., Altoona, Pa. Filed Feb. 23, 1907. Serial No. 358,976.



1. The combination, with the carlines, of longitudinal deck-plates having their lower portions set in between and straddling the carlines where they pass across them.

2. The combination, with the carlines, of longitudinal deck-plates having their lower portions set in between and bent outwardly to straddle the carlines where they pass across them, and roof-sheets resting upon the carlines with their upper portions bent inwardly between carlines, the upper edges of the roof-sheets being overlapped by the deck-plates.

3. The combination, with the carlines extending across a car in a continuous arch, of longitudinal deck-plates having their lower portions set in between and straddling the carlines where they pass across them, roof-sheets resting upon the carlines with their upper portions bent inwardly between carlines, the upper edges of the roof sheets being overlapped by the deck-plates, and longitudinal braces fastened to the carlines at their inward sides below the deck-plates, the deck-plates and roof sheets where they are joined together between carlines being riveted to said braces.

4. The combination, with the carlines extending across a car in a continuous arch, of longitudinal deck-plates having their lower portions set in between and straddling the carlines where they pass across them, and upper roof sheets extending across and supported by the carlines between deck-plates, the sheets at each side having their edges resting upon the top of the deck-plates and said plates being flanged along their upper edges to receive said sheets.

5. The combination, with the carlines extending across a car in a continuous arch, of longitudinal deck-plates having their lower portions set in between and straddling the carlines where they pass across them, longitudinal braces riveted to the carlines between deck-plates, and upper roof sheets resting upon said braces and fastened to the deck-plates at each side.

6. The combination, with the carlines extending across a car in a continuous arcn, of longitudinal deck-plates resting upon the carlines at each side of the center, upper roof sheets passing over the carlines and fastened at the sides to the top of the deck-plates, longitudinal braces riveted to the carlines at intermediate points between deck-plates to support the roof-sheets and brace the carlines, and transverse braces riveted to the under side of the roof sheets between carlines.

7. The combination, with the carlines extending across a car in a continuous arch, of longitudinal deck-plates having their lower portions set in between and straddling the carlines where they pass across them, head-linings fastened to the carlines between the deck-plates, said head-linings being cut out between carlines to a level with the upper portion of the deck-plates, top and side linings extending between the head-linings and the deck-plates, and window sashes fastened in openings provided therefor in the deck-plates.

8. The combination, with the carlines extending across a car in a continuous arch, of longitudinal deck-plates having their lower portions set in between and straddling the carlines where they pass across them, longitudinal braces fastened inside the carlines below the deck-plates, upper and lower head-linings fastened to the carlines, and longitudinal molding strips bolted to the longitudinal braces to fasten the respective lower and upper edges of said head-linings in place.

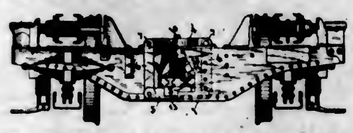
9. The combination, with the carlines rising from the main posts, of lower head-linings fitted to the carlines above the posts, longitudinal T braces fastened inside the posts and carlines, with their ribs facing inwardly, said braces being spaced apart to receive the upper and lower edges of the head-linings, and molding strips fastened to the braces to fasten said edges to the braces.

10. The combination, with the carlines extending across a car in a continuous arch, of longitudinal T braces riveted inside the carlines in line with the deck lights, and inside and outside sheathing plates fastened thereto.

11. The combination, with the frame posts, of parallel longitudinal braces fastened to the posts above the window openings, inside longitudinal sheathing plates having moldings formed thereon at top and bottom and fitted to said braces, bolts projecting from the braces through holes provided therefor in the moldings, and cap nuts screwed on the projecting ends of said bolts to fasten the plates in place.

12. The deck-plates having openings for deck lights cut therethrough and out-turned flanges along the top and bottom edges, the lower portion of the plates being bent upwardly and outwardly to adapt them to straddle carlines where they pass across them.

865,501. MOTOR-TRUCK. WILLIAM F. KIESEL, Jr., Altoona, Pa. Filed Mar. 25, 1907. Serial No. 364,481.



1. The combination, with a car-truck having an independent bolster, of a motor-frame mounted upon one of the axles, a nose projecting from the frame opposite the axle, and a laterally movable support for the nose positioned beneath the center line of the bolster.

2. The combination, with a car-truck having motor-frames mounted upon the axles and provided with oppositely disposed noses, of a laterally movable suspension bar upon which the frame noses rest, said bar being positioned beneath and parallel with the transverse center line of the center plate of the truck.

3. The combination, with a car-truck having an independent bolster upon which the center plate is mounted, of motor-frames mounted upon the axles and provided with oppositely disposed noses, a suspension bar upon which the frame noses rest positioned beneath the center plate, and links pivotally mounted on the bolster at each side of the center plate and coupled to said bar.

4. The combination, with a car-truck having an independent bolster upon which the center-plate is mounted, of motor-frames mounted upon the truck axles and provided with oppositely disposed noses adapted to lap past one another beneath the center-plate on opposite sides of the vertical center of the bolster, a suspension bar upon which the ends of the noses rest, and links coupling said bar to the bolster at opposite sides of the center-plate.

5. The combination, with a car-truck having an independent bolster upon which the center-plate is mounted, of motor-frames mounted upon the truck axles and provided with oppositely disposed noses adapted to lap past one another beneath the center-plate on opposite sides of the vertical center of the bolster, a suspension bar upon which the ends of the noses rest, links coupling said bar to the bolster at opposite sides of the center-plate, a plate resting upon the top of the noses over the suspension bar, a center-casting in the bolster beneath the center-plate provided with a sleeve, a king-bolt passing through said sleeve, a coiled spring mounted on the sleeve and pressing upon the plate above the noses, and a projection from the king-bolt to engage and hold said plate in place.

6. The combination, with a car-truck having motor-frames mounted upon the axles, of a suspension bar for the frame noses positioned beneath the center-plate of the truck, links pivotally mounted on the truck bolster at each side of the center-plate and coupled to said bar at their lower ends, and a spring pressed plate resting upon the top of the noses above the suspension bar.

7. The combination, with a car-truck, having motor-frames mounted upon the axles, of a suspension bar for the frame noses positioned beneath the center-plate of the truck, and links pivotally mounted on spring supported bearings on the truck bolster at each side of the center-plate and coupled to said bar at their lower ends.

865,502. APPARATUS FOR TESTING SEEDS. WILLIAM H. KISSEL, Avoca, Iowa. Filed Dec. 15, 1905. Serial No. 291,877.

1. In a seed testing apparatus, a seed testing tray, and a subdividing frame within said tray which has a plurality of independent sprouting or growing compartments, indicia being provided to identify the various compartments aforesaid.

2. In a seed testing apparatus, a seed testing tray, and a removable sub-dividing frame within said tray which

has a plurality of independent, circumscribed or defined sprouting or growing compartments, indicia being provided to identify the various compartments aforesaid.

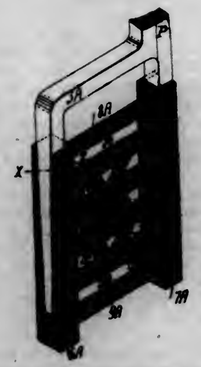


3. In a seed testing apparatus, a rectangular seed testing tray having indicia setting off one of its sides and ends, and a subdividing frame within said tray which has a plurality of independent circumscribed or defined sprouting or growing compartments which are identified by the indicia aforesaid.

4. In a seed testing apparatus, a classifying cabinet having spaces and indicia designating said spaces, a seed testing tray having indicia corresponding to the indicia of the classifying cabinet, and a subdividing frame within the seed testing tray having independent circumscribed or defined identified by the indicia of the seed testing tray.

5. In a seed testing apparatus, a seed testing tray, and a subdividing frame within said tray which has a plurality of independent circumscribed or defined sprouting or growing compartments.

865,503. ELECTRICAL ACCUMULATOR. JOHN KNOBLOCH, New York, N. Y. Filed Dec. 26, 1906. Serial No. 349,400.



1. In an electrical accumulator having an element comprising a plurality of units, said units consisting of a conducting support, having consecutive compartments, and a suitable electrolytically active paste carried thereby, a perforated envelop of insulating material, surrounding the whole, together with a frame of insulating material to support the element and a woven binder of insulating material, embracing and securing the units.

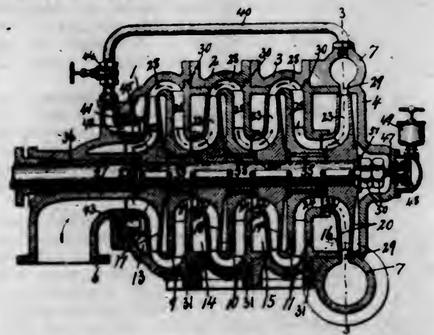
2. In an electrical accumulator, provided with elements, built up of units, units formed of a conducting support, provided with a plurality of interstices, a transverse brace, adapted to resist the bending of the unit, said unit adapted to contain a quantity of divided conducting material and to be exposed to electrolytic action, an insulating wrapping of pervious material surrounding the unit and means for securing the same in contact therewith.

3. In an electrical accumulator, wherein the anode and cathode elements are built up of a plurality of units, the combination with an element of pervious insulating support secured to and surrounding the units and embracing the structural portion of the element, together with lateral braces of insulating material to support the structure.

4. In an electrical accumulator provided with anode and cathode elements, built up of units, a conducting support, constituting the frame-work, electrically uniting the units and having a variable cross-section, together with an envelop of insulating material, having pervious and impervious portions, the former surrounding the units and secured thereto and the latter embracing the frame-work.

5. In an electrical accumulator, provided with anode and cathode elements, built up of units, a conducting support constituting the frame-work electrically uniting the units and having a variable cross-section, together with an envelop of insulating material, having pervious and impervious portions, the former surrounding the units and secured thereto and the latter embracing the frame-work, and a weaving of insulating material about the units.

865,504. CENTRIFUGAL HIGH-PRESSURE PUMP. CARL LAGER, Baldwinsville, N. Y. Filed May 26, 1904. Serial No. 209,898.



1. In a series-runner centrifugal pump, a series of separate annular case-sections one for each runner and means securing them end to end, each case-section having an annular waterway arched transversely, separate circular diaphragms interposed between and held by the meeting faces of the case-sections dividing the interior of the case into runner chambers and each provided with a water-passage leading from its periphery inwardly through one of its end faces, and a runner in each chamber having its inlet communicating with the waterway in one of the diaphragms and its outlet opening into the waterway of its case-section, said runners having their inlet openings all facing in the same direction, and an external conduit connecting the waterway of one of the case sections with the inlet side of one of the runner chambers and discharging against the inlet side of the first runner of the series.

2. In a series-runner centrifugal pump, a series of separate annular case-sections one for each runner and means securing them end to end, each case-section having an annular waterwary arched transversely, separate circular diaphragms interposed between and held by the meeting faces of the case-sections dividing the interior of the case into runner chambers and each provided with a water-passage leading from its periphery inwardly through one of its end faces, and a runner in each chamber having its inlet communicating with the waterway in one of the diaphragms and its outlet opening into the waterway of its case-section, said runners having their inlet openings all facing in the same direction and a separate conduit connecting the waterway of the case section for the last runner of the series with the inlet side of the chamber for the first runner of said series and discharging against the inlet side of said first runner for balancing the end thrust.

3. In a centrifugal high-pressure pump, a casing comprising an inlet section and an outlet section and intermediate sections, said sections being secured end to end, the intermediate sections being identical and interchangeable, each section inclosing an impeller chamber, and having an annular water-passage, a series of impellers in said chambers each delivering into the passage of the case section which incloses it, and a series of partitions forming the sides of adjacent impeller chambers, each partition being clamped between the meeting ends of the adjacent case sections and having a water-way communicating with the water-way in one of the case-sections, and delivering into the next adjacent impeller, and a conduit leading from the annular passage of one of the case sections and discharging against the inlet side of one of the impellers.

865,505. VEHICLE-SPRING. JACOB O. LEWIS, Chicago, Ill. Filed Dec. 18, 1906. Serial No. 348,428.



1. In a vehicle, the combination of springs carried on the front and rear axles of the vehicle, a lever connected between its ends to the vehicle body, and spring connections between the ends of the lever and the front and rear springs respectively.

2. In a vehicle, the combination of longitudinal springs carried on the front and rear axles at each side of the vehicle body, the springs being connected at their outer ends to the vehicle body, a lever fulcrumed on the vehicle body on each side thereof, and spring connections between the ends of the lever and the inner ends of the springs.

3. In a vehicle, the combination of longitudinal springs carried on the front and rear axles at each side of the vehicle body, the springs being connected at their outer ends to the vehicle body, a lever fulcrumed on the vehicle body on each side thereof, said lever having openings through the ends, rods connected to the inner ends of the springs and extending through said openings, and springs between the rods and the lever.

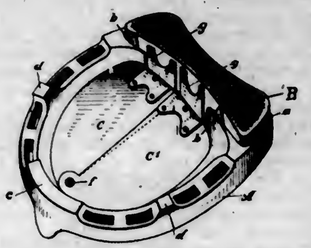
4. In a vehicle, the combination of separate springs mounted upon the running gear, a lever fulcrumed on the vehicle body and supporting the same, said lever having openings through its ends, rods depending from the ends of the springs, through the holes, and coiled springs supported by the rods and bearing under the ends of the lever.

865,506. COCK. LEWIS C. LEWIS, Columbus, Ohio, assignor to The Monarch Manufacturing Company, Columbus, Ohio, a Corporation of Ohio. Filed Feb. 27, 1906. Serial No. 303,166.



In a cock of the character set forth, the combination with a casing which is made in two sections, of a pair of webs spanning said casing, one of said webs being carried by each of said sections, a valve stem mounted to slide and turn in said casing, a valve carried by said valve stem and located between said webs, each of said webs being perforated for the passage of water and forming valve seats, a member carried by the valve stem, a spring bearing between said member and one of said webs to force said valve stem in one direction and to bring said valve into engagement with the valve seat of one of the webs, and screw threads carried by the valve stem and the other of said webs which are adapted when engaged with each other to draw said valve into engagement with the valve seat of the last named web, said spring normally holding said threads out of engagement with each other.

865,507. HORSESHOE. MORRIS A. LIEBERT, New York, N. Y. Filed June 22, 1907. Serial No. 380,192.



1. In combination with a horseshoe, a hoof pad adapted to be attached to the lower front portion of the horseshoe, a cushion adapted to be attached to the lower rear portion of the horseshoe, a retaining piece extending from the rear of said hoof pad adapted to be held in place between the cushion and the horseshoe, and projections on the rear of the horseshoe adapted to hold said cushion in place, substantially as and for the purpose described.

2. A hoof pad comprising two lateral plate members hinged at their front ends by means of a screw extending through overlapping portions of such members, in combination with an extension *e* on the horseshoe provided with an aperture adapted to receive said screw from the lower side thereof, and means for attaching the rear portion of the hoof pad to the lower rear portion of the horseshoe, substantially as and for the purpose described.

3. The combination, with a horseshoe, of a hoof pad comprising two lateral plate members hinged at their front ends to swing toward and from each other in their planes, means for removably attaching the same to the front portion of the horseshoe, a cushion adapted to be held in place at the lower rear portion of the horseshoe, means for so holding the cushion in place, and a retaining piece on each of said hoof pad members, adapted to be held in place between the cushion and the horseshoe, substantially as and for the purpose described.

4. In combination with a horseshoe, a hoof pad comprising two lateral plate members hinged at their front ends to swing toward and from each other in their planes, means for removably attaching the same to the front portion of the horseshoe, a cushion adapted to be held in place on the lower rear portion of the horseshoe, a retaining piece on each of such hoof pad members adapted to be held in place between the cushion and the horseshoe, and projection on the horseshoe and on the rear portions of the hoof pad members to hold the cushion in place, substantially as and for the purpose described.

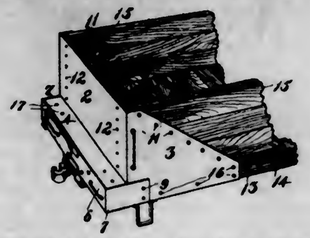
5. In combination with a horseshoe provided with bar portions *a*, *a*, a hoof pad comprising two lateral plate members hinged at their front ends to swing toward and from each other in their planes, means for removably attaching the same to the front portions of the horseshoe a cushion adapted to be held in place upon the lower side of the bar portions, means for so holding the cushion in place and a retaining piece on each of such hoof pad members adapted to overlap one another and to bridge the space between the bar portions and to be held in place between the bar portions and the cushion, substantially as and for the purpose described.

6. The combination with a horseshoe, of a hoof-pad comprising two lateral plate members C C′, hinged at their front ends by means of a screw held by a projecting plate *e* in the horseshoe, bar-portions *a a* attached to the rear of the horseshoe, a cushion B adapted to be held in place upon the bar portions, retaining pieces *h h* projecting from the rear of the plate members and adapted to lie upon the bar-portions and to be held in place between them and the cushion, and lugs *g g* upon the plate member adapted to coöperate with lugs *b b* on the bar portions to hold the cushion in place, the lugs *b b* being cast upon the inner sides of the bar-portions so as to permit a sidewise

expansion of the cushion, substantially as and for the purpose described.

7. In combination with a horseshoe, the rear bar-portions *a a*, a cushion B adapted to be held in place upon said bar portions, and lugs *b b* cast upon the inner sides of the bar portions to permit a sidewise expansion of the cushion, substantially as and for the purpose described.

865,508. CAR-REPAIRING DEVICE. HARVEY E. LIND, Kent, Ohio. Filed May 22, 1907. Serial No. 375,132.



1. A reinforcing device for railroad cars provided with wooden superstructures comprising a metallic end arranged to extend across and cover a substantial portion of the end of the car and having lateral wings adapted to lap the sides of the car and sides of the car sills and provided with means through which are adapted to extend holdfast devices for securing said device in position.

2. A device of the class described comprising a transverse portion adapted to extend across the end of a car having a laterally-extending foot to cover an extension projecting from the car body, and further provided with lateral wings provided with means through which are adapted to extend holdfast devices for retaining said device in position.

3. A device of the class described comprising a member having a transverse portion adapted to extend across the end of a car body terminating at its base in a lateral flange adapted to cover an extension of the car projecting from the body portion thereof and further provided with truncated lateral wings adapted to lap the sides of the car body and sills and having openings through which are adapted to extend holdfast devices for retaining said device in position.

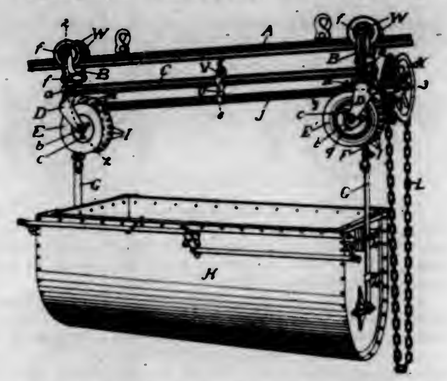
4. A device of the class described comprising a member having a transverse portion arranged to extend across the end of a car terminating at its base in a lateral flange arranged to cover an extension of the car body, and further provided with lateral wings to lap the sides of said car provided with openings through which are adapted to extend holdfast devices, and a member adapted to inclose the end sill of the car and be secured by holdfast devices to the body portion of said device.

5. A device of the class described comprising a member having an upwardly-extending portion arranged to extend across the end of a car and provided with lateral wings having openings through which are adapted to extend holdfast devices, and a member provided with lateral end wings arranged to inclose the end sill of a car and be secured by means of the wings to the body of said device.

6. A device of the class described comprising a member having an upright portion adapted to extend across the end of a car and provided with lateral wings of a height sufficient to extend from the sill of a car to the top of the body thereof having openings through which are adapted to extend holdfast devices for securing the device in position, and a lateral member arranged to inclose the end sill of said car also provided with lateral wings adapted to be secured to the body of said device.

7. A device of the class described comprising a member having an upwardly-extending portion arranged to extend across the end of a car provided with lateral wings to lap the sides of a car having openings through which are adapted to extend holdfast means for securing the device in position, said upwardly-extending portion being provided with a laterally-extending flange to cover an extension of the car body, and a member arranged to extend longitudinally of the end sill and be secured at its ends to the body portion of said device.

865,509. ELEVATED CARRIER. WILLIAM LOUDEN, Fairfield, Iowa. Filed July 5, 1907. Serial No. 382,386.



1. An overhead track, a carriage to run on the track, a depending bracket secured to each end of the carriage, a revoluble shaft mounted in the brackets and carrying a worm or screw adjacent to each bracket, a drum mounted in each bracket adjacent to the worms and provided with means for co-acting therewith, a receptacle, means for connecting the receptacle with the drums, and means for rotating the shaft so as to raise and lower the receptacle.

2. An overhead track, a carriage to run on the track, a depending bracket secured to each end of the carriage, a revoluble shaft mounted in the brackets and carrying a worm or screw adjacent to each bracket, a drum mounted in each bracket adjacent to the worms and provided with means for co-acting therewith, a receptacle, means for adjustably connecting the receptacle with the drums, and means for rotating the shaft so as to raise and lower the receptacle.

3. An overhead track, a carriage to run on the track, a depending bracket secured to each end of the carriage, a revoluble shaft mounted in the brackets and carrying a worm or screw adjacent to each bracket, a drum mounted in each bracket adjacent to the worms and provided with gears for co-acting with the worms, a receptacle, means for connecting each end of the receptacle with the drums and means for rotating the shaft and elevating and lowering the receptacle.

4. An overhead track, a carriage to run on the track, a depending bracket secured to each end of the carriage, a revoluble shaft mounted in the brackets and carrying a worm or screw adjacent to each bracket, a drum mounted at right angles to the shaft in each bracket, adjacent to the worms and provided with means for co-acting therewith, a receptacle, means for connecting the receptacle with the drums, and means for rotating the shaft so as to raise and lower the receptacle.

5. An overhead track, a carriage to run on the track, a depending bracket secured to each end of the carriage, a revoluble shaft mounted in the brackets and carrying a worm or screw adjacent to each bracket, a drum mounted in each bracket and having flanges to straddle the worms and pins or spurs on the inner faces of said flanges to co-act therewith, a receptacle, means for connecting the receptacle with the drums and means for rotating the shaft to raise and lower the receptacle.

6. An overhead track, a carriage to run on the track, a depending bracket secured to each end of the carriage, a revoluble shaft mounted in the brackets and carrying a worm or screw adjacent to each bracket, a drum consisting of two parts joined together and mounted in each bracket adjacent to the worms, each part having a flange provided with pins or spurs to co-act with the worms, a receptacle, means for connecting the receptacle with the drums, and means to rotate the shaft and raise and lower the receptacle.

7. An overhead track, a carriage to run on the track, a depending bracket secured to each end of the carriage, said brackets having their lower ends forked, a revoluble shaft mounted in the brackets above said forked ends, and carrying a worm or screw adjacent to each bracket, a drum mounted in the forked ends of each bracket adjacent to the worms and provided with means for co-acting therewith, a receptacle, means for connecting the receptacle with the drums and means for rotating the shaft and raising and lowering the receptacle.

8. An overhead track, a carriage to run on the track, a depending bracket secured to each end of the carriage, said brackets having their lower ends forked, a revoluble shaft mounted in the brackets above said forked ends, and carrying a worm or screw adjacent to each bracket, a drum mounted at right angles to the shaft in the forked ends of each bracket adjacent to the worm and provided with means for co-acting therewith, a receptacle, means for connecting the receptacle with the drums, and means for rotating the shaft and raising and lowering the receptacle.

9. An overhead track, a carriage to run on the track, a depending bracket secured to each end of the carriage, said brackets having their lower ends forked and inwardly inclined, a revoluble shaft mounted in the brackets above said forked ends, and carrying a worm or screw at the inner side of each bracket, a drum mounted in the forked ends of each bracket opposite the worms and provided with means for co-acting therewith, a receptacle, means for connecting the receptacle with the drums, and means for rotating the shaft and raising and lowering the receptacle.

10. In a device of the character described, a track, a carriage, a bracket secured to each end of the carriage, a rotatable shaft mounted in the brackets, a worm on the shaft adjacent to each bracket, a drum mounted in each bracket and adapted to co-act with the worms, a receptacle, cables connecting the ends of the receptacle with the drums, a groove wheel upon one end of the shaft and a chain hung in the wheel and adapted to rotate the shaft and elevate and lower the receptacle.

11. In a device of the character described, a track, a carriage, a bracket secured to each end of the carriage, a rotatable shaft mounted in the brackets, a worm on the shaft adjacent to each bracket, a drum mounted in each bracket and adapted to co-act with the worms, a receptacle, cables connecting the ends of the receptacle with the drums, a groove wheel upon one end of the shaft, a chain hung in the wheel and adapted to rotate the shaft, and keepers secured to the brackets and adapted to prevent the chain from jumping off the wheel.

12. In a device of the character described, a track, a carriage, a bracket secured to each end of the carriage, a rotatable shaft mounted in the brackets, a worm on the shaft adjacent to each bracket, a drum mounted in each bracket and adapted to co-act with the worms, a receptacle, cables connecting the ends of the receptacle with the drums, a groove wheel upon one end of the shaft, a chain hung in the wheel, lugs formed on the brackets, and keepers or guards secured to the lugs.

13. In a device of the character described, a track, a carriage, a bracket secured to each end of the carriage, a rotatable shaft mounted in the brackets, a worm on the shaft adjacent to each bracket, a drum mounted in each bracket and adapted to co-act with the worms, a receptacle, cables connecting the ends of the receptacle with the drums, a groove wheel upon one end of the shaft, a chain hung in the wheel and adapted to rotate the shaft and means to hold the chain in fixed position.

14. In a device of the character described, a track, a carriage, a bracket secured to each end of the carriage, a rotatable shaft mounted in the brackets, a worm on the shaft adjacent to each bracket, a drum mounted in each bracket and adapted to co-act with the worms, a receptacle, cables connecting the ends of the receptacle with the drums, a groove wheel upon one end of the shaft, a chain hung in the wheel, and adapted to rotate the shaft and elevate and lower the receptacle and means to hold the chain in fixed relation to the receptacle.

15. In a device of the character described, a track, a carriage, a bracket secured to each end of the carriage, a rotatable shaft mounted in the brackets, a worm on the shaft adjacent to each bracket, a drum mounted in each bracket and adapted to co-act with the worms, a receptacle, cables connecting the ends of the receptacle with the drums, a groove wheel upon one end of the shaft, a chain hung in the wheel and a device affixed to the receptacle to hold the chain in fixed relation thereto.

16. In a device of the character described, a track, a carriage, a bracket secured to each end of the carriage, a rotatable shaft mounted in the brackets, a worm on the shaft adjacent to each bracket, a drum mounted in each bracket and adapted to co-act with the worms, a receptacle, cables connecting the ends of the receptacle with the drums, a groove wheel upon one end of the shaft, a chain hung in the wheel and a prong affixed to the receptacle to engage a link of the chain and hold it in fixed relation thereto.

17. In a device of the character described, a carriage, a connecting bar or shaft in the carriage, a rotatable shaft mounted below the connecting shaft, and a center support having on one end a boxing for the rotatable shaft and on the other a gripping opening to embrace the connecting shaft.

18. In a device of the character described, a carriage, a connecting bar or shaft in the carriage, a rotatable shaft mounted below the connecting shaft, and a center support having on one end a boxing for the rotatable shaft, the other end bifurcated and arranged to embrace the connecting shaft, and a bolt to clamp the bi-furcated ends upon the shaft.

19. In a device of the character described, a receptacle, a hoisting cable connected thereto, and a drum having a flange with a doubly rounded opening through which the cable may be passed and be wound in either direction on the drum without producing sharp bends therein.

20. In a device of the character described, a receptacle, a hoisting cable connected thereto, and a drum having a flange and an opening therein through which the cable may be passed and a plate on the outside of the drum to clamp the end of the cable thereto.

21. In a device of the character described, a receptacle, a hoisting cable connected thereto, and a drum having a flange and an opening therein through which the cable may be passed, a groove leading from the opening around the axle of the drum and on its outer side, into which the end of the cable may be laid and a plate to clamp the cable to the drum.

22. In a device of the character described, a receptacle, a hoisting cable connected thereto, and a drum having a flange and an opening therein through which the cable may be passed, a groove leading from the opening around the axle of the drum and on its outer side, into which the end of the cable may be laid, ribs in said groove and a plate to clamp the cable to the drum.

23. In elevated carriers, a track, a truck consisting of two separate pieces placed face to face and secured together, each piece passing below and on each side of the track and at substantially right angles thereto, axle pins inserted in recesses between the upper ends of said pieces and wheels mounted on said pins and adapted to run on the track.

24. In elevated carriers, a track, a truck consisting of two separate pieces placed face to face and secured together, each piece passing below and on each side of the track and at substantially right angles thereto, a swivel head on the carrier frame, a recess formed in the central lower ends of the truck pieces so as to inclose and hold the swivel head, axle pins inserted in recesses between the upper ends of said pieces and wheels mounted on said pins and adapted to run on the track.

25. In elevated carriers, a track, a truck consisting of two separate pieces placed face to face and secured together, each piece passing below and on each side of the track and at substantially right angles thereto, axle pins

inserted in recesses between the upper ends of said pieces, flanged wheels mounted on said pins and upwardly projecting lugs formed on one or both of the pieces below the track so as to come in contact with the flanges and prevent the wheels from coming off the pins.

26. In elevated carriers, a track, a truck consisting of two separate pieces placed face to face and secured together, each piece passing below and on each side of the track and at substantially right angles thereto, axle pins inserted in recesses between the upper ends of said pieces and wheels mounted on said pins and adapted to run on the track, and recesses being formed in the upper edges near the outer ends and bolts being passed through said recesses to hold the pins in place.

27. In elevated carriers, a track, a carriage having wheels to run on the track, said wheels being provided with flanges to bear against the edges thereof, a recess being formed in the face of the flange adjoining the tread of the wheel so that each flange will have two bearing places against the track, one on each side of the vertical center.

865,510. CABINET-MANTEL. MARTIN MARCKS, Baltimore, Md. Filed June 6, 1907. Serial No. 377,595.

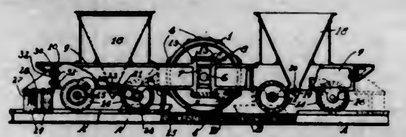


1. The combination in a cabinet mantel consisting of a hollow frame or shell of metal, containing packing material, upper and lower mantel ledges carried by the said shell, each consisting of a hollow metal casing, having a skeleton back and containing packing material, means securing said skeleton backs to the shell, a pair of lower columns, means for securing their bases to the bottom of the shell and means for securing their caps to the under side of the lower ledge, a pair of upper columns, and means for securing their bases to the upper side of the lower ledge and their caps to the under side of the upper ledge, said columns being hollow metal structures and containing packing material, a mirror aperture provided in the upper ledge, the marginal region inclosing said aperture being inclined inward and corrugated transversely of the region, a mirror secured against the region and occupying the said aperture, substantially as described.

2. A cabinet mantel having a metal frame or body provided with a mirror aperture, the marginal region inclosing said aperture being inclined inward and corrugated transversely of the region, in combination with a mirror secured against said region and occupying the aperture.

3. A cabinet mantel having a metal frame or body provided with a mirror aperture, the marginal region inclosing said aperture being inclined inward and corrugated transversely of the region; in combination with a mirror occupying said aperture and underlying said region; there being tongues extended backward from the edge of said marginal region over the edge of the mirror and against the back thereof to retain the same in place.

865,511. MACHINE FOR MAKING FOUNDRY-MOLDS. GEORGE P. MEHAFFEY, Knoxville, Tenn. Filed Sept. 19, 1906. Serial No. 335,226.



1. In a machine of the nature described, a frame comprising two separable, abutting frame sections, wheels supporting said sections, and a pattern roller located between said sections, substantially as described.

2. In a machine of the nature described, a frame comprising two separable, abutting frame sections, wheels supporting said sections, and a pattern roller located between said sections and adjustable up and down relative to said frame, substantially as described.

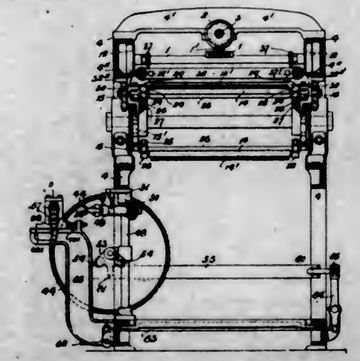
3. In a machine of the nature described, a frame comprising two separable, abutting frame sections, wheels supporting said sections, and a pattern roller located between said sections and automatically adjustable up and down relative to said frame, substantially as described.

4. In a machine of the nature described, a frame comprising two separable, abutting frame sections, wheels supporting said sections, a pattern roller located between said sections, and a propelling motor applied to one of said sections, substantially as described.

5. In a machine of the nature described, a frame comprising two separable, abutting frame sections, wheels supporting said sections, upright ways at the junction of said sections, bearing blocks on said ways, and a pattern roller journaled in said bearing blocks, substantially as described.

6. In a machine of the nature described, a frame comprising two sections, wheels supporting each section, ears and ways on the meeting ends of said sections, space blocks between said ears, bolts extending through said ears and said blocks, bearing blocks on said ways, and a pattern roller journaled in said bearing blocks, substantially as described.

865,512. MACHINE FOR WORKING OR DRESSING TEXTILE FIBERS. ARTHUR MELLOR, Macclesfield, England, and JEAN VILLY, Amplepuis, France. Filed June 28, 1905. Serial No. 267,391.



1. In a machine of the character described, the combination with a longitudinally movable carriage provided with means for holding tufts of fibers, and a combing device movable in a rectilinear path which converges slightly toward the path of movement of said carriage.

2. In a machine of the character described, the combination with a longitudinally movable carriage provided with means for holding tufts of fibers, of a combing device movable in a rectilinear path which converges toward the path of movement of said carriage, said combing device leaving

a combing surface inclined toward the path of movement thereof.

3. In a machine of the character described, the combination with a carriage provided with means for holding tufts of fibers, means for traversing said carriage through the machine with the fibers depending therefrom, and means for reversing said carriage at the end of its movement through the machine, of two endless chains, located beneath the path of said carriage, combs carried by said chains and adapted to engage said fibers, mechanism for moving said two series of chains in opposite directions, means comprising rotary brushes for removing the combings collected by the combs, movable strippers to receive the combings from said brushes, said strippers being adapted to be swung out to one side of and clear of the machine for cleaning, and means for removing the combings from the strippers when inoperative.

4. In a machine of the character described, the combination with a carriage provided with means for holding tufts of fibers, and means for traversing said carriage through the machine, of means for reversing said carriage at the end of its movement through the machine.

5. In a machine of the character described, the combination with a longitudinally movable carriage provided with means for holding tufts of fibers, of mechanism for reversing said carriage comprising a turn-over table and means for automatically actuating said table upon the insertion of a carriage thereinto.

6. In a machine of the character described, the combination with combing mechanism, and a longitudinally movable carriage provided with means for holding tufts of fibers, of mechanism for reversing said carriage comprising a turn-over table, means for automatically actuating said table upon the insertion of a carriage thereinto, and means for presenting a carriage from said turnover table to said combing mechanism.

7. In a machine of the character described, the combination with a carriage provided with means for holding tufts of fibers and means for traversing said carriage through the machine, of mechanism for reversing said carriage at the end of its movement through the machine, said mechanism comprising a turn-over table constructed and arranged to receive said carriage from said traversing means, means for automatically actuating said table upon the insertion of a carriage, thereinto, and means for ejecting said carriage from said table.

8. In a machine of the character described, the combination with a comb bar, of a bar having an inclined face upon which said comb bar is mounted, a chair for supporting said last-named bar, guides within which said chair is movable longitudinally of the machine, and a yielding connection between said chair and said last-named bar.

9. In a machine of the character described, the combination with a comb bar and means for moving the same longitudinally through the machine, of a yielding connection between said bar and said means.

10. In a machine of the character described, the combination with a pair of endless chains, comb bars carried by said chains, yielding connections between said bars and said chains, and means for actuating said chains.

11. In a fiber-combing machine, a carriage for carrying the tufts of fibers to be combed through the machine, comprising a plurality of book boards between which the fibers are nipped, movable end pieces between which said book boards are clamped, guides upon which said end pieces are adapted to slide, links connected to said end pieces, side plates upon which said links are eccentrically pivoted, a rod connecting said side plates, a hand lever operatively connected to said rod, a spring latch for holding said hand lever in a predetermined position, a cam formed on said hand lever, and a spring plunger engaging said cam surface to control the movement of the hand lever.

12. In a fiber combing machine, a carriage for carrying the tufts of fibers to be combed through the machine, comprising a plurality of book boards between which said fibers are nipped, movable end pieces between which said book boards are clamped, guides upon which said end pieces are adapted to slide, links yieldingly connected to said end pieces, a pivoted plate upon which said links are eccentrically pivoted, and a hand lever operatively connected to said plate.

13. In a machine of the character described, the combination with a carriage provided with means for holding tufts of fibers, and means for traversing said carriage through the machine, of devices for turning said carriage over at the feeding and delivery ends of the machine, and means for holding a plurality of such carriages in reserve beyond said turning-over devices.

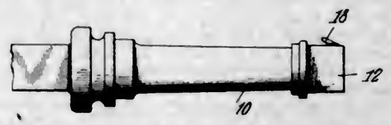
14. As an adjunct to a fiber combing machine employing a carriage for the material to be combed, means for supporting in reserve a plurality of such carriages, and means whereby said supporting means may be moved to present any one of said plurality of carriages to the machine.

15. As an adjunct to a fiber combing machine, employing a carriage for the material to be combed, means for supporting in reserve a plurality of such carriages comprising the platform 110 provided with a plurality of tracks 109', a track 112' extending transversely of the machine upon which said platform is movable, and means for moving said platform 110 along said track 112' to present any predetermined pair of tracks 109' to said machine.

16. In combination, a pair of fiber dressing machines employing carriages for the material to be dressed, means at either end of either machine for turning over said carriages, a turn table at either end of either machine beyond said turning-over means, and tracks connecting the corresponding turn tables of said machines.

17. In a machine of the character described, the combination with means for combing fibers, of a revolving brush for collecting combings from said combing means, a plurality of movable strippers each adapted when in operative position to receive the combings from said brush, vertical shafts upon which said strippers are pivoted, curved guide rails on which the free ends of said strippers are supported, devices for moving said strippers from operative to inoperative position, and vice versa, devices for locking said strippers in operative position, and means for cleaning or drawing off the combings from said strippers when in inoperative position.

865,513. NUT-LOCK. MARION MOORE, Lancaster, Ohio, assignor of one-third to Clarence M. Rowlee and one-third to Francis P. Barr, Lancaster, Ohio. Filed Feb. 26, 1907. Serial No. 359,366.



In a device of the class specified, the combination with a bolt having diametrically arranged slots at its end, of a nut having a slot intersecting the threaded opening of the nut and extending to the outer or end face thereof, the slot being continued along one wall of the wrench engaging face of the nut, a locking wing pivoted within the slotted nut and arranged to engage the slotted bolt, said wing having a tongue projecting beyond the slotted face of the nut and rounded for engagement with the wall of a wrench socket, said wing being of such width as to permanently close the end wall of the nut slot in both locking and releasing position and thus prevent the entrance of foreign matter, and a spring seated within the nut slot and engaging said tongue, the spring tending to move the wing to locking position and to hold the tongue in engagement with the socket of the wrench.

865,514. SICK AND INVALID CARRIAGE. PAUL MÜLLENMEISTER, Aix-la-Chapelle, Germany. Filed Dec. 4, 1906. Serial No. 346,295.

1. A sick- and invalid-carriage, comprising an axle having transporting-wheels at its outer ends, a carriage body resiliently supported by said axle, a stay-frame hinged to said axle, casters arranged at the free ends of said frame,

a second stay-frame likewise hinged to said axle, guide-rollers journaled in the free end of the last-named frame, means for simultaneously raising and lowering said stay-frames, and collapsible means for steering said carriage.

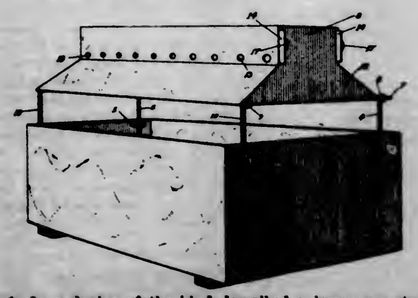


2. A sick- and invalid-carriage, comprising a carrying axle having wheels at its ends, springs carried by said axle, a carriage body, bars fixed to said carriage-body and adjustably connected with said springs, forked arms on said axle, stay-frames hinged to said axle-arms, adjustable means for simultaneously raising the free ends of said frames when moved in one direction and lowering them when moved in the opposite direction, noses on said frames for limiting their upward motion, pole-shafts attached to said axle, handle-bars pivotally attached to said pole-shafts, and means for automatically and rigidly locking said handle-bars to said pole-shafts when said handle-bars attain their operative position.

3. In a carriage of the kind described the combination with the carriage-axle, of a series of arms carried by said axle, stay-frames hinged to said arms, hangers carried by said axle, a shaft held by said hangers, link-connections between said frames and said shaft, means for operating said shaft and simultaneously therewith lowering the free ends of said frames when moved in one direction and raising them when moved in the opposite direction, and means for locking said operating means in either position.

4. In a carriage of the kind described, the combination with the carriage-axle, of forked arms carried by said axle, wheeled stay-frames hinged to said arms, hangers carried by said axle, a shaft held by said hangers, links connecting said stay-frames with said shaft, an adjusting-rod operatively connected with said shaft, pole-shafts secured to said carriage-axle, a handle-bar pivotally connected with each pole-shaft, a lever arranged as an extension of one of said handle-bars and connected with said adjusting-rod, a curved arm carried by each pole-shaft and passing through a slot of a handle-bar hinged to the same pole-shaft, a spring pressed latch-bolt locking said handle-bar to said pole-shaft when it has reached its upward limit, and notches in said arm for receiving the latch-bolt for locking said wheeled stay-frames in different positions.

865,515. CREAM-COOLER. MARTHA A. MUNCY, Escalon, Cal. Filed May 13, 1907. Serial No. 373,202.



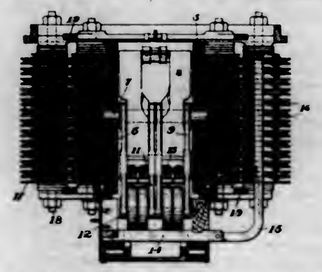
1. In a device of the kind described a lower receptacle upright bars removably secured at the front and rear of said receptacle, a water shed hinged to said rear rods, and adapted to rest on said front rods, and a water trough on the top of said water shed provided with a plurality of water holes in its sides, as set forth.

2. In a device of the character described a lower receptacle, upright rods removably secured to the front and rear of said receptacles, rings formed on the top of said rear rods, plates formed on the top of said front rods, a water shed, rods on said shed disposed in said rings, said shed resting normally on said plates, and a water trough secured to the top of said shed and provided with a plurality of water holes in its sides, as set forth.

3. In a device of the character described a lower receptacle, a water shed held upward therefrom, means for tilting said water shed upward, a water trough disposed on the top of said shed and provided with a plurality of water holes in its sides, slide plates disposed in the sides of said trough and provided with a plurality of holes adapted to be normally in alinement with said first named holes, as specified.

4. In a device of the character described a lower receptacle, a water shed held upward therefrom, a trough disposed along the apex of said shed, said trough being provided with a plurality of orifices in its sides adapted to spray water over said shed, as described.

865,516. ELECTRIC REGULATOR. FRANK C. NEWELL, Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Oct. 22, 1904. Serial No. 229,584.



1. An electric regulator comprising a main generator circuit having a rheostat in series, a second circuit for exciting the field of the generator, having one terminal connected to the main circuit, and a magnetically operated shiftable contact member for the rheostat constituting the other terminal of the second circuit.

2. An electric regulator comprising a main generator circuit having a rheostat in series, a second circuit for exciting the field of the generator having one terminal connected to the main generator circuit, and an automatic shiftable contact member for the rheostat magnetically operated from the main circuit and constituting the other terminal of the second circuit.

3. The combination with a generator having a main circuit and a second circuit carrying an exciting field coil with one terminal connected to the main circuit and the other terminal constituting a movable rheostat contact member, of a rheostat and a coil in the main circuit, and devices by which said coil magnetically operates the rheostat contact member, said devices comprising a controlling bar in the magnetic field actuating several common contact arms, said contact arms comprising resiliently mounted rollers to engage the contact points of the rheostat.

4. In combination in an electric regulator, resistance coils, an exciting coil within the same, a magnetically operable bar pivoted and resiliently supported within the exciting coils, a series of contact points for the resistance coils, and a contact arm carried by the bar and adapted to engage the contact points.

5. In a regulator the combination with a generator circuit and a second circuit for exciting the field thereof, of resistance coils 17, connected contacts 14, an actuating coil 6, magnetic bar 8 resiliently pivoted therein, and a series of contact rollers 12 connected with said bar to shift contact along said rheostat contacts, the exciting coil 6 being within the resistance coils 17, substantially as described.

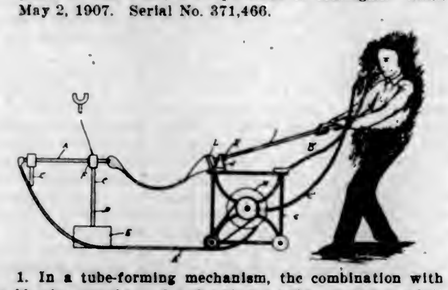
6. In an electric regulator the combination with a suitable supporting frame, of resistance coils, an exciting coil inside the same, a magnetically operated bar pivoted and resiliently supported within the exciting coil and several resiliently mounted contact arms making engagement between said bar and the contact points of the resistance coils, substantially as described.

7. The combination with a generator and a main circuit containing a rheostat having a movable contact member for securing connections at different points on the rheostat and an energizing winding, of a part operable by such winding for automatically shifting the contact member, and a second circuit for the exciting field coil having one end thereof connected to the contact member and the other end connected to the main circuit at one side of the rheostat.

8. The combination with a generator and a main circuit containing an energizing winding and a rheostat having a movable contact member for securing connections at different points on the rheostat, of a part operable by such winding for automatically shifting the contact member, and a second circuit for the exciting field coils having one end thereof connected to the contact member and the other end thereof connected to the main circuit on the return side of the rheostat.

9. In combination with a generator and a main circuit including an operating winding and a rheostat provided with a shifting contact member, of magnetic means adapted to be operated by the winding and connected to the contact member and a second circuit for the exciting field coils connected at one end to the main circuit on the return side of the rheostat and connected at the other end with the shifting contact member on the rheostat whereby the amount of realstance in front of the contact member and the amount of current in the second circuit is controlled by the current in the main circuit.

865,517. TUBE-FORMING APPARATUS. CORNELIUS J. NOLAN, Toledo, Ohio, assignor to The Libbey Glass Company, Toledo, Ohio, a Corporation of Michigan. Filed May 2, 1907. Serial No. 371,466.



1. In a tube-forming mechanism, the combination with a blowing member, of a drawing member, and a conduit between said members having one end connected to the blowing member and its opposite end free and arranged in operative relation to the drawing member.

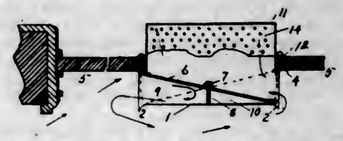
2. In a tube-forming mechanism, the combination with a blow-pipe, of a relatively movable drawing-rod, and a flexible conduit communicating with the blow-pipe at one end and having its opposite end free and supported in adjacence to the rod.

3. In tube-forming mechanism, the combination with a support, of a blow-pipe detachably mounted thereon, a drawing-iron or rod, a traveling support for the rod, and a flexible conduit having one end free and mounted upon the traveling support and communicating at its opposite end with the blow-pipe.

4. In tube-forming mechanism, the combination with a blow-pipe, of a traveling support, a drawing rod, and a reel mounted thereon, and a flexible conduit wound upon the reel having one end mounted upon the support and its opposite end connected with the blow-pipe.

5. In tube-forming mechanism, the combination with a suitable support and a blow-pipe mounted thereon, of a wheeled support in operative relation to the pipe, a drawing rod and a reel thereon, a drive connection between said reel and one of the support wheels, and a flexible conduit mounted at one end upon said latter support, communicating at its opposite end with the blow-pipe and having a section wound upon the reel.

865,518. VENTILATOR. CHARLES H. OCUMPAUGH, Rochester, N. Y. Filed Apr. 27, 1906. Serial No. 313,947.



1. In a ventilator, a hood having a partition, and a two-winged valve, the entire valve when at an equal distance between its two extreme movements inclosing right angles with the partition.

2. In a ventilator, a hood having a partition, and a pivoted two-winged valve, the valve when at an equal distance between its two extreme movements inclosing right angles with the partition, all of the partition being between the valve and the face of the hood.

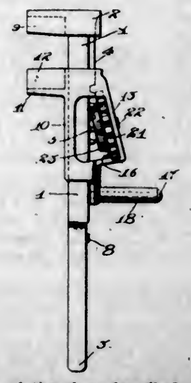
3. In a ventilator, a hood having two open ends, and a valve pivoted centrally between the sides of the opening at each end and centrally between the openings at opposite ends.

4. In a ventilator, the combination of the hood having opposite air passages, with a two-winged valve pivoted in said hood, and a partition closing the space between the valve and the outer wall of the hood, said partition being situated approximately at the longitudinal center of the hood and extending approximately to the transverse center of the same.

5. In a ventilator, the combination of the hood having opposite air passages, with a two-winged valve pivoted in said hood, and a partition closing the space between the same and the adjacent wall of the hood, the pivot and partition being on opposite sides of the valve.

6. In a ventilator, an interior box for use in connection with an exterior part or hood, a metal screen in the box, said box having a flap or door formed in its sides and a closed top so as to permit the box being placed against the casing at the top of the window.

865,519. WRENCH OR NUT-JACK. WILLIAM H. OLIVER, Chicago, Ill. Filed Sept. 25, 1905. Serial No. 279,907.



1. In a device of the class described, the combination of a shank having a jaw and a stop, a sliding jaw on the

shank, adjusting means for said jaw, and a crank handle operatively and detachably connected with the sliding jaw, the end of said handle being arranged to engage said stop to limit the movement of said sliding jaw.

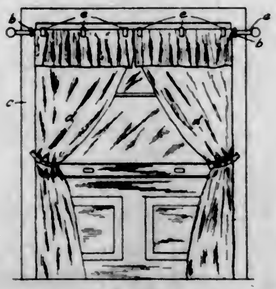
2. In a device of the class described, the combination of a shank, having a groove therein and provided with a handle, a sleeve surrounding the shank, adjusting means carried by the sleeve, a handle carried by the sleeve, and a bolt passing through the handle, the end of said bolt being adapted to enter and slide within the groove.

3. In a device of the class described, the combination of a rigid jaw, rack teeth carried by the jaw, a sleeve surrounding the rack, an operating member, a spiral rib carried by the face of the member, and a lug or projection carried by the sleeve, said member being mounted in the sleeve behind the lug and in an inclined position with relation to the rack, so that one portion only of the rib will engage the teeth, whereby the jaws may be adjusted and locked in their adjusted position.

4. In a device of the class described, the combination of a shank having a jaw and a rack, a sliding jaw on the shank, a support connected with the sliding jaw and having a journal bearing and provided with a projecting lug, a rotary operating member supported by said lug at one side and having a journal in said bearing, one face of said operating member having a spiral arranged in an inclined plane with respect to said rack and engaging the rack at one edge.

5. In a device of the class described, the combination with a rigid jaw, rack teeth carried thereby, a movable jaw, a sleeve carried thereby and provided with an inclined rear wall adjacent to and spaced from the rack, said wall having a centrally disposed aperture therein, a lug within the sleeve, an operating member comprising a conical disk wheel, a trunnion carried by one face thereof, and a spiral rib carried by its opposite face, said wheel being mounted in the sleeve with its trunnion journaled in the aperture, so that the said wheel will assume an inclined position in relation to the rack, with one point only of the rib engaging said rack and with the diametric opposite point of the wheel standing behind the lug.

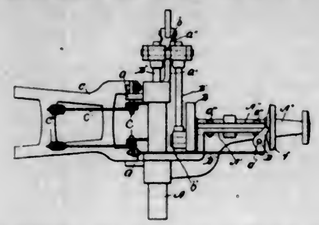
865,520. WINDOW-CURTAIN-SUSPENDING DEVICE. ARTHUR A. PAGE, Brooklyn, N. Y. Filed Feb. 2, 1907. Serial No. 355,406.



1. In a suspending device, a spring clamp segmental in cross section and into which a pole with a folded curtain, portière or the like may be inserted, said spring clamp being composed of inner and outer members and the inner member being provided with transverse slots forming openings therein.

2. The herein described means for suspending a curtain, portière or the like consisting of a pole over which one end of the curtain, portière or the like is folded, and a spring clamp segmental in cross section and into which the pole with the folded curtain, portière or the like is inserted, said spring clamp being composed of inner and outer members, and the inner member being provided with transverse slots forming openings therein.

865,521. WINDMILL. JOHN W. PARK, Excelsior Springs, Mo. Filed June 30, 1905. Serial No. 267,775.



1. In a windmill, the combination of a main frame; a laterally projecting arm formed integral therewith; a wheel spindle; a bearing therefor, consisting of a base section formed in said arm, and a removable cap section; bolts for securing said cap section in position; a gear shaft; a bearing therefor; supporting arms for said gear shaft bearing mounted on said bearing for said wheel spindle, secured in position by bolts for securing the said cap section thereof; suitable gears on said wheel spindle and shaft; a pump rod; a pitman rod; a pitman head connecting said pitman rod to said pump rod; a dovetailed projection on said main frame; an outwardly and upwardly projecting arm, having a groove in its inner end, adapted to engage said dovetailed projection; and a guiding link for said pitman rod pivotally mounted on said arm, coacting for the purpose specified.

2. In a windmill, the combination of a main frame; a laterally projecting arm formed integral therewith; a wheel spindle; a bearing therefor, consisting of a base section formed in said arm, and a removable cap section; bolts for securing said cap section in position; a gear shaft; a bearing therefor; supporting arms for said gear shaft bearing mounted on said bearing for said wheel spindle, secured in position by bolts for securing the said cap section thereof; suitable gears on said wheel spindle and shaft; a pump rod; a pitman rod; a pitman head connecting said pitman rod to said pump rod; an outwardly projecting arm detachably secured to said main frame; and a guiding link for said pitman rod pivotally mounted on said arm, coacting for the purpose specified.

3. In a windmill, the combination of a main frame; a laterally projecting arm formed integral therewith; a wheel spindle; a bearing therefor carried by said arm; a gear shaft; a bearing therefor; supporting arms for said gear shaft bearing removably mounted on said arm; suitable gears on said wheel spindle and shaft; a pump rod; a pitman rod; a pitman head connecting said pitman rod to said pump rod; a dovetailed projection on said main frame; an outwardly and upwardly projecting arm, having a groove in its inner end, adapted to engage said dovetailed projection; and a guiding link for said pitman rod pivotally mounted on said arm, coacting for the purpose specified.

4. In a windmill, the combination of a main frame; a laterally projecting arm formed integral therewith; a wheel spindle; a bearing therefor carried by said arm; a gear shaft; a bearing therefor; supporting arms for said gear shaft bearing mounted on said arm, suitable gears on said wheel spindle and shaft; a pump rod; a pitman rod detachably connected to said gear on said wheel shaft; a pitman head connecting said pitman rod to said pump rod; an arm detachably secured to said main frame; and a guiding link for said pitman rod pivotally mounted on said arm, coacting for the purpose specified.

5. In a windmill, the combination of a main frame; a laterally projecting arm thereon; a wheel spindle; a bearing therefor carried by said arm; a gear shaft; a bearing therefor; supporting arms for said gear shaft bearing mounted on said arm; suitable gears for said wheel spindle and shaft; a pump rod detachably connected to said gear on said wheel shaft; a pitman rod; a pitman head connecting said pitman rod to said pump rod; an arm detachably secured to said main frame; and a guiding link for said pitman rod pivotally mounted on said arm, coacting for the purpose specified.

6. In a windmill, the combination of a main frame; a laterally projecting arm formed integral therewith; a wheel spindle; a bearing therefor carried by said arm; a crank wheel on the inner end of said wheel spindle; a pump rod; a pitman rod; a pitman head connecting said pitman rod and pump rod; a dovetailed projection on said main frame; an outwardly and upwardly projecting arm having a mortise in its inner end to engage said dovetailed projection; a guiding link for said pitman rod pivotally mounted on said arm; laterally projecting perforated ears formed on said main frame; a vane; suitable pivots for said vane arranged through the said perforated ears; a pair of rod springs having coils therein to engage said pins; coiled springs for connecting the outer end of said rod springs to said vane; a wheel brake; and a rod for connecting said brake to said vane, all coacting for the purpose specified.

7. In a windmill, the combination of a main frame; a laterally projecting arm on said main frame; a wheel spindle; a bearing therefor carried by said arm; a crank wheel on the inner end of said wheel spindle; a pump rod; a pitman rod; a pitman head connecting said pitman rod and pump rod; laterally projecting perforated ears formed on said main frame; a vane; suitable pivots for said vane arranged through the said perforated ears; a pair of rod springs having coils therein to engage said pins; coiled springs for connecting the outer end of said rod springs to said vane; a wheel brake; and a rod connecting said brake to said vane, all coacting for the purpose specified.

8. In a windmill, the combination of a main frame; a laterally projecting arm formed integral therewith; a wheel spindle; a bearing therefor carried by said arm; a crank wheel on the inner end of said wheel spindle; a pump rod; a pitman rod; a pitman head connecting said pitman rod and pump rod; a dovetailed projection on said main frame; an outwardly and upwardly projecting arm having a groove in its inner end to engage said dovetailed projection; a guiding link for said pitman rod pivotally mounted on said arm; laterally projecting perforated ears formed on said main frame; a vane; suitable pivots for said vane arranged through the said perforated ears; a pair of rod springs having coils therein to engage said pins; and coiled springs for connecting the outer end of said rod springs to said vane, all coacting for the purpose specified.

9. In a windmill, the combination of a main frame; a laterally projecting arm on said main frame; a wheel spindle; a bearing therefor carried by said arm; a crank wheel on the inner end of said wheel spindle; a pump rod; a pitman rod; a pitman head connecting said pitman rod and pump rod; laterally projecting perforated ears formed on said main frame; a vane; suitable pivots for said vane arranged through the said perforated ears; a pair of rod springs having coils therein to engage said pins; and coiled springs for connecting the outer ends of said rod springs to said vane, coacting for the purpose specified.

10. In a windmill, the combination of a main frame; a laterally projecting arm formed integral therewith; a wheel spindle; a bearing therefor carried by said arm; a crank wheel on the inner end of said wheel spindle; a pump rod; a pitman rod; a pitman head connecting said pitman rod and pump rod; a dovetailed projection on said main frame; an outwardly and upwardly projecting arm having a groove in its inner end to engage said dovetailed projection; and a guiding link for said pitman rod pivotally mounted on said arm, coacting for the purpose specified.

11. In a wind mill, the combination of a frame; a laterally projecting arm on said frame; a wheel spindle; a bearing therefor carried by said arm; laterally projecting perforated ears on said frame; a vane; suitable pivots for said vane arranged through the said perforated ears; a pair of rod springs having coils therein arranged to engage said pivots; coiled springs for connecting the outer end of said rod springs to said vane; a wheel brake; and a rod for connecting said brake to said vane, for the purpose specified.

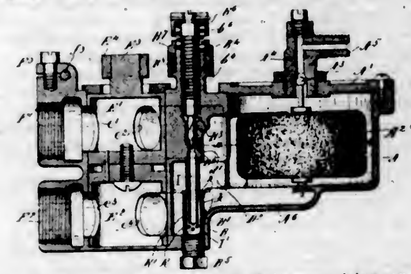
12. In a windmill, the combination of a frame; laterally projecting perforated ears on said frame; a vane; suitable pivots for said vane arranged through the said perforated ears; a pair of rod springs having coils therein arranged to engage said pivots; and coiled springs for connecting the outer end of said rod springs to said vane, coacting for the purpose specified.

13. In a windmill, the combination of a pivotally supported vane; a rod spring adapted to hold said vane normally outward; and a coiled spring for connecting the outer end of said rod spring to said vane, for the purpose specified.

14. In a windmill, the combination of a wheel spindle; a bearing therefor; a gear shaft bearing mounted thereon; and an oil conduit connecting said bearings, for the purpose specified.

15. In a wind-mill, the combination of a main frame; an arm detachably secured thereto; a pitman rod; and a guiding link for said pitman rod, adjustably secured to said arm, for the purpose specified.

865,522. CARBURETER. WILLIAM R. PARK, Taunton, Mass. Filed Feb. 23, 1906. Serial No. 302,362.



1. In a carbureter, a gas conduit comprising an air inlet mixing chamber and mixture outlet, a spray nozzle, a liquid fuel passage to the spray nozzle, a fuel valve, and throttle valves controlling the air inlet and mixture outlet, respectively, and means to open and close the two throttle valves and the fuel valve simultaneously, and means to increase gradually the ratio of fuel valve opening to air valve opening as the air valve opening decreases.

2. In a carbureter, a gas conduit comprising an air inlet mixing chamber and mixture outlet, a spray nozzle, a liquid fuel passage to the spray nozzle, a fuel valve, and throttle valves controlling the air inlet and mixture outlet, respectively, and means to open and close the two throttle valves and the fuel valve simultaneously, the effective sectional area of the air inlet being greater at all normal working positions of the throttle valves than the effective sectional area of the mixture outlet, and means to increase gradually the ratio of fuel valve opening to air valve opening as the air valve opening decreases.

3. In a carbureter, a gas conduit comprising an air inlet mixing chamber and mixture outlet, a spray nozzle, a liquid fuel passage to the spray nozzle, and throttle valves controlling the air inlet and mixture outlet, respectively, means to open or close said valves simultaneously, the said valves proportioned to afford a greater effective valve port area of the inlet than of the outlet, at all normal working positions of the valves, and to decrease the proportionate preponderance of inlet over outlet as both increase.

4. In a carbureter, a gas conduit comprising an air inlet mixing chamber and mixture outlet, a spray-nozzle, a liquid fuel passage to the spray-nozzle, a fuel-valve, throttle valves to control the air inlet and mixture outlet, respectively, means to open and close the two throttle valves and the fuel valve simultaneously, the effective

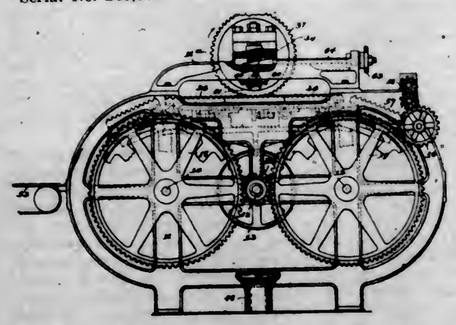
sectional area of the air inlet greater at all normal working positions of the throttle valves than the effective sectional area of the mixture outlet, the throttle valves proportioned to decrease the proportionate preponderance of inlet area over outlet area as both increase, and means to increase gradually the ratio of fuel valve opening to air valve opening as the air valve opening decreases.

5. In a carbureter, a gas conduit comprising a mixing chamber, an air inlet communicating with the upper end thereof, and a mixture outlet communicating with the lower end, a liquid fuel pipe bridging the gas conduit above the mixing chamber, an aperture in said liquid fuel pipe and a spray nozzle in said aperture, directed downward toward the mixing chamber.

6. In a carbureter, the combination of a liquid fuel valve, a conduit controlled thereby, a vertical tubular mixing chamber, an air inlet to the top thereof and a mixture outlet from the bottom thereof, a horizontal tube extending into the mixing chamber midway between the air inlet and mixture outlet, the bore of said tube communicating with the valve controlled liquid fuel conduit, said tube also transversely and vertically perforated, to admit the insertion of a spraying device from the top thereof, and the spraying device, to deliver fuel in a downward spray into the mixing chamber.

7. In a carbureter, the combination of a fuel conduit, an air inlet, a mixing chamber, a mixture outlet, a throttle valve having ports to control both the air inlet and mixture outlet, means to open and close said ports simultaneously, the effective port area of the air inlet being greater than that of the mixture outlet at all working positions of the valve, a spray nozzle to deliver fuel to the mixing chamber, a fuel valve, means to graduate the opening thereof, connections between said fuel valve operating means and the air and mixture throttle valve, to open and close them simultaneously and to maintain a predetermined rate of change in the ratio between the effective port areas of the fuel valve and air valve.

865,523. MACHINE FOR FORMING CARTON-BLANKS. FRANK M. PETERS, Chicago, Ill. Filed Jan. 9, 1905. Serial No. 240,351.



1. In a machine of the class described, the combination with a supporting frame, of a roll mounted therein, and an endless series of endwise connected plates mounted to travel in surface contact with the periphery of said roll, the contacting surfaces of said roll and plates being provided with coöperating knives and grooves for effecting the scoring of a blank sheet passed between them, substantially as described.

2. In a machine of the class described, the combination with a supporting frame, of a roll mounted therein having grooves formed in its peripheral surface, and an endless series of endwise connected plates mounted to travel in surface contact with the periphery of said roll, the roll-contacting surfaces of said plates having knives coöperating with the grooves of the roll to score a blank sheet passed between them, and also having other knives coöperating with the solid portions of the periphery of said roll to effect cuts and excisions in said sheet, substantially as described.

3. In a machine of the class described, the combination with a supporting frame, of sprocket-wheels mounted at either end thereof, a series of die-plates flexibly connected at their ends to form an endless carrier mounted on and driven by said sprocket wheels, a superposed die-roll coöperating with the outer surfaces of said die-plates to effect the formation of carton blanks from a solid sheet passed between them, and means for driving said plates and roll, substantially as described.

4. In a machine of the class described, the combination with a supporting frame, of a pair of sprocket wheels mounted at either end thereof, a series of die-plates hinged together at their ends forming an endless carrier mounted on and driven by said sprocket wheels, a superposed die-roller coöperating with the outer surfaces of said die-plates to effect the formation of carton blanks from a solid sheet passed between them, means for driving said sprocket wheels, and means for driving said roll from said endless carrier, substantially as described.

5. In a machine of the class described, the combination with a supporting frame, of a pair of sprocket wheels mounted at either end thereof, a stationary table mounted between the upper portions of said pairs of sprocket wheels, said table being provided with guide-ways, a series of die-plates hinged together at their ends forming an endless carrier mounted on and driven by said sprocket-wheels, said die-plates having supporting guides coöperating with the guide-ways of said table, a superposed die-roll coöperating with the outer surfaces of said die-plates to effect the formation of carton blanks from a solid sheet passed between them, means for driving said sprocket-wheels, and means for driving said roller from said endless carrier, substantially as described.

6. In a machine of the class described, the combination with a supporting frame and a die-roll mounted therein, of a series of die-plates hinged together at their ends to form an endless carrier and provided with means for supporting and driving them in surface-contact with said roll, the roll-contacting surfaces of said die-plates having knives to effect the cutting and scoring of a blank sheet passed between them and the coöperating surface of said roll, and also having depressible resilient devices serving to free the blank from engagement with said knives after the same has passed the roll, substantially as described.

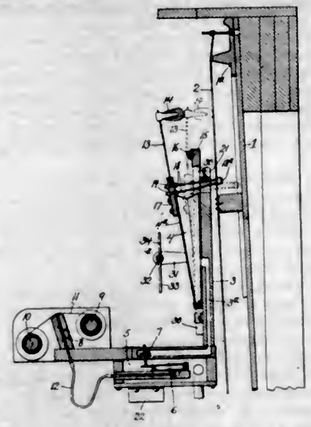
7. In a machine of the class described, the combination with a supporting frame, of a die-roll mounted therein, an endless series of endwise connected hollow die-plates mounted to travel in surface contact with the periphery of said roll, each of said die-plates having openings formed through its roll-engaging surface bounded by knives adapted to effect excisions in a blank sheet passed between the same and the roll, and means for subsequently introducing a pneumatic blast to the interior of said die-plates to discharge the scrap from said openings, substantially as described.

8. In a machine of the class described, the combination with a supporting frame and a die-roll mounted therein, of an endless die-carrier comprising a series of endwise hinged links transversely dovetailed on their outer surfaces, and die-plates removably engaging said dovetailed surfaces of the links and coöperating with said die-roll, substantially as described.

865,524. AUTOMATIC PIANO. THOMAS M. PLETCHER, Chicago, Ill. Filed Oct. 4, 1906. Serial No. 337,382.

1. In a stringed instrument, in combination with each string, a motor pneumatic; a hammer having a spring arm by which it is connected to the moving wall of the pneumatic; a fixed stop for arresting the movement of said moving wall which carries the hammer toward the string, mounted in position to cause the impact of the hammer on the string to occur by momentum of the hammer; a finger projecting rigidly from the moving wall hooked at its end to engage behind the string and having a damping pad on the forward side of the hook.

2. In a piano, in combination with the strings and their supports, a pneumatic action for striking the strings consisting of a structure adapted to be as a whole attached to and removed from the fixed structure which supports the strings and consisting of a motor pneumatic for each string; a hammer for striking the string having a spring arm carried by the moving wall of the pneumatic; a duct board on which the motor pneumatics are mounted; a stop bar mounted on the duct board in position to arrest the spring arms to cause the impact of the hammers to occur by momentum; a damper for each string and a finger carried by the moving wall of the pneumatics for taking the damper off the string in the collapsing movement of the pneumatic.



3. In a piano, in combination with the strings and their supports, a pneumatic action for striking the strings consisting of a structure adapted to be as a whole attached to and removed from the fixed structure which supports the strings and consisting of a motor pneumatic for each string; a hammer for striking it having a spring arm carried by the moving wall of the pneumatic; a duct board on which the motor pneumatics are mounted; a stop bar mounted on the duct board in position to arrest the spring arms to cause the impact of the hammers to occur by momentum, and a damper finger rigid with the moving wall of each pneumatic having a hooked and padded end adapted to be entered between the strings and engaged behind them respectively.

4. In a piano, in combination with the strings and their supports, a pneumatic action for striking the strings comprising a motor pneumatic for each string and means for controlling such pneumatics; means operated by the motor pneumatics respectively for making the stroke on the strings to cause them to sound, and a damper carried by the moving wall of each pneumatic consisting of a wire reflexed upon itself and having the members diverging from the bend and set with said diverging members in a vertical plane, such fingers being bent at an angle to said plane at a little distance back from the bend of the wire from which the members diverge to form a laterally projecting offset, and a damper pad carried on such offset.

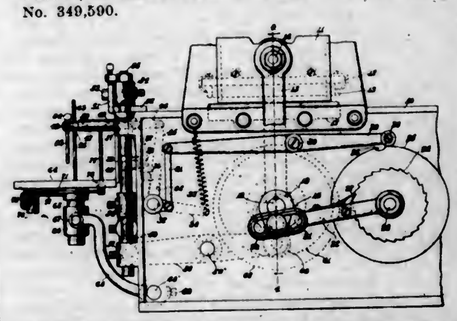
5. In a musical instrument, in combination with sounding devices adapted to be sounded by a stroke; a motor pneumatic for each sounding device; a hammer for making the stroke provided with a spring arm and attached thereby to the moving wall of the pneumatic; a rigid stop for arresting the spring arm to cause it to complete its stroke to the string by momentum of the hammer, such stop being mounted for movement along the length of the arm to vary the portion of the latter which projects beyond the stop for such spring action, and means for so adjusting the stop.

6. In a musical instrument, in combination with sounding devices adapted to be sounded by a stroke; a motor pneumatic for each sounding device; a hammer for making the stroke provided with a spring arm and attached thereby to the moving wall of the pneumatic; a stop mounted in position to arrest the spring arm at a point remote from the hammer a little before the latter touches the sounding device, such stop being movable to vary the distance from the hammer of the point of its encounter with the spring arm; a motor pneumatic and means for controlling the same, and connections from the motor pneumatic for so moving the stop bar.

7. In a musical instrument, in combination with sounding devices adapted to be sounded by a stroke; a motor pneumatic for each sounding device; a hammer for making the stroke provided with a spring arm and attached thereby to the moving wall of the pneumatic; a stop bar mounted in position to arrest the spring arm to cause it to reach the string by springing, such stop bar being movable along the spring arm to vary the point on the spring arm at which it is encountered thereby; means for holding the stop bar yieldingly at an intermediate point within the range of its movability; a rock shaft and connections therefrom for moving the stop bar; two motor pneumatics having connections from them respectively to the stop bar for rocking the latter in opposite directions upon the operating movement of the pneumatics respectively, and means for controlling the pneumatics.

8. In a piano, in combination with the strings and their supports, a pneumatic action consisting of a motor pneumatic for each string; a hammer for striking the string having a spring arm rigidly attached to the moving wall of the pneumatic; a stop to arrest the spring arm to cause the impact of the hammer to occur by momentum; a damper for each string and a finger carried by the moving wall of the pneumatic for taking the damper off the string in the collapsing movement of the pneumatic.

865,525. DELIVERY MECHANISM FOR PRINTING-PRESSES AND SIMILAR MACHINES. GEORGE W. PROUTY, Dorchester, Mass. Filed Dec. 26, 1906. Serial No. 349,590.



1. In a delivery mechanism, the combination with a platen and an impression device; of two sets of opposed supporting members adapted to receive the output of a machine of the class described; and means for moving said members longitudinally in opposite directions in lines parallel to each other at a predetermined time to separate the two sets.

2. In a delivery mechanism, the combination with a platen and an impression device; of two sets of horizontally movable opposed supporting members adapted to receive the output of a machine of the class described; and means for moving said members endwise in opposite directions in lines parallel to each other at a predetermined time to separate the two sets.

3. In a delivery mechanism, the combination of two sets of horizontally movable opposed supporting members adapted to receive the output of a machine; guides independent of but coöperating with said members to position the output on said members; and means for separating said members at a predetermined time.

4. In a delivery mechanism, the combination of two sets

of horizontally movable opposed supporting members adapted to receive the output of a machine; adjustable guides independent of but coöperating with said members to position the output on said members; and means for separating said members at a predetermined time.

5. In a delivery mechanism, the combination of two sets of horizontally movable opposed supporting members adapted to receive the output of a machine; adjustable guides independent of but coöperating with said members to position the output on said members; a table beneath said supporting members; and means for separating said members at a predetermined time and permitting the output supported on said members to drop onto said table.

6. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; adjustable guides independent of but coöperating with said members to position the output on said members; an adjustable table beneath said supporting members; and means for separating said members at a predetermined time and permitting the output supported on said members to drop onto said table.

7. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; adjustable guides to position the output on said members; an adjustable table beneath said supporting members; means for separating said members at a predetermined time; and a device movable upon said table to remove the output therefrom.

8. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; adjustable guides to position the output on said members; an adjustable table beneath said supporting members; means for separating said members at a predetermined time; and a spring retracted device movable upon said table to remove the output therefrom.

9. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; adjustable guides to position the output on said members; an adjustable table beneath said supporting members; means for separating said supporting members at a predetermined time; a lever pivoted to said table; a vertical member extending therefrom through a slot in the table; and means whereby said lever may be operated to remove from the table the output thereon.

10. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; adjustable guides to position the output on said members; an adjustable table beneath said supporting members; means for separating said supporting members at a predetermined time; a lever pivoted to said table; a vertical member extending therefrom through a slot in the table; means whereby said lever may be operated to remove from the table the output thereon; and a spring for returning said lever to its normal position.

11. In a delivery mechanism, the combination of a pair of horizontal supporting members; an arm parallel therewith provided with an extension at right angles thereto; a two-armed supporting member pivoted thereto, one arm being longer than the other; means for clamping said supporting member with one arm extending horizontally toward said pair of supporting members; and means for separating said horizontal supporting members at a predetermined time.

12. In a delivery mechanism, the combination of two sets of horizontally movable opposed supporting members adapted to receive the output of a machine; a revoluble cam; and means interposed between said cam and supporting members to cause an endwise movement of said members by the revolution of said cam to effect a discharge of the output from said supporting members.

13. In a delivery mechanism, the combination of two sets of opposed supporting members movable endwise in opposite directions in lines parallel to each other adapted to receive the output of a machine; a revoluble cylindrical disk provided with a cam throw at one point in its periphery; a pivoted lever provided with an end coöperating with said disk; and means interposed between said lever and said supporting members to cause an endwise movement and separation of said members whenever said lever end passes over said cam throw.

14. In a delivery mechanism, the combination of two sets of horizontally movable opposed supporting members adapted to receive the output of a machine; an intermittently revoluble cam; and means interposed between said cam and supporting members to cause an endwise movement and separation of said members by the revolution of said cam.

15. In a delivery mechanism, the combination of two sets of opposed supporting members movable endwise in opposite directions in lines parallel to each other adapted to receive the output of a machine; a revoluble cam; a ratchet wheel for intermittently moving said cam; and means for moving said ratchet.

16. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; a revoluble cam; a pivoted lever operated thereby; a second pivoted lever connected thereto and adapted to move one set of supporting members; a third pivoted lever connected to the other set of supporting members; and a link connecting said member operating levers.

17. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; a revoluble cam; a pivoted lever operated thereby; a second pivoted lever connected thereto and adapted to move one set of supporting members; a third pivoted lever connected to the other set of supporting members; a link connecting said member operating levers; and a spring for retaining said supporting members normally in supporting position.

18. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; a revoluble cam disk; a cutting off device; means for revolving said cam disk in a predetermined number of steps; means for moving said cam disk one step at each operation of the cutting off device; and means for separating said supporting members once during each rotation of said cam.

19. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; a revoluble cam disk; a cutting off device; a second cam for operating said cutting off device; a revoluble shaft therefor; means for revolving said cam disk in a predetermined number of steps; means for moving said cam disk one step at each operation of the cutting off device; and means for separating said supporting members once during each rotation of said cam.

20. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; a revoluble cam disk; a cutting off device; a second cam for operating said cutting off device; a revoluble shaft therefor; means for revolving said cam disk in a predetermined number of steps; means for moving said cam disk one step during each revolution of said shaft; and means for separating said supporting members once during each rotation of said cam.

21. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; a revoluble cam disk; a cutting off device; a second cam for operating said cutting off device; a revoluble shaft therefor; a ratchet for revolving said cam disk in a predetermined number of steps; a pawl operated by said shaft for moving said cam disk one step during each revolution of said shaft; and means for separating said supporting members once during each rotation of said cam.

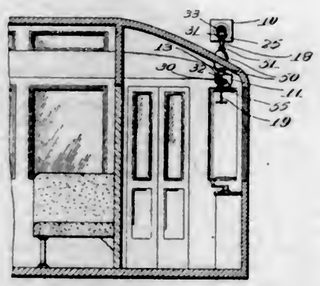
22. In a delivery mechanism, the combination of two sets of opposed supporting members adapted to receive the output of a machine; a revoluble cam disk; a cutting off device; a second cam for operating said cutting off device; a revoluble shaft therefor; a ratchet; a crank on said shaft; a pivoted lever operated thereby; a pawl thereon engaging said ratchet; and means for separating said supporting members once during each rotation of said cam.

23. In a delivery mechanism, the combination of two sets of opposed parallel supporting pins adapted to receive the output of a machine; and means for moving said pins longitudinally in opposite directions in lines parallel to each other at a predetermined time to discharge said output therefrom.

24. In a delivery mechanism, the combination of two sets of horizontally movable opposed supporting pins in the same horizontal plane and parallel to one another adapted to receive the output of a machine; a horizontal table beneath said pins and parallel thereto; vertical guides secured to said table adapted to position the output on said pins; and means for separating said pins at a predetermined time to discharge the output therefrom onto said table.

25. In a delivery mechanism, the combination of two sets of horizontally movable opposed supporting pins in the same horizontal plane and parallel to one another adapted to receive the output of a machine; a horizontal table beneath said pins and parallel thereto; vertical guides adjustably secured to said table adapted to position engaging said ratchet; and means for separating said pins at a predetermined time to discharge the output therefrom onto said table.

865,526. SIGN-OPERATING MECHANISM. WILLIS E. PUTNAM, Worcester, Mass. Filed Nov. 6, 1906. Serial No. 342,265.



1. In a rotatable sign, the combination of a bracket, a hollow non-rotatable shaft mounted therein, said shaft having a cylindrical portion, a sign having a bearing engaging said cylindrical portion, means for rotating the sign on its bearing, a plurality of frames rigidly connected with said shaft and located inside the sign, a tube for connecting said frames, an incandescent lamp in each frame, and conductors passing from said tube to the lamps and passing through said shaft.

2. The combination of a hollow support, an indicator movably carried thereby, an operating rod passing through said support, a sign on the support means connected with said operating rod for supporting the sign and indicator and lifting them with the rod, and means for locking the sign when the rod is lowered.

3. The combination of a hollow sleeve, a rod passing therethrough, a bracket supported at the top of said sleeve, a sign having a stud or shaft supported by said bracket, a rod passing through the sleeve and supported by the bracket thereon, said rod passing through the bracket and the end of the rod engaging said stud, whereby the lifting of the rod will lift the end of the sign, and means for locking the sign when the rod is lowered.

4. The combination of a sleeve, a bracket supported thereby, a sign, a stud projecting from the sign and supported by the bracket, a rod passing through the sleeve and bracket and engaging the stud, a gear on the rod for rotating the sign, said gear and bracket being provided with means for locking the sign in certain positions of the gear and one position of the rod.

5. The combination of a bracket, a sign having a stud supported by the bracket, an operating rod extending through the bracket and adapted to engage the stud, said bracket and rod being provided with means for locking the sign, said means being disengaged when the rod is lifted.

6. The combination of a vertically movable operating rod, a sign having a stud, and means for locking the rod when it is lowered, the end of said rod engaging the stud, whereby the lifting of the rod to disengage it from the locking means will lift the end of the sign.

7. The combination of an operating rod, a gear thereon, a sign, a gear on the sign engaging the first named gear, means for locking the rod and the first named gear, and means whereby the rod may be lifted to disengage it from the locking means and the sign lifted with it to retain said gears in mesh with each other.

8. The combination with an inclined support and a sign-supporting member, of a pair of hemispherical clamping pieces through which said supporting member passes, and means for clamping said pieces together upon opposite sides of the support to hold the supporting member in vertical position at an angle to said support.

9. The combination of a supporting member for a sign or the like with a pair of hollow hemispherical clamping members adapted to be located on opposite sides of a slanting roof or the like, said members having cross-bars each provided with a perforation for the supporting member, and means for clamping the clamping pieces together.

10. A clamping piece for a sign support comprising a hollow hemispherical member having a bar across the open face thereof, said bar and the hemispherical surface of the member being provided with perforations.

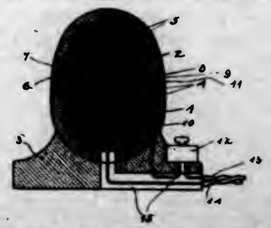
11. The combination of a pair of hemispherical clamping pieces, a sign-supporting rod passing therethrough at an angle to their plane sides, and means for clamping the rod to said pieces whereby said pieces can be secured to a slanting support or the like to hold the rod in vertical position.

12. The combination of a pair of hemispherical clamping pieces, a sign-supporting rod passing therethrough at an angle to their plane sides, and means for clamping the rod to said pieces, the pieces having means for holding the rod at a predetermined angle with respect to their plane sides.

13. The combination of a pair of clamping pieces each having a plane side and a curved side, a sign-supporting rod passing through both of said pieces at an angle to their plane sides, and means for clamping the rod to said pieces, said pieces having means on their plane sides for holding the rod at a predetermined angle thereto.

14. In a sign, the combination of a plurality of corner pieces having edges each provided with a reëntrant angle on each of its two opposite sides, side members with their edges located in said angles, and angle-irons located within the sign on the inwardly extending angles of said corner pieces, the edges of said angle-irons engaging the side members to hold them in position and the reëntrant angles being provided with fastening strips therein located on the outside of the side members.

865,527. HEATING DEVICE. ALBERT A. RADTKE, Chicago, Ill. Filed Oct. 27, 1906. Serial No. 340,797.



1. In an electrical egg cooking device, the combination of an inclosing shell comprising a base and a cap portion, and electrical conductors arranged within the base and cap portions to form a lining therefor, the interior contour of the receptacle being such that the windings will be brought into uniform and intimate proximity to the egg placed within the receptacle to be heated.

2. In an electrical egg cooking device, the combination of an inclosing casing or shell comprising a base part and a cover or cap part, electrical conductors arranged to line the interior of the base part, electrical conductors arranged to line the interior of the cap part, and means for affording electrical connection between the windings in the base and cap parts when these parts are brought together, the contour of the interior of the shell being such that the windings are in uniform and intimate proximity to the egg within the shell to be heated.

3. In an electrical heating device, the combination of an inclosing shell comprising a base portion and a cap or cover portion therefor, a mounting block in which the base portion is mounted, windings arranged within the base and cap portions and adapted for connection with a source of current supply, and a switch forming part of the device for controlling the connection of the windings with the current source, the interior contour of the device being such that the windings will be in uniform proximity to an object placed within the shell to be heated.

4. In an electrical heating device, the combination of an elliptical inclosing shell formed of material non-conductive to heat, said shell comprising a base portion and a cap portion fitting thereon, electrical conductors arranged within the base and cap portions to form a lining therefor, and suitably arranged terminals for connecting together the windings in the cap and base portions when these portions are brought together, said shell being entirely inclosed when the cover and base parts are brought together and the interior contour being such that the windings will be in substantially uniform proximity to the object to be heated.

5. In an egg heating or cooking device, the combination of an elliptical inclosing shell for entirely inclosing the egg, electrical conductors lining the interior of the casing and disposed to apply heat uniformly to the egg when connected with a source of current supply to cook the egg by induction.

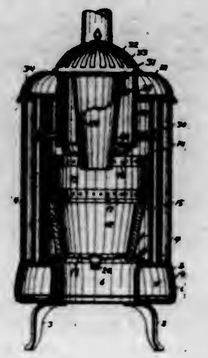
6. In an egg heating device, the combination of electrical conductors wound to form an egg-shaped shell for intimately receiving and surrounding the egg, a protecting and supporting shell surrounding the windings, and means for controlling the connection of said windings with a source of current supply, the protecting shell being of material which is non-conductive to heat.

7. In an electrical cooking device, the combination of an inclosing casing, and windings arranged within the interior of the casing adapted for connection with a source of current supply, said wires being arranged to intimately receive the object to be cooked, thereby to cause uniform heating thereof.

8. In an electrical cooking device, the combination of an inclosing casing, and wires lining the interior of the casing adapted for connection with a source of current supply, said wires being arranged to intimately receive the object to be heated to heat said object by conduction, said casing being of material which is a non-conductor of heat whereby the heat generated by the windings is concentrated on the object to be heated.

865,528. HEATING-STOVE. FRANKLIN M. REED, Fort Wayne, Ind., assignor to Wayne Stove Company, Fort Wayne, Ind. Filed Oct. 23, 1905. Serial No. 283,983.

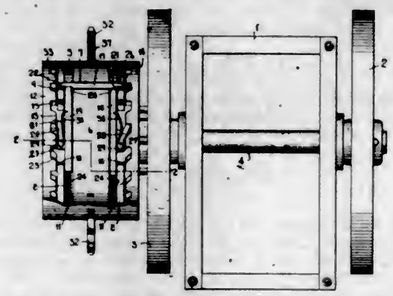
1. In a stove of the class described, a base having a chamber formed therein, an outer shell carried by said base and extending upwardly therefrom, a fire-pot structure arranged in said shell but spaced therefrom to form an air-chamber, the upper portion of the fire-pot structure being in contact with said outer shell to close the upper end of said air chamber, said fire-pot structure having draft openings to provide communication between said air space and the interior of the fire-pot structure, a top surmounting said outer shell and forming a chamber at the top thereof to receive the products of combustion, an inner shell depending from said top and having communication with the outer air, a tubular structure arranged in said inner shell and passing therethrough, whereby the interior of said inner shell is closed against communication with the interior of the outer shell to thereby constitute an air heating chamber, draft tubes connecting the chamber at the top of the outer shell with the chamber in the base, a smoke pipe also connected with said chambers, and means for causing the products of combustion to pass either directly to the smoke pipe or through the draft tubes to the chamber in the base.



2. In a stove of the class described, a base having a chamber formed therein, an outer shell carried by said base and extending upwardly therefrom, a fire-pot structure arranged in said shell but spaced therefrom to form an air chamber, said structure including a fire-pot proper, and a combustion chamber superposed thereon, the upper portion of said combustion chamber being flanged and in contact with said outer shell to close the upper end of said air chamber, said combustion chamber having draft openings to provide communication between said air space and the interior of the fire-pot structure, a top surmounting said outer shell and forming a chamber at the top thereof to receive the products of combustion, an inner shell depending from said top and having communication at its top and bottom with the outer air, a tubular structure arranged in said inner shell and passing therethrough, whereby the interior of said inner shell is closed against communication with the interior of the outer shell to thereby constitute an air heating chamber, draft tubes connecting the chamber at the top of the outer shell with the chamber in the base, a smoke pipe also connected with said chambers, and means for causing the products of combustion to pass either directly to the smoke pipe or through the draft tubes to the chamber in the base.

3. In a stove of the class described, a base having a chamber formed therein, an outer shell carried by said base and extending upwardly therefrom, a fire-pot structure arranged in said shell but spaced therefrom to form an air chamber, the upper portion of the fire-pot structure being in contact with said outer shell to close the upper end of said chamber, said fire-pot structure having draft openings to provide communication between said air space and the interior of the fire-pot structure, a top surmounting said outer shell and forming a chamber at the top thereof to receive the products of combustion, an inner shell depending from said top and provided in its upper end with openings communicating with the outer air, draft tubes extending from the lower end of said inner shell through the outer shell, whereby communication is afforded between the outer air and the interior of the inner shell, a tubular structure removably supported in said inner shell and passing therethrough, whereby the interior of said inner shell is closed against communication with the interior of the outer shell to thereby constitute an air-heating chamber, draft tubes connecting the chamber at the top of the outer shell with the chamber in the base, a smoke pipe also connected with said chambers, and means for causing the products of combustion to pass either directly to the smoke pipe or through the draft tubes to the chamber in the base.

865,529. CHECK-ROW ATTACHMENT FOR CORN-PLANTERS. DORA M. RICHMOND, Joplin, Mo., administratrix of Edward J. Richmond, deceased, assignor of one-third to Joseph A. Hitchens and one-third to Benjamin Ballenger, Joplin, Mo. Filed Apr. 22, 1907. Serial No. 369,087.



1. In an attachment for seeding machines, a transmitting element, two oppositely located shouldered elements, a reciprocatory bar adapted to be automatically moved into and out of engagement with either of said two elements, and means for locking said bar at the limit of its movement in either direction.

2. In an attachment for seeding machines, a recessed drum, a shouldered wheel at each end thereof, a bar reciprocally mounted in said recess and adapted to be automatically moved into engagement with either of said wheels, means for locking said bar in said engagement, and a transmitting element secured to the drum.

3. In an attachment for seeding machines, a drum provided with transversely recessed ribs, a shouldered wheel at each end of said drum, a recessed bar reciprocally mounted in said recesses and adapted to be automatically moved into engagement with either of said wheels, reciprocatory locking bars mounted between said ribs for engaging with the recessed portions of the reciprocatory bar and locking it in said engagement, and a transmitting element secured to the drum.

4. In an attachment for seeding machines, a drum provided with transversely recessed ribs, a shouldered wheel at each end of the drum, a recessed bar reciprocally mounted in said transverse recesses, reciprocatory locking bars between said ribs for engaging with the recessed portions of the reciprocatory bar, a spring-pressed dog on each locking bar adapted to engage with the shoulders of said wheels, and a transmiting element secured to the drum.

5. In an attachment for seeding machines, a drum provided with transversely recessed ribs, a shouldered wheel at each end of the drum, a recessed bar reciprocally mounted in said transverse recesses, spring-pressed reciprocatory locking bars between said ribs, each of which is provided with a projection, a dog pivotally secured on each projection, a spring adapted to hold one end of said dog in engagement with its bar, and the other end in engagement with said shoulders, and a transmitting element secured to the drum.

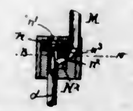
6. In an attachment for seeding machines, a drum provided with transversely recessed ribs, a shouldered wheel at each end of the drum, a recessed bar in said transverse recesses adapted to engage with either of said wheels, reciprocatory locking bars between said ribs in position for engaging with the recessed portions of the reciprocatory bar, a dog pivotally secured to each locking bar in position for engaging with the shoulders of one of said wheels, a bent pin to the rear of each locking bar, a coiled spring upon each of said pins with its free end in engagement with the rear end of said locking bar, and a transmitting element secured to the drum.

7. In an attachment for seeding machines, a drum provided with transversely recessed ribs, a shouldered wheel at each end of the drum, a recessed bar reciprocally mounted in said transverse recesses, the ends of which are inclined and adapted to be engaged by said shoulders, spring-pressed locking bars reciprocally mounted between said ribs in position for engaging with the recessed portions of the reciprocatory bar, the engaging ends of said locking bars being inclined, and a transmitting element secured to the drum.

8. In an attachment for seeding machines, a drum provided with transversely recessed ribs, an inwardly flanged recessed wheel at each end of the drum, said flanges extending over the ends of the drum and one shoulder of each of the recesses being rounded, a recessed locking bar reciprocally mounted in said transverse recesses, the ends of which are inclined and adapted to be engaged by said rounded shoulders, spring-pressed locking bars reciprocally mounted between said ribs in position for engaging with the recessed portions of the reciprocatory bar, the forward ends of said locking bars being inclined, and a transmitting element secured to said drum.

9. In an attachment for seeding machines, a drum, a ratchet wheel at each end thereof, a bar reciprocally mounted on the drum in position for being automatically forced into engagement with either of said wheels, means for locking said bar in said position, a shell around said drum and adapted to be rigidly secured thereto, and a sprocket wheel secured to the central portion of said shell.

865,530. BOX-MAKING MACHINE. WILLIAM ROBINSON, Brooklyn, N. Y. Filed Aug. 15, 1902. Serial No. 119,704.



1. In a box making machine, the combination with a supporting frame, upper and lower longitudinally disposed mailing devices mounted thereon, having reciprocating blocks and nail driving punches carried by said blocks, a revoluble shaft supported by said frame, cams mounted thereon and actuating said blocks, mechanism connecting said blocks, and means connecting said blocks with said cams, of a plurality of longitudinally and transversely disposed upper nailing devices also mounted in said frame and having reciprocating blocks, nail driving punches carried by said last named blocks, revoluble cams mounted on said shaft actuating said last named blocks, mechanism connecting said last named cams with said last named blocks, mounted on said frame and occupying a position in longitudinal relation with respect to the upper and lower devices first mentioned and coacting therewith, and means for feeding parts of boxes, also mounted on said frame, and coactive with all of said devices.

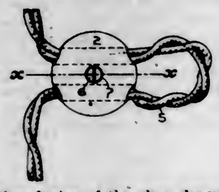
2. In a box-making machine, the combination with a supporting frame having upper and lower supports, of a plurality of nail boxes or chucks carried by said supports, means for independently adjusting each box or chuck thereon, both longitudinally and transversely, nail feed tubes mounted in said frame, communicating with the boxes, an automatic shutter for the lower boxes mounted in said frame, controlling the movement of passing nails, and provided with obliquely disposed channels for controlling the tube communicating therewith, and means for operating the said shutter.

3. In a box-making machine, the combination with a supporting frame having upper and lower supports, of a plurality of upper and lower nail boxes or chucks carried by said supports, each box or chuck having a vertical passage, and bolts binding in slots and apertures in said boxes and in their supports and arranged to afford facility for adjusting said boxes, both longitudinally and transversely, segments backed by yielding material in the passages of the lower boxes, nail feeding tubes mounted in said frame, communicating with the upper and lower boxes, an automatic shutter mounted in said frame and arranged to control the passage of nails in the tubes

communicating with lower boxes, means for operating the said shutter, and means for driving nails.

4. In a box-making machine, the combination with a supporting frame having upper and lower supports, of a plurality of individually adjustable nail boxes carried by said supports, means for feeding nails, having tubes connecting with both the upper and lower boxes and mounted in said frame, a vibrating nail pan also mounted in said frame, an independently pivoted nail fender working at the inner end of the pan, means for actuating the said nail pan, another and separate means for imparting a separate and independent movement to the said fender, and means for driving nails.

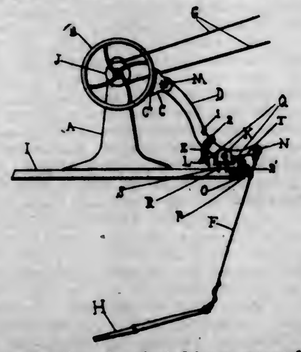
865,531. CORD-ADJUSTER. GEORGE A. ROBINSON, St. Paul, Minn., assignor of one-third to James B. Goss, St. Paul, Minn. Filed Feb. 19, 1906. Serial No. 322,657.



1. An adjusting device of the class described, consisting of two sections, one of said sections being formed with grooves in its inner face to hold a doubled cord, a post carried by one of said sections and slidably supporting the other section, and a spring interposed between the post and slidable section.

2. An adjusting device of the class described comprising two sections, one section being formed with parallel cord holding grooves in its face, a screw secured in one section and slidable in the other, a spring interposed between the head of said screw and the adjacent section, and a post carried by one section and arranged to fit into an opening in the other, for the purpose set forth.

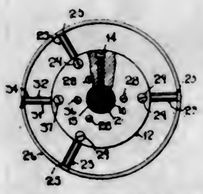
865,532. BRAKE FOR MACHINES. ALBERT ROSENBERG, Baltimore, Md. Filed June 20, 1906. Serial No. 322,657.



1. The combination of a pivoted lever, means for mounting the lever comprising a fixed plate and a removable plate on which said lever is pivoted, removably connected with said fixed plate, a brake shoe secured to one arm of the lever, a tension device for normally applying the brake secured between one arm of the lever and the removable plate, and means for releasing the brake, substantially as described.

2. The combination of a pivoted lever, means for mounting the lever comprising a fixed cleat plate, and a trunnion plate on which said lever is pivoted, slidably connected with said cleat plate, and a tension device secured between one arm of the lever and said trunnion plate, a brake shoe secured to one end of the lever, and means for releasing the brake, substantially as described.

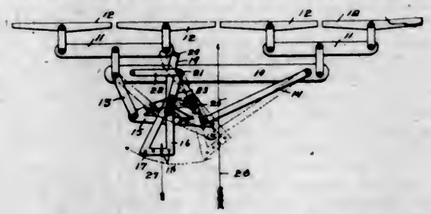
865,533. CYLINDER-BORING DEVICE. DANIEL H. ROWE, Greenup, Ill. Filed Dec. 10, 1906. Serial No. 347,110.



1. In a cylinder boring device, a boring head having radial guide openings provided therein, expander arms slidably arranged in said guide openings, an expansive ring sustained by said arms for engagement with the interior of the cylinder, and a radially projecting cutter adjustably mounted in the head.

2. In a cylinder boring device, a boring head, a plurality of radially movable expander arms carried by the head, an expansive ring applied to the outer ends of the arms and for movement thereby to engage the interior of the cylinder, means for fixing the arms in adjusted position, and a cutter carried by the head and projecting at its outer end through a seat in the ring.

865,534. DRAFT-EQUALIZER. GEORGE P. SAMPSON, Newton, Iowa. Filed Feb. 24, 1906. Serial No. 303,067.

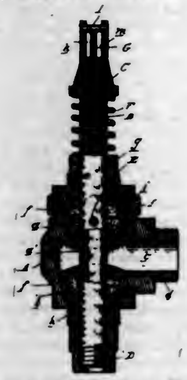


1. An improved draft equalizer, comprising an equalizer bar, links pivoted to the opposite ends of the equalizer bar and projected rearwardly, a lever pivoted to the rear ends of said links, a draft bar pivoted to said lever, a link pivoted to the equalizer bar and pivoted to said lever and a guide arm connected with the draft bar and projected over the equalizer bar and means for limiting the movement of the guide arm toward the draft center of the equalizer bar.

2. An improved draft equalizer, comprising an equalizer bar, a short link and a long link pivoted to opposite ends of the equalizer bar and projected rearwardly, a lever pivoted to the rear ends of said links, a draft bar pivoted to the said lever having means at its rear end for attachment to vehicles and having a guide arm at its forward end projected adjacent to the equalizer bar, means for limiting the movement of said guide arm in a direction toward the draft center of the equalizer bar and a link pivoted to the equalizer bar and pivotally and adjustably connected with the draft bar and with said lever at a point between the equalizer bar and the rear end of the draft bar.

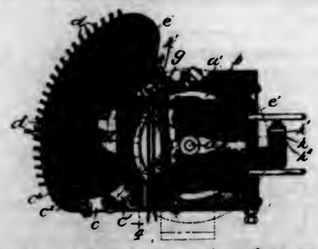
3. An improved draft equalizer comprising an equalizer bar, two short links pivoted to one end of the equalizer bar and projected rearwardly, two long links pivoted to the other end of the equalizer bar and projected rearwardly and laterally toward the draft center of the equalizer bar, a triangular lever having its ends pivotally supported between the rear ends of said links, a draft bar pivoted to said lever and formed with a lateral extension at its rear end provided with openings and also formed with a guide arm at its forward end projecting over the equalizer bar at one side of its draft center and formed with a lug at its forward end, a bolt fixed to the equalizer bar to limit the movement of the guide arm toward the draft center of the equalizer bar, a keeper supported by the equalizer bar, above the guide arm and in position to be engaged by the lug of the guide arm and a limiting arm pivoted to the equalizer bar and having a limited sliding connection with the draft bar at the point where it is pivoted to the lever.

865,535. GAGE-COCK. JOHN G. SAXE, Port Huron, Mich., assignor of one-half to Robert J. Close, Port Huron, Mich. Filed Apr. 19, 1906. Serial No. 312,703.



In a gage cock, the combination with a casing having an inlet passage and opposed transverse passages communicating therewith, said inlet passage being restricted between said transverse passages, of annular packing glands in said transverse passages, and a tubular valve extending through said glands and opposed passages and having an inlet opening arranged to be registered with the restricted portion of said inlet passage, a rigid stop on one end of said valve, a spring sleeved on said valve and having its opposite ends bearing against said stop and one of said glands, a removable tubular stop for the other end of said valve forming an outlet nozzle and arranged to seat against the other gland and rotatably adjustable means for operating said valve.

865,536. SELECTOR FOR AUTOMATIC TELEPHONE-EXCHANGES. CHARLES E. SCRIBNER, Jericho, Vt., and CLAUDE D. ENOCHS, Chicago, Ill., assignors to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 10, 1905, Serial No. 254,762. Renewed July 11, 1906. Serial No. 325,615.



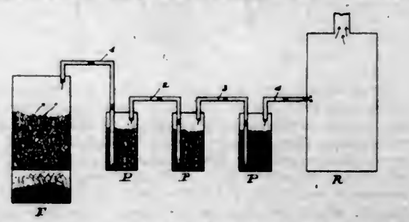
1. A selector comprising a number of connection terminals, a movable switch, a ratchet adapted in its movement to advance said switch into engagement with any one of said terminals, a rotatable shaft upon which said ratchet is mounted, a weight separate from the ratchet carried by the shaft to give said ratchet inertia, a pawl adapted to engage the teeth of said ratchet, and a magnet adapted to rapidly oscillate said pawl to move the same from tooth to tooth on said ratchet to advance the same before the inertia thereof is overcome to allow the ratchet to begin a return movement.

2. A selector comprising a number of connection terminals, a ratchet, an arm secured thereto carrying a switch adapted in the movement of said ratchet to engage said terminals, a rotatable shaft upon which said ratchet is mounted, a heavy disk upon said shaft to give the ratchet inertia, a pawl adapted to engage the teeth of said ratchet, an armature carrying said pawl, said armature when rapidly oscillated moving the pawl from tooth to tooth on said ratchet before the inertia of the ratchet can be overcome by gravity, and a magnet for oscillating said armature.

3. A selector comprising a series of connection terminals, a movable switch, a ratchet wheel adapted in its movement to advance said switch into engagement with any one of its terminals, a rotatable shaft upon which said wheel is mounted, a heavy disk carried by said shaft to impart inertia to said ratchet wheel, an adjustable counter-weight carried by said disk to regulate the effective amount of inertia imparted to said wheel, a pawl adapted to engage the teeth of said ratchet wheel to advance the same before the inertia of the wheel is overcome to allow it to begin a return movement, and a magnet adapted to rapidly oscillate said pawl.

4. A selector for automatic telephone exchanges, comprising a number of pairs of connection terminals arranged in series, a ratchet wheel, an arm carried thereby, insulated switch fingers upon said arm, said wheel in its rotation moving said arm to bring said fingers into engagement with any pair of connection terminals, a rotatable shaft for said ratchet wheel, a heavy disk upon said shaft to give the wheel inertia, a pawl adapted to engage the teeth of said ratchet to advance the same before the inertia of said ratchet is overcome, and a magnet adapted to rapidly oscillate said pawl.

865,537. PROCESS OF OBTAINING GAS FROM PEAT. JAMES E. SMITH, Clinton, Iowa, assignor to National Peat Products & Chemical Company, a Corporation of South Dakota. Filed Dec. 8, 1906. Serial No. 346,858.

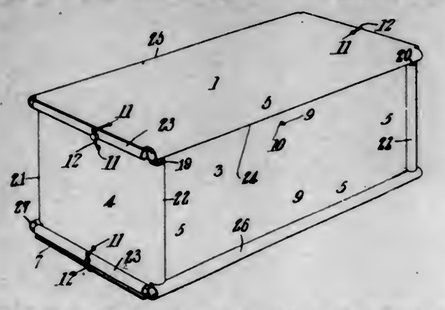


The process of obtaining illuminating gas from peat which consists in subjecting fresh dried peat to the action of heat whereby gas is driven therefrom, then purifying the gas obtained by passing it through dry peat, and then adding the peat through which the gas has been passed, to the fresh peat to be heated therewith to cause enriching vapors to be added to the gas.

865,538. SHIPPING-CASE. WALTER E. SMITH, Clay Center, Kans. Filed Oct. 31, 1906. Serial No. 341,465.

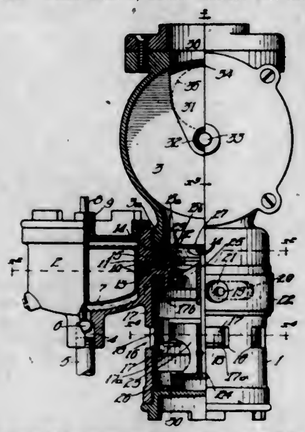
A knockdown shipping case of sheet metal comprising a bottom plate provided with rolls on its side edges, side plates each having rolls on all of its edges, the rolls on the lower edges interlocking with and having a hinged connection with rolls on the bottom plate, a partition plate provided with pins on each side edge adapted to engage registering openings in said plates only after the latter plates have first swung outwardly, end plates each having rolls on its side edges to interlock with similar rolls on said

side plates and top and bottom rolls to form hand holds or grips, and a top sheet having side rolls adapted to inter-



lock with the upper rolls on the aforesaid side sheets and flat ends extending over the top rolls of the end sheets.

865,539. CARBURETER. ALFRED C. STEWART, Los Angeles, Cal. Filed Feb. 6, 1905. Serial No. 244,337.



1. A carbureter comprising a tubular chamber having an outlet, and provided with air inlet ports, means for applying suction to said outlet, a regulating device adjustable within said chamber to vary the extension of said inlet ports longitudinally of the chamber, a valve member movable longitudinally within said regulating device, means connected to operate said valve, and responsive to the suction at the outlet, and an oil supply connection opening into said chamber.

2. A carbureter comprising a tubular chamber having an outlet, and provided with air inlet ports, means for applying suction to said outlet, a regulating device adjustable within said chamber to vary the extension of said ports longitudinally and circumferentially of the chamber, a valve member movable within said regulating device, means connected to operate said valve member, and responsive to the suction at the outlet, and an oil supply connection opening into said chamber.

3. A carbureter comprising a tubular chamber having an outlet, and provided with air inlet ports, means for applying suction to said outlet, a regulating device adjustable within said chamber to vary the extension of said ports circumferentially of the chamber, a valve member movable longitudinally within said regulating device, means connected to operate said valve member and responsive to the suction at the outlet, and an oil supply connection opening into said chamber.

4. A carbureter comprising a chamber having air inlet and mixture outlet openings and a recessed portion between said openings, oil supply means opening into said recessed portion, a valve for constricting and closing the air inlet opening and a deflector connected to said valve for constricting the outlet opening, said oil supply connection opening into said chamber out of the path of movement of said deflector, and being continually in communication with the chamber, irrespective of the movement of the deflector.

5. A carbureter comprising a chamber having air inlet and mixture outlet openings, and having an inwardly extending lip around the outlet opening an oil supply connection to said chamber, means for applying suction to the outlet opening, a valve device controlling the inlet opening and a deflector connected to the valve device and of approximately the same diameter as the outlet opening, to act as a closure and constricting means for the outlet opening, said oil supply connection opening into said chamber out of the path of movement of said deflector, and being continually in communication with the chamber irrespective of the movement of the deflector.

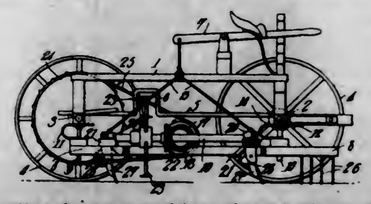
6. A carbureter comprising a chamber having air inlet and mixture outlet openings, and having an inwardly extending lip around the outlet opening an oil supply connection to said chamber, means for applying suction to the outlet opening, a valve device controlling the inlet opening and a deflector connected to the valve device and of approximately the same diameter as the outlet opening, to act as a closure and constricting means for the outlet opening, and means for retarding the movement of said valve device and deflector, said oil supply connection opening into said chamber out of the path of movement of said deflector, and being continually in communication with the chamber irrespective of the movement of the deflector.

7. A carbureter comprising a tubular chamber having a mixture outlet at its upper end and provided with air inlets on its side, a sleeve movable within said tubular chamber and provided with ports coöperating with the air inlets, means for adjusting the longitudinal and circumferential position of said sleeve, a valve member slidable within said sleeve and controlling the ports thereof, and a deflector connected to said valve and extending in proximity to the outlet of the chamber for the purpose set forth.

8. A carbureter comprising a chamber provided with outlet and air inlet openings, an oil supply connection opening into said chamber below the outlet opening, valve means controlling and constricting the air inlet openings, a deflector controlling the outlet opening and concentrating the flow of air therethrough to cause spraying of the oil and a throttle valve and mixing chamber connected to the aforesaid chamber and communicating directly with the outlet opening thereof, said throttle valve and mixing chamber having an outlet in its upper portion and a valve member controlling said outlet.

9. In combination with a carbureter, a throttle valve and mixing chamber having similar outlets in its upper and side walls, a valve member mounted in said chamber and coöperating with both of said outlets, and a plug interchangeably fitting said outlets.

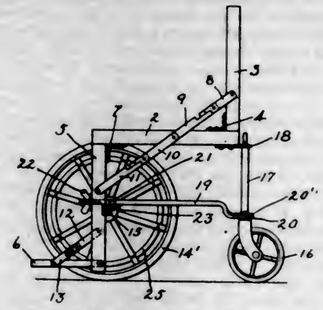
865,540. COTTON-CHOPPER. WILLIAM A. STOCKTON, Eastman, Miss. Filed May 23, 1907. Serial No. 375,333.



A cotton chopper comprising a frame having a pivoted axle and a fixed axle, wheels journaled upon the axles, a frame depending from the first said frame, springs interposed between the first said frame and the depending frame,

those springs that are located under the pivoted axle having arcuate portions, pins mounted upon the pivoted axle and bearing against the arcuate portions of the springs and ground engaging elements carried by the depending frame.

865,541. FOLDING INVALID-CHAIR. GEORGE H. STORM, New York, N. Y. Filed Oct. 29, 1906. Serial No. 340,943.



1. In a folding invalid-chair, the combination of a seat, a back adapted to fold upon said seat, a skeleton apron adapted to fold under said seat, a foot rest adapted to fold within said skeleton apron, an axle removably secured to said apron, wheels removably mounted upon said axle, a pilot-wheel removably attached to said chair, braces secured to said apron adapted to hold said pilot-wheel vertical and means on said braces to hold said axle against said apron.

2. In a folding invalid-chair, the combination of a seat, a back, an apron and a foot-rest adapted to fold one upon the other, an axle removably secured to said apron, wheels removably mounted upon said axle, a pilot-wheel, freely and removably attached to said chair through braces removably secured to said apron and means on said braces to hold said axle in place.

3. In a folding invalid-chair, the combination of a seat, a back connected thereto by pivotally-mounted links adapted to lock said back in vertical position, a skeleton apron connected to said seat by pivotally-mounted links adapted to lock said apron in a vertical position, a foot-rest pivotally mounted within said apron and connected thereto by pivotally-mounted links, an axle mounted in channels in the rear of said apron, wheels mounted on said axle, a pilot-wheel and means for holding said pilot wheel and said axle in position.

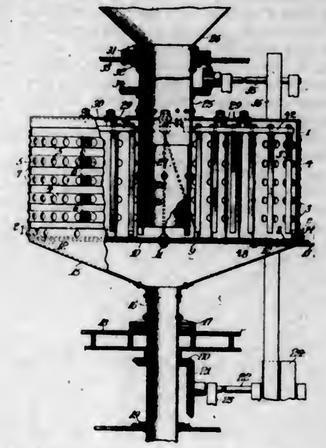
4. In a folding invalid-chair, the combination of a seat, a back adapted to fold upon said seat, a skeleton apron adapted to fold under said seat, a foot-rest pivotally mounted to and adapted to fold within said apron, an axle removably secured to said apron, wheels removably mounted upon said axle, propelling means connected with said wheels, a removably attached pilot-wheel, braces secured to said apron adapted to hold said pilot-wheel vertical and sleeves on said braces as and for the purpose described.

5. In a folding invalid chair, the combination of a seat, a back, and apron and a foot rest adapted to fold one upon the other, a pilot wheel, an axle extending across said apron, braces secured to said apron and to said pilot wheel, and means upon said braces to hold said axle in place.

6. In a folding invalid-chair, the combination of an apron, an axle detachably secured to said apron, wheels detachably mounted upon said axle, a pilot-wheel removably attached to said chair, braces secured to said apron adapted to hold said pilot-wheel vertical and means on said braces to hold said axle against said apron.

865,542. SEPARATING-MACHINE. FRED STRINGHAM, Manitou, Colo. Filed Nov. 7, 1905. Serial No. 286,284.

1. In an ore-concentrator, the combination with a barrel or receptacle and means for rotating the same, of a feed tube extending to within a short distance of the bottom of said barrel at the center thereof, a plurality of stirring arms extending from the top of said barrel, and means for moving said arms to work and separate the ore, said barrel having a series of openings in the bottom to permit the passage of the concentrates, and another series disposed circumferentially about the side through which the waste material is adapted to escape.



2. In an ore concentrator, the combination of a barrel or receptacle arranged to continuously discharge the heavier material by gravity and adapted to receive the material to be treated, a rotatable feed tube extending axially of said barrel to within a short distance of the bottom thereof to permit the material to automatically feed into the barrel according to the rate of discharge therefrom, a series of stirring arms mounted upon and carried by said feed tube and adapted to work the material in the barrel, and means for rotating the barrel and feed tube.

3. In an ore concentrator, the combination with a concentrating disk or platform adapted for rotation and arranged to continuously discharge the heavier material by gravity, of a feed tube extending axially of said disk from a source of supply of material to be concentrated to a short distance from the surface of said disk or platform, means for rotating said disk to cause the material to flow from the mouth of said tube, and stirring arms adapted to work and concentrate the material carried on said disk.

4. In an ore-concentrator, the combination with a barrel adapted for rotation, of a feed tube extending axially of said barrel to within a short distance from the bottom thereof, a series of arms or forks extending into said barrel and adapted to rotate around said feed pipe to work and concentrate the material delivered thereby, and means for imparting a relative movement of rotation to said stirring arms and said barrel, said arms or forks being inclined forwardly in the direction of rotation.

5. In a concentrating machine, the combination, with a receptacle for the material to be concentrated and arranged to continuously discharge the heavier material by gravity, of a feed tube extending centrally of said receptacle to within a short distance of the bottom thereof and adapted to supply the material thereto, stirring arms located in said receptacle between the feed tube and the walls of said receptacle and arranged to work the material outwardly and upwardly, and means for rotating the receptacle and stirring arms in opposite directions.

6. In an ore concentrator, the combination of a rotatable receptacle for the material to be concentrated, said receptacle being provided with a plurality of series of openings, one series being arranged in the bottom of the receptacle for the continuous discharge of the heavier material or concentrates by gravity and the other series in the sides of the receptacle for the discharge or escape of the lighter or

waste material, and a rotatable feed tube extending centrally of the receptacle for feeding the material thereto, and means operated by the feed tube for working the waste material toward the last mentioned series of openings and the concentrates toward the first mentioned series of openings.

7. In an ore-concentrator, the combination with a barrel for the material to be concentrated, of a rotatable feed tube extending axially of said barrel to within a short distance of its bottom, a series of forks connected with said feed tube and extending down into said barrel, said barrel having openings therein to allow the separate escape of the concentrates and the waste material, and means for causing said feed tube and said barrel to rotate at different rates, whereby the material flows out of the feed tube into the barrel and is there worked and concentrated by said forks.

8. In an ore-concentrator, the combination with a rotatable receptacle adapted to receive the material to be concentrated and arranged to continuously discharge the heavier material by gravity, of means for feeding the material to said receptacle, means for working and concentrating the material within said receptacle, said receptacle being provided with a series of circumferentially disposed openings in the walls thereof, and means for adjusting the size of said openings, whereby the degree of concentration may be regulated.

9. In an ore-concentrator, the combination with a barrel for the material to be concentrated, of means for supplying the material to the bottom of the barrel and approximately at the center thereof, and forks adapted to rotate within said barrel and axially of the same to work and concentrate the material therein, certain of said forks being provided with tines having blunt ends and others being provided with tines having sharp pointed ends, the blunt ended tines terminating at some distance from the bottom of said barrel, and being adapted to work the upper portions of the material, and the sharp pointed tines just clearing the bottom of the barrel and being adapted to work the lower layer of the material.

10. In an ore-concentrator, the combination with a receptacle adapted to receive the material to be concentrated and arranged to continuously discharge the heavier material by gravity, of means for delivering said material to the bottom of said receptacle at approximately the center thereof, said receptacle being provided with lower and upper openings adapted to permit the independent escape therefrom of the concentrates and of the waste material, means for rotating said receptacle to cause a movement of the material from the center to the periphery of said receptacle, and stirring arms for working the material and causing an upward movement of the waste portion thereof during the aforesaid outward movement.

11. In an ore-concentrator, the combination with a rotatable receptacle adapted to receive the material to be concentrated and arranged to continuously discharge the heavier material by gravity, of means for feeding the material to said receptacle, means for working and concentrating the material within said receptacle, said receptacle having a plurality of series of openings arranged circumferentially at varying distances from the bottom of the receptacle, and means for opening or closing at will any one or more of said series of openings, whereby the degree of concentration may be regulated.

12. In an ore-concentrator, the combination with a concentrating barrel, of a feed pipe extending axially of said barrel to within a short distance of the bottom thereof, a series of forks adapted to stir the material within said barrel, a series of openings in the wall of said barrel adapted to permit the escape of the waste material, other openings in the bottom of the barrel near the periphery thereof to permit the escape of the concentrates, a disk rotatably secured to the bottom of the barrel and having holes therein registering with the openings in the bottom of the barrel, whereby the extent of said openings may be regulated by turning said disk, and means for relatively rotating said barrel and stirring forks to concentrate the material in the barrel.

13. In an ore-concentrator, the combination with a barrel or receptacle adapted to receive the material to be concentrated and arranged to continuously discharge the heavier material by gravity, of means for supplying the material to the bottom of the barrel at approximately the center thereof, and forks adapted to rotate within said barrel and axially of the same to work and concentrate the material therein, the tines of one of said forks being arranged to extend closer to the bottom of the barrel than the tines of another fork.

14. In an ore-concentrator, the combination with a barrel or receptacle for the material to be concentrated, of means for continuously supplying the material to the barrel, means acting within the barrel to work and concentrate the material, said barrel being provided with a series of substantially equal apertures in substantially the same horisontal plane about the circumference thereof for the escape of the waste material, and means for simultaneously opening or closing all of said apertures to the same degree, whereby the escape of the waste material is evenly distributed about the circumference of the barrel.

15. In an ore-concentrator, the combination with a rotatable barrel or receptacle for the material to be concentrated, said barrel being provided with openings therein to permit the independent escape of the concentrates and the waste material, of a feed tube extending axially into the barrel and adapted to convey the material to be concentrated to the center of the bottom of the barrel, a top or cover for the barrel rigidly secured to said pipe, stirring arms secured to said cover or top and extending into the barrel, and means for causing a relative rotation of said feed pipe with its associated stirring arms and said barrel.

16. In an ore-concentrator, the combination with a barrel or receptacle adapted to receive the material to be concentrated and arranged to continuously discharge the heavier material by gravity, said receptacle having openings in the periphery of the bottom thereof to permit the escape of the concentrates, of means for feeding the material to be concentrated to said receptacle, stirring arms or forks extending into said receptacle and adapted to work and concentrate the material therein, a delivery tube extending axially from the bottom of the receptacle and rigidly secured thereto, and adapted to support the receptacle, said delivery tube being in communication with the openings from said receptacle for permitting the passage of the concentrates, and means for effecting rotation of said delivery tube to rotate the receptacle and thereby effect the concentration of the material therein.

17. In an ore-concentrator, the combination with a barrel or receptacle adapted to receive the material to be concentrated and arranged to continuously discharge the heavier material by gravity, said receptacle being provided with openings for the independent passage therefrom of the concentrates and the waste material, a feed tube extending axially into said receptacle to within a short distance of the bottom thereof, stirring arms connected with said tube and extending into the receptacle, a delivery tube extending axially from the barrel and rigidly connected with the bottom thereof, said delivery tube being in communication with the openings for permitting the escape of the concentrates, and means adapted independently to rotate the feed tube with its associated stirring arms, and the delivery tube with its associated receptacle.

18. In an ore-concentrator, the combination with a barrel or receptacle adapted to receive the material to be concentrated and arranged to continuously discharge the heavier material by gravity, said barrel being provided with openings therein to permit the independent escape of the concentrates and the waste material, of a feed tube extending axially into the barrel to a short distance from the bottom thereof, stirring arms connected with said feed tube and extending into the barrel, and means for causing the independent rotation of said feed pipe with its connected stirring arms and said barrel.

19. In an ore-concentrator, the combination with a receptacle for the material to be concentrated, of means for effecting the rotation of said receptacle, a feed tube extending to within a short distance of the center of rotation of the receptacle, stirring forks provided with flat-faced tines adapted to be turned about their longitudinal

axes to vary the engaging angle of the tine faces, and means for adjusting the separation between the feed tube and the receptacle, whereby the rapidity of feed may be regulated.

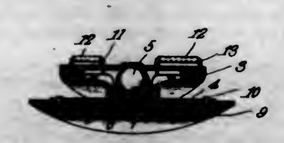
20. In an ore-concentrator, the combination with a barrel or receptacle adapted to receive the material to be concentrated and arranged to continuously discharge the heavier material by gravity, said barrel being provided with openings therein to permit the independent escape of the concentrates and the waste material, of a feed tube extending axially into the barrel, an adjustable extension sleeve on the end of said feed tube, whereby the opening between the end of the feed tube and the bottom of the receptacle may be regulated, means for regulating the rate of escape of the concentrates, and means for causing the rotation of said receptacle or barrel.

21. In an ore-concentrator, the combination with a rotatable barrel or receptacle adapted to receive the material to be concentrated and arranged to continuously discharge the heavier material by gravity, of a rotatable feed tube for continuously supplying the material to the bottom of the receptacle at approximately the center thereof, and forks secured to said tube and adapted to rotate within in a direction opposite to that of said receptacle and axially of the same to work and concentrate the material therein, said forks being provided with flat faced and blunt-ended tines adapted to be turned about their longitudinal axes, whereby the engaging angle of the faces of the tines may be varied, and with a series of sharp-pointed tines alternating with said other tines.

22. In an ore-concentrator, the combination with a rotatable barrel or receptacle adapted to receive the material to be concentrated and arranged to continuously discharge the heavier material by gravity, of means for continuously supplying the material to the bottom of the receptacle at approximately the center thereof, and forks adapted to rotate within in a direction opposite to that of said barrel and axially of the same to work and concentrate the material therein, said forks being provided with flat-faced, blunt-ended tines and also with sharp pointed tines just clearing the bottom of the barrel and adapted to work the lower layer of material without raising the values therein into the upper portion of the material.

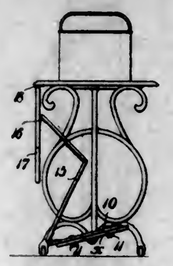
23. In an ore concentrator, the combination of a rotatable barrel or receptacle for the material to be concentrated and having means for discharging the heavier material by gravity, means for supplying the material to the barrel or receptacle consisting of a central feed tube extending therein to within a short distance of the bottom, and the series of stirring devices operating within and rotating in a direction opposite that of said barrel or receptacle and comprising arms or tines of different construction and length, some of said arms extending closer to the bottom than others and some of the arms being shaped or formed different from the others, and arranged in alternating series, for the proper treatment of the waste material and the concentrates.

865,543. FLEXIBLE HORSE-COLLAR PAD. JOHN H. TAYLOR, Waterloo, Nebr. Filed Dec. 24, 1906. Serial No. 349,287.



A horse collar pad comprising a pair of plates, both of arcuate form, the lower plate being padded, a ball carried by one of the plates, a ball socket secured to the other plate and receiving said ball, loops projecting upward from the top plate, and collar hooks for engagement with said loops.

865,544. SEWING-MACHINE ATTACHMENT. THOMAS A. TEATE, Thomasville, Ga., assignor of one-fourth to Clyde N. Neel, one-fourth to Elijah L. Neel, and one-fourth to Herbert A. Neel, Thomasville, Ga. Filed Apr. 3, 1907. Serial No. 366,211.



In a device of the class specified, a hand lever arranged for pivotal connection to the top or table of the sewing machine and provided with a beveled attaching end to permit its free swinging to vertical position when not in use, a pedal attaching bar, a pitman extending from the forward end of the pedal attaching bar to the hand lever and pivoted to the lever at a point intermediate the ends thereof, the pitman being formed of pivotally connected sections free to swing in either direction to permit application to machines of different type and to allow the hand lever to assume a vertical position, and means for locking the sections of the pitman rigidly in alinement.

865,545. BOTTLE ATTACHMENT. GUNDER T. TROMMALD, Portland, Oreg. Filed Mar. 21, 1907. Serial No. 363,594.



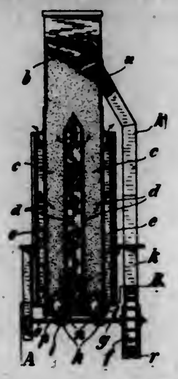
1. A containing vessel having a closure, a label secured to the vessel, and a supporting arm one end of which is interposed between the vessel and label and the opposite end thereof connected with the closure.

2. A containing vessel having a closure, a retaining band secured to one wall of the containing vessel, and a supporting arm one end of which is interposed between the retaining band and the containing vessel and the opposite end thereof pivotally connected with the closure.

3. A containing vessel having a closure, a strip of spring metal secured to one wall of the containing vessel and having its upper end deflected laterally over and in contact with the closure, and a fastening means piercing the deflected end of the metal strip and closure and forming a pivotal connection between the two.

4. A containing vessel having a removable stopper, a retaining band secured to the vessel, and means interposed between the retaining band and vessel and operatively connected with the stopper for normally retaining said stopper in closed position.

865,546. DRYING-SHAFT FOR CORN. DIEDRICH UHLHORN, Jr., Grevenbroich, Germany. Filed Apr. 9, 1907. Serial No. 367,212.



1. The combination with a drying shaft for corn of an overflow pipe and chute connected therewith, a vane wheel adapted to be actuated by the corn falling through the chute and discharging means in the drying shaft operatively connected with the overflow wheel in such manner that the discharge from the shaft is controlled by the overflow substantially as described.

2. A drying shaft for corn with automatically regulated discharge, the distinguishing feature being the arrangement on a receptacle *b* which receives the material to be dried, of an overflow pipe *u* and a special chute *k* and the arrangement below the chute *k* of an impulsion device *f* that is actuated by the corn falling through this pipe and actuates the vanes *n o*, or the other discharging devices, by which the discharging is effected, and consequently is only in action as long as the receptacle *b* is filled beyond the overflow pipe *u*.

3. In a device of the character described, a drying shaft, a communicating overflow pipe, means for discharging the dried grain from the shaft, and grain-actuated means controlled by the pipe for operating the grain discharge means, substantially as specified.

865,547. PIPE-CLEANER. GEORGE WALKER, Newton, Mass. Filed Feb. 17, 1905. Serial No. 245,984.



1. As a new article of manufacture, a pipe-cleaner comprising a headed, flexible cleaner-rod, and a sheath therefor, the sheath being provided with an absorbent or other suitable material adapted to clean the rod.

2. As a new article of manufacture, a pipe-cleaner comprising a headed, flexible cleaner-rod, and a sheath therefor the end of which is hollowed about the mouth to provide a cavity between the sheath end and head of the rod.

3. As a new article of manufacture, a pipe-cleaner comprising a headed, flexible cleaner-rod, and a sheath therefor, the entering end of which is provided with a removable cap having a perforation adapted to permit the passage of said rod, the top of the cap being hollowed about the perforation.

4. As a new article of manufacture, a pipe-cleaner comprising a headed, flexible cleaner-rod, and a sheath therefor provided at or near its mouth with a removable perforated cleaner-pad.

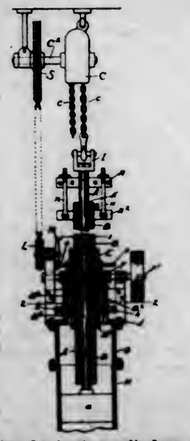
5. As a new article of manufacture, a pipe-cleaner comprising a headed, flexible cleaner-rod and a sheath therefor, the entering end of which is provided with a removable cap having a perforation adapted to admit of the passage of said rod, and a removable perforated cleaner-pad held between the sheath and the cap.

6. As a new article of manufacture, a pipe-cleaner comprising a headed, flexible cleaner-rod, and a sheath therefor the entering end of which is provided with a removable cap having a perforation adapted to admit of the passage of said rod, the under side of the cap being countersunk and containing a removable cleaner-pad adapted to wipe the rod when the latter is inserted in or withdrawn from the sheath.

7. As a new article of manufacture, a pipe-cleaner comprising a headed, flexible cleaner-rod, and a sheath therefor, provided with a centrally perforated cap screwed on to the end of the sheath, and a removable centrally perforated pad of absorbent material held between the sheath and the cap and adapted to wipe the cleaner-rod when the latter is inserted in or removed from the sheath.

8. As a new article of manufacture, a pipe-cleaner comprising a headed, flexible cleaner-rod, and a sheath therefor open at both ends and provided at the entering end with a removable centrally perforated cap, the underside of the cap being countersunk and containing a removable cleaner-pad adapted to wipe the rod, and the upper side of the cap being hollowed about the perforation, substantially as described.

865,548. APPARATUS FOR BORING CYLINDERS. GEORGE H. WARD, Brooklyn, N. Y. Filed Oct. 3, 1905. Serial No. 281,117.



1. In an apparatus for boring cylinders, the combination of a tool rod, a hoisting tackle with which the rod is connected by a swivel, a rotary hoisting shaft for the tackle, a centrally bored and rotatable tool rod carrier with which the rod has a spline connection and means connected with the tool rod carrier for rotating the hoisting shaft of the tackle.

2. In an apparatus for boring cylinders, the combination of a centrally bored tool rod carrier, means for clamping a tool rod therein, a drive wheel having a splined connection with the carrier for rotating the same while permitting its advance, a hoisting tackle of the character described having a rotary hoisting shaft, a swivel suspension for the rod and feed mechanism for rotating the hoisting shaft of the tackle in a direction to permit the load to come down, thus advancing the tool rod.

3. In an apparatus for boring cylinders, a supporting framework comprising risers adapted to be secured to the end of the cylinder and a cross-head mounted on the risers and extending across the space between the same, a tool rod carrier, a central guide on said cross-head adapted to permit the carrier to rise and fall and to turn with the tool working centrally in the space between the risers and in line with the axis of the cylinder, means for clamping the tool rod in said carrier, combined with a horizontal drive wheel having a bearing on said cross-head and having its axis in line with the axis of the cylinder, and a spline connection between the same and the tool rod carrier to permit axial movement of the carrier through the wheel and at the same time compel rotation of the carrier.

4. In an apparatus for boring cylinders, the combination of a centrally bored tool rod carrier, a supporting chain and chain wheel, feed mechanism for rotating said wheel, a collar having spline connection with the carrier and provided with projecting arms or fingers, and a star feed wheel connected to the feed mechanism and operated by said arms.

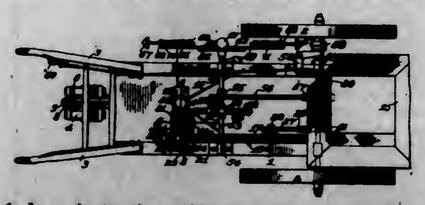
5. In an apparatus for boring cylinders, the combination of a framework adapted to be mounted on the end of the cylinder, an axially fed rotatable tool rod carrier and drive mechanism therefor mounted on said framework, a tool rod adapted to slide through the carrier, means for clamping the same to the carrier, a block and fall having a rotary hoisting shaft, a swivel suspension by which the rod is connected with the block and fall, a star feed wheel, means connected therewith for rotating the shaft of the block and fall, and operating fingers rotated by the tool rod.

6. In an apparatus for boring cylinders, the combination of a framework adapted to be applied to the end of the cylinder, a hoisting tackle and having a hoisting shaft, a tool rod suspended by a swivel connection from the load chain of said tackle, mechanism mounted on the framework for rotating said tool rod, a star feed wheel mounted on said framework, means rotating with the tool rod for operating the star feed wheel and a chain sheave attached to the hoisting shaft of the hoisting tackle and connected with the shaft of the star feed wheel, as and for the purpose described.

7. In an apparatus for boring cylinders, the combination of a framework provided with a guide and adapted to be applied to the end of the cylinder with the guide in line with the bore thereof, a tool rod carrier guided in said frame and having a spline connection with a drive wheel mounted on the frame, a hoisting tackle having a hoisting shaft, a tool rod having a swivel support from the load chain of said tackle, means for clamping the tool rod carrier to the tool rod, a star feed wheel, means for rotating the same and connections from said star feed wheel to the hoisting shaft of a hoisting tackle.

8. In an apparatus for boring cylinders, the combination of a tool rod supported from a hoisting tackle having a hoisting shaft, a framework adapted to rest on a cylinder to be bored, drive mechanism for the tool rod mounted on said frame, a sheave on the hoisting shaft of the hoisting tackle and mechanism supported by the frame for communicating the motion of rotation of the tool rod to said hoisting shaft to rotate said shaft and permit said tool rod and attached parts to descend and feed the cutter to the work.

865,549. POTATO-PLANTER. NICHOLAS WARING, Rochester, N. Y. Filed Sept. 17, 1903. Serial No. 173,601.



1. In a planter the combination with a receptacle; of a rotatable distributer to which the articles to be planted are fed, and an actuator for operating said distributer intermittently to deposit said articles at predetermined intervals.

2. In a planter the combination with a receptacle, and a carrier receiving the articles from said receptacle; of a rotatable distributer having a reciprocatory member thereon for receiving the articles from said carrier and depositing them, and an actuator for operating said distributer intermittently at predetermined intervals.

3. In a planter, the combination with a seed receptacle, and feed devices for advancing the articles therefrom with a continuous movement, of a distributer embodying an intermittently operating carrier, and devices on the carrier and operating during the movement of the carrier for receiving the articles from the feed devices.

4. The combination with a receptacle for the articles to be distributed, of a distributer, an actuator having adjustable devices for periodically operating said distributer to simultaneously receive and discharge said articles, at predetermined intervals, and a checking device mounted to operate with the actuator for marking the position of said articles discharged.

5. The combination with a receptacle for the articles to be distributed, of a distributer for depositing said articles, operating devices for said distributer, and an adjustable actuator coöperating with said devices to cause said distributer to deposit said articles at various intervals.

6. In a planter, the combination with a hopper for the articles to be planted, of a distributer embodying a revoluble carrier, a reciprocatory member movable with the carrier having a pair of oppositely-extending article-receiving devices thereon, means for rotating the carrier, and devices for reciprocating said member during the rotation of the carrier to simultaneously receive one article and discharge another.

7. In a planter, the combination with a hopper for containing the articles to be planted, of a distributer having a reciprocatory member capable of simultaneously receiving one article and discharging another, and operating means therefor.

8. In a planter, the combination with a hopper or receptacle for containing the articles to be planted, of a revoluble distributer, a relatively movable member carried thereby capable of simultaneously receiving one article and discharging another at each operation, and means for operating the distributer.

9. In a planter, the combination with a hopper for containing the articles to be planted, of a distributer embodying a revoluble carrier, a reciprocatory member mounted in the carrier and having oppositely arranged devices for receiving the articles thereon, and means for operating the distributer whereby the reciprocatory member will receive an article upon one of the devices and discharge one from another when the member is moved in one direction.

10. A distributer of the character described, comprising a movable carrier, a relatively movable member carried thereby having oppositely disposed impaling devices thereon, operating devices connected to said carrier, and means for impaling an article to be distributed periodically during the operation of said carrier.

11. A distributer of the character described, comprising a rotatable carrier, impaling devices operating during the rotation of the carrier thereon for receiving the articles to be distributed, operating devices connected to said carrier, a relatively fixed ejector for releasing an article from said impaling devices periodically during the operation of said carrier, and actuators coöperating with said operating devices to operate said carrier intermittently at predetermined intervals.

12. A distributer of the character described comprising the relatively fixed feeding device and ejector, a carrier operating between the feeding device and ejector, and impaling devices on said carrier connected for simultaneous operation for simultaneously impaling one article and ejecting another to be deposited.

13. A distributer of the character described comprising a carrier and impaling devices thereon, means for operating said carrier, a movable conveyer for continuously

feeding the articles to be distributed to said carrier, and devices for causing said articles to be impaled and ejected periodically during the operation of said carrier.

14. In a planter, the combination with a revoluble carrier, and a relatively movable member mounted thereon and provided with devices for receiving the articles to be planted, of a receptacle located at one side of the carrier for feeding the articles thereto, a relatively fixed ejector at the opposite side of the carrier, and means for operating the carrier and member, to receive an article at the receptacle and discharge it at the ejector.

15. In a planter, the combination with a revoluble carrier, and a relatively movable member mounted thereon and provided with oppositely disposed devices capable of receiving the articles to be planted, of a receptacle located at one side of the carrier, a relatively fixed ejector at the opposite side of the carrier, and means for operating the said member to discharge an article at the ejector and by the same movement receive an article from the receptacle.

16. The combination with a feeding device, a distributer having devices adapted to receive articles from the feeding device and discharge them, and a star-wheel operatively connected to the distributer, of an actuator for the distributer embodying a rotatable member having projections thereon arranged to coöperate with the star-wheel to operate the latter.

17. A potato planter including a distributer, feeding devices therefor, impaling devices carried by said distributer, an ejector and a delivery chute in proximity thereto, devices for operating said distributer intermittently, means for simultaneously impaling and ejecting an article from said impaling devices periodically during the operation of said distributer, and actuators adjustable within certain limits for actuating said operating devices at predetermined intervals.

18. A distributer comprising a rotatable carrier capable of a relatively lateral motion and impaling devices thereon, an ejector and feed devices in proximity to said impaling devices, means normally tending to move said carrier laterally toward said feed devices and away from said ejector and retaining devices adapted to release said carrier periodically during its rotation to simultaneously eject and impale the articles to be distributed.

19. A distributer comprising a carrier capable of a relatively lateral motion and impaling devices thereon, an ejector and feed devices in proximity to said impaling devices, means normally tending to move said carrier toward said feed devices and from said ejector, devices for releasing said carrier when said impaling devices are in proximity to said ejector and feed devices to simultaneously eject and impale an article to be distributed, a rotating member carrying actuators disposed at predetermined intervals thereon, and operating mechanism to be engaged by said actuators to operate said carrier.

20. In a planter, the combination with the distributer capable of discharging the articles to be planted at intervals, and a revoluble actuating member having adjustable devices for operating the distributer at different intervals, of a checking device adjustable correspondingly and mounted to rotate with the actuating member for marking the positions of the articles deposited.

21. In a planter, the combination with the distributer, feed and discharge devices for depositing the articles to be distributed, and operating means connected to said distributer and adjustable to vary the intervals of said deposits, of a checking device mounted to rotate with the operating means and adapted to mark the position of the articles deposited.

22. In a planter, the combination with a revoluble carrier having devices thereon capable of receiving the articles to be planted, of a feeder capable of supplying the articles to the carrier in a single row.

23. In a planter, the combination with a revoluble carrier having devices thereon capable of receiving the articles to be planted, of a feeding device for supplying the articles to the receiving devices of the carrier capable of being adjusted to permit only one article to be opposite to the carrier at a time.

24. A checking device for planters, comprising a rotatable support adapted to be operated in conjunction with the mechanism of the planter, having a plurality of sockets arranged in combinations thereon to enable different numbers of markers to be secured equidistantly thereon, a plurality of markers yieldingly supported on arms extending into said sockets and means for securing said arms therein.

25. A checking device for planters, comprising a rotatable disk having a plurality of sets of sockets arranged thereon, and a plurality of markers movably supported by arms extending into said sockets, springs interposed between said markers and arms and yieldingly retaining said markers in an extended position in relation to said arms, and means for securing said arms in said sockets, said arms extending radially around said disk at equidistant intervals, the distance of which may be varied.

26. In a planter, the combination with a movable distributer having devices for receiving the articles to be planted, of a conveyer for feeding the articles to the distributer in a direction transversely to the plane of motion of the distributer.

27. In a planter, the combination with a revoluble distributer having impaling devices thereon capable of being operated to receive the articles to be planted, of a conveyer for feeding the articles to the distributer in a direction transversely of the plane of rotation of the latter, and a guide or abutment arranged opposite to the distributer for holding the articles successively in operative position to be impaled by the devices of the distributer.

28. In a planter, the combination with a revoluble distributer having impaling devices thereon, and means for feeding the articles to be planted to the distributer, of a relatively fixed receptacle located at one side of the distributer and having an ejector formed thereon to remove the articles from the impaling devices and deposit them in the receptacle.

29. In a planter, the combination with a distributer having devices thereon capable of receiving and discharging the articles to be planted, and actuating means for intermittently operating the distributer, of a movable endless conveyer movable continuously in one direction for feeding the articles to the distributer in a row.

30. In a planter, the combination with a distributer capable of rotary motion and having devices thereon formed to receive and discharge the articles to be planted, an actuating device for intermittently operating the distributer, and a device for preventing retrograde motion of the distributer, of a conveyer for supplying the articles to the distributer in a row.

31. In a planter, the combination with a revoluble distributer having devices thereon capable of receiving and discharging the articles to be planted, and a conveyer arranged to feed the articles to the distributer in a row, of a device for actuating the distributer to receive an article from the conveyer and move it out of the path of the remaining articles, the succeeding actuation of the distributer serving to discharge the article therefrom.

865,550. GAME APPLIANCE OR PUZZLE. THOMAS M. WEBB and THOMAS J. DAVIS, Charlotte, N. C. Filed June 13, 1907. Serial No. 378,845.

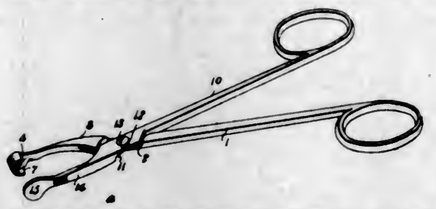
1. The herein described game appliance, comprising a base, a wheel-like structure having a hub and spokes radiating therefrom on said base and elevated above the surface of the base, said hub having a cavity at the center thereof, a flange at the outer edge of said base, a cover on said flange, a bead adapted to enter said cavity a plurality of studs surrounding a portion of said wheel-like structure, whereby the bead will be disintegrated when passed between said studs and a plurality of auxiliary studs between said first mentioned studs and said cavity.

2. In a game appliance of the class described, the combination with a base, a flange around said base, a wheel-like structure on said base, comprising a rim, a plurality of curved spokes extending inwardly from the rim, a hub at the inner ends of said spokes, said hub having a cavity in the central portion thereof, a plurality of studs around said hub between said spokes and auxiliary studs between said first mentioned studs and said cavity and at a point mid-way between the two edges of the spokes; of a bead, said bead being formed of disintegrating substance and adapted to be entered into said cavity when passed between one of the auxiliary studs and the main studs and disintegrated when passed between two of the main studs.



3. A game appliance of the class described, comprising a base, a flange extending upwardly from said base and around the edge thereof, a rim inclosed by said flange, a plurality of curved spokes extending inwardly from said rim, a hub at the inner ends of said spokes, said hub having a cavity at the central portion thereof, the upper surfaces of said rim, spokes and hub being elevated above the surface of the base, a plurality of studs adjacent the periphery of said hub, and between the spokes, auxiliary studs between said cavity and first mentioned studs and a bead of disintegrating substance adapted to travel on said spokes and enter said cavity by passing between one of the first mentioned studs and an auxiliary stud.

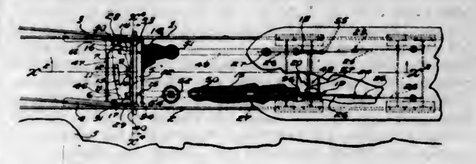
865,551. VETERINARY DENTAL INSTRUMENT. FREDERICK P. WELLS, Clarinda, Iowa. Filed Nov. 30, 1906. Serial No. 345,742.



An instrument of the character described comprising interlocking pivotally connected shanks having converging end portions, one of said portions having a thin enlargement constituting an anvil, one end of the other shank being rounded, and a cutting device detachably secured to said rounded portion and comprising a circular base having a central aperture, means extending through the aperture and through the rounded portion of the shank for detachably securing the base upon the shank, and a bowed knife integral with the base and extending from the periphery thereof, said knife lapping the edge of the rounded portion and having a straight cutting edge disposed to bear upon the anvil.

865,552. AUTOMATIC SWITCHING APPARATUS. REGINALD H. WENTWORTH, Santa Monica, Cal., assignor of one-fourth to Amos H. Wentworth, Santa Monica, Cal., and one-fourth to Franklin Bell, Oceanpark, Cal. Filed Mar. 20, 1907. Serial No. 363,486.

1. The combination of a suitable support having guideways, a switch-bar, a shaft journaled in said support, dogs mounted on said shaft and extending through said guideways, means comprising rods and cams operatively connecting both of said dogs with said switch-bar to throw the same, and means for actuating said dogs.



2. The combination with a suitable support comprising an inclosure adapted to be placed between the rails, said inclosure being provided with guide-ways, of a switch-bar, a shaft journaled in said support, dogs mounted on said shaft and extending through said guide-ways in said inclosure, a base plate, a plurality of cams mounted on said base plate, a rod for connecting said cams with said dogs, and means for actuating said dogs whereby to cause movement of said cams and of the switch-rail.

3. In a device of the character described, the combination with a main and a branch line of tracks and a movable switch-bar, of a support, a shaft journaled in said support, a plurality of dogs rigidly mounted on said shaft, a carrier, means for connecting said carrier with said switch-bar, a plurality of cams mounted in operative relation to said carrier, connections between said cams and dogs, and means for operating said dogs.

4. The combination with a main and a branch line of tracks and a switch, of a support mounted between the tracks, a shaft journaled in said support, a plurality of dogs fixed to said shaft, a bar connected with the switch, a carrier for said bar and connected therewith, a plurality of cams for actuating said carrier, connections between said cams and dogs, and means for actuating said dogs from the car.

5. The combination with a main and a branch line of tracks and a switch, of a support mounted between the track, dogs mounted on opposite sides of said shaft, a bar connected with said switch, a carrier connected with said bar, and means for pivotally securing said carrier in the bed of the track, a plurality of cams pivoted in the bed of said track and in operable relation to said carrier, connections between said cams and dogs, and means for actuating said dogs.

6. The combination with a main and a branch line of tracks and a switch, of a support between the rails, a shaft journaled in said support, dogs on opposite sides of said support, a bar connected with the switch, a lever for actuating said bar, links pivotally mounted between the tracks and connected with said lever, a plurality of cams pivotally mounted between the tracks, connections between said cams and dogs, and means for actuating said dogs comprising tripping mechanism mounted beneath the car body, levers connected with said tripping mechanism, and means for actuating said tripping mechanism from the top of the car.

7. In a device of the character described, the combination with a main and a branch line of tracks, and a switch, of a support, a shaft journaled in said support, dogs on opposite sides of said shaft, a bar connected with said switch, a plurality of cams for actuating said bar to move said switch rail in one or the other direction and a connection between said dogs and cams.

8. The combination with a main and a branch line of tracks, and a switch, of a support mounted between the rail, a shaft journaled in said support, dogs on opposite sides of said shaft, a base plate, cams pivotally mounted on said base plate, a link pivotally connecting said cams, connections between said dogs and said cams, means operable by said cams for moving said switch, and means for actuating said dogs for moving said switch.

9. The combination with a main and a branch line of tracks and a switch, of a support, a shaft journaled in said support, dogs rigidly mounted on opposite sides of said shaft, a base plate, levers pivotally connected to said base plate, a bar connecting the switch points, a plu-

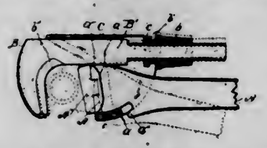
rality of cams pivotally secured to said base plate and in operative relation to said levers, connections between said cams and dogs, and means for actuating said dogs from the car.

10. The combination with a main and a branch line of tracks and a switch, of a support, a shaft journaled in said support, a plurality of dogs rigidly mounted on said shaft, a bar mounted between the tracks and having connection with the switch rail, a base plate, a plurality of cams mounted on said base-plate and in operative relation to said bar and means for actuating said dogs, whereby to throw the switch points from one side to the other.

11. The combination with a main and a branch line of tracks and a switch, of a support having guards, a shaft in said support, dogs fixed to said shaft and extending between said guards, a base plate, a plurality of cams pivoted in said base plate, a link connecting said cams, connections between said cams and dogs, levers in operative relation to said cams, a carrier pivotally connected with said levers, said carrier being provided with a lug, a switch-bar mounted on said cross bar, a rod connected with said bar and said lug, springs on said rod and on opposite sides of said lug, and means for operating said dogs.

12. The combination with a main and a branch line of tracks and switch-points, of a base plate, a carrier on said base-plate, a bar connected with said switch-points and said carrier, levers connected with said carrier, means for actuating said levers comprising cams pivotally secured to said base-plate and having one portion rounded to engage one of said levers at a time when the other cam moves away from the opposite lever, and means for controlling said means.

865,553. PIPE-WRENCH. GEORGE C. WINSLOW, Albion, Mich. Filed June 23, 1906. Serial No. 323,085.



1. In a wrench, the combination of the handle having a head on its forward end; a fixed jaw on said head; a movable jaw; a shank therefor having a threaded portion at its rear end, said shank and jaw being formed integral and having ribs b'' thereon extending from the jaw rearwardly onto the shank; a loop-like link adapted to receive said shank arranged on said handle, said link having a forwardly projecting portion overhanging the said fixed jaw and having vertical grooves therein at its rear end; curved bearings on said head for the forward edge and inner end of said link; a nut on the rear end of the shank having an annular flange on its forward end arranged in said grooves in said link; and an outwardly and forwardly projecting retaining lug for said link on the inner edge of said handle; substantially as and for the purpose set forth.

2. In a wrench, the combination of the handle having a head on its forward end; a fixed jaw on said head; a movable jaw; a shank therefor having a threaded portion at its rear end; a loop-like link adapted to receive said shank arranged on said handle, said link having a forwardly projecting portion overhanging the said fixed jaw and having vertical grooves therein at its rear end; curved bearings on said head for the forward edge and inner end of said link; a nut on the rear end of the shank having an annular flange on its forward end arranged in said grooves in said link; and an outwardly and forwardly projecting retaining lug for said link on the inner edge of said handle, substantially as and for the purpose set forth.

3. In a wrench, the combination of the handle having a head on its forward end; a fixed jaw on said head; a movable jaw; a shank therefor having a threaded portion at its rear end; a loop-like link adapted to receive said shank arranged on said handle, said link having a forwardly projecting portion overhanging the said fixed jaw and having vertical grooves therein at its rear end; curved bearings on said head for the forward edge and inner end of said link; a nut on the rear end of the shank, having an annular flange on its forward end arranged in said grooves in said link; and an outwardly and forwardly projecting retaining lug for said link on the inner edge of said handle, substantially as and for the purpose set forth.

4. In a wrench, the combination of the handle having a head on its forward end; a fixed jaw on said head; a movable jaw; a shank therefor having a threaded portion at its rear end, said shank and jaw being formed integral and having ribs b'' thereon extending from the jaw rearwardly onto the shank; a loop-like link adapted to receive said shank arranged on said handle, said link having a forwardly portion overhanging the said fixed jaw; curved bearings on said head for the forward edge and inner end of said link; a nut on the rear end of the shank; and an outwardly and forwardly projecting retaining lug for said link on the inner edge of said handle, substantially as and for the purpose set forth.

5. In a wrench, the combination of the handle having a head on its forward end; a fixed jaw on said head; a movable jaw; a shank therefor having a threaded portion at its rear end; a loop-like link adapted to receive said shank arranged on said handle, said link having a forwardly projecting portion overhanging the said fixed jaw; curved bearings on said head for the forward edge and inner end of said link; a nut on the rear end of the shank; and an outwardly and forwardly projecting retaining lug for said link on the inner edge of said handle, substantially as and for the purpose set forth.

6. In a wrench, the combination of the handle having a head on its forward end; a fixed jaw on said head; a movable jaw; a shank therefor having a threaded portion at its rear end, said shank and jaw being formed integral and having ribs b'' thereon extending from the jaw rearwardly onto the shank; a loop-like link adapted to receive said shank arranged on said handle, said link having vertical grooves therein at its rear end; curved bearings on said head for the forward edge and inner end of said link; a nut on the rear end of the shank, having an annular flange on its forward end arranged in said grooves in said link; and an outwardly and forwardly projecting retaining lug for said link on the inner edge of said handle, substantially as and for the purpose set forth.

7. In a wrench, the combination of the handle having a head on its forward end; a fixed jaw on said head; a movable jaw; a shank therefor having a threaded portion at its rear end, said shank and jaw being formed integral and having ribs b'' thereon extending from the jaw rearwardly onto the shank; a loop-like link adapted to receive said shank arranged on said handle; curved bearings on said head for the forward edge and inner end of said link; a nut on the rear end of the shank; and an outwardly and forwardly projecting retaining lug for said link on the inner edge of said handle; substantially as and for the purpose set forth.

8. In a wrench, the combination of the handle having a head on its forward end; a fixed jaw on said head; a movable jaw; a shank therefor having a threaded portion at its rear end; a loop-like link adapted to receive said shank arranged on said handle; bearings on said head for the forward edge and inner end of said link; a nut on the rear end of the shank; and an outwardly and forwardly projecting retaining lug for said link on the inner edge of said handle, substantially as and for the purpose set forth.

9. The combination with a handle having a head at its forward end and a curved bearing on its front edge, said head projecting at each side of said handle to form curved bearing shoulders, said head also having a curved bearing surface on its rear edge or back; a fixed jaw on said head; a movable jaw; a shank for said movable jaw having a bearing surface on its front edge adapted to rest on the bearing surface on the back of said head, said shank also having a bearing surface on its rear edge; a loop-like link adapted to receive said shank, arranged on said handle to embrace the same, said link being adapted to engage said bearing shoulders on said head with a sliding and rocking contact and said bearing on the front edge of said handle with a sliding contact, the said link being provided with a forwardly projecting or overhanging portion arranged to engage the bearing surface on the rear edge of said shank at a point in advance of the bearing point of said shank on said head, said link being provided with vertical grooves at its rear end; and an adjusting nut threaded on the rear end of said shank, said nut having an annular flange at its forward end arranged in said grooves in said link, whereby a rocking movement of said shank in said link is permitted, coacting for the purpose specified.

10. The combination with a handle having a head at its forward end and a bearing on its front edge, said head projecting at each side of said handle to form bearing shoulders, said head also having a bearing surface on its rear edge or back; a fixed jaw on said head; a movable jaw; a shank for said movable jaw having a bearing surface on its front edge adapted to rest on the bearing surface on the back of said head, said shank also having a bearing surface on its rear edge; a loop-like link adapted to receive said shank, arranged on said handle to embrace the same, said link being adapted to engage said bearing shoulders on said head with a sliding and rocking contact and said bearing on the front edge of said handle with a sliding contact, the said link being provided with a forwardly projecting or overhanging portion arranged to engage the bearing surface on the rear edge of said shank at a point in advance of the bearing point of said shank on said head, said link being provided with vertical grooves at its rear end; and an adjusting nut threaded upon the rear end of said shank, said nut having an annular flange at its forward end arranged in said grooves in said link, whereby a rocking movement of said shank in said link is permitted, coacting for the purpose specified.

11. The combination with a handle having a head at its forward end and a curved bearing on its front edge, said head projecting at each side of said handle to form curved bearing shoulders, said head also having a curved bearing surface on its rear edge or back; a fixed jaw on said head; a movable jaw; a shank for said movable jaw having a bearing surface on its front edge adapted to rest on the bearing surface on the back of said head, said shank also having a bearing surface on its rear edge; a loop-like link adapted to receive said shank, arranged on said handle to embrace the same, said link being adapted to engage said bearing shoulders on said head with a sliding and rocking contact and said bearing on the front edge of said handle with a sliding contact, the said link being provided with a forwardly projecting or overhanging portion arranged to engage the bearing surface on the rear edge of said shank at a point in advance of the bearing point of said shank on said head, and means for adjustably securing said shank in said link, coacting for the purpose specified.

12. The combination with a handle having a head at its forward end and a bearing on its front edge, said head projecting at each side of said handle to form bearing shoulders, said head also having a bearing surface on its rear edge or back; a fixed jaw on said head; a movable jaw; a shank for said movable jaw having a bearing surface on its front edge adapted to rest on the bearing surface on the back of said head, said shank also having a bearing surface on its rear edge; a loop-like link adapted to receive said shank, arranged on said handle to embrace the same, said link being adapted to engage said bearing shoulders on said head with a sliding and rocking contact and said bearing on the front edge of said handle with a sliding contact, the said link being provided with a forwardly projecting or overhanging portion arranged to engage the bearing surface on the rear edge of said shank at a point in advance of the bearing point of said shank on said head, and means for adjustably securing said shank in said link, coacting for the purpose specified.

13. The combination with a handle having a head at its forward end and a curved bearing on its front edge, said head projecting at each side of said handle to form curved bearing shoulders, said head also having a curved bearing surface on its rear edge or back; a fixed jaw on said head; a movable jaw; a shank for said movable jaw having a bearing surface on its front edge adapted to rest on the bearing surface on the back of said head, said shank also having a bearing surface on its rear edge; and a loop-like link adapted to receive said shank, arranged on said handle to embrace the same, said link being adapted to engage said bearing shoulders on said head with a sliding and rocking contact and said bearing on the front edge of said handle with a sliding contact, the said link being provided with a forwardly projecting or overhanging portion arranged to engage the bearing surface on the rear edge of said shank at a point in advance of the bearing point of said shank on said head, coacting for the purpose specified.

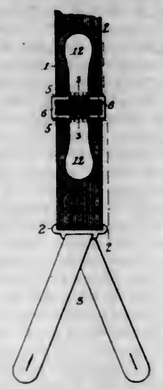
14. The combination with a handle having a head at its forward end and a bearing on its front edge, said head projecting at each side of said handle to form bearing shoulders, said head also having a bearing surface on its rear edge or back; a fixed jaw on said head; a movable jaw; a shank for said movable jaw having a bearing surface on its front edge adapted to rest on the bearing surface on the back of said head, said shank also having a bearing surface on its rear edge; and a loop-like link adapted to receive said shank, arranged on said handle to embrace the same, said link being adapted to engage said bearing shoulders on said head with a sliding and rocking contact and said bearing on the front edge of said handle with a sliding contact, the said link being provided with a forwardly projecting or overhanging portion arranged to engage the bearing surface on the rear edge of said shank at a point in advance of the bearing point of said shank on said head, coacting for the purpose specified.

15. The combination with a handle having a head at its forward end and a bearing on its front edge, said head projecting at each side of said handle to form bearing shoulders, said head also having a bearing surface on its rear edge or back; a fixed jaw on said head; a movable jaw; a shank for said movable jaw having a bearing surface on its front edge adapted to rest on the bearing surface on the back of said head; a loop-like link adapted to receive said shank, arranged on said handle to embrace the same, said link being adapted to engage said bearing shoulders on said head with a sliding and rocking contact and said bearing on the front edge of said handle with a sliding contact, said link being provided with a forwardly projecting or overhanging portion arranged to engage the bearing surface on the rear edge of said shank at a point in advance of the bearing point of said shank on said head, coacting for the purpose specified.

16. The combination with a handle having a head at its forward end and a bearing on its front edge, said head projecting at each side of said handle to form bearing shoulders, said head also having a bearing surface on its rear edge or back; a fixed jaw on said head; a movable jaw; a shank for said movable jaw having a bearing surface on its front edge adapted to rest on the bearing surface on the back of said head; a loop-like link adapted to receive said shank, arranged on said handle to embrace the same, said link being adapted to engage said bearing shoulders on said head with a sliding and rocking contact and said bearing on the front edge of said handle with a sliding contact; and means for adjustably securing said shank in said link, coacting for the purpose specified.

17. The combination with a handle having a head at its forward end and a bearing on its front edge, said head projecting at each side of said handle to form bearing shoulders, said head also having a bearing surface on its rear edge or back; a fixed jaw on said head; a movable jaw; a shank for said movable jaw having a bearing surface on its front edge adapted to rest on the bearing surface on the back of said head; and a loop-like link adapted to embrace the same, said link being adapted to engage said bearing shoulders on said head with a sliding and rocking contact and said bearing on the front edge of said handle with a sliding contact, coacting for the purpose specified.

865,554. FRICTION-SLIDE FOR GARMENT-SUPPORTERS. ANTONIO ABIZAID, Douma, Syria, Turkey. Filed Dec. 10, 1906. Serial No. 347,187.



1. A device of the character described having a holding-bar provided with a clamping lip connected to one edge thereof for a portion of its length.

2. A device of the character described, having a holding-bar formed with a clamping lip connected by a tongue to one edge thereof, the lip being adapted to be turned down to clamp a fabric to the holding-bar, the fabric having been inserted from that side of the bar which carries the lip.

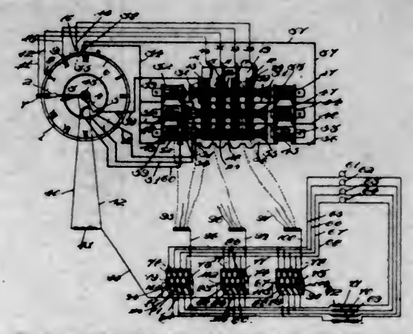
3. In a device of the character described, the combination with the webbing of a suspender, of a slide formed from a single sheet of metal and comprising a central holding-bar, side bars one at each side of the central bar and spaced away therefrom to form slots at each side thereof and end bars connecting the side bars and central bar, the central bar being formed with a clamping lip connected to one side thereof by a tongue of less extent than the bar; the webbing having a cut-out portion to straddle the tongue and being clamped between the lip and the central bar, the webbing beyond the clamped end being turned around the outer face of the clamping lip so that the tension of the suspender increases the clamping grip of the lip.

4. A device of the character described having side bars provided with a plurality of integral tongues adapted to clamp a tab to a side bar.

5. A device of the character described having side bars provided with a plurality of tongues integral at their roots with the side bars their free ends being struck from the metal of the side bars, the end of the tongues not extending to the edge of the said bars, the tongues being adapted to clamp a tab to a side bar.

6. In a device of the character described, the combination with the webbing of a suspender, of a slide formed from a single sheet of metal and comprising a central holding bar, side bars, one at each side of the central bar and spaced away therefrom to form slots at each side thereof, and end bars connecting the side bars and central bar, the central bar being formed with a clamping lip connected to one side thereof by a central tongue of less extent than the central bar; the webbing having a cut-out portion to straddle the tongue, and being inserted between the lip and central bar from the edge carrying the lip, and clamped between said lip and bar, the webbing immediately beyond its clamped end being turned down over the outer face of the clamping-lip so that the tension exerted by the suspender in its supporting action tends to bend still further the tongue connecting the lip and central bar thereby increasing the clamping grip of the lip upon the webbing; the side bars each having a plurality of integral tongues struck therefrom to clamp a tab to a side bar.

865,555. AUTOMATIC ELECTRIC SIGNAL SYSTEM. EDWIN T. ACKERMAN, Chicago, Ill. Filed Sept. 26, 1904. Serial No. 225,917.



1. In an electric signal system the combination of a time piece, a circuit adapted to be closed thereby, a relay included in said circuit and comprising a plurality of circuit closers, a corresponding number of signals electrically connected with said circuit closers respectively, and means whereby one or more of said circuit closers may be rendered inactive independently of each other.

2. In an electric signal system the combination of a time piece, a plurality of circuits adapted to be closed thereby, a plurality of relays included in said circuits, said circuits comprising means whereby either may be connected with either of said relays, said relays comprising a plurality of circuit closers, a corresponding number of signal circuits connected with said circuit closers respectively of each relay, and means whereby any one or more of said circuit closers may be rendered inactive.

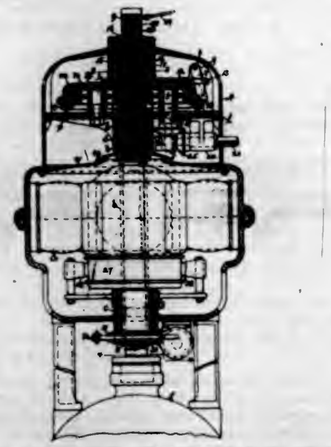
3. In an electric signal system the combination of a time piece comprising a minute circuit closer and an hour circuit closer and two series of contacts arranged in the lines of movement of said circuit closers respectively, a plurality of series of connected contacts connected with said minute contacts respectively, a corresponding plurality of series of disconnected contacts, longitudinally movable bars having means for electrically connecting said connected and disconnected contacts in each series, electro responsive device for actuating said bars respectively, cut-out and cut-in contacts arranged in the line of movement of one of said circuit closers, circuits connected at one terminal to said hour contacts respectively and including respectively said electro responsive device for operating said bars and also including said cut-in and cut-out contacts, a signal actuating device electrically connected with said minute circuit closer and transposable means for connecting any one of said disconnected contacts with said signal actuating device.

4. In an electric signal system the combination of a time piece comprising minute and hour circuit closers and a succession of contacts arranged in the line of movement of each, a plurality of series of connected contacts connected with said minute contacts respectively, a corresponding plurality of series of disconnected contacts, a plurality of relays each comprising a plurality of circuit closers, a plurality of signal circuits each connected with each of said circuit closers of the relays, means for rendering the circuit closers of said relays inactive at will, independently, transposable means for connecting each of said relays with any of said disconnected contacts, means for connecting all of said relays with said minute circuit closer, and a plurality of means connected with said hour contacts respectively for respectively connecting each of the disconnected contacts in each series with one of the connected contacts in the same series.

5. In an automatic electric signal system the combination with a time piece having two differently timed members, a series of hour contacts, arranged to be engaged by one of said members, a series of minute contacts arranged to be engaged by the other of said members, cut in and cut out contacts arranged to be engaged by one of said members, a series of signals, signal circuits therefor, and a relay for controlling said signal circuits; of a series of hour bars each comprising a plurality of contacts, a series of minute strips each connected with one of said minute contacts and each comprising a plurality of contacts adapted to be engaged by the contacts on said hour bars respectively, a plurality of electro magnetic cut in devices for shifting said hour bars independently and each having one terminal connected with the said cut in contact and its other terminal with one of the first said hour contacts, a series of electro magnetic cut out devices each having one of its terminals connected with said cut out contact and the other with one of the first said hour contacts, an electric source having one pole connected with one of said differently timed members and the other pole with one terminal of said relay and the other member, and transposable connections whereby said relay may be connected with any of the minute contacts on said minute strips.

6. In an electric signal system the combination of a signal, a signal circuit, a relay included in said circuit and comprising a helix, a core therein, a magnetic casing inclosing said helix and connected with said core, an armature hinged to one side of said casing contiguous to said helix and carrying the movable contact of the relay, a time piece and means operatively connected with the time piece and relay for energizing said core.

865,556. POWER-OPERATED VALVE. JOHAN M. ANDERSEN, Boston, Mass., assignor of one-half to Albert Anderson, Boston, Mass. Filed Oct. 22, 1901. Serial No. 79,567.



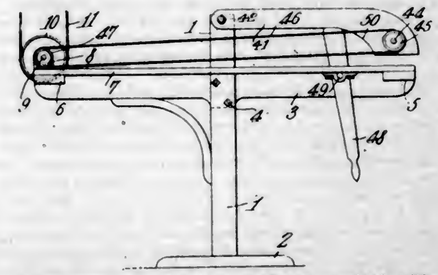
1. In an apparatus of the class described, the combination with a reciprocating valve provided with a rod or stem having screw-threads, of a rotary motor having a hollow shaft into which said rod or stem is extended, and mechanism connecting said hollow shaft with said rod or stem and including an internally toothed ring driven from the hollow armature shaft, a disk or wheel connected with the threaded valve rod or stem, and means to detachably clutch said wheel to said ring to permit automatic disconnection of said valve from said motor, substantially as described.

2. In an apparatus of the class described, the combination with a reciprocating valve provided with a rod or stem having screw-threads, of a rotary motor having a hollow shaft into which said rod or stem is extended, and mechanism connecting said hollow shaft with said rod or stem and including an internally toothed ring driven from the hollow armature shaft and provided on its periphery with a recess, a disk or wheel, and a spring-actuated lever carried by said disk or wheel and normally extended into said recess to couple the said ring to said disk or wheel, substantially as described.

3. In an apparatus of the class described, the combination with a valve provided with a stem or rod having a longitudinally extended key-way or slot, of an electric motor having a hollow armature shaft into which said valve stem or rod is extended, mechanism for connecting said hollow shaft with said valve stem, and means for controlling said electric motor extended into said key-way or slot and actuated by said stem or rod, substantially as described.

4. In an apparatus of the class described, the combination with a reciprocating valve provided with a rod or stem having screw-threads, of a rotary motor having a hollow shaft through which said rod or stem is extended, and mechanism exterior to said hollow shaft for connecting it in engagement with said rod or stem, said mechanism consisting of a pinion on the hollow shaft, an internally toothed ring or gear, a gear or pinion connecting the pinion on the hollow shaft with said internally toothed ring or gear, a disk or wheel within which said toothed ring revolves, means to detachably clutch said disk or wheel to said toothed ring, an internally threaded nut or sleeve engaging said threaded stem or rod, and means for connecting said sleeve with said disk or wheel, substantially as described.

865,557. POLISHING-MACHINE. DAVID F. ARBURN, Somerville, Ind. Original application filed May 2, 1906, Serial No. 314,881. Divided and this application filed Apr. 26, 1907. Serial No. 370,416.



A polishing machine having a frame provided with a table, a drive element at one end of the table, a standard projecting above the table, a vertically movable arm pivotally connected to the standard, said arm having a depending end portion, a revoluble element carried by said end portion, an endless abrasive belt mounted upon said elements, and an upstanding elevating lever pivotally connected to the table and frictionally engaging the under side of the arm and its depending portion, said depending portion being eccentrically disposed in relation to the pivot of the lever.

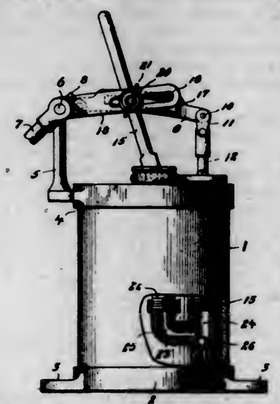
865,558. OIL-PUMP. GEORGE ARROSMITH, Terre Haute, Ind. Filed Dec. 17, 1906. Serial No. 348,317.

1. An oil pump of the type set forth comprising a rock shaft, motor controlled operating means therefor, an arm carried thereby, a second arm, a stationary pivot for said arm and a pivotal connection between said arms, an oil receptacle and a pumping mechanism in said oil receptacle actuated from said second arm.

2. In an oil pump the combination with an oil cylinder and pumping mechanism therein, of a rock shaft, motor controlled means for operating the same, an arm carried by said shaft, a second arm pivoted to said arm, a pivot for said second arm, means for setting said pivot stationarily at any selected point with relation to said second arm and connections between said second arm and said pumping mechanism.

3. In an oil pump the combination with an oil receptacle

and pumping mechanism therein, of a rock shaft, motor controlled means for actuating the same, a pivoted arm, operative connections between said arm and said shaft and between said arm and said pumping mechanism and means for adjustably varying the amplitude of operative movement of said arm.



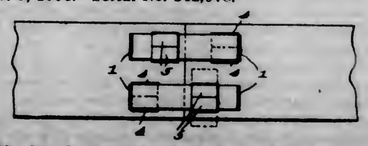
4. In an oil pump the combination with an oil receptacle and pumping mechanism therein, of a rock shaft, motor controlled means for actuating the same, a pivoted arm, operative connections between said arm and said shaft and between said arm and said pumping mechanism, a pivoted post, a pivot for said arm carried by said post, and means for holding said post against movement from any position to which it may be set with relation to said arm.

5. In an oil pump the combination with an oil receptacle and pumping mechanism therein, of a rock shaft, motor controlled means for actuating the same, a pivoted arm, operative connections between said arm and said shaft, and between said arm and said pumping mechanism, and means for adjustably setting the pivot of said arm at any selected position.

6. In an oil pump the combination with an oil receptacle and pumping mechanism therein, of an arm, having operative connection with said pumping mechanism, a pivot for said arm, actuating means for said arm, and means for setting said pivot at any selected vertical or horizontal position and for operatively connecting said arm therewith.

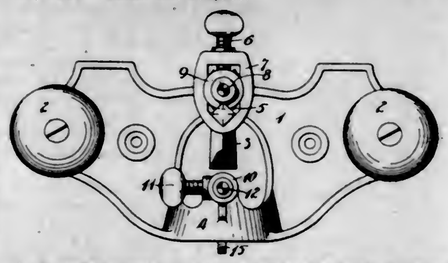
7. In an oil pump the combination with an oil receptacle and pumping mechanism therein, of a pivoted arm, operative connections between the same and said pumping mechanism, means for actuating said arm, said arm having a longitudinal slot, a pivoted post, a block slidable thereon, a pivot for said arm carried by said block, said pivot being received within said slot at any selected point with relation to said arm, means for setting said pivot at any selected horizontal or angular adjustment and means for holding said post against displacement from any position to which it may be moved.

865,559. TIE. WILLIAM R. BALL, Richmond, Va. Filed Nov. 5, 1906. Serial No. 342,078.



A tie for the purpose specified consisting of a metal strip of uniform width and suitable length provided at intervals in the length thereof with a plurality of sets of oppositely arranged tabs, each set comprising two pairs of tabs arranged at a distance apart and adapted to be folded inward to engage one end portion of the body of the strip and fasten the two ends of the strip together when overlapped and bent, substantially as described.

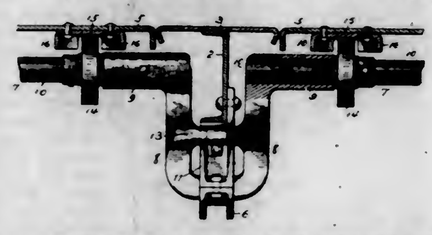
865,560. PLANE. GEORGE H. BARTLETT, Buffalo, N. Y., assignor to The Stanley Rule & Level Company, New Britain, Conn., a Corporation of Connecticut. Filed May 21, 1907. Serial No. 374,960.



1. A router plane comprising a frame or body, a throat entering the same at one side thereof, a bridge for the open end of said throat, a cutter and means for holding the same at the rear of the throat, a throat adjuster and a bracket on said bridge for holding the adjuster in said throat forward of the cutter.

2. A router plane comprising a body or frame, a throat extending into the same at one side, an arched bridge connecting the opposite sides of the body near the forward end of the throat, a cutter, means for adjustably supporting said cutter at the rear of said throat, a throat-adjuster, a bracket on said bridge for supporting said adjuster.

865,561. RAILWAY-CAR. ANTON BECKER, Columbus, Ohio, assignor to The Ralston Steel Car Company, Columbus, Ohio. Filed May 10, 1907. Serial No. 372,939.



1. The combination with a car having drop-doors, of an operating shaft comprising two or more sections and a yoke intermediate of said sections, and a hanger in which said yoke is mounted.

2. The combination with a car having drop-doors and a hanger secured to the car, of an operating shaft for the drop-doors comprising a series of sections, yokes connecting said sections and mounted in the hanger, and rollers mounted on said sections and coöperating with the drop-doors.

3. The combination with a car having drop-doors, of an operating shaft comprising several alining members and yokes connecting said alining members, and hangers secured to the car and affording bearings for said yokes.

4. The combination with a car having drop-doors, of an operating shaft for the doors, said operating shaft comprising a series of members provided with engaging means for the doors, and a yoke connecting the adjacent shaft members, a hanger in which said yoke is mounted, and a stop on the yoke to engage the hanger.

5. The combination with a car having drop-doors, of an operating shaft for the doors comprising a yoke, shaft members secured to the respective arms of the yoke and provided with engaging means for the doors, and a hanger secured to the car and affording a bearing for the yoke.

6. The combination with a car having drop-doors and a hanger secured to the car, of operating means for the drop doors comprising a yoke provided at the upper ends of its parallel members with sleeves and having its horizontal portion mounted in said hanger and shaft sections secured in the sleeves at the upper ends of the parallel members of the yoke and provided with engaging means for the doors.

7. The combination with a car having drop-doors, of a hanger secured to the car, and an operating shaft sustained by the hanger, said operating shaft comprising a yoke and shaft sections secured to the yoke and said yoke comprising two parallel members each having a mounting in the hanger.

8. The combination with a car having drop-doors, of a hanger secured to the car, of an operating shaft comprising alining sections, an arm secured to each section and provided with a headed pintle mounted in a recess in a hanger, and two of said arms with their pintles constituting a yoke connecting two shaft sections.

9. In a car having drop doors, the combination with the underframe, of a series of hangers secured to said underframe, an operating shaft for the doors, an arm projecting from said shaft and mounted in the hanger, said arm and hanger having coöperating means preventing longitudinal movement of the shaft.

10. In a car having drop doors, the combination with the underframe, of a series of hangers secured to said underframe, an operating shaft for the doors provided with arms or yokes mounted in said hangers and removable blocks secured to the hanger and provided with lips overhanging the portions of the arms or yokes which are mounted in said hanger.

865,562. METHOD OF PRODUCING CASTINGS. GEORGE H. BRABROOK, Taunton, Mass. Filed Jan. 9, 1905. Serial No. 240,187.

1. The method of producing a metal casting which consists in applying a phosphorus to the inner surface of the mold and then running the molten metal into the mold.

2. The method of producing a metal casting which consists in coating the inner surface of the mold with a mixture of phosphorus and a volatile hydrocarbon oil and then running the molten metal into the mold.

3. The method of producing a metal casting which consists in applying amorphous phosphorus to the inner surface of the mold and then running the molten metal into the mold.

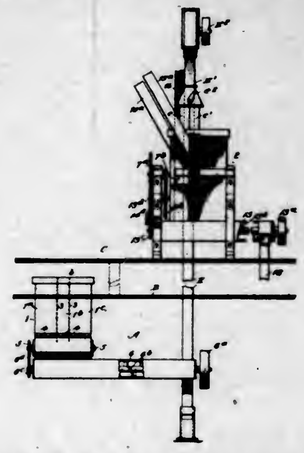
4. The method of producing a metal casting which consists in spraying the inner surfaces of the mold with a mixture of phosphorus and volatile hydrocarbon oil and then running the molten metal into the mold.

865,563. MIXING APPARATUS. TIFFANY J. BROCKWAY, Aline, Okla. Filed May 22, 1906. Serial No. 318,178.

1. In apparatus for mixing balanced rations, the combination of a primary feeder and mixer having a plurality of hoppers, slides or gates therefor, and a feed roll, a secondary feeder and mixer having a plurality of hoppers, slides or gates therefor, and a feed roll, and an interposed conveyer which connects the primary and secondary feeders and mixers.

2. In apparatus for mixing balanced rations, the combination of a primary feeder and mixer having a plurality of hoppers, slides or gates therefor, and a feed roll, a secondary feeder and mixer having a plurality of hoppers, slides or gates therefor, and a feed roll, a conveyer which connects the primary feeder and mixer with the secondary feeder and mixer; and spouting which delivers into the secondary feeder and mixer.

3. In apparatus for mixing balanced rations, the combination of a primary feeder and mixer having a plurality of hoppers, slides or gates for the hoppers, and a feed roll provided with fights, a secondary feeder and mixer having a plurality of hoppers, slides or gates therefor, and a feed roll, and means for conveying the material from the primary feeder and mixer to the secondary feeder and mixer.



4. In apparatus for mixing balanced rations, the combination of a primary feeder and mixer having a plurality of hoppers, slides or gates therefor and a feed roll, a secondary feeder and mixer having a plurality of hoppers, slides or gates therefor, and a feed roll provided with annular grooves, and a conveyer which connects the primary feeder and mixer with the secondary feeder and mixer.

5. In apparatus for mixing balanced rations, the combination of a primary feeder and mixer having a plurality of hoppers, slides or gates therefor and a feed roll, of a secondary feeder and mixer having a plurality of hoppers, slides or gates therefor and a feed roll provided with annular grooves and flights, and means for conveying the material from the primary feeder and mixer to the secondary feeder and mixer.

6. In apparatus for mixing balanced rations, the combination of a primary feeder and mixer having a plurality of hoppers, slides or gates therefor, a feed roll and a mixer and conveyer, a secondary feeder and mixer having a plurality of hoppers, slides or gates therefor, a feed roll, and a mixer and conveyer, gates or valves below the feed roll of the secondary feeder and mixer, and means for conveying the material from the primary feeder and mixer to the secondary feeder and mixer.

7. In apparatus for mixing balanced rations, the combination of a primary feeder and mixer, a secondary feeder and mixer having a plurality of hoppers, a feed roll and a plurality of mixers and conveyers, and means for conveying the material from the primary feeder and mixer to the secondary feeder and mixer, said means being provided with a valve or gate for directing the material into either of the hoppers of the secondary feeder and mixer.

8. In apparatus for mixing balanced rations, the combination of a primary feeder and mixer, having a plurality of hoppers, slides or gates therefor, a feed roll and a mixer and conveyer, a secondary feeder and mixer having a plurality of hoppers, slides or gates therefor, and a feed roll, a vibratory break-beam arranged in the hoppers of the secondary feeder and mixer, and means for conveying the material from the primary feeder and mixer to the secondary feeder and mixer.

9. In apparatus for mixing balanced rations, the combination of a primary feeder and mixer having a plurality of hoppers, slides or gates therefor, a feed roll and a mixer and conveyer, a secondary feeder and mixer having a plurality of hoppers, slides or gates therefor, a feed roll and a plurality of mixers and conveyers, means for conveying the material from the primary feeder and mixer to

the secondary feeder and mixer said means being provided with a gate or valve for directing the material into either hopper of the secondary feeder and mixer, and valves or gates in the secondary feeder and mixer for directing the material into either of the mixers and conveyers thereof.

10. In apparatus for mixing balanced rations, the combination of a primary feeder and mixer having a plurality of hoppers, slides or gates therefor, a feed roll and a mixer and conveyer, a secondary feeder and mixer having a plurality of hoppers, slides or gates therefor, a feed roll and a plurality of mixers and conveyers, means for conveying the material from the primary feeder and mixer to the secondary feeder and mixer, a break-beam arranged in the hoppers of the secondary feeder and mixer, and valves or gates interposed between the feed roll and the mixers and conveyers of said secondary feeder and mixer.

11. In apparatus for mixing balanced rations, a feeder having in combination, a plurality of hoppers, a plurality of slides therefor, and a feed roll having a series of annular grooves.

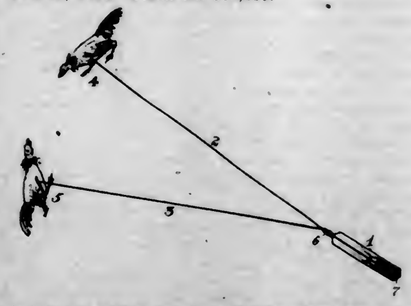
12. In apparatus for mixing balanced rations, a feeder having in combination a plurality of hoppers, a plurality of slides therefor, and a feed roll having a series of grooves provided with flights.

13. In apparatus for mixing balanced rations, a feeder having in combination a plurality of hoppers, a plurality of slides therefor, a feed roll having annular grooves corresponding in number with the slides of the hoppers, and partitions arranged beneath the slides and separating the grooves of the feed roll.

14. In apparatus for mixing balanced rations, a feeder having in combination, a plurality of hoppers, a plurality of slides therefor, a feed roll, and a vibratory break-beam arranged in the hoppers over the slides and feed roll.

15. In apparatus for mixing balanced rations, the combination of a primary feeder and mixer having a plurality of hoppers, slides or gates therefor, and a feed roll, of a secondary feeder and mixer having a plurality of hoppers, slides or gates therefor, and a feed roll, and means for conducting the mixed material from the primary to the secondary feeder and mixer.

865,564. TOY. JAMES BROWN, New York, N. Y. Filed Feb. 15, 1906. Serial No. 301,139.



A toy comprising an elongated handle adapted to be whirled or revolved by the fingers of the user, and carrying at one end diverging spring wire arms, said arms having at their free end suitable figures.

865,565. TYPE FONT OR HOLDER. SUMMERS BROWN, London, England. Filed June 11, 1906. Serial No. 321,228.

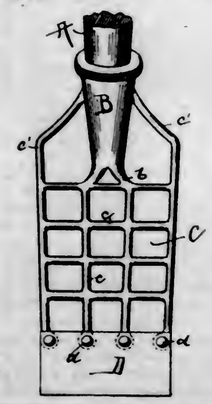
1. A type font or type holder for laterally notched type composed of parallel strips sunk into saw-cuts formed in the backing, which form alining grooves for said type, and a sill attached to said backing, for supporting the type characters, the said sill being of such height as to permit the type-removing implement to enter the notches of the type, the sill also affording a fulcrum to said implement in prying out the type.



2. In combination with a sill plate, a type holder provided with grooves for holding the type in vertical columns and strips with lateral flanges adapted to enter lateral notches of said type and maintain its alinement, part of the lateral flange of said strip being cut away above the sill plate to allow the type to be withdrawn substantially as set forth.

3. In combination with a type font or holder provided with parallel strips forming grooves between them and having lateral flanges for engaging with lateral notches of said type, of a backing formed with saw cuts for securing and maintaining the alinement of said strips, and a sill plate attached to said backing, adapted to assist as a fulcrum for a lifting stick or needle the removal of the type characters in the manner set forth.

865,566. WEEDER, CHOPPER, AND SCUFFLE-HOE. JAMES CARPENTER, Brooklyn, N. Y. Filed Apr. 9, 1907. Serial No. 367,194.



1. An agricultural implement comprising a transversely flat grid portion formed of longitudinal and transverse bars, all of the transverse bars being on the same plane, a cutting blade carried at the forward end of the longitudinal bars, and a socket extending upward directly from the rear end of the grid portion and at an obtuse angle thereto.

2. An agricultural implement comprising a grid portion formed of longitudinal and transverse bars, the whole of said grid portion being slightly curved from front to rear and transversely flat, a blade attached to the forward ends of the longitudinal bars of the grid, and a handle socket at the rear end of the grid portion projecting upward at an obtuse angle thereto.

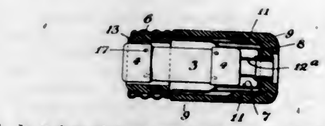
3. An agricultural implement comprising a socket adapted to receive a handle, a grid at the end thereof composed of longitudinal and transverse bars, the longitudinal bars having eyes at the ends thereof, and a blade riveted to said bars through said eyes.

4. An agricultural implement comprising a socket adapted to receive a handle, a grid set at an obtuse angle to said socket and composed of longitudinal and transverse bars, said grid being slightly curved from front to rear but on the same plane transversely, and a blade attached to the ends of said longitudinal bars.

5. An agricultural implement comprising a socket adapted to receive a handle, a grid portion cast in one piece with the handle but extending from the lower end thereof at an obtuse angle, said grid being composed of longitudinal and transverse bars, the lower ends of the longitudinal bars being formed with eyes, and a blade riveted to said eyes.

6. An agricultural implement comprising a comminuting body adapted to rest upon the surface of the ground and having longitudinal and transverse bars, a cutting blade attached to the front ends of the longitudinal bars, and a handle socket extending upward from the rear end of the body at an obtuse angle thereto, said body portion being transversely flat across its entire width.

865,567. FUSE-PLUG. ROBERT C. COLE, Hartford, Conn., assignor to The Johns-Pratt Company, Hartford, Conn., a Corporation of Connecticut. Filed Mar. 4, 1907. Serial No. 360,566.



1. In a fuse-plug, a conducting shell having an integral portion thereof at one end bent inwardly to receive and hold by friction one of the terminals of a cartridge fuse and formed at the outer end for contact with an annular socket terminal, in combination with means at said last named end for spacing the other fuse terminal from said shell.

2. In a fuse-plug, a tubular metallic shell, having one end formed for contact with a socket terminal and provided at the other end with slitted portions forming frictional retaining means for a cartridge fuse inserted into said shell and means separating the free end of said fuse from contact with said shell.

3. In a fuse-plug, a tubular conducting shell having one end formed for contact with a socket terminal and the other end provided with longitudinal slits of appropriate extent to leave an annular portion of the shell uncut, one or more of the slitted portions being depressed inwardly to form frictional engaging means for a fuse within the shell.

4. In a fuse-plug, a tubular conducting shell having one end formed for contact with a socket terminal and its other end formed of reduced diameter adapted to receive the terminal of a cartridge fuse, in combination with an insulating covering surrounding said portion of reduced diameter.

5. In a fuse-plug, a cylindrical conducting shell having one end formed for contact with a socket terminal and its other end formed of reduced diameter and provided with inwardly bent portions adapted to hold the terminal of a cartridge fuse, and means for insulating the other terminal of the fuse from the said contact end of the shell.

6. In a fuse-plug, a tubular conducting shell having one end formed for contact with a socket terminal and its other end provided with means for contacting with an interior cartridge fuse terminal and having an exterior recess therein, in combination with a covering for said shell provided with an interior projection engaging said recess and providing a non-rotative connection therewith.

7. In a fuse-plug, a conducting shell having one end formed with depressed portions providing one or more recesses on the exterior of the shell and one or more projections on the interior thereof adapted to engage with a fuse terminal, in combination with an insulating cap for said shell having a portion adapted to engage with one of said exterior recesses to provide a non-rotative connection with said shell.

8. In a fuse-plug, a conducting shell having one end provided with one or more inward projections and the other adapted to engage a socket terminal, in combination with an insulating ring in said last named end provided with an interior channel longitudinally offset with respect to said projections.

9. In a fuse-plug, a shouldered conducting shell adapted to receive a cartridge fuse and having an inward dent or protuberance on the shoulder thereof, in combination with an insulating ring secured in the shell having a longitudinal interior channel and a recess at its end adapted to engage said protuberance.

10. In a fuse-plug, an insulating cap and a conducting shell therein having one end formed for contact with a socket terminal and the other adapted to receive a cartridge fuse terminal, said shell being provided with one or more longitudinal ribs on its exterior adapted to bind against the interior of said cap.

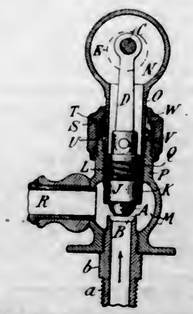
11. In a fuse-plug, an insulating cap and a shouldered conducting shell having its smaller diameter within said cap and adapted to receive a cartridge fuse terminal in combination with a series of longitudinal ribs struck up from the portion of the shell of smaller diameter and adapted to form resilient centering means for the shell with respect to its cap.

12. In a fuse-plug, a conducting shell having one end formed for contact with a socket terminal and adapted to hold a cartridge fuse terminal within its other end, in combination with an insulating cap for said shell, said cap and shell being provided with alined apertures and a tubular means for fastening said parts together secured within said apertures.

13. In a fuse-plug, a conducting shell having exterior depressions or recesses and an insulating cap having interior projections engaging in the same, said cap and shell being provided with alined apertures, in combination with a securing means in said apertures for fastening said cap and shell together.

14. In a fuse plug, the combination of a conducting shell adapted to receive and hold a cartridge fuse, a cap surrounding said shell, and means for fastening the end of said shell to the cap, said fastening means being provided with a part extended interiorly away from the said fastened end of the shell and located in position therein to serve as a positive abutment adapted to limit the inward movement of a fuse thrust into the shell.

865,568. FAUCET. WILLIAM S. COOPER, Philadelphia, Pa. Filed Dec. 4, 1905. Serial No. 290,126.



1. A water faucet having an expansible hollow stop valve with an opening toward the pressure, and means for moving said valve toward its seat to close it against

the pressure, whereby the water may enter and expand it and relieve the pressure at the instant of closing and insure a tight closure.

2. A water faucet having an expansible hollow stop valve with an opening toward the pressure, and means for moving said valve toward its seat to close it against the pressure, whereby the water may enter and expand it and relieve the pressure at the instant of closing and insure a tight closure, a plunger carrying said valve, and a cylinder in which said plunger moves, the plunger being packed in said cylinder to hold it rigidly in all positions and thus prevent rattling or drumming.

3. A water faucet having a stop valve A of expansible material, with a central hollow space G open toward the pressure, and means for moving said valve toward its seat to close it against the pressure, a plunger J carrying said valve, a cylinder K in which said plunger moves, and a packing L between said plunger and cylinder to hold the plunger rigidly in all positions and thus prevent rattling or drumming.

4. A faucet having a valve, and operating means connected thereto, said valve and operating means being adjustable together toward the valve seat to take up wear, and a packing independent of the adjusting means.

5. A faucet having a valve, a seat, means for moving the valve toward and from the seat to open and close the faucet, and a casing in two parts, one part carrying the valve and the other the seat, said parts being adjustable toward each other, and a packing operating independently of the positions of said parts.

6. A faucet having a valve, a seat, an eccentric for moving the valve toward and from its seat to open and close the valve, a casing in two parts, O and P, the former carrying the valve and the latter carrying the valve seat, one of said parts screwing into the other so as to permit adjustment of the valve toward or from the seat, and a packing operating independently of the relative positions of said parts.

7. A faucet having a casing in two parts, O and P, a valve, an eccentric mechanism for operating the same, and an operating handle therefor carried by said part O, and a valve seat and spout carried by the part P, one of said parts screwing into the other by means of a thread of fine pitch, whereby angular adjustment of the operating handle relatively to the spout may be effected, and also adjustment of the valve relatively to its seat without separating said parts of the casing, and clamping means operable from the outside for maintaining the adjustment.

8. A faucet having a casing in two parts, one part carrying the valve and the other the seat, one of said parts having an extension entering the other and forming a guide for the valve, said parts being adjustable toward each other, and a packing for the joint between said parts of the casing and lying outside of said extension.

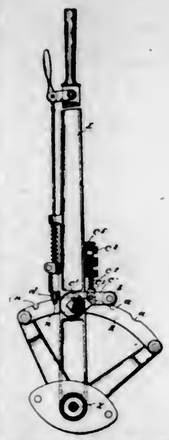
9. A faucet having a casing in two parts, O and P, one part carrying the valve and the other the seat, said parts being adjustable toward each other, a nut S engaging the part P, a split tapered ring T within the nut S and adapted to be compressed to engage the part O by the screwing of the nut upon the part P, soft packing between the ring T and the end of the part P, and a complete ring W between the soft packing and the ring T.

10. A faucet having a casing adapted to rest upon a slab or similar support, a valve seat member a having a squared portion b and passing up through the slab and the base of the casing, and a nut c screwing on the member a and holding the faucet in place.

11. A faucet having a casing in two parts, O and P, one part carrying the valve and the other the seat, said parts being threaded one upon the other so as to be adjustable toward each other, a nut S engaging the part P, and a ring of packing material within the nut and adapted to be compressed between the nut and the upper edge of the part P.

865,569. GEAR-SHIFTING DEVICE. JAMES M. CRAFTS, Boston, Mass. Filed Feb. 13, 1907. Serial No. 357,224.

1. The combination of a pivoted lever, a notched segment rack, a hand controlled locking bolt on the lever to engage the rack-notches, the segment rack provided with depressions, a spring controlled rider, shaped to fit said depressions, the distance between each of said depressions and a corresponding notch being equal to the distance between the rider and the bolt, measured along the segment rack, whereby the rider is detained as the bolt registers with a notch.



2. In combination with two relatively movable members, namely a pivoted lever and segment, a locking bolt on one member, the other member provided with notches to engage the locking bolt, a rider on one of said members the other member provided with contour variations which fit the rider, means to constrain the rider against said contour variations, the distance between each of said rider-fitting contour variations and a corresponding notch being equal to the distance between the rider and the bolt, measured along the segment, whereby the rider is detained as the bolt registers with a notch.

3. The combination of a pivoted lever, a notched segment rack, a hand-controlled locking bolt on the lever to engage the rack notches, a spring controlled rider pivoted to the lever, the segment rack provided with depressions shaped to fit the rider, the distance between each of the rider-fitting depressions and a corresponding notch being equal to the distance between the rider and the bolt, measured along the segment rack, whereby the rider is detained as the bolt registers with a notch.

4. The combination of a pivoted lever, a notched segment rack, a hand controlled locking bolt on the lever to engage the rack notches, a spring controlled rider pivoted to the lever and bearing on the rack on the side of the lever opposite to the locking bolt, said segment rack provided with depressions shaped to fit the rider, the distance between each of the rider-fitting depressions and a corresponding notch being equal to the distance between the rider and the bolt, measured along the segment, whereby the rider is detained as the bolt registers with a notch.

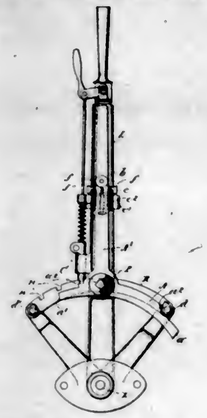
865,570. GEAR-SHIFTING DEVICE. JAMES M. CRAFTS, Boston, Mass. Filed Feb. 13, 1907. Serial No. 357,225.

1. The combination of a lever, a rack, a hand-controlled bolt on the lever to engage the rack notches, a spacer, stops to engage the spacer, and means to move the spacer into and out of stop-engaging position.

2. The combination of a lever, a locking bolt on the lever to engage the rack-notches, a spacer, movably mounted on the lever, stops to engage the spacer, and a catch to hold the spacer in one of several determinable positions.

3. The combination of a lever, a rack, a locking bolt on the lever to engage the rack-notches, a spacer, parallel and adjacent to the rack, and pivoted on the lever, an arm on the spacer extending along the lever, stops to engage the spacer, and a catch to hold the spacer arm in one of several determinable positions in relation to the lever.

4. The combination of a lever, a rack, a locking bolt on the lever to engage the rack-notches, a spacer, provided with shoulders, and ends extending beyond the shoulders, said spacer pivoted to the lever and movable into several



determinable positions, in each of which a shoulder and end of the spacer engage respectively with stops, the stops, and a catch to hold the spacer in any one of its said determinable positions.

865,571. CURETTE. HERSCHEL E. CURREY, Baker City, Oreg. Filed May 31, 1907. Serial No. 376,537.

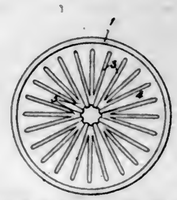
1. A curette having a tubular stem, and a solid helical scraping blade extending from the stem outward, the wall of the stem being provided with openings adjacent to the blade, in order to direct liquid against that surface with which the blade is in contact.

2. A curette having a tubular stem, and a helical blade, the introducing end of the stem having an approximately spherical perforated head to which the end of the blade merges.

3. A curette having a tubular stem provided with an enlarged blunt head extended at one side to form a blade, the blade winding continuously around the stem in a helical line, the wall of the stem being provided with perforations, and the head being also perforated to form passages for the liquid.

865,572. FUNNEL. WALLACE DAWSON, Montreal, Quebec, Canada. Filed Mar. 1, 1906. Serial No. 303,626.

1. A funnel comprising a conical bowl converging into a neck or tube, the inner surface of said bowl being plain and provided with groups of narrow channels, each of said groups comprising two or more channels converging at the neck of the funnel into a single channel, substantially as described.

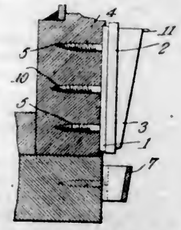


2. A funnel comprising a bowl converging into a neck or tube, said bowl being provided on its inner surface with a plurality of groups of narrow channels formed below the surface of the bowl, each of said groups comprising two or more channels converging at the neck of the funnel into a single channel, substantially as described.

3. A funnel comprising a bowl converging into a neck or tube, the inner surface of said bowl being plain and provided with groups of narrow grooves or channels, each of said groups comprising two or more consecutive channels converging at the neck of the funnel into a single channel.

4. A funnel comprising a conical bowl converging into a neck or tube, said bowl being provided on its inner surface with a plurality of narrow channels formed below the surface of the bowl, said channels being arranged in groups consisting of two or more channels converging at the neck of the funnel into a single channel extending into said neck.

865,573. SASH-LOCK. JACOB DIEHL, Sheboygan, Wis. Filed Dec. 29, 1906. Serial No. 350,015.



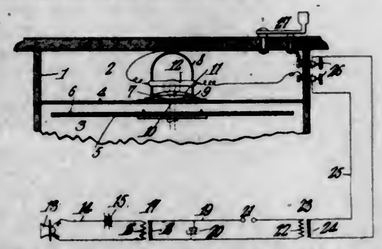
1. A sash lock comprising a slide or holder designed to be fastened to a window-sash, a loop designed to be fastened to a window-frame, and a wedge-shaped locking block having a longitudinal slot therein and secured to said holder by a headed securing means whereby the block is free to be moved longitudinally in said holder.

2. A sash lock comprising a slide or holder of trough-shape with offset sides, a wedge-shaped locking block seated on said offset sides of the holder and having a longitudinal slot with fastening means passing through said slot and securing the block to the holder, and a loop for receiving the thinner end of said block, substantially as described.

865,574. RECORDING AND REPRODUCING SOUNDS. JOHN F. DIRZUWEIT, Philadelphia, Pa. Filed Apr. 29, 1907. Serial No. 370,898.

1. The method of recording and reproducing sounds consisting in forming a photographic record of the sounds by directing actinic rays emanating from a source thereof upon a photo-sensitive surface and varying the amount of said emanations by and in accordance with the sound waves, then developing the photo-sensitive surface, then interposing the sound record so produced in the path of a constant beam of light, setting up in an electric circuit electric variations by and in accordance with the variations of the transmitted light-beam, and producing by said electric variations air vibrations corresponding to the original sounds.

2. The method of recording and reproducing sounds consisting in setting up in an electric circuit electric variations corresponding to the initial sound waves, producing thereby corresponding actinic radiations, subjecting a photo-sensitive surface to said actinic radiations, then developing said photo-sensitive surface to produce a sound record, then producing variations in a beam of light of constant intensity by passing the same through said sound record, then setting up in an electric circuit electric variations by and in accordance with the variations in intensity of the transmitted beam of light, and producing by said including the aforesaid source of actinic rays and in inductive relation to the second circuit.



3. The method of recording sounds consisting in forming a photographic record of the sounds by directing actinic rays emanating from a source thereof upon a photo-sensitive surface and varying the amount of said emanations by and in accordance with the sound waves.

4. The method of recording sounds consisting in setting up in a charged electric circuit variations corresponding to the sound waves, producing actinic radiations by and in accordance with said electric variations, and directing said actinic radiations upon a photo-sensitive surface.

5. The method of recording sounds consisting in producing in a charged electric circuit current variations corresponding to the sound waves, producing by said current variations groups of electric pulsations corresponding in frequency and duration to the original sound waves, producing by said groups of electric pulsations actinic rays varying in duration and intensity in accordance with the original sound waves, and subjecting a photo-sensitive surface to said actinic rays.

6. A sound recording apparatus comprising a carrier for a photo-sensitive surface, a source of actinic rays in operative relation to said photo-sensitive surface, an electric circuit including said source of rays, means for charging said circuit, and means for producing variations of the electric current in said circuit by and in accordance with sound waves.

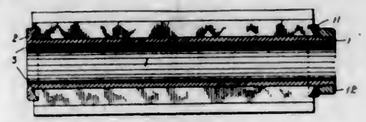
7. A sound recording apparatus comprising a carrier for a photo-sensitive surface, a source of actinic rays in operative relation to said photo-sensitive surface, a charged electric circuit, a microphonic transmitter included therein, another electric circuit in inductive relation to the first-named circuit and including a spark gap, a condenser bridged across the second circuit, and a tertiary circuit including the aforesaid source of actinic rays and in inductive relation to the sound circuit.

8. A sound recording apparatus comprising a photo-sensitive surface and a source of actinic rays movable relative one to the other, and means for exciting said source of actinic rays by and in accordance with sound waves.

9. A recording apparatus comprising a suitable carrier for a photo-sensitive surface, a Tesla tube movable with relation to the photo-sensitive surface, means connected with said Tesla tube for producing actinic emanations therefrom by and in accordance with sound waves, and means for directing said emanations progressively along said photo-sensitive surface.

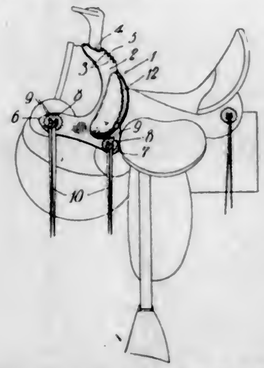
865,575. FEED-ROLL. GEORGE W. DREW, San Francisco, Cal. Filed Apr. 10, 1906. Serial No. 310,892.

A feed roller consisting of a cylindrical support, and blades having an inner or body portion, and an outer or tooth portion, the inner faces or edges of the body portions resting on the support, and the sides of adjacent body portions converging towards, and contracting with, each other, and the sides of each tooth portion converging from the outer edge of the blade, the ends of the blades having notches with inner sides sloping towards the axis of the support in an outward longitudinal direction from



the blades, the support having at one end an integral head with a reëntrant oblique inner surface engaging said sloping inner sides of the notches at one end of the blades, and a collar at the other end having a similar reëntrant inner surface to engage those of the notches at the other end, and means for securing said collar in position, substantially as described.

865,576. BUCKING-ROLL FOR RIDING-SADDLES. JOHN A. DUNCAN, Seattle, Wash. Filed Feb. 21, 1907. Serial No. 358,964.



1. A bucking roll comprising a pair of pads recessed at their inner ends to fit around the pommel of a saddle, a lacing cord adapted to be applied to the inner ends of said pads to detachably connect the same together, means to fasten the outer ends of the pads to the sides of a saddle, and outwardly and rearwardly projecting padded rolls arranged adjacent to the outer ends of the pads, substantially as described.

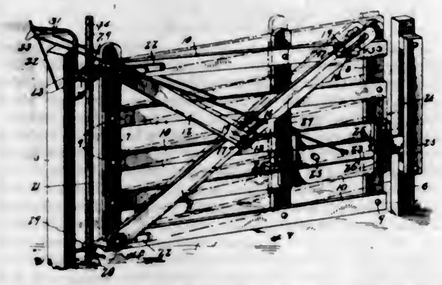
2. A bucking roll comprising a pair of flat flexible pads recessed at their inner ends to fit around the pommel of a saddle, a lacing strap to detachably connect the inner ends of said pads together and around said pommel, perforated forward and rearward projections on the outer ends of said pads to receive the strap or cord trimmings of the saddle, whereby the outer ends of the pads are secured thereto, outwardly and rearwardly projecting padded rolls secured to said pads adjacent to their outer ends in position to be engaged by the thighs or knees of the rider to prevent him from being thrown from the saddle, substantially as described.

3. A bucking roll comprising a pair of separable pads provided with means for detachably connecting them to the pommel of a saddle, rolls arranged on said pads in position to be engaged by the thighs and knees of the rider and means for attaching said pads to the opposite sides of the saddle.

865,577. GATE. BENNIE S. EDWARDS, White Hall, Ill. Filed Jan. 19, 1906. Serial No. 296,857.

1. A gate comprising longitudinal bars pivotally connected to end bars, a diagonal brace pivoted to the lower end of one of the end bars and provided with terminal and intermediate slots, a brace pivoted to the upper portion of said end bar and intersecting the diagonal brace, and fastening devices passing through said slots and engaging the brace and one of the longitudinal bars, respectively.

2. The combination with the gate posts, of a gate pivoted to one of the posts and vertically adjustable between the latter, said gate being formed of longitudinal bars pivoted to the end bars and connected by intersecting diagonal braces capable of sliding movement with respect to said longitudinal bars and also with respect to each other, a keeper secured to the opposite post, a latch slidably mounted between adjacent longitudinal bars of the gate and adapted to engage the keeper, and stops carried by the latch for limiting the longitudinal movement thereof.



3. The combination with the gate posts, eyes secured to one of said posts, a rod engaging said eyes, and a gate mounted for swinging movement between the posts and having strap hinges secured to the opposite sides of the gate and embracing the rod, reinforcing straps engaging the hinges on each side of the gate and having their intermediate portions embracing the rod and secured together and their free ends bent upwardly and laterally for attachment to an operating cord, a keeper secured to the opposite post, a latch slidably mounted on the gate and engaging the keeper, and means for supporting the gate in elevated position.

4. The combination with the gate posts, eyes secured to one of the gate posts, a rod engaging said eyes, a vertically adjustable gate mounted for horizontal swinging movement between said posts, strap hinges secured to the gate on both sides thereof and embracing the rod, a keeper secured to the opposite post, a latch slidably mounted on the gate for engagement with the keeper, and reinforcing straps secured to the hinges on each side of the latter and having their intermediate portions embracing the rod and their free ends extended upwardly and laterally for attachment to an operating cord.

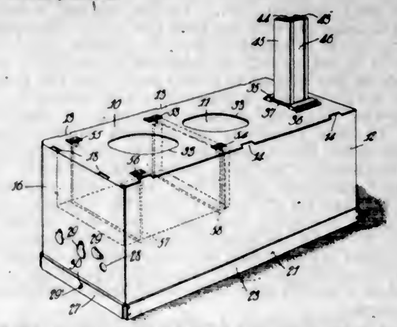
865,578. COMPOSITION FOR LAYING ROAD-DUST. CARLETON ELLIS, Larchmont, N. Y., assignor to Ellis-Forster Company, a Corporation of New Jersey. Filed May 27, 1907. Serial No. 375,806.

1. Composition for laying road dust comprising an emulsion containing waste sulfite liquor and a deliquescent salt.

2. Composition for laying road dust comprising an emulsion of concentrated waste sulfite liquor and an oily body.

865,579. FOLDING STOVE. WILLIAM E. ENFIELD, Victor, Colo. Filed Nov. 15, 1906. Serial No. 343,611.

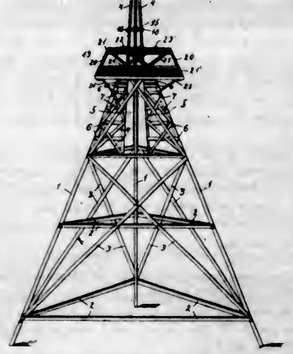
1. A collapsible stove comprising a base having inner and outer marginal flanges, spaced apart, a body comprising a top and foldable side and end walls hinged thereto, the sides and one of the end walls being adapted to seat at their lower edges in the space between the flanges when the device is set up for use and the other end wall being formed to seat at its lower edge over the adjacent end flange of the base, and means for securing said end wall in closed position.



2. In a collapsible stove, a body comprising a top and foldable side and end walls pivotally connected therewith, a pair of spaced hanger bails terminally pivoted to said top and depending therefrom upon the interior of the stove and an oven supported on said bails, the latter being adapted when not in use to fold against the inner face of the top.

3. A collapsible stove comprising a top and side and end walls pivotally connected therewith, one of said end walls constituting a fuel door, a pair of bails pivoted to and depending from the under side of the top, and an oven supported by said bails, said oven having an open end disposed toward and adapted to be closed by the fuel door.

865,580. WINDMILL-TOWER. JOSEPHUS H. EUBANK, Ysleta, Tex. Filed June 22, 1907. Serial No. 380,286.



1. A tower comprising an upwardly tapering main frame, upwardly converging standards having their lower ends projecting into the top of the main frame and suitably secured to the latter, and their upper ends projecting above the same, a bed plate or head uniting the upper ends of said standards and having a tubular body portion, a rotary head arranged upon said bed plate and having a depending tubular guide to extend through the body portion of said bed plate or head, and a spider connecting the intermediate portions of said standards and adapted to receive the lower portion of said tubular guide, substantially as described.

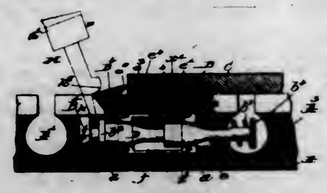
2. A tower comprising an upwardly tapering main frame composed of corner posts united by horizontal girths and braces, upwardly converging standards having their lower ends projecting into the top of the main frame and their upper ends projecting above the top of the same, means uniting the lower ends of the standards to

said corner posts, a bed plate or head uniting the converging upper ends of said standards, said bed plate or head being provided with a vertical opening, a rotary head arranged upon the bed plate and having a depending tubular guide to extend through the opening in the bed plate, a spider uniting the intermediate portions of said standards and adapted to receive said guide, and a platform having crossed or intersecting bars secured to the uppermost horizontal girths, substantially as described.

3. A tower comprising an upwardly tapering main frame having corner posts and horizontal girths uniting the upper ends of said posts and spacing them apart, converging standards having their lower ends projecting into the open top of the main frame and adjustably connected to the latter and their upper ends projecting above the top of the main frame and suitably connected, a platform having crossed or intersecting bars secured to said horizontal girths, and braces connecting the outer portions of the platform to the main frame, substantially as described.

4. A tower comprising a main frame, converging standards arising therefrom, a bed plate or head having a depending body provided with projections to receive the upper ends of the standards between them, and fastenings passed through adjacent standards for uniting them to said bed plate, substantially as described.

865,581. ELECTROTYPE-LOCKING APPARATUS. JOHN J. FLOYD, Boston, Mass. Filed May 1, 1907. Serial No. 371,361.



1. In apparatus of the class described, a block having crossing grooves provided with teeth, combined with a plate locking device including separable toothed shells, and means to cause the teeth of said shells to engage the teeth of the block.

2. In apparatus of the class described, a block having crossing grooves provided with teeth, combined with a plate locking device including a body, toothed shells, and a device to move said shells one toward the other to effect the disengagement of the teeth of the shells from the teeth of the block.

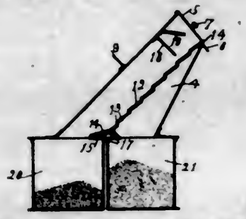
3. In apparatus of the class described, a block having crossing grooves provided with teeth, combined with a plate locking device including a body, toothed shells, a device to move said shells outwardly that their teeth may engage the teeth of the block, and means acting normally to contract the shells.

4. In apparatus of the class described, a grooved block and a locking device having a projecting portion exposed at the top of said block, combined with a plate-engaging device carried by the locking device and movable longitudinally thereon, and means to move said plate-engaging device on said locking device to provide for hair-line adjustments of a stereotype plate on said block.

5. In apparatus of the class described, a plate locking device comprising a body having a plate-positioning projection, a cam bolt, two shells, a spring to move said bolt in a direction and normally hold the same in a position to move the shells away one from the other.

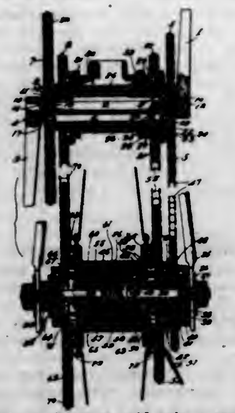
6. In apparatus of the class described, a plate locking device comprising a body having a plate-positioning projection, a cam bolt, two shells, a spring to move said bolt in a direction and normally hold the same in a position to move the shells away one from the other, a spring encircling said shells and moving the same one toward the other and said bolt when the latter is held outwardly in its inoperative position.

865,582. ASH-SIFTER. MINNA FROESE, New York, N. Y. Filed Dec. 22, 1906. Serial No. 349,140.



An ash sifter comprising a pair of vessels having flat meeting side faces, a base plate having a depending marginal flange for engagement with the upper ends of the vessels to bind them in active relation, said base plate being provided with a pair of spaced openings communicating respectively with said vessels, a horizontal division plate extended transversely of the base plate intermediate said openings and having its edges between its ends reversely recessed to provide wide end portions and a narrow intermediate portion, an upwardly inclined chute attached to the base plate with its lower end marginally surrounding said openings, a stepped inclined sifting screen sustained in the casing and having its lower end attached to said division plate on a line between the openings in the base plate, substantially triangular deflecting plates attached to the wide end of the division plate at the juncture of the screen therewith and serving to direct material outward toward the narrow portion of the division plate, a deflecting plate attached to the front wall of the casing at a point near its upper end, and a closure for the front end of the casing.

865,583. TWO-SPEED GEAR FOR MOTOR-CYCLES. HARVEY H. FULLER, Los Angeles, Cal. Filed Mar. 20, 1907. Serial No. 363,515.



1. A fixed axle, a sleeve on said axle, a sprocket on said sleeve, a hub surrounding said sleeve and axle, variable speed transmitting elements on said axle, and means for clutching one or the other of said elements.

2. A fixed axle, a driving element on said axle, variable speed transmission elements on said axle and means on said driving element for causing an engagement with said driven elements.

3. The combination with a wheel having a hub and a fixed axle, of variable speed transmission gears loose on said axle, a clutch sleeve interposed between said hub and

axle and in positive engagement with said hub, said sleeve being slidable with respect to said hub, a sleeve loosely surrounding said axle, and means carried and operable by said sleeve for moving said clutch sleeve into engagement with said gears.

4. The combination with a wheel having a hub and a fixed axle, of an initial-moving element on said axle, a high-speed gear on said element, a low-speed gear loose on said axle, a clutch sleeve carried by said hub and in constant engagement therewith, said clutch sleeve being shiftable relatively to said hub, and means carried by said initial-moving element for moving said clutch sleeve to engage said high-speed or said low-speed gears at different times during the revolution thereof.

5. The combination with a wheel having a hub and a fixed axle, of an initial moving element loose on said axle, said element provided with an inclined surface, a clutch sleeve engaging said hub, a high-speed gear loose on said element, a low-speed gear loose on said axle, and means operable by said initial moving element for shifting said clutch sleeve in engagement with one or the other of said gears and frictionally connecting said clutch sleeve with the inclined surface of said initial moving element.

6. The combination with a wheel having a hub and a fixed axle, of an initial moving element loose on said axle, a high speed gear loose on said element and a low speed gear loose on said axle, a clutch sleeve in engagement with said hub, means for shifting said clutch sleeve into engagement with one or the other of said gears, and means for locking said clutch sleeve on said initial moving element.

7. The combination with a wheel having a hub and a fixed axle, of an initial-moving element loose on said axle, a high-speed gear loose on said element and a low-speed gear loose on said axle, a clutch sleeve in engagement with said hub, means for shifting said clutch sleeve into engagement with one or the other of said gears, and means for positively locking said clutch sleeve on said high-speed gear and said initial-moving element.

8. The combination with a wheel having a hub and a fixed axle, of an initial-moving element loose on said axle, a high-speed gear loose on said element and a low-speed gear loose on said axle, a clutch sleeve in engagement with said hub, means for shifting said clutch sleeve into engagement with one or the other of said gears, and means for frictionally locking said clutch on said initial moving element.

9. The combination with a wheel having a hub and a fixed axle, of an initial-moving element loose on said axle, a high-speed gear loose on said element and a low-speed gear loose on said axle, a clutch sleeve in engagement with said hub, means for shifting said clutch sleeve into engagement with one or the other of said gears, means for shifting said clutch sleeve relatively to said hub to engage either said high speed or said low speed gear, and means for frictionally locking said sleeve on said initial-moving element.

10. The combination with a wheel having a hub, and an axle, of variable speed transmission elements loose on said axle, teeth on said elements, a clutch sleeve engaging said hub and arranged to engage said teeth and means for shifting said clutch sleeve.

11. A fixed axle, variable speed transmission elements on said axle, a hub, means engaging said hub and elements for causing a rotation of the same, and means for controlling said means.

12. The combination with a wheel having a hub, and a fixed axle, of an initial moving element loose on said axle, said element being provided with an inclined surface, a clutch sleeve engaging said hub, a high speed gear loose on said element, a low speed gear loose on said axle, means operable by said initial moving element for shifting said clutch to engage said high or low speed gears at different periods and frictionally connecting said clutch sleeve with the inclined surface of said initial moving element, and means for disengaging said clutch sleeve from said inclined surface.

13. The combination with a wheel having a hub and a fixed axle, of an initial moving element loose on said axle, a high speed gear on said element, a low speed gear loose on said axle, a clutch sleeve carried by said hub, and in constant engagement therewith, said clutch sleeve being shiftable relatively to said hub, a shifter on said initial moving element and operable thereby for moving said clutch sleeve, to engage said high speed or said low speed gears at different times during the revolution thereof.

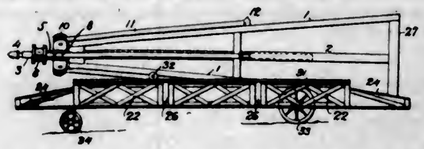
14. The combination with a wheel having a hub and a stationary axle, of an initial moving element loose on said axle, said element being provided with an inclined surface and screw threads, a clutch sleeve engaging said hub, a high-speed gear loose on said element, a low-speed gear loose on said axle, a shifter engaging the threads on said initial-moving element for moving said clutch to engage said high or said low speed gears at different periods and frictionally connecting said clutch sleeve with the inclined surface of said initial-moving element, and means operable by the reverse movement of said initial-moving element for disengaging said clutch sleeve from said inclined surface.

15. The combination with a wheel having a hub and a stationary axle, of an initial-moving element loose on said axle, said element being provided with screw-threads and an annular inclined surface, a high speed gear loose on said element, a low speed gear loose on said axle, a clutch sleeve carried by said hub and in constant engagement therewith, said clutch sleeve being shiftable relatively to said hub, a shifter engaging the threads on said initial-moving element, and a ball-thrust interposed between said shifter and said clutch sleeve, said shifter serving to move said clutch into engagement with said gears and cause an engagement of said clutch with said inclined surface to connect said initial-moving element with said clutch and said low-speed gear.

16. The combination with a wheel having a hub, and an axle, of variable speed transmission elements loose on said axle, teeth on said elements, a clutch sleeve engaging said hub and arranged to engage said teeth, means for shifting said clutch sleeve, and means for preventing the disengagement of said clutch sleeve from the teeth of said element.

17. The combination with a wheel having a hub, and an axle, of variable speed transmission elements loose on said axle, teeth on said elements, a clutch sleeve engaging said hub and arranged to engage said teeth, means for shifting said clutch sleeve, and a spring for preventing the disengagement of said clutch sleeve.

865,584. PORTABLE AMUSEMENT APPARATUS. THOMAS A. FULTON and THOMAS H. FULTON, New York, N. Y. Filed Jan. 28, 1905. Serial No. 243,049.



1. In a portable amusement apparatus, the combination with a tower, of a telescopic shaft supported rotatably therein and consisting of a lower section and an extensible or adjustable section, arms pivotally connected with the lower section, means connected with the upper adjustable section for holding the arms in outward extending positions, cars supported from the arms, and means for holding the two sections of the shaft in extended relations, substantially as set forth.

2. In a portable amusement apparatus, the combination of a tower, a telescopic shaft supported revolubly therein, a casting secured to the shaft and having sockets, arms pivoted in the sockets, a sleeve on the upper portion of the shaft, and car supporting cables passing over the ends of the arms and connected to the sleeve.

3. In a portable amusement apparatus, the combination with a tower, of a revoluble shaft, consisting of a hollow section, and a second section inserted thereinto, a series of

arms hinged to the hollow section, and car-supporting cables passing over the ends of said arms and connected to the upper part of the shaft.

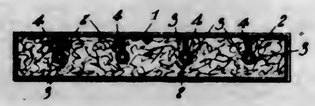
4. The combination of a tower, a revolving shaft and car-supporting arms mounted therein, a base 27 rigidly secured to the tower, and the supporting platform or framework, consisting of parallel girders and cross girders inter-locking with each other and forming a centrally disposed rectangular inclosure in which the base 27 of the tower is arranged to closely fit, substantially as set forth.

5. The combination with a tower, revolving shaft, cars, and means for supporting the cars so that they will revolve with the shaft, of a knockdown framework, consisting essentially of interlocking girders, providing an inclosure for the base of the tower, and a platform supported on said girders around the tower.

6. The combination, in a portable amusement apparatus, of a revolving shaft, consisting of a hollow section and a second section received into and held in the hollow section, sockets on the outside of the hollow section, arms pivoted in said sockets, a sleeve on the upper part of the second section and fastened temporarily thereto, and cables connected to said sleeve and passing over the outer ends of the arms, together with cars hanging on said cables.
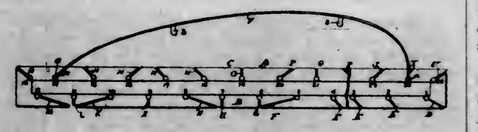
7. In a portable amusement device, the combination of a base having parallel girders carrying rails 31, a tower supported on the base and arranged to be let down for transportation, and wheels carried by the tower and arranged to run upon the rails upon the girders, substantially as set forth.

865,585. MATTRESS. WILLIAM GROSKOPF, Chicago, Ill. Filed Mar. 4, 1907. Serial No. 360,505.



A mattress having arranged therein a series of flexible tubular ventilating ducts extended wholly and longitudinally therethrough and opening at their ends through the ends of the mattress cover forming air passages, said ducts being secured to one of the side covers of the mattress and having their walls perforated at intervals throughout their length to form passages opening into the filling of the mattress, and elastic expander tubes removably inserted into said ducts for preventing collapsing thereof when the mattress is in use.

865,586. MULTIFORM-CURVE RULE. GEORGE M. HEALLEY, La Crosse, Wis. Filed Feb. 6, 1907. Serial No. 356,050.



1. A device of the character described, comprising a member having sundry slots in its longitudinal edges opening into apertures or orifices in said members and a flexible member having bent or curved ends for effective retention in said apertures and slots.

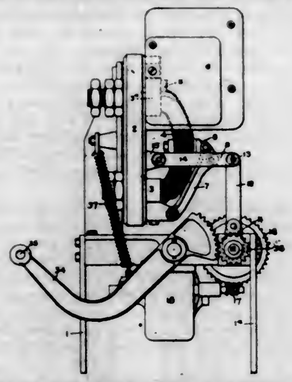
2. A device of the character described, comprising a member equipped in its longitudinal edges with inclined and perpendicular slots, and a flexible blade-member adapted for insertion at its ends into said slots.

865,587. RED-ORANGE MONOAZO DYE AND PROCESS OF MAKING SAME. WILHELM HERZBERG, Berlin, and OSCAR SPENGLER, Nieder-Schönweide, near Berlin, Germany, assignors to Actien Gesellschaft für Anilin Fabrikation, Berlin, Germany. Filed Oct. 26, 1906. Serial No. 340,690.

1. The process of producing a red-orange-monoazo-dyestuff, which process consists in diazotizing ortho-chloro-para-nitranilin and then combining the diazo-compound thus obtained with beta-naphthol.

2. As a new article of manufacture the red-orange monoazo-dyestuff which may be obtained by diazotizing ortho-chloro-para-nitranilin and combining the diazo compound thus obtained with beta-naphthol, which dyestuff is distinguished by its brilliancy and by a very great fastness to light and which dyestuff is insoluble in water and in an aqueous solution of an alkali or of an acid, and which dye dissolves in concentrated sulfuric acid with a violet coloration which solution on the addition of ice precipitates red flakes, this dyestuff being soluble in an alcoholic solution of caustic soda with a red coloration possessing a cast to violet and yielding by treatment with strong reducing agents ortho-chloro-para-nitranilin besides 1.2-amidonaphthol, and which dyestuff when the combination of the diazo-compound of ortho-chloro-para-nitranilin with beta-naphthol occurs in the presence of barium-chlorid together with aluminium-hydroxid and barium-sulfate forms a clear red-orange colored powder of great brilliancy, which powder is insoluble in water and practically insoluble in alcohol and in oil.

865,588. ELECTRIC SWITCH. EDWARD M. HEWLETT and THEODORE E. BUTTON, Schenectady, N. Y., assignors to General Electric Company, a Corporation of New York. Filed Nov. 19, 1902. Serial No. 131,964.



1. An electric switch comprising a movable contact, a swinging arm carrying the same, a main toggle, one link of which is pivoted to said arm and the other to a fixed point of the switch frame, and an auxiliary toggle for cramping the main toggle with its two links parallel and side by side.

2. An electric switch provided with a movable contact mounted on a lever swinging to and from a fixed contact, a cramping frame, a link having one end pivoted to the lever and the other end pivoted to the outer end of the cramping frame, said link forming a toggle with said frame, and an auxiliary toggle for raising and lowering the cramping frame.

3. The combination of an electric switch, an operating motor, a gear wheel, and a reversible pawl for clutching the gear wheel for a determinate range of movement in either direction.

4. In a motor-operated switch, the combination with a reversible motor, of a gear wheel, a clutch-pawl, and a means for setting the pawl for reverse clutching after a determinate range of operation.

5. The combination of a reversible motor, a shaft, a clutch-pawl adapted to connect the two, means for releasing the clutch-pawl after a determinate angular movement of the shaft, and means for setting the pawl when released to clutch the shaft on a reversal of the motor.

6. The combination of a reversible motor, a shaft, a pivoted clutch-pawl having an engaging toe at either end, and means for disconnecting one toe of the pawl after a determinate range of shaft movement, thereby shifting the other toe into position for engagement for a reverse movement of the motor.

7. The combination of a reversible motor, a shaft, a snap clutch, a pawl operated thereby to connect the motor and shaft, and means for snapping the clutch to release the motor and reverse the pawl after a determinate range of shaft movement.

8. The combination of a reversible motor, a shaft, a snap-clutch pivoted concentrically with one of them, a pivoted pawl having two engaging toes, a stop to pull the pawl out of clutching position after a determinate angle of shaft movement, and means for reversing its position during such operation to set the clutch for a reverse motor movement.

9. The combination of a reversible motor, a shaft, a clutch provided with a reversible pawl for connecting them for either direction of driving, a pivoted clutch part, connections between the pivoted clutch part and the pawl for operating it, and a stop to shift the pivoted part and reverse the pawl.

10. The combination of a reversible motor, wheel 16, pivoted reversible pawl 20, pivoted operating lever 23, and a fixed stop for shifting the lever after a determinate range of motor movement.

11. The combination of a reversible motor, wheel 16, pivoted reversible pawl 20, slotted link 27, pivoted lever 23, spring, as 25, for snapping it out of action, and a fixed stop for shifting the lever after a determinate range of motor movement.

12. The combination with a motor-operated switch, of a clutch between the motor and switch mechanism locking them for a definite direction of drive, distant control devices for the motor, and a hand-operating lever for operating the switch independently of the motor.

13. The combination with an electric switch, of an electric motor for operating the same, said motor having a permanently excited field, a control circuit, and a control switch for connecting the armature between the neutral and either outside wire of a three-wire system, for the purpose set forth said armature having one brush permanently connected to said neutral.

14. In an electric switch operated by an electric motor, the combination, with leads for supplying current to the motor, of a control switch for controlling the direction of the rotation of the motor, and a plurality of indicating devices each connected to a different lead in parallel with the control switch and in series with the motor.

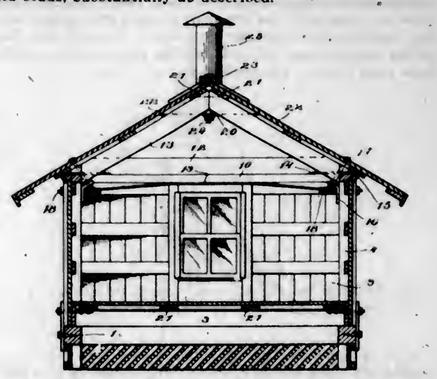
15. In a motor operated electric switch comprising a motor having a permanently excited field and an armature supplied with current from a three wire system, one brush of said armature being permanently connected to the neutral wire, the combination with a control switch for connecting the other brush of the armature to either outside wire, of two indicating devices each connected to one of the outside wires and to said other brush in parallel with said control switch, whereby when said control switch closes the circuit from either outside wire through the motor the corresponding indicating device is short circuited.

865,589. COMPOUND FOR TREATING GLASS SURFACES. RICHARD HOGAN, Lochgelly, Scotland. Filed Jan. 8, 1907. Serial No. 351,327.

A compound for treating glass surfaces consisting of two parts of a waxy material, and one part of glycerin.

865,590. PORTABLE HOUSE. JOSEPH D. HORTON, Fort Smith, Ark. Filed Nov. 16, 1905. Serial No. 287,597.

1. In a portable house, the combination with the sill, of the floor joist and studs arranged thereon, a sill plate arranged on the outside of said sill and studs, means for fastening said sill plate to said sill and an anchor passing entirely through the house and fastening said sill plate to said studs, substantially as described.



2. In a portable house, the combination with the studs, of a wall plate arranged on said studs, and a draw strap connecting the studs on opposite sides of the house, said draw strap being interposed between the said studs and the said wall plate, substantially as described.

3. In a portable house, the combination with the rafters, of a lower cross-bar connecting the rafters together, the ends of said rafters extending below said cross-bar, studs for said house, and a wall plate arranged on said studs, said wall plate being engaged by said extending ends of said rafters to prevent said studs and wall plate from being forced inwardly, substantially as described.

4. In a portable house, the combination with the rafters, of a cross-bar therefor, studs supporting said rafters, a wall plate interposed between said studs and cross-bar, a truss-hook secured to said cross-bar and engaging the outside of said wall plate, and means passing through the roof covering and cross bar for tying the parts together, substantially as described.

5. In a portable house, the combination with the rafters, of a lower cross-bar therefor, a roofing carried on said rafters, studs supporting said rafters, means for anchoring said studs and rafters together, said means comprising also a fastening passing through said lower cross-bar and said roofing to securely tie the parts together at the intersection of the wall and roof of the house, substantially as described.

6. In a portable house, the combination with the rafters, of an upper cross-bar therefor, said upper truss extending beyond the edge of said rafters, a roof covering supported by said rafters and held against movement by the said upper cross-bar, substantially as described.

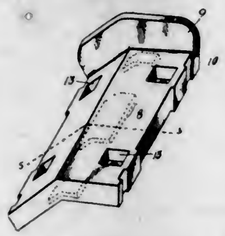
7. In a portable house, the combination with the rafters, of an upper cross-bar therefor, said upper cross-bar extending beyond the edge of said rafters, a roof covering arranged on a cross batten and carried on said rafters, said upper cross-bar forming a seat for said cross batten to hold said roof in position, substantially as described.

8. In a portable house, the combination with the rafters, of a cross-bar therefor, a roof covering on said rafters, a ridge timber arranged over said roof covering and a fastening means passing through said ridge timber, roof covering and rafter cross bar to tie the parts together, substantially as described.

865,591. CONVEYER. GEORGE C. HORST, Columbus, Ohio, assignor to Joseph A. Jeffrey, Columbus, Ohio. Filed Jan. 8, 1906. Serial No. 295,144.

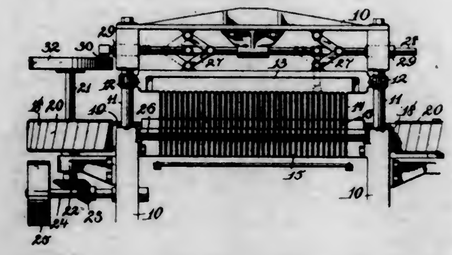
1. In a conveyer, the herein described chain wheel, comprising a polygonal central body portion and a series of angular bearing pieces fitted to the rim of the wheel body at the angles thereof, each bearing piece being provided with a side flange or rim, substantially as set forth.

2. In a conveyer, the combination of a web chain, comprising a plurality of broad, flat-surfaced links, and a wheel with which the chain engages, comprising a central body portion of polygonal shape, and a series of bearing pieces fitted in recesses in the rim of the wheel and formed with flat, unobstructed surfaces with which the said flat links of the chain engage, the said bearing pieces being provided with edge flanges, substantially as set forth.



3. In a conveyer, the combination of a web chain, comprising a plurality of flat links arranged side by side and a wheel with which the chain engages formed of two independent parts mounted upon a supporting shaft, each part comprising a central body and a series of bearing plates secured to the periphery thereof, each bearing plate being provided along its outer edge with a flange 9, substantially as set forth.

865,592. MATCH-MACHINE. WILLIAM F. HUTCHINSON, Nyack, N. Y., assignor to Sarnia Match Company, Sarnia, Ontario, Canada, a Corporation of Canada. Filed Sept. 20, 1906. Serial No. 335,501.



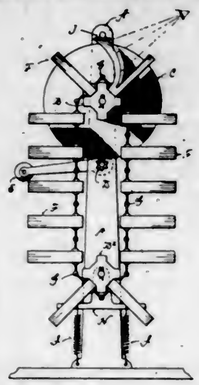
In a match machine, the combination of the reciprocating plungers and the grooved guide roller engaging the plungers, said plungers being recessed to engage the splints on one side, said plungers being held up to position by the grooved roller engaging the sides of the plungers opposite the recessed side.

865,593. MOTION-PICTURE APPARATUS. CHARLES F. JENKINS, Washington, D. C. Filed Oct. 22, 1906. Serial No. 339,988.

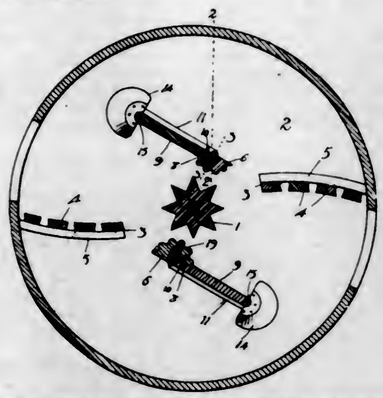
1. In motion picture apparatus, the combination of a series of articulatedly connected motion picture books, and means for exhibiting the pictures of said books, the point of articulation of the connecting means lying outside the plane of the books.

2. In motion picture apparatus, the combination of a series of flexibly connected motion picture books, a drum of such external conformation as to detachably hold and give motion to said books during the exhibition of the pictures thereon, and means for supporting and rotating said drum.

3. In motion picture apparatus, the combination of a series of flexibly connected motion picture books, a drum having longitudinal grooves therein to receive, detachably hold and impart motion to said books during the exhibition thereof, and means for supporting and rotating said drum.



865,594. COMBINED CHURN AND BUTTER-WORKER. AAGE JENSEN, Eureka, Cal. Filed June 28, 1907. Serial No. 381,200.



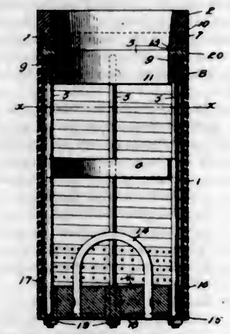
1. In a combined churn and butter worker, the combination, with the body of a churn, of a working roller, a working plate stationarily secured at a distance from said working roller and formed with protuberances or bosses to work the butter, and means for adjusting the position of said working plate to a greater or less distance from the working roller, substantially as described.

2. In a combined churn and butter worker, the combination, with the body of a churn, of a working roller, working plates stationarily secured at a distance from said working roller and formed with protuberances or bosses to work the butter, and means for adjusting the position of said working plates to a greater or less distance from the working roller, substantially as described.

3. In a combined churn and butter worker, the combination, with the body of a churn, of a working roller, and a working plate stationarily secured at a distance from said roller and grooved longitudinally and circumferentially, the projections between the grooves being in the form of round bosses, substantially as described.

4. In a combined churn and butter worker, the combination, with the body of a churn, of a central working roller, working plates extending between the heads of the churn and spaced from said working roller, and guide plates also extending between said heads, each secured at its inner edge to the corresponding working plate, substantially as described.

865,595. WELL-SCREEN. EDWARD E. JOHNSON, White Bear Lake, Minn. Filed Oct. 30, 1905. Serial No. 284,990.



1. A well screen comprising a screen tube, end rings for the same, longitudinal tension members connecting the end rings, and means for putting these tension members under tension.

2. A well screen comprising a screen tube, end rings for the same, longitudinal tension members connecting the end rings, means for putting these tension members under tension, and a spreader ring to keep the tension members in alinement.

3. A well screen tube embodying a seat ring and an annular packer supported on the seat ring and having an expansible portion.

4. In combination with a well screen tube, a seat ring attached thereto, and an expansible packer ring secured to and supported on the seat ring.

5. A well screen tube, an expansible packer ring, a seat ring carrying said packer ring, and being soldered to the screen tube.

6. In combination, a screen tube, a seat ring attached to the upper end thereof, and an expansible metal packer ring cast on the seat ring.

7. In combination, a screen tube, a seat ring attached thereto and having an annular portion fitting within the same and another annular portion outwardly projecting and abutting against the end of the screen tube, and a packer ring attached to said seat ring and supported on said outwardly extending annular portion.

8. In combination, a screen tube, a ring engaging each end thereof, and tension rods connecting said rings.

9. In combination, a screen tube, an annular ring at each end thereof, each ring having an outwardly extending annular portion engaging the adjacent end of the tube and another annular portion extending into the tube, tension rods connecting said rings and means for tightening them, and a packer ring on the upper ring.

10. In combination, a screen tube, a ring at each end thereof, tension rods connecting the rings, and a bail attached to the lower ring.

11. In combination, a screen tube, a ring for each end thereof, the lower ring having a bail cast into it, and means independent of the screen tube for connecting said rings.

865,596. RECEPTACLE FOR INSECT-CATCHING TAPE. SAMUEL V. KAY, Stockport, England, assignor to Kay Brothers Limited, Stockport, England. Filed Aug. 6, 1906. Serial No. 329,312.

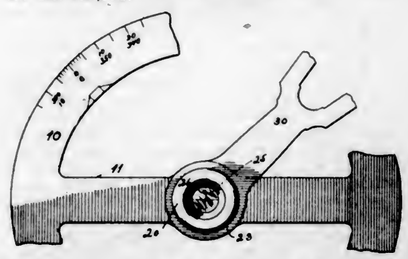
1. A case or receptacle composed of two similar side portions of sheet material provided centrally with recesses which form a chamber when said parts are secured together, said parts being also provided around said recesses with a projecting flange by means of which said parts are secured together.

2. A case or receptacle composed of two similar side portions of sheet material provided centrally with recesses which form a chamber when said parts are secured together, said parts being also provided around said recesses with a projecting flange by means of which said parts are secured together, and a strip of flexible sticky material folded in said chamber and one end of which is passed out



between the said flanges at one side of said chamber and by means of which said strip or tape may be withdrawn from said chamber.

865,597. PROTRACTOR. WILLIE L. E. KEUFFEL, Hoboken, N. J., assignor to The Keuffel & Esser Company, a Corporation of New Jersey. Filed June 17, 1904. Serial No. 212,923.



1. An instrument of the class described, comprising a member having an apertured bushing provided with cross lines, an arm mounted to be turned around said bushing and a spring interposed between said member and arm.

2. An instrument of the class described, comprising a member having an apertured bushing provided with cross lines which are located approximately in the plane of the base of said member, said aperture adapted to disclose said cross lines from a position which is laterally removed from the bushing, an arm mounted to be turned around said bushing and a spring interposed between said member and arm.

3. An instrument of the class described, comprising a limb, a bushing provided with a central aperture having cross lines, said bushing externally having the form of an interrupted stepped cone, means for securing one step of said bushing to said limb, a rotary arm encircling said bushing and engaging the other step thereof, and a spring interposed between said limb and arm.

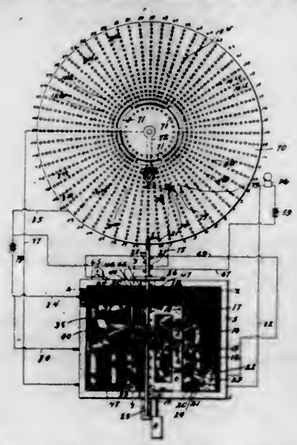
4. In an instrument of the class described, a limb, a bushing provided with a central conical aperture and having cross lines at the bottom thereof secured to said limb, a rotary arm encircling said bushing and a spring interposed between the limb and the arm.

5. In an instrument of the class described, a limb, a bushing provided with a central conical aperture and having cross lines at the bottom thereof secured to said limb, and provided with an overhanging flange, a rotary arm encircling said bushing and engaged by said flange and a spring interposed between the limb and the arm.

6. An instrument of the class described comprising a graduated member having a limb, a bushing applied to said limb and having an aperture and provided with cross lines arranged approximately in the plane of the lower surface of the instrument, said aperture being of gradually decreasing diameter from its top to its bottom, an arm

pivotally mounted to turn around said bushing, and a spring between said limb and arm.

865,598. PROGRAM-CLOCK. DE WITT H. LEAS, Delaware, Ohio. Filed Oct. 24, 1906. Serial No. 340,253.



1. In a device for actuating electric signals at predetermined intervals, the combination with a circuit closing mechanism, of an automatic switch located in the circuit controlled by said circuit closing mechanism, said automatic mechanism comprising a rotative disk, means for rotating said disk, a pivoted arm, a roller carried by said arm which rides upon the periphery of the disk, an electrical conductor, means for connecting said electrical conductor to said pivoted arm, a frame in which the disk is rotatably mounted, an electrical conductor connected to said frame, and removable insulating members carried by the disk and projecting beyond the periphery thereof to lift the roller out of contact with the disk, substantially as described.

2. In a device of the character described, the combination with a rotative time controlled member, of a circuit closing mechanism comprising a vertically movable bar, and members forming a part of the mechanism adapted to impart a step by step movement to said bar in a vertical direction, means for completing an electric circuit through said bar at predetermined intervals to thereby actuate an electric signal, and means for releasing said bar to return said bar to its original position after all of the desired signals have been sounded.

3. In a device of the character described, the combination with a circuit closing mechanism, of a time controlled member, means for completing an electric circuit to said circuit closing mechanism at predetermined intervals to release said circuit closing mechanism and permit the same to act to temporarily close an electric circuit, said circuit closing mechanism comprising a vertically movable bar to which the circuit closing mechanism is adapted to impart a step by step movement in a vertical direction, a latch adapted to hold said bar in its elevated position, and electrically controlled means adapted to withdraw said latch to permit the bar to drop.

4. In a device of the character described, the combination with a mechanism comprising a rotative gear wheel, a plurality of pins carried by said gear wheel, a vertically movable bar, means actuated by the mechanism for imparting a step by step movement to said bar, of an electro-magnet, a member adapted to be moved when said magnet is energized, and a member normally preventing rotation of the circuit closing mechanism.

5. In a device of the character described, the combination with a mechanism comprising a rotative gear wheel, a plurality of pins carried by said gear wheel, a vertically movable bar, means actuated by the mechanism for imparting a step by step movement to said bar, of an electro-magnet, a member adapted to be moved when said magnet is energized, a member normally preventing rotation of the circuit closing mechanism, a latch adapted to hold the vertically movable bar in its elevated positions, a second electro-magnet, and a member controllable by said electro-magnet which is adapted to withdraw said latch to permit the bar to drop.

6. In a device of the character described, the combination with time controlled members, one of which rotates once in one hour and the other of which rotates once in twelve hours, of a circuit closing mechanism, an electro-magnet adapted to release said circuit closing mechanism to permit the same to temporarily close an electric circuit, means for completing an electric circuit from the time controlled member which rotates once in an hour to said electro-magnet, a vertically movable bar which forms a part of the connection between said time controlled member and said electro-magnet, means for imparting a step by step movement to said vertically movable bar, a second electro-magnet, means for holding said vertically movable bar in its elevated position, and means for completing an electric circuit from the time controlled member which rotates once in twelve hours to said electro-magnet to thereby energize said magnet and release the vertically movable bar to permit said bar to return to its original position.

7. In a device of the character described, the combination with a circuit closing mechanism, of means for imparting movement to said circuit closing mechanism, an electro-magnet which normally holds said circuit closing mechanism against movement, time controlled means for completing a circuit through said electro-magnet at predetermined intervals, said circuit closing mechanism comprising a vertically movable bar, and means for imparting a step by step movement to said bar, a second electro-magnet, a latch for holding said bar in its elevated position, means for withdrawing said latch to permit the bar to drop when the second electro-magnet is energized, and means controllable by said second electro-magnet for actuating an automatic switch which is adapted to make and break an electric circuit.

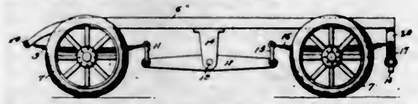
8. In a device of the character described, the combination with a rotative shaft, of a gear wheel mounted upon said shaft, means for imparting rotation to said shaft, pins carried by said gear wheel, a contact point with which said pins are adapted to engage to complete an electric circuit, a vertically movable bar having pins arranged upon each side thereof, said pins being staggered with relation to each other, rotative members actuated from the gear wheel which are adapted to engage said pins to impart a step by step movement to said bar, means for holding said bar in its elevated position, and an electro-magnet adapted to withdraw said means to permit the bar to drop.

9. In a device of the character described, the combination with a rotative shaft, of a gear wheel mounted upon said shaft, means for imparting rotation to said shaft, pins carried by said gear wheel, a contact point with which said pins are adapted to engage to complete an electric circuit, a vertically movable bar having pins arranged upon each side thereof, said pins being staggered with relation to each other, rotative members actuated from the gear wheel which are adapted to engage said pins to impart a step by step movement to said bar, means for holding said bar in its elevated position, an electro-magnet adaptedto withdraw said means to permit the bar to drop, and an automatic switch also controlled by said electro-magnet.

10. In a device of the character described, the combination with a rotative shaft, of a gear wheel mounted upon said shaft, means for imparting rotation to said shaft, pins carried by said gear wheel, a contact point with which said pins are adapted to engage to complete an electric circuit, a vertically movable bar having pins arranged upon each side thereof, said pins being staggered with relation to each other, rotative members actuated from the gear wheel which are adapted to engage said pins to impart a step by step movement to said bar, means for holding said bar in its elevated position, an electro-magnet adapted to withdraw said means to permit the bar to drop, a time controlled member which rotates once in an hour, and circuit closing members carried by said rotative members and adapted to contact with said vertically movable bar at predetermined intervals.

11. In a device of the character described, the combination with a rotative shaft, of a gear wheel mounted upon said shaft, means for imparting rotation to said shaft, pins carried by said gear wheel, a contact point with which said pins are adapted to engage to complete an electric circuit, a vertically movable bar having pins arranged upon each side thereof, said pins being staggered with relation to each other, rotative members actuated from the gear wheel which are adapted to engage said pins to impart a step by step movement to said bar, means for holding said bar in its elevated position, an electro-magnet adapted to withdraw said means to permit the bar to drop, a time controlled member which rotates once in an hour, circuit closing members carried by said member and adapted to contact with said vertically movable bar at predetermined intervals, an electro-magnet which is adapted to be energized when the circuit is completed through said bar, and a member carried by said electro-magnet which normally holds the circuit closing mechanism against operation.

865,599. VEHICLE-SPRING. JACOB O. LEWIS, Chicago, Ill. Filed Dec. 18, 1906. Serial No. 348,429.

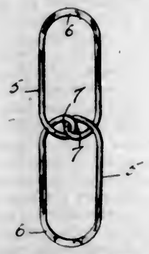


1. A vehicle having, in combination, front and rear axles, springs carried on said axles at each side of the vehicle body, and a cross lever fulcrumed at the middle under the vehicle frame and connecting springs on opposite sides to distribute shock or strain received by a spring on one side to the spring on the other.

2. A vehicle having, in combination, front and rear axles, springs carried on said axles at each side of the vehicle body, a lever connecting the springs on each side, and a lever connecting the springs on opposite sides, to distribute shock or strain received by springs on either side among the springs on both sides.

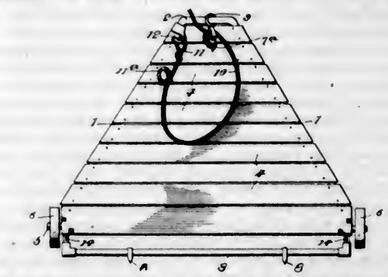
3. In a vehicle, the combination of longitudinal springs carried on the front and rear axles at each side of the vehicle body, the front springs being connected at their front ends to the vehicle body, a lever fulcrumed on the vehicle body at each side thereof and connected at its respective ends to the rear end of the front spring and the front end of the rear spring, and a cross lever fulcrumed on the vehicle body and connected at its ends to the rear ends of the rear springs.

865,600. LAP-LINK. ABIJAH LONG, Grandfalls, Tex. Filed June 27, 1906. Serial No. 323,669.



An article of the class described comprising a pair of link sections having each a pair of hooked ends and an intermediate loop or eye, the loop of one member being engaged through the loop of the other member and the two members being arranged to lie with their corresponding hooked ends upon each other.

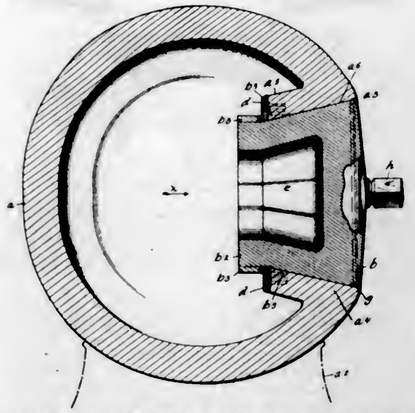
865,601. TRUCK. WILLIAM F. LOYD, Granville, Ohio. Filed May 8, 1907. Serial No. 372,517.



1. A truck comprising a framework, embodying front and rear cross bars and side bars, an axle secured to said framework, traveling wheels journaled in said axle, the peripheries of said wheels lying in a plane in front of the rear cross bar of the framework, and spurs projecting rearwardly from and mounted on the rear cross bar.

2. A truck, comprising a framework embodying forwardly converging side bars and front and rear cross bars, an axle secured to said framework, traveling wheels journaled in said axle, the peripheries of said wheels lying in a plane in front of the rear cross bar of the framework, a roller at the front of the truck, and a flooring or bed secured to said framework and to one portion of which the front roller is connected.

865,602. SAFE. ROBERT LYNN, High Bridge, N. J. Filed Feb. 28, 1907. Serial No. 359,734.

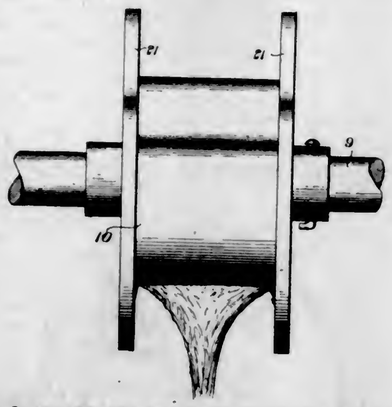


1. A steel safe having a rotatable door, the body portion of which is conical in form and provided with a smooth surface throughout, said door being of relatively great depth, said door being also provided with an inwardly directed cylindrical extension which projects inwardly of the jamb wall when the latter is closed, and is provided at its side with equally spaced locking lugs or projections, the jamb wall being tapered to correspond with the taper of the body portion of the door and being of a depth equal to the depth of the body portion of the door and being smooth and even throughout its surface except at the inner part thereof where it is provided with axially arranged recesses to permit of the passage of the locking lugs or projections on the door, the inner face of the jamb wall being also provided with cam blocks which are secured thereto and in connection with which the locking lugs or projections on the cylindrical extension of the door operate when the said door is closed and rotated.

2. A steel safe having a rotatable door, the body portion

of which is conical in form and provided with a smooth surface throughout, said door being of relatively great depth, said door being also provided with an inwardly directed cylindrical extension which projects inwardly of the jamb wall when the latter is closed, and is provided at its side with equally spaced locking lugs or projections, the jamb wall being tapered to correspond with the taper of the body portion of the door and being of a depth equal to the depth of the body portion of the door and being smooth and even throughout its surface except at the inner part thereof where it is provided with axially arranged recesses to permit of the passage of the locking lugs or projections on the door, the inner face of the jamb wall being also provided with wedge-shaped cam blocks which are secured thereto after the door has been fully fitted and seated by rotating the same in the jamb wall and in connection with which the locking lugs or projections on the cylindrical extension of the door operate when the said door is closed and rotated, said cam blocks being secured to inserts cast in the inner face portion of the door jamb.

865,603. APPARATUS FOR MAKING LAMPBLACK. JOHN L. MANN, Smithton, W. Va. Filed Nov. 20, 1906. Serial No. 344,350.



1. In apparatus for making carbon black, a carbon collecting member, the different portions of the surface of which are exposed successively to the flame, said member having its edges provided with flanges forming flame guards.

2. In an apparatus for making carbon black, a carbon collecting member having a continuous surface, of which the different portions are exposed successively to the flame, and provided with flanges forming a flame guard.

3. In apparatus for making carbon black, a movable carbon collecting member, and a flame guard carried thereby.

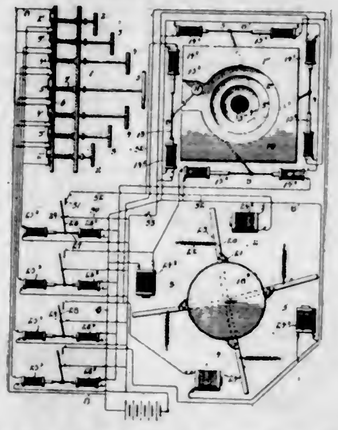
4. In apparatus for making carbon black, a carbon collecting wheel having edge flanges forming a flame guard.

5. In apparatus for making carbon black, a carbon collecting wheel provided with a pair of spaced annular flanges, defining the limits of the carbon depositing surface.

865,604. TARGET. AUGUST C. MEYER, Worcester, Mass. Filed Jan. 4, 1906. Serial No. 294,661.

1. In a score keeping device, a target having movably mounted value rings, and an electric circuit arranged to be closed by the movement of the rings, in combination, with an indicator having corresponding values, markers operated by the closing of the circuit to indicate the value corresponding to the location of a hit upon the target, and a register operated by the closing of the circuit to register the total value of such hit added to the previous score.

2. In a score keeping device, a target having movably mounted value rings, and an electric circuit arranged to be closed by the movement of the rings, in combination, with an indicator having corresponding value rings, a marker for each ring, means operated by the closing of the circuit to expose a marker in a position corresponding in value to the location of the hit upon the target, and a register comprising a dial with an index, a pointer, and means operated by the closing of the circuit to advance the pointer along the index to register the total value of such hit added to the previous scale.



3. In a score keeping device, a target having movably mounted value rings, a normally open electric circuit, and a circuit closer arranged to be operated by the movement of each value ring, in combination, with an indicator having corresponding value rings, a marker for each ring, means operated by the closing of the circuit to expose a marker in a position corresponding in value to the location of the hit upon the target, and a register comprising a dial with an index, a pointer, and means operated by the closing of the circuit to advance the pointer along the index to register the total value of such hit added to the previous scale.

4. In a score keeping device, a target, a normally open electric circuit, circuit closers corresponding to the value rings of the target and arranged to be operated by a hit thereon, an indicator having values corresponding to those of the target, markers coöperating therewith, solenoids for actuating the markers, an open switch in the circuit of each of said solenoids, another solenoid for closing each switch upon the closing of the circuit by a hit, and means for opening such switch.

5. In a score keeping device, a target, a normally open electric circuits, circuit closers corresponding to the value rings of the target and arranged to be operated by a hit thereon, an indicator having values corresponding to those of the target, markers coöperating therewith, solenoids for bringing the markers into operation, an open switch in the circuit of each of said solenoids, another solenoid for closing each switch upon the closing of the circuit by a hit, another solenoid for opening such switch, and means for establishing a circuit through said last named solenoid.

6. In a score keeping device, a target having movably mounted value rings, a normally open electric circuit, circuit closers corresponding to the value rings of the target and arranged to be closed by the movement thereof under the influence of a hit, an indicator having corresponding value rings, a marker for each ring, a solenoid for bringing each marker into operation, an open switch in the circuit of each of said solenoids, another solenoid for closing such switch upon the closing of the circuit by a hit, a third solenoid for restoring the marker to its inoperative position, a fourth solenoid for opening the switch, and means for establishing a circuit to energize the two last named solenoids.

7. In a score keeping device, a target, a normally open electric circuit, circuit closers corresponding to the value rings of the target and arranged to be closed by a hit thereon, an indicator having values corresponding to those of the target, markers coöperating therewith, electrically operated means for actuating the markers, an open switch in the circuit of each marker, electrically operated means for closing each switch upon the closing of the circuit by a hit, and means for opening such switch, in combination, with a register operated by the closing of the circuit through the switch to register the total value of such hit added to the previous score.

8. In a score keeping device, a target, a normally open electric circuit, circuit closers corresponding to the value rings of the target and arranged to be closed by a hit thereon, an indicator having values corresponding to those of the target, markers coöperating therewith, electrically operated means for actuating the markers, an open switch in the circuit of each marker, electrically operated means for closing each switch upon the closing of the circuit by a hit, and means for opening such switch, in combination, with a register comprising a dial with an index, a pointer, and means operated by the closing of the circuit through the switch to advance the pointer along the index to register the total value of such hit added to the previous score.

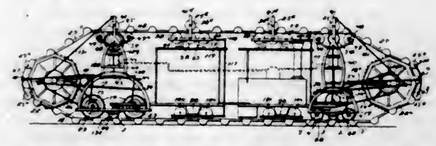
9. In a score keeping device, a target having movably mounted value rings, a normally open electric circuit, circuit closers corresponding to the value rings of the target and arranged to be closed by the movement thereof under the influence of a hit, an indicator having corresponding value rings, a marker for each ring, a solenoid for bringing each marker into operation, an open switch in the circuit of each of said solenoids, another solenoid for closing such switch upon the closing of the circuit by a hit, a third solenoid for restoring the marker to its inoperative position, a fourth solenoid for opening the switch, and means for establishing a circuit to energize the two last named solenoids, in combination, with a register comprising a dial with an index, a pointer, and means operated by the closing of the circuit through the switch to advance the pointer along the index to register the total value of such hit added to the previous score.

10. In a score keeping device, a target having movably mounted value rings, a normally open electric circuit, circuit closers corresponding to the value rings of the target and arranged to be closed by the movement thereof under the influence of a hit, an indicator having corresponding value rings, a marker for each ring carried by a lever, a pair of solenoids having their cores connected with each other and with the marker, an open switch in the circuit of each pair of solenoids, a second pair of solenoids having their cores connected with each other and with the switch, one solenoid of the second pair energized by the closing of the circuit by a hit to close the switch and one solenoid of the first pair energized by the closing of the circuit through the switch to bring the marker into operation, and means for establishing a circuit to energize the second member of each pair to restore the marker to its inoperative position and to open the switch.

11. In a score keeping device, a target having movably mounted value rings, a normally open electric circuit, circuit closers corresponding to the value rings of the target and arranged to be closed by the movement thereof under the influence of a hit, an indicator having corresponding value rings, a marker for each ring carried by a lever, a pair of solenoids having their cores connected with each other and with the marker, an open switch in the circuit of each pair of solenoids, a second pair of solenoids having their cores connected with each other and with the switch, one solenoid of the second pair energized by the closing of the circuit by a hit to close the switch and one solenoid of the first pair energized by the closing of the circuit through the switch to bring the marker into operation, and means for establishing a circuit to energize the second member of each pair to restore the marker to its inoperative position and to open the switch, in combination, with a register comprising a dial with an index, a pointer, and means operated by the closing of the circuit through the switch to advance the pointer along the index to register the total value of such hit added to the previous score.

12. In a score keeping device, a target having movably mounted value rings, a normally open electric circuit, circuit closers corresponding to the value rings of the target and arranged to be closed by the movement thereof under the influence of a hit, an indicator having corresponding value rings, a marker for each ring carried by a lever, a pair of solenoids having their cores connected with each other and with the marker, an open switch in the circuit of each pair of solenoids, a second pair of solenoids having their cores connected with each other and with the switch, one solenoid of the second pair energized by the closing of the circuit by a hit to close the switch and one solenoid of the first pair energized by the closing of the circuit through the switch to bring the marker into operation, and means for establishing a circuit to energize the second member of each pair to restore the marker to its inoperative position and to open the switch, in combination, with a register comprising a dial with an index, a pointer, a ratchet carrying the pointer, magnets energized by the closing of the circuit through the switches and corresponding to the value rings of the target, a lever carrying a pawl in engagement with the ratchet and arranged as an armature before a magnet and at a distance therefrom sufficient to move said lever upon the energizing of the magnet and give the ratchet a throw equivalent to the value of the corresponding value ring of the target, and means for restoring the lever and pawl to its position upon the deënergizing of the magnet by the opening of the switch.

865,605. RACK TRACTION-ENGINE. PHILIPPE MONTSABRE, Fresno, Cal. Filed Nov. 17, 1905. Serial No. 287,908.



1. A mechanism of the character stated which embodies the following elements in combination, a car body, a truck that supports the said body, an endless flexible track with which the car truck engages, means for supporting and conveying a portion of the endless track upon and over the car, and another means for laying and picking up the track, said means including a source of propelling power on the cars.

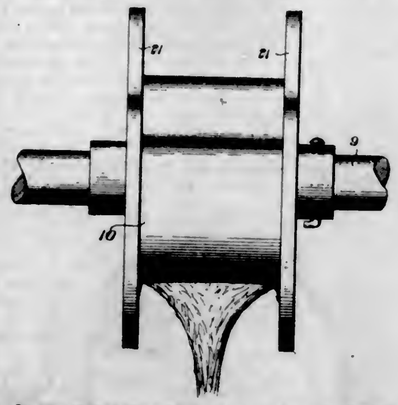
2. In an apparatus of the character stated, a car, an endless flexible track for the car, means mounted on the car for supporting and turning the track overhead, another means carried by the car including a source of propelling power which coöperates with the track for moving the car over a portion of the track and coöperatively moving a portion of the track over the car, and mechanism sustained by the endless carrier and coöperatively joined with the propelling force mounted on the car for laying and picking up the track.

3. In an apparatus of the character stated, a plurality of cars, an endless flexible track for the said cars, means carried by the said cars for supporting and turning the track overhead, another means supported on some of the cars and coöperating with the track for moving the cars over a portion of the said track and coöperatively moving a portion of the track over the cars and devices supported by the carrier and coöperatively connected with the car for continuously laying and picking up the track, as set forth.

4. In an apparatus of the character stated, an endless track, a means coöperatively mounted upon the track at each looped end thereof, said means including an overhead support over which one portion of the track passes, another means coöperatively joined with each looped end of

of which is conical in form and provided with a smooth surface throughout, said door being of relatively great depth, said door being also provided with an inwardly directed cylindrical extension which projects inwardly of the jamb wall when the latter is closed, and is provided at its side with equally spaced locking lugs or projections, the jamb wall being tapered to correspond with the taper of the body portion of the door and being of a depth equal to the depth of the body portion of the door and being smooth and even throughout its surface except at the inner part thereof where it is provided with axially arranged recesses to permit of the passage of the locking lugs or projections on the door, the inner face of the jamb wall being also provided with wedge-shaped cam blocks which are secured thereto after the door has been fully fitted and seated by rotating the same in the jamb wall and in connection with which the locking lugs or projections on the cylindrical extension of the door operate when the said door is closed and rotated, said cam blocks being secured to inserts cast in the inner face portion of the door jamb.

865,603. APPARATUS FOR MAKING LAMPBLACK. JOHN L. MANN, Smithton, W. Va. Filed Nov. 20, 1906. Serial No. 344,350.



1. In apparatus for making carbon black, a carbon collecting member, the different portions of the surface of which are exposed successively to the flame, said member having its edges provided with flanges forming flame guards.

2. In an apparatus for making carbon black, a carbon collecting member having a continuous surface, of which the different portions are exposed successively to the flame, and provided with flanges forming a flame guard.

3. In apparatus for making carbon black, a movable carbon collecting member, and a flame guard carried thereby.

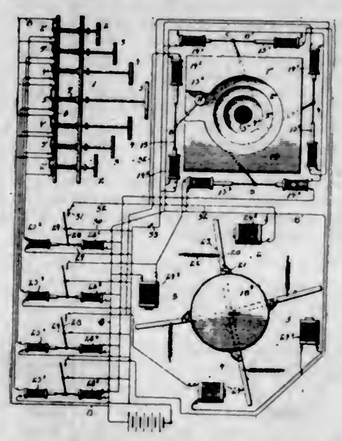
4. In apparatus for making carbon black, a carbon collecting wheel having edge flanges forming a flame guard.

5. In apparatus for making carbon black, a carbon collecting wheel provided with a pair of spaced annular flanges, defining the limits of the carbon depositing surface.

865,604. TARGET. AUGUST C. MEYER, Worcester, Mass. Filed Jan. 4, 1906. Serial No. 294,661.

1. In a score keeping device, a target having movably mounted value rings, and an electric circuit arranged to be closed by the movement of the rings, in combination, with an indicator having corresponding values, markers operated by the closing of the circuit to indicate the value corresponding to the location of a hit upon the target, and a register operated by the closing of the circuit to register the total value of such hit added to the previous score.

2. In a score keeping device, a target having movably mounted value rings, and an electric circuit arranged to be closed by the movement of the rings, in combination, with an indicator having corresponding value rings, a marker for each ring, means operated by the closing of the circuit to expose a marker in a position corresponding in value to the location of the hit upon the target, and a register comprising a dial with an index, a pointer, and means operated by the closing of the circuit to advance the pointer along the index to register the total value of such hit added to the previous scale.



3. In a score keeping device, a target having movably mounted value rings, a normally open electric circuit, and a circuit closer arranged to be operated by the movement of each value ring, in combination, with an indicator having corresponding value rings, a marker for each ring, means operated by the closing of the circuit to expose a marker in a position corresponding in value to the location of the hit upon the target, and a register comprising a dial with an index, a pointer, and means operated by the closing of the circuit to advance the pointer along the index to register the total value of such hit added to the previous scale.

4. In a score keeping device, a target, a normally open electric circuit, circuit closers corresponding to the value rings of the target and arranged to be operated by a hit thereon, an indicator having values corresponding to those of the target, markers coöperating therewith, solenoids for actuating the markers, an open switch in the circuit of each of said solenoids, another solenoid for closing each switch upon the closing of the circuit by a hit, and means for opening such switch.

5. In a score keeping device, a target, a normally open electric circuits, circuit closers corresponding to the value rings of the target and arranged to be operated by a hit thereon, an indicator having values corresponding to those of the target, markers coöperating therewith, solenoids for bringing the markers into operation, an open switch in the circuit of each of said solenoids, another solenoid for closing each switch upon the closing of the circuit by a hit, another solenoid for opening such switch, and means for establishing a circuit through said last named solenoid.

6. In a score keeping device, a target having movably mounted value rings, a normally open electric circuit, circuit closers corresponding to the value rings of the target and arranged to be closed by the movement thereof under the influence of a hit, an indicator having corresponding value rings, a marker for each ring, a solenoid for bringing each marker into operation, an open switch in the circuit of each of said solenoids, another solenoid for closing such switch upon the closing of the circuit by a hit, a third solenoid for restoring the marker to its inoperative position, a fourth solenoid for opening the switch, and means for establishing a circuit to energize the two last named solenoids.

7. In a score keeping device, a target, a normally open electric circuit, circuit closers corresponding to the value rings of the target and arranged to be closed by a hit thereon, an indicator having values corresponding to those of the target, markers coöperating therewith, electrically operated means for actuating the markers, an open switch in the circuit of each marker, electrically operated means for closing each switch upon the closing of the circuit by a hit, and means for opening such switch, in combination, with a register operated by the closing of the circuit through the switch to register the total value of such hit added to the previous score.

8. In a score keeping device, a target, a normally open electric circuit, circuit closers corresponding to the value rings of the target and arranged to be closed by a hit thereon, an indicator having values corresponding to those of the target, markers coöperating therewith, electrically operated means for actuating the markers, an open switch in the circuit of each marker, electrically operated means for closing each switch upon the closing of the circuit by a hit, and means for opening such switch, in combination, with a register comprising a dial with an index, a pointer, and means operated by the closing of the circuit through the switch to advance the pointer along the index to register the total value of such hit added to the previous score.

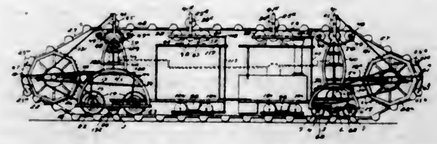
9. In a score keeping device, a target having movably mounted value rings, a normally open electric circuit, circuit closers corresponding to the value rings of the target and arranged to be closed by the movement thereof under the influence of a hit, an indicator having corresponding value rings, a marker for each ring, a solenoid for bringing each marker into operation, an open switch in the circuit of each of said solenoids, another solenoid for closing such switch upon the closing of the circuit by a hit, a third solenoid for restoring the marker to its inoperative position, a fourth solenoid for opening the switch, and means for establishing a circuit to energize the two last named solenoids, in combination, with a register comprising a dial with an index, a pointer, and means operated by the closing of the circuit through the switch to advance the pointer along the index to register the total value of such hit added to the previous score.

10. In a score keeping device, a target having movably mounted value rings, a normally open electric circuit, circuit closers corresponding to the value rings of the target and arranged to be closed by the movement thereof under the influence of a hit, an indicator having corresponding value rings, a marker for each ring carried by a lever, a pair of solenoids having their cores connected with each other and with the marker, an open switch in the circuit of each pair of solenoids, a second pair of solenoids having their cores connected with each other and with the switch, one solenoid of the second pair energized by the closing of the circuit by a hit to close the switch and one solenoid of the first pair energized by the closing of the circuit through the switch to bring the marker into operation, and means for establishing a circuit to energize the second member of each pair to restore the marker to its inoperative position and to open the switch.

11. In a score keeping device, a target having movably mounted value rings, a normally open electric circuit, circuit closers corresponding to the value rings of the target and arranged to be closed by the movement thereof under the influence of a hit, an indicator having corresponding value rings, a marker for each ring carried by a lever, a pair of solenoids having their cores connected with each other and with the marker, an open switch in the circuit of each pair of solenoids, a second pair of solenoids having their cores connected with each other and with the switch, one solenoid of the second pair energized by the closing of the circuit by a hit to close the switch and one solenoid of the first pair energized by the closing of the circuit through the switch to bring the marker into operation, and means for establishing a circuit to energize the second member of each pair to restore the marker to its inoperative position and to open the switch, in combination, with a register comprising a dial with an index, a pointer, and means operated by the closing of the circuit through the switch to advance the pointer along the index to register the total value of such hit added to the previous score.

12. In a score keeping device, a target having movably mounted value rings, a normally open electric circuit, circuit closers corresponding to the value rings of the target and arranged to be closed by the movement thereof under the influence of a hit, an indicator having corresponding value rings, a marker for each ring carried by a lever, a pair of solenoids having their cores connected with each other and with the marker, an open switch in the circuit of each pair of solenoids, a second pair of solenoids having their cores connected with each other and with the switch, one solenoid of the second pair energized by the closing of the circuit by a hit to close the switch and one solenoid of the first pair energized by the closing of the circuit through the switch to bring the marker into operation, and means for establishing a circuit to energize the second member of each pair to restore the marker to its inoperative position and to open the switch, in combination, with a register comprising a dial with an index, a pointer, a ratchet carrying the pointer, magnets energized by the closing of the circuit through the switches and corresponding to the value rings of the target, a lever carrying a pawl in engagement with the ratchet and arranged as an armature before a magnet and at a distance therefrom sufficient to move said lever upon the energizing of the magnet and give the ratchet a throw equivalent to the value of the corresponding value ring of the target, and means for restoring the lever and pawl to its position upon the deënergizing of the magnet by the opening of the switch.

865,605. RACK TRACTION-ENGINE. PHILIPPE MONTSABRÉ, Fresno, Cal. Filed Nov. 17, 1905. Serial No. 287,908.



1. A mechanism of the character stated which embodies the following elements in combination, a car body, a truck that supports the said body, an endless flexible track with which the car truck engages, means for supporting and conveying a portion of the endless track upon and over the car, and another means for laying and picking up the track, said means including a source of propelling power on the cars.

2. In an apparatus of the character stated, a car, an endless flexible track for the car, means mounted on the car for supporting and turning the track overhead, another means carried by the car including a source of propelling power which coöperates with the track for moving the car over a portion of the track and coöperatively moving a portion of the track over the car, and mechanism sustained by the endless carrier and coöperatively joined with the propelling force mounted on the car for laying and picking up the track.

3. In an apparatus of the character stated, a plurality of cars, an endless flexible track for the said cars, means carried by the said cars for supporting and turning the track overhead, another means supported on some of the cars and coöperating with the track for moving the cars over a portion of the said track and coöperatively moving a portion of the track over the cars and devices supported by the carrier and coöperatively connected with the car for continuously laying and picking up the track, as set forth.

4. In an apparatus of the character stated, an endless track, a means coöperatively mounted upon the track at each looped end thereof, said means including an overhead support over which one portion of the track passes, another means coöperatively joined with each looped end of

the track for laying and taking up the track and a source of energy for propelling the said laying and taking up means, substantially as shown and described.

5. In an apparatus as described, a plurality of supporting cars, an endless flexible track for the said cars, the latter having overhead means for sustaining the upper portion of a track, a motor on each of the said cars for propelling the car wheels on the endless track, and mechanism projecting outwardly from each supporting car that coacts with the flexible track and is adapted to lay or to take up the said track as set forth.

6. In a combined mechanism of the character stated, a plurality of cars, an endless flexible track for the said cars, means sustained upon each car for supporting the overhead portion of the flexible track and for laying or taking up the track, and another means mounted on some of the cars for moving said cars along on the endless flexible track, as set forth.

7. In combination with an endless flexible track, a car mounted thereon at each end of the track, and having track wheels for engaging the bottom portion of the track, a truck wheel mounted on the upper end of each car for engaging the upper portion of the track and means sustained on each car for laying and elevating the track, actuated by the movement of the cars on the said track and a propelling means on some of the cars for conveying the cars along on the bottom portion of the endless track.

8. In combination with an endless track composed of sections flexibly joined to relatively bend in longitudinal and lateral directions, a tread frame portion for each of said sections, the said sections including a central longitudinally extended rack; of a traction car mounted in each of the looped ends of the endless track, said cars having bottom traction wheels for engaging the rack portion of the track sections and each having an overhead drive gear for supporting and engaging the rack on the track sections, and means carried on the cars coöperatively connected with the bottom traction wheel and with the overhead traction gears for imparting motion to the said wheels and gears, for the purposes specified.

9. In an apparatus of the character stated, a pilot traction car, a rear traction car, an endless flexible track with which the cars engage, supports on the cars for sustaining the overhead portion of the endless flexible track, connections that join the cars with the track sections for turning the said cars with the lateral flexure of the track, and means mounted on the cars that coöperate with the track for moving the said cars along the track and simultaneously moving the overhead portion of the track.

10. In combination with an endless flexible track, composed of sections having connections for effecting longitudinal and lateral flexure of the track; of cars mounted on the bottom section of the track, one at each end thereof, means on the cars for sustaining the overhead portion of the track and another means on the cars for moving the said cars forward on the bottom or base portion of the endless track and simultaneously conveying the overhead portion of the track rearwardly, as set forth.

11. In an apparatus of the character described, in combination with an endless flexible track; of a pilot traction car, a rear traction car, an intermediate frame, a truck on which the frame is rotatably mounted, means rotatably supported on the top of the frame carrying roller supports with which the overhead portion of the endless track engages, the connections of the supports and the track being such that the flexure of the track turns the said supports with the track, intermediate members that join the said rotary roller carrying means with the truck on the said frame adapted for turning the said truck in harmony with the rotary movement of the rotary carrier, mechanism on the traction cars for moving said cars forwardly upon the endless flexible track and at the same time moving the overhead portion of the said track rearwardly, as set forth.

12. In an apparatus of the character described, an endless flexible track which includes a pair of side tread rail sections and an intermediate sectional rack rail, a plurality of traction cars movable along the said track and each of which includes the traction truck having cog gears for coöperating with the intermediate rack rail sections and side balance wheels for coöperating with the side tread rails and mechanism on the cars for simultaneously laying one portion of the endless track and taking up and conveying the remainder of the track rearwardly.

13. An apparatus of the character described, comprising an endless track composed of sectional side tread rails and a sectional intermediate rack rail, traction cars movable on the said track, means on one of the cars for laying down the track section, means on another car for picking up the track section, a traction truck for each of the cars, each truck including cog wheels for engaging the central or rack rail sections of the track, and side balance wheel for engaging with and coöperating with the side tread rails, means for moving the car forwardly simultaneously with the laying of one part of the track and the picking up of the other part thereof.

14. An apparatus of the character described, comprising an endless track composed of sectional side tread rails and a sectional intermediate rack rail, said rack rail having laterally disposed smooth bearing flanges, traction cars movable on the said track, means on one of the cars for laying down the track sections, means on another one of the cars for picking up the said track sections, a traction truck for each of the said cars, each truck including traction wheels having a cog rim and lateral bearing flanges for engaging the lateral smooth bearing flanges of the rack rail sections and having side balance wheels for engaging, and coöperating with the side track tread rails and means on the car for moving them forwardly on the track as the track is being laid and picked up, substantially as shown and described.

15. An apparatus of the character stated, comprising an endless track composed of side tread rails and an intermediate rack 27 provided with a pair of adjacent bearing flanges 35—35 front and rear traction cars movable on the said track, means on the front traction car for laying down the sectional track and means on the rear traction car for picking up the said track, a traction truck for each of the said cars which includes a main frame, a pair of double flanged cog wheels mounted on the main frame for coöperating with the rack 27 and its adjacent bearing flanges 35, side balance wheels 3 mounted on the said main frame for coöperating with the side tread rails, a vertical frame member 39—40 mounted on the truck main frame, a standard 41 secured on the top of said vertical frame member, a polygonal drum having a cog rim mounted upon the pilot traction truck and in front thereof, a similar drum and cog gear mounted on the rear traction truck, said cog gear drums coöperating with the intermediate rack rails 27, each of the said drums having bearing flanges for engaging with the bearing flanges 35—35 of the rack rail sections, and means for turning the drum wheels and maintaining the flexible track thereon, substantially as shown and described.

16. An apparatus of the character described comprising an endless track composed of sectional flexibly joined side tread rails having Y portions, an intermediate section flexibly joined rail having a central rack portion 27 and adjacent smooth bearing flanges 35—35, traction cars movable on said endless track, said cars including a traction truck, composed of a horizontal main frame formed of a series of longitudinal beams and cross beams that join the longitudinal beams, a plurality of centrally disposed drive wheels mounted on the track, each having a central peripheral cog rim and a flat lateral flange on each side of the cog rim for coöperating with the track rack 27 and the bearing flanges 35—35, a pair of balance wheels 3 mounted on the outer longitudinal beams of the track frame for engaging the side bearing rails of the endless track and means carried on the car that coöperate with the endless track for moving the cars forward upon the track and simultaneously laying one part of the track and picking up the other part thereof.

17. An apparatus of the character stated, comprising an endless flexible track in which is included tread and rack rails, a plurality of traction cars movable upon the said track, each traction car including a traction truck in which is embodied a horizontally disposed main frame, a vertical frame mounted on the main frame, means mounted on the top of the vertical frame members for supporting the overhead portion of the track and other means mounted on the cars for moving the cars forward, laying one portion of the track as the other portion is being picked up, substantially as shown and described.

18. An apparatus of the character stated, comprising an endless flexible track which includes side treads and a central rack rail, a plurality of traction cars movable on the said track, each of which includes a truck in which is embodied a main frame, composed of three pairs of longitudinal beams and a pair of connecting cross beams, vertically extended frame members 39 and 40 mounted upon the said main frame, said vertical frame members consisting of curved sections extending upwardly, one pair of vertical frame members being secured on each side of the traction truck, an intermediate pair of vertical frame members secured on the inside longitudinal beams of the said truck, means for bracing the frames transversely, means mounted on the top of the vertical frame members for supporting the overhead portion of the track and means for moving the said cars toward the track and simultaneously laying one portion of the said track as the other portion thereof is picked up and conveyed forward as set forth.

19. An apparatus of the character stated comprising an endless flexible track which includes side tread and central rack rails, a plurality of traction cars mounted on the said track, each car including a truck in which is embodied a horizontally disposed main frame, vertical frame members supported on the main frame, said vertical frame members including an intermediate pair of frames, the transverse brace rod 130 for securing together the plurality of vertical frame members, the drive cog wheel 50 mounted on the top of the intermediate pair of vertical frames for coöperating with the rack rails and means on the cars for moving the cars forward, laying one portion of the endless track while at the same time picking up another portion thereof and feeding the overhead section forward, as set forth.

20. In an apparatus of the character stated, an endless track composed of a plurality of sections flexibly joined with one another, each of the said sections including a supporting frame member, a pair of side tread rails and a centrally disposed rack rail carried by the supporting frame.

21. In an apparatus of the character stated, an endless track composed of a plurality of sections flexibly connected with one another, each of said sections including a supporting frame, a centrally disposed rack rail mounted on the supporting frame, tread rail sections on each side of the said supporting frame and means for connecting the said tread rail sections to the supporting frame.

22. An apparatus of the character stated, an endless track composed of a plurality of sections flexibly combined with one another, each of said sections including a supporting frame, a centrally disposed rack rail mounted on the said supporting frame, tread rail members on each side of the said supporting frame, a transverse bar 82 centrally sustained upon the supporting frame, said bar 82 having its opposite ends connected with the tread rail sections and means for connecting the said tread rail links or sections together.

23. In an apparatus of the character described, an endless track composed of a plurality of sections flexibly connected with one another, each of said sections including a supporting frame, a centrally disposed rack rail mounted on the supporting frame, the outer tread rail sections, the transverse bar 82 sustained by the supporting frame and connected at the opposite ends with the tread rail sections, said tread rail sections including Y-shaped portions, the said Y-shaped portions having elongated slots 97—97^a, the transverse jointer rod 89 that passes through the slots 97—97^a, means for pivotally connecting each Y-shaped tread rail member with the next preceding Y-shaped tread rail member and another means for supporting the said track tread rail section over the ground.

24. In an apparatus of the character stated, an endless track composed of a plurality of sections flexibly connected with one another, each of the said sections including a supporting frame, a centrally disposed rack rail section, a pair of opposite side tread rail sections, auxiliary rod rail links connected to the said supporting frame, pivot holders connecting the several track sections, a transverse axle jointer to connect the opposite tread rail sections, sectional traction feed connected to said track sections and means for coöperatively connecting the supporting frame, the central rack rail, the side tread rail, pivot holders, auxiliary rod rail, transverse rod jointer, and the sectional traction feed, for the purposes specified.

25. In an apparatus of the character described, a pilot traction car, a rear traction car, a vertical frame on each of the cars, overhead rollers on the upper ends of said frames, an endless flexible track for the cars, a portion of which is coöperatively supported and turned by the overhead rollers, means mounted on the vertical frame for propelling the cars along the track and simultaneously moving the overhead track portion forward, and means sustained by the pilot car for laying the track and another means sustained by the rear traction car for picking up the track, as set forth.

26. An apparatus of the character described, comprising the following elements in combination; an endless flexible track composed of sectional opposing side tread rails, and an intermediate sectional rack rail, the several rail sections being pivotally joined for vertical and lateral flexure, a pair of traction cars movable on the said track, said cars having means for sustaining and guiding the overhead portions of the track, propelling mechanism mounted on the cars for moving the said cars forward, an automatically operated track laying means sustained by the forward one of the track cars, and an automatically actuated means sustained by the rear traction car for picking up the track and conveying it overhead.

27. A traction mechanism of the character stated, which comprises the following elements in combination; an endless flexible track composed of sectional side tread rails, an intermediate sectional rack rail, said sectional rack rail members being pivotally joined for vertical and lateral flexure, a pair of traction cars movable on the track, means on the top of the said cars for sustaining the overhead track portion, the said means being pivotally mounted to turn in the horizontal plane, a propelling mechanism mounted on the cars for moving them forward, means sustained by the forward one of the cars for laying the track and a means sustained on the rear traction car for picking up the track and conveying it overhead, as set forth.

28. An apparatus of the character described, comprising an endless flexible track composed of side tread rails, an intermediate rack rail, traction cars movable on the said flexible track, each of said cars embodying a traction truck, a pair of longitudinally alining and centrally disposed drive cog gears 16—4, a pair of oppositely disposed balance wheels mounted on the truck frame, the wheel 16—4 being arranged to engage the rack rails of the flexible track, and a balance wheel for engaging the opposing rail to the track, the outermost vertical frames and the intermediate vertical frames 39 and 40 mounted on the track frame, means for bracing the several vertical frames laterally, a third drive cog wheel 50 mounted on the intermediate vertical frame that coöperates with the rack rails of the endless track, means for coöperatively connecting the aforesaid three drive cog wheels whereby to move them in unison, and means on the cars for propelling the said cars forward and simultaneously laying the track at the forward end and picking it up at the rack end, as set forth.

29. An apparatus of the character described, comprising an endless flexible track composed of side tread rails, an intermediate rack rail, traction cars movable on the said flexible track, each of said cars embodying a traction truck, a pair of longitudinally alining and centrally disposed drive cog gears 16—4, a pair of oppositely disposed balance wheels mounted on the track frame, the wheel

16—4 being arranged to engage the rack rails of the flexible track and the balance wheel for engaging the opposing rail to the track, the outermost vertical frames and the intermediate vertical frames 39 and 40 mounted on the track frame, means for bracing the several vertical frames laterally, a third drive cog wheel 50 mounted on the intermediate vertical frame that coöperates with the rack rails of the endless track, means for coöperatively connecting the aforesaid three drive cog wheels whereby to move them in unison, the overhead side rollers 49 mounted on the top of each outer pair of vertical frame members for coöperating with the side tread rollers of the flexible track, and means on the cars for propelling the said cars forward and simultaneously laying the track at the forward end and picking it up at the other end, as set forth.

30. An apparatus of the character described comprising an endless flexible track, composed of side sectional tread rails and a sectional intermediate rack rail, a plurality of cars movable on the said track, each of said cars comprising a traction truck in which is embodied a horizontally disposed main frame, a pair of centrally disposed drive cog wheels 16—4 mounted on the said main frame for coöperating with the intermediate rack rail of the endless flexible track, side balance wheels mounted on the said main frame for coöperating with the side tread rails of the track, vertically disposed frame members being mounted on the horizontally disposed main frame of the track, said frame members being formed of upwardly extending curved sections, one pair of the vertical frame members 39—40 being secured on each side of the traction truck, another pair of vertical frame members secured intermediate the outer vertical frame members, a transverse brace rod 130 for bracing the plurality of vertical frame members together, a third drive cog wheel 50 mounted on the intermediate pair of vertical frame members and near their top to coöperate with the intermediate rack rail sections of the track, means for connecting the said third drive cog wheel 50 to the first mentioned drive cog wheel 16—4 whereby the several drive cog wheels will be caused to move in unison with the overhead side roller 49 carried on top of one pair of the vertical frame members secured on each side of the traction truck for coöperating with the tread rail members of the endless track, said side rollers 49 being arranged in two sets, one set on each side of the traction track, each set of said rollers 49 being composed of three members separated from each other by a distance substantially equal the length of the endless track sections, the drum wheels carried by the endless traction truck, means mounted on the drum wheels, and the said first mentioned pair of drive wheels 16—4 whereby the said drum wheels and said pair of drive wheels 16—4 are caused to coöperatively move in unison, as set forth.

31. An apparatus of the character stated comprising an endless flexible track composed of side rollers and an intermediate rack rail, the latter having side flanges, traction cars movable upon the said track, each of which comprises a truck which embodies a horizontally disposed main frame, a pair of centrally disposed drive cog wheels 16—4 mounted on the said main frame for coöperating with the rack rails of the track, balance wheels 3 mounted on the main frame for coöperating with the side rails of the track, vertically disposed frame members 39—40, said frame members including curved sections which extend parallel, one pair of the said vertical frame members 39 being secured on each side of the traction truck, and the pair of vertical frame members being disposed intermediate of the outside frame members, means for bracing the several frame members, a third drive cog wheel 50 having a double flange mounted on the intermediate set of vertical frame members near the top thereof for coöperating with the intermediate rack rails and the tread flanges forming a part thereof, means for connecting the third drive cog wheel 50 and the other drive cog wheel 16—4 whereby the several cog wheels will be moved in unison, overhead side rails 49 carried upon one pair of vertical frame members secured on each side of the truck main frame for coöperating with the side tread rails, all of the said side tread rails being arranged in two sets, one set on each side of the said traction truck, each set being composed of at least three rails, the said rails being separated from each other by a distance substantially equal the length of the endless track sections whereby to provide for turning the said overhead endless track sections to the right or left, all of the side rails of one set being located on the same vertical plane, a pair of sprocket wheels 15—15 on each side of the said first mentioned pair of drive cog wheels 16—4 mounted on the track main frame, the cog drum wheels 22 carried by the end traction truck, a pair of sprocket wheels 20—20 mounted on each side of each drum wheel, an endless drive chain 24 connecting said sprocket wheel 15 to the drive wheel of the said sprocket wheel 20 of the drum wheels, means for holding the said track against the said drum wheels and said overhead cog wheels, said means including auxiliary rod rails 28—29 carried under the flexible main track, and presser rollers 25—25 carried by said traction cars and the said drum wheels for engaging the said auxiliary rod rails 28—29 whereby to brace the said main track against the said drum wheel and over the said overhead cog wheel, substantially as shown and described.

32. In an apparatus of the character described, an endless track which includes side tread rails, the central rack and the auxiliary rod rails, a plurality of traction cars to run on the said track, said traction cars each comprising a traction truck in which is included a main frame composed of a plurality of longitudinal beams and a pair of connecting cross beams, three pairs of vertical frame members assembled and secured on each truck main frame, each of the said vertical frame members including curved sections, a semi-circular bar plate member 39 secured on the main frame, a pair of curved bar plate members 40 that extend parallel and converge at the top, which are secured above the said semi-circular bar plate member 39, a transverse brace rod that joins the said three pairs of vertical frame members, the cog wheels 16—20 and side balance wheels 30 mounted on the truck main frame, all being arranged substantially as shown and described.

33. In an apparatus of the character stated, an endless track which includes side tread rails, the rack and the auxiliary rod rails, the said side tread and rack rails being composed of pivotally connected sections, a plurality of traction cars to run on the said track, each of which comprises a traction truck in which is included a main frame composed of a plurality of longitudinal beams and a pair of connecting cross beams, three pairs of vertical frame members parallelly arranged and secured on each truck main frame, each vertical frame member being composed of curved sections including a semi-circular bar plate 39 secured at its ends on the main frame of the truck, a pair of curved bar plate members 40 that extend upwardly and converge at the top and are secured above the said semi-circular bar plate member 39, a transverse brace rod 130 that joins the three pairs of vertical frame members, a transverse shaft 23—5 having crank members journaled in bearings on the truck main frame, a drive cog wheel 16—20 centrally secured on the said transverse shaft 23—5, a third transverse shaft 51 having crank members journaled in bearings 52 on the top of some of the vertical frame members and an overhead drive cog wheel 50 centrally geared by the said third shaft 51, said centrally disposed drive cog wheel coöperating in unison with the said rack rails, as set forth.

34. In an apparatus of the character described, an endless track which includes tread members, central rack portions and auxiliary rod rails, a plurality of traction cars for engaging and running on the said track, said traction cars each comprising a truck embodying a main frame composed of a plurality of longitudinal beams, three pairs of vertical frame members parallelly assembled, said members being fixedly secured to the main frame of the truck, each of the vertical frame members embodying curved sections and including a semi-circular bar plate 39 secured at its ends to the main frame of the truck, a pair of curved bar plates 140 that extend upwardly and converge at the top, and which are secured above the said semi-circular bar plate member 39, a transverse brace rod 30 for joining the several vertical frames, a pair of transverse shafts 23—5 having crank members and journaled on

the truck main frame, a drive cog wheel 16—4 centrally secured on the tarnsverse shafts 23—5, sprocket wheels 15 mounted on the shaft 23—5, one sprocket wheel being on each side of the drive wheel 16, the third transverse shaft crank member 51 having crank members and journaled in bearings 52 secured on the top of some of the vertical frame members, an overhead drive cog wheel 50 carried by the said third shaft 51, the centrally disposed drive wheels coöperating in unison with the said rack rails, the lever bars 42 fulcrumed between some of the semi-circular bar plate members 39 and assembled in pairs, the pitman rods 43—45 that connect the said bars 42 with the said shaft cranks, and the power cylinder 46 carried by some of the vertical frame members between the curved bar plate members 40, said power cylinders including a piston rod cooperatively joined with the said lever bars 42, as set forth.

35. In an apparatus of the character described, an endless track which includes side tread rails, central rack, and auxiliary rod rails 28—29, a plurality of cars to run on said track, each of the said cars comprising a traction truck in which is embodied a main frame composed of a plurality of longitudinal beams and cross beams connected therewith, three pairs of vertical frame members parallelly assembled and secured to the truck main frame, each of said vertical members being composed of curved sections and including semi-circular bar plate members 39 made fast to the truck main frame, a pair of curved bar plate members 40 that extend upwardly and converge at the top and are secured to the said semi-circular member 39, a brace rod 130 that joins the three pairs of vertical frame members, a pair of transverse shafts 23—5 having crank members journaled on the truck main frame, a drive cog wheel 16—4 centrally secured to the said pair of transverse shafts 23—5, the sprocket wheels 15—15 mounted on the said transverse shafts 23—5, one of the sprocket wheels 15 mounted on each side of the drive wheel 16, the third transverse shaft 51 having crank members journaled in the upper end of some of the vertical frame members, an overhead drive cog wheel 50 carried centrally by said third shaft 51, said centrally disposed drive cog wheel coöperating with the centrally disposed rack rails on the endless track, lever bars 42 fulcrumed between some of the semi-circular members 39, the pitman rods 43—45 that connect the said lever bars with the said shaft cranks, the power cylinder 46 mounted on some of the vertical frame members, said cylinders each including a piston rod coöperatively joined with the lever bars 42, the side balance wheels 3 mounted on the said truck frame, the overhead side rails 49 mounted on the outer pairs of the vertical frame members, near their upper ends, the said balance wheels 3 and the overhead rails 49 being in the same vertical plane whereby to coöperate with the side tread rails of the endless track, cog drum wheels carried by the end cars, presser rails 25^a that oppose the drive cog wheels 50, means for sustaining the said presser rails, consisting of the frame standards 41, a transverse tire rod 36 that connects the said standards, the bars 19—19 that straddle the drum wheels, the spring bar 67, rails 25^a—25^a mounted on the said spring bar and means for suspending the said rod 19 and the rails for coöperating with the endless track and the drum wheel, as set forth.

36. In an apparatus of the character described, an endless track which includes Y-shaped rails, side bridges 137 that coöperate with the tread rails, intermediate racks having adjacent bearing flanges 35, and the auxiliary rod rails 28—29 in connection with a plurality of traction cars movable along the said track, said traction cars including two trucks coöperatively connected, one on the said truck being a traction truck and the other truck a trailer truck, adapted for carrying a motor and other accessories, said trailer truck engaging the main frame, the fifth wheel 98 mounted on the said main frame, a box car frame mounted on the fifth wheel 98, a horisontally disposed rectangular frame 57 mounted on the top of the box car, a plurality of shafts 66 rotatably mounted on the rectangular frame 57, a plurality of side rails 58 secured to the said shafts 66 for cooperating with the Y-shaped tread rails, said rails having outside flanges for coöperating with the bridge members 137, a plurality of centrally located cog rails 59 having double flanges mounted on the shafts 66 for coöperating with the intermediate rack rails and the adjacent bearing flanges thereof, a fifth wheel 63 centrally mounted on the horizontally disposed frame 57, and opposite the fifth wheel 98 of the trailer truck, a standard 65 mounted on the top of the box car, a vertical pivot for the securing the fifth wheel 63 of the said standard 65, and a gear segment 120 carried in front of the said horizontally disposed rectangular frame member 57, for the purposes described.

37. In an apparatus of the character described, an endless track including Y-shaped tread rails, side bridge members 137 coöperating with the said Y-shaped tread rails, an intermediate rack having adjacent bearing flanges and auxiliary rod rails 28—29; of a plurality of traction cars movable along the said truck, each of the said cars including two trucks coöperatively connected, one of the said trucks serving as a traction truck, the other as a trailer for carrying the motor and other accessories, the said trailer truck embodying a main frame, a fifth wheel 98 mounted on the said main frame, a section of a box car mounted on the said fifth wheel 98, horizontally disposed frames 57 mounted on the top of the box car, a plurality of shafts 66 rotatably mounted in the said frame 57, a pair of side rails 58 secured to the shaft 68 for coöperating with the Y-shaped tread rails, said rails 58 having side flanges for engaging with the bridge members 137, a plurality of central rack cog wheels 59 having double flanges mounted on the shafts 67 for coöperating with the intermediate track racks and the adjacent bearing flanges thereof, the fifth wheel 63 centrally mounted on the frame 57, and disposed oppositely to the fifth wheel 98 on the trailer track, a standard 65 on the top of the box car, a vertical pivot member for securing the fifth wheel 63 to the standard 65, a segmental gear wheel 120 mounted in front of the horizontally disposed frame 57, a pair of directing wheels 108 having double flanges mounted on the frame 57 for cooperating with the track and its adjacent bearing flanges for directing the truck on the said track, two pairs of side wheels 104 each having an outer flange mounted on the frame 57 for coöperating with the Y-shaped tread rails, a gear segment 115 carried in front of the trailer truck, means carried by the trailer truck for coöperatively connecting the overhead frame member 57 to the trailer truck whereby to move the said trailer truck and the overhead member 57 in unison, the said means including a segmental gear wheel 116 for engaging with the segmental gear wheel 115, the vertical rod 117 which carries the gear 116 at the lower end, a segmental gear 118 secured to the other end of the said rod, all being arranged substantially as shown and described.

38. In an apparatus of the character stated, an endless track composed of a plurality of sections flexibly connected with one another and each of which includes a supporting frame member, a centrally disposed rack rail mounted on the said frame member, tread rail links on each side of the supporting frame, a transverse bar 82 carried by the supporting frame, said bar 82 connecting the opposite tread rail links assembled by pairs, said tread rail links being Y-shaped and elongated slots in the bifurcated or Y-shaped branches of the said tread rail links, a transverse rod jointer 89 movable in the said slots, a pair of sectional traction feet connected with the supporting member, the sectional traction foot connecting with the outer branch of each Y-shaped portion of the tread rail portion, the transverse bar 95, the sectional traction foot secured to each of its extremities and means for connecting the several sections on the track together.

39. In an apparatus of the character stated, an endless track composed of a plurality of sections flexibly connected with one another, each of which includes a supporting frame member, a centrally disposed rack rail mounted on the supporting member, tread rail links on each side of said supporting member, one of the links being on each side, a transverse bar 82 carried by the supporting frame and connecting the opposite tread rail links assembled in pairs, said tread rail links having its Y-shaped portions provided with elongated slots, a transverse jointer rod 89 that takes in the side slots, one end of one Y shaped tread rail link being pivotally connected with the adjacent track

section and pivotally secured to the rod jointer extremities, the aforesaid supporting frame being provided with means for holding a pair of sectional traction feet at its free end extremities, the sectional traction foot secured to the outer branch of each Y shaped tread rail link; a transverse tread bar 95 provided with a sectional traction foot at each of its extremities, traction feet carried by the bar 95 connected on the opposite traction feet mounted on the supporting frame member and on the outer end of the Y-shaped rail link, the horisontally disposed pivot holder 85, the vertical pivot member mounted centrally on said supporting frame member to connect each of the track sections and means for moving the auxiliary rod rail links under the supporting frame members, a plurality of traction cars connected with one another movable in unison on said track and the cog polygonal drum wheels carried by the cars for laying down and picking up the track, substantially as shown and described.

40. In an apparatus of the character described, an endless track composed of series of sections flexibly connected with each other, each section including a supporting frame member, composed of a pair of rectangular shaped longitudinally extending converging bars 70—71, a transverse main bar 80 provided at its extremities with apertures 81, the said rectangular shaped converging bars extending through the apertures of the transverse main bar 80, said transverse main bar being situated back of the free end extremities of the said converging bars.

41. In an apparatus of the character stated, an endless track including a series of sections flexibly connected with one another, said sections each including a supporting main frame composed of a pair of rectangular shaped longitudinally extending converging bars 70—71, a transverse main bar 80 having apertures 81 at its extremities, the converging bars 70—71 passing through the said apertures in the bar 80, said transverse main bar being situated back of the front end extremities of the converging bars, the transverse bar 82 secured to the transverse main bar 80 under which the main bar 80 passes, the said under transverse bar 82 extending across the rack rail to engage its sides, for the purposes described.

42. In an apparatus of the character described, an endless track which includes a series of flexibly connected sections, each section being composed of frame members formed of converging bars 70—71, a transverse main bar 80 having apertures 81—81 at the extremities through which the bars 70—71 pass, the said transverse bar 80 being situated in advance of the free end extremities of the converging bars, a transverse bar 82 secured under the main transverse bar 80, the said under transverse bar extending across the rail track for engaging with the sides thereof, a third and bi-forked bar secured to the main transverse bar 80, said bi-forked bar having branches 79—79 secured to the free end extremities of the converging bar, as set forth.

43. In an apparatus of the character described, an endless track which comprises a series of flexibly connected sections, each of which is composed of a pair of longitudinally extending converging bars 70—71, a main transverse bar 80 having apertures 81—81 for the passage of the bars 70—71, said main transverse bar being positioned in advance of the free end extremities of the converging bars 70—71, a transverse bar 82 disposed under the main bar and extending across the rail track and engaging the sides thereof, a third and bi-forked bar secured to the main transverse bar by their respective centers, the bi-forked bar having branches 79—79 secured to the free end and separate extremities of the converging bars, a pair of hangers 34—34, each having bearings on the top and mounted between the transverse bar 80, a bi-forked bar on the converging bar, and traction feet mounted on the supporting frame members, substantially as shown and described.

44. In an apparatus of the character described, an endless track which includes a series of sections flexibly connected with one another, each of said sections embodying a supporting frame member, composed of a pair of longitudinally extending converging bars, an apertured main transverse bar, said transverse bar being situated in advance of the free and separate end extremities of the converging bars, another transverse bar 82 secured under the main transverse bar and extending across the rail track to engage its sides, a bi-forked bar 77 secured to the transverse main bar at the separate free end extremities of the converging bars, the hangers 34—34, a sectional traction foot 73 mounted at the converging ends of each of the bars 70—71, a foot member 74 mounted on the ends of each of the branches 79—79 of the bi-forked member, said traction foot member 73 comprising a central portion 76, the central portion 76 having apertures, a semi-circular bar plate, another foot member comprising a central portion 76 having apertures and the semi-circular bar plate at right angles thereto, the several foot members 73 and 74 being riveted upon each other, a collar 72 at the converging ends of the converging bars, a centrally disposed rack rail mounted in said supporting frame, side tread rail links on each side of the said supporting frame, a pivot holder connecting said supporting frame sections and the auxiliary rod rails mounted under the said supporting frame, substantially as shown and described.

45. An apparatus of the character described which includes an endless track and traction cars adapted to run thereon, said track comprising a series of sections flexibly connected with each other, said sections including a supporting frame composed of a pair of converging bars, an apertured transverse main bar and an under bar secured to said converging bar, a bi-forked main bar secured on the transverse main bar by their respective centers, foot members at separate ends of each of said converging bars and the said bi-forked bar secured together, a pair of bearings 34 mounted between the transverse main bar and the bi-forked bar branches, a rack rail link 27 mounted on said supporting frame, said rack rail link being made up of a rack body provided with teeth on the top, a pair of rail bearings 35 adjacent said rack teeth, two branch members situated one above another at one end of said rack rail, the upper branch of which includes a small strip of the rack body and its teeth, and the adjacent rail bearings 35 between the prolongation of the two branches, the second branch being a prolongation of the rack rail body, the appended bar disposed vertically and joined to the other end of the said rack rail, said consecutive rack rail links being separated by racks 33.

46. An apparatus of the character described which includes an endless track and traction cars adapted to run thereon, said track comprising a series of sections flexibly connected with each other, said sections including a supporting frame composed of a pair of converging bars, an apertured transverse main bar and an under bar secured to said converging bar, a bi-forked main bar secured on the transverse main bar by their respective centers, foot members at separate ends of each of said converging bars and the said bi-forked bar secured together, a pair of bearings 34 mounted between the transverse main bar and the bi-forked bar branches, a rack rail link 27 mounted on said supporting frame, said rack rail link being made of a rack body provided with teeth on the top, a pair of rail bearings 35 adjacent said rack teeth, two branch members situated one above the other at one end of said rack rail, the upper branch of which includes a small strip of the rack body and its teeth, and the adjacent rail bearings 35 between the prolongation of the two branches, the second branch being a prolongation of the rack rail body, the appended bar disposed vertically and joined to the other end of the said rack rail, said consecutive rack rail links being separated by racks 33, a collar 72 at the adjacent ends of the said converging bar, the said rack rail link being centrally disposed and secured at one end to the transverse main bar 80, the other end being secured in the collar 72 at the adjacent ends of the said converging bars, a pivot holder formed of a frame member consisting of the parts 85—86—87, the part 85 having a groove on its top and pivotal branches which form prolongations of the parts 85, the said pivot holder being mounted at the free end extremities of the rack rail link and adapted to engage the rack branch, the vertical pivot for securing

the several parts together, and for joining one rack rail track section to the next adjacent track section, as set forth.

47. An apparatus of the character stated, which includes an endless track and traction cars to run thereon, said track comprising a series of sections flexibly connected to one another, each of the said sections including a supporting frame composed of a pair of converging bars, an apertured main bar transversely to the said pair of converging bars, the under transverse bar 82 extending across the said track and secured to the main bar a bi-forked third bar secured to the main bar, a pair of hangers carrying bearings on the top mounted between the said main bar and the bi-forked third bar, said hangers having slots 90 at the lower end, a transverse rod jointer 89 which extends across the track and passing through said slots 90, said rod jointer being in the nature of a rod having a double crank shaft and an axial member 134 concaved on the top and convexed below and secured near each end extremity of the said rod jointer.

48. An apparatus of the character stated, which includes an endless track and traction cars to run thereon, said track comprising a series of sections flexibly connected to one another, each of the said sections including a supporting frame composed of a pair of converging bars, an apertured main bar transversely to the said pair of converging bars, the under transverse bar 82 extending across the said track and secured to the main bar a bi-forked third bar secured to the main bar, a pair of hangers carrying bearings on the top, mounted between the said main bar and the bi-forked third bar, said hangers having slots 90 at the lower end, a transverse rod jointer 89 which extends across the track and passing through said slots 90, said rod jointer being in the nature of a rod having a double crank shaft and an axial member 134 concaved on the top and convexed below and secured near each end extremity of the said rod jointer, a foot member 73 having an apertured prop 76 carried at the separate end of each pair of converging bars, a bi-valved foot member 74 having an apertured prop 76 secured at the separate ends of the said bi-forked third bar, a pair of transverse bar members 99, a sectional foot member at each end of the said transverse bar, a plurality of tenons fixedly secured to the side flexible members of the foot members, each transverse bar 95 being joined by the sectional foot member of the foot members carried by the converging bars, the tenons of one set of foot members engaging apertures of the other foot members, a pair of Y-shaped tread rails, the link or Y-shaped tread rails mounted on each side of the said supporting frame, means for coöperatively mounting the Y-shaped tread rails on the supporting frame, of the pair of bearings carried on the top of the hangers the rack rail mounted on said supporting frame, pivot holder carried by the free extremity of the said rack rail and the auxiliary rod rail under the main track, substantially as shown and described.

49. In an apparatus of the class stated, an endless track which includes a plurality of sections flexibly connected to one another, each of the said sections being composed of supporting frame embodying a pair of converging bars having foot members at their separate ends, an apertured main bar in which the converging bars are mounted, the under bar 82 which extends across the track sections and secured to the main bar, a bi-forked third bar which carries foot members at the free extremities, the said bi-forked third bar being joined to the main bar, a pair of hangers mounted between said bi-forked bar and main bars, said hangers having bottom slots 91, a pair of apertured tread rails, a link or Y-shaped tread rail mounted on each side of the supporting frame, said Y-shaped tread rail members including mono rail 93 having two branches 91—92, the latter being an inside branch, disposed parallelly and forming side way, joined to the main mono rail side member, the said inside branch near the middle of its length being bent at an angle toward the outside, the mono rail surface and the inside branch surfaces being on the same plane whereby to coöperate with the balance wheels of the cars, the outside of the mono rail branch being straight and being provided with an angular plate 94 at its junction with the mono rail side, the surface of the outside branch 91 and its angular plate 94 being on the same plane and below the surface of the mono rail and its inside branch, the inside branch of the mono rail 92 having a slot 97, the outside branch having a slot way 97', a sectional foot member under the extremities of the said outside branch 91, the said sectional foot member 96 being made up of semi-circular prolongations of the outside branch 91, and the central prop or member 76 having a plurality of apertures, the inside branch 92 being provided under its free end extremities with an aperture 136, the side bridge members 137 carried sidewise by the free end extremities of the mono rail 93, said bridges 137 being arranged to coöperate with the angular plate 94 of the next tread rail sections, and means for mounting the said tread rail link Y-shaped portions on each side of the supporting frame.

50. An apparatus of the character described, an endless flexible track comprising a series of central rack portions pivotally joined to each other and each having lateral smooth tread portions, a pair of oppositely disposed side tread portions, each of said side tread portions consisting of Y-shaped members 91—92, the links 93, shoes carried by the extremities of the Y-shaped portions, the transverse bars that connect the side members with the central rack portion, the converging brace bars 70 joined at one end to the rack portion and carrying shoes at their extremities, said bars being supported between their ends upon the transverse bar 80, a supplemental converging bar secured to the transverse bar 80 and to the extremities of the bar 70 and having shoes at their extremities, and the bars 95 that join the extremities of the Y-shaped outer track rails, and the bars 70 substantially as shown and for the purposes described.

865,606. INSULATING MATERIAL AND METHOD OF PRODUCING THE SAME. CHARLES L. NORTON, Manchester, Mass., assignor to Asbestos Wood Company, a Corporation of Maine. Filed Feb. 23, 1907. Serial No. 358,894.

1. The process which consists in impregnating a porous body containing a free oxidizing agent, with a liquefiable, oxidizable hydrocarbon.

2. The process which consists in impregnating a porous body containing magnesium hydroxid with a liquefiable hydrocarbon, and allowing the hydrocarbon to harden in the body by association with the magnesium hydroxid.

3. The process which consists in impregnating a body composed of asbestiform fiber bonded with magnesium hydrate with a liquefiable hydrocarbon, and allowing the hydrocarbon to harden in the body by association with magnesium hydroxid.

4. The process which consists in impregnating a porous body containing magnesium hydroxid with a hydrocarbon of the class whereof ozocerite is a type, and allowing the hydrocarbon to harden in the body by association with the magnesium hydroxid.

5. The process which consists in impregnating a body composed of asbestiform fiber bonded with magnesium hydrate with a hydrocarbon of the class whereof ozocerite is a type, and allowing the hydrocarbon to harden in the body by association with magnesium hydroxid.

6. The process which consists in impregnating a porous body containing magnesium hydroxid with a liquefiable oxodizable hydrocarbon.

7. The process which consists in impregnating a body composed of asbestiform fiber bonded with magnesium hydrate, with a liquefiable oxidizable hydrocarbon.

8. The process which consists in heating a porous body containing magnesium hydroxid, impregnating it while heated with a liquefiable hydrocarbon, and allowing the hydrocarbon to harden in the body.

9. The process which consists in heating a body composed of asbestiform fiber bonded with magnesium hydrate, impregnating it while heated with a liquefiable hydrocarbon, and allowing the hydrocarbon to harden in the body.

10. The process which consists in heating a porous body

containing magnesium hydroxid and impregnating it while heated with a liquefiable oxidizable hydrocarbon.

11. The process which consists in heating a body composed of asbestiform fiber bonded with magnesium hydrate, and impregnating it while heated with a liquefiable oxidizable hydrocarbon.

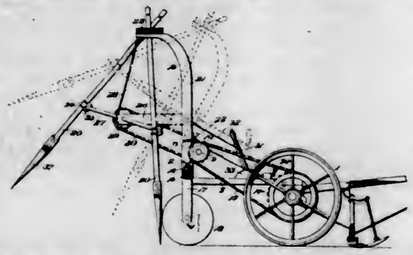
12. The product consisting of a porous body containing magnesium hydroxid, impregnated with an oxidized hydrocarbon.

13. The product consisting of asbestiform fiber bonded with magnesium hydrate, impregnated with an oxidized hydrocarbon.

14. The product consisting of a porous body containing magnesium hydroxid, impregnated with an oxidized hydrocarbon of the class whereof ozocerite is a type.

15. The product consisting of asbestiform fiber bonded with magnesium hydrate, impregnated with an oxidized hydrocarbon of the class whereof ozocerite is a type.

865,607. TEDDER ATTACHMENT FOR MOWING-MACHINES. JAMES P. OWINGS, Webster, Kans. Filed Mar. 12, 1907. Serial No. 361,999.



1. In a device of the character described, the combination of a supporting frame comprising upright members, a fork carrying frame comprising standards having the lower portions thereof pivotally connected to the uprights, forks mounted upon the fork carrying frame, and means for tilting the fork carrying frame to move the forks into or out of operative position.

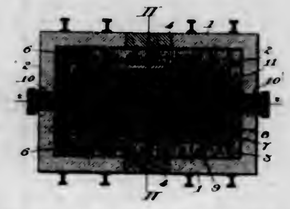
2. In a device of the character described, the combination of a supporting frame comprising a pair of uprights, a fork carrying frame comprising a pair of standards pivotally connected to the said uprights, a guide bar carried by the standards, brackets projecting from the standards, a crank shaft journaled in the brackets, forks mounted upon the crank shaft and engaging the guide bar, and means for transmitting motion to the crank shaft.

3. In a device of the character described, the combination of a supporting frame comprising uprights, a fork carrying frame comprising standards having their lower ends pivoted to the said uprights, while their upper ends are curved rearwardly, a guide bar carried by the rearwardly curved ends of the standards, brackets carried by the standards, a crank shaft journaled in the brackets, forks mounted upon the crank shaft and engaging the guide bar, and means for imparting motion to the crank shaft.

4. In a device of the character described, the combination of a supporting frame comprising a pair of uprights, a shaft journaled upon the uprights, means for transmitting motion to the shaft, a fork carrying frame comprising standards having their lower ends pivoted to the said uprights, brackets projecting from the standards, a crank shaft journaled in the brackets, forks mounted upon the crank shaft and engaging the guide bar, and means for transmitting motion from the first mentioned shaft to the crank shaft.

5. In a device of the character described, the combination of a supporting frame comprising uprights, draft bars whereby the supporting frame can be connected to a mowing machine or the like, a fork carrying frame having a hinged connection to the uprights of the supporting frame, forks mounted upon the fork carrying frame, and means for tilting the fork carrying frame to move the forks into or out of operative position.

865,608. PROCESS OF BAKING CARBON ELECTRODES AND HEATING BY ELECTRICITY AND COMBUSTION. EDGAR F. PRICE, Niagara Falls, N. Y. Filed Apr. 22, 1905. Serial No. 256,888.



1. The process of baking carbon electrodes, which consists in initially heating the electrodes and a resistance conductor or conductors by combustion, and heating the hot electrodes to a higher temperature by passing an electric current through said conductor or conductors, as set forth.

2. The process of baking carbon electrodes, which consists in placing the electrodes in proximity to a resistance conductor, initially heating the electrodes by combustion, and heating the hot electrodes to a higher temperature by passing an electric current through said resistance conductor, as set forth.

3. The process of baking carbon electrodes, which consists in initially heating the electrodes by combustion, and heating the hot electrodes to a higher temperature by passing an electric current through them, as set forth.

4. The process of baking carbon electrodes, which consists in placing the electrodes in proximity to a resistance conductor, initially heating the electrodes and resistance conductor by combustion, and heating the hot electrodes to a higher temperature by passing an electric current through said resistance conductor and electrodes, as set forth.

5. The process of baking carbon electrodes, which consists in placing the electrodes transverse to the path of current-flow, with intermediate layers of an electrically-conductive packing, initially heating the electrodes by combustion, and heating the hot electrodes to a higher temperature by passing an electric current through said electrodes and packing, as set forth.

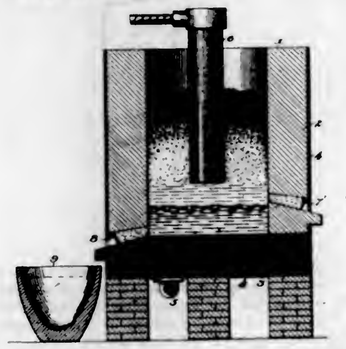
6. The process of baking carbon electrodes, which consists in embedding the electrodes transverse to the path of current-flow in an electrically-conductive packing, initially heating the electrodes by combustion, and heating the hot electrodes to a higher temperature by passing an electric current through said electrodes and packing, as set forth.

7. The process of baking carbon electrodes, which consists in initially heating the electrodes by combustion, heating the hot electrodes to a higher temperature by electricity, and preventing the escape of electrically-generated heat by a gaseous medium heated by combustion, as set forth.

8. The process of baking carbon electrodes, which consists in initially heating the electrodes by combustion, heating the hot electrodes to a higher temperature by passing an electric current through a resistance conductor, and preventing the escape of electrically-generated heat by maintaining hot products of combustion around the zone of electric heating, as set forth.

9. The process of baking carbon electrodes, which consists in initially heating the electrodes by combustion, heating the hot electrodes to a higher temperature by passing an electric current through a resistance conductor, and maintaining in contact with the surfaces which tend to dissipate electrically-generated heat, products of combustion having a temperature substantially equal to that of said surfaces, as set forth.

865,609. PROCESS OF SMELTING REFRACTORY ORES AND PRODUCING LOW-CARBON FERRO ALLOYS. EDGAR F. PRICE, Niagara Falls, N. Y. Filed Nov. 14, 1905. Serial No. 287,355.



1. The process of producing ferrochromium, which consists in smelting a charge containing ferrosilicon and a compound of chromium by means of an electrically-heated resistance-conductor, as set forth.

2. The process of producing ferrochromium, which consists in smelting a charge containing ferrosilicon, an oxidized compound of chromium, and a basic flux, by means of an electrically-heated resistance-conductor, as set forth.

3. The process of producing low-carbon ferro-alloys, which consists in smelting a charge containing ferrosilicon and a compound of a metal reducible by silicon and alloyable with iron, by passing an electric current through the charge, acting as a resistance-conductor, and thereby heating the charge to the temperature requisite for reduction, as set forth.

4. The process of producing low-carbon ferro-alloys, which consists in smelting a charge containing ferrosilicon, an oxidized compound of a metal reducible by silicon and alloyable with iron, and a basic flux, by passing an electric current through the charge, acting as a resistance conductor, and thereby heating the charge to the temperature requisite for reduction, as set forth.

5. The process of producing low-carbon ferro-alloys, which consists in smelting a charge containing ferrosilicon and a compound of a metal reducible by silicon and alloyable with iron, by passing an electric current through the charge, acting as a resistance-conductor, thereby heating the charge to the temperature requisite for reduction, withdrawing the slag and ferro-alloy from the furnace, and supplying the charge-mixture as required, as set forth.

6. The process of producing low-carbon ferro-alloys, which consists in smelting a charge containing ferrosilicon, an oxidized compound of a metal reducible by silicon and alloyable with iron, and a basic flux, by passing an electric current through the charge, acting as a resistance conductor, thereby heating the charge to the temperature requisite for reduction, withdrawing the slag and ferro-alloy from the furnace, and supplying the charge-mixture as required, as set forth.

7. The process of producing low-carbon ferro-alloys, which consists in smelting a charge containing ferrosilicon and a compound of a metal reducible by silicon and alloyable with iron, by passing an electric current through the charge, acting as a resistance-conductor, thereby heating the charge to the temperature requisite for reduction, withdrawing the slag and ferro-alloy from the furnace at different levels, and supplying the charge-mixture as required, as set forth.

8. The process of producing low-carbon ferro-alloys, which consists in smelting a charge containing ferrosilicon, an oxidized compound of a metal reducible by silicon and alloyable with iron, and a basic flux, by passing an electric current through the charge, acting as a resistance conductor, thereby heating the charge to the temperature requisite for reduction, withdrawing the slag and ferro-alloy from the furnace at different levels, and supplying the charge-mixture as required, as set forth.

9. The process of producing ferrochromium, which consists in smelting a charge containing ferrosilicon and a compound of chromium by passing an electric current through the charge, acting as a resistance conductor, and thereby heating the charge to the temperature requisite for reduction, as set forth.

10. The process of producing ferrochromium, which consists in smelting a charge containing ferrosilicon, an oxidized compound of chromium, and a basic flux, by passing an electric current through the charge, acting as a resistance conductor, and thereby heating the charge to the temperature requisite for reduction, as set forth.

11. The process of producing ferrochromium, which consists in smelting a charge containing ferrosilicon and a compound of chromium by passing an electric current through the charge, acting as a resistance conductor, thereby heating the charge to the temperature requisite for reduction, withdrawing the slag and ferro-alloy from the furnace, and supplying the charge-mixture as required, as set forth.

12. The process of producing ferrochromium, which consists in smelting a charge containing ferrosilicon, an oxidized compound of chromium, and a basic flux, by passing an electric current through the charge, acting as a resistance conductor, thereby heating the charge to the temperature requisite for reduction, withdrawing the slag and ferro-alloy from the furnace, and supplying the charge-mixture as required, as set forth.

13. The process of producing ferrochromium, which consists in smelting a charge containing ferrosilicon and a compound of chromium by passing an electric current through the charge, acting as a resistance conductor, thereby heating the charge to the temperature requisite for reduction, withdrawing the slag and ferro-alloy from the furnace at different levels, and supplying the charge-mixture as required, as set forth.

14. The process of producing ferrochromium, which consists in smelting a charge containing ferrosilicon, an oxidized compound of chromium, and a basic flux, by passing an electric current through the charge, acting as a resistance conductor, thereby heating the charge to the temperature requisite for reduction, withdrawing the slag and ferro-alloy from the furnace at different levels, and supplying the charge-mixture as required, as set forth.

15. The process of producing low-carbon ferro-alloys, which consists in smelting a charge containing ferrosilicon and a compound of a metal reducible by silicon and alloyable with iron, by passing an electric current through the charge, acting as a resistance-conductor, and increasing the current or energy density through the charge to a point where reduction is effected, as set forth.

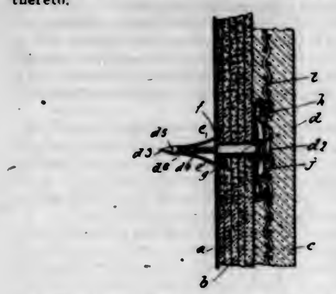
16. The process of producing ferrochromium, which consists in smelting a charge containing ferrosilicon and a compound of chromium, by passing an electric current through the charge, acting as a resistance conductor, and increasing the current or energy density through the charge to a point where reduction is effected, as set forth.

17. The process of producing ferrochromium, which consists in smelting a charge containing ferrosilicon, an oxidized compound of chromium, and a basic flux, by passing an electric current through the charge, acting as a resistance-conductor, and increasing the current or energy density through the charge to a point where reduction is effected, as set forth.

865,610. DEVICE FOR SECURING AN ASBESTOS COVERING AND PLASTER TO A HOT-AIR DUCT OR PIPE. GEORGE PULLETS, New York, N. Y. Filed Aug. 28, 1906. Serial No. 332,339.

1. The herein described means for securing asbestos covering and plaster to a hot air duct or flue, comprising a nail provided at one end with a driving head and at the opposite end with a pointed head, the shank of the nail being provided adjacent to the pointed head with means for preventing its withdrawal when driven into the duct

or flue, and said nail being also provided adjacent to the driving head with means for securing a mesh work of wire thereto.



2. The herein described means for securing asbestos covering and plaster to a hot air duct or flue, comprising a nail provided at one end with a driving head and at the opposite end with a pointed head, the shank of the nail being provided adjacent to the pointed head with means for preventing its withdrawal when driven into the duct or flue, and said nail being also provided adjacent to the driving head with means for securing a mesh work of wire thereto, and with a washer.

3. The herein described means for securing asbestos covering and plaster to a hot air duct or flue, comprising a nail provided at one end with a driving head and at the opposite end with a pointed head, the shank of the nail adjacent to the pointed head being reduced in size and being provided adjacent to said head with means for preventing the withdrawal of the nail when driven into the duct or flue, said nail being also provided adjacent to the driven head with means for securing a mesh work of wire thereto, substantially as shown and described.

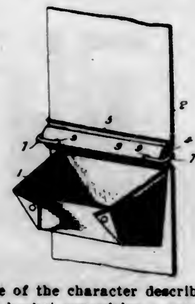
4. The herein described means for securing asbestos covering and plaster to a hot air duct or flue, comprising a nail provided at one end with a driving head and at the opposite end with a pointed head, the shank of the nail adjacent to the pointed head being reduced in size and being provided adjacent to said head with means for preventing the withdrawal of the nail when driven into the duct or flue, said nail being also provided adjacent to the driven head with means for securing a mesh work of wire thereto, and with means for limiting the extent to which the nail may be driven into the flue, substantially as shown and described.

5. The herein described means for securing asbestos covering and plaster to a hot air duct or flue, comprising a nail provided at one end with a driving head and at the opposite end with a pointed head, the shank of the nail adjacent to the pointed head being reduced in size and being provided adjacent to said head with means for preventing the withdrawal of the nail when driven into the duct or flue, said nail being also provided adjacent to the driving head with means for securing a mesh work of wire thereto, and with means for limiting the extent to which the nail may be driven into the flue consisting of a washer or washers mounted thereon, substantially as shown and described.

865,611. ELEVATOR-BUCKET. IRA O. ROBBINS, Millville, Pa., assignor of one-half to Ellis Greenley, Millville, Pa. Filed May 3, 1907. Serial No. 371,719.

1. In a device of the character described, the combination of a belt, a bucket comprising a member having a groove formed therein, a clamping bar extending across the belt and serving to draw the belt within the groove, and means carried by the ends of the clamping bar for engaging the bucket.

2. In a device of the character described, the combination of a belt, a bucket comprising a member having a groove formed therein, a clamping bar extending across the belt and serving to draw the belt within the groove, and means carried by the ends of the clamping bar for producing a detachable and interlocking connection with the bucket.



3. In a device of the character described, the combination of a belt, a bucket comprising a member formed with a groove, a clamping bar for holding the belt within the groove, and hook members carried by the clamping bar and detachably engaging the bucket.

4. In a device of the character described, the combination of a belt, a bucket comprising a member formed with a groove, a clamping bar serving to hold the belt within the groove, and hook members having a sliding connection with the clamping bar and detachably engaging the bucket.

5. In a device of the character described, the combination of a belt, a bucket comprising a member provided with a groove and having perforations formed therein, a clamping bar serving to retain the belt within the groove, and hook members carried by the clamping bar and provided with projections received by the before mentioned openings.

6. In a device of the character described, the combination of a belt, a bucket comprising a member formed with a groove and also provided with perforations, a clamping bar for retaining the belt within the groove, and hook members having a sliding connection with the opposite ends of the clamping bar and detachably engaging the bucket, the said hook members being formed with projections received by the before mentioned openings in the bucket.

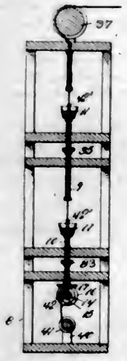
7. In a device of the character described, the combination of a belt, a bucket comprising a member provided with a groove and having openings formed therein, a clamping bar for retaining the belt within the groove, the said clamping bar being in the nature of a tube, and hook members carried by the clamping bar and detachably engaging the bucket, the shanks of the hook members telescoping within the ends of the tubular clamping bar and the said hook members being provided with projections received by the before mentioned openings in the bucket.

865,612. INSULATING-MACHINE. HOWARD D. SAYLOR, Philadelphia, Pa. Filed Aug. 13, 1906. Serial No. 330,430.

1. In a machine of the class described, the combination with a revoluble thread-receiving cup, of a throw-out mechanism for the machine, a member carried by the cup for movement into and out of position to operate the throw-out mechanism, said member being arranged to lie yieldably in operative position and to receive thread from the cup to hold it normally in inoperative position.

2. The combination with a winding machine including revoluble thread cups, of a throw-out mechanism for the machine including a movable operating shaft, arms carried by the shaft, and thread-controlled members mounted upon the cups for movement into and out of position to move the arms.

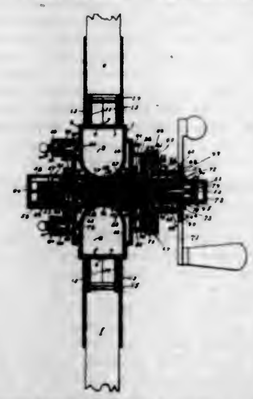
3. In a machine of the class described, the combination with a revoluble thread cup, of a throw-out mechanism for the machine including a movable operating shaft, an arm carried by the shaft and extending in relation to the cup, a member mounted upon the cup for movement into and out of position to engage the arm for movement thereof, said member being arranged to receive thread from the cup and to be held thereby out of arm-engaging position.



4. In a machine of the class described, the combination with a revoluble thread cup, of a throw-out mechanism for the machine, an operating shaft for the throw-out mechanism, an arm carried by the shaft and extending in close relation to the cup, means for holding the arm at the limit of its movement in the direction of the cup and with the throw-out mechanism in position for operation of the machine, an eye finger mounted in the cup, and a member slidably mounted upon the cup for movement into and out of position for passage between the cup and the arm to move the arm, said member having a thread-receiving eye arranged to receive thread from the cup and to be held thereby out of arm-engaging position.

5. A machine of the class described comprising hollow alining sleeves adapted for the reception of wire therethrough, means for moving wire through the sleeves, a drive shaft, operative connections between one of the sleeves and the drive shaft, reverse gear and shaft connections between the sleeves, a thread receptacle carried by each sleeve, and an eye member connected with each sleeve for movement around a wire passed therethrough and arranged to receive thread from the thread receptacles.

865,613. FISHING-REEL. FRANK SCHREIDT, Mansfield, Ohio. Filed Aug. 4, 1906. Serial No. 329,160.



1. In a fishing reel comprising a casing, a spool, an axis fitted thereto, a tubular shaft rotatably supported by said axis, a rod loosely journaled in said tubular shaft, a winged clutch slidably fitted to said tubular shaft, a cap fitted to the casing having a hub formed thereon, an internal gear journaled in the hub of the cap, an operating lever secured to the hub of the internal gear, means to impart increased speed to the spool through the medium of said internal gear without increasing the speed of the operating lever.

2. A fishing reel comprising a casing, a spool, an axis fitted to said spool with the ends chamfered and extending on each side of said spool, ball bearing races secured to the casing providing bearings for the ends of the axis, a tubular shaft fitted to said axis, a shifting rod slidably fitted in the tubular shaft, a winged clutch mounted on said shaft, a socket secured to one end of the shifting rod, means to adjustably connect the shifting rod to the winged clutch, a projecting portion formed on the casing having a slot formed therein, a pin secured to said socket engaging with a slot formed in the projecting portion, a cam provided with an angular slot fitted to the projecting portion, said slot meshing with the slot in the projecting portion whereby the shifting rod is reciprocated when the cam is rotated.

3. A reel comprising a casing, a spool, an axis fitted to said spool having an aperture provided in the center, a tubular shaft fitted to said aperture, ball bearings fitted to the casing to provide bearings for said axis, a shifting rod fitted to reciprocate within the tubular shaft, a sliding double winged clutch mounted upon the tubular shaft, a pinion mounted on the tubular shaft having a winged clutch made integral therewith, a cap fitted to one side of the casing having a hub formed thereon, an internal gear journaled in the hub of said cap, a pinion arranged to intermesh with the internal gear and pinion on the shaft to transmit motion to the spool.

4. A reel comprising a casing, a spool, an axis having the ends thereof chamfered fitted to said spool, ball-bearings provided in the casing and adapted to rotatably support said spool, a tubular shaft rotatably supported by said axis, a pinion having wings formed thereon and journaled on said tubular shaft, a winged clutch slidably mounted on said tubular shaft, a cap with a hub formed integral fitted to one side of the casing, an internal gear having a hub journaled in the hub of the cap, wings made integral with the internal gear and adapted to engage with wings on one side of the winged clutch.

5. A reel comprising a casing, a tubular axis, a spool mounted thereon and secured to said axis, a tubular shaft fitted to the inner periphery of the axis, a winged clutch slidably mounted on the tubular shaft, a shifting rod slidably journaled in said tubular shaft, a socket fitted to said rod, an annular projecting portion extending from one side of the casing having a slot formed therein, a pin secured to said socket, a cam having an angular slot fitted to the outer periphery of the projecting portion; said pin passing through both slots thereby imparting a reciprocating movement to the shifting rod when the cam is partially rotated.

6. A reel comprising a casing, an axis journaled in said casing, a spool mounted on and connected thereto, a tubular shaft journaled in said axis, a shifting rod slidably fitted in said tubular shaft, a pinion mounted on the tubular shaft, a pinion secured to the casing meshing with the pinion mounted on the tubular shaft, a cap having a hub secured to the casing, an internal gear wheel journaled in the hub of said cap, an annular series of perforations provided in the spool, a spring actuated pin secured to the casing in the path of said perforations, and adapted to register therewith and lock the spool.

7. A reel comprising a casing, an axis journaled in said casing, a spool mounted on and connected to said axis, a tubular shaft journaled in said axis, a shifting rod slidably fitted to said tubular shaft, pinions secured to the casing, a cap, an internal gear wheel having a hub formed thereon journaled to said cap, an enlarged portion formed on one end of the shifting rod, a socket surrounding said enlarged portion, a pin secured to said socket, an annular tubular projecting portion extending from one side of the casing with a longitudinal slot formed therein, a cam provided with an angular slot intersecting with the slot formed in the annular projecting portion, a modified annular rack formed on one side of the spool, a spring actuated

pin secured to one side of the casing in the path of the annular rack and adapted to mesh or contact therewith.

8. In a fishing reel a casing provided with ball bearings, an axis having chamfered ends adapted to be journaled in said bearings, a spool mounted on said axis and connected thereto, a tubular shaft rotatably supported by said axis, a sleeve having wings formed thereon slidably mounted on said tubular shaft, a shifting rod slidably supported by said tubular shaft, a socket secured to one end of the shifting rod and adapted to be reciprocated therewith, means to connect the sliding sleeve with the shifting rod, a pinion having wings thereon mounted on the tubular shaft, a cap having a hub formed thereon, an internal gear having a hub journaled in the hub of said cap, pinions secured to one side of the casing one meshing with the pinion mounted on the tubular shaft and the other meshing with the internal gear, wings or lugs secured to the inner periphery of one end of the internal gear.

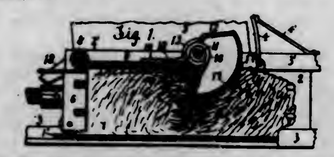
9. A reel comprising a casing, an axis journaled to said casing, a tubular shaft supported by said axis, a spool mounted upon said axis, a shifting rod slidably supported by said tubular shaft, means to reciprocate the shifting rod.

10. A fishing reel, comprising a casing with ball bearings, an axis supported by said bearings, a spool mounted thereon, a tubular shaft rotatably supported by said axis, a sliding sleeve having wings formed thereon journaled upon said tubular shaft, a shifting rod slidably supported by said tubular shaft, a cap secured to the casing, an internal gear journaled by said cap, a pinion intermeshing with said internal gear, an intermediate pinion, a pinion loosely mounted on the tubular shaft meshing with the intermediate pinion.

11. A fishing reel comprising a casing, a spool, an axis secured to said spool, a tubular shaft journaled in said axis, an annular projecting portion having a slot formed therein extending from one side of the casing, a shifting rod slidably supported by said axis, a cam mounted upon a projecting portion of the casing, ball bearings secured to the casing, an adjustable cage for one of said bearings, means to adjust said cage to bring the balls journaled in the cage in contact with the chamfered ends of the axis for the purpose set forth and described.

12. A fishing reel comprising a two-part casing, an axis, a spool mounted on said axis, a tubular shaft supported by said axis, a shifting rod slidably journaled in said shaft, suitable mechanism to reciprocate said shifting rod.

865,614. SELF-FEEDER FOR BALERS. GEORGE SCHUBERT, Fort Worth, Tex. Filed June 21, 1906. Serial No. 322,665.



1. In a feeder for balers, the combination, with a compression chamber, a hopper on said compression chamber, a plate hinged on said baler arranged to shift the material from the hopper to the compression chamber, a head pivoted on said plate and projecting below the lower level of said plate, for the purpose specified.

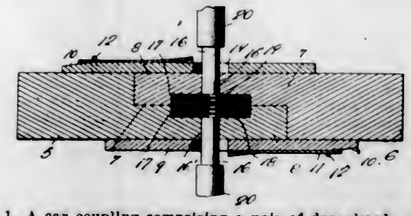
2. In a feeder for balers, the combination, with a compression chamber, a hopper on said compression chamber, a plate hinged on said baler arranged to shift the material from said hopper to said compression chamber, a head pivoted on said plate, a spring or springs in contact with said head, and means in said compression chamber to turn said head out of said compression chamber without disturbing the hinged plate.

3. In a feeder for balers, the combination, with a compression chamber, a hopper on said compression chamber, a plate hinged on said baler, a head pivoted on said plate to aid in shifting the material from said hopper to said compression chamber, spurs on said head, a spring in contact with said head, for the purpose specified.

4. In a feeder for balers, the combination, with a compression chamber, a hopper on said compression chamber, a plate hinged on said baler, a head pivoted on said plate to aid in shifting the material to the compression chamber, spurs on the outer surface of said head, springs in contact with said head, and means in the compression chamber to turn said head out of said compression chamber, as specified.

5. A plate hinged on the baler, a shaft supported by the free end of said plate, a head formed of a quadrant shape and pivoted on said shaft, a spring or springs in contact with said head, for the purpose specified.

865,615. AIR-BRAKE HOSE-COUPLING. EUGENE W. SHAW, Weir, Kans. Filed July 12, 1906. Serial No. 325,904.



1. A car coupling comprising a pair of draw-heads provided with longitudinally-extending oppositely-disposed tongues; a latch secured to the outer face of each tongue; means mounted on each draw-head for receiving the latch of the other draw-head; an air-pipe vertically attached to the outer face of each tongue adjacent the latch therein; a yielding laminated plate set in the inner face of each tongue; and transversely disposed with respect thereto; each plate being formed with an opening communicating with the corresponding air-pipe; and means for holding said draw-heads coupled, the plate openings registering when the draw-heads are coupled to form a continuous air passage.

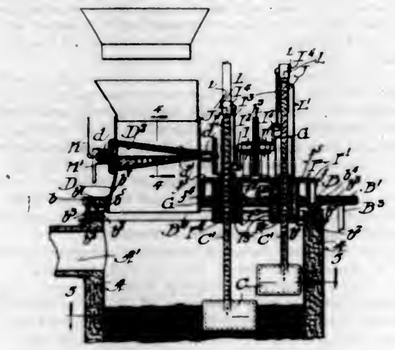
2. A car coupling comprising a pair of draw-heads, provided with longitudinally-extending oppositely-disposed tongues; a latch secured to the outer face of each tongue, and formed with inwardly extending openings in its side faces; a guide-member secured to each draw-head in position to receive the latch of the opposite draw-head; a clamp mounted in each guide-member to hold said latch in place therein; an air pipe vertically mounted in the outer face of each tongue and extending through the adjacent opening in the corresponding latch; and a yielding laminated plate set in the inner face of each tongue, each plate being formed with an opening communicating with the corresponding air-pipe, the plate openings registering when the draw-heads are coupled to form a continuous air passage.

865,616. POKER MECHANISM FOR GAS-PRODUCERS. SAMUEL B. SHELDON, Buffalo, N. Y. Filed June 7, 1906. Serial No. 320,624.

1. The combination with a gas producer and its rotative top wall, of a poker extending through said top wall into the producer and having yielding connection with said top wall, permitting its lower end to yield backwardly relatively to the direction of rotation of said top wall.

2. The combination with a gas producer and its rotative top wall, of a poker extending through said top wall into the producer and having yielding connection with said top wall, permitting backward yielding of the lower end of the poker relatively to the direction of rotation of the top wall, and means for giving endwise reciprocatory motion to the poker.

3. The combination with a gas producer and its rotative top wall, of a spring-controlled poker support mounted on said top wall, a poker mounted in said support and extending into the producer, and means for giving endwise reciprocatory motion to said poker.



4. The combination with a gas producer and its rotative top wall, of a poker support pivoted to the top wall to oscillate on an axis substantially radial to the top wall, a poker mounted in said support and means for giving endwise reciprocatory motion to the poker.

5. The combination with a gas producer and its rotative top wall, of a poker support pivoted to said top wall to oscilliate on an axis substantially radial to the said top wall, a poker mounted in said support and extending into the producer, a spring applied to said support in a manner permitting the poker to yield rearwardly against the resistance exerted on the poker by the fuel bed, and means for giving endwise reciprocatory motion to the poker.

6. The combination with a gas producer and its rotative top wall, of a poker support pivoted on said top wall to oscillate about an axis substantially radial to said wall, a poker mounted in said support and extending into said producer, springs interposed between said support and top wall, one on each side of the pivot of the support, and means for giving endwise reciprocatory motion to said poker.

7. The combination with a gas producer and its rotative top wall, of an oscillatory poker support mounted on said top wall, a poker extending through said support into the chamber, and mechanism carried by said support for giving endwise reciprocatory motion to said poker.

8. The combination with a gas producer and its rotative top-wall, of a spring controlled, oscillatory poker support mounted on said wall, a poker extending through said top wall, and actuating means for said poker mounted on said support.

9. The combination with a gas producer and its rotative top wall, of an oscillatory poker support mounted on said wall, pokers extending through said support into said chamber, actuating means for said pokers mounted on said support, comprising a rotative shaft provided with cranks operatively connected with said pokers, and a motor having geared connection with said shaft.

10. The combination with a gas producer and its rotative top wall, of an oscillatory poker support mounted on said wall, pokers extending through said support into said chamber, poker actuating mechanism, carried by said support, comprising a rotative shaft provided with cranks, cross-heads operatively connected with said cranks to which said pokers are attached, guides rising from said support in which said cross-heads slide, and a motor on the support having geared connection with said shaft.

11. The combination with a gas producer and its rotative top wall, of an oscillatory poker support mounted on said top wall, a poker extending through said support into the producer, means for giving endwise reciprocatory motion to said poker, and means for varying the effective stroke of the poker.

12. The combination with a gas producer and its rotative top wall, of an oscillatory poker support mounted on said wall, a poker extending through said support into said chamber, poker actuating mechanism carried by the support comprising a rotative crank-shaft, an apertured cross-head operatively connected with said crank-shaft and through which the shaft of the poker extends, and means for adjustably affixing said poker shaft to the cross-head to vary the effective stroke of the poker.

13. The combination with a gas producer and its top wall provided with a poker opening, of an endwise movable poker extending through said opening into the producer, means for giving endwise reciprocation to said poker and means for sealing the opening between the poker and the top wall embracing a water receptacle on the top wall surrounding said opening and a downwardly opening casing attaching to the poker and extending into the same, said receptacle being made of a length at least as great as the stroke of the poker.

14. The combination with a gas producer and its rotative top wall, of a poker extending through an opening in said wall into the producer and having yielding connection with the top wall, permitting it to yield backwardly relatively to the direction of rotation of said top wall, and means for water-sealing said opening.

15. The combination with a gas producer and its rotative top wall, and means for water sealing the joint between the body of the producer and said top wall, of a poker support supported and having oscillatory movement on said top wall, a poker mounted in said support and extending into the producer, and means for water-sealing the joint between said oscillatory support and said top wall.

16. The combination with a gas producer and its rotative top wall, of a poker support yieldingly mounted on said top wall, a poker mounted in said support and extending into the producer and means for water-sealing the joint between the support and the top wall.

17. The combination with a gas producer and its rotative top wall, of a poker support pivoted to the top wall to oscillate on an axis substantially radial to said top wall, a poker mounted in said support, and means for water-sealing the joint between the said support and the top wall.

18. The combination with a gas producer and its rotative top wall, of a poker support yieldingly mounted on said top wall, a poker mounted in said support and extending into the producer, means for water-sealing the joint between said support and top wall, and means for giving endwise reciprocatory motion to said poker.

19. The combination with a gas producer and its rotative top wall, of a poker support yieldingly mounted on said top wall, a poker mounted in said support and extending into the producer, said support being provided around the poker with a continuous or closed flange, and the top wall being formed to provide a sealing chamber into which said flange extends.

20. The combination with a gas producer and its rotative top wall, of an oscillatory poker support mounted on said wall, a poker extending through an opening in said support, means for reciprocating said poker, and means for water-sealing said opening.

21. The combination with a gas producer and its rotative top wall, of an oscillatory poker support mounted on said wall, means for water-sealing the joint between said support and wall, a poker extending through an opening in said sppport and means for water-sealing said opening.

22. The combination with a gas producer and its rotative top wall, of an oscillatory poker support mounted on said wall, a poker extending through an opening in said support, said support being provided around said opening with an upwardly opening sealing chamber and a casing fixed to and surrounding said poker and extending into the sealing chamber.

23. The combination with a gas producer and its rotative top wall, of an oscillatory poker support mounted on said wall, a poker and a water-cooled guide carried by said support through which the poker extends.

24. The combination with a gas producer and its rotative top wall, of two pokers extending through an opening in said top wall, and flattened at their lower ends, one of

said pokers being disposed in rear of the other, relatively to the direction of rotation of said top wall.

25. The combination with a gas producer and its rotative top wall, of two pokers extending through an opening in the top wall and flattened at their lower ends, means for reciprocating said pokers comprising a rotative shaft carried by said top wall and operatively connected with said poker, said shaft being inclined relatively to a given radius of said rotative top wall.

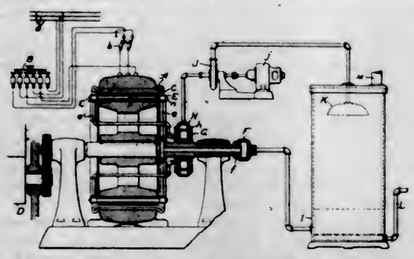
26. The combination with a gas producer and its rotative top wall, of two pokers extending through an opening in said top wall and flattened at their lower ends, said flattened lower ends of the pokers being inclined relatively to each other.

27. The combination with a gas producer and its rotative top wall, of two pokers extending through an opening in said top wall and flattened at their lower ends, said flattened ends of the pokers being inclined relatively to a given radius of the rotative top wall and to each other.

28. The combination with a gas producer and its rotative top wall, of an oscillatory poker support mounted on said top wall, a poker extending through an opening in said support, means for water-sealing the joint between said poker support and rotative top wall, means for water-cooling said poker and means for conducting the heated water discharged from the poker to said water-seal.

29. The combination with a gas producer and its rotative top wall, of an oscillatory poker support mounted on said wall, means for water-sealing the joint between said support and top wall, a poker extending through an opening in said support into the combustion chamber, means for water-sealing said opening, means for water-cooling said poker, means for conducting the heated water discharged from the poker to the water-seal around said poker opening, and means for conducting the overflow from said latter seal to the water-seal between said poker support and top wall.

865,617. INDUCTION-MOTOR. CHARLES P. STEINMETZ, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Aug. 7, 1905. Serial No. 272,981.



1. In an induction motor, a secondary winding comprising hollow conductors of high resistance, a pipe connection from one end of said conductors to a fluid reservoir, and a pipe connection from the other end of said conductors to a suction pump.

2. In an induction motor, a secondary winding comprising hollow conductors of high resistance, said conductors being adapted to offer a high frictional resistance to the flow of fluid therethrough, a pipe connection from one end of said conductors to a fluid reservoir, and a connection from the other end of said conductors to a suction pump.

3. In an induction motor, a secondary structure comprising a plurality of hollow bars of high electrical resistance, hollow end-rings forming both electrical and pipe connections between like ends of all of said bars, a pipe connection from one of said rings to a fluid reservoir, and a pipe connection from the other ring to a suction pump.

4. In an induction motor, a rotor structure, hollow bars of high electrical resistance carried at the periphery of said structure, hollow end-rings forming both electrical and pipe connections between like ends of all of said bars, a set of hollow spokes extending radially inward from each of said end-rings and opening into a common passage, piping from a cooling fluid system extending to said passages, and water-tight joints between said passages and said piping adapted to permit relative rotation of the two parts of the joints.

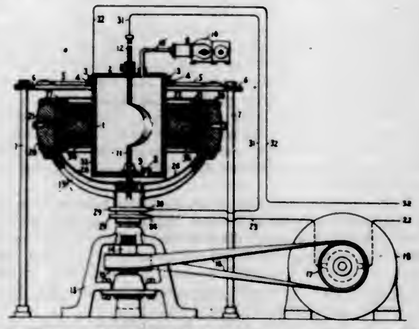
5. In an induction motor, a rotor structure, hollow bars of high electrical resistance carried at the periphery of said structure, hollow end-rings forming both electrical and pipe connections between like ends of all of said bars, a set of hollow spokes extending radially inward from each of said end-rings and opening into a common passage, piping extending from said passages to a fluid reservoir and to a suction pump respectively, and water-tight joints between said passages and said piping adapted to permit relative rotation of the two parts of the joints.

6. In an induction motor, a secondary structure comprising a plurality of hollow bars of high electrical resistance, hollow end-rings forming both electrical and pipe connections between like ends of all of said bars, means for forcing a cooling fluid to pass from one end-ring through said bars to the other end-ring, and removable plugs in said end-rings opposite the ends of said bars.

7. In combination with an induction motor having a secondary winding comprising hollow high resistance conductors, a cooling system comprising a fluid reservoir below the level of said motor, pipe connections from said reservoir to said hollow conductors, and a suction pump connected to the other end of said conductors.

8. In combination with an induction motor having a secondary winding comprising hollow high resistance conductors, a cooling system comprising a fluid reservoir below the level of said motor, pipe connections from said reservoir to said hollow conductors, a suction pump connected to the other end of said conductors, and a condenser receiving the discharge from said pump.

865,618. PRODUCTION OF NITROUS COMPOUNDS. CHARLES P. STEINMETZ, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Apr. 20, 1907. Serial No. 369,263.



1. The process of producing nitrous compounds, which consists in rotating a deflected electric arc within a current of air.

2. The process of producing nitrous compounds, which consists in causing a current of atmospheric air and rotating within the same a deflected electric arc.

3. The process of producing the chemical combination of nitrogen and oxygen, which consists in establishing an electric arc of minimum volume and maximum length, deflecting and rotating the arc magnetically, and causing a current of atmospheric air to pass through the space of rotation of the arc.

4. The process of producing the chemical combination of nitrogen and oxygen, which consists in establishing an electric arc, causing a rotating magnetic flux to pass substantially at right angles to the axis of the arc, and passing a current of atmospheric air through or past the arc.

5. An apparatus for the manufacture of nitrous compounds, consisting of means for producing a current of air, and means for rotating and deflecting an electric arc within the air current.

6. An apparatus for producing the chemical combination of nitrogen and oxygen, composed of means for establishing an electric arc of minimum volume and maximum length, means for deflecting and rotating the arc magnetically, and means for causing a current of atmospheric air to pass through the space of rotation of the arc.

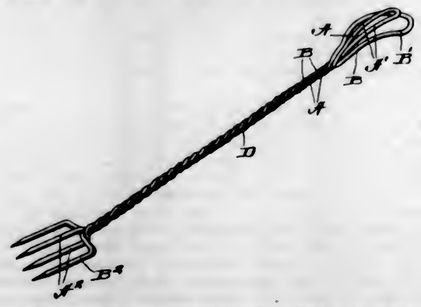
7. An apparatus for producing the chemical combination of nitrogen and oxygen, composed of means for establishing an electric arc, means for passing a rotating magnetic flux substantially at right angles to the axis of the arc, and means for passing a current of atmospheric air through and past the arc.

865,619. SPINNING DEVICE FOR WHIPPING TOPS. GUSTAV TRESENREUTER, Steglitz, near Berlin, Germany. Filed Aug. 15, 1906. Serial No. 330,711.



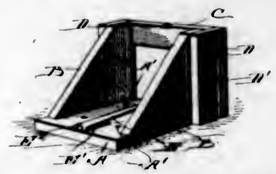
A spinning device for whipping tops, consisting of a screw spindle adapted to receive a top at the lower end, a nut seated on the screw spindle, a member in the bottom end of which the screw spindle is rotatably secured, a spiral spring coiled round the spindle above the nut, and a hollow sliding handle in which the nut is fixed, substantially as described.

865,620. COMBINED FORK, EGG-BEATER, AND DISH-LIFTER. HARVEY J. VASCONCELLES, Jacksonville, Ill. Filed July 30, 1907. Serial No. 386,287.



A combination tool comprising two pieces of wire which are bent upon themselves to form loops of different sizes, one of the loops being flaring and the other loop positioned between the marginal edge of the flaring loop and extending slightly below the latter, the strands of the wire being twisted together to form a handle, and the ends of the wire being formed into tines of a fork, as set forth.

865,621. SAW-GUIDE. BALYS A. WADSWORTH, Hale, Oreg. Filed May 17, 1906. Serial No. 317,360.



1. A saw-guide comprising a base provided with sides connected together by a cross-bar, a sight formed in said cross-bar and a sight secured on said base in alinement with the sight on the cross-bar.

2. A saw-guide comprising a base having sides projecting upwardly therefrom, slotted strips secured to said sides, a cross-bar connecting said sides provided with a sight arranged on said base in alinement with said sight.

3. A saw guide comprising a base provided with slotted side members, a notched cross bar connecting said members forming a sight a folding sight arranged on said base in alinement with said sight, for the purpose set forth.

4. The combination with a base provided with sides connected together by a cross-bar, of slotted saw-guides secured to said sides, a sight point formed on said cross-bar, a sight point mounted on said base, the two sight points being at right angles to the line of the saw-guides, and means for securing said base on a log for the purpose described.

865,622. NUT AND BOLT TURNING ATTACHMENT FOR PNEUMATIC HAMMERS. CHARLES WILSON, Chicago, Ill., assignor of one-half to William Benning, Chicago, Ill. Filed Jan. 14, 1905. Serial No. 241,094.



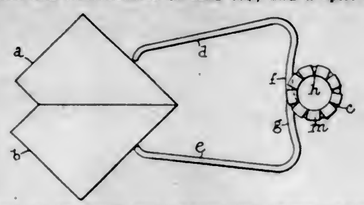
In a device of the character described, a barrel having at one end a screw threaded bore, an intermediate larger bore and at the other end a rectangular opening whose diagonal cross section approximates that of the cross section of the bore, a screw-threaded shank fitting the screw-threaded part of the opening, a washer larger in diameter than the said screw-threaded part of the bore, detachably secured to the end of the shank and removable or replaceable when detached through the rectangular opening by being turned to the plane of a diagonal of said opening.

865,623. CLAMPING DEVICE. WINTHROP E. WOOD, Winthrop, Mass., assignor of one-third to George J. Lothrop, Medford, Mass. Filed June 2, 1906. Serial No. 319,880.

1. A clamping device comprising a single piece of wire bent to form a spring coil composed of a plurality of convolutions, offset portions extended from the end convolutions of the coil substantially tangential with relation thereto, and jaws or arms connected to said offset portions and converging toward each other, substantially as described.

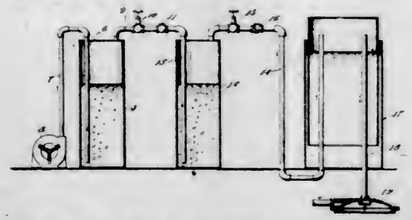
2. A clamping device comprising a single piece of wire bent to form a spring coil composed of a plurality of con-

volutions, jaws or arms radially arranged with relation to said coil, offset portions connecting said arms with the opposite end convolutions of said coil, and a split sleeve



inserted in said coil and having end flanges which engage the endmost convolutions of said coil, substantially as described.

865,624. PROCESS FOR THE MANUFACTURE OF ILLUMINATING AND HEATING GAS. GEORGE W. ZIEGLER, Los Angeles, Cal. Filed Feb. 13, 1907. Serial No. 357,169.



1. The herein described process of manufacturing gas, consisting of passing a volume of air through a body of light gravity oils; and then passing the resultant vapor through a body of heavy gravity oils, whereby the vapor so treated becomes surcharged and enriched.

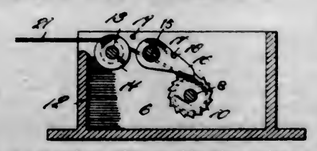
2. The herein described process of enriching carbureted air which consists of forcing a volume of air through a body of light gravity oils, and then passing the resultant vapor through a body of cool heavy gravity oils, whereby the vapor so treated becomes surcharged and enriched.

3. The herein described process of manufacturing heating and illuminating gas, which consists of passing a volume of air through a body of light gravity oils; and then passing the resultant vapor through a combination of heavy gravity oils and coal tar, whereby the vapor so treated becomes surcharged and enriched.

4. The herein described process of manufacturing heating and illuminating gas, which consists of passing a volume of air through a body of light gravity oils; and then passing the resultant vapor through a body of heavier gravity oils, whereby the vapor so treated becomes surcharged and enriched.

5. The herein described process of manufacturing heating and illuminating gas, which consists of passing a volume of air through a body of light specific gravity hydrocarbons; and then passing the resultant vapor through a body of heavy specific gravity hydrocarbons, whereby the vapor so treated becomes surcharged and enriched.

865,625. STRETCHER. NATHAN D. BAKER, Thackery, Ohio. Filed Oct. 1, 1906, Serial No. 336,949. Renewed July 24, 1907. Serial No. 385,313.

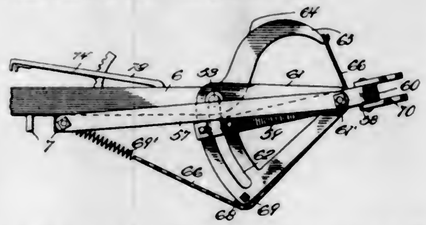


1. In a stretcher, the combination with a revoluble drum, of a ratchet carried by the drum, a dog pivoted for movement into and out of engagement with the ratchet, and a rod located adjacent to the dog, said dog having portions adapted for engagement with the rod when the dog is out of operative position to hold the dog against pivotal movement, said dog being movable bodily to bring said portions into and out of engagement with the rod.

2. A stretcher comprising a casing, a drum in the casing, means for revolving the drum, a ratchet carried by the drum, a shaft mounted in the casing, a dog pivoted upon the shaft for movement into and out of engagement with the ratchet, a rod engaged in the casing, and a lip carried by the dog and arranged for engagement with the rod when the dog is out of engagement with the ratchet to prevent return movement of the dog, said dog being movable bodily upon the shaft to bring its lip into and out of engagement with the rod.

3. A stretcher comprising a casing, a drum journaled in the casing, ratchets carried by the ends of the drum, a shaft engaged at its ends in the sides of the casing and having reduced end portions inwardly of the sides, dogs mounted upon said end portions of the shaft for pivotal movement into and out of engagement with the ratchets, a transverse rod mounted in the casing and arranged to receive the dogs thereagainst when the dogs are out of engagement with the ratchets, said dogs having lips arranged for engagement with the rod to hold the dogs against movement pivotally, said dogs being movable bodily upon the shaft to bring said lips into and out of such engagement with the rod.

865,626. CLEVIS. GEORGE W. BARNETT, Louise, Tex. Filed Dec. 18, 1906. Serial No. 348,416.



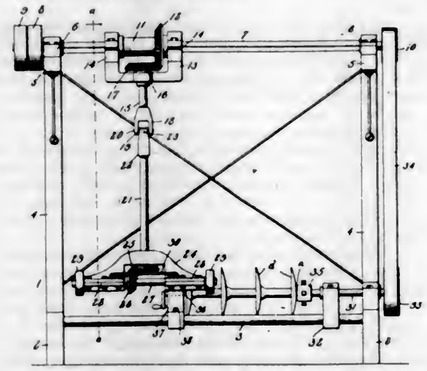
1. In a clevis mechanism, the combination with a pair of spaced parallel beams, of a yoke having opposite arms pivoted to the forward ends of said beams, brace rods secured to the yoke, a vertically disposed segmental plate carried by each arm of the yoke, and provided with a vertically extending slot, guide pins carried by the beams and engaged in the slots for vertical movement of the plates with respect thereto, a clevis carried by the forward portion of the yoke, means for holding the yoke yieldably at one limit of its pivotal movement, and means for moving the yoke against the action of said holding means.

2. In a mechanism of the class described, the combination with a beam, of a clevis connected with the beam for bodily vertical movement and for pivotal horizontal movement, means for holding the clevis yieldably against vertical movement, and means for moving the clevis horizontally.

3. In a clevis mechanism, the combination with a beam, of a yoke connected thereto for pivotal and vertical movement, a clevis connected with the yoke for pivotal movement, means for moving the clevis pivotally, a sprocket wheel connected with the yoke for vertical movement therewith, a chain engaged with the sprocket wheel, said chain having a fixed end, and a fixed spring connected to the other end of the chain, said spring being arranged to hold the chain yieldably with the yoke against movement.

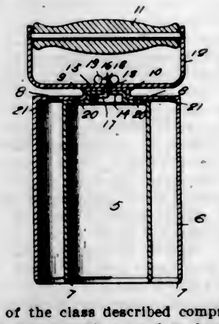
4. A clevis mechanism comprising spaced beams, guide pins engaged in the beams, plates having vertically extending slots in which the guide pins are slidably engaged, cross rods engaged in the plates, sprocket wheels mounted upon the rods, chains engaged with the sprocket wheels and connected at their ends with the beams, fixed springs connected with the other ends of the chains, a yoke carried by the plates, and a clevis connected with the yoke.

865,627. DISK-GRINDER. WILLIAM BROWER, MAHLON ROSE, and WILLIAM O. JONES, Manlius, Ill. Filed June 14, 1906. Serial No. 321,726.



In a disk grinding machine, a frame, an overhead power shaft journaled therein, a sleeve arranged for sliding movement on and for rotation with the power shaft, said sleeve being provided with a beveled pinion, a yoke frame having bearings to receive the ends of the sleeve, a power transmitting shaft journaled at its upper end in the yoke frame and provided with a beveled pinion in mesh with the first-named pinion for operation by the power shaft, a grinding frame swiveled on and near the lower end of the transmitting shaft, a horizontal grinding shaft journaled in the grinding frame, intermeshing beveled pinions fixed respectively on the lower end of the transmitting shaft and on the grinding shaft for operatively connecting said shafts, means for sustaining a disk-carrying shaft in the frame, and vertically disposed grinding tools mounted on the ends of the grinding shaft to operate on the disks, said power transmitting shaft comprising a pair of sections having a universal joint connection adapting the grinding frame to swing in a direction transversely of the disk shaft and also at an angle relative to the vertical axes of the disks.

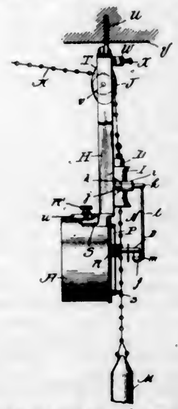
865,628. VEGETABLE-CUTTER. JOSEPHINE C. CARSLEY, Cumberland, Wis. Filed Jan. 29, 1907. Serial No. 354,700.



1. A device of the class described comprising a pair of concentric cylindrical cutting members having their lower edges sharpened and having their upper ends closed and formed with concentrically arranged bulged portions, the bulged portion of the inner member being snugly received in the corresponding portion of the outer member whereby the two members will be held in concentric relation, a handle including a bowed portion, the two portions having registering key hole slots formed centrally through their bulged portions, an L-bolt engaged through the slots and through the bowed portion of the handle, and a thumb nut engaged upon the bolt and bearing upon the upper face of the said bowed portion of the handle.

2. A device of the class described comprising a pair of cylindrical cutting members having closed upper ends formed with bulged portions, the bulged portion of one member being received in the corresponding portion of the other member, a handle including a bowed portion, and means connected with the bowed portion of the handle and extending through the bulged portions of the closed ends of the cylindrical cutting member for securing the members together and to the handle.

865,629. TIME-CONTROLLING MECHANISM. ALTON B. CARTY and ROY F. CARTY, Washington, D. C. Filed Feb. 6, 1907. Serial No. 356,041.



1. In a mechanism for the purpose described, the combination of a vertically-disposed conduit open at its upper and lower ends, a cable movable through the conduit, a bullet connected to the cable at an intermediate point in the length thereof and movable into and out of and through the conduit, a weight carried by the cable, and arranged below the bullet and separated by a portion of cable therefrom, a support for coöperating with the conduit to hold the bullet against downward movement; said support being movable to release the bullet by the gravitation of the weight exerted on the cable and bullet, and means for permitting the said movement of the support at predetermined times.

2. In a mechanism for the purpose described, the combination of a vertically-disposed conduit open at its upper and lower ends, a cable movable through the conduit, a bullet connected to the cable at an intermediate point in the length thereof and movable into and out of and through the conduit, a weight carried by the cable, and arranged below the bullet and separated by a portion of cable therefrom, a vertically-swinging support having a platform arranged to coöperate with the conduit in supporting the bullet; said platform being movable downward to release the bullet by the gravitation of the weight exerted on the cable and bullet and being arranged to be engaged by the bullet on upward movement thereof to position the support properly, relative to the bullet, and means for permitting the support to swing downward at predetermined times.

3. In a mechanism for the purpose described, the combination with a conduit having lower and upper flared ends and also having an opening in its side and an apertured lug, a cable movable through the conduit and carrying a bullet adapted to be positioned in the conduit, and a weight on the cable; of a vertically swinging support

comprising a rock-shaft journaled in the apertured lug of the conduit, a platform fixed to said rock-shaft and movable into and out of the path of the bullet and also movable in the opening in the side of the conduit, and an arm on the rock-shaft, and means coöperating with the said arm of the support for permitting movement of the support at predetermined times to release the bullet.

4. In a mechanism for the purpose described, the combination with a conduit, a cable movable through the conduit and carrying a bullet adapted to be positioned in the conduit, and a weight on the cable; of a vertically movable weight-support having an arm, a lever arm, means for releasing the lever arm at predetermined times, a spindle movable with the lever arm when the same is released and having an arm arranged to be engaged by the arm of the support and moved thereby in one direction, and a connection between the lever arm and the spindle whereby the spindle and its arm are enabled to move in the opposite direction independent of the lever arm.

5. In a mechanism for the purpose described, the combination of a swinging support, a lever arm, means for releasing the lever arm at predetermined times, a spindle engaged by the support and movable by the same in one direction and with the lever arm when the same is released, and a connection between the lever arm and the spindle whereby the spindle is enabled to move in the opposite direction independent of the lever arm.

6. In a mechanism for the purpose described, the combination of a movable support, means for moving the same, a lever arm, means for releasing the lever arm at predetermined times, a spindle engaged by the support and movable by the same in one direction; said spindle being loosely mounted in the lever arm and provided with means for moving the lever arm in said direction, and means intermediate the lever arm and the spindle, whereby the spindle is enabled to move in the opposite direction independent of the lever arm.

7. In a mechanism for the purpose described, the combination of a movable support, means for moving the same, a lever arm having a sleeve in one end of which is a recess, means for releasing the lever arm at predetermined times, a spindle having an arm engaged by the support and movable by the same in one direction; said spindle being loosely mounted in the sleeve of the lever arm and having a pin disposed in the recess of said sleeve, a coiled spring surrounding the sleeve of the lever arm and connected to said arm and the pin on the spindle, and a spring for moving the lever arm in the direction opposite to that in which said lever arm is moved by the spindle.

8. In a mechanism for the purpose described, the combination of a conduit, a cable movable through the conduit and carrying a bullet adapted to be positioned in the conduit, a weight on the cable, a vertically swinging weight-support, a lever arm having a sleeve in one end of which is a recess, a swinging platform for holding the lever arm against movement in one direction, means for releasing said platform and consequently the lever arm at predetermined times, a spindle having an arm engaged by the weight-support and movable by the same in one direction; said spindle being loosely mounted in the sleeve of the lever arm and having a pin disposed in the recess of said sleeve, a coiled spring surrounding the sleeve of the lever arm and connected to said arm and the pin on the spindle, and a spring for moving the lever arm in the direction opposite to that in which said lever arm is moved by the spindle.

9. In a mechanism for the purpose described, the combination of a conduit, a cable movable through the conduit and carrying a bullet adapted to be positioned in the conduit, a weight on the cable, a vertically swinging weight support having a platform movable in opposite directions by the bullet and also having an arm, a lever arm having a sleeve in one end of which is a recess, means for releasing said lever arm at predetermined times, a spindle having an arm movable in opposite directions by the arm of the weight-support; said spindle being loosely mounted in the sleeve of the lever arm and having a pin disposed in the recess of said sleeve, a coiled spring surrounding the sleeve of the lever arm and connected to said arm and the pin on the spindle, and a spring for moving the lever arm in the direction opposite to that in which said lever arm is moved by the spindle is enabled to move in the opposite direction to that in which said lever arm is moved by the spindle, whereby the lever arm and a platform coöperating therewith are returned to the proper working positions relative to means for engaging the platform and for releasing the same at predetermined times to permit of movement of the lever arm by the spindle.

10. In a mechanism for the purpose described, the combination of a conduit, a cable movable through the conduit and carrying a bullet adapted to be positioned in the conduit, a weight on the cable, a vertically swinging weight-support having a platform movable in opposite directions by the bullet and also having an arm, a spindle having an arm arranged to be moved in one direction by the arm of the weight-support, means for permitting movement of the spindle in said direction at predetermined times, and a spring connection intermediate the spindle and said means, whereby the spindle is adapted to be moved in the opposite direction by the arm of the weight-support independent of said means.

11. A mechanism for the purpose described comprising a hanger, a block mounted in the upper portion of the hanger and provided with a sheave and also with a screw whereby the hanger may be turned into engagement with a support, a conduit on the hanger, a cable passed over the sheave and movable through the conduit and having a bullet adapted to be positioned in the conduit, a weight on the cable, a vertically swinging weight-support arranged to coöperate with the conduit in holding the bullet, and a clock carried by the hanger and provided with means for permitting movement of the weight-support at predetermined times.

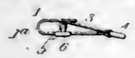
12. A mechanism for the purpose described, comprising a hanger having a bifurcation in its upper end, a block pivotally mounted in said bifurcation and provided with a sheave and also with a screw whereby the hanger may be turned into engagement with a support, a yoke connected to the hanger and having a threaded aperture, a screw bearing in said aperture and engaging the block, a vertically disposed conduit on the hanger, a cable passed over the sheave and movable through the conduit and having a bullet adapted to be positioned in the conduit, a weight on the cable, a vertically swinging weight-support arranged to coöperate with the conduit in holding the bullet against downward movement, and a clock carried by the hanger and provided with means for holding the weight-support against movement and for permitting said weight-support to move at predetermined times.

13. In a mechanism for the purpose described, the combination of vertically disposed conduits, cables movable through the conduits and carrying bullets adapted to be positioned in the conduits, weights on the cables, a vertically swinging weight-support having a platform movable in opposite directions by one bullet and also having an arm, means for holding said arm against movement and for permitting movement thereof at predetermined times, and a vertically-swinging latch having a protuberance arranged to engage the last mentioned bullet, and also having a toe arranged to rest under the other bullets when the bullets are in their raised positions.

14. In a mechanism for the purpose described, the combination of a clock having a sleeve communicating with its interior and extending rearward from the back wall of its casing, a spindle extending through said sleeve and having an arm on its outer portion, means in the clock casing for permitting movement of said spindle at predetermined times, packing arranged in the sleeve around the spindle, a dust shield pivoted on the sleeve and arranged to bear against the back of the casing, a coiled spring surrounding the sleeve and interposed between the shield and an outer abutment on the sleeve, a gravitating weight, and a weight-support arranged to be held against movement by the arm on the spindle and to be released from said arm when the spindle is permitted to move.

15. The combination of a clock having a sleeve communicating with its interior and extending rearward from the back wall of its casing, a spindle extending through said sleeve, means in the clock casing for holding the spindle against movement and for permitting movement of said spindles at predetermined times, packing arranged in the sleeve around the spindle, a swinging dust shield pivoted on the sleeve and arranged to bear against the back of the casing, and a spring arranged to crowd the shield against the casing.

865,630. GARMENT-HOOK. WILLIAM H. CLAY, Lexington, Ky. Filed Nov. 19, 1906. Serial No. 344,104.



1. A hook of the character described having a shank, a hook proper, an offset extending near to the under surface of said hook proper, and an arch spanning the shank and secured to the offset, said arch having means to secure it to a garment.

2. A hook of the character described having a shank, a hook proper, an offset extending near to the under surface of said hook proper, means at the juncture of the shank and offset for securing the hook to a garment, and an arch spanning the shanks and secured to the offset, said arch having means to secure it to a garment.

3. A hook of the character described having a shank, a hook proper, an offset terminating near to the under surface of said hook proper in an abrupt face for the purpose specified, and an arch spanning the shank and secured to the offset.

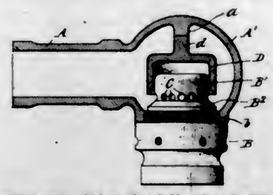
4. A hook of the character described having a shank, a hook proper, an offset terminating near to the under surface of said hook proper in an abrupt face for the purpose specified, and an arch spanning the shank and secured to the offset, said arch having means to secure it to a garment.

5. A hook of the character described comprising a body portion made of a single piece bent to form a shank, a hook proper and an offset extending near to the under surface of said hook proper, and an arch spanning the shank and secured to the offset, said arch having means to secure it to a garment.

6. A hook of the character described, comprising a body portion made of a single piece bent to form a shank, a hook proper and an offset extending near to the under surface of said hook proper, a ring secured in the fold between the shank and offset, for the purpose specified, and an arch spanning the shank and secured to the offset, said arch having means to secure it to a garment.

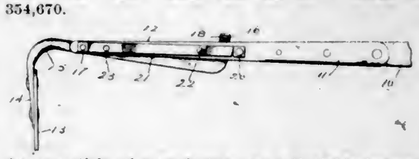
7. A hook of the character described comprising a body portion made of a single piece bent to form a shank, a hook proper and an offset terminating in an abrupt face for the purpose specified, and an arch spanning the shank and secured to the offset.

865,631. CHECK-VALVE. FRANK P. COTTER, Augusta, Ga. Filed Nov. 26, 1906. Serial No. 345,147.



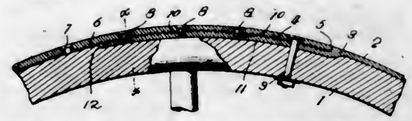
A check valve embodying the following instrumentalities, to wit; a main housing having lateral and bottom apertures, the latter being of relatively large diameter and internally screw threaded, a fitting having a passage therethrough, an externally threaded neck screwed into the bottom aperture in the housing and an open ended cylindrical extension of less diameter than the neck, projecting vertically into the housing and having lateral openings near its base within the housing, a vertically movable cup shaped valve of less external diameter than the neck, inclosing and working vertically on the extension of the fitting, coöperating seats on the neck and lower edge of the valve and stop projections on the top of the valve and inside of the housing respectively, for limiting the upward movement of the valve.

865,632. ADJUSTABLE HOE. JAMES E. DAVIS, Pleasant Shade, Tenn. Filed Jan. 29, 1907. Serial No. 354,670.



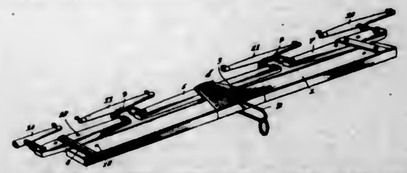
As an article of manufacture, an adjustable hoe comprising a handle having spaced bars extending from its lower end, the upper portions of the bar being secured to opposite sides of the handle, the hoe and its shank the latter having an upturned angular end ribbed and grooved on its sides and projecting between the bars the contacting sides being correspondingly ribbed and grooved, a headed bolt extending through the bars to the rear of the angular end of the shank to clamp the latter in position, a headed bolt extended through the forward ends of the bars and the shank, and a strip of resilient metal pivoted at one end on the side of one of the bars and secured at the other end on a pivot pin with its ends in contact with the heads of the bolt to keep them from turning.

865,633. TIRE. STEPHEN G. DAVIS, Cooper, Iowa. Filed Nov. 5, 1906. Serial No. 342,130.



The combination of a wheel embodying a felly having a recess formed in the periphery thereof, one end of said recess terminating in a shoulder, a tire in the form of a split band encircling said felly, one end of the said band being thickened and fitting within the before mentioned recess in the felly so as to abut against the shoulder at the termination of the recess, the said thickened portion of the band being provided with a recess and with a plurality of transverse beveled notches on its outer face, the opposite end of the tire being designed to fit within the recess of the first mentioned end and provided with transverse notches for coacting with the first mentioned notches, the end portions of the band being provided with corresponding openings, a series of clamping screws passing through a portion of the corresponding openings and holding the overlapping ends of the band together, and a clamping bolt extending through the overlapping ends of the band and the felly of the wheel.

865,634. DRAFT-EQUALIZER. LOUIS E. DORON, Thayer, Kans. Filed Nov. 10, 1906. Serial No. 342,876.

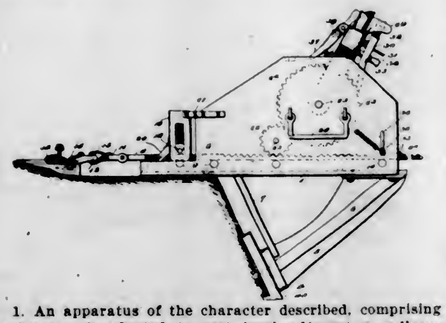


1. A draft equalizer comprising a main draft beam, the equalizing levers 5, 6 and 7 pivotally connected with

the intermediate and end portions of the draft beam, the flexible connections between adjacent ends of the levers 5, 6 and 7, the pivotal connections between the beam and the levers 6 and 7 being adjustable, whiffle trees secured to the outer ends of the levers 6 and 7, and other whiffle trees connected with the flexible connections between the levers 5, 6 and 7, as specified.

2. A draft equalizer substantially as set forth, comprising a main draft beam, a yoke projecting outwardly from said beam and receiving the body thereof between its sides and located at a central point on the length of the beam, a draft link connected with the beam, a pivotal fastening connecting the draft link to the beam and passing through the beam and the sides of the yoke aforesaid securing said parts together, the equalizing lever 5 pivoted centrally thereof to the yoke aforesaid, the end equalizing levers 6 and 7, draft links adjustably connected with the ends of the beam and with the intermediate portions of the equalizing levers 6 and 7, whiffle trees connected with the outer ends of the equalizing levers 6 and 7, flexible connections between the adjacent ends of the levers 5, 6 and 7, and whiffle trees connected with said flexible connections for the purpose specified.

865,635. RAILWAY-TRACK LINER. GEORGE A. DUGGER, Frederick, Ill., assignor of one-half to Robert L. Berry, Frederick, Ill. Filed June 12, 1907. Serial No. 378,626.



1. An apparatus of the character described, comprising a framework adapted to rest level adjacent a railway track, a brace plate secured to the framework and extending below the same at an inclination thereto and adapted to bear against the shoulder of an embankment or "dump", a draw bar mounted to move longitudinally in the framework, a grapple or hook connected to the front end of the draw bar and designed for engagement with a track rail, and means for working the draw bar backwardly in the framework.

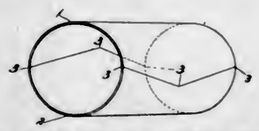
2. An apparatus of the character described, comprising a framework, a brace plate secured to the framework and extending below the same and disposed at an inclination to the bottom of the framework for the purpose specified, a draw bar mounted to move longitudinally in the framework and provided at its front end with a shackle, a hook detachably connected to said shackle and designed for engagement with the track rail, and means for working the draw bar backwardly and forwardly in the framework.

3. An apparatus of the character described, comprising a framework consisting of a base plate and spaced side bars, rollers journaled in the side bars at the front and rear thereof, a draw bar mounted on said rollers and movable longitudinally in the framework, said draw bar being provided with a rack, a hook designed for engagement with the front end of the draw bar and adapted to engage a track rail, a spring pressed roller extending over the draw bar, a detent pawl adapted to engage the rack and hold the draw bar at different points of retraction within the framework, means for releasing said detent pawl, and means for working the draw bar backwardly and forwardly in the framework.

4. An apparatus of the character described, comprising a framework consisting of a base plate and spaced side bars, rollers journaled in said side bars, a draw bar mounted to move longitudinally in the framework of said rollers, a hook connected to the front end of the draw bar and designed for engagement with a track rail, said draw bar being provided with a rack, a pinion journaled in said side bars of the framework and meshing with said rack, a ratchet meshing with said pinion, a shaft upon which said ratchet is loosely mounted, said shaft being mounted in the said bars, a pawl designed to engage the ratchet, levers loosely mounted on the shaft of the ratchet, a cross bar connecting said levers together and forming a support for the pawl, said cross bar being provided with sockets and hand rods accommodated in said sockets, as and for the purpose set forth.

5. An apparatus of the character described, comprising a framework consisting of a base plate, spaced side bars, a draw bar mounted to move longitudinally in the framework and provided with a ratchet surface, a hook connected to said draw bar and adapted for engagement with a track rail, a pinion journaled in the side bars and meshing with the rack of said draw bar, a ratchet wheel meshing with said pinion, a shaft on which said ratchet wheel is loosely mounted, said shaft being secured to the side bars, levers pivotally mounted on said shaft, a cross bar connecting the ends of said levers together, a pivoted pawl carried by said cross bar and spring pressed away from the ratchet, and means for holding the pawl against the tension of the spring, in operative relation to the ratchet.

865,636. ROLLER-BEARING. SAMUEL S. EVELAND, Philadelphia, Pa. Filed Dec. 7, 1903. Serial No. 184,015.

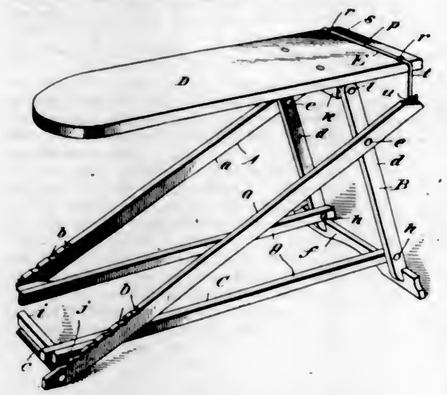


1. A roller bearing having a shaft extending through and laterally beyond the same, in combination with a two part externally and internally cylindrical sleeve interposed between the shaft and bearing and divided along oblique lines into two separate parts, each part having a lateral opening of less width than the diameter of the shaft and through which the shaft may be forced to permit of springing the parts onto the shaft from the sides thereof, substantially as described.

2. A roller bearing having a shaft extending through and laterally beyond the same, in combination with a two part sleeve interposed between the shaft and bearing and divided along oblique lines into two separate parts, each part having a lateral opening of less width than the diameter of the shaft and through which the shaft may be forced to permit of springing the parts onto the shaft from the sides thereof, substantially as described.

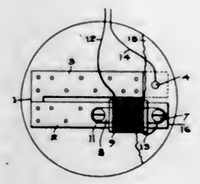
865,637. IRONING-TABLE. GEORGE FOSTER, East Auburn, Cal. Filed May 16, 1907. Serial No. 373,918.

1. The combination in an ironing table, of a long supporting member having side bars connected together adjacent to the lower ends thereof and also having notches in the upper edges of the lower portions of said side bars, a comparatively short supporting member having side bars pivoted at an intermediate point in their length to the inner sides of the side bars of the long supporting member and also having a transverse base fixed to the lower ends of the side bars, a locking member having side bars connected together and pivoted to the side bars of the short supporting member and also having lateral projections arranged to be seated in the notches in the upper edges of the side bars of the long supporting member, a board arranged to bear at a point much nearer to one of its ends than to the other on the upper ends of the side bars of the short supporting member and having a block at its under side disposed between the said side bars with trunnions journaled in the said bars, the board having a transverse groove in its upper side adjacent to the outer end of its short arm, and a bail having a transverse portion journaled and secured in the said groove and also having arms extending downward from the ends of the transverse portion and connected to the short arms of the side bars of the member that is comparatively long and forms part of the board support.



2. An ironing table comprising a comparatively long supporting member, a comparatively short supporting member pivoted at an intermediate point of its length to the long member at an intermediate point in the length of the latter, a locking member pivoted to the short supporting member, coöperating means on the long supporting member and the locking member whereby the latter may be fixed at various points to the former, a board having trunnions arranged much nearer to one of its ends than to the other and pivoted in the upper portion of the short supporting member, and a bail pivoted to the short arm of the board adjacent to the outer end thereof and having arms connected to the long supporting member.

865,638. THERMOSTAT. HARRY G. GEISSINGER, New York, N. Y. Filed July 16, 1906. Serial No. 326,442.



1. A thermal bar for thermostats, comprising a substantially U-shaped metallic plate, both legs of said bar occupying substantially the same plane, said bar having a plate of a dissimilar metal secured to a portion only of one face thereof.

2. A thermal bar for thermostats, comprising a substantially U-shaped metallic plate, both legs of said bar occupying substantially the same plane, said bar having a plate of a dissimilar metal secured to the front face of one leg thereof and a second plate of a dissimilar metal secured to the rear face of the other leg thereof.

3. In a thermostat, in combination, a supporting frame, an electromagnet having two separated poles, one of said poles carrying an adjustable terminal, and a flat, recurved thermal bar so mounted on said frame as to make electrical contact with said terminal and to move in the vicinity of the other pole of the magnet.

4. In a thermostat, in combination, a supporting frame, an electromagnet having two adjustable pole pieces, and a flat recurved thermal bar so mounted on said frame as to make electrical contact with one of said pole pieces, the other pole piece being located opposite a point intermediate the extremities of said thermal bar.

5. In a thermostat, the combination of a supporting frame, an electromagnet mounted on said frame and having two adjustable poles, one of the said poles forming a contact point, a U-shaped thermal bar, both of the legs of which lie in substantially the same plane, one leg of the said bar being secured to said frame and the other leg thereof free to make contact with one of the poles of said magnet and move in the vicinity of the other pole thereof.

6. In a thermostat the combination of an electromagnet having two adjustable poles, one of said poles being electrically connected with said electromagnet, a U-shaped thermal bar, both of the legs of which occupy substantially the same plane, said bar having one extremity fixed and the other so located as to close the circuit through the said pole of the said electromagnet and having the intermediate portion of the free leg of the U-shaped bar in the magnetic field of the other of the said poles.

7. In a thermostat, in combination, a supporting frame, an electromagnet mounted thereon, a U-shaped thermal bar, both legs of which lie in substantially the same plane, one leg of said bar being secured to said frame and the free extremity of the other leg forming one terminal of an electric circuit, one pole of the electromagnet forming the other terminal of said circuit, an electromagnet-coil located in said circuit, and the other pole of said magnet being located near an intermediate part of said thermal bar to damp its vibrations when said circuit is closed.

8. An electric thermostat comprising an electric circuit, a thermal bar carrying one terminal of said circuit, an electromagnet having a substantially straight core, one pole of which core carries the other terminal of said circuit, an energizing coil for said magnet also located in said circuit, the other pole of said magnet-core being located near an intermediate part of said thermal bar to damp its vibrations when said circuit is closed.

9. In a thermostat, the combination of a supporting frame, an electromagnet, a U-shaped thermal bar having both its legs in substantially the same plane, the end of one leg of said bar being secured to said frame near one pole of said magnet and the other leg passing near the other pole thereof and carrying at its free end a contact point for closing the circuit of said electromagnet by contacting with the first mentioned pole of said magnet.

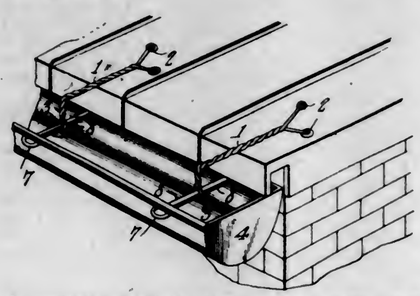
10. In a thermostat, the combination of an electromagnet having two poles, and a thermal bar closing a circuit through one pole of the said magnet, but never touching the other pole, the said poles being located on one side of the said bar and arranged to act directly thereon.

11. In a thermostat, the combination of an electromagnet having two adjustable poles, one of the said poles forming a contact point, a U-shaped thermal bar making contact with one of the said poles and moving in the vicinity of the other of the said poles.

12. In a thermostat, the combination of an electromagnet having two adjustable poles, one of the said poles being electrically connected with the said electro-magnet, a U-shaped thermal bar closing the circuit through the said pole and having the central portion of one of its limbs in the vicinity of the other of the said poles.

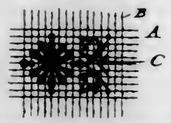
13. In a thermostat, in combination, a supporting frame, an electromagnet mounted thereon, and having its poles at opposite ends of its energizing coil, a flexible flat U-shaped thermal bar having the end of one of its legs secured to the frame near one pole of the magnet and having the neutral axis of flexure of said bar located substantially opposite the other pole of said magnet, the terminal of the free end of said thermal bar carrying a contact for closing the circuit of the magnet coil through the pole located nearest the point of attachment of the thermal bar.

865,639. EAVES-TROUGH HANGER. ELIZA D. GREELEY, Louisville, Ky. Filed Mar. 19, 1907. Serial No. 363,195.



In combination with an eaves trough, a hanger therefor comprising a wire having a loop, a rod extending transversely across the trough and passing through said loop, tubes of equal length located upon the end portions of the rod and being free to rotate thereon said tubes bearing at their outer ends against the inner sides of the trough and at the inner ends against the opposite sides of the loop and holding the loop over the center of the trough.

865,640. METHOD OF MANUFACTURING EMBROIDERY. HERMANN HÄBERER, Rodewisch, Germany. Filed Feb. 21, 1907. Serial No. 358,599.



1. A method of manufacturing embroidery consisting in making a ground-work fabric into which bourette threads of waste silk are woven, in embroidering a pattern thereon and in removing said ground-work by corrosion.

2. A method of manufacturing embroidery consisting in making a ground-work fabric into which bourette threads of waste silk are woven as the weft, in embroidering a pattern thereon and in removing said ground-work by corrosion.

3. A method of manufacturing embroidery consisting in making a ground-work fabric into which bourette threads of waste silk are woven as the warp, in embroidering a pattern thereon and in removing said ground-work by corrosion.

4. A method of manufacturing embroidery consisting in making a ground-work fabric into which bourette threads of waste silk are woven as the weft and warp, in embroidering a pattern thereon and in removing said ground-work by corrosion.

865,641. CURTAIN-STRETCHER. PETER O. HOLMQUIST, Chicago, Ill. Filed Nov. 25, 1905. Serial No. 289,129.



1. A curtain stretcher bar having an angular slot therein, said slot being formed partly by an over-hanging lip, and a pin slidable in said slot and constructed to pinch said lip to hold the pin in adjusted position.

2. A curtain stretcher bar having a slot therein, said slot being formed partly by an overhanging lip, and a pin slidably arranged in said slot and constructed to pinch said lip at all times and have said pinching action intensified under the strain of the curtain.

3. A curtain stretcher bar having a slot therein, said slot being formed partly by an overhanging lip, and a pin having its base slidably arranged in said slot, one part of said base being bent upwardly to bear against the underside of the lip, said pin extending out of the slot and over said lip and having a bearing thereon to pinch the lip.

4. A curtain stretcher bar having an angular slot therein, and a pin slidably arranged in said slot, said pin having a rectangular base, a neck, a pointed end to receive a curtain, and an eye on the other end encircling the neck.

5. A curtain stretcher bar having an angular slot therein, said slot being formed partly by an over-hanging lip, and a pin slidably arranged in said slot, said pin being shaped to pinch the underside, the edge and the upper face of the lip.

6. A curtain stretcher bar having an angular slot therein, said slot being formed partly by an over-hanging lip, and a pin slidably arranged in said slot, said pin having a rectangular base, a pointed end to receive the curtain, that portion of the pin between the base and the pointed end being bent to form two shoulders and a neck, one of said shoulders bearing upon the outer face of the lip, the neck bearing against the edge of the lip, and the other end of the pin being bent upward and formed into an eye encircling the neck.

7. A curtain stretcher bar having an angular slot therein, said slot being formed partly by an overhanging lip, and a pin having a base slidably arranged in said slot, one end of the pin being made in the form of an eye and located in the slot beneath the lip and the other end of the pin extending through said eye and being bent in the form of a hook at the outer side of the lip.

865,642. STEM WINDING AND SETTING WATCH. ERNEST H. HORN, Waterbury, Conn., assignor to The Waterbury Clock Co., Waterbury, Conn., a Corporation. Filed Apr. 15, 1907. Serial No. 368,148.



1. In a stem-winding and stem-setting watch, the combination with the front and rear movement plates thereof, of a fixed pillar connecting the same, a setting-lever located between the said plates and hung upon the said pillar at a point close to the inner face of the front movement-plate, a rotatable and longitudinally movable stem for coaction with the inner end of the said lever, and a spring-pressed oscillating yoke operated upon by the said lever midway the length thereof.

2. In a stem-winding and stem-setting watch, the combination with the front and rear movement-plates thereof, of a fixed pillar connecting the said plates and provided near the inner face of the said front movement-plate with a bearing-shoulder, a setting-lever mounted upon the said shoulder of the said pillar so as to swing thereupon close to the said inner face of the said front movement-plate, a longitudinally movable and rotatable stem for co-action with the inner end of the said lever, and a spring-pressed oscillating yoke operated upon by the said lever at a point midway the length thereof.

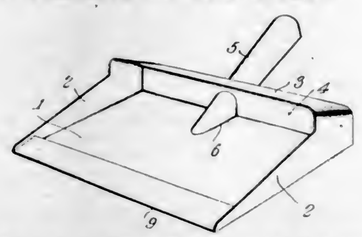
3. In a stem-winding and stem-setting watch, the combination with the front and rear movement-plates thereof, of a pillar located between the said plates and swinging upon the said pillar at a point close to the inner face of the said front movement-plate, a longitudinally movable and rotatable stem coacting with the inner end of the said lever, an oscillating yoke, a spring located upon the outer face of the front movement-plate and engaging directly with the said yoke, and a stud carried by the yoke and co-acting with the said lever.

4. In a stem-winding and stem-setting watch, the combination with the front and rear movement plates thereof, of a pillar located between the said plates and formed with a bearing shoulder, a setting-lever located between the said plates and mounted upon the said shoulder, a stem coacting with the said lever, a winding and setting yoke, a yoke-spring located upon the outer face of the front movement plate and coacting with the yoke and adapted to be held in place by the outer screw of the said pillar.

5. In a stem-winding and stem-setting watch, the combination with the front and rear movement plates thereof, of a ratchet wheel, a click therefor, a click-spring, a pillar located between the said plates, and a screw passing through the said spring for holding the same in place and also passing through the front movement plate and entering the said pillar.

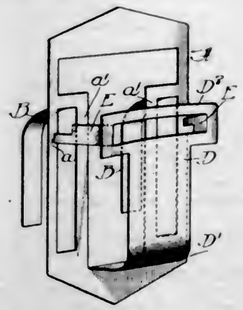
6. In a stem-winding and stem-setting watch, the combination with the front movement-plate thereof, of a stud located therein, a winding and setting wheel turning upon the said stud, an oscillating yoke mounted upon the said stud, and a removable yoke retaining screw directly entering the said stud and holding the yoke in place thereupon.

865,643. DUST-PAN. CHARLES W. JACKSON, Armour, S. D. Filed Oct. 31, 1906. Serial No. 341,467.



A dust pan consisting of a bottom, and side and rear end walls, a hood extending from said walls over the rear portion of the bottom, and a handle extending through the rear wall of the pan and secured upon the bottom adjacent thereto, said handle having a flat lower face and parallel side portions, said side portions being disposed perpendicularly to the bottom of the pan.

865,644. HOLDER FOR COFFEE-BOTTLES AND THE LIKE. JOSEPH H. JANSSEN, Chicago, Ill. Filed Jan. 31, 1907. Serial No. 355,109.

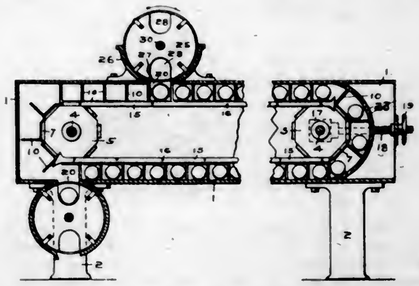


1. A device for the purpose set forth, comprising a vertical body portion, an upwardly opening pocket supported at the front thereof, said pocket comprising a front wall generally parallel with said body portion, a bottom wall joining said front wall with the body portion, and arms extending rearwardly from the upper end of said front wall and connected with said body, and a supporting hook or arm extending rearwardly from said body portion.

2. A device for the purpose set forth, comprising a sheet metal body portion, integral supporting hooks or arms cut from said body portion and folded rearwardly and downwardly therefrom, a strip of metal cut from the central portion of the body and folded forwardly to constitute the bottom of the pocket and upwardly to constitute the front wall of the pocket, and arms constituting the sides of the pocket which are integral with the upper end of the front wall and extend rearwardly therefrom and are connected with said body.

3. A device for the purpose set forth, comprising a sheet metal body, integral supporting arms bent rearwardly therefrom, a strip of metal cut from the central portion of said body and formed at its end to constitute a head of greater transverse length than the width of said strip, said strip being folded forwardly from the body to constitute the bottom of the pocket and upwardly to constitute the front wall of the pocket, and arms cut from said transverse head and folded rearwardly and connected with the said body at the sides thereof to constitute the sides of the pocket.

865,645. AGITATING COOKER AND PROCESSER. JOHN JENNINGS, Rochelle, Ill., assignor of two-thirds to George E. Stocking and Peter Hohenadel, Jr., Rochelle, Ill. Filed Dec. 26, 1906. Serial No. 349,415.



1. An agitating cooker for canned goods comprising a hollow steam tight body having one of its ends movably mounted and curved outward, and provided with inlet and outlet openings, a shaft carrying sprocket wheels extending transversely through said body near each end, means for movably mounting the shaft adjacent to the curved end of the body, and means for simultaneously moving the movably mounted shaft and the curved end of the body, to maintain a uniform distance between said shaft and end.

2. An agitating cooker for canned goods comprising a hollow steam tight body having one of its ends movably mounted and curved outward, and provided with inlet and outlet openings, a shaft carrying sprocket wheels extending transversely through said body near each end, conveyer chains movably mounted within said body and adapted to engage the sprocket wheels, plates for securing the conveyer chains together, and means for simultaneously moving the movably mounted shaft and the curved body end, to maintain a uniform distance between said shaft and end.

3. An agitating cooker for canned goods comprising a hollow steam body having one of its ends movably mounted and curved outward, and provided with inlet and outlet openings, a shaft carrying sprocket wheels extending transversely through said body near each end, conveyer chains movably mounted within said body and adapted to engage the sprocket wheels, right-angle bent channel forming plates secured to the conveyer chains and so arranged that the vertically extending portions of said plates will

bear against the inner walls of the body, and means for simultaneously moving the movably mounted shaft and curved body end, to maintain a uniform distance between said shaft and end.

4. An agitating cooker for canned goods comprising a hollow steam tight body having one of its ends movably mounted and curved outward, and provided with inlet and outlet openings, a rotary feed and discharge device provided with pockets mounted above the inlet and below the outlet openings respectively of said body, a shaft carrying sprocket wheels extending transversely through said body near each end, conveyer chains movably mounted within said body and adapted to engage the sprocket wheels, plates for securing the sprocket and chains together, and means for simultaneously moving the movably mounted shaft and the curved body end, to maintain a uniform distance between said shaft and end.

865,646. METHOD OF SUPPLYING FUEL FOR HEATING PURPOSES. WILLIAM T. KELLEY and CHRISTOPHER W. HOFMEISTER, Muskogee, Ind. Ter., assignors, by direct and mesne assignments, to Kelley Petroleum Gas Generator Company, a Corporation of Arizona. Filed Oct. 26, 1904. Serial No. 230,123.

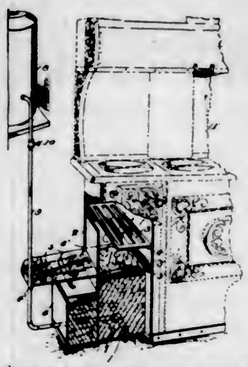


1. The within process consisting in conducting a flowing body of oil directly into a body of absorbent material and discharging it into the stratum of the material lying beneath the point of discharge and the bottom, drawing said oil upwardly through said body by capillary attraction from its point of introduction, generating vapors from said oil by heat transmitted through the absorbent body, and controlling the escape of the vapors at the ignition surface of said body, substantially as described.

2. The within process consisting in conveying a continuous supply or flowing body of oil into the lower portion of a body of absorbent material, heating it within the body of said material preliminarily to its discharge thereinto, drawing said oil upwardly through said body by capillary attraction from its point of introduction, generating vapors from said oil by heat transmitted through the absorbent body and controlling the escape of the vapors at the ignition surface of said body, substantially as described.

865,647. ATTACHMENT FOR STOVES, BOILERS, BURNERS, AND THE LIKE. WILLIAM T. KELLEY and CHRISTOPHER W. HOFMEISTER, Muskogee, Ind. Ter., assignors, by direct and mesne assignments, to Kelley Petroleum Gas Generator Company, a Corporation of Arizona. Filed Oct. 27, 1904, Serial No. 230,260. Renewed May 24, 1907. Serial No. 375,457.

1. In combination with a heating chamber, of a firebox disposed below said chamber and filled with a mass of absorbent material, a fuel supply pipe arranged longitudinally of the firebox and immediately above its bottom, said pipe being enveloped in the absorbent material and formed with discharge openings arranged to discharge the fuel toward the bottom of the firebox only and in a vertical direction directly away from the ignition surface or top of the absorbent material, a compartment secured contiguous the firebox and containing material to prevent radiation of heat, and a damper slidably arranged within the firebox in close proximity to the ignition surface of the absorbent material therein.



2. The attachment for stoves, boilers and burners, comprising a fire-box, an absorbent packing in the lower portion of the fire-box, a valve controlled oil supply pipe embedded in the absorbent packing below the top ignition surface of the packing, a controlling slide damper in proximity to the ignition surface of the packing, and a deflecting grated bar above the damper, substantially as described.

3. The attachment for stoves, boilers and burners comprising a fire-box, an absorbent packing in the lower portion of the box, a fuel supply pipe embedded in the packing below the ignition surface of the packing and having openings arranged to discharge the fuel into the packing between the pipe and bottom of the box, and a controlling damper arranged in proximity to the ignition surface of the packing, substantially as described.

865,648. ELECTROLYSIS OF FUSED SALTS. FRANZ VON KÜGELGEN and GEORGE O. SEWARD, Holcombs Rock, Va. Filed May 26, 1905. Serial No. 262,478.

1. The production of alloys by electrolysis of a mixture of fused metallic salts having such combination of anions and cations that the decomposition voltage of the compound containing the more electro-positive metal is lower than the decomposition voltage of the compound containing the less electro-positive metal, and regulating the conditions of the electrolysis so that the secondary reaction between the more electro-positive metal and the compound containing the less electro-positive metal is only partially complete, so that the desired alloy is obtained.

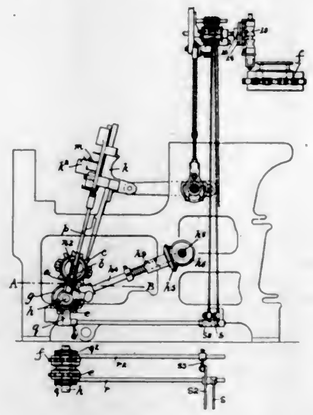
2. The production of alloys of earth alkali metals and less electro-positive metals by the electrolysis of a mixture of their fused salts in which the compound containing the less electro-positive metal has a higher decomposition voltage than the compound containing the earth-alkali metal, and regulating the electrolysis so that the secondary reaction between the earth-alkali metal and the compound of the less electro-positive metal is only partially complete, so that the desired alloy is obtained.

3. The production of alloys of earth-alkali metals and less electro-positive metals by the electrolysis of a mixture of fused earth-alkali chlorid and a fluorid of a less electro-positive metal of higher decomposition voltage than the earth-alkali chlorid, and regulating the electrolysis so that the secondary reaction between the earth-alkali metal and the fluorid is only partially complete, so that the desired alloy is obtained.

4. The production of alloys of earth-alkali metals and magnesium by electrolysis of a mixture of fused earth-alkali chlorid and megnesium fluorid, regulating the electrolysis so that the secondary reaction between the earth-alkali metal and magnesium fluorid is only partially complete, so that the desired alloy is obtained.

5. The production of magnesium-calcium alloy by the electrolysis of a fused mixture of $CaCl_2$ and MgF_2, and regulating the electrolysis so that the secondary reaction between calcium and MgF_2 takes place only to a limited degree.

865,649. SHUTTLE-BOX-OPERATING MECHANISM FOR LOOMS. FRANK LEEMING, Bradford, and CHARLES HUDSON, Ingrow, near Keighley, England, assignors to George Hattersley and Sons Limited, Keighley, England. Filed Aug. 28, 1905. Serial No. 276,010.



1. In a loom, the combination with the lay, of shuttle-box operating mechanism mounted to oscillate on the center of movement of the lay, and means mounted to rotate about the center of movement of the lay to actuate said shuttle-box operating mechanism.

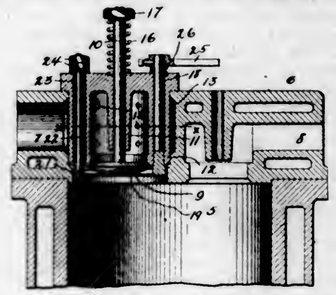
2. Shuttle-box operating mechanism for looms comprising a segment rim and wheels mounted to rotate about the center of oscillation of the slayboard, partly toothed wheels and bearings for supporting same also arranged to oscillate about the same center, means for putting said segment wheels into and out of gear with their partly toothed wheels and means for coupling same so as to transmit motion to the shuttle boxes substantially as herein specified.

3. In shuttle-box operating mechanism a segment rim and segment wheels means for transmitting motion thereto about the center of oscillation of the lay, partly toothed wheels gearing with said segment wheels, said partly toothed wheels being mounted in bearings which are arranged to move in the arc of a circle the center of which is the center of oscillation of the lay, cranks carried by adjustable pieces secured upon said partly toothed wheels and means for coupling said cranks to the shuttle-boxes substantially as herein specified.

4. In a loom, shuttle-box operating mechanism, devices for actuating said mechanism, said devices being mounted to oscillate on the center of movement of the lay, the said shuttle-box operating mechanism being also mounted to oscillate on the center of movement of the lay and in concert therewith, and yielding clutch mechanism for transmitting motion between said parts.

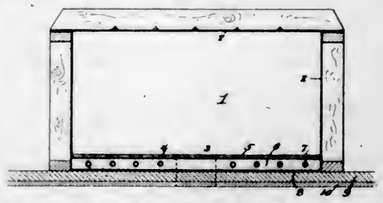
5. In a loom, shuttle-box operating mechanism, segment wheels and partly toothed wheels as herein described, pattern surface mechanism for placing said mechanism into and out of operation and means whereby the pattern cylinder of said pattern surface mechanism is caused to rest or dwell at each reversal in the direction of motion of its operating wheel substantially as herein specified.

865,650. VALVE AND SPARKING MECHANISM FOR HYDROCARBON-ENGINES. LEVI E. LOWE, Columbus, Ohio. Filed Dec. 3, 1906. Serial No. 346,027.



In a device of the character described, the combination with the cylinder of an explosive engine, of an inlet valve comprising a valve stem and a valve head, a casing in which said valve is mounted, an oscillatory arm located upon one side of said valve, a contact point located upon the opposite side of said valve, and a curved finger carried by and movable with the oscillatory arm which extends around the valve head and is provided upon its free end with a contact point adapted to contact with the first named contact point, said contact points being located in the path of gas flow past the valve head, and said valve head being so shaped as to direct a portion of the gas flow against the contact points, said valve head lying within the curved portion of the finger.

865,651. BLEACHING-POWDER CHAMBER. MAX MAURAN, Niagara Falls, N. Y., assignor to Castner Electrolytic Alkali Co., a Corporation of Virginia. Filed Sept. 12, 1906. Serial No. 334,205.



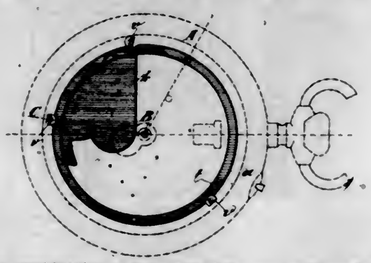
1. A bleaching powder chamber having a heat-conducting floor, a layer of moisture-proof material upon which said floor rests and a monolithic slab beneath said layer and provided with circulatory passages for temperature controlling medium.

2. In a bleach chamber having the usual top and walls, a floor having heat conducting and impervious surface, an asphalt layer beneath said surface, a bed beneath said asphalt layer, refrigerating means inlaid in said bed, and a support for said bed.

865,652. PLATE FOR REPEATER-WATCHES. FRITZ MONTANDON and NATHAN WEIL, La Chaux-de-Fonds, Switzerland. Filed Jan. 11, 1906. Serial No. 295,604.

1. In combination, a repeater mechanism, a watch movement, a two-part plate one part carrying the repeater mechanism and the other part carrying the movement, one of said parts having an annular portion and a body portion partially filling the same, the other part having an annular portion and a body portion partially filling the same, the two body portions serving when assembled to form a continuous plate body, the annular portion of one part extending within and engaging the annular portion of the other part, and means engaging said annular portions for uniting the parts.

2. In combination, a two-part plate adapted to support distinct mechanisms, one of said parts having an annular portion and a body portion partially filling the same, the other part having an annular portion and a body portion partially filling the same, the two body portions serving when assembled to form a continuous plate body, the annular portions of said parts engaging each other, and means engaging said annular portions for uniting the parts.

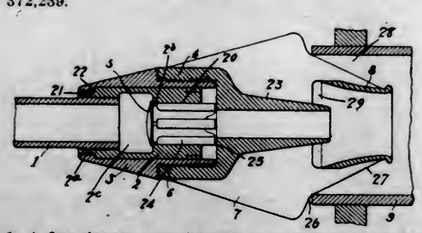


3. In combination, a two-part plate, one part consisting of a body portion and an annular portion, the other part consisting of a body portion and an annular portion, and means engaging said annular portion for uniting said parts to bring the body portions into a co-incident plane.

4. In combination, a two-part plate, each part consisting of a body portion and an annular portion, the annular portions engaging and interfitting, and means for uniting the parts to bring the body portions into a co-incident plane.

5. In combination, a two-part plate, each part consisting of a body portion and an annular portion, the body portions having irregular abutting margins and occupying co-incident planes when the parts are assembled, and means engaging said annular portions for uniting said parts.

865,653. FLUE-CLEANER. ASKAN MÜLLER, Hohenau, Austria-Hungary. Filed May 6, 1907. Serial No. 372,239.



1. A flue cleaner comprising in combination, a rotatable member provided with a plurality of radially disposed nozzles communicating with a source of supply of pressure fluid, and a support for said member, said nozzles being provided with centering means whereby they may be automatically centered in the flues when moved abreast thereof.

2. A flue cleaner comprising in combination, a rotatable member provided with a plurality of radially disposed nozzles communicating with a source of supply of pressure fluid, said nozzles being spaced apart from each other in accordance with the spacing of the flues in the boiler, and a support for said member.

3. A flue cleaner comprising in combination, a rotatable member provided with a plurality of radially disposed nozzles communicating with a source of supply of pressure fluid, said nozzles being spaced apart from each other in accordance with the spacing of the flues in the boiler, and a support for said member, said nozzles being provided with centering means whereby they may be automatically centered in the flues when moved abreast thereof.

4. A flue cleaner comprising in combination, a rotatable member provided with a plurality of nozzles, a support therefor on which said member is rotatively mounted, and means whereby pressure imparted to and released from said support serves to turn the pressure fluid on and off.

5. A flue cleaner comprising in combination, a movable member provided with a plurality of nozzles, communicating with a source of supply of pressure fluid, a support for said member, and means whereby pressure imparted to and released from said support serves to turn the pressure fluid on and off.

6. A flue cleaner comprising in combination, a rotatable member provided with a plurality of radially disposed nozzles communicating with a source of supply of pressure fluid, a support for said member, and means whereby pressure imparted to and released from said support serves to turn the pressure fluid on and off.

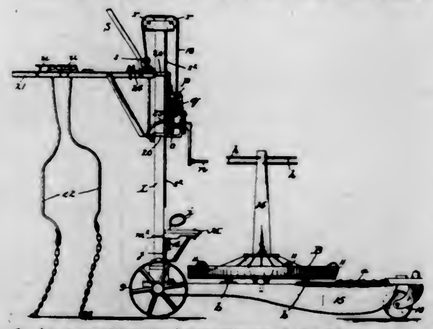
865,654. WATERPROOF BUILDING-BLOCK. HUGO NOACK, Stamford, and HERMANN MARING, Darien, Conn. Filed Mar. 22, 1906. Serial No. 307,428.



1. A building block consisting of inner and outer wall members and a continuous connecting cross piece extending obliquely to the horizontal plane between said wall members and of the same material as the wall members and rigid therewith, said two wall members being stepped in relation to each other, whereby they occupy different horizontal planes when the block is set in a wall with its surfaces of greater area in vertical position.

2. A building wall consisting of blocks each comprising an inner and an outer wall member and a continuous connecting cross piece extending downward and outward between said wall members leaving spaces between the cross pieces, said cross piece being of the same material as the wall members and rigidly connecting them, the base of the inner wall member of each block being higher than the base of the outer wall member so as to place the outer horizontal joints out of alinement with the inner horizontal joints.

865,655. COMBINED CORN HARVESTER AND SHOCKER. GRANT T. PATTEN, Newberry township, Miami county, Ohio. Filed Feb. 5, 1904. Serial No. 192,194.



1. An apparatus for harvesting and shocking corn, comprising the following combination of elements; to wit:—the transporting frame mounted upon suitable wheels for moving the same; the cutters or knives for severing the stalks in two rows; the revoluble platform inclined from the center downwardly and outwardly, said platform provided with a post having rods extending therefrom for supporting the severed stalks in position on the platform while they are being formed into the shock; the standard having the stationary platform, and provided with means for holding it stationary or permitting of its being turned; the swinging crane adapted to move up and down upon said standard and provided with the arms and cables; the pinions, drum and rope for raising and lowering said swinging crane; all substantially as described.

2. The combination in a corn harvesting and shocking machine, of the transporting frame; the cutters inclined rearward and outward for simultaneously severing the stalks from more than one row, the revoluble platform having a floor approximately conical in shape and provided with a post having means for supporting the stalks after being severed and while they are being formed into a shock with a concaved base; the standard carrying the swinging crane and its attachments for lifting and handling the shock; and means for raising and lowering said swinging-crane and attachments; all substantially as described.

3. A platform for forming or shaping a corn shock or other body with a concaved base or bottom; said platform having an outer flange, a slight rise or inner flange, an inclined floor approximately in form of a cone, and a post or upright provided at its top with detachable rods; substantially as and for the purpose described.

4. In a combined corn harvester and shocker, the combination of the transporting frame having rear wheels and a forward or swivel wheel; the rearwardly and outwardly inclined knives or cutters for severing the stalks for two rows; the revoluble platform the floor of which is slightly for two rows; the revoluble platform of which is slightly conical in shape and having an outer flange, and provided with a post or upright having removable rods for supporting the severed stalks in position on the platform while they are being formed into a shock; the standard and swinging crane provided with the arms and cables; the pinions, rope and anti-friction pulleys for raising and lowering said crane and its arms; the socket portion in which said standard rests, and its hand rod; all substantially as and for the purpose described.

865,656. WATCH. WILSON E. PORTER, New Haven, Conn., assignor to New Haven Clock Company, New Haven, Conn., a Corporation. Filed Mar. 8, 1907. Serial No. 361,350.



1. In a watch, the combination with the case thereof, of a watch-movement having front and back movement-plates, a movement-support made independent of the said movement and adapted to be set into the said case, and retaining means carried by the front movement-plate and located thereon in position to be engaged with the inner face of the case for holding the movement in place upon the said movement-support.

2. In a watch, the combination with the case thereof, of a watch-movement having front and back movement-plates, retaining means carried by the front movement-plate in position to be engaged with the inner face of the said case, and a movement-support made independent of the said movement and adapted to be set into the said case and having the inner face of the front movement-plate brought to a bearing upon its front edge by the pressure of the said retaining means when they are engaged with the inner face of the said case.

3. In a watch, the combination with the case thereof, of a watch-movement, a movement-support made independent of the said movement and located within the case and having the movement supported upon it, and spring retaining-fingers pivoted upon the front movement plate and adapted to be swung outwardly into engagement with the inside of the said case for bringing the movement to a bearing upon the movement-support which in turn is brought to a bearing upon the inside of the bottom of the case.

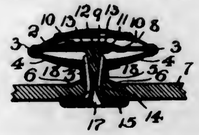
4. In a watch, the combination with the case thereof, of a watch-movement having front and rear movement-plates, the former having notches formed in its edge, spring retaining-fingers mounted upon the front movement-plate adjacent to the said notches in the edge thereof, the said fingers being adapted to be engaged at their outer ends with the case, and a movement-support upon which the movement rests and which in turn bears upon the inside of the case.

5. In a watch, the combination with the case thereof, of a ring made independent of and adapted to be set within the said case, a watch-movement having front and back movement plates, the former bearing upon the front edge of the said ring, and spring retaining-fingers mounted upon the front movement-plate and adapted to be engaged with the inner face of the case for holding the said front movement plate against the front edge of the said ring.

6. In a watch, the combination with a case having the inner face of its inside cap formed with an annular shoulder, of a ring set into the case in position to be engaged with the said shoulder which holds it against lateral displacement, a watch-movement supported upon the front edge of the said ring, and retaining means mounted upon the front movement-plate and adapted to be engaged with the case for holding the said plate against the front edge of the ring and the inner edge of the ring against the said cap.

7. In a watch, the combination with a sheet-metal watch-case having its case-center and inside cap made integral and having an annular positioning shoulder or ledge formed upon the inner face of its said inside cap, of a ring adapted to be positioned and held against edgewise displacement by the said shoulder, a movement having front and back movement plates and adapted to be set within the said ring barring its said front movement plate which rests upon the front edge of the said ring, and retaining means carried by the said front-movement plate and engaging with the inner face of the said case through the opening formed therein for the insertion of the said ring and movement.

865,657. BUTTON. ADOLF J. SCHNEIDER, Newark, N. J., assignor of one-half to August Goertz, Newark, N. J. Filed Feb. 26, 1907. Serial No. 359,493.



1. A button and button-fastener, comprising a chambered button-head, a tubular shank extending from said head, a back-plate, a plurality of binding members on said back-plate, adapted to be inserted and arranged in the tubular part of said shank, a post in said chambered button-head, said post having a portion extending into the tubular part of the shank and between the binding members, all arranged to spread said members and bring them in holding engagement with said tubular shank, a spring-support within said button-head, radially extending supporting arms connected with said support, and retaining lugs also connected with said support, said retaining lugs being in holding engagement with said post, substantially as and for the purposes set forth.

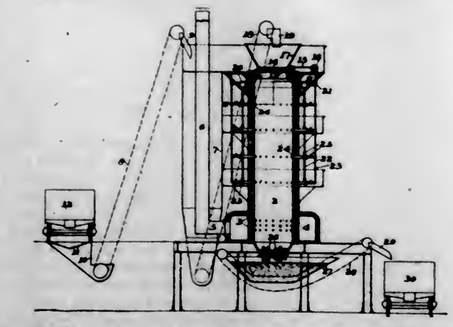
2. A button and button-fastener, comprising a chambered button-head, a tubular shank extending from said head, a back-plate, a plurality of binding members on said back-plate, adapted to be inserted and arranged in the tubular part of said shank, a post in said chambered button-head, a marginal edge-portion 13 at one end of said

post, said post having its opposite end-portion extending into the tubular part of the shank and between the binding members, all arranged to spread said members and bring them in holding engagement with said tubular shank, a spring-support within said button-head upon which said post rests, and retaining lugs upon said spring-support between which the marginal edge-portion of said post is loosely centered, substantially as and for the purposes set forth.

3. A button and button-fastener, comprising a chambered button-head, a shank extending from said head, said shank having a tapered tubular portion, the small tubular end of the shank being at the free end of the shank, a back-plate, a plurality of resilient holding members on said back-plate, adapted to be inserted and arranged in the tubular part of said shank, a cone-shaped post in said chambered button-head, a marginal edge-portion 13 at the large end of said post, said post having its small end-portion extending into the tubular part of the shank and between said binding members, all arranged to spread said members and bring them in holding engagement with said tubular shank, a spring-support within said button-head upon which said post rests, and retaining lugs upon said spring-support between which the marginal edge-portion of said post is freely centered, substantially as and for the purposes set forth.

4. The herein described button and button-fastener, comprising a chambered button-head consisting of a pair of disk-shaped shells 2 and 4, said shells being secured together by means of an annular bead, a shank extending from said shell 4, said shank having a tapered tubular portion, the small tubular end of the shank being at the free end of the shank, a back-plate, a plurality of resilient binding members on said back-plate, adapted to be inserted and arranged in the tubular part of said shank, a cone-shaped post in the chambered part of the button-head, said post having its small end-portion extending into the tubular part of the shank and between the binding members, all arranged to spread said members and bring them in holding engagement with said tubular shank, a spring-support within said button-head comprising a central body-portion upon which the large end of said post rests, and spider-arms extending radially from said body-portion, said arms having their free ends resting in supporting engagement upon the inner surface of the shell 4, substantially as and for the purposes set forth.

865,658. METHOD OF SINTERING ORES. JAMES SCOTT, Pittsburg, Pa. Filed Oct. 13, 1906. Serial No. 338,738.



1. The method of sintering fine ores or flue dust, consisting in dropping the finely divided ore in a shower through an open furnace chamber, subjecting it therein to the action of flames, and compacting and feeding out the partially fused ore at the bottom; substantially as described.

2. The method of sintering fine ores or flue dust, consisting in dropping the finely divided ore in a shower through an open furnace chamber, subjecting it therein to the action of flames at different levels, causing a downdraft through said furnace, and compacting and feeding out the partially fused ore at the bottom; substantially as described.

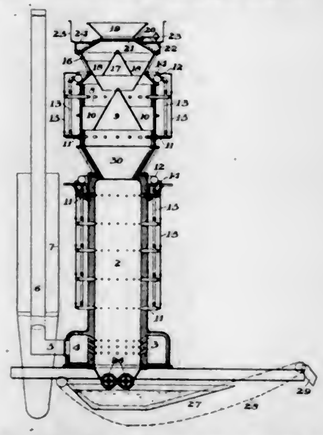
3. The method of sintering fine ores or flue dust, consisting in dropping the finely divided ore or flue dust in a hopper through a furnace chamber, subjecting it to flame action therein to partially fuse it, and feeding out the material at the bottom of the furnace into a water-bosh; substantially as described.

4. The method of sintering fine ores, or flue dust, consisting in dropping the finely divided ore or flue dust in a shower through a furnace chamber, subjecting it to flame action therein to partially fuse it, and compressing and feeding out the lump material into a water-bosh; substantially as described.

5. The method of sintering fine ores or flue dust, consisting in dropping the ore or flue dust while cold in a shower through the furnace chamber, bringing it into contact with a series of rows of flame and gradually heating the ore or dust and partially fusing it and feeding the partly fused material out of the bottom of the furnace into a water bosh; substantially as described.

6. The method of sintering fine ores or flue dust, consisting in dropping the ore or flue dust while cold in a shower through the furnace chamber, bringing it into contact with a series of rows of flames and gradually heating the ore or dust and partially fusing it and then compacting, and feeding the partly fused material out of the bottom of the furnace; substantially as described.

865,659. SINTERING ORES. JAMES SCOTT, Pittsburg, Pa. Filed Nov. 13, 1906. Serial No. 343,181.



1. In apparatus for sintering ores, an open vertically extending furnace chamber having a movable feeding device at the top arranged to shower the ore, burners arranged at different levels and a compacting and feeding out device at the bottom of the chamber; substantially as described.

2. In apparatus for sintering ores, a vertically extending furnace chamber having a feeding device at the top arranged to deliver the ore in a shower within the chamber, burners at different levels projecting into the chamber and a water bosh into which the sintered material is fed; substantially as described.

3. In apparatus for sintering ores, an open vertically-extending furnace chamber having burners projecting thereinto at different levels, a preheating furnace having retarding devices at the top of the main furnace chamber, and a feeding-out device at the bottom for the partially fused material; substantially as described.

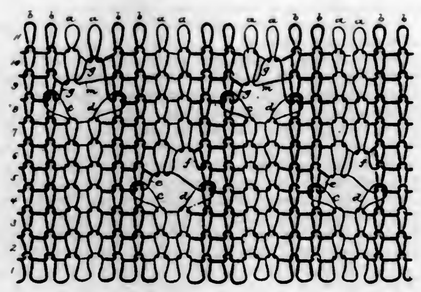
4. In apparatus for sintering ores, a vertically-extending furnace chamber having retarding devices in its top portion at different levels therein, and burners surrounding its top portion; substantially as described.

5. In apparatus for sintering ores, a vertically-extending furnace chamber having a preliminary heating chamber at its top, retarding devices in said preliminary heating chamber, and a feeding device arranged to shower the ore down into the preliminary heating chamber; substantially as described.

6. In apparatus for sintering ores, a main furnace chamber, a preheating chamber above it having a retarding device, and hopper mechanism arranged to continuously feed and retard the ore being dropped through the preheating chamber; substantially as described.

7. In apparatus for sintering ores, a vertically extending furnace chamber having a feeding device at the top arranged to deliver the ore in a shower within the chamber, burners at different levels projecting into the chamber, a water bosh into which the sintered material is fed, and a conveyer arranged to carry the material out of the water bosh; substantially as described.

865,660. OPENWORK KNITTED WEB. ROBERT W. SCOTT, Leeds Point, N. J., assignor of one-half to Louis N. D. Williams, Ogontz, Pa. Filed Apr. 15, 1907. Serial No. 368,339.



1. A knitted web having stitches of adjoining needle wales transferred into wales on each side of the same, thereby forming an eyelet hole.

2. A knitted web having stitches of adjoining needle wales transferred into wales on each side of the same, thereby forming an eyelet hole, said wales beginning again independently of one another.

3. A knitted web having stitches of adjoining needle wales transferred into wales on each side of the same thereby forming an eyelet hole, said wales beginning again by means of a loop having a stitch of one wale drawn through it in one course and a stitch of the other wale drawn through it in a succeeding course.

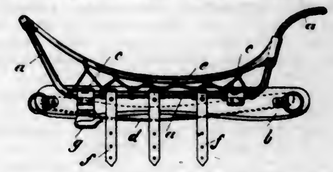
4. A knitted web having stitches of adjoining needle wales transferred into wales on each side of the same, thereby forming an eyelet hole, one of said wales being started again by a single loop having a stitch drawn through it in one course and the other wale being started again by a double loop having a stitch drawn through it in a succeeding course.

5. A knitted web having multi-wale ribs and having all of the wales composing a rib discontinued at intervals to form an eyelet hole.

6. A knitted web having multi-wale ribs and having all of the wales composing a rib discontinued at intervals and their stitches transferred into adjoining wales of the other face of the web, thereby forming an eyelet hole.

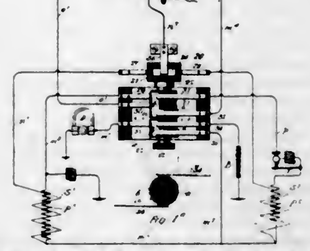
7. A knitted web having multi-wale ribs and having all of the wales composing a rib discontinued at intervals and their stitches transferred into adjoining wales of the other face of the web to form an eyelet hole, and having the formation of said wales resumed independently.

865,661. SADDLE. CARL SZAMEITAT, Hamburg, Germany, assignor to The Firm of Szameitat Reform-Sattel-Gesellschaft mit beschränkter Haftung, Hamburg, Germany. Filed May 25, 1906. Serial No. 318,739.



In a saddle, a frame constructed of a single piece of metal having straight substantially parallel longitudinal limbs bent near each end to form front and rear forks, a tree bar extending the length of the frame and hinged to each longitudinal limb and having an arched spring plate mounted on the underside of each tree bar to automatically distribute the load uniformly throughout its length and conform to the contour of the horse.

865,662. IGNITER SYSTEM. RICHARD VARLEY, Englewood, N. J., assignor to The Autocoil Company, a Corporation of New Jersey. Filed May 11, 1906. Serial No. 316,258.



1. In an ignition system, a rotating cam, a finger moving against a fixed contact and arranged to be abruptly moved by said cam, an additional blade or finger in the path of said cam, and a single switch element for directing the primary current into both of said fingers.

2. In an ignition system, a continuously rotating cam, a pair of fingers normally included in the primary circuit and arranged in the path of said cam, and means for cutting one of said fingers out of circuit.

3. In an ignition system, a continuously rotating cam, a finger moving against a fixed contact and arranged to be abruptly moved by said cam, an additional finger in the path of said cam, a battery and dynamo with induction coils, and means for directing the primary current from the dynamo into both of said fingers, and the primary current from the battery into said pivoted finger.

4. In an ignition system, a continuously rotating cam, a finger moving against a fixed contact and arranged to be abruptly moved by said cam, a second finger in the path of said cam, and means for including both or one of said fingers in the primary circuit at will.

5. In an ignition system, a continuously rotating cam, a finger in the path of said cam and arranged to abruptly break the primary circuit, a second finger in the path of said cam and arranged to complete the primary circuit a

minute interval after said break, said last named finger being disengaged from the cam before the following break.

6. In an ignition system, a continuously rotating cam having sharply incut portions separated by equally spaced circumferential sections, a pivoted finger having a cam roller and moving against a fixed stop or contact, an additional finger in the path of said circumferential sections, and means for including both of said fingers in the primary circuit.

7. In an ignition system, a continuously rotating cam, a finger arranged to abruptly break the primary circuit, a battery and dynamo and induction coils therefor, and means for completing the battery circuit through a predetermined interval prior to its break by said finger, and means whereby the dynamo primary circuit is completed for a longer interval prior to said break.

8. In a distributing system, a combined timer and distributer having means for completing the primary current through a long or short interval, a switch having insulated segments with broad and narrow portions and brushes engaging the respective portions, said segements having a limited angular movement for determining the duration of the primary current.

9. In an ignition system for explosion engines, a battery and dynamo as alternative sources of current, a single point cam lever, means for interrupting the battery current at said cam lever, and a single device for changing the circuits whereby the dynamo current is interrupted at the same cam lever, said device providing means for increasing the duration of the primary circuit closure in case of the dynamo.

10. In an ignition system for explosion engines, a battery and dynamo as alternating sources of current, a single point cam lever, a single device for changing the circuit whereby the current of either said battery or said dynamo is broken at said lever, and means for establishing a special path independent of said cam lever for the dynamo current prior to the instant when the dynamo circuit is closed at said lever.

11. In an ignition system, a continuously rotating cam, a finger arranged to abruptly break the primary circuit, a battery and dynamo, and an induction coil, means for completing the primary circuit through a predetermined interval prior to its break by said finger, and means whereby the dynamo primary circuit is completed for a longer interval prior to said break.

12. In an ignition system for explosion engines, a battery and a dynamo as alternative sources of current, a single point cam lever adapted to be included in circuit with either current source, means for establishing a shunt or multiple circuit around said cam lever when the dynamo is in circuit, said shunt connection continuing for a brief interval up to the instant of the circuit closure at said cam lever and terminating before the circuit rupture at such cam lever.

865,663. IGNITION SYSTEM FOR EXPLOSION-ENGINES. RICHARD VARLEY, Englewood, N. J., assignor to The Autocoil Company, a Corporation of New Jersey. Filed Oct. 8, 1906. Serial No. 337,871.



1. In an ignition system for explosion engines, a pair of vibrators, and a single means for positively impelling both of said vibrators to reapectively open and close separate circuits.

2. In an ignition system for explosion engines, a vibrator for interrupting a battery primary circuit, a vibrator for interrupting a dynamo primary circuit, and a single means for actuating both of said vibrators.

3. In an ignition system for explosion engines, a cam, a vibrator impelled thereby to open a dynamo primary circuit, and another vibrator impelled by the cam to close a battery circuit.

4. In an ignition system for explosion engines having a half-time shaft, a cam on said shaft, a vibrator having a roller impelled by said cam to open a dynamo circuit, and another vibrator having a roller impelled by said cam to close a battery circuit.

5. In an ignition system for explosion engines, a vibrator having a contact adapted to open a dynamo circuit, a spring supported contact, a second vibrator arranged to engage said spring supported contact to close a battery circuit, and single means for positively impelling both of said vibrators into circuit opening and circuit closing relation respectively.

6. In an ignition system for explosion engines, a frame or casing, an upper casing of insulating material, a shell or ring having a peripheral depending web, permanently molded to said upper casing, and means for attaching said shell or ring to said frame or casing.

7. In an ignition system for explosion engines, a frame or casing, circuit interrupting means contained therein, an upper casing of insulating material, a flier or distributer contained therein, a shell or ring permanently molded to said upper casing and having a web depending about said frame or casing, and means for securing said shell or ring to said frame or casing.

8. In an ignition system for explosion engines, a block of insulating material having a recessed or chambered portion, a supporting blade projecting from said recessed or chambered portion, a spring blade also projecting from said recessed or chambered portion and adapted to complete different secondary circuits, said spring blade being limited in its axial movement by the supporting blade.

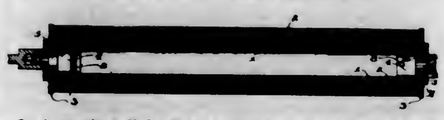
9. In an ignition system for explosion engines, a frame or casing having means for interrupting a primary circuit, an upper casing of insulating material supported by said frame or casing, a plurality of threaded studs in said upper casing, and additional studs having reduced portions extending through said threaded studs to lock them against removal.

10. In an ignition system for explosion engines, a plurality of segments, metallic studs adjacent thereto, and springs intermediate said studs and segments to establish electric connection therewith.

11. In an ignition system for explosion engines, a casing of insulating material, segments within said casing, said casing having a plurality of radial holes opposite said segments, threaded studs in said holes, and additional studs with reduced portions passed through said threaded studs to hold them against removal.

12. In an ignition system for explosion engines, a casing of insulating material, a plurality of studs therein, additional vertical studs passed through said first named studs to hold them against removal, and a cover plate on said vertical studs.

865,664. MUSIC-ROLL AND SUPPORT THEREFOR. EDWIN S. VOTEY, Summit, N. J., assignor to The Aeolian Company, New York, N. Y., a Corporation of Connecticut. Filed Oct. 13, 1905. Serial No. 282,660.



1. A music roll having a tubular core, a laterally extending flange at the end of said core, and a sleeve secured within the end of said core and having an out-turned bead extending over the inner edge of said flange for securing said flange in position.

2. A music roll having a tubular core, a laterally extending flange at the end of said core, and a sleeve secured within the end of said core and having an out-turned bead extending over the inner edge of said flange for securing said flange in position, said bead being provided with a clutch member.

3. A music roll having a tubular core, a laterally extending flange at the end of said core, and a sleeve secured within the end of said core and having an out-turned bead extending over the inner edge of said flange for securing said flange in position, said bead being recessed to engage a driving clutch member.

4. A music roll having a tubular core, a laterally extending flange at the end of said core, a sleeve secured within the end of said core and having an out-turned bead extending over the inner edge of said flange for securing said flange in position, said bead forming an annular projection upon the face of said flange and having a clutch engaging notch or recess formed therein.

5. A music roll having a tubular or hollow end, a laterally extending flange, and a clutch engaging projection adjacent to the said hollow, said clutch engaging projection being of annular form and notched or interrupted to cooperate with a suitable clutch.

6. A music roll having a tubular or hollow end, a laterally extending flange, and a rigid unbroken tubular sleeve portion separate from said flange, the said sleeve portion having means for securing said flange in position and extending within a hollow or recess in said hollow end, and means for securing the said sleeve portion in said hollow end.

7. A music roll having a hollow end, and a sleeve fitting into said end and having an out-turned bead at the end of said roll provided with a clutch engaging device, in combination with a mechanical musical instrument driving clutch formed with a centering portion adapted to fit into the end of said sleeve and with means for engaging the clutch member on said sleeve.

8. A music roll having a hollow end, and a sleeve fitting into said end and having an out-turned bead at the end of said roll provided with a recessed clutch engaging device, in combination with a mechanical musical instrument driving clutch formed with a centering portion adapted to enter into the end of said sleeve and with a tooth for engaging the recess on said sleeve.

9. A music roll having a hollow end, and a sleeve fitting into said end and having an out-turned bead at the end of said roll provided with a clutch engaging device, in combination with a mechanical musical instrument driving clutch formed with a recessed portion for embracing the bead on said sleeve.

10. A music roll having a hollow end and a head or flange with a sleeve by which the head or flange is secured thereto, and a clutch engaging device, in combination with a mechanical musical instrument driving clutch having a central projection 10, a recess adapted to receive the clutch engaging device of the roll, and an outer portion 11 which when in engagement bears against the end of the roll.

11. A music roll having flanges and a hollow end provided with a clutch engaging device in combination with a mechanical musical instrument driving clutch having a central portion 10 and a recessed outer portion and formed to receive and engage the said clutch engaging device in the said recess.

12. The improved music roll driving clutch member combining a central projection and a recessed outer portion with a tooth or clutch projection in the said recess, in combination with a music roll having an end fitted to engage the said central projection, recessed portion, and clutch projection.

13. The improved music roll driving clutch member combining a central projection and a recessed outer portion with a tooth or clutch projection in the said recess in combination with a music roll having an end provided with a clutch engaging device coöperating with said projection.

14. The improved music roll driving clutch member combining a central projection and a recessed outer portion with a tooth or clutch projection in the said recess, said clutch member having also a central axial portion provided with lateral recesses for receiving and engaging a winged pin in combination with a music roll having a hollow end fitted to engage the said projections and recessed portion without interference with the portions adapted to receive a winged pin.

15. A music roll having hollow ends in combination with rotary supports for the rolls with central projections entering said ends, one of the said supports being provided with a clutch device for engaging and rotating the said roll and the other support combining a non-rotative member and a rotative member freely turning thereon, which latter member is provided with the said projection and directly engages the roll.

16. A music roll having a hollow end in combination with a support therefor combining a rotative member and a non-rotative member, the rotative member of which has a projection fitting into the hollow in the end of the roll.

17. A music roll having a hollow end in combination with a support therefor combining a rotative member and a non-rotative member, the rotative member of which has a projection fitting into the hollow in the end of the roll, and an axial point upon which it bears against and rotates on the non-rotative member.

18. A music roll having a hollow end in combination with a support therefor combining a rotative member and a non-rotative member, the rotative member of which has a projection fitting into the hollow in the end of the roll, an axial point upon which it bears against and rotates on the non-rotative member, and means for securing the members together.

19. A music roll having a hollow end in combination with a support therefor combining a rotative member and a non-rotative member, the rotative member of which has a projection fitting into the hollow in the end of the roll, an axial point upon which it bears against and rotates on the non-rotative member, and means consisting of an annular groove in one of the said members and a projection from the other of said members entering said groove for securing the two members together.

20. In combination, a music roll and a support independent of the roll for permiting great freedom of rotation, said support including a member for supporting and rotating with the roll and a non-rotative member, one member of the support having a pivotal axial pointed journal and the other having a coöperating concave surface converging to a point at which the said pointed journal is centered with bearing contact substantially only at the tip of said pointed journal.

21. In combination, a music roll and a support independent of the roll for permiting great freedom of rotation, said support including a member for supporting and rotating with the roll and a non-rotative member, one member of the support having a pivotal axial pointed journal and the other having a coöperating concave bearing surface converging to a point at which the said axial pointed journal is centered with bearing contact substantially only at the tip of said pointed journal, and means for securing the members together.

22. In combination, a music roll and a support independent of the roll for permitting great freedom of rotation, said support including a member for supporting and rotating with the roll and a non-rotative member, one member of the support having a pivotal axial pointed journal and the other having a coöperating concave bearing surface converging to a point at which the said axial pointed journal is centered with bearing contact substantially only at the tip of said pointed journal, and means consisting of a projection and coöperating annular groove for securing the members together.

23. In combination with the driving support for receiving a music roll, the opposed support for the freely turning end of the music roll, having a rotative and a non rotative member, the said rotative member having a central projecting portion 20 and outer portion 21.

24. In combination with the driving support for a music roll, the opposed support for the freely turning end of the music roll, having a rotative and a non rotative member, the said rotative member having a central projecting

portion for engaging the hollow end of a music roll and an outer portion for bearing against the end of such roll, and a substantially sharp axial point on which it turns upon the non rotative member.

25. In combination with the driving support for a music roll, the opposed support for the freely turning end of the music roll, having a rotative and a non rotative member, the said rotative member having a central projecting portion for engaging the hollow end of a music roll and an outer portion for bearing against the end of such roll, a substantially sharp axial point on which it turns upon the non rotative member, and means for securing the two members together.

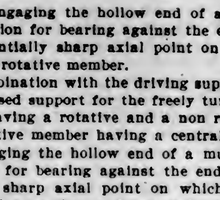
26. In combination with a driving support for one end of a music roll, an opposed support independent of the roll for the other end comprising a rotative member for turning with the roll, a non-rotative member on which the other member turns, and means for pressing the rotative and non-rotative members towards the driving support in order to engage a roll, one of said supporting members having a pivotal pointed journal and the other having a coöperating concave bearing surface for centering the said pointed journal.

27. In combination with a driving support for one end of a music roll, an opposed support independent of the roll for the other end comprising a rotative member for turning with the roll, a non-rotative member on which the other member turns, and means for pressing the rotative and non-rotative members towards the driving support in order to engage a roll, one of said supporting members having a pivotal axial pointed journal and the other having a coöperating concave bearing surface for centering the said pointed journal, and means for securing the said members together.

28. In combination with the driving support for a music roll, the opposed support for the freely turning end of the music roll, having a rotative and a non rotative member, one of the said members having an axial point of bearing against the other of said members, and the rotative member having a central projection for engaging the hollow end of a music roll and an outer portion for bearing against the end of such roll, and an axial recess 27 in the said projecting portion for receiving and rotating with a roll pintle.

29. In combination with the driving support for one end of a music roll, and with the roll, an opposed support independent of the roll for the freely turning end of the roll, said support comprising a rotative and a non-rotative member, one having a substantially sharp axial pointed journal and the other having a coöperating recess for centering the said pointed journal when the same bears axially against it, the surface of said recess inclining and converging to the centering point thereof and making contact substantially only with the tip of said axial pointed journal.

865,665. MEANS FOR SECURING RAILS TO TIES. FRANK WECKERLY, St. Davids, Pa. Filed May 18, 1907. Serial No. 374,425.



1. Means for securing rails to ties comprising a band, bent upon the tie; means for securing together the ends of the band; a rail bed plate, approximately midway between the ends of the band, and means for securing the rail to the bed plate.

2. Means for securing rails to ties comprising a band, bent upon the tie; means for securing together the ends of the band; a rail bed plate, approximately midway between the ends of the band; flanges on the rail bed plate, and means for securing the rail thereto and against the flanges of the rail bed plate.

3. Means for securing rails to ties comprising a band, bent upon the tie; means for securing together the ends of the band; a rail bed plate, approximately midway between the ends of the band; a clamp for the rail and means for securing the clamp to the rail bed plate.

4. Means for securing rails to ties comprising a band, bent upon the tie; means for securing together the ends of the band; a rail bed plate, approximately midway between the ends of the band; a T-shaped slot in the bed plate; a clamp of two jaws conforming to the foot of the rail, and means for securing the clamp to the rail bed plate.

5. Means for securing rails to ties comprising a band, bent upon the tie; means for securing together the ends of the band; a rail bed plate, approximately midway between the ends of the band; a stationary flange on the rail bed plate; a movable flange; means for attaching the movable flange to the rail bed plate and means for rigidly securing the rail between the movable and the stationary flange.

6. Means for securing rails to ties comprising a band, bent upon the tie; means for securing together the ends of the band; a rail bed plate, approximately midway between the ends of the band; a stationary flange on the rail bed plate; a T-shaped slot in the rail bed plate; a movable flange; an anchor, fitted into the T-shaped slot, on the movable flange; and means for rigidly securing the rail between the movable and the stationary flange.

7. Means for securing rails to ties comprising a band, bent upon the tie; means for securing together the ends of the band; a rail bed plate, approximately midway between the ends of the band; flanges on the rail bed plate; a T-shaped slot in the rail bed plate; a movable flange; an anchor, fitted into the T-shaped slot, on the movable flange and a wedge between the stationary and the movable flanges.

8. Means for securing rails to ties comprising a band, bent upon the tie; means for securing together the ends of the band; a rail bed plate, approximately midway between the ends of the band; flanges on the rail bed plate; a T-shaped slot in the rail bed plate; a clamp for the rail; an anchor, fitted into the T-shaped slot on the clamp, and a wedge, between the clamp and the flange of the bed plate.

9. Means for securing rails to ties comprising a band, bent upon the tie; means for securing together the ends of the band; a rail bed plate, approximately midway between the ends of the band; flanges on the rail bed plate; a T-shaped slot in the bed plate; a clamp of two jaws conforming to the foot of the rail; anchors, one on each jaw of the clamp, fitted into the T-shaped slot, and a wedge between the clamp and the flange of the bed plate.

10. Means for securing rails to ties comprising a band, bent upon the tie; interlocking flanges, one on each end of the band; the flanges of the band forming, when interlocked, an opening, a tapered wedge fitted into the opening; a rail bed plate, approximately midway between the ends of the band, and means for securing the rail to the bed plate.

11. Means for securing rails to ties comprising a band, bent upon the tie; interlocking flanges, one on each end of the band; the flanges of the band forming, when interlocked, an opening, a tapered wedge fitted into the opening; a rail bed plate, approximately midway between the ends of the band; a clamp for the rail, and means for securing the clamp to the bed plate.

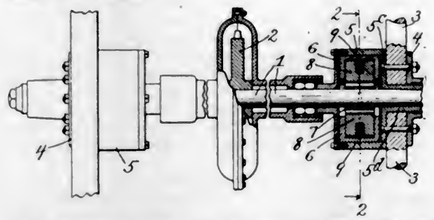
12. Means for securing rails to ties comprising a band, bent upon the tie; interlocking flanges, one on each end of the band; the flanges of the band forming, when interlocked, an opening, a tapered wedge fitted into the opening; a rail bed plate, approximately midway between the ends of the band; flanges on the rail bed plate, and means for securing the rail to the bed plate and against the flanges of the bed plate.

13. Means for securing rails to ties comprising a band, bent upon the tie; interlocking flanges, one on each end of the band; the flanges of the band forming, when interlocked, an opening, a tapered wedge fitted into the opening; a rail bed plate, approximately midway between the ends of the band; a stationary flange on the rail bed plate; a T-shaped slot in the rail bed plate; a jaw, conforming to the foot of the rail; an anchor, fitted into the T-shaped slot on the jaw, and means for rigidly securing the rail between the jaw and the flange of the rail bed plate.

14. Means for securing rails to ties comprising a band, bent upon the tie; interlocking flanges, one on each end of the band; the flanges of the band forming, when interlocked, an opening; a tapered wedge fitted into the opening; a rail bed plate, approximately midway between the ends of the band, flanges on the rail bed plate; a T-shaped slot in the rail bed plate; a jaw, conforming to the foot of the rail; an anchor, fitted into the T-shaped slot on the jaw.

15. Means for securing rails to ties comprising a band, bent upon the tie; interlocking flanges, one on each end of the band; the flanges of the band forming, when interlocked, an opening; a tapered wedge fitted into the opening; a rail bed plate, approximately midway between the ends of the band, flanges on the rail bed plate; a T-shaped slot in the rail bed plate; a clamp for the rail; an anchor, fitted into the T-shaped slot on the clamp, and a wedge, between the clamp and the flange of the bed plate.

865,666. DRIVING-CLUTCH FOR AUTOMOBILES. CHARLES WENDORFF, Chicago, Ill. Filed Mar. 4, 1907. Serial No. 360,367.



1. In a power-driven vehicle in combination with the axle and the wheel journaled on the axle, an outer annular clutch element rigid with the hub; an inner clutch element consisting of a plurality of parts, each adapted for seating outwardly against the inner surface of the outer annular element; a collar fast on the shaft within the inner clutch elements; plungers lodged for radial movement in the said inner clutch elements; springs reacting between said plungers and said inner clutch elements for holding the latter yieldingly outward relatively to the plungers, the plungers having at their inner ends oppositely sloping shoulders and the collar having correspondingly oppositely sloping shoulders for coöperating with the plungers respectively.

2. In a power-driven vehicle in combination with the axle and the wheel journaled on the axle, an outer annular clutch element rigid with the hub; an inner clutch element comprising two half cylindrical parts adapted each to seat against the inner surface of the annular clutch element and having slight play within said inner element, each of said half-cylindrical parts having two radial pockets opening inwardly and plungers lodged in said pockets for radial movement; springs reacting between the plungers and said clutch parts for forcing the plungers relatively inward and the clutch parts outward; a collar fast on the axle within the clutch elements having faces corresponding to the inner ends of the two plungers in each inner clutch part, each of said faces having two sets of shoulders oppositely sloped, the inner ends of the plungers having two corresponding sets of oppositely sloped shoulders for coöperating with the shoulders of the collar respectively.

3. In a power-driven vehicle, in combination with the axle and the wheel journaled thereon, an outer annular element rigid with the hub; an inner clutch element consisting of a plurality of parts, each adapted for seating outwardly toward the inner surface of the outer annular element; a collar fast on the shaft within the inner clutch element; plungers lodged for radial movement in the respective parts of said inner clutch element; springs reacting between said plungers and said clutch parts for holding the latter yieldingly outward, the plungers having at their inner ends oppositely sloping shoulders and the collar having correspondingly oppositely sloping shoulders for coöperating therewith, the inner circumference of the outer clutch element being provided with a multiplicity of concave seats or recesses, rendering it corrugated or scalloped, each of the several parts of the inner clutch element being provided with a plurality of abutments taking into said recesses or seats of the outer element adapted to be disengaged therefrom by the inward yielding of said clutch parts when the outer element is actuated for rotation relatively to the inner element.

4. In a power-driven vehicle, in combination with the axle and the wheel journaled thereon, an outer annular element rigid with the hub; an inner clutch element consisting of a plurality of parts each adapted for seating outwardly toward the inner surface of the outer annular element; a collar fast on the shaft within the inner clutch element; plungers lodged for radial movement in the respective parts of said inner clutch element; springs reacting between said plungers and said clutch parts for holding the latter yieldingly outward, the plungers having at their inner ends oppositely sloping shoulders, and the collar having correspondingly oppositely sloping shoulders for coöperating therewith, the inner circumference of the outer clutch element being provided with a multiplicity of concave seats or recesses rendering it corrugated or scalloped, each of the several parts of the inner clutch element having lodged in its outer periphery two rollers presenting a small protruding segment for seating in the recesses of said outer clutch element and adapted to disengage therefrom by the inward yielding of the said inner clutch parts when the outer clutch element is actuated for rotation relatively to the inner.

5. In a power-driven vehicle, in combination with the axle and the wheel journaled thereon, clutch devices for connecting the axle and wheel, comprising an outer clutch element and an inner clutch element having a plurality of parts each adapted to yield inward toward the axle; means on the axle for crowding them outward by rotation of the axle, the outer clutch element being interiorly scalloped or corrugated, each of the inner clutch parts having two rollers lodged in its periphery and protruding a small segment therebeyond for seating in the scalloped recesses or corrugations of the outer element.

865,667. WAGON-DUMP. JOHN F. WHITE, Bloomington, Ill., assignor to Portable Elevator Mfg. Co., Bloomington, Ill., a Corporation of Illinois. Filed June 18, 1906. Serial No. 322,352.



1. In a straddle wagon dump, means for elevating the front end of a wagon, and actuating mechanism therefor including a sectional rack bar.

2. In a straddle wagon dump, means for elevating one end of a wagon, and actuating mechanism therefor including a flexible rack bar.

3. In a straddle wagon dump, means for elevating one end of a wagon, and actuating mechanism therefor including a rack bar formed of a plurality of pivoted sections.

4. In a wagon dump, a supporting member, a jack movably secured thereto, and means interposed between said jack and supporting member for effecting the elevation thereof, including a flexible rack bar said jack and

supporting member being fashioned to rest between the wheels of the wagon to be elevated.

5. In a straddle wagon dump, a supporting member, a jack movably secured thereto, a flexible rack bar operatively connected to said jack, and a gear wheel carried by said supporting member and meshing with the rack.

6. In a wagon dump, a supporting member, a jack movably secured thereto, said supporting member and jack being fashioned to rest between the wheels of the wagon to be dumped a sectional flexible rack bar operatively connected to said jack, and means carried by the supporting member for raising and lowering said rack bar.

7. In a wagon dump, a supporting member, a jack movably secured thereto, said supporting member and jack being fashioned to rest between the wheels of the wagon to be dumped a flexible rack bar operatively connected to said jack, a gear wheel carried by said supporting member, and means for holding said rack in mesh with said gear wheel.

8. In a straddle wagon dump, a pivoted jack, and means for raising and lowering said jack, said means including a flexible rack bar.

9. In a straddle wagon dump, a pivoted jack, and means for raising and lowering said jack, said means including a sectional flexible rack bar.

10. In a wagon dump, a supporting member, a jack pivotally secured thereto, said supporting member and jack being fashioned to rest between the wheels of the wagon to be dumped a flexible rack bar connected to one of said members, and a gear wheel carried by the other of said members and meshing with said rack bar.

11. In a wagon dump, a supporting member, a jack pivotally secured thereto, said supporting member and jack being fashioned to rest between the wheels of the wagon to be dumped a flexible rack bar pivotally connected at its upper end to said jack, a gear carried by said supporting member and arranged to mesh with said rack bar.

12. In a wagon dump, a supporting member, a jack pivotally secured thereto, said supporting member and jack being fashioned to rest between the wheels of the wagon to be dumped a flexible rack bar pivotally connected at its upper end to said jack, a gear carried by said supporting member, and means for holding said rack bar in mesh with said gear.

13. In a wagon dump, a supporting member, a jack pivotally secured thereto, said supporting member and jack being fashioned to rest between the wheels of the wagon to be dumped a rack bar formed of a plurality of pivoted sections having its upper end pivoted to the jack, a gear carried by the supporting member, and a pivoted frame arranged to engage the rack bar and hold the same in mesh with said gear.

14. In a wagon dump, a supporting member, a jack pivotally secured thereto, links connecting the jack and supporting member and independent means for raising and lowering the jack.

15. In a wagon dump, a supporting member, a jack pivoted thereto, links connecting the jack and supporting member, and means for raising and lowering the jack, said means including a rack bar.

16. In a wagon dump, a supporting member, a jack pivoted thereto, links connecting the jack and supporting member, a rack bar pivoted at its upper end to said jack, and a gear carried by the supporting member and meshing with said rack bar.

17. In a wagon dump, a supporting member, a jack pivoted thereto, links connecting said jack and supporting member, a flexible rack bar secured at its upper end to the jack, and a gear carried by the supporting member and meshing with said rack bar.

18. In a wagon dump, a supporting member, a jack pivotally secured thereto, an inclined rack bar pivotally connected to said jack, and a gear carried by the supporting member and meshing with the rack bar, said rack bar consisting of a plurality of pivoted sections which are free to collapse in one direction only.

19. In a wagon dump, a supporting member, a jack pivoted thereto, an inclined rack bar pivotally connected to said jack, and a gear carried by the supporting member and arranged to mesh with the rack bar, said rack bar being formed of a plurality of pivoted sections, the adjacent ends of which are provided with shoulders designed to abut when the sections are brought into alinement.

20. In a wagon dump, a supporting member, a jack pivotally secured thereto, an inclined rack bar connected to said jack, a gear carried by the supporting member and meshing with the rack bar, said rack bar being formed of a plurality of pivoted sections which are free to collapse in one direction and are held against collapse in the opposite direction by the weight of the jack.

21. In a wagon dump, a supporting member, a jack movably secured thereto, a rack bar connected to said jack, a pinion carried by the supporting member and meshing with the rack bar, said rack bar being formed of a plurality of pivoted sections, which are free to collapse in one direction and are held against collapse in the other direction by the weight of the jack, and means positioned below the gear on the supporting member and above the plane of the lower edge of the supporting member for deflecting the rack bar and causing the collapse of the sections thereof.

22. In a wagon dump, a supporting member, a jack movably secured thereto, a collapsible sectional rack bar connected to said jack, a gear carried by the supporting member and arranged to mesh with said rack bar, and a housing positioned below said gear and above the plane of the lower edge of said supporting member, said housing being fashioned to deflect said rack bar and effect the collapse of the sections thereof.

23. In a wagon dump, a supporting member, a jack pivotally secured thereto, a rack bar connected thereto, said rack bar being formed of a plurality of sections free to collapse in one direction and held against collapse in the opposite direction by the weight of the jack, a gear carried by the supporting member and arranged to mesh with said rack, and a housing carried by the supporting member and positioned below said gear and above the plane of the lower edge of said supporting member, said housing being fashioned to effect the deflection of the rack bar and the collapse of the sections thereof.

24. In a device of the character described, means adapted to engage the forward end of a wagon to effect the elevation thereof, hoisting mechanism therefor including a drive shaft having a laterally extending portion, a power shaft, a transverse conveyer arranged to swing upward and downward to permit a wagon to pass into position to be elevated, a shaft carried by said conveyer, gearing between said shaft and the power shaft, and means for imparting a lateral movement to said conveyer when the same is lowered to cause the shaft carried thereby to engage the laterally extending portion of the drive shaft of the hoisting mechanism.

25. In a device of the character described, means adapted to engage the forward end of a wagon to effect the elevation thereof, hoisting mechanism therefor including a drive shaft having a laterally extending portion, a power shaft, a transverse conveyer arranged to swing upward and downward to permit a wagon to pass into position to be elevated, a shaft carried by said conveyer and having a portion adapted to engage with the laterally extending portion of the drive shaft of the hoisting mechanism, and an inclined stop adapted to be engaged by said conveyer when the same is moved to its operative position.

26. In a device of the character described, a supporting member, a jack movably secured thereto, a rack bar connected to said jack, actuating mechanism for said rack bar including a shaft and two sets of gearing therefor, a clutch member arranged for engagement with either set of gearing, means for moving said clutch member into engagement with either set of gearing, and means automatically operable by the movement of the jack for moving said clutch member out of engagement with both sets of gearing.

27. In a device of the character described, a conveyer, and a jack adapted to engage the under side of a wagon and elevate the same to effect the discharge of its contents into the conveyer, said jack having means adjustable thereon for engaging wagons of varying lengths.

28. In a device of the character described, a conveyer, and a jack adapted to engage the forward end of a wagon to elevate the same, said jack having means thereon for engaging wagons of varying lengths.

29. In a device of the character described, a conveyer, and a jack adapted to effect the elevation of a wagon to cause its discharge into said conveyer, said jack being fashioned to rest between the wheels of the wagon to be elevated and having means thereon for engaging wagons of varying lengths.

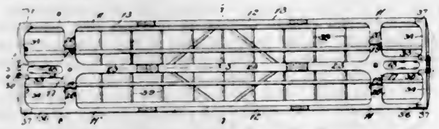
30. In a device of the character described, a longitudinally disposed supporting member, a longitudinally disposed jack movably secured thereto, said jack and supporting member being fashioned to rest between the wheels of the wagon to be dumped, a shaft journaled in said supporting member and extending substantially the entire length thereof, driving means for said shaft positioned at one end of said supporting member, and means actuated by said shaft for raising and lowering the jack position at the opposite end of said supporting member.

31. In a device of the character described, a longitudinally disposed supporting member, a longitudinally disposed jack movably secured thereto, said jack and supporting member being fashioned to rest between the wheels of the wagon to be dumped, a shaft journaled in said supporting member and extending lengthwise thereof, two sets of gearing positioned at one end of said supporting member, means for connecting either set of gearing with said shaft, and means actuated by said shaft for raising and lowering the jack.

32. In a wagon dump, a supporting member, fashioned to rest between the wheels of the wagon to be dumped, a jack pivotally secured thereto, a rack bar secured to said jack, a gear wheel carried by the supporting member and meshing with said rack bar, and actuating mechanism for driving said gear wheel in either direction carried by said supporting member.

33. In a wagon dump, a supporting member, a jack pivotally secured thereto, a rack bar connected to the jack, a gear carried by the supporting member and meshing with said rack bar, and actuating mechanism carried by the supporting member for driving said gear wheel, said supporting member, jack, and actuating mechanism being fashioned to rest between the wheels of the wagon to be elevated.

865,668. UNDERFRAME FOR CARS. JAMES S. ANDREWS, New York, N. Y. Filed June 1, 1907. Serial No. 376,854.



1. An underframe for cars comprising a metal side sill provided with an integral projection constituting a part of the body bolster.

2. An underframe for cars comprising a metal side sill, said side sill comprising a cast steel section provided with an integral projection constituting a part of the body bolster.

3. An underframe for cars comprising a metal side sill composed of a plurality of sections, two of said sections being made of cast steel and each provided with a projection constituting a part of the body bolster.

4. An underframe for cars comprising a metal side sill composed of a plurality of sections arranged end to end, the adjacent ends of said sections having depressions at the top, a tie plate over-lapping the ends and arranged in said depressions, and means for securing said tie plate to the sections.

5. An underframe for cars comprising a metal draw-bar sill having side projections extending part-way between the draw-bar sill and the side sills to constitute parts of the body bolster.

6. An under frame for cars comprising two metal side sills, each of said side sills having an integral projection constituting a part of the body bolster, and a metal draw-bar sill having side projections constituting parts of the body bolster.

7. An underframe for cars comprising two metal side sills, each of said side sills having integral projections constituting parts of the body bolsters, two metal draw-bar sills, each of said draw-bar sills having integral side projections to abut against the projections on the side sills and constituting parts of the body bolster, and means for securing the projections on the side sills to the projections on the draw-bar sills.

8. An underframe for cars comprising two side sills, each of said side sills having projections constituting parts of the body bolster, two metal draw-bar sills, each of said draw-bar sills having side projections to abut against the projections on the side sills and constituting parts of the body bolsters, said projections on the side sills having flanges to overlap the ends of the projections on the draw-bar sills and downwardly projecting flanges to lie against the ends of the projections on the draw-bar sills, and means for securing said flanges to the draw-bar sills.

9. An underframe for cars comprising two metal draw-bar sills, each of said sills comprising an integral end projection extending a distance lengthwise of the frame and constituting a section of the center sill, and a section connected at its ends to the ends of said projections to complete the center sill.

10. An underframe for cars comprising a cast steel draw-bar sill having integral side projections extending part-way between the draw-bar sill and side sills and constituting parts of the body bolster and an integral end projection extending a distance lengthwise of the frame and constituting a part of the center sill.

11. An underframe for cars comprising two side sills, each of said side sills consisting of a plurality of sections and two of said sections being made of cast steel and having integral side projections constituting parts of the body bolster, two cast steel draw-bar sills having side projections to abut against the projections on the side sills and constituting parts of the body bolster, means for securing said projections together, and a section secured to the end projections on the body sills to complete the center sill.

12. An underframe for cars comprising two cast steel draw-bar sills, each of said draw-bar sills having integral end projections constituting parts of the center sill, an intermediate cast steel section abutting at its ends against the ends of said projections to complete the center sill, said projections and intermediate section being made in the form of channel bars, the top flanges on said projections and intermediate section being depressed at their ends, tie plates arranged in said depressions in the top flanges and beneath the same, bolts or rivets passing through said flanges and tie plates, tie plates arranged above and below the bottom flanges on said projections and intermediate section, and bolts or rivets passing through said tie plates and bottom flanges, all of said tie plates overlapping the ends of said flanges.

13. An underframe for cars comprising a pair of side sills, a draw-bar sill, and an end sill made in two sections, each of said sections being arranged between the draw-bar sill and a side sill and fastened thereto.

14. An underframe for cars comprising a draw-bar sill casting having side projections extending part-way between the draw-bar sill and the side sills to constitute parts of the body bolster and provided at its forward end with an integral buffing surface and a pocket for the draw-bar carry iron.
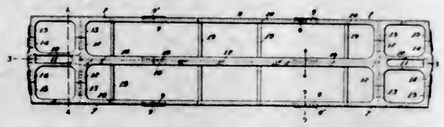
15. An underframe for cars comprising a draw-bar sill casting having side projections extending part-way between the draw-bar sill and the side sills to constitute parts of the body bolster, and an integral rear end projection extending a distance lengthwise of the frame to constitute a part of the center sill and at its forward end an integral buffing surface and a pocket for the draw-bar carry iron.

16. An underframe for cars comprising sectional cast stell side sills having integral lugs thereon, a sectional

cast steel center sill having integral lugs thereon, and transoms arranged between the center sill and each of the side sills and secured at their ends to said lugs.

17. An underframe for cars comprising a pair of side sills, each of said side sills consisting of two cast steel end sections having integral projections constituting parts of the body bolster, intermediate sections secured at their ends to the ends of the end sections, two cast steel draw-bar sills having integral side projections to abut against the projections on the side sills and constituting parts of the body bolsters, and also having integral end projections constituting parts of the center sill, an intermediate section secured at its ends to the ends of the end projections on the draw-bar sills to complete the center sill, and diagonal braces secured at their ends to the intermediate sections of the side sills and the intermediate section of the center sill.

865,669. UNDERFRAME FOR CARS. JAMES S. ANDREWS, New York, N. Y. Filed June 7, 1907. Serial No. 377,721.



1. An underframe for cars comprising a metal side sill provided with an integral projection extending part-way between the side sill and the draw-bar sill to constitute a part of the end sill.

2. An underframe for cars comprising a metal side sill, said side sill comprising a cast steel end section provided with an integral projection extending part-way between the side sill and the draw-bar sill to constitute a part of the end sill.

3. An underframe for cars comprising a metal side sill composed of a plurality of sections, the two end sections of said side sill being made of cast steel and each provided with an integral projection constituting a part of the end sill.

4. An underframe for cars comprising a metal side sill, said side sill comprising a cast steel end section provided with an integral projection constituting a part of the end sill, and an integral projection constituting a part of the body bolster.

5. An underframe for cars comprising a metal draw-bar sill provided with integral side projections constituting parts of the end sill.

6. An underframe for cars comprising a metal draw-bar sill provided with integral side projections constituting parts of the end sill and integral side projections constituting parts of the body bolster.

7. An underframe for cars comprising two metal side sills, each of said side sills having an end section provided with integral projections constituting parts of the end sill and integral projections constituting parts of the body bolster, and a metal draw-bar sill provided with integral projections constituting parts of the end sill and integral projections constituting parts of the body bolster.

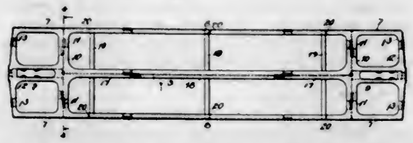
8. An underframe for cars comprising a metal side sill consisting of two cast steel end sections and a cast steel intermediate section, all of said sections being made in channel form, a channel tie plate overlapping the adjacent ends of said sections on the channel side thereof, a flat tie plate overlapping the adjacent ends of said sections on the flat side thereof, and means for securing said tie plates to the sections.

9. An underframe for cars comprising two cast steel draw-bar sills provided with end projections in I-form to constitute parts of the center sill, an intermediate section in I-form to abut against the ends of said projections, channel tie plates overlapping the adjacent ends of said sections, on both sides thereof, and means for securing said tie plates to the sections.

10. An underframe for cars comprising a metal side sill, said side sill comprising a cast steel end section having an integral side projection to form part of the end sill, a cast steel draw-bar sill having an integral side projection to abut against the side projection on the side sill section and form part of the end sill, said projections being made in channel form, a channel tie plate over-lapping the ends of said projections on the channel side thereof, a flat tie plate overlapping the ends of said projections on the flat side thereof, and means for securing said tie plates to the projections.

11. An underframe for cars comprising a metal side sill, said side sill comprising a cast steel end section provided with a side projection to constitute a part of the body bolster, a cast steel draw-bar sill provided with an integral side projection to abut against the projection on the side sill section and constitute a part of the body bolster, said projections being made in I-form, channel tie plates overlapping the ends of said projections, and arranged on both sides of the projections, and means for securing the tie plates to the projections.

865,670. UNDERFRAME FOR CARS. JAMES S. ANDREWS, New York, N. Y. Filed June 15, 1907. Serial No. 379,115.



1. In an underframe for cars, a metal side sill comprising a plurality of sections of channel form, said sections having their adjacent ends overlapped and secured together, one of said ends being offset to fit within the other.

2. In an underframe for cars, a metal side sill comprising a plurality of sections of channel form having their adjacent ends overlapped and fastened together, the end of one section being offset to fit within the channel of the other section and having a shoulder against which the end of the other section abuts.

3. In an underframe for cars, a side sill comprising a cast steel end section having an integral side projection to constitute part of the body bolster, a cast steel draw-bar sill having an integral side projection to constitute part of the body bolster, said projections overlapping each other at their adjacent ends, and means for fastening said projections together.

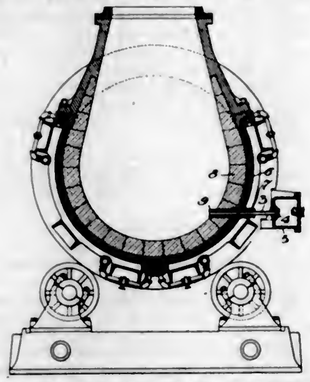
4. In an underframe for cars, a side sill comprising a cast steel end section having an integral side projection forming part of the body bolster, a cast steel draw-bar sill having an integral side projection forming part of the body bolster, said projections being made in channel form with their ends overlapping, the end of each projection being reduced to fit within the channel on one side of the other projection, and the flanges on said projections being cut away to permit them to overlap, and means for fastening said projections together.

5. In an underframe for cars, a side sill comprising a cast steel end section having an integral side projection forming part of the body bolster, a cast steel draw-bar sill having an integral side projection forming part of the body bolster, said projections overlapping and one provided with a side bearing and the other with a depending flange to lie against said side bearing, and means for fastening said projections together.

6. In an underframe for cars, a side sill comprising a cast steel end section having an integral side projection forming part of the end sill, a cast steel draw-bar sill having an integral side projection forming part of the end sill, said projections overlapping at their adjacent ends, and means for fastening said projections together.

7. In an underframe for cars, a side sill comprising a cast steel end section having an integral side projection forming part of the body bolster and an integral side projection forming part of the end sill, a cast steel draw-bar sill having an integral side projection forming part of the body bolster and an integral side projection forming part of the end sill, the bolster projection on the draw-bar sill overlapping the bolster projection on the side sill section and the end sill projection on the draw-bar sill overlapping the end sill projection on the side sill, and means for fastening the overlapping ends of said projections together.

865,671. CONVERTER. RALPH BAGGALEY, Pittsburg, Pa. Filed Oct. 30, 1906. Serial No. 341,339.



1. A twyer having a removable sleeve or tube extending into and through the twyer orifice and having an accessible tool-seating portion; substantially as described.

2. A twyer having a removable sleeve or tube extending through the twyer orifice and whose outer end is formed with a wrench-seating portion; substantially as described.

3. A twyer having a removable sleeve or tube extending therethrough with a head adapted to be engaged with a turning instrument, and a wind-box in which such portion terminates; substantially as described.

4. A converter having a twyer opening, a lining sleeve therein and extending therethrough, and a removable tube or sheath extending into said lining sleeve and having a portion projecting into the wind box of the converter; substantially as described.

865,672. CONCEALED HINGE FOR WATCHES. ADOLPHUS BAVIER, Waterbury, Conn., assignor to The Waterbury Clock Co., Waterbury, Conn., a Corporation. Filed Mar. 5, 1906. Serial No. 304,193.

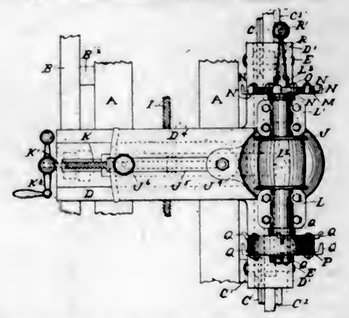


In a watch, a concavo-convex center ring having a back-cap flange extending therefrom, said flange having a slot therein, a back-cap having an edge fitting over said flange, said cap hinged to said center ring with a hinge having a leaf attached to the back cap and having a tongue extending inwardly thence outwardly and fitting in said slot, whereby said edge of said back cap in opening may follow the curve of said center ring, and when closed form a dust-tight joint with said flange, substantially as described.

865,673. WOOD-COLUMN-TURNING LATHE. HUNLEY BIBLE, Sherman, Tex. Filed Oct. 23, 1906. Serial No. 340,215.

1. The combination with a lathe and a carriage provided with a cross-feed, of an auxiliary swinging head pivotally mounted upon the carriage, a lever secured to said head, and a clamping screw carried by the lever for securing the auxiliary head in the adjusted position.

2. The combination with a lathe having a carriage, of an auxiliary swinging head pivotally mounted upon the carriage, a spindle journaled in said head, cutters mounted upon the ends of said spindle, a lever secured to the base of the head, and a clamping screw carried by the lever for securing the auxiliary head in adjusted position.



3. The combination in a lathe having a carriage, a stud bolt secured near the end of the carriage, of an auxiliary swinging head pivotally secured upon said bolt carrying journal standards, a spindle journaled in said standards, cutter heads secured upon the ends of the spindle, a lever arm secured to the auxiliary head, and a clamping screw carried in said lever to engage the carriage and secure the auxiliary head in adjusted position.

865,674. CLEANING ATTACHMENT FOR SOUND-RECORDS. JOSEPH N. BLACKMAN, East Orange, N. J. Filed Aug. 22, 1906. Serial No. 331,578.



1. In a sound-reproducing instrument, a cleaning-implement comprising cleaning-material and attaching means consisting of arms adapted to embrace the sound-box, one of such arms having an inturned end and the other a slot.

2. In a sound reproducing instrument, a cleaning-implement comprising cleaning-material and attaching means consisting of arms adapted to embrace the sound-box, one of such arms having an inturned end and the other a slot, and a base extending between said arms and adapted to bear against the sound-box.

3. A cleaning-implement for the records of sound-reproducing instruments comprising cleaning-material and attaching means consisting of arms adapted to embrace the sound-box, one of such arms having an inturned end and the other a slot, and a base extending between said arms and adapted to bear against the sound-box.

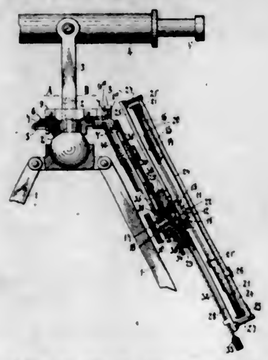
865,675. ORIENTING DEVICE. ERNEST VON BOMSDORFF, Breslau, Germany. Filed Nov. 26, 1906. Serial No. 345,225.

1. In an orienting device the combination with a sighting device and a map carrier movable with the sighting device, of an indicator rotatable in front of a map carrier and mechanism operatively connecting the indicator and the sighting device to maintain the indicator across the map in the relative line of sight.

2. In an orienting device the combination with a telescope movable around a vertical axis and a map carrier connected to and movable with the telescope; of an indicator and mechanism to impart to the indicator the same angular movements as the telescope and means to independently move the indicator.

3. In an orienting device, the combination with a telescope support and a telescope movably mounted thereon, of a chart carrier movable in unison with the telescope, an

indicator movable over the chart, and coöperating means on the carrier and support to actuate the indicator by the movement of the telescope and carrier.



4. In an orienting device the combination with a telescope and a normally stationary plate, a sleeve split at its end secured in the center thereof, a pin adapted to pass into and be held by the split end of said sleeve, an indicator strip and means to impart angular movement thereto corresponding to the horizontal angular movement of the telescope.

5. In an orienting device the combination with a telescope; of an angle plate connected thereto and partaking of the horizontal movements of the telescope, a fixed gear concentric with the vertical axis of rotation of the telescope, an indicator and gearing between the fixed gear and indicator to impart like angular movements to the indicator when the telescope is moved.

6. In an orienting device the combination with a telescope; of a map or chart carrier in an inclined position beneath the eye piece of the telescope, an indicator and mechanism to impart the same angular movements thereto as the angular movements of the telescope when moved.

7. In an orienting device the combination with a telescope movable about a vertical axis, of a bevel gear wheel fixed concentric with said vertical axis, a strip fixed to move with the telescope, a removable map supporting plate secured to the strip, an indicator mounted to rotate about the axis of the plate and mechanism to impart the same angular movement to the indicator on the telescope, and means to permit the movement of the strip independent of the telescope.

865,676. ARTIFICIAL BAIT. DANIEL W. BROWN, Youngstown, Ohio. Filed Mar. 29, 1907. Serial No. 365,307.



1. An artificial bait comprising a ballasted body, a rotatable spinner on the forward end of the body composed of a forward-inclined paddle on one end and a counter weight on the other end, and a downward-rearward inclined facet on the forward part of the body.

2. An artificial bait comprising a ballasted body, a rotatable spinner on one end of the body composed of a forward-inclined paddle on one end and a counter weight on the other end, and a downward-rearward inclined facet on the adjacent part of the body.

3. An artificial bait comprising a ballasted body, a rotatable spinner on the forward end of the body composed of a paddle on one end and a counter weight on the other end, and a downward-rearward inclined facet on the forward part of the body.

4. An artificial bait comprising a ballasted body, a rotatable spinner on one end of the body composed of a paddle on one end and a counter weight on the other end, and a downward-rearward inclined facet on the adjacent part of the body.

5. An artificial bait comprising a ballasted body, a rotatable one-paddle spinner on the forward end of the body having its paddle inclined forward, and a downward-rearward inclined facet on the forward part of the body.

6. An artificial bait comprising a ballasted body, a rotatable one-paddle spinner on one end of the body having its paddle inclined forward, and a downward-rearward inclined facet on the adjacent part of the body.

7. An artificial bait comprising a ballasted body and a rotatable spinner on the forward end of the body composed of a forward-inclined paddle on one end and a counter weight on the other end.

8. An artificial bait comprising a ballasted body and a rotatable spinner on one end of the body composed of a forward-inclined paddle on one end and a counter weight on the other end.

9. An artificial bait comprising a ballasted body and a rotatable spinner on the forward end of the body composed of a paddle on one end and a counter weight on the other end.

10. An artificial bait comprising a ballasted body and a rotatable spinner on one end of the body composed of a paddle on one end and a counter weight on the other end.

11. An artificial bait comprising a ballasted body and a rotatable one-paddle spinner on the forward end of the body having its paddle inclined forward.

12. An artificial bait comprising a ballasted body and a rotatable one-paddle spinner on one end of the body having its paddle inclined forward.

13. In an artificial bait, a body and a rotatable spinner on the forward end of the body composed of a forward-inclined paddle on one end and a counter weight on the other end.

14. In an artificial bait, a body and a rotatable spinner on one end of the body composed of a forward-inclined paddle on one side and a counter weight on the other side.

15. In an artificial bait, a body and a rotatable spinner on the forward end of the body composed of a paddle on one end and a counter weight on the other end.

16. In an artificial bait, a body and a rotatable spinner on one end of the body composed of a paddle on one end and a counter weight on the other end.

17. In an artificial bait, a body and a rotatable one-paddle spinner on the forward end of the body having its paddle inclined forward.

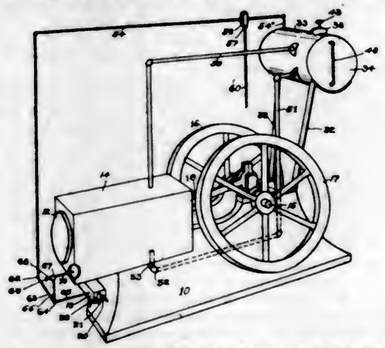
18. In an artificial bait, a body and a rotatable one-paddle spinner on one end of the body having its paddle inclined forward.

865,677. GAS-ENGINE. JOHN W. BURKETT, Kansas City, Mo., assignor to The Kansas City Hay Press Company, a Corporation of Missouri. Filed Nov. 24, 1905. Serial No. 288,933.

1. In a gas engine a cylinder and its piston and a water jacket upon said cylinder and a suitable source of water supply, a gas and vapor mixing case on the cylinder and an inlet valve, a steam supply pipe having a suitable source of supply of steam connected with the said inlet valve casing and a valved branch pipe leading from the water jacket to the steam pipe.

2. In a gas engine the combination with a cylinder and a water jacket upon said cylinder, a water supply tank, ingoing and outgoing water circulating pipes connected with said tank and with the said water jacket, a gas and vapor mixing case connected with said cylinder and a gas inlet valve, a steam supply pipe connected with the said tank and the said gas and vapor mixing case, and a valved conductor for conducting initially water from the water jacket to the gas and vapor mixing case.

3. In a gas engine the combination with the cylinder and the water jacket upon said cylinder having a suitable source of water supply, a gas and vapor mixing case upon said cylinder having a depression and an outlet for the escape of water, a gas inlet valve in said case and a valved conductor leading from the water jacket to the said depression in the gas and vapor mixing case.



4. In a gas engine a cylinder and a water jacket upon said cylinder, a water supply tank and an ingoing water circulating pipe connected with the side of said tank and the upper portion of the said water jacket and an outgoing water circulating pipe connected with the lower portion of said water jacket and the bottom of said water tank, a gas and vapor mixing case connected with said cylinder a gas inlet valve on said case leading to said cylinder, a steam supply pipe connected with the top of said water tank and the said gas and vapor mixing case and a valved branch pipe leading from the water jacket to the steam pipe.

5. In a gas engine a cylinder, a water jacket upon said cylinder, a water tank ingoing and outgoing water circulating pipes connected with the side and bottom of said tank respectively and with the respective lower and upper portions of said water jacket, a gas and vapor mixing case connected with said cylinder and a gas inlet valve and stem in said case and a steam supply pipe connected with the top of said water tank at one end and having the other end extending through the wall of said gas and vapor mixing case into said case, said gas and vapor mixing case having a depression and an outlet for the escape of the water or condensed steam which may accumulate at the time the engine does not make steam.

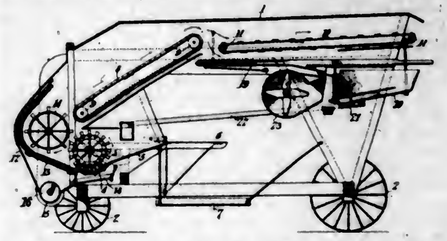
6. In a gas engine a cylinder and a water jacket upon said cylinder, a water tank and suitable supports therefor, ingoing and outgoing water circulating pipes connected with the side and bottom of said water tank respectively and with the respective lower and upper portions of said water jacket, a gas and vapor mixing case connected with said cylinder and a gas inlet valve and a steam supply pipe connected with the top of said water tank at one end and having the other end extending through the wall of said gas and vapor mixing case, a branch pipe connected with said steam pipe leading into the water jacket and a valve casing and valve in said pipe.

865,678. THRESHING-MACHINE. WILLIAM L. BUTLER, Carthage, Mo. Filed Jan. 24, 1907. Serial No. 353,813.

1. In a threshing machine, the combination of a threshing cylinder, a carrier having its receiving end located in proximity to said threshing cylinder, and means for inverting the straw passed beneath and threshed by said threshing cylinder before it is delivered onto the receiving end of said carrier, substantially as set forth.

2. In a threshing machine, the combination of a threshing cylinder, a carrier having its receiving end located above and in proximity to said cylinder, and means for inverting the straw passed beneath and threshed by said threshing cylinder and delivering it onto the receiving end of said carrier, substantially as set forth.

3. In a threshing machine, the combination of a threshing cylinder, a carrier having its receiving end located in proximity to said threshing cylinder, and means for positively engaging the straw passed beneath and threshed by said threshing cylinder and inverting and delivering it onto the receiving end of said carrier, substantially as set forth.



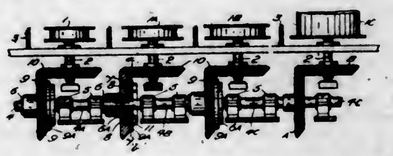
4. In a threshing machine, the combination of a threshing cylinder, a carrier having its receiving end located above said threshing cylinder, and means for positively engaging the straw passed beneath and threshed by said threshing cylinder and inverting and delivering it onto the receiving end of said carrier, substantially as set forth.

5. In a threshing machine, the combination of a threshing cylinder, a separating chamber adjacent to said threshing cylinder, a curved grate in said separating chamber, a carrier having its receiving end located in proximity to said threshing cylinder and means working in connection with the grate for inverting the straw passing beneath and threshed by said threshing cylinder, and delivering onto the receiving end of said carrier, substantially as set forth.

6. In a threshing machine, the combination of a threshing cylinder, a carrier having its receiving end located in proximity to said threshing cylinder, and an elevating cylinder or drum located adjacent to said threshing cylinder and by which the straw is delivered to said carrier, substantially as set forth.

7. In a threshing machine, the combination of a threshing cylinder, a carrier having its receiving end located in proximity to said threshing cylinder, a separating chamber adjacent to said threshing cylinder, a grate in said separating chamber and an elevating cylinder or drum, adjacent to said threshing cylinder for elevating the straw and delivering it to said carrier, substantially as set forth.

865,679. DRIVING MECHANISM FOR DRAWING-THROUGH DRUMS OF WIRE-DRAWING MACHINES. WOODHOUSE CARTER, Victoria Mills, Low Moor, and EDWIN HODGSON, Cleckheaton, England. Filed Aug. 24, 1905. Serial No. 275,697.



1. In a continuous wire drawing machine, the combination of a plurality of reducing plates and drawing-through drums, a series of sectional shafts in alinement, a gear supporting cage secured to each sectional shaft except the last planet gears revolubly supported thereon, an internal rack revolubly mounted around each sectional shaft upon which a gear cage is secured, said rack meshing with planet gears and supporting a bevel wheel arranged to mesh with a like wheel secured on respective drawing-through drum shaft, a sun gear secured to succeeding sectional shaft upon which the aforesaid gear cage is secured, said sun gear meshing with planet gears, and a driving connection between the first and last length of sectional shafts.

2. In a continuous wire drawing machine, the combination with a plurality of reducing plates and drawing-through drums, a series of sectional shafts in alinement, a

gear cage secured to each sectional shaft except the last length, planet gears carried by each cage revolubly supported thereon, an internal rack revolubly mounted upon each cage, pawls carried thereby engaging with respective internal racks, said racks meshing with planet gears, means for transferring rotary movement to the drawing-through drums, a sun gear secured to adjacent sectional shaft meshing with preceding planet gears, and a driving connection between the first and subsequent sections of driving shafts and drawing-through drums.

3. In a continuous wire drawing machine, the combination of a plurality of reducing plates and drawing-through drums, a series of sectional driving shafts in alinement, a gear cage secured to one of the sectional shafts, a planet gear revolubly supported thereon, an internal rack revolubly mounted around the sectional shaft upon which the gear cage is secured, said internal rack arranged to mesh with the planet gear, a bevel gear supported by said internal rack member and arranged so as to mesh with the bevel gear which is on one of the shafts for driving a drawing through drum, a sun gear secured to the sectional shaft which is adjacent said sectional shaft upon which the aforesaid gear cage is mounted, said sun gear arranged to mesh with said planet gear, and a driving connection between the last mentioned sectional shaft and a second drawing-through drum.

865,680. LOOM PICKER-STICK. EUGENE CHEVRETTE, Fitchburg, Mass., assignor of one-half to A. Horace La Rue, Fitchburg, Mass. Filed June 14, 1905. Serial No. 265,166.



1. In a construction of the class described, the combination of a picker-stick, a rocker carried by the picker-stick, a sweep stick having inner annular sockets, a bushing for pivotally connecting the sweep stick and rocker, said bushing having its ends seated in the sockets in the sweep stick, and means for clamping the bushing in place.

2. In a construction of the class described, the combination of a picker-stick, a rocker carried by the picker-stick, a sweep-stick, wooden side pieces extending from the sweep-stick, a bushing for pivotally connecting the side pieces and rocker and having its ends seated in sockets in the wooden side pieces, and means for clamping the bushing in place.

3. In a construction of the class described, the combination of a picker-stick, a rocker, a leather facing secured on the rocker and extending down therefrom, a pivotal piece for fastening the rocker to the picker-stick having a projecting pin piercing the leather and means for clamping the pivot piece to the picker-stick.

4. In a construction of the class described, the combination of a picker stick, a rocker carried thereby, a leather facing secured on the rocker and extending down therefrom, a pivot piece having a pin piercing the leather and penetrating the wood of the picker-stick, and means for clamping the pivot piece in place.

5. In a construction of the class described, the combination of a picker-stick, a rocker, a leather facing secured to the rocker, a pivot piece, means for clamping the pivot piece to the picker-stick consisting of a yoke and nuts threaded on to the arms of said yoke and a nut locking wire for preventing the nuts from loosening.

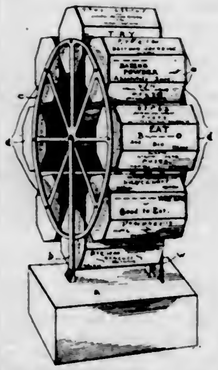
6. In a construction of the class described, the combination of a picker-stick, a rocker carried thereby, a pivot piece, means for fastening the pivot piece to the picker-stick, consisting of a yoke, nuts threaded onto the arms of said yoke, and means for locking the nuts consisting of a U shaped lock wire pivoted in an ear of the pivot piece so that the ends of the wire may be sprung into place below a fastening piece.

7. In a construction of the class described, the combination of a picker-stick, a rocker carried thereby, a leather facing fastened on said rocker and extending beyond the end thereof, a pivot piece having a pin piercing the leather and wood of the picker-stick, and means for clamping the pivot piece onto the picker-stick, consisting of a yoke and nuts threaded onto the arms of the yoke and a nut locking wire for fastening the nuts, consisting of a U shaped piece of wire pivoted at its middle in the pivot piece and having its free ends adapted to be sprung into engagement with a fastening piece.

8. In a construction of the class described, the combination of a picker-stick, a rocker carried thereby, a pivot piece having a pin piercing the picker-stick and connecting the picker-stick with the rocker, and means for clamping the pivot piece onto the picker-stick, comprising a yoke having arms, nuts threaded on the arms of the yoke, and a nut-locking U-shaped wire for fastening the nuts, pivoted at a point intermediate of its ends on the pivot piece and having its ends adapted to be sprung into engagement with the fastening piece.

9. A yielding support for the lower end of a picker-stick comprising a pivot-pin, a piece on which said pivot-pin is mounted, said piece having sides, a yielding block located between said sides, and a rocker-piece adapted to be connected with the loom and having ways with which said sides engage, whereby the yielding block is substantially interposed between three walls of the pivot-pin piece and one wall of the rocker-piece, said rocker-piece having a stop at the end of the block for limiting the relative motion between the rocker-piece and the pivot-pin piece.

865,681. ROTARY ADVERTISING-MACHINE. HENRY T. COLE, New York, N. Y. Filed Jan. 20, 1906. Serial No. 297,064.

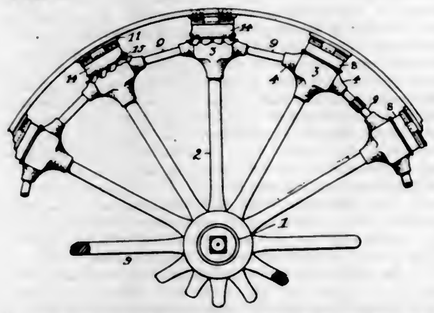


1. In a device of the character described, a supporting base, vertical standards carried thereby, a rotary main frame having a horizontal shaft journaled in said standards, a plurality of rotary prismatic drums having horizontal shafts journaled in said main frame, means for automatically intermittently rotating said main frame, and means for automatically intermittently rotating said drums including an upward extending projection upon the base.

2. In a device of the character described, a supporting base, vertical standards carried thereby, a rotary main frame having a horizontal shaft journaled in said standards, a plurality of rotary prismatic drums having horizontal shafts journaled in said main frame and lateral corner projections, means for automatically intermittently rotating said main frame, and an upward extending projection upon the base adapted to engage said corner projections to automatically intermittently rotate said drums.

3. In a device of the character described, a supporting base, vertical standards carried thereby, a circular rotary main frame having a horizontal shaft journaled in said standards, a plurality of rotary prismatic drums having lateral corner projections and horizontal shafts journaled peripherally in said main frame, means for automatically intermittently rotating said main frame including gearing within said base having sprocket gearing connection with the shaft of the main frame, and an upward extending projection upon the base adapted to engage said corner projections of the drums to automatically intermittently rotate the same.

865,682. WHEEL. HERMAN CRAMER, Sonora, Cal., assignor to Cramer Wheel Company, San Francisco, Cal., a Corporation of California. Filed Feb. 13, 1905, Serial No. 245,476. Renewed May 21, 1907. Serial No. 374,846.



1. In a wheel, the combination with a spoke, and with the tire, of a casting in which the spoke is secured, a mass of rubber in said casting, and projecting beyond it, and a projection secured to the tire and embedded in said rubber.

2. In a wheel, the combination with the tire, of hollow castings each having a plurality of hollow projections forming sockets, a mass of rubber in the casting and loosely connected to the tire, and spokes and braces secured within the sockets in said castings.

3. In a wheel, the combination with the tire, of hollow castings each having hollow projections forming sockets, a mass of rubber in the castings in loose connection with the tire, a mass of hardened metal in each socket and spokes and braces having their ends embedded in said hardened metal.

4. In a wheel, the combination with a spoke and with the tire, of a mass of rubber interposed between said spoke and tire and having a hole or recess and a tapered pin secured to the tire and entering said recess.

5. In a vehicle wheel a hub, spokes and a tire, castings secured to the tire adjacent to each spoke, a body of rubber held by each casting and separate braces connecting said castings together, which braces are chords of arcs of the wheel.

6. In a wheel, the combination with the tire, of an intermediate structure comprising a series of independent socketed castings and separate connecting braces securing said castings together, an elastic connection between each casting and the tire, and spokes secured in said castings.

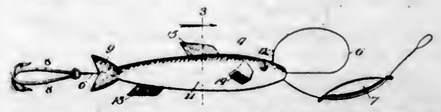
7. In a wheel, the combination with the tire and spokes, of hollow castings which receive the spokes, a mass of rubber in and projecting from each casting, and a connection between the tire and each mass of rubber, and washers or plates overlying the masses of rubber and constructed and arranged so as to admit the connection between the tire and rubber.

8. In a wheel, the combination with the tire and spokes, of hollow castings which receive the spokes, a mass of rubber in and projecting from each casting, a connection between the tire and each mass of rubber, and a pair of overlapping flanged washers or plates overlying the masses of rubber and recessed so as to admit the connection between the tire and rubber.

9. In a wheel, the combination with the tire and spokes, of hollow castings which receive the spokes, a mass of rubber in and projecting from each casting, a connection between the tire and each mass of rubber, a piece of leather covering the projecting part of the rubber and secured to each casting, and washers or projecting plates overlying the leather and secured to said leather.

10. A fellyless wheel comprising a hub, spokes and tire, a structure comprising castings having means for receiving the spokes and connected by straight braces which are chords of arcs formed by the tire, a mass of rubber in and projecting beyond each casting, and pins projecting from the tire and embedded in said masses of rubber.

865,683. ARTIFICIAL FISH-BAIT. JOHN D. CREDLEBAUGH, Chicago, Ill. Filed July 1, 1907. Serial No. 381,587.



1. Artificial fish-bait comprising a body in the form of a fish, provided on its under side with a weight for sinking and poising it in the water, and having fins or bright-colored material of a character so flexible as to adapt it to be vibrated by movement of the bait in the water.

2. Artificial fish-bait comprising a body in the form of a fish, provided on its under side with a weight for sinking and poising it in the water, and with a transverse irregular opening in its head-portion, bright-colored flexible material confined in said opening and forming the gill-fins of the bait, and similar material on the body forming the back and rear fins.

3. Artificial fish-bait comprising a body in the form of a fish, provided on its under side with a weight for sinking and poising it in the water, and having fins of bright-colored material of a character so flexible as to adapt it to be vibrated by movement of the bait in the water, and a bright-colored tail.

4. Artificial fish-bait comprising a body in the form of a fish, provided on its under side with a weight for sinking and poising it in the water, and having fins and a tail of bright-colored material of a character so flexible as to adapt it to be vibrated by movement of the bait in the water.

5. In combination, artificial fish-bait comprising a body in the form of a fish, having an opening extending longitudinally through it and provided with a weight on its under side for sinking and poising it in the water and with fins of bright-colored material of a character so flexible as to adapt it to be vibrated by movement of the bait in the water, and a line extending through said opening and freely movable longitudinally through said body, with a hook on the line at the tail-end of the bait.

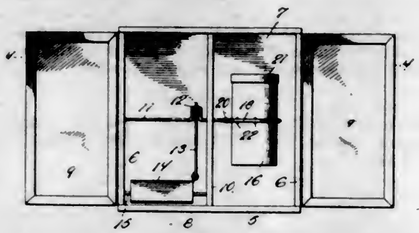
6. Artificial fish-bait comprising a body in the form of a fish, provided on its under side with a weight for sinking and poising it in the water and with a covering of glistening material in resemblance of scales and having fins of bright-colored material of a character so flexible as to adapt it to be vibrated by movement of the bait in the water, and a bright-colored tail.

7. Artificial fish-bait comprising a body in the form of a fish, weighted to adapt it to sink and poise in the water and provided with a transverse irregular opening in its head-portion having bright-colored material, such as red flannel, confined in it and forming flexible gill-fins, a recess

in its back-portion containing similar material forming the back-fin, and a recess in the under side near the tail-portion containing similar material forming a fin.

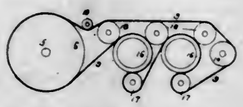
8. Artificial fish-bait comprising a body in the form of a fish, weighted to adapt it to sink and poise in the water and provided with a longitudinal central opening for the line, with a transverse irregular opening in its head-portion having red flannel, or the like, confined in it and forming flexible gill-fins, a recess in its back-portion containing similar material forming the back-fin, and a recess in the under side near the tail-portion containing similar material forming a fin.

865,684. CHURN. WALTER A. CUTLER, Whiteclay, Nebr. Filed Aug. 10, 1906, Serial No. 330,041. Renewed May 13, 1907. Serial No. 373,380.



A churn comprising a casing having a partition therein, a shaft journaled in one wall of the casing and the partition and extending beyond the latter, a receptacle carried by the shaft beyond the partition, said shaft having a crank bend therein, a treadle mounted within the casing, and operative connections between the treadle and the crank bend, said casing having a table top.

865,685. SPINNING, TWISTING, AND WINDING MACHINE. ROBERT DAWES, Philadelphia, Pa., assignor to himself, Edmund Dawes, Philadelphia, Pa., and Edward H. Haskell, Newton, Mass. Filed Oct. 16, 1906. Serial No. 339,216.



1. In a machine of the character described, the combination of a series of thread-guiding rings, a plurality of rotatable ring-supports, a driving pulley and a driving belt having the driving run directed partly around each ring, the return run being free from driving contact with the rings.

2. In a machine of the character described, the combination of a series of thread guiding rings, a plurality of rotatable ring-supports, a driving pulley, and a driving belt having the driving run directed partly around each ring, the return run being free from driving contact with the rings, and some of the rotatable ring-supports also serving as belt-directing pulleys.

3. In a machine of the character described, the combination of a series of thread-guiding rings, a plurality of rotatable ring-supports, a driving pulley, and a driving belt having its driving run directed partly around each ring, the return run being free from contact with the rings but contacting with certain of the ring-supports.

4. In a machine of the character described, the combination of a series of thread guiding rings, supporting pulleys therefor, a driving pulley, and a driving belt, one run of the latter passing partly around each ring and partly around certain of the supporting pulleys, the return run being free from contact with the rings but contacting with the other supporting pulleys.

5. In a machine of the character described, the combination of a series of thread guiding rings, a plurality of rotatable ring-supports, a driving belt having its driving run directed partly around each ring, and its return run free from driving contact with the rings, a tightening sheave for said belt located at the end of the series of rings, and means for imparting yielding tension to said tightening sheave in a direction parallel with a longitudinal line passing through the series of rings.

6. In a machine of the character described, the combination of a series of thread guiding rings, a driving pulley, a driving belt and ring-supporting and belt-directing pulleys contacting with the ring on one side of their axes and with the belt on the opposite side thereof, whereby the pull of the belt is counteracted by the thrust of the rings in order to relieve the pulleys from the spindle friction.

7. In a machine of the character described, the combination of a series of thread guiding rings, a plurality of rotatable ring-supports, a driving pulley, and a driving belt having one run acting as a driver and the other run free from driving contact with the rings, all of the guides for the driving run of the belt being located on one side of a longitudinal line drawn through the axes of the series of rings.

8. In a machine of the character described, the combination of a series of thread guiding rings, a plurality of rotatable ring-supports, a driving pulley, a ring-driving belt, a series of bobbins, driving spindles having frictional connection with said bobbins, pulleys on said spindles, a driving pulley therefor mounted on the same shaft which carries the ring-driving pulley, a driving belt adapted to said second pulley, and means for causing said belt to engage each of the series of spindle pulleys.

9. In a machine of the character described, the combination of a rotating ring, a traveler thereon, and means for clutching said traveler to or releasing it from rotative driving engagement with the ring.

10. In a machine of the character described, the combination of a rotating ring, a traveler thereon, and a clutch for effecting driving engagement of said traveler with the ring when the thread is under tension.

11. In a machine of the character described, the combination of a rotating ring, a traveler thereon, and means for causing frictional driving engagement between the ring and traveler, or releasing such engagement.

12. In a machine of the character described, the combination of a rotating ring, a traveler thereon, and a friction clutch for effecting driving engagement of said traveler with the ring when the thread is under tension.

13. In a machine of the character described, the combination of a rotating ring, a traveler thereon, means for clutching said traveler to or releasing it from rotative driving engagement with the ring, a bobbin, and means for rotating the latter.

14. In a machine of the character described, the combination of a rotating ring, a traveler thereon, means for clutching said traveler to or releasing it from rotative driving engagement with the ring, a bobbin, and means for rotating the latter by friction.

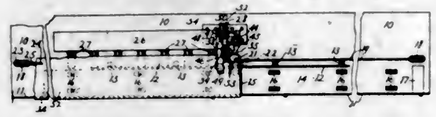
15. In a machine of the character described, the combination of a rotating ring, a traveler thereon, means for causing frictional driving engagement between the ring and traveler, or releasing such engagement, a bobbin, and means for rotating the latter.

16. In a machine of the character described, the combination of a rotating ring, a traveler thereon, means for causing frictional driving engagement between the ring and traveler, or releasing such engagement, a bobbin, and means for rotating the latter by friction.

17. In a machine of the character described, the combination of a rotating ring having a thread guide thereon, a bobbin, and frictional driving devices for the latter whose force is dependent upon the weight of the bobbin and its load.

18. In a machine of the character described, the combination of a rotating ring, a traveler thereon, a bobbin, and a frictional driving device for the latter whose force is dependent upon the weight of the bobbin and its load.

865,686. BEVEL-STRING-CUTTING MACHINE. JOHN P. DONOVAN, Westfield, Mass., assignor to United States Whip Company, Westfield, Mass., a Corporation of Maine. Filed May 14, 1907. Serial No. 373,599.



1. The combination, in a bevel-string cutting machine, with reciprocating supporting means for a hide and securing means for the ends of such hide, of a knife and means to support the same at an incline behind said supporting means for the hide.

2. The combination, in a bevel-string cutting machine, with a knife, means to support such knife at an incline, and a string guide having an inclined part adjacent to but out of contact with said knife, of reciprocating supporting and securing means for a hide in operative relation to the knife and guide.

3. The combination, in a bevel-string cutting machine, with a knife, means to support such knife at an incline, and an adjustable string guide or gage having an inclined part adjacent to but out of contact with said knife, of reciprocating supporting and securing means for a hide in operative relation to the knife and guide or gage.

4. The combination, in a bevel-string cutting machine, with a suitable table, a knife holder on such table, such holder having a slot therein beveled at one end, a knife in such slot against the beveled end thereof, and means to retain such knife in place, of reciprocating supporting and securing means for a hide on said table in operative relation to said knife.

5. The combination, in a bevel-string cutting machine, with a suitable table, a knife holder on such table, such holder having a slot therein beveled at one end, a knife in such slot against the beveled end thereof, means to retain such knife in place, and a string guide on said holder behind said knife, of reciprocating supporting and securing means for a hide on said table in operative relation to the knife.

6. The combination, in a bevel-string cutting machine, with a suitable table, a knife holder on such table, such holder having a slot therein beveled at one end, a knife in such slot against the beveled end thereof, means to retain such knife in place, and a string guide or gage adjustably mounted on said holder behind said knife, of reciprocating supporting and securing means for a hide on said table in operative relation to the knife and guide or gage.

7. The combination, in a bevel-string cutting machine, with a suitable table, a knife holder on such table, such holder having a slot therein beveled at one end, a knife in such slot against the beveled end thereof, a wedge block also in such slot, and means to force said block against said knife, of reciprocating supporting and securing means for a hide on said table in operative relation to the knife.

8. The combination, in a bevel-string cutting machine, with a suitable table, a knife holder on such table, such holder having a slot therein beveled at one end, a knife and a stiffener therefor in such slot against the beveled end thereof, and means to retain such knife and stiffener in place, of reciprocating supporting and securing means for a hide on said table in operative relation to the knife.

9. The combination, in a bevel-string cutting machine, of a knife and means to support the same at an incline, reciprocating supporting and securing means for a hide in operative relation to said knife, and means to hold down the hide while being cut in contact with the knife.

10. The combination, in a bevel-string cutting machine, of a knife and means to support the same at an incline, reciprocating supporting and securing means for a hide in operative relation to such knife, and a pivotally mounted weighted arm adapted to be turned down across the hide adjacent to said knife.

11. The combination, in a bevel-string cutting machine, with a suitable table provided with a runway, a hide carrier arranged to reciprocate under tension in such runway, and a hook also under tension arranged to coact with said carrier, of a knife behind said runway in operative position relative to the carrier.

12. The combination, in a bevel-string cutting machine, with a suitable table provided with a runway, a carrier arranged to reciprocate under tension in such runway and adapted to have one end of a hide attached thereto, means of attachment for the other end of said hide, and supporting means for the hide behind said runway, of a knife located in line with said supporting means behind the runway in operative position relative to the carrier.

13. The combination, in a bevel-string cutting machine, with a suitable table provided with a runway, a carrier arranged to reciprocate under tension in such runway and adapted to have one end of a hide attached thereto, means of attachment for the other end of such hide, and a series of supporting rollers for the hide behind said runway, of a knife located in line with said rollers behind the runway in operative position relative to the carrier.

14. The combination, in a bevel-string cutting machine, with a suitable table provided with a runway, a carrier arranged to reciprocate in such runway and adapted to have one end of a hide attached thereto, suitable sheaves, a cord fastened at one end to said carrier and having a weight at the other end supported by said sheaves, and means of attachment for the other end of said hide, of a knife fastened in place behind said runway in operative position relative to the carrier.

15. The combination, in a bevel-string cutting machine, with a suitable table provided with a runway, a carrier arranged to reciprocate in such runway and adapted to have one end of a hide attached thereto, suitable sheaves, a cord fastened at one end to said carrier and having a weight at the other end supported by said sheaves, and means of attachment for the other end of said hide, such means comprising a cord having a hook at one end a weight at the other end together with suitable sheaves to support such cord, of a knife fastened in place behind said runway in operative position relative to the carrier.

865,687. PROCESS OF MAKING NICKEL FILMS. THOMAS A. EDISON, Llewellyn Park, Orange, N. J., assignor to Edison Storage Battery Company, West Orange, N. J., a Corporation of New Jersey. Filed Jan. 19, 1907. Serial No. 353,060.

1. The process for making films of metallic nickel which consists in electrolytically depositing a copper film on a suitable cathode, in then electrolytically depositing on the latter film a film of nickel, in then stripping the composite sheet from the cathode, and in finally dissolving the copper in an ammoniacal copper sulfate solution, substantially as set forth.

2. The process for making films of metallic nickel which consists in depositing upon a suitable cathode alternating films of copper and nickel, in then stripping the composite sheet from the cathode, and in finally dissolving the copper in an ammoniacal copper sulfate solution, substantially as set forth.

3. The process for making a film of metallic nickel which consists in first chemically depositing on a suitable cathode a film of metallic copper, in then electrolytically depositing a copper film thereon, in then depositing on the latter film a film of nickel, in then stripping the composite sheet from the cathode, and in finally dissolving the copper in an ammoniacal copper sulfate solution, substantially as set forth.

4. The process of making films of metallic nickel which consists in depositing on a suitable cathode alternating layers of copper and nickel, in removing the composite strip so secured, in cutting the same into long strips or filaments, and in finally subjecting the filaments to an ammoniacal copper sulfate solution, substantially as set forth.

5. The process of making films of metallic nickel which consists in depositing on a suitable cathode alternating layers of copper and nickel, in removing the composite strip so secured, in cutting the same into long strips or

filaments, in subjecting the filaments to an ammoniacal copper sulfate solution, in drying the resulting filamentary filaments, and in finally reducing the same to pieces of the desired size, substantially as set forth.

865,688. PROCESS OF MAKING METALLIC FILMS OR FLAKES. THOMAS A. EDISON, Llewellyn Park, Orange, N. J., assignor to Edison Storage Battery Company, West Orange, N. J., a Corporation of New Jersey. Filed Jan. 19, 1907. Serial No. 353,061.

1. The process of electroplating, which consists in chemically depositing a metal on a suitable cathode, in electroplating a metal on the deposit so formed, and in mechanically removing the said deposits from the cathode, substantially as set forth.

2. The process of electroplating, which consists in chemically depositing a metal on a suitable cathode, in electrolytically depositing the same metal on the deposit so formed, and in mechanically removing the said deposits from the cathode, substantially as set forth.

3. The process of electroplating, which consists in electroplating a thin metallic film on a suitable cathode, in chemically converting said film into a deposit of another metal, and in electroplating a metal on the chemically deposited film so formed, substantially as set forth.

4. The process of electroplating, which consists in electrolytically depositing a metallic film on a suitable cathode, in immersing the cathode with its deposit in a solution of a metallic salt, capable of reduction by the electrolytically deposited metal, whereby the latter will be dissolved and replaced by metal chemically deposited from said solution, and in finally electroplating upon the chemical deposit so secured, substantially as set forth.

5. The process of electroplating, which consists in electroplating on a suitable cathode a film of a metal capable of reducing copper from a solution thereof, then in immersing the cathode with its deposit in a solution of copper, whereby the electrodeposited metal will be dissolved and replaced by a chemical deposit of copper, and finally in electroplating upon the chemically deposited film of copper, substantially as set forth.

6. The process of electroplating, which consists in electroplating on a suitable cathode a film of a metal capable of reducing copper from the sulfate thereof, then in immersing the cathode with its deposit in a solution of sulfate of copper, whereby the electrodeposited metal will be dissolved and replaced by a film of chemically deposited copper, and finally, in electroplating upon the copper deposit so secured, substantially as set forth.

7. The process of electroplating, which consists in depositing a film of cobalt on a suitable cathode, then in immersing the cathode with the deposited film thereon, in a copper solution, whereby the cobalt will be dissolved and replaced by a chemical deposit of metallic copper, and finally in electroplating upon the chemically deposited copper film, substantially as set forth.

8. The process of electroplating, which consists in electroplating a film of cobalt on a suitable cathode, then in immersing the cathode with its deposited film in a solution of sulfate of copper, whereby the cobalt will be dissolved and replaced by a chemical deposit of metallic copper, and finally, in electroplating on the chemically deposited copper film, substantially as and for the purposes set forth.

9. In a process for making metallic films, the preliminary application to a suitable cathode, of a chemically deposited film of metallic copper, as and for the purposes set forth.

10. In a process for making metallic films, the preliminary application to a cathode, of an extremely thin film of cement copper, substantially as and for the purposes set forth.

11. A process for making metallic films, comprising the application to a cathode of a chemically deposited film of metallic copper, then in applying a further film of metallic copper thereon, then in electrolytically depositing upon the latter film a film of the desired metal, then in removing the composite sheet from the cathode, and in then dissolving the metallic copper, substantially as and for the purposes set forth.

12. The process for making films of metallic cobalt or nickel, which consists in first chemically depositing on a suitable cathode a film of metallic copper, in then electrolytically depositing a copper film thereon, in then depositing on the latter film a film of nickel or cobalt or both, in then stripping the composite sheet from the cathode and in finally dissolving the copper in a solution in which the cobalt or nickel is insoluble, substantially as and for the purposes set forth.

13. The process of making films of metallic cobalt, or nickel, which consists in first depositing on a suitable cathode a film of cement copper, then in electroplating a copper film thereon, then in electroplating on the latter film a film of cobalt or nickel, or both, then in removing the composite sheet, and in finally dissolving the copper in a solution in which the nickel or cobalt is insoluble, substantially as and for the purposes set forth.

14. The process of making films of metallic cobalt or nickel, which consists in depositing on a suitable cathode alternating layers of copper and cobalt or nickel, or both, in removing the composite sheet so secured, in cutting the same into long strips or filaments, and finally subjecting the filaments to a solution in which the copper is soluble and the cobalt or nickel is insoluble, substantially as and for the purposes set forth.

15. The process of making films of metallic cobalt or nickel, which consists in depositing on a suitable cathode alternating layers of copper and cobalt or nickel, or both, in removing the composite sheet so secured, in cutting the same into long strips or filaments, in subjecting the filaments to a solution in which copper is soluble and the cobalt or nickel is insoluble, in then drying the resulting filamentary films, and in finally reducing the same to pieces of the desired size, substantially as and for the purposes set forth.

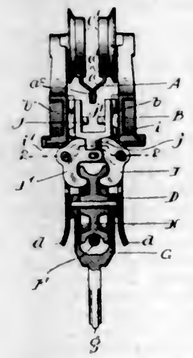
16. The process of making films of metallic cobalt or nickel, which consists in depositing on a suitable cathode alternating layers of copper and cobalt or nickel, or both, in removing the composite sheet so secured, in cutting the same into long strips or films, in subjecting the films to a solution in which the copper is soluble and the cobalt or nickel is insoluble, in drying the resulting filamentary films, in annealing the same, and in finally cutting them into pieces of the desired size, substantially as and for the purposes set forth.

17. The process of making films of metallic cobalt or nickel, which consists in depositing on a suitable cathode, alternating layers of copper and cobalt or nickel, or both, in removing the composite sheet, in cutting the sheet into long films or strips, and in finally agitating the films or strips within a solution in which the copper is soluble and the cobalt or nickel is insoluble, substantially as and for the purposes set forth.

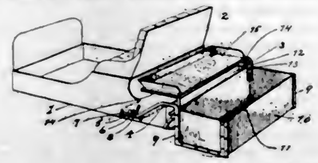
865,689. HAY-CARRIER. HENRY L. FERRIS, Harvard, Ill., assignor to Hunt, Helm, Ferris & Company, Harvard, Ill., a Corporation of Illinois. Filed July 11, 1904. Serial No. 216,058.

The combination with a track and track stop beneath the same, of a carrier having wheels running on said track and composed of two portions swiveled together in a horizontal plane, a locking dog supported and vertically movable in the upper portion of the frame, having means of engagement with the track stop, an elevating rope and pulley therefor journaled in the lower portion of the frame, a fork-pulley on the elevating rope, a frame therefor extending but slightly above the journal of the pulley, a pair of pulley grips pivoted upon opposite sides of the lower portion of the carrier frame substantially in line with the sides of the fork-pulley frame, said grips having hooked lower ends swinging directly beneath the rim of the fork pulley, inwardly extending fingers engaging each other against independent oscillation, and shouldered upper portions adapted to engage the locking dog when the latter is down, substantially as described.

865,689.



865,690. BUGGY-BODY EXTENSION AND REAR-SEAT ATTACHMENT. WALTER J. FOSTER, Port Huron, Mich. Filed Dec. 27, 1906. Serial No. 349,716.

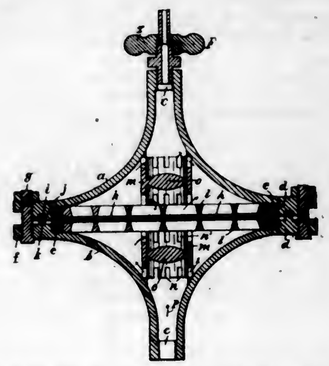


1. The combination with a vehicle body having a central seat and upright, fixed, rear corner posts, of a luggage carrier and auxiliary seat comprising a rectangular receptacle of the width and at least the depth of the vehicle box, secured in rear thereof and at an interval therefrom by a pair of oppositely disposed angle irons each bent between its ends to form corner end and bottom irons for the box, extending horizontally over and bearing down on the tops of the rear corner posts of the vehicle body, and secured thereto at their forward ends by bolts passing up through the vehicle body sills and hand burs thereon, and a seat supported by L-shaped angle irons whose upright legs are detachably bolted to the inner upright legs of the carrier irons and whose horizontal legs extend forward over and clear of the vehicle box.

2. The combination with a vehicle body having a central seat and upright, fixed, rear corner posts, of a pair of oppositely disposed angle irons whose forward ends are detachably secured to the upper side of the outer vehicle sills by bolts passing through the sills and irons and hand burs, whose middle portions are bent to extend horizontally over and bear on the upper ends of the rear corner posts, and whose rear portions beyond the vehicle posts are bent at right angles to form double-L-shaped supporting stirrups, a luggage carrier having the width of the vehicle box supported by the rear portions of said angle irons which form side and bottom corner irons therefor, L-shaped angle irons whose shorter vertical legs are detachably secured against the inner forward corners of the carrier by bolts passing through the legs and through the carrier corner irons, and whose horizontal, longer legs extend forwardly over and clear of the rear of the vehicle body, and a seat dos-à-dos with the vehicle seat secured on the horizontal legs of said angle irons.

865,691. PRESSURE-FILTER. JOHN H. FOX, New York, N. Y. Filed Oct. 27, 1906. Serial No. 340,810.

1. A filter having the opposite detachable tapering sections *a*, *b*, having each a central nozzle *c* and a cylindrical recess *d* with annular rubber packing *e* fitted therein, a filter-disk of porous and yielding fibrous material fitted between the two packings and its edge compressed between the same, preventing any escape of fluid past the filter-disk or from the casing at the edge of the filter-disk, and gratings fitted within the packing rings upon the sides of the filter-disk, the margins of the gratings lying in contact with the tapering inner surfaces of the casing sections and pressed thereby upon the surface of the filter-disk.



2. A filter having the opposite detachable tapering sections *a*, *b*, having each a central nozzle *c* and a cylindrical recess *d* with annular rubber packing *e* fitted therein, a filter-disk of porous and yielding fibrous material fitted between the two packings and its edge compressed between the same, preventing any escape of fluid past the filter-disk or from the casing at the edge of the filter-disk, gratings fitted within the packing rings upon the sides of the filter disk, the margins of the gratings lying in contact with the tapering inner surfaces of the casing sections and pressed thereby upon the surface of the filter-disks, each of the casing sections having an interior annular shoulder, and a deflector being inserted loosely between the said shoulders and gratings in line with the nozzles, upon opposite sides of the grating, to distribute the fluid over the grating.

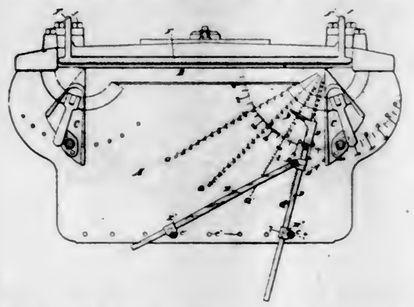
3. A filter having a casing with the opposed detachable tapering sections *a*, *b*, having each a central nozzle *c* and cylindrical recess *d* with annular rubber packing *e* fitted therein, a filter-disk clamped between the said packings, gratings upon opposite sides of the filter-disk, and tubular deflectors having each an interior partition and notches in the ends fitted between the grating and the casing in the line of the nozzle to distribute the fluid over the grating.

865,692. ANGLE-GAGE FOR MITERING-MACHINES. WILLIAM R. FOX and MATTHEW LUND, Grand Rapids, Mich., assignors to Fox Typewriter Company, Grand Rapids, Mich. Filed Jan. 19, 1907. Serial No. 353,137.

1. In a gage device, the combination of a table A with a straight cutting line at the rear and with radial lines thereon, radiating from the gage point at the rear edge of the table; a gage C arranged at right angles to the cutting edge of the table; an adjustable gage-bar D with a yielding block D′ at the rear end; a pivoted gage portion D″ with right-angled faces, the apex of which is in the line of one edge of the gage bar D; clamp members E″ with set screws therethrough, engaging suitable holes in said table; a brace bar E secured with a suitable clamp E′ to the gage bar D to the table by the clamp E″, whereby the gage D″ can be set with the apex at the proper point for forming segments and the segments can be yieldingly pressed against the same to gradually bring them to the proper dimensions by cutting from the segments at the cutting edge of the table, all co-acting substantially as described and for the purpose specified.

2. In a gage device, the combination of a cutting table

A with means for trimming in a straight line along one side of the same; a gage arranged at right angles to the cutting-edge; radial lines radiating from the point of intersection of the right-angled gage on the cutting edge, with suitable scales thereon for the different dimensions of circles; an adjustable detachable bar for arrangement on said radial lines; suitable means for clamping it in place; and a swinging gage with right-angled surfaces, the apex of which can be arranged on said radial lines, yieldingly supported on the front end of said bar co-acting substantially as described and for the purpose specified.



3. In a gage device, the combination of a cutting table with means for trimming in a straight line along one side of the same; a gage arranged at right angles to the cutting edge; radial lines radiating from the point of intersection of the right-angled gage on the cutting edge, with suitable scales thereon for the different dimensions of circles; an adjustable detachable bar for arrangement on said radial lines; suitable means for clamping it in place; and a swinging gage with right-angled surfaces, the apex of which can be arranged on said radial lines, supported on the front end of said bar, co-acting substantially as described and for the purpose specified.

4. In a gage device, the combination of a table A with suitable means for trimming in a straight line at one edge thereof; a gage at right angles thereto; a yielding stop with right-angled faces, with means for adjustably securing the same at predetermined points whereby the segments can be formed, as specified.

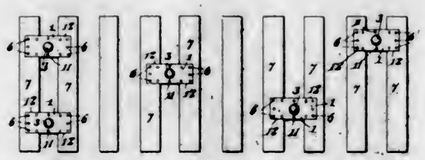
5. In a gage device, the combination of a table A with suitable means for trimming in a straight line at one edge thereof; a gage at right angles thereto; a yielding stop, with means for adjustably securing the same at predetermined points whereby the segments can be formed, as specified.

6. In a gage device, the combination of the bar D with a socket at the rear end; a yielding block D′ adjustable in the end of said bar D and held normally outward by the spring d'''; a set screw d''' adapted to engage a suitable slot d'''' to limit the movement of said stop; and a swinging gage portion D″ having right-angled surfaces, supported on suitable grooved ways at the rear end of the block D′, all co-acting substantially as described and for the purpose specified.

7. In a gage device, the combination of a bar D; suitable means for clamping the same to a cutting table; a brace bar E; a clamp E′ embracing the bar D with a set screw e'' for clamping the same thereto, said set screw forming a pivot for the brace bar E; and a clamp for clamping the brace bar to the table, co-acting for the purpose specified.

8. In a gage device the combination of the bar D with a socket at the rear end; a block D′ adjustable in the end of said bar D and held normally outward by the spring d'''; a set screw d''' adapted to engage a suitable slot d'''' to limit the movement of said stop; and a swinging gage portion D″ having right-angled surfaces, supported on suitable grooved ways at the rear end of said block D′, all co-acting substantially as described and for the purpose specified.

865,693. LOG-GUIDE FOR LOG-SKIDS. ADOLF FROMHERZ, Montesano, Wash. Filed July 8, 1907. Serial No. 382,742.



1. A log guide for log skids comprising a top plate provided with an aperture, side bars or members depending from the lower face of the top plate and provided with bearing openings located at opposite sides of the said aperture, a shaft or spindle mounted in the bearing openings and extending across the space between the side bars or members, and a ball mounted on the shaft or spindle and arranged to protrude through the said aperture, whereby it is adapted to project above the surface of a skid.

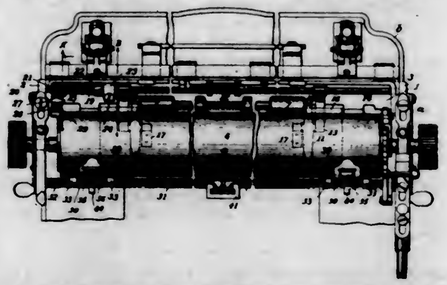
2. The combination with spaced logs or ties of a log skid having corresponding recesses, of a log guide embodying a top plate having an aperture and side bars or members secured to the top plate and provided with bearings, said side bars or members and the top plate being arranged in the said recesses and the top plate having its upper face flush with the surface of the skid, a shaft or spindle arranged in the said bearings, and a ball mounted on the shaft and protruding through the aperture of the top plate and extending above the surface of the skid.

3. A log guide for log skids comprising a top plate designed to be arranged flush with the surface of a log skid and provided with a central aperture tapered upwardly from the lower face of the plate, side bars or members supporting the said plate and having opposite bearings, said bars or members being also provided with central depending portions, a shaft or spindle arranged in the said bearings, and a ball having flattened side faces and mounted on the shaft or spindle, the upper portion of the said ball protruding through the opening of the plate and the bottom of the ball terminating short of the lower edges of the said depending portions.

4. The combination with spaced ties, of plates connecting the ties and carrying balls.

5. The combination with spaced ties having corresponding recesses, of plates carrying balls and connecting the ties and seated in the recesses thereof, said balls being arranged to project above the surface of the ground and being supported out of contact with the same by the said ties.

865,694. TYPE-WRITING MACHINE. CARL GABRIELSON, Syracuse, N. Y., assignor to L. C. Smith and Bros. Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed Apr. 28, 1904. Serial No. 205,306.



1. In a typewriting machine, the combination with the platen, of a paper feeding mechanism comprising a rock shaft, arms on said rock shaft, rockers pivotally connected to said arms, roller shafts journaled in said rockers, a curved paper guide for directing the paper about the platen between the roller shafts, said guide being carried by said rockers, and springs for pressing the guide against the platen.

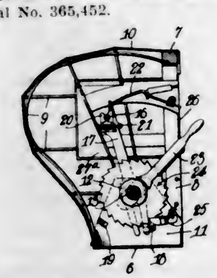
2. In a typewriting machine, the combination with the platen, of a paper feeding mechanism comprising a rock shaft, a pair of arms adjustably mounted on said rock shaft, paper feed rollers carried by said arms, a spring operating on said rock shaft to hold the rollers against the platen, an arm fixed on said rock shaft, and a lever operating on said arm to rock the shaft for the purpose of withdrawing the feed rollers from the platen.

3. In a typewriting machine, the combination with the platen, of a paper feeding mechanism comprising a bar supported on the carriage in front of the platen, slides upon said bar, spring fingers carried by said slides, a type guide, and stops on said slides coöperating with the type guide for preventing the fingers from being moved past the printing point.

4. In a typewriting machine, the combination with the platen, of a paper feeding mechanism comprising a bar supported on the carriage in front of the platen, slides upon said bar, pivoted upwardly extending fingers carried by said slides, springs carried by the slides for forcing the fingers against the platen, and stops for sustaining the fingers when the platen is removed.

5. In a typewriting machine, the combination with the platen and a bar adjacent to the platen, of a slide on said bar, a finger hinged to said slide, a spring tending to move the finger into engagement with the platen, and a stop fixed on the finger and adapted to abut against the slide to limit the movement of the finger.

865,695. MAIL-DELIVERY APPARATUS. CHARLES E. GLADDING, Columbia Cross Roads, Pa. Filed Mar. 30, 1907. Serial No. 365,452.



1. The combination of a casing, rollers therein, a mail bag connected to the rollers, and swinging arms mounted in the casing and carrying one of the rollers and arranged to swing the same into or out of the casing.

2. The combination of a casing, swinging arms pivoted at opposite ends thereof, a roller mounted between the arms and arranged to swing therewith into or out of the casing, and a mail bag wound upon the roller.

3. The combination of a casing open at the front, swinging arms pivoted to opposite ends thereof and extending upwardly within the same and having bearings at the top, a roller removably mounted in said bearings, and arranged to swing with the arms to and from the front of the casing, and a mail bag wound upon the roller.

4. The combination of a casing having ends with vertically-elongated recesses therein and a large space between the ends adapted to receive a mail bag, and removable boxes slidable edgewise in said recesses.

5. The combination of an inclosing frame having standards at each end of the front, and recesses extending through said standards and into the ends of the frame, and boxes fitting in said recesses and removable therefrom.

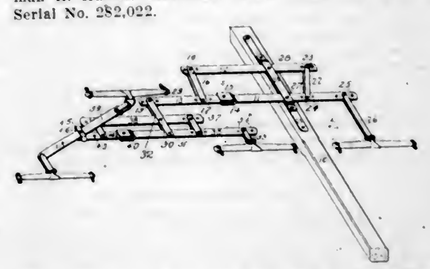
6. The combination of a casing open at the front, supports at opposite ends thereof, movable toward or from the said front, a roller mounted to turn in said supports and movable therewith back and forth in the casing, a lower roller within the casing, and a mail bag detachably connected between the rollers.

7. The combination of a casing, a pair of arms pivoted at their lower ends to the ends of the casing and arranged to swing toward and from the front thereof, bearings at the upper ends of the arms, said bearings being openable, a roller removably held in said bearings, another roller journaled in the lower part of the casing, and a mail bag connected to the rollers at opposite ends and arranged to be wound from one to the other.

8. The combination of a casing, a pair of arms pivoted at their lower ends to the ends of the casing and arranged to swing to and from the front thereof, stops for the arms, projecting from the ends of the casing, to limit the swing thereof, a roller carried in bearings at the upper ends of the arms, and a mail bag wound on the roller.

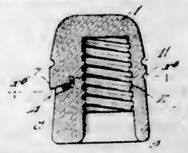
9. The combination of a casing, an axle extending across within the same and having a lower roller loose thereon, a pair of arms fixed at their lower ends to the axle and projecting upwardly therefrom and arranged to swing back and forth in the casing, an upper roller mounted on the upper ends of the arms, and a mail bag connected between the rollers.

865,696. FOUR-HORSE EVENER. HUGH B. MCCOY, administrator of Robert C. Harris, deceased, and Herman R. Harris, Oskaloosa, Iowa. Filed Oct. 9, 1905. Serial No. 282,022.



The combination with the front and rear equalizing levers 11 and 12 pivotally connected together, with the swingle tree connected to the short arm of the lever 11 and the extension bar 13 pivotally connected to the long arm of the lever 11 and also connected to the rear lever 12, of a pair of links 32 extending forwardly from the outer end of said extension bar 13 and pivotally connected to the same, an equalizing lever 35 carrying a swingle tree at its inner end and provided with a pivoted extension bar 42 at its opposite end, said lever 35 being pivotally connected to the forward ends of the links 32, another equalizing lever 38 pivotally connected intermediate of its ends to the links 32 in the rear of the lever 35, links pivotally connecting the inner ends of the lever 38 to the lever 35, links pivotally connecting the outer ends of the lever 38 to the said extension bar 42, and a double tree pivotally connected intermediate of its ends to the outer end of the extension bar 42 and carrying swingle trees all as hereinbefore set forth.

865,697. INSULATOR. ROBERT E. HENDERSON and JOHN N. KING, Los Angeles, Cal., assignors of one-fourth to E. O. Williams and one-fourth to James W. King, Los Angeles, Cal. Filed May 16, 1906. Serial No. 317,217.



1. An insulator consisting of a body having a curved groove and having a wire-receiving seat at each end of

said groove, the top and bottom of said groove converging inwardly.

2. An insulator consisting of a body having a groove in one side thereof, the ends of said groove being higher than the middle portion thereof, and being provided with wire-receiving seats, the top and bottom of said groove converging inwardly.

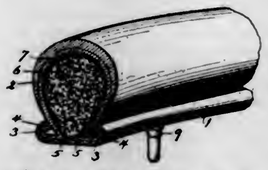
3. An insulator consisting of a body flat on one side and rounded on the other sides and having a groove extending into the flat side thereof, the said groove having a seat at each end and curving from the middle upwardly toward each end, and the upper and lower faces of said groove converging inwardly.

4. An insulator consisting of a body having a groove extending inwardly and upwardly into one side thereof, the said groove having a seat at each end and curving from the middle upwardly toward each end and the upper and lower faces of said groove converging inwardly, and a groove extending around the insulator in line with the aforesaid groove, the part of the insulator above said groove overhanging the insulator below the groove.

5. An insulator consisting of a body flat on one side and having a groove extending inwardly and upwardly at said flat side, the said groove being curved and rising from the middle toward each end and provided at each end with a wire-receiving seat, the insulator above the said groove projecting to form an overhanging upper face for said groove.

6. An insulator consisting of a body having a groove extending inwardly and upwardly at one side thereof, the said groove being curved and rising from the middle toward each end and provided at each end with a wire-receiving seat and the top and bottom of said groove being inwardly convergent, the insulator above the said groove projecting to form an overhanging upper face for said groove, and the insulator having a groove extending around same in line with the ends of the said curved groove.

865,698. RUBBER VEHICLE-TIRE. JOHN J. HENDLER, Chicago, Ill., assignor to Tiger Tire Company, a Corporation of New York. Filed Sept. 20, 1905. Serial No. 279,220.



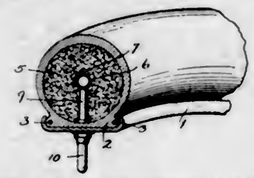
1. The combination with a vehicle wheel provided with a channeled rim, of a tire comprising an outer sheath of the clencher type adapted to said rim, a sealed inner tube provided with one or more inflating inlets and a filling of cellular cellulose compacted within said inner tube, substantially as described.

2. A clencher tire, comprising an outer sheath, a sealed inner tube provided with an inflating inlet, the ends of said inner tube being overlapped and cemented together, and a filling of pith compacted within said inner tube; substantially as described.

3. A clencher tire, comprising an outer sheath adapted for a clencher wheel rim, a sealed inner tube provided with an inflating connection, the overlapping ends of the inner tube being cemented together, and a filling composed of granulated pith of corn-stalks compacted within said inner tube; substantially as described.

865,699. RUBBER VEHICLE-TIRE. JOHN J. HENDLER, Chicago, Ill., assignor to Tiger Tire Company, a Corporation of New York. Filed Sept. 20, 1905. Serial No. 279,221.

1. As a new article of manufacture, a vehicle tire of tubular form provided internally with a distributing tube perforated at intervals throughout its length, a filling of granulated cornstalk cellulose having the capacity to expand forcibly when moistened, interposed between the distributing tube and the exterior tube, and an inlet communicating with said distributing tube and extending out to the exterior of the tire.



2. As a new article of manufacture, a single tube tire provided with an internal endless distributing tube arranged approximately axially of the tire, a series of supporting studs extending between said distributing tube and the outer tube, a nipple arranged to communicate with the distributing tube and extending through the outer tube and provided with a sealing cap, and a filling of granulated cornstalk cellulose compacted within the outer tube and surrounding the distributing tube.

865,700. PICKLING PROCESS. MAURICE HERNSHEIM and CHARLES E. BONWELL, Mannington, W. Va. Filed Jan. 30, 1907. Serial No. 354,936.

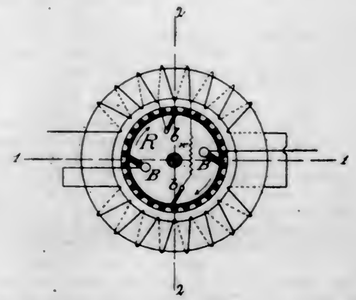
1. The method of pickling iron and steel products consisting of subjecting such products to a bath of a solution having citric acid as its base.

2. The method of pickling iron and steel products consisting of subjecting such products to a bath of a solution composed of citric acid and an alkali, the latter present in such proportion as to limit the action of the acid.

3. The method of pickling iron and steel products consisting of subjecting such products to a bath of a solution of citric acid and caustic soda.

4. The method of pickling iron and steel products consisting of subjecting such products to a bath of a solution heated to a temperature not exceeding the boiling point of water, and composed of citric acid and an alkali, the latter present in such proportion as to limit the action of the acid.

865,701. ALTERNATE-CURRENT GENERATOR AND MOTOR. ALEXANDER HEYLAND, Brussels, Belgium. Filed June 9, 1902. Serial No. 110,908.



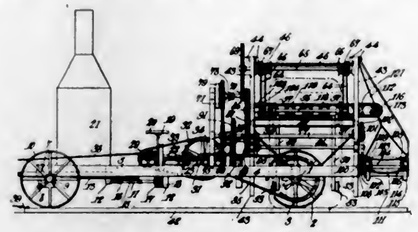
1. In an alternating current dynamo electric machine, the combination with relatively movable windings, of a commutator connected to one of said windings, brushes bearing upon said commutator, a circuit having a sensibly constant potential impressed upon it connected to certain of said brushes, and a circuit carrying current proportional to the current in the other of said windings also

connected to certain of said brushes, substantially as described.

2. In a single or polyphase alternating current motor or generator, the combination with brushes and a commutator, of a winding connected to said commutator, a stator winding, and circuits connected to said brushes, one of said circuits having a potential proportional to that of said stator winding impressed upon it for the purpose of exciting the machine with a sensibly constant current, and another of said circuits being connected in series with the stator winding for the purpose of supplying to the rotor a component increasing or decreasing with the main current to annihilate the armature reaction of the working current, substantially as described.

3. In a single or polyphase alternating current motor or generator, the combination with a commutator, of a stator winding, a circuit having a potential proportional to that of the stator winding impressed upon it, for the purpose of exciting the machine with a sensibly constant current, and another circuit connected in series with said stator winding, for the purpose of supplying to the rotor a component increasing or decreasing with the main current to annihilate the armature reaction of the working current, and a set of brushes common to said circuits, substantially as described.

865,702. DITCHING-MACHINE. JAMES B. HILL, Findlay, Ohio. Filed Mar. 8, 1907. Serial No. 361,387.



1. A ditching machine comprising a self-propelled wheel supported body, an excavating wheel carried by the body, motor operated means for raising and lowering said wheel in relation to the body, and means for rotating the wheel in a plane extending at an angle to the direction of movement of the body.

2. A ditching machine comprising a wheel supported body, a motor carried thereby for propelling the body, an excavating wheel carried by the body, means operated by the motor for rotating said wheel in a plane extending at an angle to the direction of movement of the body, and means operated by the motor for raising or lowering the wheel in relation to the body.

3. In a ditching machine the combination with a wheel supported body and a motor thereon for propelling the body; of an excavating wheel carried by the body, means operated by the motor for adjusting the wheel vertically, means operated by the motor for rotating the wheel independently of its adjustment, said wheel being revoluble in a plane extending at an angle to the direction of movement of the body, and a conveyer within and extending rearwardly from the excavating wheel, said conveyer and wheel being adjustable together.

4. In a ditching machine the combination with a longitudinally movable body; of an excavating wheel disposed in rear thereof and carried by the body, means upon the body for rotating said wheel in a plane extending transversely of the body, a conveyer within and designed to receive material from said wheel and to carry it rearwardly from the machine, and means for adjusting the wheel and conveyer vertically.

5. In a ditching machine the combination with a self-propelled body; of guides carried by the body, a carriage interposed therebetween, hangers depending from the carriage, guide wheels carried by the carriage and hangers, an excavating wheel mounted to rotate upon the guide wheels and movable with the carriage, said wheel being revoluble in a plane extending transversely of the body, power actuated means for shifting the carriage within the guides to adjust the wheel, and power operated mechanism for rotating the wheel.

6. The combination with a self-propelled body, and an adjustable transverse conveyer at one end; of an excavating wheel disposed adjacent said conveyer and designed to rotate in a plane extending transversely of the body, a conveyer within the wheel and extending rearwardly therefrom and disposed to direct material onto the first mentioned conveyer, means for rotating the wheel, and means for adjusting said wheel and the conveyer therein vertically independently of their movement.

7. In a ditching machine the combination with a self-propelled body; of a reversible and adjustable lateral conveyer at one end of the body, means for actuating said conveyer when in any of its positions, an excavating wheel carried by the body and revoluble in a vertical plane extending transversely of the body, a conveyer within said wheel for carrying material to the lateral conveyer, and independent mechanism for actuating the wheel and the conveyer therein and for adjusting said conveyer and wheel vertically independently of their operation.

8. A ditching machine comprising a longitudinally movable body, a transversely extending rotatable excavating wheel, rotatable wheel actuating means surrounded by and engaging said wheel, a conveyer extending through the wheel and disposed to receive material therefrom and discharge it at the rear end of the machine, means operated by the rotatable means for actuating said conveyer, an adjustably mounted lateral conveyer for receiving material from the longitudinal conveyer, and means upon the body for simultaneously or independently actuating the rotatable means and the lateral conveyer.

9. In a ditching machine the combination with a longitudinally movable body; of guides thereon, a carriage movable vertically between the guides, means for adjusting the carriage between the guides, an excavating wheel rotatably mounted within and movable with the carriage, said wheel and carriage extending transversely of the body, and means for rotating the wheel independently of the adjustment thereof.

10. In a ditching machine the combination with a longitudinally movable body; of guides thereon, drums carried by the guides, a carriage mounted between the guides, flexible supports extending from the carriage and connected to the drums, means for winding said supports upon the drums to adjust the carriage, and a transversely extending rotatable excavating wheel within and movable with the carriage.

11. In a ditching machine the combination with a longitudinally movable body; of guides thereon, drums carried by the guides, a carriage mounted between the guides, flexible supports extending from the carriage and connected to the drums, means for winding said supports upon the drums to adjust the carriage, a transversely extending rotatable excavating wheel within and movable with the carriage, and means upon the body for actuating the wheel independently of the adjustment thereof.

12. In a ditching machine the combination with a longitudinally movable body; of guides upstanding therefrom, a carriage movably mounted between the guides, flexible supporting devices connected to the carriage, rotatable means for winding said devices to raise the carriage, a rotatable excavating wheel within and movable with the carriage, a conveyer extending from said wheel and mounted upon the carriage, and means upon the body for actuating the wheel and conveyer independently of the adjustment of the carriage.

13. In a ditching machine the combination with a movable body; of guides upstanding therefrom, a carriage movably mounted between the guides, manually operated means upon the body for adjusting the carriage vertically between the guides, a longitudinal conveyer upon the carriage and extending through the wheel, rotatable means upon the carriage for simultaneously actuating the wheel and conveyer, and means upon the body for actuating

said rotatable means independently of the adjustment of the carriage.

14. In a ditching machine the combination with a movable body; of upstanding guides thereon, a transversely extending rotatable excavating wheel mounted between the guides, pivot shafts extending rearwardly upon the body, a lateral conveyer mounted upon either of said pivot shafts, means for actuating said lateral conveyer when in either of its positions, a conveyer for directing material from said wheel on to the lateral conveyer, and means for actuating the wheel and longitudinal conveyer.

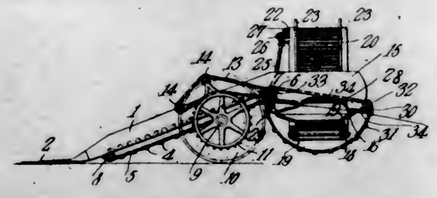
15. In a ditching machine the combination with a longitudinally movable body; of a transversely extending excavating wheel carried by the body, means for actuating said wheel, means for conveying material from the wheel to the rear end of the body, pivot shafts extending from the body, a conveyer mounted upon either of said shafts for receiving material from the longitudinal conveyer to discharge it at either side of the machine, and means for actuating the lateral conveyer when in either of its positions.

16. In a ditching machine the combination with a body and a transversely extending excavating wheel carried thereby; of forwardly extending beams upon the body, draft cables supported by said beams, cable winding means upon the body, and mechanism upon the body for simultaneously or independently actuating the wheel and the cable winding means.

17. In a ditching machine the combination with a body and a transversely extending excavating wheel carried thereby; of a conveyer for receiving material from said wheel, said conveyer comprising endless chains, tubular connections between the chains, and a slack flexible strip connected to the tubular connections and chains and sagging therebetween to form pockets.

18. In a ditching machine the combination with a movable body and a transversely extending excavating wheel carried thereby; of a longitudinal conveyer within and extending from the wheel at the rear end of the body, a lateral conveyer pivotally mounted upon the rear end of the body and positioned to receive material from the longitudinal conveyer, means upon the body for actuating said conveyer, means for holding the lateral conveyer against movement upon its pivot, and a supporting device extending under said conveyer.

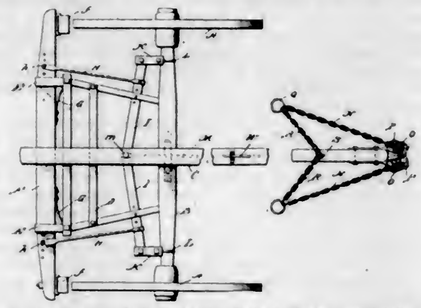
865,703. VINE-SEPARATOR FOR POTATO-DIGGERS. ARTHUR L. HOOVER, Avery, Ohio. Filed June 22, 1907. Serial No. 380,310.



In combination with a digger having an elevator, a hopper attached to the digger below the end of the elevator, said hopper having a movable conveyer bottom which moves transversely with relation to the digger, a vine separator moving over the hopper and in alinement with the digger, means for transmitting movement from the digger elevator to the vine separator and means for transmitting movement from the digger elevator to the hopper bottom.

865,704. AUTOMATIC WAGON-BRAKE. ROY T. HUFFMAN, Bessemer, Ala. Filed Sept. 26, 1906. Serial No. 336,305.

1. In an automatic brake for animal drawn vehicles, the combination with the running gear, tongue and brake beam, of a brake rod extending parallel with the tongue and connected with the brake beam at its rear end, a flexible connection at the forward end of said draft rod, a sheave set angularly on the tongue around which said flexible connection passes and a second flexible connection connected with the tongue at a fixed point in rear of said sheave whereby the vehicle may be turned without applying the brake.

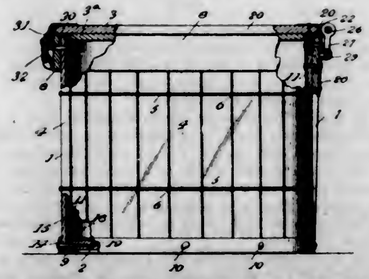


2. In an automatic brake for animal drawn vehicles, the combination with the running gear, tongue having angularly placed guide sheaves at its forward end and brake beam, of a brake draft rod extending parallel with the tongue, lever and link connections between the rear end of said draft rod and brake beam, flexible connections with the forward end of said draft rod passing around said sheaves and flexible connections between said first mentioned flexible connections and the tongue in rear of the sheaves; substantially as described.

3. In an automatic brake for animal drawn vehicles, the combination with the running gear embodying an axle, tongue and hounds, of a single brake beam mounted to move bodily on the hounds, brake levers connected at their outer ends by pivotal links with the axle, links connecting said levers and brake beam, a brake draft rod extending longitudinally of the tongue and pivotally connected directly with the inner ends of said levers, sheaves on the forward end of the tongue and flexible connections passing around said sheaves and connected with the forward end of said draft rod; substantially as described.

4. In an automatic brake for animal drawn vehicles, the combination with the running gear embodying an axle, tongue and hounds, of a single brake beam mounted to move bodily on the hounds, brake levers connected at their outer ends by pivotal links with the axle, adjustable links connecting said levers and brake beam, a brake draft rod extending longitudinally of the tongue and pivotally connected directly with the inner ends of said levers, sheaves on the forward end of the tongue and flexible connections passing around said sheaves and connected with the forward end of said draft rod; substantially as described.

865,705. CRATE. EDWIN F. HULBERT, Kenosha, Wis. Filed June 18, 1906. Serial No. 322,315.



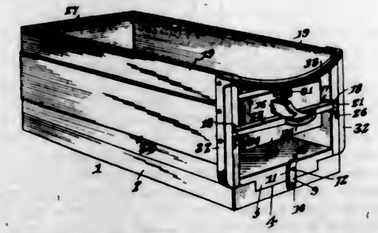
1. A shipping package of the character described, comprising a body portion composed of a series of vertical slats arranged substantially in a circle, a clamping hoop secured around the upper end of said body portion, a bottom for said body portion, an angular hoop secured around the lower ends of said slats and extending underneath said bottom, truss wires connecting said slats together, the ends of the truss wires being joined, a vertically extending strengthening rib secured to said body portion and covering the joins of said truss wires, and tie wires secured to said truss wires.

2. A package of the character described, comprising a body portion composed of a series of vertical slats, arranged substantially in a circle, a clamping hoop secured around the slats at the upper ends thereof, a lower hoop L-shaped in cross section encircling the lower ends of the slats, a bottom supported by the horizontal portion of the lower hoop, sheathing extending along the inner wall of the body portion, said sheathing extending outwardly over the upper edge of the body portion and thence downwardly between the upper hoop and the outer wall of the slats, and also extending outwardly along the lower edge of the body portion and thence upwardly, being interposed between the slats and the two members of the L-shaped lower hoop, and a bottom sheathing having its edge extending downwardly and interposed between the edge of the bottom and the first named sheathing, there being provided a seam at the juncture of the bottom sheathing with the body sheathing.

3. A package of the character described, comprising a body portion composed of a series of vertical slats, arranged substantially in a circle, a clamping hoop secured around the slats at the upper ends thereof, a lower hoop L-shaped in cross section encircling the lower ends of the slats, a bottom supported by the horizontal portion of the lower hoop, sheathing extending along the inner wall of the body portion, said sheathing extending outwardly over the upper edge of the body portion and thence downwardly between the upper hoop and the outer wall of the slats, and also extending outwardly along the lower edge of the body portion and thence upwardly, being interposed between the slats and the two members of the L-shaped lower hoop, bottom sheathing having its edge extending downwardly and interposed between the edge of the bottom and the first named sheathing, and an insulating lining for the body sheathing and the bottom sheathing.

4. A shipping package of the character described, comprising a body portion and bottom and a lid designed to close the upper end of the body portion, a hoop encircling the edge of the lid, brackets secured to the ends of said encircling hoop, each bracket being provided with an apertured knuckle, a pintle mounted in said knuckles and provided with a nut screwed thereon and adapted to draw the said brackets together, a U-shaped toggle having its upper ends pivotally mounted upon said pintle, and a strap secured to the body portion and provided with a bearing in which the cross bar of said toggle is journaled.

865,706. RURAL-MAIL-CARRIER'S BOX. ELMER F. HUTCHINS and JACOB J. SALA, Loyal, Wis. Filed May 23, 1906. Serial No. 318,369.



1. In a device of the class described, the combination of a box provided at opposite sides with ratchet bars, a follower slidably connected with the box and having a grip or handle for adjusting it, locking means mounted on the follower for engaging the ratchet bars to lock the follower against outward or backward movement, and means mounted on the handle or grip of the follower for operating the locking means.

2. In a device of the class described, the combination of a box, a follower slidable on the box and having a grip or handle, locking means for securing the follower against backward or outward movement, and an operating device mounted on the grip or handle of the follower and connected with the said locking means.

3. In a device of the class described, the combination of a box, a follower slidable within the same and having a grip or handle, opposite ratchet bars arranged at the sides of the box, pawls or dogs mounted on the follower at the opposite side of the box for engaging the ratchet bars, and an operating device mounted on the handle or grip of the follower and connected with the pawls or dogs.

4. In a device of the class described, the combination of a box provided with opposite ratchet bars, a follower operating within the box and having a grip or handle, pivoted pawls or dogs carried by the follower for engaging the ratchet bars, a cross bar connecting the pawls or dogs, and an operating device mounted on the grip or handle of the follower and secured to the connecting bar.

5. In a device of the class described, the combination of a box provided at opposite sides with guides, ratchet bars secured to the sides of the box, a follower provided with slides operating in the guides, pawls or dogs pivotally mounted on the slides for engaging the ratchet bars, and means mounted on the follower at a point between the sides of the box for operating the pawls or dogs.

6. In a device of the class described, the combination of a box provided at opposite sides with guide grooves, ratchet bars mounted in the guide grooves, a follower provided at opposite sides with horizontal slides operating within the grooves, said follower being provided between the slides with a grip or handle, pawls or dogs mounted on the slides and engaging the ratchet bars, and means mounted on the grip or handle of the follower for operating the pawls or dogs.

7. In a device of the class described, the combination of a box provided at opposite sides with guides, ratchet bars mounted on the sides of the box, a follower provided with slides operating in the guide, said slides being substantially L-shaped in cross section and having longitudinal recesses, pawls or dogs mounted in the recesses of the slides and engaging the ratchet bars, and means carried by the follower for operating the pawls or dogs.

8. In a device of the class described, the combination of a box provided at opposite sides with guides, ratchet bars mounted on the sides of the box at the said guides a follower provided with slides operating in the guides and extending in advance and in rear of the follower, pawls or dogs extending longitudinally of the slides and arranged within the same for securing the follower in its adjustment, and means carried by the follower for operating the pawls or dogs.

9. In a device of the class described, the combination of a box provided at opposite sides with ratchet bars, a follower slidable within the box and having a grip or handle, pawls or dogs pivotally mounted on the follower at opposite sides of the box and engaging the ratchet bars, a transverse bar extending entirely across the box and connecting the pawls or dogs, and an operating device having a shank or portion movably mounted on the grip or handle and connected with the transverse bar.

10. In a device of the class described, the combination of a box provided at opposite sides with ratchet bars, a follower slidable on the box and provided with a grip or handle, pawls or dogs pivotally mounted on the follower at opposite sides of the box and engaging the ratchet bars, a transverse bar located beneath the grip or handle and connected to the pawls or dogs, an operating device having a shank or portion piercing the grip or handle of the follower and connected with the transverse bar, and a spring housed within the grip or handle of the follower and engaging the operating device for holding the pawls or dogs in engagement with the ratchet bars.

11. In a device of the class described, the combination of

a box provided at opposite sides with guides, ratchet bars mounted on the sides of the box, a follower provided at an intermediate point with a handle or grip and having slides at its ends operating in the guides of the box, pawls or dogs pivoted at an intermediate point to the slides to form inner and outer arms, the inner arms being provided with means for engaging the ratchet bars, a cross bar connecting the outer arms of the pawls or dogs and located beneath the grip or handle, and an operating device mounted on the grip or handle and connected with the cross bar for operating the pawls or dogs.

865,707. SELF-SUSTAINING FIELD-MAGNET COIL. ELBERT W. JODREY, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Dec. 28, 1906. Serial No. 349,793.

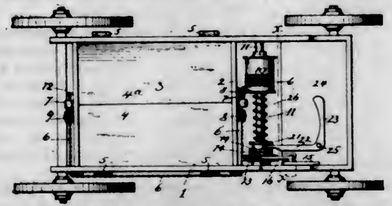


1. A self-sustaining universally-wound wire coil comprising a plurality of concentric layers wound one directly upon the other and having a thin binding strip secured between the first few inner layers and the remaining layers.

2. A self-sustaining universally-wound wire coil made up of a number of concentric layers wound one directly upon the other and having a thin layer of paper secured between the first few inner layers and the remaining layers.

3. The method of producing a self-sustaining universally-wound wire coil which consists in winding a few layers, securing a strip of paper about said layers, and then winding on the remaining layers.

865,708. DUMPING-WAGON. CHARLES JOHNSON, Auburn, N. Y. Filed Sept. 22, 1906. Serial No. 335,809.



1. A dumping-wagon having its discharge controlled by a winch, a ratchet-wheel mounted loosely on the winch-shaft and provided with a clutch-member, means for turning the ratchet-wheel in one direction, a clutch splined on the winch-shaft, and means for throwing said clutch in and out of engagement with the aforesaid clutch-member.

2. The combination with the wagon-body provided with a longitudinally divided bottom hinged to the sides of the body, of pulleys attached to the ends of the body, pulleys attached to the ends of one of the bottom sections adjacent to the free edge thereof, a pulley attached to the front end of one of said sections, a winch secured to the body, a chain attached at one end to the winch and having its opposite end traversing the aforesaid pulleys and attached to one of the aforesaid bottom sections, a ratchet mounted loosely on the winch-shaft, a lever pivoted to the body, and two pawls pivoted to the lever at opposite sides of the pivot thereof and turning the ratchet in one direction, a clutch transmitting motion from the ratchet to the winch, and means for throwing said clutch out of operative position, as set forth.

3. The combination with the wagon-body provided with a longitudinally divided bottom hinged to the sides of the body, a winch secured to the body, and a chain wound on said winch and disposed to lift the bottom sections to their closed position, of a ratchet mounted loosely on the winch-shaft and provided with a clutch face on its side, a lever pivoted to the body, two pawls pivoted to the lever at opposite sides of the pivot thereof and turning the ratchet in one direction, a clutch splined on the winch-shaft, and means for shifting the said clutch to and from engagement with the aforesaid clutch-face.

4. The combination with the wagon-body provided with a longitudinally divided bottom hinged to the sides of the body, a winch secured to the body, and a chain wound on said winch and disposed to lift the bottom sections to their closed position, of a ratchet mounted loosely on the winch-shaft and provided with a clutch-face on its side, a lever pivoted to the body, two pawls pivoted to the lever at opposite sides of the pivot thereof and turning the ratchet in one direction, a clutch splined on the winch-shaft, a spring forcing the clutch into engagement with the aforesaid clutch-face, and a lever disposed to force the clutch out of engagement as set forth.

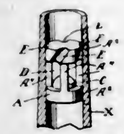
5. The combination with the wagon-body provided with a longitudinally divided bottom hinged to the sides of the body, of pulleys attached to the ends of the body, pulleys attached to the front ends of the bottom sections adjacent to the free edges thereof, a pulley attached to the rear end of one of said sections, a winch secured to the body, a chain attached at one end to the winch and having its opposite end traversing the aforesaid pulleys and attached to one of the aforesaid bottom sections, a ratchet mounted loosely on the winch-shaft, and provided with a clutch-face on its side, two pawls pivoted to the lever at opposite sides of the pivot thereof and alternately engaging the ratchet to turn the same in one direction, a clutch splined on the winch-shaft, a spring forcing the clutch into engagement with the aforesaid clutch-face, and a foot-lever pivoted to the body and engaging the clutch for forcing it from the clutch-face as set forth and shown.

865,709. DEVICE FOR MEASURING HEIGHTS OF PERSONS. WILLIAM H. JOHNSON, Brandon, Vt. Filed Mar. 27, 1906. Serial No. 308,254.



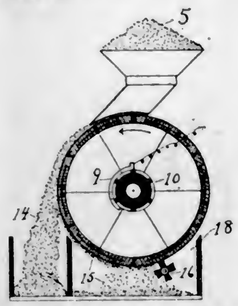
A height measuring device comprising a base, an upright back, supported thereby and rising thereabove, having a mirror at a suitable height on the front side thereof, and said back having forwardly extended socket studs arranged in a vertical line at points above and below the mirror, and a bar, having its upper and lower ends engaged in the sockets of, and supported by, said studs, forwardly of and suitably distant from the face of the mirror, and said bar having a vertical measuring scale thereon.

865,710. NON-REFILLABLE BOTTLE. JAMES M. KIRKER, Cincinnati, Ohio, assignor of one-half to George W. Elmes, Newport, Ky.; Nannie Ritter administratrix of said James M. Kirker, deceased. Filed Mar. 23, 1905. Serial No. 251,556.



In a non-refillable bottle, a plug, of uniform diameter throughout, and adapted by its elasticity to remain fixed in the passage of the bottle neck, the plug having at the vertical central portion of its periphery passages D extending from the central chamber B through the plug to the neck of the bottle, the plug provided with a central chamber B sufficient to permit a ball valve to move vertically and to be unseated, when the bottle is inverted, partitions A^4 of the plug and in frictional contact with the bottle neck, the wall of the lower portion of the chamber B being contracted in a concave form and adapted to constitute the valve seat for the ball valve, the lower portion of this plug being provided at the lower end of the valve seat with an opening B^2, this opening having its sides beveled downward and outward to enable a rapid inflow of the liquid contents of the bottle through the valve opening and into the chamber B, the upper portion of the plug having inclined passages, communicating at one end with the chamber B and at the other end with the space in the bottle neck above the plug, substantially as and for the purposes specified.

865,711. SEPARATING METAL FROM DEPOSITS. ISIDOR KITSEE, Philadelphia, Pa. Filed June 20, 1907. Serial No. 379,912.



1. The method of separating particles of metal from natural deposits, which consists in carrying the mixture of metallic particles and natural deposits over surface of a non-conducting material having embedded therein both electrodes of a high tension circuit.

2. The process of separating conducting particles from non-conducting particles, consisting in passing a stream of the commingled particles intermediately of and in proximity to high tension electrodes of opposite sign; protecting said particles from acquired charges, whereby the conducting particles are detained and the non-conducting particles are discharged, and subsequently freeing and collecting the conducting particles.

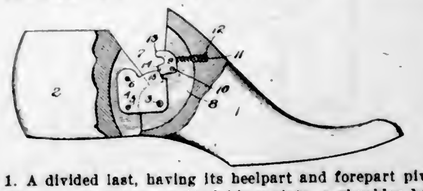
3. The method of separating conducting particles from non-conducting particles, which consists in carrying the mixture containing both particles over the non-conducting surface of high tension electrodes of opposite sign, whereby the conducting particles remain attached to said non-conducting surface, allowing the non-conducting particles to separate by gravity.

4. Means to separate metals from non-conducting material, said means comprising two electrodes of opposite signs in proximity to each other, said electrodes insulated from each other and means to carry said material over the insulation of said electrodes.

5. Means to separate conductors from non-conductors, said means comprising two electrodes connected to a circuit carrying a high tension current, said electrodes separated from each other, a non-conducting covering for the surface of said electrodes and means to carry the mixture of conductors and non-conductors over said non-conducting covering.

6. The method, which consists in causing the separation of non-conducting from conducting bodies through the static action of two electrodes connected to a high tension current on the conducting bodies, thereby causing said bodies to remain positioned between said two electrodes.

865,712. LAST-LOCK. EDWIN O. KRENTLER, Detroit, Mich., assignor to Krentler-Arnold Hinge Last Company, Detroit, Mich., a Corporation of West Virginia. Filed May 21, 1906. Serial No. 317,862.



1. A divided last, having its heelpart and forepart pivotally connected by a vertical hinge-plate, a shoulder being provided in the upper edge of said hinge-plate, and a locking plate set on edge in the same vertical plane as said hinge-plate and pivotally mounted above the latter in one of said parts, said locking plate having a shoulder for engaging the shoulder of said hinge-plate, and being provided with a projection extending upwardly above the locking portion of the locking plate into the open space above said hinge-plate, and a spring for always impelling said locking plate towards locking position.

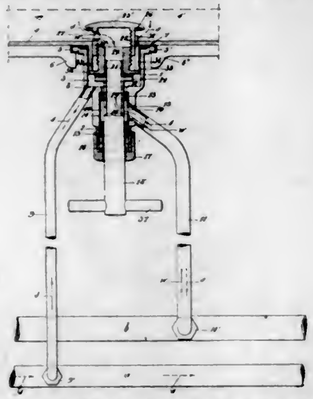
2. A divided last, comprising a forepart and a heelpart, separated at their meeting top ends by an open space when in lengthened position, a hinge-plate connecting said two parts rigidly secured to one part and provided with an upwardly projecting shoulder to move with relation to the other part, and a locking plate set on edge in said other part in the same vertical plane as said projecting shoulder, having a coöperating shoulder for engaging said projecting shoulder to lock the last in lengthened position, said locking plate being provided with an overhanging projection extending into said open space above said hinge-plate, constructed and arranged to unlock the parts by an upward swinging movement of the locking plate.

3. A divided last, comprising a forepart and a heelpart, provided at their meeting ends with alined vertical kerfs, a hinge-plate pivotally connecting said two parts mounted in said kerfs and provided with a locking shoulder at its edge adjacent the rear wall of the forepart, a locking plate set edgewise in the kerf of the forepart above said locking plate and provided with a shoulder for normally engaging the locking shoulder of said hinge-plate, a transverse pin pivotally supporting said locking plate approximately in tangential line with the arc of movement of said hinge-plate, which includes said locking shoulders, and means normally impelling said locking plate toward locking position, said locking plate having a rearward extension projecting into the open gap above said locking plate.

865,713. APPARATUS FOR STERILIZING AND FILLING VESSELS. PIERRE LAMOUROUX, Paris, France, assignor to T. W. Stemmler, New York, N. Y. Filed Nov. 17, 1905. Serial No. 287,821.

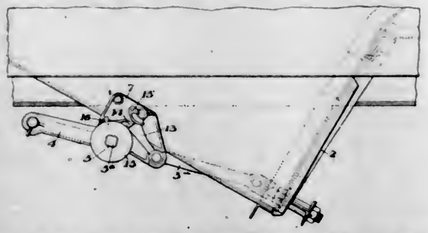
An apparatus for sterilizing and filling receptacles provided with adjustable stoppers and intended for the trans-

port of sterilized liquids, the said apparatus comprising a cover capable of being fitted air-tight upon the top of the receptacle, two principal conduits communicating respectively with a source of steam or with the upper part of the sterilizing autoclave, and with the outer air or with the lower part of the said autoclave respectively; two flexible tubes connecting the cover with the conduits, the said cover having a lower chamber into which discharges directly the tube connected with the first of the aforesaid conduits and having also an upper cylindrical chamber, a rod having openings therein and



having a portion passing through the upper chamber and into the lower chamber, said rod having in its lower part a central conduit which can be set in communication with the tube connected with the second of the two conduits above mentioned, when the openings in the said rod are brought by the lowering of the rod into the upper chamber into which the last mentioned tube terminates; the lower end of the said rod having a square portion coöperating when the said rod is depressed, with the adjustable stopper upon the top of the receptacle.

865,714. SAFETY-CLUTCH FOR DOOR-OPERATING MECHANISMS. CHARLES A. LINDSTRÖM, Allegheny, Pa. Original application filed June 15, 1906, Serial No. 321,794. Divided and this application filed Jan. 11, 1907. Serial No. 351,820.



1. In car door operating mechanism, a door-operating crank having a clutch-member forming a part thereof, an independent shaft loosely connected with the clutch member and carrying a coöperating clutch-member, and means for operating the shaft; substantially as described.

2. In car door operating mechanism, a door operating crank having a clutch member fixed thereto, an operating shaft loosely journaled in the hub portion of the crank and carrying a coöperating clutch member, and means for operating the shaft; substantially as described.

3. In car door operating mechanism, a door-operating member normally connected with the door to be operated, an operating shaft journaled in such member, and clutch devices forming a connection between said shaft and operating member and arranged to permit independent movements of the shaft and the member; substantially as described.

4. In car door-operating mechanism, a door-operating member, an independent operating shaft for such member, and a clutch connection between the member and shaft whereby the shaft may remain stationary during the door opening movement of the member; substantially as described.

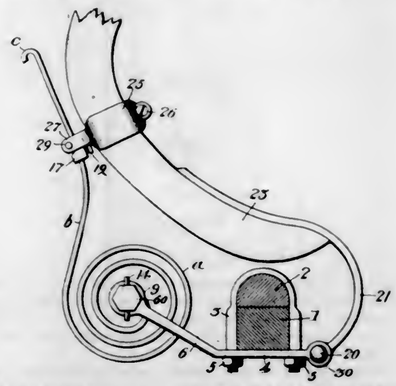
5. In car door operating mechanism, a door-operating crank, a shaft and coöperating clutch members carried by the crank and the shaft respectively, and arranged to permit the crank to move independently of the shaft; substantially as described.

6. In car door operating mechanism, a door operating member normally connected with the door to be operated and having a clutch portion, a shaft having a coöperating clutch portion arranged to engage the first named clutch portion in both directions of movement of the shaft, with an intervening lost motion, and means for operating the shaft; substantially as described.

7. In car door operating mechanism, a door operating member normally connected with the door to be operated and having a clutch portion, a shaft having a cooperating clutch portion arranged to engage the first named clutch portion in both directions of movement of the shaft, with an intervening lost motion, means for operating the shaft, and dogging means for the shaft; substantially as described.

8. In car door operating mechanism, a door-operating member, and an operating shaft therefor to initiate the movement of said member and journaled in said member, and clutch devices whereby the shaft remains stationary after initiating such movement; substantially as described.

865,715. SHAFT-SUPPORTER. WILLIAM LOWE, Provo, Utah, assignor to Ideal Shaft Supporter Company, Provo, Utah. Filed Oct. 8, 1906, Serial No. 337,921. Renewed Aug. 14, 1907. Serial No. 388,551.

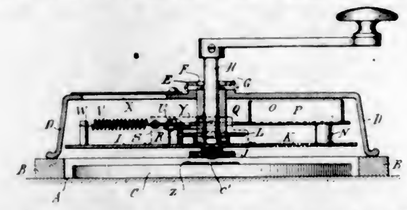


1. A shaft support, comprising a bracket secured to the axle and having a pair of rearwardly extending arms provided with eyes at their outer ends, a headed pin rotatably mounted in said eyes, a helical spring having one end secured to the pin and the other end extended forwardly over the axle and slidingly connected to the shaft, one of the bracket arms having a ratchet face adjacent to its eye, and the pin head having a ratchet face coöperating with that on the bracket arm to hold the pin in different positions of rotative adjustment.

2. A shaft support, comprising a bracket secured to the axle and having a pair of rearwardly extending arms, a removable pin rotatably mounted in the arms, said pin being angular in cross section between the arms, a helical spring having an angular eye at one end removably inclosing the angular portion of the pin, and having its other end extended forward over the axle and slidingly connected to the shaft, and means for rotatably adjusting the pin to vary the tension of the spring.

3. A shaft support, comprising a bracket secured to the axle and having a pair of rearwardly extending arms provided with eyes at their outer ends, a pin having an angular head and rotatably mounted in said eyes, a helical spring having one end secured to the pin and the other end extended forward over the axle and slidingly connected to the shaft, one of the bracket arms having an outwardly facing ratchet adjacent to its eye, and the pin head having an inwardly facing coöperative ratchet, a nut screwed on the opposite end of the pin outside the other arm bracket, and means for releasably locking the nut.

865,716. SIEVE FOR USE IN MAKING DISK SOUND-RECORDS. THOMAS H. MACDONALD and FRANK L. CAPPS, Bridgeport, Conn., assignors to American Graphophone Company, Bridgeport, Conn., a Corporation of West Virginia. Filed Jan. 7, 1907. Serial No. 351,230.



1. The combination of a lower grating adapted to travel in a circular path, an upper grating located above the same and adapted both to travel in the same path and also to reciprocate radially of said path.

2. The combination of a lower grating adapted to travel in a circular path, an upper grating located above the same and adapted both to travel in the same path and also to reciprocate radially of said path, and common means for actuating both gratings.

3. The combination of a lower grating adapted to travel in a circular path, an upper grating located above the same and adapted both to travel in the same path and also to reciprocate radially of said path, and common means comprising a stationary star-wheel and a lever co-acting therewith and connected to said upper grating for actuating both gratings.

4. The combination of a stationary sleeve, one or more projections carried thereby, a revoluble shaft journaled in said sleeve, a plate secured to said shaft and carrying a grating, a reciprocating sleve mounted on said plate above said grating, and means co-acting with said projections for reciprocating said sleve.

5. The combination of a stationary sleeve, a star-wheel carried thereby, a revoluble shaft journaled in said sleeve, a plate secured to said shaft and having a grating, a reciprocating sleve mounted on said plate above said grating, an elbow-lever on said plate connected to said sleve at one end and at its other end carrying a device that co-acts with said star-wheel whereby the sleve is forced outward, and means for drawing said sleve inward.

6. The combination with a stationary casing and a vertical sleeve made fast in the center thereof, a revoluble shaft journaled in said sleeve and carrying a plate provided with a grating, a reciprocating sleve mounted on said plate above said grating, and means actuated by said shaft for reciprocating said sleve.

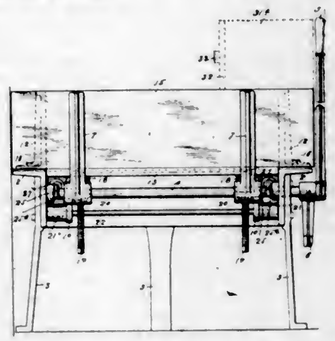
7. The combination of a stationary casing having an open bottom and supporting a stationary sleeve in its center, a revoluble shaft journaled in said sleeve and carrying a plate provided with a grating, a reciprocating hopper mounted upon said plate above said grating, an elbow-lever pivoted upon said plate and having one end secured to the extension of said sleve and carrying on its other end a roller, a star-wheel fast on said sleeve and adapted to actuate said roller, and a spring attached to said sleve and acting in opposition to said star-wheel.

8. In a device of the character described, a sleve, means for carrying said sleve in a circular path, and means for reciprocating said sleve radially of said path.

9. The combination of a plate having a cut-away portion, reciprocating sleve carried by said plate above said cut-away portion, and common means for rotating said plate and sleve and for reciprocating the latter.

10. In a device of the character described, a revoluble plate carrying a grating, a reciprocating hopper carried by said plate above said grating, and means for revolving the two and reciprocating said hopper.

865,717. CONCRETE-BLOCK MACHINE. FRANK D. MERCHANT, Minneapolis, Minn. Filed May 4, 1907. Serial No. 371,828.



1. The combination with a frame and end plates secured thereto, of a rock shaft supported by said frame, bell cranks carried by said rock shaft, a bottom plate carried by the lower arms of said bell cranks, a pallet board adapted to be clamped against the outer edges of said end plates by the upper arms of said bell cranks, means for automatically locking said rear plate against the rear edge of said bottom plate, when the mold is in position to form a block, and means for automatically moving said rear plate away from the edge of said bottom plate when the mold is turned into a position to deliver the formed block onto said pallet board, substantially as described.

2. The combination with a frame and end plates secured thereto, of a rock shaft supported by said frame, bell cranks carried by said rock shaft, a bottom plate carried by the lower arms of said bell cranks, a rear plate pivotally connected to the lower arms of said bell cranks and provided with groove-forming ribs, a detachable pallet board adapted to be clamped against the front edges of said end plates by the upper arms of said bell cranks, means for automatically locking said rear plate against the rear edge of said bottom plate when the mold is in position to form a block, and means for atuomatically moving said end plate away from the rear edge of said bottom plate, when the mold is moved into a position to deliver the formed block onto said pallet board, substantially as described.

3. The combination with a frame and end plates secured thereto, of a rock shaft supported by said frame, bell cranks carried by said rock shaft, a bottom plate carried by the lower arms of said bell cranks, a rear plate pivotally connected to the lower arms of said bell cranks, a detachable pallet board adapted to be clamped against the front edges of said end plates, by the upper arms of said bell cranks, clamping rods connected at their rear ends to said rear plate, and connected at their forward ends to said frame in the vicinity of said rock shaft, and arranged to automatically clamp said rear plate against said bottom plate when the mold is in position to form a block, and to move said rear plate away from said bottom plate when

the mold is turned into a position to deliver the formed block onto said pallet board, substantially as described.

4. The combination with a frame and end plates secured thereto, of a rock shaft supported by said frame, bell cranks carried by said rock shaft, a bottom plate carried by the lower arms of said bell cranks, a rear plate pivoted to the lower arms of said bell cranks, a detachable pallet board adapted to be clamped against the front edges of said end plates by the upper arms of said bell cranks, and clamping rods connected at their rear ends to said rear plate, and provided with downwardly curved and laterally bent forward ends pivotally connected to said frame in the vicinity of said rock shaft at points below a dead center with respect to the axis of said rock shaft and their connections to said rear plate, substantially as and for the purposes set forth.

5. The combination with a frame and end plates supported thereby, of a rock shaft supported by said frame, bell cranks carried by said rock shaft, a bottom plate, nutted bolts detachably seated in said bottom plate and working adjustably in slots in the lower arms of said bell cranks, spacing blocks interposed between said bottom plate and the lower arms of said bell cranks, a rear plate pivoted to the lower arms of said bell cranks, a pallet board adapted to be clamped against the front edges of said end plates by the upper arms of said bell cranks, and means for clamping said rear plate against the rear edge of said bottom plate, when the mold is in position to form a block, substantially as described.

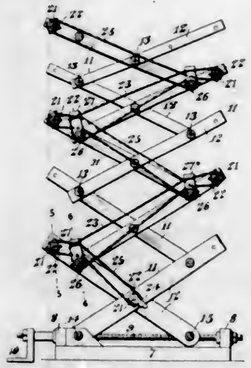
6. The combination with a frame and end plates supported thereby, of a rock shaft supported by said frame, bell cranks carried by said rock shaft, a bottom plate detachably secured to the lower arms of said bell cranks, a rear plate adjustably pivoted to the lower arms of said bell cranks, threaded clamping ribs, the rear ends of which are passed through perforations in the lower portions of said rear plate, and the front ends of which are pivotally connected to said frame at points below a dead center with respect to the axis of said rock shaft and the passages therefor in said rear plate, when the mold is in position to form a block, nuts on the threaded portions of said clamping bolts both in front and at the rear of said rear plate, and a detachable pallet board adapted to be clamped against the front edges of said end plates by the upper arms of said bell cranks, substantially as and for the purposes set forth.

7. The combination with a frame and end plates supported thereby, of a rock shaft supported by said frame, bell cranks carried by said rock shaft, a bottom plate carried by the lower arms of said bell cranks, a pallet board adapted to be clamped against the front edges of said end plates by the upper arms of said bell cranks, a rear plate pivoted to the lower arms of said bell cranks, and corner block forming extension plates, at least one of which is detachably secured to and carried by said rear plate, substantially as described.

8. The combination with a frame and end plates secured thereto with freedom for lateral adjustments, of a rock shaft supported by said frame, bell cranks carried by said rock shaft, a bottom plate carried by the lower arms of said bell cranks, a pallet board provided with an upwardly extended end portion and adapted to be clamped against the front edges of said end plates, by the upper arms of said bell cranks, a rear plate pivoted to the lower arms of said bell cranks, a rear plate extension detachably secured to said rear plate, a loose outer end extension plate supported by said bottom plate and bearing against the adjacent end plate, and an inner end extension plate secured in engagement with the extension of said pallet board and the detachable extension of said rear plate, substantially as described.

9. The combination with a frame, and end plates secured thereto for lateral adjustments, of a rock shaft supported by said frame, bell cranks carried by said rock shaft, a bottom plate carried by the lower arms of said bell cranks, a pallet board provided with an upwardly extended end portion and adapted to be clamped against the front edges of said end plates by the upper arms of said bell cranks, a rear plate pivotally connected to the lower arms of said bell cranks, means for clamping said rear plate against the rear edge of said bottom plate when the mold is in position to form a block, an extension bracket detachably secured to one end of said rear plate, an inner end extension plate pivoted to said extension bracket and engageable with the end extension of said pallet board, and a loose outer end extension plate fitting between said pallet board and rear plate, and having an end fitting between the adjacent end plate and the adjacent end of said bottom plate, and supported by said bottom plate, substantially as described.

865,718. FIRE-ESCAPE. ELBERT R. MORGAN and CARL A. ERICKSON, Forestgrove, Mont. Filed Apr. 15, 1907. Serial No. 368,286.



1. In a structure of the character set forth, the combination with an extensible support, comprising sections movable to angular relation when said support is extended, of movable conveyers mounted longitudinally on certain of the sections and disposed in angular relation when the support is extended.

2. In a structure of the character set forth, the combination with an extensible support comprising spaced lazy tong members, of conveyers located between the members and carried by sections thereof, and means for operating the lazy tong members.

3. In a structure of the character set forth, the combination with an extensible support comprising relatively movable sections, of a plurality of conveyers mounted thereon and delivering from one to the other, and connections between the conveyers on the different sections.

4. In a structure of the character set forth, the combination with an extensible support, of a plurality of conveyers mounted thereon and delivering from one to the other, and means for effecting the simultaneous movements of the conveyers when the support is extended.

5. In a structure of the character set forth, the combination with an extensible support, of a plurality of conveyers comprising endless belts delivering one to the other and disposed in angular relation when the support is extended, shafts around which said belts pass, sprocket wheels on certain of the shafts, and chains connecting the sprocket wheels to effect the simultaneous movements of the belts.

6. In a structure of the character set forth, the combination with an extensible support comprising connected relatively movable sections, of coöperating conveyers movably mounted on certain of the sections, and operating means connecting the conveyers on the different sections.

7. In a structure of the character set forth, the combination with an extensible support comprising sets of pivotally connected levers, of endless conveyer belts mounted on certain of the levers and disposed in angular relation to one another when the support is extended.

8. In a structure of the character set forth, the combination with a base, of an extensible support comprising spaced lazy tong members, means for connecting the members, and a plurality of conveyers located between and

mounted on the members, said conveyers being disposed in angular relation to one another when the support is extended.

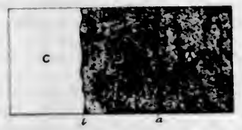
9. In a structure of the character set forth, the combination with a base, of separate screws journaled thereon, means for operating each screw independently of the other, an extensible support comprising spaced lazy tong members, plates located between the members and secured to certain levers thereof, rollers journaled on certain of the levers, endless belts passing about the rollers and plates, sprocket wheels connected to certain of the rollers, and sprocket chains engaged with the wheels for effecting the simultaneous movements of all the conveyers.

10. In a structure of the character set forth, the combination with an extensible support, of a plurality of conveyers comprising endless belts disposed in angular relation to one another when the support is extended.

11. In a structure of the character set forth, the combination with an extensible support comprising relatively adjustable sections, of movable conveyers mounted on certain of the sections, and operating means connecting the conveyers and longitudinally adjustable with the sections thereof.

12. In a structure of the character set forth, the combination with an extensible support comprising spaced lazy tong members, of conveyers located between the members and carried by sections thereof, and means connecting the conveyers for operating the same, said means being adjustable with the lazy tong members.

865,719. LITHOGRAPHIC-PRINTING FORM AND METHOD OF MAKING THE SAME. GEORGE G. MURRAY, Larchmont, N. Y., assignor to American Lithographic Company, a Corporation of New York. Filed Feb. 26, 1900, Serial No. 6,466. Renewed Dec. 3, 1904. Serial No. 235,330.



1. A lithographic printing form the water-carrying parts of which consist of a granular basic layer and an outer electrolytically deposited water-carrying protective layer the characteristic of which as to grain is secured in whole or in part through the said basic layer.

2. A lithographic printing form the water-carrying parts of which consist of a granular basic layer and an outer electrolytically deposited water-carrying protective layer of metal the characteristic of which as to grain is secured in whole or in part through the said basic layer.

3. A lithographic printing form, the water-carrying parts of which consist of an electrolytically deposited porous or granular layer and an outer electrolytically deposited water-carrying protective layer, the characteristic of which as to grain is secured in whole or in part through the said basic layer.

4. A lithographic printing form the water-carrying parts of which consist of an electrolytically deposited granular basic layer and an outer electrolytically deposited water-carrying protective layer of metal the characteristic of which as to grain is secured in whole or in part through the said basic layer.

5. A lithographic printing form the water-carrying parts of which consist of a granular basic layer and an outer electrolytically deposited nickel water-carrying protective layer the characteristic of which as to grain is secured in whole or in part through the said basic layer.

6. A lithographic printing form the water-carrying parts of which consist of an electrolytically deposited granular basic layer and an outer electrolytically deposited nickel water-carrying protective layer the characteristic of which as to grain is secured in whole or in part through the said basic layer.

7. A lithographic printing form the water-carrying parts of which consist of an electrolytically deposited copper granular basic layer and an outer electrolytically deposited nickel water-carrying protective layer the characteristic of which as to grain is secured in whole or in part through the said basic layer.

8. A lithographic printing form the ink-carrying and water-carrying parts of which consist of a granular basic layer and an outer electrolytically deposited protective layer the characteristic of which as to grain is secured in whole or in part through the said basic layer.

9. A lithographic printing form the ink-carrying and water-carrying parts of which consist of a granular basic layer and an outer electrolytically deposited protective layer of metal the characteristic of which as to grain is secured in whole or in part through the said basic layer.

10. A lithographic printing form the ink-carrying and water-carrying parts of which consist of an electrolytically deposited granular basic layer and an outer electrolytically deposited protective layer the characteristic of which as to grain is secured in whole or in part through the said basic layer.

11. A lithographic printing form the ink-carrying and water-carrying parts of which consist of an electrolytically deposited granular basic layer and an outer electrolytically deposited protective layer of metal the characteristic of which as to grain is secured in whole or in part through the said basic layer.

12. A lithographic printing form the ink-carrying and water-carrying parts of which consist of a granular basic layer and an outer electrolytically deposited protective layer of nickel the characteristic of which as to grain is secured in whole or in part through the said basic layer.

13. A lithographic printing form the ink-carrying and water-carrying parts of which consist of an electrolytically deposited granular basic layer and an outer electrolytically deposited protective layer of nickel the characteristic of which as to grain is secured in whole or in part through the said basic layer.

14. A lithographic printing form the ink-carrying and water-carrying parts of which consist of an electrolytically deposited copper granular basic layer and an outer electrolytically deposited protective layer of nickel the characteristic of which as to grain is secured in whole or in part through the said basic layer.

15. A lithographic printing form the water-carrying parts of which consist of a granular basic layer and an outer electrolytically deposited water-carrying protective layer of harder metal the characteristic of which as to grain is secured in whole or in part through the said basic layer.

16. A lithographic printing form the water-carrying parts of which consist of an electrolytically deposited granular basic layer and an outer electrolytically deposited water-carrying protective layer of harder metal the characteristic of which as to grain is secured in whole or in part through the said basic surface.

17. A lithographic printing form the ink-carrying and water-carrying parts of which consist of a granular basic layer and an outer electrolytically deposited protective layer of harder metal the characteristic of which as to grain is secured in whole or in part through the said basic layer.

18. A lithographic printing form the ink-carrying and water-carrying parts of which consist of an electrolytically deposited granular basic layer and an outer electrolytically deposited protective layer of harder metal the characteristic of which as to grain is secured in whole or in part through the said basic layer.

19. A lithographic printing form, the operative surface of which includes a part or portion consisting of a granular basic layer and an outer electroytically deposited protective layer, the characteristic of which as to grain is secured in whole or in part through the said basic layer.

20. A lithographic printing form consisting of a granular basic layer and an outer electrolytically deposited protective layer, the characteristic of which as to grain is secured in whole or in part through said granular sur-

face, said outer layer being removable and renewable upon the basic layer.

21. A lithographic printing form consisting of a granular basic layer and an outer electrolytically deposited protective layer of metal, the characteristic of which as to grain is secured in whole or in part through said granular surface, said outer layer being removable and renewable upon the basic layer.

22. A lithographic printing form consisting of an electrolytically deposited granular basic layer and an outer electrolytically deposited protective layer, the characteristic of which as to grain is secured in whole or in part through said granular surface, said outer layer being removable and renewable upon the basic layer.

23. A lithographic printing form consisting of an electrolytically deposited granular basic layer and an outer electrolytically deposited protective layer of metal, the characteristic of which as to grain is secured in whole or in part through said granular surface, said outer layer being removable and renewable upon the basic layer.

24. A lithographic printing form, consisting of a base or support of brass and a water-carrying surface, consisting of a granular basic layer and an outer electrolytically deposited water-carrying protective layer, the characteristic of which as to grain is secured in whole or in part through the said basic layer.

25. A lithographic printing form, consisting of a base or support of brass and a water-carrying surface system, consisting of a granular basic layer and an outer electrolytically deposited water-carrying protective layer of metal, the characteristic of which as to grain is secured in whole or in part through the said basic layer.

26. The process of making lithographic printing forms, which consists in preparing a porous or granular basic surface and then applying a protective coating or layer to the water-carrying parts of the basic surface without decomposing the material of which the basic surface is constituted.

27. The process of making lithographic printing forms, which consists in preparing a porous or granular basic surface of metal and then applying a protective coating or layer of a different metal to the water-carrying parts of the basic surface without decomposing the material of which the basic surface is constituted.

28. The process of making lithographic printing forms, which consists in preparing a porous or granular basic surface of metal and then applying a protective coating or layer of a harder metal to the water-carrying parts of the basic surface without decomposing the material of which the basic surface is constituted.

29. The process of making lithographic printing forms, which consists in preparing a porous or granular basic surface of copper and then applying a protective coating or layer of nickel to the water-carrying parts of the basic surface without decomposing the material of which the basic surface is constituted.

30. The process of making lithographic printing forms, which consists in preparing a porous or granular basic surface and then electrolytically depositing a protective coating or layer on the water-carrying parts of the basic surface.

31. The process of making lithographic printing forms, which consists in preparing a porous or granular basic surface by the electrolytically deposition of a suitable material and then applying a protective coating or layer to the water carrying parts of the basic surface without decomposing the material of which the basic surface is constituted.

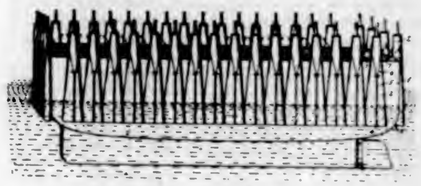
32. The process of making lithographic printing forms, which consists in preparing a porous or granular basic surface by the electrolytical deposition of a suitable metal and then applying a protective coating or layer of a different metal to the water carrying parts of the basic surface without decomposing the material of which the basic surface is constituted.

33. The process of making lithographic printing forms, which consists in preparing a porous or granular basic surface by the electrolytical deposition of a suitable material, and then electrolytically depositing a protective coating or layer of a suitable material on the water-carrying parts of the basic surface.

34. The process of making lithographic printing forms, which consists in preparing a porous or granular basic surface by the electrolytical deposition of a suitable metal and then electrolytically depositing a protective coating or layer of a different metal on the water-carrying parts of the basic surface.

35. The process of making lithographic printing forms, which consists in preparing a porous or granular basic surface by the electrolytical deposition of copper and then electrolytically depositing a protective coating or layer of nickel on the water-carrying parts of the basic surface.

865,720. APPARATUS FOR THE GENERATION OF POWER. ALEXANDER MCCARTHY, New York, N. Y. Filed Oct. 12, 1905. Serial No. 282,395.



1. Apparatus for the compression of air, comprising a floating vessel, a series of compressing members arranged around the sides of the vessel, having their open lower ends immersed in the water, inlet and outlet valves for said compressing members, a reservoir and connections to said compressing member for the purpose specified.

2. An air compressing device for the purpose specified, comprising a tubular member adapted to have one end immersed in the water, an outlet tip, a series of air inlets arranged around said tip, a valve on the inner side of said member for said inlets, and an outlet valve for said tip connected to said inlet valve.

3. A device for the compression of air having a series of air inlets and an air outlet, a valve for said air inlets, and a valve for said air outlets, and a flexible connection between said outlet valve and said inlet valve.

4. In an apparatus for the compression of air, the combination of a vessel, a series of air compressing members arranged along the sides thereof having their lower ends immersed and means for mechanically rocking the vessel for the purpose specified.

5. In an apparatus for the compression of air, the combination of a boat, compressing members arranged along the outer sides thereof, and having their lower ends immersed in the water, an oscillating cylinder carried by said boat, arranged transversely thereof, and containing a fluid, and means for oscillating said cylinder.

6. An apparatus for the compression of air, comprising the combination of a boat, a series of compressing members arranged along the sides thereof and having their lower ends immersed in the water, means for mechanically rocking the boat, a series of air compressing devices carried by said boat arranged to be operated by said rocking means a reservoir and connection with said compressing members and with said compressing devices.

865,721. VETERINARY OBSTETRICAL FORCEPS. GUY N. MCGONEGAL, Juniata, Nebr. Filed June 26, 1906. Serial No. 323,475.

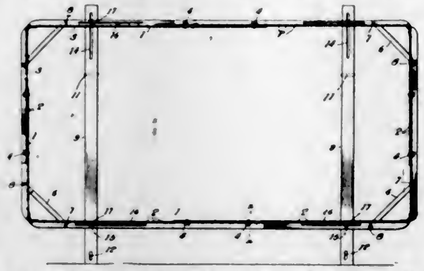
1. A veterinary obstetrical instrument comprising a longitudinal guide tube, a plurality of rods secured at their inner portions to the tube, the inner terminals of two of the rods being bent outwardly from the guide tube to form handles, said rods being resilient and bent inwardly at their outer engaging ends and arranged to be brought close together by the closing movement of the instrument, an operating rod passing through the tube, a head carried by the rod, and eyes pivotally connected to the head and slidable on the rods to open and close the instrument.



2. A veterinary obstetrical instrument comprising a plurality of jaws, a slidable operating rod, a cross head carried by the rod, and oscillatory eyes pivoted to and arranged in substantially the same plane as the cross head, said eyes being slidable on the jaws for moving the same inwardly and outwardly.

3. A veterinary obstetrical instrument comprising a plurality of jaws, a slidable operating rod, a cross head consisting of a plate provided with a central opening in which the operating rod is secured, said plate being also provided at intervals with short diagonally arranged slots, oscillatory eyes slidably receiving the jaws and provided at their inner sides with shanks arranged in the slots of the cross head, and pivots disposed transversely of the slots and piercing the cross head and the shanks of the eyes.

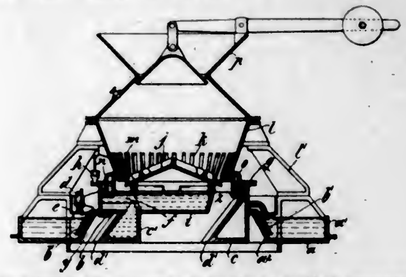
865,722. CURTAIN-STRETCHER. EDWIN R. ORBIN, Duquesne, Pa. Filed Dec. 17, 1906. Serial No. 348,222.



1. A stretcher frame comprising corner sections, each corner section comprising hinged members, corresponding members of the corner sections being adapted to overlap and having longitudinal slots to receive fastenings by means of which the sections are adjustably connected, and a brace for each corner section pivotally connected to one member of the section and detachably connected to the other member of the section.

2. In combination, a stretcher frame comprising corner sections each corner section consisting of hinged members, corresponding members of the corner sections being adapted to overlap and having longitudinal slots to receive fastenings by means of which the sections are adjustably and detachably connected, one member of each corner section being provided with a longitudinal slot 16, and supports for said frame, said supports embodying a pair of bars and braces therefor, and fastenings 17 secured to said bars and extending through the slots 16 of the corner sections.

865,723. FUEL-FEEDING DEVICE FOR FURNACES. FRANZ PALLENBERG, Dortmund, Germany. Filed June 22, 1906. Serial No. 322,932.



In a fuel feeding device of the class specified, comprising a hopper having fuel breaking mechanism therein, a rotary distributing ring mounted beneath said hopper, said ring having outwardly inclined distributing surfaces of varying inclination, the combination of ribs extending downwardly and spreading outwardly along said distributing surfaces.

865,724. FUEL. THOMAS PARKER, London, England. Filed Jan. 26, 1907. Serial No. 354,319.

1. The herein described process for the production of fuel from coal which consists in subjecting the coal in a closed retort to a comparatively low gas evolving temperature, maintaining it at this temperature while illuminating gas continues to be evolved and cooling when illuminating gas ceases to be evolved and when the mass is substantially free of tarry components so that the product shall be hard, of uniform character, homogeneous and capable of withstanding stacking, handling and carriage without further treatment.

2. The herein described process for the production of fuel from coal which consists in subjecting the coal in a closed retort to a temperature of about 800° F., maintaining it at about this temperature while illuminating gas continues to be evolved, and then cooling and removing the fuel from the retort.

3. The herein described process for the production of fuel from coal which consists in subjecting it in a closed retort under moderate pressure to a temperature of about 800° F., maintaining it at this temperature while illuminating gas continues to be evolved and cooling and withdrawing the fuel when illuminating gas ceases to be evolved.

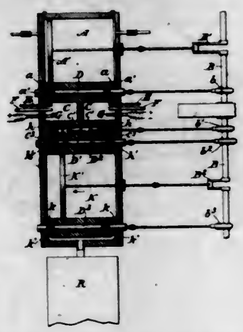
4. The herein described process for the production of fuel from coal which consists in subjecting the coal in a closed retort to a temperature of about 800° F., maintaining it at about this temperature while illuminating gas continues to be evolved and then suddenly arresting the heat by introduction of steam and removing the fuel from the retort.

865,725. GENERATION OF VAPOR. HARRY M. POPE and HIRAM P. MAXIM, Hartford, Conn., assignors, by mesne assignments, to Electric Vehicle Company, Jersey City, N. J., and New York, N. Y., a Corporation of New Jersey. Filed June 29, 1897. Serial No. 642,799.

1. An apparatus for generating and storing vapor comprising two explosion chambers, means for supplying an explosive mixture to each of said explosion chambers, an igniter and a water supply for each of said explosion chambers, a cylinder having one of said explosion chambers connected thereto at one end and the other at the other end, a compressing piston in said cylinder and a reservoir connected to said cylinder, into which the piston forces the gases of explosion.

2. An apparatus for generating vapor comprising an explosion chamber, means for supplying hydro-carbon vapor to said explosion chamber, an igniter, a water supply, an air compressor connected to said explosion chamber, a valve interposed between said air compressor and said ex-

plosion chamber means to operate said valve, whereby said valve is opened after the explosion and a puff of air is admitted to the explosion chamber to clear out said chamber, and an independent exhaust port for such scavenging puff of air.



3. An apparatus for generating vapor comprising an explosion chamber, means for supplying hydro-carbon vapor to said chamber, an igniter, a water supply, an air compressor connected to said chamber, a cylinder connected to said chamber, a piston in said cylinder, a shaft operatively connected to said piston, a valve between said air compressor and said chamber and a scavenger valve for said chamber both of said valves being operatively connected to said shaft.

4. An apparatus for generating and storing vapor comprising two explosion chambers, means for supplying an explosive mixture to said chamber, an igniter and a water supply for each of said chambers, a cylinder having one of said chambers connected thereto at one end and the other at the other end, a compressing piston in said chamber and a shaft operatively connected to said piston, and a reservoir connected to opposite ends of said cylinder, into which the piston forces the gases of explosion.

5. An apparatus for generating and storing vapor comprising two explosion chambers, means for supplying hydro-carbon vapor to said chambers, an igniter and a water supply for each of said chambers, a cylinder having one of said explosion chambers connected thereto at one end and the other at the other end, a compressing piston in said cylinder, a shaft operatively connected to said piston and an air compressor connected to each of said explosion chambers and operatively connected to said shaft and a reservoir connected to opposite ends of said cylinder, into which the piston forces the gases of explosion.

6. An apparatus for generating vapor comprising an explosion chamber, means for supplying hydro-carbon vapor to said explosion chamber, an igniter, a water supply, an air compressor connected to said explosion chamber, a valve interposed between said air compressor and said explosion chamber, means to operate said valve, whereby said valve is opened after the explosion and a puff of air is admitted to the explosion chamber a separate valve for the discharge of such scavenging puff of air to clear out said chamber and means for effecting proper relative movement of the moving parts.

7. An apparatus for generating vapor comprising an explosion chamber, means for supplying hydro-carbon vapor to said explosion chamber, an igniter, means for introducing water into said chamber upon the explosion, a discharge valve, means to operate said discharge valve, a chamber to receive the vapor from the first-named chamber and to permit it to expand therein, and means to re-compress such vapor.

8. An apparatus for generating vapor comprising an explosion chamber, means for supplying hydro-carbon vapor to said explosion chamber, an igniter, means for introducing water into said chamber upon the explosion, a discharge valve, means to operate said discharge valve, a chamber to receive the vapor from the first-named chamber and to permit it to expand therein, means to re-compress such vapor, and a reservoir to receive the re-compressed vapor.

9. An apparatus for generating vapor comprising an explosion chamber, means for supplying hydro-carbon vapor to said explosion chamber, an igniter, means for periodically introducing water into said chamber upon the explosion, a discharge valve, means to operate said discharge valve and keep it closed at predetermined times, a chamber to receive the vapor through said discharge valve, an air compressor, a scavenging valve, and means to operate said scavenging valve, whereby a puff of air is discharged through said explosion chamber independently of the second chamber.

10. An apparatus for generating vapor comprising an explosion chamber, means for supplying hydro-carbon vapor to said explosion chamber, a periodically operative igniter, means for periodically introducing water into said chamber upon the explosion, a chamber to receive the vapor from the explosion chamber, two separate discharge valves from said explosion chamber, one connecting with the second chamber, and means for operating said discharge valves separately.

11. An apparatus for generating vapor comprising a periodically sealed explosion chamber, means for supplying hydro-carbon vapor to said explosion chamber, an igniter, means for introducing water into said chamber upon the explosion, a second chamber to receive the vapor from the explosion chamber, and a storage reservoir to receive the vapor from the second chamber.

12. An apparatus for generating vapor comprising an explosion chamber, means for supplying hydro-carbon vapor to said explosion chamber, an igniter, means for introducing water into said chamber after the explosion, an air compressor connected to said explosion chamber, and means to receive and store the vapor from the explosion chamber.

13. An apparatus for generating vapor comprising an explosion chamber, means for supplying hydro-carbon vapor to said explosion chamber, an igniter, means for introducing water into said chamber after the explosion, an air compressor connected to said explosion chamber, and a second chamber connected with the explosion chamber to receive the vapor therefrom.

865,726. CLEANING-ROD FOR RIFLED FIREARMS. THOMAS M. PRICE, Itasca, Tex. Filed May 26, 1906. Serial No. 318,922.

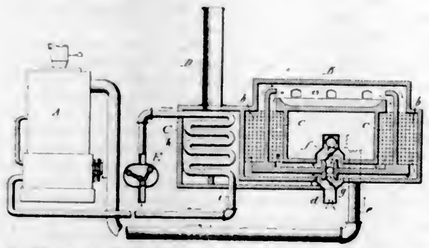


1. A device of the class described comprising a cleaning rod having an integral pivot portion and provided with an annular rag-receiving recess located beyond the inner end of the pivot portion, and a rotary rag-receiving sleeve of cylindrical form mounted on the pivot portion of the rod and being of a diameter in excess of the diameter of the rod, said sleeve having its inner end located at the outer end of the rag-receiving recess, and the said pivot and sleeve being substantially equal in length.

2. A device of the class described comprising a cleaning rod provided with a reduced integral pivot portion and having a shoulder at the inner end thereof, said rod being also provided with an annular recess located beyond the inner end of the pivot portion and presenting concave faces to the edges of a rag, and a rotary sleeve mounted on the pivot portion of the rod with its inner end fitted against the said shoulder and also located at the outer end of the annular rag-receiving recess.

3. A device of the class described comprising a cleaning rod provided with a reduced integral pivot portion and having a shoulder at the inner end thereof, said cleaning rod being also provided beyond the inner end of the pivot portion with an annular rag-receiving recess, a rotary rag-receiving sleeve mounted on the pivot portion of the rod with its inner end fitted against the outer end of the rag-receiving recess, said sleeve being provided at its outer end with an interior annular recess located at the outer end of the pivot portion, and a washer mounted on the outer end of the rod and located within the recess of the sleeve, the outer end of the rod terminating short of the outer edges of the sleeve, whereby a rag is held out of contact with the outer end of the rod.

865,727. METHOD OF MAKING AND UTILIZING GAS. AUGUSTIN L. J. QUENEAU, South Bethlehem, Pa. Filed Aug. 4, 1905, Serial No. 272,742. Renewed Aug. 9, 1907. Serial No. 387,832.



1. The method of making and utilizing gas, which consists in generating producer gas, consuming the gas in a suitable furnace, preheating the air-blast for the producer to a high degree by waste heat from the products of combustion, and simultaneously rendering the dangerous excess of temperature of the preheated air-blast, by commingling with it, sprays of water; substantially as described.

2. The method of making and utilizing gas, which consists in generating producer gas, consuming the gas in a suitable furnace, preheating the air-blast for the producer to a high degree by waste heat from the products of combustion, and simultaneously rendering latent the dangerous excess of temperature of the preheated air-blast, by commingling with it, sprays of water, introduced into the ash-pit of the producer; substantially as described.

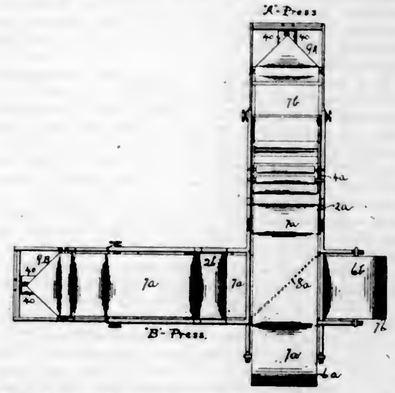
3. The method of making and utilizing gas, which consists in generating producer gas, consuming the gas in a suitable furnace, preheating the air-blast for the producer to a high degree by waste heat from the products of combustion, and simultaneously rendering latent the dangerous excess of temperature of the preheated air-blast, by commingling with it, sprays of water, introduced into the ash-pit of the producer and directed against its heated surfaces; substantially as described.

4. The method of making and utilizing gas, which consists in generating producer gas, consuming the gas in a suitable furnace, preheating the air-blast for the producer to a high degree by waste heat from the products of combustion, and simultaneously rendering latent the dangerous excess of temperature of the preheated air-blast, by commingling with it, sprays of water, introduced into the ash-pit of the producer and also into the ash-bed of the producer fuel; substantially as described.

865,728. PRINTING-PRESS. JACOB A. SMITH, Cleveland, Ohio. Filed July 30, 1906. Serial No. 328,344.

1. In a web perfecting printing press, the combination of two intersecting printing mechanisms, each including two impression rolls and an intermediate form roll, turning mechanism located at the intersection, and means for guiding two paper webs at an angle to each other opposite such intersection, whereby the webs from the two rolls are fed, first to the two mechanisms respectively, then turned and fed each to the other mechanism.

2. In a web perfecting printing press, the combination of a pair of printing mechanisms located at right angles to each other, each mechanism comprising two impression rolls and an intermediate form roll, a single turning bar for each web of paper, means for carrying two rolls of paper at right angles to each other opposite the respective printing mechanisms, whereby the webs from the two rolls are fed first to the two mechanisms respectively, and then turned and fed each to the other mechanism, and two folding mechanisms at the ends of the press opposite the ends where the paper rolls are located.



3. In a web perfecting printing press, the combination of two printing mechanisms at an angle to each other, each mechanism comprising two impression rolls and an intermediate form roll, turning mechanism located adjacent to the apex of the angle formed by the two printing mechanisms, and two folding mechanisms on those sides of the respective printing mechanism which are opposite the turning mechanism.

4. In a web perfecting printing press, the combination of two printing mechanisms located at right angles to each other, each consisting of a pair of impression rolls and an intermediate form roll, means for carrying two paper rolls at right angles to each other, and a pair of angle bars located between the roll-carrying means and the respective printing mechanisms.

5. In a web perfecting printing press, the combination of two printing mechanisms located at right angles to each other each consisting of a pair of impression rolls and an intermediate form roll, means for carrying two paper rolls adjacent to each other and at right angles to each other, and a pair of angle bars one above the other between the roll carrying means and the respective printing mechanisms.

6. In a web perfecting printing press, the combination of a pair of intersecting printing mechanisms, mechanism for guiding two webs of paper to cause them to pass first through the different printing mechanisms respectively, for turning such webs between the printing mechanisms and then passing them each through the other printing mechanism, and two folding mechanisms on two ends of the press, respectively.

7. In a web perfecting printing press, the combination of a pair of printing mechanisms located at right angles to each other and each comprising a pair of impression rolls and an intermediate form roll, and mechanism for guiding two webs of paper to cause them to pass first between the form roll and one of the impression rolls of the different printing mechanisms respectively, means for turning such webs between the printing mechanisms, and means for passing them then each between the form roll and the other impression roll of the other printing mechanism, and two independent folding mechanisms located on ends of the press at right angles to each other.

8. In a web perfecting printing press formed in wings, the combination of a pair of printing mechanisms located at right angles to each other, each mechanism comprising two impression rolls and an intermediate form roll, means for carrying two paper rolls parallel with the respective printing mechanisms, folders for the respective printing

mechanisms located at the end of the two wings of the press respectively, and angle turning bars between the two mechanisms whereby each web of paper may be run through one mechanism, turned, run through the other, and folded.

9. The combination, in a printing press having two printing mechanisms located in two wings diverging from a common point, of paper rolls opposite the proximate ends of the wings, folding mechanism opposite the distant ends of the wings, and means for directing each web of paper through the two wings.

10. In a web perfecting printing press, the combination of two printing mechanisms at right angles to each other, each comprising two impression rolls and an intermediate form roll, the impression rolls having their axes out of the same plane through the axis of the form roll, a pair of turning bars, means for supporting two rolls of paper on substantially the same level and at right angles to each other; and means for guiding the two webs of paper from the same, each through different ones of the printing mechanisms, then across a turning bar, and then through the other printing mechanism respectively.

11. In a web perfecting printing press, the combination of two printing mechanisms at right angles to each other, each comprising two impression rolls and an intermediate form roll, the impression rolls having their axes out of the same plane through the axis of the form roll, said mechanism being mounted in frames which intersect each other, a pair of turning bars located at the intersection, means for supporting two rolls of paper adjacent and at right angles to each other on the outer sides of the intersection, means for guiding the two webs of paper from the rolls, each through different ones of the printing mechanisms, then across a turning bar, and then through the other printing mechanism respectively, and two folders respectively at the two ends of the press opposite the paper rolls.

12. In a web perfecting printing press, the combination of two frames intersecting near their common ends, means for carrying rolls of paper opposite such ends respectively, printing mechanisms carried by each frame respectively and each comprising an intermediate form roll, two coöperating impression rolls and an inking device, and a pair of turning bars located at the intersection.

13. In a web perfecting printing press, the combination of two frames at right angles to each other and intersecting near their common ends, means for carrying rolls of paper opposite such ends respectively, printing mechanisms carried by the two frames respectively and each comprising an intermediate form roll, an impression roll below it, an impression roll above it, and inking devices on opposite sides of the form roll, a pair of turning bars located at the intersection of the frames, and folders at the opposite ends of the frames respectively.

14. The combination, in a web perfecting press, of two frames at right angles to each other and meeting near their ends, means for carrying paper rolls opposite such ends respectively, whereby the rolls are adjacent but inspection space is allowed between them, turning bars in the common space in front of the two rolls, and printing mechanisms independently mounted in the two frames and each receiving paper directly from the corresponding roll, said paper after being printed on one side being turned by the turning bars and passed through the other printing mechanisms respectively.

15. In a web perfecting printing press, the combination of two printing mechanisms at right angles to each other, each including a form roll and two coöperating impression rolls, and means for guiding a web of paper through the first printing mechanism, turning it and guiding it through the second printing mechanism, and means for guiding another web of paper through the second printing mechanism, then turning it, and guiding it through the first printing mechanism.

16. In a web perfecting printing press, the combination of two printing mechanisms at right angles to each other, each including a form roll and two coöperating impression rolls, means for guiding a web of paper between the form roll and one of the impression rolls of the first printing mechanism and turning it at right angles and guiding it between the form roll and one of the impression rolls of the second printing mechanism, and means for simultaneously guiding another web of paper between the form roll and the other impression roll of the second printing mechanism and then turning it at right angles and guiding it between the form roll and the other impression roll of the first printing mechanism.

17. A web perfecting printing press arranged in two wings intersecting each other at an angle, each wing comprising first a printing mechanism, second means for holding a roll of paper parallel therewith on one side of the printing mechanism, and a third folder on the opposite side of the printing mechanism, said wings intersecting between the paper rolls and the printing mechanisms, and turning bars located at such intersection.

18. In a web perfecting printing press, the combination of two intersecting printing mechanisms which include two impression rolls and intermediate form roll, turning mechanism located at the intersection, means for carrying two rolls of paper on substantially the same level at an angle to each other opposite such intersection, and two folding mechanisms at the ends of the press opposite the two paper rolls, whereby the webs from the two rolls may be fed first to the two printing mechanisms respectively, then turned and fed each to the other printing mechanism, and then passed to the respective folders.

19. In a web perfecting printing press, a plurality of decks each comprising two intersecting printing mechanisms, each including two impression rolls and an intermediate form roll, turning mechanism located at the intersection, and means for guiding two paper webs at an angle to each other opposite such intersection, whereby the webs from the two rolls are fed, first to the two mechanisms respectively, then turned and fed each to the other mechanism, combined with a pair of folders independent of each other and each common to the plurality of decks.

20. In a web perfecting printing press, a plurality of decks each comprising a pair of printing mechanisms located at right angles to each other, each mechanism comprising two impression rolls and an intermediate form roll, a single turning bar for each web of paper, means for carrying two rolls of paper at right angles to each other opposite the respective printing mechanisms, whereby the webs from the two rolls are fed first to the two mechanisms respectively, and then turned and fed each to the other mechanism, and two folding mechanisms at the ends of the press opposite the ends where the paper rolls are located, each folder being common to the plurality of decks.

21. In a web perfecting printing press, a plurality of decks each comprising two printing mechanisms at an angle to each other, each mechanism comprising two impression rolls and an intermediate form roll, turning mechanism located adjacent to the apex of the angle formed by the two printing mechanisms, and two folding mechanisms on those sides of the respective printing mechanisms which are opposite the turning mechanism, each folder being common to the plurality of decks.

22. In a web perfecting printing press, a plurality of decks each comprising two printing mechanisms located at right angles to each other, each consisting of a pair of impression rolls and an intermediate form roll, means for carrying two paper rolls at right angles to each other, and a pair of angle bars located between the roll carrying means and the respective printing mechanisms, combined with a pair of folders independent of each other and each common to the plurality of decks.

23. In a web perfecting printing press, a plurality of decks each comprising two printing mechanisms located at right angles to each other each consisting of a pair of impression rolls and an intermediate form roll, means for carrying two paper rolls adjacent to each other and at right angles to each other, and a pair of angle bars one above the other between the roll-carrying-means and the respective printing mechanisms, combined with a pair of folders independent of each other and each common to the plurality of decks.

24. In a web perfecting printing press, a plurality of decks each comprising a pair of intersecting printing mechanisms, mechanism for guiding two webs of paper through the different printing mechanisms respectively, for turning such webs between the printing mechanisms after they have passed through the two mechanisms, and for then passing them each through the other printing mechanism, combined with a pair of folders independent of each other and each common to the plurality of decks.

25. In a web perfecting printing press, a plurality of decks each comprising a pair of printing mechanisms located at right angles to each other and each comprising a pair of impression rolls and an intermediate form roll, and mechanism for guiding two webs of paper between the form roll and the impression rolls of the different printing mechanisms respectively, means for then turning such webs between the printing mechanisms, and means for then passing them each through the other printing mechanism, combined with a pair of folders independent of each other and each common to the plurality of decks.

26. In a web perfecting printing press, a plurality of decks each comprising a pair of wings, each wing having a pair of printing mechanisms located at right angles to each other, each mechanism comprising two impression rolls and an intermediate form roll, means for carrying two paper rolls parallel with the respective printing mechanisms, folders for the respective printing mechanisms located at the ends of the two wings of the press respectively, and angle turning bars between the two mechanisms whereby each web of paper may be run through one mechanism, turned, run through the other, and folded, each folder being common to the plurality of decks.

27. In a web perfecting printing press, a plurality of decks each comprising a printing press having two printing mechanisms located in two wings diverging from a common point, paper rolls opposite the proximate ends of the wings, folding mechanism opposite the distant ends of the wings, and means for directing each web of paper through the two wings, each folder being common to the plurality of decks.

28. In a web perfecting printing press, a plurality of decks each comprising two printing mechanisms at right angles to each other, each printing mechanism comprising two impression rolls and an intermediate form roll, the impression rolls having their axes out of the same plane through the axis of the form roll, a pair of turning bars, means for supporting two rolls of paper on substantially the same level and at right angles to each other, and means for guiding the two webs of paper from the same, each through different ones of the printing mechanisms, then across a turning bar, and then through the other printing mechanism respectively, combined with a pair of folders independent of each other and each common to the plurality of decks.

29. In a web perfecting printing press, a plurality of decks each comprising two printing mechanisms at right angles to each other, each printing mechanism comprising two impression rolls and an intermediate form roll, the impression rolls having their axes out of the same plane through the axis of the form roll, said mechanism being mounted in frames which intersect each other, a pair of turning bars located at the intersection, means for supporting two rolls of paper adjacent and at right angles to each other on the outer sides of the intersection, means for guiding the two webs of paper from the rolls, each through different ones of the printing mechanisms, then across a turning bar, and then through the other printing mechanism respectively, and two folders respectively at the two ends of the press opposite the paper rolls, each folder being common to the plurality of decks.

30. In a web perfecting printing press, a plurality of decks each comprising two frames intersecting near their common ends, means for carrying rolls of paper opposite such ends respectively, printing mechanisms carried by each frame respectively and each comprising an intermediate form roll, two coöperating impression rolls and an inking device, and a pair of turning bars located at the intersection, combined with a pair of folders independent of each other and each common to the plurality of decks.

31. In a web perfecting printing press, a plurality of decks each comprising two frames at right angles to each other and intersecting near their common ends, means for carrying rolls of paper opposite such ends respectively, printing mechanisms carried by the two frames respectively and each comprising an intermediate form roll, an impression roll below it, an impression roll above it, and inking devices on opposite sides of the form roll, a pair of turning bars located at the intersection of the frames, and folders at the opposite ends of the frames respectively, combined with a pair of folders independent of each other and each common to the plurality of decks.

32. In a web perfecting printing press, a plurality of decks each comprising two frames at right angles to each other and meeting near their ends, means for carrying paper rolls opposite such ends respectively, whereby the rolls are adjacent, but inspection space is allowed between them, turning bars in the common space in front of the two rolls, and printing mechanisms independently mounted in the two frames and each receiving paper directly from the corresponding roll, said paper after being printed on one side being turned by the turning bars and passed through the other printing mechanisms respectively, combined with a pair of folders independent of each other and each common to the plurality of decks.

33. In a web perfecting printing press, a plurality of decks each comprising two printing mechanisms at right angles to each other, each including a form roll and two coöperating impression rolls, and means for guiding a web of paper through the first printing mechanism, turning it and guiding it through the second printing mechanism, and means for guiding another web of paper through the second printing mechanism, then turning it, and guiding it through the first printing mechanism, combined with a pair of folders independent of each other and each common to the plurality of decks.

34. In a web perfecting printing press, a plurality of decks each comprising two printing mechanisms at right angles to each other, each printing mechanism including a form roll and two coöperating impression rolls, means for guiding a web of paper between the form roll and one of the impression rolls of the first printing mechanism and turning it at right angles and guiding it between the form roll and one of the impression rolls of the second printing mechanism, and means for simultaneously guiding another web of paper between the form roll and the other impression roll of the second printing mechanism and then turning it at right angles and guiding it between the form roll and the other impression roll of the first printing mechanism, combined with a pair of folders independent of each other and each common to the plurality of decks.

35. In a web perfecting printing press, a plurality of decks each comprising a printing press arranged in two wings intersecting each other at an angle, each wing comprising first a printing mechanism, second means for holding a roll of paper parallel therewith on one side of the printing mechanism, and third a folder on the opposite side of the printing mechanism, said wings intersecting between the paper rolls and the printing mechanisms, and turning bars located at such intersection, each folder being common to the plurality of decks.

36. In a web perfecting printing press, a plurality of decks each comprising two intersecting printing mechanisms each of which includes two impression rolls and intermediate form roll, turning mechanism located at the intersection, means for carrying two rolls of paper on substantially the same level at an angle to each other opposite such intersection, and two folding mechanisms at the ends of the press opposite the two paper rolls, whereby the webs from the two rolls may be fed first to the two printing mechanisms respectively, then turned and fed each to the other printing mechanism, and then passed to the respective folders, each folder being common to the plurality of decks.

37. In a web perfecting printing press, a plurality of decks, each having a pair of printing mechanisms, each mechanism comprising a pair of impression rolls and an intermediate form roll, means for each deck for guiding two webs of paper to cause one to pass through one printing mechanism and the other through the other printing

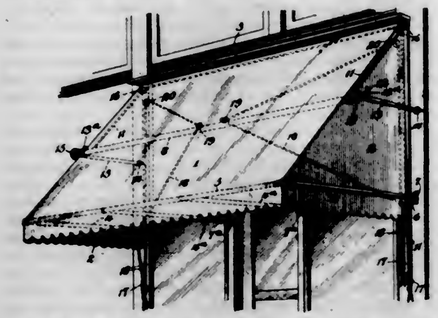
mechanism, and means for each deck for turning each web on its unprinted face after the other faces have been printed by the respective printing mechanisms and then passing said turned webs through the two printing mechanisms, respectively, causing each web to receive its second impression from the printing mechanism which gave the first impression to the other web, and two independent folders, each folder being common to all the decks.

38. In a web perfecting printing press, the combination of a pair of printing mechanisms, each mechanism comprising a pair of impression rolls and an intermediate form roll, means for guiding two webs of paper to cause one to pass through one printing mechanism and the other through the other printing mechanism, and means for turning each web on its unprinted face after the other faces have been printed by the respective printing mechanisms and then passing said turned webs through the two printing mechanisms, respectively, causing each web to receive its second impression from the printing mechanism which gave the first impression to the other web, and two independent folding mechanisms for the two webs located respectively adjacent to the form roll which gives the last impression to the web to be folded thereby.

39. In a web perfecting printing press, the combination of a plurality of decks each having a pair of printing mechanisms, each mechanism comprising a pair of impression rolls and an intermediate form roll, means for guiding two webs of paper for each deck to cause one to pass through one printing mechanism and the other through the other printing mechanism, and means for turning each web on its unprinted face after the other faces have been printed by the respective printing mechanisms and then passing said turned webs through the two printing mechanisms, respectively, causing each web to receive its second impression from the printing mechanism which gave the first impression to the other web, and two independent folding mechanisms for the two webs located respectively adjacent to the form roll which gives the last impression to the web to be folded thereby, each folding mechanism being common to all the decks.

40. In a web perfecting printing press, the combination of a pair of intersecting printing mechanisms, mechanism for guiding two webs of paper to cause them to pass first through the different printing mechanisms respectively, for turning such webs on their unprinted faces between the printing mechanisms and then passing them each through the other printing mechanism, and two independent folding mechanisms located respectively adjacent to the two printing mechanisms.

865,729. ROLLER-AWNING. EDWARD T. TOUSSAINT, Jacksonville, Ill. Filed Mar. 8, 1906. Serial No. 304,976.



1. The combination of a substantially continuous awning cover, a bottom frame connected with the bottom of the awning cover, a roller arranged at an intermediate point between the upper edge of the awning cover and the bottom frame and dividing the said awning cover into upper and lower portions, and operating ropes connected with the roller for simultaneously winding the upper and lower portions of the awning cover on the roller.

2. The combination of a substantially continuous awning cover provided at an intermediate point with a loop, a bottom frame connected with the bottom of the awning cover, a roller arranged in the said loop and located at an intermediate point between the upper edge of the awning cover and the bottom frame and dividing the said awning cover into upper and lower portions, and operating means for rotating the roller for simultaneously winding the upper and lower portions of the awning cover on the said roller.

3. The combination of an awning cover provided at its inner or lower face with a loop located at an intermediate point between the top and bottom of the awning cover, a roller arranged within the loop, a bottom frame connected with the bottom of the awning, and operating ropes for rotating the roller.

4. The combination of an awning cover, a hinged bottom frame connected with the bottom of the awning cover and provided with braces, a roller connected with the awning cover and located at an intermediate point between the top and bottom thereof and dividing the said awning cover into upper and lower portions, hinged braces connected with the roller, and means for rotating the roller for simultaneously winding the upper and lower portions of the awning cover on the roller.

5. The combination of an awning cover provided with foldable curtains, a bottom frame connected with the awning cover, an intermediate roller also connected with the awning cover and located between the top and bottom thereof, means for rotating the roller, guides located at the top of the awning cover at points between the top and bottom thereof, and operating ropes secured to the end curtains and having upwardly and downwardly extending branches, the upwardly extending branches passing through the said guides and adapted to fold the end curtains against the inner face of the awning cover for enabling the same to be wound up simultaneously with the said awning cover.

6. The combination of an awning cover, a hinged frame connected with the bottom of the awning cover, a roller connected with the awning cover and located at an intermediate point between the top and bottom thereof and dividing the awning cover into upper and lower portions, hinged braces connected with the roller, and means for rotating the roller for simultaneously winding the upper and lower portions of the cover on the rollers.

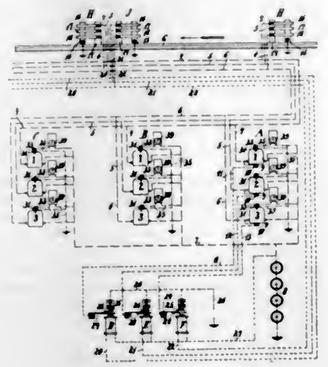
7. An awning provided at an intermediate point with a roller, a hinged brace connected with the roller, an operating rope connected with the roller for rotating the same and for swinging the hinged brace upwardly, guiding means for the operating rope, and a stop projecting from the brace for limiting the upward movement of the brace to offset the roller and permit the same to rotate freely.

865,730. CONTROLLING SYSTEM FOR RAILWAYS. MAX TRAUTMANN, Dresden, Germany, assignor to Bertha Trautmann, née Sprie, Dresden, Germany. Filed Mar. 21, 1907. Serial No. 363,755.

1. In electric controlling systems for railways the combination of two groups of conductors, the one for starting and the other for arriving trains, a series of line-contacts for electrically connecting the lines of one group with those of the other group, a series of switch-systems, means for closing a circuit to drop down drops and means for interrupting the circuit to return the said drops to their initial position, substantially as described.

2. In electric controlling systems for railways the combination of two groups of conductors, means for feeding current to one group when a train starts, a switch-system, means for dropping-down the drops of the switch-system, means for holding the drops in their dropped-down position, means for feeding current to the other group of conductors when the train arrives at the next station, means for interrupting the current fed to the first group of conductors and means for returning the drops to their initial position again.

3. In electric controlling systems for railways the combination of two groups of conductors, means for feeding current to one group when a train starts, a switch system, drops connected to the said switch-system, an electromagnet receiving current from the said first group of conductors and dropping down the drops of the said switch system, circuits provided at the controlling places, such circuits being closed by the dropped-down drops, readjusting magnets, permanently excited by the said circuits and holding the drops in their dropped-down position, means for feeding current to the second group of conductors, when the train arrives at the next station, an electromagnetic switching-device, interrupting the said circuit, closed by the dropped-down-drops and returning the latter to their initial position.

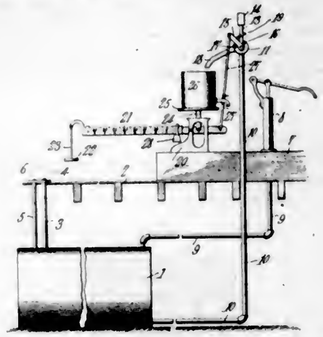


4. In electric controlling-systems for railways, having a series of conductors, corresponding to the number of the passing trains and arranged in two groups, line contacts operated by the passing trains and electrically connecting the said conductors, indicating devices, connected with the said conductors, means for operating the said indicating devices when the train passes one of the line contacts, substantially as described.

5. In electric controlling systems, for railways the combination of a switch-system, of indicating drops, connected with the said switch system, a conductor, means for connecting the said conductor with the said indicating drops, a counter, an electromagnet, influencing the said counter and arranged in the said conductor, means for dropping-down the indicating drops, means for advancing the counter for one step at each dropping-down of a drop and means for returning the drops into their initial position, substantially as described.

6. In electric controlling systems for railways the combination of two groups of conductors, means for feeding current to the one group when a train departs, a switch-system, drops in connection with the said switch-system, means for dropping down the said drops and means for holding them in their dropped-down position, means for feeding current to the other group of conductors, when the train arrives at the next station, means for breaking the current fed to the first group of conductors and means for returning the drops to their initial position, a line-wire, connected with the said switch system, an electromagnet, arranged in the said line wire, a counting device, influenced by the said electromagnet, means in connection with the two groups of conductors and the said line wire for exciting the said electromagnet and closing a circuit between the dropped-down drops and the counting device, a dial at the said counting device, an indicator in connection with the counting device, and means for advancing the counting device stepwise, when the circuit is closed by the traveling train, substantially as described.

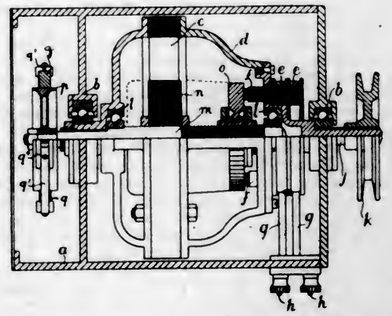
865,731. LIQUID-WEIGHING APPARATUS. EDWARD W. VALENTA, Cedar Rapids, Iowa, assignor of one-half to Wesley A. Valenta, Cedar Rapids, Iowa. Filed Apr. 22, 1907. Serial No. 369,587.



1. In a liquid weighing apparatus, means for weighing the liquid, a valve controlling the flow of liquid through the weighing apparatus, and a dead-point valve-operating mechanism comprising a weighted arm movable manually past the dead-point in one direction to open and maintain the valve in the opened position and movable automatically past the dead-point in the other direction to carry the valve to the closed position.

2. In a liquid weighing apparatus, a valve, a weighted arm connected thereto, spaced stops in the path of said arm, one adjacent to the vertical plane of said arm to hold the latter in a position close to the point of dead-center and another remote from said vertical plane and corresponding to the closed position of the valve, an arm loose on the valve stem and having a finger engaging behind the weighted arm when the latter is in the position corresponding to the open position of the valve, and means for moving the loose arm to an extent sufficient to carry the weighted arm past the dead-center.

865,732. DYNAMO OR THE LIKE. CHARLES A. VANDERVELL, London, and WILLIAM H. W. PROCTOR, Coventry, England. Filed Mar. 6, 1905. Serial No. 248,604.



1. A dynamo consisting of a movable armature and movable field magnets, means for driving one of the said parts and a braking device for the other part adapted to be adjusted by hand while the machine is in motion so that the relative speed of rotation between the parts may be kept at a desired rate, said braking device comprising a pulley connected to the part to be braked, a series of brake blocks adapted to engage with the periphery of said pulley, a flexible spring carrying said blocks, a stationary support for one end of said spring and an adjustable support for the other end of the spring.

2. A dynamo consisting of a movable armature and movable field magnets, means for driving the field magnets, a pulley connected to the armature, a series of brake blocks adapted to engage with said pulley, a flexible spring carrying said blocks, a stationary support for one end of said spring, a block q^4 connected to the other end of the spring, a screw spindle on which the block q^4 is movably supported a stationary nut supporting the spindle and a coiled spring on the spindle between the nut and the block q^4.

865,733. DENTAL CLAMP. MARGARET H. WEAGANT, Owen Sound, Ontario, Canada, executrix of Henry Blakey Weagant, deceased. Filed Feb. 15, 1907. Serial No. 357,480½.



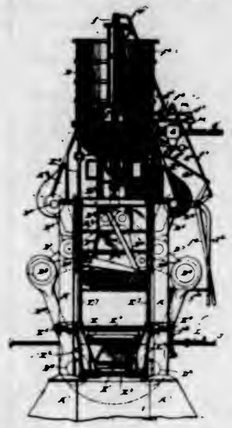
1. In a dental clamp, the combination with the base, of loops suitably connected thereto diametrically opposite to each other and extending upwardly, a spring bridge pivotally held on the end of one loop and provided with a hook at the opposite end, a lever pivotally mounted on the top of the opposite loop and provided with a depending lip designed to be brought in engagement with the hook as and for the purpose specified.

2. In a dental clamp, the combination with the base plate having lugs formed at the bottom thereof diametrically opposite each other, one lug being at one side and the two lugs at the opposite side opposite each other and diametrically opposite and at right angles to the aforesaid lug, of a stationary upwardly extending loop having right angular bent ends extending through the single lug and a swinging loop having right angular bent ends extending through and hinged in the pair of lugs, and means for connecting the tops of the loops together, whereby a spring pressure is exerted on the uppermost flask as and for the purpose specified.

3. In a dental clamp, the combination with the base plate having lugs formed at the bottom thereof diametrically opposite each other, one lug being at one side and the two lugs at the opposite side opposite each other and diametrically opposite and at right angles to the aforesaid lug, of a stationary upwardly extending loop having right angular bent ends extending through the single lug and a swinging loop having right angular bent ends extending through and hinged in the pair of lugs, and two members pivotally connected to the upper ends of the loops and having a detachable connection between them, whereby when connected a pressure is exerted on the uppermost flask as and for the purpose specified.

4. In a dental clamp, the combination with the base plate having lugs formed at the bottom thereof diametrically opposite each other, one lug being at one side and the two lugs at the opposite side opposite each other and diametrically opposite and at right angles to the aforesaid lug, of a stationary upwardly extending loop having right angular bent ends extending through the single lug and a swinging loop having right angular bent ends extending through and hinged in the pair of lugs, and a substantially semi-elliptical spring bridge pivotally connected to the upper end of the stationary loop and provided with a hook at the free end and a lever pivotally mounted on the upper end of the opposite loop and having a lip designed to engage with the hook of the bridge as and for the purpose specified.

865,734. COMPRESS. SAMUEL J. WEBB, Minden, La. Filed Nov. 27, 1900. Serial No. 37,905.



1. In a cotton compress, the combination with the compressing platens, of side plates, lever mechanism for operating said plates, segments for operating the levers, and a rack and pinions for operating said segments, substantially as described.

2. In a cotton compress, the combination with the compressing platens, of side plates, lever mechanism for operating said plates, segments for operating said levers, a rack and pinions for operating the segments, and an engine for operating the rack, substantially as described.

3. In a cotton compress, the combination with the compressing platens, of side plates, lever mechanism for operating said plates, segments for operating said levers, a rack and pinions for operating the segments, and an engine for operating the rack, the engine being provided with cushioning devices to prevent shock at each end of the stroke of the piston, substantially as described.

4. In a cotton compress, the combination with the compressing platens, of movable side plates to close opposite spaces between said platens, toggle levers connected at or near the swinging ends of the side plates for operating said plates, and engines for operating the toggle levers, whereby when the side plates are raised the toggle levers are in line so as to hold the plates in position and form abutments to resist the pressure between the plates, substantially as described.

5. In a cotton compress, the combination with the compressing platens, of side plates hinged to the foundation plates of the compress to close opposite spaces between said platens, and means for operating said side plates, substantially as described.

6. In a cotton compress, the combination with the compressing platens, of side plates hinged to a stationary part of the compress, and toggles connected at or near the swinging ends of the side plates and to a stationary support arranged at or near the floor line and supported by tie-rods connected to the compress, substantially as described.

7. In a cotton compress, the combination with the compressing platens, of side plates, toggle levers for operating the side plates, and a moving platform attached to the toggles so that it will be tilted when the toggles are straightened and close the opening in the floor when the toggles are down, substantially as described.

8. In a cotton compress, the combination with the compressing platens, of side plates, toggles for operating the side plates, and a moving platform connected to one of the toggles and arranged to be tilted to head the bale when the plates are operated, substantially as described.

9. In a cotton compress, the combination with the compressing platens, of hinged side plates, a hinged platform, and toggle mechanism for operating the side plates and

platform arranged so that the plates and platform will close the opening in the floor, substantially as described.

10. In a cotton compress, the combination with the compressing platens, of side plates, lever mechanism for operating the side plates, segments for operating the levers, pinions for operating the segments, and a rack for operating the pinions, one of the pinions being arranged at one side and the other at the other side of the rack, substantially as described.

11. In a cotton compress, the combination with the compressing platens, of side plates, means for operating the side plates, and automatic means for preventing movement of the side plates while the bale is being banded, substantially as described.

12. In a cotton compress, the combination with the compressing platens, of side plates, means including an operating lever for operating the side plates, and independent means connected with the operating lever for preventing movement of the side plates while the movable platen is in its retracted position, substantially as described.

13. In a cotton compress, the combination with the compressing platens, of side plates and connections between the said side plates to cause them to swing to and from the space between the platens simultaneously, substantially as described.

14. In a cotton compress, the combination with the compressing platens, of side plates, means for operating the side plates, and connections between said operating means whereby said plates are simultaneously operated, substantially as described.

15. In a cotton compress, the combination with the compressing platens, side plates and means for operating them, of a moving platform arranged so that it will be tilted when the side plates are elevated and close the opening in the floor when the side plates are down.

16. In a cotton compress, the combination with the compressing platens, of movable side plates, and guides on the sides of the movable platen coöperating with guides on the frame for guiding said platen and supporting the side plates, substantially as described.

865,735. EXTENSION-BRACKET FOR GARMENT-DISPLAY CASES. LYMAN W. WELCH, Grand Rapids, Mich. Filed Apr. 24, 1907. Serial No. 370,050.



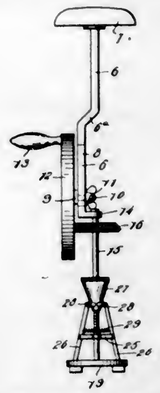
1. In combination in an extension bracket for supporting garments, a fixed member, a garment supporting member movably supported on the fixed member and comprising a movable rod, a telescoping garment rod, a connection between said telescoping rod and the movable rod, and a telescoping connection between the front end of the telescoping garment rod and said movable member, substantially as described.

2. In combination in an extension bracket for supporting garments, a fixed member, a movable rod supported thereon, a bracket depending from the movable rod, a supplemental rod having a sliding connection with the outer end of said movable rod, a garment supporting rod formed of two sections adapted to be extended or contracted, and means for supporting the said sections from the movable rod and its sliding supplemental rod, substantially as described.

865,736. WRENCH. GEORGE V. WEST, Jewell, Kans. Filed Feb. 23, 1907. Serial No. 358,898.

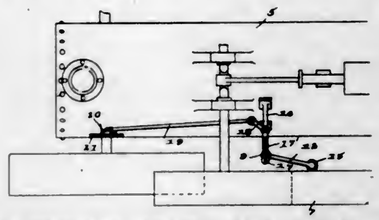
1. A wrench comprising a shank, a shaft revolubly connected with the shank, means for revolving the shaft, a head carried by the shaft jaws slidably mounted in the head, levers pivoted to the shaft and engaging the jaws, and a member adjustably mounted upon the shaft and engaging the levers for movement of the latter upon their pivots when the member is moved.

2. In a wrench, the combination with a revoluble shaft, of a head carried by the shaft, jaws slidably mounted in the head, each of said jaws having a recess in its upper face, plates secured to the shaft above the head, a lever pivoted between the ears at each side of the shaft, said levers having their lower ends engaged in the recesses of the jaws, and a conical member adjustably mounted upon the shaft and engaged between the upper ends of said levers.



3. In a wrench, the combination with a shank having a longitudinal slot therein, of a laterally extending finger carried by the lower end of the shank, a shaft revolubly mounted at its upper end in the finger, a gear carried by the shaft adjacent to its upper end, a grip at the lower end of the shaft, a block having a stem slidably mounted in the slot, a nut engaged with the stem for operation to hold the stem at different points of its movement in the slot, and a gear having a plurality of series of gear teeth revolubly mounted upon the block for bodily movement therewith to register its series of teeth with the gear interchangeably.

865,737. BELT-SHIFTER. ROBERT WENTSCH, Butler, S. D. Filed Dec. 17, 1906. Serial No. 348,216.



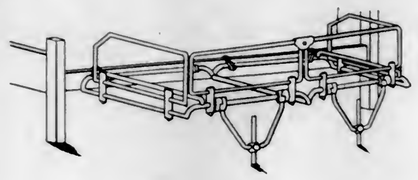
In a device of the class described, the combination with a drive belt, of a rod having crank ends, a roller rotatably carried by one of the crank ends of the rod and arranged for engagement at times with the belt, an angle lever having one of its arms connected with the other crank end of the rod, and means connected with the other arm of the angle lever for rocking the same to rock the rod and cause the roller to shift the belt.

865,738. CHILD'S FOLDING COT. FRANK A. WILDASON, Eaton, Ind. Filed Apr. 11, 1906. Serial No. 311,178.

1. A child's cot having two end rails at each end, one lower than the other, and an end frame pivotally mounted on the lower end rail and, when upright, bearing against the upper end rail, whereby the end frame will be prevent-

ed from falling in upon a child in the cot and can be folded under against the bottom of the cot.

2. A child's cot including side rails with the ends thereof turned down, an end rail extending between the turned down ends of said side rails so as to be on a lower level than said side rails, an end rail extending between said side rails near the ends thereof on a higher level than the previously mentioned end rails, and an end frame pivotally mounted on the lower end rail and, when upright, bearing against said upper end rail, substantially as set forth.



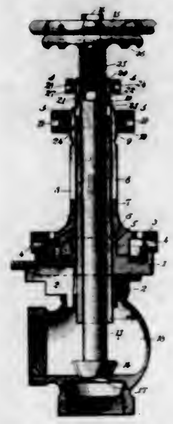
3. A child's cot including side rails with the ends thereof turned down, an end rail extending between the turned down ends of said side rails so as to be on a lower level than said side rails, an end rail extending between said side rails near the ends thereof on a higher level than the previously mentioned end rail, an end frame pivotally mounted on the lower end rail and when upright bearing against said upper end rail, a side frame pivoted on the side rail so as to fold under and against the bottom of the cot along with the end frame, and releasable means for connecting the end and side frames when in their upright position, substantially as set forth.

4. A child's cot including side rails with the ends thereof turned downward, an end rail extending between the turned down ends of said side rails so as to be on a lower level than said side rails, an end rail extending between said side rails near the ends thereof on a higher level than the previously mentioned end rail, an end frame pivotally mounted on the lower end rail and when upright bearing against said upper end rail, a side frame pivoted on the side rail so as to fold under and against the bottom of the cot along with the end frame, releasable means for connecting the end and side frames when in their upright position, means for attaching one side rail of said cot to a bed railing or the like, a leg pivotally mounted on the other side rail thereof so as to fold in under against the bottom of the cot, and means on said side rail for stopping and locking the leg when it is turned to its desired position.

5. A child's cot consisting of two similarly constructed end halves or sections pivoted in the middle so that the two sections thereof can fold upon each other, and a leg or support pivotally mounted with the side rail of each section at the side of the cot and adapted to fold under and against the bottom of said section, substantially as set forth.

6. A child's cot consisting of two similarly constructed end halves or sections pivoted in the middle so that the two sections thereof can fold upon each other, each section including side rails with the ends thereof turned downward, an end rail extending between the turned down ends of said side rails so as to be on a lower level than said side rails, an end rail extending between said side rails near the ends thereof on a higher level than the previously mentioned end rail, an end frame pivotally mounted on the lower end rail and when upright bearing against said upper end rail, a side frame pivoted on the side rail so as to fold under and against the bottom of the cot along with the end frame, releasable means for connecting the end and side frames when in their upright position, means for attaching one side rail of said cot to a bed railing or the like, a leg pivotally mounted on the other side thereof so as to fold in under against the bottom of the cot, and means on said side rail for stopping and locking the leg when it is turned to its desired position.

865,739. MACHINE FOR FACING VALVES, &c. THOMAS B. WILLIAMS, Orange, Mass., assignor to The Leavitt Machine Co., Orange, Mass. Filed July 7, 1905. Serial No. 268,656.



1. A machine for facing valves, etc., embodying clamping means for engaging a valve-casing, a rotatable spindle having a cutter extending beyond the clamping means, a bearing surrounding the spindle and supporting said spindle near both ends thereof and carried and supported by said clamping means and having a cylindrical external journal surface, and means for fastening said bearing in a stationary position during the advance of the spindle.

2. A machine for facing valves, etc., embodying clamping means for engaging a valve-casing said clamping means having a split tubular member, a rotatable spindle having a cutter extending beyond the clamping means, a long bearing sleeve surrounding the spindle and supporting said spindle near both ends thereof and carried and supported in said tubular member, and means for clamping the split portion of the tubular member upon the bearing sleeve to hold said bearing sleeve in a stationary position during the advance of the spindle.

3. A machine for facing valves, etc., embodying clamping means for engaging a valve-casing, a rotatable spindle having a cutter extending beyond the clamping means, a bearing between the spindle and the clamping means and extending to a point adjacent to the cutter and having an external journal surface, and a feed connection between said bearing and spindle.

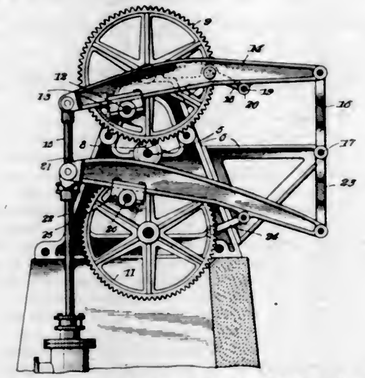
4. A machine for facing valves, etc. embodying clamping means for engaging a valve-casing, a rotatable spindle having a cutter and extending beyond the clamping means, a long bearing sleeve surrounding the spindle and supporting said spindle near both ends thereof and carried and supported by said clamping means and having an external journal surface, a feed connection between said bearing sleeve and spindle, and means for fastening said bearing sleeve in a stationary position during the advance of the spindle.

5. A machine for facing valves, etc. embodying clamping means for engaging a valve casing, a rotatable spindle having a cutter and extending beyond the clamping means, and a bearing surrounding the spindle and supporting said spindle near both ends thereof and carried and supported by said clamping means and having an external journal surface and slidable longitudinally of the axis of the spindle.

6. A machine for facing valves, etc. embodying clamping means for engaging a valve-casing, a rotatable spindle having a cutter and extending beyond the clamping means, and a bearing surrounding the spindle and supporting said spindle near both ends thereof and carried and supported by said clamping means and connected to slide in unison with the spindle in the direction of the axis of said feed-spindle.

7. A machine for facing valves, etc. embodying a chuck, a tubular member rigid therewith at one end and split and externally threaded a suitable distance from its free end, a rotatable spindle extending beyond the chuck, a bearing sleeve for the spindle between the latter and the tubular member and extending to a point adjacent to the end of the spindle to steady the same, said bearing sleeve being also split and externally threaded and tapered a suitable distance from the end thereof, internally-threaded rings on the threaded portions of said tubular member and the bearing-sleeve, and a feed connection between said bearing-sleeve and spindle.

865,740. PUMP-HEAD. WARREN WILLIAMS and HOBART M. WILLIAMS, Lordsburg, Cal., assignors to William F. Spring, Los Angeles, Cal. Filed May 9, 1906. Serial No. 316,037.



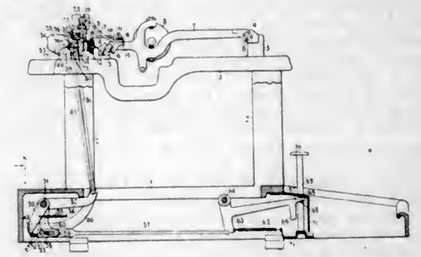
1. In a pump operating mechanism, a frame; a working beam; a fulcrum bar pivotally connected to the frame and to the rear end of the working beam; means to operate said working beam, said means being connected thereto intermediate its ends, said connection being a sliding connection; and a link pivotally connected to the frame and to the working beam, said connection to the working beam being between the connection to the operating means and its connection to the fulcrum bar.

2. In a pump operating mechanism, a frame; a driven gear; a working beam; a plunger rod connected to one end of said working beam; a fulcrum bar pivotally connected to the frame and to the other end of the working beam; an operative connection between said gear and said beam; a link pivotally connected to the frame and to the working beam, said connection being between the end connected to the fulcrum bar and the connection between the gear and the beam; and means to operate said driven gear.

3. In a pump operating mechanism, a frame; a working beam; a box slidably mounted upon said beam in contact with the under side of the same; wheels revolubly mounted in said frame, one on each side of said working beam; a wrist pin connected with said wheels and engaging said boxing; a fulcrum bar pivotally connected to the frame and to the rear end of the working beam; a link pivotally connected to the frame and to the working beam, said connection being between the rear end thereof and said slide box; and means to drive said wheels.

865,741. TYPE-WRITING MACHINE. HOWARD B. WILSON, New York, N. Y., assignor to Wyckoff, Seamans & Benedict, Ilion, N. Y., a Corporation of New York. Filed Mar. 17, 1906. Serial No. 306,540.

1. In a typewriting machine and in a tabulating mechanism, the combination of a carriage having step-by-step feeding mechanism, a stop provided with a plurality of stop portions in different planes, a stop provided with a plurality of stop portions in a single plane, one of said stops being on the carriage and the other on the frame of the machine, and means for communicating variable extents of rotary movement to one of said stops to swing different stop portions on it into coöperative relation with different stop portions on the other stop when the carriage is released from its step-by-step feeding mechanism, each stop portion of one stop being constructed and arranged to coöperate with one only of the stop portions of the other stop.



2. In a typewriting machine and in a tabulating mechanism, the combination of a carriage having step-by-step feeding mechanism, a stop provided with a plurality of stop portions in different planes, a stop provided with a plurality of stop portions in a single plane, one of said stops being on the carriage and the other on the frame of the machine, and means for communicating variable extents of movement to one or said stops to bring different stop portions on it into coöperative relation with different stop portions on the other stop when the carriage is released from its step-by-step feeding mechanism, each stop portion of one stop being constructed and arranged to coöperate with one only of the stop portions of the other stop.

3. In a typewriting machine and in a tabulating mechanism, the combination of a carriage having step-by-step feeding mechanism, a stop provided with a plurality of stop portions in different planes, a rotary stop having a plurality of stop portions in a single plane, one of said stops being on the carriage and the other on the frame of the machine, and means for communicating variable extents of rotary movement to said rotary stop to bring different stop portions on it into coöperative relation with different stop portions on the first named stop when the carriage is released from its step-by-step feeding mechanism, each stop portion of one stop being constructed and arranged to coöperate with one only of the stop portions of the other stop.

4. In a typewriting machine and in a tabulating mechanism, the combination of a carriage having step-by-step feeding mechanism, a stop provided with a plurality of stop portions located in different planes fore and aft of the machine, a rotary stop provided with a plurality of stop portions in a single plane fore and aft of the machine, one of said stops being on the carriage and the other on the frame of the machine, and means for communicating variable extents of rotary movement to said rotary stop to bring different stop portions on it into coöperative relation with different stop portions on the first named stop when the carriage is released from its step-by-step feeding mechanism, each stop portion of one stop being constructed and arranged to coöperate with one only of the stop portions of the other stop.

5. In a typewriting machine and in a tabulating mechanism, the combination of a carriage having step-by-step feeding mechanism, a stop provided with a plurality of stop portions extending different extents from the stop support and lying in different planes fore and aft of the machine, a rotary stop having a plurality of stop portions extending different extents from the center of rotation and lying in a single plane fore and aft of the machine,

one of said stops being on the carriage and the other on the frame of the machine, and means for communicating variable extents of rotary movement to said rotary stop to bring different stop portions on it into coöperative relation with different stop portions on the first named stop when the carriage is released from its step-by-step feeding mechanism.

6. In a typewriting machine and in a tabulating mechanism, the combination of a carriage having step-by-step feeding mechanism, a stop provided with a plurality of stop portions in different planes, a rotary stop having a plurality of stop portions in a single plane, one of said stops being on the carriage and adjustable longitudinally thereof and the other on the frame of the machine, and means for communicating variable extents of rotary movement to said rotary stop to bring different stop portions on it into coöperative relation with different stop portions on the first named stop when the carriage is released from its step-by-step feeding mechanism, each stop portion of one stop being constructed and arranged to cooperate with one only of the stop portions of the other stop.

7. In a typewriting machine and in a tabulating mechanism, the combination of a carriage having step-by-step feeding mechanism, a stop bar on said carriage, a stop adjustable on said stop bar, said stop being provided with a plurality of stop portions lying in different planes transverse of said stop bar, a rotary stop on the frame of the machine provided with a plurality of stop portions lying in a single plane fore and aft of the machine, and means for communicating variable extents of rotary movement to said rotary stop to bring different stop portions on it into coöperative relation with different stop portions on the first named stop when the carriage is released from its step-by-step feeding mechanism, each stop portion of one stop being constructed and arranged to cooperate with one only of the stop portions of the other stop.

8. In a typewriting machine and in a tabulating mechanism, the combination of a carriage having step-by-step feeding mechanism, a stop bar on said carriage, a stop adjustable on said stop bar and provided with a plurality of stop portions lying in parallel planes transverse of said stop bar a letter space distance apart, a stop pivoted on the frame of the machine and having a plurality of stop portions extending different distances from the pivot of the stop and lying in a single plane fore and aft of the machine, and means for communicating variable extents of rotary movement to said rotary stop to bring different stop portions on it into coöperative relation with different stop portions on the first named stop when the carriage is released from its step-by-step feeding mechanism.

9. In a typewriting machine and in a tabulating mechanism, the combination of a carriage having step-by-step feeding mechanism, a stop provided with a plurality of stop portions in different planes, a stop provided with a plurality of stop portions in a single plane, one of said stops being on the carriage and the other on the frame of the machine, and means for communicating variable extents of movement to one of said stops to bring different stop portions on it into operative position and for releasing the carriage from its step-by-step feeding mechanism, each stop portion of one stop being constructed to coöperate with one only of the stop portions of the other stop.

10. In a typewriting machine and in a tabulating mechanism, the combination of a carriage having step-by-step feeding mechanism, a stop provided with a plurality of stop portions in different planes, a rotary stop having a plurality of stop portions in a single plane, one of said stops being on the carriage and the other on the frame of the machine, and means for communicating variable extents of rotary movement to said rotary stop to bring different stop portions on it into operative position and for releasing the carriage from its step-by-step feeding mechanism, each stop portion of one stop being constructed to coöperate with one only of the stop portions of the other stop.

11. In a typewriting machine and in a tabulating mechanism, the combination of a carriage having step-by-step feeding mechanism, a stop provided with a plurality of stop portions in different planes fore and aft of the machine, a rotary stop provided with a plurality of stop portions in a single plane fore and aft of the machine, one of said stops being on the carriage and the other on the frame of the machine, and means for communicating variable extents of rotary movement to said rotary stop to bring different stop portions on it into operative position and for releasing the carriage from its step-by-step feeding mechanism, each stop portion of one stop being constructed to coöperate with one only of the stop portions of the other stop.

12. In a typewriting machine and in a tabulating mechanism, the combination of a carriage having step-by-step feeding mechanism, a stop provided with a plurality of stop portions extending different extents from the stop support and lying in different planes fore and aft of the machine, a rotary stop having a plurality of stop portions extending different extents from the center of rotation and lying in a single plane fore and aft of the machine, one of said stops being on the carriage and the other on the frame of the machine, and means for communicating variable extents of rotary movement to said rotary stop to bring different stop portions on it into operative position and for releasing the carriage from its step-by-step feeding mechanism.

13. In a typewriting machine and in a tabulating mechanism, the combination of a carriage having step-by-step feeding mechanism, a stop provided with a plurality of stop portions in different planes, a rotary stop having a plurality of stop portions in a single plane, one of said stops being on the carriage and adjustable longitudinally thereof, and the other on the frame of the machine, and means for communicating variable extents of rotary movement to said rotary stop to bring different stop portions on it into operative position and for releasing the carriage from its step-by-step feeding mechanism, each stop portion of one stop being constructed to coöperate with one only of the stop portions of the other stop.

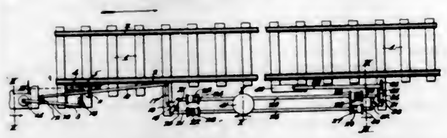
14. In a typewriting machine and in a tabulating mechanism, the combination of a carriage having step-by-step feeding mechanism, a stop bar on said carriage, a stop adjustable on said stop bar, said stop being provided with a plurality of stop portions lying in different planes transverse of said stop bar, a rotary stop on the frame of the machine provided with a plurality of stop portions lying in a single plane fore and aft of the machine, and means for communicating variable extents of rotary movement to said rotary stop to bring different stop portions on it into operative position and for releasing the carriage from its step-by-step feeding mechanism, each stop portion of one stop being constructed to coöperate with one only of the stop portions of the other two.

15. In a typewriting machine and in a tabulating mechanism, the combination of a carriage having step-by-step feeding mechanism, a stop bar on said carriage, a stop adjustable on said stop bar and provided with a plurality of stop portions lying in parallel planes passed transversely of said stop bar a letter space distance apart, a stop pivoted on the frame of the machine and having a plurality of stop portions extending different distances from the pivot and lying in a single plane fore and aft of the machine, and means for communicating variable extents of rotary movement to said rotary stop to bring different stop portions on it into operative position and for releasing the carriage from its step-by-step feeding mechanism, each stop portion of one stop being constructed to coöperate with one only of the stop portions of the other stop.

16. In a typewriting machine and in a tabulating mechanism, the combination of a carriage having step-by-step feeding mechanism, a toothed stop bar, a stop adjustable on said stop bar, said stop being provided with a plurality of stepped contact portions and having two teeth at one side and one tooth at the opposite side, the teeth on said stop engaging the teeth of said stop bar, a second stop coöperative with the first named stop, one of said stops being on the carriage and the other on the frame of the machine and means for moving one of said stops to position to engage the other stop when the carriage is released from its step-by-step feeding mechanism.

17. In a typewriting machine and in a tabulating mechanism, the combination of a carriage having step-by-step feeding mechanism, a toothed stop bar, a one-piece stop provided with a plurality of stepped contact portions, said stop having two slots at right angles with each other, the slots forming three teeth which are adapted to engage the teeth of said stop bar, a second stop coöperative with the first named stop, one of said stops being on the carriage and the other on the frame of the machine, and means for moving one of said stops to position to engage the other stop when the carriage is released from its step-by-step feeding mechanism.

865,742. RAILWAY-SWITCH AND AUTOMATIC SIGNAL APPARATUS. THOMAS WOLFE, Kansas City, Mo. Filed Feb. 19, 1907. Serial No. 358,235.



1. In a mechanism of the character described, the combination of a pair of cylinders equipped with pistons, a second pair of cylinders, equipped with pistons, pipeways connecting one pair of the cylinders with the other, connections between the pistons of each pair of cylinders, and a non-compressive fluid in each pipeway adapted for transmitting movement from one piston of each pair to the companion piston of the other pair of cylinders.

2. In a mechanism of the character described, the combination of a pair of cylinders equipped with pistons, a second pair of cylinders equipped with pistons, pipeways connecting one pair of cylinders with the other, connections between the pistons of each pair of cylinders, a non-compressive fluid in each pipeway adapted for transmitting movement from one piston of each pair to the companion piston of the other pair of cylinders, and a signal mechanism connected to and operated by the movement of one pair of said pistons.

3. In a mechanism of the character described, the combination of a pair of cylinders equipped with pistons, a second pair of cylinders equipped with pistons, pipeways connecting one pair of cylinders with the other, connections between the pistons of each pair of cylinders, a non-compressive fluid in each pipeway adapted for transmitting movement from one piston of each pair to the companion piston of the other pair of cylinders, a signal mechanism connected to and operated by the movement of one pair of said pistons and a switch operating mechanism connected to and operated from the other pair of pistons.

4. In a mechanism of the character described, the combination of a pair of cylinders, pistons therein, a rock lever pivotally connected to said pistons, a second pair of cylinders provided with pistons, a rock lever connecting said pistons, pipeways connecting one pair of cylinders with the other, a non-compressive fluid in said pipeways and between the pistons, means to operate one of said rock-levers, and signal mechanism operatively connected to the other rock lever and embodying a torpedo-carrying arm to dispose a torpedo contiguous to or remote from the trackway.

5. The combination of a pair of cylinders equipped with pistons, a second pair of cylinders equipped with pistons, pipeways connecting one pair of the cylinders with the other, connections between the pistons of each pair of cylinders, a non-compressive fluid in each pipeway adapted for transmitting movement from one of the pistons to the companion piston of the other pair of cylinders, a lever connected to simultaneously operate one pair of said pistons, a second lever connected to the other pair of pistons, and car-carried means for successively operating the said levers.

6. In a mechanism of the character described, the combination of a pair of cylinders, a pipeway connecting the cylinders, a piston in each cylinder, means for operating one of said pistons, a non-compressive fluid in the pipeway and adapted to transmit the power applied on one piston to the other, and means for automatically supplying additional non-compressive fluid to the pipeway to compensate for loss therefrom.

7. In a mechanism of the character described, the combination of a pair of cylinders equipped with pistons, a second pair of cylinders equipped with pistons, pipeways connecting one pair of the cylinders with the other, connections between the pistons of each pair of cylinders, a non-compressive fluid in each pipeway adapted for transmitting movement from one piston of each pair to the companion piston of the other pair of cylinders, and means for automatically supplying additional non-compressive fluid to the pipeway to compensate for loss therefrom.

8. In a mechanism of the character described, the combination of a pair of cylinders equipped with pistons, a second pair of cylinders equipped with pistons, pipeways connecting one pair of the cylinders with the other, connections between the pistons of each pair of cylinders, a non-compressive fluid in each pipeway, adapted for transmitting movement from one piston of each pair to the companion piston of the other pair of cylinders, and means for disposing a torpedo in position to be exploded by a passing train and for simultaneously withdrawing another torpedo from such path.

865,743. TIRE. WILLIAM T. WOOD, Nashville, Tenn. Filed Sept. 19, 1906. Serial No. 335,326.



1. A tire comprising a tubular casing, and a plurality of separate yielding supports located one behind the other within and connecting the inner and outer portions of the casing, said supports having separate lateral webs connected to the sides of the casing.

2. A tire comprising a tubular casing, and a plurality of independent yielding supports located one behind the other within and connecting the inner and outer portions of the casing, said supports having yielding webs that are alternately connected to the opposite sides of the casing.

3. A tire comprising a tubular casing, and a plurality of separate oppositely bowed laterally yielding supports located one behind the other within and connecting the inner and outer portions of the casing.

4. A tire comprising a tubular casing, and a plurality of separate laterally yielding independent spaced supports located within and connecting the inner and outer portions of the casing, said supports being alternately bowed in opposite directions.

5. A tire comprising a tubular casing, and a plurality of separate laterally yielding supports located within and connecting the inner and outer portions of the casing, certain of said supports being bowed in one direction, others in an opposite direction transversely of the tire, each support having an intermediate web connected to the side of the casing away from which it is bowed.

6. A tire comprising a tubular casing, and a plurality of oppositely bowed laterally yielding supports located within and connecting the inner and outer portions of the casing, said supports having independent intermediate

webs that are alternately connected to the opposite sides of the casing.

7. A tire comprising a tubular casing, and a plurality of spaced independent yielding supporting posts located within and connecting the inner and outer portions of the casing, said posts each having an offset web connected to one of the sides of the casing, said webs being alternately connected to the opposite sides, and the posts each having the portions on the opposite sides of the web bowed in the same direction.

8. A tire comprising a casing, and a tread element extending over the outer portion of the casing and having portions free from said casing, forming a dirt-receiving passage between the casing and tread elements, said passage having an open mouth.

9. A tire comprising a casing, and a tread element extending over the outer portion of the casing, said tread element having portions secured to the casing, and portions free therefrom forming a dirt-receiving passage, the said passage tapering to one side and having a restricted open mouth at one edge of the tread element.

10. A tire comprising a casing, and a tread element extending over the outer portion of the casing, said tread element having portions secured to the casing, and spaced portions free therefrom, forming inclosed passages, said passages having open mouths at the edges of the tread element.

11. A tire comprising a casing, and a tread element extending over the outer portion of the casing and having an intermediate longitudinal portion, and spaced portions on opposite sides of the intermediate portion secured to said casing, other portions being free, and forming passages having open mouths.

12. A tire comprising a casing, and a tread element that extends over the outer side of the casing, a longitudinal rib connecting the intermediate portion of the tread element, and the casing, and a plurality of spaced substantially triangular portions connecting the margins of the tread to the casing on opposite sides of the rib, thereby forming passages between the tread element and casing, said passages having outer open mouths along the edges of the tread.

13. A tire comprising a tubular casing, a plurality of yielding supports located within and connecting the inner and outer portions of the casing, said supports having lateral webs connected to the sides of the casing, and fabric covering the sides of the support that are free from said casing.

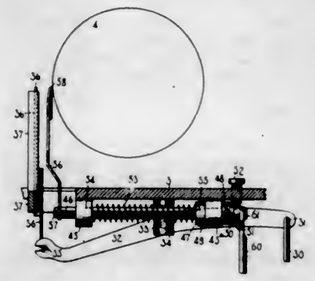
14. A tire comprising a tubular casing, a plurality of oppositely bowed laterally yielding supports located within and having their ends secured to the inner and outer portions of the casing, and fabric covering the opposite sides of the supports between the secured ends.

15. The combination with a rim having seats, of a tire comprising a tubular casing having an inner sectional wall, the sections of such wall having outstanding ribs that interlock in the seats of the rim, separate supports engaging the outer tire wall and respectively secured to the sections of the inner wall, said supports permitting the spreading of said sections, a holding strip located between the sections of the inner wall, and fastener means engaging the strip.

16. The combination with a rim having seats, of a tire comprising a tubular casing having an inner sectional wall, the sections of said wall having outstanding ribs that engage in the seats of the rim, separate supports secured to the outer tire wall, certain of the supports being secured to one of the sections of the inner wall and bowed toward the other section, others in like manner being secured to said other section and bowed toward the first mentioned section, and means bearing against the said sections of the inner wall for maintaining them separated.

865,744. TYPE-WRITING MACHINE. FRANK A. YOUNG, Syracuse, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed July 6, 1905. Serial No. 268,507.

1. In a typewriting machine, the combination of means for vibrating the ribbon to and from the printing point, a printing point indicator which is normally in the indicating position, adjustable means for determining the normal position of the indicator, a rock shaft with which said indicator is connected, and means for automatically turning the rock shaft when said ribbon vibrating means are actuated.



2. In a typewriting machine, the combination of means for vibrating the ribbon to and from the printing point, a printing point indicator which is normally in the indicating position, adjustable means for determining the normal position of the indicator, a spring restored rock shaft to which said indicator is secured, a crank arm on said shaft, and means connected to said crank arm for automatically turning the rock shaft against the tension of its spring when said ribbon vibrating means are actuated.

3. In a typewriting machine, the combination of means for vibrating the ribbon to and from the printing point, a printing point indicator which is normally in the indicating position, means for automatically moving said indicator from and to the indicating position at each operation of said ribbon vibrating means, and adjustable means for determining the extent of throw of the indicator.

4. In a typewriting machine, the combination of means for vibrating the ribbon to and from the printing point, a printing point indicator which is normally in the indicating position, means for automatically moving said indicator from and to the indicating position at each operation of said ribbon vibrating means, and a set screw associated with said indicator moving means and with a fixed portion of the machine for determining the extent of throw of the indicator towards the normal position.

5. In a typewriting machine, the combination of means for vibrating the ribbon to and from the printing point, a printing point indicator which is normally in the indicating position, a spring-restored rock shaft with which said indicator is connected, means for turning said rock shaft when said ribbon vibrating means are actuated, and a set screw for limiting the turning movement of the rock shaft.

6. In a typewriting machine, the combination of means for vibrating the ribbon to and from the printing point, a printing point indicator which is normally in the indicating position, a rock shaft to which said indicator is secured, a crank arm on said shaft, means for automatically turning the rock shaft when said ribbon vibrating means are actuated, and a set screw coöperating with said crank arm and with a relatively fixed portion of the machine for limiting the turning movement of the rock shaft in one direction and to regulate the normal position of the pointer.

7. In a typewriting machine, the combination of carriage feed devices, a ribbon vibrator, operative connections between said carriage feed devices and said vibrator, a printing point indicator, and independent operative connections between said indicator and said carriage feed devices.

8. In a typewriting machine, the combination of a universal bar, a ribbon vibrator, connections between said ribbon vibrator and universal bar, a printing point indicator, and independent connections between said indicator and universal bar.

9. In a typewriting machine, the combination of carriage feed devices, a ribbon vibrator, operative connections between said carriage feed devices and said vibrator, a printing point indicator, independent operative connections between said indicator and said carriage feed devices, and means for adjusting the connections between the indicator and the carriage feed devices.

10. In a typewriting machine, the combination of a universal bar, a ribbon vibrator, connections between said ribbon vibrator and universal bar, a printing point indicator, independent connections between said indicator and universal bar, and means for adjusting the connections between the indicator and universal bar.

11. In a typewriting machine, the combination of a universal bar, a printing point indicator, a rock shaft with which said indicator is connected, connections from said universal bar to the rock shaft, and adjustable means for regulating the normal position of the indicator, the construction and arrangement of the parts being such that the normal position of the indicator may be varied without affecting the universal bar or the operation thereof.

12. In a typewriting machine, the combination of a universal bar, a printing point indicator, a rock shaft with which said indicator is connected, connections from said universal bar to the rock shaft, an adjustable stop for regulating the normal position of the indicator, and adjustable means in the connections from the universal bar to the rock shaft.

13. In a typewriting machine, the combination of a universal bar, a printing point indicator, connections from the universal bar to the indicator, and means for affording an adjustment of said connections, the construction and arrangement of the parts being such that the normal position of the indicator may be varied without affecting the universal bar or the operation thereof.

14. In a typewriting machine, the combination of a universal bar, a printing point indicator, connections from the universal bar to the indicator, and an adjustable stop to regulate the normal position of the indicator, the construction and arrangement of the parts being such that the normal position of the indicator may be varied without affecting the universal bar or the operation thereof.

15. In a typewriting machine, the combination of a universal bar, a ribbon vibrator, connections from said universal bar to said ribbon vibrator, a rock shaft, a printing point indicator secured to said rock shaft, and connections independent of the ribbon vibrator connections from said rock shaft to said universal bar.

16. In a typewriting machine, the combination of a universal bar, a ribbon vibrator, an actuating lever for said ribbon vibrator, a link between said universal bar and said lever, a printing point indicator, a rock shaft to which said indicator is secured, and a link between said universal bar and rock shaft.

17. In a typewriting machine, the combination of a universal bar, a ribbon vibrator, an actuating lever for said ribbon vibrator, a link between said universal bar and said lever, a printing point indicator, means for limiting the movement of the indicator to the normal position, a spring restored rock shaft to which said indicator is secured, and a two-part adjustable link between said universal bar and rock shaft.

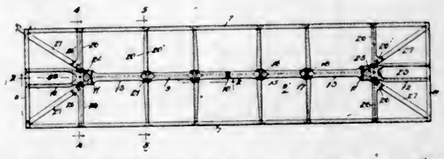
18. In a typewriting machine, the combination of a universal bar, a pivoted frame to which said universal bar is connected, a ribbon vibrator, an actuating lever therefor, a link between the universal bar frame and said actuating lever, a printing point indicator that is normally in the indicating position and is automatically moved from such position when the ribbon vibrator is actuated, a spring restored rock shaft to which said indicator is secured, a crank arm on said rock shaft, a set screw with which said crank arm coöperates to limit the indicator in its movement to the normal position, and a two-par adjustable link between said crank arm and the universal bar frame.

19. In a typewriting machine, the combination of a printing point indicator normally in the indicating position and having a flat indicating end substantially the width of one of the widest characters to be printed on the machine, and means for automatically moving said indicator to the non-indicating position at each printing operation.

20. In a typewriting machine, the combination of a printing point indicator normally in the indicating position and having a flat indicating end substantially the width of one of the widest characters to be printed on the machine, means on the indicator for indicating substantially the line where the center of the character to be printed would appear, and means for automatically moving said indicator to the non-indicating position at each printing operation.

21. In a typewriting machine, the combination of a printing point indicator normally in the indicating position and having a flat indicating end substantially the width of one of the widest characters to be printed on the machine, an indicating line on the indicator and which alines with the center of a character imprinted at the printing point, and means for automatically moving said indicator to the non-indicating position at each printing operation.

865,745. UNDERFRAME FOR CARS. JAMES S. ANDREWS, New York, N. Y. Filed June 1, 1907. Serial No. 376,853.



1. An underframe for cars, comprising two cast steel draw-bar sills, there being ribs on said sills, and a cast steel center sill resting at its ends on said ribs and secured to the draw-bar sills.

2. An underframe for cars, comprising two cast steel draw-bar sills, and a cast steel center sill secured at its ends to said draw-bar sills, said center sill being made in two sections and having heads at their abutting ends, and means passing through said heads to secure said sections together.

3. An underframe for cars, comprising two cast steel draw-bar sills, and a cast steel center sill secured at its ends to said draw-bar sills, said center sill being made in two sections and having heads at their abutting ends, and means passing through said heads to secure said sections together, there being ribs on one section at the top and bottom thereof to overlap the end of the other section.

4. An underframe for cars, comprising a cast steel center sill having top and bottom flanges and a connecting web, there being pockets at intervals in said center sill, the sides of said pockets being flush with the edges of said flanges, and transoms secured to the sides of the pockets.

5. An underframe for cars, comprising a cast steel center sill having top and bottom flanges and a connecting web, there being pockets at intervals in said center sill, the sides of said pockets being flush with the edges of said flanges, and there being ribs at the lower edges of said sides, and transoms resting on said ribs and secured to the sides of said pockets.

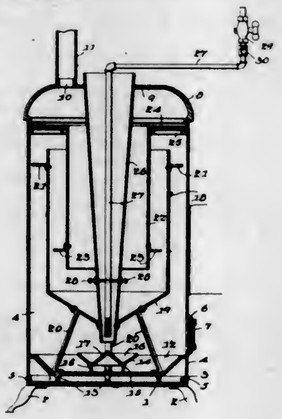
6. An underframe for cars, comprising two channel side sills, a cast steel I-shape center sill, there being pockets at intervals in said center sill and the sides of said pockets being flush with the outer edge thereof, and cast steel channel transoms having head plates at their ends and secured to said side sills and to the sides of the pockets in the center sill.

7. An underframe for cars, comprising two side sills, two draw-bar sills, there being a pocket in each draw-bar sill and ribs at the sides and rear thereof, a center sill resting on the rear ribs and secured to said draw-bar sills, and transoms resting on the side ribs and secured to said side sills and draw-bar sills.

8. An underframe for cars, comprising two side sills, two end sills, two draw-bar sills, there being a pocket in each draw-bar sill and ribs at the sides and rear thereof, a center sill resting on the rear ribs and secured to said draw-bar sills, transoms resting on the side ribs and se-

cured to the draw-bar sills and the side sills, there being ears on said transoms, and braces secured to said ears and to the end sills adjacent to their connection with the side sills.

865,746. CRUDE-OIL BURNER. NICHOLAS ARCH and CHARLES ARCH, Nappanee, Ind. Filed Mar. 9, 1906. Serial No. 305,108.



1. A stove casing having a bottom and a top member the latter provided with an exit, a generator pan supported in the bottom of said casing, a drum centered within the stove casing open at its upper end and having its lower end closed by a funnel provided with supporting members, a second drum centered within the first drum open at its lower end and having at its upper edge a flange supported within the stove casing and dividing the upper portion of the latter from the exit and spaced above the upper edge of the first drum, a funnel-shaped inlet for air extending through the top of the stove casing and secured to and closing the funnel at the lower end of the first drum terminating above the generator pan, and an oil supply pipe extending into the air tube and centered within the latter.

2. A heating-stove embodying a suitable casing provided with an exit at its top, an overflow pan supported in the bottom of the casing, a generator pan supported in the bottom of the overflow pan, an inner drum centered in the casing having its lower end open, a circumferential flange on the upper end of said drum and secured to the wall of the casing to support said drum and separate the space within the casing from the exit, an outer drum interposed between the inner drum and the casing and forming a flue connection between the pans and the inner drum, the upper end of the outer drum being open and spaced below the said flange, and the lower end thereof being closed by a bottom having the form of an inverted cone for directing the heated gases from the pans to the flue between the outer drum and the casing, and supporting legs interposed between the overflow pan and the bottom of the outer drum.

3. In an oil burning stove, the combination with a casing having a smoke exit at the top and a burner arranged in the lower portion of the casing, of an air tube arranged axially within the casing and projecting downwardly through the top thereof and discharging above the burner, a fuel pipe arranged axially within the air tube and discharging at the burner, a drum having a funnel-shaped bottom rigidly attached to the lower portion of the air tube and forming a deflector for directing the gases outwardly from the burner and toward the sides of the casing, the upper end of said burner opening within the casing, an inner drum spaced within the outer drum and having its lower end open to receive the gases entering the top of the outer drum from the casing, and a flange connecting the top of the inner drum and the upper portion of the casing and serving to deflect the products of combustion into the space between the two drums and separating the upper portion of the casing from the smoke exit.

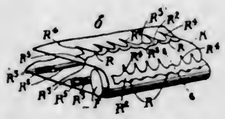
865,747. SAFETY-RAZOR. FREDERICK H. ARNOLD and ELLSWORTH D. BECKER, Reading, Pa.; said Becker assignor to said Arnold. Filed Mar. 15, 1907. Serial No. 362,562.



1. In a safety razor the combination of a guard plate comprising a sliding member and a stationary member, said sliding member having a longitudinal central depression, a hook on its outer end and a centrally disposed set screw, and said stationary member being adapted to slide in said depression and having a hook on its inner end, positioning pins on its upper face and a tapered plug formed on the end thereof, a perforated blade adapted to be secured between said hooks and a tubular handle adapted to engage either end of said plug while lying on the same plane with the blade.

2. In a safety razor the combination of a two-part guard plate, one member of which is formed with a longitudinal depression and the other member adapted to slide therein, a hook formed on the inner end of one member and a hook on the outer end of the other member, means for securing said members against relative movement, a perforated blade adapted to be held between said hooks, and a hollow handle adapted to engage and incase said guard plate.

865,748. CONVEYER FOR LAWN-MOWING MACHINES. JAMES H. AUBLE, Cincinnati, Ohio, assignor of two-thirds to Jacob H. Bromwell, Wyoming, Ohio, and James J. McDonald, Cincinnati, Ohio. Filed Dec. 7, 1905. Serial No. 290,767.



1. The apron, composed of the sheet of textile fabric, and extended strips of metal located thereon at right angles to the direction of the movement of the sheet, these strips of metal having teeth extending at an angle out from these strips, and clenching teeth bent and passed through the textile sheet, and bent inside the sheet, substantially as and for the purposes specified.

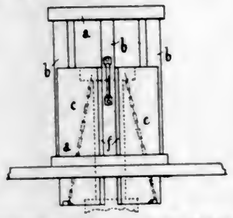
2. The apron, composed of the sheet of textile fabric, and extended strips of metal located thereon at right angles to the direction of the movement of the sheet, these strips of metal having teeth extending at an angle out from these strips, and clenching teeth bent and passed through the textile sheet, a bar located on the inside of the sheet opposite the said strip, the teeth of the strip bent around the bar, substantially as and for the purposes specified.

3. A conveyer comprising an endless belt, metal strips secured transversely thereon, said strips having teeth thereon extending parallel to the belt and teeth extending at an angle thereto.

865,749. FRAME FOR OIL-PRESSES. ALEXANDER AUSTERLITZ, Győr, Austria-Hungary. Filed Mar. 20, 1906. Serial No. 307,026.

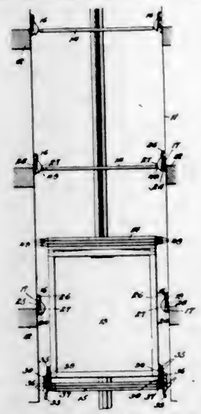
1. In combination in an oil press, an open-sided transportable frame open above and below for the passage of the pressure plates and piston during the operation of the press, top and bottom rims in said frame, and vertical guide bars attached to said rims and adapted to prevent lateral motion of the pressure plates.

2. In combination in an oil press frame having open sides the rings *a* the longitudinal guides *b* and movable shutters *c* adapted to inclose the spaces between the guides *b* during the filling of the press.



3. In combination in an oil press frame having open sides the rings *a* the guides *b* and hinged shutters for inclosing the pressure space during the filling of the press.

865,750. ELEVATOR-SHAFT CLOSURE AND OPERATING MEANS THEREFOR. SAMUEL E. AUSTIN, Baltimore, Md. Filed Nov. 27, 1906. Serial No. 345,332.



1. In a structure of the class described, the combination with oppositely disposed hooks, relatively movable past each other, and movable toward and from each other during their passage, of a cam carried by each hook, and an actuating device located alongside each hook and engaging the cam of the opposite hook during the passing of the hooks to effect the movement of said hooks.

2. In a structure of the class described, the combination with a swinging hook having a cam located at one side of the same and at one side of the bill of said hook, of a device that operates against the cam to swing the hook, said hook with its cam and said device being relatively movable past each other to effect the swinging of the hook by the device.

3. In a structure of the class described, the combination with a swinging hook having a cam located at one side of the same and at one side of the bill of said hook, said cam projecting beyond the bill, of a roller that operates against the cam to swing the hook, said hook with the cam and the roller being relatively movable past each other to effect the engagement of the cam and roller, said bill and cam being disposed in different paths.

4. In a structure of the class described, the combination with oppositely swinging hooks relatively movable past each other, of a cam carried by each hook, and an actuating device located alongside each hook and engaging the cam of the other hook during the passing of said hooks to effect their swinging movements.

5. In a structure of the class described, the combination with swinging hooks relatively movable past each other and having oppositely projecting bills, of a cam carried by each hook and disposed at one side of its bill, and an actuating device including a roller located alongside each hook and engaging the cam of the other hook during the passing of the hooks to effect their swinging movements.

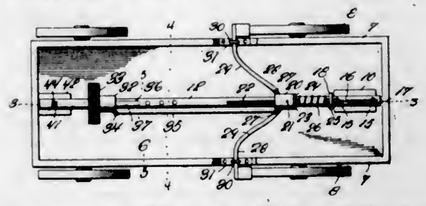
6. In a structure of the class described, the combination with a base plate, of a hook pivoted thereon and having an outstanding bill, a spring interposed between the plate and hook for holding the latter in projecting position, a cam secured to the hook, and a device disposed in the path of movement of the cam and out of the path of the movement of the bill for effecting the swinging movement of the hook.

7. In a structure of the class described, the combination with an elevator shaft and an elevator car movable therein, of a hook pivoted on one side of the shaft and having a cam, an oppositely disposed hook pivoted on the elevator car and having a cam, an actuating device located alongside the shaft hook and disposed in the path of movement of the cam of the elevator car hook, another actuating device mounted alongside the elevator car hook and having its path of movement intersecting the cam of the shaft hook, and a shaft closure having a projection that is alternately engaged by the hooks during their passage.

8. In a structure of the class described, the combination with an elevator shaft and an elevator car movable therein, of a hook pivoted on one side of the shaft and having an inwardly extending bill and an inwardly extending cam disposed at one side of the bill, an oppositely disposed hook pivoted on the elevator car and having an outwardly extending bill and an outwardly extending cam located at one side of said bill, the bill of the elevator car hook movable past the bill of the shaft hook, an actuating device located alongside each hook and arranged to engage the cam of the other hook during the passage of said hooks, and a shaft closure having a yoke that moves to a position between the hooks and is alternately engaged by the same during the passage of said hooks.

9. In a structure of the class described, the combination with an elevator shaft and an elevator car movable therein, of base plates secured respectively to the shaft and elevator car, oppositely disposed hooks pivoted at their upper ends to the base plates and having oppositely extending bills at their lower ends, said bills being disposed in intersecting paths, springs interposed between the base plates and hooks for urging the latter in opposite directions, oppositely projecting cams located on opposite sides of and carried directly by the hooks, said cams being disposed at the sides of the bills, an actuating device located alongside each hook and including a roller that engages the cam of the opposite hook, and a shaft closure having a projecting yoke provided with a roller that is arranged to engage alternately with the hooks during the passing of said hooks.

865,751. VEHICLE-BRAKE. CHARLES H. BACH, Brooks, Minn. Filed July 17, 1906. Serial No. 326,599.

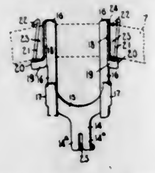


1. A mechanism of the class described comprising a support, sleeves slidably disposed upon the support, a brake rod connecting said sleeves, brake beams connected with one of said sleeves, means connected with the said sleeve for holding the sleeves in position to render the brake inoperative, and means engaged with the other of the sleeves for holding the brake in operative position.

2. A mechanism of the class described comprising a support, sleeves slidably disposed upon the support, a brake rod connecting said sleeves, brake beams connected

with one of said sleeves, means connected with said sleeve for holding the sleeves in position to render the brake inoperative, and a spring detent arranged for engagement with the other sleeve for holding the brake in operative position.

865,752. TYPE-WRITING MACHINE. EDWIN E. BARNEY, Syracuse, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed Jan. 30, 1906. Serial No. 298,646.



1. In a typewriting machine, a ribbon guide provided with guiding slots, the walls whereof lie in intersecting transverse planes parallel to the axis of the platen.

2. In a typewriting machine, a ribbon guide provided with guide slots, the walls whereof lie in intersecting transverse planes parallel to the axis of the platen and in parallel longitudinal planes.

3. In a typewriting machine, a ribbon guide provided with guiding slots, parallel viewed from the front but the walls whereof lie in intersecting transverse planes parallel to the axis of the platen.

4. In a typewriting machine, a vertical ribbon guide provided with guiding slots, the outer wall of each slot comprising an angularly disposed finger extending upwardly and rearwardly.

5. In a typewriting machine, a ribbon guide provided with guiding slots, the outer wall of each slot extending upwardly and rearwardly and the inner wall of each slot extending upwardly.

6. In a typewriting machine, a ribbon guide provided with guiding slots, the outer ribbon contacting wall of each slot lying at an angle to the inner ribbon contacting wall.

7. In a typewriting machine, a ribbon guide provided with guiding slots, the inner wall of each slot lying in the general plane of the guide and the outer wall of each slot lying at an angle to the inner wall.

8. In a front-strike typewriting machine, a ribbon guide having two slots, the inner wall of each slot being substantially vertical and the outer wall of each slot being inclined to the vertical.

9. In a front-strike typewriting machine, a ribbon guide having two slots, the inner wall of each slot being in the general plane of the guide and the outer wall of each slot being inclined to said plane.

10. In a typewriting machine, a vertically disposed ribbon guide provided with vertical slots, the outer wall of each slot being angularly disposed to the general plane of the guide.

11. In a typewriting machine, a vertically disposed ribbon guide provided with vertical slots, the inner wall of each slot lying in the general plane of the guide and the outer wall of each slot being angularly disposed to the general plane of the guide.

12. In a typewriting machine, a vertically disposed ribbon guide provided with guiding slots closed at the bottom and admitting the ribbon at the top, the outer wall of each slot comprising an angularly disposed finger extending upwardly and rearwardly.

13. In a typewriting machine, a ribbon guide provided with vertically disposed slots closed at the bottom and admitting the ribbon at the top, the outer wall of each slot lying in a plane which intersects the general plane of the guide and the inner wall of each slot lying in the general plane of the guide.

14. In a typewriting machine, a ribbon guide provided with slots, the outer wall of each slot beginning forward of the plane which contains the inner walls and extending towards said plane.

15. In a typewriting machine, a ribbon guide provided with slots, the outer wall of each slot beginning forward of the general plane of the guide and extending towards said plane.

16. In a typewriting machine, a ribbon guide provided with slots, the inner walls of said slots lying in the general plane of the guide and the outer wall of each slot beginning forward of said plane and extending towards it.

17. In a typewriting machine, a vertically disposed ribbon guide provided with slots closed at the bottom and admitting the ribbon at the top, the outer wall of each slot beginning forward of the plane which contains the inner walls and extending towards said plane.

18. In a typewriting machine, a vertically disposed ribbon guide provided with slots closed at the bottom and admitting the ribbon at the top, the inner walls of said slots lying in the general plane of the guide and the outer wall of each slot beginning forward of said plane and extending toward it.

19. In a typewriting machine, a ribbon guide provided with slots, the ribbon passing over and in front of the outer edge and behind the inner edge of each slot, the edges of each slot being arranged so that there is a greater expanse of ribbon between them at one end than at the other.

20. In a typewriting machine, a vertically disposed ribbon guide provided with slots closed at the bottom and admitting the ribbon at the top, the edges of each slot being nearer each other at one end than at the other.

21. In a typewriting machine, a vertically disposed ribbon guide provided with slots closed at the bottom and admitting the ribbon at the top, the ribbon passing over and in front of the outer edge and behind the inner edge of each slot, the edges of each of said slots being arranged so that there is a greater expanse of ribbon between them at one end than at the other.

22. In a typewriting machine, the combination of a substantially vertical ribbon guide provided with guiding slots having walls which lie in intersecting planes transverse of the machine; and a pair of ribbon spools, one at each side of the guide and nearer the front of the machine than said guide, the ribbon as it leaves the guide at either side traveling in a plane which is inclined upwardly and towards the rear of the machine.

23. In a typewriting machine, the combination of a substantially vertical ribbon guide provided with guiding slots which are parallel as viewed from the front of the machine, but the walls whereof lie in intersecting planes transverse of the machine; and a pair of ribbon spools, one at each side of the guide and nearer the front of the machine than said guide, the ribbon as it leaves the guide at either side traveling in a plane which is inclined upwardly and towards the rear of the machine.

24. In a typewriting machine, the combination of a vertically disposed ribbon guide provided with guiding slots, the outer wall of each slot comprising an angularly disposed finger extending upwardly and rearwardly; and a pair of ribbon spools, one at each side of said guide and nearer the front of the machine than said guide, the ribbon as it leaves the guide at either side passing over one of said angularly disposed fingers and traveling in a plane which is inclined upwardly and towards the rear of the machine.

25. In a typewriting machine, the combination of a vertically disposed ribbon guide provided with slots; and a pair of ribbon spools, one at each side of said guide and nearer the front of the machine than said guide, the outer wall of each slot of the ribbon guide lying at an angle to the inner wall and the ribbon as it leaves the guide at either side passing over said outer wall and traveling in a plane which is inclined upwardly and towards the rear of the machine.

26. In a typewriting machine, the combination of a vertically disposed ribbon guide provided with guiding slots; and a pair of ribbon spools, one at each side of said guide and nearer the front of the machine than said guide, the inner wall of each of said ribbon guiding slots lying in the general plane of the guide and the outer wall of each slot lying at an angle to the inner wall, such that as the ribbon leaving the guide passes over said outer wall, said ribbon travels in a plane which is inclined upwardly and towards the rear of the machine.

27. In a typewriting machine, the combination of a substantially vertical ribbon guide provided with guiding slots and a pair of ribbon spools forward of said guide, one being at either side thereof, the inner walls of said ribbon guiding slots lying in a substantially vertical plane transverse of the machine and the outer wall of each slot beginning forward of said transverse plane and extending towards it, the ribbon, as it leaves the guide at either side, passing over said outer walls and traveling in planes which extend upwardly and towards the rear of the machine.

28. In a typewriting machine, the combination of a ribbon guide provided with guiding slots; and a pair of ribbon spools forward of said guide, one being at either side thereof, the inner walls of said ribbon guiding slots lying in the general plane of the guide and the outer wall of each slot beginning forward of said plane and extending towards it, the ribbon as it passes out of the guide and over said outer wall traveling in a plane which extends upwardly and towards the rear of the machine.

29. In a typewriting machine, the combination of a substantially vertical ribbon guide provided with guiding slots; and a pair of ribbon spools forward of said guide, one of said spools being at either side thereof, the outer and inner edges of each guiding slot being nearer each other at one end of the slot than at the other end and the ribbon as it leaves the guide at either side passing over the outer edge of each slot and traveling in a plane which is inclined upwardly and towards the rear of the machine.

30. In a front-strike typewriting machine, the combination of a platen; a vertically disposed ribbon guide provided with guiding slots and a pair of ribbon spools forward of said guide, one being at either side thereof, said ribbon spools lying below the printing line on the platen, the ribbon passing over and in front of the outer edge and behind the inner edge of each guiding slot, the edges of each slot being further apart at the bottom than at the top so that there is a greater expanse of ribbon between said edges at the bottom than at the top and the ribbon as it leaves the guide at either side travels in planes which extend upwardly and towards the rear of the machine.

31. In a typewriting machine, the combination of a vertically disposed ribbon carrier provided with guiding slots; a pair of ribbon spools forward of said ribbon carrier, one being at either side thereof; and slotted spool cases inclosing said spools, the inner walls of the guiding slots in the ribbon carrier lying in the general plane of the latter and the outer walls of the slots lying in a plane transverse of the machine, which plane is at an angle to the general plane of the carrier, the slots in the spool cases lying at substantially the same inclination as the outer walls of the slots in the carrier and the ribbon as it passes from the carrier at either side to the spools traveling at substantially the same inclination as the slots in the spool cases in the ribbon carrier.

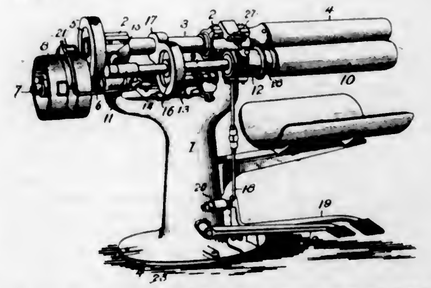
32. In a typewriting machine, a ribbon guide of sheet metal comprising slides, lugs extending laterally from said slides and guide wires secured in said lugs, said guide wires extending upwardly and rearwardly in a plane at an angle to the general plane of the guide and terminating at the top in forwardly projecting hook-like portions.

33. In a typewriting machine, a ribbon guide formed of sheet metal and comprising a stem, a cross head carried thereby, slides formed at opposite ends of the cross head and provided with lateral extensions or lugs, angularly disposed guide wires in said lugs, said guide wires terminating at the top in forwardly projecting hook-like portions and serving as the outer walls of the ribbon guiding slots.

34. In a typewriting machine, a ribbon guide formed of sheet metal and comprising a stem, a cross head carried thereby, slides formed at opposite ends of the cross head and provided with stiffening flanges and laterally disposed lugs, and angularly disposed guide wires supported in said lugs and terminating at the top in forwardly projecting hook-like portions, said guide wires serving as the outer walls of the ribbon guiding slots of the ribbon guide.

35. In a front-strike typewriting machine, the combination of a platen; a vertically disposed sheet metal ribbon guide; and a pair of ribbon spools seated below the printing line on the platen and forward of said guide, one of said ribbon spools being at either side of the guide, said ribbon guide comprising a stem, a cross head, slides at opposite ends of the cross head, said slides being provided with laterally and forwardly extending lugs and guide wires supported in said lugs, said guide wires extending upwardly and towards the rear of the machine and terminating in horizontally forwardly projecting hook-like portions, the ribbon as it leaves the ribbon carrier at either side passing over said guide wires and traveling in planes which extend upwardly and towards the rear of the machine.

865,753. IRONING-MACHINE. WILLIAM BARTHOLOMEW, New York, N. Y., assignor to Troy Laundry Machinery Company, Limited, Troy, N. Y., a Corporation of New York. Filed Feb. 15, 1907. Serial No. 357,511.



1. In an ironing machine, the combination of heated and clothed rolls, of driving shafts for said rolls, means for shifting said rolls toward each other, and a locking device supported upon the shaft of one roll to engage a coöperating device upon the shaft of the other roll and lock the rolls together when they are brought into operative relation.

2. In an ironing machine, coöperating rolls, means for shifting said rolls toward each other, and means independent of the shifting means carried upon the bearing of one of said rolls to engage the bearing of the other roll and adjustably lock them in contact.

3. In an ironing machine, coöperating rolls, means for shifting said rolls toward each other, a pawl carried on the bearing of one roll, and a ratchet plate disposed upon the bearing of the coöperating roll.

4. The combination with an ironing machine comprising a fixed and movable roll, of a treadle mechanism for shifting said rolls toward each other, and an independent locking device carried by the bearing of the fixed roll to automatically engage and lock the bearing of the movable roll relatively to the bearing of the fixed roll in the movement toward the same.

5. A connecting attachment for an ironing machine comprising a locking member mounted upon the bearing of one roll, and a coöperating locking member for adjustable attachment to the first locking member and mounted upon the bearing of the opposite roll.

6. A connecting attachment for ironing machines comprising a block adapted to be mounted upon the bearing of one roll, a connecting plate having a series of projections thereon and mounted upon the bearing of the opposite roll, and a pivoted pawl carried by said block to engage one of the projections on said plate.

7. A connecting attachment for an ironing machine comprising a block adapted to be mounted upon the bearing of

one roll, a connecting plate mounted upon the bearing of the opposite roll, a pivoted pawl carried by said block to engage said plate, and means for adjusting the length of said pawl beyond its pivot.

8. In an ironing machine, a heated roll provided with a fixed bearing, a clothed roll mounted for movement toward and from the heated roll, a block mounted upon said fixed bearing, a curved ratchet plate mounted upon the bearing of the clothed roll, and a pawl carried by said block to engage said ratchet plate.

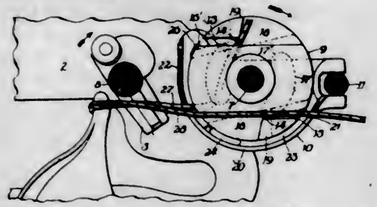
9. In an ironing machine, a heated roll provided with a fixed bearing, a clothed roll mounted for movement toward and from the heated roll, a block mounted upon said fixed bearing, a curved ratchet plate mounted upon the bearing of the clothed roll, and a pawl having a hooked free end to engage the teeth of said ratchet plate.

10. In an ironing machine, a heated roll provided with a fixed bearing, a clothed roll mounted for movement toward and from the heated roll, a block mounted upon said fixed bearing, a curved ratchet plate mounted upon the bearing of the clothed roll, a pawl having a hooked free end to engage the teeth of said ratchet plate, and means for adjusting the length of said pawl.

11. A connecting attachment for an ironing machine comprising a block having pivoting ears, a pivot mounted in said ears, a pawl having its shank extended through said pivot, and locking nuts threaded upon said shank at opposite sides of said pivot.

12. A connecting attachment for an ironing machine comprising a block having pivoting ears, a pivot mounted in said ears, a pawl having its shank extended through said pivot, locking nuts threaded upon said shank at opposite sides of said pivot, a hooked free end carried by said pawl, and a ratchet plate having teeth to be engaged by said hooked end.

865,754. CORD-HOLDER FOR SELF-BINDERS. BERT R. BENJAMIN, Oak Park, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed Apr. 8, 1907. Serial No. 366,888.



1. In a cord-holder for the knotters of self-binders, in combination, a cord-holding disk provided with a cord-receiving groove, and an underlying cord-holding plate, said plate having formed thereon an upwardly extending shielding flange adjacent to and substantially flush with the top of the cord-holding disk, said flange having formed therein, on its cord-receiving side, a twine-receiving notch.

2. In a cord-holder for the knotters of self-binders, in combination, a cord-holding disk provided with a cord-receiving groove in the upper surface thereof, and an underlying cord-holding plate, said plate having formed thereon an upwardly extending notched flange adjacent to and substantially flush with the top of the cord-holding disk, the cord-receiving groove occupying a position out of alinement with the notch in the flange when the said disk is at rest.

3. In a cord-holder for the knotters of self-binders, in combination, a cord-holding disk provided with a cord-receiving groove in the upper surface thereof, and an underlying cord-holding plate, said plate having formed thereon an upwardly extending notched flange adjacent to and substantially flush with the top of the cord-holding disk, the arrangement being such that initial movement of the said disk will cause the groove therein to register with the notch in said flange.

4. In a cord-holder for the knotter of self-binders, in combination, a cord-holding disk provided with a cord-receiving groove, and an underlying cord-holding plate, said plate having formed thereon an upwardly extending shielding flange adjacent to and substantially flush with the top of the cord-holding disk, said flange having a depression formed therein on the knotter side thereof for permitting the twine to draw down to position to be grasped by the knotter hook, and also having formed therein, on the cord-receiving side of the said disk, a notch which registers with the cord-receiving groove in the cord-holding disk at a predetermined point in the rotation of said disk.

5. In a cord-holder for the knotter of self-binders, in combination, a cylindrical conical-topped cord-holding disk having oppositely disposed recesses formed in the bottom thereof and provided also with a cord-receiving groove, which terminates at one end in a notch in the periphery of said disk, the side of this notch being cut away below on its advancing side to form a hook, and an underlying cord-holding plate, said plate having formed thereon an upwardly extending flange adjacent to and substantially flush with the top of the cord-holding disk, said flange having a depression formed therein, on the knotter side thereof, for permitting the twine to draw down to position to be grasped by the knotter hook, and also having formed thereon, in the cord-receiving side of the said disk, a notch which registers with the cord-receiving groove in the cord-holding disk at a predetermined point in the rotation of said disk.

6. In a cord-holder for the knotter of self-binders, in combination, a conical-topped, horizontally disposed cord-holding disk provided on its upper surface with two opposite transversely extending cord-receiving grooves, cut-away notches in the periphery of said disk at the end of said grooves and relieved surfaces in the bottom of said disks, an underlying cord-holding plate, and an upwardly projecting flange on said plate substantially flush with the top of said disk and adjacent thereto, the said flange extending from the knotter side to the cord-receiving side of said disk and on the needle side thereof.

7. In a cord-holder for the knotters of self-binders, in combination, a conical-topped cord-holding disk provided on its upper surface with two opposite transversely extending cord-receiving grooves, the upper portion of the disk outside the groove being cut away to form cutting lugs adjacent to the cord-receiving end of said grooves, cut-away notches in the periphery of said disk at the ends of the grooves, and relieved surfaces in the bottom of said disks, and an underlying cord-holding plate coöperating with said disk.

8. In a cord-holder for the knotters of self-binders, in combination, a cord-holding disk provided with cord-receiving grooves and relieved surfaces on its under side, an underlying cord-holding plate, the said plate being provided with an aperture therein for the discharge of accumulated grain or dirt, and an upwardly extending notched flange formed on said plate adjacent to the said disk and substantially flush with the top thereof.

9. In a cord-holder for the knotters of self-binders, in combination, a knotter frame, a cord-holding disk provided on its upper surface with a cord-receiving groove and a cutting lug, an underlying cord-holding plate, and a knife having a blade and a shank portion inclined with respect to each other, the blade portion being arranged tangentially to the periphery of said disk in a manner to coöperate with said cutting lug on the disk, the shank portion being secured to the knotter frame on a plane inclined with respect to the cutting plane of the knife.

10. In a grain binding mechanism for harvesters, in combination, a needle, a movable cord holding member, means for imparting intermittent rotation thereto, a coöperating cord holding member fixed against rotation, each of said cord holding members being provided with a groove or notch, the said notches occupying non-registering positions with respect to each other when the two members are at rest but registering momentarily at a predetermined point in the travel of the said cord holding member and thereby forming a continuous notch for the reception and initial grasp of the twine from the needle.

11. In a grain binding mechanism for harvesters, in combination, a needle, a movable cord holding member, means for imparting intermittent rotation thereto, a coöperating cord holding member fixed against rotation, each of said members being provided with a notch, the two notches momentarily registering with each other at a predetermined point in the path of travel of the said movable member, thereby forming a groove in which the twine is initially received and grasped from the needle.

865,755. SELF-IGNITER. RICHARD E. BERTHOLD, New York, N. Y., assignor of one-half to William F. Holcombe, New York, N. Y. Filed Mar. 28, 1907. Serial No. 365,137.



1. A self-igniter, comprising a combustion-chamber, an independent chamber or case attached thereto at the side thereof, means for retaining a combustible vapor producing medium in said combustion chamber, a material capable of catalytic action when brought in contact with said vapor, normally retained in said independent chamber or case, a removable closure for said combustion chamber and said case adapted to simultaneously close the combustion chamber and said case, said case-closure supporting the material capable of catalytic action.

2. A self-igniter comprising a combustion chamber adapted to retain a combustible vapor producing medium, a casing or chamber attached thereto, a material in said casing adapted to absorb moisture, means for igniting said vapor and adapted to be removably held in said casing, and caps for said chamber and said casing.

3. A self-igniter, comprising a combustion chamber adapted to retain a combustible vapor producing medium, a casing or chamber attached thereto, a moisture absorbing element in said casing, a retaining means for said moisture absorbing element, and a detachable closure for said chamber and said casing.

4. A self-igniter, comprising a combustion chamber, a combustible vapor producing medium therein, an independent casing or chamber connected thereto, a body of calcium chlorid in said casing, retaining means for said calcium chlorid also in said casing, an igniting element for said vapor, and a detachable closure for said chamber and said casing.

5. A casing, a material capable of catalytic action when brought in contact with a combustible vapor removably held therein, a body of calcium chlorid in said casing, and an absorbent covering therefor.

6. An igniter, comprising a combustion chamber, a casing attached thereto, a removable closure for said chamber and said casing, a platinum structure adapted to be normally retained in said casing, said platinum structure being adapted for insertion into said chamber when said closure is removed, a wick in said chamber adapted to retain a combustible vapor producing medium, a body of calcium chlorid in said casing, and means for retaining said calcium chlorid in said casing.

7. A self-igniter comprising a combustion chamber, an independent chamber or case connected thereto at the side thereof, means for retaining a combustible vapor producing medium in said combustion chamber, a material capable of catalytic action when brought in contact with said vapor, normally retained in said independent chamber or case, and removable united closures for said combustion chamber and said case.

865,756. GRAPNEL FOR BORING-TUBES. JOHN BIENFAIT, The Hague, Netherlands. Filed May 14, 1907. Serial No. 373,601.



1. In grapnels for boring tubes, a pull rod formed with a screw threaded portion, a carrier mounted to slide on said rod, gripping jaws suspended from said carrier, a wedge piece adapted to be screwed on the threaded portion of said rod and to expand said jaws, and a nut on said rod above said wedge piece adapted to be screwed on said rod and to engage said jaws, substantially as set forth.

2. In grapnels for boring tubes, a pull rod formed with a screw threaded portion, a carrier mounted to slide on said rod, gripping jaws suspended from said carrier, a wedge piece adapted to be screwed on the threaded portion of said rod and to expand said jaws, a collar on said rod that bears on said carrier when the lower ends of said jaws engage the narrow end of said wedge piece if screwed on the threaded portion of said rod, and a nut on said rod above said wedge piece adapted to be screwed on said rod and to engage said jaws, substantially as set forth.

3. In grapnels for boring tubes, a pull rod formed with a screw threaded portion, a carrier mounted to slide on said rod, gripping jaws suspended from said carrier, a wedge piece adapted to be screwed on the threaded portion of said rod and to expand said jaws, a head on said rod below said wedge adapted to flatten out inwardly dented portions of a boring tube, and a nut on said rod above said wedge piece adapted to be screwed on said rod and to engage said jaws, substantially as set forth.

4. In grapnels for boring tubes, a pull rod formed with a screw threaded portion, a carrier mounted to slide on said rod, links pivoted to said carrier, gripping jaws, pivoted to said links, a wedge piece adapted to be screwed on the threaded portion of said rod and to expand said jaws, and a nut on said rod above said wedge piece adapted to be screwed on said rod and to engage said jaws, sub stantially as set forth.

5. In grapnels for boring tubes, a pull rod formed with a screw threaded portion, a carrier mounted to slide on said rod, links pivoted to said carrier, gripping jaws each formed at its lower end with an inclined face at its inner side pivoted to said links, a wedge piece adapted to be screwed on the threaded portion of said rod and to coöperate with the inclined inner faces of said jaws, and a nut on said rod above said wedge piece adapted to be screwed on said rod and to engage said jaws, substantially as set forth.

6. In grapnels for boring tubes, a pull rod formed with a screw threaded portion, a carrier mounted to slide on said rod, gripping jaws suspended from said carrier, a wedge piece adapted to be screwed on the threaded portion of said rod and to expand said jaws, a shoulder near the

lower end of said wedge piece adapted to form a stop for the lower ends of said jaws, and a nut on said rod above said wedge piece adapted to be screwed on said rod and to engage said jaws, substantially as set forth.

7. In grapnels for boring tubes, a pull rod formed with a screw threaded portion, a carrier mounted to slide on said rod, gripping jaws suspended from said carrier, projections on said jaws, a wedge piece adapted to be screwed on the threaded portion of said rod and to expand said jaws, and a nut on said rod above said wedge piece adapted to be screwed on said rod and to engage said jaw projections, substantially as set forth.

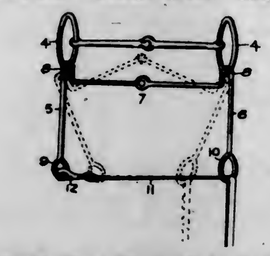
8. In grapnels for boring tubes, a pull rod formed with a screw threaded portion, a carrier mounted to slide on said rod, gripping jaws suspended from said carrier, projections on said jaws, a wedge piece adapted to be screwed on the threaded portion of said rod and to expand said jaws, and a nut formed with an undercut upper edge on said rod above said wedge piece adapted to be screwed on said rod and the upper edge of which is adapted to engage said jaw projections, substantially as set forth.

9. In grapnels for boring tubes, a pull rod formed with a screw threaded portion, a collar fixed on said rod, a carrier mounted to slide on said rod below said collar, links pivotally suspended from said carrier, tube gripping jaws pivotally suspended from said links, tooth-like projections on said jaws, a wedge piece on said rod adapted to be screwed on the screwed portion of said rod, and a nut on said rod the upper end of which is adapted to engage said jaw projections normally resting on the upper end of said wedge piece and adapted to engage the screw threaded portion of said rod as the said wedge piece is unscrewed therefrom, substantially as set forth.

10. In grapnels for boring tubes, a pull rod formed with a screw threaded portion, a collar fixed on said rod, a carrier mounted to slide on said rod below said collar, links pivotally suspended from said carrier, four tube gripping jaws pivotally suspended from said links, tooth-like projections on said jaws, a wedge piece of quadrangular cross section mounted on said rod adapted to be screwed on the screwed portion of said rod, and a quadrangular nut on said rod the upper end of which is adapted to engage said jaw projections normally resting on the upper end of said wedge piece and adapted to engage the screw threaded portion of said rod as the said wedge piece is unscrewed therefrom, substantially as set forth.

11. In grapnels for boring tubes, a pull rod, a carrier mounted to slide on said rod, jaws pivotally suspended from said carrier, means on a screw threaded portion of said rod adapted to force said jaws outwardly upon endwise movement of said rod, a nut located above said jaw forcing means adapted upon rotation of said rod in a direction to release said jaw forcing means to itself engage the screw threaded portion of said pull rod, and tooth like projections on said jaws adapted to be engaged by said nut when screwed on said rod.

865,757. CURB SAFETY-HITCH. ALONZO BOYD, Indianapolis, Ind. Filed Apr. 2, 1907. Serial No. 366,023.



1. The combination with a bridle-bit having end-rings, of a pair of flexibly connected angle-rods having U-shaped bends at the angles to receive the rings of the bridle-bit, said angle-rods having eyes at their free ends and a hitch-strap passed through one eye and fastened to the other eye.

2. The combination, with a bridle-bit, of a curb for hitching-straps, comprising a pair of angle-rods suspended at their angles from the bit below the lower jaw of the animal said rods being hinged together intermediate their points of suspension, and said rods having end eyes opposite their hinged ends, in combination with means for drawing the eye-ends of the rods together.

865,758. ASH-PAN FOR LOCOMOTIVES. JOHN F. BROWN, Florence, Ala. Filed May 23, 1906. Serial No. 318,408.



1. An ash pan comprising side walls, horizontal cross bars arranged at intervals and connecting the side walls, said cross bars being provided with inclined side faces and having horizontal bottom faces, a slidable horizontal bottom provided at intervals with openings, and means for yieldably holding the slidable bottom against the lower faces of the cross bars and for permitting the bottom to be depressed, whereby the same is prevented from becoming clogged with ashes and is enabled to reciprocate freely.

2. An ash pan comprising opposite side walls, fixed cross bars connecting the side walls and having horizontal lower faces, a slidable bottom fitted against the lower faces of the cross bars and provided at intervals with openings, and bowed springs extending longitudinally of and located beneath the bottom, said springs yieldably supporting the bottom for holding the same snugly against the cross bars and for enabling the bottom to be depressed when operated, whereby it is enabled to slide freely and is prevented from becoming clogged with ashes.

3. An ash pan comprising opposite side walls having inwardly extending horizontal bottom flanges, fixed cross bars having horizontal lower faces spaced from the flanges and connecting the side walls, bowed springs arranged upon the upper faces of the bottom flanges and secured at one end to the same and presenting upper convex faces, and a slidable bottom yieldably supported by the springs and held against the cross bars by the same, said springs permitting the bottom to be depressed to permit the same to slide freely and to prevent the bottom from becoming clogged with ashes.

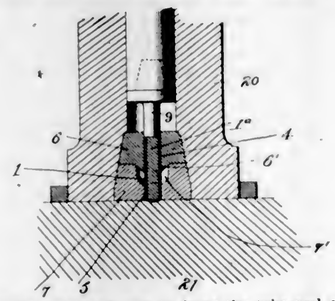
4. An ash pan comprising a plurality of sections having slidable bottoms, central longitudinal bars having laterally extending flanges secured to the slidable bottoms, said longitudinal bars being also provided with depending flanges, a link pivotally connected with the depending flanges of the longitudinal bars, an operating lever, and a link connecting the operating lever with one of the depending flanges.

865,759. METHOD OF MAKING WATCHCASE-PENDANTS. CHARLES W. BUTTS, Sag Harbor, N. Y., assignor to Fahys Watch Case Company, New York, N. Y., a Corporation of New York. Filed Sept. 27, 1904 Serial No. 226,139.

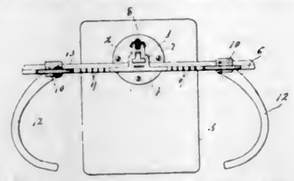
1. The herein described process of making integral watch case pendants, which consists in first upsetting a cylindrical blank to form a non-cylindrical cap and a cylindrical base, then perforating the product, then spinning the base to form a cylindrical bead and foot thereon, and finally compressing the foot and the bead into non-cylindrical shape.

2. The herein-described process of making filled watch case pendants which consists in first inserting a metal core snugly into a metal tube and then upsetting the blank by endwise pressure to force the tube and core outwardly at the place of upsetting.

3. The herein-described process of making filled watch case pendants which consists in first inserting a core of a base metal into a tube of precious metal to substantially fill the tube, and then upsetting the blank by endwise pressure on the tube and core to force the tube and core outwardly at the place of upsetting.

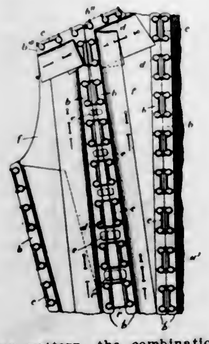


865,760. BAG-HOLDER. CARL G. CARLSON, Braham, Minn. Filed Sept. 28, 1906. Serial No. 336,575.



In a bag holder, the combination with a standard, of a cross bar mounted to move vertically on said standard and having reversely extended ratchet teeth on the opposite sides of said standard, take-up heads having depending arms and mounted to slide on the end portions of said cross bar and provided with pawls engageable with the ratchet teeth thereof, and grapple arms rigidly secured to the depending arms of said take-up heads and engageable with the mouth of the bag to hold the same open and to support the bag, substantially as described.

865,761. WAIST-PATTERN. MARIE L. CARRARA, Geneva, Switzerland. Filed Dec. 2, 1905. Serial No. 290,040.

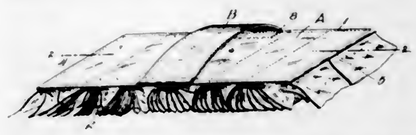


1. In a fitting pattern, the combination of pieces of non-extensible material having stiff strips on their adjoining edges, an elastic connection between the said strips, whereby the same may be moved toward and away from each other, and slidable separating pieces interposed between the said strips and having loops at their ends receiving the strips, whereby they are held on the strips and may be moved in the direction of their width between the strips.

2. In a fitting pattern, the combination of pieces of non-extensible material having stiff strips on their adjoining edges, an elastic connection between the said strips, whereby the same may be moved toward and away from each other, pieces of lining cloth detachably fastened on the said pieces of non-extensible material, and slidable separating pieces interposed between the stiff strips and having loops at their ends receiving the strips, whereby they are held on the strips and may be moved in the direction of their width between the strips.

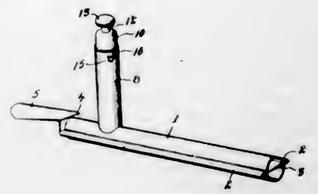
3. In a fitting pattern, the combination of pieces of non-extensible material having stiff strips on their adjoining edges, hooks on the said strips, elastic loops removably held on the hooks and connecting the strips, whereby said strips may be moved toward and away from each other, and slidable separating pieces interposed between the said strips and having loops at their ends receiving the strips, whereby they are held on the strips and may be moved in the direction of their width between the strips.

865,762. POLISHING-BRUSH. FRANK P. CHAPOT, Great Bend, Pa., assignor to The Chapot-Shirlaw Company, Great Bend, Pa. Filed Jan. 31, 1905. Serial No. 243,528.



As an article of manufacture, a polishing brush comprising a flexible back, a handle affixed thereto, and rows of soft flexible material secured to the under surface of the back, each of said rows consisting of a number of short pieces stitched through their central portions, with openings between the ends, said openings being opposite the body portion of the adjoining pieces.

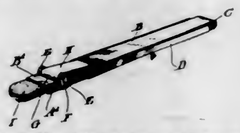
865,763. NUTMEG-GRATER. REED J. CLARK, Jr., Youngstown, Ohio. Filed June 1, 1906. Serial No. 319,781.



1. In a grater, a cylindrical casing provided at opposite sides of its center with ways extended radially therefrom, a grater plate mounted to reciprocate with its side edges embraced by said ways, and a holder disposed upon the upper surface of said casing and extended downward therethrough adjacent to said plate.

2. In a grater, a cylindrical casing provided at opposite sides of its center with ways extended radially therefrom, a grater plate provided with projections extended therethrough and disposed transversely on each side of the center in successive lines, the side edges of said plate being embraced by said ways, and a holder disposed upon the upper surface of said casing and extended downward adjacent to said plate.

865,764. ERASER-HOLDER. MICHAEL F. CREAHAN, Philadelphia, Pa. Filed Mar. 19, 1906. Serial No. 306,813.



1. An eraser holder having in combination the flat face plates A and B, connected at their rear ends, the side plates D, D, secured to one of said face plates and forming with the face plates a box-like receptacle for inclosing a strip of rubber, and means for clamping the front ends of the face plates on the strip of rubber in said receptacle.

2. An eraser holder having in combination the flat face plates A and B, connected at their rear ends, the side plates D, D, secured to one of said face plates, lugs E, E, extending from the front end of one of the face plates above the front end of the other face plate, a cam pivoted on said lugs and resting on the end of the face plate and a lever secured to the cam and adapted to lie against the face plate when the cam is turned to push the face plate ends together.

865,765. WHEEL FOR ROAD-VEHICLES. JOSEPH DAVIES, Birmingham, England. Filed Aug. 25, 1906. Serial No. 332,059.

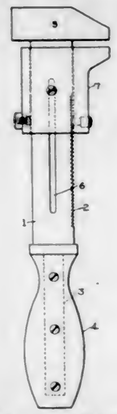


1. In a vehicle wheel, an outer metal tire or tread, a resilient tubular seating on which said tire is mounted, an auxiliary tire carrying said seating and an elastic cushion interposed between said auxiliary tire and the felly substantially as set forth.

2. In a vehicle wheel, a flanged metal tread or tire, a flexible tube within said flanges, pairs of radially disposed telescoping tubes mounted on metal strips within said tube and spiral springs contained by said telescoping pairs of tubes, in combination with an auxiliary tire upon which the said resilient tube is mounted, a felly, a resilient band interposed between said auxiliary tire and said felly and a hub about which said felly is free to rotate, substantially as and for the purpose set forth.

865,766. WRENCH. WILLIAM B. DAVIS, Swissvale, Pa. Filed June 5, 1907. Serial No. 377,375.

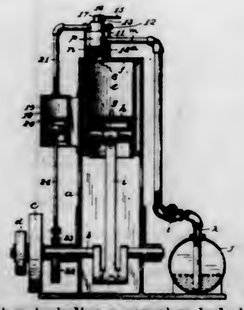
1. In a wrench, the combination with a toothed shank having longitudinally disposed grooves formed in diametrically opposed sides, said shank having a fixed jaw, and a detachable handle, of a movable jaw mounted upon said shank and having an opening through which said shank extends, set screws carried by the sides of said jaw and extending into the grooves of said shank, a threaded plug mounted in the front lower edge of said movable jaw, a pin carried by said plug and having a toothed end to engage said toothed shank, a screw detachably mounted in the rear lower edge of said movable jaw and having a socket formed therein, a button mounted in said jaw and having a shank extending into the socket of said screw, a spring mounted in said socket and bearing against said button for normally holding the toothed shank in engagement with the toothed end of said movable jaw.



2. In a wrench, the combination with a toothed shank having a fixed jaw, said shank having longitudinally disposed grooves formed therein, of a jaw movably mounted upon said shank, set screws carried by said jaw and extending into the grooves of said shank, a plug detachably mounted in the front edge of said shank, a toothed pin carried by said plug and engaging said toothed shank, a spring pressed button detachably mounted in the rear edge of said movable jaw, for engaging said shank and normally holding the toothed edge of said shank in engagement with said toothed pin.

3. In a wrench, the combination with a toothed shank having a fixed jaw, of a jaw movably mounted upon said shank, set screws carried by diametrically opposed sides of said movable jaw and engaging said shank, a toothed pin detachably mounted in the front edge of said jaw and engaging said toothed shank, a spring pressed button detachably mounted in the rear edge of said jaw for normally holding said shank in engagement with said toothed pin.

865,767. APPARATUS FOR SUPPLYING EXPLOSIVE-ENGINES WITH EXPLOSIVE MIXTURE. CHARLES G. DEAN, Indianapolis, Ind. Filed July 28, 1906. Serial No. 328,208.



1. A vaporizer including a vaporizer body having an air chamber in one end and a valve seat in the opposite end portion thereof, a valve spring-pressed to the seat, there being an oil-chamber about the valve between the seat and the air-chamber, the vaporizer body having two open passages therein between the air-chamber and the oil-chamber and an oil-supply duct leading to one of the passages, and a check-valve normally closing the oil-supply duct to be opened for admitting oil to the oil-chamber.

2. A vaporizer including a vaporizer body having an air-chamber in one end and a valve seat in the opposite end portion thereof, a valve spring-pressed to the seat, there being an oil-chamber about the body of the valve, the said vaporizer body having an air duct therein between the air-chamber thereof and the oil-chamber and also an oil-port communicating with the oil-chamber and the air-chamber, an oil-supply pipe connected with the oil-port, and a check-valve to admit oil from the pipe to the port and prevent return of the oil to the pipe.

3. A vaporizer including a body having an air chamber in one end and a valve seat in the opposite end portion thereof, an air-pipe connected with the air chamber, a valve on the seat and having a stem extending into the air chamber, a nut on the stem, and a spring on the stem engaging the nut, there being an oil-chamber around the body of the valve, and the vaporizer body having an oil port therein leading to the oil-chamber and also an air-duct extending from the air-chamber to the oil chamber.

4. A vaporizer including a body having two separated valve seats and also an air chamber therein, there being separate ducts from the seats to the air chamber, and a port from one duct to the other duct, an air-pipe connected with the air chamber, a movable regulating valve on one of the seats, a spring-pressed valve on the other one of the seats, an oil-conduit leading to the regulating valve, and a regulator stem adjustable opposite to the regulating valve limiting the movements thereof.

5. Apparatus for supplying explosive-engines with explosive mixture including an oil reservoir, a pump-cylinder and piston, a vaporizer body having two separated valve seats and also an air chamber therein, the body having also two separate ducts therein, either duct extending from the air chamber to either one of the valve seats, a pump-barrel connected to the pump-cylinder and also with the air chamber of the vaporizer body, a movable regulating valve on one of the seats, a spring-pressed valve on the other one of the seats, an oil-conduit connected to the oil-reservoir and also with the regulating valve, the vaporizer body having a port therein between the regulating valve and the spring-pressed valve, and a regulator stem adjustable in the body opposite to and limiting the movements of the regulating valve.

6. Apparatus for supplying explosive-engines with explosive mixture including an oil-reservoir, a pump-cylinder, a movable piston in the cylinder, and a vaporizer body having communication with the oil-reservoir and also with the pump-cylinder and provided with a movable regulating valve operated by means of the piston to admit oil from the oil-reservoir to the body and serving as a foot-valve for the pump-cylinder to prevent the oil from returning to the oil-reservoir, means for limiting the movement of the regulating valve, and a spring-pressed valve within the body acted on by the alternative movements of the air-pressure from the piston to mix and vaporize the oil.

7. Apparatus for supplying explosive-engines with explosive mixture including an oil-reservoir, a conduit having a check-valve therein and connected with the oil-reservoir, a pump-cylinder with a piston therein, a pump-barrel attached to the pump-cylinder, and a vaporizer body connected with the conduit and having an air-chamber connected with the pump-barrel, the vaporizer body having an inlet-valve normally closing the conduit provided with a regulator controlling the extent of the movement thereof to open the conduit, and an outlet valve in the body spring-pressed to its seat and movable therefrom for discharging oil and air from the vaporizer body.

8. The combination with an explosion-chamber, of a vaporizer having communication with the explosion-chamber and comprising a base part, a main body part and a cap having an air-chamber therein, the main body part having a guide-bore therein and also a guide opening therethrough extending from the air-chamber and a duct between the guide-bore and the guide-opening, an inlet valve in the guide-bore, a combined outlet and vaporizing valve at the end of the guide-opening controlling the passage through the duct and outlet from the air-chamber to the explosion-chamber, an oil-supplying duct leading to the inlet-valve, and a pump-barrel connected with the air-chamber of the vaporizer.

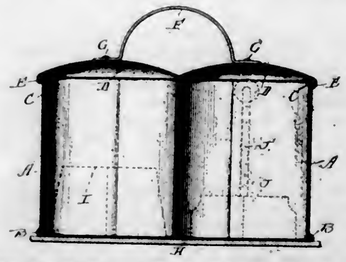
9. The combination with an explosion-chamber, of a vaporizer body having communication with the explosion-chamber and provided with an inlet-valve, an oil-supplying conduit leading to the inlet-valve, an adjustable regulator opposite to the inlet-valve to control the extent of movement thereof, an indicator for the regulator, an outlet-valve normally seated and retaining oil and air in the vaporizer body, a pump-barrel connected to the vaporizer body, and a pump-cylinder with a piston therein and connected to the pump-barrel for operating the valves alternately.

10. In a vaporizer, the combination of a main body part and a cap part joined together forming an air-chamber, the main part having a guide-bore therein and also a guide-opening therethrough extending from the air-chamber and a port between the guide-bore and the guide-opening, an inlet duct communicating with the guide-bore, a regulating valve seated in the guide-bore, a valve seated at the outer end of the guide-opening and having a stem extending through the guide-opening, and an air-pipe connected with the air-chamber.

11. In a vaporizer, the combination of a main body part and a cap part joined together forming an air-chamber, the main part having a guide-bore therein and also a guide-opening therethrough extending from the air-chamber, a port between the guide-bore and the guide-opening, an inlet-duct communicating with the guide-bore, and an air-duct extending from the air-chamber to the farther end of the guide-opening, a regulating valve seated in the guide-bore, and a valve seated at the junctions of the guide-opening, the port and the air-duct.

12. In a vaporizer, the combination of a main body part and a cap part joined together forming an air-chamber, the main part having a guide-bore therein and also a guide-opening therethrough extending from the air-chamber, a port between the guide-bore and the guide-opening, an inlet-duct communicating with the guide-bore, and an air duct extending from the air-chamber to the farther end of the guide-opening, a regulating valve seated in the guide-bore, a vaporizing valve seated at the junctions of the guide-opening, the port and the air-duct, a spring normally holding the vaporizing valve to its seat, a base part joined to the main part and having an opening to receive the vapor from the vaporizing valve, a regulator mounted on the cap part and adjustable opposite to the regulating valve, an oil-reservoir connected with the inlet duct, and a pump-barrel connected with the air-chamber.

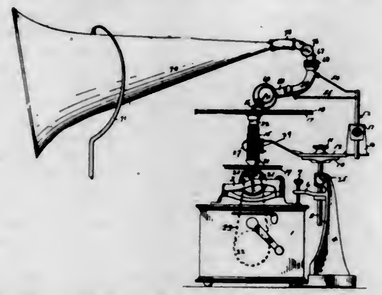
865,768. COVER FOR FLAT-IRONS. ANN DEEGAN, Chicago, Ill. Filed Apr. 20, 1907. Serial No. 369,383.



A flat iron heater consisting of a shell which in cross section forms a double intersecting ellipse adapted to inclose a flat iron within the space of each ellipse, said shell having an open bottom, vertical sides, a tubular base, a

double elliptical convex, air tight top, and a handle affixed to the highest points of said top transversely of said shell as described.

865,769. PHONOGRAPH. LOUIS DEVINEAU, Cleveland, Ohio. Filed June 18, 1906. Serial No. 322,243.



1. The combination with the mandrel of a cylinder phonograph of a friction ring adapted to be carried thereby, a horizontal disk adapted to support the disk record, a vertical shaft carrying said disk, a second disk at the lower end of said shaft adapted to engage said ring, and a bearing for said shaft between the two disks.

2. In a driving mechanism for disk records, the combination of a horizontal disk, a vertical shaft connected therewith, a spring disk at the lower end of such shaft, and a rotatable driving member adapted to engage the lower disk.

3. In a driving mechanism for disk records, the combination of a horizontal record support, a vertical shaft connected therewith, a disk at the lower end of such shaft, a bearing for the shaft between the record support and disk, a rotatable driving member adapted to engage the lower disk, and a cylinder phonograph having means engaging the under side of said disk.

4. The combination of a suitable support, of a bracket adjustably carried thereby, a barrel screw-threaded in said bracket, a shaft journaled in said barrel, a disk supported on the upper end of said shaft, a driving disk on the lower end of said shaft, and a coöperative driving member adapted to engage such lower disk.

5. The combination with a suitable support adapted to be clamped to a phonograph box, a bracket adjustably carried by the support, a barrel adjustable within the bracket, a shaft journaled in the barrel, a disk on the upper end of the shaft, a disk on the lower end of the shaft, a phonograph and a friction member rotatable by the phonograph and engaging the disk on the lower end of the shaft.

6. The combination with a suitable support adapted to be clamped to a phonograph box, a bracket adjustably carried by the support, a barrel adjustable within the bracket, a shaft, journaled on ball bearings in the barrel, a disk on the upper end of the shaft, a disk on the lower end of the shaft, a phonograph mandrel, and a friction ring adapted to fit on said mandrel and engage the disk on the lower end of the shaft.

7. The combination with a bracket, a rod adjustably carried thereby, a plate supported by said rod and adjusted laterally thereon, a barrel carried by said plate, a shaft located in said barrel and having a ball bearing connection therewith, and means for supporting a record carried by said shaft.

8. The combination with a suitable support adapted to be clamped to a phonograph box, of a bracket adjustably carried by said support, a barrel adjustable within the bracket, a shaft journaled in the barrel, a record support carried by said shaft above the barrel, and means connected with said shaft below the barrel for rotating it.

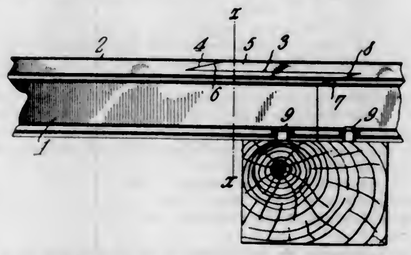
9. The combination of a suitable support vertically adjustable, a horizontally adjustable plate carried by said support, a shaft carried by said plate, a record support adapted to be driven by said shaft, means for driving said shaft, a tube, a reproducer carried thereby for coöperating with the record, a vertically adjustable support for said tube, said support being carried by said plate.

10. The combination with a cylinder phonograph of a standard adapted to be clamped to the box of the phonograph, a bracket adjustably carried by the standard, a reproducer, an adjustable swivel support therefor carried by the bracket, a rotatable shaft carried by the bracket, and means at the upper end of said shaft adapted to carry a record coöperating with the reproducer.

11. The combination, with a cylinder phonograph having a mandrel, of a standard adapted to be clamped to the box of the phonograph, a bracket adjustably carried by the standard, a reproducer, an adjustable swiveled support therefor carried by the bracket, a rotatable shaft carried by the bracket, a disk at the upper end of said shaft adapted to carry the record coöperating with the reproducer, a disk at the lower end of the shaft, and a friction ring on the mandrel and engaging the last mentioned disk.

12. The combination, with a cylinder-phonograph having a mandrel, of a standard adapted to be clamped to the box of the phonograph, a vertical rod adjustably mounted in said standard, a cross plate carried by said rod, a sound tube and reproducer, an adjustable swiveled support therefor carried by the cross plate, an adjustable barrel carried by the cross plate, a shaft in said barrel, a disk at the upper end of said shaft adapted to carry the record coöperating with the reproducer, a disk at the lower end of said shaft, and a friction ring adapted to fit on the mandrel and engage the last mentioned disk.

865,770. RAIL-JOINT. AUGUSTUS DORATELLA, Steelton, Pa. Filed June 6, 1907. Serial No. 377,642.



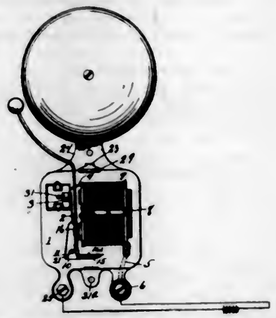
1. A rail having one end portion of its head reduced to form an undercut shoulder, a tongue extending from said reduced portion, and a tongue extending from the opposite end of the rail and having a recess thereunder, said tongues being of the same proportions as the recess and the removed portion of the head respectively.

2. A rail having one end portion of the head reduced to form a shoulder, said shoulder being undercut to form a recess, a tapered tongue extending from the reduced portion of the head, a tongue extending from the opposite end of the head and of the same proportions as the removed portion of the head and the recess, there being a recess within the rail and adjacent the last mentioned tongue, said recess being of the same proportions as the tapered tongue.

3. The combination with a rail having a reduced head at one end thereof, said head forming an undercut shoulder, and a tapered tongue projecting beyond the reduced portion of the head; of a rail having a recess in one end of the head thereof and designed to receive the tongue, and a tongue extending from said head and beyond the recess and disposed to rest upon the reduced portion of the head and to be lapped by the shoulder.

4. The combination with a rail having its head reduced at one end to form an undercut shoulder, and a tapered tongue extending from the reduced portion of the head; of a rail having integral means disposed to engage the tongue and shoulder and interlock therewith.

865,771. ELECTRIC SIGNAL-BELL. HAROLD W. EDEN, Detroit, Mich., assignor to P. R. Manufacturing Company, Detroit, Mich., a Corporation of Michigan. Filed July 18, 1906. Serial No. 326,644.

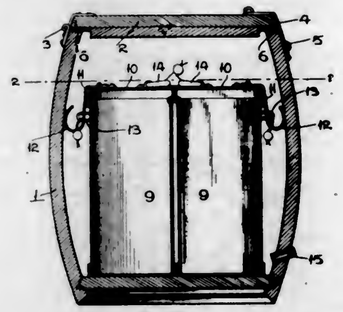


1. In an electrically actuated bell, in combination with a base, a sheet of metal resting thereupon having struck up parts forming supporting brackets, an armature and a pair of coils supported thereby, a non-magnetic yoke spacing the armature from its supporting bracket, and a contact post in electrical connection with the coils and the armature, substantially as described.

2. In combination with a supporting base, a plate of sheet metal provided with brackets struck up therefrom adapted to be attached to said base by a single screw, magnetic spools supported thereby, an armature pivotally supported thereby across the ends of the spools, a yoke of non-magnetic material spacing said armature from its supporting bracket, and a contact post insulated from said base and said plate and in constant electrical connection with the spools adapted to be in intermittent electrical connection with said armature, substantially as described.

3. In combination with the foot bracket 14, and the overhanging bracket 11, formed on a base bent from the surface of a sheet of metal, an armature, a yoke of non-magnetic material engaging between said bracket and said armature, and a pin securing the armature and the yoke to the brackets, substantially as described.

865,772. OYSTER-CARRIER. FORREST M. ELLEDGE, St. Louis, Mo., assignor to Sanitary Oyster Carrier and Commission Co., St. Louis, Mo., a Corporation of Missouri. Filed Feb. 8, 1907. Serial No. 356,311.

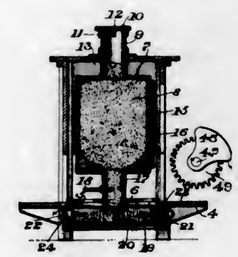


1. An oyster carrier, comprising a container, a pair of mating receptacles removably arranged in the container, covers hinged to said receptacles, hasps carried by the covers, the lower ends of said hasps being bent upwardly to form spring members which engage against the inside of the container when the receptacles are positioned therein.

2. An oyster carrier, comprising a cylindrical container, a pair of semicircular receptacles positioned in the container, covers for said receptacles, and means arranged on said receptacles and covers for preventing the simultaneous removal of the receptacles from the container.

3. In an oyster carrier, the combination with a cylindrical container, the upper end of which is smaller in diameter than the central portion thereof, of a pair of mating receptacles arranged within the container, and means upon said receptacles for preventing their simultaneous withdrawal from the container.

865,773. PIGEON-FEEDER. JOHN R. ELLIOTT, Camden, N. J. Filed Jan. 2, 1907. Serial No. 350,498.



1. In a device of the character described, a feeding floor, a table above the level of the feeding floor, and a vertically adjustable container opening in proximity to said feeding floor.

2. In a device of the character described, a feeding table, a feeding floor below the level thereof, a container having an opening therein, and means for relatively adjusting the floor and container to vary the distance therebetween.

3. In a device of the character described, a table, a removable floor depressed with relation thereto, a container emptying in proximity to said floor, and means for shutting off the flow from the container.

4. In a device of the character described, a feed chamber having openings permitting access to the feed, a casing movable longitudinally of said chamber, and time actuated mechanism for moving the casing.

5. In a device of the character described, a feeding chamber having an opening permitting access to the feed, means for cutting off access to the feed, a cam actuating said means, and independent means for moving said cam.

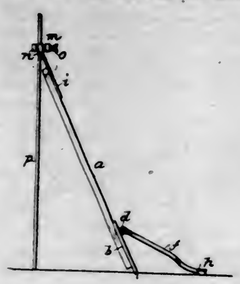
6. In a device of the character described, a feeding chamber having an opening permitting access to the feed, means for cutting off access to the feed, and time actuated mechanism for moving said closing means.

7. In a device of the character described, a feed chamber, means for mounting said chamber to provide feeding space therebelow, a casing movable longitudinally of said chamber and means for automatically moving the casing along said chamber.

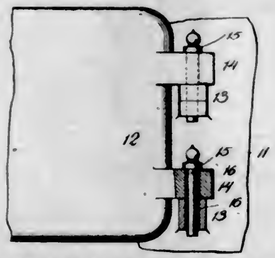
865,774. STAGE-BRACE. JAMES C. ENGLAND, Zanesville, Ohio, assignor of one-half to Jesse Coultrap, Zanesville, Ohio. Filed Oct. 22, 1906. Serial No. 339,993.

In a stage brace, the combination of a body portion; a plate secured to the lower end thereof, the lower end of said plate being formed with a point projecting below the lower extremity of said body portion; and a bar one end of which is pivotally secured to the upper end of said

plate, and the other end of which is formed with a tooth and extends to the rear beyond and free from said plate.



865,775. CORE-SUPPORT AND BEARING MEMBER. WILLIAM FAIRCHILD, Albany, N. Y. Filed Apr. 27, 1907. Serial No. 370,704.



1. A core support and bearing member comprising a single integral structure having a cylindrical body portion and wings which are turned over at right angles thereto and then again at right angles to themselves, the latter portion substantially meeting and forming a rear plate, substantially as set forth.

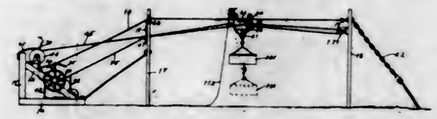
2. A device of the character described comprising a single integral structure composed of a thin sheet of metal, the blank of which has lateral wings 20 and end portions 21 connected by narrow necks 22, said lateral wings 20 curved over to form a cylindrical member 17, the end portions 21 being folded over parallel with the cylindrical portion to form a back plate 18.

865,776. COFFEE-POT. BERNATH GEORG, Cincinnati, Ohio. Filed Apr. 15, 1907. Serial No. 368,359.



In a coffee pot, a vessel having a horizontal partition approximately midway the height thereof and provided with a centrally threaded aperture, a rod threaded through said aperture and having a hollow lower end projecting into the compartment below said horizontal partition and provided with perforations at the upper end of its hollow portion, a receptacle having closed sides and bottom mounted on said rod and resting upon and supported by said horizontal partition and having communication with the compartment below said partition through said perforations and the hollow portion of said rod, a perforated top for said receptacle, the said rod being extended through said perforated top, and detachable means on the upper end of the rod for securing the top in position.

865,777. CONVEYING APPARATUS. ADRIAN HALL and JOHN M. HALL, Greenfield, Ind. Filed Dec. 20, 1906. Serial No. 348,760.

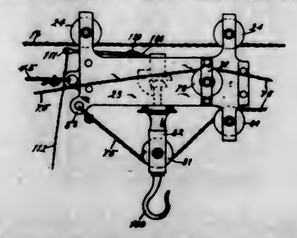


1. In a conveying apparatus, a pair of parallel drums for operating the cables, gears for driving said drums, a driving shaft mounted intermediate the gears for driving said drums, a gear loosely mounted on said shaft adapted to engage the gear for driving either drum, a sliding bearing for said driving shaft, means for moving said sliding bearing so as to move the gear on the driving shaft into engagement with the gear for driving the desired drum, and a friction clutch on said shaft for starting and stopping said gear thereon, substantially as set forth.

2. In a conveying apparatus, drums for actuating and holding cables, gears for driving said drums, a driving shaft located intermediate said drums, a gear loosely mounted on each end of said shaft for actuating the drum-driven gears, a spring-withheld friction clutch slidably mounted on each end of said shaft for throwing said gears into and out of operation, and a hand lever fulcrumed away from said shaft and fitting loosely astride the shaft between the clutches and in engagement with them for sliding them and controlling the movements of both clutches and causing the simultaneous engagement of one and disengagement of the other, substantially as set forth.

3. In a conveying apparatus, three parallel drums for actuating and holding cables, gears for driving said drums, two of said gears being located opposite each other and at one side of the machine while the gear for the other drums is located at the other side of the machine, a driving shaft mounted between the upper or oppositely located gears, a gear loosely mounted on said driving shaft adapted to engage either of said oppositely located gears, a gear loosely mounted on the other end of said driving shaft for engaging the gear that drives the third drum, spring-withheld friction clutches slidably mounted on said shaft for throwing said gears into and out of operation, and means for causing simultaneously the engagement of one clutch and the disengagement of the other, substantially as set forth.

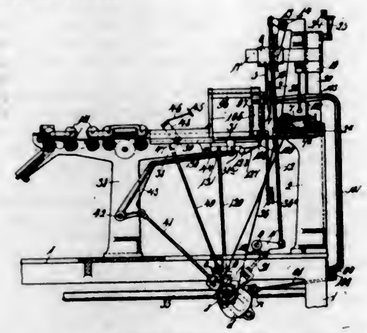
865,778. CONVEYING APPARATUS. ADRIAN HALL and JOHN M. HALL, Greenfield, Ind. Original application filed Dec. 20, 1906, Serial No. 348,760. Divided and this application filed Mar. 9, 1907. Serial No. 361,616.



1. In a conveying apparatus, a carrier, means upon which said carrier is supported and moved, cables for moving said carrier to and fro, and a load hanger supported by one of said carrier-moving cables, whereby said cable has the double function of moving the carrier horizontally and causing the vertical movement of the load hanger.

2. In a conveying apparatus, a carrier, means upon which said carrier is supported and moved, a cable for moving the carrier in one direction, a cable for moving the carrier in an opposite direction, a pulley on said carrier over which one of said cables passes, a load-hanger, a pulley in said load hanger riding upon the portion of said cable lying between said pulley on the carrier and the point at which said pulley is fastened to the carrier, means on the carrier for catching and holding said load hanger in its elevated position, a lock for engaging and locking said means so that it will hold said locking means in its elevated position, and a lever for removing said locking means from its locking position whereby said load hanger may be drawn downward.

865,779. MACHINE FOR MAKING PAPER BAGS. OTTO HESSER, Cannstatt, Germany. Filed Sept. 22, 1905. Serial No. 279,746.



1. In a paper feeding machine, the combination with means for supporting a pile of sheets of paper, of a gum reservoir, a gum-applying strip, means for moving said strip between the reservoir and the successive uppermost sheets of the pile to successively raise said sheets, and a clamping means for engaging and holding the sheets near the gummed edge before the completion of the upward movement of said strip.

2. In a paper feeding machine, the combination with means for supporting a pile of sheets of paper, of a gum reservoir, a gum-applying strip, means for moving the same between the reservoir and the successive uppermost sheets of the pile, a plate against which the sheets engage during their upward movement, clamping fingers for forcing the sheet against the plate in advance of the completion of the upward movement of the strip, and means for operating said clamping fingers.

3. In a paper feeding device, the combination with means for supporting a pile of sheets of paper, of a gum reservoir, a gum-applying member, a horizontally movable carriage supporting said member, means for reciprocating said carriage, a vertically movable carriage having an arm by which the horizontally movable carriage is guided, means for moving the vertically movable carriage, and means for engaging and holding the sheets of paper in advance of the completion of the upward movement of the strip.

4. In a paper feeder, gum applying member for engaging and raising the successive uppermost sheets of a pile, means for clamping said sheets in advance of the completion of the upward movement of the gum applying member to permit the separation of the latter from the sheet after the latter is fully raised, a conveyer plate movable under the partly raised sheets, and means for operating said conveyer plate.

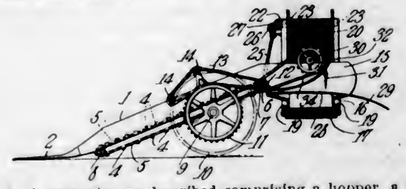
5. In a paper feeding machine, means for supporting a pile of sheets of paper, a table having stops against which the sheets are to be fed, a conveyer plate, bars carrying the plate and slidable in grooves formed in the upper portion of the table, means for actuating said plate and bars, a gum reservoir, a gum-applying and sheet-raising member movable between the reservoir and the successive uppermost sheets of a pile, and means for clamping and holding the raised sheets in position to permit the separation of the gum applying member from the sheets and the passage of a conveyer plate beneath them.

6. In a paper feeding machine, a table, means for supporting a pile of outer sheets and a pile of lining sheets, means for applying gum to the outer sheets, and for feeding the sheets successively to a position on the table, means for raising and conveying the successively uppermost lining sheets to a position over the previously placed outer sheets, and independent and successively operable means for holding said sheets in adjusted position on the table.

7. In a paper feeding machine, means for supporting a pile of outer sheets and a pile of lining sheets, means for applying gum to the successively uppermost outer sheets, and for raising and conveying the same to position on the table, a clamping member for holding the sheet in position on the table, means for raising and conveying the successively uppermost lining sheets to a position over the outer sheet and against said clamp, the latter serving as a guide for positioning the lining sheet.

8. In a paper feeding machine, a table, means for gumming and feeding outer sheets to said table, and a second feeding mechanism for conveying lining sheets over the outer sheets in a direction at a right angle to the path of movement of said outer sheets, and inclined blocks over which the sheets are fed, said blocks serving as lifters to hold the lining sheets elevated until in position with respect to said outer sheets.

865,780. VINE-SEPARATING MECHANISM FOR POTATO-DIGGERS. ARTHUR L. HOOVER, Avery, Ohio. Filed June 22, 1907. Serial No. 380,309.



1. A separator as described comprising a hopper, a conveyer forming the bottom of the same, spaced rods located above the hopper and a vine lifter located above said rods.

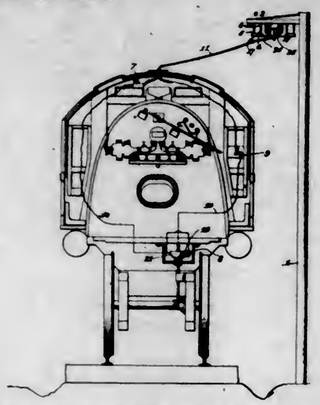
2. In combination with a digger having an elevator, a hopper attached to the digger below the end of the elevator, rods located above the hopper and extending in alinement with the digger, said hopper having a movable conveyer bottom which moves transversely with relation to the digger, a vine lifter located above the rods, means for transmitting movement from the digger elevator to the lifter, and means for transmitting movement from the digger elevator to the hopper bottom.

865,781. ELECTRIC RAILWAY SIGNALING DEVICE. EDWARD B. HOWELL, Butte, Mont. Filed June 25, 1906. Serial No. 323,377.

1. In an automatic electric railway signal, the combination with a vehicle, of a stationary overhead structure at one side of the railway track comprising continuous track wires having a continuous unobstructed space between them, sectional line wires on each side of said track wires, a device traveling on and supported by and between said track wires and carrying on each side below said wires an insulated contact in circuit with the line wires, and signaling instruments on the vehicle connected with the traveling device and the contact thereon.

2. In an automatic electric railway signal, the combination with a vehicle, of a stationary overhead structure at

one side of the railway track comprising continuous track wires having a continuous unobstructed space between them, sectional line wires on each side of said track wires and having their joints staggered, a device traveling on said track wires and supported between them, and carrying on each side an insulated arm making contact with said sectional wires, signaling instruments on the vehicle, and a flexible cable connecting them with the traveling device and its contact arm and serving to draw said device along with the vehicle.



3. In an automatic electric railway signal, the combination with two continuous track wires, of a shuttle having a body adapted to run between them, supporting wheels on each side of said body, upright rollers mounted on said body, and noses at each end of said body pivoted on upright axes.

4. In an automatic electric railway signal, the combination with two continuous track wires, of a shuttle having a body adapted to run between them, supporting wheels on each side of said body, upright rollers mounted on said body, and noses at each end of said body pivoted on upright axes, and means for simultaneously turning said noses to one side or the other of said body.

5. In an automatic electric railway signal, the combination with two continuous track wires, of a shuttle having a body adapted to run between them, supporting wheels on each side of said body, upright rollers mounted on said body, and noses at each end of said body pivoted on upright axes, and means for simultaneously turning said noses to one side or the other of said body comprising an upright shaft journaled in said body, and connections between said shaft and said noses.

6. In an automatic electric railway signal, the combination with two continuous track wires, of a shuttle having a body adapted to run between them, supporting wheels on each side of said body, upright rollers mounted on said body, and noses at each end of said body pivoted on upright axes, and means for simultaneously turning said noses to one side or the other of said body comprising an upright shaft journaled in said body, a crank on said shaft, and levers connecting said crank and said noses.

7. In an automatic electric railway signal, the combination with a vehicle, of a stationary overhead structure at one side of the railway track comprising two continuous track wires, a shuttle adapted to run on said wires and provided with noses pivoted on upright axes, an upright shaft in said shuttle connected with said noses, an arm on said shaft, and a flexible cable connecting said arm with said vehicle.

8. In an automatic electric railway signal, the combination with a vehicle, of a stationary overhead structure at one side of the railway track comprising continuous track wires and sectional line wires, a shuttle adapted to run on the track wires, insulated arms extending from said shuttle, and contact devices on said arms bearing against said line wires.

9. In an automatic electric railway signal, the combination with a vehicle, of a stationary overhead structure at one side of the railway track comprising track wires and sectional line wires, a shuttle provided with wheels adapted to run on the track wires, insulated resilient arms extending from said shuttle, and contact devices on said arms urged upwardly thereby against said line wires.

10. In an automatic electric railway signal, the combination with a main line of railway track and a siding, of a stationary overhead structure located at the same side of the track as the siding and comprising track wires and sectional signaling wires for both the main line and the siding, said wires crossing the siding at the point where it leaves the main line, and a switch for said track wires located in the angle between the main line and the siding.

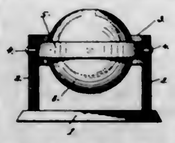
11. In an automatic electric railway signal, the combination with a vehicle, of a line wire extending along the railway track, a traveling contact moving with the vehicle, a battery on said vehicle, and means for periodically cutting said battery into and out of circuit when the vehicle is moving, but keeping it constantly cut out when the vehicle is standing still.

12. In an automatic electric railway signal, the combination with a vehicle, of a line wire extending along the railway track, a traveling contact moving with the vehicle, a battery on said vehicle, two stationary contacts connected respectively with the terminals of said battery, and a rotatable contact arm driven by the vehicle and adapted when in motion to make contact alternately with the two stationary contacts and serving to periodically cut the battery into and out of circuit with said line wire.

13. In an automatic electric railway signal, the combination with a vehicle, of a line wire extending along the railway track, a traveling contact moving with the vehicle, a battery on said vehicle, a bowl comprising two segments insulated from each other and connected with the terminals of said battery, one of said segments being also connected with the line, and a rotating arm making contact with said segments and connected with the line.

14. In an automatic electric railway signal, a circuit interrupter comprising a bowl having two insulated segments, one of which does not extend to the bottom of said bowl, a shaft concentric with said bowl, an arm on said shaft making contact with said segments, a battery having its terminals connected with said segments, and a line wire connected with one of said segments and with said arm.

865,782. INK-WELL. CHARLES JACKSON, Pittsburg, Pa. Filed Jan. 21, 1907. Serial No. 353,337.



1. In an ink well, a supporting base, two opposing standards extending vertically from opposite sides of the base, an annulus integral with the upper ends of said standards, a suspension ring pivotally mounted in said annulus, the pivot points being substantially midway the standards, and an ink receptacle pivotally mounted in said ring, the pivot points for the receptacle being at right angles to the pivot points of the ring.

2. In an ink well, two concentrically arranged rings, the outer of which is provided with integral supporting standards, the inner ring being pivotally mounted in the outer ring, and an ink receptacle pivotally mounted in said inner ring, the inner ring being of less width than the width of the outer ring.

3. In an ink well, a supporting base, two oppositely disposed standards rising from the base, an annulus integral with the upper ends of said standards, a suspension ring pivotally secured at opposite sides to the said annulus, said ring being of less width than the width of the annulus, a substantially spherical ink receptacle pivotally supported from opposite sides of its periphery from said ring, the pivot points of the ring and well being on the same horizontal plane, the respective pivot pins being located at right angles to each other, the ink receptacle having a weighted bottom for normally maintaining the receptacle with its opening uppermost, and said ink receptacle pivoted in a horizontal line at right angles to the line of pivot for the ring.

865,783. OIL-BURNER. SEWARD T. JOHNSON and CHRISTIAN Y. ROOP, Oakland, Cal. Filed July 23, 1906. Serial No. 327,338.



1. A burner having an oil passage and a fluid passage surrounding the oil passage, an atomizer in and surrounded by the fluid passage and provided with a rear chamber in communication with the oil passage, and a front chamber in communication with the fluid passage, and with a central orifice connecting the rear chamber and the front chamber, a burner cap fitting on the front end of the atomizer and closing the front end of the fluid passage and communicating centrally with the said front chamber, and a valve stem extending through the oil passage and into the atomizer and terminating in a tapering needle valve adapted to extend into the central orifice of the same.

2. A burner having an oil passage and a fluid passage surrounding the oil passage, an atomizer in and surrounded by the fluid passage and provided with a rear chamber in communication with the oil passage, and a front chamber, and with an orifice connecting the two chambers, and also provided with a passage extending forwardly and inwardly through its wall and connecting the said fluid passage with the said front chamber and disposed to discharge fluid into the latter tangentially, a burner cap fitting on the front end of the atomizer and closing the front end of the fluid passage and communicating centrally with the said front chamber, and a valve stem extending through the oil passage and into the atomizer and terminating in a tapering needle valve adapted to extend into the orifice therein.

3. A burner having an oil passage and a surrounding fluid passage, an atomizer within the fluid passage provided with a rear chamber communicating with the oil passage, and a front chamber and an orifice centrally connecting said chambers and provided also with a forwardly and inwardly extending passage connecting the said fluid passage with the front chamber of the atomizer and extending at a tangent to the longitudinal center of said orifice, a burner cap closing the front end of the fluid passage and fitting on the front end of the atomizer and communicating with the front chamber of the same, and a valve for controlling the orifice connecting the rear and front chambers of the atomizer.

4. A burner having an oil passage and a surrounding fluid passage, an atomizer within the fluid passage and provided with a rear chamber communicating with the oil passage, a front chamber and an orifice centrally connecting said chambers and provided also with a forwardly and inwardly extending tangential passage connecting said fluid passage with the said front chamber, and provided furthermore with tangential perforations disposed along its length establishing communication between the fluid passage and the front chamber, a burner cap closing the front end of the fluid passage and communicating with the front chamber of the atomizer, and a valve controlling the orifice connecting the rear and front chambers of the atomizer.

5. A burner comprising a casting having a central longitudinally extending chamber and a surrounding longitudinal chamber and having a laterally projecting tubular arm communicating with the central chamber and a laterally projecting tubular arm communicating with the outer chamber, a tube communicating at its rear end with the central chamber, an atomizer secured upon the front end of said tube and provided with a rear chamber and a front chamber and with an orifice connecting said chambers and with a forwardly and inwardly extending passage extending from the outer side of the atomizer to the front chamber and disposed tangentially with respect to said orifice, an outer tube communicating with the outer chamber of the casting and of greater internal diameter than the external diameter of the atomizer and surrounding the latter, a cap fitting upon the front end of the atomizer and secured to the outer tube and closing the front end of the space between the latter and the atomizer and provided with a burner orifice, a valve extending centrally through the tubular casting and into the atomizer and provided with a needle point to extend more or less through or be wholly withdrawn from the jet orifice and provided also with a handle at its rear end, and a packing box secured to the rear end of the casting and around the valve stem to close the rear end of the central chamber in said casting.

6. In an oil burner, a cylindrical tubular atomizer having an integral partition dividing it into front and rear chambers having open ends, the said partition having a central orifice forming a communication between the two chambers and with passages beyond the center forming communications between the front chamber and the surrounding space.

7. The combination of an oil tube, a fluid tube surrounding the oil tube and extending beyond the end of the same, a cylindrical atomizer secured on the end of the oil tube and extending forward to the end of the fluid tube, the atomizer having a transverse partition dividing it into front and rear chambers, said partition having a central orifice connecting the two chambers, and tangential passages forming communications between the fluid tube and the front chamber of the atomizer, and the said front chamber having tangential openings in its wall, a valve guide in the rear chamber of the atomizer, a valve extending through the oil tube and said guide and entering the central orifice in the partition of the atomizer, and a cap secured in and closing the front end of the fluid tube and fitting over the front end of the atomizer.

865,784. EXPANSIBLE REAMER. OTTO LANGE, Camden, N. J. Filed Mar. 5, 1907. Serial No. 360,714.



1. A reamer having a plurality of conical shaped apertures therethrough in the same longitudinal plane and merging directly one into the other, and a plurality of conical shaped members engaging said apertures at right angles to the length of the reamer for varying the diameter of the latter.

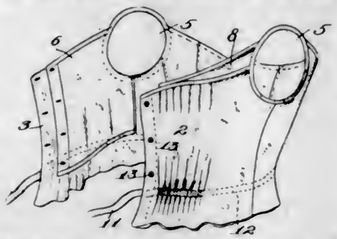
2. A reamer having a plurality of conical shaped apertures therethrough in the same longitudinal plane and directly merging one into the other and a plurality of conical shaped members engaing said apertures at right angles to the length of the reamer for varying the diameter

of the latter, the end apertures being of greater diameter than the others.

3. A reamer having a flattened face and a contiguous cutting edge and a plurality of conical shaped apertures therethrough in the same longitudinal plane and directly merging one into the other, and a plurality of conical shaped members engaging said apertures at right angles to the length of the reamer for varying the diameter of the latter.

4. A reamer having a plurality of conical shaped apertures therethrough in the same longitudinal plane and directly merging one into the other at a distance from the point, and a plurality of conical shaped members engaging said apertures at right angles to the length of the reamer and confined within the circumference of the same, for varying the diameter of the latter.

865,785. CORSET-WAIST. MARTIN W. LAVY, New York, N. Y. Filed Feb. 28, 1907. Serial No. 359,939.



A corset cover comprising a body portion, combined sides and fronts connected thereto, said body portion and combined sides and fronts having their lower edges terminating slightly below the waist line of the person and slightly above the top edge of the corset and further cut away to form the arm openings, inner flaps having their inner edges secured to the rear of the combined sides and fronts and having the upper portion thereof extending above the top edge of the combined sides and fronts, each of said inner flaps having their top edge extending downwardly at an inclination from rear to front, and said inner flaps having their front edge terminating at a point at the rear of the front edge of the combined sides and fronts and said inner flaps further having their lower edge terminating at a point above the lower edge of said combined sides and fronts.

865,786. LOCK SAFETY-PIN. JOHN H. LIPPKE, Waterbury, and ROBERT M. BABIN, Oakville, Conn. Filed Dec. 12, 1906. Serial No. 347,494.



1. A safety pin comprising arms one of which is provided with a shield having a locking recess and bumps projecting into said recess near the rear end thereof, and an arm provided with a point and on each side back of the point with a forwardly and inwardly and downwardly and inwardly inclined and forwardly and downwardly undercut recess, whereby rearwardly tapering wedges are formed which when drawn between the bumps and the bottom of the locking recess prevent the disengagement of the point therefrom.

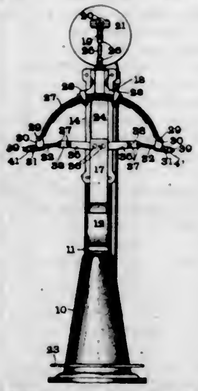
2. A saftey pin comprising arms one of which is provided with a shield having a locking recess and bumps projecting into said recess, the other arm being provided with a point and on each side back of the point with a downwardly and inwardly inclined and forwardly and downwardly undercut recess, whereby rearwardly tapering wedges are formed, substantially as described, for the purpose specified.

3. In a safety pin, the combination with an arm provided with a shield, of an arm provided with a point and on each side back of the point with a downwardly and inwardly inclined and forwardly and downwardly undercut recess, whereby rearwardly tapering wedges are formed each side of the rear end of the point.

4. In a safety pin, the combination with an arm provided with a shield, of an arm provided with a point and on each side back of the point with a recess having its forward wall downwardly and forwardly undercut to form a rearwardly tapering wedge, substantially as described, for the purpose specified.

5. A safety pin comprising arms one of which is provided with a shield having inwardly extending bumps, the other arm having a point and back of the point recesses with forwardly and downwardly undercut forward walls whereby rearwardly tapering wedges are formed.

865,787. POWER-HAMMER. PETER S. MACGOWAN, St. Louis, Mo., assignor to Macgowan and Finigan Foundry & Machine Co., St. Louis, Mo., a Corporation of Missouri. Filed Feb. 28, 1907. Serial No. 359,766.



1. In a power hammer, the combination with a cross head, of a spring bow carried thereby, sleeves pivoted to the ends of said spring bow, a hammer, a pair of connecting rods each pivoted at one end to said hammer and passing through one of said sleeves at the other end, each of said rods being provided with a pivotal joint intermediate its ends, means for adjusting the said sleeves on said rods, and means for actuating the said cross head.

2. In a power hammer, the combination with a cross head, of a spring bow carried thereby, a sleeve pivoted to each end of said spring bow, a hammer, a pair of connecting rods each comprising two parts, one part of each of said connecting rods being pivoted to said hammer and the other passing through one of said sleeves, a pair of links pivoted to the adjacent ends of said parts, nuts for adjusting said sleeves on said rods, and means for actuating the said cross head.

3. In a power hammer, the combination with a cross-head, of a spring bow carried thereby, a hammer, a connecting rod between each end of said spring bow and said hammer, each of said connecting rods having a pivotal joint intermediate its ends, and the outer part of each of said connecting rods being pivoted to said bow at a point above the axis of the rod, whereby the tension of said bow throws the inner end of said outer part upwardly, and means for operating said crosshead.

4. In a power hammer, the combination with a cross-head, of a spring bow carried thereby, a hammer, a pair of connecting rods each comprising two pivotally connected parts, the inner part of each of said connecting rods being pivoted to said hammer and the outer part passing through a sleeve, an upwardly extending lug carried by each of said sleeves and pivoted to said spring bow, whereby the tension of said bow throws the inner end of said outer part upwardly, and means for operating said crosshead.

865,788. SKIRT-SUPPORTER. FRANCES J. MARTIN, Cedar Bayou, Tex. Filed May 21, 1907. Serial No. 374,953.



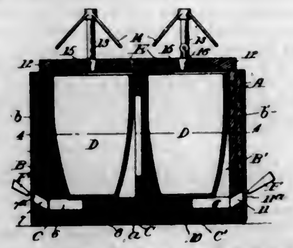
1. A skirt supporter comprising a loop for connection to a waist belt, a clasp member provided with a head, a clasp member provided with a slot for engaging said head, a piece of webbing secured to one of said clasp members, and having a loop to which is connected a skirt supporting clasp, said skirt supporting clasp comprising a plurality of resilient wires having parallel portions and lower curved portions connected together by a pin, a sliding disk connected to the parallel portions, and provided with a resilient clasp member.

2. In a skirt supporter, a clasp comprising a series of resilient wires having parallel portions and curved portions connected together by a pin, and a sliding member comprising a disk through which the parallel members pass, said sliding member being connected to the disk and having a ball or button at its terminal end.

3. A skirt supporter comprising a clasp consisting of a series of resilient wires, a sliding member comprising a disk having a resilient wire member connected thereto and adapted to slide upon the clasp members.

4. A skirt supporting clasp comprising a plurality of resilient wire members connected to disks and provided with parallel portions, and outwardly and upwardly curved terminal ends, said ends being connected together by a pin or rivet, and a sliding member comprising a disk through which said parallel portions extend, and a resilient wire member connected to said disk and provided with a ball at the terminal end thereof.

865,789. FURNACE FOR MELTING METAL. JAMES V. MARTIN, Baltimore, Md., assignor of one-third to Thomas C. Brian, Baltimore, Md. Filed Mar. 29, 1907. Serial No. 365,270.



1. A furnace for melting metal comprising a casing having an interior cylindrical wall and base, both of refractory material, said casing and wall having a fuel inlet opening therethrough, and said base having a main channel extending from its center to said inlet opening and branch channels diverging from the inner end of the main channel to the cylindrical wall, said wall having a vertically extending slot for the escape of gases arranged diametrically opposite to said inlet opening, and a crucible adapted to be supported upon the base at the diverging points of the channels.

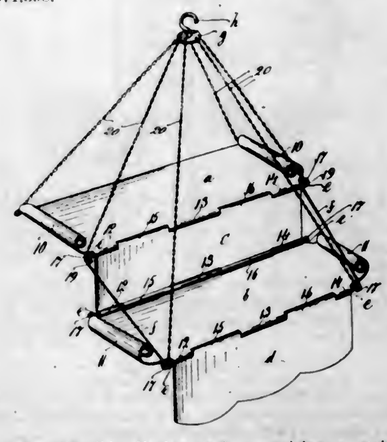
2. The combination with an oblong casing, of two furnaces therein, arranged side by side, each furnace comprising a cylindrical wall of refractory material and a base of refractory material, the adjacent walls of said furnace having a communicating opening therethrough, said casing having fuel inlet openings at its ends and said walls having inlet openings registering with the inlet openings in the casing, and the base of each furnace having a main channel extending from its center to said inlet opening and branch channels diverging from the inner end of the main channel to the wall of the furnace at each side of said communicating opening, and a crucible adapted to be supported upon the base at the diverging points of the channels.

3. In a double furnace for melting metals, the combination with a suitable outer casing of two cylindrical furnaces therein arranged vertically side by side, the adjacent walls of said furnaces having a narrow vertically-extending slot therethrough, and said furnaces each having a fuel inlet opening diametrically opposite said slot, and means upon the floor of each furnace between the inlet opening and slot for baffling the flames.

4. In a double furnace for melting metals, the combination with a suitable casing, of two furnaces therein arranged vertically side by side, and each having a fuel inlet opening, the adjacent walls of said furnaces having a vertically extending communicating opening therethrough, said opening being narrower at the top than at its lower end.

5. In a double furnace for melting metal, the combination with a suitable casing, of two furnaces therein arranged vertically side by side, and each having a fuel inlet opening, the adjacent walls of said furnaces having a vertically extending communicating opening therethrough, said opening being narrow at the top and gradually increasing in width toward its lower end.

865,790. COLLAPSIBLE DISPLAY-RACK. MORITZ MAYER, New York, N. Y. Filed May 2, 1907. Serial No. 371,398.



1. A collapsible display rack comprising a series of shelves, means for pivotally connecting the forward edge of a shelf with the rear edge of the next adjacent shelf, means adapted to extend between the forward edges of the

said shelves and at the ends thereof to maintain the same in an open and set up relationship and means for suspending the display rack.

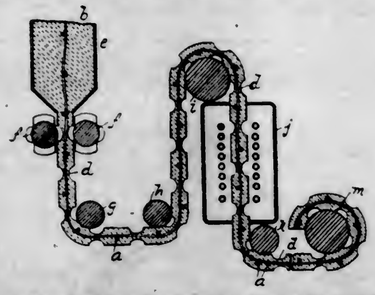
2. A collapsible display rack comprising an upper shelf, a lower shelf, a member intermediate of said shelves, a member depending from the forward edge of the lower shelf, interlocking bearings on the forward edge of the upper shelf along the edges of the lower shelf and the intermediate members and the upper edge of the said depending member, pins passing through the said interlocking bearings to pivotally connect the members together, stay-rods passing between and connected with the extremities of the pins and means for supporting the rack from the extremities of the said pins.

3. A collapsible display rack comprising a series of shelves, members intermediate of the said shelves, means for pivotally connecting the shelves and intermediate members together, means extending between the corresponding edges of the said shelves and at the ends thereof for maintaining the parts in an open and set-up relationship and means for suspending the display rack.

4. A collapsible display rack comprising an upper shelf member and a lower shelf member, a member pivotally connected to the said shelf members, a member also pivotally connected to the lower shelf member and depending therefrom, means extending between and connected to the corresponding edges of the said upper and lower shelf members for maintaining the aforesaid parts in an open and set-up relationship and means for suspending the display rack.

5. A collapsible display rack comprising an upper shelf member and a lower shelf member, a member pivotally connected at the edges thereof to the adjacent edges of the said shelf members, a member also pivotally connected to the lower shelf member and depending therefrom, stay-rods extending between and connected to the corresponding edges of the said upper and lower shelf members for maintaining the parts in an open and set-up position, and means for suspending the display rack.

865,791. FIREPROOF LATH. WILHELM MEIER, Elizabeth, N. J. Filed Apr. 26, 1907. Serial No. 370,527.

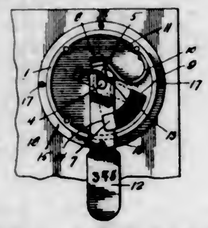


1. A fire proof lath comprising a wire netting or fabric with an inclosing or coating mass of clay or the like, said mass being of diminished thickness at suitable points to allow rolling or reeling of the lath without breaking the coating.

2. A fire proof lath comprising a coating of clay or the like, and a wire netting inclosed by said mass, said mass being of diminished thickness between the crossing points of the net wires so as to allow ready reeling of the lath.

865,792. MINER'S LOCK. CLARENCE E. MILLER, Fairmont, W. Va., and QUINCY L. POSR, Connellsville, Pa. Filed Mar. 28, 1907. Serial No. 365,070.

1. In a miners lock, the combination with a car body, of a circular lock casing, said casing having slots formed therein, a pin carried by said casing, a tumbler pivotally mounted on said pin within said casing and having a lug adapted to engage in one of said slots, a key adapted to extend in the other of said slots and embrace said pin, said key having a slot formed therein to receive the end of said tumbler, a spring normally engaging the opposite end of said tumbler and adapted to be moved by the end of said key, and a lid secured upon said casing.



2. A miners lock embodying a casing having slots formed therein, a tumbler pivotally mounted in said casing, a lug carried by the lower end of said tumbler and extending in one of said slots, a key adapted to extend in the other of said slots and having a notch to receive the end of said tumbler, and a spring normally bearing against said tumbler and adapted to be engaged by said key to be moved away from said tumbler.

3. A miners lock embodying a casing having a spring pressed tumbler pivotally mounted therein, a key adapted to be inserted in said casing to release said tumbler, and means carried by said tumbler to engage said key and retain the same within said casing.

4. In a lock of the type described, a lock-casing, having two slots, one in the rim and the other in the bottom of the casing, a pin carried by said bottom, a tumbler pivotally-mounted on said pin within the casing and having one end thereof engaging in the slot in the bottom of said casing, means engaging said tumbler for normally maintaining the slot-engaging end at one end of the slot in the bottom of the lock-casing, and a key adapted for insertion through the slot in the rim of the lock-casing and having a notch to receive the tumbler by which it is locked in the lock-casing.

5. In a miner's lock, a lock-casing having a key-slot, a tumbler pivotally-mounted within the lock-casing, a spring for normally holding said tumbler in the unlocked position, and a key for insertion through said key-slot to engage the spring and free the tumbler, said tumbler when freed engaging the key to lock the latter in the lock-casing.

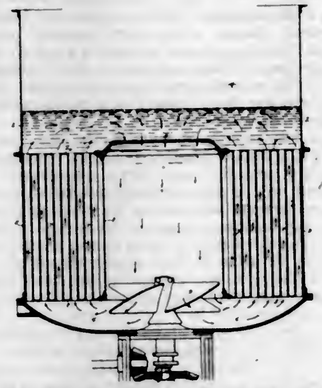
6. In a miner's lock, a pivotally-mounted tumbler adapted for locking engagement with a key, means for normally holding said tumbler in unlocked position, and a key for actuating said holding-means to free the tumbler and permit the latter to move into locking-engagement with said key.

7. In a miner's lock, a pivotally-mounted tumbled yieldably held in unlocked position and adapted to move by gravity to locked position, a spring for holding the tumbler in unlocked position, and a key for actuating the spring to free the tumbler, said key having a notch to receive the tumbler.

8. In a miner's lock, a lock-casing having a key-slot, a tumbler pivotally mounted within the lock-casing yieldably held in unlocked position and movable to locked position, means for normally holding said tumbler in unlocked position, and a combined key and check insertible through the key-slot into said lock-casing for actuating said tumbler and permit the latter to drop into engagement with the key and check and lock the same in the lock-casing.

865,793. APPARATUS FOR MAKING SUCRATE OF LIME. EDWIN MORRISON, Fort Collins, Colo., assignor to The American Sugar Refining Company, Jersey City, N. J., a Corporation of New Jersey. Filed Nov. 1, 1905. Serial No. 285,470.

1. In apparatus for making sucrate of lime, the combination, with a tank having a cooling chamber, a well, and a mixing chamber disposed above said cooling chamber, of means for causing circulation of a molasses solution from said mixing chamber through said well and cooling chamber, the wall of said well extending above the top of the cooling chamber.

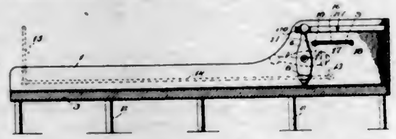


2. In apparatus for making sucrate of lime, the combination, with a tank having a cooling chamber, a well, and a mixing chamber disposed above said cooling chamber, of means for causing circulation of a molasses solution from said mixing chamber through said well and cooling chamber, the walls of said well being solid and extending above the top of the cooling chamber and inclined inwardly to reduce the area of inlet to said well.

3. In apparatus for making sucrate of lime, the combination, with a tank having a cooling chamber, a well, and a mixing chamber disposed above said cooling chamber, of means for causing circulation of a molasses solution from said mixing chamber through said well and cooling chamber, the walls of said well being solid and extending above the top of the cooling chamber, and a top or cap for said well having perforations distributed throughout the area of its horizontal surface.

4. In apparatus for making sucrate of lime, the combination, with a tank having a cooling chamber, and a mixing chamber disposed above said cooling chamber, of an inner vertical wall forming a well, and means for causing circulation of a molasses solution through said well and cooling chamber, the wall of said well extending to a point above the top of the cooling chamber.

865,794. GAME APPARATUS. HENRY B. MCCULLOCH, Canton, Okla. Filed Apr. 10, 1907. Serial No. 367,411.



1. The combination of a bed, pins pivoted near their centers at one end of the bed, a plurality of yielding clamps formed of a plurality of bars arranged in the same plane, secured at one end and provided with alined bores and a tie rod passing through the bores for adjusting the pressure of the bars on the pins.

2. The combination with a series of pivoted pins, of a hinged setting member for the pins, comprising a plate provided with cut away portions each of a size to permit one of the pins to pass therethrough, and means for closing said cut away portions.

3. The combination with a series of pivoted pins, of a hinged setting member for the pins, comprising a plate provided with cut away portions each of a size to permit one of the pins to pass therethrough and a slide for closing said cut away portions.

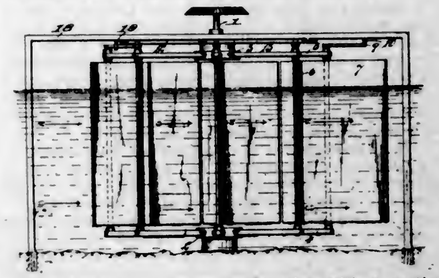
4. In a game apparatus, a bed, pins pivoted near their centers, at one end of the bed, a plurality of yielding clamps formed of a plurality of bars arranged in the same plane, secured at one end, and provided with alined bores, a tie-rod passing through the bores for adjusting the pressure of the bars on the pins, and means for setting a number of pins less the whole number.

865,795. TALLY-CARD. EDWARD D. MCKENNA, Brooklyn, N. Y. Filed Sept. 5, 1906. Serial No. 333,378.



A tally card comprising the holder with a series of slits formed therein in parallel pairs to provide straps between the same, one slit of each pair being longer than the other, and each strap being numbered consecutively, and a card provided with a double row of detachable coupons, each row of coupons having numbers corresponding with the numbers on the straps, said coupons being also provided with a table number, said coupons serving to be connected under the straps by inserting the coupons through the slits, said holder having a central rouletted line to permit of folding and said holder also having a perforation arranged on opposite sides of the rouletted line, substantially as specified.

865,796. HYDRAULIC MOTOR. FREDERICK W. O'BRIEN, Detroit, Mich. Filed Dec. 24, 1906. Serial No. 349,289.

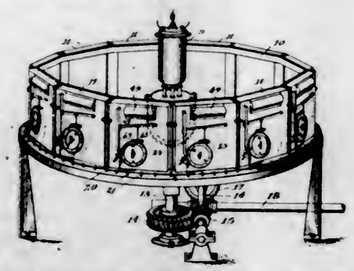


1. In a water motor, in combination with a vertical shaft, arms extending radially therefrom, buckets pivotally connected to said arms, a crank arm fixed in parallel relation to each bucket, a pair of curved guides extending around one half the circle of travel of the said buckets, the first of said guides being adapted to engage the antifriction rolls with the antifriction roll against the outer curve of said guide, the second of said guides being adapted to engage said roll with the roll on the inner curve of said

guide, and means whereby the bucket is caused to engage on the outside of the first mentioned guide, substantially as described.

2. In a water motor, in combination with a vertical shaft, arms projecting radially therefrom, buckets connected pivotally to said arms and having portions extending unequally from the pivotal axis thereof, a crank arm for each bucket extending parallel with the broader portion of the bucket to which it is connected, a curved guide adapted to engage said crank arm with the engaging part of the crank arm on the external curve of said guide, means co-acting with the current force to cause the said arm to engage the outer curve of said guide, a second curved guide adapted to engage said crank arm with the engaging part of the crank arm on the inner curve of said guide, and means whereby the said arm passes from the outer curve of the first guide to the inner curve of the second guide, substantially as described.

865,797. AUTOMATIC PHOTOGRAPHIC-PRINTING DEVICE. ARTHUR R. PALMER, San Diego, Cal., and WILL C. PALMER and HARRY A. STANFORD, Chicago, Ill. Filed Feb. 23, 1906. Serial No. 302,530.



1. In a photographic printing device, the combination of a printing frame, an adjustable timing device mounted thereon, and means to operate said timing device to expose the sensitized medium in said frame a length of time equal to that for which said timing mechanism is set, substantially as described.

2. In a photographic printing device, the combination of a plurality of printing frames, an adjustable timing device mounted on each of said printing frames, and means common to all of said frames to operate said timing devices to expose the sensitized medium in each of said frames a length of time equal to that for which its timing mechanism is set, substantially as described.

3. In a photographic printing device, the combination of a plurality of printing frames each equipped with a timing device, means to operate said devices whereby to expose the sensitized medium in each frame a length of time equal to that for which its timing device corresponds, and automatic means on each frame to remove the exposed portion of sensitized medium from the negative and bring an unexposed portion behind the negative at the termination of each exposure, substantially as described.

4. In a photographic printing device, the combination of a plurality of printing frames each equipped with an adjustable timing device, means to operate said devices whereby to expose the sensitized medium in each frame a length of time equal to that for which its timing device is adjusted, and automatic means on each frame to remove the exposed portion of sensitized medium from the negative and bring an unexposed portion behind the negative at the termination of each exposure, substantially as described.

5. In a photographic printing device, the combination of a plurality of printing frames each equipped with an adjustable timing device, means to operate said devices whereby to expose the sensitized medium in each frame a length of time equal to that for which its timing device is adjusted, a supply roller for each frame adapted to receive a roll of sensitized paper, a wind-up roller for each frame, and automatic means to roll on said wind-up roller a length of paper corresponding substantially to the length of the negative and to draw from said supply roller an unexposed portion of said paper back of the negative at the termination of each exposure, substantially as described.

6. In a photographic printing device, the combination of a cabinet adapted to receive a plurality of printing frames and expose the same to light, a plurality of printing frames each having mounted thereon an adjustable timing device to limit the exposure of the sensitized medium, and means to operate said timing devices, substantially as described.

7. In a photographic printing device, the combination of a rotatable cabinet adapted to receive printing frames, a plurality of printing frames each equipped with a timing device, and one or more projections adapted to actuate said timing devices, substantially as described.

8. In a photographic printing device, the combination of a rotatable cabinet adapted to receive printing frames, a plurality of printing frames each equipped with an adjustable timing device, and one or more stationary projections adapted to operate said timing device, substantially as described.

9. In a photographic printing device, the combination of a rotatable cabinet adapted to receive printing frames, a plurality of printing frames each provided with a timing device, one or more stationary projections to operate said timing devices, and automatic means on each printing frame adapted to remove the exposed paper from behind the negative and replace it with unexposed paper, said means being controlled by said timing device, substantially as described.

10. In a photographic printing device, the combination of a cabinet adapted to receive printing frames and expose them to light, one or more printing frames each equipped with a timing device to determine the duration of exposure of the sensitized medium including a ratchet wheel and a feeding pawl, and means to actuate said timing devices, substantially as described.

11. In a photographic printing device, the combination of a cabinet adapted to receive printing frames and expose them to light, one or more printing frames each equipped with a timing device to determine the duration of exposure of the sensitized medium including a ratchet wheel, a feeding pawl, and a pawl actuating means, said means and cabinet being relatively rotatable, and means for each frame controlled by its timing device to remove the exposed paper from behind the negative and replace it with unexposed paper, substantially as described.

12. In a photographic printing device, the combination of a cabinet adapted to receive printing frames and expose them to light, one or more printing frames each equipped with an adjustable timing device to determine the duration of exposure of the sensitized medium including a ratchet wheel, a spring actuated pawl, and an adjustable plate, one or more pawl actuating means, said means and cabinet being relatively rotatable, and automatic means for each frame controlled by its timing device to remove the exposed sensitized medium from behind the negative and replace it with unexposed, substantially as described.

13. In a photographic printing device, the combination of a cabinet adapted to receive printing frames and expose them to light, one or more printing frames each equipped with an adjustable timing device to determine the duration of the exposure of the sensitized medium including a ratchet wheel, a pawl and a slotted plate adjustable relatively to said ratchet wheel, one or more pawl actuating means, said means and cabinet being relatively rotatable, a lever controlled by said slotted plate, and automatic means for each frame controlled by said lever to remove the exposed sensitized medium from behind the negative and replace it with unexposed, substantially as described.

14. In a photographic printing device, the combination of a cabinet adapted to receive printing frames and expose them to light, one or more printing frames each equipped with a timing device to determine the duration

of exposure of the sensitized medium including a ratchet wheel, a feed pawl, and a spring to return said ratchet wheel to normal position, and one or more pawl actuating means, said means and cabinet being relatively rotatable, substantially as described.

15. In a photographic printing device, the combination of a cabinet adapted to receive printing frames and expose them to light, one or more printing frames each equipped with an adjustable timing device to determine the duration of exposure of the sensitized medium, a lever for each frame controlled by its timing device, and a winding-up roller equipped with a cam coöperating with said lever adapted to wind up the sensitized medium to remove the exposed portion from behind a negative at the termination of each exposure, substantially as described.

16. In a photographic printing device, the combination of a cabinet adapted to receive printing frames and expose them to light, one or more printing frames each equipped with a timing device to determine the duration of the exposure of the sensitized medium including a spring actuated rotatable ratchet wheel, a slotted disk, and a feeding pawl, one or more pawl actuating means, said means and cabinet being relatively rotatable, and an automatically actuated wind-up roller on each frame to roll up the exposed portion of sensitized medium at the termination of each exposure, said roller being equipped with a cam, and a lever coöperating with said cam and the slot of said disk to control the operation of said roller, substantially as described.

17. In a photographic printing device, the combination of a cabinet adapted to receive printing frames and expose them to light, one or more printing frames each equipped with an automatically resetting timing device to determine the duration of exposure of the sensitized medium, and one or more actuating means for said timing devices, substantially as described.

18. In a photographic printing device, the combination of a cabinet adapted to receive printing frames and expose them to light, one or more printing frames each equipped with a rotary automatically-resetting timing device to determine the duration of exposure of the sensitized medium, and actuating means for said timing devices, substantially as described.

19. In a photographic printing device, the combination of a printing frame and timing mechanism to determine the duration of exposure of the sensitized medium in said printing frame, means to press said sensitized medium on the negative, means controlled by said timing mechanism to release the pressure on said sensitized medium, means controlled by said timing mechanism to remove the exposed sensitized medium from said negative, and means to operate said timing device, substantially as described.

20. In a photographic printing frame, a brush to hold the sensitized medium on the negative, substantially as described.

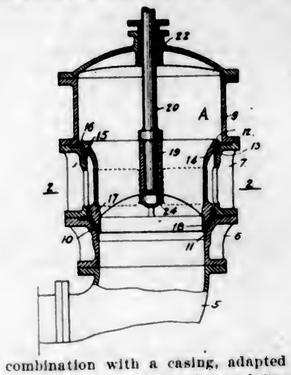
21. In a photographic printing frame, the combination of a brush to hold the sensitized medium on the negative, a spring tending to reduce the pressure of said brush on said sensitized medium, and means to maintain said brush in position to firmly hold said medium on the negative in opposition to the action of said spring, substantially as described.

865,798. VALVE. JOHN PETERSON, New York, N. Y. Filed Jan. 16, 1907. Serial No. 352,489.

1. The combination with a pipe, of a valve casing surmounting the same adapted to be submerged in a body of water, said casing having ports arranged therein to permit the inflow of the water at all times, a plurality of seats concentrically arranged above and below the ports, and a hollow plug having inclined end portions adapted to bear against the seats.

2. A valve comprising a casing adapted to be submerged in a body of water and having an intermediate section formed with a plurality of ports at all times open to the inflow of water, valve seats arranged above and below the ports, and a conical hollow plug adapted to bear against said seats when closed.

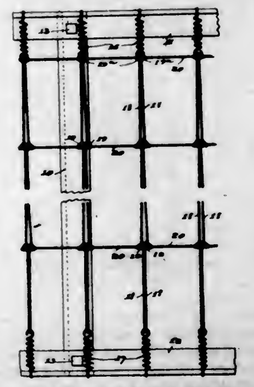
3. The combination with a valve casing adapted to be submerged in a body of water and having a plurality of ports formed therein at all times open to the inflow of water, concentrically arranged inclined seats formed above and below said ports, a closed chamber above the uppermost seat, and a tubular conical plug arranged within said casing and adapted to have its upper and lower edge portions bear against adjacent seats when the valve is closed.



4. The combination with a casing, adapted to be submerged in a body of water and having an intermediate section formed with a plurality of ports extending entirely around the same and at all times permitting the inflow of water, inclined seats arranged above and below said ports, a tubular conical plug within said casing having inclined edge portions designed to bear against adjacent seat portions, and a stem for said plug extending through the bonnet portion of the valve.

5. The combination with a pipe, of a valve casing adapted to be submerged in a body of water, said casing including an upper bonnet portion and an intermediate portion having ports extending entirely around the same and open at all times for the inflow of water, concentric seats formed at the intermediate portion above and below the ports, and a tubular conical plug adapted to have its upper and lower edges bear against said seats.

865,799. WIRE BED-BOTTOM FABRIC. HENRY RICHARDSON, Chicago, Ill. Filed Feb. 11, 1907. Serial No. 356,775.



1. A bed-bottom fabric including a plurality of bent wire units connected end to end to form parallel longitudinal strands each lying in a single direct line of strain from end to end of the structure, each of said units consisting of a wire bent to form a straight longitudinal two-ply tension member having a pair of loops at one end thereof, said loops being connected across said tension member, in

combination with transversely disposed links engaging the loops of laterally adjacent strands, substantially as described.

2. A bed-bottom fabric including a plurality of bent wire units connected end to end to form parallel longitudinal strands each lying in a single direct line of strain from end to end of the structure, each of said units consisting of a wire bent to form a tapered two-ply longitudinal tension member having a pair of loops at its narrow end, connected across said tension member, in combination with transversely disposed links engaging the loops of laterally adjacent strands, substantially as described.

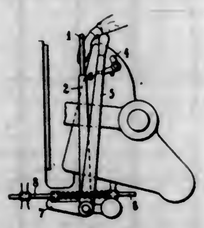
3. A bed-bottom fabric including a plurality of bent wire units connected end to end to form parallel longitudinal strands each lying in a single direct line of strain from end to end of the fabric, each of said units consisting of a wire bent to form a tapered two-ply longitudinal tension member having a pair of loops at its narrow end connected across said tension member, and a pair of hooks at its wide end engaged with the loops of a longitudinally adjacent unit, in combination with transversely disposed links hooked into the loops of laterally adjacent strands, substantially as described.

4. As an article of manufacture, an integral bent wire unit for a bed-bottom fabric consisting of a straight double-wire longitudinal tension member the twin wires of which terminate at one end in hooks and at the other end are extended to form a pair of oppositely disposed loops lying wholly laterally of and connected across said tension member, substantially as described.

5. As an article of manufacture, an integral bent wire unit for a bed-bottom fabric consisting of a tapered double-wire longitudinal tension member the twin wires of which terminate at the wide end in hooks and at the narrow end lie contiguous to each other and are extended to form a pair of oppositely disposed loops lying laterally of and connected across and beneath said tension member, substantially as described.

6. A bed-bottom fabric including a plurality of bent wire units connected end to end to form parallel longitudinal strands, each of said units consisting of a wire bent to form a straight double-wire longitudinal tension member having a pair of laterally projecting loops at one end, said loops being connected across one side of said double-wire tension member, in combination with transverse links engaging the loops of laterally adjacent units to thereby flexibly connect adjacent strands, substantially as described.

865,800. PLATEN PRINTING-MACHINE. MAX ROCKSTROH, Klein-Sedlitz, near Pirna, Germany. Filed June 4, 1907. Serial No. 377,280.



In a platen printing press, a bell-crank lever carried by the platen, a stop motion lever having a pin arranged in the path of one of the arms of said bell crank, and a hand guard arranged in operative relation with respect to the platen and when in operative position adapted to retain the bell-crank clear of the pin, said hand guard when moved from operative position allowing of the bell crank to engage said pin and shift said stop motion lever to release the stop motion mechanism.

865,801. LADY'S WORK-STAND. LAURA RODEEN, Wehrum, Pa. Filed Nov. 21, 1906. Serial No. 344,504.



1. A device of the character described, comprising a clamp, a bar secured to the clamp and provided with horizontally disposed arms to provide a head, a work stand, and a channeled member secured to said work stand, said channeled member being adapted to receive the head to secure the work stand to the bar.

2. A device of the character described, comprising a clamp, a bar secured to the clamp and provided with horizontally disposed arms to provide a head, a work stand including a detachably mounted tray, and a channeled member secured to the work stand, said member being adapted to receive the head to secure the work stand to the bar.

865,802. AUTOMATIC LIGHTING DEVICE. ISRAEL M. ROSE, Philadelphia, Pa. Filed Apr. 20, 1907. Serial No. 369,378.



1. In an automatic lighting device of the character stated, means for guiding and holding a strip of fulminate pellets, means for advancing said strip, a rotary member, an endwise-movable member actuated thereby, a fulminate striking device on and rotatable with said rotary member, and means for operating said rotary member and advancing said device in line with a pellet on said strip to engage the same.

2. In an automatic lighting device of the character stated, a stationary sleeve, a sliding sleeve, a shaft in said sleeves, a stud adapted to engage one of said sleeves, means for rotating said shaft, a striker on said shaft, a strip of fulminate pellets adapted to be passed through a guiding and holding device, the latter having a passage therein, means for advancing said strip and placing a fulminate thereon in the path of the striker.

3. In an automatic lighting device of the character stated, a shaft, a movable member fitted thereon, means for holding said member, a projection on said shaft adapted to engage said movable member, a fulminate striker on said shaft, a guiding and holding device for a strip of fulminate pellets, and means for advancing said strip and placing a pellet thereon in the path of said striker.

4. In an automatic lighting device of the character stated, means for guiding and holding a strip of fulminate pellets, a rotary member, an endwise-movable sleeve actuated thereby, a movable member, a detent on the latter adapted to engage said strip, and means on said member adapted to engage said detent and remove it from said strip.

5. In an automatic lighting device of the character stated, a stationary member having a passage therein for guiding and holding a strip of fulminate pellets, a rotary member, an endwise-movable sleeve actuated thereby, a movable member, a detent on the latter adapted to engage said strip to advance the same, and a check pawl on said stationary member adapted to engage said strip to prevent return of the same.

6. In an automatic lighting device of the character stated, a stationary sleeve, a movable sleeve fitted thereto, the latter having a spiral end, a rotary shaft passing through said sleeves, a projection on said shaft adapted to ride on said spiral end, a fulminate striker on said shaft a spring acting on said movable sleeve, a guide and holder for a strip of fulminates, said guide and holder having an opening to receive said striker and admit the latter to a fulminate on said strip.

7. In an automatic lighting device, a strip of fulminate members, means embodying a rotary member and an endwise-movable member actuated thereby for advancing the same to an operative position, and means for stationarily holding the same on the return motion of the advancing means.

8. In an automatic lighting device, a strip of fulminate members, a rotary member, an endwise-movable member actuated thereby and detent carried by said endwise-movable member for advancing the same to an operative position, and a check pawl for holding said strip on the return motion of said detent, said pawl being adapted to have said detent pass through the same.

9. In an automatic lighting device, a rotary and a stationary member parallel therewith, an endwise-movable member actuated by said rotary member, and a ratchet and pawl connected respectively with said rotary and stationary members.

10. In an automatic lighting device, a strip having fulminate members thereon alternating with openings between said members, said openings being adapted to be engaged by an advancing device.

11. In an automatic lighting device, a strip having fulminate members thereon alternating with openings between said members, said openings being adapted to be engaged by a retaining device.

12. In an automatic lighting device, a strip having fulminate members thereon alternating with openings between said members, said openings being adapted to be engaged by advancing and retaining devices.

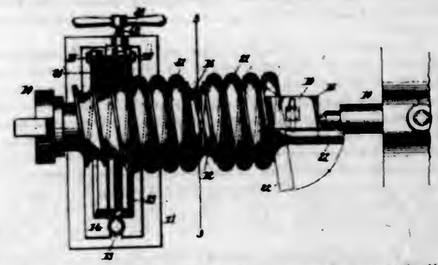
13. In an automatic lighting device, a movable member, a strip of fulminate material, a containing and guiding piece for said strip, a device embodying a rotary member, a longitudinally-movable member actuated thereby, and means actuated by said movable member for advancing said strip to locate the fulminate thereof in operative position, a striker carried by said rotary member adapted to engage said fulminate to ignite the same, and means for placing said striker and fulminate in engagement.

14. In an automatic lighting device, a movable member, a strip of fulminate material, a device on said member for advancing said strip, a containing and guiding piece for said strip, means embodying a rotary member, a longitudinally-movable member actuated thereby, and means actuated by said movable member for advancing said strip to place the fulminate thereof in operative position, a striker carried by said rotary member adapted to engage said fulminate to ignite the same, means for placing said striker and fulminate in engagement, and means for returning said movable member and the advancing device of said strip to normal positions.

15. In an automatic lighting device, a movable member, a carrier for a strip of fulminate material, a striker adapted to engage said material, a device for containing and guiding said strip, means for advancing said strip, means embodying a rotary member, a longitudinally-movable member actuated thereby, and means actuated by said movable member for placing said striker and material in engagement to ignite the latter, and an anvil on said device back of said striker.

16. In an automatic lighting device, a strip having fulminate members thereon alternating with openings between said members, and an advancing device embodying a rotary member and an endwise-movable member actuated thereby and a member to engage said openings to advance said strip.

865,803. MEANS FOR COILING PIPES OR TUBES. REUBEN R. ROW, Jersey City, N. J., assignor to The James Reilly Repair and Supply Company, Jersey City, N. J., a Corporation of New Jersey. Filed July 20, 1906. Serial No. 326,980.



1. A pipe-coiling mechanism comprising a spirally grooved mandrel, means for rotating the same, a coiling tool adapted to said mandrel, and a traveling carriage for said tool, said tool having a face on the arc of a circle encompassing a portion of said mandrel and possessing a groove matching and extending along a section of the groove in the mandrel and a part entering and engaging the wall of another section thereof; substantially as set forth.

2. A pipe-coiling and grooving mechanism comprising a spirally grooved mandrel, means for rotating the same, a coiling tool adapted to said mandrel and having means to groove the pipe as coiled, and a traveling carriage for said tool, said tool having a face on the arc of a circle encompassing a portion of said mandrel and possessing a groove matching and extending along a section of the groove in the mandrel and a part entering and engaging the wall of another section thereof; substantially as set forth.

3. A pipe-coiling and grooving mechanism comprising a spirally grooved mandrel, means for rotating the same, a coiling tool adapted to said mandrel and having a device to groove the pipe as coiled, adjusting means for said device, and a traveling carriage for said tool, said tool having a face on the arc of a circle encompassing a portion of said mandrel and possessing a groove matching and extending along a section of the groove in the mandrel and a part entering and engaging the wall of another section thereof; substantially as set forth.

4. A pipe-coiling mechanism comprising a spirally grooved mandrel, means for rotating the same, a coiling tool, and a carriage for said tool, said tool comprising a forwardly projecting table portion and an upwardly extending rear portion adapted to said mandrel and formed with communicating grooves in said portions to receive the pipe and with a rib to enter and engage the wall of the groove in the mandrel; substantially as set forth.

5. A pipe-coiling mechanism comprising a spirally grooved mandrel having a spiral rib defining the groove, means for rotating the same, a coiling tool, and a carriage for said tool, said tool comprising a forwardly projecting table portion and an upwardly extending rear portion adapted to said mandrel and formed with communicating grooves in said portions to receive the pipe, a rib to enter and engage the wall of the groove in the mandrel and parallel shoulders on the arc of a circle to engage the rib on the mandrel; substantially as set forth.

6. A pipe-coiling and grooving mechanism comprising a spirally grooved mandrel, means for rotating the same, a coiling tool, a roller carried by said tool for grooving the

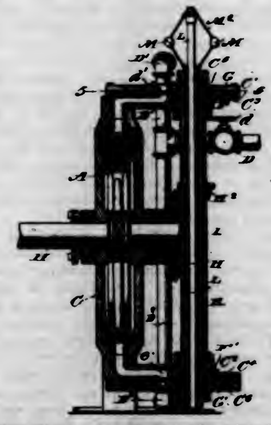
pipe as coiled, and a carriage for said tool, said tool comprising a forwardly projecting table portion and an upwardly extending rear portion adapted to said mandrel and formed with communicating grooves in said portions to receive the pipe and with a rib to enter and engage the wall of the groove in the mandrel; substantially as set forth.

7. A pipe-coiling mechanism comprising a spirally grooved mandrel, means for securing the end of a length of pipe thereto, means for rotating the mandrel, a coiling tool adapted to said mandrel, and a traveling carriage for said tool, said tool having a face on the arc of a circle encompassing a portion of said mandrel and possessing a groove matching and extending along a section of the groove in said mandrel and an elongated rib encircling a portion of said mandrel and entering and engaging the wall of another section of the groove thereof; substantially as set forth.

8. A pipe-coiling and grooving mechanism comprising a spirally grooved mandrel, means for securing the end of a length of pipe thereto, means for rotating the mandrel, a coiling tool adapted to said mandrel and having a roller to groove the pipe as coiled, and a traveling carriage for said tool, said tool having a face on the arc of a circle encompassing a portion of said mandrel and possessing a groove matching and extending along a section of the groove in said mandrel and an elongated rib encircling a portion of said mandrel and entering and engaging the wall of another section of the groove thereof; substantially as set forth.

9. A pipe-coiling and grooving mechanism comprising a spirally grooved mandrel, means for securing the end of a length of pipe thereto, means for rotating the mandrel, a coiling tool adapted to said mandrel and having a roller to groove the pipe as coiled, means for adjusting said roller as to its position, and a traveling carriage for said tool, said tool having a face on the arc of a circle encompassing a portion of said mandrel and possessing a groove matching and extending along a section of the groove in said mandrel and an elongated rib encircling a portion of said mandrel and entering and engaging the wall of another section of the groove thereof; substantially as set forth.

865,804. ROTARY ENGINE. SAMUEL S. SADORUS, Sarilda, Idaho. Filed Apr. 19, 1907. Serial No. 369,124.



1. The improvement in rotary engines herein described, comprising the piston and its shaft, a casing having a lateral wing and an inlet, a cover plate fitting over said wing, a cut-off valve turning between said cover plate and wing, and having openings movable into and out of register with the inlet, whereby to admit and cut-off steam, a shaft for operating said cut-off valve and gearing between the said shaft and the piston shaft, substantially as set forth.

2. The combination of the casing, having an inlet, the piston and its shaft, and a lateral extension from the casing, comprising a wing and a cover plate thereon, a cut-off valve operating between the wing and cover plate and having an opening moving in register with the inlet to permit the passage of steam from the inlet to the piston, and intermediate devices between said cut-off valve and the piston shaft, whereby the latter may operate the valve, substantially as set forth.

3. The combination of the casing having an inlet, and a laterally extending wing, a cover plate fitting over said wing, a cut-off valve between the said wing and cover plate, and having an opening near its rim for the passage of steam from the inlet to the piston, a valve shaft keyed to the valve and gearing between said valve shaft and the engine shaft, substantially as set forth.

4. The combination of the casing, having the diametrically opposite inlets and a pipe connecting the same, the piston in the casing, the cut-off valves operating across the inlets and perforated in register therewith, a valve shaft connected with said valves, and gearing between the valve shaft and the engine shaft, substantially as set forth.

5. An engine having a casing, a piston therein, and an inlet for the passage of steam to the piston, combined with a cut-off valve controlling said inlet and composed of a main plate and a shifting plate, a valve shaft for turning the main plate, a spiral shaft engaged with the shifting plate and turning with and movable longitudinally independent of the valve shaft, and a governor for effecting the independent movement of the special shaft whereby to adjust the same relative to the valve shaft, substantially as set forth.

6. The combination in an engine, of the casing having the diametrically opposite inlets, the piston in said casing, the valves controlling said inlets and composed each of two plates, a valve shaft whereby to turn both said plates, a governor whereby to turn one of the plates of each pair independently of the other, whereby it may be adjusted relatively thereto, and means for operating the valve shaft from the piston, substantially as set forth.

7. The combination with the engine casing, a piston and shaft, the casing having the opposite inlets, of valves controlling the inlets and composed each of two plates, a valve shaft driven from the engine shaft and arranged to turn both of the plates of each valve, and a governor operated from the valve shaft, and means operated by the governor whereby to shift one of the plates of each valve relative to its mating plate, substantially as set forth.

8. The combination in an engine, with the casing having the inlets, the piston and the engine shaft, of the valve shaft geared with the engine shaft and having a main section, a tubular section turning with and movable longitudinally within the main section, and provided with spiral portions, a rod within and turning with said tubular portion, a governor connected with said inner rod and the tubular portion, and valves having plates arranged in pairs, one of the plates of each pair being keyed to and turning with the main shaft section, and the other plate of each pair being mounted on and arranged for operation by the spiral portions of the tubular section of the valve shaft, substantially as set forth.

9. A rotary engine having a casing, a piston, and an engine shaft, in combination with a cut-off valve, composed of two plates, a valve shaft geared with the engine shaft and having a fixed relation with one of the valve plates to turn the same positively, a spiral moving within the valve shaft and engaged with the other valve plate to operate the same relatively to that fixed to the valve shaft, and means for automatically shifting the spiral, substantially as set forth.

10. The combination in an engine, with the casing having an inlet, of a valve controlling said inlet and consisting of a main plate, and a shifting plate, a valve shaft held to the main plate for turning the same, and a spiral turning with and movable longitudinally in the valve shaft, and engaged with the shifting plate for adjusting the same relatively to the plate held to the valve shaft, and means for moving the said spiral longitudinally, substantially as set forth.

11. The combination with the engine casing having the opposite inlets, of an engine shaft having a tubular main section, valve plates fitting on the opposite ends of and keyed to said main section, shifting valve plates mating with said first named valve plates, and means for shifting said shifting valve plates, comprising spirals engaging therewith, a connection between said spirals extending through the main shaft section, and a governor for moving said spirals and connecting portion endwise within the main shaft section, substantially as set forth.

865,805. CONTROLLING DEVICE FOR VARIABLE-SPEED MECHANISMS. CHARLES T. B. SANGSTER, Bournbrook, near Birmingham, England. Filed Jan. 2, 1907. Serial No. 350,448.



1. A controlling device for variable speed mechanisms comprising a fixed cover plate provided with a series of notches, a spindle, an angularly adjustable operating lever slidably mounted upon said spindle, whereby the lever can be shifted to engage in the notches to lock it and removed from the notches to release it, and a spring engaging said lever for automatically shifting it in one direction to retain it in one of said notches.

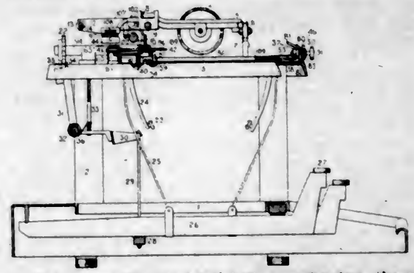
2. A controlling device for variable speed mechanisms comprising a fixed cover plate with a series of notches, a spindle, an angularly adjustable operating lever slidably mounted upon said spindle, whereby the lever can be shifted to engage in the notches to lock it and removed from the notches to release it, a spring engaging said lever for automatically shifting it in one direction to retain it in one of said notches, there being a stop on said cover plate corresponding to the prescribed normal position of the lever, a fixed guide arranged eccentrically with respect to said spindle, and a flexible member connected to the lever at a point intermediate the fulcrum and handle thereof and directed through said guide, the pull of said cable retaining the lever against one wall of that notch in which the lever engages.

3. A control device for variable speed mechanisms comprising a base plate, an operating lever fulcrumed thereon, a cover plate carried by the base plate and embodying a quadrant-shaped slot in which the lever moves, there being a stop on said cover plate for determining the normal position of the lever, and a plurality of notches each of which is adapted to receive the lever thereby locking it, an influencing spring for the lever, and a flexible member attached to the lever.

4. A control device for variable speed mechanisms comprising a base plate, an operating lever fulcrumed thereon, a cover plate carried by the base plate and embodying a quadrant-shaped slot in which the lever moves, there being a stop on said cover plate for determining the normal position of the lever and a plurality of notches each of which is adapted to receive the lever thereby locking it, an influencing spring for the lever, and a flexible member attached to the lever at a point intermediate the fulcrum and handle part thereof.

5. A control device for variable speed mechanisms comprising a base plate, an operating lever fulcrumed thereon, a cover plate carried by the base plate and embodying a quadrant-shaped slot in which the lever moves, there being a stop on said cover plate for determining the normal position of the lever and a plurality of notches each of which is adapted to receive the lever thereby locking it, an influencing spring for the lever, a guide arranged eccentrically with respect to the fulcrum of the lever, and a flexible member directed through said guide and attached to the lever at a point intermediate its fulcrum and the handle thereof.

865,806. TYPE-WRITING MACHINE. CHARLES H. SHEPARD, New York, N. Y., assignor to Wyckoff, Seamans & Benedict, Ilion, N. Y., a Corporation of New York. Filed Jan. 24, 1901. Serial No. 44,503.



1. In a typewriting and tabulating mechanism, the combination of a carriage, two co-acting stops therefor, one of which is normally out of the path of the other, a rotary shaft having at one end means for adjusting one of said stops in a direction parallel with the run of the carriage, a finger-piece connected to the other end of said shaft, and means controlled by said finger-piece for releasing the carriage.

2. In a typewriting and tabulating mechanism, the combination of a carriage, a single denomination stop, a coöperating stop having a single contact face thereon, a rotary shaft having at one end means for moving said denomination stop in a direction parallel with the run of the carriage to different denominational positions, the extent to which said denomination stop is moved determining the denominational position at which said carriage will be arrested, a finger-piece connected to the other end of the shaft, and means controlled by said finger-piece for releasing the carriage.

3. In a typewriting and tabulating mechanism, the combination of a carriage, a column-stop carried by the carriage, a denomination stop on the frame of the machine, a cam for moving said denomination stop in the direction of the travel of the carriage, a finger-piece, connections between said cam and said finger-piece, and means controlled by said finger-piece for releasing the carriage.

4. In a typewriting and tabulating mechanism, the combination of a carriage, a column stop rack carried by the carriage, a denomination stop carried by the frame of the machine, a cam for moving said denomination stop transversely and adjusting it to different denominational positions, and a finger piece connected to said cam.

5. In a typewriting and tabulating mechanism, the combination of a carriage, a column stop, a denomination stop, a cam connected to and adapted to actuate said stop, a shaft for operating said cam, a finger piece for operating said shaft, and means controlled by said finger-piece for releasing the carriage.

6. In a typewriting and tabulating mechanism, the combination of a carriage, a denomination stop, a cam, gear 41 fixed to said cam, shaft 39 having pinion 40 in mesh with said gear, and means for operating said shaft.

7. In a typewriting and tabulating mechanism, the combination of a carriage, a denomination stop, a co-acting stop, a cam plate having an eccentric slot, a device connected to said denomination stop and working in said slot, and means for rotating said cam plate.

8. In a typewriting and tabulating mechanism, the combination of a carriage, a stop carrier, a cam plate engaging a projection upon said stop carrier, and means for moving said cam plate so as to adjust said stop carrier in a direction longitudinally of said carriage.

9. In a typewriting and tabulating mechanism, the combination of a carriage, a stop, means coöperating with said

stop to arrest the carriage, cam mechanism for both moving said stop transversely of the run of the carriage and adjusting said stop to different denominational positions, key controlled means for actuating said cam mechanism, and carriage releasing means under the control of said key controlled means.

10. In a typewriting and tabulating mechanism, the combination with a carriage, of a stop, a co-acting stop, means for moving one of said stops in a direction parallel to the run of said carriage, and a cam for simultaneously moving said stop in a direction transversely to the run of the carriage.

11. In a typewriting and tabulating mechanism, the combination with a carriage, of a stop movable longitudinally of the carriage and having a cam, as 77, whereby said stop may be moved in a direction transversely to the run of the carriage.

12. In a typewriting and tabulating mechanism, the combination of a carriage, a stop carrier having a cam as 77, a projection on said stop carrier, a movable cam as 42, for engaging said projection, and a finger piece for moving said cam 42.

13. In a typewriting and tabulating mechanism, the combination of a carriage, a stop carrier, a slideway therefor comprising cam block 74 and sides 73, projection 69 upon said stop carrier, cam plate 42 having eccentric slot 66, and means for rotating said cam plate.

14. In a typewriting and tabulating mechanism, the combination of a carriage, a denomination stop, a key actuated cam for moving said denomination stop to different denominational positions, said cam having a working edge which engages said stop to enable the latter to sustain the shock of arresting the carriage, and means controlled by the key of said cam for releasing the carriage.

15. In a typewriting and tabulating mechanism, the combination of a carriage, a denomination stop carrier, a slideway for said carrier, means on said slideway for causing transverse movement of the carrier, cam plate 42 having a slot 66 and working edge 67, and means for rotating said cam plate.

16. In a typewriting and tabulating mechanism, the combination of a carriage having a stop, a stop carrier 70, a slideway therefor comprising cam plate 74 and sides 73, projection 69 upon said carrier, cam-plate 42 having eccentric slot 66, bevel gear 41, bevel pinion 40, shaft 39, and means for rotating said shaft.

17. In a typewriting and tabulating mechanism, the combination of a carriage, a stop, a co-acting stop, a shaft as 39 operatively connected to one of said stops, a rack as 37 engaging a pinion on said shaft, and a finger piece upon said rack.

18. In a typewriting and tabulating mechanism, the combination with a carriage and a column stop, of a denomination stop, a shaft connected thereto, a finger piece for rotating said shaft, an index which is moved to different positions by the actuation of the finger piece to indicate the denominational position of the denomination stop, and a coöperating scale.

19. In a typewriting and tabulating mechanism, the combination with a carriage and a column stop, of a denomination stop, a shaft connected thereto, a pinion upon said shaft, a rack engaging said pinion, a finger piece, an index and a coöperating scale.

20. In a typewriting and tabulating mechanism, the combination with a carriage, of a column stop thereon, a denomination stop supported upon the frame, a shaft connected to said denomination stop, bearings for said shaft, a rack in engagement with a pinion upon said shaft, and a bracket upon which said rack may slide.

21. In a typewriting and tabulating mechanism, the combination of a carriage, a column stop, a denomination stop, a shaft operatively connected to one of said stops and adapted to slide it in the direction of the travel of the carriage to different denominational positions, a finger piece connected to said shaft, a spring as 110 for returning said shaft and its stop to normal position, and means controlled by said finger-piece for releasing the carriage.

22. In a typewriting and tabulating mechanism, the combination of a carriage, a column stop, a denomination stop, a shaft connected to said denomination stop, a rack for operating said shaft, a slideway for said rack, and a returning spring.

23. In a typewriting and tabulating mechanism, the combination of a carriage, a platen thereon, a column stop and a denomination stop arranged in rear of the platen, a forwardly extending shaft operatively connected at its rear end to one of said stops, a sliding finger piece arranged at the forward end of said shaft, an index which is adapted to be moved to different positions by said finger piece, and a scale which coöperates with said index.

24. In a typewriting machine and tabulating mechanism, the combination of a power driven carriage, feeding-devices therefor, a stop, a co-acting movable stop, means for affording a transverse movement of the movable stop into the path of the stop with which it coöperates, independent actuating means for transmitting a movement to the movable stop in the direction of the travel of the carriage to adjust said movable stop to different denominational positions and to automatically effect a transverse movement thereof into the path of the stop with which it coöperates, a key controlling said actuating means, the transverse movement and denominational positioning of the movable stop being effected by a movement of said key in one direction, and means controlled by a movement of said key in another direction to effect the release of the carriage.

25. In a typewriting and tabulating mechanism, the combination of a power driven carriage, letter feeding devices, a stop, a co-acting stop, a shaft connected at one end to one of said stops, and adapted to slide it in the direction of the travel of the carriage to different denominational positions, a finger piece for rotating said shaft, and means controlled by said finger piece for releasing the carriage from the control of its letter feeding devices.

26. In a typewriting machine, the combination of a power driven carriage, letter feeding devices, a column stop rack thereon, a denomination stop supported upon the frame of the machine, a shaft connected at one end to said denomination stop and adapted to slide it in the direction of the travel of the carriage to different denominational positions, a finger piece connected to the other end of said shaft, and means controlled by said finger piece for releasing the carriage from the control of its letter feeding devices.

27. In a typewriting and tabulating mechanism, the combination of a power driven carriage, letter feeding devices, a column stop, a denomination stop, a cam for moving said denomination stop longitudinally of the carriage, a finger piece, connections between said cam and said finger piece, and means controlled by said finger piece for releasing the carriage from the control of its letter feeding devices.

28. In a typewriting and tabulating mechanism, the combination of a power driven carriage, letter feeding devices, a column stop rack thereon, a denomination stop mounted upon the framework, a cam for moving said denomination stop transversely and adjusting it to different denominational positions, a finger piece connected to said cam, and means controlled by said finger piece for releasing the carriage from the control of its letter feeding devices.

29. In a typewriting and tabulating mechanism, the combination of a power driven carriage, letter feeding devices, a column stop thereon, a denomination stop mounted upon the framework, a cam connected to said stop, a forwardly extending shaft for operating said cam, a finger piece arranged at the forward end of said shaft, and means controlled by said finger piece for releasing the carriage from the control of its letter feeding devices.

30. In a typewriting and tabulating mechanism, the combination of a power driven carriage, a column stop adjustable thereon, a denomination stop upon the framework, cam mechanism for both moving said stop transversely of the run of the carriage and adjusting said stop to different denominational positions, and carriage releasing mechanism.

31. In a typewriting and tabulating mechanism, the combination with a power driven carriage and a column stop thereon, of a denomination stop mounted upon the framework, means for moving said denomination stop in a direction parallel to the run of said carriage, a cam for simultaneously moving said stop in a direction transversely to the run of the carriage, and carriage releasing devices.

32. In a typewriting and tabulating mechanism, the combination of a power driven carriage, co-acting stops, a key, denomination-determining mechanism controlled by said key, letter-feeding rack 18 upon the carriage, pinion 21, bell crank 91, 95, for releasing said rack, link 89 connected to said bell crank, shaft 86 having arm 87 connected to said link, arm 82 on said shaft, and means for enabling said key to operate said arm.

33. In a typewriting and tabulating mechinism, the combination of a power driven carriage, co-acting stops, a key denomination determining mechanism controlled by said key, rack 18 upon the carriage, pinion 21, bell crank 91 95, for releasing said rack, link 89 connected to said bell crank, shaft 86 having arm 87 connected to said link, arm 82 on said shaft, means for enabling said key to operate said arm, and returning spring 109 on said shaft.

34. In a typewriting and tabulating mechanism, the combination of a power driven carriage, a stop thereon, a denomination stop upon the framework, a shaft operatively connected to said denomination stop, a pinion on said shaft, a rack in mesh with the pinion, a lever pivoted upon said rack, and a carriage releasing device controlled by said lever.

35. In a typewriting and tabulating mechanism, the combination of a power driven carriage, a stop thereon, a denomination stop upon the framework, a shaft operatively connected to said denomination stop a pinion on said shaft, a rack in mesh with the pinion, a bracket upon which said rack may slide, a lever pivoted upon said rack, and a carriage releasing arm engaged by said lever.

36. In a typewriting and tabulating mechanism, the combination of a power driven carriage, a column stop thereon, a denomination stop upon the framework, shaft 39 connected to said denomination stop, rack 37, lever 50 pivoted upon said rack, shaft 86, having arm 82 controlled by said lever, and also having arm 87, link 89 connected to arm 87, bell crank 91, 95, connected to said link, and carriage feeding rack 18 movable by said bell crank.

37. In a typewriting and tabulating mechanism, the combination of a power driven carriage, a column stop thereon, a denomination stop upon the framework, cam mechanism for operating said denomination stop, shaft 39 for controlling said cam mechanism, pinion 38 upon said shaft, rack 37 in mesh with said pinion, lever 50 pivoted upon said rack, arm 82 having a lateral pin 83 engaging slot 84 formed in said lever, shaft 86 carrying said arm 82 and having at its rear end arm 87, and means controlled by said arm 87 for releasing the carriage from the control of its letter feeding devices.

38. In a typewriting and tabulating mechanism, the combination of a power driven carriage, letter feeding devices therefor, a stop, a co-acting stop, an endwise movable lever as 50 connected by rack and pinion to means for adjusting one of said stops, and carriage releasing devices actuated by a downward movement of said lever at any longitudinal position thereof.

39. In a typewriting and tabulating mechanism, the combination of a power driven carriage, letter feeding devices, a stop, a co-acting stop, lever 50 connected by rack 37 and pinion 38 to means for adjusting one of said stops, index 80, scale 81, and carriage-releasing devices controlled by said lever at all positions of said rack.

40. In a typewriting and tabulating mechanism, the combination of a power driven carriage, letter feeding devices therefor, a column stop thereon, a denomination stop upon the framework, a lever, as 50, connected to a rack 37, means controlled by said rack for moving said denomination stop both longitudinally and transversely of the run of the carriage, and devices, movable by a movement of said lever independently of said rack and at any longitudinal position thereof, for releasing the carriage from the control of its letter feeding devices.

41. In a typewriting and tabulating mechanism, the combination of a top plate a power driven carriage adapted to move from side to side over said top plate, a column stop supported upon the rear portion of the carriage, a denomination stop adapted to said column stop and supported upon the top plate, cam mechanism for moving said denomination stop, a forwardly extending shaft operatively connected to said cam mechanism, a rack and pinion at the forward end of said shaft, a lever mounted upon said rack, an index, and a shaft having a part movable by said lever and connected to means for releasing the carriage.

42. In a typewriting and tabulating mechanism, a detachable column stop rack provided with dove-tailed grooves which engage corresponding grooves formed in arms provided upon said carriage.

43. In a typewriting and tabulating mechanism, a detachable column stop rack having a finger piece 104 and dove-tailed grooves 99 adapted to corresponding grooves formed in arms 100 and 12 upon said carriage.

44. In a typewriting and tabulating mechanism, the combination of carriage, arms 12 and 100 thereon, a detachable column stop rack having grooves corresponding to grooves in said arms 12 and 100, and stop 105 against which said rack may abut when inserted into the carriage.

45. In combination with a column stop rack or bar having upon one side teeth 98 and having also a longitudinal slot or opening 106, communicating with the notches between the teeth 98, a column stop having spring fingers for engaging said slot.

46. A column stop rack or bar having teeth 98 upon one side or face thereof, and also having a longitudinal central slot 106 having converging sides and communicating at its narrow portion with the notches between the teeth 98.

47. A column stop rack or bar having teeth 98, dove-tailed grooves 99, and central longitudinal slot 106 having converging sides.

48. A plate-like column stop having a blade portion, and integral opposite coöperative spring fingers projecting from the blade portion.

49. A plate-like column stop having a blade portion, and coöperative spring fingers projecting from the blade portion and to the plane thereof.

50. A column stop comprising a blade portion, and diverging spring fingers projecting therefrom.

51. A column stop comprising a blade portion, and integral diverging spring fingers projecting laterally from the central portion thereof.

52. In a typewriting and tabulating mechanism, the combination of a rack or bar having teeth upon one side thereof and also having a slot or opening narrower at one portion, said narrow portion communicating with the notches between said teeth, and a column stop blade having spring fingers for engaging said slot.

53. In a typewriting and tabulating mechanism, the combination with a carriage, of a rack or bar having teeth 98 and a slot 106 having converging sides, said slot communicating at its narrower portion with the notches between said teeth, and column stops 44 having spring fingers 107 adapted to project into said opening 106.

54. A self-sustaining column stop having spring catches or fingers arranged close together and adapted to be inserted together into an opening formed in a column stop bar.

55. In a typewriting machine and tabulating mechanism, the combination of a carriage, stops normally out of each other's path and one of which is a denominational stop movable in the direction of the travel of the carriage to determine the denominational position of arrest of the carriage and which is also movable transversely of the travel of the carriage to bring the stops one into the path of the other, the movement of the denominational stop in the direction of the travel of the carriage being also effective to move it transversely, means for moving the denominational stop, and means under control of said movable means for releasing the carriage.

56. In a tabulating mechanism for typewriting machines, the combination of a toothed stop bar and a detachable and adjustable stop carried by said bar and adapted to be held in place in its spaces between the teeth on the bar, said stop having an integral spring which is adapted

to engage the bar and hold the stop against accidental detachment therefrom.

865,807. PRODUCTION OF ELASTIC AND PLASTIC SUBSTANCES. LOUIS STANGE, Aix-la-Chapelle, Germany. Filed June 1, 1907. Serial No. 376,850.

1. The herein described process for the production of a plastic and elastic substance which consists in forming an emulsion of gelatin with a primary aromatic amin and treating said emulsion with formaldehyde.

2. The herein described process for the production of a plastic and elastic substance which consists in mixing a primary aromatic amin with a non-drying oil, forming an emulsion of said mixture with gelatin, and treating said emulsion with formaldehyde.

3. The herein described process for the production of a plastic and elastic substance which consists in mixing a primary aromatic amin with a non-drying oil, forming an emulsion of said mixture with gelatin, and treating said emulsion with a mixture of formaldehyde and glycerin.

4. The herein described process for the production of a plastic and elastic substance which consists in preparing a first solution of gelatin, preparing a second mixture of a primary aromatic amin with a non-drying oil, preparing a third mixture of formaldehyde and glycerin, forming an emulsion of said solution of gelatin with said second mixture, treating said emulsion with said third mixture and continuing emulsification till the mass becomes plastic.

5. The herein described process for the production of a plastic and elastic substance which consists in preparing a first solution of gelatin, preparing a second mixture of a primary aromatic amin with a non-drying oil, preparing a third mixture of formaldehyde and glycerin, forming an emulsion of said solution of gelatin with said second mixture, treating said emulsion in a warm state with said third mixture and continuing emulsification till the mass becomes plastic.

6. The herein described process for the production of a plastic and elastic substance which consists in preparing a first solution of gelatin, preparing a second mixture of a primary aromatic amin with a non-drying oil, preparing a third mixture of formaldehyde and glycerin, forming an emulsion of said solution of gelatin with said second mixture, treating said emulsion in a warm state with said third mixture, continuing emulsification till the mass becomes plastic, and molding the mass into the desired form under pressure.

7. The herein described process for the production of a plastic and elastic substance which consists in preparing a first solution of gelatin containing filling and coloring materials, preparing a second mixture of a primary aromatic amin with a non-drying oil, preparing a third mixture of formaldehyde and glycerin, forming an emulsion of said solution of gelatin with said second mixture, treating said emulsion in a warm state with said third mixture, continuing emulsification till the mass becomes plastic, and molding the mass into the desired form under pressure.

8. The herein described process for the production of a plastic and elastic substance which consists in preparing a first solution of gelatin containing filling and coloring materials, preparing a second mixture of a primary aromatic amin with a non-drying oil, preparing a third mixture of formaldehyde and glycerin, forming an emulsion of said solution of gelatin with said second mixture, treating said emulsion in a warm state with said third mixture, adding a waterproofing agent, continuing emulsification till the mass becomes plastic, and molding the mass into the desired form under pressure.

9. The herein described process for the production of a plastic and elastic substance which consists in forming an emulsion of gelatin with analin oil and treating said emulsion with formaldehyde.

10. The herein described process for the production of a plastic and elastic substance which consists in mixing analin oil with arachis oil, forming an emulsion of said mixture with gelatin and treating said emulsion with formaldehyde.

11. The herein described process for the production of a plastic and elastic substance which consists in mixing analin oil with arachis oil, forming an emulsion of said mixture with gelatin, treating said emulsion with a mixture of formaldehyde and dehydrated glycerin.

12. The herein described process for the production of a plastic and elastic substance which consists in preparing a first mixture of gelatin and water and heating till thorough solution is obtained, preparing a second mixture of analin oil with arachis oil, preparing a third mixture of formaldehyde and dehydrated glycerin, forming an emulsion of the first mixture with the second mixture, treating the emulsion with the third mixture and continuing the emulsification until the mass becomes plastic.

13. The herein described process for the production of a plastic and elastic substance which consists in preparing a first mixture of 650 parts by weight of gelatin and 350 parts of water and heating till thorough solution is obtained, preparing a second mixture of one part of anilin oil with 1 to 4 parts of arachis oil, preparing a third mixture of formaldehyde and dehydrated glycerin in substantially equal parts, forming an emulsion of 210 parts of the first mixture with such a quantity of the second mixture as contains 20 parts of anilin oil, adding to the emulsion such a quantity of the third mixture as contains 20 parts of formaldehyde, and continuing the emulsification until the mass becomes plastic.

14. The herein described process for the production of a plastic and elastic substance which consists in preparing a mixture of 650 parts by weight of gelatin and 350 parts of water and heating till thorough solution is obtained, preparing a second mixture of one part of anilin oil with 1 to 4 parts of arachis oil, preparing a third mixture of formaldehyde and dehydrated glycerin in substantially equal parts, forming an emulsion of 210 parts of the first mixture with such a quantity of the second mixture as contains 20 parts of anilin oil, adding to the emulsion in a warm state such a quantity of the third mixture as contains 20 parts of formaldehyde, and continuing the emulsification until the mass becomes plastic.

15. The herein described process for the production of a plastic and elastic substance which consists in preparing a first mixture of 650 parts by weight of gelatin and 350 parts of water and heating till thorough solution is obtained, preparing a second mixture of one part of anilin oil with 1 to 4 parts of arachis oil, preparing a third mixture of formaldehyde and dehydrated glycerin in substantially equal parts, forming an emulsion of 210 parts of the first mixture with such a quantity of the second mixture as contains 20 parts of anilin oil, adding to the emulsion in a warm state such a quantity of the third mixture as contains 20 parts of formaldehyde, continuing the emulsification until the mass becomes plastic and molding the mass into the desired form under pressure.

16. The herein described process for the production of a plastic and elastic substance which consists in preparing a first mixture of 650 parts by weight of gelatin and 350 parts of water with filling and coloring materials and heating till thorough solution is obtained, preparing a second mixture of one part of anilin oil with 1 to 4 parts of arachis oil, preparing a third mixture of formaldehyde and dehydrated glycerin in substantially equal parts, forming an emulsion of 210 parts of the first mixture with such a quantity of the second mixture as contains 20 parts of anilin oil, adding to the emulsion in a warm state such a quantity of the third mixture as contains 20 parts of formaldehyde, continuing the emulsification until the mass becomes plastic, and molding the mass into the desired form under pressure.

17. The herein described process for the production of a plastic and elastic substance which consists in preparing a first mixture of 650 parts by weight of gelatin and 350 parts of water with filling and coloring materials and heating till thorough solution is obtained, preparing a second mixture of one part of anilin oil with one to four parts of arachis oil, preparing a third mixture of formaldehyde and dehydrated glycerin in substantially equal parts, forming an emulsion of 210 parts of the first mixture with such a quantity of the second mixture as contains 20 parts of anilin oil, adding to the emulsion in a warm state such a quantity of the third mixture as contains 20 parts of formaldehyde, adding a waterproof agent, continuing the emulsification until the mass becomes plastic, and molding the mass into the desired form.

18. The herein described composition of matter consisting of anhydroformaldehydanilin incorporated with formaldehydegelatin.

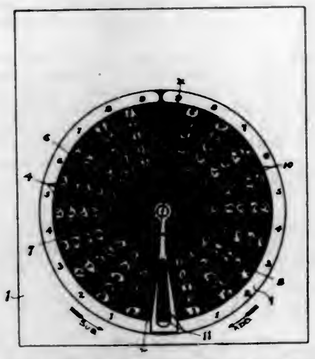
19. The herein described composition of matter consisting of colloidal anhydroformaldehydanilin incorporated with colloidal formaldehydegelatin.

20. The herein described composition of matter consisting of a homogeneous mixture of colloidal anhydroformaldehydanilin, arachis oil, and colloidal formaldehyde gelatin.

21. The herein described composition of matter consisting of a homogeneous mixture of colloidal anhydroformaldehydanilin, arachis oil, colloidal formaldehydegelatin and dehydrated glycerin.

22. The herein described composition of matter consisting of a homogeneous mixture of colloidal anhydroformaldehydanilin, arachis oil, colloidal formaldehydegelatin, dehydrated glycerin and a waterproof agent.

865,808. CALCULATING-MACHINE. BENJAMIN F. STUMP, Cleveland, Ohio. Filed Apr. 8, 1907. Serial No. 367,104.



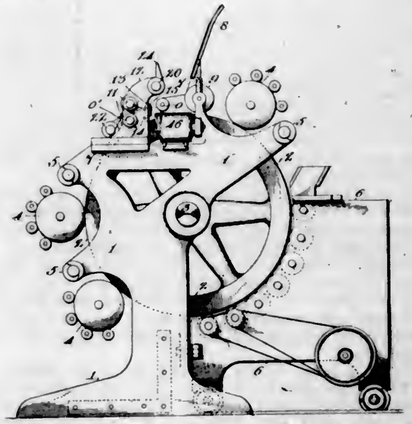
1. A calculating machine, comprising a base-plate provided with an annular space divided into twenty equal spaces two of which are diametrically-opposite each other and form zero spaces at the base and top, the intervening spaces being consecutively numbered on their marginal edges by index-digits from the zero space at the base, a plurality of concentric computing-disks rotatably-mounted and provided with spaces defined by a series of radially-extending alining index-perforations registering with said index-digits, a trunnion secured to said base-plate and provided with a series of stationary separating-disks interposed between said computing-disks, an indicator stop-plate mounted above and registering with the zero space of said base-plate and said computing-disks when the latter are in their normal position and provided with an indicator sight-opening, and an axle-pin securing the upper end of said indicator stop-plate to said trunnion of the base-plate.

2. In a calculating machine, the combination with a base-plate provided with an annular index-space, and a central trunnion provided with diametrically-opposite rounded axle-bearing sides and intermediate flat sides; of a plurality of computing-disks rotatably-mounted on said axle-bearing sides of said trunnion, a plurality of stationary-disks mounted on said trunnion by means of openings conforming to the contour of said trunnion, a stationary cap separating-disk mounted upon the end of said trunnion, and a rotatable computing-disk mounted above said cap separating-disk by means of an axle-pin passing through said trunnion.

3. A calculating machine, comprising a base-plate provided with an annular index-space divided by means of diametrically-opposite zero spaces, said index-space being divided into equal spaces by means of index-digits arranged in opposite directions from one of said zero spaces and terminating at the other, a series of concentric computing-disks rotatably-mounted within said annular index-space and divided into equal spaces by means of radially-extending alining index-perforations registering with said index digits and provided with digits at the center of said spaces corresponding with the index-digits, diametrically-opposite zero spaces formed on said computing-disks and registering with the zero spaces of said annular index-space, stationary dividing-disks interposed between said computing-disks, and an indicator stop-plate extending from above the center of said disks to one of said zero spaces of said annular index-space of the base-plate and corresponding in outline to the outline of the registering zero spaces of the computing-disks and having a central sight-slot.

4. In an adding and subtracting machine, the combination with a back-plate provided with an annular index-space provided with diametrically-opposite zero spaces and index-digits equally spaced and extending in opposite directions from one of said zero spaces, and a plurality of concentric computing-disks rotatably-mounted within said annular index-space and provided with zero spaces and numbered spaces defined by radially-extending alining index-perforations registering with said index-digits; of a plurality of stationary disks interposed between said computing-disks, and an indicator stop-plate extending from the center of said disks to one of said zero spaces of the back-plate said stop-plate being of a size and form corresponding with the registering zero spaces of the computing-disks when the latter are in their normal position and provided with an indicator sight-slot under which the numerals of the spaces are adapted to register when the spaces of the disks have been brought under said indicator stop-plate.

865,809. PAPER-CUTTING MACHINE. ELMER Z. TAYLOR, London, England. Filed July 22, 1904. Serial No. 217,709.



1. In a paper cutting machine, a transverse stationary knife over which a sheet is fed, a revolving knife, mounted to meet and pass the edge of said stationary knife, whereby said sheet is cut transversely at regular intervals, and means for tensioning said shaft and knives at the moment the cut is made.

2. In a paper cutting machine, a transverse stationary knife over which a sheet is fed, a revolving knife mounted to meet and pass the edge of said stationary knife, whereby said sheet is cut transversely at regular intervals, and means controlled by said revolving knife for holding

down and guiding the severed pieces into a suitable receptacle, substantially as described.

3. In a paper cutting machine, a transverse stationary knife over which a sheet is fed, a bracket at each end thereof, a revoluble shaft loosely journaled in said brackets above said knife, a second transverse knife on said shaft mounted to meet and pass the edge of said stationary knife, and means for tensioning said shaft and knives at the moment the cut is made, substantially as described.

4. In a paper cutting machine, a transverse stationary knife over which a sheet is fed, a bracket at each end thereof having bearings for a revoluble shaft, a second transverse knife mounted on said shaft to meet and pass the edge of said stationary knife, and a cam on said shaft adapted to tension said shaft and knives at the moment the cut is made.

5. In a paper cutting machine, a transverse stationary knife over which a sheet is fed, a bracket at each end thereof provided with elliptical apertures above said knife, a revoluble shaft mounted in said brackets its ends resting in the lower surfaces of said apertures, a second transverse knife on said shaft mounted to meet and pass the edge of said stationary knife, an anti-friction roller, and a cam adapted to bear on said roller and tension said shaft and knives at the moment the cut is made, substantially as described.

6. In a paper cutting machine, a transverse stationary knife over which a sheet is fed, a bracket at each end thereof having bearings for a revoluble shaft, a second transverse knife mounted on said shaft to meet and pass the edge of said stationary knife, an adjustable bearing on the frame-work, an anti-friction roller, and a cam on said shaft adapted to bear on said roller and tension said shaft and knives at the moment the cut is made, substantially as described.

7. In a paper cutting machine, a transverse stationary knife over which a sheet is fed, a revolving knife mounted to meet and pass the edge of said stationary knife, whereby said sheet is cut transversely at regular intervals, means for tensioning the shaft and knives at the moment the cut is made, and a finger carried in advance of said revolving knife for holding down and guiding the severed pieces into a suitable receptacle, substantially as described.

8. In a paper cutting machine, a transverse stationary knife over which a sheet is fed, a revolving knife mounted to meet and pass the edge of said stationary knife whereby said sheet is cut transversely at regular intervals, means for tensioning the shaft and knives at the moment the cut is made, a finger carried in advance of said revolving knife for holding down and guiding the severed pieces into a suitable receptacle, and means for pressing said finger downwardly after engaging the severed pieces, substantially as described.

9. In a paper cutting machine, a transverse stationary knife over which a sheet is fed, a revolving knife mounted to meet and pass the edge of said stationary knife whereby said sheet is cut transversely at regular intervals, a finger for holding down and guiding the severed pieces into a suitable receptacle pivotally mounted to rotate with said revolving knife, and a cam mounted to be engaged by said finger and constructed to impart a downward motion thereto after engaging the severed piece, substantially as described.

10. In a paper cutting machine, means for cutting a sheet of paper into strips, means for cutting said strips transversely at regular intervals comprising a stationary knife over which said strips are fed from said cutting means, and a revolving knife mounted to meet and pass the edge of said stationary knife, carrying fingers in advance thereof for holding down and guiding the severed pieces into a suitable receptacle, substantially as described.

11. In a paper cutting machine, the combination with the means for cutting a sheet into strips, of a tensioned transverse cutter maintaining the tension only at the moment the cut is made.

12. In a paper cutting machine, the combination with the means for cutting a sheet into strips and the stationary transverse cutter, of a tensioned revoluble transverse cutter for automatically cutting said strips transversely and adapted to come into contact under tension at the moment of cutting with the said stationary transverse cutter.

13. In a paper-cutting machine, means for cutting the sheet into strips, means for cutting said strips into rectangular pieces, and means carried by a revoluble transverse cutter for holding down and guiding said pieces into a suitable receptacle when so cut.

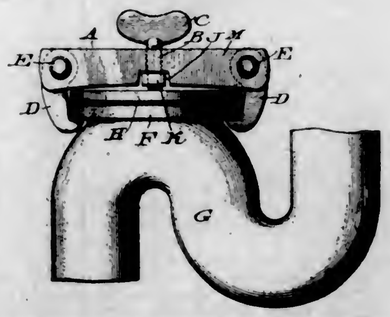
14. In a paper cutting machine, a transverse stationary knife over which a sheet is fed, a revolving knife mounted to meet and pass the edge of said stationary knife in a tensioned position at the moment the cut is made whereby said sheet is cut transversely after the revolving knife touches the stationary knife, and means controlled by said revolving knife for holding down and guiding the severed pieces into a suitable receptacle.

15. In a paper cutting machine, a transverse stationary knife over which a sheet is fed, a bracket at each end thereof having bearings for a revoluble shaft, a second transverse knife mounted on said shaft to meet and pass the edge of said stationary knife, and means for tensioning the knives at the moment the cut is made.

16. In a paper cutting machine, a transverse stationary knife over which a sheet is fed, a bracket at each end thereof provided with bearings for a revoluble shaft, a second transverse knife on said shaft, an anti-friction roller, a cam on said shaft adapted to bear on said roller and to bring the said knives in tension at the moment the cut is made.

17. In a paper-cutting machine, a transverse stationary knife over which a sheet is fed, a bracket at each end thereof having bearings for a revoluble shaft, a second transverse knife mounted on said shaft to meet and pass the edge of said stationary knife, an anti-friction roller fixed to the stationary knife and a cam on said shaft adapted to bear on said roller and tension said shaft and knives at the moment the cut is made.

865,810. CLAMP FOR DRAINS, TRAPS, &c. WILLIAM J. TAYLOR, Philadelphia, Pa. Filed Aug. 10, 1905, Serial No. 273,527. Renewed Feb. 21, 1907. Serial No. 358,728.

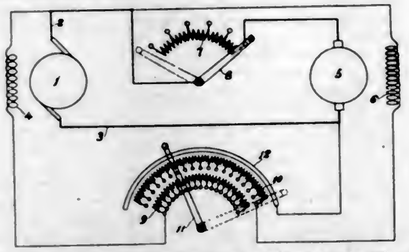


1. In a clamp of the character stated, a head having in its upper portion at the center thereof, a reduced neck and in its under portion, a pocket which extends from the lower edge of said head to the lower side of said neck and a screw-engaging nut occupying said pocket and adapted to bear against the underside of said neck and be engaged by the side walls of said pocket flush on its underside with the under edge of said head.

2. A clamp of the character stated consisting of a head, engaging arms depending from the ends thereof, said head having shoulders extending inwardly from the underside of the center of said head forming thereat a reduced neck and an inturned pocket, said neck having therein an unthreaded opening which communicates with said pocket, a screw in said opening and a nut on said screw occupying said pocket adapted to bear against the underside of said neck and be embraced by the side walls of said pocket.

3. In a clamp of the character stated, a head, the latter having a pocket therein, depending arms on the ends thereof, bolts passing through said head and arms, a tightening screw, the latter passing freely through said head and a nut engaging said screw and occupying said pocket, said head being formed of longitudinally-divided matched sections, each having its ends adapted to receive said bolts and provided centrally with an unthreaded half opening for said screw and in its underside with a half section of said pocket, said bolts forming common means for coupling said sections as one and axially sustaining said arms.

865,811. SYSTEM OF MOTOR CONTROL. WILLIAM H. POWELL, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed Apr. 16, 1906. Serial No. 311,828.



1. The method of regulating the speed of an electric motor which consists in inversely varying in alternate steps its field strength and the electro-motive force impressed upon its armature.

2. The method of controlling the speed of an electric motor, which consists in supplying the motor with current from a generator, and inversely varying in alternate steps the field strength of the motor and the electro-motive force of the generator.

3. The method of regulating the speed of an electric motor, consisting in mechanically generating electrical energy, supplying the energy to the motor, and inversely varying the field strengths of the motor and the generator in alternate steps.

4. The method of operating an electric motor at varying speed, which consists in converting mechanical energy into electrical energy, supplying the electrical energy to the motor, and inversely varying alternately step by step the electro-motive force of the electrical energy and the field strength of the motor.

5. The method of varying the current through the armature of an electric motor, which consists in supplying the armature of the motor with current from a source of variable electro-motive force, and inversely varying in alternate steps the electro-motive force of said source and the field strength of the motor.

6. The method of controlling the speed of an electric motor, consisting in supplying the field and armature of the motor from a source of variable electromotive force, and inversely varying in alternate steps the electro-motive force of said source and the field strength of the motor.

7. The method of varying the speed of an electric motor, consisting in converting mechanical energy into electrical energy, supplying the electrical energy to both the field and armature of the motor, and inversely varying in alternate steps the electro-motive force of said electrical energy and the field strength of the motor.

8. The method of regulating the speed of an electric motor consisting in mechanically generating electrical energy, supplying this energy to the motor armature and to the field coils of both generator and motor, and inversely varying in alternate steps the current strengths in the field coils of the generator and the motor.

9. The method of regulating the speed of an electric motor, consisting in mechanically generating electrical energy, supplying this energy to the generator field coil and to the motor armature and field coil, and varying in alternate steps the field strengths of the generator and the motor.

10. The method of increasing the speed of an electric motor, which consists in supplying the motor with current from a generator, and increasing the electro-motive force of the generator and weakening the field of the motor in alternate steps.

11. The method of decreasing the speed of an electric motor, consisting in mechanically generating electrical energy, supplying the electrical energy to the motor, and diminishing the electro-motive force of the electrical energy and increasing the field strength of the motor in alternate steps.

12. A motor control system comprising a generator, a motor supplied thereby and means for inversely varying the field strengths of the motor and the generator in alternate steps.

13. A motor control system comprising a source of electricity, a motor supplied thereby, and means for inversely varying in alternate steps the field strength of the motor and the electro-motive force of the source of electricity.

14. A motor control system comprising a dynamo-electric generator, a motor supplied thereby, and means for inversely varying in alternate steps the electromotive force of the generator and the field strength of the motor.

15. A motor control system comprising a source of variable electromotive force, a motor armature supplied thereby, a field winding for the armature, and means for inversely varying in alternate steps the electromotive force of said source and the strength of current in said field winding.

16. A motor control system comprising a source of variable electromotive force, a motor armature and field winding supplied thereby, and means for inversely varying in alternate steps the electromotive force of said source and the field strength of said motor.

17. A motor control system comprising a dynamo-electric generator, a motor whose field and armature windings are both supplied by said generator, and means for inversely varying in alternate steps the electromotive force of said generator and the field strength of said motor.

18. A motor control system comprising a self-excited dynamo-electric generator, a motor whose field and armature windings are both supplied thereby, and means for inversely varying in alternate steps the current strengths in the field windings of the generator and the motor.

19. A motor control system comprising a self-excited dynamo-electric generator, a motor whose field and armature windings are both supplied thereby, and means for varying the field strengths of the generator and the motor in alternate steps.

20. A motor control system, comprising a source of electricity, a motor supplied thereby, and means for increasing the electromotive force of the source and weakening the field of the motor in alternate steps.

21. A motor control system comprising a dynamo-electric generator, a motor supplied thereby, and means for decreasing the electromotive force of the generator and increasing the field strength of the motor in alternate steps.

22. A motor control system, comprising a generator, a motor supplied thereby, variable resistances in the field circuits of the generator and the motor, and means for inversely varying said resistances in alternate steps.

23. A motor control system, comprising a generator, a motor supplied thereby, variable resistances in the field circuits of the generator and the motor, and a single arm for inversely varying said resistances in alternate steps.

24. A motor control system, comprising a generator, a motor supplied thereby, a starting resistance in the motor armature circuit, resistances in the field circuits of the generator and the motor, and means for inversely varying said field resistances in alternate steps.

25. A motor control system, comprising a generator, a motor supplied thereby, a starting resistance in the motor armature circuit, resistances in the field circuits of the

generator and the motor, and a single arm for inversely varying said field resistances in alternate steps.

26. A motor control system, comprising a generator, a motor supplied thereby, a starting resistance in the motor armature circuit, resistances in the field circuits of the generator and the motor, and a single arm for inversely varying said field resistances in alternate steps and for cutting out said starting resistance.

27. A motor control system, comprising a self-excited generator, a motor whose field and armature circuits are both supplied thereby, variable resistances in the field circuits of the generator and the motor, and means for inversely varying said resistances in alternate steps.

28. A motor control system, comprising a self-exciting generator, a motor whose field and armature circuits are both supplied thereby, variable resistances in the field circuits of the generator and the motor, and a single arm for inversely varying said resistances in alternate steps.

29. A motor control system, comprising a self-excited generator, a motor whose field and armature circuits are both supplied thereby, a starting resistance in the motor armature circuit, resistances in the field circuits of the generator and the motor, and means for inversely varying said field resistances in alternate steps.

30. A motor control system comprising a self-excited generator, a motor whose field and armature circuits are both supplied thereby, a starting resistance in the motor armature circuit, resistances in the field circuits of the generator and the motor, and a single arm for varying said field resistances inversely.

31. A motor control system comprising a self-excited generator, a motor whose field and armature circuits are both supplied thereby, a starting resistance in the motor armature circuit, resistances in the field circuits of the generator and the motor, and a single arm for varying said field resistances inversely and for cutting out said starting resistance.

32. A motor control system comprising a generator, a motor supplied thereby, variable resistance in the field circuits of the generator and motor, and a single rheostat arm arranged to decrease the resistance in one field circuit and increase it in the other in alternate steps.

33. A motor control system comprising a self-excited generator, a motor whose field coil and armature are supplied thereby, variable resistance in the field circuits of the generator and the motor, and a single rheostat arm arranged to decrease the resistance in one field circuit and increase it in the other in alternate steps.

34. A motor control system, comprising a source of electricity, a motor supplied thereby, a starting resistance in the motor armature circuit, and a unitary means for cutting out said starting resistance, increasing the electromotive force of the source, and weakening the field of the motor.

35. A motor control system, comprising a source of electricity, a motor supplied thereby, a starting resistance in the motor armature circuit, and a single arm for first cutting out said starting resistance and then increasing the electromotive force of said source.

36. A motor control system comprising a self-excited generator, a motor whose field coil and armature are both supplied thereby, and a rheostat so connected and arranged that during part of its movement it controls resistance in the motor armature circuit, and during the remainder of its movement it controls resistance in the field circuits of both the generator and the motor.

37. A motor control system, comprising a generator, a motor supplied thereby, and a rheostat so connected and arranged that during one part of its movement it controls resistance in the motor armature circuit and during another part of its movement it controls resistance in the generator field circuit.

38. A motor control system comprising a self-excited generator, a motor whose field coil and armature are both supplied thereby, and a rheostat so connected and arranged that during part of its movement it controls resistance in the motor armature circuit and during the remainder of its movement it controls resistance in the generator field circuit.

39. A motor control system comprising a generator, a motor supplied thereby, and a rheostat so connected and arranged that during one part of its movement it controls resistance in the motor armature circuit, and during another part of its movement it controls resistance in the field circuits of both the generator and the motor.

40. A motor starting system, comprising a generator, a motor supplied thereby, and a starting rheostat connected and arranged to first remove resistance from the motor armature circuit and then remove resistance from the generator field circuit.

41. A motor starting system comprising a generator, a motor supplied thereby, and a starting rheostat connected and arranged to first remove resistance from the motor armature circuit and then in alternate steps remove resistance from the generator field circuit and insert resistance in the motor field circuit.

42. A motor control system comprising a self-excited generator, a motor whose field coil and armature are both supplied thereby, and a starting rheostat connected and arranged to first remove resistance from the motor armature circuit and then remove resistance from the generator field circuit.

43. A motor control system comprising a self-excited generator, a motor whose field coil and armature are both supplied thereby, and a starting rheostat connected and arranged to first remove resistance from the motor armature circuit and then in alternate steps remove resistance from the generator field circuit and insert resistance in the motor field circuit.

44. In combination, a generator, a motor, leads from the generator armature to one of which one terminal of the motor armature, the motor field winding, and the generator field winding are each connected, and a rheostat to one point of which the other generator lead is connected and to other points of which the other terminals of the motor armature, the motor field winding and the generator field winding respectively are connected.

45. In combination, a generator, a motor, leads from the generator armature, and a rheostat directly connected to one of the generator leads, and between which and the other lead, the motor armature, the motor field winding, and the generator field winding are connected.

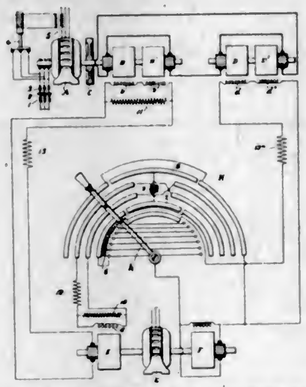
46. In combination, a generator, a motor, leads from the generator armature, and a rheostat directly connected to one of the generator leads, and between which and the other lead, the motor armature, the motor field winding, and the generator field winding are connected in multiple.

47. In combination, a generator, a motor, leads from the generator armature, and a rheostat directly connected to one of the generator leads, and between which and the other lead, the motor armature, the motor field winding, and the generator field winding are connected, whereby the latter are all under the control of the rheostat.

48. In combination, a generator, a motor, leads from the generator armature, and a rheostat directly connected to one of the generator leads, and between which and the other lead, the motor armature, the motor field winding and the generator field winding are connected in multiple, whereby the current strengths through the latter are all varied by the rheostat so that movement of the rheostat arm in one direction increases the motor speed and in the other direction decreases said speed.

865,812. MOTOR-CONTROL SYSTEM. WILLIAM H. POWELL, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed Apr. 16, 1906. Serial No. 311,827.

1. The method of operating an electric motor at variable speed, which consists in supplying mechanical energy at a substantially uniform rate, transforming the mechanical energy into electrical energy, supplying the electrical energy to the motor, inversely varying the electromotive force of the electrical energy and the field strength of the motor in alternate steps, storing any excess of the supplied mechanical energy beyond that demanded by the motor at any time, and supplying said stored energy to the motor whenever required.



2. The method of operating an electric motor at variable speed, which consists in varying its field strength, inversely varying the electromotive force impressed on its armature, storing as mechanical energy any excess of supplied energy when the load on the motor is light, and supplying said stored energy to the motor as electrical energy whenever the load on the motor is heavy.

3. The method of operating an electric motor at variable speed, which consists in converting mechanical energy into electrical energy, supplying the electrical energy to the motor, inversely varying in alternate steps the electromotive force of the electrical energy and the field strength of the motor, storing any excess of the mechanical energy when its rate of supply exceeds the power demanded by the motor at any time, and supplying said stored energy to the motor as electrical energy whenever the power demanded by the motor is above that normally supplied.

4. The method of regulating the speed of an electric motor, which consists in supplying mechanical energy at a substantially uniform rate, converting said mechanical energy into electrical energy at a variable rate, supplying the electrical energy to the armature of the motor, energizing the field of the motor from a separate source, inversely varying in alternate steps the electromotive force of the electrical energy and the field strength of the motor, storing any excess of mechanical energy when its rate of supply exceeds the rate at which the electrical energy is required, and supplying said stored energy to the motor as electrical energy whenever the electrical energy is demanded at a rate which exceeds the normal rate at which the mechanical energy is supplied.

5. The method of reversing an electric motor, which consists in first strengthening its field and diminishing to zero the electromotive force impressed on its armature, and then weakening its field and increasing in the reverse direction the electromotive force impressed on its armature.

6. The method of controlling the speed of an electric motor, which consists in supplying its armature from one source of current, supplying its field from another source of current, and inversely varying the electromotive force of said first source of current and the field strength of the motor.

7. The method of varying the speed of an electric motor, consisting in converting mechanical energy into electrical energy, supplying the electrical energy to the motor armature, supplying the field of the motor from a separate source, and inversely varying alternately step by step the electromotive force of the electrical energy and the field strength of the motor.

8. The method of controlling an electric motor, consisting in rotating a generator armature in a magnetic field, supplying the current from the generator armature to the armature of the motor, energizing the generator field and the motor field from a separate source of current, and inversely varying the field strengths of the generator and the motor in alternate steps.

9. The method of regulating and reversing an electric motor, which consists in supplying its armature from one source of current, supplying its field from another source of current, diminishing to zero the electromotive force of said first source of current and strengthening the motor field, and then increasing in the reverse direction the electromotive force of said first source of current and weakening the motor field.

10. The method of operating an electric motor at a variable speed and load, consisting in inversely varying its field strength and the electromotive force impressed on its armature, storing as mechanical energy the excess of energy when the supplied power exceeds the power demanded by the load, and supplying said stored energy to the motor as electrical energy when the power demanded by the load exceeds the supplied power.

11. The method of operating an electric motor at a variable speed and load, which consists in supplying mechanical energy, converting it into electrical energy, supplying the electrical energy to the motor, inversely varying in alternate steps the electromotive force of said electrical energy and the field strength of said motor, storing any excess of the mechanical energy supplied when its rate of supply exceeds the rate at which energy is demanded by the load, and supplying said stored energy to the motor as electrical energy when energy is demanded by the load at a rate which exceeds the rate at which the mechanical energy is supplied.

12. A system of motor control, comprising a dynamo-electric generator driven by a source of substantially constant power, a motor supplied by the generator, means for inversely varying the electromotive force of the generator and the field strength of the motor, and means for mechanically storing any excess of energy supplied by the driving source and supplying said stored energy to the motor whenever required.

13. A system of motor control, comprising a motor, means for inversely varying its field strength and the electromotive force impressed on its armature alternately step by step, and means for mechanically storing any excess of supplied energy when the load on the motor is light and for supplying said stored energy to the motor as electrical energy when the motor load is heavy.

14. A system of motor control, comprising a dynamo-electric generator, a motor supplied thereby, means for inversely varying the electromotive force of the generator and the field strength of the motor, means for storing any excess of the mechanical energy supplied to the generator when its rate of supply exceeds the power demanded by the motor at any time, and means for causing said stored energy to be supplied to the motor whenever the power demanded by the motor is above that normally supplied.

15. A motor control system comprising a source of substantially constant mechanical power, a generator driven thereby, a variably loaded motor whose armature is supplied by the generator, a separate source of current which supplies the field of the motor, means for inversely varying the electromotive force of the generator, and the field strength of the motor in alternate steps, means for storing any excess of mechanical energy supplied by the source when its rate of supply exceeds the rate at which electrical energy is demanded by the load on the motor, and means for causing said stored energy to be supplied to the motor as electrical energy whenever the electrical energy is demanded at a rate which exceeds the normal rate at which the mechanical energy is supplied.

16. A system of motor control, comprising a motor, and means for first increasing the strength of its field and diminishing to zero the electromotive force impressed on its armature, and for then weakening its field and increasing in the reverse direction the electromotive force impressed on its armature.

17. A motor control system comprising a motor, a source of current for supplying the motor armature, a second source of current for supplying the motor field coil, and means for inversely varying the electromotive force

of said first source of current and the field strength of the motor in alternate steps.

18. A motor control system comprising a dynamo-electric generator, a motor whose armature is supplied by said generator, a separate source of current for supplying the field coil of the motor, and means for inversely varying the electromotive force of the generator and the field strength of the motor alternately step by step.

19. A motor control system comprising a dynamo-electric generator, a motor whose armature is supplied by the generator, a separate source of current for supplying the field coils of the motor and the generator, and means for inversely varying the field strengths of the generator and the motor in alternate steps.

20. A system of motor control, comprising an electric motor, a source of current supplying the motor armature, a second source of current supplying the motor field coil, and means for first diminishing to zero the electromotive force of said first source of current and strengthening the motor field, and then increasing in the reverse direction the electromotive force of said first source of current and weakening the motor field.

21. A motor control system comprising a motor, means for inversely varying its field strength and the electromotive force impressed on its armature in alternate steps, means for mechanically storing any excess of energy when the supplied power exceeds the power demanded by the motor load, and means for causing said stored energy to be supplied to the motor as electrical energy when the power demanded by the motor load exceeds the supplied power.

22. A motor control system, comprising a source of mechanical power, a dynamo-electric generator driven thereby, a motor supplied by the generator, means for inversely varying the electromotive force of said generator and the field strength of said motor, means for storing any excess of mechanical energy supplied by said source when its rate of supply exceeds the rate at which energy is demanded by the motor load, and means for causing said stored energy to be supplied to the motor as electrical energy when energy is demanded by the motor load at a rate which exceeds the rate at which mechanical energy is supplied by the source.

23. In combination, a source of power, a generator driven thereby, a motor supplied by the generator, means for inversely varying the field strengths of the generator and the motor, a flywheel mechanically connected to said source of power, and means for causing the flywheel to give up its energy when the load on the motor rises above the normal.

24. In combination, a source of power, a generator driven thereby, a motor supplied by the generator, means for inversely varying the resistance of the field circuits of the generator and the motor alternately step by step, a flywheel on the generator shaft, and means for allowing said flywheel to give up its energy when the motor load rises above normal.

25. A system of motor control, comprising a motor, two independent sources of current supplying the motor field and armature respectively, and a controller operated by a single handle arranged to vary inversely the resistance of the motor field circuit and the electromotive force of the armature-supplying current source.

26. A system of motor control, comprising a motor, a generator supplying the motor armature, an independent generator supplying the field circuits of the generator and the motor, and means for inversely varying the resistances of said field circuits.

27. A system of motor control, comprising a motor, a generator supplying said motor, a flywheel on said generator shaft, and means for inversely varying the field strengths of said generator and said motor in alternate steps.

28. A system of motor control, comprising a motor, a generator supplying said motor, a flywheel on said generator shaft, means for inversely varying the field strengths of said generator and said motor in alternate steps, and means for permitting the flywheel to give up its energy when the load on the motor is heavy.

29. A system of motor control, comprising a motor, a generator supplying said motor, a flywheel on said generator shaft, means for permitting the flywheel to give up its energy whenever the load on the motor exceeds a predetermined value, and a controller for inversely varying the field strengths of the generator and the motor to vary the speed of the motor and to cause energy to be restored to the flywheel while the motor is being retarded.

30. A system of motor control, comprising a motor, a generator supplying said motor, a flywheel on said generator shaft, means for inversely varying in alternate steps the field strengths of said generator and said motor, and means for causing the generator to run slower when the motor load is heavy than when the motor load is light.

31. A system of motor control, comprising a motor, a generator supplying the armature of said motor, a separate source of current supplying the field coils of said generator and said motor, a flywheel on said generator shaft, and means for inversely varying the field strengths of said generator and said motor alternately step by step.

32. A system of motor control, comprising a motor, a generator supplying the armature of said motor, a flywheel on said generator shaft, means for inversely varying in alternate steps the field strengths of said generator and said motor, and means for allowing the flywheel to give up its energy when the load on the motor is heavy.

33. A system of motor control, comprising a motor, a generator supplying the armature thereof, a flywheel on the generator shaft, means for permitting the flywheel to give up its energy whenever the load on the motor exceeds a predetermined value, and a controller for inversely varying in alternate steps the field strengths of the generator and the motor to vary the speed of the motor and to cause energy to be restored to the flywheel while the motor is being retarded.

34. A system of motor control, comprising a motor, a generator supplying the armature of said motor, a flywheel on said generator shaft, means for inversely varying the field strengths of said generator and said motor in alternate steps, and means for permitting the generator to run slower when the motor is heavily loaded than it does when the motor is lightly loaded.

35. A system of motor control, comprising an induction motor, a generator driven thereby, a flywheel on the shaft of said induction motor, a working motor supplied by said generator, and means for inversely varying the field strength of the working motor and the electromotive force of the generator.

36. A system of motor control, comprising an induction motor, a generator directly connected thereto, a flywheel on the shaft of the induction motor, a working motor supplied by the generator, and means for inversely varying the field strengths of the generator and the working motor in alternate steps.

37. A system of motor control, comprising an induction motor, a generator driven thereby, a flywheel on the shaft of the generator, a working motor supplied by the generator, means for inversely varying the field strengths of the generator and the working motor, and means for allowing the induction motor to run slower when a heavy load is placed on the working motor.

38. A system of motor control, comprising an induction motor, a generator driven thereby, a flywheel on the shaft of the generator, a working motor supplied by the generator, means for inversely varying in alternate steps the field strength of the working motor and the electromotive force of the generator, and means for decreasing the speed of the induction motor when a heavy load is placed on the working motor.

39. A system of motor control, comprising a generator, a motor whose armature is supplied by the generator, a separate source of current for supplying the field coils of the generator and the motor, a permanent resistance in the generator field circuit, variable resistances in the field circuits of the generator and the motor, and means for inversely varying said variable resistances.

40. A system of motor control, comprising a generator, a motor whose armature is supplied by the generator, a separate source of current supplying the field magnets of the generator and the motor, means for inversely varying the resistance of said field circuits and for reversing the direction of current through the generator field circuit.

41. A system of motor control, comprising a generator, a motor whose armature is supplied by the generator, a separate source of current supplying the field magnets of the generator and the motor, means for inversely varying the resistances of said field circuits and for reversing the direction of current through the generator field circuit, and a permanent resistance in the generator field circuit.

42. A system of motor control, comprising a generator, a motor, means for inversely varying the field strengths of the generator and the motor and for reversing the direction of current in the generator field circuit.

43. A system of motor control, comprising a generator, a motor whose armature is supplied thereby, a separate source of current supplying the field coils of the generator and the motor, and means for inversely varying the resistances of said field circuits in alternate steps and for reversing said generator field circuit after its resistance has been increased to the maximum.

44. A system of motor control, comprising a source of current, a motor supplied thereby, a flywheel mechanically connected to said motor, a generator driven by said motor, a second motor supplied by said generator, means for inversely varying alternately step by step the field strengths of said second motor and said generator, and means for allowing said first motor to decrease in speed when the load on the second motor increases.

45. A system of motor control, comprising a generator, a motor supplied thereby, means for inversely varying the field strengths of said generator and said motor and for reversing said generator field, and a resistance permanently in said generator field circuit.

46. A system of motor control, comprising a generator, a motor supplied thereby, means for inversely varying the field strengths of said generator and said motor and for reversing said generator field, and resistances permanently in the field circuits of the generator and the motor.

47. A system of motor control comprising a generator, a motor supplied thereby, resistances in the field circuits of said generator and said motor, means for inversely varying said resistances and for reversing the current in the generator field circuit after the full resistance in said circuit has been cut in, and a high resistance connected across the generator field terminals.

48. A system of motor control comprising a generator, a motor supplied thereby, and a regulating and reversing rheostat so connected and arranged that it inversely varies the resistances of the generator and motor field circuits and can reverse the current in the generator field circuit after the resistance in said circuit has reached its maximum.

49. A system of motor control comprising a generator, a motor whose armature is supplied thereby, a separate source of current for supplying the field coils of said generator and said motor, and a regulating and reversing rheostat so connected and arranged that it inversely varies the resistances of said field circuits and can reverse the current in the generator field circuit when the motor field circuit has its minimum resistance.

50. A system of motor control, comprising a motor, a generator supplying the armature thereof, means for varying the field strengths of the generator and the motor and for reversing the generator field, and a non-inductive resistance permanently in said generator field circuit.

51. A system of motor control, comprising a motor, a generator supplying the armature thereof, a non-inductive resistance permanently in the field circuit of one of said machines, and means for varying the current in the field circuits of both of said machines.

52. In combination, a motor, a generator supplying the armature only of said motor, a separate source of electromotive force for exciting the motor field, a fly-wheel mechanically connected to said generator, and means for varying the speed of the motor by varying the field strengths of both the generator and the motor.

53. In combination, a motor, a generator supplying the armature only of said motor, a separate source of electromotive force for exciting the field of said motor, a fly-wheel on the shaft of said generator, and means for varying the field strengths of both the generator and the motor and for reversing the field of the generator.

54. A motor control system, comprising an electric motor, a separately excited generator supplying the armature of said motor, a fly-wheel mechanically connected to said generator, and means for varying the field strength of said generator.

55. A motor control system, comprising an electric motor, a generator supplying the armature of said motor, a fly-wheel mechanically connected to said generator, means for varying the voltage of said generator, and means for causing said generator and fly-wheel to slow down when the load on the motor is heavy.

56. A motor control system, comprising an electric motor, a generator supplying the armature thereof, a fly-wheel on the shaft of said generator, means for varying the field strength of said generator, and means for causing said fly-wheel and generator to increase or decrease in speed according as the load on the motor falls below or rises above a predetermined value.

57. A system of motor control, comprising a generator, a motor supplied thereby, and means for varying the field strengths of the generator and the motor and for reversing the current in the generator field circuit.

58. A system of motor control, comprising a motor, a generator supplying the armature of said motor, an exciter for the generator field, and means for varying and reversing the field strength of said exciter.

59. A motor control system, comprising an electric motor, a generator supplying the armature of said motor, separate sources of electromotive force for supplying the field windings of said generator and said motor respectively, and means for varying and reversing the electromotive force of the source which supplies the generator field.

60. The method of operating an electric motor at varying speeds, which consists in supplying its armature from a generator, exciting the field of the generator from a separate source of electromotive force, and varying the electromotive force of said separate source.

61. The method of operating an electric motor, which consists in supplying its armature from a generator, exciting the field of the generator from a separate source, and varying and reversing the electromotive force of said separate source.

62. The method of reversing an electric motor, which consists in supplying its armature from a generator, supplying the field of the generator from a separate source of electromotive force, and reversing the direction of the electromotive force of said separate source.

63. A system of motor control, comprising a motor, a generator supplying the armature thereof, a separate source of electromotive force supplying the field of the generator, and means for varying and reversing the electromotive force of said separate source.

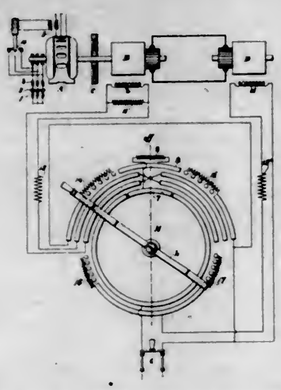
64. A motor control system, comprising an electric motor, a generator supplying the armature thereof, an exciter for the generator field, and means for reversing the electromotive force of said exciter.

65. A motor control system, comprising a separately excited generator, a separately excited motor, the armature of which is supplied exclusively by said generator, and means for inversely varying the field strengths of said generator and said motor.

865,813. METHOD AND MEANS FOR CONTROLLING ELECTRIC MOTORS. WILLIAM H. POWELL, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed June 30, 1906. Serial No. 324,126.

1. The method of operating an electric motor at variable speed, which consists in supplying mechanical energy at a substantially uniform rate, transforming the mechanical energy into electrical energy, supplying the electrical energy to the motor, successively and inversely varying

the electromotive force of the electrical energy and the field strength of the motor, storing any excess of the supplied mechanical energy beyond that demanded by the motor at any time, and supplying said stored energy to the motor whenever required.



2. The method of operating an electric motor at variable speed, which consists in successively and inversely varying its field strength and the electromotive force impressed on its armature storing as mechanical energy any excess of supplied energy when the load on the motor is light, and supplying said stored energy as electrical energy when the load on the motor is heavy.

3. The method of operating an electric motor, at variable speed, which consists in converting mechanical energy into electrical energy, supplying the electrical energy to the motor, successively and inversely varying the electromotive force of the electrical energy and the field strength of the motor, storing any excess of the mechanical energy when its rate of supply exceeds the power demanded by the motor at any time, and supplying said stored energy to the motor as electrical energy whenever the power demanded by the motor is above that normally supplied.

4. The method of regulating the speed of an electric motor, which consists in supplying mechanical energy at a substantially uniform rate, converting said mechanical energy into electrical energy at a variable rate, supplying the electrical energy to the armature of the motor, energizing the field of the motor from a separate source, successively and inversely varying the electromotive force of the electrical energy and the field strength of the motor, storing any excess of mechanical energy whenever its rate of supply exceeds the rate at which energy is required by the motor load, and supplying said stored energy to the motor as electrical energy whenever energy is demanded by the load at a rate which exceeds the normal rate at which the mechanical energy is supplied.

5. The method of reversing an electric motor, which consists in first strengthening its field, then diminishing to zero the electromotive force impressed on its armature, then increasing in the reverse direction the electromotive force impressed on its armature, and finally weakening its field.

6. The method of varying the speed of an electric motor, consisting in converting mechanical energy into electrical energy, supplying the electrical energy to the motor armature, supplying the field of the motor entirely from a separate source, and successively and inversely varying the electromotive force of the electrical energy and the field strength of the motor.

7. The method of regulating and reversing an electric motor, which consists in supplying its armature from one source of current, supplying its field from another source of current, successively strengthening the motor field and diminishing to zero the electromotive force of said first source of current, and then successively increasing in the reverse direction the electromotive force of said first source of current and weakening the motor field.

8. The method of operating an electric motor at a variable speed and load, consisting in successively and inversely varying its field strength and the electromotive force impressed on its armature, storing as mechanical energy the excess of energy when the supplied power exceeds the power demanded by the load, and supplying said stored energy to the motor as electrical energy when the power demanded by the load exceeds the supplied power.

9. The method of operating an electric motor at a variable speed and load, which consists in supplying mechanical energy, converting it into electrical energy, supplying the electrical energy to the motor, successively and inversely varying the electromotive force of the electrical energy and the field strength of the motor, storing any excess of the mechanical energy supplied when its rate of supply exceeds the rate at which energy is demanded by the load, and supplying said stored energy to the motor as electrical energy when the rate at which energy is demanded by the load exceeds the rate at which the mechanical energy is supplied.

10. A system of motor control, comprising a dynamo-electric generator driven by a source of substantially constant power, a motor supplied by the generator, means for successively and inversely varying the electromotive force of the generator and the field strength of the motor, and means for mechanically storing any excess of the energy supplied by the driving source and supplying said stored energy to the motor whenever required.

11. A system of motor control, comprising a motor, means for successively and inversely varying its field strength and the electromotive force impressed on its armature, and means for mechanically storing any excess of supplied energy when the motor load is light and for supplying said stored energy to the motor as electrical energy when the motor load is heavy.

12. A system of motor control, comprising a dynamo-electric generator, a motor supplied thereby, means for successively and inversely varying the electro-motive force of the generator and the field strength of the motor, means for storing any excess of the mechanical energy supplied to the generator when its rate of supply exceeds the power demanded by the motor at any time, and means for causing said stored energy to be supplied to the motor whenever the power demanded by the motor is above that normally supplied.

13. A motor control system, comprising a source of substantially constant mechanical power, a generator driven thereby, a variably loaded motor whose armature is supplied by the generator, a separate source of current which supplies the field of the motor, means for successively and inversely varying the electromotive force of the generator and the field strength of the motor, means for storing any excess of the mechanical energy supplied by the source when its rate of supply exceeds the rate at which energy is demanded by the load on the motor, and means for causing said stored energy to be supplied to the motor as electrical energy when energy is demanded by the load at a rate which exceeds the normal rate at which the mechanical energy is supplied.

14. A system of motor control, comprising a motor, means for first increasing the strength of its field, then diminishing to zero the electromotive force impressed on its armature, then increasing in the reverse direction the electromotive force impressed on its armature, and finally weakening its field.

15. A system of motor control comprising an electric motor, a source of current supplying the motor armature, a second source of current supplying the motor field coil, and means for first strengthening the motor field, then diminishing to zero the electromotive force of said first source of current, then increasing in the reverse direction the electromotive force of said first source of current, and finally weakening the motor field.

16. A motor control system, comprising a motor, means for successively and inversely varying its field strength and the electromotive force impressed on its armature, means for mechanically storing any excess of energy when the supplied power exceeds the power demanded by the motor load, and means for causing said stored energy to be supplied to the motor as electrical energy when the power demanded by the motor load exceeds the supplied power.

17. A motor control system, comprising a source of mechanical power, a dynamo-electric generator driven thereby, a motor supplied by the generator, means for successively and inversely varying the electromotive force of said generator and the field strength of said motor, means for storing any excess of mechanical energy supplied by said source when its rate of supply exceeds the rate at which energy is demanded by the motor load, and means for causing said stored energy to be supplied to the motor as electrical energy when energy is demanded by the motor load at a rate which exceeds the rate at which mechanical energy is supplied by the source.

18. In combination, a source of power, a generator driven thereby, a motor supplied by the generator, means for successively and inversely varying the field strengths of the generator and the motor, a fly-wheel on the shaft of the power source, and means for causing the fly-wheel to give up its energy when the load on the motor rises above the normal.

19. In combination, a source of power, a generator driven thereby, a motor supplied by the generator, means for successively and inversely varying the resistances of the field circuits of the generator and the motor, a fly-wheel on the generator shaft, and means for allowing said fly-wheel to give up its energy when the motor load rises above normal.

20. A system of motor control, comprising a motor, a generator supplying said motor, a fly-wheel on said generator shaft, and means for successively and inversely varying the field strengths of said generator and said motor.

21. A system of motor control, comprising a motor, a generator supplying said motor, a fly-wheel on said generator shaft, means for successively and inversely varying the field strengths of said generator and said motor, and means for permitting the fly-wheel to give up its energy when the load on the motor is heavy.

22. A system of motor control, comprising a motor, a generator supplying said motor, a fly-wheel on said generator shaft, means for permitting the fly-wheel to give up its energy whenever the load on the motor exceeds a predetermined value, and a controller for successively and inversely varying the field strengths of the generator and the motor to vary the speed of the motor and to cause energy to be restored to the fly-wheel while the motor is being retarded.

23. A system of motor control, comprising a motor, a generator supplying said motor, a fly-wheel on said generator shaft, means for successively and inversely varying the field strengths of said generator and said motor, and means for causing the generator to run slower when the motor load is heavy than when the motor load is light.

24. A system of motor control, comprising a motor, a generator supplying the armature of said motor, a separate source of current supplying the fields of said generator and said motor, a fly-wheel on said generator shaft, and means for successively and inversely varying the field strengths of said generator and said motor.

25. A system of motor control, comprising a motor, a generator supplying the armature of said motor, a fly-wheel on said generator shaft, means for successively and inversely varying the field strengths of said generator and said motor, and means for allowing the fly-wheel to give up its energy when the load on the motor is heavy.

26. A system of motor control, comprising a motor, a generator supplying the armature thereof, a fly-wheel on the generator shaft, means for permitting the fly-wheel to give up its energy whenever the load on the motor exceeds a predetermined value, and a controller for successively and inversely varying the field strengths of the generator and the motor to vary the speed of the motor and for causing energy to be restored to the fly-wheel while the motor is being retarded.

27. A system of motor control, comprising a motor, a generator supplying the armature of said motor, a fly-wheel on said generator shaft, means for successively and inversely varying the field strengths of said generator and said motor, and means for permitting the generator to run slower when the motor is heavily loaded than when the motor is lightly loaded.

28. A system of motor control, comprising an induction motor, a generator driven thereby, a fly-wheel on the shaft of said induction motor, a working motor supplied by said generator, and means for successively and inversely varying the field strengths of the working motor and the electromotive force of the generator.

29. A system of motor control, comprising an induction motor, a generator directly connected thereto, a fly-wheel on the shaft of the induction motor, a working motor supplied by the generator, and means for successively and inversely varying the field strengths of the generator and the working motor.

30. A system of motor control, comprising an induction motor, a generator driven thereby, a fly-wheel on the shaft of the generator, a working motor supplied by the generator, means for successively and inversely varying the field strength of the working motor and the electromotive force of the generator, and means for decreasing the speed of the induction motor when a heavy load is placed on the working motor.

31. A system of motor control, comprising a generator, a motor whose armature is supplied by the generator, a separate source of current for supplying the field coils of the generator and the motor, a permanent resistance in the generator field circuit, variable resistances in the field circuits of the generator and the motor, and means for successively and inversely varying said variable resistances.

32. A system of motor control, comprising a generator, a motor whose armature is supplied thereby, a separate source of current for supplying the field magnets of the generator and the motor, and means for successively and inversely varying the resistances of said field circuits and for reversing the direction of current through the generator field circuit.

33. A system of motor control, comprising a generator, a motor whose armature is supplied thereby, a separate source of current supplying the field magnets of the generator and the motor, means for successively and inversely varying the resistances of said field circuits and for reversing the direction of current through the generator field circuit, and a permanent resistance in the generator field circuit.

34. A system of motor control, comprising a generator, a motor, and means for successively and inversely varying the field strengths of the generator and the motor, and for reversing the direction of current in the generator field circuit.

35. A system of motor control, comprising a generator, a motor whose armature is supplied thereby, a separate source of current supplying the field coils of the generator and the motor, and means for successively and inversely varying the resistances of said field circuits and for reversing the current in said generator field circuit after its resistance has been increased to the maximum.

36. A system of motor control, comprising a source of current, a motor supplied thereby, a fly-wheel mechanically connected to said motor, a generator driven by said motor, a second motor supplied by said generator, means for successively and inversely varying the field strengths of said second motor and said generator, and means for allowing said first motor to decrease in speed when the load on the second motor increases.

37. A system of motor control, comprising a generator, a motor supplied thereby, means for successively and inversely varying the field strengths of said generator and said motor and reversing said generator field, and a resistance permanently in said generator field circuit.

38. A system of motor control, comprising a generator, a motor supplied thereby, means for successively and in-

versely varying the field strengths of said generator and said motor and for reversing said generator field, and resistances permanently in the field circuits of the generator and the motor.

39. A system of motor control, comprising a generator, a motor supplied thereby, resistances in the field circuits of said generator and said motor, means for successively and inversely varying said resistances, and for reversing the current in the generator field circuit after the full resistance in said circuit has been cut in, and a high resistance connected across the generator field terminals.

40. A system of motor control, comprising a generator, a motor supplied thereby, variable resistances arranged to be connected in the field circuits of the generator and motor respectively, and a regulating and reversing rheostat so connected and arranged that it successively and inversely varies the resistances of the generator and motor field circuits, and can reverse the current in the generator field circuit after the resistance in said circuit has reached its maximum.

41. A system of motor control, comprising a generator, a motor whose armature is supplied thereby, a separate source of current for supplying the field circuits of said motor and said generator, and a regulating and reversing rheostat so connected and arranged that it can successively and inversely vary the resistances of said field circuits, and reverse the current in the generator field circuit when the motor field circuit has its minimum resistance.

42. A system of motor control, comprising a generator, a motor supplied thereby, separate variable resistances for the field circuits of the generator and the motor, and a single controller arranged to increase the motor speed by first cutting all of one of the resistances out of the generator field circuit, and then cutting all of the other resistance into the motor field circuit.

43. A system of motor control, comprising a generator, a motor supplied thereby, separate variable resistances for the field circuits of the generator and the motor, and a single controller arranged to vary said resistances successively and inversely.

44. A system of motor control, comprising a generator, a motor supplied thereby, separate variable resistances for the field circuits of said generator and motor, and a single controller arranged to vary either of said resistances when the other resistance is fully cut out.

45. A system of motor control, comprising a generator, a motor supplied thereby, separate variable resistances for the field circuits of the generator and the motor, and a single controller arranged to vary the motor speed by first gradually cutting out all of one resistance from its circuit and then gradually cutting all of the other resistance into its circuit.

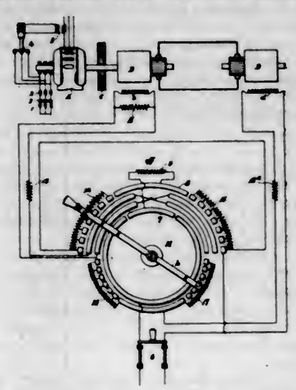
46. A system of motor control, comprising a generator, a motor supplied thereby, separate variable resistances for the field circuits of the generator and the motor, and a single controller arranged to vary said resistances successively and inversely, each resistance being varied only when the other resistance is fully cut out.

47. A system of motor control, comprising a generator, a motor supplied thereby, separate resistances in the circuits of said generator and said motor, means for successively and inversely varying said resistances and for reversing the current in the generator field circuit after the full resistance in said circuit has been cut in, and a resistance arranged to be connected across the terminals of the generator field circuit when said circuit is disconnected from its source of supply.

48. A system of motor control, comprising a generator, a motor supplied thereby, and a single controller so connected and arranged that as its arm is moved from "off" position, the generator field circuit is first closed, and the resistance of said circuit gradually decreased to a minimum and then the resistance of the motor field circuit gradually increased to a maximum.

49. A motor control system, comprising a purely separately excited motor, a generator supplying the armature of said motor, and means for successively and inversely varying the field strengths of said generator and said motor.

865,814. MOTOR-CONTROL SYSTEM. WILLIAM H. POWELL, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed July 27, 1906. Serial No. 328,047.



1. The method of operating an electric motor at variable speed, which consists in supplying mechanical energy at a substantially uniform rate, transforming the mechanical energy into electrical energy, supplying the electrical energy to the motor, simultaneously and inversely varying the electromotive force of the electrical energy and the field strength of the motor, storing any excess of the supplied mechanical energy beyond that demanded by the motor at any time, and supplying said stored energy to the motor whenever required.

2. The method of operating an electric motor at variable speed, which consists in varying its field strength, simultaneously and inversely varying the electromotive force impressed on its armature, storing as mechanical energy any excess of supplied energy when the load on the motor is light, and supplying said stored energy to the motor as electrical energy whenever the load on the motor is heavy.

3. The method of operating an electric motor at variable speed, which consists in converting mechanical energy into electrical energy, supplying the electrical energy to the motor, simultaneously and inversely varying the electromotive force of the electrical energy and the field strength of the motor, storing any excess of the mechanical energy when its rate of supply exceeds the power demanded by the motor at any time, and supplying said stored energy to the motor as electrical energy whenever the power demanded by the motor is above that normally supplied.

4. The method of regulating the speed of an electric motor, which consists in supplying mechanical energy at a substantially uniform rate, converting said mechanical energy into electrical energy at a variable rate, supplying the electrical energy to the armature of the motor, energizing the field of the motor from a separate source, simultaneously and inversely varying the electromotive force of the electrical energy and the field strength of the motor, storing any excess of mechanical energy when its rate of supply exceeds the rate at which the electrical energy is required, and supplying said stored energy to the motor as electrical energy whenever the electrical energy is demanded at a rate which exceeds the normal rate at which the mechanical energy is supplied.

5. The method of reversing an electric motor, which consists in first simultaneously strengthening its field and diminishing to zero the electromotive force impressed on its armature, and then simultaneously weakening its field and increasing in the reverse direction the electromotive force impressed on its armature.

6. The method of regulating and reversing an electric motor, which consists in supplying its armature from one source of current, supplying its field from another source of current, simultaneously diminishing to zero the electromotive force of said first source of current and strengthening the motor field, and then simultaneously increasing in the reverse direction the electromotive force of said first source of current and weakening the motor field.

7. The method of operating an electric motor at a variable speed and load, consisting in simultaneously and inversely varying its field strength and the electromotive force impressed on its armature, storing as mechanical energy the excess of energy when the supplied power exceeds the power demanded by the load, and supplying said stored energy to the motor as electrical energy when the power demanded by the load exceeds the supplied power.

8. The method of operating an electric motor at a variable speed and load, which consists in supplying mechanical energy, converting it into electrical energy, supplying the electrical energy to the motor, simultaneously and inversely varying the electromotive force of said electrical energy and the field strength of said motor, storing any excess of the mechanical energy supplied when its rate of supply exceeds the rate at which energy is demanded by the load, and supplying said stored energy to the motor as electrical energy when energy is demanded by the load at a rate which exceeds the rate at which the mechanical energy is supplied.

9. A system of motor control, comprising a dynamo-electric generator driven by a source of substantially constant power, a motor supplied by the generator, means for simultaneously and inversely varying the electromotive force of the generator and the field strength of the motor, and means for mechanically storing any excess of energy supplied by the driving source and supplying said stored energy to the motor whenever required.

10. A system of motor control, comprising a motor, means for simultaneously and inversely varying its field strength and the electromotive force impressed on its armature, and means for mechanically storing any excess of supplied energy when the load on the motor is light and for supplying said stored energy to the motor as electrical energy when the motor load is heavy.

11. A system of motor control, comprising a dynamo-electric generator, a motor supplied thereby, means for simultaneously and inversely varying the electromotive force of the generator and the field strength of the motor, means for storing any excess of the mechanical energy supplied to the generator when its rate of supply exceeds the power demanded by the motor at any time, and means for causing said stored energy to be supplied to the motor whenever the power demanded by the motor is above that normally supplied.

12. A motor control system comprising a source of substantially constant mechanical power, a generator driven thereby, a variably loaded motor whose armature is supplied by the generator, a separate source of current which supplies the field of the motor, means for simultaneously and inversely varying the electromotive force of the generator and the field strength of the motor, means for storing any excess of mechanical energy supplied by the source when its rate of supply exceeds the rate at which electrical energy is demanded by the load on the motor, and means for causing said stored energy to be supplied to the motor as electrical energy whenever the electrical energy is demanded at a rate which exceeds the normal rate at which the mechanical energy is supplied.

13. A system of motor control, comprising a motor, and means for first simultaneously increasing the strength of its field and diminishing to zero the electromotive force impressed on its armature, and for then weakening its field and increasing in the reverse direction the electromotive force impressed on its armature.

14. A motor control system comprising a motor, a source of current for supplying the motor armature, a second source of current for supplying the motor field coil, and means for simultaneously and inversely varying the electromotive force of said first source of current and the field strength of the motor.

15. A motor control system comprising a dynamo-electric generator, a motor whose armature is supplied exclusively by said generator, a separate source of current for supplying the field coil of the motor, and means for simultaneously and inversely varying the electromotive force of the generator and the field strength of the motor.

16. A motor control system comprising a dynamo-electric generator, a motor whose armature is supplied exclusively by the generator, a separate source of current for supplying the field coils of the motor and the generator, and means for simultaneously and inversely varying the field strengths of the generator and the motor.

17. A system of motor control, comprising an electric motor, a source of current supplying the motor armature, a second source of current supplying the motor field coils, and means for first simultaneously diminishing to zero the electromotive force of said first source of current and strengthening the motor field, and then simultaneously increasing in the reverse direction the electromotive force of said first source of current and weakening the motor field.

18. A motor control system comprising a motor, means for simultaneously and inversely varying its field strength and the electromotive force impressed on its armature, means for mechanically storing any excess of energy when the supplied power exceeds the power demanded by the motor load, and means for causing said stored energy to be supplied to the motor as electrical energy when the power demanded by the motor load exceeds the supplied power.

19. A motor control system, comprising a source of mechanical power, a dynamo-electric generator driven thereby, a motor supplied by the generator, means for simultaneously and inversely varying the electromotive force of said generator and the field strength of said motor, means for storing any excess of mechanical energy supplied by said source when its rate of supply exceeds the rate at which energy is demanded by the motor load, and means for causing said stored energy to be supplied to the motor as electrical energy when energy is demanded by the motor load at a rate which exceeds the rate at which mechanical energy is supplied by the source.

20. In combination, a source of power, a generator driven thereby, a motor supplied by the generator, means for simultaneously and inversely varying the field strengths of the generator and the motor, a flywheel mechanically connected to said source of power, and means for causing the flywheel to give up its energy when the load on the motor rises above the normal.

21. In combination, a source of power, a generator driven thereby, a motor supplied by the generator, means for simultaneously and inversely varying the resistances of the field circuits of the generator and the motor, a flywheel on the generator shaft, and means for allowing said flywheel to give up its energy when the motor load rises above normal.

22. A system of motor control, comprising a motor, a generator supplying said motor, a flywheel on said generator shaft, and means for simultaneously and inversely varying the field strengths of said generator and said motor.

23. A system of motor control, comprising a motor, a generator supplying said motor, a flywheel on said generator shaft, means for simultaneously and inversely varying the field strengths of said generator and said motor, and means for permitting the flywheel to give up its energy when the load on the motor is heavy.

24. A system of motor control, comprising a motor, a generator supplying said motor, a flywheel on the generator shaft, means for permitting the flywheel to give up its energy whenever the load on the motor exceeds a predetermined value, and a controller for simultaneously and inversely varying the field strengths of the generator and the motor to vary the speed of the motor and to cause energy to be restored to the flywheel while the motor is being retarded.

25. A system of motor control, comprising a motor, a generator supplying said motor, a flywheel on said generator shaft, means for simultaneously and inversely varying the field strengths of said generator and said motor, and means for causing the generator to run slower when the motor load is heavy than when the motor load is light.

26. A system of motor control, comprising a motor, a

generator supplying the armature of said motor, a separate source of current supplying the field coils of said generator and said motor, a flywheel on said generator shaft, and means for simultaneously and inversely varying the field strengths of said generator and said motor.

27. A system of motor control, comprising a motor, a generator supplying the armature of said motor, a flywheel on said generator shaft, means for simultaneously and inversely varying the field strengths of said generator and said motor, and means for allowing the flywheel to give up its energy when the load on the motor is heavy.

28. A system of motor control, comprising a motor, a generator supplying the armature thereof, a flywheel on the generator shaft, means for permitting the flywheel to give up its energy whenever the load on the motor exceeds a predetermined value, and a controller for simultaneously and inversely varying the field strengths of the generator and the motor to vary the speed of the motor and to cause energy to be restored to the flywheel while the motor is being retarded.

29. A system of motor control, comprising a motor, a generator supplying the armature of said motor, a flywheel on said generator shaft, means for simultaneously and inversely varying the field strengths of said generator and said motor, and means for permitting the generator to run slower when the motor is heavily loaded than it does when the motor is lightly loaded.

30. A system of motor control, comprising an induction motor, a generator driven thereby, a flywheel on the shaft of said induction motor, a working motor supplied by said generator, and means for simultaneously and inversely varying the field strength of the working motor and the electromotive force of the generator.

31. A system of motor control, comprising an induction motor, a generator directly connected thereto, a flywheel on the shaft of the induction motor, a working motor supplied by the generator, and means for simultaneously and inversely varying the field strengths of the generator and the working motor.

32. A system of motor control, comprising an induction motor, a generator driven thereby, a flywheel on the shaft of the generator, a working motor supplied by the generator, means for simultaneously and inversely varying the field strength of the working motor and the electromotive force of the generator, and means for decreasing the speed of the induction motor when a heavy load is placed on the working motor.

33. A system of motor control, comprising a generator, a motor whose armature is supplied thereby, a separate source of current supplying the field coils of the generator and the motor, and means for simultaneously and inversely varying the resistances of said field circuits and for reversing said generator field circuit after its resistance has been increased to the maximum.

34. A system of motor control, comprising a source of current, a motor supplied thereby, a flywheel mechanically connected to said motor, a generator driven by said motor, a second motor supplied by said generator, means for simultaneously and inversely varying the field strengths of said second motor and said generator, and means for allowing said first motor to decrease in speed when the load on the second motor increases.

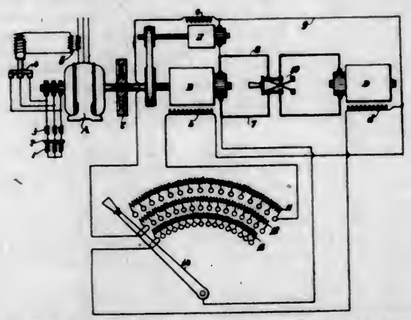
35. A system of motor control, comprising a generator, a motor supplied thereby, means for simultaneously and inversely varying the field strengths of said generator and said motor and for reversing said generator field, and a resistance permanently in said generator field circuit.

36. A system of motor control, comprising a generator, a motor supplied thereby, means for simultaneously and inversely varying the field strengths of said generator and said motor and for reversing said generator field, and resistances permanently in the field circuits of the generator and the motor.

37. A system of motor control comprising a generator, a motor supplied thereby, resistances in the field circuits of said generator and said motor, means for simultaneously and inversely varying said resistances and for reversing the current in the generator field circuit after the full resistance in said circuit has been cut in, and a high resistance connected across the generator field terminals.

38. In combination, a separately excited generator, a separately excited motor the armature of which is supplied exclusively by said generator, and means for simultaneously and inversely varying the field strengths of said generator and said motor.

865,815. SYSTEM OF MOTOR CONTROL. WILLIAM H. POWELL, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed Sept. 29, 1906. Serial No. 336,694.



1. The method of regulating the speed of an electric motor which consists in supplying the armature of said motor from one source of current, supplying its field jointly from said source of current and another source of current in series, and varying the electromotive forces of said two sources of current.

2. The method of regulating the speed of an electric motor which consists in energizing the armature of said motor from one source of current, energizing its field jointly from said source of current and another source of current in series, and varying the electromotive forces of said two sources of current inversely.

3. The method of regulating the speed of an electric motor which consists in energizing the armature of said motor from one source of current, energizing its field jointly from said source of current and another source of current, and varying the electromotive forces of said two sources of current.

4. The method of regulating the speed of an electric motor which consists in supplying the armature of said motor from one source of current, supplying its field jointly from said source of current and another source of current, and varying the electromotive forces of said two sources of current inversely.

5. The method of regulating the speed of an electric motor which consists in supplying the armature of said motor from one source of current, supplying its field jointly from said source of current and another source of current in series, and varying the electromotive force of said first source of current.

6. The method of regulating the speed of an electric motor which consists in energizing the armature of said motor from one source of current, energizing its field jointly from said source of current and another source of current, and varying the electromotive force of said first source of current.

7. A system of motor control, comprising a motor, a source of current supplying the armature of said motor, a second source of current which jointly with the first source supplies the motor field coil, and means for varying the electromotive force of said first source of current to vary the speed of the motor.

8. A system of motor control, comprising a motor, a source of current supplying the armature of said motor, a

second source of current which jointly with the first source supplies the motor field coil, and means for varying the electromotive forces of said two sources of current.

9. A system of motor control, comprising a motor, a source of current supplying the armature of said motor, a second source of current which jointly with the first source supplies the motor field coil, and means for varying the electromotive forces of said two sources of current inversely.

10. A system of motor control, comprising a motor, a source of current supplying the armature of said motor, a second source of current which jointly with the first source supplies the motor field coil, and a controller for varying the electromotive forces of both sources of current by a single movement.

11. A system of motor control, comprising a motor, a source of current supplying the armature of said motor, a second source of current which jointly with the first source supplies the motor field coil, and a controller so connected and arranged that within its limit of movement it can inversely vary the electromotive forces of the two sources of current.

12. In combination, a generator, a motor supplied thereby, and an exciter, the field windings of the generator and the motor being energized by the generator and the exciter jointly.

13. In combination, a generator, a motor supplied thereby, and an exciter, the field coils of the generator and the exciter being supplied by the generator and the exciter jointly.

14. In combination, a generator, a motor supplied thereby, and an exciter, the field coils of the motor and the exciter being energized by the generator and the exciter jointly.

15. In combination, a generator, a motor supplied thereby, and an exciter, the field coils of the generator, the motor and the exciter all being supplied by the generator and the exciter jointly.

16. A system of motor control, comprising a main generator, a motor supplied thereby, and an auxiliary generator, the field windings of the main generator and the motor being energized by the two generators jointly, and a controller arranged to vary the resistance of the field circuit of said main generator to vary the speed of the motor.

17. A system of motor control, comprising a motor, a generator supplying the armature of the motor, a second generator assisting the first to supply the field winding of the motor, and means for varying the field strength of the first generator to vary the motor speed.

18. A system of motor control, comprising a motor, a generator supplying the armature of the motor, a second generator assisting the first to supply the field winding of the motor, and means for varying the field strength of the second generator to vary the motor speed.

19. A system of motor control comprising a motor, a generator supplying the armature of the motor, a second generator assisting the first to supply the field winding of the motor, and means for varying the field strengths of the two generators to vary the motor speed.

20. A system of motor control, comprising a motor, a generator supplying the armature of the motor, a second generator assisting the first to supply the field winding of the motor, and means for inversely varying the field strengths of the two generators.

21. A system of motor control, comprising a motor, a generator supplying the armature of the motor, a second generator assisting the first to supply the field winding of the motor, and a unitary means for varying the field strengths of the two generators.

22. A system of motor control, comprising a motor, a generator supplying the armature of the motor, a second generator assisting the first to supply the field winding of the motor, and a unitary means for inversely varying the field strengths of the two generators.

23. A system of motor control, comprising a generator, a motor the armature of which is exclusively supplied by said generator, a second generator assisting the first to supply the field winding of the motor, and means for varying the field strengths of the first generator and the motor.

24. A system of motor control, comprising a generator, a motor the armature of which is exclusively supplied by said generator, a second generator assisting the first to supply the field winding of the motor, and means for varying the field strengths of the second generator and the motor.

25. A system of motor control, comprising a motor, a generator supplying the armature of the motor, a second generator assisting the first to supply the field winding of the motor, and a unitary means for varying the field strengths of the first generator and the motor.

26. A system of motor control, comprising a motor, a generator supplying the armature of the motor, a second generator assisting the first to supply the field winding of the motor, and a unitary means for varying the field strengths of the second generator and the motor.

27. A system of motor control, comprising a generator, a motor the armature of which is exclusively supplied by said generator, a second generator assisting the first to supply the field winding of the motor, and means for varying the field strengths of the two generators and the motor.

28. A system of motor control, comprising a motor, a generator supplying the armature of the motor, a second generator assisting the first to supply the field winding of the motor, and means for inversely varying the field strengths of the two generators and also varying the field strength of the motor.

29. A system of motor control, comprising a main generator, a motor supplied thereby, an auxiliary generator, the field windings of the main generator and the motor being energized by the two generators jointly, and a single controller arranged to vary the resistances of the field circuits of said main generator and said motor.

30. A system of motor control, comprising a main generator, a motor supplied thereby, an auxiliary generator, the field windings of both generators and the motor being energized by the two generators jointly, and a single controller arranged to vary inversely the resistances of the field circuits of said main generator and said motor.

31. A system of motor control, comprising a main generator, a motor supplied thereby, an auxiliary generator, the field windings of both generators and the motor being energized by the two generators jointly, and a single controller arranged to vary the resistances of the field circuits of said main generator and said auxiliary generator.

32. A system of motor control, comprising a main generator, a motor supplied thereby, an auxiliary generator, the field windings of both generators and the motor being energized by the two generators jointly, and a single controller arranged to vary inversely the resistances of the field circuits of said generator and said auxiliary generator.

33. A system of motor control, comprising a main generator, a motor supplied thereby, an auxiliary generator, the field windings of the auxiliary generator and the motor being energized by the two generators jointly, and a single controller arranged to vary the resistances of the field circuits of said motor and said auxiliary generator.

34. A system of motor control, comprising a main generator, a motor supplied thereby, an auxiliary generator, the field windings of both generators and the motor being energized by the two generators jointly, and a single controller arranged to vary correspondingly the resistances of the field circuits of said motor and said auxiliary generator.

35. A system of motor control, comprising a main generator, a motor supplied thereby, an auxiliary generator, the field windings of both generators and the motor being energized by the two generators jointly, and a single controller arranged to vary the resistances of the field circuits of said generator, said motor and said auxiliary generator.

36. A system of motor control, comprising a main generator, a motor supplied thereby, an auxiliary generator, the field windings of both generators and the motor being

energized by the two generators jointly, and a single controller arranged to vary the resistances of the field circuits of said motor and said auxiliary generator correspondingly and the resistance of the field circuit of said generator inversely thereto.

37. A system of motor control, comprising three leads, a main generator and a motor, the armatures of which are permanently connected separately between the first and second leads, an auxiliary generator, the armature of which is connected between the second and third leads, the motor field winding being connected between the first and third leads, and means for varying the electromotive force of the main generator to vary the speed of the motor.

38. A system of motor control, comprising three leads, a main generator and a motor, the armatures of which are connected separately between the first and second leads, an auxiliary generator, the armature of which is connected between the second and third leads, the motor field winding being connected between the first and third leads, and means for varying the electromotive force of the auxiliary generator to vary the speed of the motor.

39. A system of motor control, comprising three leads, a motor and a main generator, the armatures of which are each permanently connected between the first and second leads, an auxiliary generator, the armature of which is connected between the second and third leads, the motor field winding being connected between the first and third leads, and means for varying the electromotive forces of the main generator and the auxiliary generator.

40. A system of motor control, comprising three leads, a motor and a main generator, the armatures of which are connected separately across the first and second leads, an auxiliary generator, the armature of which is connected across the second and third leads, the motor field winding being connected across the first and third leads, and means for varying the electromotive forces of the main generator and the auxiliary generator inversely.

41. A system of motor control, comprising three leads, a main generator and a motor, the armatures of which are each connected across the first and second leads, an auxiliary generator, the armature of which is connected across the second and third leads, the field windings of said generator and said motor being connected across the first and third leads, and means for varying the electromotive forces of said main and auxiliary generators.

42. A system of motor control, comprising three leads, a main generator and a motor, the armatures of which are each connected separately between the first and second leads, an auxiliary generator the armature of which is connected between the second and third leads, the field windings of said generator and said motor being connected between the first and third leads, and means for varying the electromotive forces of said main and auxiliary generators inversely.

43. A system of motor control, comprising three leads, a main generator and a motor, the armatures of which are connected separately between the first and second leads, an auxiliary generator the armature of which is connected between the second and third leads, the field windings of the motor and the exciter being connected between the first and third leads, and means for varying the electromotive forces of said generator armatures.

44. A system of motor control, comprising three leads, a main generator and a motor, the armatures of which are each connected across the first and second leads, an auxiliary generator, the armature of which is connected across the second and third leads, the field windings of the motor and the exciter being connected across the first and third leads, and means for varying inversely the electromotive forces of said generator armatures.

45. A system of motor control, comprising three leads, a main generator and a motor, the armatures of which are connected separately across the first and second leads, an auxiliary generator, the armature of which is connected across the second and third leads, the field windings of the motor and both generators being connected across the first and third leads, and means for varying the electromotive forces of said generators.

46. A system of motor control, comprising three leads, a main generator and a motor, the armatures of which are each connected between the first and second leads, an auxiliary generator, the armature of which is connected between the second and third leads, the field windings of the motor and both generators being connected between the first and third leads, and means for varying the electromotive forces of said generators inversely.

47. A system of motor control, comprising three leads, a main generator and a motor, the armatures of which are each connected between the first and second leads, an auxiliary generator, the armature of which is connected between the second and third leads, the field windings of some or all of said machines being connected between the first and third leads, and means for varying the electromotive force of the auxiliary generator to vary the speed of the motor.

48. A system of motor control, comprising three leads, a main generator and a motor, the armatures of which are each connected between the first and second leads, an auxiliary generator, the armature of which is connected between the second and third leads, the field windings of some or all of said machines being connected between the first and third leads, and means for varying the electromotive force of the main generator to vary the speed of the motor.

49. A system of motor control, comprising three leads, a main generator and a motor, the armatures of which are connected between the first and second leads, an auxiliary generator, the armature of which is connected between the second and third leads, the field windings of some or all of said machines being connected between the first and third leads, and means for varying the electromotive forces of the two generators to vary the speed of the motor.

50. A system of motor control, comprising three leads, a main generator and a motor, the armatures of which are each connected between the first and second leads, an auxiliary generator, the armature of which is connected between the second and third leads, the field windings of some or all of said machines being connected between the first and third leads, and means for inversely varying the electromotive forces of the two generators to vary the speed of the motor.

51. A system of motor control, comprising two generators and a motor, connections whereby the motor armature has impressed thereon the voltage of but one of said generators, and the motor field circuit the sum of the voltages of the two generators, and means for varying the electromotive force of one of the generators to vary the speed of the motor.

52. A system of motor control, comprising two generators and a motor, connections whereby the motor armature has always impressed thereon the voltage of but one of said generators, and the motor field circuit the sum of the voltages of the two generators, and means for varying the electromotive forces of the two generators.

53. A system of motor control, comprising two generators and a motor, connections whereby the motor armature has impressed thereon the voltage of but one of said generators and the motor field winding the sum of the voltages of the two generators, and means for varying the electromotive forces of the two generators inversely.

54. A system of motor control, comprising two generators and a motor, connections whereby the motor armature has impressed thereon the voltage of one of said generators and the field windings of all of said machines the sum of the voltages of the two generators, and means for varying the electromotive forces of said two generators.

55. A system of motor control, comprising two generators and a motor, connections whereby the motor armature has impressed thereon the voltage of one of said generators and the field windings of all of said machines the sum of the voltages of the two generators, and means for varying the electromotive forces of said two generators inversely.

56. A system of motor control, comprising two generators and a motor, connections whereby the motor armature has always impressed thereon the voltage of one of said generators only and the field circuits of some or all of said machines the sum of the voltages of the two generators, and variable resistances in the field circuits of said generators.

57. A system of motor control, comprising two generators and a motor, connections whereby the motor armature has impressed thereon the voltage of one of said generators and the field windings of some or all of said machines the sum of the voltages of the two generators, and inversely variable resistances in the field circuits of said two generators respectively.

58. A system of motor control, comprising two generators and a motor, connections whereby the motor armature has impressed thereon the voltage of one of said generators and the field windings of some or all of said machines the sum of the voltages of the two generators, and variable resistances in the field circuits of said three machines respectively.

59. A system of motor control, comprising two generators and a motor, connections whereby the motor armature has impressed thereon the voltage of one of said generators and the field circuits of some or all of said machines the sum of the voltages of the two generators, variable resistances in the field circuits of said three machines respectively, and a single means for varying all of said resistances.

60. A system of motor control, comprising two generators and a motor, connections whereby the motor armature has always impressed thereon the voltage of one of said generators only and the field circuits of some or all of said machines the sum of the voltages of the two generators, and variable resistances in the field circuits of said motor and one of said generators.

61. A system of motor control, comprising two generators and a motor, connections whereby the motor armature has impressed thereon the voltage of one of said generators and the field windings of some or all of said machines the sum of the voltages of the two generators, and inversely variable resistances in the field circuits of said motor and one of said generators.

62. A system of motor control, comprising two generators and a motor, connections whereby the motor armature has always impressed thereon the voltage of one of said generators only and the field windings of some or all of said machines the sum of the voltages of the two generators, and correspondingly variable resistances in the field circuits of said motor and one of said generators.

63. In combination, a source of power, two generators driven thereby, and a motor whose armature is supplied by one of said generators and whose field is supplied by the two generators jointly, means for varying the electromotive forces of the two generators, a fly-wheel mechanically connected to the generators, and means for allowing said fly-wheel to give up its energy when the motor load rises above normal.

64. A system of motor control, comprising a motor, a generator supplying the armature of said motor, a second generator assisting the first to supply the field winding of said motor, a fly-wheel mechanically connected to said generators, and means for inversely varying the field strengths of said two generators.

65. A system of motor control, comprising an induction motor, two generators driven thereby, a fly-wheel on the shaft of the induction motor, a working motor whose armature is supplied by one of said generators and whose field is supplied by the two generators jointly.

66. A system of motor control, comprising an induction motor, two generators driven thereby, a fly-wheel on the shaft of the induction motor, a working motor whose armature is supplied by one of said generators and whose field is supplied by the two generators jointly, and means for varying the field strengths of the working motor and one of said generators.

67. A system of motor control, comprising an induction motor, two generators driven thereby, a fly-wheel on the shaft of the induction motor, a working motor whose armature is supplied by one of said generators and whose field is supplied by the two generators jointly, and means for inversely varying the field strengths of the working motor and one of said generators.

68. A system of motor control, comprising an induction motor, two generators driven thereby, a fly-wheel on the shaft of the induction motor, a working motor whose armature is supplied by one of said generators and whose field is supplied by the two generators jointly, and means for correspondingly varying the field strengths of the working motor and one of said generators.

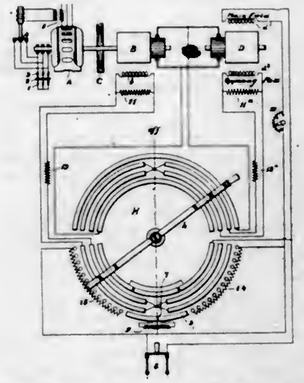
69. A system of motor control, comprising an induction motor, two generators driven thereby, a fly-wheel on the shaft of the induction motor, a working motor whose armature is supplied by one of said generators and whose field is supplied by the two generators jointly, and means for varying the field strengths of said two generators.

70. A system of motor control, comprising an induction motor, two generators driven thereby, a fly-wheel on the shaft of the induction motor, a working motor whose armature is supplied by one of said generators and whose field is supplied by the two generators jointly, and means for inversely varying the field strengths of said two generators.

71. A system of motor control, comprising an induction motor, two generators driven thereby, a fly-wheel on the shaft of the induction motor, a working motor whose armature is supplied by one of said generators and whose field is supplied by the two generators jointly, and means for varying the field strengths of the two generators and the working motor.

72. A system of motor control, comprising an induction motor, two generators driven thereby, a fly-wheel on the shaft of the induction motor, a working motor whose armature is supplied by one of said generators and whose field is supplied by the two generators jointly, and means for inversely varying the field strengths of the two generators and also varying the field strength of the working motor.

865,816. MOTOR - CONTROL SYSTEM. WILLIAM H. POWELL, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed July 30, 1906. Serial No. 328,326.



1. A system of motor control, comprising a motor having a main field and an opposing field, a generator for supplying the armature of said motor, a separate source for supplying the main field winding of the motor, and means for varying the electromotive force of the generator and the total field strength of the motor.

2. A system of motor control, comprising a motor having a main field and an opposing field, a generator for supplying the armature of said motor, a separate source for supplying the main field winding of the motor, and means for varying the electromotive force of the generator and the total field strength of the motor inversely.

3. A system of motor control, comprising a motor having main and opposing field windings, a generator for supplying the armature of the motor, a separate source of

current for supplying the main field winding of the motor, and means for varying the electromotive force of the generator and the strength of current in the opposing field winding of the motor.

4. A system of motor control, comprising a motor having main and opposing field windings, a generator for supplying the armature of the motor, a separate source of current for supplying the main field winding of the motor, and means for varying the electromotive force of the generator and the strength of current in the opposing field winding of the motor correspondingly.

5. A system of motor control, comprising a motor having main and auxiliary field windings, a generator for supplying the armature of said motor, a separate source of current for supplying one of the field windings of the motor, and a single means for varying the field strengths of the generator and the motor,

6. A system of motor control, comprising a motor having main and auxiliary windings, a generator for supplying the armature of said motor, a separate source of current for supplying one of the field windings of the motor, and a single means for varying the field strengths of the generator and the motor inversely.

7. A system of motor control, comprising a motor having main and auxiliary field windings, a generator for supplying the armature and auxiliary field winding of the motor, a separate source of current for supplying the main field winding of the motor, and means for varying the electromotive force of the generator.

8. A system of motor control comprising a motor having main and auxiliary field windings, a generator for supplying the armature and auxiliary field winding of the motor, a separate source of current for supplying the main field winding of the motor, and means for varying and reversing the electromotive force of the generator.

9. A system of motor control, comprising a motor having main and auxiliary field windings, a generator for supplying the armature and auxiliary field winding of the motor, a separate source of current for supplying the main field winding of the motor, and means for varying the field of the generator.

10. A system of motor control, comprising a motor having main and auxiliary field windings, a generator for supplying the armature and auxiliary field winding of the motor, a separate source of current for supplying the main field winding of the motor, and means for varying and reversing the field of the generator.

11. A system of motor control, comprising a motor having main and opposing field windings, a generator for supplying the armature and opposing field winding of the motor, a separate source of current for supplying the main field winding of the motor, and means for varying the electromotive force of the generator.

12. A system of motor control, comprising a motor having main and opposing field windings, a generator for supplying the armature and opposing field winding of the motor, a separate source of current for supplying the main field winding of the motor, and means for varying and reversing the electromotive force of the generator.

13. A system of motor control, comprising a motor having main and opposing field windings, a generator for supplying the armature and opposing field winding of the motor, a separate source of current for supplying the main field winding of the motor, and means for varying the field of the generator.

14. A system of motor control, comprising a motor having main and opposing field windings, a generator for supplying the armature and opposing field winding of the motor, a separate source of current for supplying the main field winding of the motor, and means for varying and reversing the field of the generator.

15. A system of motor control, comprising a motor having a separately excited main field and a shunt opposing field, a generator for supplying the armature and shunt field of the motor, and means for varying the electromotive force of said generator.

16. A system of motor control, comprising a motor having a separately excited main field and a shunt opposing field, a generator for supplying the armature and shunt field of the motor, and means for varying and reversing the electromotive force of said generator.

17. A system of motor control, comprising a motor having a separately excited main field and shunt opposing field, a generator for supplying the armature and shunt field of the motor, and means for varying the field of said generator.

18. A system of motor control, comprising a motor having a separately excited main field and a shunt opposing field, a generator for supplying the armature and shunt field of the motor, and means for varying and reversing the field of the generator.

19. A system of motor control, comprising a motor having a separately excited main field and a shunt opposing field, a generator for supplying the armature and shunt field of the motor, and means for varying and reversing the electromotive force of the generator and for reversing the connections of the motor shunt field.

20. A system of motor control, comprising a motor having a separately excited main field and a shunt opposing field, a generator for supplying the armature and shunt field of the motor, and means for varying and reversing the generator field and for reversing the connections of the motor shunt field.

21. In a system of motor control, comprising a dynamo-electric generator driven by a source of substantially constant power, a combined shunt and separately excited motor supplied by the generator, means for varying the electromotive force of the generator, and means for mechanically storing any excess of the energy supplied by the driving source and supplying said stored energy to the motor whenever required.

22. A system of motor control, comprising a combined shunt and separately excited motor, means for varying the electromotive force impressed on its armature, and means for mechanically storing any excess of supplied energy when the motor load is light and for supplying said stored energy to the motor as electrical energy when the motor load is heavy.

23. A system of motor control, comprising a dynamo-electric generator, a motor supplied thereby, shunt and separately excited field windings on said motor, means for varying the electromotive force of the generator, means for storing any excess of the mechanical energy supplied to the generator when its rate of supply exceeds the power demanded by the motor at that time, and means for causing said stored energy to be supplied to the motor whenever the power demanded by the motor is above that normally supplied.

24. A motor control system, comprising a source of substantially constant mechanical power, a generator driven thereby, a variably loaded combined shunt and separately excited motor whose armature and shunt field winding are supplied by the generator, a separate source of current which supplies the main field winding of the motor, means for varying the electromotive force of the generator, means for storing any excess of the mechanical energy supplied by the source when its rate of supply exceeds the rate at which energy is demanded by the load on the motor, and means for causing said stored energy to be supplied to the motor as electrical energy when energy is demanded by the load at a rate which exceeds the normal rate at which the mechanical energy is supplied.

25. A motor control system, comprising a motor having main and opposing field windings, means for inversely varying its total field strength and the electromotive force impressed upon its armature, means for mechanically storing any excess of energy when the supplied power exceeds the power demanded by the motor load, and means for causing said stored energy to be supplied to the motor as electrical energy when the power demanded by the motor load exceeds the supplied power.

26. In combination, a source of power, a generator driven thereby, a motor whose armature and shunt field are supplied by the generator, a separately excited main field for the motor, means for varying the field strength of the generator, a fly-wheel on the shaft of the power source, and means for causing the fly-wheel to give up its energy when the load on the motor rises above normal.

27. In combination, a source of power, a generator driven thereby, a motor having an armature and an opposing field winding supplied by said generator and a main field winding supplied from a separate source, means for varying the resistance in the field circuit of the generator, a fly-wheel on the generator shaft, and means for allowing said fly-wheel to give up its energy when the motor load rises above normal.

28. A system of motor control, comprising a motor having main and auxiliary field windings, a generator supplying said motor, a flywheel on the shaft of said generator, and means for inversely varying the field strengths of said generator and said motor.

29. A system of motor control, comprising a motor having shunt and separately excited field windings, a generator supplying the armature and shunt winding of said motor, a fly-wheel mechanically connected to said generator, means for permitting the fly-wheel to give up its energy whenever the load on the motor exceeds a predetermined value, and a controller for varying the field strength of the generator to vary the speed of the motor and to cause energy to be restored to the fly-wheel while the motor is being retarded.

30. In a system of motor control, a motor having a plurality of field windings, a generator supplying the armature and one of the field windings of said motor, a flywheel mechanically connected to said generator, means for varying the field strength of the generator to vary the field strength and impressed electromotive force on the armature of the working motor, and means for causing the generator to run slower when the motor load is heavy than when the motor load is light.

31. In combination, a motor having a constant field and a variable field, a generator for supplying the armature of said motor, and means for varying the generator field and the variable field of the motor.

32. In combination, a motor having a constant field and a variable field, a generator for supplying the armature of said motor, and means for varying and reversing the field of the generator and for reversing the connections of the variable field of the motor.

33. In combination, a motor having a constant field and an opposing variable field, a generator for supplying the armature of said motor, and means for varying the generator field and the variable field of the motor.

34. In combination, a motor having a constant field and an opposing variable field, a generator for supplying the armature of said motor, and means for varying and reversing the field of the generator and for reversing the connections of the variable field of the motor.

35. In combination, a motor having a main field winding of constant strength and an opposing field winding of variable strength, a generator supplying the armature and opposing field winding of the motor, and means for varying the electromotive force of the generator.

36. In combination, a motor having a main field winding of constant strength and an opposing field winding of variable strength, a generator supplying the armature and opposing field winding of the motor, and means for varying and reversing the electromotive force of the generator.

37. In combination, a motor having a main field winding of constant strength and an opposing field winding of variable strength, a generator supplying the armature and opposing field winding of the motor, and means for varying and reversing the electromotive force of the generator and for reversing the connections of the opposing field of the motor.

38. In combination, a motor having a separately excited field winding of constant strength and an opposing shunt field winding of variable strength, a generator supplying the armature and shunt winding of the motor, and means for varying the field strength of the generator.

39. In combination, a motor having a separately excited field winding of constant strength and an opposing shunt field winding of variable strength, a generator supplying the armature and shunt winding of the motor, and means for varying and reversing the field of the generator.

40. In combination, a motor having a separately excited field winding of constant strength and an opposing field winding of variable strength, a generator supplying the armature and opposing field winding of said motor, and means for varying and reversing the field of the generator and for reversing the connections of the opposing field winding of the motor.

41. A system of motor control, comprising a generator, a combined shunt and separately excited motor supplied by the generator, means for varying the field strength of the generator, and a resistance permanently in the generator field circuit.

42. A system of motor control, comprising a generator, a combined shunt and separately excited motor supplied by the generator, means for varying the field strength of the generator, and a resistance permanently in the motor shunt field circuit.

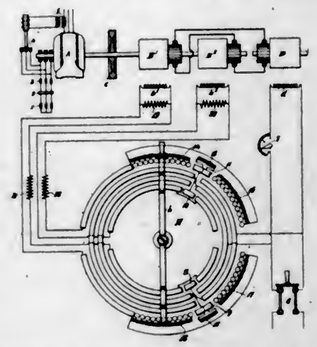
43. A system of motor control, comprising a generator, a combined shunt and separately excited motor supplied by the generator, means for varying the field strength of the generator, and resistances permanently in the generator field circuit and the motor shunt field circuit respectively.

44. A system of motor control, comprising a generator, a combined shunt and separately excited motor supplied thereby, means for varying and reversing the generator field, and a high resistance connected across the generator field terminals.

45. A system of motor control, comprising a generator, a combined shunt and separately excited motor supplied thereby, means for varying and reversing the field of the generator and for reversing the connections of the motor shunt field, and a high resistance connected across the motor shunt field.

46. A system of motor control, comprising a generator, a combined shunt and separately excited motor supplied thereby, means for varying and reversing the field of the generator and for reversing the connections of the motor shunt field, and high resistances connected across the generator field and the motor shunt field respectively.

865,817. SYSTEM OF MOTOR CONTROL. WILLIAM H. POWELL, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed Dec. 19, 1906. Serial No. 348,503.



1. The method of controlling the speed and direction of an electric motor, which consists in supplying its armature from two sources of current in series, said sources being normally approximately equal and opposite, and inversely varying the electromotive forces of said two sources of current.

2. The method of controlling the speed of an electric motor, which consists in supplying it from two sources

of current in series, and dissimilarly varying the electromotive forces of both of said sources.

3. The method of controlling the direction of rotation of an electric motor, which consists in supplying its armature from two opposing sources of current in series, and varying the relation between the electromotive forces of said sources so that either of them may predominate.

4. The method of reversing an electric motor, which consists in supplying its armature from two assisting sources of current in series, then diminishing, reversing and increasing the electromotive force of one of said sources, and then diminishing, reversing and increasing the electromotive force of the other source.

5. The method of reversing an electric motor, which consists in supplying its armature from two unequal opposing sources of current in series, and then varying the relation between the electromotive forces of said two sources until the inequality is reversed.

6. The method of controlling an electric motor, consisting in rotating a plurality of generator armatures in separate magnetic fields, impressing the algebraic sum of the electro-motive forces of said generator armatures on the armature of the motor, and varying all of the magnetic fields so that at times said algebraic sum is less than one of its components.

7. The method of controlling an electric motor, consisting in rotating a plurality of generator armatures in separate magnetic fields, impressing the algebraic sum of the electro-motive forces of said generators on the armature of the motor, and inversely varying two of said generator fields.

8. The method of controlling an electric motor, consisting in rotating a plurality of generator armatures in separate magnetic fields, impressing the algebraic sum of the electro-motive forces of said generators on the armature of the motor, and differently varying the fields of said generators.

9. The method of controlling an electric motor, consisting in rotating a plurality of generator armatures in separate magnetic fields, impressing the algebraic sum of the electro-motive forces of said generator armatures upon the armature of the motor, and varying said algebraic sum from a maximum in one direction to a maximum in the other direction by successively reversing the magnetic fields of the various generator armatures.

10. The method of operating an electric motor at variable speed and load which consists in supplying mechanical energy, converting it into electrical energy at a plurality of separate electro-motive forces, impressing the algebraic sum of said electromotive forces on the armature of the motor, and individually varying said component electro-motive forces.

11. The method of operating an electric motor at variable speed and load which consists in supplying mechanical energy, converting it into electrical energy at a plurality of separate electro-motive forces, impressing the algebraic sum of said electro-motive forces on the armature of the motor, individually varying said component electromotive forces, storing any excess of mechanical energy supplied when its rate of supply exceeds the rate at which energy is demanded by the load, and supplying said stored energy to the motor as electrical energy when energy is demanded by the load at a rate which exceeds the rate at which the mechanical energy is supplied.

12. A system of distribution, comprising a plurality of dynamo-electric generators driven by a source of substantially constant power, means for inversely varying the electro-motive forces of two of said generators, and means for mechanically storing any excess of energy supplied by the driving source and supplying said stored energy to help drive the generators whenever required.

13. A system of motor control, comprising a plurality of dynamo-electric generators, a motor supplied thereby, means for differently varying the electro-motive forces of said generators, means for storing any excess of mechanical energy supplied to the generators when its rate of supply exceeds the power demanded by the motor at that time, and means for causing said stored energy to be supplied to the motor whenever the power demanded by the motor is above that normally supplied.

14. A system of motor control, comprising a motor, two sources of current connected in series for supplying the motor armature, and means for varying and reversing the electromotive force of each of said sources of current.

15. A motor control system comprising two dynamo-electric generators, a motor whose armature has impressed thereon the algebraic sum of the electromotive forces of said generators, and means for inversely varying said component electro-motive forces.

16. A motor control system comprising two dynamo-electric generators, a motor the armature of which is supplied by said generators in series, and means for differently varying the field strengths of said generators.

17. A system of motor control, comprising an electric motor, a plurality of sources of current connected in series and supplying the motor armature, and means for successively diminishing to zero and increasing in the reverse direction the electromotive forces of said sources of current.

18. A motor control system, comprising a source of mechanical power, a plurality of generators driven thereby, said generators being connected in series, a motor supplied by said generators, means for differently varying the electro-motive forces of said generators, means for storing any excess of mechanical energy supplied by said source when its rate of supply exceeds the rate at which energy is demanded by the motor load, and means for causing said stored energy to be supplied to the motor as electrical energy when energy is demanded by the motor load at a rate which exceeds the rate at which mechanical energy is supplied by the source.

19. In combination, a source of power, a plurality of generators driven thereby and connected in series to supply a motor, means for differently varying the field strengths of said generators, a fly-wheel mechanically connected to said generators, and means for causing the fly-wheel to give up its energy when the load on the motor rises above the normal.

20. In combination, a source of power, two generators driven thereby, a motor supplied by said generators in series, means for inversely varying the resistances of the field circuits of said generators, a fly-wheel mechanically connected to said generators, and means for allowing said fly-wheel to give up its energy when the motor load rises above normal.

21. A system of motor control, comprising a motor, a plurality of generators supplying said motor, a fly-wheel mechanically connected to said generators, and means for successively reversing the fields of said generators.

22. A system of motor control, comprising a motor, two generators connected in series for supplying the armature of said motor, and means for inversely varying the field strengths of said generators and for reversing the field which is weakened.

23. In a system of distribution, a translating device, a plurality of sources of current connected in series for supplying said translating device, and means for successively reversing the electro-motive forces of said sources of current.

24. In a system of distribution, a translating device, a plurality of generators connected in series and supplying said translating device, and means for varying the field strengths of said generators so that the generators oppose each other, or assist each other in either direction.

25. A system of motor control, comprising an induction motor, two generators driven thereby, a fly-wheel mechanically connected to said induction motor, a working motor whose armature is supplied by said two generators connected in series, and unitary means for varying the field strengths of all of said generators.

26. A system of distribution, comprising a translating device, a plurality of generators connected in series and supplying said translating device, and a unitary means for varying and reversing the fields of all of said generators.

27. A system of distribution, comprising a translating device, a plurality of generators connected in series and supplying said translating device, and a unitary means for varying the fields of all of said generators and for reversing said fields at different points in its movement.

28. A system of motor control, comprising a source of current, a motor supplied thereby, a fly-wheel mechanically connected to said motor, two generators driven by said motor and connected in series to supply a second motor, and means for inversely varying the field strengths of said generators and for reversing the field of either of them.

29. A system of motor control, comprising a plurality of generators connected in series and supplying a motor, means for varying the field strengths of said generators, and resistances permanently in said respective generator field circuits.

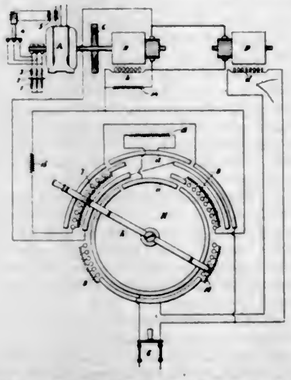
30. A system of motor control, comprising a motor supplied by a plurality of generators connected in series, resistances in the field circuit of each of said generators, means for varying said resistances and for reversing the current in said respective generator field circuits after their associated resistances have been fully cut in, and a high resistance permanently connected across the field terminals of each generator.

31. A system of motor control, comprising a plurality of generators connected in series and supplying a motor, means for reversing the field magnetism of said generators, and a high resistance permanently connected across the field terminals of each generator.

32. A system of motor control, comprising a source of current supply, a motor supplied thereby, a plurality of generators driven by said motor, a fly-wheel mechanically connected to said generators, a second motor the armature of which is supplied by said generators jointly, and means for permitting the first motor to slow down upon an increase in the load on the second motor.

33. A system of motor control, comprising a source of current supply, a motor supplied thereby, a plurality of generators driven by said motor, a fly-wheel mechanically connected to said generators, a second motor the armature of which is supplied by said generators in series, and means for causing said first motor to increase in speed upon decrease in load on the second motor.

865,818. SYSTEM OF MOTOR CONTROL. WILLIAM H. POWELL, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed Jan. 28, 1907. Serial No. 354,503.



1. The method of reversing the electromotive force of a generator, which consists in reversing the residual magnetism of its field magnet by current from a separate source and then energizing said field magnet mainly by self-excitation.

2. The method of varying the value and direction of the electromotive force of a generator which consists in energizing its field magnet from its armature and from a separate source of current in series, varying the resistance in its field circuit, and reversing the current supplied to the field magnet from the separate source of current when the electromotive force of the generator is less than that of the separate source.

3. The method of varying the value and direction of the electromotive force of a generator, which consists in energizing its field jointly from its armature and from a separate source of current, varying its field magnetism, and reversing the residual magnetism of its field magnet by current from the separate source when the electromotive force of the generator armature is at or near a minimum.

4. The method of reversing the electromotive force of an electric generator which consists in variably exciting the field magnet of the generator from its armature, and reversing the residual magnetism of said field magnet when the self-excitation thereof is at a minimum.

5. The method of controlling an electric generator which consists in determining the polarity of its field in either direction as desired by current from a separate source, and in further exciting its field by current from its own armature.

6. The method of controlling an electric motor which consists in supplying its armature from a generator, self-exciting the field of said generator, varying said excitation, and reversing the residual magnetism of the field magnet of said generator when said self-excitation is at or near a minimum.

7. The method of controlling an electric motor, which consists in supplying it from a generator, energizing the field of the generator jointly from its own armature and a separate source of current, varying the voltage of said generator, and reversing the current supplied to the generator field magnet from the separate source of current.

8. The method of reversing an electric motor, which consists in supplying it from a generator, self-exciting the field of said generator, varying said excitation, and reversing the residual magnetism of the field magnet of said generator by current from a separate source.

9. The method of controlling the speed and direction of an electric motor which consists in supplying the armature of said motor from the generator, energizing the field of the generator from its own armature and a separate source of current in series, varying the resistance of the generator field circuit, and reversing the current supplied to the generator field magnet from the separate source of current when the electromotive force of the generator is less than that of the separate source.

10. The method of controlling an electric motor which consists in supplying it from a generator, determining the polarity of the generator field by current from a separate source, further exciting said generator by current from its own armature, and varying such further excitation.

11. In a system of electrical distribution, a generator, a main circuit supplied thereby, a separate source of current, connections whereby the field magnet of said generator is energized jointly from its armature and from the separate source, and means for varying the field excitation of said generator and for reversing the current supplied to said field magnet from said separate source at a time when the generator field magnetization due to said separate source is greater than that due to the generator armature.

12. In combination, a self-excited generator, and means for varying the field excitation of said generator and for reversing the residual magnetism of said field magnet.

13. A system of electrical distribution, comprising a generator, a main circuit supplied thereby, a separate source of current, connections whereby the field magnet of the generator is supplied by the generator armature and said separate source of current in series, means for varying the field excitation of the generator, and means for reversing the current supplied to said generator field magnet by said separate source at the time the electromotive force of the main generator is less than that of the separate source.

14. In combination, a generator, a separate source of current, means for reversing the residual magnetism of the field of said generator by current from said separate source, and connections for energising the generator field mainly from the generator armature.

15. A system of motor control, comprising a motor, a self-excited generator for supplying said motor, and means for varying the self-excitation of said generator and for reversing the residual magnetism of the field magnet of said generator when said self-excitation is at or near a minimum.

16. A system of motor control, comprising a motor, a generator for supplying said motor, a separate source of current, connections for supplying the field windings of said generator jointly from the generator armature and from the separate source of current, and means for varying said field excitation and for reversing the direction of the current supplied to said field windings by said separate source.

17. A system of motor control, comprising a motor, a generator for supplying the armature of said motor, a separate source of current, connections whereby the field of said motor is supplied by said separate source alone and the field of said generator by said separate source and the generator armature in series, and means for varying the strength of the motor field and the strength and polarity of the generator field.

18. A system of motor control, comprising a motor, a self-excited generator for supplying said motor, and means for varying the voltage of said generator and for reversing the residual magnetism of the field magnet of said generator.

19. A system of motor control, comprising a motor, a self-excited generator for supplying said motor, means for varying the voltage of said generator and for reversing the residual magnetism of the field magnet of said generator, and a resistance permanently connected across the generator field coil.

20. A system of motor control, comprising a motor, a self-excited generator for supplying said motor, means for varying the self-excitation of said generator and for reversing the residual magnetism of the generator field magnet, and a resistance permanently in series with the generator field coil.

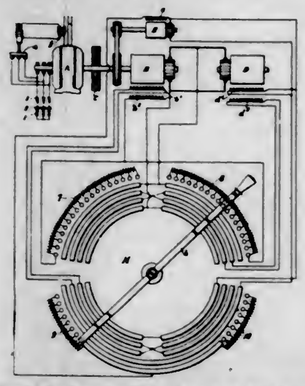
21. A system of motor control, comprising a motor, a generator for supplying said motor, a separate source of current, connections for supplying the field windings of said generator jointly from the generator armature and the separate source of current, means for varying said field excitation and for reversing the direction of current supplied to said field windings by said separate source, and a resistance arranged to be connected in the field circuit of the generator as said separate source is disconnected therefrom.

22. A system of motor control, comprising a source of current, a motor supplied thereby, a generator driven by said motor, a second motor the armature of which is supplied by said generator, connections whereby the field of said generator is supplied jointly by the generator armature and another source of current, and means for varying the field excitation of said generator and for reversing the current supplied to said generator field magnet by said other source.

23. A system of motor control, comprising a source of current, a motor supplied thereby, a self-excited generator driven by said motor, a fly-wheel mechanically connected to said generator, a second motor supplied by said generator, means for varying the field magnetization of said generator and for reversing the residual magnetism of said generator field, and means for causing the first motor to drop in speed when the load thereon exceeds a predetermined value.

24. A system of motor control, comprising a source of current, a motor supplied thereby, a generator driven by said motor, a fly-wheel mechanically connected to said motor, a second motor the armature of which is supplied by said generator, connections whereby the field of said generator is excited by the generator armature and a separate source of current jointly, means for reversing the residual magnetism of said generator field magnet by reversing the current supplied thereto by said separate source, and means for causing said first motor to increase in speed when the load thereon falls below a predetermined value.

865,819. MOTOR - CONTROL SYSTEM. WILLIAM H. POWELL, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed Jan. 28, 1907. Serial No. 354,504.



1. The method of controlling the value and direction of the electromotive force of a generator, which consists in determining the polarity of its field by current from a separate source, varying its field by current from the generator armature, and inversely varying the electromotive force of said separate source.

2. The method of reversing the electromotive force of a generator, which consists in reversing the residual magnetism of its field magnet by current from a separate source, further exciting the field magnet in this reverse direction by current from the generator armature, and inversely varying the amount of such further excitation and the electromotive force of said separate source.

3. The method of varying the value and direction of the electromotive force of a generator, which consists in energizing its field magnet from its armature and from a separate source of current jointly, varying each of the two components of its field magnetism, and reversing the residual magnetism of its field magnet by current from the separate source when the electromotive force of the generator armature is at or near a minimum.

4. The method of controlling an electric motor, which consists in supplying its armature from a generator, determining the polarity of the generator field by current from a separate source, varying the field strength of the generator by current from the generator armature, and inversely varying the voltage of said separate source.

5. The method of controlling an electric motor, which consists in supplying it from a generator, energizing the field of the generator jointly from its own armature and from a separate source of current, varying the voltages of said generator and said separate source, and reversing the current supplied to the generator field magnet from the separate source of current.

6. The method of controlling an electric motor, which consists in supplying its armature from a generator, supplying its field jointly from said generator and a separate source of current, supplying the field of the generator jointly from its own armature and a separate source of current, and so regulating the field of the generator that the current from the separate source determines the polarity of said field and the current from the generator armature the strength of said field.

7. The method of controlling the speed and direction of an electric motor, which consists in supplying the motor from a generator, energizing the field of the generator from its armature and from a separate source of current jointly, varying each of the two components of its field magnetism, and reversing the residual magnetism of its field magnet by current from the separate source when the electromotive force of the generator armature is at or near a minimum.

8. In combination, a generator, a separate source of current, separate field windings for the generator supplied respectively by the generator armature and the separate source of current, and a controller for connecting the separately excited field winding of the generator to determine the polarity of the generator field.

9. In combination, a generator having a self-excited field winding and a separately-excited field winding, and a controller for setting the polarity of the generator field by the separately excited field winding and for varying the generator electromotive force by the self-excited field winding.

10. In combination, a generator, a separate source of current, and a controller for connecting the separate source to determine the polarity of the generator field, for varying the field strength of the generator by current from the generator armature, and for inversely varying the electromotive force of said separate source.

11. In combination, a generator, a separate source of current, and means for connecting the generator field magnet to the separate source to reverse the residual magnetism of the former and to the generator armature for further excitation, and for inversely varying the amount of said further excitation and the electromotive force of the separate source.

12. In combination, a generator, a separate source of current, means for energizing the generator field jointly from its armature and from said separate source, and means for varying each of the two components of the generator field magnetism and for reversing its residual field magnetism by current from the separate source when the electromotive force of the generator armature is at or near a minimum.

13. In a system of motor control, a motor, a generator for supplying the armature of said motor, a separate source of current, and means for determining the polarity of the generator field by current from the separate source, for varying the field strength of the generator by current from the generator armature, and for varying the electromotive force of said separate source inversely to the field strength of the generator.

14. A motor control system, comprising an electric motor, a generator for supplying said motor, a separate source of current, and means for connecting the generator field so that it is energized jointly from the generator armature and from said separate source, for varying the voltages of said generator and said separate source, and for reversing the current supplied to the generator field magnet from the separate source of current.

15. A motor control system, comprising an electric motor, a generator for supplying the armature of said motor, a separate source of current, connections for energizing both the motor field and the generator field jointly from said generator armature and said separate source of current, and means for so regulating the field of the generator that the current from the separate source determines the polarity of said field and the current from the generator armature the strength of said field.

16. In combination, an electric motor, a generator for supplying said motor, a separate source of current, connections whereby the field of the generator is energized jointly from the generator armature and the separate source of current, and means for varying each of the two components of the generator field magnetism and for reversing the residual magnetism of said field by current from the separate source.

17. In combination, a generator, a separate source of current, two sets of field windings for the generator supplied respectively by the generator armature and the separate source of current, and a controller for varying the resistance in circuit with said self-excited field windings and for connecting said separately-excited field windings to determine the polarity of the generator field.

18. A system of motor control, comprising a motor, a generator for supplying the armature of said motor, said generator having a self-excited field winding and a separately excited field winding, and a controller for setting the polarity of the generator field by the separately-excited field winding and for varying the generator electromotive force by the self-exciting winding.

19. In combination, a generator, a motor the armature of which is supplied by said generator, a separate source of current, a field coil for the motor supplied by the generator armature, field coils for the generator supplied respectively by the generator armature and the separate source of current, and a controller for connecting the separately excited field winding of the generator to determine the polarity of the generator field.

20. In combination, a generator, a motor the armature of which is supplied by said generator, a separate source of current, a field coil for the motor supplied by the separate source, field coils for the generator supplied respectively by the generator armature and the separate source of current, and a controller for connecting the separately excited field winding of the generator to determine the polarity of the generator field.

21. A motor control system comprising a motor, a generator for supplying the armature of said motor, separately excited field coils for the generator and motor respectively, self-excited field coils for the generator and motor respectively, and means for varying the resistance in circuit with the self-excited field coil of the generator and for reversing the current in the separately excited field coil of the generator.

22. A system of motor control, comprising a source of current, a motor supplied thereby, a generator driven by said motor, a second motor the armature of which is supplied by said generator, connections whereby different coils of the generator field magnet are respectively self-excited and separately-excited, and means for varying the field excitation of the generator and for reversing the current supplied to the separately-excited field coils of the generator.

23. A system of motor control, comprising a source of current, a motor supplied thereby, two generators driven by said motor, a second motor the armature of which is supplied by one of said generators, and having field coils respectively supplied by the two generators, and means for reversing the residual magnetism of the armature-supplying generator.

24. A system of motor control, comprising a source of current, a motor supplied thereby, a generator driven by said motor, a fly-wheel mechanically connected to said generator, field coils for the generator which are respectively separately-excited and self-excited, means for reversing the magnetism of the generator field by reversing the connections of the separately excited field coils, and means for causing the motor to drop in speed when the load thereon exceeds a predetermined value.

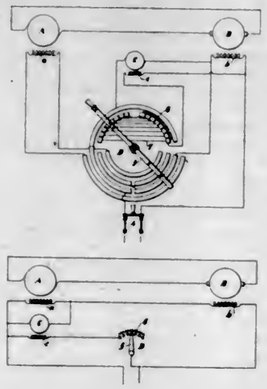
25. A system of motor control, comprising a source of current, a motor supplied thereby, a generator driven by said motor, a second motor supplied by said generator, field coils for said generator which are respectively separately excited and self-excited, and means for varying the amount of the self excitation and for reversing the separate excitation of said generator.

26. A system of motor control, comprising a source of current, a motor supplied thereby, a generator driven by said motor, a fly-wheel mechanically connected to said motor, a second motor supplied by said generator, field coils for said generator which are respectively separately excited and self-excited, means for varying the amount of the self excitation and for reversing the separate excitation of said generator, and means for causing the first motor to rise in speed when the load thereon falls below a predetermined value.

865,820. MOTOR-CONTROL SYSTEM. WALTER J. RICHARDS, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey. Filed Mar. 25, 1907. Serial No. 364,280.

1. In combination, a plurality of dynamo-electric machines, separately excited field windings therefor connected

in series, and means whereby a variable part of the current which traverses the field winding of one of said machines may be shunted around the field winding of another of said machines.



2. In combination, a plurality of dynamo-electric machines, separately excited field windings therefor connected in series, means whereby a variable part of the current which traverses the field winding of one of said machines may be shunted around the field winding of another of said machines, and means for reversing the connections of the field winding of one of said machines.

3. In combination, a plurality of dynamo-electric machines, separately excited field windings therefor connected in series, means whereby a variable part of the current which traverses the field winding of one of said machines may be shunted around the field winding of another of said machines, and means for reversing the connections of the shunted field winding.

4. In combination, a plurality of dynamo-electric machines, separately excited field windings therefor connected in series, and a source of electromotive force in shunt to one of said field windings.

5. In combination, a plurality of dynamo-electric machines, separately excited field windings therefor connected in series, a source of electromotive force in shunt to one of said field windings, and means for varying the electromotive force of said source.

6. In combination, a plurality of dynamo-electric machines, separately excited field windings therefor connected in series, and an auxiliary dynamo-electric machine the armature of which is connected across one of said field windings.

7. In combination, a plurality of dynamo-electric machines, separately excited field windings therefor connected in series, an auxiliary dynamo-electric machine the armature of which is connected across one of said field windings, and means for varying the electromotive force of said auxiliary dynamo-electric machine.

8. In combination, a plurality of dynamo-electric machines, separately excited field windings therefor connected in series, an auxiliary dynamo-electric machine the armature of which is connected across one of said field windings, and means for varying the electromotive force of said auxiliary dynamo-electric machine and for reversing the connections of one of said field windings.

9. In combination, a plurality of dynamo-electric machines, separately excited field windings therefor connected in series, an auxiliary dynamo-electric machine the armature of which is connected across one of said field windings, and means for varying the electromotive force of said auxiliary dynamo-electric machine and for reversing the connections of the field winding across which the auxiliary dynamo-electric machine is connected.

10. A motor control system, comprising a motor, a generator supplying the armature thereof, separately excited field windings for said generator and said motor connected in series with each other, and means for shunting one of said field windings.

11. A motor control system, comprising a motor, a generator supplying the armature thereof, separately excited field windings for said generator and said motor connected in series with each other, and means for variably shunting one of said field windings.

12. A motor control system, comprising a motor, a generator supplying the armature thereof, separately excited field windings for said generator and said motor connected in series with each other, and means for shunting one of said field windings and for reversing the connections of one of said field windings.

13. A motor control system, comprising a motor, a generator supplying the armature thereof, separately excited field windings for said generator and said motor connected in series with each other, and means for shunting one of said field windings and for reversing the connections of the shunted field winding.

14. A motor control system, comprising a motor, a generator supplying the armature of said motor, separately excited field windings for said generator and said motor connected in series with each other, and a source of electromotive force connected across one of said field windings.

15. A motor control system, comprising a motor, a generator supplying the armature of said motor, separately excited field windings for said generator and said motor connected in series with each other, an auxiliary dynamo-electric machine the armature of which is connected in shunt to one of said field windings, and means for varying the electromotive force of said auxiliary machine.

16. A motor control system, comprising a motor, a generator supplying the armature of said motor, separately excited field windings for said generator and said motor connected in series with each other, an auxiliary dynamo-electric machine connected across one of said field windings, and means for reversing the connections of one of said field windings.

17. A motor control system, comprising a motor, a generator supplying the armature of said motor, separately excited field windings for said generator and said motor connected in series with each other, a source of electromotive force connected in shunt to one of said field windings, and means for reversing the connections of said shunted field winding.

18. A motor control system, comprising a motor, a generator supplying the armature of said motor, separately excited field windings for said generator and said motor connected in series with each other, a source of electromotive force connected across one of said field windings, and means for varying the electromotive force of said source and for reversing the connections of one of said field windings.

19. A motor control system, comprising a motor, a generator supplying the armature of said motor, separately excited field windings for said generator and said motor connected in series with each other, an auxiliary dynamo-electric machine connected in shunt to one of said field windings, and means for varying the electromotive force of said auxiliary machine and for reversing the connections of said shunted field winding.

20. A motor control system, comprising a motor, a generator supplying the armature of said motor, field windings for said generator and said motor connected in series with each other, and an auxiliary dynamo-electric machine the armature of which is connected in shunt to one of said field windings.

21. A motor control system, comprising a motor, a generator supplying the armature of said motor, field windings for said generator and said motor connected in series with each other, an auxiliary dynamo-electric machine connected across one of said field windings, and means for varying the electromotive force of said auxiliary machine.

22. A motor control system, comprising a motor, a generator supplying the armature of said motor, field windings for said generator and said motor connected in series with each other, a source of electromotive force connected in shunt to one of said field windings, and means for reversing the connections of one of said field windings.

23. A motor control system, comprising a motor, a generator supplying the armature of said motor, field windings for said generator and said motor connected in series with each other, a source of electromotive force connected across one of said field windings, and means for reversing the connections of that field winding across which said source of electromotive force is connected.

24. A motor control system, comprising a motor, a generator supplying the armature of said motor, field windings for said generator and said motor connected in series with each other, an auxiliary dynamo-electric machine connected in shunt to one of said field windings, and means for varying the electromotive force of said auxiliary machine and for reversing the connections of one of said field windings.

25. A motor control system, comprising a motor, a generator supplying the armature of said motor, field windings for said generator and said motor connected in series with each other, an auxiliary dynamo-electric machine the armature of which is connected across one of said field windings, and means for varying the electromotive force of said auxiliary machine and for reversing the connections of that field winding across which said armature is connected.

26. A motor control system, comprising a motor, a generator supplying the armature of said motor, separately excited field windings for said generator and said motor connected in series with each other, and an auxiliary dynamo-electric machine connected across the field winding of the generator.

27. A motor control system, comprising a motor, a generator supplying the armature of said motor, separately excited field windings for said generator and said motor connected in series with each other, a source of electromotive force connected in shunt to the field winding of the generator, and means for varying the electromotive force of said source.

28. A motor control system, comprising a motor, a generator supplying the armature of said motor, separately excited field windings for said generator and said motor connected in series with each other, a source of electromotive force connected across the field winding of the generator, and means for reversing the connections of field winding of one of said machines.

29. A motor control system, comprising a motor, a generator supplying the armature of said motor, separately excited field windings for said generator and said motor connected in series with each other, an auxiliary dynamo-electric machine connected in shunt to the field winding of the generator, and means for reversing the connections of the generator field winding.

30. A motor control system, comprising a main motor, a main generator supplying the armature of said motor, separately excited field windings for said generator and said motor connected in series with each other, an auxiliary dynamo-electric machine the armature of which is connected across the field winding of said main generator, and means for varying the electromotive force of said auxiliary machine and for reversing the connections of the field winding of one of said main machines.

31. A motor control system, comprising a motor, a generator supplying the armature of said motor, separately excited field windings for said generator and said motor connected in series with each other, a source of electromotive force connected in shunt to the field winding of the generator, and means for varying the electromotive force of said source and for reversing the connections of the generator field winding.

32. A motor control system, comprising a motor, a generator supplying the armature of said motor, field windings for said generator and said motor connected in series with each other, and a source of electromotive force connected in shunt to the field winding of the generator.

33. A motor control system, comprising a motor, a generator supplying the armature of said motor, field windings for said generator and said motor connected in series with each other, a source of electromotive force connected across the field winding of the generator, and means for varying the electromotive force of said source.

34. A motor control system, comprising a main motor, a main generator supplying the armature of said motor, field windings of said generator and said motor connected in series with each other, an auxiliary dynamo-electric machine the armature of which is connected in shunt to the field winding of said main generator, and means for reversing the connections of the field winding of one of said main machines.

35. A motor control system, comprising a motor, a generator supplying the armature of said motor, field windings for said generator and said motor connected in series with each other, an auxiliary dynamo-electric machine the armature of which is connected across the field winding of the generator, and means for reversing the connections of the generator field winding.

36. A motor control system, comprising a motor, a generator supplying the armature of said motor, field windings for said generator and said motor connected in series with each other, a source of electromotive force connected in shunt to the field winding of the generator, and means for varying the electromotive force of said source and for reversing the connections of the field winding of one of said machines.

37. A motor control system, comprising a motor, a generator supplying the armature of said motor, field windings for said generator and said motor connected in series with each other, a source of electromotive force connected across the field winding of the generator, and means for varying the electromotive force of said source and for reversing the connections of the generator field winding.

38. In combination, a plurality of dynamo-electric machines, separately excited field windings for said machines connected in series, a shunt around one of said field windings, and a source of variable electromotive force for varying the relative amounts of current through said shunt and the shunted field winding.

39. A system of motor control, comprising a motor, a generator supplying the armature thereof, separately excited field windings for said motor and said generator connected in series with each other, a shunt around the field winding of one of said machines, and a source of variable electromotive force for varying the relative amounts of current through said shunt and the shunted field winding.

40. A system of motor control, comprising a motor, a generator supplying the armature thereof, separately excited field windings for said motor and said generator connected in series with each other, a shunt around the field winding of the generator, and a source of variable electromotive force for varying the relative amounts of current through said shunt and the generator field winding.

41. In combination, a plurality of dynamo-electric machines, field windings for said machines connected in series, a shunt around one of said field windings, and a source of variable electromotive force for varying the relative amounts of current through said shunt and the shunted field winding.

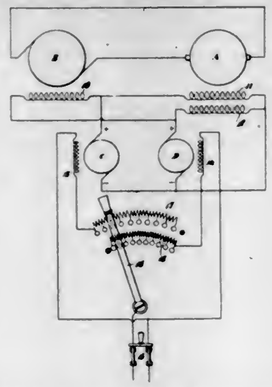
42. A system of motor control, comprising a motor, a generator supplying the armature thereof, field windings for said motor and said generator connected in series with each other, a shunt around the field winding of one of said machines, and a source of variable electromotive force for varying the relative amounts of current through said shunt and the shunted field winding.

43. A system of motor control, comprising a motor, a generator supplying the armature thereof, field windings for said motor and said generator connected in series with each other, a shunt around the field winding of the generator, and a source of variable electromotive force for varying the relative amounts of current through said shunt and the generator field winding.

865,821. SYSTEM OF MOTOR CONTROL. WALTER J. RICHARDS, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey. Filed Mar. 1, 1907. Serial No. 359,973.

1. The method of operating an electric motor, which consists in supplying its armature from a dynamo-electric

source, exciting its field by the cumulative action of two sources of current supply, and exciting the field of the dynamo-electric source by the differential action of the same two sources of current supply.



2. The method of controlling an electric motor, which consists in supplying its armature from a dynamo-electric source, exciting its field by the cumulative action of two additional sources of current supply, exciting the field of said dynamo-electric source by the differential action of the same two sources of current supply, and varying the relation between the electromotive forces of said two additional sources of current supply.

3. The method of controlling an electric motor, which consists in supplying its armature from a dynamo-electric source, exciting its field by the cumulative action of two sources of current supply, exciting the field of the dynamo-electric source by the differential action of the same two sources of current supply, and varying the electromotive force of one of said sources of current supply.

4. The method of controlling an electric motor, which consists in supplying its armature from a dynamo-electric source, exciting its field by the cumulative action of two sources of current supply, exciting the field of the dynamo-electric source by the differential action of the same two sources of current supply, and varying the electromotive forces of said two sources of current supply inversely.

5. The method of controlling an electric motor, which consists in supplying its armature from a dynamo-electric source, exciting its field by the cumulative action of two additional sources of current supply, exciting the field of said dynamo-electric source by the differential action of the same two sources of current supply, and varying the electromotive forces of said two additional sources of current supply.

6. A system of electrical distribution, comprising a motor, a generator supplying the armature of said motor, and two sources of current supply arranged to excite the field of the motor by their cumulative action and the field of the generator by their differential action.

7. A system of motor control, comprising a motor, a plurality of sources of electromotive force, one of which is a dynamo and supplies the armature of said motor, the field of said motor being excited by the cumulative action of two of said sources, and the field of said dynamo by the differential action of the same two sources, and means for varying the relation between the electromotive forces of said two sources.

8. A system of motor control, comprising a motor, a generator supplying the armature of said motor, two sources of current supply arranged to excite the field of the motor by their cumulative action and the field of the generator by their differential action, and means for varying the electromotive force of one of said sources of current supply.

9. A system of motor control, comprising a motor, a plurality of sources of electromotive force, one of which is a dynamo and supplies the armature of said motor, the field of said motor being excited by the cumulative action of two of said sources and the field of said dynamo by the differential action of the same two sources, and means for simultaneously varying the electromotive forces of said two sources.

10. A system of motor control, comprising a motor, a generator supplying the armature of said motor, two sources of current supply arranged to excite the field of the motor by their cumulative action and the field of the generator by their differential action, and means for simultaneously varying the electromotive forces of said two sources of current supply inversely.

11. A system of electrical distribution, comprising a motor, a generator supplying the armature of said motor, a field winding for the generator supplied by the differential action of two sources of current supply, and two field windings for the motor independently supplied by said two sources of current supply respectively.

12. A system of motor control, comprising a motor, a generator supplying the armature of said motor, two sources of current supply, a field winding for the generator supplied by said two sources of current supply in opposing series, two field windings for the motor supplied independently by said two sources of current supply respectively, and means for varying the relation between the electromotive forces of said two sources of current supply.

13. A system of motor control, comprising a motor, a generator supplying the armature of said motor, a field winding for the generator supplied by the differential action of two sources of current supply, two field windings for the motor independently supplied by said two sources of current supply respectively, and means for varying the electromotive force of one of said sources of current supply.

14. A system of motor control, comprising a motor, a generator supplying the armature of said motor, a field winding for the generator supplied by the differential action of two sources of current supply, two field windings for the motor independently supplied by said two sources of current supply respectively, and means for simultaneously varying the electromotive forces of said two sources of current supply inversely.

15. A system of motor control, comprising a motor, a generator supplying the armature of said motor, two sources of current supply, a field winding for the generator supplied by said two sources of current supply in opposing series, two field windings for the motor supplied independently by said two sources of current supply respectively, and means for simultaneously varying the electromotive forces of said two sources of current supply.

16. A system of electrical distribution, comprising a motor, and a generator supplying the armature of said motor, the field of said generator being supplied by the differential action of two dynamo-electric generators and the field of the motor by the cumulative action of the same two generators.

17. In a system of motor control, a motor, a main generator supplying the armature of said motor, two additional dynamo-electric generators, the field of said main generator being excited by the differential action of said two additional generators and the field of the motor by the cumulative action of said two additional generators, and means for varying the relative field strengths of said two additional dynamo-electric generators.

18. A system of motor control, comprising a motor, a plurality of dynamo-electric generators, one of which supplies the armature of said motor, the field of said armature-supplying generator being supplied by the differential action of two of said generators and the field of the motor by the cumulative action of two of said generators, and means for varying the field strength of one of said generators.

19. A system of motor control, comprising a motor, a plurality of dynamo-electric generators, one of which supplies the armature of said motor, the field of said armature-supplying generator being supplied by the differential action of two of said generators and the field of the motor by the cumulative action of the same two generators, and means for varying the field strengths of said two generators inversely.

20. In a system of motor control, a motor, a main generator supplying the armature of said motor, two additional dynamo-electric generators, the field of said main generator being excited by the differential action of said two additional generators and the field of the motor by the cumulative action of said two additional generators, and means for varying the field strengths of said additional dynamo-electric generators.

21. A system of electrical distribution, comprising a motor, a main generator supplying the armature of said motor, two additional dynamo-electric generators, a field winding for the main generator supplied by said two additional dynamo-electric generators in opposing series, and two assisting field windings for the motor supplied independently by said two additional dynamo-electric generators respectively.

22. A system of motor control, comprising a motor, a plurality of dynamo-electric generators, one of which supplies the armature of said motor, a field winding for said armature-supplying generator supplied by the differential action of two of said generators, two assisting field windings for the motor supplied independently by the same two generators respectively, and means for varying the relative field strengths of said two generators.

23. A system of motor control, comprising a motor, a main generator supplying the armature of said motor, two additional dynamo-electric generators, a field winding for the main generator supplied by said two additional dynamo-electric generators in opposing series, two assisting field windings for the motor supplied independently by said two additional dynamo-electric generators respectively, and means for varying the field strength of one of said additional dynamo-electric generators.

24. A system of motor control, comprising a motor, a plurality of dynamo-electric generators, one of which supplies the armature of said motor, a field winding for said armature-supplying generator supplied by the differential action of two of said generators, two assisting field windings for the motor supplied independently by the same two generators respectively, and means for varying the field strength of said two generators.

25. A system of motor control, comprising a motor, a main generator supplying the armature of said motor, two additional dynamo-electric generators, a field winding for the main generator supplied by said two additional dynamo-electric generators in opposing series, two assisting field windings for the motor supplied independently by said two additional dynamo-electric generators respectively, and means for varying the field strengths of said additional dynamo-electric generators inversely.

26. A system of electrical distribution, comprising two dynamo-electric machines, two auxiliary sources of current supply, a field winding for one of said dynamo-electric machines which is supplied by said two additional sources of current supply in series, and two field windings for the other dynamo-electric machine which are independently supplied by said two additional sources of current supply respectively.

27. A system of electrical distribution, comprising two dynamo-electric machines, two auxiliary sources of current supply, a field winding for one of said dynamo-electric machines which is supplied by said two additional sources of current supply in series, two field windings for the other dynamo-electric machine which are independently supplied by said two additional sources of current supply respectively, and means for varying the electromotive forces of said two additional sources of current supply.

28. A system of electrical distribution, comprising two dynamo-electric machines, two auxiliary sources of current, a field winding for one of said dynamo-electric machines which is supplied by said two additional sources of current supply in series, two field windings for the other dynamo-electric machine which are independently supplied by said two additional sources of current supply respectively, and means for varying the electromotive forces of said two additional sources of current supply inversely.

29. In a system of electrical distribution, two main dynamo-electric machines, two auxiliary dynamo-electric generators, a field winding for one of said main dynamo-electric machines which is supplied by said two auxiliary generators in series, and two field windings for the other main dynamo-electric machine which are independently supplied by said two auxiliary generators respectively.

30. In a system of electrical distribution, two main dynamo-electric machines, two auxiliary dynamo-electric generators, a field winding for one of said main dynamo-electric machines which is supplied by said two auxiliary generators in series, two field windings for the other main dynamo-electric machine which are independently supplied by said two auxiliary generators respectively, and means for varying the field strengths of said two auxiliary generators.

31. In a system of electrical distribution, two main dynamo-electric machines, two auxiliary dynamo-electric generators, a field winding for one of said main dynamo-electric machines which is supplied by said two auxiliary generators in series, two field windings for the other main dynamo-electric machine which are independently supplied by said two auxiliary generators respectively, and means for varying the field strengths of said two auxiliary generators inversely.

32. In a system of electrical distribution, two dynamo-electric machines, two exciters, a field winding for one of said dynamo-electric machines supplied by said exciters in series, two field windings for the other dynamo-electric machine supplied independently by said two exciters respectively, resistances in the field circuits of the exciters, and means for varying said resistances.

33. In a system of electrical distribution, two dynamo-electric machines, two exciters, a field winding for one of said dynamo-electric machines supplied by said exciters in series, two field windings for the other dynamo-electric machine supplied independently by said two exciters respectively, resistances in the field circuits of the exciters, and means for varying said resistances inversely.

34. In a system of electrical distribution, two dynamo-electric machines, two exciters, a field winding for one of said dynamo-electric machines which is supplied by said two exciters in series, two field windings for the other dynamo-electric machine which are supplied independently by said two exciters respectively, and a unitary means for varying the resistance of the exciter field circuits.

35. In a system of electrical distribution, two dynamo-electric machines, two exciters, a field winding for one of said dynamo-electric machines which is supplied by said two exciters in series, two field windings for the other dynamo-electric machine which are supplied independently by said two exciters respectively, and a unitary means for varying inversely the resistance of the exciter field circuits.

865,822. METHOD OF AND MEANS FOR CONTROLLING ELECTRIC MOTORS. LOUIS E. BOGEN, Cincinnati, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed May 27, 1907. Serial No. 375,815.

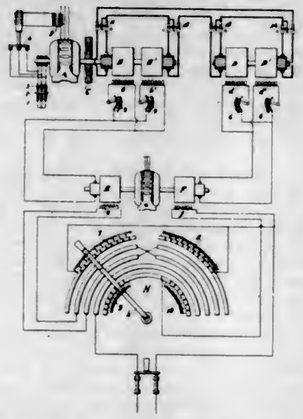
1. The method of controlling an electric motor, which consists in supplying its armature from a dynamo-electric generator, supplying its field winding and the field winding of said generator from two electrically independent sources of electromotive force respectively, and varying the electromotive forces of said sources.

2. The method of controlling an electric motor, which consists in supplying its armature from a dynamo-electric generator, supplying its field winding and the field winding of said generator from two independent sources of electromotive force respectively, and varying the electromotive forces of said sources inversely.

3. The method of controlling an electric motor, which consists in supplying its armature from a dynamo-electric generator, supplying its field winding and the field winding of said generator from two sources of electromotive force respectively, and varying the electromotive forces of said sources successively.

4. The method of controlling an electric motor, which

consists in supplying its armature from a dynamo-electric generator, supplying its field winding and the field winding of said generator from two sources of electromotive force respectively, and varying the electromotive forces of said sources successively and inversely.



5. The method of controlling an electric motor, which consists in supplying its armature from a dynamo-electric generator, supplying its field winding and the field winding of said generator from two electrically independent sources of electromotive force respectively, and varying the electromotive forces of said sources simultaneously.

6. The method of controlling an electric motor, which consists in supplying its armature from a dynamo-electric generator, supplying its field winding and the field winding of said generator from two independent sources of electromotive force respectively, and varying the electromotive forces of said sources simultaneously and inversely.

7. The method of controlling an electric motor, which consists in supplying its armature from a dynamo-electric generator, supplying its field winding and the field winding of said generator from two electrically independent sources of electromotive force respectively, varying the electromotive forces of said sources, and reversing the direction of the electromotive force of one of said sources.

8. The method of controlling an electric motor, which consists in supplying its armature from a dynamo-electric generator, supplying its field winding and the field winding of said generator from two sources of electromotive force respectively, varying the electromotive forces of said sources, and reversing the direction of the electromotive force of that source from which the field of the generator is energized.

9. The method of controlling an electric motor, which consists in supplying its armature from a dynamo-electric generator, supplying its field winding and the field winding of said generator from two sources of electromotive force respectively, varying the electromotive forces of said sources, and storing energy when the load is light and using said stored energy to help drive the generator when the load is heavy.

10. The method of controlling an electric motor, which consists in supplying its armature from a dynamo-electric generator, supplying its field winding and the field winding of said generator from two sources of electromotive force respectively, varying the electromotive forces of said sources, storing energy when the load is light and using said stored energy to help drive the generator when the load is heavy, and varying the speed of the generator in an inverse sense to the variations in load.

11. A motor control system comprising a motor, a generator supplying the armature of said motor, two independent sources of electromotive force supplying the field windings of said generator and said motor respectively, and means for varying the electromotive forces of said two sources.

12. A motor control system comprising a motor, a generator supplying the armature of said motor, two electrically independent sources of electromotive force supplying the field windings of said generator and said motor respectively, and means for varying the electromotive forces of said two sources inversely.

13. A motor control system comprising a motor, a generator supplying the armature of said motor, two sources of electromotive force supplying the field windings of said generator and said motor respectively, and means for varying the electromotive forces of said two sources successively.

14. A motor control system comprising a motor, a generator supplying the armature of said motor, two sources of electromotive force supplying the field windings of said generator and said motor respectively, and means for varying the electromotive forces of said two sources successively and inversely.

15. A motor control system comprising a motor, a generator supplying the armature of said motor, two independent sources of electromotive force supplying the field windings of said generator and said motor respectively, and means for varying the electromotive forces of said two sources simultaneously.

16. A motor control system comprising a motor, a generator supplying the armature of said motor, two electrically independent sources of electromotive force supplying the field windings of said generator and said motor respectively, and means for varying the electromotive forces of said two sources simultaneously and inversely.

17. A motor control system comprising a motor, a generator supplying the armature of said motor, two independent sources of electromotive force supplying the field windings of said generator and said motor respectively, and means for varying the electromotive forces of said two sources and for reversing the electromotive force of one of said sources.

18. A motor control system comprising a motor, a generator supplying the armature of said motor, two sources of electromotive force supplying the field windings of said generator and said motor respectively, and means for varying the electromotive forces of said two sources and for reversing the electromotive force of the source from which the generator field is energized.

19. A motor control system comprising a motor, a generator supplying the armature of said motor, two sources of electromotive force supplying the field windings of said generator and said motor respectively, means for varying the electromotive forces of said two sources, and means for storing any excess of supplied energy when the motor load is light and for supplying said stored energy to help drive the generator when the motor load is heavy.

20. A motor control system comprising a motor, a generator supplying the armature of said motor, two sources of electromotive force supplying the field windings of said generator and said motor respectively, means for varying the electromotive forces of said two sources, means for storing energy when the motor load is light and for supplying said stored energy to help drive the generator when the motor load is heavy, and means for varying the speed of the generator in an inverse sense to the variation in the motor load.

21. A motor control system comprising a motor, a generator supplying the armature of said motor, two exciters excited independently of said generator and supplying the field windings of said generator and said motor respectively, and means for varying the field strengths of said exciters.

22. A motor control system comprising a motor, a generator supplying the armature of said motor, two exciters excited independently of said generator and supplying the field windings of said generator and said motor respectively, and means for varying the field strengths of said exciters inversely.

23. A motor control system comprising a motor, a generator supplying the armature of said motor, two exciters supplying the field windings of said generator and said motor respectively, and means for varying the field strengths of said exciters successively.

24. A motor control system comprising a motor, a generator supplying the armature of said motor, two exciters supplying the field windings of said generator and said motor respectively, and means for varying the field strengths of said exciters successively and inversely.

25. A motor control system comprising a motor, a generator supplying the armature of said motor, two exciters excited independently of said generator and supplying the field windings of said generator and said motor respectively, and means for varying the field strengths of said exciters simultaneously.

26. A motor control system comprising a motor, a generator supplying the armature of said motor, two exciters excited independently of said generator and supplying the field windings of said generator and said motor respectively, and means for varying the field strengths of said exciters simultaneously and inversely.

27. A motor control system comprising a motor, a generator supplying the armature of said motor, two exciters excited independently of said generator and supplying the field windings of said generator and said motor respectively, and means for varying the field strengths of said exciters and for reversing the field of one of them.

28. A motor control system comprising a motor, a generator supplying the armature of said motor, two exciters supplying the field windings of said generator and said motor respectively, and means for varying the field strengths of said exciters and for reversing the field of the exciter from which the generator field is energized.

29. A motor control system comprising a motor, a generator supplying the armature of said motor, two exciters supplying the field windings of said generator and said motor respectively, means for varying the field strengths of said exciters, and a fly-wheel mechanically connected to the generator.

30. A motor control system comprising a motor, a generator supplying the armature of said motor, two exciters supplying the field windings of said generator and said motor respectively, means for varying the field strengths of said exciters, a fly-wheel mechanically connected to the generator, and means for varying the speed of said generators in an inverse sense to the variation in the load on the motors.

31. A motor control system comprising a plurality of motors connected to a common load, a common source of electromotive force supplying the armatures of said motors, a common source of electromotive force supplying the field magnets of said motors, and means for varying the relative current strengths in the field windings of said motors.

32. A motor control system comprising a plurality of motors connected to a common load, a common source of electromotive force supplying the armatures of said motors, a common source of electromotive force supplying the field windings of said motors, and means for varying the field strengths of said motors both individually and collectively.

33. A motor control system comprising a motor, a plurality of generators supplying the armature of said motor, a common source of electromotive force supplying the field windings of said generators, and means for varying the relative current strengths in the field windings of said generators.

34. A system of motor control comprising a motor, a plurality of generators supplying the armature of said motor, a common source of electromotive force supplying the field windings of said generators, and means for varying the field strengths of said generators both individually and collectively.

35. A motor control system comprising a plurality of motors connected to a common load, a plurality of generators supplying the armatures of said motors, a common source of electromotive force supplying the field windings of the motors, a common source of electromotive force supplying the field windings of the generators, means for varying the relative current strengths in the motor field windings, and means for varying the relative current strengths in the generator field windings.

36. A motor control system comprising a plurality of motors connected to a common load, a plurality of generators supplying the armatures of said motors, a common source of electromotive force supplying the field windings of the motors, a common source of electromotive force supplying the field windings of the generators, means for varying the field strengths of the motors both individually and collectively, and means for varying the field strengths of the generator both individually and collectively.

37. In combination, a plurality of electric generators whose armatures are normally connected in series, a plurality of electric motors whose armatures are normally connected in series and supplied by said generators, and means for cutting out any of said generators.

38. In combination, a plurality of electric generators whose armatures are normally connected in series, a plurality of electric motors whose armatures are normally connected in series and supplied by said generators, and means for cutting out any of said motors.

39. In combination, a plurality of electric generators whose armatures are normally connected in series, a plurality of electric motors whose armatures are normally connected in series and supplied by said generators, and means for cutting out any of said generators or motors.

40. The method of controlling an electric motor, which consists in supplying its armature and its field windings from separate sources of electromotive force, and varying the electromotive forces of said sources successively and inversely.

41. The method of controlling an electric motor, which consists in supplying its armature and its field windings from separate sources of electromotive force, varying the electromotive forces of said sources successively and inversely, and reversing the electromotive force of the armature-supplying source.

42. A motor control system comprising an electric motor, separate sources of electromotive force for supplying its armature and its field windings respectively, and means for varying the electromotive forces of said sources successively and inversely.

43. A motor control system comprising an electric motor, separate sources of electromotive force for supplying its armature and its field windings respectively, and means for varying the electromotive forces of said sources successively and inversely and for reversing the electromotive force of said armature-supplying source.

44. The method of controlling an electric motor, which consists in supplying its armature and its field windings from electrically independent sources of electromotive force and varying the electromotive forces of both of said sources.

45. The method of controlling an electric motor, which consists in supplying its armature and its field windings from separate sources of electromotive force, varying the electromotive forces of both of said sources, and reversing the electromotive force of the armature-supplying source.

46. A motor control system comprising an electric motor, separate sources of electromotive force for supplying its armature and its field windings respectively, and means for varying the electromotive forces of both of said sources and for reversing the electromotive force of said armature-supplying source.

865,823. APPARATUS FOR MAKING MOLDS FOR THE CASTING OF DENTAL FILLINGS AND THE LIKE. WILLIAM H. TAGGART, Chicago, Ill. Original application filed Jan. 12, 1907, Serial No. 351,918. Divided and this application filed July 12, 1907. Serial No. 383,481.

1. In a device of the class described, the combination with a flask and a cover therefor, of a sprue former mounted on the cover and adapted to support a pattern.

2. In a device of the class described, the combination with a flask and a cover therefor, of a sprue former removably mounted on the cover and adapted to support a pattern.

3. In a device of the class described, the combination with a flask and a cover therefor having a projection adapted to form a depression in the mold to serve as a

crucible for melting the metal, and a sprue former mounted on the projection and adapted to support a pattern.



4. In a device of the class described, the combination with a flask and a cover therefor having a projection adapted to form a depression in the mold to serve as a crucible for melting the metal, and a sprue former removably mounted on the cover on the projection and adapted to support a pattern.

5. In a device of the class described, a sprue former provided with means for securing it removably to a pattern to support the same.

6. In a device of the class described, a sprue former having a pointed tip adapted to be inserted in a plastic pattern to support the same.

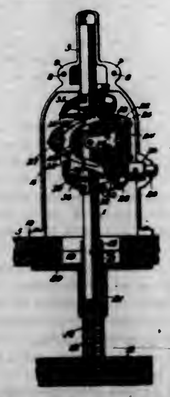
7. In a device of the class described, the combination with a sprue former adapted to be attached at one end to a pattern, of a flask and a cover for said flask, said cover having a portion arranged to receive the opposite end of the sprue former to support the pattern.

8. In a device of the class described, the combination with a sprue former adapted to be attached at one end to a pattern, of a flask and a cover for said flask, said cover having an opening arranged to receive a reduced end upon said sprue former to support the pattern.

9. In a device of the class described, the combination with a flask of a cover therefor having a projection adapted to form a depression in the mold to serve as a crucible for melting the metal, and a sprue former adapted to be attached at one end to the pattern and at the other end to be inserted in a suitable perforation in the projection of said cover.

10. In a device of the class described, the combination with a flask of a cover therefor having a projection adapted to form a depression in the mold to serve as a crucible for melting the metal, and a sprue former having a reduced end adapted to be attached at one end to the pattern and to have its reduced end inserted in a perforation in the center of the projection of said cover.

865,824. GEARING FOR WASHING-MACHINES. WILLIAM W. TERRIFF, Portland, Mich. Filed June 25, 1907. Serial No. 380,787.



1. In gearing for washing machines, the combination with a shaft mounted for longitudinal and rotary movement, of a segmental gear connected with the shaft, a pinion to mesh with the gear, and guiding means for maintaining the pinion in engagement with the segmental gear, the latter being tapered to produce a gradual longitudinal movement of the shaft simultaneously with the rotary movement thereof.

2. In gearing for washing machines, the combination with a shaft mounted for longitudinal and rotary movement, of a segmental gear connected with the shaft, a pinion to mesh with the gear, and guiding means for maintaining the pinion in engagement with the segmental gear, the latter being oppositely tapered from an intermediate point to the ends thereof to produce a gradual longitudinal movement of the shaft simultaneously with the rotary movement of the same.

3. In gearing for washing machines, the combination with a shaft mounted for longitudinal and rotary movement, of a segmental gear connected with the shaft and composed of spaced side plates and connecting teeth, a pinion meshing with the segmental gear, and guiding means for maintaining the pinion in mesh with the said gear.

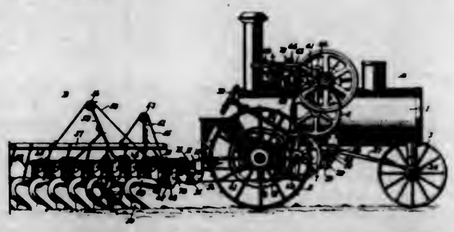
4. In gearing for washing machines, the combination with a shaft mounted for longitudinal and rotary movement, of a segmental gear connected with the shaft and composed of spaced plates oppositely tapered from an intermediate point to the ends thereof, and upper and lower connecting teeth forming oppositely inclined racks, a pinion meshing with the gear, and guiding means for maintaining the pinion in mesh with the said gear.

5. In gearing for washing machines, the combination with a shaft, of a segmental gear connected with the same, a pinion meshing with the gear, and guiding means for maintaining the pinion in mesh with the gear, said guiding means comprising spaced loop-shaped cams encircling the shaft, and an intermediate cam connecting the loop-shaped cams.

6. In gearing for washing machines, the combination with a shaft, of a segmental gear connected with the same, a pinion meshing with the gear, and guiding means for maintaining the pinion in mesh with the gear, said guiding means comprising an intermediate cam having arms secured to the shaft, and spaced loop-shaped cams encircling the shaft and provided with arms or extensions secured to the intermediate cam.

7. In gearing for washing machines, the combination with a shaft, of an oppositely tapered segmental gear connected with the shaft, a pinion meshing with the gear, and guiding means for maintaining the pinion in mesh with the gear, said guiding means embodying spaced converging loop-shaped cams encircling the shaft, and an intermediate cam connected with the shaft and with the loop-shaped cams.

865,825. GANG-PLOW. AMON THOMPSON and GEORGE P. LABEREE, Salem, Oreg. Filed Mar. 23, 1907. Serial No. 364,103.



1. In a gang plow, in combination, a traction member having a guide-wheel, a trailer hinged to said traction member, said trailer having a trailer-wheel, and means for simultaneously rotating said wheels about a substantially vertical axis to change the direction of travel of the plow.

2. In a gang plow, in combination, a traction member having a guide-wheel, a trailer secured to said traction member and free to swing in a direction substantially perpendicular to the ground, said trailer having a trailer-wheel, and means for simultaneously rotating said wheels about a substantially vertical axis to change the direction of travel of the plow.

3. In a gang plow, in combination, a traction member having guide-wheels, a trailer having plows and a trailer-wheel, means for raising said plows from contact with the ground, and means for simultaneously rotating said wheels about a substantially vertical axis to change the direction of travel of the plow.

4. In a gang plow, a traction member having guide-wheels, a trailer hinged to said member and having plows and a trailer wheel, a shaft adapted to rotate said guide-wheels about a substantially vertical axis, a second shaft adapted to rotate said trailer-wheel about a substantially vertical axis, and means for simultaneously controlling said shafts.

5. In a gang plow, a traction member having guide-wheels, a trailer hinged to said member and having plows and a traction wheel, a shaft adapted to rotate said guide-wheels about a substantially vertical axis, a second shaft adapted to rotate said trailer-wheel about a substantially vertical axis, and means common to said shafts for revolving the same.

6. In a gang plow, a traction member having guide-wheels, a trailer hinged to said member and having a trailer-wheel, a shaft having a flexible member wound thereupon and adapted to rotate said guide-wheels about a substantially vertical axis when said shaft is actuated, a second shaft having a flexible member wound thereupon and adapted to rotate said trailer-wheel about a substantially vertical axis when said second shaft is actuated, and means for simultaneously actuating said shafts.

7. In a gang plow, a traction member having a trailer hinged thereto and provided with plows and a trailer-wheel, a flexible shaft mounted upon said traction member and upon said trailer and adapted to rotate said trailer-wheel about a substantially vertical axis, and means for controlling said shaft from said traction member.

8. In a gang plow, a traction member having a trailer hinged thereto and provided with plows and a trailer-wheel, a shaft mounted upon said traction member, a second shaft mounted upon said trailer, said shafts having a flexible connection and being adapted to rotate said trailer-wheel about a substantially vertical axis, and means for controlling said shafts from said traction member.

9. In a gang plow, a traction member, a trailer hinged to said traction member and having plows and a trailer-wheel, a shaft mounted upon said traction member, a second shaft mounted upon said trailer, a flexible connection between said shafts, and means for actuating said first shaft, said second shaft being adapted to rotate said trailer-wheel about a substantially vertical axis to change the direction of travel of said trailer.

10. In a gang plow, a traction member having guide-wheels, a trailer hinged to said member and having plows and a trailer-wheel, a flexible shaft having an end mounted upon said traction member and an end mounted upon said trailer and adapted to rotate said trailer-wheel about a substantially vertical axis, a shaft adapted to rotate said guide-wheels about a substantially vertical axis, and means for simultaneously controlling said shafts.

11. In a gang plow a traction member having guide-wheels, a trailer hinged to said member and having plows and a trailer-wheel, a shaft mounted upon said member, a second shaft mounted upon said trailer, a universal joint connection between said shafts, a flexible member secured to said second shaft and said trailer-wheel and adapted to control said trailer-wheel through the revolution of said second shaft, and means for simultaneously controlling said shaft of said traction member and said guide-wheels.

12. In a gang plow, a traction member having guide-wheels, a trailer hinged to said member and having plows, a bracket upon said trailer having a vertical socket, a pin in said socket having a fork and lateral arms, a trailer-wheel pivotally mounted within said fork, a shaft mounted upon said member, a second shaft mounted upon said trailer, a universal joint connection between said shafts, a flexible member having the ends secured to said arms and wound about said second shaft, and means for simultaneously controlling said shaft of said traction member and said guide-wheels.

13. In a gang plow, a traction member having guide-wheels, a trailer hinged to said member and having plows and a trailer-wheel, a shaft mounted upon said member and having a gear wheel, a second shaft mounted upon said member and having a gear wheel, a worm in engagement with said gear wheels and adapted to be manually operated, and a flexible shaft mounted upon said member and upon said trailer and adapted to control said trailer-wheel, said first shaft being adapted to control said guide-wheels, said second shaft being adapted to control said flexible shaft.

14. In a gang plow, a traction member having guide-wheels, a trailer hinged to said member and having plows and a trailer-wheel, a flexible shaft having an end mounted upon said member and an end mounted upon said trailer, a flexible member secured to said flexible shaft near the end mounted upon said trailer and to said trailer-wheel and adapted to control said trailer-wheel by the revolution of said flexible shaft, a shaft mounted upon said member and having a gear wheel, a second shaft mounted upon said member and having a gear wheel, a worm in engagement with said gear-wheels and adapted to be manually operated, a second flexible member secured to one of said shafts and to said guide-wheels to control the same, and a further flexible member secured to said second shaft and to said flexible shaft to control the latter.

15. In a gang plow, a traction member having guide-wheels, a trailer hinged to said member and having plows, a flexible shaft having an end mounted upon said member and an end mounted upon said trailer, said trailer having a bracket provided with a socket, a vertical pin in said socket having a fork and arms, a trailer-wheel rotatably mounted in said fork, a flexible member secured to said flexible shaft near the end mounted upon said trailer, and to said arms to control said trailer-wheel, a shaft mounted upon said member and having a gear wheel, a second shaft mounted upon said member and having a gear wheel, a worm in engagement with said gear wheel and adapted to be manually operated, a second flexible member secured to said shaft of said member and said guide-wheels to control the same, and a further flexible member secured to said second shaft and to said flexible shaft at the end mounted upon said member to control said second shaft.

16. In a gang plow, a traction member having guide-wheels and driving-wheels, actuating means for said driving-wheels, a trailer having plows and a trailer-wheel, means for simultaneously controlling said guide-wheels and said trailer-wheels, and means operated by said actuating means of said traction member for raising said plows from contact with the ground.

17. In a gang plow, a traction member having guide-wheels and driving-wheels, actuating means for said driving-wheels, a trailer hinged to said member and having adjustable plows and a trailer-wheel, means for simultaneously controlling said guide-wheels and said trailer-wheels, a shaft having a flexible member wound thereupon and controlling said plows, said flexible member being adapted to raise the plows from contact with the ground through the revolution of said shaft, and means for revolving said shaft through said actuating means of said traction member.

18. In a gang plow, a traction member having guide-wheels and driving-wheels, a trailer hinged to said traction member and having plows adjustable in a substantially vertical plane, and a trailer wheel, actuating means for said driving-wheels, a shaft having a flexible member wound thereupon and adapted to adjust said plows through the revolution of said shaft, means for holding said shaft in a fixed position, a flexible shaft mounted upon said traction member and upon said trailer, and adapted to control said trailer-wheel, and means for simultaneously controlling said flexible shaft and said guide-wheels.

19. In a gang plow, a traction member having driving means including a driving-shaft, a trailer secured to said

member, said trailer having pivoted plows adjustable in a substantially vertical plane, and means for flexibly holding said plows, said holding means being adjustably controlled through said driving shaft.

20. In a gang plow, a traction member having driving means, a trailer secured to said member, said trailer having a plurality of vertically adjustable plows, and a common support adapted flexibly to hold said plows, said support being adjustably controlled through said driving means.

21. In a gang plow, a traction member having a driving shaft, a trailer secured to said member and having adjustable plows, and means for adjusting said plows, said means being operated from said driving shaft of said traction member.

22. In a gang plow, a traction member having a driving shaft, a trailer secured to said member and having plows adjustable in a substantially vertical direction, means operated from said driving shaft for raising said plows, and means for holding said plow in a raised position.

23. In a gang plow, a traction member having a driving shaft, a trailer secured to said member and having adjustable plows, a second shaft having means for adjusting said plows, means for holding said second shaft in a fixed position, and removable means for actuating said second shaft from said driving shaft.

24. In a gang plow, a traction member having a driving shaft and a second shaft, means for operatively connecting said shafts, a trailer hinged to said member and having plows pivoted thereto, and a flexible member secured to said plows and to said second shaft and adapted to control said plows through the movement of said second shaft.

25. In a gang plow, a traction member having a driving shaft and a second shaft, means for operatively connecting said shafts, a trailer hinged to said member and having plows pivoted thereto to swing in a substantially vertical plane, a flexible member secured to said plows and said second shaft and adapted to control said plows through the revolution of said second shaft, and means for holding said second shaft in a fixed poistion.

26. In a gang plow, a traction member having a driving shaft provided with a friction disk, and a second shaft provided with a friction disk, a friction pulley adapted to be removably placed in contact with said disks, a trailer secured to said member and having adjustable plows, and means for controlling said plows through the revolution of said second shaft.

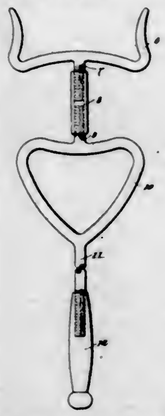
27. In a gang plow, a traction member having a driving shaft provided with a friction disk, and a second shaft provided with a friction disk, a friction pulley adapted to be removably placed in contact with said disks, means for holding said pulley in engagement with said disks, means for holding said second shaft in a fixed position, a trailer secured to said member and having adjustable plows, and a flexible member secured to said second shaft and to said plows and adapted to adjust said plows through the revolution of said second shaft.

28. In a gang plow, a traction member having a driving shaft provided with a friction disk and a second shaft provided with a friction disk, a friction pulley adapted to be removably placed in contact with said disks, a trailer secured to said member and having plows pivoted thereto to swing in a vertical plane, means for raising said plows through the revolution of said second shaft, means for automatically releasing said pulley when said plows is raised, and means for holding said second shaft in a fixed position.

29. In a gang plow, a traction member having a driving shaft provided with a friction disk, and a second shaft provided with a friction disk, a ratchet, and a worm, a lever pivoted to said member and having a friction pulley adapted to be removably placed in contact with said disks, a pivoted block having a rack in engagement with said worm and adapted to hold said lever with said pulley in engagement with said disks, said block being adapted to be pivoted out of engagement with said lever through the revolution of said second shaft, a trailer secured to said member and having adjustable plows, means for adjusting said plows through the revolution of said second shaft, and a pawl adapted to engage with said ratchet to prevent said second shaft from revolving in one direction.

30. In a gang plow, a traction member having a driving shaft provided with a friction disk, and a second shaft provided with a friction disk, a ratchet, a worm, a lever pivoted to said member and having a friction pulley adapted to engage said friction disks, and a slidable pin, a block pivoted to said member and having a rack adapted to engage said worm, a groove adapted to receive said pin and a recess, said block being adapted to engage said pin to hold said lever with said pulley in engagement with said disks, said block being actuated by said second shaft to swing said recess under said pin whereby said pulley is disengaged from said disks, a pawl adapted to engage with said ratchet to prevent the revolution of said second shaft in one direction, a trailer secured to said member and having adjustable plows, and a flexible member secured to said plows and to said second shaft and adapted to control said plows through the revolution of said second shaft.

865,826. VETERINARY INSTRUMENT. JOSEPH TONEY and JOHN H. VIOL, Deer Lodge, Mont., assignors of one-eighth to Selina Viol, Deer Lodge, Mont. Filed Nov. 20, 1906. Serial No. 344,262.



1. The improved veterinary, dental instrument comprising a fork for engaging a jaw of the animal, the ring for engaging the opposite jaw, and a device which connects the fork and ring centrally and is also adapted for adjusting the distance between them, the said parts being practically in the same plane, substantially as described.

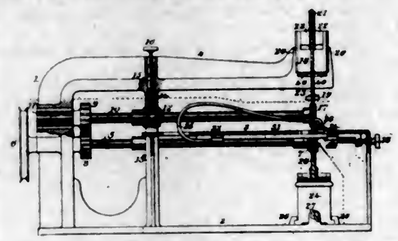
2. The improved veterinary instrument comprising the fork having the threaded shank at its middle, the ring having a similar shank in the center of its top portion, also provided with a handle and a screw sleeve connecting the shanks, as shown and described.

865,827. SEAM-DAMPENER. ALBERT M. TORRANCE, Bennington, Vt. Filed Apr. 15, 1903. Serial No. 152,663.

1. In a seam dampener of the character described, the combination with the wetting devices, of a seam guide consisting of a shoe having upstanding guiding ridges, a presser foot which coöperates therewith having upstanding ridges, and means connected with one of said guiding members for imparting to it a yielding pressure, substantially as specified.

2. In a seam dampener of the character described, the combination with a shoe and a presser foot, both attached to an adjustable member, of means connected with the latter for adjusting it laterally with reference to the wetting devices at the dampening point, substantially as specified.

3. A collar seam guide for use in seam dampeners consisting of two coöperative members, the opposing operative faces of which have parallel ridges against which the seam contacts in passing between them, means for maintaining pressure therebetween, and means for propelling the collar between them, substantially as specified.



4. The combination in a seam dampener of a water trough, a plurality of band sheaves mounted to rotate above said trough, a wetting band carried by said sheaves, the relative arrangement of said sheaves being such that the lower edge of one of said sheaves can dip into the water and thereby carry water to the band which runs over its top, and an actuating sheave over which the band runs located at the dampening point, substantially as specified.

5. The combination in a seam dampener of two wetting bands mounted to run over two sets of sheaves in connection with a water supply for moistening each band, said bands being adapted to contact with each other between two adjacent sheaves each of which belongs to its corresponding set, with a collar guide consisting of a guide shoe having longitudinal ridges between which the seam moves and a presser foot adapted to bear on the seam above the shoe, means for actuating the bands and means for applying yielding pressure to the presser foot, substantially as specified.

6. A collar guide for seam dampening machines consisting of a concave member having guiding ridges between which the seam can run, and a presser foot opposed to said concave member, both members being attached to a common adjustable slide, substantially as described.

7. The combination with the upper shaft and sheave, upper wetting band and upper trough and sheaves carried thereon, of a stationary support for said trough and means interposed between the support and trough for taking up slack in the wetting band occasioned by the lifting of the upper shaft and sheave due to irregularities passing between the wetting bands, substantially as specified.

8. A guide for seam dampeners, consisting of an upper and an under member, one of which is provided with means for directing the fabric passing between them to the dampening devices, a movable device to which both members are attached, and means for adjusting said device laterally with reference to the dampening devices, substantially as specified.

9. A guide for seam dampeners, consisting of an upper and an under member, one of which is provided with means for directing the fabric passing between them to the dampening devices, in combination with means for adjusting said guide laterally with reference to the dampening devices, substantially as specified.

10. In a moistening machine, the combination of the moistening devices, means for mounting and operating the same, two guides juxtaposed to the moistening devices, for the purpose specified, and a yielding presser foot lying over the guides and coöperating therewith.

11. In a moistening machine, the combination of the moistening devices, means for mounting and operating the same, a tang, a spring-actuated presser foot carried thereby, and two guide members mounted on the tang and coacting with the presser foot.

12. In a collar dampening machine and in combination, means for supplying moisture to a collar, and in advance thereof a grooved collar guide, and a presser coöperative with said guide.

865,828. COIN-OPERATED VENDING-MACHINE. FRANK W. TUCKER, Milford, Conn. Filed May 27, 1902. Serial No. 109,124.



1. A coin operated vending machine comprising a delivery mechanism, an operating lever arranged to be locked to the delivery mechanism by a coin, a coin receiving plunger and mechanisms arranged to lock the lever in its normal position, to release the lever as the plunger is forced inwardly, to lock the plunger at the limit of its inward movement and to release the plunger.

2. A coin operated vending machine comprising a delivery mechanism, an operating lever arranged to be locked to the delivery mechanism by a coin, a coin receiving plunger, means for locking the lever in its normal position, said means being under the control of the coin for releasing the lever as the plunger is forced inwardly, means for locking the plunger at the limit of its inward movement and means for releasing the plunger.

3. A coin operated vending machine comprising a delivery mechanism, an operating lever arranged to be locked to the delivery mechanism by a coin, a coin receiving plunger, means for locking the lever in its normal position, said means being under the control of the coin for releasing the lever as the plunger is forced inwardly, means for locking the plunger at the limit of its inward movement and means carried by the lever for releasing the plunger as the lever is rocked to operate the delivery mechanism.

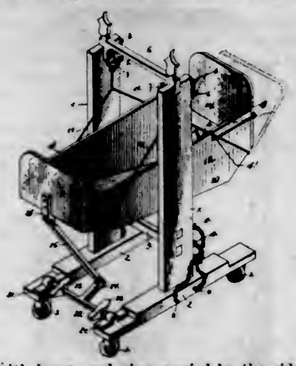
4. A coin operated vending machine comprising a delivery mechanism, an operating lever arranged to be locked to the delivery mechanism by a coin, a coin receiving plunger, means for locking the lever in its normal position, for releasing the lever, and for locking the plunger at the limit of its inward movement, comprising a spring-actuated latch, a sliding bar fitted to engage the coin and a locking pin carried by the bar in position to engage and disengage the latch and lever.

5. A coin operated vending machine comprising a delivery mechanism, an operating lever arranged to be locked to the delivery mechanism by a coin, a coin receiving plunger, and means for locking the lever in its normal position, for releasing the lever as the plunger is forced inwardly and for locking the plunger at the limit of its inward movement, comprising a spring-actuated latch for engaging the plunger, a spring-actuated sliding bar engaged by the coin, a locking pin carried by the bar and arranged to engage and disengage the lever and latch, and a lug carried by the lever in position to engage the latch for releasing the plunger as the lever is rocked for operating the delivery mechanism.

865,829. SWING. FRANK UNGER, Rimersburg, Pa. Filed Sept. 25, 1906. Serial No. 336,185.

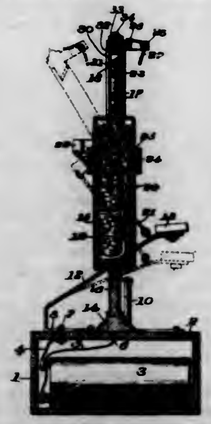
In a swinging cradle, a support, a cradle body swingingly-suspended from said support and having a hinged

head piece, and fastening members for said head piece comprising rods pivoted to the head piece and having angular inner ends overlying the side walls of the cradle body and



provided with loops, and pins carried by the side walls of said cradle body to engage said loops.

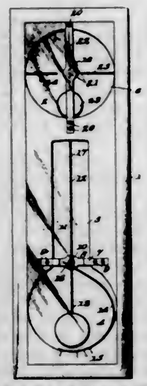
865,830. CIGAR-LIGHTER. CLARK D. VAUGHN, Philadelphia, Pa., assignor of one-half to William R. Veith and one-half to W. R. Richards and J. R. Potter, Philadelphia, Pa. Filed Apr. 9, 1907. Serial No. 367,282.



1. In a cigar lighter, a box, a battery therein, conductors from said battery, a spring arm on said box in connection with one of said conductors and having a finger piece on its free end, a positively supported fluid containing receptacle in connection with the other conductor, a tube carried by said receptacle, a bracket carried by and insulated from said receptacle, a movable member pivoted on said bracket, in axial alinement with said tube, a link pivotally connected with said spring arm, an arm rigid with said movable member and pivotally connected with said link, a bifurcated member carried by said movable member above said tube, a wiper pivotally mounted in said bifurcated member and adapted to pendulously sweep over and directly contact with said tube, and a depending member carried by said movable member to lie coincident with said tube to close the same and extinguish the light, and an adjustable stop beneath said spring arm.

3. In a device of the character described, a box, a battery carried therein and having connections therefrom, a spring arm, means for adjustably supporting the same and in electric contact with said battery, a fluid containing receptacle in connection with said battery, a movable member pivotally supported by said receptacle but insulated therefrom, a wiper carried by said movable member, connections between said movable member and said spring arm, a wick tube extending from said receptacle and with which the said wiper is adapted to contact, the upper end of said tube being inclined and a flame-extinguisher carried by said movable member having an inclined face adapted to correspond with the inclined face of said wick tube and which latter is adapted to be closed and an adjustable stop carried by said adjustable supporting means and arranged beneath said spring arm.

865,831. COMBINED LEVEL AND PLUMB. JASPER N. WALKER, Marion, Ill. Filed June 1, 1907. Serial No. 376,805.



1. In a combined level and plumb, the combination of a beam, glass panels for the same, a pendulum provided with an indicating needle, a pair of gage wires coöperating with said indicating needle, a pair of bearing plates for supporting said pendulum, a second pendulum constituting a level and also provided with an indicating needle, and gage wires 24 and 25 coöperating with the indicating needle of said second pendulum whereby a double reading of said level is provided, and the whole is adapted for either a plumb or a level, substantially as described.

2. In a combined level and plumb, the combination of a beam, provided with a circular and an elongated opening, glass panels for the same, a pendulum located in said openings and provided with an indicating needle, a pair of gage wires located in said elongated opening and coöperating with said indicating needle, a pair of bearing plates for supporting said pendulum, said beam also provided with a second circular opening, a second pendulum constituting a level mounted in said second opening and provided with an indicating needle, a pair of plates supporting said second pendulum, and gage wires in said second circular opening at opposite sides of the said beam and coöperating with the indicating needle of said second pendulum, whereby a double reading of said level is provided, and the whole is adapted for either a plumb or a level, substantially as described.

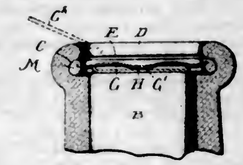
3. In a combined level and plumb, the combination of a beam, provided with leveling or plumb edges, and a circular and an elongated opening, glass panels for the same, a pendulum provided with an indicating needle located in the said openings, a pair of gage wires located in said elongated openings and coöperating with said indicating needle, a pair of bearing plates for supporting said pendulum, said beam also provided with a second circular opening, a second pendulum constituting a level mounted in said second opening, and gage wires 24 and 25 located at right angles to the said leveling edges whereby a double reading of said level is provided and the whole is adapted for either a plumb or a level, substantially as described.

4. In a combined level and plumb, the combination of a beam, provided with leveling or plumb edges, and a circular and an elongated opening extending transversely therethrough and communicating with each other, glass panels for the same, a pendulum provided with a spindle, and an indicating needle, said pendulum and said needle located in said openings, a spring, one end of which is securely held in the circular opening and the other or free end of which bears against the peripbery of said spindle and thereby frictionally retards the swinging of said pendulum and causes the same to come to a stop and to perform its functions more quickly than it would otherwise do, a pair of gage wires located in said elongated opening and coöperating with said indicating needle, a pair of bearing plates for supporting said pendulum, said beam also provided with a second circular opening, a second pendulum constituting a level mounted in said second opening and provided with an indicating needle, a pair of plates supporting said second pendulum, and gage wires 24 and 25 located at right angles to the said leveling edges, whereby a double reading of said level is provided and the whole is adapted for either a plumb or a level, substantially as described.

5. In a combined level and plumb, the combination of a beam provided with leveling and plumb edges, and a circular and an elongated opening extending transversely therethrough and communicating with each other, and said beam also provided with cut away sides, glass panels for the same secured in said cut away sides and made flush with said beam, a pendulum provided with a spindle having reduced bearing ends, and with an indicating needle, said pendulum and needle being attached nearer one end of said spindle than to the other, said pendulum and said indicating needle being located in said openings, a spring, one end of which is securely held in the circular opening at one side of said pendulum and the other or free end of which bears against the periphery of said spindle to one side of said pendulum and thereby frictionally retards the swinging of said pendulum and causes the same to come to a stop and to perform its functions more quickly than it would otherwise do, a pair of gage wires at the end of the elongated opening and coöperating with said index needle, oppositely disposed countersinks in said cut away sides, a pair of bearing plates securely held in said countersinks for supporting said pendulum, said beam also provided with a second circular opening, a second pendulum constituting a level mounted in said second opening and provided with a spindle with reduced bearing ends, and an indicating needle, a second pair of oppositely disposed countersinks in said cut away sides, a second pair of bearing plates securely held in said second pair of countersinks, and central alining perforations in said bearing plates, gage wires 24 and 25 located in said second opening and at right angles to said leveling edges whereby a double reading of said level is provided and the whole is adapted for either a plumb or a level, substantially as described.

865,832. BOTTLE AND THE LIKE. THOMAS WALTERS and JOHN B. HENDERSON, Brisbane, Queensland, Australia, assignors to said Walters. Filed Mar. 26, 1907 Serial No. 364,600.

1. In combination, an internally and externally grooved vessel neck of brittle material, a cork, a sealing disk, a guiding plate disposed between said sealing disk and said cork, and cementing material adapted to hold said sealing disk, substantially as described.

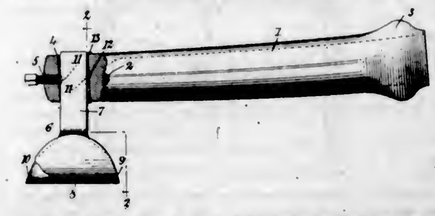


2. In combination, an internally and externally grooved vessel neck of brittle material, a cork, a sealing disk, a guiding plate having a flared rim disposed between said sealing disk and said cork, and cementing material adapted to hold said sealing disk, substantially as described.

3. In combination, an internally and externally grooved vessel neck of brittle material, a cork, a perforated metallic expanded sealing disk, a guiding plate having a flared rim disposed between said sealing disk and said cork, and cementing material adapted to hold said sealing disk, substantially as described.

4. A bottle or vessel neck of brittle material, having therein a cork or stopper, a guide plate upon it, an expanded disk upon the guide plate, the neck having oppositely set inner and outer grooves, and an upper inner groove and a sealing medium disposed around said upper groove and engaged by the peripheral edge of said disk, substantially as described.

865,833. TURPENTINE-HACK. EDGAR H. WALTON, Bay Minette, Ala. Filed May 18, 1907. Serial No. 374,390.



1. In a device of the class described, a stock having an opening therethrough, a reversible blade having a shank presenting a V-shaped cutting member, said cutting member having cutting edges at the opposite ends thereof, said shank being removably arranged in said opening of said stock, an adjusting wedge arranged in said opening to engage said shank and said stock, and adjusting means for engaging said shank at the side remote from said wedge, to hold said blade in position.

2. In a device of the class described, a stock having an opening therethrough, a reversible blade having a shank presenting a V-shaped cutting member, said cutting member having cutting edges at the opposite ends thereof, said shank being removably arranged in said opening of said stock, an adjusting wedge arranged in said opening to engage said shank, and a set-screw adjustably engaging said shank at the side remote from said wedge, to hold said blade in position.

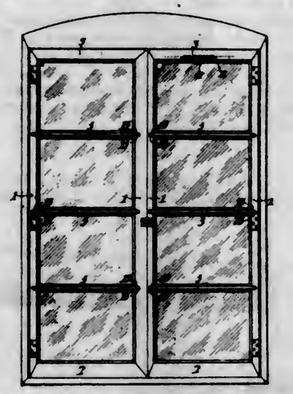
3. In a device of the class described, a stock having an opening therethrough, a reversible blade having a shank presenting an extended portion bent to form a V-shaped cutting member, said cutting member having cutting edges at the opposite ends thereof, said shank being removably arranged in said opening of said stock, an adjusting wedge arranged in said opening to engage said shank, said stock having at the end a threaded opening communicating with said first opening, and a set-screw arranged in said threaded opening and engaging said shank to hold the same in position.

4. In a device of the class described, a stock having a recess and an opening therethrough, a reversible blade

having a shank presenting an extended portion bent to form a V-shaped cutting member, said cutting member having cutting edges at the opposite ends thereof, said shank being removably arranged in said opening of said stock, an adjusting wedge arranged in said opening to engage said shank, and a set-screw engaging said shank to hold the same in position.

5. In a device of the class described, a stock having a recess and an opening therethrough, a cutting blade having a shank, and an extended portion bent to form a V-shaped cutting member, said cutting member having cutting edges at the opposite ends thereof, an adjusting wedge arranged in said opening and having a laterally disposed flange engaging the edge of said opening, said shank having opposite recesses and a set-screw engaging one of said recesses of said shank to secure said shank in position in said opening.

865,834. SHEET-METAL WINDOW-SASH. JOHN W. WATKINS, Philadelphia, Pa., assignor to David Lupton's Sons Company, Philadelphia Pa., a Corporation of Pennsylvania. Filed Dec. 31, 1906. Serial No. 350,195.



1. In a sheet metal window sash, the combination of a rail having portions bent to form the sides of a pane groove, said sides being provided with overhangs; and a sliding clamp uniting said overhangs and preventing their separation under heat, said clamp having its length so proportioned to the width of the panes of the sash as to permit of its being slid to one side to provide room for the withdrawal of the pane.

2. In a sheet metal window sash, the combination with a rail having portions bent to form the sides of a pane groove, said sides being bent to form projecting overhangs; and a sliding clamp engaging said overhangs for maintaining the sides of said pane groove in position, said clamp having its length so proportioned to the width of the panes of the sash as to permit of its being slid to one side to provide room for the withdrawal of a pane.

3. In a sheet metal window sash, the combination of a pair of bounding members for supporting the sides of the panes, and provided with continuous pane grooves; means for uniting said members rigidly at each end; a series of panes; intervening partitions located between each pair of panes and removably secured to said bounding members; and removable means in one of said uniting means for securing the end pane in position, whereby when said pane securing means is removed said end pane may first be removed and then the intervening partitions and panes in succession for reglazing the sash without its dismemberment.

4. In a sheet metal window sash, the combination with a pair of members for supporting the sides of the panes; of means for uniting said members rigidly in the sash; a series of panes; muntins removably secured to said supporting members and located between each of the panes; and removable means in the upper uniting member for clamping the upper pane groove, whereby said clamping means may first be removed and then the panes and removable muntins in succession for reglazing the sash without its dismemberment.

5. In a sheet metal window sash, the combination with a pair of vertical members provided with pane grooves, and rigidly secured to upper and lower uniting members also provided with pane grooves; of a series of panes separated by muntins removably secured to said vertical members; and a removable clamp for the pane groove in said upper uniting member, whereby upon removing said clamp the upper pane may be withdrawn through this groove; then by the removal of the securing means from the muntins, said muntins and the remaining panes may be removed successively without dismemberment of the sash.

6. In a sheet metal window sash, the combination of a pair of grooved supporting members adapted to receive a series of panes; a uniting member at the top and bottom of said supporting members and rigidly secured thereto; a pane groove in the upper uniting member provided with a removable clamp for holding the sides of the groove in position and preventing them from spreading under the influence of heat; a uniting member removably secured to said supporting members between each pair of panes, whereby upon removing said clamp, the upper pane may be withdrawn through the groove in the upper uniting member, and by removing the securing means from the muntins said muntins and the ramaining panes may be removed successively for reglazing without dismemberment of the sash.

865,835. SAFETY-CATCH FOR PIVOTED CLOSURES. JOHN W. WATKINS, Philadelphia, Pa., assignor to David Lupton's Sons Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Mar. 23, 1907. Serial No. 364,033.



1. In a catch for a pivoted closure, the combination of a pivoted tumbler; an overshot bolt mounted to slide in said tumbler; and means for moving said bolt to release the catch.

2. In a catch for a window sash, the combination of a frame; a tumbler pivoted to said frame, said tumbler comprising an enlarged boss and a V shaped jaw; and an overshot bolt slidably mounted in said boss.

3. The combination with a horizontal pivoted window sash; of a catch mounted in the window frame, said catch comprising a pivoted tumbler provided with an overshot bolt and a V shaped jaw, whereby said sash is automatically secured in closed position.

4. In a catch for a pivoted closure, the combination of a frame; a tumbler pivoted in said frame to be in unstable equilibrium; a bolt slidably mounted in said tumbler; and means on said tumbler adapted to be engaged by a portion of the closure.

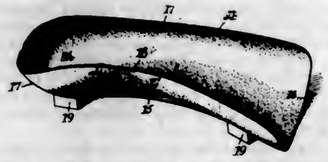
5. In a catch for a pivoted closure, the combination of a frame; a tumbler pivoted in said frame and comprising a boss and a pair of arms forming a V-shaped jaw, said boss and jaw being on opposite sides of the pivotal point, said boss being provided with a hole passing diametrically therethrough and tapering from the outer ends thereof toward the center; and a bolt adapted to slide freely through said hole.

6. A catch for a window sash, comprising a tumbler pivotally mounted to be in unstable equilibrium and provided with means for engaging a window sash and a window frame to lock the sash in closed position; in combination with means on the sash for releasing the catch.

7. A catch for a window sash comprising an elongated pivoted block of irregular cross section constituting a tumbler; and an overshot bolt slidably mounted in said block; in combination with means for forcing said tumbler into either of two positions; and means for engaging said bolt to lock the sash in closed position.

8. A catch for a pivoted closure comprising a pivoted tumbler; means whereby the completion of the closure throws the tumbler to one extremity of its play; and means whereby the rebound of the closure is opposed by the momentum thus imparted to the tumbler, in combination with a releasable catch for holding the tumbler in position to oppose the rebound.

865,836. FOOT-SUPPORTER. FRANK F. WEDEKIND, San Francisco, Cal. Filed Dec. 20, 1906. Serial No. 348,680.



1. A foot supporter, comprising a flanged body formed of stockinet and celluloid and shaped to the heel, instep and ball of the foot, the flange extending from the forward end of the ball portion around the heel portion.

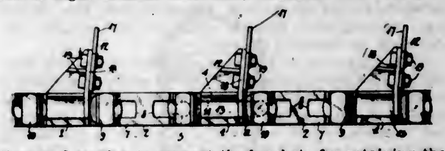
2. A foot supporter, comprising a flanged body formed of layers of stockinet and celluloid between the layers and on the outer faces thereof, the body being shaped to the heel, instep and ball of the foot and the flange extending from the forward end of the ball portion around the heel.

3. As an improved article of manufacture, a foot supporter consisting of stockinet saturated with dissolved celluloid and shaped to the bottom and side portions of the heel, instep and bottom of the foot, and strips extending longitudinally of the said supporter at its instep portion, which strips are incorporated in the said structure.

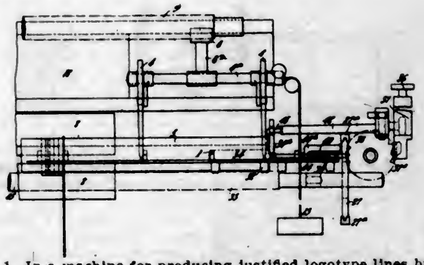
4. As an improved article of manufacture, a foot supporter constructed of layers of stockinet saturated with dissolved celluloid and shaped to the heel, the instep and ball sections of the foot and to the sides of said sections, strips longitudinally located at the instep portion of the structure, being held between the layers constituting the same, and means at the bottom portion of the supporter to prevent said supporter from rocking.

865,837. CONVEYER AND ELEVATOR. JAMES H. WESTON, Tamaqua, Pa., assignor of one-third to John F. Wagner and one-third to George A. Wilford, Tamaqua, Pa. Filed Mar. 28, 1907. Serial No. 365,011.

A conveyer chain comprising a plurality of pivotally connected links, one of said links having a longitudinal slot and the adjacent links having their ends overlapping said slotted link to form shoulders, a pair of brackets arranged respectively on opposite sides of the slotted link and having longitudinal inner edge flanges to seat in the slot, said brackets also having radially projecting portions, and a flight element detachably engaged with said portions and serving to connect the brackets for retaining the flanges in the slot, the ends of the brackets being adapted to bear on said shoulders.



865,838. MACHINE FOR COMPOSING AND CASTING LOGOTYPES. FREDERICK WICKS, Esher, England. Filed Feb. 28, 1905. Serial No. 247,752.



1. In a machine for producing justified logotype lines by means of typesetting and stereotyping apparatus in which matrices, spaces, and mold ends separating successive logotypes are employed, mold ends, means actuated by a separate key for introducing the mold ends into the composing race independently of the spaces and means for automatically separating said mold ends after stereotyping and transferring same to suitable position for further use, substantially as described.

2. In a machine for producing justified lines of type such as herein described, type founder's mold formed in part of loose pieces automatically assembled, a vise for clamping automatically said loose pieces, a traversing shaft carrying said vise to bring the mold past the orifice of the melting pot to receive the molten metal, and means for thereafter distributing such disconnected parts to their respective magazines.

3. In a machine for producing justified lines of type such as herein described, a type founder's mold constituted by loose pieces automatically assembled, a vise for clamping automatically said loose pieces, a pair of parallel plates between which the said pieces are passed, and a plate having an orifice for the passage of the molten metal and in front of which the assembled parts of the mold are passed, substantially as described.

4. In apparatus of the kind described, a carrier chain having two sets of carriers, one adapted to engage the matrices and the other the justifying spaces and means for discharging the said matrices and spaces from their respective carriers, substantially as described.

5. In apparatus of the kind described, mold ends, a mold end carrier, a traversing shaft, means for transferring the mold ends from the mold race to the said carrier and means for bringing the carrier when full into engagement with the traversing shaft, substantially as described.

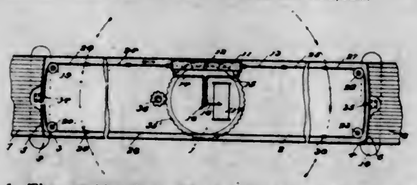
6. In apparatus of the kind described, mold ends, mold end carriers, a traversing shaft and a returning shaft for transporting said carriers, each of which is in two sections connected with each other by a slip clutch, substantially as and for the purpose set forth.

7. In apparatus of the kind described, mold ends, mold end carriers, means for feeding the mold ends from the carriers to the composing race comprising an actuating

lever, a pivoted finger operated thereby and adapted to displace the mold ends longitudinally, a ratchet toothed disk rotated step by step by the actuating lever and a spring returned thrust rod engaging with the ratchet disk and adapted to displace the mold ends laterally, substantially as described.

8. In apparatus of the kind described means for feeding the cast logotypes into a printer's galley comprising a spring returned thrust rod normally projecting over the galley, a clutch operated by the displacement of the thrust rod, a driving shaft, a volute cam geared to the driving shaft by the said clutch and adapted to engage a line of logotypes and depress it into the printer's galley, substantially as described.

865,839. DRAWBRIDGE. GEORGE A. WIELAND, Duluth, Minn. Filed Feb. 1, 1907. Serial No. 355,339.



1. The combination with a pivotally operative bridge, of accelerating means at the ends thereof designed to engage with the end piers of the bridge.

2. The combination with a pivotally operative bridge, of accelerating means independent of the operative means.

3. A drawbridge, comprising a movable section centrally supported, means for operating said movable section at the center, and auxiliary operating means at the ends of the movable section.

4. A drawbridge, comprising a movable section centrally supported having the usual operating means and auxiliary operating means at the ends of the movable section and adapted to be used as a cushioning means during the closing thereof.

5. A drawbridge, comprising a movable section centrally supported and having the usual operating means, and auxiliary operating means engaging the stationary part of the bridge and adapted to aid in starting the movable section on its outward movement.

6. A drawbridge, comprising a movable section centrally supported and having the usual operating means and auxiliary operating means engaging the stationary part of the bridge, and adapted to aid in starting the movable section on its outward movement and retarding it on its inward movement.

7. A drawbridge, comprising a movable section centrally supported and having the usual operating means, and an auxiliary operating means carried by the movable section and engaging the stationary part of the bridge.

8. A drawbridge, comprising a movable section centrally supported and having the usual operating means and auxiliary operating means, carried by the ends of the movable section, and engaging the stationary part of the bridge.

9. A drawbridge comprising a movable section centrally supported and having the usual operating means, and chains carried by the movable section and engaging the stationary part of the bridge for aiding in starting the movement of the movable section.

10. A drawbridge, comprising a movable section centrally supported and having the usual operating means, and chains passing around the ends of the movable section and engaging the stationary part of the bridge for aiding in starting the movement of the movable section.

11. A drawbridge, comprising a pivoted movable section having the usual operating means, chains traveling around the ends of the movable section for engaging the stationary part of the bridge, and means carried by the movable section for operating said chains for aiding in the starting of the movable section.

12. A drawbridge, comprising a pivoted movable section having the usual central operating means, means carried by the ends of the movable section for engaging the stationary part of the bridge, and means centrally carried by the movable section for operating the engaging means at the end thereof for aiding in starting the movable section outwardly.

13. A drawbridge, comprising a pivoted movable section having the usual central operating means, chains passing transversely across the ends of said movable section, pins carried by the stationary part of the bridge and entering the chains, and means carried by the movable section for operating the chains for aiding in starting the movable section outwardly.

14. A drawbridge, comprising a pivoted movable section having the usual central operating means, chains passing transversely across the ends of said movable section, pins carried by the stationary part of the bridge and passing into the links of said chains, a cylinder carried by the movable section, a piston therein, a double piston rod carried by the piston and extending through the ends of the cylinder, cables operatively connecting the chains to said piston rod.

15. A drawbridge, comprising a pivoted movable section having the usual operating means, pulleys carried by the ends of said movable section, chains passing around the said pulleys and extending transversely across the ends of said movable section, pins carried by the stationary part of the bridge and passing into the links of the chains, a cable connecting two free ends of said chains, and an operating means connecting the opposite ends of the chains, whereby the chains aid in starting the movable section when the same is being closed and a cushion for stopping said section.

16. A drawbridge, comprising a movable section having the usual operating means, pulleys carried by the ends of said movable section, chains passing around said pulleys and extending transversely across the ends of said movable sections, guideways extending across said sections and in which the chain travels to limit the inward movement of the chains, pins carried by the stationary part of the bridge and passing into the links of the chains, and means for operating said chains.

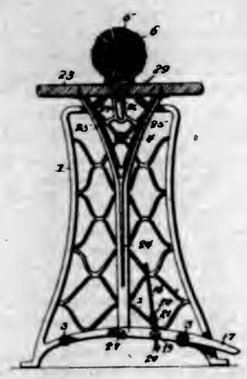
17. A drawbridge, comprising a movable section having the usual operating means, pulleys carried by the ends of the said movable section, and oppositely arranged, chains passing around said pulleys and extending transversely across the ends of said movable sections, guideways formed of curved angle bars and in which the chain travels to limit the inward movement of the chains, pins carried by the stationary parts of the bridge and passing into the links of the chains and means for operating said chains.

18. A drawbridge, comprising a movable section having the usual operating means, pulleys carried by the ends of the said movable section, chains passing over said pulleys and extending transversely across the ends of the movable section, a cable connecting the ends of said chains, a cylinder carried by the movable section, a piston therein, a double piston rod carried by the piston and extending out through the ends of the cylinder, cables connecting the ends of the piston rod with the chains, and means for admitting air or steam to both ends of the cylinder.

19. A drawbridge comprising a movable section having the usual operating means, pulleys carried by the ends of said movable section, chains passing around the pulleys and extending transversely of the section, a guideway formed of curved angle bars and in which the chains travel to limit the inward movement of the chains, pins carried by the stationary part of the bridge and passing into the links of the chains, a cable connected to two ends of the chains, a cylinder extending longitudinally of the movable section, a piston therein, a double piston rod carried by the piston and extending out through the ends of the cylinder, cables connected to the ends of the piston rods, and connected to the opposite ends of the chains, pipes connected to the ends of the cylinder and means for supplying compressed air or steam to either end of the cylinder.

20. A bridge, comprising a movable section pivotally supported and having the usual operating means, and auxiliary operating means engaging the stationary part of the bridge and adapted to aid in starting and stopping the movable section.

865,840. FRINGE-BRUSHING MACHINE. HENRY S. WILCOX, Chicago, Ill., assignor to Troy Laundry Machinery Company, Limited, Troy, N. Y., a Corporation of New York. Filed Dec. 4, 1905. Serial No. 290,214.



1. In a fringe brushing machine, a frame, a rotary brush mounted therein, a table disposed beneath said brush, means for reciprocating said table toward and from said brush, and a connection between the table and frame for effecting a lateral movement of the table toward the rear of the machine and transversely to the brush axis during said travel toward the brush.

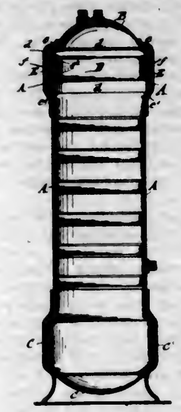
2. In a fringe brushing machine, a rotary brush, a frame for supporting said brush provided with guide slots extended upward and laterally of the vertical plane of the axis of said brush and beneath the same, a table disposed beneath the brush and provided with means extended into said slots, a standard extended from said table, and means for moving said standard and table toward and from said brush.

3. In a fringe brushing machine, opposite frames, having at their upper portion bearing boxes, a rotary brush mounted in said boxes, a table disposed beneath said brush and provided with projections extending into curved guide slots in said frames, a depending standard from said table, a treadle pivotally mounted at the lower portion of said frames and pivotally connected to said standards.

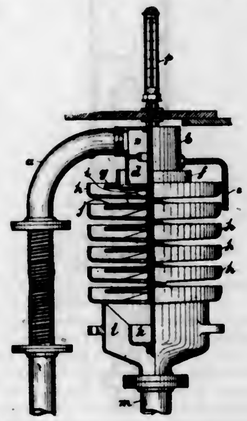
4. In a fringe brushing machine, a rotary brush, a table mounted for movement relative thereto, a clutch member carried by the shaft of said brush, a coöperating clutch slidingly mounted upon said shaft, a bell crank lever connected at one end to said sliding clutch member, an operating treadle for said table, a connecting rod extending from the bell crank lever through a portion of said treadle, a projection secured to said rod above said treadle, and a spring disposed between said projection and the portion of the treadle through which said rod passes.

865,841. RANGE-BOILER. VALENTIN WILHELMI, Paterson, N. J. Filed Apr. 26, 1907. Serial No. 370,371.

In a range-boiler, the combination with the shell and top-head secured together by means of an interlocking joint and provided respectively with annular shoulders near said joint, of an interior reinforcing ring provided with a circumferential depression in its exterior surface, with an inwardly extending shoulder in contact with the top-head, and with a cylindrical portion in contact with the shell, said joint lying in said depression, and an exterior ring covering the joint and the shoulders of the top-head and shell and closely engaging the same.



865,842. DIRECT-CONTACT FEED-WATER HEATER FOR STEAM-BOILERS. GEORGE WILKINSON, Harrogate, England. Filed Dec. 11, 1906. Serial No. 347,300.



1. In a feed-water heater, the combination, with a water inlet pipe, of a de-aerating box connected with the said pipe and arranged inside the boiler, said box having two superposed compartments and an air outlet from the upper compartment, a vessel forming a water seal with the lower compartment, a receiving tank for the heated water arranged below the said vessel, and a delivery pipe connected to the said tank and discharging into the water space of the boiler.

2. In a feed-water heater, the combination, with a water inlet pipe, of a de-aerating box connected with the said pipe and arranged inside the boiler, said box having two superposed compartments and an air outlet from the upper compartment, a vessel forming a water seal with the lower compartment, a receiving tank for the heated water arranged below the said vessel, a series of dishes having holes near their centers and plates under the said holes, said dishes and plates being arranged alternately and between the said vessel and tank, and a delivery pipe connected to the said tank and discharging into the water space of the boiler.

3. In a feed-water heater, the combination, with a vessel arranged in the upper part of a boiler and provided with

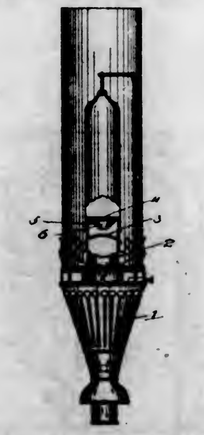
means for supplying it with feed-water, of a series of dishes having holes near their centers and plates under the said holes, said dishes and plates being arranged alternately below the said vessel in the steam space of the boiler and operating to heat the feed-water as it passes over them from the said vessel.

4. In direct contact feed water heaters for steam boilers and the like, the combination with a receiving vessel (*f*) from which the feed water deacends in a finely divided state in contact with the steam into a settling tank (*k*), of inclined paths for the said water formed by one or more dishes or trays (*h*) having annular openings therein, and one or more conical plates (*j*) for purposes described.

5. In direct contact feed water heaters for steam boilers and the like, a de-aerating box (*b*) delivering the feed water to a receiving vessel (*f*) so arranged that the water in the said vessel *f* forms a water-seal around the outlet of the de-aerating box, substantially as described.

6. In direct contact feed water heaters for steam boilers and the like, the combination with a receiving vessel (*f*) and settling tank (*k*), both contained within the boiler, of a receiving tank (*l*) and pipe (*m*) conveying the feed water from the said settling tank to a point near the bottom of the water space of the boiler, and preferably over or near the blow-off block (*n*) thereof.

865,843. BURNER. SAMUEL T. WILLSON, Denver, Colo. Filed Nov. 6, 1905. Serial No. 286,158.



1. A deflector for gas burners, comprising a mixing tube, and an inverted conical shaped baffle member supported over the mouth of the mixing tube, the inclined sides of the baffle member comprising segmental shaped arms which are twisted at angles to each other and having their edges overlapping.

2. In a burner, the combination of a mixing tube, a yoke fitting over the discharge end of the mixing tube, and a conical shaped baffle member supported by the yoke, the inclined sides of the conical shaped baffle member comprising segmental arms twisted at angles to each other.

3. In a burner, the combination of a mixing tube, a yoke comprising a horisontal portion and downwardly extending arms having a detachable engagement with the mixing tube and serving to support the said horisontal portion, and a baffle member supported by the horisontal portion of the yoke, the said baffle member having a conical shape, and the inclined sides thereof comprising segmental arms twisted at angles to each other.

865,844. GATE-LATCH. ALLEN A. ADAMS, Berryton, Kans. Filed Jan. 29, 1907. Serial No. 354,710.

1. In a gate, a hinge post, a gate pivotally and vertically movably mounted thereon, latching mechanism on said gate, and means on said post for being engaged by said latching mechanism when the gate is raised vertically.

2. In a gate, a post, a gate pivotally and vertically movably mounted thereon and provided with latching mechanism, a plate pivotally mounted on said post in position for being engaged by the latching mechanism and actuating the same when the gate is raised vertically.

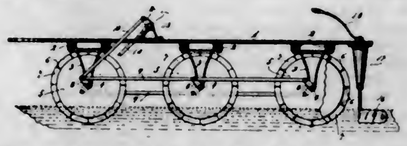


3. In a gate, a post, a gate pivotally and vertically movably mounted thereon, a slotted member provided at its lower end with a projection, a bolt through said slot, a plate pivotally-mounted on said projection, and latching mechanism upon the gate in position for engaging with said plate when the gate is raised vertically.

4. In a gate, a post provided with locking mechanism, a gate pivotally and vertically-mounted upon the post, an elbow lever pivotally-mounted on the gate in position for engaging with said locking mechanism, and latching mechanism connected with said lever.

5. In a gate, a post provided with locking mechanism, a gate pivotally and vertically mounted on said post, an elbow lever pivotally-mounted on the gate in position for engaging said locking mechanism, a longitudinally movable rod mounted on the gate, one end of which is connected with said lever and the free end is provided with spring mechanism for normally-holding the outer end of said lever in engagement with said plate.

865,845. LAND AND WATER VEHICLE. DANIEL F. AKIN, Farmington, Minn. Filed May 17, 1906. Serial No. 317,296.

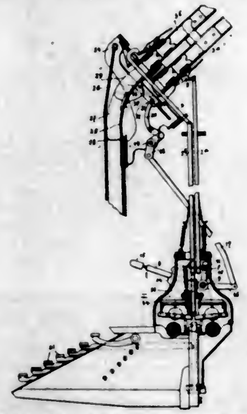


The combination with a vehicle body, of a plurality of air containing drums 5 supporting the same, the exposed peripheral surfaces of which drums are of true cylindrical form, laterally spaced tires 7 projecting concentrically from the end portions of said cylindrical drums, imperforate radial paddle blades 6 applied to the exteriors of said drums, extending longitudinally thereof between the said laterally spaced tires and coöperating with said tires and drums to form a multiplicity of peripheral pockets adapted independently to hold air caged therein, and positively driven connections for causing the said drums to rotate in unison, substantially as described.

865,846. RELEASING DEVICE FOR THE MATRICES IN COMPOSING-MACHINES WITH TWO OR MORE MAGAZINES PLACED ONE ABOVE THE OTHER. CHRISTIAN A. ALBRECHT, Berlin, Germany. Filed June 8, 1906. Serial No. 320,738.

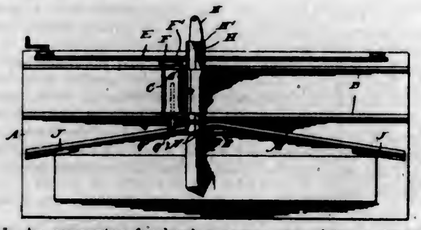
1. In a releasing device for the matrices in composing machines with two or more magazines one above the other the combination of a common movable guide chute, a slide piece (22) firmly connected to the upper part of said chute, two side plates (24) placed on both sides of the magazines, slots (32) in said side plates, projections (21, 23) to guide said slide piece in said slots, and a plurality of levers connecting said slide piece with a hand lever (15) substantially as set forth.

2. In a releasing device for the matrices in composing machines with two or more magazines one above the other the common movable guide chute comprising a slide piece (22) and two parts (25, 26) the lower part of which (25) is pivotally mounted with its lower end on the frame of the machine while the other free end is loosely connected with the upper part (26) which is fastened to the said slide piece and communicating with its upper end with the exit of one of the magazines, springs (30) fixed to the bottom of the upper part (26) and securing the free but steady connection of the parts 25 and 26, two side plates (24) placed on both sides of the magazines, slots (32) in said side plates, pins (21, 23) to guide said slide piece in said slots, and a plurality of levers connecting said slide piece to a hand lever (15) substantially as set forth.



3. In a releasing device for the matrices in composing machines with two or more magazines one above the other, the combination of the common guide chute comprising a slide piece (22), two parts (25, 26) the lower part of which (25) is pivotally mounted with its lower end to the frame of the machine, while the other free end is loosely connected with the upper part (26) which is fastened to the said slide piece and communicating with its upper end with the exit of one of the magazines, springs (30) fixed to the bottom of the upper part (26) and securing the free connection between the two parts 25 and 26, means to move the slide piece vertically in regard to the horizontal surface of the magazines, and means to allow the lower part (25) to self-actingly adjust itself during the movement of the upper part (26) substantially as set forth.

865,847. DEVICE FOR SHARPENING RAZORS. LEONARD ALFANO, Brooklyn, N. Y. Filed May 28, 1907. Serial No. 376,199.



1. An apparatus for honing razors comprising a frame, a movable carriage and suitable guideways therefor, sprocket wheels mounted upon the frame, an endless chain passing about said wheels, a rotatable wheel mounted upon the carriage and having a handle fixed eccentrically thereto and connected to said chain and designed, as the chain travels about said wheels, to cause the carriage to reciprocate, razor holding means upon said carriage, and mechanism for imparting a reciprocating movement to the razor as it moves with the carriage, as set forth.

2. An apparatus for honing razors comprising a frame, a movable carriage and suitable guideways therefor, sprocket wheels mounted upon the frame, an endless chain passing about said wheels, a rotatable wheel mounted upon the carriage and having a handle fixed eccentrically thereto and connected to said chain and designed, as the chain travels about said wheels, to cause the carriage to reciprocate, razor holding means upon said carriage, mechanism for imparting a reciprocating movement to the razor as it moves with the carriage, and mechanism for turning the razor blade so that the rear edge thereof may be drawn forward against the surface of a hone, as set forth.

3. An apparatus for honing razors comprising a frame, a movable carriage and suitable guideways therefor, sprocket wheels mounted upon the frame, an endless chain passing about said wheels, a rotatable wheel mounted upon the carriage and having a handle fixed eccentrically thereto and connected to said chain and designed, as the chain travels about said wheels, to cause the carriage to reciprocate, razor holding means upon said carriage, a reciprocating member mounted upon the carriage and having a yoke, the arms of which frictionally engage the razor holding member, an anti-friction wheel carried by said member, and an inclined way in which said anti-friction roller is adapted to travel, whereby, as the carriage is reciprocated, the razor may be given a reciprocating movement against the surface of a hone, as set forth.

4. An apparatus for honing razors comprising a frame, a movable carriage and suitable guideways therefor, sprocket wheels mounted upon the frame, an endless chain passing about said wheels, a rotatable wheel mounted upon the carriage and having a handle fixed eccentrically thereto and connected to said chain and designed, as the chain travels about said wheels, to cause the carriage to reciprocate, razor holding means upon said carriage, a reciprocating member mounted upon the carriage and having a yoke, the arms of which frictionally engage the razor holding member, an anti-friction wheel carried by said member, an inclined way in which said anti-friction roller is adapted to travel, whereby, as the carriage is reciprocated, the razor may be given a reciprocating movement against the surface of a hone, and means for turning the razor as the carriage approaches its outer limit in opposite directions, as set forth.

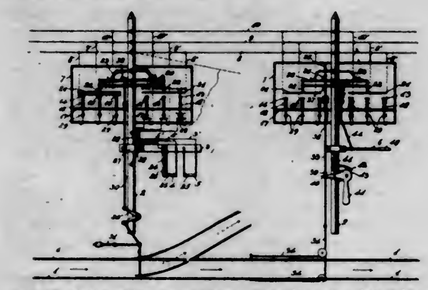
5. An apparatus for honing razors comprising a frame, a movable carriage and suitable guideways therefor, sprocket wheels mounted upon the frame, an endless chain passing about said wheels, a rotatable wheel mounted upon the carriage and having a handle fixed eccentrically thereto and connected to said chain and designed, as the chain travels about said wheels, to cause the carriage to reciprocate, razor holding means upon said carriage, a reciprocating member mounted upon the carriage and having a yoke, the arms of which frictionally engage the razor holding member, an anti-friction wheel carried by said member, an inclined way in which said anti-friction roller is adapted to travel, whereby, as the carriage is reciprocated, the razor may be given a reciprocating movement against the surface of a hone, means for turning the razor, and mechanism for regulating the pressure at which the razor is adapted to bear against the surface of a hone, as set forth.

6. An apparatus for honing razors comprising, in combination with a frame, a carriage adapted to reciprocate in suitable guideways, means for moving the carriage, a sectional shell holder mounted upon the carriage, a two-part reciprocating razor carrying shell mounted within the hinged shell, a longitudinally movable rod mounted upon the carriage and having a laterally projecting yoke adapted to frictionally engage the razor carrying shell, a diverging flanged way, means connected to said rod and traveling in said way as the carriage is moved backward and forward, thereby giving a reciprocating movement to the razor, and means for turning the razor as the carriage

approaches its outer limit in opposite directions, as set forth.

7. In combination in a razor honing apparatus, a frame, a movable carriage, and means for operating the same, a sectional razor holding shell, fingers projecting from one of the sections of said shell and between which the handle of the razor is held, a cushion upon the other section adapted to bear against and hold the razor between said fingers, and a hinged shell in which said razor holding shell is mounted and adapted to have a reciprocating movement as the carriage is moved backward and forward, as set forth.

865,848. AUTOMATIC SIGNALING APPARATUS. JAMES S. ANDERSON, Ames, Nebr. Filed May 20, 1907. Serial No. 374,618.



1. In a signaling apparatus, a series of poles adjacent to a railroad track, each provided with signal closing mechanism, said mechanism comprising two sets of buttons, a lever, each end of which is provided with a plate adapted to be moved into engagement with one of said sets, wires on the supports electrically connected with said buttons, contact members electrically connected with one of said sets, and means for closing a circuit through said wires when a locomotive provided with a signaling apparatus is in engagement with said contact members.

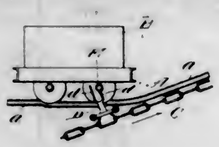
2. In a signaling apparatus, a series of poles adjacent to a railroad track, each provided with a box, two sets of spring-pressed buttons in said box, a spring-pressed lever, each end of which is provided with a plate adapted to be moved into simultaneous contact with the buttons of one set, wires on said poles, in electrical connection with said buttons, an arm on each pole provided with means for causing said lever to be actuated and a circuit completed through said wires when a locomotive provided with a signaling apparatus is in engagement therewith.

3. In a signaling apparatus, a series of poles adjacent to a railroad track, a box and an arm on each pole, the arms on part of said poles being pivotally mounted, and the arms on the other poles being provided with contact members, sets of buttons in each box, a lever in each box provided with means for engaging with said buttons, wires on the poles electrically connected with said buttons, and means on said arms for closing a circuit through said buttons and wire when a locomotive provided with a signaling apparatus is in engagement with either of said arms.

4. In a signaling apparatus, a series of poles adjacent to a railroad track, a box and an arm on each pole, the arms on part of said poles being pivotally mounted, contact points in each box, wires on the poles electrically connected with said buttons, means on said arms for establishing electrical circuits between said wires and buttons, reciprocatory members on said poles connected with said track for establishing said circuits when the track is not in its normal condition.

5. In a signaling apparatus, a series of poles along a railroad track, a box and an arm on each pole, the arms on part of said poles being pivotally mounted, a semaphore arm on one of said poles, sets of contact buttons in each box, wires on said poles in electrical connection with said buttons, a lever in each box provided with means for closing circuits through said buttons, a reciprocatory member on each of said poles, each of which is provided with means for actuating said lever when moved in one direction, and one of them provided with means for actuating the semaphore arm, said last-mentioned member being provided with means for moving the lever in the opposite direction, and means for establishing electrical circuits when a locomotive provided with a signaling apparatus is in engagement with said means.

865,849. DEVICE FOR HAULING CARS. ROBERT ARDELL, Stockholm, Sweden. Filed Mar. 28, 1907. Serial No. 365,211.



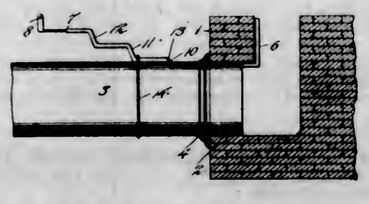
1. In a car haul, the combination with a moving cable, a fork rigidly connected to the cable, and a track, the cable and track being so arranged relatively to each other that the fork is caused to assume different positions relatively to the track at different points along the track.

2. As an article of manufacture, a cable having projecting therefrom a rigid fork the prongs of which extend laterally from the cable at separated points lengthwise of the cable.

3. As a new article of manufacture, a chain or cable having projecting therefrom a rigid fork, one of the prongs of which is longer than the other.

4. In a car-haul, the combination with an endless chain or cable, of a rigid fork projecting therefrom, a track, a car adapted to travel along said track, and a projection on the car adapted to be received between the prongs of the fork, said track and cable being arranged parallel with each other, except at the starting and stopping points for the car at which latter point the track and cable diverge.

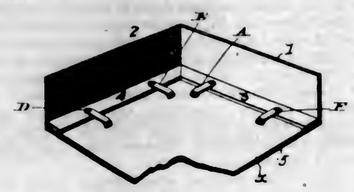
865,850. STOVEPIPE-RETAINING DEVICE. HOMER C. ARMITAGE, Kenesaw, Nebr. Filed Apr. 3, 1907. Serial No. 366,184.



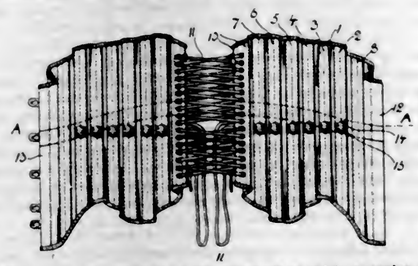
In a stove pipe holder, the combination with a stove pipe having an opening therein, of a retaining device comprising a body portion arranged within the pipe and having a hooked free end projecting beyond the inner end of the pipe, an arm arranged in a plane parallel with said body portion and disposed upon the exterior of the pipe, and a shank connecting the body portion with the arm and stepped to provide a plurality of shoulders, one extending through said opening in the pipe, and a band encircling the pipe and engaging the shank to hold the retaining device in applied position.

865,851. VEHICLE CARPET-HOLDING SPRING. DANIEL F. ARMSTRONG, Mallorytown, Ontario, Canada. Filed Nov. 30, 1906. Serial No. 345,832.

In a vehicle body and in combination with the sills thereof, of spring carpet holders secured to said sills, and having their points or portions of their bodies bent downwardly so as to impinge upon the carpet, substantially as described.



865,852. CORSET. ANTENOR ASSORATI, New York, N. Y. Filed Nov. 15, 1906. Serial No. 343,535.



1. A corset provided on its inner face with a series of rigid independent shields having their faces toward the body of the wearer rounded, the said shields being located in proximity to one another opposite the inner faces of the bones or stiffening devices.

2. A corset provided with a series of rigid concavo-convex disks secured to the inner face of the corset in proximity to one another with their concave sides toward the corset bones or stiffening devices and their convex sides toward the wearer, the said disks being located along the line where the corset stiffening devices are subjected to the greatest bending strain.

865,853. CARTRIDGE. CHARLES A. BAILEY, Cromwell, Conn. Filed Apr. 2, 1907. Serial No. 365,981.



1. In a paper-tube cartridge, the combination with the paper-tube and base-wad, of a metal cap comprising a rim and skeleton head, whereby said rim is permitted to expand with the paper-tube, substantially as described.

2. In a paper tube cartridge, the combination with the paper-tube and base-wad, of a metal cap comprising an expansible rim and skeleton head, the latter having a center piece, substantially as shown and described.

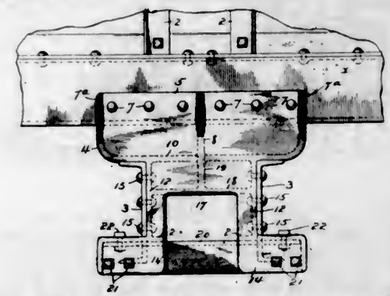
3. In a paper-tube cartridge, the combination with the paper-tube and base-wad, of a metal cap comprising a rim 5, center piece 6 and connecting pieces 7, the edges of the center piece and connecting pieces being beveled outward, substantially as shown and for the purpose set forth.

4. In a paper-tube cartridge, the combination with the paper-tube and base-wad, of a metal cap comprising an expansible rim 5, center piece 6 and connecting pieces 7, and a primer embedded in the base-wad in the rear of the center piece, substantially as shown and described.

865,854. END CONSTRUCTION FOR RAILWAY-CARS. ANTON BECKER, Columbus, Ohio, assignor to The Ralston Steel Car Company, Columbus, Ohio. Filed May 10, 1907. Serial No. 372,938.

1. An end plate or buffing block for a car, comprising a casting adapted for attachment to the end sill of the car and provided at its upper portion with forwardly projecting ribs, said casting also having rearwardly projecting flanges or ribs for attachment to the draft sills of the car.

2. An end plate or buffing block for a car, comprising a casting adapted for attachment to the end sill of a car and provided with ribs or flanges projecting rearwardly so as to be disposed under said end sill, two of said ribs or flanges affording attaching means for the plate or block to the draft sills of the car.

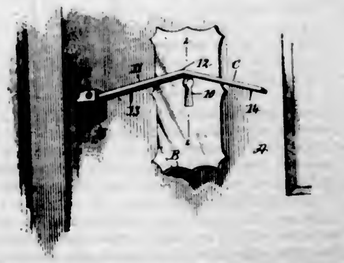


3. An end plate or buffing block for a car, comprising a casting having an opening for the accommodation of the draft devices, and provided with rearwardly projecting, horizontally disposed ribs or flanges above said opening and with vertical ribs connecting said horizontal ribs, two of said vertical ribs affording means for the attachment of the plate or block to the draft sills of the car.

4. An end plate or buffing block for a railway car, comprising a casting adaptable for attachment to the end sill of a car and having an opening for the accommodation of the draft devices said casting having horizontally disposed ribs or flanges projecting rearwardly therefrom over the base portion thereof, an angle bar behind the front face of the casting extending across the lower portion of the opening in the casting, and fastening devices securing said angle iron bar to the rear face of the casting and to said horizontally disposed flanges.

5. The combination with the end sill and draft sills of a car, the latter having recessed forward ends, of an end plate or buffing block secured to and depending from the end sill and having its intermediate portion secured to the draft sills and its base extending through the recessed portions of the draft sills, and a bar secured to said base portion and extending across the opening in the plate or block through which the draft devices pass.

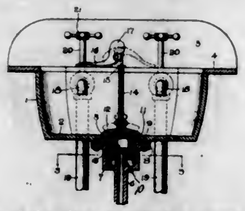
865,855. KEY GUARD AND STOP. HARRIS M. BENEDICT, Cincinnati, Ohio. Filed Jan. 30, 1906. Serial No. 298,635.



As a new article of manufacture a key guide comprising a bar having wings at an angle to each other and adapted to extend in use across an escutcheon and adjacent to a keyhole therethrough and provided at one end with a block having openings formed through it for fastening screws, said block projecting laterally in both directions beyond the side edges of the guide bar whereby the device

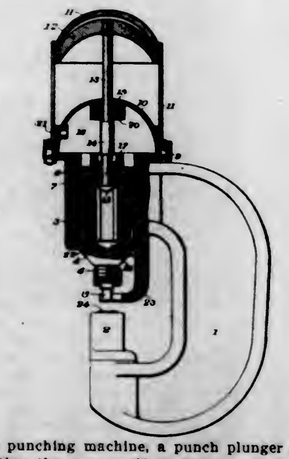
may be applied to a door and secured at either side of the escutcheon and with the guide bar above or below the keyhole and the offset portion of the foot block will permit the placing of the guide bar flat against its escutcheon with the face of the foot block flat against the door.

865,856. STATIONARY WASHSTAND. CHARLES S. BLAIN, Seattle, Wash. Filed Jan. 31, 1907. Serial No. 355,175.



In a device of the class described, a vessel or bowl having a discharge opening, a discharge pipe connected with said opening and terminating at its upper end in an enlarged portion or trap, said pipe being provided with a tubular portion or extension projected upward into the trap, a valve adapted to seat at the upper end of the latter for closing the discharge pipe, said valve having a depending tubular portion adapted to extend downward over the tubular extension, means for operating the valve, and means for supplying water to the bowl.

865,857. MACHINE FOR PUNCHING. SAMUEL C. BOND, Wilmington, Del. Filed Dec. 23, 1902. Serial No. 136,391.



1. In a punching machine, a punch plunger and means for operating the same, said means comprising provision for a maximum pressure and for automatically reducing that pressure, the maximum pressure being exerted during the performance of the work and the reduced pressure during the expulsion of the slug.

2. In a punching machine, a punch and die and means for operating the same, said means comprising provision for a maximum pressure for shearing the material and for automatically reducing such pressure and a reservoir of power for storing sufficient pressure to expel the material sheared.

3. In a punching machine, a high pressure cylinder, a low pressure reservoir, a plunger, a rod therefor adapted to reciprocate in said cylinder and reservoir, and means for exerting a low pressure at the beginning and ending of the stroke of the plunger and for exerting a maximum pressure.

4. In a punching machine, a high pressure cylinder, a low pressure reservoir in communication with said cylinder, a piston, a rod for said piston and an enlarged portion on said rod, and packing which is adapted to closely fit said enlarged portion when the same passes thereinto to prevent communication between the high pressure cylinder and low pressure reservoir; said enlarged portion passing completely through said packing thereby again establishing communication between said high pressure cylinder and low pressure reservoir.

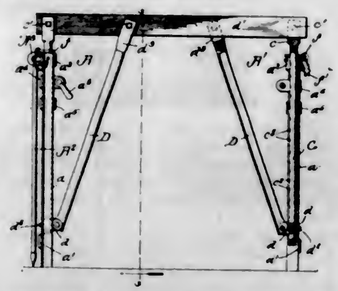
5. In a punching machine, a cylinder, a punch plunger adapted to reciprocate in said cylinder, a reservoir in communication with said cylinder means for intensifying pressure within said cylinder, a closure for said communication while intensifying the pressure in said cylinder and means of again establishing said communication during the travel of said punch plunger in same direction.

6. In a punching machine, a high pressure cylinder, a low pressure reservoir, a rod having a head which is adapted to reciprocate in said cylinder, a plunger, a gland secured thereto with which said head is adapted to engage on the return stroke, a packing between said cylinder and said reservoir, an enlarged portion of said rod adapted to form a closure with said packing between said cylinder and said reservoir, a second cylinder, a piston connected with said rod and adapted to reciprocate in said cylinder, and means for contacting the motive fluid on either side of said piston as required.

7. In a punching machine, a high pressure cylinder, a plunger adapted to reciprocate in said cylinder and means comprising a low pressure reservoir for exerting a low pressure at the beginning and ending of the stroke of the plunger and for exerting a maximum pressure.

8. In a punching machine, a punch and die and means for operating the same, said means comprising provision for a maximum pressure for shearing the material and for reducing such pressure, and a reservoir of power for storing sufficient pressure to expel the material sheared.

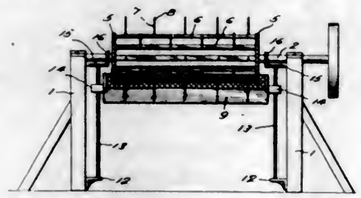
865,858. SCAFFOLD OR TRESTLE. GEORGE BONENBERGER, Evansville, Ind., assignor to Handy Scaffold Co., Evansville, Ind., a Corporation of Indiana. Filed Mar. 19, 1906. Serial No. 306,798.



1. In a scaffold or trestle, the combination of leg sections formed of angle iron and having separated lower and substantially parallel upper portions, a plurality of clamping guides, each having a split side and uniting the adjacent webs of the parallel upper sections, a clamping bolt connected to one of said clamping guides for drawing the upper portions of the leg sections together, main supports passing through said clamping guides, suitable saddles mounted upon the upper ends of said supports, the aforesaid leg sections and their respective main supports being relatively rotatable, and a platform support pivotally connected to a sleeve, said sleeve being adjustably mounted on the said main support.

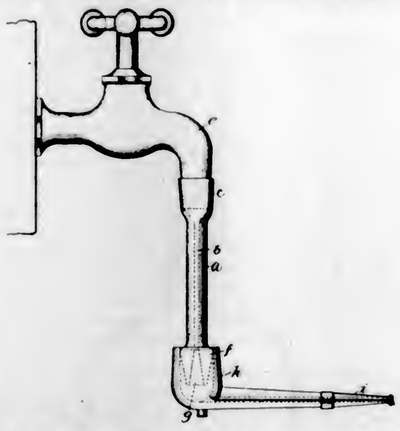
2. In a scaffold or trestle, the combination of substantially A-shaped leg sections, the top of the A being open and the sides near the top being substantially parallel, split-ring clamping members for connecting said parallel portions, main supports rotatably and adjustably mounted in said clamping-rings, means for clamping said rings about said main supports and platform supports pivotally connected to sleeves, said sleeves being adjustable on said main supports.

865,859. ORE-CONCENTRATOR. PATRICK BROPHY, South Omaha, Nebr. Filed May 23, 1907. Serial No. 375,275.



In an ore concentrator, the combination of a sludge box, an endless apron, shafts and sprocket wheels for moving said apron, bevel gears on said shafts, threaded shafts provided with intermeshing bevel gears, said shafts passing through follower blocks connected to said sludge box, said threaded shafts being adapted to automatically lower the sludge box as the concentrates accumulate.

865,860. PIPE-CLEANER. CHARLES D. BROWN, Rochester, N. Y. Filed Mar. 19, 1906. Serial No. 306,870.

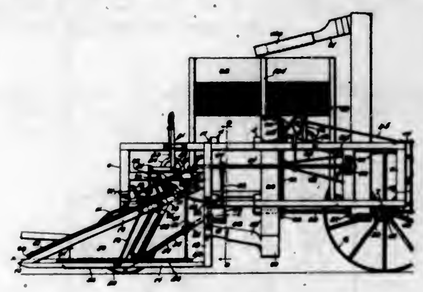


1. A pipe cleaner consisting of a rubber tube with enlarged ends, the bore of said pipe being enlarged at both ends and cylindrical at one end, and conical at the other, and one end of the tube terminating in an enlarged conical portion, substantially as described.

2. A pipe cleaner, composed of a single tubular piece of rubber having enlarged ends, one of said ends having an enlarged bore adapted to fit over a faucet, and the other of said ends being conical and adapted to fit into the bore of a pipe, said second-named end having a flattened bore adapted to receive the mouth-piece of a pipe, substantially as described.

865,861. CORN-HARVESTING MACHINE. NATHANAEL BROWN and JOHN L. BROWN, Star City, Ind. Filed Apr. 14, 1906. Serial No. 311,805.

1. A corn harvesting machine comprising a pair of upstanding snapping rolls, and stalk carrier chains one set operating above and another beneath the snapping rolls and acting to carry the stalks between and past the snapping rolls, substantially as described.



2. A corn harvesting machine comprising a pair of upstanding snapping rolls, and sets of stalk conveyer chains one running above and another beneath the snapping rolls and acting to carry the stalks between the rolls and beyond the same, the lower set of chains acting to pass the ears under the rolls for delivery.

3. A corn harvesting machine comprising parallel upstanding snapping rolls, sets of stalk conveyer chains operating one above and another beneath said rolls and acting to carry the stalks between the snapping rolls and past the same, a trough to receive the ears, and carrier chains for delivering the ears from said trough.

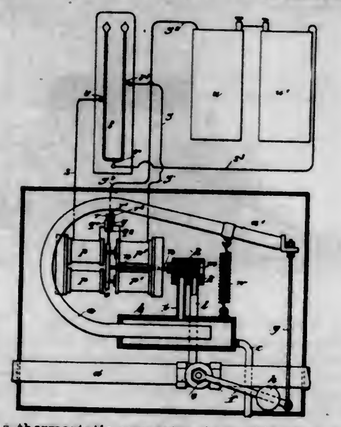
4. A corn harvesting machine comprising upstanding snapping rolls arranged side by side, a substantially horizontal pair of stalk conveyer chains working beneath the snapping rolls, parallel stalk conveying chains disposed over the snapping rolls, a trough comprising side plates extending beneath the snapping rolls to receive the ears, said trough having an extension which inclines upward and rearward in rear of the snapping rolls, carrier chains operating over the inclined section of the trough, husking rollers, an elevator interposed between said trough and the husking rollers, and a second elevator which receives the corn from the husking rollers and delivers the same to a wagon.

5. A corn harvesting machine comprising a main frame and carrying wheels therefor, a picker frame having a jointed connection therewith, means for adjusting the angle of said picker frame relatively to the main frame, upstanding snapping rolls arranged side by side and carried by the picker frame, sets of stalk conveying chains operating one above and another beneath the snapping rolls, a trough comprising side plates on the picker frame along which the ears are carried, an elevator mounted on the main frame, and an extensible trough interposed between the picker frame and said elevator.

6. A corn harvesting machine comprising a main frame, carrying wheels therefor, a picker frame having a jointed connection with the main frame, means for adjusting the angle of the picker frame relatively to the main frame, upstanding snapping rolls carried by the picker frame, sets of stalk conveyer chains running one above and another beneath the snapping rolls, a trough comprising side plates carried by the picker frame along which the ears are fed, an elevator mounted on the main frame of the machine, a longitudinally extensible trough interposed between the trough of the picker frame and the elevator of the main frame, and means for shaking said extensible trough.

7. A corn harvesting machine comprising snapping rolls arranged side by side, stalk conveyer chains one set working above and another beneath the snapping rolls and acting to carry the stalks between and past the snapping rolls, a trough comprising side plates extending under the snapping rolls and inclined upward and rearward in rear thereof, carrier chains operating over the inclined portion of the trough, and gears for driving said carrier chains and moving the same bodily toward and away from each other during their operation.

865,862. THERMOSTAT FOR CENTRALLY-HEATED PLANTS. ROBERT BRUKENHAUS, Haspe, near Hagen, Germany. Filed Jan. 22, 1904. Serial No. 190,153.



1. In a thermostatic apparatus, in combination, a steam pipe, a steam chamber having an outlet, a bent compensation pipe the one end of which enters the chamber, a valve controlling the steam pipe connected with the other end of the compensation pipe, a branch conducting steam to the chamber, a valve controlling said branch, a maximum and minimum thermometer having electric contacts, and electro-magnetic apparatus controlled by the thermometer and actuating the branch valve, substantially as described.

2. In a thermostatic apparatus, in combination, a steam pipe, a steam chamber having an outlet, a bent compensation pipe, the one end of which enters the chamber, a valve controlling the steam pipe connected with the other end of the compensation pipe, a branch conducting steam to the chamber, a valve controlling the said branch, a maximum and minimum thermometer having electric contacts, electromagnets one pole of each of which is connected respectively with the maximum and minimum thermometer-contacts, a source of electricity connected to the third thermometer-contact, an armature for the electromagnets carrying a double contact and connected with the said branch valve, and a triple contact over which the double contact slides and whose members are connected respectively with the second poles of the two electromagnets and the source of electricity, substantially as described.

865,863. TURBINE. ERICH BÜHLE, New York, N. Y., assignor to The Pelton Water Wheel Co., San Francisco, Cal., a Corporation of California. Filed Feb. 27, 1907. Serial No. 359,588.

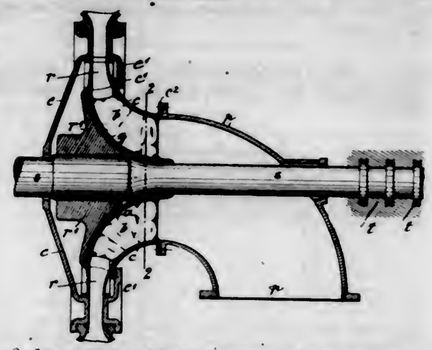
1. In a turbine, the combination of a runner, a casing inclosing the same, and a member having a wall which forms a part of the casing and a second pressure-receiving wall in proximity to the runner-bottom.

2. In a turbine, the combination of a runner, a casing inclosing the same and divided into sections, and a hollow pressure-receiving ring having the outer wall thereof interposed between said sections and the inner wall in such relation to the runner as to receive the pressure which would otherwise be exerted on the bottom of the latter.

3. In a turbine, the combination of a runner, a casing divided into sections and comprising a suction-pipe, and a hollow pressure-receiving ring having its outer wall interposed between the suction-pipe and the adjacent casing-section.

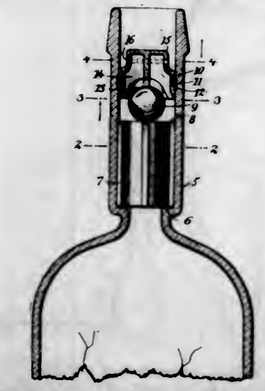
4. In a turbine of the radial inward-flow reaction type, the combination of a casing, a runner rotatable therein, a pressure-receiving member consisting of a hollow ring of conical shape having one wall in close proximity to the runner-bottom, and means for supporting said ring from the casing.

5. In a turbine of the radial inward-flow reaction type, the combination of a casing, a runner rotatable therein, and a hollow pressure-receiving ring supported directly from the casing and having radial walls connecting the inner and outer walls thereof.



6. In a turbine of the radial inward-flow reaction type, the combination of a casing divided into sections one of which consists of a suction-pipe, a runner rotatable in said casing and having a curved bottom, a shaft for said runner, a hollow pressure-receiving ring of conical shape having its outer wall interposed between the suction-pipe and the adjacent casing-section and its inner wall curved and embracing the shaft and in close proximity to the runner-bottom, and radial walls connecting the inner and outer walls of said ring.

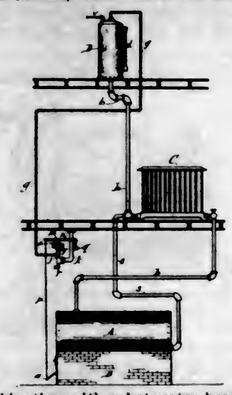
865,864. BOTTLE. EVAN H. CAMPBELL, New York, N. Y. Filed Oct. 1, 1906. Serial No. 336,920.



1. A bottle having an interior annular shoulder at the lower portion of its neck, a float in the neck adapted to rest on said shoulder, a weight above the float, a cap rigidly fixed in the neck above the weight, and having a contracted upper end with openings in the side thereof leading from the interior of the cap directly to the mouth of the bottle, and a spider in said cap dome-shaped on its under face for receiving said weight.

2. A bottle having an interior annular shoulder at the lower portion of its neck, a float in the neck adapted to rest on said shoulder, a weight above the float, a cap in the neck above the weight, a locking ring located in registering channels in the neck of the bottle and in the cap, said cap having a contracted upper end with openings in the side thereof leading from the interior of the cap directly to the mouth of the bottle, and means in the interior of said cap for limiting the movement of said weight therein.

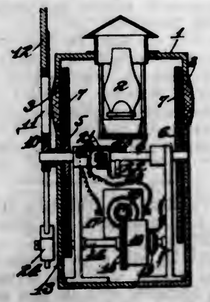
865,865. AUTOMATIC REGULATOR FOR HOT-WATER HEATING SYSTEMS. ALFRED CATCHPOLE, Geneva, N. Y. Filed Oct. 23, 1905. Serial No. 283,911.



1. The combination with a hot-water heating-system including a generator and radiating devices, of an automatic pneumatic regulator comprising an air-chamber, a vertically movable rod projecting above said chamber and actuated by air-compression, means operated by said rod for controlling the generator of the system, a water containing tank, a shell closed at the upper end and communicating with the interior of the tank at the lower end and disposed within the said tank and extending above the water line in the tank, a pipe between said air chamber and the pneumatic regulator, and a pipe between said tank and the radiating devices.

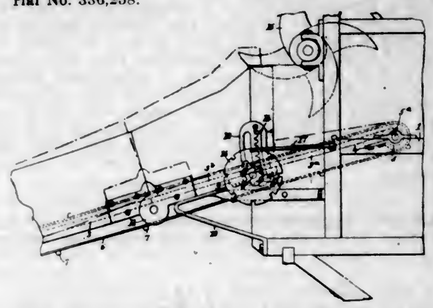
2. The combination with a hot-water heating-system, of an automatic pneumatic regulator comprising a water-tank disposed above the highest point of the system and supplied thereby, a chamber disposed within said tank and supported upon the bottom thereof and communicating with the tank thereat, said chamber having an air-compressing space, a chamber disposed adjacent to and above the generator of the system and provided with an elastic horizontal diaphragm forming an air-compartment below said diaphragm communicating with the aforesaid air-space of the water-chamber, a vertically movable piston seated upon said diaphragm and controlled by the movements of the diaphragm caused by the compression of the air and its relief from pressure, the piston-rod extending through the top of the latter chamber, a lever pivoted to the top of the said chamber and engaged by said piston-rod, and means connecting said lever to a damper or draft-door of the generator-furnace as set forth.

865,866. BLOCK-SIGNAL. PIERRE I. CHANDEYSSON, St. Louis, Mo. Filed Dec. 23, 1905. Serial No. 293,144.



A semaphore signal comprising a casing having a display opening, a lamp within said casing, a rotatable shaft, a color disk on said shaft intermediate the lamp and display opening, a semaphore arm on said shaft, mechanism for rotating said disk, a motor for actuating said disk operating mechanism, a circuit breaker on said rotatable shaft, and a magnetic clutch between said motor and said disk-operating mechanism.

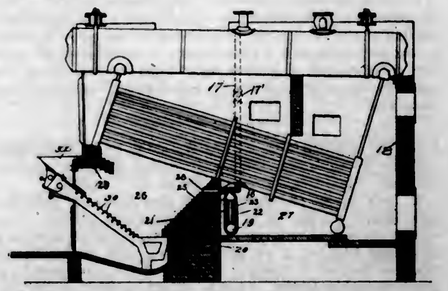
865,867. BAND-CUTTER AND FEEDER. CARL CHRISTIANSEN, Crookston, Minn. Filed Sept. 26, 1906. Serial No. 336,258.



1. In combination, a cutter, a conveyer located adjacent thereto, means for supporting said conveyer, comprising side walls, a bottom wall made up of hinged sections, a hinge pin upon which said sections are secured, a pinion on said hinge pin, a stationary rack bar in engagement therewith, and means in engagement with the pinion for preventing the rotation of said pinion, whereby upon rotating the pinion the position of the support for the conveyer may be adjusted in respect to the cutter and the parts may be locked in their adjusted position.

2. In combination, an endless carrier, a suitable support for said carrier, a cutter mounted above said carrier, and means for adjusting the position of the carrier in respect to the cutter, said adjusting means comprising a stationary plate having a curved slot therein and a curved rack bar adjacent said slot, a shaft mounted on said carrier and extending through said slot, a pinion on said shaft and in engagement with said rack bar, means for rotating said shaft, and means for locking said shaft in its adjusted position.

865,868. FURNACE AIR-FEEDING MECHANISM. WILLIAM E. COLE, Norfolk, Va. Filed July 19, 1906. Serial No. 327,109.



1. In a furnace air feeding mechanism, the combination with a furnace inclosure, of a furnace having a bridge wall at its rear end, an air supply pipe in the rear of said bridge wall, an oxygen heater connected to said pipe, a plurality of projecting pins on the inner surface of said heater, and leaving a central opening, a deflecting filler extending in said opening, an injector connected to said

heater with means for delivering the air therefrom to the products of combustion rising from the furnace fire.

2. In a furnace air feeding mechanism, the combination with a furnace inclosure, of an air supply pipe extending into the inclosure, an oxygen heater attached to said pipe, projecting pins arranged on the inner face of said heater, a filler extending centrally of said heater for preventing the passage of air longitudinally through the central opening left by the projecting pins and means for delivering air from the oxygen heater to the furnace inclosure.

3. In a furnace air feeding mechanism, the combination with a furnace inclosure, of a furnace with a bridge wall in its rear end, an air supply pipe extending into the inclosure in the rear of the bridge wall, an air heater attached to said supply pipe, projecting pins on the inner surface of said heater, leaving a longitudinal opening therein, a deflecting filler removably positioned within said longitudinal space, a removable cap for said air heater, an injector, with steam pipe connection, to draw air into the supply pipe, and through the said heater and force it through the opening in the bridge wall into said furnace.

865,869. GARMENT-SUPPORTER. KATE CONRY, New York, N. Y. Filed Dec. 17, 1906. Serial No. 348,200.



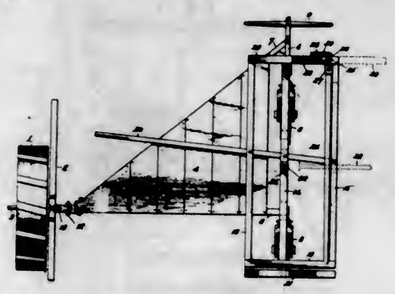
1. In a garment supporter, the combination of a pair of oppositely arranged supporting straps, a heel band connecting the lower portions of said straps and provided with a rear extension, and a front elastic transverse band opposite to said rear extension, substantially as shown and described.

2. In a garment supporter, the combination of a pair of oppositely arranged supporting straps, a heel band connecting the lower portion of said straps, and provided with a rear extension and a front elastic transverse band opposite to said rear extension, and a garter connecting the upper portions of said straps, substantially as shown and described.

865,870. SHOCKING ATTACHMENT FOR BINDERS. JOHN T. COULTER, Oxford township, Johnson county, Kans. Filed Oct. 27, 1905. Serial No. 284,615.

1. In a device of the character described, the combination with a binder, of a wheeled platform pivotally connected thereto at one side, a cradle mounted on said platform and adapted to be tilted transversely of the line of draft to drop each shock at the side of the attachment opposite from the binder, a guide rigidly secured to the bottom of the tilting cradle and projecting upward therefrom, and a pressure bar extending longitudinally of the cradle and adjustable upon the guide toward the base or bottom of the cradle.

2. In a device of the character described, the combination with a binder, of a wheeled platform pivotally connected thereto at one side, a cradle mounted on said platform and adapted to be tilted transversely of the line of draft to drop each shock at the side of the attachment opposite from the binder, and a spreader-arm adapted to be disposed longitudinally of the cradle outward of its center to divide the butt portion of the shock into two parts.



3. In a device of the character described, the combination with a binder, of a wheeled platform pivotally connected thereto at one side, a cradle mounted on said platform and adapted to be tilted transversely of the line of draft to drop each shock at the side of the attachment opposite from the binder, and a spreader-arm pivotally connected at its front end to the front portion of the cradle and adapted when occupying its operative position to extend longitudinally of the cradle outward of the longitudinal center thereof.

4. In a device of the character described, the combination with a binder of a wheeled platform pivotally connected thereto at one side, a cradle mounted on said platform and adapted to be tilted transversely of the line of draft to drop each shock at the side of the attachment opposite from the binder, a spreader-arm adapted to be disposed longitudinally of the cradle outward of its center to divide the butt portion of the shock into two parts, a guide projecting rigidly upward from the bottom of the cradle inward of the spreader-arm, and a pressure bar adjustable on said guide toward the base or bottom of the cradle and extending longitudinally of the latter.

5. In a device of the character described, the combination with a binder of a wheeled platform connected to the binder and arranged to travel at the side of the same, of a cradle mounted on said platform to tilt transversely of the line of draft, and a movable spreader arm above the cradle at the opposite side of its tilting or pivotal line from the binder; said spreader arm having a pin and slot connection with the forward portion of the cradle.

6. In a device of the character described, a platform, a tiltable cradle mounted thereon, comprising a base portion and a frame secured rigidly to and projecting upward from the front end of the base portion, a frame projecting upwardly from and rigid with the platform at the rear end of the base portion, a pressure-bar tiltable with the cradle and adjustable toward and from its base, and means for tilting the cradle.

7. In a device of the character described, a platform, a cradle comprising a base portion, a frame secured rigidly to and projecting upward from the front end of the base portion, a frame projecting upwardly from and rigid with the platform, and a spreader-bar pivotally connected to the front portion of the cradle, the function of said arm being to spread the butt ends of the bundles in the shock.

865,871. CALENDAR AND HOLDER THEREFOR. THOMAS H. COX, Newark, N. J. Filed Dec. 20, 1905. Serial No. 292,567.

1. The combination with a watch case, of a disk mounted in the cover thereof, said disk having a perforation, and a calendar connected with the disk and of a foldable nature so that any desired part will appear at the perforation.

2. An article of the class described, adapted to be attached to a watch or similar case, comprising a disk or holder having a perforation, and a plurality of disks each embodying a part of said article and connected together in a line, one being connected with the perforated disk, whereby the several parts of the article may be folded under the first-named disk and appear at the perforation therein.



3. The combination with a casing having an inwardly projecting flange, of a holder comprising a sheet with the edges inserted under said flange, a keeper for said holder, comprising a body and projections from said body adapted to engage under said flange over the holder.

4. The combination with a casing having an inwardly projecting flange, of a holder comprising a sheet with its edges inserted under said flange, and a keeper for said holder, comprising a body and projections from said body adapted to engage under said flange over the holder, said holder having a perforation and said keeper having a tongue projecting through said perforation for securing the keeper to the holder.

5. The combination with a casing having an inwardly projecting flange, of a holder comprising a sheet with its edges inserted under said flange, and a keeper for said holder, comprising a body and projections from said body adapted to engage under said flange over the holder, the main body of said keeper being located centrally with respect to the holder, the holder having a perforation, half of said perforation being on each side of said body of said keeper, and the holder also having a finger-piece located adjacent to the body.

6. The combination with a casing of a calendar adapted to be inserted therein, and comprising a disk and a plurality of disks or leaves connected therewith, the latter disks being foldable on the first disk, and graduated in size, thereby avoiding undue thickness at the edges.

7. An article of the class described, comprising a plurality of leaves having calendar parts thereon, each embodying a part of said article, and connected together so that the several leaves can be folded upon each other so as to bring the surface of any one of the leaves into an exposed position above the other leaves, and means for securing the leaves to a casing, said means comprising a holder leaf foldably connected with one of the other leaves, said holder leaf having a perforation through which the calendar parts on the other leaves may be seen, said holder leaf being capable of being folded upon either side of the leaf to which it is attached and thus being reversible.

8. An article of the class described, comprising a main disk and a plurality of disks of graduated sizes connected with the main disk, the main disk having a plurality of concentric circles near its edge, and the other disks each having a diameter which is short as compared with the innermost of said concentric circles.

9. An article of the class described, comprising a main disk and additional disks connected therewith, said main disk being of large diameter as compared with the additional disks and having a plurality of concentric circles near its edge to serve as guides for cutting said main disk to different sizes.

10. An article of the class described, comprising a main disk and a plurality of additional disks connected integrally together edge to edge, said main disk being provided with a perforation through which observations may be made and said additional disks being provided with surfaces adapted to register with said perforation, said main disk being adapted to fold in either of two directions relative to the adjacent disk and thus being reversible.

11. The combination of a plurality of disks connected together, one of said disks being provided with a perforation, the others being provided with surfaces adapted to be brought into registry with said perforation, said surfaces being upon opposite sides of the disks whereon they are located, the connection from said main disk to the adjacent additional disk being of such character that said main disk may be bent in either of two directions relatively to said adjacent additional disk.

12. The combination of a plurality of disks of different diameters each provided with a calendar surface or the like, a main disk connected with said first-mentioned disks and provided with a perforation adapted to register with said calendar surfaces, said main disk being further provided at its outer edges with concentric circles serving as indicating marks for reducing the size of said main disk to accommodate it to watches of different sizes, the other disks being of comparatively small diameter.

13. The combination of a disk provided with a perforation, another disk provided with a surface adapted to register with a perforation, and a holder provided with portions for engaging the bezel of a watch, and further provided with a comparatively narrow portion for extending directly across said perforation.

14. The combination of a member provided with a calendar surface divided into two parts separated by an interval, a disk provided with a perforation adapted to register with said calendar surface, and a member engaging said last-mentioned disk and provided with a portion disposed substantially parallel to said interval between the two said calendar surfaces.

865,872. CASING-HEAD. THADDEUS S. CRANSTON, New Comerstown, Ohio. Filed Jan. 24, 1907. Serial No. 353,900.



1. A casing head comprising a body or shell having an outlet formed in the side thereof, a conical seat formed in the upper portion of the body, a ring having a conical extension fitting said seat, and bolts axially forcing the shell and ring together.

2. A casing head comprising a body or shell adapted to be secured to the upper end of a well casing and having an outlet formed in the side thereof, said shell having an enlarged annular recess with an adjacent conical seat in its upper end, a ring having a cylindrical extension provided with a conical projection adapted to fit said recess and seat, and means for axially drawing the shell and ring together.

3. A casing head comprising a shell having a conical seat, a ring having a conical projection adapted to fit said seat, said ring also having a conical seat, a cap having a conical extension to fit the seat of the ring, and means for drawing the shell, ring and cap together.

4. A casing head comprising a shell or body having the lower end thereof internally screw-threaded, the opposite end of said shell being provided with an enlarged, annular recess with an adjacent conical seat, a ring having a cylindrical extension with a conical projection formed thereon adapted to fit said recess and seat, and means for forcing the ring and shell together in an axial direction.

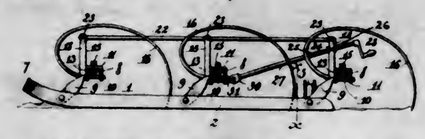
5. A casing head comprising a shell or body having an

enlarged annular recess in the upper end thereof with an adjacent conical seat, a ring having a cylindrical extension formed with a conical projecting portion adapted to fit said recess and seat, said ring being formed with a bore contracted at a point intermediate its length, and means for forcing the ring and shell together in an axial direction.

6. A casing head comprising a shell or body having a conical seat near the upper end thereof, a ring having a conical projection adapted to fit said seat, said ring also having a conical seat near its upper end, a cap having a centrally threaded opening and a conical extension surrounding said opening adapted to fit the conical seat of the ring, and means for drawing the shell, ring and cap together.

7. A casing head comprising a shell having external flanges at each end thereof, said shell being internally threaded at its lower end and formed with an enlarged annular recess and an adjacent conical seat at its upper end, a ring having a cylindrical extension with a conical projection formed thereon adapted to fit said recess and seat, said ring also having a conical seat near its upper end, a cap having a centrally threaded opening and a conical extension adapted to fit the seat in the ring, and bolts connecting the shell, ring and cap adapted to draw them together.

865,873. HARROW. EDGAR L. CUDABACK, Buffalo, N. Y., assignor to The Lane Manufacturing Company, Buffalo, N. Y., a Corporation of Arizona. Filed Sept. 27, 1905. Serial No. 280,288.



1. In a harrow, the combination of a frame, supporting-levers pivotally affixed to said frame, tooth-bars carried on said supporting-levers, clips fitting onto said tooth-bars and having openings at their ends through which the free ends of said supporting-levers pass, and means to securely clamp the tooth-bars and said supporting-levers within said clips.

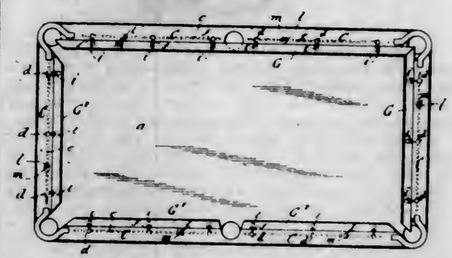
2. In a harrow, the combination of a frame, supporting-levers pivotally secured to said frame, channeled tooth-bars carried on said supporting-levers, U-shaped clips fitting onto said channeled tooth-bars and having openings at their ends through which said supporting-levers pass and apertures between their ends, nuts lying in said channeled tooth-bars between the same and said clips, and bolts passed through the apertures in said clips and through said nuts and impinging against the tooth-bars to cause the latter and the supporting-levers to be securely connected.

3. In a harrow, the combination with a frame, of a plurality of transverse tooth-bars supported for movement on said frame, harrow-teeth secured to said tooth-bars, upright arms having flat horizontal portions at their lower ends, clips fitting onto said tooth-bars and having openings through which the flat portions of said upright arms are passed, clips for securely fastening said upright arms to the tooth bars, a connection between said upright arms, and means for adjusting the teeth.

4. In a harrow, the combination with a frame, of supporting-levers pivotally secured to the frame, tooth-bars secured to the free ends of said supporting-levers, harrow teeth secured to said tooth-bars, a connection between said tooth-bars to cause them to move in unison, an adjusting screw having a swivel connection with one of said tooth-bars, and a nut supported on a second tooth-bar through which said adjusting screw is threaded.

5. In a harrow, the combination with a frame, of supporting-levers pivoted to said frame, tooth-bars secured to the free ends of said supporting-levers, U-shaped clips securing said tooth-bars to said supporting-levers an upright arm for each tooth-bar having a flat extension at its lower end, said clips having openings through which the flat portions of the upright arms are passed, a rod connecting said upright arms, a connecting-piece held in one of said clips, a clevis pivotally connected to said connecting-piece, an adjusting-screw having one end revolubly affixed to said clevis and its other end provided with a handle, and a swivel-nut secured to a second upright-arm and through which the adjusting-screw is passed.
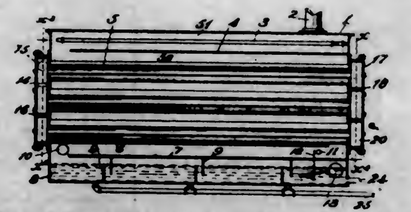
865,874. CONVERTIBLE POCKET-CAROM BILLIARD-TABLE. PATRICK M. CUNNINGHAM, New York, N. Y., assignor to The Brunswick-Balke-Collender Company, Chicago, Ill., a Corporation of Ohio. Filed Apr. 29, 1907. Serial No. 370,877.



1. In a convertible pocket-carom billiard table, of the species shown, the combination with the table bed; a stationary bed-rail; and a removable cushion-section, of a set of fastening-mechanism members immovably arranged in the said cushion-section; a set of fastening-mechanism members movably arranged in the bed-rail, to coact with the members in the cushion-section; and means for simultaneously operating all the said members of the said bed-rail; substantially as and for the purpose set forth.

2. In a convertible pocket-carom billiard table, of the species shown, the combination with the table bed; a stationary bed-rail; and a removable cushion-section, of a set of locking-mechanism members immovably arranged in the said section; a set of movable fastening device members in the bed-rail; means for moving said members simultaneously; and means for adjusting each one of said bed-rail members, separately, or independently of the others; for the purpose specified.

865,875. FEED-WATER HEATER. GARNER CURRAN, Los Angeles, Cal. Filed Apr. 20, 1906. Serial No. 312,791.

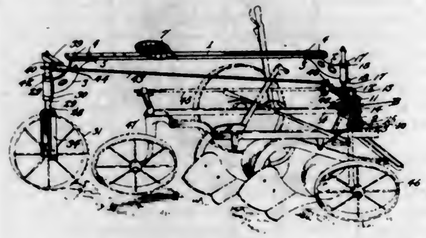


1. A feed and hot water heater comprising a casing having headers divided into compartments, a reheating coil in the upper portion of said casing and means for circulating water therethrough, baffle plates in stepped relation, a plurality of tubes arranged in series communicating with said compartments alternately, means for continuously circulating water through said tubes, means for conveying exhaust steam into said casing, spray pipes for replenishing the water supply and means for storing the products of condensation.

2. A feed and hot water heater comprising a casing having headers divided into compartments, a reheating coil

located in the upper portion of said casing and connected with a source of supply, a plurality of stepped baffle plates within said casing, a plurality of series of horizontally-arranged tubes communicating with said compartments alternately, an inlet and an outlet in one of said headers, means for continuously circulating water through said tubes, means for conveying exhaust steam to said casing, means for replenishing the water supply, and means for storing the products of condensation.

865,876. SAFETY RIDING ATTACHMENT FOR PLOWS. CARL W. ECKBERG, Mohall, N. D. Filed May 1, 1907. Serial No. 371,337.



1. A riding attachment for plows comprising a seat supporting bar, means for yieldably supporting the front end of said bar upon a plow frame, and an independent rotary supporting member for the rear end of said bar.

2. In a riding attachment for plows, a seat supporting bar having vertically disposed sleeves at the ends thereof, a spring actuated shank engaging one of said sleeves, a bifurcated shank engaging the other sleeve, and a supporting wheel journaled upon the bifurcated shank.

3. In a riding attachment for plows, a seat bar having vertically disposed sleeves at its front and rear ends, shanks journaled in said sleeves, sleeve supporting collars adjustable upon said shanks, means for yieldably supporting the shank at the front end of the seat bar and rotary supporting means for the shank at the rear end of said bar.

4. In a riding attachment for plows, a seat bar provided at the ends thereof with brackets having vertically disposed sleeves, a flexible supported shank journaled in the sleeve upon the bracket at the forward end of the seat bar, a bifurcated shank journaled in the sleeve of the bracket at the rear end of the seat bar, and a supporting wheel journaled in the bifurcated shank.

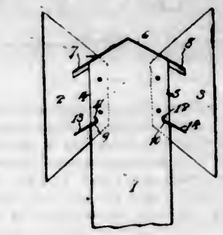
5. In a riding attachment for plows, a clamping device adapted to be mounted upon a plow frame and having horizontally disposed bracket members, a spring supported shank engaging said bracket members and adapted for rocking movement in the upper bracket member, a wheel supported shank, and a seat bar having vertically disposed terminal sleeves journaled upon the shanks.

6. In a riding attachment for plows, a clamping device including clamping members, an intermediate member and horizontally disposed brackets, the lower bracket being provided with an aperture and the upper bracket with a longitudinal slot, a spring supported shank extended through said aperture and slot, an independent wheel supported shank, and a seat bar having sleeves journaled upon the shanks.

7. In a riding attachment for plows, a seat bar having vertically disposed sleeves, a spring supported shank engaging the sleeve at the forward end of the seat bar, a wheel supported shank engaging the sleeve at the rear end of the seat bar, a crank upon the wheel supported shank, and a steering rod connected with said crank.

8. In a riding attachment for plows, a seat bar having sleeves at its front and rear ends, a spring supported shank engaging the sleeve at the forward end of the seat bar, a wheel supported shank engaging the sleeve at the rear end of the seat bar, a crank upon the wheel supported shank, a steering rod connected with said crank, and a clip or collar having swivel connection with the forward end of the steering rod and adapted to be mounted adjustably upon the steering rod of a plow structure.

865,877. VENTILATOR OR CHIMNEY-CAP. WILLIAM E. ESPERSON, New York, N. Y. Filed June 19, 1907. Serial No. 379,694.



1. A ventilator or chimney cap comprising a main vertical flue having openings in its opposite side walls, a top, two oppositely arranged supplemental open ended vertical flues extending above and below said openings in the main flue and flanges extending upwardly and inwardly into the main flue below said openings.

2. A ventilator or chimney cap comprising a main vertical flue having openings in its opposite side walls, a top and two oppositely arranged supplemental open ended vertical flues extending above and below said openings in the main flue and flanges extended downwardly and outwardly from the main flue into the supplemental flues below the said openings.

3. A ventilator or chimney cap comprising a main vertical flue having openings in its opposite side walls, a top, two oppositely arranged supplemental open ended vertical flues extending above and below said openings in the main flue and flanges on the main flue below said openings extending upwardly into the main flue and upwardly and downwardly into the supplemental flues.

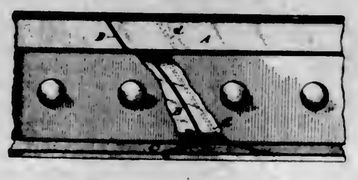
4. A ventilator or chimney cap comprising a main vertical flue having openings in its opposite side walls, a top, two oppositely arranged supplemental open ended vertical flues extending above and below said openings in the main flue, the said top having downward and outward extensions projecting into the supplemental flues above the openings in the main flue and flanges extending upwardly and inwardly into the main flue below said openings.

5. A ventilator or chimney cap comprising a main vertical flue having openings in its opposite side walls, a top, two oppositely arranged supplemental open ended vertical flues extending above and below said openings in the main flue, the said top having downward and outward extensions projecting into the supplemental flues above the openings in the main flue and flanges extending downwardly and outwardly from the main flue into the supplemental flues below said openings.

6. A ventilator or chimney cap comprising a main vertical flue having openings in its opposite side walls, a top, two oppositely arranged supplemental open ended vertical flues extending above and below said openings in the main flue, the said top having downward and outward extensions projecting into the supplemental flues above the openings in the main flue and flanges on the main flue below said openings projecting inwardly into the main flue and outwardly into the supplemental flues.

7. A ventilator or chimney cap comprising a main vertical flue having openings in its opposite side walls, a top, two oppositely arranged supplemental open ended vertical flues extending above and below said openings in the main flue and flanges on the main flue below said openings extended upwardly and inwardly into the main flue and provided with upwardly turned edges.

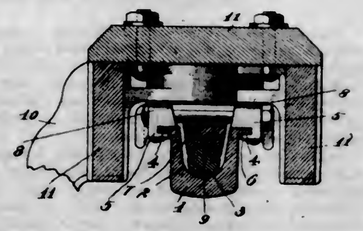
865,878. RAILWAY-RAIL. WILLIAM T. FARLEY, Newton, Mass. Original application filed July 25, 1906, Serial No. 327,696. Divided and this application filed Jan. 15, 1907. Serial No. 352,550.



1. A combination of railroad rails each one of which has both ends cut diagonally both transversely and vertically, one end of each rail being cut in a plane to match that of the other end so that one end of each rail will match one end of every other rail, and the other end of the first rail will match one end of every other rail with means for uniting the rails substantially as shown or described.

2. The combination of railroad rails in which the forward end of each rail is cut diagonally both vertically and transversely so that this end shall overlap the rear end of the forward rail which has been cut in a plane to match the end of the adjoining rail, substantially as shown or described.

865,879. ELECTRIC CONTACT-RAIL. ED W. FARNHAM, Chicago, Ill., assignor to The Farnham Company, Chicago, Ill., a Corporation of Arizona. Filed July 17, 1905. Serial No. 270,138.



1. An electric contact-rail of U-shape cross-section, the closed end of the U being the contact side of the rail, said rail having means removed from the contact face for supporting the rail with said contact face lowermost.

2. An electric contact-rail provided with a contact face on its lower side and a groove in its upper side for containing an electric wire.

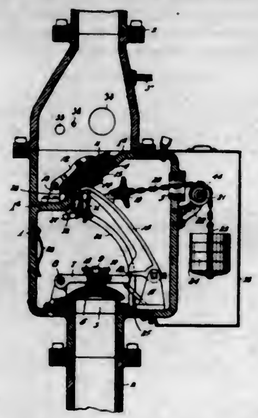
3. An electric contact-rail having a contact-face at its lower edge, a supporting flange at each side, and a wire-containing groove in its upper edge.

4. The combination, with the abutting ends of two U-shape contact rails having flanges at the ends of the arms of the U, of clamping members adapted to fit over said flanges, and means for securing said clamping members together.

5. The combination, with the abutting ends of two U-shape contact rails having outwardly extending flanges at the ends of the arms of the U, of clamping members provided with grooves adapted to receive said flanges, and a bolt for securing said clamping members together.

6. The combination, with the abutting ends of two U-shape contact rails having outwardly extending flanges at the ends of the arms of the U, of clamping members provided with grooves adapted to receive said flanges, a key adapted to lie between the arms of the U in contact with a conductor therein, and bolts bearing upon said key and securing said clamping members together.

865,880. DRY-PIPE VALVE. CHARLES B. GARRETT, Minneapolis, Minn., assignor, by direct and mesne assignments, to The Globe Automatic Sprinkler Company, Minneapolis, Minn., a Corporation of Minnesota. Filed Jan. 24, 1905. Serial No. 242,501.



1. In a dry pipe valve, a casing forming part of the conduit of a fire extinguishing system, and having three openings, three separate and independent valves adapted to open and close said three openings, means for opening one of said valves and closing another, and means for preventing the re-closing of the opened valve substantially as described.

2. In a dry pipe valve, a casing forming part of a conduit of a fire extinguishing system and having three openings, three valves separate and independent for opening and closing said three openings, two thereof being normally closed, and the third being normally open, means controlling the opening of said two normally closed valves and for closing said normally open valve, and an intercepting device for preventing the re-closing of one of the said two valves, after it has been opened, substantially as described.

3. In a dry pipe valve, a casing forming part of a conduit of a fire extinguishing system and having three openings, inlet and outlet valves normally closing two of said openings, and independent normally open vent valve coöperating with said third opening, means for closing said vent valve and for controlling the opening of said inlet and outlet valves, and intercepting devices for preventing reclosing of said inlet and outlet valves, substantially as described.

4. In a dry pipe valve, a casing forming part of a water conduit of a fire extinguishing system and having inlet and outlet openings, and inlet and outlet valves normally closing the same, and intercepting devices coöperating with said valves, to prevent reclosing thereof, substantially as described.

5. In a dry pipe valve, the combination with an inlet valve normally holding back the water supply, of an air seated outlet valve normally closing the water outlet, an oscillating tripping lever for opening said secondary valve, and for normally holding said inlet valve closed, means tending to move said lever, and an intercepting arm mounted on a fixed support, connected to said tripping lever and movable thereby into a position to prevent reclosing of said outlet valve, substantially as described.

6. In a dry pipe valve, a combination with an inlet valve normally holding back the water supply, of an air seated outlet valve normally closing the water outlet, an oscillating tripping-lever opening said secondary valve and for normally holding said inlet valve closed, means tending to move said lever, and an intercepting arm pivotally mounted on a fixed support, connected to said tripping-lever by a flexible connection one end of which is anchored, said intercepting arm coöperating with a cam abutment on said outlet valve to prevent reclosing of said valve, substantially as described.

7. In a dry pipe valve, the combination with a water inlet valve normally holding back the water supply, of an air seated water outlet valve, an air vent in the casing of said dry pipe valve, an oscillating tripping lever for opening said outlet valve, and for holding said inlet valve closed, a vent closing valve carried by said tripping lever, the movement of which said tripping lever serves to open said outlet valve and close said vent valve, and intercepting device coöperating with one of the two normally closed valves to prevent reclosing thereof, substantially as described.

8. In a dry pipe valve, the combination with a water inlet valve normally holding back the water supply, of an air seated water outlet valve, an air vent in the casing of said dry pipe valve, an oscillating tripping lever for opening said outlet valve and for holding said inlet valve closed, a vent valve carried by said tripping lever, the movement of which tripping lever serves to open said outlet valve and close said vent valve, and intercepting devices coöperating with said inlet and outlet valves, to prevent reclosing thereof, substantially as described.

9. In a dry pipe valve, the combination with an inlet valve normally holding back the water supply, of a pivoted lever to which said valve is applied, and an intercepting arm pivoted to said lever and having such length when swung downward, upon opening said valve, a predetermined amount, it will hold said valve against reclosing, substantially as described.

10. In a dry pipe valve the combination with a valve normally holding back the water supply, of a pivoted lever to which said valve is applied, means operative on said lever for holding said valve closed and for releasing the same, and a yielding latch in the path of movement of the free end of said lever, operative thereon to hold said valve in a "wide open" position, substantially as described.

11. In a dry pipe valve, a casing forming part of a conduit of a fire extinguishing system and having three openings, two valves normally closing two of said openings, a normally open vent valve for closing the third opening, a lever to which said vent valve is applied, normally operating to hold said inlet valve closed, and itself normally held against movement by said inlet valve, a sheave mounted outside of said casing, a weighted connection running over said sheave and attached to said lever, for moving the same when released, and an electric alarm device having the circuit closer directly connected to said sheave and arranged to be operated by movement of said sheave, and when said lever is released, substantially as described.

12. The combination with a casing forming part of a conduit, of an inlet valve normally holding back the water supply, a pivoted arm, to the intermediate portion of which said inlet valve is applied, and a segmental guide following the path of movement of the free end of said arm and limiting the lateral movements of said arm, substantially as described.

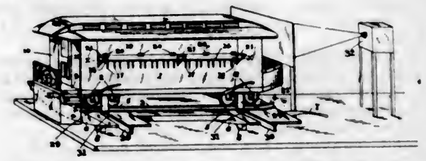
13. The combination with a casing forming part of a conduit of a fire extinguishing system, of an inlet valve normally holding back the water supply, an arm pivoted at one end within said casing, and to the intermediate portion of which said inlet valve is applied, a segmental guide following the path of movement of the free end of said arm and limiting the lateral movements thereof, a latch applied at the upper extremity of said guide, for operation on the free end of said arm, to hold said inlet valve open, and an intercepting arm pivoted to the free end of said valve-carrying arm, substantially as described.

14. The combination with a casing forming part of the conduit of a fire extinguishing system, and having inlet and outlet passages, a pivoted arm, to the intermediate portion of which said inlet valve is applied, a segmental guide for the free end of said arm, a latch in the upper portion of said guide, operative on the end of said arm to hold said inlet valve open, an intercepting device pivotally supported by said guide and operative on said outlet valve, to hold the same open, and a tripping lever, under strain to move, but normally held against movement by said outlet valve, and normally operative to hold said inlet valve closed, substantially as described.

865,881. LEATHER PRESERVING AND FINISHING COMPOUND. THOMAS P. GARRETT, Westcliffe, Colo. Filed June 15, 1907. Serial No. 379,197.

A leather preserving compound composed of boiled linseed oil, vaseline, lamp black, and an essential oil to impart an odor thereto and neutralize the odor of the linseed oil.

865,882. COMBINATION AMUSEMENT VEHICLE AND BOAT. JOHN E. GARRETTE, Indianapolis, Ind., assignor, by direct and mesne assignments, of one-third to William C. Witz and one-third to William H. Lueders, Cincinnati, Ohio. Filed Mar. 24, 1906. Serial No. 307,828.



1. A combination amusement vehicle and boat comprising a conveyance made to imitate a passenger car adapted to move and provided with suitable attachments adapted to be shifted into positions to represent a boat.

2. A combination amusement vehicle and boat comprising a conveyance made to imitate a passenger car in combination with a short track having notches upon its upper surface upon which said car is adapted to move and having upwardly curved ends or stops to limit the endwise movement of said car.

3. A combination amusement vehicle and boat comprising a conveyance made to imitate a passenger car adapted to move in combination with a track having notches upon its upper surface to engage the wheels of said car whereby the car is caused to vibrate.

4. A combination amusement vehicle and boat comprising a conveyance made to imitate a passenger car and adapted to be moved slowly forward and backward a short distance in combination with a screen adapted to have rapidly moving pictures and objects displayed thereon whereby the slow movements of the car and the rapid movement of the pictures upon the screen create the illusion that the car in which the spectators are seated is moving rapidly.

5. A combination amusement vehicle and boat comprising a conveyance made to imitate a passenger car, a track upon which said car is mounted and adapted to move, supports for said rails, catches secured to said car and stops adapted to slide in grooves in said supports to engage said catches whereby the car is held from endwise movement.

6. A combination amusement vehicle and boat comprising a conveyance made to imitate a passenger car and having a large opening in the front thereof in combination with a gate adapted to be swung out of view from the interior of said conveyance when it is used as a car and into view therefrom to form the representation of a bow of a vessel when used as a boat.

7. A combination amusement vehicle and boat comprising a conveyance made to imitate a passenger car provided with suitable attachments adapted to be shifted into positions to represent a boat in combination with a screen adapted to display moving pictures or objects thereon.

8. A combination amusement vehicle and boat comprising a conveyance made to imitate a passenger car and pro-

vided with suitable attachments adapted to be shifted into positions to represent a boat in combination with rockers upon which said conveyance is mounted and given a rocking or laterally tilting movement and a screen adapted to have moving pictures or objects displayed thereon.

9. A combination amusement vehicle and boat comprising a conveyance made to imitate a passenger car, a closet in the rear end of said car, a door in said closet adapted to be swung in front of the entrance to said car and a stairway housed in said closet and adapted to slide outwardly in front of the car entrance into the aisle of said car to imitate the stairway leading from the saloon to the upper deck of a boat.

10. A combination amusement vehicle and boat comprising a conveyance made to imitate a passenger car and provided with a door in its side, hinges upon its lower edge, means for holding said door in closed position, brackets adapted to support said door in open position, and lifeboats, life-preservers and other properties supported opposite said opening.

11. A combination amusement vehicle and boat comprising a conveyance made to imitate a passenger car, a track upon which said car is adapted to move, rockers arranged transversely under and adapted to support said track and stops adapted to limit the lateral movement of said rockers.

12. A combination amusement vehicle and boat comprising a conveyance made to imitate a passenger car, imitation windows therein, means for connecting said imitation windows together by which they are adapted to be moved in unison downwardly to expose the upper end of the imitation state-room doors and to form the lower end of said doors when changing said conveyance from an imitation car to an imitation boat.

13. A combination amusement vehicle and boat comprising a conveyance made to imitate a passenger car in combination with a fixed track having its ends curved upwardly to stop said car and curved laterally to create the impression of passing over a curve.

14. A combination amusement vehicle and boat comprising a conveyance made to imitate a passenger car, a track upon which said conveyance is mounted, rockers upon which said track is fixed and wedges each having one curved and one flat surface adapted to engage said rocker and the plane surface upon which it is mounted to hold said rocker from movement and the upper surface thereof in horizontal position.

15. A combination amusement vehicle and boat comprising a conveyance made to imitate a passenger car having an opening in its front end, a gate hinged to the front end of said conveyance and adapted to be swung in front of said opening, and an anchor and chain secured to said gate in combination with moving pictures and objects representing boats and the like.

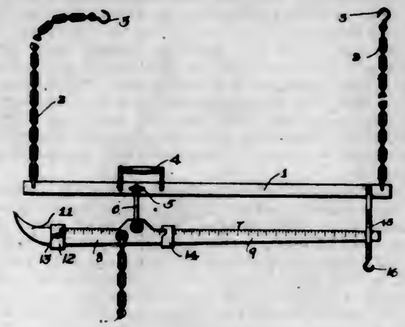
16. A combination amusement vehicle and boat comprising a conveyance made to imitate a passenger car and having an opening in its front end provided with suitable attachments adapted to be shifted into position to represent a boat, means for giving said imitation boat a rocking or laterally tilting movement and means for exposing moving pictures in front of said imitation boat for the purposes specified.

17. In a pleasure railway of the character described, a vehicle, a moving picture screen extending across the field of the vehicle and means for simultaneously imparting longitudinal and transverse vibrations to the vehicle.

18. In a pleasure railway, in combination with a moving picture screen, of a platform rockably mounted for sidewise motion, and a car body having an open end facing the screen supported on the rockable platform and having longitudinal movement thereon.

19. In theatrical apparatus, the combination with a structure having an open end, and a track, of the representation of a conveyance comprised of a movable portion and a stationary portion, wheels mounted upon the track and carrying said movable portion, and means to effect the travel of said movable portion whereby it may be moved toward or away from said stationary portion.

865,883. SCALE. ELMER GAZLEY, Canyonville, Oreg. Filed Feb. 7, 1905, Serial No. 244,614. Renewed Feb. 16, 1907. Serial No. 357,757.



1. A portable scale comprising a suspension bar having chains connected at each end thereof, each chain carrying a hook on its end adapted to catch in the links of the chains, whereby the bar may be readily adjusted horizontal and a beam pivotally connected below said bar by means of a link detachably secured to said bar, said beam having means for performing the weighing operation.

2. A portable scale comprising a suspension bar having chains connected at each end thereof, each chain carrying a hook on its end adapted to catch in the links of the chains, said bar carrying a handle, and a beam pivotally connected below said bar by means of a link detachably secured to said bar, said beam having means for performing the weighing operation.

3. A portable scale comprising a suspension bar having chains connected at each end thereof, each chain carrying a hook on its end adapted to catch in the links of the chains, said bar carrying a handle adapted to be turned down below said bar, and a beam pivotally connected below said bar by means of a link detachably secured to said bar, said beam having means for performing the weighing operation.

4. In a scale, the combination with a suspension bar having means of connection with a support, a beam pivotally connected below said bar, said beam having means to perform the weighing operation, of an eye-piece formed with its opening wide at the center and restricted at the top and bottom, said eye-piece pivoted to said bar, depending therefrom and confining the end of the beam.

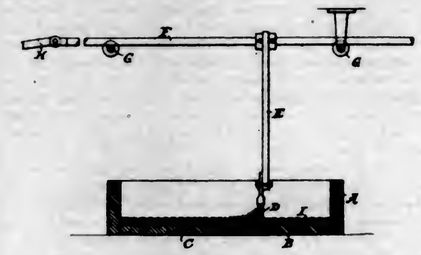
5. A portable scale comprising a beam, a suspension bar parallel to said beam and connected thereto by a link, and a handle connected to said bar above and in line with said link, said handle adapted to be turned down below said bar, said beam having means for performing the weighing operation.

6. In a scale, the combination, with a suspension bar having means of connection with a support, a beam pivotally connected below said bar, said beam having means to perform the weighing operation, of an eye-piece formed with its opening wide at the center and restricted at the top and bottom, said eye-piece pivotally hung from said bar, confining the end of the beam and carrying a poise-hook at its lower end.

865,884. PROCESS AND APPARATUS FOR ETCHING PLATES. FREDERICK J. M. GERLAND, Sea Cliff, N. Y., assignor to Charlotte A. Gerland, Sea Cliff, N. Y. Filed Jan. 4, 1907. Serial No. 350,848.

1. The hereindescribed etching process, which consists in immersing the plate in a bath of etching acid and agitating the acid by the act of the uniform movement of a brush in brushing the plate.

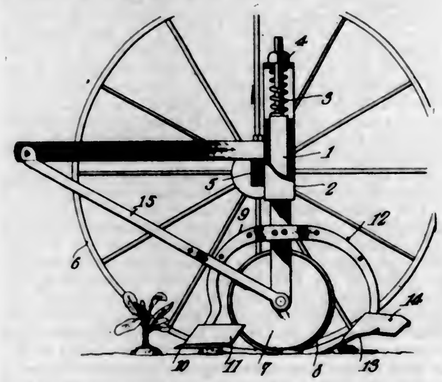
2. The hereindescribed etching process, which consists in immersing the plate in a bath of etching acid and subjecting the plate to the constant action of a brush uniformly applied and thereby agitating the acid.



3. An etching apparatus comprising a tank for the acid, a brush extending therein, a right line support for the brush and means for reciprocating it back and forth through the acid in the tank.

4. An etching apparatus comprising a tank for the acid, a vertically adjustable brush extending therein, a right line support for the brush and means for moving the brush forward and backward through the acid in the tank.

865,885. BEET-TOPPER. ABRAHAM GUDMUNSEN, Lehi, Utah, assignor of one-half to George Austin, Lehi, Utah. Filed Dec. 1, 1906. Serial No. 345,874.

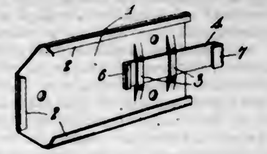


1. A beet topper comprising a wheel mounted cross-bar, a vertically disposed sleeve attached to said bar, a vertically movable standard located in said sleeve, a vertically disposed cutter journaled at the lower end of the standard, arms attached to said standard and extending one in front and the other behind the same and blades carried by said arms.

2. A beet topper comprising a wheel mounted cross-bar, a vertically disposed sleeve attached to said bar, a vertically movable spring actuated standard located in said sleeve, a vertically disposed cutter journaled at the lower end of the standard, arms attached to said standard and extending one in front and the other behind the same and blades carried by said arms.

865,886. TAG-HOLDER. JAMES J. GUINN, Quanah, Tex. Filed Apr. 1, 1907. Serial No. 365,821.

In a tag holder, a flanged base, having one end open and having loops stamped therefrom adjacent to said open end, and a reciprocatory retainer under said loops, the forward end being folded down upon itself to form a stop for engaging with one of said loops and the free end of the retainer being bent over to form a flange.

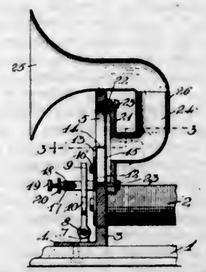


865,887. WELDING COMPOUND. ANDREW J. HANLON, Columbus, Ind., assignor of one-fourth to William W. Denison and one-fourth to Wallace B. Denison, Columbus, Ind. Filed June 28, 1907. Serial No. 381,322.

1. A welding compound consisting of borax, carbonate of soda, powdered glass, oxid of iron and rosin.

2. A welding compound consisting of the following ingredients pulverized and intimately mixed in the proportions hereabove described, borax, carbonate of soda, powdered glass, oxid of iron and rosin.

865,888. SOUND-MAGNIFIER FOR TELEGRAPH INSTRUMENTS. FREDERICK O. HANSON, Victoria, Kans., assignor of one-half to Wm. Schrenkler, Walker, Kans. Filed Feb. 21, 1907. Serial No. 358,716.



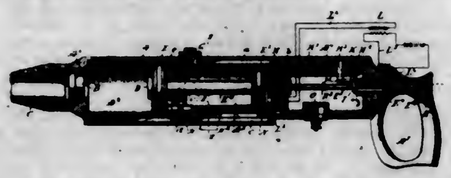
1. A sound magnifier for telegraph instruments comprising an apertured supporting plate, an armature lever pivotally-mounted thereon, an anvil plate to receive the blows of said lever, a diaphragm in one of the apertures of said supporting plate, sound conducting connections between said anvil plate and said diaphragm, and means whereby the sound vibrations of the diaphragm are conducted therefrom and discharged in any direction, substantially as described.

2. A sound magnifier for telegraph instruments comprising a supporting plate having formed in its upper portion a centrally-disposed diaphragm opening and in its lower portion openings to receive the magnet of a relay instrument, an armature lever pivotally-mounted on said supporting plate, an armature plate arranged on said lever in position to be attracted by said relay magnets, means to regulate the movement of said armature lever, an anvil plate adapted to receive the blows from said armature-lever, a diaphragm arranged in said diaphragm opening of the supporting plate, sound conducting connections between said anvil plate and diaphragm, a sound conducting tube arranged on the opposite side of said supporting plate, and a sound amplifying and conducting horn arranged on said tube to swing in any direction, substantially as described.

3. A sound magnifier for telegraph instruments comprising a supporting plate adapted to be secured to the base plate of a relay instrument, said supporting plate having formed therein a diaphragm opening and openings to receive the magnets of said relay, bearing lugs arranged on said supporting plate, an armature shaft pivotally-mounted in said lugs, an armature lever arranged on said shaft, an armature plate arranged on said lever

in position to be attracted by the magnets of said relay, a yoke secured to said supporting plate around said armature lever, a regulating screw arranged in said yoke to limit the movement of said lever, an anvil plate secured to said supporting plate, a boss or projection on said anvil plate, an upwardly-projecting V-shaped finger on said anvil plate, a diaphragm arranged in the opening of said supporting plate, a conducting wire to connect said finger with said diaphragm, a flanged plate arranged on the rear side of said supporting plate to hold said diaphragm in position, a tubular sound conducting elbow arranged on said supporting plate, and a sound conducting and amplifying horn having on its inner ends a tubular elbow adapted to be pivotally engaged with the sound conducting elbow of said plate, substantially as described.

865,889. HAMMER. ALBERT K. HARFORD, Oakland, Cal. Filed Oct. 6, 1906. Serial No. 337,681.



1. A hammer comprising a barrel open at one end for the introduction of the part to be struck, said barrel having an explosion cylinder and a hammer head cylinder, connected pistons in said cylinders, a hammer head connected with the piston in the hammer head cylinder, an explosion device for imparting movement to one of the pistons whereby to drive them in one direction, and means whereby to cause the exhaust gases to act on the other piston to drive the pistons in the opposite direction.

2. A hammer comprising a barrel open at one end for the introduction of the part to be struck, an anvil movable in the said barrel, a hammer head for striking the said anvil, and an explosion device for imparting a reciprocating motion to the said hammer head.

3. A hammer comprising a barrel open at one end for the introduction of the part to be struck, an anvil movable in the said barrel, a hammer head for striking the said anvil, and an explosion device for imparting a reciprocating motion to the said hammer head and arranged in the barrel, said hammer head being adapted to be actuated in one direction by the force of an explosion, and to be returned by the force of the exhaust gases.

4. A hammer, comprising a barrel open at one end for the passage of the part to be struck, the said barrel having a compression chamber, an explosion cylinder and a hammer head cylinder, connected pistons in the said cylinders, a hammer head carried by one of the pistons, an anvil arranged in the open end of the barrel and adapted to be struck by the said hammer head, a valve controlled by the said pistons and controlling the connection between the said compression chamber and the said explosion chamber, and an igniting device for the said explosion chamber.

5. A hammer comprising a barrel open at one end for the passage of the part to be struck, the said barrel having a compression chamber, an explosion cylinder and a hammer head cylinder, connected pistons in the said cylinders a hammer head carried by one of the pistons, an anvil arranged in the open end of the barrel and adapted to be struck by the said hammer head, a valve controlled by the said pistons and controlling the connection between the said compression chamber and the said explosion chamber, an igniting device for the said explosion chamber, and means for controlling the said igniting device from the said pistons.

6. A hammer comprising a barrel open at one end for the passage of the part to be struck, the said barrel having a compression chamber, an explosion cylinder and a hammer head cylinder, connected pistons in the said cylinders, a hammer head carried by one of the pistons, an anvil arranged in the open end of the barrel and adapted to be struck by the said hammer head, a valve controlled by the said pistons and controlling the connection between the said cylinders and between the hammer head cylinder and the atmosphere.

7. A hammer comprising a barrel open at one end for the passage of the part to be struck, the said barrel having a compression chamber, an explosion cylinder and a hammer head cylinder, connected pistons in the said cylinders, a hammer head carried by one of the pistons, an anvil arranged in the open end of the barrel and adapted to be struck by the said hammer head, a valve controlled by the said pistons and controlling the connection between the said compression chamber and the said explosion chamber, an igniting device for the said explosion chamber, and a valved connection between the forward end of the explosion cylinder and the said compression chamber.

8. A hammer comprising a barrel open at one end for the passage of the part to be struck, the said barrel having a compression chamber, an explosion cylinder and a hammer head cylinder, connected pistons in the said cylinders, a hammer head carried by one of the pistons, an anvil arranged in the open end of the barrel and adapted to be struck by the said hammer head, a valve controlling a connection between the explosion cylinder and the compression chamber, a rod moving with the said pistons and having spaced shoulders, and a lever controlled by the said shoulders and connected with the stem of the said valve to open and close the latter.

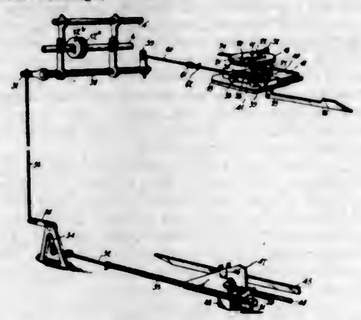
9. A hammer comprising a barrel open at one end for the passage of the part to be struck, the said barrel having a compression chamber, an explosion cylinder and a hammer head cylinder, connected pistons in the said cylinders, a hammer head carried by one of the pistons, an anvil arranged in the open end of the barral and adapted to be struck by the said hammer head, a valve controlling a connection between the explosion cylinder and the compression chamber, a rod moving with the said pistons and having spaced shoulders, and a lever controlled by the said shoulders and connected with the stem of the said valve to open and close the latter, the said lever having spring pressed side members between which passes the said rod.

10. A hammer comprising a barrel open at one end for the passage of the part to be struck, the said barrel having a compression chamber, an explosion cylinder and a hammer head cylinder, connected pistons in the said cylinders, the piston in the said hammer head cylinder being of greater area than the piston in the explosion cylinder, a hammer head carried by one of the pistons, an anvil arranged in the open end of the barrel and adapted to be struck by the said hammer head, a valve controlled by the said pistons and controlling the connection between the said compression chamber and the said explosion chamber, an igniting device for the said explosion chamber, and connected valves controlled by the said pistons and controlling the connection between the said cylinders and between the hammer head cylinder and the atmosphere.

11. A hammer comprising a barrel open at one end for the introduction of the part to be struck, said barrel having an explosion cylinder and a hammer head cylinder, said hammer head cylinder being of greater diameter than the explosion cylinder, pistons in each of said cylinders, said pistons being connected together, a hammer head connected with the piston of greater diameter, an explosion device for imparting movement to the piston in the explosion cylinder whereby to drive the pistons in one direction, and means whereby to cause the exhaust gases to act upon the piston of larger diameter to move the pistons in the opposite direction.

865,890. ATTACHMENT FOR SPINNING-MULES. ROBERT J. HARRINGTON, Dalton, Mass. Filed Mar. 25, 1907. Serial No. 364,438.

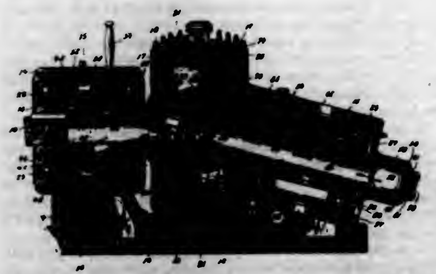
1. A yarn evener attachment for spinning mules comprising a roving gear having a stop on its lower face and a lug on its upper face, a variable stop arranged in the path of the stop on the lower face of the roving gear, means for operating said gear, an approximately L-shaped trip lever pivotally mounted adjacent to said roving gear with its short arm arranged over the upper face of the roving gear in position to be engaged by the lug on said gear, a bell crank lever fulcrumed adjacent to said roving gear and having one arm arranged to engage the long arm of said trip lever, and means for holding the other arm of said bell crank lever in position to be engaged by the mule carriage.



2. In a spinning mule, the combination with a builder shoe and a roving delivery-controlling gear having a stop, of a slide having a stop to coact with said gear-carried stop, a rock-shaft operating said stop-carrying slide, an arm upon said shaft, a bell-crank, a link connecting said arm and said bell-crank, a rod connected to the other arm of said bell-crank, collars secured to said rod, a coiled spring upon said rod between said collars, a lug secured to said builder shoe shaft and adapted to engage said rod and draw it back to operate said stop-carried slide and vary the arc of movement of said roving gear.

3. In a spinning mule, the combination of a shaft having a builder shoe secured thereto, a clamp mounted to ride on said shoe and having a builder rail connected thereto, an apertured lug secured to said shaft, a shaft mounted to slide loosely in the aperture on said lug and having a collar thereon, outside said lug, another collar secured to said shaft, a spring arranged on said shaft between said last-mentioned collar and said apertured lug, a roving delivery controlling gear having a stop pin on its lower face, a plate having an adjustable lug for engagement with said pin, and operating means between said plate and said last-mentioned shaft for moving said lug to vary the arc of movement of said gear.

865,891. ROTARY ENGINE. RALPH H. HEBERLING and WILLIAM L. HEBERLING, Havana, Ill. Filed Oct. 25, 1906. Serial No. 340,528.



1. In a rotary engine, the combination with a rotary cylinder, of a rotary disk within the same, and connected to said cylinder so as to rotate therewith, said rotary disk having extending therefrom and rigid therewith a shaft forming an axis of said disk and which shaft is inclined relative to the axis of rotation of said cylinder.

2. In a rotary engine, the combination with a rotary cylinder, of a rotary disk within the same and connected to said cylinder so as to rotate therewith, said rotary disk having extending therefrom and rigid therewith a shaft forming an axis of said disk and which shaft is inclined relative to the axis of rotation of said cylinder, said cylinder having a second shaft rigid therewith and from which power is taken.

3. In a rotary engine, the combination with a rotary cylinder, of a rotary disk within the same, said rotary disk having extending therefrom and rigid therewith a shaft forming an axis of said disk and which shaft is inclined relative to the axis of rotation of said cylinder, and division plates rotatively connecting said cylinder and disk and forming, with said disk, chambers or compartments within said cylinder.

4. In a rotary engine, the combination with a rotary cylinder, of a rotary disk within the same and having its axis of rotation inclined relative to the axis of rotation of said cylinder, and radially-disposed division plates rotatably connecting said cylinder and disk.

5. In a rotary engine, the combination with a rotary cylinder, of a rotary disk within the same and having its axis of rotation inclined relative to the axis of rotation of said cylinder, radially-disposed division-plates rotatably connecting said cylinder and disk, and packing-carrying shoes connected with said disk and disposed on opposite sides of said division plates.

6. In a rotary engine, the combination with a rotary cylinder, of a rotary disk within the same and having its axis of rotation inclined relative to the axis of rotation of said cylinder, radially-disposed division-plates rotatably connecting said cylinder and disk, packing-carrying shoes connected with said disk and disposed on opposite sides of said division plates, said shoes being outwardly tapered, and holders, secured to said disk, by which said shoes are carried.

7. In a rotary engine, the combination with a rotary cylinder and a sleeve or hollow shaft rigid therewith and which serves as an inlet passage communicating with the chamber of said cylinder, of a rotary disk within said cylinder and rotatably connected therewith, said disk being provided with a sleeve or hollow shaft which is inclined relative to the axis of rotation of said cylinder, and a stationary sleeve within the said sleeve or hollow shaft of said disk and the chamber of which stationary sleeve serves as an exhaust passage communicating with the chamber of said cylinder and with an exhaust outlet.

8. In a rotary engine, the combination with a rotary cylinder and a sleeve or hollow shaft rigid therewith and which serves as an inlet passage communicating with the chamber of said cylinder, of a rotary disk within said cylinder and rotatably connected therewith, said disk being provided with a sleeve or hollow shaft which is inclined relative to the axis of rotation of said cylinder, a stationary sleeve within the said sleeve or hollow shaft of said disk and the chamber of which stationary sleeve serves as an exhaust passage communicating with the chamber of said cylinder and with an exhaust outlet, and means for admitting air to an annular chamber formed between the sleeve of the said disk and said stationary sleeve, for the purpose of keeping the parts cool.

9. In a rotary engine, the combination with a rotary cylinder, of a disk within said cylinder and rotatively connected therewith, said disk having its axis of rotation inclined relative to the axis of rotation of said cylinder, packing segments carried by said disk, and means for forcing the said segments yieldingly outward against the interior peripheral wall of said cylinder.

10. In a rotary engine, the combination with a rotary cylinder, of a rotary disk arranged within said cylinder and rotatively connected therewith and having its axis inclined relative to the axis of rotation of said cylinder, and means for centrifugally feeding a lubricant to the periphery of said disk.

11. In a rotary engine, the combination with a rotary cylinder, of a rotary disk within the same and having

its axis of rotation inclined relative to the axis of rotation of said cylinder, said disk having a spherical hub fitting in bearings in said cylinder, of means for feeding a lubricant to the bearings of said hub and to the periphery of said disk.

12. In a rotary engine, the combination with a rotary cylinder, of a rotary disk located within said cylinder and having its axis of rotation at an angle to the axis of rotation of said cylinder, said disk having a spherical hub portion fitting in bearings in said cylinder and provided with openings or ports to form a valve, and a stationary exhaust sleeve fitting said spherical hub and having openings or ports which communicate, at times, with the openings or ports in the said hub.

13. In a rotary engine, the combination with a rotary cylinder, of a rotary disk located within said cylinder and having its axis of rotation at an angle to the axis of rotation of said cylinder, said disk having a spherical hub portion fitting in bearings in said cylinder and provided with openings or ports to form a valve, a stationary exhaust sleeve fitting said spherical hub and having openings or ports which communicate, at times, with the openings or ports in the said hub, and means for adjusting said sleeve within the said hub to effect a close running fit between the rotary and stationary faces of said parts.

14. In a rotary engine, the combination with a rotating cylinder, of a rotary disk located within said cylinder and having its axis of rotation inclined relative to the axis of rotation of said cylinder, and radially-disposed division plates dividing the chamber of said cylinder and serving to form, with said disks, two primary compression and two explosion chambers within said cylinder, the latter being provided at its interior peripheral wall with pockets to afford communication, at times, outside the periphery of said disk, between the said primary compression chambers and said explosion chambers.

15. In a rotary engine, the combination with a rotating cylinder, of a rotary disk located within said cylinder and having its axis of rotation inclined relative to the axis of rotation of said cylinder, radially-disposed division plates dividing the chamber of said cylinder and serving to form, with said disks, two primary compression and two explosion chambers, within said cylinder, and means for affording communication between said primary compression chambers and said explosion chambers at intervals after explosions have occurred and when said explosion chambers are open to the exhaust.

16. In a rotary engine, the combination with a rotating cylinder, of a rotary disk located within said cylinder and having its axis of rotation inclined relative to the axis of rotation of said cylinder, radially-disposed division plates dividing the chamber of said cylinder and serving to form, with said disks, two primary compression and two explosion chambers within said cylinder, and passageways through which communication is afforded between said explosion chambers, so that the ignition of a charge in one of said chambers will effect the ignition of a charge in the other.

17. In a rotary engine, the combination with a rotary cylinder, of a rotary disk within and rotatively connected with said cylinder and having its axis of rotation inclined relative to the axis of rotation of said cylinder, the latter being provided with a sleeve or hollow shaft having openings or ports, of a normally stationary inlet valve-ring encircling said sleeve and provided with openings or ports and with two separated stop-lugs, and a stationary stop pin or projection to engage one or the other of said stop-lugs to hold said ring stationary in one or the other of two positions, for forward or reverse running of the engine.

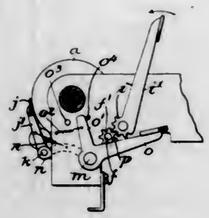
18. In a rotary engine, the combination with a rotary cylinder, of radially disposed division plates fixed to said cylinder and dividing the interior of the same into radial chambers, of a rotating disk within said cylinder and having its axis of rotation inclined relative to the axis of rotation of said cylinder, said division plates extending through said disk so as to rotatively connect the latter with said cylinder.

19. In a rotary engine, the combination with a rotary cylinder, of radially-disposed division plates fixed to said cylinder and dividing the interior of the same into radial chambers, of a rotating disk within said cylinder and having its axis of rotation inclined relative to the axis of rotation of said cylinder, said division plates extending through said disk so as to rotatively connect the latter with said cylinder, and packing-carrying shoes disposed on opposite sides of said division plates.

20. In a rotary engine, the combination with a rotary cylinder, of radially disposed division plates fixed to said cylinder and dividing the interior of the same into radial chambers, of a rotating disk within said cylinder and having its axis of rotation inclined relative to the axis of rotation of said cylinder, said division plates extending through said disk so as to rotatively connect the latter with said cylinder, packing segments in the peripheral face of said disk, means for forcing the said segments yieldingly outward against the interior wall of the said cylinder, and means for yieldingly forcing said segments endwise towards said division-plates.

21. In a rotary engine, the combination with a rotary disk provided at its periphery with grooves, of a grooved block or blocks recessed into the periphery of said disk and provided with grooves registering with the grooves in said disk, packing strips received in the said grooves of said disk and overlapping the grooves in said block or blocks, and springs received in said block or blocks for acting on said packing strips.

865,892. TYPE-WRITING MACHINE. EDWARD B. HESS, New York, N. Y., assignor to Royal Typewriter Company, Hoboken, N. J., a Corporation of New Jersey. Filed Apr. 22, 1907. Serial No. 369,491.



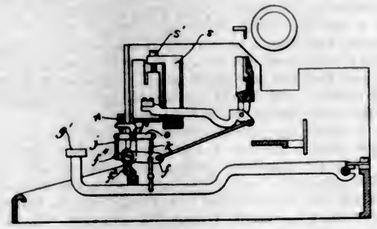
1. A rotatable platen and a scale bar normally below the line of print, means whereby it may at will be independently raised to the line of print, pressure rolls cooperating with the platen, means for moving them out of operative relation to the platen and means whereby when the pressure rolls are so moved, the scale bar is moved from normal position to the line of print.

2. A rotatable platen and a scale bar normally below the line of print, means whereby it may at will be independently raised to the line of print, pressure rolls cooperating with the platen, means for moving them out of operative relation to the platen, means whereby when the pressure rolls are so moved, the scale bar is moved from normal position to the line of print and means for locking the pressure rolls in inoperative position.

3. A rotatable platen, a scale bar normally below the line of print, spring pressed rocking arms in which the scale bar is carried, a lever acting to move the scale bar to the line of print, pressure rolls, a lever for throwing them out of engagement and an operative connection by which when the rolls are thrown out of engagement with the platen the scale bar is moved to the line of print.

4. A platen, a scale-bar normally below the line of print, pressure rolls, means for moving the scale bar to the line of print and simultaneously moving the pressure rolls away from the platen, and means for moving the scale bar to the line of print independently of movement of the pressure rolls.

865,893. WRITING-MACHINE. EDWARD B. HESS, New York, N. Y., assignor to Royal Typewriter Company, Hoboken, N. J., a Corporation of New Jersey. Filed June 29, 1907. Serial No. 381,409.



1. In a writing machine, a type bar actuating connection connected with the type bar and actuated on depression of the corresponding finger piece, having applied to it intermediate the type bar and finger piece two reaction springs one of which is normally under stress and acts to hold the parts in normal position and the other of which is placed under effective strain during the latter part only of the excursion of the type bar to the printing point.

2. In a writing machine, a type bar actuating connection connected with the type bar and actuated on depression of the corresponding finger piece, having applied to it intermediate the type bar and finger piece two reaction springs one of which is a relatively light spring normally under tension and acting to hold the parts in normal position and the other a relatively heavier spring placed effectively under tension during the latter part only of the excursion of the type bar to the printing point.

3. In a front strike writing machine, the combination with the platen, type bar segment and type bars pivoted therein and normally lying towards the front of the machine of an operating link extending forward from the type bar, a shorter link pivoted at its front end to a fixed part of the machine and hinged at its rear end to the first named link, a finger piece, operative connections between the finger piece and said short front link in rear of its fixed pivot and two reaction springs of different strength acting upon said front link the lighter one of said springs being normally under tension and acting to hold the parts in normal position and the heavier one being placed effectively under tension toward the latter part only of the excursion of the type bar to the printing point.

4. In a front strike writing machine, the combination with the platen, type bar segment and type bars pivoted therein and normally lying towards the front of the machine of an operating link extending forward from the type bar, a shorter link pivoted at its front end to a fixed part of the machine and hinged at its rear end to the first named link, a finger piece, operative connections between the finger piece and said short front link in rear of its fixed pivot and two vertically disposed reaction springs of different strength, the lighter one being connected to said front link and to a fixed part of the machine located above the link and the heavier one being connected at its lower end to said link and at the upper end having sliding connection with a fixed part of the frame and coming into effective spring operation during the latter part only of the excursion of the type bar to the printing point.

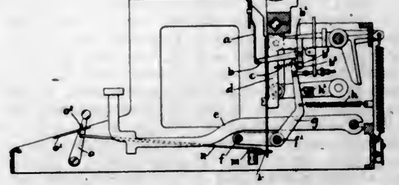
5. In a writing machine, a type bar actuating connection connected with the type bar and actuated on depression of the corresponding finger piece, having applied to it intermediate the type bar and finger piece two reaction springs one of which is normally under stress and acts to hold the parts in normal position and the other of which is placed under effective strain during the latter part only of the excursion of the type bar to the printing point, and means for individually adjusting the latter spring.

6. In a writing machine, type bar actuating connections connected with the type bars and actuated on depression of the corresponding finger pieces, each having applied to it intermediate the type bar and finger piece two reaction springs one of which is normally under stress and acts to hold the parts in normal position and the other of which is placed under effective strain during the latter part only of the excursion of the type bar to the printing point and means for simultaneously adjusting all the normally tensioned springs.

7. In a writing machine, type bar actuating connections connected with the type bars and actuated on depression of the corresponding finger pieces, each having applied to it intermediate the type bar and finger piece two reaction springs one of which is normally under stress and acts to hold the parts in normal position and the other of which is placed under effective strain during the latter part only of the excursion of the type bar to the printing point, means for simultaneously adjusting all the former springs and means for individually adjusting all the latter springs.

8. In a front strike writing machine, the combination with the platen, type bar segment and type bars pivoted therein and normally lying toward the front of the machine of an operating link extending forward from the type bar, a shorter link pivoted at its front end to a fixed part of the machine and hinged at its rear end to the first named link, a key lever under said links, a connection between the key lever and said front link and two reaction springs applied to the said front link and so arranged that the strain exerted by the key lever is transferred directly to the points of support of the springs, one of said springs being constantly under tension and the other placed under effective tension during the latter part only of the movement of the type bar.

865,894. TYPE-WRITING MACHINE. EDWARD B. HESS, New York, N. Y., assignor to Royal Typewriter Company, Hoboken, N. J., a Corporation of New Jersey. Filed July 24, 1907. Serial No. 385,277.



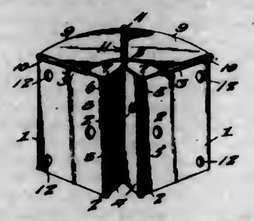
1. A visible writing machine comprising the combination of a ribbon vibrator, a spring applied thereto whose reaction tends to elevate the vibrator to bring the ribbon to printing position, means acting to normally hold the ribbon vibrator down against the tension of the spring but moved to permit elevation of the vibrator when the finger pieces of the machine are operated and adjustable stop devices to determine the extent of elevation of the vibrator by its spring.

2. A visible writing machine comprising the combination of a ribbon vibrator, a spring applied thereto whose reaction tends to elevate the vibrator to bring the ribbon to printing position, means acting to normally hold the ribbon vibrator down against the tension of the spring but moved to permit elevation of the vibrator when the finger pieces of the machine are operated and adjustable stop devices controlled by a device in the key board to determine the extent of elevation of the vibrator by its spring.

3. A visible writing machine comprising the combination of a ribbon vibrator, means for elevating it comprising a spring whose reaction tends to raise the vibrator to bring the ribbon to the printing point, a part movable with the universal bar and acting normally to overcome the tension of the vibrator spring and hold the vibrator in normal low position, means for operating the universal bar on depression of the finger pieces and to thereby move said part to permit elevation of the vibrator by its spring and adjustable stop devices under the control of the operator to determine the extent of elevation of the vibrator by its spring.

4. A visible writing machine comprising the combination of a ribbon vibrator, a spring applied thereto whose reaction normally tends to elevate the vibrator to bring the ribbon to the printing point, a movable part acting to normally overcome the tension of the spring to hold the ribbon vibrator depressed and means for actuating said part on depression of the finger pieces to permit the spring to raise the vibrator to bring the ribbon to the printing point.

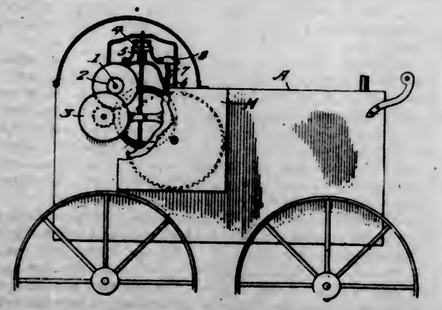
865,895. HINGE. SAMUEL R. HEWITT, Belfast, Ireland. Filed Oct. 5, 1905. Serial No. 281,554.



1. The combination with a hinge having the leaves thereof united by pivotally connected auxiliary leaves, of a brace comprising sections pivotally connected together and to the upper edges of the leaves of the hinge, said sections being adapted to occupy an approximately horizontal position when the hinge is open, the pivot of the auxiliary leaves being adapted to move in the direction of the normally stationary leaf of the hinge when the hinge is being closed, thus throwing strain upon the inner meeting edges of the sections in the direction of their pivot, which strain causes the sections to break at their pivot in an upward direction and permits the hinge to be closed.

2. The combination with a hinge having the leaves thereof united by pivotally connected auxiliary leaves, of a brace comprising curved sections pivotally connected together and to the upper edges of the leaves of the hinge at their inclined edges, said sections being adapted to occupy an approximately horizontal position when the hinge is opened, the pivot of the auxiliary leaves being adapted to move in the direction of the normally stationary leaf of the hinge when the hinge is being closed, thus throwing strain upon the meeting edges of the sections in the direction of their pivot, which strain causes the sections to break at their pivot in an upward direction and permits the hinge to be closed.

865,896. AUTOMATIC ALARM FOR ROASTERS. FRED A. HINES, Creston, Iowa. Filed Sept. 6, 1906. Serial No. 333,527.



1. A spring motor, a striker driven thereby and a sounder supported in a position where it will lie in the path of the striker arms when at rest and will be cleared by the striker arms when in motion.

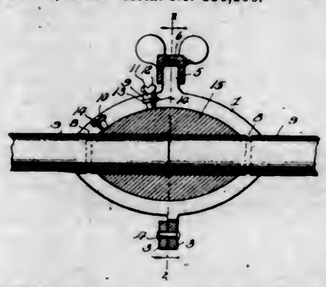
2. A spring motor, a striker driven thereby, and a sounder movably supported in a position where it will lie in the path of the striker arms when at rest and will be cleared by the striker arms when in motion.

3. A spring motor, a striker driven thereby, and a sounder resiliently supported in a position where it will lie in the path of the striker arms when at rest and will be cleared by the striker arms when in motion.

4. A spring motor, a striker driven thereby, and a sounder, and means supporting the sounder in a position where it will lie in the path of the striker when the latter is at rest and will be cleared by the striker when the latter is in motion, said means being constructed to permit the sounder to be moved to start the motor.

5. A motor for driving peanut roasters and the like, a striker driven thereby, a suitably supported bracket, an arm hingedly connected with the bracket, a bell carried by said arm and a spring connected with the bracket and actuating the bell carrying arm to support the bell in the path of the arms of the striker when at rest.

865,897. JOINT-MOLD. THOMAS HOGAN, Shreveport, La., assignor of one-half to Allen Besse, Shreveport, La. Filed Feb. 6, 1907. Serial No. 356,106.



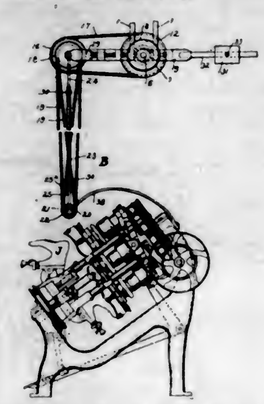
1. A mold for making wiped joints comprising two hinged sections having means for hinging and connecting the same about the pipe to be joined, said sections being provided at their ends with recesses forming passages for the pipes, the walls of the recesses having broad bearing surfaces provided with intermediately arranged flanges extending inwardly therefrom to engage the pipes and seal the ends of the same against the escape of the molten material.

2. A mold of the character described comprising two hinged sections, said sections being provided in their meeting faces with recesses forming ducts located at different points, whereby the molten metal may be introduced when the mold is in a vertical or horizontal position, the walls of the ducts being formed with grooves, means for securing the mold sections about a pipe, a stopper adapted to be fitted into either duct, said stopper being provided with a sealing flange to engage the duct groove.

3. A mold of the character described comprising a body of elliptical form, said body being longitudinally divided to form two similar sections, said sections being pivotally connected at one side with semi-circular projections forming a screw, the end walls of the mold sections being provided with segmental recesses forming pipe passages, the walls of the recesses being formed with sealing flanges, said mold sections also having their meeting faces recessed to form ducts, a stopper for closing either duct, and a nut adapted to engage the screw to hold the mold sections clamped about the pipes.

865,898. PORTABLE POWER CHANNEL-FLAP LAYER. WILLIAM H. HOOPER, Lynn, Mass., assignor to Manufacturers Machine Company, Montclair, N. J., a Corporation of New Jersey. Filed Sept. 12, 1906. Serial No. 334,247.

1. In an organized machine of the type described, a horizontal pivoted lever, a vertical carrier pivotally connected therewith having a horizontal shaft provided with handles to facilitate swinging the carrier, flap laying members mounted on said shaft, and means for rotating said members in different directions.



2. In a machine of the type described, a support, a carrier suspended therefrom, a pair of rollers arranged end to end journaled at the lower end of said carrier having ribbed peripheries together forming a continuous spiral, and means for rotating said rollers in opposite directions.

3. In a machine of the type described, a horizontal pivoted lever provided at one side of its fulcrum with a counterbalance weight and at the other side with a vertical carrier comprising a pair of arms having eyes at their opposite ends, means on the lever for loosely supporting the eyes at the upper ends of said arms, a shaft loosely mounted in the eyes at the lower ends of said arms and carrying a roller provided with channel flap laying means, and means for rotating said roller, the loose connections between said eyes and the lever supporting means at the upper ends of said arms and between the eyes at the lower ends of said arms and said shaft providing for limited universal movement for presenting said roller in variable angular positions relative to the sole of a shoe operated upon.

4. In a machine of the type described, a carrier provided with supporting means constructed and arranged for horizontal and vertical movement, a horizontal shaft mounted on said carrier having a pair of rollers of substantially frusto-conical form and provided with ribbed peripheries together constituting a continuous spiral having their tapered ends arranged inwardly, and means simultaneously to rotate said rollers in opposite directions for laying the channel flap of the sole of a shoe continuously from the beginning to end of said channel or at both sides of the shoe simultaneously, as may be desired.

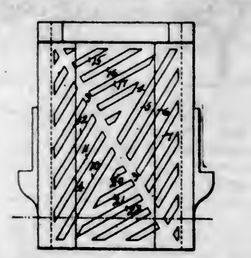
5. In a machine of the type described, a movable carrier, a pair of tapered and ribbed channel flap rollers, a shaft mounted on said carrier carrying said rollers, said rollers being adapted to be turned end for end to present their tapered ends inwardly or outwardly as may be desired, and means for rotating said rollers in opposite directions.

6. In a machine of the type described, a movable carrier, a two-part shaft having the inner ends of its parts flexibly united, a roller provided with flap laying devices mounted on each of said parts, and means for rotating said rollers in opposite directions.

865,899. JOURNAL-BEARING. FRANK H. HOWARD, Brookside, near Reading, Pa. Filed Nov. 10, 1906. Serial No. 342,766.

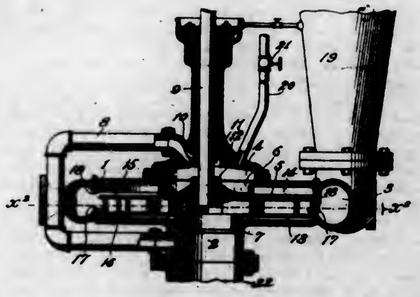
1. A one-part journal bearing of grated form having separate series of parallel bars intersecting each other obliquely, and spaces between the bars filled with a different bearing metal forming broken zig-zag lines extending across the bearing, substantially as set forth.

2. A grated journal bearing having main diagonal bars crossing each other midway of the length of the bearing to form converging V-shaped sections, and connecting bars extending parallel with one of said main bars in the side sections and obliquely across the end sections, the spaces between the bars being filled with bearing metal.



3. A grated journal bearing having main diagonal bars crossing each other midway of the length of the bearing to form converging V-shaped sections, and connecting bars extending parallel with one of said main bars in the side sections and obliquely across the end sections, said bars being tapered toward the bearing surface and the spaces between the same being filled with bearing metal.
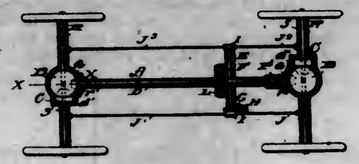
865,900. AUTOMATICALLY-BALANCED VERTICAL-SHAFT CENTRIFUGAL PUMP. ARCHIBALD W. HUNSAKER, Pomona, Cal. Filed Apr. 19, 1905. Serial No. 256,473.



1. A vertical centrifugal pump comprising an axially-movable rotary impeller, a shaft therefor, a shell having a bottom intake and peripheral outlet and provided at the top with a suction chamber of greater cross-sectional area than the intake, said chamber having an upwardly-extending offset concentric with said shaft; there being a passage connecting said offset with the intake; said impeller being furnished with a head working in said offset, a head working in the intake, and a head working in the chamber having the offset; the impeller being imperforate throughout the portion thereof within the periphery of said last-named head.

2. A vertical centrifugal pump comprising an axially-movable rotary impeller, a shaft therefor, a shell having a bottom intake and peripheral outlet and provided at the top with a suction chamber of greater cross-sectional area than the intake, said chamber having an upwardly-extending offset concentric with said shaft; there being a conduit external to the shell of the pump connecting the top of said offset with the intake; said impeller being furnished with a head working in said offset, a head working in the intake, and a head working in the chamber having the offset; the impeller being imperforate throughout the portion thereof within the periphery of said last-named head.

865,901. AUTOMOBILE. EVAN HYSLIN, Kindred, N. D., Filed Apr. 9, 1907. Serial No. 367,182.



1. In a running gear, the combination with sectional axles and their casings, of a tubular reach casing connecting said casings at the middle and joined at its ends by vertical pivots thereto, a drive shaft extending through the reach casing and geared at the ends to the axles, and steering connections between the axle casings.

2. In a running gear the combination with sectional axles and their casings, of a tubular reach casing connecting the axle casings at the middle and pivoted thereto by vertical pivots and a drive shaft extending through the reach casing and geared at its ends to the axles, substantially as set forth.

3. In a running gear, the combination with front and rear axles and their casings, of a tubular reach casing having forks at the ends embracing and pivoted to the axle casings, and a drive shaft in said reach casing and geared at the ends to the axles.

4. In a running gear the combination with front and rear axles, a middle reach extending between the front and rear axles, a cross shaft intermediate the front and rear axles, means for turning said cross shaft, pinions on the shaft and racks meshing with said pinions and connected with the axles, substantially as set forth.

5. The combination of front and rear axles, a cross shaft between the same and provided with pinions and with a worm wheel, a shaft having a worm meshing with said worm wheel whereby to turn the cross shaft, and racks meshing with the pinions of the cross shaft and connected with the axles, substantially as set forth.

6. The combination of the body, its running gear, a drive shaft in the running gear, a motor shaft carried by the body, a driving belt and sprockets connecting the motor shaft and drive shaft, and a toggle frame within the driving belt whereby to maintain its tension in all positions of the body with respect to the running gear, substantially as set forth.

7. In a running gear, the combination of front and rear axles, and their casings having housings at the middle provided with horizontal slots, a longitudinal reach casing pivotally connected at its ends to the housings, and a drive shaft in said reach casing and extending at its ends through the slots and into the housings, and geared to the axles.

8. In a running gear the combination with front and rear axles and casings therefor, of a drive shaft extending between the front and rear axles and geared therewith and a reach casing inclosing the drive shaft and forked at its ends for connection with the axle casings, substantially as set forth.

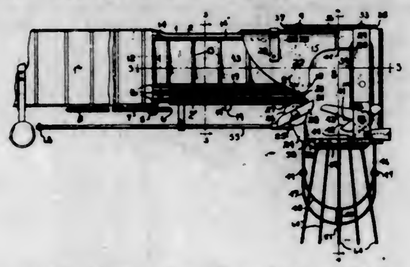
9. The combination of front and rear axles and casings, a reach at the middle pivotally connected at its ends to said casings, a cross shaft and means to turn the same, and connections between said cross shaft and the axles, to turn the same oppositely.

10. The combination of front and rear axles and casings, a reach at the middle pivotally connected at its ends to the casings, a cross shaft having means to rotate the same, and pinions at its ends, and rack bars engaging opposite sides of the pinions and connected to the axle casings respectively.

11. The combination of an axle, and a longitudinal drive shaft geared thereto, of a motor shaft, belt and sprocket gearing between the shafts, opposite idlers between the sprockets, and a quadrilateral frame pivotally connecting to the shafts and axles of the idlers, and supporting the latter in tension against the belt irrespective of variation in distance between the shafts.

12. The combination with a spring supported vehicle body and its running gear, of a drive shaft extending lengthwise in the running gear, a motor shaft on the body, a driving belt and sprockets connecting the shafts and means to maintain the tension of the belt in all positions of the body with respect to the running gear.

865,902. SHOCKING ATTACHMENT FOR BINDERS. JOSHUA A. ISAMAN and WILLIAM H. MITCHELL, Aurora, Nebr. Filed May 24, 1906. Serial No. 318,543.



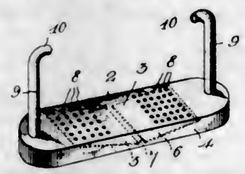
1. In a shocking device, the combination with a receiver in two portions at right angles to each other, a conveyer arranged in one of said receiving portions, means for arranging the bundles in vertical position while on said conveyer, a shock former associated with said receiver, said former comprising a yoke-shaped frame connected near its forward end to the discharge end of said receiver, a curved shocking plate slidably mounted in said frame, a spring to normally force said plate from the end of said receiver in opposition to the pressure of the bundles carried into said former, a packing mechanism in said receiver operating to force the bundles through said former, and a bundle supporting rack arranged beneath said former.

2. In a shocking device, the combination with a receiver, consisting of two communicating portions at right angles to each other, of a conveyer arranged in one of said receiver portions, means for arranging said bundles vertically while upon said conveyer, a shock former associated with said receiver, said former comprising a yoke-shaped frame connected near its forward end to the discharge end of said receiver, a curved shocking plate slidably mounted in said frame, a spring operating to normally force the plate toward the discharge end of said receiver in opposition to the pressure of the bundles carried in said former, a packing mechanism in said receiver operating to force the bundles into said former, a bundle supporting rack arranged beneath said former, said rack comprising a series of radial projecting bars, a crank shaft journaled beneath said receiver, and means for connecting said supporting bars to said crank shaft, and means actuated by said crank shaft to elevate said former simultaneously with the lowering of said supporting bar and thereby discharging a shock of bundles.

3. In a shocking device, the combination with a receiver consisting of two communicating portions at right angles to each other, of a conveyer arranged in said receiver, a mechanism for arranging the bundles in vertical position while in the receiver, a shock former associated with said receiver, a packing mechanism operating in said receiver, said mechanism comprising a pair of vertically disposed crank shafts, a feed plate loosely mounted on said shaft, compressing blades arranged on said plate, means for operating said shafts to cause the alternating projection and retracting of said plate and its blades within said receiver, beater arms adapted to coact with said packing mechanism, stop arms arranged adjacent to the discharge end of said receiver to maintain the bundles in said former, beater wheels mounted on said crank shafts to co-act with said packing mechanism and force the bundles in said former, a rack arranged below the former, and means whereby said former and said rack are simultaneously actuated to discharge the shock of bundles.

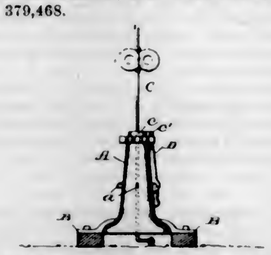
4. In a shocking device, the combination with a receiver, of a conveyer arranged in said receiver, a series of chains arranged in progressively inclined positions within said receiver and co-acting with said conveyer, a bundle former associated with said receiver, a packing mechanism arranged in said receiver to force the bundles into said former, means whereby said packing mechanism is actuated by the conveyer operating mechanism, a shaft arranged to operate said former, a crank arm on said shaft connected with said former whereby the latter is elevated, a bundle support arranged below said former, said support comprising a bearing plate loosely mounted on said cranked operating shaft, a plurality of radially projecting bars secured to said plate and extending beneath said former, and means connected to said shaft whereby the same is operated by the driver of the binder to simultaneously actuate said former and bundle support to discharge the shock of bundles.

865,903. WASHBOILER. LAWRENCE JAMES, Shenandoah, Iowa. Filed Jan. 8, 1906. Serial No. 295,097.



A device for a wash boiler comprising a partition provided with a surrounding depending supporting flange, inwardly and downwardly inclined plates extending continuously and transversely across the under face of the partition and secured thereto and to the under sides of said flange, said inclined plates being continuously flat from their points of connection and spaced apart at their terminals, said partition having above each of the plates transverse rows of perforations extending over a portion of the plates, and pipes extending upwardly from the opposite ends of the partition and having their upper ends inwardly curved to provide reduced terminal discharge openings, substantially as specified.

865,904. SAFETY-LOCK FOR SWITCH-STANDS. RICHARD F. JACOB, Bessemer, Ala. Filed June 17, 1907. Serial No. 379,468.



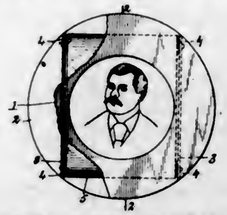
1. In a safety lock for switch stands, the combination with the body of a stand having different means for the main line and side track positions with which the bolt of a lock may engage, a part attached to said stand and carrying a lock adapted to be operated by a key and having a bolt adapted to engage any one of said means, and means rigidly attached to said bolt and adapted to prevent the entrance or withdrawal of said key except when the switch is locked in the main line position, substantially as described.

2. In a safety lock for a switch stand, the combination with the body of a stand provided with a plurality of lugs provided with lock engaging means and permanently attached to said stand, one for the main line and for each of the side track switches to be operated at said stand, and said lock engaging means of said side track lugs being different from that of the main line lug, a lever permanently attached to said stand, a key operated lock permanently attached to said lever and having a bolt to engage the said means on the said lugs, and means rigidly attached to said bolt whereby said key cannot enter said lock or be withdrawn therefrom except when the switch is locked in the main line position, substantially as described.

3. In a safety lock for a switch stand, the combination with the body of a stand provided with lugs having notches permanently attached to said stand, one lug for each side track and one for the main line position, the notch on the lug for the main line position being deeper than that on the lugs controlling the side track position, a pivoted lever provided with a key operated lock having a bolt engaging said notches, and an extension rigidly attached to said bolt and provided with means whereby the said key cannot enter said lock or be withdrawn therefrom except when the switch is locked in the main line position, substantially as described.

4. In a safety lock for a switch stand, the combination with the body A of the stand, the lugs a rigid therewith, and provided with bolt engaging notches a' of different depths and adapted to control the main line and side track positions of the switch, the notch on the lug for the main line position being the deepest, a lever pivoted to said stand A and provided with a recess, a lock E secured in said recess on the side of said lever that contacts with or lies near said stand A, said lock provided with a key and a bolt E' adapted to engage said notches, an extension E^2 rigid with said bolt and having a recess E^3 provided with edges e^3 e^4, and a spring for pressing said bolt outward, whereby said edges e^3 or e^4 will prevent the insertion of a key into or its withdrawal from said lock at all times except when the switch is locked in the main line position, substantially as described.

865,905. CAMPAIGN-BADGE. AXEL JACOBSEN, Hastings, Nebr. Filed Sept. 25, 1906. Serial No. 336,203.



1. A device of the character described, comprising a face plate having an aperture therein, a rear plate supported substantially parallel thereto and having a longitudinal slot therein, spacing means between said plates, two rollers journaled between said plates and upon opposite sides of said aperture, an endless sheet or film carried by said rollers and adapted to pass in front of the aperture, and means carried by said sheet and extending through said slot in the rear plate for moving said sheet.

2. A device of the character described, comprising a face plate having an aperture therein, a rear plate supported substantially parallel thereto and having a longitudinal slot therein, spacing means between said plates, two rollers journaled between said plates and upon opposite sides of said aperture, an endless sheet or film carried by said rollers and adapted to pass in front of the aperture, means carried by said sheet and extending through said slot in the rear plate for moving said sheet, and means carried by said rear plate for securing the device to a garment.

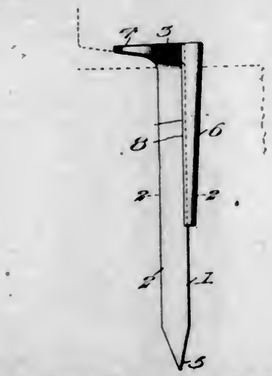
3. In a device of the character described, a face plate having an aperture therein, a rear plate of substantially the same shape and supported substantially parallel thereto, spacing means between said plates, two rollers jour-

nailed within said spacing means and on opposite sides of the aperture, an endless sheet or film carried by said rollers and adapted to pass in front of the aperture, and a knob carried by said sheet for moving the latter.

4. In a device of the character described, a face plate having an aperture therein, a rear plate substantially parallel thereto and having a longitudinal slot therein, means carried by said rear plate for securing the device to a garment, two rollers journaled between said plates and upon opposite sides of the aperture, an endless sheet or film mounted on said rollers and adapted to pass in front of the aperture, and a knob or projection secured to said sheet or film and extending through the slot in the rear plate, whereby the sheet or film may be moved to bring different pictures or the like, in front of the aperture.

5. In a device of the class described, a face plate having an aperture therein, a rear plate having a longitudinal slot therein, two partitions substantially parallel to said slot and secured to the face and rear plates to hold the latter in spaced relationship, two substantially parallel rollers journaled in said partitions and at opposite ends of said slot, an endless sheet or film carried by said rollers and adapted to pass in front of the aperture of the face plate, a knob or projection carried by said sheet or film and extending outward through the slot in the rear plate whereby the sheet or film may be moved on the rollers, and means carried by said rear plate for securing the device to a garment.

865,906. SPIKE-HOLDER. WILLIAM D. F. JARVIS, Belington, W. Va., assignor of one-half to Jules A. Viqusney, Belington, W. Va. Filed Jan. 13, 1906. Serial No. 295,949.

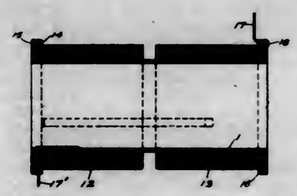


1. The combination with a spike, of a wedge strip therefor comprising a wedge-shaped plate formed with a plane face to engage the plane face of the spike, the strip being formed at the edges of the plane face with longitudinally arranged ribs spaced apart a distance in excess of the width of the spike, the opposing face of the plate being concaved.

2. The combination with a spike, of a wedge strip therefor comprising a wedge-shaped plate formed with a plane face to engage a plane face of the spike, the strip being formed at the edges of the plane face with longitudinally arranged ribs spaced apart a distance in excess of the width of the spike, the opposing face of the plate being concaved, the concaved face being of greater width than the plane face.

865,907. COIL FOR ELECTRICAL PURPOSES. ELBERT W. JODREY, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Oct. 26, 1905. Serial No. 284,555.

1. In combination, a support, and a plurality of independent series connected cops with self-sustaining ends thereon, adjacent ends of the coils being separated by a space.



2. In combination, a support provided with a flap adapted to be bent down upon the body of the support, said flap being formed with an opening, a pair of cops or coils with self-sustaining ends wound about said support with adjacent ends of said coils out of contact with each other, one terminal of each coil being secured to the support beneath the flap, one of said terminals passing out from beneath the free end of said flap, and the other passing through said opening in the flap.

3. In combination, a tubular support formed of insulating material, a pair of coils wound upon said support with their adjacent ends separated by a space, and a conductor connecting terminals of said coils, said conductor being embedded in said support.

4. In combination, a support provided with a flap having an opening formed in it, terminal conductors secured to said support in position to be covered by said flap, a pair of coils wound upon said support with one terminal of one coil secured to one of said conductors, and one terminal of the other coil secured to the other of said conductors, one of said terminals passing out from under the free end of said flap and the other passing through the opening formed for the purpose in the flap.

5. In combination, a coil support provided with a flap having an aperture formed in it, a pair of conductors wound about said support so that each forms a coil or cop with self-sustaining end, the adjacent ends of said coils being out of contact with each other, an elongated terminal conductor secured to said support beneath said flap and extending from a point within one coil to a point at or adjacent the remote end of the other coil, a second terminal secured to said support beneath said flap and within said other coil, the conductor forming said one coil passing under the end of said flap and being secured to said elongated terminal, the one end of the conductor forming said other coil passing through said aperture in said flap and being secured to said second terminal.

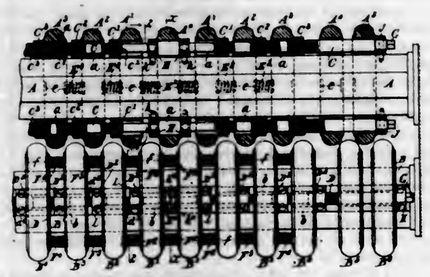
6. In combination, a support, a plurality of cops having self-sustaining ends mounted upon said support and separated from each other, and means for connecting said cops together electrically.

7. In combination, a support, a plurality of independent separated coils mounted on said support, each consisting of a number of layers mounted directly one upon the other so as to form self-sustaining ends for the coils, and electrical connections between said coils.

865,908. MACHINE FOR CORRUGATING SHEET METAL. GODFREY B. JOHNSON, London, England. Filed Dec. 18, 1906. Serial No. 348,374.

1. In a machine for corrugating sheet metal, pairs of rolls each consisting of an arbor and a number of roll sections mounted upon the arbor and normally held apart by spring pressure, means for determining the normal distance apart of said sections in a roll, the said means comprising stops slidable upon the arbor and having threaded apertures, and leading screws journaled in bearings carried by the arbor, successive portions of the length of each leading screw having threads of progressively varying pitch which engage in the threaded apertures in the respective stops, so that by the rotation of the screw the positions of all the stops wherewith it engages may be simultaneously adjusted, substantially as described.

2. In a machine for corrugating sheet metal, the combination with pairs of rolls, each comprising an arbor, a number of roll sections mounted upon said arbor, and springs for normally holding the sections apart, of stops slidable upon the arbor and having threaded apertures, and leading screws journaled in bearings carried by the arbor, each leading screw having successive portions of its length provided with threads of progressively varying pitch which engage in the threaded apertures in the respective stops, the said successive portions of each leading screw progressively diminishing in diameter from either end of the roll, substantially as and for the purpose set forth.



3. In a machine for corrugating sheet metal, the combination with pairs of rolls each comprising an arbor, a number of roll sections mounted upon said arbor, and springs for normally holding the sections apart, of stops slidable upon each arbor and having threaded apertures, and independent sets of leading screws for each roll, the leading screws being journaled in bearings carried by the arbor, the sets of leading screws extending in opposite directions from a point in the length of the roll, and having threads of progressively varying pitch which engage in the threaded apertures in the respective stops, whereby the stops with which the said sets of screws respectively engage may be adjusted independently and in opposite directions, substantially as described.

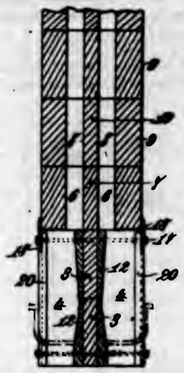
4. In a machine for corrugating sheet metal, pairs of rolls each consisting of an arbor, a plurality of roll sections mounted thereon, yielding means for holding the sections apart, stops for the roll sections slidable lengthwise of the roll arbor, and means for adjusting said stops.

5. In a machine for corrugating sheet metal, pairs of rolls each consisting of an arbor, a plurality of roll sections mounted thereon, yielding means for holding the sections apart, stops for the roll sections slidable lengthwise of the roll arbor and having threaded apertures, and leading screws carried by the arbor, successive portions of the length of each leading screw being provided with threads of progressively varying pitch which engage in the threaded apertures of the respective stops.

6. In a machine for corrugating sheet metal, pairs of rolls each consisting of an arbor, a plurality of roll sections mounted thereon, yielding means for holding the sections apart, stops for the roll sections slidable lengthwise of the roll arbor and having threaded apertures, and leading screws carried by the arbor and having threaded portions of progressively increased diameter adapted to engage the threaded apertures of the respective stops.

7. In a machine for corrugating sheet metal, pairs of rolls each consisting of an arbor, a plurality of roll sections mounted thereon, yielding means for holding the sections apart, sets of stops for the roll sections slidable lengthwise of the roll arbor and having threaded apertures, and sets of leading screws carried by the arbor and extending from opposite ends toward the middle of the length of the roll, the sets of leading screws engaging the respective sets of stops and adapted when rotated to move said sets of stops.

865,909. FIREPLACE AND CHIMNEY. URIAS Z. KENNEY, Malden, W. Va. Filed Aug. 2, 1905. Serial No. 272,383.

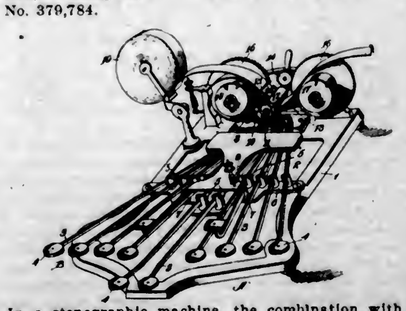


1. In a chimney and fire place organization, the combination of fire place sections having coinciding recesses opening outwardly therefrom, a fire place lining consisting of a back and sides jointed at the rear, a facing having inner angular terminals embracing the outer edge portions of the sides, and flue blocks superimposed over the fire places.

2. In a chimney and fire place organization, the combination of fire place sections having coinciding recesses opening outwardly therefrom, a lining for the fire place consisting of a vertically disposed back and sides jointed at their ends, a facing secured over the fire place having inner angular terminals embracing the outer edges of the sides and holding the latter in upright position, the back being inclined upwardly and rearwardly to an intermediate point and then upwardly and outwardly to the top of the fire place and having its rear side vertically straight, and flue blocks arranged over and communicating with the fire place.

3. In a chimney and fire place organization, the combination of fire place sections having coinciding recesses and rods extending therethrough and provided with projecting terminals, a facing fitted over and secured on the terminals of the rods and having angular terminals, a lining including sides embraced by said terminals, and flue blocks disposed on the fire place sections and communicating with the latter.

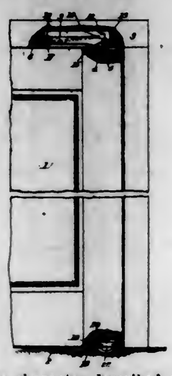
865,910. STENOGRAPHIC MACHINE. WILLIAM J. KEHOE, Washington, D. C. Filed June 19, 1907. Serial No. 379,784.



In a stenographic machine, the combination with the marking keys, the spacing device, carrying a spring and pawl, a ratchet-wheel engaging with said pawl, the adjacent teeth of said ratchet-wheel being set apart at a greater angular distance, than the distance of the adjacent marking characters, whereby a single pawl and

ratchet-wheel turns the impression or feed roller, the paper tape with it, the distance equal to one tooth of said ratchet-wheel, after depressing any of said marking keys, substantially as shown and described.

865,911. DOOR-HINGE. CALVIN KEITH and GEORGE F. LISTER, Mansfield, Ohio. Filed Jan. 19, 1907. Serial No. 353,131.



1. A hinge of the character described comprising means to pivot the lower end of a door, and means to pivot the upper end of said door consisting of a stud adapted to be fastened to the door, and a plate, having a slot therein to receive said stud, adapted to be secured to the door frame, said plate carrying a spring pressed tongue extending into said slot with its end forming with the end of said slot a socket for said stud.

2. A hinge of the character described comprising means to pivot the lower end of a door, and means to pivot the upper end of said door consisting of a stud adapted to be fastened to the door, and a plate, having a round ended slot therein to receive said stud, adapted to be secured to the door frame, said plate carrying a spring pressed tongue extending into said slot with its end grooved and forming with the rounded end of said slot a socket for said stud.

3. A hinge of the character described comprising means to pivot the lower end of a door, and means to pivot the upper end of said door consisting of a stud adapted to be fastened to the door, a plate, having a slot therein to receive said stud, adapted to be secured to the door frame, said plate carrying a spring pressed tongue extending into said slot and adapted to retain said stud in said groove, and means to limit the movement of said tongue.

4. A hinge of the character described comprising means to pivot the lower end of a door, and means to pivot the upper end of said door consisting of a stud adapted to be fastened to the door, a plate, having a slot therein, to receive said stud, adapted to be secured to the door frame, said plate carrying a spring pressed tongue extending into said slot and adapted to retain said stud in said groove, and means to limit the movement of said tongue, comprising stops arranged above the surface of said plate and a cross pin passed through said tongue and adapted to contact with said stops and with the surface of said plate.

5. A hinge of the character described comprising means to pivot the lower end of a door, and means to pivot the upper end of said door consisting of a stud adapted to be fastened to the door, and a plate, having a slot therein to receive said stud, adapted to be secured to the door frame, said plate carrying a spring pressed tongue extending into said slot with its end forming with the end of said slot a socket for said stud, said plate also having a flange around the end of said slot, stops on said flange and a cross pin passed through said tongue and adapted to contact with said stops and with the surface of said plate.

6. A hinge of the character described comprising means to pivot the lower end of a door, and means to pivot the upper end of said door consisting of a stud adapted to be fastened to the door, and a plate, having a slot therein to receive said stud, adapted to be secured to the door frame, said plate carrying a spring pressed tongue extending into said slot with its end forming with the end of said slot a socket for said stud, said plate also having a flange around the end of said slot, stops on said flange and a cross pin passed through said tongue and adapted to contact with said stops and with the surface of said plate.

7. A hinge of the character described comprising means to pivot the upper end of a door, and means to pivot the lower end of said door consisting of a floor plate having a groove therein with a rib across the same, and a plate, adapted to be secured to a door, having a swiveled stud adapted to fit in said groove and provided with a groove to receive the rib on said floor plate.

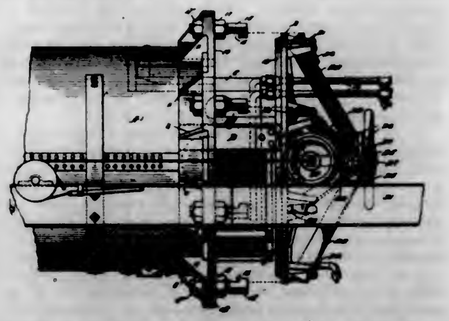
8. A hinge of the character described comprising means to pivot the upper end of a door, and means to pivot the lower end of said door consisting of a floor plate having a curved groove therein with a rib across the same, and a plate, adapted to be secured to a door, having a swiveled stud provided with a rounded end to fit said groove, and a groove to receive the rib on said floor plate.

9. A hinge of the character described comprising means to pivot the upper end of a door, and means to pivot the lower end of said door consisting of a floor plate having a curved groove therein with a rib across the same, and a plate, adapted to be secured to a door, having a swiveled stud provided with a rounded end to fit said groove and a groove with a curved bottom to receive the rib on said floor plate.

10. A hinge of the character described comprising means to pivot the upper end of a door, and means to pivot the lower end of said door consisting of a floor plate having a groove therein with a rib across the same, and a plate, adapted to be secured to a door, having a swiveled stud adapted to fit in said groove and provided with a groove to receive the rib on said floor plate, said swiveled stud having a conical bearing in the plate carrying the same.

11. A hinge of the character described comprising means for pivoting the upper end of a door consisting of a stud adapted to be fastened to said door and a plate having a slot to receive said stud, said plate carrying a tongue extending into said slot and adapted to hold said stud in pivotal position, and means to pivot the lower end of said door which permits the latter to be tilted when hanging or removing the same.

865,912. SLIMES-FILTERING APPARATUS. DAVID J. KELLY and JOHN M. CALLOW, Salt Lake City, Utah, assignors to The Kelly Filter Press Co., Salt Lake City, Utah, a Corporation of Utah. Filed Dec. 5, 1906. Serial No. 346,416.

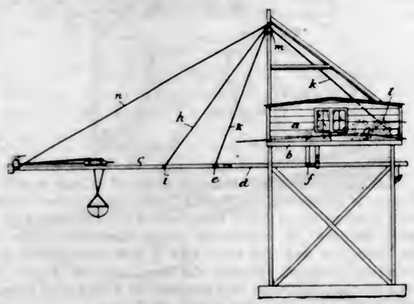


1. In apparatus of the character described, the combination of a tank having an open end and an annular series of independently-removable and adjustable locking-lugs, a removable head forming a closure for said tank, and means for securing the head to the tank, said means comprising a screw fixed centrally to the head, a rotatable follower engaging the screw, a collar loose on the follower, a series of radially-disposed levers having inner ends pivotally connected to the collar, guide lugs fixed to and projecting from the head near the periphery thereof and between which the outer ends of the levers are slidably mounted, said outer ends of the levers adapted to interlock with the lugs on the tank to secure the head to the tank, and springs acting on the outer ends of the levers to normally hold the latter against the head at the base of the spaced lugs.

2. In apparatus of the character described, the combination with a tank having an open end and a fixed ring surrounding said end, and provided with outwardly extending locking-lugs, of a head adapted to form a closure for said open end of the tank, said head having a centrally located outwardly extending screw and having pairs of spaced lugs disposed approximately around its outer edge, fulcrum-lugs between the bases of said spaced lugs, a hand wheel threaded on said screw having an extended hub-portion, a flanged collar loosely mounted on said hub-portion and provided with lugs, radially disposed levers having inner ends pivotally connected to the lugs on the collar and having their outer portions slidably guided between the said spaced lugs on the head, said levers adapted to fulcrum on the lugs at the bases of the spaced lugs on said head, a ring having an interengaging flange-and-groove connection adapted to form a tight joint, and springs acting against the levers to maintain the latter in contact with the fulcrum-lugs.

3. In apparatus of the character described, the combination of a tank, a head adapted to form a closure therefor, a screw projecting centrally from said head, a follower on the screw, said follower comprising a hand-wheel and a flanged collar loose thereon, levers pivoted to said loose collar and extending radially beyond the periphery of the head, spaced lugs on the head between which the outer ends of the levers are slidably guided, fulcrum points on the head at the bases of the spaced lugs and springs at the outer portions of the said spaced lugs for holding the levers against said fulcrum points, and locking lugs on the tank engaged by the outer ends of the levers whereby the head is securely locked to the tank.

865,913. MACHINERY FOR HANDLING COAL, ORE, &c. CHARLES C. KING, New York, N. Y., assignor to C. W. Hunt Company, West New Brighton, N. Y., a Corporation of New York. Filed June 8, 1907. Serial No. 377,877.



1. In machinery for handling coal, ore, etc., the combination of a support, a boom hinged at its inner end to swing downwardly and comprising two parts hinged together and flexing downward, a supporting guy attached to said boom between its ends and upon which said boom is fulcrumed and nearly balanced, and an operating rope attached to the boom to oppose the parts having the greater moment.

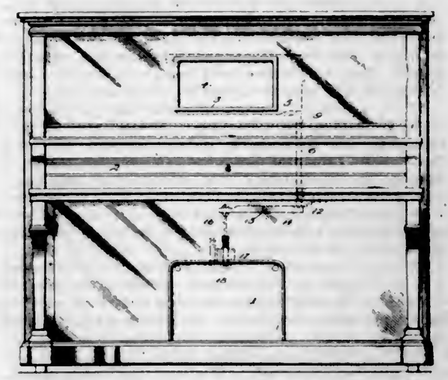
2. In machinery for handling coal, ore, etc., the combination of a tower, a boom hinged at its inner end to the tower to swing downwardly and comprising two parts hinged together to flex downwardly, a supporting guy from the tower head attached to the boom at a point between its ends, and upon which the boom is fulcrumed and nearly balanced and an operating rope attached to the boom near the point of flexing.

3. In machinery for handling coal, ore, etc., the combination of a tower, a folding boom hinged at its inner end to the tower to swing downwardly and comprising two parts hinged together to flex downwardly, a supporting guy from the tower head to the boom at a point between its ends and upon which the boom is fulcrumed and nearly balanced, an operating rope attached to the boom near the point of flexing, and a guy from the tower head to the outer end of the boom and brought into tension as the boom assumes its operative position.

4. In machinery for handling coal, ore, etc., the combination of a tower, a folding boom hinged at its inner end to the tower to swing downwardly and comprising two parts hinged together to flex downwardly, a supporting guy from the tower head to the boom at a point between its ends and upon which the boom is fulcrumed and nearly balanced, an operating rope attached to the boom near the point of flexing, and a relatively fixed track continuing the boom track rearwardly through the tower.

5. In machinery for handling coal, ore, etc., the combination of a tower, a fixed track supported by the tower, a boom hinged to the tower and comprising two parts hinged together to flex downwardly, the track of the boom being continuous with the flexed track when the boom is in operative position, a supporting guy from the tower head to the boom at a point between its ends, an operating rope attached to the boom near the point of flexing, and an engine platform supported by the tower above the fixed track and boom.

865,914. AUTOMATIC PEDAL-EXPOSING DEVICE FOR PLAYER-PIANOS. ERNEST J. KNABE, Jr., Baltimore, Md., assignor to The Wm. Knabe & Co. Manufacturing Company of Baltimore City, Baltimore, Md., a Corporation of Maryland. Filed Apr. 1, 1905. Serial No. 253,226.



1. A case for mechanically-operated instruments having, in combination, a fall-board or key-board cover, a sliding panel or tracker-bar cover closing an opening in the upper front of the case above the fall-board, a pedal closure in the lower front of the case below the fall-board, and means whereby the pedal is automatically exposed by sliding open the said sliding panel or tracker-bar cover.

2. A case for mechanically-operated instruments having, in combination, a fall-board or key-board cover, a sliding panel or tracker-bar cover in the upper front of the case above the fall-board, a hinged trap-door for covering the pedal-movement located in the lower front of the case below the fall-board and adapted to swing outward and downward, a latch therefor, and latch-releasing mechanism automatically-actuated by the sliding open of said upper panel or tracker-bar cover.

3. A case for mechanically-operated instruments having, in combination, a sliding upper panel, a lower door or pedal-cover, pedal-exposing mechanism, a vertically-disposed controlling member therefor, and an incline on the upper panel adapted to engage and move said controlling member when the upper panel is slid open.

4. A case for mechanically-operated instruments having, in combination, a lower door or pedal-cover, a sliding upper panel, a vertically-movable stick spring-held in contact with a surface on the panel which includes an incline or wedge, and pedal-exposing mechanism controlled by said stick when the upper panel is slid open.

5. A case for mechanically-operated instruments having, in combination, a self-opening lower door or pedal-cover, a latch for holding it closed, a lever for withdrawing said latch, a sliding upper panel having an incline or wedge surface formed on one edge, a vertically-movable member for operating said lever spring-held in contact with such edge and adapted to be moved by said incline in a direction to release the latch.

6. A case for mechanically-operated instruments having, in combination, a pedal-cover, a sliding upper panel, a vertically-arranged actuator having a part disposed in the path of movement of a part carried by said panel and adapted to be engaged and moved thereby on the opening movement of the panel, and pedal-exposing mechanism controlled by said actuator when moved by the opening of said panel.

7. In a case for an autopneumatic instrument, the combination of a key-board cover, a tracker-board cover in the upper front of the case above the key-board cover, a pedal-cover in the lower front of the case below the key-board cover, and means for unlocking the pedal cover automatically actuated by effecting the opening of the tracker-board cover, said means being dissociated from the key-board cover.

8. The combination of a pedal-cover, a latch therefor, a lever for releasing the same, an actuating rod for said lever vertically-arranged directly above the same, and a sliding tracker-board cover adapted to operate said rod.

9. The combination of a tracker-bar cover and pedal-cover and unlocking-mechanism for said pedal-cover, a fall-board between the said covers, and a vertically-disposed actuating rod for said unlocking-mechanism extending thereto from said tracker-bar cover and inwardly offset behind the fall-board to escape the hinged side thereof.

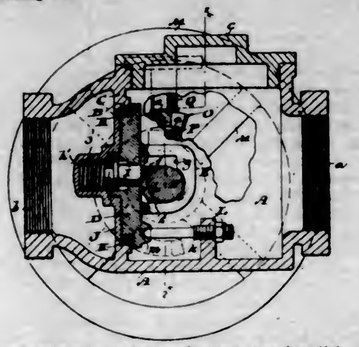
10. In a case for mechanically-operated instruments, a pedal-cover consisting of a hinged door adapted to swing outwardly and downwardly, a latch therefor, a tracker-bar cover, means for releasing said latch actuated by opening the tracker-bar cover, and means including a spring adapted to cause the pedal door to swing outward to a partial extent only when the latch is released, said spring adapted to yield to allow the performer to depress said door to its full extent.

11. In a mechanical musical instrument, the combination of a case, a tracker-box, a movable door for said tracker-box, folding pedal mechanism and means operated by the movement of the door to release the pedal mechanism.

865,915. VALVE. NICHOLAS KOCH, Milwaukee, Wis., assignor to George H. Crowns, Port Washington, Wis. Filed Mar. 22, 1906. Serial No. 307,370.

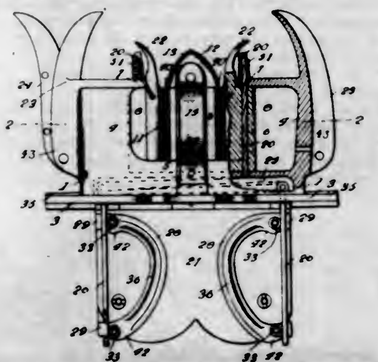
1. In a valve of the butterfly type, comprising a casing having a valve-seat therein, a valve-disk for engagement with the seat, loops extending therefrom, a stem loosely fitted in the loops, a spring-plug carried by the disk for engagement with the stem, a hand-wheel fast on the stem, a ring secured to the wheel, spider-arms extending from the ring, a slotted segment carried by the spider-arms, an ear projecting from the valve-casing, and a clamping-wheel in shouldered-engagement with the slotted segment and threaded into the valve-casing ear.

2. In a valve of the butterfly type, comprising a casing having a valve-seat therein, a valve-disk for engagement with the seat, loops extending therefrom, a stem loosely fitted in the loops, a spring-plug carried by the disk for engagement with the stem, a hand-wheel fast on the stem, spider-arms extending from the hand-wheel, a slotted segment carried by the spider-arms, an ear projecting from the valve-casing, and a clamping-wheel arranged to engage the slot of the segment, in threaded-connection with said valve-casing ear.



3. In a valve of the butter-fly type, a valve disk, a gasket fitted into a recess therein, a central spring plug carried by the disk, and a cap in threaded connection with said disk, said cap having a central recess for the spring plug and arranged to engage the gasket.

865,916. COMBINED WHIP-SOCKET AND REIN-HOLDER. ALEXANDER KORMIL, Goldendale, Wash., assignor of one-half to Fred Radloff, Goldendale, Wash. Filed Mar. 22, 1906. Serial No. 307,537.



1. In a rein clamp, the combination of a base, a pair of standards projecting outwardly from the base and spaced from each other, a fixed jaw rigid with the base and located between the standards, brace members connecting the fixed jaw and the base, and a pair of movable jaws pivotally mounted between the base and the upper portions of the standards and adapted to swing into engagement with opposite sides of the fixed jaw.

2. In a rein clamp, the combination of a base, a fixed jaw rigid with the base, a web projecting from the free end of the fixed jaw, the said web being provided along one of its edges with a flange, a movable jaw pivotally mounted upon the base and adapted to swing into engagement with the fixed jaw, and an ear projecting from the movable jaw and coöperating with the before mentioned flange around the edge of the web upon the movable jaw to form a guide way fitting into the clamp.

3. In a device of the character described, the combination of a base, a rein clamp mounted upon one side of the base, a leaf hinged to the opposite side of the base and adapted to be swung outwardly to assume an upright position, means for holding the leaf rigidly in a distended position, and means for securing the leaf to a support.

4. In a device of the character described, the combination of a base, a rein clamp mounted upon one side of the base, a main leaf hinged to the opposite side of the base and adapted to be swung outwardly, a side leaf hinged to the base and swinging at approximately right angles to the main leaf, means for holding the side leaf in engagement with the main leaf when the two are folded outwardly to hold them in a rigid position with relation to the base, and means for securing one of the leaves to a support.

5. In a device of the character described, the combination of a base, a rein clamp mounted upon one side of the base, a main leaf hinged to the opposite side of the base, and adapted to swing outwardly, a side leaf hinged to the base and adapted to swing at approximately right angles to the main leaf, a clamping member secured to the main leaf and engaging with the side leaf to hold the two in a rigid position with relation to the base, and means for securing one of the leaves to a support.

6. In a device of the character described, the combination of a base, a rein clamp mounted upon one side of the base, a main leaf hinged to the opposite side of the base and adapted to swing outwardly, a side leaf hinged to the base and adapted to swing at approximately right angles to the main leaf, a clamping member secured to the main leaf and provided with a hook member which is adapted to engage with the side leaf to hold the two leaves in a rigid position with relation to the base, and means for securing one of the leaves to a support.

7. In a device of the character described, the combination of a base, a rein clamp mounted upon one side of the base, a main leaf hinged to the opposite side of the base and adapted to swing outwardly, a pair of side leaves hinged to the base and swinging at approximately right angles to the main leaf, means for securing an interlocking connection between the leaves when distended to hold them in a rigid position with relation to the base, and means for securing the main leaf to a support.

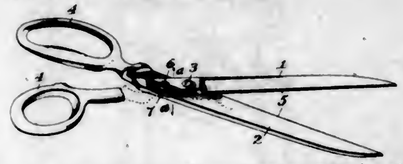
8. In a device of the character described, the combination of a base, a main leaf hinged to the opposite side of the base and adapted to swing outwardly, a side leaf hinged to the base and swinging at approximately right angles to the main leaf, and a clamping member which is adapted to be employed either to form an interlocking connection between the leaves when securing the device to a vertical support, or to be used as a clamping member in connection with the base when securing the device to a horizontal support.

865,917. CULINARY UTENSIL. WILLIAM KUEHNLEIN and HARRY KUEHNLEIN, Philadelphia, Pa. Filed Sept. 8, 1906. Serial No. 333,818.



A pan lifter constructed of a single length of material and bent to provide duplicate handle portions, a blade member projected in alinement with and beyond one terminal of one of the handle portions, and a clamp member formed integral with the end of the other handle portion, said clamp member comprising spaced walls extending at reverse inclines from the plane of the handle member and connected at their upper end by a wall extended in parallel relation to the handle member, the relatively lower edge of one of the walls being free of connection with the handle member and provided with a lip of materially less length than any of said walls and projected toward the remaining wall, said lip being arranged at an upward inclination relative to all of said walls, the free edge of the lip being normally in contact with the adjacent wall near the relatively lower end of the latter.

865,918. CUTTING-TOOL. EARNEST W. LADD, Washington, D. C., assignor of one-fourth to Hunter Arnold, one-eighth to William H. Rohrer, one-eighth to Harry L. Wheatley, and one-eighth to B. M. McQuinn, Washington, D. C., and one-eighth to Thomas J. Farrar, Virginia. Continuation of application Serial No. 321,416, filed June 12, 1906. This application filed Jan. 28, 1907. Serial No. 354,535.



1. In a cutting tool, the combination with a pair of pivotally connected blades, of separable means secured to one of said blades for imparting thereto a transversely twisting action with relation to the other of said blades, substantially as described.

2. In a cutting tool, the combination with a pair of pivotally connected blades, of means adjustable with relation to one of said blades for imparting thereto a transversely twisting action with relation to the other of said blades, substantially as described.

3. In a cutting tool, the combination with a pair of pivotally connected blades, of means adjustable with relation to one of said blades for imparting thereto a transversely twisting and tensioning action with relation to the other of said blades, substantially as described.

4. In a cutting tool, the combination with a pair of pivotally connected blades, of means adjustable with relation to one of said blades located in rear of the pivotal point for imparting a transversely twisting action to said blades, substantially as described.

5. In a cutting tool, the combination with a pair of pivotally connected blades, of means carried by one of said blades and adjustable with relation thereto for imparting a transversely twisting action to said blades, substantially as described.

6. In a cutting tool, the combination with a pair of pivotally connected blades, of an adjustable tensioning member interposed between said blades adapted to impart a transversely twisting action thereto, substantially as described.

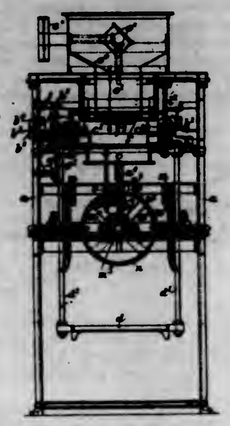
7. In a cutting tool, the combination with a pair of pivotally connected blades, of an adjustable tensioning member threaded through one of said blades and bearing upon the other of said blades for imparting a transversely twisting action thereto, substantially as described.

8. In a cutting tool, the combination with a pair of pivotally connected blades, of an incline upon one of said blades, and an adjustable tensioning member carried by the other of said blades adapted to traverse the incline aforesaid for imparting to the blades a transversely twisting action, substantially as described.

9. In a cutting tool, the combination with a pair of pivotally connected blades, of an incline upon one of said blades in rear of its pivotal point, and an adjustable tensioning member carried by the other of said blades adapted to traverse the incline aforesaid for imparting to the blades a transversely twisting action, substantially as described.

10. In a tool of the type described, a pair of crossed pivoted blades having sharpened inner edges, one of said blades being provided on its inner face and in rear of its fulcrum with a transversely disposed inclined bearing face, and a rigid unyielding tensioning member carried by the other blade to ride on said bearing face for throwing the outer ends of the blades together, said tensioning member being adjustable to compensate for wear.

865,919. AUTOMATIC FEED WEIGHING AND PACKING APPARATUS. SIDNEY LEETHAM and RICHARD E. LEETHAM, York, England. Filed Apr. 30, 1906. Serial No. 314,578.



1. In automatic-feed weighing and packing apparatus the combination with a weigh-beam of a sack-holder suspended from one end thereof and a weight-plate suspended from the other end thereof, valve mechanism controlling the feed to the sack, a beater for packing the material in the sack, means for reciprocating the said packer and means operated by the movement of the beam for putting the packer into and out of operation, substantially as hereinbefore described.

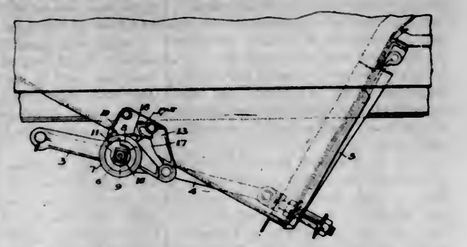
2. In an automatic feed weighing and packing apparatus, the combination with weighing mechanism, provided with a support for the receptacle to be filled, of mechanism for feeding the material to be weighed into said receptacle, means for decreasing the supply of material to said receptacle during the final weigh, mechanism for packing the receptacle to be filled and mechanism for automatically starting said packing mechanism and stopping the same just prior to the final weigh, substantially as described.

3. In an automatic feed weighing and packing apparatus, the combination with weighing mechanism provided with a support for the receptacle to be filled, of a reciprocating beater adapted to come into contact with said receptacle, mechanism controlled by said weighing mechanism for automatically throwing said reciprocating beater into and out of operation, substantially as described.

4. In an automatic feed weighing and packing apparatus, the combination with weighing mechanism provided with a support for the receptacle to be filled, of a pair of reciprocating beaters adapted to alternately strike the receptacle to be filled on opposite sides, a revoluble shaft bearing, a cam for reciprocating said beaters, a continuously revolving shaft and mechanism operated by said weighing mechanism for automatically coupling and uncoupling said shafts to operate and stop said reciprocating beater, substantially as described.

5. In an automatic feed weighing and packing apparatus, the combination with weighing mechanism provided with a support for the receptacle to be filled, of a pair of reciprocating beaters adapted to alternately strike the receptacle to be filled on opposite sides, a revoluble shaft bearing a cam for reciprocating said beaters, a continuously revolving shaft, mechanism controlled by said weighing mechanism for automatically coupling and uncoupling said shafts to operate and stop said reciprocating beaters and means for retaining said beaters out of contact with said receptacle when the same are inoperative, substantially as described.

865,920. SAFETY-CLUTCH FOR CAR-DOOR MECHANISMS. CHARLES A. LINDSTRÖM, Allegheny, Pa. Filed June 15, 1906. Serial No. 321,794.



1. In a door operating mechanism, a door-operating shaft, a bracket, a clutch member fast to said shaft and rotatably seated in said bracket, and a coöperating loose clutch member loosely connected to said shaft; substantially as described.

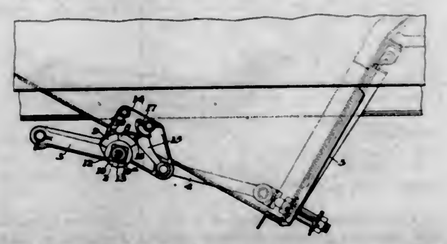
2. In a door-operating mechanism, a door operating shaft having an angular portion, a bracket, a clutch member secured to the shaft, and rotatably seated in the bracket, means for preventing endwise movement of the clutch member, and a coöperating cluth member loosely mounted on the end portion of the shaft; substantially as described.

3. In a car door operating mechanism, a door-operating shaft, a bracket, a clutch-member fixed to said shaft within the bracket, and formed into a casing portion having an internal clutch lug, and a plurality of external pawl teeth, a pawl for engagement with the said teeth, and a cooperating clutch-member loosely mounted on the shaft and having a clutch arm working within the casing portion of the fixed clutch member; substantially as described.

4. In car door operating mechanism, a door-operating shaft, a bracket, and coöperating fast and loose clutch members, one of which is rotatable in the said bracket; substantially as described.

5. In car door operating mechanism, a door-operating shaft, a bracket, a clutch member loosely connected to the shaft and journaled in the bracket, and a coöperating clutch member fixed to the shaft; substantially as described.

865,921. SAFETY-CLUTCH FOR CAR-DOOR-OPERATING MECHANISMS. CHARLES A. LINDSTRÖM, Allegheny, Pa. Original application filed June 15, 1906, Serial No. 321,794. Divided and this application filed Jan. 11, 1907. Serial No. 351,819.

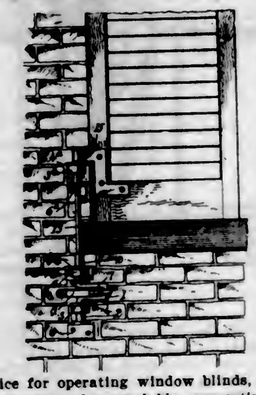


1. In car door operating mechanism, a door operating shaft, a clutch member removably carried by said shaft to turn therewith, and a coöperating clutch member in loose relation to the shaft and journaled upon the fixed member, the coöperating clutch member being arranged to engage the fixed member in both directions of movement with an intervening lost motion; substantially as described.

2. In car door operating mechanism, a door operating shaft, a clutch member fixed to said shaft and having a sleeve extension, and a coöperating clutch member loosely journaled on said extension, said loosely journaled clutch member being arranged to engage the fixed member in both directions of movement with an intervening lost motion; substantially as described.

3. In car door operating mechanism, a door operating shaft, a clutch member fixed to said shaft, a bracket in which said clutch member is journaled, and a loose clutch member journaled on an extension of the fixed clutch member, the loose clutch member being arranged to engage the fixed member in both directions of movement with an intervening lost motion; substantially as described.

865,922. DEVICE FOR OPERATING WINDOW-BLINDS. DANIEL F. LONERGAN, Morristown, N. J. Filed Mar. 11, 1907. Serial No. 361,827.



1. A device for operating window blinds, comprising a crank, ball bearings for revolubly supporting the crank, means for working the crank, and means in fixed relation to the crank adapted to be secured to a blind.

2. A device for operating window blinds, comprising a crank, ball bearings for revolubly supporting the crank, means for working the crank in said bearings, a spindle in fixed relation to the crank, ball bearings for the spindle, and means fixed to the spindle adapted to be attached to a window blind.

3. A device for operating window blinds, comprising means adapted to be attached to a blind, a spindle fixed to said means, a crank in fixed relation to the spindle, a bar for working the crank, a closure plate carried by the bar and ball bearings in which the crank and spindle are revolubly mounted, acting to support the weight of the blind.

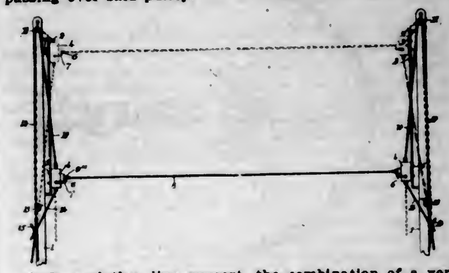
4. A device for operating window blinds, comprising a crank, bearings for revolubly supporting the crank arranged at the bottom and top thereof, a spindle fixed to the upper end of the crank, means for attaching said spindle to a window blind, and a push bar for operating said crank.

5. A device for operating window blinds, comprising a crank, bearings for revolubly supporting the crank at the top and bottom thereof, a spindle fixed to the upper end of the crank, a plate fixed to the spindle adapted to be attached to a window blind, a bearing in which said spindle is revolubly mounted adjacent to said plate, and a push bar for operating said crank.

865,923. CLOTHES-LINE SUPPORT. JOHN LYNCH, Trenton, N. J., assignor of one-third to Francis Lingo, Camden, N. J. Filed Dec. 27, 1906. Serial No. 349,651.

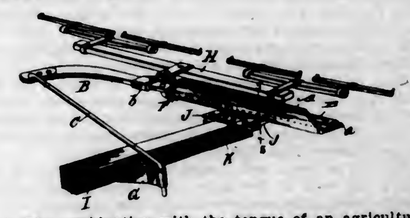
1. In a clothes line support, the combination of vertical standards, guide bars secured to said standards, blocks slidable lengthwise on said guide-bars, arms pivotally attached to said blocks, hooks pivoted to said blocks for locking said arms in position, pulleys attached to the upper end of said standards, and cables attached to said bars and passing over said pulleys.

2. In a clothes line support, the combination with a vertical standard, of a vertical guide bar secured to said standard, a block having a sliding engagement with said guide bar, an arm pivotally attached to said block, hooks pivoted to said block for locking said arm in position, a pulley attached to the upper end of said arm, and a cable passing over said pulley.



3. In a clothes line support, the combination of a vertical standard, a guide bar having off-set ends secured to said standard, a block provided with staples engaging said guide bar, a cross arm pivotally mounted on said blocks, hooks pivoted to said blocks for holding said arm in position, a pulley attached to the upper end of said standard, and a cable attached to said block and passing over said pulley.

865,924. DRAFT ATTACHMENT. JOHN J. MAGINN and AARON E. CARY, Greeley, Nebr. Filed Nov. 10, 1906. Serial No. 342,803.



1. The combination with the tongue of an agricultural implement, of a draft appliance comprising an angle plate secured to the tongue, a curved draft lever pivoted to one end of the plate and having a draft appliance secured to it adjacent to the other end of said plate, and a hook which connects the free curved end of the lever with the beam at a point in rear of the said plate, substantially as described.

2. The combination with a pole or tongue and a horizontal plate extending across the same and rigidly secured thereto, of a draft lever which is pivoted at one end to the right-hand end of the plate and provided with a lug which engages the opposite end of the plate for holding the lever down thereon, and a connecting device extending between the free end of the lever and the portion of the tongue in rear of the plate, substantially as described.

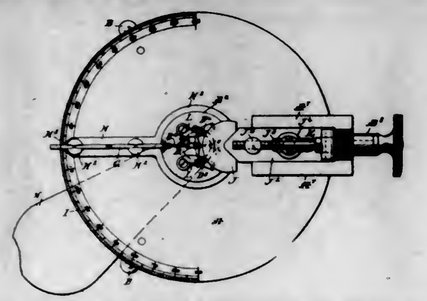
865,925. PALLET-JEWEL SETTER. LOUIS H. MILLER, Portland, Oreg. Filed Feb. 23, 1907. Serial No. 358,956.

1. A pallet jewel setter comprising a support for the pallet arbor, and a segment for peripheral engagement by the ends of the jewels.

2. A pallet jewel setter comprising a support for the pallet arbor, means for turning the pallet, and means for engagement by the pallet jewels.

3. A pallet jewel setter comprising a support for the pallet arbor, a segment for peripheral engagement by the ends of the jewels, and manually controlled means for turning the pallet on its arbor.

4. A pallet jewel setter comprising an adjustable support for the pallet arbor, a turning device for engagement with the fork of the pallet to turn the latter on the said support, and a segment for peripheral engagement with the ends of the pallet jewels.



5. A pallet jewel setter comprising an adjustable support for the pallet arbor, a turning device for engagement with the fork of the pallet to turn the latter on the said support, a segment for peripheral engagement with the ends of the pallet jewels, and pivoted rests for the pallet to rest on.

6. A pallet jewel setter comprising a support for the pallet arbor, a common means for engagement by the pallet jewels, and means for swinging the pallet on the support to properly set jewels of unequal sizes.

7. A pallet jewel setter comprising an adjustable support for the pallet arbor, a turning device for reëngagement with the fork of the pallet to turn the latter on the said support, a segment for peripheral engagement with the ends of the pallet jewels, and means for moving the segment to and from the said pallet jewels.

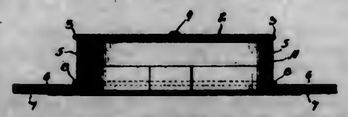
8. A pallet jewel setter comprising a support for the pallet arbor, a segment for peripheral engagement by the ends of the jewels, manually controlled means for turning the pallet on its arbor, and a graduation for indicating the position of the said turning means.

9. A pallet jewel setter provided with spindles for engaging the ends of the pallet arbor, and a rest for the pallet to rest on when lowering the said spindles.

10. A pallet jewel setter provided with alined spindles capable of moving in the direction of their common axis and adapted to engage the ends of the pallet arbor, and pivoted arms adapted to be swung under the pallet for the latter to rest on.

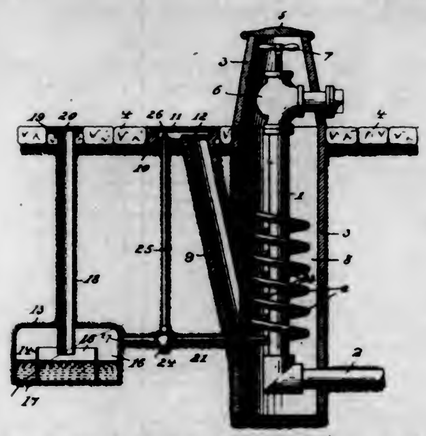
11. A pallet jewel setter provided with alined spindles capable of moving in the direction of their common axis and adapted to engage the ends of the pallet arbor, pivoted arms adapted to be swung under the pallet for the latter to rest on, a bar mounted to swing and having its center coinciding with the common axis of the said spindles, the bar engaging the fork of the pallet, and a segment capable of movement toward and from the pallet for the ends of the pallet jewels to abut against the peripheral face of the segment.

865,926. HAT-PROTECTOR. JAMES S. MILLS, New York, N. Y. Filed Dec. 6, 1905, Serial No. 290,575. Renewed Aug. 15, 1907. Serial No. 388,669.



In a hat protector, the combination with crown and brim parts made of material impervious to moisture and an elastic band co-acting with the protector at the juncture of the crown and brim parts, of an expansible strip associated with the upper edge of the crown constituting a ring which defines the top of the crown and which co-acts with the inner wall of the crown for frictionally holding the protector in collapsed position within the crown of the hat.

865,927. DEVICE FOR THAWING HYDRANTS AND FIRE-PLUGS. JAMES C. MOORE, Philadelphia, Pa. Filed Feb. 25, 1907. Serial No. 359,287.



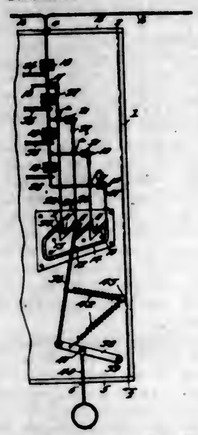
In a device of the character described, an incased fire-plug arranged to form a chamber, a pipe terminating in said chamber and forming an air inlet thereto, a cover adapted to close said air inlet pipe, a receptacle for liquid fuel having an outlet above the level of the liquid fuel therein, a pipe terminating in said receptacle below the outlet thereof to permit the receptacle to retain the gaseous fuel and forming an inlet for liquid fuel and air to the same, a cover adapted to close said fuel and air pipe, a second pipe surrounding the outlet of said receptacle and terminating in the chamber of said fire-plug and so arranged as to spirally surround the same, means arranged in said second pipe to control the passage of gaseous fuel therethrough, said air inlet pipe adapted when the cover thereof is removed to conduct air into the chamber of said fire-plug to permit of the heating of the spiral portion of said second pipe therein, said fuel pipe when the cover thereof is removed, and said second pipe when heated, coöperating to draw gaseous fuel and air from the receptacle into the chamber of said fire-plug and air into said receptacle.

865,928. MUSIC-LEAF TURNER. WILLIAM F. MOORE, Owego, N. Y. Filed Sept. 19, 1906. Serial No. 335,294.

1. A music leaf turner comprising a series of turning rods, springs for turning said rods, spring actuated latches for holding said rods in one position, a plate having a zig-zag slot therein, and means mounted in said slot for releasing said latches, substantially as described.

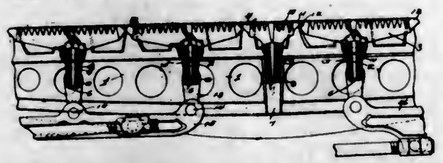
2. A music leaf turner comprising a casing, turning rods mounted to partially rotate in said casing, springs for turning said rods, means for holding said rods in one position, said means comprising latches to engage the ends of said turning rods, a plate provided with a zig-zag slot, means for releasing said latches, a rod mounted to move in said slot and carrying an enlargement to engage said means for releasing the latches and a key for operating said rod.

3. In a music leaf turner, the combination of turning rods, springs for turning said rods spring actuated means for holding said turning rods in one position, means for releasing said turning rods one at a time serially, said releasing means comprising a plate having a zig-zag slot therein and spring actuated releasing rods, each having an enlargement thereon to move in said zig-zag slot, substantially as described.



4. In a music leaf turner, a casing, turning rods mounted to move in said casing, springs for turning said rods means for holding said turning rods in one position, said means comprising spring actuated latches, rods connected to said latches and provided with enlarged ends, a plate provided with a zig-zag slot, a releasing rod having an enlargement to engage the enlargements upon the end of the connecting rods and means for moving said operating rod in said zig-zag slot to actuate the turning rods serially, substantially as described.

865,929. GRATE. WILLIAM MCCLAVE, Scranton, Pa., assignor to McClave-Brooks Company, Scranton, Pa., a Corporation of Pennsylvania. Filed Sept. 6, 1906. Serial No. 333,484.



1. In a grate structure, the combination with journal grate bars, of caps therefor, each having a greater amount of its weight on one side of the bar than on the other, teeth projecting from the edges of said caps, the teeth on the overbalanced side of each cap overlapping teeth of the opposite side of the next preceding cap and engaging the same for having the underlapping teeth serve as supports for the overlapping teeth, and means for oscillating the grate bars.

2. In a grate structure, the combination with sets of journal grate bars, grate caps for all of said bars, all of said caps being provided with teeth on opposite edges and the caps of one set being overbalanced at one side in one direction and the caps of the other set being overbalanced at the other side in the other direction, the teeth of the edge of the overbalanced side of each cap overlapping the teeth of the cap of the next contiguous grate bar for being supported thereby, whereby the caps of one of said sets of journal grate bars may be tilted only in one direction, the caps of the other set may be tilted only in the opposite direction, the respective sets being spaced apart for permitting such opposite tilting, independent operating rod connected with the respective sets of grate bars, a pivotally mounted stub lever pivotally engaged by one of said rods, a removable lever designed to be applied to said stub lever for actuating the same, and an independent pivotally mounted stub lever arranged parallel to the first-mentioned lever and pivotally engaged by the other of said actuating rods, said last-mentioned independent stub lever being adapted to be independently engaged by the removable lever for being actuated in an opposite direction from the actuation of the first-mentioned stub lever.

3. In a grate structure the combination with a journal bearing bar having a journal bearing and an opening leading therefrom to the edge of the bearing bar, of an expansion and locking cap arranged for closing said opening and having a preponderance of its bulk extending to one side of the journal, such preponderating bulk being retained in position against vertical displacement by gravity.

4. In a grate structure, the combination with a journal bearing bar having a journal bearing and an opening leading therefrom to the edge of the bearing bar and a grate bar journal resting on said bearing, of a cap for closing said opening, one end of said cap being retained by gravity against vertical movement, the journal bearing bar being formed with an overhanging portion projecting from the opposite side of said opening to that occupied by the gravity retained end of said cap and overhanging a portion of the cap for preventing upward movement of the journal.

5. In a grate structure, the combination with a journal bearing bar having a journal bearing and an opening leading therefrom to the edge of the bar and a grate bar journal resting on said bearing, of a cap for closing said opening, retained by gravity at one end against vertical movement, and means arranged on the opposite side of the opening to that occupied by the gravity retained end of said cap overhanging the journal for locking the opposite end of said cap for preventing upward movement of the journal.

6. In a grate structure, the combination with a journal bearing bar having a journal bearing and an opening leading therefrom to the edge of the bar and a grate bar journal resting on said bearing, of a cap for closing said opening retained at one end against vertical movement by gravity, and means formed integral with the bar projecting from the opposite side of the opening to that occupied by the gravity retained end of said cap and overhanging the other end of the cap for locking the same for preventing upward movement of the journal.

7. In a grate bar structure, the combination with a journal bearing bar having a journal bearing and an opening leading therefrom to the edge of the bar, a portion of the bar being cut away at one side of said opening, and the material of the bar at the opposite side of the opening being formed with a recess, of a cap arranged for closing said opening and extending into the space of the cut away portion beyond the opening in such manner as to be locked for preventing upward movement of a journal on said bearing, a portion of the cap projecting into the said recess.

8. In a grate structure, the combination with a journal bearing bar having a journal bearing and an opening leading therefrom to the edge of the bar, the material of the bar being cut away at one side of the opening, of a cap loosely filling the cut away portion and closing said opening, and locking means formed integral with the bar at the side of said opening opposite the cut-away portion and overhanging a portion of said cap.

9. In a grate structure, the combination with a journal bearing bar having a journal bearing and an opening leading therefrom to the edge of the bar, of a cap lying across said opening and projecting to one side thereof, and means on the opposite side of the opening for locking the cap for preventing upward movement of a journal resting on said bearing.

10. In a grate structure, the combination with a journal bearing bar having a journal bearing and an opening leading therefrom to the edge of the bar, the material of the bar being cut away at one side of said opening, of an expansion and locking cap loosely filling the space of the cut away portion and having one end overhanging the journal bearing, means for locking said overhanging end

for preventing upward movement of a journal resting on said bearing, and means for preventing lateral displacement of the cap.

11. In a grate structure, the combination with a journal bearing bar having a journal bearing and an opening leading therefrom to the edge of the bar, the material of the bar being cut away at one side of said opening, of an expansion and locking cap loosely and removably fitted within said cut away portion and overhanging a portion of said bearing, means formed integral with the bar for preventing lateral displacement of said cap, and means also formed integral with the bar at that side of the opening opposite the cut-away portion and overhanging the cap for preventing vertical displacement of the overhanging portion of the cap.

12. In a grate structure, the combination with a journal bearing bar having a journal bearing and an opening leading therefrom to the edge of the bar, the material of the bar being cut away at one side of said opening and formed with an overhanging device at the other side of the opening, of an expansion and locking cap arranged within said cut away portion and extending above the bearing and the overhanging device.

13. In a grate structure, the combination with a journal bearing bar having a journal bearing and an opening leading therefrom to the edge of the bar, the material of the bar being cut away at one side of the opening and formed with an overhanging device at the opposite side, the end wall of the cut away portion being struck on the arc of a circle, a locking and expansion cap arranged within the cut away portion and having a curved end next to the curved wall, the opposite end of said cap projecting above the bearing and beneath the overhanging portion.

14. In a grate structure, the combination with a journal bearing bar having a journal bearing and an opening leading therefrom to the edge of the bar, of a locking device overhanging the journal, the material of the bar being cut away on the opposite side of the journal bearing from the overhanging locking device, and a removable cap arranged within said cut away portion, and having one end projecting beneath the overhanging locking device, the opposite end being struck on the arc of a circle, the wall of the cut away portion contiguous to the curved end of said cap being correspondingly curved.

15. In a grate structure, the combination with a journal bearing bar having a journal bearing and an opening leading therefrom to the edge of the bar, of an overhanging device projecting above the bearing, the material of the bar being cut away on the opposite side of the bearing from the overhanging device, a locking and expansion cap arranged in the cut away portion and having one end projecting beneath the overhanging device, the cap being of less length than the distance between the overhanging portion and the end wall of the cut away portion.

16. In a grate structure, the combination with a journal bearing bar having a journal bearing, the material of the bar being cut away at one side of the journal bearing, of a locking and expansion cap arranged in said cut away portion and having one end extending over the bearing and locking means on the bar overhanging the end of said cap which extends over the bearing for preventing upward movement of such end, the cap being of less length than the length of the cut away portion and arranged substantially centrally thereof, and means for preventing longitudinal play of said cap, whereby an opening is left between each end of the cap and the contiguous portion of the bar.

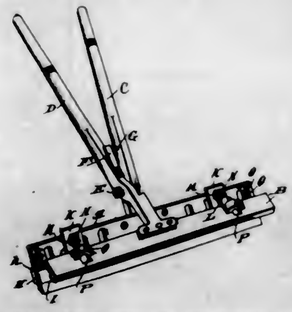
17. In a grate structure, the combination with a journal bearing bar having a plurality of bearings, the material of the bar being cut away contiguous to each bearing, a locking and expansion cap arranged in each cut away portion and overhanging the bearing for preventing upward movement of the journal on the bearing, each cap being of less length than the length of the cut away portion, the bar being formed with a second set of cut away portions between the first mentioned cut away portions and the bearing spaced from the respective first mentioned cut away portion, and expansion caps arranged in the second mentioned set of cut away portions.

18. In a grate structure, the combination with a journal bearing bar, having a plurality of bearings and formed with a plurality of cut away portions between each two of the bearings, a locking and expansion cap arranged in one of the cut away portions and formed with a portion overhanging the contiguous bearing, and an expansion cap arranged in the other cut away portion and of less length than the length of said cut away portion, and means for retaining the said expansion cap substantially centrally of its cut away portion for leaving spaces between its ends and the contiguous walls.

19. In a grate structure, the combination with a journal bearing bar having cut away portions in its upper edge, of expansion caps arranged in said cut away portions, centering webs projecting from the material of the bar into each of the cut away portions, each of the caps being formed with pockets for inclosing said webs, each cap being of a less length than the length of the cut away portion and being retained by said webs substantially centrally with respect to the cut away portion for leaving spaces between the ends of the cap and the walls of the cut away portions.

20. In a grate structure, the combination with a journal bearing having a cut away portion in its upper edge, of an expansion cap of less length than the cut away portion arranged therein, and means for centering the cap with respect to the cut away portion, the cap being tapered downwardly so that the space between its ends and the contiguous walls of the cut away portions increases downwardly.

865,930. ROOFING-TONGS. FRANK C. MCCUSKER, Philadelphia, Pa. Filed June 29, 1907. Serial No. 381,475.



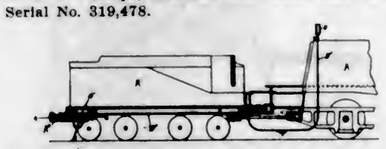
1. The tongs herein described comprising the lower or main jaw provided at its ends with the graduated scales and having near said ends the upwardly projecting threaded studs, the gage plate provided at its lower edge near its ends with the upwardly projecting stop lugs and having the slotted arms extending along the face of the tongs jaw with the slots thereof receiving the threaded studs, the winged nuts on said studs, the upper jaw provided with the transverse slots receiving the stop lugs of the gage plate and also having the bridge connections extending over the said slots and reinforcing the tongs jaw, the gage plate having its main or body portion arranged and operating between the inner faces of the opposing tong jaws and extending approximately throughout the length of said jaws handle bars secured to their respective jaws and pivoted together and the spring acting upon the said handle bars to open the jaws when the handle bars are released, substantially as set forth.

2. An adjustable roofing tongs comprising a jaw plate provided near said ends with the forwardly projecting threaded studs, the gage plate fitting against the said jaw and having at its lower edge upwardly projecting stop lugs and also provided with the projecting arms slotted longitudinally with the slots thereof fitting over the threaded studs, nuts on the studs for securing the gage plate in any desired adjustment and the jaw having slots

receiving the stop lugs of the gage plate, the gage plate having its main or body portion arranged and operating between the inner faces of the opposing tong jaws and extending approximately throughout the length of said jaws, substantially as set forth.

3. A roofing tongs having jaws and pivoted handle bars and provided with a spring on one of the handle bars and a pin on the other handle bar for engagement by said spring, the latter operating to open the jaws when the handle bars are released, substantially as set forth.

865,931. DRAFT OR WORK INDICATING AND RECORDING MECHANISM FOR LOCOMOTIVES. SAMUEL T. PARK, Danville, Ill., assignor to himself and John E. Phillips, Danville, Ill. Filed May 31, 1906. Serial No. 319,478.



1. The automatic draft or work indicating and recording mechanism for locomotives or other traction motors, consisting in the combination with the draw-bar, of a fluid pressure cylinder and piston interposed between the draw-bar and the locomotive or tender to which the draw-bar is attached and connected thereto respectively, a pressure gage, a pipe connecting the pressure gage with said fluid pressure cylinder, a movable recording arm connected with and actuated by the pressure gage, a clock mechanism, and a movable holder for a record sheet actuated by the clock mechanism, an indicator hand connected with and actuated by said pressure gage and a stationary dial, substantially as specified.

2. The combination with a draw-bar, of a fluid pressure cylinder and piston interposed between the draw-bar and the device to which the draw-bar is attached and connected thereto respectively, a pressure gage communicating with said fluid cylinder, a clock mechanism, a movable holder for a record sheet actuated by said clock mechanism, and a recording arm connected with and actuated by the pressure gage, substantially as specified.

3. The combination with a draw-bar of a locomotive or its tender, of a fluid pressure cylinder and piston interposed between the draw-bar and the locomotive or tender to which the draw-bar is attached and connected thereto respectively, a pressure gage communicating with said fluid cylinder, a clock mechanism, a movable holder for a record sheet actuated by said clock mechanism, and a recording arm connected with and actuated by the pressure gage, whereby upon a record sheet being provided with graduations and indicating figures the work done by the locomotive during a trip may be indicated and recorded, substantially as specified.

4. The combination with a draw-bar of a locomotive or its tender, of a fluid pressure cylinder and piston interposed between the draw-bar and the locomotive or tender to which the draw-bar is attached and connected thereto respectively, a pressure gage communicating with said fluid cylinder, a clock mechanism, a movable holder for a record sheet actuated by said clock mechanism, a recording arm connected with and actuated by the pressure gage, a stationary dial and an indicator hand connected with and actuated by the pressure gage, substantially as specified.

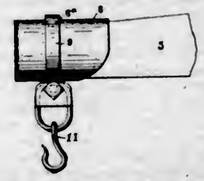
5. The combination with a draw-bar of a locomotive or its tender, of a fluid pressure cylinder and piston interposed between the draw-bar and the locomotive or tender to which the draw-bar is attached and connected thereto respectively, a pressure gage communicating with said fluid cylinder, a clock mechanism, a movable holder for a record sheet actuated by said clock mechanism, a recording arm connected with and actuated by the pressure gage, whereby upon a movable record sheet being furnished with a graduated annulus indicating hours and an annular record space furnished with a series of circular graduations and also a series of curved coördinate graduations the work done by the locomotive during a trip may be indicated and recorded, substantially as specified.

6. The automatic draft and work indicating and recording mechanism for locomotives or other traction motors, consisting in the combination with the draw bar, of a fluid pressure cylinder and piston interposed between the draw bar and the locomotive or tender to which the draw bar is attached, means connecting said cylinder with the locomotive or its tender, means connecting said piston with said draw bar, a pressure gage, a pipe connecting the pressure gage with said fluid pressure cylinder, a movable recording arm connected with and actuated by the pressure gage, a clock mechanism, and a movable holder for a record sheet actuated by the clock mechanism, an indicator hand connected with and actuated by said pressure gage and a stationary dial, substantially as specified.

7. The combination with a draw bar, of a fluid pressure cylinder and piston interposed between the draw bar and the device to which the draw-bar is attached, cross bars and links connecting said piston with the draw bar, a pressure gage communicating with said fluid cylinder, a clock mechanism, a movable holder for a record sheet actuated by said clock mechanism, and a recording arm connected with and actuated by the pressure gage, substantially as specified.

8. The combination with a draw bar and a locomotive or other motor, of a fluid pressure cylinder connected to said locomotive or motor, of a piston working in said cylinder and connected to the draw bar, a pressure gage communicating with said fluid cylinder, a clock mechanism, a movable holder for a record sheet actuated by said clock mechanism, and a recording arm connected with and actuated by the pressure gage, substantially as specified.

865,932. WHIFFLETREE-HOOK. JOHN PIERSON, Jr., Attica, Kans. Filed Mar. 26, 1907. Serial No. 364,687.



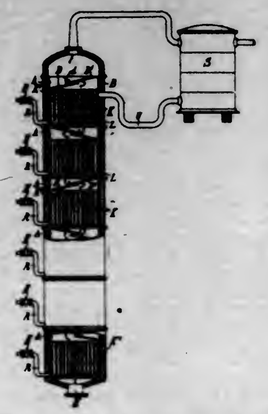
In combination, a whiffletree having an annular groove, a metallic sheathing on the end of said whiffletree having an inwardly struck portion designed to rest in the annular groove of the whiffletree, a split clamping ring having an annular bead on its inner surface designed to fit into the inwardly struck portion of the metallic sheathing and means for clamping the ends of said split clamping ring, substantially as described.

865,933. APPARATUS FOR RECTIFYING AND DEPHLEGMATING VAPOR MIXTURES. JOHANN J. PONOMAREW, Terskaja Oblast, Grosny, Russia. Filed Feb. 25, 1907. Serial No. 359,274.

1. In apparatus of the character described, superposed chambers, bottoms closing these chambers below, groups of upright tubes open above and below, the lower ends of the tubes of each group extending through the bottom of the chamber inclosing such group, and inclined intermediate partitions consisting of two parts extending partially one over the other, the lower part having an aperture at its lowest point.

2. In apparatus of the character described superposed chambers, bottoms closing these chambers below, groups of upright tubes open above and below, the lower ends of the tubes of each group extending through the bottom of the chamber inclosing such group, overflow tubes provided in each group of upright tubes and having a shorter length than the latter, and inclined intermediate partitions con-

sisting of two parts extending partially one over the other, the lower part having an aperture at its lowest point.



3. In apparatus of the character described, superposed chambers, bottoms closing these chambers below, groups of upright tubes open above and below, the lower ends of the tubes of each group extending through the bottom of the chamber inclosing such group, and inclined intermediate partitions consisting of two parts extending partially one over the other, the lower part having an aperture at its lowest point, and a gutter extending over nearly the whole lower edge of the upper part of said partition.

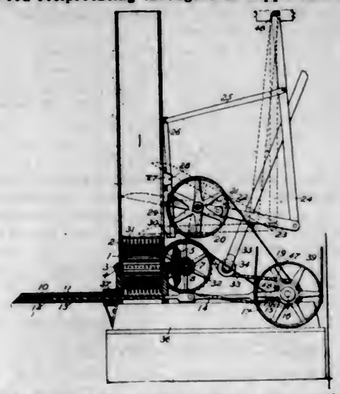
4. In apparatus of the character described, superposed chambers, bottoms closing these chambers below, groups of upright tubes open above and below, the lower ends of the tubes of each group extending through the bottom of the chamber inclosing such group, swan's necks connected with the lower part of the aforesaid chambers and adapted to be closed, and inclined intermediate partitions consisting of two parts extending partially one over the other, the lower part having an aperture at its lowest point.

5. In apparatus of the character described, superposed chambers, bottoms closing these chambers below, groups of upright tubes open above and below, the lower ends of the tubes of each group extending through the bottom of the chamber inclosing such group, overflow tubes provided in each group of upright tubes and having a shorter length than the latter, swan's necks connected with the lower part of the aforesaid chambers and adapted to be closed, inclined intermediate partitions consisting of two parts extending partially one over the other, the lower part having an aperture at its lowest point, and a gutter extending over nearly the whole lower edge of the upper part of said partition.

865,934. MACHINE FOR STUFFING HORSE-COLLARS. LEONARD J. POWERS, Waterloo, Iowa, assignor to The Powers Manufacturing Company, Waterloo, Iowa. Filed Aug. 30, 1906. Serial No. 332,709.

1. In a machine for stuffing collars, the combination with a hopper, of two interacting distributing drums rotatably mounted in said hopper so as to draw down the material between them, radial pins on said drums, means for causing rotation of said drums toward each other inwardly from above, a tube connected with the hopper and a rod reciprocating through the hopper and tube, said rod having two rows of teeth arranged on opposite sides on its upper surface, and respectively located below and between the interacting pins on said drums.

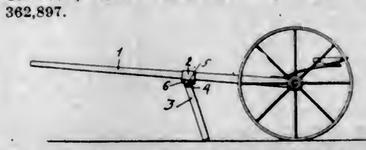
2. In a machine for stuffing collars, the combination with a hopper, of two interacting distributing drums rotatably mounted in said hopper, radial pins on said drums, a lever in said hopper for dislodging the material from the hopper upon and between said drums, a rotatable shaft having a crank-arm, linking means between said lever and said crank-arm, a tube connected with the hopper, and a toothed rod reciprocating through said hopper and tube.



3. In a machine for stuffing collars, the combination with a hopper having a slot in one wall, of a packing-rod reciprocating through said slot and hopper to dislodge and push down the material therein, a reciprocating block movable in and out of the bottom of said slot adapted to move into the slot when said packing-rod is elevated, means for distributing the said material in the hopper, a tube connected with said hopper, and a toothed rod reciprocating in said hopper and tube.

4. In a machine for stuffing collars, the combination with a slotted hopper having a reciprocating packing-rod therein and a reciprocating block movable into and out of the bottom of the slot therein, such block being adapted to move into said slot only when said packing-rod is lifted, of interacting distributing drums provided with radial pins, a tube communicating with said hopper, and a toothed rod reciprocating below and between said drums and in and through said hopper and tube.

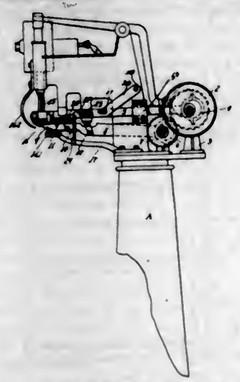
865,935. TONGUE-SUPPORT. JUDSON PUFFENBERGER, Charlotte, Mich. Filed Mar. 18, 1907. Serial No. 362,897.



In a tongue support for grain binders, a clamp adapted to encircle the tongue of the machine and having its ends bent inwardly and downwardly to form ears which normally stand at a distance apart and are perforated, a swivel bolt through two of said perforations and clamping bolts through the other perforations, said clamping bolts being upon opposite sides of the swivel bolt, and a support pivotally mounted upon the swivel bolt at its upper end between said ears and inclined to the rear with its lower end when the machine is moving forward, but is adapted to stand vertically underneath and support the tongue when the machine is standing still.

865,936. LASTING-MACHINE. CHARLES F. PYM, Essex, Ontario, Canada, assignor of one-half to Krentler Brothers Company, Detroit, Mich. Filed May 25, 1903. Serial No. 158,660.

1. In a lasting machine, tack-driving mechanism, in combination with pincers and pincer-operating mechanism, and a smoothing finger and its operating mechanism, constructed and arranged to move the pincers and smoothing finger into holding engagement with the leather and into position to operate on the leather in stretching it down flat on the bottom of the last and to maintain said engagement while the leather is being tacked, the pincer-operating mechanism serving to hold the pincers down hard upon the last and leather during the tack driving.



2. In a lasting machine, tack-driving mechanism, in combination with pincers and pincer operating mechanism, and a smoothing device and its operating mechanism the smoothing device being located adjacent the pincers, constructed and arranged to move the smoothing device rapidly a plurality of times adjacent and during one slow movement of the pincers, previous to the operation of the tack-driving mechanism to drive a tack.

3. In a lasting machine, tack-driving mechanism, pincers for positively gripping and pulling-over the upper, and operating mechanism causing said pincers to retain their positive pulling grip upon the upper leather until the tack is driven, combined with auxiliary rubbing means constructed and arranged to reciprocate rapidly a plurality of times to one pulling movement in smoothing and pressing the leather forward as it is being pulled by the pincers previous to said tacking operation.

4. In a lasting machine, tack-driving mechanism, pincers for positively gripping and pulling-over the upper, operating mechanism causing said pincers to retain their positive pulling grip upon the upper until the tack is driven, auxiliary means operating just behind said pincers for smoothing and pressing forward the leather as it is being pulled by the pincers, and means for imparting to said auxiliary means a high speed in rubbing contact with the leather while the pincers are pulling the leather slowly forward ahead of said smoothing means.

5. In a lasting machine, pulling-over pincers, operating means therefor, a smoothing device, and means operating during the pulling movement of the pincers to cause said smoothing device to engage the leather repeatedly with a pushing movement faster than the pulling movement of said pincers.

6. In a lasting machine, pulling-over pincers for gripping and pulling the upper over the last, means for imparting to said pincers a slow pulling movement, smoothing mechanism for working said pulled leather forward, including a side-pounding device, and operating means for said mechanism causing the latter to engage the leather rapidly with a sliding, rubbing movement.

7. In a lasting machine, the combination of slow-moving pulling-over pincers, a quick-moving smoothing device, and a quick-moving side pounding device, all three parts being capable of independently yielding in their engagement with the upper, and actuating mechanisms for said three parts constructed and arranged to permit a plurality of movements of the smoothing device and pounding device to a single pulling movement of the pincers.

8. In a lasting machine, pulling-over pincers, and operating mechanism constructed and arranged to move said pincers upwardly and then forwardly and into pressing engagement with the upper-leather and last, said pincers and operating mechanism being constructed and arranged to press the leather flat down upon, and in contact with, the last from the edge of the last to the pincers.

9. In a lasting machine, tack-driving mechanism, pulling-over pincers, and operating mechanism constructed and arranged to move said pincers upwardly and then forwardly and into pressing engagement with the upper-leather and last, said pincers and operating mechanism being constructed and arranged to press the leather flat down upon the last at the nailing point, including means for maintaining said pincers closed on the leather until the tack is driven.

10. In a lasting machine, a tack-driver and its operating mechanism, combined with pulling-over pincers and their operating mechanism, constructed and arranged to move said pincers with a stretching upward-and-forward movement terminating in a stationary pressing contact against the last and against the shoe upper, said pincers being constructed to force the shoe upper in a downward direction against the last at the point receiving the tack, while the tack is being driven.

11. In the smoothing finger of a lasting mechanism, in combination with a finger provided with forked prongs adapted to rest over the last, and a hanger carried by said finger, a sliding stem pivotally supporting said hanger and extending along the underside of said finger and its supporting means, and a sliding abutment behind said hanger.

12. In a lasting machine, in combination with a smoothing finger, means for producing an orbital movement thereof, a hanger, a yielding stem for said hanger, and a yielding abutment behind said hanger.

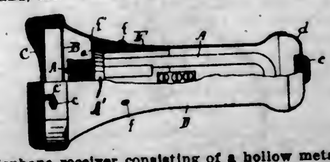
13. In combination with a smoothing finger for a lasting machine, a hanger, a yielding stem for said hanger, a yielding abutment behind said hanger, and means whereby the resistance of said abutment may be adjusted.

14. In a lasting machine, the combination of a reciprocatory arm, a finger pivoted to the end of said arm, a spring retainer limiting the movement of the finger with respect to said arm, an abutment carried by said finger, but arranged to yield with respect thereto, a pivoted hanger, and a yielding stem for said hanger.

15. In a lasting machine, the combination of a reciprocatory arm, and means for actuating the same, a swinging arm pivotally connected to said arm, a sliding pincer support carried on the swinging arm and means for producing actuation of the pincer support by the reciprocating arm, a pincer jaw fixed to the slide, a second pincer jaw pivoted to the slide, an actuator for the pivoted pincer jaw, a pivoted abutment carried on the swinging arm arranged to engage the jaw actuator, and means whereby the pivoted abutment may be swung.

16. In a lasting machine, the combination of a nailing mechanism, a smoothing finger having a forked end, means for causing the same to reciprocate horizontally, pincers having a fixed and a movable jaw, said fixed jaw engaging between the forked ends of said smoothing finger and containing a nail-passage to guide a nail into position for driving before the material is released from engagement between the two jaws, and actuating means for said pincers, including means for actuating one of the jaws of said pincers and means for thereafter causing the contemporaneous actuation of both jaws.

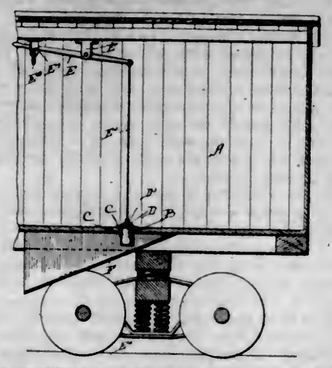
865,937. TELEPHONE-RECEIVER. EDWIN J. QUINBY, Portland, Me. Filed Nov. 22, 1905. Serial No. 288,616.



A telephone receiver consisting of a hollow metal casing flared at its outer end, an insulating bushing secured within such flaring portion and formed with an internal

rabbet in its outer end, the rim of said rabbet being flared internally, the magnet, a magnet head supporting the same and seated within said rabbet, the periphery of said head being flared to correspond with the flare of said rim, and means connecting the head and bushing for forcing said head into seated position.

865,938. GRAIN-CAR. CARMEN RAGO, Chicago, Ill. Filed Jan. 26, 1907. Serial No. 354,321.

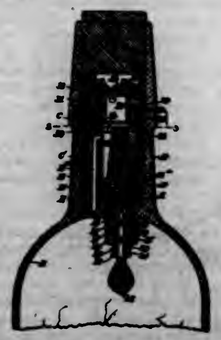


1. The combination with a grain car provided with openings in its bottom, of apertured plates arranged over said openings provided with tubes fitting in said openings, a tube arranged in said tubes and spaced therefrom, cap valves provided with depending arms working between said tubes, and operating means connected to said valves, for the purpose described.

2. The combination with a car provided with openings in its bottom, of apertured plates arranged over said openings provided with tubes fitting in said openings, tubes of a smaller diameter arranged in said tubes, and spaced therefrom by pins, caps provided with depending arms slidably mounted between said tubes, and lugs formed on said arms adapted to engage said pins, for the purpose described.

3. The combination with a car having openings formed in its bottom, valve casings arranged in said openings, cap valves slidably mounted in said casings, operating means connected to said valves, and means for limiting the upward movement of the valves for the purpose described.

865,939. NON-REFILLABLE BOTTLE. EDWIN R. RAMSDEN, Jersey City, N. J. Filed Dec. 10, 1906. Serial No. 347,006.



1. In a non-refillable bottle, a stopper that is a fixture in the neck of the bottle, said stopper being provided with a covered liquid outlet and exposed liquid inlet, an inlet for air, and a weight-controlled valve at the inlet portion of the stopper.

2. In a non-refillable bottle, a stopper that is a fixture in the neck of the bottle, said stopper being provided with a covered liquid outlet and exposed liquid inlet, an air inlet, a weight-controlled valve at the air inlet of the stopper and a float having movement to and from the valve portion of the air inlet, acting conjointly with said valve and likewise as an auxiliary valve for said air inlet.

3. In stoppers for non-refillable bottles, a covered liquid outlet and an exposed liquid inlet, an air inlet chamber, and a weighted valve for the air inlet chamber and a float located between the air inlet and liquid outlet, and acting as an auxiliary valve for the air inlet, as described.

4. In a non-refillable bottle, a stopper that is a fixture in the neck of the bottle, said stopper being provided with a covered liquid outlet and an exposed liquid inlet, an air inlet and a valve at the inlet portion of the stopper, a weighted lever controlling the movement of the said valve, and a float above the valve and acting in conjunction therewith.

5. In a non-refillable bottle, a stopper that is a fixture in its neck, said stopper being provided with a covered liquid outlet, an exposed liquid inlet and an adjacent air inlet, and an interposed chamber between the liquid outlet and the air inlet, a valve having sliding movement relatively to the interposed chamber and located at the air inlet portion of the stopper, a lever controlling the opening movement of said valve, and a float located in said interposed chamber adapted for co-action with the valve.

6. In non-refillable bottles, a stopper fitted to the neck thereof, which stopper is provided with an air inlet, a valve slidably mounted in the said inlet, a tension device acting to normally seat the valve, and a universally-pivoted weight connected with the valve, acting to unseat the same when the bottle to which it is applied is upturned.

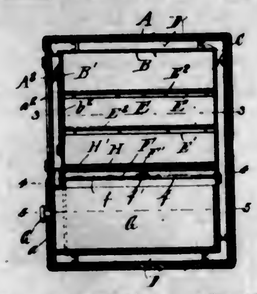
7. In a non-refillable bottle, a stopper adapted as a fixture in the neck of the bottle and provided with an air channel in its lower end, a valve slidably mounted in the said air channel, a float operatively located above the said valve and in normal contact therewith, a spring for holding the valve seated, and a universally-pivoted weight connected with the valve to unseat the same when the bottle is upturned.

8. In a non-refillable bottle, a stopper adapted as a fixture in the neck of the same, the said stopper being provided with an inlet at its inner or lower end, an air channel at the same end and with a covered outlet at its upper or outer end, and an interposed chamber connecting the inlet with the outlet, a valve mounted to slide in the air channel of the stopper, a float located in the said interposed chamber in normal engagement with the said valve, a spring acting to normally seat the valve, a weighted lever having universal movement relative to the valve and being adapted to unseat the valve when the bottle is upturned.

9. In a non-refillable bottle, a stopper adapted as a fixture, having an inlet and a covered outlet and a chamber connecting the two, a float located in the connecting chamber and the said stopper being likewise provided with an air channel leading into the connecting chamber, a valve having sliding movement in said air channel, which valve has a tubular stem, a spring acting to seat the valve, a rod fixedly located within said tubular stem, extending out therefrom, and a weight universally connected with the end of said rod, adapted when the bottle is upturned to have bearing on the valve stem to unseat the valve and overcome the resistance of its seating spring.

865,940. STOVE. MARION W. RANDOLPH, Seattle, Wash. Filed Feb. 5, 1907. Serial No. 355,822.

1. The stove herein described comprising the outer box or case, the inner box or case spaced apart from the outer box, a partition plate dividing the box or case into a heater section and an oven section and provided with openings through which cooking vessels may be inserted and with openings for the introduction of water and with means for covering said latter openings, a drawer sliding into the box or case below the said partition plate, the outer side of the drawer and of the outer box being covered with a suitable insulating material, a bottom plate for the oven section arranged above the perforated partition plate and adapted to be lifted to permit access to the perforated partition plate, the said inner and outer boxes or cases having openings and doors for closing the same, substantially as set forth.



2. A stove or heater having a casing adapted to receive quicklime or the like and a lid or cover therefor having openings through which cooking vessels may be inserted to project into the heating medium.

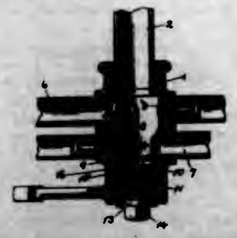
3. A box or casing having an upper or oven section and a lower or heating section and provided with a lime holder in the form of a drawer movable into and out of the box or case and a plate forming a lid or cover for the drawer when introduced into the box or case and having openings through which cooking vessels may be inserted into said drawer, substantially as set forth.

4. A stove comprising a box or case having an upper or oven compartment and a lower or heating compartment and a removable lime holder adapted to be inserted in the lower or heating compartment and a plate forming a bottom for the oven compartment and adapted to be lifted to permit access to the lime holder when the latter is introduced into the box or case, substantially as set forth.

5. A stove tapering in cross section toward its rear edge and having an upper and a lower compartment and a drawer fitting removably in the lower compartment, a perforated partition plate above said drawer and a removable plate above the perforated partition plate, substantially as set forth.

6. The combination of a lime holder in the form of a drawer, a case receiving said drawer, a plate forming a lid for the drawer when the latter is inserted in the case, and having openings through which vessels may be inserted into the drawer to project into the heating medium therein.

865,941. PNEUMATIC TRACK-SANDER. HENRY RAU, Jr., Baltimore, Md., assignor of one-fourth to William H. Rhine and one-fourth to George Edwin Demuth, Baltimore, Md. Filed July 31, 1906. Serial No. 328,511.



1. A pneumatic track-sander comprising a valve casing having a sand storage chamber and a plurality of sand-discharge openings; a sand supply-pipe communicating with said storage chamber; a valve in said chamber and controlling the sand discharge openings therein so as to open one at a time; a rack movable with the valve; a gear meshing with the valve rack; an air inlet in said chamber, and means for operating the gear.

2. A pneumatic track-sander comprising a valve casing having a sand storage chamber with a sand discharge opening; a sand supply pipe communicating with said storage chamber; a valve in said chamber; a rack movable with said valve; a gear meshing with the valve rack; an air inlet in said chamber and means for operating the gear.

3. A pneumatic track-sander comprising a valve casing having a sand storage chamber with a sand discharge opening; a sand supply pipe communicating with said storage chamber; a hollow valve in said storage chamber through which the sand may pass to the discharge opening in the casing; a rack movable with the hollow valve; a gear meshing with the valve rack; an air inlet, and means for operating the gear.

4. A pneumatic track-sander comprising a valve casing having a sand storage chamber with a plurality of sand-discharge openings; a plurality of air nozzles entering the chamber; a valve in said chamber and capable of oscillating therein to open one sand discharge opening at a time; a rack on the exterior of the chamber and moving with said valve, a segment gear carried at the side of the casing and meshing with the rack of the valve, and means for operating the gear.

5. A pneumatic track-sander comprising a casing having a chamber with sand-discharge openings; an air-nozzle entering the chamber; an oscillating valve in said chamber; a cup-collar engaging the casing and projecting beneath the valve; a gear on the valve; a gear carried by the casing and meshing with the valve gear, and means for operating said gears.

6. A pneumatic track-sander comprising a casing having a chamber with sand-discharge openings; an air nozzle in said chamber; an oscillating valve; means coacting between the casing and the valve to limit the movement of the latter; a gear carried by said valve; a gear meshing with the valve gear, and means for operating said gears.

7. A pneumatic track sander comprising a casing having a chamber with sand-discharge openings; an air-nozzle in said chamber; an oscillating valve in said chamber; a cup-collar engaging the casing and in which the valve turns; lugs projecting from the casing; a gear carried by the valve; a lug on the gear and projecting between the lugs on the casing; a gear meshing with the valve gear, and means for operating said gears.

865,942. PNEUMATIC TRACK-SANDER. HENRY RAU, Jr., Baltimore, Md., assignor of one-fourth to William H. Rhine and one-fourth to George Edwin Demuth, Baltimore, Md. Filed Apr. 20, 1907. Serial No. 369,192.

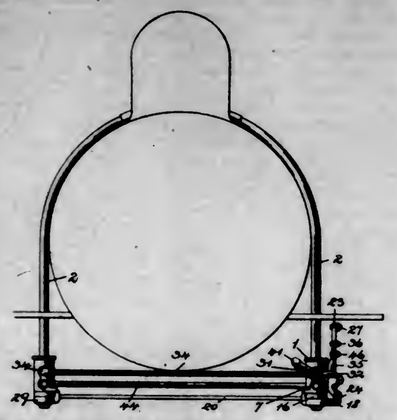
1. A pneumatic sander having a sand outlet a valve for controlling the same; an air-inlet, a valve for controlling the said air inlet, and means whereby said outlet and inlet valves may be actuated by a single operation.

2. A pneumatic sander having a sand chamber, a sand valve movable in said chamber to stir the sand, an air-inlet in said chamber, an air valve for controlling the air inlet, and means for moving the air valve and sand valve simultaneously.

3. A pneumatic sander having a plurality of sand chambers each having an air inlet and a sand outlet; a sand valve in each of said chambers; means for connecting the sand valves of said chambers so they may be operated in unison; an air pipe connecting the air inlets of said chamber; a valve for controlling the air through said pipe, and means for operating the air valve and the sand valves of both chambers simultaneously.

4. A pneumatic sander having a sand chamber with an air inlet and a sand outlet; a sand valve in said chamber; means for operating the sand valve; an air controlling valve, and means for connecting the operating means of the sand valve and the air valve whereby the movement

of one of said valves will cause the other valve to be moved.



5. A pneumatic sander having a sand controlling valve, an air controlling valve; an operating device, and means coacting between the operating device and both of said valves whereby to operate both valves simultaneously.

6. A pneumatic sander having a sand valve for controlling a plurality of sand outlets; a plurality of air valves, and means whereby said valves may be operated to simultaneously open one air valve and one sand outlet at a time.

7. A pneumatic sander having a sand chamber with a plurality of sand outlets, a sand valve for controlling the escape of sand through said outlets; a plurality of air valves supplying air to said chamber, and means for operating said valves whereby but one sand outlet and one air valve will be opened at a time.

8. A pneumatic sander having a plurality of sand outlets, a valve for controlling said outlets, an air valve; an operating device, and means whereby the operating device may be moved to cause the sand valve to open one sand outlet and to simultaneously open the air valve.

9. A pneumatic sander having a plurality of sand outlets, a valve for controlling said outlets; an air valve; an operating device, and means connecting the said valves with the operating device whereby they may all be operated simultaneously.

10. A pneumatic sander having a plurality of sand outlets, a valve for controlling all of said outlets; an air valve coacting with each sand outlet, and means whereby when one sand outlet is opened the corresponding air valve will be opened.

11. A pneumatic sander having a sand outlet for the forward sander and another outlet for the rear sander, a valve for controlling both of said sand outlets; an air-inlet valve for the forward sander; an air-inlet valve for the rear sander, and means connecting the sand controlling valve with the air inlet valves whereby to operate them to open one sand outlet and one air inlet at a time.

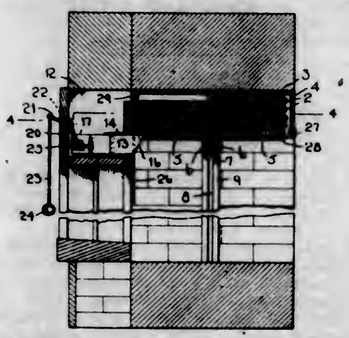
12. A pneumatic sander having a sand chamber with a plurality of sand outlets and a plurality of air inlets; a sand valve for controlling said outlets; an air valve for each of said air inlets; a single operating device, and means for connecting said valves with the operating device whereby but one air valve and one sand outlet may be opened at a time and all of said valves and outlets may be closed at one time.

13. A pneumatic sander having a sand chamber with a plurality of sand outlets and a plurality of air inlets; a sand valve for controlling said outlets; an air valve for each air inlet; an operating device for moving the sand valve to open one sand outlet at a time; means for connecting the air valves with the operating device of the sand valve, and an operating rod connected with operating device of the sand valve for moving all of said valves.

14. A pneumatic sander having a plurality of sand outlets; an air inlet valve coacting with each sand outlet; an air supply pipe leading to both air inlet valves; an operating device and means for connecting the sand and air valves with said operating device.

15. A pneumatic sander having a plurality of sand outlets; a single sand valve for controlling said outlets; an air-inlet valve for each of said outlets; an operating rod; means coacting between said rod and the sand valve whereby the latter may be moved to stir the sand each time the rod is moved and means for connecting the air inlet valves so as to cause them to open but one at a time upon the movement of said operating rod.

865,943. FIRE-SHUTTER. RALPH R. REED, San Francisco, Cal. Filed Nov. 1, 1906. Serial No. 341,598.



1. A fire shutter comprising a series of horizontally-disposed slats hingedly connected together, means to secure the upper end of the shutter to the masonry at the top of the window frame, means to raise said shutter, a catch for holding the shutter raised, means for releasing the catch electrically, and means for releasing the catch manually substantially as described.

2. A fire shutter comprising a series of horizontally-disposed slats hingedly connected together, a supporting plate to which the upper end of said curtain is hingedly connected, means to raise said shutter, a pivoted catch to hold the same in a raised position, one end of which forms an armature, and an electro-magnet and manual mechanism, each adapted for actuating said catch by means of said end substantially as described.

3. A fire shutter comprising a series of horizontally-disposed slats hingedly connected together, means to secure the upper end of the shutter to the masonry at the top of the window frame, guide lugs formed on the ends of said slats, channeled guide-pieces arranged on the wall at the ends of the shutter to receive said lugs, a plate or panel secured to the lower slat of the curtain, a pivotally mounted catch arranged at the upper end of the window casing and engaged beneath the lower plate of the shutter, and an electro-magnet adapted to attract said catch and to disengage the same from the lower plate of the shutter to permit the latter to drop, substantially as described.

4. A fire shutter comprising a series of slats loosely connected together, means to secure the upper end of the shutter to the masonry at the top of a window frame, a plate secured to the lower slat of the shutter, a pivotally mounted bell crank lever arranged at the upper end of the inner casing, a catch on one end of said lever to engage beneath the lower plate of the shutter to hold the same in a raised or folded position, an armature formed on the opposite end of said bell crank lever, a magnet to retract said armature end of the lever, thereby disengaging the catch end of the same from the shutter, and means to manually actuate said lever, substantially as described.

5. A fire shutter comprising a series of slats loosely connected together, means to secure the upper end of the shutter to the masonry at the top of a window frame, a plate secured to the lower slat of the shutter, a spring retracted bell crank lever having on one end a catch to engage the lower plate of the shutter, an armature on the opposite end of said lever, an electro-magnet adapted to attract said armature to release the catch end thereof from beneath the folded shutter, a rock shaft having on one end a lug adapted to be engaged with and to actuate said bell crank lever, a crank on the opposite end of said rock shaft, and an operating rod connected to said crank arm, substantially as described.

6. A fire shutter comprising a series of slats hingedly connected together, means to secure the upper end of said shutter to the masonry at the top of the window frame, a plate or panel on the lower end of said shutter, a guide strip arranged in said plate and projecting beyond the opposite ends of the same, channeled guide strips secured to the sides of the window opening to receive the projecting ends of said guide strip, guide lugs formed on the opposite ends of the slats to slide in said guide channels, means to raise said shutter to a folded position at the top of the window, a supporting mechanism to hold said shutter in an elevated position, and means to release said supporting mechanism, substantially as described.

7. A fire shutter comprising a series of slats hingedly connected together, means to secure the upper end of said shutter to the masonry at the top of the window frame, a plate or panel on the lower end of said shutter, a guide strip arranged in said plate and projecting beyond the opposite ends of the same, channeled guide strips secured to the sides of the window opening to receive the projecting ends of said guide strip, guide lugs formed on the opposite ends of the slots to slide in said guide channels, a hoisting cable connected at one end to the upper outer portion of the window, guide pulleys arranged in the lower end of the shutter, and a guide pulley arranged at the upper inner portion of the window to receive said cable, substantially as described.

8. A fire shutter comprising a series of horizontally-disposed slats hingedly connected together, a supporting plate arranged in the masonry at the upper outer portion of the window opening to receive the shutter when in a folded position, a bottom plate or panel secured to the lower slat of the shutter, guide lugs formed on said slats and said lower plate, channeled guide strips to receive said lugs, a hoisting cable connected at one end to the outer end of said supporting plate, guide pulleys arranged in the opposite edges of said lower plate or panel of the shutter around which said cable is adapted to pass, a guide pulley secured to the inner edge of said supporting plate to receive the inner end of the hoisting cable, a casing arranged at the upper end or top of the window, a supporting catch pivotally mounted in said casing to engage the lower plate of the shutter and support the latter in a raised or folded position, an electric releasing mechanism connected to said catch, and a manually-operating rock shaft adapted to be engaged with the catch to release the same from engagement with the shutter, substantially as described.

865,944. TANK-LUG. JOHN REICHERT and CHARLES S. BEEBE, Racine, Wis. Filed Mar. 7, 1903. Serial No. 146,626.



1. As an article of manufacture, a tank lug comprising a longitudinal base on which a flat band is adapted to seat, and a coupling bolt eye formed by an inner cross web or bridge portion and an outer cross web or bridge portion arranged adjacent and in different transverse planes, the eye being open above the inner web and below the outer web, substantially as described.

2. As an article of manufacture, a tank lug comprising a flat base on which a flat band is adapted to seat and an open frame extending from one end of the base and at its outer end having a coupling bolt eye formed by two adjacent cross webs arranged in different transverse planes, one of said webs being arched outwardly to pass over a coupling bolt and the other web depressed to pass under said coupling bolt, substantially as described.

3. As an article of manufacture, a tank lug having a base adapted to receive a band and a portion arranged beyond said base and provided with a coupling bolt eye formed by two adjacent cross webs arranged in different transverse planes, one of said webs arched outwardly, and the other web depressed inwardly, said portion being open below and above said webs, respectively, substantially as described.

4. In combination, two tank lugs, and a coupling bolt and its heads or nuts, each lug comprising a flat base adapted to receive a band and provided with means to confine the band thereon and a coupling bolt eye arranged at the end of the lug and formed by an inner transverse web or portion passing under said bolt and an outer transverse web or portion arched outwardly and passing over said bolt in a plane to one side of the plane of said inner web, the outer side face of said outer web forming a bearing seat for a nut or head on said bolt said lug being open above said inner web and below said outer web, substantially as described.

5. A coupling lug formed in one piece and consisting essentially of a longitudinal flat base and an enlarged loop frame extending forwardly and horizontally beyond the front end of said base and comprising opposite longitudinal side members connected at the front end of the lug by a transverse portion forming an elevated coupling bolt eye a distance in advance of the front end of said seat and separated therefrom by the opening between the side members of said frame, said side members provided with rigid transverse stop fingers in advance of the front end of said seat and arranged over the opening of said frame, substantially as described.

6. A tank lug comprising a flat longitudinal base having a rigid stud projecting therefrom and provided with side portions, and a transverse elevated stop device rigid with said portions and arranged beyond the inner end of said base, the lug being open below said device, said lug having a coupling bolt eye at its inner end, and a flat band adapted to fit longitudinally on said base and receive said stud and project beyond the base under said device, substantially as described.

7. A coupling lug formed in one piece and comprising longitudinal opposite side members at the forward end of the lug connected by a transverse portion forming an elevated coupling bolt eye, a longitudinal flat band receiving seat between said side members and terminating a distance in rear of said transverse portion, and a transversely disposed stop device rigid with said side members and beyond an end edge of said seat and elevated above the plane thereof, said lug being open between side members and below said stop device, substantially as described.

8. A coupling lug formed in one piece and consisting essentially of a longitudinal flat base and an enlarged loop frame extending forwardly and horizontally beyond the front end of said base and comprising opposite longitudinal side members connected at the front end of the lug by a transverse portion forming a coupling bolt eye a distance in advance of the front end of said seat and separated therefrom by the opening between the side members of said frame and having its nut engaging face over said opening, said side members provided and formed with rigid transverse elevated stop means in advance of the front end of said seat and arranged over the opening of said frame.

865,945. TIE. JOHN ROBERTS and JAMES E. BLISS, Faust, N. Y. Filed Jan. 19, 1907. Serial No. 353,165.

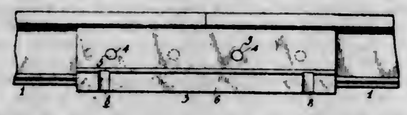
A tie formed with a central depression, and beyond said depression with transversely extending rail receiving recesses, a portion of the tie overlying a part of each recess, a tie plate extending from one recess to the other and ter-

minally formed to overlie a portion of each recess, and bolts having removable engagement with the walls of the depression and adapted to secure the tie plate in place, in



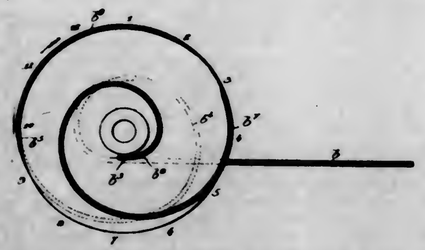
combination with tie reinforcing plates to be secured to the rail and rest upon the recess overlying portions of the tie plate.

865,946. RAIL-JOINT. JOHN P. RODGERS, Youngstown, Ohio. Filed Nov. 28, 1906. Serial No. 345,459.



A rail joint comprising a pair of fish plates adapted to be engaged with the opposite sides of the web of the rail ends, said fish plates having beveled upper edges to engage the under sides of the rail head, and a series of apertures, a series of inwardly-projecting lugs formed on the inner sides of said fish plates between the apertures therein, the lugs of one plate being adapted to be engaged with the apertures of the opposite plate and with apertures formed in the webs of the rail ends, and chair sections formed on the lower ends of the fish plates to engage the flanges of the rail ends, said chairs comprising upper and lower flange engaging plates integrally-connected at their outer edges and having formed therein notches or recesses to receive spikes for holding the same on the ties, substantially as described.

865,947. SPINNING-MULE. WILLIAM D. RUNDLETT, North Andover, Mass., assignor to Davis & Furber Machine Company, North Andover, Mass., a Corporation of Massachusetts. Filed May 11, 1906. Serial No. 316,287.

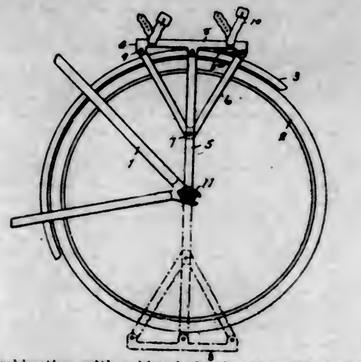


1. In a mule, a carriage, a scroll-shaft having two scrolls, one being a check-scroll, the mating curves of said scrolls being unlike, and ropes connecting said scrolls with said carriage.

2. In a mule, a carriage, a drawing in scroll, and a check-scroll, ropes connecting said scrolls with said carriage, the mating curves on the peripheries of the scrolls being unlike.

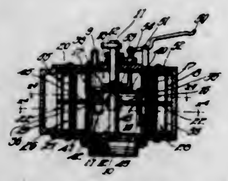
3. In a mule, a scroll shaft, two scrolls thereon one being a check-scroll the mating grooves of which differ in radius at corresponding points, and ropes connecting said scrolls and carriage, the rope surfaces of the scrolls being such that the maximum tension on the ropes is maintained when the carriage starts on its inward run, said tension being decreased as the speed of the carriage is increased, and thereafter increased as the speed of the carriage is decreased during the completion of its inward run.

865,948. COMBINED LUGGAGE-CARRIER AND STAND. WILLIAM G. SCHAEFFER, Reading, Pa., assignor, by mesne assignments, to Reading Standard Company, a Corporation of Pennsylvania. Filed Apr. 30, 1906. Serial No. 314,404.



In combination with a bicycle having a mud guard over its rear wheel, a combined luggage carrier and stand comprising members pivoted to the rear axle of the bicycle and on opposite sides of the rear wheel thereof, V-shaped members attached to the first said members, a platform connecting the ends of all of said members together, straps attached to said platform, and a tongue attached to said platform and adapted to engage the mud guard of the bicycle.

865,949. VALVE FOR FLUID-PRESSURE ENGINES. WILLIAM C. SCHAFF and JACOB A. E. FRIEDERICHS, San Bernardino, Cal. Filed Apr. 10, 1905. Serial No. 254,736.



1. The combination with an engine cylinder, of a valve therefor comprising a valve cylinder having port connections to opposite ends of the cylinder, a valve member rotatably mounted within said cylinder and having steam and exhaust chambers and provided with port chambers communicating, in the rotation of the valve, alternately with the cylinder port connections aforesaid, and valve means controlling communication between said port chambers and the steam and exhaust chambers of the valve.

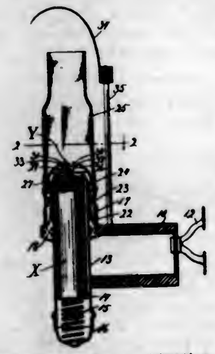
2. The combination with an engine cylinder, of a valve therefor comprising a valve cylinder having port connections to opposite ends of the cylinder, a valve member rotatably mounted within said cylinder and having steam and exhaust chambers, and provided with port chambers communicating, in the rotation of the valve, alternately with the cylinder port connections aforesaid, and valve means controlling communication between said port chambers and the steam and exhaust chambers of the valve, said valve means comprising parts reversing communication from the steam and exhaust chambers to the respective port chambers.

3. The combination with an engine cylinder, of a valve therefor comprising a valve cylinder having port connections to opposite ends of the cylinder, a valve member rotatably mounted within said cylinder and having steam and exhaust chambers, and provided with port chambers communicating, in the rotation of the valve, alternately with the cylinder port connections aforesaid, and valve

means controlling communication between said port chambers and the steam and exhaust chambers of the valve, said valve means comprising parts reversing communication from the steam and exhaust chambers to the respective port chambers, and the rotatable valve member being provided with oppositely directed deflecting means in the respective port chambers for causing reverse rotation of said member under said reverse connections.

4. The combination with a plurality of alternately acting engine cylinders, of a valve cylinder having a plurality of angularly disposed sets of ports leading to the ends of the respective cylinders, a rotatable valve member within the valve cylinder, having a plurality of circumferentially disposed port chambers communicating with the aforesaid port connections in the rotation of said member, and pressure supply and exhaust connections to said rotatable valve member.

865,950. CANDLE-LAMP. FRANK A. SCHUETZ, Chicago, Ill., assignor to The Adams & Westlake Company, a Corporation of Illinois. Filed Aug. 6, 1906. Serial No. 329,390.



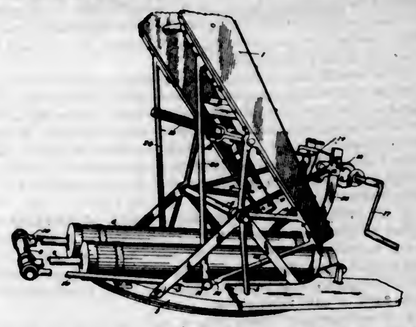
1. In a candle lamp, in combination, a candle tube having a contracted orifice at its upper end, a centrally apertured plate above and spaced apart from the end of the tube, and having ports at opposite sides of its central aperture, the inner and outer walls of such ports being upwardly and inwardly directed.

2. In a candle lamp, in combination, a tubular body having a contracted orifice at its upper end, a plate above and spaced apart from the body and having a central aperture with in-standing downwardly inclined flanges at opposite ends thereof, said plate being ported at the remaining sides of its central aperture.

865,951. LADDER. FREDERIC S. SEAGRAVE, Detroit, Mich. Filed July 2, 1906. Serial No. 324,339.

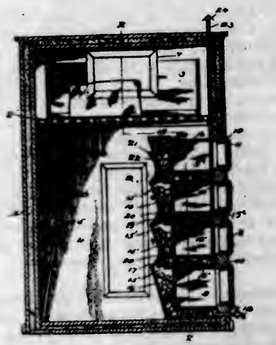
1. A ladder elevating device comprising a ladder body mounted upon a pivot shaft passing through the apexes of supporting frames mounted upon the turn table, casings mounted in fixed horizontal position upon said turn table, springs inclosed within said casings, plungers operating within said casings and adapted to be actuated in a horizontal line by said springs, a transverse shaft connecting the external ends of said plungers, angular frames independent of said ladder supporting frames secured to said ladder body on opposite sides of said pivot shaft, and depending therefrom and having their lower ends in proximity to said turn table, rods pivotally secured to the lower ends of said frames and connecting the same with said transverse shaft, whereby the expansive force of said springs is communicated to said ladder body to elevate the same, and means for controlling the elevation of said ladder and locking the same at any desired point.

2. A ladder elevating device comprising in combination with a ladder body mounted upon a pivot shaft intermediate said ladder body and the turn table, said pivot shaft passing through the apexes of supporting frames secured respectively to the turn table and to the ladder body, of casings mounted in fixed horizontal position upon said turn table, springs inclosed within said casings, plungers operating within said casings and adapted to be actuated in a horizontal line by said springs, a transverse shaft connecting the external ends of said plungers, angular frames independent of said ladder supporting frames secured to said ladder body on opposite sides of said pivot shaft, and depending therefrom and having their lower ends in proximity to said turn table, rods pivotally



secured to the lower ends of said frames and connecting the same with said transverse shaft, whereby the expansive force of said springs is communicated to said ladder body to elevate the same, and a screw mounted above said pivot shaft, in pivotal bearings disposed on opposite sides of said pivot shaft, one of said bearings being secured to said ladder body, and the other secured upon an independent frame rising from said turn table, said screw being adapted to control the elevation of said ladder and to lock the same at any desired point.

865,952. REFRIGERATOR. HARRY J. SHANNEN, Atlanta, Ga. Filed Oct. 28, 1905. Serial No. 284,863.



1. A refrigerator, comprising a body, a casing positioned within the lower part of said body, an ice receiving receptacle positioned within said body above said casing, and a plurality of receptacles partly surrounded by said casing, said casing and said receptacles being spaced apart for permitting ice to be packed therebetween for forming auxiliary cooling means.

2. A refrigerator comprising a body provided with a series of alined receptacles, partitions interposed between said receptacles, means for supporting a cooling agent against all sides of said receptacles and against the rear wall thereof, vent pipes carried by said body and communicating with said receptacle, means for preventing a

sudden influx of air into said receptacles through said pipes, and an ice receptacle formed within said body.

3. A refrigerator, comprising a body provided with parallel arranged receptacles, vertical vent pipes carried by said body and communicating with each of said receptacles, means for supporting a cooling agent contiguous to said receptacles, valved means carried by said agent supporting means, movable doors supported upon said cooling agent supporting means, and an ice receptacle formed in said body.

4. A refrigerator, comprising a body provided with a lower produce space, an upper ice receptacle, a casing formed in said body below said ice receptacle, a plurality of open-ended receptacles positioned within said casing and closing one end thereof, and means for closing the opening of said receptacles.

5. A refrigerator, comprising a body provided with a plurality of alined open-ended receptacles, means for closing the openings of said receptacles, vent means extending to the atmosphere carried by said body for each of said receptacles, a second set of receptacles formed within said body and partially surrounding said first-mentioned receptacles, and discharge means carried by said second set of receptacles.

6. A refrigerator, comprising a body, a plurality of alined receptacles formed in said body, means for supporting a cooling agent against the sides and one end of said receptacles, and vent pipes communicating directly with the atmosphere carried by said body and communicating with each of said receptacles.

7. A refrigerator comprising a body, receptacles secured contiguous to one of the sides of said body, means for supporting a cooling agent contiguous to and partially surrounding said receptacles, vent pipes carried by said body and communicating with each of said receptacles, a valve for preventing a sudden influx of air through said pipes, provided with means for permitting pressure in said receptacle to exhaust through said pipes, and an ice receptacle formed in the upper portion of said body.

8. A refrigerator, comprising a body, an open-ended receptacle positioned within said body, means for closing the open end of said receptacle, a casing surrounding said receptacle for retaining the cooling agent against said receptacle, and partitions contacting with said open ended receptacle, said partitions and said open ended receptacle dividing said casing into compartments.

9. A refrigerator, comprising a body provided with a plurality of alined open-ended receptacles, means for closing the open ends of said receptacles, a second set of receptacles formed in said body and inclosing some of said first-named receptacles, valved means carried by one of said second-named receptacles, and capable of permitting liquid to be discharged from one of said second-named receptacles into another of the second-named receptacles, and means for closing said second-named receptacles.

10. In a refrigerator, the combination with a receptacle, a valve casing carried by said receptacle, a vent pipe secured to said valve casing, an apertured sleeve positioned within said valve casing for pressure to exhaust therethrough, and means positioned upon the end of said sleeve for permitting a sudden heavy pressure to pass therethrough.

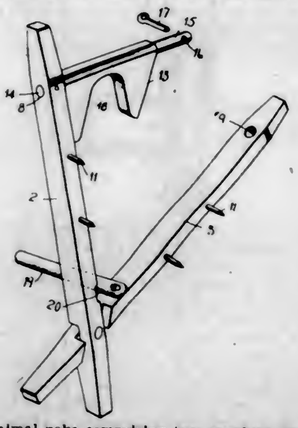
11. A refrigerator, comprising a body provided with an ice receptacle, and a space for produce, an open-ended receptacle positioned within said body, means for closing the open end of said open-ended receptacle, a vent pipe carried by said body and communicating with the interior of said open-ended receptacle, a receptacle formed within said body and partially surrounding said open-ended receptacle, means within said body for closing said surrounding receptacle, and valved discharge means carried by said last-mentioned receptacle.

12. A refrigerator, comprising a body, a series of alined receptacles secured to one side of said body, a horisontal partition interposed between said alined receptacles and the sides of said body, vertical sides positioned contiguous to the inner ends of said receptacles and integral with the upper portion of some of said receptacles, the horisontal partitions, the said upper portion, vertical sides and the body constituting cooling agent receiving means.

13. A refrigerator, comprising a body provided with a lower produce space and an ice receptacle formed in its upper portion, doors carried by said body and closing openings communicating with said produce receptacle and ice receptacle, a plurality of alined receptacles open at one end and secured to one side of said body, means for closing the open ends of said receptacles, horisontal partitions interposed between the alined receptacles and the sides of said body, side portions secured contiguous to the inner ends of said receptacles, a second set of receptacles formed between said alined receptacles and the side portions, faucets carried by said second set of receptacles, doors carried by some of side portions and closing the second set of receptacles, a catch carried by some of said side portions and being capable of securing said doors in an opened position, and vent pipes carried by said body and communicating with the interior of said alined receptacles.

14. In a refrigerator, the combination with a body, of an open-ended receptacle positioned within said receptacle, a valve casing carried by said receptacle, a vent pipe connected to said valve casing, an apertured sleeve provided with a beveled end secured to said open-ended receptacle within said valve casing, bracing means connecting the inner sides of said valve casing and the lower end of said vent pipe, and a ball valve positioned within said valve casing between said sleeve and vent pipe.

865,953. ANIMAL-YOKE. JOHN P. SHAW, Aberdeen, Miss. Filed May 9, 1907. Serial No. 372,779.



1. An animal yoke comprising two members overlapping at one end and having recesses in their adjacent overlapping faces provided with inclined walls to limit the opening and closing movements of the members, and means for detachably connecting the other ends of said members.

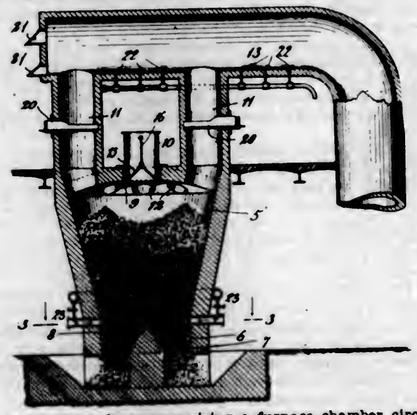
2. An animal yoke comprising two members overlapping at one end and having recesses in their adjacent overlapping faces, said ends being pivotally connected, and said members having registering apertures in their other ends, and a connecting member having arms or studs extending through said apertures and having its ends beveled to fit the inner faces of the side members.

3. An animal yoke comprising two members overlapping at one end and having recesses in their adjacent overlapping faces provided with inclined walls to limit the opening and closing movements of the members, means for detachably connecting the other ends of said members, and spurs projecting inwardly from the rear face of said members.

4. An animal yoke comprising two members overlapping at one end and having recesses in their adjacent overlapping faces, said ends being pivotally connected, and said members having registering apertures in their other ends, and a connecting member having arms or studs extending through said apertures and having its ends beveled to fit the inner faces of the side members, said connecting member being recessed to fit the neck of the animal.

5. An animal yoke comprising two members pivotally connected at one end and having registering apertures in their other ends and a block having arms or studs at its opposite ends to extend into said apertures, said block having a recess in its inner face to fit the neck of the animal and its ends beveled to fit the inner faces of the pivotally connected members.

865,954. GAS-PRODUCER. MARTIN V. B. SMITH, New York, N. Y. Filed Nov. 2, 1906. Serial No. 341,681.



1. A gas producer comprising a furnace chamber circular in cross section and outwardly flared in an upward direction throughout its entire upper portion and a substantially cylindrical portion below this said flared portion, twyers entering the said chamber at substantially the plane dividing the two said portions, and a central abutment terminating in a central conical abutment, substantially as specified.

2. A gas producer comprising a furnace chamber cylindrical in cross section, a central abutment therein terminating in a cone, and twyers penetrating the outer walls of the said chamber, said twyers directed tangentially with respect to the said cone.

3. A gas producer comprising a furnace chamber circular in cross section and outwardly flaring in an upward direction, a dome thereover, a bell and hopper arranged centrally with respect to said dome, uptakes upon either side of said bell and hopper, and poke holes through the said dome between the uptakes, substantially as set forth.

4. A gas producer comprising a furnace chamber circular in cross section and outwardly flaring in an upward direction, a dome thereover, a bell and hopper arranged centrally with respect to said dome, uptakes upon either side of said bell and hopper, and poke holes through the said dome between the uptakes, said poke holes formed in part as a continuation of the tapered walls of said chamber, substantially as specified.

865,955. CHEESE-PRESS. JOSEPH V. SOKUP, Rice Lake, Wis. Filed Feb. 9, 1907. Serial No. 356,580.

1. In a cheese press, the combination of a presser cylinder, a plunger provided with a slot therein, a head movably arranged within said cylinder, adapted to receive said plunger therein and having an element for engagement within said slot, and a cushioning element arranged between said plunger and said head, substantially as described.

2. In a cheese press, the combination of a presser cylinder, a plunger provided with an elongated bayonet slot, a head movably arranged within said cylinder adapted to receive said plunger therein and having an extending tang adapted for engagement within said slot to limit the relative movement of said head, and a cushioning element arranged between said plunger and said, substantially as described.



3. In a cheese press, the combination of a presser cylinder, a plunger provided with an elongated bayonet slot and with a rigid element rearwardly of said slot, a head movably arranged within said cylinder, adapted to receive said plunger therein, and having an extending tang adapted for engagement within said slot to limit the relative movement of said head, and a coil spring surrounding said plunger and arranged between said element and said head, substantially as described.

865,956. WIRE CLIP. CHARLES W. SPONSEL, Hartford, Conn. Filed Jan. 10, 1903. Serial No. 138,541.



1. A clip made of one piece of wire having a coil with its axis across the clip; two elongated loop-shaped lever-arms constituting the thumb and finger-grasps of the clip; and two resilient clamping-lever arms composed of one strand of wire each constituting the clasping part of the clip, such clamping-lever-arms passing respectively on opposite ends of the coil, and bearing with spring-pressure against said ends.

2. A clip made of one piece of wire having a coil with its axis across the clip; two elongated loop-shaped lever-arms constituting the thumb and finger-grasps of the clip; and two resilient clamping-lever-arms composed of one strand of wire each, constituting the clasping part of the clip, such clamping lever-arms passing, respectively, into opposite ends of the coil, and bearing with spring-pressure against said ends, the two arms having at their ends the coils, one larger than the other.

865,957. CHANNELING-MACHINE. CHARLES P. STANSON, Lynn, Mass., assignor to Manufacturers Machine Company, Montclair, N. J., a Corporation of New Jersey. Filed Apr. 5, 1906. Serial No. 310,005.

1. In a machine of the class described, a column, a belt wheel mounted thereon and against lateral movement

combined with the head, tools for acting upon the sole of a boot or shoe mounted thereon, means yieldingly to press said head away from said belt pulley, and means on the said head adapted to be moved by movement of the latter into driving engagement with said belt pulley for driving said tools.

2. In a machine of the class described the column, the fixedly positioned belt pulley, the slidable head mounted on said column, its shaft and friction wheel thereon adapted for contact with said belt pulley and channeling and feeding devices mounted on and movable with said head and driven by said shaft at times and at speeds determined by the position of said head on said column.

3. In a machine for operating on the soles of boots and shoes, a work support, driving means therefor, and means for varying the effective speed of said work support by varying the pressure of the work against said support.

4. In a machine for operating upon the soles of boots and shoes, work supporting means, driving means therefor, and means to render said driving means operative by pressure of the work against said work supporting means, said driving means remaining continuously operative during continuance of said pressure, and becoming inoperative on release of said pressure.

5. In a machine for operating upon the soles of boots and shoes, working devices, a movable support therefor, driving means for said working devices and means to render said driving means effectively operative at varying speeds determined by movement of said support, and means to press said support normally in one direction.

6. In a machine for operating upon the soles of boots and shoes, working devices, feeding means for the work, driving mechanism for said devices and means to render said driving mechanism operative by pressure of the work against said feeding means and inoperative by release of said pressure.

7. In a machine for operating upon the soles of boots and shoes, working devices, work feeding means, driving mechanism and means to render the driving mechanism operative by effective engagement of the work with said work feeding means.

8. The combination of devices for working upon the soles of boots and shoes, a movable support therefor, driving means for said working devices and provisions for rendering the driving means effective by movement of said support in one direction and ineffective by opposite movement of said support.

9. In a channeling machine, channeling means, feeding means for the work, and driving means in operative relation with the feeding means and means for rendering the driving means effectively operative by effective engagement of the work with said feeding means, and inoperative by release of the work from such engagement.

10. In a channeling machine, a column, a head movable across the top of said column, driving means comprising coöperating parts one held by said column and the other by and movable with said head, and channeling and feeding devices mounted on said movable head.

11. In a machine of the character described, the combination of a tool for acting upon the sole of a shoe, feeding means for the work, driving means, connections between the driving and feeding means for operating the latter, and means for rendering the driving means effectively operative at varying speeds by varying pressure of the work upon the feeding means.

12. In a machine of the character described, the combination of a tool for acting upon the sole of a boot or shoe, feeding means for the work, driving means for said feeding means comprising a friction device and means to cause the members of said device to be engaged with varying effectiveness by varying pressure of the work upon the feeding means.

13. A machine of the character described comprising in combination a tool for acting upon the sole of a boot or shoe, feeding means for the work, driving means for operating the feeding means and means for varying the action of the feeding means by variations in pressure of the work against said means.

14. A machine for operating upon boots and shoes, comprising in combination a working tool and support therefor, feeding means for moving the work in the line of feed, and means engaging the work in advance of the tool and acting to impart movement to the work at an angle to the line of feed and towards said tool.

15. A machine for operating upon boots and shoes, comprising in combination a working tool and support therefor, rotative means constructed and arranged to engage the work in advance of said tool and to cause the work to be moved in the line of feed towards the tool at an angle to the feed movement.

16. In a machine of the character described, the combination of an operating tool, feeding means for moving the work past the tool, and means constructed and arranged to engage the work in advance of the tool and to move the work towards the tool at an angle to the line of feed independent of the effort of the operator.

17. In a machine for operating upon the soles of boots and shoes the combination with a knife for acting upon the sole, of a rotary bearing wheel constructed and arranged to engage the work in advance of the knife and to move the work automatically in and at an angle to the line of feed.

18. In a sole channeling machine, the combination of an obliquely disposed supporting wheel, a feeding wheel for engaging the edge of a shoe sole, a channel cutting tool, means for moving it towards and from the feeding wheel and a bearing wheel for engaging the surface of the shoe sole, said bearing wheel having its face disposed obliquely to the work and acting to move the work toward the feeding wheel.

19. A channeling machine comprising an obliquely mounted work support, a horizontal feed wheel constructed for peripheral engagement with a sole edge, channeling devices, a bearing wheel constructed and arranged to engage the work in advance of the channeling device and move the work at an angle to the line of feed, and means to operate said parts.

20. A channeling machine comprising an obliquely arranged work supporting wheel and means to rotate it, a horizontal feeding wheel in juxtaposition thereto and means to rotate it, channeling means movable toward and from the feeding point of said wheel and means to move the same, and an obliquely positioned bearing wheel in addition thereto, substantially as described.

21. A channeling machine comprising an obliquely arranged work supporting wheel and means to rotate it, a horizontal feeding wheel in juxtaposition thereto and means to rotate it, channeling means movable toward and from the feeding point of said wheel and means to move the same, and an obliquely positioned spring supported bearing wheel, substantially as described.

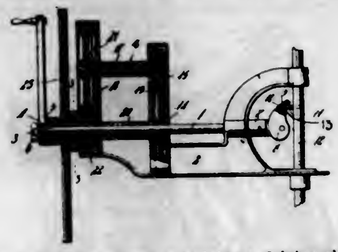
22. In a machine for operating upon boots and shoes, the combination of a tool for acting upon the sole, means for supporting and feeding the work, and a bearing wheel in addition thereto having its acting face disposed obliquely to the surface of the work to engage the same in advance of the tool to direct the approaching work to said supporting and feeding means.

23. A machine for operating upon boots and shoes, comprising in combination a working tool and support therefor, and a bearing wheel constructed and arranged to engage the work on a line disposed at an angle to a plane passing through and containing the axis of the bearing wheel and the working portion of the tool, said bearing wheel tending to move the work at an angle to the line of feed.

865,958. MECHANICAL MOVEMENT. JASPER H. STANFIELD, Muskegon, Mich. Filed Sept. 17, 1906. Serial No. 334,915.

1. A mechanical motion embodying a shaft, a pivoted motion transmitting member carried thereby, a fly wheel loose on the shaft, and a train of gears to connect the shaft and the wheel.

2. A mechanical motion embodying a shaft, a motion transmitting member carried thereby, a fly wheel loose on the shaft, a pinion carried by the fly wheel, a gear fixed on the shaft, a counter-shaft, a pinion fixed on the counter-shaft to mesh with the gear, and a gear also fixed on the counter-shaft to mesh with the fly wheel pinion.

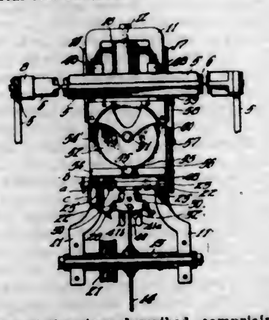


3. A mechanical motion embodying a driving shaft and a driven shaft, means for transmitting motion from the driving to the driven shaft, a fly wheel loose on the driving shaft, and a train of gears to connect the latter shaft and the wheel.

4. A mechanical motion embodying a driving and a driven shaft, a wristpin carried by the driven shaft, a link pivoted to the driving shaft and engaging the wristpin, a fly wheel loose on the shaft, and a train of gears to connect the shaft and the wheel.

5. A mechanical motion embodying a driving and a driven shaft, a ball headed wristpin carried by the driven shaft, a link pivoted to the driving shaft and having a socket to be engaged by the ball head of the wristpin, a fly wheel loose on the shaft, and a train of gears to connect the shaft and the wheel.

865,959. APPARATUS FOR TRUING GRINDING-DISKS. JOSEPH A. STANSBURY, Los Angeles, Cal. Filed Oct. 10, 1906. Serial No. 338,200.



1. A device of the class described, comprising in combination with a rotating disk having beveled edges, a diamond point; and means for causing said point to contact alternately with the opposite beveled edges of the disk as it rotates.

2. A device of the class described comprising, in combination with a tilting disk having beveled edges, a diamond point; and means for causing said point to contact alternately with the opposite beveled edges of the disk as the latter tilts.

3. A device of the class described comprising, in combination with a disk and means for tilting the same; pivotal members secured to said tilting means; a diamond point carried by one of said members; and means for rocking and tilting said pivotal members.

4. An apparatus for truing the cutting edges of a grinding disk comprising, a rocking yoke; means to rock said yoke; a grinding disk revolubly mounted in said yoke; pivotal members rigidly secured to said yoke; a diamond point secured to one end of one of said members; and means secured to the pivotal member carrying the diamond point, whereby when the yoke rocks the pivotal members are thrown from one side of the disk to the other.

5. An apparatus for truing the edges of a grinding disk comprising, a rocking yoke; means to rock said yoke; a disk rotatively mounted in said yoke; a bearing frame rigidly secured to said yoke, adjacent said disk; a rocking arm pivotally mounted in said frame; an arm pivotally secured to said rocking arm, having a diamond point in its upper end; and means secured to said pivoted arm, whereby when the yoke is rocked to automatically cause the movement of said arm from one side of the rotating disk to the other.

6. An apparatus for truing the edge of a grinding disk comprising a bifurcated rocking yoke; a revoluble shaft mounted in the bifurcation of said yoke; a disk mounted on said shaft; a bearing frame rigidly secured to said yoke adjacent said disk; a rocking arm pivotally mounted in said frame, in line with said disk; an arm pivotally secured to said rocking arm, having abrading means secured to its upper end; and means secured to said pivoted arm whereby when the yoke is rocked to automatically cause the movement of said arm from one side of the disk to the other.

7. An apparatus for truing the edge of a grinding disk comprising a bifurcated rocking yoke; a revoluble shaft mounted in the bifurcation of said yoke; a grinding disk mounted on said shaft; a bearing frame rigidly secured to said yoke adjacent said disk; a rocking arm pivotally mounted in said bearing frame, in line with said disk; an L-shaped arm pivotally secured to said rocking arm, having abrading means secured to its upper end; a downwardly depending pin secured to said L-shaped arm, said pin adapted to contact with means secured to the frame of the machine to automatically cause the movement of said rocker arm from one side of the disk to the other; and means to rock said yoke.

8. An apparatus for truing the edges of a grinding disk comprising, a rocking yoke; a disk rotatively mounted in said yoke; a bearing frame adjustably secured to said yoke, adjacent said disk; a rocking arm pivotally mounted in said frame; a tilting arm pivotally secured to said rocking arm, having a diamond point in its upper end; means secured to said pivoted arm, whereby when the yoke is rocked to automatically cause the movement of said arm alternately from one side of the rotating disk to the other; and means to rock said yoke.

9. An apparatus for truing the edges of a grinding disk, comprising a rocking yoke; a disk rotatively mounted in said yoke; an adjustable plate mounted in guide ways in said yoke; means for moving said plate forward; a bearing frame adjustably secured to said adjustable plate; a rocking arm pivotally secured in said frame; a tilting arm pivotally secured to said rocking arm, having a diamond point in its upper end; means secured to said pivoted arm, whereby when the yoke is rocked, to automatically cause the movement of said arm alternately from one side of the disk to the other; and means to rock said yoke.

10. A device of the class described, comprising in combination with a tilting and rotating disk having beveled edges, a diamond point; means for causing said point to contact alternately with the opposite beveled edges of said disk as the latter tilts and rotates.

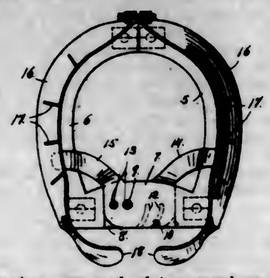
11. A device of the class described, comprising in combination with a rotating disk and means for rotating and tilting the same; pivotal members secured to said tilting means; a diamond point carried by one of said members; means for rocking and tilting said pivotal members; and mechanism for feeding the pivotal members forward.

12. A device of the class described, comprising in combination with a rotating disk having beveled edges, a diamond point; means for causing said point to contact alternately with the opposite beveled edges of the disk as it rotates; and mechanism for feeding said diamond point forwardly during the rotation of said disk.

865,960. HORSESHOE. ABRAHAM D. WARD, Denver, Colo. Filed Dec. 10, 1906. Serial No. 347,119.

1. A horseshoe composed of two members having inwardly projecting overlapping parts located at one ex-

tremity of the members, the said parts being pivotally connected together, one of the parts being provided with a pin, and the other part with a curved slot adapted to receive the pin when the members are in the closed or locked position, each member being provided with an upwardly projecting flange adapted to be bent inwardly against the hoof, each member being also provided with a lug, the two lugs having registering openings, and a fastening bolt or screw adapted to enter the openings of the lugs, the said screw being threaded into one of the lugs, for the purpose set forth.



2. A horseshoe composed of two members provided at one extremity with upwardly projecting overlapping parts, a device for pivotally connecting the said parts, a number of holes being formed in one of the parts to receive the pivot for the purpose of adjustment, one of the parts being provided with a pin adapted to receive a curved slot formed in the other part when the members are in the locked position, each of the overlapping parts being provided with a forwardly and laterally projecting brace adapted to engage the hoof on the inside, the two members being provided at the extremity opposite the pivot with lugs provided with registering openings, and a suitable fastening device engaging said openings for the purpose set forth.

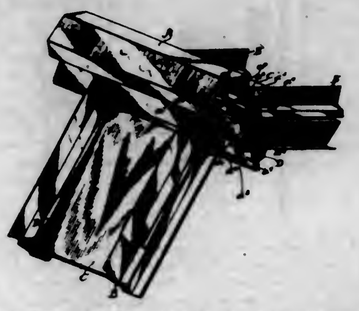
3. A horseshoe provided with two members, each member being provided with an upwardly projecting inwardly flared flange, the rear extremities of the flanges being provided with inwardly and upwardly projecting extensions adapted to engage the hoof, suitable means for connecting the two members at their forward extremities, and overlapping parts pivotally connected at their rear extremities having a number of holes formed in one of the parts to receive the pivot for the purpose of adjustment, and one of the parts being provided with a pin adapted to receive a curved slot formed in the other part when the members are in the locked position, substantially as described.

4. A horseshoe provided with two members, each member being provided with an upwardly projecting inwardly flared flange, the rear extremities of the flanges being provided with inwardly and upwardly projecting extensions adapted to engage the hoof, suitable means for connecting the two members at their forward extremities comprising calks having registering openings and a suitable device passed through said openings for connecting said members, overlapping parts pivotally connected at the rear extremities of the members having a number of holes formed in one of the parts to receive the pivot for the purpose of adjustment, and one of the parts being provided with a pin adapted to receive a curved slot formed in the other part when the members are in the locked position, substantially as described.

865,961. VENTILATED RIDGE-BAR. AUGUST W. ZILLY, Camden, N. J. Filed Dec. 26, 1906. Serial No. 349,545.

1. A hollow ridge bar having inlets and outlets for air, a piece of material extending longitudinally through said bar, with lateral projections extending alternately on opposite sides of the bar so as to permit of the passage of air from the inlets to the outlets of said bar, substantially as described.

2. A hollow ridge bar, having a piece of material extending longitudinally through it and provided with lateral integral extensions for bracing the sides thereof, substantially as described.



3. A hollow ridge bar made in two sections joined at the top and bottom, and provided with inlets and outlets for air, with a sheet of material extending longitudinally through the bar and provided with portions projecting on both sides of its plane into engagement with the sides of said bar for bracing the same, said projections having open spaces between them to permit of the passage of air through the bar, substantially as described.

4. The combination of a hollow ridge bar, a series of rafters in engagement with the same and means consisting of sections of sheet material extending between opposite sides of the bar for bracing the interior thereof against the pressure exerted by the rafters, said ridge bar having inlet and outlet openings for air and openings between the sheet metal bracing sections, substantially as described.

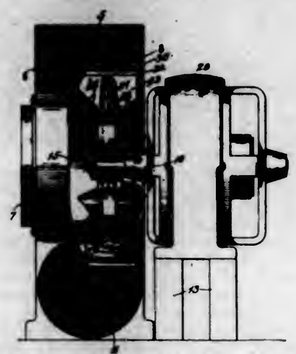
5. The combination of a hollow structure consisting of two substantially symmetrical sections, a strip of sheet material extending vertically between said sections, integral pieces cut from said strip and bent out to engage the walls of said sections, a series of rafters in engagement with each section, there being openings from the interior of said hollow structure to the building to which it is applied, with a cover for the hollow structure supported above the same so as to form a space, said structure and cover being constructed to permit air to pass from said space to the interior of the structure and also to the outside, substantially as described.

6. The combination of a hollow structure including two symmetrical sections, a bracing piece of sheet material extending through the same and cut to form tongues bent out into engagement with the walls of said sections thereby forming openings in the bracing structure, a cover piece provided with overhung portions and fitted tightly to the structure so as to provide a space above the same, there being openings in said overhung portions communicating with said space, and openings into the top and bottom of the hollow structure, substantially as described.

865,962. CENTRIFUGAL FAN. WILLIAM E. ALLINGTON, Saginaw, Mich. Filed June 18, 1906. Serial No. 322,225.

1. In a centrifugal fan for handling material, the combination with a fan casing, having an eye in its side, of a wheel, comprising a hub, twelve or more blades each free throughout its edge adjacent the inlet, a back plate connecting the back edges of the blades, and a separate supporting arm for each blade connected with the radial midportion of the blade and connected with the hub.

2. In a centrifugal fan for handling material, the combination with a fan casing having an eye in its side, of a wheel comprising a hub, a plurality of blades each free throughout its edge adjacent the inlet, and providing a relatively deep radial portion and a forwardly deflected lip portion, arranged to form when the wheel is rotated a pocket for substantially dead air whereon the air in flow past the blade may form its own delivery curve, a back part connecting the blades and closing one side of the pocket of each blade, and a separate supporting arm for each blade connected with the radial mid-portion of the blade and connected with the hub.



3. In a centrifugal fan for handling material, the combination with a casing providing an axial inlet and a peripheral outlet, of a wheel providing a central flat disk alining with the inlet to receive the impact of material entrained through the inlet, radial ribs upon the face of said disk adjacent the inlet, and blades arranged wholly beyond the disk.

4. In a centrifugal material handling fan, a casing, a wheel open throughout on its front side, and comprising a plurality of supporting arms equal in number to the blades, a blade secured to each supporting arm, the radially inner edge of each of said blades being inclined, from its point of juncture with the supporting arm toward the front of the casing, to permit the centrifugal delivery of stringy material encountering the edge of the blade toward the open front side of the wheel.

5. In a material handling fan, a wheel comprising blades, each having a relatively deep radial portion, a forwardly deflected pocket portion adapted to contain a body of substantially dead air whereon the air in flow past the blade may form its own curve from radial entry to approximately tangential delivery, each blade being free at its front side and shaped to provide a portion closest to the inlet intermediate the tip and heel of the blade, the front edge of the blade being inclined rearwardly from such point to its tip, means for closing the rear sides of the pockets in the blades, and means for supporting the blades.

6. In combination, a suitable support, a motor thereon having a projecting shaft, a fan wheel mounted on the shaft, a fan casing surrounding the said wheel providing a rear wall of relatively large area, having an aperture therein for the shaft, wherethrough said shaft projects out of contact with the wall, the middle area of said wall, susceptible to vibration due to the action of the fan wheel, being out of contact with the motor and its support, whereby the motor and fan wheel are not affected by the long-wave vibrations of the rear wall of the fan casing.

865,963. CONCRETE BEAM. FERDINAND BARRÉ, Baltimore, Md., assignor to Armored Concrete Construction Company of Baltimore City, a Corporation of Maryland. Filed Jan. 26, 1906. Serial No. 297,938.

1. The combination with a beam formed of concrete or other suitable material, of two rows of stirrups 4, a straight rod 7 resting in the lower ends of the stirrups 4 of each row and projecting over two columns, and two rods 8 and 9 in each row of stirrups above the rod 7, one of said rods 8 projects upwardly at one end to near the top of the beam and terminates just beyond one of the columns and the other rod 9 in the same row of stirrups projects upwardly at the opposite end to near the top of the beam and terminates just beyond one of the columns the upwardly-projecting end of the rods 8 and 9 lie adjacent, and project beyond, each other over each column.



2. The combination with a beam formed of concrete or other suitable material, of two rows of stirrups 4 having their ends bent downwardly and then upwardly and terminating on a plane with the upper bend, forming four vertical rods, the bends at the lower ends being at right angles to the bend at the upper end, the upper bend and the extremities diverge to form a guide, a straight rod 7 resting in the lower ends of the stirrups of each row and projecting over two columns, two rods 8 and 9 resting in each row of the stirrups above the rod 7, one of said rods 8 projects upwardly at one end to near the top of the beam and terminates just beyond one of the columns and the other rod 9 in the same row of stirrups projects upwardly at the opposite end to near the top of the beam and terminates just beyond one of the columns the upwardly-projecting ends of the rods 8 and 9 lie adjacent, and project beyond, each other over each column, and the rods 12 projecting through the upper ends of the stirrups at right angles to the rods 7, 8 and 9.

865,964. ROTARY ENGINE. WARREN F. BLEECKER, Victor, Colo., assignor of one-third to Frederick G. Bleecker, Grand Island, Nebr., and one-third to Martin C. Bleecker, Pueblo, Colo. Filed Mar. 17, 1906. Serial No. 306,568.



A rotary engine comprising a motive agent casing, an abutment therein, a tubular shaft extended into the casing and having a port, a radial wing at one side of said port, a tube extended into the hollow shaft, and having a port, a ported tube having rotative movement on the first-named tube, a rod, an arm on said rod, a link connection between said arm and the rotary tube, a governor for causing movements of said rod, and a driving connection between the governor and the shaft.

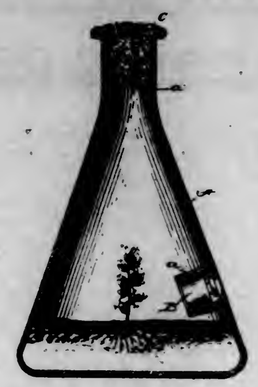
865,965. ART OF GROWING AND DISTRIBUTING NITRO-GATHERING BACTERIA. GEORGE H. EARP-THOMAS, Toronto, Ontario, Canada. Filed Jan. 17, 1907. Serial No. 352,768.

1. The process of developing a bacteriological culture, which consists in growing in a medium a plant inoculated with the desired bacteria while excluding all contaminations from said plant and medium.

2. The process of developing a bacteriological culture, which consists in growing in a non-nitrogenous medium, a plant inoculated with nitrogen gathering bacteria while excluding all contaminations from said plant and medium.

3. The process of developing a bacteriological culture,

which consists in growing a plant, inoculated with the desired bacteria within a germ proof inclosure.



4. The process of developing a bacteriological culture, which consists in growing a plant inoculated with the desired bacteria, within a germ proof inclosure, while maintaining a restricted supply of sterilized air to said inclosure.

5. The process of developing a bacteriological culture, which consists in growing a plant inoculated with the desired bacteria within a transparent germ proof inclosure.

6. The process of developing a bacteriological culture, which consists in growing, in a substantially transparent medium, a plant inoculated with the desired bacteria while excluding all contaminations from the plant and medium by a transparent germ proof inclosure.

7. The process of developing a bacteriological culture, which consists in planting, in a sterilized medium, within a germ proof inclosure, a vital seed free from contaminating germs maintaining a supply of sterilized air to said inclosure and supplying sterilized water to the plant.

8. The process of developing a bacteriological culture, which consists in growing a plant inoculated with the desired bacteria, within a germ proof inclosure, and then inoculating a medium with a portion of the roots of said plant.

9. The process of developing a bacteriological culture, which consists in growing a plant inoculated with the desired bacteria, in a medium within a germ proof inclosure and then inoculating another medium with a portion of the roots of said plant.

10. The process of developing a bacteriological culture, which consists in growing a plant, inoculated with the desired bacteria, within a germ proof inclosure, removing a nodule from said plant and inoculating a medium with the same.

11. The process which consists in preparing a composite culture consisting of a plurality of kinds of nitrogen gathering bacteria, then inoculating seed with such composite culture and planting the seed.

12. The process which consists in inoculating seed with a composite culture consisting of a plurality of kinds of nitrogen gathering bacteria, one of which kinds is specific to said seed, and then planting the seed.

13. The process which consists in inoculating the medium with a plurality of different kinds of nitrogen gathering bacteria to form a composite culture, and then preparing from said composite culture the cultures to be distributed.

14. The process of producing a bacteriological culture, which consists in growing a culture on a substantially solid medium and then adding a liquid to the solid medium.

15. The process of producing a bacteriological culture, which consists in first preparing a substantially solid medium, in a distributing vessel, inoculating it with nitrogen gathering bacteria, maintaining the medium under the required condition to develop the culture, then adding water to the top of the medium and finally sealing said distributing vessel.

16. A bacteriological culture comprising a medium, a plant growing in said medium and inoculated with the desired bacteria, in combination with a germ proof receptacle inclosing the plant and medium.

17. The combination, with a transparent germ proof receptacle, of a medium within said receptacle, and a plant inclosed by said receptacle and rooted in the medium, said plant being inoculated with the desired bacteria.

18. The combination, with a germ proof receptacle provided with means for maintaining a supply of sterilized air to its interior, of a medium within said receptacle, and a plant inoculated with the desired bacteria inclosed by said receptacle and rooted in the medium.

19. The combination, with a germ-proof receptacle pervious to air, of a medium within said receptacle, and a plant inoculated with the desired bacteria inclosed by said receptacle and rooted in the medium.

20. The combination, with a germ-proof transparent receptacle, of a substantially transparent medium within said receptacle and a plant inoculated with the desired bacteria inclosed and protected against contaminations by said receptacle and rooted in the medium.

21. The combination, with a glass vessel having an air inlet and an air filter in said inlet, of a medium in said vessel, and a plant inoculated with the desired bacteria inclosed by the vessel and rooted in the medium.

22. The combination, with a vessel, having an air inlet and a lateral opening, a closure for said opening and an air filter in the air inlet, a medium in said vessel and accessible through the lateral opening and a plant inoculated with the desired bacteria, inclosed by the vessel and rooted in the medium.

23. A bacteriological culture comprising a plant inoculated with the desired bacteria, in combination with a germ-proof receptacle surrounding said plant and provided with means for permitting access to the roots of said plant.

24. A bacteriological culture comprising a medium, a plant growing in said medium and inoculated with the desired bacteria, in combination with a germ-proof receptacle inclosing the plant and medium and provided with means for permitting access to the roots of said plant.

25. A distributing package of nitrogen gathering bacteria containing a plurality of kinds of such bacteria.

26. A distributing package of nitrogen gathering bacteria comprising a composite culture of several kinds of virulent nitrogen gathering bacteria.

27. A distributing package comprising a sealed receptacle containing a substantially solid and also a liquid medium, and nitrogen gathering bacteria in said media.

28. A distributing package comprising a receptacle, means for restricting the access of air to said receptacle, a substantially solid medium in said receptacle, a liquid upon said solid medium and a colony of nitrogen gathering bacteria in said medium.

29. A distributing package comprising a receptacle, means for restricting the access of air to said receptacle, a substantially solid medium in said receptacle, a liquid upon said medium, and a composite colony of different kinds of nitrogen gathering bacteria in said medium.

30. The combination, with a germ-proof receptacle provided with means for maintaining a supply of sterilized air to its interior, of a nitrogen-free medium within said receptacle and a plant inoculated with nitrogen-gathering bacteria inclosed by said receptacle and rooted in the medium.

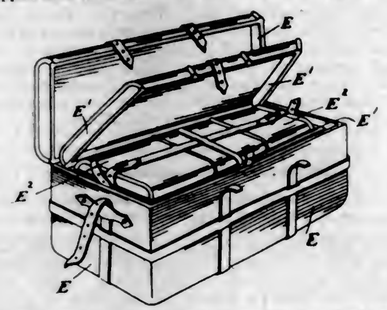
31. A bacteriological culture comprising a nitrogen-free medium, a plant growing in said medium and inoculated with nitrogen gathering bacteria, in combination with a germ-proof receptacle inclosing the plant and medium, said receptacle being provided with means for maintaining a supply of sterilized air to its interior and with means for permitting access to the roots of said plant.

32. The process of developing a bacteriological culture, which consists in growing in a non-nitrogenous medium, a plant inoculated with nitrogen-gathering bacteria within a germ-proof inclosure, while maintaining a restricted supply of sterilized air to the interior of said inclosure, removing a nodule from said plant and inoculating a medium with said nodule.

33. The process of producing a bacteriological culture, which consists in first preparing a substantially solid medium, in a distributing vessel, inoculating it with nitrogen gathering bacteria, maintaining the medium under the required condition to develop the culture, then adding liquid to the top of the medium and finally sealing said distributing vessel.

34. A distributing package comprising a receptacle, a medium within said receptacle and a plurality of kinds of bacteria in said medium, one of said kinds of bacteria being a nitrogen-gathering bacteria specific to the particular plant on which the culture is to be used.

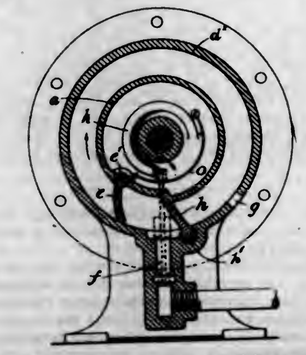
865,966. MEANS FOR PRODUCING STAGE ILLUSIONS. HORACE GOLDIN, London, England. Original application filed Feb. 21, 1906, Serial No. 302,250. Divided and this application filed Mar. 30, 1907. Serial No. 365,503.



1. In an illusion apparatus, a series of trunks nesting one within the other, one of said trunks having a concealed means of entrance for an individual.

2. In an illusion apparatus, a series of trunks nesting one within the other, comprising an outer sound trunk and an inner trunk having means for the concealed entrance of an individual.

865,967. ROTARY ENGINE. JOHN E. HARRIMAN, Jr., Brookline, Mass. Filed Feb. 12, 1906. Serial No. 300,552.



1. A rotary engine or motor comprising a rotary member forming the inner walls of a working chamber, a shaft affixed to and driven by said member, a fixed inclosing structure which completes said chamber and has inlet and outlet ports therefor, automatic means for opening and closing the said inlet port to intermittently admit a working agent to the said chamber, and means carried by the rotary member and the inclosing structure, to co-act with the working agent in imparting movement to the rotary member, and controlled by the working agent so as to be put thereby into pressure-resisting relation.

2. A rotary engine or motor comprising a rotary shaft having a rotary member forming the inner walls of an annular working chamber, a shaft affixed to and driven by said member, a fixed inclosing structure which completes said annular chamber and has inlet and outlet ports therefor, a piston carried by the rotary member and extending across said chamber, an abutment engaged with the inclosing structure and located between the inlet and outlet ports and controlled by the inflow of steam, a valve controlling the said inlet ports, and means for automatically operating said valve.

3. A rotary engine or motor comprising a plurality of annular working chambers, each having independent inlet and outlet ports, the inner walls of said chambers being rotary members and connected to rotate in unison, while the other walls are fixed, pistons and abutments engaged respectively with the rotatable and the fixed walls of the chambers and coöperating with a working agent to cause the rotation of the said rotary members, the abutments arranged to clear the path of the pistons by their own weight and to be placed by the steam in pressure-resisting relation, and means operated by the rotation of the rotary members to open and close the inlet ports successively.

4. A rotary engine comprising a plurality of annular working chambers having rotary inner members which are connected to rotate in unison, and fixed outer members which are provided with inlet and outlet ports, pistons and abutments connected respectively with said inner and outer members and coöperating with a working agent to cause the rotation of the inner members, and caused to occupy operative positions by the pressure of the working agent, means operated by the rotation of the rotary members to open and close the inlet ports successively, and a shaft affixed to the rotary members and driven thereby.

5. A rotary engine or motor comprising a plurality of rotary members forming the inner walls of annular working chambers, a shaft affixed to and driven by said members, a fixed casing forming the complemental walls of the said annular chambers and having inlet and outlet ports for said chambers, pistons connected with the rotary members, and abutments connected with the casing, either the pistons or the abutments or both being yieldingly mounted so that the pistons may pass the abutments, and arranged so that the working fluid may make them operative and means operated by the rotation of the rotary members to open and close the inlet ports successively.

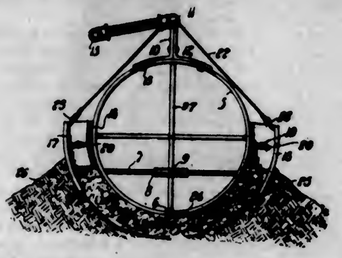
6. A rotary engine or motor comprising a plurality of rotary members forming the inner walls of annular working chambers, a shaft affixed to and driven by said members, a fixed casing forming the complemental walls of the said annular chambers and having inlet and outlet ports for said chambers, pistons hinged to the rotary members and yieldingly projected therefrom into the working chambers, abutments hinged to the casing and projecting into the paths of the pistons, arranged to fall away by gravity from such paths, and means operated by the rotation of the rotary members to open and close the inlet port successively.

7. A rotary engine or motor comprising a plurality of annular working chambers, each having independent inlet and outlet ports, the inner walls of said chambers being rotary members and connected to rotate in unison, while the other walls are fixed, pistons and abutments engaged respectively with the rotatable and the fixed walls of the chambers and coöperating with a working agent to cause the rotation of the said rotary members, the inlets arranged so as to project the abutments, valves controlling said inlet ports, cams or their equivalents connected with the rotary members, and connections between said cams and the valves for moving the latter.

8. A rotary engine or motor comprising a plurality of annular working chambers, each having independent inlet and outlet ports, the inner walls of said chambers being rotary members and connected to rotate in unison, while the other walls are fixed, pistons and abutments engaged respectively with the rotatable and the fixed walls of the chambers and coöperating with a working agent to cause the rotation of the said rotary members and to be held in

operative position, valves controlling said inlet ports, means for yieldingly holding the valves in their open position, and means operated by the rotation of the rotary members for intermittently moving the valves to their closed position.

865,968. MOLD FOR MAKING CULVERTS, CONDUITS, AND SIMILAR HOLLOW STRUCTURES. JOSEPH HICKSON, Mount Gilead, Ohio, assignor of two-fifths to Thad E. Buck, Mount Gilead, Ohio. Filed Apr. 30, 1907. Serial No. 371,103.



1. A mold including an inner member, a former spaced from and movable on the face of the inner member, and means for varying the distance between said former and inner member.

2. A mold including an inner member, a former spaced from and movable on the face of the inner member, and means for raising and lowering the former.

3. A mold including an expansible inner member, a segmental outer member spaced from and movable on the face of the inner member, and means for raising and lowering the outer member.

4. A mold including an expansible relatively stationary inner member, a movable outer member spaced from and curved to conform to the exterior walls of the inner member, means for raising and lowering the movable member, and adjustable spacing plates carried by the movable member and engaging the exterior walls of the inner member.

5. A mold including an expansible inner member, an outer member spaced from and movable on the exterior walls of the inner member, means for expanding and contracting the inner member, and means for raising and lowering the outer member.

6. A mold including an expansible shell, a segmental shell spaced from and movable over the exterior walls of the expansible shell, means for varying the distance between the expansible and segmental shells, and means for raising and lowering said segmental shell.

7. A mold including a shell, brackets secured to the exterior walls of the shell, a shaft journaled in said brackets, segmental mold sections spaced from and mounted for movement on the exterior walls of the shell, and a flexible connection between the segmental mold sections and the shaft for raising and lowering the said mold sections.

8. A mold including a shell, longitudinal plates curved to conform to and spaced from the exterior walls of the shell, transverse plates spacing the longitudinal plates from the shell and bearing against the exterior walls of the latter, an operating shaft journaled on the shell, and a flexible connection between the operating shaft and the longitudinal plates for raising and lowering the latter.

9. A mold including an expansible shell having its adjacent longitudinal edges over-lapped, means disposed within the shell for expanding and contracting the walls thereof, formers disposed on opposite sides of the shell and spaced from the latter to form intermediate molding compartments, adjustable spacing plates carried by the formers and bearing against the exterior walls of the expansible shell, a shaft journaled on the shell, and a flexible connection between the shaft and the longitudinal plates for raising and lowering the latter.

10. A mold including a shell, longitudinal plates curved to conform to and spaced from the exterior walls of the shell to form an intermediate molding compartment, transverse plates carried by the longitudinal plates and bearing against the adjacent walls of the shell, the lower longitudinal edge of each plate being extended below the adjacent edge of the transverse plates, and means for raising and lowering the longitudinal plates.

11. A mold including an expansible shell, a turn buckle disposed within and connecting the walls of the shell for expanding and contracting the latter, brackets detachably secured to the exterior walls of the shell and provided with terminal eyes, an operating shaft journaled in said eyes, segmental plates disposed on each side of the shell and spaced from the latter to form intermediate compartments, over-lapping plates carried by the segmental plates, one of said plates being provided with a slot and the other with a pin extending through said slot for varying the width of the molding compartment, and a flexible connection between the segmental plates and shaft for raising and lowering said plates.

865,969. APPARATUS FOR TREATING WITH CARBONIC OXID NICKEL ORES OR OTHER MATERIAL CONTAINING NICKEL. CARL LANGER, Clydach, England, assignor to The Mond Nickel Company Limited, Westminster, England. Original application filed July 5, 1905, Serial No. 268,859. Divided and this application filed Apr. 16, 1906. Serial No. 312,010.



1. An apparatus for treating with carbonic oxid finely divided nickel or material containing finely divided nickel, comprising superimposed chambers each divided by a partition and having a bottom, the partitions of the several chambers being composed of two plates having a space between them for the reception of liquid or gas, and the bottoms also being hollow and the passages therein having communicating means with the exterior of the apparatus, the partitions and bottoms being made up of separable members to permit cleaning of the passages therein.

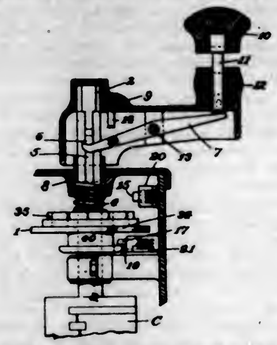
2. Apparatus for treating with carbonic oxid finely divided nickel or material containing finely divided nickel, comprising superimposed chambers, a bottom to each chamber, an annular flange on the under surface of the said bottom, a plate between each chamber and that next below it, an annular flange on the upper surface of the said plate in contact with the flange on the under surface of the bottom of the chamber next above the said plate, passages leading through the wall of each chamber to the space between the bottom of the chamber and the plate next below it, a shelf in each chamber, concentric annular flanges on the upper surface of said shelf, a plate resting on the said annular flanges of the shelf in each chamber, and passages leading through the wall of each chamber to the space between the said shelf and the plate resting thereon.

865,970. CONTROLLER FOR ELECTRIC MOTORS. CHARLES S. LEE, Troy, N. Y. Filed June 4, 1906. Serial No. 320,128.

1. A controller shaft, a circuit breaker and means operated from the movable portions of the controller for controlling the operation of the circuit breaker, and means to compel the operator to close the circuit at the controller contacts successively after closing the circuit at the circuit breaker.

2. A controller shaft, a circuit breaker and means operated from the movable portions of the controller for controlling the operation of the circuit breaker, and means to compel the operator to close the circuit at the controller contacts successively after closing the circuit at the circuit breaker, in combination with means adapted to prevent the turning to "off" position of the controller until the circuit has been broken at the circuit breaker.

3. A controller shaft, a circuit breaker and means operated from the movable portions of the controller for controlling the operation of the circuit breaker, and means to compel the operator to close the circuit at the controller contacts successively after closing the circuit at the circuit breaker, in combination with automatic means to break the circuit at the circuit breaker upon the release of the controller handle by operator.



4. A controller shaft, a circuit breaker and means operated from the movable portions of the controller for controlling the operation of the circuit breaker, and means to compel the operator to close the circuit at the controller contacts successively after closing the circuit at the circuit breaker, in combination with means adapted to prevent the turning to "off" position of the controller until the circuit has been broken at the circuit breaker, and automatic means to break the circuit at the circuit breaker upon the release of the controller handle by operator.

5. The shaft of a controller, a cam operatively connected thereto, a circuit breaker, a controlling means therefor operated from said cam, and an operating device having two motions, one motion adapted to rotate the controller cylinder, the other motion adapted to actuate said cam to place it into position to control the circuit breaker, in combination with means to prevent the turning to "off" position until after the circuit is broken at the circuit breaker.

6. The shaft of a controller, a cam operatively connected thereto, a circuit breaker, a controlling means therefor operated from said cam, and an operating device having two motions, one motion adapted to rotate the controller cylinder, the other motion adapted to actuate said cam to place it into position to control the circuit breaker, in combination with means to prevent such shifting except from normal position and means to prevent the turning to "off" position until after the circuit is broken at the circuit breaker.

7. The shaft of a controller, a cam operatively connected thereto, a circuit breaker, a controlling means therefor operated from said cam, and an operating device having two motions, one motion adapted to rotate the controller cylinder, the other motion adapted to actuate said cam to place it into position to control the circuit breaker, in combination with means to automatically break said circuit upon release of controller handle and means to prevent the turning to "off" position until after the circuit is broken at the circuit breaker.

8. The shaft of a controller, a cam operatively connected thereto, a circuit breaker, a controlling means therefor operated from said cam, and an operating device having two motions, one motion adapted to rotate the controller cylinder, the other motion adapted to actuate said cam, to place it into position to control the circuit breaker, in combination with means to prevent such shifting except from normal position, means to automatically break said circuit upon release of controller handle, and means to prevent the turning to "off" position until after the circuit is broken at the circuit breaker.

9. A device of the kind specified, comprising a rotating controller arm, an operating handle carried thereby, a controller shaft, a notched cam slidable thereon, a circuit breaker, an operating arm therefor controlled by said cam, when said operating handle is actuated, and a ratchet and pawl to prevent return movement of said shaft when circuit breaker is closed.

10. A device of the kind specified, comprising a rotating controller arm, an operating handle carried thereby, a controller shaft, a notched cam slidable thereon, a circuit breaker, an operating arm therefor controlled by said cam, when said operating handle is actuated, and a notched flange adapted to prevent the slide of the cam except when in normal position.

11. A device of the kind specified, comprising a rotating controller arm, an operating handle carried thereby, a controller shaft, a notched cam slidable thereon, a circuit breaker, an operating arm therefor controlled by said cam, when said operating handle is actuated, a ratchet and pawl to prevent return movement of said shaft when circuit breaker is closed and a notched flange adapted to prevent the slide of the cam except when in normal position.

12. A main controller shaft, a counter shaft, a circuit breaker, operated from said main shaft, a notched cam slidable on said controller shaft, keys for sliding said cam, a rotary handle on the controller shaft, a depressible handle carried by said rotary handle and a lever connecting it with said keys, and a rocker arm operated from said notched cam.

13. A main controller shaft, a counter shaft, a circuit breaker operated from said main shaft, a notched cam slidable on said controller shaft, keys for sliding said cam, a rotary handle on the controller shaft, a depressible handle carried by said rotary handle and a lever connecting it with said keys, a rocker arm operated from said notched cam, and a ratchet movable with the cam and a pawl to limit its rotation when said cam engages said rocker arm.

14. A main controller shaft, a counter shaft, a circuit breaker operated from said main shaft, a notched cam slidable on said controller shaft, keys for sliding said cam, a rotary handle on the controller shaft, a depressible handle carried by said rotary handle and a lever connecting it with said keys, a rocker arm operated from said notched cam, a flange slidable with said cam having a notch, and a latch adapted to prevent the upward movement of said flange when said notch is not in register therewith.

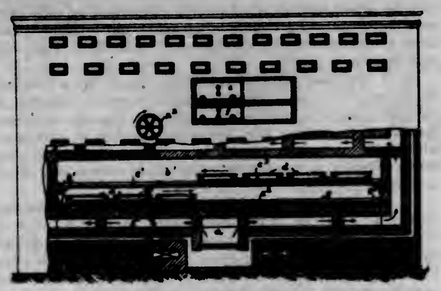
15. A main controller shaft, a counter shaft, a circuit breaker operated from said main shaft, a notched cam slidable on said controller shaft, keys for sliding said cam, a rotary handle on the controller shaft, a depressible handle carried by said rotary handle and a lever connecting it with said keys, a rocker arm operated from said notched cam, a ratchet movable with the cam and a pawl to limit its rotation when said cam engages said rocker arm, a flange slidable with said cam having a notch, and a latch adapted to prevent the upward movement of said flange when said notch is not in register therewith.

16. A main controller shaft, a counter shaft, a circuit breaker operated from said main shaft, a notched cam slidable on said controller shaft, keys for sliding said cam, a rotary handle on the controller shaft, a depressible handle carried by said rotary handle and a lever connecting it with said keys, a rocker arm operated from said notched cam, a flange slidable with said cam having a notch, a latch operated to prevent the upward movement of said flange when said notch is not in register therewith, and means to permit the downward movement of the flange and cam at all times.

865,971. OVEN OR STOVE. GIOVANNI MAGNASCO, Genoa, Italy, assignor to Societa Italiana dei Forni, Genoa, Italy. Filed June 14, 1904. Serial No. 212,554.

1. A baking oven having a horizontally disposed chamber, tracks or guides in said chamber at different levels, a carriage moving on each track, baking plates supported

by each carriage, and chains for moving said carriages, substantially as described.



2. A baking oven having a chamber, horizontal tracks in said chamber at different levels, a carriage on each track occupying approximately one half the length of the chamber, baking plates carried by said carriages, and means for moving the carriages in unison, substantially as described.

865,972. GAS-ENGINE. EDWARD MOORE, Syracuse, N. Y. Filed May 14, 1906. Serial No. 316,745.



1. In an electric spark timer for gas engines, a pair of disks and a non-rotatable support clamped between the disks and upon which the said disks may be shifted concentrically, contact terminals on one of the disks and a rotary brush having a contact ball loose on one end and movable into contact with said terminals.

2. An electric spark timer for gas engines comprising a non-rotatable bearing, disks clamped to each other and frictionally clamped upon the bearing to permit the disks to be shifted concentric thereon, a contact terminal on one of the disks and a revolving brush making and breaking electrical contact with the terminal.

3. An electric spark terminal for gas engines comprising a pair of disks of insulating material, a non-rotatable support upon which said disks are mounted, a contact terminal on one of the disks, a rotary contact brush, wire binding clamps between the disks, means for securing the contact terminal and binding clamp to the disks and for frictionally clamping said disks upon the non-rotatable support, whereby the disks may be shifted concentrically to change the lead.

4. An electric spark timer for gas engines comprising a pair of disks of insulating material and a non-rotatable support therefor, means for clamping said disks to each other and frictionally clamping them upon the support to permit them to be moved concentrically, contact terminals mounted on one of the disks and a revolving brush making and breaking contact with said terminals.

5. In an electric spark timer for gas engines, a pair of disks of insulating material and a non-rotatable support therefor, a rotary contact brush, a terminal clamped between the disks and means for frictionally clamping said disks upon said support to permit them to be shifted concentrically thereon.

6. In an electric spark timer for gas engines, disks of insulating material, a non-rotatable support having an annular flange interposed between the disks, means for frictionally clamping the disks upon said flange to permit the disks to be shifted concentrically thereon, wire binding clamps held between the disks, a contact terminal mounted on one of the disks and electrically connected to the binding clamp and a rotary brush having a contact ball loosely mounted therein to make and break contact with the terminal.

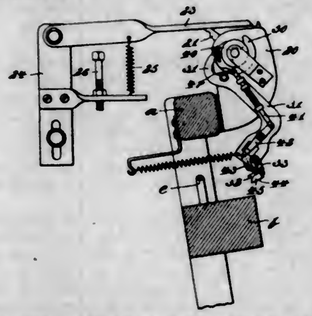
7. In an electric spark timer for gas engines, a distributer head and a terminal thereon, and a rotary eccentric for adjusting said terminal.

8. In an electric spark timer, a pair of disks of insulating material, a non-rotatable supporting flange between the disks, means for frictionally clamping the disks upon said flange to permit the disks to be adjusted concentrically, a terminal on one of the disks, a rotary contact brush, and means for adjusting said terminal radially and wire clamps frictionally engaged by and held between the disks.

9. In an electric spark timer for gas engines, a distributer-head, a contact terminal mounted on the head and provided with opposite shoulders, a rotary eccentric engaging said shoulders to adjust the contact terminal radially, and a rotary brush to make and break contact with said terminal.

10. In an electric spark timer for gas engines, a pair of disks of insulating material, a non-rotatable supporting flange interposed between said disks, means for frictionally clamping the disks upon said flange, a rotary brush, a series of contact terminals mounted on one of the disks in the path of the brush, each of said terminals being provided with opposite shoulders, and a plurality of rotary eccentrics each fitted between the shoulders of one of the terminals to adjust its terminal radially and to lock it in its adjusted position.

865,973. LOOM. JAMES L. POALK, Philadelphia, Pa., assignor to Automatic Oscillating Loom Company of America, a Corporation of New Jersey. Filed May 2, 1906, Serial No. 314,755. Renewed July 30, 1907. Serial No. 386,244.



1. In a loom, a shuttle to draw a doubled weft thread through the shed at each pick, means for drawing one portion of said doubled thread out of the shed, means for beating up the other portion of said thread into the fabric and means for holding the drawn out portion in position to be carried by the shuttle through the next shed upon the reverse movement of said shuttle.

2. In a loom, a shuttle to draw a doubled weft thread through the shed at each pick, a spool located outside the movable parts of the loom and from which spool said thread is drawn by said shuttle, a hook mechanism to draw out one portion of the doubled thread from the shed, a means for beating up the portion of the thread remaining in the shed, and a means for presenting the drawn out portion of the thread to the shuttle upon the reverse pick.

3. In a loom, a shuttle to draw a doubled weft thread through the shed at each pick, a hook mechanism to draw out one portion of the doubled thread at the end of each first and third pick, a means for beating up the portion of the doubled thread remaining in the shed at the end of each pick, and a means for presenting the drawn out portion of the thread to the shuttle upon the beginning of the second and fourth picks to draw said drawn out portion through a shed.

4. In a loom, a shuttle to draw a doubled weft thread through a shed at each pick, means for drawing one portion of said thread out of the shed, means for beating up the other portion of said thread into the fabric, a spool located outside the movable parts of the loom, from which spool said thread is drawn by the shuttle, a severing device for the thread and a means for operating said severing device upon certain picks of the shuttle.

5. In a loom, a lay, a shuttle to draw a doubled thread through a shed, a gripping means for the thread arranged on and carried by the lay, a severing device combined with the gripping means, a hook mechanism carried by and traversing the lay and means for operating said hook mechanism at certain picks of the shuttle to draw out from a shed one portion of the doubled thread carried by the shuttle after the thread has been severed.

865,974. WOVEN FABRIC AND ART OF WEAVING THE SAME. JAMES L. POALK, Philadelphia, Pa., assignor to Automatic Oscillating Loom Company of America, a Corporation of New Jersey. Filed July 3, 1906, Serial No. 324,656. Renewed July 30, 1907. Serial No. 386,245.



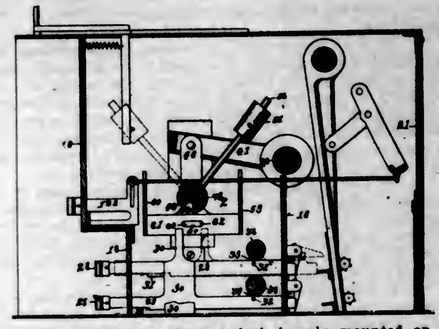
1. The improvement in the art of weaving fabrics from a continuous weft thread which consists in first forming with the warp threads successive sheds, then throwing into each shed a doubled weft thread, then beating up into each shed but one portion of said doubled weft thread.

2. The improvement in the art of weaving fabrics from a continuous weft thread which consists in forming successive sheds with the warp threads, then throwing into the first shed in series a doubled weft thread, then withdrawing from said shed one portion of said weft and beating up in the shed the remaining portion of said weft, then throwing the withdrawn portion of said weft into the second shed and beating up the same, then throwing a doubled weft thread through the third shed and withdrawing one portion thereof from the shed, then beating up the remaining portion of the weft in said shed and finally throwing the withdrawn portion of the weft into the fourth shed.

3. A woven fabric having warp threads formed into successive sheds and a weft thread filling a plurality of said sheds consecutively, said weft thread having a plurality of bends connecting the picks of said weft, the second pick of the weft being joined by one of said bends to the first pick and having a free end, said free end being inclosed by a second bend of said weft.

4. A woven fabric having warp threads formed into successive sheds, and a weft thread filling four of said sheds, said weft thread having one of its free ends thrown into the fabric as the second pick of the weft and inclosed by a bend connecting the first and third picks of said weft and the other of said free ends of the weft being thrown into the fabric as the fourth pick and connected with the third pick of the weft by a bend at that edge of the fabric opposite to the bend between the first and third picks.

865,975. VOTING-MACHINE. ENOS B. WILLIX, Mount Vernon, Iowa, and ELMER L. KEITH, Smith, S. D.; said Keith assignor to said Willix. Original application filed Jan. 6, 1905, Serial No. 239,866. Divided and application filed Sept. 26, 1905, Serial No. 280,189. Again divided and this application filed Nov. 10, 1906. Serial No. 342,768.



1. In a voting machine, a lock loosely mounted on a shaft for rotary oscillation, and a plurality of vote keys each key adapted to engage and rotary oscillate the lock and free to be moved from voting to normal position and not in engagement with the lock either when the keys are in normal, or in voting position.

2. In a voting machine, a lock consisting of a tumbler provided with a recess and loosely mounted on a shaft and adapted to be rotary oscillated, and a plurality of vote keys disconnected from said lock both when in normal and in voting positions and each key adapted to pass through and out of engagement with the lock to rotary oscillate the lock on the shaft.

3. In a voting machine, a lock consisting of a tumbler loosely mounted on a shaft for rotary oscillation and common to a plurality of vote keys, and a plurality of vote keys disconnected from said lock when in normal and voting position each key adapted to engage and rotary oscillate said lock and pass through and out of engagement with the lock.

4. In a voting machine, a lock consisting of a shaft or tumbler mounted for rotary oscillation, a plurality of voting keys each disconnected from the lock both when in normal and in voting position, and an arm on each key adapted to engage said tumbler and rotary oscillate the same.

5. In a voting machine, a lock consisting of a tumbler provided with a recess and loosely mounted on a shaft for rotary oscillation, a plurality of vote keys each key adapted to engage the recess of the lock to rotary oscillate said lock and pass away from the recess and become disconnected from the lock, and means connected with the lock for preventing more than one key from rotating the tumbler at the same time.

6. In a voting machine, a lock consisting of a tumbler mounted for rotary oscillation and provided with a recess, a plurality of voting keys and each key disconnected from the lock when in voting position, and an arm on each of the voting keys adapted to engage the recess in the tumbler and rotary oscillate the same as it passes through and out of the lock to voting position.

7. In a voting machine, a lock consisting of a tumbler mounted for rotary oscillation and provided with a recess, voting keys disconnected from the lock, an arm on each voting key adapted to engage the recess in the tumbler and partially rotate the same as it passes through and out of engagement with the lock to voting position, and means for preventing the arm of any other key from oscillating the tumbler in the same direction.

8. In a voting machine, a lock consisting of a tumbler or shaft mounted for rotary oscillation, voting keys detached from the lock both when the keys are in normal or in voting position, and means connected with the lock for

preventing more than one key from rotating the lock at the same time or in the same direction.

9. In a voting machine, a lock consisting of a tumbler or shaft mounted for rotary oscillation, voting keys detached from the lock, an arm on each voting key adapted to enter the lock and rotate the tumbler as it passes through and out of engagement with the lock to voting position, and means for preventing an arm of any other key from operating the lock and rotating the tumbler at the same time.

10. In a voting machine, a movable lock consisting of a tumbler loosely mounted on a shaft for rotary oscillation and normally out of engagement with the voting key, a plurality of vote keys set in a frame and adapted to be reciprocated, means connected with the keys for rotary oscillating the tumbler, and means for moving the lock to a position whereby it can be operated by the voting key as the voting key is reciprocated to voting position.

11. In a voting machine, a movable lock consisting of a tumbler mounted for rotary oscillation and normally in an inoperative position, a voting key adapted to be reciprocated, and means for bringing the tumbler into position whereby it can be engaged and rotary oscillated by the voting key when the key is reciprocated.

12. In a voting machine, a lock consisting of a tumbler mounted for rotary oscillation and normally in an inoperative position, voting keys adapted to be reciprocated, an arm on each voting key, and means for moving the tumbler into operative position whereby the arm of any one of the voting keys can engage the tumbler and oscillate the same.

13. In a voting machine, a movable lock consisting of a tumbler mounted for rotary oscillation and provided with a recess and normally in an inoperative position, a voting key adapted to be reciprocated, an arm on the key, and means for moving the lock into operative position whereby the arm on the voting key can engage the recess in the tumbler and oscillate it when the key is reciprocated.

14. In a voting machine, a movable lock consisting of a tumbler mounted for rotary oscillation, a series of voting keys adapted to be reciprocated, means connected with the keys for oscillating the tumbler, means for moving the lock from inoperative position into the path of the travel of the keys, and means for preventing more than one key from operating the tumbler at the same time.

15. In a voting machine, a movable lock provided with a tumbler mounted for rotary oscillation, and normally in an inoperative position, voting keys adapted to be reciprocated, an arm on the key, means for moving the lock into the position to be operated by an arm of a voting key, and means for preventing more than one arm of any key from engaging and rotating the tumbler at the same time.

16. In a voting machine, a series of movable locks one for each office each lock loosely mounted on a shaft for rotary oscillation and normally out of position to be engaged by the voting keys when said keys are in normal or voting position, a plurality of keys for each office adapted to be manually moved one at a time to voting position and pass through and operate the lock, means for moving the lock into position to be engaged by the voting keys as they pass through the lock to voting position, and means connected with the lock for preventing any other key for this office from operating the lock until the key that first operated the lock has been withdrawn to normal position.

17. In a voting machine, a lock mounted for rotary oscillation, voting keys adapted to engage and operate the lock, and means for preventing more than one key from operating the lock at the same time consisting of spacing plates and means within the spacing plates set in the path of the travel of the keys.

18. In a voting machine, a lock provided with a tumbler mounted for rotary oscillation, voting keys adapted to engage and operate the lock, and means for preventing more than one key from operating the lock at the same time consisting of spacing plates and buttons within the spacing plates set in the path of the travel of the keys.

19. In a voting machine, a lock consisting of a tumbler mounted for rotary oscillation and provided with a recess, voting keys disconnected from the lock both when in voting and in normal positions, means connected with the voting keys for engaging the recess to operate the tumbler as each key passes through and out of engagement with the lock to voting position, and means connected with the lock for preventing any other key from entering the recess in the tumbler and from rotating the same till the key in the lock is withdrawn.

20. In a voting machine, a lock, voting keys adapted to engage and operate the lock, in combination with spacing plates, and means in the spacing plates for preventing more than one key from operating the lock at the same time.

21. In a voting machine, a lock mounted for rotary oscillation, voting keys adapted to engage and operate the lock, in combination with spacing plates, and means for closing so much of the space between the plates that only one key can engage and operate the lock at the same time.

22. In a voting machine, a lock mounted for rotary oscillation, voting keys each provided with an arm adapted to engage and rotate the lock, in combination with spacing plates, and means for closing so much of the space between the plates that only one arm of a voting key can operate the lock at the same time.

23. In a voting machine, a movable lock consisting of a tumbler mounted for rotary oscillation, a voting key, an arm on the key adapted to engage the tumbler and rotate it, movable guides independent of the bearing of the voting key for directing the arm on the key into engagement with the lock, and means for moving the lock to operative position and moving the guides to position for directing the key into engagement with the lock.

24. In a voting machine, a movable lock consisting of a tumbler mounted for rotary oscillation and normally in an inoperative position, voting keys, an arm on each voting key, in combination with movable guides for directing the voting keys into engagement with the tumbler of the lock, and means for moving the locks and guides into and out of operative position.

25. In a voting machine, a movable lock consisting of a tumbler mounted for rotary oscillation and provided with a recess and normally in an inoperative position, a voting key, an arm on the voting key adapted to engage the recess in the tumbler and rotate the tumbler, in combination with movable guides consisting of spacing plates disconnected from the bearings of the voting key, and means for moving the lock and guides into position, whereby the voting key will be guided into operative engagement with the lock.

26. In a voting machine, a movable lock consisting of a tumbler mounted for rotary oscillation and normally in an inoperative position, voting keys, and an arm on each key adapted to engage the tumbler and rotate it, in combination with movable guides consisting of spacing plates separate from and independent of the bearings of the voting keys, means between the spacing plates for preventing more than one key from operating the lock at the same time, and means for moving the lock into and out of operative position.

27. In a voting machine, a movable lock and normally in an inoperative position, voting keys adapted to operate the lock, in combination with movable guides consisting of spacing plates, means within the spacing plates for preventing more than one key from operating the lock at the same time, and means for moving said locks and guides into and out of operative position with the keys.

28. In a voting machine, a movable lock, voting keys adapted to operate the lock, in combination with movable guides independent of the bearings of the voting keys for directing the keys into engagement with the lock, and means for moving the lock, and guides into operative relation with the keys whereby the keys may operate the lock.

29. In a voting machine, a voting key, a tumbler mounted for rotary oscillation, an arm on said key adapted to engage and oscillate said tumbler, and manually actuated devices independent of the voting keys for oscillating said tumbler at times.

30. In a voting machine, a lock mounted for rotary oscillation, voting keys, an arm projecting from each key and adapted to engage and operate the lock, and means adapted to move the lock into the path of the travel of the arms of the keys, means for preventing the arm of more than one key from operating the lock at the same time or while the arm of one key is in engagement with the lock.

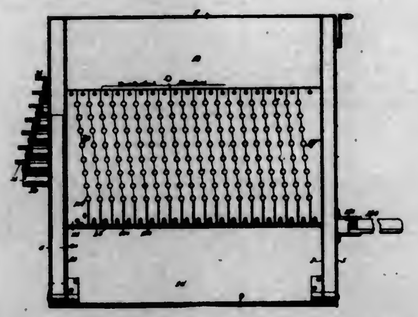
31. In a voting machine, a plurality of voting keys, a plurality of locks one for each office, means for moving the locks from an inoperative position into operative relation with the voting keys and disengage them from the voting keys both when the keys are in voting and initial position, and spacing plates with buttons therein interposed in the path of the travel of the keys to prevent more than one key from being moved from initial to voting position at the same time.

32. In a voting machine, a plurality of voting keys, a plurality of locks one for each office, means for moving the locks from an inoperative position into operative relation with the voting keys both when the keys are in voting and initial position, and spacing plates with buttons therein interposed in the path of the travel of the keys to prevent two keys from being moved from initial to voting position at the same time.

33. In a voting machine, a movable lock separate from and independent of the vote keys both when the keys are in voting position and in normal position, consisting of a tumbler loosely mounted on a shaft and common to two series of vote keys for the same office, one series in voting position and the other in normal position, adapted to engage and oscillate the lock to a locking position when the key is being moved from voting to normal position whereby another key can not oscillate the lock in the same direction though any key in normal position can oscillate the lock in the opposite direction.

34. In a voting machine, a movable lock consisting of a tumbler loosely mounted on a shaft and adapted to be rotated on the shaft, a key, means connected with the key adapted to pass through and out of the lock and operate it when the lock has been moved into the path of the travel of the key, and means for moving the lock into the path of the travel of the key.

865,976. VOTING-MACHINE. ENOS B. WILLIX and ELMER L. KEITH, Mount Vernon, Iowa; said Keith assignor to said Willix. Filed Sept. 26, 1905. Serial No. 280,189.



1. In a voting machine, a voting key, a movable register plate, a register secured to the register plate, means for moving the register plate to cause the register to be engaged by the end of the voting key and operate the register to record the vote, and means for restoring the key to unvoted position by direct contact of the register plate with the voting key.

2. In a voting machine, a voting key, a movable register plate, a register attached to the register plate, and means for moving the register plate to cause the register to contact with the end of the voting key for recording the vote and by the movement of the register plate parallel with and against the key to restore the key to normal or unvoted position.

3. In a voting machine, a voting key, a register plate, a register secured to the register plate, pins on the register, means for moving the register plate to cause the end of the voting key to engage the pins of the registers and operate the register to record the vote, and means connected with the register-plate to cause the register plate to engage the key and restore the key to normal or unvoted position.

4. In a voting machine, a voting key, a register plate, a register secured to a register plate, means for moving the register plate to cause the end of the voting key to engage the register and operate the same, and means to bring the register plate into engagement with the voting key to restore the voting key to its normal or unvoted position, and by the same means restore the register plate to normal or unregistering position.

5. In a voting machine, providing for a plurality of offices, a row of voting keys, a row of locks one for each office provided with a tumbler adapted to be separately and rotarily oscillated without the movement of any other tumbler by all of the voting keys for a given office at times, and an entrance lever for bringing the lock into position to be operatively engaged by the voting keys for that office after the voting keys have been brought to voting position.

6. In a voting machine, a row of voting keys one for each candidate in each office, a lock one for each office consisting of an individual and independent tumbler mounted for rotary oscillation, an arm on each voting key and all of the arms for all of the keys for a given office adapted to engage the same tumbler and rotarily oscillate it without oscillating any other tumbler, and an entrance lever for bringing the locks into position to be operatively engaged by the arms on the voting keys after the voting keys have been brought to voting position.

7. In a voting machine, a series of voting keys, an arm integral with each key and all the arms of any one series of the same length and in different series of different lengths and all the arms of all the series projecting to a common plane, a series of locks normally out of engagement with the voting keys, means for bringing the locks into position to be operatively engaged by the voting keys after the keys have been brought to voting position, a movable register plate carrying registers, and means for moving the register plate to cause the registers to engage the ends of the voting keys and record the vote.

8. In a voting machine, a series of voting keys, an arm integral with each key and all the arms on any one series of the same length and of different series of different lengths and all the arms of all the series projecting to a common plane, a series of locks one for each office normally out of engagement with the voting keys, means for advancing the voting keys to voting position without operating any of the office locks, means for bringing the office locks into position to be operatively engaged by the voting keys after the keys have been brought to voting position, a movable register plate carrying registers, means for moving the register plate to cause the register to engage the ends of the voting keys and record the vote, and means for restoring the voting keys to normal position by direct contact of the register plate with the voting keys.

9. In a voting machine, a casing, a movable lock consisting of a tumbler mounted for rotary oscillation, a voting key adapted to slide in the casing, an arm on the key adapted to engage the tumbler and rotate it, movable guides consisting of spacing plates independent of the bearings of the voting key for directing the arm on the key into engagement with the tumbler, and an entrance lever for lowering the lock and guides to operative position.

10. In a voting machine, a movable lock consisting of a tumbler provided with a longitudinal groove therein and mounted for rotary oscillation, a voting key, an arm on the voting key adapted to engage the groove in the tumbler and rotate the tumbler, and an entrance lever for lowering the tumbler to a position where it can be engaged by the arm on the voting key after the voting key has been brought to voting position.

11. In a voting machine, a movable lock consisting of

a tumbler mounted for rotary oscillation and provided with a groove, a voting key, an arm on the voting key adapted to engage the groove in the tumbler and operate the tumbler, a movable guide consisting of spacing plates disconnected from the bearings of the voting keys, and an entrance lever for raising and lowering the tumblers and guides, substantially as and for the purposes shown.

12. In a voting machine, a movable lock consisting of a tumbler mounted for rotary oscillation and provided with a groove, a voting key, an arm on the voting key adapted to engage the groove in the tumbler and operate the tumbler, a movable guide consisting of spacing plates separate from and independent of the bearings of the voting keys, a movable button between the spacing plates, and an entrance lever for raising and lowering the tumbler, guides and button.

13. In a voting machine, a row of voting keys one for each candidate in each office, a lock one for each office consisting of an individual tumbler mounted for rotary oscillation, an arm on each voting key integral therewith and all of the arms for all of the keys for a given office adapted to engage the same tumbler and rotarily oscillate it at times, and an entrance lever for bringing the locks into position to be operatively engaged by the arms on the voting keys after the voting keys have been brought to voting position.

14. In a voting machine, a series of voting keys, a series of locks one for each office consisting of a tumbler mounted on a shaft for rotary oscillation and normally out of engagement with the voting keys, means for moving the keys to voting position, means for bringing the locks into position to be engaged by the voting keys after the voting keys have been brought to voting position, a movable register plate carrying registers, and means for moving the register plate to cause the registers to contact with the ends of the voting keys and record the vote.

15. In a voting machine, a voting key, a lock, a movable register plate, a register secured to the register plate, means for imparting to the register plate first a perpendicular movement to cause the register to engage the end of the voting key and operate the register and a horizontal movement for returning the voting key to its normal position after operating the register to record the vote and a reverse movement to restore the register plate to its normal position.

16. In a voting machine, a voting key consisting of a body and an arm integral with the body, a movable lock normally out of position to be operated by the arm on the voting key either when the voting key is in normal or in voting position said lock operated by the arm of the voting key, means for moving the lock into position to be engaged by the arm on the voting key when the key is moved to voting position, a movable register plate provided with a slot therein, a register attached to the movable register plate in proximity with the slot, and means for moving the register plate to bring the register into engagement with the end of the voting key and operate the register to record the vote.

17. In a voting machine, a series of party rows of voting keys, a lock for each series operated by a straight party ticket key, a movable register plate, registers upon the register plate for all of the party rows, means for moving the register plate to bring the registers into engagement with the ends of the voting keys to operate the registers, means attached to the register plate for restoring the voting keys to their normal position after operating the registers, and means attached to the register plate for restoring the straight party ticket key to normal position by contact with the end of the party ticket key operated.

18. In a voting machine, a voting key, a lock operated by the voting key, a register plate provided with slots or openings therethrough, a register for each opening, means for moving the register plate in a perpendicular direction to cause the register to engage the end of the voting key and operate the same, and means for restoring the voting key to normal position by engagement of the register plate with the voting key after operating the register and the register plate to normal position.

19. In a voting machine, a voting key, a movable register plate, a register secured to the register plate, and means for imparting to the register plate first a perpendicular movement to cause the register to engage the end of the voting key and record the vote and then a horizontal movement to bring the register plate into engagement with the key and restore the key to its normal or unvoted position.

20. In a voting machine, a voting key, a movable register plate, a register secured to the register plate, means for imparting a perpendicular movement to the register plate to cause the register to engage the end of the voting key and record the vote and then a horizontal movement to bring the register plate into engagement with the key and restore the key to its normal or unvoted position, and means attached to the register plate for restoring the register plate to its normal or unregistering position.

21. In a voting machine having a plurality of offices, a series of party rows of voting keys, a lock for each office, a register plate, a register for each candidate on the party rows secured to the register plate, means secured to the register plate for causing the registers to engage the ends of the voting keys and operate them to record the vote, and means attached to the register plate to cause the register plate to restore the voting keys to normal or unvoted position by direct engagement with the keys.

22. In a voting machine, a voting key, a lock operated by the voting key and normally out of operative relation with the voting key, a register plate, a register secured to the register plate, means for imparting movements at an angle to each other to the register plate for operating the register and restoring the voting key to unvoted position by its engagement with the voting key, and means for restoring the register plate to its normal position after operating the register and restoring the voting key to its normal position by contact of the register plate with the voting key.

23. In a voting machine, a casing, a row of movable locks each consisting of a tumbler mounted for rotary oscillation, a series of voting keys each provided with an arm adapted to engage the lock and all the arms of one series of the same length and in different series of different length and all the arms of all the series extending to the same plane, guides for directing the keys into engagement with the tumblers and the lock consisting of spacing plates separate from the bearings of the keys in the casing, means for preventing more than one key from entering or engaging the lock consisting of buttons within the spacing plates, and an entrance lever for bringing the locks, guides and buttons into operative relation with the arms on the voting keys.

24. In a voting machine, a casing provided with slots or openings therein, voting keys, a plate provided with slots therein slidingly secured to the casing, a register plate provided with means for engaging the slots in the casing and plates and travel therein, and means for moving said register plate in said slots to cause the registers to engage the ends of the voting keys and record the vote.

25. In a voting machine, a casing provided with slots or openings therein, a voting key, a plate provided with slots therein slidingly secured to the casing, a register plate provided with means for engaging the slots in the casing and plates and travel therein, and a lever attached to one of the plates for operating the plates to move the register into contact with the voting key to register the vote.

26. In a voting machine, a casing provided with openings or slots therein, a voting key, plates provided with slots therein slidingly secured to the casing, a register plate provided with means to engage the slots in the casing and plates and travel therein, means attached to the plates for moving the register plate to cause a voting key to be engaged by the register and record the vote, and means connected with the plates for restoring the key and register plate to unvoted position.

27. In a voting machine, comprising a plurality of series of party rows of voting keys, a plurality of key actuating devices whereby a straight party ticket may be brought to voting position, a lock for the straight party ticket, and means for locking all of the key actuating devices except the one actuated consisting of a key for each party row, an arm integral with each key adapted to engage the lock and operate the same, and a plate connected to the register plate for restoring the straight party ticket keys by direct contact with the ends of the keys.

28. In a voting machine, comprising a series of party rows of voting keys, a series of key actuating devices whereby a straight party ticket may be brought to voting position, a lock, and means for locking all of the key actuating devices except the one actuated consisting of a key for each party ticket, an arm on each straight party ticket key adapted to engage the lock and operate the same, a movable register plate, and means on the register plate adapted to engage the ends of the straight party ticket keys and restore them to normal position when the register plate restores the voting keys to normal position by contact with the keys.

29. In a voting machine, comprising a series of party rows of voting keys, a series of party ticket keys, a series of party row actuating devices whereby a straight party ticket may be brought to voting position, means for locking all of the vote key actuating devices except the one actuated consisting of a tumbler adapted to be actuated by means attached to a straight party ticket key, in combination with a movable register plate, and means connected therewith adapted to engage and restore the party ticket key to normal position when the register plate restores the voting keys to normal position.

30. In a voting machine, a series of straight party ticket keys, an arm on each key, a lock, means for actuating a key to cause its arm to engage the lock and lock all of the actuating devices of the party rows of keys except the one actuated, in combination with a series of rows of voting keys one row for each party, means for advancing simultaneously each row of voting keys to voting position including the advancement of a party ticket key to operate its lock, a registering device, and means for bringing the registering device into engagement with the ends of the voting keys to record the vote.

31. In a voting machine, a series of straight party ticket keys each provided with an arm, a lock common to the arm of all of the series, means interposed in the path of the travel of the arms of the keys to prevent more than one key from engaging and operating the lock at the same time, a series of rows of voting keys, a series of actuating devices for actuating the arms on the straight party ticket keys to engage the lock and at the same time engage the voting keys to move them to voting position and registers adapted to be operated by engagement with the ends of the voting keys.

32. In a voting machine, a plurality of straight party ticket keys one for each party, a lock common to all of said keys, means for actuating any one of said keys to engage and operate said lock and thereby prevent any of the rest of the keys from operating said lock, a series of party rows of voting keys, a series of key actuating devices whereby the voting keys of a party ticket may be brought to voting position and at the same time the party ticket key of said party will be brought to engage and operate the party ticket lock, a movable register plate, and means connected to said plate adapted to engage and restore said party ticket key to normal position by contact with the end of the key when the register plate restores the voting keys to normal position by contact with the keys.

33. In a voting machine, a series of voting keys, a lock one for each office, a register plate carrying registers, and means operated by the register plate for engaging the office locks and operating them only in one direction without moving the voting keys, whereby all of the locks may be turned to normal position.

34. In a voting machine, a voting key, a lock consisting of a tumbler mounted for rotary oscillation, a movable register plate carrying registers, and means connected with the lock and adapted to be engaged by the register plate to rotate the tumbler to normal position without moving the voting keys.

35. In a voting machine, a voting key, a lock consisting of a tumbler mounted for rotary oscillation, a movable register plate carrying registers, means slidingly secured in the casing adapted to be engaged by the register plate, and means for operating the register plate to engage the sliding means and oscillate the tumbler to normal position without movement of the voting keys.

36. In a voting machine, a series of voting keys, a lock one for each office, and normally out of engagement with the voting keys, guides for directing the keys into engagement with the lock, means interposed between the guides for preventing more than one key from entering the lock at the same time, said means normally out of engagement with the voting keys, and an entrance lever connected with the locks and guides for lowering the interposed means to a position whereby the guides will guide the keys into the locks and at the same time lower the locks into a position whereby they may be engaged by the voting keys while passing between the guides and interposed means.

37. In a voting machine, a series of voting keys, a lock one for each office normally out of engagement with the voting keys, guides for directing the keys into engagement with the lock consisting of spacing plates disconnected from the bearings of the voting keys placed in operative relation with the locks, buttons interposed between the guides for preventing more than one key from entering and operating the lock at the same time, and an entrance lever connected with the locks and guides for lowering the guides and buttons to a position whereby they will guide the keys into the locks and at the same time lower the locks into position whereby they may be engaged by the voting key.

38. In a voting machine, a voting key, means for advancing the key to voting position, a lock, a canceling key consisting of a body, an arm integral therewith, a push button, and means connected with the push button for forcing the arm on the canceling key into engagement with the lock to operate the lock and force the arm out of and away from the lock.

39. In a voting machine, a movable lock, a voting key adapted to engage and operate the lock, a canceling key consisting of a body, an arm integral with the body, a push button, means connected with the push button and disengaged from the body of the key and adapted when the push button is manually forced in one direction to engage and carry with it the canceling key and when the push button is withdrawn the body and arm of the key will remain in its forced position, and an entrance lever for lowering the lock into position to be engaged by the canceling key.

40. In a voting machine, a movable lock consisting of a tumbler mounted for rotary oscillation, a canceling key consisting of a body, an arm integral with the body, a push button disconnected from the body and provided with means for engaging the body when the push button is manually forced in one direction to engage the body of the key and cause the arm on the body to engage the tumbler and oscillate it, and an entrance lever for bringing the tumbler into position to be engaged by the canceling key.

41. In a voting machine, a plurality of voting keys each provided with an arm integral therewith, a movable lock consisting of a tumbler mounted for rotary oscillation, in combination with a canceling key consisting of a body provided with an arm integral therewith, a push button, means connected with the push button to engage the arm on the key and when the push button is manually forced against the arm said arm engages the tumbler and oscillates the tumbler and then passes out and away from the tumbler leaving the tumbler in its oscillated position, and an entrance lever for bringing the tumbler to a position to be engaged by the arm on the canceling key.

42. In a voting machine providing means for voting for the candidates in a collective office, a plurality of voting keys, a single lock common to all of the voting keys for that office consisting of a tumbler adapted to be rotary oscillated by the voting keys and normally out of operative position with the voting keys, a plurality of canceling keys provided with means for engaging and rotating the tumbler of the lock and become disengaged from the

a tumbler mounted for rotary oscillation and provided with a groove, a voting key, an arm on the voting key adapted to engage the groove in the tumbler and operate the tumbler, a movable guide consisting of spacing plates disconnected from the bearings of the voting keys, and an entrance lever for raising and lowering the tumblers and guides, substantially as and for the purposes shown.

12. In a voting machine, a movable lock consisting of a tumbler mounted for rotary oscillation and provided with a groove, a voting key, an arm on the voting key adapted to engage the groove in the tumbler and operate the tumbler, a movable guide consisting of spacing plates separate from and independent of the bearings of the voting keys, a movable button between the spacing plates, and an entrance lever for raising and lowering the tumbler, guides and button.

13. In a voting machine, a row of voting keys one for each candidate in each office, a lock one for each office consisting of an individual tumbler mounted for rotary oscillation, an arm on each voting key integral therewith and all of the arms for all of the keys for a given office adapted to engage the same tumbler and rotarily oscillate it at times, and an entrance lever for bringing the locks into position to be operatively engaged by the arms on the voting keys after the voting keys have been brought to voting position.

14. In a voting machine, a series of voting keys, a series of locks one for each office consisting of a tumbler mounted on a shaft for rotary oscillation and normally out of engagement with the voting keys, means for moving the keys to voting position, means for bringing the locks into position to be engaged by the voting keys after the voting keys have been brought to voting position, a movable register plate carrying registers, and means for moving the register plate to cause the registers to contact with the ends of the voting keys and record the vote.

15. In a voting machine, a voting key, a lock, a movable register plate, a register secured to the register plate, means for imparting to the register plate first a perpendicular movement to cause the register to engage the end of the voting key and operate the register and a horizontal movement for returning the voting key to its normal position after operating the register to record the vote and a reverse movement to restore the register plate to its normal position.

16. In a voting machine, a voting key consisting of a body and an arm integral with the body, a movable lock normally out of position to be operated by the arm on the voting key either when the voting key is in normal or in voting position said lock operated by the arm of the voting key, means for moving the lock into position to be engaged by the arm on the voting key when the key is moved to voting position, a movable register plate provided with a slot therein, a register attached to the movable register plate in proximity with the slot, and means for moving the register plate to bring the register into engagement with the end of the voting key and operate the register to record the vote.

17. In a voting machine, a series of party rows of voting keys, a lock for each series operated by a straight party ticket key, a movable register plate, registers upon the register plate for all of the party rows, means for moving the register plate to bring the registers into engagement with the ends of the voting keys to operate the registers, means attached to the register plate for restoring the voting keys to their normal position after operating the registers, and means attached to the register plate for restoring the straight party ticket key to normal position by contact with the end of the party ticket key operated.

18. In a voting machine, a voting key, a lock operated by the voting key, a register plate provided with slots or openings therethrough, a register for each opening, means for moving the register plate in a perpendicular direction to cause the register to engage the end of the voting key and operate the same, and means for restoring the voting key to normal position by engagement of the register plate with the voting key after operating the register and the register plate to normal position.

19. In a voting machine, a voting key, a movable register plate, a register secured to the register plate, and means for imparting to the register plate first a perpendicular movement to cause the register to engage the end of the voting key and record the vote and then a horizontal movement to bring the register plate into engagement with the key and restore the key to its normal or unvoted position.

20. In a voting machine, a voting key, a movable register plate, a register secured to the register plate, means for imparting a perpendicular movement to the register plate to cause the register to engage the end of the voting key and record the vote and then a horizontal movement to bring the register plate into engagement with the key and restore the key to its normal or unvoted position, and means attached to the register plate for restoring the register plate to its normal or unregistering position.

21. In a voting machine having a plurality of offices, a series of party rows of voting keys, a lock for each office, a register plate, a register for each candidate on the party rows secured to the register plate, means secured to the register plate for causing the registers to engage the ends of the voting keys and operate them to record the vote, and means attached to the register plate to cause the register plate to restore the voting keys to normal or unvoted position by direct engagement with the keys.

22. In a voting machine, a voting key, a lock operated by the voting key and normally out of operative relation with the voting key, a register plate, a register secured to the register plate, means for imparting movements at an angle to each other to the register plate for operating the register and restoring the voting key to unvoted position by its engagement with the voting key, and means for restoring the register plate to its normal position after operating the register and restoring the voting key to its normal position by contact of the register plate with the voting key.

23. In a voting machine, a casing, a row of movable locks each consisting of a tumbler mounted for rotary oscillation, a series of voting keys each provided with an arm adapted to engage the lock and all the arms of one series of the same length and in different series of different length and all the arms of all the series extending to the same plane, guides for directing the keys into engagement with the tumblers and the lock consisting of spacing plates separate from the bearings of the keys in the casing, means for preventing more than one key from entering or engaging the lock consisting of buttons within the spacing plates, and an entrance lever for bringing the locks, guides and buttons into operative relation with the arms on the voting keys.

24. In a voting machine, a casing provided with slots or openings therein, voting keys, a plate provided with slots therein slidingly secured to the casing, a register plate provided with means for engaging the slots in the casing and plates and travel therein, and means for moving said register plate in said slots to cause the registers to engage the ends of the voting keys and record the vote.

25. In a voting machine, a casing provided with slots or openings therein, a voting key, a plate provided with slots therein slidingly secured to the casing, a register plate provided with means for engaging the slots in the casing and plates and travel therein, and a lever attached to one of the plates for operating the plates to move the register into contact with the voting key to register the vote.

26. In a voting machine, a casing provided with openings or slots therein, a voting key, plates provided with slots therein slidingly secured to the casing, a register plate provided with means to engage the slots in the casing and plates and travel therein, means attached to the plates for moving the register plate to cause a voting key to be engaged by the register and record the vote, and means connected with the plates for restoring the key and register plate to unvoted position.

27. In a voting machine, comprising a plurality of series of party rows of voting keys, a plurality of key actuating devices whereby a straight party ticket may be brought to voting position, a lock for the straight party ticket, and means for locking all of the key actuating devices except the one actuated consisting of a key for each party row, an arm integral with each key adapted to engage the lock and operate the same, and a plate connected to the register plate for restoring the straight party ticket keys by direct contact with the ends of the keys.

28. In a voting machine, comprising a series of party rows of voting keys, a series of key actuating devices whereby a straight party ticket may be brought to voting position, a lock, and means for locking all of the key actuating devices except the one actuated consisting of a key for each party ticket, an arm on each straight party ticket key adapted to engage the lock and operate the same, a movable register plate, and means on the register plate adapted to engage the ends of the straight party ticket keys and restore them to normal position when the register plate restores the voting keys to normal position by contact with the keys.

29. In a voting machine, comprising a series of party rows of voting keys, a series of party ticket keys, a series of party row actuating devices whereby a straight party ticket may be brought to voting position, means for locking all of the vote key actuating devices except the one actuated consisting of a tumbler adapted to be actuated by means attached to a straight party ticket key, in combination with a movable register plate, and means connected therewith adapted to engage and restore the party ticket key to normal position when the register plate restores the voting keys to normal position.

30. In a voting machine, a series of straight party ticket keys, an arm on each key, a lock, means for actuating a key to cause its arm to engage the lock and lock all of the actuating devices of the party rows of keys except the one actuated, in combination with a series of rows of voting keys one row for each party, means for advancing simultaneously each row of voting keys to voting position including the advancement of a party ticket key to operate its lock, a registering device, and means for bringing the registering device into engagement with the ends of the voting keys to record the vote.

31. In a voting machine, a series of straight party ticket keys each provided with an arm, a lock common to the arm of all of the series, means interposed in the path of the travel of the arms of the keys to prevent more than one key from engaging and operating the lock at the same time, a series of rows of voting keys, a series of actuating devices for actuating the arms on the straight party ticket keys to engage the lock and at the same time engage the voting keys to move them to voting position and registers adapted to be operated by engagement with the ends of the voting keys.

32. In a voting machine, a plurality of straight party ticket keys one for each party, a lock common to all of said keys, means for actuating any one of said keys to engage and operate said lock and thereby prevent any of the rest of the keys from operating said lock, a series of party rows of voting keys, a series of key actuating devices whereby the voting keys of a party ticket may be brought to voting position and at the same time the party ticket key of said party will be brought to engage and operate the party ticket lock, a movable register plate, and means connected to said plate adapted to engage and restore said party ticket key to normal position by contact with the end of the key when the register plate restores the voting keys to normal position by contact with the keys.

33. In a voting machine, a series of voting keys, a lock one for each office, a register plate carrying registers, and means operated by the register plate for engaging the office locks and operating them only in one direction without moving the voting keys, whereby all of the locks may be turned to normal position.

34. In a voting machine, a voting key, a lock consisting of a tumbler mounted for rotary oscillation, a movable register plate carrying registers, and means connected with the lock and adapted to be engaged by the register plate to rotate the tumbler to normal position without moving the voting keys.

35. In a voting machine, a voting key, a lock consisting of a tumbler mounted for rotary oscillation, a movable register plate carrying registers, means slidingly secured in the casing adapted to be engaged by the register plate, and means for operating the register plate to engage the sliding means and oscillate the tumbler to normal position without movement of the voting keys.

36. In a voting machine, a series of voting keys, a lock one for each office, and normally out of engagement with the voting keys, guides for directing the keys into engagement with the lock, means interposed between the guides for preventing more than one key from entering the lock at the same time, said means normally out of engagement with the voting keys, and an entrance lever connected with the locks and guides for lowering the interposed means to a position whereby the guides will guide the keys into the locks and at the same time lower the locks into a position whereby they may be engaged by the voting keys while passing between the guides and interposed means.

37. In a voting machine, a series of voting keys, a lock one for each office normally out of engagement with the voting keys, guides for directing the keys into engagement with the lock consisting of spacing plates disconnected from the bearings of the voting keys placed in operative relation with the locks, buttons interposed between the guides for preventing more than one key from entering and operating the lock at the same time, and an entrance lever connected with the locks and guides for lowering the guides and buttons to a position whereby they will guide the keys into the locks and at the same time lower the locks into position whereby they may be engaged by the voting key.

38. In a voting machine, a voting key, means for advancing the key to voting position, a lock, a canceling key consisting of a body, an arm integral therewith, a push button, and means connected with the push button for forcing the arm on the canceling key into engagement with the lock to operate the lock and force the arm out of and away from the lock.

39. In a voting machine, a movable lock, a voting key adapted to engage and operate the lock, a canceling key consisting of a body, an arm integral with the body, a push button, means connected with the push button and disengaged from the body of the key and adapted when the push button is manually forced in one direction to engage and carry with it the canceling key and when the push button is withdrawn the body and arm of the key will remain in its forced position, and an entrance lever for lowering the lock into position to be engaged by the canceling key.

40. In a voting machine, a movable lock consisting of a tumbler mounted for rotary oscillation, a canceling key consisting of a body, an arm integral with the body, a push button disconnected from the body and provided with means for engaging the body when the push button is manually forced in one direction to engage the body of the key and cause the arm on the body to engage the tumbler and oscillate it, and an entrance lever for bringing the tumbler into position to be engaged by the canceling key.

41. In a voting machine, a plurality of voting keys each provided with an arm integral therewith, a movable lock consisting of a tumbler mounted for rotary oscillation, in combination with a canceling key consisting of a body provided with an arm integral therewith, a push button, means connected with the push button to engage the arm on the key and when the push button is manually forced against the arm said arm engages the tumbler and oscillates the tumbler and then passes out and away from the tumbler leaving the tumbler in its oscillated position, and an entrance lever for bringing the tumbler to a position to be engaged by the arm on the canceling key.

42. In a voting machine providing means for voting for the candidates in a collective office, a plurality of voting keys, a single lock common to all of the voting keys for that office consisting of a tumbler adapted to be rotary oscillated by the voting keys and normally out of operative position with the voting keys, a plurality of canceling keys provided with means for engaging and rotating the tumbler of the lock and become disengaged from the

lock, and an entrance lever for bringing the lock into position, whereby it may be engaged by the voting keys already brought to voting position and also be engaged by the canceling keys when the voting keys have been returned to unvoting position.

43. In a voting machine, a voting key, a lock consisting of a tumbler mounted for rotary oscillation normally out of engagement with the voting key, a canceling key provided with an arm integral with the key and adapted to oscillate said tumbler, a push button, means connected with the push button to engage the arm on the canceling key when the push button is manually operated to force the arm against the tumbler and rotary oscillate it and then pass away from the tumbler, and an entrance lever for lowering the lock to a position where it can be oscillated by both the voting and canceling key at times.

44. In a voting machine, a row of voting keys, a lock one for each office, consisting of a tumbler mounted for rotary oscillation and normally out of engagement with the voting keys, a row of canceling keys adapted at times to engage the tumbler of the lock and operate it and then pass out and away from the lock, a traveling sheet, cover plates over the sheet and disconnected from any operative part of the machine which may be raised to uncover the sheet without operating any part of the machine and means for moving the sheet.

45. In a voting machine, a series of movable locks, each lock consisting of a tumbler adapted to be rotary oscillated, a series of vote keys each provided with an arm and all of the arms of the same series of the same length and of different series of different lengths and all of the arms of all of the series extending to a common plane, a row of canceling keys, each provided with an arm projecting to the same plane with the arms on the voting keys, an entrance lever for lowering the tumblers or locks into a position whereby they can be rotated by the arms on both the voting and canceling keys, a movable sheet, a row of plates covering the sheets and disconnected from any of the operative parts of the machine, and means for advancing the sheet by its connection with the exit lever.

46. In a voting machine providing for a plurality of offices and a plurality of candidates for the same office, movable locks one for each office said locks each consisting of a tumbler adapted to be rotary oscillated one at a time without causing the movement of any other tumbler in the row, voting keys each provided with an arm adapted to engage and rotate the tumbler, a plurality of canceling keys each provided with an arm adapted to engage and rotate the tumbler, a traveling sheet, cover plates over the sheet hinged to the machine but disconnected from any operative part of the machine, and means for advancing the sheet.

47. In a voting machine, a series of voting keys, a series of canceling keys, a row of office locks normally out of operative relation with said keys, means for moving the voting keys of a party ticket to voting position, means for moving the locks into position to be operated by the voting keys in voting position, means for operating the locks by the canceling keys, means for manually moving the canceling keys to operate the locks, and means disengaged from the canceling key consisting of a sliding cover over its forward end for engaging the arm on the key to force in the key to operate the lock.

48. In a voting machine, a series of locks each consisting of a tumbler mounted for rotary oscillation, a series of vote keys, a series of canceling keys, means for raising said locks out of and lowering said locks into operative relation with said keys, means whereby a canceling key at times may be manually moved to operate and pass away from any connection with its lock, a movable sheet, a plate over the sheet disengaged from any operative parts of the machine adapted to be raised to give the elector the opportunity for writing a name on said sheet and means for advancing the sheet to cover said name.

49. In a voting machine, a series of vote keys, a series of canceling keys, a row of office locks one for each office, each independent of the other and mounted for rotary oscillation and normally out of operative relation with said keys, means for moving the vote keys of a party ticket to voting position without said keys operating or causing said locks to be operated, means to prevent more than one key operating the locks at the same time consisting of a plurality of plates or guides one for each key, a plurality of pawls or buttons yieldingly held in said guides said buttons normally out of operative relation with said keys, and means for moving the office locks, guides and buttons into operative relation with said keys, whereby any one key that has been brought to voting position will operate its lock when being moved to normal position and the canceling key for this office or any vote key for the office that is in normal position may operate said lock.

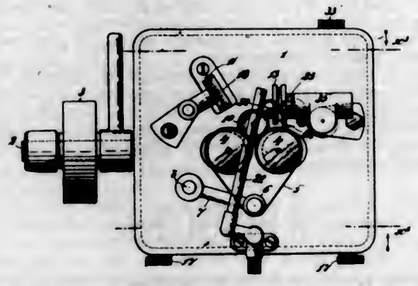
50. In a voting machine, a series of vote keys, a series of canceling keys, a row of office locks each independent of the other, mounted for rotary oscillation and normally out of operative relation with the vote and canceling keys, means for moving all of the vote keys on a party ticket to voting position without any of said keys operating said office locks, means for moving said office locks into position to be engaged and operated by the vote keys that have been moved to voting position whereby the vote keys are disconnected from said locks and form no part thereof, means for operating said locks to a position whereby a canceling key can be manually moved to operate one of said locks and become disconnected therefrom, a movable sheet, a plate over the sheet, that has no connection with any movable part of the machine adapted to be raised to allow the elector to write on the movable sheet, means for advancing the movable sheet to conceal the names, means for moving the office locks out of operative relation with the vote and canceling keys, means for restoring the vote and canceling keys to normal position, and means for operating the locks independent of the vote or canceling keys.

51. In a voting machine, the combination with a plurality of vote keys, a plurality of canceling keys, a plurality of series of key actuating devices adapted to move the vote keys of a party ticket to voting position without operating the office locks, a row of rotary oscillating office locks one for each office normally out of operative relation with both vote and canceling keys adapted to be moved into operative relation with said keys, an entrance lever adapted to move said office locks into operative relation with said keys to prevent all of the vote keys in normal position being moved to voting position, means to operate the locks whereby any of the vote keys may be moved to voting position, a plurality of guides or plates holding a plurality of buttons adapted to prevent more than one key operating the locks at the same time, a register plate provided with slots, a plurality of registers secured to the register plate, plates connected to the register plate and movably attached to the casings adapted to move the register plate to cause the registers to contact with the end of the vote keys to record the vote and to move the office locks out of operative relation with the keys to cause the register plate to engage the keys and restore them to normal position, an exit lever with its connections adapted to move said movable plate to restore the register plate to normal position, a movable roll of paper a series of cover plates over the paper, each plate independent of and not connected to any movable part of the machine adapted at times to be raised to expose the paper, means adapted to move the paper to conceal the names on the paper, and means for restoring the exit lever to normal position whereby the machine is unlocked and ready for use, substantially as shown.

52. In a voting machine, a plurality of series of vote keys, a series of canceling keys, a plurality of series of key actuating devices: a series of office locks each independent of the other normally out of operative relation with any of said keys, means for moving all the vote keys on a party ticket to voting position without any of said keys operating said office locks, means for moving said office locks into position to be engaged and operated by the vote keys that have been moved to voting position, means for operating the locks to be engaged and operated by the canceling keys, a register plate, a plurality of registers one for each vote key secured to said register plate, means for moving the register plate to cause the registers to engage the ends of the vote keys to record the vote, means for restoring both vote keys and canceling keys to normal position by direct contact of the register plate with said keys, a movable sheet, a plate over the sheet, said plate disconnected from any movable part of the machine and adapted to be raised to allow the elector to write on the movable sheet, means for advancing the movable sheet to conceal the writing, means for operating the office locks in one direction only independent of the vote and canceling keys, and means for moving the office locks out of operative relation with the vote keys and restore the register plate with the registers thereon to normal or unregistering position consisting of the exit lever with its connections, substantially as shown and described.

53. In a voting machine, a party row of voting keys each key adapted to be reciprocated, a movable register plate, a counter for each key secured to the register plate, means for bringing the counters into direct engagement with the ends of the reciprocated keys to record the vote, and means for restoring the keys to unvoted position by contact of the register plate with the ends of the reciprocated keys.

865,977. MACHINE FOR IRONING FOLD-COLLARS. LEWIS R. HEIM, Danbury, Conn. Filed June 8, 1906. Serial No. 320,777.



1. A machine for the purpose specified, having a mechanism for shaping and feeding the collar, means for guiding the collar into said mechanism, an independent ironer, adjacent to the outlet, of said mechanism and so disposed as to iron the fold of the emerging shaped collar as it emerges from said mechanism, and means situated under the ironer for supporting the moving collar while its folded edge is being finished by said ironer.

2. A machine for the purpose specified, having a mechanism for shaping and feeding the collar, means for guiding the collar into said mechanism, an independent ironer, adjacent to the outlet of said mechanism and so disposed as to iron the fold of the emerging shaped collar as it emerges from said mechanism, and rotating means disposed in position for gripping and supporting the moving collar while its folded edge is being finished by said ironer.

3. A machine for the purpose specified, having a mechanism for shaping and feeding the collar, means for guiding the collar into said mechanism, an independent ironer, adjacent to the outlet of said mechanism and so disposed as to iron the fold of the emerging shaped collar as it emerges from said mechanism, and gripping rollers disposed and adapted to yieldingly embrace and support the moving collar while its folded edge is being finished by said ironer.

4. A machine for the purpose specified, having a mechanism for shaping and feeding the collar, means for guiding the collar into said mechanism, an independent ironer, adjacent to the outlet of said mechanism and so disposed as to iron the fold of the emerging shaped collar as it emerges from said mechanism, and means for supporting the moving collar while its folded edge is being finished by the said ironer, said means consisting of a pair of positively driven rollers which embrace and grip the collar at a little distance below its upper edge, and at a point adjacent to the ironer.

5. A machine for the purpose specified, having a mechanism for shaping and feeding the collar, means for guiding the collar into said mechanism, an independent, rotary ironer, adjacent to the outlet of said mechanism and so disposed as to bear upon and iron the fold of the emerging shaped collar, and supporting means for the moving collar, disposed opposite to said ironer, said means comprising an elongated, upright, positively driven roller 24, having a slightly tapered upper end, an elongated, upright, positively driven roller 23, having a slightly tapered upper end and a slightly tapered body below the gripping point, and means for pressing one of said rollers up, yieldingly, toward the other.

6. A machine for the purpose specified, having a mechanism for shaping and feeding the collar, means for guiding the collar into said mechanism, an independent ironer, adjacent to the outlet of said mechanism and so disposed as to iron the fold of the shaped collar as it emerges from said mechanism, means disposed below said ironer for supporting the moving collar while its folded edge is being finished by said ironer, and the guide-piece 42, disposed between said supporting means and said shaping and feeding mechanism.

865,978. CARTRIDGE. CHARLES A. BAILEY, Cromwell, Conn., assignor to The Best Ammunition Company, Cromwell, Conn. Filed May 24, 1907. Serial No. 375,433.



1. In a paper-tube cartridge, the combination with the paper-tube, base-wad and metal-cap, of a reticulated fabric for connecting the parts together.

2. In a paper-tube cartridge, the combination with the paper-tube, base-wad and metal-cap, of a reticulated fabric interposed between the base-wad and paper-tube.

3. In a paper-tube cartridge, the combination with the paper-tube, base-wad and metal-cap, of a reticulated fabric interposed between the base-wad and paper-tube and extending around the sides and over the end of the base-wad.

4. In a paper-tube cartridge, the combination with the paper-tube, base-wad and metal-cap, of a strip of wire-cloth interposed between the base-wad and paper tube.

5. In a paper-tube cartridge, the combination with the paper-tube, base-wad and metal cap, of a strip of wire-cloth interposed between two of the parts of the cartridge.

6. In a paper tube cartridge, the combination with the paper-tube 1, metal-cap 2, base-wad 3, and primer 4, the latter being embedded in the base-wad and the paper-tube crimped at its inner end, of a strip of wire-cloth interposed between the base-wad and crimped end of the paper tube, substantially as shown and described.

7. In a paper-tube cartridge, the combination with the paper-tube, base-wad and metal cap, the latter having a rim-flange, of a strip of wire-cloth interposed between two of the parts of the cartridge and extending into the rim-flange of the metal cap.

865,979. CARTRIDGE. CHARLES A. BAILEY, Cromwell, Conn., assignor to The Best Ammunition Company, Cromwell, Conn. Filed May 24, 1907. Serial No. 375,434.

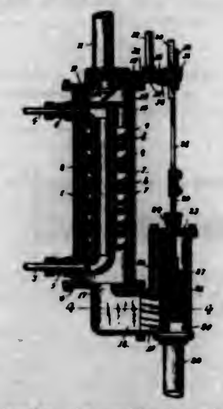
1. In a cartridge, the combination with the paper-tube, metal cap and base-wad, of a metal reinforcing piece having teeth at one edge engaging the base-wad and teeth at the other edge which engage the paper tube.

2. In a paper-tube cartridge, the combination with the paper-tube, base-wad and metal cap, the latter having a rim-flange and the paper-tube crimped at its inner end, of an annular disk having teeth at its inner edge embedded in the base wad and at its outer edge engaging the crimped end of the paper-tube within the rim-flange of the metal cap.



3. In a paper tube cartridge, the combination with the paper-tube, metal cap and base-wad, the paper-tube having a crimped end and the metal cap a rim flange or bead, of an annular disk having teeth at its inner edge which engage into the base-wad and teeth at its outer edge which engage the crimped end of the paper tube within the rim-flange or bead of the metal cap.

865,980. CARBURETER. GEORGE D. GARLAND, Chicago, Ill., assignor, by mesne assignments, to U. S. Gas Machine Co., a Corporation of Michigan. Filed Aug. 14, 1905. Serial No. 274,205.



1. In a carbureter, the combination with a carbureting chamber having means for supplying hydrocarbon thereto, means for supplying air to said chamber, a needle valve adapted to control the supply of hydrocarbon to said chamber, a cylinder associated with said chamber, a piston operating in said cylinder and adapted to control the supply of air thereto, an arm extending from said needle valve and provided with a longitudinal slot, a guide connected to said chamber, a rod movable in said guide and provided with a lateral pin engaging the slot in said needle valve arm, a piston rod connected to said piston, and means for coupling said piston rod and slidable rod.

2. In a carbureter, the combination of a carbureting chamber having means for supplying hydrocarbon thereto, means for supplying air to said chamber, a valve adapted to control the supply of hydrocarbon to said chamber, a cylinder associated with said chamber having a port extending longitudinally thereof at one end and communicating with said chamber, a relatively small port communicating between said cylinder at the other end and said chamber, a piston in said cylinder, a connecting means between said piston and valve.

865,981. PENCIL-CLASP. FREDERICK A. SCHNEIDER, Washington, D. C., assignor to Helen B. Schneider, Washington, D. C. Filed Dec. 19, 1906. Serial No. 348,551.

1. A pencil clasp, having a socket-piece to receive the pencil, and a combined hook and pencil-engaging spring, said spring having a bar extending transversely across the socket to engage the pencil directly both when the hook is and is not engaging the pocket.



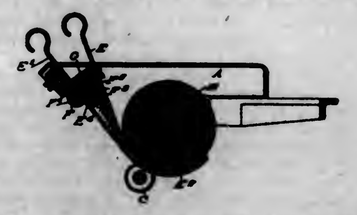
2. A pencil clasp, having a socket-piece to receive the pencil, and a combined hook and pencil-engaging spring, said spring having a fixed limb and a free limb, the latter terminating in a bar projecting crosswise of the socket-piece, said bar adapted to engage the pencil directly both when the hook is and is not engaging the pocket.

3. A pencil clasp, constructed of wire, and having a coil constituting the socket piece, a limb projecting from and rigid with the coil and returned as a free limb toward the coil and having a terminal bar crossing the coil, said terminal bar adapted to constantly engage the pencil both when in and out of the pocket.

4. A pencil clasp, having a socket-piece to receive the pencil, and a combined hook and pencil-engaging spring, said spring having a fixed limb and a free limb, the latter terminating in a bar projecting crosswise of the socket-piece, the free limb capable of adjustment to vary its effective tension.

REISSUES.

12,694. TYPE-WRITER CARRIAGE. BRAINARD T. BAUCE, Jersey City, N. J., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Nov. 9, 1906. Serial No. 342,752. Original No. 12,508, dated July 17, 1906, Serial No. 314,313.



1. In a typewriter or like machine, a platen and a plurality of paper-shelves located adjacent thereto and provided with fingers conforming to the curvature of the platen, the fingers of all of the shelves lying in the same cylindrical surface.

2. In a typewriter or like machine, a platen and a plurality of paper-shelves located adjacent thereto and each provided with fingers extending partly around the platen at different points thereof, the fingers of all of the shelves lying in the same cylindrical surface.

3. In a typewriter or like machine, a platen, a plurality of downwardly and forwardly inclined paper-shelves leading independently to the lower rear side thereof, and a manually-operable device located between said shelves for feeding sheets toward the platen while the latter is stationary.

4. In a typewriter or like machine, a platen, a plurality of downwardly and forwardly inclined paper-shelves leading independently to the lower rear side thereof, and a manually-operable device independent of the platen for feeding the paper between said shelves toward the platen while the latter is stationary.

5. In a typewriter or like machine, a platen, a plurality of downwardly and forwardly inclined paper-shelves leading to the lower rear side thereof, a set of manually-operable feed-rollers projecting through one of said shelves, and another set of feed-rollers arranged between the shelves and coöperating with the first-named set of rollers to feed paper around the platen while the latter is stationary.

6. In a typewriter, the combination of a platen, a series of paper-shelves one behind another in rear of the platen, each extending upwardly and rearwardly from the lower rear side of the platen, and means for guiding around the platen, while the latter is stationary, an outer sheet independently of a sheet confined between the outer sheet and the platen.

7. In a typewriter, the combination with a platen, of a series of paper-shelves, one behind another in rear of the platen, each extending upwardly from the lower rear side of the platen, a rearmost shelf being continued forwardly around the under side of the platen to the front portion thereof.

8. In a typewriter, the combination with a platen, of a series of paper-shelves, one behind another in rear of the platen, each extending upwardly from the lower rear side of the platen, each shelf being continued forwardly around the under side of the platen to the front portion thereof.

9. In a typewriter, the combination with a platen, of two paper-shelves, one behind the other and both in rear of the platen, and extending upwardly from the rear side thereof, and paper-guiding means curving from the rear paper-shelf forwardly beneath the platen to the front side thereof; said forward paper-shelf having means to coöperate with the platen to protect the inner sheet against disarrangement by the movement of an outer sheet around the same.

10. In a typewriting machine, the combination with a platen and a paper-shelf, of a pair of devices at the ends of the platen and leading from said paper shelf, for engaging only the side margins of wide sheets to hold them upon the platen, and means for independently guiding around the platen an outer sheet which is too narrow to be held by said pair of devices, while said wide sheets are held stationary upon the platen by the first pair of devices, said independent guiding means including a second pair of devices mounted between the devices of the first pair and located between the point of intersection of the paper and the printing point.

11. In a typewriter, the combination with a platen, of two paper-shelves one behind the other in rear of the platen, said paper-shelves converging toward the platen, and terminating about tangentially thereto, and provided with forward-extending paper-guiding devices conforming to the curvature of the platen.

12. In a typewriter, the combination with a platen, of two paper-shelves, one behind the other in rear of the platen, and converging downwardly toward the rear lower side thereof, the front shelf having at its ends fingers which curve forwardly around the under side of the platen to the front thereof, and the rear shelf having guiding means curving forwardly around the under side of the platen between said fingers.

13. In a typewriter, the combination of a platen, a series of paper-shelves one behind another in rear of the platen, each extending upwardly and rearwardly from the lower rear side of the platen; said front shelf being removably mounted; and means for guiding around both the platen and a sheet thereon, while platen and sheet are stationary, an outer sheet independently of the inner sheet.

14. In a typewriting machine, the combination of a cylindrical platen, coöperating paper feeding means that are operable independently of the platen to feed the paper past the printing line.

15. In a typewriting machine, the combination of a cylindrical platen, coöperating paper feeding rollers coöperating therewith, and auxiliary paper feed rollers that are actuated independently of the platen to feed one or more sheets relatively to the platen past the printing line.

16. In a typewriting machine, the combination of a platen, primary paper feed rollers that coöperate with the platen, and auxiliary feed rollers that are at all times maintained out of contact with the platen but are adapted to feed paper thereon past the printing line.

17. In a typewriting machine, the combination of a revoluble platen, means for feeding paper line by line around the platen, and means for feeding a strip of paper line by line around said platen while it remains stationary.

18. In a typewriting machine, the combination of a platen, means for feeding paper line by line around the platen, and independent means mounted above or back of the platen for drawing a strip of paper line by line around said platen; said platen being revoluble while the paper strip remains stationary.

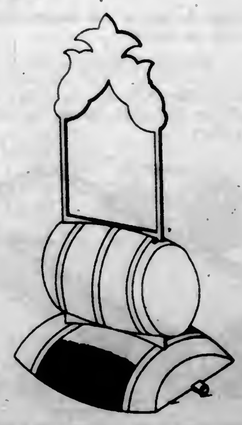
DESIGNS.

38,787. PINCUSHION. JOHN U. BARR, New York, N. Y. Filed July 19, 1907. Serial No. 384,667. Term of patent 3½ years.



The ornamental design for a pin-cushion as shown.

38,788. MATCH-BOX. THOMAS H. BENSEL, Camden, N. J. Filed July 12, 1907. Serial No. 383,537. Term of patent 3½ years.



The ornamental design for the match box, as shown.

38,789. HANDLE FOR SPOONS, FORKS, AND SIMILAR ARTICLES. GEORGE A. ALEXANDER, Philadelphia, Pa., assignor to William Linker, Philadelphia, Pa. Filed July 20, 1907. Serial No. 384,831. Term of patent 7 years.



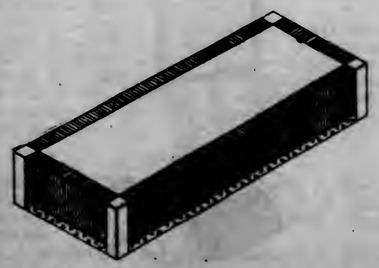
The ornamental design for handle for forks, spoons and similar articles.

38,790. HANDLE OF SPOONS, FORKS, OR SIMILAR ARTICLES. SAMUEL J. LARGE, Bristol, Conn., assignor to The American Silver Company, Bristol, Conn., a Corporation. Filed Aug. 13, 1907. Serial No. 388,432. Term of patent 7 years.



The ornamental design for the handle of a spoon, fork, or similar article, as shown.

38,791. BOX-COVER. WILLIAM A. JACK, Grand Rapids, Mich. Filed July 29, 1905. Serial No. 271,860. Term of patent 14 years.



The ornamental design for a box cover, as shown.

38,792. FLOWER-POT COVER. WILLIAM H. GREVER, Buffalo, N. Y. Filed May 14, 1907. Serial No. 373,677. Term of patent 7 years.



The ornamental design for a flower pot cover, as shown.

38,793. CASE OF A COIN-CONTROLLED VENDING APPARATUS. LOUIS L. MARTIN, Toronto, Ontario, Canada. Filed June 29, 1907. Serial No. 381,577. Term of patent 14 years.



The ornamental design for the case of a coin-controlled vending apparatus, as shown.

38,794. RUG. ADOLPH PETZOLD, Philadelphia, Pa., assignor to John H. Bromley and Edward Bromley, Copartners, trading as John Bromley & Sons, Philadelphia, Pa. Filed July 27, 1907. Serial No. 385,927. Term of patent 3½ years.



The ornamental design for a rug, as shown.

38,795. RUG. ADOLPH PETZOLD, Philadelphia, Pa., assignor to John H. Bromley and Edward Bromley, Copartners, trading as John Bromley & Sons, Philadelphia, Pa. Filed Aug. 6, 1907. Serial No. 387,365. Term of patent 3½ years.



The ornamental design for a rug, as shown.

38,796. RUG. ERNEST H. BENNETT, East Orange, N. J., assignor to John H. Bromley and Edward Bromley, Copartners, trading as John Bromley and Sons, Philadelphia, Pa. Filed July 27, 1907. Serial No. 385,928. Term of patent 3½ years.



The ornamental design for a rug, as shown.

38,797. METAL WASHSTAND. CHARLES T. DAVIS, Brooklyn, N. Y. Filed July 3, 1907. Serial No. 382,114. Term of patent 2½ years.



The ornamental design for a metal washstand, as shown.

38,798. STOVE. THOMAS R. KENNEDY and EDWARD J. KING, Rochester, N. Y., assignors to Co-Operative Foundry Co., Rochester, N. Y., a Corporation of New York. Filed July 31, 1907. Serial No. 386,488. Term of patent 7 years.



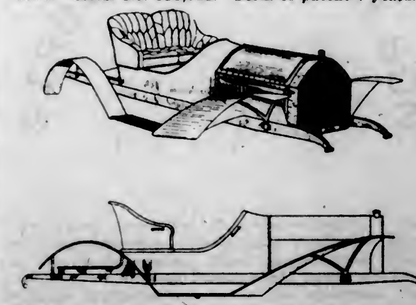
The ornamental design for a stove as herein shown.

38,799. STOVE. THOMAS R. KENNEDY and EDWARD J. KING, Rochester, N. Y., assignors to Co-Operative Foundry Co., Rochester, N. Y., a Corporation of New York. Filed July 31, 1907. Serial No. 386,489. Term of patent 7 years.

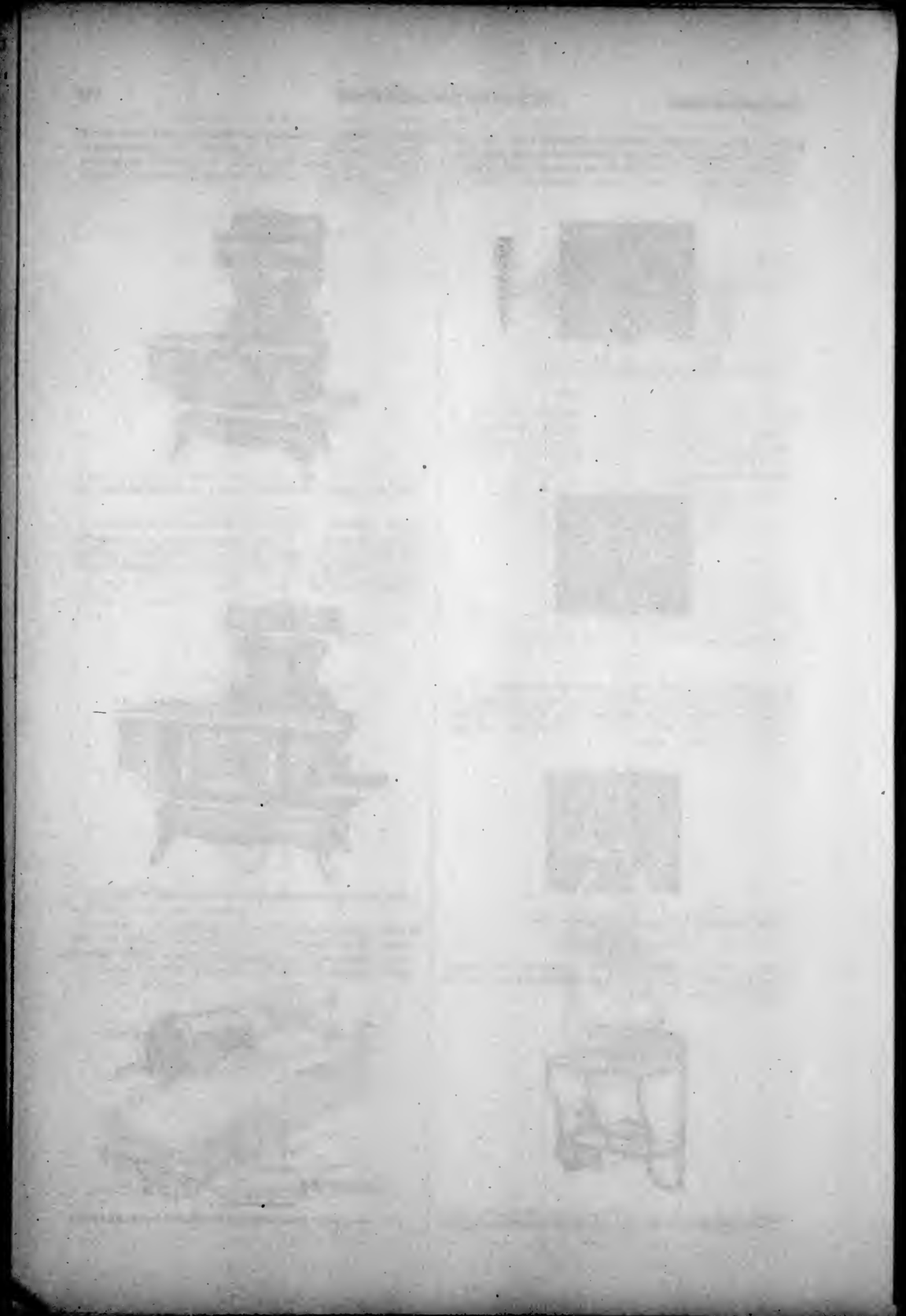


The ornamental design for a stove as herein shown.

38,800. AUTOMOBILE-BODY. HOWARD E. COFFIN, Detroit, Mich., assignor to E. R. Thomas Detroit Co., Detroit, Mich., a Corporation of Michigan. Filed Sept. 1, 1906. Serial No. 333,021. Term of patent 7 years.



The ornamental design for an automatic body, as shown.



TRADE-MARKS

PUBLISHED SEPTEMBER 10, 1907.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 825. (CLASS 18. AGRICULTURAL AND DAIRY MACHINERY AND PARTS OF SUCH MACHINERY.) PETER HENDERSON & Co., New York, N. Y. Filed Apr. 8, 1905. Used ten years.

HENDERSON

Particular description of goods.—Lawn-Mowers.

Ser. No. 827. (CLASS 3. VEGETABLE.) PETER HENDERSON & Co., New York, N. Y. Filed Apr. 8, 1905. Used ten years.

HENDERSON

Particular description of goods.—Agricultural and Horticultural Seeds.

Ser. No. 6,260. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) STROMBERG-CARLSON TELEPHONE MFG. COMPANY, Rochester, N. Y. Filed May 22, 1905. Used ten years.

STROMBERG—CARLSON

Particular description of goods.—Telephonic Instruments and Apparatus—for Example, Telephonic Receiving and Talking Instruments, Signaling and Signal-Receiving Instruments, Telephonic Switchboards, Telephonic Central-Exchange Apparatus, Telephonic Line Apparatus, Circuit-Protecting Devices.

Ser. No. 9,108. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) L. & A. SCHARFF, St. Louis, Mo. Filed June 26, 1905. Used ten years.



Particular description of goods.—Whisky.

Ser. No. 10,294. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) CHARLES MEISEL, New York, N. Y. Filed July 14, 1905.



Particular description of goods.—Accordions, Blow-Accordions, Concertinas, Harmonicas, Cornets, Melophone, French Horn, Orchestra-Trumpet, Alto, Tenor, Basses, Contrabasses, Helicon, Trombone, Bugle, Saxophone, Clarinet, Piccolo, Flutes, Mandolins, Mandolas, Guitars, Banjos, Zithers, Ocarinas, Violins, Violas, Cellos, Double Basses, Strings, Bows, and Parts for All the Above Instruments.

Ser. No. 10,311. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) GALENA-SIGNAL OIL COMPANY, Franklin, Pa. Filed July 14, 1905.



Particular description of goods.—Lubricating-Oils.

Ser. No. 10,312. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) GALENA-SIGNAL OIL COMPANY, Franklin, Pa. Filed July 14, 1905.



Particular description of goods.—Lubricating-Oil.

Ser. No. 10,313. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) GALENA-SIGNAL OIL COMPANY, Franklin, Pa. Filed July 14, 1905.



Particular description of goods.—Lubricating-Oils.

Ser. No. 12,804. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) C. G. DE TONNANCOUR, Montreal, Quebec, Canada. Filed Sept. 20, 1905.



Particular description of goods.—Blacking and Dressing for Boots, Shoes, and Leather.

Ser. No. 12,948. (CLASS 8. DETERGENTS.) THE PROCTER & GAMBLE COMPANY, Ivorydale, Ohio; Kansas City, Kans., and Cincinnati, Ohio. Filed Sept. 25, 1905.



Particular description of goods.—Soap.

Ser. No. 13,040. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) WILLIAM GEORGE MEIN, London, England. Filed Sept. 26, 1905.

RAYO

Particular description of goods.—Metal Casters for Trucks, Furniture, Trolleys, and for Similar Articles.

Ser. No. 14,221. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) VINCENT SANFORD, Toledo, Ohio. Filed Nov. 2, 1905.

"HELLO POLLY!"

Particular description of goods.—Teas.

Ser. No. 14,308. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) DIE ACTIENGESELLSCHAFT APOLLINARIS BRUNNEN, Neuenahr, Germany. Filed Nov. 4, 1905.



Particular description of goods.—Mineral Water.

Ser. No. 16,129. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) CHAS. MEISEL, New York, N. Y. Filed Jan. 11, 1906.

MOZART

Particular description of goods.—Violins, Violas, Cellos, Double Basses, and Parts for Said Instruments, and Bows and Strings.

Ser. No. 16,808. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE HOLMES KEELER & SELLECK CO., Norwalk, Conn. Filed Feb. 7, 1906.



Particular description of goods.—Canned Vegetables and Fruit.

Ser. No. 16,809. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE HOLMES KEELER & SELLECK CO., Norwalk, Conn. Filed Feb. 7, 1906.



Particular description of goods.—Canned Vegetables and Fruit.

Ser. No. 18,093. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) MAYWOOD PACKING CO., Corning, Cal. Filed Mar. 21, 1906.

MAYWOOD BRAND

Particular description of goods.—Canned, Dried, and Fresh Fruits and Olive-Oil.

Ser. No. 18,383. (CLASS 63. MEASURING AND SCIENTIFIC APPARATUS, APPLIANCES, AND INSTRUMENTS.) BURROUGHS ADDING MACHINE CO., Detroit, Mich. Filed Mar. 31, 1906. Used ten years.

BURROUGHS

Particular description of goods.—Adding and Listing Machines.

Ser. No. 18,410. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) CHARLES MEISEL, New York, N. Y. Filed Mar. 31, 1906.

Adolphus

Particular description of goods.—Accordions, Blow-Accordions, Concertinas, Harmonicas, Cornets, Melophone, French Horn, Orchestra-Trumpet, Alto, Tenor, Basses, Contrabasses, Helicon, Trombone, Bugle, Saxophone, Clarinet, Piccolo, Flutes, Mandolins, Mandolas, Guitars, Banjos, Zithers, Ocarinas, Violins, Violas, Cellos, Double Basses, Strings, Bows, and Parts for All of the Said Instruments.

Ser. No. 18,514. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) I. L. PEARL & CO., Johnson, Vt. Filed Apr. 4, 1906.

Samson

Particular description of goods.—Trousers.

Ser. No. 18,768. (CLASS 69. SMOKERS' ARTICLES NOT INCLUDED IN CLASS 71.) S. RUBY & CO., Chicago, Ill. Filed Apr. 13, 1906.



Particular description of goods.—Cigarette-Paper.

Ser. No. 18,842. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) ROBERT O. MURPHEY, New York, N. Y. Filed Apr. 16, 1906.

ALLGETA

Particular description of goods.—Powdered Yeast.

Ser. No. 19,941. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) ALBERT WYDLER, Zurich, Switzerland. Filed May 29, 1906.



Particular description of goods.—Silk Bolting-Cloth.

Ser. No. 22,393. (CLASS 19. BOATS AND ROAD-VEHICLES.) HARRIE G. MOORE, Kansas City, Mo., assignor to Big Four, Kansas City, Mo., a Firm. Filed Sept. 29, 1906.



Particular description of goods.—Wagons and Carriages.

Ser. No. 23,760. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) THE MODOC COMPANY, Chester, Pa. Filed Dec. 4, 1906. Used ten years.



MODOC

Particular description of goods.—Marine Oil, Cylinder-Oil, Drilling-Oil, Textile-Oil, Lubricating-Grease, and Gear-Grease.

Ser. No. 23,817. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) H. L. CAVANAGH & SONS, Chicago, Ill. Filed Dec. 6, 1906.

"ECLIPSE"

Particular description of goods.—Ironing-Boards.

Ser. No. 24,041. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) THE AMERICAN WRINGER COMPANY, New York, N. Y. Filed Dec. 15, 1906.

HOUSEHOLD

Particular description of goods.—Mangles.

Ser. No. 24,043. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) THE AMERICAN WRINGER COMPANY, New York, N. Y. Filed Dec. 15, 1906.

ECLIPSE

Particular description of goods.—Clothes-Wringers and Mangles.

Ser. No. 24,045. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) THE AMERICAN WRINGER COMPANY, New York, N. Y. Filed Dec. 15, 1906.

GEM

Particular description of goods.—Bench-Wringers.

Ser. No. 24,048. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) THE AMERICAN WRINGER COMPANY, New York, N. Y. Filed Dec. 15, 1906.

KEYSTONE

Particular description of goods.—Clothes-Wringers.

Ser. No. 24,049. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) THE AMERICAN WRINGER COMPANY, New York, N. Y. Filed Dec. 15, 1906.

No C CLIMAX 340

Particular description of goods.—Clothes-Wringers.

Ser. No. 24,050. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) THE AMERICAN WRINGER COMPANY, New York, N. Y. Filed Dec. 15, 1906.

COLONIAL

Particular description of goods.—Clothes-Wringers.

Ser. No. 24,051. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) THE AMERICAN WRINGER COMPANY, New York, N. Y. Filed Dec. 15, 1906.

No DAISY 120

Particular description of goods.—Clothes-Wringers.

Ser. No. 24,052. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) THE AMERICAN WRINGER COMPANY, New York, N. Y. Filed Dec. 15, 1906.

MASCOTTE

Particular description of goods.—Clothes-Wringers.

Ser. No. 24,053. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) THE AMERICAN WRINGER COMPANY, New York, N. Y. Filed Dec. 15, 1906.

No C IDEAL 140

Particular description of goods.—Clothes-Wringers.

Ser. No. 24,054. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) THE AMERICAN WRINGER COMPANY, New York, N. Y. Filed Dec. 15, 1906.

EXCELSIOR

Particular description of goods.—Clothes-Wringers.

Ser. No. 24,057. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) THE AMERICAN WRINGER COMPANY, New York, N. Y. Filed Dec. 15, 1906.

C1

Particular description of goods.—Clothes-Wringers.

Ser. No. 24,131. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) WABASH BAKING POWDER COMPANY, Wabash, Ind. Filed Dec. 19, 1906.

SQUARE DEAL

Particular description of goods.—Baking-Powder and Bicarbonate of Soda.

Ser. No. 24,132. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) WABASH BAKING POWDER COMPANY, Wabash, Ind. Filed Dec. 19, 1906.

SQUARE DEAL

Particular description of goods.—Corn-Starch.

Ser. No. 24,133. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) WABASH BAKING POWDER COMPANY, Wabash, Ind. Filed Dec. 19, 1906.

SQUARE DEAL

Particular description of goods.—Catsup and Flavoring Extracts.

Ser. No. 24,153. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) THE AMERICAN WRINGER COMPANY, New York, N. Y. Filed Dec. 19, 1906.

B 11/2

Particular description of goods.—Clothes-Wringers.

Ser. No. 24,325. (CLASS 28. SEWING-MACHINES AND ATTACHMENTS.) ALBERT G. MASON, Cleveland, Ohio. Filed Dec. 29, 1906.

COLONIAL

Particular description of goods.—Sewing-Machine Heads and Attachments.

Ser. No. 24,353. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) CHRISTIAN ECKARDT, Hamburg, Germany. Filed Dec. 31, 1906.

Atlantic

Particular description of goods.—Dried, Fresh, and Preserved Fruits and Vegetable Oils.

Ser. No. 24,354. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) CHRISTIAN ECKARDT, Hamburg, Germany. Filed Dec. 31, 1906.

Oceana

Particular description of goods.—Dried, Fresh, and Preserved Fruits and Vegetable Oils.

Ser. No. 24,467. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) MENDEL, WEINSTOCK & COMPANY, Louisville, Ky. Filed Jan. 5, 1907.



Particular description of goods.—Woolen Caps Made of Melton, Kersey, Beaver, Satinet, and Flannel, Felt and Straw Hats, and Leather and Kid Gloves.

Ser. No. 24,804. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) JOHNSON EDUCATOR FOOD COMPANY, Boston, Mass. Filed Jan. 21, 1907.



Particular description of goods.—Cereal Breakfast Food, Wheat-Bran, Bran-Meal, Yellow Hominy, Rye-Meal, Oat-Flour, Gluten-Flour, Buckwheat-Meal, Barley-Meal, Breakfast-Cake Mixture, Brown-Bread Mixture, Pearl-Cut Wheat, Rye-Grits, Rolled Oats, Pearled Oats, Crushed Barley, and Rolled Wheat.

Ser. No. 24,921. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) BOSTON ARTIFICIAL LEATHER COMPANY, New York, N. Y. Filed Jan. 26, 1907.

COLONIAL

Particular description of goods.—Artificial Leather.

Ser. No. 24,972. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) MARK D. BATCHELDER, Peoria, Ill. Filed Jan. 28, 1907.

ARCTIC

Particular description of goods.—Ginger-Ale and Root-Beer.

Ser. No. 25,660. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) FRANZ MRÁZ, Prague, Austria-Hungary. Filed Feb. 28, 1907.

MRASOLIN

Particular description of goods.—Food-Preservatives.

Ser. No. 25,775. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) ROBERT M. MORTON, Detroit, Mich. Filed Mar. 5, 1907.

PETER PAN

Particular description of goods.—Bread and Cakes.

Ser. No. 26,002. (CLASS 64. MEDICAL AND SURGICAL APPARATUS, APPLIANCES, AND INSTRUMENTS.) THE DAVIS-BRIDAHAM DRUG COMPANY, Denver, Colo. Filed Mar. 16, 1907.

DEBECO

Particular description of goods.—Syringes, Hot-Water Bottles, Fever-Thermometers, Atomizers, and Ice-Caps.

Ser. No. 26,208. (CLASS 54. SEA FOODS.) ALLEN BROTHERS COMPANY, Omaha, Nebr. Filed Mar. 25, 1907.

Forest City

Particular description of goods.—Canned Salmon and Canned Oysters.

Ser. No. 26,609. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) THE C. E. CONOVER CO., New York, N. Y. Filed Apr. 10, 1907.

NAIAD

Particular description of goods.—Dress-Shields.

Ser. No. 26,775. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) B. KORKEMAS & Co., New York, N. Y. Filed Apr. 18, 1907.



Particular description of goods.—Razors and Razor-Blades.

Ser. No. 27,060. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ALTHEA REMEDY COMPANY, Fort Wayne, Ind. Filed May 2, 1907.



Particular description of goods.—Liver Remedies.

Ser. No. 27,616. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) JOHN V. FARWELL COMPANY, Chicago, Ill. Filed May 23, 1907.



Particular description of goods.—Textile Collars and Shirts.

Ser. No. 27,893. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) SUMMIT FOUNDRY CO., Geneva, N. Y. Filed June 5, 1907.



Particular description of goods.—Stoves, Ranges, and Furnaces and Parts Thereof.

Ser. No. 27,896. (CLASS 17. WOOD MANUFACTURES NOT OTHERWISE CLASSIFIED.) JOHN A. WESTON, Newark, N. J. Filed June 5, 1907. Used ten years.



THE
"WESTON"

Particular description of goods.—Wooden Ladders, Step-Ladders, and Flagpoles.

Ser. No. 28,060. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) AMERICAN BEVERAGE CO., Atlanta, Ga. Filed June 12, 1907.

BIG
STICK

Particular description of goods.—Ginger-Ale.

Ser. No. 28,061. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) AMERICAN BEVERAGE CO., Atlanta, Ga. Filed June 12, 1907.

BIG DITCH

Particular description of goods.—Root-Beer.

Ser. No. 28,062. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) TOMÁS SELLÉS FORCAT, New York, N. Y. Filed June 12, 1907.



Particular description of goods.—A Remedy for the Treatment of Leprosy.

Ser. No. 28,063. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) TOMÁS SELLÉS FORCAT, New York, N. Y. Filed June 12, 1907.



Particular description of goods.—A Remedy for the Treatment of Syphilis.

Ser. No. 28,161. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) ST. LOUIS COFFEE AND SPICE MILLS, St. Louis, Mo. Filed June 17, 1907.

EVERYBODY'S

Particular description of goods.—Baking-Powder.

Ser. No. 28,162. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) ST. LOUIS COFFEE AND SPICE MILLS, St. Louis, Mo. Filed June 17, 1907.

EVERYBODY'S

Particular description of goods.—Coffee and Tea.

Ser. No. 28,163. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) ST. LOUIS COFFEE AND SPICE MILLS, St. Louis, Mo. Filed June 17, 1907.

EVERYBODY'S

Particular description of goods.—Spices and Flavoring Extracts.

Ser. No. 28,322. (CLASS 12. MASONRY MATERIALS.) WARREN-EHRET COMPANY, Philadelphia, Pa. Filed June 22, 1907.

DOMINION

Particular description of goods.—Coal-Tar Cement.

Ser. No. 28,434. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) HERMAN L. HOHLFELD, Philadelphia, Pa. Filed June 27, 1907.

REGAL

Particular description of goods.—Hammocks.

Ser. No. 28,560. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) L. GREIF & BRO., Baltimore, Md. Filed July 2, 1907.

GRIFFON BRAND

Particular description of goods.—Men's, Boys', Youths', and Children's Coats, Vests, and Trousers, Rain-Coats and Overcoats.

Ser. No. 28,591. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) W. & J. SLOANE, New York, N. Y. Filed July 3, 1907.



Particular description of goods.—Fiber Carpets and Rugs.

Ser. No. 28,595. (CLASS 12. MASONRY MATERIALS.) WARREN-EHRET COMPANY, Philadelphia, Pa. Filed July 3, 1907.

DIAMOND

Particular description of goods.—Coal-Tar Cement.

Ser. No. 28,606. (CLASS 19. BOATS AND ROAD-VEHICLES.) GEORGE E. SEIDEL, Richmond, Ind. Filed July 5, 1907.

DUX - BAK.

Particular description of goods.—Folding Storm-Fronts for Vehicles Having a Top, Such as Buggies, Carriages, Automobiles, and the Like.

Ser. No. 28,680. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE COURTNEY SHOE CO., St. Louis, Mo. Filed July 8, 1907.

MASTERBILT

Particular description of goods.—Leather Boots and Shoes.

Ser. No. 28,688. (CLASS 61. JEWELRY AND SOLID AND PLATED PRECIOUS-METAL WARE.) JOSHUA W. MAYER, New York, N. Y. Filed July 9, 1907.



Particular description of goods.—Precious Stones and Jewelry for Personal Wear.

Ser. No. 28,708. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) STEWART & Co., Baltimore, Md. Filed July 10, 1907.

"Lady Calvert"

Particular description of goods.—Ladies' Leather Boots and Shoes.

Ser. No. 28,727. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) SCANDINAVIAN FUR & LEATHER Co., New York, N. Y. Filed July 11, 1907.



Particular description of goods.—Fur or Cloth Automobile Coats, Wraps, Robes, and Hats, Cloth Automobile Shirts, and Fur Gloves.

Ser. No. 28,752. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ROBINSON BROS. & COMPANY INCORPORATED, Portland, Me. Filed July 12, 1907.

PINEOL

Particular description of goods.—Ointment.

Ser. No. 28,755. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) YERBA YUTU REMEDY COMPANY, Los Angeles, Cal. Filed July 12, 1907.

YERBA YUTU

Particular description of goods.—A Medicinal Preparation for Purifying the Blood.

Ser. No. 28,850. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) NORMAN PELLOW, Grand Rapids, Mich. Filed July 17, 1907.



Particular description of goods.—Sizing Plastic Material.

Ser. No. 28,867. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) L. LITTLEJOHN & Co., New York, N. Y. Filed July 18, 1907.



Particular description of goods.—Gambier.

Ser. No. 28,919. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) NEW KENSINGTON DISTILLING Co., New Kensington, Pa. Filed July 20, 1907.

Old Puskety Pure Rye
WHISKY

Particular description of goods.—Whisky.

Ser. No. 28,934. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) HOLLENBACH, DIETRICH & Co., Reading, Pa. Filed July 22, 1907.

Penn Hall

Particular description of goods.—Whisky.

Ser. No. 28,973. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) AMERICAN WRITING PAPER COMPANY, Holyoke, Mass. Filed July 22, 1907. Used ten years.

Old
Bay State

Particular description of goods.—Writing and Printing Paper.

Ser. No. 28,997. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) HARRY E. SAFFORD, Allegheny, Pa. Filed July 23, 1907.

COMMON SENSE

Particular description of goods.—Hand Chemical Fire-Extinguishers.

Ser. No. 29,036. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE MUTUAL DRUG COMPANY, Cleveland, Ohio. Filed July 25, 1907.

IDONEEN

Particular description of goods.—Consumption Remedies.

Ser. No. 29,053. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) MARY C. WHELAN, Washington, D. C. Filed July 26, 1907.
The cross being printed in red.



Particular description of goods.—Skin Food, Toilet Cream, Nail-Bleach, Face-Washes, Dandruff Cure, Hair-Restorer, and Hair-Tonic.

Ser. No. 29,101. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) FREDERICK C. BILLINGS, Milwaukee, Wis. Filed July 29, 1907.



Particular description of goods.—Flanges for Piano-Actions.

Ser. No. 29,111. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) LUDWIG G. B. ERB, New York, N. Y. Filed July 30, 1907.

LUNA

Particular description of goods.—A Remedy for Headache and Neuralgia.

Ser. No. 29,116. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany. Filed July 30, 1907.

Borovertin

Particular description of goods.—Synthetic Medicines and Preparations Made Therefrom.

Ser. No. 29,130. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE DAVIS CHEMICAL COMPANY, Denver, Colo. Filed July 31, 1907.

Vegalax

Particular description of goods.—A Laxative Candy.

Ser. No. 29,133. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) PARAGON SUSPENDER COMPANY, Atlanta, Ga. Filed July 31, 1907.

FEATHERWEIGHT

Particular description of goods.—Suspenders.

Ser. No. 29,148. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) THOMPSON MILLING COMPANY. Lockport, N. Y. Filed July 31, 1907.



Particular description of goods.—Wheat-Flour.

Ser. No. 29,161. (CLASS 71. TOBACCO PRODUCTS.) GUSTAV A. MOEBS & Co., Detroit, Mich. Filed Aug. 1, 1907.

MOA

Particular description of goods.—Cigars.

Ser. No. 29,162. (CLASS 71. TOBACCO PRODUCTS.) GUSTAV A. MOEBS & Co., Detroit, Mich. Filed Aug. 1, 1907.



Particular description of goods.—Cigars.

Ser. No. 29,205. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JOHN RUTGERT PLANTEN, Brooklyn, N. Y. Filed Aug. 3, 1907. Used ten years.

C C

Particular description of goods.—A Remedy for the Treatment of Chronic and Acute Gonorrhea, Gleet, Catarrh of the Bladder, Kidney Troubles, and All Forms of Urethritis.

Ser. No. 29,208. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) HORACE E. SHERMAN, Boston, Mass. Filed Aug. 5, 1907.

SHERMANCO

Particular description of goods.—Wheat-Flour.

Ser. No. 29,226. (CLASS 55. WINES.) WERLE & Co., Rheims, France. Filed Aug. 5, 1907.



Particular description of goods.—Champagne.

Ser. No. 29,227. (CLASS 55. WINES.) WERLE & Co., Rheims, France. Filed Aug. 5, 1907.



Particular description of goods.—Champagne.

Ser. No. 29,228. (CLASS 55. WINES.) WERLE & Co., Rheims, France. Filed Aug. 5, 1907.



Particular description of goods.—Champagne.

Ser. No. 29,229. (CLASS 55. WINES.) WERLE & Co., Rheims, France. Filed Aug. 5, 1907.



Particular description of goods.—Champagne.

Ser. No. 29,230. (CLASS 55. WINES.) WERLE & Co., Rheims, France. Filed Aug. 5, 1907.



Particular description of goods.—Champagne.

Ser. No. 29,231. (CLASS 55. WINES.) WERLE & Co., Rheims, France. Filed Aug. 5, 1907.



Particular description of goods.—Champagne.

Ser. No. 29,258. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE POMPEIAN MFG. Co., Cleveland, Ohio. Filed Aug. 6, 1907.

POMPEIAN



Particular description of goods.—Salve, Ointment, and Cream for the Toilet, Toilet Water and Extracts, Cologne, Lotion, Shampoo and Shampooing Preparations, Hair-Tonic, Scalp Preparations, and Bay-Rum.

Ser. No. 29,266. (CLASS 46. COFFE, TEA, AND SUBSTITUTES.) THE C. S. MORSY MERCANTILE COMPANY, Denver, Colo. Filed Aug. 7, 1907.

Cabinet Blend

Particular description of goods.—Coffee.

Ser. No. 29,270. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE FRANKLINVILLE CANNING Co., Franklinville, N. Y. Filed Aug. 7, 1907.

FERN BRAND



Particular description of goods.—Canned Fruits and Vegetables.

Ser. No. 29,271. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) GEORGE H. CARTER, Plymouth, Pa. Filed Aug. 7, 1907.

HORSE FEETTENA



Particular description of goods.—Paste for Softening Horses' Hoofs.

Ser. No. 29,278. (CLASS 12. MASONRY MATERIALS.) SAMUEL B. BOWEN, Philadelphia, Pa. Filed Aug. 7, 1907.

PECORA

Particular description of goods.—Portland Cements.

Ser. No. 29,281. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) GEORGE K. PRATT, New Orleans, La. Filed Aug. 7, 1907.

DULCODORA

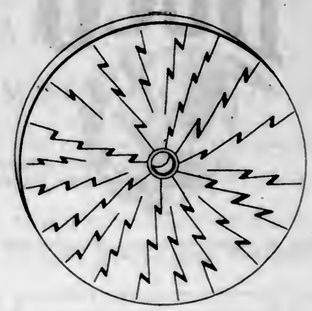
Particular description of goods.—Antiseptic Powder.

Ser. No. 29,317. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JAMES STANLEY FALCK, Washington, D. C. Filed Aug. 9, 1907.

VAGINETTES

Particular description of goods.—Suppositories.

Ser. No. 29,320. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) THE SAFETY EMERY WHEEL COMPANY, Springfield, Ohio. Filed Aug. 9, 1907.



Particular description of goods.—Emery-Wheels.

Ser. No. 29,322. (CLASS 47. CONFECTIONERY.) NOVELTY CANDY Co., New York, N. Y. Filed Aug. 9, 1907.

ENSIGN



Particular description of goods.—Candy.

Ser. No. 29,331. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) HOLLINGSWORTH & Co., Augusta, Ga. Filed Aug. 10, 1907.

"Handco"

Particular description of goods.—Canned Tomatoes.

Ser. No. 29,335. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) H. K. MULFORD COMPANY, Philadelphia, Pa. Filed Aug. 10, 1907.

Gremo-Bismuth

Particular description of goods.—A Preparation of Bismuth Constituting a Sedative, Tonic, and Mild Astringent.

Ser. No. 29,356. (CLASS 71. TOBACCO PRODUCTS.) PENN TOBACCO CO., Wilkes-Barre, Pa. Filed Aug. 12, 1907.

DUCO



Particular description of goods.—Smoking and Chewing Tobacco.

Ser. No. 29,363. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) CHARLES HEWITT & SONS CO., Des Moines, Iowa. Filed Aug. 12, 1907.

OPAL



Particular description of goods.—Rolled Oats, Rice, Wheat-Flour, Crackers, Corn-Flakes, and Wheat-Flakes.

Ser. No. 29,370. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) EAGLE ROLLER MILL COMPANY, New Ulm, Minn. Filed Aug. 13, 1907.



Particular description of goods.—Bread.

Ser. No. 29,381. (CLASS 43. THREAD AND YARN.) THE AMERICAN THREAD COMPANY, Jersey City, N. J. Filed Aug. 14, 1907.

SILKINE.

Particular description of goods.—Spool-Cotton, Sewing-Cotton, and Thread.

Ser. No. 29,382. (CLASS 43. THREAD AND YARN.) THE AMERICAN THREAD COMPANY, Jersey City, N. J. Filed Aug. 14, 1907.

PURITAN

Particular description of goods.—Spool-Cotton, Sewing-Cotton, and Thread.

Ser. No. 29,383. (CLASS 43. THREAD AND YARN.) THE AMERICAN THREAD COMPANY, Jersey City, N. J. Filed Aug. 14, 1907.

GILT EDGE

Particular description of goods.—Spool-Cotton, Sewing-Cotton, and Thread.

Ser. No. 29,384. (CLASS 43. THREAD AND YARN.) THE AMERICAN THREAD COMPANY, Jersey City, N. J. Filed Aug. 14, 1907.

LININE.

Particular description of goods.—Spool-Cotton, Sewing-Cotton, and Thread.

Ser. No. 29,396. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) SAWYER BELTING COMPANY, Cleveland, Ohio. Filed Aug. 15, 1907.

FLEXO-TRACTINE

Particular description of goods.—Dressings for Canvas, Leather, and Rubber Belts.

TRADE-MARKS

REGISTERED SEPTEMBER 10, 1907.

65,091. ROOFING, SHEATHING, AND BUILDING PAPER. BARRETT MANUFACTURING COMPANY, New York, N. Y.
Filed June 22, 1907. Serial No. 28,319. PUBLISHED JULY 16, 1907.

65,092. CERTAIN CORDAGE. COLUMBIAN ROPE COMPANY, Auburn, N. Y.
Filed July 20, 1906. Serial No. 21,025. PUBLISHED FEBRUARY 19, 1907.

65,093. DRESSINGS FOR LEATHER BELTING. F. S. WALTON COMPANY, Philadelphia, Pa.
Filed June 11, 1907. Serial No. 28,055. PUBLISHED JULY 16, 1907.

65,094. METAL-POLISH. EDWARD B. GALLAHER, New York, N. Y.
Filed April 12, 1907. Serial No. 26,657. PUBLISHED JULY 16, 1907.

65,095. CRATES OR BOXES FOR SHIPPING CARBOYS. GENERAL CHEMICAL COMPANY, New York, N. Y.
Filed June 12, 1907. Serial No. 28,079. PUBLISHED JULY 16, 1907.

65,096. CERTAIN CLOTHING. GUITERMAN BROS., St. Paul, Minn.
Filed July 17, 1905. Serial No. 10,469. PUBLISHED JULY 16, 1907.

65,097. CERTAIN CLOTHING. HERTZ, New York, N. Y.
Filed April 11, 1907. Serial No. 26,634. PUBLISHED JULY 16, 1907.

65,098. CERTAIN CLOTHING. INTER-STATE RUBBER COMPANY, Omaha, Nebr.
Filed April 22, 1907. Serial No. 26,854. PUBLISHED JULY 16, 1907.

65,099. SEWING-COTTON ON SPOOLS OR REELS. J. & P. COATS, LIMITED, Paisley, Scotland.
Filed October 17, 1905. Serial No. 13,687. PUBLISHED JULY 16, 1907.

65,100. QUARRIED STONE. THE JOHN T. DYER QUARRY CO., Norristown, Pa.
Filed June 15, 1907. Serial No. 28,149. PUBLISHED JULY 16, 1907.

65,101. COAL. JOHNS BROS., Norfolk, Va.
Filed April 20, 1907. Serial No. 26,840. PUBLISHED JULY 16, 1907.

65,102. OVERALLS, PANTS, AND COATS. JOPLIN OVERALL COMPANY, Joplin, Mo.
Filed May 21, 1907. Serial No. 27,559. PUBLISHED JULY 16, 1907.

65,103. BABIES' JUMPERS. ANNIE F. MAPES, Brooklyn, N. Y.
Filed May 14, 1907. Serial No. 27,361. PUBLISHED JULY 16, 1907.

65,104. BUILDING BRICKS OR BLOCKS. THE OHIO MINING & MANUFACTURING CO., Shawnee, Ohio.
Filed May 15, 1907. Serial No. 27,400. PUBLISHED JULY 16, 1907.

65,105. COAL. ST. LOUIS, ROCKY MOUNTAIN & PACIFIC CO., Raton, N. Mex. Ter.
Filed June 17, 1907. Serial No. 28,199. PUBLISHED JULY 16, 1907.

65,106. WASHED COKE. ST. LOUIS, ROCKY MOUNTAIN & PACIFIC CO., Raton, N. Mex. Ter.
Filed June 17, 1907. Serial No. 28,200. PUBLISHED JULY 16, 1907.

65,107. CERTAIN CLOTHING. VICTOR SPORTING GOODS CO., Springfield, Mass.
Filed May 27, 1905. Serial No. 6,783. PUBLISHED JULY 16, 1907.

65,108. LOCKS. THE YALE & TOWNE MFG. CO., Stamford, Conn.
Filed June 7, 1907. Serial No. 27,967. PUBLISHED JULY 16, 1907.

65,109. WATCHES, PARTS OF WATCHES, AND WATCH-CASES. A. WITTNAUER CO., New York, N. Y.
Filed May 23, 1907. Serial No. 27,584. PUBLISHED JULY 16, 1907.

65,110. WATCHES, PARTS OF WATCHES, AND WATCH-CASES. A. WITTNAUER CO., New York, N. Y.
Filed May 23, 1907. Serial No. 27,585. PUBLISHED JULY 16, 1907.

65,111. WATCHES, PARTS OF WATCHES, AND WATCH-CASES. A. WITTNAUER CO., New York, N. Y.
Filed June 15, 1907. Serial No. 28,137. PUBLISHED JULY 16, 1907.

65,112. WATCHES, PARTS OF WATCHES, AND WATCH-CASES. A. WITTNAUER CO., New York, N. Y.
Filed June 15, 1907. Serial No. 28,138. PUBLISHED JULY 16, 1907.

65,113. SMOKING-TOBACCO AND CIGARETTES. C. A. CARLIN, LTD., London, England.
Filed May 1, 1907. Serial No. 27,046. PUBLISHED JULY 16, 1907.

65,114. SPICES AND MUSTARD. E. R. DURKEE & CO., New York, N. Y.
Filed September 30, 1905. Serial No. 13,153. PUBLISHED JULY 16, 1907.

65,115. SMOKING-TOBACCO. FALK TOBACCO COMPANY, New York, N. Y., and Richmond, Va.
Filed June 18, 1907. Serial No. 28,228. PUBLISHED JULY 16, 1907.

65,116. SMOKING-TOBACCO. FALK TOBACCO COMPANY, New York, N. Y., and Richmond, Va.
Filed June 18, 1907. Serial No. 28,229. PUBLISHED JULY 16, 1907.

65,117. SYRUP AND MOLASSES. E. FEIBLEMAN SONS & CO., New Orleans, La.
Filed June 8, 1907. Serial No. 27,975. PUBLISHED JULY 16, 1907.

65,118. TEETH. G. GORDON MARTIN, INCORPORATED, Chicago, Ill.
Filed May 7, 1907. Serial No. 27,201. PUBLISHED JULY 16, 1907.

65,119. DOLLS. GEO. BORGFELDT & CO., New York, N. Y.
Filed May 31, 1907. Serial No. 27,775. PUBLISHED JULY 16, 1907.

65,120. HARMONICAS. GEO. BORGFELDT & CO., New York, N. Y.
Filed May 31, 1907. Serial No. 27,777. PUBLISHED JULY 16, 1907.

65,121. BUTTER. GOLDEN & CO., Washington, D. C.
Filed April 26, 1905. Serial No. 3,175. PUBLISHED JULY 16, 1907.

65,122. NEEDLES FOR DISK TALKING-MACHINES. HARGER & BLISH, Dubuque, Iowa.
Filed June 10, 1907. Serial No. 28,000. PUBLISHED JULY 16, 1907.

65,123. COFFEE. THE INDEPENDENCE COFFEE AND SPICE COMPANY, Denver, Colo.
Filed January 28, 1907. Serial No. 24,962. PUBLISHED MAY 7, 1907.

65,124. OPTICAL PROJECTING APPARATUS AND FILMS. NEW YORK VITAK COMPANY, New York, N. Y.
Filed June 7, 1907. Serial No. 27,960. PUBLISHED JULY 16, 1907.

65,125. CANDIES, CRYSTALLIZED FRUITS, AND GLACÉ FRUITS. OLIVER-FINNIE CO., Memphis, Tenn.
Filed May 28, 1907. Serial No. 27,696. PUBLISHED JULY 16, 1907.

65,126. BUTTER AND CHEESE. OLIVER-FINNIE CO., Memphis, Tenn.
Filed May 28, 1907. Serial No. 27,697. PUBLISHED JULY 16, 1907.

65,127. COFFEE AND TEA. OLIVER-FINNIE CO., Memphis, Tenn.
Filed May 28, 1907. Serial No. 27,708. PUBLISHED JULY 16, 1907.

65,128. CANNED FISH AND SARDINES. S. HAMILL COMPANY, Keokuk, Iowa.
Filed May 20, 1907. Serial No. 27,508. PUBLISHED JULY 16, 1907.

65,129. COFFEE. TONE BROS., Des Moines, Iowa.
Filed May 14, 1907. Serial No. 27,365. PUBLISHED JULY 16, 1907.

65,130. COFFEE. TONE BROS., Des Moines, Iowa.
Filed May 14, 1907. Serial No. 27,366. PUBLISHED JULY 16, 1907.

65,131. COFFEE. TONE BROS., Des Moines, Iowa.
Filed May 14, 1907. Serial No. 27,368. PUBLISHED JULY 16, 1907.

65,132. TEAS AND COFFEES. UPHAM BRO'S, New York, N. Y.
Filed April 20, 1907. Serial No. 26,844. PUBLISHED JUNE 4, 1907.

65,133. SHOE AND CORSET LACES. FRANK W. WHITCHER, Boston, Mass.
Filed June 11, 1907. Serial No. 28,056. PUBLISHED JULY 16, 1907.

65,134. FLAVORING PREPARATION. WILLSON BROS., Edgerton, Wis.
Filed May 16, 1907. Serial No. 27,427. PUBLISHED JULY 16, 1907.

65,135. WHEAT-FLOUR. BAY STATE MILLING COMPANY, Winona, Minn.
Filed May 22, 1907. Serial No. 27,562. PUBLISHED JULY 16, 1907.

65,136. CERTAIN CEREAL FOODS. CHAFFEE-MILLER MILLING COMPANY, Casselton, N. D.
Filed June 1, 1907. Serial No. 27,831. PUBLISHED JULY 16, 1907.

65,137. CERTAIN CEREAL FOODS. EVERETT, AUGHENBAUGH & COMPANY, Waseca, Minn.
Filed January 21, 1907. Serial No. 24,795. PUBLISHED JULY 16, 1907.

65,138. BREAD. LLOYD BROS., Lestershire, N. Y.
Filed April 11, 1907. Serial No. 26,640. PUBLISHED JULY 16, 1907.

65,139. CANNED FRUIT, VEGETABLES, AND BAKED BEANS. CHARLES C. MCDONALD, Elyria, Ohio.
Filed January 31, 1907. Serial No. 25,025. PUBLISHED MARCH 19, 1907.

65,140. CANNED FRUIT, VEGETABLES, AND BAKED BEANS. CHARLES C. MCDONALD, Elyria, Ohio.
Filed January 31, 1907. Serial No. 25,026. PUBLISHED MARCH 26, 1907.

65,141. BREAD AND BISCUIT. NATIONAL BISCUIT COMPANY, Jersey City, N. J., and New York, N. Y.
Filed June 17, 1907. Serial No. 28,212. PUBLISHED JULY 16 1907.

65,142. CERTAIN CEREAL FOODS. OLIVER-FINNIE CO., Memphis, Tenn.
Filed May 28, 1907. Serial No. 27,698. PUBLISHED JULY 16, 1907.

65,143. COFFEE. OLIVER-FINNIE CO., Memphis, Tenn.
Filed May 28, 1907. Serial No. 27,695. PUBLISHED JULY 16, 1907.

65,144. CERTAIN CEREAL FOODS. OLIVER-FINNIE CO., Memphis, Tenn.
Filed May 28, 1907. Serial No. 27,704. PUBLISHED JULY 16, 1907.

65,145. PANCAKE AND BUCKWHEAT FLOUR. S. HAMILL COMPANY, Keokuk, Iowa.
Filed May 20, 1907. Serial No. 27,505. PUBLISHED JULY 16, 1907.

65,146. WHIPS. UNITED STATES WHIP COMPANY, Westfield, Mass.
Filed June 14, 1907. Serial No. 28,130. PUBLISHED JULY 16, 1907.

65,147. LADIES' LEATHER DRESS-SHOES. CARRUTHERS-JONES SHOE CO., Memphis, Tenn.
Filed May 27, 1907. Serial No. 27,689. PUBLISHED JULY 16, 1907.

65,148. SHEETINGS, SHIRTINGS, DRILLS, AND FLANNELS. CHINA & JAPAN TRADING COMPANY, Limited, New York, N. Y.
Filed June 15, 1906. Serial No. 20,319. PUBLISHED JULY 16, 1907.

65,149. SHEETINGS, SHIRTINGS, DRILLS, AND FLANNELS. CHINA & JAPAN TRADING COMPANY, LIMITED, New York, N. Y.
Filed June 13, 1907. Serial No. 28,082. PUBLISHED JULY 16, 1907.

65,150. SHEETINGS, SHIRTINGS, DRILLS, AND FLANNELS. CHINA & JAPAN TRADING COMPANY, LIMITED, New York, N. Y.
Filed June 13, 1907. Serial No. 28,083. PUBLISHED JULY 16, 1907.

65,151. SHEETINGS, SHIRTINGS, DRILLS, AND FLANNELS. CHINA & JAPAN TRADING COMPANY, LIMITED, New York, N. Y.
Filed June 13, 1907. Serial No. 28,084. PUBLISHED JULY 16, 1907.

65,152. SHEETINGS, SHIRTINGS, DRILLS, AND FLANNELS. CHINA & JAPAN TRADING COMPANY, LIMITED, New York, N. Y.
Filed June 13, 1907. Serial No. 28,085. PUBLISHED JULY 16, 1907.

65,153. CERTAIN FOOTWEAR. FERNANDEZ VALDES & CO., Habana, Cuba.
Filed March 15, 1907. Serial No. 25,980. PUBLISHED JULY 16, 1907.

65,154. LEATHER BOOTS, SHOES, AND SLIPPERS. FERNANDEZ VALDES & CO., Habana, Cuba.
Filed March 15, 1907. Serial No. 25,981. PUBLISHED JULY 16, 1907.

65,155. CERTAIN FOOTWEAR. FERNANDEZ VALDES & CO., Habana, Cuba.
Filed March 15, 1907. Serial No. 25,982. PUBLISHED JULY 16, 1907.

65,156. CERTAIN LEATHER MANUFACTURES. FRANK PAYNE COMPANY, Charleston, W. Va.
Filed May 22, 1907. Serial No. 27,570. PUBLISHED JULY 16, 1907.

65,157. AERATED WATERS, JUICES, SYRUPS, EXTRACTS, AND TONICS FOR FLAVORING SAME. THOS. E. LIPPINCOTT, St. Louis, Mo.
Filed December 29, 1905. Serial No. 15,761. PUBLISHED JULY 16, 1907.

65,158. CANNED TOMATOES. EVERETT ROBINSON, Baltimore and Hopewell, Md.
Filed January 19, 1907. Serial No. 24,779. PUBLISHED MARCH 5, 1907.

65,159. UNFERMENTED GRAPE-JUICE. WILSON FRUIT JUICE CO., Lawton, Mich.
Filed December 13, 1906. Serial No. 23,990. PUBLISHED JULY 16, 1907.

65,160. MALT TONIC. AUGUST SCHELL BREWING COMPANY, New Ulm, Minn.
Filed August 11, 1906. Serial No. 21,493. PUBLISHED JULY 16, 1907.

65,161. CERTAIN CHEMICALS. C. F. BOEHRINGER & SOEHNE, Mannheim-Waldhof, Germany, and New York, N. Y.
Filed November 15, 1906. Serial No. 23,359. PUBLISHED JULY 16, 1907.

65,162. BAKING-POWDER. C. A. MURDOCK MFG. CO., Kansas City, Mo.
Filed May 18, 1907. Serial No. 27,478. PUBLISHED JULY 16, 1907.

65,163. BEER. THE CONSUMERS' BREWING CO., Norfolk, Va.
Filed June 6, 1907. Serial No. 27,902. PUBLISHED JULY 16, 1907.

65,164. COGNACS. DEUTSCH-FRANZÖSISCHE COGNAC-BRENNEREI UND WEINSPRIT-RAFFINERIE VORM. GEBRÜDER MACHOLL (ACTIENGESELLSCHAFT), Munich, Germany.
Filed November 3, 1906. Serial No. 23,080. PUBLISHED JULY 16, 1907.

65,165. BENZOYLGUAIACOL. FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, Höchst-on-the-Main, Germany.
Filed June 18, 1906. Serial No. 20,385. PUBLISHED JULY 16, 1907.

65,166. WINE. GUNDLACH-BUNDSCHU WINE CO., San Francisco, Cal.
Filed October 30, 1905. Serial No. 14,076. PUBLISHED OCTOBER 2, 1906.

65,167. BASIC SALT OF QUININ. H. LACROIX & CIE., Paris, France.
Filed October 29, 1906. Serial No. 22,987. PUBLISHED JULY 16, 1907.

65,168. BEER, ALE, AND PORTER. LYON & SONS BREWING CO., Newark, N. J.
Filed July 21, 1906. Serial No. 21,065. PUBLISHED JULY 16, 1907.

65,169. DISTILLED FRUIT-JUICES. OTTO OBERFÖLL, Achern, Germany.
Filed September 4, 1906. Serial No. 21,895. PUBLISHED JULY 16, 1907.

65,170. BAKING-POWDER. OLIVER-FINNIE CO., Memphis, Tenn.
Filed May 28, 1907. Serial No. 27,692. PUBLISHED JULY 16, 1907.

65,171. CERTAIN MEDICINE. JOHN BRANDT, Chicago, Ill.
Filed June 11, 1907. Serial No. 28,045. PUBLISHED JULY 16, 1907.

65,172. REMEDY FOR CORNS, BUNIONS, AND WARTS. JOHN COLE, Lishaskill, N. Y.
Filed June 15, 1907. Serial No. 28,148. PUBLISHED JULY 16, 1907.

65,173. SUGAR-COATED TABLETS FOR THE THROAT AND VOICE. THE COUGHLET COMPANY, Reading, Pa.
Filed December 11, 1906. Serial No. 23,939. PUBLISHED JANUARY 22, 1907.

65,174. CERTAIN MEDICINE. JAMES S. COWARD, New York, N. Y.
Filed March 14, 1906. Serial No. 17,814. PUBLISHED OCTOBER 2, 1906.

65,175. PAMPHLETS AND CATALOGUES. THE DETRICK & HARVEY MACHINE CO. OF BALTIMORE CITY, Baltimore, Md.
Filed January 22, 1907. Serial No. 24,825. PUBLISHED JULY 16, 1907.

65,176. CERTAIN MEDICINE. FREDERICK A. DICKS, New Orleans, La.
Filed May 13, 1905. Serial No. 5,547. PUBLISHED JULY 16, 1907.

65,177. CERTAIN MEDICINE. FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, Höchst-on-the-Main, Germany.
Filed June 18, 1906. Serial No. 20,377. PUBLISHED JULY 16, 1907.

65,178. STOVES AND RANGES. JAMES GRAHAM MANUFACTURING CO., San Francisco, Cal.
Filed June 19, 1907. Serial No. 28,248. PUBLISHED JULY 16, 1907.

65,179. VETERINARY MEDICINE. MAHER VETERINARY REMEDY CO., Beresford, S. D.
Filed May 25, 1907. Serial No. 27,653. PUBLISHED JULY 16, 1907.

65,180. CERTAIN MEDICINE. W. J. ROBERTS MEDICINE COMPANY, Coldwater, Mich.
Filed May 20, 1907. Serial No. 27,541. PUBLISHED JULY 16 1907.

65,181. SOAP, WASHING-POWDER, AND FLUID WASHING AND CLEANING COMPOUNDS. HARRY L. SHAW, Boston, Mass.
Filed May 28, 1907. Serial No. 27,715. PUBLISHED JULY 16, 1907.

65,182. HAIR-RESTORING COMPOUND. ALEXANDRE P. SIMAR, Montreal, Canada.
Filed March 28, 1907. Serial No. 26,315. PUBLISHED JUL 16, 1907.

65,183. LIQUID FURNITURE-POLISH. FREDERICK C. SOLMS, Saginaw, Mich.
Filed May 25, 1907. Serial No. 27,660. PUBLISHED JULY 16, 1907.

65,184. DRAWING-PAPER AND TRACING-PAPER. EDWARD G. SOLTMANN, New York, N. Y.
Filed October 5, 1906. Serial No. 22,496. PUBLISHED JULY 16, 1907.

65,185. DRAWING-PAPER. EDWARD G. SOLTMANN, New York, N. Y.
Filed October 5, 1906. Serial No. 22,500. PUBLISHED JULY 16, 1907.

65,186. TRACING-CLOTH. EDWARD G. SOLTMANN, New York, N. Y.
Filed October 5, 1906. Serial No. 22,503. PUBLISHED JULY 16, 1907.

65,187. TRACING-CLOTH. EDWARD G. SOLTMANN, New York, N. Y.
Filed October 5, 1906. Serial No. 22,505. PUBLISHED JULY 16, 1907.

65,188. TRACING-CLOTH. EDWARD G. SOLTMANN, New York, N. Y.
Filed October 5, 1906. Serial No. 22,506. PUBLISHED JULY 16, 1907.

65,189. TRACING-CLOTH. EDWARD G. SOLTMANN, New York, N. Y.
Filed October 5, 1906. Serial No. 22,507. PUBLISHED JULY 16, 1907.

65,190. TRACING-CLOTH. EDWARD G. SOLTMANN, New York, N. Y.
Filed October 5, 1906. Serial No. 22,508. PUBLISHED JULY 16, 1907.

65,191. STEEL PENS. EDWARD G. SOLTMANN, New York, N. Y.
Filed October 5, 1906. Serial No. 22,510. PUBLISHED JULY 16, 1907.

65,192. WALL-PAPER. WEBSTER & PRAGER CO., New York, N. Y.
Filed January 5, 1906. Serial No. 16,108. PUBLISHED JULY 16, 1907.

65,193. TOILET AND MEDICINAL SOAPS. BARCLAY & BARCLAY, New York, N. Y.
Filed November 7, 1906. Serial No. 23,148. PUBLISHED JULY 16, 1907.

65,194. SOAP. THE BROWN SOAP CO., Columbus, Ohio.
Filed September 15, 1906. Serial No. 22,115. PUBLISHED OCTOBER 23, 1906.

65,195. SOAPS AND SOAP POWDER. CHAS. H. CREW, Richmond, Va.
Filed June 3, 1907. Serial No. 27,849. PUBLISHED JULY 16, 1907.

65,196. PENHOLDERS. EAGLE PENCIL COMPANY, New York, N. Y.
Filed June 21, 1907. Serial No. 28,276. PUBLISHED JULY 16, 1907.

65,197. ILLUMINATING AND LUBRICATING OILS AND GREASES. GALENA SIGNAL OIL CO., Franklin, Pa.
Filed June 3, 1907. Serial No. 27,860. PUBLISHED JULY 16, 1907.

65,198. CERTAIN PAINTS AND PAINTERS' MATERIALS. CHARLES H. HOWELL & CO., Philadelphia, Pa.
Filed May 3, 1907. Serial No. 27,083. PUBLISHED JULY 16, 1907.

65,199. TOILET-PAPER. JONES & SKINNER, New York, N. Y.
Filed April 10, 1906. Serial No. 18,679. PUBLISHED JULY 16, 1907.

65,200. FLOOR, HOUSE, AND BARN PAINTS AND VARNISHES. KELLEY-HOW-THOMSON CO., Duluth, Minn.
Filed March 25, 1907. Serial No. 26,231. PUBLISHED JULY 16, 1907.

65,201. SOAP. S. HAMILL COMPANY, Keokuk, Iowa.
Filed May 20, 1907. Serial No. 27,513. PUBLISHED JULY 16, 1907.

65,202. CERTAIN PAINTS AND PAINTERS' MATERIALS. STANDARD VARNISH WORKS, New York, N. Y.
Filed June 29, 1906. Serial No. 20,646. PUBLISHED JULY 16, 1907.

65,203. DRAWING-PAPER AND TRACING-PAPER. EDWARD G. SOLTMANN, New York, N. Y.
Filed October 5, 1906. Serial No. 22,496. PUBLISHED JULY 16, 1907.

65,204. STAINS. STANDARD VARNISH WORKS, New York, N. Y.
Filed June 7, 1907. Serial No. 27,963. PUBLISHED JULY 16, 1907.

65,205. ILLUMINATING-OIL. TIDE WATER OIL CO., New York, N. Y.
Filed May 3, 1907. Serial No. 27,093. PUBLISHED JULY 16, 1907.

65,206. CERTAIN AUTOMOBILE ACCESSORIES. APPLIANCE MFG. CO., Chicago, Ill.
Filed April 20, 1907. Serial No. 26,835. PUBLISHED JULY 16, 1907.

65,207. HOISTS. THE CHISHOLM & MOORE MANUFACTURING COMPANY, Cleveland, Ohio.
Filed June 8, 1907. Serial No. 27,977. PUBLISHED JULY 16, 1907.

65,208. SUSPENDER-BUCKLES. COMFORT SUSPENDER CO., St. Louis, Mo.
Filed April 22, 1907. Serial No. 26,859. PUBLISHED JULY 16, 1907.

65,209. KNIVES AND FORKS. FARWELL, OZMUN, KIRK & CO., St. Paul, Minn.
Filed May 27, 1907. Serial No. 27,666. PUBLISHED JULY 16, 1907.

65,210. CERTAIN CUTLERY. FARWELL, OZMUN, KIRK & CO., St. Paul, Minn.
Filed May 27, 1907. Serial No. 27,667. PUBLISHED JULY 16, 1907.

65,211. BALL-AND-SOCKET SNAP-FASTENERS FOR GARMENTS. THE FRANCIS HOOK & EYE & FASTENER COMPANY, Niagara Falls, N. Y.
Filed August 9, 1905. Serial No. 11,447. PUBLISHED JULY 16, 1907.

65,212. POCKET-KNIVES, RAZORS, AND TABLE-CUTLERY. GEO. BORGFELDT & CO., New York, N. Y.
Filed May 31, 1907. Serial No. 27,776. PUBLISHED JULY 16, 1907.

65,213. RAZORS. THE GEO. W. KORN RAZOR MFG. CO., Little Valley, N. Y.
Filed May 22, 1907. Serial No. 27,582. PUBLISHED JULY 16, 1907.

65,214. STATIONARY GAS-ENGINES. KUMBERGER & VREELAND, New York, N. Y.
Filed June 15, 1907. Serial No. 28,153. PUBLISHED JULY 16, 1907.

65,215. END-GATE SEEDING-MACHINES. LUTHY & CO., Peoria, Ill.
Filed November 23, 1905. Serial No. 14,937. PUBLISHED FEBRUARY 20, 1906.

65,216. WHISKY. MACT & JENKINS, New York, N. Y.
Filed May 22, 1907. Serial No. 27,576. PUBLISHED JULY 9, 1907.

65,217. STOPPERS CONSTRUCTED OF TIN AND CORK. MANHATTAN CORK SPECIALTY CO., New York, N. Y.
Filed May 28, 1907. Serial No. 27,734. PUBLISHED JULY 16 1907.

65,218. VALVES. THE OHIO BRASS COMPANY, Mansfield, Ohio.
Filed April 12, 1907. Serial No. 26,073. PUBLISHED JULY 16, 1907.

65,219. PUMPS AND TURBINES. EDMUND SCOTT GUSTAVE REES, Wolverhampton, England.
Filed June 12, 1907. Serial No. 28,076. PUBLISHED JULY 16, 1907.

65,220. METAL CASTINGS. WETHERILL FINISHED CASTINGS CO., Philadelphia, Pa.
Filed June 1, 1907. Serial No. 27,840. PUBLISHED JULY 16, 1907.

65,221. TYPE-WRITING MACHINES. THE WILLIAMS TYPEWRITER COMPANY, Derby, Conn.
Filed June 3, 1907. Serial No. 27,859. PUBLISHED JULY 16, 1907.

65,222. PAMPHLETS AND CATALOGUES. THE DETRICK & HARVEY MACHINE CO. OF BALTIMORE CITY, Baltimore, Md.
Filed January 22, 1907. Serial No. 24,826. PUBLISHED JULY 16, 1907.

65,223. CERTAIN MEDICINES. FRANK A. EPSTEIN, Boston, Mass.
Filed September 11, 1905. Serial No. 12,447. PUBLISHED JULY 16, 1907.

65,224. CERTAIN MEDICINES. FRANK A. EPSTEIN, Boston, Mass.
Filed September 11, 1905. Serial No. 12,448. PUBLISHED JULY 16, 1907.

65,225. CERTAIN PHARMACEUTICAL PREPARATIONS LUDWIG G. B. ERB, New York, N. Y.
Filed May 15, 1907. Serial No. 27,392. PUBLISHED JULY 16, 1907.

65,226. MAGAZINE. ROLLAND R. FISHER, Freeport, Ill.
Filed May 14, 1907. Serial No. 27,371. PUBLISHED JULY 16, 1907.

65,227. PNEUMATIC TIRES. THE FISK RUBBER CO., Chicopee Falls, Mass.
Filed March 13, 1907. Serial No. 25,949. PUBLISHED APRIL 9, 1907.

65,228. CERTAIN MEDICINES. FLEE-FLEA CO., Philadelphia, Pa.
Filed April 25, 1907. Serial No. 26,917. PUBLISHED JULY 16, 1907.

65,229. PILLS. JULIUS GARST, Worcester, Mass.
Filed April 28, 1905. Serial No. 3,527. PUBLISHED JULY 16, 1907.

65,230. CERTAIN MEDICINES. OLE GRANDE, Velva, N. D.
Filed May 31, 1907. Serial No. 27,792. PUBLISHED JULY 16, 1907.

65,231. STOVES AND RANGES. JAMES GRAHAM MANUFACTURING CO., San Francisco, Cal.
Filed June 19, 1907. Serial No. 28,247. PUBLISHED JULY 16, 1907.

65,232. FURNACES, HEATERS, AND BOILERS. L. J. MUELLER FURNACE COMPANY, Milwaukee, Wis.
Filed May 31, 1907. Serial No. 27,804. PUBLISHED JULY 16, 1907.

65,233. MONTHLY MAGAZINES. JOHN F. MCNAMEE, Indianapolis, Ind.
Filed June 15, 1907. Serial No. 28,155. PUBLISHED JULY 16, 1907.

65,234. MEDICINAL SUPPOSITORY FOR FEMALE DISEASES. WILL SMITH, Gouverneur, N. Y.
Filed May 20, 1907. Serial No. 27,535. PUBLISHED JULY 16, 1907.

LABELS

REGISTERED SEPTEMBER 10, 1907.

13,779.—*Title:* "VARGAS COFFEE." (For Coffee.) JORGE VARGAS, Boston, Mass. Filed August 14, 1907.

13,780.—*Title:* "COFFEE." (For Coffee.) B. FISCHER & Co., New York, N. Y. Filed July 23, 1907.

13,781.—*Title:* "COFFEE." (For Coffee.) B. FISCHER & Co., New York, N. Y. Filed July 23, 1907.

13,782.—*Title:* "COFFEE." (For Coffee.) B. FISCHER & Co., New York, N. Y. Filed July 23, 1907.

13,783.—*Title:* "COFFEE." (For Coffee.) B. FISCHER & Co., New York, N. Y. Filed July 23, 1907.

13,784.—*Title:* "COFFEE." (For Coffee.) B. FISCHER & Co., New York, N. Y. Filed July 23, 1907.

13,785.—*Title:* "BLOSSOM NECTAR." (For Honey.) WM. A. SELSER, Jenkintown, Pa. Filed August 16, 1907.

13,786.—*Title:* "DIAMOND SPECIAL." (For Candy.) BUSY BEE CANDY CO., St. Louis, Mo. Filed August 16, 1907.

13,787.—*Title:* "BELL'S SEASONING." (For Spiced Seasoning for Meat, Game, Fish, and Poultry.) THE WILLIAM G. BELL COMPANY, Boston, Mass. Filed August 1, 1907.

13,788.—*Title:* "BELL'S SAUSAGE SEASONING." (For Spiced Sausage-Seasoning.) THE WILLIAM G. BELL COMPANY, Boston, Mass. Filed August 1, 1907.

13,789.—*Title:* "VEGETABLE COUGH SYRUP." (For Medicines for Diseases of the Throat and Lungs.) A. E. DREWS & Co., Wilmington, Cal. Filed August 19, 1907.

13,790.—*Title:* "A. C. HYND'S ANTISEPTIC SKIN TONIC." (For an Antiseptic Skin-Tonic.) A. C. H. PURITA CO., Buffalo, N. Y. Filed August 13, 1907.

13,791.—*Title:* "NEW ENGLAND WASHING & BLEACHING WATER." (For a Bleaching Liquid.) RAYMOND ST. BOTTLING CO., Fall River, Mass. Filed August 16, 1907.

13,792.—*Title:* "DELAWARE STANDARD DAMASK." (For Damasks.) FRANCIS C. PINKHAM, New York, N. Y. Filed August 8, 1907.

PRINTS

REGISTERED SEPTEMBER 10, 1907.

2,106.—*Title:* "CALIFORNIA ROOT BEER EXTRACT." (For Root-Beer Extract.) CALIFORNIA ROOT BEER COMPANY, Los Angeles, Cal. Filed August 15, 1907.

2,107.—*Title:* "THE HOME OF FALSTAFF." (For Beer.) WM. J. LEMP BREWING CO., St. Louis, Mo. Filed August 19, 1907.

2,108.—*Title:* "THE PRETTY BARMAID." (For Lager-Beer.) R. NARGELI'S SONS, Hoboken, N. J. Filed July 26, 1907.

2,109.—*Title:* "SWASTIKA AND MALTESE BACKS, '45 TEXAN PLAYING CARDS." (For Playing-Cards.) THE UNITED STATES PLAYING CARD COMPANY, Cincinnati, Ohio Filed August 20, 1907.

2,110.—*Title:* "MEN'S AND BOYS' APPAREL." (For Men's and Boys' Apparel.) H. C. LYTTON, Chicago, Ill. Filed August 17, 1907.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

GOURD v. CHARLES JACQUIN ET CIE., INC.

OPPOSITION.

Decided June 29, 1907.

1. TRADE-MARK OPPOSITION—SIMILARITY OF MARKS INCLUDING COMMON FEATURE.

Held that the mark of the appellant, which consists of the representation of a cross having rays radiating from its upper portion, associated with the title-phrase "Liqueur de St. Dominic," and the name "Charles Jacquin et Cie" appearing above and below the title-phrase, the whole inclosed in a circular border of dots and crosses arranged alternately, does not so nearly resemble the mark of the opponent, which comprises the words "Veritable Benedictine," "D. O. M.," and the representation of a "cross," as to cause confusion in the mind of the public, where crosses of various types have been used upon liqueurs and cordials by many other dealers.

2. SAME—SAME—UNFAIR COMPETITION IN TRADE NOT CONSIDERED.

The question of unfair competition in trade cannot be considered in an opposition proceeding.

3. SAME—LIMITATION BY REGISTRATION.

Where it is stated in the certificate of registration that the essential features of the trade-mark are the words "Veritable Benedictine," "D. O. M.," and a "cross," *Held* that the registrant having limited himself in the registration to a mark containing these features is not entitled broadly to the use of a cross so as to exclude others from the use of the same regardless of the similarity of the marks. (Citing *Richter* v. *Reynolds et al.*, 59 Fed. Rep., 577.)

ON APPEAL.

TRADE-MARK FOR CORDIAL.

Mr. A. Parker-Smith for Gourd.

Messrs. Straley & Hasbrouck for Charles Jacquin et Cie.

MOORE, *Commissioner:*

This is an appeal from the decision of the Examiner of Interferences dismissing the opposition of Henry E. Gourd to the registration by Charles Jacquin et Cie. of a trade-mark for cordial, consisting of the representation of a cross having rays radiating from the upper portion, associated with the title-phrase "Liqueur de St. Dominic," and the name "Charles Jacquin et Cie" appearing above and below said title-phrase, the whole inclosed by a circular border of dots and crosses arranged alternately.

The grounds of opposition on which the appeal is based may be summarized as follows:

1. That Henry E. Gourd is the agent in the United States for the sale of a cordial known as "Benedictine," which is manufactured by the Societe Anonyme de la Distillerie de la Liqueur Benedictine de L'Abbaye de Fecamp as successor to A. Legrand, that this company has used as its trade-mark the representation of a Latin cross, and that the trade-mark sought to be registered so nearly resembles that of the opposer as to cause confusion in the mind of the public.

2. That the trade-mark sought to be registered is anticipated by trade-mark registration No. 10,410 to Legrand.

The answer of the applicant comprises a formal denial of the allegations of the notice of opposition and the additional defense that the Latin cross has been so generally used in the past by other firms in connection with their trade-marks for cordials that it has become public property and that if the opposer ever had the right to use a Latin cross the same has been lost by reason of his acquiescence in the general use of the same by other manufacturers and dealers in wines and cordials.

Some months after the notice of opposition was filed Gourd filed a motion that he be allowed to amend his notice of opposition by including certain registrations of Legrand which it was alleged anticipated the mark of the applicant.

This motion was denied by the Examiner of Interferences on the ground that the reasons given why these registrations were not included in the original notice of opposition were insufficient to warrant their admission.

It is not necessary to consider whether this was a proper ground for denying the motion, for clearly these registrations furnish new grounds of opposition and as such could not be filed after the expiration of the thirty days allowed by the statute for filing notices of opposition.

As pointed out by the Examiner of Interferences, the question of unfair competition in trade cannot be considered in a proceeding of this kind. The question to be here determined is whether the mark of applicant so nearly resembles a mark used by the opposer as to cause confusion in the mind of the public and deceive purchasers and, if so, whether the opposer has the exclusive right to use this mark.

It was found by the Examiner of Interferences that Charles Jacquin et Cie. had used its mark since 1896, that the Societe Anonyme de la Distillerie de la Liqueur Benedictine de L'Abbaye de Fecamp, which for brevity will be referred to as the "Societe," had

used for many years prior to this date a mark one of the features of which is a Latin cross. He held further, however, that the mark used by the opposer does not so closely resemble that of the applicant as to cause confusion in the mind of the public or deceive purchasers and that the opposer has not the exclusive right to the use of a Latin cross broadly as a trade-mark for cordials.

The testimony has been discussed fully by the Examiner of Interferences, and his conclusions as to the use of their marks by the respective parties is correct.

From an inspection of the mark of the applicant and of that which Gourd testifies has been used by the opposer I am of the opinion that these marks are not so alike as to cause confusion in the mind of the public.

There remains to be considered, therefore, only the question whether the "Societe" acquired broadly such a right to the use of a Latin cross by reason of using it as one feature of its mark as to exclude others from the use thereof.

The record shows the use of crosses of various types on various kinds of liqueurs and cordials by others than the "Societe." It does not appear that any attempt has been made to stop such use. According to the testimony of Gourd various suits have been brought by the "Societe" against alleged infringers but all these suits turned on the question of unfair competition in trade. On cross-examination on the point Gourd testified as follows:

X-Q. 56. And was the sole issue in all these proceedings and in all the others which you have not named, merely the shape of the bottle?

A. The issue rested upon the shape of the bottle, the labels, caps, seals and the general appearance of the bottle.

X-Q. 57. Then do I understand you correctly that each one of these suits was for unfair competition of trade?

A. In a general way they were, as they were instituted against counterfeiters or imitators of the Benedictine package.

It would appear from these facts that the "Societe" did not consider that it was entitled broadly to the use of the representation of a cross as a trade-mark for cordial.

In only one of the certificates of registration of Legrand introduced in evidence is it stated that the cross is an essential feature of the mark, and in that one the essential features of the mark are said to be the words, letters, and symbol "Veritable Benedictine," "D. O. M.," and a "cross."

The question of the effect of such a limited registration arose in the case of *Richter* v. *Anchor Remedy Company*, (52 Fed. Rep., 455,) where it was held that a registrant who had in his registration stated that the essential feature of his mark was the representation of a red anchor on an oval space or field was not entitled to the use of an anchor broadly. The decision was affirmed on appeal, (*Richter* v. *Reynolds et al.*, 59 Fed. Rep., 577,) where the Court said:

* * * As late as July 7, 1895, he registered as his trade-mark an accurately and distinctively defined design, the "essential feature of which" (as he then declared) "is the representation of a red anchor in the oval space." As evidence tending to show what was really claimed, or had been intended to be appropriated, the court below was clearly right in taking this into consideration; and, in our opinion, it was right, also, in concluding therefrom that the complainant's intention was to confine his claim of trade-mark to the specific device designated and described, and which he further declared to be the one which he had "adopted."

Under the doctrine laid down in these decisions it is held that having limited himself in his registration as pointed out above Legrand and his successors in business are not entitled broadly to the use of a Latin cross as a trade-mark for cordials and to exclude others from the use of the same regardless of the similarity of the marks.

The decision of the Examiner of Interferences is affirmed.

CUTLER *v.* CARICHOFF.

Decided July 31, 1907.

1. INTERFERENCE—MOTION TO TRANSMIT A MOTION TO DISSOLVE—DELAY IN BRINGING.

Where the reasons which are alleged to excuse delay in bringing a motion appear clearly from the record, it is only necessary for the moving party to call attention thereto.

2. SAME—SAME—SAME.

The fact that similar motions have been brought in companion interferences constitutes no sufficient excuse for delay in bringing a motion to dissolve.

APPEAL on motion.

MOTOR-CONTROL SYSTEM.

Messrs. Jones & Addington and *Mr. E. B. H. Tower, Jr.*, for Cutler.

Mr. Albert G. Davis for Carichoff. (*Mr. Arthur A. Buck* and *Mr. Howard M. Morse* of counsel.)

BILLINGS, *Assistant Commissioner:*

This is an appeal by Cutler from the decision of the Examiner of Interferences refusing to transmit a motion to dissolve the above-entitled interference. The motion was filed more than six months from the expiration of the time within which it should have been brought. The Examiner of Interferences refused to transmit the motion because the moving party did not accompany his motion with a sufficient showing of the reasons for delay. It is contended by the appellant that the reasons are to be found in the record and that it is not necessary in such cases to again set forth these reasons in the affidavit. It is believed that in many instances the reasons for delay do appear clearly from the record, and when such is the case it is only necessary for the moving party to call attention to these reasons in order to justify the transmission of the interference. The reasons, however, appearing in the record in this case, which reasons are specified in the affidavit filed by counsel accompanying the motion, are not thought to justify the long delay. The hearings on the motions in the companion interferences have already been had before the Primary Examiner, and the transmission of this motion would entail more expense upon the appellee. There is no reason why this motion could not have been brought when the other motions were brought, for it is alleged, and not denied, that the questions involved before the Examiner in the companion interferences are practically the same. Counsel for appellee well states in his brief that—

It should be noted also that the refusal to transmit this motion imposes no hardship whatever upon Cutler since the ground set up in it is substantially the same as that alleged in the motions filed by him in the companion interferences upon which he has already had a chance to argue, and if the Primary Examiner should grant these motions he could, and of course would, if he thought it necessary, request jurisdiction of the present interference in order that he might take action therein consistent with his decisions in the companion interferences.

On the other hand, should the Primary Examiner deny the motions which are now before him it would clearly be a hardship on the appellee to transmit the present motion.

The decision of the Examiner of Interferences is affirmed.

DECISIONS OF THE U. S. COURTS.

Court of Appeals of the District of Columbia.

SHERWOOD *v.* DREWSEN.

Decided March 5, 1907.

1. INTERFERENCE—REDUCTION TO PRACTICE.

Reduction to practice must produce something of practical use, coupled with a knowledge, preferably by actual trial, that the thing will work practically for the intended purpose. The conception may give rational hopes of future fulfilment of the purpose at which it aims; but if as a matter of practice it falls short of success it is not a sufficient reduction to practice. Complete invention amounts to demonstration. When, as in this case, it had not quite passed beyond experiment and had not quite attained certainty and had fallen short of demonstrating the capacity of the invention to produce the desired result, the invention itself was still inchoate. These parties sought certainty; but they had not attained certainty beyond all conjecture, which certainty the law requires. (See *McKenzie* v. *Cummings*, C. D., 1904, 683; 112 O. G., 1481; 24 App. D. C., 140; *Hunter* v. *Stikeman*, C. D., 1898, 564; 85 O. G., 610; 13 App. D. C., 219; *Coffin* v. *Ogden*, 5 O. G., 270; 18 Wall., 124.)

2. SAME—SAME—FILING OF APPLICATION.

Where neither the testimony presented by S. nor that offered in behalf of D. satisfactorily establishes conception of the invention in issue, *Held* that each party must be restricted to the date of filing of his application for conception and constructive reduction to practice, and since D. was the first to file, priority of invention must be awarded to him.

Mr. C. C. Linthicum for Sherwood.

Mr. J. E. H. Hyde for Drewsen.

MCCOMAS, *J.*, (ROBB dissenting:)

In this appeal the issue of this interference is:

1. The process of preparing materials for paper-making from cornstalks, sugar-cane and analogous pithy stalks, which consists in: (1) cooking said stalks continuously in a single cooking liquor which contains the ordinary chemical reagents used to produce cellulose from vegetable fibers for a sufficient length of time to separate the fibers of the shell and the pith-cells from their incrustaceous matter; (2) separating the fibrous matter from the pith-cells by washing and screening; (3) collecting the fibrous materials and the pith-cells, substantially as described.

2. The process of preparing materials for paper-making from cornstalks, sugar-cane and analogous pithy stalks, which consists in: (1) cooking said stalks continuously in a single cooking liquor containing a caustic alkali for a sufficient length of time to separate the fibers of the shell and the pith-cells from their incrustaceous matter; (2) separating the fibrous matter from the pith-cells by washing and screening; (3) collecting fibrous material and the pith-cells, substantially as described.

3. The process of preparing materials for paper-making from cornstalks, sugar-cane and analogous pithy stalks which consists in: (1) cutting or otherwise dividing the stalks into pieces; (2) cooking said stalks continuously in a single cooking liquor which contains the ordinary chemical reagents used to produce cellulose from vegetable fibers for a sufficient length of time to separate the fibers of the shell and the pith-cells from their incrustaceous matter; (3) separating the fibrous matter from the pith-cells by washing and screening; (4) collecting the fibrous material and the pith-cells, substantially as described.

4. The process of preparing materials for paper-making from cornstalks, sugar-cane and analogous pith stalks which consists in: (1) cutting or otherwise dividing the stalks into pieces; (2) cooking said stalks continuously in a single cooking liquor containing a caustic alkali for a sufficient length of time to separate the fibers of the shell and the pith-cells from their incrustaceous matter; (3) separating the fibrous matter from the pith-cells by washing and screening; (4) collecting the fibrous material and the pith-cells, substantially as described.

The invention here involved is the disclosure that in a single cooking an entire cornstalk, sugar-cane or other like pithy stem may be cooked, if the liquor be strong enough and the time be long enough, sufficiently to separate the fibers of the shell of the stalk and the pith-cells contained inside, also, from the other matter, without destroying the pith-cells, so that by washing and screening, the pith-cells may be separated from the fibrous material and the two kinds of cells may be separately collected. The claims, which are the counts of this issue, were first made by Drewsen and upon the suggestion of the Primary Examiner were adopted by Sherwood. The following extract from Drewsen's application explains these counts:

The difficulty in preparing fibrous material (cellulose), or other products suitable for the manufacture of paper from these pithy stalks lies in the different character of the different parts of the stalk. A cornstalk proper, namely without leaves or husks, for instance, consists of two parts which can be used by paper manufacturers, to wit, the outside shell and the pith. The shell has a character similar to wood and contains a high percentage of fibers, while the pith is spongy and consists principally of oblong cells. This is also true of the sugar-cane.

The shell when treated with chemical substances, such as caustic soda, or sulfurous acid and lime, yields a large proportion of fibers which are adapted for paper-making and produce an opaque sheet of paper. The pith, on the other hand, when treated with the same substance disintegrates into cells and the sheet of paper derived therefrom is transparent and resembles imitation parchment-paper.

It has heretofore been supposed that this difference in character in the fibers of the shell and the cells of the pith required two separate cooking operations and that the former required a stronger solution and a longer time in cooking than the latter. It was also before thought that if the pith were cooked simultaneously with the shell in the same strength of the liquor and for the same length of time as are required for the disintegration of the fibers of the shell and their separation from the incrustaceous matter that the cells of the pith are practically destroyed and could not be utilized.

I have discovered, however, that this is not always the case, and that by the use of the proper means only a single operation of cooking is necessary for the entire stalk, shell and pith, and that both can be used either separately or together in making the desired paper by using the following method.

The stalk is first cut up into pieces so as to expose the pith. These pieces are placed in a digester or rotary containing a solution of about fifteen per cent. of caustic soda; the stalks are then cooked for six hours under a steam-pressure of sixty pounds per square inch. The contents of the digester are run out into a vat and washed. The solids in the washed material, namely the cooked fibers and pith-cells, are thrown on a screen to separate such portions as are uncooked and are then run into a beating-engine provided with washers. The washers of this engine are covered either with perforated metal sheets or with wire meshes, having openings large enough to permit the pith-cells to pass through, yet small enough to retain the fibrous material. The separation of the cellulose fibers from the pith-cells is effected in the beater by continuous washing of the solid materials contained therein. The fibrous material is then ready to be placed upon the wet machine in a manner familiar to those acquainted with the prior art.

The water containing the pith-cells flowing from the washer is sometimes sufficiently thickened by the mass of pith-cells contained in it, to run directly onto the wet machine, and if it be not so thickened, the water containing the pith-cells is run off from the washer into settling-tanks where the pith-cells are allowed to settle. When they have settled in such tanks sufficiently to give the needed consistency, familiar to those skilled in the art, the clean water is run off from the tank and the pith-cells are carried to a wet machine to collect them for subsequent use either, alone, or together with the fibrous portion in a manner understood by persons skilled in this art. This process requires but a single cooking, which is effective to separate the fibers of the shell and the pith-cells, in the manner, and with the result just stated, and after this process the pith and shell fiber and the pith-cells, it is claimed, are in a condition ready for use in making paper without further treatment.

Sherwood in his specification states that:

This invention relates to an improved process of making fiber stock from cornstalks and analogous plants, and it has for its salient objects, to provide a process whereby two kinds of characteristically different fiber may be practically and effectively separated; to provide a process which may be carried on continuously, by the use of comparatively simple and inexpensive apparatus, and without chemically and physically changing the character of the fiber; to provide a process which is characterized by the absence of mechanical injury to the fiber-cells; and in general, to provide a simple and improved process of the character referred to.

I have discovered that these two kinds of fiber may be practically and effectually separated by first cooking the stalks in a reducing solution until the physical structure of the plant is broken down and the connective tissues disintegrated to such extent as to free the two fibers, and then subjecting the pulp thus produced to a screening operation in which the flowing action of a liquid is largely utilized for effecting the sorting out and separation of the two kinds of fiber.

Sherwood's lengthy specification does not particularly describe the reducing solution to which he refers nor the time required for the cooking, nor does he definitely describe the cooking process. His entire application treats of the process of mechanical separation of the two fibers after cooking and all of his original claims were concerned with the process of separation of the two classes of cells in the particular manner described in his specification. Some of his claims assume the prior cooking of the stalks; others speak of the art of making

fiber from cornstalks "which consists in cooking the stalks in a reducing solution until reduced to a mass of pulp in which the connective tissue is broken down and the ultimate fiber freed."

In Sherwood's application and claims, the cooking is secondary, while the process of mechanical separation of the two varieties of cells from each other is primarily and particularly described. Drewsen in his application, from which we have quoted, primarily insists that he has discovered that only a single operation of cooking is necessary, instead of two as before supposed, for the disintegration of the fibers of the shell and the pith-cells and that both varieties of cells can be preserved and utilized either separately or together in making paper.

Both parties made preliminary statements and filed proofs. Drewsen, the senior party, claims to have conceived the invention, to have disclosed it to others and to have reduced it to practice during April, May and June, 1903, and his application was filed July 9, 1903. Sherwood claims conception, disclosure and reduction to practice in September, 1902. He filed his application June 11, 1904. The Examiner of Interferences determined that Sherwood conceived the invention in September, 1902; that one Bonfield had obtained certain knowledge of it from Sherwood and had imparted his knowledge to Drewsen in June, 1903; that Drewsen failed to prove conception of the invention prior to that time and that Sherwood should prevail because he was the first and only inventor of the process in issue.

The Examiners-in-Chief and the Commissioner successively decided that neither party to this interference had reduced this invention to practice prior to the filing of their applications in issue and, therefore, Bonfield had made no disclosure of the invention to Drewsen, the senior applicant, and that really Sherwood failed to prove a conception of the invention at any time before the date of his application.

The Commissioner and in effect the Examiners-in-Chief concur in the unusual conclusion that neither party proved conception or reduction to practice prior to the day that Drewsen filed his application, and that Sherwood, the junior party, is in like situation and only entitled to his filing date as the time of his conception and reduction to practice.

To make paper from cornstalks and like stalks was not novel but the paper produced was not so desirable commercially.

Everybody knew that a cornstalk was composed of a hard shell outside and a soft pith inside. It was learned that the shell by chemical cooking under pressure could be reduced to long cells suited to make soft and flexible paper, and that the pith could in like manner be reduced to short granular cells which would yield a hard brittle paper. All the parties interested in this interference, the principals and witnesses, knew these things.

Sherwood alleges that he conceived the invention in the middle of September, 1902, and in the same month reduced it to practice. During the four preceding years, Sherwood had been trying to utilize cornstalks and had invented a machine for mechanically separating the shell of the cornstalk from the pith. Mariner and Hoskin, chemists whom he had consulted, had advised him that paper-stock could not be economically produced from a corn-stalk without first separating the pith and that paper-stock can be produced from the shell and that under proper treatment, the pith itself produces a substance of value in the preparation of paper.

It was then believed by these parties that the stalks could not be reduced in a single cooking operation without destroying the pith-cells by the action of the strong chemicals and by the long cooking required to reduce the hard shell of the stalk.

Near the end of the last-mentioned year, Sherwood by means of a company he had formed, established an experimental plant in Chicago in which was installed his depithing-machine and the experiments looking to the use of cornstalks in the manufacture of paper-stock and of paper proceeded. These experiments were made with the depithed shell and the pith also, to discover the possibilities in the fiber and in the pith, of producing paper-stock. In addition to the depithing-machine, a rotary digester, a beating-machine, a screen, a stuff-chest, and a wet machine in conjunction with a boiler and a gas-engine were installed. In making experiments on the shell fiber to which pith adhered, Sherwood observed that the pith-shells washed out with the wash-water and he proceeded so far as to allow the pith-cell to settle and from some of these, collected by means of a hand-screen, he made a rough sheet of paper. Sherwood regretted the waste of these pith-cells and endeavored to make use of them in the fall of 1902.

That Sherwood had observed the pith-cells were carried off with the waste water and that he collected these escaping pith-cells occasionally and made them into sheets of paper on a hand-screen is corroborated by Bonfield, Brand and Miller, all fair and intelligent witnesses. This treatment of the subject-matter by Sherwood would appear to be almost the conception of the invention by him, but other considerations determine us to concur with the two higher tribunals of the Patent Office that neither Sherwood or any one else at the Chicago experiment plant at any time clearly appreciated the process, the disclosure of which in the application of Drewsen constitutes the invention of this issue.

On December 1, 1902, Sherwood filed an application which resulted in a patent. It is true that this application was a division of an application filed in October, 1901, but it was executed by Sherwood several months after he alleges he had conceived the invention and it related to the same subject-matter and he urged the importance of separating the pith from the fibrous portion of the stalk as far as practicable before subjecting either to chemical treatment or disintegration, and proceeded to show that the pith and fibrous parts of the stalk so separated may be treated separately in digesters or boilers and after such digestion, reunited if desired producing a product of value not to be obtained by dissolving both together in the first instance. This patent further stated that if less heat be used more time or a stronger solution would be required, and among other things, that the treatment of the pith must be gentler than that required for the proper digestion of the shell fiber. No stress is laid upon the collecting of

pith-cells after the cooking of the stalk-shell. Emphasis is given only to the separation of the shell and pith by machine and the separate cooking of the pith.

Bonfield, working under Sherwood's direction, at the end of December, 1902, says that when the pith was treated, the shell fiber was screened away and recooked. It is significant that neither Sherwood nor his witnesses testify that they washed out the pith-cells from the shell fiber after a single cooking, yet Sherwood now claims that he then knew that more than one cooking was unnecessary to satisfactorily separate the pith-cells from the fiber-cells of the corn-shell and early in 1903, Sherwood's letters show that his main reliance was upon the use of the depithing-machine; that he sought a mechanical depithing of the stalks by the machine, instead of a chemical separation by cooking with chemical agents.

Sherwood had learned that the pith-cells must be removed for they caused the paper produced to be hard and stiff and unsuited for commercial use, and that if the pith-cells were eliminated, the fibrous material of the stalk would produce a paper white and soft. When it was found Sherwood's depithing-machine did not remove all of the pith, and that the remaining pith when cooked with the stalk, produced samples, even after the pulp was washed to remove the pith-cells, still unsatisfactory, experiments were continued. Wallace, an expert in paper-mill work as an engineer, was called in and being shown samples of paper made in October, 1902, disuaded Sherwood and his companions from building mills until more satisfactory results had been obtained, and at his instance the company employed Drewsen whom Wallace recommended as his friend and as an expert in the chemistry of pulp and paper making. About November, 1902, Drewsen first met Sherwood in Chicago and thereafter Drewsen and Wallace coöperated with Sherwood in trying to raise capital to use the invention so far as it had advanced. These efforts did not succeed.

If Sherwood at this time had fully appreciated that the pith and shell of the cornstalk could have been separated by a single cooking operation and that the two varieties of cells could be separately collected and used either alone or together to produce paper-stock, it is exceeding strange that with the experiment plant and all needed apparatus at hand and while he was daily investigating in order to produce paper commercially, that he should have been content with now and then producing a single piece of paper upon a hand-mold and that while he was collecting small quantities of pith-cells, proceeding from the operation of the mechanical depithing, and the two separate cooking operations, upon which he relied in Chicago he still continued to rely upon the same process until after the filing of Drewsen's application.

Late in April, 1903, Drewsen, Sherwood and Bonfield went to the Warren mills in Maine and industriously experimented until the end of May in that year when Sherwood and Drewsen went together to New York to interest capitalists in the scheme, leaving Bonfield to carry on further experiments at the Warren mills and to use up a quantity of raw material that remained on hand. The experiments at the Warren mills were carried on under Drewsen's directions, all three of these visitors directing their efforts to perfect the paper-making from the cornstalk. Before Drewsen went to Warren mills and in April, 1903, Drewsen had filed an application in which he had described a process requiring two cookings of a stalk.

This patent was afterward granted. In it Drewsen states that the shell when treated with caustic soda and sulfurous acid and lime, yields a large proportion of fibers which are adapted for paper-making, producing an opaque sheet of paper. The pith on the other hand when treated with the same substances disintegrates into cells and the sheet of paper produced is transparent resembling parchment-paper. He says the shell requires a stronger cooking liquor and a longer time than is required in cooking the pith. He proposes separating the shell from the pith mechanically and cooking them apart in caustic-soda solutions of different strength and thereafter uniting them in the proportions desired. The patent states that the split pieces of cornstalk were digested in a solution so weak that only the pith became disintegrated and the shell only partially so. The partly-cooked shells were then to be separated from the pith-cells and carried to a second digester to be cooked in a stronger solution so as to yield the fibrous material in the shell. This method was tried at Warren mills and the success was a qualified one. Bonfield submitted a report of all the experiments at Warren mills. Few of the experiments recorded throw light upon the controversy here. After Sherwood and Drewsen went away together, Bonfield in June, 1903, wrote two letters to Drewsen which the appellant insists disclosed this invention to Drewsen, which invention Bonfield sincerely believes Sherwood had imparted to him. In neither one of these letters, nor in the record of all the tests, do we find any definite information concerning the collection of the pith-cells. The paper produced by eliminating pith-cells steadily improved and in one of the later reports it is said that after washing twenty hours, they washed away as much pith as possible and it was remarked that "the pith settled quickly making it possible and practicable to save it." In none of these experiments is it recorded that the pith was actually saved or that it was proved that it was in condition for making paper, yet the issue we are considering requires that the pith-cell shall be collected and shall be in condition for making paper; therefore it is clear that none of these experiments can be held to constitute a reduction to practice of the process. We have said that Sherwood almost but not quite attained the conception of this invention. It is significant that while they were together seeking the same result and were most friendly, Sherwood did not disclose the invention to Drewsen. Before they departed from Warren mills, Drewsen appears, as an experienced chemist, to have lost faith in the mechanical separation of the two kinds of cells and to have gained increasing confidence in his power to separate them by chemical cooking, but we are convinced that Drewsen at that time also failed to conceive and reduce to practice this invention; that he narrowly missed it but still failed to achieve a "reduction to successful practice." All of the experiments in Chicago and in Maine are fully and fairly stated by intelligent and honest witnesses and after carefully examining the long record, we concur with the Commissioner of Patents that there is a

want of satisfactory evidence that any one at any time conceived the invention and there is no evidence that either of the applicants had reduced it to practice when at the end of May, Sherwood and Drewsen left the Cumberland mill.

Counsel for appellant say that it was impossible that both parties in some way could be led to file applications for an invention which neither of them had conceived. We need not curiously inquire how Drewsen finally came upon the invention first disclosed by his application. We agree with the Commissioner that while the witnesses thought Sherwood disclosed the invention to them, he fell short of disclosure of that which he had nearly found. Not only what he said but all that he did fell short of this invention; apparently it eluded him while he still pursued mechanical devices for depithing and separating the two kinds of cells.

It happened that Bonfield remained to use up the material on hand. Both applicants contend that Bonfield reduced the invention to practice in June, 1903. Had he done so, it might be very difficult to say to whose advantage Bonfield's achievement accrued, but as we concur with the two highest tribunals of the Patent Office in saying that Bonfield's successors fell short of a reduction to successful practice, we quite end the discussion on this point. We cannot agree with the parties although upon this point they agree with each other. We must concur with the two tribunals just mentioned.

Reduction to practice must produce something of practical use coupled with a knowledge, preferably by actual trial, that the thing will work practically for the intended purpose. The conception may give rational hopes of future fulfilment of the purpose at which it aims, but if as a matter of practice it falls short of success, it is not a sufficient reduction to practice. Complete invention amounts to demonstration. When, as in this case, it had not quite passed beyond experiment and had not quite attained certainty and had fallen short of demonstrating the capacity of the invention to produce the desired result, the invention itself was still inchoate. These parties sought certainty but they had not attained certainty beyond all conjecture, which certainty the law requires. (See *McKenzie* v. *Cummings*, C. D., 1904, 683; 112 O. G., 1481; 24 App. D. C., 140; *Hunter* v. *Stikeman*, C. D., 1898, 564; 85 O. G., 610; 13 App. D. C., 219; *Coffin* v. *Ogden*, 5 O. G., 270; 18 Wall., 124.)

In Maine a great advance was made beyond the Chicago experiment for in the former place the escape of the pith-cells was more fully observed and the significant fact that they were not destroyed by the cooking and the idea that it was feasible to collect them for subsequent use was in the minds of all the persons engaged in these experiments. But the result of all the experiments was that by one cooking, the pith-cells and shell fibers could be so separated that pith-cells could be entirely washed away if it was desired to make soft sheets of paper. This court has often said that satisfactory evidence of reduction to practice must embrace all the elements of the issue and must leave nothing to inference, since no one of these elements can be determined to be subordinate and immaterial. (*Blackford* v. *Wilder*, 21 App. D. C., 10; *Robinson* v. *Seelinger*, C. D., 1905, 640; 116 O. G., 1735; 25 App. D. C., 240.)

This process of preparing the materials for papermaking from cornstalks and the like, required the collecting of the fibrous materials and the pith-cells subetantially as described. When it was that Drewsen attained a complete conception of the invention the record fails to show. The tribunals of the Patent Office all agree that the four claims in Drewsen's application, which Sherwood adopted, constitute invention and the filing of his application by a familiar rule constitutes a constructive reduction to practice of the invention and of every element of it and since Drewsen is the senior party we concur with the Commissioner that Drewsen is the prior inventor.

The decision of the Commissioner of Patents in this case must therefore be affirmed and the clerk of this court will certify this decision and opinion to the Commissioner of Patents in accordance with law.

[Vol. 130. No. 2.]

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OFFICIAL GAZETTE
OF THE
United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 130—No. 3. TUESDAY, SEPTEMBER 17, 1907. PRICE—$5 per year.

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TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	1	1	New Hampshire	3	1
Arkansas	3	.....	New Jersey	33	9
California	37	3	New York	87	26
Colorado	8	.....	North Carolina	4	.....
Connecticut	16	1	North Dakota	3	.....
Delaware	.....	1	Ohio	42	11
District of Columbia	9	.....	Oklahoma Territ'y	6	1
Florida	3	.....	Oregon	3	.....
Georgia	6	6	Pennsylvania	67	11
Idaho	2	.....	Rhode Island	6	1
Illinois	56	15	South Dakota	3	.....
Indiana	21	7	Tennessee	2	1
Iowa	7	3	Texas	15	1
Kansas	5	.....	Utah	3	.....
Kentucky	9	.....	Vermont	2	.....
Louisiana	3	.....	Virginia	5	3
Maine	3	.....	Washington	9	.....
Maryland	4	2	West Virginia	4	.....
Massachusetts	33	7	Wisconsin	14	4
Michigan	18	1	Wyoming	1	.....
Minnesota	12	2	U. S. Navy	1	.....
Missouri	17	1			
Montana	3	.....	Total to citizens of the United States	601	120
Nebraska	11	1			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Austria-Hungary	1	.....	Russia	1	.....
Belgium	3	.....	Scotland	.....	1
Canada	9	.....	Spain	1	.....
Cuba	1	.....	Switzerland	1	.....
England	13	.....	Venezuela	1	.....
France	2	3	Victoria	2	.....
Germany	18	6			
Mexico	1	.....	Total to citizens of foreign countries	55	10
Norway	1	.....			

Patents	630	No. 865,982 to No. 866,611, inclusive.
Designs	26	No. 38,801 to No. 38,826, inclusive.
Trade-Marks	112	No. 65,235 to No. 65,346, inclusive.
Labels	12	No. 13,793 to No. 13,804, inclusive.
Prints	6	No. 2,111 to No. 2,116, inclusive.
Reissues	1	No. 12,695.
Total issue	787	

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., July 31, 1907.

In view of the great volume of work to be done in this Office and also in the Government Printing Office, it has become necessary to extend the period for the preparation of patents for issue, following the payment of final fees. To this end, notice is hereby given that all patents on which final fees are paid during the week ending Thursday, September 5, 1907, will be issued on Tuesday, September 24, following, in accordance with the usual practice; that all patents on which the final fees are paid on September 6, 7, and 9 will be issued on Tuesday, October 1; that all patents on which the final fees are paid on September 10, 11, and 12 will be issued on Tuesday, October 8, and that thereafter the issue will close on Thursday of each week and the patents be issued on the fourth Tuesday following, instead of the third Tuesday, as heretofore.

(Signed) E. B. MOORE,
Commissioner.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business September 10, 1907.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
303	XVII. Clutches, Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Aug. 21	Aug. 12	166
147	XXIX. Coopering, Fire-Escapes, Ladders, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools, Woodworking.	Aug. 20	July 8	206
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Aug. 15	Aug. 8	154
232	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Iron Structures, Loading and Unloading, and Towers.	Aug. 15	Aug. 2	223
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Aug. 15	July 30	222
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Aug. 15	July 16	136
322	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Aug. 12	July 26	390
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Aug. 6	July 25	244
244	XXXV. Baths and Closets, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Garment-Supporters, Toilet, Signals.	Aug. 6	June 29	604
321	I. Tillage, etc., Fences	Aug. 3	July 17	363
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	Aug. 3	June 10	463
312	VII. Games and Toys, Mechanical Motors, Optics, Paper Manufactures, Velocipedes.	Aug. 2	Aug. 1	333
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	Aug. 2	July 11	336
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Educational Appliances, Fishing and Trapping, Stationery, Stone-Working.	July 31	July 16	454
307	XIV. Compound Tools, Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Sheet-Metal Ware, Making, Tools, Wire-Working.	July 31	June 10	279
330	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making, etc.	July 26	July 10	533
324	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	July 25	July 2	605
148	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Refrigeration.	July 24	May 25	498
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	July 22	July 24	299
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	July 20	May 16	477
332	X. Carriages and Wagons	July 16	July 1	443
327	XVIII. Steam-Engineering, etc.	July 16	June 21	340
173	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	July 12	July 23	254
123	XIX. Heating and Cooking Stoves, Liquid and Gaseous Fuel, Stoves and Furnaces, and Furnaces.	July 12	July 10	486

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufactures, Nailing and Stapling, Whips and Whip Apparatus.	July 12	July 5	365
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Time-Controlling Mechanism.	July 10	July 10	313
382	XXVIII. Miscellaneous Heat-Engines, Internal-Combustion Engines.	July 10	July 10	592
175	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	July 8	June 12	493
167	V. Bookbinding, Harvesters, Jewelry, and Music.	July 8	June 7	441
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	July 5	July 24	327
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery.	July 5	July 8	293
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	July 3	June 3	460
142	IX. Air and Gas Pumps, Fire-Extinguishers, Hydraulic Motors, Pumps, and Sewerage.	July 2	July 8	297
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	July 1	July 22	324
105	XXVI. Electricity, Generation. Electric Heaters, Electric Railways, Motive Power.	July 1	June 4	466
343	XXXIX. Water Distribution	June 26	May 27	685
280	XL. Baggage, Check-Controlled Apparatus, Cloth, Leather, and Rubber Receptacles, Deposit and Collection Receptacles, Fine Arts, Lighting-Fixtures, Packages and Article Carriers, Paper Receptacles, Special Receptacles and Packages, Wooden Receptacles.	June 24	June 21	1054
128	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Pneumatics, Presses, Store-Service, Tobacco, etc.	June 19	July 1	291
109	XVI. Telegraphy and Telephony	June 14	June 4	578
352	XLI. Railway Draft Appliances, Railway-Rails and Joints, Railway-Ties and Fasteners, Resilient Tires and Wheels.	May 28	May 2	1061
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving and Plastics, Photography.	May 20	May 18	634
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159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Trade-Marks	Sept. 3	Aug. 19	256
	Designs	Sept. 6	Aug. 30	37
	Labels and Prints			

The Official Gazette.

The OFFICIAL GAZETTE is published every Tuesday, simultaneously with the weekly issue of patents. From January 1, 1872, (the commencement of its publication,) to June 30, 1883, it was published and bound in semi-annual volumes; from July 1, 1883, to December 31, 1902, in quarterly volumes; since January 1, 1903, in bimonthly volumes. Terms: Annual subscriptions, $5. For postage upon foreign subscriptions, except those from Canada and Mexico, $6 or more, as required. Moneys received from foreign subscribers in excess of the subscription price of $5 will be deposited to the credit of the subscriber and applied to postage upon the subscription as incurred. Single copies, 10 cents; if mailed to foreign countries, excepting Canada and Mexico, 20 cents additional for postage. *Payment in advance required. No club rates. No discount to newsdealers. No sample copies.* All subscriptions must commence with the beginning of a volume. None taken for less than an entire volume. All orders should be addressed to "The Commissioner of Patents, Washington, D. C."

PATENTS

GRANTED SEPTEMBER 17, 1907.

865,982. EYEGLASSES. LEO F. ADT, Troy, N. Y. Filed Dec. 21, 1904. Serial No. 237,754.



1. A lens mount for eyeglasses composed of a single piece of material embodying a lens-attaching ear, a bearing portion adapted to engage the lens edge above and below the attaching ear, and an adjustable loop connected to the lens edge bearing portion intermediate its upper and lower ends and extending outwardly and joining the mount.

2. A lens mount having a lens attaching ear and a bearing portion for engaging the edge of the lens connected to the ear by a loop and adjustable substantially in the plane of the lens.

3. A lens mount having a lens attaching ear and a bearing portion for engaging the edge of the lens above and below the ear and connected thereto by an adjustable looped portion and adjustable substantially in the plane of the lens.

4. A lens mount having a lens attaching ear, a bearing portion for engaging the edge of the lens and a loop between the ear and bearing portion located beyond the edge of the lens.

5. A lens mount composed of a single piece of metal embodying the lens attaching ear, a bearing portion for engaging the edge of the lens and an adjustable loop intermediate the ear and bearing portion.

6. A lens mount composed of a single piece of sheet metal embodying the central portion or body, the lens attaching ear extending from one side thereof, and the bearing arm extending from the other side of the body, thence bent inwardly toward the ear and having the upper and lower extensions adapted to bear on the edge of a lens attached to the ear.

7. The combination with a lens, of a clip therefor having the central portion, the lens attaching ear extending from one side thereof and the arm extending from the other side toward the lens and thence inwardly toward the ear and bearing upon the edge of the lens and being free for adjustment.

8. The combination with a lens, of a clip therefor having the central portion, the lens attaching ear extending from one side thereof and the arm extending from the other side toward the lens, thence inwardly toward the ear and having the bearing portion engaging the edge of the lens above and below the point of attachment of the ear and free from other connection with the lens so that it may be bodily adjusted toward the edge of the latter.

9. The combination with a lens, of a mounting composed of a single piece of material embodying the spring, the lens attaching ear extend'ng outwardly from one side of the spring and the free arm extending outwardly from the other side and then inwardly toward the ear and bearing upon the edge of the lens.

10. The combination with a lens, of a mounting composed of a single piece of sheet material, embodying the nose guard, the lens attaching ear extending from one side of the guard shank and the free arm extending from the other side of the guard shank toward the lens and then extending toward the ear and bearing upon the edge of the lens.

11. The combination with the lenses, of a mounting composed of a single piece of sheet material embodying the spring, the nose guards at the ends thereof, the lens attaching ears at one side of the spring and the arms extending outwardly from the other side of the spring and thence inwardly toward the ears and bearing upon the edges of the lenses.

12. An eyeglass mounting composed of a single piece of material embodying a bridge, and a nose guard, a lens attaching ear proceeding edgewise from the material of the mounting and extending outwardly to coöperate with a surface of a lens, a loop portion also proceeding outwardly from an edge of the mounting and having a loop formed therein, the outer end of the loop being provided with a lens edge bearing portion extending above and below the lens attaching ear.

865,983. RAILWAY-SIGNAL. BERNARD E. AHLDERS, Indianapolis, Ind. Filed Mar. 1, 1907. Serial No. 359,955.



1. The combination, in a railway signal, of a signaling device carried by the train, a fluid supply pipe leading from a fluid-pressure source to said signaling apparatus, a discharge pipe leading from said signaling apparatus to a point adjacent to the railway track, a valve carried by said pipe at that point, a lever attached to the valve stem of said valve and extending to a point adjacent to the railway track, and a strike positioned alongside of the railway track and adapted to be thrown up into the path of said lever.

2. The combination, in a railway signal, of a signaling device carried by the train, a wheel adapted to be operated by fluid pressure connected to said signaling device, a fluid supply pipe leading from said wheel to a point adjacent to the railway track, a valve at said point, a lever for operating said valve, and means controlled by the signal-man for operating said lever.

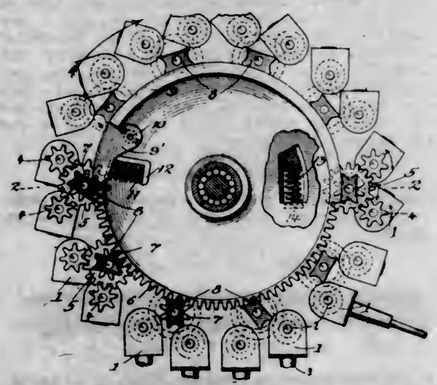
3. The combination, in a fluid-operated railway signaling apparatus, of a valve at the lower end of the fluid-discharge pipe, a lever carried by the valve-stem whereby the valve may be opened by means of a suitable strike thrown into its path, said strike, means extending to the signalman's station for operating said strike, a projection on said lever, and a device adapted to be moved to engage with the projection on the lever and restore it to a normal position.

4. The combination, in a fluid-operated railway signaling apparatus, of a valve at the lower end of the fluid-discharge pipe, means connected to said valve whereby said valve may be opened by means of a suitable strike thrown into its path, means for restoring said valve to closed position, and means extending therefrom to a position convenient to the operative whereby said position-restoring means may be operated by the engine man.

5. The combination, in a fluid-operated railway signaling apparatus, of a valve controlling the passage of the fluid, a lever carried by the valve stem whereby the valve may be opened by means of a suitable strike thrown into its path, a forked reciprocating device adapted to engage with a portion on the lever and restore it to normal position, a treadle for operating said position restoring device, and a spring for returning the treadle to its normal position.

6. The combination, in a fluid-operated railway signaling apparatus, of a valve controlling the passage of the fluid, a lever carried by the valve stem whereby the valve may be operated by means of a suitable strike thrown into its path, a forked reciprocating device adapted to engage with a projection on the lever and restore it to normal position from a position on either side of normal, and a treadle for operating said forked reciprocating device.

865,984. COTTON-PICKING MACHINE. JOHN F. APPLEBY, Chicago, Ill., assignor to Dixie Cotton Picker Company, Redfield, S. D., a Corporation of South Dakota. Filed Aug. 15, 1906. Serial No. 330,743.



1. A cotton picking machine including a plurality of bodily traveling cotton picking fingers, gearing for effecting the rotation of said fingers about their own axes, and means for checking the driven elements of said gearing including a yieldingly mounted delay element, to check the axial rotation of said fingers.

2. A cotton picking machine including a plurality of bodily traveling cotton picking fingers, gearing for effecting the rotation of said fingers about their own axes, said gearing including a segmental or sectional rack, and gear elements affording driving connection between said rack and the fingers, and means for checking the driven elements of said gearing including a yieldingly mounted delay element to check the axial rotation of said fingers.

3. A cotton picking machine including a plurality of bodily traveling cotton picking fingers, gearing for effecting the rotation of said fingers about their own axes, said gearing including a segmental or sectional rack, and gear elements affording driving connection between said rack and the fingers, and means for checking the driven elements of said gearing including a yieldingly mounted delay element to check the axial rotation of said fingers, each group of elements driven by the sectional rack being provided with a block that rides upon the delay element for the purpose stated.

4. A cotton picking machine including a plurality of bodily traveling cotton picking fingers, gearing for effecting the rotation of said fingers about their own axes, and means for checking the driven elements of said gearing including a delay element to check the axial rotation of said fingers, said delay element being formed in relatively movable sections.

5. A cotton picking machine including a plurality of bodily traveling cotton picking fingers, gearing for effecting the rotation of said fingers about their own axes, said gearing including a segmental or sectional rack, and gear elements affording driving connection between said rack and the fingers, and means for checking the driven elements of said gearing including a delay element to check the axial rotation of said fingers, said delay element being formed in relatively movable sections.

6. A cotton picking machine including a plurality of bodily traveling cotton picking fingers, gearing for effecting the rotation of said fingers about their own axes, said gearing including a segmental or sectional rack, and gear elements affording driving connection between said rack and the fingers, and means for checking the driven elements of said gearing including a delay element to check the axial rotation of said fingers, said delay element being formed in relatively movable sections, each group of elements driven by the sectional rack being provided with a block that rides upon the delay element for the purpose stated.

7. A cotton picking machine including a plurality of bodily traveling cotton picking fingers, gearing for effecting the rotation of said fingers about their own axes, and means for checking the driven elements of said gearing including a delay element to check the axial rotation of said fingers, said delay element being formed in relatively movable sections, one of said sections being yieldingly mounted.

8. A cotton picking machine including a plurality of bodily traveling cotton picking fingers, gearing for effecting the rotation of said fingers about their own axes, said gearing including a segmental or sectional rack, and gear elements affording driving connection between said rack and the fingers, and means for checking the driven elements of said gearing including a delay element to check the axial rotation of said fingers, said delay element being formed in relatively movable sections, one of said sections being yieldingly mounted.

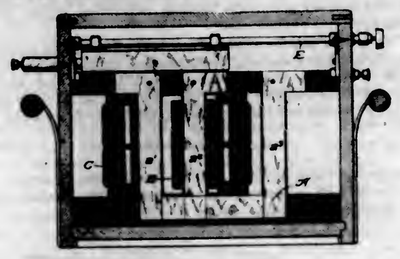
9. A cotton picking machine including a plurality of bodily traveling cotton picking fingers, gearing for effecting the rotation of said fingers about their own axes, said gearing including a segmental or sectional rack, and gear elements affording driving connection between said rack and the fingers, and means for checking the driven elements of said gearing including a delay element to check the axial rotation of said fingers, said delay element being formed in relatively movable sections, one of said sections being yieldingly mounted, each group of elements driven by the sectional rack being provided with a block that rides upon the delay element for the purpose stated.

10. A cotton picking machine including a plurality of bodily traveling cotton picking fingers, gearing for effecting the rotation of said fingers about their own axes, and means for checking the driven elements of said gearing including a delay element to check the axial rotation of said fingers, said delay element being formed in relatively movable sections, the section of the delay element that is first engaged to check the rotation of the fingers being yieldingly mounted.

11. A cotton picking machine including a plurality of bodily traveling cotton picking fingers, gearing for effecting the rotation of said fingers about their own axes, said gearing including a segmental or sectional rack, and gear elements affording driving connection between said rack and the fingers, and means for checking the driven elements of said gearing including a delay element to check the axial rotation of said fingers, said delay element being formed in relatively movable sections, the section of the delay element that is first engaged to check the rotation of the fingers being yieldingly mounted.

12. A cotton picking machine including a plurality of bodily traveling cotton picking fingers, gearing for effecting the rotation of said fingers about their own axes, said gearing including a segmental or sectional rack, and gear elements affording driving connection between said rack and the fingers, and means for checking the driven elements of said gearing including a delay element to check the axial rotation of said fingers, said delay element being formed in relatively movable sections, each group of elements driven by the sectional rack being provided with a block that rides upon the delay element for the purpose stated, the section of the delay element that is first engaged to check the rotation of the fingers being yieldingly mounted.

865,985. VARIABLE-VOLTAGE TRANSFORMER. THOMAS M. BAINS, Jr., Philadelphia, Pa., assignor to General Electric Company, a Corporation of New York. Filed Feb. 8, 1907. Serial No. 356,478.



1. In a variable voltage transformer, a three-legged core, a primary winding surrounding one leg, a secondary winding surrounding both the leg carrying the primary winding and a second leg, and means for directing the flux from the leg carrying the primary winding through the other two legs alternately.

2. In a variable voltage transformer, a three-legged core, a primary winding surrounding one leg, a secondary winding surrounding both the leg carrying the primary winding and a second leg, and means for gradually shifting the return flux of the primary winding from one to the other of the other two legs.

3. In a variable voltage transformer, a three-legged core, a primary winding surrounding one leg, a secondary winding surrounding both the leg carrying the primary winding and a second leg, and a movable magnetic member adapted to form a nearly closed magnetic circuit with the leg carrying the primary winding and either of the other legs.

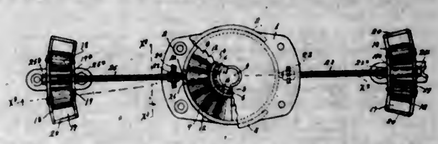
4. In a variable voltage transformer, a primary coil, a secondary coil surrounding the primary and having an inside diameter substantially greater than the outside diameter of the primary coil, and means for causing the flux passing through the primary coil to return either inside or outside the secondary coil.

5. In a variable voltage transformer, a primary coil, a secondary coil surrounding the primary and having an inside diameter substantially greater than the outside diameter of the primary coil, and a movable magnetic member adapted gradually to shift the flux passing through the primary coil from a return path inside the secondary coil to a return path outside it.

6. In a variable voltage transformer, a three-legged core, a primary winding surrounding one leg, a main secondary winding surrounding both the leg carrying the primary winding and a secondary leg, means for directing the flux from the leg carrying the primary winding through the other two legs alternately, and an auxiliary secondary winding opposing the main secondary winding and carried on the leg surrounded by the main secondary and not by the primary winding.

7. In a variable voltage transformer, a primary coil, a main secondary coil surrounding the primary and having an inside diameter substantially greater than the outside diameter of the primary coil, a movable magnetic member adapted gradually to shift the flux passing through the primary coil from a return path inside the main secondary coil to a return path outside it, and an auxiliary secondary coil in inductive relation to the return path within the main secondary coil and connected in opposition to the main secondary coil.

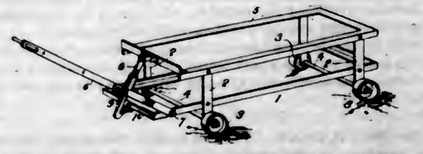
865,986. COMBINED CENTER AND SIDE BEARING FOR CARS. JOHN C. BARBER, Chicago, Ill. Filed Feb. 16, 1907. Serial No. 357,680.



1. The combination with the upper and lower members of a center bearing, of conical rollers interposed between said bearing members, a retaining ring connecting the said conical rollers and traveling therewith, upper and lower members of a pair of side bearings, bearing rollers arranged in pairs and interposed between the upper and lower members of said side bearings, cages in which the said side roller bearings are journaled, and radially extended connections between the said cages and certain of the rollers of said center bearing, whereby the rollers of said center and side bearings are caused to travel in unison, substantially as described.

2. The combination with upper and lower members of a center bearing and conical rollers interposed between the same, of upper and lower members of a pair of side bearings, rollers interposed between the upper and lower members of said side bearings, cages in which said side roller bearings are journaled, radially extended rotary driving rods connected at their inner ends to and for rotation with axially alined members of the center bearing rollers, and journaled at their outer ends in the respective roller containing cages of said side bearings, pinions on said driving rods, and rack teeth on the upper and lower members of said center bearing, meshing with said pinions, substantially as described.

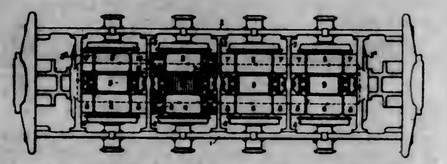
865,987. STOVE-TRUCK. ALFRED S. BARLOW, Wheatfield, Ind. Filed Sept. 15, 1906. Serial No. 334,725.



1. In a truck of the class described, the combination of a body consisting of a rectangular frame, pairs of wheel standards pivoted between the ends thereof to the outer sides of said body frame at the front and rear portions of the latter, axles connecting the standards of each pair aforesaid, rollers mounted on the opposite ends of the axles and adjacent to the outer sides of the standards, an elevating and supporting frame pivoted to the upper ends of the standards, an operating mechanism carried by the body frame and connected with the elevating frame for imparting parallelogrammatic movement to the latter to raise and lower the same relatively to the body frame, the sides of the body frame being arranged to engage and rest upon the axles aforesaid when the elevating frame is at the lower limit of its movement.

2. In a truck, the combination of a body portion, standards pivoted between the ends thereof to opposite sides of the body, rollers at the lower portions of the standards, a supporting frame carried by the upper portions of the standards, a handle pivoted at one end to the forward portion of the body, a link member loosely connected at one end thereof to an intermediate portion of the handle and extending rearwardly therefrom, the opposite end of the said link being loosely connected to the forward end of the supporting frame, a catch pivotally connected to an intermediate portion of the handle and extending in an opposite direction to the before mentioned link, and a projection upon the body portion designed to engage the catch to lock the supporting frame in an elevated position.

865,988. ELECTRIC LOCOMOTIVE. ASA F. BATCHELDER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Oct. 21, 1905. Serial No. 283,777.



1. In an electric locomotive, two series of armatures and pole-pieces arranged longitudinally of the locomotive, cross members at each end for completing a magnetic circuit through said series, and means for producing a magnetic flux through said magnetic circuit.

2. In an electric locomotive, a mechanical frame, two longitudinally-extending series of pole-pieces supported upon said frame, armatures associated with said pole-pieces, and means for producing a magnetic flux through said two series of pole-pieces in series with each other and the associated armatures.

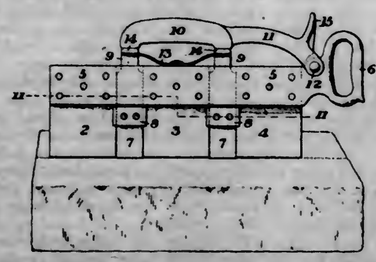
3. In an electric locomotive, a mechanical frame, driving axles mounted in said frame, a pair of armatures located upon each driving axle, independent pole-pieces for the armatures of each pair carried by said frame, and field windings for producing a magnetic flux through a circuit made up of one armature of each pair and its associated pole-pieces in series with the remaining armature of each pair and its pole-pieces.

4. In an electric locomotive, a mechanical frame, driving axles mounted in said frame, a pair of armatures located upon each driving axle, cross members in said frame, independent pole-pieces for the armatures of each pair supported by said cross members, and field windings for producing a magnetic flux through one armature of each pair and its associated pole-pieces in series with the remaining armatures and pole-pieces.

5. In an electrical locomotive, a plurality of pairs of armatures arranged for rotation, and means for producing a magnetic flux through said armatures in series.

6. In an electrical locomotive, a plurality of shafts, two armatures on each shaft, and field coils and cores for producing a magnetic flux through said armatures in series.

865,989. ICE-SAW. JOHN BAYLESS, Wellsburg, W. Va., assignor to William T. Nicholls, Wellsburg, W. Va. Filed Jan. 29, 1907. Serial No. 354,704.



1. An ice saw having a reciprocating blade mounted thereon; said blade being arranged to move toward and from the working edge of the saw; substantially as described.

2. An ice saw having a reciprocating blade mounted thereon, said blade being in the plane of the saw and arranged to move toward and from the saw edge; substantially as described.

3. An ice saw having a blade formed in separated sections, and a reciprocating blade between the sections; substantially as described.

4. An ice saw having a reciprocating blade mounted thereon, and a hammer device attached to the saw for striking the blade; substantially as described.

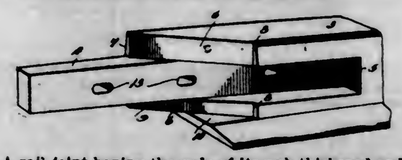
5. An ice saw having a blade with a stem projecting upwardly above the saw back, said blade being in the plane of the saw and arranged to be moved toward and from the edge of the saw blade; substantially as described.

6. An ice saw having a reciprocatory blade, a spring arranged to normally hold the blade elevated, and a hammer device attached to the saw for striking the blade to depress it; substantially as described.

7. An ice saw having a reciprocatory blade substantially in the plane of the saw, and guides extending transversely of the saw to guide the vertical movement of the blade; substantially as described.

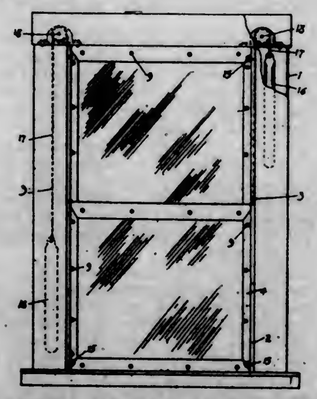
8. An ice saw having its saw blade formed in separated sections with a vertical reciprocating blade between them, and a hammer attachment pivoted to the saw and arranged to drive the blade downwardly, said blade being guided in the saw back; substantially as described.

865,990. RAIL-JOINT. WILLIAM BECKEL, Esteven, Saskatchewan, Canada, and JOHN J. ABEL, Portal, N. D. Filed June 9, 1906. Serial No. 321,075.



A rail joint having the ends of its web thickened and cut away to provide an offset extension and a recess, the ends of the head and the remaining portions of the web being cut away on a diagonal line, the ends of the base being cut away on a line extending transversely of the rail to provide an extension forming an integral portion of the web, and a shoulder.

865,991. FIREPROOF WINDOW-SASH. AUGUST BENNERSCHEIDT, San Francisco, Cal. Filed Jan. 17, 1907. Serial No. 352,808.



1. In a window sash, the combination, with a window pane, of a frame formed of channel-shaped sheet metal, the edges of which are bent inwards towards said pane, and bolts passing through sides of the channel-shaped frame and drawing said edges against said pane, substantially as described.

2. In a window sash, the combination, with a window pane, of a frame formed of channel-shaped sheet metal, the edges of which are bent inwards towards said pane, bolts passing through sides of the channel-shaped frame and drawing said edges against said pane, and a strip of flexible material interposed between the pane and one of said edges, substantially as described.

3. In a window sash, the combination, with a window pane, of a frame formed of channel-shaped sheet metal, the edges of which are bent inwards towards said pane, bolts passing through sides of the channel-shaped frame and drawing said edges against said pane, and strips of flexible material interposed between said pane and edges, substantially as described.

4. In a window sash, the combination, with a window pane, of a frame formed of channel-shaped sheet metal, the edges of which are bent inwards towards said pane, bolts passing through sides of the channel-shaped frame and drawing said edges against said pane, and rubber sleeves around the respective bolts, substantially as described.

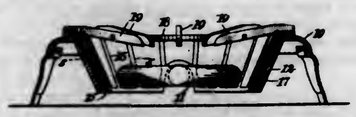
5. In a window sash, the combination, with a window pane, of a frame formed of channel-shaped sheet metal, the edges of which are bent inwards towards said pane, bolts passing through sides of the channel-shaped frame and drawing said edges against said pane, and tapering nuts on the ends of said bolts, substantially as described.

6. In a window sash, the combination with a window pane of the sash formed of a channel-shaped sheet metal and rollers mounted within said channels at the vertical sides of the sash adjacent to its corners, and extending slightly through said sides to run upon the window frame, substantially as described.

7. In a window sash, in combination with a window frame, a sash frame formed of channel-shaped sheet metal, the edges of which are bent inwards towards the pane, bolts for drawing the sides of said frame together, and a loop attached to one of said bolts and extending ont of the frame for attachment to a sash cord, substantially as described.

8. In a window sash, in combination with a window frame, a channel-shaped spacing piece having its edges resting against the sash frame, a nut within the piece, a bolt through the sides of the frame, and a bolt through said piece, both bolts entering said nut, substantially as described.

865,992. COMBUSTION-CHAMBER FOR GAS OR OIL STOVES. WILLIAM N. BEST, New York, N. Y., assignor of one-third to John H. Best and one-third to Ezra Best, Quincy, Ill. Filed July 11, 1906. Serial No. 325,583.



1. A combustion chamber for liquid or gaseous fuel burners, consisting of a casing having an inwardly-directed flange adjacent its lower end and a plurality of inwardly directed spaced ribs extending upward from said flange to the upper portion of the casing, the space between said ribs being widest adjacent the casing and narrowing toward the center of the chamber, and refractory material in the space between the ribs.

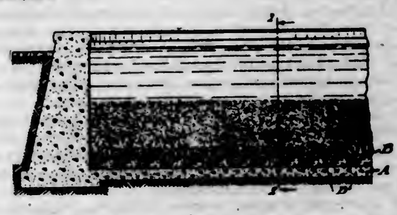
2. A combustion chamber for liquid or gaseous fuel burners, consisting of an inverted, conical, imperforate casing having a wall provided with a plurality of spaced ribs extending inwardly therefrom, the spaces between ribs being greater adjacent the casing wall than at the inner surfaces of said ribs, refractory material within the space between the ribs, and means adjacent the ends of the casing for preventing the longitudinal displacement of the refractory material.

3. The combination with a liquid or gaseous fuel burner, of an imperforate casing surrounding the same, a plurality of blocks of refractory material secured to the inner surface of said casing, means integral with the casing and in engagement with one end and the opposite sides of each block for preventing the displacement of said blocks, and a spider supported above said burner and having downwardly-inclined radial fingers.

4. A combustion chamber for liquid or gaseous fuel burners, comprising a casing having its wall inclined upward and outward and having an annular flange at the inner and lower end of the casing, spaced ribs extending inwardly from said casing, and refractory blocks in the spaces between the ribs, the sides of the ribs and the sides of the blocks facing toward the interior of the chamber presenting a smooth uninterrupted surface.

5. The combination with a gas or oil stove having an opening and recesses formed in the top, of a combustion chamber consisting of a casing having its wall inclined upward and outward, lugs on the upward end of said casing, for engaging in said recesses, and a spider having a ring portion provided with recesses for receiving said lugs.

865,993. FILTERING DEVICE. CHARLES BROSSMANN, Jr., Indianapolis, Ind. Filed July 27, 1904. Serial No. 218,317.



1. A filtering device comprising a quantity of filtering material provided with a supporting base made up of a series of substantially parallel projections with spaces between them into which the filtering material is received.

2. A filtering device comprising a receptacle having a bottom, a series of tiles upon said bottom provided with upwardly projecting parts separated by spaces and having inlets associated therewith through which the liquid may pass, filtering material covering said projections and extending down into the spaces between the projections of the tiles.

3. A filtering device comprising a bottom part, a series of tiles resting thereon, each provided with an inclined upper face, and a quantity of filtering material above said tile, through which the liquid acted upon passes.

4. A filtering device comprising a bottom, a layer of filtering material located above said bottom, a series of upwardly projecting ridges along the bottom each having associated therewith an outlet for the water whereby a direct flow of the water toward all parts of the bottom is secured.

5. A tile for filtering devices made of a single piece and comprising two faces which meet at an angle both of said faces extending to the base of the tile, one of said faces being inclined with relation to the support upon which the tile is carried when said tile is in its operative position.

6. A tile for filtering devices comprising an integral structure with two faces which meet at an angle, one of said faces being the upper face and inclined with relation to the support upon which the tile is carried when said tile is in its operative position, the walls of said tile being thinner than the length of either face, so that a space is formed between them.

7. A tile for filtering devices comprising two faces which meet at an angle, one of said faces being the upper face and inclined with relation to the support upon which the tile is carried when said tile is in its operative position, the walls of said tile being thinner than the length of either face, so that a space is formed between them, and an inlet in one of said faces communicating with said space.

8. A tile for filtering devices consisting of two sides or walls at an angle to each other, both walls projecting toward the support upon which the tile is carried and of different lengths the space between the edges of said walls being open.

9. A tile for filtering devices having two faces at an angle to each other, one face being shorter than the other

and being perpendicular to the base of the tile, the other face being inclined with relation to said base.

10. A tile for filtering devices triangular in cross sections and having an inclined upper face which forms an acute angle with the base thereof and a second face which supports said inclined face and an opening in one of said faces.

11. A filtering device comprising a sub-base, a series of tiles thereon, each having an inclined upper face, an inlet associated with each tile, filtering material associated with said tiles, and resting upon said inclined faces so as to have an indented surface.

12. A filtering device comprising a sub-base, a series of hollow tiles mounted thereon, each tile provided with an inclined face which abuts against the adjoining tile, and an inlet in the adjoining tile so that the liquid passing along the inclined face of one tile can enter the interior of the adjacent tile, and a quantity of filtering material above said tiles.

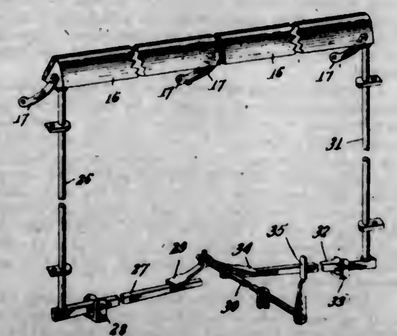
13. A filtering device comprising a sub-base, a series of hollow tiles thereon, each open at the ends so that a series of passageways are provided, a collecting device with which said passageways communicate, the upper face of each tile being inclined with relation to the sub-base, and a quantity of filtering material above said tiles.

14. A filtering device comprising a quantity of filtering material, a support upon which said material rests formed into a series of ridges with indentations between them, the filtering material filling these indentations, said support provided with outlet openings.

15. A tile for filtering devices having two faces at an angle to each other, one face being shorter than the other and being perpendicular to the base of the tile, the other face being inclined with relation to said base, said short face provided with an opening communicating with the interior of the tile.

16. A filtering device comprising a quantity of filtering material, a supporting base therefor having an uneven surface, a portion of the base at intervals projecting up into the filtering material and outlet openings in said supporting base.

865,994. MODULATING CONNECTION FOR PIANOS. THEODORE P. BROWN, Worcester, Mass., assignor to Simplex Piano Player Company, Worcester, Mass., a Corporation of Massachusetts. Filed Sept. 23, 1904. Serial No. 225,589.



1. The combination of a piano comprising a two-part hammer rest-rail, connections for lifting the parts of the hammer rest rail comprising two lifting rods, inwardly extending levers for said lifting rods, a rock shaft having arms engaging the levers, and an operating lever extending up from the rock-shaft at the front of the key-board, whereby part of the striking devices of the piano action will be modulated when the lever is moved in one direction, and another part of the striking devices will be modulated when the lever is moved in the opposite direction.

2. In a piano, the combination of a two-part hammer rest-rail, each part being independently pivoted, two rods for swinging said parts independently, and a device for operating either of the rods without operating the other.

865,995. RAIL-JOINT. CHARLES T. BUCK, Waukegan, Ill. Filed Dec. 14, 1906. Serial No. 347,869.

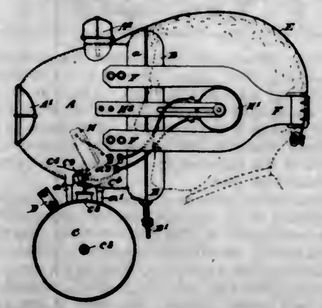


1. In a rail joint, the combination of rails having openings extending inward from their ends and provided with shoulders near the inner ends of the openings, and a key having end portions normally fitted in the openings of the ends of adjacent rails and provided with shoulders to interlock with the aforesaid shoulders of the rails, a space being provided between the upper edge of the key and the upper wall of the opening at each end of the key to admit of loosening the joint by prying upward upon the contiguous ends of adjacent rails.

2. In a rail joint, the combination of rails having openings extended inward from their ends and having shoulders near the inner ends of said openings and inclined walls adjacent to the shoulders and extending therefrom in opposite directions, the one inward and upward, the other downward and outward, and a key having the upper edge near each end sloped, or inclined, and having shoulders upon its lower edge near opposite ends, and inclined edges extended from said shoulders, the shoulders and inclined edges of the key matching the shoulders and inclined walls near the inner ends of the openings of the said rail ends and the upper inclined edges of the key forming spaces with the upper walls of the openings of the rail ends to permit of loosening of the joint upon prying the same upward.

3. In a rail joint, the combination of a rail having an opening in its end, a block secured within the opening of the rail and having its upper edge inclined to provide a shoulder and inclined walls, and a key adapted to be inserted in the opening in the end of the rail and having its upper edge inclined and its lower edge corresponding to the upper edge of the aforesaid block.

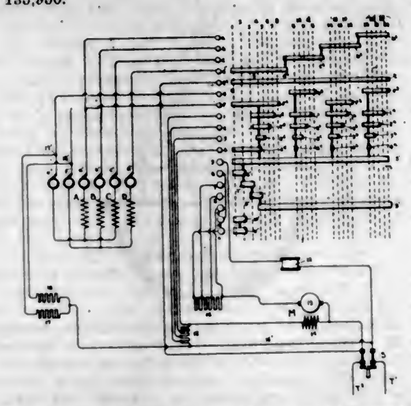
865,996. MASK. RICHARD K. CATT, Abbotsford, Victoria, Australia. Filed Mar. 8, 1906. Serial No. 304,966.



1. In a mask or face protector, a body A having a sight hole A' fastening straps F and spring clip secured to the body, said body having a hollow flange c, a pneumatic cushion B seated on said flange, an air chamber C carried by said mask and formed with two compartments c and c' tubes connecting the compartments with the interior of the mask, regulating valves c^6 on the tubes, air inlet valves c^5 and c^3 on the air chamber and the air outlet valve A^3 on the body, substantially as described.

2. In a mask or face protector, a body A, fastening straps F secured thereto, a spring clip H coöperating with the straps, a pneumatic cushion B on the body, an air chamber C having two compartments each connected with the body A, regulating valves c^6 in said connections, and air inlet valves for the compartments.

865,997. ELECTROMAGNETIC VARIABLE-SPEED MECHANISM. ALEXANDER CHURCHWARD, New York, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Dec. 20, 1902. Serial No. 135,950.



1. In combination, a plurality of electromagnetic clutches in a variable-speed mechanism, a source of power variable in speed between narrow limits, and means for controlling the variation of the speed of said source of power and for controlling the successive operation of said clutches whereby a wide range of speed variation with a uniform acceleration is obtainable from said source of power.

2. In combination, a variable-speed mechanism comprising a plurality of electromagnetic clutches and transmitting wheels having different speed ratios adapted to be thrown into operation successively by said clutches, a source of power having a narrow range of speed variation operatively connected with said clutches, and means for controlling the said variable-speed mechanism and said source of power so that a uniform acceleration through a wide range of speeds is obtained.

3. In combination, a variable-speed mechanism comprising a plurality of electromagnetic clutches and transmitting wheels having different speed ratios connected in operative relationship successively by said clutches, a motor for driving said variable-speed mechanism, and means for controlling the successive operation of said clutches and for varying the speed of said motor between certain predetermined narrow limits during the operation of each successive clutch whereby a uniform acceleration of said variable-speed mechanism through a wide range of speeds is obtained.

4. In combination, a variable-speed mechanism comprising a plurality of electromagnetic clutches and transmitting wheels having different speed ratios connected in operative relationship successively by said clutches, a source of power for driving said mechanism, and means for energising two successive clutches simultaneously and at the same time reducing the effective attractive power of said clutches whereby a certain amount of slip is allowed while passing from the transmitting wheels having a certain speed ratio to those having next higher or lower speed ratio.

5. In combination, a variable-speed mechanism comprising a plurality of electromagnetic clutches and transmitting wheels having different speed ratios connected in operative relationship successively by said clutches, a source of power connected with said mechanism, a resistance, and a controller for connecting two successive clutches in circuit simultaneously and for inserting said resistance in circuit with said clutches while passing from the operative positions of said controller corresponding to one clutch to those corresponding to the next successive clutch.

6. In combination, a variable-speed mechanism comprising a plurality of electromagnetic clutches and transmitting wheels having different speed ratios connected in operative relationship successively by said clutches, a motor adapted to vary in speed between certain predetermined narrow limits, a resistance, and a controller so constructed and arranged as to connect said clutches successively in circuit and while each of said clutches is in circuit to vary the speed of said motor between said predetermined limits and while passing through the transition points between the operative positions corresponding to one clutch to those corresponding to the next successive clutch to connect said clutches simultaneously in circuit with said resistance thereby reducing the effective magnetic attraction of said clutches to allow a certain amount of slip.

7. In combination, a motor, an electrically operated variable speed mechanism driven by said motor, and a controller for alternately increasing the speed of the motor through a definite range and changing the speed mechanism to its next faster position and vice versa.

8. In combination, a variable speed mechanism, a motor for driving said mechanism, electrically operated means for changing the variable speed mechanism from one speed position to another, and means for varying the speed of the motor through a definite range during each speed position of the speed mechanism.

9. In combination, a variable speed mechanism, a motor for driving said mechanism, means for operating said mechanism at one of its speeds, means for varying the speed of the motor, and means for shifting to another speed of said mechanism and simultaneously returning the speed of said motor to its original value.

10. In combination, a variable speed mechanism, comprising a series of clutches and transmission wheels having different speed ratios, a motor for driving said mechanism, means for energizing one of said clutches, means for increasing the speed of said motor, and means for energizing a second clutch having a higer speed ratio and simultaneously deënergizing the first clutch and decreasing the speed of said motor.

11. In combination, a variable speed mechanism, comprising a series of electro-magnetic clutches and transmission wheels having different speed ratios, a motor for driving said mechanism, and a controlling switch for said motor and said clutches adapted to energize one of said clutches, then to insert resistance in the field of said motor, then to insert resistance in the circuit of said clutch and to energize through a resistance a second clutch having a higher speed ratio, and then to deënergize the first clutch and to cut out the resistances from the field of motor and from the circuit of the second clutch.

12. The combination with a driving mechanism variable in speed between narrow limits, of a plurality of magnetic clutches in a variable speed mechanism, and means for gradually accelerating the driven members of said clutches as they are successively operated.

13. The combination with a driving mechanism, having a variable speed within narrow limits, of a plurality of magnetic clutches, a plurality of transmitting wheels having different speed ratios and thrown into operation by said clutches, and means for gradually accelerating the speed of the driven members of said clutches.

14. The combination with a motor, of means for varying the speed thereof, a plurality of magnetic clutches in a variable speed mechanism, and means for gradually accelerating the driven members of said clutches.

15. The combination with a motor, of a plurality of speed-changing gears for connecting the same with the machinery to be driven, and means for inserting a resistance in the shunt field of the motor to increase the speed thereof after each change of speed by said gears.

16. The combination with a motor, of a plurality of speed-changing gears, and a plurality of magnetic clutches for

connecting the same with the motor, and means for increasing the speed of the motor above normal after each change of speed of said gears.

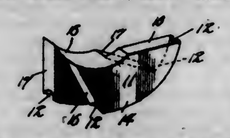
17. The combination with a motor, of a plurality of magnetic clutches, a rheostat having a movable element, means for controlling said motor and said clutches in the desired way by the operation of said movable element.

18. The combination with a motor, of a plurality of double magnetic clutches, a rheostat having a movable element, said element in one position serving to cause the operation of said motor and in another position to cause the operation of the several clutches.

19. The combination with a motor, of a plurality of magnetic clutches, a rheostat and a movable element therefor adapted to change the speed of said motor after the operation of each of said clutches.

20. The combination with a motor, of a plurality of magnetic clutches, a rheostat and a movable element therefor, adapted to control said motor and said clutches, said movable element being adapted to change the speed of the motor during the time each of said clutches is operated.

865,998. METALLIC PACKING. EDWARD M. COOK, Oberlin, Ohio. Filed Jan. 7, 1907. Serial No. 351,153.



1. A packing ring composed of a single set of segments having engaging ends, said ends being formed to provide tangential cuts on both sides of the ring, said cuts inclining generally in the same direction around the surface of the ring.

2. A packing ring composed of a single set of segments having engaging ends, said ends being formed to provide tangential cuts on both sides of the ring, the cuts on one side alternating in arrangement with the cuts on the other side, so that the cuts break joint around the surface of the ring, both sets of cuts inclining generally in the same direction around the surface of the ring.

3. A packing ring comprising a single set of segments, each composed of two parallel integral parts, said parts having their ends tangentially beveled in substantially parallel planes to produce tangential cuts on opposite sides of the ring, the cuts on one side being arranged on lines between the cuts on the opposite side, so as to break joint and incline in the same general direction around the surface of the ring.

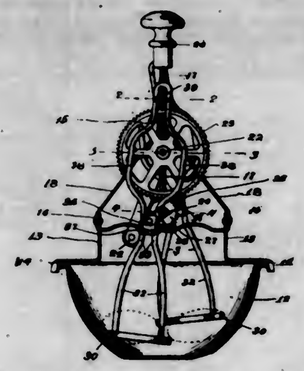
4. A packing ring formed of segments having contact faces arranged to provide substantially parallel sets of tangential cuts or divisions on opposite sides of the ring, the cuts of each set alternating in arrangement with each other, so as to break joint and incline in the same general direction around the surface of the ring.

865,999. BEATER. STEPHEN H. COOMBS, Chicago, Ill. Filed Nov. 10, 1906. Serial No. 342,832.

1. In a device of the character described, the combination of a supporting-frame, an eccentric-shaft journaled in the frame, a pair of beater-levers each provided with a blade at its lower end, mechanism for driving said shaft, oppositely disposed eccentric connections between said shaft and said levers respectively, and slidable connections for guiding the upper ends of the levers vertically.

2. In a device of the character described, the combination of a supporting-frame, an eccentric-shaft journaled in said frame, driving-mechanism, a pair of beater-levers each provided with a blade at its lower end, oppositely disposed eccentric-pins secured to said shaft so as to rotate in the same direction and respectively connected to said levers, and slidable connections for guiding the upper ends of the levers vertically.

3. In a device of the character described, the combination of a supporting-frame, a pair of levers each provided with a beater-blade at one end thereof, slidable connections for the other end of said levers for guiding them longitudinally, operating-means connected to said levers medially and between the guides and the blade, for operating the beaters longitudinally and laterally in opposite directions.



4. In a device of the character described, the combination of a supporting-frame, a main-drive-shaft mounted therein, an eccentric-shaft mounted therein and provided with wrist-pins oppositely arranged with respect to one another, a single gear-connection between said crank-shaft and the main drive-shaft, a pair of beater-levers each provided with a beater-blade and connected to the wrist-pins respectively, and means for slidably connecting the upper ends of the lever to the frame.

5. In a device of the character described, the combination of a supporting-frame, an eccentric-shaft mounted therein, drive-mechanism mounted in the frame, a pair of beater-levers each provided with a blade at its lower end, oppositely disposed eccentric connections between the crank-shaft and the levers respectively, and stud-and-slot connections between the supporting-frame and the upper ends of said levers.

6. In a device of the character described, the combination of a supporting-frame, a pair of levers each provided with a beater-blade at its lower end, drive-mechanism, eccentric connections between the drive-mechanism and said levers comprising wrist-pins, said levers being formed of rods extending upwardly from the beater-blades, wrist-pin blocks rigidly secured between the rods said rods being extended upwardly above the wrist-pin connections to form a slidable connection for the upper end of the lever, and means on the frame extending into said guide.

7. In a device of the character described, the combination of a supporting-frame comprising uprights formed of bars or strips of metal, a bushing or sleeve secured between said uprights, a shaft journaled in said sleeve, a pair of beater-levers each provided with a beater, drive-mechanism for said shaft, and operating-connections between said levers and said shaft.

8. In a device of the character described, the combination of a supporting-frame formed of strips or bars of metal and comprising uprights, a pair of beater-levers each provided with a blade at its lower end, a bushing or sleeve secured between said uprights, a shaft mounted in said sleeve and provided with lever-operating means, and drive-mechanism for said shaft.

9. In a device of the character described, the combination of a supporting frame formed of strips or bars of metal and comprising a pair of uprights, a sleeve or bushing secured between the uprights, a shaft journaled in said sleeve, an eccentric-shaft also mounted in said frame and a pair of beater-levers operatively connected to the driving-mechanism and provided with a blade at its lower end.

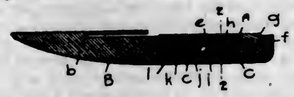
10. In a device of the character described, the combination of a supporting-frame formed of bars or strips bushing or bearing sleeves secured between the uprights of said frame, a drive-shaft mounted in one of said bushings, an eccentric-shaft mounted in the other bushing, a driving connection between said shafts, a pair of beater levers each provided with a beater-blade at its lower end, and operating-connections between the eccentric-shaft and said levers.

11. In a device of the character described, the combination of a supporting-frame formed of strips or bars of metal comprising a pair of upright-bars between which a pair of bushings or sleeves are secured, a drive-shaft journaled in one of said bushings, an eccentric-shaft journaled in the other of said bushings, a pair of beater-levers each provided with a blade at its lower end, operative connections between the levers and the driving mechanism, and a lever-guide secured between said uprights.

12. In a device of the character described, the combination of a supporting-frame, a crank shaft journaled in said frame, a drive-shaft also journaled in said frame and above the crank-shaft, a driving-connection between said shafts, a pair of beater levers each provided with a blade at its lower end and connected medially to the crank-shaft one of said levers being extended around the drive-shaft, and means for vertically guiding the upper ends of said levers.

13. In a device of the character described, the combination of a frame provided with feet adapted to rest on the upper edge of a pan or bowl and to be held in position with respect to the pan or bowl by said feet, drive-mechanism mounted in said frame, a pair of beater levers each provided with a blade, and operating-connections between the blades and the drive-mechanism for operating them vertically and longitudinally.

866,000. SELF-LOCKING MOWING-MACHINE GUARD. JOHN A. CUMMING, Monkland Station, Ontario, Canada. Filed Sept. 8, 1906. Serial No. 333,843.



1. In a mowing machine guard the combination with a finger bar of a guard removably secured thereto and a dog for locking the same in position as and for the purpose specified.

2. In a mowing machine guard the combination with the finger bar of a guard removably secured thereto and a spring-operated dog locking the guard in position as and for the purpose specified.

3. In a mowing machine guard the combination with the finger bar having a transverse slot in the bottom thereof of a guard having a tenon thereon engaging said slot, a dog pivoted to the guard and adapted to engage the finger bar and means for normally holding the dog in its locked position as and for the purpose specified.

4. In a mowing machine guard the combination with the finger bar having a transverse slot in the bottom thereof, of a guard having a tenon thereon engaging the slot, of the dog pivoted to the guard, and having an upturned end engaging the rear of the finger bar and means for locking the dog in position as and for the purpose specified.

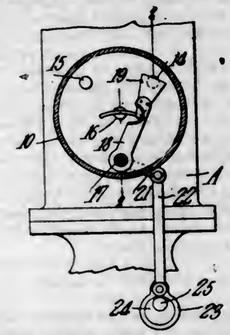
5. In a mowing machine guard the combination with the finger bar having the transverse slot in the bottom thereof of a guard having a tenon thereon engaging said slot, a dog located in a recess in the guard and pivoted thereto, an upturned end on the dog engaging the end of the finger bar and spring means for holding the dog in its engaged position as and for the purpose specified.

6. In a mowing machine guard the combination with the finger bar having a transverse slot in the bottom thereof of a guard provided with a tenon extending into said slot, a recess in the rear of the guard, a dog pivoted within said recess having an upturned end adapted to engage the inner side of the finger bar, a cam surface provided on the end of the dog extending within the slot, a plunger abutting said cam surface and reciprocating within the recess provided in the guard and a spring normally holding the plunger in contact with the cam surface as and for the purpose specified.

7. In a mowing machine guard the combination with the finger bar having a plurality of transverse dove-tailed slots of a plurality of guards fitting within the same and spring operated means for locking the guards in the slots as and for the purpose specified.

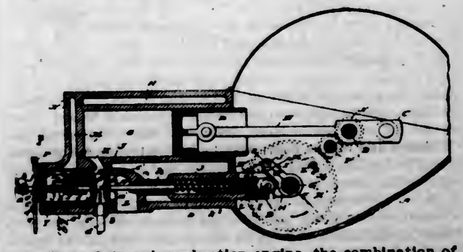
8. In a mowing machine the combination with the finger bar having a plurality of transversely extending dove-tailed slots of guards fitting within said slots and spring-held dogs pivoted to each guard and engaging the finger bar as and for the purpose specified.

866,001. SPARKING MECHANISM FOR INTERNAL-COMBUSTION ENGINES. LESLIE S. CUSHMAN, Lincoln, Nebr. Filed June 3, 1907. Serial No. 377,102.



In apparatus of the class described, a box or casing, contact plates arranged therein, one adapted to be connected to the terminal of a sparking circuit, and the others to the terminals of the sparking plugs, a shaft mounted in the casing, a rocker arm carried by the shaft, a contact plate carried by the arm and insulated from the shaft, said contact plate being constantly in engagement with the terminal of the sparking circuit, and mechanism for rocking the shaft to move the plate alternately into engagement with the contact plates of the plugs.

866,002. INTERNAL-COMBUSTION ENGINE. CARL R. DAELLENBACH, Braddock, Pa. Filed Nov. 21, 1905. Serial No. 288,396.

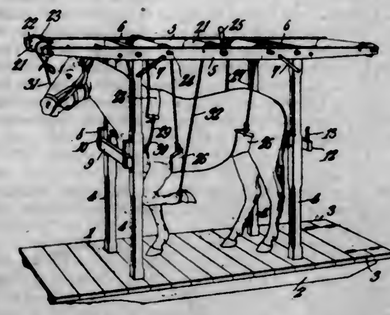


1. In an internal combustion engine, the combination of a piston, a casing containing the piston and having an explosion chamber, a mixing chamber, a conduit tapered in a direction away from the explosion chamber and communicating at its reduced end with the mixing chamber and arranged to be connected with a source of fuel supply, a conduit for supplying the mixing chamber with air, a valve arranged to control communication between the mixing chamber and the explosion chamber and having a stem and also having an abutment on said stem, a spring interposed between the casing and said abutment and arranged to yieldingly hold the valve to its seat, a spring-

pressed valve movable in the taper bore, parallel to the stem of the first mentioned valve, and tapered in a direction away from the explosion chamber and having its outer end arranged to be directly engaged by the abutment on the stem of said first mentioned valve, a threaded sleeve surrounding the stem of the first mentioned valve and arranged in and engaging a correspondingly threaded bore in the casing; said sleeve being adjustable in the direction of its length, and a head on the outer end of the valve stem.

2. In an internal combustion engine, a piston, in combination with a casing containing the piston and having an explosion chamber, a mixing chamber, a conduit tapered in a direction away from the explosion chamber and communicating at its reduced end with the mixing chamber and arranged to be connected with a source of fuel supply, a conduit for supplying the mixing chamber with air, a valve arranged to control communication between the mixing chamber and the explosion chamber and having a stem and also having an abutment on said stem, a spring interposed between the casing and said abutment and arranged to yieldingly hold the valve to its seat, a spring-pressed valve movable in the taper bore, parallel to the stem of the first mentioned valve, and tapered in a direction away from the explosion chamber and having its outer end arranged to be directly engaged by the abutment on the stem of said first mentioned valve, a threaded plug in the casing, a threaded sleeve surrounding the stem of the first mentioned valve and engaging a correspondingly threaded bore in the plug; said sleeve being adjustable in the direction of its length, a head on the outer end of the valve stem, and a washer arranged at the inner side of said head and adapted to bring up against the adjustable sleeve.

866,003. HORSESHOEING-STAND. COLUMBUS M. DAVIS, Waggoner, Ill. Filed May 13, 1907. Serial No. 373,422.



1. A horseshoeing stand comprising a suitable platform, a frame erected thereon, removable retaining bars for confining a horse within the limits of the frame, overhead winches and means controlled by said winches for supporting the horse and for elevating its legs preparatory to applying the shoes.

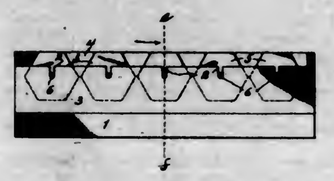
2. A horseshoeing stand comprising a platform with hinged end sections, posts or uprights carried by the platform, longitudinal beams at the upper ends of the posts, winches carried by said beams, and removable front and side bars for confining the horse within the limits of the uprights.

3. A transportable horseshoeing stand comprising a platform mounted upon skids, a frame erected on said platform and consisting of spaced uprights, removable side and end bars carried by said uprights, longitudinal beams on the upper ends of said uprights, and winches journaled in said longitudinal beams.

4. In a horseshoeing stand, a frame, for confining a horse, comprising spaced uprights, and a removable side bar having a shouldered and beveled end, a socket for said end formed in one of the uprights, spaced ears on a corresponding upright, and means for securing the said bar between said ears.

5. A horseshoeing stand comprising a platform having hinged end sections, skids for said platform, uprights erected on the platform, longitudinal beams on the upper ends of the uprights, winches journaled in said beams, removable end bars carried by the uprights, removable side bars also carried by the uprights, and means secured to said winches for supporting a horse when confined within said uprights.

866,004. GAME APPARATUS. CHARLES A. DEAL, Kansas City, Mo. Filed Dec. 10, 1906. Serial No. 347,100.



1. A game apparatus comprising a suitable support and a plurality of similar devices rotatively mounted upon and separately removable from said support, each device having a plurality of peripheral plane faces, each face having a distinguishing mark, the support having a guide disposed transversely to the axes of said devices and having an edge disposed in the same plane occupied by one set of faces of said devices when said devices are brought to rest.

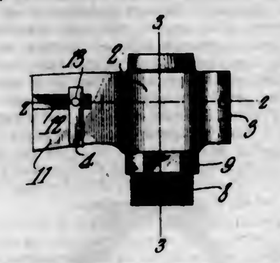
2. A game apparatus comprising a base, two parallel vertical supports on said base, and a plurality of similar devices rotatively mounted upon and between said supports, each device having a plurality of peripheral plane faces each having a distinguishing mark, the axes of said devices being in the same plane and parallel with each other, and the upper edge of one of said supports being in the same plane as one set of faces of said devices when said devices are brought to rest with one set of faces in the same horizontal plane.

3. A game apparatus comprising a base, two parallel vertical supports on said base and having vertical oppositely disposed slots in their upper edges, and a plurality of similar devices provided with axial projections rotatively mounted respectively in the slots of said opposite supports, each device having a plurality of peripheral plane faces each having a distinguishing mark, one set of faces of said devices being adapted to lie in the same plane as the plane occupied by the upper edge of one of said supports.

4. A game apparatus comprising a horizontal base, two parallel vertical supports on said base having respectively two rows of vertical oppositely disposed slots in their upper edges, a plurality of devices disposed side by side between said supports, each device being hexagonal in cross section, the face of each device having marks representing consecutive numbers, said devices having parallel end pivots rotatively mounted in the same horizontal plane in opposite slots in said two supports, any one set of faces of said devices being adapted when brought uppermost to be disposed in the same horizontal plane as the upper edge of one of said supports.

5. A game apparatus comprising a base, two vertical parallel supports on said base, a plurality of similar devices rotatively mounted between and upon said supports, said devices being separately removable from said supports, each device having a plurality of peripheral plane faces each having a distinguishing mark, the axes of said devices being parallel with each other and located in the same horizontal plane, and means by which, after rotation, said devices may be brought to rest with the uppermost plane faces in the same horizontal plane.

866,005. GUIDE FOR PUMP SUCKER-RODS. JOHN H. DENNIS, Cowrun, Ohio. Filed June 7, 1907. Serial No. 377,791.

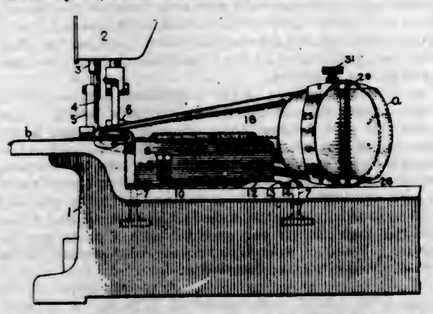


1. A guide for pump sucker rods comprising two like sections hinged together, said guide having a threaded cylindrical boss on its lower end through which and through the guide a cylindrical opening extends, one-half of said threaded boss being on each section.

2. A guide for pump sucker rods comprising two like sections hinged together and fastened by a latch, a semi-cylindrical threaded boss on each section which when the sections are closed, may be screwed into a pump pipe, a cylindrical opening extending through said boss and said guide formed by a groove in each section through which the sucker rod passes.

3. A guide for pump sucker rods comprising two like sections each section having a hinge member on one side and an arm on the other, a semi-cylindrical groove formed in each section and a latch on one section adapted to engage the other section and lock the two sections in close contact when closed.

866,006. STRIP-GUIDE FOR ELASTIC FABRICS. ALBERT H. DE VOE, Elizabeth, N. J., assignor to The Singer Manufacturing Company, a Corporation of New Jersey. Filed Apr. 4, 1906. Serial No. 309,748.



1. The combination with a strip-folding guide comprising a channel formed at its delivery end with spaced overlying members, of an uncurling device provided with a plurality of spaced relatively convex and concave operative edges presented successively, in the order named, to the strip and arranged in advance of and in angular relation to the delivery end of said guide and intersecting the medial plane of the guiding channel.

2. The combination with a strip-guide, of an uncurling device provided with a plurality of spaced relatively convex and concave edges having their end portions curved toward the guide into parallel planes at the extreme edges of the latter and presented successively, in the order named, to the material in advance of the mouth of the guide.

3. The combination with a strip-guide terminating at its mouth or receiving end in a cylindrical transverse member for engagement with the material entering the guide, of an uncurling device provided with a plurality of spaced relatively convex and concave edges presented successively, in the order named, to the material in advance of said transverse member of the guide.

4. The combination with a strip-guide terminating at its mouth or receiving end in a cylindrical transverse member for engagement with the material entering the guide, of an uncurling device provided with a plurality of spaced relatively convex and concave edges presented successively, in the order named, to the material in advance of said transverse member of the guide, and a transverse straight slack-controlling rod interposed between said transverse member and the concave strip-engaging edge, but offset from a direct line between the same and toward the plane of said convex strip-engaging edge.

5. The combination with a sewing machine binding guide having an arched inner member terminating at its receiving end in a transverse cylindrical portion into which the arched portion merges, of an uncurling device provided with a plurality of spaced relatively convex and concave edges presented successively, in the order named, to the material in advance of said transverse cylindrical portion of the guide.

6. The combination with a strip-folding guide comprising a channel formed at its delivery end with spaced overlying members, of an uncurling device comprising a yoke-member consisting of a curved bar having relatively convex and concave opposite edges adapted for successive engagement of the material entering the guide, and a pivotal connection intermediate said yoke-member and guide having its axis disposed transversely of the delivery end of said guide, whereby said yoke-member is adapted to be set at different angles in respect of the receiving end of said guide.

7. The combination with a strip-folding guide comprising a channel formed at its delivery end with spaced overlying members, of an uncurling device comprising a yoke-member consisting of a curved bar having relatively convex and concave opposite edges adapted for successive engagement of the material entering the guide, and a pivotal connection intermediate said yoke-member and guide comprising a clamp-screw and having its axis disposed transversely of the delivery end of said guide, whereby said yoke-member is adapted to be set and clamped in different angular adjustments in relation to the receiving end of the guide.

8. A strip-guide comprising a base-plate with means for securing it upon a suitable support and provided upon its upper face with a channel having parallel edges and lateral notches, and a tubular guide member provided with a foot-piece having parallel edges adapted to fit said channel of the base-plate and transverse tongues to enter the lateral notches of said channel, and means for detachably securing said foot-piece yieldingly seated upon the base-plate.

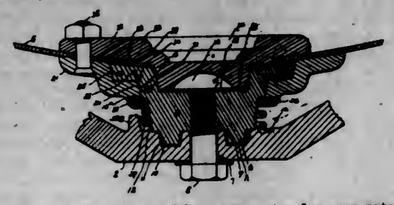
9. A strip-guide comprising a base-plate with means for securing it upon a suitable support and having at one end a steady-pin and a washer surrounding the same and a spring for maintaining said washer seated yieldingly upon said plate, and having at its opposite end a pair of parallel guide-lips with transverse notches, and a tubular guide member provided with a foot-piece having at one end a longitudinal slot to embrace said steady-pin beneath its surrounding washer, and at the other end lateral tongues to enter the transverse notches in said guide-lips.

10. The combination with a sewing machine bed comprising a raised work-plate, of a binding guide having one edge of its delivery end normally disposed slightly below the level of said work plate, and a foot by which said guide is sustained having its receiving end connected with the sewing machine frame by a pivotal joint to confine it from endwise and sidewise movement while permitting vertical movement and having at its delivery end means for yieldingly maintaining it in normal position while permitting it to yield vertically in respect of said work-plate.

11. The combination with a strip-guide, of an uncurling device provided with a plurality of spaced relatively convex and concave edges presented successively, in the order named, to the strip, and a straight transverse slack-

controlling rod interposed between said uncurling device and the mouth of said guide.

866,007. DISK-BEARING. HARRY E. DODSON, Springfield, Ohio, assignor to P. P. Mast and Company, Springfield, Ohio, a Corporation of Ohio. Filed July 22, 1905. Serial No. 270,774.



1. The combination, with a support, of a non-rotating bearing block detachably connected therewith, a disk having a central aperture, and a hub secured to said disk and comprising an outer member secured to one side of the disk and an inner member secured to the other side of the disk and extending through the aperture thereof, and engaging said bearing block on the opposite side of said disk the bearing block being held between said hub members and lying wholly on one side of the disk, substantially as described.

2. The combination, with a support, of a non-rotating bearing block detachably secured thereto and provided with internal and external circumferential bearing surfaces and oppositely disposed lateral bearing surfaces, a disk, and a disk hub comprising an inner and an outer member provided respectively with internal and external circumferential bearing surfaces to coöperate with the corresponding bearing surfaces of the bearing block, said hub members having oppositely disposed lateral bearing surfaces to coöperate with the corresponding lateral bearing surfaces of the bearing block, said block fitting and being held between said hub members, substantially as described.

3. The combination, with a support, of a non-rotating integral bearing block secured thereto and having a plurality of annular bearing portions of successively increasing diameter and providing oppositely disposed circumferential bearing surfaces and oppositely disposed lateral bearing surfaces, a disk, and a disk hub comprising two members secured to opposite sides of the disk, one of said members being provided with circumferential bearing surfaces to coöperate with those on one side of the block and with a lateral bearing surface engaging the block on one side on one of its lateral bearing surfaces, the other member being provided with a circumferential bearing surface to coöperate with the circumferential bearing surface and a lateral bearing surface engaging the lateral bearing surface of the block on the other side thereof, substantially as described.

4. The combination, with a support, of a non-rotating bearing block detachably secured thereto, having a plurality of annular bearing portions of successively increasing diameter and provided with external circumferential bearing surfaces and a lateral bearing surface, and having a recess at its larger end provided with an internal circumferential bearing surface, and a lateral bearing surface oppositely disposed to the first mentioned lateral bearing surface, a disk having a central opening, and a disk hub comprising an outer and an inner member attached to opposite sides of the disk, the outer member having internal circumferential bearing surfaces and a lateral bearing surface to coöperate with the corresponding bearing surfaces on the exterior and one side of the block, the inner hub member extending through the opening in the disk and having an external circumferential bearing surface to cooperate with the internal circumferential bearing surface of the block, and a lateral bearing surface to coöperate with the corresponding lateral bearing surface on the other side of the block, substantially as described.

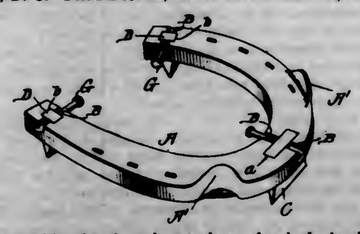
5. In combination, with a support, of a non-rotating bearing block detachably secured thereto and having a plurality of annular bearing portions of successively increasing diameter and providing circumferential bearing surfaces and oppositely disposed lateral bearing surfaces, a concavo-convex disk, and a disk hub comprising two members secured to opposite sides of the disk, one of said members being provided with circumferential bearing surfaces to coöperate with those of the block and with a lateral bearing surface engaging the block on one side on one of its lateral bearing surfaces, the other member being provided with a lateral bearing surface engaging the lateral bearing surface of the block on the other side thereof, said block and all of said bearing surfaces lying wholly on the convex side of the disk between said disk and support, substantially as described.

6. The combination, with a support, of a non-rotating bearing block detachably secured thereto, having a plurality of annular bearing portions of successively increasing diameter and provided with external circumferential bearing surfaces and a lateral bearing surface, and having a recess at its larger end provided with an internal circumferential bearing surface, and a lateral bearing surface oppositely disposed to the first mentioned lateral bearing surface, a concavo-convex disk having a central opening, and a disk hub comprising an outer and an inner member attached to opposite sides of the disk, the outer member having internal circumferential bearing surfaces and a lateral bearing surface to coöperate with the corresponding bearing surfaces on the exterior and one side of the block, the inner hub member extending through the opening in the disk and having an external circumferential bearing surface to coöperate with the internal circumferential bearing surface of the block, and a lateral bearing surface to coöperate with the corresponding lateral bearing surface on the other side of the block, said block and all of said bearing surfaces lying wholly on the convex side of the disk between said disk and support, substantially as described.

7. The combination, with a support, a non-rotating bearing block carried thereby and provided with a shoulder facing the support, and a disk having a hub embracing said bearing block and terminating flush with the shoulder thereof, of an annular dust guard mounted on the bearing block and fitting against the shoulder and hub end, and a spring mounted on the bearing block between the support and dust guard to hold the latter in position, substantially as described.

8. The combination, with a support, a non-rotating bearing block carried thereby, and a disk having a hub embracing said bearing block, of an annular dust guard mounted on the bearing block and closing the end of the bearing between the block and hub, and a spring mounted on the bearing block between the support and dust guard to hold the latter in position, the support being provided with a guard flange extending around the top and front, and the dust guard being provided with a projection engaging one end of said flange to prevent rotation of the guard, substantially as described.

866,008. HORSESHOE. WILLIAM F. DOWNEY, Washington, D. C. Filed Dec. 21, 1906. Serial No. 348,932.



The combination in a horse shoe, of a body having an upwardly tapered socket extending from its under side to its upper side and also having a groove or channel in said upper side extending from its inner edge to its outer edge and communicating with the socket, a removable calk having an upwardly tapering upper or shank portion snugly fitting in the tapered socket of the body and arranged with its upwardly tapering section extending below the under side of said body and also having an aperture in said tapered shank portion arranged to communicate with the groove or channel in the upper side of the body, and a tapered fastening pin extending through the groove or channel in the body and the aperture in the shank portion of the calk, whereby the parts are drawn together.

866,009. TIRE. WILLIAM I. DREISBACH, Williamsport, Pa. Filed Sept. 15, 1906. Serial No. 334,758.



1. In a tire, the combination with an outer casing, of a puncture-resisting cushion located inside the same and comprising a strip wound longitudinally upon itself into a plurality of convolutions, one overlying the other, said strip consisting of sections disposed end to end, the end of one section being secured to the end of the next.

2. In a tire, the combination with an outer casing, of a puncture-resisting cushion located inside the same and comprising a strip wound longitudinally upon itself into a plurality of convolutions, one overlying the other, said strip consisting of sections successively less in width and disposed end to end, the end of one section being secured to the end of the next, and said convolutions having their adjacent faces free one from the other.

3. In a tire, the combination with an outer casing, of a puncture-resisting cushion located inside the same and comprising a plurality of independent layers of fabric laid one on the other and having their margins only secured together at intervals, the portions between said fastened parts being free from one another.

4. In a tire, the combination with an outer casing, of a puncture-resisting cushion located inside the same and comprising a plurality of independent layers of fabric laid one on the other, and spaced transverse binders extending over the strips at intervals, said binders being secured to the margins of the layers only and having their intermediate portions free from said layers.

5. In a tire, the combination with an outer casing, of a puncture-resisting cushion located inside the same and comprising a plurality of independent layers of woven fabric laid one on the other and cut on the bias, said layers having their margins only secured together at intervals, and spaced transverse binders extending over the strips at their points of marginal attachment, said binders having their intermediate portions free from the strips.

6. In a tire, the combination with an outer casing, of a puncture resisting cushion located inside the same and comprising a strip of fabric separate from the casing and wrapped longitudinally into a plurality of layers, one overlying the other.

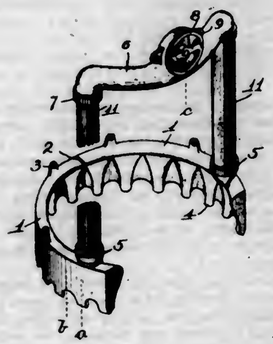
7. In a tire, the combination with an outer casing, of a puncture-resisting cushion located inside the same and comprising a strip of fabric wrapped longitudinally into a plurality of longitudinal overlying convolutions and comprising sections of different widths.

8. In a tire, the combination with an outer casing, of a puncture-resisting cushion located inside the same and comprising a strip of fabric cut on the bias, said strip being wrapped longitudinally into a plurality of separate overlying convolutions.

9. In a tire, the combination with an outer casing, of a puncture-resisting cushion located inside the same and comprising a strip of fabric cut on the bias, said strip being wrapped longitudinally into a plurality of separate overlying convolutions and comprising sections of different widths, each strip at one end being secured to the end of the next strip.

10. In a tire, the combination with an outer casing, of an inner lining having its margins secured to the casing and forming an interior pocket, and a puncture-resisting cushion located inside the pocket and comprising a strip of woven fabric cut upon the bias and composed of sections of different widths, said strip being wrapped longitudinally into a plurality of overlying convolutions forming independent layers, means securing the margins only of the layers together at intervals, and leaving the intermediate portions free, and binding strips connected to the margins only of the layers at their points of attachment, said strips extending transversely over the layers.

866,010. STOVE ATTACHMENT. JOHN EISENBERG, Hamilton, Ohio, assignor to The Estate Stove Company, Hamilton, Ohio. Filed July 19, 1907. Serial No. 384,525.



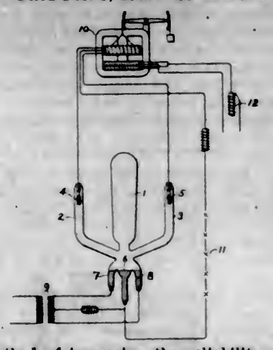
1. A stove attachment comprising a hollow structure adapted for attachment to a stove body at the top of its fire-pot and formed with a series of nozzles adapted to jet air downwardly upon the periphery of the fuel bed in the fire-pot and having upwardly presenting tube connections, a pair of tubes extending upwardly from said tube connections and adapted to straddle the fire-door of the stove and to extend above the door, a horisontal chamber-structure adapted to be secured to the stove-body above the fire-door and having its ends connected with the upper ends of said tubes and having an open-fronted inlet between its ends, and a register at said inlet, combined substantially as set forth.

2. A stove attachment comprising a hollow structure adapted for attachment to a stove body at the top of its fire-pot and formed with a series of nozzles adapted to jet air downwardly at an inward inclination upon the periphery of the fuel bed in the fire-pot and having upwardly presenting tube connections, a pair of tubes extending upwardly from said tube connections and adapted to straddle the fire-door of the stove and to extend above the door, a horizontal chamber-structure adapted to be secured to the stove-body above the fire-door and having its ends connected with the upper ends of said tubes and having an open-fronted inlet between its ends, and a register at said inlet, combined substantially as set forth.

3. A stove attachment comprising a plurality of hollow segments adapted for attachment to a stove body at the top of its fire-pot and formed with a series of nozzles adapted to jet air downwardly upon the periphery of the fuel bed in the fire-pot and having upwardly presenting

tube connections, a pair of tubes extending upwardly from said tube connections and adapted to straddle the fire-door of the stove and to extend above the door, a horizontal chamber-structure adapted to be secured to the stove-body above the fire-door and having its ends connected with the upper ends of said tubes and having an open-fronted inlet between its ends, and a register at said inlet, combined substantially as set forth.

866,011. METHOD OF IMPROVING VAPOR ELECTRIC DEVICES. SAMUEL FERGUSON, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 9, 1907. Serial No. 356,555.



1. The method of improving the reliability of a vapor electric device for operation on a high voltage circuit, which consists in treating the rectifier with a relatively low voltage current to distil from the anodes any mercury which may have accumulated there accidentally.

2. The method of removing mercury from the anodes of a constant current vapor rectifier, which consists in passing substantially normal current through the rectifier at a voltage materially lower than the normal operating voltage.

3. The method of relieving a mercury vapor rectifier from the dangers arising from mercury around or in the anodes, which consists in initially operating the rectifier on a low voltage current and distilling the mercury from the neighborhood of the anodes before the rectifier is put in service on high voltage.

4. The method which consists in initially operating a vapor rectifier at small load, and, after accidental accumulations of vaporizable material are removed, operating said vapor device under normal conditions.

866,012. ARC-LAMP. RICHARD FLEMING, Swampscott, and CROMWELL A. B. HALVORSON, Jr., Lynn, Mass., assignors to General Electric Company, a Corporation of New York. Filed Mar. 12, 1904, Serial No. 197,827. Renewed Apr. 7, 1906. Serial No. 310,474.



1. In an arc lamp, a movable non-consuming electrode, a movable consuming electrode, and a member carried by the non-consuming electrode for engaging said consuming electrode some distance from its arcing end in the feeding operation of the lamp.

2. In an arc lamp, a vertical movable consuming electrode, an oscillating non-consuming electrode, and a member carried thereby for engaging the side of said consuming electrode at the same time that the end of the consuming electrode engages the non-consuming electrode.

3. In an arc lamp, an electrode comprising a frame provided with a main arcing surface and an auxiliary arcing surface, a second electrode normally separated from the first mentioned electrode, and means for causing the first-mentioned electrode to engage at its auxiliary arcing surface with the side of the second electrode during the feeding operation of the lamp.

4. In an arc lamp, a movable non-consuming electrode, a pencil shaped consuming electrode from the end of which an arc extends to the non-consuming electrode in the normal operation of the lamp, and a member carried by said non-consuming electrode, and adapted to engage with the consuming electrode some distance below its arcing end in the feeding operation of the lamp.

5. In an arc lamp, a consuming electrode reciprocated in the feeding operation of the lamp, a non-consuming electrode oscillated in the feeding operation of the lamp, and a member carried by said non-consuming electrode adapted to engage the side of said consuming electrode in the feeding operation of the lamp.

6. In an arc lamp, a movable non-consuming electrode, and an auxiliary electrode movably connected thereto.

7. In an arc lamp, a movable non-consuming electrode, and an auxiliary non-consuming electrode movably secured thereto.

8. In an arc lamp, a pivoted non-consuming electrode, and an auxiliary electrode pivoted thereto.

9. In an arc lamp, a movable non-consuming electrode formed out of copper, and an auxiliary copper electrode connected thereto.

10. In combination, a pair of coöperating electrodes, and a side starter carried by one of the electrodes and adapted to engage the other.

11. In an arc lamp, a movable non-consuming electrode, a consuming electrode from the end of which an arc extends to the non-consuming electrode in the normal operation of the lamp, a member carried by the non-consuming electrode, and means for controlling said electrode and said member so as to cause said member to be brought into engagement with the consuming electrode some distance below its arcing end in the feeding operation of the lamp.

866,013. PADLOCK. JAMES A. GIESS, Chicago, Ill., assignor to The Adams & Westlake Company, a Corporation of Illinois. Filed Apr. 11, 1906. Serial No. 311,191.



1. In a lock, in combination, a chambered casing having a key opening in its wall, a shackle pivotally attached to the wall of the casing, a tumbler and a bolt housed within the chamber of the casing, the tumbler being pivotally attached to the shackle, a spring reacting on the tumbler to open the shackle, a retaining plate movable in front of the key opening of the casing, and connection between the plate and the tumbler.

2. In a lock, in combination, a chambered casing having a key opening in its wall, a shackle pivotally attached to the wall of the casing, a tumbler and a bolt housed within the chamber of the casing, the tumbler being pivotally attached to the shackle, a spring reacting on the tumbler to open the shackle, a retaining plate pivotally attached to the wall of the casing and movable in front of the key opening, and connection between the plate and the tumbler.

3. In a lock, in combination, a chambered casing having a key opening and another opening in its wall, a shackle pivotally attached to the wall of the casing and having a point adapted to enter the last-named opening, a tumbler pivoted to the shackle and movable in front of such opening, a retaining plate movable in front of the key opening, connection between the tumbler and the retaining plate, and a bolt for engaging the shackle.

4. In a lock, in combination, a chambered casing having a keyhole, an openable shackle, a plate movable across the keyhole, and operative connection between the shackle and the plate.

5. In a lock, in combination, a chambered casing having a keyhole, an openable shackle, a plate movable across the keyhole, and operative connection between the shackle and the plate whereby they move together in both opening and closing the lock.

866,014. CASK. JOHN GILMOUR, Owensboro, Ky. Filed Aug. 21, 1906. Serial No. 331,515.



A knock down cask, consisting of a series of staves having a smooth inner surface throughout, and end perforations, external detachable end hoops, having slots, internal elastic arcuate lining straps having slots corresponding to the slots of the end hoops and inner flanges, connection bolts passing through the stave perforations and the slots of the end hoops and lining straps, detachable heads, abutting against the inner flanges of the lining straps, and detachable wire bulge hoops having a separable wire connection.

866,015. FOLDING UMBRELLA. EDSON E. GOODRICH, Waterville, Me. Filed May 19, 1906. Serial No. 317,846.



1. In a folding umbrella, the combination, of the three part stem and handle comprising the parts A and A' adapted to telescope and connect by screw-threads and the handle A^2 adapted to telescope on the lower end of the part A' and be connected thereto by screw-threads, the jointed ribs composed of the parts B and B', and the braces C connected with the slide C' and said ribs above the joints therein, substantially as set forth.

2. A folding umbrella comprising a stem having a hollow upper section with an internally screw-threaded lower end, another section adapted to telescope therein with an external screw-threaded upper end to engage the threads of said first section, a handle mounted on the lower end of said second section by means of a jointed section with a screw-threaded end adapted to engage with a screw-threaded portion in the bottom of a socket in said handle, said handle being adapted to telescope over and cover the joints in said section, and the ribs and braces, substantially as set forth.

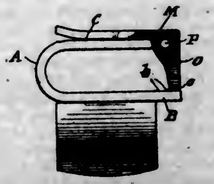
3. A folding umbrella comprising a stem composed of telescopic sections, means for holding them in extended position, the lower end of the telescoping section provided with a hinged portion, a handle for engagement with such hinged portion and adapted to slide over the hinge and hold the parts rigid, the folding ribs, the braces, and the slide, substantially as set forth.

4. A folding umbrella comprising a stem composed of the telescopic sections A and A', means for holding said sections in extended position, a hinge composed of the parts a' and a^2 pivoted to the lower end of section A', said part a' being formed screw-threaded, and a handle formed with a socket adapted to slide over said hinge to hold it rigid and formed with a screw-threaded portion at the bottom of its socket for engagement with the screw-threaded part a' of the hinge, whereby the parts may be held in line, the folding ribs, the braces, and the slide, substantially as set forth.

5. In a folding umbrella, the combination, with the stem, of a handle mounted on its lower end by means of a section jointed both to the lower end of the stem and to a screw-threaded section adapted to engage with a screw-threaded socket in said handle, whereby a double hinge joint is provided to enable said handle to be folded outside the cover, substantially as set forth.

6. A folding umbrella comprising a stem made in sections adapted to fold and telescope, ribs formed in two parts, one of said parts being U-shaped in cross section and adapted to embrace the end of the other part, said other part mounted between the sides of said U-shaped part on a pivot secured in said sides, said part being formed with an extension extending beyond said pivot and adapted to bear against the edge of said U-shaped part and hold said joint from bending in one direction, whereby the rib when extended is held rigid and its parts in line with each other, the braces connected at one end with said ribs at a point above said pivots and at the other end to a slide on the stem, and said slide, substantially as set forth.

866,016. FASTENER. CHARLES H. GOODWIN, Waterbury, Conn., assignor to Waterbury Button Company, Waterbury, Conn., a Corporation of Connecticut. Filed May 12, 1906. Serial No. 316,440.



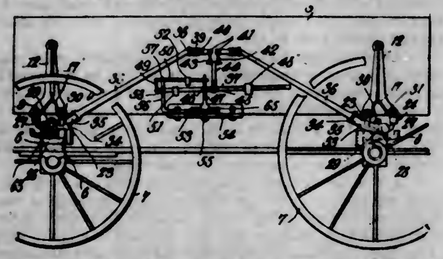
1. A fastener comprising in combination, the U-shaped piece having its branch C shorter than the other branch, and a fastener lever whose effective arms are obtusely arranged; the said branch C having external pivots at its extreme end, and said lever having pivot holes located substantially the thickness of the metal from the lever side at the corner thereof, whereby when opened the lever will be flat against the inner side of said branch C, and give a maximum jaw opening for the insertion of fabric or the like.

2. A fastener comprising in combination the U-shaped piece having its branch C shorter than the other branch, and a fastener lever whose effective arms are obtusely arranged; the said branch C having external pivots at its

extreme end, and said lever having pivot holes substantially the thickness of the metal from both lever sides at the corner thereof, whereby when open the lever will be flat against the inner side of the branch C, and when closed flat against the outer side thereof, substantially as described.

3. A fastener comprising in combination, the U-shaped piece having it branch C shorter than the other branch, and the fastener lever whose effective arms are obtusely arranged; the said branch C having external pivots at its extreme end, and said lever having pivot holes located substantially the thickness of the metal from the lever sides at the corner thereof, said lever consisting of an operating arm and a second arm formed by bending perforated lateral extensions of said operating arm around into a hollow square, the perforations forming a pivot connection with said U-shaped piece.

866,017. VEHICLE-SCALE. ZACHARY T. GRAGG, Oklahoma, Okla., assignor to United States Portable Wagon Scales & Novelty Manufacturing Company, a Corporation. Filed Feb. 16, 1907. Serial No. 357,723.



1. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes secured to the running gear and having a section of each box secured to the vehicle body, means disposed within the boxes and forming fulcrums, a scale beam, means for locking the vehicle body to the running gear, and means forming a pivotal connection between the fulcrums and scale beam for releasing the locking means and elevating the vehicle body.

2. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes carried by the running gear and having a section of each box secured to the vehicle body, means disposed within the boxes and forming fulcrums, a scale beam, means for securing the sections of each box in locked position, and a connection between the fulcrum and scale beam for releasing the boxes and elevating the vehicle body.

3. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes carried by the running gear and having a section of each box secured to the vehicle body, longitudinally adjustable lifting members disposed within the boxes and forming fulcrums, a scale beam, means for locking the vehicle body to the running gear, and means forming a pivotal connection between the lifting members and scale beam for releasing the locking means and elevating the vehicle body.

4. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes carried by the running gear and having a section of each box secured to the vehicle body, lifting bars journaled in the boxes and formed of a plurality of adjustable telescopic sections, means for locking the sections in adjusted position, a scale beam, means for securing the sections of each box in locked position, and levers forming a pivotal connection between the lifting bars and scale beam for releasing the locking means and elevating the vehicle body.

5. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes carried by the running gear and having a section of each box secured to the vehicle body, one of the sections of each box being provided with a depending lug having a locking recess formed therein, means disposed within the boxes and forming fulcrums, bolts adapted to engage the recesses in the depending lugs for locking the sections of the fulcrum boxes in engagement with each other, a scale beam, and means forming a pivotal connection between the fulcrum and scale beam for releasing the bolts and elevating the vehicle body.

6. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes carried by the running gear and having a section of each box secured to the vehicle body, longitudinally extensible rock shafts disposed within the boxes, means carried by the rock shafts and forming fulcrums, a scale beam, and levers connecting the rock shafts with the scale beam.

7. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes secured to the running gear and having a section of each box secured to the vehicle body, vertically movable rock shafts disposed within the boxes, means carried by the rock shafts and forming fulcrums, means for locking the sections of the fulcrum boxes in closed position, a scale beam, and levers connecting the rock shafts with the scale beam for releasing the locking means and subsequently elevating the vehicle body.

8. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes secured to the running gear and having a section of each box secured to the vehicle body, rock shafts disposed within the boxes, means carried by the rock shafts and forming fulcrums, said rock shafts being provided with angularly disposed crank arms having sockets formed therein, a scale beam, and detachable levers one of each of which is operatively connected with the scale beam and the opposite end thereof seated in the socket of the adjacent crank arm for elevating the vehicle body.

9. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes secured to the running gear and having a section of each box secured to the vehicle body, a yoke pivotally mounted for swinging movement in one of the sections of each box, longitudinally extensible rock shafts having double eccentric levers adapted to engage the yoke and upper section of each box, respectively, a scale beam, and levers forming a pivotal connection between the scale beam and rock shafts for elevating the vehicle body.

10. In weighing mechanism, the combination with a vehicle body, of the running gear, fulcrum boxes carried by the running gear and provided with vertically movable sections for attachment to the vehicle body, means disposed within the boxes and forming fulcrums, means for locking the sections of each box in closed position, and levers forming a connection between the fulcrums and scale beam, said levers serving to release the locking means and elevate the vehicle body when said levers are connected with the scale beam.

11. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes secured to the running gear, and having a section of each box secured to the vehicle body, means carried by one section of each box and adapted to engage the adjacent section for locking said sections in closed position, fulcrums disposed within the boxes and operatively connected with the locking means, a scale, and levers forming a pivotal connection between the scale and fulcrums.

12. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes secured to the running gear and having a section of each box secured to the vehicle body, a yoke pivotally mounted on the lower section of each box, shafts provided with double eccentric levers adapted to engage the yoke and upper section of each box, respectively, means operatively connected with the rock shafts for locking the box sections in closed position, a scale beam, and levers forming a pivotal connection between the scale beam and rock shafts.

13. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes secured to the running gear and having a section of each box secured to the vehicle body and the opposite section provided with a locking recess, rock shafts disposed within the boxes, means carried by the rock shafts and forming fulcrums, a locking bolt adapted to engage the recess in said section, lugs depending from the rock shafts and operatively connected with the bolts, a scale beam, and levers forming a pivotal connection between the rock shafts and scale beam.

14. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes secured to the running gear and having one section of each box secured to the vehicle body, and the adjacent section provided with a locking recess, a bolt adapted to enter the recess and provided with a slot, rock shafts disposed within the boxes, means carried by the rock shafts and forming fulcrums, lugs depending from the rock shafts and operating within the slots for moving the bolts to operative and inoperative positions, a scale beam, and levers forming a pivotal connection between the fulcrums and scale beam.

15. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes secured to the running gear and having a section of each box secured to the vehicle body, spaced ears formed in the lower section of each box, a yoke pivotally mounted for swinging movement in said ears, rock shafts seated within the fulcrum boxes and provided with double eccentric levers adapted to engage the yokes and upper box sections, respectively, a scale beam, and levers forming a pivotal connection between the scale beam and rocking bars.

16. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes secured to the running gear and having a section of each box secured to the vehicle body, a locking recess formed in the upper section of each box, guiding flanges carried by the lower section of each box, bolts slidably mounted between the guiding flanges and adapted to engage the recesses for locking the sections in closed position, rock shafts disposed within the boxes, means carried by the rock shafts and forming fulcrums, lugs carried by the rocking bars and operatively connected with the bolts for moving the same to operative and inoperative position, a scale beam, and levers forming a pivotal connection between the scale beam and rock shafts.

17. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes carried by the running gear and having a section of each box secured to the vehicle body, rock shafts disposed within the boxes, means carried by the rock shaft and constituting fulcrums, said rock shafts having their inner ends provided with terminal sockets, connecting bars seated in said sockets, adjusting screws passing through the sockets and engaging connecting bars, a scale beam, and levers forming a pivotal connection between the scale beam and rock shafts.

18. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes secured to the running gear and having a section of each box secured to the vehicle body, longitudinally adjustable rock shafts arranged within the boxes and each having one end thereof provided with an angularly disposed crank arm having a socket formed therein, a scale beam, and levers each having one end thereof seated in the socket of the adjacent crank arm and its opposite end operatively connected with the scale beam.

19. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes secured to the running gear and having a section of each box secured to the vehicle body and provided with a laterally extending hood forming a closure for the adjacent section, vertically movable rock shafts disposed within the boxes, means carried by the rock shafts and forming fulcrums, a scale beam, and a connection between the scale beam and the rock shafts.

20. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes secured to the running gear and having a section of each box secured to the vehicle body, the lower section of each box being provided with a bearing and the upper section formed with a locking recess, rock shafts mounted for vertical movement in said bearings, means carried by the rock shafts and forming fulcrums, a bolt slidably mounted in one of said sections and adapted to engage a locking recess for locking said sections in closed position, lugs depending from the rock shafts and operatively connected with the bolts for actuating the latter, a scale beam, and levers forming a pivotal connection between the scale beam and rock shafts.

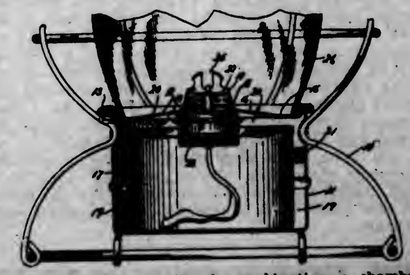
21. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes carried by the running gear and each having one section thereof provided with a rigid contact member, and the opposite section provided with a movable contact member, rock shafts disposed within the boxes and provided with double eccentric levers adapted to engage the movable and stationary contact members, a scale beam, and levers forming a connection between the scale beam and rock shafts.

22. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes carried by the running gear, one of the sections of each box being secured to the adjacent bolsters and provided with a movable contact, and the adjacent box secured to the vehicle body and provided with a rigid contact and locking recess, rock shafts disposed within the boxes and provided with double eccentric levers adapted to engage the relatively stationary and movable contacts, a locking member adapted to engage the recess for locking the sections in closed position, lugs depending from the rock shafts and operatively connected with the bolts for actuating the latter, a scale beam, and levers forming a pivotal connection between the scale beam and rock shafts.

23. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes secured to the running gear and having a section of each box secured to the vehicle body, rock shafts disposed within the boxes, means carried by the rock shafts and forming fulcrums, a main scale beam, an auxiliary beam operatively connected therewith, a hanger secured to the main beam, and levers forming a pivotal connection between the hangers and the rock shaft.

24. In weighing mechanism, the combination with a vehicle body, of the running gear, sectional fulcrum boxes secured to the running gear and having a section of each box secured to the vehicle body, rock shafts disposed with the boxes, means carried by the rock shafts and forming fulcrums, a standard adjustable longitudinally of the vehicle body, and a main scale beam fulcrumed on the standard, an auxiliary scale beam associated with the main beam, a hanger pivotally connected with the main beam, levers detachably secured to the rock shafts, collars adjustable longitudinally of the levers, and links forming a pivotal connection between the collars and hanger.

866,018. LANTERN. WILLIAM S. HAMM, Lakeside, Ill. Filed Jan. 2, 1906. Serial No. 294,275.



1. A lantern comprising, in combination, a chambered receptacle, a removable cover plate for the chamber of the receptacle having a centrally-disposed apertured cope, and an oil font fitting within the chamber and having a wick-tube projecting into the cone of the cover plate, the plate and its appurtenances being out of contact with the oil font and its appurtenances.

2. A lantern comprising, in combination, a chambered

receptacle, a cover plate for the chamber of the receptacle having a centrally-disposed apertured cone, and an oil font of less diameter and depth than the chamber of the receptacle resting within the chamber and having a wick-tube projecting into the cone of the cover plate, the plate and its appurtenances being out of contact with the oil font and its appurtenances.

3. A top-draft lantern comprising, in combination, a chambered receptacle having imperforate side and bottom walls, a foraminous cover plate for the chamber of the receptacle having a centrally-disposed apertured cone, an oil font fitting within the chamber and being of less height than the depth of the chamber and having a wick-tube projecting into the cone of the cover plate, and a globe resting on the cover plate, the plate and its appurtenances being out of contact with the oil font and its appurtenances.

4. In a lantern, in combination, a body having a font seat, a plate covering the seat and having an apertured cone for receiving the burner tube of a font occupying the seat, the plate and its appurtenances being out of contact with the oil font and its appurtenances.

5. A lantern comprising, in combination, a chambered receptacle, a cover plate hinged to the receptacle, and an oil font fitting within the chamber and having a wick-tube projecting into the cone of the cover plate, the plate and its appurtenances being out of contact with the oil font and its appurtenances.

866,019. ROTARY VIBRATORY MASSAGE-BRUSH. JACOB HANDEL, New York, N. Y. Filed Oct. 26, 1906. Serial No. 340,706.

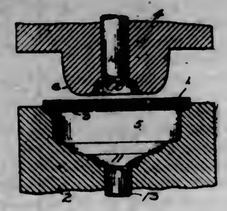


1. A brushing or massage apparatus comprising a motor, a flexible shaft connected thereto, a non-rotatable handle secured to the end of said shaft, a vibratory stock carried by said handle, means connecting the flexible shaft to said stock to vibrate the same, a yoke, means for detachably connecting the yoke to the stock, a freely rotatable cylindrical brush mounted in said yoke, the axis of said brush being perpendicular to the movement of the vibratory stock, said brush being formed of substantially radial, flexible bristles, whereby when the brush is placed against a surface the vibrations of the brush will alternately flex the bristles and then permit them to straighten and thereby rotate the brush in its bearings.

2. A brushing or massage apparatus comprising a motor, a flexible shaft connected thereto, a non-rotatable handle carried by said shaft, a vibratory stock within said handle, means for connecting the flexible shaft to said stock to rapidly vibrate the same by imparting to it a reciprocating motion, a yoke provided with a stem midway its ends means for detachably connecting said stem to the vibratory stock, a pair of inward extending rigid bearing pintles secured to the ends of the yoke, a freely rotatable cylindrical brush mounted on said pintles and formed with substantially radial flexible bristles, the axis of said brush being perpendicular to the reciprocating movements of the stock, whereby the rapid impact of the brush against a surface will alternately flex the bristles and then permit them to straighten out to rapidly rotate the brush.

866,020. METHOD OF FORGING CAR AND LIKE WHEELS. JOHN M. HANSEN, Pittsburg, Pa., assignor to Forged Steel Wheel Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed May 19, 1906. Serial No. 317,733.

1. The improvement in the art of forming forged steel car and like wheels, consisting in so die-forging an imperforate heated blank as to reduce the web portion in thickness and force the displaced metal inwardly toward, and longitudinally of, the axis of the blank to aid in developing the hub portion.



2. The improvement in the art of forming forged steel car and like wheels, consisting in annularly compressing a heated blank by pressure acting first near the outer portion of the web and then proceeding toward the center of the blank and thereby causing the displaced metal to flow inwardly and aid in forming a thickened hub portion.

3. The improvement in the art of forming forged steel car and like wheels, consisting in so die-forging a heated blank as to reduce the web portion in thickness and force the displaced metal inwardly to aid in developing the hub portion, and while confining the web portion piercing the hub portion and thereby forcing the metal longitudinally of the axis of the blank.

4. The improvement in the art of forming forged steel car and like wheels, consisting in so die-forging a heated blank as to thin the web portion thereof and force the displaced metal inwardly to aid in forming the hub portion, and while confining the web portion so formed, compressing the hub portion centrally and thereby spreading the metal thereof to aid in forming the hub.

5. The improvement in the art of forming forged steel car and like wheels, consisting in so die-forging a heated blank as to thin the web portion thereof and force the displaced metal inwardly to aid in forming the hub portion, and while confining the web portion so formed compressing the hub portion centrally and thereby spreading the metal thereof to aid ih forming the hub, and then piercing the hub portion.

6. The improvement in the art of forming forged steel car and like wheels, consisting in so die-forging a heated blank as to reduce the web portion in thickness and force the displaced metal inwardly to aid in developing the hub portion, and subsequently, while confining the web portion, piercing the central hub portion of the blank and compressing it longitudinally.

7. The improvement in the art of forming forged steel car and like wheels, consisting in so die forging a heated blank as to reduce the web portion in thickness and force the displaced metal inwardly and thicken the central portion of the blank on both sides thereof and so aid in developing the hub portion.

8. The improvement in the art of forming forged steel car and like wheels, consisting in so die forging a heated blank as to thin the web portion thereof and force the displaced metal inwardly to aid in forming the hub portion, and subsequently indenting the hub portion of the blank centrally on both sides to further develop the hub portion.

9. The improvement in the art of forming forged steel car and like wheels, consisting in producing by die forging a bowl-shaped blank having a central projection, piercing said projection and spreading the metal therein, and subsequently compressing the annular central projection so formed longitudinally of the axis of the blank to form the hub portion of the wheel.

10. The improvement in the art of forming forged steel car and like wheels, consisting in producing by die forging a bowl-shaped blank having a thinned web portion and a thicker rim forming portion, and subsequently while confining the web portion up-setting the annular rim forming portion to form the rim of the wheel.

11. The improvement in the art of forming forged steel car wheels, consisting in producing by die forging a bowl-shaped blank having a thinned web portion and a thicker tread-forming portion, and subsequently while confining the web portion applying up-setting pressure to the tread-forming portion to condense the tread and spread the flange.

12. The improvement in the art of forming forged steel car wheels, consisting in developing by die-forging a blank having web and tread-forming portions, and then, while confining the web portion, subjecting the tread-forming portion for its entire periphery to direct pressure applied in part to condense the metal toward the axis of the blank and form the tread face and applied in part to spread the metal and develop the flange.

13. The improvement in the art of forming forged steel car wheels, consisting in producing a blank having a web portion of substantially finished thickness and a thicker tread forming portion, and then confining said web portion and subjecting the tread forming portion for its entire periphery to direct pressure acting against the metal and toward the axis of the blank to form the tread of the wheel.

14. The improvement in the art of forming forged steel car and like wheels, consisting in producing by die forging a bowl-shaped blank having a thinned web portion and a thicker rim-forming portion, and subsequently while confining said web portion subjecting the rim-forming portion for its entire periphery to direct pressure acting against the metal and toward the axis of the blank to form the rim of the wheel.

15. The improvement in the art of forming forged steel car wheels, consisting in producing by die-forging a blank having hub and web portions of substantially finished shape, and a tread portion thicker than finished shape, and while confining the web portion and at a low heat up-setting the thickened tread portion to bring the tread and flange to finished shape and densify the same.

16. The improvement in the art of forming forged steel car wheels, consisting in producing by die-forging a bowl shaped blank having hub, web and tread forming portions, then while confining the web portion subjecting the tread forming portion for its entire periphery to a direct pressure acting toward the axis of the blank to upset the same and form a thickened tread and flange, and at a lower temperature subjecting said thickened tread portion to heavy pressure to bring it to finished shape and densify the same.

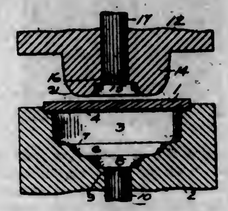
17. The improvement in the art of forming forged steel car wheels, which consists in so die-forging a heated blank as to produce a bowl-shaped blank having a thinned web portion and forcing the metal so displaced inwardly to assist in developing a hub portion, then subjecting the edge portion of said blank to a direct pressure to upset the same and form a thickened tread portion, and at a lower temperature subjecting said thickened portion to heavy compression to bring the tread and flange to finished shape and densify the same.

18. The improvement in the art of forming car and like wheels, consisting in producing by die forging a bowl-shaped blank having a central hub enlargement, a thinned web portion and a thicker annular rim forming portion, and subsequently while confining the web portion by the same operation up-setting the hub portion to bring it to finished shape and up-setting the rim portion to form the rim of the wheel.

19. The improvement in the art of forming car and like wheels, consisting in so forging a heated blank as to bring it to bowl-shape and thin the web portion and thereby force the displaced metal inwardly toward the hub portion, while confining the web portion piercing the hub portion and so developing a rudimentary hub, upsetting said hub portion to complete the hub, and upsetting the annular rim portion to form the rim of the wheel.

20. The improvement in the art of forming forged steel car and like wheels, consisting in heating a blank of greater diameter than the finished wheel and so shaping the same by die-forging steps as to form an integral hub, web and rim, and applying said die-forging steps in such manner as to work the metal inwardly toward the hub and thereby densify the metal and eliminate flaws.

866,021. APPARATUS FOR FORGING WHEEL-BLANKS. JOHN M. HANSEN, Pittsburg, Pa., assignor to Forged Steel Wheel Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed May 19, 1906. Serial No. 317,734.



1. In apparatus for forging wheel blanks, the combination of two forging dies having a hub forming cavity between them, and web forming faces, the web forming faces of said dies approaching most closely near the outer portion of the web and thereby acting to force the metal of said web portion inwardly into the hub cavity.

2. In apparatus for forging wheel blanks, the combination of a male die and a female die having a hub forming cavity between them, said dies having curved inclined faces adapted to coöperate with each other near the outer edge of the web forming portion of the blank and force the metal inwardly into the hub cavity.

3. In apparatus for forging wheel blanks, the combination of a female or bowl-shaped die, a male die adapted to enter within the same and of smaller diameter than the cavity of the female die, said dies having a hub forming cavity between them, and said dies having curved web forming faces approaching most closely at the outer portion of the web forming cavity and thereby acting to force the metal inwardly into the hub cavity.

4. In apparatus for forging wheel blanks, the combination of a female die, and a male die of less diameter than the female die, each die having a central hub forming cavity, and said dies having web forming faces approaching most closely at the outer portion of the web forming cavity and thereby acting to force the metal inwardly into the hub cavity.

5. In apparatus for forming wheel blanks, a female die having at its upper edge a series of blank centering seats on different levels in combination with a male die adapted to enter the female die.

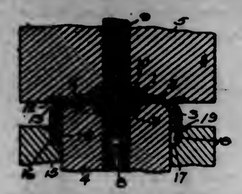
6. In apparatus for forging car wheels, the combination of dies having web forming faces approaching most closely near the outer portion of the web and a central hub forming cavity between them, each die having a central opening communicating with the hub cavity, a pair of coöperating indenting punches fitting in said central opening of said dies and mounted to advance after the closing of the dies and thereby punch the hub portion of the blank and spread the metal within the hub cavity.

7. In apparatus for forging wheel blanks, the combination of a bowl-shaped female die having the upper portion of its cavity provided with vertical walls and its bottom being concavo-convex on radial lines, and a male die of smaller diameter than the female die arranged to enter said female die and having an annular web reducing face coöperating with the convex portion of the bottom of the female die, the space between said dies forming an annular rim cavity and said dies having a centrally arranged hub forming cavity.

866,022. APPARATUS FOR FORGING CAR-WHEEL TREADS. JOHN M. HANSEN, Pittsburg, Pa., assignor to Forged Steel Wheel Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed May 19, 1906. Serial No. 317,735.

1. Dies for forging wheel treads or rims having clamping faces adapted to clamp the web portion of the blank, one of the dies having an annular outwardly inclined forging face conforming in shape to the tread of the

wheel, and acting to force the metal inwardly and so compact the metal while forming the tread face of the wheel.



2. Dies for forging wheel treads or rims having clamping faces adapted to clamp the web portion of the blank, one of the dies having an annular outwardly inclined forging face conforming in shape to the tread of the wheel and acting to force the metal inwardly and so compact the metal while forming the tread face of the wheel, and having a flaring flange forging face beyond the tread forging face, the opposing die having an annular flange forging recess beyond its web clamping face.

3. Dies for forging wheel treads or rims, having male and female web clamping faces, one of the dies having an annular outwardly inclined forging face conforming in shape to the tread of the wheel and acting to force the metal inwardly and so compact the metal while forming the tread face.

4. In apparatus for forging wheel treads, the combination of a female die having a hub cavity and an inclined web clamping face outside thereof, a male die having an annular curved web clamping projection, and an independently acting annular follower die around the male die and provided with an outwardly inclined tread forging face conforming in shape to the tread of the wheel and acting to force the metal inwardly and backwardly and so compact the metal while forming the tread face of the wheel.

5. In apparatus for forming wheel treads, the combination of a female die having a hub cavity, an inclined web forming face outside thereof, and an annular flange forming recess, a male die having an annular curved projection and an independently acting annular follower die around the male die provided with an annular recess having an outwardly inclined tread forging face and a flaring flange forging face beyond the same.

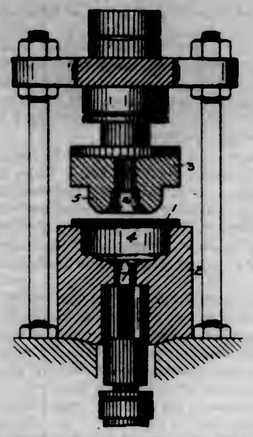
6. Dies for forging wheel treads or rims shaped to hold the rim portion turned toward one side, and having clamping faces to clamp the web portion of the blank, one of the dies having an annular outwardly inclined forging face conforming in shape to the tread of the wheel, and acting to force the metal of the turned rim portion inwardly and thereby compact the metal while forming the tread face of the wheel.

866,023. METHOD OF FORGING WHEEL-BLANKS. JOHN M. HANSEN, Pittsburg, Pa., assignor to Forged Steel Wheel Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed May 19, 1906. Serial No. 317,736.

1. The improvement in the art of forming forged steel car and like wheels, consisting in piercing a blank to form a rudimentary hub extending on one side of the blank, and upsetting said rudimentary hub while supported by a central mandrel to develop the hub on both sides of the blank.

2. The improvement in the art of making forged steel car and like wheels, consisting in so die-forging a blank as to reduce the web portion in thickness and force the displaced metal inwardly into the hub portion, and piercing the blank to form a rudimentary hub extending substantially on one side of the blank, and upsetting said rudimentary hub while supported by a mandrel to develop the hub on both sides of the blank.

3. The improvement in the art of making forged steel car and like wheels, consisting in so die-forging a heated blank as to thin the web portion thereof, and during said thinning operation piercing the blank centrally and so developing a rudimentary hub on one side of the blank, and then upsetting said rudimentary hub while supported by a central mandrel to develop the hub on both sides of the blank.



4. The improvement in the art of forming forged steel car and like wheels, consisting in so die forging a heated blank as to thin the web portion and produce a thicker annular rim forming portion, and during such operation piercing the blank centrally and so developing a rudimentary hub on one side of the blank, reheating the same, and at one operation upsetting the rudimentary hub to develop a hub on both sides of the web portion and upsetting the rim forming portion to form the rim of the wheel.

5. The improvement in the art of forming forged steel car and like wheels, consisting in producing by die forging a bowl shaped blank having a thick annular rim forming portion, and a thinned web portion, and in so doing piercing the hub portion to form an annular rudimentary hub extending on the same side of the blank as the rim portion, re-heating the blank and at one operation upsetting the rudimentary hub portion to develop the hub on both sides of the web portion, and upsetting the rim forming portion to form the rim of the wheel.

6. The improvement in the art of forming forged steel car wheels, consisting in so piercing a blank as to cause the metal to flow longitudinally to develop a rudimentary hub, and subsequently compressing said rudimentary hub longitudinally.

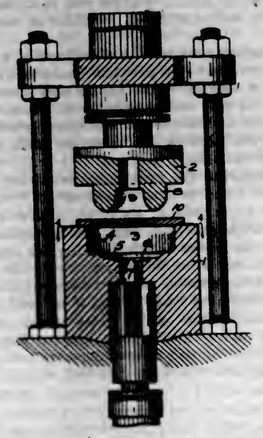
866,024. APPARATUS FOR FORGING WHEELS. JOHN M. HANSEN, Pittsburg, Pa., assignor to Forged Steel Wheel Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed May 19, 1906. Serial No. 317,737.

1. In apparatus for forging car wheels, the combination of three sets of dies, each set having a hub cavity, an annular rim cavity, and an annular web reducing portion, the rim cavity of the first set being deeper and narrower than the other sets.

2. In apparatus for forging car wheels, the combination of three sets of dies, one die of each set having an annular web reducing projection, said projections decreasing in height and increasing in width in the several sets.

3. In apparatus for forging car wheels, the combination of three sets of dies, each set of dies having a hub cavity, a rim cavity, and an annular web forming portion, the hub cavity of the first set being deeper and narrower than the other sets and the web forming projections decreasing in height and increasing in width in the several sets.

4. In apparatus for forging car wheels, the combination of three sets of dies, each set having a hub cavity and a rim cavity; and an annular web forming portion, the hub cavity in the first set being formed mostly in one of said dies and that of the succeeding set being substantially equal in both of the dies.



5. Apparatus for forging car wheels, comprising a set of dies having a hub cavity, an annular rim cavity, and an annular web reducing portion, the hub cavity being mostly in one die, and an eye-forming piercing mandrel arranged to be projected through an opening in the other die thereby forcing the displaced metal into the larger hub cavity of the first die.

6. In apparatus for forging car wheels, comprising a pair of dies, one of which is provided with a bowl-shaped cavity having substantially vertical walls, the other die being provided with an annular web forming projection, said dies having a rim cavity which is narrow diametrically and deep axially of the dies, and a web reducing cavity which is narrower than the rim cavity.

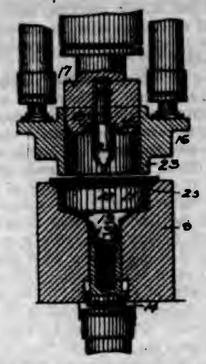
7. Wheel forming apparatus comprising a pair of dies, one of which is provided with a bowl-shaped cavity having substantially vertical walls and having a central opening therein, and the other die being provided with a central hub cavity and a deep annular web forming projection surrounding the same, and a separately operated piercing mandrel arranged to be projected through the opening in the first named die.

8. In apparatus for forging car wheels, the combination of three sets of dies, each set having a hub cavity, an annular rim cavity and an annular web reducing portion, the rim cavity of the first set being deeper and narrower than the other sets and the web forming projections decreasing in height and increasing in width in the several sets, each set of dies being provided with a central opening, an eye piercing punch working through the opening of the first set, and a mandrel working through the opening of each succeeding set.

866,025. METHOD OF FORGING CAR-WHEELS. JOHN M. HANSEN, Pittsburg, Pa., assignor to Forged Steel Wheel Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed May 19, 1906. Serial No. 317,738.

1. The improvement in the art of forming forged steel car and like wheels, consisting in piercing a blank to form a rudimentary hub extending on one side of the blank and while confining the blank within the forging dies producing said result, upsetting said rudimentary hub while supported on a central mandrel to develop the hub on both sides of the blank.

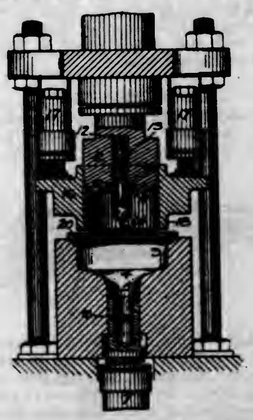
2. The improvement in the art of forming forged steel car wheels from a polygonal blank, consisting in so die-forging the polygonal blank as to turn its edge upwardly, and then compressing said edge portion toward the plane of the blank while confining the same against side flow to eliminate the angles thereof and force the metal into the depressed portions and produce a substantially even top edge.



3. The improvement in the art of forming forged steel car wheels from a polygonal blank, consisting in producing therefrom by die-forging a bowl-shaped blank, and then compressing the edge portion toward the plane of the blank while confining the same against side flow to eliminate the angles thereof and force the metal into the depressed portions and produce a substantially even top edge.

4. The improvement in the art of forming forged wheel blanks from a polygonal blank, consisting in so die-forging a polygonal blank as to turn its edge upwardly, and while so confining the blank compressing its edge portion toward the plane of the blank to eliminate the angles and form an even top edge.

866,026. APPARATUS FOR FORGING CAR-WHEELS. JOHN M. HANSEN, Pittsburg, Pa., assignor to Forged Steel Wheel Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed May 19, 1906. Serial No. 317,739.



1. In apparatus for forging wheel blanks, the combination of a pair of dies each having a central hub forming cavity, a piercing mandrel adapted to pierce the blank and force it into one of said cavities, and a reciprocating annular follower die central of the main die and adapted to engage with the rudimentary hub formed by the piercing mandrel and upset the metal within the hub forming cavities of the dies and around the piercing mandrel.

2. In apparatus for forging wheel blanks, the combination of a female die and a male die having an annular projection and adapted to compress the blank within the female die and bring it to concavo-convex form, said dies each having a hub forming cavity, a piercing mandrel

central of said dies and adapted to pierce the blank and spread it within one of said cavities, and an annular follower die adapted to engage with the rudimentary hub so formed and upset it within the die cavities of said bowl-shaped and male dies.

3. In apparatus for forming wheel blanks, the combination of an integral female die having a cavity provided with a substantially concavo-convex bottom and substantially vertical walls beyond the same, a male die adapted to enter the same and compress the blank, and an annular rim forming die fitting around the male die and adapted to enter between it and the outer wall of the female die and compress the upturned edge of the blank.

4. In apparatus for forming wheel blanks, the combination of an integral female die having a cavity with substantially vertical wall portions, a male die having a substantially vertical outer face of smaller diameter than the female die and arranged to enter the cavity thereof, and an annular rim forming die surrounding the male die and independently movable thereof and arranged to enter the annular space between the male and female dies.

5. In apparatus for forming wheel blanks, the combination of a female die having a cavity with substantially vertical wall portions and a central opening at the base thereof, a male die having a substantially vertical outer face of smaller diameter than the female die and arranged to enter the cavity thereof, a central piercing mandrel arranged to pierce the blank and spread it within the lower cavity of the female die, and an annular rim forming die surrounding the male die and independently movable thereof and arranged to enter the annular space between the male and female dies.

6. In apparatus for forming wheel blanks, the combination of a female die having a cavity with substantially vertical wall portions and a central opening at the base thereof, a male die having a substantially vertical outer face of smaller diameter than the female die and arranged to enter the cavity thereof, a central piercing mandrel arranged to pierce the blank and spread it within the lower cavity of the female die, an annular rim forming die surrounding the male die and independently movable thereof and arranged to enter the annular space between the male and female dies, and an annular follower die operating centrally of said dies and arranged to upset the metal around the piercing mandrel.

866,027. MAGAZINE-RIFLE. AUGUST HANSON, Rock Island, Ill., assignor of one-third to Herman Fredin, Ilion, N. Y. Filed Feb. 7, 1905. Serial No. 244,618.



1. In a magazine fire arm, the combination with the magazine, of a cartridge stop pivoted in the mechanism chamber adjacent the end of the magazine, and a carrier block working in said chamber adapted to throw the cartridge stop over the end of the magazine, for the purpose described.

2. In a magazine fire arm, a breech bolt provided with a projection, a recoil block, a lever engaging therewith, and provided with a projection, a slide handle, and an action slide connected with the handle and having its rear end slotted for the reception of the projection upon the breech bolt and said lever respectively, and a lever adapted to engage a slide carrying a recessed carrier block provided with spring arms.

3. In a magazine fire arm, a slide handle, a shouldered breech bolt provided with a projection and with firing mechanism, a recoil block for engaging with said shoulders, a lever for moving said block and provided with a projection near its free end, and an action slide connected with said handle, the rear end of which is provided with two slots, one of which is angled at its rear end, the projections on the breech bolt and recoil block being seated in said slots.

4. In a magazine fire arm, a slide handle, a shouldered, breech bolt provided with firing mechanism, a recoil block, an action slide secured to the handle and having its edges notched and its rear end provided with means for moving the breech bolt and the recoil block, and yielding latches for entering the notches of the action slide and locking the handle in its forward position.

5. In a magazine fire arm, a reciprocatory breech-bolt provided with firing mechanism, a carrier block having a recess in its upper side at its front end, a lever for engaging therewith provided with two projections, a projection upon the breech bolt in position for engaging with the projections upon the lever and moving the lever upon its pivot, a slide handle, means connected therewith for moving the breech-bolt and lever, a pivoted stop fitting into the recess of the carrier block when lowered, and lifted by the carrier block in its upward movement into engagement with the end of the magazine tube.

6. In a magazine fire arm, provided with a barrel and magazine tube having a chamber secured to the rear end thereof, the reciprocatory breech bolt provided with firing mechanism, a carrier block provided with a socket at one end, and a recess at the other end, a lever having its free end in the socket of said block and provided with spaced projections upon one side, and a recess on the other, a spring for engaging with the recessed side of the lever, a projection upon the breech bolt in position to engage with the projections on the lever and swing the lever on its pivot, a slide handle and means connected therewith for moving the breech bolt and lever and a stop pivoted in said chamber under the end of the magazine tube adapted to work in the recessed end of the carrier block.

7. In a magazine fire arm, the reciprocatory breech bolt provided with firing mechanism, a recoil block, a carrier block provided with a recess at each end, a stop pivotally secured in front of the block in position to enter the recess and to be automatically removed therefrom by the movement of the block, a lever with its free end in the rear recess of the block and having means for being engaged by the breech bolt, a slide handle and means connected therewith for operating the breech bolt, the recoil block and the carrier block.

8. In a magazine fire arm, the shouldered, cylindrical reciprocatory breech bolt provided with firing mechanism, a bifurcated recoil block, a recessed carrier block, the recoil block being provided with a notch on one side and having its upper end concaved to engage with the shoulders of said breech bolt, a lever having one end seated in the recess of the carrier block and movable within the bifurcation of the recoil block, means for moving the said lever by the breech bolt, a lever for engaging with the notched portion of the recoil block, a slide handle and an action slide connected therewith in position for engaging with and moving the breech bolt and the recoil block lever.

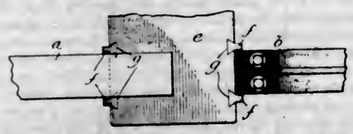
9. In a magazine fire arm provided with a chamber at the end of the barrel and magazine, a longitudinally perforated reciprocatory breech bolt, a firing pin rod mounted in the breech-bolt with a firing pin at its forward end, and a head upon the rear end outside of the breech-bolt, a channel formed on the underside of said bolt, a guard-bar carried by the said breech-bolt working in said channel, a collar on said rod a spring on the rod, one end of which engages the said collar and the other with the rear end of the breech-bolt, a sear for engaging with the said head at the rearward limit of the movement of the breech-bolt, a trigger for engaging with the sear, a slide-handle, and means for connecting the breech-bolt therewith.

10. In a magazine fire arm, a longitudinally, perforated and recessed reciprocatory breech bolt the forward end of which is provided with spring hooks, a firing pin rod in the breech bolt, the forward end of which is provided with a firing pin and the rear end with a head beyond the rear end of the breech bolt, a guide secured to said head and fitting within the recess of the breech bolt, a pivoted sear, one end of which is adapted to engage with said head and lock it against forward movement when the breech bolt is at the rearward limit of its movement, a spring engaging with the opposite end of the sear on one side and a trigger in engagement with said end on the opposite side, a slide handle and an action slide connected therewith in position for moving the breech bolt.

11. In a magazine fire arm provided with a barrel having a chamber at its rear end, a magazine leading into said chamber, a stop pivoted in the chamber under the end of the magazine and a movable carrier block provided with a recess in its upper side, in which the stop rests when the block is lowered, said stop being lifted upward into the engagement with the magazine when the carrier block is moved upwardly.

12. In a magazine fire arm having a chamber secured to the rear end of the barrel and magazine, a carrier block working in said chamber provided with a recess in its upper side at its forward end, and a socket at its rear end, a stop pivoted in the chamber under the magazine resting in the recess of the carrier block when the carrier block is in a lowered position, and lifted by the carrier block on its upward movement, and a lever mounted in said chamber having its free end extending into the socket of the carrier block.

866,028. CAR-TRUCK. HARRY S. HART, Chicago, Ill. Filed Dec. 17, 1906. Serial No. 348,270.



1. In a car truck, a side frame, a bolster, recesses in said bolster, and guides having a tight driving fit in said recess.

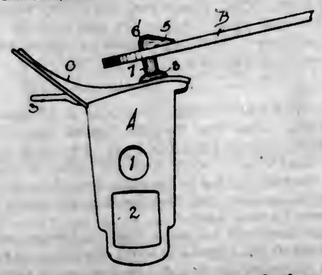
2. In a car truck, a bolster provided near its end with an undercut groove, and a locking member engaging said groove and the side frame of the truck.

3. In a car truck, a bolster provided near its end with a transverse undercut groove, and a locking member engaging said groove and the side frame of the truck.

4. In a car truck, a side frame, column-guides in said side frame, and column-guide lugs having a tight driving fit in recesses in the bolster, said lugs engaging the opposite sides of the column-guides.

5. In a car truck, a side frame, column-guides in said side frame, a bolster, lugs upon said bolster, said lugs being spaced apart and adapted to engage the opposite sides of each of said column-guides, the lugs engaging one side of said column-guides being removable independently of the lugs engaging the opposite side.

866,029. WATERING-HOOK FOR GIG-SADDLES. JACOB F. HERSHEY, Omaha, Nebr. Filed July 18, 1903. Serial No. 166,165.



A hook of the type set forth composed of an integral rigid stem and head, said head being composed of an under face which projects outwardly from the stem at a substantial right angle, the upper face of the head being formed in a downwardly inclined plane and connected at its rear with said shank by an arcuate portion which merges in an unbroken surface into said shank.

866,030. HOOK. JACOB F. HERSHEY, Omaha, Nebr. Filed Apr. 5, 1907. Serial No. 366,532.



1. A hook formed with a comparatively short shank, a head connected thereto and having an arcuate upper end, a concave-convex nosing projecting downwardly from said shank and at its juncture therewith forming an acute angle, a collar on the shank, and means beyond the collar to secure the shank in position.

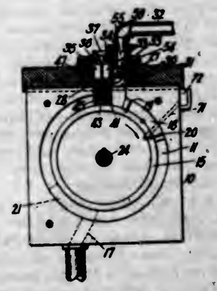
2. A hook embodying a short shank, a head and a concave-convex nosing connected thereto by an arcuate portion, said nosing having its working face disposed considerably below said arcuate portion of the head, the under face of said nosing at its juncture with the shank forming an acute angle therewith, a collar on the shank, and means on the shank beyond the collar to secure the shank in position.

3. A hook embodying a comparatively short shank a rounded head and a downwardly extending nosing forming a continuation of said head, said nosing having a working face between its ends, and means on the inner end of the shank to secure the same in position.

4. A hook embodying a short shank, a head and a downwardly extending nosing, said nosing having a working face at points below the top of said head and having its free end turned upwardly, a shoulder on the shank, and means on the shank to secure the same in position.

5. A hook embodying a short shank, having at one end a curved head and a concave-convex nosing, the upper side of said nosing, the top of said head and the outer side of the shank merging into one another to form an even unbroken surface, and means at the other end of said shank to secure the same in position.

866,031. ROTARY ENGINE. WILLIAM H. HOOKER, Manchester, N. H. Filed Apr. 6, 1907. Serial No. 366,667.



1. In a rotary fluid pressure engine, a casing provided with two piston chambers, rotary pistons located in said chambers, respectively, means to direct fluid toward said chambers alternately, four abutments arranged in pairs adjacent to each other, and means for moving each of said pairs alternately in opposite directions, said means acting to move said pairs alternately in the same direction.

2. In a rotary fluid pressure engine, a casing provided with two piston chambers, rotary pistons located in said chambers, respectively, each of said pistons provided with a projection extending from its respective periphery, means to direct fluid toward said chambers alternately, four abutments arranged in pairs adjacent to each other,

and means for moving each of said pairs alternately in opposite directions, said means acting to move said pairs alternately in the same direction.

3. In a rotary fluid pressure engine, a casing provided with two piston chambers, cylindrical rotary pistons located in said chambers, respectively, each of said pistons provided with a projection extending from its respective periphery, a valve chest, an admission valve located in said valve chest, said valve adapted to admit fluid to said chambers alternately, four abutments arranged in pairs adjacent to each other, and means for moving each of said pairs alternately in opposite directions, said means acting to move said pairs alternately in the same direction.

4. In a rotary fluid pressure engine, a casing provided with two piston chambers, rotary pistons located in said chambers, respectively, two slides arranged adjacent to each other, said slides adapted to reciprocate longitudinally of the axis of said pistons, two abutments carried by each of said slides, respectively, and means for moving each of said slides alternately in opposite directions, said means acting to move said slides alternately in the same direction.

5. In a rotary fluid pressure engine, a casing provided with two piston chambers, rotary pistons located in said chambers, respectively, two slides arranged adjacent to each other, said slides adapted to reciprocate longitudinally of the axis of said pistons, two abutments carried by each of said slides, respectively, means for moving each of said slides alternately in opposite directions, said means acting to move said slides alternately in the same direction, and a valve adapted to admit fluid to said chambers alternately.

6. In a rotary fluid pressure engine, a casing provided with two piston chambers, rotary pistons located in said chambers, respectively, two slides arranged adjacent to each other, said slides adapted to reciprocate longitudinally of the axis of said pistons, two abutments carried by each of said slides, respectively, means for moving each of said slides alternately in opposite directions, said means acting to move said slides alternately in the same direction, and a reciprocatory valve adapted to admit fluid to said chambers alternately.

7. In a rotary fluid pressure engine, a casing provided with two piston chambers, rotary pistons located in said chambers, respectively, two slides arranged adjacent to each other, said slides adapted to reciprocate longitudinally of the axis of said pistons, two abutments carried by each of said slides, respectively, means for moving each of said slides alternately in opposite directions, said means acting to move said slides alternately in the same direction, and a valve adapted to admit fluid to said chambers alternately, said valve being fast to one of said slides.

8. In a rotary fluid pressure engine, a casing provided with two piston chambers, rotary pistons located in said chambers respectively, means to direct fluid toward said chambers alternately, two abutments movable, respectively, into and out of contact with the peripheries of said pistons, a cut-off valve, a cam roll operatively connected to said cut-off valve, and a cam which said cam roll normally engages, said cam roll being adapted to be moved into and out of engagement with said cam.

9. In a rotary fluid pressure engine, a casing provided with two piston chambers, rotary pistons located in said chambers, respectively, means to direct fluid toward said chambers alternately, two abutments movable, respectively, into and out of contact with the peripheries of said pistons, a cut-off valve, a cam roll operatively connected to said cut-off valve, a cam which said cam roll normally engages, and means to move said cam roll out of engagement with said cam.

10. In a rotary fluid pressure engine, a casing provided with two piston chambers, rotary pistons located in said chambers, respectively, means to direct fluid toward said chambers alternately, two abutments movable, respectively, into and out of contact with the peripheries of said pistons, a slidable cut-off valve, a head rotatably connected to said valve, two cam rolls journaled on said head, two cams which said cam rolls are adapted to engage, respectively, and means to rock said head on said valve, whereby said cam rolls may be moved into and out of engagement with said cams, respectively.

11. In a rotary fluid pressure engine, a casing provided with two piston chambers, rotary pistons located in said chambers, respectively, means to direct fluid toward said chambers alternately, four abutments arranged in pairs adjacent to each other, means for moving each of said pairs alternately in opposite directions, said means acting to move said pairs alternately in the same direction, a cut-off valve, a cam roll operatively connected to said cut-off valve, and a cam which said cam roll normally engages, said cam roll being adapted to be moved out of engagement with said cam.

12. In a rotary fluid pressure engine, a casing provided with two piston chambers, rotary pistons located in said chambers, respectively, means to direct fluid toward said chambers alternately, four abutments arranged in pairs adjacent to each other, means for moving each of said pairs alternately in opposite directions, said means acting to move said pairs alternately in the same direction, a cut-off valve, a cam roll operatively connected to said cut-off valve, a cam which said cam roll normally engages, and means to move said cam roll out of engagement with said cam.

13. In a rotary fluid pressure engine, a casing provided with two piston chambers, rotary pistons located in said chambers, respectively, means to direct fluid toward said chambers alternately, four abutments arranged in pairs adjacent to each other, means for moving each of said pairs alternately in opposite directions, said means acting to move said pairs alternately in the same direction, a slidable cut-off valve, a head rotatably connected to said valve, two cam rolls journaled on said head, two cams which said cam rolls are adapted to engage, respectively, and means to rock said head on said valve, whereby said cam rolls may be moved into and out of engagement with said cams, respectively.

14. In a rotary fluid pressure engine, a casing provided with two piston chambers, cylindrical rotary pistons located in said chambers, respectively, each of said pistons provided with a projection extending from its respective periphery, a valve chest, an admission valve located in said valve chest, said valve adapted to admit fluid to said chambers alternately, four abutments arranged in pairs adjacent to each other, means for moving each of said pairs alternately in opposite directions, said means acting to move said pairs alternately in the same direction, a cut-off valve, a cam roll operatively connected to said cut-off valve, and a cam which said cam roll normally engages, said cam roll being adapted to be moved out of engagement with said cam.

15. In a rotary fluid pressure engine, a casing provided with two piston chambers, rotary pistons located in said chambers, respectively, two slides arranged adjacent to each other, said slides adapted to reciprocate longitudinally of the axis of said pistons, two abutments carried by each of said slides, respectively, means for moving each of said slides alternately in opposite directions, said means acting to move said slides alternately in the same direction, a cut-off valve, a cam roll operatively connected to said cut-off valve, and a cam which said cam roll normally engages, said cam roll being adapted to be moved out of engagement with said cam.

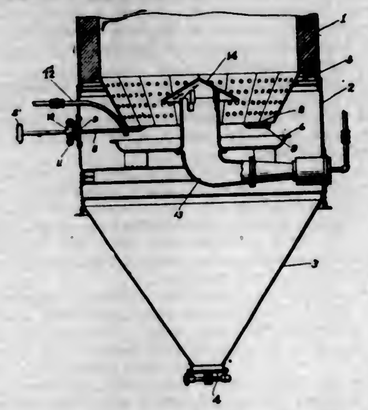
866,032. GAS-PRODUCER. WILLIAM B. HUGHES, Cleveland, Ohio. Filed May 28, 1907. Serial No. 375,288.

1. A gas producer having a body, a bottom casing depending therefrom, a water and ash basin in the casing beneath the body, and a poker extending through the casing between the body and basin, said poker being movable transversely to its length.

2. A gas producer having a body, a bottom casing depending therefrom, a basin beneath the body, and a poker having a universal bearing disposed so as to permit it to be worked between the body and basin.

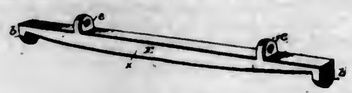
3. A gas producer having a body, a stationary basin beneath said body, and a bottom casing depending from said body and inclosing said basin.

4. A gas producer having a body, a hopper depending from said body, a stationary basin beneath said hopper, a casing inclosing said hopper and basin, and a laterally movable poker extending through an aperture of said casing between said hopper and basin.



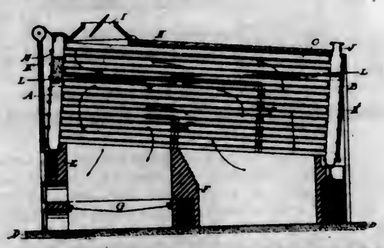
5. A gas producer having a body, a stationary basin beneath said body, a casing depending from said body and inclosing said basin, and a blower passing through said casing and basin.

866,033. RAILROAD-TRUCK. JOSEPH W. JENKINS, Macon, Ga. Filed July 2, 1907. Serial No. 381,881.



In a truck frame, a plurality of transverse bars having downwardly extending flanges at the ends, rounded or convex upon the under side, said bars being highest at the center and gradually tapering in a direction toward the ends, substantially as and for the purpose set forth.

866,034. WATER-TUBE BOILER. JOHN G. JOHNSON, CHARLES B. DUNN, and CHRISTIAN C. FEBIGER, Philadelphia, Pa., executors of William Sellers, deceased, and BENJAMIN D. COPPAGE, Wilmington, Del. Filed Sept. 27, 1906. Serial No. 336,397.



1. In a water tube boiler, a set of inclined tubes arranged one above the other, a header connecting the upper ends of said tubes, a second header connecting the lower ends of said tubes, and means for supplying heat to all of said tubes, said boiler being organized for operation with the water level in said second header below the corresponding ends of some of said tubes.

2. In a water tube boiler, a set of inclined tubes arranged one above the other, a header connecting the upper end of said tubes, a second header connecting the lower end of said tubes, means for supplying heat to all said tubes and means for maintaining the water level in said second header below the corresponding ends of some of said tubes, and a steam device connection leading from the upper end of said second header.

3. In a water tube boiler, a chamber or header, a second chamber or header, a set of tubes extending between said headers, said tubes being connected into each header at different levels, and each tube being connected into said second header at a level below that at which it is connected to the first header, means for feeding water to the boiler to maintain the water level in the second header above the corresponding ends of some of said tubes, means for heating all of said tubes, and means for withdrawing the steam generated in said boiler from the upper end of said second header.

4. A water tube boiler consisting of a pair of headers, a set or sets of inclined connecting tubes, the tubes in each set being arranged one above the other, and means for withdrawing all the steam generated by said boiler from the header to which the lower ends of the tubes are connected.

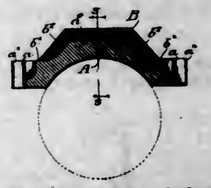
5. In a boiler, a set of inclined tubes, arranged one above another, a header into which the lower ends of the tubes open, a second header into which the upper ends of the tubes open, means for maintaining the water level below the lower ends of certain of said tubes, and means for withdrawing the steam generated by the boiler from the header connected to the lower ends of the tubes.

6. In a steam boiler, a header, tubes opening into said header at different levels, and a second header into which said tubes open, each tube entering said second header at a level below that at which it enters the first header, said boiler being organized for operation with the water level in said second header below the corresponding ends of some tubes and above that of others.

7. A water tube boiler without a steam and water reservoir, consisting of a pair of headers, a set or sets of connecting tubes extending between said headers, each tube opening into the two headers at different levels, and the different tubes of each set opening into the same header at different levels, and a main steam passage leading from the header to which the lower ends of the tubes are connected for withdrawing from the boiler all the steam generated by it.

8. In a steam boiler, a header, tubes opening into said header at different levels, a second header into which said tubes open, each tube entering said second header at a level below that at which it enters the first header, said boiler being organized for operation with the water level in said second header below the corresponding ends of some tubes and above that of others, and a main steam passage leading from the said second header for withdrawing from the boiler all the steam generated in it.

866,035. JOURNAL-BEARING. STEWART H. JONES, Buffalo, N. Y. Filed Mar. 7, 1907. Serial No. 361,066.



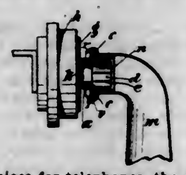
1. A journal bearing comprising a body portion of brass or like material having vertical end flanges and side flanges formed integral therewith and an iron shell extending across and partially down the sides of said body portion, said shell being of proper thickness, size and shape to extend between the end flanges and to terminate at the side flanges thereof, said side flanges projecting laterally beyond said shell.

2. A journal bearing comprising a body portion of brass or like material having formed integral therewith vertical

end flanges and lateral side flanges and lugs and an iron shell extending across the top of said body portion and interlocked at its ends with the vertical end flanges of said body portion, said iron shell terminating inside the line of the side flanges and lugs of said body portion.

3. A journal bearing comprising a body portion of brass or like material having formed integral therewith vertical end flanges provided with inwardly extending lugs and having side flanges and lugs and an iron shell extending across the top and partially down the sides of said body portion, said iron shell having seats to receive the vertical lugs at the ends of the body portion and terminating inside the line of the side flanges and lugs of said body portion, said iron shell and said body portion being formed separately and detachably interlocked.

866,036. TELEPHONE-MOUTHPIECE. RUDOLF KNOLL, Vienna, Austria-Hungary. Filed Aug. 11, 1905. Serial No. 273,808.

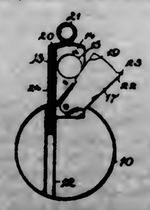


1. In a mouth piece for telephones, the combination with the diaphragm box and the mouth piece member, one of said members being provided with an annular flange and the other member being provided with spring tongues arranged to spring over the flange when the members are pressed together to rotatably support the mouth piece on the holder, one of the members also having a tubular portion having slots extending inwardly from its outer end, said tube being fitted into the other member to support the same.

2. In a mouth piece for telephones, the combination with the diaphragm box of a tube secured thereto and provided with an annular flange, and also provided with a tubular portion projecting beyond the flange and having its extremity slotted, the mouth piece member being arranged to slide on over the slotted tubular portion of the diaphragm box, and also provided with spring tongues arranged to spring over the annular flange of the diaphragm member to secure the mouth piece rotatably and removably to the diaphragm member.

3. In a mouth piece for telephones, the combination with the diaphragm box of a tubular member screwed thereto and having its outer end slotted and provided with an annular flange at an intermediate portion, the mouth piece member being provided with a tubular portion arranged to slide over the slotted portion of said tube, and also provided with spring tongues arranged to spring over said annular flange, whereby to removably and rotatably retain the mouth piece on the diaphragm member.

866,037. CIGAR-CUTTER. ROBERT KOLLMAR, Newark, N. J. Filed Jan. 25, 1907. Serial No. 353,941.



1. A cigar cutter comprising a casing, a cutting apparatus having parallel wings, the wings being perforated, a blade pivoted between the wings and arranged to swing across the perforations, a spring to normally throw the blade from between the wings, and means on the blade for locking the cutting apparatus in the casing.

2. A cigar cutter comprising a casing, a cutting apparatus in sliding relation to the casing, the cutting apparatus having a pair of perforated wings, a blade movably arranged between the wings, a spring to actuate the blade in one direction, one edge of the blade engaging the casing when the cutting apparatus is inclosed by the casing to lock the parts together.

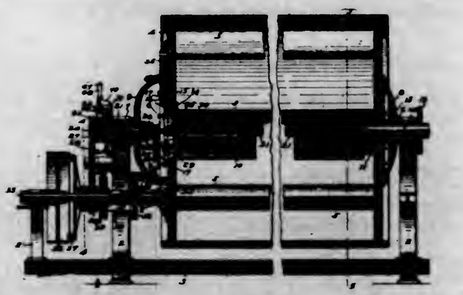
3. A cigar cutter comprising a casing, a tubular post therein, a cutting apparatus comprising a sleeve embraced by the tubular post, projecting wings on the sleeve, the wings being perforated, and a blade movably arranged between the wings.

4. A cigar cutter comprising a casing, a tubular post in the casing, a cutting apparatus comprising a sleeve, wings projecting from the sleeve, a cover on the wings and the sleeve, a blade pivoted between the wings, a spring to normally throw the blade open, and a nose on the back of the blade to engage the casing to lock the cutting apparatus in its inclosed position.

5. A cigar cutter comprising a casing, a tubular post in the casing, a cutting apparatus comprising a sleeve, wings projecting from the sleeve, a cover on the wings and the sleeve, a blade pivoted between the wings, a spring to normally throw the blade open, and a finger piece on the blade to allow the manual operation of the blade to release the cutting apparatus from its casing.

6. A cigar cutter comprising a casing, a tubular post in the casing, the post having a slot in one side, a sleeve in the post, wings projecting from the sleeve through the slot in the casing, the wings being perforated, a blade pivoted between the wings and arranged to swing, a spring acting to normally throw the blade open, a nose on the back of the blade to engage the edge of the casing, a finger piece on the blade for its manual operation, a pin pivoting the blade between the wings and projecting beyond the wings to serve as a stop to limit the withdrawal of the cutting apparatus from its casing.

866,038. COMBINED CHURN AND BUTTER-WORKER. FRANK LA BARE, Owatonna, Minn., assignor to Owatonna Manufacturing Company, Owatonna, Minn., a Corporation. Filed May 12, 1906. Serial No. 316,443.



1. In a combined churn and butter-worker, the combination, with a revoluble drum provided with a head having a central opening, of a sectional head arranged within said opening with a permanently cream-tight joint between said sectional head and the wall of said opening, and a pair of butter-working rolls arranged within said drum, having their gudgeons projecting through said sectional head, substantially as described.

2. In a combined churn and butter-worker, the combination with a revoluble drum provided with a head having a central opening, of a sectional head arranged within said opening with a permanently cream-tight joint between said sectional head and the wall of said opening, a pair of butter-working rolls arranged in said drum and having their gudgeons projecting through said sectional head, and means for holding said sectional head stationary

while said drum revolves or permitting said sectional head to rotate with said drum, substantially as described.

3. In a combined churn and butter-worker, the combination with a revoluble drum provided with a head having a central opening, of a sectional head arranged within said opening with a permanently cream-tight joint between said sectional head and the wall of the opening, a pair of butter-working rolls arranged within said drum and having their gudgeons projecting through said sectional head, and roll-driving gearing connected with said gudgeons outside of said sectional head, substantially as described.

4. In a combined churn and butter-worker, the combination, with a revoluble drum provided with a head having a central opening, of a sectional head arranged within said opening with a permanently cream-tight joint between said sectional head and the wall of said opening, and a pair of butter-working rolls arranged within said drum below the center thereof and having their gudgeons projecting through said sectional head, substantially as described.

5. In a combined churn and butter-worker, the combination, with a revoluble drum, of a pair of butter-working rolls arranged in said drum, means supporting said rolls below the axis of the drum and parallel to each other, means for holding the roll supports in a stationary position, and means for rotating the rolls on their axes during the butter-working operation.

6. In a combined churn and butter-worker, the combination with a revoluble drum, of a pair of butter-working rolls arranged in said drum, means supporting said rolls below the axis of the drum and parallel to each other, means for locking the roll-supports to the drum, whereby said rolls whirl with the drum during the churning operation, or for holding said roll-supports in a stationary position during the butter-working operation.

7. In a combined churn and butter-worker, the combination, with a revoluble drum, of a pair of butter-working rolls arranged in said drum, means supporting said rolls below the axis of the drum and parallel with each other, means for rotating the drum, and means for holding the roll-supports in a stationary position while said drum is being rotated.

8. In a combined churn and butter-worker, the combination, with a revoluble drum, of a pair of butter-working rolls arranged in said drum, means supporting said rolls parallel with each other, means for rotating the drum, and means for locking the roll supports in a stationary position, while the drum is rotating, with the rolls in either a horizontal or a vertical plane.

9. In a combined churn and butter-worker, the combination, a revoluble drum, of a pair of butter-working rolls arranged in said drum, means supporting said rolls parallel with each other, means for rotating the drum, and means for locking the roll supports in a stationary position, while the drum is rotating, with the plane of the rolls at any desired angle.

866,039. SPOOL OR REEL. FRANK B. LA MAY, Rochester, N. Y., assignor to The Kee Lox Manufacturing Company, Rochester, N. Y., a Corporation of New York. Filed Oct. 29, 1906. Serial No. 341,007.



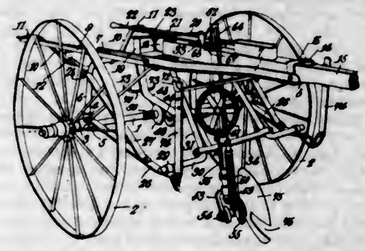
1. In a spool or reel, the combination with the sheet metal end flanges having grooves stamped in their inner faces forming projecting ribs on their outer faces, of a tubular winding drum extending between said end flanges and having its ends supported in the grooves therein and a rigid connection between the flanges.

2. In a spool or reel, the combination with the sheet metal end flanges having grooves stamped in their inner faces forming projecting ribs on their outer faces, and having apertures arranged centrally thereof, of a tubular winding drum extending between said end flanges and having its ends supported in the grooves and a connecting means extending through the apertures in the end flanges and rigidly secured therein.

3. In a spool or reel, the combination with the sheet metal end flanges having grooves stamped in their inner faces forming projecting ribs on their outer faces and having apertures arranged centrally thereof, of a tubular winding drum extending between said end flanges and having its ends supported in the grooves and a bearing member comprising a tubular pin extending through the apertures in the end flanges and rigidly secured therein.

4. In a spool or reel, the combination with the end flanges and a drum secured between them having a slot or opening therein and provided with an aperture adjacent said opening, of a resilient ribbon impaling spur on the drum projecting through the opening and within the interior of the drum and having its point turned upwardly to coöperate with the aperture.

866,040. AGRICULTURAL MACHINE. ALFRED A. LAX, GEORGE W. HINSON, and JAMES I. WILLHOIT, Graham, Tex. Filed Jan. 26, 1907. Serial No. 354,339.



1. In a machine of the character described the combination with a wheel supported frame; of a tongue pivotally mounted upon the frame, manually operated means for swinging the tongue upon the frame, a rotatable element suspended from and movable with the tongue, and means for transmitting motion to said element from the supporting wheels of the frame.

2. In a machine of the character described the combination with a wheel supported frame; of a tongue pivotally mounted thereon, manually operated means for swinging the tongue laterally upon its pivot, a rotatable element supported by and movable with the tongue, manually operated means for adjusting said element vertically in relation to the tongue, and means for transmitting rotary motion to said element from the supporting wheels.

3. In a machine of the character described the combination with a wheel supported frame; of a tongue pivotally mounted upon the frame, a spring pressed vertically adjustable rotatable element suspended from the tongue, and means for transmitting rotary motion to said element from one of the supporting wheels.

4. In a machine of the character described the combination with a wheel supported frame and a tongue pivotally secured thereon; of a hanger connected to the tongue, a rotatable element suspended below and movably connected to the hanger, resilient means for exerting a constant downward pressure upon said element, and means for transmitting rotary motion from one of the supporting wheels to said element.

5. In a machine of the character described the combination with a wheel supported frame and a tongue pivotally secured thereon; of a hanger, a rotatable element suspended below and movably connected to the hanger, means for transmitting rotary motion to said element from one of the supporting wheels, and means for adjusting said

element toward or from the hanger during the rotation thereof.

6. In a machine of the character described the combination with a wheel supported frame and a tongue; of a hanger, a non-rotatable rod slidably mounted within the hanger, a rotatable element carried by said rod, means upon the rod for exerting a constant downward pressure upon the element, and means for transmitting rotary motion to said element from one of the supporting wheels.

7. In a machine of the character described the combination with a wheel supported frame and a pivoted laterally movable tongue; of a hanger, a rotatable element below and movably connected to the hanger, a lifting rod, means carried by the tongue for actuating the lifting rod to raise or lower the rotatable element, and means for transmitting rotary motion to said element, during the adjustment thereof, from one of the supporting wheels.

8. In a machine of the character described the combination with a wheel supported frame and a tongue; of a tubular hanger, a non-rotatable rod slidably mounted within the hanger, a yoke carried thereby, a spring for exerting a constant downward pressure upon the yoke, a rotatable element carried by the yoke, means for adjusting the rod longitudinally within the hanger to raise or lower the rotatable element, and means for transmitting rotary motion to said element from one of the supporting wheels during the adjustment of said element.

9. In a machine of the character described the combination with a wheel supported frame; of a tongue pivotally mounted upon the frame, a lever engaging the tongue for swinging the same laterally upon the frame, a rotatable element suspended from the tongue, and means for transmitting rotary motion to said element from one of the supporting wheels during the lateral movement of the tongue and element.

10. In a machine of the character described the combination with a wheel supported frame, a drive axle, and a tongue pivotally mounted on the frame; of means for swinging the tongue laterally upon its pivot, a hanger suspended from the tongue, oscillatory connections between the hanger and axle, a spring pressed rotatable element below and movably connected to the hanger, means for adjusting said element toward or from the hanger, and means for transmitting rotary motion to said element from the axle during the adjustment of said element.

11. In a machine of the character described the combination with a wheel supported frame and a tongue pivotally mounted thereon; of manually operated means for swinging the tongue laterally, a hanger secured to and suspended from the tongue, a rotatable element below and movably connected with the hanger, means for exerting a constant downward pressure upon said element, a lifting device connected to said element, means for actuating said lifting device, and means operated by one of the supporting wheels for rotating said element during the adjustment thereof.

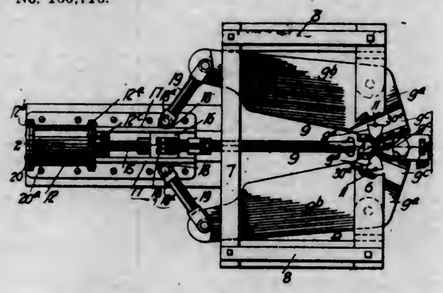
12. In a machine of the character described the combination with a wheel supported axle, a yoke thereon, and a frame carried by the yoke; of a tongue pivotally mounted upon the frame, a roller carried by the tongue and movable upon the yoke, a roller guide disposed adjacent said yoke, a lever connected to the tongue for swinging the same laterally, a rotatable element supported by and movable with the tongue, and means for transmitting rotary motion to said element from the axle.

13. In a machine of the character described the combination with a wheel supported axle, a yoke upon the axle, and a frame carried by the yoke; of a tongue pivotally mounted upon the frame, manually operated means for swinging the tongue laterally, a yoke secured to and depending from the tongue, oscillatory connections between said yoke and the yoke on the axle, a hanger secured to the tongue and its depending yoke, a rotatable element below and movably connected to the hanger, and mechanism for transmitting rotary motion from the axle to said element.

14. In a machine of the character described the combination with a wheel supported axle, a yoke thereon, and a frame carried by the yoke; of a tongue pivotally mounted on the frame, means for swinging the tongue laterally upon the frame, a hanger secured to the tongue, a rotatable element below and movably connected to the hanger, a lifting rod connected to said element, a shaft upon the tongue, an arm thereon engaging said lifting rod, means for rocking the shaft, and means for transmitting rotary motion to said rotatable element from the axle during the adjustment of said element.

15. In a machine of the character described the combination with a wheel supported frame, a tongue pivotally connected thereto, and means for swinging the tongue laterally; of a cutting disk suspended from and movable with the tongue, said disk having an opening extending thereinto from its periphery, and mechanism operated by one of the supporting wheels for rotating the disk during the movement of the tongue.

866,041. DEVICE FOR SHARPENING ROCK-DRILLS. ELIAS LEWIS, Denver, Colo. Filed June 9, 1903. Serial No. 160,716.



1. In a device for sharpening rock-drills, the combination with a suitable base of a frame erected thereon, four levers fulcrumed in said frame, dies secured to the converging extremities of the short arms of said levers, a cylinder located on said base, a piston having a reciprocating movement in said cylinder, means for admitting and exhausting air or steam in and from said cylinder, a piston rod secured to said piston, guide ways erected on said base, a cross head having a reciprocating movement in said guide ways, being connected with said piston-rod, connecting rods pivotally connected with said cross head and with the extremities of the long arms of said levers, and suitable means for adjusting the length of said connecting rods, substantially as described.

2. In a device for sharpening rock-drills, the combination with a suitable base of two rectangular frames erected thereon, braces connecting said frames, four levers fulcrumed in one of said frames, sharpening and forming dies secured to the converging short arms of said levers, their long arms extending through and beyond said second frame, means in said frame for guiding said arms, means for guiding and supporting a drill rod placed between said dies, means for limiting the inward movement of said drill rod, a steam or air cylinder, having a reciprocating piston located on said base, a cross head connected with said piston and moving in suitable guide ways, lugs on said cross head, connecting rods pivoted to said lugs, while their other ends are pivoted to the extremities of said long arms, and suitable means for lengthening or shortening said connecting rods, substantially as described.

3. In combination with a plurality of pivotally supported levers arranged opposite each other, dies carried by the said levers, each having two beveled-sided cutting edges placed at right angles to each other, said dies being arranged to meet at a central point and separate the metal and means at the side of the levers and dies to support the rod being operated on, the said dies in closing upon the rod moving away from said supporting means, substantially as described.

4. In combination with the swinging levers carrying the dies, a stop carried by one of the swinging levers and movable therewith away from the point at which the dies come together, substantially as described.

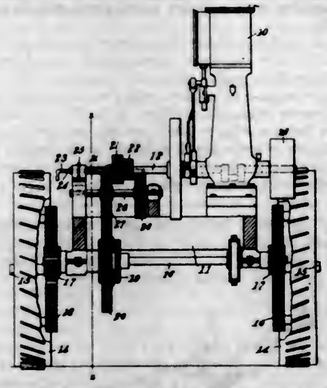
5. In combination with the swinging levers carrying the dies, a stop adjustably supported by one of the levers and movable therewith away from the point at which the work is done when the dies come together, substantially as described.

6. A device of the class named, comprising in combination, a plurality of pivotally supported levers, arranged in pairs, the levers of each pair being opposite each other, means on said levers adapted to spread the metal, dies carried by said levers, said dies being arranged to separate the metal transversely and meet at a central point.

7. A device of the class named, comprising in combination, a plurality of pivotally supported levers, arranged in pairs, the levers of each pair being opposite each other and having edges adapted to spread the metal and equidistantly located from a central line, dies carried by said levers at a point in said edges remote from their outer extremities, said dies being arranged to separate the metal transversely and meet at a point within said central line.

8. A device of the class named, comprising in combination, a plurality of pivotally supported levers, arranged in pairs, the levers of each pair being opposite each other and having bevel-sided edges placed at right angles to each other equidistantly from a central line, dies carried by said levers at a point in said edges, each having two bevel-sided cutting edges, placed at right angles to each other, said dies being arranged to separate the metal transversely and to meet at a point in said central line.

866,042. TRACTION-ENGINE. GEORGE D. LOOMIS, Tiffin, Ohio. Filed Dec. 21, 1905. Serial No. 292,783.



1. A portable apparatus including an engine capable of use for traction and power purposes, and comprising an engine driven shaft, a propelling shaft from which movement is imparted to the vehicle wheels, a counter-shaft, a pair of gears carried thereby, one of such gears being in constant mesh with a gear of the propelling shaft, pinions of different diameter respectively on the engine driven shaft, and means for adjusting said pinions to engage one or other of them with a gear of the counter-shaft or to an idle position out of mesh with either of the counter-shaft gears when the engine is to be employed for power purposes.

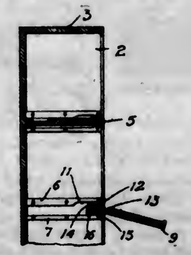
2. A portable apparatus including an engine capable of use for traction or power purposes and comprising an engine driven shaft, a propelling shaft through which movement is imparted to the driving wheels of the vehicle, a counter-shaft, a pair of gears of different diameter, respectively mounted on the counter-shaft, a gear connected by compensating mechanism to the propelling shaft and permanently in mesh with one of the gears of the counter-shaft, a pair of adjustable pinions carried by the engine driven shaft and of different diameters, respectively, said pinions being movable longitudinally of the engine driven shaft into mesh with the counter-shaft gears, and being adjustable to an idle position out of mesh with any of the gears when the engine is to be employed for power purposes.

3. A portable apparatus including an engine capable of use for traction or power purposes and comprising an engine driven shaft extending transversely of the frame of the apparatus, a pair of pinions of different diameters, respectively, mounted on the shaft and adjustable longitudinally thereof, a traction shaft operatively connected to the traction wheels of the apparatus, and carrying a gear wheel, a counter-shaft, a pair of gears of different diameters, respectively, permanently secured to the counter-shaft, one of said gears being in constant mesh with the gear of the traction-shaft, and means for adjusting the pinions to engage one or other of them with a counter-shaft gear, or to an idle position between such counter-shaft gears when the engine is to be employed for power purposes.

4. A portable apparatus including an engine capable of use for traction or power purposes and comprising an engine driven shaft extending transversely of the frame of the apparatus, a traction shaft having gearing connections with the traction wheels of the apparatus and provided with a large gear, and adjustable gearing connections between the engine driven shaft and said large gear to change the speed of travel of the apparatus, such gearing connections being adjustable to an idle position to permit free rotation of the engine shaft when the apparatus is stationary and the engine is to be employed for power purposes.

5. A portable apparatus including an engine capable of use for traction or power purposes and comprising an engine driven shaft from which power may be transmitted for drilling or other purposes, master wheels carried by the traction wheels of the apparatus, a traction shaft having pinions intermeshing with the master wheels, a large gear carried by the traction shaft and connected thereto through compensating gearing, a counter-shaft arranged parallel with the engine driven shaft and having a pair of gears of different size, one of such gears being in constant mesh with said large gear, and a pair of pinions of different diameters, respectively, mounted on the engine driven shaft and adjustable to engage one or other of them with the gears on the counter-shaft or to an idle position out of mesh with any gears when the engine is to be employed for power purposes, and means for locking said pinions in adjusted position.

866,043. CABINET. WARREN B. MADISON, Minneapolis, Minn. Filed Feb. 6, 1907. Serial No. 356,078.



1. A cabinet having a series of vertical partitions dividing its interior into compartments, a series of sliding shelves arranged one above another in said compartments, guides provided on said vertical partitions and between which said shelves are movable, said shelves having suitable handles at their forward ends, and said guides having means whereby when said shelves are drawn forward they will swing down to an inclined position and permit access to the can supported thereon, and said shelves having means for holding the cans in place when the shelves are tilted to an inclined position, and the front of the cabinet between said shelves being open and unobstructed whereby

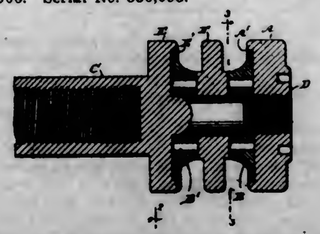
the front of the cans and the labels thereon will be visible when the shelves and cans are pushed back into the cabinet, substantially as described.

2. A cabinet having a series of vertical partitions dividing its interior into compartments, a series of shelves arranged horizontally one above another between said partitions, guides mounted on said partitions and between which said shelves are slidable, said guides having notches in their forward ends forming lugs, and said shelves having recesses forming stops that are engaged by said lugs when the shelves are drawn forward, and said lugs and stops permitting said shelves to swing downwardly a limited distance when drawn forward, and said shelves being adapted to support a can thereon and permit the cover of the can to be raised when the shelf is drawn forward.

3. A cabinet having a series of vertical partitions dividing its interior into compartments, shelves horizontally arranged between said partitions, and adapted to support a cooky or cracker can, guides mounted on said partitions and between which said shelves are movable, there being guides on each side of said shelves above and below the same, the upper guides having recesses in their lower edges at their forward ends forming lugs, and the shelves having recesses to receive said lugs, and stops to engage the same, and the lower guides having stops on each side at their forward ends, and plates provided on the under side of said shelves to engage said lower guide stops, and said shelves being adapted when drawn forward to swing down to an inclined position and support the can and permit access thereto without removing it from the shelf.

4. A cabinet having an open front and a series of vertical partitions dividing its interior into compartments, a series of cross shelves arranged horizontally one above another between said partitions, said shelves having plates or strips extending above their upper surfaces and between which a can is adapted to be placed and held, guides mounted on said partitions and between which said shelves are slidable toward or from the front of the case, said guides having notches in their forward ends forming lugs, and said shelves having recesses forming stops that are engaged by said lugs when the shelves are drawn forward, and said lugs and stops permitting said shelves to swing downwardly a limited distance when drawn out to the front of the cabinet, for the purpose specified.

866,044. GUARD FOR REVOLVING CUTTING-TOOLS. CHARLES E. MARSHALL, Lestershire, N. Y. Filed Dec. 29, 1906. Serial No. 350,095.



1. A hollow interiorly threaded mandrel having an integral abutment collar thereon provided with an overhanging rim, a reduced spindle extension projecting from the fixed collar having a plain cylindrical portion and screw threads upon its outer end, and a clamping collar engaged on the threaded end of the spindle provided with an overhanging annular rim, and a cutter or cutters on the plain portion of the spindle clamped between the collars.

2. A mandrel having a hollow threaded stem provided with an annular abutment collar having an overhanging rim, the mandrel having a reduced spindle projecting from the face of the collar, the spindle having a plain cylindrical portion and an outer threaded end, a cutter on the plain portion of the spindle having its edge protected by the overhanging rim of the abutment collar, a clamping collar mounted on the threaded end of the spindle having an overhanging protective rim, said clamping collar adapted to clamp the cutter against the abutment collar.

866,045. PAPER-MAKING MACHINE. ROBERT J. MARTIN, Antonsthal, near Schwarzenberg, Germany. Filed Jan. 3, 1907. Serial No. 350,640.



1. In a machine of the class described, the combination of an adjustable oscillatory sieve table, an adjustable oscillatory suction part, the said sieve table and suction part being loosely connected, and means for simultaneously raising and lowering the said sieve table and suction part, substantially as herein set forth.

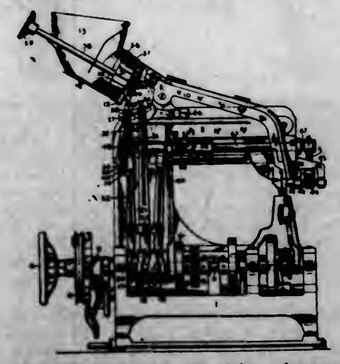
2. In a machine of the class described, the combination of an adjustable oscillatory sieve table having its pivot at a point between the two ends of the same, an adjustable oscillatory suction part, and means for simultaneously raising and lowering the said sieve table and suction part, substantially as herein set forth.

3. In a machine of the class described, the combination of an adjustable oscillatory sieve table having its pivot at a point between the two ends of the same, an adjustable oscillatory suction part, and means for adjusting the said table and suction part from a single point, substantially as herein set forth.

4. In a machine of the class described, the combination of an adjustable oscillatory sieve table, an adjustable oscillatory suction part, adjustable supports for the said sieve table and suction part, and means for adjusting these supports from a single point, substantially as herein set forth.

5. In a machine of the class described, the combination of an adjustable oscillatory sieve table, an adjustable oscillatory suction part, adjustable supports for the said sieve table and suction part, said supports being provided with a screw threaded portion, a shaft for turning the supports from a single point, worms secured to the said shaft, worm wheels gearing with these worms and engaging the screw threaded portions of the aforesaid supports, substantially as herein set forth.

866,046. BUTTON-FEEDING MECHANISM. EDWARD P. MERWIN, Elizabeth, N. J., assignor to The Singer Manufacturing Company, a Corporation of New Jersey. Filed June 14, 1907. Serial No. 378,884.



1. A button-feeding device comprising a hopper, a chute leading therefrom, a button-selecting member for delivering buttons from the hopper into the chute, actuating means for said button-selecting member, and means for varying the action of said actuating means upon the button-selecting member whereby the latter is controlled to vary the delivery of buttons to the chute.

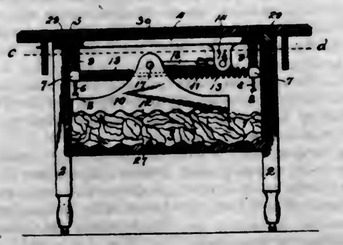
2. A button-feeding device comprising a hopper, a chute leading therefrom, a rotary button-selecting member for delivering buttons from the hopper into the chute and provided with an annular series of ratchet-teeth, a pawl, means for yieldingly maintaining said pawl in operative relation with said ratchet-teeth, a reciprocating carrier for said pawl, a stop-member adapted to engage said pawl for maintaining it out of operative relation with said ratchet-teeth, and means for maintaining said stop-member withdrawn from operative relation with said pawl throughout a complete operative reciprocatory movement of the latter.

3. A button-feeding device comprising a hopper, a chute leading therefrom, a rotary button-selecting member for delivering buttons from the hopper into the chute and provided with an annular series of ratchet-teeth, a pawl, means for yieldingly maintaining said pawl in operative relation with said ratchet-teeth, a reciprocating carrier for said pawl, a movable carrier, a stop-member movably mounted thereon, means for holding the same in operative and inoperative relation with said pawl, and means for shifting said movable carrier toward and from the normal path of reciprocation of said pawl once during a plurality of reciprocations of said pawl.

4. A button-feeding device comprising a hopper, a chute leading therefrom, a reciprocating button-carrier at the opposite end of said chute, means including a vibrating lever for reciprocating said button-carrier, a rotary button-selecting member for delivering buttons from the hopper into the chute and provided with an annular series of ratchet-teeth, a spring-pressed pawl normally engaging said ratchet-teeth, a carrier therefor with means for imparting thereto a plurality of reciprocations for each vibration of the actuating lever of said buttton-carrier, a stop-member movably mounted upon said vibrating lever and adapted to engage said pawl to hold it out of operative relation with said ratchet-teeth, and means whereby said stop-member may be maintained in operative or inoperative relation with said pawl.

5. A button-feeding device comprising a hopper, a chute leading therefrom, a reciprocating button-carrier at the opposite end of said chute, means including a vibrating lever for reciprocating said button-carrier, a rotary button-selecting member for delivering buttons from the hopper into the chute and provided with an annular series of ratchet-teeth, a vibrating carrier-lever with means for imparting thereto a plurality of reciprocations for each vibration of the actuating lever of said button-carrier, a pawl-lever fulcrumed upon said carrier-lever and having an operative arm adapted to engage the ratchet-teeth of said button-selecting member and an oppositely extending arm or extension provided with a lateral lug, a spring interposed between said lateral lug of the pawl-lever extension and the carrier-lever, and a movable stop-arm mounted upon said vibrating actuating lever for the button-carriers and adapted to be shifted into and out of operative relation with the extension of said pawl-lever.

866,047. WASHING-MACHINE. MARTHA MORGAN, Hiawatha, Kans. Filed Oct. 28, 1905. Serial No. 284,770.



1. In a washing machine, the combination with the clothes receptacle having an open top and a corrugated bottom, of a lid hinged to the receptacle and covering, when in the closed position, the open top of the receptacle, four vertical rods pivotally secured at their upper ends to said lid, two horizontal bars vertically slidable one on each pair of vertical rods, resilient means for resisting the movement upward of said horizontal bars, two horizontal rods mounted parallel with each other in said receptacle and supported at their ends respectively by said horizontal bars, a rubbing device slidably mounted on said horizontal rods and having a corrugated bottom, a horizontal crank shaft rotatively supported upon the under side of said lid and extending at one end through the side of the receptacle, the upper edge of the said side of the receptacle being notched to receive said shaft, means for rotating said shaft, and a pitman pivotally connected to said shaft and to said rubbing device.

2. In a washing machine, the combination with the open top receptacle for the clothes, the receptacle having a corrugated bottom, of a lid hinged to the receptacle and movable to a horizontal position closing the open top thereof, a corrugated rubbing device in said receptacle, a vertically movable support for said rubbing device upon which the rubbing device is movable horizontally to and fro, resilient means for resisting upward movement of said support, resilient means carried by said support for resisting horizontal movement in either direction of the rubbing device, a shaft rotatively mounted on said lid, and means for imparting horizontal reciprocation on said support to said rubbing device when the shaft is rotated.

3. In a washing machine, the combination with the open top clothes receptacle having a corrugated bottom, of a lid hinged to the said receptacle and when in the closed position covering the open top of the receptacle, two horizontal parallel bars in said receptacle, supporting means for said bars depending from the under side of said lid and upon which said bars are movable vertically respectively, resilient means for resisting upward movement of said bars, two horizontal parallel rods supported at their ends respectively by said bars and upon which the rubbing device is reciprocatively mounted, four coil springs mounted two on each of said rods and disposed two at each side of said rubbing device, said springs bearing each at one end upon said rubbing device and at the other end upon the adjacent horizontal bar, a rotary shaft mounted on said lid, means for rotating said shaft, and means for reciprocating said rubbing device when the shaft is rotated.

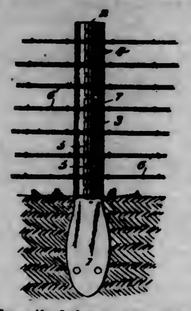
4. In a washing machine, the combination with the open top clothes receptacle having a corrugated bottom, of a lid hinged to said receptacle and movable to and from a position covering said open top, a corrugated rubbing device in said receptacle, a vertically and laterally movable support carried on the under side of said lid and on which the rubbing device is reciprocative horizontally, resilient means for resisting upward movement of said support, resilient means for resisting horizontal movement in either direction of the rubbing device, a shaft rotatively mounted on said lid, means for rotating said shaft, and means for reciprocating said rubbing device when the shaft is rotated.

866,048. METALLIC FENCE-POST. WILLIAM D. MCATLIN, Tullvania, Mo., assignor of one-half to Aaron Hyams, Sioux Falls, S. D. Filed Dec. 22, 1906. Serial No. 349,126.

1. A fence post comprising a hollow portion having a longitudinal slot in one side and having portions bordering upon the slot outwardly extended and recurved and formed at intervals with corresponding transversely alined notches to receive the runner wires, and fastening means passed through the slot of the post and engaged with the latter at one end and having the opposite end engaged with the runner wires to hold the same in place.

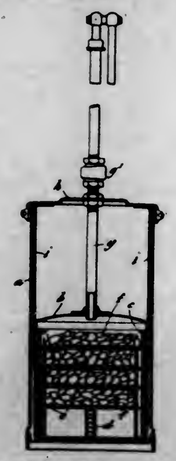
2. A fence post comprising a hollow portion having a longitudinal slot in one side and having the edge portions of the post bordering upon said slot outwardly extended and formed with notches to receive the runner wires, and fastenings engaged at their outer ends with the runner wires and passed through the slot of the post and having cross-heads at their inner ends projected transversely of

the slot and having their ends in engagement with edge portions of the post bordering upon the said slot.



2. The herein described fence post comprising a hollow body portion provided in one side with a longitudinal slot and having the edge portions bordering upon the slot outwardly extended and recurved and formed with transversely alined notches and a flattened and tapered point, the body portion and point being of integral formation.

866,049. ACETYLENE-GAS GENERATOR. JAMES MCRAE and HAROLD INGRAM, London, England, assignors to Henry Frederic Duck, London, England. Filed Mar. 23, 1906. Serial No. 307,564.

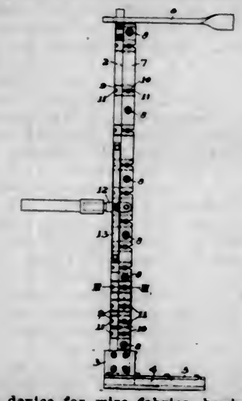


1. A wet system acetylene generator comprising an outer water vessel, a bell-shaped gas receiver having its lower end sealed by the water in the outer vessel and an eduction tube at its upper end detachably secured to the said outer vessel, a multi-stage carbid holder within the bell receiver having a plurality of carbid trays arranged one above the other and adapted to be separately charged, a refuse compartment under the bottom tray, having a solid base and an opening therein fitted with a laterally perforated vertical tube, said tube being closed at its upper end and opening at its lower end into the outer water vessel; substantially as described.

2. A wet system acetylene generator comprising an outer water vessel, a bell-shaped gas receiver having its lower end sealed by the water in the outer vessel and an eduction tube at its upper end detachably secured to the said outer vessel, a multi-stage carbid holder within the bell receiver having a plurality of superposed compartments each having a door for the supply and withdrawal of the charge of calcium carbid and a reticulated grid supporting the carbid blocks, said reticulations forming a large proportion of the total area of the grid, a refuse compartment under the bottom tray, and means for allowing the passage of water in either direction between the water vessel and refuse chamber, while retaining the refuse within the said chamber; substantially as described.

3. A wet system acetylene generator comprising an outer water vessel, a bell-shaped gas receiver having its lower end sealed by the water in the outer vessel and an eduction tube at its upper end detachably secured to the said outer vessel, a multi-stage carbid holder within the bell receiver having a plurality of superposed compartments each having a door for the supply and withdrawal of the charge of calcium carbid and a reticulated grid supporting the carbid blocks, said reticulations forming a large proportion of the total area of the grid, a refuse chamber located under the carbid compartments having a solid base and an opening therein fitted with a laterally perforated vertical tube, said tube being closed at its upper end and opening at its lower end into the outer water vessel; substantially as described.

866,050. MULTIPLE FENCE-SHEAR. ROBERT W. NEY, Cleveland, Ohio, assignor to American Steel & Wire Company, Chicago, Ill., a Corporation of New Jersey. Filed June 18, 1906. Serial No. 322,191.



1. A shear device for wire fabrics, having a series of shear blades spaced apart in accordance with the fabric wires, means for adjusting the shear device toward and from the fabric to be severed, and connections for actuating the shear blades simultaneously; substantially as described.

2. In a shear device for wire fabrics, a series of notched knives arranged to receive the wires, means for adjusting the shear device toward and from the fabric to be severed, and connections arranged to actuate said knives simultaneously; substantially as described.

3. In a shear device for wire fabrics, a stationary shear blade, a movable shear blade, a series of notched knives mounted in each blade, connections arranged to move one of said blades endwise and means for adjusting the entire shear device toward and from the wire fabric to be severed; substantially as described.

4. The combination with a wire fence machine, of a multiple shear device arranged between the machine and the winding drum and adjustable to and from the strand wires; substantially as described.

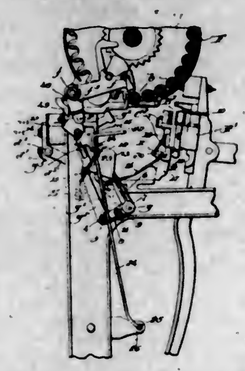
5. A shear device for wire fabrics having a series of removable and reversible shear blades spaced apart in accordance with the fabric wires, means for adjusting the shear device toward and from the fabric to be severed, and connections for actuating the shear blades simultaneously; substantially as described.

6. A shear device for wire fabrics having a series of removable and reversible notched shear blades spaced apart in accordance with the fabric wires, means for adjusting the shear device toward and from the fabric to be severed, and connections for actuating the shear blades simultaneously; substantially as described.

7. An attachment for wire fence machines, comprising a shear device supported between the take-up spindle and the crimping drum and adjustable to and from the strand wires, said shear device being arranged to cut the strand wires simultaneously; substantially as described.

8. The combination with a wire fabric-making machine having a take-up device, of a multiple shear device between the machine proper and the take-up mechanism, said multiple shear device being adjustable toward and from the plane of the fabric; substantially as described.

866,051. THREAD CLEARING AND PARTING MECHANISM FOR WEFT-REPLENISHING LOOMS. JONAS NORTHROP, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Jan. 16, 1907. Serial No. 352,479.



1. In a loom, a lay, and mechanism to automatically replenish the filling in the running shuttle, combined with means to engage and draw the old filling-end out of the shuttle, said means including a member movable with the the lay and a member independent of the lay temporarily positioned back of the path of the ejected filling-carrier and below the shuttle, said members oppositely engaging the old filling-end and forming a plurality of bights therein as said members move in opposite directions upon backward movement of the lay following filling replenishment.

2. In a loom, a lay, and mechanism to automatically replenish the filling in the running shuttle, combined with means to engage and draw the old filling-end out of the shuttle, said means including a member movable with the lay, and in front of the path of an ejected filling-carrier, a second member temporarily moved into position back of such path when filling is to be replenished, said members engaging the old filling-end at a plurality of points between the shuttle and the ejected filling-carrier, and means to govern the movement of the second member, relative movement of said members following a change of filling pulling the filling-end in opposite directions and thereby drawing it out of the shuttle.

3. In a loom, a lay, and mechanism to automatically replenish the filling in the running shuttle, combined with means to engage and draw the old filling-end out of the shuttle, said means including two members oppositely movable after filling replenishment and temporarily positioned to permit the ejected filling-carrier to pass between them, and mechanism to thereafter cause said members to form a plurality of bights in and thereby draw the old filling-end out of the shuttle.

4. In a loom, a lay, and mechanism to automatically replenish the filling in the running shuttle, combined with means to engage and draw the old filling-end out of the shuttle, said means including a member movable with the lay, and in front of the path of an ejected filling-carrier, a second member temporarily moved into position back of such path when filling is to be replenished, said members engaging the old filling-end at a plurality of points between the shuttle and the ejected filling-carrier, and means actuated by the replenishing mechanism upon operation thereof to govern the movement of the second member into and out of operative position.

5. In a loom provided with automatic filling-replenishing mechanism, in combination, a lay, a thread clearing member thereon, a second normally quiescent clearing member, and actuating means to move the latter past and back of the first member on the beat up of the lay for filling replenishment, to permit the passage of the ejected filling-carrier between said members, the actuating means thereafter returning the second thread-catching member to normal position, the separation of the two members engaging and pulling the old filling-end in opposite directions to positively and quickly draw it from the shuttle.

6. In a loom, in combination, a lay, automatic filling-replenishing mechanism, and means governed thereby to clear the shuttle of the old filling-end, said means including two clearer members moved past each other into position to permit the passage between them of the ejected filling-carrier and thereafter oppositely moved to engage the filling-end at two points below the shuttle and pull it therefrom.

7. In a loom, in combination, a lay, automatic filling-replenishing mechanism, and means governed thereby to clear the shuttle of the old filling-end, said means including a clearer member mounted on the lay in front of the path of the ejected filling-carrier, a second clearer member movable toward and from the lay and into position, when filling is replenished, back of the path of the ejected filling-carrier, and a fixed fulcrum on which said second member is mounted.

8. In a loom, in combination, a lay, automatic filling-replenishing mechanism, and means to automatically clear the shuttle of the old filling-end, said means including a member movable toward the lay in a path below the shuttle and across the path of an ejected filling-carrier to a point behind the latter during filling replenishment, to engage the old filling-end behind the same, and a second member mounted independently of the first-named member to engage the old filling-end in front of the same.

9. In a loom, in combination, a lay, automatic filling-replenishing mechanism, a normally quiescent clearer member, a substantially horizontal, fixed fulcrum on which said member is movable into operative position below the shuttle and back of the path of an ejected filling-carrier, a second clearer member mounted on the lay in front of the path of the ejected filling-carrier and movable in a path below that of the first-named member, and operating connections between the latter and the replenishing mechanism, whereby the said first-named member is caused to engage the old filling-end between the shuttle and the ejected filling-carrier and draw a bight thereof forward as the second member engages and draws a second bight in the filling-end rearward as the lay moves back after filling replenishment.

10. In a loom, in combination, a lay having a shuttle-box provided with an opening in its bottom for the discharge of an ejected filling-carrier, a guide on the lay to direct the filling-carrier forward and downward, a clearer member mounted on the lay above the guide, a second, normally quiescent clearer member mounted independently of the lay, a guard movable with said latter clearer member, automatic filling-replenishing mechanism, and operating connections between it and the guard and the normally quiescent clearer member, to cause the latter to engage the old filling-end between the shuttle and the ejected filling-carrier and thereafter draw the filling-end forward over the clearer member on the lay and also to position the guard above the guide, to form a directing chute for the discharge of the ejected filling-carrier.

11. In a loom, in combination, automatic filling-replenishing mechanism, and automatic means to engage the old filling-end simultaneously at a plurality of separated points between the ejected filling-carrier and the shuttle and draw the filling-end out of the shuttle.

12. In a loom, in combination, automatic filling-replenishing mechanism, and automatic means to engage and form a plurality of bights in the old filling-end between the ejected filling-carrier and the shuttle, to draw the filling-end out of the shuttle.

13. In a loom, in combination, automatic filling-replenishing mechanism, and means to automatically form and rapidly increase the length of a plurality of bights in the old filling-end between the ejected filling-carrier and the shuttle, to quickly and positively draw the filling-end from the shuttle.

14. In a loom, in combination, automatic filling-replenishing mechanism, and means actuated by said mechanism upon operation thereof to engage the old filling-end at a plurality of points between the shuttle and the ejected filling-carrier and rapidly separate the points of engagement, to draw the filling-end out of the shuttle.

15. In a loom, in combination, automatic filling-replenishing mechanism, and means actuated by said mechanism upon operation thereof to engage and form a plurality of bights in the old filling-end between the shuttle and the ejected filling-carrier and rapidly increase the length of the bights to draw such filling-end out of the shuttle.

16. In a loom, in combination, automatic filling-replenishing mechanism, means to part the old filling between the cloth and shuttle upon filling replenishment, and automatic means to engage and form a plurality of bights in the parted filling-end between the ejected filling-carrier and the shuttle, to draw the filling-end quickly and positively out of the shuttle.

17. In a loom, automatic filling-replenishing mechanism, and a lay having a shuttle-box provided with a discharge opening for an ejected filling-carrier, combined with an elongated clearer member mounted on the lay below and in front of said opening, and means operated by action of the replenishing mechanism to engage the old filling-end between the shuttle and the ejected filling-carrier and draw the same forward over the clearer member and out of the shuttle.

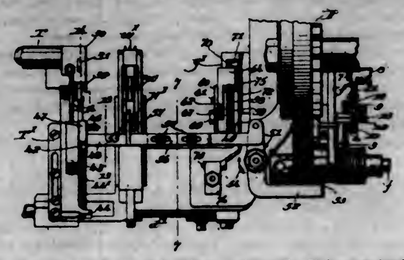
18. In a loom, automatic filling-replenishing mechanism, and a lay having a shuttle-box provided with a discharge opening for an ejected filling-carrier, combined with an elongated clearer member mounted on the lay below and in front of said opening, a second elongated clearer member independent of the lay and movable in parallelism to the member on the lay, and means to move the second member into operative position upon filling replenishment, to permit the ejected filling-carrier to pass between the clearer members, movement of the latter thereafter engaging and pulling the old filling-end in opposite directions to draw it quickly and positively out of the shuttle.

19. In a loom, in combination, automatic filling-replenishing mechanism, means to part the old filling between the cloth and shuttle, means to engage the old filling-end at a plurality of points between the shuttle and the ejected filling-carrier and clear the filling-end from the shuttle, and operating connections between the replenishing mechanism and said parting and clearing means.

20. In a loom, in combination, automatic filling-replenishing mechanism, means to engage the old filling-end between the shuttle and the ejected filling-carrier and draw it out of the shuttle, a lay, and means mounted independently of the lay and controlled by the operation of the lay and by the replenishing mechanism to part the old filling-end adjacent the cloth upon filling-replenishment and to part the new filling-end immediately after the new filling has been laid.

21. In a loom, in combination, mechanism to replenish automatically the running shuttle with filling, a shuttle-feeler to prevent the operation of said mechanism when the shuttle is improperly positioned for replenishment, a device mounted independently of the shuttle-feeler to part the filling at the replenishing side of the loom, and means to cause said device to act only when the shuttle is replenished with filling.

866,052. THREAD-PARTING MECHANISM FOR LOOMS. JONAS NORTHROP, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Jan. 16, 1907. Serial No. 352,480.



1. In a loom, in combination, automatic filling-replenishing mechanism, a temple, means carried thereby to part the old filling-end between the cloth and the shuttle only by or through the operation of the replenishing mechanism and to thereafter part the new filling-end immediately after the new filling has been laid.

2. In a loom, in combination, automatic filling-replenishing mechanism, a lay, and means mounted independently of the lay and controlled positively and successively by the replenishing mechanism and the lay to first part the old filling-end adjacent the cloth upon filling replenishment and thereafter to part the new filling-end immediately after the new filling has been laid.

3. In a loom, in combination, a lay, automatic filling-replenishing mechanism, a temple, blades carried thereby to part the filling adjacent the cloth, a spring-actuated device to operate the blades, means to permit the operation of said device upon filling-replenishment, to part the old filling-end, and means to effect by or through the lay a second operation of the parting blades to part the new filling-end due to filling replenishment.

4. In a loom, in combination, a lay, automatic filling-eplenishing mechanism, a temple, blades carried thereby o part the filling adjacent the cloth, spring-actuated means to operate the blades, a detent to normally prevent said means from operating, operative connections between the detent and replenishing mechanism to withdraw the former upon operation of the latter, whereby the spring-actuated means cause the blades to coöperate with and part the old filling-end, a retarding device to engage the detent when withdrawn and maintain it withdrawn for a predetermined period, and means to cause a second operation of the blades by or through the lay during such period and after filling replenishment, to part the new filling-end due to such replenishment.

5. In a loom, in combination, a lay, automatic filling-replenishing mechanism, a temple, pivotally connected blades carried thereby and bodily movable into and out of operative position, spring-actuated means to move the blades into operative position and to effect closure thereof, a member connected with said blades and adapted to be at times engaged by the lay, to retract the blades and effect opening thereof, a detent to normally retain the blades retracted in inoperative position, connections between the detent and replenishing mechanism to withdraw the former upon operation of the latter, whereby the spring-actuated means cause the blades to coöperate with and part the old filling-end, and a retarding device to maintain the detent withdrawn for a predetermined period, the lay during such period acting upon the member connected with the blades to retract them, the spring-actuated means causing a second operation of the blades as the lay moves back to part the new filling-end due to filling-replenishment, the retarding device releasing the detent thereafter and permitting it to act after a second engagement of the lay with the member connected with the blades.

6. In a loom provided with automatic filling-replenishing mechanism, in combination, means, the actuation of which is effected by the operation of said mechanism, to part the filling adjacent the cloth, separate means to part the old filling-end within the shuttle, a shuttle-feeler movable into operative position when the shuttle is properly boxed for filling replenishment, and means carried by said feeler to engage and remove the piece of filling parted by the parting means.

7. In a loom provided with automatic filling-replenishing mechanism, in combination, means to positively part the filling adjacent the cloth upon filling replenishment, separate means to enter the shuttle and part the old filling-end, and devices to effect the operation of the said separate means only by or through actuation of the replenishing mechanism.

8. In a loom provided with automatic filling replenishing mechanism, a lay, means to enter the shuttle at the replenishing side of the loom and part the old filling and connections between the replenishing mechanism and the parting means, to operatively position the latter when filling is to be replenished, the actuation of the parting means being effected at such time by the lay.

9. In a loom, in combination, automatic filling-replenishing mechanism, means the operation whereof is effected by or through the actuation of said mechanism to part the old filling-end on the pick on which filling is replenished, and separate, positively operated means to enter the shuttle and part such filling-end only upon filling replenishment.

10. In a loom, in combination, automatic filling-replenishing mechanism, positively acting means to part the old filling-end adjacent the cloth on the pick on which filling is replenished and to part the new filling-end immediately after the pick following replenishment, and separate means rendered operative by actuation of the replenishing mechanism to enter the shuttle and part the old filling-end thereat only upon filling replenishment.

11. In a loom, in combination, automatic filling-replenishing mechanism, a lay, means controlled successively by the said mechanism and the lay to part, the old filling-end adjacent the cloth and thereafter to part the new filling-end due to filling replenishment immediately after the new filling has been laid, and separate means operatively positioned by the replenishing mechanism and actuated by the lay to part the old filling-end at the shuttle.

12. In a loom, in combination, a lay, automatic filling replenishing mechanism, including a rocking transferrer, a blade-carrier adapted to swing about a fixed fulcrum, relatively movable blades mounted on the carrier, to part the old filling-end adjacent the shuttle upon filling replenishment, a blade-closing device operated by engagement with the lay when the blade-carrier is operatively positioned, and connections between the transferrer and blade-carrier to swing the latter into and out of operative position by movement of the transferrer.

13. In a loom, in combination, a lay, automatic filling-replenishing mechanism, including a transferrer, a movable blade-carrier, parting blades mounted thereon and adapted to part the old filling-end adjacent the shuttle, a device to open the blades, a blade-closing device, said closing device being engaged by the lay to close the blades when the blade-carrier is operatively positioned, and means to move the blade-carrier into operative position by operative movement of the transferrer and to retract the blade-carrier by movement of the transferrer when it returns to normal position.

14. In a loom, in combination, a lay, automatic filling-replenishing mechanism, including a transferrer, a movable blade-carrier, parting blades mounted thereon and adapted to part the old filling-end adjacent the shuttle, means to close the blades by or through engagement with the lay when the blade-carrier is operatively positioned, a yielding connection between the blade-carrier and transferrer to operatively position the former when the latter operates, and separate means to positively restore the blade-carrier to inoperative position by or through retractive movement o fthe transferrer following filling replenishment.

15. In a loom, in combination, a lay, automatic filling-replenishing mechanism, including a rocking transferrer, a blade-carrier, adapted to swing about a fixed fulcram adjacent the transferrer path and having a fixed blade at its lower end, a movable blade pivoted on the blade-carrier and coöperating with the fixed blade and having an attached arm adapted to be at times engaged by the lay to close the blades, operating connections between the blade-carrier and transferrer, to operatively position the former by transferring movement of the latter, whereby the blades will coöperate with and part the old filling-end at the shuttle, and to return the blade-carrier to inoperative position by retraction of the transferrer, and a blade-opening device to act upon the arm of the pivoted blade when the blade-carrier is returned to normal position.

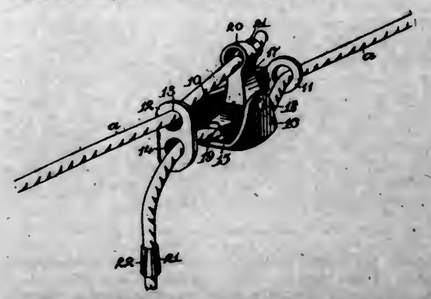
16. In a loom, in combination, automatic filling-replenishing mechanism, a movable blade-carrier provided with relatively-movable blades to part the old filling-end at the shuttle, connections between the blade-carrier and replenishing mechanism, to move the former into operative position by or through complete actuation only of the latter, a lay, and means governed thereby to effect closing movement of the blades when the blade-carrier is operatively positioned, and separate connections between the blade-carrier and replenishing mechanism to return the former to normal, inoperative position immediately after filling replenishment.

17. In a loom in combination, automatic filling-replenishing mechanism, a lay, a shuttle-box thereon at the replenishing side of the loom having an opening in its front wall, a shuttle adapted to contain a supply of filling and having an opening adapted to register with the opening in the shuttle-box wall when the shuttle is properly boxed, and automatically operated parting blades adapted to enter said openings when filling is replenished, to part the old filling-end at the opening in the shuttle.

18. In a loom, in combination, automatic filling-replenishing mechanism, a lay, a shuttle-box thereon at the replenishing side of the loom having an opening in its front wall, a shuttle adapted to contain a supply of filling and having an opening adapted to register with the opening in the shuttle-box wall when the shuttle is properly boxed, automatically operated parting blades adapted to enter said openings when filling is replenished, to part the old filling-end at the opening in the shuttle, and means controlled by the replenishing mechanism to part the old filling-end adjacent the cloth.

19. In a loom provided with automatic filling-replenishing mechanism, in combination, a temple, means carried thereby to part the filling adjacent the cloth, an instrumentality to effect the operation of said means only when filling replenishment is effected, a shuttle-feeler to permit filling replenishment only when the shuttle is properly boxed, and means carried by the said feeler to engage and retract the piece of filling when parted by the parting means.

866,053. LINE-FASTENER. FERDINAND OHLIGER, JOHN SKRAMOVSKY, and HENRY F. WILKE, Elizabeth, N. J. Filed Dec. 14, 1906. Serial No. 347,763.



A line fastener comprising a member having a side wall, an eye on one end, and a plate on the other end having

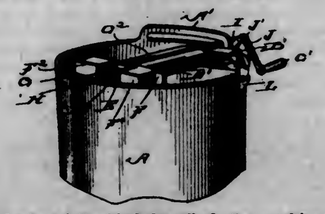
a pair of perforations therein the member having a socket between the eye and the plate, and a second member having an eccentric portion pivoted in the socket, and a projecting end having a loop thereon, in combination with a line having an end passing through the perforated plate and secured to the loop, and another end passing through the eye, between the socket and the eccentric portion of the second member, and then through the perforated plate.

866,054. GLASS SHOW-CASE. ALPHONS OLBERG, Minneapolis, Minn. Filed Mar. 25, 1907. Serial No. 364,218.



In a showcase, the combination with a base, of channel-shaped rear corner post rising from said base and having their inner flanges bent laterally to form door stops, a channel-shaped tie bar connecting the upper ends of said corner posts and having its inner flange bent laterally to form a door stop, a door hinged to one of said corner posts and engageable with said door stops, glass side plates seated at their lower edges on said base and at their rear vertical edges in said channel corner posts, a glass front plate seated on said base, a glass top plate seated at its rear edge in said channel tie bar, corner brackets in which the adjacent corners of said side, front and top plates are seated, a metallic strip connecting said corner brackets and interposed between the said top plate and upper edge of said front plate, metallic strips connecting said corner brackets to the upper ends of said corner posts and interposed between said top plate and the upper edges of said side plates, and metallic strips connecting said corner brackets to said base and interposed between said front plate and the front edges of said side plates, substantially as described.

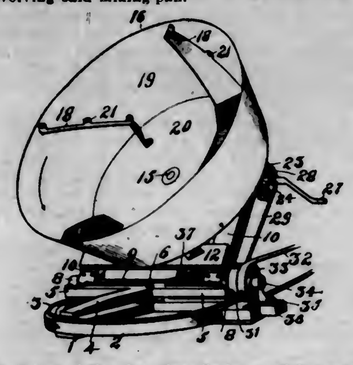
866,055. MOP-WRINGER. ELI OLSEN, Portland, Oreg. Filed May 22, 1906. Serial No. 318,249.



In a device of the kind described, the combination with a pail provided with an upwardly projecting slotted portion, of a frame secured in said pail adjacent one end of said upwardly projecting portion, an angled slotted frame secured in the pail opposite said frame, a shaft mounted in said frame carrying a roller, a shaft mounted in said frame carrying a roller and extending out through said slotted portion and provided with a crank, a sleeve mounted on said shaft on the outside of said slotted portion provided with an arm and a lever mounted on a plate secured to said pail connected to said arm.

866,056. CONCRETE-MIXER. ALLEN R. PARKER, Akron, Ohio. Filed May 17, 1907. Serial No. 374,197.

1. A device of the class described comprising a supporting frame suitably mounted for horizontal revolution, a tilting frame on said revoluble frame, a revoluble mixing-pan carried by said tilting frame, a standard mounted on said revoluble frame, a lever pivotally mounted on said standard, means for connecting said lever with said tilting frame, whereby the inclination of said tilting frame may be varied when said lever is manipulated, and means for revolving said mixing-pan.



2. A device of the class described comprising a supporting frame suitably mounted for horizontal revolution, a tiltable frame pivotally mounted on said revoluble frame, a revoluble mixing-pan carried by said tiltable frame, means for revolving said mixing-pan, a standard carried by said revoluble frame, a lever mounted on said standard, mechanism for connecting said lever with said tiltable frame, whereby said tiltable frame may be varied in inclination by the manipulation of said lever, and a lock to arrest the movement of said lever and frame.

3. A device of the class described comprising a supporting frame suitably mounted for horizontal revolution, a revoluble shaft carried by said frame, a pulley carried by said shaft, a tiltable frame pivotally secured to said shaft, means for varying the inclination of said tiltable frame, a mixing-pan carried by said tiltable frame, a shaft rotatably mounted on said rotatable frame, means carried by said shaft for engaging said mixing-pan for producing revolution thereof, and means for communicating motion from one of said shafts to the other, whereby the revolution of said mixing-pan will conform to the revolution of said pulley.

4. A device of the class described comprising a revoluble frame suitably mounted for horizontal revolution, a shaft rotatably mounted on said frame, a tiltable frame pivotally mounted on said shaft, a revoluble mixing-pan carried by said tiltable frame, an annular gear rack on said mixing-pan, a shaft carried by said tiltable frame, a spur gear on said shaft adapted to mesh with the annular gear rack, a sprocket wheel carried by said shaft, a sprocket wheel mounted on the shaft on which said tiltable frame is mounted, means connecting said sprocket wheels, whereby said shafts are revolved in unison, and means for communicating motion to said first mentioned shaft for causing the revolution of said mixing-pan.

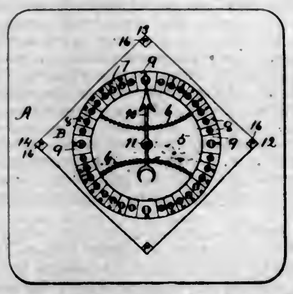
5. A device of the class described comprising a stationary frame, a revoluble frame superposed thereon, a tiltable frame pivotally mounted on said revoluble frame, a mixing-pan carried by said tiltable frame, means to vary the inclination of said tiltable frame, means to revolve said mixing-pan and a spring abutment adapted to lie in the path of said revoluble frame and engage said frame and prevent complete revolution thereof in one direction.

6. A device of the class described comprising a stationary frame, an annular track mounted on said frame, a revoluble frame superposed on said stationary frame adapted to be revolved on said track, a tiltable frame hinged on said revoluble frame, means to vary the inclination of said tiltable frame, a revoluble mixing-pan carried by said tiltable frame, means for revolving said mixing-pan, a spring abutment adapted to lie in the path of said revoluble frame and be depressed by said frame and inoperative when said revoluble frame is turned in one direction and arranged to constitute a stop for preventing complete reverse revolution of said frame in an opposite direction.

7. A device of the class described comprising a stationary frame, an idler pulley suitably supported by said frame, a revoluble frame superposed on said stationary frame, a rotatable shaft mounted on said revoluble frame, a pulley mounted on said rotatable shaft, a tiltable frame hinged on said rotatable shaft, a revoluble mixing-pan carried by said tiltable frame, means for causing the revolution of said mixing-pan, means for transmitting motion from said rotatable shaft to the means for revolving said mixing-pan, and means for arresting the revolution of said revoluble frame.

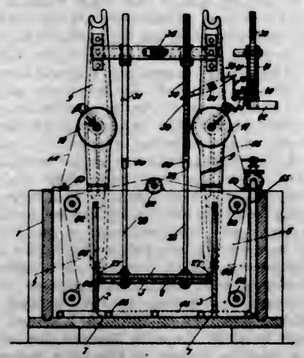
8. A device of the class described comprising a stationary frame, an idler pulley supported by said stationary frame, a revoluble frame superposed on said stationary frame, a shaft carried by said revoluble frame, a pulley on said shaft so positioned as to aline and register with said idler pulley, an upwardly-extending frame mounted on said revoluble frame, a revoluble mixing-pan carried by said upwardly-extending frame, and means for communicating motion from the pulley carried by said revoluble frame to said mixing-pan, whereby said mixing-pan may be revolved.

866,057. BASE-BALL-GAME APPARATUS. CLARENCE C. PATCH, Chicago, Ill. Filed Nov. 16, 1906. Serial No. 343,729.



In a game apparatus, a playing board or surface having a base ball field indicated thereon in minature, a ring or dial within the border of the diamond, a series of cards having base ball terms and a number indicated thereon and adapted to be placed in a circle around said ring, a revoluble pointer, and means for indicating the position of the runners on the bases.

866,058. DYE-JIGGER. WILLY PETERS, Düsseldorf, Germany. Filed Apr. 13, 1907. Serial No. 367,948.



1. In a jigger the combination of a vat, transverse walls in said vat adapted to divide the vat into several compartments containing all the dye-liquor, suitably arranged rollers on which the cloth is wound on and off, means to rotate said rollers, means to pass the cloth through some of said compartments containing the starting dye-liquor, means to add the dye-liquor from the remaining compartments to the compartments containing the starting dye-liquor, and means to maintain the dye-liquor in the latter compartments at a constant level, substantially as set forth.

2. In a jigger the combination of a vat, transverse walls in said vat dividing the vat into several compartments, containing all the dye-liquor, suitably arranged rollers on which the cloth is wound on and off, means to rotate said rollers, means to pass the cloth through some of said compartments containing the starting dye-liquor, movable bottoms in the remaining compartments, means for raising said movable bottoms, adapted to add the compensating dye-liquor from the remaining compartments to the compartments containing the starting dye-liquor, and means to maintain the dye-liquor in the latter compartments at the same level, substantially as set forth.

3. In a jigger the combination of a vat, transverse walls in said vat dividing the vat into several compartments, containing all the dye-liquor, suitably arranged rollers on which the cloth is wound on and off, means to rotate said rollers, means to pass the cloth through some of said compartments containing the starting dye-liquor, movable bottoms in the remaining compartments, means to connect all compartments with one another, means for gradually and continuously raising said movable bottoms adapted to add the compensating dye-liquor from the remaining compartments to the compartments containing the starting dye-liquor, and means to maintain the dye-liquor in the latter compartments at the same level, substantially as set forth.

4. In a jigger the combination of a vat, transverse walls in said vat dividing the vat into several compartments containing all the dye-liquor suitably arranged rollers on which the cloth is wound on and off, means to rotate said rollers, means to pass the cloth through some of said compartments containing the starting dye-liquor, movable bottoms in the remaining compartments, openings in the lower parts of the transverse walls connecting all compartments with one another, means for gradually and continuously raising said movable bottoms adapted to add the compensating dye-liquor from the remaining compartments to the compartments containing the starting dye-liquor, means to maintain the dye-liquor in the latter compartments at the same level, and means to automatically throw the raising mechanism out of action at any convenient point, substantially as set forth.

5. In a jigger the combination of a vat, two transverse walls in said vat adapted to divide the vat into three compartments containing all the dye-liquor, said transverse walls having openings in their lower parts, the outer compartments containing the starting dye-liquor, the inner compartment containing the compensating dye-liquor, suitably arranged rollers on which the cloth is wound on and off means to rotate said rollers, means to pass the cloth through the starting dye-liquor, a movable bottom in the inner compartment, means to gradually and continuously raise said movable bottom, adapted to add the compensating dye-liquor to the starting dye-liquor and means to make said bottom fit tightly against the walls, substantially as set forth.

6. In a jigger, the combination of a vat, two transverse walls in said vat adapted to divide the vat into three compartments containing all the dye-liquor, said transverse walls having openings in their lower parts, the outer compartments containing the starting dye-liquor, the inner compartment containing the compensating dye-liquor, rollers adjustably, and interchangeably arranged on the frame of the machine, on which the cloth is wound on and off, guide-rollers in the outer compartments, stretchers fixed across the top of the outer compartments, a guide roller situated above the inner compartment, means to rotate the winding rollers, means to pass the cloth through the starting dye-liquor, a movable bottom in the inner compartment, means to gradually,

and continuously raise said movable bottom, means to make said bottom fit tightly against the walls, and means to interrupt the raising mechanism, substantially as set forth.

7. In a jigger the combination of a vat, two transverse walls in said vat, adapted to divide the vat into three compartments, containing all the dye-liquor, said walls having openings in their lower parts, the outer compartments containing the starting dye-liquor, the inner compartment containing the compensating dye-liquor, suitably arranged rollers on which the cloth is wound on and off, means to rotate said rollers, means to pass the cloth through the starting liquor, a movable bottom in the inner compartment, means to make said movable bottom fit tightly against the walls, rods supporting said movable bottom, toothed upper parts of said rods, cog wheels engaging with said toothed upper parts, and means to rotate said cog wheels, substantially as set forth.

8. In a jigger the combination of a vat, two transverse walls in said vat, adapted to divide the vat into three compartments, containing all the dye-liquor, said walls having openings in their lower parts, the outer compartments containing the starting dye-liquor, the inner compartments containing the compensating dye-liquor, suitably arranged rollers on which the cloth is wound on and off, means to rotate said rollers, means to pass the cloth through the starting dye-liquor, a movable bottom in the inner compartment, means to make said bottom fit tightly against the walls, rods supporting said movable bottom, toothed upper parts of said rods, cog wheels engaging with said toothed upper parts, a shaft bearing said cog wheels, two ratchet wheels fixed on said shaft, means to drive one of said ratchet wheels, and means to keep said shaft from rotating in the opposite direction, substantially as set forth.

9. In a jigger the combination of a vat, two transverse walls in said vat, adapted to divide the vat into three compartments containing all the dye-liquor, said walls having openings in their lower parts, the outer compartment containing the starting dye-liquor, the inner compartment containing the compensating liquor, suitably arranged rollers on which the cloth is wound on and off, means to rotate said rollers, means to pass the cloth through the starting dye-liquor, a movable bottom in the inner compartment, means to make said bottom fit tightly against the walls, rods on each side of said movable bottom, toothed upper parts of said rods, a shaft on each side of the jigger, cog wheels fixed on said shafts adapted to engage with said toothed rods, means to rotate one of said shafts, and gearing adapted to communicate the motion of one shaft to the other, substantially as set forth.

10. In a jigger the combination of a vat, two transverse walls in said vat, adapted to divide the vat into three compartments containing all the dye-liquor, said transverse walls having openings in their lower parts, the outer compartment containing the starting dye-liquor, the inner compartment containing the compensating dye-liquor, suitably arranged rollers on which the cloth is wound on and off, means to rotate said rollers, means to pass the cloth through the starting dye-liquor, a movable bottom in the inner compartment, means to make said movable bottom fit tightly against the walls, rods on each side of said movable bottom, toothed upper parts of said rods, a shaft on each side of the jigger, cog wheels fixed on said shafts, adapted to engage with said toothed rods, two ratchet wheels fixed on one of said side shafts, a main shaft, means to rotate said main shaft, means to communicate motion from the main shaft to one of said ratchet wheels, gearing adapted to communicate the motion of the one side shaft to the other, and means to communicate the motion of the main shaft to the winding rollers, substantially as set forth.

11. In a jigger the combination of a vat, two transverse walls in said vat, adapted to divide the vat into three compartments containing all the dye liquor, said transverse walls having openings in their lower parts, the outer compartments containing the starting dye-liquor, the inner compartment containing the compensating dye-liquor, suitably arranged rollers on which the cloth is wound on and off, said rollers being adjustable and interchangeable, means to rotate said rollers, means to pass the cloth through the outer compartments, a movable bottom in the inner compartment, means to make said movable bottom fit tightly against the walls, rods on each side of said movable bottom, toothed upper parts of said rods, a shaft on each side of the jigger, cog wheels fixed on said shaft, adapted to engage with said toothed rods, two ratchet wheels fixed on one of said side shafts, a main shaft, means to rotate said main shaft, means to communicate motion from the main shaft to one of said ratchet wheels, gearing adapted to communicate the motion of the one side shaft to the other, gearing adapted to communicate the motion of the main shaft to the axles of both winding rollers, a clutch coupling on each axle, a double-armed lever mounted on a suitably arranged support between the couplings and connected to the adjustable part of each coupling, a handle on said lever means to fix the lever in certain positions, and means to disconnect the movable bottom from the raising mechanism, substantially as set forth.

12. In a jigger the combination of a vat, two transverse walls in said vat, said transverse walls having openings in their lower parts, suitably arranged rollers on which the cloth is wound on and off, said rollers being adjustable and interchangeable, means to rotate said rollers, means to pass the cloth through the outer compartments, a movable bottom in the inner compartment, means to make said movable bottom fit tightly against the walls, rods on each side of said movable bottom, toothed upper parts of said rod, a shaft on each side of the jigger, cog wheels fixed on said shaft adapted to engage with said toothed rods, two ratchet wheels fixed on one of said side shafts, a main shaft, means to rotate said main shaft, means to communicate motion from the main shaft to one of said ratchet wheels, gearing adapted to communicate the motion of the one side shaft to the other, gearing adapted to communicate the motion of the main shaft to the axles of both winding rollers, a clutch coupling on each axle, a double-armed lever mounted on a suitably arranged support between the couplings and connected to the adjustable part of each coupling, a handle on said lever means to fix the lever in certain positions, and means to disconnect the movable bottom from the raising mechanism, substantially as set forth.

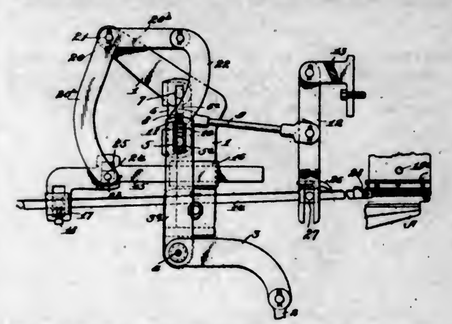
13. In a jigger the combination of a vat, two transverse walls in said vat adapted to divide the vat into three compartments, stands fixed on the side of the jigger, a bearing in each stand, winding rollers adjustably and interchangeably mounted in the bearings of two opposite stands, the cloth being wound on and off said rollers, means to guide the cloth through the outer compartments a movable bottom in the inner compartment, means to make said movable bottom fit tightly against the walls, rods on each side of said movable bottom, toothed upper parts of said rods, a shaft on each side of the jigger, cog wheels fixed on said shafts, adapted to engage with said toothed rods, ratchet wheels fixed on one of said side shafts, a main shaft, means to rotate said main shaft, a cog wheel on the one end of said main shaft, a separate shaft, a cog wheel fixed on said separate shaft adapted to engage with said cog wheel on the main shaft, a slotted crank arm fixed on said shaft, a pin in the slot, a link one end of which is fixed on said pin, a double-arm adapted to swing on the one side shaft, the lower part of which is connected to said link, a pin in the double arm, a pawl mounted on said pin adapted to engage with one of said ratchet wheels, means to keep the pawl in engagement with said ratchet wheel, means to secure said pawl out of engagement, means to automatically throw the pawl out of action, and means to keep said side shaft from rotating in the opposite direction, substantially as set forth.

14. In a jigger the combination of a vat two transverse walls in said vat adapted to divide the vat into three compartments, stands fixed on the sides of the jigger a bearing in each stand, winding-rollers adjustably and interchangeably mounted in the bearings of two opposite stands, the cloth being wound on and off said rollers, means to guide the cloth through the outer compartments a movable bottom in the inner compartment, means to make said movable bottom fit tightly against the walls, rods of each side of said movable bottom, toothed upper parts of said rods, a shaft on each side of the jigger, cog wheels fixed on said shafts adapted to engage with said toothed rods, ratchet wheels fixed on one of said side shafts, a main shaft, means to drive said main shaft, a cog wheel on the one end of the main shaft, a separate shaft, a cog wheel fixed on said separate shaft, adapted to engage with said cog wheel on the main shaft, a slotted crank arm fixed on said shaft, a pin in the slot, a link one end of which is fixed on said pin, a double-arm adapted to swing on the one side shaft, the lower part of which double-arm is connected to said link, a pin in the double-arm, said pin being flattened in places, a spring fixed on the double-arm, and adapted to press on the flat places on the pin, a pawl mounted on said pin, adapted to engage with one of said ratchet wheels, means to automatically throw the pawl out of action, and means to keep said side shaft from rotating in the opposite direction, substantially as set forth.

15. In a jigger the combination of a vat, two transverse walls in said vat, adapted to divide the vat into three compartments, stands fixed on the sides of the jigger, a bearing in each stand, rollers mounted adjustably, and interchangeably in the bearings of each pair of stands the cloth being wound on and off said rollers, means to guide the cloth through the outer compartments, a movable bottom in the inner compartment, means to make said movable bottom fit tightly against the walls, rods fixed on each side of said movable bottom, toothed upper parts of said rods, a shaft on each side of the jigger, cog wheels fixed on said shafts adapted to engage with said toothed rods, a ratchet wheel fixed on one of said side shafts, a main shaft, means to rotate said main shaft, a cog wheel on the one end of said main shaft, a separate shaft a cog wheel fixed on said separate shaft adapted to engage with said cog wheel on the main shaft, a slotted crank arm fixed on said separate shaft, a pin in the slot, a link having one end fixed on said pin, a double-arm adapted to swing on the one side shaft. a pin in said double arm, said pin being flattened in places, a spring fixed on the double arm adapted to press on the flat places on the pin, a pawl mounted on said pin engaging with the teeth of the ratchet wheel, a one-armed lever fixed on the end of said pin, a pin on a stand, a two-armed lever mounted on said pin, adapted to engage on one side with the one-armed lever, a projection on the toothed rod adapted to engage at the other side with said two-armed lever, keeping mechanism on the side shaft, adapted to prevent said side shaft from rotating in one direction, and means to temporarily release said keeping mechanism, substantially as set forth.

16. In a jigger the combination of a vat, two transverse walls in said vat, adapted to divide the vat into three compartments, stands fixed on the sides of the jigger, a bearing in each stand, rollers mounted adjustably, and interchangeably in the bearings of each pair of stands, the cloth being wound on and off said rollers, means to guide the cloth through the outer compartments a movable bottom in the inner compartment, means to make said movable bottom fit tightly against the walls, rods fixed on each side of said movable bottom, toothed upper parts of said rods a shaft on each side of the jigger, cog wheels fixed on said shafts, said cog wheels being adapted to engage with said toothed rods, a ratchet wheel fixed on one side shaft, a main shaft, means to drive said main shaft, a cog wheel on the one end of said main shaft, a separate shaft, a cog wheel fixed on said separate shaft and adapted to engage with said cog wheel on the main shaft, a slotted crank arm fixed on said separate shaft, a pin in the slot, a link having one end fixed on said pin, a double arm adapted to swing on the one side shaft, a pin in said double arm, said pin being flattened in places, a spring fixed on the double arm adapted to press on the flat places on the pin, a ratchet wheel, a pawl mounted on said pin engaging with the teeth of the ratchet wheel, a one-armed lever fixed on the end of said pin, a pin on a stand, a two-armed lever mounted on said pin adapted to engage on one side with the one armed lever, a keeping ratchet wheel on said side shaft, a slotted pawl engaging with said keeping ratchet wheel, a pin on which said pawl is mounted, said pin being flattened on one side, a spring situated in the slot in said pin, a block on which said spring presses, adapted to fit on the flat place on said pin, and means to hold the pawl out of engagement with the keeping ratchet wheel, substantially as set forth.

866,059. FEED MECHANISM FOR MACHINES FOR APPLYING STAY-STRIPS. WILLIAM L. PETERSON, Chicago, Ill., assignor to American Metal Edge Box Company, Philadelphia, Pa., a Corporation of New Jersey. Filed May 18, 1906. Serial No. 317,649.



1. In a machine for applying stays to boxes, the combination with an adjustable stay-applying die, stay-feeding mechanism independent of said die, adjustable means for operating the feeding mechanism, and means operated by the adjustment of the die but remote therefrom for causing the feed-mechanism operating-means to impart a feed stroke equal to the length of stay to be fed.

2. In a machine for applying stays to boxes, the combination with an adjustable stay-applying die and stay-feeding mechanism, of feed controlling connections between said die and feed-mechanism comprising elements adjustably connected together and the relation of which is governed by the position of the die, and means independent of said die, for actuating said stay-feeding mechanism.

3. In a machine for applying stays to boxes, the combination with an adjustable stay-applying die, stay-feeding mechanism comprising reciprocating strip-engaging means, a lever for reciprocating the same, and connections between said die and lever, comprising elements adjustably connected together and the relation of which is governed by the position of the die.

4. In a machine for applying stays to boxes, the combination with an adjustable stay-applying die, of stay feed-mechanism comprising a swinging lever, strip engaging means having adjustable connection with said lever, means for swinging said lever, and means connected with and operated by the adjustment of said die for adjusting the connection of the strip engaging means with the swinging lever.

5. In a machine for applying stays to boxes, the combination with an adjustable stay-applying die, of stay feed-mechanism comprising a swinging lever, strip engaging means having adjustable connection with said lever, means for swinging said lever, and a rock-lever-and-link mechanism operated by adjustment of said die for adjusting the connection between the strip-engaging means and the swinging lever.

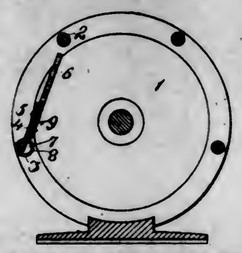
6. In a machine for applying stays to boxes, the combination with an adjustable stay-applying die, of stay feed-mechanism comprising a slotted swinging lever, means for swinging said lever, a slide movable in the slot of said lever, strip engaging means connected with said slide, and a rock-lever-and-link connection between said die and slide for adjusting the position of the latter in the slotted lever.

7. In a machine for applying stays to boxes, the combination with an adjustable die, a stay-strip throat connected to said die, a movable arm having connection with

said throat, stay-strip feeding-mechanism comprising a slotted swinging lever, means for swinging said lever, a slide movable in the slot of said lever, strip engaging means connected with said slide, a rock lever connected to the movable arm, and a link connected to said rock-lever and said slide.

8. In a machine for applying stays to boxes, the combination of oscillatory lever 3, slotted swinging lever 6 pivoted thereto, slide 8 in the slot of said lever, feed fork 12, feed pawl 26, pitman 9, connecting said slide 8 and fork 12, die D, throat 14, connected there with, arm 15, rock lever 20 connected to said arm and links 22 connecting said lever 20 and slide 8, substantially as described.

866,060. FISHING-REEL. JOSEPH E. PFLUEGER, Akron, Ohio, assignor to The Enterprise Manufacturing Company, Akron, Ohio, a Corporation of Ohio. Filed Nov. 21, 1906. Serial No. 344,483.



1. The combination in a reel provided with transversely-arranged pillars, one of which is provided with a notch, of a brake consisting of a sleeve arranged to inclose said pillar, provided with an extended strip of material to bear on the line, and a spring arranged to enter said notch and maintain said brake normally tangential to the body of line wound on said reel.

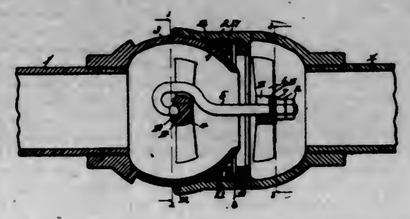
2. A thumb brake for fishing reels, comprising a revoluble sleeve provided with a wing, a braking member connected thereto and moved to braking position by the application of pressure, a resilient member having a portion of its length interposed between said wing and braking member, and an abutment adapted to be engaged by the free end of said resilient member, thereby maintaining said braking member in its inoperative position, said resilient member adapted to automatically return said braking member to inoperative position when pressure is removed from said braking member.

3. A thumb brake for fishing reels, comprising a looselymounted braking member movable to braking position on the application of pressure, a resilient member carried by said braking member and adapted to automatically return it to inoperative position when pressure is removed therefrom and to normally maintain said braking member in inoperative position, and an abutment for one end of said resilient member.

4. A thumb brake for fishing reels, comprising a looselymounted braking member movable to braking position on the application of pressure, a resilient member carried by said braking member and adapted to automatically return it to inoperative position when pressure is removed therefrom and to normally maintain said braking member in inoperative position.

866,061. PIPE OR HOSE COUPLING. JOHN H. PHILLIPS, Jr., Jackson, Mich. Filed Jan. 7, 1907. Serial No. 351,195.

1. In a pipe or hose coupling, the combination of a socket member; a ball member; cross-pieces for said members, one of said cross-pieces being provided with a central slot and the other with a central socket-like bearing; a coupling rod arranged in said slotted cross-piece having a gooseneck-like form at one end with a bearing ball thereon arranged in the bearing of the other cross-piece; a nut threaded upon said rod whereby it may be adjusted; and a pin for retaining said rod in said slot adapted to be adjusted from the outside, for the purpose specified.



2. In a pipe or hose coupling, the combination of a socket member; a ball member; cross-pieces for said members, one of said cross-pieces being provided with a central slot and the other with a central socket-like bearing; a coupling rod arranged in said slotted cross-piece having a gooseneck-like form at one end with a bearing ball thereon arranged in the bearing of the other cross-piece; and a pin for retaining said rod in said slot adapted to be adjusted from the outside, for the purpose specified.

3. In a pipe or hose coupling, the combination of a socket member; a ball member; cross-pieces for said members, one of said cross-pieces being provided with a central slot and the other with a central socket-like bearing; a coupling rod arranged in said slotted cross-piece having a bearing ball thereon arranged in the bearing of the other cross-piece; a nut threaded upon said rod whereby it may be adjusted; and a pin for retaining said rod in said slot adapted to be adjusted, from the outside, for the purpose specified.

4. In a pipe or hose coupling, the combination of a socket member; a ball member; cross-pieces for said members, one of said cross-pieces being provided with a central slot and the other with a central socket-like bearing; a coupling rod arranged in said slotted cross-piece having a bearing ball thereon arranged in the bearing of the other cross-piece; and a pin for retaining said rod in said slot adapted to be adjusted from the outside, for the purpose specified.

5. In a pipe or hose coupling, the combination of a socket member; a ball member; cross-pieces for said members, one of said cross-pieces being provided with a central slot and the other with a central socket-like bearing; a coupling rod arranged in said slotted cross-piece having a gooseneck-like form at one end with a bearing ball thereon arranged in the bearing of the other cross-piece; means for retaining said rod in said slot and a nut threaded upon said rod whereby it may be adjusted, for the purpose specified.

6. In a pipe or hose coupling, the combination of a socket member; a ball member; cross-pieces for said members, one of said cross-pieces being provided with a central slot and the other with a central socket-like bearing; a coupling rod arranged in said slotted cross-piece having a gooseneck-like form at one end with a bearing ball thereon arranged in the bearing of the other cross-piece and means for retaining said rod in said slot, for the purpose specified.

7. In a pipe or hose coupling, the combination of a socket member; a ball member; cross-pieces for said members, one of said cross-pieces being provided with a central slot and the other with a central socket-like bearing; a coupling rod arranged in said slotted cross-piece having a bearing ball thereon arranged in the bearing of the other cross-piece; means for retaining said rod in said slot and a nut threaded upon said rod whereby it may be adjusted, for the purpose specified.

8. In a pipe or hose coupling, the combination of a socket member; a ball member; cross-pieces for said members, one of said cross-pieces being provided with a central slot and the other with a central socket-like bearing; a coupling rod arranged in said slotted cross-piece having a bearing ball thereon arranged in the bearing of the other cross piece and means for retaining said rod in said slot, for the purpose specified.

9. In a pipe or hose coupling, the combination of a socket member; a ball member; cross-pieces in said members; a coupling for said cross-pieces; means for adjusting said rod; and means for securing said rod in position, adapted to be adjusted from without said coupling members.

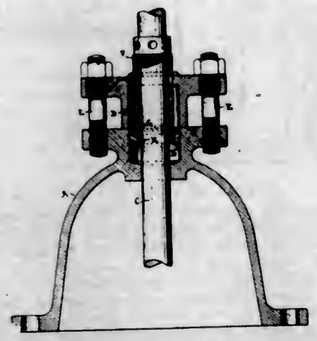
10. In a pipe or hose coupling, the combination of a socket member; a ball member; means for adjustably securing said members together; and a packing ring formed of spring metal U-shaped in cross-section, fitted into said socket member, said packing ring having a bearing ring on its inner arm with ring-like bearing portions at each edge, one of said bearing portions being wedge-shaped in cross-section and adapted to fit between said socket and ball members.

11. In a pipe or hose coupling, the combination of a socket member; a ball member; and a packing ring formed of spring metal U-shaped in cross-section, fitted into said socket member, said packing ring having a bearing on its inner arm with ring-like bearing portions at each edge, one of said bearing portions being wedge-shaped in cross-section and adapted to fit between said socket and ball members.

12. In a pipe or hose coupling, the combination of a socket member; a ball member; means for adjustably securing said members together; and a packing ring formed of spring metal having a bearing ring provided with ring-like bearing portions at each edge, one of said bearing portions being wedge-shaped in cross section and adapted to fit between said socket and ball members.

13. In a pipe or hose coupling, the combination of a socket member; a ball member; and a packing ring formed of spring metal having a bearing ring provided with ring-like bearing portions at each edge, one of said bearing portions being wedge-shaped in cross section and adapted to fit between said socket and ball members.

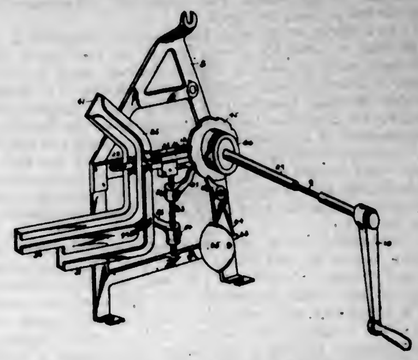
866,062. STUFFING-BOX. HOWARD E. PIERCE, Elmira, N. Y. Filed June 22, 1907. Serial No. 380,248.



1. The combination, with a stuffing box, of a cap having a chamber of the same diameter as the stuffing box, a follower in said chamber adapted to be projected into the stuffing box, means for fastening the cap upon the stuffing box with the chamber in register therewith, and means outside the cap for advancing and retracting the follower.

2. The combination, with a stuffing box, of a cap having a chamber of the same diameter as the stuffing box, a follower in said chamber adapted to be projected into the stuffing box, said follower passing out through the outer end of the cap and having screw-threaded engagement therewith, means outside the cap for turning the follower in either direction, and means for fastening the cap upon the stuffing box with its chamber in register therewith.

866,063. COIN-CONTROLLED MECHANISM. ROBERT A. POLLOCK, Kansas City, Mo., assignor to American Recording Company, a Corporation of the District of Columbia. Filed Feb. 6, 1906. Serial No. 299,713.



1. In a device of the class described, the combination of a sliding bar, a reciprocatory pitman having an arm member adapted to coöperate with said sliding bar, upon the insertion therebetween of a suitable coin, a revoluble shaft, means on said shaft for actuating said pitman, and means controlled by said shaft for engaging said bar, for the purpose set forth.

2. In a device of the class described, the combination of a sliding bar, a pitman having a part adapted to engage said bar upon the insertion therebetween of a suitable coin, a revoluble shaft, a cam carried by said shaft, and fingers on said pitman, adapted for engagement with said cam, substantially as set forth.

3. In a device of the class described, the combination of a sliding bar, a pitman having a part adapted to engage said bar upon the insertion therebetween of a suitable coin, a revoluble shaft, means on said shaft for actuating said pitman, a wheel carried by said shaft and a rail on said wheel adapted to engage said sliding bar, for the purpose set forth.

4. In a device of the class described, the combination of a pitman, a revoluble shaft, means on said shaft for actuating said pitman, a sliding bar having a rear offset head, and means on said shaft for engaging said head, said pitman having a part adapted to engage the sliding bar upon the insertion therebetween of a suitable coin, for the purpose set forth.

5. In a device of the class described, the combination of a pitman, a revoluble shaft, means on said shaft for actuating said pitman, a sliding bar, loose sleeve on said shaft, means on said sleeve and said shaft for forming a working unity therebetween, a sliding bar adapted to be actuated by said pitman upon the insertion therebetween of a suitable coin and adapted for engagement with said unit forming means, and a rail carried by said sleeve and adapted for engagement with said bar, for the purpose set forth.

6. In a device of the class described, the combination of a pitman, a revoluble shaft, means on said shaft for actuating said pitman, a clutch member on said shaft, a sleeve revolubly mounted on said shaft, a clutch member movably mounted on said sleeve, a sliding bar adapted for actuation by said pitman upon the insertion therebetween of a suitable coin, a head on said bar adapted to move the sleeve clutch member into engagement with the shaft clutch member upon the actuation of said bar, and means on said sleeve for retaining said bar in a desired position during a partial revolution of the shaft.

7. In a device of the class described, a pitman, a revoluble shaft, means on said shaft for actuating said pitman, mounted on said shaft, a clutch member movably mounted on said sleeve, a sliding bar adapted for actuation by said pitman upon the insertion therebetween of a suitable

coin, a head on said bar adapted for impingement with the movable clutch member, a rail carried by said sleeve and adapted to be moved into engagement with said head to retain said head in a desired position during a partial revolution of said shaft, and means for retracting said bar, for the purpose set forth.

8. In a device of the class described, the combination of a pitman, a revoluble shaft, means on said shaft for actuating said pitman, a clutch member rigid on said shaft, a sleeve loosely mounted on said shaft, a clutch member movably mounted on said sleeve, a sliding bar adapted for actuation by said pitman upon the insertion therebetween of a suitable coin, a head on said bar adapted for impingement against said movable clutch member, a wheel rigid on said sleeve, and a rail on said wheel adapted to engage said head to retain same in a desired position during a partial revolution of the shaft, for the purpose set forth.

9. In a device of the class described, a suitable frame, a pitman carried by said frame, a revoluble shaft journaled in said frame, a disk rigid on said shaft, a circular flange on said frame concentric with said shaft and having a peripheral slot therein, a clutch member rigid on said shaft, a sleeve loose on said shaft, a spring pressed clutch member pivoted on said sleeve and having a head projecting outwardly into the slot in said flange, a sliding bar adapted for actuation by said pitman and for impingement against said clutch member head upon the insertion of a suitable coin between the pitman and the bar, and a rail on said sleeve adapted to engage said sliding bar for the purpose set forth.

10. In a device of the class described, a suitable frame, a pitman carried in said frame, a shaft journaled in said frame, means on said shaft for actuating said pitman, a disk rigid on said shaft, a circular peripherally slotted flange on said frame surrounding said disk, a sleeve loose on said shaft, a clutch member pivoted on said sleeve and having a head yieldingly projected through the slot in said flange, a sliding bar adapted for actuation by said pitman upon the insertion of a suitable coin therebetween, a head on said bar adapted to engage the head on said pivoted clutch, a wheel on said sleeve, a rail on said wheel adapted for engagement with said bar head to retain the bar in the desired position while said shaft is carried through a partial revolution, and means for retracting said bar after it has been released from said rail, for the purpose set forth.

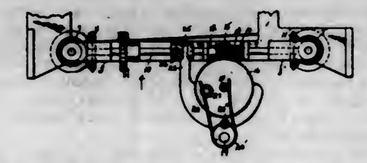
11. In a device of the character described, the combination of a revoluble shaft, a rotary member, a reciprocatory member actuated by said shaft, a sliding member adapted to be actuated by said reciprocatory member upon the insertion of a suitable coin therebetween and a clutch mechanism carried partly by said shaft and by said rotary member and adapted to be actuated by said sliding member.

12. In a device of the character described, the combination of a revoluble shaft, a rotary member, a reciprocatory member actuated by said shaft, a sliding member adapted to be actuated by said reciprocatory member upon the insertion of a suitable coin therebetween, a clutch mechanism carried partly by said shaft and partly by said rotary member and adapted to be moved into the operative position by said sliding member, and means for holding the clutch mechanism in the operative position during one revolution of the shaft.

866,064. RIBBON-REVERSING MECHANISM. ROBERT A. POLLOCK, Kansas City, Mo., assignor to American Recording Company, a Corporation of the District of Columbia. Filed Feb. 6, 1906. Serial No. 299,714.

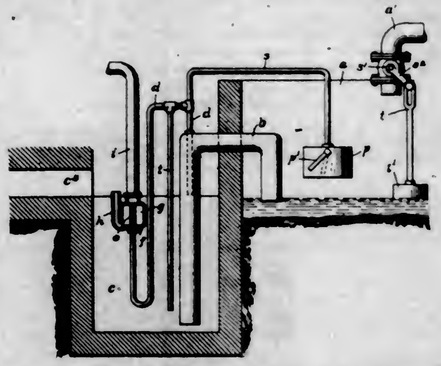
1. In a device of the class described, a pair of ribbon drums, a driving shaft adapted for alternately acting on said drums, a rocking lever adjacent to and having an arm in engagement with said shaft, a cam adjacent to, and adapted for engagement with said lever, a spur wheel rigid on said cam, a worm on said shaft engaging said spur wheel, and means for revolving said shaft.

2. In a device of the class described, a pair of ribbon drums, a driving shaft adapted for alternately acting on said drums, a rocking lever adjacent to and having an arm in engagement with said shaft, a cam adjacent to and adapted for engagement with said lever, a spur wheel rigid on said cam, a slotted sleeve loosely mounted on said shaft, a stud on said shaft projecting through said slot, a worm on said sleeve engaging said spur wheel, and means for revolving said shaft.



3. In a device of the class described, a pair of ribbon drums, a driving shaft alternately acting on said drums, a rocking lever adjacent to and having an arm in engagement with said shaft, a cam adjacent to said lever, fingers on said lever adapted for alternate engagement with said cam, means on said shaft for revolving said cam, a forked spring on said lever, and a lug on said cam adapted to alternately engage the separate spring members, for the purpose set forth.

866,065. APPARATUS FOR CONTROLLING THE FLOW OF LIQUIDS. ALBERT PRIESTMAN, Philadelphia, Pa. Filed June 25, 1906. Serial No. 323,186.



1. The combination of a liquid tank or reservoir, a series of sealed discharging siphons leading therefrom, and means actuated by the rise of the liquid discharged through one siphon to weaken without breaking the seal of another siphon.

2. The combination of a liquid tank or reservoir, a series of sealed discharging siphons leading therefrom, means actuated by the rise of the liquid discharged through one siphon to weaken without breaking the seal of another siphon, and means to strengthen the seal of each siphon during its own flow controlled by the liquid discharged by such siphon.

3. The combination of a liquid tank or reservoir, a series of sealed discharging siphons leading therefrom, means actuated by the rise of the liquid discharged through one siphon for weakening without breaking the seal of another siphon, and means controlled by the liquid discharged through any siphon for strengthening the seal of that siphon.

4. The combination of a liquid tank or reservoir, a series of sealed discharging siphons leading therefrom, means actuated by the rise of the liquid discharged from one siphon for strengthening the seal of that siphon and weakening without breaking the seal of another siphon.

5. The combination of a liquid tank or reservoir, a series of discharging siphons leading therefrom, a seal pipe from each siphon sealed by the water discharged by its siphon, and means actuated by the rise of the liquid discharged by each siphon to weaken without breaking the seal in the seal pipe of another siphon.

6. The combination of a liquid tank or reservoir, a series of discharging siphons leading therefrom, a seal pipe from each siphon sealed by the water discharged by its siphon, a valve to control the strength of the seal of each seal pipe, and means actuated by the rise of the liquid discharged by one siphon to open the valve in the seal pipe of another siphon and thereby weaken its seal.

7. The combination of a liquid tank or reservoir, a series of discharging siphons leading therefrom, a seal pipe from each siphon sealed by the water discharged by its siphon, a valve to control the strength of the seal of each seal pipe, means controlled by the flow through one siphon to open the valve in the seal pipe of another siphon and thereby weaken its seal, and means controlled by the flow of liquid through each siphon to close the valve of its seal pipe and restore the strengthened seal.

8. The combination of a liquid tank or reservoir, a series of discharging siphons leading therefrom, a seal pipe from each siphon sealed by the water discharged by its siphon, a valve to control the strength of the seal of each seal pipe, and an air bell and pipe controlled by the liquid discharged through one siphon to open the valve in the seal pipe of another siphon and thereby weaken its seal.

9. The combination of a liquid tank or reservoir, a sealed discharging siphon leading therefrom, means to weaken the seal of said siphon, and means controlled by the level of the liquid in the tank or reservoir for forcing air into said siphon.

10. The combination of a liquid tank or reservoir, a sealed discharging siphon leading therefrom, means to weaken the seal of said siphon, means controlled by the level of the liquid in the tank or reservoir for forcing air into said siphon, and regulating devices to control the level at which said means will operate to force air into the siphon.

11. The combination of a liquid tank or reservoir, a sealed discharging siphon leading therefrom, means to weaken the seal of said siphon, and means controlled by the level of the liquid in the tank or reservoir for forcing air into said siphon and a sealed relief pipe from the means for forcing the air having a seal weaker than the unweakened seal of said siphon.

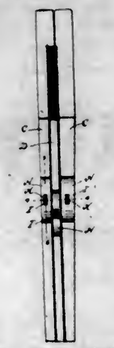
12. The combination of a liquid tank or reservoir, a sealed discharging siphon leading therefrom, means to weaken the seal of said siphon, an air bell in the tank or reservoir, an air pipe from said bell extending into the siphon for forcing air therein, and a sealed relief pipe from the air pipe having a seal weaker than the unweakened seal of the siphon.

13. The combination of a liquid tank or reservoir, a sealed discharging siphon leading therefrom, means to weaken the seal of said siphon, an air bell in the tank or reservoir, a pipe leading from the upper part of said bell having provision for adjusting the height of its open end, and an air pipe leading from said air bell into the discharge leg of the siphon.

14. The combination of a liquid tank or reservoir, a sealed discharging siphon leading therefrom, means to weaken the seal of said siphon, an air bell in the tank or reservoir, a pipe leading from the upper part of said bell having provision for adjusting the height of its open end, an air pipe leading from said air bell into the discharge leg of the siphon, and a relief pipe from said air pipe having a seal weaker than the unweakened seal of the siphon.

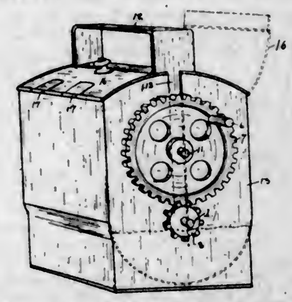
15. The combination of a liquid tank or reservoir, a sealed discharge siphon leading therefrom, means to weaken the seal of said siphon, a valve to control the supply of liquid to the tank or reservoir, and means controlled by the level of the liquid in the tank to throttle but not close said valve when the minimum level is reached.

866,066. BALANCED KEY FOR ORGANS, PIANOS, &c. ROBERT RANKIN, Deep River, Conn., assignor to Pratt, Read & Company, Deep River, Conn., a Corporation of Connecticut. Filed May 8, 1906. Serial No. 315,795.



In an organ, piano or similar instrument, the combination with the balance rail of a key board; of an upright balance pin mounted thereon, having its upper end reduced in diameter in one direction; a key having a slot for the reception of said pin wider at the upper end than at the lower; and a button mounted on said key above the wider end of said slot with an elongated narrow slot for the reception of the reduced end of said balance pin, substantially as described.

866,067. LIQUID-AGITATOR. FRANK REED, Milwaukee, Wis. Filed Feb. 11, 1907. Serial No. 356,774.



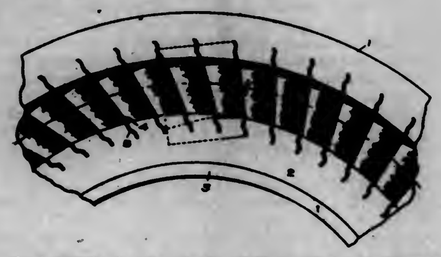
1. In a liquid agitator the combination with a U-shape frame of a set of beating blades and radial blade supporting arms revolubly supported from the respective sides thereof, and operating mechanism permanently connected with said frame for actuating said blades.

2. In a liquid agitator the combination of a U-shape frame, a set of beating blades and radial blade supporting arms revolubly supported from said frame, mechanism comprising a toothed gear wheel and a pinion permanently connected with said frame for operating said blades, a liquid receptacle and means for temporarily supporting said frame together with the operating mechanism within said receptacle.

3. The combination of an integrally formed U-shape frame, a shaft revolubly supported at its respective ends from the respective sides of said frame, a plurality of beating blades supported from said shaft, a pinion mounted upon one end of said shaft, a gear wheel revolubly supported from one side of said frame in mesh with said pinion, an operating handle secured to one side of said gear wheel, a liquid tank provided upon one side with a vertical slot for the reception of said shaft and means connected with the walls of said receptacle for rigidly holding said frame and operative mechanism removably in place within

said receptacle, all substantially as and for the purpose specified.

866,068. NOZZLE AND DIAPHRAGM FOR TURBINES. RICHARD H. RICE, Swampscott, Mass., assignor to General Electric Company, a Corporation of New York. Filed Feb. 8, 1907. Serial No. 356,297.



1. A nozzle for an elastic fluid turbine comprising a metal support having an orifice and one or more partitions extending across the orifice and entering the support on both sides, and an anchoring device for each partition which is formed integral therewith and is embedded in the support.

2. A nozzle for an elastic fluid turbine comprising a metal support having an orifice with one or more sheet metal partitions extending across the orifice, the sides of which are cast into the said support when the latter is formed, and an anchoring device for each partition which is formed by bending or deflecting the stock of which the partition is composed out of its normal plane.

3. A nozzle for an elastic fluid turbine comprising a metal support having an orifice, and one or more partitions extending across the orifice, the ends of said partition being corrugated and seated in said support.

4. A nozzle for an elastic fluid turbine comprising a cast metal support having an orifice, and one or more partitions which are cast into the support and extend across the orifice, the sides of each partition being corrugated in the direction of their length to form an anchoring means.

5. A nozzle for an elastic fluid turbine comprising a metal support having an orifice, one or more partitions extending across the orifice and anchored in the support, the discharge end of the partition being radial to the axis of the machine and the receiving end non-radial.

6. A nozzle for an elastic fluid turbine comprising a cast metal support having an orifice, one or more partitions which extend across the orifice and are cast into the support, the said partitions having parallel ends and sides, the discharge end occupying a radial position and the receiving end a non-radial position, and anchoring means for the sides of the partitions.

7. A diaphragm comprising outer and inner members separated by a space and partitions which extend across the space and divide it into nozzle passages and form the sole support for the said inner member.

8. A diaphragm comprising an outer and inner member separated by a space through which motive fluid passes, sheet metal partitions which extend across the space, divide the same into passages and form the sole support for the inner member of the diaphragm.

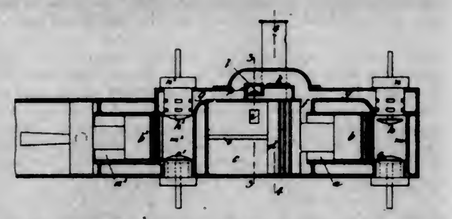
9. A diaphragm comprising an outer and inner member separated by a space through which motive fluid passes, sheet metal partitions which extend across the space, divide the same into passages and form the sole support for the inner member of the diaphragm, and means for anchoring the side portions of each partition in the inner and outer members of the diaphragm.

10. A diaphragm comprising an outer annular member, an inner annular member of smaller diameter, a plurality of partitions which divide the space between said members into passages having the same angle of discharge, the partitions forming the sole support for said inner members, and a diaphragm which is carried by said inner member.

11. As an article of manufacture, a sheet metal nozzle plate having sides that are deflected from the plane of the body to form an anchoring device.

12. As an article of manufacture, a rectangular sheet metal nozzle plate, corrugated in the direction of its length to form anchoring means and L shaped in longitudinal section.

866,069. INTERNAL-COMBUSTION ENGINE. ARTHUR ROLLASON, Long Eaton, England. Filed Sept. 26, 1905. Serial No. 280,115.



1. In internal combustion engines working on the four stroke cycle, a pump cylinder in line with the working cylinder and a pump piston reciprocating in unison with the working piston, an air receiver contiguous with the pump cylinder, a port in the pump cylinder communicating with the said air receiver and traversed by the pump piston, and a passage controlled by a valve connecting the rear ends of the pump cylinder and the working cylinder, arranged substantially as herein described.

2. In internal combustion engines working on the four stroke cycle, a pump cylinder in line with the working cylinder and a pump piston reciprocating in unison with the working piston, an air receiver contiguous with the pump cylinder, a port in the pump cylinder communicating with the said air receiver and traversed by the pump piston, a valve-controlled passage connecting the rear ends of the pump cylinder and the working cylinder, an air trunk open to the atmosphere, and a non-return valve establishing communication between the said air trunk and the air receiver, arranged substantially as described.

3. In internal combustion engines working on the four stroke cycle, a pump cylinder in line with the working cylinder and a pump piston reciprocating in unison with the working piston, an air receiver contiguous with the pump cylinder, a port in the pump cylinder communicating with the said air receiver and traversed by the pump piston, a valve-controlled passage connecting the rear ends of the pump cylinder and the working cylinder, an air trunk open to the atmosphere, and non-return valves establishing communication between the said air trunk and the said air receiver and valve-controlled passage respectively; arranged substantially as described.

4. In tandem internal combustion engines, an air cylinder interposed between and coaxial with the working cylinders, said air cylinder being closed at its forward end, a piston in said air cylinder coupled with the working pistons, means for admitting air to the air cylinder in front of the piston during its inward stroke and means for admitting air under pressure to the said working cylinders during the latter part of their suction stroke, substantially as described.

5. In tandem internal combustion engines, an air cylinder interposed between and coaxial with the working cylinders, said air cylinder being closed at its forward end, a piston in said air cylinder coupled with the working pistons, an air receiver contiguous with the air cylinder, means for admitting air to the air cylinder in front of the piston during its inward stroke, means for admitting part of said air to the air receiver under pressure of the air piston during its outward stroke and means for admitting air under pressure to the said working cylinders during the latter part of their suction stroke, substantially as described.

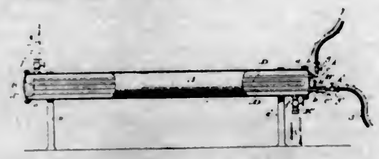
6. In tandem internal combustion engines, an air cylinder interposed between and coaxial with the working cylinders, said air cylinder being closed at its forward end, a piston in said air cylinder coupled with the working pistons and arranged to compress air in the end of said air cylinder, an air receiver contiguous with the air cylinder, means for admitting a charge of air to the air cylinder in front of the piston during its inward stroke, means for admitting part of said charge of air to the air receiver under pressure of the air piston during its outward stroke, and means for admitting said compressed air to the respective working cylinders towards the end of their suction strokes, substantially as described.

866,070. SKYLIGHT-FASTENING. CARL ROSENHEIM, Brussels, Belgium. Filed Nov. 12, 1906. Serial No. 343,153.



In a sky-light fastener of the character described, the combination with a casement, a skylight hinged thereto, pulleys mounted on said casement and a socketed catch secured thereto; of a frame secured to said sky-light, a latch pivotally mounted in said frame and having a recess and slotted downwardly projecting forked portion, a cam piece pivotally seated in said recess, a forked lever pivotally mounted in the lower portion of said frame, one arm thereof provided with a pin to engage said cam, a lever pivoted to the other arm, its free end seated in the slotted portion of the latch to freely move therein, spring and stop mechanism for controlling the movements of said lever 5 in one direction, and a cord connected to said lever and passing over said pulley to control the movement of the lever in the opposite direction, substantially as described and shown and for the purpose set forth.

866,071. BEER-COOLER. FRANZ RUNGE, Sheboygan, Wis., assignor of one-third to Herman Schreler and one-third to Alfred P. Steffen, Sheboygan, Wis. Filed Jan. 22, 1906. Serial No. 297,182.



1. A beer-cooler comprising a fluid-containing tube, having inlet and outlet pipe-connections and detachable front and rear heads; the combination of a supporting-bracket projecting inward from the rear head, a longitudinal coiled pipe fitted into the tube, and securing means connecting the inlet and discharge ends of the pipe to the front head, the rear ends of the coils of said pipe being supported by the bracket.

2. In a beer-cooler, a coiled-pipe having inlet and discharge ends, a head, means securing the inlet and discharge ends of the pipe to the head, the said ends being arranged to pass through the same, an open-end tube, inlet and discharge openings in the tube, means for detachably securing one of the open ends of the tube to the aforesaid pipe-carrying head, a head secured to the other open end of said tube, and supporting means for the coil of pipe in connection with the last named head.

866,072. WIRE CHAIR. JOSEPH SALOMON, Chicago, Ill. Filed Jan. 27, 1905, Serial No. 242,877. Renewed Mar. 9, 1907. Serial No. 361,593.



1. The combination with a wire chair, of a foot rest comprising metallic beams and twisted wire auxiliary legs and means for rigidly securing said beams to the legs of the chair above the lower ends of the same.

2. The combination with a wire chair, of metallic beams rigidly secured to the legs of the chair between the seat frame and the lower ends of the legs, a foot-rest mounted on each of said beams, an auxiliary leg carried by each of said beams and a connection between said auxiliary legs.

3. The combination with a wire chair having a seat, legs and leg connections below the seat of metallic beams rigidly secured to and supported by said connections, a foot-rest carried by each beam, and a twisted wire leg carried by each beam.

4. The combination with a wire chair, of a spider central of the legs having arms in engagement therewith, beams supported by the arms of the spider, and a foot rest carried by said beams.

5. The combination with a wire chair, of a spider central of the legs having arms in engagement therewith, beams resting on the arms of the spider, and a foot rest carried by said beams.

6. In combination with a wire chair, beams immovably secured thereto and projecting therefrom, auxiliary legs of twisted wire attached to the projecting ends of the beams, and separate foot rests supported thereby.

7. In combination with a wire chair, metallic beams fixedly secured thereto and projecting therefrom, auxiliary twisted wire legs attached to the projecting ends of the beams, means attached to the beams for bracing the auxiliary legs, and foot rests supported by the beams and auxiliary legs each foot rest being arranged above one of the auxiliary legs.

8. In combination with a wire chair, having twisted wire legs, a plurality of beams secured thereto and projecting therefrom, auxiliary twisted wire legs attached to the projecting ends of the beams, a platform on the beams, and foot rests projecting upwardly one from each beam.

9. In combination with a wire chair; beams rigidly secured thereto and projecting therefrom, a box supported by the said beams the upper side of the box comprising a platform above the same, a brush holder therebelow, and foot rests carried by the beams beyond the outer edge of the box.

10. In combination with a wire chair; beams secured thereto and projecting therefrom, and auxiliary legs of twisted wire having eyes at their free ends which serve as means for the attachment of the auxiliary legs to the beams, the free ends serving to brace each other when attached to the beams.

11. In combination with a wire chair; beams rigidly secured thereto and projecting therefrom, auxiliary wire legs to support the projecting ends of the beams, and braces for the auxiliary legs attached to the beams and to said auxiliary legs.

12. In combination with a wire chair; beams rigidly secured thereto at one end, auxiliary wire legs to support the free ends of the beams, cross-pieces between the beams, and a platform carried by the beams.

13. In combination with a wire chair; auxiliary legs, beams to connect the chair and the auxiliary legs, and a box mounted on the beams and forming a foot platform and a brush holder.

14. In combination with a wire chair; auxiliary legs, beams to connect the chair and said legs, and an integrally formed brace and tie engaging said legs to secure them together and to said chair.

15. In combination with a wire chair; auxiliary legs having eyes in the twisted portion, beams to connect the chair and the upper portion of said legs, and integrally formed tie and braces to pass through the eyes and to secure them to the chair.

16. In a wire chair, the combination of legs, a spider with duplex arms to connect the legs, a foot rest beam supported by the arms of the spider, and a clamp to secure said beam to the spider arms, comprising a bolt passing between the wires of the spider, and a washer having its inner faces up-turned and slanted to embrace the wires of said arms.

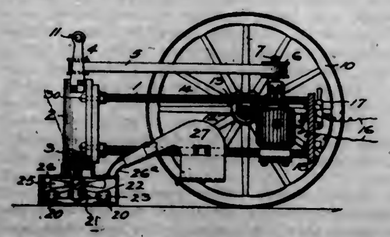
866,073. SASH-LOCK. DANIEL G. SAUNDERS, Jr., Kansas City, Mo. Filed Oct. 18, 1906. Serial No. 339,511.



1. In an automatic sash lock, a bolt housing containing a spring actuated bolt, the forward end of said bolt being in the form of steps, or notches, adapting it to enter the recess of the locking plate in two or more positions, substantially as shown and described.

2. An automatically actuated sash lock, composed essentially of three principal parts, the bolt housing, A—the bolt, B—and the catch, C—said part A being formed to embody the central box, 1—the projecting ears, 2—the lug housings, 4—the ward 4ª—and bolt openings. 5. The spring actuated locking bolt, B, having at its inner end two or more notches, or steps; and the catch, C, formed with a horizontal portion, 13—a curved upper portion, 14, and a vertical portion, 15; and also the locking bolt recess, 17; the tightening lugs, 16, projecting from its edges, and the vertical portion, 15, with screw opening, 20, all formed, arranged, and coöperating substantially in the manner, and for the purposes as shown and described.

866,074. FLOOR-FINISHING APPARATUS. EDUARD SCHENK, Sheradan borough, Pa. Filed June 6, 1906. Serial No. 320,444.



1. A portable surface finishing machine comprising a frame, a finishing head on the front end of said frame, a motor on the rear end of the frame, a wheeled support pivotally connected to the frame between the head and motor, whereby the latter counter-balances the head, driving connections from the motor to the head, and a handle on the forward end of said frame for manipulating the machine.

2. A portable surface finishing machine comprising a frame, a rotary finishing tool carried on one end of said frame, a motor on the other end of the frame, driving connections from the motor to the tool, a wheeled support pivotally connected to the frame between the tool and motor, whereby the latter counter-balances the tool, adjusting means for varying the counter-balance, and a handle on the tool end of the frame for manipulating the machine.

3. A portable surface finishing machine comprising a frame, a finishing head on one end of the frame, a motor on the other end of the frame, a single pair of wheels connected to the frame between the finishing head and motor, whereby the latter counter-balances the head, means permitting adjustment of the wheels longitudinally of the frame in order to vary the counter-balance, and a handle on the head end of the frame for manipulating the machine.

4. A portable surface finishing machine comprising a frame, a finishing head on the forward end of said frame, a motor on the rear end of the frame, driving connections from the motor to the finishing head, a single pair of large wheels constituting the sole supporting means of the machine when in use, an axle for said wheels secured to the frame between the head and motor and above the center of gravity of the latter, and a handle on the forward end of the frame.

5. A portable surface finishing machine comprising a skeleton frame, a finishing head on the forward end of said frame, a motor on the rear end of the frame, driving connections from the motor to the finishing head, a single pair of large wheels constituting the sole support of the machine when in use, an axle for said wheels secured to the skeleton frame between the head and motor, means for adjusting said axle longitudinally of said frame, and a handle on the forward end of the frame for manipulating the machine.

6. A portable surface finishing machine comprising a frame, a vertical shaft mounted on the forward end of the frame and carrying a finishing tool at its lower end, a motor mounted on the rear end of the frame, driving connections from the motor to said tool shaft, a single pair of large wheels journaled to the frame between the tool shaft and motor and above the center of gravity of the latter and being the sole supporting means of the machine when in use, and a handle on the forward end of the frame.

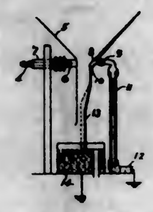
7. A portable surface finishing machine, comprising a frame, wheels upon which the same is mounted, a head secured to the frame by means permitting the same to be inclined from a vertical position, a vertical tool spindle rotatably mounted in said head, a motor on the frame, and driving connections from the motor to the tool spindle.

8. A portable surface finishing machine comprising a frame, a single pair of wheels upon which said frame is mounted, a tool carrying head, means for securing the head to the frame so as to permit adjustment both vertically and at an inclination to the perpendicular, a vertical tool spindle mounted in said tool head, a motor mounted on the frame, a vertical motor shaft, and driving connections from the motor to the tool spindle.

9. A portable finishing machine comprising a frame, a head secured to the forward end thereof by connecting means permitting said head to be adjusted vertically and also inclined with reference to a vertical position, a vertical tool spindle rotatably mounted in said head, a motor on the opposite end of said frame, driving connections between the motor and tool spindle, and a single pair of wheels connected to the frame between the head and the motor.

866,075. WATER-JET GROUNDER FOR PROTECTION AGAINST EXCESSIVE POTENTIALS IN ELECTRICAL SYSTEMS. STEPHAN SCHNEIDER, Berlin, Germany, assignor to General Electric Company, a Corporation of New York. Filed Jan. 26, 1907. Serial No. 354,280.

1. The combination with a conductor to be protected, of a water-jet, and a plate in proximity thereto for changing the position of the water jet to produce a conductive path for the discharge of excess potential arising on said conductor.



2. The combination with an electrical conductor to be protected from excess potentials, of a plate connected thereto, means for maintaining a fluid stream within the electrostatic field of said plate, but normally out of contact therewith, and a ground connection for said stream.

3. The combination with a line conductor to be protected from excess potentials, of a plate connected therewith and establishing an electrostatic field, means for maintaining a jet of water in proximity to said plate and in position to be attracted by said plate when an abnormal potential occurs on said conductor.

4. The combination with a line conductor to be protected from high potential strains, of a plate connected therewith, and means for maintaining a jet of water in proximity to said plate but normally out of contact therewith, said jet of water being grounded.

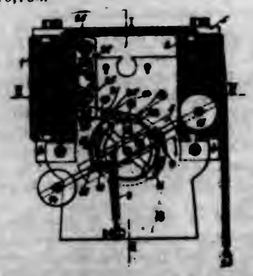
5. A protective device comprising a spark gap formed between a conductive plate and a stream of conductive fluid, the length of said gap being automatically controlled by the electrostatic charge of said plate.

6. In a protective device, the combination of a spark gap formed between a conductive plate and a fluid supplying nozzle delivering a stream of liquid in proximity to said plate but normally out of contact therewith, and projections from said plate and nozzle forming a horn gap.

7. In a protective device, the combination of a spark gap formed between a conductive plate and a fluid supplying nozzle delivering a stream of liquid in proximity to said plate but normally out of contact therewith, projections from said plate and nozzle forming a horn gap, and a section of insulating pipe separating said nozzle from the source of liquid supply.

8. A protective device for electrical conductors, comprising a spark gap formed between a conductive plate and a fluid discharging nozzle delivering a high resistance stream of water in proximity to said plate but normally out of contact therewith, and a second stream of water of larger cross-section connecting said nozzle to ground.

866,076. ELECTRIC SELF-WINDING CLOCK. EMIL SCHULTZ, Berlin, Germany. Filed Apr. 29, 1907. Serial No. 370,766.



1. An electric time piece, comprising in combination, a pivoted armature, an arm fastened to said armature, a contact piece fastened to said arm, an insulated lever, disposed in proximity to said contact piece, a second lever pivoted in proximity to said first lever, and a projection on said second lever, substantially as, and for the purpose, set forth.

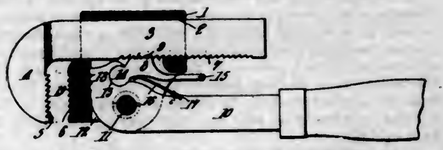
2. An electric time piece, comprising in combination, a pivoted armature, an arm fastened to said armature, a contact piece fastened to said arm, an insulated lever disposed in proximity to said contact piece, a pin on said lever, a second lever pivoted on said pin and a projection on said second lever, substantially as, and for the purpose, set forth.

3. An electric time piece, comprising in combination, a pivoted armature, an arm fastened to said armature, a contact piece fastened to said arm, an insulated lever disposed in proximity to said contact piece, a pin on said lever, a second lever pivoted on said pin, a projection on said second lever, and a spring which tends to move said projection towards the bottom edge of said lever, substantially as, and for the purpose, set forth.

4. An electric contact device, comprising in combination, an armature, an arm fastened to said armature, a contact piece carried by said arm, a lever contact piece pivoted in proximity to said first contact piece, and a spring adapted to keep said lever contact piece in its middle position, substantially as set forth.

5. An electric contact device, comprising in combination, a pivoted armature, an arm fastened to said armature, a contact piece carried by said arm, a pivoted lever disposed in proximity to said contact piece, a spring adapted to keep said lever in its middle position, a second lever pivoted to said first lever, a projection on said second lever and a spring adapted to press said projection against the bottom edge of said first lever, substantially as set forth.

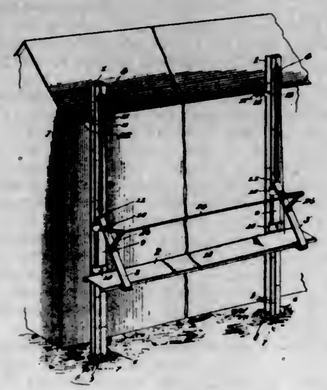
866,077. WRENCH. FREDERICK H. SHARAR, Williamsport, Pa. Filed Apr. 9, 1907. Serial No. 367,177.



1. In a tool of the character described, the combination with a pair of jaw members having coöperating working faces, one of the members having a pair of parallel side plates and being provided with a socket, and the other member having a notched shank guided to operate in said socket, of a handle having one end pivoted between the said side plates of one of the jaws, a dog pivotally mounted on the handle and coöperating with the notched shank at all positions of adjustment of the handle for proximating the jaws when the handle is turned in one direction, a releasing handle on the dog for disengaging it from the notched shank, and coöperatively arranged shoulders on the handle and the jaw member to which it is pivoted for positively limiting the turning movement of the handle in a reverse direction.

2. In a tool of the character described, the combination with a pair of jaw members having coöperating working faces, one of the members having a pair of parallel side plates, a socket formed between them, and a limiting shoulder between the said plates and in rear of the working face of the respective jaw, and the other member having a notched shank guided to operate in the said socket, of a handle having one end pivoted between the said side plates of one of the jaw members and having a limiting shoulder arranged to engage that on the respective jaw member when the handle is turned in one direction, and a dog pivotally attached to the handle and coöperating with the notched shank to proximate the jaw members when the handle is turned in an opposite direction, the dog forming an operative connection between the shank and handle at all positions of adjustment of the latter, and a handle carried by the dog and operable independently of the wrench handle for disengaging the dog from the notched shank.

866,078. SCAFFOLD. WILLIAM SIMS, Ashton, Mich. Filed Nov. 6, 1906. Serial No. 342,281.



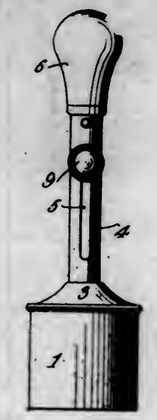
1. In scaffolding, the combination of an upright, a slide mounted to move thereon, a bar pivotally mounted on said slide to rock in a vertical plane, grappling hooks adapted for engagement with a portion of the building with which the scaffolding is to be used, said grappling hooks being mounted on said bar for rocking movement in planes at right angles to the rocking movement of the bar, and staging supported by said upright.

2. In scaffolding, the combination of an upright, a slide thereon, a bar pivotally connected to the slide and adapted to rock in a vertical plane and provided at its ends with journal bearings, grappling hooks adapted to make positive engagement with a portion of the building with which the scaffolding is to be used, said hooks being mounted on the ends of said bar to turn in planes at right angles to the rocking movement of said bar, and staging supported by said upright.

3. In scaffolding, the combination of an upright, a slide fitted thereon, a bar pivoted intermediate of its ends to said slide and mounted to rock in a vertical plane thereon, the ends of said slide being formed with journal bearings, upper and lower grappling hooks adapted to make positive engagement with a portion of the building with which the scaffolding is used, said grappling hooks being pivotally journaled on the ends of said bar and movable in planes at right angles to the plane of movement of said bar, springs secured to said hooks and adapted to press said hooks together, and staging supported by said upright.

866,079. ICE-CREAM DIPPER. THADDEUS S. SMITH, Indianapolis, Ind., assignor of one-half to John A. Conkey, Indianapolis, Ind. Filed Feb. 23, 1907. Serial No. 358,841.

An ice cream dipper embodying a receptacle open at its lower end and provided with a top having a reduced opening therein, a tubular shank of a diameter greater than that of the aperture in the receptacle top and having a circumferential groove at one end to receive the top, the material of the shank adjacent the groove being headed over to rigidly secure the top, and the groove forming a reduced portion within the shank, a plunger mounted to operate in the receptacle and having a stem extending axially of the shank and coöperating with the reduced portion formed by the groove and serving as a guide for axially centering the plunger, an operating and guiding head fixed to the plunger stem and projecting through the side of the tubular shank, a handle rigidly secured to the upper end of the shank and serving to operate the receptacle independently of the plunger, a knife arranged at the lower end of the receptacle, and means coöperating with the operating head for limiting the movement of the plunger toward the knife.



866,080. CARTRIDGE-CLIP. WILLIAM S. STAPLEY, Bridgeport, Conn., assignor to Bridgeport Brass Company, Bridgeport, Conn., a Corporation of Connecticut. Filed June 8, 1905. Serial No. 264,261.



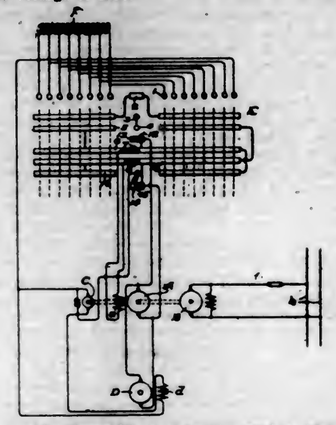
A cartridge clip, consisting of a frame having a substantially flat body portion with side portions having inwardly projecting flanges, said body portion having a central longitudinal bead or rib terminating a distance from the ends of the frame; together with a separate removable spring plate having depending inwardly projecting tongues adapted to engage the ends or terminals of the central bead or rib when the central portion of the plate is held between said bead or rib and said inwardly projecting flanges, substantially as described.

866,081. CONTROL OF SEPARATELY-EXCITED GENERATORS. GEORG STERN, Berlin, Germany, assignor to General Electric Company, a Corporation of New York. Filed Jan. 23, 1907. Serial No. 353,626.

1. The method of controlling a separately-excited generator, which consists in supplying a variable current to the generator field from an external source to vary the voltage delivered by said generator, and in connecting the generator field in shunt to its armature to reduce the generator voltage.

2. The method of reducing to zero the voltage of a separately-excited generator, which consists in disconnecting the generator field from the separate exciter and connecting it in shunt to the generator armature to annihilate the residual magnetism of the field.

3. In combination with a separately-excited generator and a translating device supplied thereby, means for controlling the field-strength of the generator to vary the voltage supplied to said device, and means for connecting the generator field in shunt to its armature to reduce the generator voltage to zero.



4. In combination with a generator and a translating device supplied thereby, a separate source of current for the generator field, means for varying the current supplied by said source to the field, and means for disconnecting the field from said source and connecting it in shunt to the generator armature to annihilate the generator voltage due to residual magnetism.

5. In combination with a generator and a translating device supplied thereby, a separate source of current, and a controlling switch adapted to connect the generator field to said source, to vary the amount of current supplied to the field by said source, and in its off-position to disconnect the field from said source and to connect it in shunt to the generator armature.

866,082. SHEET-METAL PILING. RICHARD H. STEVENS, Munhall, Pa. Filed Jan. 11, 1904. Serial No. 188,470.



1. Sheet metal piling comprising flanged shapes, an interlocking shape having flanges arranged to engage the flanges of the other shapes and lock them together, and packing between the interlocking shape and the other shapes; substantially as described.

2. Sheet metal piling comprising flanged shapes, an interlocking shape having hook flanges arranged to engage and lock the flanges of the other shapes together, and packing between the interlocking shape and flange shape; substantially as described.

3. Sheet metal piling comprising flanged shapes, and an interlocking shape having flanges arranged to engage the flanges of the other shapes, said flanges being arranged to provide wedge-shaped spaces to receive packing; substantially as described.

4. Sheet metal piling comprising channels and an interlocking shape having hooked flanges engaging the flanges of the channels, and base flanges at the inner sides of the channels; substantially as described.

5. Sheet metal piling comprising channels, an interlocking shape having hook flanges engaging the channel flanges and inwardly bent base flanges on the interlocking shape arranged to provide wedge-shaped cavities between them and the channels, to receive packing; substantially as described.

6. A corner construction for sheet metal piling comprising a flanged shape, a supplemental flanged member riveted to the flanged shape and an interlocking shape engaging the riveted member and the flange of the next flanged shape; substantially as described.

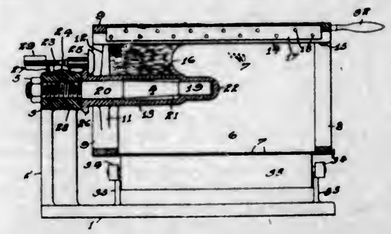
7. A coupling for channel bars having in combination a web portion, means along one edge or end of the web portion for engaging the flanges of the channel bars and means along the opposite edge or end of the web for holding the flanges of the channel bars interlocked with the engaging members of the coupling; substantially as described.

8. Metal piling having in combination channel bars, a plate or web arranged between the flanges of adjacent channel bars, means secured to the plate or web for engaging the flanges of the channel bars, and means for preventing the web from movement laterally of the channel bars; substantially as described.

9. Metal piling having in combination channel bars, a plate or web arranged between the flanges of adjacent channel bars, hooks secured to said web and adapted to engage the flanges of the channel bars and holding projections on the web for preventing the disengagement of the hooks and flanges; substantially as described.

10. Metal piling having in combination channel bars, a plate or web arranged between the flanges of adjacent channel bars, hooks secured to the web and engaging the flanges of the channel bars and flanges projecting at or approximately at right angles from the web and bearing against the plane sides of the channel bars; substantially as described.

866,083. STENCILING-MACHINE. BURNHAM C. STICKNEY, Elizabeth, N. J., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed May 31, 1906. Serial No. 319,545.



1. In a stenciling machine, the combination of a standard, a stud thereon, and a stencil cylinder having an interior hub whereby the cylinder is wholly supported on said stud for revolution; said cylinder open at one end and said hub joined only to the other end of the cylinder; sufficient space being left around the hub throughout its length to accommodate an inking implement introduced within the cylinder.

2. In a stenciling machine, the combination of a standard, a stud thereon, and a stencil cylinder wholly supported only at one end thereof on said stud for revolution; the other end of said cylinder being entirely open for the introduction of ink, and said cylinder constituting a hollow drum of sufficient capacity throughout its length to accommodate an inking implement introduced therein.

3. In a stenciling machine, the combination of a standard, a stud projecting therefrom, a stencil cylinder open at one end and having at only the other end means wholly supporting said cylinder upon said stud for revolution; the cylinder being mounted close to said standard, and both said stud and said supporting means projecting from the standard within the cylinder; the latter constituting a hollow drum of sufficient capacity throughout its length to accommodate an inking implement introduced therein.

4. In a stenciling machine, the combination with a standard and a stud projecting therefrom, of a stencil cylinder open at one end and provided at only the other end with a head which has an interiorly projecting hollow journal member fitting upon said stud, and means to pre-

vent endwise displacement of the cylinder upon the stud; the cylinder constituting a hollow drum of sufficient capacity throughout its length to accommodate an inking implement introduced therein.

5. In a stenciling machine, the combination with a standard and a stud projecting therefrom, of a stencil cylinder open at one end and provided at the other end with a head which has an interiorly projecting hollow journal member fitting upon said stud, and means to prevent endwise displacement of the cylinder upon the stud; said head and said hollow journal member cast in one piece and the journal member being closed at its inner end and forming a dust proof cap over the stud.

6. In a stenciling machine, the combination with a cylinder formed of perforated sheet metal, of a head for said cylinder, a bar integral with said head and extending longitudinally of the cylinder to form a support for the ends of the curved sheet of perforated metal, said cylinder being entirely open at the end opposite said head, and a fixed device engaging said head, whereon said cylinder is wholly supported for revolution.

7. In a stenciling machine, the combination of a standard, a stud projecting therefrom, a stencil cylinder formed of a curved perforated metal sheet, a head for said cylinder, said head having an integral inwardly projecting hollow bearing fitting upon said stud, a bar integral with said head and extending along the cylinder to support the ends of the perforated sheet, and a web extending from said bar to said inwardly projecting bearing; the end of said cylinder opposite said head being open.

8. In a stenciling machine, the combination with a stencil cylinder open at one end, of a framework having a fixed stud, said cylinder having an interior bearing at only the other end thereof which may be slid upon said stud, and means to prevent the cylinder from slipping off the stud; said cylinder constituting a hollow drum of sufficient capacity throughout its length to accommodate an inking implement introduced therein.

9. In a stenciling machine, the combination with a stencil cylinder open at one end, of means at only the other end of said cylinder upon which the same is wholly supported for revolution, and a latch releasably detaining said cylinder upon its support; said cylinder constituting a hollow drum of sufficient capacity throughout its length to accommodate an inking implement introduced therein.

10. In a stenciling machine, the combination with a framework, of a stencil cylinder wholly supported at one of its ends upon said framework for revolution, and means releasably holding said cylinder upon said framework; said cylinder constituting a hollow drum of sufficient capacity throughout its length to accommodate an inking implement introduced therein, and being supported by means of only one of its ends upon said framework; the other end of said cylinder being open.

11. In a stenciling machine, the combination of a standard, a stud thereon, a stencil cylinder wholly supported on said stud for revolution, and a latch releasably holding said cylinder upon said stud; said cylinder constituting a hollow drum of sufficient capacity throughout its length to accommodate an inking implement introduced therein, and being supported by means of only one of its ends upon said stud; the other end of said cylinder being open.

12. In a stenciling machine, the combination of a standard, a bearing thereon, a stencil cylinder wholly supported only at one end upon said bearing for revolution; the end of said cylinder opposite said standard being entirely open and unobstructed for the introduction of ink, and means releasably holding said cylinder upon said bearing; said cylinder constituting a hollow drum of sufficient capacity throughout its length to accommodate an inking implement introduced therein.

13. In a stenciling machine, the combination of a framework having a stud, a stencil cylinder open at one end and having at the other end means wholly supporting said cylinder upon said stud for revolution; said stud extending far within the cylinder to afford a rigid support therefor, and a pivoted spring-pressed latch releasably holding said cylinder upon said stud; said cylinder having a flange to engage said latch when the cylinder is pressed upon the stud, and move said latch to permit the cylinder being forced to its proper position upon the stud.

14. In a stenciling machine, the combination with a standard and a stud projecting therefrom, of a stencil cylinder open at one end and provided at the other end with a head which has an interiorly projecting hub fitting upon said stud, and means to prevent endwise displacement of the cylinder upon the stud, including a latch mounted upon said standard, and a flange upon said hub engageable by said latch.

15. In a stenciling machine, the combination with a stencil cylinder hollow throughout and open and wholly unobstructed at one end, of a framework having a fixed stud, said cylinder having, at the other end thereof, a head provided with a hub extending sufficiently far into the interior of the cylinder to form a substantial and firm support therefor and constructed to be slid upon said stud, and a latch for releasably connecting said head to the framework.

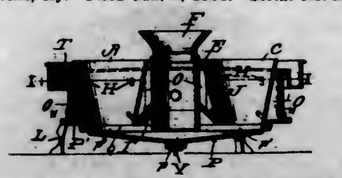
16. In a stenciling machine, the combination with a hollow cylindrical ink screen open and wholly unobstructed at one end, of means wholly supporting said cylinder only by the other end thereof, for revolution.

17. In a stenciling machine, the combination with a hollow cylindrical ink screen open and wholly unobstructed at one end, of means wholly supporting said cylinder by only the other end thereof, for revolution, and a pressure roller having independent means at each of its ends for yieldingly holding the roller against said cylinder.

18. In a stenciling machine, the combination with a framework, of a hollow cylindrical ink screen open and wholly unobstructed at one end, and releasable means wholly supporting said cylinder by only the other end thereof, for revolution.

19. In a stenciling machine, the combination of a standard, a stud projecting therefrom, a stencil cylinder formed of a curved perforated metal sheet, a head for said cylinder, said head having an integral inwardly projecting hollow bearing fitting upon said stud, and a bar integral with said head and extending along the cylinder to support the ends of the perforated sheet; the end of said cylinder opposite said head being open.

866,084. AMALGAMATOR. WILLIAM H. STIGLITZ, Louisville, Ky. Filed Jan. 4, 1906. Serial No. 294,671.



1. An amalgamator, comprising an approximately circular case having a mercury-holding basin and provided with means for the admission of water under pressure to its interior, said casing also having, within its interior, walls relatively arranged to provide a centrally disposed sluice column, a series of perfectly flaring outlet columns around said sluice column and a chamber surrounding the base of the sluice column and arranged between the same and the outlet columns, said columns and chamber each opening into said basin and the walls of said chamber and the outlet columns having openings for the admission of water thereto.

2. An amalgamator comprising an approximately circular case having a mercury-holding basin at its bottom and provided interiorly with a sluice column and a series of flaring outlet columns around said sluice column, the walls of said sluice and outlet columns being relatively arranged to provide a space between them and said space provided with a wall and constituting a chamber intermediate the inner ends of the sluice column and outlet columns, said wall and the walls of the outlet columns being apertured for the admission of water thereto, and said sluice column, outlet columns and chamber each opening into said basin.

3. An amalgamator comprising an approximately circular case having a mercury-holding basin at its bottom and provided interiorly with a sluice column and a series of flaring outlet columns around said sluice column, the walls of said sluice and outlet columns being relatively arranged to provide a space between them and said space provided with a wall and constituting a chamber intermediate the inner ends of the sluice column and outlet columns, said wall and the walls of the outlet columns being apertured for the admission of water thereto and the apertures in the chamber wall being directed to cause the material in said chamber to be given a rotary motion in a direction the reverse of that given to it in the outlet columns, and said sluice column, outlet columns and chamber each opening into said basin.

4. An amalgamator comprising an approximately circular case, a centrally disposed sluice column therein, a series of outlet columns disposed around said sluice column, said sluice and outlet columns each circular in cross section and said outlet columns having apertured walls and having their inner ends so related to the inner end of the sluice column as to provide a chamber between the same and surrounding the lower end of the sluice column, and a mercury holding basin arranged below said columns and chamber and having an approximately flat bottom, said columns and chamber opening at their inner ends into said basin.

5. An amalgamator comprising a casing having provision for the inlet of water thereto, and provided with a mercury holding basin, a sluice column, and outlet columns having apertured walls, said sluice and outlet columns having communication with said basin and having their walls relatively arranged to provide between them a chamber which also communicates with the basin and is adapted to receive the broken-up mercury.

6. An amalgamator, comprising a case having a mercury basin and provided interiorly with a series of walls relatively arranged to form a sluice column, outlet columns and a chamber between said sluice column and outlet columns, each of said columns and the chamber opening into said basin, said chamber and outlet columns each having provision for hydraulically giving the material therein a whirling or rotary motion.

7. An amalgamator, having a sluice column, a mercury basin and an outlet column, in combination with a wall arranged to form a chamber which is in communication with the mercury basin and is located between the sluice column and outlet column, said wall of the chamber being apertured, and said amalgamator having provision for the supply of fluid under pressure to the interior of said chamber.

8. An amalgamator, having a sluice column, a mercury basin, an outlet column which is in communication with said basin and has an apertured wall, said columns relatively arranged to provide between them a space which is in communication with said basin and a wall in said space extending inclinatorily from the inlet end of the outlet column to the sluice column and apertured for the admission of liquid under pressure thereto.

9. An amalgamator, having a sluice column, a mercury basin, and means adapted to subject the material to whirling or rotary motion, comprising a plurality of outlet columns each of which is in communication with said basin and has an apertured wall, said outlet columns being regularly flared from their inner to their outer ends and having their walls at their inner ends separated from the wall of the sluice column to provide a space between the same adapted to receive the broken up mercury and a wall in said space extending inclinatorily between the sluice column and outlet columns and apertured for the admission of water thereto.

10. An amalgamator, having a sluice column, a mercury basin, a plurality of walls arranged relatively to each other and the wall of the sluice column to provide, around the latter, outlet columns and a chamber between the outlet columns and sluice columns, said sluice column, outlet columns and chamber opening into said basin and the walls of said outlet columns and chamber being provided with water-admission apertures so directed that the material in the chamber and outlet columns will be given a whirling motion.

11. An amalgamator, having a sluice column, a mercury basin, a plurality of walls arranged relatively to each other and the wall of the sluice column to provide, around the latter, outlet columns and a chamber between the outlet columns and sluice column, said sluice column, outlet columns and chamber opening into said basin, and the walls of said outlet columns and chamber being provided with water-admission apertures so directed that the material in the chamber and outlet columns will be given a whirling motion, in reverse directions.

12. An amalgamator, having a sluice column, a mercury basin, a plurality of outlet columns each of which is in communication with said basin and has an apertured wall, said outlet columns being regularly flared from their inner to their outer ends and having their walls at their inner ends separated from the wall of the sluice column to provide a space between the same adapted to receive the broken-up mercury, and an apertured wall in said space extending inclinatorily between the sluice column and outlet columns, the apertures in the walls of said outlet columns and chamber being adapted to admit water thereto and so directed that the material in the outlet columns will be given a whirling motion in a direction the reverse of that given to it in said chamber.

13. An amalgamator, comprising a case, having means for the admission of water thereto, a sluice column, a mercury basin, a plurality of outlet columns around said sluice column, said case, sluice column and outlet columns having walls relatively arranged to provide a water chamber around the outlet columns and between the same and the sluice column, and the walls of said outlet columns apertured for the admission of water thereto from said chamber; and an apertured wall arranged in the space between the outlet columns and sluice column, adapted to provide a chamber between said columns, said columns and chamber having communication with said basin.

14. An amalgamator, comprising a case, having means for the admission of water thereto, a sluice column, a mercury basin, a plurality of outlet columns around said sluice column, said case, sluice column and outlet columns having walls relatively arranged to provide a water chamber around the outlet columns and between the same and the sluice column, and the walls of said outlet columns apertured for the admission of water thereto from said chamber; and an apertured wall arranged in the space between the outlet columns and sluice column, adapted to provide a chamber between said columns, said columns and chamber having communication with said basin, and the apertures in the walls of said outlet columns and the last mentioned chamber being so directed that the material in the outlet columns will be given a whirling motion in a direction the reverse of that given to it in said chamber.

15. An amalgamator, comprising a case having means for the admission of water thereto, a sluice column, a mercury basin, a plurality of regularly flared outlet columns around said sluice column, said case, sluice column and outlet columns having walls relatively arranged to provide a water chamber around the outlet columns and between the same and the sluice column, and the walls of said outlet columns apertured for the admission of water thereto from said chamber; and a wall arranged in the space between the outlet columns and sluice column, adapted to provide a chamber between said columns, said wall being apertured for the admission of water thereto from the water chamber, and said columns and chamber having communication with said basin.

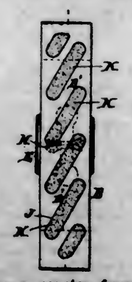
16. An amalgamator, comprising a case having means for the admission of water thereto, a sluice column, a mercury basin, a plurality of regularly flared outlet columns around said sluice column, said case, sluice column and outlet columns having walls relatively arranged to provide a water chamber around the outlet columns and between the same and the sluice column, and the walls of said outlet columns apertured for the admission of water thereto from said chamber; and an inclined wall arranged in the space between the outlet columns and sluice column, adapted to provide a chamber between said columns, said wall being apertured for the admission of

water thereto from the water chamber, the apertures in the walls of said outlet columns and chamber being so directed that the material in the outlet columns will be given a whirling motion in a direction the reverse of that given to it in said chamber, and said sluice column, outlet columns and chamber having communication with said basin.

17. An amalgamator, comprising an approximately circular case having means for the admission of water thereto, a sluice column centrally disposed therein, a mercury basin, a plurality of outlet columns disposed around said sluice column and each circular in cross section and regularly flared from its inner to its outer end, said case, sluice column and outlet columns having walls relatively arranged to provide a water chamber around the outlet columns and between the same and the sluice column, and the walls of said outlet columns apertured for the admission of water thereto from said chamber; and an apertured wall arranged in the space between the outlet columns and sluice column, adapted to provide a chamber between said columns, said columns and chamber having communication with said basin.

18. An amalgamator comprising an approximately circular case, having its top inclined from the center toward the circumference, a mercury-holding basin at the bottom of said casing, said basin provided with means for withdrawing amalgam and said case provided with means through which water under pressure is admitted to its interior, a sluice column disposed in the center of said case and opening into said basin, a series of outlet columns disposed around the sluice column and each opening into said basin and extending to a place above the top of the case, each of said outlet columns being perfectly flared from its lower to its upper end and having apertures for the inlet of water thereto arranged to cause the material to have a whirling motion given thereto, said sluice column and outlet columns being relatively arranged to provide a space between the same, and an apertured wall in said space forming, with the sluice column, a chamber which is open to the mercury basin, said wall having its apertures directed so that the water which enters thereinto from the case will give the material a whirling motion in a direction the reverse of that which it is given in the outlet columns.

866,085. BRAKE-SHOE. JULIUS STROMEYER, Philadelphia, Pa., and WILLIAM W. MORTON, Camden, N. J. Filed Oct. 15, 1906. Serial No. 338,921.



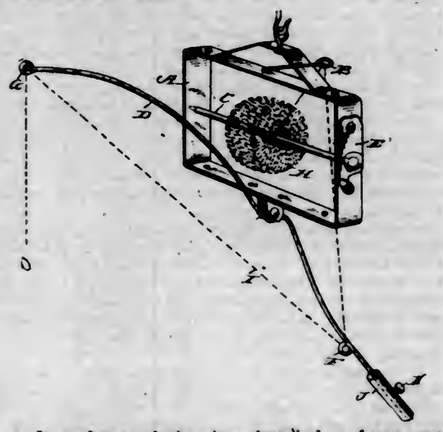
1. In a brake shoe, a carrier formed with a forward slotted plate and an open space to the rear thereof, combined with a shoe having shoulders at top and bottom fitting over the ends of the slotted plate and also having a rearwardly extending lug projecting through the slot, and a transverse retaining pin extending through the lug immediately at the rear of the slotted plate and arranged in the open space of the carrier.

2. In a brake shoe, a carrier formed with a rear hub and a forward slotted plate and an open space to the rear of the plate and between it and the hub, combined with a shoe having shoulders at top and bottom fitting over the ends of the slotted plate and also provided with a rearwardly extending lug projecting through the slot and having its end brought close to the hub so that it may act as an abutment, and a transverse retaining pin extending through the lug immediately at the rear of the slotted plate and arranged in the open space of the carrier.

3. In a brake shoe, the shoe portion made of cast iron and having a series of diagonal chambers opening to the braking surface so as to form a grid like structure, the said diagonal chambers overlapping each other combined with gritty blocks of material composed of sand and hydraulic cement and completely filling and held in the diagonal chambers.

4. In a brake shoe, a shoe of cast iron having its braking surface provided with a series of chambers, combined with a filling for said chambers consisting of a mixture of a gritty substance composed of sand and hydraulic cement which is applied in the plastic state and allowed to set and become hard.

866,086. TWINE HOLDER AND LIFT. JAMES N. TAYLOR and JOSIAH B. TULL, Windsor, Ill. Filed May 31, 1907. Serial No. 376,723.



1. In a device of the class described, a frame, provided with means for supporting a ball of twine, a lever pivoted to the frame and provided with loops F and G, on the opposite sides of the pivotal point, an arm pivoted to the frame and provided with a loop B, in a plane above the loops F and G, the loops in the arm and the lever being adapted to support a cord extending through the loops B, F and G respectively whereby the cord is doubled upon itself twice.

2. In a device of the class described, a frame, a cord supported thereon, a lever pivoted to the frame and provided with loops on opposite sides of the pivotal point, an adjustable weight secured to one end of the lever, an arm pivoted to the frame and provided with a loop, the loops in the arm and lever being adapted to support a cord.

866,087. BASKET OR PAIL FOR ACID-DIPPING. ADOLF TEMPER, Brooklyn, N. Y., assignor to The Hanson & Van Winkle Company, a Corporation of New Jersey. Filed Aug. 24, 1906, Serial No. 331,846. Renewed Aug. 2, 1907. Serial No. 386,764.

1. The herein described pail for acid-dipping comprising a sheet-metal aluminium body and an aluminium disk, said body and disk being provided with perforations, aluminium plates extending upwardly from the opposite sides of said body, and a handle-member secured between the upper ends of said plates, substantially as and for the purposes set forth.

2. The herein described pail for acid-dipping comprising a sheet-metal aluminium body and an aluminium disk, said body and disk being provided with perforations, aluminium plates extending upwardly from the opposite sides of said body, a rod of wood arranged between the upper ends of said plates, and screws for securing the end-portions of said rod to said plates, substantially as and for the purposes set forth.

3. The herein described pail for acid-dipping comprising a sheet-metal aluminium body, said body being formed with an outwardly extending marginal bead, an aluminium disk within said body, said body and disk being provided with perforations, aluminium plates extending upwardly from said body, each plate being made with a curved portion fitted around the bead of said body, and a handle-member secured between the upper ends of said plates, substantially as and for the purposes set forth.

4. The herein described pail for acid-dipping comprising a sheet-metal aluminium body, said body being formed with an outwardly extending marginal bead, an aluminium disk within said body, said body and disk being provided with perforations, aluminium plates extending upwardly from said body, each plate being made with a curved portion fitted around the bead of said body, a rod of wood arranged between the upper ends of said plates, and screws for securing the end-portions of said rod to said plates, substantially as and for the purposes set forth.

5. The herein described pail for acid-dipping comprising a sheet-metal body formed with a lower inwardly turned marginal edge, all arranged to provide an annular shoulder, a metal disk arranged within said body and supported by said shoulder, said body and disk being provided with perforations, and fastening devices secured upon said disk and to the inner surface of said body to prevent upward displacement of the disk, substantially as and for the purposes set forth.

6. The herein described pail for acid-dipping comprising a sheet-metal body formed with a lower inwardly turned marginal edge, all arranged to provide an annular shoulder, a metal disk arranged within said body and supported by said shoulder, said body and disk being provided with perforations, and fastening devices secured upon said disk and to the inner surface of said body to prevent upward displacement of the disk, plates extending upwardly from the opposite sides of said body, and a handle-member secured between the upper ends of said plates, substantially as and for the purposes set forth.

7. The herein described pail for acid-dipping comprising a sheet-metal body formed with a lower inwardly turned marginal edge, all arranged to provide an annular shoulder, a metal disk arranged within said body and supported by said shoulder, said body and disk being provided with perforations, and fastening devices secured upon said disk and to the inner surface of said body to prevent upward displacement of the disk, plates extending upwardly from the opposite sides of said body, a rod of wood arranged between the upper ends of said plates, and screws for securing the end-portions of said rod to said plates, substantially as and for the purposes set forth.

8. The herein described pail for acid-dipping comprising a sheet-metal body formed with a lower inwardly turned marginal edge, all arranged to provide an annular shoulder, a metal disk arranged within said body and supported by said shoulder, said body and disk being provided with perforations, and angle-plates, and rivets for securing said angle-plates respectively upon said disk and to the inner surface of said body to prevent upward displacement of the disk, substantially as and for the purposes set forth.

9. The herein described pail for acid-dipping comprising a sheet-metal body formed with a lower inwardly turned marginal edge, all arranged to provide an annular shoulder, a metal disk arranged within said body and supported by said shoulder, said body and disk being provided with perforations, and angle-plates, and rivets for securing said angle-plates respectively upon said disk and to the inner surface of said body to prevent upward displacement of the disk, plates extending upwardly from the opposite sides of said body, and a handle-member secured between the upper ends of said plates, substantially as and for the purposes set forth.

10. The herein described pail for acid-dipping comprising a sheet-metal body formed with a lower inwardly turned marginal edge, all arranged to provide an annular shoulder, a metal disk arranged within said body and supported by said shoulder, said body and disk being provided with perforations, and angle-plates, and rivets for securing said angle-plates respectively upon said disk and to the inner surface of said body to prevent upward displacement of the disk, plates extending upwardly from the opposite sides of said body, a rod of wood arranged between the upper ends of said plates, and screws for securing the end-portions of said rod to said plates, substantially as and for the purposes set forth.

11. The herein described pail for acid-dipping consisting of a sheet-metal aluminium body, said body being formed at the top with an outwardly extending marginal bead, and at the bottom with a lower inwardly turned marginal edge, said edge being arranged to provide an annular shoulder, an aluminium disk arranged within said body and supported by said shoulder, said body and disk being provided with perforations, aluminium angle-plates and rivets for securing said angle-plates respectively upon said disk and to the inner surface of said body to prevent upward displacement of said disk, aluminium plates extending upwardly from said body, each plate being made with a curved portion fitted around the bead of said body, a rod of wood arranged between the upper ends of said plates, and screws for securing the end-portions of said rod to said plates, substantially as and for the purposes set forth.

866,088. PROPAGATOR AND PLANT-STAND. RICHARD L. TEMPLIN, Cleveland, Ohio. Filed Nov. 7, 1906. Serial No. 342,333.



1. In a device of the character described, the combination of a tray having a perforated bottom, an open pan adapted to receive and support said tray, upwardly projecting ribs longitudinally disposed in zigzag fashion on the bottom of said pan and dividing the same into channel ways, and a water heater having an inlet and discharge opening, such channel-ways being connected with said heater openings to form a circulatory system for water to and from said heater.

2. In a device of the character described, the combination of a tray having a perforated bottom, an open pan adapted to receive and support said tray, upwardly projecting ribs dividing said pan into channel-ways, and a water heater having an inlet and a discharge opening, such channel-ways being connected at opposite ends with

the inlet and discharge openings of said heater, respectively.

3. In a device of the character described, the combination of a tray having a perforated bottom, an open pan adapted to receive and support said tray, an open boiler inserted in the bottom of said pan, the walls of said boiler projecting above such bottom and being provided with inlet and discharge openings, conduits connecting such inlet openings with the bottom portion of the boiler chamber, and upwardly projecting ribs dividing said pan into channel-ways having communication at opposite ends with such inlet and discharge openings, respectively.

4. In a device of the character described, the combination of a tray having a perforated bottom, an open pan adapted to receive and support said tray, an open boiler inserted in the bottom of said pan, the walls of said boiler projecting above such bottom and being provided with inlet and discharge openings, conduits connecting such inlet openings with the bottom portion of said boiler chamber, and upwardly projecting ribs longitudinally disposed in sig-zag fashion on the bottom of said pan and dividing the same into channel-ways, such channel-ways being connected with said boiler openings to form a circulatory system for water to and from said boiler.

5. In a device of the character described, the combination of a tray having a perforated bottom, an open pan adapted to receive and support said tray, an open boiler substantially centrally inserted in the bottom of said pan, the walls of said boiler projecting above such bottom and being provided with a pair of oppositely disposed inlet openings and with a pair of similarly disposed outlet openings, conduits connecting such inlet openings with the bottom of the boiler chamber, and upwardly projecting ribs longitudinally disposed in sig-zag fashion on the bottom of said pan and dividing the same into channel-ways, such channel ways having communication at opposite ends with such inlet and discharge openings, respectively.

6. In a device of the character described, the combination of a tray having a perforated bottom, an open pan adapted to receive and support said tray, an open boiler inserted in the bottom of said pan, the walls of said boiler projecting above such bottom and being provided with inlet and discharge openings, conduits connecting such inlet openings with the bottom portion of the boiler chamber, and upwardly projecting ribs dividing said pan into channel-ways having communication at opposite ends with such inlet and discharge openings, respectively, said ribs being of sufficient height to engage and support the perforated bottom of said tray.

7. In a device of the character described, the combination of a tray having a perforated bottom, a detachable glass case for inclosing said tray, such case comprising upright standards adapted to be secured at the corners, respectively, of said tray, and lateral and cover panes of glass removably held thereby, a flat open receptacle disposed beneath said tray, and a water heater connected with said receptacle, the latter being formed to provide a circulatory system for water to and from said heater.

8. In a device of the character described, the combination with a tray, of a detachable glass case for inclosing said tray, such case comprising upright standards adapted to be secured at the corners, respectively of said tray, each of said standards comprising an angular metal strip formed at its bottom end with two integral clip-like projections adapted to clasp the corner of the tray and intermediately of its ends with a third clip adapted to secure the edge of a pane of glass against each of the sides of said standard, respectively, lateral panes of glass thus secured at each end in said standards, and a cover pane secured at its corners by the upper ends of said standards projecting above said lateral panes.

866,089. COMBINED LAMP-SOCKET AND SHADE-HOLDER. JULIUS C. TOURNIER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Mar. 28, 1903. Serial No. 149,466.

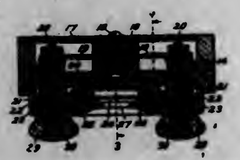
1. A combined lamp socket and shade holder comprising a metal shell, a metal shade holder consisting of a web and inner and outer flanges projecting from one side of said web, and coöperating shoulders formed on said shell and said inner flange whereby said holder is permanently secured in fixed position on said shell.



2. A combined lamp socket and shade holder comprising a metal shell having two cylindrical sections of different diameters, a metal shade holder consisting of a web and inner and outer flanges projecting from one side of said web, said inner flange being of a size to closely engage the smaller cylindrical section of said shell, and coöperating beads formed in said shell and inner flange whereby said holder is permanently secured in fixed position on said shell.

3. A combined lamp socket and shade-holder comprising a metal socket shell, a metal shade-holder having a web provided with a central flanged opening through which the end of the shell projects a substantial distance below said web, and beads for permanently securing said flange to said shell.

866,090. FUSE-BOX. LEWIS E. TROUTMAN, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Nov. 11, 1905. Serial No. 286,871.

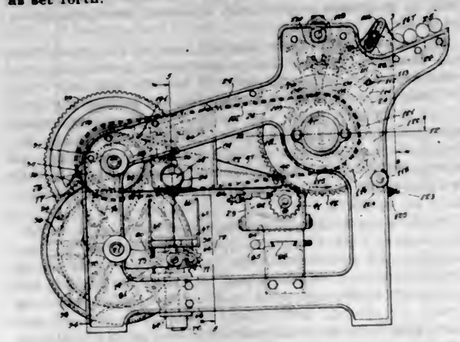


1. In a fuse-box, a fuse-carrier comprising a block having recesses in opposite sides and a handle at one edge, contact blades in the recesses on one side and parallel to the plane of said side, an inclosed fuse in the recess on the opposite side, and bolts passing through said block and connecting said blades and fuse.

2. In a fuse-box, a fuse-carrier comprising a block of insulating material having in one side two recesses separated by a barrier, and in the opposite side a single recess, contact blades in the two recesses on one side, holding bolts for said blades passing through said block into the ends of the recess on the opposite side, fuse-clamping nuts on said bolts, a block of insulating material in the recess between said bolts said block having a cavity, a cover-block having a registering cavity and holes for said bolts, and knobs on the ends of said bolts.

866,091. MACHINE FOR APPLYING LABELS AND THE LIKE TO BOTTLES AND OTHER ARTICLES. BENJAMIN W. TUCKER, Newark, N. J. Filed July 13, 1905. Serial No. 269,447.

1. In a machine for applying labels or the like to bottles or other articles, a rotary drum having means for connecting the same with air suction apparatus and provided with perforations in its surface, through which the air suction may act to hold the label or the like on said drum, means for feeding the labels or the like, one after another, to said drum, and means cutting off the air suction from a certain section of said drum whereby the label or the like on arriving at said section becomes gradually released, combined with means for feeding the bottles or other articles, one after another, to said section of said drum, and means for retaining the article on said section and permitting the same to rotate under the action of said drum for effecting the application of the label or the like, as the same is thus released, to such article; substantially as set forth.



2. In a machine for applying labels or the like to bottles or other articles, a rotary drum having means for connecting the same with air suction apparatus and provided with perforations in its surface, through which the air suction may act to hold the label or the like on said drum, means for feeding the labels or the like, one after another, to said drum, means for applying paste to the labels or the like during their travel, and means cutting off the air suction from a certain section of said drum whereby the label or the like on arriving at said section becomes gradually released, combined with means for feeding the bottles or other articles, one after another, to said section of said drum, and means for retaining the article on said section and permitting the same to rotate under the action of said drum for effecting the application of the label or the like, as the same is thus released, to such article; substantially as set forth.

3. In a machine for applying labels or the like to bottles or other articles, a rotary drum having means for connecting the same with air suction apparatus and provided with perforations in its surface through which the air suction may act to hold the label or the like on said drum, a perforated belt connected with suction means for feeding the labels or the like, one after another, to said drum means for imparting to said belt an intermittent motion, a holder for a stack of the labels, means for moving the stack of labels against said belt so as to enable said belt to remove the top label, means for applying paste to the labels, and means cutting off the air suction from a certain section of said drum whereby the label or the like on arriving at said section becomes gradually released, combined with means for feeding the bottles or other articles, one after another, to said section of said drum, and means for effecting the application of the label or the like, as the same is thus released, to such article; substantially as set forth.

4. In a machine for applying labels or the like to bottles or other articles, a rotary drum having means for connecting the same with air suction apparatus and provided with perforations in its surface, through which the air suction may act to hold the label or the like on said drum, and means cutting off the air suction from a certain section of said drum whereby the label or the like on arriving at said section becomes gradually released, combined with means for feeding the bottles or other articles, one after another, to said section of said drum, and means for freely holding the article at said point so that the same may be rolled by the action of said drum into the label or the like as the latter is gradually released on arriving at said article; substantially as set forth.

5. In a machine for applying labels or the like to bottles or other articles, a rotary drum having means for connecting the same with air suction apparatus and provided with perforations in its surface through which the air suction may act to hold the label or the like on said drum, and means for cutting off the air suction from the label as it reaches a certain point in the rotation of said drum so that said label may be gradually released, combined with means for feeding the bottles or other articles to said drum at said point, and means for freely holding the article at said point so that the same may be rolled by the action of said drum into the label or the like as the latter is gradually released on arriving at said article; substantially as set forth.

6. In a machine for applying labels or the like to bottles or other articles, a rotary drum having means for connecting the same with air suction apparatus and provided with perforations in its surface through which the air suction may act to hold the label or the like on said drum, means for feeding the labels individually to said drum, means for applying paste to the labels, and means for cutting off the air suction from the label as it reaches a certain point in the rotation of said drum so that said label may be gradually released, combined with means for feeding the bottles or other articles to said drum at said point, and means for freely holding the article at said point so that the same may be rolled by the action of said drum into the label or the like as the latter is gradually released on arriving at said article; substantially as set forth.

7. In a machine for applying labels or the like to bottles or other articles, a rotary drum having means for connecting the same with air suction apparatus and provided with perforations in its surface through which the air suction may act to hold the label or the like on said drum, perforated suction means for feeding the labels or the like to said drum, means for cutting off the air from said suction means as the labels or the like are fed thereby to said drum, and means for cutting off the air suction from the label as it reaches a certain point in the rotation of said drum so that said label may be gradually released, combined with means for feeding the bottles or other articles to said drum at said point, and means for freely holding the article at said point so that the same may be rolled by the action of said drum into the label or the like as the latter is gradually released on arriving at said article; substantially as set forth.

8. In a machine for applying labels or the like to bottles or other articles, a rotary drum having means for connecting the same with air suction apparatus and provided with perforations in its surface through which the air suction may act to hold the label or the like on said drum, a perforated suction belt for feeding the labels to said drum, means for applying paste to the labels, and means for cutting off the air suction from the label as it reaches a certain point in the rotation of said drum so that said label may be gradually released, combined with means for feeding the bottles or other articles to said drum at said point, and means for holding the article at said point so that the same may be rolled by said drum into the label or the like as the latter is gradually released on arriving at said article; substantially as set forth.

9. In a machine for applying labels or the like to bottles or other articles, a rotary drum having means for connecting the same with air suction apparatus and provided with perforations in its surface through which the air suction may act to hold the label or the like on said drum, and means for cutting off the air suction from the label as it reaches a certain point in the rotation of said drum so that said label may be gradually released, combined with means for feeding the bottles or other articles to said drum at said point, and oppositely disposed rollers alternately movable toward and from said drum for holding the article at said point so that the same may be rolled by said drum into the label or the like as the latter is gradually released on arriving at said article; substantially as set forth.

10. In a machine for applying labels or the like to bottles or other articles, a rotary drum having means for connecting the same with air suction apparatus and provided with perforations in its surface through which the air suction may act to hold the label or the like on said drum, and means for cutting off the air suction from the label as it reaches a certain point in the rotation of said drum so that said label may be gradually released, combined with means for feeding the bottles or other articles

to said drum at said point, and a pair of rollers independently and alternately movable toward and from said drum for holding the article at said point so that the same may be rolled by said drum into the label or the like as the latter is gradually released on arriving at said article; substantially as set forth.

11. In a machine for applying labels or the like to bottles or other articles, a rotary drum having means for connecting the same with air suction apparatus and provided with perforations in its surface through which the air suction may act to hold the label or the like on said drum, and means for cutting off the air suction from the label as it reaches a certain point in the rotation of said drum so that said label may be gradually released, combined with means for feeding the bottles or other articles to said drum at said point, and a pair of spring-pressed soft-covered rollers independently and alternately movable toward and from said drum for holding the article at said point so that the same may be rolled by said drum into the label or the like as the latter is gradually released on arriving at said article; substantially as set forth.

12. In a machine for applying labels or the like to bottles or other articles, a rotary drum having means for connecting the same with air suction apparatus and provided with perforations in its surface through which the air suction may act to hold the label or the like on said drum, and means for cutting off the air suction from the label as it reaches a certain point in the rotation of said drum so that said label may be gradually released, combined with a feed chute on which the bottles or other articles are fed to the machine, a plate for arresting the line of articles on said chute while one article is being treated on said drum and then receding to allow the lower article of said line to reach the drum and then moving against said article to push it to said point on said drum where the label is released, means for imparting movement to said plate, and a pair of rollers independently movable toward and from said drum for holding the article at said point so that the same may be rolled by said drum into the label or the like as the latter is gradually released on arriving at said article; substantially as set forth.

13. In a machine for applying labels or the like to bottles or other articles, a rotary drum having means for connecting the same with air suction apparatus and provided with perforations in its surface through which the air suction may act to hold the label or the like on said drum, and means for cutting off the air suction from the label as it reaches a certain point in the rotation of said drum so that the label may be gradually released, combined with means for feeding the bottles or other articles to said drum at said point, indexing arms for engaging the ends of the article and locating the same on said drum with respect to the label, means for moving one of said arms toward the other and against said article, and rollers for holding the article at said point so that the same may be rolled by said drum into the label or the like as the latter is gradually released on arriving at said article; substantially as set forth.

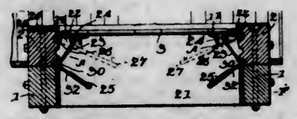
14. In a machine for applying labels or the like to bottles, cans and other articles, a perforated suction body for receiving and holding the label or the like and delivering the same to such article, and means for holding the article at a definite point and against said body, combined with means for cutting off the air suction from the label as it reaches said point so that the label may be gradually released, and means for moving said body relatively to said article so that the latter may be by said body rolled into the label as the same is gradually released; substantially as set forth.

15. In a machine for applying labels or the like to bottles, cans and other articles, a perforated suction body for receiving and holding the label or the like and delivering the same to such article, a pair of rollers for holding the article at a definite point and against said body and means for independently and alternately moving said rollers toward and from said article, combined with means for cutting off the air suction from the label as it reaches said point so that the label may be gradually released, and means for moving said body relatively to said article so that the latter may be by said body rolled into the label or the like as the same is gradually released; substantially as set forth.

16. In a machine for applying labels or the like to bottles, cans and other articles, a perforated suction body for receiving and holding the label or the like and delivering the same to such article, and means for holding the article at a definite point and against said body, combined with means for applying paste to the label during its travel, and means for moving said body relatively to said article so that the latter may be gradually rolled into the label as the same reaches said article; substantially as set forth.

17. In a machine for applying labels or the like to bottles, cans and other articles, a perforated suction body for receiving and holding the label or the like and delivering the same to such article, a pair of rollers for holding the article at a definite point and against said body and means for moving said rollers alternately toward and from said article, combined with means for applying paste to the label during its travel, and means for moving said body relatively to said article so that the latter may be gradually rolled into the label as the same reaches said article; substantially as set forth.

866,092. GRAIN-DOOR FOR RAILROAD-CARS. JAMES VAN SLYKE, Shellrock, Iowa. Filed Apr. 12, 1906. Serial No. 311,303.



1. A car door frame, a hingedly supported grain door adapted to swing outward between the side posts of the frame, and abutments hingedly connected with the side posts and adapted to restrain the door from swinging outward each abutment comprising sections hinged to fold upon each other.

2. A car door frame, abutments hingedly connected with the side posts of the frame, and a grain door hingedly supported at its upper edge and adapted to swing outward between the side posts each abutment comprising sections hinged to fold upon each other.

3. A car door frame, a grain door supported at its upper end and adapted to swing outward between the side posts of the frame, abutments adapted to restrain the outward movement of the door, each abutment comprising sections hinged to fold upon each other and means for locking the abutments in expanded position.

4. A car door frame, a grain door supported at its upper end for swinging movement, abutments connected with the door frame and adapted to obstruct outward movement of the door, each abutment comprising sections hinged to fold upon each other and lever means for manipulating the abutments.

5. In a grain door, hingedly supported supporting members, a leaf having angular reinforcing strips hingedly connected with the supporting members, and latch members connected with the latter and adapted for engagement with the reinforcing strips.

6. The combination with a car door frame and a supporting rod; of a grain-door mounted to swing freely on said supporting rod in an outward direction between the side posts of the frame; said grain door including a plurality of independent leaves or sections arranged in a vertical tier or series and each adapted to obstruct the outward swinging movement of the leaf or section adjoining its upper edge, each section being hingedly connected to the supporting rod.

7. A car door frame, a grain door comprising a plurality of independent sections or leaves supported for free swinging movement between the side posts of the frame, and means movably connected with the latter to obstruct the outward movement of the swinging sections each of said means consisting of sections hinged to fold upon each other.

8. A car door frame, a grain door comprising a plurality of independent leaves or sections independently supported to swing between the side posts of the frame upon an approximately horizontal axis, and abutments to obstruct the movement of the door sections in an outward direction each abutment consisting of sections hinged to fold upon each other.

9. A car door frame, a swinging grain door composed of a plurality of independently movable sections, collapsible obstructing means including pairs of hingedly connected plates, and means for expanding and releasing said obstructing means.

10. A car door frame, a swinging grain door supported upon an approximately horizontal axis and adapted to swing outward between the side posts of the frame, hinge rods carrying door obstructing devices, each of said devices comprising sections hinged to fold upon each other and operating levers upon said hinge rods.

11. A car door frame, a swinging grain door supported upon an approximately horizontal axis and adapted to swing outward between the side posts of the frame, hinge rods supported in the frame and extending through the sill of the latter, door obstructing devices upon said hinge rods, each of said devices consisting of sections hinged to fold upon each other and means for manipulating the latter.

12. A car door frame, a grain door supported upon an approximately horizontal axis for swinging movement between the side posts of the frame, hingedly supported inner abutment plates, outer abutment plates hingedly connected with the inner abutment plates, and resilient guiding means for the abutment plates.

13. A car door frame, a grain door supported upon an approximately horizontal axis for swinging movement between the side posts of the frame, collapsible abutments including a plurality of hingedly connected plates, one plate of each abutment being hingedly connected with a side post of the frame, and means for manipulating the abutments and for guiding the members of the same to expanded and to collapsed position.

14. A grain door supported upon an approximately horizontal axis for swinging movement, in combination with movably supported obstructing members adapted to obstruct the side edges of the door, means for moving said members to and from obstructing position, means hingedly connected with the obstructing members for supporting them in obstructing position, and means for securing said supporting members in engaging position.

15. A car door frame, a grain door supported upon an approximately horizontal axis for swinging movement between the side posts of the frame, vertically disposed hinge rods extending through the sill of the frame, obstructing plates upon said rods, abutment plates hingedly connected with the obstructing plates, and hingedly supported lever plates having guiding means for the abutment plates.

16. A car door frame, a grain door supported upon an approximately horizontal axis for swinging movement between the side posts of the frame, vertically disposed hinge rods extending through the sill of the frame, obstructing plates upon said rods, abutment plates hingedly connected with the obstructing plates, hingedly supported lever plates, and resilient members connected with the latter engaging and guiding the abutment plates.

17. A car door frame, a grain door supported upon an approximately horizontal axis for swinging movement between the side posts of the frame, vertically disposed hinge rods extending through the sill of the frame, door obstructing members upon said rods, abutment plates hingedly connected with the obstructing plates, hingedly supported lever plates adapted to engage and to support the abutment plates, and means for securing the lever plates in engaging and supporting position.

18. A car door frame, a grain door, collapsible and expansible abutments adapted to be expanded to obstructing position relative to the side edges of the grain door, lever members for supporting the abutments in expanded and door obstructing position, and means for securing the lever members in abutment supporting position.

19. A car door frame, a grain door, collapsible and expansible abutments, lever members for supporting the abutments in expanded position, and a chain connecting the lever members and having a take-up hook.

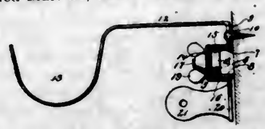
20. The combination with a car door frame; of a hingedly supported grain door adapted to swing outward between the side posts of the frame, abutment plates each consisting of sections hinged to fold upon each other and adapted to lie flat upon the side posts of the frame to permit swinging movement of the door, and means for extending the abutment plates to restrain the door from swinging outward.

21. The combination with a car door frame, and a hingedly supported grain door adapted to swing outward between the side posts of the frame; of abutment plates consisting of sections hinged to fold upon each other and movably connected to and adapted to rest flat upon the side posts of the frame and out of the path of the door, and means for extending the abutments into the path of the door to restrain this outward movement.

22. The combination with a car door frame, and a hingedly supported grain door adapted to swing outward between the side posts of the frame; of abutment plates consisting of sections hinged to fold upon each other and movably connected to and adapted to rest flat upon the side posts of the frame and out of the path of the door, means for extending the abutments into the path of the door to restrain this outward movement, and means for holding the abutment plates in extended position.

23. The combination with a car door frame, and a hingedly supported grain door adapted to swing outward between the side posts of the frame; of abutment plates consisting of sections hinged to fold upon each other and movably connected to and adapted to rest flat upon the side posts of the frame and out of the path of the door, means for extending the abutments into the path of the door to restrain this outward movement, lever plates for holding the abutment plates in extended position, and securing means connecting the lever plates.

866,093. COMBINED SHADE-BRACKET AND CURTAIN-POLE SUPPORT. FRANK VERDIN, Hamilton, Ohio. Filed Mar. 30, 1907. Serial No. 365,581.



In a shade bracket, a support comprising a channeled plate placed horizontally with its edges toward the window casing and having a flange at the upper rear edge fastened to the casing, and a U-shaped slide fitting upon and around said plate and adjustably fastened thereto, the slide having a shade bracket depending from its lower rear edge, adjacent to the casing.

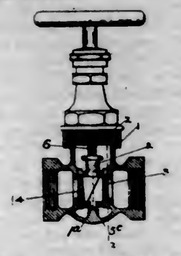
866,094. WATER CLARIFICATION. EMILE VIAL, Brussels, Belgium; Louise Bourgoin Vial, Blanche Vial, and Gabrielle Vial heiresses at law of said Emile Vial, deceased. Filed June 22, 1904. Serial No. 213,721.



The improved apparatus for clarifying muddy water consisting of a tank substantially V shape in longitudinal section and having a flat plate or surface at its inlet end and at the top thereof over which the water flows in a thin horizontal stratum, a series of transverse partitions in the said tank the upper edges of which are in line with

the horizontal plate and the lower edges of which are above the inclined bottom of the tank so as to provide a free communication between the several compartments at the bottom of the tank, the outlet from the said tank for the clarified water being above the plane of the lower edge of the shortest partition, substantially as described.

866,095. CUT-OFF VALVE. EDWARD G. VINCENT, Troy, N. Y., assignor of one-fourth to Albert B. Van Voast, one-fourth to Herman Wagner, and one-fourth to M. Frankie Vincent, Schenectady, N. Y. Filed Oct. 11, 1905. Serial No. 282,348.



1. The combination with a valve-case; a valve-stem; and a stem-nut having on one side a slightly inclined bearing surface, and on the opposite side an abruptly inclined bearing surface; of a valve-gate having a bearing surface inclined similarly to, and engageable with, the slightly inclined bearing surface on said stem-nut; a valve-case-engaging wedge having on one side a bearing surface inclined similarly to, and engageable with, the abruptly inclined bearing surface on said stem-nut, and on the opposite side a vertical bearing surface; and a second valve-gate having a vertical bearing surface engageable with the vertical bearing surface of said lower wedge.

2. The combination with a valve-case; a valve-stem; and a stem-nut having on one side a pair of slightly inclined bearing surfaces, and on the opposite side a pair of abruptly inclined bearing surfaces; of a valve-gate having a pair of bearing surfaces inclined similarly to, and engageable with, the respective slightly inclined bearing surfaces on said stem-nut; a pair of valve-case-engaging lower wedges having each on one side a bearing surface inclined similarly to, and engageable with, one of the abruptly inclined bearing surfaces on said stem-nut, and on the opposite side a vertical bearing surface; and a second valve-gate having a pair of vertical bearing surfaces engageable, respectively, with the vertical bearing surfaces on said lower wedges.

866,096. BOTTLE. HILAIRE VINCENT, Manchester, N. H. Filed July 27, 1905, Serial No. 271,493. Renewed Feb. 18, 1907. Serial No. 358,115.

1. The combination in a bottle, of a neck having an exterior trough and also having an upwardly extending flange forming the inner wall of the trough and provided with a passage, a valve arranged in the neck, and a cap comprising a top bearing on the upper end of the flange of the neck and a depending flange provided with an opening and secured in the trough of the neck through the medium of cement.

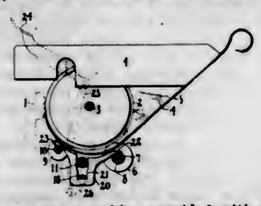
2. The combination in a bottle, of a neck having an interior shoulder and an exterior trough and also having an upwardly extending flange forming the inner wall of the trough and provided in its upper end with one or more notches, a valve-seat arranged in the neck and on the shoulder thereof, a spring-pressed valve normally resting against said seat, and a cap comprising a top bearing on the upper end of the flange of the neck and a depending flange provided with an opening and secured in the trough of the neck through the medium of cement.

3. The combination in a bottle, of a neck having an exterior trough and also having an upwardly extending portion provided with a lateral passage, a cap comprising a top portion bearing on the upper end of the said upwardly extending portion of the neck, and a flange depending from said top portion and having a pouring aperture and also



having its lower edge disposed in the trough of the neck, and cement contained in the said trough and serving to connect the cap to the neck.

866,097. TYPE-WRITING MACHINE. HERMAN L. WAGNER, Mount Vernon, N. Y., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed June 26, 1907. Serial No. 380,859.



1. In a typewriting machine provided with a platen and a platen frame, the combination with two sets of rolls running upon the platen, one set in advance of the other, two spring-pressed shafts whereon the rolls are mounted, and pivoted arms for supporting the roll shafts, of a rock-shaft connected to a key and having cams thereon, and a plurality of yokes extending from said rock shaft to said roll-shafts and engageable by said cams to draw said roll-shafts and rolls from the platen.

2. In a typewriting machine provided with a platen and a platen frame, the combination of two sets of rolls running upon the platen, one in advance of the other, two shafts whereon the rolls are mounted, a rod mounted upon the platen frame between said sets of rolls, arms pivoted upon said rod and supporting the roll shafts, springs pressing the shafts towards the platen, a rock shaft connected to a key and having cams thereon, and a plurality of yokes extending from said rock-shaft and movable by said cams away from the platen and having means to draw said roll shafts and rolls from the platen against the tension of said springs.

3. In a typewriting machine provided with a platen and a platen frame, the combination of two sets of rolls running upon the platen, one in advance of the other, two shafts whereon the rolls are mounted, a rod mounted upon the platen frame between said sets of rolls, arms pivoted upon said rod and supporting the roll shafts, springs pressing the shafts towards the platen, a rock shaft connected to a key and having cams thereon, and a plurality of yokes having slots whereby they are guided by said rock shaft and said rod, said yokes extending to said roll shafts and engageable by said cams to draw said roll shafts and rolls from the platen against the tension of said springs.

4. In a typewriting machine provided with a platen and a platen frame, the combination of two sets of rolls running upon the platen, one in advance of the other, two shafts whereon the rolls are mounted, a rod mounted upon the platen frame between said sets of rolls, arms pivoted upon said rod and supporting the roll shafts, springs pressing the shafts towards the platen, a rock shaft connected to a key and having cams thereon, and a plurality of yokes having slots whereby they are guided by said rock shaft and said rod, said yokes extending to said roll shafts and engageable by said cams to draw said roll shafts and rolls from the platen against the tension of said springs, each yoke having oppositely extending fingers inserted between the rock-shafts and the platen, to effect the release of the rolls.

5. In a typewriting machine provided with a platen and a platen frame, the combination with two sets of rolls running upon the platen, one set in advance of the other, two spring-pressed shafts whereon the rolls are mounted, and pivoted arms for supporting the roll shafts, of a rock-shaft connected to a key and having cams thereon, and a plurality of yokes extending from said rock shaft to said roll-shafts and engageable by said cams to draw said roll-shafts and rolls from the platen; said roll-shafts and rolls being bodily detachable from the machine independently of said yokes.

6. In a typewriting machine provided with a platen and a platen frame, the combination of two sets of rolls running upon the platen, one in advance of the other, two shafts whereon the rolls are mounted, a rod mounted upon the platen frame between said sets of rolls, arms pivoted upon said rod and supporting the roll shafts, springs pressing the shafts towards the platen, a rock shaft connected to a key and having cams thereon, and a plurality of yokes having slots whereby they are guided by said rock shaft and said rod, said yokes extending to said roll shafts and engageable by said cams to draw said roll shafts and rolls from the platen against the tension of said springs, each yoke having oppositely extending fingers inserted between the rock-shafts and the platen, to effect the release of the rolls, and said arms having open bearings for the roll shafts, the latter being detachable from the machine independently of said yokes.

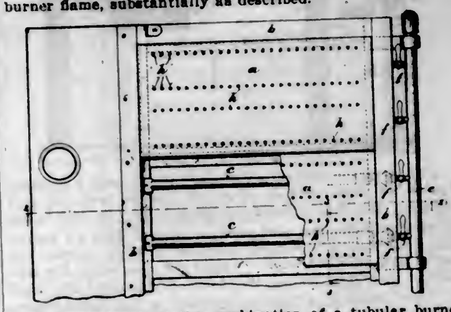
7. In a typewriting machine provided with a platen and a platen frame, the combination with a roll running upon the platen, and a shaft for said roll, of a rod fixed in the platen frame, pivoted arms extending from said rod to guide said shaft, a rock shaft mounted in the platen frame and connected to a key, and yokes or stirrups each slotted to engage both said rock shaft and said rod to be guided thereon and having a finger inserted between the roll shaft and the platen, to engage the roll shaft; said rock shaft having cam portions thereon to engage said yokes to draw the roll shafts away from the platen.

8. In a typewriting machine provided with a platen and a platen frame, the combination with a roll running upon the platen, and a shaft for said roll, of a rod fixed in the platen frame, pivoted arms extending from said rod and having at their ends open bearings to guide said shaft, a rock shaft mounted in the platen frame and connected to a key, and detachable yokes or stirrups having open slots to engage both said rock shaft and said rod to be guided thereon, and having fingers inserted between the roll shaft and the platen, to engage the roll shaft; said rock shaft having cam portions thereon to engage said yokes to draw the roll shaft away from the platen, and said roll shaft being detachable independently of said yokes.

866,098. GAS-RANGE. JAMES H. WALKER, Milwaukee, Wis. Filed Jan. 4, 1906. Serial No. 294,514.

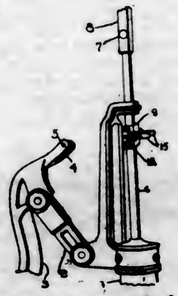
1. In a gas range the combination with a gas burner, of an accessible perforated metal top plate arranged to absorb and distribute the heat of the burner flame having smooth upper and under surfaces and clean cut holes arranged to correspond with the burner openings and afford ventilation for each jet or part of the burner flame, substantially as described.

2. In a gas range the combination with a gas burner having a number of jet openings for the escape of gas supplying the flame, of an exposed perforated metal top plate arranged to absorb and distribute the heat of the burner flame and having smooth flat upper and under surfaces and clean cut holes arranged to correspond with the arrangement of the burner openings and to afford separate exits for the ventilation of the several jets or parts of the burner flame, substantially as described.



3. In a gas range the combination of a tubular burner having a series of jet openings for the escape of gas supplying the flame and a drop gas supply connection out of line with the bore of the burner, and a perforated metal top plate arranged over the burner in position to absorb and distribute the heat of the burner flame and having ventilating holes arranged to correspond with the burner openings and to afford separate exits for the several jets of the burner flame, substantially as described.

866,099. PUMP-HANDLE CONNECTOR. GEORGE E. WALLING, Kendallville, Ind., assignor to Flint & Walling Manufacturing Company, Kendallville, Ind., a Corporation of Indiana. Filed Feb. 26, 1907. Serial No. 359,490.



1. A driving member, a reciprocable driven member and a connector for the members including a block having a guide way extending at an angle to the reciprocations of the driven member whereby one of the members may move to a seating position in the block, and a snap bolt for holding the members connected.

2. Driving and driven members, a clamp block mounted on and adjustable along one of the members, a pair of bolts coacting with the block and the other member to connect the members, and a pair of levers having portions movable toward each other to withdraw the bolts.

3. A pump handle, a pump rod and a recessed block carried by the rod and having a beveled, spring-held bolt whereby movement of the end of the handle into the recess will automatically connect the handle to the rod.

4. A pump handle having an opening near its end, a pump rod and a block carried by the rod and having a guiding recess for the handle to bring the handle opening into registering position, and a bolt carried by the block for engaging the opening in the handle and thereby connect the handle to the rod.

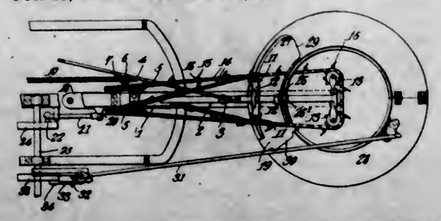
866,100. GRAIN AND SEED HULLER. JOHN B. WATKINS, St. Louis, Mo. Filed Oct. 4, 1906. Serial No. 337,489.



1. A device of the class described comprising a cylinder formed of two sections, a sleeve located between said sections, the inner periphery being provided with teeth or corrugations, the said sleeve provided with an outlet, and a plurality of discharge openings, a valve covering the outlet and provided with a weight for regulating the tension of the valve against the sleeve, a right and left hand conveyer mounted within the cylinder, a cone located upon the shaft between the right and left hand conveyer to compress the material against the inner periphery of the sleeve between the right and left hand conveyer, and discharge the same through the discharge opening under a certain degree of pressure, substantially as specified.

2. A device of the class described comprising a cylinder mounted upon a frame, a conveyer revolubly mounted within said cylinder, a retarder head located at one end of the cylinder, cones located within the cylinder, agitators carried by the cones, the said cones and agitators located between the conveyer and retarder head, and a sleeve having a roughened inner surface carried by the cylinder with which the material is to be brought in contact to be hulled, and discharged through the discharge opening under pressure, substantially as specified.

866,101. GRAIN-SHOCKER FOR HARVESTERS. HERBERT H. WATT, St. Thomas, N. D., assignor of one-half to William R. A. Ball, St. Thomas, N. D. Filed Feb. 18, 1907. Serial No. 357,982.



1. A shocker comprising a bundle receptacle having means for confining the bundles, a bottom for the receptacle mounted for edgewise movement in the arc of a circle and means for delivering bundles to the receptacle.

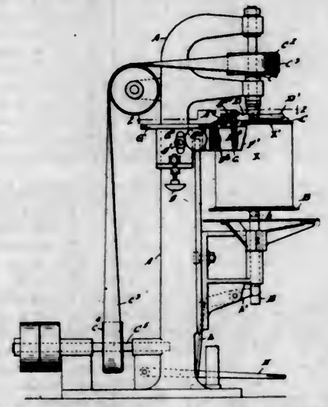
2. A shocker comprising a receptacle having means for confining bundles, a bottom for the receptacle, a pivoted arm supporting said bottom and adapted to move the bottom edgewise, a means for swinging said arm and means for delivering bundles to the receptacle.

3. A shocker comprising a bundle receptacle having means for confining and liberating bundles, a sprocket chain moving in a twisted orbit, sprocket wheels supporting said chain and bundle-engaging prongs carried by the chain, said chain entering and emerging from the bundle receptacle.

4. A shocker comprising a bundle receptacle having means for confining and releasing the bundles, a bundle conveyer comprising an arm having a hinged outer portion, sprocket wheels located at the inner and outer portions of said arm and lying in different planes, a sprocket chain passing around said wheels and having bundle engaging prongs.

5. A shocker comprising a bundle receptacle having means for confining and liberating bundles, a bundle conveyer comprising an arm, sprocket wheels journaled upon the arm and lying in different planes, a sprocket chain passing around the wheels and having bundle engaging prongs with coils at the bases of the prongs.

866,102. DOUBLE-SEAMING MACHINE. GEORGE W. WEBER, New York, N. Y., assignor to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed Nov. 8, 1905. Serial No. 286,346.



1. In a double seaming machine, the combination with a pair of chucks for clamping the can body and can head or cover, of seaming rollers and a flange straightening roller operating in advance of the seaming rollers to straighten the seaming flange on the can body preparatory to the seaming operation, substantially as specified.

2. The combination with a pair of chucks for clamping and holding the can, of seaming rollers, and means for straightening the seaming flange on the can body preparatory to the seaming operation, substantially as specified.

3. The combination with a pair of can chucks, of seaming rollers and a flange straightening device for straightening the horizontal flange on the can body preparatory to the seaming operation, substantially as specified.

4. The combination with a pair of can chucks, of a flange supporting roller and a flange straightening roller for straightening the horizontal flange on the can body preparatory to the seaming operation, substantially as specified.

5. The combination with a pair of can chucks, of a seaming head, a flange supporting roller mounted thereon, and a flange straightening roller for straightening the horizontal flange on the can body preparatory to the seaming operation, substantially as specified.

6. The combination with a pair of can chucks, of a seaming head, a flange supporting roller mounted thereon, a flange straightening roller and means for operating the flange straightening roller from the seaming head, substantially as specified.

7. The combination with a pair of chucks for holding and rotating the can, of a flange supporting roller, a movable head upon which it is mounted, a flange straightening roller and means for operating the flange straightening roller from the movable head carrying the flange supporting roller, substantially as specified.

8. The combination with a pair of chucks, of a seaming head, a flange supporting roller mounted thereon, a cam carried by said head, a flange straightening roller, a slide upon which said flange straightening roller is mounted and a connecting lever and pin for operating the flange straightening roller from said head carrying the flange supporting roller, substantially as specified.

9. The combination with chucks for clamping the can and cover, of a seaming head, seaming rollers carried thereby, a flange supporting roller carried by said seaming head and a flange straightening roller operated by the movement of the seaming head, substantially as specified.

10. The combination with chucks for clamping the can and cover, of a seaming head, seaming rollers carried thereby, a flange supporting roller carried by said seaming head and a flange straightening roller, a movable slide upon which the flange straightening roller is journaled and connecting means for operating said slide from and by the seaming head, substantially as specified.

11. In a double seaming machine for cans a supplementary straightening roller and means for moving said roller upwardly and forwardly to engage with the under surface of the body flange, immediately, before the engagement of the seaming rollers with the flanges.

12. In a double seaming machine for cans, a supplementary, straightening roller and means for moving said roller into engagement with the lower surface of the body flange, to straighten said flange, against the cap flange.

13. In a double seaming machine for cans, the combination with a suitable frame and a horizontally operating seaming tool, of a supplementary straightening roller suitably supported and means for moving said roller momentarily into engagement with the body flange, before the engagement of the seaming tool therewith.

14. In a double seaming machine for cans the combination with a suitable frame, of a seaming tool journaled on the frame, and adapted to be swung in a path parallel with the cap and body flanges into engagement therewith, a supplementary straightening roller and means to move said roller upwardly into engagement with the under surface of the body flange to straighten said body flange immediately before the engagement of the seaming tool with said flanges.

15. In a double seaming machine for cans, the combination with a suitable frame, a support for the cans, means to rotate the can support and the can while the can is being seamed, a seaming tool journaled on the frame and seaming rollers on said tool, of a supplementary straightening roller supported on the frame, and means operated by the seaming tool for moving said supplementary roller upwardly into engagement with the lower surface of the body flanges, immediately before the seaming rollers engage with the cap and body flanges.

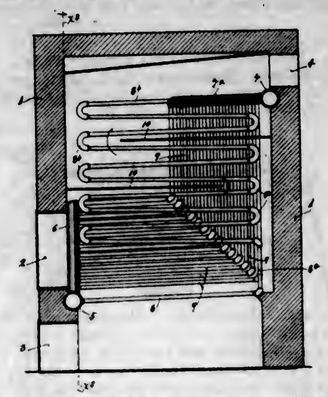
16. In a double seaming machine for cans, the combination with a suitable frame, of a seaming tool journaled on the frame and provided with a plurality of seaming rollers, said tool being adapted to be swung in a horizontal plane to bring its rollers into engagement with the cap and body flanges, a supplementary straightening roller and means to move said roller upwardly into engagement with the under surface of the body flange immediately before the engagement of the seaming tool with the flanges.

17. In a double seaming machine for cans, the combination with a suitable frame, of a seaming tool journaled on the frame and adapted to be swung into engagement with the cap and body flanges to form the seam, a supplementary straightening roller and means to move said roller upwardly to bring its periphery into engagement with the under surface of the body flange, immediately before the engagement of the seaming tool with said flanges.

18. In a double seaming machine for cans, a supplementary straightening roller and means for moving said roller upwardly to bring its periphery into engagement with the under surface of the body flange to straighten said body flange, immediately before the engagement of the seaming rollers with said flange.

866,103. WATER-TUBE BOILER. GEORGE H. WHELDON and CHARLES W. CURLE, Minneapolis, Minn. Filed Dec. 20, 1906. Serial No. 348,754.

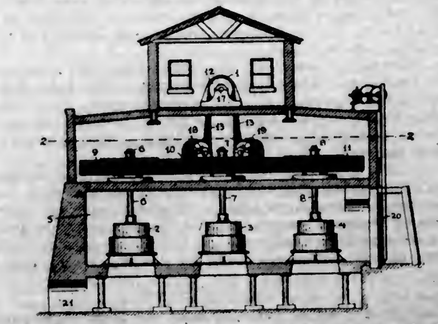
1. In a hot water heater or boiler, the combination with a casing, of laterally spaced water tubes located in two series, one series being on each side of said casing, other laterally spaced water tubes taking zig zag courses upward through the combustion chamber, and closely positioned throughout the space between said first noted water tubes, substantially as described.



2. In a hot water heater or boiler, the combination with a casing having a fuel inlet passage 2, of a water supply pipe 5 located below said passage 2 and having upright water legs 6 on the opposite sides of said passage 2, a water outlet pipe 7 extending transversely across the rear upper portion of said casing and provided with forwardly projecting water legs 7^a, laterally spaced water tubes 8 extending rearward from said water pipe 5 and constituting a grate or fuel supporting bottom of the fire box, said tubes 8 having vertical extensions 8^a and alternately looped sections 8^b, which latter open into the said outlet pipe 7, and the laterally spaced series of approximately L-shaped pipe 9 leading from said upright legs 6 to said inwardly projecting legs 7^a, substantially as described.

3. In a hot water heater or boiler, the combination with a casing, of laterally spaced water tubes located in two series, one series being on each side of said casing, other laterally spaced water tubes taking zig zag courses upward through the combustion chamber, and approximately horizontal reversely projected overlapping baffle plates interposed between the said zig zag water tubes, substantially as described.

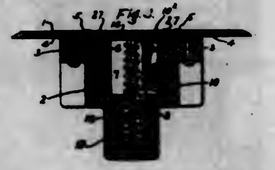
866,104. TRANSMITTING MECHANISM FOR TURBINE WATER-WHEELS. WILLIAM W. WHITE, Worcester, Mass. Filed Jan. 14, 1905. Serial No. 241,016.



The combination of a series of turbine water wheels, having vertical shafts placed out of alinement, the shafts of two wheels being placed at the opposite ends of the base line of a triangle and the shaft of a third wheel being placed at the apex of the triangle, a gate admitting a water supply in common to all of said water wheels, scored driv-

ing pulleys attached to the upper ends of said water wheel shafts and in the same horisontal plane, a scored drum pulley having a horisontal shaft, a wrapping connection between said driving pulleys and said driven pulley, and intermediate pulleys for changing the direction of said wrapping connection.

866,105. FLUSH RECEPTACLE AND PLUG. GEORGE P. WHITTLESEY, Washington, D. C., assignor to General Electric Company, a Corporation of New York. Filed Sept. 13, 1905. Serial No. 278,256.



1. In a flush receptacle, the combination with the casing, of a face-plate having a circular opening, a circular shutter fitting said opening and yieldingly supported, and bayonet-joint locking-means therefor.

2. In a flush receptacle, the combination with a casing having a circular socket provided with shoulders, of a face-plate having a circular opening, a circular shutter having segmental flanges extending between said shoulders and the face-plate, and means for biasing said shutter outwardly and rotarily.

3. In a flush receptacle, the combination with a casing having a circular socket provided with longitudinal grooves and shoulders adjacent thereto, of a face-plate having a circular opening, a circular rotatable shutter having segmental flanges adapted to slide in said grooves and rest on said shoulders, and a spring supporting said shutter.

4. In a flush receptacle, the combination with a casing having a circular socket provided with upper and lower circumferential grooves and longitudinal grooves connecting the same, a face-plate having a circular opening, a circular rotatable shutter having segmental flanges cooperating with said grooves, and a spring supporting said shutter.

5. In a flush receptacle, the combination with a casing having a socket, of a face-plate having a circular opening, a circular rotatable shutter having a central guide-pin, a spring encircling said pin and connected to the receptacle and shutter to rotarily bias the latter, and bayonet-joint locking means for said shutter.

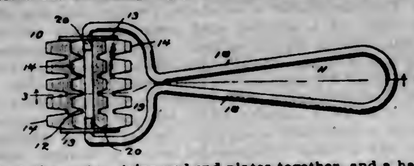
6. In a flush receptacle, the combination with a casing, of a face-plate having a circular opening, a circular rotatable spring-supported shutter having recesses, and a circular plug having lugs on its end to engage said recesses and rotate said shutter.

7. In a flush receptacle, the combination with a casing, of a face-plate having a circular opening, a circular rotatable spring-supported shutter having recesses, a circular plug having lugs on its end to engage said recesses and rotate said shutter, and bayonet-joint locking means for said shutter.

8. In a flush receptacle, the combination with a casing, of a face-plate having a circular opening provided with one or more notches in its edge, a circular rotatable shutter having recesses, a circular plug having lugs to engage said recesses, and one or more pins on said plug to pass through said notches and engage the under side of said face-plate.

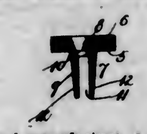
866,106. MEAT-TENDERER. WILLIAM H. BAKER, Bridgeport, Conn., assignor of one-half to Joseph P. Frisbie, Bridgeport, Conn. Filed Mar. 21, 1907. Serial No. 363,573.

A meat tenderer consisting of a cutter head comprising a plurality of cutter strips each having a series of cutting teeth and attaching lugs at the ends, and end plates each having a central hole and a plurality of radial slots to receive the attaching lugs, said lugs being headed down to



lock the cutter strips and end plates together, and a handle engaging the holes in the end plates.

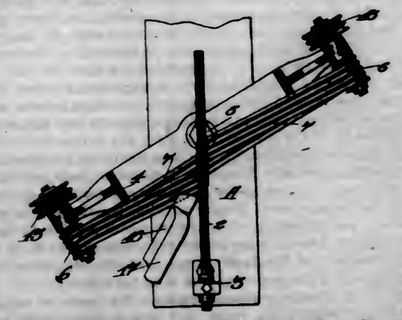
866,107. RIVET. WILLIAM P. BARTEL, Waltham, Mass. Filed Apr. 28, 1906. Serial No. 314,142.



1. As an article of manufacture, a rivet, comprising a head provided with a hole extending therethrough of conical form from one face to the other of said rivet head; and a shank, consisting of a stem with a conical head at one end thereof fitting said hole, and an annular flange integral with said shank and bearing against the lower face of said rivet head, whereby said rivet head is securely held between said conical shank head and flange.

2. As an article of manufacture, a rivet, comprising a head provided with a hole extending therethrough of conical form from the top to the bottom of said rivet head, the larger end of said hole beginning at the top of said rivet head; and a shank, consisting of a conical head fitting said conical hole, and a stem integral with said conical head and of larger diameter than the small end of said conical head which it adjoins forming an annular flange which bears against the lower face of said rivet head, whereby said disk is securely held between said conical head and flange, said stem being tapered from said flange toward the end thereof farthest removed from said rivet head.

866,108. SPIRAL-TUBE-WINDING MACHINE. GEORGE H. BARTLETT, San Francisco, Cal. Filed Apr. 1, 1907. Serial No. 365,813.



1. In an apparatus for winding spiral tubes, the combination of a support turnably mounted and having driving pulleys at opposite sides of its pivot, a mandrel fixed relative to said support, a single endless belt passing around said pulleys and having a plurality of runs or members arranged substantially side by side and each of said members passing around the mandrel, said support being turnable to adjust the angle of travel of said members with relation to the mandrel.

2. In an apparatus for winding spiral tubes, the combination of a support pivotally mounted between its ends and having driving pulleys at opposite sides of the pivot, a mandrel fixed with relation to said support, and a belt or cord passing around said driving pulleys and having a plurality of turns around the mandrel, and means for operating the belt.

3. In an apparatus for winding spiral tubing, a mandrel, multi-grooved pulleys journaled upon opposite sides of the mandrel, a many membered cord or belt having a plurality of turns passing around the pulleys and the mandrel, and means by which the tension of all the members thereof around the mandrel is equalized.

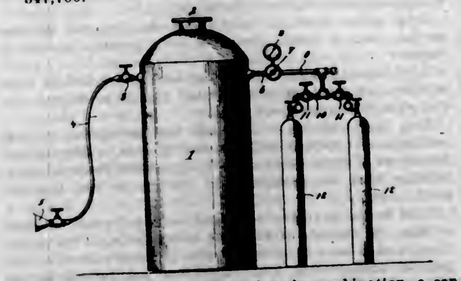
4. In an apparatus for winding spiral tubing, a mandrel, a yoke or bracket pivoted and turnable with relation to the mandrel, multi-grooved pulleys turnable in the ends of the bracket, an endless cord or belt having a plurality of turns around the mandrel and around the pulleys, a weight-carrying pulley around which a single bight of the cord or belt passes whereby an equal tension of all parts of the cord is brought upon the mandrel and the interposed material, means for propelling the pulleys.

5. In an apparatus for winding spiral tubing, a horisontally supported mandrel, a bracket having grooved pulleys revolubie at its ends, the axes of said pulleys being approximately in the plane of the axes of the mandrel, a standard carried by the bracket, grooved power and direction pulleys carried upon the standard, pulleys upon the ends of the shafts of the winding cord pulleys, and an endless belt passing around said pulleys and the driving and direction pulleys, said bracket and parts carried thereby being adjustable relatively to the mandrel to vary the pitch of the spiral.

6. In a spiral winding apparatus, the combination of a mandrel, an endless traveling belt composed of a series of members arranged substantially parallel, each of said members having a winding around the mandrel and means for varying the angle of the members relative to the mandrel.

7. In a spiral winding apparatus, a mandrel, a plurality of members arranged substantially side by side and forming a traveling endless belt, each of said members forming a spiral turn about the mandrel, and means for equalizing the tension of the turns about the mandrel.

866,109. DRY-GAS FIRE-EXTINGUISHER. CHARLES BRENT, Brandon, Manitoba, Canada, assignor to Ever-Ready Fire Extinguisher Co., Buffalo, N. Y., a Corporation of New Jersey. Filed Dec. 13, 1906. Serial No. 347,700.

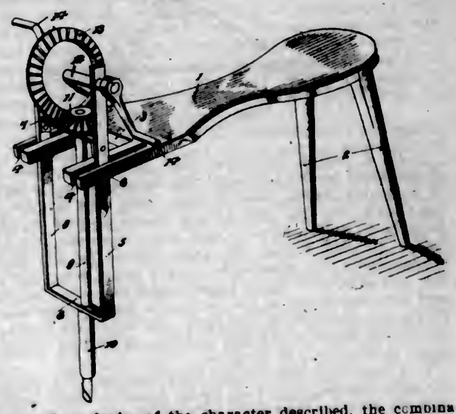


1. In a dry gas fire extinguisher, in combination, a container for liquefied carbonic acid gas, an expansion tank adapted to receive expanded gas from said container, and delivery means in direct communication with said expansion tank whereby the expanded gas may be delivered directly upon the burning material.

2. In a dry gas fire extinguisher, in combination, a gas tainer for liquefied carbonic acid gas, an expansion tank communicating with said gas container, means for reducing the pressure of the gas as it enters said expansion tank, and a suitable delivery means in direct communication with said expansion tank for supplying the expanded gas for use upon a fire.

3. In a dry gas fire extinguisher, in combination, a gas container for liquefied carbonic acid gas, an expansion tank, connections between said gas container and said expansion tank, a reducing valve in said connections for reducing the pressure of the gas entering said expansion tank, and suitable delivery means connected directly to said expansion tank and adapted to supply the expanded gas for use upon a fire.

866,110. DRILL. AARON F. CLARK, Asherville, Kans. Filed June 21, 1907. Serial No. 380,180.



1. In a device of the character described, the combination of a seat bar, a support for one end of the seat bar, and a drill carried by the opposite end of the seat bar, and serving as a support for the same.

2. In a device of the character described, the combination of a seat bar, a support for one end of the seat bar, a frame carried by the opposite end of the seat bar, and a drill mechanism mounted upon the frame, the drill bit aiding in the support of the seat bar.

3. In a device of the character described, the combination of a seat bar, a support for one end of the seat bar, a frame pivotally connected to the opposite end of the seat bar, and a drill mechanism mounted upon the frame, the drill bit being forced downwardly by a weight upon the seat bar.

4. In a device of the character described, the combination of a seat bar, a support for one end of the seat bar, the opposite end thereof being bifurcated, a frame pivotally connected to the arms of the bifurcation, a drill shaft journaled on the frame, and means carried by the frame for operating the drill shaft, the drill being held to its work by a weight upon the seat bar.

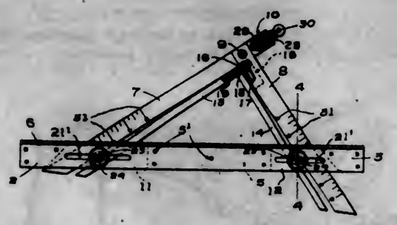
5. In a device of the character described, the combination of a seat bar having one end thereof bifurcated, the two arms of the bifurcation being slotted, a support for the opposite end of the seat bar, a frame comprising side pieces received within the slots in the arms of the bifurcation, a drill shaft journaled on the frame, and means for operating the drill shaft, the drill being held to its work by a weight upon the seat bar.

6. In a device of the character described, the combination of a seat bar having one end thereof bifurcated and the two arms of the bifurcation being slotted, a support for the opposite end of the seat bar, a frame comprising side pieces pivotally mounted upon the arms of the bifurcation and received within the slots therein, the said sides being connected by an intermediate cross bar, a drill shaft journaled upon the cross bars and carrying a pinion, a transverse shaft journaled between the side pieces of the frame and carrying a pinion meshing with the before mentioned pinion, and handles applied to the said transverse shaft, the drill being held to its work by a weight upon the seat bar.

7. In a device of the character described, the combina-

tion of a seat bar, and a drill mounted upon the seat bar and serving as a partial support for the same.

866,111. STAIR-TEMPLET. CHARLES E. COBY, Watertown, N. Y. Filed Apr. 24, 1907. Serial No. 369,912.



1. In a marker for stairs, the combination with a slotted stock having a straight-edge on one side, of a pair of graduated blades joined at their inner ends to form a right-angle, the free ends of said blades adapted to adjustably fit in the slots in said stock, a second pair of blades disposed within the angle formed by the first named blades, the inner ends of said blades being pivotally and adjustably joined together and also connected to said first named blades, the outer ends thereof adjustably fitting the said slots of said stock, and means for holding all of said blades in different positions in relation to said stock, substantially as described.

2. A marker for stairs of the class described, comprising a slotted handle, a pair of blades joined at their inner ends to form a right-angle adjustably mounted in the slots of said handle, a pair of secondary blades pivotally joined at their inner ends and adjustably hinged to one of said first named blades, a pair of screw-clamps carried by said handle adapted to hold all of said blades in a number of positions in relation to said handle, substantially as described.

3. A stair templet of the class described, comprising a pair of blades rigidly joined at one end to form substantially a right-angle adapted for marking the position of the risers and treads of a stairway, a pair of wedge-markers disposed within the angle formed by joining the said blades, the said wedge-markers being pivotally connected near their inner ends, and one of said wedge-markers being pivotally connected to one of said blades, and a stock having one side formed into a double straight-edge and having slots formed near the ends thereof adapted to receive the free ends of said blades and also said wedge-markers, substantially as described.

4. A stair templet, comprising a pair of blades joined near their inner ends to form a right-angle, one of said blades adapted for marking the position of the riser and the other of said blades adapted for marking the position of the tread-board of a stair-step, a series of graduations on said blades to indicate the height and breadth of a stair-step, a pair of independent marking-blades pivotally joined together and connected with said riser-blade, a handle having a straight-edge and having slots adapted to receive and adjustably hold the free ends of all of said blades, and an independent adjustable gage for locating the nosing of a stair tread, substantially as described.

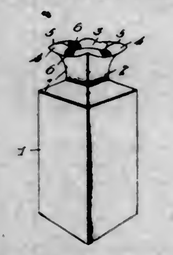
5. A stair templet or gage, comprising a slotted stock having one side formed into a straight-edge, an angular member adjustably mounted in slots in said stock adapted for partially marking gains for the risers and treads of a stair, a pair of blades adjustably connected with each other and also with said angular member, adapted for completing the marking of the gains for the risers and treads and also for the insertion of wedges, and a clamping-stud carried by each end of said stock adapted to hold said member and said blades in position when adjusted, substantially as described.

6. A device of the class described, comprising a slotted handle, a templet-member comprising two arms joined together to form by their inner edges a right-angle, the free ends of said member being adjustably mounted in slots in said handle, a pair of wedge-blades adjustably connected to each other and also to said templet-member and having their free ends inserted in the slots of said handle, the said wedge-blades adapted to coöperate with said templet-member to form a gage for marking mortises for the risers and treads of a stairway, and an adjustable nosing-marker connected to said templet-member, substantially as described.

7. A marker for stairs, comprising a slotted handle, a pair of blades joined at their inner ends to form a right-angle adjustably mounted in the slots of said handle, and a pair of secondary blades pivotally joined at their inner ends and connected to one of said first named blades, substantially as described.

8. A stair templet, comprising a handle having two oppositely facing slots in each end thereof, a pair of blades joined at right-angles adjustably fitting corresponding slots in said handle, a pair of wedge-blades adjustably hinged at their inner ends to each other and also to one of said first named blades, and a pair of studs passing through the handle and between the free ends of said blades adapted to clamp and hold all of said blades rigidly when adjusted, substantially as described.

866,112. BOTTLE. DAVID E. CRIPE, Chandler, Okla. Filed Apr. 29, 1907. Serial No. 370,955.



1. A bottle neck having a mouth provided with pointed guards or fingers furnished with knife edges or fins.

2. A bottle neck having a mouth provided with pointed guards or fingers furnished with knife edges or fins intersected by grooves that extend from the perimeters of the guards into the bore of the neck.

3. A bottle having a body and neck polygonal in cross section, and a mouth provided with pointed guards or fingers.

4. A bottle having a body and neck polygonal in cross section and provided with pointed guards or fingers furnished with knife edges or fins.

5. A bottle having a body and neck polygonal in cross section and provided with pointed guards or fingers furnished with knife edges or fins intersected by grooves extending from the perimeters of the guards into the bore of the neck.

6. A bottle having a body and neck polygonal in cross section, the corners of the neck being arranged on curved lines, and a mouth provided with pointed guards or fingers furnished with knife edges or fins intersected by grooves extending from the perimeters of the guards into the bore of the neck.

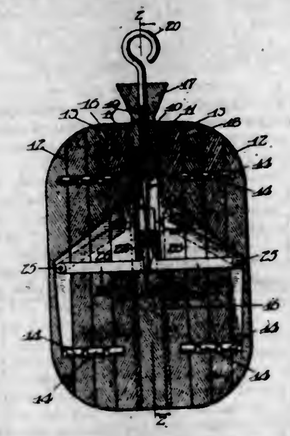
866,113. FEED-BAG FOR HORSES. EDWARD DAWSON, Andover, Mass. Filed June 22, 1904. Serial No. 213,868.

1. A feed bag having a box plait at the front of the body terminating in a robutrant angular opening in the wall of the said body and means to limit the amount of the said opening, substantially as described.

2. A feed bag having plaits at the front of the body forming a bulge which terminates in a robutrant angular opening in the wall of the said body, and means to limit the amount of the said opening, substantially as described.



866,114. SECTIONAL MOLD. WALTER M. DEAN, Evanston, Ill. Filed Apr. 1, 1907. Serial No. 365,898.



1. In combination, a plurality of separable mold sections including a central mold section and other mold sections flanking the same, and means for detachably attaching said sections together said attaching means including tie members pivoted to the outer mold sections and means mounted on the central mold section for engaging said tie members for holding the parts together said central section being slidable along its neighbor for withdrawal and said flanking sections being chambered to permit movement of said tie members about their pivots for permitting said tie members to clear said central section when the latter is withdrawn from its neighbors.

2. In combination, a plurality of separable mold sections, a holding member pivoted to one of said sections, a second holding member mounted on another of said sections and adapted to coöperate with said first holding member for holding the mold sections together, one of said two holding members having a cam surface for acting upon the other member for forcing the parts together, a stop on one of said members for limiting the movement of said pivoted member, and hand operated means for controlling the holding member which coöperates with said pivoted holding member.

3. In combination, a plurality of separable mold-sections, a tie rod pivoted to one of them, a block mounted in another of them and adapted to engage said tie rod and a screw for operating said block, there being a cam surface between said rod and said block on one of them for drawing the mold sections tightly together.

4. In a sectional mold, the combination of a plurality of separable mold sections adapted to lie side by side, a tie rod pivoted to an outside section, a cam mounted in another mold section and adapted to engage said tie rod, and means for operating said cam, said rod when in set position extending into the cam-carrying section and the mold sections being chambered to permit the tie rod to swing clear of said cam-carrying section to permit the latter to be slid lengthwise of the section which carries said tie rod.

5. In a sectional mold, the combination of a plurality of separable mold sections adapted to lie side by side, a tie rod pivoted to an outside section, a cam mounted in another mold section and adapted to engage said tie rod, said cam-carrying section and the section next adjacent thereto being correspondingly tongued and grooved to prevent lateral but permit longitudinal displacement relatively to each other and means for operating said cam, said rod when in set position extending into the cam-carrying section and the mold sections being chambered to permit the tie rod to swing clear of said cam-carrying section to permit the latter to be slid lenghtwise of the section which carries said tie rod.

6. In a sectional mold, the combination of a plurality of separable mold sections, a coöperating block and tie rod one of which has a cam surface at the point of contact with the other, said block being slidingly mounted in one of said mold sections and said tie rod being connected to another of said mold sections, and a screw mounted in the same section as the block and having a head thereon for operating said block, said block having a narrow mouthed chamber for retaining the screw head but permitting rotation of said screw.

7. In a sectional mold, the combination of a plurality of mold sections, a coöperating block and tie rod one of which has a cam surface at the point of contact with the other, said rod being pivoted to one section and said block being slidingly mounted in another mold section, and a screw mounted in the same section as the block for operating it, said screw projecting beyond the mold section in which it is mounted for convenience in rotating it.

8. In a sectional mold, the combination of a plurality of mold sections, a coöperating block and tie rod one of which has a cam surface at the point of contact with the other, said rod being pivoted to one section and said block being slidingly mounted in another mold section, and a screw mounted in the same section as the block for operating it, said screw projecting beyond the mold section in which it is mounted and having a hook formed in said projecting portion for suspending the mold.

9. In a sectional mold, the combination of a central mold section, two flanking mold sections having a tongue and groove connection therewith which prevents lateral but permits longitudinal displacement of the central section relatively to the flanking sections, and means including a cam for releasably drawing the flanking sections tight against the central section.

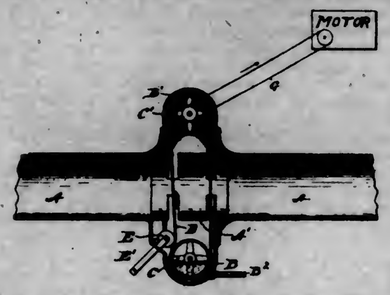
10. In a sectional mold, a central mold section, a plurality of outer mold sections and a plurality of intermediate mold sections, said central section having a tongue and groove contact with its neighboring sections, and the remaining sections being dowel-pinned together; in combination with tie rods connected to the outer sections and means mounted on said central section and adapted to engage said tie rods for releasably drawing the mold sections toward each other.

11. In a sectional mold, a central mold section, a plurality of outer mold sections and a plurality of intermediate mold sections, said central section having a tongue and groove contact with its neighboring sections; in combination with means for releasably drawing the parts toward each other, said drawing means being inclosed within the mold sections and operated from the outside thereof, and comprising tie rods connected to the outer mold sections and means mounted on the central mold section for engaging said tie rods.

12. In a sectional mold, a central mold section, a plurality of outer mold sections and a plurality of intermediate mold sections, said central section having a tongue and groove contact with its neighboring sections, and the remaining sections being dowel-pinned together; in combination with means for releasably drawing the parts toward each other, said drawing means including members

pivoted to the outer mold sections and extending through from the outer to the central section and a screw controlled member slidingly mounted in said central section for engaging said pivoted drawing members.

866,115. VAPORIZER. HERMAN DOCK, Wyncote, Pa., assignor to Dock Gas Engine Company, a Corporation of New Jersey. Filed June 21, 1906. Serial No. 322,696.



1. In a vaporizer, an air pipe, a fuel conveyer projecting into said pipe and in the path of movement of the air therethrough, means for moving said conveyer and varying the tension thereof, and means for supplying fuel thereto.

2. In a vaporizer, an air pipe, a fuel conveyer passing transversely through said pipe and in the path of travel of the air therethrough, means for moving said conveyer and varying the tension thereof, and means for supplying fuel thereto.

3. In a vaporizer, a pipe, an endless band fuel conveyer, supporting driving pulleys therefor on opposite sides of said pipe and externally thereof, said band conveyer passing transversely through said pipe and through the path of movement of the air therein, and means for supplying a liquid fuel to said conveyer at a point externally of the pipe and means for varying the volume of fuel carried by said conveyer.

4. In a vaporizer, a pipe, a fuel conveyer of woven material passing transversely through said pipe, means for moving said fuel conveyer, and means for supplying a liquid fuel to said moving conveyer and means for varying the volume of fuel carried by said conveyer.

5. In a vaporizer, a pipe, a movable fuel conveying belt extending into the same and in the path of travel of the air therethrough, the material of said conveyer having a capillary attractiveness for liquid, means for supplying liquid fuel to said conveyer, and means for manually varying the amount of fuel carrying capacity of said conveyer by varying the tension thereof.

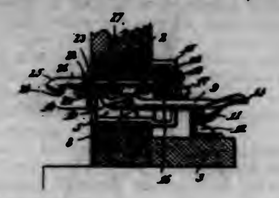
6. In a vaporizer, a pipe, a well adjacent thereto for holding liquid fuel, an endless band of flexible material projecting into said well, said band passing transversely through said pipe, and means at the other side of said pipe from said well for carrying said band at that side and a tension regulating device for said band.

7. In a vaporizer, a pipe, a well adjacent thereto for holding liquid fuel, an endless band of flexible material projecting into said well, said band passing transversely through said pipe, means at the other side of said pipe from said well for carrying said band at that side, and means for varying the tension of said band.

8. In a vaporizer, a pipe, a movable fuel conveyer extending into the same and in the path of travel of the air therethrough, means for supplying fuel to said conveyer, and means for varying the amount of fuel carried by said conveyer by varying the tension thereof.

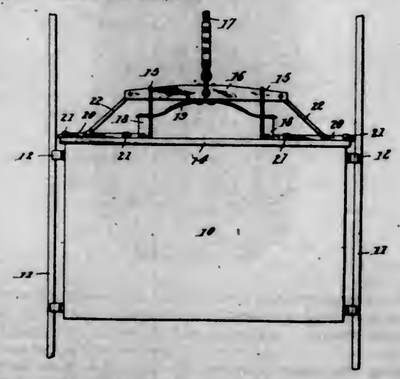
9. In a vaporizer, an air pipe, a fuel conveying band of porous or screen-like material passing into said pipe and in the path of movement of the air therethrough, means for moving said band, and means for supplying fuel thereto and means for varying the tension of the band.

866,116. SHUTTER-FASTENER. LAWRENCE R. EDDY, Elisabeth, N. J. Filed May 16, 1907. Serial No. 373,970.



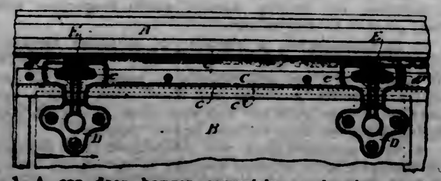
In a shutter-fastener, a casing mounted in the shutter, a lever pivoted intermediate of its ends within the casing, a catch on the inner end of the lever projecting beyond the casing, a catch on the outer end of the lever contained within the casing, a bracket on the sill to engage the catch on the inner end of the lever, a holding-pin on the outer wall to enter the casing to engage therein the catch on the outer end of the lever, a spring contained within the casing pressing the spring into engaging position for either catch, and a button pivoted on the casing operating to engage the inner end of the lever to lock the latter to hold either catch in engagement.

866,117. SAFETY APPLIANCE FOR ELEVATORS. ARCH L. EDMISTON, Oklahoma, Okla. Filed Jan. 30, 1907. Serial No. 354,870.



The combination with an elevator cage and vertical guide-rails therefor having racks, of suspension loops on the cage, a cross-beam slidable up and down in the loops, standards rising from the cage under the cross-beam to limit the downward movement thereof, a hoisting cable attached to the beam, catches carried by the car and adapted to engage the aforesaid racks, a connection between said catches and the cross-beam, and a spring secured to the under side of the beam and having its free ends extending under the aforesaid standards, to lower the cross-beam in the loops and actuate the catches when the lifting strain on said beam is removed.

866,118. CAR-DOOR HANGER. PERCY M. ELLIOTT, Chicago, Ill. Filed Aug. 6, 1906. Serial No. 329,297.



1. A car door hanger comprising a bearing portion adapted to engage a fixed rail or support to sustain the

weight of the car door when said door is at rest, a friction roller arranged to sustain the weight of said door while it is being shifted and means whereby the longitudinal movement of the door causes the weight of the door to be automatically transferred from said bearing portion to said friction roller.

2. A car door hanger comprising a bearing portion arranged to engage a fixed rail or support and to sustain the car door and provided with a roller and with lifting means controlled by the movement of the car door for automatically raising said bearing portion of the hanger away from said rail or support when the car door is shifted longitudinally.

3. A car door hanger provided with a roller and with an inclined way to receive the axle of said roller and having a part arranged to engage a fixed rail or support on the car and sustain the weight of the car door, independently of said roller, when the door is at rest.

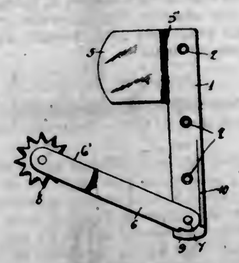
4. A car door hanger comprising a bearing portion arranged to engage a fixed rail or track and provided with an inclined way and a bearing roller, the rim whereof is in proximity to said bearing portion of the hanger and the axle whereof is within said inclined way.

5. A car door hanger comprising a bearing part arranged to engage a fixed rail or support and sustain the car door when at rest and provided with a longitudinally extending, inclined way and with a bearing roller having its axle longitudinally movable within said inclined way of the hanger.

6. A car door hanger provided with a bearing roller and with a bearing portion arranged to engage a fixed rail or track and having an inclined way wherein the axle of said roller is movably retained, the highest portion of said inclined way being at a greater distance from the hanger track than is the top of the axle of said bearing roller, whereby, when the door is at rest, it will be sustained by the hanger independently of said roller and whereby when the door is shifted, its weight will be sustained by said roller.

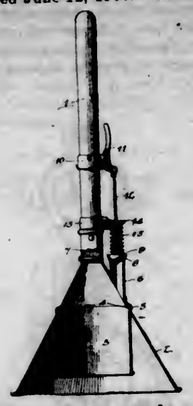
7. A car door hanger, the lower portion whereof is provided with means whereby it may be attached to the car door and the upper part whereof is provided with a bearing roller and with longitudinal slots wherein the axle of said roller is movably mounted, the upper edges of said longitudinal slots being inclined, and the upper part of said hanger being provided with a bearing portion arranged to engage a fixed rail or support and thus sustain the car door independently of said roller.

866,119. SPUR. JOHN W. FIELDS, West Liberty, Ky., assignor of one-half to William H. Haney, Lexington, Ky. Filed Jan. 7, 1907. Serial No. 351,211.



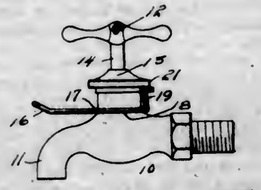
A spur comprising a plate for attachment to a stirrup having an offset laterally extending shield at one end thereof, said plate being provided near its other end on its outer face with a stop flange, a spur arm pivotally connected at one end to said plate near its stop-carrying end and provided with a stop to coact with the stop of the plate to support the spur arm in extended position, said spur arm having a spur device at its free end and adapted to be turned on the plate and to bear on the offset of said shield to dispose its spur completely behind said shield whereby the clothes of the rider are protected.

866,120. CLOTHES-POUNDER. JAMES FLEMING, Middleton, Ga. Filed June 12, 1907. Serial No. 378,593.



The combination in a clothes pounder comprising a cone base having an air tube extending upwardly therefrom and formed at its upper end with a valve seat, of a handle connected to and extending upwardly from said cone base adjacent said air tube, a manually operable lever carried by said handle, a valve arranged to be seated upon said seat in said air tube, connections arranged between said operating lever and said valve, and means for normally holding said valve upon its seat substantially as described.

866,121. FAUCET ATTACHMENT. JOSEPH FLEURY, Manchester, N. H. Filed Sept. 20, 1906. Serial No. 335,459.



1. As an article of manufacture, a faucet attachment composed of a length of wire bent upon itself and forming a loop at its middle, said loop being turned up to constitute a hook, the wires at the rear of the hook being brought together to form a neck, and rearwardly of the hook being given an approximately semicircular form and their separated extremities being bent up at right angles to the plane of the adjacent portions.

2. As an article of manufacture, a faucet attachment composed of a length of wire bent to form a hooked end to rest on top of the spout, clasping arms adapted to engage the sides of the dome and provided at its rear with upturned ends adapted to engage the lower surface of the flange of the screw-cap.

866,122. WATER-HEATER. JOSEPH FOSTER, New York, N. Y. Filed June 14, 1906. Serial No. 321,600.

1. In a system the combination of two valves, an adjustable closing means located on each of the said valves, a locking means connected with one of the said closing means and adjustable therewith adapted to lock the other of the said closing means in a normal closed position, a locking means connected to the said other of the closing means and adjustable therewith adapted to lock the first named closing means open when the said other closing means is in an open position and when beyond a normal closed position.

2. In a system the combination of a pair of valves, a

valve plug and a valve seat located in each of said valves, disks connected to the said valves, handles connected to disks which are adapted to adjustably engage with the first named disks, one of the second named disks having a reversed curve, the other of the second named disks having a curved flange adapted to register with the said reversed curve.



3. In a system the combination of a pair of valves, a valve seat and a valve plug located in each of said valves, handles connected to the said valves, a cam connected to one of the said handles and having a reversed curved portion, a curved flange connected to the other of said handles and adapted to register with the said curved portion of the first named handle.

4. In a system the combination of a pair of valves, a valve seat and a valve plug located in each of the said valves, means for closing one of the said valves, the said means having a reverse curved portion and a means for closing the other of the said valves and having a flange forming an arc of substantially ninety degrees and adapted to register with the said curved portion.

5. In a system the combination of a pair of valves, a valve seat and a valve plug located in each of the said valves, handles connected to the said valves, a cam connected to one of the said handles and having a reversed curved portion, a curved flange connected to the other of said handles, and adapted to register with the said curved portion and to prevent the closing of the valve connected to the handle having the said flange more than a predetermined amount when the other of the said handles is in other than a normal closed position.

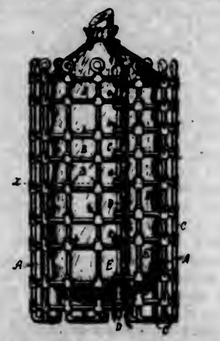
6. In a system the combination of a pair of valves, a valve seat and a valve plug located in each of the said valves, handles connected to each of the said valves, means for adjusting the said handles, a cam connected to one of said handles and having a reversed curved portion, a curved flange connected to the other of the said handles and adapted to register with the said curved portion and to prevent the closing of the first named valve when the other of the said valves is closed if one of the handles is not accurately adjusted with respect to the thickness of the valve plug to bring the same on the valve seat.

7. In a system the combination of a plurality of valves, each valve consisting of a valve chamber, a valve seat and a valve plug located in the said chamber, stems connected to the said valve plugs, a disk having radiating teeth connected to each of the said stems, handles adjustably connected to the said disks, a part connected to one of the said handles having a curved portion, a flange connected to another of the said handles, the said flange adapted to register with the said curved portion.

8. In a system the combination of two valves, a closing means located on each of said valves, one of said closing means located in a normal position when the valve connected therewith is closed, a means for positively locking one of said closing means in an open position when the other of said closing means is moved beyond the said closed position.

9. In a system the combination of two valves, a closing means located on each of said valves, one of said closing means located in a normal closed position when the valve connected therewith is closed, a means for positively locking one of said closing means in an open position when the other of the said closing means is moved beyond the said closed position to close one of the said valves and means for adjusting both of said closing means.

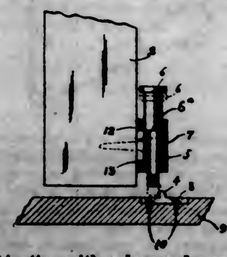
866,123. BANANA-CRATE. LEWIS D. FOWLER, Oklahoma, Okla., assignor of one-half to A. D. Marble, Oklahoma, Okla. Filed Jan. 18, 1907. Serial No. 352,930.



1. In a banana crate, a crate body composed of two semi-cylindrical sections, each section having a plurality of semi-circular transverse ribs provided with eyes at each end, longitudinal U-shaped rods secured to said ribs and two hinge or fastening rods adapted to engage with the eyes on said ribs for uniting the two crate sections to form a cylindrical crate, said hinge or fastening rods having on one end a spring hook for engagement with one of said ribs for securing said rod in place.

2. In the combination of a fruit or banana crate composed of two like sections having semi-circular ribs and a series of lateral bars or rods secured thereto at their intersections; the said ribs having circles or eyes formed of their ends which by receiving the hinge-rod forms a cylinder of the duplicate sections, the two-section lining or sack E and E' suspended within the crate by means of cords attached to the said ribs or lateral bars or rods and having one edge of each section of lining provided with eyelets and the opposite edge provided with cord-loops which the said hinge-rods pass through, as described and for the purposes set forth.

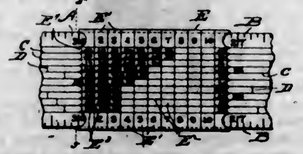
866,124. DOOR-STOP. WILLIAM H. FOX, Minneapolis, Minn. Filed Mar. 7, 1907. Serial No. 361,158.



1. The combination with a door and a spring tending to close the same, of a lock bolt and coöperating abutment, the former of which is secured to the lower portion of the door, and the latter of which is secured to the floor, and a spring operating on said lock bolt with a force tending to raise the same into an inoperative position, the tension of said lock bolt spring being such with respect to the door spring that the said bolt is adapted to be held in engagement with said abutment by pressure of the said door spring, substantially as described.

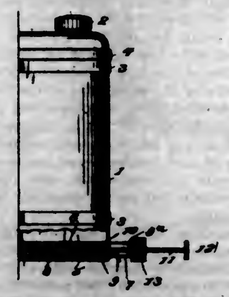
2. The combination with a door and a spring tending to close the same, of a lock bolt and a coöperating abutment, the former of which is secured to the lower portion of said door, and the latter of which is secured to the floor, and a spring acting on said lock bolt with a force tending to raise the same into an inoperative position, the said lock bolt and abutment having interlocking stop shoulders adapted to be held into engagement by the said lock bolt spring when the said lock bolt and abutment are engaged under the tension of the door spring, substantially as described.

866,125. COMPUTING YARD-MEASURE. ROY E. GAINES, Dale, Ind. Filed Sept. 19, 1904. Serial No. 225,092.



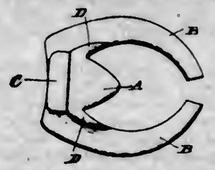
A computing yard measure comprising a yard stick having a linear scale thereon, a plurality of transverse lines on said stick having the requisite numerals to represent the fractional costs, and a slidable, notched sleeve on said stick, the notches registering with the transverse lines, and the said sleeve bearing a plurality of numerals designating total cost, said numerals alining with the notches.

866,126. RECEPTACLE FOR HOLDING AND DISPENSING LIQUID SOAP. WILLIAM B. GARNETT, Tonkawa, Okla., assignor of one-half to Frank H. Crawford, Tonkawa, Okla. Filed Nov. 14, 1906. Serial No. 343,474.



As a new article of manufacture, the herein described dispensing device for liquid soap comprising a receptacle 1, means for supporting the receptacle, a horisontally disposed tubular valve casing 5 fitted against the bottom of the receptacle and projecting laterally beyond the sides of the receptacle, the inner end of the valve casing 5 having the extremity thereof closed and being provided upon its upper face with an inlet opening 6 communicating with the interior of the receptacle, while the outer end of the valve casing 5 projecting beyond the sides of the receptacle is formed upon its lower face with a discharge opening 7, a perforated cap 13 closing the outer end of the tubular casing 5, a valve stem 11 extending through the perforated cap and slidable longitudinally within the valve casing, a valve member carried by the inner end of the stem to slide within the casing and comprising a pair of spaced disks 9 having a packing disk 10 interposed between them, a flange 9a spaced from the valve member and also carried by the valve stem, an extensible spring 8 interposed between the inner end of the valve casing and the valve member, and a finger-piece 12 carried by the outer extremity of the valve stem, the space between the flange and valve member being designed to be filled with the liquid contents of the receptacle when the flange is pressed inwardly, and to discharge through the outlet opening 7 when the pressure upon the flange is released.

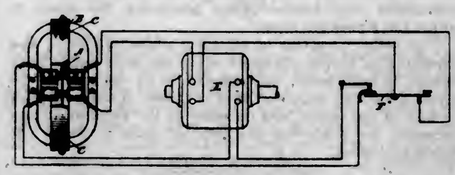
866,127. HORSESHOE-PAD. MYRON D. GLASSBROOKS, Angola, Ind. Filed Aug. 13, 1904. Serial No. 220,681.



1. A horseshoe pad comprising a thick tread portion adapted to fit between the two heel ends of a horseshoe, said tread portion being substantially shield-shape in outline with its point towards the toe of the shoe, relatively thin curved wings projecting from the upper edge of said tread portion and adapted to be secured between the horseshoe and the hoof, and a protuberance on the top of the tread portion to fit into the hoof frog, substantially as shown and described.

2. A horseshoe pad comprising a thick tread portion and relatively thin curved wings projecting from the upper edge of said tread portion made of yielding material, the tread portion being shield-shape in outline and adapted to seat between the two heel ends of a horseshoe with its point towards the toe of the shoe, a wear plate of rigid material secured to the wear side of the tread portion, and a protuberance on the top of the tread portion to fit in the crease in the hoof frog, substantially as shown and described.

866,128. DEVICE FOR TRANSMITTING SOUND THROUGH WATER. ELISHA GRAY, Highland Park, Ill., assignor, by mesne assignments, to Submarine Signal Company, a Corporation of Maine. Filed Dec. 1, 1899. Serial No. 738,796.



1. In a system of submarine telegraphy a sounding plate in magnetic circuit or circuits, whereby it is maintained in a state of constant polarisation, adapted to be vibrated by magnetic lines of force, electrically induced in magnets in close proximity thereto, the polarity of which is alternately reversed.

2. In a system of submarine telegraphy a sounding plate in magnetic circuit or circuits, whereby it is maintained in a state of constant polarisation, adapted to be vibrated by magnetic lines of force, electrically induced in magnets in close proximity thereto, the polarity of which is alternately reversed and which magnets are also in magnetic circuit with the transmitting instrumentality.

3. In a system of submarine telegraphy a sounding plate, electro magnets in magnetic circuit or circuits therewith, continuously energised by a direct current from a constant source of electric power, whereby the said instrumentality is maintained in a state of constant polarisation, and whereby also the transmitting instrumentality is held in a state of equilibrium, and electro magnets in close

proximity, to said instrumentality, energised by an alternating current and alternately reversed as to their polarity to induce sound producing vibrations in the said instrumentality.

4. In a system of submarine telegraphy a sounding plate, electro magnets in magnetic circuit or circuits, continuously energised by a direct current from a constant source of electric power, whereby the said instrumentality is maintained in a state of constant polarization and whereby also it is held in a state of equilibrium, and electro magnets in close proximity to said instrumentality, energised by an alternating current and alternately reversed as to their polarity to induce sound vibrations, the said alternating current being pulsated at a rate corresponding to that of the vibrations of the sound producing and transmitting instrumentality in sounding its dominant tone.

5. A sounding plate, means acting thereon to tune it to any desired note or pitch, electro magnets in magnetic circuit or circuits therewith, continuously energized by a direct current from a constant source of electric power, whereby the said instrumentality is maintained in a state of constant polarization and whereby also it is held in a state of equilibrium, and electro magnets in close proximity to said instrumentality, energised by an alternating current and alternately reversed as to their polarity to induce sound producing vibrations therein, the said alternating current being pulsated at a rate corresponding to that of the vibrations of the sound producing and transmitting instrumentality in sounding its dominant tone.

6. The combination of a frame, a sounding plate carried thereby and adapted to be held in a state of constant polarization and equilibrium by the magnets F, F^1, F^2, F^3 and the plate vibrating magnets, G, G^1, all said magnets being connected with sources of electric energy, as specified, and whereby the polarity of the magnets, G, G^1, is reversed.

7. A series or group of strained, sounding plates, arranged in any desired order with respect to each other, tuned to produce different notes bearing a harmonic relation to each other, and adapted to be vibrated by the direct action of magnetic lines of force upon each of the plates, and pulsated at the vibrational rate necessary for producing the tones to which the plates are tuned.

8. A series or group of strained, sound producing and transmitting plates, arranged to face in different directions with respect to each other, and adapted to be vibrated by the direct action of magnetic lines of force, suitably applied to each of the plates, and pulsated at the vibrational rate necessary for producing the tones to which the plates are tuned.

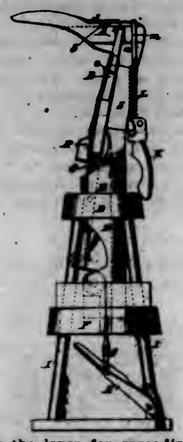
9. A series or group of strained, sound producing and transmitting plates, arranged upon the same plane with respect to each other, and adapted to be vibrated by the direct action of magnetic lines of force, suitably applied to each of the plates, and pulsated at the vibrational rate necessary for producing the tone or tones to which the plates are tuned.

866,129. DEVICE FOR MAKING AND REPAIRING SHOES. LEWIS HACKETT, North Yakima, Wash. Filed May 24, 1905. Serial No. 262,108.

1. The combination with a support and a shank revolubly mounted therein; of a sectional last carried by the shank and comprising separable portions, a lever fulcrumed upon the shank, yieldable means carried by the lever for engaging one of the last portions, means upon the lever for disengaging said yieldable means from the last portion, and manually operated means upon the support for actuating the lever.

2. The combination with a support; of a shank revolubly mounted within the support, a sectional last carried by the shank, said last comprising a heel portion, and a toe portion slidably mounted upon the heel portion, an actuating lever connected to the shank, last engaging means extending from the lever, and means upon said lever for releasing said engaging means from the last.

3. The combination with a stationary support and a shank revolubly mounted thereon; of an extensible sectional last carried by the shank, an actuating lever fulcrumed within the shank, yieldable devices extending therefrom and engaging one of the sections of the last,



means carried by the lever for spreading said devices to release the last section therefrom, and means upon the support for actuating the lever to extend the last.

866,130. VEHICLE-TONGUE. BENNIE P. HANSON, Parkersburg, Iowa. Filed Feb. 27, 1906, Serial No. 303,238. Renewed July 19, 1907. Serial No. 384,600.



1. The combination with a supporting plate having rotatable mechanism thereon; of a telescopic tongue supported by said plate, all portions of said tongue being movable longitudinally and adapted to operate the mechanism, one portion of the tongue being longitudinally movable independently of the remainder of the tongue.

2. The combination with a supporting plate having mechanism connected thereto; of a telescopic tongue, all portions of which are movable longitudinally upon the plate, a portion of said tongue permanently engaging and adapted to actuate the mechanism, and another portion thereof being normally but not permanently in engagement with the mechanism.

3. The combination with a support; of a telescopic tongue comprising members movable longitudinally upon the support and horizontally parallel with each other, mechanism connected to the support and normally engaging and adapted to be actuated by the tongue during a portion of its extension.

4. The combination with a support, of a telescopic tongue movable longitudinally upon the support, mechanism connected to the support and normally engaging and adapted to be actuated by the tongue during a portion of its extension, and a resilient stop for limiting the movement of the tongue in one direction.

5. The combination with a support having a drum thereon and mechanism for rotating said drum; of actuating means for said mechanism comprising a longitudinally movable, telescopic vehicle tongue, and racks upon the members of the tongue engaging and adapted to actuate the mechanism.

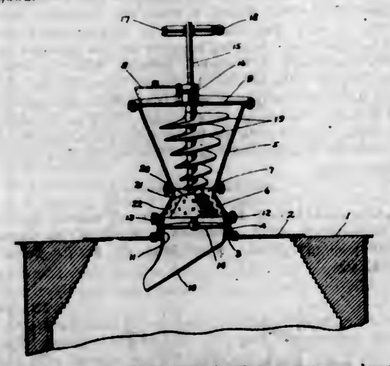
6. The combination with a support having mechanism thereon; of a tongue member longitudinally movable upon the support and permanently engaging the mechanism, a resilient stop for said tongue member, a second longitudinally movable tongue member telescoping the first mentioned member, and a rack thereon for engaging the mechanism during a portion of the movement of said second member.

7. The combination with a support having a drum thereon and gears for rotating the drum; of a longitudinally movable tongue member mounted on the support, a rack thereon engaging a gear and adapted to actuate the same, a second tongue member slidably connected to the first mentioned member, means for limiting the movement of said second member, and a rack upon said member adapted to engage a gear during a portion of the movement of the member.

8. The combination with a support having a drum thereon and gears for rotating the drum; of a longitudinally movable tongue member mounted on the support, a rack thereon engaging a gear and adapted to actuate the same, a second tongue member slidably connected to the first mentioned member, means for limiting the movement of said second member, a rack upon said member adapted to engage a gear during a portion of the movement of the member, a cable-engaging device connected to said second member, and a resilient stop for limiting the movement of the members in one direction.

9. The combination with a support having a drum thereon and gears for rotating the drum; of a rear tongue member longitudinally movable upon the support, a rack thereon engaging a gear, a front tongue member slidably connected to the rear member, draft devices connected thereto, a rack upon the front member adapted to engage one of the gears during a portion of the movement of said front member, and a cable-engaging device movable with the front member.

866,131. GAS-PRODUCER. GUY C. HEILMAN, Hackensack, N. J., assignor of one-half to Mary A. Herrick, New York, N. Y. Filed Mar. 4, 1907. Serial No. 360,331.



1. In a gas producer, a body having a cover, a hopper fixed to said cover, a propelling device and a grinding device revoluble within said hopper, and a revoluble spout for distributing fuel within said body.

2. In a gas producer, a feed hopper having oppositely disposed conical sections, a spout to which said hopper delivers, and a journaled shaft having a screw propeller thereon within one of said conical sections, said spout being fixed to and revolved by said shaft.

3. In a gas producer, a feed hopper having oppositely disposed conical sections diverging from each other, a spout to which said hopper delivers, and a journaled shaft having a grinder thereon within one of said conical sections, said spout being fixed to and revolved by said shaft.

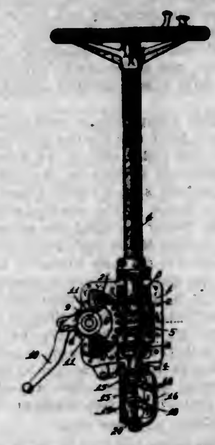
4. In a gas producer, a hopper having oppositely disposed conical sections, a revoluble shaft having fixed thereon a screw propeller within one of said conical sections and a grinder within the other of said sections, and a spout fixed to and revolved by said shaft to which said hopper delivers.

866,132. AUTOMATIC SELF-BALANCING VALVE. THOMAS M. HENDERSON, Portsmouth, Va., assignor of one-half to R. Randolph Hicks, Norfolk, Va. Filed June 4, 1906. Serial No. 320,088.



An automatic self-balancing valve comprising a hollow cylindrical body and a conical working face, the valve body being provided at opposite places with ports which extend to the conical working face, and bars extending lengthwise of the body and separating said ports one from another and having their opposite edges reversely beveled, the valve body having a groove around the base of the conical working face which crosses the bars and intersects the ports at one end only of the latter, substantially as described.

866,133. VEHICLE STEERING-GEAR. JOHN A. HERZOG, Toledo, Ohio, assignor to The De Luxe Motor Car Co., Detroit, Mich. Filed June 15, 1907. Serial No. 379,121.



1. A steering gear comprising a pair of casing-halves united by a vertical joint and having post-bearings in its upper and lower walls and a slot in the joint between its halves, trunnion-bearings carried by the casing-halves at the opposite sides of said slot, a steering post journaled in the post-bearings, a worm on the steering-post within the casing, a worm-gear sector engaging the worm and having a hub engaging the sides of the casing-slot and having its upper and lower concentric portions engaging the upper and lower margins of the slot, trunnions projecting from said hub into engagement with the trunnions-bearings, and a steering-arm projecting from the hub exterior to the casing, combined substantially as set forth.

2. A steering gear comprising a pair of casing-halves united by a vertical joint and having post-bearings in its upper and lower walls and a slot in the joint between its halves, trunnion-bearings carried by the casing-halves at the opposite sides of said slot, a steering-post journaled in the post-bearings, a worm on the steering-post within the casing, a worm-gear sector engaging the worm and having a hub engaging the sides of the casing-slot and having upper and lower concentric portions engaging the upper and lower margins of the slot and having its hub-faces concentrically grooved, trunnions projecting from said hub into engagement with the trunnion-bearings, bushings carried by the trunnion-bearings and having inner end flanges projecting into the concentric recesses of said hub, and a steering-arm projecting from the hub exterior to the casing, combined substantially as set forth.

3. A steering gear comprising a pair of casing-halves united by a vertical joint and having post-bearings in its upper and lower walls and a slot in the joint between its halves, trunnion-bearings carried by the casing-halves at the opposite sides of said slot, a steering-post journaled in the post-bearings, a worm on the steering-post within the casing, a worm-gear sector engaging the worm and having a hub engaging the sides of the casing-slot and having its upper and lower concentric portions engaging the upper and lower margins of the slot, trunnions projecting from said hub into engagement with the trunnion-bearings, a steering-arm projecting from the hub exterior to the casing, and a sub-casing removably secured to the lower wall of the pair of casing-halves, combined substantially as set forth.

4. A steering gear comprising a pair of casing-halves united by a vertical joint and having post-bearings in its upper and lower walls and a slot in the joint between its halves, trunnion-bearings carried by the casing-halves at the opposite sides of said slot, a steering-post journaled in the post-bearings, a worm on the steering-post within the casing, a worm-gear sector engaging the worm and having a hub engaging the sides of the casing-slot and having its upper and lower concentric portions engaging the upper and lower margins of the slot, trunnions projecting from said hub into engagement with the trunnion-bearings, a steering-arm projecting from the hub exterior to the casing, a circular nose projecting downward from the lower wall of the joined casing-halves concentric with the axis of the steering-post, and a sub-casing carrying at its top a clamp engaging said nose, combined substantially as set forth.

5. A steering gear comprising a pair of casing-halves united by a vertical joint and having post-bearings in its upper and lower walls and a slot in the joint between its halves, trunnion-bearings carried by the casing-halves at the opposite sides of said slot, a steering-post journaled in the post-bearings, a worm on the steering-post within the casing, a worm-gear sector engaging the worm and having a hub engaging the sides of the casing-slot and having upper and lower concentric portions engaging the upper and lower margins of the slot, trunnions projecting from said hub into engagement with the trunnion-bearings, a steering-arm projecting from the hub exterior to the casing, a circular nose projecting downward from the joined casing halves concentric with the steering-post, a housing having upper and lower flanges, a clamp carried by the top of the housing and engaging said nose, and a shell removably fitting the flanges and body of the housing, combined substantially as set forth.

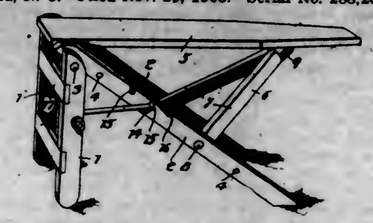
866,134. TIRE-PROTECTOR. WILLIAM H. HOFFMANN, New York, N. Y. Filed Nov. 18, 1905. Serial No. 287,981.



1. A tire protector, composed of a series of shoe sections substantially V shaped in cross section which shoe sections are provided in each side edge with a notch at the center of the shoe and extending inward from the side edge, a pivot pin extending through each notch near its outer end and links mounted slidably on the pivot pins of two adjacent sections and extending in the direction of the length of the tire protector formed of such alternate link and shoe sections, substantially as set forth.

2. A tire protector, composed of a series of shoe sections substantially V shaped in cross section and links alternating with said sections, which shoe sections are provided in each side edge with a notch extending inward from said side edges at the center of the section, pivot pins extending across said notches and embraced loosely by the links, each shoe section being provided with a central tread section between the inner ends of the two notches in said shoe section, substantially as set forth.

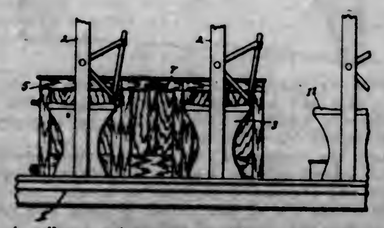
866,135. IRONING-TABLE. HILARY N. HOLCOMB, East Bend, N. C. Filed Nov. 20, 1905. Serial No. 288,269.



1. An ironing table comprising spaced legs, inclined spaced supports pivotally connected with said legs, one of said supports having spaced notches in its upper face, an ironing board pivotally connected at one end between said inclined spaced supports, and foldable to lie therebetween when closed, a brace rod pivotally mounted on one of said legs and having a hooked end to engage said notches, said brace carrying leg having a longitudinal recess formed in its inner face to receive said brace rod and hold it securely in position when the table is collapsed, and a support for the other end of said ironing board pivotally mounted between said inclined spaced supports and provided with means for engaging said board.

2. An ironing table comprising spaced legs, inclined spaced supports pivotally connected at one end with said legs, one of said supports having spaced notches in its upper face, an ironing board pivotally mounted at one end between said inclined spaced supports and foldable to lie therebetween when closed, a brace rod pivotally mounted on one of said legs and having a hooked end to engage said notches and a bracing support for the free end of said board comprising a V-shaped member with its diverging ends pivoted adjacent to the inner faces of the inclined supports respectively and with their free ends converging, and a ferrule arranged on and connecting said converging free ends, said ferrule having a spur projecting from the end thereof to engage the lower face of the free end of the ironing board.

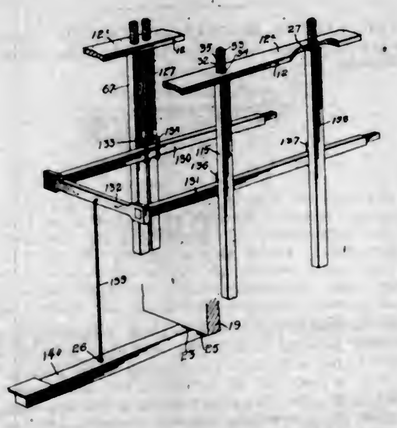
866,136. RAILWAY MOTOR-CAR. WILLIAM S. HOVEY, Three Rivers, Mich., assignor to Sheffield Car Company, Three Rivers, Mich. Filed Mar. 25, 1907. Serial No. 364,249.



1. A railway motor car comprising a car body, having an engine well or opening through the floor thereof; an engine arranged through said opening; a housing for said well or opening, the top of said housing being adapted to form a deck or platform; doors in the sides and front end of said housing whereby access to said engine may be had, said housing being located so as to provide space for the motorman in front thereof; and seats at each side and to the rear of said housing, the said side doors of said housing being located between the seats at the sides thereof, substantially as described.

2. A railway motor car comprising a car body, having an engine well or opening through the floor thereof; an engine arranged through said opening; a housing for said well or opening; doors in the sides and front end of said housing whereby access to said engine may be had, said housing being located so as to provide space for the motorman in front thereof; and seats at each side and to the rear of said housing, the said side doors of said housing being located between the seats at the sides thereof, substantially as described.

866,137. GUITAR ATTACHMENT. LYCURGUS E. HULL, Great Falls, Mont. Filed Oct. 27, 1905. Serial No. 284,681.



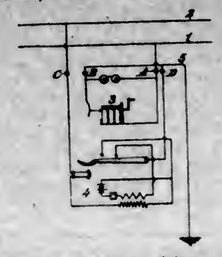
1. An attachment for stringed musical instruments comprising a frame, presser bars mounted for movement in the frame, said presser bars being each provided with a threaded stem, means for actuating the bars, springs engaged upon the threaded stems of the bars, and nuts engaged upon the said threaded stems for adjusting the tension of the springs.

2. An attachment for stringed musical instruments comprising a frame, presser bars mounted for movement in the frame, blocks carried by the frame, a supplemental frame hinged to said blocks, bearing blocks carried by the first-named blocks and by the supplemental frame for sliding movement, and means for adjusting the bearing blocks to the neck of the instrument in the direction of the said presser bars.

3. An attachment for stringed musical instruments comprising a frame, presser bars mounted for vertical movement in the frame, springs engaged upon the bars and adapted to hold them normally in elevated position, yoke members carried by the presser bars, bars mounted for rocking movement in the frame and engaged through the yoke members upon certain of said presser bars, keys pivoted in the frame, a connection between one of said key bars and one of said rocking bars whereby the latter may be rocked at times to depress the corresponding presser bars, members connecting certain of said rocking bars for simultaneous movement, each of said connecting members being connected to one of said keys.

4. An attachment for stringed musical instruments comprising a frame, presser bars mounted for sliding movement in the frame, springs engaging the bars and adapted to hold them normally in elevated position, yoke members carried by the presser bars, bars mounted for rocking movement in the frame and engaged through the yoke members, keys pivoted in the frame, members connecting certain of said rocking bars, and a wire connecting each of said connecting members and one of said keys.

866,138. TELEPHONE SYSTEM. HENRY F. JOECKEL, Clayton, Ill. Filed Feb. 23, 1904, Serial No. 194,948. Renewed Mar. 11, 1907. Serial No. 361,838.

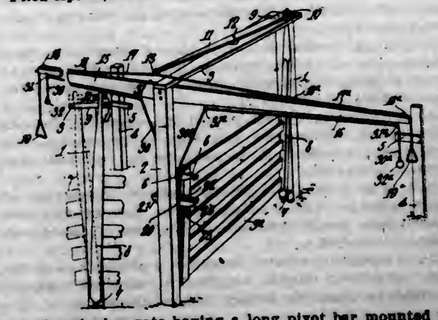


1. In a telephone system comprising a plurality of stations the combination of the usual bridging telephone with two line circuits therebetween, the signaling instruments of each station being a magneto and bell connected in the same order and relation to one another as they are in the usual bridging system of only one line circuit to one of the line circuits, and the talking instruments of each station being a transmitter, induction coil, local battery, hook switch, and a receiver connected in the same order and relation to one another as they are in the usual bridging system of only one line circuit to the other line circuit substantially as described.

2. In a telephone system comprising a plurality of stations the combination of the usual series telephone with two line circuits therebetween, the signaling instruments of each station being a magneto and bell connected in the same order and relation to one another as they are in the usual series system of only one line wire in one of the line circuits, and the talking instruments of each station being a transmitter, induction coil, local battery, hook switch, and a receiver connected in the same order and relation to one another as they are in the usual bridging system of only one line circuit to the other line circuit, substantially as described.

3. In a telephone system the combination of the usual bridging telephone parts with two line circuits, the signaling instruments being a magneto and bell, connected in the same order and relation to one of the line circuits as they are in the usual bridging system of only one line circuit, and the talking instruments being a transmitter, induction coil, local battery, hook switch, and a receiver connected in the same order and relation to one another as they are in the usual bridging system of only one line circuit to the other line circuit, substantially as shown.

866,139. GATE. WILLIS H. JORDAN, Rogers Prairie, Tex. Filed Apr. 2, 1907. Serial No. 365,960.

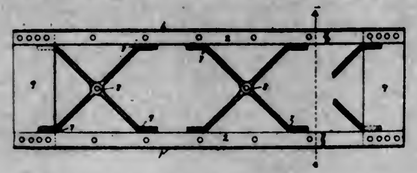


1. A swinging gate having a long pivot bar mounted in a bearing at its lower end and free at its upper end to be tilted on said bearing out of a vertical plane, a hinge post carrying said bearing, and a latch post, each post extending above said gate, a cross bar connecting the upper ends of said posts, a lever pivoted between its ends

to said cross bar and having an opening therein for the upper end of said pivot bar, and means for swinging said lever to change the poise of the gate.

2. A swinging gate having a long pivot bar mounted in a bearing at its lower end and free at its upper end to be tilted on said bearing out of a vertical plane, a hinge post carrying said bearing, and a latch post, each post extending above said gate nearly to the top of the pivot bar, a cross bar connecting the upper ends of said posts and having a slot in one end, a lever pivoted between its ends to the upper side of said cross bar and having an opening for the upper end of the pivot bar which extends through said slot, and means attached to the opposite end of the lever and extending in different directions for swinging said lever to change the poise of the gate.

866,140. TRUSSED GIRDER. JULIUS KAHN, Detroit, Mich. Filed Apr. 22, 1907. Serial No. 369,478.



1. In a truss, the combination of two pairs of angle bars forming the upper and lower longitudinal members of the truss, two series of diagonal members inclined in opposite directions, each series integral with one of the upper and one of the lower angle bars, means to secure the diagonals together at their points of intersection, and vertical plates secured between the ends of the upper and lower longitudinal members of the truss.

2. In a truss formed of two part-trusses, each comprising upper and lower longitudinal members and diagonal members integral therewith, the diagonals of the part-trusses being inclined in opposite directions.

3. A part-truss comprising longitudinal upper and lower members in the form of angle bars, and diagonal members integral therewith.

4. A truss formed of two sheet metal part-trusses each comprising flanged upper and lower members and semi-cylindrical diagonal members connecting the same and integral therewith, the diagonal member of the part-trusses being inclined in opposite directions, and flattened at their intersections and there secured together.

5. A part-truss comprising upper and lower members, in the form of angle bars and an open work intermediate portion integral therewith.

6. A structural member formed of a plurality of sheet metal parts, one of them comprising longitudinal members, and grooved web members connecting the same and integral therewith.

7. A truss formed of a plurality of sheet metal part trusses, one of which comprises longitudinal upper and lower member, and grooved web members connecting the same and integral therewith.

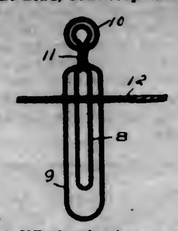
8. A structural member formed of a plurality of parts one of which is formed by expanding a rolled section, and comprises a longitudinal member and an expanded web integral therewith.

9. A truss formed of a plurality of part trusses, one of which is formed from a rolled sheet or plate of steel, and comprising a longitudinal member and an expanded web integral therewith.

10. A structural member formed of a plurality of parts, each comprising outside longitudinal members and an expanded intermediate portion integral therewith.

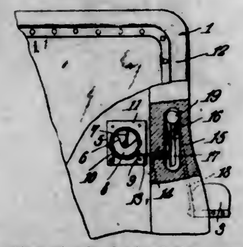
866,141. CLOTHES-PIN. DANIEL F. KAY, Jr., Chicago, Ill. Filed July 31, 1906. Serial No. 328,580.

A clothes-pin formed from wire and comprising rings forming a head, a narrow neck below the head, and an inner and an outer elongated and closed loop connected with and depending from the head, both loops being of substantially



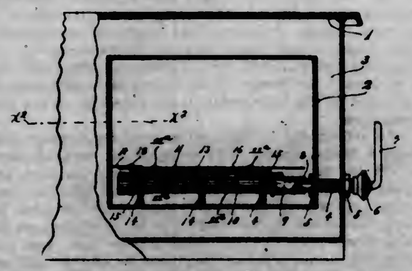
the same form but differing in size, as and for the purpose set forth.

866,142. SHAVE-REGISTERING DEVICE. HUGH C. KELLEY, Sonora, Tex. Filed Dec. 21, 1906. Serial No. 348,946.



The combination of a barber's chair comprising a movable back provided with a slot, and arms movable with respect to the back, with a registering device mounted on the back, a push rod for actuating the said device and extending into the slot, a leaf spring in the slot engaging the push rod, a resilient member connected with one of the arms and extending into the slot, and an enlargement on the member arranged to have a wiping engagement with the leaf spring.

866,143. GAS-BURNING APPLIANCE FOR STOVE-OVENS. WILLIAM H. KIRK, Minneapolis, Minn. Filed Aug. 8, 1906. Serial No. 329,674.

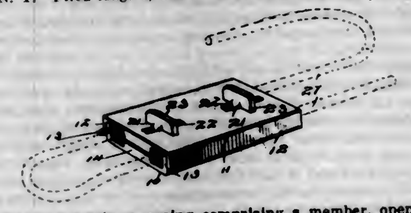


1. The combination with an ordinary cooking stove or range, of a gas burning appliance for the oven thereof, comprising a gas conducting sleeve extended through the walls of the oven and the adjacent wall of the stove, a twyer detachably coupled to the inner end of said sleeve, and a rectangular deflecting plate overlying said twyer and spaced at its four edges apart from the four walls of the oven, substantially as described.

2. The combination with an ordinary cooking stove or range, of a gas burning appliance for the oven thereof, comprising a gas conducting sleeve extending through one of the walls of said oven and the adjacent wall of the stove and having a tapered inner end, a pair of connected twyer pipes having a socket fitting the tapered inner end of said sleeve, and a deflecting plate overlying said twyer pipes, substantially as described.

3. The combination with an ordinary cooking stove or range, of a gas burning appliance for the oven thereof, comprising a sleeve extending through one wall of the oven and through the adjacent wall of the stove and having a tapered inner end, a twyer pipe having a socket fitting the tapered end of said sleeve, a deflecting plate secured to and overlying said twyer pipe, and an adjustable stop on said deflecting plate engageable with one of the walls of the oven to prevent separation of said socket from the tapered end of said sleeve, substantially as described.

866,144. ROPE-CLAMP. FRANK P. KOBERT, New York, N. Y. Filed Aug. 6, 1906. Serial No. 329,482.



In a rope grip, a casing comprising a member, open at the sides and provided with upstanding spaced lugs, gripping members disposed within said member and movable laterally thereof, a cover member having flanges proportioned to embrace the open sides of the casing member, and provided with longitudinally extending slots, means disposed within the casing for moving the gripping members laterally, said means extending outwardly through slots in the cover member, and adapted to clamp the cover member in position.

866,145. COLLAPSIBLE CARRIAGE. OTTO KUAZ, Sturgis, Mich., assignor to Foyer Manufacturing Company, Sturgis, Mich. Filed Dec. 20, 1906. Serial No. 348,823.



1. In a collapsible carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame, arranged to engage said arms on said wheel-supports; operating connections for said levers to said handle; a bail-like locking-bar pivoted to said frame; links connecting said bar to said levers; a seat; a supporting bar for the forward end of said seat, having downturned ends pivoted on said levers; a spring support for the rear end of said seat, comprising tubular casings pivoted to said frame, coiled springs arranged in said casings, and a cross-bar pivotally secured to said seat, arranged to rest on said springs, having downturned ends arranged through the bottoms of said casings, a back for said seat pivotally secured thereto and adapted to fold forwardly thereon; a bail-like support for the upper end of said back, pivoted to said connecting links for said levers to said handle; loops on said back through which said support is arranged; a foot-rest of flexible material having a foot-board therein; a pivoted bail-like support for the forward end of said foot-rest; a cross-rod on said levers to which the rear end of the foot-rest is secured; a pocket arranged below said foot-rest, having sides adapted to serve as sides for said foot-rest; and straps connected to said pocket and to the lower ends of said levers, whereby said pocket and foot-rest are lifted upwardly when said levers are actuated to collapse the structure, for the purpose specified.

2. In a collapsible carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame, arranged to engage said arms on said wheel-supports; operating connections for said levers to said handle; a bail-like locking-bar pivoted to said frame; links connecting said bar to said levers; a seat; a supporting bar for the forward end of said seat, having downturned ends pivoted on said levers; a spring support for the rear end of said seat, comprising tubular casings pivoted to said frame, coiled springs arranged in said casings, and a cross-bar pivotally secured to said seat, arranged to rest on said springs, having downturned ends arranged through the bottoms of said casings; a back for said seat pivotally secured thereto and adapted to fold forwardly thereon; a bail-like support for the upper end of said back, pivoted to said connecting links for said levers to said handle; a foot-rest of flexible material having a foot-board thereon; and a pivoted bail-like support for the forward end of said foot-rest, for the purpose specified.

3. In a collapsible carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame, arranged to engage said arms on said wheel-supports; operating connections for said levers to said handle; a bail-like locking-bar pivoted to said frame; links connecting said bar to said levers; a seat; a supporting-bar for the forward end of said seat, having downturned ends pivoted on said levers; a spring support for the rear end of said seat, comprising tubular casings pivoted to said frame, coiled springs arranged in said casings, and a cross-bar pivotally secured to said seat, arranged to rest on said springs, having downturned ends arranged through the bottoms of said casings; a back for said seat pivotally secured thereto and adapted to fold forwardly thereon; a bail-like support for the upper end of said back, pivoted to said connecting links for said levers to said handle; loops on said back through which said support is arranged; a foot-rest of flexible material having a foot-board therein; a pivoted bail-like support for the forward end of said foot-rest; a cross-rod on said levers to which the rear end of the foot-rest is secured; a pocket arranged below said foot-rest, having sides adapted to serve as sides for said foot-rest; and straps connected to said pocket and to the lower ends of said levers, whereby said pocket and foot-rest are lifted upwardly when said levers are actuated to collapse the structure, for the purpose specified.

4. In a collapsible carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame, arranged to engage said arms on said wheel-supports; operating connections for said levers to said handle; a bail-like locking-bar pivoted to said frame; links connecting said bar to said levers; a seat; a supporting-bar for the forward end of said seat, having downturned ends pivoted on said levers; a spring support for the rear end of said seat, comprising tubular casings pivoted to said frame, coiled springs arranged in said casings, and a cross-bar pivotally secured to said seat, arranged to rest on said springs, having downturned ends arranged through the bottoms of said casings; a foot-rest of flexible material having a foot-board therein; a pivoted bail-like support for the forward end of said foot-rest; a pocket arranged below said foot-rest, having sides adapted to serve as sides for said foot-rest; and straps connected to

said pocket and to the lower ends of said levers, whereby said pocket and foot-rest are lifted upwardly when said levers are actuated to collapse the structure, for the purpose specified.

5. In a collapsible carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame, arranged to engage said arms on said wheel-supports; operating connections for said levers to said handle; a bail-like locking-bar pivoted to said frame; links connecting said bar to said levers; a seat; a supporting-bar for the forward end of said seat, having downturned ends pivoted on said levers; a spring support for the rear end of said seat, comprising tubular casings pivoted to said frame, coiled springs arranged in said casings, and a cross-bar pivotally secured to said seat, arranged to rest on said springs, having downturned ends arranged through the bottoms of said casings; a foot-rest of flexible material having a foot-board therein; and a pivoted bail-like support for the forward end of said foot-rest, for the purpose specified.

6. In a collapsible carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame, arranged to engage said arms on said wheel-supports; operating connections for said levers to said handle; a bail-like locking-bar pivoted to said frame; links connecting said bar to said levers; a seat; a foot-rest of flexible material having a foot-board therein; a pivoted bail-like support for the forward end of said foot-rest; a pocket arranged below said foot-rest, having sides adapted to serve as sides for said foot-rest; and straps connected to said pocket and to the lower ends of said levers, whereby said pocket and foot-rest are lifted upwardly when said levers are actuated to collapse the structure, for the purpose specified.

7. In a collapsible carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame, arranged to engage said arms on said wheel-supports; operating connections for said levers to said handle; a bail-like locking-bar pivoted to said frame; links connecting said bar to said levers; a seat; a foot-rest of flexible material having a foot-board therein; and a pivoted bail-like support for the forward end of said foot-rest, for the purpose specified.

8. In a collapsible carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame, arranged to engage said arms on said wheel-supports; operating connections for said levers to said handle; a bail-like locking-bar pivoted to said frame; links connecting said bar to said levers; a seat; a supporting-bar for the forward end of said seat, having downturned ends pivoted on said levers; a spring support for the rear end of said seat, comprising tubular casings pivoted to said frame, coiled springs arranged in said casings, and a cross-bar pivotally secured to said seat, arranged to rest on said springs, having downturned ends arranged through the bottoms of said casings; a pocket arranged below said foot-rest, having sides adapted to serve as sides for said foot-rest; and straps connected to said pocket and to the lower ends of said levers, whereby said pocket and foot-rest are lifted upwardly when said levers are actuated to collapse the structure, for the purpose specified.

9. In a collapsible carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame, arranged to engage said arms on said wheel-supports; operating connections for said levers to said handle; a bail-like locking-bar pivoted to said frame; links connecting said bar to said levers; a seat; a supporting-bar for the forward end of said seat, having downturned ends pivoted on said levers; and a spring support for the rear end of said seat, comprising tubular casings pivoted to frame, coiled springs arranged in said casings, and a cross-bar pivotally secured to said seat, arranged to rest on said springs, having downturned ends arranged through the bottoms of said casings, for the purpose specified.

10. In a collapsible carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame, arranged to engage said arms on said wheel-supports; operating connections for said levers to said handle; a bail-like locking-bar pivoted to said frame; links connecting said bar to said levers; and a seat, for the purpose specified.

11. In a carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having depending ends with wheel-journals thereon and having rearwardly and downwardly inclined offsets therein forming crank-like arms, pivotally secured to said frame; levers pivoted on said frame, projecting below the same; loops on said levers arranged to engage said arms on said wheel-supports; links connecting the upper ends of said levers to said handle; a bail-like locking-bar pivoted to said frame; links connecting said bar to said levers; a seat; a foot-rest of flexible material having a foot-board therein; an adjustable support for the forward end of said foot-rest; a pocket arranged below said foot-rest, having sides adapted to serve as sides for said foot-rest; and straps connected to said pocket and to the lower ends of said levers, whereby said pocket and foot-rest are lifted when the structure is collapsed, for the purpose specified.

12. In a carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having depending ends with wheel-journals thereon and having rearwardly and downwardly inclined offsets therein forming crank-like arms, pivotally secured to said frame; levers pivoted on said frame, projecting below the same; loops on said levers arranged to engage said arms on said wheel-supports; links connecting the upper ends of said levers to said handle; a foot-rest of flexible material having a foot-board therein; an adjustable support for the forward end of said foot-rest; a pocket arranged below said foot-rest, having sides adapted to serve as sides for said foot-rest; and straps connected to said pocket and to the lower ends of said levers, whereby said pocket and foot-rest are lifted when the structure is collapsed, for the purpose specified.

13. In a carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having depending ends with wheel-journals thereon and having rearwardly and downwardly inclined offsets therein forming crank-like arms, pivotally secured to said frame; levers pivoted on said frame, projecting below the same; loops on said levers arranged to engage said arms on said wheel-supports; links connecting the upper ends of said levers to said handle; a bail-like locking-bar pivoted to said frame; links connecting said bar to said levers; a seat; a foot-rest of flexible material having a foot-board thereon; an adjustable support for the forward end of said foot-rest, for the purpose specified.

14. In a carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having depending ends with wheel-journals thereon and having rearwardly and downwardly inclined offsets therein forming crank-like arms, pivotally secured to said frame; levers pivoted on said frame, projecting below the same; loops on said levers arranged to engage said arms on said wheel-supports; links connecting the upper ends of said levers to said handle; a seat; a foot-rest of flexible material having a foot-board therein; and an adjustable support for the forward end of said foot-rest, for the purpose specified.

15. In a carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having depending ends with wheel-journals thereon and having rearwardly and downwardly inclined offsets therein forming crank-like arms, pivotally secured to said frame; levers pivoted on said frame, projecting below the same; loops on said levers arranged to engage said arms on said wheel-supports; links connecting the upper ends of said levers to said handle; a bail-like locking-bar pivoted to said frame; links connecting said bar to said levers; a seat; and connections from said foot-rest to said levers whereby said foot-rest is lifted when the structure is collapsed, for the purpose specified.

16. In a carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having depending ends with wheel-journals thereon and having rearwardly and downwardly inclined offsets therein forming crank-like arms, pivotally secured to said frame; levers pivoted on said frame, projecting below the same; loops on said levers arranged to engage said arms on said wheel-supports; links connecting the upper ends of said levers to said handle; and connections from said foot-rest to said levers whereby said foot-rest is lifted when the structure is collapsed, for the purpose specified.

17. In a carriage, the combination with a running-gear frame, of wheels; wheel-supports having depending ends with wheel-journals thereon and having rearwardly and downwardly inclined offsets therein forming crank-like arms, pivotally secured to said frame; levers pivoted on said frame, projecting below the same; loops on said levers arranged to engage said arms on said wheel-supports; a seat; and connections from said foot-rest to said levers whereby said foot-rest is lifted when the structure is collapsed, for the purpose specified.

18. In a collapsible carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame, arranged to engage said arms on said wheel-supports; links connecting the upper ends of said levers to said handle; a bail-like locking-bar pivoted to said frame; links connecting said bar to said levers; a seat; a foot-rest of flexible material; an adjustable support for said foot-rest; a pocket arranged below said foot-rest, having sides adapted to serve as sides for said foot-rest; and straps connected to said pocket and to the lower ends of said levers, whereby said pocket and foot-rest are lifted when the structure is collapsed, for the purpose specified.

19. In a collapsible carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame, arranged to engage said arms on said wheel-supports; links connecting the upper ends of said levers to said handle; a foot-rest of flexible material; an adjustable support for said foot-rest; a pocket arranged below said foot-rest, having sides adapted to serve as sides for said foot-rest; and straps connected to said pocket and to the lower ends of said levers, whereby said pocket and foot-rest are lifted when the structure is collapsed, for the purpose specified.

20. In a collapsible carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame, arranged to engage said arms on said wheel-supports; links connecting the upper ends of said levers to said handle; a bail-like locking-bar pivoted to said frame; links connecting said bar to said levers; a seat; a foot-rest; a pocket arranged below said foot-rest, having sides adapted to serve as sides for said foot-rest and straps connected to said pocket and to the lower ends of said levers, whereby said pocket and foot-rest are lifted when the structure is collapsed, for the purpose specified.

21. In a collapsible carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame, arranged to engage said arms on said wheel-supports; links connecting the upper ends of said levers to said handle; a bail-like locking-bar pivoted to said frame; links connecting said bar to said levers; a seat; a foot rest; a pocket arranged below said foot-rest, having sides adapted to serve as sides for said foot-rest; and straps connected to said pocket and to the lower ends of said levers, whereby said pocket and foot-rest are lifted when the structure is collapsed, for the purpose specified.

22. In a collapsible carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame, arranged to engage said arms on said wheel-supports; links connecting the upper ends of said levers to said handle; a bail-like locking-bar pivoted to said frame; links connecting said bar to said levers; a seat; a foot-rest of flexible material; an adjustable support for said foot-rest; and connections from said foot-rest to said levers whereby said foot-rest is lifted when the structure is collapsed, for the purpose specified.

23. In a collapsible carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame, arranged to engage said arms on said wheel-supports; links connecting the upper ends of said levers to said handle; a seat; a foot-rest of flexible material; an adjustable support for said foot-rest; and connections from said foot-rest to said levers whereby said foot-rest is lifted when the structure is collapsed, for the purpose specified.

24. In a collapsible carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame, arranged to engage said arms on said wheel-supports; links connecting the upper ends of said levers to said handle; a bail-like locking-bar pivoted to said frame; links connecting said bar to said levers; a seat; a foot-rest of flexible material; and an adjustable support for said foot-rest, for the purpose specified.

25. In a collapsible carriage, the combination with a running-gear frame, of a handle connected to said frame; wheels; wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame, arranged to engage said arms on said wheel-supports; links connecting the upper ends of said levers to said handle; a seat; a foot-rest of flexible material; and an adjustable support for said foot-rest, for the purpose specified.

26. In a folding carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels;—wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame arranged to engage said arms on said wheel-supports; and links connecting said levers to said handle whereby said levers are actuated to collapse or erect said wheel-supports by the manipulation of said handle.

27. In a folding carriage, the combination with a running-gear frame, of a handle pivotally connected to said frame; wheels; wheel-supports having arms, pivotally secured to said frame; levers pivoted to said frame connected to said arms on said wheel-supports; and operating connections for the levers to the handle whereby said levers are actuated to throw said wheel-supports inwardly when said handle is swung forwardly.

28. In a folding carriage, the combination with a running-gear frame, of wheels; wheel-supports having arms thereon, pivotally secured to said frame; levers pivoted on said frame connected to said arms on said wheel-supports whereby said wheel-supports are collapsed or erected by the manipulation of said levers.

29. In a folding carriage, the combination with a running gear frame, of wheels; wheel supports pivotally secured to said frame; a pair of levers; operating connections for said levers to said wheel supports, whereby said wheel supports are collapsed or erected, and held in their collapsed or erected position by said levers; a bail-like locking bar pivoted to said frame, and links connecting said locking bar to said levers.

30. In a collapsible carriage, the combination with a running-gear frame, of wheels; wheel-supports; levers connected to said wheel-supports whereby the same are folded or erected when said levers are actuated; a seat; a sup-

porting-bar for the forward end of said seat having downturned ends pivoted on said levers; a spring support for the rear end of said seat comprising tubular casings pivoted to said frame, coiled springs arranged in said casings, and a cross-bar pivotally secured to said seat arranged to rest on said spring having downturned ends arranged through the bottoms of said casings; and a back for said seat pivotally secured thereto, adapted to fold forwardly thereon, for the purpose specified.

31. In a collapsible carriage, the combination with a running-gear frame, of wheels; wheel-supports; levers connected to said wheel-supports whereby the same are folded or erected when said levers are actuated; a seat, pivotally connected to said levers at its forward end; a support for the rear end of said seat pivoted thereto and to said frame, for the purpose specified.

32. In a collapsible carriage, the combination with a running-gear frame, of wheel-supports; levers connected to said wheel-supports whereby said wheel-supports are folded inwardly or erected by the actuation of said levers; a seat; a foot-rest of flexible material; a pivoted ball-like support for the forward end of said foot-rest; a pocket of flexible material arranged below said foot-rest having sides adapted to serve as sides for said foot-rest; and straps connected to said pocket and to the lower ends of said levers whereby said pocket and foot-rest are lifted when said levers are actuated to collapse the structure.

33. In a collapsible carriage, the combination with a running-gear frame, of wheel-supports; levers connected to said wheel-supports in such manner that the one part embraces the other whereby said wheel-supports are folded inwardly or erected by the actuation of said levers; a seat; a foot-rest of flexible material; a pivoted ball-like support for the forward end of said foot-rest; and a pocket of flexible material arranged below said foot-rest having sides adapted to serve as sides for said foot-rest.

34. In a collapsible carriage, the combination with a running-gear frame, of wheel-supports; levers connected to said wheel-supports whereby said wheel-supports are folded inwardly or erected by the actuation of said levers; a seat; a foot-rest of flexible material; a pocket of flexible material arranged below said foot-rest having sides adapted to serve as sides for said foot-rest; and straps connected to said pocket and to the lower ends of said levers whereby said pocket and foot-rest are lifted when said levers are actuated to collapse the structure.

35. In a collapsible carriage, the combination with the running-gear frame, of wheel-supports pivotally secured to said frame; levers pivoted on said frame connected to said wheel-supports whereby the same are folded inwardly or erected upon the actuation of said levers; a foot-rest; and connections from said levers to said foot-rest whereby said foot-rest is lifted when said levers are actuated to collapse the structure.

36. In a collapsible carriage, the combination with a seat, of a foot-rest of flexible material; an adjustable support therefor; and a pocket of flexible material arranged below said foot-rest having sides adapted to serve as sides for said foot-rest.

37. In a collapsible carriage, the combination with a seat, of a foot-rest of flexible material; and a pocket of flexible material arranged below said foot-rest having sides adapted to serve as sides for said foot-rest.

38. In a collapsible carriage, the combination with a running-gear frame, of wheel-supports having rearwardly and downwardly inclined crank-like arms thereon pivotally secured to said frame; pivoted levers; loops on said levers arranged to engage said crank-like arms on said wheel-supports whereby, by the actuation of said levers, said wheel-supports are folded inwardly upon each other or extended to operative position and retained in either position as may be desired.

39. In a collapsible carriage, the combination with a running-gear frame, of wheel-supports having rearwardly and downwardly inclined crank-like arms thereon pivotally secured to said frame; pivoted levers; loops on said levers arranged to engage said crank-like arms on said wheel-supports, whereby, by the actuation of said levers, said wheel-supports are folded inwardly upon each other or extended to operative position.

40. In a collapsible carriage, the combination with a running gear frame, of wheel supports pivotally mounted thereon; a pair of pivoted levers connected to said wheel supports whereby said wheel supports are folded or extended and held in their folded or extended position by said levers, and a toggle for locking said levers in their erected position.

41. In a collapsible carriage, the combination with a running gear frame, of pivoted wheel supports; levers connected to said wheel supports in such a manner that the one part embraces and encircles the other, whereby said wheel supports are folded inwardly or erected by the actuation of the levers and held in either position thereby, and connections for said levers whereby they are adapted to serve as braces for said wheel supports when in their erected position.

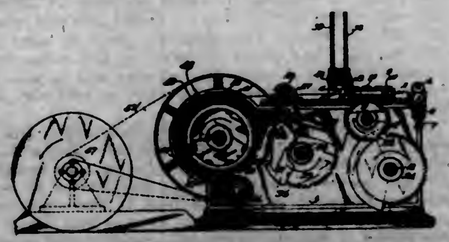
42. In a collapsible carriage, the combination with the running-gear frame, of wheel-supports pivotally mounted on said running-gear frame, said wheel-supports having crank-like arms; a pair of levers pivotally secured to said frame above said arms, said levers being connected by a cross-piece at their lower ends; and a connecting brace or cross-piece for said levers arranged so that it lies substantially opposite the said arms on said wheel-supports when in their erected position.

43. In a collapsible carriage, the combination with the running-gear frame, of wheel-supports pivotally mounted on said running-gear frame, said wheel-supports having crank-like arms; a pair of levers pivotally secured to said frame above said arms; and a connecting brace or cross-piece for said levers arranged so that it lies substantially opposite said arms on said wheel-supports when in their erected position.

44. In a collapsible carriage, the combination with the running-gear frame, of wheel-supports pivotally mounted on said running-gear frame, said wheel-supports having crank-like arms; and a pair of levers pivotally secured to said frame above said arms, said levers being connected by a cross-piece at their lower ends.

45. In a collapsible carriage, the combination with the running-gear frame, of wheel-supports having arms thereon pivotally secured to said frame; a pair of pivoted levers arranged to engage said arms on said wheel-supports; and a connecting brace or cross-piece for the lower end of said levers.

866,146. WIRE-FENCE-MAKING MACHINE. GOTTHOLD L. LANGER, Stockton, Cal., assignor to Pacific Steel & Wire Co., Oakland, Cal., a Corporation of Maine. Filed Nov. 21, 1906. Serial No. 344,447.



1. The combination in a wire fence making machine, of means for supporting and feeding a series of strand-wires, means for wrapping the ends of stay-wires around adjacent strand-wires, and means for wrapping the ends of other stay-wires around the first mentioned stay-wires.

2. The combination in a wire fence making machine, and as a unitary structure of means for supporting and intermittently advancing an odd number of strand wires, means for wrapping the ends of stay-wires around adjacent of said strand-wires, and means for wrapping the ends of other stay-wires around adjacent of said first-mentioned stay-wires.

3. In a wire fence making machine, the combination of means for stretching and advancing a plurality of strands of wires, means for tying said strand-wires together in pairs by stay-wires, and means for securing a second set of stay-wires to the first-mentioned stay-wires whereby the previously tied pairs of strands are connected together.

4. In a wire fence making machine, the combination with means for supporting and feeding strand-wires, of means for feeding two sets of stay-wires to said strand-wires, means for securing one set of said wires directly to the strands, and means for securing the other set of stay-wires to the first set of stay-wires.

5. In a wire fence making machine, the combination with means for supporting and feeding a series of strand-wires, of means for feeding stay-wires to said strand-wires, means for connecting alternate of said stay-wires to the strands, and means for connecting the intermediate stay-wires to said stay-wires which are connected with the strands.

6. In a wire-fence-making machine, the combination of mechanism for supporting and feeding strand-wires, of mechanism for feeding stay-wires to said strand-wires, coiling devices having their axes parallel with the strand-wires for knotting certain of said stay-wires to the strand-wires, and other coiling devices having their axes at right angles to the strand-wires for attaching other of said stay-wires to those stay-wires which are secured to the strand-wires.

7. In a wire fence making machine, the combination of means for supporting a series of strand-wires, means for feeding stay-wires to said strand-wires, means for wrapping the ends of the stay-wires around adjacent strand-wires, means for wrapping the ends of other stay-wires around the first-named stay-wires, and a drum over which said strand-wires pass, said drum having gripping devices for engaging and crimping the strand-wires.

8. In a fence making machine, the combination of a series of hollow spindles arranged in pairs and through which the strand-wires pass, means for positioning stay-wires on said strand-wires with respect to each pair of spindles, means carried by the spindles to engage the ends of the sections of the stay-wires to knot them to the strand-wires, hollow-spiral gears in which said spindles are slidable and with which they are rotatable, a shaft carrying gears to engage said spiral gears to rotate said spindles, the spindles of each pair being arranged to revolve in opposite directions, and means to reciprocate the spindles during their rotative movement.

9. In a wire fence making machine, the combination of hollow-coiling spindles through which the strand-wires pass, means for positioning a set of stay wires on the strands, means to operate the spindles to knot said stay-wires to the strands, means for positioning a second set of stay-wires on the strand, and means to knot this second set of stay-wires to the first set.

10. In a wire fence making machine, the combination of hollow-coiling spindles through which the strand-wires pass, means for positioning a set of stay-wires on the strands, means to operate the spindles to knot said stay-wires to the strands, means for positioning a second set of stay-wires on the strands, and means to knot this second set of stay-wires to the first set, said last-named means including rotatable slotted coiling devices arranged in the path of the stays and having their axes at right angles to the strand-wires.

11. In a wire fence making machine, the combination of a means for supporting strand-wires, means for positioning two sets of stay-wires on said strands, means to knot one set direct to the strands, and means to knot the other set to the first set, and a rotary drum having gripping devices to engage the strand-wires to advance them step by step.

12. In a wire fence making machine, the combination of a means for supporting and advancing strand-wires, means for positioning two sets of stay wires on said strands, means to knot one set direct to the strands, and means to knot the other set to the first set, said last-named means including rotatable slotted coiling devices arranged in the path of the stays and having their axes at right angles to the strands.

13. In a wire fence making machine, the combination of means for supporting and intermittently advancing a series of strand-wires, means for positioning one series of stay-wires crosswise on said stranda, and means for positioning a second series of stays cross-wise of the strands and alternating with and overlapping the first series, means to knot the first series of stays to the stranda, and means to knot the second series of stays to the first series.

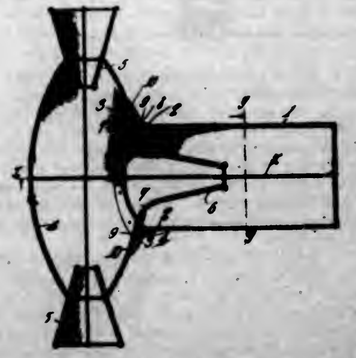
14. In a wire fence making machine, the combination of means for supporting and intermittently advancing a series of strand-wires, means for positioning one series of stay-wires crosswise on said stranda, and means for positioning a second series of stays crosswise of the strands and alternating with and overlapping the first series, means to knot the first series of stays to the strands, and means to knot the second series of stays to the first series, said means for positioning the stay-wires on the strands including rotatable feeders having longitudinal pockets for the stay-wires.

15. In a wire fence making machine, mechanism for feeding stay-wires to the strands which consists of a magazine portion and a rotary feeder in the magazine having a series of peripheral longitudinal grooves, means to advance the strands step by step, means to revolve said feeder coördinately with the movement of the strands to deposit stays singly on the strands, mechanism to connect said stays to the strands, mechanism for positioning a second set of stays on the strands, and mechanism connecting the ends of the second set of stays with the first-named stays.

16. In a wire fence making machine, mechanisms for positioning a series of stay-wires crosswise of the strands and for connecting them thereto, means for positioning a second set of stay-wires on the strands, means for advancing the strand-wires step by step, and mechanism operated alternately with the advance movement of the strands to tie the second set of stay wires to the first set.

17. In a wire fence making machine, mechanism for connecting two wires together in substantial alinement which consists, in combination with means for intermittently advancing said wires in a direction transverse to their length, of a rotatable, radially-slotted device having its axis of rotation substantially parallel with said wires, and means to revolve said device alternately with the advance movement of the wires.

866,147. FISH-TRAP. TOMAS W. LAW, Atlanta, Tex., assignor of one-fifth to Marvin M. Scott, one-fifth to James B. Robers, one-fifth to Malcolm M. Duncan, one-fifth to Sterling Q. Clemonds, and one-fifth to Raphael P. Dunklin, Atlanta, Tex. Filed June 25, 1907. Serial No. 380,698.

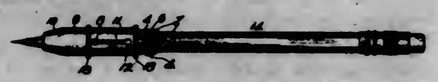


1. A fish trap comprising a cage, a closure opening thereinto, said closure having oppositely disposed inlets, and means for detachably securing the closure to the cage.

2. In a fish trap the combination with a cage; of a hollow closure extending therebeyond in opposite directions and opening thereinto, said closure having oppositely disposed inlets, and means for detachably securing the closure to the cage.

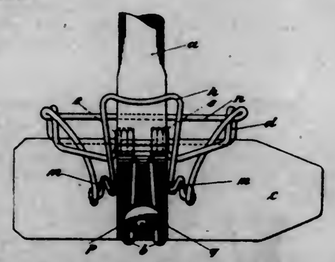
3. In a fish trap the combination with a cage having an open end, and a ring surrounding said end; of a hollow closure having an outlet extension normally projecting into the open end of the cage, ring engaging means extending from said closure, and means for securing said ring engaging means in locked position, said closure extending in opposite directions beyond the cage and having oppositely disposed inlets.

866,148. PEN OR PENCIL POINT PROTECTOR. AARON LEVINGSTON, Kansas City, Mo. Filed Apr. 2, 1907. Serial No. 366,057.



A pen or pencil point protector comprising a spring sleeve having a truncated conical front end and provided at its rear end with a plurality of spring tongues bowed inwardly to yieldingly engage the pencil or penholder and hold the sleeve thereon, the sleeve being provided between its ends with an outwardly projecting boss, and a slidable sleeve having a truncated front end and fitting snugly on the spring sleeve and having a longitudinal slot engaged by the boss on the spring sleeve to guide its movement and further provided at the ends of said slot with enlargements to be automatically engaged by said boss whereby the movement of the slidable sleeve will be arrested and the said sleeve held in its adjusted position.

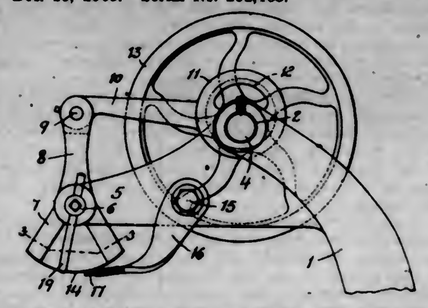
866,149. BRUSH-ATTACHING DEVICE. PAUL LIESKAR, Drontheim, Norway. Filed Oct. 24, 1906. Serial No. 340,385.



1. In a device for attaching brushes and the like to a stale the combination of a clamp, spiral springs sunk in recesses in the sides of the stale actuating said clamp, claws projecting over the front end of the stale, fixed in position by means of a washer and screw, an oblique surface on the end of the stale, adapted to rest firmly on the top of the brush, the brush being fixed between the clamp, claws, and oblique surface, means to prevent the brush from slipping, and means to draw back the clamp, substantially as set forth.

2. In a device for attaching brushes and the like to a stale, the combination of a clamp, spiral springs sunk in recesses in the sides of the stale actuating said clamp, claws projecting over the front end of the stale, fixed in position against the stale by means of a washer and screw, an oblique surface on the end of the stale resting firmly on the top of the brush, said brush being fixed between the clamp claws, and oblique surface, points projecting from the oblique surface adapted to prevent the brush from slipping, a pin passing through the stale, a lever pivoted on the ends of said pin at each side of the stale, and a part jointed on the shorter arms of said lever and bent round the clamp adapted to pull back the clamp against the action of the spring when the lever is worked, substantially as set forth.

866,150. INSEAM-TRIMMER. HARRY LYON, Brockton, Mass., assignor to Nichols-Fifield Shoe Machinery Company, Portland, Me., a Corporation of Maine. Filed Dec. 19, 1905. Serial No. 292,463.



1. An inseam trimmer comprising a cutter, and a gage arranged to engage the line of stitches of the inseam and hold the same a constant distance away from the cutter, whereby the cutter is positioned solely by the engagement of the gage with the inseam stitches.

2. An inseam trimmer comprising a cutter, and a gage constructed to enter the stitch depressions of the inseam and guide the same at a constant distance from the cutter, whereby the cutter is positioned solely by the engagement of the gage with the inseam stitches.

3. An inseam trimmer comprising a cutter, and a gage provided with movable projections arranged to enter the depressions of the inseam of a shoe for guiding the same at a uniform distance from the cutter.

4. An inseam trimmer comprising a cutter, and a gage wheel supported at a predetermined distance from the cutter and free to enter the inseam crease of a shoe and bear upon the stitches thereof, whereby the work may be guided solely by the wheel engaging said stitches to position the inseam stitches at a uniform distance from the cutter.

5. An inseam trimmer comprising a cutter, and a gage consisting of a freely rotatable wheel mounted to engage the stitches of a shoe inseam, and position the cutter solely by the engagement of the wheel with said stitches.

6. An inseam trimmer comprising a cutter, and a freely rotatable gage wheel mounted adjacent the cutter and free to engage the stitches of a shoe inseam, the wheel being provided with projections adapted to enter the stitch depressions.

7. An inseam trimmer comprising a cutter, and a gage mounted for adjustment toward and from the cutter and arranged to engage the stitches of the inseam of a shoe, whereby the cutter is positioned solely by the engagement of the gage with the inseam stitches.

8. An inseam trimmer comprising a knife oscillatable in a curved path, the edges of said knife being inclined relative to its path of oscillation, and a gage arranged to bear on the outer side of the inseam of a shoe and to support the work against the thrust of the knife edge, the operative stroke of the knife exerting pressure in a direction toward the gage.

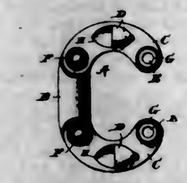
9. An inseam trimmer comprising a gage adapted to bear against the inseam of a shoe, and an oscillating knife having a cutting edge oblique to its path of motion and arranged to press the work against the gage during the cutting stroke, the operative stroke of the knife exerting pressure in a direction toward the gage.

10. An inseam trimmer comprising an oscillating knife blade curved circularly about its center of oscillation and having its cutting edge oblique to its path of motion, a stop beside said blade adapted to bear upon the insole of a shoe, and a gage constructed and arranged to engage the stitches of the inseam of the shoe and guide the same at a uniform distance from the knife, and hold the work against the cutting pressure of the knife, the operative stroke of the knife exerting pressure in a direction toward the gage.

11. An inseam trimmer comprising an oscillating knife blade curved circularly about its center of oscillation and having its cutting edge oblique to its path of motion, and a gage consisting of a disk loosely pivoted in the plane of oscillation of the knife, the operative stroke of the knife exerting pressure in a direction toward the gage.

12. An inseam trimmer comprising an oscillating knife blade curved circularly about its center of oscillation and having its cutting edge oblique to its path of motion, and a gage consisting of a disk loosely pivoted in the plane of oscillation of the knife and serrated at its periphery, the operative stroke of the knife exerting pressure in a direction toward the gage.

866,151. LINK. ADELBERT H. MACRONALD, Portland, Me., assignor to Thomas Laughlin Company, Portland, Me., a Corporation of Maine. Filed Apr. 30, 1907. Serial No. 371,176.



A link consisting of separate members having overlapping portions, said overlapping portions being apertured and provided with lugs fitting said apertures whereby to interlock the members, the lugs being surrounded by recessed portions, and the apertures by bosses fitting said recesses.

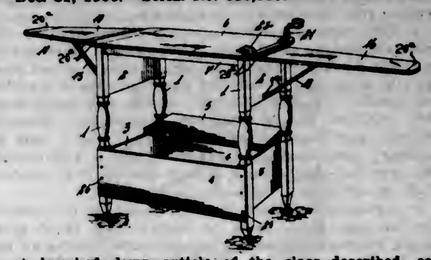
866,152. TEMPLET FOR DRAWING TRANSITION SPIRALS. JAMES A. MERRITT, Baltimore, Md. Filed May 15, 1907. Serial No. 373,745.



1. An instrument for drafting transition spirals, said instrument having a drawing edge following a spiral of predetermined curvature, and being provided with graduations from zero representing the degree of the spiral, and characters opposite the graduations to indicate the gradual increase in the degree of curve to thereby facilitate the location of the connecting point of the spiral with a circular curve.

2. A drafting instrument comprising a curve, the drawing edge of which is straight in one direction from a zero point, and in the opposite direction from the zero point is curved to follow a transition spiral, there being graduations along the curved portion of the drawing edge, and characters to indicate the gradually increasing degree of curvature in accordance with the distance from such zero mark.

866,153. COMBINED IRONING-BOARD, CHEST, AND TABLE. LEWIS W. MILLER, Russellville, Ark. Filed Dec. 31, 1906. Serial No. 350,159.



A knocked down article of the class described, comprising standards, a chest to which the standards are pivotally secured, a main ironing board detachably connected with the standards, and constituting a chest cover when the article is knocked down, and supplemental ironing boards combined with the standards and foldable thereon, thereby to be housed within the chest when the main ironing board is in position thereon.

866,154. JOURNAL-BEARING FOR CAR AND OTHER AXLES. JOHN E. MUHLFELD, Baltimore, Md. Filed Apr. 27, 1907. Serial No. 370,560.



1. A composite journal bearing, comprising in combination an imperforate main or shell portion of strong, hard, bearing metal in one integral mass, having a rectangular flat upper contact face to engage the journal bearing key or wedge, and provided with integral longitudinal and end bearing ribs and a central transverse connecting bearing rib on the under face, all lying below and within the sides and ends of said upper rectangular key contact face, and further provided with longitudinal marginal ribs or sides, and having also central longitudinal cavities transversely separated from each other by said central transverse bearing rib, and longitudinal side cavities and connecting channels between said longitudinal side cavities and said central cavities, and a soft metal lining or auxiliary portion in one integral mass filling said central and longitudinal cavities and connecting channels and extending over the curved bearing faces of said longitudinal end and central transverse bearing ribs of said main or shell portion of the journal bearing and securely united thereto, substantially as specified.

2. A composite journal bearing, comprising in combination an imperforate main or shell portion of strong, hard bearing metal in one integral mass having a rectangular flat upper contact face to engage the journal bearing key or wedge, and provided with integral longitudinal and end bearing ribs on the under face, all lying below and within the sides and ends of said upper rectangular key contact face, and further provided with longitudinal marginal ribs or sides and having also central longitudinal cavities separated from each other and longitudinal side cavities and connecting channels between said longitudinal side cavities and said central cavities, and a soft metal lining or auxiliary portion F in one integral mass filling said central and longitudinal cavities and connecting channels and extending over the curved bearing faces of said longitudinal and end ribs of said main or shell portion of the journal bearing and securely united thereto, substantially as specified.

3. The composite journal bearing, comprising an imperforate bearing-metal shell in one integral mass having an upper flat key-contact face, longitudinal and end bearing ribs under and between the sides and ends of said flat

key contact face, provided with central and longitudinal side cavities, and a soft or auxiliary metal portion filling said cavities and extending over the bearing faces of said bearing ribs, substantially as specified.

4. The composite journal bearing, comprising an imperforate bearing metal shell in one integral mass having an upper flat key contact face, longitudinal and end bearing ribs under and between the sides and ends of said flat key contact face, provided with central and longitudinal side cavities having staggered connecting channels through said longitudinal bearing ribs, and a soft or auxiliary metal portion filling said cavities and extending over the bearing faces of said bearing ribs, substantially as specified.

5. A composite journal bearing, comprising in combination an imperforate main or shell portion D of hard, strong bearing-metal in one integral mass, having an upper flat key contact face d, longitudinal and end bearing ribs d^1 d^2 under and within said flat upper key contact face d, marginal longitudinal ribs or sides d^3, central and longitudinal side cavities D^2 D^3, and soft metal lining or auxiliary portion F filling said cavities at its thicker portions and extending over said bearing ribs at its thinner portions, substantially as specified.

6. A composite journal bearing, comprising in combination an imperforate main or shell portion D of hard, strong bearing-metal in one integral mass, having an upper flat key contact face d, longitudinal and end bearing ribs d^1 d^2 under and within said flat upper key contact face d, marginal longitudinal ribs or sides d^3, central and longitudinal side cavities D^2 D^3, and soft metal lining or auxiliary portion F filling said cavities at its thicker portions and extending over said bearing ribs at its thinner portions, said main portion or shell D having also a central transverse bearing rib d^4 connecting said longitudinal bearing ribs d^1, substantially as specified.

7. A composite journal bearing comprising in combination an imperforate main shell portion of hard, strong bearing metal having an upper flat key contact face, longitudinal and end bearing ribs, a central transverse bearing rib and marginal longitudinal ribs or sides and provided with central and longitudinal side cavities and connecting channels between said central and said longitudinal side cavities, said cavities having slightly flaring marginal walls and a soft metal lining filling said cavities, substantially as specified.

8. A composite journal bearing, comprising in combination an imperforate main or shell portion D of hard, strong bearing metal in one integral mass, having an upper flat key contact face d, longitudinal and end bearing ribs d^1 d^2 under and within said flat upper key contact face d, marginal longitudinal ribs or sides d^3, central and longitudinal side cavities D^2 D^3, and soft metal lining or auxiliary portion F filling said cavities at its thicker portions and extending over said bearing ribs at its thinner portions, said main or shell portion D having connecting channels between said central and longitudinal side cavities, substantially as specified.

9. A composite journal bearing, comprising in combination an imperforate main or shell portion D of hard, strong bearing metal in one integral mass, having an upper flat key contact face d, longitudinal and end bearing ribs d^1 d^2 under and within said flat upper key contact face d, marginal longitudinal ribs or sides d^3, central and longitudinal side cavities D^2 D^3, and soft metal lining or auxiliary portion F filling said cavities at its thicker portions and extending over said bearing ribs at its thinner portions, said main or shell portion D having connecting channels between said central longitudinal side cavities extending through said longitudinal bearing ribs and staggered in respect to each other, substantially as specified.

10. A composite journal bearing, comprising in combination an imperforate main or shell portion D of strong hard bearing-metal in one integral mass, and having a flat key contact upper face, and provided on its under side with longitudinal marginal ribs or sides d^3, longitudinal and end bearing ribs d^1 d^2, and central transverse bearing rib d^4, and furnished with central longitudinal cavities D^2 and longitudinal side cavities D^3 and connecting channels D^1, and a soft bearing metal lining or auxiliary portion F filling said cavities and connecting channels in one integral mass at its thicker portions, and covering said bearing ribs at its thinner portions, substantially as specified.

11. A composite journal bearing, comprising in combination an imperforate main or shell portion D of strong hard bearing-metal in one integral mass, and having a flat key contact upper face, and provided on its under side with longitudinal marginal ribs or sides d^3, longitudinal and end bearing ribs d^1 d^2, and central transverse bearing rib d^4, and furnished with central longitudinal cavities D^2 and longitudinal side cavities D^3 and connecting channels D^1, and a soft bearing metal lining or auxiliary portion F filling said cavities and connecting channels in one integral mass at its thicker portions, and covering said bearing ribs at its thinner portions, said connecting channels being staggered in respect to each other, substantially as specified.

12. A composite journal bearing, comprising in combination an imperforate main or shell portion D of strong hard bearing-metal in one integral mass, and having a flat key contact upper face, and provided on its under side with longitudinal marginal ribs or sides d^3, longitudinal and end bearing ribs d^1 d^2, and central transverse bearing rib d^4, and furnished with central longitudinal cavities D^2 and longitudinal side cavities D^3 and connecting channels D^1, and a soft bearing metal lining or auxiliary portion F filling said cavities and connecting channels in one integral mass at its thicker portions, and covering said bearing ribs at its thinner portions, said connecting channels being staggered in respect to each other, and said longitudinal marginal ribs or sides d^3 having projections d^5 extending into said longitudinal side cavities D^3, substantially as specified.

13. A composite journal bearing comprising in combination an imperforate main shell portion of hard, strong bearing metal having an upper flat key contact face, longitudinal and end bearing ribs, a central transverse bearing rib and marginal longitudinal ribs or sides and provided with central and longitudinal side cavities and connecting channels between said central and said longitudinal side cavities, said cavities having slightly flaring marginal walls and a soft metal lining filling said cavities at its thicker portions and extending over said bearing ribs at its thinner portions, substantially as specified.

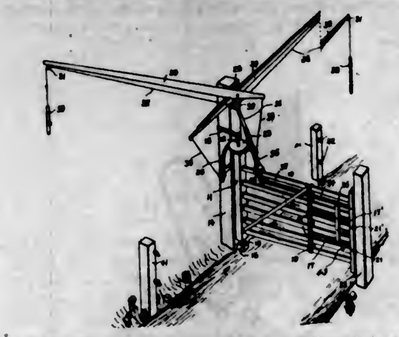
14. A composite journal bearing comprising an imperforate bearing metal shell having an upper key contact face, and provided with longitudinal and end bearing ribs on its under face and furnished with central and longitudinal side cavities and connecting channels between said central and said longitudinal side cavities and a soft metal lining filling said cavities and connecting channels, substantially as specified.

15. A composite journal bearing comprising an imperforate bearing metal shell having an upper key contact face, and provided with longitudinal and end bearing ribs on its under face and furnished with central and longitudinal side cavities and connecting channels between said central and said longitudinal side cavities and a soft metal lining filling said cavities and connecting channels, and extending over the bearing faces of said bearing ribs, substantially as specified.

16. A composite journal bearing comprising an imperforate bearing metal shell having an upper key contact face, and provided with longitudinal and end bearing ribs on its under face and furnished with central and longitudinal side cavities and connecting channels between said central and said longitudinal side cavities and a soft metal lining filling said cavities and connecting channels, and extending over the bearing faces of said bearing ribs, said main shell having also a central transverse bearing rib, substantially as specified.

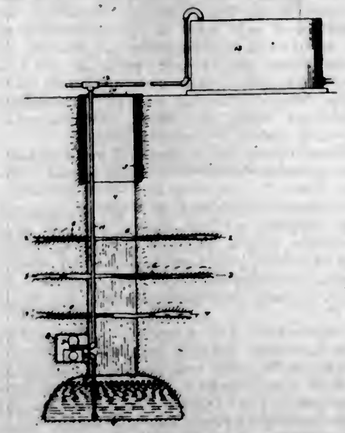
866,155. FARM-GATE. DEWITT O. MYATT, Wingo, Ky. Filed July 25, 1907. Serial No. 385,444.

In combination with a gate post and a gate having a pivot upright and horizontal panels, a beveled pinion secured to said upright, a segment gear in mesh with said pinion and pivoted on said gate post below the horizontal plane of the pinion, said gear having end arms projecting therefrom on opposite sides of the gate, operating levers mounted on the gate post on a horizontal pivot above said gear means, connections between the inner ends of the levers and said arms, guiding devices associated with said



levers, latch mechanism comprising a bifurcated bar embracing the top panel of the gate and projecting upwardly therefrom adjacent to the gear means and extending above the gear means, and flexible draft means associated with said guiding devices and connected to the upper end of said bar.

866,156. WATER-SUPPLY SYSTEM. FRANCIS W. MCCAIN, Midway, W. Va. Filed Mar. 6, 1907. Serial No. 360,813.

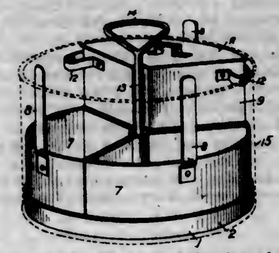


1. A well comprising a shaft sunk through a water-bearing crevice, and having a wing-dam extending into the crevice, and inclined toward the shaft with respect to the direction of the flow in the crevice.

2. A well comprising a shaft sunk through water-bearing crevices, and having wing-dams extending into the crevices from opposite sides of the shaft, and inclined toward the shaft with respect to the direction of flow in the crevices.

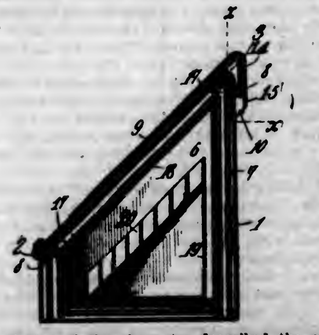
866,157. COOKING UTENSIL. JENNIE MCGILL, Chicago, Ill. Filed May 17, 1907. Serial No. 374,218.

1. In a cooking utensil, a supporting base frame comprising a body having a horizontal ledge on its inner face and a plurality of radial arms extending from the inner edge of said ledge and having their inner ends united, an upright stem attached at its lower end to the meeting ends of the arms and provided at its upper end with a handle portion, a plurality of cooking receptacles corresponding in number with the number of said arms and arranged on the frame, a steamer fitting over one of said receptacles, and a hollow inclosing cylinder adapted to inclose said mentioned parts.



2. In a cooking utensil, the combination of a supporting base frame comprising an annular body having a horizontal ledge on its inner face and three horizontal radial arms extending from the inner edge of its horizontal ledge at their outer ends and terminating at their opposite ends in a central enlarged portion, an upright stem secured at its lower end to the center of said supporting base frame and terminating at its opposite end in a handle, a plurality of cooking receptacles corresponding in number with the number of horizontal radial arms of said base frame, arranged on said frame, a steamer fitting over one of said cooking receptacles, and a hollow inclosing cylinder inclosing said mentioned parts.

866,158. CABINET. JOHN J. MCINTYRE, Mansfield, Ohio. Filed May 31, 1907. Serial No. 376,556.



1. In a device of the character described the combination with outer and inner walls, and a heat-resisting filling interposed between the walls and projecting thereabove to form a cushion; of a slidably mounted swing cover, holding means therein disposed, when the cover is closed, to rest upon the cushion, a heat-resisting lining secured upon the cover by the holding means, and means for securing the cover in closed position.

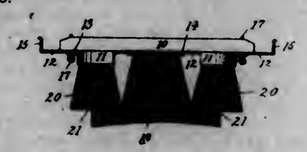
2. In a device of the character described the combination with outer and inner walls, a filling therebetween of fire-resisting material, said filling projecting beyond the walls to constitute a cushion, and a folded portion at one end of the device and forming a channel; of a cover disposed when closed to project snugly into said channel, a lining within the cover, means for holding the lining in position, said means being disposed, when the cover is closed, to rest upon the cushion, and means for securing the cover in closed position.

3. In a device of the character described the combination with outer and inner walls, non-combustible heat-resisting material interposed therebetween and projecting thereabeyond to form a cushion, and a folded portion at one end of the device and forming a channel; of a swing-

ing cover slidably mounted upon the device, a lining supported therein disposed, when the cover is closed, to rest upon the cushion, one end of the closed cover being seated within the channel, and means for securing the cover in closed position, said means constituting a guide for the cover.

4. In a device of the character described the combination with a cabinet having a channel at one end; of a rod secured to and projecting laterally beyond the other end of the cabinet, a cover having one end disposed to be seated within the channel, the other end of said cover being folded to lap and bear upon one wall of the cabinet, longitudinally slotted guide strips secured to the side portions of the cover and disposed to lap opposite sides of the cabinet, the end portions of the rod projecting into the slots in said strips, and means upon the rod for clamping the strips upon the cabinet to secure the cover against movement.

866,159. BRUSH FOR BARREL-HEADS. OSCAR NEUFELD, Union, N. J. Filed June 3, 1907. Serial No. 376,955.



1. A brush for barrel heads composed of a base, a scrubbing body secured thereto, a pair of end plates adjustably secured to said base at opposite sides of the scrubbing body, and scrubbing bodies secured to said end plates, substantially as specified.

2. A brush for barrel heads, composed of a base, a pair of segmental end plates arranged at right angles thereto, means for adjustably securing the end plates to the base, and scrubbing bodies secured to the base and end plates, substantially as specified.

3. A brush for barrel heads, composed of a base, a pair of segmental end plates arranged at right angles thereto, rods secured to the end plates, keepers on the base that are engaged by said rods, means for locking the rods, and scrubbing bodies secured to the base and end plates, substantially as specified.

4. A brush for barrel heads, composed of a base having a scrubbing body, and a pair of segmental end plates adjustable upon the base and having scrubbing bodies that are concentric to the outer edges of said plates, substantially as specified.

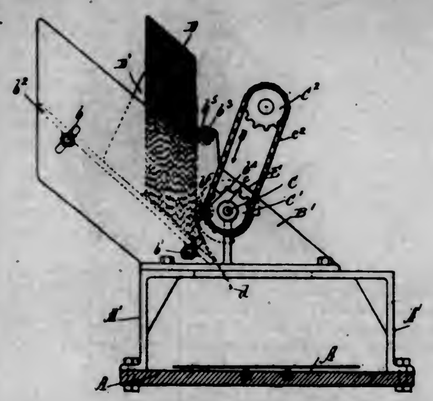
5. A brush for barrel heads, composed of a base having a scrubbing body, and a pair of segmental end plates adjustable upon the base and having stepped scrubbing bodies, the scrubbing body of the base converging towards the scrubbing bodies of the end plates, substantially as specified.

866,160. BLANK-FEED MECHANISM. BURT A. PETERSON, Chicago, Ill. Filed Sept. 16, 1903, Serial No. 173,392. Renewed Jan. 17, 1907. Serial No. 352,814.

1. In a blank feed mechanism the combination with supporting rollers placed one above the other of a table beneath the same adapted to be adjustably inclined at each end thereof and support a plurality of blanks and positively driven friction wheels having notched peripheries adapted to engage the innermost blank and draw it downwardly on and from the inclined table.

2. In a device of the class described the combination with an inclined table adapted at either end for adjustment, of means supporting a plurality of blanks thereon vertically and in close contact, rotative friction wheels adapted to engage one of said blanks during a part of each revolution thereof and to remain out of engagement during the remainder of the revolution and means for rotating said friction wheels acting to draw one of said blanks away from the stack.

3. The combination with a plurality of vertically arranged blanks of an inclined table supporting the same, a plurality of rollers supporting the front end of said stack near the lower end of the table, an angle block slidable on the table and supporting the rear side of the stack and parallel friction wheels journaled in front of said rollers and projecting beyond the same and provided with notched peripheries adapted to engage a blank at intermittent intervals.



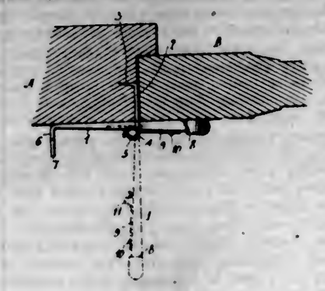
4. The combination with an inclined table of a stack of blanks supported vertically thereon, means for varying the inclination of said table, a pair of friction wheels provided with irregular peripheries adapted to engage said blanks during part of each revolution and to draw them downwardly and to remain out of contact therewith during the remainder thereof and an angular follower block positioned behind the blanks acting to move the same forwardly and to support the same.

5. The combination with a chute, of an inclinable floor therein adapted to be adjusted at either end, inwardly projecting rollers in the chute one above the other and adapted to support a plurality of blanks in close contact and in an upright position therein and one or more notched friction rollers journaled to project beyond the inner face of said inwardly projecting rollers adapted to engage said blanks during part of each revolution and to remain out of such engagement during the remainder thereof.

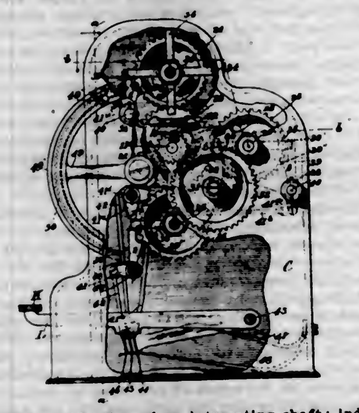
6. The combination with a chute, of an adjustably inclinable floor therein, inwardly projecting rollers in the chute one above the other and adapted to support a plurality of sheet metal blanks in close contact and standing on end and one or more friction wheels having a part of the periphery cut away operating on the lower end of the chute and against which and said rollers the first blank presses and acting by rotation to draw the blanks successively from the stack at intervals apart.

866,161. DOOR-SECURER. JOHN H. N. PETERSON, Bourne, Oreg., assignor of one-half to J. W. Fleegle, Bourne, Oreg. Filed Apr. 4, 1907. Serial No. 366,848.

In a door securer, a keeper plate provided at one end with engaging teeth and at its other end with spaced perforated lugs forming an intermediate guide opening, a wedge-shaped locking bar arranged for movement in said guide opening, a pintle entered through the lugs for holding the locking bar in place, said locking bar being provided at one end with an angularly disposed portion having projecting ears, and at its other end with projections coöperating with said ears for preventing the escape of the bar from the opening, and a spring catch carried by the bar and formed for engagement with the pintle to lock the bar against accidental longitudinal movement.



866,162. ADDING-MACHINE. FRANCIS H. RICHARDS, Hartford, Conn., assignor, by mesne assignments, of one-half to American Typographic Corporation, a Corporation of New Jersey. Filed Dec. 20, 1900, Serial No. 40,572. Renewed Feb. 3, 1906. Serial No. 299,298.



1. The combination of an integrating shaft; indicating mechanism actuatable therefrom, a plurality of interchangeable mechanisms mounted on said shaft and each designed to turn said shaft through a different angle than the other; a separate actuator for each said interchangeable mechanism, said actuators being grouped around the shaft; controllers associated with such actuators for permitting amounts of movement of the actuators directly proportional to the angle through which the respective said mechanisms are designed to turn the integrating shaft.

2. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable mechanisms mounted on said shaft and each designed to turn said shaft through a different angle than the others; a separate actuator for each said interchangeable mechanism, said actuators being grouped around the shaft; and escapements associated with such actuators for permitting amounts of movement of the actuators directly proportional to the angle through which the respective said mechanisms are designed to turn the integrating shaft.

3. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable mechanisms mounted on said shaft and each designed to turn said shaft through a different angle than the others; a separate actuator for each said interchangeable mechanism, said actuators being grouped around the shaft; controllers associated with such actuators for permitting amounts of movement of the actuators directly proportional to the angle through which the respective said mechanisms are designed to turn the integrating shaft; and a driver common to all the actuators.

4. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable mechanisms mounted on said shaft and each designed to turn said shaft through a different angle than the others; a separate actuator for each said interchangeable mechanism, said actuators being grouped around the shaft; escapements associated with such actuators for permitting amounts of movement of the actuators directly proportional to the angle through which the respective mechanisms are designed to turn the integrating shaft; and a driver common to all of the actuators.

5. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable mechanisms mounted on said shaft and each designed to turn said shaft through a different angle than the others; a separate actuator for each said interchangeable mechanism, said actuators being grouped around the shaft; escapements associated with such actuators for permitting amounts of movement of the actuators directly proportional to the angle through which the respective mechanisms are designed to turn the integrating shaft; and a driver common to all the actuators and from which such actuators are frictionally driven.

6. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable mechanisms mounted on said shaft and each designed to turn said shaft through a different angle than the others; a separate actuator for each said interchangeable mechanism, said actuators being grouped around the shaft; escapements associated with such actuators for permitting amounts of movement of the actuators directly proportional to the angle through which the respective mechanisms are designed to turn the integrating shaft; a driver common to all the actuators and from which such actuators are frictionally driven; and means for selectively operating the escapements.

7. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable mechanisms mounted on said shaft and each adapted to turn said shaft to a different angle than the others; a separate actuator for each said interchangeable mechanism, said actuators being grouped around the shaft; escapement devices associated with such actuators and each such device comprising a different number of stop-arms than the others; shiftable stop members adapted to coöperate with the stop-arms comprised in the escapement devices; and selective mechanisms.

8. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable mechanisms mounted on said shaft and each adapted to turn said shaft through a different angle than the others; a separate actuator for each said interchangeable mechanisms, said actuators being grouped around the shaft; escapement devices associated with such actuators and each such device comprising a different number of stop-arms than the others; a driver common to all of said actuators and from which said actuators are frictionally driven; vibratory stop members adapted to coöperate with the stop-arms; and selective mechanism.

9. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable gears encircling the shaft; a fixed gear; a gear attached to said shaft; a train of gearing extending from said fixed gear to said gear attached to the shaft and actuatable at different points by said encircling gears; interchangeable actuator gears each meshing with one of said encircling gears; and controllers for permitting angular movement of the respective actuator gears to an extent dependent upon the extent of movement the respective encircling gears are designed to have.

10. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable gears encircling the shaft; a fixed gear; a gear attached to said shaft; a train of gearing extending from said fixed gear to said gear attached to the shaft, and actuatable at different points by said encircling gears; interchangeable actuator gears each meshing with one of said encircling gears; and escapements for permitting angular movement of the respective actuator gears to an

extent dependent upon the extent of movement the respective encircling gears are designed to have.

11. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable gears encircling the shaft; a fixed gear; a gear attached to said shaft; a train of gearing extending from said fixed gear to said gear attached to the shaft, and actuatable at different points by said encircling gears; interchangeable actuator gears each meshing with one of said encircling gears; and escapements comprising stop-arms the number of which depends on the extent of movement of the respective actuator gears.

12. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable gears encircling the shaft; a fixed gear; a gear attached to said shaft; a train of gearing extending from said fixed gear to said gear attached to the shaft, and actuatable at different points by said encircling gears; interchangeable actuator gears each meshing with one of said encircling gears; escapements comprising stop-arms, the number of which depends on the extent of movement of the respective actuator gears; and a driver common to all of said actuator gears.

13. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable gears encircling the shaft; a fixed gear; a gear attached to the shaft; a train of gearing extending from said fixed gear to said gear attached to the shaft and actuatable at different points by said encircling gears; interchangeable actuator gears each meshing with one of said encircling gears; a shaft for each actuator gear; a spur-wheel on each shaft; a driver with which all of said latter gears mesh; and escapements; comprising stop-arms the number of which depends upon the extent of movement of the respective actuator gears.

14. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of frictionally driven interchangeable gears encircling the shaft; a fixed gear; a gear attached to the shaft; a train of gearing extending from said fixed gear to said gear attached to the shaft and actuatable at different points by said encircling gear; interchangeable actuator gears each meshing with one of said encircling gears; a shaft for each actuator gear; a spur-wheel on each shaft; a driver with which all of said latter gears mesh; and escapements comprising stop-arms the number of which depends upon the extent of movement of the respective actuator gears.

15. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable gears encircling the shaft; a fixed gear; a gear attached to said shaft; a train of gearing extending from said fixed gear to said gear attached to the shaft, and actuatable at different points by said encircling gears; interchangeable actuator gears each meshing with one of said encircling gears, escapements comprising stop arms the number of which depends upon the extent of movement of the respective actuator gears; a driver common to all of said actuator gears; and a driver shaft whose axis is coincident with the axis of the integrating shaft.

16. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable gears encircling the shaft; a fixed gear, a gear attached to the shaft; transmitting mechanism for each said encircling gears comprising bevel wheels mounted in the encircling gear and a bevel wheel at each side, each of which side gears is affixed to the contiguous side gear of the adjacent encircling gear; interchangeable actuator gears, each meshing with one of said encircling gears; and controlling devices for permitting angular movements of the actuator gears dependent upon the extent of movement the respective encircling gears are designed to have.

17. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable gears encircling the shaft; a fixed gear; a gear attached to the shaft; transmitting mechanism for each said encircling gears comprising bevel wheels mounted in the encircling gear and a bevel wheel at each side, each of which side gears is affixed to the contiguous side gear of the adjacent encircling gear; interchangeable actuator gears, each meshing with one of said encircling gears; and escapements for permitting angular movements of the actuator gears dependent upon the extent of movement the respective encircling gears are designed to have.

18. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable gears encircling the shaft; a fixed gear; a gear attached to the shaft; transmitting mechanism for each said encircling gears comprising bevel wheels mounted in the encircling gear and a bevel wheel at each side, each of which side gears is affixed to the contiguous side gear of the adjacent encircling gear; interchangeable actuator gears, each meshing with one of said encircling gears; and escapements comprising stop arms, the number of which depends on the extent of movement of the actuator gears for permitting angular movements of the actuator gears dependent upon the extent of movement the respective encircling gears are designed to have.

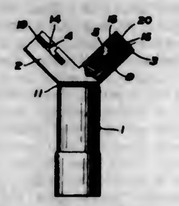
19. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable gears encircling the shaft; a fixed gear; a gear attached to the shaft; transmitting mechanism for each said encircling gears comprising bevel wheels mounted in the encircling gear and a bevel wheel at each side, each of which side gears is affixed to the contiguous side gear of the adjacent encircling gear; interchangeable actuator gears, each meshing with one of said encircling gears; and escapements comprising stop arms; the number of which depends on the extent of movement of the actuator gears for permitting angular movement of the actuator gears dependent upon the extent of movement the respective encircling gears are designed to have, and a common driver for the actuator gears.

20. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable gears encircling the shaft; a fixed gear; a gear attached to the shaft; transmitting mechanism for each said encircling gears comprising bevel wheels mounted in the encircling gear and a bevel wheel at each side, each of which side gears is affixed to the contiguous side gear of the adjacent encircling gear; interchangeable actuator gears, each meshing with one of said encircling gears; and escapements comprising stop arms; the number of which depends on the extent of movement of the actuator gears for permitting angular movements of the actuator gears dependent upon the extent of movement the respective encircling gears are designed to have, a common driver for the actuator gears, a shaft for each said actuator gear, and a gear wheel on each shaft.

21. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable gears encircling the shaft; a fixed gear; a gear attached to the shaft; transmitting mechanism for each said encircling gears comprising bevel wheels mounted in the encircling gear and a bevel wheel at each side, each of which side gears is affixed to the contiguous side gear of the adjacent encircling gear; frictionally driven interchangeable actuator gears, each meshing with one of said encircling gears; and escapements comprising stop arms; the number of which depends on the extent of movement of the actuator gears for permitting angular movements of the actuator gears dependent upon the extent of movement the respective encircling gears are designed to have, a common driver for the actuator gears, a shaft for each said actuator gear, and a gear wheel on each shaft.

22. The combination of an integrating shaft; indicating mechanism actuatable therefrom; a plurality of interchangeable gears encircling the shaft; a fixed gear; a gear attached to the shaft; transmitting mechanism for each said encircling gears comprising bevel wheels mounted in the encircling gear and a bevel wheel at each side, each of which side gears is affixed to the contiguous side gear of the adjacent encircling gear; frictionally driven interchangeable actuator gears, each meshing with one of said encircling gears; and escapements comprising stop arms; the number of which depends on the extent of movement of the actuator gears for permitting angular movements of the actuator gears dependent upon the extent of movement the respective encircling gears are designed to have, a common driver for the actuator gears, a shaft for each said actuator gear, a gear wheel on each shaft, and a driver shaft whose axis is coincident with the axis of the integrating shaft.

866,163. BURNER FOR ACETYLENE GAS. HENRY E. SHAFFER, Rochester, N. Y. Filed Oct. 15, 1906. Serial No. 339,113.



1. In an acetylene burner, a burner body having two arms for causing a jet issuing from one arm to impinge upon a jet issuing from the other arm; a channel in the upper face of each arm having an enlargement constituting the bottom thereof, whereby the upper edges of the channel overhang the said enlargement, the said channel and enlargement having a bottom and opposite sides and being open at the top and at the ends; and an acetylene duct, of a diameter less than the width of the channel, entering the said bottom midway between the sides and discharging a jet of gas directly toward a point in the top of the channel and in a line midway between said opposite sides.

2. In an acetylene burner, a burner body having two arms for causing a jet issuing from one arm to impinge upon a jet issuing from the other arm; a transverse channel in the upper face of each arm and entirely across the same, and having an enlargement constituting the bottom thereof, whereby the upper edges of the channel overhang the said enlargement, the said channel and enlargement having a bottom and opposite sides and being open at the top and also at the ends in opposite sides of the arm; and an acetylene duct, of a diameter less than the width of the channel, entering the said bottom midway between the sides and discharging a jet of gas directly toward a point in the top of the channel and in a line midway between said opposite sides.

3. In an acetylene burner, a burner body having two arms for causing a jet issuing from one arm to impinge upon a jet issuing from the other arm; a channel in the upper face of each arm having an enlargement constituting the bottom thereof open at the ends and having sides converging inwardly to the position of the acetylene jet, whereby the upper edges of the channel overhang the said enlargement, the said channel and enlargement having a bottom and opposite sides and being open at the top and at the ends; and an acetylene duct, of a diameter less than the width of the channel, entering the said bottom midway between, and at the intersection of, the sides and discharging a jet of gas directly toward a point in the top of the channel and in a line midway between said opposite sides.

4. In an acetylene burner, a burner body having two arms for causing a jet issuing from one arm to impinge upon a jet issuing from the other arm; a channel in the upper face of each arm having an enlargement constituting the bottom thereof open at the ends and having sides converging inwardly in intersecting circular curves to the position of the acetylene jet, whereby the upper edges of the channel overhang the said enlargement, the said channel and enlargement having a bottom and opposite sides and being open at the top and at the ends; and an acetylene duct, of a diameter less than the width of the channel, entering the said bottom midway between, and at the intersection of, the sides and discharging a jet of gas directly toward a point in the top of the channel and in a line midway between said opposite sides.

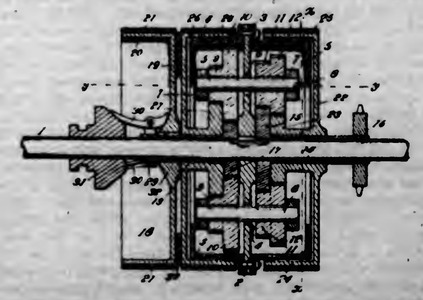
5. In an acetylene burner, a burner body having two arms for causing a jet issuing from one arm to impinge upon a jet issuing from the other arm; a channel in each arm having an enlargement connected with the bottom of said channel and being open at its ends in opposite sides of the arm and having sides converging inwardly to the position of the acetylene jet; and an acetylene duct, of a diameter less than the width of the channel, entering the said bottom and discharging a jet of gas in a line extending directly from the duct to a point in the top of the channel.

6. In an acetylene burner, a burner body having two arms for causing a jet issuing from one arm to impinge upon a jet issuing from the other arm; a channel in each arm having an enlargement connected with the bottom of said channel and being open at its ends in opposite sides of the arm and having sides converging inwardly in intersecting circular curves to the position of the acetylene jet; and an acetylene duct, of a diameter less than the width of the channel, entering the said bottom and discharging a jet of gas in a line extending directly from the duct to a point in the top of the channel.

7. In an acetylene burner, a burner body having two arms for causing a jet issuing from one arm to impinge upon a jet issuing from the other arm; a channel in the upper face of each arm having an enlargement constituting the bottom thereof and having parallel bottom and top surfaces and being open at the outer ends at the sides of each arm and having sides converging inwardly to the position of the acetylene jet; and an acetylene duct, of a diameter less than the width of the channel, entering the said bottom at the point of intersection of the converging sides and midway between the sides and discharging a jet of gas in a line extending directly from the duct to a point in the top of the channel.

8. In an acetylene burner, a burner body having two arms for causing a jet issuing from one arm to impinge upon a jet issuing from the other arm; a channel in the upper face of each arm having an enlargement constituting the bottom thereof and having parallel bottom and top surfaces and being open at the outer ends at the sides of each arm and having sides converging inwardly in intersecting circular curves to the position of the acetylene jet; and an acetylene duct, of a diameter less than the width of the channel, entering the said bottom at the point of intersection of the converging sides and midway between the sides and discharging a jet of gas in a line extending directly from the duct to a point in the top of the channel.

866,164. TRANSMISSION-GEARING. GEORGE J. SOGGE, Hanson, S. D. Filed May 31, 1906. Serial No. 319,542.



1. In a transmission gearing, the combination of a shaft, a case rigid with the shaft, a series of gear wheels loosely mounted upon the case, a driven member having an operative connection with one of the gear wheels, a brake drum having an operative connection with one of the gear wheels, a second brake drum having an operative connection with one of the gear wheels, means for moving one of the brake

drums into engagement with the opposite brake drum whereby the two are locked together, and means for locking the brake drums in a fixed position.

2. In a transmission gearing, the combination of a shaft, a case rigid with the shaft, a series of gear wheels loosely mounted upon the case, a driven member having an operative connection with one of the gear wheels, a brake drum having an operative connection with another one of the gear wheels, a second brake drum having an operative connection with one of the gear wheels, a friction band interposed between the brake drums, means for moving the brake drums into engagement with each other whereby they are locked together, and means for locking the brake drums in a fixed position.

3. In a transmission gearing, the combination of a shaft, a case rigid with the shaft, a series of gear wheels loosely mounted upon the case, a driven member having an operative connection with one of the gear wheels, a brake drum having an operative connection with one of the gear wheels, a sleeve mounted upon the shaft and having an operative connection with one of the gear wheels, a brake drum slidable upon the sleeve, means for moving the second mentioned brake drum into engagement with the first mentioned brake drum whereby the two are locked together, and means for locking the brake drums in a fixed position.

4. In a transmission gearing, the combination of a shaft, a case rigid with the shaft, a series of gear wheels loosely mounted upon the case, a driven member having an operative connection with one of the gear wheels, a brake drum having an operative connection with another one of the gear wheels, a sleeve loosely mounted upon the shaft and having an operative connection with one of the gear wheels, a brake drum slidable upon the sleeve, a lever mounted upon the sleeve, means for operating the lever to move the two brake drums into engagement with each other, and means for locking the brake drums in a fixed position.

5. In a transmission gearing, the combination of a shaft, a case rigid with the shaft, a series of gear wheels loosely mounted upon the case, a driven member having an operative connection with one of the gear wheels, a brake drum having an operative connection with another one of the gear wheels, a sleeve loosely mounted upon the shaft and having an operative connection with one of the gear wheels, a brake drum slidable upon the sleeve, a lever mounted upon the sleeve, a member slidable upon the shaft and engaging the lever to move the two brake drums into engagement with each other, and means for locking the brake drums in a fixed position.

6. In a transmission gearing, the combination of a shaft, a case rigid with the shaft, a series of gear wheels loosely mounted upon the case, a driven member having an operative connection with one of the gear wheels, a sleeve loosely mounted upon the shaft and having an operative connection with another one of the gear wheels, a brake drum rotatably mounted upon the sleeve and having an operative connection with one of the gear wheels, a second brake drum slidably mounted upon the sleeve and designed to be moved into engagement with the first mentioned brake drum, and means for locking the brake drums in a fixed position.

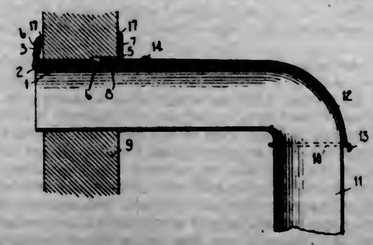
7. In a transmission gearing, the combination of a shaft, a case rigid with the shaft, a series of gear wheels loosely mounted upon the case, a driven sleeve rotatably mounted upon the shaft on one side of the case and having an operative connection with one of the gear wheels, a brake drum rotatably mounted upon the driven sleeve and having an operative connection with another one of the gear wheels, a sleeve rotatably mounted upon the shaft on the opposite side of the case and having an operative connection with one of the gear wheels, a second brake drum rotatably mounted upon the sleeve and having an operative connection with one of the gear wheels, a third brake drum carried by the sleeve and designed to be locked with the second mentioned brake drum, and means for locking the brake drums in a fixed position.

8. In a transmission gearing, the combination of a shaft, a case rigid with the shaft, a second shaft carried by the case, a series of gear wheels mounted upon the second shaft, a driving sleeve rotatably mounted upon the shaft on one side of the case and having an operative connection with one of the gear wheels, a brake drum rotatably mounted upon the driving sleeve and having an operative connection with one of the gear wheels, a sleeve rotatably mounted upon the shaft on the opposite side of the case and having an operative connection with one of the gear wheels, a second brake drum rotatably mounted upon the sleeve and having an operative connection with one of the gear wheels, a third brake drum slidable upon the sleeve, means for moving the last mentioned brake drum into engagement with the first mentioned brake drum, and means for locking the brake drums in a fixed position.

9. In a transmission gearing, the combination of a shaft, a case rigid therewith and comprising a disk having annular flanges projecting in opposite directions from the periphery thereof, brackets carried by the disk, a second shaft journaled in the brackets, gear wheels mounted upon the second shaft, a driven member having an operative connection with one of the gear wheels, a brake drum upon one side of the case, the said brake drum having an operative connection with one of the gear wheels and being formed with a peripheral flange extending over the corresponding annular flange upon the case, a second brake drum upon the opposite side of the case, the second mentioned brake drum also having an operative connection with one of the gear wheels and being formed with a peripheral flange extending over the corresponding annular flange upon the case, a third brake drum having an operative connection with one of the gear wheels and designed to be moved longitudinally of the shaft so as to be locked to the second mentioned brake drum, and means for locking the brake drums in a fixed position.

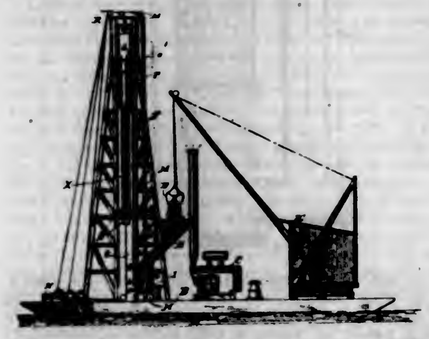
10. In a transmission gearing, the combination of a shaft, a case mounted upon the shaft and comprising a disk having annular flanges projecting in opposite directions from the periphery thereof, brackets located upon opposite sides of the disk, a second shaft journaled in the brackets and passing through the disk, a pair of gear wheels rigidly mounted upon the shaft on each side of the disk, a driven sleeve rotatably mounted upon the first mentioned shaft on one side of the case and having an operative connection with one of the gear wheels, a brake drum rotatably mounted on the driven sleeve and having an operative connection with one of the gear wheels, the said brake drum being provided with a peripheral flange extending over the corresponding annular flange upon the case, a sleeve rotatably mounted upon the main shaft on the opposite side of the case and having an operative connection with one of the gear wheels, a second brake drum rotatably mounted upon the sleeve and having an operative connection with one of the gear wheels, the second mentioned brake drum being formed with a peripheral flange extending over the corresponding annular flange of the case, a third brake drum slidable upon the sleeve and designed to be moved into engagement with the second mentioned brake drum, and means for locking the brake drums in a fixed position.

866,165. STOVEPIPE-HOLDER. OLIVER STEWART, Centralia, Ill. Filed Apr. 8, 1907. Serial No. 367,012.



In a stove pipe holder, a plate having one end perforated and the other end upturned to form a shoulder for engaging with the wall, a piece of material secured to said upturned end, having its upper end terminating near the tip thereof and its lower end extending far enough below the plate to form a shoulder for being engaged by the end of the pipe, a bent clamping member on the perforated end of the plate for engaging with the wall with one end and having a loop on the other end for encircling the plate and provided with a shoulder for entering said perforations, and flexible means connected with said perforated end of the plate and adapted to be secured to the pipe.

866,166. LOADING AND UNLOADING APPARATUS. GEORGE W. THEISS, Pittsburg, Pa., and ROBERT J. W. WHANN and WILLIAM J. ENGLISBEE, New Orleans, La. Filed May 21, 1907. Serial No. 374,890.



1. In a loading and unloading apparatus, the combination of a main frame having vertical guideways, a frame adjustable vertically in one of said guideways, means for adjusting and adjustably fixing the vertically adjustable frame, a hopper carried by the vertically adjustable frame, means for receiving material from the said hopper and conveying the same to a point of discharge, an elevating receptacle movable in the other guideway of the main frame and arranged when it reaches the proper position, relative to the hopper, to discharge its contents into said hopper, means for raising the elevating receptacle, and means for supplying material to said receptacle when the same is in a lower position.

2. In a loading and unloading apparatus, the combination of a main frame having vertical guideways, a frame adjustable vertically in one of said guideways, means for adjusting and adjustably fixing the vertically adjustable frame, a hopper carried by the vertically adjustable frame, means for receiving material from the said hopper and conveying the same to a point of discharge, a bin fixed with respect to the main frame and having a discharge, means for transferring material from a source of supply to the said bin, an elevating receptacle movable in the other guideway of the main frame and arranged in its lower position to receive from the bin and also arranged when it reaches the proper position, relative to the hopper on the vertically adjustable frame, to discharge its contents into said hopper, and means for raising the elevating receptacle.

3. In a loading and unloading apparatus, the combination of a frame, and a chute mounted in the frame and pivoted, whereby it is arranged to be swung vertically, and also arranged to be adjusted in the direction of its length with respect to the frame.

4. In a loading and unloading apparatus, the combination of a frame, a chute mounted in the frame and pivoted, whereby it is arranged to be swung vertically, and also arranged to be adjusted in the direction of its length, means for swinging the chute vertically and adjustably fixing the same at various angles of inclination, and means for adjusting the chute in the direction of its length and adjustably fixing it against endwise movement.

5. In a loading and unloading apparatus, the combination of a frame, a vertically swinging support and guide pivoted to the frame, means for adjustably fixing said support and guide at various angles of inclination, a chute carried by and arranged to swing with said guide and support and also arranged to be adjusted endwise on the guide and support, and means for adjustably fixing the chute with respect to the guide and support.

6. In a loading and unloading apparatus, the combination of a frame, a vertically swinging support and guide pivoted to the frame, means for swinging said support and guide vertically and adjustably fixing the same at various angles of inclination, a chute carried by and arranged to swing with said guide and support and also arranged to be adjusted endwise on the guide and support, and means for adjusting the chute endwise and adjustably fixing the same with respect to the guide and support.

7. In a loading and unloading apparatus, the combination of a frame, a vertically swinging support and guide pivoted to the frame, means for adjustably fixing said support and guide at various angles of inclination, a chute carried by and arranged to swing with said guide and support and also arranged to be adjusted endwise on the guide and support, a motor, a drum, a cable arranged to be moved by the drum and connected to opposite portions of the chute, and means for making and interrupting connection between the motor and the drum.

8. The combination in a loading and unloading apparatus, of a frame, an endwise adjustable chute mounted in the frame, a motor, a drum, a cable connected with opposite portions of the chute and arranged to be moved by the drum, and means for making and interrupting connection between the motor and the drum.

9. The combination in a loading and unloading apparatus, of a main frame having a vertical guideway, a vertically adjustable frame disposed in said guideway, means for adjusting and adjustably fixing said vertically adjustable frame, a hopper carried by the vertically adjustable frame, means for elevating the material and discharging the same into the hopper, means for receiving material from the hopper and conveying the same to a point of discharge, a motor mounted on the vertically adjustable frame, a shaft bearing an eccentric and connected with the motor; said shaft being journaled in the vertically adjustable frame, a lever fulcrumed on the vertically adjustable frame, a rod connected with one arm of said lever and having a strap receiving the eccentric, and a reciprocatory agitator connected with the other arm of the lever and working through a wall of the hopper.

10. The combination in a loading and unloading apparatus, of a frame, a guide and support carried by said frame, a chute carried by and adjustable lengthwise on the guide and support and comprising sections hinged together at their meeting ends, and means for adjustably fixing the chute with respect to the guide and support and the frame.

11. In a loading and unloading apparatus, the combination of a frame, arcuate guideways connected to the frame, vertically swinging guides and supports pivoted to the frame and having shoes disposed in the arcuate guideways and also having guideways at their inner sides, means for adjustably fixing the said guides and supports, a chute having ribs at opposite sides disposed and movable endwise in the guideways of the guides and supports, whereby the chute is adjustable endwise on the guides and supports, and means for adjustably fixing the chute against endwise movement.

866,167. APPARATUS FOR KEEPING ACCOUNTS. LEON R. TIFFANY, Kingsley, Pa. Filed Sept. 17, 1906. Serial No. 334,970.

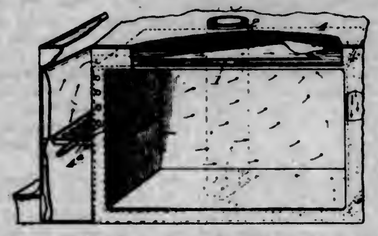
In an apparatus for keeping accounts, the combination with a holder, of a series of individual envelops therein and a series of index envelops therein, all arranged in alphabetical order, the individual envelops adapted to receive customers names, and having sales slips therein, and the index envelops having an index letter thereon

and being located respectively between different alphabetical groups of the individual envelops, forming an index thereto, and ledger slips within the index envelops,



each having spaces adapted to receive the names on the envelops in the corresponding group, and also the totals from the sales slips.

866,168. TOP OVEN-PLATE FOR COOKING-STOVES. JAPHEW S. VAN BUREN, Albany, N. Y., assignor to Rathbone, Sard & Co., Albany, N. Y., a Corporation of New York. Filed Jan. 10, 1907. Serial No. 351,693.



1. In a cooking stove, the combination, with an oven, of a top plate for said oven having a longitudinal arch extending up near to the top plate of the stove and arranged between the vertical planes of the ends of said oven, said arch gradually increasing in height in the direction of the rear end of the oven and constituting a division of the passage for the products of combustion formed between said plates whereby said oven is evenly heated.

2. In a cooking stove, a top oven plate having an integral longitudinal arch extending up near to the top plate of the stove constituting a division of the passage for the products of combustion formed between said plates, said arch gradually increasing in height in the direction of the rear end of the oven and having means at its higher end for ventilating said oven.

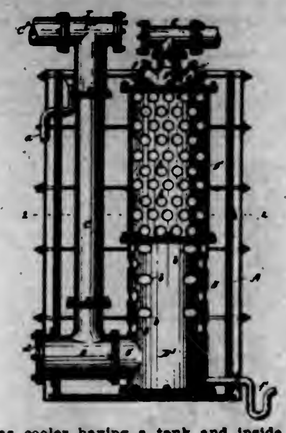
3. In a cooking stove, the combination, with the bottom, side and end walls of the oven, and means to supply heated air to said oven, of the top oven plate having a longitudinal chambered arch provided with an opening in the rear end thereof, and a hood arranged over said opening and extending in the direction of the flow of the gases for the purpose specified.

4. In a cooking stove, the combination, with the bottom, side and end walls of the oven, and means to supply heated air to said oven, of the top oven plate having a longitudinal chambered arch which increases in height from its end nearest the fire box to near the other end thereof, and thence sloping abruptly to the level of the plate, said arch provided with an opening near the top of said abrupt slope, and a hood arranged over said opening and extending in the direction of the flow of the gases for the purpose specified.

866,169. GAS-COOLER. JOHN VOLLMER, Boston, Mass. Filed Feb. 21, 1906. Serial No. 302,180.

1. A gas cooler having a tank, a gas-receiving chamber located inside said tank and having a series of circulating tubes passing through it in communication with the interior of the tank, and a gas inlet pipe leading down into said tank to connect with said gas-receiving chamber at or near the bottom thereof.

2. A gas cooler having a tank, a gas inlet pipe leading down into said tank, a gas-receiving chamber also located within said tank, a joint connecting said inlet pipe with said gas chamber, a manhole located in said joint in line with the lower part of said gas chamber, and provided with a suitable cover whereby upon the removal of said cover the lower part of said gas chamber may be cleaned, as and for the purposes specified.



3. A gas cooler having a tank and inside the same a gas-receiving chamber, man-holes located at the top of said gas-receiving chamber forming access to the interior thereof, and at the bottom of said chamber an outlet having formed therein a trap.

4. A gas cooler having a gas-receiving chamber provided with an inlet at or near the bottom thereof, a gas outlet to said chamber at or near the bottom thereof, and intermediate said inlet and outlet passages means whereby the gas will be made to circulate upwardly through said tank, thence down to said outlet passage, substantially as described.

866,170. FIRE-SCREEN. MURRAY B. WATSON, Toronto, Ontario, Canada. Filed Oct. 18, 1906. Serial No. 339,513.



1. In a fire screen, the combination with a wall of a building having an opening therethrough and a casing embedded in said wall above said opening, said casing having an opening in the under side thereof in communication with the aforesaid opening and a plurality of vertical guideways in the sides of the opening through said wall and extending from the top thereof downwardly and upwardly through the opening in said casing, of a plurality of shutters flanged at the top and bottom and sliding in said guideways and normally contained within said casing, the lower flange of one of the shutters closing the opening in the under side of said casing, said shutters being adapted to close the opening in said wall, means secured to the under face of said casing for holding said shutters within said casing, and means for releasing said holding means, as and for the purpose specified.

2. In a fire screen, the combination with a wall of a building having an opening therethrough and a casing inclosed therein above said opening, said casing having an opening in the under side thereof, and a plurality of guideways in the sides of the opening in said wall, of a plurality of shutters normally contained within said casing and closing the opening in the under side thereof, a trigger pivotally supported from the under side of said casing having a portion thereof projecting inwardly beyond the edge of said opening and engaging the lower portion of one of said shutters and holding said shutters within said casing and a downwardly depending hook shaped portion, a hook shaped bracket fixedly secured to the under side of said casing opposite said trigger, and a fusible link engaging said hook shaped bracket and hooked shaped portion of said trigger, as and for the purpose specified.

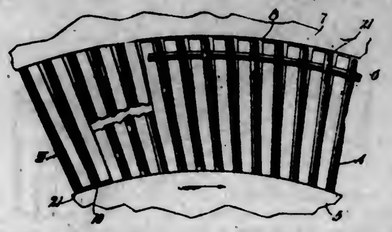
3. In a fire screen, the combination with a wall of a building having an opening therethrough and a casing embedded in said wall above said opening, said casing having an opening in the under side thereof in communication with the aforesaid opening and a plurality of vertical guideways in the sides of the opening through said wall and extending from the top thereof downwardly and upwardly through the opening in said casing, of a plurality of shutters flanged at the top and bottom and sliding in said guideways and normally contained within said casing, the lower flange of one of the shutters closing the opening in the under side of said casing, said shutters being adapted to close the opening in said wall, a trigger pivotally supported from the under side of said casing having a portion thereof projecting inwardly beyond the edge of said opening and engaging the lower portion of one of said shutters and holding said shutters within said casing and a downwardly depending hook shaped portion, a hook shaped bracket fixedly secured to the under side of said casing opposite said trigger, and a fusible link engaging said hook shaped bracket and hook shaped portion of said trigger, as and for the purpose specified.

4. In a fire screen, the combination with a wall of a building having an opening therethrough and a casing embedded in said wall above said opening, said casing having an opening in the under side thereof in communication with the aforesaid opening and a plurality of vertical guideways in the sides of the opening through said wall and extending from the top thereof downwardly and upwardly through the opening in said casing, of a plurality of shutters flanged at the top and bottom and sliding in said guideways and normally contained within said casing, the lower flange of one of the shutters closing the opening in the under side of said casing, and the upper flange of another of said shutters adapted to close said opening when said shutters are in their lowered position, the lower one of said shutters having an opening therethrough intermediate of its height, a pivotal plate pivotally secured to said shutter and closing said opening, handholds secured to said lower shutter for raising said shutter, a trigger pivotally supported from the under side of said casing having a portion thereof projecting inwardly beyond the edge of said opening and engaging the lower portion of one of said shutters and holding said shutters within said casing and a downwardly depending hook shaped portion, a hook shaped bracket fixedly secured to the under side of said casing opposite said trigger, and a link formed in two halves and engaging the hooked extension of said trigger and the opposing hook shaped bracket on said casing the half portion of said link being secured together with a fusible metal, as and for the purpose specified.

866,171. ELASTIC-FLUID TURBINE. GEORGE WESTINGHOUSE, Pittsburg, Pa., assignor to The Westinghouse Machine Company, a Corporation of Pennsylvania. Filed Mar. 28, 1905. Serial No. 252,480.

1. In an elastic fluid turbine, rotor blades mounted so as to incline rearwardly from radial lines and stator vanes inclining forwardly from radial lines in relation to the direction of rotation of the rotor, and means for tying the outer ends of a plurality of said blades together.

2. In combination in an elastic fluid turbine, a rotor provided with annular rows of moving blades so mounted as to incline rearwardly from radial lines and a stator element provided with annular rows of stationary vanes so mounted as to incline forwardly from radial lines in relation to the direction of rotation of the rotor and means for tying the outer ends of a plurality of said blades together.



3. In combination in an elastic fluid turbine, a rotor element provided with annular rows or rearwardly-inclined rotating blades extending in close proximity with the turbine casing and a stator element provided with annular rows of forwardly-inclined stationary vanes interleaving with said rows of moving blades.

4. In combination in an elastic fluid turbine, a plurality of annular rows of rearwardly-inclined moving blades and alternate rows of forwardly-inclined stationary vanes.

5. In combination in an elastic fluid turbine, a stator element provided with an annular row of inclined stationary blades and means for tying the outer or free ends of said blades together.

6. In combination in an elastic fluid turbine, a stator element provided with an annular row of forwardly inclined stationary blades and means for tying the outer or free ends of said blades together.

7. In combination in an elastic fluid turbine, a stator element provided with two or more annular rows of inclined stationary blades and means for tying the outer or free ends of the blades of each row together.

8. In combination in an elastic fluid turbine, a stator element provided with two or more annular rows of forwardly inclined stationary blades and means for tying the outer or free ends of the blades of each row together.

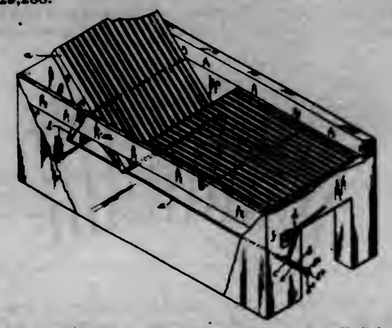
866,172. SOUVENIR-POST-CARD PROTECTOR. JOACHIM C. WESTPHALL, Gloversville, N. Y. Filed Nov. 12, 1906. Serial No. 343,166.



1. A protector for souvenir post cards, the same consisting of an envelop or pocket of transparent material and having openings in a side thereof to admit of canceling the postage stamp of the card and impressing the post mark directly upon said card, while the latter is in position in the protector.

2. As a new article of manufacture, a shield or protector for souvenir post card, the same consisting of an envelop or pocket of transparent material of a size to snugly receive the post card and having adjacent openings near the upper right hand corner to admit of canceling the postage stamp and impressing the post mark upon the card while in position in the protector.

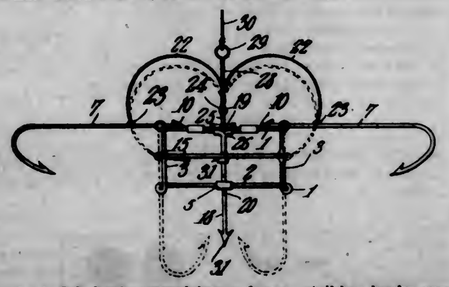
866,173. LOCKING DEVICE FOR GRATE-BARS. EDWARD WILTON, Jersey City, N. J., assignor to George H. Clarke, Brooklyn, N. Y. Filed Aug. 6, 1906. Serial No. 329,288.



1. In combination with the operating rod, a link having a bent end to rest against the face of the furnace, said link having a longitudinal slot and at its end opposite to said bent end having a lateral slot communicating with said longitudinal slot, an arm, and a bolt extending through said rod, said link and said arm.

2. In combination with the operating rod of a furnace grate, an operating arm for said rod, a link having a pair of communicating slots arranged at right angles to one another, a bolt passed through said rod, arm and link slots, said link being slidable on said bolt and adapted when said bolt is in one of said slots to have its inner end engage the furnace face.

866,174. FISH TRAP-HOOK. AMOS WINBUSH, Ruston, La., assignor of one-half to Anderson W. Wiley, Vernon, La. Filed June 1, 1907. Serial No. 376,756.



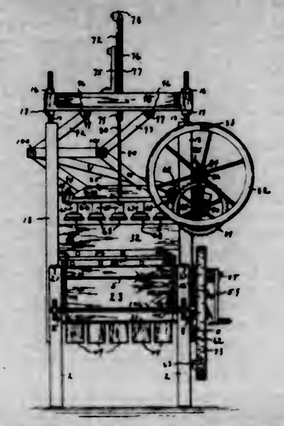
1. A fish hook comprising a frame, striking hooks carried thereby, sears movable on the frame to engage the hooks, and a bait hook having a head to engage portions of the sears.

2. A fish hook comprising a frame, striking hooks pivotally connected therewith, sears movable on the frame and having bevel members to engage with the heads of the hooks, and a bait hook having a head to engage portions of the sears.

3. A fish hook comprising a frame, striking hooks pivotally connected therewith and provided with heads, sears movable longitudinally on the frame to engage the said heads, a bait hook coacting with the sears, and means for guiding the latter hook relatively to the sears.

866,175. CEMENT-BRICK-PRESSING MACHINE. PHILIP K. YOUNG, Omaha, Nebr. Filed Aug. 21, 1906. Serial No. 331,436.

In combination, a machine as described, comprising a frame; a horizontal shaft in suitable bearings upon the frame; a first stop-lug upon the frame; a second stop-lug upon the frame; a balance wheel secured upon said horizontal shaft and having thereon a first engaging-head and a second engaging-head; a series of stationary, vertically-disposed molds upon the frame and provided with upper, open end-portions; a series of upper dies disposed in alinement with and having means for movement within a part of the upper, open end-portions of said stationary, vertically-disposed molds; a series of lower dies; one of each of the dies of the lower series seated within each of said stationary, vertically-disposed molds and having a rack



formed upon its outer edge; pinions upon said horizontal shaft in engagement with the racks upon said dies of said lower series of dies; means to produce a rotative movement of said balance wheel to cause engagement of said first engaging-head with said first stop-lug, and means to produce a reverse rotative movement of said balance wheel to cause engagement of said second engaging-head with said second stop-lug.

866,176. ARTIFICIAL DENTURE. FRANCIS AINSWORTH, St. John, New Brunswick, Canada. Filed May 3, 1906. Serial No. 314,918.



1. A device of the character described comprising a hollow metallic shell adapted to be attached to the outer side of a dental plate, and provided with a longitudinal recess therein adapted to receive cement by which said device is secured in position.

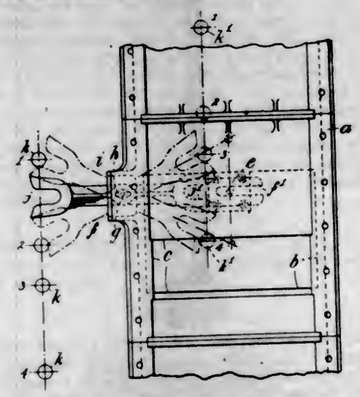
2. A device of the character described comprising a hollow metallic shell adapted to be attached to the outer side of a dental plate, a longitudinal recess therein, and a cement filling within said device and projecting into the aforesaid recesses, whereby said device is held in place.

3. A device of the character described comprising a plurality of hollow metallic shells adapted to be nested one upon the other, longitudinal recesses in said shells, and a cement filling interposed between the successive shells and projecting into the recesses therein, thereby fastening said shells in place.

866,177. CHARGING GAS-RETORTS, COKE-OVENS, AND THE LIKE. JAMES G. W. ALDRIDGE, Westminster, and RALPH E. GIBSON, Liverpool, England. Filed Feb. 23, 1907. Serial No. 358,984.

1. In an apparatus for charging gas retorts, a supply hopper provided with a horizontally arranged door at its bottom, said door being movable only in its own plane, a lever pivotally secured to the hopper, means for connecting the inner end of the lever with said door, and a receptacle adapted to travel under the hopper and provided with means for engaging with the lever to actuate said door.

2. In an apparatus for charging gas retorts, etc., a supply hopper, a horizontally sliding door for the hopper provided with a pin, a lever pivotally secured to the hopper, the inner end of which is slotted longitudinally for engaging with said pin, a receptacle adapted to travel under the hopper and provided with means for engaging with the lever to actuate said door.



3. In an apparatus for charging gas retorts, etc., a supply hopper provided with a horizontally sliding door, a lever pivotally secured to the hopper with its outer end slotted longitudinally and its inner end pivotally connected with said door, a receptacle adapted to travel under the hopper and provided with a pin for engaging with the slotted end of said lever to actuate the door.

4. In an apparatus for charging gas retorts, etc., a supply hopper, a horizontally sliding door for the bottom thereof, having a pin, a lever pivotally secured to the hopper, the ends of which are slotted longitudinally and the inner ends are bifurcated with one part of the bifurcation longer than the other and in engagement with said pin, and a receptacle adapted to travel under the hopper and provided with pins for engaging with the slotted ends of the lever.

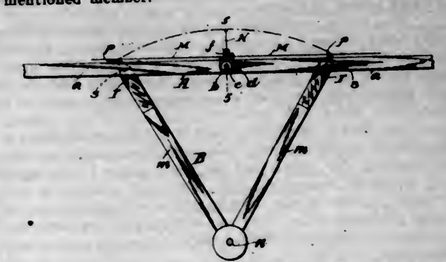
5. In an apparatus for charging gas retorts, etc., a supply hopper provided with a plurality of horizontally arranged doors in the bottom, each door being movable only in its own plane, a lever for each door, and a traveling receptacle provided with means for engaging with said levers for successively opening and closing said doors.

6. In an apparatus for charging gas retorts, etc., a supply hopper, a horizontally sliding door therefor, a lever connected with said door, a traveling receptacle provided with projections for engaging said levers, and means for moving said projections into and out of their operative positions.

7. In an apparatus for charging gas retorts, etc., a supply hopper provided with a horizontally sliding door, a lever connected with the door, a traveling receptacle provided with reciprocatory pins, levers connected therewith, and a handle for actuating the levers to move the pins into and out of position for engaging with the lever on the hopper.

866,178. INSTRUMENT FOR DESCRIBING ARCS OF CIRCLES. ALONZO W. ALLEN, Streator, Ill. Filed Mar. 18, 1907. Serial No. 362,959.

1. In an instrument for the purpose described, a member comprising two straight sections pivotally connected together and provided at a point adjacent to the point of connection with a marker; in combination with a member comprising two connected arms arranged to swing toward and from each other and having flat, pointed portions at their free ends adapted to rest under the sections of the first mentioned member and also having portions in rear of the flat, pointed portions, arranged to afford bearings for the rear edges of the sections comprised in the first mentioned member.



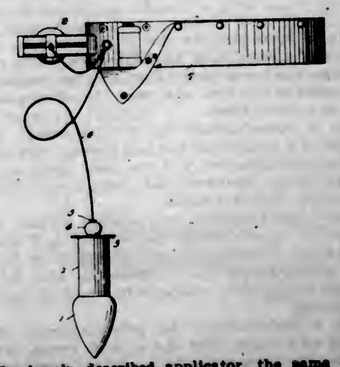
2. In an instrument for the purpose described, a member comprising two straight sections arranged in the same horizontal plane, a threaded bolt pivotally connecting said sections together, an upright carrying a marker-holder and having an apertured base flange receiving the threaded bolt, and a nut mounted on said bolt, above the base flange; in combination with a member comprising two connected arms arranged to swing toward and from each other and having depending barbs and also having flat, pointed portions at their free ends adapted to rest under the sections of the first mentioned member, and pointed portions located in rear of the flat, pointed portions, arranged to afford bearings for the rear edges of the sections comprised in the first mentioned member.

866,179. COOKING-IRON. ALFRED ANDRESEN, Minneapolis, Minn. Filed Aug. 22, 1906. Serial No. 331,580.



A hollow cooking iron comprising a flat base portion and upwardly extending diverging sides, said sides being fluted alike on their inner and outer surfaces, said iron having a balancing handle secured to the center of the base portion, whereby it will be retained in an upright position, substantially as described.

866,180. COMBINED APPLICATOR AND DILATOR. CUTLER T. BALL, Decatur, Ill. Filed June 13, 1907. Serial No. 378,963.



1. The herein described applicator, the same comprising a body, a metallic sleeve thereon, a screw connecting

the parts, and a plate connecting the sleeve and screw; combined with a source of electricity, and a wire connecting said source and screw.

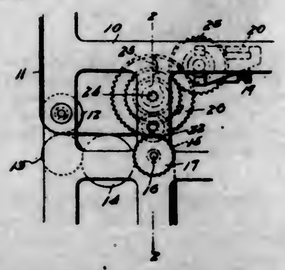
2. The herein described applicator, the same comprising a body having a head and a cylindrical shank, a sleeve surrounding the shank and having a plate at its upper end, and a screw passing through said plate and sleeve and taking into the shank; combined with a source of electricity, and a wire connecting said source and screw.

3. The herein described applicator, the same comprising a body having a head and a cylindrical shank, a sleeve surrounding the shank and having a plate at its upper end, a screw passing through said plate and sleeve and taking into the shank, and a non-conducting shield between the head of the screw and said plate; combined with a source of electricity, and a wire connecting said source and screw.

4. The herein described applicator, the same comprising a body having an enlarged head and a reduced cylindrical shank, a sleeve whose lower end surrounds the shank and whose upper end is closed by a plate, a non-conducting shield covering said plate, and a screw passing through the shield and plate and taking into the shank; combined with a source of electricity, and a wire connecting said source and screw.

5. The herein described applicator, the same comprising a body of non-conducting material consisting of an enlarged head and a reduced shank, a sleeve of conducting material surrounding the latter, a shield of non-conducting material across the upper end of the sleeve, a screw passing through the shield and sleeve and taking into the shank, the screw having a socket in its upper end, and an electrical connection between said sleeve and screw; combined with a source of electricity, a wire leading from said source, and a plug on the wire adapted to fit said socket.

866,181. PASTE-FOUNTAIN FOR PRINTING-PRESSES. HOWARD M. BARBER, Stonington, Conn., assignor to C. B. Cottrell & Sons Company, New York, N. Y., a Corporation of New Jersey. Filed June 14, 1906. Serial No. 321,686.



1. In a paste-fountain for printing-presses, the combination of a paste-roller and paste-sweep, with means for operating the paste-sweep throughout its rotation at the same speed as the web, and means for driving the paste-roller at a lower speed.

2. In a paste-fountain for printing-presses, the combination of a paste-roller and paste-sweep, with means for operating the paste-sweep at the same speed as the web, and means for positively and continuously driving the paste-roller at a lower speed.

3. In a paste-fountain for printing presses, the combination of a paste-roller, paste-sweep and web guide-roller, a set of gears driving the guide-roller and paste-sweep synchronously and a differential gear for driving the paste-roller slowly whatever the speed of the web and paste-sweep.

4. In a paste-fountain for printing-presses, the combination of a paste-roller and a paste sweep, means for operating the paste-sweep at a constant speed and means for operating the paste-roller at a constant but slower speed.

866,182. PITMAN FOR PUMPING-JACKS. WALTER S. BERRS, Marion, Ind. Filed Oct. 27, 1906. Serial No. 340,795.



1. The combination with a driving and driven member; of means for operatively connecting said members, such means comprising a pitman provided with a transversely disposed hollow cylindrical journal at each end, end plates mounted upon said driving and driven member, respectively, each of such plates having a perforated lateral integral extension and formed with concave cylindrical bearings adapted to receive the corresponding hollow ends of said pitman and with projecting ears adapted to laterally secure the hollow ends of said bearings between the said projecting ears.

2. The combination with a driving and driven member; of means for operatively connecting said members, such means comprising a pitman rod screw-threaded at each end thereof and fitted at each end to a T-shaped hollow journal, perforated bearing plates mounted upon the driving and driven member, such plates being formed with open concave cylindrical bearings adapted to receive the corresponding hollow journals on the ends of said pitman and with upwardly-projecting apertured ears adapted to laterally confine said journals in said bearings, and a pin passing through the ears of each such plate and the hollow trunnion journaled therein whereby the latter is secured against longitudinal displacement.

866,183. SHIRT. LEWIS BERNSTEIN, Grafton, W. Va. Filed Mar. 29, 1907. Serial No. 365,422.



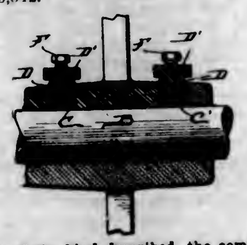
1. A garment of the character described having reinforcing strips on its interior with a vertical series of

folded portions forming tabs which are united to the strips at one end and have their opposite ends free and unattached, and garment-supporters having means for detachably engaging said tabs, said supporters have means for supporting nether garments.

2. A garment of the character described, said garment having a bosom portion divided along its front and having the divided portions unattached to the skirt at the bottom to enable said portions to be turned back, and garment supporters contained beneath the shirt, said divided portions of the shirt affording access to said supporters.

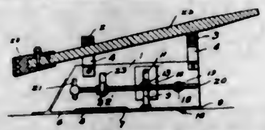
3. A garment of the character described, said garment having a bosom divided along its front and having the divided portions unattached to the skirt at the bottom to enable said portions to be turned back, garment supporters contained beneath the shirt and means whereby said supporters are vertically adjustable on the inside of the shirt, said divided portions of the shirt affording access to said supporters.

866,184. DEVICE FOR FASTENING PULLEYS. CHARLES P. BRIGGS, New Albany, Ind. Filed Mar. 10, 1906. Serial No. 305,342.



In a device of the kind described, the combination with a hub mounted on an axle and having threaded openings adjacent each end, of plugs provided with hexagonal heads and being screw threaded for screwing into said openings and said plugs also having a longitudinal screw threaded bore extending therethrough and set screws having hexagonal heads, adapted to screw in said longitudinal bore and engage the axle as set forth.

866,185. BEAN-CUTTER. JOHN W. BROWN, Arroyo Grande, Cal. Filed May 27, 1907. Serial No. 375,934.



1. In a bean cutter, the combination of a frame, comprising side pieces connected near their front and rear ends by cross bars and having longitudinal recesses in their under edges near their front ends, longitudinal runners having upwardly extending bent portions corresponding in length with the recesses in said side pieces, secured to the under edges of the same, oblique cutting knives pivotally connected at their front ends to said longitudinal runners at their bent portions, adjusting hangers connected at their lower ends to the upper faces of said oblique cutting knives and having horizontal outwardly extended threaded portions adapted to work in vertical elongated slots in the side pieces of said frame, retaining knives vertically and adjustably secured to the outer sides and near the rear ends of the side pieces of said frame, their lower ends adapted to penetrate into the ground, and oblique rearwardly extending guards adjustably secured near their front ends near the front ends of said side pieces of said frame, substantially as described.

2. In a bean cutter, the combination of a frame having side pieces connected near their front and rear ends by cross pieces, longitudinal runners secured to the under edges of said side pieces, retaining knives adjustably secured near the rear ends of the side pieces of said frame, oblique cutting knives pivotally connected at their front ends to the under sides of said runners, means for supporting said cutting knives and for adjusting and holding their rear ends any desired distance apart, and oblique rearwardly extending guards adjustably secured near their front ends near the front ends of said side pieces of said frame.

3. In a bean cutter, the combination of a frame, comprising side pieces connected by cross bars and having longitudinal recesses in their under edges, runners secured to the under edges of the side pieces of said frame and having upwardly extending bent portions corresponding in length with and adapted to fit in the recesses of the same, and oblique cutting knives pivotally connected to the under faces and at the bent portions of said runners at their front ends, and adjustably connected at their rear ends to said side pieces.

4. In a bean cutter, the combination of a frame, having side pieces, runners secured to the under edges of said side pieces, oblique cutting blades pivotally connected near their front ends to said runners, and means for adjustably supporting the rear ends of said cutting knives.

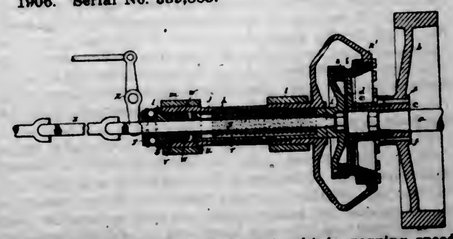
5. In a bean cutter, the combination of a frame having side pieces having longitudinal recesses in their under edges, longitudinal runners having upwardly extending bent portions, corresponding in length with and adapted to fit in the recesses of said side pieces, oblique cutting knives pivotally connected at their front ends to the upwardly extending bent portions of said runners, and adjusting hangers connected at their lower ends to said cutting knives and having horisontal outwardly extending threaded portions adapted to work in vertical elongated slots in said frame, with means screwed on the threaded portions of said hangers for holding them in position, substantially as described.

6. In a bean cutter, the combination of a frame, comprising side pieces connected by cross bars, runners secured to the under edges of the side pieces of said frame, oblique cutting knives pivotally connected near their ends to said runners, means for supporting and for adjusting the rear ends of said cutting knives either vertically or laterally, and oblique guards adjustably secured to the side pieces of said frame.

7. In a bean cutter, the combination of a frame, having side pieces, retaining knives vertically and adjustably secured near the rear ends of said side pieces, runners secured to the lower edges of said side pieces, and oblique cutting knives pivotally connected near their front ends to said runners, with means for supporting and adjusting the rear ends of said knives either vertically or laterally.

8. In a bean cutter, the combination of a frame comprising side pieces connected by cross bars and having longitudinal recesses in their under edges, and runners secured to the under edges of said side pieces of said frame, and having upwardly extending bent portions corresponding in length and adapted to fit in the recesses of the same, substantially as described.

866,186. VARIABLE-SPEED FRICTION MECHANISM. ALANSON P. BRUSH, Detroit, Mich. Filed Oct. 20, 1906. Serial No. 339,883.



1. A friction speed mechanism to obtain varying speed ratios comprising a friction disk made thicker toward its

center than at its periphery, friction rings contacting upon opposite sides of the friction disk, and means to bring the centers of rotation of the friction rings and the friction disk into and out of alinement.

2. A friction speed mechanism to obtain varying speed ratios comprising a friction disk made thicker toward its center than at its periphery, friction rings contacting upon opposite sides of the friction disk having a common center of rotation, and means to bring the centers of rotation of the friction rings and the friction disk into and out of alinement.

3. A friction speed mechanism to obtain varying speed ratios comprising a friction disk made thicker toward its center than at its periphery, friction rings contacting upon opposite sides of the friction disk, means to vary the distance between the centers of rotation of the friction rings and the friction disk, and mechanism to separate the friction rings at the will of the operator, thereby releasing their hold upon the friction disk.

4. A friction speed mechanism to obtain varying speed ratios comprising a driving and a driven shaft located end to end when in alinement, a friction disk carried by one of said shafts, friction rings carried by the other of said shafts contacting on opposite sides of the friction disk, and means to vary the relation of the axes of the driving and of the driven shafts.

5. A friction speed device comprising bearings, plural frictional bodies, means to frictionally contact with said bodies, and means to balance the frictional tensions thereby relieving the bearings from the load due to the frictional tension.

6. A friction speed device comprising a rotatable driving and a rotatable driven member, and means to bring the centers of rotation of said members into and out of alinement to provide variations of speed in the driven member from a speed equal to that of the driving member continuously within its range to a speed lower than that of the driving member.

7. A friction speed device comprising a driving and a driven member, means to provide variations of speed in the driven member from a speed equal to that of the driving member continuously within its range to a speed lower than that of the driving member, and means to secure no motion with respect to each other between the frictional surfaces when the speeds of the driving and the driven members are equal.

8. A friction speed device comprising a rotatable driving and a rotatable driven member, and means to bring the centers of rotation of said members into and out of alinement to provide variations of speed in the driven member from a speed equal to that of the driving member continuously within its range to a speed higher than that of the driving member.

9. A friction speed device comprising a driving and a driven member, means to provide variations of speed in the driven member from a speed equal to that of the driving member continuously within its range to a speed higher than that of the driving member, and means to secure no motion with respect to each other between the frictional surfaces when the speeds of the driving and the driven members are equal.

10. A friction mechanism comprising a driving shaft, a friction disk carried upon the driving shaft, a driven shaft, a ring to contact with one surface of said disk having a hub rigidly mounted upon the driven shaft, a sleeve journaled upon said hub and upon the driven shaft provided with an additional ring to contact with the opposite surface of said disk, and automatic mechanism to vary the frictional tension of said rings upon said disk as the load varies.

11. A friction mechanism comprising a driving shaft, a friction disk carried upon the driving shaft, a driven shaft, a ring to contact with one surface of said disk having its hub rigidly mounted upon the driven shaft, a spring to exert its tension upon said ring to hold the ring in frictional contact with said disk, a sleeve journaled upon said hub and upon the driven shaft provided with an additional ring to contact with the opposite surface of said disk, and automatic mechanism to increase the frictional tension as the load varies.

12. A friction mechanism embodying a driving shaft, a friction disk carried upon the driving shaft, a driven shaft, a ring to contact with one surface of said disk having its hub rigidly mounted upon the driven shaft, a spring to hold said ring in frictional contact with said disk, a sleeve journaled upon said hub and upon the driven shaft provided with an additional ring to contact with the opposite surface of said disk, means to release the frictional contact of said rings upon said disk, and automatic mechanism to force said rings into frictional engagement with said disk.

13. A friction mechanism comprising a driving shaft, a friction disk carried upon the driving shaft, a driven shaft, a ring to contact with one surface of said disk having its hub rigidly mounted upon the driven shaft, a sleeve journaled upon said hub and upon the driven shaft, provided with an additional ring to contact with the opposite surface of said disk, said hub and said sleeve provided with oppositely disposed cams, and rollers located between said cams for the purpose described.

14. A friction speed mechanism comprising a driving and a driven shaft located end to end when in alinement, a friction disk carried upon the driving shaft, rings to contact with said disk on opposite sides thereof, and automatic mechanism to force said rings into frictional contact with said disks.

15. A friction speed mechanism comprising a driving shaft, a friction disk carried upon the driving shaft made thicker at its center than toward its periphery, rings to contact with said disk on opposite sides thereof, automatic mechanism to force said rings into frictional contact with said disk, and means to release said rings from frictional contact with said disks.

16. A friction mechanism comprising a driving shaft, a friction disk carried thereupon and made thicker at its center than toward the periphery thereof, a driven shaft, and rings carried upon the driven shaft to contact with opposite surfaces of the friction disk, one of said shafts movable into and out of alinement with the axis of the other shaft.

17. A friction speed device comprising a driving and a driven shaft, a frictional body carried by the driving shaft, frictional bodies carried by the driven shaft, said bodies being stationary with respect to each other when the driving and driven shafts revolve with equal speeds.

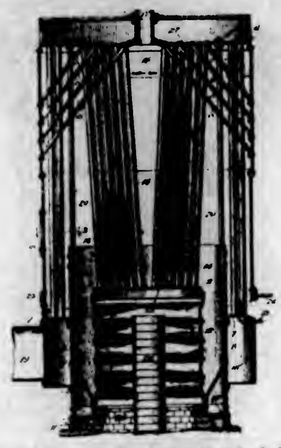
866,187. COLLAR-BUTTON AND SLEEVE-LINK. SAMUEL M. BRYDGES, Nelson, British Columbia, Canada. Filed Feb. 13, 1906. Serial No. 300,889.



A collar button comprising a head, a shank secured thereto and having a recess at its free end, a projection in the bottom of the recess, an approximately oval shape head, pivoted to the shank and having either of its ends adapted to fit in said recess when the head is turned lengthwise in relation to the shank, said ends of the head each having a recess formed therein at one side in which the projection in the U-shaped recess in the shank engages to limit the movement of the head.

866,188. STEAM-GENERATOR. THOMAS R. BUTMAN, Lake Bluff, Ill. Filed Dec. 10, 1906. Serial No. 347,163.

1. A vertical steam boiler comprising a shell, a fire box within said shell, an open-ended annular cylinder, between said fire box and the shell extending above said fire box to provide an annular feed-water space between said shell and cylinder, a series of fire tubes communicating with said fire box and extending through said shell, a series of return fire tubes annularly arranged and passing through said shell in the annular space provided between said shell and cylinder, and a water feed pipe communicating with said feed-water space.



2. A vertical steam boiler comprising a shell, a fire box within said shell, an open-ended annular cylinder between said fire box and shell extending above said fire box to provide an annular feed-water space between said shell and cylinder, a series of fire tubes communicating with said fire box extending through said shell and spaced further from the axis of the boiler at the top than at the bottom, a series of return fire tubes annularly arranged and passing through said shell in the annular space provided between said shell and cylinder, and a water feed pipe communicating with said feed-water space.

3. A vertical steam boiler comprising a shell, a fire box within said shell, an open-ended annular cylinder between said fire box and shell, extending above said fire box to provide an annular feed-water space between said shell and cylinder, a series of fire tubes communicating with said fire box and extending through said shell, a steam discharge opening communicating with the axial space so provided near the top of the shell, a series of return fire tubes annularly arranged and passing through said shell in the annular space provided between said shell and cylinder, and a water feed pipe communicating with said feed-water space.

4. A vertical steam boiler comprising a shell, a fire box within said shell, an open-ended annular cylinder between said fire box and shell extending above said fire box to provide an annular feed-water space between said shell and cylinder, a series of return fire tubes annularly arranged and divided into groups, or sections, to provide spaces at intervals for brace rods, brace rods within said spaces extending from the side walls to the head of the shell.

5. A vertical steam boiler comprising a shell, a fire box within said shell, an open-ended annular cylinder between said fire box and shell extending above said fire box to provide an annular feed-water space between said shell and cylinder, a series of return fire tubes annularly arranged and divided into groups or sections, to provide spaces at intervals for brace rods, brace rods within said spaces extending from the side walls to the head of the shell, a man hole in said shell opening into one of said spaces between contiguous groups or sections of said tubes.

6. A vertical steam boiler comprising a shell of larger diameter, a shell of smaller diameter open at its top end and extending into said shell of larger diameter to a point above the top of the fire box, a fire box within the smaller shell, an annular flue-sheet joining the two shells at the lower end of the large shell, a series of fire tubes communicating with said fire box and extending through said larger shell, a series of return fire tubes annularly arranged and passing through the head of the said larger shell and the said annular flue sheet, and an annular smoke box surrounding the said smaller shell.

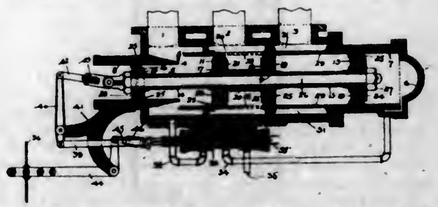
7. A vertical steam boiler comprising a shell of larger diameter, a shell of smaller diameter open at its top end and extending into the said shell of larger diameter to a point above the top of the fire box, vertical brace-rods spaced at intervals and tying the upper end of the said smaller shell to the head in the upper end of the large shell, a fire box within the smaller shell, and an annular flue sheet joining the two shells at the lower end of the larger shell.

8. A vertical steam boiler comprising a shell of larger diameter, a shell of smaller diameter open at its top end and extending into the said shell of larger diameter to a point above the top of the fire box, a fire box within the smaller shell, an annular sheet joining the two shells at the lower end of the larger shell, a water feed pipe communicating with the annular space between the two shells, fire tubes passing through the said annular space, and a blow-off pipe located in or near the bottom of the said space.

9. A vertical steam boiler comprising a shell, conduits through the shell for conducting the heated gases, an open-ended cylinder extending upwardly from the bottom of the shell intermediate the said conduits and the side walls of the said shell, and other conduits for the passage of the heated gases within the space between the said cylinder and shell.

10. In a vertical steam boiler, a fire box having a top flue sheet, a surrounding shell, fire tubes opening through the flue sheet and extending through the shell, and a pier of relatively refractory material extending axially into the fire box for imparting heat to the vertical side walls of said fire box.

866,189. VALVE MECHANISM FOR HYDRAULIC ELEVATORS. IVAR CARLSON and CARL BERGSTROM, Worcester, Mass. Filed Aug. 27, 1906. Serial No. 332,194.



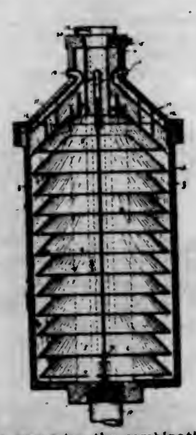
1. In a valve mechanism for hydraulic elevators, the combination of a cylinder having integrally connected therewith and partly contained therein an extension cylinder of a smaller diameter, a piston valve operating in the said cylinder and two pistons connected thereto and operating respectively in each of the said cylinders, a safety valve connected to the said piston valve, an inlet, a pipe to the motor, and an exhaust pipe connected to the said cylinder, ports therein communicating with the said pipes and controlled by the said piston valve, a pilot and cut-off valve attached to the main valve, pipes connecting the said valve with the main valve and an exhaust pipe leading therefrom, a cut-off cylinder therein and extending therethrough connected with the main valve and automatically operated thereby, ports therein leading respectively to the pipes connected therewith, a pilot valve contained in the said cut-off cylinder controlling the said ports and having means for external and independent control, all substantially as described.

2. In a hydraulic elevator the combination with a main valve of a two part valve controlling the movement of the said valve comprising a cylinder and cut-off cylinder therein, and a pilot valve operating within the said cut-off, the pilot and cut-off being arranged to have sliding movements in relation to each other, the cut-off being opera-

tively connected with the main valve, a valve connected with the main valve and automatically operated by means of springs, substantially as described.

3. In a hydraulic elevator the combination of a main valve and a pilot and cut-off valve for controlling the main valve, a cylinder having integrally formed therewith and partly contained therein an extension cylinder of a smaller diameter, an inlet, an elevator cylinder port and an exhaust port therein, a piston valve therein controlling the said ports, a safety valve connected to the said piston valve, whereby communication may be established between the said inlet and elevator cylinder ports, a piston on either side of the piston valve and connected thereto and operating respectively in the said cylinder and extension cylinder, ports also in the said cylinder and pipes connected therewith leading to the said pilot and cut-off valve and establishing communication therethrough between the inlet and that portion of the said cylinder behind the said piston, a cylinder connected to the said main cylinder, ports therein leading to the said pipes and an exhaust port, a cut-off cylinder therein and extending therethrough and connected with the main valve and automatically operated thereby, ports in the said cut-off cylinder communicating respectively with the said ports, a pilot valve in the said cut-off cylinder controlling the said ports in the said cut-off cylinder and having means for external and independent control, all substantially as described.

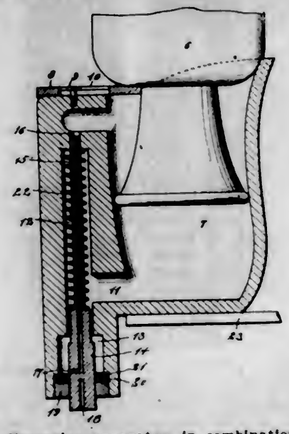
866,190. CREAM-SEPARATOR. MAURICE F. CARRIGAN, Milwaukee, Wis. Filed Jan. 19, 1906. Serial No. 296,811.



1. In a cream separator the combination of a revoluble receptacle, a plurality of vertical standards arranged in a circular series around a common center within and in close proximity to the vertical inclosing wall of said receptacle, a series of conical shaped liner plates provided with a plurality of flanges by which they are supported one above another from each other, the lower liner plate of said series being rigidly connected with the lower end of said standards and each succeeding liner plate above the lower being detachably supported by said flanges from each other around said standards.

2. In a cream separator of the class described the combination of a revoluble receptacle, of a plurality of vertical standards arranged in a circular series around a common center in close proximity to the vertical walls of said receptacle, a plurality of flanges interposed between and adapted to support said liner plates one above another at slight distances apart around said standards, the lower end of said standards being rigidly affixed to and supported from the lower liner plate while the upper ends of said standards have contact bearings against the cover of said receptacle, each successive liner plate between the lower and upper one being provided with a plurality of recesses for the reception of said standards, the upper liner plate of said series being provided with apertures for the reception of the upper ends of said standards whereby when said upper liner plate is in place the upper ends of said standards will be secured together by said liner plates.

866,191. SOAP-DISPENSER. WILLIAM T. CARTER and ERVIN M. DAVIS, Chicago, Ill. Filed Aug. 27, 1906. Serial No. 332,269.



1. In a dispensing apparatus, in combination, a receptacle for the fluid, a cup provided with means to hold the receptacle, a valve casing having a chamber communicating with the cup and a valve in the casing having means to allow discharge of the fluid from the chamber and to simultaneously cut off the communication from the cup to the chamber and to admit air into the upper part of the cup.

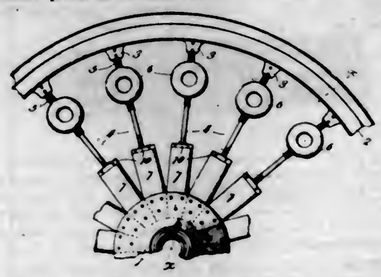
2. In a dispensing apparatus, in combination, a cup, means to supply the same with the fluid to be dispensed, a valve casing having a vertical bore and a chamber at the lower end thereof and a passage from the bottom of the cup through the side of the casing, and a valve plunger movable up and down in the casing and having an outlet port adapted to open from the chamber, and an air vent tube extending upwardly through the bore and opening at its lower end into the chamber and at its upper end into the cup above said passage.

3. In a dispensing apparatus, in combination, a cup, an inverted vessel for the liquid to be dispensed, having a mouth opening into the cup, and sealed by the liquid therein, and adapted to maintain a constant level of liquid in the cup, a valve casing beside the cup, having upper and lower passages communicating with the cup, said passages being located respectively above and below the level of liquid in the cup, and a valve movable in the casing and having a discharge port and also having an air vent tube extending upwardly to said upper passage.

866,192. SPRING-WHEEL. LEOPOLD J. CASTIAU, Strathcona, Alberta, Canada, assignor of one-tenth to Charles F. Hover, Conrad, Mont. Filed Nov. 12, 1906. Serial No. 343,051.

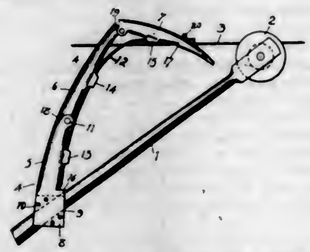
1. In a wheel, the combination of a spoke comprising adjustable sections, an adjustable cylinder slidably mounted upon one of said adjustable sections, and yielding means between a member of said adjustable cylinder and a member of the adjustable sections.

2. In a wheel of the character specified, the combination of sections, means for relatively adjusting said sections, a cylinder slidable upon one of said sections and adapted to turn therewith, said cylinder comprising complemental parts having screw-thread connection to admit of lengthening or shortening the cylinder, a piston fast upon the inner end of the section extended into the cylinder, and yielding means arranged upon opposite sides of the piston and between it and the outer ends of the respective parts of the cylinder.



3. In a wheel of the character specified, the combination of spoke sections having their opposing ends oppositely threaded, a turn-buckle mounted upon the threaded ends of said sections, a cylinder mounted upon one of said spoke sections to slide thereon and to turn therewith, said cylinder comprising complemental parts having screw-thread connection to admit of lengthening or shortening said cylinder, a piston fast to the end of the spoke section extended within the cylinder, and springs arranged upon opposite sides of the piston and concealed within the cylinder and exerting an outward pressure against outer ends of the respective cylinder sections.

866,193. TROLLEY-GUIDE. FRANK G. CLARK, San Francisco, Cal. Filed Feb. 20, 1907. Serial No. 358,387.



1. A trolley guide consisting of a fork secured to the trolley pole near its upper end, each tine of the fork being made in three sections pivotally connected by two knuckle joints, and resilient means for maintaining said sections in a continuous line with each other, said means permitting said sections to bend at the joints when passing a cross wire supporting the overhead or conducting wire, substantially as described.

2. A trolley guide consisting of a fork, the tines of the fork being separable and each made in sections, the lower sections having butts with half round grooves adapted to encircle a trolley pole, screws for clamping said butts upon said pole, the sections of each tine being jointed together, and having shoulders limiting their forward movement, but freely flexible rearwardly, and a spring secured upon the rear edge of each tine for pressing said sections forwards, substantially as described.

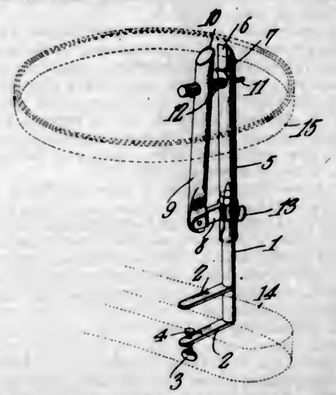
3. A trolley guide consisting of a fork, the tines of the fork being separable and each made in sections, the lower sections having butts with half round grooves adapted to encircle a trolley pole, screws for clamping said butts upon said pole, the sections of each tine being jointed together, and having shoulders limiting their forward movement but freely flexible rearwardly, each section having formed on its rear edge a guideway for a spring, and the outer and inner sections having shoulders to arrest the ends of the spring, and a spring passing through the guideways of the sections of each tine, substantially as described.

866,194. METHOD OF FORMING WATCHCASE-PENDANTS. GEORGE A. DERFLER, Riverside, N. J., assignor to Philadelphia Watch Case Company, Riverside, N. J., a Corporation of New Jersey. Filed Apr. 27, 1906. Serial No. 314,013.



The method hereinbefore described of forming "antique" watch case pendants, consisting in first forming a shell of precious metal and inserting a rod of base metal and greater length therein, then subjecting the same to the action of a die to approximate the form of the finished pendant.

866,195. WORK-HOLDER. MARIE M. O. DILLMAN and MARY L. AUGER, Spokane, Wash. Filed May 8, 1907. Serial No. 372,545.



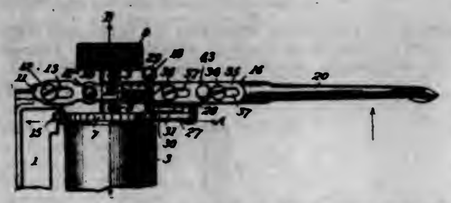
A work holder comprising a shank, jaws integral therewith and extending therefrom, a clamping device carried by one of the jaws, a tubular extension slidably and revolubly mounted upon the shank, an arm extending from and surrounding the extension, means projecting through and engaging the extension and arm for securing the extension against movement upon the shank, said means also constituting a fastener for the arm, a jaw member pivotally connected to the arm, the ends of said tubular extension constituting a jaw disposed to coöperate with the jaw member, means for adjusting said jaw member toward the extension, and resilient spacing means interposed between the extension and jaw member.

866,196. TYPE-WRITING MACHINE. CARL GABRIELSON, Syracuse, N. Y., assignor to L. C. Smith and Bros. Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed Apr. 29, 1904. Serial No. 205,641.

1. In a typewriting machine, the combination with the platen and its ratchet, of a pawl for turning the ratchet to space between lines, an elbow lever carrying said pawl, a rock shaft having an arm, a part interposed between said arm and the elbow lever, and a carriage return handle connected to said shaft.

2. In a typewriting machine, the combination with the platen and its ratchet, of a pawl for turning the ratchet to space between lines, said pawl standing normally apart from the ratchet, a lever carrying said pawl, a spring connecting the pawl with the lever to urge the pawl into

position for engagement with the ratchet, and a second spring operating upon the lever to hold the pawl normally away from the ratchet.



3. In a typewriting machine, the combination with the platen and its ratchet, of a pawl for moving the ratchet, a stop arm carried by the pawl and adapted to engage the ratchet to limit the movement of the pawl, an elbow lever upon which said pawl and stop arm are pivotally mounted, a rock shaft having an arm for moving said elbow lever, and a carriage return handle connected to said rock shaft.

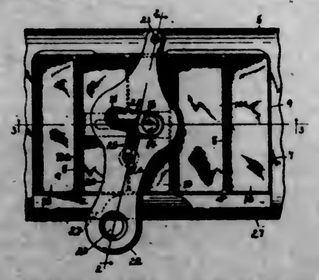
4. In a typewriting machine, the combination with the platen and its ratchet, of a pawl for moving the ratchet, a stop arm rigidly connected to the pawl, a lever carrying said pawl and stop arm, a rock shaft and connections for moving said lever, and an independent stop for limiting the movement of said rock shaft.

5. In a typewriting machine, the combination with the platen and its ratchet, of a pawl moving in the plane of the ratchet for engaging the ratchet to move the platen, and a space regulating device comprising a slide movable parallel to the plane of the ratchet, means for adjusting the slide to different positions, and a support for the spacing pawl carried by the slide and adapted to variably release the pawl and permit it to engage with the ratchet, depending upon the position of the slide.

6. In a typewriting machine, a space regulating device comprising a slide having a space pawl supporting portion, means for guiding the slide, and locking means comprising a spring plunger, a thimble connected to the slide and inclosing and guiding said plunger, a cylindrical handle fitting over said thimble and secured to said plunger, and a series of holes to coöperate with said plunger and hold the slide in different positions.

7. In a typewriting machine, a line space regulating device comprising a slide provided with guide slots and with a pawl supporting flange having inclined surfaces, screws passing through said slots and connecting the slide to the carriage frame, and a locking device for holding the slide in different positions.

866,197. DRAFT-REGULATOR FOR STOVE-DOORS. CHARLES M. GENTHNER, Aurora, Ill., assignor to Rathbone, Sard & Company, Aurora, Ill. Filed Feb. 25, 1907. Serial No. 359,072.



In a draft regulating device, a fixed plate having draft openings therein and provided with a stud, a shutter slidably mounted on said fixed plate and provided with draft openings, a horizontal slot and a stud, a lever pivotally mounted on the fixed plate and provided with a transverse slot receiving the stud on the fixed plate, and with a longitudinal slot fitting the stud on the shutter, and resilient means for holding the fixed plate and the shutter in close frictional contact.

866,198. WATCH. ADOLPH GERSON, New York, N. Y. Filed June 1, 1907. Serial No. 376,796.



1. A watch comprising an outer shell, an upwardly extending annular flange carried by said shell, a removable holder for the watch movement within said shell, said holder being provided with an annular grooved portion adapted to fit the annular flange on said outer shell, said annular grooved portion being provided with a bezel for the crystal.

2. A watch comprising an outer shell, an upwardly extending annular flange carried by said shell, a removable holder for the watch movement within said shell, said holder being provided with an annular grooved portion adapted to fit the annular flange on said outer shell, said annular grooved portion being provided with a bezel for the crystal, and means, controlled by the winding stem for said movement, adapted to releasably hold said holder in position.

3. A watch comprising an outer shell, an upwardly extending annular flange carried by said shell, a removable holder for the watch movement within said shell, said holder being provided with an annular grooved portion adapted to fit the annular flange on said outer shell, said annular grooved portion being provided with a bezel for the crystal, a removable container within said shell adapted to hold the movement, and means, controlled by the winding stem for said movement, adapted to releasably hold said container in position.

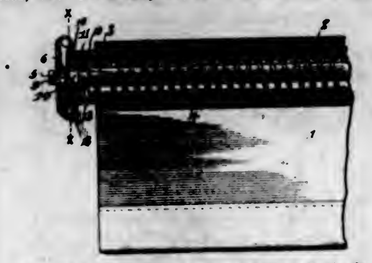
866,199. ADJUSTABLE CLOTHES-PROP. HOWARD H. HAAS, Palo Alto, Pa. Filed Mar. 23, 1907. Serial No. 364,187.



An adjustable clothes prop comprising upper and lower sections, the lower section being provided with transversely alined perforations and having short transverse grooves extending outwardly from the perforations and located at the inner face of the said lower section, a guide consisting of a loop embracing the upper section and having spaced inner side portions seated in the grooves of the lower section and provided at their inner terminals with shanks passing through the said openings and bent at an angle to engage the lower section at the outer face thereof,

and locking means for securing the upper section in its adjustment.

866,200. SHADE-ROLLER. CHARLES N. HINER, Bridgewater, Va. Filed May 25, 1907. Serial No. 375,688.

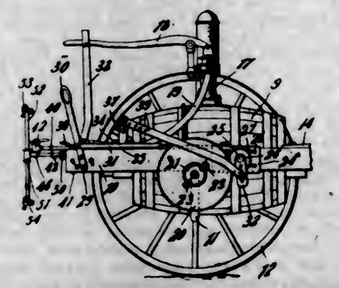


1. The combination of a spring actuated shade roller provided with a spring journal having an intermediate polygonal portion and provided at the inner and outer faces thereof with rounded bearing portions, a clutch casing having a central bearing opening to receive the inner bearing portion of the spring journal and provided with an enlarged central opening and having an angularly disposed recess communicating therewith, a ball operating in the recess of the clutch casing and arranged to engage the polygonal portion of the spring journal, and a metallic cap receiving the clutch casing and connecting the same with the shade roller, said cap being provided at its outer end with a bearing opening fitting the outer bearing portion of the spring journal.

2. The combination with a spring actuated shade roller having a spring journal, of a clutch casing having a central opening to receive the spring journal and provided with an exterior transverse groove, means carried by the clutch casing for engaging the spring journal, and a metallic cap fitting over the clutch casing and the adjacent end of the shade roller and exteriorly grooved or depressed to engage the groove of the clutch casing.

3. The combination with a spring actuated shade roller provided with a spring journal, of a clutch casing having a central opening to receive the spring journal and provided at its periphery with transverse grooves, means carried by the clutch casing for engaging the spring journal, and a metallic cap fitting over the clutch casing and exteriorly grooved to engage the grooves of the said clutch casing, the grooved portions of the metallic cap being extended beyond the casing and engaging the shade roller.

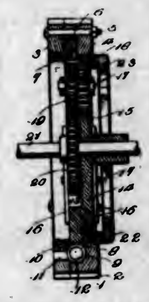
866,201. SPRAYER. HERBERT E. HOLLEY, Pulteney, N. Y. Filed July 30, 1906. Serial No. 328,426.



1. In a spraying apparatus of the character described the combination with a receptacle, a pump communicating therewith, and means for actuating the pump; of a pivotally supported arm, means for securing said arm against movement, a head swiveled upon the arm, a clamping hook adjustably secured to the head, a longitudinally and rotatably adjustable valved tube engaged by said hook, a flexible tubular connection between the valved tube and the pump, a branch tube connected intermediate its ends with the outer end of the valved tube, and a nozzle swiveled to the free ends of the branch tube.

2. In a device of the character described the combination with supporting wheels, a frame carried thereby, a tank, a pump communicating with the tank, and independently operated mechanism for transmitting motion from either wheel to the pump when said wheel is moved in one direction only; of a pivotally supported arm, means for securing said arm against movement, a head swiveled on the arm, a clamping hook secured to the head, a valved tube engaged by the hook, a flexible tubular connection between said tube and the pump, a branch tube connected intermediate its ends with the outer end of the valved tube, and a nozzle movably connected to the free ends of the branch tube.

866,202. TRANSMISSION-GEARING. ENOS M. HOSTETTER, New Providence, Pa. Filed May 24, 1907. Serial No. 375,460.



1. The combination of a plate having an opening formed therein, a shaft carried by the plate and extending through the opening, a pair of pinions mounted upon the shaft and rigid with each other, a gear wheel mounted upon one side of the plate and meshing with one of the pinions, and a second wheel mounted upon the opposite side of the plate and carrying a toothed flange meshing with the opposite pinion.

2. The combination of an outer rim, a plate loosely mounted upon the outer rim and having an opening formed therein, yielding means interposed between the plate and outer rim, a shaft carried by the plate and extending through the opening therein, a pair of pinions mounted upon the shaft and rigid with each other, a gear wheel mounted upon one side of the plate and meshing with one of the pinions, and a wheel mounted upon the opposite side of the plate and meshing with the opposite pinion.

3. The combination of a plate having an opening formed therein, straps extending across the opening upon opposite sides of the plate, a shaft journaled on the straps, pinions mounted upon the shaft, a gear wheel mounted upon one side of the plate and meshing with one of the pinions, and a wheel mounted upon the opposite side of the plate and meshing with the opposite pinion.

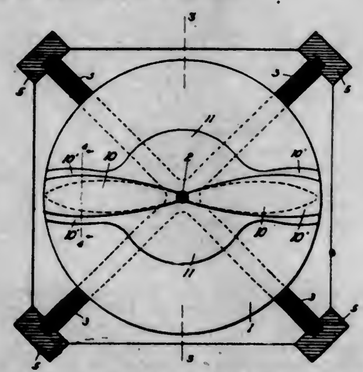
4. The combination of a plate having an opening formed therein, straps extending across the opening upon opposite sides of the plate, a shaft journaled between the said straps, a pair of pinions mounted upon the shaft and rotating with each other, a gear wheel mounted upon one side of the plate and meshing with one of the pinions, and a wheel mounted upon the opposite side of the plate and carrying an annular flange provided with teeth meshing with the opposite pinion.

5. The combination of a plate having an opening therethrough and having a recess upon one side thereof and an enlargement upon the opposite side, straps extending transversely across the opening upon opposite sides of the plate, a pair of pinions mounted upon the shaft and rigid with each other, a gear wheel loosely mounted within the recess upon one side of the plate and meshing with one of

the pinions, and a wheel mounted upon the opposite side of the plate and provided with an annular flange receiving the enlargement upon the plate and formed with teeth meshing with the opposite pinion.

6. The combination of an outer rim, a plate loosely mounted upon the outer rim and provided upon one side with a recess and upon the opposite side with an enlargement, the said plate being formed with an opening, yielding means between the plate and the outer rim, straps extending transversely across the opening upon opposite sides of the plate, a shaft journaled between the straps, a pair of gear wheels mounted upon the shaft and rigid with each other, a gear wheel mounted within the recess upon one side of the plate and meshing with one of the pinions, and a wheel provided with an annular flange receiving the enlargement upon the opposite side of the plate and formed with teeth meshing with the opposite pinion.

866,203. APPARATUS FOR LOADING COAL INTO VESSELS. JOHN A. JOHNSON, Tacoma, Wash. Filed Jan. 25, 1907. Serial No. 354,132.



1. An apparatus of the character described comprising a head having a concaved upper face adapted to have the fuel deposited thereon, said head being supported for rotation and vertical adjustment, for the purpose specified.

2. An apparatus of the character described comprising a head having a concaved upper face, and a shaft to which said head is secured, said shaft being supported for rotation and vertical adjustment, for the purpose specified.

3. An apparatus of the character described comprising a head, having a concaved upper face and a shaft supported for rotation to which said head is secured, said head having surfaces on opposite sides of said shaft which are inclined outwardly in a downward direction and adapted to have the fuel deposited thereon for the purpose specified.

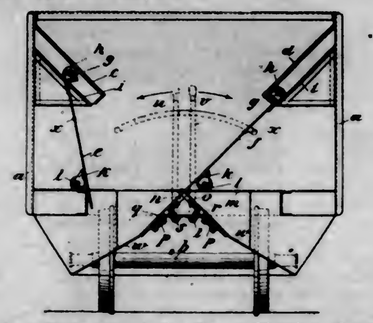
4. An apparatus of the character described comprising a head, and a shaft supported for rotation to which said head is secured, said head having ribs on its upper surface extending outwardly from said shaft, the sides of said ribs being curved inwardly, for the purpose specified.

5. An apparatus of the character described comprising a head, having a concaved upper face and a shaft supported for rotation to which said head is secured, said head having ribs on its upper surface and opposite surfaces inclined outwardly from said shaft in a downward direction.

6. In an apparatus of the character described, vertical guides, means slidably engaged with said guides, a shaft rotatably supported in said means and secured thereto, and a head secured to said shaft above said means adapted to have the fuel deposited thereon for the purpose specified.

7. In an apparatus for loading boats with coal, vertical guides in the boat, means slidably engaged with said guides, a shaft rotatably supported in said means, a head on said shaft adapted to have the coal deposited thereon, and means on the deck of the boat to transmit power to said shaft to rotate the same for the purpose specified.

866,204. AUTOMATIC DISCHARGING DEVICE. THEODOR KOPF, Uerdingen, Germany. Filed Mar. 4, 1907. Serial No. 360,612.



1. In a discharging device the combination of movable walls obliquely arranged, means to lead said walls outwards and upwards by pressure of the load, said walls being arranged to return by gravity, means to limit the outward and upward movement before the walls reach the vertical position, inclined plates below said movable walls, means for keeping the walls in the closed position, and means for releasing the keeping mechanism, substantially as and for the purpose set forth.

2. In a discharging device the combination of movable walls obliquely arranged, rollers on the top and near the bottom of said obliquely arranged movable walls, oblique rails on which the upper rollers rest, rails on which the lower rollers rest, means for keeping said walls in the closed position, means to release the keeping mechanism, said walls being adapted to return to the position of rest by gravity, inclined plates below said obliquely arranged movable walls, and means to limit the outward and upward movement of the walls, substantially as and for the purpose set forth.

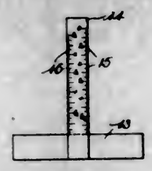
3. In a discharging device the combination of two oblique walls, opposite one another, movably arranged lower parts of said walls, rollers at the top and near the bottom of said movably arranged walls, rails on which said rollers rest, inclined plates below said movably arranged walls, mechanism for keeping said walls in the closed position, means to release the keeping mechanism and means to limit the outward and upward movement of the walls, substantially as and for the purpose set forth.

4. In a discharging device the combination of two oblique walls opposite one another, movably arranged lower parts of said walls, rollers at the top and near the bottom of said walls, rails on which said rollers rest, inclined plates below said movably arranged walls, bolts adapted to keep said movably arranged walls in the closed position, springs acting on said bolts, means to withdraw said bolts, and means to limit the outward and upward movement of the walls, substantially as and for the purpose set forth.

5. In a discharging device, the combination of two oblique walls opposite one another, movably arranged lower parts of said walls, rollers at the top and near the bottom of said walls, rails on which said rollers rest, inclined plates below said walls, bolts adapted to keep said walls in the closed position, springs acting on said bolts horizontally situated shafts attached to said bolts, hand levers fixed on said shafts and projections suitably adapted to limit the outward and upward movement of the walls, substantially as and for the purpose set forth.

6. In a discharging device, the combination of two oblique walls opposite one another, movably arranged lower parts of said walls, rollers at the top and near the bottom of said walls, inclined rails on which the upper rollers move, horizontal rails on which the lower rollers move, inclined plates below said walls, bolts adapted to keep said walls in the closed position springs acting on said bolts, horizontally arranged shafts rigidly connected to said bolts, hand levers fixed on said shafts and projections adapted to limit the outward and upward movement of the walls, substantially as and for the purpose set forth.

866,205. DEVICE FOR LAYING OUT AND SETTING UP MOLDING-CUTTERS. CHARLES LEE, Cambridge, Mass. Filed Jan. 9, 1906. Serial No. 295,266.



1. A tool having two graduated scales thereon for laying out the cutting edge of a cutter adapted to be fastened to the rotary cutter head of a molding machine, with the front face of said cutter in a plane parallel to and located at a distance from the axis of said cutter head, the distance between any two graduation marks of one of said scales differing from the distance between any two corresponding graduation marks of the other of said scales relatively to the zero points of each of said scales, respectively, by an amount sufficient to compensate for the loss in distance from the axis of said cutter head, of a measurement laid off in a plane transversely of said cutter head and outwardly from a given point, as compared with the same measurement laid off from said point radially from said axis.

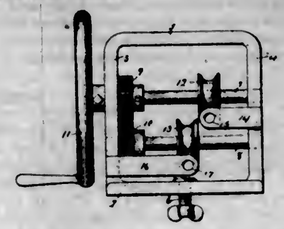
2. A tool for laying out the cutting edge of a cutter for molding machines, said tool having two graduation scales thereon, the distance between any two graduation marks of one of said scales differing from the distance between any two corresponding graduation marks on the other of said scales relatively to the zero points of each of said scales, respectively, by an amount equal to the corresponding overhang of the cutting edge of said cutter.

3. A tool for laying out the cutting edge of a cutter for molding machines, said tool having two graduated scales thereon, the distance between any two graduation marks of one of said scales differing from the distance between any two corresponding graduation marks of the other of said scales relatively to the zero point of said scales, respectively, by an amount sufficient to compensate for the loss in distance from the axis of a rotary cutter head, to which said cutter is fastened, with the front face of said cutter in a plane parallel to and located at a distance from the axis of said cutter head, of a measurement laid off in a plane transversely of said cutter head and outwardly from a given point as compared with the same measurement laid off from said point radially from said axis.

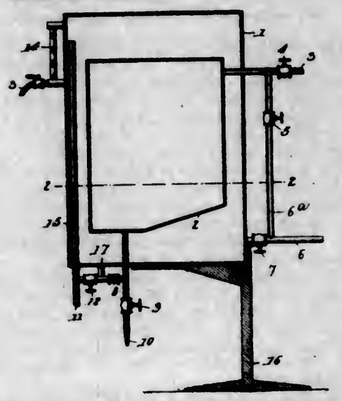
4. A T-square for laying out the cutting edge of a cutter, having a blade with two graduated scales thereon, the distance between any two graduations of one of said scales differing from the distance between any two corresponding graduations of the other of said scales relatively to the zero point of said scales, respectively, by an amount equal to the corresponding overhang of the cutting edge of said cutter.

866,206. CLOTHES-LINE WINDLASS. WILLIAM C. MANNING, New Haven, Conn., assignor of one-third to Harman A. Snyder, New Haven, Conn. Filed May 15, 1907. Serial No. 373,807.

The herein described clothes line windlass comprising a frame, two parallel shafts mounted therein, means for driving said shafts, grooved rollers mounted on said shafts in different vertical planes, said frame provided with inwardly extending arms, and holes in said arms in line with the grooves in said rollers.



866,207. COMBINED WATER STILL AND HEATER. FRANCIS E. MAXSON, Harmony, Minn. Filed Jan. 28, 1907. Serial No. 354,435.



1. A combined water still and heater having, in combination, a jacket provided with a cold water supply pipe, a condenser within the jacket, having a steam inlet pipe and an outlet pipe for the distilled water, and a valved pipe connecting the condenser to the jacket and arranged to conduct hot water from the former into the latter when desired.

2. A combined water still and heater having, in combination, a jacket provided with a cold water supply pipe, a condenser within the jacket, having an inlet pipe for steam and a valved outlet pipe for the distilled water, and a pipe connecting said outlet pipe and the jacket and having a check valve arranged to open from said outlet pipe to the jacket when the valve in said outlet pipe is closed.

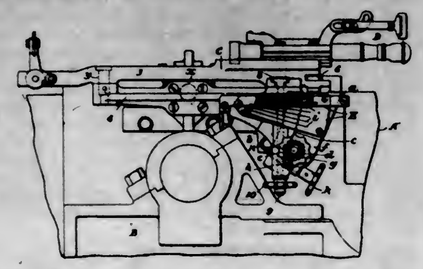
3. In a combined water still and heater, in combination, a jacket having a cold water inlet and an overflow outlet, a condenser inclosed in the jacket and having a steam inlet and a valved distilled water outlet, and a drain pipe extending from the bottom of the jacket and having a valved connection to the over-flow outlet, and also having a connection to the distilled water outlet provided with a check valve, substantially as described.

4. The combination with a condenser having a steam inlet pipe and an outlet, of a jacket inclosing the condenser and having a water inlet pipe, and a valved connecting pipe between the water inlet pipe and the steam inlet pipe, to flush the condenser when desired.

866,208. SIGHTING DEVICE. JOHN F. MEIGS, HERMAN G. JAKOBSSON, and SAMUEL BRAND, South Bethlehem, Pa., assignors to Bethlehem Steel Company, South Bethlehem, Pa., a Corporation of Pennsylvania. Filed Feb. 13, 1906. Serial No. 300,898.

1. The combination with a gun and its carriage, of sighting devices, a scale plate having diverging lines, each

indicating by its angle a determined amount, and a vernier plate graduated to show divisions of said amount, and overlying the said plate, one of the said parts connected to move with the gun and the other having a fixed relation to the sighting devices and adjustable in respect to that on the gun, substantially as set forth.



2. The combination with a gun and sighting devices adjustable in respect thereto, of a scale plate having diverging lines each indicating a predetermined amount, and a vernier graduated to equal divisions of said amount, one of said parts connected to move with the gun and the other having a fixed relation to and moving with the sighting devices, substantially as set forth.

3. The combination with a gun, of a bracket pivoted to swing in respect to the gun and sighting devices connected to move therewith, a scale plate with diverging lines, and a vernier plate extending over the scale plate, one of said parts connected with the bracket and the other with the gun, substantially as set forth.

4. The combination with a gun, of a bracket pivoted to swing in respect to the gun sighting devices connected to move with the bracket, a scale plate with lines diverging from the pivotal point of the bracket, and a vernier plate extending over the scale plate, one of said parts connected with the bracket and the other with the gun, substantially as set forth.

5. The combination with a gun, of a bracket pivoted to swing in respect to the gun, sighting devices connected to move with the bracket, a scale plate with lines diverging from the pivotal point of the bracket, and a vernier plate extending over the scale plate and graduated to divisions of the amount indicated by any one line, and with short edges *v* at right angles to the line of said plate.

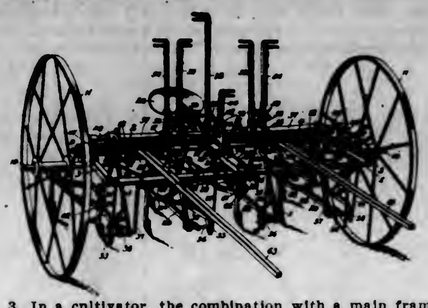
6. The combination with a gun, of a bracket pivoted to swing in respect to the gun, sighting devices carried by said bracket, a scale plate with diverging lines the highest point on one line on the same reading plane as the lowest point of the next line, and a vernier plate extending over the scale plate, one of said parts connected with the bracket and the other with the gun, substantially as set forth.

7. The combination with the two-part bracket of a connecting pivot, one part adapted to support sighting devices and the other for connection with a gun, of a T-headed bolt extending through one part and carrying a nut and a dove-tailed slot in the other part adapted to receive the head of said bolt, substantially as set forth.

866,209. TWO-ROW CULTIVATOR. LINCOLN H. MILLEN and JAMES A. SMETHERS, Beatrice, Nebr. Filed Oct. 24, 1906. Serial No. 340,370.

1. In a cultivator, the combination of a main frame, cultivating devices carried by the main frame, an axle, a seat mounted on the main frame and extending in rear of the axle, and means for adjustably securing the main frame to the axle for moving the main frame backwardly or forwardly on the axle to balance the cultivator.

2. In a cultivator, the combination of a main frame provided with sides having perforations arranged at intervals, bearings adjustable backwardly and forwardly on the sides of the main frame and provided with fastening devices arranged in the said perforations, axles having pivots fitting in the said bearings, and operating mechanism connected with the axles.



3. In a cultivator, the combination with a main frame, and cultivating devices, of pivotally mounted axles, an intermediate lever having opposite arms connected with the axles, foot levers, and flexible connections extending from the intermediate lever to the foot levers.

4. In a cultivator, the combination with a main frame, pivotally mounted axles provided with transverse arms, an intermediate lever extending across the space between the said arms and fulcrumed between its ends, said lever being connected with the arms of the axles, foot levers fulcrumed on the frame, and flexible connections extending from the intermediate lever to the foot levers.

5. In a cultivator, the combination with a main frame, of pivoted axles having arms, an intermediate lever connected with the arms of the axles, guide pulleys spaced from the intermediate lever, flexible connections connected with the intermediate lever at opposite sides of the fulcrum thereof and extending to and depending from the said pulleys, and foot levers connected with the depending portions of the flexible connections.

6. In a cultivator, the combination of a main frame, axles provided at their inner ends with upwardly extending pivots mounted on the main frame, arched arms extending transversely of the cultivator from the axles at the lower end of the said pivots, a centrally pivoted intermediate lever connected with the arched arms and completing the arches, and operating mechanism connected with the intermediate lever.

7. In a cultivator, the combination of a main frame, inclined arch supporting frames slidably connected at the top with the main frame, arches connected with the said supporting frames at the bottom thereof, and operating mechanism connected with the arches for moving the same laterally of the main frame.

8. In a cultivator, the combination of a main frame, inclined arch supporting frames slidably connected at the top with the main frame at the rear portion thereof, arches mounted on the supporting frames at the lower portions thereof, oscillatory braces extending from the front portion of the main frame to the arch supporting frames, and means for adjusting the arches laterally of the main frame.

9. In a cultivator, the combination of a main frame, inclined arch supporting frames slidably connected at the back with the main frame, means hinged to the front of the main frame for connecting the supporting frames with the same, arches mounted on the inclined supporting frames, and operating mechanism for moving the arches laterally of the main frame.

10. In a cultivator, the combination of a main frame provided at the back with a transverse bar, inclined arch supporting frames extending downwardly and forwardly from the transverse bar and provided with rearwardly projecting lugs engaging the bar at the upper face thereof, antifriction devices mounted on the arch supporting frames and fitting against the transverse bar at the lower face thereof, arches connected with the supporting frames at the front portions thereof, and means for adjusting the arches laterally of the main frame.

11. In a cultivator, the combination of a main frame,

arch supporting frames slidably connected with the rear portion of the main frame, braces hinged to the front portion of the main frame and connected with the said supporting frames, arches carried by the supporting frames, plow beams connected with the arches, and operating mechanism also connected with the arches for moving the same laterally of the main frame.

12. In a cultivator, the combination of a main frame, arch supporting frames movable laterally of the main frame, arches carried by the supporting frames, an intermediate lever connected with the arches for moving the same laterally of the main frame, and operating means for the said lever.

13. In a cultivator, the combination of a main frame, arch supporting frames movably connected with the main frame, arches carried by the supporting frames, an intermediate lever mounted on the main frame and connected with the arches, and an operating lever located in rear of and connected with the intermediate lever.

14. In a cultivator, the combination of a main frame, inclined arch supporting frames connected at the top with the rear portion of the main frame, hanger bars depending from the front of the main frame and connected with the front portions of the supporting frames, arches carried by the supporting frames, and means for adjusting the arches.

15. In a cultivator, the combination of a main frame, inclined arch supporting frames connected at the top with the main frame, hanger rods depending from the main frame and connected with the lower portions of the supporting frames, oscillatory braces connecting the upper portions of the supporting frames with the main frame, arches carried by the supporting frames, and means for adjusting the arches.

16. In a cultivator, the combination of a main frame, inclined arch supporting frames slidably connected with the main frame and extending downwardly and forwardly from the main frame, hangers depending from the main frame and connected with the lower portions of the supporting frames, oscillatory braces extending rearwardly from the main frame to the upper portions of the supporting frames, arches mounted on the supporting frames, and means for adjusting the arches laterally of the main frame.

17. In a cultivator, the combination of a main frame, inclined arch supporting frames slidably connected at the top with the main frame and provided with laterally projecting members, hangers depending from the main frame and connected to the laterally extending members of the supporting frames, arches having laterally extending pivots connected with the supporting frames and with the laterally extending members thereof, and means for adjusting the arches.

18. In a cultivator, the combination of a main frame, cultivating devices movable upwardly and downwardly, a continuous transverse shaft extending across the cultivator, inner side levers loosely mounted on the shaft and provided with arms, outer side levers also mounted on the shaft and provided with outwardly extending sleeves having arms, means for adjustably connecting the side levers with the shaft for locking the arms rigid with the same, means for connecting the arms with the cultivating devices, and means for operating the shaft for adjusting the cultivating devices simultaneously.

19. In a cultivator, the combination with a main frame, and cultivating devices, of a continuous transverse shaft extending across the main frame, ratchet devices fixed to the shaft, inner and outer side levers loosely mounted on the shaft at opposite sides of the ratchet devices and provided with means for adjustably engaging the same, the inner side levers being provided with arms, outer arms spaced from and connected with the outer side levers, and means for connecting the arms with the cultivating devices.

20. In a cultivator, the combination with a main frame, and cultivating devices, of a transverse shaft mounted on the main frame and extending across the cultivator, a main lever fixed to the shaft, inner and outer side levers, arms connected with the inner and outer side levers and the cultivating devices, means for adjustably securing the side levers to the shaft, and means for securing the main lever in its adjustment.

21. In a cultivator, the combination of a main frame having intermediate and side bearings, the intermediate bearings being provided with a ratchet member, cultivating devices, a continuous transverse shaft journaled in the said bearings, a main lever fixed to the shaft and provided with means for engaging the said ratchet member, inner and outer independently adjustable side levers loosely mounted on the continuous shaft and arranged in pairs, said side levers being provided with arms connected with the cultivating devices, and means for locking the side levers rigid with the shaft.

22. In a cultivator, the combination of a main frame, a continuous shaft extending across the main frame, inner and outer plow beams arranged in pairs, inner side levers loosely mounted on the shaft and provided with arms connected with the inner plow beams, outer side levers having sleeves provided with arms connected with the outer plow beams, means for adjustably connecting the side levers with the shaft, and means for operating the shaft.

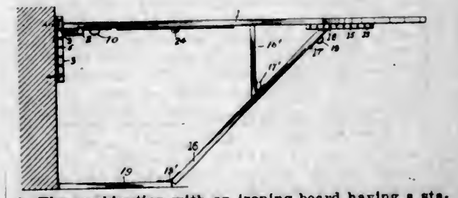
23. In a cultivator, the combination of a main frame, inclined arch supporting frames slidably connected at the top with the main frame, arches also slidably connected at the top with the main frame and mounted on the arch supporting frames at the bottom thereof, and means for moving the arches transversely of the machine.

24. In a cultivator, the combination of a main frame, inclined arch supporting frames slidably connected at the top with the main frame at the rear thereof and extending downwardly and forwardly, arches mounted on the supporting frames, guides depending from the main frame and receiving the tops of the arches, and means for moving the arches transversely of the cultivator.

25. In a cultivator, the combination of a main frame provided with draft beams, arch supporting frames slidably mounted on the main frame, guides depending from the draft beams, arches slidable in the guides and connected at the bottom with the supporting frames, and means for moving the supporting frames transversely of the cultivator.

26. In a cultivator, the combination of a main frame, inclined arch supporting frames slidably connected at the top with the main frame and having bearings at the bottom, arches provided at the bottom with laterally extending pivots arranged in the said bearings, guides slidably connecting the tops of the arches with the main frame, and beams mounted on the said pivots and having cultivating devices.

866,210. IRONING-BOARD. ORLANDO MOORE, Visalia, Cal. Filed Mar. 6, 1905. Serial No. 248,771.

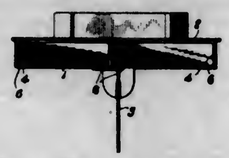


1. The combination with an ironing board having a stationary bar and a swinging bar at the inner end, said bars having outwardly extending studs at their free ends, means for yieldably supporting said movable bar, supporting members having means for connecting to a stationary structure and provided with spaced apertures with which said studs are adapted to be detachably engaged, a brace member swinging at one end from said board and with a plate swinging from the free end of said brace and bearing upon the floor and against the stationary structure to which the board is attached.

2. The combination with an ironing board, a stationary bar and a swinging bar connected to said board at one end and provided with out-turned studs, spaced members adapted to be secured to a stationary support and provided with

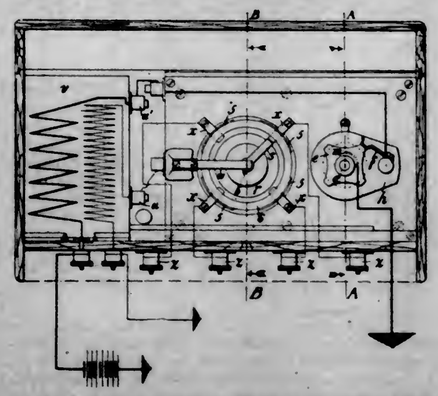
spaced apertures for receiving said lateral studs, a spring operating to maintain said swinging bar yieldably in engagement with one of said spaced members, a plate connected beneath said board and provided with depending edges having transverse apertures, a brace having bars swinging at one end therefrom and provided with outturned studs for detachably engaging the apertures in the depending edges of said plate, a spring operating to maintain said swinging bars in distended position, a plate swinging from the free end of said brace member and bearing upon the floor over which the board is disposed and against the supporting structure, and a stay member swinging from said brace and bearing against said board.

866,211. DISPLAY-CARTON. WINFIELD S. MORRISON, San Francisco, Cal. Filed Oct. 29, 1906. Serial No. 341,152.



A carton comprising a receptacle having a side with a front display surface and a rear sheltered surface, channels located at the rear surface and being separated from each other by a partition, a sheet located at the back of a carton and having an opening, the lower and side edges of which extend within the lower and side edges of the said channels, and a tongue projecting into said opening and extending along said partition and terminating short of the upper end thereof, said tongue having its opposite side edges extending beyond the side edges of the partition, and a supporting easel attached to the tongue and sheet and bridging space between the end of the tongue and the body of the sheet.

866,212. CURRENT-DISTRIBUTER FOR SPARKING DEVICES. MONTAGUE S. NAPIER, London, England. Filed Sept. 26, 1904. Serial No. 226,050.



1. In an electrical ignition device, the combination of two rotatable shafts, geared together; an interrupting device operated by one of said shafts and acting to make and break the low tension circuit of an induction coil; a distributing device operated by the other of said shafts and comprising a rotatable contact piece coacting with a plurality of fixed contact pieces to distribute the induced high tension current to the required sparking points; means for timing the sparks, said means including adjustable elements co-axial respectively with said interrupter and distributer shafts, the element co-axial with said distributer shaft carrying intermediate contact pieces equal in number to said fixed contact pieces and in slidable contact therewith.

2. In an electrical ignition device, the combination of two rotatable shafts; a casing through a wall of which said shafts pass; means disposed without said casing for gearing together said shafts and disposed within said casing an interrupting device operated by one of said shafts and acting to make and break the low tension circuit of an induction coil; a distributing device operated by the other of said shafts and comprising a rotatable contact piece co-acting with a plurality of fixed contact pieces to distribute the induced high tension current to the required sparking points; means for timing the sparks, said means including adjustable elements co-axial respectively with said interrupter and distributer shafts, the element co-axial with said distributer shaft carrying intermediate contact pieces equal in number to said fixed contact pieces and in slidable contact therewith.

3. In an electrical ignition device, the combination of two rotatable shafts geared together; an interrupting device operated by one of said shafts and acting to make and break the low tension circuit of an induction coil; a distributing device operated by the other of said shafts and comprising a rotatable contact piece co-acting with a plurality of fixed contact pieces to distribute the induced high tension current to the required sparking points; means for timing the sparks, said means including adjustable elements co-axial respectively with said interrupter and distributer shafts, the element co-axial with said distributer shaft carrying a contact piece in slidable contact with a fixed contact piece.

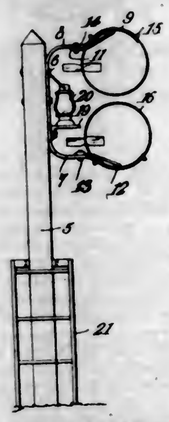
4. In an electrical ignition device, the combination of two rotatable shafts geared together; an interrupting device operated by one of said shafts and acting to make and break the low tension circuit of an induction coil; a distributing device operated by the other of said shafts and comprising a rotatable contact piece co-acting with a plurality of fixed contact pieces to distribute the induced high tension current to the required sparking points; means for timing the sparks, said means including adjustable elements co-axial respectively with said interrupter and distributer shafts, the element co-axial with said distributer shaft carrying intermediate contact pieces also arranged on a zig-zag manner, said intermediate pieces being equal in number to said fixed contact pieces and in slidable contact therewith.

5. In an electrical ignition device, the combination of two rotatable shafts geared together; an interrupting device operated by one of said shafts and acting to make and break the low tension circuit of an induction coil; a distributing device operated by the other of said shafts and comprising a rotatable contact piece co-acting with a plurality of fixed contact pieces arranged in a zig-zag manner to distribute the induced high tension current to the required sparking points together with means for timing the sparks, said means including adjustable elements co-axial respectively with said interrupter and distributer shafts, the element co-axial with said distributer shaft carrying intermediate contact pieces also arranged on a zig-zag manner, said intermediate pieces being equal in number to said fixed contact pieces and in slidable contact therewith.

6. In an electrical ignition device, the combination of two rotatable shafts geared together; an interrupting device operated by one of said shafts and acting to make and break the low tension circuit of an induction coil; a distributing device operated by the other of said shafts and comprising a rotatable contact piece co-acting with a plurality of fixed contact pieces to distribute the induced high tension current to the required sparking points; means for timing the sparks, said means including adjustable elements co-axial respectively with said interrupter and distributer shafts, the element co-axial with said distributer shaft carrying intermediate contact pieces equal in number to said fixed contact pieces and in slidable contact therewith; a casing containing all the electrical portions of the complete device above set forth together with connections from said fixed contacts to an equal number of terminals fixed on the outside of said casing, said connections being separated from the rotatable elements within said casing by a fixed partition.

7. In an electrical ignition device, the combination of two rotatable shafts geared together; an interrupting device operated by one of said shafts and acting to make and break the low tension circuit of an induction coil; a distributing device operated by the other of said shafts and comprising a rotatable contact piece co-acting with a plurality of fixed contact pieces to distribute the induced high tension current to the required sparking points; means for timing the sparks, said means including adjustable elements co-axial respectively with said interrupter and distributer shafts, the element co-axial with said distributer shaft carrying a contact piece in slidable contact with a fixed contact piece and contacting with said rotatable contact piece.

866,213. TRAIN-ORDER DEVICE. JOHN C. NEEL, Jr., Sheridan, Wyo. Filed Dec. 22, 1906. Serial No. 349,083.



1. A train-order delivering device comprising a support, and a hoop carried by the support and having its walls pierced by a circumferential V-shaped slot adapted to receive the order to be delivered.

2. A train-order delivering device comprising a support and superposed hoops detachably secured to the support and each provided with a circumferential slot the walls of which are inclined towards one end thereof and adapted to engage the order to be delivered.

3. A train-order delivering device comprising a standard, spaced arms secured to the standard, clamping devices carried by the arms, and message-holding devices detachably engaging the clamping members and each formed of a flat piece of metal bent to form a hoop the walls of which are pierced by a substantially V shaped slot adapted to receive the message.

4. A train-order delivering device comprising a standard, spaced arms extending laterally from the standard, clamping members disposed on opposite sides of the arms, and message-supporting devices engaging the clamping members and each formed of a flat piece of metal bent into substantially circular form and provided with a V shaped slot adapted to receive the message.

5. A train-order delivering device comprising a standard, arms extending laterally from the standard, a spring clamping member secured to one side of the arm, transverse rods secured to the opposite side of the arm, and a message-holding device engaging the clamping member and bearing against said rods.

6. A train order delivering device comprising a standard, an arm extending laterally from the standard and having its free end curved laterally, a clamping member secured to said arms and bearing against the curved end thereof, and a hoop engaging the clamping member and provided with means for supporting the order to be delivered.

7. A train-order delivering device comprising a standard, a bracket secured to the standard and provided with spaced angularly disposed arms the ends of which are curved laterally, clamping devices secured to the inner faces of the arms and extending laterally in opposite directions on each side of the arms at the curved portion thereof, rods extending transversely across the arms on the outer faces thereof, and hoops engaging the clamping arms and bearing against said rods, said hoops being provided with means for supporting the message to be delivered.

8. A train-order delivering device comprising a standard, a bracket secured to the standard and provided with spaced angularly disposed arms the ends of which are curved laterally and provided with clamping members, an extension secured to the bracket between said arms, and hoops engaging the clamping members and bearing against the adjacent longitudinal edges of the arms at the curved portions thereof, said hoops being provided with means for supporting the order to be delivered.

9. A train-order delivering device comprising a standard, a supporting bracket secured thereto and provided with angularly disposed arms, clamping members secured to the free ends of the arms, hoops engaging the clamping members and provided with means for supporting the order to be delivered, and a catching tool having one end thereof formed with a hook and provided with inclined spring clamping tongues adapted to engage the hoops.

10. A train-order delivering device comprising a standard, an arm extending laterally from the standard and having its free end inclined downwardly, a clamping member formed of a single piece of wire an intermediate portion of which is bent upon itself to form a loop and its free ends extended in opposite directions on each side of the arms to form clamping jaws, a fastening device carried by the arm and engaging the looped end of the clamping member, rods extending transversely across the arm and disposed in staggered relation with respect to the clamping jaws, and a message-holding device clamped in position on the arm by engagement with the jaws.

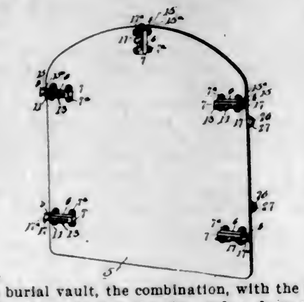
11. A train-order delivering device comprising a support, an arm secured to the support and having its free end curved laterally, a clamping member carried by the arm, and a message holding device curved to conform to the shape of the arm and adapted to bear against the adjacent longitudinal edge of the latter, said message holding device being locked in position on the arm by engagement with the clamping member.

866,214. METALLIC BURIAL-VAULT. ALBERT J. PERKS, Springfield, Ohio, assignor to The Champion Chemical Company, Springfield, Ohio, a Corporation of Ohio. Filed Aug. 4, 1906. Serial No. 329,211.

1. In a burial vault, the combination, with a body portion having an annular flange near one end thereof, of a removable door, means for adjusting said door relatively to said flange, a spring-actuated sliding bolt carried by said door and having its opposite faces beveled, one face to engage said flange and retract said bolt, and the other face to engage said flange and retain said door in its adjusted position, substantially as described.

2. In a burial vault, the combination, with the body portion having a projection therein, and a door adjustable relatively to said projection, of a locking device for said door comprising a housing having a slot therein, a bolt slidably mounted in said housing, a spring confined between said bolt and one end of said housing, a part car-

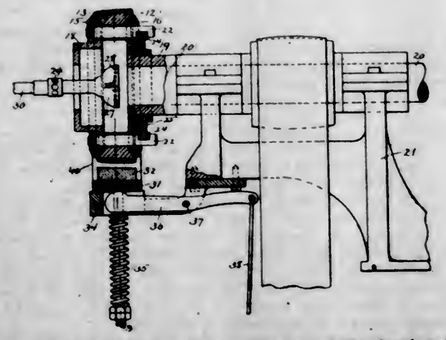
ried by said bolt and extending through said slot, and a member adapted to be connected to said housing and to engage the part extending through said slot to retain said bolt in its retracted position, said bolt having an inclined face adapted to engage the projection on said body portion and to retract the bolt against the pressure of said spring.



3. In a burial vault, the combination, with the body portion having a projection therein, and a door adjustable relatively to said projection, of a locking device for said door comprising a housing having a plurality of slots therein, a bolt slidably mounted in said housing, a spring confined between said bolt and one end of said housing, a lug on said bolt extending through one of said slots in said housing, and means for engaging said lug to retain said bolt in its retracted position, and an inclined nose near the outer end of said bolt in alinement with the other of said slots and adapted to engage the projection on said body portion and retract said bolt against the pressure of said spring.

4. In a burial vault, the combination, with a body portion having a projection therein and a door adjustable relatively to said projection, of a locking device for said door comprising a housing having a slot therein, a lug on said housing, a bolt slidably mounted in said housing, a spring confined between said bolt and one end of said housing, a lug on said bolt extending through the slot in said housing, an inclined face on said bolt adapted to engage the projection on said body portion and retract said bolt against the pressure of said spring, and means for engaging said lugs to retain said bolt in its retracted position, substantially as described.

866,215. FINISHING OR BURNISHING MACHINE. JOSEPH A. PINE, Marlboro, Mass. Filed Sept. 8, 1906. Serial No. 333,777.

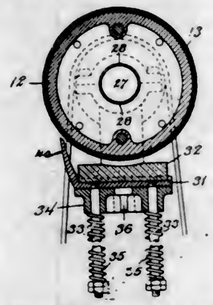


1. A waxing machine comprising a rotary chambered carrier having a circular periphery and side clamping members, movable complemental clamping members, at opposite sides of the carrier, means for simultaneously adjusting said movable members, and a cover adapted to be secured by the clamping members.

2. A waxing machine comprising a rotary chambered carrier having a circular periphery, clamping members at opposite sides of said periphery and guides projecting in opposite directions from the carrier, complemental movable clamping members movable on said guides, means for simultaneously adjusting said movable members, and a cover adapted to be secured by the clamping members.

3. A waxing machine comprising a rotary chambered carrier having a circular periphery, clamping members at opposite sides of said periphery and guides projecting in opposite directions from the carrier, complemental movable clamping members movable on said guides, one of said movable members having studs passing through guides in the carrier and in the other movable member, and a rotary adjuster on one of said guides having cams engaging said studs.

866,216. FINISHING OR BURNISHING MACHINE. JOSEPH A. PINE, Marlboro, Mass. Filed June 6, 1907. Serial No. 377,545.

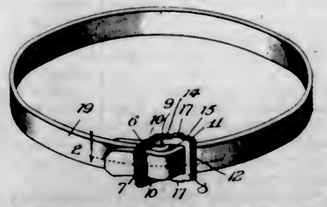


1. A waxing machine comprising a rotary heated wax carrier, a fixed arm or bracket adjacent to the periphery of the carrier, a wax holder supported by the arm, and movable toward and from the carrier, and means for moving the wax holder toward the carrier to apply wax to the cover, the said arm and carrier having complemental means for guiding the carrier.

2. A waxing machine comprising a rotary heated wax carrier, a fixed arm or bracket adjacent to the periphery of the carrier, a wax holder supported by the arm and movable toward and from the carrier, the said arm and carrier having complemental guide members, means controlled by the operator for moving the holder toward the periphery of the carrier, said means including a lever fulcrumed on the frame of the machine and engaging the wax holder, and means for automatically moving the holder away from the carrier.

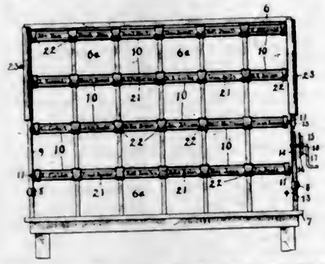
3. A waxing machine comprising a rotary heated wax carrier, a wax holder movable toward and from the carrier and provided at one end with a projecting wax guard, and means for moving the wax holder toward the carrier to apply wax to the cover.

866,217. BUCKLE. GEORGE C. PLUMMER, Chicago, Ill., assignor to Thomas J. Hruby, Chicago, Ill. Filed Apr. 3, 1907. Serial No. 366,082.



A buckle comprising, in combination, a front frame consisting of end-sections and an intermediate section secured together, gripping teeth on said rear-frame intermediate section extending into the space between said front frame intermediate section and one of its end-sections, guides formed on the sides of said front frame and overlapping the sides of said rear frame to maintain the frames flatwise together, and a flange of a form approximating a half circle in cross section on the end-section of said rear frame adjacent to said teeth, formed of the metal cut away to form the space between said last-named end-section and the teeth, said frames being constructed and arranged to permit one end of a strap to be looped over the intermediate section of the front frame and the adjacent end-section of the rear-frame and the other end of the strap to be inserted between said teeth and the adjacent end-sections of the front and rear frames.

866,218. MAIL-DESK. ORION T. PRISER, Brookville, Ohio. Filed Dec. 15, 1906. Serial No. 348,084.



1. A device for the purpose specified including a series of parallel rollers having labels attached thereto, means for rotating said rollers, means for retaining the rollers in the position to which they are rotated, and means for indicating the positions of the labels.

2. A device for the purpose specified, including a series of revoluble rollers, means for simultaneously rotating the said rollers, means for retaining the rollers in certain predetermined positions, means for indicating said positions, and means for attaching the appliance to a mailing table.

3. A roster for a mailing table, including a series of grooved rollers, labels contained in the grooves, means for rotating the rollers, means for retaining the rollers in certain predetermined positions, means for indicating said positions, a protective cover for the mechanism and means for attaching the appliance to a mailing table.

4. The combination with a mailing table containing a plurality of mail boxes or compartments, of a plurality of revoluble rollers, a plurality of labels attached to each of said rollers, means for rotating the rollers simultaneously, means for locking the rollers in certain predetermined positions, means for indicating said positions, a protective cover for the mechanism and means for attaching the appliance to a table.

5. The combination with a mailing table provided with a plurality of mailing boxes, a plurality of grooved rollers located adjacent to said compartments, and provided with labels, of retaining rings for said labels arranged to slide upon said rollers, pinions mounted upon the ends of said rollers, a rack adapted to gear with said pinions, and means for operating said rack.

6. The combination with a mailing table provided with a plurality of mailing compartments, a plurality of grooved rollers located adjacent to said compartments and provided with removable labels, of retaining rings for the labels arranged to slide upon said rollers, transparent protective coverings for the labels, pinions mounted upon the rollers, a rack adapted to gear with said pinions, means for operating said rack, and a yielding detent for said operative means.

7. The combination with a mailing table provided with a plurality of mail compartments, a plurality of grooved rollers located adjacent to said compartments and provided with series of removable labels, of slidable retaining rings for the labels, transparent protective coverings for the labels, pinions mounted upon the rollers, a rack adapted to gear with said pinions, means for operating said rack, means for indicating the position of the several series of labels, and means for locking the rack operating means.

8. The combination with a mailing table provided with a plurality of containers for the mail, a series of grooved rollers located adjacent to said containers, each of said rollers provided with a plurality of series of labels having transparent protective coverings, pinions mounted upon the rollers, a rack adapted to gear with said pinions, means for operating said rack, an indicating disk for designating the position of the series of labels, means for retaining the operative mechanism in position, and means for attaching the device to said table.

9. The combination with a mailing table having a plurality of mail boxes, a series of grooved rollers located adjacent to said mail boxes and provided with a plurality of removable labels for each of said rollers, of pinions mounted upon the rollers, a rack adapted to gear with said pinions, an operating handle attached to said rack, an indicator for designating the position of a series of labels, means for locking the rack in position, and means for attaching the device to said table.

10. The combination with a mailing table having a plurality of mail compartments, of a frame, a series of parallel grooved rollers carried on said frame adjacent to said compartments, a plurality of series of labels removably attached to said rollers and provided with removable, transparent protective coverings, pinions mounted upon the rollers, a rack adapted to operate said pinions, a gear provided with an operating handle engaging said rack, an indicating disk attached to said handle, a yielding detent for said handle, and a protective covering for the mechanism.

11. A roster for a mailing table including a casing, a plurality of label holding rollers, means for removably securing labels therein, transparent protective plates for said labels, means for rotating said label holders, means for retaining said holders in position when rotated, and means for indicating the various positions of said holders.

12. A device for the purpose indicated, including a plurality of casings, a plurality of rollers having longitudinal grooves, a plurality of labels contained in said grooves, means for removably retaining said labels in the grooves, transparent protective plates for said labels, means for rotating said roller simultaneously, means for retaining the rollers in the position to which they are rotated, and means for indicating said position.

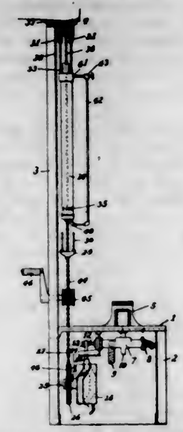
866,219. PHONOGRAPH-RECORD-MAKING MACHINE. CHARLES A. REINERS, Hoboken, N. J., assignor to Evans Phonograph Record Company, a Corporation of New Jersey. Filed Apr. 17, 1906. Serial No. 312,081.

1. A machine for producing phonograph records comprising a matrix chamber for the reception of the blanks, valved piping to said chamber, a valve, means having connections with a hot fluid supply, with a cooler fluid supply and with an exhaust, means for controlling the proportion of time said connections are in communication with the matrix chamber, in combination with a time determining means adapted to regulate the aggregate length of time during which aforesaid connections are established.

2. In combination with the valved means for supplying variable fluids to the matrix chamber of phonograph reproducing machines, a time determining means adapted to regulate the length of time of a cycle of operation for producing a finished blank.

3. In combination with the valved means for supplying variable fluids to the matrix chamber of phonograph reproducing machines, a time determining means adapted to regulate the length of time of a cycle of operation for producing a finished blank, said time determining means com-

prising a dash pot cylinder and piston, and connections between them and the valved means.



4. In combination with the valved means for suppiying variable fluids to the matrix chamber of phonograph reproducing machines, a time determining means adapted to regulate the length of time of a cycle of operation for producing a finished blank, and means for proportioning the length of time of application of the individual fluids during said cycle.

5. In combination with the valved means for supplying variable fluids to the matrix chamber of phonograph reproducing machines, a time determining means adapted to regulate the length of time of a cycle of operation for producing a finished blank, said time determining means comprising a dash pot cylinder and piston, and connections between them and the valved means, said piston being atationary and means for moving said dash pot cylinder at will relatively thereto.

6. In combination with the valved means for supplying variable fluids to the matrix chamber of phonograph reproducing machines, a time determining means adapted to regulate the length of time of a cycle of operation for producing a finished blank, said time determining means comprising a dash pot cylinder and piston, and connections between them and the valved means, said piston being stationary and means for moving said dash pot cylinder at will relatively thereto, a check valve in said cylinder and a restricted by-pass from end to end of said cylinder.

7. In combination with the valved means for supplying variable fluids to the matrix chamber of phonograph reproducing machines, a time determining means adapted to regulate the length of time of a cycle of operation for producing a finished blank, a common actuating means for said valved means, a movable dash pot cylinder connected to said actuating means, means for elevating said cylinder, a stationary piston for the same, whereby the fall of the cylinder will actuate the valved means.

8. In combination with the valved means for supplying variable fluids to the matrix chamber of phonograph reproducing machines, a time determining means adapted to regulate the length of time of a cycle of operation for producing a finished blank, a common actuating means for said valved means, a movable dash pot cylinder connected to said actuating means, means for elevating said cylinder, a stationary piston for the same, whereby the fall of the cylinder will actuate the valved means, and means for permitting the raising of the cylinder without actuating the valved means.

9. In combination with the valved means for supplying variable fluids to the matrix chamber of phonograph reproducing machines, a time determining means adapted to regulate the length of time of a cycle of operation for producing a finished blank, a cam adapted to operate the valved means, a weighted cylinder operatively connected to said cam, and a retarding piston therein.

10. In combination with the valved means for supplying variable fluids to the matrix chamber of phonograph reproducing machines, a time determining means adapted to regulate the length of time of a cycle of operation for producing a finished blank, a cam adapted to operate the valved means, a weighted cylinder operatively connected to said cam, and a retarding piston thereon, means to raise the piston without operating the cam.

11. In combination with the valved means for supplying variable fluids to the matrix chamber of phonograph reproducing machines, a time determining means adapted to regulate the length of time of a cycle of operation for producing a finished blank, a cam adapted to operate the valved means, a weighted cylinder operatively connected to said cam, and a retarding piston therein, said valved means having a single slide valve stem.

12. In combination with the valved means for supplying variable fluids to the matrix chamber of phonograph reproducing machines, a time determining means adapted to regulate the length of time of a cycle of operation for producing a finished blank, a cam adapted to operate the valved means, a weighted cylinder operatively connected to said cam, and a retarding piston therein, and a by-pass around said cylinder.

13. In combination with the valved means for supplying variable fluids to the matrix chamber of phonograph reproducing machines, a time determining means adapted to regulate the length of time of a cycle of operation for producing a finished blank, a cam adapted to operate the valved means, a weighted cylinder operatively connected to said cam, and a retarding piston therein, a by-pass around said cylinder, and a check valve in the piston.

14. In combination with the valved means for supplying variable fluids to the matrix chamber of phonograph reproducing machines, a time determining means adapted to regulate the length of time of a cycle of operation for producing a finished blank, a cam adapted to operate the valved means, a weighted cylinder operatively connected to said cam, and a retarding piston therein, a by-pass around said cylinder, and a regulating cock in said by-pass.

15. In combination with the valved means for supplying variable fluids to the matrix chamber of phonograph reproducing machines, a time determining means adapted to regulate the length of time of a cycle of operation for producing a finished blank, a cam adapted to operate the valved means, a weighted cylinder operatively connected to said cam, and a retarding piston therein, a by-pass around said cylinder, and means adapted to properly register the cam with the operating cylinder for its initial position.

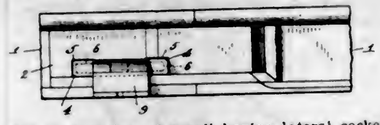
16. In combination with the valved means for supplying variable fluids to the matrix chamber of phonograph reproducing machines, a time determining means adapted to regulate the length of time of a cycle of operation for producing a finished blank, a cam adapted to operate the valved means, a weighted cylinder operatively connected to said cam, and a retarding piston therein, and means adapted to permit the cylinder to overrun its travel without overrunning the initial position of the cam.

17. In combination with the valved means for supplying variable fluids to the matrix chamber of phonograph reproducing machines, a time determining means adapted to regulate the length of time of a cycle of operation for producing a finished blank, a cam adapted to operate the valved means, a weighted cylinder operatively connected to said cam, and a retarding piston therein, said operative connection comprising a sprocket wheel operated by a chain from said cylinder, a pawl carried thereby and a single tooth carried by the cam whereby the correct initial position of the cam is obtained by the revolution of the wheel.

866,220. RAIL-JOINT. HENRY J. RICKARD, Frugality, Pa., assignor of one-half to Peter Wylie, Frugality, Pa. Filed June 7, 1907. Serial No. 377,729.

1. The combination of a rail having lateral sockets, plugs fitted in said sockets, and a locking plate engaging over said plugs, and arranged to be spiked down.

2. The combination of a rail, lateral offsets thereon, and a locking plate engaging said offsets and extending over the base of the rail.

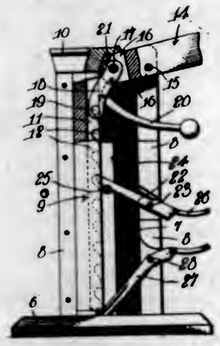


3. The combination of a rail having lateral sockets, a meeting rail having an extension provided with openings to receive said sockets, plugs fitted in said sockets, and a locking plate engaging over said plugs and bearing against the said extension and arranged to be spiked down.

4. The combination of a rail having lateral sockets, a meeting rail having an extension provided with openings through which said sockets project, plugs fitted in said sockets and against said extension and having their inner ends offset from the extension, and a locking plate engaging over the said offset ends of the plugs and against the said extension.

5. The combination of a rail having lateral sockets, a meeting rail having an extension provided with openings through which said sockets project, plugs fitted in said openings and against said extension, and a locking plate having a T-head on its under side near its upper edge to engage over said plugs and between the same and the extension.

866,221. LIFTING-JACK. JAMES C. RIGG, Hooktown, Ky., assignor of one-half to J. H. Collier, Hooktown, Ky. Filed June 3, 1907. Serial No. 377,097.



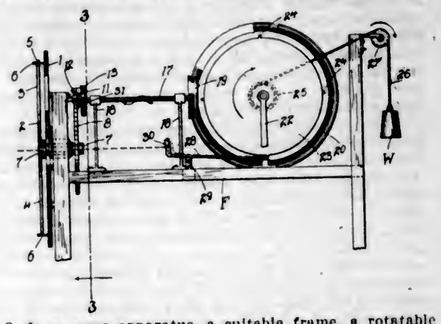
1. The combination with a lifting bar having a ratchet and grooves in the bar beside the ratchet, of a lever, and a pawl carried thereby and arranged to engage the ratchet and having side plates the edges of which fit in the grooves.

2. The combination of a standard, a ratchet lifting bar slidable up and down therein, a lifting lever fulcrumed on the standard and having a depending pawl hanging therefrom and adapted to engage the ratchet, a rearwardly extending weighted arm on the pawl, and a projection on the lever bearing against the upper edge of the pawl and adapted to disengage the same from the ratchet when the lever is swung up to inoperative position.

866,222. GAME APPARATUS. WILLIAM R. RIPLEY, Mattoon, Ill. Filed Mar. 20, 1907. Serial No. 363,383.

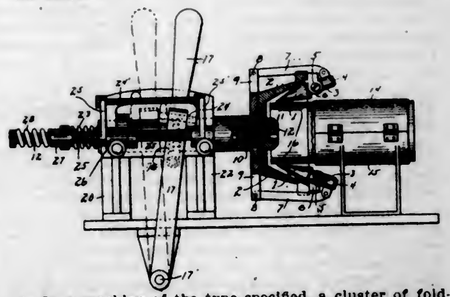
1. In a game apparatus, a suitable frame, a rotatable target having a hollow spindle, suitable gearing for actuating said target, a motor, a device for normally retaining said gearing and target against movement, said device adapted to release the gearing and permit the same to be driven by the motor upon impact of the ball or missile passing through the hollow spindle, with the retaining device, substantially as set forth.

2. In a game apparatus, a suitable frame, a rotatable target having a hollow spindle mounted on the frame, a ratchet disk on the spindle, a crank-disk, a pawl actuated by the disk and engaging the ratchet, a train of motor-driven gearing coupled to the crank-disk, a trigger disposed in the path of the opening of the hollow-spindle and normally holding the gearing against rotation, said trigger being adapted to be struck by the bullet fired through the hollow spindle, the impact of the bullet against the trigger releasing the gearing, whereby the target is given an impetus and a rotation, substantially as set forth.



3. In a game apparatus, a suitable frame, a rotatable target having a hollow spindle, mounted on the frame, a ratchet disk on the spindle, a gravity pawl, a crank-disk coupled to the pawl, said crank disk having a peripheral cam-section, a tripping lever having one end disposed in the path of the cam-section, and the opposite and weighted end disposed beneath the pawl, a shaft coupled to a motor, intermediate gearing between said shaft and crank-disk, a peripherally toothed disk on said motor-shaft, a vertically oscillating trigger having one end bearing against a tooth of said disk and preventing rotation of the motor-shaft, said trigger having a wing or arm disposed in the path of the opening of the hollow spindle of the target, the impact of the bullet fired therethrough against the wing, tripping the trigger and effecting a release of the motor-driven shaft and imparting rotation to the target, substantially as set forth.

866,223. MACHINE FOR FOLDING THE ENDS OF WRAPPER-LABELS AGAINST THE ENDS OF CANS. JOHN RITTY, Dayton, Ohio. Filed Feb. 23, 1907. Serial No. 358,827.



1. In a machine of the type specified, a cluster of folding fingers pivotally mounted upon a rotatable head, means for initially moving said fingers to press the label over the circumferential edge of the can and then to a position to crimp or fold the end of a wrapper label against the end of the can, said fingers being parallel with the end of the label during the entire operation of folding the same, and means for rotating said fingers to move them laterally over the folds to crease said folds and to lock said folds at the axis of the end of the can.

2. In a machine of the type specified, a concentric group

of folding fingers pivotally mounted upon a head, means for uniformly moving said fingers outwardly from the head to positions to crimp or fold the end of a wrapper label against the end of a can, said fingers first engaging the label at the circumference of the can and maintaining parallel positions with the end of the label during the operation of folding the same, and means for rotating the head to cause the fingers to pass laterally over the folds to crease said folds against the end of the can.

3. In a machine of the type specified, a cluster of conical-shaped fingers pivotally and concentrically mounted upon a rotatable head, means for uniformly actuating said fingers to initially crimp or fold the end of a wrapper label against the end of a can, and means for rotating said head to cause said conical fingers to pass laterally over the folds of said wrapper label to crease the same against the head of the can.

4. In a machine of the type specified, a group of conical shaped fingers concentrically mounted upon a rotatable head, means for holding a can with the extended end of the wrapper label in a position to be engaged by said fingers, means for moving the fingers uniformly, to first press the wrapper label against the circumferential edge of the can and to fold or crimp the end of said wrapper label from such points inwardly to the axis of the end of the can, and means for rotating the fingers in a body over the end of the wrapper label thus folded to crease said folded end against the end of the can and to lock said folded end at the axis of the end of the can.

5. In a machine of the type specified, a cluster head for folding the ends of wrapper labels against the ends of cans, the same consisting of a series of folders concentrically pivoted to a rotatable surrounding body, said folders in one position being adapted to lie parallel with the surrounding body upon which they are supported, and in which position the projected end of the wrapper label is permitted to enter the cluster head to a position to be engaged by the folders, and the said folders in the other position lying parallel with the end of the label when acting to crimp the end of the label against the end of the can, means for imparting such movements to said folders, and means for rotating the cluster head to cause the folders to crease the folds against the end of the can.

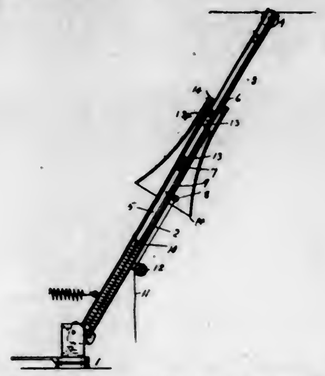
6. In a machine for folding the ends of wrapper labels against the ends of cans, a rotatable head, a series of pivotal folding fingers grouped about said head, means for actuating said fingers to initially press the end of the wrapper label against the circumferential edge of the can and to fold said wrapper label inwardly until said fingers lie parallel with the end of the can, said fingers maintaining positions parallel with the end of the label during the folding movement, and means for rotating the head when the fingers arrive at such positions to cause the fingers to pass laterally over the end of the can to flatten the folded wrapper label there-against.

866,224. TROLLEY-POLE. ALEXANDER ROSS, Rochester, N. Y. Filed Feb. 5, 1906. Serial No. 299,521.

1. In a trolley pole, the pivotally supported tubular section provided with a slot at its upper end, an inner section comprising jointed members the joint being normally situated at approximately the midlength of the slot, a stop whereby a return movement of the upper jointed member is limited, a cord attached to the lower member near the joint, a spring below the sections, and a connection between the cord and tubular section situated remote from the pivoted foot of the pole substantially as set forth whereby the same cord can be used to realine the inner section members and to control the pole.

2. A trolley pole comprising telescoping sections, one of the sections being composed of jointed members, and the outer or exterior tubular section having a stop on its upper side adjacent the joint to prevent the jointed member from breaking in the wrong direction, and a cord adapted to draw the jointed section within the other.

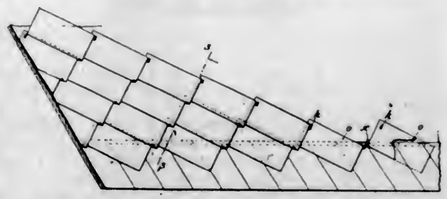
3. A trolley pole comprising telescoping sections, the inner one of said sections consisting of two pivotally connected members, a spring tending to eject said inner section, projections on the sections normally acting to oppose such ejection, and means to compress the spring preparatory to overcoming the normal function of the said projections.



4. A trolley pole comprising telescoping sections, the inner one of said sections consisting of two pivotally connected members, a spring tending to eject said inner section, projections on the sections normally acting to oppose such ejection, and means to compress the spring preparatory to overcoming the normal function of the projections, said projections consisting of several screw threads on the sections.

5. In a trolley pole, the pivotally supported tubular section provided with a slot at its upper end, an inner section comprising jointed members the joint being normally situated at approximately the midlength of the slot, a stop whereby a return movement of the upper jointed member is limited, a cord attached to the lower member near the joint, a spring between the sections, and a pulley connection between the cord and tubular section situated approximately midway the section slot and the pole pivot substantially as set forth whereby the same cord can be used to realine the inner section members and to control the pole.

866,225. SLATE OR TILE ROOF. ALVIN E. RUDY, Fort Hunter, Pa. Filed Jan. 2, 1907. Serial No. 350,545.

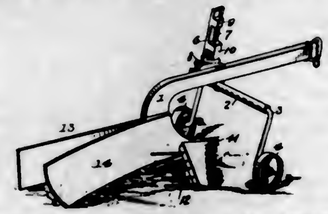


1. A slate or tile roof comprising slates or tiles held by a single nail through each slate or tile near one corner, and near the diagonally opposite corner by a hook, whose shank lies in the plane of, and between the tiles of an underlying course, and which engages over the lower edge of the slate or tile held thereby.

2. A slate or tile roof comprising slates or tiles held by a single nail through each slate or tile near one corner and by a hook carried by the single nail of a slate or tile of an underlying course.

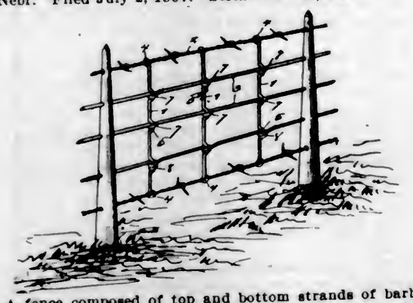
3. A slate or tile roof comprising slates or tiles held by a single nail through each slate or tile near one corner and by a hook carried by the single nail of a slate or tile of an underlying course, the shank of which hook and the head of its nail lying in the plane of and between tiles of a course intermediate the two above mentioned.

866,226. PLANT-CUTTER. JOSEPH S. RUSSELL, Clover, Utah. Filed Mar. 16, 1907. Serial No. 362,769.



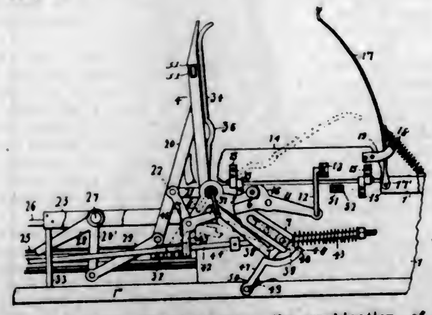
In combination, a beam, a land side projecting rearwardly therefrom, a plow carried by the beam, said plow comprising an approximately flat shear, fingers extending from the rear of the plow, and a flange carried by the land side extending from the beam adjacent the plow on a curve and being bent transversely.

866,227. WIRE FENCE. JOHN B. SCHNEIDER, Dunbar, Nebr. Filed July 2, 1907. Serial No. 381,929.



A fence composed of top and bottom strands of barbed wire, vertical stays having their extremities hooked to immovably engage said top and bottom strands, the said hooked portions being oppositely disposed, U-shaped crimps formed at intervals during the length of said stays, said crimps having abutting shoulders, and horizontal strands, the upper of said horizontal strands being provided with a single loop which at the top and bottom faces thereof closely engage said shoulders of the crimps, and the lower of said horizontal strands being formed with a double loop which at the top and bottom faces thereof engage the shoulders of the crimps at the lower ends of the stays.

866,228. SELF-FEEDING HAY-PRESS. GEORGE SCHUBERT, Fort Worth, Tex. Filed Jan. 2, 1906. Serial No. 294,186.



1. In a self-feeding hay press, the combination, of a hopper formed of wings, hinged to the press, a controlling wing for said hopper, arranged to control or operate the side wings, a shaft or pivots for said controlling wing, crank-arms on said pivots, and means to operate said crank-arms, for the purpose specified.

2. In a self-feeding hay press, the combination, of a hopper formed of wings, hinged to the press, a controlling wing for said hopper, arranged to control or operate the side wings, and shift the material to the compression chamber, and means to operate said controlling wing, for the purpose specified.

3. In a self-feeding hay press, the combination, of a hopper formed of wings, hinged to the press, a controlling wing for said hopper, arranged to control or operate the side wings, an advance arm or tongue carried by said controlling wing, and means to operate said tongue, for the purpose specified.

4. In a self-feeding hay press, the combination, of a hopper formed of wings, hinged to the press, a controlling wing for said hopper, arranged to control or operate the side wings, a shaft or pivots for said controlling wing, crank-arms on said pivots, an advance arm or tongue carried by said controlling wing having a projecting end with a crank formed thereon, a dog carried by one of said crank-arms to engage with said crank, for the purpose specified.

5. In a self-feeding hay press, the combination, of a hopper formed of wings hinged to the press, a controlling wing for said hopper, arranged to control or operate the side wings, a shaft or pivots for said controlling wing, crank-arms on said pivots, an advance arm or tongue having a curve and carried by said controlling wing, a crank formed on the projecting heel of said tongue, a dog carried by one of said crank-arms to engage with the crank of said tongue, a plunger in the compression chamber to engage with the curve of said tongue, and means to operate said plunger, for the purpose specified.

6. In a self-feeding hay press, the combination, of a hopper formed of wings, hinged to the press, a controlling wing for said hopper, arranged to control or operate the side wings, a shaft or pivots for said controlling wing, crank-arms on said pivots, prongs on one of said crank-arms, an advance arm or tongue carried by said controlling wing having a projecting end or heel with a crank formed thereon, a bar having a head supported by said prongs and pivoted on the crank of said tongue, a dog pivoted on the press to engage with said head, for the purpose specified.

7. In a self-feeding hay press, the combination, of a hopper formed of wings hinged to the press, a controlling wing for said hopper, arranged to control the side wings, a shaft or pivots for said controlling wing, crank-arms on said pivots, prongs on one of said crank-arms, an advance arm or tongue carried by said controlling wing having a projecting end or heel with a crank formed thereon, a bar, a head thereon and supported by said prongs and pivoted on the crank of said tongue, a rod supported adjustably by said head, a collar on said rod, a dog pivoted on one of said crank-arms and engaged by said collar, and means to operate said rod, for the purpose described.

8. In a self-feeding hay press the combination of a hopper formed of wings, hinged to the press, a controlling wing for said hopper pivoted to the press, a shaft or pivots for said controlling wing, crank-arms on said pivots, studs or rollers on said crank arms, levers pivoted to the press and connected to the side wings of said hopper, and with their free ends in contact with said rollers, and means to operate said crank-arms, for the purpose specified.

9. In a self-feeding hay press, the combination of a hopper formed of wings hinged to the press, a controlling wing for said hopper pivoted to the press, a shaft or pivots for said controlling wing, crank-arms on said pivots, studs or rollers on said crank-arms, levers pivoted to the press and connected to the side wings of said hopper, spurs on said levers in contact with said rollers, for the purpose described.

10. In a self-feeding hay press, the combination of a hopper formed of wings pivoted to the press, pivots or a

shaft pivoted on the press, a wing thereon, crank-arms on said pivots, levers having their free ends curved and pivoted to the press, rollers on the crank-arms in contact with said levers, and means to operate said crank-arms, for the purpose specified.

11. In a self-feeding hay press, the combination of a hopper formed of wings hinged to the press, a controlling wing having a shaft, crank-arms on said shaft, a head supported by one of said crank-arms, a rod supported by said head, levers pivoted to the press and connected to the side wings of the hopper, and in contact with said rollers, means to operate said crank-arms, for the purpose described.

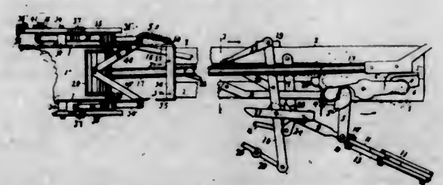
12. In a self-feeding hay press, the combination of a hopper formed of wings hinged to the press, a controlling wing having a shaft, crank-arms on said shaft, a head supported by one of said crank-arms, a rod supported adjustably by said head, a spring on said rod, a bell crank lever pivoted to the press and connected to the controlling wing, a plunger bar serrations thereon to engage with said bell crank lever, means to operate said plunger bar, for the purpose described.

13. In a self-feeding hay press, the combination of a hopper formed of wings, hinged to the press, a controlling wing for said hopper arranged to operate the side wings, side plates for the press having perforations, latches pivoted on said controlling wing to engage with said perforations, a projecting lever pivoted on said controlling wing and connected to said latches, a plunger, a dog on said plunger to engage with said lever, and means to operate said plunger, for the purpose specified.

14. In a self-feeding hay press, the combination of a hopper formed of wings hinged to the press, a controlling wing to close the hopper and to shift the charge to the compression chamber, a projecting lever on said controlling wing, a plunger, a dog on said plunger to engage with said lever, and means to operate said plunger, for the purpose specified.

15. In a self-feeding hay press, the combination of a hopper formed of wings hinged to the press, a shaft pivoted on the press, a controlling wing secured thereon, crank-arms on said shaft, levers pivoted to the press and connected to the side wings, arms on said side wings, an end wing pivoted to the press, and means to operate said crank-arms, for the purpose specified.

866,229. SELF-FEEDING AND POWER PULL-BACK HAY-PRESS. GEORGE SCHUBERT, Fort Worth, Tex. Filed May 26, 1906. Serial No. 318,870.



1. In a self feeding hay press, the combination, with an extension beam, a cross head pivoted thereon, an arm having a cam and pivoted within the field of the cross head, a bar pivoted on the extension beam, a rod connecting said bar to the arm, a crank arm of the self feeder, a rod connecting said crank arm to said bar, for the purpose described.

2. In a self feeding hay press, the combination, with an extension beam, a cross head pivoted thereon, an arm, a cam thereon having a face of specified length, and pivoted within the field of the cross head, a bar pivoted on the extension beam, a rod connecting said bar to the arm, a crank arm of the self feeder, a rod connecting said crank arm to said bar, for the purpose described.

3. In a self feeding hay press, the combination, with an extension beam, a cross head pivoted thereon, an arm, a cam thereon and pivoted within the field of the cross head, an eye bolt carried by said arm, a rod supported adjustable in said eye bolt, a collar on said rod, links pivoted to said collar and to said rod, a spring to retain said links, a bar pivoted to the extension beam and to said rod, a crank arm of the self feeder, a rod connecting said crank arm to said bar, for the purpose described.

4. In a self feeding hay press, the combination, with an extension beam, a cross head pivoted thereon, an arm, a cam thereon and pivoted within the field of the cross head, a bar pivoted to the extension beam, a rod connecting said bar to said arm, a lug or roller on said rod, a second bar pivoted on the extension beam and having its pivot back of the pivot of the first said pivoted bar, a catch pivoted on the second pivoted bar, a shoulder on said catch to engage with its supporting bar, a plunger bar, a rod connecting said second bar to the plunger bar, for the purpose described.

5. In a self feeding hay press, the combination, with an extension beam, a cross head pivoted thereon, an arm a cam thereon, and pivoted within the field of the cross head, a bar pivoted to the extension beam, a rod connecting said bar to the arm, a lug or roller on said rod, a second bar pivoted to the extension beam, a catch pivoted on said second bar and projecting with its rear end beyond said bar, a bar rigid on the extension beam and having its end turned in, a shoulder on said catch, a plunger bar, a rod connecting said second bar to said plunger bar, for the purpose described.

6. In a self feeding hay press, the combination, with an extension beam, a cross head pivoted thereon, an arm a cam thereon, and pivoted within the field of the cross head, a bar pivoted to the extension beam, a rod connecting said bar to said arm, a lug or roller on said rod, a guard extending over said roller, a second bar pivoted to the extension beam, a catch on said second bar and projecting with its rear end beyond said bar, a bar rigid on the extension beam and having its rear end turned inward, a shoulder on said catch, a plunger bar, a rod connecting said second bar to the plunger bar, for the purpose described.

7. In a self feeding hay press, the combination, with an extension beam, a cross head pivoted thereon, an arm a cam thereon, and pivoted within the field of the cross head, a bar pivoted to the extension beam, a rod connecting said bar to said arm, a roller on said rod, a second bar pivoted to the extension beam, a catch on said second bar, shoulders on said catch, a bar rigid on the extension beam having its body raised to form a slot for the first said pivoted bar and to form a support for the second said pivoted bar, a plunger bar, a rod connecting said second pivoted bar to the plunger bar, for the purpose described.

8. In a self feeding hay press, the combination, with an extension beam, a cross head pivoted thereon, an arm a cam thereon, and pivoted within the field of the cross head, a bar pivoted to the extension beam, a rod connecting said bar to said arm, a roller on said rod, a second bar pivoted to the extension beam, a catch on said second bar shoulders on said catch, a plunger bar, a rod connecting said second pivoted bar to the plunger bar, a bar or bracket rigid on said second pivoted bar to engage with said plunger bar, for the purpose described.

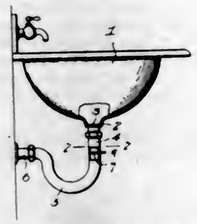
9. In a self feeding hay press, the combination, with an extension beam, a cross head pivoted thereon, an arm a cam thereon, and pivoted within the field of the cross head, a bar pivoted to the extension beam, a rod connecting said bar to said arm, a roller on said rod, a second bar pivoted to the extension beam, a catch on said second bar, shoulders on said catch, a plunger bar, a rod connecting said second pivoted bar to the plunger bar, a rod connecting the first said pivoted bar to an arm of the self feeder, for the purpose described.

10. In a self feeding hay press, the combination, with a hopper formed of wings, a controlling wing for said hopper, a shaft for said controlling wing, a crank arm on said shaft, a bell-crank lever pivoted on a spur of said crank arm, a rod supported by said crank arm, a lug or pin on said rod, a bar pivoted on the bell-crank lever and engaged by said pin, a dog pivoted on the controlling wing and connected to said bell-crank lever, a tongue or advance arm pivoted on said controlling wing, and means to operate said rod, for the purpose described.

11. In a self feeding hay press, the combination, with a hopper formed of wings, a controlling wing for said hopper, a shaft of said controlling wing, an arm or crank arm having a spur and rigid on said shaft, a bell-crank lever pivoted on said spur, a second spur on said crank arm, a bar supported adjustably by said second spur and pivoted to said bell-crank lever, a rod supported by the crank arm, a lug or pin on said rod, and means to operate said rod; a tongue or advance arm pivoted on the controlling wing, a dog to engage said tongue and connected to the bell-crank lever, and means to operate said tongue, for the purpose described.

12. In a self feeding hay press, the combination, with a hopper formed of wings, a controlling wing for said hopper, a shaft for said controlling wing, a tongue pivoted on said controlling wing, a spring to press said tongue inward, a dog pivoted on said controlling wing, and means to operate said dog, for the purpose described.

866,230. STOPPER DEVICE FOR WASHBOWLS. MYRTLE SELDERS, Habana, Cuba. Filed Jan. 28, 1907. Serial No. 354,564.



The combination with the waste pipe of a wash bowl, of a flat disk-like closure therefor disposed in a horizontal plane and having on opposite sides pintles that project through the pipe to permit swivel movements of the closure, one of the pintles being provided with a finger hold, a non-oxidizable annulus combined with the disk and of a size to impinge closely against the inner walls of the pipe, and stops diagonally arranged on the pipe with which the closure engages to limit its movements.

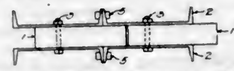
866,231. BROOM-HEAD. EDWARD R. SIMPSON, Eddyville, and WILLIAM L. MARTIN, Louisville, Ky. Filed Feb. 11, 1907. Serial No. 356,813.



1. In a broom head, a holding band, an upwardly tapering guard plate secured to and extending above said band on each side of the broom and centrally slitted downward from its upper portion to form free ends, and means for retaining said free ends in overlapped contact to form an arched plate.

2. In a broom head, a band surrounding the broom straws, a binding wire extending through said band and the body of the broom, a V-shaped guard plate secured to each upper side edge of the band and centrally slitted inward from its apex to form free ends adapted to be overlapped, and means for retaining said ends in overlapped contact to provide an arched plate.

866,232. CONSTRUCTION OF SHEET-PILING, &c. FRANK W. SKINNER, Tompkinsville, N. Y. Filed Feb. 16, 1907. Serial No. 357,775.



1. A driving unit with a substantially rectangular cross section made of a core and a plurality of separate detachable parts on two opposite sides and adapted to form and maintain a cavity in the ground.

2. A driving unit with a substantially rectangular cross section made with a core and a plurality of detachable parts on two opposite sides adapted to form and maintain temporarily a cavity in the ground, and afterwards to be withdrawn and used again.

3. A sectional driving unit made with a core and a plurality of detachable parts adapted to be driven in engagement with another unit and to provide with the latter a continuous open interior space with the exterior materials excluded by the outside sections of the units.

4. A driving unit essentially consisting of a sectional box with a closed cross section and detachable sides and bottom, adapted to engage an adjacent driving unit.

5. A driving unit essentially consisting of a sectional trough with rectangular cross section and detachable sides and bottom, adapted to engage on the open side with an adjacent driving unit.

6. A driving unit of rectangular cross section with a core and a plurality of longitudinal sections on two opposite sides detachably connected and adapted to be driven together.

7. A driving unit of rectangular cross section with a plurality of longitudinal sections detachably connected and adapted to be withdrawn separately.

8. A driving unit made with a plurality of longitudinal sections part of which may be detached and independently withdrawn, leaving an interior cavity.

9. In a driving unit a plurality of side pieces with their vertical edges interlocking with the vertical edges of adjacent units.

10. The combination in piling, of driving units each having a plurality of side pieces with their edges overlapping those of adjacent units.

11. The combination in piling, of driving units each having a plurality of side pieces and projections thereon adapted to engage adjacent units.

12. The combination in piling, of driving units each having a detachable projecting core adapted to engage a recess in an adjacent driving unit.

13. The combination in piling, of driving units, cores therefor, and detachable side pieces of said units projecting beyond said cores and adapted to form jaws to receive the projecting detachable core of an adjacent driving unit.

14. The combination in driving units, of detachable side pieces thereof, and detachable core sections arranged to project beyond the edges of said side pieces on one side and located within their edges on the opposite side and being adapted to form temporary tongue and groove joints between adjacent driven units.

15. The combination in a driving unit of side pieces, a core and a detachable shoe adapted to separate the lower ends of said side pieces and provided with means for engaging the lower ends thereof.

16. In a driving unit a detachable shoe closing the spaces between the lower ends of the side pieces.

17. In a driving unit detachable clamps adapted to temporarily secure the shoe to the side pieces.

18. In a driving unit temporary detachable separators between the upper ends of the side pieces.

19. In piling, detachable horizontal side pieces adapted to give lateral strength to and connect a series of driving units.

20. In a driving unit the combination of a plurality of detachable side pieces and a solid temporary removable core.

21. In a driving unit, the combination of a plurality of detachable side pieces, a detachable core and a detachable shoe.

22. In a driving unit the combination of a plurality of side pieces, a detachable core and a shoe.

23. In a driving unit the combination of a plurality of detachable side pieces, a detachable core, a detachable shoe and detachable clamps.

24. The combination in piling of successive driving units and lateral connections temporarily securing them together.

25. The combination in piling of successive driving units and exterior stiffening pieces.

26. The combination in piling, of driving units, a plurality of side pieces therefor, and separators between the upper ends thereof.

27. The combination of sectional driving units each comprising a plurality of detachable parts adapted to form a line of parallel opposite sides and exclude earth and other material from the continuous open spaces between said sides.

28. The combination in piling of a plurality of sectional driving units, each comprising detachable sides, and cores, said units arranged in sets, and said units being adapted to form walls with open interior spaces closed at the ends and continuous through several of said units.

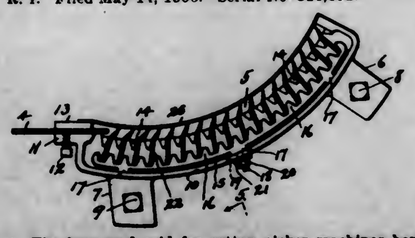
29. The combination in piling units, of side pieces, and detachable separators, and shoes adapted to connect and strengthen said side pieces, and together with said side pieces to exclude outside materials from the interior of said units.

866,233. METHOD AND DEVICE FOR MAKING CIGAR-FILLERS. JOHANNES STEPHAN, Witzenhausen, Germany. Filed Sept. 6, 1906. Serial No. 333,581.



Means for making cigar fillers comprising a box, molds each having a recess in its upper end and composed of two portions and a spring for holding the portions together, said molds being adapted to be placed in the box with their recesses uppermost, a cover for said box having projecting mold sections a' thereon adapted to enter the two recesses in the molds to compress the tobacco.

866,234. GRID FOR COTTON-PICKER MACHINES. AMASA ST. ONGE and CLEMENTS A. BROWN, Providence, R. I. Filed May 14, 1906. Serial No 316,891.



1. The improved grid for cotton picker machines herein described, consisting of the combination of the two curved side plates, each having a lateral flange projecting from the lower edge thereof; means for supporting said side plates in position; a plurality of stationary, equi-spaced lugs in series upon each side plate, which are substantially triangular in cross-section, with the bases thereof constituting their upper edges, respectively; a curved notched plate slidably mounted on said flange of each side plate and provided with beveled teeth; and a series of blades each loosely mounted between said stationary lugs in abutment therewith respectively and adapted to have a longitudinal sliding movement thereon to a limited extent, each of which blades has a rounded bottom and is seated thereby in corresponding spaces between the teeth of the notched plates, respectively.

2. In a device of the character described, the combination of two curved side plates arranged parallel and opposite to each other; a curved notched plate supported on each side plate and movable thereon; fixed, triangular, equi-spaced lugs in the curved row on each of said plates; and a plurality of separate blades mounted only at their bottom ends loosely between corresponding teeth of said notched plates so as to have a limited oscillation thereon and extending up loosely between said fixed lugs.

3. In a device of the character described, the combination of two curved side plates, each having a curved row of triangular, equi-spaced, integral lugs; a curved notched-plate supported on each side plate and movable thereon; and a plurality of separate grid-bars, each having an upper, sharp and forwardly-directed edge, and each loosely resting on its bottom edge between corresponding teeth of the notched-plates, and extending upwardly, at an acute angle, loosely between corresponding lugs of said side plates, and supported laterally by said lugs.

866,235. BOILER-COVERING. EDWARD L. STORY, Everett, Mass. Filed Mar. 23, 1907. Serial No. 364,058.



1. A boiler covering having a removable section presenting a backing of wire mesh, a body portion of non-heat-conducting material applied to one side only of said backing, and a surface coating of hard non-metallic waterproof material the edges of said backing embracing the body portion and being interlocked with said waterproof material.

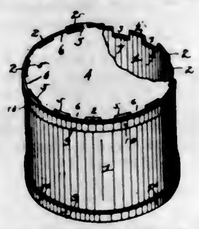
2. The combination with a boiler, of a covering permanently secured to all parts thereof except those which it is desired to inspect, and covering sections removably secured to said portions to which access is desired, said covering sections each presenting a backing of wire mesh, a body portion of non-heat-conducting material applied to one side only of said backing, and a surface coating of cement, the backing being bent outwardly at the sides of the section to embrace the body portion, and the edges of the backing being embedded in the cement whereby said backing permanently holds the body portion and cement together.

3. The combination with a boiler, of a covering therefor having a removable section, said section comprising a backing of wire mesh, a body of non-heat conducting material applied to one side only of the backing, and a coating of Portland cement, the edges of said backing being embedded in the cement whereby said backing ties the cement coating and body together.

4. In a boiler covering, a removable section having a body portion of fire-felt, a layer of magnesia cement, and an outer layer or surface coating of Portland cement.

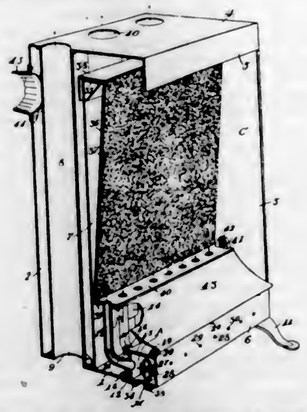
5. A boiler covering provided with a removable section having a backing of wire mesh, a body portion of fire-felt, a layer of magnesia cement covering the fire-felt, and an outer layer of Portland cement, the edges of the wire fabric being embedded in the cement.

866,236. CYLINDRICAL BOX. WILLIAM H. STOUT, Dayton, Ohio. Filed May 17, 1906. Serial No. 317,258.



A collapsible cheese box having a cylindrical body formed of veneering, the top and bottom ends of which are provided with alternate tongues and recesses, a circular top and bottom the circumferential edges of which are provided with alternate tongues and recesses to receive and interlock with the tongues and recesses in the ends of the body and to thus form joints consisting of uniform circles of interlocking tongues between said body and said top and bottom, and a band around the top and bottom securely locking the connections between the top and bottom and the ends of the box, said bands extending inwardly around the body of the box from the points of connection between said body and the top and bottom, and whereby the ends of said box are re-inforced by said bands in addition to said top and bottom being maintained in rigid interlocking connection with the body of the box.

866,237. GAS HEATING-STOVE. CHARLES H. TOPP, Huntington, W. Va. Filed Apr. 2, 1906. Serial No. 309,398.



1. A stove casing having a bottom plate, side plates and a front flange, an angle iron secured upon the bottom plate, and an air chamber bounded in part by the bottom plate, the side plates, and the front flange of the stove casing and including a back wall having a plurality of burner discharge tubes, and a top plate; said back wall and top plate being connected together; said back wall resting against the angle bar upon the bottom plate of the stove casing and said top wall being provided with a flange detachably connected with the front flange of the stove casing.

2. A stove casing having a bottom plate, side plates and an upturned front flange, a back wall and a top plate cooperating therewith to form an air chamber, a set of burners mounted in said chamber and adapted to receive air therefrom, an apertured slide adjustably engaging the bottom of the casing and regulating the admission of air to the air chamber through apertures in the bottom plate, and means operable from the exterior of the casing for regulating the supply of gas to the burner.

3. A stove casing having a bottom plate, side plates, a back plate, a top plate provided with a depending flange forming a deflector, and an upstanding flange at the front edge of the bottom plate, an air chamber bounded in part by the bottom plate, the side plates and the front flange of the stove casing and including a top plate and a back wall, the latter provided with Bunsen tubes; a back wall rising from the bottom plate of the stove casing in rear of the Bunsen tubes; a burner plate having apertures engaging said tubes; a fire back having at its lower edge a forward extending flange engaging the burner plate and provided at its upper edge with a hook-shaped flange engaging the upper edge of the back wall; and means for securing the burner plate in position.

4. A stove casing having a back plate provided with an exit opening, air heating flues extending between the bottom and top plates of the stove casing, and a back wall rising from the bottom plate of the casing in front of the air heating flues and having a supporting flange at its upper edge; in combination with a burner plate supported in front of the back wall, and a fire back having a hook-shaped flange at its upper edge engaging the upper edge of the back wall and provided at its lower edge with a flange engaging the burner plate.

5. In a gas heating stove, a casing having a back plate provided with an exit for products of combustion, air heating flues extending between the bottom and top plates of the casing, a back wall rising from the bottom plate in front of the air tubes, an asbestos covered plate constituting a fire back and provided at its upper edge with a hook-shaped flange supported upon the upper edge of the back wall and having a forward extending flange at its lower edge, an air and gas mixing chamber having a back wall provided with a plurality of Bunsen tubes, webs connecting said tubes, and an apertured burner plate engaging the tubes, supported upon the webs, and engaging the forward extending flange at the lower edge of the fire back.

6. The combination with a stove casing, a vertical back wall therein extending to a point near the top of the casing and having a forwardly directed flange at the upper edge, a horizontally extending removable burner plate fitted into the casing in front of the back wall and having its rear edge arranged in proximity to the forward surface of the back wall, of a fire-back adapted to fit in the casing having a rearwardly directed hook-shaped flange at its upper edge adapted to fit down over the upper edge of the back wall and coöperate with the forwardly directed flange thereon to support the fire-back in operative position, and having a forwardly directed flange at its lower edge adapted to enter between the rear edge of the burner plate and the back wall and engaging beneath the burner plate to prevent disengagement of the hook-shaped flange of the fire-back relatively to the back wall.

866,238. POWER-TRANSMISSION COUPLING DEVICE. ANTONIO M. VAN-HALEN, Madrid, Spain. Filed June 3, 1907. Serial No. 377,003.



1. In combination, a driving shaft, a sleeve surrounding said shaft and provided with a non-rotatively and slidably mounted flanged collar, means for shifting said collar, a pulley loosely mounted on said shaft and provided with a band receiving recess, a coupling band for said recess, an arm rigidly mounted on said shaft, means connecting said arm with one end of said band, a crank

shaft mounted in said arm and connected with the other end of said band, an actuating member carried by said arm and traveling freely between the flanges of said collar, and a threaded connection between said actuating member and said crank shaft.

2. In combination, a driving shaft, a sleeve surrounding said shaft and provided with a non-rotatively and slidably mounted flanged collar, a lever for shifting said collar, a pulley loosely mounted on said shaft and provided with a band receiving recess, a coupling band for said recess, an arm rigidly mounted on said shaft, means connecting said arm with one end of said band, a crank shaft mounted in said arm and connected with the other end of said band, a friction disk carried by said arm and adapted normally to freely travel between the flanges of said collar, and threaded members connecting said friction disk and crank shaft.

3. In combination, a driving shaft, a sleeve surrounding said shaft and provided with a slidably mounted flanged collar, means for shifting said collar, a pulley loosely mounted on said shaft, a coupling band for said pulley, an arm rigidly mounted on said shaft, a crank shaft mounted in said arm and operatively connected with said band, a friction disk carried by said arm and adapted normally to freely travel between the flanges of said collar, and threaded members connecting said friction disk and crank shaft.

4. In combination, a driving shaft, a slidably mounted flanged collar surrounding said shaft, a pulley loosely mounted on said shaft, a coupling member engaging said pulley, an arm rigidly mounted on said shaft, a crank shaft mounted in said arm and operatively connected with said coupling member, a friction disk carried by said arm and adapted normally to freely travel between the flanges of said collar, threaded members connecting said friction disk and crank shaft, and means for shifting said collar in opposite directions to operate said disk and throw the coupling member into or out of coupling relation with said pulley.

5. In combination, a driving shaft, a pulley loosely mounted on said shaft, a coupling member operatively associated with said pulley, an arm rigidly mounted on said shaft, means carried by said arm whereby said coupling member may be actuated, a friction disk carried by said arm, threaded connecting members operatively uniting said friction disk and said means, and mechanism for operating said friction disk.

6. In combination, a driving shaft, a driven member, a coupling member operatively associated with said driven member, an arm rigidly mounted on said shaft, means carried by said arm for controlling coupling member, a friction disk carried by said arm, threaded members connecting said friction disk and said means, a shiftable non-rotatable device normally out of engagement with said disk, and mechanism for throwing said device into engagement with said disk.

7. In combination, a driving member, a driven member, a coupling member operatively associated with said driven member, an arm rigidly mounted on said driving member, means carried by said arm for controlling said coupling member, a friction disk carried by said arm, threaded members connecting said friction disk and said means, and mechanism for rotating said disk in opposite directions.

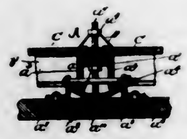
8. In combination, a driving member, a driven member, a coupling member operatively associated with said driven member, an element rigidly mounted on said driving member, means carried by said element for controlling said coupling member, a friction disk carried by said element, threaded members connecting said disk and means, and mechanism for operating said disk.

9. In combination, a driving member, a driven member, a coupling member for operatively connecting said driving and driven members, an element rigidly mounted on said driving member, means carried by said element for controlling said coupling member, an actuating disk, a threaded connection for said disk and means, and mechanism normally out of operative relation with said disk for operating the same.

10. In combination, a driving member, a driven member, a coupling member for operatively connecting said driving and driven members, a threaded tension device for controlling said coupling member, and non-rotatable means for operating said device.

11. In combination, a driving member, a driven member, a coupling member for operatively connecting said driving and driven members, a threaded tension device for controlling said coupling member, a device for operating said tension device, and non-rotatable means normally out of operative relation with said operating device for operating the same in opposite directions.

866,239. GLAZED STRUCTURE. EZEKIEL VAN NOORDEN, Boston, Mass., assignor to E. Van Noorden Company, Boston, Mass., a Corporation of Massachusetts. Filed May 10, 1906. Serial No. 316,070.



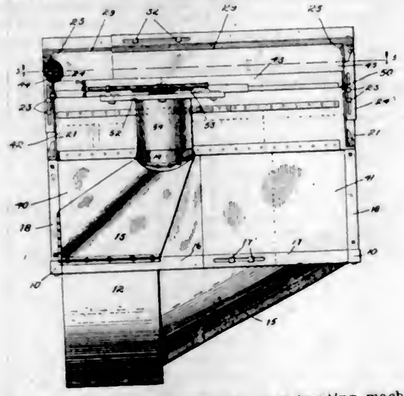
1. In a glazed structure, the combination of a glass support, means for holding the glass thereon, cross bolts for holding said glass support in proper position, means connecting with the purlins of the frame or other fixture of support for retaining said bolts, and a shallow trough independent of said bolt-retaining means, which trough is wider than said glass support and extends along beneath the same and its supporting bolts.

2. In a glazed structure, the combination of a glass support, means for holding the glass thereon, said glass support comprising a glass supporting head and sides dependent therefrom supporting said head, bolts extending crosswise through said sides, means connecting with the purlins of the frame or other fixture of support for retaining said bolts, and a trough independent of said bolt-retaining means, which trough is wider than said glass support and extends along beneath the same and its supporting bolts, and which sides of the glass support are adapted to rest upon said trough.

3. In a glazed structure, the combination of a glass support comprising a supporting head on which the panes of glass rest and sides supporting said head dependent therefrom, a cap-retaining bolt connecting with the head of said glass support and extending therefrom between the edges of the panes of glass, a bow-cap and draw-nut to combine therewith for holding the panes of glass upon said glass support, bolts extending crosswise through the sides of said glass support for supporting the same, independent members connecting with the purlins of the frame or other fixture of support for retaining said bolts, and a shallow curved trough wider than said glass support extending along beneath the same between said bolt-retaining members and beneath said bolts, which sides of the glass support are adapted to rest upon said trough whereby said trough may hold said glass support against lateral displacement.

4. A glazed structure having a main glass support, means for holding the glass thereon, cross bolts holding said glass support in proper position, members connecting with the purlins of the frame or other fixture of support for retaining said bolts, a shallow trough independent of said bolt-retaining members, which trough is wider than said glass support and extends along beneath the same between said bolt supporting members and beneath said supporting bolts, an auxiliary glass supporting structure extending from said main glass support and resting in part thereon, to be supported thereby, the trough of which auxiliary structure rests upon or extends above the upper edge of said main trough.

866,240. ADJUSTABLE CASING FOR PNEUMATIC STACKERS. CHARLES E. VAN OSDOL, Greensburg, Ind., assignor to Theophilus King, trustee, Boston, Mass. Filed Feb. 4, 1907. Serial No. 355,529.

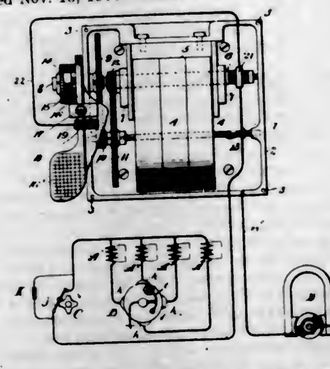


1. A pneumatic attachment for crop-treating machines comprising a plurality of overlapping metallic sheets, and a plurality of overlapping frame members connected by means permitting adjustment one upon the other to vary the internal dimensions of the casing.

2. A pneumatic attachment for crop-treating machines comprising a plurality of overlapping metallic sheets, and a plurality of overlapping frame members connected by means permitting adjustment one upon the other to vary the internal dimensions of the casing, and a fan housing.

3. A pneumatic attachment for crop-treating machines comprising a casing composed of a pair of overlapping lower sections one of which carries a fan housing, a pair of overlapping upper sections which also overlap the lower sections, and means for clamping the several sections together in various positions of relative adjustment whereby the internal cross dimensions of the casing may be varied.

866,241. IGNITION SYSTEM FOR EXPLOSION-ENGINES. RICHARD VARLEY, Englewood, N. J., assignor to The Autocoil Company, a Corporation of New Jersey. Filed Nov. 13, 1906. Serial No. 343,179.



1. A means for starting explosion engines with an electrical ignition system, comprising an auxiliary generator having a foot pedal, and means whereby said generator is automatically cut into the ignition circuit when said pedal is depressed.

2. A means for starting explosion engines with the usual electrical ignition system and circuit controlling devices, comprising an auxiliary generator having a foot pedal, and non-electrical means for including said generator in the ignition circuit when said pedal is depressed whereby the engine may be started by said circuit controlling devices.

3. A means for starting explosion engines with an electrical ignition system and circuit controlling devices, comprising an auxiliary magneto generator, a foot pedal, means for operating said generator when said pedal is depressed, and means for including said generator in the ignition circuit when said pedal is depressed.

4. A means for starting explosion engines with an electrical ignition system and circuit controlling devices therefor, comprising an auxiliary magneto generator in the ignition circuit, a foot pedal for operating said generator, and means for cutting said generator out of the ignition circuit when said foot pedal is in its undepressed position.

5. In combination with an explosion engine having an electrical ignition system, an auxiliary alternating current generator having one terminal grounded, and means whereby such generator may be included in the ignition circuit when desired in series with the usual current source.

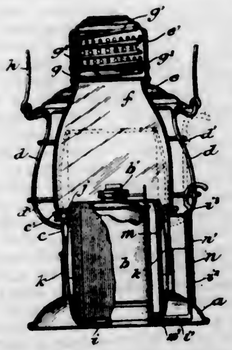
6. In an ignition system for explosion engines, a circuit controlling device having spaced segments, a plurality of induction coils having their primaries connected with said segments and to a common circuit, an auxiliary generator, and mechanical means for including said generator in said circuit when it is rotated.

7. In combination with an explosion engine having an electrical ignition system, an auxiliary magneto generator adapted to be positioned away from the engine and conveniently on the dash of a motor vehicle, said auxiliary generator having a foot pedal by which it is operated, and means operated by the depression of said foot pedal for cutting the generator into the circuit of the ignition system.

8. In an ignition system for explosion engines, a circuit controlling device having spaced segments, and a source of current, induction coils connected thereto, an auxiliary generator, and means for automatically cutting said generator into said circuit when it is operated.

9. In combination with an explosion engine having an electrical ignition system, an auxiliary alternating current magneto generator adapted to be located away from the engine and conveniently upon the dash of a motor vehicle, said generator having means adapted to be engaged and moved by the person operating the car, by which it is included in the ignition circuit and simultaneously caused to generate a current.

866,242. LANTERN. FREDERICK W. VINTON, Weehawken, N. J. Filed Oct. 20, 1906. Serial No. 339,792.



1. A lantern comprising a base having a well therein, means supported thereby producing a light, a substantially colorless globe surrounding said means and above

said well, a support therefor carried by said base, an auxiliary colored globe, a reciprocating frame comprising a bottom frame adapted to support said auxiliary globe and spring arms carried by and movable with said bottom frame adapted to inclose said auxiliary globe and to engage the wall of said well, and means exposed exteriorly of said base whereby said frame may be moved to cause said auxiliary globe to be hidden in said well or to surround said light producing means whereby said lantern may be made to show substantially white or a color.

2. A lantern comprising a base having a well therein, means supported thereby producing a light, a substantially colorless globe surrounding said means and above said well, a support therefor carried by said base, an auxiliary colored globe, a reciprocating frame comprising a bottom frame, a top frame and outwardly bowed spring arms connecting said top and said bottom frame adapted to engage the wall of said well, and means exposed exteriorly of said base whereby said frame may be moved to cause said auxiliary globe to be hidden in said well or to surround said light producing means whereby said lantern may be made to show substantially white or a color.

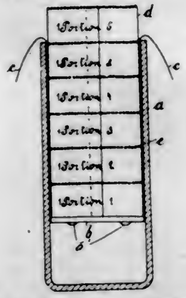
3. A lantern comprising a base having a well therein, means supported thereby producing a light, a hood, vertical and horizontal guards connecting said base and said hood, a substantially colorless globe within said guards surrounding said means and above said well, a support therefor carried by said base, an auxiliary colored globe, a reciprocating frame comprising a bottom frame, a top frame and outwardly bowed spring arms connecting said top and said bottom frame adapted to engage the wall of said well, and a handle attached to said frame extending upwardly exteriorly of said base adapted to engage said horizontal guards to aid din sustaining the weight of said frame and said auxiliary globe whereby said frame may be moved to cause said auxiliary globe to be hidden in said well or to surround said light producing means whereby said lantern may be made to show substantially white or a color.

4. A lantern comprising a base having a well therein, a flange seat above said well, means supported by said base producing a light, a hood, vertical and horizontal guards connecting said base and said hood, a substantially colorless globe on said seat within said guards surrounding said means, an auxiliary color globe, a reciprocating frame comprising a bottom frame, a top frame and outwardly bowed spring arms connecting said top and said bottom frame adapted to engage the wall of said well, and a handle attached to said frame extending upwardly exteriorly of said base adapted to engage said horizontal guards to aid in sustaining the weight of said frame and said auxiliary globe whereby said frame may be moved to cause said auxiliary globe to be hidden in said well or to surround said light producing means whereby said lantern may be made to show substantially white or a color.

5. A lantern comprising a base having a well therein, a flange seat above said well, means supported by said base producing a light, a hood, vertical and horizontal guards connecting said base and said hood, a substantially colorless globe on said seat within said guards surrounding said means, an auxiliary colored globe, a reciprocating frame comprising a spring metal bottom frame forming a loop open at one point, a top frame and outwardly bowed spring arms connecting said top and said bottom frame adapted to engage the wall of said well. and a handle attached to said frame extending upwardly exteriorly of said base adapted to engage said horizontal guards to aid in sustaining the weight of said frame and said auxiliary globe whereby said frame may be moved to cause said auxiliary globe to be hidden in said well or to surround said light producing means whereby said lantern may be made to show substantially white or a color.

6. A lantern comprising a base formed of two interlocking sections, a receptacle carried by one of said sections and spaced within same whereby a well is formed between said receptacle and said base, a flanged seat carried by the other section above said well so formed, a hood, vertical and horisontal guards connecting said base and said hood, means carried by said receptacle producing light, a substantially colorless globe on said seat within said guards surrounding said means, an auxiliary colored globe, a reciprocating frame comprising a spring metal bottom frame forming a loop opeu at one point, a top frame and outwardly bowed spring arms connecting said top and said bottom frame adapted to engage the wall of said well, and a handle attached to said frame extending upwardly exteriorly of said base adapted to engage said horizontal guards to aid in sustaining the weight of said frame and said auxiliary globe whereby said frame may be moved to cause said auxiliary globe to be hidden in said well or to surround said light producing means, whereby said lantern may be made to show substantially white or a color.

866,243. GRADUATED FOOD-PACKAGE. GUSTAV WAECHTER, Elverdissen, near Herford, Germany. Filed Aug. 6, 1906. Serial No. 329,431.



1. A graduated food package comprising in combination, a container, a false bottom therefor on which the material of the container is supported, and graduated straps connected with said bottom and projecting beyond said container.

2. A graduated food package comprising in combination, a container, a false bottom therefor, an inner graduated container disposed upon said false bottom, and graduated straps connected with said false bottom and projecting upwardly in said container.

3. A graduated food package comprising in combination, a container, a false bottom therefor on which the material of the container is supported, and flexible graduated means for raising and lowering said false bottom.

4. A graduated food package comprising in combination, a container, a false bottom therefor, an inner graduated container disposed upon said false bottom, and flexible graduated means for raising and lowering said false bottom.

5. A graduated food package comprising in combination, a container, a false bottom therefor, an inner graduated container disposed upon said false bottom, and flexible means for raising and lowering said false bottom.

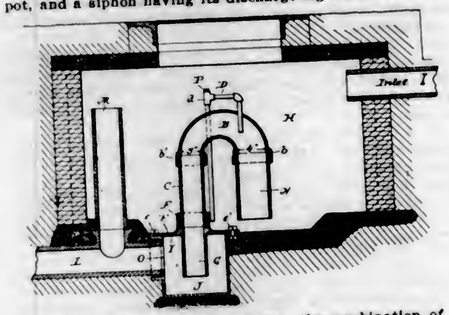
866,244. SEWER-FLUSHING APPARATUS. EDWARD L. WAGNER, Port Washington, N. Y. Filed Apr. 11, 1907. Serial No. 367,523.

1. In a sewer flushing apparatus, the combination of a flush tank, a pot set in the bottom thereof and extending below the same, a removable cover for said pot provided with a discharging leg extending downward and a bell extending upward all made integrally with said cover, and a siphon having its discharge leg set in said bell.

2. In a sewer flushing apparatus, the combination of a flush tank, a pot set in the bottom thereof and extending below the same, a removable cover for said pot provided with a discharging leg extending downward and a bell extending upward all made integrally with said cover, and a siphon having its discharge leg set in said bell, the intake leg of said siphon being of larger diameter than the discharge leg.

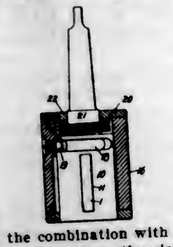
3. In a sewer flushing apparatus, the combination of a

flush tank, a pot set in the bottom thereof and extending below the same, a removable cover for said pot provided with a discharging leg extending downward and a bell extending upward all made integrally with said cover, screw threaded bolts and nuts for fastening said cover to said pot, and a siphon having its discharge leg set in said bell.



4. In a sewer flushing apparatus, the combination of a flush tank, a pot extending below said tank, a cover for the pot forming a portion of the bottom of the tank, a siphon in the flush tank having a discharge connection passing through the pot cover into the pot, and a leakage opening through said cover outside of the siphon.

866,245. CHUCK. VERNER J. WAHLSTROM, New York, N. Y. Filed Nov. 8, 1906. Serial No. 342,558.



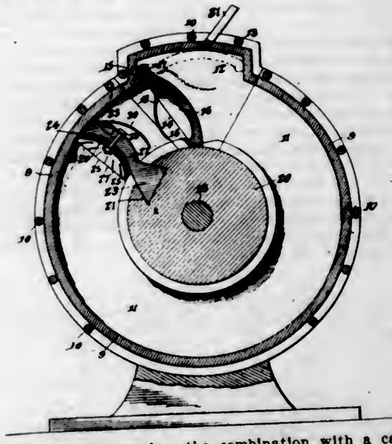
1. In a chuck, the combination with a cylindrical chuck body having a central aperture therein and a plurality of radial slots cut through its walls, of a plurality of jaws mounted in said slots each jaw having an inclined face, a plurality of rollers one of which is carried by each jaw and arranged to be rolled up said inclined face by contact with a tool shank, springs for moving the jaws outwardly, a cylindrical sleeve surrounding the chuck body, operating means intermediate the exterior of the sleeve and the jaws, and means for actuating the sleeve to cause the operating means to positively move the jaws toward the axis of the aperture, substantially as described.

2. In a chuck, the combination with a cylindrical chuck body having a central aperture therein and a plurality of radial slots cut through its walls, of a plurality of jaws mounted in said slots each jaw having an inclined face, a plurality of rollers one of which is carried by each jaw and arranged to be rolled up said inclined face by contact with a tool shank, springs for moving the jaws outwardly, a cylindrical sleeve surrounding the chuck body and provided with internal cam surfaces contacting with the rear edges of the jaws, and means for producing a rotative rotatory movement between the chuck body and the sleeve to positively move the jaws toward the axis of the aperture, substantially as described.

3. In a chuck, the combination with a cylindrical chuck body having a central aperture therein and a plurality of radial slots cut through its walls, of a plurality of jaws mounted in said slots each jaw having an inclined face, a plurality of rollers one of which is carried by each jaw and arranged to be rolled up said inclined face by contact with a tool shank, springs for moving the jaws outwardly, a cylindrical sleeve surrounding the chuck body and provided with a series of internal cam surfaces contacting with the rear edges of the jaws, and a spring for rotating the sleeve to positively move the jaws toward the axis of the aperture, substantially as described.

4. In a chuck, the combination with a cylindrical chuck body having a central aperture therein and a plurality of radial slots cut through its walls, of a plurality of jaws mounted in said slots each jaw having an inclined face, a plurality of rollers one of which is carried by each jaw and arranged to be rolled up said inclined face by contact with a tool shank, springs for moving the jaws outwardly, a cylindrical sleeve surrounding the chuck body and provided with a series of internal cam faces contacting with the rear edges of the jaws, a circumferential slot cut in the chuck body, a stud carried by the sleeve and working in said slot, and a spring for rotating the sleeve to positively move the jaws toward the axis of the aperture, substantially as described.

866,246. ROTARY ENGINE. JAMES C. WALKER, Waco, Tex. Filed Apr. 30, 1907. Serial No. 371,144.



1. In a rotary engine, the combination with a casing having a piston chamber and an enlarged abutment chamber, of a packing located against one wall of the chamber, a swinging abutment pivoted in the enlarged chamber and movable from the same to a position against the packing and across the piston chamber, and a rotary piston operating in the piston chamber.

2. In a rotary engine, the combination with a casing comprising sections, said casing having a piston chamber, and an enlarged abutment chamber, the latter being provided with an inclined rear wall, of a packing strip carried by said wall, a swinging abutment, a pivot for the abutment engaging the sections of the casing, said abutment being movable in the abutment chamber to a position against the packing strip and across the piston chamber, and a rotary piston operating in the piston chamber.

3. In a rotary engine, the combination with a rotary piston member, of a movable abutment member coöperating therewith, and yielding devices carried respectively by the piston member and abutment member, the device of the former engaging that of the latter to transmit motion from the piston member to the abutment member.

4. In a rotary engine, the combination with a rotary piston member, of a swinging abutment member coöperating therewith, a spring secured to the rear side of the abutment member, and a spring secured to the front side of the piston member and engaging the spring of the abutment member to transmit motion therethrough from the piston to the abutment.

5. In a rotary engine, the combination with a casing

having a piston chamber, of a rotary piston operating therein, said piston including a head, and a plurality of dished plates secured to the head and located one behind the other, said head operating in the chamber.

6. In a rotary engine, the combination with a casing having a piston chamber, of a rotary piston operating therein, said piston including a head, and a plurality of dished plates secured to the head and located one behind the other, said plates having slots that are disposed out of alinement.

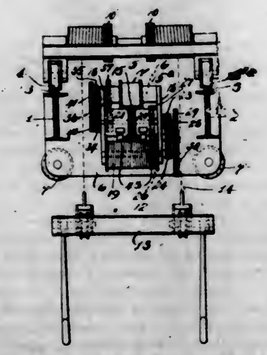
7. In a rotary engine, the combination with a casing having a piston chamber, of a rotary piston operating therein and including a head, and a dished plate secured to the head and operating in the chamber.

8. In a rotary engine, the combination with a casing having a piston chamber, of a rotary piston operating therein, said piston including a head, and a dished plate radially slitted and forming overlapped wings, said plate being secured to the head and operating in the abutment chamber.

9. In a rotary engine, the combination with a casing having a piston chamber, of a rotary piston operating in the chamber, said piston comprising a body having a dovetail socket, a head having a dovetail that is engaged in the socket, and a dished plate secured to the head.

10. In a rotary engine, the combination with a casing comprising sections, said casing having a piston chamber and an abutment chamber communicating therewith, a swinging abutment operating in the abutment chamber and having a spring on its rear side, means for introducing motive fluid into the abutment chamber and through the same into the piston chamber, a rotary piston operating in the piston chamber and including a head, a plurality of radially slitted dished plates secured to the head, the slits of one plate being disposed out of alinement with the slits of the adjacent plate, and a spring carried by the front side of the head and operating against the spring or the abutment to swing said abutment out of the path of movement of the piston.

866,247. TRAVELING LADLE-CRANE. GEORGE R. WARD, New York, N. Y. Filed July 5, 1907. Serial No. 382,255.



1. A crane having main girders, a main hoisting trolley thereon, a single supplementary girder, independent of the main girders and a supplementary trolley on said girder.

2. A crane having main girders, a main hoisting trolley thereon, a single supplementary girder, independent of the main girders and a supplementary trolley on said girder, said supplementary trolley having wheels in tandem resting on said supplementary girder.

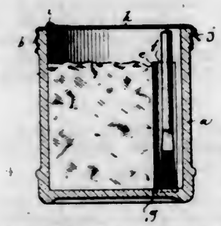
3. A crane having main girders, a main hoisting trolley thereon, a single supplementary girder, independent of the main girders and a supplementary trolley on said girder, said supplementary trolley having wheels in tandem resting on said supplementary girder, a hoisting drum, and chains hanging vertically under said supplementary trolley.

4. A crane having main girders, a main hoisting trolley thereon, a single supplementary girder, independent of the main girders and a supplementary trolley on said girder, said supplementary trolley having wheels in tandem resting on said supplementary girder, a hoisting drum, and chains hanging vertically under said supplementary trolley, and chains for the main trolley hanging between the main girders.

5. A crane having main girders, a main hoisting trolley thereon, a single supplementary girder, independent of the main girders and a supplementary trolley on said girder, and chains for the main trolley hanging between the main girders.

6. A crane having main girders, a main hoisting trolley thereon, a single supplementary girder, independent of the main girders and a supplementary trolley on said girder, said supplementary trolley being composed of a rectangular frame, a trolley wheel shaft constituting its upper member from which depends arms carrying the hoisting apparatus.

866,248. PASTE-RECEPTACLE. WALLACE S. WHITCOMB, Milwaukee, Wis. Filed Oct. 4, 1906. Serial No. 337,397.



1. A paste receptacle having a removable section adapted with the side and bottom walls of the receptacle to form a brush compartment.

2. A paste receptacle having guide ways formed therein and a section fitting in the guide ways adapted with the side and bottom walls of the receptacle to form a brush compartment in the same.

3. In a paste receptacle comprising a side wall having guide ways formed integrally therewith, a removable section in the ways adapted to form with the side wall and bottom, a brush compartment in the receptacle.

4. A paste receptacle having inwardly projecting guide ways formed integrally with the side wall thereof, a groove formed in the bottom, and a removable section fitting in the guide ways and groove.

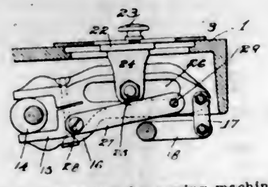
5. In a paste receptacle, guide ways formed in the inner side and bottom walls, and a section fitting in the guide ways adapted to form a brush compartment extending from the bottom nearly to the top of the receptacle.

6. In a paste receptacle, the combination of a side-wall having grooves forming guideways, a removable section fitting in the grooves forming with the side and bottom walls a brush receptacle, an open-top screw cover for the receptacle, and a spring-controlled flap, hinged to the screw cover, adapted to close the opening in the top of the paste receptacle.

7. In a paste receptacle the combination of inner walls having guide ways formed therein, a removable section adapted to form one wall of a brush-compartment, the inner surface of the receptacle forming the other walls, a screw top for the receptacle having an aperture therein, and a spring controlled closure hinged to the screw top adapted to cover the aperture in the same.

8. The combination in a paste receptacle, of a side-wall having longitudinally extending grooves forming guide ways and a bottom having a groove in its inner surface, a removable section fitting in the guideways and in the groove formed in the inner surface of the bottom, the said section forming with the side walls and bottom a brush compartment, a cover for the receptacle fitting around the outside of the upper edge of the same, and a spring-controlled flap hinged to the cover and adapted to close an opening in the top of the latter.

866,249. FEED MECHANISM FOR SEWING-MACHINES. CHRISTOPHER WINKEL, Belvidere, Ill., assignor to National Sewing Machine Co., Belvidere, Ill., a Corporation of Illinois. Filed Mar. 17, 1904. Serial No. 198,537.

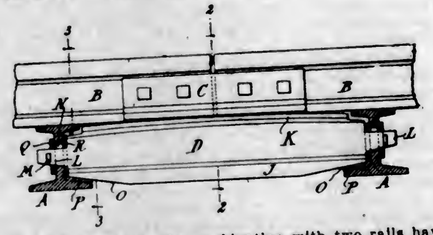


1. In a feed mechanism for sewing machines, the combination with a rotary shaft and the feed dog, of an eccentric on said shaft, a yoke embracing said eccentric and rigidly connected with said feed dog, a rocker shaft to which said yoke is pivotally connected at one end, a cam on said rotary shaft, a lever having a yoke embracing said cam, an adjustable fulcrum for said lever, a link anchored at one end and pivotally connected with said lever and a pivotal connection between said lever and rocker shaft.

2. In a feed mechanism for sewing machines, the combination with a rotary shaft and the feed dog, of an eccentric on said shaft, a yoke embracing said eccentric, a rocker shaft supporting one end of said yoke and secured to said feed dog, a second rocker shaft pivotally supporting said first rocker shaft, a cam on said rotary shaft, a lever having a yoke embracing said cam, an adjustable fulcrum for said lever, an anchored pivoted link having pivotal connection with said lever, a rocker arm on said second rocker shaft, and a link connecting said rocker arm with said lever.

3. In a feed mechanism for sewing machines, the combination with a rotary shaft and the feed dog, of a rocker shaft operatively connected to the feed dog, means operatively connecting the feed dog with said rotary shaft for raising and lowering the feed dog, a cam on the rotary shaft, a lever operatively related to said cam at one end and having operative connection at the other end with said rocker shaft for rocking it, an adjustable fulcrum for said lever, and a link having a stationary pivot at one end and pivotal connection at the other end with said lever.

866,250. RAIL-JOINT. JAMES E. YORK, New York, N. Y. Filed July 1, 1905. Serial No. 267,916.



1. In a rail joint, the combination with two rails having abutting ends, of a bridge connected to two adjacent ties, and means for separately adjusting said ends.

2. In a rail joint, the combination of two rails having abutting ends, a bridge supported at its ends and supporting the ends of said rails, and means for adjusting said bridge to move either of said rail-ends.

3. In a rail joint, the combination of two ties or the like, means for supporting a rail connected with such ties, and means for vertically adjusting said supporting means, acting by a relative horizontal movement of said supporting means and said ties.

4. In a rail joint, the combination of two ties or the like, means for supporting a rail connected with such ties, and means for vertically adjusting said supporting means, acting to move said ties toward each other.

5. A rail joint including a bridge, in combination with metal ties and means for attaching the end of the bridge to a tie, said means permitting vertical adjustment of said bridge.

6. A rail joint including a bridge adapted to pass through suitable openings in the ties.

7. A rail joint including in combination a bridge and a tie, the former having an inclined projection and the latter having an opening, said projection adapted to pass through said opening and to be adjusted therein to raise or lower the bridge.

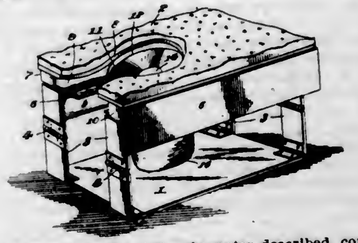
8. A rail joint including in combination a bridge having at its end an inclined face O, and a tie having an inclined portion P upon which said inclined face O is adapted to rest, and means for adjusting said bridge toward and from the tie, whereby it is lifted by the engagement of the inclines O and P.

9. A rail joint including a bridge vertically adjustable at its ends and arched so that its intermediate portion only engages under the ends of the rails.

10. A rail joint including a bridge having a central web and wider upper and lower edge portions, vertically adjustable at its ends and arched so that its intermediate portion only engages under the ends of the rails.

11. A tie for use in connection with rail joints, having a web with an aperture N therein in combination with a bridge having an end passing through said aperture.

866,251. SANITARY STOOL. WILLIAM K. ALOHIKEA, Los Angeles, Cal. Filed Nov. 12, 1906. Serial No. 343,104.



1. A sanitary device of the character described, comprising a base, a seat provided with an opening therein, jointed legs hinged to the seat and base, and struts suspended from the side edges of the seat and adapted to abut against the legs whereby to hold them in straight relation to the seat and base, as and for the purpose set forth.

2. A sanitary device of the character described, comprising a base, a seat provided with an opening extending therethrough, jointed legs hinged to the seat and base, supporting plates hinged to the side edges of the seat and adapted to extend downwardly therefrom, and struts hinged to the lower edges of said plates and adapted to extend inwardly between the legs to hold the same in straight relation to the seat and base.

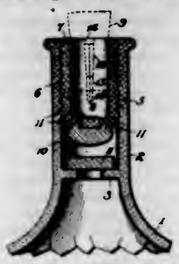
3. A sanitary device of the character described, comprising a base, a seat provided with an opening extending therethrough, jointed legs provided with spring hinges at their joints, and hinged at their ends to the base and seat respectively, the springs of said hinges tending to force the legs out straight so as to elevate the seat with respect to the base, hinged plates secured to the side edges of the seat, and struts having a spring hinge connection with the lower edges of the said plates and adapted to extend between and in contact with the legs, to hold the latter in straight relation to the seat and back.

4. In a sanitary device of the character described, the combination of a seat provided with an opening extending

therethrough and with ledges underneath and on each side of said opening, a douche pan provided with a rim adapted to be supported on said ledges, and a bag suspended from said pan.

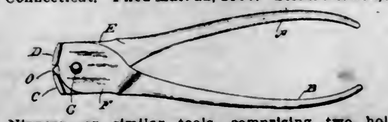
5. In a sanitary device of the character described, the combination of a seat provided with an opening extending therethrough, a douche pan provided with a rim, a bag suspended from said rim and provided with a discharge opening, and means for suspending the pan and bag underneath the opening in the seat.

866,252. NON-REFILLABLE BOTTLE. LUIS ARNAVAT, ANTONIO MENDEZ, and JOSÉ B. FERNANDEZ, Tampa, Fla., assignors of ten one-hundredths to Joaquin Riera, Tampa, Fla. Filed Aug. 6, 1906. Serial No. 329,452.



The combination of a receptacle having a neck and provided at the center thereof with an annular flange having a horizontal upper face forming a valve seat, a valve consisting of a disk having flat upper and lower faces and arranged on the valve seat, and a guard consisting of a hollow plug secured within the neck of the receptacle and having an interior stopper-receiving chamber and provided at the bottom thereof with inclined apertures, said guard being also provided at the bottom with a depending central protuberance or head having downwardly or outwardly curved side faces and presenting a lower rounded or convex face to the valve, whereby the latter is caused to assume an inclined position when the bottle is inverted.

866,253. NIPPERS AND SIMILAR TOOL. WILLIAM A. BERNARD, New Haven, Conn., assignor to The William Schollhorn Company, New Haven, Conn., a Corporation of Connecticut. Filed Mar. 22, 1907. Serial No. 363,848.



1. Nippers, or similar tools, comprising two hollow sheet metal handle levers, pivoted together, and having at their forward ends transversely extending integral cutting edges, substantially as described.

2. Nippers, or similar tools, comprising two hollow sheet metal handle levers, having at their forward ends parallel extending plates pivoted together, and transversely extending cutting jaws integral with said plates, substantially as described.

3. In nippers, or similar tools, the combination with handle levers; of jaws at their forward ends formed of sheet metal partially doubled on itself, and having cutting edges at right angles to the line of the tool, substantially as described.

4. In nippers, or similar tools, the combination with handle levers; of jaws at the forward ends formed of sheet metal partially doubled on itself, and bent backward to form substantially parallel attaching plates, substantially as described.

5. In nippers, pliers, or similar tools, the combination with handle levers, having at their forward ends jaws connected therewith, the gripping portion of said levers being formed of sheet metal, having its lateral edges bent to meet on a substantially longitudinal line on the outer side of said gripping surfaces, said gripping portions being curved longitudinally, substantially as described.

866,254. CHANGE-SPEED LEVER FOR AUTOMOBILES. CHARLES W. BERRY, Portland, Me. Filed Jan. 2, 1907. Serial No. 350,342.



1. The combination with a change gear lever, notched segment and pawl for motor cars of an auxiliary lifter for disengaging the pawl, an operating handle for actuating said lifter and means for tripping said lifter between the notches.

2. The combination with a change gear lever, notched segment and pawl for motor cars, of an auxiliary lifter for engaging said pawl, pivotally connected with the lever, an operating handle for actuating said lifter and projections on the segment for tripping said lifter between the notches.

3. The combination with a change gear lever, notched segment and pawl for motor cars, of an auxiliary lifter for disengaging said pawl, a link pivoted by one end to said lifter and by the other end to the lever, an operating handle for actuating said lifter and means for tripping said lifter between the notches.

4. The combination with a change gear lever, notched segment and pawl for motor cars of an auxiliary U-shaped lifter, the upper ends of which normally impinge on the pawl, a link pivoted by one end to said lifter and by the other end to the lever, a connecting rod and operating handle for raising said lifter to disengage the pawl and projections for tripping said lifter between the notches.

5. The combination with a change gear lever, notched segment and pawl for motor cars, of an auxiliary U-shaped lifter, the upper end of which normally impinges on the pawl, a link pivoted by one end to said lifter and by the other end to the lever, a spring for forcing said lifter normally downward, a connecting rod and handle for raising said lifter to disengage the pawl and projections for tripping said lifter between the notches.

6. The combination with a change gear lever, segment and pawl for motor cars of a stop on the lever and a stop on the segment adapted to impinge and prevent the lever from going into its reverse position from its neutral position, one of said stops being laterally movable to let the other stop pass and a handle to actuate the laterally movable stop.

7. The combination with a change gear lever, notched segment and pawl for motor cars, of a lifter for disengaging the pawl carried by the lever, an operating handle for raising said lifter, a stationary stop on the segment and a stop connected to the lifter adapted to normally impinge on said stationary stop but to pass by it when said lifter is raised.

8. The combination with a change gear lever, notched segment and pawl for motor cars, of an auxiliary U-shaped lifter, the upper ends of which normally impinge on the pawl, a link pivoted by one end to said lifter and by the other end to the lever, a spring for forcing said lifter normally downward, a connecting rod and handle for raising said lifter to disengage the pawl and projections for tripping said lifter between the notches, a stationary stop on the segment and a stop or projection on said link adapted to strike said stationary projection when in its lower position but to pass by it when raised.

866,255. NUT-LOCK. WILLIAM H. BURNETT, Springfield, Ill., assignor of one-half to William L. Ensel, Springfield, Ill. Filed Oct. 29, 1906. Serial No. 341,171.



1. The combination of a nut having a chamber enlarged in its upper part and having members adapted to be battered, a washer fixable in the enlarged part of the chamber of the nut by battering the members of the nut and having an angular opening adapted to prevent the turning of a coöperating dog, a dog slidable in the chamber of the nut and having a member slidable in the angular opening through the washer, and provided with means for moving the dog longitudinally outward in the angular opening, and shoulders adapted to accommodate a spring, and a spring surrounding the member of the dog between the washer and the shoulder of the dog and acting to slide the dog inward.

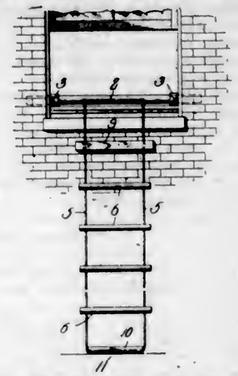
2. The combination of a grooved bolt, a nut fitting on the bolt and having a circular chamber enlarged in its upper part and also having wedge shaped members adapted to be battered, a dog slidable in the chamber of the nut and having shoulders and a tongue and having a part formed to fit in the grooves of the bolt, a circular washer secured in the enlarged part of the chamber by the battered wedge-shaped members of the nut and having an opening preventing the turning of the dog, a spring bearing against the shoulders of the dog and against the under side of the circular washer, and a washer secured on the tongue of the dog and projecting beyond the nut.

3. The combination of a nut having a chamber enlarged in its upper part and having wedge-shaped members adapted to be battered; a washer having an angular opening and secured in the enlarged part of the chamber by the battered wedge-shaped members of the nut; a dog having a tongue adapted for riveting also having an angular member slidable in the angular opening of the washer, shoulders adapted to accommodate a spring and a chisel-shaped member adapted to fit in the channel of a longitudinally channeled bolt on which the nut fits; a spring surrounding the dog between the said washer and the shoulders of the dog and a second washer fitting and riveted on the tongue of the dog.

866,256. PORTABLE FIRE-ESCAPE. CHARLES F. CALNAN, Brooklyn, and ANDREW F. ANDERSEN, New York, N. Y. Filed Jan. 29, 1906. Serial No. 298,519.

1. A portable fire escape comprising a hollow supporting bar, adjustable window-frame-engaging cleats on said bar, a flexible cable threaded through said hollow bar and depending from suitable apertures therein, rungs threaded on the depending limbs of said cable, means for adjustably securing said rungs in place, and a tubular foot-piece at the bottom of the ladder to receive the spliced ends of said cable.

2. A portable fire escape comprising a supporting bar, adjustable window-frame-engaging cleats mounted on said bar, a rung-supporting cable threaded through said bar and depending from suitable apertures therein, a spacing bar having tortuous passages threaded upon the limbs of said cable, hollow rungs having apertures to receive said cable, thimbles within said rungs registering with the rung apertures, set screws to clamp said thimbles to the cable and support the rungs, and a tubular foot-piece to receive the lower ends of said cable.

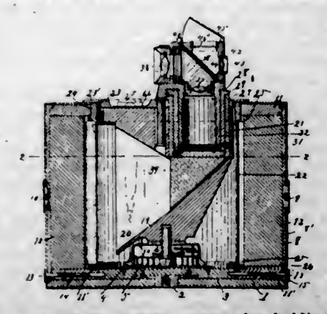


3. In a portable fire escape, the combination with a supporting bar to span the window, of flexible cables depending therefrom, securing means on said bar, to prevent endwise displacement thereof, rungs of less length than the said supporting bar secured to said cables at suitable intervals, and a receptacle having slotted ends to receive and form bearings for said supporting bar within which the cables and rungs may be reeled and housed.

4. In a portable fire escape and in combination, a supporting bar having endwise adjustable cleats thereon, flexible cables depending from said bar, rungs of less length than said bar secured to said cables at suitable intervals, and a cylindrical receptacle having slotted ends in which the cleated bar is supported against lengthwise movement within which the cables and rungs may be reeled and housed.

5. In a portable fire escape the combination with supporting cables and suitable suspending devices, of hollow rungs having transverse apertures through which said cables pass, transversely-placed thimbles within the bore of said rungs through which the cables are threaded, and means for securing said thimbles adjustably to said cables.

866,257. PANORAMA-CAMERA. WILLIAM A. CASE, San Francisco, Cal. Filed Sept. 7, 1905. Serial No. 277,400.



1. In a panorama camera, means for holding the exposed film in the form of a cylinder, a traveling shutter mounted to rotate therein, an external lens, and means

for making an exposure of any portion of up to and including a full circle.

2. In a panorama camera, means for holding the exposed film in the form of a cylinder, a traveling shutter mounted to rotate therein, an external lens connected with said shutter so as to rotate therewith, and means for making an exposure of any portion of up to and including a full circle.

3. In a panorama camera, means for holding the exposed film in the form of a cylinder, a traveling shutter mounted to rotate therein, an external lens connected with the shutter so as to rotate therewith, and independent means for varying the length of the travel of the shutter in making an exposure of less than a full circle.

4. In a panorama camera, means for holding the exposed film in the form of a cylinder, a traveling shutter mounted to rotate therein, an external lens connected with the shutter so as to rotate therewith, and a plurality of independently operable means for automatically stopping the shutter to vary the length of the picture, each of said means being provided with means for indicating the length of the picture in parts of a circle.

5. In a panorama camera, means for holding the exposed film in the form of a cylinder, a traveling shutter mounted to rotate therein, an external lens connected with the shutter so as to rotate therewith, a plurality of stops for engaging with the shutter and stopping its travel to vary the length of the picture.

6. In a panorama camera, a traveling shutter, radially movable stops for engaging with the shutter and stopping its travel to vary the length of the picture.

7. In a panorama camera, a traveling shutter, radially movable stops for engaging with the shutter and stopping its travel to vary the length of the picture, each stop being provided with characters to indicate the portion of a full circle the length of the picture will be.

8. In a panorama camera, a slotted case, a shutter rotatably mounted therein, blocks mounted in said slots and adapted to be moved into and out of the path of the shutter, and a pin in each block for moving it back and forth.

9. In a panorama camera, means for supporting and moving a film endwise therein, a traveling shutter, stops for engaging with the shutter and stopping its travel to vary the length of the picture, means for forming a notch in the upper edge of the film adjacent to the rear end of the picture, and means adapted to drop into said notch and indicate when the exposed portion of the film has been wound up.

10. In a panorama camera, means for supporting and moving a film endwise therein, a traveling shutter, blocks for engaging with the shutter and stopping its travel to vary the length of the picture, the inner ends of said blocks being each provided with means for forming a notch in the upper edge of the film, and means for engaging with said notched portion to indicate when the exposed portion of the film has been wound up.

11. In a panorama camera, a film flanged film guides, one of which is recessed, a traveling shutter, stops for engaging therewith to vary the length of the picture, a cutter on each stop adapted to fit the recess in the guide and form a notch in the film, and an indicator provided with means for engaging with said notched portion when the film is being wound up.

12. In a panorama camera, a film a traveling shutter, means for stopping the movement thereof, means for notching the edge of the film, and a plate provided with means for engaging with said notched portion and having one end formed into an indicator for extending above the top of the camera and indicating when the exposed portion of the film has been wound up.

13. In a panorama camera, a film a traveling shutter, means for stopping the movement thereof, means for notching the edge of the film, a plate secured at one end so as to extend across the top of the film and having its free end formed into a projection adapted to be extended above the top of the camera, and a roller journaled upon the underside of the plate in position for engaging with the film and entering said notch.

14. In a panorama camera, a substantially cylindrical film support, a focal plane shutter rotatably mounted in the axis thereof, means for automatically rotating the shutter, a series of characters for indicating the rate of speed at which the shutter will rotate, a pointer, and means for moving the pointer one step for each rotation of the shutter.

15. In a panorama camera, a substantially cylindrical film support, a focal plane shutter rotatably mounted in the axis thereof, a shutter carrier for rotating the shutter, a series of characters for indicating the rate of speed at which the shutter will rotate, a spur wheel mounted on the shutter carrier, a projection for engaging with said wheel and moving it one step at each revolution of the shutter, and a pointer connected with said wheel in position for registering with either one of said characters.

16. In a panorama camera, a substantially cylindrical film support, a shutter rotatably mounted in the axis thereof, means for automatically rotating the shutter and stopping it at the end of each revolution, means for indicating the rate of speed at which the shutter will rotate, and means for locking the shutter against rotation in either direction beyond a certain number of rotations.

17. In a panorama camera, a substantially cylindrical film support, a shutter rotatably mounted in the axis thereof, means for automatically rotating the shutter and stopping it at the end of each revolution, a star wheel for indicating the number of revolutions, one side of which wheel is smooth and shouldered, means for moving the wheel one step at each revolution of the shutter, and a pin for engaging with said shoulders to lock the shutter against rotation in either direction beyond a certain number of rotations.

18. In a panorama camera, a substantially cylindrical film support provided at its upper end with an inwardly extending projection, a recessed shutter carrier rotatably mounted in the axis of the film support, means for automatically rotating the shutter and stopping it at the end of each rotation, a series of characters around said recess for indicating the speed at which the shutter will rotate, a spur wheel mounted in said recess in position for engaging with said projection and having one side smooth and provided with shoulders, a pin for engaging with said shoulders, a pointer on the wheel adapted to be moved into register with said characters, and a protector for the pointer.

19. In a panorama camera, means projecting beyond the top of the camera for varying the focal distance.

20. In a panorama camera, a film means for holding the film in the form of a cylinder, means projecting beyond the top of the camera in the axis of said cylinder and provided with a lens, and means for varying the focal distance of the lens relative to the film.

21. In a panorama camera, a substantially cylindrical film support, a lens carrying member rotatably mounted in the axis thereof and extending beyond the top of the camera, a lens in said member, and means for moving said member longitudinally, and means for varying the focal distance of said lens relative to the film.

22. In a panorama camera, a substantially cylindrical film support, a turret rotatably mounted in the axis thereof, a lens carrying member in the turret, a lens in said member, and means for moving said member longitudinally for varying the focal distance of the lens relative to the film.

23. In a panorama camera, a substantially cylindrical film support, a turret rotatably mounted in the axis thereof and provided with a lens, and adjustable means for moving said lens longitudinally of the axis of the turret to vary the focus.

24. In a panorama camera, a substantially cylindrical film support, a turret rotatably mounted on the axis thereof and provided with a lens carrying member, inner and outer lenses in said member at right angles to each other, two reflectors located on opposite sides of the inner lens, and means for moving said member to vary the focus.

25. In a panorama camera, a substantially cylindrical film support, a turret rotatably mounted in the axis thereof and provided with a lens carrying member, lenses mounted at right angles and in fixed relation to each other in said member, a reflector between and at an angle to said lenses, a reflector in the turret, and means for moving said member relative to said last mentioned reflector to vary the focus.

26. In a panorama camera, a substantially cylindrical film support, a turret rotatably mounted in the axis thereof and provided with a lens carrying member and a reflector, two lenses mounted at right angles to each other in said member, the mechanical center of one of which is in said axis extended, a reflector between said lenses, and means for moving said member relative to the reflector in the turret to vary the focus.

27. In a panorama camera, a substantially cylindrical film support, a lens rotatably mounted at one end of the camera with its mechanical center in the extended axis of said cylinder, means for moving the lens longitudinally of said axis, and adjustable means at one side of said axis for reflecting the light from said lens to cause it to fall upon the film, and a focal indicator.

28. In a panorama camera, a substantially cylindrical support, a lens rotatably mounted at one end of the camera with its mechanical center in the extended axis of said cylinder, means for moving the lens longitudinally of said axis, two prisms and a lens at one side of the axis for reflecting the light from said lens to cause it to fall upon the film, and means for adjusting said lens and prisms relative to each other to vary the focus, and a focal indicator.

29. In a panorama camera, a substantially cylindrical film support, a turret rotatably mounted therein and provided with a narrow fan shaped light shaft and an opening, a reflector at the junction of the shaft and the opening, a frame rotatably mounted in the opening and provided with a light well and with lenses and a reflector, a nut for moving said frame longitudinally, and a focal indicator.

30. In a panorama camera, a substantially cylindrical film support, a turret rotatably mounted therein and provided with a narrow fan shaped recess in one side and a cylindrical opening communicating therewith, a reflector at the junction of the recess and the opening, a tube in the opening provided with a pin, a nut in the tube with a flange on its outer end to rest upon the tube and having a groove near its inner end for said pin, a screw threaded frame in the nut provided with a light well and with lenses and a reflector in fixed relation to each other but movable relative to the other reflector, and a focal distance indicator.

31. In a panorama camera, a film support, a turret rotatably mounted therein, a reflector, a longitudinally movable member in the turret provided with a graduated leg, lenses and a reflector in said member, and means for moving the member longitudinally.

32. In a panorama camera, a film support, a turret rotatably mounted therein, reflectors carried by said turret, an object lens carried by the turret, and a finder lens carried by the turret on the side opposite to the said object lens and having its axis coaxial with the axis of said object lens, substantially as described.

33. In a panorama camera, a film support, a turret rotatably mounted therein, a reflector and a longitudinally movable frame in the turret, the outer end of the frame being provided with a lens and a reflector, a view finder to the rear of the reflector having an opening in its top and a lens in the side opposite said other lens, a hood over said opening, and means for moving the frame longitudinally.

34. In a panorama camera, a film support, a turret rotatably mounted therein, an adjustable frame in the turret provided with a lens, a diaphragm, and means on the exterior of the frame for adjusting the diaphragm.

35. In a panorama camera, a film support, a turret rotatably mounted therein provided with a laterally opening light shaft, a shutter adapted to open and close said shaft, means for normally holding the shutter open, and means for automatically closing and locking the shutter at the end of an exposure.

36. In a panorama camera, a film support, a turret rotatably mounted therein provided with a light shaft, a plate pivotally secured to the side of the turret and adapted to be moved laterally to open and close said shaft, a spring for normally holding the plate so as to open the shaft, means for automatically closing the shaft at the end of an exposure, and means for locking the plate closed.

37. In a panorama camera, a film support, a turret rotatably mounted therein and provided with a light shaft, a laterally movable plate for closing said shaft provided with a projection, means for normally holding the plate so as to open the shaft, an adjustable stop for engaging with said projection and automatically closing the shaft, and means for automatically locking the plate closed.

38. In a panorama camera, a film support, a turret rotatably mounted therein, and provided with a light shaft, a base plate on the turret provided with a perforation and a shoulder adjacent thereto, an arm pivotally secured to the base plate and provided with a plate at substantially right angles thereto for closing the shaft, a spring for normally holding the plate so as to open the shaft, a longitudinally movable pin mounted in said perforation with its end adapted to engage with the plate and lock it closed, a pin in said pin for engaging with the shoulder, and means for automatically releasing the second mentioned pin from said shoulder.

39. In a panorama camera, a film support, a turret rotatably mounted therein and provided with a light shaft, a base plate on the turret provided with a perforation and a shoulder adjacent thereto, an arm pivotally secured to the base plate, a plate at the free end of the arm provided with a projection and a notch, a spring for normally holding the plate so as to open the shaft, a longitudinally movable pin in said perforation and provided with two pins, one of which is adapted to engage with said shoulder and the other one to pass through said notch, a spring on the longitudinally movable pin, and means for automatically closing said plate and releasing the spring pressed pin to permit its end to engage with said projection and lock the shutter closed.

40. In a panorama camera, a film support, a turret rotatably mounted therein and provided with a light shaft, a shutter for said shaft, two pins through the turret, each of which has a head for operating it, one of the pins being adapted for controlling the movements of the turret and the other one those of the shutter.

41. In a panorama camera, a film support, a turret rotatably mounted therein and provided with a light shaft, a perforated member, a shutter for said shaft, two longitudinally movable pins through the turret, one of which engages with said member to lock the turret against rotation, and the other of which controls the shutter and is spring pressed and rotatable and has its head slotted and located under the head of the first-named pin.

42. In a panorama camera, a substantially cylindrical film support, a film carried thereby, a turret rotatably mounted therein and provided with a light shaft, means for locking it against rotation, a shutter for closing the shaft, and a focal plate on the shutter adapted to be moved into and out of the plane of the film.

43. In a panorama camera, a film support, a film carried thereby a turret rotatably mounted therein and provided with a light shaft, means for locking the turret against rotation, a shutter for closing the shaft comprising a pivotally mounted plate, an arm pivotally secured to said plate, and a focal plate secured to the arm in position to be moved into the plane of the film or be folded against the shutter.

44. In a panorama camera, a base, a cylindrical film support thereon, a focal plane shutter rotatably mounted on the base, a motor for automatically rotating the shutter to make a full circle exposure, and a plurality of stops for causing the shutter to make any part of a circle.

45. In a panorama camera, a base, a cylindrical film support thereon, a casing on the base having perforations in its top, a rotary post projecting through the casing, a focal plane shutter removably secured to the post, and a pin on the shutter, the lower end of which is adapted to enter any one of said perforations and lock the shutter against rotation.

46. In a panorama camera, a base, a cylindrical film

support thereon, the top of which is in the form of a ring, a turret mounted within the support and provided with a light shaft, a shutter for the shaft provided with an arm, and a series of radially arranged blocks mounted on the under side of said ring and adapted to be moved into the path of said arm.

47. In a panorama camera, a base, a cylindrical film support thereon, the top of which is in the form of a ring, a turret rotatably mounted within said support and provided with a light shaft, a shutter for the shaft provided with a projection, a stop lever pivotally mounted on said ring with its inner end movable into and out of the path of said projection, and means for moving said lever to release the shutter.

48. In a panorama camera, a cylindrical film support, the top of which is provided with a ring, a focal plane shutter rotatably mounted within said support, a stop lever pivotally secured to said ring for controlling the rotation of the shutter, a plate, means for operating said plate, and a pawl on the plate in position for actuating and then releasing the lever.

49. In a panorama camera, cylindrical film support, the top of which is provided with a ring, a focal plane shutter rotatably mounted within said support, a plate on the under side of said ring, a stop lever pivotally secured to the plate, a post through the plate and the ring, an arm on the upper end of the post adapted to be actuated by the plunger, a second plate on the lower end provided with a pawl for actuating the stop lever, and pins for holding the lever, the second plate and pawl in their normal position, one pin engaging with said second plate and lever.

50. In a panorama camera, a base, a cylindrical film support thereon comprising two rings and uprights therebetween, two film holders, a film two rollers between said holders, means for notching the top of the film, a plate secured to the top at one end between one of the film holders and said rollers and having its free end provided with an indicator, a roller on the under side of said plate for engaging with the notched portion of the film, and a focal plane shutter rotatably mounted within said film support.

51. In a panorama camera, a base, a cylindrical film support thereon comprising two rings and supports therebetween, a flanged film guide on each ring, the one at the bottom being provided with lips spaced apart to form finger holds, and the one at the top being recessed and provided with a projection, cutters for said recesses, a time indicator adapted to be operated by the projection, and means for making an exposure.

52. In a panorama camera, a base, a cylindrical film support and a casing thereon, the casing having open ended inclined slots, pins through said slots into the support, part of said pins projecting through the support into the base, and means for making an exposure.

53. In a panorama camera, a base, a cylindrical film support and a casing thereon, the casing having open ended inclined slots, the inner end of part of the slots being enlarged, pins through said slots, part of which pins pass through the support and are adapted to engage with the base and the others are each provided with an enlargement which enlargement is adapted to fit in said enlarged portions of the slots, means for preventing the entire removal of said pins, and means for making an exposure.

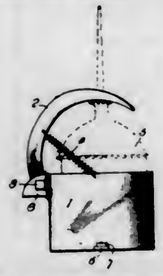
54. In a panorama camera, a two part circular base, a supporting socket between said parts, a cylindrical film support on the base, a casing on the base provided with a post located in the axis of the support, a turret detachably mounted on said post provided with means for making an exposure, and means within the casing for rotating the post and turret.

55. In a panorama camera, a base, a cylindrical film support and a casing removably secured thereon, a turret rotatably mounted on the base, a plate on the turret, and an annular disk upon said plate and overhanging the film support.

56. In a panorama camera, a base, a cylindrical film support provided with two rollers and an indicator, means for moving the film over said rollers and around the support, a focal plane shutter rotatably mounted on the base, means for automatically stopping the shutter opposite said rollers, and an annular disk on the shutter overhanging the film support and provided with an indicator to register with the register on the support when the opening of said shutter is opposite said rollers.

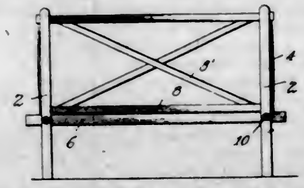
57. In a panorama camera, a cylindrical base, a cylindrical case secured thereto, a socket in the base and another one in the side of the casing for supporting the camera in a vertical or horizontal position, a level in the top and another in the side of the casing opposite the socket in the side, and a rotary focal plane shutter adapted to make an exposure when the camera is in either position.

866,258. HOLDER FOR OIL-CANS. WILLIAM L. CHRYSLER and JOSEPH W. KAYS, Eugene, Oreg. Filed Dec. 8, 1906. Serial No. 346,948.



The herein described oil can holder comprising a base of cup form having outwardly extended lugs apertured to receive fastenings and provided at its upper end with offstanding spaced ears, a clamp comprising complemental members which are curved throughout their length and spaced apart to receive between them the spout of the oil can and which have corresponding end portions brought together to form a shank which is placed between the said ears, a fastening passed through corresponding openings of the ears and shank members of the clamp and a coil spring connecting the clamp with the base.

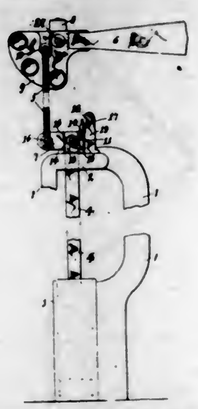
866,259. IRONING-STAND. HERMAN E. COLE, Binghamton, N. Y. Filed Aug. 6, 1906. Serial No. 329,420.



A support for ironing boards and the like, comprising a rectangular frame, a pair of connected standards hinged to the corners of the frame at each end and extending above and below the frame, and a rectangular folding bracing frame having one of its longitudinal edges hinged to one of the longitudinal edges of said rectangular frame and foldable upon said frame, and means for holding the foldable frame in vertical position between the standards, substantially as described.

866,260. LOCK FOR HOLDING SIGNALS AT DANGER. CLARENCE W. COLEMAN, Westfield, N. J., assignor to The Hall Signal Company, a Corporation of Maine. Filed Oct. 29, 1906. Serial No. 340,933.

1. The combination of a signal, an operating rod therefor, a stationary part, and means connecting the member and the rod for communicating a signal operating movement from the member to the rod to move the signal from danger position and for preventing, by engagement with the stationary part, the communication of such a movement in any other way to the rod.



2. The combination of a signal having a normal bias to danger position, an operating rod therefor, an actuating member, a stationary part, and means connecting the member and the rod for communicating a signal-operating movement from the member to the rod to move the signal from danger position and for preventing, by engagement with the stationary part, the communication of such a movement in any other way to the rod.

3. The combination of a signal, an operating rod therefor, an actuating member, connecting means between the rod and the member, said means also constituting a latch, and a catch in the path of the latch when the latch is moved out of normal operative position.

4. The combination of a signal, an operating rod therefor, an actuating member, connecting means between the rod and the member, said means also constituting a latch, and a catch for the latch, the latch being operated to engage the catch by a movement of the rod relatively to the actuating member.

5. The combination of a rod, a signal operated thereby, an actuating bar, a link connecting the rod and the bar, the link also constituting a latch, and a catch in the path of the latch when the latch is in operative position, the latch being moved to operative position by a movement of the rod relatively to the bar.

6. The combination of a rod, a signal operated thereby, an actuating bar, a link connecting the rod and the bar, the link also constituting a latch, and a stationary catch for the latch, the latch being operated to engage the catch by a movement of the rod relatively to the bar.

7. The combination of a semaphore, a reciprocatable operating rod therefor, a reciprocatable actuating bar, a link connecting the rod and the bar and capable of limited angular movement relatively thereto, and a stationary catch, the link having a portion for engaging the catch upon the angular position of the link being changed by the rod.

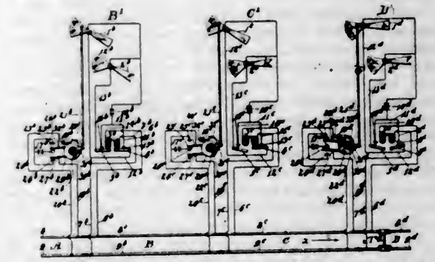
8. The combination of a signal, a reciprocatable operating rod therefor, a reciprocatable actuating bar, a connecting link pivoted to the rod and to the bar and having stops limiting its pivotal movement, and a stationary catch, the link having a portion for engaging the catch when the link is moved on its pivots by the rod.

9. The combination of a signal, a reciprocatable operating rod therefor, a reciprocatable actuating bar, a connecting link pivoted to the rod and to the bar and having shoulders for limiting its pivotal movement by engaging the bar, and a stationary catch for engaging the link when the link is moved on its pivots by the rod.

10. The combination of a signal, an operating rod, an actuating bar, a link pivoted upon the bar and connected to the rod and having stops limiting its pivotal movement, a frame in which the bar is guided, and a catch, carried by the frame, for engaging the link when the link is pivotally moved by the rod.

11. The combination of a signal, a signal lock, signal actuating means, and connections between the signal and the signal-actuating means comprising two relatively-movable members operating to transmit movement to the signal from said actuating means but to move relatively when the signal is moved by extraneous force, said connections being connected with the signal lock so as to throw it into operation by such relative movement.

866,261. RAILWAY TRAFFIC-CONTROLLING SYSTEM. CLARENCE W. COLEMAN, Westfield, N. J., assignor to The Hall Signal Company, a Corporation of Maine. Filed Jan. 10, 1907. Serial No. 351,616.



1. In a railway traffic controlling system, the combination of a stationary contact terminal, a movable contact terminal, an oscillatable part for actuating the movable terminal, a spring connected to said part, a pawl for holding said part from rotating while the spring is being put under tension, a rocking arm for putting the spring under tension and then tripping the pawl, traffic-controlling apparatus, and means for concurrently actuating the traffic-controlling apparatus and the rocking arm.

2. In a railway traffic controlling system, the combination of a traffic controlling apparatus, a rocking arm actuated concurrently with the actuation of such apparatus, a spring-carrier, a pivot in common for the rocking-arm and for the spring-carrier, a spring anchored to the spring-carrier and to the rocking-arm, the rocking-arm being engageable with the spring-carrier to rock the spring-carrier in one direction of movement, the spring-carrier being adapted to be rocked in the opposite direction by the spring, a pawl engageable with the spring-carrier to hold the spring-carrier from rotating while the spring is being put under tension, the rocking-arm being adapted as it is rocked in the opposite direction to first put the spring under tension and then to engage with and trip the pawl to release the spring, a stationary contact-terminal, and a movable contact-terminal coöperating therewith and actuatable by the spring carrier.

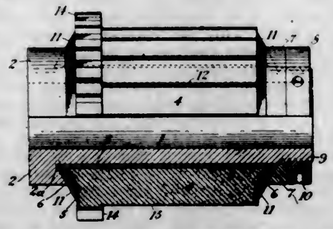
3. In a railway traffic controlling system, the combination of a traffic controlling apparatus, a rocking arm actuated concurrently with the actuation of such apparatus, a spring-carrier, a pivot in common for the rocking-arm and for the spring-carrier, a spring anchored to the spring-carrier and to the rocking-arm, the rocking-arm being engageable with the spring-carrier to rock the spring-carrier in one direction of movement, the spring-carrier being adapted to be rocked in the opposite direction by the spring, a pawl engageable with the spring-carrier to hold the spring-carrier from rotating while the spring is being put under tension, the rocking-arm being adapted as it is rocked in the opposite direction to first put the spring under tension and then to engage with and trip the pawl to release the spring, two stationary contact-terminals, and a movable contact-terminal alternately engageable with the respective stationary contact-terminals, such movable contact terminal being actuatable by the spring-carrier.

4. In a railway traffic controlling system, the combina-

tion of a fixed contact-terminal, a second fixed contact-terminal, a movable contact-terminal engageable alternately with each of the two fixed contact-terminals, an oscillatable part for actuating the movable contact-terminal, a spring connected to said part for moving said part in one direction, a pawl for holding said part from rotating while the spring is being put under tension, a rocking-arm movable in one direction to first put the spring under tension and then trip the pawl to permit the spring to move the movable contact-terminal out of engagement with one of the fixed contact-terminals and into engagement with the other fixed contact terminal, and movable in the opposite direction to restore said part and the movable contact terminal to their original positions, a traffic controlling apparatus, and a connecting-rod for actuating the rocking-arm and actuated in conjunction with the actuation of the traffic controlling apparatus.

5. In a railway traffic controlling system, the combination of a traffic controlling apparatus, a connecting-rod actuated in conjunction with the actuation of such apparatus, a rocking-disk actuated by the connecting-rod, a shaft upon which the rocking-disk is fixed, a spring-carrier loosely mounted upon the shaft and having a sleeve extending along the shaft, a spring anchored to the spring-carrier and also anchored to the rocking-disk, the rocking-disk being engageable with the spring-carrier to rock the spring-carrier in one direction of movement, the spring-carrier being adapted to be rocked in the opposite direction by the spring, a pawl engageable with the spring-carrier to hold the spring-carrier from rotating while the spring is being put under tension, the rocking disk as it is moved in the opposite direction being adapted to first put the spring under tension and then to engage with and trip the pawl to release the spring, a crank-arm fixed upon the sleeve of the spring-carrier, a movable contact terminal, a link connecting the crank-arm and the movable contact-terminal, and two stationary contact-terminals with which the movable contact-terminal is respectively alternately engageable.

866,262. COMMUTATOR. CLARENCE W. COLEMAN, Westfield, N. J., assignor to The Hall Signal Company, a Corporation of Maine. Filed Jan. 24, 1907. Serial No. 353,815.



1. A commutator comprising contact bars insulated from each other on their adjacent surfaces and comprising non-metallic bodies coated with conductive metal on their lateral surfaces.

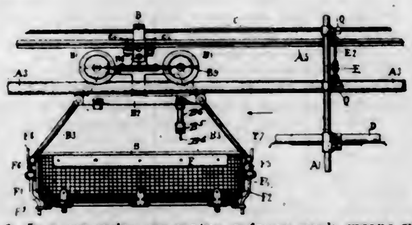
2. A commutator comprising contact bars of non-metallic material coated on their lateral surfaces with metal, and means for engaging the ends of the bars and clamping them in place under pressure.

866,263. STAND FOR SOUND-AMPLIFYING HORNS. JOHN H. B. CONGER, Newark, N. J., assignor to The Tea Tray Company of Newark, N. J., a Corporation of New Jersey. Filed Feb. 11, 1903. Serial No. 142,898.

A horn stand comprising a support carrying a vertical rod 7, a rod 8 threaded at its lower end and bent near the lower end at 45° and reversely near the upper end at 90°, a rod 9 threaded at its lower end and bent near its upper end at 45° so that said bent end will stand horizontal, a ring and hook hung on the horizontal end, and straight sleeves 14 fast on the upper ends of the rods 7 and 8 and having threaded sockets in their upper extremities receiving the threaded lower ends of the rods 8 and 9, substantially as described.



866,264. CONVEYING APPARATUS. JAMES T. COWLEY, Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J., a Corporation of New Jersey. Filed May 18, 1905. Serial No. 260,927.



1. In a conveying apparatus, a frame work, means supporting said frame work, tracks or guide rails mounted therein, a carrier adapted to travel on said tracks or guide rails, a propelling cable adapted to actuate said carrier, despatching stations or shelves located within the path of travel of said carrier, and means located on said carrier for sweeping articles on said despatching shelves or stations into said carrier.

2. In a conveying apparatus, a frame work, means supporting said frame work, tracks or guide rails mounted therein, a carrier adapted to travel on said tracks or guide rails, a propelling cable adapted to actuate said carrier, despatching stations or shelves located within the path of travel of said carrier, and yielding means located on said carrier for sweeping articles on said despatching stations or shelves into said carrier.

3. In a conveying apparatus, a track or way, a carrier adapted to travel on said track or way, a propelling cable adapted to actuate said carrier, one or more despatching stations or shelves located in the path of travel of said carrier, and means located on the carrier for sweeping articles from said despatching station or stations into said carrier.

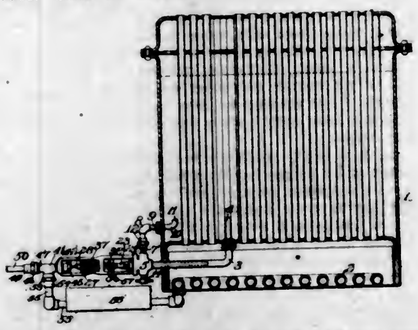
4. In a conveying apparatus, a track or way, a carrier adapted to travel on said track or way, a propelling cable adapted to actuate said carrier, one or more despatching stations or shelves located in the path of travel of said carrier, and yielding means located on the carrier for sweeping articles from said despatching station or stations into said carrier.

5. In a conveying apparatus, a track or way, a carrier adapted to travel on said track or way and provided with a releasable bottom, means for normally holding said bottom in its closed position, a propelling cable adapted to actuate said carrier; one or more despatching stations or shelves located in the path of travel of said carrier, a receiving station located in the path of travel of said carrier, and means for releasing said bottom to allow the discharge of the contents of said carrier at said receiving station.

6. In a conveying apparatus, a track or way, a carrier adapted to travel on said track or way and provided with a releasable bottom, means for normally holding said bottom in its closed position, a propelling cable adapted to actuate said carrier, one or more despatching stations or shelves located in the path of travel of said carrier, a receiving station located in the path of travel of said carrier, means for releasing said bottom to allow the discharge of the contents of said carrier at said receiving station, actuating means adapted to close said releasable bottom after said discharge, and means for locking said releasable bottom in its closed position.

7. In a conveying apparatus, a track or way, a carrier adapted to travel on said track or way, a propelling cable adapted to actuate said carrier, one or more despatching stations located in the path of travel of said carrier, a receiving station located in the path of travel of said carrier, means located on the carrier for sweeping articles from said despatching station or stations into said carrier, a receiving station located in the path of travel of said carrier, and means for discharging the contents of said carrier at said receiving station.

866,265. SAFETY APPLIANCE FOR STEAM-BOILERS. HERBERT CRIPPEN, Rochester, N. Y. Filed July 17, 1903. Serial No. 166,032.



1. The combination with a steam boiler, a water chamber communicating with the water space of said boiler and a burner having a fuel supply, of a part projecting into said water chamber, a cut-off for the fuel supply including a valve and a stem therefor also projecting into the chamber, and a fusible connection between the valve stem and the projecting part for normally retaining the valve in open position.

2. The combination with a steam boiler, a burner therefor having a fuel supply connected thereto and a water chamber exposed to the heat of the burner, of a cut-off valve for the fuel supply having its valve stem provided with a detachable part projecting into the water chamber of the boiler, a sleeve also projecting into the water space of the boiler adjacent to the stem, a thermally controlled device normally connecting the said stem and sleeve, and a detachable part containing the sleeve and the detachable part of the stem.

3. The combination with a steam boiler, a burner therefor having a fuel supply connected thereto, and a water chamber communicating with the water space of the boiler and exposed to the heat of the burner, of a cut-off valve for controlling the fuel supply located exteriorly of the boiler and having a stem with a part extending into the water chamber thereof, a sleeve inclosing said stem, and a fusible substance normally sealing the bore of the sleeve and serving as a connection between the sleeve and stem.

4. The combination with a steam boiler, a burner therefor having a fuel supply connected thereto, of a fitting on the boiler, a cut-off valve for the fuel supply having a stem with a part extending through the fitting into the water space of the boiler, means normally tending to operate the stem, a sleeve secured to the fitting and surrounding the stem, and a fusible substance normally sealing the bore of the sleeve and serving as a connection between the sleeve and stem.

5. The combination with a steam boiler, and a burner therefor having a fuel supply connected thereto, of a hollow fitting secured to the boiler and communicating with the water space thereof, a plug detachable from the fitting and carrying relatively fixed and movable members, a thermally-controlled connection between said members, and a valve in the fuel supply controlled in its operation by said movable member.

6. The combination with a steam boiler, and a burner therefor having a fuel supply connected thereto, of a fitting having portions communicating with the boiler and exposed to the heat of the burner, a plug detachable from the fitting and carrying relatively stationary and movable members, a thermally-controlled connection between the said members for normally preventing their relative movement, and a valve for the fuel supply having its stem connected to said movable member.

7. The combination with a boiler, and a burner therefor having a fuel supply connected thereto, of a fitting having portions communicating with the boiler and exposed to the heat of the burner, a plug having a sleeve thereon projecting into the fitting, a stem inclosed by the sleeve and extending through the plug to the exterior of the fitting, a valve for the fuel supply having a part controlled by the said stem, and a thermally-controlled connection for normally preventing relative movement of the stem and sleeve.

8. The combination with a boiler, and a burner therefor having a fuel supply connected thereto, of a fitting having portions communicating with the boiler and exposed to the heat of the burner, a plug detachable from the fitting having a sleeve fixed therein and projecting into the fitting, a relatively movable stem surrounded by the sleeve and extending loosely through the plug, a fusible connection between the sleeve and stem for normally preventing relative movement between them, and a valve for the fuel supply controlled by the said stem.

9. The combination with a boiler, and a burner therefor having a fuel supply connected thereto, of a hollow fitting, pipes connected at their outer ends by said fitting and having their opposite ends extending vertically to a given level within the boiler, one of said pipes being exposed to the heat of the burner, a thermally-controlled device arranged with one of said pipes, and a valve for the fuel supply controlled in its operation by said thermally-controlled device.

10. The combination with a steam boiler and a burner having a fuel supply connected thereto, of a water chamber connected to said boiler and exposed to the heat of the burner, a cut-off interposed between said fuel supply and burner, a releasing device to permit the closing of said cut-off during the absence of water in said chamber, and means for reopening said cut-off independently of the releasing device.

11. The combination with a steam boiler and a burner having a fuel supply connected thereto, of a water circulating pipe connected to said boiler and exposed to the heat of the burner, a cut-off interposed between said fuel supply and burner, a spring operating to close said cut-off, a releasing device to permit the closing of said cut-off upon the interruption of circulation through said pipe, and means for overcoming the action of said spring and reopening said cut-off.

12. The combination with a boiler, and a burner there-

for having a fuel supply connected thereto, of a hollow fitting having communication with the boiler and provided with laterally-arranged lugs thereon, a thermally-controlled device carried by said fitting and having an operating part extending to the exterior of the latter, a frame having arms adapted to coöperate with said lugs on the fitting, a valve for the fuel supply, and a valve stem guided in said frame and connected to the operating part of the thermally-controlled device.

13. The combination with a boiler, and a burner therefor having a fuel supply connected thereto, of a hollow fitting having communication with the boiler and provided with a part exposed to the heat of the burner, a rod extending into the fitting, a thermally-controlled device for normally preventing movement of the rod, a valve for the fuel supply, a stem for operating the valve having a detachable connection with the said rod, and a frame serving to guide the said stem and as a connection between the valve and fitting.

14. The combination with a steam boiler, and a burner therefor having a fuel supply connected thereto, of a water chamber exposed to the heat of said burner and communicating with the water space of the boiler, a cut-off located in the fuel supply having a relatively movable operating portion extending into the water chamber and a fuse located in said chamber connected to said operating portion to normally restrain its operation.

15. In combination with a steam boiler and a burner therefor having a fuel supply connected thereto, of a water chamber communicating with the water space of the boiler, a cut-off located in the fuel supply having a relatively movable operating member, and a removable plug fitted in the water chamber having a relatively fixed projection extending into the water chamber, a relatively movable portion extending into said chamber and connected to the operating member of the cut-off and a fusible substance located within the water chamber and connecting said projection and movable portion.

16. In combination with a steam boiler, a burner therefor having a fuel supply connected thereto, and a water chamber communicating with the water space of the boiler, of a cut-off located in the fuel supply, a relatively movable operating member therefor, a plug removably fitted in said water chamber having a hollow portion projecting therein, a longitudinally movable portion located within said hollow portion and connecting with the operating portion of the cut-off, and a fusible connection within the said chamber and normally connecting said hollow and movable portions.

17. In combination with a steam boiler, a burner therefor having a fuel supply connected thereto, and a water chamber communicating with the water space of the boiler, of a cut-off located in the fuel supply having a relatively movable operating member, means normally acting thereon to close the cut-off, and a plug removably fitted in the water chamber having a hollow portion projecting therein, a longitudinally movable portion mounted in said hollow portion and connected to said operating member, and a fusible connection between said hollow and movable portions normally serving to retain the latter in relatively fixed relation.

18. The combination with a steam boiler, a burner therefor having a fuel supply connected thereto and a water chamber communicating with the water space of the boiler, of a valve located in the fuel supply having a movable operating member, means normally acting thereon to close the valve, a plug removably fitted into the water chamber having a tubular extension thereon, a rod movable longitudinally within said extension and connected to the operating member of the cut-off and a thermally controlled device for normally retaining the rod and operating member in their retracted positions.

19. The combination with a steam boiler, and a burner therefor having a fuel supply connected thereto, of a water circulating chamber extending through the combustion chamber of the burner and communicating at different points with the water chamber of the boiler, a cut-off located in the fuel supply having an operating member, and a fuse controlled by the temperature within said chamber for controlling the operation of the valve operating member.

20. The combination with a steam boiler, and a burner therefor having a fuel supply connected thereto, of a water circulating pipe extending above the burner and communicating at both ends with the water space of the boiler, a cut-off in the fuel supply having a valve stem extending into said pipe and normally operating to close the cut-off and means controlled by the temperature within the said pipe and connected directly to the valve stem for retaining the stem in its retracted position.

21. The combination with a steam boiler, a burner therefor having a fuel supply connected thereto, and a water chamber communicating with the water space of the boiler and exposed to the heat of the burner, of a cut-off valve located in the fuel supply, a longitudinally movable valve stem for operating the latter, a relatively fixed tubular extension projecting into the water chamber, a longitudinally movable rod mounted within the tubular extension and movable with the valve stem, and means controlled by the temperature within the chamber for normally retaining said rod and extension in fixed relation.

22. In a safety appliance, the combination with a steam boiler, and a burner having a fuel supply connected thereto, of circulating pipes extending through the combustion chamber of the burner and having their apertures located at a predetermined height within said boiler, a fitting connecting said pipes through which water from said boiler normally circulates, a stationary member located in one of said pipes, a movable member, a fusible connection between said members, and a controlling device connected to said fuel supply, and adapted to be released by said movable member to interrupt the fuel supply after the circulation through said pipes ceases.

23. In a safety appliance, the combination with a steam boiler, and a burner and fuel supply connected thereto, of circulating pipes exposed to the heat of the burner and having their apertures located at a predetermined height within said boiler, a fitting connecting said pipes through which water from said boiler normally circulates, a plug carrying a stationary and a movable member fitted in said fitting, a fusible connection between said members, and a controlling device connected to said fuel supply, and adapted to be released by said movable member to interrupt the fuel supply after the circulation through said pipe ceases.

24. In a safety appliance, the combination with a steam boiler, and a burner having a fuel supply connected thereto, of circulating pipes exposed to the heat of the burner and having their apertures located at a predetermined height within said boiler, a fitting connecting said pipes through which water from said boiler normally circulates, a stationary member located in one of said pipes, a movable member, a fusible connection between said members, and a controlling device connected to said fuel supply, a valve stem for operating said device adapted to be released by said movable member to interrupt the fuel supply after the circulation through said pipes ceases, and a retracting device operating upon said stem for restoring the fuel supply.

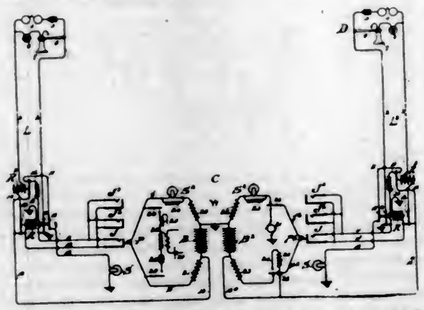
25. In a safety appliance, the combination with a steam boiler, and a burner having a fuel supply connected thereto, of circulating pipes exposed to the heat of the burner and having their apertures located at a predetermined height within said boiler, a fitting connecting said pipes through which water from said boiler normally circulates, a plug carrying a stationary and a movable member fitted in said fitting, a fusible connection betwen said members, and a controlling device connected to said fuel supply, and adapted to be released by said movable member to interrupt the fuel supply after the circulation through said pipes ceases and a retracting device for said controlling device to restore said fuel supply.

26. The combination with a steam boiler, a burner therefor and a fuel supply connected thereto, of a water chamber communicating with the water space of the boiler, a frame connected thereto having a cut-off valve at one end thereof connected in the fuel supply, a valve stem movable longitudinally of the frame for operating the cut-off, a spring interposed between the frame and the stem for operating the latter, an extension connected to said stem and extending into said water chamber a relatively fixed member projecting into said water chamber, and means controlled by the temperature of the water chamber for normally connecting said extension and fixed member and thereby retaining the valve stem retracted.

27. The combination with a steam boiler, a burner therefor having a fuel supply connected thereto, and a water chamber communicating with the water space of the boiler, of a cut-off valve located in the fuel supply having an operating stem, a spring for operating said stem to close its valve, and a plug removably fitted into the water chamber having a tubular extension thereon, an extension connected to said stem and movable longitudinally within the tubular extension, and a fusible substance connecting said extensions.

28. The combination with a boiler, a burner therefor having a source of fluid fuel supply connected thereto, and a cut-off in the fuel supply having an operating stem and means normally operating thereon to close the cut-off, of a water chamber communicating with the water space of the boiler, a tubular extension projecting into the water chamber and having the valve stem movable longitudinally therein, and a fusible substance sealing the tubular extension and forming a connection between the tubular extension and valve stem to prevent operation of the latter while the temperature in the water chamber is normal.

866,266. TELEPHONE SYSTEM. WILLIAM W. DEAN, Chicago, Ill., assignor to Kellogg Switchboard & Supply Company, Chicago, Ill., a Corporation of Illinois. Filed June 19, 1903, Serial No. 162,199. Renewed Feb. 27, 1907. Serial No. 359,612.



1. In a telephone system, the combination with a telephone line, of a cord circuit to establish connections with the line for conversation, a central common source of current adapted to be connected with the line to send current thereover for conversational purposes, a relay in the line under control of the subscriber, and a supervisory signal associated with the cord circuit and controlled by said relay, the operation of said signal being caused by current over one of the talking strands of the cord circuit during a connection and when a subscriber's telephone is not in use, and the said signal being prevented from operation by the lack of a sufficient flow of current over said stand during conversation, substantially as described.

2. In a telephone system, the combination with a telephone line, of a cord circuit to establish connections for conversation, a central common source of current to supply current to the telephone line during conversation, and a supervisory signal placed in one of the talking strands of the cord circuit, said signal being inert during conversation, but actuated over a circuit local to the central office during the connection when the subscriber's telephone is not in use, substantially as described.

3. In a telephone system, the combination with a metallic telephone line, of a cord circuit to establish connections for conversation, a central common source of current to supply current over the metallic telephone line for conversation during connections, and a supervisory signal placed in one of the talking strands of the cord circuit in the path of such current, said signal receiving insufficient current to operate the same during conversation but receiving sufficient current from said source to operate the same when the subscriber's telephone is not in use, substantially as described.

4. In a telephone system, the combination with a two-conductor telephone line, of a cord circuit to establish connections with the line for conversation, a central common source of current to send current over the said line during conversation, a signal in one of the talking strands of the cord circuit, and in the path of such current, means to prevent said signal operating during conversation but to operate the same from said source over a local circuit during the connections and when the subscriber's telephone is not in use, substantially as described.

5. The combination with a telephone line, of a cord circuit to establish connection for conversation, a central common source of current to send current over the telephone line during conversation, a relay in the telephone line under the control of the subscriber, a supervisory signal placed in one of the talking strands of the cord circuit, and means controlled by said relay to prevent the operation of said signal during conversation but to permit its operation during connections and when the subscriber's telephone is not in use, substantially as described.

6. In a telephone system, the combination with a telephone line, of a cord circuit to establish connections for conversation, a central common source of current adapted to send current over the cord circuit during conversation, a supervisory signal located in one of the talking strands of the cord circuit in the path of current thereover to supply the subscriber's transmitter during conversation, said signal receiving insufficient current during conversation to operate the same, and means controlled by the subscriber to permit an operating flow of current through said signal when the subscriber's telephone is not in use to operate the same, substantially as described.

7. In a telephone system, the combination with a telephone line, of a cord circuit to establish connections with the line for conversation, a common battery to send current over the strands of the cord circuit and to the substation during conversation, a supervisory signal located in one of the talking strands of the cord circuit, a relay in the telephone line under the control of the subscriber, said signal not receiving an operating current during conversation whereby it is at this time inert, and means controlled by said relay for permitting an operating flow of current from said source through said signal to operate it when the subscriber's telephone is not in use, substantially as described.

8. In a telephone system, the combination with a telephone line, of a cord circuit to establish connections for conversation, a common source of current adapted to send current over the cord circuit and telephone line during conversation, an incandescent lamp placed in one of the talking strands of said cord circuit, said lamp being in the path of current during conversation and serving as a supervisory signal, and means to prevent said lamp operating during conversation but to cause its operation at other times during the connection, substantially as described.

9. In a telephone system, the combination with a telephone line, of a cord circuit to establish connections for conversation, a central common source of current connected with the cord circuit and adapted to send current over the telephone line during conversation, an incandescent lamp in one of the talking strands of the cord circuit and serving as a supervisory signal, a relay in the line circuit under the control of the subscriber, said lamp receiving insufficient current to operate the same during conversation, and means controlled by said relay to include said lamp in a local circuit when the subscriber's telephone is not in use whereby the lamp receives sufficient current to operate it, substantially as described.

10. In a telephone system, the combination with a telephone line having two main line contacts at the switch sockets or connection terminals of the line, a cord circuit coöperating therewith to establish connections for conversation and having only two strands each forming part of the talking circuit, an incandescent lamp located in one of said strands and serving as a supervisory signal, a relay in the telephone line in the path of current from said source over the telephone line and therefore under the control of the subscriber during connections, said lamp being in the path of current over the telephone line during conversation but receiving an insufficient amount of current at such time to operate the same, and a local circuit closed by said relay when deënergized to include said lamp and source whereby it then receives sufficient current to be lighted, substantially as described.

11. In a telephone system, the combination with a telephone line, of a line signal therefor, a line relay to control said signal, a cord circuit to establish connections with the line for conversation, an incandescent lamp in one side of the cord circuit, and means controlled by said line relay for including said lamp in a local circuit during connections and when the subscriber's telephone is not in use to cause the same to be operated, substantially as described.

12. The combination with a telephone line, of a line signal therefor, a cut-off device for the line adapted when operated to render said signal inoperative, a cord circuit to establish connections with the line for conversational purposes, a common source of current associated with the cord circuit and arranged to send current over the line for talking purposes when a connection exists, and a supervisory signal associated with the cord circuit, said cut-off device being operated by current from said source over one side of said cord circuit and the supervisory signal by current over the other side of the same, the circuits of both said cut-off device and said supervisory signal being local to the central office, substantially as described.

13. The combination with a telephone line, of a line signal therefor, a cut-off device for the line adapted when operated to render said signal inoperative, a cord circuit to establish connections for conversational purposes, a common source of current associated with the cord circuit and arranged to send current over the telephone line for talking purposes when a connection exists, said cut-off device being operated by current from said source over one talking strand of said cord circuit, and a supervisory signal located in the other talking strand of the cord circuit and operated by a current thereover, substantially as described.

14. The combination with a telephone line, of a line signal therefor, a cut-off device for the line adapted when operated to render said signal inoperative, a cord circuit to establish connections with the line for conversational purposes, a common source of current associated with the cord circuit and arranged to send current over the line for talking purposes when a connection exists, a relay located in the telephone line in the path of such talking current, said cut-off device being operated by current from said source over one side only of said cord circuit, and a supervisory signal associated with the cord circuit and controlled by said relay in the line, substantially as described.

15. In a telephone system, the combination with a telephone line, of a cord circuit to establish connections for conversation, a central common source of current to supply current over the limbs of the telephone line for conversation, and a supervisory signal for the cord circuit in the path of such supply current, said signal receiving insufficient current to operate the same during conversation, but receiving sufficient current from said source to operate the same when the subscriber's telephone is not in use, substantially as described.

16. In a telephone system, the combination with a telephone line, of a cord circuit to establish conversational connections therewith, a central common source of current to supply current over the limbs of the telephone line to energize the transmitter, and a supervisory signal for the cord circuit in the path of such transmitter energization current, said signal receiving insufficient current to operate the same during conversation, but receiving sufficient current from said source to operate the same when the subscriber's telephone is not in use, substantially as described.

17. In a telephone system, the combination with a telephone line, of a cord circuit extending in two limbs adapted to be connected with the limbs of the telephone line for conversation, a central source of current to furnish current over the strands of said cord circuit and the limbs of the telephone line to energize the substation transmitter during conversation, a normally inert supervisory signal for the cord circuit in the path of such current during conversation, said signal receiving insufficient current to operate the same during conversation, but receiving current over a local circuit sufficient to operate the same during the connection when the subscriber's telephone is not in use, substantially as described.

18. In a telephone system, the combination with a telephone line, of a cord circuit to establish connection for conversation, a central common source of current to supply energy to the telephone line during conversation, and a normally inert supervisory signal for the cord circuit placed in the path of current from said source, said signal being inert during conversation but actuated over a circuit local to the central office and including a portion of the talking circuit during the connection when the subscriber's telephone is not in use, substantially as described.

866,267. INVERTED GAS-BURNER. JOHN DOORENBOS, Kalamazoo, Mich., assignor to National Gas Light Company, a Corporation of Michigan. Filed Sept. 15, 1906. Serial No. 334,704.

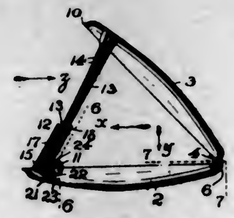


1. In an inverted gas-burner, the combination with the gas-pipe, of a bearing secured to the end of the pipe and provided with slots, a bracket comprising arms extending from said bearing, said arms affording means for the attachment to the bracket of a globe-supporting ring, a mantle-support comprising an annular head-plate provided with depending seating-arms for the mantle-ring lugs, lugs projecting from the upper face of said plate into and fastened in said slots, and a flanged nipple at the end of the pipe seated at its flange in the opening of said head-plate and confined between said head-plate and bearing.

2. An inverted gas-burner comprising, in combination with the gas-pipe, a sheet-metal bracket formed with an annular slotted bearing surrounding and secured to the end of said pipe and provided with substantially goose-neck shaped arms containing set-screw openings in their end-portions and forming globe-flange-receiving sockets, a globe-supporting ring encircling said arms, set-screws passing through said ring and arm-openings into said sockets, a mantle-support comprising an annular head-plate provided with lugs entering and secured in the slots of said bearing, and having depending arms terminating in lateral extensions forming seats for the lugs of a mantle-carrying ring, and a flanged nipple seated at its flange in said head-plate and confined at the flange between said head-plate and bearing.

866,268. MATCH-BOX. WILLIAM E. EDWARDS, Irvington, N. J. Filed Dec. 8, 1906. Serial No. 346,837. (Model.)

1. A match-box comprising a pair of hinged and normally closed body-sections, one of said sections forming the cover of said match-box, and a match-holding device pivotally connected with the box at or near the front end thereof and remote from the hinge-connection of the body-sections, said device being adapted to receive a book of matches, and spring into a raised position when said body-sections are brought into their open relation to bring the said book of matches in engagement with a portion of said cover-section and hold the same open for the removal of a match.



2. A match-box comprising a pair of hinged and spring-controlled body-sections, said sections being normally held in their closed relation, and one of the sections forming the cover of said match-box, and a spring-actuated match-holding device pivotally connected with the other body-section, at a point at or near the front end thereof and remote from the hinge-connection of said body-sections, said device being adapted to receive a book of matches, and spring into a raised position when said body-sections are brought into their open relation, to bring the said book of matches in engagement with a portion of said cover-section and hold the same open for the removal of a match.

3. A match-box comprising a body or case-section and a cover-section pivotally connected therewith by means of a spring-hinge, and means adapted to hold a folder of matches, said means being pivotally connected with said body or case-section, at a point at or near the front of the body or case-section and remote from the hinge-connection between said body and cover-section, substantially as and for the purposes set forth.

4. A match-box comprising a body or case-section and a cover-section pivotally connected therewith by means of a spring-hinge, and means adapted to hold a folder of matches, said means being pivotally connected with said body or case-section, at a point at or near the front of the body or case-section and remote from the hinge-connection between said body and cover-section, said means comprising a receiving element or holder connected to said body or case-section by means of a hinge, and means connected with said body or case-section and said receiving-element or holder adapted to tilt said receiving element or holder in an upward direction when the match-safe or box is opened, substantially as and for the purposes set forth.

5. A match-box comprising a body or case-section and a cover-section pivotally connected therewith by means of a spring-hinge, and means adapted to hold a folder of matches, said means being pivotally connected with said body or case-section and remote from the hinge-connection between said body and cover-section, said means comprising a receiving element or holder connected to said body or case-section by means of a hinge, and means connected with said body or case-section and said receiving element or holder adapted to tilt said receiving element or holder in an upward direction when the match-safe or box is opened, said means consisting of a coiled spring mounted on the pintle of said hinge and adapted to engage operatively with the said body or case-section and said receiving element or holder, substantially as and for the purposes set forth.

6. A match-box comprising a body or case-section and a cover-section pivotally connected therewith, and a match-receiving element also pivotally connected with said case-section, but at a point in said case-section directly opposite the point of pivotal connection of the cover-section with the body-section, and a spring in engagement with a portion of said match-receiving element, all arranged, so that the cover-section and the match-receiving element will move in directly opposite directions, substantially as and for the purposes set forth.

7. A match-box comprising a body or case-section and a cover-section pivotally connected therewith, and a match-receiving element also pivotally connected with said case-section, but at a point in said case-section directly opposite the point of pivotal connection of the cover-section with the body-section, and a spring in engagement with a portion of said match-receiving element, all arranged, so that the cover-section and the match-receiving element will move in directly opposite directions, substantially as and for the purposes set forth.

8. A match-box comprising a body or case-section and a cover-section pivotally connected therewith by means of a spring-hinge, a pair of perforated lugs secured upon the interior of said body or case-section, at or near the front end thereof and remote from the hinge-connection of said body and cover-sections, a receiving-element or holder adapted to hold a folder of matches, a pair of perforated lugs on said receiving element or holder, adapted to register with the perforated-lugs of said body or case-section, a pintle adapted to operatively connect the said perforated lugs together to provide a hinge-connection between said receiving element or holder and said body or case section, and a spiral spring mounted on said pintle, adapted to engage with said receiving element or holder and said body or case-section to cause said receiving-element or holder to tilt upwardly when the cover-section is separated from the body or case-section, substantially as and for the purposes set forth.

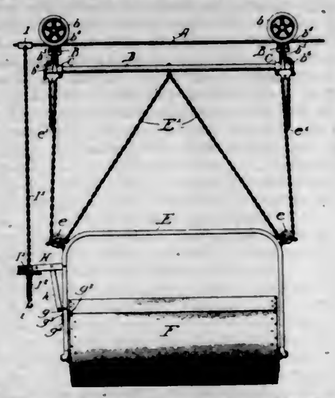
9. A match-box comprising a body or case-section and a cover-section pivotally connected therewith by means of a spring-hinge, a pair of perforated lugs secured upon the interior of said body or case-section, at or near the front end thereof and remote from the hinge-connection of said body and cover-sections, a receiving-element or holder adapted to hold a folder of matches, a pair of perforated lugs on said receiving element or holder, adapted to register with the perforated-lugs of said body or case-section, a pintle adapted to operatively connect the said perforated lugs together to provide a hinge-connection between said receiving element or holder and said body or case-section, and a spiral-spring mounted on said pintle, adapted to engage with said receiving element or holder and said body or case-section to cause said receiving-element or holder to tilt upwardly when the cover-section is separated from the body or case-section, said receiving element or holder, comprising a front-plate cut away to form an opening, adapted to expose the ignition or scratching surface of said folder of matches, an inwardly extending flange on each end of said front-plate adapted to form the sides of said receiving element or holder and a back-plate between said flanges, substantially as and for the purposes set forth.

866,269. FEED AND LITTER CARRIER. HENRY L. FERRIS, Harvard, Ill., assignor to Hunt, Helm, Ferris & Company, a Corporation of Illinois. Filed Mar. 18, 1907. Serial No. 362,989.

1. The combination with a track, of hangers running upon the track, a non-rotating cross bar connecting the hangers, a frame, a container pivoted in unstable equilibrium in the frame, means for locking and releasing the container, chain-guiding devices at the upper end of the frame, chains running downward from the cross bar over the chain-guiding devices upward over supports at the ends of the cross bar and thence downward, and hooks at the ends of the chains adapted to engage various links thereof for purposes of adjustment.

2. The combination with a track, of hangers running upon the track, a container supported by the hangers and movable longitudinally upon the track therewith, means for locking the container in an upright position, a flexible member depending from the track, and a trip member supported by said flexible member and adapted to engage the

locking device when the container reaches a predetermined point upon the track whereby further movement of the container will operate said tripping member.



3. The combination with a track, of hangers running upon the track, a container supported by the hangers and movable longitudinally upon the track therewith, means for locking the container in an upright position, a flexible member depending from the track, and a trip member supported by said flexible member and adapted to engage the locking means when the container reaches a predetermined point upon the track, whereby further movement of the container will operate the tripping member, and a yielding resistance interposed between said tripping member and said flexible member, whereby the momentum of the carrier is stored in said resistance and returned to the carrier in the form of a motion in the opposite direction.

4. The combination with a track, of hangers supported by the track, a frame supported by the hangers, a container pivoted to the frame, a catch upon the frame and adapted to engage the container, a trip arm connected with the catch, a flexible member depending from the track and a trip member carried by said flexible member and adapted to engage the trip arm.

5. The combination with a track, hangers supported by the track, a frame supported by the hangers, a container pivoted in the frame and a catch mounted upon the frame and adapted to engage the container, of a trip arm having connection with the catch and bifurcated at its end, a flexible member depending from the track and a trip member carried by said flexible member and adapted to engage the bifurcated end of said trip arm.

6. The combination with a track, hangers supported by the track, a frame supported by the hangers, a container pivoted in the frame and a catch on the frame and engaging the container, of a trip arm connected with the catch, a trip support mounted upon the track over which the hanger can pass, a flexible member depending from the trip support, and a trip member mounted upon said flexible member and adapted to engage the trip arm.

7. The combination with a track, hangers supported by the track, a frame supported by the hangers, a container pivoted in the frame and a catch mounted upon the frame and adapted to engage the container, of a trip arm connected with the catch, a flexible member depending from the track and a trip member adjustably supported upon said flexible member and adapted to engage the trip arm.

8. The combination with a track, hangers upon the track, a frame supported by the hangers, a container pivoted in the frame, and a catch upon the frame and adapted to engage the container, of a trip arm connected with the catch, a flexible member depending from the track, a trip member on the flexible member and adapted to engage the trip arm and a spring interposed between the flexible member and the tripping member to absorb the momentum of the carrier and return it in the form of motion in the opposite direction.

9. The combination with a track, hangers upon the track, a frame supported by the hangers, a container pivoted in the frame, a catch mounted upon the frame and adapted to engage the container, a trip arm connected with the catch having one end bifurcated, a trip support mounted upon the track over which the hanger can run, a flexible member depending from said trip support, a trip member adjustably mounted upon the flexible member and adapted to engage the trip arm and a spring interposed between said tripping member and said flexible member to absorb the momentum of the carrier and return it in the form of motion in the opposite direction.

10. The combination with a track, hangers mounted upon the track, a frame adjustably connected with the hangers so as to be moved vertically with respect thereto, a container pivotally mounted in the frame in unstable equilibrium, a catch mounted upon the frame and adapted to engage the container, a trip arm pivoted to the frame and having connection with the catch, a trip support mounted upon the track over which the hanger can run, a chain depending downwards from said trip support, a stop at the lower end of said chain, a spring above said stop, and a disk shaped tripping member surmounting said spring and adapted to pass beneath said tripping arm to engage the furcations thereof.

11. The combination with a track, rollers upon the track, brackets supported by the rollers, of a container, means supported by the brackets for raising and lowering the container, and a tripping device suspended from the track, the same being operative below the raising and lowering means of the container, and when the container occupies varying vertical positions.

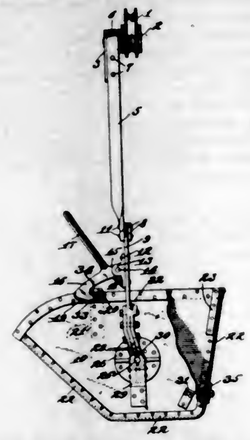
866,270. PICTURE-HANGER. EDWARD FLEMING, Bridgeport, Ohio. Filed Nov. 27, 1906. Serial No. 345,377.



In a device of the character described, a pair of divergent supporting members joined and twisted together at their upper ends to constitute a body portion, a loop-like hook formed integral with each supporting member at the lower end thereof, said hook being substantially parallel to its member and having its base at an angle to a horizontal plane, supporting means carried by said body portion, and an adjustable brace for holding an article mounted in said hooks at an angle of inclination to the wall from which said body portion is suspended, said brace consisting of two wire members, each having its end looped about its companion member, one member being connected at its opposite end to said body portion and the other member having its opposite end bent to form a hook for engaging the article mounted in the first mentioned hooks, the members composing said brace being slidable in relation to each other and adapted to be twisted one on the other to bind them in adjusted relation.

866,271. TRAMWAY-BUCKET. WALTER S. GEMMER and EMIL J. SCHLEICHER, St. Louis, Mo., assignors of one-third to Broderick & Bascom Rope Company, St. Louis, Mo., a Corporation of Missouri. Filed Nov. 20, 1905. Serial No. 288,130.

1. The combination in a swinging bucket of the bucket walls, having lugs thereon, means for pivoting the bucket, and a stop located in the arc of travel of said lugs, whereby the rotation of said bucket is limited and a return impulse imparted thereto, said stop being part of the bearing for the bucket's pivot.



2. A tramway bucket having walls and trunnions connected thereto, bearings for said trunnions, and supports projecting from said walls and affording supplementary bearing for said trunnions.

3. A tramway bucket having walls and trunnions connected thereto, bearings for said trunnions, and brackets projecting from said walls and affording supplementary bearing for said trunnions.

4. In a tramway bucket, the combination of a wall having a projection therefrom, and a latch pivoted to a member independent of said wall, said latch comprising a plurality of members, one of them receiving said pivotal connection another serving as a tripping device, and a third terminating in a hook, the nose of which projects backward underneath said projection at an angle of less than ninety degrees thereto.

5. In a tramway bucket, the combination of a wall having a projection therefrom, and a latch pivoted to a member independent of said wall, said latch comprising a trinity of radially-projecting members by the shortest one of which said latch is pivoted, the longest one forming a handle and being arranged at an obtuse angle to said shortest arm, and an arm of medium length terminating in a hook engaging said projection.

6. In a tramway bucket, the combination of a wall having a projection therefrom, a latch pivoted to a member independent of said wall, said latch comprising a trinity of radially-projecting members by one of which said latch is pivoted, and a stop or rest for said latch, projecting from said independent member and underlying said latch.

7. In a tramway bucket, the combination of a wall having a projection therefrom, a latch pivoted to a member independent of said wall, said latch comprising a trinity of radially-projecting members by one of which said latch is pivoted, and a stop underneath said pivoted member, and detached therefrom.

8. In a device of the character described, the combination of a bucket having walls, a casting fixed to the exterior of one of said walls, a trunnion borne by the casting, and a reinforcing plate on the interior of said wall, and means binding said plate, wall, and casting together.

9. In a device of the character described, the combination of a bucket having trunnions, a flat bail for said bucket presenting its narrow edge thereto, and a pendant having flat-metal hook-like ends to hold said bail.

10. In a device of the character described, the combination of a bucket having trunnions, a flat bail for said bucket presenting its narrow edge thereto, and a pendant having flat-metal hook-like ends to hold said bail, the arms of said pendant being twisted and passing flat with their flat surface at right-angles to the flat surface of said bail over the pendant-head.

11. In a tramway bucket, the combination of a wall having a projection therefrom, and a latch pivoted to a member independent of said wall, said latch having a nose forming an angular crotch between the nose and the latch-arm, said projection normally seating in said angular crotch.

12. In a tramway bucket, the combination of walls, trunnions connected therewith, a bail, and straps attached to said bail forming loops in which the trunnions have their bearings.

13. In a pendant, the combination of an arm or uninterrupted piece of metal looping over the pendant-head, said arm being twisted with its flat surface at its lower end at right angles to the flat surface passing over the pendant-head, and a flat bail depending from said arm having flat metal hook-like ends.

14. In a pendant, the combination of an arm or uninterrupted piece of metal looping over the pendant-head, said arm being bent into a flat hook at its lower end, and a bail depending from said arm and fastened in the hook-like portion.

15. In a bucket-support, the combination of a flat bail presenting its narrow edge to the bucket to be supported, a plate attached to said bail and a latch adapted to hold the bucket in place pivoted to said plate.

16. In a device of the character described, the combination of a pendant-head, a continuous piece of metal having perforations in which a bucket is mounted, said piece of metal looping over the pendant-head, a cross-piece bracing the two arms of the pendant, and a latch pivotally mounted between said cross-piece and the depending pendant-arm.

17. In a bucket-support, the combination of a flat bail extending entirely across the mouth of the bucket, presenting its narrow edge toward the bucket to be supported, and straps attached to said bail forming loops in which the bucket is pivotally mounted, the narrow edge of said straps being toward said bucket, and said bucket being pivotally movable on the flat side thereof.

18. In a bucket-support, the combination of a flat bail with one substantially horizontally-disposed section and two substantially vertically-disposed sections, said horizontal section extending entirely across the mouth of the bucket, and said vertical sections projecting downward along the sides of said bucket, and straps attached to the vertical sections of said bail and forming loops in which the bucket is pivotally mounted, each of said straps partially vertically overlapping one of said vertical sections on both sides thereof.

19. In a device of the character described, the combination of a pair of trolley sheaves, a beam connecting the same, a pendant, and a pendant-head pivotally attached to said trolley-beam, said pendant-head being provided with a peripheral recess in which the pendant is seated.

20. In a tramway bucket, the combination of a wall, an L-shaped member, one arm of which is secured to the inside of said wall, the other arm projecting outwardly across the top of said wall, and a latch pivoted to the bucket-support, said latch directly engaging the outwardly-projecting arm of said L-shaped member.

21. In a tramway bucket, the combination of a wall, an L-shaped member, one arm of which is secured to the inside of said wall, the other arm projecting outwardly at right angles to said bucket-wall, said projecting arm having rounded-off corners, and a latch pivoted to the bucket-support, said latch having a nose beveled on both sides, which beveled portions engage the rounded-off corners of said projecting arm.

22. A tramway bucket having a counterweight attached thereto and so formed as evenly to distribute its effect throughout the transverse elevation of said bucket.

23. A pivoted tramway bucket having a counterweight attached thereto, said counterweight extending through less than half of the vertical elevation of one of its walls, but which, also, extends through more than half of the horizontal extension of same.

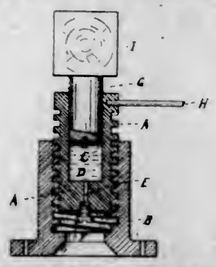
24. A pivoted tramway bucket having a member secured to the rear wall adjacent the bottom of the bucket, said

member extending substantially from one side to the other of said bucket, and being of greater thickness than the bucket wall to which it is attached.

25. A pivoted tramway bucket having a member secured to the rear wall adjacent the bottom of the bucket, said member extending substantially from one side to the other of said bucket, and a lug or stop secured to the side-wall of the bucket adjacent the bottom thereof, a radial plane extending from the bucket-pivot through said lug or stop passing in close proximity to one edge of said first-mentioned member.

26. A pivoted tramway bucket having a member secured to the rear wall adjacent the bottom of the bucket in such position that when said bucket is turned to dumping position said member will be vertically above the axis line of the bucket-pivot, said member extending substantially from one side to the other of said bucket.

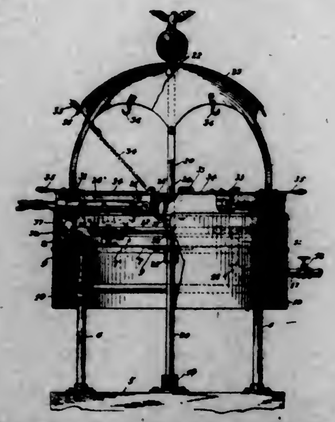
866,272. BEARING. HENRY M. GODSEY, Cleburne, Tex. Filed June 18, 1906. Serial No. 322,282.



1. In a device of the character described, a base, a part or member rotatable in said base, a load-sustaining part within said rotatable member, one of said parts or members having a chamber adapted to hold a fixed quantity of liquid to support the load.

2. In a device of the character described, a base, a part or member rotatable in said base, a load-sustaining part within said rotatable member, and means to rotate said member, one of said parts or members having a chamber adapted to hold a fixed quantity of liquid to support the load, said chamber being situated immediately between said rotatable and non-rotatable members.

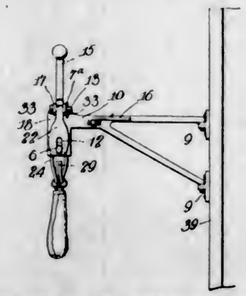
866,273. CAKE-BAKING APPARATUS. JEAN S. HAMA, Los Angeles, Cal. Filed Oct. 16, 1906. Serial No. 339,271.



1. The combination with a frame, a horizontal plate thereon, a metallic housing secured to the plate and extending above and below the latter, an annular track and burner on the table, of a vertical shaft, an annular table secured to the shaft, said table having wheels which travel on the track, the table divided into sections having openings and a cover for each section.

2. The combination with a frame, a horizontal plate thereon, a metallic housing secured to the plate and extending above and below the latter, an annular track and burner on the table, of a vertical shaft, an annular table secured to the shaft, said table having wheels which travel on the track, the table divided into sections having openings and a cover for each section, a canopy supported by the rotary table, said canopy having means for fastening the covers when open.

866,274. MAIL-BAG DELIVERY. JOSEPH W. HARHAY, Cleveland, Ohio, assignor of one-half to Charles H. Herrick, Cleveland, Ohio. Filed May 4, 1907. Serial No. 371,856.



1. In a mail bag delivery apparatus, in combination, a supporting arm, a drop finger connected at one end thereto, and a latch pivoted to the end of the arm and supporting when latched the free end of the finger and having a projection adapted to strike an obstacle beside the track and release the finger.

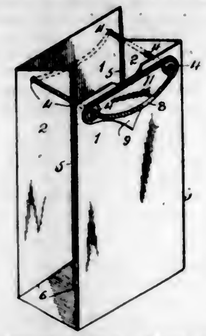
2. In a mail bag delivery apparatus, in combination, a supporting arm having at the end thereof a head with an angular or offset portion at the bottom, the angle being slotted, a drop finger extending through the slot and having an enlargement resting on said angular portion, a latch pivoted to the top of the head and extending outwardly and downwardly and engageable with the free end of the finger to support the same, and an arm projecting upwardly from the latch and adapted to strike an obstacle beside the track and release the finger.

3. In a mail bag delivery apparatus, in combination, a supporting arm having at the end thereof an offset portion, with a recess and slot at the angle, a finger extending through the slot and having a ball at one end, in the recess and a notch under the other end, an angular latch pivoted at one end to the upper part of the head and having a hole in the lower end in which the free end of the finger is engageable, and a strike-arm projecting upwardly from the latch and arranged to hit an obstacle beside the track and release the finger.

866,275. PAPER BAG. HENRY H. J. HARTMANN, Kansas City, Mo. Filed July 16, 1906. Serial No. 326,423.

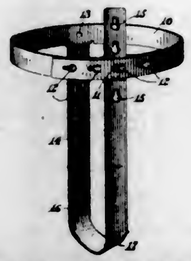
1. A rectangular foldable paper bag having two perforations through each side, two opposite sides and the bottom of the bag being creased so as to be inwardly folded between the other two sides, the perforations in each folded side, when the bag is folded flatwise, registering with each other and with the adjacent perforations of the outer sides, thus forming two holes extending through the folded bag, two of the sides having secured transversely to each a string the ends of which encircle the perforations of the side to which the string is secured, and a loop of flexible material extending through said holes and forming a handle.

2. A rectangular foldable paper bag having two perforations through each side, two opposite sides and the bottom of the bag being creased so as to be inwardly folded between the other two sides, the perforations in each folded side, when the bag is folded flatwise, registering with each other and with the adjacent perforations of the outer sides, thus forming two holes extending through the folded bag, each of two of the sides having secured thereto



a sheet of reinforcing material having perforations registering with the perforations of the side to which said material is attached, two strings intermediate respectively the two said sheets and the sides to which the sheets are attached, the ends of each of said strings encircling the adjacent perforations, and a loop of flexible material extending through said holes and forming a handle.

866,276. TROUSERS-GUARD. CHARLES C. HASKELL, Bournedale, Mass. Filed Apr. 17, 1907. Serial No. 368,644.



1. A trousers-guard consisting of a band of metal provided at the ends with suitable devices adapted to lock the ends together; and a ribbon pivoted at one end to said band and provided at its free end with means whereby it may be locked to said band.

2. A trousers-guard consisting of a band of metal provided at the ends with suitable devices adapted to lock the ends together; and a ribbon pivoted at one end to said band and provided at its free end with means whereby it may be locked to said band and also provided with means for locking said band and ribbon in a coil when not in operation.

3. A trousers-guard consisting of a band of metal having in one end thereof a stud-engaging slot and having at its other end a stud adapted to engage said slot; and a ribbon secured at one end to said band and provided at the other with a stud-engaging slot adapted to engage said stud.

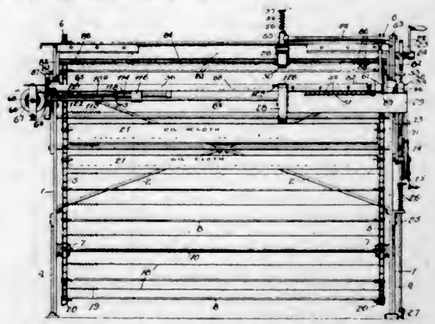
4. A trousers-guard consisting of a band of metal having in one end thereof a plurality of stud-engaging slots and having at its other end a stud adapted to engage one of said slots; and a ribbon pivoted at one end to said band and provided at the end with a stud-engaging slot adapted to engage said stud.

5. A trousers-guard consisting of a band of metal having in one end thereof a plurality of stud-engaging slots and having at its other end a stud adapted to engage one of said slots; and a ribbon of metal secured at one end to said band and provided at the other with a stud-engaging slot adapted to engage said stud.

6. A trousers-guard consisting of a band of metal having in one end thereof a plurality of stud-engaging slots and having at its other end a stud adapted to engage one of said slots; and a ribbon of metal pivoted at one end to said band and provided at the other with a plurality of stud-engaging slots either of which is adapted to engage said stud.

7. A trousers-guard consisting of a band of metal having at one end thereof a stud-engaging slot and having at its other end a stud adapted to engage said slot; and a ribbon of metal pivoted at one end to said band and provided at the other with a stud-engaging slot adapted to engage said stud, said ribbon having intermediate its ends another stud adapted to engage the ribbon slot to hold said band and ribbon in a coil when not in use.

866,277. MACHINE FOR DISPLAYING, MEASURING, AND CUTTING OFF OIL-CLOTH. WILLIAM C. HEINEN and WILLIAM F. DAU, Whittemore, Iowa. Filed Apr. 29, 1907. Serial No. 370,901.



1. In a machine of the kind described, means for supporting a roll of cloth, means for measuring out the cloth from the roll, and a horizontally reciprocating spring-actuated knife for cutting the cloth.

2. In a machine of the kind described, means for supporting a roll of cloth, a cutting-table, a horizontally reciprocating knife, and a rising and falling, normally elevated clamp-bar for holding the cloth upon the table while the cloth is being cut said knife being mounted on a guide independently of said clamp-bar and being incapable of vertical movement.

3. In a machine of the kind described, a cutting-support, a normally elevated, rising and falling clamp-bar for holding the cloth upon said cutting-support, a spring for lifting said clamp-bar, a cutter for severing the cloth, and means actuated by the inoperative stroke of the cutter for withdrawing said spring from the clamp-bar.

4. In a machine of the kind described, a cutting-support, a normally elevated, rising and falling clamp-bar for holding the cloth upon said cutting-support, a spring for lifting said clamp-bar, a cutter for severing the cloth, means actuated by the inoperative stroke of the cutter for withdrawing said spring from the clamp-bar, and means actuated by the operative stroke of said cutter for releasing said spring.

5. In a machine of the kind described, a measuring-wheel, a moving indicator actuated by rotation of the measuring-wheel, a cutting-table, a rising and falling, normally elevated clamp-bar, and means actuated by final movement of said measuring-wheel for dropping said clamp-bar into operative position.

6. In a machine of the kind described, a measuring-wheel, a moving indicator actuated by rotation of the measuring-wheel, a cutting-table, a rising and falling, nor-

mally elevated clamp-bar, a fixed support and a movable support for said clamp-bar, and means actuated by the final movement of said measuring-wheel for disengaging said movable support from said fixed support for dropping said clamp-bar into operative position.

7. In a machine of the kind described, a measuring-wheel, an indicator-carriage actuated by rotation of said measuring-wheel, a cutting-table, a rising and falling, normally elevated clamp-bar, a fixed and a movable support for said clamp-bar, a throw-off for disengaging said fixed from said movable support, means actuated by final movement of said indicator-carriage and of said measuring-wheel for releasing said throw-off, and means for actuating said throw-off.

8. In a machine of the kind described, a measuring-wheel, a spring-actuated stop for arresting forward movement of said wheel, an indicator-carriage actuated by rotation of said measuring-wheel, a latch for holding said stop in inoperative position while cloth is being measured out, and means actuated by final movement of the measuring-wheel for releasing said latch from said wheel-stop.

9. In a machine of the kind described, a measuring-wheel, a spring-actuated stop for arresting forward movement of said wheel, an indicator-carriage actuated by rotation of said measuring-wheel, a latch for holding said stop in inoperative position while cloth is being measured out, and means actuated by final movement of the measuring-wheel and of the indicator-carriage for releasing said latch from said wheel-stop.

10. In a machine of the kind described, a cutting-support, provided with a knife-slot, a horizontally-reciprocating knife projecting through said slot, a coiled spring for actuating said knife, a spool axially connected to said spring, and a strap or cord connected to the knife-frame and adapted to be wound upon or unwound from said spool.

11. In a machine of the kind described, a cutting-support, provided with a knife-slot, a horizontally-reciprocating knife projecting through said slot, a coiled spring for actuating said knife, a spool axially connected to said spring, a strap or cord connected to the knife-frame and adapted to be wound upon or unwound from said spool, a second strap, connected to the knife-frame and extending in the opposite direction from the first strap, and a reel adapted to wind thereon said second strap whereby said knife may be moved into cutting position.

12. In a machine of the kind described, a cutting-support, provided with a knife-slot, a horizontally-reciprocating knife projecting through said slot, a coiled spring for actuating said knife, a spool axially connected to said spring, a strap or cord connected to the knife-frame and adapted to be wound upon or unwound from said spool, means for drawing said knife across the machine into cutting position, a catch for holding the knife in such position, a measuring-wheel, and means actuated by final movement of said measuring-wheel for unlatching the knife.

13. In a machine of the kind described, a cutting-support, provided with a knife-slot, a horizontally-reciprocating knife projecting through said slot, a coiled spring for actuating said knife, a spool axially connected to said spring, a strap or cord connected to the knife-frame and adapted to be wound upon or unwound from said spool, means for drawing said knife across the machine into cutting position, a catch for holding the knife in such position, a measuring-wheel, means actuated by final movement of said measuring-wheel for unlatching the knife, a lock for holding the measuring-wheel before the knife is moved to said position, and means, actuated by the final movement of the knife into said position for unlocking the measuring-wheel.

14. In a machine of the kind described, an endless carrier comprising a series of horisontal rods carried by a pair of link belts, in combination with a cutting-table provided with a slot for a knife, and a horizontally-reciprocating knife projecting through said slot and movable from edge to edge of the cloth.

15. In a machine of the kind described, an endless carrier comprising a series of horisontal rods carried by a pair of link belts, in combination with a cutting-table provided with a slot for a knife, a horizontally-reciprocating knife projecting through said slot and movable from edge to edge of the cloth, and a rising and falling, normally elevated clamp-bar adapted to hold the cloth upon said cutting-table while said knife is cutting the cloth.

16. In a machine of the kind described, a horizontal, rotative shaft provided with a screw thread, a second rotative shaft parallel with and geared to said screw-shaft, a measuring-wheel fixed upon said second shaft, a crank for rotating said measuring-wheel, an indicator-carriage engaging and actuated by said screw-shaft and being adapted to be disengaged from said screw-shaft, an indicator mounted on said carriage, and a scale traversed by said indicator, said scale indicating the peripheral movement of said measuring-wheel.

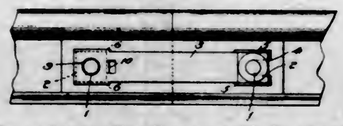
17. In a machine of the kind described, a horizontal, rotative shaft provided with a screw thread, a second rotative shaft parallel with and geared to said screw-shaft, a measuring-wheel fixed upon said second shaft, said measuring-wheel being adapted to draw out a length of cloth from a roll by direct contact with the cloth, said wheel being provided with a recess adapted to be engaged by a stop-rod, a longitudinally movable stop-rod adapted to arrest the forward motion of said wheel at a certain point, a spring for actuating said stop-rod, a latch for holding the stop-rod in inoperative position, an indicator-carriage actuated by rotation of said screw-shaft and provided with an indicator, a scale traversed by said indicator, and automatic means for unlatching said stop-rod when said indicator has moved a predetermined distance.

866,278. CONTROLLER FOR ROTATING SHAFTS. MELVILLE D. HEMENWAY, San Francisco, Cal. Filed Aug. 23, 1904. Serial No. 221,896.



A controlling or tension device for a shaft consisting of a frame, a spring bent into a double loop, one end of which embraces the shaft and the other is secured to a fixed point on the frame, in combination with a screw extending through the body of the spring and engaging a cone-shaped nut, said nut passing through a portion of the spring.

866,279. NUT-LOCK. WILLIAM W. JENKINS, Lisman, Ky. Filed June 26, 1907. Serial No. 380,895.

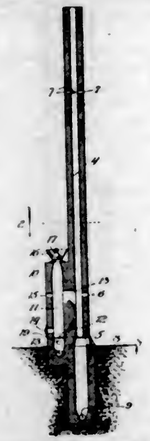


1. For railway rail splices, a nut-lock, comprising a spring-plate adapted to span the nuts and having a slot at one end open at its end and flanges or lips upset outwardly, to embrace and form side locks for the nut and be clamped by it upon the fish-plate, the other end of the spring-plate having flanges or lips upset inwardly to embrace and form side locks for the other nut and adapted to be sprung over and upon its outer face.

2. For railway rail splices, a nut-lock comprising a spring-plate adapted to span the nuts of the splice-bolts and having a slot at one end open at its end, the said slot being flanked by flanges or lips upset outwardly, the other end of the spring-plate having flanges or lips upset inwardly at its edges.

3. For railway rail splices, a nut-lock comprising a spring-plate adapted to span the nuts of the splice-bolts and having a slot at one end open at its end, the said slot being flanked by flanges or lips, upset outwardly, the other end of the spring-plate having flanges or lips upset inwardly at its edges, and means whereby the slotted end of the spring-plate is caused to effect the clamping action of the nut upon its bolt by rotating the said plate to cause the rotation of said nut to drive it home on the bolt in the operation of locking both nuts.

866,280. ORE-REDUCING FURNACE. JOHN T. JONES, Iron Mountain, Mich. Filed May 22, 1907. Serial No. 374,981.



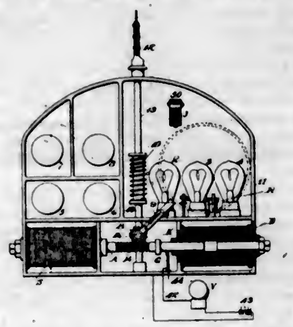
1. In an ore-reducing furnace, the combination of an ore-stack, and a carbonaceous-fuel-burning furnace at the base of said stack having a flue-connection therewith leading from the furnace-chamber about midway between its upper and lower ends and adapted to conduct the gases from the incandescent fuel in the lower section of said chamber and the volatilized hydrocarbons from the fuel in the upper part thereof into said stack and direct the products of combustion upwardly through the column of ore therein to discharge at the upper end of the stack, for the purpose set forth.

2. In an ore-reducing furnace, the combination of an ore-stack having air-inlet ports in the upper part of its wall, and a carbonaceous-fuel-burning furnace at the base of said stack having a flue-connection therewith leading from the furnace-chamber about midway between its upper and lower ends and adapted to conduct the gases from the incandescent fuel in the lower section of said chamber and the volatilized hydrocarbons from the fuel in the upper part thereof into said stack and direct the products of combustion upwardly through the column of ore therein to discharge at the upper end of the stack, for the purpose set forth.

3. In an ore-reducing furnace, the combination of an ore-stack rising from a base, a pit below said base forming a close cooling-chamber into which the stack discharges and equipped with means for removing the reduced ore, a furnace exterior of the stack, having about midway between its upper and lower ends a passage for the products of combustion into the stack, a coal-burning grate in the lower part of the furnace-chamber and an air-blast port in the wall of the furnace below the grate therein, for the purpose set forth.

4. An ore-reducing furnace comprising, in combination, an ore-stack rising from a base and provided in the upper portion of its wall with air-inlet ports, a pit below said base forming a close cooling-chamber into which the stack discharges and equipped with means for removing the reduced ore, and a furnace exterior of the stack near its base and communicating therewith from between its ends through a flue leading into the stack near its base, said furnace having a valve-closed feed-hopper on its upper end and containing a coal-burning grate in its lower portion and an air-blast port below the grate, for the purpose set forth.

866,281. RAILWAY-SIGNAL. WILLIAM H. JORDAN, Brooklyn, N. Y., and GEORGE T. HANCHETT, Hackensack, N. J., assignors to Jordan Automatic Signal Company, New York, N. Y., a Corporation of New York. Filed June 14, 1905. Serial No. 265,209.



1. In a railroad signal operated by electro-magnetic means, the combination of a coil and a core, an actuating plunger connected to the core and connecting the parts to be moved, and flexible mechanical connections between the actuating plunger and the parts to be moved.

2. In a railroad signal operated by electro magnetic means, the combination of a double system of signal lamps and a relay, so connected to the circuit as to cut in one system of signal lamps when the other system is disabled, such system of signal lamps shining through bull's eyes of different shapes.

3. In a railroad signal operated by electro magnetic means, the combination with a pair of opposed magnets, a plunger connecting the cores thereof, the said plunger having cylindrical teeth forming a circular rack, pinions engaging with said teeth, and signaling means operated by the movements of the pinions, substantially as described.

4. In a railroad signal operated by electro magnetic means, the combination with a plunger and actuating magnets, of a semaphore and connections between the plunger and semaphore, such connections comprising lost motion parts.

5. In a railroad signal operated by electro magnetic means, the combination with a plunger and actuating magnets, of a semaphore and spring connections between the plunger and semaphore.

6. In a railroad signal operated by electro magnetic means, the combination with a plunger and actuating magnets, the said plunger carrying a rack, a semaphore, a shaft for rotating the semaphore, the said shaft having a pinion engaging with the rack, the shaft being divided and a spring connecting the parts.

7. In a railroad signal operated by electro magnetic means, the combination with actuating magnets and a plunger, the said plunger having teeth forming a rack, pinions engaging with the teeth and connections between the pinions and the signaling device, such connections comprising lost motion parts.

8. In a railroad signal operated by electro magnetic means, the combination with the actuating magnets, a rack moved by such magnets, a pinion engaging with the rack, connections between the pinions and the signaling device, such connections comprising lost motion parts.

9. In a railroad signal operated by electro magnetic means, the combination with the actuating magnet and the plunger, a rack, pinions engaging with the rack and moved by the plunger, a signaling device and spring connections between the pinions and signaling device.

10. In a railroad signal operated by electro magnetic means, the combination with the actuating magnet and

plunger, a rack moved by the magnet, a pinion engaging with the rack, a semaphore, a shaft for actuating the semaphore, connections between the shaft and the pinion and a spring interposed between the pinion and the semaphore.

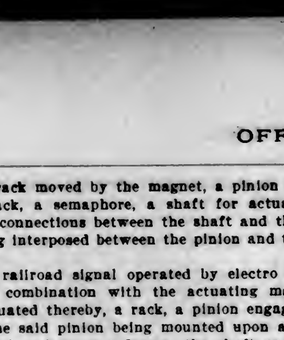
11. In a railroad signal operated by electro magnetic means, the combination with the actuating magnets, a plunger actuated thereby, a rack, a pinion engaging with the rack, the said pinion being mounted upon a shaft, a color target loosely mounted upon the shaft and an arm secured to the shaft and a spring connecting the arm and color target.

12. In a railroad signal operated by electro magnetic means, the combination with a magnetically actuated signal, of a stop actuated by electro magnetic means in circuit with the signal actuating means, such electro magnetic means positively moving the stop into and out of the path of the controlling mechanism of the brake of the moving car.

13. In a railroad signal operated by electro magnetic means, the combination with a magnetically actuated signal, of a stop actuated by electro magnetic means in circuit with the signal actuating means, such electro magnetic means being arranged in opposition and connected to the stop for positively moving the stop into and out of the path of the controlling mechanism of the brake of the moving car.

14. In a railroad signal operated by electro magnetic means, the combination with a magnetically actuated signal, the said signal comprising opposed solenoids and a positive stop for the car, the said positive stop comprising opposed solenoids and connecting the circuit with the signal solenoids, a plunger between the solenoids and acting upon them, the said plunger having a rack, and a pinion engaging with the rack and actuating the stop, the said stop being arranged to be engaged by the brake actuating mechanism of the car.

866,282. SHIFTING AND LOCKING MECHANISM FOR FRICTION-BAND CLUTCHES. JAMES P. KARR and JOHN D. RAUCH, Logansport, Ind. Filed Feb. 12, 1907. Serial No. 357,014.



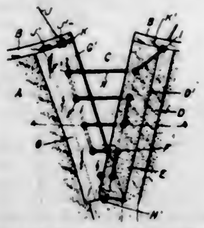
1. The combination with a rotatable shaft, a driving gear keyed thereon and a drum loose thereon and provided with a peripheral friction surface, of a friction band applied to said surface, pins passing through the peripheral portion of the gear and provided with cranks one of the pins being connected with both ends of the divided band, single and double cranks applied to the pins on the outer side of the gear, an equalizing bar connecting the single crank with the double one, a yoke which is slidable on the hub of the gear, toggle links and pivoted knuckles connecting the yoke with the cranks of the two pins, and a shifter for moving the yoke in and out for applying the band and locking the same automatically as shown and described.

2. The combination with a rotatable shaft, a gear fast thereon and a hoisting drum mounted loose thereon and having a peripheral friction surface, of friction clutch mechanism comprising a divided friction band, pins passing through the periphery of the gear and one of them having a crank which is operatively connected with both ends of the band, cranks applied to the outer ends of the pins and one of them constructed double, an equalizing bar connecting said double crank with the opposite one, a yoke adapted to slide on the hub of the gear, and toggle links which operatively connect it on opposite sides with the cranks of the respective pins, the arrangement being such that when the yoke is moved inward the toggles are brought in alinement with the connected parts and the band thereby locked on the drum, and means for shifting the yoke, as described.

3. The combination with a rotatable shaft, a gear fast thereon and a drum loose thereon, a friction band, cranks and pins connected therewith and toggle mechanism for operating the band and including a yoke adapted to slide toward and from the gear, of means for shifting such yoke the same consisting of a pivoted lever, a band applied to the yoke circumferentially and connected with said lever, and toggle mechanism also connected with the lever for shifting it on its pivot, as described.

4. The combination with a rotatable shaft, a driving gear which is fast thereon and a loose hoisting drum mounted on the shaft, of a divided friction band applied to the drum, pins passing through the peripheral portion of the gear and one of them having a crank and operatively connecting the ends of the band, a bowed plate spring passing over the other pin and its ends connected with the band thus tending to normally expand the latter, and toggle and crank mechanism connected with the pins on the opposite side of the gear, as described.

866,283. PLACKET-CLOSURE. ABRAM KASSE, New York, N. Y., assignor of one-third to Simon Manheimer and one-third to Frederick C. Ficker, New York, N. Y. Filed Apr. 16, 1907. Serial No. 368,574.

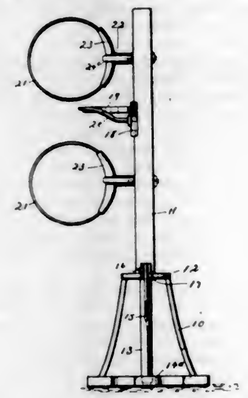


A skirt provided with a placket and having folds at each side of the placket to form several thicknesses of material, a flap secured to the skirt at one edge of the placket and provided with eyelets extending through said flap, a series of eyelets extending through all but the outer thickness of material on the other side of the placket, a drawstring extending through both series of eyelets and having its lower end secured to the skirt, and a tie string attached to the waistband near the placket and arranged to be tied with the free end of the draw string.

866,284. CATCHER AND DELIVERY SYSTEM FOR RAILWAYS. MICHAEL C. KEEFE, Salt Lake City, Utah, assignor to Railway Time-Saving Association, Salt Lake City, Utah, a Corporation of Utah. Filed Feb. 19, 1907. Serial No. 358,312.

1. In a catcher system for railway trains, a standard base, a top plate with central aperture thereon, a cross-tie near its bottom, a standard resting on said plate, a reduced, cylindrical extension of said standard passed through the aperture in said plate and stepped in said cross-tie, and means to rotate said standard for the purpose specified.

2. In a catcher system for railway trains, a standard base, a top plate with central aperture, thereon, a cross-tie near its bottom, a standard resting on said plate, a reduced cylindrical extension of said standard passed through the aperture in said plate, a jointed drop lever connected to said standard above said plate to rotate said standard, checks on said plate to limit said rotation, and notches in said plate to engage said lever when it is dropped, as herein set forth.



3. In a catcher system for moving trains, a ring holder, a ring seat thereon, a ring holder stem attached to a fixed support, leaf springs on said stem one of which overlaps a part of the ring and the other of said springs presses against the side of said part of said ring, for the purpose specified.

4. In a catcher system a standard, a cross piece thereon, an outwardly curved spring having a retroverted end, on said cross piece, an arm on said cross piece whose terminal portion receives a yielding pressure from said spring and a bend in said arm to check the movement of an article caught in the catcher.

5. In a catcher mounted on a piste attachable to a car, a stem on said catcher mounted on a rock-shaft journaled on said frame, and lever connections to actuate said catcher stem for the purpose specified.

6. In a catcher, a ring holder, a stem therefor attached to a vertical rock-shaft revolubly mounted on a supporting plate, and a link and lever connection to actuate said stem as described.

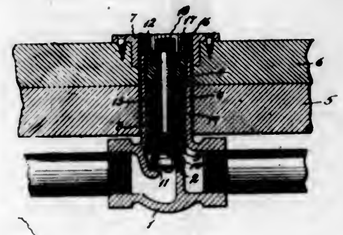
7. In a railway catcher system a plate attachable to a car, a hand lever fulcrumed on said plate, an arm pivoted on said lever and having a link connection with the stem of a catcher, a second arm jointed to said lever and pivoted to a bell crank, a link connecting said bell crank with the stem of a ring holder and means to hold said lever in the desired position, substantially as herein set forth.

8. In a railway catcher system a catcher, a stem thereon, a sleeve on said stem having a longitudinal extension, a rock-shaft mounted on a supporting plate having an adjacent aperture therein, a stud on said stem to engage said extension on said sleeve, and means to actuate said catcher stem, for the purpose specified.

9. In a railway catcher system a rotatable standard at the railway station, means for locking said standard, means on said standard for removably holding delivery rings, means for catching rings from passing trains, catchers on the train to take rings from the standard and rings on the train adapted to be caught by the station catcher, said catcher on the train mounted to be raised and lowered, and said ring holder adapted to be swung out of service, substantially as herein set forth.

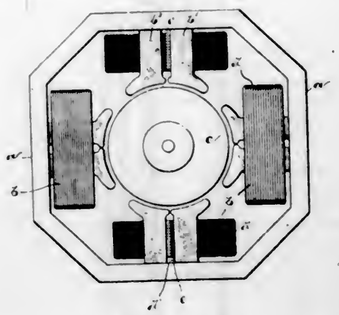
866,285. VALVE. WALTER KLIE, Columbus, Ohio. Filed Mar. 1, 1906. Serial No. 303,573.

A valve comprising a casing having an elongated sleeve, a valve threaded into said sleeve and adapted to control the flow of fluid through the valve casing, a valve stem extending upwardly through said sleeve, a packing nut threaded into said sleeve and surrounding said valve stem, the upper face of said packing nut being adapted to be engaged by a tool and the upper end of the valve stem



being adapted to be engaged by a tool, and a T-shaped tool one of the arms of which is adapted to engage the valve stem and the other arm of which is adapted engage the packing nut.

866,286. ELECTRIC GENERATOR AND MOTOR. ALVARO S. KROTZ, Springfield, Ohio, assignor of one-half to Paul A. Staley, Springfield, Ohio. Filed Jan. 12, 1905. Serial No. 240,719.



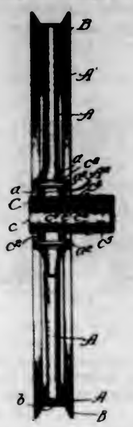
1. In an electric machine, such as described, field magnets formed with two or more sections or legs, one or more of said legs being provided with additional coils and said legs having the additional coils being of smaller diameter to compensate for the additional coils, and main coils extending around all of said legs, substantially as and for the purpose specified.

2. In a machine, such as described, an electro-magnet having two legs or sections, one of said legs or sections being thinner than the other, an inner coil of smaller diameter around said thinner leg to form an additional or supplemental winding about which the main coil of the magnet passes to give additional magnetic power to the leg or pole section whose magnetic lines are reduced by armature re-action, substantially as specified.

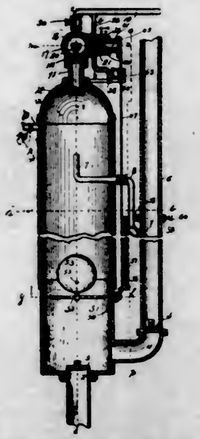
866,287. WHEEL. JACOB LAUTH, Chicago, Ill. Filed July 30, 1906. Serial No. 328,369.

A wheel, comprising tubular spokes, a rim cast integrally with the outer ends of the spokes and having the metal disposed transversely with relation to the spokes, a ring cast integrally with the inner ends of the spokes and having flanges extending inwardly from the inner ends of the

spokes, and a separately formed hub comprising sections having flanges embracing the flanges of said ring.



806,288. CONDENSING-PUMP. CHARLES E. LEGGETT, El Campo, Tex., assignor to The Leggett Pump Company, Joplin Mo., a Corporation of Missouri. Filed Dec. 7, 1905. Serial No. 290,809.



1. The combination with the condensing chamber having inlet and outlet ports for the admission and discharge of water, of valves controlling said ports respectively, means for supplying steam to the condensing chamber, a main valve controlling said steam supply means, an auxiliary steam supply means by which the main valve is moved to and from the closed position, an auxiliary valve controlling the auxiliary steam supply means, a rock shaft, means connected with the rock shaft for positioning the auxiliary valve so that the auxiliary supply means will move the main valve to the closed position when the rock shaft is rocked in one direction, gravity actuated means controlled by the entrance of water in the condensing chamber for rocking the rock shaft in the said direction, means operative when the rock shaft is rocked in the opposite direction for positioning the auxiliary valve so that the auxiliary steam supply means will move the main valve to the open position, means for controlling the speed of movement from one position to the other of the auxiliary valve and independent means for controlling the reverse movement of the auxiliary valve.

2. The combination with the condensing chamber having inlet and outlet ports for the admission and discharge of water, of valves controlling respectively said ports, means for supplying steam to the condensing chamber, a main valve controlling said steam supply means, an auxiliary steam supply means by means of which the main valve is moved to and from the closed position, an oscillatory auxiliary valve controlling the auxiliary steam supply means, a rock shaft, means connected with the rock shaft for swinging the oscillatory valve to a position in which the auxiliary steam supply means will move the main valve to the closed position when the rock shaft is rocked in one direction, gravity actuated means controlled by the entrance of water in the condensing chamber for rocking the rock shaft in the said direction, means operative when the shaft is rocked in the opposite direction for swinging the oscillatory valve to a position such that the auxiliary steam supply means will move the main valve to the open position, means for controlling the oscillation in one direction of said oscillatory valve, and independent means for controlling the oscillation in the other direction of said oscillatory valve.

3. The combination with the condensing chamber having inlet and outlet ports for the admission and discharge of water, of valves controlling said ports respectively, means for supplying steam to the condensing chamber, a main valve controlling said steam supply means, an auxiliary steam supply means by means of which the main valve is moved to and from the closed position, an auxiliary valve controlling the auxiliary steam supply means, means controlled by the admission to and discharge of water from the condensing chamber for positioning the auxiliary valve so that the auxiliary steam supply means will move the main valve to the open and closed positions respectively, means for controlling the movement of the auxiliary valve from one position to the other and independent means for controlling the reverse movement of the auxiliary valve.

4. The combination with the condensing chamber having inlet and outlet ports for the admission and discharge of water, of valves controlling said ports respectively, means for supplying steam to the condensing chamber, a main valve controlling said steam supply means, an auxiliary steam supply means by means of which the main valve is alternately moved to and from the closed position, an oscillatory auxiliary valve controlling the auxiliary steam supply means, means controlled by the admission to and discharge of water from the condensing chamber for oscillating said auxiliary valve, means for controlling the oscillation in one direction of the oscillatory valve, and independent means for controlling the oscillation in the opposite direction of said oscillatory valve.

5. The combination with the condensing chamber having inlet and outlet ports for the admission and discharge of water, of valves controlling said ports respectively, means for supplying steam to the condensing chamber, a main valve controlling said steam supply means, an auxiliary steam supply means by means of which the main valve is alternately moved to and from the closed position, an oscillatory auxiliary valve controlling the auxiliary steam supply means, a lever oscillatable with said oscillatory valve, means for swinging said lever in one direction, means controlled by the admission to and discharge of water from the condensing chamber for swinging said lever in the opposite direction, means for controlling the oscillation in one direction of said lever, and independent means for controlling the movement of said lever in the opposite direction.

6. The combination with the condensing chamber having inlet and outlet ports for the admission and discharge of water, of valves controlling said ports respectively, means for supplying steam to the condensing chamber, a main valve controlling said steam supply means, an auxiliary steam supply means by means of which the main valve is alternately moved to and from the closed position, an oscillatory auxiliary valve controlling the auxiliary steam supply means, a lever oscillatable with said auxiliary valve, a weight for swinging said lever and said auxiliary valve to a position such that the auxiliary steam supply means will move the main valve to the open position, means controlled by the admission of water into the condensing chamber for swinging said lever and auxiliary valve to a position such that the auxiliary steam supply means will move the main valve to the closed position, means for controlling the oscillation in one direction of said lever and auxiliary valve, and independent means for controlling the oscillation in the other direction of said lever and auxiliary valve.

7. The combination with the condensing chamber having inlet and outlet ports for the admission and discharge of water, of valves controlling said ports respectively, means for supplying steam to the condensing chamber, means for shutting off the supply of steam through said steam supply means and controlled by the discharge of water from said condensing chamber, means controlled by the admission of water into the condensing chamber for permitting the discharge of steam into the condensing chamber through said steam supply means, adjustable means for regulating the time required for admitting steam to the condensing chamber by way of said steam supply means, and independent adjustable means for regulating the time in which the steam is shut off from entrance into the condensing chamber.

8. The combination with the condensing chamber having inlet and outlet ports for the admission and discharge of water, of valves controlling said ports respectively, means for supplying steam to the condensing chamber, a valve for controlling the said steam supply means, a rock shaft, means controlled by the admission of water into the chamber for rocking said shaft in one direction, means by which, when said shaft is rocked in the said direction, the valve is moved to the open position, means by which the valve is moved to the closed position when the water is discharged from the condensing chamber and the rock shaft is rocked in the opposite direction, and means by which movement of said valve to each position is independently controlled.

9. The combination with the condensing chamber having inlet and outlet ports for the admission and discharge of water, of valves controlling said ports respectively, means for supplying steam to the condensing chamber, a valve controlling said steam supply means, a rock shaft, means controlled by the admission of water into the chamber for rocking said shaft in one direction, means by which, when the shaft is rocked in the said direction, the valve is moved to the open position, means for moving the valve to the closed position controlled by the discharge of water from the chamber, and adjustable means for timing the movement of said valve in one direction, and independent adjustable means for timing the movement of said valve in the opposite direction.

10. The combination with the condensing chamber having inlet and outlet ports for the admission and discharge of water, of valves controlling said ports respectively, means for supplying steam to the condensing chamber, a valve controlling said steam supply means, a receptacle in said chamber having an opening for the admission of water and having adjacent the bottom a discharge opening, means by which, when water enters the chamber, the receptacle will be raised, means by which, when the receptacle is raised, the valve will be moved to the open position and means by which, when the water is discharged from the chamber, the receptacle will lower and the valve will be moved to the closed position.

11. The combination with the condensing chamber having inlet and outlet ports for the admission and discharge of water, of valves controlling said ports respectively, means for supplying steam to the condensing chamber, a valve controlling said steam supply means, a receptacle in said chamber having an opening for the admission of water and having a discharge opening adjacent the bottom, means by which, when the water enters said chamber, the receptacle will be raised and the valve moved to the open position, means by which, when the water is discharged from the chamber, the receptacle will lower and the valve will be moved to the closed position, and adjustable means for regulating the time of movement of said valve to and from the closed position.

12. The combination with the condensing chamber having inlet and outlet ports for the admission and discharge of water, of valves controlling said ports respectively, means for supplying steam to the condensing chamber, a valve controlling said steam supply means, a rock shaft having a crank arm, a receptacle carried by said crank arm having an opening for admitting water and having a discharge opening adjacent the bottom, said receptacle being movable upward by the water entering the chamber, means by which, when the receptacle is upwardly moved, the valve will be moved to the open position, and means by which, when the water is discharged from the chamber, the receptacle will lower and the valve will be moved to the closed position.

13. The combination with the condensing chamber having inlet and outlet ports for the admission and discharge of water, of valves controlling said ports respectively, means for supplying steam to the condensing chamber, a valve controlling said steam supply means, a rock shaft having a crank arm, a receptacle carried by said crank arm having an opening for admitting water and having a discharge opening adjacent the bottom, said receptacle being movable upward by the water entering the chamber thus rocking the rock shaft, means by which, when the rock shaft is thus rocked, the valve will be moved to the open position, means by which, when the water is discharged from the chamber, the receptacle will lower and the shaft be rocked in the opposite direction, means by which, when said shaft is rocked in the opposite direction, the valve will be moved to the closed position, and adjustable means for regulating the time of opening and closing said valve.

14. The combination with the condensing chamber having inlet and outlet ports for the admission and discharge of a liquid, of means for supplying steam to the condensing chamber, a rock shaft having a lateral arm carrying a hollow weight provided with an opening for admitting liquid and located in the chamber which weight rocks the shaft in one direction when the liquid is discharged from the chamber, means for rocking the shaft in the opposite direction when said weight is submerged, and means controlling the steam supply means for alternately admitting to and shutting off steam from the chamber, when the rock shaft is oscillated.

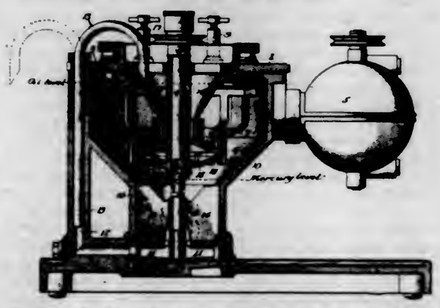
15. The combination with the condensing chamber having inlet and outlet ports for the admission and discharge of a liquid, of means for supplying steam to the condensing chamber, means controlling the steam supply means, adjustable means for retarding the operation of the steam controlling means, a rock shaft having a lateral arm carrying a hollow weight provided with an opening for admitting liquid and located in the chamber, which weight rocks the shaft in one direction when the liquid is discharged from the chamber, means for rocking the rock shaft in the opposite direction when the weight is submerged, and means actuating the steam controlling means when the rock shaft is oscillated.

16. The combination with the condensing chamber having inlet and outlet ports for admitting and discharging liquid, of means for supplying steam to the chamber, a main valve controlling the steam supply means, an auxiliary steam supply means for opening and closing the main valve, an auxiliary valve controlling the auxiliary steam supply means, a hollow weight located in the chamber and having an inlet for liquid and an outlet adjacent the bottom, means controlled by the downward movement of the weight for moving the auxiliary valve in one direction, means controlled by said weight for moving the auxiliary valve in the opposite direction, and means having power sufficient to raise the hollow weight when the weight is submerged; or when the weight is not submerged and the liquid held by it has run out.

17. The combination with the condensing chamber having inlet and outlet ports for admitting and discharging liquid, of means for supplying steam to the chamber, a main valve controlling the steam supply means, an auxiliary steam supply means for actuating the main valve, an oscillatory auxiliary valve controlling the auxiliary steam supply means, a rock shaft having an arm carrying a hollow weight provided with an opening for admitting

liquid and located in the chamber and movable upward by the entrance of liquid in the chamber, means for rocking the shaft in a direction opposite that in which it is rocked by the downward movement of the weight, said rocking means becoming operative when the weight is submerged, means by which the auxiliary valve is rocked in one direction when the weight moves downward in the chamber, and means by which when the weight is upwardly moved the auxiliary valve is rocked in the opposite direction.

866,289. MERCURY-INTERRUPTER. AUGUST R. LUSCHKA, River Forest, Ill., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 11, 1905. Serial No. 291,206.



1. In a fluid jet interrupter, the combination with the jet and contact apparatus, of an inclosing vessel therefor adapted to contain the discharged conducting fluid and an insulating fluid, of means for withdrawing fluid from the bottom of said vessel and either supplying the same again to the jet or discharging said fluid elsewhere, substantially as and for the purposes set forth.

2. In a mercury jet interrupter, the combination with a rotary container having an opening in its periphery adapted to discharge the mercury in a jet therefrom, of a stationary contact adapted to be struck by said jet in its rotation, an inclosing vessel adapted to contain an insulating fluid and the discharged mercury, a centrifugal pump having an impeller wheel mounted to rotate with said rotary container, said pump having its inlet at the bottom of the inclosing vessel to withdraw the contents thereof, and a discharge pipe for said pump adapted to direct the discharge either into said rotary container to be used again or elsewhere to empty said vessel.

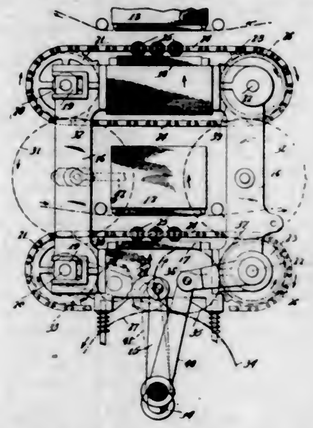
3. In an interrupter, the combination with a container having an opening adapted to discharge a jet of conducting fluid therefrom, of a contact plate in position to be struck by said jet, means for producing relative movement between said jet and said contact plate, an inclosing vessel adapted to contain the discharged conducting fluid, a duct communicating at the bottom with said vessel, means for producing a difference in pressure to cause the conducting fluid to be withdrawn from said vessel through said duct, and means for directing the discharge from said duct either into said container to be used again or elsewhere to empty and clean said vessel.

4. In a mercury jet interrupter, the combination with an inclosing vessel containing an insulating fluid and stationary contact pieces, of a rotary mercury cup in said vessel, said cup having a peripheral jet opening facing said contact pieces, and also having openings at a distance from the periphery through which the lighter impurities may be discharged.

5. The combination with a fluid jet circuit-interrupter, and means for supplying conducting fluid to the jet thereof, of a centrifugal separator arranged to feed said conducting fluid to said jet and to remove the lighter impurities therefrom before the same reach said jet, substantially as set forth.

6. In a fluid jet interrupter, the combination with a rotary shaft carrying a mercury cup having a peripheral discharge opening, of a stationary contact in position to be struck by the jet of mercury from said opening as the cup is rotated, an inclosing vessel for said parts, adapted to contain an insulating fluid and also to receive the discharged mercury, which settles at the bottom of said vessel, a centrifugal pump having its impeller wheel mounted on said shaft below the bottom of said vessel, said pump having its inlet from said vessel, and a discharge pipe for said pump adapted to conduct the mercury to the rotary cup to be used again.

866,290. BED-AND-PLATEN PRINTING-PRESS AND INKING MECHANISM THEREFOR. FRANCIS MEISEL, Boston, Mass., assignor to Meisel Press & Manufacturing Co., Boston, Mass., a Corporation of Massachusetts. Filed June 23, 1906. Serial No. 323,029.



1. An inking device for printing presses comprising a pair of shafts journaled on a movable frame, an inking roller connected with one of said shafts, inking members connected with the other shaft, said inking members being adapted to move into contact with said roller, means for moving said inking members in one direction, and means for moving the contacting surface of the roller in the opposite direction.

2. An inking device comprising two shafts, wheels thereon, an endless carrier supported by said wheels, an inking member on said carrier, an additional inking roller on one of said shafts adapted to contact with said inking-member during part of its orbital movement, means for moving said endless carrier, and means for rotating said additional inking roller.

3. An inking device for a printing press comprising an endless carrier, inking rollers mounted to travel therewith, an additional inking roller with which the first named rollers are adapted to engage located within the boundaries of said carrier and between the strands thereof, and means for moving said carrier and additional inking roller in such a manner that the carrier moves in one direction and the contacting surface of the inking roller moves in the opposite direction.

4. An inking device for bed and platen presses, comprising an endless chain, inking rollers mounted thereon, an additional inking roller with which the first named rollers are adapted to engage, and means for moving said chain and the adjacent surface of said additional inking roller in opposite directions.

5. An inking device for bed and platen printing presses comprising a carrier, inking members carried thereby, an inking roller with which said inking members are adapted to engage, means for moving said carrier, and means for rotating said inking roller in such a way that its surface adjacent to the inking rollers will move in a direction opposite to their motion.

6. An inking device comprising two shafts, wheels thereon, an endless carrier on said wheels, an inking member on said carrier, an additional inking roller fixed to one of said shafts and adapted to contact with said inking member during part of its orbital movement, the carrier being positively driven from the other of said shafts, and means for rotating said shafts in opposite directions.

7. An inking device, comprising a pair of sprocket wheels, a chain connecting said sprocket wheels, means for rotating one of said sprocket wheels, an ink applying device mounted on said chain and traveling therewith, a shaft on which the second sprocket wheel is mounted to freely rotate, an inking roller keyed to said shaft, and means for rotating said inking roller in a direction opposite to that in which the sprocket wheel on said shaft rotates.

8. In an inking device, the combination of two shafts, a sprocket wheel keyed to one shaft, a second sprocket wheel loosely mounted on the other shaft, a chain connecting said sprocket wheels, an ink applying device carried by said chain, an inking roller keyed to the second shaft, and means for rotating said shafts in opposite directions.

9. In an inking device, the combination of a bodily movable frame, two shafts journaled thereon, a sprocket wheel keyed to the first shaft, a sprocket wheel on the second shaft, a chain connecting said sprocket wheels, an ink applying device mounted on the frame, an inking roller keyed to the second shaft, an operating shaft journaled in stationary bearings, and means for transmitting motion in opposite directions to the two shafts independently of the location of said frame with respect to the said stationary bearings.

10. In a bed and platen printing press, the combination of an operating crank shaft, two gears thereon, a movable frame, means connected with said crank shaft for moving said frame, a pair of shafts journaled on said frame, an inking device connected with one of said shafts, an inking roller connected with the other shaft, said inking device being adapted to move into contact with said roller, and means for moving said roller and inking device in opposite directions, said means comprising a train of gearing in mesh with each of said gears on the crank shaft, and means for maintaining said gearing in mesh with said gears in all positions of the frame.

11. In a bed and platen printing press, the combination of a crank shaft, a movable frame, a link connecting the crank shaft with the frame for moving it, two gears on the crank shaft, two gears journaled on the frame, two arms pivotally mounted on the frame, each arm being adapted to swing about the center of one of said gears, a gear on each arm adapted to mesh with one of the gears on the crank shaft and to transmit motion to one of the gears on the frame, and two links connected with the crank shaft and each connected with one of said arms for holding the gears on said arms in engagement with the gears on said shaft.

12. In a bed and platen printing press, the combination of a shaft, a movable frame, means connected with said shaft for moving said frame, an inking device mounted on the frame and movable therewith, means on the frame for operating said inking device, comprising a gear movable with the frame, an arm pivotally mounted on said frame on the center of said gear, a gear mounted on the arm and adapted to transmit motion to the gear on the frame, a gear on said shaft meshing with the gear on the arm, and a link connecting said shaft with said arm and holding the gear on the arm in constant engagement with the gear on the shaft during the motion of the frame.

13. In a bed and platen printing press, the combination of a shaft, a reciprocable frame, beds on said frame, means connected with said shaft for moving the frame, inking devices connected with the frame and movable therewith, means for operating the inking devices to give a continuous rotary traveling motion while the beds reciprocate, movable ductor rollers, and means for moving the ductor rollers toward the inking devices when the beds are in a certain position.

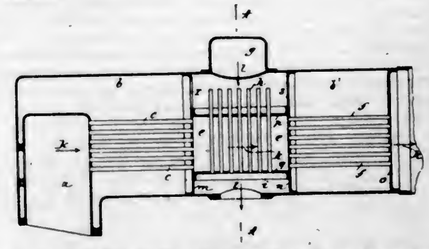
14. In a bed and platen printing press, the combination of a shaft, a reciprocable frame, a bed connected with said frame, means connected with the shaft for moving the frame, an inking device connected with the frame and movable therewith, means for operating the inking device to move it independently of the movement of the frame, a cam connected with said shaft, a pivotally mounted ductor roller, and connections between said cam and ductor roller for moving the roller toward the inking device when the latter is in a certain position.

15. An inking device comprising a bodily movable carrier, an inking member thereon, a movable member for supplying ink to the inking member, and means for moving said carrier and said movable member in such a way that their adjacent surfaces always move in opposite directions.

16. In a printing press, the combination of a reciprocable frame, a plurality of beds thereon, a plurality of inking devices connected with said frame and movable therewith, means on said frame for operating the inking devices to give them a continuous orbital motion about said beds, said beds being provided with faces on which the type forms rest, and a plurality of inverted platens cooperating with said beds.

17. In a printing press, the combination of two inverted stationary platens, two reciprocatory beds adapted to move in contact with said platens, two inking devices connected with said beds and movable therewith, means connected with said beds for simultaneously operating said inking devices to give them a continuous orbital motion about the beds, and means for guiding a web of material to be printed upon, first under one of said platens then around a guide and back under the other platen, whereby the web may be printed on both sides.

866,291. STEAM-BOILER. KARL H. MERK, Halensee, near Berlin, Germany. Filed Feb. 26, 1907. Serial No. 359,450.



1. In a steam boiler, the combination with discontinuous fire tubes, of a super-heating chamber located between the sections of said tubes and super-heating tubes passing through and supporting and stiffening the opposite walls of said super-heating chamber.

2. In a steam boiler, the combination with discontinuous fire tubes, of a super-heating chamber located between the sections of said tubes and vertical super-heating tubes in said super-heating chamber whose entrances extend above the water level of the boiler, and whose exits are located in the bottom plate of the super-heating chamber.

3. In a steam boiler, the combination with two boiler sections located within the same cylindrical outer wall and separated each from the other by two flue sheets, a super-heating chamber located between the two flue sheets, and fire tubes in each boiler section, of steam super-heating tubes located in the super-heating chamber at right angles to the fire tubes and means connecting the steam spaces of the boiler sections, said connecting means being located within the cylindrical boiler wall.

4. In a steam boiler, the combination with two end boiler sections located within a cylindrical outer wall and separated each from the other by two flue sheets, a super-heating chamber located between the two flue sheets, and fire tubes in each boiler section, of steam super-heat-

ing tubes located in the super-heating chamber at right angles to the fire tubes, and means connecting the water spaces of the boiler sections, said connecting means being located within the cylindrical boiler wall.

5. In a steam boiler, the combination with discontinuous fire tubes, of a super-heating chamber between the sections of fire tubes and below the water level, vertical super-heating steam tubes passing through the chamber horizontal water heating tubes passing through the chamber at right angles to the fire tubes, and continuous fire tubes passing on the sides of the chamber throughout the boiler.

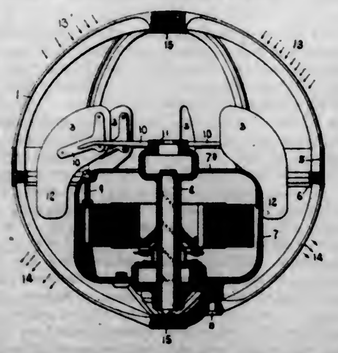
6. In a steam boiler, the combination with discontinuous fire tubes, of a super-heating chamber located between the sections of fire tubes and below the water level, vertical super-heating steam tubes having their receiving ends above the water level passing through the chamber, horizontal water heating tubes passing through the chamber at right angles to the fire tubes, and continuous fire tubes passing on the sides of the chamber throughout the boiler.

7. In a steam boiler, the combination with discontinuous fire tubes, of a super-heating chamber forming a prismatic box and located between the sections of fire tubes, vertical steam super-heating tubes passing through and stiffening the chamber, horizontal water heating tubes passing through and stiffening the chamber at right angles to the fire tubes, and continuous fire tubes passing on the sides of the chamber throughout the boiler, the top plate of the super-heating chamber being located below the lowest water level in the boiler and the entrances of the super-heating tubes being located over the highest level of the water overflowing the super-heating chamber.

8. In a steam boiler, the combination with discontinuous fire tubes, of a super-heating chamber between the sections of the fire tubes, super-heating steam tubes in said chamber whose entrance ends are located above the highest water level in the boiler and a super-heated steam collecting chamber separated from the steam super-heating chamber and located within the cylindrical boiler wall.

9. In a steam boiler, the combination with discontinuous fire tubes, of a super-heating chamber between the sections of the fire-tubes, steam super-heating tubes whose entrance ends are located in the steam space of the boiler and a super-heated steam collecting chamber located below the steam super-heating chamber and receiving the super-heated steam from the super-heating tubes.

866,292. CEILING-FAN. CHARLES R. MESTON, St. Louis, Mo., assignor to The Emerson Electric Manufacturing Company, St. Louis, Mo., a Corporation of Missouri. Filed June 2, 1906. Serial No. 319,897.



1. A ceiling fan comprising a hollow sectional frame of skeleton construction, a high-speed electric motor arranged inside of said frame and supported thereby and having its armature shaft disposed vertically, and fan blades connected to the armature shaft of the motor and located entirely within said frame, said blades being so formed that they dispel the air radially across the ceiling of the room; substantially as described.

2. A ceiling fan comprising a supporting frame that consists of two semi-spherical shaped sections of skeleton construction each of which is composed of a plurality of metallic ribs, a high-speed electric motor arranged inside of said frame and connected thereto, and a fan driven by said motor and located completely within the frame, the blades of said fan being so formed that they dispel the air radially; substantially as described.

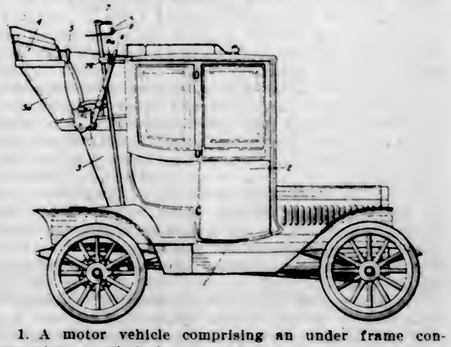
3. An electric ceiling fan comprising a spherical shaped frame formed in sections and being of skeleton construction, ornamental pieces arranged on the outside of the ribs of said frame, a high-speed electric motor arranged inside of said frame and supported thereby, the armature shaft of said motor being disposed vertically, a fan located entirely within said frame and having its blades connected to the armature shaft of the motor, and electric light fixtures connected to the exterior of the frame; substantially as described.

866,293. PROCESS OF PRODUCING WATERPROOF CHARACTERS UPON PAPER. OTTO MEYER, Richmond, Va. Filed Aug. 25, 1906. Serial No. 332,056.

1. The herein described process consisting in impregnating a sheet with chemical characters invisible when dry and visible when wet, of drying the sheet to render the chemical invisible, and wetting the sheet with water to develop the characters.

2. The herein described process consisting in forming characters upon a sheet in a solution of phenol-phthalein dissolved in alcohol, of drying the sheet to render the characters invisible and wetting the sheet in water to develop the characters.

866,294. MOTOR-VEHICLE. WILLIAM J. MILLER, Columbus, Ohio, assignor to The Oscar Lear Automobile Company, Columbus, Ohio, a Corporation of Ohio. Filed Jan. 23, 1907. Serial No. 353,729.



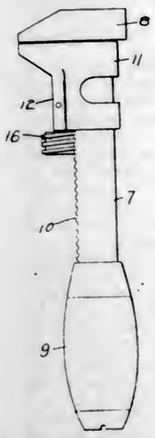
1. A motor vehicle comprising an under frame construction, a cab body mounted thereon, a rearward extension upon said cab body, a platform at the upper side thereof, an elevated seat supported on said platform, means within easy reach of said seat for controlling the operative parts and the brakes on said vehicle, the connections between said means and said under frame construction for controlling said operative parts being housed within said extension.

2. A motor vehicle comprising an under frame construction, a cab body mounted thereon, a rearward extension upon said cab body, a platform at the upper side of said extension, means for controlling the transmission gearing mounted in the upper side of said extension adjacent said platform and within easy reach of the driver, said means being inclosed within said extension down to the under frame construction, and passing thence to the transmission gearing along said construction.

3. A motor vehicle comprising an under frame construction, a cab body mounted thereon, a rearward extension on said cab body, a platform at the upper side of said extension, an elevated seat supported from said extension, a plurality of shafts positioned in said extension adjacent the said platform, and having levers extending upwardly within easy reach of said seat, and rods passing downwardly and connected with actuating rocker arms and rock shafts, whereby the manipulation of said levers produces the desired effect in the operation of said vehicle.

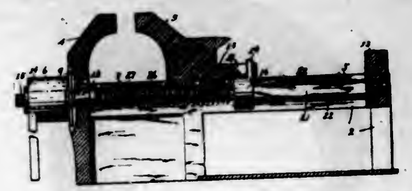
4. A motor vehicle comprising an under frame construction, a cab body mounted thereon, an extension to the rearward of said cab body, a lofty seat rising from and supported upon said extension, a lever within easy reach of said seat, a horizontal shaft adjacent the upper side of said extension upon which said lever is mounted, rocker arms provided on said shaft, vertical rods depending from said arms, said shaft, rocker arms and vertical rods being housed within said extension, a shaft mounted in said under frame construction, sleeves thereon, bell crank levers mounted upon said sleeves, said rods being connected respectively with an arm of said levers, a second set of rods connected respectively with the other arm of said levers and passing thence to the transmission gearing for controlling the same.

866,295. WRENCH. ARTHUR S. MORGAN, St. Louis, Mo. Filed Apr. 24, 1907. Serial No. 369,951.



A wrench of the class described comprising a shank having a rack edge, a fixed jaw at one end of the shank, a handle at the other end of the shank, a jaw slidably mounted upon the shank, integral spaced parallel oppositely disposed cheek pieces formed integral with the slidable jaw, a block pivoted substantially at its middle between the cheek pieces, a reduced cylindrical stem portion formed integral with one end of the block and projecting beyond the rear edge of the jaw upon which the block is mounted, a threaded stud formed at the end of the stem, a worm nut rotatably engaged upon the stem, a nut engaged upon the threaded stud and adapted to hold the worm nut upon the stem, the worm nut being recessed for the flush reception of the holding nut, the forward end of the block being recessed, and a helical spring disposed between the cheek pieces and within the recess in the block and bearing against that portion of the jaw which lies intermediate the cheek pieces, the upper face of the block at its forward end being beveled to abut the last mentioned portion of the slidable jaw when the block is swung to bring the worm nut out of mesh with the rack whereby the movement of the block and the compression of spring will be limited.

866,296. BENCH-VISE. JOHN W. MCINTYRE, Edge Hill, Pa. Filed Apr. 27, 1907. Serial No. 370,601.



1. A device of the class herein described comprising a fixed jaw; a cam-face removably conjoined therewith; an operating-rod projecting freely through and somewhat forwardly beyond, said fixed jaw; a sliding-jaw; a device for primarily interconnecting said sliding-jaw and operating-rod, said device being adjustable for a locking and unlocking effect independently of said sliding-jaw and operating-rod, respectively; and a working-head, the latter rotatably mounted on said forwardly projecting portion of said operating-rod, and provided with a cam-face cooperating with the removable cam-face aforenamed, substantially as herein specified.

2. A device of the class herein described comprising a fixed jaw; a cam-face removably conjoined therewith; an operating-rod projecting freely through and somewhat forwardly beyond, said fixed jaw, said operating-rod being segmentally threaded; a sliding-jaw provided with an extension having an opening formed downwardly therethrough; a segmentally threaded nut, on said operating-rod and projecting into the opening aforenamed, whereby said operating-rod and said sliding-jaw may be interconnected for operation in unison, upon the segmental threads of said nut being brought into engagement with the segmental threads of said operating-rod, said nut being adjustable independently of said sliding-jaw and operating-rod, respectively; and a working-head, the latter rotatably mounted on said forwardly projecting portion of said operating-rod and provided with a cam-face coöperating with the removable cam-face aforenamed, substantially as herein specified.

3. A device of the class herein described comprising a base having parallel top-rails; a jaw fixed to said base at its forward end; a cam-face conjoined with said jaw at the front thereof; a follower on said top-rails, rearwardly thereof and adapted to slide therealong; a spring-controlled operating-rod, said operating-rod projecting freely through and somewhat forwardly beyond, said fixed jaw, engaging at its rear end the said follower and provided with segmental threads; a spring-controlled jaw slidably conjoined with said base, and coöperating with said fixed jaw, said spring-controlled jaw being provided with an extension having an opening formed downwardly therethrough; a segmentally threaded nut, on said operating-rod, and projecting upwardly therefrom into the opening aforenamed, whereby, upon the segmental threads of said nut being brought into engagement with the segmental threads of said operating-rod, the latter and said spring-controlled jaw may be interconnected; and a working-head, the latter rotatably mounted on said forwardly projecting portion of said operating-rod, and provided with a cam-face coöperating with the cam-face, aforenamed, conjoined with said fixed jaw, substantially as herein specified.

866,297. PNEUMATIC TIRE. GEORGE NOYES, Mandan, N. D. Filed Dec. 4, 1905. Serial No. 290,253.

In combination with a pneumatic tire comprising an inner and outer tube, a shield having opposite ends inserted between the tubes and composed of a strip of flexible elastic material crescent shaped in cross section and a strip of metal which is flat in cross section embedded in the flexible material, the arrangement and contour of the parts being such that gripping angles of contact between the inner tube and the edges of the shield

will be formed in the said tube when inflated whereby the shield is retained against lateral movement between



the tubes, said shield having its ends oppositely inclined and overlapping each other.

866,298. ADDING-MACHINE. WILLIAM C. PARIS, Dyersburg, Tenn. Filed Mar. 27, 1907. Serial No. 364,835.



1. An adding machine comprising two sets of sprocket wheels, belts running over both sets, said belts having finger engaging means, printing wheels corresponding to the sprocket wheels and actuated thereby, a slidable block, means actuated by said block for operating printing mechanism coöperating with one set of the printing wheels, means operable by hand to coöperate with the set of printing wheels, and means operable by the sliding block for throwing one set of sprocket wheels out of gear so that they may be reversed.

2. In an adding machine, detail sprocket wheels, total sprocket wheels, belts running over said wheels, each belt actuating a detail and a total sprocket wheel, detail and total printing wheels rotating synchronously with the sprocket wheels, printing mechanism coöperating with the printing wheels, and means for throwing the detail sprocket wheels out of gear with the belts.

3. In an adding machine two sets of sprocket wheels having notched peripheries, belts, printing wheels rotated step by step with the sprocket wheels, pins carried by each belt engaging the notches of a sprocket wheel of each set, means for sliding the sprocket wheels of one set clear of the pins, and means for returning said wheels to their normal positions when clear of the pins.

4. In an adding machine, belts having projecting pins, sprocket wheels arranged in sets and notched, the pins engaging the notches, one of said sets being detail wheels, means for disengaging the said wheels from the belts, means for returning the wheels to normal position when disengaged, fingers carried by the belts, alining with every tenth pin, means operable by said fingers for rotating one step a wheel of the other set adjacent the wheel operated by the belt pins, and printing wheels operating synchronously with the sprocket wheels.

5. In an adding machine, a set of detail printing wheels, a set of total printing wheels, the wheels of each set being mounted on concentric shafts, a sprocket wheel on each of said shafts, a plurality of belts, said belts equaling in number the number of detail printing wheels, each belt driving a sprocket wheel of a detail printing wheel, and a sprocket wheel of a total printing wheel, means for throwing the sprocket wheels connected to the detail printing wheels clear of the belt after each printing operation, means for reversing said sprocket wheels, and the detail printing wheels when clear of the belt, fingers carried by the belt at predetermined intervals, and means engaged by said fingers for giving a partial rotation to one of the sprocket wheels connected to the total printing wheels, as and for the purpose set forth.

6. In an adding machine, a set of detail printing wheels, means for independently rotating said wheels, a set of total printing wheels, a box under each set of wheels, an inking ribbon traveling between said boxes and wheels, a strip of material to be printed on, means for moving said strip, levers pivoted in the boxes adapted to bear on the underside of the strip, levers supporting said boxes, and separate means for lifting each box.

7. In a device of the kind described, a shaft, a sprocket wheel fitted thereon, a printing wheel fixed on the shaft, a plurality of concentrically arranged sleeves mounted loosely on the shaft, a sprocket wheel on each of said sleeves, a printing wheel on each sleeve, belts coöperating with the sprocket wheels, and printing mechanism cooperating with the printing wheels.

8. In an adding machine, a set of printing wheels, a vertically movable box, levers pivoted in the box and having their free ends resting below the wheels, springs under the levers, rock shafts, angled arms carried by said shafts and resting respectively on the levers, and means for rocking said shafts.

9. In an adding machine, printing wheels, vertically movable levers adapted to coöperate with the wheels, rock shafts, angled arms carried by the shafts, said arms engaging the levers, and varying in length, cams carried by the wheels, and arms carried by the rock shafts engaging said cams.

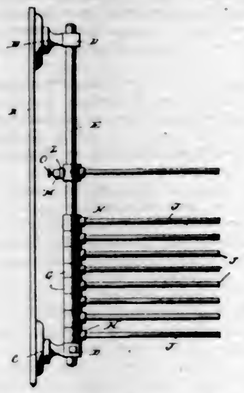
10. In an adding machine, a plurality of printing wheels, mounted side by side, and rotatable independent of each other, said wheels representing units, tens, hundreds and thousands, cams carried by the three last mentioned wheels, rock shafts, arms carried by said rock shafts engaging the cams, pivoted levers arranged below the cam-carrying wheels, and angled arms of varying lengths carried by the rock-shaft and resting on the levers, the longest arm resting across all of the levers and operable by the cam on the second wheel, the remaining arms resting respectively on two levers and one lever, and being operable by the cams of the third and fourth wheels, respectively, as and for the purpose set forth.

11. In an adding machine, two sets of printing wheels, boxes under said wheels, a ribbon traveling between the wheels and boxes, levers carried by the boxes, levers supporting the boxes, a vertically movable rod, a slide adapted to depress the rod and bring it into engagement with one of the box supporting levers, a strip of paper between the wheels and levers in the boxes, a ratchet for moving said paper the distance between one set of wheels and the other, and a slidable bar having ratchet teeth to engage the ratchet and a cam to engage the other box supporting lever.

866,299. CURTAIN-DISPLAY RACK. WILLIAM H. PARRILL, Fairmount, Ind. Filed Apr. 27, 1906. Serial No. 313,999.

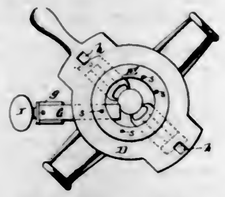
The curtain rack herein shown and described consisting of a base plate, spaced brackets secured thereon, said brackets having broad securing base portions and constricted neck portions terminating in a squared head having a central opening therethrough, a set screw secured in the side of one of the heads, a rod engaged in the openings in the heads and clamped in place by the set screw, sleeves slidably engaged upon the supporting rod, said sleeves each having external oppositely disposed sockets, a supporting arm secured in the socket on the forward side of the sleeve, a tubular thimble having closed ends, one end of said thimble having threaded engagement with the rear socket on the sleeve, a pin passing through the sleeve and having a pointed inner end in engagement with the supporting rod, the outer end of the pin having an enlarged knurled operating head, a collar upon the pin

located within the thimble, and a spiral spring surrounding the pin and bearing against the collar and outer end



of the thimble to hold the pin in engagement with the supporting rod.

866,300. SCREW-THREADING PLATE. JOSEPH B. PLATT, Cleveland, Ohio. Filed Aug. 30, 1905. Serial No. 276,455.



1. In combination with a body having a central opening, dies seating on said body and projecting in said opening, each die comprising a series of longitudinal members in side by side relation, a head block disposed transverse of the length of said members, means carried by said head block and by each of said longitudinal members to provide an interlocking engagement between said head block and said members, a top plate, and means engaging said head block and said plate whereby the head block is operated by the movements of said top plate.

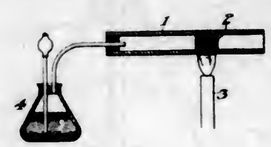
2. In combination with a body, dies engaging thereon, each die being composed of a head block and separable members, said members being in abutting engagement, a projecting rabbeted lip on the head block, a rabbeted lug on each member oppositely related to said lip of the head block and each interfitting with said lip of the head block, a top plate, and means on said head block engaging said top plate to operate the dies.

3. In combination with a body, dies engaging thereon, each die being composed of longitudinal members and a head block disposed transverse of the length of said members, said head block and members being formed with interlocking connections, the connections of the head and members being oppositely related, a pin on said head block, a top plate, and means on the top plate to engage said pin and thereby operate said head block.

866,301. METHOD OF FORMING SEALS AND TERMINALS FOR ELECTRIC APPARATUS. HENRY N. POTTER, New Rochelle, N. Y., assignor to Cooper Hewitt Electric Company, New York, N. Y., a Corporation of New York. Filed Nov. 19, 1903. Serial No. 181,756.

1. The method of forming a seal between metallic silicon and quartz glass, which consists in fusing the former within the latter.

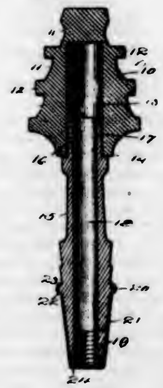
2. The method of producing a leading-in conductor for electrical devices, which consists in fusing into the walls of a quartz glass chamber a section of silicon.



3. The method of fusing silicon to silica, which consists in heating the joint to a temperature sufficient to fuse the silicon in an inert gas.

4. The method of sealing silicon within a tube of silica, which consists in passing an inert gas through the tube, and fusing the silicon out of contact with gases active relative to it.

866,302. HEAD FOR FEATHER DUSTERS. ALBERT RANSOM and MEAD E. GOODHUE, Chicago, Ill. Filed June 6, 1906. Serial No. 320,487.



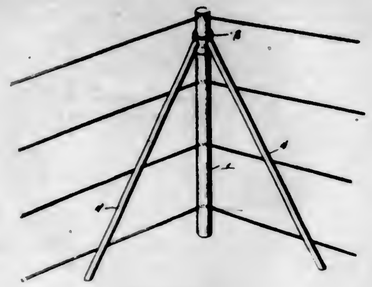
1. In a duster, a head, a shank extending therefrom, provided with an annular bead intermediate its ends, and a ferrule embracing the extremity of the shank and having an enlarged portion crimped over and embracing the bead.

2. In a duster, a head provided with an axial bore, and with a shank provided with a reduced portion seated within the bore of the head and having a longitudinal bore smaller than and co-axial with the bore of the head, an annular bead formed externally about the shank intermediate its ends, and a ferrule embracing the ends of the shank and having an enlarged portion crimped over and embracing the bead.

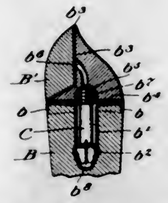
866,303. BRACE FOR POSTS. JAMES A. REYNOLDS, Waterloo, Nebr. Filed Sept. 19, 1906. Serial No. 335,298.

The combination with a post, a collar adapted to surround said post adjacent the upper end thereof, a pin depending at an angle from said collar and a tubular brace rod adapted to receive the pin on said collar in one end thereof; of a pressure plate adapted to be disposed below the surface of the ground in line with an at right angles to the brace rod, a pin in the center of said pressure plate,

said pin extending into the free end of the tubular brace rod.



866,304. REMOVABLE ARTIFICIAL DENTURE. FINIS E. ROACH, Chicago, Ill. Filed Apr. 18, 1904. Serial No. 203,668.



1. In an artificial denture the combination with the natural tooth or part thereof provided with a rounded socket, an artificial denture adapted to fit said tooth and provided with a rounded socket and a pin provided with a rounded head at each end adapted one to engage in the tooth and the other in the artificial denture thereby permitting relative adjustment of the same.

2. In an artificial denture the combination with the natural tooth or part thereof, of an artificial denture adapted to engage the same, rounded sockets in said tooth and artificial denture, a pin provided with a rounded and a cleft head adapted to engage in said sockets and secure the tooth and artificial denture in adjustable engagement.

3. In a device of the class described, a natural denture provided with a tubular socket therein, an artificial denture having a ball shaped socket therein, a pin engaged in the natural denture and a ball in said ball shaped socket having threaded engagement on said pin and affording a swiveled joint therefor.

4. In a removable artificial denture, the combination with a natural denture or part thereof, of an artificial denture adapted to be secured thereto, a sleeve in one of said dentures, a headed pin carried therein, an adjustable ball on said pin and a socket in the other denture adapted to engage said ball and permit yielding engagement between said denture.

5. In a device of the class described, an artificial denture having a socket therein, a natural denture, a pin connecting said dentures, a ball in said socket adjustably engaged on said pin affording a laterally yielding joint.

6. The combination with a natural tooth or root abutment, of an artificial denture, a ball shaped projection thereon, a corresponding tubular socket piece carried on the abutment, means for varying the frictional engagement of said projection in said socket and a plate on said denture through which said projection passes and having a point thereon adapted to engage said socket piece above said ball shaped projection.

7. In a device of the class described, the combination with a natural denture or part thereof, of an artificial denture adapted to be engaged thereon, a tubular socket in one of said dentures, a pin adjustably engaged at one end therein and means adjustably engaged on the other end of said pin adapted to engage in a complemental socket in the other denture and afford a ball and socket joint.

8. In an artificial denture, connecting means comprising a socket, a pin provided at one end with a cleft head adapted to frictionally engage in said socket and means on the other end of said pin affording a movable point with said denture.

9. In an artificial denture connecting means comprising a ball shaped socket in said denture, a complemental head therein, a pin having threaded engagement with said head, and adapted when screwed inwardly to tighten the head in the socket, said pin affording an adjustable connection with a natural denture.

10. In an artificial denture the combination with a natural tooth or part thereof having a rounded socket therein, an artificial denture adapted to be engaged thereto, a pin pivotally engaged in said artificial denture and provided with a cleft rounded outer end adapted to engage the socket in said tooth.

11. In an artificial denture the combination with a natural tooth or part thereof, an artificial denture therefor and means affording a ball and socket connection in both the tooth and artificial denture.

12. In an artificial denture the combination with a natural tooth or part thereof, of an artificial denture therefor, sockets provided in each, and a pin adapted to engage said tooth and artificial denture in yielding relation and affording a pivotal joint in both the tooth and artificial denture.

13. In an artificial denture the combination with a natural tooth or part thereof, an artificial denture adapted to be engaged thereto, and means engaging the same together and affording a pivotal joint in each thereby adapting the artificial denture to be adjusted in any lateral direction.

14. In an artificial denture the combination with a natural tooth or part thereof of an artificial denture, an elongated slot in one of the same, a pin engaged to the other and provided with a cleft rounded head on its free end and adapted to be inserted into said slot thereby connecting said tooth and artificial denture and adapting the same to be vertically adjusted and means securing said tooth and artificial denture in adjusted position.

866,305. FUSIBLE PORCELAIN CEMENT AND STRENGTHENING-BACKING FOR ARTIFICIAL DENTURES. FINIS E. ROACH, Chicago, Ill. Filed July 29, 1904. Serial No. 218,668.



1. A composition of matter comprising a fusible mixture of cement and porcelain body capable when mixed with a suitable liquid to be molded into a desired form and to set or crystallize and adapted for baking thereafter.

2. A composition of matter comprising a cement and porcelain body in proper proportions adapted for molding and to quickly set or crystallize and capable of fusing on porcelain and uniting chemically with setting cement.

3. A composition of matter comprising kaolin, feldspar, silex and cement, in proportion adapting the same for molding and fusible to a homogeneous vitreous masa without shrinkage or distortion.

4. A composition of matter comprising fusible cement mixed with porcelain body and having a crystalline texture.

5. A composition of matter comprising a metal oxid, glacial phosphoric acid and porcelain body fused together and affording an etched surface for attaching cement.

6. A fusible opaque backing for porcelain comprising a metal oxid, glacial phosphoric acid and water, said backing being integrally united with the porcelain in fusing.

7. A composition of matter comprising a fusible cement containing a metal oxid and porcelain body comprising kaolin, feldspar and silex and fusing to a homogeneous opaque vitreous mass.

8. A fusible opaque backing for porcelain, comprising a cement of zinc oxid and glacial phosphoric acid, integrally united with porcelain and having a crystalline fracture.

9. A composition of matter comprising a metal oxid glacial phosphoric acid, and porcelain body molded to the desired form and fused to an integral mass.

10. The combination with a porcelain body comprising kaolin, feldspar, and silex, of a crystallizable and fusible cement, integrally connected therewith and comprising a metallic oxid and a liquid mixed therewith affording an opaque structure.

11. A composition of matter comprising a moldable and crystallizable cement containing zinc oxid and a porcelain body of feldspar, kaolin and silex, said ingredients being molded to the desired form and fused to an integral mass.

12. A composition of matter comprising a moldable and crystallizable cement adapted to fuse to a porcelain consistency and containing oxid of zinc whereby zinc oxid cement used in attaching the same in place unites integrally therewith.

13. A fusible molding cement containing zinc oxid and talc adapted for taking impressions without adhesion.

14. A fusible molding cement containing zinc oxid, porcelain body and talc.

15. A fusible porcelain cement containing zinc oxid and porcelain body.

16. A composition of matter for dentures containing a metal oxid and a porcelain body.

17. A composition of matter affording a fusible dental cement and comprising a metal oxid of a crystallizable nature adapted to form an etched bonding surface and a porcelain mixed therewith.

18. A composition of matter comprising a fusible cement and a quantity of the material with which the cement is fused.

19. A composition of matter for dentures containing a metal oxid, material for varying the fusing point of the cement and material adapted to prevent adhesion when making impressions.

20. A composition of matter adapted to be fused to porcelain comprising porcelain and a crystallizable material intermixed therewith.

21. A composition of matter comprising a metal oxid, materials varying the moldability of the cement and material varying the fusing point of the cement.

22. A composition of matter for dentures comprising zinc oxid and a quantity of the material to which the same is adapted to be fused.

23. A composition of matter for dentures comprising a metal oxid, material adapted to vary the fusing point and glacial phosphoric acid.

24. A composition of matter for dentures containing oxid of zinc, material varying the fusing point and material adapted to prevent surface adhesion when taking impressions.

25. A composition of matter containing metal oxids, a porcelain body, glacial phosphoric acid and talc.

26. A composition of matter for dentures comprising a metal oxid and a material to change the fusing point, said compound affording an opaque outer surface when fused.

27. A composition of matter affording a fusible cement for dentures containing a metal oxid and a porcelain coating for said cement adapted when fused to unite integrally therewith and affording opaqueness.

866,306. SWITCH. ELBERT R. ROBINSON, Chicago, Ill. Filed Feb. 18, 1907. Serial No. 358,103.



1. A switch for railroads comprising a switch tongue having a portion thereof tempered, and a removable chilled piece or section arranged in the rail adjacent the said switch tongue, substantially as described.

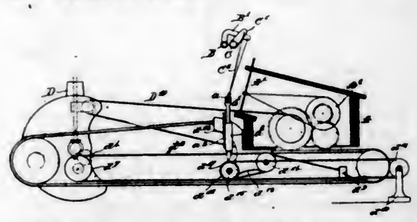
2. A switch for railroads comprising a switch tongue having a portion thereof hardened, and a removable chilled piece or section arranged in the rail adjacent the said switch tongue, substantially as described.

3. A switch for railroads comprising a switch tongue, and a chilled piece or section arranged in the rail adjacent to said switch tongue, substantially as described.

4. A switch for railroads comprising a switch tongue and a rail adjacent said switch tongue, that portion of the rail adjacent the switch tongue being hardened to a greater degree than the remaining portion of the rail, substantially as described.

5. A switch for railroads comprising a rail having a removable chilled piece or section arranged therein, substantially as described.

866,307. QUADRANT MECHANISM FOR MULES. WILLIAM D. RUNDLETT, North Andover, Mass., assignor to Davis & Furber Machine Company, North Andover, Mass., a Corporation of Massachusetts. Filed Aug. 17, 1905. Serial No. 274,540.



1. In a mule, the combination with the quadrant, its screw, and means for operating it, of friction means, and locking means for said friction means, whereby when said locking means is in its operative position the screw may be turned in the friction means, and when the locking means is disengaged from said friction means the latter is rendered inoperative.

2. In a mule, the combination with the quadrant, its screw, and means for operating it, of friction means, and locking means for said friction means, whereby when said locking means is in its operative position the screw may be turned in the friction means, and when the locking means is in its inoperative position the screw and friction means may be turned in unison, and means to regulate the amount of friction to be overcome before the screw can be turned in the friction means.

3. In a mule, the combination with the quadrant arm and its quadrant screw, of a plate fixed to said screw at the upper end thereof and above said arm friction devices surrounding said screw and co-acting with said plate.

4. In a mule, the combination with the quadrant screw and friction means including two plates mounted thereon and turning therewith, and an intermediate plate surrounding said screw loosely, of means to restrain the rotation of said intermediate plate, and means to vary the extent of pressure of said plates on said intermediate plate.

5. In a mule, a quadrant arm, its screw, a plate fixed to said screw, and a friction-plate surrounding said screw loosely at one side said fixed plate, combined with a spring, and means acting thereon to control the friction of said friction plate on said fixed plate.

6. In a mule, a carriage, winding and tension fallers mounted thereon, a leg controlled by said fallers, a quadrant, its screw, and means for turning said screw, including a band, of a wheel mounted on the carriage and having a ratchet plate applied to said wheel that it may have a limited amount of lost motion relative thereto, said ratchet being engaged to start the wheel in advance of starting said wheel during the inward run of the carriage and before changing the position of the fallers.

7. A quadrant arm, a quadrant screw, a friction device mounted on said screw, and a locking device sustained by

said arm, the locking device when engaging said friction device preventing its rotation with said screw and when disengaged from said friction device permitting the latter device to revolve with the screw.

866,308. GRAPE-CUTTER. IRVILLE L. SANDERS, Gilroy, Cal. Filed Feb. 2, 1907. Serial No. 355,480.

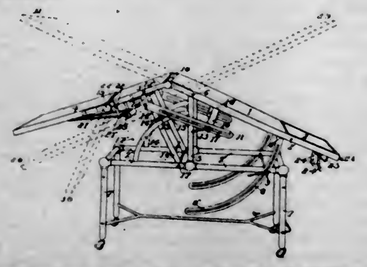


1. A cutting implement comprising a stem having a hook at one end and having a depression in one side of the hook to form a seat, and having opposite edges of the seat under-cut, a cutter having opposite edges beveled to engage under the overhanging portions of the under-cut edges of the aforementioned seat in which said cutter is fitted and means for securing the cutter to the hook.

2. A cutting implement comprising a hook and having its body portion flattened and provided in one side with a seat, opposite edges of which are under-cut, a cutter fitted in said seat and having opposite edges beveled to fit the under-cut edges of the aforesaid seat, and means for securing the cutter to the hook.

3. The herein described cutting implement comprising a stem provided at one end with a handle and having a hook at its opposite end, the body portion of the hook being flattened and provided in one side with a seat, opposite edges of which are under-cut, a cutter having a notch in one edge and having the portion bordering upon the notch beveled to a keen edge, said cutter being fitted in the aforesaid seat, and means for securing the cutter to the hook.

866,309. SURGEON'S OPERATING-TABLE. SAM G. SCANLAN, Madison, Wis., assignor to Scanlan-Morris Company, Madison, Wis. Filed Apr. 19, 1906. Serial No. 312,725.



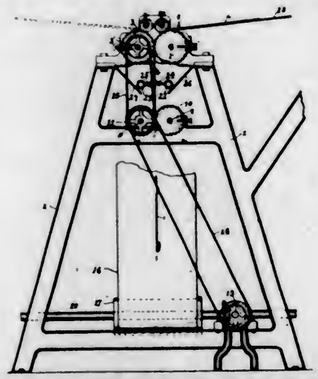
1. The combination with a frame of a main table section pivoted thereon and having curved slotted arms, clamping means on the frame for engaging said slotted arms for adjusting said section relative to the frame; an intermediate section pivotally supported from the frame and hinged to the main section, links pivoted to the intermediate section and connected to the main section for adjusting said sections about their hinge; a third section pivoted to the intermediate section, and means for adjusting the latter sections relative to each other.

2. The combination with a main section pivoted to a supporting frame and means for adjusting the section relative to the frame; of a two piece member hinged to said section; one of said pieces pivotally supported from the frame and having pivoted slotted arms which are connected to the main section, and clamps on said slotted arms for holding the two piece member in adjusted position relative to the main section.

3. In a surgical table, a frame, a main top section pivoted near one end on the frame and having an adjustable head rest pivoted thereto near the other end, means for adjusting said main section with respect to the frame, a supplemental top section pivotally mounted on the frame and formed of two members hinged together, means for adjusting said members with respect to each other, and slotted links pivoted to one of said sections and adjustably connected to the other of said sections for adjusting the main section and the supplemental section relatively to each other.

4. The combination with a table frame of two sections hinged together and pivotally supported on the frame, slotted arms attached to the main section and connected adjustably to the frame for adjustment of the main section, means for adjusting the second section relative to the frame, and slotted arms pivoted to the second section and connected to the main section for adjusting the second section relatively to the main section.

866,310. SINGEING-MACHINE. FREDERICK C. SCHOLLER, ADOLPH SCHOLLER, and JOHN C. DEMPSEY, Philadelphia, Pa. Filed Mar. 6, 1907. Serial No. 360,992.



1. A singeing machine having in combination therewith means for feeding articles to be singed, and burners located on opposite sides of the machine in such position that the flames from said burners will meet in the line of the path of the article to be singed.

2. A singeing machine having in combination therewith means for feeding the article to be singed in a vertical path, and burners located on opposite sides of the machine in such position that the flames therefrom will meet in the line of the vertical path of the article to be singed.

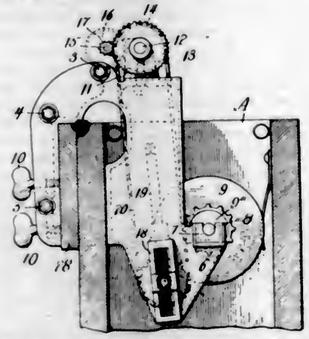
3. A singeing machine having a pair of feed rolls, and a row of burners located on opposite sides of said machine in such position that the flames from one of said rows of burners will impinge against the flames from the opposite row of burners at the point where the article to be singed passes through the flames.

4. In a singeing machine the combination of the feed rollers 2, 3, 4, with the burners 22, 23, located on opposite sides of the machine in such position that the flames from the burners will impinge against each other at the point where the article to be singed will pass through said flames, substantially as shown.

5. In a singeing machine the combination of the feed rollers 2, 3, 4, and the rollers 10, 11, with the burners 22, 23, located on opposite sides of the machine and having the flames therefrom projected toward each other and adapted to impinge against the sides of any article passing between them, substantially as shown.

6. In a singeing machine the combination of the feed rollers 2, 3, 4, and the rollers 10, 11, all mounted upon the hollow shafts, one end of each of the shafts being connected with a water supply and the opposite ends with pipes for discharging the water, with the burners 22, 23, located on opposite sides of said machine and having the flames therefrom projected towards each other so as to impinge against any article passing through said flames in a vertical direction, substantially as shown.

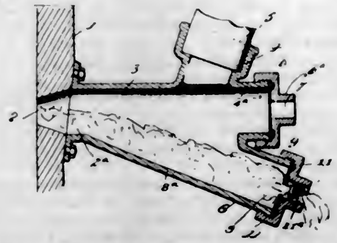
866,311. ELECTROPLATING APPARATUS. ALBERT F. SCHROEDER, Cleveland, Ohio. Filed Mar. 18, 1907. Serial No. 363,124.



1. In a device of the character described, a tumbling drum having a central shaft extending axially therethrough, castings for rotatably supporting said drum, a driving train and a gear wheel mounted on said shaft and detachably held against and in operative engagement with said driving train, whereby said drum may be removed independent of the other mechanism, substantially as described.

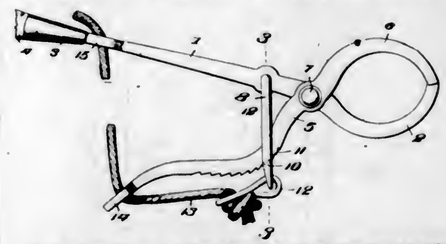
2. In a device of the character described, a tank, castings removably secured thereto, a tumbling drum having a central shaft rotatably supported within said castings, a driving train, and a gear wheel mounted on said shaft and detachably held against and in operative engagement with said driving train, whereby said drum may be removed independent of the other mechanism, substantially as described.

866,312. BLAST-FURNACE TWYER. HENRY SEIDLER, Great Falls, Mont. Filed May 19, 1906. Serial No. 317,785.



A blast furnace twyer consisting of a hollow body provided at one end with an opening adapted to be registered with the blast inlet of the furnace, said body flaring away from said opening and provided at its rear end with an upper, intermediate and lower nipple, the upper nipple being arranged for the attachment thereto of a blast pipe, and pointing away from said opening, the middle nipple projecting rearwardly at the rear or beyond the upper nipple with its upper wall in line with the upper wall of the remaining portion of the body and the opening through said nipple being of substantially the same diameter and in direct alinement with the opening at the furnace end of said body, and the lower nipple slanting downwardly and rearwardly from the opening at the furnace end of the body, the opening in said last named nipple being substantially of the same diameter as the said opening in the body and being in alinement therewith, said lower nipple projecting rearwardly and located beyond the upper and middle nipples, caps secured on the ends of the middle and lower nipples, each of said caps being provided with an opening extending therethrough and said opening being located in a plane or line which intersects the opening at the furnace end of the twyer body, and a fusible closure clamped between the cap of the lower nipple and said nipple, as and for the purpose set forth.

866,313. HOLDING-TOOL. CHRISTIAN STOLLER, Pinegrove, Wis. Filed Feb. 21, 1907. Serial No. 358,703.



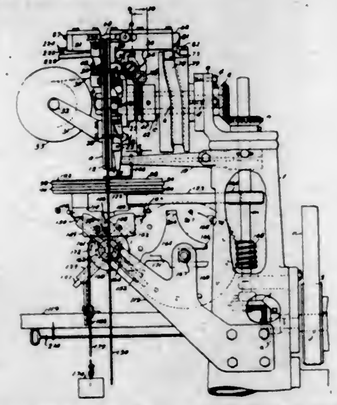
In a holding tool of the class described the combination with a main arm having a curved jaw at one end thereof and a socket at the opposite end thereof; of an auxiliary arm, means to pivotally secure the auxiliary arm to the main arm, a curved jaw at the outer end of said auxiliary arm opposed to the jaw on the main arm, the meeting ends of said jaws being beveled, said auxiliary arm having an outwardly curved portion, notches on the outer edge of the auxiliary arm coincident with the curved portion thereof, a bar pivotally secured to the main arm, a latch at the outer end of said bar having a tapered portion adapted to engage the notches in the auxiliary arm, a link secured to said latch, an eye at the inner end of each of said arms, a cable secured to said link and adapted to be disposed through said eyes whereby when the cable is moved longitudinally the jaws will be brought together and locked in their closed position and a handle secured to the socket on the main arm.

866,314. MACHINE FOR PROVIDING LACES WITH METAL TIPS. JOHN P. SWIFT, Pawtucket, R. I., assignor of one-half to Adam Sutcliffe, Pawtucket, R. I. Filed Sept. 23, 1905. Serial No. 279,780.

1. In a machine of the class described, in combination, a movable support or carrier, means to move it continuously in one direction, means to secure one end of a continuous lace, cord or braid to said carrier, and instrumentalities carried by said support or carrier to form a metal blank from a metal strip or ribbon, wrap or fold the said blank about the lace, cord or braid, and cut the folded blank and lace to form a tipped lacing, while the cord or braid is maintained in continuous motion, and mechanism coöperating with said movable carrier to engage a tipped lacing while held on said carrier, and lay it out longitudinally after it has been released from said carrier, substantially as described.

2. In a machine of the class described, in combination, a movable support or carrier, means to move it continuously in one direction, means to secure one end of a

continuous lace, cord or braid to said carrier, and instrumentalities carried by said support or carrier to form a metal blank from a metal strip or ribbon, wrap or fold the said blank about the lace, cord or braid, and cut the folded blank and lace to form a tipped lacing, while the cord or braid is maintained in continuous motion, mechanism coöperating with said movable carrier to engage a tipped lacing while held on said carrier, and lay it out longitudinally after it has been released from said carrier, a receptacle coöperating with said mechanism and into which the tipped lacings are deposited, and means cooperating with said receptacle for automatically discharging the tipped lacings therefrom when a predetermined number of lacings have been assembled therein, substantially as described.



3. In a machine of the class described, in combination, a rotatable support or carrier, means to rotate it, means to secure one end of a continuous lace, cord or braid to said carrier, and instrumentalities carried by said support or carrier to form a metal blank from a metal strip or ribbon, wrap or fold the said blank about the lace, cord or braid, and cut the folded blank or lace to form a tipped lacing while the lace, cord or braid is maintained in continuous motion by the rotation of said support or carrier, and means operated by the lace or cord to automatically stop rotation of said carrier, substantially as described.

4. In a machine of the class described, in combination, a rotatable disk provided with an annular groove in its periphery, clamping devices carried by said disk and movable transversely of said groove to engage the lace therein, mechanism carried by said disk for feeding a metal strip or ribbon toward said groove, dies carried by said disk coöperating with said feed mechanism for cutting a tip blank from said strip or ribbon, folding it about the said lace, and cutting the folded blank and the lace enveloped thereby to form two tips, and means to operate said clamping devices, said feed mechanism, and said dies, substantially as described.

5. In a machine of the class described, in combination, mechanism for forming tipped lacings from a continuous length of lace, cord, braid, etc., a starting mechanism controlling the operation of the lacing-forming mechanism, a knot catcher operatively connected with said starting mechanism and operated by a knot in the lace to stop the operation of the said forming mechanism, substantially as described.

6. In a machine of the class described, in combination, a disk, a shaft on which said disk is mounted, a stationary sleeve or hub in which said shaft is supported to rotate therein, means for rotating said shaft, stationary cams mounted on said sleeve or hub, a support for a metal strip or ribbon attached to said disk, a feed mechanism for said strip or ribbon carried by said disk, dies carried by said disk for cutting a tip blank from said strip or ribbon, folding the same about a lace secured to said disk, and to cut the folded blank and the lace enveloped thereby, and means carried by said disk to engage the lace while the metal tips are being formed, said feed mechanism and dies being operated by said stationary cams, substantially as described.

7. In a machine of the class described, in combination, a disk, a shaft on which said disk is mounted, a stationary sleeve or hub in which said shaft is supported to rotate therein, means for rotating said shaft, stationary cams mounted on said sleeve or hub, a support for a metal strip or ribbon attached to said disk, a feed mechanism for said strip or ribbon carried by said disk, dies carried by said disk for cutting a tip blank from said strip or ribbon, folding the same about a lace secured to said disk, and to cut the folded blank and the lace enveloped thereby, means carried by said disk to engage the lace while the metal tips are being formed, said feed mechanism and dies being operated by said stationary cams, and a plurality of endless carriers arranged in line with the disk to receive the tipped lacings therefrom, substantially as described.

8. In a machine of the class described, in combination, a disk, a shaft on which said disk is mountel, a stationary sleeve or hub in which said shaft is supported to rotate therein, means for rotating said shaft, stationary cams mounted on said sleeve or hub, a support for a metal strip or ribbon attached to said disk, a feed mechanism for said strip or ribbon carried by said disk, dies carried by said disk for cutting a tip blank from said strip or ribbon, folding the same about a lace secured to said disk, and to cut the folded blank and the lace enveloped thereby, means carried by said disk to engage the lace while the metal tips are being formed, said feed mechanism and dies being operated by said stationary cams, a plurality of endless carriers arranged in line with the disk to receive the tipped lacings therefrom, and a guide interposed between said disk and said endless carriers to direct the tipped lacing from said disk to said endless carriers, substantially as described.

9. In a machine of the class described, in combination, a disk, a shaft on which said disk is mounted, a stationary sleeve or hub in which said shaft is supported to rotate therein, means for rotating said shaft, stationary cams mounted on said sleeve or hub, a support for a metal strip or ribbon attached to said disk, a feed mechanism for said strip or ribbon carried by said disk, dies carried by said disk for cutting a tip blank from said strip or ribbon, folding the same about a lace secured to said disk, and to cut the folded blank and the lace enveloped thereby, means carried by said disk to engage the lace while the metal tips are being formed, said feed mechanism and dies being operated by said stationary cams, a plurality of endless carriers arranged in line with the disk to receive the tipped lacings therefrom, a guide interposed between said disk and said endless carriers to direct the tipped lacing from said disk to said endless carriers, a plurality of trough-shaped receptacles rotatably mounted and arranged below said endless carriers, and means for intermittently rotating said receptacles, substantially as described.

10. In a machine of the class described, in combination, mechanism for forming tipped lacings from a continuous length of lace, and an assembling mechanism coöperating with said lacing-forming mechanism to receive the individual tipped lacings and lay them lengthwise in predetermined numbers, substantially as described.

11. In a machine of the class described, in combination, dies for folding a tip blank about a lace comprising two sets of coöperating members, one set of members being movable with relation to the other set to cut the folded blank and the lace enveloped thereby to from two tips, substantially as described.

12. In a machine of the class described, in combination, a rotatable support, means to rotate it, dies for applying a metal blank to a lace on said support, means movable with said support for supporting said dies, and means for operating said dies, substantially as described.

13. In a machine of the class described, in combination, a rotatable support, means to rotate it, and mechanism carried by said support for applying metal to a lace on said support to form lacing tips, substantially as described.

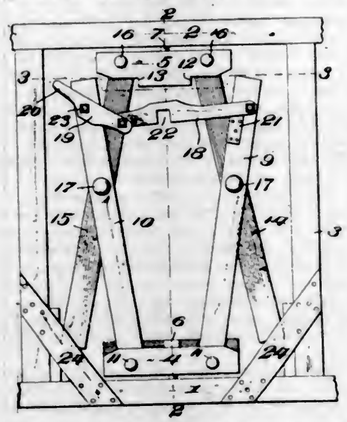
14. In a machine of the class described, a rotatable support, means to rotate it, a stationary cam concentrically mounted with relation to said rotatable support, and means for applying metal to a lace on said support movable with the latter and operated by the stationary cam, substantially as described.

15. In a machine of the class described, in combination, mechanism for effecting a continuous movement in one direction of a lace, cord or braid, and mechanism for applying tip forming metal to said lace, cord or braid while the latter is in motion, substantially as described.

16. In a machine of the class described, in combination, mechanism for effecting a continuous movement in one direction of a lace, cord or braid, mechanism for applying tip forming metal to said lace, cord or braid while the latter is in motion, and mechanism to cut the tip forming metal while said lace is in motion, substantially as described.

17. In a machine of the class described, in combination, a plurality of disconnected endless carriers arranged in close proximity to each other to frictionally engage a lacing, and means to operate said carriers.

866,315. STANCHION. CHARLES D. W. THRASHER, Ascutneyville, Vt. Filed Mar. 8, 1907. Serial No. 361,304.



1. The herein described stanchion comprising a pair of blocks, a pair of main bars pivotally secured to one of said blocks, auxiliary bars pivotally secured to the opposite blocks, bolts to pivotally secure said main and auxiliary bars together whereby when said bars are opened they will cross each other and parallel each other when the bars are closed and means to open and close said bars.

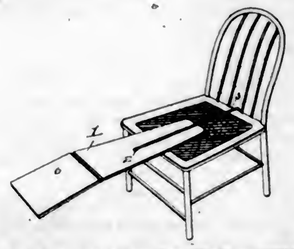
2. In a stanchion the combination with sills; of blocks having slots therein, means to pivotally secure said blocks to the sills, a pair of bars pivotally secured to each of said blocks, bolts to pivotally secure the bars on one block to the bars of the opposite block, a latch pivoted to one of said bars, a lever pivoted to the opposite bar and means to secure one end of said lever to one end of the latch whereby when the latch is rotated the stanchion will be opened or closed.

3. In a stanchion of the class described the combination with sills and supporting means therefor; of a pair of blocks pivoted to said sills and one above the other, a pair of upwardly extending bars pivoted to the lower block, a pair of depending auxiliary bars pivoted to the upper block, bolts to pivotally secure said bars in pairs, a latch pivoted to one of said bars, a lever pivotally secured to the opposite bar, means to secure one end of said lever to one end of said latch whereby when the lever is rotated the bars will be drawn to a vertical position and paralleling each other, said latch having a slot in its lower edge adapted to take over the pivot of said lever, whereby the bars will be securely held when the lever is in closed position.

4. A stanchion of the class described, comprising a pair of main bars and a pair of auxiliary bars, blocks to support said main and auxiliary bars, a lever pivotally connected to the upper end of one of the main bars, and a latch pivotally connected to said lever and to the opposite main bar, said latch having a slot in its lower edge adapted to take over the pivot point of the lever when the bars are closed to prevent said bars from being opened until the lever is again rotated to open the bars.

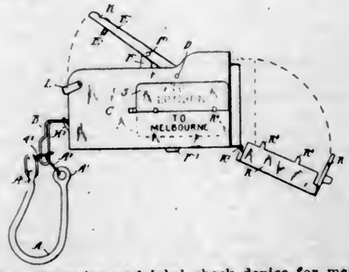
5. In a stanchion of the class described the combination with a pair of main bars and means at the lower ends thereof to pivotally mount the same in position; of a pair of auxiliary bars pivotally secured to the main bars and having supporting means at the upper ends thereof, a latch at the upper end of one of said main bars and means carried by the opposite main bar adapted to engage said latch and open or close the stanchion as desired.

866,316. LEG AND FOOT REST. HENRY B. WATSON, New York, N. Y. Filed Mar. 21, 1907. Serial No. 363,731.



A device of the character described, comprising a stationary member formed with apertures therein, a rod engaging said apertures for holding said stationary member in position, a hinged member mounted on one end of said stationary member, a rack secured to the bottom of said hinged member, a bracket secured to said stationary member, said bracket being adapted to engage said rack for holding said hinged member at various angles.

866,317. MAIL-BAG LOCK. HUGH WATT, Melbourne, Victoria, Australia. Filed June 17, 1907. Serial No. 379,404.



1. In a fastening and label check device for mail bags and similar receptacles:—In combination—A loop A having links B and A^2, a box or case C, a catch lever H, a seal cutting lever J, means for operating the said levers, a device to hold the seal, and an address plate, substantially as and for the purposes set forth.

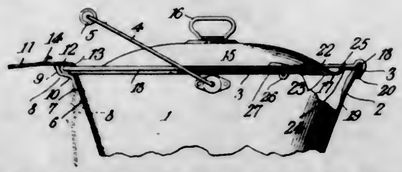
2. In a fastening and label check device for mail bags and similar receptacles:—In combination—A box or case C, a loop A having links B and A^2, a catch lever H, a seal cutting lever J, means for operating the said levers, a device for holding the seal, an address plate, said means for operating the levers H and J consisting of an op-

erating lever E, connecting link F and slot J^2 and means for securing and retaining the lever E in a closed position or for releasing same consisting of a hasp L, lug pin E', spring M and washer M^2, substantially as and for the purposes set forth.

3. In a fastening and label check device for mail bags and similar receptacles:—In combination—A box or case C, a loop as A having links B and A^2, a catch lever H, a seal cutting lever J, means for operating the said levers, a seal holder R having a catch extension piece R' and lugs R^4 and in which is a transparent plate R^5, a surrounding recess T, a spring catch bolt O having an arm N and stopper block N', an eyelet E^2 attached to the lever E and a hinged address plate S, substantially as and for the purposes set forth.

4. In a fastening and label check device for mail bags and similar receptacles:—In combination—A box or case C having thereon a snib or catch F^2 provided with a knob F^3 and spring F^4, a loop A having links B and A^2, a catch lever H, a seal cutting lever J, means for operating the said levers, a seal holder R having a catch extension piece R' and lugs R^4 and in which is a transparent plate R^5, a surrounding recess T, a spring catch bolt O having an arm N and stopper block N', an eyelet E^2 attached to the lever E and a hinged address plate S, substantially as and for the purposes set forth.

866,318. KETTLE-COVER. JOHN H. WILSON, New Kensington, Pa., assignor to The Aluminum Cooking Utensil Co., Pittsburg, Pa. Filed Aug. 14, 1906. Serial No. 330,569.



1. The combination with a receptacle having a spout; of a movable cover having a plurality of apertures adapted to be positioned above the spout, and a spout engaging loop concentric with and disposed below the cover, said loop having spaced inturned ends extending through and secured to the cover.

2. The combination with a receptacle having a spout; of a movable cover adapted to be positioned above the spout, a spout engaging loop concentric with and extending under the cover, said loop having hooked inturned ends engaging the cover, and integral looped means for securing said ends in engagement with the cover.

3. The combination with a receptacle having a spout; of a cover having an apertured portion adapted to be positioned above the spout, a spout engaging loop supported below the cover, arms integral therewith and extending through the cover, and a tie wire secured at its ends to the arms and extending under the cover.

4. The combination with a receptacle having a spout; of a cover having a plurality of apertures adapted to be positioned above the spout, a loop, supporting arms extending through the cover and integral with the loop, a tie wire, and hooks at the ends thereof extending through the cover and engaging the arm.

5. A vessel cover having a perforated portion, a loop supported adjacent said portion, arms extending from the ends of the loops and through openings in the cover, said arms being hooked, and a tie wire extending under the cover, the ends of said wire projecting through the cover and engaging the arms.

6. A vessel cover having a perforated portion, a loop extending from the lower face of said cover and adjacent the perforated portion, and an inwardly inclined bill extending from the lower face of the cover at a point removed from the loop.

7. A bucket having bails, one of which constitutes a cover holder, and means carried by said bails for holding them in interlocked relation to lock the cover closed.

8. A bucket having bails, means carried by the bails for holding them in interlocked relation, and a hook extending from and movable with one of the bails and disposed to engage and lock the cover when the bails are interlocked.

9. A bucket having bails, means carried by the bails for holding them in interlocked relation, a hook extending from and integral with one of the bails, and a cover engaging tongue extending from and integral with said bail, said hook being disposed to engage and lock the cover when the bails are interlocked.

10. The combination with a bucket and a removable cover thereon; of bails upon the bucket, means carried by the bails for holding them in interlocked relation, a device upon and integral with one of the bails disposed to engage and lock the cover when the bails are interlocked, and a pivoted link connection between said last mentioned bail and the bucket.

11. The combination with a bucket, a removable cover, and bucket engaging means upon the cover; of a link pivotally connected to the bucket, a bail pivotally mounted upon the link, a bail connected to the bucket, and means carried by the bails for holding them in interlocked relation, one of said bails being disposed to engage and lock the cover when the bails are interlocked.

12. The combination with a bucket, a cover, and a bucket engaging device carried by the cover; of a bail movably connected to the bucket at a point diametrically opposite that portion of the bucket engaged by the device upon the cover, a hook integral with said bail, a second bail, and means carried by the bails for holding them in interlocked relation and with the hook in engagement with the cover, said hook being disposed to engage and lock the cover when the bails are in interlocked relation.

13. The combination with a bucket, a cover, and a bucket engaging device carried by the cover; of a bail movably connected to the bucket at a point diametrically opposite that portion of the bucket engaged by the device upon the cover, a hook integral with said bail for engaging the cover to bind the bucket engaging device upon the bucket, a bucket engaging tongue integral with said bail, a second bail, and means carried by the bails for holding them in interlocked relation and with the hook in engagement with the cover, said hook being disposed to lock the cover against movement when the bails are interlocked.

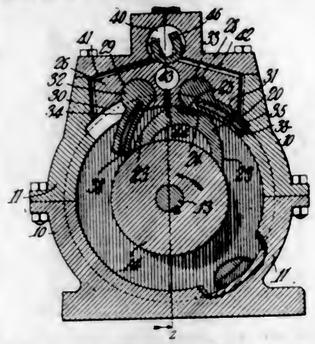
14. A bucket having bails, one of which constitutes a cover holder, and means carried by one of the bails disposed to project into and engage the other bail to lock the cover.

15. A bucket having bails, one of which constitutes a cover holder having an aperture therein, and means carried by the other bail and disposed to be seated within the aperture to lock the bails together and secure the cover against movement.

866,319. ROTARY ENGINE. CHARLES H. ZORGER and HOLGER O. JENSEN, Rantoul, Ill. Filed June 18, 1907. Serial No. 379,640.

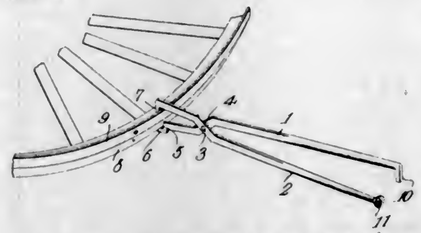
1. In a rotary engine, a cylinder having a pair of spaced recesses, abutments pivoted therein and provided with recessed stems, a lug projecting from each of the stems, a cylindrical reversing block having a recess engaging with the stems and lugs, a piston arranged within the cylinder, and a piston wing projecting from the piston and arranged to coöperate with either of the abutments.

2. In a rotary engine, a cylinder having a pair of spaced recesses, abutments pivoted therein and having their inner walls curved to conform to the contour of the cylinder wall, lugs projecting from the abutments, a reversing block having a recess arranged to receive one of the lugs, the block serving also to engage the other lug and lock its abutment in inoperative position, a piston drum within the cylinder, a piston wing carried by the drum and arranged to coöperate with either of the arms in accordance with the direction of rotation of the piston, a pair of steam inlet ports leading to the abutment recesses, and a single valve for controlling the flow of the actuating fluid through the ports.



3. In a rotary engine, a cylinder, a pair of detachable blocks forming a part of the wall of the cylinder and secured thereto, the inner faces of said blocks being recessed, a pair of abutments having stems pivotally mounted in the blocks, and blade portions fitting within the recesses of one of the blocks, a steam chest, a pair of steam ports leading therefrom and opening into the abutment recesses, whereby the pressure of steam tends to move the abutments from the recesses, a reversing valve arranged within the steam chest and controlling the ports, lugs projecting from the abutment, stems at points within the other block, a cylindrical reversing block having a recess into which either of the lugs may enter to release one of the abutments while the other is locked in inoperative position, a piston drum having end flanges fitting within annular grooves at the ends of the cylinder and serving to hold the abutments from endwise displacement, and a piston wing secured to the drum, said wing having curved faces arranged to coöperate with either of the abutments in accordance with the direction of rotation of the piston.

866,320. TIRE-SETTING IMPLEMENT. JAMES R. ALLISON, Avinger, Tex. Filed Nov. 5, 1906. Serial No. 342,109.

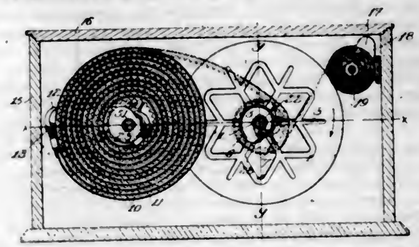


A tie setting implement comprising a pair of levers each having a jaw, one jaw having an outwardly offset portion and the other having an inwardly-projecting arm beyond the shoulder formed by the offset of the first-named jaw, one of the levers having at its end opposite the jaw a flattened serrated bolt-engaging head and the other lever having at the end opposite its jaw an inwardly-projecting hook that extends beyond the bolt-engaging head to engage under a rim.

866,321. PHOTOGRAPHIC DEVELOPING APPARATUS. FREDERICK W. BARNES, Rochester, N. Y., assignor to Eastman Kodak Company, Rochester, N. Y., a Corporation of New York. Filed Apr. 1, 1905. Serial No. 253,319.

1. A spool for use in the development of photographic film consisting of an arbor having flanges and light-tight fluid passages therein.

2. A spool for use in the development of photographic film consisting of an arbor provided with flanges at the ends having light-tight fluid passages therein, and means for attaching a film covering to said arbor.



3. A spool for use in the development of photographic film consisting of an arbor having the plates near the ends provided with hooks or attaching devices and annular flanges arranged beyond said plates having apertures near their inner portions.

4. A spool for use in the development of photographic film consisting of an arbor having the means for attachment of a film covering and flanges at the ends of said arbor provided with radial corrugations and apertures and covering devices for preventing the passage of light to the film.

5. A spool or container for use in the development of photographic film embodying two connected annular plates or flanges provided with passages through them permitting the passage of fluid but preventing the direct passage of light.

6. A spool or container for use in the development of photographic film embodying the connected annular plates or flanges, having light-tight fluid passages leading from the inner to the outer sides thereof, and means arranged between the flanges for attaching a film covering and a flexible apron to said spool.

7. The combination with a spool embodying an arbor and flanges at the ends provided with light-tight fluid passages extending through them, of a flexible apron having raised edges and means for attaching one end to the arbor.

8. The combination with a spool embodying an arbor, and flanges at the ends one of which is provided with a light-tight fluid passage, of a flexible apron adapted to be wound on the arbor and means for attaching it thereto.

9. A spool or container for film development embodying the arbor, the flanges at the ends thereof having the channels and apertures, the plates arranged inside the flanges and means arranged between the flanges for engaging a film covering.

10. A film spool or container embodying the hollow arbor, the wide protecting flanges at the ends having indirect fluid passages therein, the bearing flanges located on the arbor and the hooks thereon.

11. A film spool or container embodying the hollow arbor, the flanges at the ends having the indirect passages therethrough and the hooks and bail on the arbor.

12. A film spool or container embodying the hollow arbor, the flanges on the ends of the arbor having the indirect passages therein, the plates on the arbor having the hooks, and the bail extending longitudinally of the arbor and having its end extended through the arbor to form an operating pin.

13. The combination with a spool embodying an arbor having flanges at the ends and grooves in one of said flanges communicating with the exterior of the spool, of connected flexible film separating strips having passages therein and adapted to be attached to the arbor and to be wound upon the spool in proximity to the flanges thereof.

14. The combination with the spool having flanges at the ends and radially-extending channels, of a flexible film separating strip adapted to be wound upon the spool having passages adjacent the flanges.

15. The combination with the spool having flanges and

indirect passages from the inner to the outer sides thereof, of a flexible apron having separated projections at the edges and adapted to be wound upon the spool.

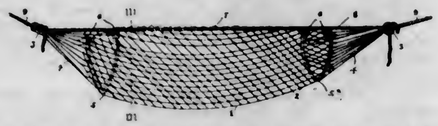
16. In an apparatus for developing photographic film the combination with a casing having a removable cover, a film holder therein and a removable arbor, of a spool or container having wide protecting flanges at the ends, means for supporting and rotating said spool within the casing and a flexible apron having projections at the edges and means for attaching its ends to the spool and arbor respectively.

17. In an apparatus for developing photographic film, the combination with a casing having bearings in the sides, a removable cover and a film holder in the casing, of a shaft mounted in the casing, a removable spool embodying an arbor having wide protecting flanges at the ends, a removable spindle for said spool, a flexible separating apron and means for detachably connecting it with the spool and shaft.

18. In an apparatus for developing photographic film, the combination with a casing having a removable cover, of a shaft in the casing, a spool mounted removably in the casing and having wide protecting flanges, connected film separating strips having passages therein and means for attaching opposite ends of said strips to the shaft and spool.

19. The combination with the film spool having an arbor, and the wide flanges at the ends thereof provided with indirect liquid passages therein, of an apron adapted to be wound on said arbor embodying flexible strips having passages therein.

866,322. HAMMOCK. GEORGE W. BARRATT, Bellevue, Pa. Filed June 13, 1907. Serial No. 378,748.



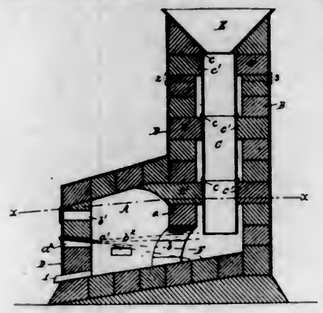
1. In hammocks, a body portion maintained in substantially the form of a trough and having its sides sufficiently full to be drawn together above said trough like portion to form an inclosed receptacle for the occupant and a member adapted to be interlaced with the abutting edges of said sides to secure the same together, substantially as and for the purpose set forth.

2. In hammocks, a body portion maintained in substantially the form of a trough and having its sides sufficiently full to be drawn together above said trough like portion to form an inclosed receptacle for the occupant, a member engaging the abutting edges of said sides to secure them together and means for regulating the interior height of said inclosed receptacle, substantially as and for the purpose set forth.

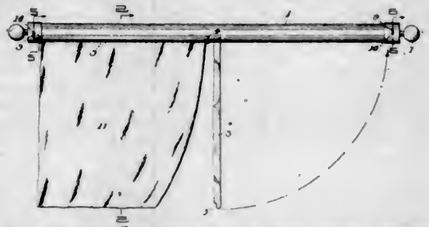
3. In hammocks, a body portion maintained in substantially the form of a trough and having its sides sufficiently full to be drawn together above said trough like portion to form an inclosed receptacle for the occupant, a cord laced through the abutting longitudinal edges of said sides and means for regulating the tension of said cord whereby the interior height of said inclosed receptacle may be adjusted, substantially as and for the purpose set forth.

866,323. REDUCTION-FURNACE. RICHARD L. BAUMLINE, Auburn, N. Y. Filed July 30, 1906. Serial No. 328,374.

In a reduction furnace, the combination with a combustion chamber and a stack connected therewith, the bottom of said combustion chamber extending beneath said stack, of a receiving chamber located within the said stack with a space around it for the passage of products of combustion around it, the lower end of said receiving chamber being a short distance above the bottom of the combustion chamber, and a burner within the combustion chamber directing its flame upon the space between the receiving chamber and the bottom of the combustion chamber, substantially as described.



866,324. CURTAIN-POLE. CAROLINE BENSON, Pittsburg, Pa. Filed May 17, 1907. Serial No. 374,124.



1. A curtain-pole comprising a pole proper provided with a longitudinal slot rectangular in cross-section and with an engaging-pin, a pivoted-rod over which the curtain is adapted to be hung, said rod arranged in the slot, and a sleeve disposed over the end of the pole and the end of the rod and formed with a slot to receive an end of the rod and with a slot through which the pin projects.

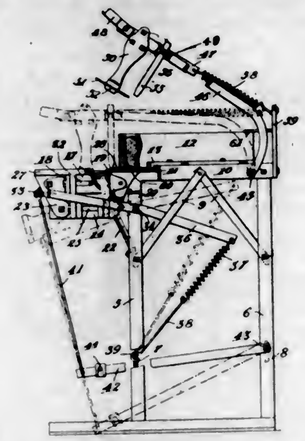
2. A curtain-pole comprising a pole proper provided with a longitudinal slot and with an engaging-pin at each end of the pole, two curtain supporting rods, each pivoted to the pole proper at their inner ends, and a sleeve at each end of the pole extending over the end of the pole proper and the end of the pivoted rod and formed with a slot to receive an end of a rod and with a slot through which one of the pins projects.

3. A curtain pole comprising a pole proper provided with a longitudinal slot, two curtain supporting rods, each pivoted to the pole proper at their inner ends, and a sleeve at each end of the pole formed with a slot to receive the end of the pivoted-rod and extending over the end of the pole proper and the end of the rod.

866,325. BRICKMAKING MECHANISM. SIDNEY M. BLACK, Bay City, Mich. Filed May 5, 1906. Serial No. 315,330.

1. In a brick-making machine, a frame, a plurality of laterally movable mold-sections, a yoke pivotally mounted on the frame for moving the mold-sections to operative and inoperative positions, and a spring connected with one end of said yoke for normally and yieldably holding the yoke in operative position.

2. In a brick-making machine, a frame, a plurality of mold-sections pivotally mounted on the frame, and provided with terminal plates adapted to form a table when said mold sections are in closed position, means for moving the mold-sections to operative and inoperative positions, means for feeding material to the mold, and a tamping element pivotally mounted for swinging movement on the frame and adapted to enter the mold.



3. In a brick-making machine, a frame, a plurality of laterally movable mold-sections, means for moving the mold-sections to operative and inoperative positions, a tamping element pivotally mounted for swinging movement on the frame and adapted to enter the mold, means for yieldably supporting the tamping element in elevated position, and a plate provided with a depending lug for forming a mortar-receiving groove in the upper surface of the block.

4. In a brick-making machine, a frame, a plurality of laterally movable mold-sections associated with the frame, a yoke pivotally mounted on the frame for moving the mold-sections to operative and inoperative positions, a tamping element pivotally mounted for swinging movement above the mold and adapted to enter the latter, means for limiting the downward movement of the tamping element, and means for normally and yieldably supporting the yoke in engagement with the mold sections.

5. In a brick-making machine, a frame, a plurality of mold-sections pivotally mounted for lateral movement on the frame, a hopper slidably mounted on the frame and movable to operative position above the mold, a pivoted yoke for moving the mold-sections to operative and inoperative positions, a foot-operating lever, a pivotal connection between one end of the yoke and foot-operating lever, a spring connecting the frame and the opposite ends of said yoke for normally and yieldably holding the yoke in engagement with the mold sections, and a tamping element pivotally mounted for swinging movement on the frame and adapted to enter the mold.

6. In a brick-making machine, a frame, a bracket secured to the frame, a plurality of movable mold sections pivotally mounted for lateral movement on the bracket and provided with terminal plates adapted to form a table when the lower sections are in closed position, dieplates detachably secured to the mold-sections, a yoke pivotally mounted on the frame and adapted to engage the mold-sections for moving the latter to operative and inoperative position, a foot-operating lever associated with the yoke for actuating the lever, and a tamping element pivotally mounted for swinging movement on the frame and adapted to enter the mold.

7. In a brick-making machine, a frame, a plurality of mold-sections pivotally mounted on the frame, means for moving the mold-sections to operative and inoperative positions, a tamping element pivoted to the frame and adapted to enter the mold, a gage-bar carried by the tamping element and adapted to engage the frame for limiting the downward movement of the latter, and a spring operatively connected with the tamping element for normally and yieldably supporting said element in elevated position.

8. A frame, a plurality of mold-sections pivotally mounted for swinging movement on the frame, means for moving the mold-sections to operative and inoperative positions, arms pivotally mounted on the frame, a bar pivotally mounted between the arms and provided with a depending tamping element adapted to enter the mold, means for locking the bar in adjusted position, a depending gage carried by the bar, and a spring connecting the adjacent end of the bar with the frame for normally holding the tamping element in elevated position.

9. In a brick-making machine, a frame, a plurality of mold-sections pivotally mounted for lateral movement on the frame, a yoke for moving the mold-section to operative and inoperative positions, arms pivotally mounted for swinging movement on the frame, a bar pivotally mounted between the arms and having its free end provided with an operating handle, a tamping element depending from the bar at a point adjacent the handle and adapted to enter the mold, a standard secured to the frame, a spring one end of which is connected to the adjacent end of the bar and the opposite end thereof to the standard for normally supporting the tamping element in elevated position, and means for limiting the downward movement of the tamping element.

10. In a brick-making machine, a frame, a supporting bracket secured to the frame and provided with spaced laterally extending lugs, a plurality of mold-sections pivotally mounted on the frame and provided with spaced arms adapted to engage the lugs, said mold sections being provided with terminal plates adapted to form a table when said sections are in closed position a yoke pivotally mounted on the frame for moving the mold sections to operative and inoperative positions, an arm carried by the yoke, a spring one end of which is secured to the frame and the opposite end thereof operatively connected with the arm, a foot-operating lever, and a pivotal connection between the foot-operating lever and the yoke.

11. In a brick-making machine, a frame, a bracket secured to the frame, a plurality of mold-sections pivotally mounted for lateral movement on the bracket and provided with terminal plates adapted to form a table when the sections are in closed position, and means for moving the sections to operative and inoperative position.

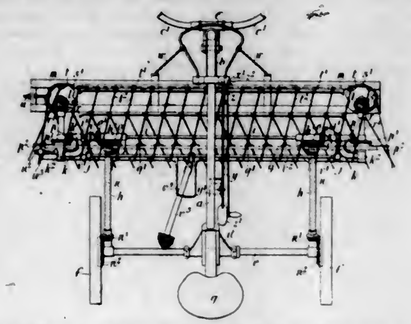
12. In a brick-making machine, a frame, a bracket supported on the frame and provided with laterally extended perforated lugs, a plurality of mold-sections pivotally mounted on the bracket and provided with spaced arms adapted to engage the perforated lugs, plates carried by the mold-sections and adapted to form a table when said mold-sections are moved to closed position, a yoke pivotally mounted on the frame, a spring for normally holding the yoke in engagement with the mold-sections, a foot-operating lever, a pivotal connection between the yoke and foot-operating lever, and a tamping element associated with the frame and adapted to enter the mold.

13. In a brick-making machine, a frame, a bracket supported on the frame, a rear mold-section rigidly secured to the bracket and frame respectively, movable front and side walls pivotally mounted on the bracket, a yoke pivoted to the frame for moving the mold-sections to operative and inoperative position, and a tamping element associated with the frame and adapted to enter the mold.

14. In a brick-making machine, a frame formed of angle-iron, a bracket supported by the frame, braces connecting the bracket to the frame, a plurality of mold-sections pivotally mounted for lateral movement on the bracket and provided with terminal plates adapted to form a table when the mold sections are moved to closed position, a yoke pivotally mounted for swinging movement in a horizontal plane and adapted to engage the pivoted sections for moving the latter to operative and inoperative position, a foot-operating lever, a pivotal connection between the yoke and foot-operating lever, a hopper slidably mounted on the frame and movable to operative position above the mold, a tamping element pivotally mounted on the frame and provided with a plate having a depending projection adapted to enter the mold, and means for yield-

ably supporting the tamping element in elevated position above the mold.

866,326. RAKE OR COLLECTOR FOR HAY AND OTHER CROPS. EDWARD C. BLACKSTONE and RICHARD E. WATTS, Stamford, England. Filed Feb. 23, 1907. Serial No. 358,965.



1. In a rake of the kind described, the combination with a main frame, of a pair of endless carriers mounted on said frame and movable transversely thereof in the same direction, a series of separate tines pivoted to one of said endless carriers, the other of said carriers being provided with a series of devices for engaging said tines, whereby as said tines are dragged by one of said endless carriers, they are guided into and out of operative position by the other of said endless carriers, substantially as described.

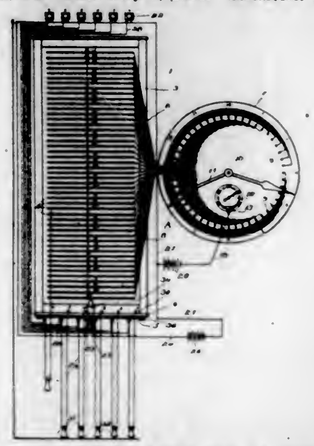
2. In a rake of the kind described, the combination with a main frame, of a pair of endless carriers mounted on said frame and movable transversely thereof in the same direction, a series of separate tines pivoted to one of said endless carriers, the other of said carriers being provided with a series of devices for engaging said tines, said carriers being so arranged relatively with one another as to carry the pivoted ends of said tines in advance of the operative ends thereof whereby one of said carriers drags said tines while the other of said carriers guides the free ends of said tines into and out of operative position, substantially as described.

3. In a rake of the kind described, the combination with a main frame, of a pair of endless carriers mounted on said frame and movable transversely thereof in the same direction, a series of separate tines pivoted to one of said endless carriers, the other of said carriers being provided with a series of devices for engaging said tines, said carriers being so arranged relatively with one another as to carry the pivoted ends of said tines in advance of the operative ends thereof, mechanism for reversing the direction of movement of said carriers, and means for shifting one of said carriers independently of the other to maintain the same relative position of said tines, substantially as described.

4. In a rake of the kind described, the combination with a main frame, of a pair of endless carriers mounted on said frame and movable transversely thereof in the same direction, one of said carriers being in an inclined plane and the other of said carriers being in a vertical plane, a series of separate tines pivoted to said inclined carrier, said vertically disposed carrier being provided with a series of stirrups, each of said series of tines passing through one of said series of stirrups on said carrier, substantially as described.

5. In a rake of the kind described, the combination with a frame mounted on traveling wheels, of a pair of endless carriers mounted on said frame and movable transversely thereof in the same direction, a series of separate tines pivoted to one of said carriers, each of said tines being also secured to the other of said carriers, mechanism for driving said carriers, mechanism for reversing the movement of said carriers and mechanism for automatically shifting one of said carriers independently of the other when the movement of said carriers is reversed so that the pivoted ends of said tines will be in advance of their operative ends, substantially as described.

866,327. AUTOMATIC TIME-CALL. JESSE E. BOONE, Almedia, Pa. Filed July 2, 1906. Serial No. 324,398.



1. An annunciator comprising a signal, a clock having the usual slow and fast running hands, a contact or series of contacts in the path of the slow running hand to make a long continuous contact, a contact in the path of the fast running hand to make short contacts the fast running hand running sufficiently fast to make a plurality of contacts during one continuous contact of the slow running hand, a source of current and a circuit through the said contacts and both the slow and fast running hands.

2. An annunciator comprising a time board, a series of electrical contacts thereon, a clock having the usual slow and fast running hands, a contact or series of contacts in the path of the slow running hand to make a long continuous contact, a contact in the path of the fast running hand to make short contacts, the fast running hand running sufficiently fast to make a plurality of contacts during one continuous contact of the slow running hand, a source of current and a circuit through said contacts and both the slow and fast running hands, and means for electrically connecting each electrical contact on said time board with a different electrical contact in the path of the slow running hand, substantially as described.

3. An annunciator comprising a time board, a signal, a clock having the usual slow and fast running hands, a contact or series of contacts in the path of the slow running hand to make a long continuous contact, a contact in the path of the fast running hand to make short contacts, the fast running hand running sufficiently fast to make a plurality of contacts during one continuous contact of the slow running hand, a source of current and a circuit through the said contacts and both the slow and fast running hands, substantially as described.

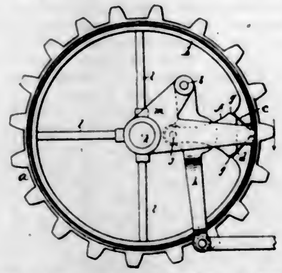
4. An annunciator comprising a signal, a time board, a clock having the usual slow and fast running hands, a contact or series of contacts in the path of the slow running hand to make a long continuous contact, a contact in the path of the fast running hand arranged to be intermittently engaged by said fast running hand during the period of engagement of the slow running hand with a contact in its path, a source of current and a circuit through the said contacts and both the slow and fast running hands, substantially as described.

5. An annunciator comprising a time board provided with a series of electrical contacts, a clock, a series of electrical contacts on said clock, means for electrically connecting each of said electrical contacts on said board with a different electrical contact on said clock, an electrical contact on said clock normally disconnected from said time board, means for connecting said normally disconnected contact with any of the electrical contacts on said time board, means on said clock for engaging said normally disconnected contact to close an electric circuit, a series of electric bells, signals or alarms located in said electric circuit, means for electrically connecting one or more of said electric bells, signals or alarms with said electrical contacts on said time board, and means for sounding or actuating all of said electric bells, signals or alarms simultaneously.

6. An annunciator comprising a time board, a series of electrical contacts thereon, a clock, means for electrically connecting each of said contacts to a different point in said clock, means associated with said clock for closing an electric circuit, a series of electric bells, signals or alarms located in said electric circuit, a series of contacts associated with said time board, means for electrically connecting each of said electric bells, signals or alarms with said contacts associated with said time board, a circuit closing device associated with said last mentioned electrical contacts a normally broken electric circuit within which are located said electric bells, signals or alarms, means for causing said circuit closing device to simultaneously engage each of said last mentioned electrical contacts, and to simultaneously close said open circuit to sound or actuate all of said electric bells, signals or alarms simultaneously, substantially as described.

7. An annunciator comprising a signal, a clock having the usual slow and fast running hands, a contact or series of contacts in the path of the slow running hand to make a long continuous contact, a contact in the path of the fast running hand to make short contacts, means for adjusting said last mentioned contact for increasing or diminishing the period of said short contacts, a source of current and a circuit through the said contacts and both the slow and fast running hands.

866,328. BRAKE MECHANISM. ALANSON P. BRUSH, Detroit, Mich. Filed Aug. 31, 1906. Serial No. 332,781.



1. A brake mechanism comprising a rotatable brake drum, an unattached friction band within the drum having both extremities formed with wedge shaped faces, a fixed stop between the ends of the band, and means to be forced between the ends of the band to force the band against the drum, whereby the brake will be set in either direction.

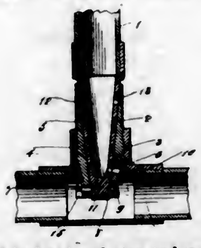
2. A brake mechanism comprising a rotatable drum, an unattached expansible band within the drum normally free to rotate with the drum, a stop to limit the rotation of the band with the drum, and means to be forced between the extremities of the band to expand the band within the drum.

3. A band brake mechanism comprising a rotatable brake drum, an unattached expansible friction band within the drum, and means to expand said band whereby the rotation of the drum in either direction causes a part of the frictional tension.

4. A band brake mechanism comprising a friction drum, an unattached friction band within the drum having a limited movement with the drum in either direction, means to limit the movement of the band within the drum, and a wedge to be forced between the extremities of the band to expand the band and to force the band against the drum.

5. A band brake mechanism comprising a rotatable friction drum, an unattached friction band within the drum normally rotatable with the drum provided with wedge shaped faces at the extremities thereof, means to limit the rotation of the band, a wedge shaped device to be forced between the ends of the band provided with means to actuate the wedge.

866,329. COMBINED HYDRANT AND STOP AND WASTE COCK. WALTER R. BUNCH, Weatherford, Tex. Filed Feb. 9, 1907. Serial No. 356,529.



1. A combined hydrant and stop and waste cock having a hollow plug screwed into a T-pipe connection and carrying a depending lug, said plug having an intake, a hydrant tip screwed on said hydrant and extending through said plug and threaded on the lower end having an intake capable of registering with the intake of said plug, and a nut for preventing the displacement of said tip and having a lug adapted to engage said depending lug on either side thereof.

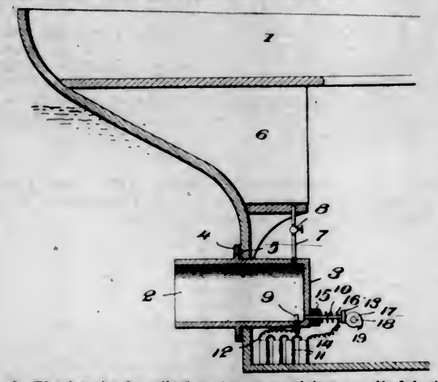
2. A combined hydrant and stop and waste cock having a discharge pipe, a hollow tip screwed thereon, a plug screwed into a T-pipe connection and provided with a depending stop lug, said tip extending through a funnel-shaped opening through said plug and conforming to the contour thereof and having an intake capable of registering with an intake of said plug and having the portion below said plug threaded, and a nut for preventing displacement of said tip provided with a lug for engaging said depending lug on either side thereof.

3. A combined hydrant and stop and waste cock having a discharge pipe, a plug screwed into a T-pipe connection and provided with a funnel-shaped opening therethrough and an intake to said opening and a depending stop lug and drainage perforation, a hollow tip screwed on said discharge pipe and extending through said plug and conforming to the contour thereof and provided with an intake and a drainage perforation adapted to register with the intake and the drainage perforation of said plug, and a nut screwed on said tip and provided with a lug adapted to engage either side of said depending stop lug.

866,330. MOTOR. ALMERON E. CALKINS, Allegan, Mich. Filed Nov. 24, 1906. Serial No. 344,823.

1. In a motor for boats the combination with a boat having an opening in the stern thereof; of a cylindrical tube closed at one end and open at the other adapted to be disposed through said opening, a peripheral flange on said cylindrical tube adapted to prevent longitudinal movement of said tube, a gasket interposed between said peripheral flange and the body of the boat, a feed tube for gas communicating with the closed end of said cylindrical tube, and means to intermittently cause a spark in said tube whereby the gas will be exploded.

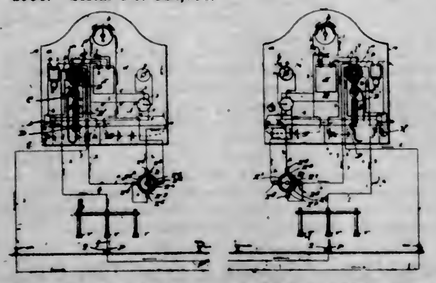
2. In a motor for boats, the combination with a boat having an opening in the stern thereof; of a cylindrical tube closed at one end and open at the other adapted to be disposed through said opening, means to prevent longitudinal movement of the tube in said opening, a feed tube for gas communicating with the closed end of said cylindrical tube, and means to intermittently cause a spark in said tube, whereby the gas will be exploded.



3. The herein described motor, comprising a cylindrical tube open at one end and closed at the other, a peripheral flange on said cylindrical tube adapted to prevent longitudinal movement thereof, a shoulder near the closed end of said cylindrical tube, a valve adapted to be normally seated against said shoulder, a feed tube for gas connected to the rear end of the cylinder, and means to intermittently cause a spark in said rear end, whereby gas will be exploded.

4. The herein described motor, comprising a cylindrical tube adapted to be disposed in a boat below the water's surface, the said tube being open at one end and closed at the other, means adapted to prevent longitudinal movement of said tube, a gas chamber at the closed end of said tube, a feed tube for gas communicating with said rear end, and means to intermittently cause a spark in said rear end, whereby the gas will be exploded.

866,331. RAILWAY-SIGNAL. FREDERIC B. CAMORS and CHARLES PELLETIER, New Orleans, La. Filed May 1, 1906. Serial No. 314,706.



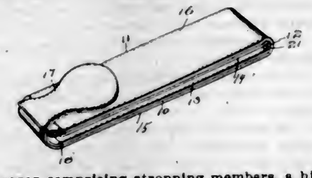
1. A railway signal apparatus of the electric type, comprising a section of track, a conductor insulated from the earth, a car movable on the track, means carried by the car for making electrical contact with one of the rails of the track, means carried by the car for making electric contact with the said conductor, an electrical signal carried by the car, a source of electric energy also carried by the car and arranged in a normally open circuit with the electric signal, an electro-mechanical device carried by the car for closing the said circuit and actuating the electric signal, the said electro-mechanical device being arranged in a normally interrupted signaling circuit with a source of electric energy, a telephone, one of the track rails and the conductor, and the said telephone carried by the car and arranged in a third circuit with a source of electric energy, the track rail and the conductor and having a commutator hook and means whereby the signaling circuit is unaffected when the commutator hook is in one position and is interrupted when said hook is in another position, and the third or telephone circuit is uninterrupted when the commutator hook is in the last mentioned position and is interrupted when said hook is in the first mentioned position.

2. A railway signal apparatus of the electric type, comprising a section of track, conductor sections separated from each other and insulated from the earth, a conductor extending in the same direction as the first mentioned conductors and arranged opposite the space between the same and insulated from the earth, a car movable on the track, means carried by the car for making electrical contact with one of the rails of the track, brushes carried by the car and arranged side by side to engage the said conductor sections and conductor, and electrically connected together, an electric signal carried by the car, a source of electric energy also carried by the car and arranged in a normally open circuit with the electric signal, an ohmmeter carried by the car, an electro-mechanical device carried by the car for closing the said circuit and actuating the electric signal; the said electro-mechanical device being arranged in a normally interrupted signaling circuit with a source of electric energy, the ohmmeter, a telephone, one of the track rails and the brushes, and the said telephone carried by the car and arranged in a third circuit with a source of electric energy, the track rail and the brushes and having a commutator hook and means whereby the signaling circuit is unaffected when the commutator hook is in one position and is interrupted when said hook is in another position, and the third or telephone circuit is uninterrupted when the commutator hook is in the last mentioned position and is interrupted when said hook is in the first mentioned position.

3. A railway signal apparatus of the electric type, comprising a section of track, conductor sections separated from each other and insulated from the earth, a conductor extending in the same direction as the first mentioned conductors and arranged opposite the space between the same and insulated from the earth, a car movable on the track, means carried by the car for making electrical contact with one of the rails of the track, brushes carried by the car and arranged side by side to engage the said conductor sections and conductor and electrically connected together, a current reverser carried by the car and arranged to derive motion from one of the wheels thereof, an electric signal carried by the car, a source of electric energy also carried by the car and arranged in a normally open circuit with the electric signal, an ohmmeter carried by the car, an electro-mechanical device carried by the car for closing the said circuit and actuating the electric signal; the said electro-mechanical device being arranged in a normally interrupted signaling circuit with a source of electric energy, the current reverser, the ohmmeter, a telephone, one of the track rails and the brushes, and the said telephone carried by the car and arranged in a third circuit with a source of electric energy, the track rail and the brushes and having a commutator hook and means whereby the signaling circuit is unaffected when the commutator hook is in one position and is interrupted when said hook is in another position, and the third or telephone circuit is uninterrupted when the commutator hook is in the last mentioned position and is interrupted when said hook is in the first mentioned position.

866,332. RAZOR-STROP. JOHN D. CASH, Little Valley, N. Y. Filed Oct. 8, 1906. Serial No. 337,977.

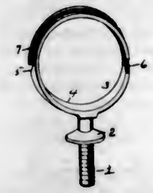
1. In a razor strop, stropping members, a hinge member interposed between the stropping members, attaching means carried by the hinge member, a handle carried by one stropping member, and means carried by the other stropping member for separable engagement with the handle.



2. A razor comprising stropping members, a hinge member connecting the stropping members together, a handle carried by one of the stropping members at the end opposite the hinge, means carried by the other stropping member for separable engagement with the handle, and attaching means carried by the handle member.

3. A razor strop comprising stropping members having each a stropping face upon one side, and a covering surface upon the other side, a hinge connecting the stropping members, a loop carried by one of the stropping members at the end opposite the hinge, a handle carried by the other stropping member at the end opposite the hinge and proportioned to be inserted through the loop, a fastening device comprising two members, one member carried by the handle and the other member carried by the covering surface, and a ring carried by the hinge for attaching the strop to an object.

866,333. TERRET-RING. BENJAMIN J. CLOES, Rialto, Cal. Filed Nov. 12, 1906. Serial No. 343,041.



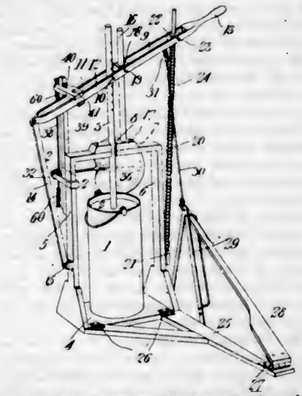
A terret ring comprising a shank, an eye integral with the shank and consisting of a ring having its edges cut away on opposite sides to approximately the center of the material constituting the eye, hook portions flanking the line of severance the outer end of each of said hook portions terminating opposite the base of the other, the metal constituting the eye being of the same width throughout.

866,334. CHURN-OPERATING MECHANISM. WILLIAM H. COLMAN, Paducah, Ky. Filed July 16, 1907. Serial No. 383,980.

1. In an operating mechanism of the character described, the combination with a suitable base adapted to support the device to be operated, of an operating lever connected to the device having a handle at one end and pivotally connected at its opposite end to the base, and a treadle attachment embodying an extension detachably connected to the base, a treadle pivotally mounted on the extension, and a strap connected to the treadle and detachably secured to the operating lever.

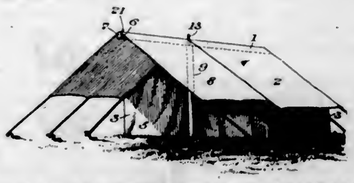
2. In an operating mechanism of the character described, the combination with a base adapted to support the device to be operated, and an operating lever mounted in pivotal relation to the base and operatively connected to the said device, of a bracket arranged in fixed relation to the base, a shaft journaled therein and provided with an operating pulley, a fan operatively connected to the shaft, a slide pivotally connected to the operating lever, and a cord carried by the slide and encircling the said pulley for revolving the fan shaft alternately in opposite directions.

3. In an operating mechanism of the character described, the combination with a base adapted to support the device to be operated, and an operating lever mounted in pivotal relation to the base and operatively connected to the said device, of a bracket arranged in fixed relation to the base, a shaft journaled therein and provided with an operating pulley, a fan operatively connected to the shaft, a slide pivotally connected to the operating lever, a cord carried by the slide and encircling the said pulley for revolving the fan shaft alternately in opposite directions, and a spring interposed between the cord and slide for tensioning the former.



4. In an operating mechanism of the character described, the combination with a base adapted to support the device to be operated, and an operating lever mounted in pivotal relation to the base and adapted to be operatively connected to the said device, of a bracket, a fan shaft journaled in the bracket, a slide operatively connected to the lever and coöperating with the bracket of the guide, means carried by the slide for revolving the fan shaft, and a device for securing the said bracket in different positions of adjustment longitudinally of the slide.

866,335. DISAPPEARING TENT-SPINDLE. HENRY J. COOK, Philadelphia, Pa., assignor of one-half to Edward Patton, Philadelphia, Pa. Filed Sept. 11, 1906. Serial No. 334,111.



1. As an article of manufacture, a tube having a longitudinal passage extending over a portion only of the length of the tube and bayonet joint upon one side of said passage, a lateral passage, a connecting longitudinal passage upon the opposite side thereof said last longitudinal passage extending at one end to the end of the tube and a spindle and pin fitting within the tube.

2. As an article of manufacture, a sleeve having a longitudinal passage and oppositely directed transverse passages therein, and longitudinal passages communicating with said transverse passages.

3. In a device of the character described, a sleeve having a bayonet joint at one end, upon one side of a longitudinal passage therein, and a transverse passage and connecting longitudinal passage upon the opposite side thereof reaching to the end of the sleeve, and a spindle and pin adapted to pass within said sleeve.

4. In a device of the character described, a sleeve of

uniform diameter throughout, open at one end and having a plurality of bayonet joints therein, in combination with a spindle movable in said sleeve and having an end of non-circular section.

5. A tent pole, a sleeve, a spindle therein, a pin on said spindle, a passage longitudinal with respect to said spindle in proximity to it, a plurality of bayonet joints leading off from said passage upon the same side thereof, a transverse passage upon the opposite side thereof and a longitudinal passage connected with said transverse passage and terminating at one end in the end of the pole.

6. A tent pole, a spindle movable therein, a pin fixed on said spindle, a longitudinal passage traversed by said pin, bayonet joints at both ends of said passage, a transverse passage intermediate the length of the longitudinal passage and a second longitudinal passage connecting with said transverse passage.

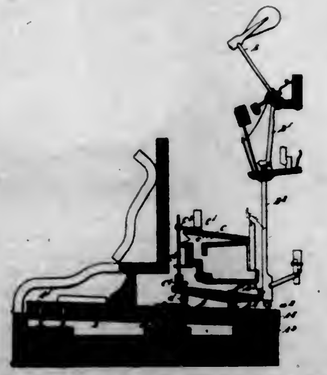
7. A tent pole, a spindle movable therein, a pin on said spindle, a longitudinal passage terminating at each end short of the end of the pole, and traversed by said pin, a bayonet joint connected with said passage, and means for permitting insertion of the spindle and pin within said longitudinal passage.

8. In a device of the character described, a tent pole provided with an opening longitudinally enlarged in the form of a groove and provided with lateral grooves upon opposite sides of said longitudinal groove, a spindle adapted to fit in said opening, a pin adapted to move in said grooves, and means for permitting insertion of the spindle and pin within said groove.

9. A spindle housing comprising a tube longitudinally grooved and having lateral grooves, one on each side of the longitudinal groove, and a second longitudinal groove communicating with one lateral groove and extending to one end of the tube in combination with a spindle and pin fitting therein.

10. A spindle housing having a longitudinal opening to the extreme end, a transverse slot in connection therewith, a longitudinal slot communicating with said transverse slot, and a bayonet joint leading off from said longitudinal slot in combination with a spindle and pin adapted to fit therein.

866,336. PNEUMATIC PIANO-PLAYER. JOSEPH COURVILLE, Detroit, Mich. Filed Mar. 12, 1906. Serial No. 305,448.



1. In a device of the kind described, the combination of the hammer operating mechanism, a key engaging said operating mechanism to actuate the same, a lever mounted on said key and having an engagement with said operating mechanism independent of the key engagement, and a pneumatic apparatus adapted to actuate said lever to move said operating mechanism, substantially as and for the purpose described.

2. In a device of the kind described, the combination of a piano key having a pivot, a hammer operating mechanism resting on said key toward the inner end thereof, a lever pivoted upon said key engaging under a portion of said operating mechanism, and extending to a point located approximately vertical with reference to the pivot of said key, and an actuating apparatus engaging said lever toward said point.

3. In a device of the kind described, the combination of a piano key having a pivot, a hammer operating mechanism resting on said key toward the inner end thereof, a lever pivoted upon said key engaging under a portion of said operating mechanism, extending to a point located approximately vertical with reference to the pivot of said key, an actuating apparatus engaging said lever toward said point, and an adjustable stop upon the outer end of said lever.

4. In a device of the kind described, the combination of a hammer operating mechanism, a key adapted to actuate said operating mechanism, a lever mounted on said key and engaging said operating mechanism, a pneumatic apparatus adapted to actuate said lever to move said operating mechanism, and an adjustble stop acting between said lever and key to limit the motion of said lever, substantially as and for the purpose described.

5. In a device of the kind described, the combination of the hammer operating mechanism, a pivoted key adapted to actuate said operating mechanism, a lever pivoted on said key having one of its ends nearer the pivot of said key than its other end, the inner end of said lever engaging under a portion of said operating mechanism, and a pneumatic apparatus adapted to act against the outer end of said lever to actuate said lever to move said operating mechanism.

866,337. CONVEYING APPARATUS. JAMES T. COWLEY, Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J., a Corporation of New Jersey. Filed May 1, 1905. Serial No. 258,279.



1. In a conveyer, a horizontal frame, means supporting said frame, troughing rolls or idlers journaled within said frame, drums mounted at each end of said frame, an endless belt carried by said drums and supported by and traveling on said rolls and adapted to support and convey carriers thereon, and graduated stationary means for switching carriers laterally from said belt.

2. In a conveyer, a horizontal frame, means supporting said frame, troughing rolls or idlers journaled within said frame, drums mounted on each end of said frame, an endless belt carried by said drums and supported by and traveling on said rolls and adapted to support and convey carriers thereon, graduated stationary means for switching said carriers laterally, and a shelf or receiving station adapted to receive said carriers.

3. In a conveyer, a horizontal frame, means supporting said frame, troughing rolls or idlers journaled within said frame, drums mounted on each end of said frame, an endless belt carried by said drums and supported by and traveling on said rolls and adapted to support and convey carriers thereon, means for switching said carriers laterally from said belt, a shelf or receiving station adapted to receive said carriers, and means for actuating said carriers from said belt to said shelf or receiving station.

4. In a conveyer, a horizontal frame, means supporting said frame, troughing rolls or idlers journaled within said frame, drums mounted on each end of said frame, an endless belt carried by said drums and supported by and traveling on said rolls and adapted to support and convey carriers thereon, means for switching said carriers laterally from said belt, a shelf or receiving station adapted to receive said carriers, and means for actuating said carriers from said belt to said shelf or receiving station and operated by the belt-driving mechanism.

5. In a conveyer, as herein described, the combination of a plurality of endless belt-conveyer sections mounted on drums in said sections and adapted to support and convey carriers thereon, troughing rolls supporting said belts, switch rails adapted to engage a clutch or guide on said carriers and divert said carriers from the belts, a receiving station adapted to receive said carriers, and guiding rolls connected with said troughing rolls and driven by said belts for conveying said carriers from said belts to said receiving station.

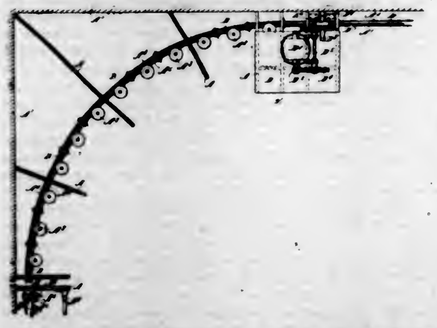
6. In a conveyer, a horizontal frame, means supporting said frame, troughing rolls or idlers journaled within said frame, drums mounted on each end of said frame, an endless belt carried by said drums and supported by and journaled on said rolls and adapted to support and convey carriers thereon, means for switching said carriers laterally from the upper side of said belt, a shelf or receiving station adapted to receive said carriers, means for actuating said carriers from said belt to said shelf or receiving station, and means driven by said belt for actuating said carriers from the lower side of said belt to a receiving station.

7. In a conveyer, a plurality of endless belt sections adapted to support and convey carriers thereon, means for supporting said belt sections, stationary switching guides at the stations for diverting said carriers from said belts to said stations, and switching mechanism on said carriers adapted to be adjusted thereon to engage with the diverting switching guides at any desired station.

8. In a conveyer, an endless belt conveyer adapted to support and convey carriers thereon, means for supporting said belt conveyer, a stationary guide for diverting said carriers from said belt to a receiving station, and switching mechanism on said carrier for engaging said guide.

9. In a conveyer, an endless belt conveyer adapted to support and convey carriers thereon, means for supporting said belt conveyer, a stationary guide for diverting said carriers from said belt to a receiving station, and adjustable switching mechanism on said carrier.

866,338. CONVEYING APPARATUS. JAMES T. COWLEY, Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J., a Corporation of New Jersey. Filed May 29, 1905, Serial No. 262,731. Renewed Mar. 21, 1907. Serial No. 363,747.



1. In a conveying apparatus, a framework, means for supporting said framework, tracks or guide rails supported by said framework, a carrier adapted to travel on said tracks or guide rails, an endless cable adapted to actuate said carrier, gripping means for driving said cable, means for supplying power to said gripping means, and means for automatically releasing and closing said gripping means.

2. In a conveying apparatus, a framework, means for supporting said framework, tracks or guide rails supported by said framework, a carrier adapted to travel on said tracks or guide rails, an endless cable adapted to actuate said carrier, endless gripping means for driving said cable, means for supplying power to said endless gripping means, and means for automatically releasing and closing said gripping means.

3. In a cable drive, sprocket wheels mounted in suitable bearings, means for supplying power for driving said sprocket wheels, an endless chain mounted upon said sprocket wheels, spring-actuated grips carried by said endless chain and adapted to operate upon the cable, and means in said sprocket wheels for the travel thereon of said spring-actuated grips.

4. In a cable drive, sprocket wheels mounted in suitable bearings, means for supplying power for driving said sprocket wheels, an endless chain mounted on said sprocket wheels, spring-actuated grips carried by said endless chain, means in said sprocket wheels for the travel thereon of said spring-actuated grips, and means located in said sprocket wheels operating upon said spring-actuated grips for gripping and releasing the cable.

5. In a cable drive, sprocket wheels mounted in suitable bearings, means for supplying power for driving said sprocket wheels, an endless chain mounted upon said sprocket wheels, spring-actuated grips carried by said endless chain, means in said sprocket wheels for the travel thereon of said spring-actuated grips, locking means in said spring-actuated grips operated upon by one of said sprocket wheels for locking the grip upon the cable, and means located in another of said sprocket wheels and operating upon said locking means for releasing the grip upon the cable.

6. In a conveying apparatus, a framework, means for supporting said framework, tracks or guide rails supported by said framework, a carrier adapted to travel on said tracks or guide rails, an endless cable adapted to actuate said carrier, means for guiding said cable, and adjustable means on said framework for releasing the load on said carrier at any predetermined point along the line of said apparatus.

7. In a conveying apparatus, a framework, means for supporting said framework, tracks or guide rails supported by said framework, a carrier adapted to travel on said tracks or guide rails, an endless cable adapted to actuate said carrier, means for driving said cable, adjustable means for releasing the load on said carrier at any predetermined point along the line of said apparatus, and selective means located at any point on said line and operating upon said adjustable means for predetermining the point of release of said load.

8. In a conveying apparatus, a framework, means for supporting said framework, tracks or guide rails supported by said framework, a carrier adapted to travel on said tracks or guide rails, an endless cable adapted to actuate said carrier, means for driving said cable, adjustable means for releasing the load on said carrier at any predetermined point along the line of said apparatus, selective means located at any point on said line and operating upon said adjustable means for predetermining the point of release of said load, and means located in said carrier for assuming an idle or non-operating position after the release of said load.

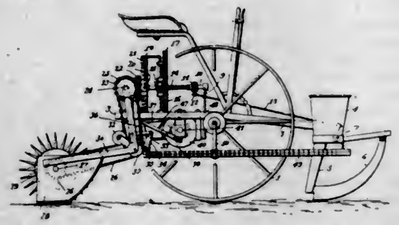
9. In a carrier, a suspended frame, a toothed rack mounted in said suspended frame, a hook pivoted to the lower end of said frame and adapted to support a load, a bar mounted in said frame engaging an arm on said hook and locking said hook in position, a sliding rack mounted on said frame and adapted to be adjusted to and cooperate with said toothed rack, a finger located on said rack and adapted to engage with a cam, and means for said sliding rack to engage said bar and release said load.

10. In a carrier, a suspended frame, a toothed rack mounted in said suspended frame, a hook pivoted to the lower end of said frame and adapted to support a load, a bar mounted in said frame engaging an arm on said hook

and locking said hook in position, a sliding rack mounted on said frame and adapted to be adjusted to and cooperate with said toothed rack, a finger located on said rack and adapted to engage with a cam, means for said sliding rack to engage said bar and release said load, and means for throwing said toothed rack out of coöperation with said sliding rack after the release of said load.

11. In a carrier, a suspended frame, a toothed rack mounted in said suspended frame, a hook pivoted to the lower end of said frame and adapted to support the load, a bar mounted in said frame engaging the arm on said hook and locking said hook in position, a sliding rack mounted on said frame, a spring-actuated pin mounted in said sliding rack and projecting therefrom, said pin adapted to engage a selective cam, and means on said pin for coöperating and locking with said toothed rack when said carrier is loaded.

866,339. CHECK-ROW PLANTER. ALONZO M. CRISMAN, Rock Island, Ill. Filed June 3, 1907. Serial No. 376,979.



1. In a planter, the combination with seed-dropping mechanism, of means for automatically varying the dropping interval.

2. A planter having seed-dropping mechanism, an indicator for setting the said mechanism, and a scale on the side of the planter marked to correspond with said indicator and comprising a lower fixed member and an upper slidable member.

3. The combination with a seed-dropping shaft, of a rock-shaft connected therewith, means for actuating said rock-shaft to operate the seed-dropping shaft, and means for shifting the said rock-shaft automatically to vary the dropping intervals.

4. The combination of seed-dropping mechanism, a rock-shaft connected therewith to actuate the same, a rotary tappet arranged to actuate said rock-shaft, a ground-wheel, gearing between said ground-wheel and said tappet, and means for shifting the rock-shaft relatively to the tappet.

5. The combination of seed-dropping mechanism, a rock-shaft connected therewith to actuate the same, a disk arranged adjacent to and parallel to the plane of said rock-shaft and provided with a radial pin arranged to impinge against the crank-arm of the same, a ground-wheel, and gearing between said ground-wheel and the disk.

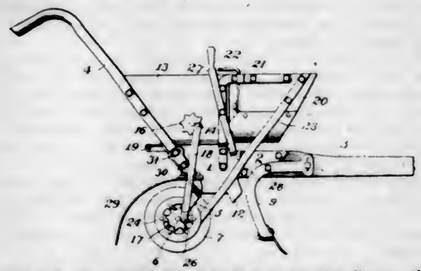
6. The combination of seed-dropping mechanism, a rock-shaft connected therewith to actuate the same, a vibratory frame, a ground-wheel mounted in said frame, means actuated by said ground-wheel for actuating the rock-shaft, and means actuated by the vibratory frame for shifting the position of the rock-shaft relatively to the means for actuating it.

7. The combination of a fixed shaft or rod, a collar slidably mounted thereon, a seed-dropping shaft connected with said collar, a rock-shaft also connected with said collar and arranged to rotate about the fixed shaft, means for rotating the rock-shaft about the fixed shaft, and means for vibrating the rock-shaft to slide the collar and thereby actuate the seed-dropping shaft.

8. The combination of seed-dropping mechanism, a rock-shaft connected therewith to actuate the same, a vibratory frame, a ground-wheel carried by said frame, gearing actuated by said ground-wheel to vibrate the rock-shaft, a carrier for the rock-shaft, and means actuated by the vibratory frame for shifting the said carrier.

9. The combination of dropping mechanism, a rock-shaft connected therewith, a rotary carrier for the rock-shaft, a vibratory frame, a ground-wheel carried by the said frame, gearing actuated by the ground-wheel to vibrate the rock-shaft, a clutch member connected with the vibratory frame, and gearing controlled by said clutch member for rotating the carrier for the rock-shaft.

866,340. COMBINED PLANTER AND FERTILIZER-DISTRIBUTER. JOHN R. DAVIDSON, Monticello, Ga. Filed July 6, 1907. Serial No. 382,517.



1. In a combined planter and fertilizer distributer, the combination of a suitable frame, a seed box supported on said frame, a furrow opener depending from the frame in advance of the discharge outlet from the seed box, a ground wheel supporting the frame and arranged to travel in the furrow made by said opener, a fertilizer receptacle pivotally supported on the frame and adapted to discharge fertilizer at a point between the furrow opener and the outlet from the seed box, and means actuated by the ground wheel for vibrating said receptacle on its pivotal support to intermittently discharge fertilizer therefrom.

2. In a combined planter and fertilizer distributer, the combination of a suitable frame, a seed box supported on said frame, a furrow opener depending from the frame in advance of the discharge outlet from the seed box, a ground wheel supporting the frame and arranged to travel in the furrow made by said opener, a fertilizer receptacle pivotally supported at its upper rear end on the frame in advance of the seed box and adapted to discharge its contents through a spout extending downwardly between the furrow opener and the outlet from the seed box, and a rod or arm having its upper end connected with said receptacle and its lower end extending into the path of a projection on the ground wheel, whereby the fertilizer receptacle will be intermittently vibrated as said wheel turns.

3. In a combined planter and fertilizer distributer, the combination of a suitable frame, a seed box supported on said frame, a furrow opener depending from the frame in advance of the discharge outlet from the seed box, a ground wheel supporting the frame and arranged to travel in the furrow made by said opener, a fertilizer receptacle pivotally supported on the frame and adapted to discharge fertilizer at a point between the furrow opener and the outlet from the seed box, means actuated by the ground wheel for vibrating said receptacle, and means for holding the connection between the ground wheel and fertilizer receptacle in inoperative position.

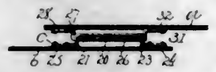
4. In a combined planter and fertilizer distributer, the combination of a suitable frame, a seed box supported on said frame, a furrow opener depending from the frame in advance of the discharge outlet from the seed box, a ground wheel supporting the frame and arranged to travel in the furrow made by said opener, a fertilizer receptacle pivotally supported at its upper rear end on the frame in advance of the seed box and adapted to discharge its contents through a spout extending downwardly between the furrow opener and the outlet from the seed box, a rod connected at its upper end with the fertilizer receptacle and having its lower end extending into the path of a lateral projection on the ground wheel, and a lever adapted to move said rod from the path of the projection on the ground wheel.

5. In a combined planter and fertilizer distributer, the combination of a beam, a casting having at its forward end means for engaging the beam and having its body divided into two compartments the forward one terminating in a spout that extends below a discharge opening formed in the bottom of the rear compartment, a furrow opener depending from the beam, a ground wheel mounted between arms attached to said casting and adapted to travel in the furrow made by said opener, a pivotally supported fertilizer receptacle adapted to discharge its contents through the spout at the forward end of said casting, and a seed box mounted on said casting and communicating with the compartment therein in rear of said spout.

6. In a combined planter and fertilizer distributer, the combination of a beam, a casting connected with the beam and providing two discharge spouts arranged one in rear of the other, a furrow opener depending from the beam, a ground wheel mounted in arms attached to said casting and arranged to travel in the furrow made by said opener, a seed box secured above and communicating with the rear spout in said casting, a fertilizer receptacle pivotally supported between ears extending forwardly from the seed box and adapted to discharge its contents into the forward of said spouts, and means actuated by the ground wheel for intermittently vibrating the fertilizer receptacle.

7. In a combined planter and fertilizer distributer, the combination of a suitable frame, a furrow opener depending from the beam, a ground wheel connected with the frame and arranged to travel in the furrow made by said opener, a seed box arranged to discharge seed between the furrow opener and ground wheel, a pivotally mounted fertilizer receptacle arranged to discharge its contents at a point between the furrow opener and the outlet from the seed box, means actuated by the ground wheel for vibrating the fertilizer receptacle, and adjustable covering devices arranged in rear of and on opposite sides of the ground wheel.

866,341. FASTENER. FRANK I. DAVIS, Hartford, Conn. Filed Dec. 14, 1906. Serial No. 347,774.



1. A socket member formed of wire into a framelike structure including attaching loops at each end of the member and depthwise extending bends, and a snap member formed of wire having attaching loops at opposite ends and a spring arm having a depthwise extending part forming a snap to engage a bend of the socket member and prevent separation of the parts while so engaged.

2. A socket member formed of wire into a framelike structure including arms with attaching loops at opposite ends and depthwise extending bends, and a snap member formed of wire and including spring arms with attaching loops at opposite ends and a depthwise extending bend forming a snap to engage the socket member and positively prevent separation of the parts while so engaged.

3. A socket member formed of wire into a framelike structure with depthwise extending bends terminating in attaching loops, and a snap member formed of wire and including a spring arm and depthwise extending bends terminating in attaching loops, a bend forming a snap for engagement with the socket member to positively prevent separation of the parts while so engaged.

4. A socket member formed of wire into a framelike structure having attaching loops and engaging means for a snap member, and a snap member formed of wire and including spring arms and depthwise extending bends terminating at their opposite ends in attaching loops located practically in the same plane, a bend forming a snap for engagement with the socket member to positively prevent separation of the parts while so engaged.

5. A socket member formed of wire into a framelike structure having attaching loops and snap engaging means, and a snap member formed of wire having diverging spring arms terminating in attaching loops and a depthwise extending bend forming a snap to engage with the socket member and prevent separation of the parts while so engaged.

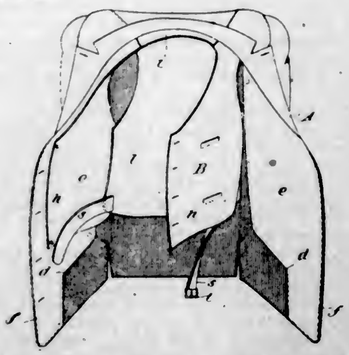
6. A socket member formed of wire into a framelike structure including lengthwise extending bars having at one end depthwise extending bends terminating in an attaching loop, said bars being flared outward at the opposite end and extending downward and terminating in attaching loops underlying said flaring ends forming a socket for the reception of a snap member, and a snap member formed of wire including a spring arm bent to form a snap to engage said socket member, said wire being formed also into attaching loops.

7. A socket member formed of wire including lengthwise extending bars bent depthwise at one end and terminating in an attaching loop and flaring outward at the opposite ends and then bent depthwise terminating in attaching loops underlying the flaring ends forming a socket for a snap member, and the snap member formed of wire including spring arms approaching each other at one end and formed into depthwise extending bends curved inward for the reception of the bars on the socket member and terminating in an attaching loop, the outward diverging ends being bent to form snaps to engage the socket member and terminating in attaching loops.

8. A socket member composed of wire formed into a framelike structure including lengthwise extending bars having depthwise extending bends at one end to receive the end of a snap member and terminating in an attaching loop, the opposite ends of the bars flaring outward and terminating in attaching loops underlying the flaring ends and forming a recess for the reception of a snap member, and the snap member composed of wire and having spring arms located closely together at one end with depthwise extending bends terminating in an attaching loop, said arms diverging to the opposite end and there bent to form snaps to engage the socket member, said snaps terminating in attaching loops.

9. A socket member composed of wire formed into a framelike structure and having means for engaging a snap member, and provided at opposite ends with fastening means, and a snap member formed of wire with spring arms to initially enter the socket member, said arms diverging and terminating in snaps to engage and hold against said socket member, said snap member having fastening means located at each end thereof.

866,342. COMBINATION COAT AND VEST. GEORGE DEMACAKOS, Chicago, Ill. Filed July 31, 1907. Serial No. 386,440.

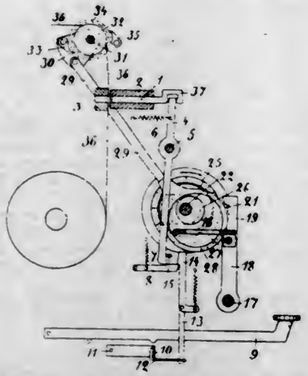


1. A vest comprising side and front portions having fastener members on their inner sides, a yoke permanently connecting the upper ends of said side and front portions and provided at its forward side with fastener members,

back straps connected to the lower ends of the side and front portions and equipped to be adjustably connected together, and a detachable back having fastener members adjacent to its upper end for coöperating with the fastener members of the yoke and also having straps on its lower portion provided with means whereby they may be adjustably connected in front of the body, in combination with a coat having side and front portions and also having receptacles at the inner sides of said side and front portions; the said receptacles being formed by linings which are stitched to side and front portions except between points at the rear edges of the lining, and the said linings being provided on their inner sides with fastener members arranged to coöperate with the complementary members of the vest portions.

2. A vest for the purpose described made up of side and front portions, a yoke extending between and permanently connecting the upper ends of said side and front portions and provided at its forward side with fastener members, back straps connected to the lower ends of the side and front portions and equipped to be adjustably connected together, and a detachable back having fastening members adjacent to its upper end for coöperating with the fastener members of the yoke and also having straps on its lower portion provided with means whereby they may be adjustably connected in front of the body.

866,343. MECHANISM FOR PERFORATING THE OPERATING-BANDS OF AUTOMATIC TYPE-SETTING MACHINES. HEINRICH DREWELL, Hanover, Germany. Filed Aug. 25, 1906. Serial No. 332,069.



1. In mechanism for perforating the operating bands of automatic type setting machines, the combination of a plurality of keys, a plurality of punches, means tending to operate these punches, means for retaining the punches in their inoperative positions, a plurality of dies corresponding to the punches, punch releasing mechanism controlled by the keys, a source of power, mechanism for returning the punches after operation to their inoperative positions, mechanism for imparting motion to the band, a clutch for connecting these mechanisms to the source of power and a clutch controlling device actuated by the punch operating mechanisms as set forth.

2. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, means tending to operate these punches, a plurality of catch devices retaining the punches in their inoperative positions, a plurality of dies corresponding to the punches, mechanism controlled by the keys for operating the catch devices and releasing the punches, a source of power, mechanism for returning the punches after operation to their inoperative positions, mechanism for imparting motion to the band, a clutch for connecting these mechanisms to the source of power, and a clutch controlling device actuated by the punch operating mechanisms as set forth.

3. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, means tending to operate these punches, a plurality of catch devices retaining the punches in their inoperative positions, a plurality of dies corresponding to the punches, mechanism controlled by the keys for operating the catch devices and releasing the punches, a source of power, mechanism comprising a plurality of rotary members for returning the punches after operation to their inoperative positions, mechanism for imparting motion to the band, a clutch for connecting these mechanisms to the source of power, and a clutch controlling device actuated by the punch operating mechanisms as set forth.

4. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, means tending to operate these punches, means for retaining the punches in their inoperative positions, a plurality of dies corresponding to the punches, a feed roller for the paper band, punch releasing mechanism controlled by the keys, a source of power, mechanism for returning the punches after operation to their inoperative positions, mechanism for imparting motion to the band feed roller, a clutch for connecting these mechanisms to the source of power and a clutch controlling device actuated by the punch operating mechanisms as set forth.

5. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, means tending to operate these punches, a plurality of catch devices retaining the punches in their inoperative positions, a plurality of dies corresponding to the punches, a feed roller for the paper band, mechanism controlled by the keys for operating the catch devices and releasing the punches, a source of power, mechanism for returning the punches after operation to their inoperative positions, mechanism for imparting motion to the band feed roller, a clutch for connecting these mechanisms to the source of power, and a clutch controlling device actuated by the punch operating mechanisms as set forth.

6. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, means tending to operate these punches, a plurality of catch devices retaining the punches in their inoperative positions, a plurality of dies corresponding to the punches, a feed roller for the paper band, mechanism controlled by the keys for operating the catch devices and releasing the punches, a source of power, mechanism comprising a plurality of rotary members for returning the punches after operation to their inoperative positions, mechanism for imparting motion to the band feed roller, a clutch for connecting these mechanisms to the source of power, and a clutch controlling device actuated by the punch operating mechanisms as set forth.

7. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, a plurality of punch operating levers, means tending to move these levers and operate the punches, means for retaining the levers in their inoperative positions, a plurality of dies corresponding to the punches, mechanism controlled by the keys for releasing the punch operating levers, a source of power, mechanism for returning the punch operating levers after operation to their inoperative positions, mechanism for imparting motion to the band and means for intermittently connecting these mechanisms to the source of power as set forth.

8. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, a plurality of punch operating levers, means tending to move these levers and operate the punches, a plurality of catch device retaining the levers in their inoperative positions, a plurality of dies corresponding to the punches, mechanism controlled by the keys for operating the catch devices and releasing the punch operating levers, a source of power, mechanism

for returning the punch operating levers after operation to their inoperative positions, mechanism for imparting motion to the band, a clutch for connecting these mechanisms to a source of power and a clutch controlling device actuated by the punch operating levers as set forth.

9. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, a plurality of punch operating levers, means tending to move these levers and operate the punches, a plurality of catch devices retaining the levers in their inoperative positions, a plurality of dies corresponding to the punches, mechanism controlled by the keys for operating the catch devices and releasing the punch operating levers, a source of power, mechanism comprising a plurality of rotary members for returning the punch operating levers after operation to their inoperative positions, mechanism for imparting motion to the band, a clutch for connecting these mechanisms to a source of power and a clutch controlling device actuated by the punch operating levers as set forth.

10. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, means tending to operate these punches, means for retaining the punches in their inoperative positions, a plurality of dies corresponding to the punches, a feed roller for the paper band, punch releasing mechanism controlled by the keys, a source of power, a spindle carrying a plurality of rotary members for returning the punches after operation to their inoperative positions, a separate rotary member on this spindle, means for imparting the motion of this rotary member to the band feed roller, a clutch for connecting this spindle to the source of power and a clutch controlling device actuated by the punch operating mechanisms as set forth.

11. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, means tending to operate these punches, a plurality of catch devices retaining the punches in their inoperative positions, a plurality of dies corresponding to the punches, a feed roller for the paper band, mechanism controlled by the keys for operating the catch devices and releasing the punches, a source of power, a spindle carrying a plurality of rotary members for returning the punches after operation to their inoperative positions, a separate rotary member on this spindle means for imparting the motion of this rotary member to the band feed roller, a clutch for connecting this spindle to the source of power and a clutch controlling device actuated by the punch operating mechanisms as set forth.

12. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, a plurality of punch operating levers, means tending to move these levers and operate the punches, a plurality of catch devices for retaining the levers in their inoperative positions, a plurality of dies corresponding to the punches, mechanism controlled by the keys for operating the catch devices and releasing the punch operating levers, a source of power, a spindle carrying a plurality of rotary members for returning the punch operating levers after operation to their inoperative positions, a separate rotary member on this spindle, means for imparting the motion of this rotary member to the band, a clutch for connecting this spindle to the source of power and a clutch controlling device actuated by the punch operating levers as set forth.

13. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, a plurality of punch operating levers, means tending to move these levers and operate the punches, a plurality of catch devices retaining the levers in their inoperative positions, a plurality of dies corresponding to the punches, a feed roller for the paper band, mechanism controlled by the keys for operating the catch devices and releasing the punch operating levers, a source of power, a spindle carrying a plurality of rotary members for returning the punch operating levers after operation to their inoperative positions, a separate rotary member on this spindle, means for imparting the motion of this rotary member to the band feed roller, a clutch for connecting this spindle to the source of power and a clutch controlling device actuated by the punch operating levers as set forth.

14. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, means tending to operate these punches, means for retaining the punches in their inoperative positions, a plurality of dies corresponding to the punches, a feed roller for the paper band, punch releasing mechanism controlled by the keys, a source of power, a spindle carrying a plurality of rotary members for returning the punches after operation to their inoperative positions, a separate rotary member on this spindle, means for imparting the motion of this rotary member to the band feed roller, a clutch for connecting this spindle to the source of power, and a pivoted cam member normally operating to maintain the clutch members disengaged but actuated by the means tending to operate the punches when released so as to allow the engagement of the clutch members as set forth.

15. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, means tending to operate these punches, a plurality of catch devices retaining the punches in their inoperative positions, a plurality of dies corresponding to the punches, a feed roller for the paper band, mechanism controlled by the keys for operating the catch devices and releasing the punches, a source of power, a spindle carrying a plurality of rotary members for returning the punches after operation to their inoperative positions, a separate rotary member on this spindle, means for imparting the motion of this rotary member to the band feed roller, a clutch for connecting this spindle to the source of power and a pivoted cam member normally operating to maintain the clutch members disengaged but actuated by the means tending to operate the punches when released so as to allow the engagement of the clutch members.

16. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, a plurality of punch operating levers, means tending to move these levers and operate the punches, a plurality of catch devices retaining the levers in their inoperative positions, a plurality of dies corresponding to the punches, mechanism controlled by the keys for operating the catch devices and releasing the punch operating levers, a source of power, a spindle carrying a plurality of rotary members for returning the punch operating levers after operation to their inoperative positions a separate rotary member on this spindle means for imparting the motion of this rotary member to the band, a clutch for connecting this spindle to a source of power and a pivoted cam member normally operating to maintain the clutch members disengaged but actuated by the punch operating levers when released so as to allow the engagement of the clutch members as set forth.

17. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, means tending to operate these punches, means for retaining the punches in their inoperative positions, a plurality of dies corresponding to the punches, a feed roller for the paper band, a ratchet feed device for the feed roller, punch releasing mechanism controlled by the keys, a source of power, a spindle carrying a plurality of rotary members for returning the punches after operation to their inoperative positions, a separate rotary member on this spindle, an operative connection between this rotary member and the ratchet feed device of the band feed roller, a clutch for connecting this spindle to the source of power and a clutch controlling device actuated by the punch operating mechanisms as set forth.

18. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, a plurality of

punch operating levers, means tending to move these levers and operate the punches, a plurality of catch devices for retaining the levers in their inoperative positions, a plurality of dies corresponding to the punches, a feed roller for the paper band, a ratchet feed device for the feed roller, mechanism controlled by the keys for operating the catch devices and releasing the punch operating levers, a source of power, a spindle carrying a plurality of rotary members for returning the punch operating levers after operation to their inoperative positions, a separate rotary member on this spindle, an operative connection between this rotary member and the ratchet feed device of the band feed roller, a clutch for connecting this spindle to the source of power and a clutch controlling device actuated by the punch operating levers as set forth.

19. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, means tending to operate these punches, means for retaining the punches in their inoperative positions, a plurality of dies corresponding to the punches, a feed roller for the paper band, a ratchet feed device for the feed roller, punch releasing mechanism controlled by the keys, a source of power, a spindle carrying a plurality of rotary members for returning the punches after operation to their inoperative positions, a separate rotary member on this spindle, an operative connection between this rotary member and the ratchet feed device of the feed roller, a clutch for connecting this spindle to the source of power and a pivoted cam member normally operating to maintain the clutch members disengaged but actuated by the means tending to operate the punches when released so as to allow the engagement of the clutch members as set forth.

20. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, means tending to operate these punches, a plurality of catch devices retaining the punches in their inoperative positions, a plurality of dies corresponding to the punches, a feed roller for the paper band, a ratchet feed device for the feed roller, mechanism controlled by the keys for operating the catch devices and releasing the punches, a source of power, a spindle carrying a plurality of rotary members for returning the punches after operation to their inoperative positions, a separate rotary member on this spindle, an operative connection between this rotary member and the ratchet feed device of the band feed roller, a clutch for connecting this spindle to the source of power and a pivoted cam member normally operating to maintain the clutch members disengaged but actuated by the means tending to operate the punches when released so as to allow the engagement of the clutch members as set forth.

21. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, a plurality of punch operating levers, means tending to move these levers and operate the punches, a plurality of catch devices retaining the levers in their inoperative positions, a plurality of dies corresponding to the punches, a feed roller for the paper band, a ratchet feed device for the feed roller, mechanism controlled by the keys for operating the catch devices and releasing the punch operating levers, a source of power, a spindle carrying a plurality of rotary members for returning the punch operating levers after operation to their inoperative positions, a separate rotary member on this spindle, an operative connection between this rotary member and the ratchet feed device of the band feed roller, a clutch for connecting this spindle to the source of power and a pivoted cam member normally operating to maintain the clutch members disengaged but actuated by the punch operating levers when released so as to allow the engagement of the clutch members as set forth.

22. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, guides for the punches, a plurality of punch operating levers, springs tending to move these levers and operate the punches, a plurality of catch devices retaining the levers in their inoperative positions, a plurality of dies corresponding to the punches, a feed roller for the paper band, a ratchet feed device for the feed roller, spring controlled lever and link mechanism actuated by the keys for operating the catch devices and releasing the punch operating levers, a source of power, a spindle carrying a plurality of cams for returning the punch operating levers after operation to their inoperative positions, an eccentric on this spindle, a strap and rod connecting this eccentric to the ratchet feed device of the band feed roller and imparting thereto the motion of the eccentric, a clutch member loosely mounted on the spindle and connected to the source of power, a clutch member fast on the spindle and a pivoted lever connected to a cam member normally operating to maintain the clutch members disengaged but actuated by the punch operating levers when released so as to allow the engagement of the clutch members as set forth.

23. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, a plurality of punch operating levers, means tending to move these levers and operate the punches, a plurality of catch devices retaining the levers in their inoperative positions, a plurality of dies corresponding to the punches, a feed roller for the paper band, a ratchet feed device for the feed roller, mechanism controlled by the keys for operating the catch devices and releasing the punch operating levers, a source of power, a spindle carrying a plurality of rotary members for returning the punch operating levers after operation to their inoperative positions, an eccentric on this spindle, a strap and rod connecting this eccentric to the ratchet feed device of the band feed roller and imparting thereto the motion of the eccentric, a clutch member loosely mounted on the spindle and connected to the source of power, a clutch member fast on the spindle and a pivoted cam member normally operating to maintain the clutch members disengaged but actuated by the punch operating levers when released so as to allow the engagement of the clutch members as set forth.

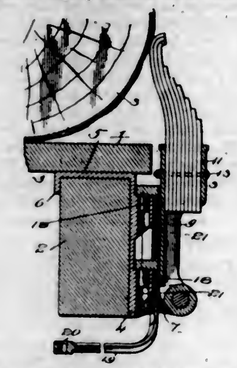
24. In mechanism for perforating the operating bands of automatic type setting machines the combination of a plurality of keys, a plurality of punches, guides for the punches, a plurality of punch operating levers, springs tending to move these levers and operate the punches, a plurality of catch devices retaining the levers in their inoperative positions, a plurality of dies corresponding to the punches, a feed roller for the paper band, a ratchet feed device for the feed roller, spring controlled lever and link mechanism actuated by the keys for operating the catch devices and releasing the punch operating levers, a source of power, a spindle carrying a plurality of cams for returning the punch operating levers after operation to their inoperative positions, an eccentric on this spindle, a strap and rod connecting this eccentric to the ratchet feed device of the band feed roller and imparting thereto the motion of the eccentric, a clutch member loosely mounted on the spindle and connected to the source of power, a clutch member fast on the spindle and a pivoted lever connected to a cam member normally operating to maintain the clutch members disengaged but actuated by the punch operating levers when released so as to allow the engagement of the clutch members as set forth.

866,344. MEANS FOR SUPPORTING AND RELEASING RETAINING-STAKES. ERNEST I. DYER, Seattle, Wash. Filed Feb. 1, 1906, Serial No. 299,046. Renewed Mar. 27, 1907. Serial No. 364,867.

1. In a device of the character described, the combination with a support, of vertically swinging means provided with a flexible, upper portion, carried by said support, and means for locking said swinging means in a fixed position.

2. In a device of the character described, the combination of laterally swinging, flexible load-engaging means, and locking means for securing said load-engaging means in a fixed position.

3. In a device of the character described, the combination with a support, of a vertically swinging member provided with a spring, carried by said support, and means for locking said swinging member in a vertical position.



4. In a device of the character described, the combination with a support, of bearing lugs carried by said support, each lug provided with a longitudinally extending opening, load-engaging means journaled in said lugs, and means for locking said load-engaging means in a fixed position.

5. In a device of the character described, the combination with a support, of bearing lugs carried by said support, each lug provided with a longitudinally extending opening, a vertically swinging member provided with trunnions, carried by said lugs, each trunnion provided with flat sides, the trunnions journaled in said lugs, said member being removably secured upon said lugs, and means for securing said member in a fixed position.

6. In a device of the character described, the combination with a support, of flexible load-engaging means carried by said support, and means for securing said engaging-means in a fixed position.

7. In a device of the character described, the combination with a support, of an outwardly movable flexible load-supporting member carried by said support, and means for securing said member in a fixed position.

8. In a device of the character described, the combination with a support, of hinged member carried by said support, pivotally mounted locking means carried by said support and coöperating with said hinged member for securing the same in a locked position, horizontally movable rods connecting said locking means, bell-cranks connected to said rods, and means for synchronously actuating said bell-cranks, and thereby imparting movement to said locking means.

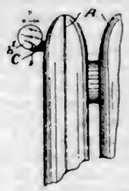
9. In a device of the character described, the combination with a vehicle, of load-retaining means carried by one side of said vehicle, locking means for preventing movement of said load-retaining means, and rods connected to said locking means and a system of toggles connected to said rods and operated from the opposite side of said vehicle for controlling movement of said locking means.

10. In a device of the character described, the combination with a support, of a movable leaf-spring stake carried by said support, and means for locking said stake in a stationary position.

11. In a device of the character described, the combination with a support, of a plate provided with vertically alined brackets carried by said support, pivotal load-engaging means carried by said plate, and pivotally mounted locking means carried by said brackets and coöperating with said load-engaging means for securing the same in a stationary position.

12. In a device of the character described, the combination with a support, of vertically alined brackets carried by said support, vertically swinging load-engaging means carried by said support, and locking means pivotally mounted upon said brackets for securing said load-engaging means in a stationary position.

866,345. VENTING-VALVE FOR RADIATORS. LEWIS W. EGGLESTON, Appleton, Wis. Filed Jan. 19, 1907. Serial No. 353,099.



1. In a venting valve for radiators, a shell consisting of end and connecting side walls, and provided with a float chamber and an inlet and outlet to the chamber, such outlet located in one of the end walls of the shell and provided with a valve seat and such inlet arranged to discharge into the float chamber near the bottom thereof, in combination with a float, a fulcrum located between the ends of the float and such float movable on the fulcrum, a valve stem provided with a valve arranged to coact with the valve seat, and a supporting connection between the valve stem and the float the several parts being so associated that the point of support of the valve stem upon the float is substantially over the fulcrum; substantially as described.

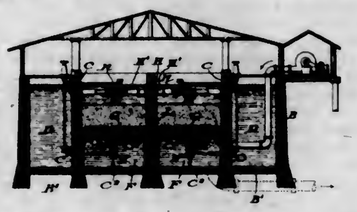
2. In a venting valve for radiators, a shell consisting of a cylindrical portion having closed ends, and provided with a float chamber and an inlet and outlet to the chamber, such outlet provided with a valve seat and such inlet arranged to discharge into the float chamber near the bottom thereof when the axis of the cylindrical portion of the shell is in a horizontal plane, in combination with a float, a fulcrum located underneath the float and such float movable on the fulcrum, the specific gravity of the float on one side of a vertical plane extending through the fulcrum greater than the specific gravity of the float on the other side of such vertical plane, a valve stem provided with a valve arranged to co-act with the valve seat, and a supporting connection between the valve stem and the float such connection located substantially over the fulcrum, of the float; substantially as described.

3. In a venting valve for radiators, a shell consisting of a cylindrical portion having closed ends, and provided with a float chamber and an inlet and outlet to the chamber, such outlet provided with a valve seat and such inlet arranged to discharge into the float chamber near the bottom thereof when the axis of the cylindrical portion of the shell is in a horizontal plane, in combination with a float, a bar rigidly attached to one end of the shell, such bar provided with an aperture therein, a projection on the float between the ends thereof, such projection fitting loosely in the aperture in the bar, to form the fulcrum of the float, such float constructed so that the specific gravity on one side of a vertical plane extending through the fulcrum and float is greater than the specific gravity thereof on the other side of such vertical plane, a valve stem provided with a valve arranged to co-act with the valve seat, and a supporting connection between the valve stem and the float such connection located substantially over the fulcrum of the float; substantially as described.

4. In a venting valve for radiators a shell provided with end and side walls and with a float chamber having an inlet and an outlet, such outlet located in an end wall, and provided with a valve seat and such inlet located in the side wall of the shell and arranged to discharge into the float chamber near the bottom thereof, in combination with a float, a valve stem provided with a valve arranged to co-act with the valve seat of the outlet, a supporting connection between the valve stem and the float, such connection located substantially over the fulcrum of the float, and a fulcrum located underneath the float and between the ends thereof, such float movable on the fulcrum and a guide to such fulcrum mounted on the end wall in which the outlet is placed; substantially as described.

5. In a venting valve for radiators a shell consisting of end and connecting walls, such shell provided with a float chamber having an inlet and an outlet, such outlet located in one of the ends of the shell and provided with a valve seat and such inlet arranged to discharge into the float chamber near the bottom thereof, in combination with a float, a valve stem provided with a valve arranged to co-act with the valve seat of the outlet, a supporting connection between the valve stem and the float, such valve stem and float arranged so that one end of the valve stem rests on the float and operatively associated so that the end of the valve stem which is adjacent to the float is substantially over the fulcrum thereof and not appreciably raised by the movement of such float, and a fulcrum located underneath the float and between the ends thereof; substantially as described.

866,346. FILTRATION PLANT. HAROLD D. ELFRETH, Philadelphia, Pa. Filed Mar. 1, 1907. Serial No. 360,037.



1. In a filtering plant, a sedimentation chamber, a connection therefrom to the water supply filtering chambers, one of the said chambers being entirely surrounded by the other, and the division walls of which are common to both chambers, chambers for the filtered water beneath said filtering chambers, and a distributing main in communication with the sedimentation chamber and above the filters in the filtering chambers.

2. In a filtering plant, a sedimentation chamber, a connection therefrom to the water supply filtering chambers, one of the said chambers being entirely surrounded by the other and the division walls of which are common to both chambers, chambers for the filtered water beneath said filtering chambers, a distributing main in communication with the sedimentation chamber and above the filters in the filtering chambers, distributing pipes in the purified water chamber and distributing systems in the bases of the filtering chambers.

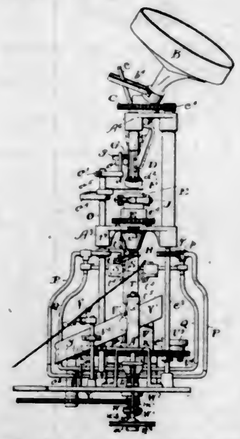
3. A filtering plant comprising exterior and inner walls, a base for the exterior walls, bases upon different levels, for the outer walls forming filtering chambers above and chambers for purified water beneath the latter and a sedimentation chamber, one entirely surrounding and inclosing the other, a connection from said sedimentation chamber to the water supply and a distributing main for distributing the water to the filtering chambers.

4. A filtering plant comprising exterior and inner walls, a base for the exterior walls, bases upon different levels, for the outer walls forming filtering chambers above and chambers for purified water beneath the latter and a sedimentation chamber, one entirely surrounding and inclosing the other, a connection from said sedimentation chamber to the water supply, a distributing main for distributing the water to the filtering chambers, branches leading from said distributing main, and means for simultaneously controlling all of said branches.

5. A filtering plant comprising exterior and inner walls, a base for the exterior walls, bases upon different levels, for the outer walls forming filtering chambers above and chambers for purified water beneath the latter and a sedimentation chamber, one entirely surrounding and inclosing the other, a connection from said sedimentation chamber to the water supply, a distributing main for distributing the water to the filtering chambers, a collecting system intermediate the filtering and purified water chambers and pipes leading from said collecting system into the purified water chambers.

6. A filtering plant comprising exterior and inner walls, a base for the exterior walls, bases upon different levels, for the outer walls forming filtering chambers above and chambers for purified water beneath the latter and a sedimentation chamber, one entirely surrounding and inclosing the other, a connection from said sedimentation chamber to the water supply, a distributing main for distributing the water to the filtering chambers, a collecting system intermediate the filtering and purified water chambers, pipes leading from said collecting system into the purified water chambers, valves in said pipes and means for simultaneously controlling them.

866,347. MACHINE FOR FLANGING GLASS TUBES. JOHN T. FAGAN, Cleveland, Ohio, assignor to The National Electric Lamp Company, Cleveland, Ohio, a Corporation of New Jersey. Filed Mar. 27, 1905. Serial No. 252,112.



1. In a machine for flanging glass tubes, the combination of means for forming the flange, a rotatable hopper, and a suitable guide for the tube between the hopper and the flange forming mechanism.

2. In a machine for flanging glass tubes, the combination of means for forming the flange, and a rotatable hopper set on an axis out of the vertical, whereby the tubes are fed by gravity.

3. The combination with a suitable support of a hopper having a stem journaled into said support at an angle to the vertical, a tubular passageway leading from the base of the hopper through said stem, whereby articles placed in the hopper may settle into the entrance to said passageway in one position of the hopper, and in another position will be raised to cause them to slide down said passageway.

4. The combination of a rotatable hopper journaled on an axis oblique to the vertical, a depression in the base of said hopper, and a passageway leading therefrom through the stem of the hopper.

5. The combination, with a suitable support, of a hopper having a stem journaled in said support on an axis at an angle with the vertical, a gear rotatably carried by said support, and a slidable connection between the gear and the hopper whereby the hopper may be rotated.

6. In a machine for flanging glass tubes, the combination of a hopper adapted to feed tubes, mechanism for rotating the fed tubes, a passageway between the hopper and said mechanism to allow the discarding of broken glass.

7. In a machine for flanging glass tubes, the combination of a hopper, a passageway therefrom, and mechanism adapted to enter the passageway for grasping a tube therein.

8. In a machine for flanging glass tubes, the combination of a rotatable chuck, means for guiding the tubes thereto, a stop adapted to intercept the tubes, and means for moving said stop to or from an idle position.

9. In a machine for flanging glass tubes, the combination of a hopper, a chuck, a lantern-like guide between the hopper and chuck, a pair of pincers having jaws adapted to enter between the bars of such guide to grasp a tube, and means for operating said pincers to release the tube.

10. In a machine for flanging glass tubes, the combination of a chuck, an open guide thereto, a pair of pincers having jaws adapted to enter the guide to grasp a tube, means for operating said pincers to release the tube, a stop adapted to stand beneath such guide, and means for moving said stop out of the path of the tube at the time when the pincers grasp their tube.

11. In a machine for flanging glass tubes, the combination of a rotatable chuck into which the tube may be fed, a stop for the tube adapted to stand in front of said chuck and limit the projection of the tube therefrom.

12. In a machine for flanging glass tubes, the combination of a rotatable chuck into which the tube may be fed, a stop for the tube adapted to stand in front of said chuck and limit the projection of the tube therefrom, means for heating the forward end of said tube, and a member for engaging said tube to form a flange thereon.

13. In a machine for flanging glass tubes, the combination of a rotatable chuck into which the tube may be fed, a stop for the tube adapted to stand in front of said chuck and limit the projection of the tube therefrom, mechanism suitably timed for closing the chuck, for then moving the stop away from the tube, and for then forming a flange on the projecting end of the tube.

14. In a machine for flanging glass tubes, the combination of a vertical chuck, means for feeding a tube into the upper end thereof, and a stop adapted to stand below the chuck and stop the tube.

15. In a machine for flanging glass tubes, the combination of a vertical chuck, a hopper above the same, a passageway between the hopper and chuck whereby tubes may be fed by gravity into the chuck, and a stop adapted to stand below the chuck and stop the tube.

16. In a machine for flanging glass tubes, the combination of a vertical chuck, a downward passageway to the upper end thereof, whereby tubes may be fed by gravity into the chuck, a stop adapted to stand below the chuck and stop the tube, means for swinging said stop out of the way, means for rotating said chuck, a flanging member and means for bringing the flange member into engagement with the tube.

17. In a machine for flanging glass tubes, the combination of a rotatable chuck adapted to carry a tube projecting from its lower end, means for heating such projecting end, a flanging pin, means for causing it to engage such lower end to form a flange, means for loosening the chuck to allow the flanged tube to drop out of the chuck.

18. In a machine for flanging glass tubes, the combination of a rotatable chuck adapted to carry a tube projecting from its lower end, means for heating such projecting end, a flanging pin, means for causing it to engage such lower end to form a flange, means for allowing the flanged tube to pass out of the chuck onto said pin, and means for then inverting said pin to allow the flanged tube to pass off of the same.

19. In a machine for flanging glass tubes, the combination of a rotatable chuck adapted to carry a tube projecting from its lower end, means for heating such projecting end, means for forming a flange therein, means for allowing the flanged tube to pass out of the chuck, and an inclined track adapted to receive the tube.

20. In a machine for flanging glass tubes, the combination of a rotatable chuck adapted to carry a tube projecting from its lower end, means for heating such projecting end, means for forming a flange thereon, means for inverting said flanged tube, and a pair of inclined rails adapted to receive the flange of the tube with the body of the tube depending between them.

21. The combination of a rotatable chuck adapted to carry a tube projecting from its lower end, means for heating such projecting end, a flanging pin, means for causing the same to engage, in an inclined position, the lower end of the tube to form a flange, means for then swinging the pin into a vertical position beneath the tube, means for then releasing the chuck, means for then lowering the pin to lower the tube, and means for then inverting the pin to discharge the tube.

22. The combination of a rotatable chuck, a sliding cross head, a rock shaft and a pinion rotatably carried on said cross head, a cam for raising or lowering the cross head, and a rack for operating said pinion, and mechanism for operating said rack independently of the operation of the cross head, and a flanging pin carried by the rock shaft.

23. In a machine for flanging glass tubes, the combination of a rotatable chuck, means for feeding the tubes successively thereinto and for closing the chuck, means for forming a flange on the tube, a burner fed by gas and air, and automatic means for controlling the same to force a hot flame against the projecting end of said tube in the chuck, and to turn down said flame when the tube is out of the chuck.

24. The combination with a heating burner, of a chuck adapted to grasp the tube, a member for forming a flange thereon, a rotatable shaft geared to the chuck, a cam operated by said shaft to move said flanging member toward or from the chuck, and a rotatable gas and air valve operated by said shaft for governing the supply to the heating burner.

25. The combination of a central vertical shaft, means for rotating the same, a pair of chucks rotatably mounted on opposite sides of the shaft, gearing connecting said chucks with the shaft, a pair of hoppers, a connection between each hopper and the corresponding chuck, a slidable cross head, and a pair of flanging pins carried thereby and adapted to engage the projecting ends of the tubes in said chucks.

26. The combination of a driving shaft, a pair of chucks rotatably mounted, gearing connecting said chucks with the shaft, a slidable cross head, a pair of flanging pins carried thereby and adapted to engage the projecting ends of the tubes in said chucks, and rotatable cams journaled about said shaft and operated by it, said cams controlling the position of the cross head, the position of the flanging pins, and the engagement of the chuck.

27. A machine for flanging glass tubes comprising means for securing the tubes in position to be flanged, means for feeding the tubes into said securing means, means for heating the tubes, means for flanging the tubes, and means for relatively rotating the tubes and said flanging means.

28. A machine for flanging glass tubes comprising means for securing the tubes in position to be flanged, automatic means for feeding the tubes into said securing means, means for heating the tubes, means for flanging the tubes, and means for relatively rotating the tubes and said flanging means.

29. A machine for flanging glass tubes comprising means having a fixed axis, for securing the tubes in position to be flanged, means for heating the tubes, means for flanging the tubes, and means for relatively rotating the tubes and said flanging means.

30. A machine for flanging glass tubes comprising means for securing the tubes in position to be flanged, means for feeding the tubes into said securing means, means for heating the tubes, means for flanging the tubes, means for relatively rotating the tubes and said flanging means, and common means for operating said feeding and flanging means.

31. A machine for flanging glass tubes comprising means for securing the tubes in position to be flanged, means for feeding the tubes axially into said securing means, means for heating the tubes, means for flanging the tubes, and means for relatively rotating the tubes and said flanging means.

32. A machine for flanging glass tubes comprising means for securing the tubes in position to be flanged, means for automatically securing the tubes in said securing means, means for heating the tubes, means for flanging the tubes, and means for relatively rotating the tubes and said flanging means.

33. A machine for flanging glass tubes comprising means for securing the tubes in position to be flanged, means for securing the tubes in said securing means, means for heating the tubes, means for flanging the tubes, means for relatively rotating the tubes and said flanging means, and common means for operating said flanging means and said means for securing the tubes in said securing means.

34. In a machine for flanging glass tubes, means for securing a tube in position to be flanged, automatic means for flanging said tube, means for securing relative movement of the securing and flanging means about an axis perpendicular to the axis of the tube, and means for heating the tube.

35. In a machine for flanging glass tubes, means for securing a tube in position to be flanged, means for heating the tube, automatic means for flanging said tube, and means for securing relative rotation of the securing and flanging means about the axis of the tube and also relative movement about an axis perpendicular to the axis of the tube.

36. In a machine for flanging glass tubes, the combination of gripping means for securing a tube in position to be flanged, means for feeding tubes into said gripping means, means whereby said gripping means is caused to be in released position while a tube is being fed into it and in gripping position during the operation of flanging, flanging means and means for heating the tube.

37. In a machine for flanging tubes, the combination of a gripping means constantly tending to close for securing a tube in position to be flanged, means for feeding tubes into said gripping means, and means for holding said gripping means in released position while a tube is being fed into it.

38. In a machine for flanging glass tubes, the combination of a means for feeding tubes into position to be flanged, means for securing the tubes in said position, a common means for operating said feeding means and controlling the gripping of said securing means, means for flanging the tubes and means for heating the tubes.

39. In a machine for flanging glass tubes the combination of a means for feeding tubes into position to be flanged, means for flanging said tubes, a common means for operating said feeding and flanging means, and means for heating the tubes.

40. In a machine for flanging glass tubes, the combination of a means for securing tubes in position to be flanged, means for flanging said tubes, a common means for operating said flanging means and controlling the gripping of said securing means, and means for heating the tubes.

41. In a machine for flanging glass tubes, the combination of a flanging rod, means for heating the tubes, means for moving said flanging rod longitudinally toward the tube to be flanged, and means for causing motion of said rod about an axis perpendicular to that of said tube.

42. In a machine for flanging glass tubes, the combination with flanging means and means for heating the tubes of a device for removing the completed tube from the heat and permiting it to cool before it is discharged from the machine.

43. In a machine for flanging tubes, the combination of a movably supported discharge rod having a receiving end and means for elevating said receiving end to receive a completed tube and means for lowering said receiving end to discharge said tube.

44. In a machine for flanging glass tubes, the combination of means for feeding a tube into position to be flanged, means for heating the tube and means for flanging the tube.

45. In combination, a hopper, a selecting channel therein, a discharge in constant communication with the selecting channel, and mechanism whereby the vertical inclination of the bottom wall of the hopper about the selecting channel may be varied.

46. In combination, a hopper, a selecting channel therein, a discharge in constant communication with the selecting channel, and mechanism whereby the vertical inclination of the selecting channel may be varied.

47. In combination, a hopper, a selecting channel therein, a discharge connected with the selecting channel, and mechanism for varying the vertical inclination of the connection.

48. In combination, a hopper, a selecting channel therein, a discharge connected with the selecting channel, and mechanism for varying the vertical inclination of the selecting channel and the connection to the discharge.

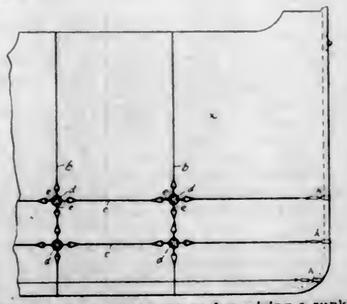
49. In combination, a hopper, a selecting channel, a discharge connected with the selecting channel, and mechanism for varying the vertical inclination of the connection to the discharge and simultaneously maintaining the discharge outlet in one position.

50. In combination, a hopper journaled on an axis inclined to the vertical, a passageway from said hopper, a conducting chute in constant communication with said passageway, and means for rotating the hopper to change the vertical inclination of said passageway so that the material in the hopper will slide down said passageway by gravity.

51. The combination, with suitable support, of a hopper having a stem journaled in said support at an angle to the vertical, a tubular passageway leading from the base of the hopper through said stem whereby articles placed in the hopper may settle into the entrance to said pasageway in one position of the hopper and in another position will be raised to cause them to slide down said passageway.

52. The combination, with a suitable support, of a hopper having a stem journaled in said support on an axis at an angle with the vertical, a gear rotatably carried by said support and a flexible connection between the gear and the hopper whereby the hopper may be rotated.

866,348. MEANS FOR RAISING SUNKEN VESSELS. GEORGE FEARON and CHRISTOPHER S. FEARON, Newcastle-upon-Tyne, England. Filed Mar. 22, 1907. Serial No. 363,803.

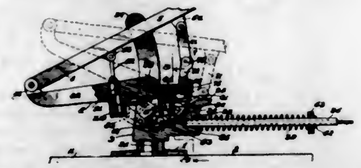


1. The herein described means for raising a sunken ship or vessel which consists in a network of fore and aft cables adapted to be arranged longitudinally of the hull and transverse cables placed transversely of and beneath the hull, said fore and aft and transverse cables being connected by rings and shackles, air vessels adapted to be secured to the network of cables and provided at the bottom thereof with rings and shackles whereby they may be connected with the fore and aft cables, and bow or stem clamps adapted to engage the bow of the vessel and with which the fore and aft cables are adapted to be connected, said bow or stem clamps being provided with side arms composed of separate members connected by turn-buckles.

2. The herein described means for raising a sunken ship or vessel which consists in a network of fore and aft cables adapted to be arranged longitudinally of the hull and transverse cables placed transversely of and beneath the hull, said fore and aft and transverse cables being connected by rings and shackles, air vessels adapted to be secured to the network of cables and provided at the bottom thereof with rings and shackles whereby they may be connected with the fore and aft cables, bow or stem clamps adapted to engage the bow of the vessel and with which the fore and aft cables are adapted to be connected, said bow or stem clamps being provided with side arms composed of separate members connected by turn-buckles, and means for connecting the transverse cables with the bilge keels of the vessel.

3. The herein described means for raising a sunken ship or vessel which consists in a network of fore and aft cables adapted to be arranged longitudinally of the hull and transverse cables placed transversely of and beneath the hull, said fore and aft and transverse cables being connected by rings and shackles, air vessels adapted to be secured to the network of cables and provided at the bottom thereof with rings and shackles whereby they may be connected with the fore and aft cables, bow or stem clamps adapted to engage the bow of the vessel and with which the fore and aft cables are adapted to be connected, said bow or stem clamps being provided with side arms composed of separate members connected by turn-buckles, and means for connecting the transverse cables with the bilge keels of the vessel, consisting of hooks adapted to engage the bilge keels and shackles connected with said cables and adapted to engage said hooks.

866,349. TROLLEY-POLE SUPPORT. HUGH W. FELLOWS, Cahuenga, and IRA A. CAMMETT, Hollywood, Cal. Filed Sept. 15, 1905. Serial No. 278,590.



1. In a trolley pole support, a pivotally supported rigid pole, a spring for raising said pole into operative contact with the wire, a jointed brace through which the raising effect of said spring is transmitted to said pole, means for normally holding said brace in its operative position spring actuated means for releasing it from such operative position when the pole is raised above the wire, whereby the pole is permitted to drop below the wire, means for limiting the upward movement of the pole, and mechanism for moving said limiting means out of operative position.

2. In a trolley pole support, a base, a part pivoted on said base, a pole arm pivoted on said part, a jointed brace between said part and said pole arm for supporting the latter, means providing pivotal and longitudinal movement between said brace and one of the parts between which it extends, and a projection positioned to engage said brace and maintain it in an approximately right line when the free end of the pole is in operative contact with the trolley wire and to release said brace when the pole rises above its operative position.

3. In a trolley pole support, a base, a tooth on said base, a part pivoted on said base, a dog on said part for engaging with said tooth, a pole arm pivoted on said part, a jointed brace between said part and said pole arm for supporting the latter, a projection on said part positioned to engage said brace and maintain it in an approximately right line when the free end of the pole is in operative contact with the trolley wire and to release said brace when the pole rises above its operative position, and means for holding said dog out of engagement with said tooth when said brace is in its right line position.

4. In a trolley pole support, a base, a part pivoted on said base, a pole arm pivoted on said part, a jointed brace between said part and said pole arm for supporting the latter, means for normally engaging said brace to maintain it in an approximately right line, said engaging means being constructed and fitted to release said brace when said arm is raised above its operative position, and means on said base for returning said brace to its approximately right line position and for reëngaging it with said engaging means when said pole arm is manually lowered.

5. In a trolley pole support, a base, a part pivoted on said base, a pole arm pivoted on said part, a jointed brace between said part and said pole arm for supporting the latter, means for normally maintaining said brace in an approximately right line, said maintaining means being constructed and fitted to release said brace when said arm is raised above its operative position, and a dash pot for retarding the dropping of said pole arm.

6. In a trolley pole support, a pivotally supported rigid pole, means for raising the contact end of the pole into operative position against the wire, means for releasing said raising means and thereby permitting the pole to drop to a non-operative position below the wire, said releasing means being operated by an upward angular movement of the entire pole from its operative position, the angle of releasing movement of the pole being independent of the angle of such operative position and means disengageable from its operative position by an additional downward movement of the pole for preventing the raising of the pole from such non-operative position.

7. In a trolley pole support, a pivotally supported rigid pole, means including a toggle brace for holding the contact end of the pole into operative position against the wire, means for releasing said raising means and thereby permitting the pole to drop to a non-operative position below the wire, said releasing means being operated by an upward angular movement of the entire pole from its operative position, the angle of releasing movement of the pole being independent of the angle of such operative position, means for preventing the raising of the pole from such non-operative position, and means for disengaging said preventing means operative by a further downward movement of the pole.

8. In a trolley pole support, a pivotally supported rigid pole, means for raising the contact end of the pole into operative position against the wire, means for releasing said raising means and thereby permitting the pole to drop to a non-operative position below the wire, said releasing means being operated by an upward angular movement of the entire pole from its operative position, the angle of releasing movement of the pole being independent of the angle of such operative position, and disengageable means including a rack and a dog engageable in said rack for preventing the raising of the pole from such non-operative position.

9. A trolley pole support, a base, a part pivoted on said base, a pole arm pivoted on said part, a jointed brace between said part and said pole arm for supporting the latter, means for normally maintaining said brace in an approximately right line, said maintaining means being constructed and fitted to release said brace when said arm is raised above its operative position, whereby the weight of said arm operates to fold said brace and to permit the pole arm to drop to a non-operative position, and means engageable and disengageable by the movement of said brace for preventing the raising of said pole arm from such non-operative position.

10. In a trolley pole support, a base, a tooth on said base, a part pivoted on said base, a dog on said part for engaging with said tooth, a pole arm pivoted on said part, a jointed brace between said part and said pole arm for supporting the latter, a projection on said part positioned to engage said brace and maintain it in an approximately right line when the free end of the pole is in operative contact with the trolley wire and to release said brace when the pole rises above its operative position, and connections between said brace and said dog, whereby the movement of said brace operates to engage and disengage said dog from said tooth, for the purpose specified.

866,350. PENCIL. WALTER C. FOWLER, Trenton, N. J. Filed May 27, 1907. Serial No. 375,863.

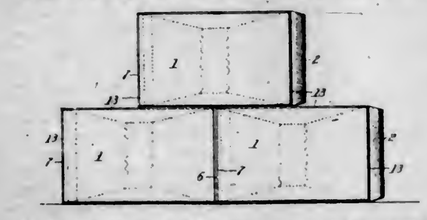
1. A pencil, comprising a body having a longitudinal bore and a slot opening therein, a lead loosely mounted in said bore and a clip having an intermediate portion encircling the pencil body, a forward end portion constituting a spring tongue to engage the lead laterally and

hold the same in the bore, and an angular heel portion to engage the end of the lead and move said lead longitudinally in the bore.



2. A pencil, comprising a body having a longitudinal bore and a slot opening therein, a lead loosely mounted in said bore and a clip consisting of a ring slidably mounted on the pencil body having an angular piece of metal secured thereto entering the slot provided with a spring tongue at one end to exert lateral pressure on the lead and an angular heel on the other to move the lead in the bore.

866,351. BUILDING-BLOCK. LESTER R. FRANKLIN, New York, N. Y. Filed Feb. 15, 1907. Serial No. 357,510.



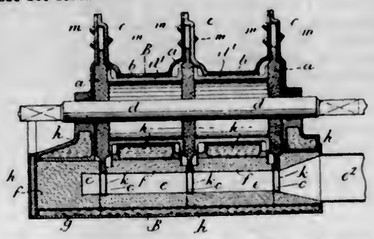
1. A building block, having complementary tongues and grooves at its opposite ends, adapted to interlock with similar blocks when laid end-for-end, and grooved longitudinally at the top and bottom and provided with a central hole toward which the top and bottom grooves converge, such blocks adapted to be laid in courses with the blocks of each successive course breaking joints with the blocks of the next lower course and with the central holes in the blocks of each course coming over the meeting edges of the blocks of the next lower course and thereby forming channels through and into which binding material may be introduced to bind the blocks in courses.

2. A building block, having complementary combined tongues and grooves at its opposite ends, adapted to interlock with similar blocks when laid end-for-end, and grooved longitudinally at the top and bottom and provided with a central spirally grooved hole toward which the top and bottom grooves converge, such blocks adapted to be laid in courses with the blocks of each successive course breaking joints with the blocks of the next lower course and with the central holes in the blocks of each course coming over the meeting edges of the blocks of the next lower course and thereby forming channels through and into which binding material may be introduced to bind the blocks in courses.

3. A wall constructed of building blocks, each block having complementary tongues and grooves at its opposite ends to interlock when laid end-for-end, and grooved longitudinally at the top and bottom, and provided with a central hole toward which the top and bottom grooves converge, said blocks laid in courses with the blocks of each sucessive course breaking joints with the blocks of the next lower course, so that the central holes in the blocks of each course come over the meeting edges of the blocks of the next lower course, whereby channels are formed between the courses and through the blocks, adapted to convey mortar through the holes in the blocks of the upper course to bind the blocks and courses below.

866,352. INTERNAL-COMBUSTION ENGINE OF THE TURBINE TYPE. HUGH F. FULLAGAR and JAMES F. BOTTOMLEY, Newcastle-upon-Tyne, England. Filed Nov. 30, 1906. Serial No. 345,823.

1. In an internal combustion engine of the turbine type, a tube or passage of refractory and practically non-conducting and non-expanding material through which highly heated products of combustion can flow at a great velocity, a metal frame or casing holding the parts of said tube or passage in correct alinement, and means for cooling said frame or casing and maintaining the co-acting parts at temperatures proportioned inversely to their co-efficients of expansion, substantially as described for the purpose set forth.



2. In an internal combustion engine of the turbine type, a tube or passage of refractory and practically non-conducting and non-expanding material open at each end and through which highly heated products of combustion can flow at a great velocity, and a frame or casing surrounding said tube or passage and having a water jacket adapted to maintain it at the required temperature relative to that of the refractory material inclosed thereby, substantially as described for the purpose set forth.

3. In an internal combustion engine of the turbine type, a tube or passage having its inner walls formed of fused silica and open at each end for the flow of highly heated gases at a great velocity therethrough, a metal frame or casing in which said tube or passage is firmly held with its parts in correct alinement, and means for carrying away such heat as reaches said frame or casing from said tube or passage.

4. In an internal combustion engine of the turbine type, a tube or passage formed of refractory and practically non-conducting and non-expanding material, the passageway therethrough being open at each end and reversely curved in the direction of its length, a metal frame or casing surrounding said tube or passage, and means for carrying away such heat as reaches said frame or casing from the tube or passage.

5. In an internal combustion engine of the turbine type, a tube or passage of refractory and practically non-conducting and non-expanding material through which highly heated products of combustion can continuously flow at a great velocity, turbine wheels extending into and across said tube or passage, and a water jacketed frame or casing surrounding the said material and arranged to support the same on the sides thereof adjacent to the sides of the wheels.

6. In an internal combustion engine of the turbine type, blocks of refractory and practically non-conducting and non-expanding material arranged near together and having a reversely curved passageway open at each end extending lengthwise therethrough for the flow of highly heated products of combustion at a great velocity, a water jacketed frame or casing surrounding said blocks and holding the same in correct alinement, and turbine wheels comprising a plurality of rotary rings of turbine blades extending transversely through said frame or casing and into said passageway.

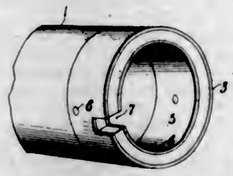
7. In an internal combustion engine of the turbine type, blocks of refractory and practically non-conducting and non-expanding material arranged near together and having a reversely curved passageway open at each end extending lengthwise therethrough for the flow of highly heated products of combustion at a great velocity, a water jacketed frame or casing surrounding said blocks and holding the same in correct alinement, parts of said water jacketed frame or casing extending between and so as to form portions of the side walls of transverse channels between said blocks, and turbine wheels comprising a plurality of rotary rings of turbine blades extending transversely through said frame or casing and channels and across said passageway.

8. In an internal combustion engine of the turbine type, the combination with turbine wheels and a main inclosing casing of a substantially continuous tube or passage for the hot gases constructed of or lined with a refractory and practically non-expanding and non-conducting material and across which said turbine wheel extends, a frame or casing for firmly holding the parts of said material in correct alinement, and means for carrying away heat from said frame or casing and prevent it passing to the main casing and maintaining said frame or casing and tube or passage at temperatures proportioned inversely to their co-efficients of expansion.

9. In an internal combustion engine of the turbine type, the combination with a plurality of rotary rings of turbine blades, and a main inclosing casing, of a substantially continuous passage for the hot gases, said tube or passage being constructed of a refractory and practically non-corrosive non-conducting material with transversely arranged segmental channels into which the rotary rings of blades extend, and being reversely curved in the direction of its length to direct the hot gases at the required angles against the successive rings of blades, a frame or casing for firmly holding said non-conducting material in place with the successive portions of the passage in correct alinement, and means for carrying away such heat as reaches said frame or casing from the refractory material.

10. An internal combustion engine of the turbine type, comprising a plurality of rotary turbine wheels fixed upon a common shaft, a casing inclosing said turbine wheels except at one side through which said wheels project, a body of refractory non-corrosive and practically non-conducting and non-expanding material having a substantially continuous passageway extending lengthwise therethrough, and transverse segmental channels therein at intervals of its length into which said turbine wheels extend, a water jacketed metal frame or casing that surrounds and firmly holds said refractory material in place, fits into said main frame or casing, and through which said rotary turbine wheels extend into the transverse channels and across the passageway, the inlet end of said passage being made of a section that gradually contracts towards the portion which forms the nozzle by which the gases enter the turbine, and then increases in steps towards the outlet end of said passage, the intermediate portion of the passage being reversely curved in the direction of its length, substantially as described for the purpose specified.

866,353. WINDING-CORE. JOHN H. GATELY, Bellows Falls, Vt. Filed Jan. 30, 1907. Serial No. 354,900.

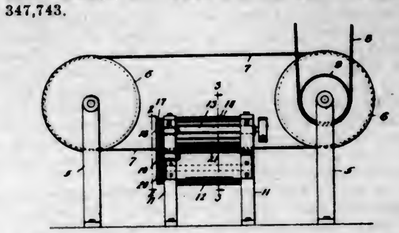


1. A tubular winding core having annular recesses in the inner and outer faces thereof, a continuous interior sleeve of uniform thickness secured within the inner recess, and a similar but larger sleeve secured within the outer recesses, said sleeves being separate and the sleeves and one end of the core having registering notches.

2. A tubular winding core having annular recesses in the inner and outer faces thereof, separate pipe sections within the inner and outer recesses, said sections and one end of the core having registering notches, and a fastening device extending through both sections and the core for securing the sections within the recesses.

3. A tubular winding core having annular recesses in the inner and outer faces thereof, separate pipe sections within said recesses, one of said sections having a notch in its outer edge, and a fastening device extending through the sections and the core to secure the sections within the recesses.

866,354. FAT-BACK-SKINNING MACHINE. AUSTIN M. GILL, Chicago, Ill. Filed Dec. 14, 1906. Serial No. 347,743.

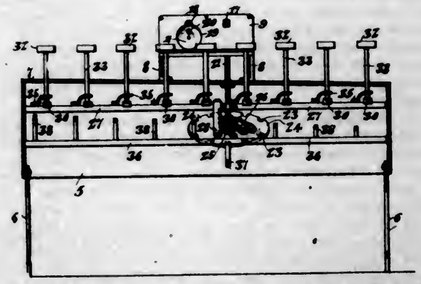


1. The combination in a fat back skinning machine, of a traveling band knife moving horizontally and continuously in one direction and rollers for feeding the fat back across such knife, one of said rollers upon the skin side being unyielding, and the roller upon the fat side being yielding and having longitudinal feeding ridges or projections.

2. The combination in a fat back skinning machine, of a traveling band knife moving horizontally and continuously in one direction, and rollers for feeding the fat back across such knife, one of said rollers being made yielding, and armed with longitudinal ridges or projections for feeding purposes.

3. The combination in a fat back skinning machine, of a traveling band knife moving continuously in one direction, a guide for supporting said knife at the point of cutting, and means for feeding the fat back across said knife, such feeding means having ridges, projections or teeth engaging the fat back upon the fat side.

866,355. ADDING-MACHINE. FREDERICK B. GLENN, Lynchburg, Va., assignor of one-half to James H. Guthrie, Lynchburg, Va. Filed Dec. 27, 1906. Serial No. 349,690.



1. In adding mechanism of the character described, the combination with a casing, of registering mechanism located upon the casing, an upwardly extending shaft connected to the registering mechanism and having its lower end within the casing, a rock shaft located longitudinally within the casing and disposed in angular relation to the upright shaft, gearing connecting the shafts and including ratchet mechanism, and numeral keys located on the casing and having stems that project into the casing and effect the operation of the rock shaft.

2. In adding mechanism of the character described, the combination with a frame casing, of a register casing located upon the top of the frame casing and having its front face disposed at an inclination, registering mechanism located in the register casing, an upwardly extending inclined shaft having its upper end connected to the

registering mechanism and having its lower end within the frame casing, a substantially horizontal rock shaft located longitudinally within the frame casing, gearing connecting the shafts and including ratchet mechanism, arms projecting from the rock shaft, and numeral keys located upon the top of the casing and having stems extending downwardly into the same and coöperating with the arms to effect the operation of the rock shaft.

3. In adding mechanism of the character described, the combination with registering mechanism, of an upwardly extending shaft connected thereto, a rock shaft disposed transversely of the upwardly extending shaft, a gear loosely journaled on said upwardly extending shaft, a segmental gear fixed to the rock shaft and meshing with the loose gear, a support fixed to the upwardly extending shaft, a dog pivoted on the support and engaging with the gear, numeral keys, and means for transmitting motion from the numeral keys to the rock shaft.

4. In adding mechanism of the character described, the combination with registering mechanism, of an upstanding rotary shaft associated therewith, a rock shaft, a pinion journaled on the rotary shaft, a support for the pinion secured to the shaft below said pinion, a dog mounted on the upper side of the support and coöperating with the pinion, gearing connected to the rock shaft and associated with the pinion, and numeral keys for effecting different movements of the rock shaft.

5. In adding mechanism of the character described, the combination with registering mechanism including coacting number wheels, of an upwardly extending shaft fixed at its upper end to the center of one of the wheels, a rock shaft disposed transversely of the lower end of the upwardly extending shaft, a segmental gear fixed to the rock shaft, a support fixed to the lower end of the upwardly extending shaft, a gear loosely journaled on said upwardly extending shaft and resting upon the support, said gear being in mesh with the segmental gear of the rock shaft, a dog carried by the support and engaging the loose gear, numeral keys, and mechanism for transmitting motion from the numeral keys to the rock shaft.

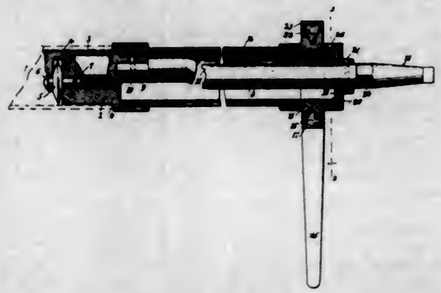
6. In adding mechanism of the character described, the combination with registering mechanism, of an upstanding rotary shaft associated therewith, a rock shaft, a pinion element journaled on the rotary shaft, a supporting element for the pinion element secured to the shaft below the pinion element, said pinion element resting upon the supporting element, a dog mounted on one of the elements and coöperating with the other to prevent their relative movement in one direction and permit their relative movement in an opposite direction, gearing connected to the rock shaft and associated with the pinion element, and number keys for effecting different movements of the rock shaft.

7. In adding mechanism of the character described, the combination with registering mechanism, of an upwardly extending shaft connected at its upper end thereto, a toothed wheel fixed to the lower end of the shaft, a gear loosely journaled on the shaft above the toothed wheel and supported thereby, a rock shaft having a segmental gear in mesh with the loose gear, a plurality of keys having independent connections with the rock shaft, another rock shaft disposed below and substantially parallel to the first mentioned rock shaft, said latter shaft having a plurality of outstanding arms located in the path of movement of the keys and at different distances therefrom, and a stop dog carried by the latter rock shaft and movable into coaction with the toothed wheel of the upwardly extending shaft.

8. In adding mechanism of the character described, the combination with registering mechanism, of a rotatable shaft connected thereto, a rock shaft, numeral keys for operating the rock shaft, gears, one of which is carried by the rock shaft, another being journaled on the rotatable shaft, a toothed wheel fixed to the rotatable shaft, a dog mounted on the wheel and coöperating with the gear that is journaled on said rock shaft, and an overthrow preventing dog movable into and out of coöperation with the toothed wheel.

9. In adding mechanism of the character described, the combination with registering mechanism, of a rotatable shaft connected thereto, a toothed wheel fixed to the rotatable shaft, a pinion journaled on the rotatable shaft, a dog carried by the toothed wheel and coöperating with the pinion, a rock shaft having a quadrant-gear coöperating with the pinion, a plurality of outstanding arms carried by the rock shaft, reciprocatory numeral keys that engage the arms to operate the same, and thereby the rock shaft, another rock shaft having outstanding arms disposed beneath the first mentioned arms and the keys, and a stop dog carried by the second rock shaft and movable into and out of coöperation with the teeth of the wheel that is fixed to the rotatable shaft.

866,356. PIPE-CUTTER. FERDINAND G. HAAS, Springfield, Mo. Filed Jan. 3, 1907. Serial No. 350,592.



1. The combination with an outer tubular casing, of a socket-head secured to one end of said casing, and provided with an eccentric socket, a friction-head secured to the opposite end of said casing, a cutter-head journaled in said socket, a rotatable cutter eccentrically mounted on said cutter-head, a rod fixedly attached at one end to said cutter-head and journaled at its opposite end to said friction-head, a sleeve fixedly secured to said rod, adapted to partially rotate on said friction-head, and means for rotating said casing and connecting mechanism, substantially as shown and described.

2. The combination with an outer tubular casing, of a socket-head secured to one end of said casing, and provided with an eccentric socket, a cutter-head journaled in said socket-head, a rotating cutter eccentrically mounted on said cutter-head, a rod secured to said cutter-head, a friction-head secured to one end of the casing and provided with a bearing for said rod, an annular flange formed on said friction-head, and a frictional clamping device adapted to engage said flange, substantially as shown and described.

3. The combination with a socket-head provided with an eccentric socket, of a cutter-head journaled in said socket, a rotating cutter eccentrically mounted on said cutter-head, a casing secured at one end to said cutter-head, a friction-head secured to the opposite end of said casing and provided with a flange having an annular recess, a rod fixedly secured to said cutter-head and journaled in said friction-head, a sleeve fixedly attached to said rod, having a bearing on the end of said head, and a circular clamp having a ring of fiber connected therewith adapted to engage the recess of said flange in frictional contact, substantially as shown and described.

4. The combination with a socket-head provided with an eccentric socket, of a cutter-head journaled in said socket, a rotating cutter eccentrically mounted on said cutter-head, a casing secured at one end to said cutter-head, a friction-head secured to the opposite end of said casing and provided with a bearing flange, a rod fixedly secured to said cutter-head and journaled in the flange of said friction-head, a sleeve fixedly attached to said rod, having a loose bearing on the end of said friction-head, and means for rotating said rod and casing, substantially as shown and described.

5. The combination with a tubular casing, of a socket head arranged at one end of said casing and provided with a socket eccentric thereto, a cutter head journaled in said socket, a rotatable cutter eccentrically mounted on said cutter head, a rod fixedly attached at one end of said cutter head and journaled at its other side concentric with said casing, and means for retarding the rotation of said casing relatively to said rod, substantially as shown and described.

6. The combination with an outer tubular casing, of a socket head mounted on one end of said casing and provided with an eccentric socket, a cutter head journaled in said socket, a rotatable cutter eccentrically mounted on said cutter head, a friction head secured to the opposite end of said casing, a rod fixedly attached to one end of said cutter head and journaled at its opposite end on said friction head concentric with said casing, and means connected with said rod adapted to limit the rotation of said casing relatively to said rod, substantially as shown and described.

866,357. FLASHING-FASTENER. WILLIAM HAMMANN, Milwaukee, Wis. Filed May 3, 1907. Serial No. 371,652.



1. A device of the character described embodying a shank having its longitudinal edges turned up to form a pair of reversely inclined flanges, which diverge relatively as they proceed from the shank and a securing arm turned laterally toward that side of the shank opposite to the flanges.

2. A device of the character described embodying a shank having its longitudinal edges turned up to form a pair of reversely inclined lateral flanges which diverge relatively to one another toward their free edges, and a securing portion forming a continuation of the shank.

3. A device of the character described composed of sheet metal embodying a shank having its longitudinal edges turned up to form a pair of flanges having their forward ends shaped to form a tapered end or point, and an integral flat arm projecting laterally substantially at right angles to the axis of the shank and bent flatwise of the metal.

4. A device of the character described formed from a strip of sheet metal and embodying a shank portion having its longitudinal edges turned up to form a pair of lateral flanges their forward ends being shaped to form a pointed end, and a substantially flat arm turned downwardly substantially at right angles to the axis of the shank and in a direction flatwise of the metal, the longitudinal edges of the arm forming continuations of said flanges.

866,358. PRINTER'S QUOIN. HENRY A. HEMPEL, Buffalo, N. Y. Filed June 10, 1907. Serial No. 378,123.



1. The combination of a pair of quoins, one having a longitudinal rib and the other a guide groove adapted to receive said rib, said rib and the wall of said groove having interlocking means, and yielding means arranged to press said rib laterally against said wall, substantially as set forth.

2. The combination of a pair of quoins, one having a longitudinal rib and the other a guide groove adapted to receive said rib, said rib being provided on its side with means constructed to interlock with the opposing wall of said guide-groove, and a spring for pressing said rib laterally against said wall, substantially as set forth.

3. The combination of a pair of quoins, each having a longitudinal rib and a lug having a guide-groove adapted to receive the rib of the other quoin, said ribs being provided on their sides with locking faces and the walls of said groove having similar faces adapted to engage with those of the ribs, and springs arranged in said grooves and acting to press said ribs laterally into engagement with the locking faces of the grooves, substantially as set forth.

4. A quoin provided on its face side with a longitudinal rib and a lug having a groove adapted to receive the rib of an opposing quoin, the rib and a wall of the groove having locking faces, and a spring located in said groove opposite the wall having said locking faces, and arranged to press the rib of an opposing quoin laterally against said wall, substantially as set forth.

5. The combination of a quoin provided on its face side with a longitudinal rib having locking teeth on its side, a lug having a groove adapted to receive the rib of an opposing quoin and an opening leading to said groove adjacent to one of its walls, the opposite wall of the groove having locking teeth adapted to interlock with the toothed rib of an opposing quoin, and a spring located in said opening and extending into said groove, and arranged to press the rib of an opposing quoin laterally against said wall, substantially as set forth.

6. The combination of a quoin provided on its face side with a longitudinal rib, a lug having a groove adapted to receive the rib of an opposing quoin and a cylindrical opening extending from the back of the quoin into said groove, the rib and one of the walls of said groove having locking faces, and a spring-blade driven into said opening and extending into said groove, substantially as set forth.

7. The combination of a quoin provided on its face side with a longitudinal rib, and a lug having a groove adapted to receive the rib of an opposing quoin, one of the walls of said groove having locking faces, and a spring extending into said groove opposite the wall thereof having the locking faces and arranged obliquely to said wall, substantially as set forth.

8. The combination of a quoin provided on its face side with a longitudinal rib having a tapering front end and a lug having a groove adapted to receive the rib of an opposing quoin, one of the walls of said groove having locking faces, and a spring extending into said groove opposite the wall thereof having the locking faces and arranged obliquely to said wall, substantially as set forth.

866,359. TRIPHENYLMETHAN DYE AND PROCESS OF MAKING SAME. WILHELM HERZBERG, Berlin, and OSWALD SCHARFENBERG, Schöneberg, near Berlin, Germany, assignors to Actien Gesellschaft für Anilin Fabrikation, Berlin, Germany. Filed Mar. 28, 1907. Serial No. 365,206.

1. The hereinbefore described process of making new dyestuffs of the triphenylmethan series, which process consists in condensing an alkylbenzylanilin sulfonic acid with an arylsulfonic ether of an oxyaldehyde having the general formula

$$R_1.C_6H_3\begin{cases}CHO\ (1)\\OR\ (2)\end{cases}$$

defined in the foregoing specification to form a leucodisulfonic acid, and then oxidizing the intermediate leuco compound.

2. As new articles of manufacture the new dyestuffs of the triphenylmethan series which may be obtained by condensing an alkylbenzylanilin sulfonic acid with an arylsulfonic ether of an oxyaldehyde having the general formula

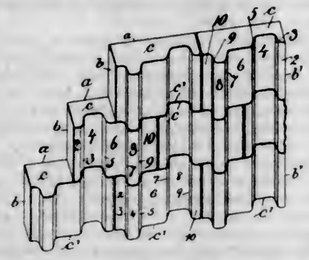
$$R_1.C_6H_3\begin{cases}CHO\ (1)\\OR\ (2)\end{cases}$$

defined in the foregoing specification and then oxidizing the intermediate leuco-compound, which dyestuffs dye wool in an acid bath clear green tints which are satisfactorily fast to washing, these dyestuffs dissolving in water to a green solution, from which solution on addition of caustic soda lye or of hydrochloric acid green flakes separate, and being soluble in alcohol namely partially in the cold and totally on boiling, the solution thus obtained showing a green tint, and which dyestuffs in concentrated sulfuric

acid dissolve to a yellow-brown solution, the color of which on addition of ice turns to green.

3. As a new article of manufacture the new dyestuff of the triphenylmethan series which may be obtained by condensing ethylbenzylanilin sulfonic acid with the para-toluenesulfonic ether of salicyl aldehyde and oxidizing the intermediate leuco-compound, which dyestuff dyes wool in an acid bath a clear green tint which is satisfactorily fast to washing, this dyestuff dissolving in water to a green solution from which solution on addition of caustic soda lye or of hydrochloric acid green flakes separate, and this dyestuff being soluble in alcohol, namely partially in the cold and totally on boiling, the solution thus obtained showing a green tint, and which dyestuff in concentrated sulfuric acid dissolves to a yellow-brown solution, the color of which on addition of ice turns to green.

866,360. CONCRETE BLOCK. ISAAC B. HILL, Plainfield, N. J. Filed Apr. 25, 1907. Serial No. 370,124.



1. A series of similar concrete blocks forming the outer surface of a wall and a series of similar blocks in a reversed position forming the inner surface of a wall, each block having an outer plain face, plain end faces and plain top and bottom faces and a face opposite to the outer plain face of irregular surface, in which there are three surfaces in the same plane and in a plane parallel to the outer plain surfaces, three surfaces at one end that form a recess toward the outer plain surface and three surfaces at the other end to extend away from or form a projection from the outer plain surface with the blocks of the superimposed layers reversed with reference to one another and with broken joints, and the blocks of each horizontally disposed layer reversed in position and spaced apart so that between said blocks a tortuous or six-zag passage-way is formed which is vertically disposed and continuous as a dead-air space for the height and length of the wall.

2. A series of similar concrete blocks forming the outer surface of a wall and a series of similar blocks in a reversed position forming the inner surface of a wall, each block having an outer plain face, plain end faces and plain top and bottom faces and a face opposite to the outer plain face of irregular surface, in which there are three surfaces in the same plane and in a plane parallel to the outer plain surfaces, three surfaces at one end that form a recess toward the outer plain surface, three surfaces at the other end to extend away from or form a projection from the outer plain surface with the blocks of the superimposed layers reversed with reference to one another and with broken joints, and the blocks of each horizontally disposed layer reversed in position and spaced apart so that between said blocks a tortuous or zig-zag passage-way is formed which is vertically disposed and continuous as a dead-air space for the height and length of the wall, and blocks forming the corner or angle of a wall which are formed out of the regular side blocks and that correspond to the major portion of their section which are also to be laid in opposition.

3. A concrete block having an outer plain face, plain end faces and plain top and bottom faces and a central surface parallel with the outer face, a recess at one side of the central surface and a projection at the other side and end surfaces forming extensions of the central surface beyond the recess and projection and in the same plane.

4. A concrete block having an outer plain face, plain end faces and plain top and bottom faces, a central surface parallel with the outer face, a recess at one side of the central surface and a projection at the other side, said recess being of sufficiently greater area than the said projection so that when a projection is received in the recess with the parts in opposition a tortuous passage-way is formed between the parts.

5. A concrete corner block having an outer plain face and plain end faces at right angles thereto, one of which is adapted to come at the corner of a wall and agree with half the area of the plain outer face of the block, an end surface parallel with the outer face forming at one end a maximum width for the block and an inner face having two parts in line and parallel with the outer plain face and between which is a recess extending toward the outer face.

6. A series of similar concrete blocks forming the outer surface of a wall and a series of similar blocks in a reversed position and spaced apart from the first series and forming the inner surface of a wall, each series being arranged in superimposed layers reversed with reference to one another and with broken joints and each block of the respective series having an outer plain face, plain end faces and plain top and bottom faces and an inner face opposite to the outer plain face of irregular surface, in which there are three surfaces in the same plane and in a plane parallel to the outer plain surfaces, three surfaces at one end that form a recess toward the outer plain surface and three surfaces at the other end, that extend away from or form a projection beyond the outer plain surface, and blocks forming the corner or angle of a wall which are formed out of the regular side blocks and that correspond to the major portion of their section and which are also reversed or laid in opposition.

866,361. DRILL ATTACHMENT. WILBER R. HITCHCOCK, Cornwall, Ontario, Canada. Filed Mar. 18, 1907. Serial No. 362,938.



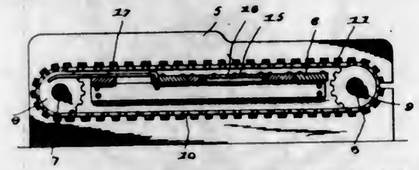
1. In a coupling device for drill bits, a shank provided with a dove-tailed slot, and a kerf extending therefrom into the body of said shank, a bit, a wedge-shaped coupling member formed integrally therewith and adapted for insertion into and removal from the aforesaid slot, and a sleeve slidably mounted upon the aforesaid shank, and adapted to overlie the slot and coupling member therein to retain the same against removal.

2. In a coupling device for drill bits, a shank provided with a dove-tailed slot, and a kerf extending therefrom into the body of said shank, a bit, a wedge-shaped coupling member formed integrally therewith and adapted for insertion into and removal from said slot, shoulders on said bit, a sleeve slidably mounted on the aforesaid shank, said sleeve being adapted to overlie and lock in place the aforesaid coupling member, the lower edge of said sleeve being adapted to engage with the aforesaid shoulder on the aforesaid bit.

3. In a coupling device for drill bits, a shank having a screw-threaded portion, a removable bit adapted to be held in said shank, a counterbored locking sleeve slidably mounted on said shank, the counter-bore of said sleeve being adapted to partially inclose the aforesaid threaded portion, and means for locking said sleeve in operative position.

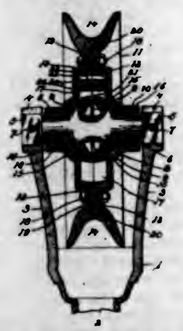
4. In a coupling device for drill bits, a shank, having a dove-tailed slot in the end thereof, and a kerf leading from said slot into the said shank, a bit, a wedge-shaped coupling member formed integrally therewith, retaining shoulders on said bit, a locking sleeve slidably mounted on said shaft, said sleeve adapted to overlie said slot and coupling member to retain the same in coupled relation, the lower end of said sleeve being adapted to abut against and rest upon the aforesaid shoulders, and a nut adapted to engage the aforesaid screw-threads and bear against the upper end of the said sleeve to hold the same against upward movement.

866,362. CORN-SHELLER SEPARATOR. SILAS HOUTS, Weeping Water, Nebr. Filed Sept. 13, 1906. Serial No. 334,499.



A device of the class described comprising a frame including a floor, an endless conveyer having one of its runs arranged for travel over the floor, said floor being provided with openings, a screen disposed upon the floor and across one of the openings, and rods each having one of their ends engaged through the floor at the inner edge of the other opening and threaded, a nut engaged upon the threaded end of each rod and arranged to rigidly connect it with the floor, said rods being extended above the opening and beyond the corresponding end of the floor and having their ends turned slightly downwardly outside of the end of the floor.

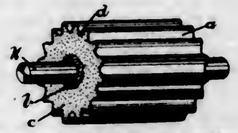
866,363. TROLLEY-WHEEL. HENRY L. HUMPHREY, Monroe, Mich. Filed Oct. 12, 1906. Serial No. 338,534.



1. The combination of a trolley harp having arms provided with longitudinal dovetail slots at its ends, a bearing member formed with a globular portion intermediate its ends and having tenoned ends engaging said slots, means for securing the tenons of the bearing member in said slots comprising pins passing transversely through the arms and tenons, and a two part trolley wheel formed with a socket to engage the globular portion of the bearing member and turn thereon.

2. The combination of a trolley harp having arms provided at their outer ends with longitudinal dovetail slots, a journal having a globular central portion and cylindrical alined arms with tenons engaging the harp slots, transverse pins through the arms and tenons, with a trolley wheel having a hub parted on its medial transverse plane, adapted to rotate and oscillate in a limited arc on the journal, a flange integral with one part of the hub offset from the wheel center, a peripherally grooved rim integral with the flange centrally disposed between the assembled hub ends, a flange on the other part of the hub offset symmetrically with the first flange and seated thereon at its periphery, bolts securing the abutting portions of the flanges, an outwardly closing spring-seated oil valve through the latter flange communicating with the annular space between them, an inverted triangular peripheral groove in the globular portion of the journal and a central groove in the assembled hub adapted to register with the journal groove.

866,364. SPINNING-ROLLER. FREDERICK HUTCHINS, Harlesden, England. Filed Oct. 30, 1905. Serial No. 285,173.



1. A roller, for use in the treatment of fibrous materials, provided with a rigid axial core, a thin outer covering of fluted material, and an intervening filling of elastic material within, the said flutes constituting the teeth of the roller supported internally with rigid material secured to the elastic body, substantially as described and shown by the drawings.

2. A roller involving a rigid axial core, an outer covering corrugated to form a fluted surface, and an elastic material arranged between the core and the covering, said elastic material forming a yieldable support for the fluted portion of the covering.

866,365. PROPELLER. GEORGE W. JACKSON, Philadelphia, Pa. Filed Jan. 31, 1907. Serial No. 355,006.



1. In a propeller, a blade having a hub portion, a hub member which is separate from said portion, said member and portion having each a central bore to receive a propeller shaft, and a series of openings surrounding said central bore, and separate devices for adjusting and securing the blades on said member, said devices extending parallel through said portion and member.

2. In a propeller, a plurality of blades, each having a hub portion, a hub member from which the hub portions are separate, means on said portions and member for adjusting the blades, and separate means on said portions and member for clamping the same, said means being respectively parallel said hub member and the hub portions of the blades having each a bore to receive a propeller shaft.

3. In a propeller, a plurality of blades, a hub member and fastening devices, said blades being separable from said member and provided in their hub portions with central shaft-receiving openings, and matched openings surrounding the same, said hub member having a series of projections adapted to occupy certain of said matched openings, and openings to receive said fastening devices, which are also adapted to enter other openings of said blades.

4. A propeller composed of seperable blades, and a hub member, said blades having hub portions provided with matched openings, projections on said hub member adapted to receive a respective number of the openings of said hub portions, fastening devices adapted to pass through said hub member and other openings in the hub portion, and means for tightening said devices.

5. In a propeller, a blade, and a hub member, said blade

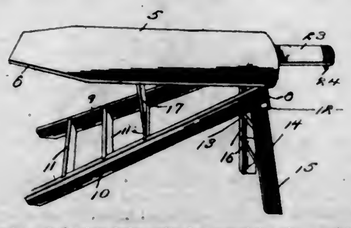
being separable from said member, a bolt passed through said member and the hub portion of said blade, a tightening device on said bolt, and a closure for said hub portion over the end of the tightening device thereat.

6. In a propeller, a blade, and a hub member, said blade being separate from said member, a securing bolt passing through said member and hub portion of said blade, a nut on said bolt, and a closure over said nut and adjacent end of the bolt, the same being adapted to be secured to the shaft of the propeller.

7. In a propeller, a blade having a hub portion, a hub member, which is separate from said portion, said member and portion having central bores respectively to receive a propeller shaft, and openings between said bores and the peripheries of said parts, a stud projecting from the side of said hub member adapted to enter an opening in the hub portion, and a bolt adapted to be passed through another opening in said portion, said stud and bolt being adapted to extend in the direction of the length of the propeller shaft.

8. In a propeller shaft, a plurality of blades, each having a hub portion, a hub member which is separate from said portion, said portion and member having bores therein to receive a propeller shaft, and having a plurality of openings around said bore, a stud projecting from said member adapted to enter one of the openings of said hub portion, and a bolt adapted to pass through another opening of said hub portion, and a corresponding opening in the hub member, and means for tightening said bolts, said openings, stud and bolt extending in the direction of the length of the propeller shaft.

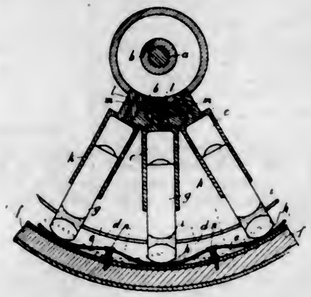
866,366. COMBINED IRONING-BOARD AND STEP-LADDER. OLE H. JACOBSON, Oak City, Utah. Filed June 1, 1905. Serial No. 263,277.



A device of the kind described comprising in combination an ironing board having a pair of transverse cleats secured to its under face and provided with alining slots, the upper cleat having trunnions formed on its opposite ends; a larger ladder section comprising sides pivoted upon said trunnions, a top board connecting the upper ends of said sides and provided with a slot in alinement with said first-mentioned slots, and steps secured between the lower portions of the sides, one of said steps having sockets formed therein; a smaller ladder section including sides and connecting steps, the sides of said smaller ladder section being pivotally engaged with the trunnions between the sides of the larger ladder section; a brace board pivotally connected with the lower cleat and provided at its free end with pins adapted to be engaged in said sockets; a hook carried by said brace board; an eye carried by the socketed step and adapted to engage said hook to prevent disengagement of said pins from their sockets; and a supplemental board slidably engaged in the slots in said cleats and movable into and out of position to project beyond the first mentioned board.

866,367. VEHICLE-WHEEL. CURT VON KUSSEROW, Lübbecke, Germany. Filed Jan. 26, 1906. Serial No. 298,035.

1. In a wheel, the combination of a hub and felly, of radially movable spokes interposed therebetween, and means for forcing the ends of said spokes into frictional association with said felly and said spokes being unlimitedly displaceable circumferentially of the felly, and means opposing said displacement by a resistance varying with the amount of said displacement, substantially as described.



2. In a wheel, the combination with a hub and felly, said felly being provided on its inner circumference with an undulating resilient band, of radially displaceable spokes intersposed between said hub and resilient band, and means for forcing said spokes into engagement with said band, substantially as described.

3. In a wheel, the combination with a hub and felly, said felly being provided on its inner circumference with a U-shaped channel, of an undulating resilient band secured within said channel, radially displaceable spokes interposed between said hub and said resilient band, and means for holding the outer ends of said spokes in engagement with said band, substantially as described.

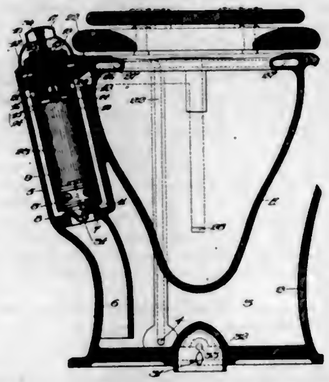
4. In a wheel, the combination with a hub and felly, of an undulating resilient band disposed around the inner circumference of said felly, means for securing said band against circumferential displacement comprising headed pins passing through apertures in said band and secured to said felly, radially displaceable spokes interposed between said hub and resilient band and provided at their ends with slots to allow of passage over said headed pins, and means for forcing said slotted ends of said spokes in engagement with said resilient band, substantially as described.

5. In a wheel, the combination with a hub and felly, of a U-shaped rim secured to the inner circumference of said felly and provided with inwardly disposed lateral flanges, sectional spokes interposed between said hub and rim, the outer section of said spokes being radially displaceable and provided with side recesses adapted to receive the lateral flanges of said rim, and means for forcing outwardly the displaceable sections of said spokes, substantially as described.

6. In a wheel, the combination with a hollow hub forming a closed receptacle, of a felly, a springing resistance member disposed around the inner circumference of said felly, and radially displaceable spokes interposed between said hub and resistance member, comprising an inner and an outer section, said inner section being in the form of a cylinder having an opening communicating with the interior of said hub and said outer section comprising a plunger operating within said cylinder, said cylinders and hub being charged with suitable cushioning fluid, substantially as described.

7. In a wheel, the combination with a hollow hub forming a closed receptacle, of a felly, an undulating resilient band disposed around the inner circumference of said felly, means for securing said band against circumferential displacement, a spoke member comprising a cylinder having an opening communicating with the interior of said hub, a second spoke member comprising a plunger operating in said cylinder and at its outer end engaging said resilient band, said hub and cylinders containing suitable cushioning fluid, substantially as described.

866,368. FLUSHING APPARATUS. PETER W. LANDELL and JOHN B. WILLIAMS, San Francisco, Cal., assignors of one-third to Monroe N. Callender, San Francisco, Cal. Filed Feb. 23, 1906. Serial No. 302,524.



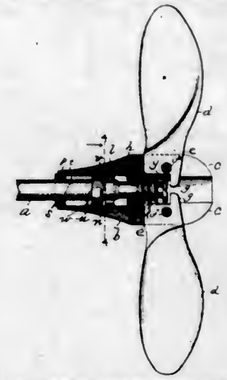
1. A flush valve comprising an outer cylinder, an inner cylinder open at the lower end and supported concentrically within the outer cylinder, said cylinders inclosing between them an annular discharge space, said space connecting around the lower open end of the inside cylinder with an inlet, a piston operating in the inside cylinder, a valve carried by the piston and arranged to close on a seat in said inlet, a plug screwing into the inside cylinder and having a laterally extending annular flange seating on the outside cylinder, said plug having a discharge port opening into the space behind said piston, a push valve normally closing said port, said plug also having a by-pass adapted to be connected with a source of fluid supply under pressure, said by-pass opening into the space behind said piston, and a regulating valve in said by-pass.

2. In a flushing apparatus, the combination with a bowl, of a storage tank inclosing an air pressure chamber, said tank having an inlet connected with a source of fluid supply under pressure, a valve casing arranged inside of the tank and having an enlarged-throat-portion opening downwardly into the tank near the bottom of the latter, said throat-portion having a valve-seat, said valve-casing having an inside cylinder in axial line with said valve-seat, said casing and cylinder inclosing between them an annular passage way communicating around the lower open end of said inside cylinder and through said valve-seat and throat with the interior of the tank, a piston in said inside cylinder, a valve carried by the piston and closable on said valve-seat, a by-pass connected with a source of fluid-supply under pressure and the space behind the piston, said space behind the piston having an outlet, a valve in said outlet, and a push-button to open said valve.

3. In a flushing apparatus, a combined bowl, storage-tank and flush valve casing, said storage tank, bowl and valve casing being formed integral, and said storage tank inclosing an air pressure chamber, said valve casing having a downwardly extending throat-portion opening into the lower part of the storage tank, a piston valve in the casing controlling the discharge from the tank, a push button and suitable fluid connections for controlling the movements of the piston, said casing having a discharge connected with the bowl, said storage tank connected with a source of fluid supply under pressure.

4. In a flushing apparatus, a combined bowl, storage-tank and flush valve casing, said storage tank, bowl and valve casing being formed integral, and said storage tank inclosing an air pressure chamber, said valve casing having a downwardly extending throat-portion opening into the lower part of the storage tank, a piston valve in the casing controlling the discharge from the tank, a push button and suitable fluid connections for controlling the movements of the piston, said casing having a discharge connected with the bowl, said storage tank connected with a source of fluid supply under pressure, said bowl having a soil pipe discharge, and a valved by-pass connecting the storage tank and said soil pipe discharge.

866,369. PROPELLER. ARTHUR W. LEARNARD, Boston, Mass. Filed Feb. 23, 1907. Serial No. 358,992.



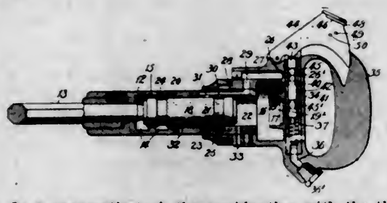
1. In a propeller of the character described, a propeller shaft; a hub or head on said shaft; means intermediate of the shaft and hub or head whereby the rotation of the shaft in opposite directions imparts relative longitudinal movement to the shaft; mechanism intermediate of the shaft and hub or head for imparting rotation to said hub or head in opposite directions at different points in the said longitudinal movement of the shaft; blades pivotally secured at their inner ends to the hub or head and adapted by their shape to spread or swing outward and act as propeller-blades when the shaft is driven in the ordinary direction and to fold when the vessel is drawn through the water by sail or other power not connected with the propeller-shaft; and means for holding the blades in a spread or expanded position when the shaft is reversed.

2. In a propeller of the character described, a propeller-shaft; a hub or head on said shaft and in engagement therewith by means of a screwthread; reverse-shaped teeth extending from two points in the hub; a ring or collar on the shaft between said reverse teeth and provided with two teeth respectively adapted to engage said reverse teeth and thus rotating the hub in opposite directions; means intermediate of the shaft and hub or head whereby the rotation of the shaft in opposite directions imparts relative longitudinal movement to the shaft; blades pivotally secured at their inner ends to the hub or head and adapted by their shape to spread or swing outward and act as propeller-blades when the shaft is driven in the ordinary direction and to fold when the vessel is drawn through the water by sail or other power not connected with the propeller-shaft; and means for holding the blades in a spread or expanded position when the shaft is reversed.

3. In a propeller of the character described, a propeller-shaft; a hub or head on said shaft and in engagement therewith by means of a screwthread; reverse-shaped teeth extending from two points in the hub; a ring or collar on the shaft between said reverse teeth and provided with two teeth respectively adapted to engage said reverse teeth and thus rotate the hub in opposite directions; means intermediate of the shaft and hub or head whereby the rotation of the shaft in opposite directions imparts relative longitudinal movement to the shaft; a flange or ring on the outer end of the shaft; blades pivotally secured at their inner ends to the hub or head and adapted by their shape to spread or swing outward and act as propeller-blades when the shaft is driven in the ordinary direction and to fold when the vessel is drawn through the water by sail or other power not connected

with the propeller-shaft; and extensions at the inner ends of the shanks of the blades projecting into the path of the said flange or ring as the shaft is moved outward whereby the blades are held in an expanded position when the shaft is reversed.

866,370. PNEUMATIC TOOL. HERMAN LEINEWEBER, South Chicago, Ill., assignor of one-half to William M. Bayne, Chicago, Ill. Filed Feb. 27, 1907. Serial No. 359,566.



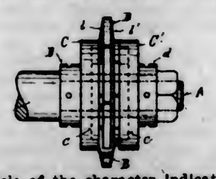
1. In a pneumatic tool, the combination with the throttle-valve, of a trigger on the tool-handle engaging the valve for opening communication with the air-pressure supply, a plurality of holes in the trigger at varying distances from the handle, and a stop supported on the trigger and adjustable into engagement with any said hole to encounter the handle in depressing the trigger and arrest its valve-opening movement, for the purpose set forth.

2. In a pneumatic tool, the combination of a barrel containing pressure-chambers, a handle on the barrel, a piston confined in the barrel to work between said chambers, the rear chamber having an inlet-port communicating with the supply of air-pressure for reciprocating the piston, a throttle-valve controlling said communication, a trigger pivotally supported on the handle to engage said valve for opening communication with the air-pressure supply and provided with openings, and a spring-pressed rod rotatably supported on said trigger and longitudinally movable on its support and provided with a hook on one end adapted to register with and engage said openings and extend into position to encounter the handle in the inward movement of the trigger, for the purpose set forth.

866,371. REMOVING COPPER SALTS FROM ALKALINE LIQUORS. RUDOLF LINKMEYER, Brussels, Belgium. Filed Mar. 22, 1906. Serial No. 307,406.

In the manufacture of artificial silk from cuprammonium cellulose, the process of removing copper from the residual caustic alkaline liquors which consists in immersing bundles of vegetable fibers therein until the copper has deposited thereon and removing them, together with the adhering copper salts.

866,372. ROTARY CUTTER. GEORGE B. MALTBY, Aurora, Ind. Filed Oct. 15, 1906. Serial No. 338,982.



1. In an article of the character indicated, a series of cutters having a segmental cylindrical outline, each cutter having a concentric curved projection and faces against which the clamping plates engage, and clamping plates engaging opposite sides of said cutters, one of said plates having recesses to receive said projections, and which serve to lock the cutters to the desired angular adjustment, and also to lock the cutters circumferentially and equidistant apart.

2. In an article of the character indicated, in combination with clamping plates having eccentrically arranged recesses, a series of cutters comprising segments of a symmetrically formed circular blank, said cutters having concentric curved projections to enter the recesses in said clamping plates to lock the cutters to the desired angular adjustment.

3. In an article of the character indicated, a series of cutters, each having a segmental cylindrical outline, concentric segmental cylindrical projections at the side of said cutters; clamping plates adapted to engage opposite sides of said cutters, one of said clamping plates being provided with eccentrically arranged recesses the counterpart of and adapted to register with said projections.

4. In an article of the character indicated, a series of cutters each having a segmental cylindrical outline, concentric cylindrical projections at opposite sides of said cutters; clamping plates adapted to engage opposite sides of said cutters, each of said clamping plates being provided with independent recesses to receive said projections, and which serve to lock the cutters circumferentially and equidistant apart.

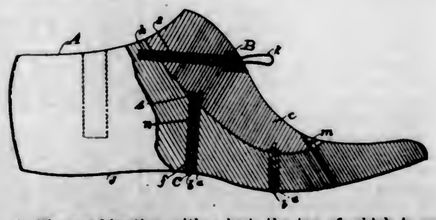
5. In an article of the character indicated, in combination with clamping plates adapted to engage opposite sides of the cutters, a series of reversible cutters of segmental cylindrical outline having parallel clamping faces at the sides and a cutting portion formed at one side of the center of the clamping portion so that when part of the cutters are reversed the cutting portion of different cutters will travel in different planes, and inter-engaging members on the cutters and clamping plates to lock the cutters to the desired angular adjustment.

6. In an article of the character indicated, in combination with clamping plates adapted to engage opposite sides of the cutters, a series of reversible cutters of segmental cylindrical outline, the cutting portions of said cutters being formed at one side of the center of the body portions thereof, so that when part of the cutters are reversed, the cutting portion of different cutters will travel in different planes, and inter-engaging members on the cutters and clamping plates to lock the cutters to the desired angular adjustment.

7. In an article of the character indicated, a series of interchangeable cutters each having a segmental cylindrical outline and provided with concentrically formed segmental cylindrical projections, and clamping plates adapted to engage opposite sides of said cutters, said plates being provided with eccentrically arranged recesses the counterpart of said projections, with which said projections interchangeably engage.

8. In an article of the character indicated, a series of symmetrical cutters, each of segmental cylindrical outline and having oppositely arranged cutting edges, and provided with concentric segmental cylindrical projections, and clamping plates adapted to engage opposite sides of said cutters, said plates being provided with eccentrically arranged recesses the counter part of said projections, with which said projections interchangeably engage.

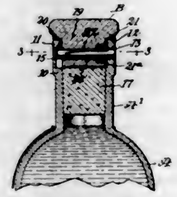
866,373. LAST. HIRAM W. MARDEN, Lynn, Mass. Filed Feb. 19, 1907. Serial No. 358,222.



1. The combination with a last, the top of which is cut away in the usual manner, and spring-actuated pins movably secured in orifices which extend from the cut away portion of the top to the bottom surface of the last, said pins being of greater length than their respective orifices whereby they always protrude through either the top or bottom surface of the last, of a last block, the inner surface of which corresponds in shape to the cut away surface of the last and is adapted to bear directly upon the upper protruding ends of the pins and means for securing the last block to the last.

2. The combination with a last, the top of which is cut away in the usual manner, and spring-actuated pins movably secured in orifices which extend from the cut away portion of the top to the bottom surface of the last, said pins being of greater length than their respective orifices whereby they always protrude through either the top or bottom surface of the last, of a last block, the inner surface of which corresponds in shape to the cut away surface of the last, and having studs extending flush with the inner surface of the last block and located in position to engage the upper protruding ends of the spring-actuated pins, the last and last block having holes which run acutely angular to the longitudinal plane of the last, and a spring-actuated bolt adapted to enter said holes whereby to lock the block to the last in a direction at an angle to the path of movement of the spring-actuated pins.

866,374. BOTTLE. HELIMENAS S. MARTCHYEN, Maracaibo, Venezuela. Filed Mar. 29, 1907. Serial No. 365,299.



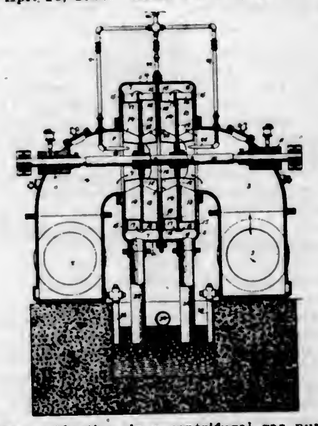
1. A bottle, the neck whereof is provided with a friable tongue exposed at the interior and the exterior, a stopper for the said neck, a locking device for the stopper independent thereof and slidable therein, which locking device at its inner end is normally opposite the said tongue, releasing the stopper when driven against the tongue to break the same.

2. A bottle, the neck whereof is provided with a friable exposed tongue, a stopper fitted to the portion of the neck carrying the tongue, and a drivable pin in the neck of the bottle having its inner end opposite the said tongue, a guard for the tongue constituting a part of the neck, and a temporary locking device for the pin.

3. A bottle, the neck whereof is provided with upwardly extending ears having openings therein, the openings in the two ears being of different size, a tongue of friable material located in the larger of the said openings and constituting an integral portion of the neck, a stopper entered between the said ears, and a cotter pin within the said stopper having one end opposite said tongue.

4. The combination with the neck and the body of a bottle, the neck being provided with opposing ears, each ear having an opening therein, the opening in one ear being of greater dimensions than the opening in the opposing ear, and a readily breakable tongue located in the larger of said openings, being connected with said neck, of a stopper, a portion of which enters the space between the said ears, a cotter pin mainly located within the said stopper, having its inner end opposite the said tongue, a locking spring for the cotter pin, which spring is adapted to pass through one of the said ears, the end at which the free portion of the spring is located being flush with the outer face of the ear through which it passes, the spring of the cotter pin at such time being in locking engagement with said ear, which pin is adapted to be driven against the said tongue to remove the same for opening the bottle.

866,375. CENTRIFUGAL GAS-PURIFIER. FREDERICK V. MATTON, Riverton, N. J., assignor to Camden Iron Works, Camden, N. J., a Corporation of New Jersey. Filed Apr. 16, 1907. Serial No. 368,599.



1. The combination, in a centrifugal gas purifier, of a rotatable shaft, a plurality of rotary fans mounted on said shaft, a casing inclosing said fans, partition means dividing the interior of said casing into a plurality of chambers each of which is occupied by a fan, said partition means being constructed to afford communication at a central point between said chambers, and provision for discharging water or other liquid across the communicating passage of said partition means.

2. The combination, in a centrifugal gas purifier, of a rotatable shaft, a plurality of rotary fans mounted on said shaft, a casing inclosing said fans, a partition wall dividing the interior of said casing into a plurality of chambers each of which is occupied by a fan, said partition having a central opening affording communication between said chambers, and provision for discharging water or other liquid across said opening.

3. The combination, in a centrifugal gas purifier, of a rotatable shaft, a plurality of rotary fans mounted on said shaft, each of said fans comprising a central plate carrying vanes of different lengths on opposite sides, a casing inclosing said fans, partition means dividing the interior of said casing into a plurality of chambers each of which is occupied by a fan, said partition means being constructed to afford communication between said chambers, and provision for discharging water or other liquid across the communicating passage of said partition means.

4. The combination, in a centrifugal gas purifier, of a rotatable shaft, a plurality of rotary fans mounted on said shaft, each of said fans comprising a central plate carrying vanes of different lengths on opposite sides, a casing inclosing said fans, a partition wall dividing the interior of said casing into a plurality of chambers each of which is occupied by a fan, said partition having an opening affording communication between said chambers, and provision for discharging water or other liquid across said opening.

5. The combination, in a centrifugal gas purifier, of a rotatable shaft, a plurality of rotary fans mounted thereon, a casing inclosing said fans, said casing having a division plate dividing the interior into a plurality of chambers, each occupied by a fan, said division plate having a vertical passage in its upper part, and a supply pipe communicating therewith whereby water or other liquid may be discharged across the opening of said division plate.

6. The combination, in a centrifugal gas purifier, of a rotatable shaft, a plurality of rotary fans mounted thereon, a casing inclosing said fans, said casing having a division plate dividing the interior into a plurality of chambers, each occupied by a fan, said fans having vanes of

one length upon one side and shorter vanes on the other, said division plate having a vertical passage in its upper part, and a supply pipe communicating therewith whereby water or other liquid may be discharged across the opening of said division plate.

866,376. PORTLAND CEMENT AND PROCESS FOR MAKING THE SAME. RICHARD K. MEADE, Nazareth, Pa. Filed Feb. 28, 1907. Serial No. 359,747.

1. The herein described process comprising heating a mixture of argillaceous material and calcarious material containing more than 3 per cent. of magnesia, and incorporating therewith a chlorid.

2. The herein described process comprising heating to incipient vitrifaction a mixture of argillaceous material and magnesian limestone containing more than 3 per cent. of magnesia, and incorporating therewith a metal chlorid.

3. The herein described process comprising heating to incipient vitrifaction a mixture of argillaceous material and magnesian limestone containing more than 4 per cent. of magnesia, and incorporating therewith a chlorid in an amount proportioned to the quantity of magnesia in the said mixture.

4. The herein described process comprising heating to incipient vitrifaction a mixture of argillaceous material and magnesian limestone containing more than 4 per cent. of magnesia, and incorporating calcium chlorid therewith in an amount proportioned to the quantity of magnesia in the said mixture.

5. The herein described process comprising heating to incipient vitrifaction a mixture of argillaceous material and limestone containing from 5 to 20 per cent. of magnesia, and incorporating therewith a chlorid in an amount proportioned to the quantity of magnesia in the said mixture.

866,377. PUSH-BUTTON. GEORGE H. MEBOLD, New York, N. Y. Filed Mar. 16, 1907. Serial No. 362,686.



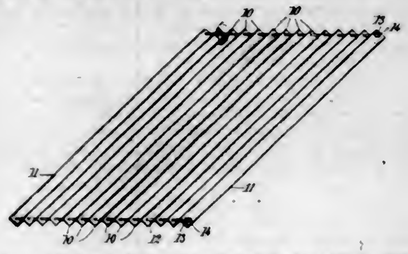
A push-button for electric circuits, consisting of an insulated base-plate, T-shaped contact-plates attached to the base-plate and extending radially towards each other, a casing extending over the base-plate and provided with a central opening, a push-button fitting in said opening and provided with a shoulder and an interior metallic rim, said rim being adapted to be placed in contact with the inner ends of the contact-plates, and a helical spring interposed between the base-plate and a cavity in the interior of the button.

866,378. MAT. WILLIAM W. MITCHELL, New York, N. Y. Filed May 2, 1907. Serial No. 371,375.

1. A door-mat formed of a sheet of metal having angular flutes presenting sharp ridges and having one edge thereof folded back upon itself to form a reinforced scraper the edge of which lies in a different plane from said ridges.

2. A reversible door mat formed of a sheet of metal having angular flutes presenting sharp ridges and having the opposite edges reinforced and inclined in opposite directions whereby one edge forms a scraper.

3. A reversible door mat formed of a sheet of metal having angular flutes presenting sharp ridges unbroken throughout the length of the mat and having the opposite edges reinforced and inclined in opposite directions whereby one edge forms a scraper, and means for preventing the flutes from flattening.



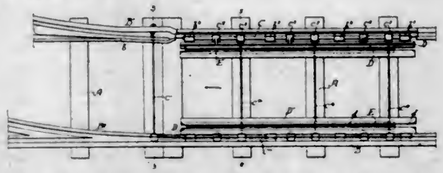
4. A reversible door mat formed of a sheet of metal having angular flutes presenting substantially parallel ridges lying in the same plane and unbroken throughout the length of the mat and having the opposite edges inclined in opposite directions and reinforced by folding the edge back upon itself, and stay bolts extending substantially throughout the width of the mat at each end thereof and passing through each flute to prevent the mat from spreading or the flutes from flattening.

866,379. ADVERTISING DEVICE. EDWARD N. MONROE, Unionville, Mo. Filed Apr. 9, 1907. Serial No. 367,204.



An advertising device comprising a safety pin consisting of a shank, and a pin connected by a coil spring, the free end of the shank being provided with a head, and a shield provided on one side with an elongated bearing for receiving the shank, the ends of the bearing abutting against the head and the spring coil to prevent endwise movement of the shield on the shank, and to permit limited turning of the shield relative to the shank.

866,380. SWITCH-OPERATING MECHANISM. GEORGE F. MOONEY, Philadelphia, Pa. Filed May 29, 1907. Serial No. 376,381.



1. The combination of a switch point to be operated, two substantially parallel rock shafts connected to each other, arms on said rock shafts, of which one is connected to the switch point, and two longitudinally extending members respectively mounted upon others of the arms on the rock shafts for coöperation with operating levers on a car, substantially as described.

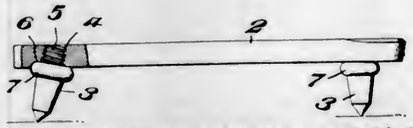
2. The combination of a switch point to be operated, two substantially parallel rock shafts, a lever connected to the switch point, arms on the rock shafts of which an arm on one shaft is connected to said lever, bars connecting certain arms of one shaft with certain of the arms on the other shaft, with a longitudinally extending operating bar for each shaft mounted on others of the arms thereof, substantially as described.

3. The combination with a pair of rails, of a switch having a movable point, a pair of rock shafts respectively supported by the rails, a plurality of arms on each rock shaft, of which an arm on one shaft is connected to the switch point, links respectively connecting certain of said arms, and a longitudinally extending member for each shaft connected to others of the arms thereon, said various parts being adjusted so that the longitudinally extending members substantially balance each other, substantially as described.

4. The combination of a pair of track rails, a switch having a movable point, rock shafts for the rails having bearings respectively supporting them along side of and adjacent to the same, a series of downwardly extending arms on each rock shaft, links respectively connecting the arms of one shaft to those of the other, a lever for the switch point, an arm on one of the shafts connected to said lever, a second series of arms on each of the rock shafts, of which the arms of one shaft project towards those of the other, with a vertically movable member loosely mounted on said latter arms of each rock shaft, the parts being so adjusted that one of the said members is in an elevated position while the other is in its lower position and the switch point is in one of its extreme positions, substantially as described.

5. The combination of a pair of rails, a switch having a movable tongue, a pair of structural sections mounted inside of each rail and having their flanges spaced apart to form a slot, a longitudinally extending member vertically movable between each pair of said structural sections, a longitudinally extending rock shaft mounted on each of the rails, arms fixed to said shafts and connected to the adjacent longitudinally extending member, a second series of arms on each rock shaft, links respectively connecting said second series of arms of one of the rock shafts with those of the other, and means for connecting one of the rock shafts to the switch point so that said point will be thrown from one of its positions to the other when the longitudinally extending members are vertically moved, substantially as described.

866,381. ADJUSTABLE-CALK HORSESHOE. RILEY MCCLASKEY, Butte, Mont. Filed July 5, 1907. Serial No. 382,310.



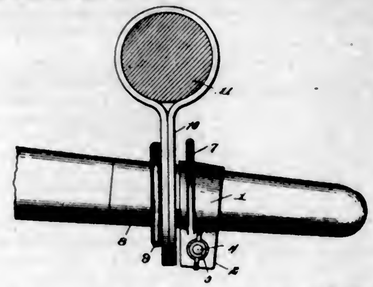
1. The combination with a shoe having openings in the toe and heels thereof; of calks, stems on said calks adapted to enter said openings, the toe calks being in alinement across the toe of the shoe and forwardly and outwardly inclined, and a rib surrounding the upper end of said calks adapted to enter a cavity in the bottom of the shoe.

2. The combination with a shoe having an opening in each of the heels thereof and a plurality of openings in the toe of the shoe, a portion of said openings having inclined cavities surrounding the same, a calk for each of said heels, stems on said calks adapted to enter the openings in the heels, one of said calks being inclined outwardly, a plurality of toe-calks having stems thereon, adapted to enter the openings in the toe, said toe calks being in alinement across the toe of the shoe and forwardly and outwardly inclined and a rib surrounding the upper end of said calks adapted to enter the cavities surrounding said openings.

866,382. VEHICLE-POLE TIP. HARRY A. NORD, Kiron, Iowa. Filed Dec. 22, 1905, Serial No. 293,013. Renewed July 20, 1907. Serial No. 384,762.

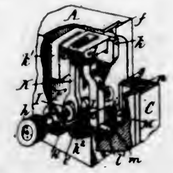
1. An attachment of the character described comprising a split sleeve, ears extending from the ends thereof of a width equal to the width of said sleeve, means within the ears for contracting the sleeve, a flange extending from the sleeve, and inwardly projecting beads within and integral with the sleeve.

2. The combination with a vehicle pole, of a neck-yoke retaining means thereon comprising a split sleeve surrounding the pole, means for clamping the sleeve upon the pole beads within said sleeve and paralleling the edges thereof, and a substantially crescent shaped flange extending from the sleeve.



3. The combination with a vehicle pole, of a neck-yoke retaining means thereon comprising a split sleeve surrounding the pole, means for clamping the sleeve upon the pole, a substantially crescent shaped flange extending from the sleeve, and inwardly projecting means within and paralleling the edges of the sleeve for engaging the pole.

866,383. FINE-ADJUSTMENT MECHANISM. HARVEY N. OTT, Buffalo, N. Y., assignor to Spencer Lens Company, Buffalo, N. Y. Filed July 31, 1906. Serial No. 328,560.



1. In a fine adjustment, the combination with a part to be moved, of a link connected to said part and arranged substantially parallel to the direction of movement of said part, a lever to which said link is connected, an operating device, and connections between said device and said lever for oscillating the latter, substantially as set forth.

2. In a fine adjustment, the combination with a part to be moved, of a link connected to said part, a pivoted lever upon which said link is hung, an operating device, and connections between said operating device and said lever for oscillating the lever, substantially as set forth.

3. In a fine adjustment, the combination with a vertically movable part, of a link connected at its lower end to said part, a pivoted lever to which said link is connected at its upper end, a rotatable operating part, and connections between said operating part and lever for oscillating said lever, substantially as set forth.

4. In a fine adjustment, the combination with a part to be moved, of a link arranged to move endwise of itself and connected to said part, a pivoted lever to which said link is connected, a rotatable part having a screw thread, and a device which has a threaded engagement with said screw thread and is moved thereby and oscillates said lever, substantially as set forth.

5. In a fine adjustment, the combination with a part to be moved, of a link which is arranged to move endwise of itself and is connected to said part, a pivoted lever to which said link is connected, a rotatable screw, and a nut which is moved by said screw and moves said lever, substantially as set forth.

6. In a fine adjustment, the combination with a vertically movable part, a link which supports the weight of said part, a pivoted lever upon which said link is hung,

a rotatable screw, and a nut which is moved by said screw and moves said lever, substantially as set forth.

7. In a fine adjustment, the combination with a vertically movable part, of a link having a part with a reduced portion upon which said vertically movable part bears, a pivoted lever upon which said link is hung, a rotatable screw, and a part which is moved by said screw and moves said lever, substantially as set forth.

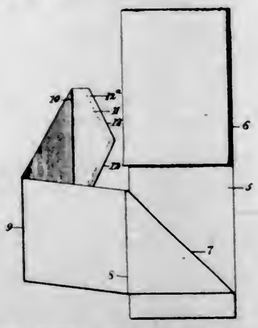
8. In a fine adjustment, the combination with a vertically movable part, of a substantially upright link which supports the weight of said part and is provided with a lateral portion, a pivoted lever having a lateral arm to which the lateral portion of said link is pivoted and a substantially upright limb, a rotatable operating part, and connections between the same and the leg of said lever for oscillating said lever, substantially as set forth.

9. In a fine adjustment, the combination with a vertically movable part, of a substantially upright link which supports the weight of said part and which is provided with a lateral portion, a pivoted lever having a lateral arm to which the lateral portion of said link is pivoted and a depending leg, and operating means for oscillating said lever, substantially as set forth.

10. In a fine adjustment, the combination with a vertically movable part, of a substantially upright link upon which said part bears, a pivoted lever upon which said upright link is hung, an operating part, connections between the same and said lever for oscillating the lever, and a spring for holding said vertically movable part in contact with said link, substantially as set forth.

11. In a fine adjustment, the combination with a movable part, an endwise movable link which is connected to said part, a pivoted lever to which said link is connected, an operating part, and a device which is moved by said operating part and bears against said lever, said lever having a curved face engaged by said device, substantially as set forth.

866,384. COMBINED ENVELOP AND LETTER-SHEET. ROSCOE C. OZMAN, Beatrice, Nebr. Filed June 3, 1907. Serial No. 377,064.



A combined envelop and letter sheet, comprising a single strip of writing paper folded upon itself so as to form leaves or panels for holding the message to be carried, said strip being provided with an oblique fold whereby its general direction is bent at a right angle, and the remaining portion being bent around the portion containing the message and secured thereto.

866,385. PROCESS FOR PRODUCING TECHNICALLY-PURE DUCTILE TANTALUM. MARCELLO VON PIRANI, Wilmersdorf, near Berlin, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin, Germany. Filed June 23, 1906. Serial No. 323,133.

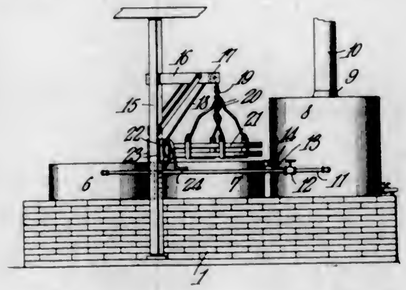
1. The process for producing technically pure tantalum in ductile form, which consists in heating a mixture of vapors of tantalum chlorid and hydrogen, and in heating the hydrogenated tantalum thus formed to a white heat in a vacuum.

2. The process for producing technically pure tantalum in ductile form, which consists in heating a mixture of vapors of tantalum chlorid and hydrogen, heating the hydrogenated tantalum thus formed to a white heat in a vacuum and exhausting the gases liberated thereby during said heating.

3. The process for producing technically pure tantalum in ductile form, which consists in heating tantalum to incandescence by an electric current in the presence of a mixture of vapors of tantalum chlorid and hydrogen, whereby hydrogenated tantalum is produced, and subsequently melting the tantalum thus produced in a vacuum.

4. The process for producing technically pure tantalum in ductile form, which consists in heating tantalum to incandescence by an electric current in the presence of a mixture of vapors of tantalum chlorid and hydrogen, whereby hydrogenated tantalum is formed and subsequently melting the hydrogenated tantalum thus formed in a vacuum and exhausting the gases liberated thereby during said melting.

866,386. COOKING APPARATUS. JAMES L. REEVES, Collinsville, Ala. Filed May 4, 1907. Serial No. 371,879.

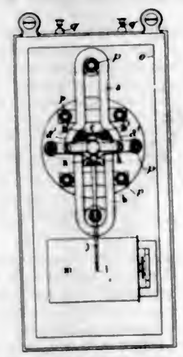


1. In an apparatus of the character described, the combination with a furnace having a combustion chamber at one end thereof, of a pair of cooking vessels fitted into the top of the furnace and having their lower ends projecting into the combustion chamber, a boiler also fitted into the top of the furnace and arranged in alinement with the said vessels and at the end of the furnace opposite to the combustion chamber, a flue extending through the boiler and communicating at its lower end with the combustion chamber of the furnace, and devices capable of being controlled independently for conducting water from the boiler to the respective vessels.

2. In a cooking apparatus, the combination with a furnace having a fire-box at one end, of a water supply boiler mounted in the end of the furnace opposite to the fire-box thereof and having an exit flue extending therethrough, the flue being expanded at its lower end and contracted at its upper end, a cooking vessel mounted in the furnace toward the fire-box thereof and exposed to the heat thereof, a pipe connecting the boiler and vessel, and a valve for controlling the flow of water through said pipe.

3. In an apparatus of the character described, the combination with a furnace, of a pair of cooking vessels mounted therein and exposed to the heat of the furnace, a hot water supply boiler also mounted in the furnace and having a flue extending centrally therethrough and communicating with the combustion chamber thereof, independent pipe connections between the hot water supply boiler and the respective vessels, and means for independently regulating the amount of water discharged from the boiler into the respective vessels.

866,387. GALVANOMETER. JULES RICHARD, Paris, France. Filed Jan. 27, 1905. Serial No. 242,895.



1. A galvanometer comprising two magnets having pole-pieces curved on concentric lines, the pole-pieces of one being located within those of the other, and a galvanometric coil mounted to turn around the center of the pole-pieces.

2. A galvanometer comprising two magnets having pole-pieces curved on concentric lines, the pole-pieces of one being located within those of the other, and a galvanometric coil mounted to turn around the center of the pole-pieces; this coil having a curved cross-section and being located between the respective pole-pieces.

3. A galvanometer comprising two magnets having pole-pieces curved on concentric lines, the pole-pieces of one being located within those of the other, and a galvanometric coil mounted to turn around the center of the pole-pieces and having two sides moving in the two magnetic fields, this coil being eccentrically located relatively to the axis of rotation.

4. A galvanometer comprising two magnets having pole-pieces curved on concentric lines, the pole-pieces of one being located within those of the other, and a galvanometric coil mounted on a V-shaped frame having one of its sides moving in each of the magnetic fields.

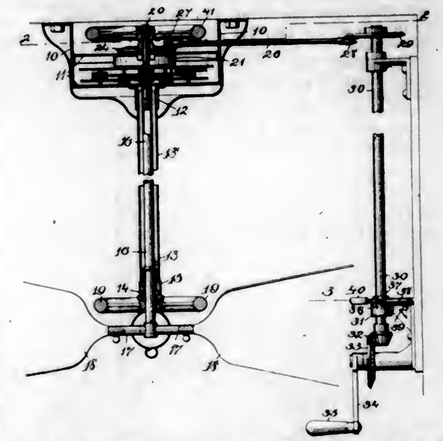
5. A galvanometer comprising two magnets located opposite each other and each having pole-pieces curved on the arcs of a circle, the pole-pieces of these two magnets being concentric and the pole-pieces of one being located within those of the other, a V-shaped frame moving around the center of the pole-pieces and provided with a registering element, and a galvanometric coil mounted upon this frame and having two sides moving in the two magnetic fields constituted by the concentric pole-pieces of the two magnets.

6. A galvanometer, comprising a pair of magnets located opposite each other and each having pole pieces curved on the arc of a circle, the circles on which the pole pieces of the two magnets are curved being concentric with each other, and the pole pieces of one magnet being located within those of the other, and a V-shaped frame pivoted at the center of said curves; said frame being provided with a pointed rigidly attached thereto, and with projections having a coil of wire thereon, said coil being located between the curved ends of said pole pieces.

7. A galvanometer, comprising a pair of magnets having concentrically curved pole-pieces, and a V-shaped frame pivoted at the center of said pole-pieces, said frame being provided with a pointer rigidly attached thereto, and with projections having a conducting-coil thereon, said coil being located between the curved ends of the pole-pieces.

866,388. SPRING-FAN. DARIO ROBERTI, Newark, N. J. Filed Feb. 26, 1907. Serial No. 359,424.

1. A spring-operated fan, comprising a base, a shaft journaled in the base, a fan on the projecting end of the shaft, a series of driving springs secured in the base and being disposed about the shaft with their axes parallel to the shaft, a train of gearing connecting each spring with the shaft to operate it, a separate winding means connected to each spring, and a single manually operated mechanism for operating the several winding means simultaneously.



2. A spring-operated fan, comprising a base, a shaft rotatably arranged in the base, a fan on the projecting end of the shaft, a series of springs in the base between the shaft and the sides of the base, disposed about the shaft, trains of gearing connecting the springs to the shaft to operate it, an independent winding means on each spring, a single mechanism for simultaneously operating the several winding means, and means for disconnecting said mechanism from the winding means when the winding is complete.

3. A spring-operated fan, comprising a base, a shaft mounted to rotate therein, a fan on the projecting end of the shaft, a series of springs arranged between the shaft and the sides of the base and disposed about the shaft, a train of gearing connecting each spring to the shaft to drive it, a gear connection on each spring, a winding shaft having a gear connection, rods connecting the gear connection of the winding shaft with the gear connections of the springs, means for manually operating the winding shaft, the winding shaft being adapted to be operated longitudinally to disconnect the gear connection on it, and means for maintaining the shaft in its different positions.

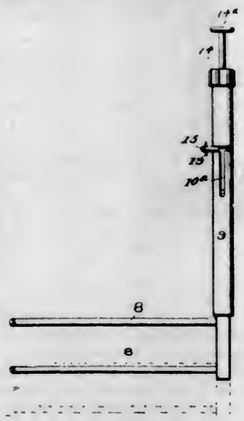
4. In a spring driven fan, a winding device comprising a winding shaft, means fo rmanually rotating the shaft, a bearing for the shaft, the shaft having annular grooves in the bearing, a catch sliding in the bearing and adapted to be slid into and out of engagement with the grooves in the shaft, a spring secured to the bearing and bearing on the catch, and having a projecting finger piece for its manual manipulation, the finger piece being arranged transversely to the shaft.

866,389. BELT-SHIFTER. ADOLPH ROSENTHAL, Augusta, Ga. Filed Apr. 4, 1907. Serial No. 366,359.

1. The improved belt shifter comprising a tube having a shouldered slot, a rod slidable in said tube and provided with lateral prongs for receiving a belt, a block which is slidable in the other end of the tube, and provided with a lateral arm projecting through the shouldered slot, a spring arranged between the block and the adjacent end of the tube, and means for connecting the said lateral arm with a movable part of a machine, substantially as shown and described.

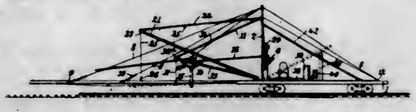
2. The improved belt shifter comprising a tube pro-

vided with opposite lengthwise slots, one of which is provided with a laterally divergent portion forming a shoulder, a rod which is slidable in one end of the tube and provided with means for engaging a belt, a pin attached to such rod and sliding in one of the slots of the tube, a block which is slidable in the other end of the tube, and provided with a lateral arm working in the shouldered slot, a spring pressing upon the block, a stem or rod connected with the block and extending from the adjacent end of the tube for use in compressing the spring and setting the belt shifter, and a device attached to the projecting arm of the block, and adapted for connection with a movable part of a machine for tripping the belt shifter in the manner described.



3. The combination with a movable part of a machine, of the belt shifter comprising a tubular guide, a part sliding therein and provided with means for engaging a belt, a spring arranged in the guide and adapted to act on the said device for shifting it when tripped, a trip arm adapted for detachable engagement with the tubular guide, and means for connecting the arm with the movable part of the machine, as shown and described.

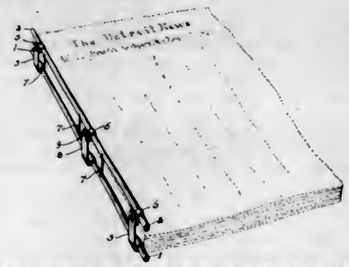
866,390. TRACK-LAYING MACHINE. WILLIAM M. SAXTON, PETER J. HENSELWOOD, and ANDREW A. JOHNSON, Portage la Prairie, Manitoba, Canada. Filed May 29, 1907. Serial No. 376,395.



1. In a track-laying machine, in combination, a car, booms carried thereby and projecting forwardly, a gallows frame mounted on said car and adapted to fold down, a rest on said car adapted to support said gallows frame when folded down, said gallows frame having a pair of separated legs, a platform between said legs, cylinders carried by said platform, and hoisting lines operated by said cylinders and passing down over the ends of said booms.

2. In a track-laying machine, in combination, a car, a long boom mounted on said car at one side and projecting forwardly, a short boom mounted on said car on the other side and also projecting forwardly, a gallows frame mounted on said car and adapted to fold downwardly, a rest on said car adapted to support the said frame when folded, said gallows frame having a pair of separated legs, a platform between said legs, cylinders supported on said platform, and hoisting lines operated by said cylinders and passing down over the ends of said booms respectively.

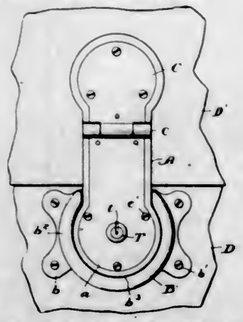
866,391. FILE. BERTRAM N. SCOTT, Detroit, Mich. Filed Mar. 18, 1907. Serial No. 362,846.



1. The combination of a tubular member, a series of impaling pins secured at one end to said member and projecting laterally therefrom, back members secured at one end to the tubular member and extending laterally therefrom a distance and bent at right angles to extend parallel with the pins at a distance to one side of the same, eyes formed on the other ends of said back members, a second tubular member, hinge members secured to said second tubular member and each formed with a neck portion having an eye at its end, pintles engaging the eyes, a shoulder on one of the hinge members, and a spring to engage said shoulder.

2. The combination of a tubular side member, a series of impaling pins extending upward therefrom, a series of back members each consisting of a strip of sheet metal wrapped around said member at one end and extending laterally therefrom and bent at right angles at a distance from said member and extended upward parallel with the said pin, eyes formed on the upper end of each of the back members, a second tubular side member provided with a series of holes in one end to receive the upper ends of the pins, hinge members consisting of strips of sheet metal each bent to form a ring portion to engage the tubular member and to form an eye connected to the ring portion by a neck portion, pintles engaging the eyes on the back members and the eyes on the hinge members, a shoulder on one of the hinge members, and a spring secured to one of the back members to engage said shoulder.

866,392. LOCK. PHILLIP H. SERIO, New York, N. Y. Filed Feb. 5, 1906. Serial No. 299,432.

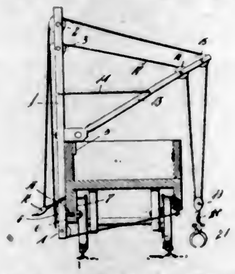


1. In a device of the class described, a casing, oppositely-movable bolts therein, a lever connecting said bolts, a rotatable bolt-actuator provided on one side with a rib which engages with the bolts and is adapted to operate the same simultaneously, tumblers for locking the bolt-actuator, and key-actuated means whereby the tumblers may be released and the bolt-actuator rotated.

2. In a device of the class described, a casing, bolts therein, a lever connecting the bolts, a rotatable bolt-actuator provided with means for operating the bolts, a stationary separating plate, a key post made in a separate piece from the bolt actuator and supported in place by the lever and the separating plate, said key post passing loosely through the bolt-actuator, and suitable tumbler mechanism.

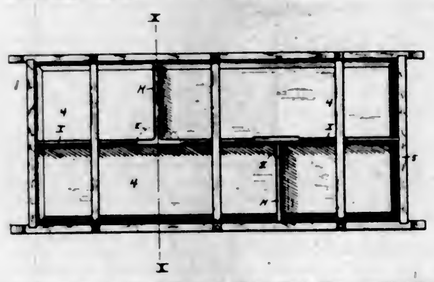
3. In a lock, a casing reduced at one end and provided with a shoulder, a plurality of bolts, a spring-actuated lever pivoted to said bolts, a rotative member mounted on the shoulder and coöperating with the bolts, and key actuated means for locking said member.

866,393. LOADING DEVICE. ROBERT SHAW, Warsaw, Ind. Filed Sept. 7, 1906. Serial No. 333,691.



In a hoisting device of the character described, the combination with an upright or standard with a boom hinged thereto, means carried by the upright to connect it with a wagon body, a pair of guide pulleys at the upper end of the standard, a single guide pulley at the lower end thereof, a pair of guide pulleys carried by the outer end of the boom, a hoisting cable having one end suitably secured to the wagon body, thence passed around the pulley at the lower end of the standard, thence around the lowermost of the guide pulleys at the upper end of the standard, thence around the inner guide pulley of the boom, thence around the outer guide pulley of the boom, and thence around the uppermost guide pulley of the standard, and means on said cable to engage an object to be elevated.

866,394. MILK-VAT. GOTTLIEB H. SIMON, Kiel, Wis. Filed Mar. 21, 1907. Serial No. 363,643.

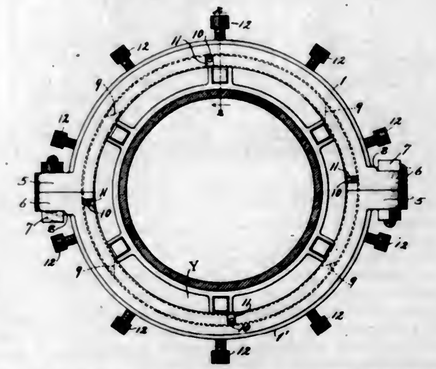


1. In a milk vat of the described class the combination of a plurality of sections of sheet metal having their contiguous edges respectively bent outwardly at right angles to their central portions and folded back upon themselves so as to perform the two-fold function of seams and strengthening flanges and means of securing said folded edges together, substantially as set forth.

2. In a milk vat of the described class the combination of a plurality of sections of sheet metal having their contiguous edges respectively bent outwardly at right angles to their central portions and folded back upon themselves so as to perform the two-fold function of seams and strengthening flanges and means of securing said folded edges together, the transverse seams between the sections upon one side of the longitudinal center of the vat being united with the longitudinal seam between the transverse seams upon the opposite side of such longitudinal center, substantially as set forth.

3. In a milk vat of the described class the combination of a plurality of sections of sheet metal having their contiguous edges respectively bent outwardly at right angles to their central portions and folded back upon themselves so as to perform the two-fold function of seams and strengthening flanges, a reinforcing disk located at the junction of said longitudinal and transverse seams, the upper edge of said reinforcing disk being bent at right angles parallel to the bottom of the vat above the transverse seam, while the lower edge of said reinforcing disk is folded in the opposite direction beneath and around said longitudinal seam, and means for securing said seams and reinforcing disk together, all substantially as and for the purpose specified.

866,395. PIPE-CLAMP. MORTIMER B. SKINNER, Wilmette, and JAMES MCCREA, Lake Bluff, Ill. Filed July 1, 1905. Serial No. 267,959.



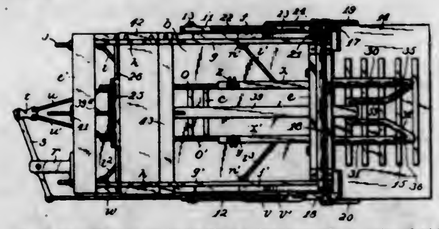
1. A pipe clamp for preventing leakages between exteriorly exposed abutting pipe joints, comprising an outer divided main ring internally channeled, the inner edges of the channel sides being constructed to closely approach the surfaces of the pipe members at the respective sides of the joint so as to confine the edges of a packing arranged therein, means for clamping the main ring about a pipe union, an inner divided clamping ring fitting within the channel of the outer ring, an annular packing underlying the clamping ring and confined between the side walls of the channel of the main ring, and a series of circumferentially distributed setting-up devices mounted on the main ring and impinging upon the clamping ring to compress the latter.

2. A pipe clamp for preventing leakages through a joint formed between two abutting parts of externally registering cylindric pipe members, comprising an outer main ring composed of internally channeled segments detachably united with each other, the inner edges of the channel sides being constructed to closely approach the cylindric surfaces of the pipe exterior so as to confine the edges of a packing therein, an inner segmental clamping ring fitting the channel of the outer ring, the meeting ends of said segments having inclined overlapping surfaces and the inner face of said inner clamping ring being approximately flat but slightly convex along its median line which opposes the joint, a series of circumferentially distributed set-screws threaded radially through the main ring and impinging the several segments of the clamping ring, and an approximately flat annular packing occupying the innermost portion of the channel and having its edges confined by the side walls of the channel.

3. A pipe clamp for preventing leakages between exteriorly exposed abutting pipe joints, comprising an outer divided main ring internally channeled, the inner edges of

the channel sides being constructed to closely approach the surfaces of the pipe members at the respective sides of the joint so as to confine the edges of a packing arranged therein, means for clamping the main ring about a pipe union, an inner divided clamping ring fitting within the channel of the outer ring, said outer and inner rings having radially-disposed interfitting guiding parts, the one slots and the other projections which permits radial compression movement of the inner ring segments and prevent circumferential movement, an annular packing underlying the clamping ring and confined between the side walls of the channel of the main ring, and a series of circumferentially distributed setting-up devices mounted on the main ring and impinging upon the clamping ring to compress the latter.

866,396. BREEDING-CAGE. HARVEY M. SMITH, Monroe township, Morgan county, Ind. Filed Apr. 4, 1907. Serial No. 366,269.



1. A breeding cage including a framework, a pair of side boards provided each with two pairs of supporting arms pivoted thereto and also to the framework, and means for moving the side-boards longitudinally for adjusting them each towards or from the other.

2. A breeding cage including a framework, a head-board supported adjustably in the framework, a gate pivoted opposite to the head-board and swinging vertically, means for connecting the gate with the framework in adjusted positions, and a platform mounted adjustably on the framework adjacent to the gate.

3. A breeding cage including a framework having four pairs of arms mounted pivotally on the inner sides thereof, two pairs swinging towards or from the remaining two pairs of the arms, each two pairs comprising lower arms and relatively longer upper arms, and a pair of side-boards within the framework, each pivoted to two pairs of the arms and having a foot-board mounted adjustably on an upper portion thereof.

4. A breeding cage including a framework, a pair of side-boards mounted in the framework and adjustable each towards or from the other, means for adjusting and holding the side-boards, a head-board mounted adjustably in the framework between the side-boards, and a gate supported by the framework opposite to the head-board.

5. A breeding cage including a framework, a pair of side-boards mounted in the framework and adjustable each towards or from the other, means for adjusting and holding the side-boards, a head-board mounted adjustably in the framework between the side-boards, a gate supported by the framework opposite to the head-board, and a cover board mounted in the framework above the side-boards and adjustable between the head-board and the gate.

6. A breeding cage including a framework having a pair of side-boards mounted therein, each side-board being adjustable towards or from the other, means for adjusting and holding the side-boards, a gate mounted on the framework at an end thereof, a pole connected to the gate pivotally and extending between the side-boards to the opposite end of the framework, and means for latching the pole to the framework in adjustable positions and thereby adjustably holding the gate.

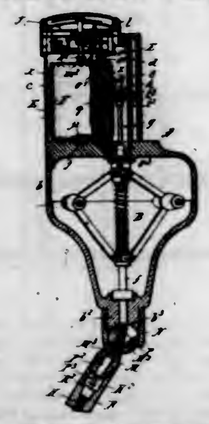
7. A breeding cage including a framework having a pair of sills and also inclosing sides; an adjustable platform at ends of the sills and pivotally connected thereto, a rock-shaft having crank-arms and mounted on the framework, links connected to the crank-arms and to the platform, means for adjusting the rock-shaft rotatively, a gate mounted pivotally on the framework adjacent to the platform, a head-board mounted in the framework between the sides thereof and adjustable towards or from the gate, and means for holding the gate adjustably.

8. A breeding cage including a framework having sides provided with notches and having also a floor on which are cleats, a gate mounted in the framework, a vertically-adjustable platform mounted on the framework near the gate, a head-board resting adjustably on the floor between cleats thereof and having an opening therein and also provided with a supporting bar adjustably mounted on the sides in notches thereof, and a vertically-adjustable pole extending between the sides of the framework through the opening in the head-board and provided with latching devices.

9. A breeding cage including a framework having a pair of sills, a vertically-adjustable platform at ends of the sills and pivoted thereto, means for adjusting and holding the platform, a gate pivoted on the framework and movable either to upright positions or down onto the platform and provided with an extensible part, a pole connected pivotally to the gate and provided with a rack-bar having teeth, a fixed catch-plate to be engaged by the teeth for adjusting the pole and the gate, and a head-board mounted adjustably in the framework opposite to the gate.

10. A breeding cage including a framework having sled-runners, a platform mounted at ends of the runners and adjustable vertically, two side-boards mounted in the framework and adjustable each towards or from the other and inclined with their tops towards each other, a lever pivotally supported by the framework, rods connecting the lever with the side-boards, a controlling lever mounted on the framework and operatively connected with the other lever, a rock-shaft mounted on the framework and operatively connected with the platform, a controlling lever mounted on the framework and operatively connected with the rock-shaft, a gate mounted near the platform, and a head-board mounted in the framework and adjustable towards or from the gate.

866,397. SPEED AND DISTANCE INDICATING AND RECORDING DEVICE. RICHARD H. SMITH, Springfield, Mass. Filed Dec. 14, 1906. Serial No. 347,833.



1. The combination with a drum and means for confining a record sheet in supporting engagement upon and around it, and a clockworks having a rotation imparting connection with the drum, of a speed indicating device comprising an indicator casing having a slotted front and a scale card thereat, located opposite and adjacent the drum, a centrifugal governor comprising a vertical stem, having its upper portion between the slotted front and drum, endwise movable in degree proportionate to the speeding of the governor, a vertically apertured head, rotatively loose, but endwise immovable, relatively to the upper extremity of said stem, provided with a transverse stud, projecting through the slot of the indicator casing, said stud having a pointer movable on the face of the scale card, and said head also carrying at its side opposite said stud a return bent spring arm provided with a marker for operating against the drum carried record sheet simultaneously with the coaction of the pointer with the scale card.

2. The combination with a speed indicator, and means for operating it, said indicator comprising a member movable in extent proportionate to the speed of operation of the indicator, and carrying a marker, of a drum, adapted to receive engagement around same, and to support, a record sheet on which said marker is operative, and having at its upper end a clutch member, a clockworks mechanism removably mounted above said drum and having a rotative depending shaft thereof provided with a clutch member adapted when the clockworks mechanism is removed from and returned adjacent the drum to disengage, and reëngage the clutch member on the drum.

3. The combination with a speed indicating device having a variably movable member, of a drum having a recess in its side, a shaft parallel with the axis of the drum adjacent said recesses, and having a longitudinal slot for the engagement therein of the ends of a drum encircling record sheet, means for rotating said shaft for tensioning the sheet, means for confining the shaft in its sheet tensioning position, means for rotating the drum at a uniform speed and a marker carried by said movable speed-indicator member, and recording on the drum-carried sheet.

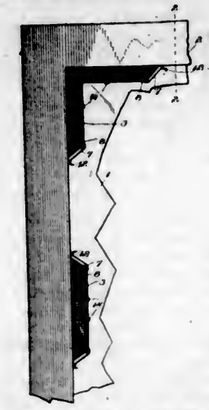
4. The combination with a support for a record sheet, and means for imparting a uniform progressive movement thereto, of a speed indicating device comprising a rotary spindle and a member the position of which is variable and controlled by the speed of rotation of the spindle, a marker carried by said variably movable member and for recording on said sheet, an eccentric revolubly actuated by said rotary spindle, an eccentric strap engaged about the eccentric and having a pawl extension, a ratchet wheel intermittently actuated by said pawl, an odometer supported on the speed indicating device having an operating wheel, and driving connections between said ratchet wheel and said odometer operating wheel.

5. The combination with a support for a record sheet, and means for imparting a uniform progressive movement thereto, of a speed indicating device comprising a rotary spindle and a member the position of which is variable and controlled by the speed of rotation of the spindle, a marker carried by said variably movable member and for recording on said sheet, an eccentric carried by said rotary spindle, an eccentric strap engaged about the eccentric and having a pawl extension, a ratchet wheel intermittently actuated by said pawl, an odometer supported on the speed indicating device having an operating gear wheel, a shaft on which said ratchet wheel is carried, having a worm, a worm wheel in mesh with said worm, and having, associated therewith a pinion which is in mesh with the driving gear wheel of the odometer.

6. In combination, a speed indicating device comprising a casing, an indicator operating rotative spindle located within the casing and having an end portion extended therethrough having a flexible shaft connected therewith, a ball-ended section having an axial passage therethrough which is flaring at one end thereof and fitted in a concave socket therefor in the portion of the governor casing through which the aforesaid spindle is extended, an annular coupling piece externally screw engaging the last named portion of the casing and having its wall at one end portion contracted, for the retention in engagement therewith of the ball-ended portion of said section.

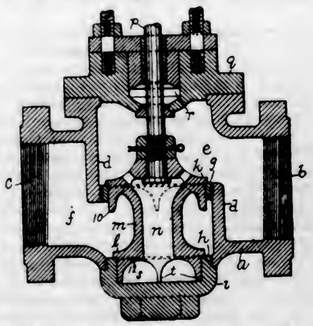
866,398. FLY-TRAP. GEORGE W. STEIN, Washington, D. C. Filed Apr. 1, 1907. Serial No. 365,670.

1. A fly trap for use along the edge of a window pane having a flattened portion to lie against the window pane and a flattened portion to lie against the window sash, the ends of said trap being inclined, and a removable cone shaped entrance arranged in one of the said inclined ends of the trap, substantially as described.



2. A fly trap formed to fit a corner of a window sash having one portion thereof extending along the vertical part of the sash and fitting snugly thereon, and the other portion of the trap extending along the horizontal portion of the sash and fitting snugly thereon, and a cone shaped entrance for said trap, substantially as described.

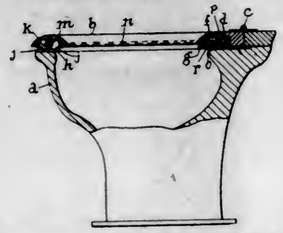
866,399. VALVE. ARTHUR D. STEVENS, Jacksonville, Fla. Filed Oct. 5, 1904. Serial No. 227,211.



1. In a valve of the class described, in combination, a valve casing having an inlet and an outlet port substantially opposite and in line with each other, a partition or diaphragm within said casing provided with a valve seat, a plug or cap removably secured to the bottom of said casing intermediate of said ports and having a valve seat substantially in line with the valve seat in said partition, and a double puppet valve coöperating with said seats and movable downward to engage said seats and provided with a passage which communicates with the opposite sides of said valve, both in the closed and opened positions of said valve, substantially as described.

2. In a valve of the class described, in combination, a valve casing having an inlet and an outlet port, a partition or diaphragm within said casing provided with a valve seat, a recessed plug or cap secured to said casing and having a valve seat substantially in line with the valve seat in said partition, and a double puppet valve coöperating with said seats and movable downward to engage said seats and provided with a passage which communicates with the opposite sides of said valve in all positions of said valve, substantially as described.

866,400. APPARATUS FOR DEODORIZING CLOSETS. ARTHUR D. STEVENS, Jacksonville, Fla., assignor of one-half to Michael Sabel, Jacksonville, Fla. Filed Nov. 30, 1906. Serial No. 345,598.



1. The combination with a water-closet bowl and its seat movable with relation thereto, of a deodorizing or disinfecting apparatus for said bowl, comprising a box or receptacle for the disinfectant or deodorizer having an outlet communicating with the bowl, a bellows carried by the seat, means to connect said bellows with said box or receptacle, and means to expand said bellows when the weight or pressure is removed from said seat and thereby cause a current of air to be drawn through said receptacle, which air is forced through the said receptacle when the bellows is compressed, for the purpose specified.

2. The combination with a water-closet bowl and its seat movable with relation thereto, of a deodorizing or disinfecting apparatus for said bowl, comprising a box or receptacle for the disinfectant or deodorizer having an air inlet and outlet communicating with the bowl, and means connected with the said receptacle and actuated by said seat for drawing air into said receptacle when pressure is removed from said seat, and for projecting the said air admixed with disinfectant or deodorizer into the bowl, when pressure is applied to said seat for the purpose specified.

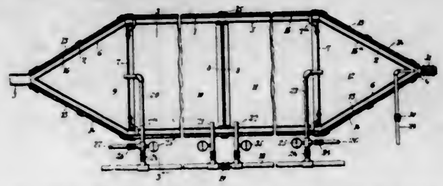
3. The combination with a water-closet bowl and its seat movable with relation thereto, of a deodorizing or disinfecting apparatus for said bowl, comprising a box or receptacle secured to the underside of said seat and having an air inlet and outlet in open communication with said bowl, a bellows attached to the underside of the said seat, means to connect said bellows with said box or receptacle, and means to expand said bellows and draw air into said receptacle, said air being expelled from the receptacle into the bowl when said bellows are compressed substantially as described.

4. In combination, a water-closet bowl provided with a pivoted seat having a recess on its under side, means to normally elevate the front portion of said seat, a deodorising or disinfecting apparatus comprising a receptacle for the disinfectant or deodorizer secured in said recess and provided with an air inlet and outlet in open communication with said bowl, means attached to the under side of said seat and connected with said receptacle for drawing a current of air through said receptacle in one direction and enriching said air with the disinfectant on the upward movement of said seat and for forcing said enriched air through the receptacle and into the bowl on the downward movement of said seat, substantially as described.

866,401. FILTER. JOHN B. STEWART, Peregrina, Mexico. Filed Jan. 30, 1907. Serial No. 354,793.

1. In a filter for ore slimes and the like, an outer casing, an inner casing, a filtering material carried by the outer casing, means for dividing the inner casing into several compartments, and a pipe system for supplying said compartments with the same or a different medium, as desired.

2. In a filter for ore slimes and the like, an outer casing, an inner casing concentrically supported in the outer casing leaving an annular space between them, a filtering material carried by the outer casing, an entrance pipe and an exit pipe leading to and from the casing whereby a continuous flow of the material is maintained, and means for treating the slime with different mediums as it is advanced through the filter.



3. In a filter for ore slimes and the like, a casing, means for passing a continuous flow of slime through the casing, and means for treating the slime with different mediums as it passes through the casing.

4. In a filter for ore slimes and the like, an outer casing, a filtering material carried on the exterior thereof, an inner casing arranged concentrically to the outer casing, said inner casing being divided into a plurality of compartments, and means for admitting different mediums to said compartments.

5. In a filter for ore slimes and the like, an outer perforated casing, a filtering material carried thereby, an inner casing concentrically supported in the outer casing, forming an annular space between them, a receiving and discharging pipe respectively connected at opposite ends of the casing, and means for treating the slime to different mediums as it passes through said annular space.

6. In a filter for ore slimes and the like, an outer perforated casing, a filtering material carried thereby, an inner casing, said inner casing being divided up into several compartments, the inner casing having perforations passing therethrough, means for admitting different or the same medium into said compartments, and means passing into the compartment adjacent to the discharge end of the filter for assisting in more rapid discharge of the slime.

7. In a filter for ore slimes and the like, an outer perforated casing, an inner casing supported therein, said inner casing being divided up into several compartments, a pipe system connecting with each compartment whereby they may be supplied with the same or a different medium, and a pressure gage provided for each pipe.

8. In a filter for ore slimes and the like, an outer perforated casing, a filtering material fixed thereon, a wire mesh fabric embracing the filtering material, hoops clamping said fabric and filtering material to the casing, an inner casing supported in the outer casing forming an annular space between them, said casings having a receiving and discharge opening respectively at opposite ends of said space.

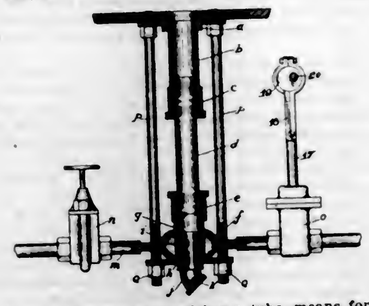
9. In a filter for ore slimes and the like, an outer casing comprising a central, cylindrical drum having conical ends attached thereto respectively connecting receiving and exit openings, said casing being perforated and having a filtering material secured thereto, an inner casing supported in the outer casing of substantially the same shape and divided into several compartments, and means for supplying said compartments with different or the same mediums whereby the slime is treated as the filtration progresses.

10. In a filter for ore slimes and the like, a vat, an outer perforated casing supported over the vat, said casing having receiving and exit openings respectively at opposite ends thereof, a filtering material carried by the outer casing, a perforated inner casing supported in the outer casing, compartments in the inner casing, and means for supplying the same or different mediums to the compartments, as described.

11. In a filter for ore slimes and the like, an outer perforated casing, a filtering material fixed over the perforations on the exterior of the casing, an inner casing supported in the outer casing and forming an annular space between them, the casings having a receiving and a discharge opening at respectively opposite ends of the annular space, perforations in the inner casing, means for dividing the inner casing into several compartments, a pipe system for supplying the compartment with the same or a different medium, as described, means for indicating the pressure in each compartment, and means passing into one of the compartments for facilitating the discharge of the slime after it has passed through the filter.

12. In a filter for ore slimes and the like, an outer perforated casing, a filtering material fixed over the perforations of the casing, a wire meshed fabric surrounding the filtering material, hoops clamping the fabric and filtering material to the casing, an inner perforated casing, means for supporting the inner casing concentrically with the outer casing, forming an annular space between them, said casings having a receiving and discharge opening respectively at opposite ends of the annular space, bulkheads dividing the inner casing into several compartments, a pipe system having a pipe leading to each compartment whereby they are supplied with the same or a different medium, means for assisting the discharge of the slime after it has passed through the filter, and a valve at the discharge end of the filter for regulating the flow.

866,402. HYDRAULIC CLASSIFIER FOR ORES. SETH R. SWAIN, Denver, Colo. Filed Nov. 26, 1906. Serial No. 345,179.



1. A sorting column comprising a tube, means for preventing the formation of eddies and counter-currents in said sorting column, means for delivering a uniform current to the column and means for delivering a pulsating current thereto.

2. A sorting column comprising a tube, said tube having a glass section therein, means for preventing the formation of eddies and counter-currents in said sorting column, means for delivering a uniform current to the column, and means for delivering a pulsating current thereto.

3. A sorting column, comprising a tube, means for supplying a uniform current, means for supplying a pulsating current, means for cutting off either at will and means for preventing the formation of eddies and counter-currents.

4. A sorting column comprising a water chamber, an inner and outer tube therein, the outer tube extensible and having perforations therein and the inner tube extending above said perforations, means for regulating the flow of water into said water chamber and means for creating a pulsating current in said water chamber.

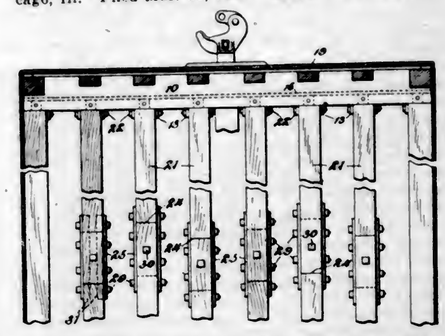
5. A sorting column comprising an inner and outer tube, the outer of which is telescopic and provided with a transparent section, said outer tube having perforations therein, of a water chamber surrounding said perforated portion of the tube, the inner tube extending above said perforations and a spigot leading therefrom, means for regulating the flow of water into the water chamber, and means for supporting the sorting column and adjusting the length of the outer tube.

6. A sorting column comprising an inner and outer tube, the outer of which is telescopic and provided with a transparent section, said outer tube having perforations therein, of a water chamber surrounding said perforated portion of the tube, the inner tube extending above said perforations and a spigot leading therefrom, means for regulating the flow of water into the water chamber, means for adjusting the length of the outer tube and means for creating a pulsating current in the water chamber.

7. The combination with a trough, of a sorting column comprising two pipes, a glass tube having telescopic connection with the pipes, stuffing boxes for forming water tight joints between the glass tube and pipes, a water chamber discharging into the column, depending rods, means extending across from one rod to the other for supporting the water chamber and column and nuts on the rods for regulating the length of the column.

8. The combination with a trough, of a sorting column, comprising a telescoping tube, a water chamber, rods supporting these parts, said rods threaded and nuts on the rods for raising or lowering the water chamber and lengthening and shortening the tube.

866,403. CAR STRUCTURE. WILSON E. SYMONS, Chicago, Ill. Filed Mar. 30, 1907. Serial No. 365,484.



1. An end sill for cars comprising a metallic shell having an open side, and retaining means for a core carried by the marginal portion of the open side of said end sill.

2. An end sill for cars comprising a metallic shell having an open side, and an inwardly extending flange located along the margin of the shell and extending partially across the open side thereof.

3. An end sill for cars comprising a metallic shell having an open side, oppositely disposed inwardly extending flanges located along the margins and extending toward each other across the open side, but terminating short of each other.

4. An end sill for cars comprising a metallic shell composed of upper and lower walls, a rear wall having means for engagement with the longitudinal sills, and flanges carried by the front margins of the upper and lower walls, said flanges extending toward each other.

5. An end sill for cars comprising a metallic shell having an open front side and a flange extending partially across the open side, and a wooden carrier located in the shell and maintained against lateral outward movement by the flange.

6. An end sill for cars comprising a metallic shell having a top, a bottom and an open front side, and flanges extending from said top and bottom partially across the open side, and a wooden carrier located in the shell and maintained against lateral outward displacement by said flanges.

7. An end sill for cars comprising a metallic shell having an open front side, and flanges extending partially across the open side, and a wooden core located in the shell and having a longitudinally disposed rib located between the flanges.

8. An end sill for cars comprising a metallic shell composed of upper and lower walls, a rear wall having means for engagement with the longitudinal sills, flanges carried by the front margins of the upper and lower walls, said flanges extending toward each other, and a wooden core located in the shell between the upper and lower walls

and having a longitudinal rib located between the flanges and projecting from the open side of the shell.

9. An end sill for cars, comprising a metallic shell composed of upper and lower walls having front portions spaced apart, leaving an open side, longitudinal flanges carried by intermediate portions of the inner sides of the walls, forming stops, and a core located in the shell and having its rear side disposed against the flanges and its front side exposed through the open side of the shell.

10. An end sill for cars comprising a shell having means at its rear side for engagement with the longitudinal sills, of a core located in the shell, and means arranged within the shell for spacing the core from the ends of the longitudinal sills.

11. An end sill for cars comprising a metallic shell having a rear wall provided with tenon-receiving mortises, a core located in the shell, and means arranged within the shell for spacing the core from the ends of the tenons placed in the mortises.

12. An end sill for cars comprising a metallic shell having an inner or rear wall provided with sets of spaced rearwardly extending sill-engaging ears, and a mortise or opening located in said inner or rear wall between the ears of each set.

13. An end sill for cars comprising a metallic shell composed of upper and lower walls, a rear wall provided with sets of spaced rearwardly extending sill-embracing ears and mortises located between the ears, and inwardly extending flanges carried by the outer margins of the upper and lower walls and terminating short of each other, a core located in the shell and having a rib projecting between the flanges, and stop flanges carried by the upper and lower walls and engaging the rear side of the core.

14. In a structure of the character set forth, the combination with a metallic end sill, of longitudinal sills, means for securing the longitudinal sills to the end sills, said longitudinal sills comprising sections, and means for securing the sections together, said means comprising section-embracing plates located on opposite sides of the sections and having oppositely extending spurs that are embedded in the outer sides of the sections, and means for clamping the plates together.

15. In a structure of the character set forth, the combination with a metallic end sill, of longitudinal sills, means for securing the longitudinal sills to the end sills, said longitudinal sills comprising sections, means for securing the sections together, said means comprising section-embracing plates located on opposite sides of the sill sections and having oppositely extending spurs that are embedded in the opposite outer sides of said sections, and bolts passing through the plates and sections.

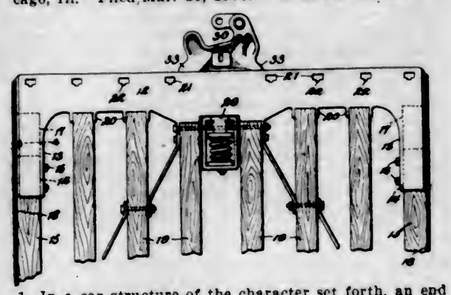
16. In a structure of the character set forth, the combination with sill sections, of clamping plates located on opposite sides of the sill sections and bridging the joints between the sections, said plates having oppositely extending spurs embedded in the opposite outer sides of said sections, and means for securing the clamp plates together.

17. In a structure of the character set forth, the combination with sill sections, of flat clamping plates bridging the joints between the sections and located against the opposite sides thereof, said plates having spurs embedded in the opposite sides of said sections, and bolts passing through the sections and plates for securing the same together and maintaining the spurs embedded in the sections.

18. In a structure of the character set forth, the combination with sill sections, of clamping plates bridging the joints between the sections and located on opposite sides of spaced sections, said plates having oppositely extending spurs that are embedded in the opposite sides of the sections and having flanges extending along the under sides of said sections, and means for securing the clamping plates together.

19. In a structure of the character set forth, the combination with sill sections disposed end to end and having a broken joint, of clamping plates located on opposite sides of the sill sections and bridging the joint, said plates having spurs projecting from their inner sides and embedded in the sill sections, the spurs that engage in one section being beveled in an oposite direction to those that engage in the other, and bolts passing through the plates and the sill sections for securing the same together.

866,404. CAR STRUCTURE. WILSON E. SYMONS, Chicago, Ill. Filed Mar. 30, 1907. Serial No. 365,485.



1. In a car structure of the character set forth, an end sill having integral rearwardly extending arms that project beyond the remaining portions of the end sill and constitute means for securing the outer longitudinal sills thereto.

2. In a car structure of the character set forth, an end sill having long integral rearwardly extending arms at its ends, said arms being provided with longitudinal sill receiving seats, and rearwardly extending ears of less length than the arms located between said arms and being integral with the sill.

3. In a car structure of the character set forth, an end sill having integral rearwardly extending arms provided with longitudinal sill-receiving seats having outer open sides.

4. In a car structure of the character set forth, an end sill comprising a metallic shell having integral rearwardly extending arms provided with longitudinal sill-receiving seats having open sides and rear ends, longitudinal sills having their ends located in the seats, and bolts securing the said ends in place.

5. In a car structure of the character set forth, the combination with a metallic sill having sockets in its upper side, of studding having hooked ends engaging in the sockets, and holding means engaging in the sockets behind the hooks.

6. In a car structure of the character set forth, the combination with a sill comprising a shell having sockets in its upper side, and a core located within the shell, of studding having hooked ends engaging in the sockets, and holding devices driven into the sockets behind the hooked end.

7. In a car structure of the character set forth, the combination with a sill comprising a metallic shell having sockets in its upper side, and a core located within the shell, of studding including metallic feet having hooked ends detachably engaging in the sockets of the shell, and holding devices driven into the sockets behind the hooked ends.

8. In a car structure of the character set forth, the combination with an end sill comprising a metallic shell having rearwardly extending terminal arms provided with longitudinal seats in their outer sides, said shell having sockets in its upper wall and being provided with an elliptical socket, of longitudinal sills having their ends secured in the seats of the arms, studding having hooked lower ends engaged in the upper sockets, a core located in the shell, holding devices driven into the sockets in rear of the hooked end and engaging the core, a coupler having a shank slidably extending through the elliptical socket, springs located in the socket on opposite sides of the shank, and horns extending from opposite sides of the shank and bearing against the outer ends of the springs.

9. In a car structure of the character set forth, an end sill having integral rearwardly extending arms at its ends provided with longitudinal sill receiving seats and rearwardly extending sets of spaced ears projecting from the rear side of the sill between the arms and constituting means for fastening intermediate longitudinal sills to the end sills, said ears being shorter than the arms.

10. In a car structure of the character set forth, an end sill comprising a metallic shell having integral rearwardly extending arms at its ends, said arms being provided with longitudinal sill receiving seats having outer open sides, integral rearwardly extending sets of spaced ears projecting from the rear side of the end sill between the arms, and a core located in the shell.

11. In a car structure of the character set forth, an end sill having integral rearwardly extending arms constituting means for securing the outer longitudinal sills thereto, and sockets in its upper side by which to fasten the studding, and studs having hooks at their lower ends that engage in the sockets.

12. In a car structure of the character set forth, the combination with a sill comprising a shell having sockets in its upper side, and a core located within the shell, of studding having hooked ends engaging in the sockets, and holding means passed through the sockets into the core and retaining the hooked ends in engagement.

13. In a car structure of the character set forth, the combination with a sill comprising a shell having sockets in its upper side, and a core located within the shell, and studding having engaging means interlocked with the sockets.

14. In a car structure of the character set forth, the combination with a sill comprising a metallic shell having sockets in its upper side, and a core located within the shell, of studding including metallic feet having hooked ends detachably engaging in the sockets of the shell, and means for holding the hooked ends in engagement.

15. In a car structure of the character set forth, the combination with a sill comprising a metallic shell having sockets in its upper side, and a core located within the shell, of studding including metallic feet having hooked ends detachably engaging in the sockets of the shell.

16. In a car structure of the character set forth, an end sill having integral rearwardly extending arms at its ends constituting means for securing the outer longitudinal sills thereto, and integral ears spaced apart between the said arms and projecting from the rear side of the sill for the attachment of the intermediate sills, said arms extending rearwardly beyond the ears.

17. In a car structure of the character set forth, an end sill having integral rearwardly extending arms provided with longitudinal sill receiving seats having outer open sides, and integral attaching means for the intermediate sills projecting from the rear side of the end sill and spaced apart between the said arms.

18. A metallic end sill having a coupler receiving opening and separate sockets opening through the front wall at opposite sides of the coupler opening for the reception of wooden core sections.

19. A metallic end sill having a central coupler receiving opening provided with end walls and separate sockets opening through the front wall at opposite sides of the coupler receiving opening for the reception of separate wooden core sections.

20. A metallic end sill made U-shaped in cross section, the top, bottom and rear walls being of one piece of metal, the front side being open for the reception of a wooden core, integral arms projecting rearwardly from the ends of the sill for the attachment of longitudinal sills, and integral ears projecting from the rear wall of the sill and spaced apart for the attachment of the intermediate sills, said arms being longer than said ears.

21. A metallic end sill made U-shaped in cross section, the top, bottom and rear walls being of one piece of metal, the front side being open for the reception of a wooden core, and studding mounted on the end sill and having interlocking engagement therewith.

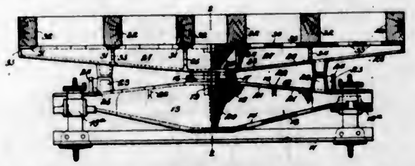
22. In a car structure of the character set forth, a metallic shell having a central coupler receiving opening therethrough, and end walls defining the ends of the coupler receiving opening and extending to the front edge of the shell, the front side of the shell on opposite sides of the coupler receiving opening being open to receive wooden core sections.

23. In a car structure of the character set forth, a metallic shell having a central coupler receiving opening therethrough, and end walls defining the ends of the coupler receiving opening and extending to the front edge of the shell forming separate core receiving sockets, and separate cores located in the socket.

24. In a car structure of the character set forth, a metallic shell having a central coupler receiving opening, and separate wooden core sections located in the shell and having their inner ends terminating at said coupler receiving opening.

25. In a car structure of the character set forth, a substantially U-shaped metallic shell having a central coupler receiving opening therethrough and transverse intermediate walls forming sockets on opposite sides of the coupler receiving opening, and separate core sections fitted in said sockets and terminating at said walls.

866,405. BOLSTER STRUCTURE. WILSON E. SYMONS, Chicago, Ill. Filed Apr. 18, 1907. Serial No. 368,962.



1. A bolster comprising top and bottom walls and supporting side walls, a center bearing including a boss depending between the side walls, and reinforcing webs for the boss connecting the same to the side walls and extending below the lower end of the boss, said webs terminating short of the bottom wall.

2. A bolster comprising convergently disposed side walls, a bottom wall connecting the lower margins of the side walls, a top wall connecting the upper margins of the side walls, a center bearing carried by the top wall, a boss depending between the side walls, and downwardly tapered reinforcing webs for the boss connecting said boss to the side walls and being free from the bottom wall.

3. A bolster comprising convergently disposed side walls, a bottom wall connecting the lower margins of the side walls, a top wall connecting the upper margins of the side walls and having a center bearing including a boss depending between the side walls, said top wall having spaced openings on opposite sides of the bearing, reinforcing webs bridging the space between and connecting the side walls, said webs depending from the top wall between the openings in said top wall, and reinforcing webs for the boss connecting the same to the side walls and extending below the lower end of said boss, said webs being tapered and terminating short of the bottom walls.

4. The combination with a truck bolster that is downwardly tapered in cross section, of a car bolster located on the truck bolster and upwardly tapered in cross section, and a pivotal connection between the bolsters.

5. The combination with a truck bolster comprising downwardly convergent side walls, top and bottom walls connecting the upper and lower margins of the side walls, and a center bearing carried by the top wall, of a car bolster comprising upwardly convergent side walls, top and bottom walls connecting the upper and lower margins of the side walls, means for securing the upper portions of the car bolster to a car frame, and a bearing carried by the lower wall of the car bolster and coöperating with the bearing of the truck bolster.

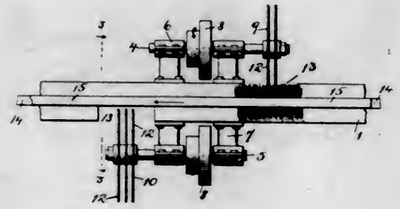
6. The combination with a truck bolster having a center bearing, of a car bolster comprising upwardly convergent side walls, a bottom wall connecting the side walls

and having a center bearing coöperating with the bearing of the truck bolster, a top wall connecting the upper margins of the side walls, and ears carried by the top wall and projecting beyond the bolster.

7. A bolster comprising convergent side walls, top and bottom walls connecting the same, the top wall being narrower than the bottom wall, and opposite outstanding perforate ears carried by the top wall and constituting means for securing the bolster to the under frame of a car.

8. A bolster comprising side walls, a bottom wall connecting the side walls, perforate ears projecting from the outer sides of the upper portions of the side walls and constituting means for securing the bolster to the under frame of a car, and reinforcing webs located beneath the ears and outstanding from the side walls, said webs terminating short of the perforations.

866,406. ROTARY BRISTLE-COMBING DEVICE. MORTON P. TOTTLE, Baltimore, Md. Filed Jan. 17, 1906. Serial No. 296,468.



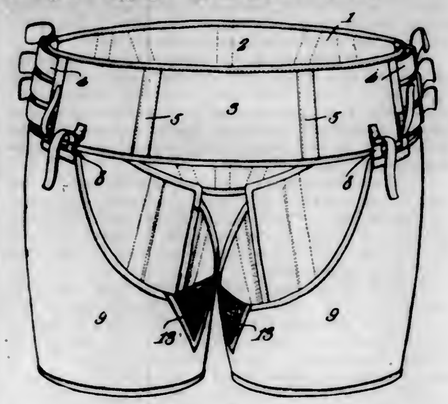
1. A bristle combing machine having in combination a frame, a plurality of traveling endless belts to clamp the bristles between them; a rotary shaft at each side of the belts and each shaft carrying a plurality of spaced apart comb plates arranged side by side and each comb plate having a plural number of radiating curved teeth.

2. A bristle combing machine having in combination a frame; two rotary combs mounted at opposite sides of the frame so as to revolve in opposite directions and one in advance of the other; a plurality of traveling endless belts to clamp the bristles between them and means whereby one end of the bristles may be supported while one rotary comb acts on the unsupported end and then supporting the previously combed end of said bristles while the other rotary comb acts on the opposite unsupported end thereof.

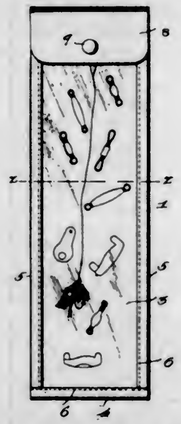
3. A bristle combing machine comprising a frame, a plurality of traveling endless belts for clamping the bristles between them; a comb revolving vertically at the side of the traveling belts for acting on the ends of the passing bristles,—said comb comprising a plurality of plates and each plate having a series of teeth all of which are in the same vertical plane and the ends of the teeth of one plate of the comb having position in a horizontal plane between the ends of the teeth of the adjoining plate of the same comb.

866,407. ABDOMINAL SUPPORT. MINNIE C. TOWNS, Willard, Tex. Filed Dec. 11, 1906. Serial No. 347,329.

An abdominal support comprising a band composed of anterior and posterior sections adjustably connected together, leggings fixed at their upper edges to the lower edge of the anterior section, said leggings having elastic gussets in their upper edges and means adjustably connecting said leggings with the posterior section.



866,408. RECEPTACLE FOR FISHING-TACKLE. OLIVER DE GRAY VANDERBILT, East Orange, N. J., assignor to Abbey and Imbrie, New York, N. Y., a Corporation of New York. Filed May 15, 1905. Serial No. 260,438.



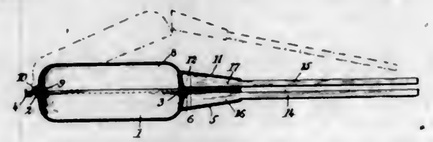
1. A receptacle for anglers' tackle, consisting of a pocket having a collapsible back and a transparent front, substantially as herein set forth.

2. A receptacle for anglers' tackle, consisting of a pocket having a thin transparent front and a thin flexible back, normally held toward the front, and separable from the front, substantially as herein set forth, and means for closing the open end of the receptacle, substantially as herein set forth.

866,409. COOKING UTENSIL. CHARLES A. VOGLER, Baker, Wash., assignor of one-half to Martin Nelson, Baker, Wash. Filed May 10, 1907. Serial No. 372,889.

1. A cooking utensil, comprising pans fitting one upon the other and forming a closed receptacle, and a hollow handle secured to one of said pans and adapted to be folded into an inoperative position therewithin, said handle being shaped to receive a handle extension for lengthening the same.

2. A cooking utensil, comprising pans fitting one upon the other and forming a closed receptacle, means for removably hinging said pans one to the other, a hollow handle secured to one of said pans and adapted to be folded into an inoperative position therewithin, said handle being shaped to receive a handle extension for lengthening the same.



3. A cooking utensil, comprising pans removably fitting one upon the other and forming a closed receptacle, means for removably securing said pans one to the other, and a hollow handle hinged to one of said pans and adapted to be folded into an inoperative position therewithin, said handle having an end adapted to engage a pan to limit the movement of the handle in one direction when the latter is extended, said handle further being shaped to receive a handle extension for lengthening the same.

4. A cooking utensil, comprising pans removably fitting one upon the other and forming a closed receptacle, means for removably hinging said pans one to the other, a hollow handle hinged to one of said pans and adapted to be folded into an inoperative position therewithin, said handle having an end adapted to engage a pan to limit the movement of the handle in one direction when the latter is extended, said handle further being shaped to receive an end extension for lengthening the same.

5. A cooking utensil, comprising pans removably fitting one upon the other and forming a closed receptacle, one of said pans having a groove at the rim thereof adapted to receive the rim of the opposite pan, means for removably hinging said pans one to the other, a hollow handle hinged to one of said pans and adapted to be folded into an inoperative position therewithin, said handle in an extended position engaging said pans to prevent the movement of the handle in one direction, and a handle extension removably located within said hollow handle and extending therebeyond.

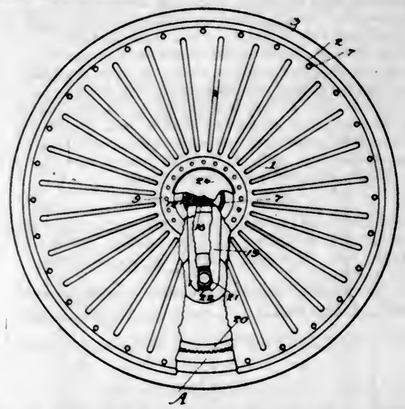
6. A cooking utensil, comprising pans removably fitting one upon the other and forming a closed receptacle, means for removably hinging said pans one to the other, a hollow tapering handle having hinged connection with one of said pans at an edge thereof and adapted to be folded into an inoperative position therewithin, and a handle extension having a wedge-shaped part adapted to be jammed within said hollow handle.

7. A cooking utensil, comprising pans fitting one upon the other and forming a closed receptacle, means for removably hinging said pans one to the other, and handles hinged to said pans at the edges thereof and arranged to fold into inoperative position within said pans, said handles lying adjacent and in mutual engagement, said handles further engaging said pans to prevent the movement of the respective handles in opposite directions.

8. A cooking utensil, comprising pans removably fitting one upon the other, means for removably hinging said pans one to the other, hollow tapering handles hinged to said pans at the edges thereof and arranged to fold into inoperative position within said pans, said handles lying adjacent and in engagement when extended and engaging said pans to limit the movement of the respective handles in opposite directions, and handle extensions having wedge-shaped parts and adapted to be removably secured within said handles and extending therebeyond, said handles having means engaging to lock the same against lateral displacement.

866,410. DRIVING MECHANISM FOR AUTOMOBILES. GEORGE R. WALKER, Chicago, Ill. Filed Oct. 1, 1906. Serial No. 337,005.

1. In a driving mechanism, the combination of a traction wheel provided interiorly with a gear rigidly mounted thereon concentric with its axis of rotation, a drive shaft journaled in alinement with the axis of the traction wheel, extending within the wheel and carrying a pinion, a yoke constituting an axle-support upon which said traction wheel is journaled, provided within said wheel with radial extensions and a plurality of intermediate gears interposed between said pinion and the internal gear and meshing with both.



2. In a driving mechanism, the combination with a vehicle axle, of a traction wheel provided interiorly with a gear concentric with the axis of rotation of the wheel, a drive shaft journaled in alinement with the axis of the traction wheel extending within the wheel and carrying a driving pinion, a plurality of intermediate gears interposed between said pinion and the internal gear and transmitting driving moment from the pinion to the said gear, and a yoke forming a rigid extension of said axle, extending through the wheel, provided within the wheel with radial extensions upon which said intermediate gears are journaled, and at either side of said yoke with journal portions upon which the traction wheel is journaled.

3. In a driving mechanism, the combination with a vehicle axle and a motor mounted upon said axle, of a traction wheel provided interiorly with a gear concentric with its axis of rotation, a drive shaft operatively connected with the armature of said motor, journaled in alinement with and extending into the axis of the traction wheel, a driving pinion upon said drive shaft, a supporting yoke rigidly connected with the motor frame extending into the hub of the wheel and provided within the wheel with opposed, spaced-apart radial extensions, and a plurality of intermediate gears journaled between the radial extensions of said yoke and interposed between said pinion and the internal gear and meshing with both.

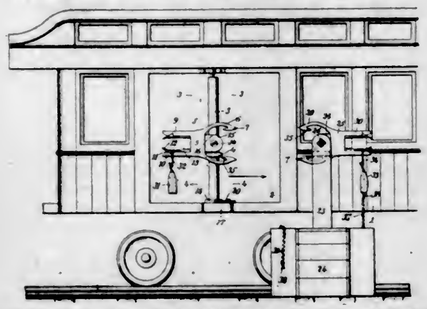
4. In a driving mechanism, the combination with an axle frame provided with upper and lower arms, of a motor pivotally mounted between said arms to oscillate about a vertical axis, a supporting yoke rigidly connected with the frame of said motor and provided with journal portions, a traction wheel journaled upon said yoke, an armature shaft of the motor extending axially within the yoke and within the traction wheel and carrying a driving pinion, a gear fixed upon the traction wheel concentric with the axis thereof, and a plurality of intermediate gears mounted upon the yoke and interposed between said gear concentric with the traction wheel and said driving pinion.

5. In a driving mechanism, the combination with an axle frame comprising upper and lower supporting bars and a ring frame connecting said bars, of a motor pivoted between said bars to oscillate about a vertical axis, a tubular yoke rigidly connected with the end of the motor frame and externally formed to constitute journal bearings, a traction wheel journaled upon said yoke and provided with an internal annular rack or gear concentric with the axis of the wheel, an armature shaft operatively connected

with the motor, extending within the tubular yoke and carrying a driving pinion, diametrically opposed radial extensions upon said yoke within the wheel, and intermediate gears mounted upon said extensions and each meshing with both the pinions and internal gear.

6. In a driving mechanism, the combination with a traction wheel provided with axle journal bearings at each side of its main plane and provided interiorly with a gear non-rotatably mounted therein concentric with said journal bearings, a drive shaft journaled in alinement with the journal axis of the traction wheel, extending within the latter and carrying a drive pinion, a yoke provided with axle journals operatively associated with the journal bearings of the hub of the wheel and provided between its said journals with radial extensions, and a plurality of intermediate gears mounted upon said radial extensions and intermeshing with said drive pinion and the main gear of the traction wheel, respectively.

866,411. MAIL-BAG CATCHER AND DELIVERER. ARTHUR D. WALTON and CHARLES H. ANTHONY, St. James, Mo. Filed July 5, 1907. Serial No. 382,263.



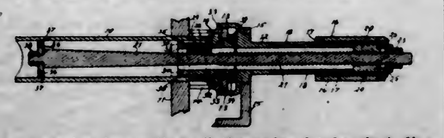
1. A mail bag catcher having a pair of forward arms and a pair of rear arms constituting bag holders, and means for mounting said catcher on a pivoted support disposed on the axis thereof whereby said bag catcher becomes reversible.

2. A mail bag catcher comprising a support having a lateral projection, a reversible body pivotally attached to said support and adapted to engage said projection in reversed positions, said body having a pair of forwardly projecting arms adapted to take the bag, and having a pair of rearwardly projecting arms adapted to hold the bag to be taken.

3. A mail bag catcher comprising a post having a projection on the side face thereof, a reversible body having an ear attached pivotally to said post and above said projection, said body having forwardly projecting hooked arms adapted to take the bag from a support, and rearwardly projecting arms adapted to hold the bag.

4. A mail bag catcher, having a reversible body having a pivot supporting the same, having forwardly projecting arms disposed on opposite sides of the axis of said pivot, and rearwardly projecting parallel arms at the rear of said body having notches and retaining springs on their inner sides constituting holders for the bag.

866,412. MEANS FOR CUTTING OFF THE ENDS OF BOILER-TUBES. JOHN R. WHITTEMORE, Indianapolis, Ind. Filed Mar. 14, 1907. Serial No. 362,290.

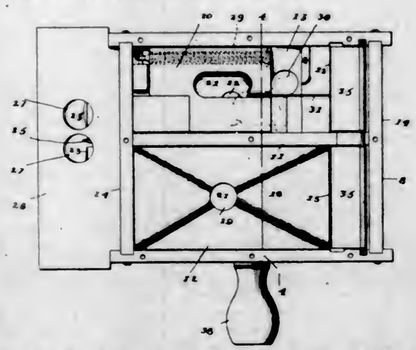


1. A device for cutting off the ends of tubes including a stationary casing, a revolving cutter holding means mounted in connection with said casing and insertible in the end of the tube to be cut, a rotary cutter mounted in said cutter holding means so as to be radially movable, a rotary actuating rod extending through said cutter holding means and casing, the portion of said rod in said casing being round and threaded and the portion in said cutter holding means being angular in transverse section and gradually enlarged, a nut on the threaded portion of said rod, and means slidably mounted on said casing that is movable into and out of engagement with said nut.

2. A device for cutting off the ends of tubes including stationary casing, revolving cutter holding means mounted in connection with said casing and insertible into the end of the tube to be cut, a rotary cutter mounted in said cutter holding means so as to be radially movable, a rotary actuating rod extending through said cutter holding means and casing, the portion of said rod in said casing being round and threaded and the other portion being angular in the transverse section and gradually enlarged, a split nut on the threaded portion of said rod, and means slidably mounted on said casing that is movable over said split nut for holding its parts in engagement with the actuating rod, whereby said sleeve may be moved away from said split nut for releasing the nut and actuating rod after the tube has been cut off, substantially as set forth.

3. A machine for cutting off the ends of tubes including a revolving cutter-holding means insertible into the end of the tube that is to be cut, a rotary cutter mounted therein so as to be radially movable, a rotating actuating rod extending through said cutter holding means angular in cross-section so that when rotated it will revolve said cutter-holding means and which is gradually enlarged throughout the portion operating through said cutter-holding means, means for simultaneously rotating and moving said rod longitudinally for forcing the cutter gradually outward, a bearing for the inner end of said actuating rod that has a ring slidable within the tube being cut, and a disk on the rod rotatable in said ring.

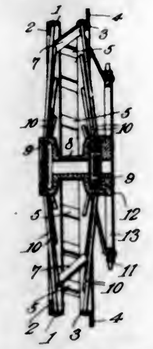
866,413. BALLOT-BOX. DAVID ALLCUT, Fostoria, Ohio. Filed July 7, 1906. Serial No. 325,169.



1. A ballot box comprising a body portion having separate compartments therewithin for the reception of ballots; horizontally movable means for discharging ballots from the compartments; means carried by said discharging means and extending in the direction of movement thereof for operating said discharging means; a guard plate located above said operating means and extending outwardly thereover in position to conceal the same, said guard plate having sight openings formed therethrough; and a spaced slat secured to the body portion of said ballot box below said operating means, to provide a finger hold during the actuation of the latter.

2. A ballot box comprising a body portion having a horizontal partition therewithin provided with an opening; a false bottom located above said partition in spaced relation thereto and provided with an opening; a horizontally movable slide located between said partition and bottom and having a pocket in the upper surface in registration with the opening in the false bottom, said slide having a laterally and downwardly extending passage communicating with said pocket and opening through its under surface, the slide opening being adapted to register with the partition opening when the slide is moved; means for normally holding the slide with its passage out of registration with the partition opening; a plate arranged to lie in position to cut off communication between the passage and the pocket of the slide when the passage is in registration with the opening in the partition; and a plunger carried by said slide and extending in the direction of motion thereof, for operating said slide.

866,414. TRACTION-WHEEL. ANDREW M. ANDERSON and CORNELIUS QUESNELL, Moscow, Idaho. Filed Sept. 25, 1906. Serial No. 336,088.



1. A wheel of the character described comprising a hub, rings concentric therewith and secured thereto, an inwardly extending annular flange upon the outer edge of one ring, an outwardly extending annular flange upon the outer edge of the other ring, and ties connecting the rings.

2. A wheel of the character described comprising a hub, rings concentric therewith and secured thereto, an inwardly extending annular flange upon the outer edge of one ring, an outwardly extending annular flange upon the outer edge of the other ring, and diagonally arranged ties connecting the rings, each tie having an outwardly extending flange.

3. A wheel of the character described comprising a hub, rings concentric therewith and secured thereto, an inwardly extending annular flange upon the outer edge of one ring, an outwardly extending annular flange upon the outer edge of the other ring, diagonally arranged ties connecting the rings, each tie having an outwardly extending flange, and brace strips connecting the rings.

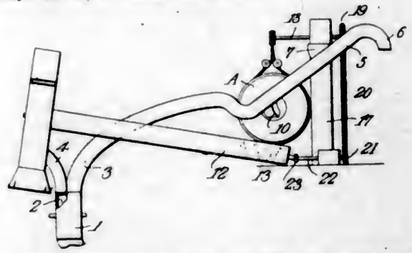
4. In a wheel of the character described the combination with a hub having enlarged sockets at the ends thereof; of rings surrounding the hub and concentric therewith, means for connecting the inner socket and ring, means for connecting the outer socket and ring, an exterior annular flange at the outer edge of the inner ring, an interior annular flange at the outer edge of the outer ring, and means for rigidly connecting the rings.

5. In a wheel of the character described the combination with a hub having enlarged sockets at the ends thereof; of rings surrounding the hub and concentric therewith, means for connecting the inner socket and ring, means for connecting the outer socket and ring, an exterior annular flange at the outer edge of the inner ring, an interior annular flange at the outer edge of the outer ring, and diagonally disposed ties rigidly connecting the rings and having outwardly extending flanges.

6. A wheel of the character described comprising a hub rings concentric therewith and secured thereto, diagonally disposed angular ties upon the outer face of and connecting the rings, said ties outstanding from the rings and having straight edges disposed to engage the ground, and brace strips secured upon the inner face of the ring and connecting said rings.

7. In a wheel of the character described the combination with a hub having an enlarged socket at one end, and a rim; of a drive gear, a boss at the center thereof seated within the socket, and a plurality of regularly disposed tangential connecting rods secured to the rim of the gear and to the rim of the wheel.

866,415. PNEUMATIC SEPARATOR. ANDREW M. ANDERSON and CORNELIUS QUESNELL, Moscow, Idaho. Filed Sept. 25, 1906. Serial No. 336,089.



1. A pneumatic separator comprising a casing, means therein for establishing an air current, flues extending upward from the casing and having air outlets at their upper ends, a hopper upon the upper wall of each flue at a point between its ends, said hopper opening into the flue, and an outlet spout depending from the lower wall of each flue, the material admitted to the flues from the hoppers being movable by gravity across the flues and into the outlet spouts independently of the air current within the flues.

2. In a pneumatic separator the combination with a casing, and means therein for establishing an air current; of upwardly extending flues extending from the casing and having air outlets at their upper ends, a feed hopper opening through the upper wall of each flue at a point between the ends thereof, an outlet spout extending from the lower wall of each flue and disposed to receive material discharged by gravity from the hopper and across the flue, means for supplying material to the hopper of one of the flues, and means for conveying material from the spout of said flue to the hopper of the other flue.

3. In a pneumatic separator the combination with a casing, and means therein for establishing an air current; of upwardly extending flues extending from the casing and having air inlets at their upper ends, a feed hopper opening through the upper wall of each flue at a point between the ends thereof, an outlet spout extending from the lower wall of each flue and disposed to receive material discharged by gravity from the hopper and across the flue, means for supplying material to the hopper of one of the flues, means for conveying material from the spout of said flue to the hopper of the other flue, and receiver engaging means upon one of the outlet spouts.

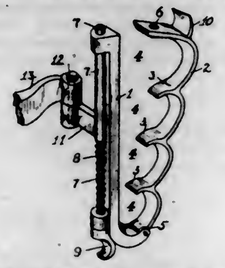
866,416. VEHICLE-TOP BOW-HOLDER. CLARENCE L. BAIR, San Francisco, Cal. Filed Apr. 3, 1907. Serial No. 366,070.

1. A vehicle-top bow-holder, comprising a fixed stock; an opposing movable arm, the adjacent faces of the stock and arm being formed to separately embrace and support the bows of the vehicle-top; and means for securing the stock and arm together upon said bows.

2. A vehicle-top bow-holder, comprising a fixed stock; an opposing movable arm having upon its inner face means to separately embrace and support the bows of the vehicle-top; and means for securing the stock and arm together upon said bows.

3. A vehicle-top bow-holder, comprising a fixed stock;

an opposing movable arm, having upon its inner face a series of spaced tongues which form with the adjacent face of the stock a series of sockets to separately embrace and support the bows of the vehicle-top; and means for securing the stock and arm together upon said bows.



4. A vehicle-top bow-holder, comprising a stock; an arm hinged thereto at one end, the adjacent faces of the stock and arm being formed to separately embrace and support the bows of the vehicle-top; and a detachable fastening between the other ends of said stock and arm, whereby they are held together upon and released from said bows.

5. A vehicle-top bow-holder, comprising a stock; an arm hinged thereto at one end, said arm having upon its inner face, means to separately embrace and support the bows of the vehicle-top; and a detachable fastening between the other ends of said stock and arm, whereby they are held together upon and released from said bows.

6. A vehicle-top bow-holder, comprising a stock; an arm hinged at one end to the stock and having on its inner face a series of spaced tongues which form with the adjacent face of the stock a series of sockets to separately embrace and support the bows of the vehicle-top; and a detachable fastening between the other end of the arm and the stock, whereby they are held together upon and released from said bows.

7. A vehicle-top bow-holder, comprising a stock; an arm hinged thereto at one end, the adjacent faces of the stock and arm being formed to separately embrace and support the bows of the vehicle-top; and a spring-controlled catch carried by the stock, with which the free end of the arm is adapted to engage to hold the stock and arm on the bows.

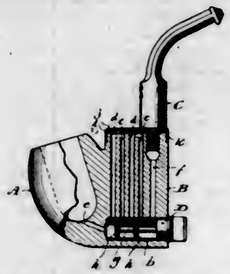
8. A vehicle-top bow-holder, comprising a stock; an arm hinged at one end to the stock and having on its inner face a series of spaced tongues which form with the adjacent face of the stock a series of sockets to separately embrace and support the bows of the vehicle-top; and a spring-controlled catch carried by the stock, with which the free end of the arm is adapted to engage to hold the stock and arm on the bows.

9. A vehicle-top bow-holder, comprising a stock having means for securing it to the vehicle-body; an arm hinged at one end of the stock, the adjacent faces of the stock and arm being formed to separately embrace and support the bows of the vehicle-top; and a detachable fastening between the other ends of said stock and arm, whereby they are held together upon and released from said bows.

10. A vehicle-top bow-holder, comprising a stock having means for securing it to the vehicle body; an arm hinged at one end to the stock, said arm having upon its inner face, means to separately embrace and support the bows of the vehicle-top; and a detachable fastening between the other ends of said stock and arm, whereby they are held together upon and released from said bows.

866,417. TOBACCO-SMOKING PIPE. JOHN M. BAKOS, South Milwaukee, Wis. Filed June 19, 1907. Serial No. 379,698.

1. A tobacco-smoking pipe having a bowl-shank provided with a horizontally disposed bore open to the bowl and vertically disposed flues in communication with the bore, certain of these flues being in communication with each other at their upper ends, a removable bore-closing plug having a stem therewith, a partition carried by the stem in position to constitute a cut-off between flues, and a mouth-piece stem having communication with a shank-flue.



2. A tobacco-smoking pipe having a bowl-shank provided with a horizontally disposed bore open to the bowl and vertically disposed flues in communication with the bore, certain of the flues being in sets communicating with one another at their upper ends; a removable bore-closing plug having a stem therewith, partitions carried by the stem in position to constitute cut-offs between flues of each set aforesaid, and a mouth-piece stem having communication with the shank-flue.

3. A tobacco-smoking pipe having a bowl-shank provided with a horizontally disposed bore open to the bowl and vertically disposed flues in communication with the bore, certain of these flues being in triangular arrangement and communicating one with two others at their upper ends, a removable bore-closing plug having a stem therewith, a partition carried by the stem to constitute a cut-off between the single and twin flues, and a mouth-piece stem having communication with a shank-flue.

4. A tobacco-smoking pipe having a bowl-shank provided with a horizontally disposed bore open to the bowl and vertically disposed flues in communication with the bore, a suitable packing on the upper end of the shank closing a recess therein by which communication is established between certain of said flues, means by which the packing is held in place, a removable bore-closing plug having a stem therewith, a partition carried by the stem in position to constitute a cut-off between flues, and a mouth-piece stem in communication with a shank-flue.

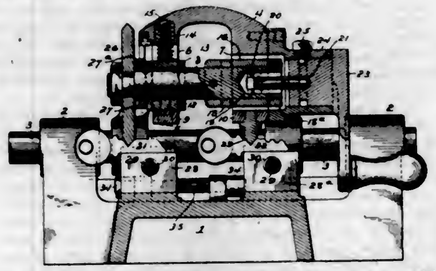
5. A tobacco-smoking pipe having a bowl-shank provided with a horizontally disposed bore open to the bowl and vertically disposed flues in communication with the bore, a suitable packing on the upper end of the shank closing a recess therein by which communication is established between certain of said flues, a plate covering the packing, a plate-confining ferrule on said shank, and a mouth-piece stem in communication with a shank-flue.

866,418. MACHINE FOR DUPLICATING KEYS. ARTHUR F. BARDWELL, Stamford, Conn., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn. Filed Oct. 23, 1906. Serial No. 340,187.

1. In a key duplicating machine, the combination with means for supporting a key to be duplicated and means for supporting a blank, of a frame carrying a gage or follower for engaging the bittings in the original key, and a cutter yieldably relatively to the gage member, means for yieldingly moving the cutter toward the blank, and means for actuating the cutter.

2. In a key duplicating machine, the combination with means for supporting a key to be duplicated and means for supporting a key blank, of a frame carrying a gage pin or follower for engaging the bittings in the original key and a rotary disk shaped cutter yieldable relatively to the gage pin or follower, means for yieldingly forcing the cutter against the blank and means for revolving the cutter.

3. The combination with a movable frame and a gage member thereon, of a crank mounted in said frame a shaft mounted at one end in a slidable bearing and connected at its opposite end by loose connection with the crank, a cutter at the end of the shaft adjacent to the slidable bearing and a spring seated against said bearing and tending to force the latter toward the work.



4. The combination with a work holder, of a movable frame, a crank mounted in said frame, a shaft having at one end a loose connection with the crank, a spring pressed slidable bearing supporting said shaft near its opposite end and a cutter secured to the shaft adjacent to the bearing, the spring tending to normally force the cutter toward the work holder.

5. The combination with a shaft mounted near one end in a pivoted bearing and near its other end in a vertically movable bearing, and a disk shaped cutter secured to said shaft at the end adjacent to the movable bearing, of a crank mounted to rotate in a fixed bearing and having a loose connection with the shaft adjacent to the pivoted bearing box.

6. The combination with a base having two vises thereon, of a hinged head or frame carrying a gage pin or follower located in a position to engage a key carried by one vise and a disk shaped cutter located in position to engage a blank carried by the other vise, of means for yieldingly forcing the cutter toward the blank, and means for rotating the cutter.

7. The combination with a base having two vises thereon, of a movable head or frame, a gage pin or follower carried by said head or frame, a crank mounted in said head or frame, a shaft loosely connected at one end to said crank and having a sliding or lateral movement at its opposite or free end, a cutter on the free end of the shaft and means for yieldingly forcing the cutter toward one vise.

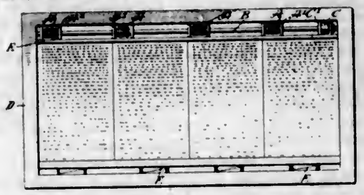
8. The combination with a base having two vises thereon, of a hinged head or frame, a pivoted bearing box and a sliding bearing box carried by said frame, a shaft journaled in said boxes, a disk shaped cutter secured to said shaft at its end adjacent to the sliding box, a rotating crank carried by said head or frame adjacent to the pivoted bearing box and a loose connection between said crank and shaft.

9. The combination with a base having two vises thereon, of a hinged head or frame having a projecting handle, a bearing box pivoted in said frame, a bearing box slidingly mounted in said frame, a spring for depressing the sliding box, a shaft mounted to rotate in said bearing boxes, a disk shaped cutter secured to the shaft at the end adjacent to the sliding bearing box, and means having a loose connection with the other end of said shaft for rotating the latter.

10. In a key duplicating machine, the combination with two supports, one for a key and the other a key blank, of a frame movable relatively to said supports and carrying a fixed gage pin or follower, a cutter yieldable relatively to the gage pin and means for rotating same.

11. In a duplicating machine, the combination with two supports, one for a key and the other for a key blank, of a hinged frame carrying a fixed gage pin or follower adapted to engage the bittings of the key, a cutter adapted to engage the edge of the blank, the said cutter being yieldable relatively to the gage pin, and means for rotating the cutter.

866,419. NUMBERING APPARATUS. OSWALD G. BARTUSCH, New York, N. Y. Filed Jan. 25, 1906. Serial No. 297,793.



1. A numbering apparatus for printing presses, comprising a rock-shaft, a plurality of numbering devices shiftable on the said rock-shaft and actuated from the latter, and an oscillating device shiftable on the said rock-shaft independent of the said numbering devices and comprising a casing and a movable member adapted to be actuated by a movable part of the printing press for rocking the said shaft.

2. A numbering apparatus for printing presses, comprising a rock-shaft, a plurality of numbering devices shiftable on the said rock-shaft and actuated from the latter, and an oscillating device shiftable on the said rock-shaft independent of the said numbering devices and adapted to be actuated by a movable part of the printing press for rocking the said shaft, the said oscillating device being spring-pressed to return it and the said shaft to normal position.

3. A numbering apparatus for printing presses, comprising a rock-shaft, a plurality of numbering devices shiftable on the said rock-shaft and actuated from the latter, and an oscillating device shiftable on the said rock-shaft independent of the said numbering devices and adapted to be actuated by a movable part of the printing press for rocking the said shaft, the said oscillating device being spring-pressed to return it and the said shaft to normal position, the shaft during the return movement actuating the numbering wheels of the said numbering devices.

4. In a numbering apparatus for printing presses, the combination with a chase and a rock-shaft, of a plurality of numbering devices shiftable on the said rock-shaft and actuated from the latter, an oscillating device shiftable on the said rock-shaft independent of the said numbering devices and adapted to be actuated by a movable part of the printing press for rocking the said shaft, the casings of the numbering devices and that of the said oscillating device being of the same width, and means for locking the said casings simultaneously in place in the chase to prevent them from accidentally moving on the rock-shaft.

5. In a numbering apparatus for printing presses, the combination with a chase, the locking furniture thereof and a rock shaft, of a plurality of numbering devices shiftable on the said rock-shaft and actuated from the latter, and an oscillating device shiftable on the said rock-shaft independent of the said numbering devices and adapted to be actuated by a movable part of the printing press for rocking the said shaft, the casings of the numbering devices and that of the said oscillating device being of the same width, whereby the said casings can be simultaneously locked in place in the chase by the furniture thereof to prevent them from accidentally moving on the rock shaft.

6. A numbering apparatus for printing presses, comprising a casing, a rock shaft, numbering wheels having ratchet wheels, a pawl frame having pawls for engagement with the ratchet wheels, means within the casing for operating the pawl frame, and a crank arm on the rock shaft outside of the casing and having its end connected with the pawl frame.

7. A numbering apparatus for printing presses having a rock-shaft, numbering devices on the said rock-shaft and actuated by the latter, and an oscillating device for the

said rock-shaft, comprising a casing on the rock-shaft, a plunger reciprocating therein and through which the rock-shaft extends, a crank arm secured on the said rock-shaft within the said casing and engaging a recess in the said plunger, and springs held in the casing and pressing the said plunger.

8. A numbering apparatus for printing presses having a rock-shaft, numbering devices on the said rock-shaft and actuated by the latter, and an oscillating device for the said rock-shaft, comprising a casing on the rock-shaft, a plunger through which the rock shaft extends, said plunger being made in parts fastened together at their upper ends and reciprocating in spaced compartments in the said casing, and a crank arm secured on the said rock-shaft and engaging a recess in one of the said plunger parts.

9. A numbering apparatus for printing presses having a rock-shaft, numbering devices on the said rock-shaft and actuated by the latter, and an oscillating device for the said rock-shaft, comprising a casing on the rock-shaft, a plunger through which the rock-shaft extends, said plunger being made in parts fastened together at their upper ends and reciprocating in spaced compartments in the said casing, and a crank arm secured on the said rock-shaft and engaging a recess in one of the said plunger parts, the said crank arm being within the said casing.

10. A numbering apparatus for printing presses having a rock-shaft, numbering devices on the said rock-shaft and actuated by the latter, an oscillating device for the said rock-shaft, comprising a casing, a plunger reciprocating therein, a crank arm secured on the said rock-shaft within the said casing and engaging a recess in the said plunger and springs held in the casing and pressing the said plunger, and a second crank arm secured on the said rock-shaft outside of the said casing and connected with the said plunger.

11. A numbering apparatus for printing presses having a rock-shaft, numbering devices on the said rock-shaft and actuated by the latter, an oscillating device for the said rock-shaft, comprising a casing, a plunger reciprocating therein, a crank arm secured on the said rock-shaft within the said casing and engaging a recess in the said plunger and springs held in the casing and pressing the said plunger, a second crank arm secured on the said rock-shaft outside of the said casing, and a pin on the said plunger and engaged by the free end of the said second crank arm, the said pin extending through an elongated slot in one end of the said casing.

866,420. WRENCH. CHARLES BEAUCHENE, Lake Linden, Mich. Filed Feb. 14, 1907. Serial No. 357,287.



1. A wrench comprising a handled shank having a longitudinal groove in its inner side and ratchet teeth in the bottom of the groove, a fixed jaw on one end of the shank, a slidable jaw on the shank and having a recess in its rear face, the said recess extending approximately parallel with the front face of the jaw and having a closed outer end, the wall which is curved, a pawl pivoted loosely and approximately at the center of its length in the recess of the said jaw, the pawl being of a thickness a little less than the width of the groove of the shank and having its outer end curved to correspond with the curved end wall of the recess and its inner end extending into the groove of the shank and provided with teeth engaging the teeth in the bottom of said groove, and a spring in the recess of the movable jaw for holding the teeth in the pawl in engagement with the teeth of the shank.

2. A wrench comprising a handled shank having its inner side provided with a groove extending in the direction of the length of the shank, the bottom of the groove being provided with ratchet teeth, a jaw fixed on the said shank, a jaw slidable on the said shank and having in its rear face a recess adjacent to the said grooved and toothed side of the shank, the recess extending approximately parallel with the front face of the jaw and having its outer end closed, the wall of which is curved, a pawl pivoted loosely and approximately at the center of its length in the recess of the said slidable jaw, and having its outer end rounded off and its inner end extending into the groove of the shank and provided with teeth engaging the teeth in the groove of the shank, the pawl having at its outer face near the inner end an integral flat finger piece extending to the outside of the jaw and dished at both faces for engagement by the fingers of the operator, and a flat spring secured at one end to the rear wall of the said recess and engaging with its free end the outer end of the said pawl.

866,421. PROCESS OF EFFECTING CHEMICAL REDUCTIONS AND PRODUCING METALS OR ALLOYS. FREDERICK M. BECKET, Niagara Falls, N. Y., assignor to Electro Metallurgical Company, a Corporation of West Virginia. Filed Jan. 31, 1907. Serial No. 355,139.

1. The process of reducing oxids, which consists in effecting partial reduction by the oxidation of a nonmetal and further reduction by the oxidation of silicon.

2. The process of reducing oxids, which consists in effecting partial reduction by the oxidation of carbon and complete reduction by the oxidation of silicon.

3. The process of reducing vanadic oxid, which consists in effecting reduction to vanadous oxid by a non-metallic reagent and reduction to vanadium by a metallic reagent.

4. The process of reducing vanadic oxid, which consists in effecting reduction to vanadous oxid by the oxidation of carbon and reduction to vanadium by the oxidation of a metal.

5. The process of reducing vanadic oxid, which consists in effecting reduction to vanadous oxid by the oxidation of a nonmetal and reduction to vanadium by the oxidation of silicon.

6. The process of reducing vanadic oxid, which consists in effecting reduction to vanadous oxid by the oxidation of carbon and reduction to vanadium by the oxidation of silicon.

7. The process of reducing refractory metallic oxids, which consists in effecting partial reduction by electrically smelting a mixture of the oxid and carbon, and effecting complete reduction of the product by a metallic reagent.

8. The process of reducing refractory metallic oxids, which consists in effecting partial reduction by electrically smelting a mixture of the oxid and carbon, and effecting complete reduction of the product by silicon.

9. The process of effecting chemical reductions, which consists in effecting partial reduction by a non-metallic reagent and further reduction by a metallic reagent and electrically-supplied heat.

10. The process of reducing refractory metallic oxids, which consists in effecting partial reduction by the oxidation of a non-metal and complete reduction by a metallic reagent and electrically-supplied heat.

11. The process of reducing oxids, which consists in effecting partial reduction by the oxidation of a non-metal and further reduction by the oxidation of silicon and electrically-supplied heat.

12. The process of reducing oxids, which consists in effecting partial reduction by the oxidation of carbon and complete reduction by the oxidation of silicon and electrically-supplied heat.

13. The process of effecting chemical reductions, which consists in effecting partial reduction by a non-metallic reagent and further reduction by a metallic reagent, and electrically supplying heat to effect both reductions.

14. The process of reducing vanadic oxid, which consists in effecting reduction to vanadous oxid by a non-metallic reagent and reduction to vanadium by a metallic reagent and electrically-supplied heat.

15. The process of reducing vanadic oxid, which consists in effecting reduction to vanadous oxid by the oxidation of carbon and reduction to vanadium by the oxidation of a metal and electrically-supplied heat.

16. The process of reducing vanadic oxid, which consists in effecting reduction to vanadous oxid by the oxidation of a nonmetal and reduction to vanadium by the oxidation of silicon and electrically-supplied heat.

17. The process of reducing vanadic oxid, which consists in effecting reduction to vanadous oxid by the oxidation of carbon and reduction to vanadium by the oxidation of silicon and electrically-supplied heat.

866,422. STRIKING-COMB FOR SLASHERS. HORATIO B. BECKMAN, Newburgh, N. Y. Filed June 9, 1905. Serial No. 264,423.

The combination of a beam, a slasher having a size box and a yarn guide roll at the end for receiving the yarn from the said beam and guiding it to the said size box, the said beam and the said guide roll being arranged one relative to the other so that the yarn passes approximately vertically from the beam to the guide roll, and a striking comb on the slasher and mounted to turn and to reciprocate axially, the striking comb being located intermediate the said beam and the said guide roll, and the teeth of the said striking comb standing approximately vertically out of engagement with the yarn at the time the comb is in an inactive position.

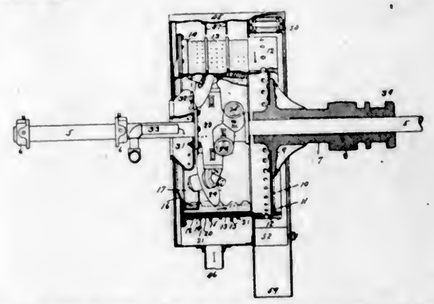
866,423. SAFETY-TREAD. LOUIS L. BELLATTY, New York, N. Y. Filed Feb. 23, 1907. Serial No. 358,957.

1. A safety tread or creeper, comprising a flexible metallic body portion formed with a plurality of anti-slipping projecting spurs or retaining points, each of which is movable relative to an adjacent one.

2. A safety tread or creeper comprising a flexible metallic body portion formed with a plurality of anti-slipping projecting spurs or retaining points, each of which is movable relative to an adjacent one, and means to attach the same to the foot in a detachable relation.

3. A safety tread or creeper, comprising a flexible metallic body portion formed with a plurality of anti-slipping projecting spurs or retaining points, each of which is movable relative to an adjacent one, and an upper flexible member to pass around the foot.

866,424. CENTRIFUGAL FILTER. HIRAM W. BLAISPELL, Los Angeles, Cal. Filed May 17, 1905. Serial No. 260,894.



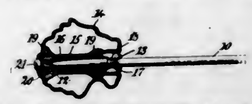
1. A centrifugal filter having a hollow member, an inner member for distributing and removing material and means for giving the hollow member a reciprocating motion in relation to the inner member.

2. A centrifugal filter having a hollow member, an inner member carrying disks for distributing and removing material and means for giving the hollow member a reciprocating motion in relation to the inner member.

3. A centrifugal filter having an inner member, and disk holders helically arranged on said inner member around the axis thereof.

4. In a centrifugal filter, a disk-carrying inner member and means for radially adjusting said disks and means for giving said inner member a reciprocating motion.

866,425. HAT-PIN. EMANUEL M. BLOCH, Sag Harbor, N. Y. Filed May 18, 1907. Serial No. 374,391.

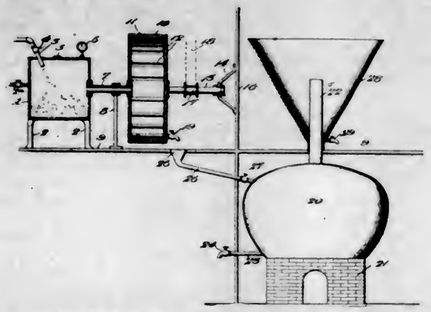


As an article of manufacture, a pin having a body and a removable head, the body of the pin having a pointed end and a circumferential groove adjacent thereto and said head comprising a hollow shell having a recess in one side thereof, and a tube extending through said shell from the recess to the opposite side of the shell for receiving the pointed end of the pin and presenting outwardly-extending spring fingers each provided with a curved bead within said recess for engaging in the groove of the pin, the terminal portions of said spring fingers being protected and concealed within said recess and the tube serving to strengthen the shell.

866,426. APPARATUS FOR PRODUCING ALCOHOL. FRANKLIN H. BOWLY, New York, N. Y., assignor of one-fourth to Francis L. Wellman, one-fourth to William W. Gooch, and one-fourth to Warren G. Demarest, New York, N. Y. Filed Mar. 21, 1907. Serial No. 363,697.

1. In an apparatus of the character described, a gas generator, a mixing drum, a hollow shaft establishing communication between the generator and drum, a still, a pipe leading from the still, a condenser having a flaring

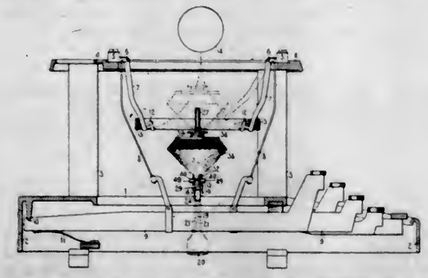
wall and surrounding said pipe, and means whereby the contents of the mixing drum may be led to the still, substantially as described.



2. In an apparatus of the character described, a gas generator, a mixing drum, a hollow shaft establishing communication between said generator and drum, a still, a condenser surrounding the outlet pipe from the still, a faucet communicating with the drum, a funnel under said faucet leading to the still, means for rotating said drum, and a draw-off pipe leading from the still.

3. In an apparatus of the character described, a generator, a drum provided with interior shelves, a hollow shaft leading from the generator to the drum, means for rotating said drum, a still, connections between the drum and still, a pipe rising from the still, a flaring condenser surrounding said pipe, and a discharge faucet at the lower portion of said condenser.

866,427. TYPE-CLEANING DEVICE FOR TYPEWRITERS. DANIEL BRIGGS, New York, N. Y., assignor to Wyckoff, Seamans & Benedict, Ilion, N. Y., a Corporation of New York. Filed Feb. 9, 1906. Serial No. 300,285.



1. A device of the character described comprising a two-part bracket, one part being vertically arranged and the other horisontally arranged, the vertically arranged part being hinged to the other part and provided with a hook to engage the bottom edge of the typewriter frame, means for clamping the two-part bracket on the typewriter frame, an upright rod or spindle secured to the inner end of the horizontal portion of the bracket, a brush slidable up and down on said rod or spindle, a support on the horisontal portion of the bracket, a lever pivoted to said support and connected at one end to the brush to move it up and down and provided at its opposite end with a finger piece.

2. A device of the character described comprising a type cleaning brush, a brush frame including a sleeve, a support within said sleeve and on which said sleeve is slidably mounted, and a lever loosely connected with said sleeve and provided with a finger portion for actuating said lever to move said brush into and out of operative position.

3. A device of the character described comprising a type cleaning brush, a slidable brush frame carrying said brush and including a sleeve, a support within said sleeve and on which said sleeve is slidably mounted, a lever loosely connected with said sleeve and provided with a finger portion for actuating said lever to move said brush into and out of operative position, and a stop on said support coöperating with said lever to limit the movement of said brush in one direction.

4. A device of the character described comprising a type cleaning brush, a brush frame, a lever for moving said brush into and out of operative position, and a double acting spring coöperating with said lever to assist in maintaining it in desired position.

5. A device of the character described comprising a type cleaning brush, a brush frame including a sleeve, a support on which said sleeve is slidably mounted, a lever loosely connected with said sleeve and provided with a finger portion for actuating said lever to move said brush into and out of operative position, and a double acting spring coöperating with said lever to assist in maintaining it in desired position.

6. A device of the character described comprising a type cleaning brush provided with a head, a sleeve on which said head is mounted, a locking nut for securing said brush head upon said sleeve, a support within said sleeve and upon which said sleeve is slidable, and a lever connected with said sleeve and adapted to move said brush into and out of operative position.

7. A device of the character described comprising a type cleaning brush provided with a head, a sleeve on which said head is mounted, said sleeve being provided with oppositely disposed slots, a support within said sleeve and on which said sleeve is slidable, a lever having a forked end coöperating with said slots and adapted to move said brush into and out of operative position.

8. A device of the character described comprising a type cleaning brush provided with a head having a central square opening, a sleeve provided with a squared portion on which said head is mounted, a nut coöperating with a threaded portion on said sleeve to maintain said brush head in fixed relation therewith, said sleeve being provided with oppositely disposed slots, a support on which said sleeve is slidable, a lever having a forked end coöperating with said slots and adapted to move said brush into and out of operative position.

9. A device of the character described comprising a type cleaning brush provided with a head having a central square opening, a sleeve provided with a squared portion upon which said head is mounted, a nut coöperating with a threaded portion on said sleeve to maintain said brush head in fixed relation therewith, said sleeve being provided with oppositely disposed slots, a support on which said sleeve is slidable, a lever having a forked end coöperating with said slots and adapted to move said brush into and out of operative position, said lever being provided with a nose, and a locking spring coöperative with the nose of said lever to maintain said brush in operative or inoperative position.

10. A device of the character described comprising a type cleaning brush provided with a head having a central square opening, a sleeve having a squared portion with which said brush head coöperates, a thumb nut coöperative with said sleeve to maintain said brush head in fixed relation therewith, said sleeve being provided with oppositely disposed slots below said brush, a cylindrical support upon which said sleeve is mounted, said support being provided with a flattened portion terminating in a shoulder, and a lever having a forked end engaging the slots of said sleeves and adapted to move said brush into and out of operative position, the forked portions of said lever coöperating with the shoulder of said support to limit the movement of said sleeve as the brush is moved to operative position.

11. A device of the character described comprising a type cleaning brush provided with a head having a central square opening, a sleeve having a squared portion with which said brush head coöperates, a thumb nut coöperative with a threaded portion of said sleeve to maintain said brush head in fixed relation therewith, said sleeve being provided with oppositely disposed slots below said brush, a cylindrical support upon which said sleeve is mounted, said support being provided with a flattened portion terminating in a shoulder, a lever having a forked end engaging the slots of said sleeve and adapted to move said brush into and out of operative position, the forked end of said lever coöperating with the shoulder of said support to limit the movement of said sleeve as the brush is moved to operative position, said lever being provided with a nose, and a flat locking spring coöperative with the nose of said lever to maintain said brush inoperative or in operative position.

12. A device of the character described comprising a supporting bracket having a horizontally disposed arm, a vertical rod secured to said support, a type cleaning brush, a brush frame slidable on said rod, a lever pivoted on the horizontal arm of said bracket and connected with said brush frame for moving said brush into operative and inoperative positions, and a spring coöperative with said lever to maintain said brush in desired position.

13. A device of the character described comprising a two part bracket, the parts of said bracket being hinged together, said bracket being adapted to coöperate with the side frame of the typewriting machine, a thumb screw adapted to maintain said bracket in fixed relation with the machine frame, a vertically disposed support on one of the parts of said bracket, a brush carrying head on said support, and a lever pivoted to one of the parts of said bracket coöperative with said brush head.

14. A device of the character described comprising a two-part bracket, the parts of said bracket being hinged together, said bracket being adapted to coöperate with the side frame of the typewriting machine, a thumb screw adapted to maintain said bracket in fixed relation with the machine frame, a vertically disposed supporting rod on one of the parts of said bracket, a sleeve slidable on said rod, a brush-carrying head fixed on said sleeve, said sleeve being provided with oppositely disposed slots, a lever pivoted to one of the parts of said bracket and provided with a forked end coöperative with the slotted portion of said sleeve, and a flat locking spring secured to one of the parts of said bracket and coöperating with said lever to maintain the brush-carrying head in desired position.

15. A device of the character described comprising a two-part supporting bracket, the two parts of said bracket being hinged together and one of said parts terminating in a hook, a locking spring on one part of said bracket and coöperating with the machine frame to maintain the bracket in place thereon, a support on said bracket, and a type cleaning brush on said support.

16. A device of the character described comprising a two-part supporting bracket, the two parts of said bracket being hinged together and one of said parts terminating in a hook, a thumb screw for securing said bracket to the machine frame, a spring protector secured to said bracket coöperative with the end of said thumb screw, a support on said bracket, a type cleaning brush movable on said support, and hand actuated means for moving said brush into and out of operative position.

17. A device of the character described comprising a reciprocatory type cleaning brush provided with a sleeve arranged to slide on a fixed support projecting upwardly from a bracket, said sleeve having oppositely formed slots at its lower end, a lever pivoted in a support projecting upwardly from said bracket and having a fork at its inner end to engage said slots and a finger piece at its opposite end for moving the brush up or down, and means cooperative with said lever to hold the brush in either of its said two positions.

18. A device of the character described comprising a reciprocatory type cleaning brush, a brush frame, a support for said frame, and means for moving said brush into and out of operative position, said means being loosely and slidably connected with said frame and preventing rotary movement of said brush.

19. A device of the character described comprising a type cleaning brush, a brush frame including a sleeve, a support on which said sleeve is slidably mounted, and means including a forked lever for moving said brush into and out of operative position, the fork of said lever embracing said sleeve and preventing rotary movement of said sleeve.

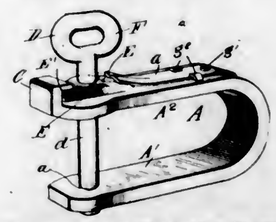
20. A device of the character described comprising a type cleaning brush, a brush frame, a support on which said frame is slidably mounted, means for moving said brush into and out of operative position and preventing rotary movement of said brush, and a double acting locking spring coöperating with said means to maintain said brush in operative or inoperative position.

21. A device of the character described comprising a type cleaning brush, a brush frame including a sleeve, a support on which said sleeve is slidably mounted, means including a forked lever for moving said brush into and out of operative position, the fork of said lever embracing said sleeve and preventing rotary movement of said brush, and a double acting locking spring coöperating with said lever to maintain said brush in operative or inoperative position.

22. A device of the character described comprising the horizontal bracket arm 15, the vertical hooked bracket arm 19 pivoted thereto, the spring 24, the binding screw 23, the upright rod 30, the brush carrying sleeve slidable up and down on said rod, the hand lever 45 pivoted in ears on the bracket arm 15, the oppositely disposed noses or cams 48 on said lever, and the spring 50 on said arm 15.

23. A device of the character described comprising a detachable and vertically disposed support central of the type basket, a conical type cleaning brush provided with a head, the brush portion being disposed below said head, a reciprocatory part mounted on said support and to which said brush head is secured, said part extending from said head downward through and below said brush portion, and means connected with said part for moving said brush up and down to operative and inoperative positions.

866,428. CLEVIS. MELVIN H. BROWNING, Perry, Ill. Filed Mar. 21, 1907. Serial No. 363,627.



1. A clevis comprising a yoke having its arms provided with openings for the pin and having a slot leading from the upper pin opening and a keeper on the opposite side of said opening from such slot, the pin having oppositely projecting arms overlying the upper yoke arm, one of said arms being arranged to enter the keeper and the other arm having on its underside a projection entering the slot in the upper yoke arm and a spring secured to the yoke arm and bearing upon the pin arm, substantially as set forth.

2. A clevis comprising a yoke, a double armed pin fitted thereto, a keeper rigid with the yoke and overlying one arm of the pin, and a spring operating upon the other arm of the pin.

3. The combination of the yoke arm having an opening and slot at one side thereof, of a pin fitting in said opening and having an arm provided with a projection entering said slot, and a spring operating to depress the arm and hold the projection in its slot, substantially as set forth.

4. The combination of the yoke arm having a pin opening and a keeper at one side of the same, the pin having an arm projecting in said keeper and adapted to be moved below the keeper to secure the pin or clear of the keeper to release the pin and a spring acting on the pin, substantially as set forth.

5. The yoke arm having a pin opening, the pin having an arm and a projection depending therefrom to engage the yoke arm and adapted to prevent the turning of the pin and a spring acting on the pin, substantially as set forth.

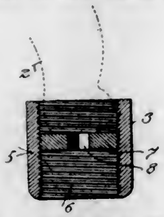
6. The combination of the yoke arm, the pin having an arm and a spring secured at one end to the yoke arm and

bearing at its other end on the pin arm, the latter and the spring being provided one with a depression and the other with a part entering the same and arranged eccentrically to the pin, substantially as set forth.

7. A clevis yoke having one of its arms provided with a pin opening and a slot leading from one side of the same and with a keeper on the opposite side of the arm and a pin coöperating with said yoke arm, substantially as set forth.

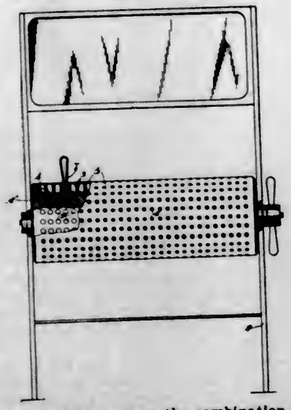
8. A clevis pin and yoke therefor having means for interlocking with the pin, the latter turning into and out of interlock with the yoke, and a spring for holding the pin in interlock with the yoke.

866,429. LEVELING DEVICE. HENRY C. BUNTING, Dunbar, Pa. Filed Nov. 10, 1906. Serial No. 342,872.



A leveling device comprising a hollow, internally screw-threaded cylinder open at both ends, and a marginally screw-threaded disk having its threaded portion in adjustable engagement with the threaded portion of the cylinder, said disk having its axial dimension substantially less than the length of the cylinder, and being provided with a centrally located non-circular opening.

866,430. ADVERTISING MEANS. GEORGE CARRINGTON and HUGH PUSEY, San Francisco, Cal. Filed July 1, 1907. Serial No. 381,652.

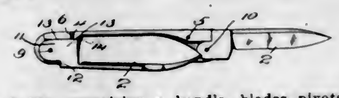


1. In an advertising means, the combination of a member mounted for rotation and having pockets, an order device in each pocket, and a friable seal for the pockets.

2. In an advertising means, the combination of a member mounted for rotation and having pockets, a removable order device in each pocket, and a dotted sheet of paper on the periphery of said rotatable member forming a seal and closure for the several pockets.

866,431. POCKET-KNIFE. JOHN D. CASE, Little Valley, N. Y. Filed Feb. 16, 1906. Serial No. 301,565.

1. A knife comprising a handle, a blade pivoted therein, a spring pivoted at one end for retaining the knife in position and being designed to bow centrally during the opening and closing of the blade, said spring being formed with an elongated aperture near the end opposite said pivot, and means secured to said handle and passing through the aperture in said spring for operating in said slot for permitting the spring to hold the blade in position and yet permit the spring to bow centrally during the operation of the blade.



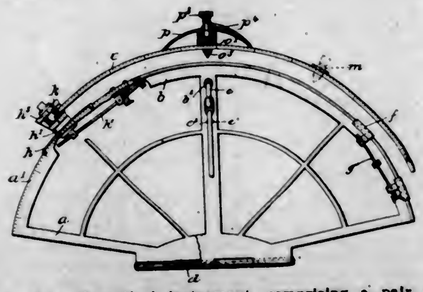
2. A knife, comprising a handle, blades pivotally secured therein, formed with shanks having comparatively long portions, and a spring for retaining said blades in position formed with a comparatively long, thin central portion, and having enlarged portions upon each end thereof, the enlarged portions having comparatively long flat sides for contacting flatwise with the flat portion of the shank for firmly holding said blades in their inner or outer position, said spring being formed with apertures near each end thereof for accommodating rivets for retaining said spring in position, one of said apertures being larger than the rivet passing therethrough for permitting free movement of the spring.

3. A knife, comprising a handle, a blade secured therein, a spring for retaining said blade in position formed with a comparatively long central portion, enlarged end portions and an elongated aperture in one of the end portions for permitting the operation of the spring, and means engaging said apertures for holding said spring in operative position.

4. A knife, comprising a handle, a spring back secured therein by rivets secured a short distance from the ends thereof, said spring being formed with an elongated aperture near one end for permitting free movement of said spring, and a blade pivotally secured in said handle, the pivots of said blade being positioned further from the center of said spring than the rivets securing the spring back in place, said elongated apertures permitting sufficient movement of said spring for operating said blades.

5. A knife comprising a handle, a blade pivotally secured to said handle, a long, thin, flat spring back pivotally secured to said handle at one end and having an elongated aperture for accommodating securing means at the opposite end, said spring being adapted to hold said blade positively in its various positions, and means passing through said apertures for holding said spring in position, said elongated aperture permitting said spring to bow during the movement of the blade.

866,432. MATHEMATICAL INSTRUMENT. LEANDER A. CLAPP, U. S. Navy. Filed Nov. 1, 1905. Serial No. 285,475.



1. A mathematical instrument, comprising a pair of frames pivoted together, a curved scale on each frame, means for adjusting the frames toward and from each other about their pivots, a bracket adjustable along one of said scales, and a scaled bar connected with said bracket by a universal joint.

2. A mathematical instrument, comprising a frame having a semi-circular scale thereon, a bracket adjustable along said scale, a curved bar connected with said bracket by a universal joint, and a frame adjustably connected with the first frame and having a semi-circular scale thereon.

3. A mathematical instrument comprising a pair of frames pivoted together upon a central line, each frame having a semicircular scale drawn upon said line as a diameter, means for adjusting the frames at varying angles with respect to each other, and a curved graduated bar adjustably secured to one of said frames and having a pointer adjustable thereon, said pointer being adapted to coöperate with the scale upon the other frame, as and for the purpose set forth.

4. A mathematical instrument, comprising a pair of frames pivoted together upon a central line, a semi-circular scale on each frame drawn upon said line as a diameter, a curved bar secured to one of said frames and drawn on an arc with said line as a center, the other frame being provided with a perforation for receiving said bar, and means for adjusting the second frame along said bar; said means comprising a slide adapted to be secured to the bar in any position, and a screw connected with said slide and with the second frame.

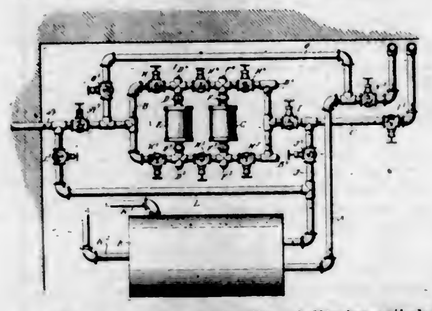
5. A mathematical instrument, comprising a frame having a semi-circular scale thereon, a bar curved on an arc drawn from the center of said semi-circular scale, a universal joint for connecting said bar with said frame, and an attachment for said bar comprising a plate having an edge adapted to coincide with the center of said bar and a semi-circular scale for indicating the angle between said bar and any other part of the instrument.

6. A mathematical instrument comprising a frame having a semicircular scale thereon, a bar curved on an arc drawn from the center of said semicircular scale, a universal joint for connecting said bar with the frame, and means on the bar for registering with the scale.

7. A mathematical instrument comprising a frame having a scale thereon, a bar, means for movably connecting the bar with said frame, and an attachment for said bar comprising a plate having an edge adapted to coincide with the center of the bar, a scale for indicating the angle between said bar and any other part of the instrument.

8. A mathematical instrument comprising a pair of frames pivoted together, each frame having a scale, a curved bar secured to one of said frames, and means for adjusting the second frame along said bar, said means comprising a slide adapted to be secured to the bar in any position, and a screw connected with said slide and with the second frame.

866,433. FILTER. ANDREW J. CLARK, Santa Cruz, Cal., assignor of one-half to Joseph R. Guthrie, Santa Cruz, Cal. Filed May 10, 1907. Serial No. 372,910.



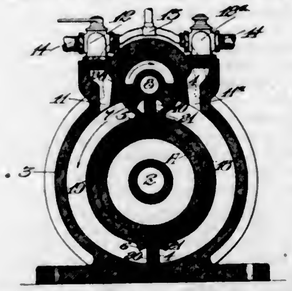
1. A filter comprising a plurality of filtering cylinders each provided with filtering material, pipes connected with the ends of the said cylinders and with each other to form an endless pipe, a supply pipe leading to the said endless pipe, a discharge pipe leading from the said endless pipe, valves in the said pipes for controlling the flow of the liquid to be filtered in such a manner that the liquid flows from the said supply pipe successively through the plurality of filtering cylinders and then to the discharge pipe, or flows in reverse direction through the said filtering cylinders for cleaning purposes, and a hot water tank having valved pipe connections with the said supply pipe and the said discharge pipe.

2. A filter comprising an endless valved pipe connected with a water supply and with a discharge, a plurality of filtering cylinders provided with filtering material and each connected at both ends with the said endless pipe, and cleaning plugs in the endless pipe adjacent to the ends of the said filtering cylinders.

3. A filter comprising an endless valved pipe connected with a water supply and with a discharge, a plurality of filtering cylinders provided with filtering material and each connected at both ends with the said endless pipe, and discharge plugs in the endless pipe at the outlet thereof.

4. A filter comprising a plurality of filtering cylinders, each provided with filtering material, pipes connected with the ends of the said cylinders and with each other, to form an endless pipe, a supply pipe leading to the said endless pipe, a discharge pipe leading from the said endless pipe, and means in connection with the pipes for controlling the flow of the liquid to be filtered, whereby to pass said liquid through all or any of the filters and in either direction.

866,434. ROTARY ENGINE. JOHN H. COLLDEWEIH, Livermore, Cal. Filed Mar. 12, 1907. Serial No. 362,023.



1. A rotary engine consisting of a revoluble drum, an exterior concentric casing forming with the drum an annular intervening channel, longitudinal interlocking slots made in the periphery of the drum, correspondingly shaped blocks removably fitting said slots, and having piston blades projecting radially therefrom to fit the interior of the casing, slidable overlapping plates fitting channels in the edges of the pistons, and having inwardly turned radial extensions fitting continuations of the channels in the ends of the pistons, a cylindrical revoluble abutment having a semi-circular channel extending longitudinally in its periphery, said abutment being connected and revoluble in unison with the piston-carrying drum so that the pistons register with and enter the segmental channel, and projections of the locking block fitting and forming a joint with the edges of said channel.

2. In a rotary engine, a centrally journaled revoluble drum, a concentric exterior casing with intermediate annular channel, wedge-shaped blocks carrying radial extending pistons, said blocks fitting correspondingly shaped channels in the periphery of the drum and extending outside of said periphery, overlapping slidable and spring-pressed plates fitting the edges of the pistons and having inwardly extending members fitting channels in the ends of the pistons, and means for forcing said plates outwardly to form tight joints, a cylindrical revoluble abutment having a segmental channel extending lengthwise of its periphery, and of a depth to receive the edges of the pistons, the edges of said channel also fitting and turn-

able upon the projecting edges of the piston-carrying block to form a movable joint while the pistons are passing through the abutment.

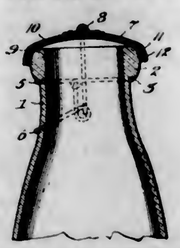
3. In a rotary engine, a centrally journaled piston-carrying drum, an exterior casing concentric therewith and an annular intermediate channel within which the pistons are movable, wedge-shaped blocks interlocking with correspondingly shaped channels on the periphery of the drum, pistons carried by said blocks, a revoluble abutment having a segmental channel, means whereby said channel is made to register with each piston and block as they pass, overlapping slidable and spring-pressed plates fitting the edges of the pistons and having inwardly extending plates fitting channels in the ends of the pistons, interior springs by which said plates are forced outwardly to form tight joints and pins extending inwardly from the inner ends of the extensions.

4. In a rotary engine characterized by a central drum, an exterior casing with an annular intervening channel and radial pistons carried by the drum, spring-pressed packing plates fitting channels in the edges of the pistons said plates overlapping and slidable longitudinally with relation to each other, said plates having right-angled extensions fitting the end channels of the pistons.

5. In a rotary engine characterized by a central drum, an exterior casing with an annular intervening channel, and radial pistons carried by the drum, spring-pressed packing-plates overlapping and slidable in the edges of the pistons, said plates having right-angled extensions fitting the end channels of the pistons, spring-pressed packing rings fitting channels in the ends of the drums, said rings being radially slotted to allow the end portions of the piston plates to pass through the slots.

6. In a rotary engine of the character described, a drum revoluble within a concentric casing, and having spring-pressed packing rings forming joints between the ends of the drum and the casing, slidable overlapping plates fitting channels in the edges of the pistons, and having inwardly turned radial extensions fitting continuations of the channels in the ends of the pistons, said extensions passing through slots in the drum packing-rings, and co-acting with said rings to form tight joints with the interior of the casing.

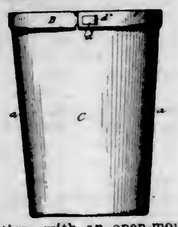
866,435. BOTTLE-CLOSURE. THOMAS L. CONNORS, Hudson, N. Y. Filed May 3, 1907. Serial No. 371,607.



A bottle closure comprising a sheet metal cap provided with a depending flange to inclose the rim of the bottle neck, a sealing disk having a flange adapted to be clamped against the bottle neck by the flange of the cap, the said flange of the cap being formed with an inturned rim bearing directly against the disk, and means for securing the cap in applied position.

866,436. TUMBLER-CLOSURE. JOHN T. COX, Moorestown, N. J. Filed Feb. 17, 1903. Serial No. 143,750.

1. A closure for open-mouthed vessels having inclined walls tapering inwardly from top to bottom, comprising a cap adapted to rest on the wall surrounding the mouth of said vessel, a vertical walled band having a portion engaging the edge of said cap to hold it against the mouth of the vessel, and provided with means for fastening said band, said band having an inturned lower edge initially formed therein for engagement with the outer wall of the vessel at a point below the mouth of the latter, the engaging edge of said band being of less diameter than the upper portion of the vessel.



2. The combination, with an open-mouthed vessel having inclined walls tapering inwardly from top to bottom, of a cap closing the mouth of said vessel and adapted to rest on top of the same, a split band having a horizontal flange to engage the cap, the body of the band being vertically walled at right angles to said flange and having an inturned lower edge initially formed therein adapted to engage the outer wall of the vessel at a point below its upper edge, the engaging edge of said band being of less diameter than the upper edge of the vessel and provided with means for adjustably securing said band to the vessel.

866,437. FIRE-EXTINGUISHING COMPOUND. EDWARD M. DAVIDSON, New York, N. Y. Filed Jan. 9, 1907. Serial No. 351,449.

1. A composition of matter including carbon tetrachlorid and carbon dioxid.

2. A fire extinguishing compound consisting of carbon tetrachlorid having in solution carbon dioxid gas.

866,438. SHAVING-BRUSH. ROBERT L. DAVIS, Star, N. C. Filed Jan. 17, 1907. Serial No. 352,750.

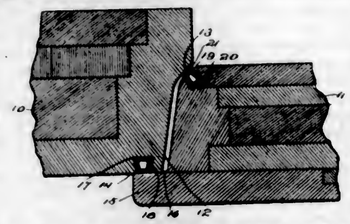


1. In combination with the handle of a shaving-brush having a circumferential groove thereon, a ring having an annular projection arranged to seat in said groove, said ring extending beyond the contour of the brush and forming a rubbing surface removed from the surface of the brush.

2. In combination with the handle of a shaving-brush having a circumferential groove thereon, an elastic ring having an annular projection arranged to seat in said groove, said ring extending beyond the contour of the brush and forming a rubbing surface removed from the surface of the brush.

866,439. DOOR STRUCTURE. VICTOR A. DE CANIO, Union Hill, N. J. Filed Sept. 15, 1906. Serial No. 334,773.

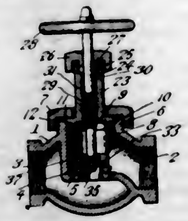
1. In a door structure, a door frame having inclined sides defining a door opening, and a beveled shoulder entirely about the opening, an elastic packing carried upon the plane outer surface about the opening, a door proportioned to close within the opening and having an inclined side substantially parallel with and spaced from the inclined sides of the frame and having a beveled inner corner approximately parallel with and spaced from the beveled shoulder of the frame, an elastic packing carried by the door and extending from the beveled corner into position for engagement with the beveled shoulder, and a flange formed about the periphery of the door larger than the door opening, and positioned to engage the elastic packing carried by the frame.



2. In a door structure, a door frame having inclined sides defining a door opening, and a beveled shoulder entirely about the opening with a dove-tailed groove extending entirely about the opening and formed in the plane outer surface of the frame, an elastic packing carried in the dove-tail groove and extending beyond the outer surface about the opening, a door proportioned to close within the opening and having an inclined side substantially parallel with and spaced from the inclined sides of the frame and having a beveled inner corner approximately parallel with and spaced from the beveled shoulder of the frame and with a dove-tail groove formed therein, an elastic packing carried within and extending beyond the dove-tail groove, and into position for engagement with the beveled shoulder, and a flange formed about the periphery of the door larger than the door opening, and positioned to engage the elastic packing carried by the frame.

3. In a door structure, a door frame having inclined sides defining a door opening, and a beveled shoulder entirely about the opening, with a dove-tail groove extending entirely about the opening and formed in the plane outer surface of the frame, an elastic packing carried within the dove-tail groove about the opening, a door proportioned to close within the opening and having inclined sides substantially parallel with and spaced from the inclined sides of the frame, and having a beveled inner corner approximately parallel with and spaced from the beveled shoulder of the frame and with a dove-tail groove formed therein, an elastic packing carried by the dove-tail groove and extending beyond the beveled corner and into position for engagement with the beveled shoulder, and a flange formed about the periphery of the door larger than the door opening, and positioned to engage the elastic packing carried by the frame and all so positioned that an air space is produced between the two packings and between the sides of the door and the frame.

866,440. CUT-OFF. GEORGE W. DENIEF, Lowell, and LAURENCE B. HOWARD, Lynn, Mass. Filed Apr. 7, 1906. Serial No. 310,501.



1. A cut-off comprising a casing having a partition port and a neck, a barrel removably fitted in the neck, a valve seat fitting in the partition port, said seat being so connected with the barrel as to be applied and removed by partial rotary movement, a cap connected with the neck and holding the barrel and seat in applied position, a valve stem extending through the barrel, and a valve carried by said stem to engage said seat, said valve being slidably connected with the stem, whereby it may be applied and removed by lateral movement.

2. In a cut-off, a casing having a partition port and a neck, a barrel fitted within the neck, said barrel being cut away at its lower end to provide diametrically opposite ports and intervening wings, the latter having inwardly extending tongues, a valve seat fitted in the partition port and provided with diametrically oppositely grooved portions having overhanging flanges receiving and engaging said tongues, whereby said seat is adapted to be applied and removed from the barrel by a partial rotary movement, a cap applied to the neck and holding the barrel and seat in position, a stem extending through the neck, and a valve carried by said stem to engage the valve seat.

3. In a cut-off, a casing having a partition port and a neck, a removable valve seat fitting in said port, a barrel within the neck detachably connected at its lower end with said valve seat, a cap closing the neck and holding the valve and seat in position, a stem extending through the cap and barrel and provided at its lower end with a head, and a valve provided in its upper face with a radial slot receiving the stem and having an underlying wider groove, said slot and groove opening at one side through the edges of the stem, whereby the stem is swiveled to the valve and the latter adapted to be applied and removed by a lateral sliding motion.

4. In a cut-off, a casing having a partition port and a neck, the upper end of the neck being internally beveled, a valve seat fitting in said partition port, a barrel within the neck having its lower end provided with ports and projections engaging the valve seat, whereby the latter is adapted to be applied thereto and removed therefrom by partial rotary movement, the upper end of the barrel being formed with an outwardly extending beveled portion to engage the beveled portion of the neck, a cap closing the neck and holding the barrel in seating position, a valve operating in the barrel, and a stem connected with the valve and extending through the barrel and cap.

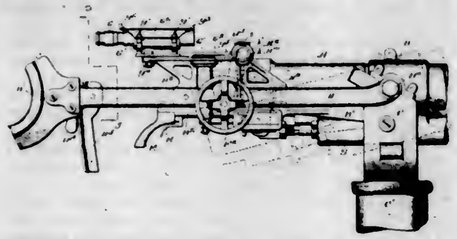
5. A cut-off comprising a casing having a partition port and a neck, the latter provided with a joint face, a barrel fitted within the neck a head adjustably connected with and closing the top of the barrel and having a coöperating joint face, a valve seat fitted in the partition port and detachably connected with the barrel, a cap closing the neck and clamping the barrel and seat in position, a stem extending through the barrel head and cap, and a valve carried by the stem for engaging said seat.

6. In a cut-off, a casing having a partition port and a neck, a valve seat fitted within said port, a cap closing the neck having an opening therein, a barrel detachably connected with the valve seat a detachable head closing the upper end of the barrel and extended through the opening in the cap, a valve stem extending through the barrel and head, and a valve upon the lower end of said stem to engage the valve seat.

866,441. APPARATUS FOR POINTING GUNS. WILLIAM H. DRIGGS, Washington, D. C. Filed May 28, 1906. Serial No. 319,202.

1. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and provided with a rearwardly extending arm, a shoulder bar journaled to swing about the axis of said trunnions, elevating gear connecting said shoulder bar and said arm on said cradle for varying the elevation of the gun relative to said shoulder bar, a sight or sights carried by said bar, a cam cylinder carried by said shoulder bar and provided with a spiral cam groove on its exterior, a pin carried by said arm and engaging said spiral groove, and a range scale carried by said cam cylinder and rotated by the engagement of said pin and groove as the elevating gear is operated, substantially as described.

2. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and provided with a rearwardly extending arm, a shoulder bar journaled to swing about the axis of said trunnions, elevating gear connecting said shoulder bar and said arm on said cradle for varying the elevation of the gun relative to said shoulder bar, a sight or sights carried by said bar, a cam cylinder carried by said shoulder bar and provided with a spiral cam groove on its exterior, a pin carried by said arm and engaging said spiral groove, and a range scale carried by said cam cylinder and rotated by the engagement of said pin and groove as the elevating gear is operated, with independent means for moving said sight or sights through an angle laterally, substantially as described.



3. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and provided with a rearwardly extending arm, a shoulder bar journaled to swing about the axis of said trunnions, elevating gear connecting said shoulder bar and said arm on said cradle for varying the elevation of the gun relative to said shoulder bar, a telescopic sight carried by said bar, a cam cylinder carried by said shoulder bar and provided with a spiral cam groove on its exterior, a pin carried by said arm and engaging said spiral groove, and a range scale carried by said cam cylinder and rotated by the engagement of said pin and groove as the elevating gear is operated, with independent means for swinging the said sight through a small angle laterally relative to said shoulder bar, substantially as described.

4. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and provided with a rearwardly extending arm, provided with guides engaging the gun body, a shoulder bar journaled to swing about the axis of said trunnions, and elevating gear comprising a scroll rack and a scroll gear connecting said shoulder bar and said arm on said cradle for varying the elevation of the gun relative to said shoulder bar, the said rack and gear engaging substantially in the plane of the vertical axis of the scroll gear, substantially as described.

5. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and provided with a rearwardly extending arm, provided with guides engaging the gun body, a shoulder bar journaled to swing about the axis of said trunnions, and elevating gear comprising a scroll rack and a scroll gear connecting said shoulder bar and said arm on said cradle for varying the elevation of the gun relative to said shoulder bar, a sight or sights carried by said bar, and means automatically operated by the elevating gear for indicating the range corresponding to any given movement of said gear, substantially as described.

6. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and provided with a rearwardly extending arm, provided with guides engaging the gun body, a shoulder bar journaled to swing about the axis of said trunnions, elevating gear comprising a scroll rack and a scroll gear connecting said shoulder bar and said arm on said cradle for varying the elevation of the gun relative to said shoulder bar, a sight or sights carried by said bar, and means automatically operated by the elevating gear for indicating the range corresponding to any given movement of said gear, with independent means for moving said sight or sights through an angle laterally, substantially as described.

7. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and provided with a rearwardly extending arm, provided with guides engaging the gun body, a shoulder bar journaled to swing about the axis of said trunnions, elevating gear comprising a scroll rack and a scroll gear connecting said shoulder bar and said arm on said cradle for varying the elevation of the gun relative to said shoulder bar, a sight or sights carried by said bar, a cam cylinder carried by said shoulder bar and provided with a cam groove on its exterior, a pin carried by said arm and engaging said groove, and a range scale carried by said cam cylinder and rotated by the engagement of said pin and groove as the elevating gear is operated, substantially as described.

8. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and provided with a rearwardly extending arm, provided with guides engaging the gun body, a shoulder bar journaled to swing about the axis of said trunnions, and elevating gear comprising a scroll rack and a scroll gear connecting said shoulder bar and said arm on said cradle for varying the elevation of the gun relative to said shoulder bar, a sight or sights carried by said bar, a cam cylinder carried by said shoulder bar and provided with a cam groove on its exterior, a pin carried by said arm and engaging said groove, and a range scale adjustably mounted on said cam cylinder and rotated by the engagement of said pin and groove as the elevating gear is operated, and independent means for moving said sight or sights through an angle laterally, substantially as described.

9. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and provided with a rearwardly extending arm, provided with guides engaging the gun body, a shoulder bar journaled to swing about the axis of said trunnions, and elevating gear comprising a scroll rack and a scroll gear connecting said shoulder bar and said arm on said cradle for varying the elevation of the gun relative to said shoulder bar, a sight or sights carried by said bar, a cam cylinder carried by said shoulder bar and provided with a spiral cam groove on its exterior, a pin carried by said arm and engaging said spiral groove, and a range scale carried by said cam cylinder and rotated by the engagement of said pin and groove as the elevating gear is operated, with independent means for swinging the said sight or sights through a small angle laterally relative to said shoulder bar, substantially as described.

10. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and elevating gear comprising a scroll rack and a scroll gear for varying the elevation of the cradle, the said rack and gear engaging substantially in the plane of the vertical axis of the scroll gear, substantially as described.

11. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, elevating gear comprising a scroll rack and a scroll gear for varying the elevation of the cradle, the said rack and gear engaging substantially in the plane of the vertical axis of the scroll gear, a sight or sights, and means automatically operated by the elevating gear for indicating the range corresponding to any given movement of said gear, substantially as described.

12. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, elevating gear comprising a scroll rack and a scroll gear for varying the elevation of the cradle, a sight or sights, and means automatically operated by the elevating gear for indicating the range corresponding to any given movement of said gear, with independent means for moving said sight or sights through an angle laterally, substantially as described.

13. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and provided with a rearwardly extending arm, provided with guides engaging the gun body, a pointing arm journaled to swing about the axis of said trunnions, elevating gear connecting said pointing arm and said arm on said cradle for varying the elevation of the gun relative to said pointing arm, a sight or sights carried by said pointing arm, a cam cylinder also carried by said pointing arm and provided with a cam groove on its exterior, a pin carried by said arm on the cradle and engaging said groove, and a range scale carried by said cam cylinder and rotated by the engagement of said pin and groove as the elevating gear is operated, substantially as described.

14. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and provided with a rearwardly extending arm, provided with guides engaging the gun body, a pointing arm journaled to swing about the axis of said trunnions, elevating gear connecting said pointing arm and said arm on said cradle for varying the elevation of the gun relative to said pointing arm, a sight or sights carried by said pointing arm, a cam cylinder also carried by said pointing arm and provided with a cam groove on its exterior, a pin carried by said arm on the cradle and engaging said groove, a range scale adjustably mounted on said cam cylinder and rotated by the engagement of said pin and groove as the elevating gear is operated, and independent means for moving said sight or sights through an angle laterally, substantially as described.

15. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and provided with a rearwardly extending arm, provided with guides engaging the gun body, a shoulder bar journaled to swing about the axis of said trunnions, and elevating gear connecting said shoulder and said arm on said cradle for varying the elevation of the gun relative to said shoulder bar, a sight or sights carried by said bar, a cam cylinder carried by said shoulder bar and provided with a spiral cam groove on its exterior, a pin carried by said arm and engaging said spiral groove, and a range scale carried by said cam cylinder and rotated by the engagement of said pin and groove as the elevating gear is operated, with independent means carried by said bar for swinging the said sight or sights through a small angle laterally relative to said shoulder bar, substantially as described.

16. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and provided with a rearwardly extending arm, a shoulder bar journaled to swing about the axis of said trunnions, elevating gear connecting said shoulder bar and said arm on said cradle for varying the elevation of the gun relative to said shoulder bar, a telescope sight pivoted to swing laterally upon said bar, means automatically operated by the elevating gear for indicating the range corresponding to any given movement of said gear, and independent means for swinging said telescope through a small angle laterally, substantially as described.

17. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and provided with a rearwardly extending arm, a shoulder bar journaled to swing about the axis of said trunnions, elevating gear connecting said shoulder bar and said arm on said cradle for varying the elevation of the gun relative to said shoulder bar, a sight or sights carried by said bar, a cam cylinder carried by said shoulder bar and provided with a spiral cam groove its exterior, a pin carried by said arm and engaging said spiral groove, and a circular range scale adjustably mounted on said cam cylinder and automatically rotated by the engagement of said pin and groove as the elevating gear is operated, substantially as described.

18. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and provided with a rearwardly extending arm, a shoulder bar journaled to swing about the axis of said trunnions, elevating gear connecting said shoulder bar and said arm on said cradle for varying the elevation of the gun relative to said shoulder bar, a sight or sights carried by said bar, a rotary range scale carried by said bar, and a cam arrangement operated by the relative movement of said arm and said bar for automatically rotating said range scale as the elevating gear is operated, substantially as described.

19. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned thereon, and provided with a rearwardly extending arm, a shoulder bar journaled to swing about the axis of said trunnions, elevating gear connecting said shoulder bar and said arm on said cradle for varying the elevation of the gun relative to said shoulder bar, a sight or sights carried by said bar, a rotary range scale carried by said bar, and a cam arrangement operated by the relative movement of said arm and said bar for automatically rotating said range scale as the elevating gear is operated, with independent means for swinging the said sight or sights through a small angle laterally relative to said shoulder bar, substantially as described.

20. In an apparatus for pointing guns, the combination with a pointing arm, and elevating gear for connecting the same to the cradle of the gun, of a bar pivoted on said pointing arm, a sight or sights carried by said bar, a shaft journaled on said arm and provided with means for engaging the said bar for rocking the same through a small angle laterally, a scale for lateral errors carried by said shaft, means for rotating said shaft and said scale, and means for feeding said shaft longitudinally in opposite directions when said shaft is rotated, substantially as described.

21. In an apparatus for pointing guns, the combination with a pointing arm, and elevating gear for connecting the same to the cradle of the gun, of a bar pivoted on said pointing arm, a sight or sights carried by said bar, a shaft journaled on said arm and provided with means for engaging the said bar for rocking the same through a small angle laterally, a scale for lateral errors carried by said shaft, means for rotating said shaft and said scale, and a screw threaded engagement between said shaft and said arm whereby said shaft may be moved longitudinally relative to said arm, substantially as described.

22. In an apparatus for pointing guns, the combination with a pointing arm, and elevating gear for connecting the same to the cradle of the gun, of a bar pivoted on said pointing arm, a sight or sights carried by said bar, a shaft journaled on said arm and provided with means for engaging the said bar for rocking the same through a small angle laterally, a scale for lateral errors carried by said shaft, means for rotating said shaft and said scale, a screw carried by said arm, and a nut carried by said shaft engaging said screw, whereby said shaft is moved longitudinally when it is turned, substantially as described.

23. In an apparatus for pointing guns, the combination with a pointing arm, and elevating gear for connecting the same to the cradle of the gun, of a bar pivoted on said pointing arm, a sight or sights carried by said bar, a shaft journaled on said arm and provided with means for engaging the said bar for rocking the same through a small angle laterally, a scale for lateral errors carried by said shaft, a graduated vernier for said scale, means for rotating said shaft and said scale, and means for feeding said shaft longitudinally in opposite directions when said shaft is rotated, substantially as described.

24. In an apparatus for pointing guns, the combination with a pointing arm, and elevating gear for connecting the same to the cradle of the gun, of a bar pivoted on said pointing arm, a sight or sights carried by said bar, a shaft journaled on said arm and provided with means for engaging the said bar for rocking the same through a small angle laterally, a scale for lateral errors carried by said shaft, a graduated vernier for said scale, means for rotating said shaft and said scale, and a screw threaded engagement between said shaft and said arm whereby said shaft may be moved longitudinally relative to said arm, substantially as described.

25. In an apparatus for pointing guns, the combination with a pointing arm, and elevating gear for connecting the same to the cradle of the gun, of a bar pivoted on said pointing arm, a sight or sights carried by said bar, a shaft journaled on said arm and provided with means for engaging the said bar for rocking the same through a small angle laterally, a scale for lateral errors carried by said

shaft, a graduated vernier for said scale, means for rotating said shaft and said scale, a screw carried by said arm, and a nut carried by said shaft engaging said screw, whereby said shaft is moved longitudinally when it is turned, substantially as described.

26. In an apparatus for pointing guns, the combination with a pointing arm, and elevating gear for connecting the same to the cradle of the gun, of a bar pivoted on said pointing arm, and provided with teeth at one end thereof, a sight or sights carried by said bar, a shaft journaled on said arm and provided with collars engaging said teeth for rocking the bar through a small angle laterally, a scale for lateral errors carried by said shaft, means for rotating said shaft and said scale, and means for feeding said shaft longitudinally in reverse directions when said shaft is rotated, substantially as described.

27. In an apparatus for pointing guns, the combination with a pointing arm, and elevating gear for connecting the same to the cradle of the gun, of a bar pivoted on said pointing arm, and provided with teeth at one end thereof, a sight or sights carried by said bar, a shaft journaled on said arm and provided with collars engaging said teeth for rocking the bar through a small angle laterally, a scale for lateral errors carried by said shaft, means for rotating said shaft and said scale, and a screw threaded engagement between said shaft and said arm whereby said shaft may be moved longitudinally relative to said arm, substantially as described.

28. In an apparatus for pointing guns, the combination with a pointing arm, and elevating gear for connecting the same to the cradle of the gun, of a bar pivoted on said pointing arm, and provided with teeth at one end thereof, a sight or sights carried by said bar, a shaft journaled on said arm and provided with collars engaging said teeth for rocking the bar through a small angle laterally, a scale for lateral errors carried by said shaft, means for rotating said shaft and said scale, a screw carried by said arm, and a nut carried by said shaft engaging said screw, whereby said shaft is moved longitudinally when it is turned, substantially as described.

29. In an apparatus for pointing guns, the combination with a pointing arm, and elevating gear for connecting the same to the cradle of the gun, of a bar pivoted on said pointing arm, and provided with teeth at one end thereof, a sight or sights carried by said bar, a shaft journaled on said arm and provided with collars engaging said teeth for rocking the bar through a small angle laterally, a scale for lateral errors carried by said shaft, a graduated vernier for said scale carried by said pointing arm, means for rotating said shaft and said scale, and means for feeding said shaft longitudinally in reverse directions when said shaft is rotated, substantially as described.

30. In an apparatus for pointing guns, the combination with a pointing arm, and elevating gear for connecting the same to the cradle of the gun, of a bar pivoted on said pointing arm, and provided with teeth at one end thereof, a sight or sights carried by said bar, a shaft journaled on said arm and provided with collars engaging said teeth for rocking the bar through a small angle laterally, a scale for lateral errors carried by said shaft, a graduated vernier for said scale carried by said pointing arm, means for rotating said shaft and said scale, and a screw threaded engagement between said shaft and said arm whereby said shaft may be moved longitudinally relative to said arm, substantially as described.

31. In an apparatus for pointing guns, the combination with a pointing arm, and elevating gear for connecting the same to the cradle of the gun, of a bar pivoted on said pointing arm, and provided with teeth at one end thereof, a sight or sights carried by said bar, a shaft journaled on said arm and provided with collars engaging said teeth for rocking the bar through a small angle laterally, a scale for lateral errors carried by said shaft, a graduated vernier for said scale carried by said pointing arm, means for rotating said shaft and said scale, a screw carried by said arm, and a nut carried by said shaft engaging said screw, whereby said shaft is moved longitudinally when it is turned, substantially as described.

32. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and elevating gear comprising a scroll rack and a scroll gear for varying the elevation of the cradle, the scroll gear having its threads engaging said rack substantially in a vertical plane passing through the axis of the gear, substantially as described.

33. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, elevating gear comprising a scroll rack and a scroll gear for varying the elevation of the cradle, the scroll gear having its threads engaging said rack substantially in a vertical plane passing through the axis of the gear, a sight or sights, and means automatically operated by the elevating gear for indicating the range corresponding to any given movement of said gear, substantially as described.

34. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, elevating gear comprising a scroll rack and a scroll gear for varying the elevation of the cradle, the scroll gear having its threads engaging said rack substantially in a vertical plane passing through the axis of the gear, a sight or sights moving with said cradle, and means automatically operated by the elevating gear for indicating the range corresponding to any given movement of said gear, with independent means for moving said sight or sights through an angle laterally, substantially as described.

35. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and provided with a rearwardly extending arm, provided with guides engaging the gun body, a shoulder bar journaled to swing about the axis of said trunnions, and elevating gear comprising a scroll rack fast to said arm and a scroll gear journaled in said shoulder bar with a hand wheel for turning said gear, the said rack and gear engaging substantially in the plane of the vertical axis of the scroll gear, substantially as described.

36. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and provided with a rearwardly extending arm, provided with guides engaging the gun body, a shoulder bar journaled to swing about the axis of said trunnions, and elevating gear comprising a scroll rack fast to said arm and a scroll gear having its axis journaled at an inclination in said shoulder bar, with a hand wheel for turning said gear, the said rack and gear engaging substantially in the plane of the vertical axis of the scroll gear, substantially as described.

37. In a pointing apparatus for guns, the combination with the gun mount, of the cradle trunnioned therein, and provided with a rearwardly extending arm, provided with guides engaging the gun body, a shoulder bar journaled to swing about the axis of said trunnions, and elevating gear comprising a scroll rack fast to said arm and a scroll gear having its axis journaled at an inclination in said shoulder bar, a spring normally pressing said gear into engagement with said rack, with a hand wheel for turning said gear, the said rack and gear engaging substantially in the plane of the vertical axis of the scroll gear, substantially as described.

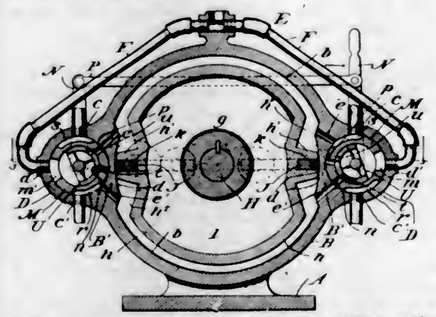
38. In an apparatus for pointing guns, the combination with a pointing arm, and elevating gear for connecting the same to the cradle of the gun, of a bar pivoted on said pointing arm, a sight or sights carried by said bar, a shaft journaled on said arm and provided with means for engaging the said bar for rocking the same through a small angle laterally, a drum provided with a spiral scale for lateral errors carried by said shaft, means for rotating said shaft and said scale, and means for feeding said shaft longitudinally in opposite directions when said shaft is rotated, substantially as described.

39. In an apparatus for pointing guns, the combination with a pointing arm, and elevating gear for connecting the same to the cradle of the gun, of a bar pivoted on said pointing arm, a sight or sights carried by said bar, a shaft journaled on said arm and provided with means for engaging the said bar for rocking the same through a small angle laterally, a drum provided with a spiral scale for lateral errors carried by said shaft, a vernier carried by said arm and coöperating with said scale, means for rotating said shaft and said scale, and means for feeding said shaft longitudinally in opposite directions when said shaft is rotated, substantially as described.

40. In an apparatus for pointing guns, the combination with a pointing arm, and elevating gear for connecting the same to the cradle of the gun, of a bar pivoted on said pointing arm, a sight or sights carried by said bar, a shaft journaled on said arm and provided with means for engaging the said bar for rocking the same through a small angle laterally, a scale for lateral errors carried by said shaft, means for rotating said shaft and said scale, a hollow split screw made of resilient material carried by said arm, and a nut carried by said shaft and fitting over the split portion of said screw, with means for turning said nut on said screw, substantially as described.

41. In an apparatus for pointing guns, the combination with a pointing arm, and elevating gear for connecting the same to the cradle of the gun, of a bar pivoted on said pointing arm, a sight or sights carried by said bar, a shaft journaled on said arm and provided with means for engaging the said bar for rocking the same through a small angle laterally, a scale for lateral errors carried by said shaft, means for rotating said shaft and said scale, a hollow split screw made of resilient material carried by said arm, and a nut carried by said shaft and fitting over the split portion of said screw, with means for turning said nut on said screw, and a vernier carried by said arm and coöperating with said scale, substantially as described.

866,442. ROTARY ENGINE. HENRY J. DUNCAN, Alpena, Mich. Filed Jan. 31, 1907. Serial No. 355,141.



1. In a rotary engine, the combination with a casing containing an abutment, and a wheel mounted in the casing; of a rotary piston, a blade carried by and movable with respect to the piston, and a wheel carried by the blade and arranged to engage the wheel in the casing, for the purpose set forth.

2. In a rotary engine, the combination with a casing containing abutments, and wheels mounted in the casing at points adjacent to the abutments, of a rotary piston, blades carried by and movable with respect to the piston, and wheels carried by the blades and arranged to move past and engage the wheels in the casing to move the blades inward and enable same to pass the abutments.

3. In a rotary engine, the combination with a casing containing an abutment, and a wheel mounted in the casing at a point adjacent to the abutment; of a rotary piston, a blade carried by and movable with respect to the piston, means for moving said blade outward, and a wheel carried by the blade and arranged to move past and engage the wheel in the casing to move the blade inward and enable same to pass the abutment.

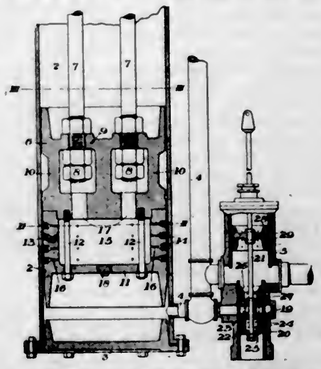
4. In a rotary engine, the combination of a casing containing abutments, wheels mounted to freely rotate in the casing adjacent to the abutments, a piston arranged in the casing and having a notched hub, a web, and a peripheral portion in which there are radial sockets, bifurcated blades arranged in said sockets and having arms resting at opposite sides of the web and in the notches of the hub, means for moving the blades outward, and wheels carried by the arms of the blades and arranged to engage the peripheries of the said wheels in the casing to move the blades inward and enable same to pass the abutments.

5. In a rotary engine, the combination of a casing containing an abutment, a wheel mounted in the casing adjacent to the abutment, a piston arranged in the casing and having a notched hub, a web, and a peripheral portion in which there is a radial socket, a bifurcated blade arranged in said socket and having arms resting at opposite sides of the web and in the notches of the hub, means for moving the blade outward, and a wheel carried by the arms of the blade and arranged to engage the wheel in the casing to move the blade inward and enable same to pass the abutment.

6. In a rotary engine, a piston comprising a notched hub, a web, and a peripheral portion having radial sockets and also having peripheral flanges provided with packing, bifurcated blades arranged in the sockets of the piston and having arms resting at opposite sides of the web and in the notches of the hub, means for moving said blades outward, and wheels carried by the arms of the blades; in combination with a casing containing the piston and having abutments, and wheels arranged in said casing and positioned to engage the wheels on the blades to move said blades inward to enable same to pass the abutments.

7. In a rotary engine, a rotary piston, blades carried thereby, and means for moving said blades outward, in combination with a casing containing the piston and having opposite abutments, steam ports at opposite sides of the same, steam chests communicating with said ports and each having an inlet port and an exhaust port for steam, hollow, reversing cylinders arranged to be turned in the steam chests and each having ports for registration with the first mentioned ports, a port for registration with the steam inlet port, and passages for effecting connection between the first mentioned ports and the exhaust ports, arms fixed to said rolling cylinders, a link connecting said arms, rocking cut-off valves arranged in and movable independent of the rolling cylinders and having ports for registration with the first mentioned ports of the rolling cylinders, and means intermediate the piston and the valves for operating the latter by the former.

866,443. PISTON. DAVID H. DYER, Wilkinsburg, Pa., assignor of one-fourth to George R. Willett, Pittsburg, Pa. Filed Apr. 4, 1907. Serial No. 366,330.



1. A packing section for elevator pistons, comprising a hollow, cylindrical rim member adapted to be secured to a piston head and having a plurality of circumferential packing seats, said member being open at its upper end and closed at its lower end, and having a plurality of ports or passages leading from its interior to the packing seats; substantially as described.

2. A hydraulic elevator piston comprising a head having a port leading therethrough, and a hollow section having a rim portion fitted and adjustably secured to said head, said hollow section being closed by the head to form a pressure chamber which communicates with the cylinder through the said port; substantially as described.

3. A hydraulic elevator piston comprising a head having a port leading therethrough, and a hollow section having a rim portion fitted and adjustably secured to said head, said hollow section being closed by the head to form a pressure chamber which communicates with the cylinder through the said port, said chamber having a removable plug in its bottom wall; substantially as described.

4. In a hydraulic elevator piston, a piston head having a circumferential groove therein, the upper wall of which is beveled outwardly to provide an expansion space for a packing ring, and means for admitting pressure to the said groove; substantially as described.

866,444. PROCESS FOR THE MANUFACTURE OF SOLID FORMS. GEORG EGLY, Charlottenburg, Germany, assignor to Gebrüder Siemens & Co., Charlottenburg, near Berlin, Germany. Filed Dec. 2, 1905. Serial No. 290,027.

1. A process for the manufacture of solid forms which consists in mixing silicon with a material which is inert at temperatures up to that at which silicon combines with nitrogen, fashioning the mixture into a form, and heating the form in an atmosphere containing nitrogen.

2. A process for the manufacture of solid forms which consists in mixing silicon with silicon carbid, fashioning the mixture into a form, and heating the form in an atmosphere containing nitrogen.

3. A process for the manufacture of solid forms which consists in mixing silicon with a material which is inert at temperatures up to that at which silicon combines with nitrogen and with an agglutinant, fashioning the mixture into a form, and heating the form in an atmosphere containing nitrogen.

4. A process for the manufacture of solid forms which consists in mixing silicon with silicon carbid and an agglutinant, fashioning the mixture into a form, and heating the form in an atmosphere containing nitrogen.

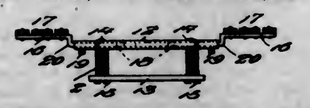
5. A process for the manufacture of solid forms which consists in mixing silicon with a material which is inert at temperatures up to that at which silicon combines with nitrogen and an agglutinant that carbonizes when heated, fashioning the mixture into a form, and heating the form in an atmosphere containing nitrogen.

6. A process for the manufacture of solid forms which consists in mixing silicon with silicon carbid and an agglutinant that carbonizes when heated, fashioning the mixture into a form and heating the form in an atmosphere containing nitrogen.

7. A process for the manufacture of solid forms which consists in mixing silicon with an agglutinant that carbonizes when heated, and with a material which is inert at temperatures up to that at which silicon combines with nitrogen, fashioning the mixture into a form, and heating the form in an atmosphere containing nitrogen.

8. A process for the manufacture of solid forms which consists in mixing silicon with a non-metallic substance and with a material which is inert at temperatures up to that at which silicon combines with nitrogen, fashioning the mixture into a form, and heating the form in an atmosphere containing nitrogen.

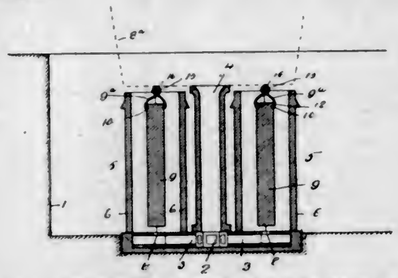
866,445. HAY-RACK. WILLIAM T. ELLIFF, Mackinaw, Ill. Filed June 13, 1906. Serial No. 321,483.



1. A hay rack comprising a body portion, a hollow bar secured to the body portion, a side, an arm secured to the side and adjustably engaging the bar, and means for securing the arm in adjusted position.

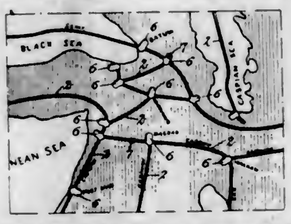
2. A hay rack comprising a body portion, hollow cross bars, cross pieces, U-shaped bolts securing the bars and cross pieces to the body, arms provided with shank portions adjustably engaging the bars, means for securing the arms in adjusted position, and slats secured to said arms.

866,446. SLAB AND CORE HOLDER. WILLIAM J. EVANS, Aspinwall, Pa. Filed Feb. 11, 1907. Serial No. 356,927.



The combination with a mold, of a slab having oppositely disposed recesses near the upper end, a holder formed from a single piece of wire bent centrally into a loop and with outwardly curving resilient arms having inturned terminals adapted to yieldably engage the recesses in said slab, and a bar bearing upon the upper face of the mold and extending through the loop of the holder and with a flat upper face provided with a transverse recess with which the material of the loop engages, whereby the loop is suspended within the mold and prevented from rotating therein.

866,447. GAME-BOARD. OTTILIA FALKENBERG, Baltimore, Md. Filed Jan. 28, 1907. Serial No. 354,443.

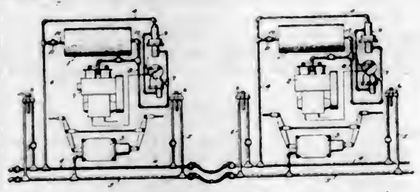


1. A board having a map with routes of travel indicated thereupon, said routes of travel having different means of travel indicated adjacent thereto and connecting the same cities along said routes, in combination with a chance device having parts representing the different means of travel and "men" adapted to be advanced along said routes, the moves of said "men" being suggested by the said chance device.

2. A board having a map with routes of travel indicated thereupon, and different means of travel indicated respectively adjacent to said routes and connecting certain of the cities on said routes, "men" adapted to be advanced along said routes, and dice having faces representing the means of travel indicated on different routes, said dice being adapted to be thrown to determine the means of travel which may be given to said "men."

3. A board having a map with routes of travel indicated thereupon, means of travel indicated adjacent to said routes respectively, said routes being formed by slots in said board, "men" running in said slots and adapted to be advanced therein, and dice adapted to be thrown and having faces corresponding to the means of travel indicated on said routes, the throw of said dice determining the amount of advancement to be given to said men.

866,448. PRESSURE-GOVERNING DEVICE FOR PUMPS. CLYDE C. FARMER, Chicago, Ill., and WALTER V. TURNER, Wilkinsburg, Pa., assignors to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Jan. 14, 1904. Serial No. 188,979.



1. In an apparatus of the character described, the combination with an air pump, a main reservoir, and a main reservoir pipe line connected to said reservoir with means for preventing back flow to the reservoir, of a movable abutment operated by main reservoir pressure for controlling said pump, and means operated through the pressure of the main reservoir pipe line for controlling the action of said movable abutment.

2. In an apparatus of the character described, the combination with an air pump, a main reservoir, and a main reservoir pipe line connected to said reservoir with means for preventing back flow to the reservoir, of a movable abutment subject to the opposing pressures of the main reservoir and an adjustable spring for controlling said pump, and means actuated by the pressure of the main reservoir pipe line for varying the pressures upon said abutment.

3. In an apparatus of the character described, the combination with an air pump, a main reservoir, and a main reservoir pipe line connected to said reservoir with means for preventing back flow to the reservoir, of a movable abutment subject to the opposing pressures of the main reservoir and an adjustable spring for controlling said pump, and means operated by the opposing pressures of the main reservoir and the main reservoir pipe line for controlling the action of said movable abutment.

4. In an apparatus of the character described, the combination with an air pump, a main reservoir, and a main reservoir pipe line connected to said reservoir with means for preventing back flow to the reservoir, of valve mechanism operated by the opposing pressures of the main reservoir and the main reservoir pipe line for controlling said pump.

5. In an apparatus of the character described, the combination with an air compressor, a main reservoir pipe line, a main reservoir communicating with said main reservoir pipe line through a non-return valve, of a movable abutment subject to the opposing pressures of the main reservoir and an adjustable spring for controlling said compressor, and a valve device actuated by the pressure of the main reservoir pipe line for varying the pressure upon one side of said abutment.

6. In an apparatus of the character described, the combination with an air compressor, a main reservoir pipe line, a main reservoir communicating with said main reservoir pipe line through a non-return valve, of a movable abutment subject to the opposing pressures of the main reservoir and an adjustable spring for controlling said compressor, and a valve device operated by the opposing pressures of the main reservoir and the main reservoir pipe line for controlling the action of said movable abutment.

7. In a pressure governing apparatus, the combination with a motor driven air compressor, a main reservoir supplied thereby, a main reservoir pipe line supplied from said main reservoir, and a check valve for preventing back flow to the main reservoir, of a controlling device for the motor, a piston for operating said device, a valve and diaphragm operated by main reservoir pressure for governing the supply of air to said piston, and a valve device actuated by the pressure of the main reservoir pipe line for varying the pressure upon one side of said diaphragm.

8. In an apparatus of the character described, the combination with an air compressor, a main reservoir pipe line, a main reservoir communicating with said main reservoir pipe line through a non-return valve, of a movable abutment subject to the opposing pressure of the main reservoir and an adjustable spring for controlling said compressor, a valve for controlling the supply of air under pressure to one side of said abutment, a piston for operating said valve, a diaphragm subject to the opposing pressures of the main reservoir and the main reservoir pipe line, and an auxiliary valve operated by said diaphragm for varying the pressure upon one side of said piston.

9. In an apparatus of the character described, the combination with an air compressor, a main reservoir pipe line, a main reservoir communicating with said main reservoir pipe line through a non-return valve, of a movable abutment subject to the opposing pressures of the main reservoir and an adjustable spring for controlling said compressor, a valve for controlling the supply of air under pressure to one side of said abutment, a piston subject to opposing fluid pressures for operating said valve, a diaphragm subject to opposing pressures of the main reservoir and the main reservoir pipe line, and an auxiliary valve actuated by said diaphragm for releasing fluid under pressure from one side of said piston.

10. In an apparatus of the character described, the combination with an air compressor, a main reservoir pipe line, a main reservoir communicating with said main reservoir pipe line through a non-return valve, of a movable abutment subject to the opposing pressures of the main reservoir and an adjustable spring for controlling said compressor, a valve for controlling the supply of air under pressure to one side of said abutment, a piston subject to opposing fluid pressures for operating said valve, a diaphragm subject to opposing pressures of the main reservoir and the main reservoir pipe line, and an auxiliary valve actuated by said diaphragm for releasing fluid under pressure from one side of said piston to the atmosphere.

11. In an apparatus of the character described, the combination with an air compressor, a main reservoir pipe line, a main reservoir supplied from said compressor and communicating with said main reservoir pipe line through a non-return valve, of a movable abutment subject to the opposing pressures of the main reservoir and an adjustable spring for controlling said compressor, a valve for controlling the supply of air under pressure to one side of said abutment, a piston subject to opposing fluid pressures for operating said valve, a diaphragm subject to opposing pressures of the main reservoir and the main reservoir pipe line, and an auxiliary valve actuated by said diaphragm for opening a release passage from one side of said piston to the atmosphere, and means operated by the movement of said piston for closing said release passage.

12. In combination, a plurality of fluid-compressors, a common receptacle supplied thereby, check-valves between the several compressors and said receptacle, and governors controlling the several compressors, each of said governors comprising two movable abutments, one of said abutments being arranged to respond to a difference between the pressures of its compressor and of said receptacle, and the other abutment being arranged to respond to a variation in one of said pressures.

13. In combination, a plurality of fluid-compressors, a common receptacle supplied thereby, check-valves between the several compressors and said receptacle, and governors controlling the several compressors, each of said governors comprising two movable abutments, one of said abutments being subjected on opposite sides to the pressures of its compressor and of said receptacle, and the other being subjected to only one of said pressures.

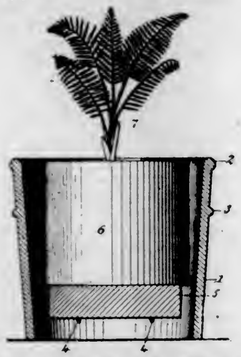
14. A pressure governing apparatus comprising a main switch or controlling device and a piston for actuating the same, a movable abutment and valve for controlling the pressure on said piston, and means subject to the opposing pressures from different pumps for controlling the action of said movable abutment.

15. A pressure governing apparatus comprising a main switch or controlling device and an actuating piston therefor, a fluid pressure operated valve device for controlling

the pressure on said piston, and means subject to the opposing pressures from different pumps for controlling the operation of said valve device.

16. A pressure governing apparatus comprising a main switch or controlling device and an actuating piston therefor, a valve device operated by the reservoir pressure for controlling the pressure on said piston, and means subject to the opposing pressures from different pumps for controlling the operation of said valve device.

866,449. JARDINIÈRE. BERTHA C. FEIST, Aspen, Colo. Filed Jan. 12, 1907. Serial No. 351,966.

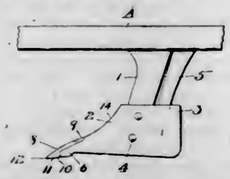


1. A jardinière having a body with transversely disposed bars in the lower portion thereof, said bars having their ends embedded in the wall of said body and being adapted to support a potted plant within said body.

2. A jardinière having a body with transversely disposed bars in the lower portion thereof, a block supported on said bars and adapted to support a potted plant thereabove.

3. A jardinière having a bottomless body with transversely disposed bars in the lower portion thereof, said bars having their ends embedded in the wall of said body, a removable block supported on said bars and presenting corners lying adjacent to the said wall whereby said block is maintained in a central position adapted to support a potted plant within said body.

866,450. SUBSOILER ATTACHMENT FOR LISTER-PLOWS. GEORGE W. FERGUSON, Logan, Kans. Filed May 22, 1907. Serial No. 375,031.



1. A subsoiler attachment for lister plows comprising a relatively thin blade having its rear portion bifurcated and forming two wings, the standard secured between said wings, the forward end formed with a recess, a lay having a shank to seat in said recess, and the front of the blade above the recess formed with a flat shin, substantially as shown and described.

2. A subsoiler attachment for lister plows comprising a relatively thin blade having its rear portion bifurcated and forming two rearwardly extending wings, the standard secured between said wings, the forward end formed with a downwardly-extending portion and a recess, a lay having a shank to seat in said recess and a shoulder to engage the downwardly extending portion, and the front of the blade above the recess formed with a flat shin, substantially as shown and described.

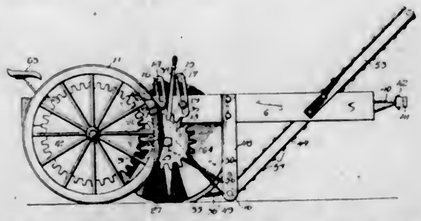
3. A subsoiler attachment for lister plows comprising a relatively thin blade wider in front than in the rear and having its rear portion bifurcated and forming two substantially parallel wings, the standard secured between said wings, the forward end formed with a downwardly extending portion and a recess, a lay having a shank to seat in said recess and a shoulder to engage the downwardly extending portion, and the front of the blade above the recess formed with a flat shin, substantially as shown and described.

866,451. NUT-LOCK. WILLIAM L. FORAKER and HOMER WALKER, Byesville, Ohio. Filed June 15, 1907. Serial No. 379,174.



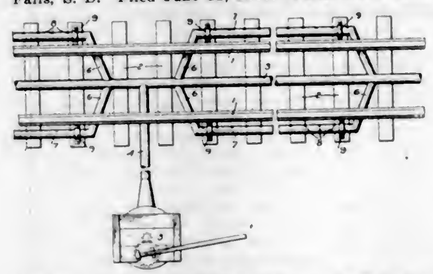
In a nut lock, a bolt provided in its threaded portion with a longitudinally-disposed groove, a nut fitting on said bolt and having a recess in one side communicating with the central opening of the nut, said nut having an opening through one face registering with said recess, a substantially T-shaped locking member mounted in the recess with its head lying within the groove of the bolt and its shank extending through the opening in the nut and provided with a pair of openings extending transversely through said shank at right angles to each other, a block extending through one of said openings having a groove in its underneath face, a pin extending through the other of said openings and engaging in the groove of said block to lock the latter within the shank, substantially as described.

866,452. STREET-SWEEPER. AMANUEL O. FORD, Indian Springs, Tenn. Filed Oct. 12, 1904. Serial No. 228,142.



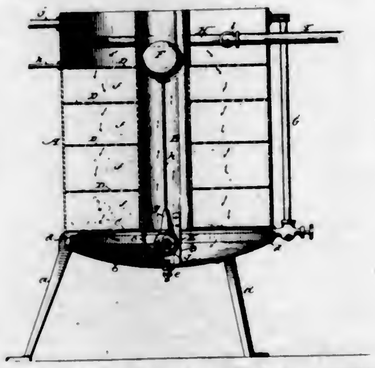
A street sweeper comprising, in combination, a frame; an axle carried by said frame at the rear end thereof; traction wheels rotatably mounted upon the ends of said axle; a vertically adjustable fork-shaped hanger secured to each side of said frame and comprising a pair of upper, laterally-spaced members each provided with a curved slot, and a lower stem portion provided with a bearing; set-screws carried by said frame on opposite sides thereof and projecting through the slotted members of the hangers, to retain the latter in adjusted position; a rotatable brush disposed in advance of said axle, said brush being provided with trunnions adapted to fit in said bearings; a gear rotatably mounted upon said axle adjacent one of said traction wheels and connected to the hub of the latter, so as to rotate therewith; a pinion longitudinally movable upon the adjacent brush trunnion; means for moving said pinion into and out of engagement with said gear; and means carried by said frame for discharging the dirt swept up by said brush during its rotation.

866,453. TRACK-CLEANER. WILLIAM FRASER, Sioux Falls, S. D. Filed June 12, 1907. Serial No. 378,611.



An apparatus of the type set forth, comprising the combination with the track rails, of an air pump, a distributing pipe disposed between said track rails in parallelism thereto, a pipe between said distributing pipe and said air pump, pipes disposed at the sides of the rails, and formed with closely associated apertures, and pipes between said distributing pipe and said last named pipe.

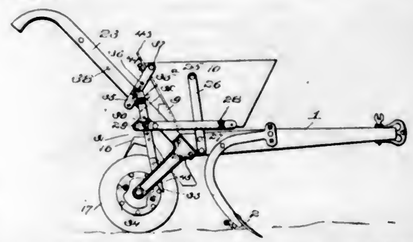
866,454. OIL AND WATER SEPARATOR AND FILTER. CHARLES FREIERMUTH and FRIEDRICH H. BLATTNER, Brooklyn, N. Y. Filed May 15, 1907. Serial No. 373,740.



1. An oil and water separator and filter, comprising a tank having an overflow and oil drain, a central upright tube supported above the bottom of the tank and inclosed wholly within the same whereby a communication is formed between the tank and the tube at the lower end thereof, a stationary perforated disk secured to the tube at the lower end to form a brace therefor, a plurality of removable disk and a filtering medium between the same, a removable perforated discharge pipe encircling the tube below the upper end thereof, and a valve operating means for allowing the passage of the filtered water to a tank or pump, substantially as and for the purpose set forth.

2. An oil and water separator and filter, comprising a suitable tank having a water overflow and an oil drain-pipe, a central upright tube located in the tank, a perforated supplemental bottom secured to the tube, a plurality of removable perforated partitions located between the wall of the tank and the tube, filtering medium between the partitions, a removable perforated discharge pipe encircling the tube, and a float-valve to control the discharge of the filtered water to a tank or pump, substantially as and for the purpose described.

866,455. FERTILIZER-DISTRIBUTER. JAMES T. GANTT, Macon, Ga. Filed June 26, 1907. Serial No. 380,967.



1. A device of the character described, comprising a beam, a hopper pivotally mounted thereon, means for jarring said hopper for feeding fertilizer to the earth, and a catch pivotally secured to said hopper for holding said hopper out of operation, said catch comprising a swinging arm, an adjustable hook and means for securing said hook to said arm.

2. A device of the character described, comprising a beam, a hopper mounted thereon, an arm secured to said hopper, a pivotally mounted bar for moving said arm, means for adjustably securing said arm to said bar, a curved striking member secured to said bar, and means for striking said striking member for moving the same for jarring said hopper.

3. A device of the character described comprising a beam, a hopper pivotally mounted thereon, an arm pivotally secured to said hopper, a rocking arm adjustably secured to said pivotally mounted arm, a curved striking member secured to said rocking arm, and means for striking said striking member for moving same for jarring said hopper.

4. A device of the class described, comprising a beam formed with grooves near one end thereof, a hopper secured to said beam, and a chute for guiding the fertilizer from said hopper to the earth, said chute having formed thereon forwardly extending members formed with ridges for engaging the grooves in said beam for preventing movement of said chute.

5. A device of the character described, comprising a beam, a pivotally mounted hopper, means for jarring said hopper, a chute secured to said beam, means for holding said chute in position, and means for pivotally mounting a scraper on said chute.

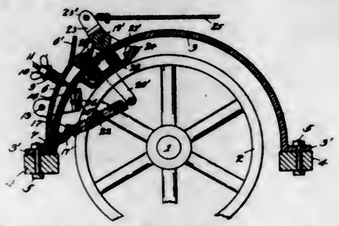
6. A device of the character described, comprising a beam formed with grooves near one end thereof, a pivotally mounted hopper positioned above said beam, means for oscillating said hopper, a chute formed with lugs engaging said beam for holding the chute in position, means passing through said lugs and said beam for assisting in holding said chute in position.

7. A device of the character described, comprising a beam, a hopper secured to said beam, and a chute for guiding fertilizer from said hopper to the earth, said chute having formed thereon rearwardly-extending members for supporting a scraper, one of said rearwardly-extending members formed with a conical shaped depression and the other of said rearwardly-extending members formed with a conical shaped projection for engaging the depression in the corresponding rearwardly-extending member for holding the parts of said chute in proper position.

8. A device of the character described, comprising a beam, a plow and wheel secured thereto, a pivotally mounted hopper secured to said beam, projections secured to said wheel, means for causing said projections to jar

said hopper, for feeding fertilizer therefrom, a chute for guiding said fertilizer to the earth, a scraper pivotally secured in the rear of said hopper, and means for throwing into and out of operation said hopper.

866,456. COMBINED STARTING AND RETROGRADE BRAKING MECHANISM FOR GASOLENE-ENGINES. SAMUEL G. GEORGE, Seattle, Wash. Filed June 23, 1905. Serial No. 266,583.



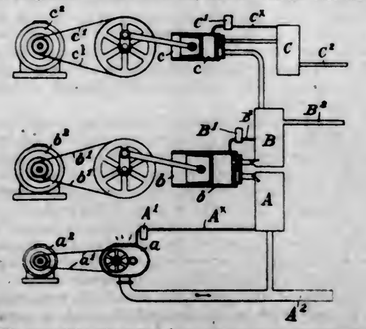
1. The combination with a wheel, a curved track-plate, a carriage mounted upon said plate and wheel gripping devices carried by said carriage and adapted to engage the wheel when moved in one direction, of a leaf hinged to said plate, and adapted when contacted by the carriage to be tilted outwardly from the plate and against the action of a spring, said spring, and an arm carrying a brake shoe pivotally connected to said leaf.

2. The combination with a wheel and a curved track-plate, of a carriage mounted upon said plate, devices carried on the carriage adapted when moved in one direction to grip the periphery of the wheel and impart a partial rotation to the latter, a spring for returning the carriage to its initial position, and means for holding said devices out of engagement with the wheel during such return movement of the carriage.

3. The combination with a wheel, a curved track-plate, and a carriage mounted upon said track, driving devices provided on the carriage for imparting a rotary motion to the wheel in a single direction only, a brake device adapted to engage with the wheel when the latter is rotating in an opposite direction to that at which the said driving devices are capable of turning said wheel, and means to cause the said brake device to temporarily disengage from the wheel when the latter has made a certain amount of retrograde motion.

4. The combination with a wheel and a leaf hinged to a suitable support, of said support, a brake shoe carried by an arm which is pivotally connected to said leaf, and a spring pressing said leaf toward the wheel.

866,457. COMPRESSED-AIR INSTALLATION. GEORGE J. GIBBS, Bamber Bridge, England, assignor of one-half to Peter Pilkington Limited, Bamber Bridge, near Preston, England. Filed Oct. 10, 1904. Serial No. 227,861.



1. The combination in compressed air installations in which air is used at a wide range of pressures, of two or more compressors adapted to compress air in stages, each compressor having its own governor acting independently of the governors of the other compressors, a driven apparatus, a distributing main leading from each of the said compressors to the driven apparatus, and cocks and valves, and pipe connections, so arranged as to enable said driven apparatus to be supplied with air from either of the mains according to the power to be developed, and to enable said apparatus to discharge its exhaust air into a lower pressure main or into the atmosphere.

2. The combination in compressed air installations in which air is used at a wide range of pressures, of two or more compressors adapted to compress air in stages, an air reservoir for containing the air at each stage of pressure, a driven apparatus, a distributing main leading from each of the said reservoirs respectively to the driven apparatus, and cocks and valves, and pipe connections so arranged as to enable said driven apparatus to be supplied with air from either of the pressure reservoirs according to the pressure required, or to enable high pressure air when being exhausted to be discharged to a lower pressure main for re-use.

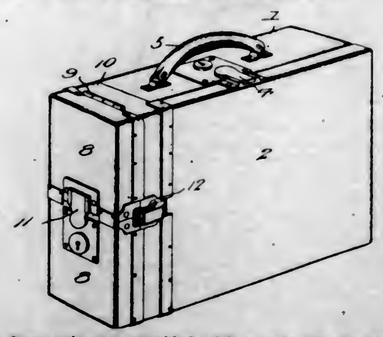
3. In apparatus of the class described, a plurality of reservoirs, means for forcing air thereinto, governing devices for maintaining the air at the desired pressure in each reservoir respectively, a driven apparatus, pipe connections or mains leading from the reservoirs to the driven apparatus, and distributing cocks or valves to enable said driven apparatus to derive its air pressure supply from either of the pressure reservoirs according to the pressure required, or to enable high pressure air when being exhausted to be discharged into the low pressure main for re-use, at the low pressure, or to be compressed again to a higher pressure.

866,458. PROCESS OF TREATING SKINS. ARTHUR GRANVILLE, London, England, assignor to The Fur-Wool Company Limited, London, England, a Corporation. Filed July 25, 1906. Serial No. 327,780.

1. The process of treating skins, which consists in soaking them, treating them with a dilute acid solution, and then a dilute alkaline solution, scouring and tanning them, and finally cutting off the outer layer of wool, substantially as described.

2. The process of treating skins, which consists in soaking them in water, treating them with an acid solution, treating them with an alkaline solution, scouring them, tanning and drying them, and finally cutting off the outer layer of wool, the whole treatment being conducted in the cold.

866,459. DRESS-SUIT CASE. ALFRED GRAY, New York, N. Y. Filed Nov. 10, 1906. Serial No. 342,847.



A dress suit case provided with a compartment at one end thereof, a tray forming said compartment, said tray having a metallic binding extending above the upper edge thereof, covers for said compartment hinged at the top and bottom of the suit case, a lock for securing said covers together, and spring fasteners at the sides of the case, substantially as described.

866,460. UNIVERSAL BEAM-FRAME. HUGO HAISS, Pittsburg, Pa. Filed Apr. 20, 1907. Serial No. 369,257.



1. A beam frame for reinforcing concrete construction, consisting of two layers of parallel rods or bars, intermediate housings holding said rods or bars in position, end housings embracing the ends of the lowermost layer of rods or bars and supporting in an elevated position the bent ends of the uppermost layer of rods or bars, heads carried by the ends of said rods or bars, plugs carried by said housings, space bars supported by said housings, stirrups carried by said space bars and embracing said rods or bars.

2. A beam frame for reinforcing concrete construction, consisting of two layers of parallel rods or bars, intermediate housings locking said rods and bars together, end housings carried by the ends of the lowermost layer of rods or bars and supporting the bent ends of the uppermost layer of rods or bars, heads carried by the ends of said rods or bars, spacing bars carried by said housings, and stirrups secured to said bars and embracing said rods intermediate said end housings.

3. A beam frame for reinforcing concrete construction, consisting of two layers of parallel rods or bars, intermediate housings for holding said rods or bars parallel, end housings embracing the ends of the rods or bars of the lowermost layer and for supporting the bent ends of the rods or bars of the uppermost layer, said rods or bars having anchor ends, space bars carried by said housings, and stirrups supported by said bars and embracing said rods or bars.

4. A beam frame for reinforcing concrete construction, consisting of horizontal layers of parallel rods or bars, intermediate housings embracing said rods or bars, end housings embracing the rods or bars of the lowermost layer and for supporting the bent ends of the rods or bars of the uppermost layer, space bars supported by said housings, and stirrups carried by said space bars and surrounding said rods or bars.

5. A beam frame for reinforcing concrete construction, consisting of two horizontal layers of parallel rods or bars, intermediate housings holding said rods or bars in position, end housings embracing the rods or bars of the lower layer, and supporting the ends of the upper layer of rods or bars, the ends of said rods or bars being bent upwardly at an angle to the rods or bars of the lower layer, stirrups surrounding said rods or bars and arranged in close order to the end housings, and means carried by said housings for supporting said stirrups.

6. A beam frame for reinforcing concrete construction, consisting of two layers of parallel rods or bars, housings embracing the rods or bars of both layers, housings embracing the rods or bars of the lower layer and some of the rods or bars of the upper layer, housings embracing the ends of the rods or bars of both layers and supporting the bent ends of the rods or bars of the upper layer in an elevated position with relation to the lower layer, space bars carried by said housings stirrups connected to said bars and arranged in close order with relation to said housings.

7. A beam frame for reinforcing concrete construction, consisting of two layers of parallel rods or bars, housings embracing the rods or bars of both layers, housings embracing the rods or bars of the lower layer and some of the rods or bars of the upper layer, housings embracing the ends of the rods or bars of both layers and supporting the bent ends of the rods or bars of the upper layer in an elevated position with relation to the lower layer, stirrups embracing said rods or bars, and means carried by said housings for supporting and spacing said stirrups.

8. A beam frame for reinforcing concrete construction, consisting of two layers of parallel rods or bars, housings embracing the rods or bars of both layers, housings embracing the rods or bars of the lower layer and some of the rods or bars of the upper layer, housings embracing the ends of the rods or bars of both layers, and supporting the bent ends of the rods or bars of the upper layer in an elevated position with relation to the lower layer, and stirrups embracing said rods or bars.

9. A beam frame for reinforcing concrete construction, consisting of two superposed layers of rods or bars, the ends of the rods of the upper layer of rods being bent upwardly, superposed housings each embracing the rods or bars of a layer, housings embracing the rods or bars of the lower layer and some of the rods or bars of the upper layer, housings embracing the ends of the rods or bars of both layers and supporting the bent ends of the rods or bars of the upper layer in an elevated position with relation to the lower layer, and spacing and supporting plugs carried by certain of said housings.

10. A beam frame for reinforcing concrete construction, consisting of two superposed layers of parallel rods or bars, transversely-extending housings each embracing all of the rods or bars of both layers, transversely-extending housings each embracing all of the rods or bars of the lower layer and some of the rods or bars of the upper layer, the rods of the upper layer having the ends thereof bent in an angular manner with respect to the remaining portions of the rods, transversely-extending housings embracing the ends of the rods or bars of both layers and supporting the angular ends of the rods or bars of the upper layer in an elevated position with relation to the lower layer, said rods or bars having anchor ends.

11. A beam frame for reinforcing concrete construction, consisting of two superposed layers of parallel rods or bars, transversely-extending housings each embracing all of the rods or bars of both layers, transversely-extending housings each embracing all of the rods or bars of the lower layer and some of the rods or bars of the upper layer, the end portions of the rods of the upper layer bent in an angular manner with respect to the remaining portion of said rods, housings embracing the ends of the rods or bars of both layers and supporting the angular ends of the rods or bars of the upper layer in an elevated position with relation to the lower layer.

12. A beam frame for reinforcing concrete construction, comprising two superposed layers of longitudinally-extending rods, the rods of each layer being arranged in transverse alinement with respect to each other, the ends of the rods of the upper layer being bent upwardly and then horizontally so as to extend in a plane above the plane of the end of the rods of the lower layer, transversely-extending superposed housings each embracing the rods of a layer, transversely-extending housings embracing the rods of the lower layer and certain of the rods of the upper layer, transversely-extending housings embracing the ends of the rods of both layers and supporting the bent ends of the rods of the upper layer in an elevated position with respect to the ends of the rods of the lower layer.

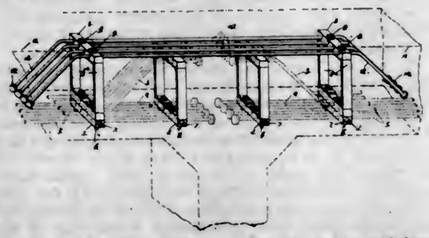
13. A beam frame for reinforcing concrete construction, comprising two superposed layers of longitudinally-extending rods, the rods of each layer being arranged in transverse alinement with respect to each other, the ends of the rods of the upper layer being bent upwardly and then horizontally so as to extend in a plane above the plane of the end of the rods of the lower layer, transversely-extending superposed housings each embracing the rods of a layer, transversely-extending housings embracing the rods of the lower layer and certain of the rods of the upper layer, transversely-extending housings embracing the ends of the rods of both layers and supporting the bent ends of the rods of the upper layer in an elevated position with respect to the ends of the rods of the lower layer, the ends of the rods of each layer being enlarged to constitute anchors.

14. A beam frame for reinforcing concrete construction, comprising two superposed layers of longitudinally-extending rods, the rods of each layer being arranged in transverse alinement with respect to each other, the ends of the rods of the upper layer being bent upwardly and then horizontally so as to extend in a plane above the plane of the end of the rods of the lower layer, transversely-extending superposed housings each embracing the rods of a layer, transversely-extending housings embracing the rods of the lower layer and certain of the rods of the upper layer, transversely-extending housings embracing the ends of the rods of both layers and supporting the bent ends of the rods of the upper layer in an elevated position with respect to the ends of the rods of the lower layer, and spacing and supporting plugs carried by certain of said housings.

15. A metallic reinforcement for concrete construction embodying a frame comprising a series of longitudinally-extending rods arranged in parallelism with respect to each other, the intermediate rods of said series having the ends extending upwardly at an angle and then in a longitudinal direction, transversely-extending housings embracing all of said rods, transversely-extending housings embracing the upper rods of said series at the ends thereof, and transversely-extending housings supported from the last-mentioned housings and embracing the ends of the intermediate rods.

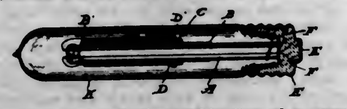
16. A metallic reinforcement for concrete construction embodying a frame comprising a series of longitudinally-extending rods arranged in parallelism with respect to each other, the intermediate rods of said series having the ends extending upwardly at an angle and then in a longitudinal direction, transversely-extending housings embracing all of said rods, transversely-extending housings embracing the upper rods of said series at the ends thereof, and transversely-extending housings supported from the last-mentioned housings and embracing the ends of the intermediate rods, each of said rods having the ends thereof enlarged to constitute an anchoring beam.

866,461. BEAM-FRAME FOR CONTINUOUS CONCRETE GIRDERS. Hugo Haiss, Pittsburg, Pa. Filed Apr. 30, 1907. Serial No. 371,137.



The combination with beam frames having end housings, intermediate housings, and rods or bars extending through said housings, of a plurality of rods or bars extending through said intermediate housings, over said end housings, said rods or bars having their ends bent downwardly and beaded in close proximity to the first mentioned rods or bars.

866,462. SELENIUM CELL. William J. Hammer, New York, N. Y. Filed Feb. 5, 1907. Serial No. 355,902.



1. In a selenium cell, the combination of a support for the selenium with connections for its insertion in an electric circuit, and an inclosing vessel consisting in part at least of fused quartz.

2. In a selenium cell, the combination of the selenium with means for connecting it to an exterior circuit, and an inclosing vessel consisting in part at least of fused quartz, constituting a vacuous inclosure.

3. In a selenium cell, the combination of an interior support of tubular form, the selenium and electric connections therefor, and a vessel consisting in part at least of fused quartz forming therefor a vacuous inclosure.

4. In a selenium cell, the combination, with the support, of a coating of selenium having thin films of metal deposited thereon constituting circuit terminals between which the selenium is inclosed, such films being substantially permeable to light.

5. In a selenium cell, the combination, with the support, of selenium inclosed between thin films of metal substantially permeable to light and constituting circuit terminals, with an inclosing vessel consisting in part at least of fused quartz and forming a vacuous inclosure.

6. In a selenium cell, the combination of the central support carrying a metallic terminal, selenium coated upon said central support and making electric connection with the metallic terminal, a second metallic terminal also electrically connected to the selenium, and an inclosing vessel consisting in part at least of fused quartz, constituting a vacuous inclosure.

7. In a selenium cell, the combination, with the central support and metallic terminals carried thereby, of selenium coated thereupon so as to make electrical connection with the metallic terminals, the selenium being compacted until its surface is substantially smooth.

8. In a selenium cell, the combination, with the central support, of a film of conducting metal with means for connecting it to an exterior circuit, a compacted body of selenium coated upon the film, a second film coated upon the selenium and also having means for connection to the outside circuit, one at least of the films being substantially permeable to light; and an inclosing vessel in part at least of transparent material, constituting a vacuous inclosure.

9. In a selenium cell, the combination with the central support, of a metallic terminal carried thereby, a lead-in wire connected to the terminal, selenium coated upon the support and in electric contact with the terminal, a second terminal also in contact with the selenium and provided with a lead-in wire, and an inclosing vessel in part at least transparent constituting a vacuous inclosure; the lead-in wires passing through the wall of the inclosure respectively to a central terminal and a screw-shell terminal.

10. In a selenium cell, the combination with a surrounding at least partly transparent envelop provided with central stud and screw-shell terminals, of a tubular internal support, metallic terminals carried thereby, lead-in wires passing through the tubular support and connected to the terminals within and without the inclosure, and selenium arranged in series between the terminals upon the support.

11. The combination, with a partly transparent envelop forming a vacuous inclosure and provided with central stud and screw-shell terminals of the incandescent lamp type, of a central tubular support, terminals carried thereby consisting of thin films of metal; lead-in wires passing through the tubular support and making connections between the terminals within and without the inclosure, and selenium interposed between the metallic films.

12. The combination, with a compacted body of selenium arranged in series between terminals and a support therefor, of a surrounding envelop in part at least transparent and provided with screw-shell and central stud terminals, and electric connections from the selenium to the terminals, the envelop forming a vacuous inclosure.

13. A selenium cell of the incandescent lamp type, comprising an inclosing envelop consisting in part at least of fused quarts and forming a vacuous inclosure for the selenium, screw-shell and central stud terminals upon the outside of the envelop, and means for connecting the selenium to the terminals outside of the envelop.

14. In a selenium cell, the combination with the central support, of metal deposited thereon, selenium coated upon the metal, a film of metal deposited upon the outside of the selenium, and connections from the metal to the external circuit.

15. In a selenium cell, the combination with a central support, of a thin film of metal deposited thereon, a coating of selenium upon the film, a second film upon the selenium, connections from the films to an outside circuit and an envelop for the cell, constituting a vacuous inclosure.

16. The combination, with an insulating support, of the selenium and films of metal forming circuit terminals therefor.

17. As a terminal for making contact with selenium in an electric circuit, a substantially transparent film of aluminium.

18. A surrounding envelop for a selenium cell, having a transparent window sealed in its wall.

19. A surrounding envelop for a selenium cell, having a fused quartz window sealed in its wall.

20. In a selenium cell, a surrounding envelop of glass, having a window of fused quartz.

21. A surrounding envelop for a selenium cell, consisting of substantially opaque material having a transparent window sealed in its wall.

22. A surrounding envelop for a selenium cell, composed of substantially opaque glass having a fused quartz window sealed in its wall.

23. In a selenium cell, a surrounding envelop of dark glass, having a window of fused quartz sealed into its wall.

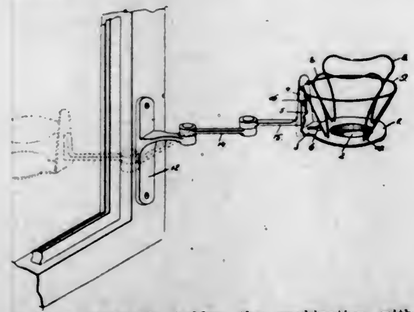
24. In a selenium cell, the combination with an insulating support for the selenium, of terminals carried by the support and a compacted body of selenium arranged upon the support in series between the terminals.

25. In a selenium cell, the combination of metallic terminals, an insulating support, selenium arranged in series between the terminals and a surrounding envelop consisting in part at least of fused quartz, forming a vacuous inclosure.

26. In a selenium cell, the combination of an inclosing envelop consisting in part at least of fused quartz, metallic terminals upon a central support within the inclosure and metallic terminals upon the inclosing vessel outside of the inclosure, electric connections between the two sets of terminals, and selenium interposed between the terminals within the inclosure.

27. In a selenium cell, the combination, with an insulating support, of the selenium and ring terminals, between which the selenium is placed in series in a compacted body.

866,463. RECEPTACLE-HOLDER. Miller H. Hart, Marietta, Ohio. Filed Mar. 12, 1907. Serial No. 362,032.



1. In a receptacle holder, the combination with a bracket having pivoted arms, one of said arms having a hook, of a holder consisting of a body portion having a countersunk portion, a standard carried by said body portion and having an opening formed therein adapted to receive said hook, said body portion having an opening formed therein, a wire basket carried by said body portion and standard and consisting of side arms and a circular frame.

2. In a receptacle holder, a base or body portion having a tongue projecting therefrom in a plane with said base or body portion and provided with an opening, and a standard rising from the outer end of said tongue, and provided with an opening, substantially as described.

3. In a receptacle holder, a base or body portion having a central depressed portion forming a drip pan, and having a projecting tongue provided with an opening, a standard rising from the outer end of the tongue and provided with an opening, and a wire basket secured to the base or body and to the standard.

4. In a receptacle holder, a base or body portion provided with a central depressed portion forming a drip pan, and having a tongue projecting from the body portion and provided with an opening, and a standard rising from the outer end of said tongue and provided with an opening, substantially as described.

5. In a flower pot holder, a base or body portion provided with a projecting tongue lying in a plane with said base or body portion and having an opening, a standard rising from the base or body portion and provided with an opening, and a basket mounted on the base or body portion and secured thereto and to the standard.

866,464. GARMENT-SUPPORT. Arthur H. Hawk, Greensburg, Pa. Filed Dec. 5, 1905. Serial No. 290,483.



A device of the class described comprising a coat supporting portion formed from a single piece of wire bent into a main continuous strand and a parallel auxiliary strand, the latter bent at its center toward the main strand and coiled around the same at two points spaced apart and the portion of the wire converging and entwisted and bent into an elongated loop and forming one side of a trouser supporting member, said elongated loop having small loops in one of its sides adjacent to the entwisted portion and bent into holding means, a suspension means formed from a single piece of wire bent upon itself centrally into a hook with the sides entwisted and the two portions bent in opposite directions and inserted through the spaced coils of the coat supporting portion, an elongated loop of wire forming the other side of said trouser holding means and movably engaging said holding means and provided with a handle bent from one side and embracing the connecting twisted portion between said coat supporting means and the stationary trouser supporting member, and a link bearing over said connecting twisted portion and said handle portion.

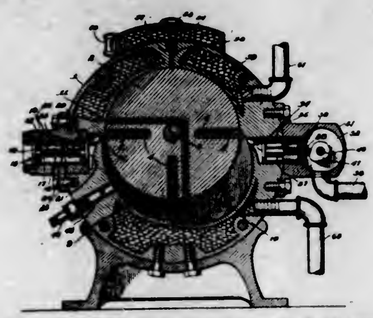
866,465. PROPELLER AND STEERING DEVICE. William J. Hearn, Mount Vernon, N. Y. Filed Aug. 4, 1906. Serial No. 329,196.



The herein described propelling and steering device for vessels comprising a tube extending from the bow of the vessel toward the stern and provided with lateral branches extending out through the sides of the vessel near the stern, a screw propeller journaled in the tube, and means for rotating said propeller, gates hinged at the rear end of the tube at its junction with the branches, a shaft connected to each gate and extending up through

the deck of the vessel, pinions on the shafts, and a tiller provided with a toothed sector for engaging said pinions to rotate said shafts, essentially as described.

866,466. ROTARY GAS-MOTOR. JAMES F. HIGBEE, Indianapolis, Ind. Filed Oct. 13, 1906. Serial No. 338,846.



1. A rotary gas engine comprising a cylinder having an inlet opening, an explosion chamber having the final portion thereof relatively enlarged, and a rotary piston therein provided with spring actuated wings or blades, and a fuel feed passage extending through the piston and opening out at different points in the periphery thereof at opposite sides of one of the wings or blades.

2. A rotary gas engine comprising a cylinder having an eccentrically disposed explosion chamber, inlet and exhaust valves communicating at opposite points therewith, means for imparting positive movement to said valves once in each revolution of the main shaft, and a rotary piston provided with an L-shaped feed passage and mounted on said shaft and provided with spring actuated wings or blades adapted to follow the inner contour of the cylinder and the explosion chamber.

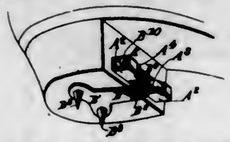
3. A rotary gas engine comprising a cylinder having an eccentrically disposed explosion chamber, inlet and exhaust valves communicating therewith at opposite points, means for imparting positive movement to said valves in each revolution of the engine, a main shaft, a rotary piston mounted on said shaft and carrying spring actuated wings or blades, and a fuel feed passage extending through the piston and having angularly disposed terminal portions which open out through the periphery of the piston at opposite sides of one or more of the wings or blades.

4. A rotary gas engine comprising a cylinder embodying an explosion chamber, a rotary shaft, a piston provided with an L-shaped fuel feed passage and mounted on said rotary shaft and carrying radially movable wings or blades, inlet and exhaust valves communicating with said explosion chamber, spring sustained stems for holding said valves normally seated, cam shafts carrying cams operating against said valve stems, and a yoke actuated by the main shaft and coupled to said cam shafts, substantially as and for the purpose described.

5. A rotary gas engine comprising a cylinder embodying an explosion chamber, a rotary main shaft, a piston provided with an L-shaped fuel feed passage and mounted on said shaft and carrying radially movable wings, inlet and check valves communicating with one end of the explosion chamber, an exhaust valve communicating with the other end of the explosion chamber, and a yoke actuated by the main shaft and operatively connected with each and all of said valves, whereby the latter are unseated with a positive action during each revolution of the shaft.

6. A gas engine comprising a cylinder embodying an explosion chamber, a rotary shaft, a piston provided with an L-shaped fuel feed passage and mounted on said shaft and carrying radially movable wings or blades, an air inlet valve communicating with one end of said chamber, an exhaust valve communicating with the other end of said chamber, an oil supply leading into the cylinder at a point in advance of the air inlet, and a yoke actuated by the main shaft and operatively connected with said valves for unseating the latter with a positive movement during each rotation of the main shaft.

866,467. ICE-CREEPER. JOHN I. HOLDERBAUM, Somerset, Pa. Filed Apr. 27, 1907. Serial No. 370,635.

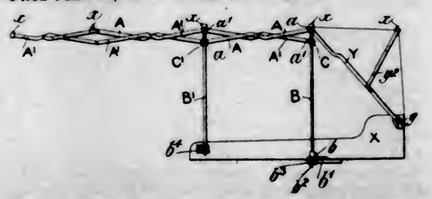


1. An ice creeper, comprising in its construction a heel section having an anchor bar provided with a barbed end adapted to be forced into place in a heel, and having its barbs deflected to bind in the heel, and said heel section having a main portion or case to extend along the front face of a heel and provided at its ends with boxes or keepers with the space between the same relatively wider at the front side of the frame and contracted at the top and bottom thereof, a spring within said main portion or case, and a swinging or spur section having a bar provided with spurs and having at one end a shaft angular in cross section and adapted to be inserted into and removed from the main portion of the heel section when the spur section is in neutral position, the said swinging section having means to fit between the opposite boxes of the heel section and prevent lateral movement of the swinging section when the latter is adjusted to position for use, substantially as set forth.

2. An ice creeper comprising a heel section having the opposite end keepers or loops with the space between the opposite boxes at the upper and lower sides thereof contracted relatively to the space between the said boxes at the front side of the heel section, a swinging or spur section having a shaft operating in said boxes or keepers, and provided with portions to fit in the contracted spaces between the boxes when the swinging section is adjusted into or out of position for use, the wider space at the front of the heel section permitting the application and removal of the swinging section, and a spring for securing the swinging section in either of its adjustments, substantially as set forth.

3. The combination in an ice creeper with a heel section having end boxes or keepers, with the space between the same at the lower side of the heel section contracted relatively to the space between the boxes at the front side of the said heel section, and a swinging section having a spur plate provided with a shaft operating in the end keepers and adapted to be inserted and applied through the space between the keepers at the front of the section, and a spur plate being arranged to fit in the narrow space between the boxes or keepers when adjusted to position for use, whereby to prevent the lateral displacement of the spur plate when so adjusted, substantially as set forth.

866,468. FRAME FOR SUPPORTING THE HOODS OF ROAD-VEHICLES. JOHN HOPPER, Fulham, England. Filed June 22, 1906. Serial No. 322,880.



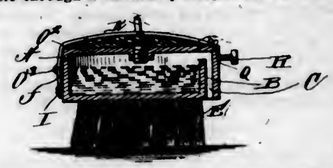
1. In a hood or canopy frame for road vehicles, the combination of a pair of supports pivoted to brackets on the body of the vehicle behind the entrances to the rear part of the vehicle, of a pair of supports removably fixed to brackets on the body of the vehicle in front of the said entrances, of sockets sliding on said supports, of means for locking said supports in their vertical positions, of two collapsible side members comprising a series of links constructed and arranged to operate on the "lazy-tongs" principle, the rear pairs of links of the said members being connected to the supports in the following manner, that is the rear end of one link of each pair being pivoted to the rear supports and the front ends of said links being pivoted to the sockets sliding on the front supports and the rear end of the other link of each pair being pivoted to the sockets sliding on the rear supports and the front ends of said links being pivoted to the front supports, of transverse members carried by the upper ends of the links forming the side members, and of means for locking the sliding sockets to the supports, as set forth.

2. In a hood or canopy frame for road vehicles, the combination of a pair of supports pivoted to brackets on the body of the vehicle behind the entrances to the rear part of the vehicle, of a pair of supports removably fixed to brackets on the body of the vehicle in front of the said entrances, of sockets sliding on said supports, of means for locking said supports in their vertical positions, of two collapsible side members comprising a series of links constructed and arranged to operate on the "lazy-tongs" principle, the rear pairs of links of the said members being connected to the supports in the following manner, that is the rear end of one link of each pair being pivoted to the rear supports and the front ends of said links being pivoted to the sockets sliding on the front supports and the rear end of the other link of each pair being pivoted to the sockets sliding on the rear supports and the front ends of said links being pivoted to the front supports, of transverse members carried by the upper ends of the links forming the side members, of means for locking the sliding sockets to the supports, of collapsible stretchers pivoted both to the tops of the rear supports and to brackets on the sides of the body of the vehicle, of struts carried by said stretchers, and of a cover or canopy carried and supported by said frame, as set forth.

3. In a hood or canopy frame for road vehicles, the combination of a pair of supports pivoted to brackets on the body of the vehicle behind the entrances to the rear part of the vehicle, of a pair of supports removably fixed to brackets on the body of the vehicle in front of the said entrances, of sockets sliding on said supports, of means for locking said supports in their vertical positions, of two collapsible side members comprising a series of links constructed and arranged to operate on the "lazy-tongs" principle, the rear pairs of links of the said members being connected to the supports in the following manner, that is the rear end of one link of each pair being pivoted to the rear supports and the front ends of said links being pivoted to the sockets sliding on the front supports and the rear end of the other link of each pair being pivoted to the sockets sliding on the rear supports and the front ends of said links being pivoted to the front supports, of transverse members carried by the upper ends of the links forming the side members, of collapsible stretchers pivoted both to the tops of the rear supports and to brackets on the sides of the body of the vehicle, of struts carried by said stretchers, of a cover or canopy carried and supported by said frame, and of locking devices for fixing the sockets to the supports, comprising slotted plates carried by the said supports, pins carried by the said sockets and engaging the slots in the plates, and cam-shaped levers pivoted to the slotted plates and adapted to engage the pins carried by the sockets, as set forth.

866,469. COMBINED FOUNTAIN SCRUB-BRUSH AND MOP. JOHN T. HUGGINS, Pomeroy, Ohio. Filed June 29, 1907. Serial No. 381,468.

1. A combined fountain scrub brush and mop, comprising a receptacle with a brush upon one side and a mop upon the other side, said receptacle having an inner wall cut away and adapted to allow water contained within the receptacle to slop over said wall and issue from the receptacle through a suitable passageway, as set forth.

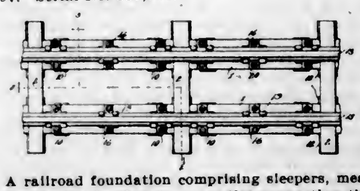


2. A combined fountain scrub brush and mop, comprising a receptacle, a brush fixed thereto, an inner wall of the receptacle being cut away and adapted to allow water to slop over the same and having a duct leading from said cut away wall through the casing, a rack detachably held upon said receptacle, a mop held by said rack to the receptacle, and a handle detachably connected to the receptacle, as set forth.

3. A combined fountain scrub brush and mop, comprising a receptacle, a brush fixed thereto, an inner wall of the receptacle being cut away and adapted to allow water to slop over the same and having a duct leading from said cut away wall through the casing, a rack having arms, an eye upon the receptacle engaged by one of said arms, a hook pivotally mounted upon the receptacle and engaging an eye in another of said arms, and a handle detachably connected to the receptacle, as set forth.

4. A combined fountain scrub brush and mop, comprising a receptacle, a brush fixed thereto, an inner wall of the receptacle being cut away and adapted to allow water to slop over the same and having a duct leading from said cut away wall through the casing, a rack having arms, an eye upon the receptacle engaged by one of said arms, a hook pivotally mounted upon the receptacle and engaging an eye in another of said arms, staples projecting from the opposite sides of the receptacle, a handle having forked ends, the arms of which are angled and adapted to detachably engage said staples, as set forth.

866,470. RAILROAD-TRACK CONSTRUCTION. WILLIAM E. HUGHES, Mineral Ridge, Ohio. Filed Feb. 26, 1907. Serial No. 359,344.



1. A railroad foundation comprising sleepers, means for securing the tracks thereto, cross ties connecting the ends of the sleepers, means for reinforcing the connection between said ties and sleepers, and bed-plates underlying the juncture of the ties and sleepers.

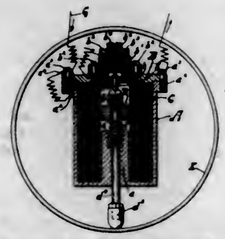
2. A railroad foundation comprising longitudinally arranged sleepers, cross ties disposed intermediate the ends of the sleepers, means for connecting said ties to the respective sleepers, bed-plates underlying the juncture of the ties and sleepers, and rail securing plates secured to the sleepers.

3. A railroad foundation comprising longitudinally arranged sleepers, cross ties disposed intermediate the ends of the sleepers, means for connecting said ties to the respective sleepers, bed-plates underlying the juncture of the ties and sleepers, and rail securing plates adjustably secured to the sleepers.

4. A railroad foundation comprising sleepers, ties arranged transverse the ends of the sleepers, angle plates connecting the proximate surfaces of the sleepers and ties, bed-plates underlying the juncture of the sleepers and ties, means for securing said bed-plates to the respective sleepers and ties, and rail securing plates adjustably mounted on the sleepers.

5. A railroad foundation comprising sleepers, ties arranged transverse the ends of the sleepers, angle plates connecting the proximate surfaces of the sleepers and ties, bed-plates underlying the juncture of the sleepers and ties, means for securing said bed-plates to the respective sleepers and ties, and rail securing plates adjustably mounted on the sleepers, said rail securing plates being formed with upturned lips to engage the base flanges of the rails.

866,471. ELECTRIC BELL. ROBERT L. HUNTER, Lakewood, Ohio, assignor of one-half to Don M. Osborne, Cleveland, Ohio. Filed June 9, 1905. Serial No. 264,368.



1. In an electric bell of solenoid construction, a casing of magnetic material inclosing the solenoid, an insulating non-magnetic head inserted in said casing opposite one end of such solenoid, a contact member mounted in said head, and a plunger reciprocable within said solenoid and resiliently held in contact with said contact member, said plunger being journaled at one end in said head and at the other in the opposite end of said casing.

2. In an electric bell, the combination of a casing of magnetic material inclosing the coil or helix of the bell, an insulating head inserted in said casing opposite one end of said coil or helix and provided with an internal bearing in axial alinement therewith, and a plunger lying within said coil or helix and having its one end reciprocably mounted in such bearing.

3. In an electric bell of solenoid construction, the combination of a casing of magnetic material inclosing the solenoid and provided with an integral pole-piece projecting within one end of such solenoid, an insulating non-magnetic head inserted in the end of said casing opposite such pole-piece, a contact member mounted in said head, and a plunger reciprocable within said solenoid and resiliently held in contact with said contact member.

4. In an electric bell of solenoid construction, the combination of a casing of magnetic material inclosing the solenoid and provided with an integral pole-piece projecting within one end of such solenoid, an insulating non-magnetic head inserted in the end of said casing opposite such pole-piece, a contact member mounted in said head, and a plunger reciprocable within said solenoid and resiliently held in contact with said contact member, said plunger being journaled at one end in said pole-piece and at the other in said head.

5. In an electric bell of solenoid construction, the combination of a casing of magnetic material inclosing the solenoid and provided with an integral pole-piece projecting within one end of such solenoid, an insulating non-magnetic head inserted in the end of said casing opposite such pole-piece, a contact member mounted in said head, and a plunger reciprocable within said solenoid and resiliently held in contact with said contact-member, said plunger being provided at one end with a stem of non-magnetic conducting material journaled in said pole-piece and being itself journaled at the other end in said head.

6. In an electric bell, the combination of a solenoid, a casing of conducting material inclosing the same, a plunger within said solenoid, said plunger being reciprocably mounted at one end in said casing, an insulated contact-member projecting within said casing at its other end, resilient means normally maintaining said plunger in contact with said member, and circuit connections between one terminal of said solenoid and said contact-member, said casing and the other terminal of said solenoid being respectively connected with the two poles of the battery.

7. In an electric bell, the combination of a solenoid, a casing of magnetic material inclosing the same, a plunger within said solenoid, said plunger being reciprocably monnted at one end in said casing, an insulated contact-member projecting within said casing at its other end, resilient means normally maintaining said plunger in contact with said member, and circuit connections between one terminal of said solenoid and said contact-member, said casing and the other terminal of said solenoid being respectively connected with the two poles of the battery.

8. In an electric bell, the combination of a casing of magnetic material inclosing the coil or helix of the bell and provided with a hollow pole-piece projecting within one end of such coil or helix, an insulating head inserted in said casing opposite the other end of such coil or helix, a contact member mounted in said head, and a plunger reciprocably mounted in said hollow pole-piece and adapted to contact with said contact member.

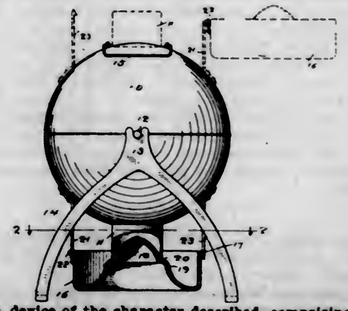
9. In an electric bell, the combination of a casing of magnetic material inclosing the coil or helix of the bell and provided with a hollow pole-piece projecting within one end of such coil or helix, an insulating non-magnetic head inserted in said casing opposite the other end of such coil or helix, a contact member mounted in said head, a plunger reciprocably mounted in said hollow pole-piece, and a spring normally holding said plunger in contact with said member.

10. In an electric bell, the combination of a casing of magnetic material inclosing the coil or helix of the bell and provided with a hollow pole-piece projecting within one end of such coil or helix, an insulating head inserted in said casing opposite the other end of such coil or helix and provided with an internal bearing in alinement with such pole-piece, a contact member mounted in said head, and a plunger reciprocably mounted in said pole-piece and head and adapted to contact with said contact member.

11. As a new article of manufacture, a make-and-break electric bell of solenoid construction having a suitable moisture-tight casing provided with a cover detachably secured to said casing by one insulated and one non-insulated connection, and having a non-magnetic insulating bearing-portion for the core of said solenoid, the "break" occurring within said cover and inside the field of the lines of force thereof.

12. As a new article of manufacture, a make-and-break electric bell of solenoid construction having a suitable casing; an auxiliary base secured to said casing; a suitable cover detachably secured to said casing by one insulated and one non-insulated connection and having an insulating head forming a bearing for the movable portion of the solenoid.

866,472. FEEDING AND WATERING DEVICE FOR POULTRY AND ANIMALS. JOHN B. JONES, Bridgeport, Conn. Filed Apr. 23, 1907. Serial No. 369,878.



1. A device of the character described, comprising a reservoir having a discharge nozzle, a trough having a dome provided with feeding grooves, said dome being engaged by the discharge nozzle, and positive connections between the reservoir and the trough, a portion of said connections being formed to permit relative movement of the connected parts to enable the reservoir to be filled.

2. A device of the character described, comprising a suspended reservoir having a discharge nozzle, a trough having a dome, provided with feeding grooves, which is engaged by the discharge nozzle, and means for connecting the trough to the reservoir.

3. A device of the character described, comprising a suspended reservoir having a discharge nozzle, a trough having a central dome provided with feeding grooves and a shoulder which is engaged by the edge of the discharge nozzle and means for movably connecting the trough to the reservoir.

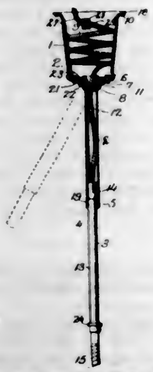
4. A device of the character described, comprising a frame having bearings, a reservoir having trunnions engaging the bearings and a discharge nozzle, a trough having a central dome provided with feeding grooves and a shoulder which is engaged by the nozzle and means for movably connecting the trough to the reservoir.

5. A device of the character described, comprising a suspended trough having a dome provided with feeding grooves, a reservoir of greater diameter than the trough so as to overhang the trough, for the purpose set forth, and provided with a discharge nozzle engaging the dome, and means for movably connecting the trough to the reservoir.

6. A device of the character described, comprising a suspended reservoir having a discharge nozzle, a depending bracket and a spring catch, a trough hinged to the bracket and provided with a central dome having feeding grooves and a flange which is engaged by the catch to retain the parts in operative position.

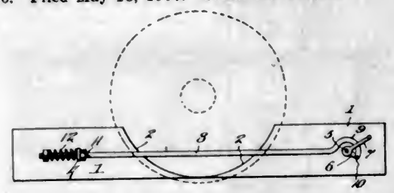
7. A device of the character described, comprising a suspended globular reservoir having a discharge nozzle, a circular trough of less diameter than the reservoir and having a dome provided with feeding grooves, said dome being engaged by the discharge nozzle, and means for connecting the trough to the reservoir.

866,473. ELECTRIC-LAMP BRACKET. DANIEL C. KEEFE and THOMAS M. SMITH, New York, N. Y.; said Smith assignor to said Keefe. Filed June 7, 1906. Serial No. 320,517.



In a lamp support, the combination of a cup which provides a receptacle wherein the electrical conductor automatically coils and uncoils, an extensible lamp-carrying tube consisting of an upper tube and a lower tube, and means for preventing the rotation of said tubes relatively to each other, a ball on the end of the lamp-carrying tube, a spring plate secured to the cup and having a circular opening receiving and retaining the ball in different positions, a conductor running through the lamp-carrying tube and coiling within the cup, and means for facilitating the winding and unwinding of the coil, consisting of a guide device secured to the wall of the cup and having an approximately horizontal passage through it, through which passage the conductor runs so that it may thereby be deflected at the proper angle to allow it to easily coil and uncoil, substantially as described.

866,474. CAR-CHOCK. SAMUEL R. KEERAN, Centralia, Mo. Filed May 13, 1907. Serial No. 373,359.



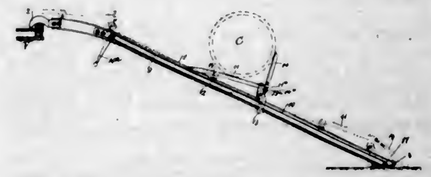
1. A chock of the class described comprising a pair of blocks to lie on a rail and engage opposite sides of the periphery of the wheel, rods connected to one of such blocks and means on the other block connected to such rods for operating the latter to cause the same to move the blocks toward or from each other.

2. A chock of the class described comprising a pair of blocks, connecting rods attached to one of the blocks, a shaft journaled in the said block, and means on the said shaft connected to the said rods to move the latter longitudinally when said shaft is turned, for the purposes set forth.

3. A chock of the class described comprising a pair of chock blocks, longitudinally disposed rods attached to one of them, a shaft mounted in the other, and rock arms on the said shaft pivotally connected to the said rods, said shaft being further provided with means whereby it may be turned, for the purposes set forth.

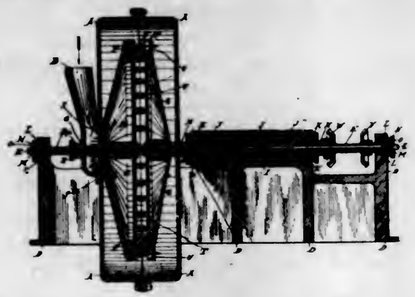
4. A chock of the class described comprising a pair of chock blocks, guide devices projecting from opposite sides of one of said blocks, a rock shaft journaled in the other block and having rock arms and means whereby it may be turned, longitudinally disposed rods attached to the said rock arm and extending through the guide devices, springs on said rods and stop devices on said rods pressing said springs against said guide devices to exert longitudinal tension on the said rods in one direction, substantially as described.

866,475. APPARATUS FOR CONVEYING LOADS FROM ONE LEVEL TO ANOTHER. EDUARD KEIMER, Basel, Switzerland, assignor to The Firm of Keimer & Co., Zurich, Switzerland. Filed Oct. 1, 1906. Serial No. 336,985.



Apparatus for conveying loads from one level to another comprising two relatively adjustable parallel channeled rails curved at one end, shoes at the other end of said rails, a wheeled carriage adapted to move longitudinally on each of said rails, a load supporting bar pivoted to each carriage, an endless flexible member located in the channel of each rail and connected to the respective carriage, sprocket wheels mounted in the rails over which said flexible members pass, pawl and ratchet gear in connection with one of said sprocket wheels, a removable shaft extending through said sprocket wheels and a crank handle for operating said shaft substantially as described.

866,476. ELASTIC-FLUID TURBINE. LEWIS M. KELLOGG, Los Angeles, Cal. Filed Feb. 15, 1907. Serial No. 358,149.

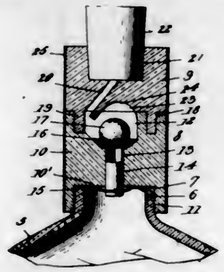


1. The new or improved motive power engine, consisting of a hollow circular rotor carried upon a driving shaft, the bearings of which driving shaft are in the ends of the engine bed, the rotor, the driving shaft, the bearings, the engine bed, said rotor having an admission port for elastic fluid at the center and outer part thereof and adjacent to the admission port of the cylindrical casing within which the rotors operate, the admission port in the rotor, the admission port in the casing, said rotor also having nozzles projecting horizontally from the otherwise closed inner face of this rotor, each nozzle having an orifice at an angle with its hollow interior, the nozzles, the orifices in the nozzles, said orifices discharging the elastic fluid into and among the vanes of the other rotor mounted upon a rotatable tube, the said rotors rotating in opposite directions, the second rotor, the vanes of the second rotor, the tube, the adjustable bearings wherein the shaft of the first rotor and the tube whereon the second rotor is carried, the bevel gearing whereby the opposite directions of motion of the two rotors is converted into rotation in one direction of the driving or power transmission shaft of the engine, all operating together in the manner and for the purposes substantially as set forth.

2. The combination consisting of the circular stationary casing, the bed wherein the circular stationary casing and the roller bearings for the central driving shaft of one rotor and the tubular driving shaft of the other rotor are carried, the admission port conducting elastic fluid into the first rotor, the projecting nozzles with orifices in the first rotor, the second rotor with vanes for receiving the discharge from the orifices of the nozzles of the first rotor, the ball bearings, the adjustments of the ball bearings, means for adjusting the closeness of contact of the admission port in the first rotor against that part of the casing which contains the admission port through which elastic fluid is led to operate said engine, the bevel gear for converting the opposite rotations of the driving shaft and tube of each rotor respectively, into continuous rotation of a driving or power transmission shaft, the whole constituting my new or improved motive power engine, and operating substantially as set forth.

866,477. NON-REFILLABLE BOTTLE. JAMES W. KENNEDY, Burke, N. Y. Filed Apr. 22, 1907. Serial No. 369,501.

In a bottle the combination of the body portion provided with a threaded neck, a section nozzle threaded thereto, said nozzle comprising upper and lower sections, the lower section having a recess formed therein and a passage communicating with the recess and with the bottle, an upper section screwed to the lower section and having a recess adapted to aline with said first mentioned recess to form a chamber, said upper section having an angular passage therein in communication with said chamber, and a valve in the chamber arranged to close the passage of the lower section.



866,478. FENCE-POST. EDWARD W. KERNER, Erie, Pa. Filed Nov. 20, 1906. Serial No. 344,277.



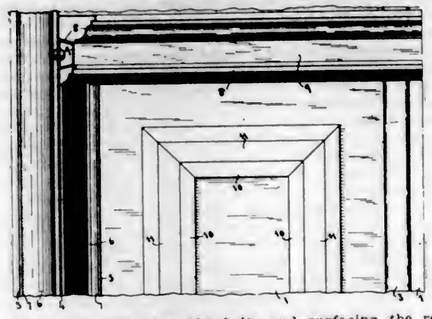
A fence-post composed of metal provided with anchoring means at its base, and having a flat front face with thinned edges, and perforations at short intervals through the margins of the said thinned edges, said perforations extending from the top to the bottom of the post, and the latter being furthermore provided on its back with a rib extending back at a right angle to the plane of the face of the post, said rib being thinned or reduced at its outer edge and perforations formed at short intervals through the said thinned edge whereby a line of fence may be secured to the face of the post and extend in the plane of the same and the end of another line of fence may be connected to the rib and extend at a right angle to the first-mentioned line of fence.

866,479. MOLDING. WILLIAM F. KIESEL, Jr., Altoona, Pa. Filed Nov. 24, 1906. Serial No. 344,855.

1. A molding provided with a dove-tail channel having bolt holes at the back thereof, in combination with an insert comprising a plate of channel form having flaring sides adapted to be sprung into said channel after the bolts are in place.

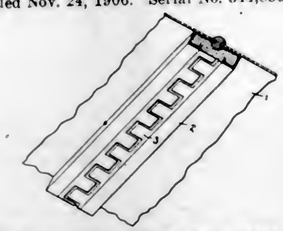
2. A molding comprising a metal plate bent to form a longitudinal channel, the plate at each side of the channel being bent outwardly and then backwardly, the backward bends terminating at points in alinement with the back of the channel, said channel back being provided with one or more bolt holes, and an insert adapted to be applied to the channel to conceal the bolts.

3. The combination, with a metal surface plate, of metal moldings bolted thereto to produce cornice, panel and like effects, said moldings, where the bolts are applied, being provided with recesses, and inserts within said recesses fastened thereon after the bolts are in place,



said inserts concealing the bolts and surfacing the recesses in conformity with the lines of the moldings.

866,480. MOLDING. WILLIAM F. KIESEL, Jr., Altoona, Pa. Filed Nov. 24, 1906. Serial No. 344,856.

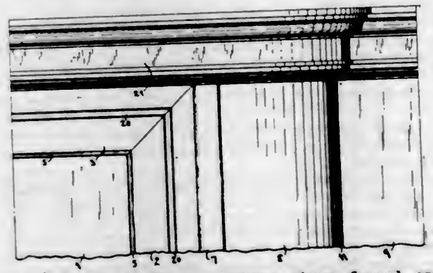


1. A metal molding provided with means for bolting it in place and having a recess to receive one or more bolt heads, in combination with an insert of plastic material placed in the recess after the molding is fastened in position to conceal the bolt heads.

2. A metal molding formed with a longitudinal channel and having therein means for bolting the molding in place, in combination with an insert of plastic material placed in the channel after the molding is fastened in position to conceal the bolt heads.

3. A metal molding formed with a longitudinal channel having therein means for bolting the molding in place, in combination with an insert of plastic material placed in the chanel after the molding has been fastened in position, and an inlay pressed into the exposed surface of the insert while in its plastic condition.

866,481. METAL INTERIOR CONSTRUCTION. WILLIAM F. KIESEL, Jr., Altoona, Pa. Filed Nov. 24, 1906. Serial No. 344,857.



1. A metal partition comprising plates flanged and bolted together along their meeting edges, in combination with bolts fastened in with said flanges and projecting therefrom at right angles to the plates, and a clamping plate fastened in place by said bolts, whereby the finish for the reverse side of the partition may be secured in place.

2. A metal partition comprising plates flanged and bolted together along their meeting edges, in combination with a strip of metal bolted in between flanges, said strip being partially cut away at intervals, eye-bolts inserted between flanges where said strip is cut away, and a clamping plate fastened in place by said bolts, whereby the finish for the reverse side of the partition may be secured to said plates.

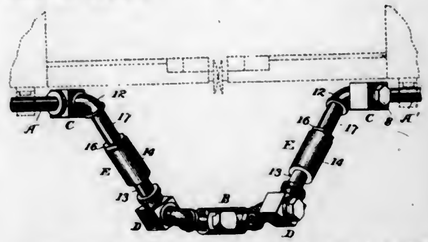
3. A partition comprising metal plates joined together along their meeting edges, bolts fastened to the plates at the joints, an insulating backing set up against the plates, and a clamping plate fastened in place by said bolts to hold the backing in place.

4. A partition comprising metal plates joined together along their meeting edges, and an insulating backing composed of fire proof and sound deadening material secured to the plates at one side.

5. A partition panel built up from metal plates flanged and bolted together at their meeting edges, with beaded strips fastened in between flanges.

6. A metal plate for inside finish having a channel formed thereon, and an insert of a different material secured in said channel.

866,482. FLEXIBLE METALLIC COUPLING. WALTER W. KILPATRICK, Atlanta, Ga., assignor, by direct and mesne assignments, to Air-Brake and Steam-Heat Connection Company, Atlanta, Ga. Filed Nov. 24, 1906. Serial No. 344,903.



1. The combination with the longitudinally and laterally separated main pipes A A′ and with a horizontal coupling arranged at an angle to the axes of the pipes A A′, of a connection intermediate each coupling member and one of said pipes, the said connection having two plug joints, the plugs of which are each at an angle to the axis of the said pipe and a swiveled member intermediate the two plug joints.

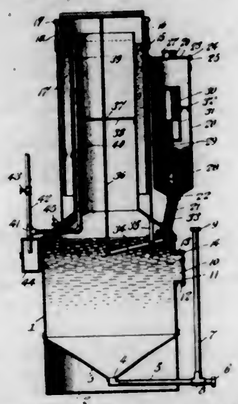
2. The combination with a main pipe and one section or member of a coupling, of an intermediate metal pipe connection consisting of two plug joints, the plugs of which are at an angle of about forty-five degrees to the main pipe, and a swiveling section intermediate the plug joints.

3. The combination with a main pipe mounted at one side of a car, of a coupling member and a metallic connection intermediate such member, and the main pipe and extending normally at an angle of forty-five degrees to the said main pipe and including two plug joints and an intermediate swiveling pipe section.

866,483. ACETYLENE-GAS GENERATOR. JOHN M. KINARD, Bremond, Tex., assignor of one-half to Alva Garland, Bremond, Tex. Filed July 25, 1906. Serial No. 327,714.

1. An acetylene-gas generator consisting of a water tank, a gas-holder surmounting the same, having an open bottom, a carbid magazine mounted on the water tank, a

vertical rod extending through the gas holder, a lever mounted in the water tank and pivotally connected with said vertical rod, a valve having pointed ends for closing the carbid magazine, connected by a rod with the aforesaid lever, and a weight connected by a rod with said valve, whereby the movements of the bell causes the valve to be periodically opened and closed, and a casing closed at the top, bottom and sides for containing said weight and the bottom of said casing having an aperture therein through which the valve rod extends.



2. In an acetylene-gas generator, a carbid magazine, consisting of a casing, having a discharge pipe at its lower end mounted on the top of the water tank, a double-pointed valve for closing the discharge opening of the magazine, and serving as an agitator, a weight and rod connected to the upper end of said valve, a closed casing for containing the weight and guiding the same in its movement, said rod extending through the bottom of said casing and a lever and rod mechanism connected with the other end of the valve and actuated periodically by the rise and fall of the bell, as herein set forth.

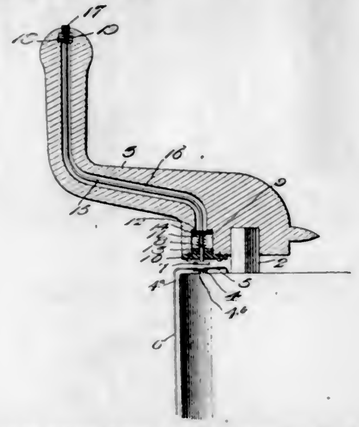
3. An acetylene gas generator comprising a carbid magazine, a water tank, a discharge pipe leading from the carbid magazine to the water tank, a valve for closing the discharge opening in the magazine, a rod extending upward from the valve through a closed casing having an opening in the bottom thereof for said rod, a weight within said casing connected to the end of said rod and guided in said casing, a rod connected to the lower end of said valve and extending through and into the water tank, a lever connected to said rod, a gasometer bell, and a rod extending from said lever and adapted to be actuated by said gasometer bell, substantially as described.

4. In an acetylene gas generator, a carbid magazine, a double pointed valve for closing the discharge opening in said magazine, a rod connected to the upper point of the valve, a casing within said magazine, said casing being closed at the top, bottom and sides, and provided with an aperture through which said rod extends, and the weight guided within the casing and secured to the upper end of said rod, substantially as described.

5. In an acetylene gas generator, a carbid magazine, a valve for closing the discharge opening in said magazine, a rod connected to the upper end of said valve, a casing supported within the magazine, said casing being inclosed upon all sides, top and bottom, and provided with an aperture through said bottom to guide the rod secured to the upper end of the valve, and a weight mounted upon said rod to move in said casing, substantially as described.

866,484. ALARM. THOMAS R. KINSELLA and CHRISTOPHER W. HODGETTS, Hartwell, Ohio. Filed Mar. 21, 1907. Serial No. 363,709.

1. In an electric alarm for cars, the combination with a controller box or casing, and a controller shaft, of an alarm circuit having terminals disposed upon the controller box in a curved path concentric with the shaft, a controller handle upon the shaft, contact means upon the handle to bridge and engage said terminal, said contact means being adapted for operation at any point in the movement of the handle in the usual way, and controlling means on the handle for rendering the contact means thereon operative in connection with the terminals to energize the alarm circuit.



2. In an electric alarm for cars, the combination with a controller box or casing, and a controller shaft, of an alarm circuit having terminal contact shoes insulated from each other and disposed upon the controller box on an arc concentric with the shaft, a controller handle for operating the shaft, and controlling connections on the handle including a circuit closer and a shoe to bridge said terminal contact shoes, whereby at any point in the path of movement of the handle the circuit may be energized.

3. In an electric alarm for cars, the combination with a controlling box or casing, and a controller shaft, of an alarm circuit having terminal conducting shoes insulated from each other and disposed upon the controller box in a curved path concentric with the shaft, a controller handle for operating the shaft, said handle being provided with a passage extending longitudinally therethrough and opening through its upper end and base, conductors extending through said passage, a circuit closer exposed at the upper end of the handle for connecting said conductors, and a contact shoe upon the base of the handle to bridge and connect said circuit terminal shoes, whereby the circuit may be energized at any point in the path of movement of the handle.

4. In an electric alarm for cars, the combination with a controller box or casing, and a controller shaft, of an alarm circuit having insulated terminal contact shoes disposed upon the controller box in a curved path concentric with said shaft, a handle for operating the shaft, said handle having a bore or passage extending longitudinally therethrough and opening through its upper end and base, a shoe upon the base of the handle to bridge and connect the terminal shoes, and means extending through the passage of the handle and having a controlling device at the top of the handle whereby the shoe upon the handle may be controlled for coaction with the terminal shoes to energize the circuit at any point in the path of movement of the handle.

5. In an electric alarm for cars, the combination with a controller box or casing, and a controller shaft, of an alarm circuit having terminals disposed upon the box in a curved path concentric with the shaft, a handle for operating the shaft, said handle being provided with a bore or passage extending longitudinally therethrough and opening through its upper end and base, a detachable closer for the portion of the passage extending through the horizontal part of the handle and controlling means extending through said bore and including a shoe upon the base of the handle to bridge and connect the terminals, whereby the circuit may be energized at any point in the path of movement of the handle.

6. In an electric alarm for cars, the combination with a controller box, and a controller shaft, of an alarm circuit having terminals disposed upon the controller box in a curved path concentric with the shaft, a controller handle adapted for detachable connection with the shaft, contact means upon the controller handle to engage said terminals to energize the alarm circuit, said contact means being adapted for operation at any point in the movement of the handle in the usual way, and circuit closing means on the handle associated with said contact means, by which the circuit may be energized to sound the alarm.

7. In an electric alarm for cars, the combination with a controller box and a controller shaft, of an alarm circuit having terminals mounted upon the controller box concentric with and independent of the shaft, a controller handle provided in its base with a socket to receive the shaft, said handle being thereby adapted for application to and removable from the shaft, contact means upon the base of the handle adapted to bridge said terminals, and means upon said handle associated with said contact means whereby the circuit may be energized at any point in the path of movement of the handle to sound the alarm.

866,485. CLOCK-ADJUSTER. ANDREW P. KOON, Sheridan, Ark. Filed July 20, 1907. Serial No. 384,783.

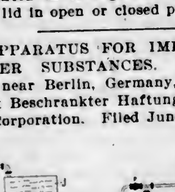
1. A clock adjuster comprising a pivoted bar, a pendulum support connected to said bar, an arm extending at an angle to said bar and provided with a slotted head, and a hook on said bar for supporting the pendulum during the adjustment, and a binding screw passing through the slotted head for securing the same to the clock frame.

2. A clock adjuster comprising a pivoted bar carrying a pendulum support, means for connecting the pendulum to said bar, an arm extending at an angle to said bar, and provided with a head having a curved slot therein formed on the arc of a circle of which the pivot is the center, and a binding screw for holding said head in adjusted position.

3. A clock adjuster comprising a pivoted bar, pendulum supporting means connected to said bar, means whereby said bar may be adjusted to a true vertical position, and means for holding said bar in such position, to regulate the swing of the pendulum.

866,486. INK-WELL. BLASIUS KOVACIC, East Pittsburg, Pa. Filed May 3, 1907. Serial No. 371,588.

1. The combination with an ink-well having a pen opening, of a normally-closed slidable closure for said opening, and means carried by the well for positively retaining the closure in either open or closed position, the position of the well controlling the action of said means.



2. The combination with an ink-well having a pen-opening, of a closure for said opening, said closure being movable in a direction laterally of the opening, said closure being normally in closed position, and means carried by the well for retaining the closure in either an open or closed position, the position of the well controlling the action of said means.

3. The combination with an ink-well having a pen-opening, of a spring-closing closure for said opening, said closure being movable in a direction laterally of the opening, and gravity-release means carried by the well for retaining the closure in an open position, the position of the well controlling the action of said means.

4. The combination with an ink-well having a pen-opening, of a spring-closing closure for said opening, said closure being movable in a direction laterally of the opening, and means carried by the well for retaining the closure in an open position, the release of said means being controlled by the position of the well.

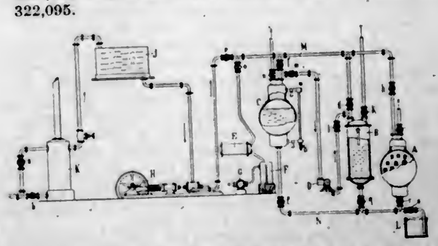
5. An ink well having a closure for its pen-opening, a spring for placing a tension on said closure and means for retaining said closure in an open position against its spring-tension, the operative position of said means being controlled by the position of the well.

6. An ink-well having a laterally-movable closure for its pen-opening, and means whereby the closure, when in its open position, will be automatically closed upon an upsetting movement of the well, said means retaining the closure in either an open or closed position.

7. An ink well consisting of a receptacle, a top plate carried thereby and having a countersunk portion provided with a beveled pen opening, a spring held lid slidably mounted in said countersunk portion, a spring-pressed element carried by said lid for closing said opening, a sleeve mounted in and extending through said receptacle, and a gravity plunger arranged in said sleeve for holding said lid in open or closed position.

8. An ink well consisting of a receptacle having a pen opening formed therein, a spring-pressed lid slidably mounted upon said receptacle, a spring pressed element for closing the opening of said receptacle, and a gravity plunger mounted in and guided by said receptacle for holding said lid in open or closed position.

866,487. APPARATUS FOR IMPREGNATING WOOD OR OTHER SUBSTANCES. BERTHOLD KUCKUCK, Wannsee, near Berlin, Germany, assignor to Hülsberg & Cie. mit Beschrankter Haftung, Charlottenburg, Germany, a Corporation. Filed June 16, 1906. Serial No. 322,095.



1. An apparatus for impregnating wood or similar materials comprising a coke furnace, means for supplying air

thereto, a compressor, connections between said compressor and furnace, a vessel for holding the material to be treated, a charging vessel containing the impregnating material, connections between said vessels, and means for conveying compressed gas from said compressor to said charging vessel, substantially as described.

2. An apparatus for impregnating wood or similar materials comprising a coke furnace, means for supplying air thereto, means for cooling the gas as it leaves said furnace, a compressor, connections between said furnace and said compressor, a vessel for holding the material to be impregnated, a charging vessel containing the impregnating material, connections between said vessels, and means for conveying compressed gas from said compressor to said charging vessel, substantially as described.

3. An apparatus for impregnating wood or other material comprising a coke furnace, means for supplying air in regulated amounts thereto, a compressor, connections between said furnace and said compressor, an impregnating vessel, a charging vessel containing impregnating material, connections between said vessels, and means for conveying gas from said compressor to said charging vessel, substantially as described.

4. An apparatus for impregnating wood or similar materials, comprising a coke furnace, means for supplying air in regulated amounts to said furnace, means for cooling the gas as it leaves said furnace, a compressor, connections between said compressor and said furnace, an impregnating vessel, a charging vessel containing impregnating material, connections between said vessels, and means for conveying gas from said compressor to said charging vessel, substantially as described.

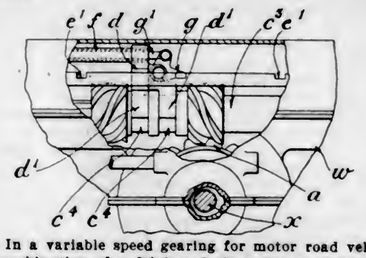
5. An apparatus for impregnating wood or similar materials, comprising a coke furnace, means for supplying air thereto, a compressor, connections between said furnace and said compressor, an impregnating vessel for containing the material to be treated, a measuring vessel, a charging vessel for containing the impregnating material, connections from said compressor to said charging vessel, adjustable means connecting each of said three vessels with said connections, a conductor for the impregnating material, and adjustable means connecting each of said three vessels independently with said conductor, substantially as described.

6. An apparatus for impregnating wood or similar materials, comprising a coke furnace, means for supplying air in regulated amounts thereto, a compressor, connections between said compressor and furnace, an impregnating vessel for containing the material to be treated, a measuring vessel, a charging vessel for containing the impregnating material, a pipe conducting the compressed gas from the compressor, adjustable means connecting each of said three vessels independently with said pipe, a conductor for the impregnating material, adjustable means connecting each of said three vessels independently with said conductor, a second gas compressor, adjustable means connecting the suction side of said second compressor with the charging vessel, and adjustable means connecting the delivery side of said compressor with the measuring vessel, substantially as described.

866,488. VARIABLE-SPEED GEARING. JAMES G. LAMBERT, Hadleigh, and BENJAMIN E. WADDAMS, Ealing, England. Filed Mar. 9, 1907. Serial No. 361,469.

1. In a variable speed gearing, the combination with the driving and driven shafts, of a worm wheel mounted loosely on the driven shaft, a clutch for coupling said wheel to said shaft, a plurality of worms of the same diameter and normal pitch but each having a different number of threads, the said worms being all mounted on a sleeve free to slide on but rotate with the driving shaft, means for shifting the position of the said sleeve on said shaft, means for locking said sleeve in the several positions to retain the worms in their operative positions, and means for disengaging the clutch, as set forth.

2. In a variable speed gearing for motor road vehicles, the combination of a driving shaft, a driven shaft of the differential type arranged at right angles to the driving shaft, a worm wheel loosely mounted on the driven shaft, a clutch for coupling the worm wheel to the primary or driving members of the differential gear, a plurality of worms mounted to rotate with and slide on the driving shaft the said worms being all of the same diameter and normal pitch but each having a different number of threads, means for bringing the said worms into engagement with the worm wheel, and means for locking the said worms to retain same in their operative positions, as set forth.

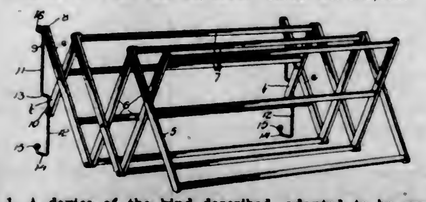


3. In a variable speed gearing for motor road vehicles, the combination of a driving shaft, a driven shaft of the differential type arranged at right angles to the driving shaft, a worm wheel loosely mounted on the driven shaft, a clutch for coupling the worm wheel to the primary or driving members of the differential gear, a plurality of worms of the same diameter and normal pitch but each having a different number of threads the said worms being all mounted on a sleeve free to slide on but rotate with the driving shaft, means for shifting the position of the said sleeve on said shaft, and of means for locking said sleeve in the several positions to retain the worms in their operative positions, as set forth.

4. In a variable speed gearing for motor road vehicles, the combination of a driving shaft, a driven shaft fitted with a differential gear, a worm wheel loosely mounted on the driven shaft, a clutch for coupling the worm wheel to the primary or driving members of the differential gear, a plurality of worms mounted to rotate with and slide on the driving shaft, the said worms being all of the same diameter and normal pitch but each having a different number of threads, means for bringing the said worms into engagement with the worm wheel, and means for locking said worms to retain same in their operative positions, as set forth.

5. In a variable speed gearing for motor road vehicles, the combination of a driving shaft, a driven shaft fitted with a differential gear, a worm wheel loosely mounted on the driven shaft, a clutch for coupling the worm wheel to the primary or driving members of the differential gear, a plurality of worms of the same diameter and normal pitch but each having a different number of threads, the said worms being all mounted on a sleeve free to slide on but rotate with the driving shaft, of means for shifting the position of the said sleeve on said shaft, of means for locking said sleeve in the several positions to retain the worms in their operative positions, and of means for disengaging the clutch, as set forth.

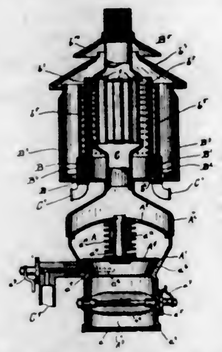
866,489. CLOTHES-RACK. DAVID A. LEONARD, Morning Sun, Iowa. Filed Dec. 18, 1906. Serial No. 348,490.



1. A device of the kind described, adapted to be suspended from a wall and comprising an expansible sectional rack proper; a pair of supports connected with said rack at the rear of the latter, each support comprising a single metal strip bent to form upper and lower members and a horizontal connecting strip to offset said lower member in advance of said upper member; and means mounted in the rear of said rack at opposite sides thereof, and slidably connected with the lower member of said supports, to permit said rack to be expanded or retracted, said means being movable with the rack proper into contact with said connecting strips, to limit the expansion of said rack.

2. A device of the kind described, adapted to be suspended from a wall and comprising an expansible sectional rack proper; a pair of supports connected with said rack at the rear of the latter, each support comprising a single metal strip bent to form upper and lower members and a horizontal connecting strip to offset said lower member in advance of said upper member; and a screw-eye engaged in the rear section of said rack at the lower end thereof and slidably connected with the lower member of the corresponding support, to permit said rack to be expanded or retracted, said screw-eyes being adapted to contact with said connecting strips, to limit the expansion of said rack.

866,490. CARBURETER. JAY C. LEWIS, Cleveland, Ohio. Filed Feb. 26, 1906. Serial No. 302,875.



1. In a carbureter, the combination of a mixing chamber, a duct leading therefrom, a hydrocarbon burner surrounding said duct and adapted to heat the same, means for supplying hydrocarbon to said burner, and a casing laterally inclosing said burner and duct.

2. In a carbureter, the combination of a mixing chamber, a duct leading therefrom, a hydrocarbon burner surrounding said duct, means for supplying liquid hydrocarbon to said burner, a perforated casing inclosing said burner, and an outer solid casing laterally inclosing said perforated casing.

3. In a carbureter, the combination of a mixing chamber, a duct leading therefrom, a perforated flange surrounding said duct, a hydrocarbon burner mounted on the upper face of said flange and surrounding said duct, means for supplying hydrocarbon to said burner, a perforated casing inclosing said burner, and a solid casing secured to the periphery of said flange and laterally inclosing said perforated casing.

4. In a carbureter, the combination of a mixing chamber, a duct leading therefrom, a perforated flange surrounding said duct and having a groove adapted to receive a wick, means for supplying liquid hydrocarbon to said groove, a perforated casing on each side of said groove, and an outer solid casing secured to the periphery of said flange and laterally inclosing said perforated casings.

5. In a carbureter, the combination of a mixing chamber, a duct leading therefrom, said duct being subdivided for a portion of its length, a perforated flange surrounding said duct just below such subdivided portion and having a groove adapted to receive a wick, means for supplying liquid hydrocarbon to said groove, a perforated casing on each side of said groove, and an outer solid casing secured to the periphery of said flange and laterally inclosing said perforated casings.

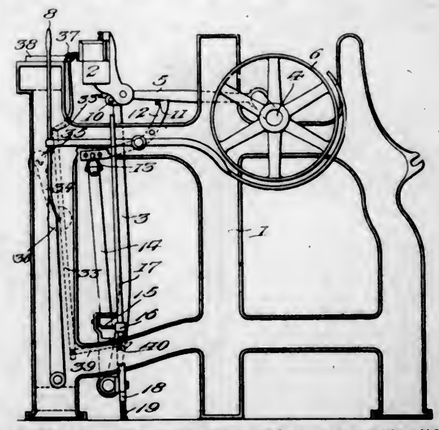
6. In a carbureter, the combination of a mixing chamber, a duct leading therefrom, said duct being subdivided for a portion of its length, a perforated flange surrounding said duct just below such subdivided portion and bearing on its upper side a grooved annular ridge adapted to receive a wick, connections for supplying liquid hydrocarbon thereto, a perforated cylindrical casing attached to each side of said ridge, the inner of said casings being closed at the top, and an outer solid casing secured to the periphery of said flange and laterally inclosing said perforated casings.

7. In a carbureter, the combination of a mixing chamber, a duct leading therefrom, said duct being subdivided for a portion of its length, a perforated flange surrounding said duct just below such subdivided portion and bearing on its upper side a grooved annular ridge adapted to receive a wick, connections for supplying liquid hydrocarbon thereto, a perforated cylindrical casing attached to each side of said ridge, the inner of said casings being closed at the top, an outer solid casing secured to the periphery of said flange and laterally inclosing said perforated casings, and a ventilator cap secured to the top of such outer casing.

8. In a carbureter, the combination of a mixing chamber, having an air inlet and a hydrocarbon inlet, a duct leading from said mixing chamber, a hydrocarbon burner surrounding said duct and adapted to heat the same, and means connecting said hydrocarbon inlet and burner with a common source of supply.

9. In a carbureter, the combination of a mixing chamber having a hydrocarbon inlet, a duct leading from said mixing chamber, a hydrocarbon burner surrounding said duct and adapted to heat the same, a branched connection, the branches thereof leading to the hydrocarbon inlet of said mixing chamber and to said burner, respectively, and a reservoir interposed in the branch of said connection leading to said inlet.

866,491. LOOM. WALTER W. LINDER, Charlotte, N. C. Filed Sept. 5, 1906. Serial No. 333,375.



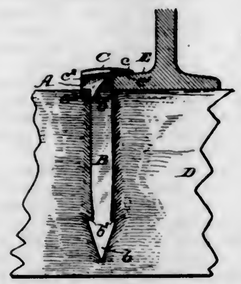
1. In a loom the combination with a transversely slidable rod operatively connected with the lay, of a picker lever having a hooked end disposed in the path of the transversely slidable rod, a picker stick, connections between the latter and the picking lever, and means for actuating the transversely slidable rod.

2. In a loom a transversely slidable rod supported in

bearings adjacent and parallel to the lay, a pair of levers fulcrumed upon a movable member connected with the lay, suitably guided flexible members connecting said levers with the slidable rod, oppositely disposed cams or eccentrics engaging and actuating said levers, and means for operating the cams or eccentrics.

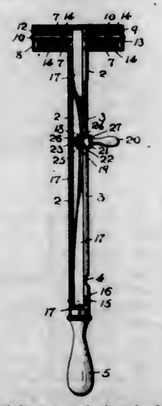
3. In a loom a lay sword having an expanded portion forming a frame, a shaft journaled in said frame and having oppositely disposed cams or eccentrics, levers pivoted upon the lay sword and engaging the cams or eccentrics, a transversely slidable rod supported adjacent to the lay, suitably guided flexible elements connecting said rod with the cam engaging levers and means for imparting to the cam carrying shaft an intermittent rotary motion by the reciprocatory movement of the lay.

866,492. SPIKE. ABRAHAM B. LIPSCOMB, Yager, Cal. Filed Dec. 6, 1905. Serial No. 290,592.



A spike comprising a shank and a head having a lip for engaging a rail base and a shoulder for engaging a tie to prevent backward movement of the spike, said spike being provided with lateral ribs at the junction of the head and shank, said ribs curving forwardly toward the point of the lip whereby to strengthen the junction of the shank and the head and extending to an edge beneath the shoulder, the tie engaging shoulder having its ends flush with the sides of the lateral ribs.

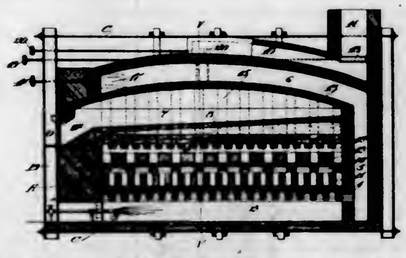
866,493. BRUSH. BENNO LITTAUER, Newark, N. J. Filed May 13, 1907. Serial No. 373,249.



1. A brush comprising a tubular body formed with a longitudinally extending opening, a chambered element at one end of said body, said element being formed with an opening, a spindle mounted in said chambered element, a brush-element carried by said spindle, a wheel on said spindle, and a wheel within said tubular body, a flexible connection arranged over said wheels, and a reciprocatory actuating device connected with said flexible connection and extending through the longitudinally extending opening of said tubular body.

2. A brush comprising a tubular body formed with a longitudinally extending opening, a chambered element at one end of said body, said element being formed with an opening, a spindle mounted in said chambered element, a brush-element carried by said spindle, a toothed or serrated wheel on said spindle, and a toothed or serrated wheel within said tubular body, a flexible connection in movable engagement with the teeth or serrations of said wheels, and a reciprocatory actuating device connected with said flexible connection and extending through the longitudinally extending opening of said tubular body.

866,494. CONTINUOUS-BAKING OVEN. CHARLES LOESCH and ELVIN C. MCCALL, San Francisco, Cal. Filed Dec. 31, 1906. Serial No. 350,301.



1. In an oven, an arched combustion chamber located in the lower part, walls, with flues connecting the rear end of said chamber with horizontal flues above the baking chamber, a plurality of substantially concentric reticulated arches located between the combustion chamber and the bottom of the baking chamber, said arches being separated from each other to form an intermediate chamber, and the reticulations of the upper arch being arranged to distribute and equalize the heat so that when the heat comes in contact with the floor of the oven, the latter will be equally heated in all parts and walls with flues passing around the sides of the oven, said flues opening into return passages formed in the arch above the baking chamber and exterior to the passages with which the combustion chamber is directly connected.

2. In a baking oven, an arched combustion chamber, a plurality of heat distributing chambers located between the combustion and the baking chambers, with intermediate substantially concentric reticulated roofs, the uppermost of said roofs having its reticulations arranged to distribute and equalize the heat so that when the heat comes in contact with the floor of the oven, the latter will be equally heated in all parts, said baking chamber having an arched or dome-shaped roof, with independent series of return passages extending horizontally therein, independent flues connecting the combustion chamber with said passages, and dampers whereby heat may be diverted to either series of flues.

3. In a baking oven, an arched or dome-shaped baking chamber having a floor inclining upwardly from the front to the rear, and a downwardly inclined passage connecting the front of said floor, with a door-opening thereto, said door opening extending transversely the full width of the chamber, an arched combustion chamber located in the lower part of the structure, a plurality of heat distributing chambers located between the combustion and baking chambers and having reticulated roofs, a central series of horizontal parallel passages formed in the roof of the baking chamber, flues formed in the rear wall connecting the end of the combustion chamber with said passages, other series of parallel passages located within the baking chamber roof, and above opposite sides of the chamber, flues connecting the uppermost of the distributing chambers with said exterior passages, and dampers whereby heat may be diverted through the central or the side passages.

4. In an oven, a combustion and baking chamber, a plurality of chambers located between the combustion and the baking chamber having reticulated roofs, independent parallel heat-conducting passages located in the roof of the baking chamber, flues in the rear walls connecting the combustion chamber with one series of said passages, other flues in the side walls connecting the uppermost heat-distributing chamber, with the other series of superposed heat passages, dampers by which the flow of heat in said passages is controlled, and connections between the passages and chimney.

5. In a baking oven, an arched baking chamber having an inclined floor and a transverse door-opening extending across the front, a combustion chamber located in the lower part of the structure, a plurality of superposed distributing chambers located between the combustion and the baking chamber, said distributing chambers having reticulated floors and roofs for the passage of heat, independent series of parallel heat-conducting passages located in the roof of the baking chamber, flues formed in the rear wall of the structure, with passages connecting the rear end of the combustion chamber there-through, and with one series of passages above the baking chamber, other flues formed in the side walls, and connections through said flues between the upper distributing chamber, and the other series of superposed flues, discharge flues or chimneys with which both sets of superposed passages are connected, and dampers by which the heat is diverted into either or both series of superposed flues.

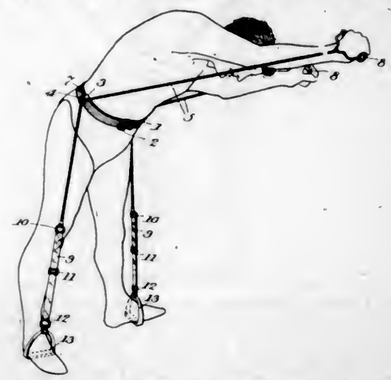
6. In a baking oven of the character described, an arched oven having an inclined floor and a transverse door-opening extending across the front, a combustion chamber located in the lower part of the structure, a plurality of distributing chambers located one above the other and between the combustion chamber and the oven floor, passages through the intervening floors whereby the heat is delivered from the combustion chamber, heat-conducting passages located above the oven, connections between the combustion and distributing chambers and said passages, an escape flue located above said passages and into which the passages discharge, with controlling dampers between, a damper-controlled passage leading from the upper part of the oven into the uppermost chamber or flue, and damper-controlled connections between said passage and the chimney.

7. In an apparatus of the character described, an oven structure, an arched baking chamber located in the upper part having a roof with independent central and side passages formed above corresponding portions of the baking chamber, a combustion chamber in the lower part having openings and vertical flues in the rear wall connecting with the centrally located superposed passages, a plurality of substantially horizontal chambers located between the roof of the combustion chamber and the floor of the baking chamber, and having substantially concentric reticulated floors for the direct passage of heat there-through, the reticulations of the uppermost floor being arranged to distribute and equalize the heat so that when the heat comes in contact with the floor of the oven, the latter will be equally heated in all parts, side walls having flues connecting the uppermost of said chambers with the side passages superposed above the oven, and means for changing the direction of flow of the heat through either or all of said superposed passages.

8. In an apparatus of the character described, an oven structure, a combustion chamber in the lower part, a baking chamber above, a series of superposed chambers between the combustion chamber and the baking chamber having reticulated floors for the direct passage of heat, the baking chamber floor having downwardly projecting and separated bricks forming the lower surface of said floor, and projecting into the upper heat-distributing chamber substantially as described.

9. In an oven, a combustion and a baking chamber, an interposed heating chamber, with a reticulated floor, the reticulations of said floor being arranged to distribute and equalize the heat so that when the heat comes in contact with the floor of the baking chamber, the latter will be equally heated in all parts, a channeled roof to the baking chamber, end walls with flues connecting the combustion chamber with one series of the roof channels, side walls with flues connecting the heat-distributing chamber with the other series of channels, and controlling and diverting dampers.

866,495. EXERCISING DEVICE. ABRAHAM MARKS, New York, N. Y. Filed Oct. 12, 1906. Serial No. 338,593.



1. An exercising apparatus comprising an adjustable belt having guiding means threaded thereon, said guiding means comprising a sliding piece and a ring, said sliding piece adapted to be set to any position on said belt, an elastic cord passing through said ring and having a handle at one end, a foot piece, a non-elastic piece connecting said foot piece and the elastic cord, and serving to regulate the tension of said cord, as and for the purpose specified.

2. An exercising apparatus comprising a belt having guide members comprising a sliding piece and a ring, said sliding piece adapted to be set to any position on said belt and by frictional contact with the body held in adjusted position, an elastic cord passing through the ring, a handle at one end of said cord, a foot piece, an adjustable non-elastic means between said foot piece and the cord, to adjust the apparatus and regulate the tension of the elastic cord, as and for the purpose specified.

866,496. CACTUS SILAGE. SAMUEL S. MATTHEWS, Kansas City, Mo. Filed July 2, 1906. Serial No. 324,333.

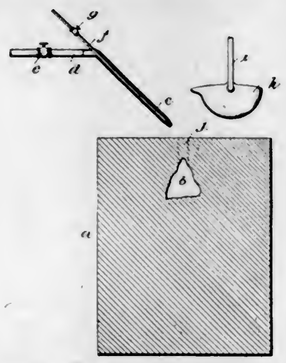
A composition of matter for use as a cattle food consisting of chopped despined cactus leaves ensiled with clover, sugar cane, and corn-stalks, in a green state, and linseed meal, in substantially the proportions disclosed.

866,497. PROCESS FOR DOING AWAY WITH BLOW-HOLES AND LIKE FLAWS IN CASTINGS. ADOLPH E. MENNE, Creuzthal, Germany, assignor to The Firm of Cöln-Müsener, Bergwerks Aktien Verein, Creuzthal, Germany. Filed Jan. 9, 1905. Serial No. 240,352.

1. A process for doing away with hollows in castings, consisting in suitably placing the same then applying an oxidizing gas under pressure to the top surface of the casting then suitably starting the combustion of the gas and then partially igniting and melting the material of the casting and ejecting the material until the hollows are reached and then filling up said hollows with liquid metal, substantially as described.

2. A process for doing away with hollows in castings, consisting in suitably placing the casting then applying and igniting an oxidizing gas under sufficient pressure to the top surface part of the said casting to eject the burned and molten metal and until the hollows in the interior of

the casting are exposed and their walls are at a sufficient temperature to permit a good weld with any suitable molten metal that may be poured into the same, and in subsequently pouring molten metal into said hollows and filling them up, substantially as described.



3. A process for doing away with hollows in castings, consisting in preliminarily heating and igniting an oxdizing gas and in suitably placing the casting and applying the ignited gas to the top surface of the casting at a pressure sufficient to eject the burned and molten metal until the hollows are reached, and their walls are at a temperature and in a condition suitable for welding and then pouring in molten metal until said hollows are filled, substantially as described.

4. A process for doing away with hollows in castings, consisting in suitably placing the casting, and heating up the surface of the same, then in applying oxidizing gas to the top surface of said casting under a pressure sufficient to eject the burned and molten metal, until the hollows are reached and until the walls of the same are in a suitable welding condition, and finally pouring molten metal into said hollows and permitting the same to become welded to the casting, substantially as described.

866,498. METHOD OF MELTING THROUGH MASSES OF MATERIAL. ADOLF E. MENNE, Creuzthal, and WILHELM ZOLLENKOPF, Cologne, Germany, assignors to Cöln-Müsener Bergwerks Actien Verein, Creuzthal, Germany, a Corporation of Germany. Filed Aug. 27, 1906. Serial No. 332,303.

1. A method of melting through masses of metal and masses containing combustible parts, consisting in temporarily heating the part of said mass to be melted by first passing and then extinguishing an electric arc and in thereafter supplying gases containing oxygen to said heated part, substantially as described.

2. A method of melting through masses of metal and masses containing combustible parts, consisting in first heating by means of an arc the part of said mass to be melted then extinguishing the same after a brief interval and in thereafter supplying oxygen to said heated part until the required perforation is accomplished, substantially as described.

3. A method of melting through masses of metal and masses containing combustible parts, consisting in first electrically heating the part of said mass to be melted for some seconds and in then cutting off the heating means and supplying gases containing oxygen to said heated part until the required perforation is secured, substantially as described.

4. A method of melting through masses of armor plate and masses containing combustible parts, consisting in electrically heating for a brief time only the part of said mass to be melted by applying and at once cutting off the source of heat and in then supplying oxygen to said heated part and permitting the same to ignite and burn away the metal until the required perforation is secured, substantially as described.

5. A method of melting through masses of metal and masses containing combustible parts, consisting in forming an electric arc for a brief interval only at the part to be melted thereby, heating the said part and in supplying gases containing oxygen to said heated part, thereby extinguishing said arc and burning away the metal, substantially as described.

6. The method of perforating masses of metal and masses containing combustible parts, which consists in providing a pipe in an electric circuit, forming an arc between the said pipe and the said mass and extinguishing the same after a brief interval of time only, and thereby locally heating the said mass, and then passing gases containing oxygen through said pipe to the part heated until the required hole is produced, substantially as described.

7. The method of perforating masses of metal and masses containing combustible parts, which consists in providing a pipe in an electric circuit, contacting the same with the said mass, and then withdrawing the same to form an electric arc, permitting the arc to play for a brief interval of time only, and then admitting gases containing oxygen to said pipe, and blowing out said arc, and burning out the required perforation in said mass, substantially as described.

866,499. PROCESS OF MANUFACTURING A FERRUGINOUS ADDITION TO CATTLE FOOD. EDUARD MEUSEL, Liegnitz, Germany. Filed Aug. 19, 1904. Serial No. 221,417.

The herein described process which consists in dissolving ferric hydrate in sulfuric acid to saturation to form a solution of ferric sulfate, adding about 100 liters of this solution gradually to every 50 kilograms of deglutinated bone dust until the mixture becomes pulpy and then cooling and drying said mixture.

866,500. PENCIL-RETAINER. ANDREW MIKULICH, Sacramento, Cal. Filed Aug. 2, 1906. Serial No. 328,844.



An improved pencil retainer, consisting of a piece of spring-wire bent to form a ring which will normally pass loosely over a pencil, said wire having an end bent to form an arm extending transversely to the plane of the ring, said arm inclined toward the axis of the ring and co-acting therewith so that when the arm is shifted sidewise of the pencil in one direction it will slip over the pencil, and in so doing it will be placed on tension and give a lateral twist to the ring to cause the latter and the end of said arm to bind on the pencil and hold the device in position thereon, said retainer being released from its grip on the pencil by shifting the arm in the opposite direction back over the pencil.

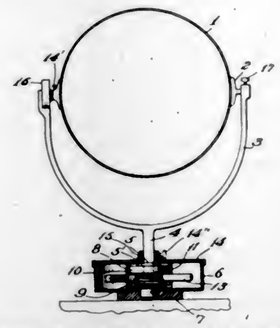
866,501. SPRING-TUG FOR HARNESS. JAMES MITCHELL, Bonilla, S. D. Filed May 9, 1907. Serial No. 372,662.



1. A spring tug for harness comprising a plurality of layers of material including an intermediate layer having laterally extending flaps, a casing secured adjacent to the top layer and included between said flaps, a thong or lacing cord connecting together the free edges of the flaps, and a spring actuated draft member contained in the casing.

2. In a device of the class described, a plurality of layers of material including an intermediate layer having laterally extending flaps, a casing secured adjacent to the top layer and comprising longitudinally channeled plates having laterally extending wings, the wings of one of said plates being provided with flanges disposed adjacent to the side edges of the wings of the other plate, fastening members extending through the layers of material and through the wings of the casing plates, means for connecting the free edges of the flaps which are brought together to include the casing, and a spring actuated draft member contained in the latter.

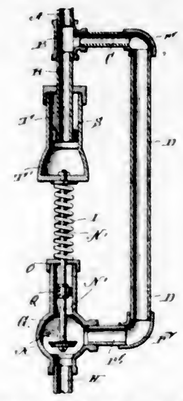
866,502. DIRIGIBLE HEADLIGHT. ORA E. MITCHELL, Los Angeles, Cal. Filed Apr. 26, 1906. Serial No. 313,744.



1. The combination with a support and means for pivotally mounting said support comprising a cup, a tubular sleeve in said cup provided with a rectangular bore arranged to receive the stem of the support, a spring coiled about said tubular sleeve and having its ends terminating in tangs extending at right angles to the body of the spring, a block for keeping said tangs spaced, a lever integrally united with said sleeve and extending between said tangs, an elliptical member interposed between said lever and block for guiding said lever, and means for securing said support in its adjusted position.

2. The combination with a support and means for pivotally mounting said support, comprising a cup, a tubular sleeve in said cup provided with a rectangular bore arranged to receive the stem of the support, a spring coiled about said tubular sleeve and having its ends terminating in tangs extending at right angles to the body of the spring, a block for keeping said tangs spaced, a lever integrally united with said sleeve and extending between said tangs, an elliptical member interposed between said lever and block for guiding said lever, means for pivotally mounting a headlight in said support comprising a cup secured in one arm of said support, having spring-actuated means for governing the movement of the headlight, and means for securing said headlight in its adjusted position.

866,503. FLUID-PRESSURE REGULATOR. ANDREW J. MOREHART, Fostoria, Ohio. Filed June 22, 1907. Serial No. 380,294.

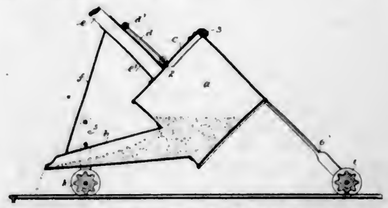


1. A fluid pressure regulating apparatus, comprising a main supply pipe, a laterally extending branching pipe therefrom, a valve casing communicating with said laterally extending pipe, a valve in said casing adapted to seat over an exit opening therein, a pipe communicating with the main supply pipe, a stationary piston upon said pipe which is connected to the supply pipe, a spring pressed cylinder in which said piston is mounted and a piston stem connecting said cylinder and valve, as set forth.

2. A fluid pressure regulating apparatus, comprising a main supply pipe, a laterally extending branching pipe therefrom, a valve casing communicating with said laterally extending pipe, a valve in said casing adapted to seat over an exit opening therein, a pipe having communication with the supply pipe, a stationary piston upon said pipe which is connected to the supply pipe, a movable cylinder in which said piston is mounted, a piston stem connecting said cylinder and valve and a spring upon said stem and bearing between said cylinder and casing, as set forth.

3. A fluid pressure regulating apparatus, comprising a main supply pipe, a laterally extending branching pipe therefrom, a valve casing communicating with said laterally extending pipe, a valve in said casing adapted to seat over an exit opening therein, a pipe having communication with the supply pipe, a stationary piston upon said pipe which is connected to the supply pipe, a movable cylinder in which said piston is mounted, said cylinder having one end thereof outwardly flaring, a piston stem connecting said cylinder with said valve and a spring upon said stem bearing between the casing and the flaring end of the cylinder, as set forth.

866,504. SANDING DEVICE FOR RAILWAY-RAILS. IRA A. MCCORMACK, White Plains, N. Y. Filed Dec. 3, 1906. Serial No. 346,060.



1. A sanding device comprising a receptacle for sand, an inclined delivery spout, supporting devices by which the same rests upon and may be moved over a track rail, and

devices for manually moving the sanding device along the rail.

2. A sanding device comprising a receptacle for sand, an inclined delivery spout, supporting devices by which the same rests upon and may be moved over a track rail, devices for manually moving the sanding device along the rail and means for agitating the mass of sand to insure its delivery.

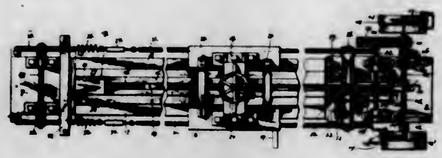
3. A sanding device comprising a receptacle for sand, an inclined delivery spout, supporting devices by which the same rests upon and may be moved over a track rail, devices for manually moving the sanding devices along the rail and other devices for carrying the sanding device bodily from place to place.

4. A sanding device comprising a receptacle for sand, an inclined delivery spout, supporting devices by which the same rests upon and may be moved over a track rail, devices for manually moving the sanding device along the rail, means for agitating the mass of sand to insure its delivery and other devices for lifting the sanding device bodily and carrying the same about from place to place.

5. A sanding device comprising a cylindrical receptacle for sand, a cover comprising substantially half of the top of the said receptacle hinged to the cover and by means of which the receptacle may be filled with sand, a delivery spout projecting from one side of the said receptacle, which in a position of use is downwardly inclined, track rollers adapted to rest upon a rail, and plate arms forming bearings therefor and connected to opposite portions of the sanding device for supoprting the sanding device upon a rail, and a handle-bar to be manually grasped in pushing the sanding device along the rail.

6. A sanding device comprising a cylindrical receptacle for sand, a cover comprising substantially half of the top of the said receptacle hinged to the cover and by means of which the receptacle may be filled with sand, a delivery spout projecting from one side of the said receptacle, which in a position of use is downwardly inclined, corrugated track rollers adapted to rest upon a rail, plate arms forming bearings therefor and connected to opposite portions of the sanding device for supporting the sanding device upon a rail, and a handle-bar to be manually grasped in pushing the sanding device along the rail, said corrugated track rollers serving to agitate the mass of sand and insure its delivery.

866,505. TUBE-BENDING MACHINE. ROBERT NAYSMITH, Pittsburg, Pa. Filed Sept. 12, 1906. Serial No. 334,279.

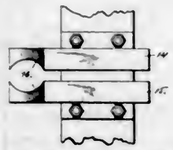


1. A bending machine for tubes, embodying frames, parallel beams supported by said frames, a bed body mounted upon said beams and having guide-ways, said body having a groove formed therein, an adjustable grooved die mounted in said body, a block carried by said die, a reciprocating carriage slidably mounted upon said bed body, a roller journaled in said carriage and having a peripheral groove formed therein corresponding in size to one of the grooves of said die, adjustable and resilient sprocket chains extending between said frames, and connecting with said carriage, at each side thereof, means carried by one of said frames to move said chains, and means carried by one of said beams for causing the reciprocation of said carriage.

2. A bending machine for tubes embodying spaced frames, a bed body supported by said frames and having guide-ways, a grooved die adjustably mounted in said bed, a carriage slidably mounted upon the guide-ways of said bed, a roller revolubly supported by said carriage and having a groove formed therein corresponding in size to one of the grooves of said die, adjustable and resilient chains connecting with said carriage and extending from one frame to the other, and means to move said chains in one direction, and then in the opposite direction, to reciprocate said carriage, substantially as described.

3. In a tube bending machine, a bed, a grooved die adjustably supported upon said bed, a stopblock having an inclined face and adapted to be inserted between said die and guide ways to support the die at any desired point upon the bed, a carriage movably disposed upon said bed, a roller journaled in said carriage and having a peripheral groove corresponding in size to one of the grooves of said die, means for actuating said carriage and the roller carried thereby in opposite directions over said die.

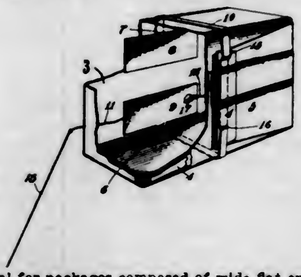
866,506. METAL-BENDING MACHINE. ROBERT NAYSMITH, Pittsburg, Pa. Filed Sept. 18, 1906. Serial No. 335,061.



1. In a metal bending device, forming rollers arranged in pairs, one roller of each pair having a semi-circular peripheral groove and one of the opposing rollers of one pair having a semi-circular periphery and the other opposing roller having a V-shaped peripheral groove and adapted to bend a strip of metal into semi-tubular form with the edges converging, and opposing die-members supported between said pairs of rollers with their confronting faces reversely recessed with the recesses decreasing in area toward the roller having the V-shaped groove, and with the portions of the confronting faces at one side of the dies adjacent to said converging edges separated sufficiently to prevent compression thereof.

2. In a metal bending device, forming rollers arranged in pairs, one roller of each pair having a semi-circular peripheral groove and one of the opposing rollers of one pair having a semi-circular periphery and the other opposing roller having a V-shaped peripheral groove and adapted to bend a strip of metal into a semi-tubular form with the edges converging, and opposing die-members supported between said pairs of rollers with their confronting faces reversely recessed, with the recesses decreasing in area toward the roller having the V-shaped groove and with the contiguous portions of the dies at one side of the recesses separated sufficiently to prevent compression of the edges of the material passing through the rollers.

866,507. SEAL. THOMAS J. O'BRIEN, Los Angeles, Cal. Filed July 23, 1906. Serial No. 327,443.

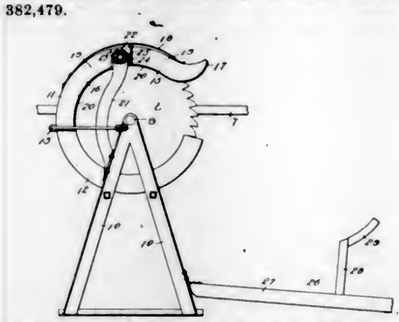


1. A seal for packages composed of wide flat ends united by a narrow band of flexible material; cords secured at one of the ends; and needles secured to the cords.

2. The combination of a wrapper having slits therein with a seal composed of wide flat ends united by a narrow band, said seal being of flexible material, said ends being adapted to be folded to pass through the slits in the wrapper and then to be unrolled and thereby be locked therein.

3. The combination of a wrapper having slits therein with a seal composed of wide flat ends united by a narrow band of flexible material; cords secured to one of the ends of said seal; and needles secured to said cords.

866,508. CIRCULAR-SAW GUARD. MAURICE P. O'REGAN, Dorchester, Iowa. Filed July 6, 1907. Serial No. 382,479.



1. The combination, with a circular saw, of a saw frame comprising a pair of spaced members between which the saw is mounted; a saw-guard incasing the saw and consisting of an upper and a lower section, hinged together at their rear ends and having their forward ends spaced apart from each other; and a brace secured at one end to each member of the frame and adjustably connected at its opposite end with the adjacent side of the upper section of the guard.

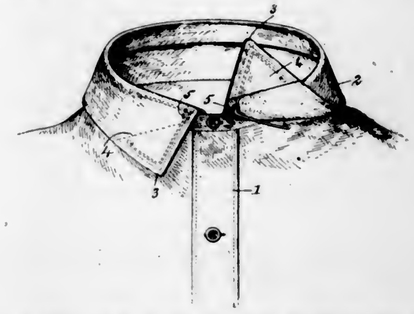
2. The combination, with a circular saw, of a saw-frame comprising a pair of spaced members between which the saw is mounted; a saw-guard incasing the saw and consisting of an upper and a lower section, hinged together at their rear ends, and having their forward ends spaced apart from each other; the upper section being composed of a front member and a rear member hinged together at their mutually-adjacent ends, each member being U-shaped in cross-section; a spring secured at one end to the rear member of said upper section, and bearing at its opposite end against the front member thereof, to press the latter yieldingly towards the lower guard section; and a brace secured at one end to each member of the frame and adjustably connected at its opposite end with the adjacent side of the rear member of the upper section of the guard.

3. The combination, with a circular saw, of a saw frame comprising a pair of spaced members between which the saw is mounted; a saw-guard incasing the saw and consisting of an upper and a lower section, hinged together at their rear ends and having their forward ends spaced apart from each other; the upper section consisting of a front member and a rear member U-shaped in cross-section and hinged together at their inner ends, the front member having its outer end bent upwardly to form a curved lip; a spring fastened at one end to said rear member and bearing at its opposite end upon said front member, to press the latter yieldingly towards the lower section of the guard; a brace secured at one end to each member of the frame and adjustably connected at its opposite end with the adjacent side of said rear member; and a vertically-movable carrier hinged at its lower end to the frame and provided towards its opposite end with a pair of spaced arms adapted to pass on opposite ends of the saw when the carrier is swung into its vertical position.

4. The combination, with a circular saw, of a saw frame comprising a pair of spaced members between which the saw is mounted; a saw-guard incasing the saw and consisting of an upper and a lower section hinged together at their rear ends and having their forward ends spaced apart from each other; a brace secured at one end to each member of the frame and adjustably connected at its opposite end with the adjacent side of the upper section of the guard; and a vertically-movable beam hinged at its lower end to the frame and provided towards its forward end with a pair of spaced arms disposed at right-angles to the beam and adapted to pass on opposite sides of the saw, when the beam is swung into its raised position, each of said arms having an upwardly-projecting curved finger located at its free end.

5. The combination, with a circular saw, of a saw frame comprising a pair of spaced members between which the saw is mounted; a saw-guard incasing the saw and consisting of an upper and a lower section, hinged together at their rear ends and having their forward ends spaced apart from each other; the upper section being composed of a front member and a rear member hinged together at their mutually-adjacent ends, each member being U-shaped in cross-section; a spring secured at one end to the rear member of said upper section, and bearing at its opposite end against the front member thereof, to press the latter yieldingly towards the lower guard section; a brace secured at one end to each member of the frame and adjustably connected at its opposite end with the adjacent side of the rear member of the upper section of the guard; and a vertically movable beam hinged at its lower end to the frame and provided towards its forward end with a pair of spaced arms disposed at right-angles to the beam and adapted to pass on opposite sides of the saw when the beam is swung into its raised position, each of said arms having an upwardly-projecting curved finger located at its free end.

866,509. COLLAR-SUPPORT FOR SOFT SHIRTS. HENRY R. PARKER, Ashland, Pa. Filed Oct. 22, 1906. Serial No. 339,950.



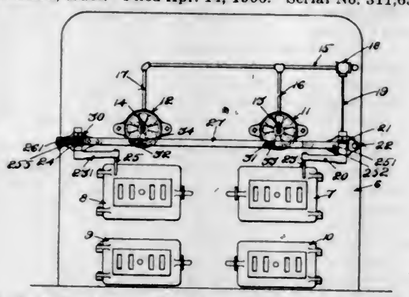
1. A shirt collar of soft material having an eye attached thereto on the under side and near the neck band thereof, and a stiffening device adapted to be passed through said eye, said stiffening device having a bar extending downwardly, and a laterally projecting finger disposed near the lower edge of said collar.

2. A shirt collar of soft material having a pocket formed at the forward corners thereof, eyes attached to the under side of said collar above said corners and near the neck band of said collar, and stiffening frames passing through said eyes and seating in said pockets, said stiffening frames affording means for supporting the forward portion of said collar.

3. A shirt having a soft rolled collar, in combination with stiffening devices applied to the under side of said collar at the forward edge thereof, said devices each having a bar extending downwardly near the forward edge of the collar, and a laterally projecting finger extending from said bar toward the side and lying near the lower

edge of said collar at the front, and means for holding said devices on said collar.

866,510. SMOKE-PREVENTER. EDWARD B. PARKHURST, Woburn, Mass. Filed Apr. 14, 1906. Serial No. 311,635.



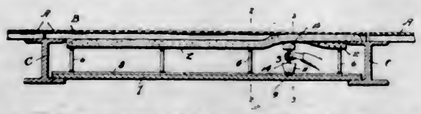
1. In a furnace provided with fuel openings, doors for said openings, an air inlet and a steam inlet, the combination of a damper in the air inlet, a valve in the steam inlet provided with a rotatable valve spindle, a gear on the valve spindle, a rack in engagement with the said gear, a slotted connection between the rack and the damper, and an arm on the said valve spindle for engagement with one of the said doors.

2. In a furnace provided with fuel openings, doors for said openings, an air inlet and a steam inlet, the combination of a valve in the steam inlet, a damper in the air inlet, and operating means for the said valve and damper comprising a rotatable valve spindle, a gear rotatable therewith, and a rack connected to the said damper and engaging the said gear.

3. In a furnace provided with fuel openings, doors for said openings, an air inlet and a steam inlet, the combination of a damper in the air inlet, a valve in the steam inlet, and operating means for said valve and damper, comprising a valve spindle, a crank and gear rotatable therewith, and a rack engaging the said gear and provided with a slotted connection with the said damper.

4. In a furnace provided with fuel openings, doors for said openings swinging in opposite directions, an air inlet and a steam inlet, the combination of a damper in the air inlet, a valve in the steam inlet, and operating means for said valve and dampers which comprises a valve spindle, a gear and crank for each furnace door, a sliding bar operating said dampers, and racks on opposite sides of the said sliding bar and engaging the said gears.

866,511. APPARATUS FOR APPLYING CEMENT. FRANKLIN P. PAYNE, Port Jefferson, N. Y. Filed Mar. 13, 1907. Serial No. 362,194.



1. The combination of a collapsible holder for plastic material, means for supporting said holder and means for collapsing said holder, substantially as and for the purpose set forth.

2. The combination of a resilient holder for plastic material, means for supporting said holder and means for collapsing said holder, for the purpose set forth.

3. The combination of a collapsible holder for plastic material, means for supporting said holder, a guide and a pressing device to travel between said guide and said holder, for the purpose set forth.

4. The combination of a collapsible holder for plastic material, means for supporting said holder, a guide, a pressing device to travel between said guide and said holder and means for adjusting said pressing device, for the purpose set forth.

5. The combination of a collapsible holder for plastic material, means for supporting said holder and a pressing device to engage and collapse said holder, for the purpose set forth.

6. The combination of a collapsible holder for plastic material, a guide, means on said guide for supporting said holder, and a pressing device to travel between said guide and said holder, for the purpose set forth.

7. The combination of a resilient holder for plastic material, a guide bar, means upon said bar for supporting said holder and a pressing device to travel between said bar and said holder, for the purpose set forth.

8. The combination of a resilient holder for plastic material, means for supporting said holder, a grooved guide bar and a pressing device to collapse said holder and adapted to travel in the groove of said guide bar.

9. The combination of a resilient holder for plastic material, means for supporting said holder, a guide, a carriage to travel upon said guide and a pressing head carried by said carriage to engage and collapse said holder.

10. The combination of a resilient holder for plastic material, means for supporting said holder, a grooved guide bar, a longitudinally extensible pressing device having a head at one end to engage and collapse said holder and a roller upon the other end of said device to engage and run in the groove in said bar.

11. The combination of a resilient holder for plastic material, a support, swinging uprights upon the latter having portions to engage and support said holder and a pressing device to collapse said holder.

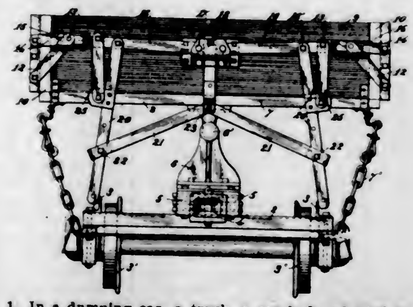
12. The combination of a resilient trough like holder for plastic material, means for holding the same against the element to which the contents of said holder is to be applied and a pressing device to collapse said holder.

13. The combination of a trough like holder for plastic material, means for supporting said holder, constructed of perforated resilient sheet material and means for collapsing said holder.

14. The combination of a collapsible holder for plastic material, means for supporting said holder, a guide and a pressing device to travel between said guide and said holder, said device consisting of two sections having an adjustable screw threaded connection.

15. The combination of a collapsible holder for plastic material, means for supporting said holder, a guide and a pressing device to travel between said guide and said holder, said device consisting of a hand rod having a pressing head at one end and a threaded portion at its other end, a recessed body formed with a threaded opening to receive the threaded end of said rod and a roller journaled in the recess of said body.

866,512. DUMPING-CAR. CHARLES B. PETELER, Minneapolis, Minn., assignor to Kilgore-Peteler Company, Minneapolis, Minn., a Corporation of Minnesota. Filed Mar. 4, 1907. Serial No. 360,520.



1. In a dumping car, a truck, a car body adapted to be tilted thereon to discharge its load, and a side board for

said car body, in combination with swinging supports for said side board, props pivoted at one end to respective swinging supports, and toggle levers, connecting said side board with said props; the whole so arranged as to increase the angle between said swinging supports and said props, when the car is tilted, thereby straightening said toggle levers to turn said side board, substantially as described.

2. In a dumping car, a truck, a car bed, and a side board therefor, in combination with rigid arms on said side board swinging supports for said arms, fulcrum bars pivoted at one end to respective swinging supports and at their other ends adapted to rest upon said truck and toggle members connecting said respective arms and fulcrum bars; whereby said side board is raised and turned into a plane substantially parallel with the floor of said car when the car body is tilted to discharge the load, substantially as described.

3. In a dumping car, a truck, a car bed, and a side board therefor, in combination with swinging supports for said side board, fulcrum bars each pivoted at one end its respective swinging support and adapted to rest upon said truck, toggle levers connecting said side board with said fulcrum bars, and adapted to turn said side board upon its pivot into a plane substantially parallel with the floor of the car when the car body is tilted to discharge the load, substantially as described.

4. In a dumping car, the combination of a car body, with a side board therefor, arms rigidly secured upon said side board, swinging supports for said side board pivoted at one end to the car body and at the other end to said rigid arms, fulcrum bars or props for said swinging supports and links connecting the arms on said side board with said props, said links and said arms forming toggle levers for turning said side board, substantially as and for the purpose described.

5. In a dumping car, the combination of a truck with a car body adapted to be tilted thereon to discharge its load, a side board for said car bed, swinging supports for said side board, fulcrum bars or props for said swinging supports, one end of each said prop being pivoted to its respective support and adapted to engage said truck when the car body is tilted, and toggle levers connecting said props with said side board for turning the latter upon its pivot, substantially as described.

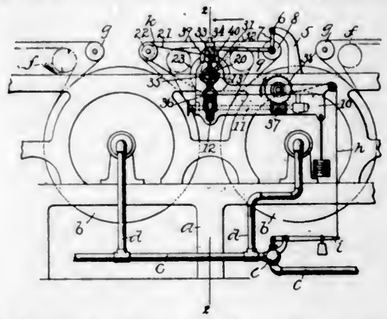
6. In a dumping car, the combination of a truck with a car body adapted to be tilted thereon to discharge its load, a side board for said car, swinging supports for said side board, fulcrum bars or props for said swinging supports, said props being pivoted to respective supports and adapted to engage said truck when the car body is tilted, bars attached at one end to said props and at their other ends to the car bed above the axis of rotation thereof, and means connecting each said prop with said side board for turning the same, substantially as described.

7. In a dumping car, a truck, in combination with a car body pivotally supported thereon, a side board for said body, rigid arms extending therefrom, supporting bars or levers pivoted upon the ends of said body and pivotally attached to respective arms at intermediate points thereon, a fulcrum bar or prop for each said lever, and pivotal links connecting the inner ends of said arms with respective fulcrum bars, substantially as described.

8. In a dumping car, a truck, in combination with a car body pivotally supported thereon, a side board for said body, rigid arms extending therefrom, supporting bars or levers pivoted upon the ends of said body and pivotally attached to respective arms at intermediate points thereon, a fulcrum bar or prop for each said lever, pivotal links connecting the inner ends of said arms with respective fulcrum bars, and other bars or links pivotally joining respective props with the ends of said car body, substantially as described.

866,513. REGULATOR FOR PAPER-MAKING MACHINES. WILLIAM F. PICKLES, Buckland, Conn. Filed Oct. 13, 1906. Serial No. 338,797.

1. In a machine for drying a web passing therethrough, a cylinder to engage said web, means for delivering heat to said cylinder, a valve for controlling the heat supply, valve controlling devices located at one side of the machine, operating devices for the valve controlling devices, said operating devices including means for controlling the direction of movement of the said valve and controlling devices and extending to the opposite side of the machine, and driving means for the said operating devices located on the last mentioned side of the machine.



2. In a machine for drying a web passing therethrough and including web rolls, a cylinder to engage said web, means for delivering heat to said cylinder, a valve for controlling the heat supply, valve-controlling devices located on one side of the machine, operating devices for the valve-controlling devices, said operating devices including means for controlling the direction of movement of said valve and extending to the opposite side of the machine, driving means for said operating devices located on the last-mentioned side of the machine, and connections between said operating devices and a web roll, for operating the former.

3. In a machine for drying a web of paper passing therethrough, a cylinder to engage said web, means for delivering heat thereto, means for controlling the supply of heat, a web roll, means located at one side of the machine and operatively connected with the heat supply control, a shaft extending transversely to the opposite side of the machine and driven therefrom, connections between said shaft and said means including parts to control the direction of movement of the latter, and connections between said shaft and the web roll for operating the former.

4. In a machine for drying a web of paper passing therethrough, a cylinder to engage said web, means for delivering heat to said cylinder, a valve for controlling the supply of heat to said cylinder, means located at one side of the machine and operatively connected with the said valve, a worm and worm wheel to operate said means, operating means for said shaft extending to the opposite side of the machine and driven therefrom, and connections between said operating means and shaft for controlling the direction of movement of the latter.

5. In a machine for drying a web passing therethrough, a cylinder to engage said web, means for delivering heat to said cylinder, means for controlling the supply of heat thereto, rotating devices connected with said heat supply, a continuously reciprocating pawl intermittently connected to control the direction of movement of the said devices, a web roll movably mounted, and connections between said web roll and pawl to move the latter to operate the rotating devices.

6. In a machine for drying a web passing therethrough, a cylinder to engage said web, means for supplying heat to said cylinder, means for controlling the heat supply, winding devices operatively connected with the heat supply control, a ratchet in connection therewith, a reciprocating pawl intermittently connected with the ratchet, all located at one side of the machine, means extending to and operated from the opposite side of the machine for reciprocating the pawl, and means controlled by the tension of the web for causing the operative connection of the pawl with said ratchet.

7. In a regulator for paper making machines, the combination with a drying cylinder, heat supplying means connected therewith, and means for controlling the said heat supply, of a regulator frame movably mounted on the machine, a shaft mounted on said frame and operatively connected with the means for controlling a supply of heat to the cylinder, a continuously reciprocating pawl intermittently connected to control the direction of movement of the shaft, a web roll movably supported, connections between said web roll and regulator frame to operate the latter, and connections between said frame and pawl to cause operative connection between said pawl and shaft.

8. In a regulator for paper making machines, a movably mounted regulator frame, a movable member mounted on said frame, a reciprocating pawl intermittently connected to operate said movable member, means influenced by the tension of the web for moving the regulator frame, and means rigidly secured to said frame to engage said pawl to cause its intermittent connection to operate said movable member.

9. In a regulator for paper making machines, the combination with a drying cylinder, heat supplying means connected therewith, and means for controlling the said heat supply, of a regulator frame pivoted on the machine frame, a movable member operatively connected with the heat supply controlling means for the cylinder, a slide mounted on the regulator frame, a pawl pivotally mounted on said slide and intermittently connected to operate said movable member, means on said frame to engage said pawl to cause said intermittent connection, and means influenced by the tension of the web for controlling the movements of the regulator frame.

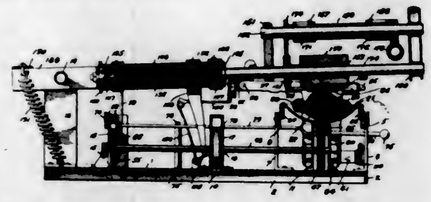
10. In a regulator for paper making machines, the combination with a drying cylinder, heat supplying means connected therewith, and means for controlling the said heat supply, of a regulator frame movably mounted on the machine frame, a hub operatively connected with the heat supply control for the cylinder, a threaded shaft borne on the regulator frame and connected to move said hub, a ratchet having teeth projecting in opposite directions, a branched pawl to engage each of said teeth, means for reciprocating the pawl, means on the frame to move the pawl into engagement with the ratchet, and means influenced by the tension on the web for controlling the movement of the regulator frame.

11. In a regulator for paper making machines, the combination with a drying cylinder, heat supplying means connected therewith, and means for controlling the said heat supply, of a regulator frame movably mounted on the machine frame, a movable member mounted on the regulator frame and operatively connected with the heat supply control for the cylinder, a threaded shaft for operating said movable member, a ratchet wheel on said shaft and having sets of teeth projecting in opposite directions, a branched pawl, a reciprocating slide supporting said pawl, means for reciprocating the slide, connections between the regulator frame and pawl to operatively connect the latter with the ratchet, and means influenced by the tension of the web for directing the movement of the regulator frame.

12. In a regulator for paper making machines, the combination with a drying cylinder, heat supplying means connected therewith, and means for controlling the said heat supply, of a regulator frame movably mounted on the machine frame, a movable member on the regulator frame operatively connected with the heat supply control for the cylinder, a slide mounted on the regulator frame, a shaft connected with said movable member, a ratchet wheel having teeth extending in opposite directions mounted on said shaft, a pawl pivoted on said slide to intermittently engage said ratchet wheel, an arm extending from said pawl, a recess on the regulator frame to receive said arm, and connections influenced by the tension of the web for directing the movement of the regulator frame.

866,514. TYPE-WRITER. JOHN T. PORTER, Pittsburg, Pa. Filed Feb. 26, 1906. Serial No. 302,969.

1. In a typewriter, the combination with a supporting base, an arm swinging from said base, means for yieldably supporting the free end of said arm in elevated position, spaced standards carried by said arm, a cylinder mounted for oscillation upon said arm between said standards and likewise movable longitudinally of the arm, connecting means between the free ends of said standards, connecting means between said standard-connecting means and type cylinder and operating to oscillate the same when the standards are actuated, manually operating means for moving said cylinder longitudinally of said arm, a carriage movably disposed upon said base, a platen supported upon said carriage, and an inking element between said platen and cylinder.



2. In a typewriter, the combination with a movable carriage frame, of a swinging arm carrying a type cylinder and supported above said frame, spaced standards swinging upon said arm, and spaced from the ends of said type cylinder connecting means between said standards at their free ends, connecting means between said standard connecting means and type cylinder and operating to oscillate the same when the standards are actuated, and means actuated by said cylinder to move said carriage.

3. In a typewriter, the combination with a movable carriage frame carrying a platen and an inking element, of a swinging arm carrying a type cylinder, means for movably supporting said arm and its cylinder above said platen and inking element, spaced standards swinging upon said arm and spaced from the ends of the type cylinder, connecting means between said standards, connecting means between said standard connecting means and type cylinder and operating to oscillate the same when the standards are actuated.

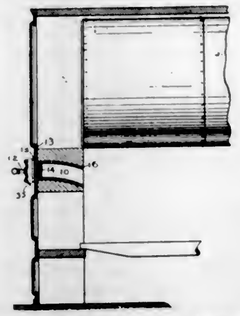
4. In a typewriter, a supporting base, an arm swinging from said base, a cylinder having type characters arranged thereon and mounted for rotation and movable longitudinally on said arm and provided with a gear segment, a frame movable transversely of said base, a platen carried by said frame, a printing ribbon carried by said frame and extending over said platen, spaced standards carried by said arm, a connecting member between said standards, a gear segment carried by said standard connecting means and engaging the gear segment of said cylinder and movable longitudinally of said standard connecting means whereby the operating of said standards will dispose the cylinder in printing position.

5. In a typewriter, a supporting base, an arm swinging from said base at one end, a cylinder having type characters arranged thereon and mounted for oscillation upon and movable longitudinally of said arm, spaced guides disposed transversely upon said base at the opposite end thereof, a frame movable on said guides, a platen mounted for rotation on said frame, spaced swinging drums carried by said movable frame, a ribbon connected to said drums and extending over said platen, means for manually winding said ribbon upon said drums, and means operating by the depression of said arm for moving said drums with the ribbon carried thereby transversely of said frame and platen.

6. In a typewriter, the combination with a stationary base, spaced standards rising from said base at one end, a connecting member rotatively disposed between said standards, a frame connected to said rotative member and swinging therewith, an arm extending from said frame and comprising a central rod and with a tubular member disposed thereon, a type cylinder having spaced type characters arranged in longitudinal and transverse rows, a sleeve within said cylinder and mounted for rotation upon said tubular arm member and extending at one end beyond the cylinder, a gear segment carried by the extended portion of said cylinder, spaced stops at opposite sides of said gear segment, spaced standards carried by said tubular member, a connecting means between said standards, a slidable member upon said standard-connecting member, a gear segment connected to said slidable member and engaging the gear segment of said sleeve and operating between the spaced stops thereof, means for manually operating said slidable member, a platen carried by said base in the path of said cylinder, and an inking ribbon between said platen and cylinder.

7. In a typewriter, the combination with a stationary base, an arm swinging from said base and including a central rod and an inclosing tubular member, means for yieldably supporting said tubular member in one position, a cylinder carrying type characters and provided with a central sleeve rotative upon said tubular member and extending at one end in advance of the cylinder, a gear segment carried by the extended portion of said sleeve and provided with spaced stops, spaced standards carried by said tubular member, a tubular connecting member between said standards, a sleeve slidable longitudinally upon said standard-connecting member, means for maintaining said slidable sleeve yieldable in one position relative to standard-connecting member, a gear segment carried by said slidable sleeve and engaging the gear segment of said type cylinder and operating between the spaced stops thereof, and means for yieldably maintaining said arm in elevated position.

866,515. AUTOMATIC AIR-DAMPER. ARTHUR W. PUDDINGTON, Cleveland, Ohio. Filed Jan. 7, 1907. Serial No. 351,045.



1. The combination with means for forming a fluid jet, of an air damper controlled by a part moved by the pressure of the fluid.

2. The combination of means for forming a fluid jet, said means having a part movable by the force of the fluid, and an air damper adapted to be opened by the movement of said part.

3. The combination of an air damper, means for conducting a jet of steam or gas and including a member adapted to be moved by such fluid, and means controlled by the movement of such member for actuating the damper.

4. The combination of a nozzle, means for conducting steam or gas thereto, one of said parts being movable by the pressure of such fluid, an air damper, and an operating mechanism between the air damper and such movable part.

5. The combination of a nozzle movable by fluid pressure and an air damper actuated thereby.

6. The combination with a furnace, of means for admitting a jet thereto, said means including a movable tubular part and an air damper openable by the movement of said part.

7. The combination with a furnace having an air passage way thereto of a movable nozzle adapted to be moved by fluid pressure within it occupying such passage way, means for conducting air or gas to such nozzle and admitting the same in the form of a jet, and an air damper controlled by the force of such fluid acting to move said nozzle.

8. The combination with a furnace having an air passageway thereto, of an air damper controlling such passageway, a nozzle adapted to be moved by fluid pressure within it, means for conducting steam or gas to the nozzle, and an actuating mechanism connecting the nozzle and damper and adapted to be moved by the movement of the nozzle.

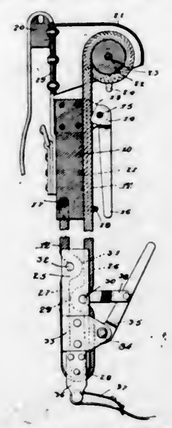
9. The combination of means for conducting fluid and delivering it in a jet and including a movable member, an air damper, and connecting mechanism between said movable member and air damper, whereby the air damper may be operated by the pressure of said fluid.

10. The combination of a pipe and a nozzle, one of them being movable and the two adapted to thereby telescope, said pipe and nozzle having flanges adapted to coact to limit the telescoping movement and forming a substantially tight connection between the nozzle and pipe, an air damper and mechanism connecting it with the movable one of such telescoping members.

11. The combination with a fluid conduit, a longitudinally movable nozzle carried thereby and adapted to be supplied with fluid from the conduit and be moved by the internal fluid pressure, an air damper, and connecting mechanism between the same and said nozzle.

12. The combination of a furnace, an air passageway thereto, an air damper for controlling such passageway, means occupying the passageway for discharging a fluid jet into the furnace, said means having a movable part forming a portion of the fluid conduit and connecting mechanism between said part and the air damper, whereby the air damper is positively operated when the fluid is injected.

866,516. FIRE-ESCAPE. WILLIAM B. PURDY, Corsica, Pa. Filed Apr. 25, 1906. Serial No. 313,697.



1. In a fire escape, a relatively fixed block having flexible means for attachment to a stationary structure, a winding drum fixed to said flexible attachment associated with said block, a cable connected at one end to said block and at the other end to said winding drum, a grip mechanism connected to said relatively fixed block and arranged to be operated at the point of attachment of the device, a movable block disposed in the bight of said cable, a support for the person descending connected to said movable block, and a second grip mechanism carried by said movable block and operating upon the cable passing thereover.

2. In a fire escape, a block having means for attachment to a stationary structure, a winding drum associated with said block, a cable connected at one end to said block, a grip mechanism connected to said block and operating

upon the cable passing thereover, a block movably disposed in the bight of said cable and having grooves in its opposite edges to receive the cable and with depressions in said grooves and brake pins disposed transversely of said recesses and around which the cable is threaded, the supporting means for the person descending suspended from said movable block, and a grip mechanism connected to said movable block and operating upon the cable disposed thereover.

3. In a fire escape, a block having means for detachable connection to a stationary structure, a cable connected at one end to said block and passing over the surface of the same, a clamp mechanism carried by said block and operating against the cable bearing thereover, a block movably disposed in the bight of said cable, a clamp mechanism carried by said movable block and operating on the cable passing thereover, a stop carried by said last-mentioned clamp mechanism for holding the same in inoperative position, and supporting means for the person descending carried by said movable block.

866,517. MANUFACTURE OF TUBULAR OR HOLLOW BODIES FROM PLASTIC MATERIALS. LOUIS H. RENTZSCH, Meissen, Germany. Filed Dec. 1, 1906. Serial No. 345,954.

1. The process of manufacturing hollow bodies from plastic material, consisting in mixing with the plastic material fibrous material of substantially the same absolute weight, and then subjecting the mass to centrifugal action in a rotating mold.

2. The process of manufacturing hollow bodies from plastic material consisting in mixing with the plastic material, fibrous material whose weight has previously been increased to that of the plastic material, and subjecting the mass to centrifugal action in a rotating mold.

3. The process of manufacturing hollow bodies from plastic material, consisting in mixing with the plastic material lighter fibrous material whose weight has been previously increased to the desired extent by impregnation with weighting substances and subjecting the mass to centrifugal action in a mold.

4. The process of manufacturing hollow bodies from plastic material, consisting in mixing with the plastic material lighter fibrous material whose weight has previously been increased to the desired extent by soaking in water, and subjecting the mass to centrifugal action in a mold.

5. The process of manufacturing hollow bodies from plastic material consisting in mixing with the plastic material, asbestos fiber previously saturated with water to increase its weight, and then subjecting the mass to centrifugal action in a mold.

6. The process of manufacturing hollow bodies from cement paste, consisting in mixing with the paste asbestos fiber previously saturated with water, and then subjecting the mass to centrifugal action in a mold.

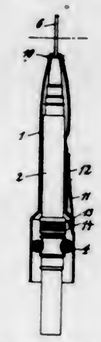
7. The process of manufacturing conical hollow bodies from plastic material consisting in mixing fibrous material previously brought to the desired weight with the plastic material, and subjecting the mass to centrifugal action in a mold whose axis of rotation is obliquely disposed, the angle of obliquity depending upon the angular speed of rotation of the mold.

866,518. DRILLING APPARATUS FOR DENTISTS. PAUL REPSOLD, Riga, Russia. Filed June 13, 1906, Serial No. 321,526. Renewed Aug. 16, 1907. Serial No. 388,818.

1. Drilling apparatus comprising a drill, a hand piece therefor; arranged around said hand piece a tubular casing whose fore end is adapted to grip said drill; and, interposed between said casing and hand piece, an elastic pad.

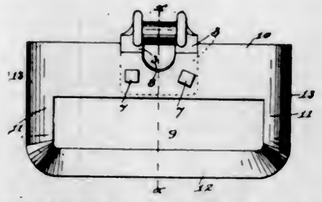
2. Drilling apparatus comprising a drill; a hand piece therefor; arranged around said hand piece, a tubular casing whose fore end is adapted to grip said drill; interposed between said casing and hand piece an elastic pad; and a spring connection attached both to said hand piece and to said casing.

3. Drilling apparatus comprising a drill; a hand piece therefor; arranged around said hand piece, a tubular casing that at its fore end is divided into spring tongues; a ring adapted to cause said tongues to grip said drill, and interposed between said hand piece and casing, a resilient annular pad.



4. Drilling apparatus comprising a drill; a hand piece therefor; arranged around said hand piece, a tubular casing that at its fore end is divided into spring tongues; a ring adapted to press said tongues against said drill; interposed between said hand piece and casing, a resilient annular pad and, attached both to said hand piece and to said casing, a spring connection.

866,519. SCRAPER-FLIGHT FOR CONVEYER-CHAINS. JESSE J. RHODES, Newbern, N. C., and JOHN MILLAR, Cincinnati, Ohio. Filed Dec. 14, 1906. Serial No. 347,890.



1. A device adapted to be attached to a conveyer chain comprising a flight or plate having a passage therethrough, and cutting or scraping edges projecting from the plate, in the direction of the travel of the flights.

2. A drag-chain conveyer flight having an opening therethrough for the passage of material, a flight portion between the opening and the chain and attached to the latter, and cutters partly surrounding the opening.

3. The combination, with a drag chain employing suitable conveyer flights, of a scraping or cutting flight inflexibly hung from the chain between certain of the conveyer flights and adapted to plow through the material to be conveyed in advance of certain of the conveyer flights.

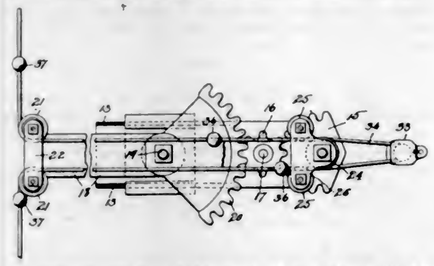
4. The combination, of a drag chain employing suitable conveyer flights, of a supplemental flight fixed to the chain and having a passage therethrough, scraping or cutting ends, and a scraping or cutting bar connecting said ends, the cutting edge of said bar and ends projecting in the direction of the travel of the flights.

5. The combination, with a drag-chain employing suitable conveyer flights, of a supplemental flight comprising a portion rigidly connected centrally to the chain, and cutters which form with said portion an opening for the passage of material.

6. The combination, with a drag-chain employing suitable conveyer flights, of a supplemental flight having a portion rigidly connected to the chain, a cutter parallel with said portion leaving a passage for material therebetween, and cutting flanges at the terminus of said portion and of said cutter.

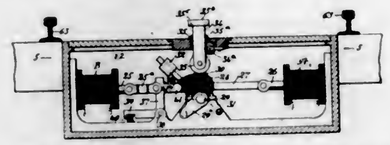
7. The combination, with a drag chain employing suitable conveyer flights, of the supplemental flights having a barred opening partly surrounded by cutting or scraping edges.

866,520. SWINGING GATE. CLINTON A. ROCKWELL, Weld county, Colo. Filed Apr. 25, 1907. Serial No. 370,267.



In combination with a swinging gate, a segmental gear secured thereto, a gear-pinion meshing with said segmental gear, a lever-arm suitably fulcrumed and having a segmental gear integral therewith and meshing with said gear-pinion, pulleys journaled on said lever-arm, guide-pulleys suitably journaled, a latch, a rod secured to said latch, a pulley secured to said rod, an operating-rope engaging the pulleys aforesaid, the ends of said rope being supported at a distance on each side of the gate-opening, knobs secured to said rope between the pulleys on the lever arm, and the guide-pulleys, other knobs secured to the rope between the pulleys on the lever-arm and the ends of the rope, and latch-posts to engage the latch when the gate is in an opened or closed position, substantially as shown and described.

866,521. AUTOMATIC SAFETY APPARATUS FOR RAILWAYS. GEORGE E. RYAN, New York, N. Y. Filed Sept. 27, 1906. Serial No. 336,392.



1. In a track device, in combination, a pin adapted to project into the path of a trip, a cam controlling the position of said pin, an electro-magnet having a core connected with said cam, a catch for maintaining said cam in a set position, and an electro-magnet controlling said catch to release said cam.

2. In a track device, in combination, a pin adapted to project into the path of a trip, a cam disposed beneath said pin and controlling the position thereof, an electro-magnet having a core, a link connecting said core with said cam, means tending to hold said cam in an inoperative position, a catch engaging said cam and affording means for maintaining the same in a set position, and an electro-magnet for releasing said catch.

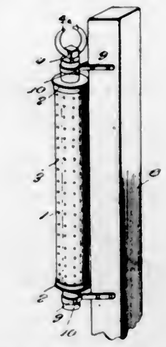
3. In a track device, in combination, a pin adapted to project into the path of a trip device, a cam having a cam face supporting said pin, an electro-magnet having a core, a link connecting said core with said cam, said cam having an abrupt shoulder formed on the side thereof, a spring-pressed catch engaging said shoulder and affording means for supporting said cam, a counterweight carried by said cam and tending to maintain said shoulder against said catch, and an electro-magnet having a core connected with said catch.

866,522. BED ATTACHMENT. THOMAS F. SCANLON, Allegheny, Pa. Filed Nov. 24, 1906. Serial No. 344,860.



In a device of the character described, the combination with a support, of a socket and a clamp both secured to said support, a standard revolubly mounted in said clamp and socket, a T-connection secured to said standard above the clamp, an L-shaped arm secured at one end in said T-connection and a U-shaped supporting frame projecting from the other end of said L-shaped arm, the side arms of said U-shaped supporting frame being channeled throughout their length to receive a removable support.

866,523. RUBBING-POST FOR LIVE STOCK. ROSIE SCHNEIDER, Minden, Nebr. Filed Aug. 29, 1906. Serial No. 332,559.



1. A rubbing post for live stock consisting of an outer apertured hollow body, a reservoir arranged within said hollow body and adapted to contain oil, said reservoir having a suitable outlet leading to the space between the hollow body and the reservoir, and absorbent material packed in the space between the hollow body and the reservoir, for the purpose specified.

2. A rubbing post for live stock consisting of an apertured hollow or tubular body, a reservoir having an oil outlet and arranged in said body and adapted to contain a vermin exterminator, absorbent material between the reservoir and the hollow body of the post, the opposite ends of the reservoir extending from opposite ends of the hollow body of the post, and means connected with said extending ends of the reservoir to secure the post to a suitable support.

3. A rubbing post for live stock consisting of a hollow or tubular apertured body, a reservoir passing through the body and the opposite ends thereof, absorbent material between the reservoir and the hollow body, a plug closing one end of the reservoir, and brackets secured to the extending end portions of the reservoir and adapted to be secured to a suitable support, the reservoir having an oil outlet.

866,524. DEVICE FOR TRANSFERRING PASSENGERS TO AND FROM MOVING TRAINS. FILER S. SEE, Gem, Kans. Filed Feb. 26, 1907. Serial No. 359,387.



1. In a device of the class described, a car having a transverse passage, a turn-table supported adjacent to said passage, means for rotating the turn-table in opposite directions, and an auxiliary car adapted to be supported by the turn-table for transverse movement through the passage of the main car.

2. In a device of the class described, a car having a transverse passage, a turn-table supported adjacent to said passage, means for rotating the turn-table in opposite directions, means for locking the turn-table at intervals of ninety degrees, and an auxiliary car adapted to be supported by the turn-table for transverse movement through the passage of the main car.

3. A railroad car bisected to form two sections spaced apart by a transverse arcuate passage, and downwardly offset bridge members connecting said sections.

4. A railroad car bisected to form parts or sections separated by a transverse arcuate passage, bridge members connecting the parts of sections, and a turn-table supported by one of the latter adjacent to the arcuate passage.

5. A railroad car bisected to form parts or sections separated by a transverse arcuate passage, bridge members connecting the parts or sections, a turn-table supported by one of the latter adjacent to the arcuate passage and having laterally extending arms, rails supported upon the latter, an auxiliary car adapted to be supported upon the rails, and means for locking the auxiliary car temporarily in position.

6. In a device of the class described, a car having a transverse passage, a turn-table supported adjacent to said passage, a guide flange having locking notches, a pivoted catch supported by the turn-table for engagement with the locking notches, a lever supported by the turn-table and having pivotal connection with the catch member, and an actuating lever supported by the car and having pivotal connection with one end of the lever, the other end of which is connected with the catch member; the pivotal connection of the two levers being located in the extended axis of the turn-table.

7. In a device of the class described, a car having a transverse passage, a turn-table supported for rotation adjacent to said passage and having a segmental rack, a pivotal member constituting the axis of the turn-table, a pendulum bracket supported by the car, a shaft supported for rotation in the pendulum bracket and in the pivotal member of the turn-table, a sleeve slidable upon said shaft and carrying a pinion adapted to mesh with the segmental rack of the turn-table, a bevel pinion carried by the shaft, a car axle, and bevel gears mounted upon the car axle at opposite sides of the bevel pinion upon the shaft.

8. In a device of the class described, a car having a transverse passage, a turn-table supported adjacent to said passage, means for locking the turn-table in various positions, means for rotating the turn-table in opposite directions, and means for simultaneously disengaging the locking means of the turn-table.

9. In a device of the class described, a car having a transverse passage, a turn-table supported adjacent to said passage and having means for supporting an auxiliary car, means for locking the turn-table in various positions, a trip lever supported by the car for actuating the locking mechanism, said trip lever having a terminal slotted shoe, a pendulum bracket supported by the car and extending through the slotted shoe of the trip lever, an axial supporting member for the turn-table, a shaft supported for rotation in the axial supporting member and in the pendulum bracket, a sleeve slidable upon the shaft and having a bevel wheel engaging the turn-table and an annularly grooved collar, a car axle having bevel wheels, a bevel pinion upon the shaft intermediate the bevel wheels and adapted for alternate engagement therewith, a slotted arm engaging the annularly grooved collar of the slidable sleeve, a spring actuated lever engaging the slotted arm, and an arm extending laterally from the spring actuated lever in the path of the slotted shoe of the trip lever.

10. In a device of the class described, a car having a transverse passage, a turn-table supported adjacent to the passage and adapted to carry an auxiliary car through said passage, means for locking the turn-table in various positions, means for rotating the turn-table in opposite directions, and means for simultaneously disengaging the locking mechanism and throwing the operating mechanism of the turn-table into operation.

11. In a device of the class described, a car having a transverse passage, a turn-table supported adjacent to said passage and having laterally extending arms, rails supported upon said arms, a stationary and a pivoted guide member supported intermediate the rails, said guide members having beveled contacting edges and the edge of the pivoted guide member being provided with a notch intermediate its ends, and an auxiliary car adapted to be supported upon the rails and having a depending bracket adapted for engagement with the notch of the pivoted guide member.

12. In a device of the class described, a car having a transverse passage, a turn-table supported adjacent to said passage, rails supported by the turn-table, a stationary and a pivoted guide member supported intermediate the rails and having beveled contacting edges and the edge of the pivoted member being provided with a notch, spring means for holding the beveled edge of the pivoted member normally in contact with the beveled edge of the stationary guide member, and an auxiliary car adapted to be supported upon the rails and having a depending bracket adapted to engage the notch of the pivoted guide member.

13. In a device of the class described, a car having a transverse passage, a turn-table supported adjacent to said passage, rails carried by the turn-table, a stationary and a pivoted spring actuated guide member supported intermediate the rails and having beveled contacting edges, the edge of the pivoted member being provided with a notch, an auxiliary car adapted to be supported upon the rails and having a depending bracket for engagement with the notch of the pivoted guide member, a transverse shaft supported for rotation beneath the guide members, an arm having beveled ends extending in opposite directions on said shaft and adapted to enter between the stationary and the pivoted guide member, means for imparting to said shaft rotation to the extent of one-half of a revolution, means for locking said shaft at the end of each half revolution, and an auxiliary car adapted to be supported upon the rails of the turn-table and having a depending bracket adapted to engage the notch in the edge of the pivoted guide member.

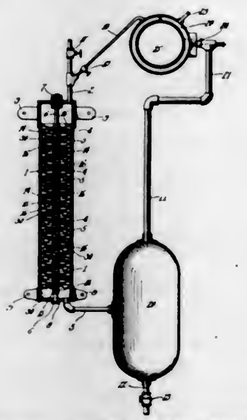
14. In a device of the class described, a turn-table having supporting rails, a stationary and a pivoted guide member supported between the rails and having beveled contacting edges, the edge of the pivoted member being provided with a notch, transverse shafts supported for rotation beneath the guide members and having intermeshing gears whereby one of said shafts will accomplish a one-half revolution to each complete revolution of the other shaft, an arm extending in opposite directions from the former shaft and adapted to displace the pivoted guide member by entering between the contacting edges of the stationary and the pivoted guide members, a locking disk and a sprocket wheel carried by the latter shaft, said locking disk having a single peripheral notch, a vertically slidable catch member adapted to engage said notch, and an auxiliary car adapted to be supported on the rails of the turn-table and having a bracket adapted to engage the notch in the edge of the pivoted guide member.

15. In a device of the class described, a turn-table having supporting rails, a stationary and a pivoted guide member supported intermediate the rails and having beveled contacting edges, the edge of the pivoted member being provided with a notch. an auxiliary car having a depending bracket adapted to engage said notch, a shaft supported for rotation and having an arm extending in opposite directions to the axis thereof and adapted to pass between the stationary and the pivoted guide members, means for locking the shaft at the termination of each one-half revolution, and means for unlocking said shaft and for imparting thereto rotation to the extent of one-half a revolution.

16. In a device of the class described, a turn-table having supporting rails, an auxiliary car having a depending bracket, means disposed between said rails for engaging the bracket of the auxiliary car to secure the latter in position, and means for disengaging the locking mechanism and for, at the same time, propelling the car from its position upon the rails of the turn-table.

17. In a device of the class described, a turn-table having supporting rails, an auxiliary car adapted to be supported upon the rails and having a depending bracket, stationary and pivoted guide members upon the turn-table having beveled contacting edges, the edge of the pivoted member being provided with a notch, a shaft supported for rotation transversely beneath the guide members, an arm extending in opposite directions from said shaft and adapted to enter between the stationary and the pivoted guide members, a spur wheel upon the transverse shaft, a secondary transverse shaft having a pinion meshing with the spur wheel and of one-half the diameter of the latter, a locking disk and a sprocket wheel carried by the secondary transverse shaft, said locking disk having a single peripheral notch, a vertically slidable member having a catch engaging said notch and provided with an anti-friction member at its lower extremity, and an operating device including a plurality of pivoted spring actuated tongues adapted for engagement with the sprocket wheel; one of said tongues having a beveled shoe adapted to engage the anti-friction member at the lower extremity of the vertically movable member.

866,525. CARBURETING AND OIL SEPARATING APPARATUS. JAMES E. SEELEY and FRANK A. SYLVA, Los Angeles, Cal. Filed June 12, 1906. Serial No. 321,409.



1. A carbureter comprising a case, means for supplying oil thereto, means for passing a current of air through the case, a series of deflector rings in fixed position in the case, and a plurality of rotatable deflectors extending between the fixed deflectors and provided with turbine blades to enable their rotation by the current of air passing through the case.

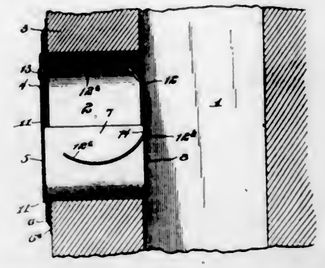
2. A carbureter comprising a case, means for supplying oil thereto, means for passing a current of air through the case, a series of deflector rings mounted in fixed position in the case and extending inwardly and downwardly therein, and a plurality of deflectors rotatably mounted within the case and extending between the successive fixed rings, and provided with turbine blades to enable their rotation by the current of air passing through the case.

3. A carbureter comprising a case, means for supplying oil thereto, means for passing a current of air through the case, a series of inwardly and downwardly extending deflector rings mounted in fixed position within the case, a shaft extending axially in the case, a plurality of deflectors rotatably mounted on said shaft, and extending between the successive rings, said rotary deflectors consisting of disks having slots, and oblique blades extending beneath said slots.

4. A carbureter comprising a case, means for supplying oil thereto, means for passing a current of air through the case, a series of deflector rings in fixed position in the case, and a plurality of rotatable deflectors extending between the fixed deflectors and provided with turbine blades to enable their rotation by the current of air passing through the case, alternate rotatable deflectors having their blades directed oppositely to cause rotation of the deflectors in opposite direction.

5. A carbureter comprising a case, means for supplying oil thereto, means for passing a current of air through the case, a series of deflector rings in fixed position in the case, and a plurality of rotatable deflectors extending between the fixed deflectors and provided with turbine blades to enable their rotation by the current of air passing through the case, alternate rotatable deflectors having their blades directed oppositely to cause rotation of the deflectors in opposite direction, and means for heating the oil supplied to the case.

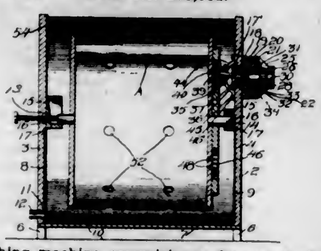
866,526. FLUE-STOPPER. ELWIN I. SHELDON, Greenwood, Wis., assignor of one-half to August Baumann, Greenwood, Wis. Filed Mar. 3, 1906. Serial No. 304,030.



1. A flue stopper comprising a closure plate, a receptacle extending rearwardly therefrom, said receptacle being open at the top and closed at its front end by the plate and provided with a rear wall having an opening in the upper portion thereof, and a bowed spring arranged above the pan and fixed at its forward end to the plate, the rear end of said spring being extended forwardly and loosely through the opening in the said rear wall of the pan and bent upward at its extremity to exert an upward spring tension.

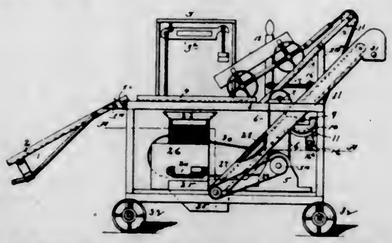
2. A flue stopper comprising a closure plate having a substantially flat central portion, and a rearwardly curved rim terminating in a flat bearing flange, an annular shoulder being formed at the juncture of said central portion and rim, an open-topped pan extending rearwardly from the closure plate and provided with a rear wall having an opening therein and an open front end, the latter being closed by the flat portion of the plate, the body of the pan bearing at its forward end against said shoulder and being provided with a flange abutting against the flat portion of the plate and provided with fastening tongues extending therethrough, and a bowed spring fastened at one end to the flat portion of the plate above the pan and extending above and in rear of the latter and having its other end inturned and loosely projecting through the opening in the rear wall of the pan.

866,527. WASHING-MACHINE. CALVIN A. SHIVE, Independence, Kans., assignor to The Peerless Promoting and Manufacturing Company, Phœnix, Ariz. Filed Sept. 15, 1905. Serial No. 278,581.



A washing machine comprising a frame; a clothes receiving cylinder mounted for movement within said frame; an arc-shaped rack disposed upon one end of said cylinder, and comprising inner and outer parallel members connected at their ends and spaced apart intermediate their ends, said cylinder end having an arc-shaped guide formed in its outer face in registration with the space between said rack members; an inner and an outer shaft mounted for rotation through one end of said frame; a pair of vertically disposed curved guides secured to the inner face of said frame end on opposite sides of the inner shaft; a guide-block carried by said inner shaft, and adapted to travel between said curved guides; a pinion mounted upon said inner shaft in advance of said guide block and in engagement with said rack, said inner shaft having its extremity extending between the members of said rack into said arc-shaped guides; a universal joint connection between said inner and outer shafts; and means for rotating the shafts in one direction, whereby the cylinder may be oscillated.

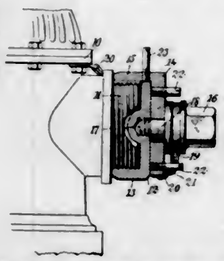
866,528. PORTABLE ELEVATOR AND WAGON-DUMP. FELIX J. SMITH, Lindsay, Ohio. Filed Jan. 2, 1907. Serial No. 350,474.



1. A suitable frame work mounted upon trucks, weighing scales elevated therein and supported by said frame work, a detachable inclined approach thereto, suitable flanged or channeled guides upon said incline, and in line therewith, upon said scales, adapted to engage and guide the wheels of a wagon as said wagon is drawn; a second incline for dumping purposes, and a continuation of said guides thereon; a friction geared operating shaft carrying a drum; a cable 11 wound upon said drum, and which passing over an intervening pulley, operates to draw said wagon, when said shaft is operated; a coöperating shaft 7 and means for the operation thereof; suitable friction gears coöperating between said first-mentioned shaft and said shaft 7, causing said first-mentioned shaft to operate as said two shafts are brought into coöperative relation, and said shaft 7 is operated; means for bringing said shafts into coöperative relation and means for controlling the operation of said first-mentioned shaft, comprising: pawl and ratchet means, said pawl being so adapted that when said shaft is made to operate, said pawl becomes automatically disengaged; suitable chutes and guiding spouts made to receive the contents of such wagon, and conduct the same to a receiving hopper with which a suitable elevator is connected; and suitable coöperating means between said elevator, and an engine or other power, which operates to operate said elevator, and said shaft 7, all in combination and substantially as described.

2. A suitable frame work mounted upon trucks; in combination with a detachable inclined portable approach thereto, with guides thereon to receive and guide a moving load; suitable weighing scales supported by said frame work and guides thereon continuous with said inclined guides; a dumping incline with guides thereon continuous with the previously mentioned guides; a suitable engine supported by said trucks, and a shaft operated thereby, together with suitable means coöperating therefor; a second shaft friction geared thereto, and carrying a drum made to operate a suitably guided cable for moving said load, when said shafts are in gear and said first-mentioned shaft is operated; and suitable means for controlling the movement of said second shaft when not in gear, substantially as set forth.

866,529. CONNECTING MECHANISM. HARRY E. SMITH, Roslyn, Wash. Filed Nov. 10, 1906. Serial No. 342,796.



1. A threaded cap, comprising a plurality of movable sections, and means for moving one of said sections in a radial direction and simultaneously moving it longitudinally in respect to the remainder of the cap.

2. The combination with a threaded member, of a coacting cap, said cap comprising an annular flange, one section of said flange being radially movable, and means for moving said section radially in respect to the cap and simultaneously binding said section to the remaining portion of the cap.

3. The combination with a threaded member, of a coacting cap comprising a plate, a flange carried thereby and adapted to engage with one side of the threaded member, a second plate in engagement with said first mentioned plate and having a flange adapted to engage with the opposite side of the threaded member, and means carried by the first mentioned plate for actuating the flanges to grip the threaded member.

4. The combination with a threaded member, of a coacting cap comprising a plate, a flange carried thereby and adapted to engage with one side of the threaded member, a second plate in engagement with said first mentioned plate and having a flange adapted to engage with the opposite side of the threaded member, and means carried by the first mentioned plate and extending through the second mentioned plate for actuating the flanges to grip the threaded member.

5. The combination with a threaded member, of a coacting cap, said cap comprising a plate, a flange carried thereby and adapted to engage with one side of the threaded member, a second plate overlapping said first mentioned plate and having a flange adapted to engage with the opposite side of the threaded member, and means carried by the first mentioned plate and extending through the second mentioned plate for actuating said flanges to grip the threaded member.

6. The combination with a threaded member, of a coacting cap, said cap comprising a plate, a flange carried thereby and adapted to engage with one side of the threaded member, a second plate overlapping the first mentioned plate and having a flange adapted to engage with the opposite side of the threaded member, and actuating means pivotally mounted in the first mentioned plate and having an eccentric in engagement with the second mentioned plate.

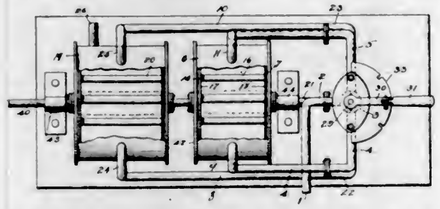
7. The combination with a threaded member, of a coacting cap, said cap comprising a plate, a flange carried thereby and adapted to engage with one side of the threaded member, a second plate overlapping the first mentioned plate and having a flange adapted to engage with the opposite side of the threaded member, and an actuating member screw-threaded to said first mentioned plate and having an eccentric in engagement with the last mentioned plate.

8. The combination with a threaded member, of a coacting cap, said cap comprising a plate, a flange carried thereby and adapted to engage with one side of the threaded member, a second plate overlapping the first mentioned plate and having a flange adapted to engage with the opposite side of the threaded member, and an actuating member screw-threaded in a socket in the first mentioned plate and having an eccentric within an opening in the second mentioned plate.

9. The combination with a threaded member, of a coacting cap, said cap comprising a plate, a flange carried thereby and adapted to engage with one side of the threaded member, a second plate overlapping the first mentioned plate and having a flange adapted to engage with the opposite side of the threaded member, an actuating member pivotally connected to the first mentioned plate and having a cam surface in engagement with a portion of the second mentioned plate, and means carried by said actuating member for limiting the movement thereof.

10. The combination with a threaded member, of a coacting cap, said cap comprising a plate, a flange carried thereby and adapted to engage with one side of the threaded member, a second plate overlapping the first mentioned plate and having a flange adapted to engage with the opposite side of the threaded member, an actuating member having a threaded portion in engagement with a socket in the first mentioned plate and having a cam surface in engagement with a portion of the second mentioned plate, whereby upon rotating said actuating means, the flanges are moved to grip the threaded member and said plates are bound together, and means carried by one of said plates for engagement with the other plate to limit the respective movement of said plates.

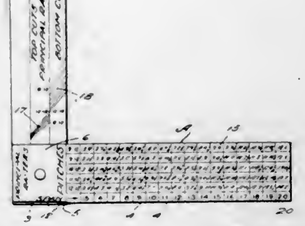
866,530. REVERSIBLE STEAM-TURBINE. NELSON R. SMITH, Washington, D. C., assignor of one-half to Conrad F. Grieb, Washington, D. C. Filed Dec. 15, 1906. Serial No. 348,049.



1. In a steam turbine engine, in combination with the engine body, means forming a valve chamber, an always-open steam inlet port in said chamber, opposite engine steam admission means leading from the chamber to opposite sides of the engine body and in direct and uninterrupted communication therewith, a cylindrical valve in said chamber, said valve having a segmental port, semicircular in cross-section, therein, always registering with said inlet port, and means whereby the valve is movable only in the greater arc between the edges of the inlet port extending around the valve chamber, whereby a constant flow of steam through the engine from the steam supply is maintained, and the valve divides the steam equally between the opposite steam admission means when the plane of the inner face of the port is at right angles to the direction of the steam inlet so as to balance the pressure on the opposite sides of the engine, said valve movable in said arc to divide the steam unequally so as to unbalance the pressure whereby as the valve port moves from one engine admission port to the other the greater pressure on one side will be cushioned by the opposed incoming steam until said opposed steam is cut off, a handle movable in said arc for turning the valve and means to engage said handle to determine the position of the valve, substantially as described.

2. In a steam turbine engine, in combination with high pressure and low pressure cylinders, engine bodies therein, a valve casing, a cylindrical valve therein having two segmental ports in direct alinement, a live steam inlet pipe having an always-open port adapted to register with one of the valve ports, opposite engine admission pipes leading from the casing in direct and uninterrupted communication with the engine cylinder adjacent to said inlet, a steam outlet pipe from the high pressure cylinder having an always-open port communicating with the valve casing and registering with the other valve port, opposite low pressure admission pipes leading from the valve casing adjacent to said low pressure inlet and in direct and uninterrupted communication with the engine cylinder, said valve movable only in an arc adapted to keep said valve ports always in communication with the inlet ports and with one or both of the opposite engine admission ports, an exterior handle mounted on said valve, an arc-plate to determine the length of movement of the handle and means on the plate to engage the handle to fix it in different positions, substantially as described.

866,531. SQUARE. ALBERT E. SOLLERS, Mount Union, Pa. Filed Mar. 5, 1907. Serial No. 360,673.



1. A square comprising a stock composed of a single piece of sheet metal doubled on itself on a central longitudinal line to form a pocket and cut away at the bend to form a pair of jaws and a shoulder at the inner end of the jaws, a pair of blades pivoted between the jaws and foldable into the pocket, one of the blades having rounded corners to swing free of the shoulder and the other blade being adapted to engage the shoulder when open to its full extent, and means for clamping the blades and jaws together.

2. A square comprising a stock, a plurality of blades pivotally mounted thereon adapted to fold upon the stock, and means for limiting the opening movement of one blade to ninety degrees and the opening movement of the other blade to a greater angle.

3. A square comprising a stock composed of a single piece of sheet metal bent longitudinally to form a pocket and cut away at one end in the bend or crease to present a pair of spaced jaws and a shoulder, tables of suitable characters on opposite sides of the stock, a pair of blades pivoted between the jaws to fold into the pocket and adapted to swing open to different angles, the said shoul-

der forming a stop for limiting the opening movement of the blades, and means for clamping the blades in adjusted position, there being suitable pitch lines on the blades.

4. A square comprising a metal stock of U-shaped cross-section forming a single pocket, a plurality of blades pivotally connected with the stock and foldable into the pocket, a clamping device common to the blades for holding the latter in fixed position, and means for limiting the opening movement of the blades.

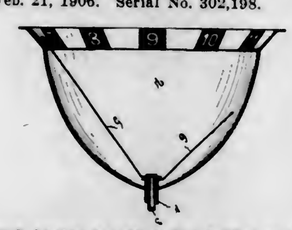
5. A square comprising a sheet metal stock doubled on a longitudinal center line and cut away at one end along the fold or crease of the stock to form a shoulder, a pair of blades pivoted between the table portions of the stock to fold and unfold between the said portions and adapted to abut the shoulder when in full open position, and a clamping device for holding the blades in fixed position with respect to the stock.

866,532. SEWING-THIMBLE. BLAINE A. STAIR, Los Angeles, Cal. Filed Sept. 13, 1906. Serial No. 334,542.



The thimble, combined with which is a double edged spring cutter, said spring cutter being fastened to the thimble by means of a bur engaging with a hole in the spring cutter, the bur having its outer end flattened for fastening the cutter to the thimble, substantially as hereinbefore described.

866,533. CLOCK. CHARLES B. STEPHENS, Granby, Conn. Filed Feb. 21, 1906. Serial No. 302,198.



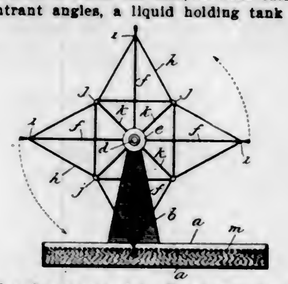
1. A clock having a case, a dial with a parabolic interior surface coated with luminous compound, said dial having an angularly flaring outer edge, and time indicating characters arranged on the flaring edge, and pointers arranged in the cavity and extending toward the characters, substantially as specified.

2. A clock dial having a parabolic interior surface coated with luminous compound, said dial having an angularly flaring outer edge and time indicating characters arranged on the flaring edge, substantially as specified.

866,534. HUMIDIFIER. CHARLES SUBERT, Chicago, Ill. Filed May 13, 1907. Serial No. 373,408.

1. An humidifier in which is combined a revoluble structure consisting of main skeleton frame elements extending radially from an axial shaft, an absorbent material mounted thereon, means located between said main frame elements for drawing said absorbent material inwardly to form a series of reëntrant angles therein, a water receptacle located beneath said revoluble structure to permit the water to contact therewith as the latter is rotated, and means for directing a current of air against the exterior of said fabric to rotate the frame.

2. An humidifier in which is combined a revoluble frame mounted upon a shaft, said frame consisting of a series of radial arms connected at their outer ends, absorbent material stretched thereon, means for drawing said material inwardly towards the axis, between said frames to form reëntrant angles, a liquid holding tank below said



frame and a fan arranged to direct a current of air between the tank and the axis of the frame.

866,535. CLASP FOR BELTS, &c. HERBERT G. SUDELL, Philadelphia, Pa., assignor of one-half to David Coons, Philadelphia, Pa. Filed Apr. 5, 1907. Serial No. 366,591.

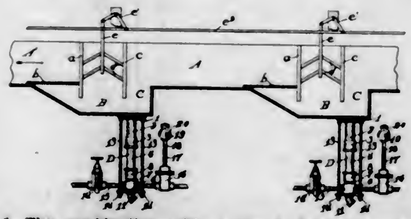


1. A clasp for belts or like articles of apparel, comprising a base member and a grip lever pivotally connected to said base member by open bearings and laterally confined thereto, whereby the said grip lever may be applied to and detached from said base member by movement in a direction inclined in respect to the direction of thrust of the lever.

2. A clasp for belts or like articles or apparel, comprising a base member and a grip lever, said grip lever having projecting pivot lugs and the base member having ears with pivot openings and slots leading thereto and through which the pivot lugs may be passed into and out of the pivot openings.

3. A clasp for belts or like articles of apparel, comprising a base member and a grip lever, the base member having openings with slots leading thereto and the grip lever having pivot lugs inclined in respect to the part from which they project.

866,536. HYDRAULIC CLASSIFIER FOR ORES. SETH R. SWAIN, Denver, Colo. Filed Nov. 26, 1906. Serial No. 345,180.



1. The combination with a trough having a pocket therein, a fixed and a movable baffle board in said pocket and means for moving the movable baffle board bodily to one side.

2. The combination with a trough having a pocket therein, a fixed and a movable baffle board in said pocket the latter movable bodily to one side, means for adjusting the movable baffle board, and a screen extending from one end of the pocket to the fixed baffle board.

3. The combination with a trough having a pocket

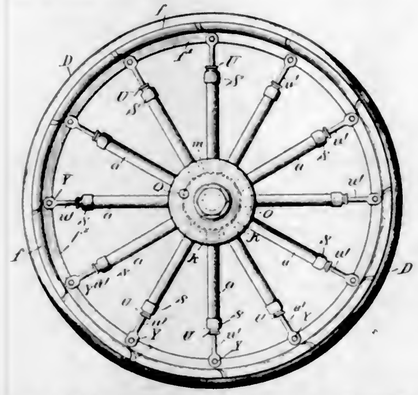
therein, a fixed and a movable baffle board in said pocket and means for adjusting the movable baffle board bodily to one side and a sorting column leading into the pocket.

4. The combination with a trough having a pocket therein, a fixed and a movable baffle board in said pocket, means for adjusting the movable baffle board bodily to one side, and an adjustable sorting column leading into the pocket.

5. The combination with a trough having a pocket therein, a fixed and a movable baffle board in said pocket, means for adjusting the movable baffle board bodily to one side, a sorting column leading into the pocket, and means for controlling the waterflow therein.

6. The combination with a trough having a pocket therein, a fixed and a movable baffle board in said pocket, means for adjusting the movable baffle board bodily to one side, a sorting column leading into the pocket, means for controlling the water flow therein and means for creating a pulsating current in the water.

866,537. PNEUMATIC-SPOKE WHEEL. ARTHUER H. THIBAULT, Valparaiso, Ind. Filed Oct. 13, 1905. Serial No. 282,606.



1. A wheel comprising a sectional rim the outward movement of which is confined within the maximum normal circumference of the wheel, and pneumatically cushioned spokes each consisting of telescopic members and a packing interposed between the head of the inner member and the closed end of the outer member.

2. A wheel comprising a sectional rim the outer circumference of which is provided with a concave channel and the inner circumferential portion of which consists of a single flange, the outward movement of which is confined within the maximum normal circumference of the wheel, and pneumatically cushioned spokes each consisting of telescopic members and a packing interposed between the head of the inner member and the closed end of the outer member.

3. A wheel comprising telescopic pneumatically cushioned spokes, and a sectional rim, each section of which is provided with a concave channel the walls of which at one end overlap those of the next section and at the other end are overlapped in like manner.

4. A wheel comprising telescopic pneumatically connected cushioned spokes, and a sectional rim, each section of which is provided with a concave channel the walls of which at one end overlap those of the next section and at the other end are overlapped in like manner.

5. A wheel comprising a hub, spokes each comprising a tubular portion secured at one end to said hub, a piston telescopically connected to the same and a packing interposed between the head of said piston and the free end of said tubular portion, and a sectional rim secured to the outer ends of said pistons and confined within the maximum circumference of said wheel.

6. A wheel comprising a hub, spokes each consisting of a tubular portion secured at one end to said hub, a piston telescopically connected to the same and a packing interposed between the head of said piston and the free end of said tubular portion, and a sectional rim the joints of which articulate with the outer ends of said pistons and confined within the maximum circumference of said wheel.

7. A wheel comprising a hub, spokes each consisting of a tubular portion secured at one end to said hub which are pneumatically connected, a piston telescopically connected to the same and a packing interposed between the head of said piston and the free end of said tubular portion, and a sectional rim secured to the outer ends of said pistons and confined within the maximum circumference of said wheel.

8. A wheel comprising a hub, spokes each consisting of a tubular portion secured at one end to said hub, and a piston telescopically connected to the same, and a sectional rim the joints of which overlap and articulate with the outer ends of said pistons, the outward movement of said rim being confined within the maximum normal circumference of the wheel.

9. A wheel comprising a hub, spokes each consisting of a tubular portion secured at one end to said hub that are pneumatically connected, a piston telescopically connected to the same, and a sectional rim the joints of which overlap and articulate with the outer ends of said spokes, the outward movement of said rim being confined within the maximum normal circumference of the wheel.

10. A wheel comprising a hub having pneumatically connected spoke openings therein, spokes each consisting of a tubular portion secured at one end in said openings, a piston telescopically connected to the same and a packing interposed between the head of said piston and the free end of said tubular portion, and a sectional rim the joints of which articulate with the outer ends of said pistons and confined within the maximum circumference of said wheel.

11. A wheel comprising a hub having pneumatically connected spoke openings therein, spokes each consisting of a tubular portion secured at one end in said openings, a piston telescopically connected to the same and a packing interposed between the head of said piston and the free end of said tubular portion, and a sectional rim the joints of which articulate with the outer ends of said pistons and confined within the maximum circumference of said wheel.

12. A wheel comprising a hub having pneumatically connected spoke openings therein, spokes each consisting of a tubular portion secured at one end in said openings and a piston telescopically connected to the same, and a sectional rim the joints of which overlap and articulate with the outer ends of said pistons the outward movement of said rim being confined within the maximum normal circumference of the wheel.

13. A wheel comprising a hub, spokes each consisting of a tubular portion secured at one end to said hub, a piston telescopically connected to the same and a packing interposed between the head of said piston and the free end of said tubular portion, means connected to said hub through which said pistons move for relieving the lateral strain thereon, and a sectional rim secured to the outer ends of said pistons and confined within the maximum circumference of said wheel.

14. A wheel comprising a hub, spokes each consisting of a tubular portion secured at one end to said hub, and a piston telescopically connected to the same, means connecting said hub and the outer ends of the tubular portions of the spoke through which said pistons move for relieving the lateral strain thereon, and a sectional rim secured to the outer ends of said pistons.

15. A wheel comprising a hub, spokes each consisting of a tubular portion secured at one end to said hub, and a piston telescopically connected to the same, ball-bearing means connected to said hub through which said pistons move for relieving the lateral strain thereon, and a sectional rim secured to the outer ends of said pistons.

16. A wheel comprising a hub, spokes each consisting of

a tubular portion secured at one end to said hub, and a piston telescopically connected to the same, ball-bearing means connecting said hub and the outer ends of the tubular portions of the spoke through which said pistons move for relieving the lateral strain thereon, and a sectional rim secured to the outer ends of said pistons.

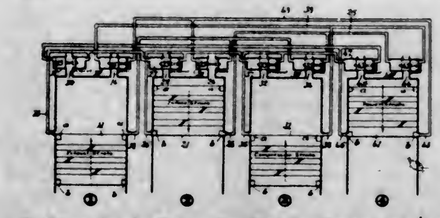
17. A vehicle-wheel comprising a hub, a surrounding rim comprising a plurality of jointed sections and formed to provide a seat for a tire, said rim maintained circular within the maximum normal circumference of the wheel, and spokes extending from the hub to the rim, each spoke comprising a section connected with the hub and a section connected with the rim, one of which is tubular and receives the other, and a packing in said tubular section interposed between the free end thereof and the head of the other member through which the latter reciprocates, and means whereby a body of air under pressure may be introduced in said tubular section.

18. A vehicle-wheel comprising a hub, a surrounding flexible rim having circumferentially-separated, defined joints of flexure the outward movement of which is maintained within the maximum normal circumference of the wheel, and spokes extending from the hub to the rim, each of said spokes being made of two sections, one attached to the hub and the other to the rim, at least one of said spoke-sections being made tubular to receive the other, and a packing in said tubular section interposed between the free end thereof and the head of the other member through which the latter reciprocates, means for admitting air under pressure to said tubular sections, and stuffing-boxes for preventing the escape of air from said tubular spoke-sections.

19. A vehicle-wheel comprising a hollow-hub, a surrounding flexible rim having circumferentially separated defined points of flexure the periphery of said rim being maintained within the maximum normal circumference of the wheel and formed to provide an annular tire-seat and spokes extending from the rim to the hub, each spoke being made of two sections, one attached to the rim and the other to the hub and communicating with the interior thereof, the inner spoke-sections being made tubular and receiving the outer spoke-sections, and a packing in said tubular section interposed between the free end thereof and the head of the other member through which the latter reciprocates, and means for admitting air under pressure to the hollow hub.

20. A vehicle-wheel comprising a hub, a surrounding rim comprising a plurality of short curved sections hinged together at their adjacent ends to constitute a circular rim, the periphery of which is confined within the maximum normal circumference of the wheel, and spokes connected each at its outer end with one section of the rim and at its inner end with the hub, each of said spokes comprising two telescopic sections, at least one of which is tubular, and a packing in said tubular section interposed between the free end thereof and the head of the other members through which the latter reciprocates, and means for admitting air under pressure to said tubular spoke-sections.

866,538. INTERNAL-COMBUSTION ENGINE. PERCY F. THOMAS, El Paso, Tex. Filed Oct. 2, 1906. Serial No. 337,070.



1. An engine having a plurality of cylinders, inlet and exhaust valves for said cylinders, and means for closing the inlet valve of each cylinder by the pressure of the exhaust gas in another one of the cylinders.

2. An engine having a plurality of cylinders, each of said cylinders having inlet and exhaust valves, and means whereby the exhaust valve of each cylinder is closed by the pressure of the exhaust gas in another cylinder.

3. An engine having a plurality of cylinders, inlet and outlet valves for each of said cylinders, and means whereby the outlet valve of each of said cylinders is opened by the pressure of the exhaust gas in their respective cylinders and closed by the pressure of the exhaust gas in another one of said cylinders.

4. An engine having a plurality of cylinders, inlet and outlet valves for said cylinders, and means for opening each of the inlet valves by the pressure of the exhaust gas in another one of the cylinders.

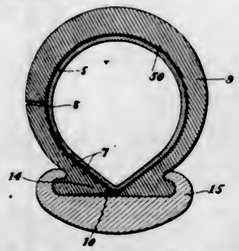
5. An engine having a plurality of cylinders, each provided with inlet and exhaust valves, and means whereby each of the inlet valves is opened by the pressure of the exhaust gas in another one of the cylinders and closed by the pressure of the exhaust gas in a third cylinder.

6. An engine comprising a plurality of cylinders, inlet and outlet valves for said cylinders, and means whereby the pressure of the exhaust gas of each cylinder opens the exhaust valve of that cylinder, closes the exhaust valve of a second cylinder, and opens the inlet valve of said last-mentioned cylinder.

7. A four-cycle engine having a plurality of cylinders, inlet and outlet valves for each of said cylinders, and means whereby the exhaust gas at the end of the exhaust stroke in each cylinder opens the exhaust valve of said cylinder, opens the inlet valve and closes the exhaust valve of a cylinder one cycle in advance thereof, and closes the inlet valve of a cylinder two cycles in advance thereof.

8. A four-cycle internal combustion engine having a plurality of cylinders, inlet and outlet valves for each of said cylinders, each of said valves comprising valve cylinders and pistons located therein, and conduits for conducting the exhaust gas from each working cylinder to certain of the valve cylinders when the piston of each working cylinder is at the end of its power stroke, whereby the valves of all of said cylinders may be operated in proper sequence.

866,539. REPAIR DEVICE FOR PNEUMATIC TIRES. PHILIP C. TRAVER, New York, N. Y., assignor to Michael P. McNamara, New York, N. Y. Filed July 26, 1906. Serial No. 327,929.



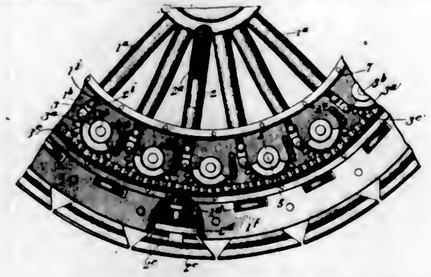
1. A protecting device for the inner tube of a pneumatic tire comprising a relatively rigid body member having a flange on that edge thereof contiguous to the heel of the tire casing for engagement with said heel and having the other edges of said body member curved outwardly for engagement with the inside of said tire casing and for protecting the inner tube against abrasion by said edges.

2. A protecting device for the inner tube of a pneumatic tire comprising a relatively rigid body member extending over and beyond the middle line of the inner tube to hold said tube under tension and having on one edge thereof a flange adapted to be gripped between the heel of the tire casing and the wheel rim.

3. A repair device for pneumatic tires comprising a relatively rigid body member extending over and beyond the middle line of the inner tube to hold said inner tube under tension, said body member having a yieldable edge and a rigid flange for engagement with the heel of the tire casing and the wheel rim.

4. A protecting device for the inner tube of a pneumatic tire comprising a relatively rigid integral body member having a flange on one edge thereof adapted to be gripped between the heel of the tire casing and the wheel rim, said body member being provided with teeth for engagement with the inner face of the tire casing.

866,540. VEHICLE-WHEEL. HORACE VILLIERS-STUART, Louisville, Ky. Filed Dec. 10, 1906. Serial No. 347,147.



1. In a wheel, the combination of radially movable tire-segments, connections whereby the radial displacement of one segment is similarly transmitted to all of the other segments, and cushioning devices for automatically returning the segments to normal position.

2. In a wheel, the combination of radially movable spoke-members, tire-segments attached to and movable with said spoke-members, connections whereby the radial displacement of one spoke-member is similarly transmitted to all of the other spoke-members, and cushioning devices for automatically returning the spoke-members to normal position.

3. In a wheel, the combination of radially movable tire-segments, a cushioning device for each segment, and connections between such segments, whereby the radial displacement of one segment causes a corresponding movement of all of the other segments.

4. In a wheel, the combination of radially movable spoke-members, tire-segments attached to such spoke-members, cushioning devices for each spoke-member, and connections between such members whereby the radial displacement of one spoke-member causes a corresponding displacement of all of the other spoke-members.

5. In a wheel, the combination of tubular spokes, radially movable spoke-members fitted therein, cushioning devices for such spoke-members, tire-segments on the outer ends of said spoke-members, and equalizing connections between the several spoke-members whereby the radial displacement of one spoke member similarly affects all the other spoke members.

6. In a wheel, the combination of radially movable tire-segments, a series of pivoted sectors, and connections between the sectors, and tire-segments whereby the movement of one tire-segment similarly moves all the others.

7. In a wheel, the combination of radially movable spoke-members, tire-segments connected thereto, a series of pivoted sectors, and connections between the sectors and spoke-members whereby the movement of one tire-segment similarly moves all the others.

8. In a wheel, the combination of a rim, radially movable tire-segments, sectors pivoted on the rim adjacent to the segments, links pivotally connecting the spoke-members to the sectors, and a flexible connection between the sectors.

9. In a wheel, the combination of a rim, radially movable spoke-members projecting through the rim, cushioning devices for such members, tire-segments attached to the outer ends of the spoke-members, sectors pivoted on the rim, connections between the sectors and spoke-members, and connections between the sectors, substantially as described.

10. In a wheel, the combination of a rim, radially movable spoke-members, tire-segments, sectors pivoted on the rim adjacent to the spoke-members, links pivotally connecting the spoke-members to the sectors, and a flexible connection between the sectors.

11. In a wheel, the combination of tubular spokes, a rim connected therewith, spoke-members telescoped with the spokes, cushioning devices for such members, tire-segments attached to the outer ends of such spoke-members, sectors pivoted on the rim, connections between the sectors and spoke-members, and flexible connections between the sectors, substantially as described.

12. In a wheel, the combination of a hub, spokes, and a rim connected to the spokes, tire-segments projecting beyond the rim and movable radially thereof; sectors pivoted on the rim, link connections between the sectors and tire-segments, and flexible connections between the segments whereby the radial movement of one tire-segment is imparted correspondingly to the other segments.

13. In a wheel, the combination of a hub, radial spokes, and a rim connected to the spokes, spoke-members projecting beyond the rim and movable radially thereto, and tire-segments on the outer ends of the spoke-members; with sectors pivoted on the rim, link connections between the sectors and spoke-members, and flexible connections between the sectors, whereby the radial movement of one tire-segment is imparted correspondingly to the other segments.

14. In a wheel, the combination of a hub, radial spokes, and a rim connected to the spokes, spoke-members telescoping with the spokes and projecting through the rim, tire-segments attached to the outer ends of the spoke-members, sectors pivoted on the rim adjacent to the spoke-members, links connecting the sectors with the spoke-members, and flexible connections between the sectors, whereby the radial movement of one segment is transmitted to each of the others, substantially as described.

15. In a wheel, the combination of a hub, radial tubular spokes, and a hollow rim connected to the spokes, spoke-members telescoping with the spokes and projecting through the rim, tire-segments attached to the outer ends of the spoke-members; sectors pivoted on the rim adjacent to the spoke-members, links connecting the sectors with the spoke-members, and a chain connecting the several sectors, whereby the radial movement of one segment is transmitted to each of the others.

16. In a wheel, the combination of a hub, spokes and rim, radially movable spoke-members connected to the rim, cushioning devices for each spoke-member, radially movable tire-segments connected to the outer ends of each spoke-member, sectors pivoted to the rim, links connecting the spoke-members to the adjacent sectors, springs connecting the other ends of the sectors to the rim, and a flexible connection between the several sectors.

17. In a wheel, the combination of a rim, radially movable spoke-members projecting through the rim, cushioning devices for such members, tire-segments attached to the outer ends of the spoke-members, sectors pivoted on the rim, connections between the sectors and spoke-members, and connections between the sectors,—with a housing attached to the rim and inclosing the sectors and their connections, and side plates attached to the rim on opposite sides of the tire-segments.

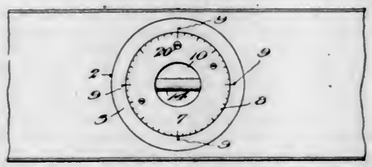
18. In a wheel, the combination of a hub, spokes and rim, radially movable spoke-members telescoping with the spokes and passing through the rim, tire-segments on the outer ends of the spoke-members, rocking sectors pivoted on the rim, links pivotally connecting the sectors with the adjacent spoke-members, a flexible connection between the several sectors, and side plates attached to the rim and partly inclosing the tire-segments.

19. In a wheel, the combination of a hub, spokes and rim, radially movable spoke-members connected to the rim, cushioning devices for each spoke-member, radially

movable tire-segments connected to the outer ends of the spoke-members, sectors pivoted to the rim, links connecting the spoke-members to the adjacent sectors, springs connecting the other ends of the sectors to the rim, and a flexible connection between the several sectors; with a housing attached to the rim and inclosing the sectors and their connections, and forming an oil-chamber, and side-plates attached to the rim on opposite sides of the tire-segments.

20. In a wheel, the combination of a hub, spokes and hollow rim, radially movable spoke-members telescoping with the spokes and passing through the rim, tire-segments on the outer ends of the spoke-members, stuffing-boxes attached to the rim and through which the spoke-members pass, rocking sectors pivoted on the rim, links connecting the sectors with the adjacent spoke-members, a flexible connection between the several sectors; a housing attached to the rim and inclosing the sectors and their connections, and forming an oil-chamber, and side-plates attached to the rim and partly inclosing the tire-segments.

866,541. LEVEL. WILLIAM G. WAGNER, St. Louis, Mo. Filed Dec. 29, 1906. Serial No. 350,071.



1. A level comprising a stock formed with a depression, a band fitting in said depression and formed with a right angular projecting flange having a lateral extension at its inner end, the edge of said extension being formed with a series of teeth, a dial plate revolubly mounted within the band and bearing against the lateral extension of the flange, a spirit bulb carried by the dial, and means carried by the dial to engage the teeth on the band, said means being operable to revolve the dial.

2. A level comprising a stock formed with a depression, a band fitting in said depression and formed with a right angular projecting flange having a lateral extension at its inner end, the edge of said extension being formed with a series of teeth, a dial plate revolubly mounted within the band and bearing against the lateral extension of the flange, a spirit bulb carried by the dial, and a pinion carried by the dial and engaging the teeth on the band, said pinion being operable to revolve the dial.

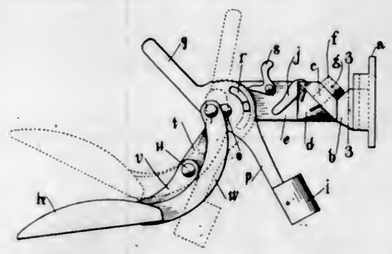
3. A level comprising a stock formed with a depression, a band fitting in said depression and formed with a series of teeth, a dial plate revolubly mounted within the band, rubber casings fixed to the rear surface of the dials, a spirit bulb carried by the dial and embedded in the rubber casings, one of said casings having a laterally extending lip to adapt the casing for removable connection with the dial plate.

866,542. SHOE-HOLDER. HOWARD V. D. WALDRON, New Brunswick, N. J., assignor of one-half to Emmit G. Latta, Syracuse, N. Y. Filed Feb. 3, 1904. Serial No. 191,885.

1. In a shoe-holding device of the general character described, the combination of a laterally extending supporting arm, a lever pivoted thereon carrying the heel-piece, an arm carrying the toe-piece and also pivoted on the supporting arm, and means connecting said lever and toe-piece arm for moving the heel-piece carrying lever rearwardly when the toe-piece carrying arm is depressed.

2. In a shoe-holding device of the character described, the combination of a laterally extending supporting arm, a lever pivoted thereon carrying the heel-piece, an arm carrying the toe-piece and also pivoted on the supporting arm, and a link connecting the lever and toe-piece arm for moving the heel-piece rearwardly when the toe-piece is depressed.

3. In a shoe-holding device of the general character described, the combination of a laterally projecting supporting arm downwardly extended at its front end, a lever pivoted thereto and carrying the heel-piece, an arm extending from the supporting arm and carrying the toe-piece, and a link extending from the toe-piece to the lever carrying the heel-piece, for the purpose specified.

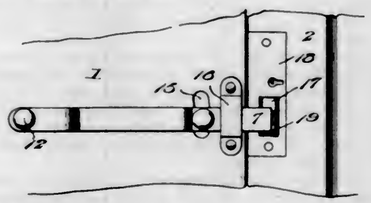


4. In a shoe holding device of the general character described, the combination of a horizontally-projecting supporting part composed of an inner and an outer member united by an angularly disposed inclined joint, a heel-piece, and a toe-piece, both carried by the outer member, the arrangement being such that said outer member may be moved to carry the heel-piece of the device outwardly and upwardly for the purpose specified and a locking device for holding said outer member in position.

5. The combination of a wall bracket, a shoe tree, and an adjustable pivotal connection between the bracket and the tree having its axis extending in a direction at an inclination to the vertical, whereby the tree can be turned about said axis to position either the vamp or counter of the shoe supported by the tree uppermost, substantially as set forth.

6. The combination of a wall bracket, a shoe tree, and an adjustable pivotal connection between the bracket and the tree constructed to permit the tree to be turned about an axis extending at an inclination of about forty-five degrees from the vertical, and having means for locking the tree from movement in different positions, substantially as set forth.

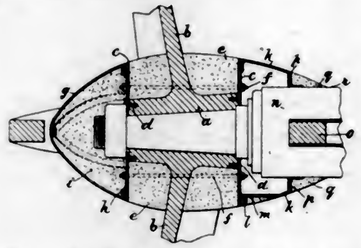
866,543. LATCH FOR DOORS OR GATES. THOMAS P. WALSH, Grayslake, Ill., assignor to Wagner Manufacturing Company, Cedar Falls, Iowa. Filed Mar. 26, 1907. Serial No. 364,693.



1. A latch comprising a handle portion, a latch head extending inwardly from the end thereof, said latch head having a curved outer edge and oppositely disposed shoulders, in combination with a keeper having a curved inwardly extending catch member.

2. A latch comprising a member having a handle thereon, an inwardly extending latch head, a curved catch for said latch head, and a handle member secured to the opposite side of the door or gate, said two handle members being pivoted upon a bolt extending through the door or gate and connected together by a bolt which passes through a curved slot in the door or gate, substantially as described.

866,544. SCREW-PROPELLER. WILLIAM M. WALTERS, Liverpool, England. Filed Sept. 27, 1906. Serial No. 336,433.

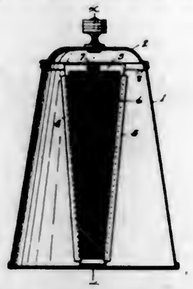


1. The combination with a screw propeller boss of two disks attached to the forward and after ends of the boss and filling material between the disks, substantially as described.

2. The combination with a screw propeller boss of two disks attached to the forward and after ends of the boss and filling material between the disks, and rods connecting the two disks, substantially as described.

3. The combination with the boss of a screw propeller of a cone made of a metal cage-like structure, and filling material within the cage, substantially as described.

866,545. COFFEE-POT. ALVIN W. WHITMAN, Reading, Pa. Filed Mar. 5, 1906. Serial No. 304,216.

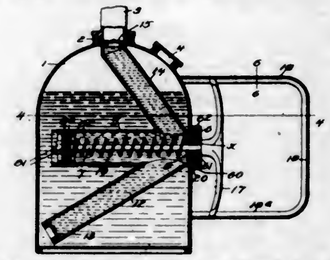


A pot comprising a body having ends spaced apart and forming an opening which extends from the top to the bottom of the pot, said opening having its side edges in synclinical relation to each other, guides attached to the synclined edges of said body and lying parallel with the edges to which they are attached, a semi-conical strip forming a spout which is secured at its edges to the edges of the body and which extends over the opening between said body edges and from the top to the bottom of the pot, and a cuneate detachable strainer of single thickness of material supported in said guides and bearing at its lower edge against the lower end of the spout and having its upper edge at the same level as the upper edge of the body, and a cover for the body the edge of which fits between the upper edge of the strainer and the inner side of the body of the pot.

866,546. OIL-CAN. THOMAS B. WILKINSON, Los Angeles, Cal. Filed May 16, 1906. Serial No. 317,111.

1. The combination with the can body, the cylinder therein provided near one end with a valved feed tube and a discharging tube, a piston in the cylinder whose rod extends through the can side, a stuffing box for the rod having a pocket, and which includes a packing loosely fitted on the rod, and a spring on the rod, one end of which bears on the piston and the other against the packing, for the purposes described.

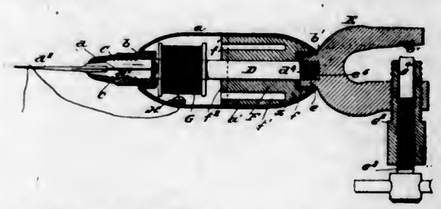
2. In an oil can of the character described, a stuffing box for the piston pull rod, and a packing held in said box, and means on the rod for compressing the packing on the rod as the rod is pulled out, as set forth.



3. In an oil can of the character described, the combination of a cylinder projected transversely from one side of the can, whose inner end is open, a valved intake tube that projects downwardly from the cylinder, a valved offtake tube that projects upwardly therefrom and discharges into the can nozzle, and the operating piston in the open end of the cylinder having its rod projected outside the can and guided on the can handle.

4. The hereinbefore described improved oil can comprising in combination with the can body, its nozzle, and handle, the latter having guide grooves; of the open ended cylinder secured to one side of the can and projected inwardly thereof, a discharge tube and suction tube that communicate with the cylinder near its closed end, the discharge tube extending up into the entrant end of the nozzle and provided with a back check valve, the suction pipe extending down to near the bottom of the can and having a back check valve in its end, a piston working in the open end portion of the cylinder and having a rod that projects through the can side, a pull member on the outer end of the rod whose ends engage the guide grooves in the can handle, a stuffing box for the rod including a packing ring and a spring disposed on the rod, one end of which bears against the aforesaid packing and the other end against the piston, as set forth.

866,547. COMBINATION-TOOL. THOMAS B. WILKINSON, Los Angeles, Cal. Filed Nov. 27, 1906. Serial No. 345,390.



1. In a tool handle, in combination; a two part casing, a shaft extending through the casing, having tool gripping members at one end, one of the casings being mounted on the tool gripping end of the shaft, a block that snugly fits within the meeting ends of the casing sections, said block having tool receiving pockets, a bobbin adapted to be detachably and loosely mounted on the shaft within the casing, one of the casing sections having a thread aperture, and means for securing the casing sections together, and a tool held in the said gripping members to coöperate with the bobbin.

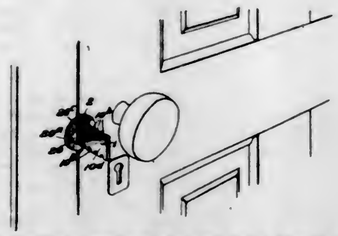
2. A tool holder, comprising a casing formed of two sections of like construction, a shaft mounted longitudinally within the casing sections and having means at one end for detachably receiving and gripping the tool, a block fitted within the casing and upon the shaft, said block having tool receiving pockets, a bobbin adapted to be detachably and loosely mounted upon the shaft within

the casing, the casing having a thread passage and means detachably connected to that end of the casing opposite the tool gripping end for clamping the several members together, and the tool held in the gripping members to cooperate with the bobbin.

3. In a tool of the character described; the combination of a two part casing, a shaft longitudinally mounted within the casing and having one end projected beyond the casing, and split to receive the tool shank, a bobbin detachably and loosely supported on the shaft within the casing, the latter having a thread passage and means engaging the opposite ends of the casing for holding the several parts locked to an operative position, and the tool held in said gripping members to coöperate with the bobbin.

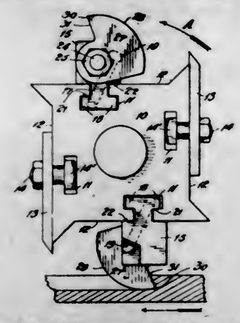
4. In a tool of the character described, a casing formed of two sections, each of said sections having a socket at the outer end, a shaft mounted within the casing and having its opposite ends projected into the casing sockets and means on each end of the shaft for engaging said sockets and for securing the two casing sections close against each other, and upon the shaft, as set forth.

866,548. DOOR-SECURER. THOMAS B. WILKINSON, New York, N. Y. Filed Jan. 9, 1907. Serial No. 351,487.



A door securer, comprising a flat plate having one end bent laterally and having each of its opposite edges formed with a series of uniform notches; in combination with a washer having a single opening of a diameter slightly greater than the width of the plate between the opposing notches, said washer having a slit in one edge extending to its opening, and having a notch on its internal edge at a point at right angles to the slit, for the purposes described.

866,549. PLANER-HEAD. JOHN W. WINNINGHAM, Seattle, Wash. Filed Oct. 1, 1906. Serial No. 336,912.



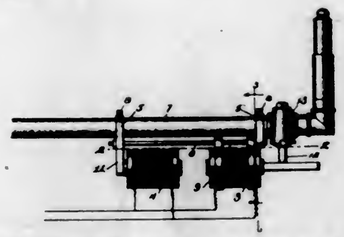
1. In combination with a cutter-head provided with T-shaped slots, of a cutter holder having a longitudinal groove in each of its opposite sides and a conical post terminating in a screw threaded end, a nut for said end, and a set screw arranged to tilt the holder and cause the upper wall of one groove and the lower wall of the other groove to respectively bear against the opposing surfaces of the cutter head.

2. The combination with a cutter-head provided with a T-slot, of a cutter holder comprised of a block provided with a T-shaped lower portion adapted to fit loosely within said slot, a conical shaped post protruding from the block and terminating in a screw threaded outer end, a nut for said end, a set screw extending diagonally through the block and adapted to impinge against the bottom of said slot, and a segmental shaped cutter with a conical aperture to provide a seating surface to bear against the post.

3. The combination with a cutter-head provided with T-slots in its outer surface, cutter holders severally provided with a T-shaped lower portion adapted to be loosely fitted in any of said slots and having a tapering post, and means to secure the holders in a tilted position to the head, of cutters provided with conical shaped apertures adapted to be adjustably and interchangeably seated upon the respective posts, and means to secure the cutters to the posts.

4. In combination with a cutter-head provided with T-slots in its outer surface, cutter holders severally provided with a T shaped lower portion adapted to be loosely fitted in any of said slots and having a tapering post, and means to secure the holders to the head, of cutters provided with conical shaped apertures adapted to be adjustably and interchangeably seated upon the respective posts, and means to secure the cutters to the posts.

866,550. AUTOMATIC GAS-VALVE. MICHAEL WLAAT, New York, N. Y. Filed Aug. 18, 1906. Serial No. 331,143.



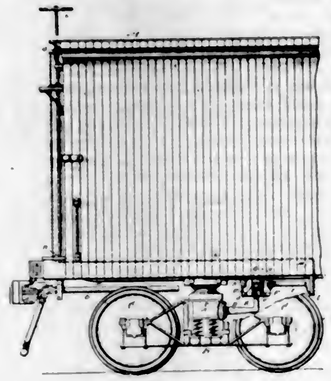
1. The combination with a gas fixture, of a frame removably secured thereon, two sets of magnets supported by the frame, means for energizing either set of magnets at will, each set of magnets including a fixed magnet and a movable magnet, a pinion carried by the stem of the gas cock, and rack-bars projecting from the movable magnet of each set and engaging the pinion.

2. The combination with a gas fixture including a valve, of a frame removably secured thereon, two sets of magnets supported by the frame, means for energizing either set of magnets at will, each set of magnets including a fixed magnet and a movable magnet, a pinion carried by the stem of the gas cock, and rack-bars projecting from the movable magnet of each set and engaging the pinion, said rack-bars respectively engaging the pinion at diametrically opposite points, whereby to operate the valve in either direction in accordance with the set of magnets energized.

3. The combination with a gas fixture including a valve, of a frame removably secured thereto, said frame including spaced slide rods, independent magnets fixed to the frame, independent magnets movably supported on the respective rods, one movable magnet and one fixed magnet being included in the same circuit, and means intermediate each movable magnet and the valve of the gas fixture.

866,551. ATTACHMENT FOR RAILROAD-BRAKES. GEORGE C. WYLAND, Greensboro, N. C. Filed May 31, 1907. Serial No. 376,638.

1. An attachment for railroad brakes consisting of a yoke in the form of a horizontal collar and constructed of two hinged or pivoted sections and means for operating the sections connecting with the car-truck, and an intermediate means connecting the yoke with the usual means for operating the brake, substantially as and for the purpose set forth.



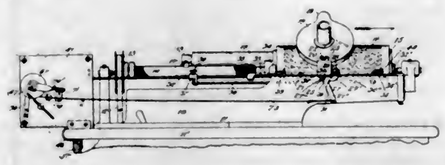
2. An attachment for railroad brakes consisting of a yoke in the form of a horizontal collar and constructed of two hinged or pivoted sections, an arm connecting with the truck and adapted to engage the yoke to operate it, and an intermediate means connecting the yoke with the means employed for operating the brake, substantially as and for the purpose described.

3. An attachment for railroad brakes consisting of a yoke in the form of a horizontal collar and consisting of two hinged or pivoted sections hinged or pivoted to a suitable base upon the under side of the car, means connecting with the truck for operating the yoke, and an intermediate means connecting the yoke with the means for operating the brake, substantially as and for the purpose specified.

4. An attachment for railroad brakes consisting of a yoke in the form of a horizontal collar and comprising two sections hinged or pivoted together, a lever upon one of the sections, an intermediate means connecting the lever with the means employed for operating the brake, and an arm extending from the truck and engaging the yoke for operating the same, substantially as and for the purpose set forth.

5. An attachment for railroad brakes consisting of a yoke in the form of a horizontal collar and comprising two sections, the ends of each section having elongated slots and pins extending through the same by which the two sections are hinged or pivoted together, means connecting with the truck for operating the yoke, and intermediate means connecting the yoke with the means employed for operating the brake, substantially as and for the purpose described.

866,552. REPEATER FOR PHONOGRAPHS. SIDNY B. YERION, Seattle, Wash. Filed Oct. 10, 1906. Serial No. 338,260.



1. In a device of the class described a reproducer, a record, a spring actuated mandrel having a winding drum, a trip mechanism carried by said reproducer, a winding cable between said trip mechanism and drum, a trip mechanism adapted to hold said drum out of action, spaced abutments in the path of said reproducer, and connecting means between said abutments and the trip mechanism of said drum.

2. In a device of the class described a reproducer, a record, a supporting frame, a spring actuated mandrel carried by said frame, a winding drum operated by said mandrel, escapement device connected to said mandrel, a stop movable into the path of said escapement, means operative by said escapement for holding said winding drum out of action, a trip mechanism carried by said reproducer, a winding cable between said trip mechanism and drum, spaced abutments in the path of said reproducer, and connecting means between said abutments and said escapement stop.

3. In a device of the class described a reproducer, a record, a supporting frame, a spring actuated mandrel carried by said frame, a winding drum operated by said mandrel, escapement device connected to said mandrel and including a fan device and a wheel formed with a plurality of spaced radiating arms movable into the path of said fan, a plate movable transversely of the path of said radiating arms and provided with a notch adapted to permit the arms to pass when the plate is disposed in one position, means operative by said escapement for holding said winding drum out of action, a trip mechanism carried by said reproducer, a winding cable between said trip mechanism and drum, spaced abutments in the path of said reproducer, and connecting means between said abutments and said recessed plate and adapted to actuate the same when the reproducer engages the abutments.

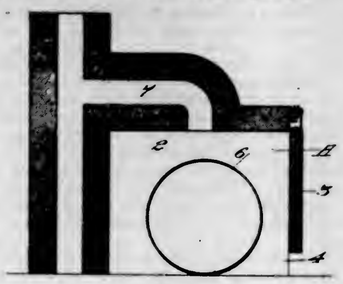
4. In a device of the class described a record, a repeating mechanism, a reproducer, a casing connected to said reproducer and provided with a laterally extending stop, a movable rod, abutments spaced apart upon said rod, a trip mechanism carried by said shell, a winding drum carried by said repeating mechanism, a cable connected between said drum and the trip mechanism of said reproducer, connecting means between said rod and repeating mechanism, means whereby said rod is operated by the contact of said shell with one of said abutments, and means whereby the trip mechanism of said shell is operated by the contact thereof of the other said abutment and the winding drum set into operation.

5. In a device of the class described a reproducer, a record, a supporting frame, a spring actuated mandrel carried by said frame, a winding drum having a clutch member and operated by said mandrel, escapement device connected operatively with said mandrel and including a fan device and a mandrel carrying a cam and a wheel having a plurality of radiating arms adapted to move intermittently into the path of said fan device, a clutch member movably disposed relative to the clutch member of said winding drum, a lever between said movable clutch member and said cam and adapted to be operated by the movement of the same, a plate movable transversely of the path of the radiating arms of said escapement wheel and provided with a notch adapted to permit said arms to pass when the plate is disposed in one position, a shell connected to said reproducer, a bell-crank swinging vertically from said shell, a bell-crank swinging horizontally from said shell with one arm movable into the path of one of the arms of said vertically swinging bell-crank, a movable rod carrying abutments spaced apart and disposed in the path of the reproducer, connecting means between said rod and said movable recessed plate, and a winding cable between said winding drum and the free end of said vertical bell-crank lever.

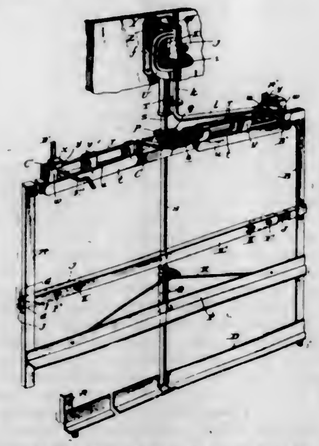
866,553. METHOD OF HEATING WAGON-TIRES. GUSTAV A. AICHER and FRANK J. DEMARTINI, San Francisco, Cal. Filed Apr. 29, 1907. Serial No. 370,880.

The method of heating wagon tires which comprehends supporting the tire against a refractory wall in a confined space and directing a flame forcibly against the wall and within the space inclosed by the tire to cause

the flame to spread out radially and strike the inside surface of the tire and heat the tire equably.



866,554. LEAF-TURNER. JOHN H. ALBRECHT and BROR E. ERICKSON, Madison, Wis. Filed May 31, 1906. Serial No. 319,554.



1. In combination with a frame, a rod extending above the same; a casting supported upon the upper end of the rod; an arm pivotally supported by said casting; gearing for swinging said arm back and forth; a series of leaf clamps; a pivotal support for the inner ends of said clamps, said support being eccentric to that of the arm; a combined stop-and-spacing device carried by each clamp; and a gravitating hook carried by the arm.

2. In combination with a main frame, a laterally swinging arm; a gravitating hook carried thereby; a series of pivotally mounted leaf clamps, the axis of said clamps being out of line with that of said swinging arm; a combined stop-and-spacing device carried by each leaf clamp; and means for holding the clamps at each side of the frame.

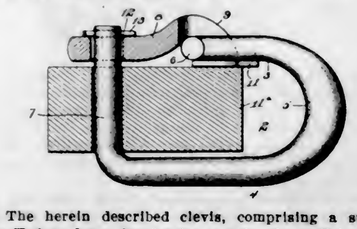
3. In combination with a frame, a laterally swinging arm; a gravitating hook carried thereby; a series of swinging leaf clamps, the axis thereof being to one side of that of the arm; a combined stop-and-spacing device carried by each clamp; a support at each side of the frame to sustain the outer ends of the clamps; and a stop carried by the frame at each side thereof and in line with the clamps.

4. In combination with a frame, a laterally swinging arm; a gravitating hook carried thereby; a series of swinging leaf clamps, the axis thereof standing out of line with that of the arm; a combined stop-and-spacing device carried by each clamp; a stop arranged at the right of the frame in line with the clamps; a second stop arranged at the left of the frame in line with the clamps when they are moved to that side of the frame; a stop-arm for the swinging arm; and supports for the clamps extending outwardly from each side of the frame.

5. In combination with a face-plate, an arm pivotally secured thereto; an actuating shaft extending into an opening formed in the plate; leaf-turning mechanism; gearing for actuating the same; a casting or frame for supporting said gearing, said casting being formed with a socket to receive the pivoted arm; and driving connections between said gearing and the actuating shaft.

6. In combination with a frame, leaf-turning mechanism carried thereby; a casting carried by the frame; gearing carried by the casting for operating the leaf-turning mechanism; a face-plate adapted to be secured to a piano or the like; an arm pivotally secured to said face-plate and arranged to be clamped in a socket formed in the casting; an actuating shaft extending into an opening formed in the face-plate; and means for detachably connecting said shaft to the gearing.

866,555. CLEVIS. LEWIS B. ALGER, Chelsea, Mich. Filed July 11, 1906. Serial No. 326,635.

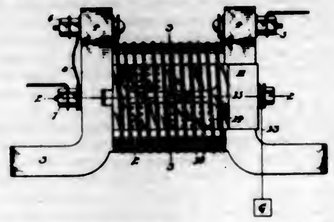


1. The herein described clevis, comprising a substantially U-shaped member having a pair of parallel arms of unequal lengths, the shorter arm having lugs extending laterally from opposite sides thereof and the longer arm having an extension disposed at right angles thereto, constituting a bolt spaced from the opposing end of the shorter arm, and a link member having an opening to engage said bolt and provided at one end with a slot to engage the shorter arm of the first named member, a transverse portion at the outer end of said slot to bear under said shorter arm and on the beam or tree, and provide a broadened surface to prevent the said arm from wearing on the beam or tree, and undercut shoulders at the inner end of said slot to receive the lugs of said arm and co-act with said lugs in pivotally and detachably connecting said link member to the shorter arm of the first named member.

2. The herein described clevis comprising a substantially U-shaped member having a pair of parallel arms of unequal lengths, the shorter arm having lugs extending laterally from opposite sides thereof and the longer arm having an extension disposed at right angles thereto, constituting a bolt spaced from the opposing end of the shorter arm, and a link member having an opening to engage said bolt and provided at one end with a slot to engage the shorter arm of the first named member, a transverse portion at the outer end of said slot to bear under said shorter arm and on the beam or tree, and provide a broadened surface to prevent the said arm from wearing on the beam or tree, and undercut shoulders at the inner end of said slot to receive the lugs of said arm and co-act with said lugs in pivotally and detachably connecting said link member to the shorter arm or the first named member, said link member having a longitudinal extension provided with an opening for the purpose set forth.

866,556. LIGHTNING-ARRESTER. AZEL AMES, Jr., New York, N. Y., assignor of one-half to Asbury G. Wilson, Wilkinsburg, Pa. Filed Aug. 16, 1906. Serial No. 330,780.

1. In a lightning arrester, the combination of frame body of insulating material having a recess open at one side, wire coiled around the body and extending over the open side, and a combined core and ground terminal within the body-recess and spaced from the coil.

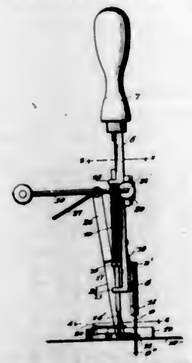


2. In a lightning arrester, the combination of a frame body of insulating material open at one side, wire coiled around the body and extending over the open side, a combined core and ground terminal within the body-recess, and open insulation between said face and the coil.

3. In a lightning arrester, the combination of a frame of insulating material recessed, the recess being open at the end and at one side, wire coiled around the body and extending over the open side of the recess, and a combined core and ground terminal slidable through the open end of the body-recess.

4. In a lightning arrester, the combination of a recessed body of insulating material open at one side, wire coiled around the body and extending over the recess, and a combined core and ground terminal within the body-recess and held therein by the pressure of the coil.

866,557. TURFING-MACHINE. JAMES J. BAIRD, Los Angeles, Cal. Filed Aug. 30, 1905. Serial No. 276,433.



1. The combination of a needle bar having a handle on the upper end thereof; a needle socket secured to the lower end of said bar; a hollow needle having a head, said needle being adapted to pass downwardly through said socket until the same contacts therewith; and a spring catch secured to said needle bar above said socket and adapted to bear against the head of said needle when the same is in the socket and hold it from longitudinal movement therein.

2. In a turfing machine the combination of a needle bar having a socket; a needle adapted to pass through said socket; spring operated means to hold said needle in said socket; and means connected to and adjustable in the socket to regulate the depth of penetration of the needle in the fabric.

3. In a turfing machine the combination of a needle bar having a handle; means secured to said needle bar for the reception of a needle; a hollow needle in said means; an operating crank secured to said needle bar; a spring pressed presser foot through which the needle passes, said presser foot being non-rotatively mounted in bearings secured to said needle bar and longitudinally movable therein; a stepper foot operatively connected to said crank; and flexible connections between said stepper foot and the shank of said presser foot.

4. In a turfing machine the combination of a needle bar; a hollow needle detachably secured thereto by spring operated means; and a spring pressed presser foot surrounding said needle, said presser foot having the part thereof which surrounds said needle formed into a downwardly projecting flange having a blunt edge.

5. In a turfing machine the combination of a needle bar; a hollow needle detachably secured thereto by spring operated means; a spring pressed presser foot surrounding said needle, said presser foot having the part thereof which surrounds said needle formed into a downwardly projecting flange having a blunt edge; and a stepper foot flexibly connected to said presser foot.

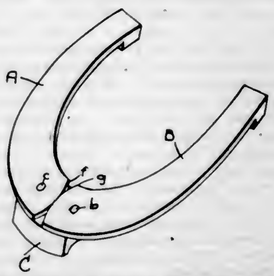
6. In a turfing machine the combination of a needle bar; a hollow needle secured thereto; a spring pressed presser foot having a downwardly projecting rim surrounding said needle, the lower edge of which rim is blunt; an operating crank secured to said needle bar; a stepper foot operatively connected to said crank; a spring secured to said stepper foot; and cross arms having slots in the ends thereof secured to said spring in a position that the slots therein cross each other at right angles centrally in said stepper foot, the shank of said presser foot passing through said slots.

7. In a turfing machine the combination of a needle bar having a needle removably secured thereto; a spring pressed presser foot operatively connected to said needle bar; and operating means secured to said needle bar; and a stepper foot operatively connected to said operating means and flexibly connected to the shank of the presser foot.

8. In a turfing machine, operating means; a presser foot; and a stepper foot secured to the operating means and flexibly and yieldingly connected to the presser foot, said stepper foot being adapted during the operation of the device to alternately rest on the fabric and support the other parts and to leave the fabric and be supported by the other parts.

9. In a turfing machine, an operating crank; a stepper foot composed of a circular band having arms secured thereto, said arms being connected to the operating crank; a spring secured to said band; slotted arms secured to said spring, the slots crossing each other at approximately right angles; and a presser foot having a shank thereof passing through the slots in said arms.

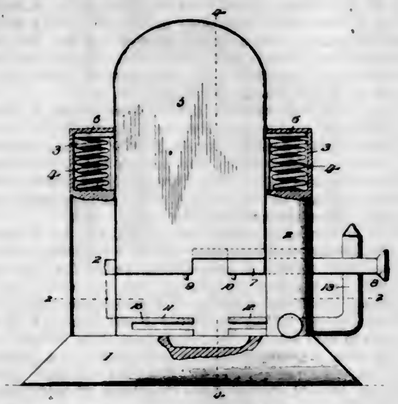
866,558. HORSESHOE. DANIEL BARKER, North Bay, Ontario, Canada. Filed Jan. 26, 1907. Serial No. 354,235.



1. A horseshoe, comprising a front plate, side members having their forward ends outcurved and abutting to afford a rolling contact, and a pivot pin connecting each member to the plate.

2. A horseshoe, comprising a front plate, side members abutting at their forward ends, and pivot pins connecting said members to the plate, the abutting ends of said members having an outward curvature less than that of circles struck about the pivot pins as centers.

866,559. DENTAL PLATE-PUNCH. EDWARD E. BARTRAM, Los Angeles, Cal. Filed Jan. 18, 1907. Serial No. 352,977.



1. A punching machine, comprising a frame or support, a cross head movable in said support, a relatively stationary punch secured to said cross head, a relatively adjustable punch holder connected to said cross head, said adjustable punch holder also carrying a punch, a die-plate composed of a stationary section and a relatively movable section, and means for simultaneously adjusting the adjustable section of the die-plate and the adjustable punch holder.

2. A punching machine, comprising a supporting frame, a cross head movable in said frame, a relatively stationary punch carried by said cross head, a laterally adjustable punch holder connected to said cross head and provided with a punch, a die plate embodying an adjustable section with which the adjustable punch holder has a guiding connection, and means for holding said adjustable die plate section in different adjusted positions.

3. A punching machine comprising a supporting framework a cross head movable in said framework and carrying a relatively stationary punch, a laterally adjustable punch holder connected to said cross head and also carrying a punch, a die plate embodying a relatively adjustable section, and means for holding the said section in its different adjusted positions, the adjustable punch holder being mounted to slide upon the said adjustable die plate section.

4. A punching machine, comprising a supporting framework a cross head movable therein and provided with a relatively stationary punch, a laterally adjustable punch holder connected to said cross head and also carrying a punch, said punch holder being provided with an opening extending therethrough, a die plate embodying a laterally adjustable section provided with one end extending freely through the opening of the adjustable die holder, and means for holding the said die plate section in its different adjusted positions.

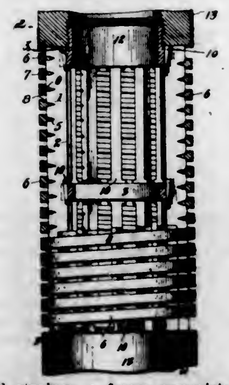
5. A punching machine, comprising a supporting framework a cross head movable therein and carrying a relatively stationary punch, a laterally adjustable punch holder connected to said cross head and also carrying a punch, a die plate embodying a laterally adjustable section provided with an angularly disposed end, the adjustable die holder being provided with an opening through which the said end freely extends, and means for holding said die plate section in its different adjusted positions.

6. A punching machine, comprising a base, spaced standards rising from said base, a cross head mounted to move between said standards, said cross head carrying a relatively stationary punch, a punch holder having a laterally slidable movement on said cross head and also carrying a punch, said punch holder being provided with an opening extending therethrough, a die plate consisting of a stationary section and a laterally adjustable section extending through one of the standards and provided with an upwardly extending outer end projecting through the opening in the adjustable punch holder, the two sections of the die plate being provided with die sockets and with horizontally alined recesses, for the purpose specified, and a set screw working through one of the standards and adapted to impinge against one of the die plate sections, as and for the purpose set forth.

7. A punching machine, comprising a base, two spaced standards rising from said base, springs mounted in the upper ends of the said standards, a cross head mounted to move vertically between said standards and provided with arms adapted to bear against the upper ends of said springs, the tension of said springs forcing the cross head outwardly, a relatively stationary punch secured to said cross head, a laterally adjustable punch holder having a slidable connection with said cross head, a punch secured to said holder, the outer end of said holder being formed with an opening, and said holder projecting through and working in one of said standards, a die plate consisting of a stationary section and a laterally adjustable section working through one of said standards, the two sections being provided with alined slots, and the adjustable section being provided with an upwardly extending end fitted within the opening of the adjustable punch holder and constituting a guide for the latter, and a set screw working through one of said standards and adapted to impinge against the adjustable die plate section, as and for the purpose set forth.

8. A punching machine, comprising a frame or support, a cross head movable in said support and carrying a relatively stationary punch, a laterally adjustable punch holder having a slidable connection with said cross head and also carrying a punch, and a die plate consisting of a stationary section, and a laterally adjustable section, the two sections being provided with alined slots and with sockets designed to be registered with the said two punches and also formed on their upper sides with grooves communicating with the upper ends of said sockets.

866,560. WELL-STRAINER. EDWIN J. BASYE, Houston, Tex. Filed Dec. 8, 1906. Serial No. 346,933.



1. In a well strainer, a frame comprising a series of bars provided with locking means, and rings formed with coöperating interlocking connections upon their outer periphery to engage the locking means on said bars.

2. In a well strainer, a frame comprising a series of bars provided with locking means, rings formed with interlocking connections upon their outer periphery to engage the locking means on said bars, and a winding wire disposed upon the outer surface of said bars and secured thereto.

3. In a well strainer, a series of angular bars provided with locking means at their base, and supporting rings for said bars provided with interlocking connections to engage the means at the base of said bars.

4. In a well strainer, a series of angular bars having recesses at their apex and locking means at their base, supporting rings for said bars provided with interlocking connections for said bars, and an angular winding wire having its apex disposed in the recesses formed at the apex of the angular bars.

5. In a well strainer, a frame comprising a series of bars each formed upon its inner face with opposite wedge shaped connecting lugs, and supporting rings each provided upon its outer periphery with dove tailed recesses adapted to receive said lugs.

6. In a well strainer, a frame comprising a series of bars each formed upon its inner face with opposite wedge shaped connecting lugs, supporting rings each provided upon its outer periphery with dove tailed recesses adapted to receive said lugs, and a threaded pipe connecting sleeve extended from said ring concentric with the line of recesses therein.

7. In a well strainer, a frame comprising a series of bars each provided with recesses therein, a winding wire adapted to enter said recesses, and connections between said bars and wire comprising projections from one part entering recesses in the contacting wall of the other.

8. In a well strainer, a frame comprising a series of bars each provided with recesses therein, a winding wire adapted to enter said bar recesses and having recessed side walls, and projections from said frame bars extending into the recesses in the side walls of said wire.

9. In a well strainer, a series of angular bars provided with recesses at their free edges and laterally disposed connecting lugs at their bases, a series of supporting rings having dove tailed recesses upon their outer periphery to slidably engage said lugs, and an angular winding wire having its apex disposed in the recesses at the free edge of said bars.

10. In a well strainer, a series of angular bars provided with recesses at their free edge and laterally disposed connecting lugs at their bases, a series of supporting rings having dove tailed recesses upon their outer periphery to slidably engage said lugs, an angular winding wire having its apex disposed in the recesses of the free edge of said bars, a pipe connecting sleeve carried by the rings at the opposite ends of the bars, and a connecting pipe section mounted upon said sleeve to bear upon the free ends of the bars.

866,561. PROCESS OF PRODUCING ALLOYS. FREDERICK M. BECKET, Niagara Falls, N. Y., assignor to Electro Metallurgical Company, a Corporation of West Virginia. Filed Dec. 22, 1906. Serial No. 349,176.

1. The process of producing alloys of refractory metals which consists in passing an electric current through a molten bath containing a refractory oxid reducible by silicon, and ferrosilicon.

2. The process of producing alloys of refractory metals which consists in passing an electric current through a molten bath containing a refractory oxid reducible by silicon, ferrosilicon and a basic flux.

3. The process of producing alloys of refractory metals which consists in passing an electric current through a molten bath containing a refractory oxid reducible by silicon, and ferrosilicon, silicon being present in substantially the proportion required to combine with the oxygen of the reducible oxids, whereby a substantially complete oxidation of the silicon is secured and a product low in silicon is obtained.

4. The process of producing alloys of refractory metals which consists in passing an electric current through a molten bath containing a refractory oxid reducible by silicon, ferrosilicon, and a basic flux, silicon being present in substantially the proportion required to combine with the oxygen of the reducible oxids, whereby substantially complete oxidation of the silicon is secured and a product low in silicon is obtained.

5. The process of producing alloys of refractory metals which consists in passing an electric current through a molten bath containing a refractory oxid reducible by silicon, and ferrosilicon, the ferrosilicon containing not less than fifty per cent. of silicon.

6. The process of producing alloys of refractory metals which consists in passing an electric current through a molten bath containing a refractory oxid reducible by silicon, ferrosilicon and a basic flux, the ferrosilicon containing not less than fifty per cent. of silicon.

7. The continuous process of producing alloys of refractory metals which consists in passing an electric current through a molten bath containing a refractory oxid reducible by silicon, and ferrosilicon, adding fresh portions of the charge and withdrawing the product as desired.

8. The process of producing ferrovanadium which consists in reacting in an electric furnace upon a vanadium compound reducible by silicon with ferrosilicon.

9. The process of producing ferrovanadium which consists in reacting in an electric furnace upon vanadium oxid with ferrosilicon.

10. The process of producing ferrovanadium which consists in reacting in an electric furnace upon vanadium oxid with ferrosilicon, the ferrosilicon containing not less than fifty per cent. of silicon.

11. The process of producing ferrovanadium which consists in reacting in an electric furnace upon vanadium oxid with ferrosilicon, silicon being present in substantially the proportion required to combine with the oxygen of the reducible oxids, whereby substantially complete oxidation of the silicon is secured and a product low in silicon is obtained.

12. The process of producing ferrovanadium which consists in passing an electric current through a molten bath containing vanadium oxid and ferrosilicon.

13. The process of producing ferrovanadium which consists in passing an electric current through a molten bath containing vanadium oxid, ferrosilicon and a basic flux.

14. The process of producing ferrovanadium which consists in reacting upon vanadium oxid with ferrosilicon in presence of a basic flux.

15. The continuous process of producing ferrovanadium which consists in passing an electric current through a molten bath containing vanadium oxid and ferrosilicon, adding fresh portions of the charge and withdrawing the product as desired.

16. The process of producing low-carbon ferro-alloys, which consists in smelting a charge containing ferrosilicon and a compound of a metal reducible by silicon and alloyable with iron, by means of an electrically-heated resistance-conductor, as set forth.

866,562. PROCESS OF PRODUCING FERRO-VANADIUM. FREDERICK M. BECKET, Niagara Falls, N. Y., assignor to Electro Metallurgical Company, a Corporation of West Virginia. Filed June 12, 1907. Serial No. 378,581.

1. The process of producing ferro-vanadium, which consists in smelting a vanadium compound in the presence of iron and producing ferro-vanadium and a slag containing vanadium, and smelting said slag with an excess of a reducing agent to recover the vanadium therefrom.

2. The process of producing ferro-vanadium, which consists in reducing a vanadium compound in the presence of iron and producing ferro-vanadium and a slag containing vanadium, smelting said slag with an excess of a reducing agent, in the presence of iron, and producing ferro-vanadium containing a residue of the reducing agent, and treating the product to substantially remove said residue.

3. The process of producing ferro-vanadium, which consists in reducing a vanadium compound in the presence of iron and producing ferro-vanadium and a slag containing vanadium, smelting said slag with an excess of a reducing agent, in the presence of iron, and producing ferro-vanadium containing a residue of the reducing agent, and substantially removing said residue by smelting the product with a vanadium compound.

4. The process of producing ferro-vanadium, which consists in reducing a vanadium compound in the presence of iron and producing ferro-vanadium and a slag containing

vanadium, smelting said slag with an excess of a metallic reducing agent, in the presence of iron, and producing ferro-vanadium containing a residue of the reducing agent, and treating the product to substantially remove said residue.

5. The process of producing ferro-vanadium, which consists in reducing a vanadium compound in the presence of iron and producing ferro-vanadium and a slag containing vanadium, smelting said slag with an excess of a metallic reducing agent, in the presence of iron, and producing ferro-vanadium containing a residue of the reducing agent, and substantially removing said residue by smelting the product with a vanadium compound.

6. The process of producing ferro-vanadium, which consists in reducing a vanadium compound in the presence of iron and producing ferro-vanadium and a slag containing compounds of vanadium and silicon, reducing said slag in the presence of iron and producing ferro-vanadium containing silicon, and removing the silicon from said ferro-vanadium.

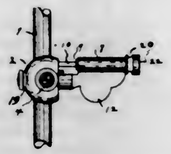
7. The process of producing ferro-vanadium, which consists in reducing a vanadium compound in the presence of iron and producing ferro-vanadium and a slag containing compounds of vanadium and silicon, reducing said slag in the presence of iron and producing ferro-vanadium containing silicon, and removing the silicon from said ferro-vanadium by smelting it with a vanadium compound.

8. The process of producing ferro-vanadium, which consists in reducing a vanadium compound in the presence of iron and producing ferro-vanadium and a slag containing vanadium and silicon compounds, reducing said slag in the presence of iron and producing ferro-vanadium containing silicon, smelting said ferro-vanadium containing silicon with a vanadium compound and producing low-silicon ferro-vanadium and a vanadiferous slag, smelting said slag in the presence of iron and producing ferro-vanadium containing silicon, and removing the silicon from said ferro-vanadium.

9. The process of producing ferro-vanadium, which consists in reducing a vanadium compound in the presence of iron and silicon, thereby producing ferro-vanadium containing silicon, and removing the silicon from said ferro-vanadium.

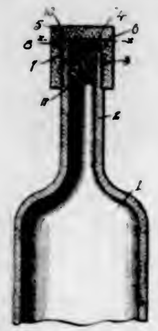
10. The process of producing ferro-vanadium, which consists in reducing a vanadium compound in the presence of iron and silicon, thereby producing ferro-vanadium containing silicon, and removing the silicon from said ferro-vanadium by smelting it with a vanadium compound.

866,563. SAFETY GAS-BURNER. FORREST E. BEHM and ROBERT J. WILEY, Omaha, Nebr. Filed July 8, 1905. Serial No. 268,897.



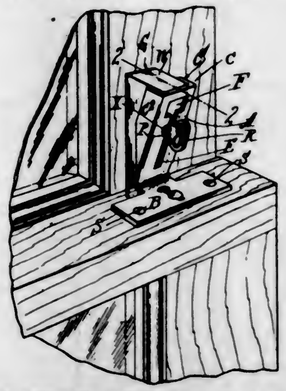
In a safety gas burner, the combination of a valve-casing provided with a flat contact-face with transversely-formed slots therein, a revoluble valve axially seated in the valve-casing and extended longitudinally to form thereon between its ends a radially-disposed leaf; a sleeve secured radially upon the longitudinal extension of said revolnble valve and oppositely-disposed to said leaf; a spring-actuated plunger seated within the sleeve and extended outwardly beyond the planes of the valve and sleeve to form a holding-cap and extended inwardly within the longitudinal plane of said sleeve while actuated by said spring to a transverse seating upon the flat contact-face of the valve-casing or to an engagement with one of said transversely-formed slots therein.

866,564. ANTIREFILLABLE BOTTLE. WILLIAM R. BELL, Venetia, Pa. Filed Jan. 30, 1907. Serial No. 354,795.



The combination with a bottle neck threaded exteriorly adjacent its upper end and having the rim of the upper end beveled, and having a vertical notch extending from the lower edge of the beveled portion to the uppermost thread, of a cap threaded interiorly to engage the threads of the bottle neck and having an annular interior recess above the threads, and a curved spring partially embedded in the cap and partially lying within said annular recess of the cap with its free end adapted to engage in said notch.

866,565. AUTOMATIC WINDOW-SASH-FASTENING DEVICE. CHARLES H. BELLAMY, Philadelphia, Pa. Filed Jan. 2, 1907. Serial No. 350,413.



1. In an automatic sash fastener, the combination of a casing constructed and arranged to be secured to the meeting rail of a lower sash and to incline therefrom over and away from the face of the other sash, and a wedge block mounted slidably in said casing for engagement with the face of said other sash.

2. In an automatic sash fastener, the combination of a retaining plate constructed and arranged to be secured to the meeting rail of a lower sash and to incline therefrom over and away from the face of the other sash, and a slidable locking member mounted on said plate and arranged to engage with the face of said other sash.

3. In an automatic sash fastener, the combination of a retaining plate constructed and arranged to be secured to the meeting rail of a lower sash and to incline therefrom over and away from the face of the other sash and having longitudinal marginal retaining flanges formed on its inner face, and a slidable locking wedge block mounted on said plate and between said flanges.

4. In an automatic sash fastener, the combination of a casing constructed and arranged to be secured to the meeting rail of a lower sash and having a rear wall disposed to incline therefrom over and away from the face of the other sash, an automatic locking member longitudinally movable on said wall for coöperation with the face of said other sash, and means for preventing separation of the casing and locking member.

5. In an automatic sash fastener, the combination of a casing constructed and arranged to be secured to the meeting rail of a lower sash and having a rear wall disposed to incline therefrom over and away from the face of the other sash, an automatic locking member longitudinally movable on said wall for coöperation with the face of said other sash, and means for operating said locking member.

6. In an automatic sash fastener, the combination of a casing constructed and arranged to be secured to the meeting rail of a lower sash and having its rear wall disposed to incline therefrom over and away from the face of the other sash, an automatic locking member longitudinally movable on said wall for coöperation with the face of said other sash, and means for maintaining said locking member out of engaging relation with reference to said sash-face.

7. In an automatic sash fastener, the combination of a casing constructed and arranged to be secured to the meeting rail of a lower sash and having its rear wall disposed to incline therefrom over and away from the face of the other sash, an automatic locking member longitudinally movable on said wall for coöperation with the face of said other sash, and single means for effecting longitudinal movement of said locking member out of engaging relation with reference to the sash-face and for maintaining it out of such relation.

8. In an automatic sash fastener, the combination of a casing constructed and arranged to be secured to the meeting rail of a lower sash and having a rear wall disposed to incline therefrom over and away from the face of the other sash and provided with a longitudinal slot enlarged at one portion thereof, an automatic slidable wedge block mounted on said wall, and an operating pin mounted rotatively in said block and extending therefrom through said slot, said pin having its slot-occupying portion of a thickness adapted to be comprehended within the body of the slot and a width similarly related to the enlarged portion of the slot but greater than the width of the body thereof.

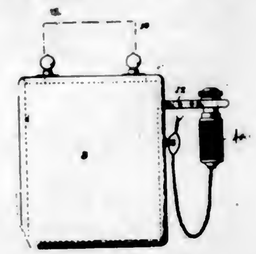
9. In an automatic sash fastener, the combination of an apertured plate constructed to be secured flat upon the upper face of the meeting rail of a lower sash, a casing formed integral therewith and having a rear wall disposed to incline therefrom over and away from the face of the other sash, and an automatic locking member longitudinally movable on said wall for coöperation with the face of said other sash.

866,566. CIGAR-LIGHTER AND ADVERTISING DEVICE. CHARLES E. BESSEL, Jersey City, and CLIFFORD D. MEEKER, East Orange, N. J. Filed Aug. 22, 1905, Serial No. 275,218. Renewed Oct. 3, 1906. Serial No. 337,275.

1. The improved advertising medium or device, comprising a box containing a series of advertising cards or plates, means for holding the same at their lower position concealed in said box, means for raising said plates when released from said holding means, and means for successively releasing said plates and permitting them to rise one after the other into view, substantially as set forth.

2. The improved advertising medium or device, comprising a box containing a series of advertising cards or plates, means for holding the same at their lower position concealed in said box, means for raising said plates when released from said holding means, and means for successively releasing said plates and permitting them to rise one after the other into view, the last said means including a lighter supporting lever extending out from the box to receive a lighter, and means for elevating said lighter support at its outer end upon the removal of the lighter.

3. The improved advertising medium herein described, comprising a box having a slotted top, a series of vertically disposed plates, working in the slots of the top, motive means for raising said plates when released, means for holding said plates down within said box, a lighter support, a tripping device controlled by said support and adapted to release the plates one after another from their said holding means, substantially as set forth.



4. The improved advertising medium herein described, comprising, a box having a slotted top, a series of vertically disposed plates, working in said slots, motive means for raising said plates when released, means for holding said plates down within said box, a lighter support, and a tripping device controlled by said support and embracing a shaft having a series of projecting arms projecting from the periphery of said shaft into engagement with the holding means of said plates and adapted to release the plates one after another from their said holding means, substantially as set forth.

5. The improved advertising medium herein described, comprising a box having a slotted top, a series of vertically disposed plates, working in said slots, motive means for raising said plates when released, said motive means comprising arms pivoted upon said box and engaging the plates near the bottoms thereof, and springs for raising said arms and said plates, means for holding said plates down within said box, a lighter support, and a tripping device controlled by said support and adapted to release the plates one after another from their said holding means, substantially as set forth.

6. The improved cigar lighter and advertising device in which is combined with a series of plates held normally out of advertisement-display position, motors for moving said plates into displaying position when released, means for holding said plates out of displaying relation or position, a tripping device for successively releasing said plates, a rack and pinion for operating the tripping means and a lighter support and connections adapted to operate said rack and pinion and effect a tripping operation, substantially as set forth.

7. The improved cigar lighter and advertising device, in which is combined with a series of plates held normally out of advertisement-display position, motors for moving said plates into displaying position when released, means for holding said plates out of displaying relation or position, a tripping device for successively releasing said plates, a rack and pinion for operating the tripping means, a dash pot and piston in connection with said rack, for retarding the movements of said rack, and a lighter support and connections adapted to operate said rack and pinion and effect a tripping operation, substantially as set forth.

8. The improved cigar lighter and advertisement displaying device, in which is combined with a series of plates, motors for raising said plates into view, holding means for holding said plates concealed or in non-displaying position or relation, tripping means for successively releasing said plates from their holding means, a weighty rack and pinion, the latter being in connection with the tripping means, and a lighter support and connections adapted to elevate the said weighty rack when said support is depressed by the lighter, substantially as set forth.

866,567. KEYLESS LOCK. ORSON J. BLAKESLEY, Denver, Colo., assignor to The Blakesley Keyless Lock Company, Denver, Colo. Filed Aug. 14, 1905, Serial No. 274,060. Renewed Jan. 26, 1907. Serial No. 354,316.



1. In a lock, the combination of a casing and a bolt or hasp, a locking part movably mounted therein, and a number of spring-held pins movably mounted in the casing and protruding therefrom, certain of the pins normally holding the locking part against movement when in the bolt locking position, the locking part being released when the pins are pressed; while certain other pins normally disengaged from the locking part, when pressed engage the same to hold it against movement, and means acting on the locking part for automatically moving it to the unlocked position and back again to the locked position as soon as the said locking part is released by the inward pressure of the first named pins.

2. In a lock, the combination of a casing and a bolt or hasp, a locking disk movable in the casing and normally under spring tension to move it to the unlocked position, spring-held pins movable in the casing and having their outer extremities exposed to facilitate manipulation by inward pressure, the said pins normally holding the disk against movement, but which when pressed inwardly release the disk and allow it to move in response to the spring tension acting thereon, and means for automatically returning the said disk from the unlocked to the locked position.

3. The combination of a casing, a spring-tensioned locking disk mounted therein and adapted to move in response to the tension acting thereon, to the unlocked position, a series of spring-held pins movable in the casing, their outer extremities being exposed whereby they may be pressed inwardly, tumblers normally locking the disk against movement, certain of the pins serving to actuate the tumblers to release the disk when the last named pins are pressed inwardly, and means for automatically returning the said disk to the locked position after it has assumed the unlocked position.

4. The combination of a casing, radially disposed spring-tensioned pins movable longitudinally in the casing, a disk having limited rotary action around the center of the pins radiation, spring-actuated tumblers normally moved outwardly to lock the disk against movement, certain of the pins being arranged when pressed inwardly to act on the tumblers and move the same inwardly to release the disk; and means for automatically moving the disk when unlocked by the pins, to the unlocked position and back to the locked position.

5. The combination of a casing, a locking disk movably mounted therein, spring-actuated tumblers normally acting on the disk to prevent movement, the casing having a circular outer wall and provided with an interiorly located concentric flange, the outer wall of the casing and the flange having radially arranged registering openings, pins movable in said openings, springs acting on the pins to hold them in their outward limit of movement whereby their outer extremities are caused to protrude from the casing, certain of the pins being arranged to act on the tumblers and release the latter from engagement with the locking disk when the pins are pressed inwardly; while other pins are arranged to engage the disk when pressed inwardly and lock it against movement, and means for automatically moving the locking disk when released by the pins, to the unlocked position and back again to the locked position.

6. In a lock, the combination of a casing, a disk movably mounted in the casing and having an arm projecting outwardly from the body of the disk, the arm having a spring-held dog normally protruding into a passage registering with an opening formed in the outer wall of the casing, the said arm also having a spring protruding into the said opening, a bolt adapted to be inserted in the said opening and engaged by the dog, the bolt placing the spring under tension, means located within the casing and acting on the disk to hold it in position to lock the bolt in place, and means movably mounted in the casing, protruding therefrom and arranged when operated to act on the locking means and release the disk whereby the latter is allowed to move in response to the spring carried by its said arm, sufficiently to release the bolt from engagement with the dog, a spring located within the casing and acting on the bolt to throw it outwardly when released from the dog, and another spring acting on the arm of the locking disk to return the latter to its normal position after the bolt has been removed from the casing.

7. The combination of a casing, a locking disk mounted to have a limited rotary movement in the casing, the said disk being provided with a locking arm projecting outwardly from the body of the disk and provided with a spring-actuated dog, the casing having a bolt opening in which the dog protrudes, a bolt adapted to be inserted in said opening and provided with an aperture engaged by the dog, a spring acting on the bolt and having a tendency to throw the latter outwardly, another spring acting on the bolt and having a tendency to move the disk away from the bolt to release it from the dog, another spring arranged to be engaged by the arm of the disk when the latter is moved to the unlocked position and throw the disk back to the locked position, suitable means located within the casing for holding the disk in the locked position, and suitable means accessible from the outside of the casing for actuating the locking means to release the disk and allow it to move to the unlocked position in response to the tension of its actuating spring.

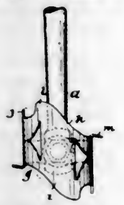
8. In a lock, the combination of a casing having a circular outer wall, a stationary disk located in said casing and having radial grooves, a locking disk movably mounted above the stationary disk, the locking disk also provided with grooves, tumblers having parts engaging the grooves of the stationary disk, springs acting on the tumblers to cause their outer extremities to engage the grooves of the movable disk and lock the latter against movement, pins radially disposed and longitudinally movable in the casing in line with the tumblers and adapted to actuate the latter to release the locking disk, and other radially disposed pins movable longitudinally in the casing and whose inner extremities enter the grooves of the stationary disk, the last named pins being normally disengaged from the locking disk but having parts adapted to engage the last named disk when the said pins are pressed inwardly, and means for automatically moving the locking disk when released, to the unlocked position and back again to the locked position.

9. In a lock, the combination with a bolt or hasp, of a locking disk, means for holding the said disk in the locking position with reference to the bolt, and means for automatically moving the disk when released from the holding means, to the unlocked position and back again to its normal or locked position.

10. The combination with a bolt, of a locking disk engaging the bolt and movably mounted, means for holding the disk in the locked position with reference to the bolt, said means being capable of movement to release the disk, and means for automatically ejecting the bolt, throwing the disk to the unlocked position and back again to the locked position, as soon as the disk has been released from its holding means.

866,568. BICYCLE-PEDAL. HERMAN BLEIL, Paterson, N. J. Filed May 28, 1907. Serial No. 376,113.

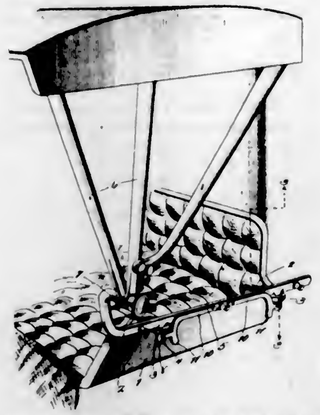
1. A bicycle pedal comprising a bearing member and fixed foot-supporting members, one on each side of the bearing member, each foot-supporting member having one foot-contact portion thereof extending relatively higher than the corresponding foot-contact portion of the other foot-supporting member, substantially as described.



2. A bicycle pedal comprising a bearing member and fixed foot-supporting members, one on each side of the bearing member, each foot supporting member having one foot-contact portion thereof extending relatively higher than the corresponding foot-contact portion of the other foot-supporting member and said corresponding foot-contact portion of the other foot-supporting member having a rearward foot-supporting extension, substantially as described.

3. A bicycle pedal comprising a bearing member and a tread member consisting of a metallic strip having its end portions forming foot-supporting members and arranged in substantially parallel planes parallel with the axis of the bearing member, each foot-supporting member having one foot-contact portion thereof extending relatively higher than the corresponding foot-contact portion of the other foot-supporting member, substantially as described.

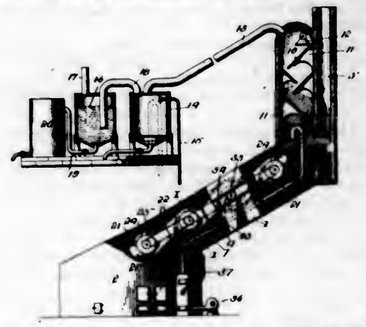
866,569. TOP-BUGGY. DAVID B. BOGARD and ELMER BEASLEY, Carterville, Ill. Filed Apr. 26, 1907. Serial No. 370,448.



In a device as set forth, a vehicle seat, plates secured thereto, said plates having horizontally disposed portions projecting therefrom, said horizontal portion having openings, a side rail having downwardly projecting lugs to engage said openings, said lugs having slots therein, a pair of latch levers having downwardly projecting portions provided with lateral projecting lugs pivoted approximately to the center of the said side rail, said lateral projecting lugs are adapted to engage said slots as specified.

866,570. APPARATUS FOR TREATING ORE. JAMES W. BOILEAU, Denver, Colo., assignor of one-half to James B. Knoblock, Denver, Colo. Filed May 5, 1903. Serial No. 155,761.

1. In an apparatus of the character described, a channel, means for heating the same, an ore supply thereto, means for lifting the ore and projecting it forward in line with the channel, and means for discharging heated gas into the ore during its passage through the channel.



2. In an apparatus of the character described, a channel, means for heating the same, an ore supply thereto, means for intermittently picking the ore up carrying it forward in line with the channel and allowing it to fall, and means for discharging gas into the falling ore.

3. In an apparatus of the character described, a sloping channel, means for heating the same, an ore supply, means for successively picking the ore up carrying it forward in line with the channel and allowing it to fall during its passage through the channel, and means for discharging gas into the falling ore.

4. In an apparatus of the character described, a sloping channel, means for heating the same, an ore supply, means for successively picking the ore up and allowing it to fall during its passage through said channel, and means for discharging gas from opposite sides into the falling ore.

5. In an apparatus of the character described, a sloping channel, means for heating the same consisting of a furnace adjacent to the lower end thereof and provided with a flue extending beneath and separate from the channel, an ore supply, means for picking the ore up and carrying it forward in line with the channel and allowing it to fall during its passage through the channel, and means for discharging gas into the falling ore.

6. In an apparatus of the character described, a sloping channel, means for heating the same consisting of a furnace adjacent to the lower end of the same and provided with a flue extending beneath the channel, an ore supply at the upper portion of the channel, means for picking the ore up and allowing it to fall during its passage through the channel, and means for discharging gas into the falling ore from opposite sides.

7. In an apparatus of the character described, a sloping channel, means for heating the same consisting of a furnace having a flue extending contiguous to the channel, a gas generator, means for feeding ore to the channel, means for agitating the ore and carrying the same forward in line with the channel, and a passage lying within the furnace flue and leading from the generator and discharging the gas into the agitated ore.

8. In an apparatus of the character described, a sloping channel, means for heating the same consisting of a flue exterior thereto, an ore supply, means for agitating the ore and carrying the same forward in a plane parallel to the channel, means for heating air, means for supplying air to the heating means, and a passage arranged within the heating flue serving to convey the heated air to the channel and discharge the same into the heated ore.

9. In an apparatus of the character described, a sloping channel, means for heating the same, an ore supply, means for agitating the ore in its passage through the channel, a chamber, a pipe for supplying steam thereto, a fan for supplying air thereto, and a passage leading from the chamber to the channel and so arranged as to discharge the gaseous fluids into the agitated ore.

10. In an apparatus of the character described, a sloping channel, means for feeding ore into said channel, means

exterior to said channel for heating the floor of the same, a wheel rotatably disposed within the channel, and peripheral scoops or buckets on said wheel adapted to pick up the ore and carry the same over and allow it to fall upon the heated floor.

11. In an apparatus of the character described, a sloping channel having a concave shelf formed therein, means for feeding ore onto said concave shelf, means for heating the channel, a wheel rotatably disposed within the channel above the concave shelf, and peripheral scoops or buckets on said wheel adapted to pick up the ore from the concave shelf and carry the same over and allow it to fall.

12. In an apparatus of the character described, a sloping channel, means exterior to the channel for heating the floor of the same, means for feeding ore thereto, a gas generator, a passage leading from the generator and discharging into the channel, spaced wheels disposed within the channel and rotatably mounted adjacent to the gas discharge openings, peripheral scoops or buckets on said wheels adapted to pick up the ore and carry it over and allow it to fall in line with the gas discharge openings onto the heated floor.

13. In an apparatus of the character described, a sloping channel, means for heating the same, a concave shelf forming a part of the bottom of said channel, means for feeding ore to the channel, a gas generator, a passage leading from the generator and discharging into the channel through openings adjacent to the concave shelf, a wheel disposed within the channel through openings and rotatably mounted adjacent to the concave shelf, peripheral scoops or buckets on said wheel adapted to pick up the ore from the shelf and carry the same over and allow it to fall in line with the gas discharge openings.

14. In an apparatus of the character described, a sloping channel having a floor formed of a series of concave shelves, an ore inlet, an ore outlet, means for heating the channel, a series of wheels rotatably mounted within the channel adjacent to the concave shelves, peripheral scoops or buckets on the wheels adapted to pick up the ore from one concave shelf and carry the same over and allow it to fall adjacent to the next shelf below.

15. In an apparatus of the character described, a sloping channel having a bottom formed of a series of concave shelves, a furnace arranged adjacent to the lower end of the channel, a smoke discharge flue extending beneath the channel, a gas generator, passages leading from the generator and discharging into the channel adjacent to the concave shelves, an ore inlet to the channel, an ore outlet from the channel, a series of wheels disposed within the channel adjacent to the concave shelves, and peripheral scoops or buckets on the wheels adapted to pick the ore up from one shelf and carry it over and allow it to fall in line with the gas discharge openings.

16. In an apparatus of the character described, a sloping channel having a bottom formed of a series of concave shelves, a furnace arranged adjacent to the lower end of the channel, a smoke discharge flue extending beneath the channel, a gas generator, passages leading from the generator and discharging into the channel from opposite sides adjacent to the concave shelves, an ore inlet to the channel, an ore outlet from the channel, a series of wheels disposed within the channel adjacent to the concave shelves, and peripheral scoops or buckets on the wheels adapted to pick up the ore from one shelf and carry it over and allow it to fall in line with the gas discharge openings.

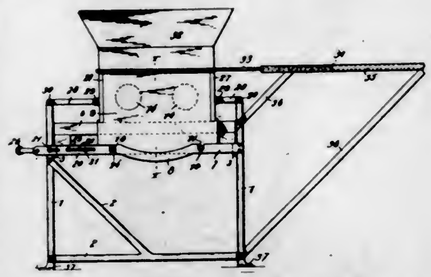
17. In an apparatus of the character described, a shaft consisting of a plurality of sections having shoulders formed at their contiguous extremities, the shoulder of one section secured to the shoulder of the adjacent section, and a heat-resisting medium interposed between the shoulders whereby the transmission of heat longitudinally of said shaft is prevented.

18. In an apparatus of the character described, a sloping channel having a concave shelf formed therein, means for feeding ore onto said concave shelf, means for heating the channel, a wheel rotatably disposed within the channel above the concave shelf, peripheral scoops or buckets on said wheel adapted to pick up the ore from the concave shelf and carry the same over and allow it to fall, a shaft consisting of a plurality of sections having shoulders formed at their contiguous extremities, the shoulder of one section secured to the shoulder of the adjacent section, and a heat-resisting medium interposed between the shoulders whereby the transmission of heat longitudinally of said shaft is prevented.

19. In an apparatus of the character described, a sloping channel, means for heating the same, an ore supply, means for successively picking the ore up and allowing it to fall during its passage through said channel, means for discharging gas from opposite sides into the falling ore, a drying chamber provided with oppositely disposed deflecting plates, and means for withdrawing from the upper portion of the chamber the gases from the roasting channel.

20. In an apparatus of the character described, a sloping channel forming a roasting chamber, a furnace disposed adjacent to the lower end of the same, a smoke discharge flue leading beneath the channel, an ore discharge, a gas generator, pipes leading from the gas generator and discharging into the channel from opposite sides, a series of concave shelves forming the floor of said channel, a series of wheels rotatably mounted within the channel above the concave shelves, peripheral scoops or buckets on the wheels and adapted to pick the ore up from one concave shelf and carry it over and allow it to fall in line with the gas discharge pipes, a drying chamber forming a continuation at the upper end of the roasting channel and provided with oppositely disposed deflecting plates, an ore supply at the upper end of the drying chamber, a pipe leading from the drying chamber, a precipitating tank communicating with said last named pipe, a steam pipe communicating with said tank, a pipe leading therefrom to an acid chamber and means for withdrawing the acid formed therein.

866,571. BLOCK-MOLDING MACHINE. JAMES M. BOLTON, Washington, D. C., assignor of one-half to Byron P. Turner, Washington, D. C. Filed Jan. 31, 1907. Serial No. 355,002.



1. In a block-molding machine, in combination, a removable, apertured mold-bottom, a series of connected plates forming mold-sides and partitions and adapted to be withdrawn through said mold-bottom, and pivotally supported end members coöperating with said plates, substantially as described.

2. In a block-molding machine, in combination, a removable, slotted mold bottom, a connected series of parallel apertured plates forming mold-sides and partitions and adapted to be withdrawn through said mold-bottom, pivotally supported end members coöperating with said plates, and cores adapted to be inserted transversely through said parallel plates, substantially as described.

3. In a block-molding machine, in combination, a main frame, adjustable supports thereon, an apertured removable mold-bottom adapted to rest on said supports, a connected series of plates pivotally mounted on said frame and adapted to be withdrawn through said mold-bottom apertures, and end members pivoted to said frame and adapted to be initially moved from said plates in planes parallel to the closed position of said end members, substantially as described.

4. In a block molding machine, in combination, a main frame having adjustable cross-pieces and recessed, intermediately depressed side pieces, an apertured bottom adapted to be supported on said cross pieces, a series of connected plates removably and pivotally supported in the recesses of said side pieces, means for automatically locking said plates in elevated position, end members coöperating with said plates in closed position, and links connecting said end members to said frame; substantially as described.

5. In a block-molding machine, in combination, a main frame a slotted mold-bottom, a series of connected parallel plates removably pivoted in said frame, means for vertically depressing said plates through the mold-bottom and means for automatically locking them in an elevated position; substantially as described.

6. In a block-molding machine, in combination, a main frame, a separate apertured mold bottom adjustably supported thereon, a series of connected parallel plates removably pivoted in said frame and adapted to be depressed through the apertures of said bottom, and means for automatically locking said plates in an elevated position; substantially as described.

7. In a block molding machine, in combination, an adjustable, apertured mold-bottom, a series of connected plates constituting sides and partitions for the mold and swinging in planes at right angles to said bottom, and end members arranged to be withdrawn from said plates in planes parallel to the closed position of said end members; substantially as described.

8. In a block-molding machine, in combination, a series of parallel, connected plates constituting mold-sides and partitions, the outer plates of said series having notched extensions, means for supporting said plates in elevated position, and rabbeted end members adapted to rest in the notches of said plates, said end members being arranged to have a limited movement in planes parallel to their closed position when the mold is opened; substantially as described.

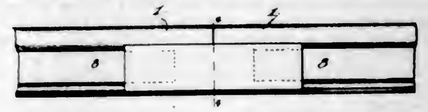
9. In a block-molding machine, in combination, a bracket, an apertured hopper-bottom slidably mounted in said bracket, and a bottomless hopper mounted on said apertured bottom, said hopper and bottom being arranged to move independently for a predetermined distance and thereafter move together; substantially as described.

10. In a block-molding machine, in combination, a main frame, a separable mold-mounted thereon, a bracket on said frame a slide movably mounted in said bracket and having an aperture of substantially the size of the mold-top, and a bottomless hopper mounted on said slide, said hopper and slide being arranged to first move independently to allow said hopper to strike the mold, and thereafter be retracted together to permit the separation of the mold members; substantially as described.

11. In a block-molding machine, in combination, a main frame, adjustable supports thereon, a removable apertured mold-bottom carried by said supports, a series of connected parallel plates pivotally mounted on said frame, some of said plates being adapted to be elevated through the apertures of said mold bottom, means for automatically locking said plates in elevated position, and end members coöperating with said plates and mold-bottom and having link connections with the ends of the main frame; substantially as described.

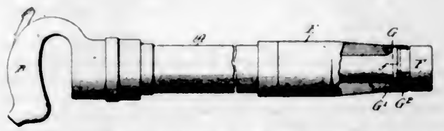
12. In a block-molding machine, in combination, a main frame, adjustable supports thereon, a removable apertured mold bottom carried by said supports, a series of connected parallel plates pivotally mounted on said frame, some of said plates being adapted to be elevated through the apertures of said mold bottom, means for automatically locking said plates in elevated position, end members coöperating with said plates and mold-bottom and having link connections with the ends of the main frame, and a hopper-mechanism arranged to first strike the mold and then carry to one side any excess of block material; substantially as described.

866,572. RAIL-JOINT. HENRY L. BOTKIN, Pawhuska, Okla., assignor of one-half to John N. Coulter, Fairfield, Ill. Filed Dec. 15, 1906. Serial No. 348,020.



The herein described rail joint comprising rails, the meeting ends of which have the web portions thereof removed for a distance back of the ends of the rails, and a splice bar provided with end recesses to fit the side of the webs of the rails beyond the cut away portions, said splice bar having a concaved upper surface to fit under the head of the rails, and a concaved surface at the bottom to fit the upper surface of the base flange of said rails, the sides of said splice bar being curved, essentially as described.

866,573. PNEUMATIC HAMMER. JOSEPH BOYER, Detroit, Mich., assignor to Chicago Pneumatic Tool Company, Chicago, Ill., a Corporation of New Jersey. Original application filed Sept. 26, 1899, Serial No. 731,720. Divided and this application filed Aug. 10, 1905. Serial No. 273,616.



1. In a pneumatic hammer, the combination, with the cylinder thereof and with a removable working tool insertible in the front end of such cylinder, of a spring clip carried by one of said parts, partially surrounding said parts and having a shoulder or detent adapted to cooperate with a shoulder or detent on the other of said parts and hold them together and permitting a limited longitudinal movement of one with respect to the other; substantially as described.

2. In a pneumatic hammer, the combination, with the cylinder thereof and with a removable working tool insertible in the front end of such cylinder, said parts having grooves at their adjacent ends, of a spring clip having means arranged to engage said grooves, one of said grooves being relatively wider to permit limited reciprocation of one of said parts with respect to the other; substantially as described.

3. In a pneumatic hammer, the combination, with the cylinder thereof and with a removable working tool insertible in the front end of such cylinder, of a spring clip coöperating with said parts to hold them together and provided at its ends with inturned flanges, one of said parts having a circumferential groove of a width to receive and stationarily hold the flange at one end of the clip, and the other of said parts having a relatively wide circumferential groove to receive the flange at the other end of the clip, thereby permitting limited reciprocation of the tool relatively to the cylinder; substantially as described.

4. In a pneumatic hammer, the combination, with the cylinder thereof and with a removable working tool insertible in the front end of such cylinder, of a spring clip coöperating with said parts to hold them together and provided at its ends with inturned flanges, the cylinder having a groove of a width to receive and stationarily hold the flange at the rear end of the clip and the working tool having a wide groove to receive the flange at the front end of the clip and permit limited reciprocation of the tool relatively to the cylinder; substantially as described.

5. In a pneumatic hammer, the combination, with the cylinder thereof and with a removable working tool in-

sertible in the front end of such cylinder, of a spring clip coöperating with said parts to detachably connect the working tool with the cylinder, the clip being open on one side and provided at each end with a pair of opposite and inturned flanges, the cylinder having a groove to receive the pair of flanges at one end of the clip and the working tool having a wide groove to receive the pair of flanges at the other end of the clip and to permit a limited movement or play of the working tool; substantially as described.

6. In a pneumatic hammer, the combination with the cylinder or body of the tool provided near its front end with a rearwardly facing annular shoulder, and the removable working tool having its shank inserted in the front end of said body, and provided with a forwardly facing annular shoulder, of a spring clip partially surrounding said parts and provided at its front and rear ends with inturned flanges engaging said annular shoulders to prevent displacement of the working tool, substantially as described.

7. In a pneumatic hammer, the combination with the cylinder or body of the tool provided with a circumferential groove near its front end, and the removable working tool having a shank inserted in the front end of said cylinder, and provided with a forwardly facing annular shoulder, of a spring clip surrounding said parts and provided at its front and rear ends with inturned flanges engaging said groove and annular shoulder, respectively, to prevent displacement of the working tool; substantially as described.

8. In a pneumatic hammer, the combination with the cylinder or body of the tool provided with a circumferential groove near its front end, and the removable working tool having the shank inserted in the front end of said body and provided also with a circumferential groove, of a spring clip partially surrounding said parts and provided at its front and rear ends with inturned flanges engaging said grooves; substantially as described.

9. In a pneumatic hammer, the combination with the cylinder or body of the tool provided near its front end with a circumferential groove, and the removable working tool having the shank inserted in the front end of said body and provided also with a wide circumferential groove adjacent the front end of said body, of a spring clip partially surrounding said parts and provided at its front and rear ends with inturned flanges engaging said grooves, the relatively wide groove of the working tool permitting limited reciprocation of the latter relatively to the spring clip and body of the tool; substantially as described.

10. In a pneumatic hammer, the combination with the cylinder or body of the tool having its front end E provided with a circumferential groove, and the removable working tool having the shank F inserted in the central bore in the said front end of the body of the tool, and provided also with the wide circumferential groove adjacent the front end of said body, of the spring clip G partially surrounding said parts and provided at its front and rear ends with the inturned flanges engaging said grooves; substantially as described.

11. In a pneumatic hammer, the combination, with the cylinder or body of the tool formed at its front end to receive the shank of the working tool and provided with the circumferential groove G^1, of the working tool provided with said shank and the circumferential groove G^2, and the clip G provided at its opposite ends with the inturned flanges engaging the grooves G^1 and G^2, respectively; substantially as described.

866,574. CLOTHES-LINE PROP. WILLIAM F. BRIGGS, Bristol, R. I. Filed Dec. 12, 1905. Serial No. 291,438.

1. In a clothes line prop, the combination of the wooden pole provided with the stationary jaw, the movable pivoted jaw provided with a perforation at its outer end, with the operating rod provided with an inclined arm passing loosely through the said perforation, and serving to actuate the movable jaw for inward and outward movement.

2. In a clothes line prop, the combination of the wooden pole provided with the stationary jaw, the movable pivoted jaw, and the pivoted button, with the operating rod which engages with the movable jaw, and is connected to the pivoted button for crank movement, whereby the said jaw may be closed tightly upon the clothes line.



3. In a clothes line prop, the combination of the wooden pole provided with the stationary jaw, the movable pivoted jaw, and the pivoted button provided with the holding groove, with the operating rod connected to the pivoted button for crank movement, and adapted to snap into the groove of the button.

4. In a folding clothes-line prop, the combination of the upper member provided with a slit extending from side to side through the said member, and also having a slit at its edge, and the pivoted lower member provided with a slit at the inner face of its upper end, and with a retaining lip adapted to enter the slit in the edge of the said upper member, with the button beveled at its inner side and pivoted to the edge of the upper member, and provided with the retaining lip which passes through the slit in the side of the upper member and into the slit in the inner side of the upper portion of the lower member, whereby the said members will be held in extended locking engagement.

5. In a folding clothes-line prop, the combination of the upper member provided with a slit extending from side to side through the said member, and also having a slit at its edge, and the pivoted lower member provided with a slit at the inner face of its upper end, and also in the inner face of its lower portion, and with a retaining lip adapted to enter the slit in the edge of the upper member, with the button beveled at its inner side and pivoted to the edge of the upper member, and provided with a retaining lip which passes through the slit in the side of the upper member, and into the slit in the inner side of the lower portion of the lower member, whereby the said members will be held in folded locking engagement.

866,575. CLOTHES-LINE PROP. WILLIAM F. BRIGGS, Bristol, R. I. Filed Mar. 1, 1906. Serial No. 303,735.

In a folding clothes line prop, the combination of the lower member provided with the opposite eyes arranged at its upper end, with the upper member jointed to the lower member, and provided with the double hook arranged to engage with the opposite eyes of the lower member, and with the pivoted button the turning of which will serve to secure the hook in its engaged position, substantially as described.



866,576. CLOTHES-LINE PROP. WILLIAM F. BRIGGS, Bristol, R. I. Filed Aug. 21, 1906. Serial No. 331,518.

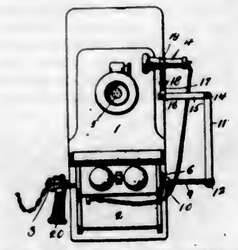


1. In a clothes line prop, the combination of the wooden member provided at its upper end with the interiorly grooved prongs one of which is shorter than the other, the bent movable jaw guided by the said prongs, and a button pivoted to the pole and connected with the jaw, whereby the turning of the button will cause the raising or lowering of the said jaw, substantially as described.

2. In a clothes line prop, the combination of the wooden member provided at its upper end with the prongs one of which is shorter than the other, with the wire rod bent at one end to form the movable jaw and a button jointed to the other end of the rod and pivoted to the side of the pole, whereby the said movable jaw may be operated, substantially as described.

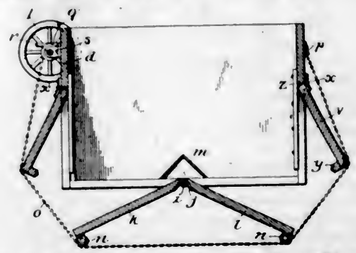
866,577. TELEPHONE-RECEIVER HOLDER. ARLINGTON D. BRITTAIN, Youngstown, Ohio. Filed Dec. 15, 1906. Serial No. 348,056.

In a telephone receiver holder, an attaching-plate, an L-shaped arm disposed horizontally and secured at its inner end to said plate, a vertical arm secured at its lower end to the outer end of said L-shaped arm, a horizontal arm pivoted at its outer end to the upper end of said vertical arm, and a head adjustably connected to the inner end of said horizontal arm, said head comprising two members one of which is connected to said arm and the other of which is pivoted to have a partial rotative movement with respect to the member connected to the arm,



and a strap carried by said second member to encircle and hold the telephone receiver.

866,578. DUMPING-WAGON. SOLOMON F. BROWN, San Francisco, Cal. Filed Apr. 19, 1907. Serial No. 369,143.



1. In a dumping wagon, the combination with wheels and supporting means, of a dumping box, said box being provided with hinged sides and bottom boards, chains running around said box, and means for winding up said chains and holding them when wound up, thus holding the box in a closed position, substantially as described.

2. The combination with wheels and supporting means, of a dumping box, said box being provided with hinged sides and hinged bottom boards, each of said bottom boards being provided with a roller, chains passing around the sides and bottom, and a rod carrying pulleys or spools to which said chains are secured, said rod being provided with a hand-wheel, and means for fastening said rod against rotation, substantially as described.

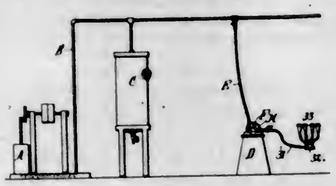
3. A dumping box provided with hinged sides and hinged bottom boards, and a shield over the central part of said bottom boards, said bottom boards being each provided with a plurality of rollers, chains passing around said box, a rotatable rod carrying pulleys or spools to which the said chains are attached, a hand-wheel secured to said rod, and a pawl and ratchet for securing said rod against rotation, substantially as described.

4. A dumping box having an open top and inclined ends at the front and rear and being also provided with hinged sides and means to limit the inward movement of said sides, said box being also provided with swinging bottom boards, each carrying a pulley, and a triangular guard over the center of said bottom boards, combined with a rotatable rod secured to the side of said box, pulleys fastened to said rod, chains fastened to said pulleys and running around the sides and bottom of said box and having their outer ends secured, a hand-wheel mounted on said rod, and a pawl and ratchet for preventing the rotation of said rod in one direction, substantially as described.

5. A dumping box rectangular in its general shape and having inclined front and rear ends, said box being provided with hinged sides and hinged bottom boards, each of said sides being provided with a projecting strip along its lower edge, stops secured to said box preventing the inward movement of said sides beyond a predetermined dis-

tance, a triangular shield located above the central part of said bottom boards, said bottom boards being each provided with a plurality of rollers, in combination with a rotatable rod carried on the side of said box, pulleys mounted on said rod, chains secured to said pulleys and passing over the rollers on the bottom boards, the other ends of said chains being secured, a hand-wheel mounted on said rod, and a pawl and ratchet for preventing movement of said rod in one direction, substantially as described.

866,579. MILKING-MACHINE. LOOMIS BURRELL, Little Falls, N. Y., assignor to D. H. Burrell & Company, Little Falls, N. Y. Filed Feb. 7, 1907. Serial No. 356,136.



1. In a milking machine, the combination of teat cups, a portable pulsating mechanism which produces pulsations in the teat cups, and an independent portable motor which actuates said pulsating mechanism, substantially as set forth.

2. In a milking machine, the combination of teat cups, a suction apparatus, a portable pulsating mechanism which applies the suction intermittently to the teat cups, and an independent portable motor which actuates said pulsating mechanism, substantially as set forth.

3. In a milking machine, the combination of teat cups, a portable pulsating mechanism which produces pulsations in the teat cups, and a portable spring motor which actuates said pulsating mechanism, substantially as set forth.

4. In a milking machine, the combination of teat cups, a suction apparatus, a portable pulsator which applies the suction intermittently to the teat cups, a reversing valve for the pulsator, and an independent portable motor which actuates the reversing valve, substantially as set forth.

5. In a milking machine, the combination of teat cups, a suction apparatus, a portable pulsator which applies the suction intermittently to the teat cups, a reversing valve for the pulsator, and a portable spring motor which actuates the reversing valve, substantially as set forth.

6. In a milking machine, the combination of teat cups, a suction apparatus, a portable pulsator which applies the suction intermittently to the teat cups and is actuated by the suction, a reversing valve for the pulsator, and an independent portable motor which actuates the reversing valve, substantially as set forth.

7. In a milking machine, the combination of teat cups, a suction apparatus, a portable pulsator which applies the suction intermittently to the teat cups and is actuated by pneumatic means, a reversing valve for the pulsator, and a portable spring motor which actuates the reversing valve, substantially as set forth.

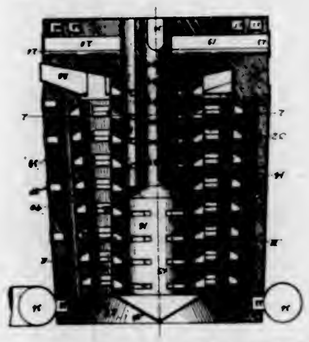
8. In a milking machine, the combination of teat cups, a portable milk vessel, a pulsating mechanism which produces pulsations in the teat cups and is mounted on said vessel, and an independent motor for actuating said pulsating mechanism also mounted on said vessel, substantially as set forth.

9. In a milking machine, the combination of teat cups, a portable milk vessel, a pulsating mechanism which produces pulsations in the teat cups and is mounted on said vessel, and a spring motor for actuating said pulsating mechanism also mounted on said vessel, substantially as set forth.

10. In a milking machine, the combination of teat cups, a suction apparatus, a portable milk vessel, a pulsator mounted on said vessel and operating to apply the suction intermittently to the teat cups, a reversing valve for the pulsator, and an independent motor mounted on said vessel and actuating said valve, substantially as set forth.

11. In a milking machine, the combination of teat cups, a suction apparatus, a portable pulsator which applies the suction intermittently to the teat cups, a reversing valve for the pulsator, a cam for actuating said valve, and a portable motor which actuates said cam, substantially as set forth.

866,580. PROCESS OF ROASTING FUSIBLE ORES. ALBERT G. DAVIS, Washington, D. C. Filed Sept. 12, 1896. Serial No. 605,625.



1. The process of roasting fusible ores which consists in exposing them first to a high temperature in a reducing atmosphere and thereby preventing fusion, and then to an oxidizing gas, substantially as described.

2. The process of roasting fusible ores containing sulfur which consists in exposing them first to a reducing flame and then to an oxidizing flame, substantially as described.

3. The process of roasting fusible ores containing sulfur which consists in exposing them to a high temperature in a reducing atmosphere, distilling off a portion of the sulfur, and thereafter driving off more of the sulfur by the action of an oxidizing gas, substantially as described.

4. The process of roasting fusible ores containing sulfur which consists in exposing them to practically non-oxidizing combustion products at a temperature sufficiently high to distil off a portion of the sulfur, and thereafter driving off more of the sulfur by subjecting them to the action of oxidizing gases at a high temperature, substantially as described.

5. The process of roasting fusible ores which consists in passing them slowly through a narrow chamber, and passing across the chamber and through the ore successively at different points two currents of gas, first one containing little or no free oxygen, and being at a temperature sufficiently high to distil off a portion of the volatile products in the ore, and thereafter one containing an excess of oxygen, substantially as described.

6. The process of roasting fusible ores which consists in passing them slowly by their own weight through a narrow substantially vertical ore chamber, and passing across the chamber and through the ore at different points two currents of gas, one containing little or no free oxygen and being at a temperature sufficiently high to drive off volatile matter in the ore, and the other current, which is introduced below the said first current, being at a high temperature and containing an excess of oxygen, substantially as described.

7. The process of roasting fusible ores containing sulfur which consists in heating them to a temperature above the point at which they begin to give off sulfur, in a reducing atmosphere, and thereafter exposing them to the action of an oxidizing gas, substantially as described.

8. The process of roasting fusible ores containing such quantities of oxidisable material as to cause them to burn with their own heat, which consists in heating them to a temperature sufficiently high to drive off some of the said material in the presence of sufficiently non-oxidizing combustion products to prevent fusion and thereafter passing through the mass of the ore an oxidizing gas, substantially as described.

9. The process of roasting fusible ores which consists in passing the ores through an ore space, burning fuel with such an amount of air as to give a non-oxidizing flame, passing the products of combustion through or across masses of material capable of absorbing and giving out heat and then into the ore space and thereafter passing an oxidizing gas into a portion of said ore space so as to act on the ore after it is acted upon by the first-mentioned products of combustion.

10. The process of roasting fusible ores which consists in passing the ore through a confined ore space, burning fuel with such amounts of air as will give a practically non-oxidizing flame, passing the products of combustion through or across masses of material capable of absorbing and giving out heat, and thence into and across said ore space, and passing into and across said ore space at a lower part thereof an oxidizing gas at a high temperature, substantially as described.

11. The method of removing sulfur and similar material from ore, which consists in passing the ore, in a substantially continuous operation, through spaces where it is exposed successively to two distinct currents of heated gas, first a substantially non-oxidizing gas, and second an oxidizing gas.

12. The method of roasting fusible ore, which consists in generating a substantially non-oxidizing gas of high temperature and another body of oxidizing gas of high temperature, exposing the ore to the action of the first-named gas, and subsequently exposing it to the action of the second-named gas.

13. The method of roasting ores which consists in burning carbon or carbon products with air to produce a body of hot combustion products, burning more carbon or carbon products to produce another body of combustion products, having a different proportion of carbon than in the first body of combustion products, and roasting said ore by exposing it first to the action of the gas having the greater proportion of carbon and second to the gas having the lesser proportion of carbon.

14. The method of extracting sulfur which consists in passing a sulfur-bearing ore in a substantially continuous operation through a space occupied by a hot gas formed by the combustion of a heat-producing substance with a small quantity of oxygen, whereby fusion of the ore is prevented.

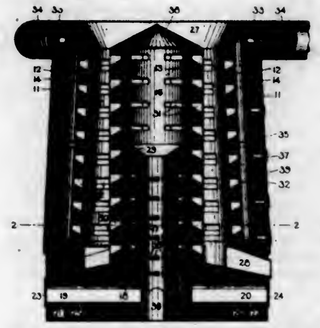
15. The method of roasting ores containing high percentages of sulfur which consists in exposing them by a continuous process, first to the action of combustion products containing large percentages of non-oxidizing gas and sufficiently small percentages of oxidizing gas to prevent them from burning with their own heat until they have been modified in their chemical structure, and thereafter exposing them to the action of an oxidizing gas at a high temperature and thereby removing part or all of their sulfur.

16. The method of roasting ores which consists in feeding the ore through an ore space, passing currents of hot gas across the ore space, regulating one of the gas currents so as to be low in free oxygen, and regulating another gas current so as to have a considerably larger percentage of free oxygen, and exposing the ore to the action of the gases in the order named.

866,581. APPARATUS FOR ROASTING FUSIBLE ORES. ALBERT G. DAVIS, Schenectady, N. Y. Original application filed Sept. 12, 1896, Serial No. 605,625. Divided and this application filed Mar. 26, 1902. Serial No. 100,058.

1. In an ore roasting or calcining furnace, the combination of four annular walls inclosing an annular exit chamber, an ore space, two combustion chambers, ports connecting the ore space with the exit chamber, and ports connecting the combustion chambers with the ore space, substantially as described.

2. In an ore roasting or calcining furnace the combination of an annular ore space, an exit chamber outside of said ore space, ports connecting the ore space with the exit chamber, and two combustion chambers, in communication respectively with different parts of said ore space, substantially as described.



3. In an ore roasting or calcining furnace the combination of an annular ore space, two combustion chambers inclosed and surrounded laterally by the inner wall of said ore space and connected with the ore space, and means for the exit from the ore space of products of combustion, substantially as described.

4. In an ore roasting or calcining furnace, the combination of an annular ore space, a central combustion chamber and an annular combustion chamber, both in connection with said ore space, and means for the exit from the ore space of products of combustion, substantially as described.

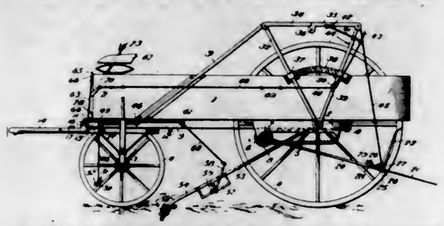
5. In an ore roasting or calcining furnace, the combination of an annular ore space, an annular combustion chamber inside said ore space, a central combustion chamber inside said annular combustion chamber at its lower part only and for its whole length inside said ore space, an annular exit chamber outside of and laterally surrounding the ore space, and ports connecting said ore space with the combustion chamber and the exit chamber, substantially as described.

6. In an ore roasting or calcining furnace the combination of an ore space, two combustion chambers in connection respectively with different parts of said ore space, and means for the exit from the ore space of products of combustion, with masses of material capable of absorbing and giving out heat placed across one of said combustion chambers, substantially as described.

7. In an ore roasting or calcining furnace the combination of an annular ore space, two combustion chambers inclosed and surrounded laterally by the inner wall of said ore space, in direct connection respectively with different parts of said ore space, burners for said combustion chambers, means for the exit from the ore space of products of combustion, and masses of material capable of absorbing and giving out heat placed in the path of the gases from one of said burners, substantially as described.

8. In an ore-roasting or calcining furnace, the combination of an annular ore space, an annular combustion chamber, a central combustion chamber inside said annular combustion chamber at its lower part only and for its whole length inside said ore space, the combustion chambers being in connection with the ore space at different heights, and an annular exit chamber outside of and laterally surrounding said ore space and in connection therewith, with masses of material capable of absorbing and giving out heat placed in that one of said combustion chambers in communication with the upper portion of the ore space, whereby the temperature in the upper portion of the ore space is equalized and regulated, substantially as described.

866,582. MANURE-LOADER. BENNIE P. HANSON, Parkersburg, Iowa, assignor of one-half to C. D. Williams, Elmore, Minn. Filed Jan. 25, 1906, Serial No. 297,860. Renewed July 19, 1907. Serial No. 384,608.



1. In a loader of the character described, the combination with a fork; of means adapted to be operated by the draft animals of the loader for projecting the fork rearwardly therefrom.

2. In a loader of the character described, the combination with a fork; of means adapted to be operated by the draft animals of the loader for projecting the fork rearwardly therefrom and for swinging said fork in a vertical plane.

3. In a loader, the combination with a vehicle body and means for securing draft animals thereto; of a fork connected to the body, means adapted to be operated by the draft animals for projecting the fork rearwardly from the body, and independently, similarly operated means for swinging said fork above the body.

4. In a loader of the character described, the combination with a vehicle, and draft appliances connected to and adapted to move away from the vehicle; of a fork, means operated by the draft appliances for moving the fork rearwardly from the vehicle, and independently, similarly operated means for swinging the fork above the vehicle.

5. The combination with a vehicle and draft appliances connected to the running gear thereof and adapted to move independently thereof; of a fork supported by the vehicle, means operated by the draft appliances for projecting the fork rearwardly from the vehicle, independently, similarly operated means for swinging the fork above the vehicle, and means for automatically releasing material from the fork when in raised position.

6. The combination with a vehicle and draft appliances connected to but movable independently of the running gear of the vehicle; of parallel arms supported by the vehicle, a fork rotatably mounted between the arms, means for locking said arms against rotation, means operated by the draft appliances for swinging the fork above the vehicle, and means for automatically releasing the fork when in raised position.

7. The combination with a vehicle; of an arm supported thereby, a fork rotatably mounted on the arm, a device for locking the fork against rotation, means for swinging said fork above the vehicle, and adjustable means for automatically tripping the device at a predetermined point above the vehicle.

8. The combination with a vehicle; of an arm supported thereby, a fork movably connected to the arm, a locking device for holding the fork against movement, means for swinging the fork above the vehicle, a tripping device for automatically unlocking the fork when above the vehicle, and manually operated means for adjusting said device to predetermined points above the vehicle.

9. The combination with a vehicle, of an arm supported thereby, a fork movably connected to the arm, a locking device for holding the fork against movement, means for swinging the fork above the vehicle, a tripping device for automatically unlocking the fork when above the vehicle, manually operated means for adjusting said device to predetermined points above the vehicle, and means for automatically returning the tripping device to its initial position.

10. The combination with a vehicle having a longitudinally disposed rack thereon; of a gear meshing with the rack, an arm carried by the gear, means for rotating the gear to project the arm rearwardly from the vehicle, and a fork connected to the arm.

11. The combination with a vehicle having a rack secured thereto; of a shaft disposed above the rack, a gear thereon meshing with the rack, a fork connected to the shaft, and means for rotating the shaft and gear to project the fork beyond the vehicle.

12. The combination with a vehicle having draft appliances connected to and movable longitudinally, independently of the running gear of the vehicle; of a fork supported by the vehicle, and means operated by the movement of the draft appliances in one direction for projecting the fork in the opposite direction.

13. The combination with a vehicle having a longitudinally disposed rack thereon; of a shaft extending above the rack, a gear thereon meshing with the rack, a flexibly supported fork movable with the shaft, draft appliances secured to and movable longitudinally, independently of the running gear of the vehicle, and means operated by the longitudinal movement of said appliances for rotating the gear.

14. The combination with a vehicle having a longitudinally disposed rack thereon; of a shaft extending above the rack, a gear thereon meshing with the rack, a flexibly supported fork movable with the shaft, draft appliances secured to and movable longitudinally, independently of the running gear of the vehicle, means operated by the longitudinal movement of said appliances for rotating the gear, and similarly operated means for swinging the fork above the vehicle subsequent to said movement of the gear.

15. The combination with a vehicle having a longitudinally disposed rack thereon; of a shaft above the rack, a gear upon the shaft, and meshing with the rack, an arm extending from and pivoted upon the shaft, a fork rotatably mounted upon the arm, a locking device for holding the fork against rotation, draft appliances connected to and movable longitudinally, independently of the running gear of the vehicle, means operated by the longitudinal movement of said appliances for rotating the gear upon the rack, similarly operated means for swinging the arm and fork above the vehicle, and means for automatically tripping the fork-locking device when the fork is raised.

16. The combination with a vehicle having a longitudinally disposed rack thereon; of a shaft above the rack, a gear upon the shaft, and meshing with the rack, an arm extending from and pivoted upon the shaft, a fork rotatably mounted upon the arm, a locking device for holding the fork against rotation, draft appliances connected to and movable longitudinally, independently of the running gear of the vehicle, means operated by the longitudinal movement of said appliances for rotating the gear upon the rack, similarly operated means for swinging the arm and fork above the vehicle, means for automatically tripping the fork-locking device when the fork is raised, and manually operated mechanism for adjusting the tripping means to predetermined points above the vehicle.

17. The combination with a vehicle having draft appliances connected to and movable longitudinally, independently of the running gear; of a fork supported by the vehicle, means operated by the forward movement of the draft appliances for projecting the fork rearwardly from the vehicle, and a ground engaging device depending from the vehicle for preventing forward movement thereof.

18. The combination with a vehicle having draft appliances connected to and movable longitudinally, independently of the running gear; of a fork supported by the vehicle, means operated by the forward movement of the draft appliances for projecting the fork rearwardly from the vehicle, and means depending from the vehicle for preventing forward movement thereof, said means comprising a pivoted arm, a ground engaging device movably connected thereto, and manually operated means for raising said device from the ground.

19. The combination with a vehicle having draft appliances connected to and movable longitudinally, independently of the running gear; of a fork supported by the vehicle, means operated by the forward movement of the draft appliances for projecting the fork rearwardly from the vehicle, and means pivoted to and depending from the vehicle for preventing forward movement thereof, said means comprising an upper arm, a ground engaging prong pivoted thereto, arms pivoted together and to the prong and to the said upper arm, a lever fulcrumed upon the upper arm and bearing upon the pivoted arms, and means for manually operating the lever to break the joint between the prong and arm and to disengage the prong from the ground.

20. The combination with a vehicle having draft appliances connected to and movable longitudinally, independently of the running gear; of a fork supported by the vehicle, means operated by the forward movement of the draft appliances for projecting the fork rearwardly from the vehicle, and means connected to and depending from the vehicle for preventing forward movement thereof, said means comprising pivoted arms and prongs movably connected thereto, a stop strip connecting the prongs, and manually operated means for breaking the joints between the arms and prongs and for raising them.

21. The combination with a vehicle having a rearwardly extending fork connected thereto and depending therefrom; of a pole extending from the running gear of the vehicle, a sleeve slidably mounted upon the pole, draft appliances connected to the sleeve, means for locking the sleeve and pole against independent longitudinal movement, and mechanism connecting the sleeve and fork whereby the same may be moved in opposite directions simultaneously.

22. The combination with a vehicle having rearwardly movable swinging arms depending therefrom, a rotatable fork mounted between the arms, and a lock therefor; of braces extending upward from the vehicle, swinging arms mounted upon the vehicle, pivotally connected links interposed between and secured to the braces and arms, lock-tripping devices upon the arms, and manually operated means for breaking the joints between the links and swinging the arms and their tripping devices toward the braces.

23. The combination with a vehicle having rearwardly movable, swinging arms depending therefrom, a rotatable fork mounted between the arms, and a lock therefor; of braces extending upward from the vehicle, swinging arms mounted upon the vehicle, pivotally connected links interposed between and secured to the braces and arms, lock-tripping devices upon the arms, manually operated means for breaking the joints between the links and swinging the arms and their tripping devices toward the braces, and means for automatically returning the arms to their initial positions when released.

24. The combination with a vehicle having inclined, tubular guides extending therefrom, and braces for said guides; of arms pivoted to and extending above the vehicle, pivotally connected links interposed between and connecting the arms and braces, rearwardly movable arms supported by the vehicle, a fork rotatably mounted between the arms, a lock for the fork, means extending from the arms and through the guides for swinging the fork above the vehicle, lock-tripping devices upon the arms, and means for breaking the joints between the links and swinging the arms toward the braces.

25. The combination with a vehicle having inclined tubular guides extending thereabove; of rearwardly movable, swinging arms supported by the vehicle, a fork rotatably mounted between the arms, a lock for holding the fork against rotation, braces for the guides, flexible devices extending through the guides for swinging the arms above the vehicle, and adjustable means for tripping the lock at predetermined points above the vehicle.

26. The combination with a vehicle having a movable board therein and means for swinging said board toward one end of the vehicle; of swinging arms supported by the vehicle, a fork mounted between the arms, and means for swinging the fork above the vehicle and depositing material upon the board.

27. The combination with a vehicle having a movable board therein and means for swinging the board toward one end of the vehicle; of swinging arms supported by the vehicle, a fork rotatably mounted between the arms, means for locking the fork against rotation, mechanism movable independently of the vehicle for swinging the fork above the vehicle, and a tripping device for releasing the fork to deposit material upon the board.

28. In a device of the character described, a gathering device comprising parallel arms, a cross bar rotatably mounted therebetween, tines extending from the bar, and means upon one of the arms for locking the bar and tines against rotation.

29. In a device of the character described, a gathering device comprising parallel arms, a bar rotatably mounted therebetween, series of tines extending from the bar at an angle to each other, and means upon one of the arms for locking the bar and tines against rotation.

30. In a device of the character described, a gathering device comprising parallel arms, a bar rotatably mounted therebetween, series of tines extending from the bar at an angle to each other, a shouldered collar rotatable with the bar, and means upon one of the arms for engaging said collar to hold it against rotation.

31. In a device of the character described, a gathering device comprising parallel arms, a fork rotatably mounted therebetween and consisting of two series of tines disposed at an angle to each other, and a shovel-like attachment interposed between and secured to the series of tines.

866,583. DOOR LOCK AND LATCH. WILLIAM H. HOPE, Providence, R. I. Filed Jan. 19, 1906. Serial No. 296,895.

1. In a lock or latch of the character described, the combination of the outer plate, the outer knob loosely secured to the outer plate, and provided at its inner end with an attached tube having the connected longitudinal and transverse slots and the perforated outer end, with the tumbler-lock case secured to the knob, the rotary lock spindle held in the lock case, and provided longitudinally with the key-receiving passage which is normally out of line with the perforation in the end of the slotted tube of the knob, the key for turning the key-receiving passage to line with the said perforation, and spring means for imparting the return rotary movement of the lock spindle, to its normal position.

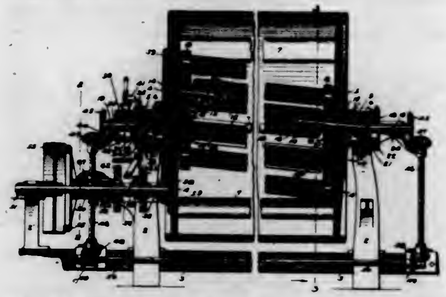
2. In a lock or latch of the character described, the combination of the outer plate, the outer knob, the attached collar provided with the circumferential recess at its edge, and serving to secure the knob loosely to the frame, with the limiting pin for the movement of the knob in either direction, and the sliding stop-pin held in the outer plate, and serving to limit the backward rotation of the said knob, whereby the undesired disengagement of the said knob from the latch bolt will be prevented.

3. In a lock or latch of the character described, the combination of the outer plate, the outer knob loosely secured to the outer plate, the tumbler-lock case secured to the knob, the tumbler pins held in the wall of the lock case, the rotary lock spindle held in the lock case and provided with the key-receiving passage, the spring for im-

parting return rotary movement to the lock spindle, the tumblers held in the lock spindle, and the longitudinal groove made in the bore of the lock case to provide for the withdrawal of the key at its turned position.

4. In a lock or latch of the character described, the combination of the latch bolt provided with the longitudinal slot opening, the cylindrical casing for the latch bolt, the inner plate of the lock or latch, the inner knob loosely secured to the inner plate, the longitudinally slotted spindle adjustably connected with the inner knob, the latch bolt operating arm, having its shank held in the slot of the spindle, and secured therein by a screw means whereby proper adjustment may be made for doors of different thicknesses.

866,584. COMBINED CHURN AND BUTTER-WORKER. THOMAS J. HOWE, MARTIN DEEG, and FRANK LA BARE, Owatonna, Minn., assignors, by direct and mesne assignments, to Owatonna Manufacturing Company, Owatonna, Minn., a Corporation. Filed May 12, 1906. Serial No. 316,444.



1. The combination, with a revoluble drum provided with hollow gudgeons, of cross-heads arranged in said drum, each of said cross-heads being provided with a gudgeon mounted in the hollow gudgeon of the drum head, means arranged outside of said drum, connecting said cross-head gudgeons, whereby said cross-heads are always maintained parallel to each other, and means for locking one of said cross-head gudgeons either to the drum gudgeon or to the frame of the machine, substantially as described.

2. The combination, with a revoluble drum provided with hollow gudgeons, of cross-heads arranged in said drum, each of said cross-heads being provided with a gudgeon mounted in the hollow gudgeon of the drum head, butter working rolls supported in said cross-heads, substantially parallel to each other, the axis of one roll being substantially coincident with the axis of the drum at one end and the axis of the other roll being substantially coincident with the axis of the drum at the other end, means arranged outside of said drum connecting said cross-head gudgeons, and means for locking one of said cross-head gudgeons either to the drum gudgeon or to the frame of the machine.

3. The combination, with a revoluble drum, provided with hollow gudgeons, of cross-heads arranged in said drum, each of said cross-heads being provided with a gudgeon mounted in the hollow gudgeon of the drum head, butter working rolls mounted in said cross-heads, the axis of one roll being substantially coincident with the axis of the drum at one end and the axis of the other roll being substantially coincident with the axis of the drum at the other end, and the journal of one roll projecting through one of the cross-head gudgeons and the journal of the other roll projecting through the other cross-gudgeon, means arranged outside of said drum connecting said cross-head gudgeons, means for locking one of said cross-head gudgeons to the drum gudgeon or to the frame of the machine, substantially as described.

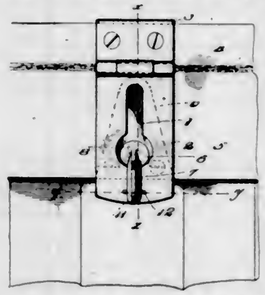
4. The combination, with a revoluble drum, of cross-heads arranged therein and provided with gudgeons projecting centrally through the heads of the drum, a pair of rolls mounted in said cross-heads, the journal of one roll projecting through one of the cross-heads and its gudgeon and the journal of the other roll projecting through the other cross-head and its gudgeon, means outside of said drum connecting said roll journals and causing the same to rotate simultaneously, means for locking said cross-heads and gudgeons to the drum or to the frame of the machine, means for rotating said drum, and means for rotating said rolls.

5. The combination, with a revoluble drum provided at its ends with hollow gudgeons, of cross-heads arranged in said drum, each of said cross-heads being provided with a gudgeon mounted in the hollow gudgeon of the drum head, a gear supported upon the outer end of each of said cross-head gudgeons, and suitable means arranged outside of said drum for connecting the gears on said gudgeons, substantially as described.

6. The combination, with a revoluble drum provided with hollow gudgeons, of cross-heads arranged in said drum, each of said cross-heads being provided with a gudgeon mounted in the hollow gudgeon of the drum head, suitable gears supported upon said cross-head gudgeons, means outside of the drum connecting said gears, a clutch arranged to lock one of said cross-head gudgeons to its supporting drum gudgeons, and means for locking said cross-head gudgeon to the frame of the machine, substantially as described.

7. The combination, with a revoluble drum provided with hollow gudgeons, of cross-heads arranged in said drum, each of said cross-heads being provided with a gudgeon mounted in the hollow gudgeon of the drum, means arranged outside of said drum connecting said cross-head gudgeons and a clutch adapted to lock one of said cross-head gudgeons either to the drum gudgeon or to the frame of the machine.

866,585. BOX-FASTENER. EDWIN F. HULBERT, Kenosha, Wis., assignor to National Oyster Carrier Co., Kenosha, Wis. Filed May 9, 1907. Serial No. 372,828.

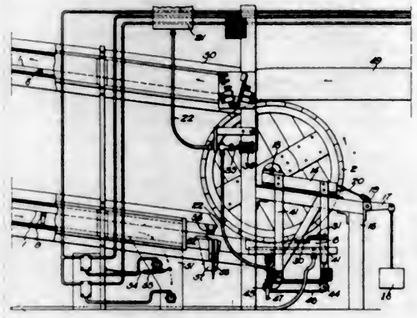


1. A fastener comprising a hasp having a keyhole slot, and a cam lever, the latter adapted to pass through the slot of the hasp and consisting of a finger piece, a circular piece at the head of the finger piece, and a pivot stud projected eccentrically from said circular head and serving as a support and connecting means for the lever.

2. A fastener comprising a hasp having a keyhole slot, a plate and a cam lever adapted to pass through the keyhole slot of the hasp and comprising a circular head, a finger piece, and a stud projected eccentrically from the said head and pivotally connecting the cam lever to the aforesaid plate.

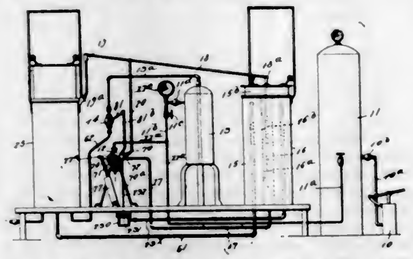
866,586. METHOD OF DESICCATING EGGS. JOHN M. HUSSEY, Cambridge, Mass. Original application filed Mar. 8, 1907, Serial No. 361,225. Divided and this application filed June 13, 1907. Serial No. 378,830.

The process of desiccating egg batter consisting in maintaining a supply of egg batter at substantially the temperature of freezing water, rapidly applying a very thin film thereof to a traveling carrier by permitting small sections only of said carrier to contact successively with the said egg supply, causing said carrier quickly to enter a heated drying medium, through which it travels for an extended



time while moving in a direction substantially horizontal to avoid running of the batter, repeating this operation as desired to superpose successive films on that previously dried and removing the superposed films.

866,587. GAS-MACHINE. PETER B. JOHNSON, Chicago, Ill., assignor of one-half to James R. Craig, Thayer, Ind. Filed Nov. 24, 1906. Serial No. 344,880.

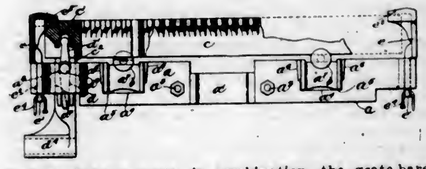


1. In a gas apparatus, in combination, a carbureter having an oil supply pipe thereto and an air supply pipe thereto, a valve in the oil supply pipe, an air supply device connected to said air supply pipe and having a rising and falling bell acting as a pump to force air to the carbureter, a compressed air tank connected by a pipe to the air supply device and provided with means to raise and lower the bell, a controlling valve in the last mentioned pipe, said valve being connected to the valve in the oil supply pipe to operate the latter simultaneously, and a tripping device connected to the bell and arranged to operate the valves according to the rise and fall of said bell.

2. In a gas apparatus, the combination with an air supply device having a valve inlet pipe and acting as a pump to force air to the carbureter, and a source of fluid pressure operatively connected to said device, of a valve in said connection arranged to alternately supply pressure to and exhaust pressure from said device, a tripping mechanism for the valve comprising a rock shaft having tappets arranged to strike the valve stem and throw the valve, and a connection between the rock shaft and the air supply device and its inlet valve constructed to automatically operate said shaft and valve according to the operation of the pump.

3. In a gas making apparatus, in combination, a compressed air tank, a carbureter, an air supply regulator connected to the carbureter and having a rising and falling bell, a pipe connecting the oil tank and the carbureter having a valve therein, a cylinder having a piston connected to the said bell, a pipe connecting the compressed air tank and said cylinder and having therein an inlet and exhaust valve controlling the supply to and exhaust from said cylinder, and a connection between the said bell and both of said valves arranged to simultaneously operate the latter according to the rise and fall of the bell.

866,588. GRATE. WARNER JOHNSON, Boston, Mass.; Mary E. Johnson, executrix of said Warner Johnson, deceased, assignor, by mesne assignments, to John E. Abbott, Watertown, Mass. Filed Apr. 7, 1902. Serial No. 101,764.



1. In a furnace grate, in combination, the grate-bars, the cross-bars supporting the said grate-bars, and the side-bars each comprising the two end-portions having pockets which receive and retain the ends of the cross-bars and the interchangeable separate spacing tie-piece connecting the said socketed end-portions, the interchangeable spacing tie-piece enabling pieces of different lengths to be employed to vary the length of the grate-frame as desired.

2. In a furnace grate, the combination with the side-bars having the open bearings and provided with shoulders adjacent the same, of the grate-bars, the headers, and the rocking actuator for the said grate-bars having journals removably fitting the said open bearings of the side-bars, the said shoulders of the side-bars limiting the rocking movement of the actuator to prevent the grate-bars from being caused to strike the headers in their lengthwise movement.

3. In a furnace grate, the combination with the side-bars having open-topped pockets, of the cross-bars having the ends thereof seated in the said pockets and removable therefrom by vertical movement, the said cross-bars having flanges or shoulders which engage the side-bars and hold the latter from transverse movement and each cross-bar having roll-supporting and guiding rails arranged parallel with one another in an open series extending crosswise of the grate, a series of loose rolls arranged end to end upon each series of said rails, each of said rolls resting upon two of said rails and rolling independently along the same in unison with the lengthwise movement of the corresponding grate-bar, each roll having flanges engaging with the rails upon which it rests and preventing transverse movement of the roll, and engaging with the corresponding grate-bar and preventing transverse movement of the latter, the grate-bars, each taking widely separated bearings upon the corresponding rolls to prevent transverse tipping of the grate-bar, and means to reciprocate the grate-bars lengthwise.

4. In a grate-bar, the combination with the side-bars having open-topped pockets, and open-topped bearings, of the cross-bars having the ends thereof seated in the said pockets and removable therefrom by vertical movement, the said cross-bars having flanges or shoulders which engage the side-bars and hold the latter from transverse movement and each cross-bar having roll-supporting and guiding rails arranged parallel with one another in an open series extending crosswise of the grate, a series of loose rolls arranged end to end upon each series of said rails, each of said rolls resting upon two of said rails and rolling independently along the same in unison with the lengthwise movement of the corresponding grate-bar, each roll having flanges engaging with the rails upon which it rests and preventing transverse movement of the roll, and also engaging with the corresponding grate-bar and preventing transverse movement of the latter, the grate-bars, each taking widely separated bearings upon the cor-

responding rolls to prevent transverse tipping of the grate-bar, and the rocking grate-bar actuator fitted to the said open bearings of the side-bars.

5. In a furnace-grate, in combination, the side-bars having near the opposite ends thereof the open-topped pockets a^4, a^4, and also having at said ends the vertical slots or recesses e^2, e^2, the cross-bars a^5, a^5, occupying the said pockets and shouldered to engage with the side-bars to hold the same from lateral movement, the grate-bars extending parallel with the said side-bars and longitudinally movable above the said cross-bars, the grate-bar actuator extending transversely of the grate and supported by the side-bars, and the headers projecting over the ends of the grate-bars and having the downward extensions or projections entering the said recesses e^2, e^2.

6. In a furnace grate, the combination with the side-bars having the open-topped pockets, the open bearings and the slots or recesses, of the cross-bars entering the said pockets by vertical movement and shouldered to engage with the side-bars to retain the latter in place transversely, the rocking actuator extending transversely with relation to the grate-bars and having its ends mounted in the said open bearings, the grate-bars extending parallel with the side-bars, the headers projecting over the ends of the grate-bars and having depending lugs or projections entering the said slots or recesses, and removable securing means whereby the said lugs or projections are retained in the said recesses and the parts of the grate thereby held assembled.

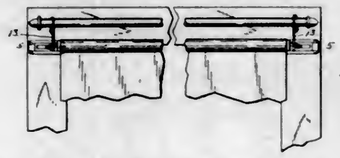
7. In a furnace-grate, in combination, the side-bars having near the opposite ends thereof the open-topped pockets and also having at said ends the slots or recesses e^2, e^2, the cross-bars a^5, a^5, occupying said pockets and shouldered to engage with said side-bars and hold the same from lateral movement, the grate-bars extending parallel with the said side-bars, the grate-bar actuator extending transversely with relation to the said side-bars and having its ends supported by the latter, the headers resting upon the side-bars, projecting over the ends of the grate-bars, and having the depending lugs or projections entering the said slots or recesses, and the removable pins applied to the said depending lugs or projections to retain the latter in the slots or recesses and thereby hold the assembled parts of the grate locked in working relations.

8. In a furnace-grate, the combination with a supporting-frame having at each end of the grate roll-supporting and guiding rails arranged parallel with one another in an open series extending crosswise of the grate, and a series of loose rolls arranged end to end upon each series of said rails, each of said rolls resting upon two of said rails and rolling independently along the same in unison with the lengthwise movement of the corresponding grate-bar, each roll having flanges engaging with the rails upon which it rests preventing transverse movement of the roll, and with the corresponding grate-bar preventing transverse movement of the latter, of the grate-bars, each taking widely separate bearings upon the corresponding rolls to prevent transverse tipping of the grate-bar, and means to reciprocate the grate-bars lengthwise.

9. In a furnace grate, the combination with the side-bars provided with bearings and with shoulders adjacent the same, of the grate-bars, grate-bar supports sustained by the said side-bars, the headers, and the rocking actuator for the said grate-bars, mounted in the said bearings of the said side-bars, adapted to move the grate-bars lengthwise upon the said supports, and limited as to its rocking movement through engagement with the shoulders of the side-bars, whereby the grate-bars in their lengthwise movement are prevented from striking the headers.

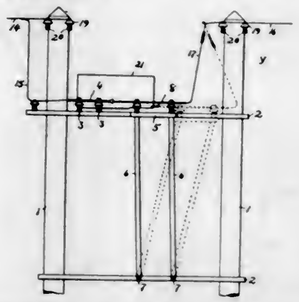
866,589. CURTAIN AND SHADE SUPPORT. BERNARD J. KAHN, Denver, Colo. Filed Jan. 25, 1907. Serial No. 353,999.

The combination of a stationary plate having a slotted struck up part open at one extremity, and a bracket made of one piece and having an angle extremity adapted to enter the chamber formed by the struck up part of the plate, the other extremity being adapted to enter the opening of a drapery rod, a fashioned portion formed in said bracket intermediate its extremities to receive the



extremity of a shade roller, and an arm pivoted to the upper portion of the bracket and coöperating therewith to support a curtain pole, substantially as described.

866,590. ELECTRICAL SWITCH. MICHAEL J. KEHOE, Fort Wayne, Ind., assignor of one-third to Benjamin Lehman, Fort Wayne, Ind. Filed Nov. 2, 1905. Serial No. 285,516.

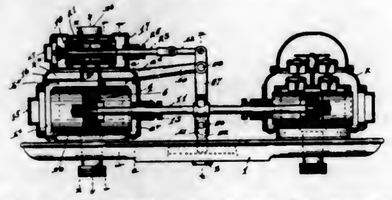


1. In apparatus of the class described, supporting posts arranged in opposite pairs, each pair having horizontal beams connected therewith; cross-arms fixed upon the uppermost beam of each pair of posts; receiving terminals fixed upon the cross-arms and electrically insulated therefrom; a movable frame; arms having pivotal relation with the horizontal beams, and having also at their upper ends pivotal connection with said movable frame and being adapted to maintain the latter in horizontal position; contact-terminals fixed upon the frame and electrically insulated therefrom, and each being adapted to connect with the corresponding receiving terminal; and corresponding line-wires having respective connections with the opposite receiving terminals and contact-terminals.

2. In apparatus of the class described, insulated receiving terminals mounted in fixed position; a movable frame; swinging arms pivotally mounted at their lower ends and having pivotal connections respectively with the movable frame to maintain the latter in horizontal position, and insulated contact terminals secured upon the frame, corresponding with said receiving terminals and arranged in alinement therewith, the frame being adapted to be swung to bring the contact-terminals into and out of electrical connection with the corresponding receiving terminals.

3. In apparatus of the class described, a series of insulators in fixed position; a series of receiving terminals mounted upon said insulators; a movable frame; swinging arms having pivotal supports at their lower ends and having pivotal connections with the frame to support the latter in a horizontal plane; a series of insulators mounted upon the frame; and a series of contact-terminals fixed upon the latter insulators and corresponding with the receiving terminals and arranged in alinement therewith, the frame being adapted to be swung to bring the contact terminals into and out of electrical connection with the corresponding receiving terminals.

866,591. FLUID-MOTOR. HUGH W. KIMES, Dayton, Ohio, assignor to Valle and Kimes, a firm composed of John H. Valle and Hugh W. Kimes, Dayton, Ohio. Filed Sept. 19, 1905. Serial No. 279,193.



1. In a duplex fluid motor, a valve and motor chest having both valve chests constructed and arranged to receive fluid at initial pressure, and having therein a right and left hand piston slide valve and piston mechanism, fluid supply and exhaust ports, a direct valve-shifting connection between the right hand valve and piston rods, and like connection between the left hand valve and piston rods, there being ports and passages between the right hand valve cylinder and the left hand piston cylinder, and vice versa, whereby, as the valves are shifted the energizing fluid of initial pressure is alternately directed from the right valve cylinder to opposite sides of the left piston and vice versa.

2. In a duplex fluid motor, a valve and motor chest, an intermediate distributing chest, a right and left hand slide valve and piston mechanism, fluid supply and exhaust ports, a direct valve-shifting connection between the right hand valve and piston rods, and a like connection between the left hand valve and piston rods, the said chests having ports and crossing passages controlled by the shifting valves, whereby, the energizing fluid of initial pressure is alternately directed from the right valve cylinder to opposite sides of the left piston and vice versa.

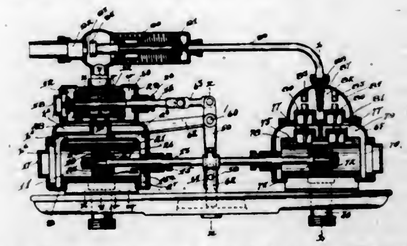
3. In a duplex fluid motor, a valve chest, a motor chest, and an intermediate distributing chest, said chests being separately formed and secured together, a right and left hand slide valve and piston mechanism, fluid supply and exhaust ports, a direct valve-shifting connection between the right hand valve and piston rods, and a like connection between the left hand valve and piston rods, the said chests having ports and crossing passages controlled by the shifting valves, whereby, the energizing fluid of initial pressure is alternately directed from the right valve cylinder to opposite sides of the left piston and vice versa.

4. In a duplex fluid motor, a valve and motor chest, an intermediate distributing chest, a right and left hand slide valve and piston mechanism, fluid supply and exhaust ports, a direct valve-shifting connection between the right hand valve and piston rods, and a like connection between the left hand valve and piston rods, the said chests having ports and crossing passages controlled by the shifting valves, whereby, as the right valve is shifted in one direction, a first passage is opened through which the fluid is supplied to one side of the left piston and through which it is exhausted back into the valve chest when the piston is reversed, and when the right valve is shifted in the other direction a second passage is opened through which the fluid is supplied to the other side of the left piston and through which it is exhausted back into the valve chest when said piston is reversed, there being a third passage controlled by the shifting of the left valve, connecting the left valve with one end of the right piston cylinder through which the fluid is supplied and exhausted, and a fourth passage from said left valve to the other side of said right valve piston, through which the fluid is supplied and exhausted, and exhaust chambers taking the fluid from the opposite ends of said valves.

5. In a duplex fluid motor of the reciprocating slide-valve type, a valve and motor chest having both valve chests constructed and arranged to receive the energizing fluid at initial pressure, an intermediate distributing chest, a right and left hand piston slide valve and piston mechanism, fluid supply and exhaust ports, a direct valve-shifting connection between the right hand valve and piston rods, and a like connection between the left hand valve and piston rods, there being two passages through said chests connecting the right valve with the left piston and two passages connecting the left valve with the right piston, said passages being controlled by the shifting valves, whereby, the fluid at initial pressure is supplied from said valve chests through each passage to drive its respective piston in a given direction and exhausted through the same passage when the piston is reversed, and means for conducting away the exhaust.

6. In a duplex fluid motor, a valve and motor chest, with right and left hand valve and piston mechanisms, fluid supply and exhaust ports, valve-shifting connections between the right hand valve and piston rods and between the left hand valve and piston rods, there being an intermediate fluid distributing chest section having ports and crossing passages controlled by the shifting valves, whereby, the energizing fluid of initial pressure is supplied alternately from the right valve to opposite sides of the left piston, and vice versa, the exhausts flowing back through their respective supply passages when the pistons are reversed, there being chambers in the valve chest at opposite ends of each valve, which become alternately the supply and exhaust chambers to and from the crossing passages as the valves are shifted.

866,592. FLUID-MOTOR. HUGH W. KIMES, Dayton, Ohio, assignor to Valle & Kimes, a firm composed of John H. Valle and Hugh W. Kimes, Dayton, Ohio. Filed Mar. 26, 1907. Serial No. 364,718.



1. In a combined duplex motor and pump of the class described, the combination with a base of independent motor and pump supports, formed integral with said base projecting above the marginal edges of the base and in alinement with each other, and openings in said supports through which the motor and pump connections pass, substantially as described.

2. In a combined duplex motor and pump of the class described, the combination with a dish shaped base, of duplicate motor and pump supports, formed integral with said base projecting in a curved line on each side thereof above the marginal edges of the base and in central alinement with each other, openings in said supports through which the motor and pump connections pass, substantially as described.

3. A support for a combined motor and pump of the class described, composed of a base provided with duplex elevated pedestals formed integral therewith, in central alinement and adapted to be selectively used as pump or motor supports, substantially as described.

4. In a combined duplex motor and pump of the class described, in combination with a dish shaped base motor and pump supports, formed integral with said base projecting above the marginal edges of the base and alined with each other, substantially as described.

5. In a combined duplex motor and pump of the class described, in combination with a dish shaped base, motor and pump supports formed integral with said base projecting above the marginal edges of the base, openings in said supports through which the motor and pump connections pass, substantially as described.

6. In a combined duplex motor and pump of the class

described, in combination with a dish shaped base, motor and pump supports formed integral with said base, projecting above the marginal edges of the base and alined with each other, an opening in said base for permitting drainage thereof, substantially as described.

7. In a duplex motor and pump of the class described, a self-contained motor, a self-contained pump, having a common piston rod in connection with a base, provided with motor and pump supports of duplicate construction and alinement, whereby the motor and pump may be interchangeably mounted upon said supports, substantially as described.

8. In a duplex motor and pump of the class described, a self-contained motor, a self-contained pump having a common piston rod in combination with a base, provided with motor and pump supports of duplicate construction and alinement, whereby the motor and pump may be interchangeably mounted upon said supports, and a tie-rod connecting the motor with the pump, substantially as described.

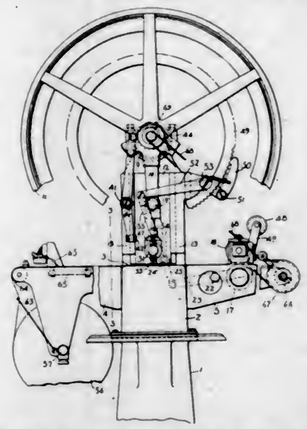
9. In a duplex motor and pump of the class described, a motor piston chest, a pump piston chest in alinement with each other, duplex pump pistons and duplex motor pistons each provided with cushioning means, duplex piston rods connected with motor and pump pistons, a central bore in the head of both motor piston chest and pump piston chest in alinement with each other, stuffing box nuts inserted from each side into the said bores, the inner nut in each instance forming an abutment against which the cushioning means of the pistons contact, the parts being so arranged that the motor pistons effect a cushioning of stroke in the forward movement of the piston rods, the pump pistons acting in the reverse movement, substantially as described.

10. In a duplex motor and pump of the class described, a motor piston chest, a pump piston chest in alinement with each other, duplex motor and pump pistons, duplex piston rods connecting one motor piston with its opposite pump piston, central bores in the heads of both motor and pump chests through which rods pass, stuffing box nuts inserted from each side into the said bores forming a central packing chamber, cushioning means arranged between the pistons and inner stuffing box nuts whereby the pistons are cushioned at each limit of forward and reverse stroke, substantially as described.

11. In a duplex motor and pump of the class described, a valve chest provided with ports and passages, a motor chest provided with ports and passages, a distributing chest provided with ports and cross passages arranged between the valve and motor chests, duplex valve cylinder linings provided with fluid passages leading into the chest passages, valves adapted to slide within said cylinder linings for controlling said fluid passages provided with cup shaped packings, the open ends of which oppose each other forming a fluid chamber and balanced valve, a pump piston chest in alinement with the motor piston chest, duplex motor and pump pistons, duplex piston rods connecting one motor piston with its opposite pump piston, central bores in the head of both motor and pump chests through which rods pass, stuffing box nuts inserted from each side into said bores forming a central packing chamber, cushioning means arranged between the pistons and inner stuffing box nuts whereby the pistons are cushioned at each limit of forward and reverse stroke, substantially as described.

12. In a duplex motor and pump of the class described, a dish shaped base, motor and pump supports of duplicate construction and in alinement with each other formed integral with said base, a motor chest provided with ports and passages adapted to be detachably mounted upon one of said supports, a pump chest adapted to be detachably secured to the other of said supports, a tie-rod connecting said motor chest and pump chest, a valve chest provided with ports and passages, a distributing chest provided with ports and cross passages arranged between the valve and motor chests, duplex valve cylinder linings provided with fluid passages leading into the chest passages, valves adapted to slide with said cylinder linings for controlling said fluid passages provided with cup shaped packings, the open ends of which oppose each other forming a fluid chamber and balanced valve, a pump piston chest in alinement with the motor piston chest, duplex motor and pump pistons, duplex piston rods connecting one motor piston with its opposite pump piston, central bores in the head of both motor and pump chests through which rods pass, stuffing box nuts inserted from each side into the said bores forming a central packing chamber, cushioning means arranged between the pistons and inner stuffing box nuts, whereby the pistons are cushioned at each limit of forward and reverse stroke, substantially as described.

866,593. MACHINE FOR PREPARING PAPER FOR CURVE-DRAWING INSTRUMENTS. WILLIAM J. LLOYD, Rugby, England, and JOHN R. ANDERSON, Pittsfield, Mass., assignors to Stanley-General-Incandescent Electric Manufacturing Company, a Corporation of Massachusetts. Filed Dec. 18, 1905. Serial No. 292,182.



1. In a machine of the character described, the combination with means for passing a web of material through the machine, of a reciprocating head adapted to perforate said web, a type-holder mounted to rotate in a plane at right angles to said web, means for giving a step-by-step motion to said type-holder, and means operated by the head for causing said type to print upon the web.

2. In a machine of the character described, the combination with means for passing a web of material through the machine, of a reciprocating head adapted to perforate said web, a plurality of type-holders, means operated by said head for bringing said type-holders successively into operative position with respect to the web, and means for moving said type-holders to print upon the web.

3. In a machine of the character described, the combination with means for passing a web of material through the machine, of a reciprocating head adapted to perforate said web, a lining device, means controlled by the head for operating said device to line the web, a plurality of type-holders, means operated by said head for bringing said type-holders successively into operative position with respect to the web, and means operated by said head for moving said type-holders to print upon the web.

4. In a machine of the character described, the combination with a table, of a reciprocating punch head, a plurality of type-holders, means for bringing said type-holders successively into operative position with respect to the table during a stroke of the head, and means carried by said head for striking said type-holders while in the operative position.

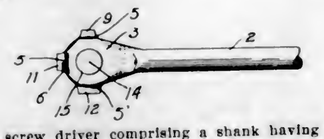
5. In a machine of the character described, the combination with a table, of a reciprocating punch head, a lining device, means controlled by the head for operating said device, a plurality of type-holders, means for bringing said type-holders successively into operative position with respect to the table upon each stroke of the head, and means carried by said head for striking said type-holders while in the operative position.

6. In a machine of the character described, the combination with an operating table, of means for ruling lines longitudinally thereof, a reciprocating punch, means for printing cross-lines during a stroke of the punch, and means for simultaneously printing characters adjacent to certain of said lines.

7. In a machine of the character described, the combination with an operating table, of means for ruling lines longitudinally thereof, a cross-line device, a reciprocating member, means for operating said device upon the downward stroke of the member, and means for inking the same upon the upward stroke.

8. In a machine of the character described, the combination with an operating table, of means for ruling lines longitudinally thereof, a cross-line device, a reciprocating member, means for moving the device in a plane normal to the table upon the downward stroke and out of said plane upon the upward stroke, and means for inking said device during the upward stroke.

866,594. SCREW-DRIVER. JOSEPH LUNOE, Minneapolis, Minn., assignor of one-fourth to George Salzer, Minneapolis, Minn. Filed Oct. 29, 1906. Serial No. 340,937.



1. A screw driver comprising a shank having jaws at one end that are outwardly turned and formed into transverse lips adapted to engage the slot in a screw and a disk rotatably mounted between said jaws and having ends projecting beyond the same.

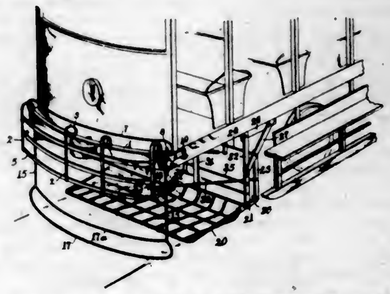
2. A screw-driver comprising a shank having jaws terminating in flattened ends and having convex side edges provided with flattened surfaces, said flattened ends and surfaces being adapted to bear on the head of a screw when the tool is in use, a disk rotatably mounted between said jaws and having a series of screw driving ends for screw heads of different depth, each of said ends projecting relatively the same distance beyond the flattened ends of said jaws and the flattened side edges thereof, whereby the tool can be readily adapted for straight or offset work, substantially as described.

3. A screw driver comprising a shank having jaws provided with flattened bearing surfaces on their side edges, a disk rotatably mounted between said jaws and having a series of ends adapted to project beyond the edges of said jaws and engage the slot in the head of a screw, means for securing said disk to prevent premature movement, and the flattened edges of said jaws being adapted to bear on the head of a screw and prevent the device from slipping, and the location of said flattened surfaces permitting the use of the tool as an offset screw driver, substantially as described.

866,595. SELF-ACTING SAFETY APPLIANCE FOR STREET-CARS. LOWELL M. MAXHAM, Boston, Mass. Filed May 14, 1907. Serial No. 373,698.

1. The combination with a car, of a transverse bar, means normally holding said bar rigid with the buffer of the car but permitting its being lifted off therefrom, and a resilient buffer cushion supported by said bar; whereby such cushion can be instantly removed without the use of tools to permit the buffer to be made clear for coupling to another car.

2. The combination with a car having vertical pins rising above the upper surface of the buffer of said car, of a transverse bar penetrated by said pins and resting upon such surface, a lock retaining said bar in place, and a resilient cushion held by said bar.



3. The combination with a car having vertical pins rising above the surface of the buffer of such car, of a transverse bar resting upon such surface and penetrated by said pins, a button for locking said bar in place, depending arms resilient at their upper ends and attached thereat to said bar, and cross slats secured to said arms.

4. The combination with a car, of brackets fixed to the front thereof, vertical pins rising from the forward parts of said brackets, a transverse bar penetrated by said pins and having its extremities supported by said brackets, and a resilient cushion held by said bar; whereby said bar and cushion can be bodily removed without the use of tools.

5. The combination with a car, of a drop fender carried beneath its forward section, a lock normally holding said fender from the track, an easily removable cushion guarding the car buffer, slidable rods adapted when moved rearward to release said lock, and a swinging bail hung close behind said cushion and adapted when swung backward to engage said rods and cause them to release the lock; said cushion being also adapted to engage and actuate said rods; whereby the fender is dropped to the track either by the blow against said cushion of a person on his feet, or by the blow against the bail of a prostrate body.

6. The combination with a car, of a drop fender carried beneath its forward section, a locking device normally holding the fender from the track, longitudinally movable rods connected with said locking device, means for slidably supporting said rods, and a depending bail pivoted to the car front and adapted to momentarily engage said rods and move them and then to be disengaged therefrom, when it is swung backward; whereby not only is unimpeded access given to the fender, but the locking device is permitted to again engage and stop the fender from an unlimited upward movement should it rebound from its drop.

7. The combination with a car, of a drop fender carried beneath its end and having rearward extensions, notched swinging arms resiliently pressed into engagement with said extensions, a swinging bail depending from the car front, and means extending between said bail and arms for causing the rearward movement of said bail to release said arms from said extensions; said means being constructed to be engaged by said bail during the first part of the latter's swing and to be released during the remainder thereof, and so to leave said arms free to again lock the fender during such remainder of the swing.

8. The combination with a car, of a drop fender carried beneath its end, a locking device constructed to engage and lock said fender automatically against movement either up or down whenever the fender is in its normal position, a swinging bail depending from the car front, and means extending between said bail and locking device for causing the initial rearward movement of said bail to release said locking device; said means being constructed to be disengaged by said bail during the remainder of the latter's rearward swing and so to leave the locking device free to engage said fender.

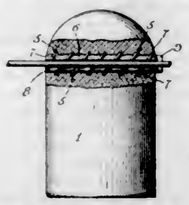
9. The combination with a car, of a drop fender carried beneath its end, a locking device normally holding the fen-

der from the track, longitudinally movable rods connected with said locking device, a depending bail pivoted to the car front, a shoulder on each of said rods, and means rigid with said bail adapted to engage said shoulders and move said rods back to release said locking device, and to be disengaged from said shoulders immediately thereafter and so to permit said bail to freely swing backward.

10. The combination with a car, of a drop fender carried beneath its end, a locking device normally holding said fender from the track, a swinging bail pivoted at its upper ends to said car, connections between said bail and locking device whereby the rearward swing of said bail releases the drop fender from the locking device, the upper ends of said bail being capable of vertical adjustment.

11. The combination with a car, of a drop fender, and supporting means at each side comprising a vertical bar fastened to the car-sill, an oblique brace between said bar and sill, an arm pivoted to said brace and engaging the fender to normally support it from falling to the track, and releasing means connected with said arms.

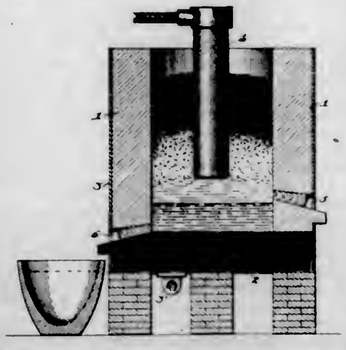
866,596. INSULATOR. WILLIAM A. MORTON, Los Angeles, Cal. Filed Nov. 6, 1906. Serial No. 342,297.



1. An insulator comprising a body having a cylindrical screw threaded passage and a slot extending thereinto, and a cylindrical screw threaded member in said passage and having a groove extending parallel to the slot in the insulator body.

2. An insulator comprising a body having a screw threaded passage, and a slot extending thereinto, and a screw threaded member engaging in said passage, and having a longitudinal groove.

866,597. PROCESS OF PRODUCING MANGANESE SILICID. EDGAR F. PRICE, Niagara Falls, N. Y., assignor to Electro Metallurgical Company, a Corporation of West Virginia. Filed Nov. 14, 1905. Serial No. 287,349.

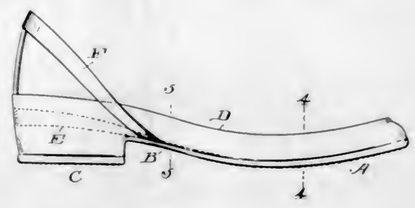


1. The process of producing manganese silicid by smelting a charge of compounds of manganese and silicon and carbon, which consists in establishing an electric arc within the charge, surrounding the zone of reduction and protecting the electrode or electrodes by a considerable body of the charge, and withdrawing the product and supplying the charge-mixture as required, as set forth.

2. The process of producing manganese silicid by smelting a charge of compounds of manganese and silicon and carbon, which consists in establishing an electric arc within the charge, surrounding the zone of reduction and protecting the electrode or electrodes by a considerable body of the charge, and maintaining between the electrode-terminals the minimum potential difference requisite to effect reduction, thereby preventing excessive loss of current by leakage through the charge, as set forth.

3. The process of producing manganese silicid by smelting a charge of compounds of manganese and silicon and carbon, which consists in establishing an electric arc within the charge, surrounding the zone of reduction and protecting the electrode or electrodes by a considerable body of the charge, maintaining between the electrode-terminals the minimum potential difference requisite to effect reduction, thereby preventing excessive loss of current by leakage through the charge, and withdrawing the product and supplying the charge-mixture as required, as set forth.

866,598. RUBBER OVERSHOE. JOHN D. PRICE, Cleveland, Ohio, assignor of one-half to H. G. Powell, Cleveland, Ohio. Filed Apr. 13, 1906. Serial No. 311,458.



1. A rubber overshoe comprising a sole and heel having a low upper extending around the front shank and heel portions thereof, a wedge shaped solid bead arranged to extend transversely of said upper intermediately of its height with its reduced edge or apex projecting inwardly in position opposite the crease of the shoe over which it is to be worn and extending from the heel portion around the shank and sole, said bead having a flat lower face and a concave upper face to fit the crease between the shoe sole and its vamp.

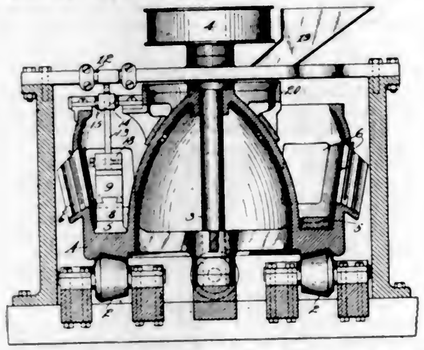
2. A rubber overshoe having a low upper which is provided with an internal bead located near its top edge and extending around its top part and ending at points just in front of the heel and a non-stretchable tape embedded in and extending around the heel portion of the upper and having its ends deflected in front of the heel into and forward in the front of the shank of the sole, said tape in the heel being in substantially the same plane as the bead on the shank.

3. A rubber overshoe having a low upper which is provided with an internal bead located near its top edge and extending around its front part and ending at points just in front of the heel, and a non-stretchable tape embedded in and going around the heel and having its ends deflected in front of the heel into and forward in the shank, and an elastic retaining strap which is secured at its ends to the shank and extends therefrom as a loop rearward at an upward inclination outside of and in contact with but disconnected from the shank portion of the overshoe upper.

866,599. LIME PRODUCT. EDGAR F. PRICE, Niagara Falls, N. Y. Filed Dec. 29, 1906. Serial No. 350,066.

As a new article of manufacture, overburnt quick-lime, in the form of a powder the minute particles of which are in such physical condition as to readily absorb water.

866,600. COMBINED STAMP AND GRINDING MILL. GEORGE C. RICHARDS, South Berkeley, Cal., assignor to Western Mill and Machine Company, a Corporation of California. Filed June 13, 1906. Serial No. 321,477.



1. A stamp mill having in combination a rotary pan said pan having a trough the outer wall of which is provided with openings for the delivery of crushed material, and the inner wall forming a central cone, a driving shaft passing through the center of said cone and fixed to said cone, a series of successively arranged die-members in said trough, a stamp-member, a fixed support on the pan, and means forming a horizontal hinge about which said stamp-member may rise and fall to engage successive of said die-members.

2. In a stamp mill the combination of a rotary pan having an annular trough one wall of which is provided with delivery openings and the opposite wall forms a central cone, a drive shaft passing through and fixed to said cone, a series of die-members successively arranged in said trough, a fixed support extending transversely above the pan, a stamp-member hingedly mounted and capable of substantially trailing over said die-members, and means carried by the pan and independent of the die-members for raising the stamp-member and then allowing it to drop upon a die-member.

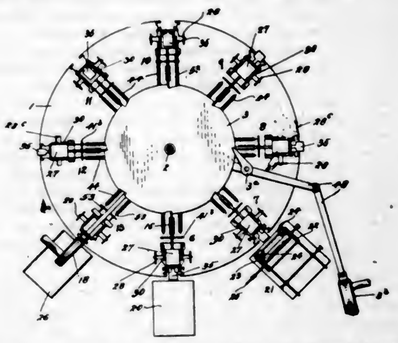
3. In a stamp mill the combination of a rotary pan provided with an annular series of successively arranged die-members having inclined faces a stamp-member hingedly-mounted and adapted to substantially trail over the inclined faces of said die-members, and means for vertically elevating the stamp-member as it is about to leave the face of one die-member, said elevating means releasing the stamp-member substantially coördinate with its arrival over a succeeding die-member.

4. In a stamp mill the combination of a rotary pan having an annular series of successively arranged die-members provided with inclined faces, a stamp-member hingedly mounted and capable of substantially trailing over the inclined faces of said die-members, and means including a cam and a contact-member between the pan and the stamp-member, said means elevating the stamp-member as it is about to leave the inclined face of one die-member, and said elevating means releasing the engaged stamp-member substantially coördinate with the arrival of the latter over a succeeding die-member.

5. In a stamp mill, a pan having an annular trough provided with openings on one side, a series of removable die members in said trough, an adjustable vertically movable stamp member hinged to a fixed support and engageable by successive of said die members, an adjustable cam on said stamp member and means on the pan engageable with said cam to support said stamp member in elevated position.

6. In a stamp mill, a pan having an annular trough, dies in the trough having inclined wearing surfaces, stamps having correspondingly inclined shoes engageable with said dies successively, means to cause the successive engagement of the shoes and dies, said shoes mounted to have a drop movement from one die to the next, cams carried by the stamps and rollers intermittently engaged by the cams to support the stamps independent of the dies.

866,601. BOX-FOLDING MACHINE. CHARLES W. ROCKIE and ALBERT M. MEREDITH, Bridesburg, Pa., assignors of one-third to Fredrick J. Schwarz, Jr., Bridesburg, Philadelphia, Pa. Filed Feb. 19, 1907. Serial No. 358,275.



1. A machine of the class described comprising a revoluble horizontal carrier provided with a series of fixed forms for blanks disposed radially thereof, a series of side, back, front, and bottom compressing members in juxtaposition to said fixed forms, a series of vertically movable posts carried by the carrier operatively connected with said members, a series of fixed concentric cam faces beneath the table lying in the path of said posts and mechanism for imparting an intermittent movement to the carrier.

2. A machine of the class described comprising a revoluble horizontal carrier provided with a series of fixed forms for blanks disposed radially thereof, a series of side, back, front, and bottom compressing members in juxtaposition to said fixed forms, tape feeding and cutting mechanism movable in respect to the carrier, a series of vertically movable posts carried by the carrier operatively connected with said members and tape feeding and cutting mechanism, a series of fixed concentric cam faces beneath the carrier lying in the path of said posts, an adhesive feeding medium and mechanism for imparting an intermittent movement to the carrier.

3. A machine of the class described comprising a revoluble horizontal table provided with a series of fixed forms for blanks disposed radially thereof, side, back, front, and bottom compressing members in juxtaposition to said fixed forms, a series of vertically movable posts carried by the carrier operatively connected with said members, a series of concentric cam faces beneath the table lying in the path of said posts, box ejecting means carried by the table penetrating the fixed forms, means for actuating said ejectors and mechanism for imparting an intermittent movement to the table.

4. A machine of the class described comprising a horizontal table provided with a series of fixed forms for blanks disposed radially thereof, side forming fingers, side compressing wings, and back, front, and bottom compressing plates in juxtaposition to said fixed forms, a series of stationary concentric cam faces beneath the table, a series of vertically movable posts carried by the table and adapted to lie in the path of the cam faces, said posts being operatively connected to the said fingers, wings, and plates, whereby the said fingers, wings, and plates are caused to advance toward and recede from the said fixed forms during the operation of the machine.

5. A machine of the class described comprising a revoluble horizontal carrier provided with a series of fixed forms for blanks disposed radially thereof, folding mech-

anism for forming a box around said fixed forms, a series of vertically movable posts carried by the carrier operatively connected with the said folding mechanism whereof one of said posts in each series is designed to raise and hold blanks against said fixed forms, and a series of fixed concentric cam faces beneath the table and lying in the path of said posts.

6. A machine of the class described comprising a revoluble horizontal carrier provided with a series of forms for blanks disposed radially thereof, folding mechanism for forming a box around said fixed forms, a series of vertically movable posts operatively connected therewith, duplicate tape feeding and cutting mechanism for each fixed form, said tape mechanism being oppositely disposed to each other, means for presenting adhesive material to the blank to be formed, and means for actuating the vertically movable posts.

7. A machine of the class described comprising a revoluble horizontal carrier provided with a series of fixed forms for blanks disposed radially thereof, vertically arranged slide plates on opposite sides of each of said fixed forms and movable through the carrier for pushing up the blank to form sides, a vertically movable post carried by the carrier and having fixed thereto the said plates, and a series of concentric cam faces located beneath the carrier whereof one of said cam faces is adapted to lie in the path of the said post.

8. A machine of the class described comprising a revoluble horizontal carrier fixed forms for blanks radially disposed thereof, vertically arranged slide plates in front of each of said fixed forms and afforded a movement through said carrier for pushing up the blank to form the box bottom a vertically movable post carried by the carrier and having fixed thereto said slide plates, and a series of concentric cam faces located beneath the carrier whereof one of said cam faces is adapted to lie in the path of the said post.

9. A machine of the class described comprising a rotatable carrier, fixed formers for blanks mounted thereon, vertically arranged slide plates in front of each of said formers and afforded a movement through said carrier, fingers adapted to straddle the former and having pivotal relation with the said plates for pushing the triangular shaped blank portion adjoining the box bottom, and means for simultaneously actuating the plates and fingers.

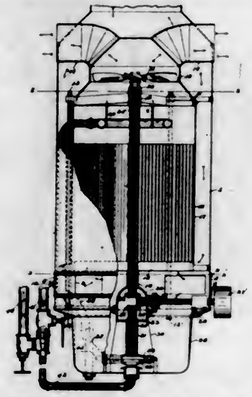
10. A machine of the class described comprising a revoluble horizontal carrier provided with a series of fixed forms for blanks disposed radially thereof, a vertically movable post carried by the carrier having fixed thereto a bottom forming plate, back or front forming plates having pivotal relation with said post said plates being provided with segmental gears, other vertically movable posts carrying toothed racks for engaging said gears, and a series of concentric cam faces beneath the carrier whereof some of said eam faces lie in the path of the said posts.

11. A machine of the class described comprising a rotatable carrier, fixed formers for blanks mounted thereon vertically movable posts carried by the carrier, side forming fingers pivotally carried thereby equipped with toothed racks movable through the carrier, said fingers straddling the formers, other posts carrying links connected with said fingers, and means for actuating the said fingers.

12. A machine of the class described comprising a rotatable carrier provided with a series of forms for blanks disposed radially thereof, vertically movable posts carried by the carrier having pivotally secured thereto arms carrying side compressing wings, said wings being oppositely disposed with respect to the fixed form, means for actuating said arms and lazy tongs connection between said means and arms.

13. A machine of the class described comprising a revoluble horizontal carrier having fixed forms for blanks radially disposed thereof, said fixed forms having openings therethrough, horizontal box ejectors mounted upon the carrier and afforded a movement through each of said fixed forms vertically disposed rods having pivotal relation with said ejectors and eccentric means for operating said rods one at a time for causing the ejectors to deliver finished boxes from the machine.

866,602. AIR-TREATING MACHINE. CHARLES A. RUMBLE, Boston, Mass., assignor to Bibber Manufacturing Company, Boston, Mass., a Corporation of West Virginia. Filed May 13, 1907. Serial No. 373,489.

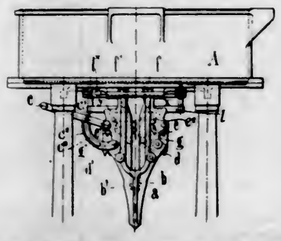


1. An air treating machine comprising an exterior casing having an air inlet at the top, an inner casing having air outlets at its upper portion, a moisture distributing element located within said inner casing, means for supplying water to the upper end of said element, a fan rotatably mounted above said element, and means for rotating said fan.

2. An air treating machine comprising an exterior casing having an air inlet at the top, an inner casing, having air outlets at its upper portion, a moisture distributing element within said inner casing, means for supporting said inner casing and said element, consisting of a series of bolts, and a tank secured to the lower ends of said bolts, and having a flange which closes the lower end of the exterior casing.

3. An air treating machine comprising an exterior casing having an inlet at its top and a series of inlets near its lower end, means for closing said latter inlets, an inner casing having air outlets at its upper end, a water distributing element within said inner casing, bolts for sustaining said element, a tank secured to the lower portions of said bolts, a rotary pump located within said tank, a spraying device located above the distributing element, a pipe connecting said spraying device with said pump, a fan rotatably mounted at the upper portion of the inner casing and having a shaft extending downward therefrom, and means for simultaneously driving the pump and the fan shaft as described.

866,603. FEED-REGULATOR. DARGIER DE SAINT VAULRY, Horme, France, assignor to La Société Nouvelle des Etablissements de l'Horme et de la Buire, Lyon, France. Filed May 16, 1905. Serial No. 260,734.



1. In a feed-regulator, the combination of parallel plates between which the material passes, and means to shift said plates simultaneously toward or away from each other

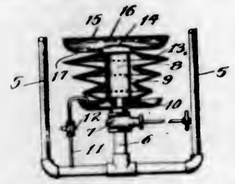
in directions at an acute angle to their planes while maintaining them in parallelism.

2. In a feed-regulator, in combination, upright plates between which the material passes, and means to shift said plates upwardly and away from each other and downwardly and toward each other while maintaining them in parallelism.

3. In a feed-regulator, the combination of upright parallel plates between which the material passes, downwardly converging guides for said plates, racks attached to said plates, toothed segments engaging said racks, and means to simultaneously rotate said segments.

4. In a feed-regulator, in combination, upright parallel plates between which the material passes, means to guide said plates upwardly and away from each other and downwardly and toward each other while maintaining their parallelism, racks carried by said plates upon their outward faces and having downwardly converging series of teeth, toothed segments engaging said racks, and means for rotating said segments.

866,604. DENATURED-ALCOHOL HEATER. GEORGE G. SCHROEDER, Washington, D. C., assignor to Industrial Alcohol Heat and Light Company, a Corporation of South Dakota. Filed Nov. 12, 1906. Serial No. 343,050.



1. A heater of the character described comprising a vaporizing chamber formed of meniscus sections joined at their edges, a perforated cylindrical member located within said vaporizing chamber and resting on the bottom thereof, means for supplying hydrocarbon to said member, and a mixing chamber resting on the top of said vaporizing chamber and communicating therewith, said mixing chamber being provided with peripheral flame outlets.

2. A heater of the character described comprising a perforated cylindrical member, means for supplying hydrocarbon thereto, a vaporizing chamber comprising a casing inclosing said member and formed of meniscus sections joined at their edges, the inner edges of said sections being vertically alined and their outer edges obliquely alined, and a burner resting upon the top section of said casing and having a mixing chamber communicating with the interior of said casing.

3. A heater of the character described comprising a vaporizing chamber formed of meniscus sections joined at their edges, a perforated cylindrical member located within said vaporizing chamber and resting on the bottom thereof, means for supplying hydrocarbon to said member, a mixing chamber resting on the top of said vaporizing chamber and communicating therewith, said mixing chamber being provided with peripheral flame outlets, and a foraminous screen extending across the passage between said vaporizing and mixing chambers.

4. A heater of the character described comprising a vaporizing chamber having interior annular vaporizing pockets, a perforated cylindrical member located within said vaporizing chamber and resting on the bottom thereof, means for supplying hydrocarbon to said member, and a mixing chamber resting on the top of said vaporizing chamber and communicating therewith, said mixing chamber being provided with flame outlets.

5. A heater of the character described comprising a vaporizing chamber having interior annular vaporizing pockets and an upper outlet opening, a perforated cylindrical member located within said vaporizing chamber and resting on the bottom thereof, means for supplying hydrocarbon to said member, and a mixing chamber provided with a collar fitting within said outlet opening, said mixing chamber being provided with flame outlets.

6. A heater of the character described comprising a vaporizing chamber formed of meniscus sections joined at their edges, said casing being provided with an outlet opening in its upper end, a perforated cylindrical member located within said vaporizing chamber and resting on the bottom thereof, means for supplying hydrocarbon to said member, and a mixing chamber provided with a collar fitting within said outlet opening, said mixing chamber being also provided with peripheral outlet openings.

7. A heater of the character described comprising a perforated cylindrical member, means for supplying hydrocarbon thereto, a vaporizing chamber comprising a casing inclosing said member and formed of meniscus sections joined at their edges, the inner edges of said sections being vertically alined and their outer edges obliquely alined, a burner resting upon the top section of said casing and having a mixing chamber communicating with the interior of said casing, and a starting pan located beneath said member and said casing.

8. A heater of the character described comprising a cylindrical member provided with outlet perforations, means for feeding hydrocarbon to the interior of said member, a vaporizing chamber formed of a casing surrounding said member and having an interior surface provided with depressions, the perforations in said member being opposite the depressions in the interior surface of the casing, and a burner supported by the top wall of said casing and communicating with the interior of the latter.

9. A heater of the character described comprising a cylindrical member provided with perforations, means for feeding hydrocarbon to the interior of said member, a vaporizing chamber formed of a casing surrounding said member and provided with horizontally extended recesses, said perforations and recesses being arranged opposite each other, and a burner supported by the top wall of said casing and communicating with the interior of the latter.

10. In a heater of the character indicated, a burner comprising a member having perforations arranged in horizontal rows, a casing surrounding said member and having meniscus sections joined together at their edges, said perforations being in horizontal alinement with the outer meeting edges of said sections, and a mixing chamber arranged above said casing.

11. In a heater of the character indicated, a burner comprising a member having perforations arranged in horizontal rows, a casing surrounding said member and having meniscus sections joined together at their edges and which increase in diameter from the lower to the upper, said perforations being in horizontal alinement with the outer meeting edges of said sections and a mixing chamber arranged above said casing.

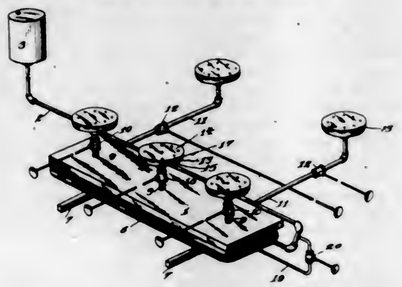
12. In a heater of the character indicated, a burner comprising a member having perforations arranged in horizontal rows, a casing surrounding said member and having meniscus sections joined together at their edges, the inner edges of said sections being vertically alined and the outer edges of said sections being alined obliquely, said perforations being in horizontal alinement with the outer meeting edges of said sections and a mixing chamber arranged above said casing.

13. A heater of the character described comprising a base, a drum supported thereby, a fuel reservoir, a plurality of vertically disposed pipes leading therefrom and passed down inside said drum, a circular burner housed in said base and uniting the lower ends of said pipes, said burners being provided with peripheral openings arranged to direct the flame against said pipes, and means for regulating the flow of fuel to said burner.

866,605. DENATURED-ALCOHOL COOK-STOVE BURNER. GEORGE G. SCHROEDER, Washington, D. C., assignor to Industrial Alcohol Heat and Light Company, a Corporation of South Dakota. Filed Feb. 25, 1907. Serial No. 359,102.

1. A burner of the character described comprising a parallelepiped gasifying chamber, a plurality of burners

arranged along the top thereof and communicating with the interior of the chamber, a feed pipe extending longitudinally of the chamber and interposed between the latter and said burners, said pipe leading into one end of said chamber, and branch pipes leading from one side of said chamber and each provided with a burner.



2. A burner of the character described comprising a parallelepiped gasifying chamber, a plurality of burners arranged along the top of said chamber and communicating with the interior thereof, a feed pipe extending longitudinally of the chamber and interposed between the latter and said burners, said pipe leading into one end of said chamber, branch pipes leading from one side of said chamber and each provided with a burner, a starting pan located beneath said gasifying chamber, said starting pan being of the same dimensions, in plan, as said chamber, and a supply pipe leading from said feed pipe to said pan.

3. A burner of the character described comprising a parallelepiped gasifying chamber, a plurality of burners arranged along the top of said chamber and communicating with the interior thereof, each burner being formed of a concaved plate provided with lower air inlets and peripheral flame outlets, and a flat perforated plate resting on the edges of said concaved plate, a feed pipe extending longitudinally of said chamber and interposed between the latter and said burners, said pipe leading into one end of said chamber, and branch pipes leading from one side of said chamber and each provided with a burner.

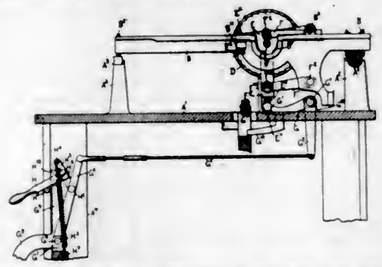
4. A burner of the character described comprising a starting pan having laterally extended bars adapted to support the same, a parallelepiped gasifying chamber having supporting legs resting in said pan, a fuel supply pipe leading to said chamber, and a plurality of burners communicating with said chamber.

5. A burner of the character described comprising a starting pan having laterally extended bars adapted to support a parallelepiped gasifying chamber having supporting legs resting in said pan, a fuel supply pipe leading to said chamber, burners arranged upon said chamber, branch pipes leading from said chamber, and burners on said branch pipes.

866,606. TYPE-WRITING MACHINE. GEORGE H. SMITH, Forest Hill, N. J., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Original application filed Aug. 27, 1900, Serial No. 28,142. Divided and this application filed Jan. 26, 1906. Serial No. 297,962.

1. In a front-strike typewriting machine, the combination of a carriage, a vertically movable platen frame carrying a platen, a vertically movable shift-rail located beneath the platen, means for effecting a vertical movement of said shift rail, a rock-shaft carried by said carriage, crank arms carried by the rock-shaft and connected to said platen frame, a counter-balancing spring connected to the rock-shaft, and links connected to the platen frame and to the carriage and which with the crank arms constitute in effect parallel links on which the platen frame moves during the vertical shift thereof.

2. In a typewriting machine, the combination of a platen, means for shifting said platen in a direction transverse to the length thereof for upper and lower case writing, a spring-pressed stop that is shiftable to two positions and is adapted to be maintained by its spring in either of the two positions to which it may be moved and which is independent of the said shifting means, the relation between the stop and the shifting means being such that in one position of the stop it will coöperate with the shifting means to retain the platen in the shifted position, whereas in the other position the said stop is carried out of cooperative relation with the shifting means.



3. In a front-strike typewriting machine, the combination of a carriage, a vertically movable shift rail located beneath the platen and which supports and shifts the platen of said carriage vertically, shifting means operatively connected to the shift rail, and a spring-pressed hand operated pivoted lever shiftable to two positions and which when in one position, coöperates with the shifting means to maintain the platen in a shifted position, but when in the other position does not affect said shifting means, the spring of said lever being effective to exert a force upon one or the other side of the pivotal center of said lever according as said lever is in one or the other of its positions.

4. In a front-strike typewriting machine, the combination of a carriage, a vertically movable shift rail which shifts the platen of said carriage vertically, shifting means operatively connected to the shift rail and spring pressed hand operated lever shiftable to two positions and which coöperates with the shifting means when said lever is in one position to maintain the platen in a shifted position and is out of coöperative relation with said shifting means when the lever is in another position, the spring of said lever being effective to exert a force upon one or the other side of the pivotal center of said lever.

5. In a front-strike typewriting machine, the combination of a carriage, a hand-operated spring pressed lever pivoted to a fixed portion of the machine and which constitutes a stop to maintain the platen in the shifted position, the spring of which lever is adapted to exert its force upon one or the other side of the pivot of said lever in accordance with the position of the lever, a vertically movable shift rail upon which the platen is supported, and intermediate operative connections between said shift rail and said lever.

6. In a front-strike typewriting machine, the combination of a carriage, a hand operated spring pressed pivoted lever, the spring of which is adapted to exert its force upon one or the other side of the pivot of the lever in accordance with the position of said lever, a vertically movable shift rail upon which the platen is supported, intermediate operative connections between said shift rail and said lever for moving and maintaining the platen in the shifted position, and a shift key operatively connected to the shift rail and independent of said lever for temporarily shifting the platen and permitting it to resume its normal position when pressure upon said shift key has been released.

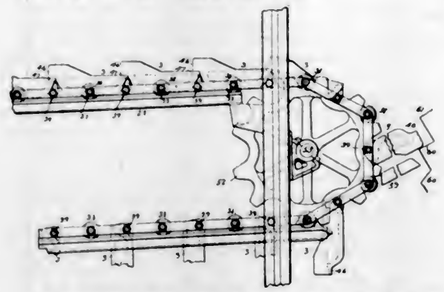
7. In a front-strike writing machine, the combination of a carriage, a hand-operated spring pressed pivoted lever, the spring of which is adapted to exert its force upon one or the other side of the pivot of said lever in accordance with the position of said lever, a vertically movable shift rail upon which the platen is supported, a rock shaft which is operatively connected to said shift rail, an arm extending from said shaft and which is disconnected from but is adapted to coöperate with said lever, and a finger key for operating said rock shaft, whereby the rail and platen may be shifted and maintained in the shifted position by the said lever or may be temporarily shifted by the finger key and allowed to assume the normal position when pressure is released from said key.

8. The combination of a shiftable platen, a case shift key for moving said platen to shifted position, and spring means normally out of operative connection with said platen but adapted to be brought into operation to move said platen to shifted position.

9. The combination of a shiftable platen normally held by gravity in lower case position, a key for moving said platen to upper case position, and spring means normally out of operative connection with said platen but adapted to be brought into operation to move said platen to upper case position, and to hold said platen in such position.

10. In a typewriting machine, the combination of a shifting platen, a shift rail therefor, a key actuated rock-shaft for moving said shift rail, a crank-arm extending from said rock-shaft, a three-arm pivoted lever, one arm of said lever being disconnected from but adapted in one position of the lever to coöperate with said crank arm and to be moved out of coöperation with said crank arm in another position of said lever, another arm of said lever carrying a finger piece for moving the lever, and a spring connected to the third arm of said lever and adapted to be shifted to either side of the pivotal center of said lever.

866,607. APPARATUS FOR CASTING AND DELIVERING PIG METAL. EDGAR A. WEIMER, Lebanon, Pa. Filed Feb. 21, 1907. Serial No. 358,647.



1. In a casting apparatus, a metal pouring device comprising a primary or receiving trough pivotally supported to be tilted laterally in opposite directions and having lateral discharge passages, supplemental distributing troughs pivotally supported to be tilted laterally in opposite directions under the discharge ends of the primary trough, means for tilting said troughs, and a mold carrier under each supplemental trough.

2. In a casting apparatus, a metal pouring device comprising a primary or receiving trough pivotally supported to be tilted laterally in opposite directions and have lateral discharge passages, supplemental distributing troughs pivotally supported to be tilted laterally in opposite directions under the discharge ends of the primary trough, and provided with discharge passages at their front ends, and a mold carrier under each supplemental trough.

3. In a casting apparatus, a pouring device, a flexible mold-carrier provided with side links, and transverse rods, and having longitudinally extending molds pivotally supported on the rods of the carrier at one end only to allow free expansion of the molds.

4. In a casting apparatus, a pouring device, a flexible mold-carrier provided with side links and transverse rods, and having longitudinally extending molds pivotally supported on the rods of the carrier at their front ends and overlapping the front ends of the next molds at their rear ends.

5. In a casting apparatus, a pouring device, a flexible mold-carrier provided with side links and transverse rods, and having longitudinally extending molds pivotally supported on the rods of the carrier at their front ends, overlapping the front ends of the next molds at their rear ends, and having a passage at the rear end of the mold to discharge metal into the next mold.

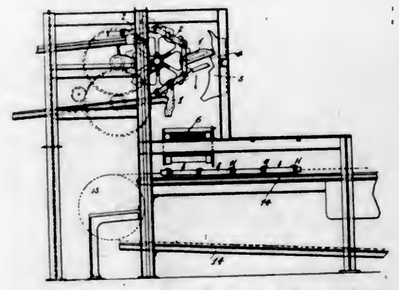
6. In a casting apparatus, a pouring device, a mold-carrier comprising longitudinal links, wheels at both ends and on both sides of the transverse center of each section of the carrier, transverse rods extending through said links between the wheels of each pair of links, and longitudinally extending molds pivotally supported at their front ends on said rods.

7. In a casting apparatus, a pouring device, a mold-carrier comprising parallel longitudinal links, wheels between the ends of said links, an axle for each wheel surrounded by a thimble extending to the outside links, a washer between the links at both ends of said thimble, a washer between the inner link and each end of the hub of the wheel, transverse rods between the wheels, and molds pivotally secured to said rods.

8. In a casting apparatus, a pouring device, a flexible mold-carrier comprising longitudinal links and transverse rods, and having longitudinally extending molds pivotally supported at one end on the rods of the carrier, and a buffer in the path of the molds and against which the molds strike to dislodge the pigs therefrom.

9. In a casting apparatus, a pouring device, an upwardly inclined mold-carrier provided with longitudinally arranged molds overlapping the front end of the next succeeding mold, for supplying an initial charge of molten metal from the rear end of one mold to the front end of the succeeding mold.

866,608. CASTING APPARATUS. EDGAR A. WEIMER, Lebanon, Pa. Original application filed Feb. 21, 1907, Serial No. 358,647. Divided and this application filed June 17, 1907. Serial No. 379,354.



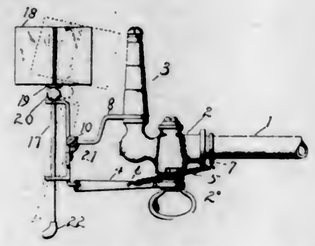
1. In a casting apparatus, a mold carrier, a pig conveyer adjacent to the mold carrier, means for dislodging pigs from the molds, means for conducting the pigs to the pig conveyer, means for cooling the pigs while in transit, and means for delivering the pigs at the discharge end of the pig conveyer.

2. In a casting apparatus, a pig conveyer provided with means for admitting a cooling medium to the underside of the pigs as they lie on the conveyer, means for discharging pigs upon the conveyer at one end thereof, means for supplying a cooling medium to the pigs in transit, and means for delivering the pigs at the discharge end of the pig conveyer.

3. In a casting apparatus, a mold carrier, buffers in the path of the molds for dislodging pigs from the molds, a pig conveyer, means for conducting the pigs from the molds to the pig conveyer, and a tank having a bottom oppositely inclined from its ends to the center thereof

and provided with a discharge at the lowest part of the bottom.

866,609. DEVICE TO SHUT OFF FLOW OF GAS. HENRY C. BABCOCK, South St. Paul, Minn., assignor to Babcock & Company, South St. Paul, Minn. Filed Jan. 22, 1907. Serial No. 353,571.



1. In an automatic cut-off for gas burners, the combination of a gas cock carrying a trip arm, a burner to which is attached a horizontally extending bracket, a vertical bracket which is hinged to said horizontal bracket, said vertical bracket having a lip at its lower edge provided with teeth which normally engage the trip arm, and also having lugs supporting a rod which carries a fan at its upper end, and a spring normally tending to close the gas cock, substantially as described.

2. In an automatic cut-off for gas burners, the combination of a gas cock carrying a trip arm, a burner to which is attached a horizontally extending bracket, a vertical bracket which is hinged near its center portion to said horizontal bracket, said vertical bracket having a lateral lip at its lower edge provided with teeth which normally engage the trip arm, and also having lateral lugs in which is journaled a rod which carries a four bladed fan at its upper end and an irregular shaped metal ball at its lower end, and a spring normally tending to close the gas cock, substantially as described.

866,610. MASSAGE-VIBRATOR. WALTER J. BELL, Los Angeles, Cal., assignor of one-half to Samuel L. Kistler, Los Angeles, Cal. Filed Oct. 8, 1906. Serial No. 338,077.



1. In combination, an applicator, an operating head for carrying the applicator, a shaft, an eccentric on the shaft, means operated by the eccentric for operating the head, and means for varying the eccentricity of the eccentric to vary the vibratory stroke of the applicator.

2. In combination, a casing, a motor in said casing, a block extending from said casing, said block being recessed, an operating head in the recess, a pivot extending through the operating head, the block having a seat for one end of the pivot, a pivot screw in the block and having a seat in its end for the other end of said pivot, a sliding head in the block below the operating head, an arm extending from the operating head and pivoted to the sliding head, means for attaching an applicator to either the pivoted head or the sliding head, an eccentric operated by the motor, and a lever extending from the pivoted head and having a forked end engaging the eccentric.

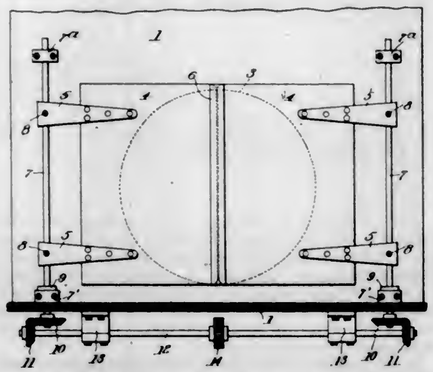
3. In combination, a casing, a motor in said casing, a block extending from said casing, a pivoted operating head in the block, a sliding head in the block, means for attaching an applicator to either the sliding head or the pivoted head, an arm on the pivoted head for operating the sliding head, a lever extending from the pivoted head, an eccentric on the motor shaft comprising a disk fastened on the shaft, a plate pivoted to the disk, the disk having wings, a screw mounted in said wings, a wing on the plate engaging the screw, an annular bearing carried by the pivoted plate, said lever having a forked end, a block sliding in said end and mounted on said annular bearing.

4. In combination, an applicator, electrical means for operating the same, and a circuit closer comprising a stationary contact and a movable contact, a push button carried by the movable contact and having a shoulder adapted to engage a stationary abutment.

5. An electric circuit closer comprising a stationary contact and a spring contact, and a push button carried by the spring contact and locking automatically when pushed in and releasable by a lateral movement.

6. In combination, an applicator, means for operating the applicator comprising a forked lever, an eccentric engaging the fork of the lever, the lever being split beyond the fork, and means for contracting or expanding the members of the fork to adjust it to the eccentric.

866,611. FURNACE-DOOR OPENER. FLOYD J. BELL, Franklin, Pa., assignor of one-half to William Ord Phipps, Franklin, Pa. Filed July 16, 1907. Serial No. 384,103.



1. In a mechanism of the class described, the combination with a support, a furnace carried by said support, of a pair of doors engaging said furnace, vertical shafts journaled upon said support and having their lower ends extending therethrough, doors supported entirely upon said shafts and normally engaging said furnace, bearings depending from said support, a horizontal shaft journaled upon said bearings below said support, beveled gears fixedly secured to said horizontal shaft, beveled gears fixedly secured to the vertical shafts below said support and meshing with said first-mentioned gears, a cog-wheel fixedly secured to said horizontal shaft between its beveled gears, a spring-pressed plunger carried by said support, a pivoted beam carried by said support and pivotally connected to said plunger, and a gear fixedly secured to said beam and meshing with said cog-wheel, whereby when said plunger is moved downward upon the support, said doors will be moved from in engagement with said furnace.

2. In a mechanism of the class described, the combination with a support, of vertical shafts journaled upon said support, doors supported entirely by said shafts, gear wheels secured to said shafts below said support, depending bearings carried by said support between said gear wheels, a horizontal shaft journaled in said bearings and having its ends extending beyond the same, gear wheels fixedly secured to the extended ends of said horizontal shaft and meshing with the gear wheels of the vertical shafts, a cog-wheel fixedly secured to said horizontal shaft between said bearings, and spring-pressed manually-operated means coöperating with said cog-wheel for rotating the same, and, thereby actuating said doors.

3. In a mechanism of the class described, the combination with a support, of bearings carried by said support, a horizontal shaft journaled in said bearings, a beveled gear secured to said shaft, a vertical shaft carried by said support, a beveled gear secured to said vertical shaft and meshing with the first-mentioned beveled gear, a door carried by said vertical shaft, a cog-wheel secured to said horizontal shaft, brackets secured to said support, a beam pivotally mounted upon said bracket, a toothed segment fixedly secured to said beam and meshing with said cog-wheel, and a spring-pressed plunger provided with a foot-plate, slidably mounted upon said support and pivotally connected at its lower end to said beam.

4. In a mechanism of the class described, the combination with a support, of a horizontal shaft carried by said support, a cog or gear-wheel fixedly secured to said shaft, a door, means connecting said door to said horizontal shaft, whereby when rotary movement is imparted to said shaft, said door will be swung, a primary hanger carried by said support, a beam or rod pivotally mounted upon said hanger, a toothed segment provided with parallel lugs constituting a bifurcated portion, said beam extending between said parallel lugs, means securing said lugs to said beam, said toothed segment meshing with said cog-wheel, a plunger connected to said beam, an auxiliary hanger carried by said support positioned contiguous to said primary hanger, and a horizontal bar positioned under said beam and supported upon said auxiliary hanger.

5. In a mechanism of the class described, the combination with a support and a door, of a primary and an auxiliary hanger carried by said support, door-actuating means pivotally mounted upon said primary hanger and coöperating with said door for moving the same, and means carried by said auxiliary hanger for supporting said door-actuating means when the same is not supported by said primary hanger.

6. In a mechanism of the class described, the combination with a support and a door, of primary and auxiliary hangers carried by said support, said primary hanger comprising a pair of brackets, door-actuating means pivotally mounted upon said brackets and coöperating with said door, said auxiliary hanger comprising a plurality of bolts and a transverse plate or bar connecting said bolts, and the bar positioned beneath the door-actuating means and below its pivot point.

7. In a mechanism of the class described, the combination with a support and a door, of a primary and an auxiliary hanger carried by said support, door-actuating means pivotally mounted upon said primary hanger and coöperating with said door, said auxiliary hanger comprising bolts extending entirely through said support, and a detachable bar carried by said bolts below said door-actuating means, and a spring-pressed manually-operated plunger carried by said support and connected to said door-actuating means.

8. In a mechanism of the class described, the combination with a support and a door, of manually-operated door-actuating means carried by said support and coöperating with said door, said door-actuating means provided with an extension, a catch engaging said support and adapted to engage said extension for retaining said door-actuating means in an adjusted position, said catch comprising a vertical body portion provided with a loop, said body portion provided with a horizontal portion, and means engaging the horizontal portion upon opposite sides of said vertical body portion for pivotally connecting the same to said floor.

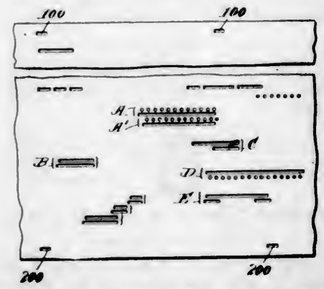
9. In a mechanism of the class described, the combination with a support and a door, of door-actuating means coöperating with said door, said door-actuating means provided with a vertically-movable plunger, said plunger provided with a foot-plate at its upper end, a guide secured at its upper end to said foot-plate and having its lower end left free, the guide extending through said support, and a yieldable member interposed between said support and foot-plate and positioned upon said guide.

10. In a mechanism of the class described, the combination with a support and a pair of doors, of door-actuating means for synchronously swinging the doors upon said support, said door-actuating means comprising a horizontal shaft, a cog-wheel fixedly secured to said shaft, means connecting said shaft to said doors, primary and auxiliary hangers carried by said support, a pivoted member carried by said primary hanger, a semi-circular gear fixedly secured to one end of said pivoted member and meshing with said cog-wheel, the auxiliary hanger having a portion extending under said pivoted member, a vertically movable plunger carried by said support and pivotally connected to said plunger, and a spring interposed between said support and connecting means, whereby when said plunger is manually operated for moving the same downward, said spring will automatically move said plunger upward when pressure is removed therefrom.

11. In a mechanism of the class described, the combination with a support and a pair of doors, of a horizontal shaft carried by said support and provided near its center with a cog-wheel, means connecting the doors to said horizontal shaft near its ends, means provided with a plunger and a parallel guide, movably mounted upon said support and coöperating with said cog-wheel for rotating the same and thereby actuating said doors, means connecting the upper ends of said plunger and guide, and a spring carried by said guide and interposed between said connecting means and said support.

REISSUES.

12,695. MUSIC-SHEET. WILLIAM H. REES, Worcester, Mass., assignor to The Aeolian Company, New York, N. Y., a Corporation of Connecticut. Filed July 10, 1907. Serial No. 383,130. Original Patent No. 825,277, dated July 3, 1906. Divided and this application filed May 7, 1906, Serial No. 315,461. Patented May 28, 1907, No. 855,413.



1. As an article of manufacture, a music sheet having two sets of note perforations located in interspersed rows, one set representing a distinct musical part and the other the accompaniment therefor, said sheet having a marginal row of perforations at the side of the note perforations.

2. As an article of manufacture, a music sheet having two sets of note perforations located in alternate rows, one

set representing a distinct and complete musical part and the other the accompaniment therefor, said sheet having a marginal row of perforations at each side of the note perforations, each of said marginal perforations being located in alinement with one or more of the note perforations.

3. As an article of manufacture, a music sheet for use on a double manual automatic musical instrument, said sheet having two sets of note perforations located in alternate rows, one set representing a distinct musical part corresponding to one manual and the other the accompaniment therefor for the other manual, said sheet also having a marginal row of perforations located in transverse alinement with certain of the note perforations, and a second additional row of perforations located in transverse alinement with certain note perforations corresponding to the lower manual, whereby said sheet may be used on a double manual instrument and the two last named rows of perforations may be employed in connection therewith for modifying the rendering of the musical composition represented by said sheet.

DESIGNS.

38,801. BADGE. CHARLES J. DIEGES, New York, N. Y. Filed Aug. 19, 1907. Serial No. 389,305. Term of patent 7 years.



The ornamental design for a badge, as shown.

38,802. BADGE. CHARLES J. DIEGES, New York, N. Y. Filed Aug. 19, 1907. Serial No. 389,306. Term of patent 7 years.



The ornamental design for a badge, as shown.

38,803. BADGE. CHARLES J. DIEGES, New York, N. Y. Filed Aug. 19, 1907. Serial No. 389,307. Term of patent 7 years.



The ornamental design for a badge, as shown.

38,804. BADGE. CHARLES J. DIEGES, New York, N. Y. Filed Aug. 19, 1907. Serial No. 389,308. Term of patent 7 years.



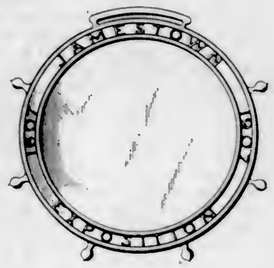
The ornamental design for a badge, as shown.

38,805. BADGE. CHARLES J. DIEGES, New York, N. Y. Filed Aug. 19, 1907. Serial No. 389,309. Term of patent 7 years.



The ornamental design for a badge, as shown.

38,806. FOB. JOSEPH M. SEAWELL, Richmond, Va. Filed Feb. 23, 1907. Serial No. 359,037. Term of patent 3½ years.



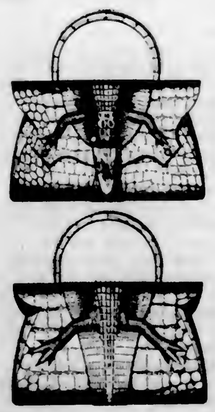
The ornamental design for a fob, as shown.

38,807. ORNAMENT. JOHN W. TALBOT, South Bend, Ind. Filed Aug. 10, 1907. Serial No. 388,065. Term of patent 14 years.



The ornamental design for an ornament, as shown.

38,808. HAND-BAG. HENRY GROSSMAN, New York, N. Y. Filed Aug. 2, 1907. Serial No. 386,827. Term of patent 7 years.



The ornamental design for a hand-bag, as shown.

38,809. DOLL. SAMUEL KAHN and WILLIAM REIZENSTEIN, New York, N. Y. Filed Aug. 19, 1907. Serial No. 389,303. Term of patent 3½ years.



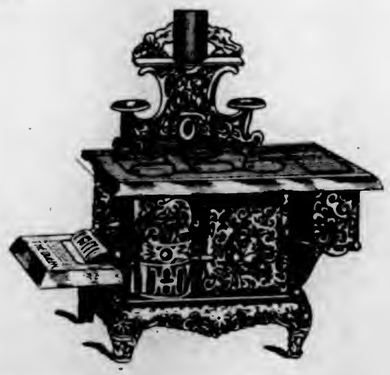
The ornamental design for a doll as shown.

38,810. TOY SAFE. PETER G. WING, Chicago, Ill. Filed Aug. 15, 1907. Serial No. 388,739. Term of patent 7 years.



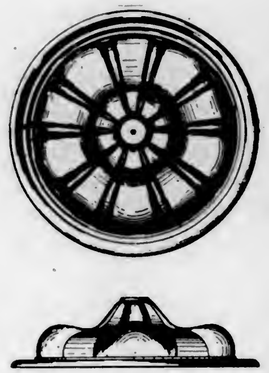
The ornamental design for a toy safe as shown.

38,811. TOY STOVE. PETER G. WING, Chicago, Ill. Filed Aug. 15, 1907. Serial No. 388,738. Term of patent 7 years.



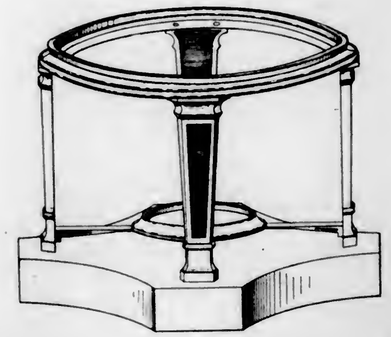
The ornamental design for a toy stove as shown.

38,812. CHAFING-DISH COVER. GEORGE E. SAVAGE, Meriden, Conn. Filed Aug. 13, 1907. Serial No. 388,422. Term of patent 7 years.



The ornamental design for a chafing dish cover as shown.

38,813. CHAFING-DISH STAND. EDWARD A. GUTERMANN, Meriden, Conn. Filed Aug. 13, 1907. Serial No. 388,423. Term of patent 7 years.



The ornamental design for a chafing dish stand as shown.

38,814. BACK FOR BRUSHES, MIRRORS, OR SIMILAR ARTICLES. HERBERT J. STRAKER, North Attleboro, Mass., assignor to The Webster Company, a Corporation of Rhode Island. Filed July 27, 1907. Serial No. 385,926. Term of patent 3½ years.



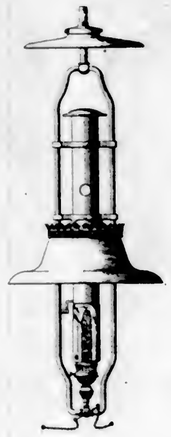
The ornamental design for a back for brushes, mirrors, or similar articles, as shown.

38,815. CLOCK-STAND. WILLIAM T. HOPSON, New London, Conn., assignor to Western Clock Manufacturing Co., La Salle, Ill. Filed July 31, 1907. Serial No. 386,487. Term of patent 7 years.



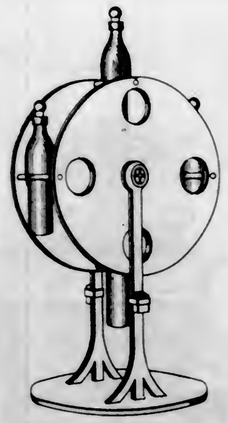
The ornamental design for a clock stand as shown.

38,816. GAS-LAMP. CHARLES A. CAMPBELL, New York, N. Y. Filed May 3, 1907. Serial No. 371,728. Term of patent 7 years.



The ornamental design for a gas lamp substantially as shown.

38,817. CASTER. ALBERT MALCHOW, Fort Smith, Ark. Filed July 31, 1907. Serial No. 386,486. Term of patent 7 years.



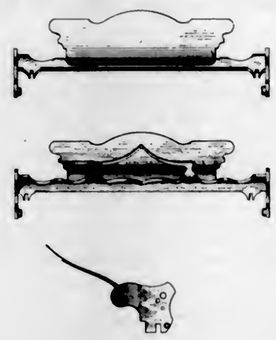
The ornamental design for a caster, as shown.

38,818. STATUE. JOHN GEDNETZ, Beloit, Ohio. Filed Aug. 17, 1907. Serial No. 389,075. Term of patent 3½ years.



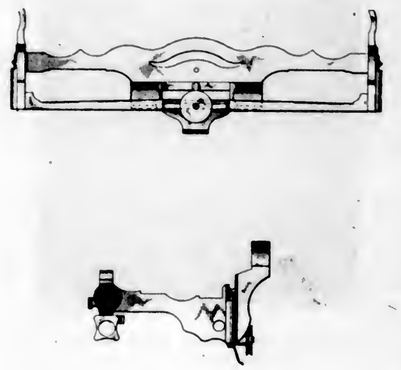
The ornamental design for statue as shown.

38,819. TYPE-WRITER-PLATEN FRAME. JESSE ALEXANDER, Brooklyn, N. Y. Filed Aug. 3, 1905. Serial No. 272,614. Term of patent 14 years.



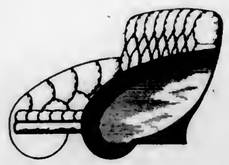
The ornamental design for a typewriter platen frame as shown.

38,820. TYPE-WRITER-CARRIAGE FRAME. JESSE ALEXANDER, Brooklyn, N. Y. Filed Aug. 3, 1905. Serial No. 272,616. Term of patent 14 years.



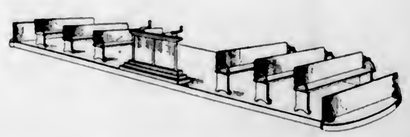
The ornamental design for a typewriter carriage frame as shown.

38,821. VEHICLE-SEAT. FRANK E. ECKHART, Auburn, Ind. Filed Apr. 12, 1907. Serial No. 367,898. Term of patent 7 years.



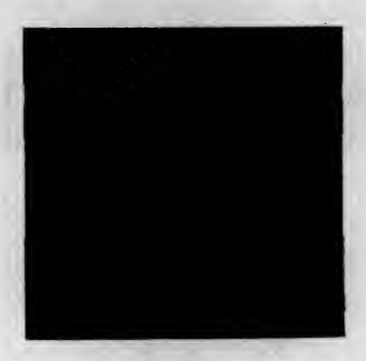
The ornamental design for a vehicle seat, as shown.

38,822. RAILWAY-CAR BODY. CHARLES V. ROTE, Lancaster, Pa., assignor of one-third to Parke E. Shee and one-third to Frederick Shoff, Lancaster, Pa. Filed June 3, 1907. Serial No. 377,118. Term of patent 14 years.



The ornamental design for a railway car body, as shown.

38,823. WOVEN SKIRTING. CHARLES H. LANDENBERGER, Philadelphia, Pa. Filed Aug. 6, 1907. Serial No. 387,364. Term of patent 3½ years.



The ornamental design for a woven skirting, as shown.

38,824. WOVEN SKIRTING. CHARLES H. LANDENBERGER, Philadelphia, Pa. Filed Aug. 7, 1907. Serial No. 387,570. Term of patent 3½ years.



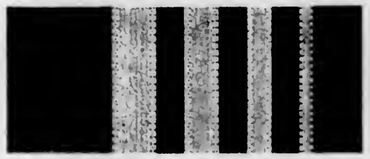
The ornamental design for a woven skirting, as shown.

38,825. WOVEN SKIRTING. CHARLES H. LANDENBERGER, Philadelphia, Pa. Filed Aug. 9, 1907. Serial No. 387,742. Term of patent 3½ years.



The ornamental design for a woven skirting, as shown.

38,826. WOVEN SKIRTING. CHARLES H. LANDENBERGER, Philadelphia, Pa. Filed Aug. 9, 1907. Serial No. 387,933. Term of patent 3½ years.



The ornamental design for a woven skirting, as shown.

TRADE-MARKS

PUBLISHED SEPTEMBER 17, 1907.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 5,872. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) CARTER MEDICINE COMPANY, New York, N. Y. Filed May 17, 1905. Used ten years.

Carter's Little Liver Pills

Particular description of goods.—Pills.

Ser. No. 6,105. (CLASS 54. SEA FOODS.) MENZEL & Co., New York, N. Y. Filed May 19, 1905.

NIMBUS

Particular description of goods.—Bismark Herring, Rollmops, Spiced Anchovies, Sardels, Appetit-Sild, Salt Herring, Spiced Herring, Sardines, Russian Sardines.

Ser. No. 11,496. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) WYETH HARDWARE & MANUFACTURING CO., St. Joseph, Mo. Filed Aug. 10, 1905.



Particular description of goods.—Pocket-Knives, Table-Knives, Butcher-Knives, Razors, and Scissors.

Ser. No. 12,076. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) CHANCE & HUNT, LD., Oldbury, England. Filed Aug. 29, 1905.



Particular description of goods.—Caustic Soda.

Ser. No. 15,306. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) GIO. BUTON & Co., Bologna, Italy. Filed Dec. 9, 1905.



Particular description of goods.—Bitters.

Ser. No. 15,413. (CLASS 10. FERTILIZERS.) THE MOUNTAIN COPPER COMPANY LIMITED, London, England, and San Francisco, Cal. Filed Dec. 14, 1905.

MOCOCO

Particular description of goods.—Fertilizers.

Ser. No. 18,401. (CLASS 68. PUBLICATIONS.) HOME AND FARM PUBLISHING CO., Louisville, Ky. Filed Mar. 31, 1906.

HOME AND FARM

Particular description of goods.—Semimonthly Publications.

Ser. No. 18,937. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE WARREN FEATHERBONE CO., Three Oaks, Mich. Filed Apr. 20, 1906. Used ten years.

QUILLBONE

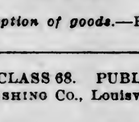
Particular description of goods.—Whip Stock or Materials, Whips, and Whip-Lashes.

Ser. No. 20,133. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) BONETTI FRÈRES, Paris, France. Filed June 7, 1906.



Particular description of goods.—An Alterative Iodin Compound.

Ser. No. 20,246. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) BODY BUILDERS MEDICINE COMPANY, Binghamton, N. Y. Filed June 13, 1906.



Particular description of goods.—Kidney, Liver, and Blood Remedies.

Ser. No. 20,579. (CLASS 47. CONFECTIONERY.) PENNSYLVANIA CHOCOLATE COMPANY, Pittsburg, Pa. Filed June 26, 1906.

INDIAN

Particular description of goods.—Chocolate and Cocoa.

Ser. No. 20,710. (CLASS 3. VEGETABLE.) GEO. A. ALDEN & Co., Boston, Mass. Filed July 2, 1906.

ONE WHEEL BRAND



Particular description of goods.—India-Rubber, Gutta-Percha, and other Vulcanizable Gums.

Ser. No. 20,773. (CLASS 14. METALS, UNWROUGHT AND PARTLY WROUGHT.) PAUL RICHARD KUEHNRICH, Sheffield, England. Filed July 7, 1906.

DUREX

Particular description of goods.—Steel Ingots and Bars, Draw-Plates, and Wortles.

Ser. No. 21,969. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) BOOTT MILLS, Lowell, Mass. Filed Sept. 7, 1906.

BM

Particular description of goods.—Cotton Piece Goods.

Ser. No. 21,970. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) BOOTT MILLS, Lowell, Mass. Filed Sept. 7, 1906.

BM

Particular description of goods.—Cotton Piece Goods.

Ser. No. 22,368. CLASS 55. WINES.) ROYÉ LABAUME & Co., Beaune, France. Filed Sept. 28, 1906.



Particular description of goods.—Wines.

Ser. No. 22,981. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) DULUTH-SUPERIOR MILLING Co., Duluth, Minn. Filed Oct. 29, 1906. Used ten years.



Particular description of goods.—Wheat-Flour.

Ser. No. 23,251. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) DACOTAH MANUFACTURING Co., St. Paul, Minn. Filed Nov. 10, 1906.



Particular description of goods.—Mackinaw Overcoats, Trousers, Dress-Shirts, Underwear, Coats, Overalls, and Jackets, Not Including Knitted Goods.

Ser. No. 23,785. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) ONEIDA COMMUNITY LIMITED, Oneida and Niagara Falls, N. Y. Filed Dec. 5, 1906. Used ten years.

ONEIDA COMMUNITY

Particular description of goods.—Metal Animal-Ties.

Ser. No. 24,042. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) THE AMERICAN WRINGER COMPANY, New York, N. Y. Filed Dec. 15, 1906.



Particular description of goods.—Clothes-Wringers.

Ser. No. 24,044. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) THE AMERICAN WRINGER COMPANY, New York, N. Y. Filed Dec. 15, 1906.

EG

Particular description of goods.—Wringers and Parts Thereof.

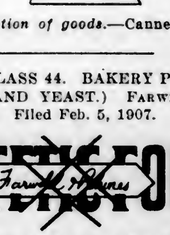
Ser. No. 24,046. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) THE AMERICAN WRINGER COMPANY, New York, N. Y. Filed Dec. 15, 1906.

EMPIRE

Particular description of goods.—Clothes-Wringers.

Ser. No. 24,692. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) EVERETT ROBINSON, Baltimore and Hopewell, Md. Filed Jan. 16, 1907.

MALTESE BRAND



Particular description of goods.—Canned Tomatoes.

Ser. No. 25,150. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) FARWELL & RHINES, Watertown, N. Y. Filed Feb. 5, 1907.

DIETETIC FOOD

Farwell & Rhines

Particular description of goods.—Pure Wheat-Flour.

Ser. No. 25,743. (CLASS 22. FIREARMS, AND EQUIPMENTS AND PROJECTILES NOT OTHERWISE CLASSIFIED.) THE MILLS EQUIPMENT CO. LTD., Westminster, England. Filed Mar. 4, 1907.

MILLSACK

Particular description of goods.—Knapsacks of Woven Material.

Ser. No. 26,003. (CLASS 29. BROOMS, BRUSHES, AND DUSTERS.) THE DAVIS-BRIDAHAM DRUG COMPANY, Denver, Colo. Filed Mar. 16, 1907.

Dekeo

Particular description of goods.—Brushes.

Ser. No. 26,069. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) HAARMANN DE LAIRE SCHAEFER CO., Maywood, N. J. Filed Mar. 19, 1907.

IONONE

Particular description of goods.—An Aromatic Synthetic Liquid Base for Use in Violet Perfumes.

Ser. No. 26,122. (CLASS 35. BELTING, HOSE, AND MACHINERY PACKING.) HENRY J. M. HOWARD, Washington, D. C. Filed Mar. 21, 1907.



The central stripe is blue and the boundary stripes are red.

Particular description of goods.—Canvas Hose.

Ser. No. 26,137. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HOWARD L. WALDO, Troy, N. Y. Filed Mar. 21, 1907. Used ten years.

PHOSPHO-HYDRASTINE

Particular description of goods.—Nerve-Tonic.

Ser. No. 26,149. (CLASS 12. MASONRY MATERIALS.) HEINRICH DOLMETSCH, Stuttgart, Germany. Filed Mar. 22, 1907.

„Korküberzug Auris"

Particular description of goods.—Cork Coverings for Walls and Ceilings.

Ser. No. 26,709. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) THE CONNECTICUT TOOL COMPANY, Bridgeport, Conn. Filed Apr. 15, 1907.

E-Z

Particular description of goods.—Thread-Cutting Dies.

Ser. No. 27,030. (CLASS 8. DETERGENTS.) LOS ANGELES OLIVE GROWERS ASSOCIATION, Los Angeles, Cal. Filed Apr. 30, 1907.



Particular description of goods.—Soap.

Ser. No. 27,237. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JOSEPH P. WARD, Fort Worth, Tex. Filed May 8, 1907.



Particular description of goods.—A Hair Tonic and Invigorator.

Ser. No. 27,240. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) EUREKA MACHINE CO., Lansing, Mich. Filed May 8, 1907.

EUREKA

Particular description of goods.—Concrete-Mixing Machinery.

Ser. No. 27,330. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) EISEMAN & COMPANY, New York, N. Y. Filed May 13, 1907.



Particular description of goods.—Whisky, Brandy, and Gin.

Ser. No. 27,401. (CLASS 12. MASONRY MATERIALS.) THE OHIO MINING & MANUFACTURING CO., New York, N. Y., and Shawnee, Ohio. Filed May 15, 1907.

"INDIAN" BRAND

Particular description of goods.—Building Bricks or Blocks.

Ser. No. 27,536. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE TRUNK BROS. DRUG COMPANY, Denver, Colo. Filed May 20, 1907.



The bottle, trunk, mortar and pestle, and frame being green.

Particular description of goods.—Syrup Oil of Pine Compound and Remedies for the Cigarette Habit, Indigestion and Dyspepsia, Rheumatism and Gout, Colds, Grippe, and Pleurisy.

Ser. No. 27,657. (CLASS 71. TOBACCO PRODUCTS.) DAVID S. SAQUI, New York, N. Y. Filed May 25, 1907.



Particular description of goods.—Cigars, Cigarettes, Cheroots, Smoking-Tobacco, and Chewing-Tobacco.

Ser. No. 27,675. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) HARPHAM BROS. CO., Lincoln, Nebr. Filed May 27, 1907.

H.B. BRAND

Particular description of goods.—Harness, Horse-Collars, Saddles, and Whips.

Ser. No. 27,760. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) WHALEY MILL & ELEVATOR CO., Gainesville, Tex. Filed May 29, 1907.

Southland

Particular description of goods.—Wheat-Flour.

Ser. No. 27,797. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) HARVEY B. INGHAM, Waverly, N. Y. Filed May 31, 1907.



Particular description of goods.—Furniture and Piano Polishes.

Ser. No. 27,910. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) MAULBETSCH & WHITTEMORE COMPANY, Newark, N. J. Filed June 6, 1907.



Particular description of goods.—Cases and Satchels for Musical Instruments, Made in Whole or in Part of Leather or Imitation Thereof.

Ser. No. 27,970. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) J. G. BRILL COMPANY, Philadelphia, Pa., assignor to The J. G. Brill Company, a Corporation of Pennsylvania. Filed June 7, 1907.

"DEDENDA"

Particular description of goods.—Gongs and Parts Thereof, Except Electric Gongs.

Ser. No. 27,971. (CLASS 27. RAILWAY EQUIPMENT NOT OTHERWISE CLASSIFIED AND RAILWAY ROLLING-STOCK.) J. G. BRILL COMPANY, Philadelphia, Pa., assignor to The J. G. Brill Company, a Corporation of Pennsylvania. Filed June 7, 1907.

GEYSER

Particular description of goods.—Railway Street-Sprinklers.

Ser. No. 28,004. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE NEURALGYLINE COMPANY, Wheeling, W. Va. Filed June 10, 1907.

NEURALGINE

Particular description of goods.—Headache Remedies in Liquid and Tablet Form.

Ser. No. 28,070. (CLASS 61. JEWELRY AND SOLID AND PLATED PRECIOUS-METAL WARE.) DURAND & CO., Newark, N. J. Filed June 12, 1907.



Particular description of goods.—Lockets, Brooches, Scarf-Pins, Hat-Pins, Fobs, Finger-Rings, Bracelets, Buckles, Combs, Clasps, Chains, Necklaces, Hand-Bags, Cigarette-Cases, Cigar-Cases, Match-Boxes, Cigar-Cutters, All the Above Being Made of Solid or Plated Precious-Metal Ware.

Ser. No. 28,072. (CLASS 8. DETERGENTS.) RICHARD ELLIS, New York, N. Y. Filed June 12, 1907.

VERGOLINE.

Particular description of goods.—A Powdered Granular Soap.

Ser. No. 28,231. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) SCHULTES AGOST, SZINYE-LIPOCZI SALVATORFORRÁS VÁLLALAT, Eperjes, Comitat Saros, Hungary. Filed June 18, 1907.



Particular description of goods.—Natural Mineral Water.

Ser. No. 28,234. (CLASS 63. MEASURING AND SCIENTIFIC APPARATUS, APPLIANCES, AND INSTRUMENTS.) HANS WALTER EGLI, Zürich, Switzerland. Filed June 18, 1907.

THE MILLIONAIRE

Particular description of goods.—Calculating-Machines.

Ser. No. 28,268. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) SPEARS & RIDDLE CO., Wheeling, W. Va. Filed June 20, 1907.

IDEAL

Particular description of goods.—Washing-Machines.

Ser. No. 28,407. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) LOUISVILLE INVENTORS ASSOCIATION, Louisville, Ky. Filed June 26, 1907.

"ASPIR-QUININE"

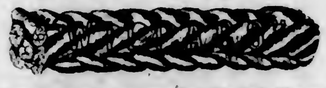
Particular description of goods.—A Remedy for Colds and Malaria.

Ser. No. 28,572. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) LUDWIG G. B. ERB, New York, N. Y. Filed July 2, 1907.



Particular description of goods.—Rochelle Salt, Cream of Tartar, Alum, Flaxseed, Epsom Salt, Chlorate of Potash, Bicarbonate of Soda, Boracic Acid, Oxalic Acid, Sulfur, Insect-Powder, Drop-Chalk, Borax, Salts of Tartar, Phosphate of Soda, Oil of Wintergreen, Oil of Cloves, Peroxid of Hydrogen, Lime-Water, Glycerin, Carbolic Acid, Citrate of Magnesia, Antiseptic Tooth-Wash, and Sulfate of Soda.

Ser. No. 28,627. (CLASS 35. BELTING, HOSE, AND MACHINERY PACKING.) THE WILPACO PACKING COMPANY, New York, N. Y. Filed July 6, 1907.



Particular description of goods.—Plaited Fibrous Packing.

Ser. No. 28,637. (CLASS 63. MEASURING AND SCIENTIFIC APPARATUS, APPLIANCES, AND INSTRUMENTS.) OPTICAL SPECIALTIES COMPANY, Boston, Mass. Filed July 8, 1907.

OPIFEX

Particular description of goods.—Bifocal Lenses.

Ser. No. 28,763. (CLASS 71. TOBACCO PRODUCTS.) PETER MOHR, Belleville, Ill. Filed July 12, 1907. Used ten years.

M. HENKEMEYER'S

Particular description of goods.—Cigars.

Ser. No. 28,824. (CLASS 9. EXPLOSIVES.) SÄCHSISCHE PULVERFABRIKEN G. KRANTZ & Co., Bautzen, Germany. Filed July 16, 1907.

SAXONIA

Particular description of goods.—Cartridges, Powder, and Smokeless Powder.

Ser. No. 28,831. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE BURT OLNEY CANNING CO., Oneida and Albion, N. Y. Filed July 17, 1907.

NECTAR

Particular description of goods.—Canned Fruits and Vegetables, Except Canned Corn.

Ser. No. 28,834. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) DRAKE & COMPANY, Easton, Pa. Filed July 17, 1907.



Particular description of goods.—Teas and Coffees.

Ser. No. 28,877. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) SCHORSCH & Co., New York, N. Y. Filed July 19, 1907.

IRONCLAD

Particular description of goods.—Paper Bags.

Ser. No. 28,908. (CLASS 64. MEDICAL AND SURGICAL APPARATUS, APPLIANCES, AND INSTRUMENTS.) RAMEY MEDICATOR COMPANY, Asbury Park, N. J. Filed July 19, 1907.



Particular description of goods.—A Medicator or Inhaler.

Ser. No. 28,930. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) JOHN BARTH COMPANY, Milwaukee, Wis. Filed July 22, 1907.



Particular description of goods.—Vodka.

Ser. No. 28,950. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE BURT OLNEY CANNING CO., Oneida and Albion, N. Y. Filed July 22, 1907.



Particular description of goods.—Canned Fruits and Vegetables.

Ser. No. 28,953. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) TOWNER K. WEBSTER, Jr., New York, N. Y. Filed July 22, 1907.

CROSS

Particular description of goods.—Suspenders, Belts, Garters, Hose-Supporters, and Sleeve-Bands.

Ser. No. 28,954. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) TOWNER K. WEBSTER, Jr., New York, N. Y. Filed July 22, 1907.

SIMPLEX

Particular description of goods.—Suspenders, Belts, Garters, Hose-Supporters, and Sleeve-Bands.

Ser. No. 28,955. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) TOWNER K. WEBSTER, Jr., New York, N. Y. Filed July 22, 1907.

SIMPLE X

Particular description of goods.—Suspenders, Belts, Garters, Hose-Supporters, and Sleeve-Bands.

Ser. No. 28,956. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) TOWNER K. WEBSTER, Jr., New York, N. Y. Filed July 22, 1907.

X

Particular description of goods.—Suspenders, Belts, Garters, Hose-Supporters, and Sleeve-Bands.

Ser. No. 29,033. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JOSEPH L. ROSENFIELD, Pueblo, Colo. Filed July 25, 1907.



Particular description of goods.—Bitters.

Ser. No. 29,046. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) WM. OPENHYM & SONS, New York, N. Y. Filed July 26, 1907.



Particular description of goods.—Ribbons.

Ser. No. 29,047. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) WM. OPENHYM & SONS, New York, N. Y. Filed July 26, 1907.



Particular description of goods.—Ribbons.

Ser. No. 29,048. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) BLOCK-HORN PRESERVING CO., Kansas City, Mo. Filed July 26, 1907.



Particular description of goods.—Pickles, Vinegar, Catsup, Olives, Sauer-Kraut, Mustard, Sauce, Apple-Butter, Mince-Meat, Apricot Preserves, Pineapple Preserves, Plum Preserves, Damson Preserves, Strawberry Preserves, Blackberry Preserves, Red-Raspberry Preserves, Black-Raspberry Preserves, Peach Preserves, Cherry Preserves, and Pear Preserves.

Ser. No. 29,049. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ROBERT HASELL MCKOY, Wilmington, N. C. Filed July 26, 1907.

CALUMETS

Particular description of goods.—Remedy in the Form of a Cigarette or Pastil for Catarrh, Headaches, Catarrhal Deafness, Asthma, and Colds.

Ser. No. 29,050. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JOSEPH A. BEGY, Rochester, N. Y. Filed July 26, 1907.

MUSTARINE

Particular description of goods.—Remedies for Relief of Pain, Lameness, and Soreness.

Ser. No. 29,056. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) FRANZ J. DOHRN, White Plains, N. Y. Filed July 26, 1907.



The diamond field is red.

Particular description of goods.—Non-Alcoholic Beverages Made Principally from Fruit.

Ser. No. 29,069. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) QUALITY SAW & TOOL WORKS, INCORPORATED, Springfield, Mass. Filed July 27, 1907.



Particular description of goods.—Saws.

Ser. No. 29,092. (CLASS 47. CONFECTIONERY.) SCHRADERS, New York, N. Y. Filed July 29, 1907.



Particular description of goods.—All Kinds of Candy.

Ser. No. 29,122. (CLASS 48. DAIRY PRODUCTS.) OSCAR M. CARGO, New York, N. Y. Filed July 29, 1907.

DAISY

Particular description of goods.—Cheese.

Ser. No. 29,127. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) BOEHM & LEVINE, New York, N. Y. Filed July 31, 1907.



Particular description of goods.—Ladies' Jabots Made of Netted and Lace Fabrics.

Ser. No. 29,129. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) GEO. H. CROSS CO., St. Johnsbury, Vt. Filed July 31, 1907. Used ten years.

ST. JOHNSBURY

Particular description of goods.—Bread and Crackers.

Ser. No. 29,132. (CLASS 28. SEWING-MACHINES AND ATTACHMENTS.) NATIONAL SEWING MACHINE COMPANY, Belvidere, Ill. Filed July 31, 1907. Used ten years.

ELDREDGE

Particular description of goods.—Sewing-Machine Needles.

Ser. No. 29,135. (CLASS 35. BELTING, HOSE, AND MACHINERY PACKING.) REVERE RUBBER COMPANY, Boston, Mass. Filed July 31, 1907.

REVERO

Particular description of goods.—Belting, Hose, and Machinery Packings Composed of Metal, Rubber, Rubber Compositions, or Textile Fabrics or Combinations Thereof.

Ser. No. 29,167. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) KUMBERGER & VREELAND, New York, N. Y. Filed Aug. 1, 1907.



Particular description of goods.—Marine Gasolene-Engines.

Ser. No. 29,179. (CLASS 52. PACKING-HOUSE PRODUCTS.) T. M. SINCLAIR & CO., LTD., Cedar Rapids, Iowa. Filed Aug. 2, 1907.

FROSTO

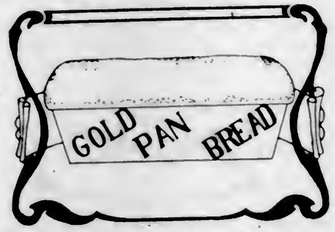
Particular description of goods.—Lard Compound.

Ser. No. 29,200. (CLASS 8. DETERGENTS.) ENTERPRISE SOAP WORKS, Nashville, Tenn. Filed Aug. 3, 1907.



Particular description of goods.—Laundry and Toilet Soap.

Ser. No. 29,234. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) R. C. PROUDFIT BAKING COMPANY, Chicago, Ill. Filed Aug. 5, 1907.



Particular description of goods.—Bread.

Ser. No. 29,236. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) CLARENCE WHITMAN & CO., New York, N. Y. Filed Aug. 5, 1907.

MIRETTE

Particular description of goods.—Mercerized Cotton Piece Fabrics.

Ser. No. 29,237. (CLASS 64. MEDICAL AND SURGICAL APPARATUS, APPLIANCES, AND INSTRUMENTS.) MOON VIBRATOR COMPANY, Chicago, Ill. Filed Aug. 5, 1907.



Particular description of goods.—Electric Vibratory Massage-Machines.

Ser. No. 29,242. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) KERENS SHOE CO., St. Louis, Mo. Filed Aug. 5, 1907.



Particular description of goods.—Leather Boots and Shoes.

Ser. No. 29,245. (CLASS 14. METALS, UNWROUGHT AND PARTLY WROUGHT.) MAGNUS METAL COMPANY, New York, N. Y. Filed Aug. 5, 1907. Used ten years.

MAGNUS

Particular description of goods.—Alloy Castings.

Ser. No. 29,254. (CLASS 70. STATIONERY NOT OTHERWISE CLASSIFIED.) EBERHARD FABER, New York, N. Y. Filed Aug. 6, 1907.

EMERALD

Particular description of goods.—Rubber Erasers.

Ser. No. 29,259. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JAMES T. BUTLER, Abington, Pa. Filed Aug. 6, 1907.



Particular description of goods.—Medicinal Tablets Having Cathartic, Liver and Stomach Stimulating, Blood-Purifying, and Bowel-Strengthening Properties.

Ser. No. 29,272. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) T. LLOYD OWENS, Savannah, Ga. Filed Aug. 7, 1907.

DIXIE BLEND



Particular description of goods.—Coffee.

Ser. No. 29,273. (CLASS 54. SEA FOODS.) ROBERT D. HUME, San Francisco, Cal. Filed Aug. 7, 1907. Used ten years.

ROYAL

Particular description of goods.—Canned Salmon.

Ser. No. 29,285. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) PHILIP EISEMANN, Lancaster, Pa. Filed Aug. 8, 1907.



Particular description of goods.—Razors.

Ser. No. 29,286. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) ROSENFIELD BROS. & Co., Chicago, Ill. Filed Aug. 8, 1907. Used ten years.

ASSOCIATED HAND MADE SOUR MASH BOURBON WHISKEY

Particular description of goods.—Whisky.

Ser. No. 29,287. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE LAZARUS-NASSAUER Co., Cairo, Ill. Filed Aug. 8, 1907.

BELLE BARDWELL

Particular description of goods.—Whisky.

Ser. No. 29,288. (CLASS 28. SEWING-MACHINES AND ATTACHMENTS.) WHITE SEWING MACHINE Co., Cleveland, Ohio. Filed Aug. 8, 1907. Used ten years.

WHITE

Particular description of goods.—Sewing-Machine Shuttles and Shuttle-Carriers Used in Family and Manufacturing Sewing-Machines.

Ser. No. 29,289. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) JACOB HOUSE & SON, Buffalo, N. Y. Filed Aug. 8, 1907.

"OLD CROW"

Particular description of goods.—Ginger-Ale.

Ser. No. 29,291. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) JAPHET & Co., Houston, Tex. Filed Aug. 8, 1907.

BENO



Particular description of goods.—Gin.

Ser. No. 29,294. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) SCHOELLKOPF, HARTFORD & HANNA COMPANY, Buffalo, N. Y. Filed Aug. 8, 1907.



Particular description of goods.—Paints.

Ser. No. 29,297. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) GASPARE G. GRECO, New Orleans, La. Filed Aug. 8, 1907.

LA REGINA



Particular description of goods.—Macaroni.

Ser. No. 29,298. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) COSBY SHOE Co. INCORPORATED, Lynchburg, Va. Filed Aug. 8, 1907.

SALEMAKER

Particular description of goods.—Leather Boots and Shoes.

Ser. No. 29,299. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) COSBY SHOE Co. INCORPORATED, Lynchburg, Va. Filed Aug. 8, 1907.



The bird being printed in brown and the inclosing lines in green.

Particular description of goods.—Leather Boots and Shoes.

Ser. No. 29,300. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) COSBY SHOE Co. INCORPORATED, Lynchburg, Va. Filed Aug. 8, 1907.

NOKIK

Particular description of goods.—Leather Boots and Shoes.

Ser. No. 29,301. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) COSBY SHOE Co. INCORPORATED, Lynchburg, Va. Filed Aug. 8, 1907.

CUSTODIAN

Particular description of goods.—Leather Boots and Shoes.

Ser. No. 29,306. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE GOLDEN HILL DISTILLING Co., Columbus, Ohio. Filed Aug. 8, 1907.

AMERICAN BEAUTY

Particular description of goods.—Cordials.

Ser. No. 29,307. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE GOLDEN HILL DISTILLING Co., Columbus, Ohio. Filed Aug. 8, 1907.

AMERICAN BEAUTY

Particular description of goods.—Whisky.

Ser. No. 29,316. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE DAVIS CHEMICAL COMPANY, Denver, Colo. Filed Aug. 9, 1907.

BATHAFLORA

Particular description of goods.—Toilet Powders and Perfumes.

Ser. No. 29,321. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ROSS OSWALD MCELROY, New York, N. Y. Filed Aug. 9, 1907.

KAV-O-SAN

Particular description of goods.—A Remedy for Venereal Diseases.

Ser. No. 29,338. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) PARAMOUNT KNITTING COMPANY, Chicago, Ill. Filed Aug. 10, 1907.

COASTER

Particular description of goods.—Hosiery.

Ser. No. 29,340. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) PARAMOUNT KNITTING COMPANY, Chicago, Ill. Filed Aug. 10, 1907.

TWO STEP

Particular description of goods.—Hosiery.

Ser. No. 29,346. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) ALBERGER CONDENSER COMPANY, New York, N. Y. Filed Aug. 12, 1907. Used ten years.

WAINWRIGHT

Particular description of goods.—Expansion-Joints.

Ser. No. 29,350. (CLASS 47. CONFECTIONERY.) BROWNELL & FIELD COMPANY, Providence, R. I. Filed Aug. 12, 1907.

AUTOCRAT

Particular description of goods.—Cocoa.

Ser. No. 29,357. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) FREDERICK J. PIEPER, Salt Lake City, Utah. Filed Aug. 12, 1907.



Particular description of goods.—A Hair-Tonic.

Ser. No. 29,358. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) WAYNE COUNTY CANNING Co. LTD., Marion, N. Y. Filed Aug. 12 ,1907.



Particular description of goods.—Canned Fruits and Vegetables.

Ser. No. 29,359. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) OAKLAND VINEGAR AND PICKLE Co., Saginaw, Mich. Filed Aug. 12, 1907. Used ten years.



Particular description of goods.—Vinegars and Pickles.

Ser. No. 29,372. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) ABBOT AUGUSTUS LOW, Brooklyn, N. Y. Filed Aug. 13, 1907.



Particular description of goods.—Electrically-Heated Soldering-Irons, Sad-Irons, and Branding-Irons.

Ser. No. 29,373. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) STANDARD IMPORT CO., LTD., New Orleans, La. Filed Aug. 13, 1907.

BANZAI

Particular description of goods.—Tea.

Ser. No. 29,406. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE FERRUGINOID CO., New York, N. Y. Filed Aug. 15, 1907.

Ferruginoids

Particular description of goods.—A Remedy for Anemia-Chlorosis, Debility, and Impoverished Blood Conditions.

Ser. No. 29,415. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THOMAS HETHERINGTON, Philadelphia, Pa. Filed Aug. 16, 1907.

Himmense

Particular description of goods.—Toilet Preparation for the Mustache or Hair.

Ser. No. 29,416. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THOMAS HETHERINGTON, Philadelphia, Pa. Filed Aug. 16, 1907.

America's Laurels

Particular description of goods.—Perfumes.

Ser. No. 29,422. (CLASS 47. CONFECTIONERY.) NATIONAL CANDY COMPANY, Jersey City, N. J. Filed Aug. 16, 1907.

Lady Vernon

Particular description of goods.—Candies Composed of or Containing Chocolate.

Ser. No. 29,428. (CLASS 29. BROOMS, BRUSHES, AND DUSTERS.) GUSTAVE STRASSBURGER, New York, N. Y. Filed Aug. 16, 1907.

Updown

Particular description of goods.—Tooth-Brushes.

Ser. No. 29,437. (CLASS 31. FILTERS AND REFRIGERATORS.) RICHMOND CEDAR WORKS, Richmond, Va. Filed Aug. 17, 1907.

DOUBLE QUICK

Particular description of goods.—Ice-Cream Freezers.

Ser. No. 29,439. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) CHARLES S. RICH, New York, N. Y. Filed Aug. 17, 1907. Used ten years.

MME. JULIAN'S SPECIFIC



Particular description of goods.—Preparations for the Removal of Hair and Blemishes from the Skin.

Ser. No. 29,441. (CLASS 54. SEA FOODS.) EDWIN SHIVELL, Melrose, Mass. Filed Aug. 17, 1907.

CIRCLE BRAND SMOKED SARDINES

Particular description of goods.—Sardines.

Ser. No. 29,442. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) THE GEORGE A. LUTZ CO., New York, N. Y. Filed Aug. 17, 1907.

SX

Particular description of goods.—Dry Batteries.

Ser. No. 29,443. (CLASS 17. WOOD MANUFACTURES NOT OTHERWISE CLASSIFIED.) VENESTA LIMITED, London, England. Filed Aug. 17, 1907.

ALDERLITE

Particular description of goods.—Compound Sheets of Wood, and Boxes and Barrels Made of Such Compound Sheets.

Ser. No. 29,444. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) JACOB & BROWN, New York, N. Y. Filed Aug. 17, 1907.

"PRESTO"

Particular description of goods.—Buckles.

Ser. No. 29,452. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) G. H. BALLOU COMPANY, San Diego, Cal. Filed Aug. 19, 1907.

SUN

Particular description of goods.—Spices and Flavoring Extracts.

Ser. No. 29,459. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) CLARENCE C. SAUNDERS, Celina, Tex. Filed Aug. 19, 1907.

Particular description of goods.—Stock-Powders.

Ser. No. 29,473. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) NORTHERN MANUFACTURING COMPANY, Bangor, Me. Filed Aug. 19, 1907.

THE IMPERVIOUS CO.

Particular description of goods.—Paints.

Ser. No. 29,479. (CLASS 18. AGRICULTURAL AND DAIRY MACHINERY AND PARTS OF SUCH MACHINERY.) HARRIE G. MOORE, Kansas City, Mo. Filed Aug. 20, 1907.

Particular description of goods.—Plows.

Ser. No. 29,484. (CLASS 43. THREAD AND YARN.) THE AMERICAN THREAD COMPANY, Jersey City, N. J. Filed Aug. 20, 1907. Used ten years.

NEW YORK MILLS.

Particular description of goods.—Spool-Cotton, Sewing-Cotton, and Thread.

Ser. No. 29,488. (CLASS 70. STATIONERY NOT OTHERWISE CLASSIFIED.) J. KEARNEY & Co., Liverpool, England. Filed Aug. 20, 1907.

RED DWARF

Particular description of goods.—Stylographic Fountain-Pens.

Ser. No. 29,505. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WILLIAM D. DUNCAN, Ottawa, Ill. Filed Aug. 21, 1907.

32 CALIBERS

Particular description of goods.—A Remedy for Colds, Headache, Neuralgia, Dyspepsia, La Grippe, and Pains.

Ser. No. 29,507. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE SILVER SUDS MANUFACTURING COMPANY, Philadelphia, Pa. Filed Aug. 21, 1907.

CU-RA-PA-PIER-A PAPER-CURE A THIN FLEXIBLE PLASTER. THE SILVER SUDS MFG. CO. PHILADELPHIA, PA.

Particular description of goods.—Dressings for Corns, Bunions, Ingrowing Nails, Inflamed and Rheumatic Joints, and Inflammation of the Skin.

Ser. No. 29,509. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) THE ACME SHEAR COMPANY, Bridgeport, Conn. Filed Aug. 21, 1907.

HERO

Particular description of goods.—Shears and Scissors.

Ser. No. 29,514. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) KELLOGG & HITCHCOCK Co., Syracuse, N. Y. Filed Aug. 22, 1907. Used ten years.

Particular description of goods.—Menthol Ice.

Ser. No. 29,521. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) CHARLES J. ULRICI, New York, N. Y. Filed Aug. 22, 1907.

"TONICOMAGO"

Particular description of goods.—Remedies for Stomach Troubles.

Ser. No. 29,541. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) SHAPIRO & ARONSON, New York, N. Y. Filed Aug. 23, 1907.

Particular description of goods.—Gas and Electric Light Fixtures.

TRADE-MARKS

REGISTERED SEPTEMBER 17, 1907.

65,235. VELOCIPEDES AND TRICYCLES. A. Mecky Company, Philadelphia, Pa.
Filed October 3, 1906. Serial No. 22,457. PUBLISHED JULY 23, 1907.

65,236. SPAGHETTI, VERMICELLI, MACARONI, AND NOODLES. A. Zerega's Sons, Consolidated, New York, N. Y.
Filed August 27, 1906. Serial No. 21,772. PUBLISHED JULY 23, 1907.

65,237. ROOFING, SHEATHING, AND BUILDING PAPER. Barrett Manufacturing Company, New York, N. Y.
Filed June 4, 1907. Serial No. 27,871. PUBLISHED JULY 23, 1907.

65,238. POST AND POLE HOLE DIGGERS. The Buckeye Manufacturing Company, Canton, Ohio.
Filed May 20, 1905. Serial No. 6,131. PUBLISHED JULY 23, 1907.

65,239. WINDOW-GLASS. Chambers Window Glass Co., Pittsburg, Pa.
Filed April 6, 1907. Serial No. 26,521. PUBLISHED JULY 23, 1907.

65,240. POWER-HAMMERS. George E. Davis, Dubuque, Iowa.
Filed January 19, 1906. Serial No. 16,309. PUBLISHED JULY 23, 1907.

65,241. SEWING-MACHINES AND ATTACHMENTS. The Davis Sewing Machine Co., Dayton, Ohio.
Filed May 4, 1907. Serial No. 27,115. PUBLISHED JULY 23, 1907.

65,242. WHEAT-FLOUR. Eagle Roller Mill Company, New Ulm, Minn.
Filed June 24, 1907. Serial No. 28,351. PUBLISHED JULY 23, 1907.

65,243. CERTAIN YARN. Griffon Company, Philadelphia, Pa., and New York, N. Y.
Filed May 8, 1907. Serial No. 27,224. PUBLISHED JULY 23, 1907.

65,244. BITS AND AUGERS. The Irwin Auger Bit Co., Wilmington, Ohio.
Filed June 22, 1907. Serial No. 28,313. PUBLISHED JULY 23, 1907.

65,245. CERTAIN SEA FOODS. John Blauls Sons Company, Burlington, Iowa.
Filed June 25, 1907. Serial No. 28,373. PUBLISHED JULY 23, 1907.

65,246. WHEAT-FLOUR. Moseley & Motley Milling Co., Rochester, N. Y.
Filed June 21, 1907. Serial No. 28,287. PUBLISHED JULY 23, 1907.

65,247. METAL WATER-TRAPS. Robert W. Reid, New York, N. Y.
Filed March 4, 1907. Serial No. 25,752. PUBLISHED JULY 23, 1907.

65,248. ALKALI COMPOUND FOR USE IN FILTERING AND SOFTENING WATER. The Roessler & Hasslacher Chemical Co., New York, N. Y.
Filed June 21, 1907. Serial No. 28,281. PUBLISHED JULY 23, 1907.

65,249. ELECTRICAL INSULATORS. Ivon Schwarz, Nuremberg, Germany.
Filed September 19, 1905. Serial No. 12,782. PUBLISHED JULY 23, 1907.

65,250. CRACKERS, BISCUITS, AND CAKES. Shelby Biscuit Company, Richmond, Va., and Memphis, Tenn.
Filed June 7, 1907. Serial No. 27,957. PUBLISHED JULY 23 1907.

65,251. COFFEE. Adrian L. Shinners, St. Paul, Minn.
Filed June 17, 1907. Serial No. 28,216. PUBLISHED JULY 23, 1907.

65,252. MOTOR TRUCKS AND WAGONS. Russell Thayer, Philadelphia, Pa.
Filed April 13, 1906. Serial No. 18,769. PUBLISHED JULY 23, 1907.

65,253. WHEAT-FLOUR. Thompson Milling Company, Lockport, N. Y.
Filed June 17, 1907. Serial No. 28,225. PUBLISHED JULY 23, 1907.

65,254. COFFEE AND TEA. Wood, Pollard & Co., Boston, Mass.
Filed April 7, 1906. Serial No. 18,601. PUBLISHED JULY 23, 1907.

65,255. TEA. Willard N. Banks, New York, N. Y.
Filed May 31, 1907. Serial No. 27,810. PUBLISHED JULY 23, 1907.

65,256. LAWN-MOWERS. Adelbert B. Case, Springfield, Mass.
Filed June 1, 1907. Serial No. 27,830. PUBLISHED JULY 23, 1907.

65,257. CEREAL SUBSTITUTE FOR COFFEE. Cissna Cereal Coffee Co., Cissna Park, Ill.
Filed June 5, 1907. Serial No. 27,888. PUBLISHED JULY 23, 1907.

65,258. SEWING-COTTON WOUND ON SPOOLS OR REELS. Clark & Co. Ltd., Paisley, Scotland.
Filed October 17, 1905. Serial No. 13,708. PUBLISHED JULY 23, 1907.

65,259. SHOCK-ABSORBERS FOR AUTOMOBILES. Herbert C. Comstock, New York, N. Y.
Filed June 5, 1907. Serial No. 27,889. PUBLISHED JULY 23, 1907.

65,260. CERTAIN CEREAL FOODS. The Corno Mills Company, East St. Louis, Ill.
Filed June 17, 1907. Serial No. 28,207. PUBLISHED JULY 23, 1907.

65,261. BICYCLES. Great Western Manufacturing Company, Laporte, Ind.
Filed May 31, 1907. Serial No. 27,793. PUBLISHED JULY 23, 1907.

65,262. CAR-COUPLINGS. The National Malleable Castings Co., Cleveland, Ohio.
Filed June 24, 1907. Serial No. 28,358. PUBLISHED JULY 23, 1907.

65,263. GLUCOSE, GRAPE-SUGAR, AND POTATO-STARCH SYRUP. Norddeutsche Kartoffelmehl-Fabrik mit beschränkter Haftung, Cüstrin, Germany.
Filed May 15, 1907. Serial No. 27,393. PUBLISHED JULY 23, 1907.

65,264. CRACKERS, BISCUITS, AND CAKES. Shelby Biscuit Company, Richmond, Va., and Memphis, Tenn.
Filed June 7, 1907. Serial No. 27,956. PUBLISHED JULY 23, 1907.

65,265. COFFEE AND TEA. Oliver-Finnie Co., Memphis, Tenn.
Filed May 28, 1907. Serial No. 27,707. PUBLISHED JULY 23 1907.

65,266. MINERAL PAINTS. THE AMERICAN GRAPHITE COMPANY, Cleveland, Ohio.
Filed June 24, 1907. Serial No. 28,346. PUBLISHED JULY 23, 1907.

65,267. CERTAIN TEXTILES. ATUYER, BIANCHINI, FÉRIER & CIE., Lyon, France.
Filed August 22, 1906. Serial No. 21,702. PUBLISHED JULY 23, 1907.

65,268. CERTAIN CLOTHING. BIRD, JONES & KENYON, Utica, N. Y.
Filed September 28, 1906. Serial No. 22,360. PUBLISHED JULY 23, 1907.

65,269. CERTAIN CLOTHING. BRISCOE IVEY CO. INCORPORATED, Lynchburg, Va.
Filed February 23, 1907. Serial No. 25,547. PUBLISHED JULY 23, 1907.

65,270. LAUNDERED COLORED SHIRTS. THE C. B. CONES & SON MANUFACTURING COMPANY, Indianapolis, Ind.
Filed April 5, 1906. Serial No. 18,542. PUBLISHED JULY 23, 1907.

65,271. SHEETINGS AND DRILLINGS. EXPOSITION COTTON MILLS, Atlanta, Ga.
Filed December 26, 1905. Serial No. 15,624. PUBLISHED JULY 23, 1907.

65,272. WATERPROOF LIQUID BINDER AND INSULATOR. THE FLEXIBLE COMPOUND COMPANY, Wilmington, Del., and Philadelphia, Pa.
Filed May 4, 1907. Serial No. 27,117. PUBLISHED JULY 23, 1907.

65,273. SUITS FOR BOYS AND CHILDREN. IVAN FRANK & Co., New York, N. Y.
Filed May 24, 1906. Serial No. 19,834. PUBLISHED NOVEMBER 6, 1906.

65,274. SILK DRESS GOODS. FRIED, MENDELSON & Co., New York, N. Y.
Filed March 6, 1907. Serial No. 25,792. PUBLISHED JULY 23, 1907.

65,275. COATS, VESTS, AND TROUSERS AND BOYS' SUITS. J. H. RICE & FRIEDMANN Co., Milwaukee, Wis.
Filed June 11, 1907. Serial No. 28,039. PUBLISHED JULY 23, 1907.

65,276. GOLD PREPARATIONS, COLORS, AND ENAMELS FOR VITRIFIABLE PAINTING. JOHN W. HASBURG COMPANY, Chicago, Ill.
Filed June 24, 1907. Serial No. 28,353. PUBLISHED JULY 23, 1907.

65,277. COATS, VESTS, TROUSERS, AND OVERCOATS. LEOPOLD, SOLOMON AND EISENDRATH, Chicago, Ill.
Filed June 8, 1907. Serial No. 27,986. PUBLISHED JULY 23, 1907.

65,278. CERTAIN HAND-TOOLS. SARAH C. MORRILL, New York, N. Y.
Filed April 22, 1905. Serial No. 2,705. PUBLISHED MAY 14, 1907.

65,279. CERTAIN PAINT AND PAINT COMPOUNDS. THE PARAFFINE PAINT Co., San Francisco, Cal.
Filed April 15, 1905. Serial No. 1,786. PUBLISHED JULY 23, 1907.

65,280. FILLERS. THE R. F. JOHNSTON PAINT Co., Cincinnati, Ohio.
Filed May 18, 1907. Serial No. 27,490. PUBLISHED JULY 23, 1907.

65,281. SILK PIECE GOODS AND SILK-MIXED PIECE GOODS. SUSQUEHANNA SILK MILLS, New York, N. Y.
Filed June 22, 1907. Serial No. 28,289. PUBLISHED JULY 23, 1907.

65,282. SILK PIECE GOODS AND SILK-MIXED PIECE GOODS. SUSQUEHANNA SILK MILLS, New York, N. Y.
Filed June 22, 1907. Serial No. 28,291. PUBLISHED JULY 23, 1907.

65,283. SILK PIECE GOODS AND SILK-MIXED PIECE GOODS. SUSQUEHANNA SILK MILLS, New York, N. Y.
Filed June 22, 1907. Serial No. 28,292. PUBLISHED JULY 23, 1907.

65,284. SILK PIECE GOODS AND SILK-MIXED PIECE GOODS. SUSQUEHANNA SILK MILLS, New York, N. Y.
Filed June 22, 1907. Serial No. 28,295. PUBLISHED JULY 23, 1907.

65,285. SILK PIECE GOODS AND SILK-MIXED PIECE GOODS. SUSQUEHANNA SILK MILLS, New York, N. Y.
Filed June 22, 1907. Serial No. 28,296. PUBLISHED JULY 23, 1907.

65,286. ANESTHETIC AND ANALGESIC. THE ABBOTT ALKALOIDAL Co., Chicago, Ill.
Filed May 29, 1907. Serial No. 27,772. PUBLISHED JULY 23, 1907.

65,287. ANESTHETICS. ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany.
Filed June 4, 1907. Serial No. 27,879. PUBLISHED JULY 23, 1907.

65,288. REMEDY FOR THE CURE OF MALARIA, CHILLS FEVER, AND AGUE. EDNA BOYD, Anadarko, Okla. Ter.
Filed October 15, 1906. Serial No. 22,713. PUBLISHED JULY 23, 1907.

65,289. MEDICAL COMPOUND FOR THE CURE OF EPILEPSY. JAMES H. BROWNLEE, Philadelphia, Pa.
Filed June 12, 1907. Serial No. 28,080. PUBLISHED JULY 23, 1907.

65,290. CORN-PLASTERS. LOUIS T. BUGNIAZET, Ridgefield Park, N. J.
Filed June 10, 1907. Serial No. 27,993. PUBLISHED JULY 23, 1907.

65,291. CERTAIN MEDICINES. CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), Berlin, Germany.
Filed August 24, 1905. Serial No. 11,971. PUBLISHED JULY 23, 1907.

65,292. CERTAIN RUBBER GOODS. THE DIAMOND RUBBER Co., Akron, Ohio.
Filed April 3, 1907. Serial No. 26,441. PUBLISHED JULY 23, 1907.

65,293. CERTAIN OPTICAL APPLIANCES AND INSTRUMENTS. F. A. HARDY & Co., Chicago, Ill.
Filed March 14, 1906. Serial No. 17,825. PUBLISHED MARCH 26, 1907.

65,294. TOILET POWDER. GERHARD MENNEN CHEMICAL Co., Newark, N. J.
Filed December 20, 1905. Serial No. 15,526. PUBLISHED JULY 23, 1907.

65,295. CERTAIN MEDICINES. GRESHAM & CARL, Philadelphia, Pa.
Filed June 17, 1907. Serial No. 28,209. PUBLISHED JULY 23, 1907.

65,296. CERTAIN WEIGHING APPARATUS. HENNEFER MASCHINENFABRIK C. REUTHER & REISERT M. B. H., Hennef, Germany.
Filed December 8, 1906. Serial No. 23,880. PUBLISHED JULY 23, 1907.

65,297. CERTAIN FANCY GOODS, FURNISHINGS, AND NOTIONS. HENRY E. FRANKENBERG COMPANY, New York, N. Y.
Filed March 16, 1907. Serial No. 26,004. PUBLISHED JULY 23, 1907.

65,298. CERTAIN FANCY GOODS, FURNISHINGS, AND NOTIONS. HENRY E. FRANKENBERG COMPANY, New York, N. Y.
Filed March 16, 1907. Serial No. 26,005. PUBLISHED JULY 23, 1907.

65,299. SUBSTITUTE FOR TOBACCO. THOMAS HETHERINGTON, Philadelphia, Pa.
Filed June 10, 1907. Serial No. 28,001. PUBLISHED JULY 23, 1907.

65,300. NAIL-POLISH. THE IDEAL MANUFACTURING COMPANY LIMITED, Albany, N. Y.
Filed June 15, 1907. Serial No. 28,152. PUBLISHED JULY 23, 1907.

65,301. PILLS FOR THE CURE OF DYSCRASICAL AND DYSTROPHICAL DISEASES. MAURICE LEPRINCE, Paris, France.
Filed June 7, 1906. Serial No. 20,132. PUBLISHED JULY 23, 1907.

65,302. MUSCLE AND NERVE REMEDY. MARGARET M. DE MARS LIVINGSTON, Chicago, Ill.
Filed June 17, 1907. Serial No. 28,211. PUBLISHED JULY 23, 1907.

65,303. TOILET PREPARATION. HOWARD U. MAXWELL Cleveland, Ohio.
Filed May 20, 1907. Serial No. 27,531. PUBLISHED JULY 23, 1907.

65,304. NON-ALCOHOLIC SYRUP FOR CARBONATED WATER. FINIS MILLIGAN MCCLUNEY, Gadsden, Ala.
Filed June 8, 1907. Serial No. 27,990. PUBLISHED JULY 23, 1907.

65,305. NON-ALCOHOLIC TONIC BEVERAGE, AND SYRUP THEREFOR. R. M. ROSE Co., Atlanta, Ga.
Filed June 15, 1907. Serial No. 28,157. PUBLISHED JULY 23, 1907.

65,306. CARBONATED NON-ALCOHOLIC BEVERAGE, AND SYRUP THEREFOR. RANDOLPH ROSE, Atlanta, Ga.
Filed June 6, 1907. Serial No. 27,916. PUBLISHED JULY 23, 1907.

65,307. CARBONATED NON-ALCOHOLIC BEVERAGE, AND SYRUP THEREFOR. RANDOLPH ROSE, Atlanta, Ga.
Filed June 6, 1907. Serial No. 27,917. PUBLISHED JULY 23, 1907.

65,308. CARBONATED NON-ALCOHOLIC BEVERAGE, AND SYRUP THEREFOR. RANDOLPH ROSE, Atlanta, Ga.
Filed June 6, 1907. Serial No. 27,918. PUBLISHED JULY 23, 1907.

65,309. MINERAL WATER. SHEBOYGAN MINERAL WATER Co., Sheboygan, Wis.
Filed June 19, 1907. Serial No. 28,244. PUBLISHED JULY 23, 1907.

65,310. MINERAL WATER. SHEBOYGAN MINERAL WATER Co., Sheboygan, Wis.
Filed June 19, 1907. Serial No. 28,245. PUBLISHED JULY 23, 1907.

65,311. MINERAL WATER. SHEBOYGAN MINERAL WATER Co., Sheboygan, Wis.
Filed June 19, 1907. Serial No. 28,246. PUBLISHED JULY 23, 1907.

65,312. REMEDY FOR COUGHS AND COLDS. T. GRANVILLE WARDLE, JOHN W. SWAIN, and WALTER E. REX, Philadelphia, Pa., executors of M. Louise Delavau, deceased.
Filed February 20, 1907. Serial No. 25,475. PUBLISHED JULY 23, 1907.

65,313. REMEDIES TO BE USED FOR DISEASES OF AND PERTAINING TO THE SEXUAL ORGANS. ABRAHAM WÜLFING, Berlin, Germany.
Filed February 9, 1907. Serial No. 25,227. PUBLISHED JULY 23, 1907.

65,314. WRITING AND PRINTING PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed June 24, 1907. Serial No. 28,343. PUBLISHED JULY 23, 1907.

65,315. MEASURING-MACHINES FOR REMOTE TEMPERATURE READING AND RECORDING. WILLIAM A. BAKER, Toledo, Ohio.
Filed June 26, 1907. Serial No. 28,392. PUBLISHED JULY 23, 1907.

65,316. NETTED VEILINGS AND NET PIECE GOODS. BENEDICTUS, WEILL & COMPANY, New York, N. Y.
Filed September 26, 1906. Serial No. 22,329. PUBLISHED JULY 23, 1907.

65,317. WHISKY. PATRICK DONAGHUE, Hartford, Conn.
Filed June 22, 1907. Serial No. 28,304. PUBLISHED JULY 23, 1907.

65,318. MAGAZINES. THE HALE PUBLISHING COMPANY, St. Louis, Mo.
Filed June 26, 1907. Serial No. 28,396. PUBLISHED JULY 23, 1907.

65,319. LEATHER BOOTS AND SHOES. HOLLAND SHOE COMPANY, Holland, Mich.
Filed June 22, 1907. Serial No. 28,301. PUBLISHED JULY 23, 1907.

65,320. LEATHER AND CANVAS BOOTS AND SHOES. ISAAC PROUTY & COMPANY INCORPORATED, Boston and Spencer, Mass.
Filed June 15, 1907. Serial No. 28,142. PUBLISHED JULY 23, 1907.

65,321. SOAP. THE M. WERK Co., Cincinnati, Ohio.
Filed June 10, 1907. Serial No. 28,024. PUBLISHED JULY 23, 1907.

65,322. LEATHER AND CLOTH SHOES. MONADNOCK SHOE Co., Keene, N. H.
Filed May 31, 1907. Serial No. 27,803. PUBLISHED JULY 23, 1907.

65,323. MAGAZINES. FISHER H. PEARSON, Lowell, Mass.
Filed June 26, 1907. Serial No. 28,398. PUBLISHED JULY 23, 1907.

65,324. RECLAIMED RUBBER. PEQUANOC RUBBER COMPANY, Butler, N. J.
Filed June 26, 1907. Serial No. 28,399. PUBLISHED JULY 23, 1907.

65,325. CERTAIN KNIT GOODS. P. RAGUET FILS & R. VIGNES, Troyes, France.
Filed June 7, 1906. Serial No. 20,099. PUBLISHED JULY 23, 1907.

65,326. HOSIERY. RICHMOND HOSIERY MILLS, Rossville, Ga.
Filed June 10, 1907. Serial No. 28,012. PUBLISHED JULY 23, 1907.

65,327. SILK PIECE GOODS. STIRLING SILK MFG. Co., Stirling, N. J., and New York, N. Y.
Filed April 29, 1905. Serial No. 3,560. PUBLISHED JULY 23, 1907.

65,328. CERTAIN MEDICINE. JOE. P. WLEKLINSKI, East Chicago, Ind.
Filed June 11, 1907. Serial No. 28,057. PUBLISHED JULY 23, 1907.

65,329. WRITING AND PRINTING PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed June 24, 1907. Serial No. 28,335. PUBLISHED JULY 23, 1907.

65,330. PRESSURE-GAGES, VACUUM-GAGES, REVOLUTION-COUNTERS, AND STROKE-COUNTERS. THE ASHTON VALVE COMPANY, Boston, Mass.
Filed February 1, 1906. Serial No. 16,667. PUBLISHED JULY 23, 1907.

65,331. MONTHLY MAGAZINE. THE ILLINOIS HUMANE SOCIETY, Chicago, Ill.
Filed June 12, 1907. Serial No. 28,074. PUBLISHED JULY 23, 1907.

65,332. SOAPS. THE MEXICAN MEDICINE Co. LTD., Los Angeles, Cal.
Filed June 14, 1907. Serial No. 28,136. PUBLISHED JULY 23, 1907.

65,333. ADVERTISING-CALENDARS AND ADVERTISING-BLOTTERS. THE OSBORNE COMPANY, Newark, N. J., and New York, N. Y.
Filed April 26, 1907. Serial No. 26,943. PUBLISHED JULY 23, 1907.

65,334. RECLAIMED RUBBER. PEQUANOC RUBBER COMPANY, Butler, N. J.
Filed June 21, 1907. Serial No. 28,272. PUBLISHED JULY 23, 1907.

65,335. RECLAIMED RUBBER. PEQUANOC RUBBER COMPANY, Butler, N. J.
Filed June 21, 1907. Serial No. 28,273. PUBLISHED JULY 23, 1907.

65,336. RECLAIMED RUBBER. PEQUANOC RUBBER COMPANY, Butler, N. J.
Filed June 21, 1907. Serial No. 28,274. PUBLISHED JULY 23, 1907.

65,337. WATCHES, WATCHCASES, AND WATCH-MOVEMENTS. PHILADELPHIA WATCH CASE Co., Riverside, N. J.
Filed November 18, 1905. Serial No. 14,799. PUBLISHED DECEMBER 19, 1905.

65,338. LEATHER BOOTS, SHOES, AND SLIPPERS. POWELL BROTHERS SHOE COMPANY, New York, N. Y.
Filed June 10, 1907. Serial No. 28,031. PUBLISHED JULY 23, 1907.

65,339. WHISKY. ROTH & COMPANY, San Francisco, Cal.
Filed July 1, 1905. Serial No. 9,601. PUBLISHED JULY 23, 1907.

65,340. WHISKY. SWOPE & MANGOLD INC., Dallas, Tex.
Filed May 4, 1907. Serial No. 27,132. PUBLISHED JULY 25, 1907.

65,341. GASKETS, OIL-WELL PACKING, RUBBER TUBING, RUBBER HOSE, BELTING, AND PACKING. THE DIAMOND RUBBER CO., Akron, Ohio.
Filed April 4, 1906. Serial No. 18,489. PUBLISHED JULY 23, 1907.

65,342. PENCIL-SHARPENERS. EAGLE PENCIL COMPANY, New York, N. Y.
Filed June 21, 1907. Serial No. 28,275. PUBLISHED JULY 23, 1907.

65,343. FURNACES, STOVES, AND RANGES. KEYSTONE STOVE FOUNDRY, Spring City, Pa.
Filed May 29, 1905. Serial No. 6,862. PUBLISHED JULY 23, 1907.

65,344. PORTABLE TANKS FOR COMPRESSED ACETYLENE GAS. THE PREST-O-LITE COMPANY, Indianapolis, Ind.
Filed May 27, 1907. Serial No. 27,679. PUBLISHED JULY 23, 1907.

65,345. CORDIAL. CHAS. JACQUIN ET CIE. INC., New York, N. Y.
Filed June 2, 1905. Serial No. 7,239. PUBLISHED OCTOBER 31, 1905.

65,346. DETERGENT CLEANING COMPOUNDS. CHAS. W. NICHOLAS, Boone, Iowa.
Filed May 9, 1907. Serial No. 27,271. PUBLISHED JULY 23, 1907.

LABELS

REGISTERED SEPTEMBER 17, 1907.

13,793.—*Title:* "GOLDEN HARVEST." (For Cigars.) A. C. HENSCHEL & Co., Chicago, Ill. Filed August 22, 1907.

13,794.—*Title:* "PABU-BUCHU PURE GIN." (For Gin.) ANDREW FORBES, Philadelphia, Pa. Filed August 21, 1907.

13,795.—*Title:* "COLOMAGNA WATER." (For Mineral Waters.) THE COLOMAGNA SPRINGS COMPANY, Columbus, Ind. Filed June 15, 1907.

13,796.—*Title:* "BOWES-ALLEGRETTI CO. CHOCOLATES." (For Chocolates.) BOWES-ALLEGRETTI Co., Chicago, Ill. Filed August 10, 1907.

13,797.—*Title:* "BOWES-ALLEGRETTI CO. BON BONS AND CHOCOLATES." (For Bonbons and Chocolates.) BOWES-ALLEGRETTI Co., Chicago, Ill. Filed August 10, 1907.

13,798.—*Title:* "BOWES-ALLEGRETTI CO. MILK CHOCOLATES." (For Milk-Chocolates.) BOWES-ALLEGRETTI Co., Chicago, Ill. Filed August 10, 1907.

13,799.—*Title:* "AK-SAR-BEN." (For Canned Sugar-Corn.) MARTIN & NURRE, Blair, Nebr. Filed August 22, 1907.

13,800.—*Title:* "THE LADIES FRIEND." (For a Medicine.) DEAMOR R. DRAKE, Lagrange, Ind. Filed August 16, 1907.

13,801.—*Title:* "FERRO-CHINA-UNIVERSALE." (For Medical Preparations.) P. GARGIULO & COMPANY, New York, N. Y. Filed August 26, 1907.

13,802.—*Title:* "COLDYETTES." (For Medicated Candy or Cough-Drops.) JOHN S. HINCKLEY, Westerly, R. I. Filed August 23, 1907.

13,803.—*Title:* "PERSPIRINE." (For Toilet Powder.) ALFA R. LIEB, Elkhart, Ind. Filed August 26, 1907.

13,804.—*Title:* "COSTS-ANALYSIS." (For Loose-Leaf Books.) CHARLES L. SCHAAR, Chicago, Ill. Filed August 5, 1907.

PRINTS

REGISTERED SEPTEMBER 17, 1907.

2,111.—*Title:* "TOOK THE WORLD AT ONE BOUND." (For Whisky.) WM. LANAHAN & SON, Baltimore, Md. Filed August 24, 1907.

2,112.—*Title:* "FIRST OVER THE BARS." (For Whisky.) WM. LANAHAN & SON, Baltimore, Md. Filed August 27, 1907.

2,113.—*Title:* "BUSTER BROWN BREAD." (For Bread.) THE W. E. LONG Co., Chicago, Ill. Filed August 27, 1907.

2,114.—*Title:* "SILVERINE." (For a Preparation for Cleaning Silverware.) TOWER CHEMICAL MANUFACTURING Co., Philadelphia, Pa. Filed August 21, 1907.

2,115.—*Title:* "MEN'S APPAREL." (For Men's Apparel.) THE STEIN-BLOCH Co., Rochester, N. Y. Filed August 22, 1907.

2,116.—*Title:* "MEN'S AND BOYS' APPAREL." (For Men's and Boys' Apparel.) H. C. LYTTON, Chicago, Ill. Filed August 24, 1907.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

THE DREVET MANUFACTURING COMPANY *v.* THE LIQUOZONE COMPANY.

Decided January 21, 1907.

1. TRADE-MARK—OPPOSITION—PRACTICE.

Where no pleading was filed in response to a notice of opposition and no action taken in response to an order to show cause why the opposition should not be sustained, *Held* that a judgment sustaining such notice of opposition was proper.

2. SAME—SAME—ALLEGATION OF ADOPTION AND USE.

An allegation in a notice of opposition that the opposer adopted "Glycozone" as a trade-mark for a remedy for the treatment of germicidal diseases and that its use was begun prior to the use of the trade-mark "Liquozone" and that it is still sold to a large extent is a sufficient allegation of ownership and continuous use.

3. SAME—SAME—SIMILARITY OF MARKS.

Where two marks which are not identical in appearance are similar in sound and it is alleged that such similarity has caused confusion in trade and the applicant does not see fit to put the opposer to proof of the allegation, the contention as to similarity should be sustained.

ON APPEAL.

TRADE-MARK FOR GERMICIDAL REMEDIES.

Messrs. Mason, Fenwick & Lawrence for The Drevet Manufacturing Company.

Messrs. Rector & Hibben and *Messrs. Bacon & Milans* for The Liquozone Company.

MOORE, *Assistant Commissioner:*

This is an appeal by The Liquozone Company from the decision of the Examiner of Interferences sustaining a notice of opposition of The Drevet Manufacturing Company.

The record shows that the Examiner of Interferences overruled a demurrer to the notice of opposition and set times for the filing of a plea or answer. No pleading was filed, and at the expiration of the time allowed an order was issued to show cause within thirty days why the notice of opposition should not be sustained. No further action was taken by the applicant, and at the end of the thirty days judgment was rendered sustaining the notice of opposition.

The above procedure is in accordance with the practice of the United States courts of equity leading to a decree *pro confesso*. By analogy to the practice of the courts the question to be determined upon this appeal is whether the allegations of the notice of opposition are sufficiently distinct and positive when taken as true to warrant the decision refusing registration of the trade-mark in issue. (*Ohio Central Railroad Company* v. *Central Trust Company of New York*, 133 U. S., 83.)

The trade-mark presented for registration by The Liquozone Company is the word "Liquozone" for a germicidal medicine.

The grounds of opposition are stated as follows:

The Drevet Manufacturing Co. are the manufacturers and sole proprietors of Glycozone, a germicidal remedy which is a thoroughly scientific and legitimate preparation for the treatment of germicidal diseases.

Glycozone was on the market for a number of years prior to the introduction of Liquozone on the market, and is still sold to a large extent. Liquozone being so similar in sound to Glycozone when properly pronounced, has caused confusion and unfair competition in trade, and also deception; parties calling for Glycozone being furnished with Liquozone in numerous instances.

It is urged by the applicant that the notice of opposition fails to allege that the opponent ever used the word "Glycozone" as a trade-mark or that the use of the word "Glycozone" was continuous from a date prior to the date o' adoption of the trade-mark "Liquozone" by the applicant. It is also urged that the words "Glycozone" and "Liquozone" are not so similar as to cause confusion in the mind of the public.

These contentions are not well founded. The statements in the notice of opposition that The Drevet Manufacturing Company is the manufacturer and sole proprietor of the remedy "Glycozone" for the treatment of germicidal diseases, that its use was begun prior to the use of the trade-mark "Liquozone" by the applicant, and that it is still sold to a large extent, when given an ordinary meaning are clearly sufficient allegations of ownership and of continuous use of this trade-mark by the opponent.

The words "Liquozone" and "Glycozone" are not identical in appearance. They, however, contain a common final syllable, "ozone," signifying an oxidizing agent, and are susceptible of substantially the same pronunciation. The notice of opposition alleges that the similarity in sound has caused confusion in trade. The appellant has not seen fit to put the opponent to proof of this allegation or to take testimony in contradiction of the same. Under these circumstances the contention of the opponent that "Liquozone" so closely resembles "Glycozone" as to bar registration of the former word should be sustained

The decision of the Examiner of Interferences is affirmed.

BROWN v. INWOOD AND LAVENBERG.

Decided May 17, 1907.

1. INTERFERENCE—MOTION FOR DISSOLUTION—TRANSMISSION—APPLICATION OF REFERENCES.

Where a motion for dissolution refers to the prior art cited in the records of the applications and gives no information as to what patents are to be urged against the respective counts or how they are to be used or combined to anticipate invention stated in said counts, *Held* that the motion is too indefinite and transmission of the same was properly refused.

2. SAME—MOTION TO AMEND—QUESTION OF NEW MATTER—TRANSMISSION.

The contention that the motion to amend contains new matter relates to the merits and is a matter for the consideration of the Primary Examiner and not the Examiner of Interferences. The motion was therefore properly transmitted.

APPEAL on motion.

MEANS FOR MAKING BOX-BLANKS.

Messrs. Bulkley & Durand and *Messrs. Davis & Davis* for Brown.

Messrs. Dyrenforth, Dyrenforth & Lee for Inwood and Lavenberg.

MOORE, *Acting Commissioner:*

This case is before me on appeals by Brown (1) from the decision of the Examiner of Interferences refusing to transmit the first ground of his motion to dissolve and (2) from the decision of the Examiner of Interferences transmitting the motion of Inwood and Lavenberg to amend their application under Rule 109.

Under his first appeal Brown contends that—

> * * * the Examiner of Interferences erred in ignoring the fact that the two counts in question were alleged to be not patentable "in view of the prior art, particularly as disclosed in the records of the applications herein involved;" and for the further reason that the Examiner of Interferences erred in passing upon the pertinency and relevancy of the Walker patent set up in the motion as an anticipation of the counts in question.

The ground of the motion based upon the prior art is entirely too indefinite to satisfy the requirements of the present practice concerning motions to dissolve. It gives the opponent no information as to what patents are to be urged against the respective counts or how appellant proposes to use or combine the patents to anticipate the invention of said counts.

Concerning the patent to Walker, the motion does not state that it alone is relied upon to anticipate the counts, but rather that it is to be used in connection with the machine by which it is alleged the box of the Walker patent was made. The nature of this machine or where it may be found is not disclosed in the motion. The Examiner of Interferences refused to transmit this ground of the motion on account of its indefiniteness, and not for the reason that the patent cited is not pertinent.

This ground of the motion was properly refused transmission by the Examiner of Interferences.

The second appeal of Brown alleges that the motion of his opponents to amend should not have been transmitted, for the reason that the amendment seeks to introduce new matter into the application. This, however, relates to the merits and is clearly a matter for the consideration of the Primary Examiner and not the Examiner of Interferences. No error is found in the decision of the Examiner of Interferences transmitting this motion.

Both decisions of the Examiner of Interferences are affirmed.

LUTHY & COMPANY v. PEORIA DRILL & SEEDER COMPANY.

INTERFERENCE.

Decided June 19, 1907.

1. TRADE-MARK INTERFERENCE—USE OF MARK.

A mere casual use of a mark is insufficient to establish a right to protection in the use thereof.

2. SAME—SAME.

Slight and immaterial changes in an article to which a trade-mark is applied do not render the use of said mark fraudulent.

ON APPEAL.

TRADE-MARK FOR SEEDING-MACHINES.

Mr. L. M. Thurlow and *Mr. Wallace Greene* for Luthy & Company.

Mr. W. V. Tufft and *Mr. E. M. Giles* for Peoria Drill & Seeder Company.

MOORE, *Commissioner:*

This is an appeal by the Peoria Drill & Seeder Company from a decision of the Examiner of Interferences awarding priority of adoption and use of the trade-mark "Mogul" for seeding-machines to Luthy & Company.

The Peoria Drill & Seeder Company, a corporation organized and existing under the laws of Illinois, is the successor in business of Selby, Starr & Company, whose business, including its good-will and trade-marks, it acquired on January 2, 1905.

Appellant is engaged in manufacturing farm machinery, as was its predecessor, while Luthy & Company are engaged in jobbing such machinery. In November, 1904, Luthy & Company entered into a contract with Selby, Starr & Company whereby the latter agreed to sell and the former agreed to buy certain machines, including "Force Feed End Gate Seeders (Double)." This seeder is a broadcast seeder for grain adapted to be supported by the end-gate of a wagon, the mechanism of the seeder being driven by gearing leading to one of the rear wagon-wheels. It was to this type of seeder that the trade-mark was applied, and it does not appear that it was applied to any other type of seeder. This machine is referred to in the record as the "double-fan end-gate seeder" or "double-fan seeder."

On January 7, 1905, the Peoria Drill & Seeder Company addressed a letter to Luthy & Company, which was, in part, as follows:

> We desire that you let us know what name you desire to have stenciled on the hoppers of the double-fan seeders for which you recently arranged with our Mr. Pattison for the sale, so that we can get stencils ready and have name on the printed matter.

On January 10, 1905, Luthy & Company sent a reply, in which they said:

> You may stencil our double-fan seeders "Mogul, Luthy & Co., Peoria, Illinois;" as this is the name we have decided to use on our double-fan seeders.

On behalf of the Peoria Drill & Seeder Company it is claimed that in a conversation previously held between Pattison, the secretary and general manager of the Peoria Drill & Seeder Company, and Voorhees, the manager of Luthy & Company, Pattison suggested a number of names to Voorhees for use on the double-fan seeder, which included the name "Mogul." This is denied by Voorhees, and the testimony of this witness and of others in the employ of Luthy & Company is submitted to prove that the name was selected by them independently from a list of names prepared by Flenner, the assistant manager of Luthy & Company, and submitted to Voorhees. The testimony on this point

was fully discussed by the Examiner of Interferences, and it is deemed unnecessary to again discuss it in detail, it being sufficient to say that the evidence seems to warrant the conclusion that the name "Mogul" was adopted by Luthy & Company on January 10, 1905, independently of any suggestions received from the officers of the Peoria Drill & Seeder Company. The evidence further shows that Luthy & Company have continuously used the mark since its adoption on double-fan seeders.

In the declaration of the application filed by appellant it is stated that the mark in issue was adopted January 1, 1905; but evidence is presented tending to show that it was adopted for this machine as early as August, 1904. It is claimed that in the summer and fall of 1904 from ten to sixteen double-fan end-gate machines like the one furnished to Luthy & Company were made and stenciled "Mogul," one of which was sent to the Des Moines fair in August, 1904, some of the remainder being kept at the factory and others being sent to various jobbing firms in the Middle West, among which firms were the Eastern Moline Plow Company, of Indianapolis, Ind., and Liniger & Metcalf, of Omaha, Nebr. It is satisfactorily shown by the evidence that a machine of the double-fan type like that furnished to Luthy & Company was made and exhibited at the Des Moines fair in August, 1904, as claimed, and that this machine was stenciled "Mogul." It is also shown by the evidence that prior to the making of the machine the parties interested in its manufacture had suggested the use of the mark "Mogul" therefor; but the evidence is deemed insufficient to show that this mark was placed on any machine sold or sent out as a sample prior to January 10, 1905, except that exhibited at the Des Moines fair. In answer to cross-question 209 Pattison states that he does not know of any seeder sold and delivered prior to January 10, 1905. As to the sample machines, while both Roby and Pattison say that some were sent out prior to January 10, 1905, and that they were stenciled "Mogul," Roby does not appear to have any positive knowledge, but apparently merely assumes that they were stenciled "Mogul," because he thought that all the sample machines that were sent out were so stenciled.

While I am not convinced by the evidence that any seeder marked "Mogul" of the kind under discussion was ever put out by the Peoria Drill & Seeder Company or its predecessors prior to January 10, 1905, other than the machine exhibited at the Des Moines fair, I do not deem this material to a disposition of this case. It may be assumed for the purposes of this case that sample machines so marked were placed with prospective customers prior to January 10, 1905; but the law requires more than a mere casual use of a mark to establish right to protection in the use thereof. There must be evidence of adoption and use under "such circumstances, as to publicity and length of use, as to show an intention to adopt it as a trade-mark for a specific article." (*Kohler Manufacturing Company* v. *Beshore*, 67 O. G., 678; 59 Fed. Rep., 572 (576); *Menendez* v. *Holt*, 128 U. S., 514.) It is believed that the evidence fails to show adoption and use of this mark by appellant or its predecessors for the purpose of identifying the seeder to which it was applied as its product for the following reasons:

At the time the contract of November 24, 1904, was made Selby, Starr & Company said nothing whatever about the adoption of the word "Mogul" for the double seeder. The contract described the seeder as a "Force Feed End Gate Seeder (Double);" but it was not referred to by the name alleged to have been adopted for it, although several of the other items of the contract were referred to by their trade-mark names. Although Pattison claimed to have suggested the word "Mogul" to Voorhees in a conversation held about January 5 or 6, 1905, he did not tell Voorhees that his company had decided to use this name on the double-fan seeder. (P. D. & S. Company record, p. 42 X-Q. 183.) On January 7 the letter above referred to was written asking what name Luthy & Company had decided to use on the seeder, in response to which Luthy & Company wrote that they had decided to use "Mogul," to which no protest whatever was made. On the other hand, the seeders delivered to Luthy & Company subsequently were so stenciled, and Luthy & Company were never advised by the Peoria Drill & Seeder Company that it had adopted this mark or intended to use the same until the fall of 1905, when Luthy & Company failed to renew their contract. Moreover, the contract provided that the right was reserved to the Peoria Drill & Seeder Company to sell other parties under a different brand. Therefore when Luthy & Company selected the brand "Mogul" appellant was not at liberty to use that mark according to the terms of the contract, at least in Luthy & Company's territory, and it appears that it did not use it on machines sold within or outside of such territory until Luthy & Company failed to renew their contract in the fall of 1905. There is some evidence tending to show the use of the mark by appellant concurrently with Luthy & Company during the season of 1905; but I am of the opinion that the record fails to establish the use thereof prior to the fall of 1905, except as above stated in the summer and fall of 1904. In this connection it is significant to note that a circular which was put out by the Peoria Drill & Seeder Company dated October 23, 1905, referred to a number of prominent dealers who sold Mogul seeders the previous season, (season of 1905,) each of whom it appears was a customer of Luthy & Company, and not of the Peoria Drill & Seeder Company. It is significant that this circular did not contain the names of one or more customers of the Peoria Drill & Seeder Company if it had made the sales as alleged. This evidence indicates that appellant did not sell seeders marked "Mogul" to any one except Luthy & Company. The record also shows that appellant sold some of these double-fan seeders under the name "Duplex." (P. D. & S. Company record, p. 27, Q. 56.) These circumstances indicate that appellant never had a fixed intention to use the mark "Mogul" to designate the origin of the double-fan seeder of the construction exhibited at the Des Moines fair in August, 1904, and that the use of the mark in the summer or fall of 1904 was a mere casual one, insufficient to secure an exclusive right thereto.

Evidence was presented on behalf of the Peoria Drill & Seeder Company to show that the seeders manufactured for Luthy & Company by J. A. Engel & Company for the season of 1906, which were placed

upon the market as "Mogul" seeders, differed in construction from those furnished by appellant, and it is contended that the use of the mark on such changed construction was fraudulent. While it appears that the constructions were not precisely the same, the differences were slight and immaterial to the present controversy in view of the fact that the mark was adopted and used by Luthy & Company to indicate the goods of their selection and not of their manufacture. (*Menendez* v. *Holt*, *supra*.)

The decision of the Examiner of Interferences awarding priority of adoption and use to Luthy & Company is affirmed.

LATSHAW *v.* DUFF *v.* KAPLAN.

PATENT INTERFERENCE.

Decided September 5, 1907.

1. INTERFERENCE—REOPENING.

An interference will not be reopened for the purpose of introducing newly-discovered evidence where it does not appear that the evidence could not have been discovered at the time of taking testimony.

2. SAME—APPEAL—REHEARING.

An appeal from the Examiners-in-Chief will not be reheard for the purpose of considering a patent of one of the parties to the interference which is not in evidence.

ON PETITION.

PULLEY.

Messrs. Kay, Totten & Winter for Latshaw.

Messrs Bakewell & Byrnes for Duff.

Messrs. Kay, Totten & Winter for Kaplan.

MOORE, *Commissioner:*

This is a petition by Duff that the case be reopened to permit him to offer in evidence a patent granted to him on April 4, 1905, No. 786,274, and that his appeal from the decision of the Examiners-in-Chief be reheard in view of said patent.

This petition is supported by the affidavit of George H. Parmelee, of counsel for Duff, who alleges that this patent was not called to his attention nor to that of any member of the firm of Bakewell & Byrnes, attorneys of record, until after the decision of the Examiners-in-Chief.

It appears that the decision largely turned on which of the parties to the interference first suggested the use of a solid arm for a split pulley and that the patent in question shows such an arm in a split gear-wheel. The application on which this patent was granted was filed August 25, 1904, and it is contended that as this date is prior to any date which Latshaw claims for conception of the invention in issue it proves conclusively that Duff was the first inventor.

The fact that a patent was issued to Duff is not conclusive proof that he was the inventor of the invention shown therein, and it would be manifestly improper to admit the patent in evidence without allowing Latshaw an opportunity to take testimony with respect thereto.

It is well settled that in order to reopen a case for the purpose of taking additional testimony it must be shown that such evidence could not have been sooner discovered. Such is not the case here. Frequent reference is made in the record to a gear-wheel which Duff made, and in answer to cross-question 216 Duff stated that an application for patent on this construction had been filed.

The fact that Duff did not appreciate that this patent might have a bearing on the case, and therefore did not call the attention of the attorneys to it, amounts to an error in judgment, and, as appointed out by Commissioner Mitchell in *Lorraine* v. *Thurmond*, (52 O. G., 1949,) such an error affords no ground for reopening a case.

Since the patent referred to is not in evidence and cannot at this stage of the proceedings be put in evidence for the reasons above stated, there is no reason why the appeal should be reheard.

The petition is denied.

EX PARTE MCKEE.

APPLICATION FOR PATENT.

Decided September 5, 1907.

ABANDONMENT AND REVIVAL—UNAVOIDABLE DELAY.

The fact that the Office did not suggest claims from a copending application does not render applicant's delay in prosecuting his case unavoidable.

ON PETITION.

TIE-PLATE.

Messrs. Christy & Christy and *Mr. D. S. Wolcott* for the applicant.

MOORE, *Commissioner:*

This is a renewal petition that this case, which became abandoned for lack of prosecution, be revived.

It appears that the claims of this application were rejected on references and that no response was made to this action within a year therefrom. It is alleged that subsequently to the filing of this application an application was filed by one De Remer for substantially the same invention, which application was passed to issue without suggesting the claims thereof to the petitioner, and the patent to De Remer was issued on May 14, 1907. This fact, however, in no way renders applicant's delay in prosecuting his case unavoidable. It may be that had such claims been suggested this case would have been further prosecuted; but the fact that they were not so suggested constitutes no excuse for applicant's inaction.

It is also alleged that the delay was unavoidable, because applicant became convinced that the position of the Examiner in rejecting said claims could not be changed and that he was unavoidably delayed in consulting with his attorney. It is not stated, however, how this consultation was prevented, nor does it appear why the attorney could not have asked for a reconsideration of the action of the Examiner and endeavored to show why the claims were not met in the references.

The petition is denied.

THE THOMSON WOOD FINISHING COMPANY *v.* RINALD BROTHERS.

TRADE-MARK INTERFERENCE.

Decided June 14, 1907.

TRADE-MARK INTERFERENCE—ABANDONMENT.

A declaration of abandonment filed for the purpose of terminating an interference must be unconditional and unequivocal. (*Gabrielson* v. *Felbel*, 121 O. G., 691.)

ON PETITION.

TRADE-MARK FOR PAINTS.

Messrs. Wiedersheim & Fairbanks and *Messrs. Howson & Howson* for The Thomson Wood Finishing Company.

Mr. T. W. Johnson and *Mr. Horace Pettit* for Rinald Brothers.

BILLINGS, *Assistant Commissioner:*

This is a petition that jurisdiction be restored to the Examiner of Interferences for the purpose of considering the following motion:

• • • that the judgment entered in this case on May 11th, 1907, be modified by the addition thereto of the words "and it is held that Rinald Brothers are not entitled to register the word 'Porceline' or the word 'Porcelain' as a trade-mark for paints, enamels, or varnish-paints;

or, if it be held that this modification is not proper, that a date be set for a hearing on the proofs taken.

It appears that on May 9, 1906, Rinald Brothers filed an abandonment of the word "Porceline" as a trade-mark for paints. This abandonment was accompanied by a statement that they had no intention of abandoning the trade-mark "Porcelain."

On this abandonment the Examiner of Interferences on May 11, 1907, rendered judgment of priority of adoption and use of the mark in issue in favor of The Thomson Wood Finishing Company.

This statement of abandonment was not so unequivocal and unconditional as required by the rules. (*Gabrielson* v. *Felbel*, 121 O. G., 691.) The case is therefore remanded to the Examiner of Interferences with directions to vacate the judgment of May 11, 1907, and resume proceedings.

The petition is granted to the extent indicated.

EX PARTE NIEDENFÜHR.

APPLICATION FOR PATENT.

Decided August 1, 1907.

EXECUTORS AND ADMINISTRATORS OF FOREIGN INVENTORS—GERMANY—PROOF OF AUTHORIZATION.

Where it appears that the applicant, who was a subject of the Emperor of Germany and resided in Germany, is dead and application is made by Mrs. Niedenführ, his alleged administratrix, to prosecute the application, *Held* that in addition to a properly-authenticated certificate of inheritance there should be filed either a certificate of a German court of record that Mrs. Niedenführ is entitled to administer the estate, such certificate being properly proved by the certificate of a consular or diplomatic officer, or else a formal statement to that effect from the German embassy or the German consulate

ON PETITION.

PROCESS FOR THE MANUFACTURE OF SULFURIC ACID.

Messrs. Wright, Brown, Quinby & May and *Mr. A. W. Harrison* for Mrs. Olga Niedenführ, administratrix of estate of H. H. Niedenführ.

BILLINGS, *Assistant Commissioner:*

This is a petition that an amendment filed March 8, 1907, by Olga Niedenführ, as administratrix of Heinrich Hugo Niedenführ, the applicant, be entered.

It appears that the applicant was a resident of Germany and died on April 21, 1906. On March 8, 1907, an amendment was filed in response to the Office action of March 8, 1906, signed by Olga Niedenführ, as administratrix of the applicant. This amendment was accompanied by a certificate of inheritance, showing that there were two heirs of the applicant, Olga Niedenführ, his widow, and Henriette Niedenführ, his mother, and an agreement showing that Henriette Niedenführ had sold her share of the estate to Olga Niedenführ. These papers were certified to by a notary, whose authority was certified to by the consul-general at Berlin. A letter was also filed from an attorney in Berlin stating that under the German law Olga Niedenführ, as sole heir, was entitled to administer the estate, and that the certificate of inheritance was properly certified to by a notary was sufficient proof of her authority, and that, further, it was impossible to file copies of letters testamentary, as required by Rule 25, as the German law did not provide for such.

The Examiner held that since the amendment was not accompanied by a certified copy of letters of administration in favor of Mrs. Olga Niedenführ she had no authority to make an amendment to the case and that it was abandoned.

Subsequently there were filed a power of attorney from Mrs. Niedenführ to Messrs. Wright, Brown, Quinby & May and a letter from the acting German consul at Baltimore to A. W. Harrison, who represents Wright, Brown, Quinby & May, in answer to a request made of the German embassy as to the law as to the appointment of administrators. In this letter it is stated that the German law makes no provisions for the grant of letters of administration, but the assets and liabilities pass directly to the heirs to whom the court issues a certificate of inheritance.

In *ex parte Huch* (80 MS. Dec., 147, 16 *Gourick's Digest*, 75–77), the widow of a foreign inventor filed a certified copy of the will, together with a certificate of a judge of the Royal Prussian Court at Hanover, Germany, setting forth the death of the inventor and stating that his widow was authorized under the law of Germany to administer upon the estate, and it was held that this was sufficient to comply with the requirements of section 4896 of the Revised Statutes. In the present case the certificate of inheritance and the agreement of sale properly certified have been filed; but the only statement that Mrs. Niedenführ is entitled under the German law to administer the estate and that the papers on file are sufficient evidence under the German law of such authority is contained in the letter above referred to from the acting German consul at Baltimore, which, it is to be noted, is a personal letter written to counsel in this case.

In order to complete the records, there should be filed either a certificate of a German court of record that Mrs. Niedenführ is entitled to administer the estate, such certificate being properly proved by the certificate of a consular or diplomatic officer, or else a formal statement to that effect from the German embassy or the German consulate at Baltimore.

The petition is denied without prejudice to its renewal upon the filing of the court certificate or the formal statement of the German law.

SANDAGE *v.* DEAN *v.* WRIGHT *v.* MCKENZIE.

PATENT INTERFERENCE.

Decided August 8, 1907.

1. INTERFERENCE—TESTIMONY—SURREBUTTAL.

Where an inventor testifying in rebuttal on behalf of his opponent denies that he is the inventor of a part of the invention in issue, his testimony constitutes such legal surprise as will entitle his assignee, who is prosecuting the invention, to take surrebuttal testimony.

2. SAME—SAME—SAME.

Where the instances alleged to show that the inventor has testified falsely amount to no more than a difference of opinion between the witness and the affiant, a motion to take surrebuttal testimony should be denied.

APPEAL on motion.

VOTING-MACHINE.

Messrs. Minturn & Woerner for Sandage.
Messrs. Peirce & Fisher for Dean.
Mr. Francis M. Wright pro se.
Messrs. Wilkinson & Fisher for McKenzie.

BILLINGS, *Assistant Commissioner:*

This case comes up on an appeal by Sandage from a decision of the Examiner of Interferences granting a motion by McKenzie for leave to take surrebuttal testimony and a cross-appeal by McKenzie from so much of the decision as limits the scope of this testimony.

It appears that the interference is being prosecuted by McKenzie's assignee, The U. S. Standard Voting Machine Co. McKenzie was not called as a witness by his assignee, but was called in rebuttal by Sandage.

It is alleged that many of the statements made by McKenzie are untrue, and it is desired to take surrebuttal to show this.

The Examiner of Interferences held that McKenzie's assignee should be permitted to take surrebuttal testimony with respect to what is known as the "spear-head," but that the showing made as to the rest of the testimony did not justify taking surrebuttal with respect thereto.

The "spear-head" construction is shown in McKenzie's drawing and is included in each of the counts as "laterally-movable wedge-shaped plates." This being true, McKenzie's assignee could have no reason to anticipate that McKenzie would deny that he was the inventor thereof. Having made such a denial, his assignee is clearly entitled to take surrebuttal on this point. If the statement of McKenzie that he was not the inventor of the device shown in his application was allowed to go uncontroverted, the Office would be justified in refusing to grant a patent on such an application based on McKenzie's inventorship, and this statement having been made during the taking of Sandage's rebuttal McKenzie's assignee would have no opportunity to deny it unless the motion to take surrebuttal should be granted.

As to the rest of McKenzie's testimony, it appears, as noted in the decision of the Examiner of Interferences, that many of the instances pointed out in the affidavit of Keiper, filed in support of the motion as showing that McKenzie had testified falsely, amount merely to differences of opinion between McKenzie and Keiper. Evidently this is no ground for taking surrebuttal testimony.

As to McKenzie's statement that he never saw certain drawings, it appears that McKenzie testified that he never saw these drawings before the applications of which they form a part were filed. The fact that McKenzie signed the drawings of one of his applications, as alleged, does not in any way show that he was testifying falsely when he denied having seen the drawings of other applications.

No error is found in the decision of the Examiner of Interferences, and it is accordingly affirmed.

EX PARTE RAVELLI.

APPLICATION FOR PATENT.

Decided August 8, 1907.

1. APPLICATION—PERIOD OF ONE YEAR AFTER FILING OF APPLICATION IN FOREIGN COUNTRY NOT EXTENDED.

Where the applicant filed an application in a foreign country on May 7, 1906, and a patent was granted thereon, an application filed in this country after May 7, 1907, cannot be received. Applications which the law requires to be filed in this Office within a certain time cannot be held to be so filed by reason of the fact that they are in the hands of the postal authorities.

2. SAME—SAME—REVISED STATUTES 4894 INAPPLICABLE.

Section 4894 of the Revised Statutes only applies to applications which already have a status in this Office and is not applicable to cases in which an application is filed in this Office more than one year from the date upon which the applicant filed an application in a foreign country and upon which he has received a patent.

ON PETITION.

APPARATUS FOR UTILIZING THE POWER OF THE SEA-WAVES.

Alfred Müller for the applicant.

BILLINGS, *Acting Commissioner:*

This is a petition that the provisions of section 4887 of the Revised Statutes be waived in respect to the above-entitled application and that the same be accepted as having been filed within the period of twelve months provided for by such section.

It appears from the applicant's oath that he acknowledges the filing of an application for patent on the same invention on the 7th day of May, 1906, in Italy, and it is admitted that this patent has been granted. The application for patent was filed in this Office on May 31, 1907. The applicant states that the application would have been filed in this Office within the year, which expired May 7, 1907, if it had not been for the delay of the postal authorities in delivering to counsel in New York city packages containing the application papers, for they show by postmarks that they arrived in New York on May 5.

It has been repeatedly held, however, that applications which the law requires to be filed in this Office within a certain time cannot be held to be so filed by reason of the fact that they are in the hands of the postal authorities.

It is urged by the petitioner that section 4894, which provides that an application may be revived upon a showing satisfactory to the Commissioner that delay in the prosecution of the application within one year was unavoidable, should be made applicable to this case. That section of the statute only applies to applications which already have a status in this Office. It is clear that it is not applicable to such cases as this, where an application is filed in this Office more than one year from the date upon which the applicant has filed an application in a foreign country upon which he has already received a patent.

It is clear that the Commissioner has no authority under the statutes to grant this petition, and it is therefore denied.

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 130—No. 4. TUESDAY, SEPTEMBER 24, 1907. PRICE—$5 per year.

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TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	2	1	New Hampshire	3	.....
Alaska, District of	.....	.....	New Jersey	23	5
Arizona Territory	2	.....	New Mexico Ter't'y	1	.....
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California	27	4	North Carolina	1	.....
Colorado	5	.....	North Dakota	9	1
Connecticut	15	3	Ohio	54	23
Delaware	1	1	Oklahoma Territ'y	4	.....
District of Columbia	4	.....	Oregon	6	.....
Georgia	6	1	Pennsylvania	53	6
Hawaii Territory	.....	.....	Philippine Islands	.....	.....
Idaho	.....	.....	Porto Rico	.....	.....
Illinois	64	9	Rhode Island	3	1
Indian Territory	1	.....	South Carolina	3	.....
Indiana	21	2	South Dakota	2	.....
Iowa	10	.....	Tennessee	3	.....
Kansas	11	4	Texas	7	.....
Kentucky	5	2	Utah	.....	.....
Louisiana	1	1	Vermont	1	.....
Maine	5	.....	Virginia	9	1
Maryland	6	3	Washington	6	4
Massachusetts	32	2	West Virginia	1	.....
Michigan	12	5	Wisconsin	15	1
Minnesota	12	4	Wyoming	.....	.....
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Nebraska	5	.....	Total to citizens of the United States	555	124
Nevada	3	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
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Belgium	1	.....	Netherlands	.....	.....
Bermuda	.....	1	Newfoundland	.....	.....
Brazil	.....	.....	New South Wales	.....	.....
British West Indies	.....	.....	New Zealand	1	.....
Canada	8	.....	Norway	.....	.....
Cape Colony	.....	.....	Persia	.....	.....
Chile	.....	.....	Queensland	.....	.....
China	.....	.....	Roumania	.....	.....
Costa Rica	.....	.....	Russia	.....	.....
Cuba	.....	.....	Scotland	.....	.....
Denmark	1	.....	South Australia	.....	.....
Ecuador	.....	.....	Spain	.....	.....
England	15	2	Sweden	3	.....
France	5	.....	Switzerland	2	.....
Germany	34	4	Transvaal, South Africa	.....	.....
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Italy	1	.....			
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Photographic Copies of Drawings.

The Patent Office is now prepared to furnish black line on white ground copies of any unbound drawing, foreign or domestic, which may be in its possession, instead of the blue-prints heretofore furnished. Only the 7x11 (patent) size and the full or 10x15 size prints will hereafter be furnished, at 15 and 25 cents per sheet, respectively.

Copies of drawings of pending, abandoned, forfeited, or informal cases and of caveats may be had in either of the above-named sizes except when they are to be certified, in which case they must be the 10x15 size.

Copies of United States or foreign patent drawings will be made only in the 10x15 size.

When ordering copies of foreign patent drawings, either the serial number of the applications in which they were cited as references or the class and subclass where they may be found must be given. The title of the invention or the number of the division will not be sufficient. Bound volumes cannot be used for making prints. Failure to give the fullest data whereby the mounted drawing may be found will result in delay and unnecessary correspondence.

The work will be much facilitated if a separate order be made for each drawing. The Office will furnish, gratuitously, blanks for this purpose on request.

As a result of abolishing the small (5x8) size the requirement that duplicate prints must be ordered in certain cases will no longer be enforced. The requirement that less than all the sheets of a case will not be printed unless there is already a full set in the file will not be insisted upon; but applicants or attorneys are strongly urged to file a set of prints or order them to be made by the Office at the time of filing an application. Such procedure will save delay later if correction of the drawing is desired or required.

Date of Patent.

RULE 207. The weekly issue closes on Thursday, and the patents of that issue bear date as of the third Tuesday thereafter. If the final fee in any application is not paid on or before Thursday, the patent will not go to issue until the following week.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business September 17, 1907.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Sept. 3	Aug. 5	200
147	XXIX. Coopering, Fire-Escapes, Ladders, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools, Woodworking.	Aug. 28	July 17	250
303	XVII. Clutches, Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Aug. 27	Aug. 12	174
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Aug. 19	July 24	153
232	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Iron Structures, Loading and Unloading, and Towers.	Aug. 15	Aug. 12	235
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Aug. 15	Aug. 10	181
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Aug. 15	July 30	252
312	VII. Games and Toys, Mechanical Motors, Optics, Paper Manufactures, Velocipedes.	Aug. 13	Aug 17	337
321	I. Tillage, etc., Fences	Aug. 12	July 22	343
244	XXXV. Baths and Closets, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Garment-Supporters, Toilet, Signals.	Aug. 12	July 5	659
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	Aug. 12	June 13	497
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	Aug. 6	July 13	380
128	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Pneumatics, Presses, Store-Service, Tobacco, etc.	Aug. 5	July 25	263
307	XIV. Compound Tools, Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Sheet-Metal Ware, Making, Tools, Wire-Working.	Aug. 2	June 10	336
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Educational Appliances, Fishing and Trapping, Stationery, Stone-Working.	July 31	July 16	502
322	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	July 26	July 26	390
330	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making, etc.	July 26	July 23	507
172	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	July 25	July 31	251
324	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	July 25	July 6	647
148	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Refrigeration.	July 23	May 29	480
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	July 22	July 24	243
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery.	July 22	July 21	329

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufactures, Nailing and Stapling, Whips and Whip Apparatus.	July 22	July 15	380
382	XXVIII. Miscellaneous Heat-Engines, Internal-Combustion Engines.	July 20	July 20	585
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	July 20	May 17	495
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	July 17	Aug. 5	309
122	XIX. Heating and Cooking Stoves, Liquid and Gaseous Fuel, Stoves and Furnaces, and Furnaces.	July 17	July 10	479
332	X. Carriages and Wagons	July 17	July 3	486
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	July 17	June 4	463
327	XVIII. Steam-Engineering, etc.	July 16	June 21	437
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Time-Controlling Mechanism.	July 10	July 10	318
167	V. Bookbinding, Harvesters, Jewelry, and Music.	July 10	July 2	448
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	July 9	June 4	484
175	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	July 8	June 12	493
142	IX. Air and Gas Pumps, Fire-Extinguishers, Hydraulic Motors, Pumps, and Sewerage.	July 2	July 17	322
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	July 1	Aug. 1	342
280	XL. Baggage, Check-Controlled Apparatus, Cloth, Leather, and Rubber Receptacles, Deposit and Collection Receptacles, Fine Arts, Lighting-Fixtures, Package and Article Carriers, Paper Receptacles, Special Receptacles and Packages, Wooden Receptacles.	July 1	June 10	1059
343	XXXIX. Water Distribution	June 26	May 27	716
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving and Plastics, Photography.	June 18	June 1	607
109	XVI. Telegraphy and Telephony	June 17	June 4	602
352	XLI. Railway Draft Appliances, Railway-Rails and Joints, Railway-Ties and Fasteners, Resilient Tires and Wheels.	June 3	May 3	1128
	Total number of applications awaiting action			17,762
159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Trade-Marks	Sept. 10	Aug. 19	372
	Designs	Sept. 11	Aug. 31	38
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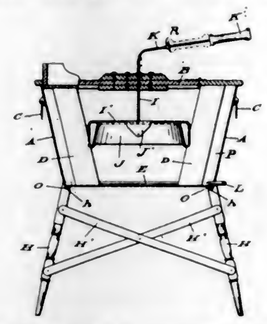
The Official Gazette.

The OFFICIAL GAZETTE is published every Tuesday, simultaneously with the weekly issue of patents. From January 1, 1872, (the commencement of its publication,) to June 30, 1883, it was published and bound in semi-annual volumes; from July 1, 1883, to December 31, 1902, in quarterly volumes; since January 1, 1903, in bimonthly volumes. Terms: Annual subscriptions, $5. For postage upon foreign subscriptions, except those from Canada and Mexico, $5 or more, as required. Moneys received from foreign subscribers in excess of the subscription price of $5 will be deposited to the credit of the subscriber and applied to postage upon the subscription as incurred. Single copies, 10 cents; if mailed to foreign countries, excepting Canada and Mexico, 20 cents additional for postage. *Payment in advance required. No club rates. No discount to newsdealers. No sample copies.* All subscriptions must commence with the beginning of a volume. None taken for less than an entire volume. All orders should be addressed to "The Commissioner of Patents, Washington, D. C."

PATENTS

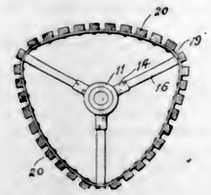
GRANTED SEPTEMBER 24, 1907.

866,612. WASHING-MACHINE. ELMER V. ALLEN, Hiawatha, Kans. Filed Jan. 2, 1906. Serial No. 294,288.



In a washing machine the combination with a vertical agitator rod, of a saddle thereon, an elongated inverted cup, oval at the mouth, narrowing towards the bottom, and held rigidly within said saddle, and the two arms formed by the lower end of said rod projected around, within and without, both bottom and ends of said elongated cup, back to point of contact with said rod, substantially as set forth and shown.

866,613. REEL. WILLIAM A. ARNOLD, Paterson, N. J. Filed Jan. 26, 1907. Serial No. 354,240.



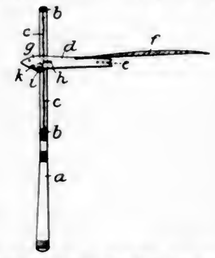
1. A reel of skeleton structure, comprising a hub portion, a series of spokes radiating from the hub, a rim for each alining spoke series, each rim being stretched in shape to a generally triangular form but having a slightly oval section between the spoke ends, and a series of cross slats spaced apart and placed relatively near together thereby forming a continuous receiving surface for the fabric.

2. A reel comprising a series of hubs having a connecting sleeve, a series of spokes radiating from the hubs, frames forming rims attached to the spoke ends, the spokes and rims being arranged to produce flattened sides for the reel, and cross slats spaced apart and secured to the rims.

3. A reel comprising a supporting shaft, hubs having radial arms with sockets therein, spokes fitting in the sockets, frames attached to the spoke ends, and a series of slats secured to the frames to form the surface of the reel.

4. A reel comprising a series of hubs having radial arms with sockets therein, spokes secured in the sockets, and provided with upset outer ends, frames secured to the upset ends of the spokes, and surface slats secured to the frames.

866,614. PROJECTILE. WILHELM BECKER, Hoboken, N. J. Filed Mar. 1, 1907. Serial No. 360,119.



A projectile feathered or winged at one end, and having at or near the other end a pivoted detent, and between said detent and the feathers or wings laterally projecting fixed stops, substantially as specified.

866,615. SCRAPER. HENRY J. BICKLE, Gladstone, Manitoba, Canada, assignor of one-fourth to Magnus Wilson and one-fourth to Malcolm McMillan, Gladstone, Canada. Filed Nov. 28, 1906. Serial No. 345,520.



1. A scraper comprising in combination a pan, a supporting bar straddling the pan and pivotally connected thereto, stub axles secured to the bar, carriage wheels on the axles, a draft frame pivotally swung on the axles, a drag bar, and means whereby the pan may be locked in an upper or lower position, as and for the purpose specified.

2. A scraper comprising in combination, a pan, a bar, straddling the pan, and having its free ends pivotally secured to the pan, below and forward of the center of its sides, stub axles secured to the bar, a set of carriage wheels on the axles, a draft frame swung on the axles, a drag bar extending rearwardly from the draft frame, a V-shaped bar projecting from the forward face of the pan, and means whereby the said projecting bar may be locked in previously determined positions, as and for the purpose specified.

3. A scraper comprising in combination a pan, a bar straddling the pan, and having its free ends pivotally connected thereto, stub axles extending from the bar, carriage wheels supporting the axles, a draft frame swung from the axles, a drag bar extending from the draft frame, a V-shaped bar extending from the end face of the pan, a swivel wheel, and means for locking the said V-shaped bar in predetermined positions, as and for the purpose specified.

4. In a scraper the combination with a pan, pivotally supported from the carriage wheels, and the draft frame swung from the axles of the carriage wheels, of a hollow drag bar extending from the draft frame, a lock bar within the drag bar, a V-shaped bar projecting from the end face

of the scraper, and means whereby the coöperation of the lock bar with the drag bar locks the projecting bar in predetermined positions, as and for the purpose specified.

5. In a device of the class described, the combination with a pan pivotally supported from the carriage wheels and the draft frame swung from the axles of the carriage wheels, of a hollow drag bar having a portion of its forward upper face notched away, a lock bar slidable within the drag bar and having a portion of its upper face notched away, a substantially V-shaped bar projecting from the pan and adapted to be received at its angle within the notched portion of the lock bar and means whereby the cooperation of the lock bar with the drag bar locks the V-shaped bar in predetermined positions, as and for the purpose specified.

6. In a device of the class described the combination with the pan and wheel supporting bar, and the draft frame swung from the aforesaid bar, of an extending drag bar, a swivel wheel at the rear end of the drag bar, a substantially V-shaped bar extending from the pan and normally extending outwardly beyond the front end of the drag bar, a swinging tongue secured to the rear end of the drag bar, and means whereby the V-shaped bar may be locked in predetermined positions, as and for the purpose specified.

7. In a device of the class described, the combination with the carriage wheels, the swing lift pan, the draft frame and the drag bar, of a swivel wheel supporting the rear end of the drag bar, and a swinging tongue secured to the rear end of the drag bar, as and for the purpose specified.

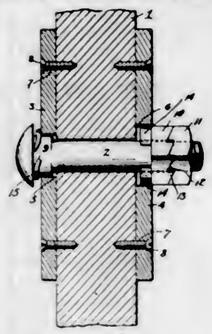
8. In a device of the class described, the combination with the pan, the wheeled bar straddling and supporting the pan, and the draft frame of a drag bar extending from the draft frame, a hand operated swivel wheel supporting the rear end of the drag bar, a swinging tongue secured in proximity to the rear end of the drag bar, a seat turning with the tongue and means whereby the operation of the pan may be controlled by the operator from the seat, as and for the purpose specified.

9. In a device of the class described, the combination with the pan, the draft frame, the substantially V-shaped bar extending from the pan, and the hollow drag bar having a wedge-shaped recess in its upper face, of a bar slidable within the drag bar having a wedge-shaped recess in its upper face to receive the V- shaped bar at its angle and adapted to coöperate with the drag bar to lock the V-shaped bar in predetermined positions, as and for the purpose specified.

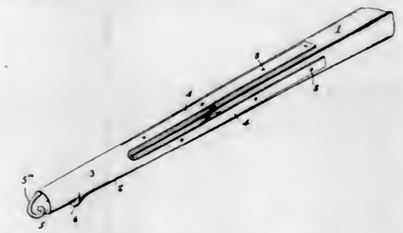
10. In a device of the class described, the combination comprising a pan, a wheeled bar straddling the pan and supporting it, a draft frame, a drag bar extending from the draft frame, a V-shaped bar extending from the pan, a swivel wheel supporting the rear end of the drag bar, a swinging tongue supported from the rear end of the drag bar, a seat turning with the tongue, a locking bar adapted to coöperate with the V-shaped bar and the drag bar to lock the pan in predetermined positions, a lever within range of the seat and operating the locking bar, a toothed quadrant in proximity to the lower end of the lever and a latch and a detent to the lever, as and for the purpose specified.

866,616. NUT-LOCK. WILLIAM BOLLWAHN, Sharon, Wis. Filed May 11, 1907. Serial No. 373,074.

The combination with an apertured object or element, locking plates arranged upon opposite faces of said object and having elongated openings to aline with the aperture in said object, a bolt passed through said plates and said object and having at one end a head and an adjacent enlarged portion to enter the elongated opening in one of said plates whereby said bolt and plate will be locked together, a spring washer arranged upon the enlarged portion of the bolt between the bolt head and the adjacent locking plate, a ratchet washer arranged upon the threaded end of the bolt and having projections to enter the elongated opening in the adjacent locking plate, a ratchet nut screwed upon the threaded end of said bolt and against said ratchet washer, and fastenings uniting said locking plates to said object, the fastenings uniting the locking plate adjacent to the head of the bolt being removable whereby said plate may be rotated to screw the bolt out of the nut, substantially as and for the purpose set forth.



866,617. VEHICLE-POLE ATTACHMENT. WILLIAM BOLLWAHN, Sharon, Wis. Filed June 5, 1907. Serial No. 377,399.



1. A device for repairing a broken vehicle pole or the like, comprising a tubular body and a plurality of long straps or arms projecting from one end of said body and adapted to extend over and to be attached to the broken parts of the pole to reinforce and unite the same, substantially as described.

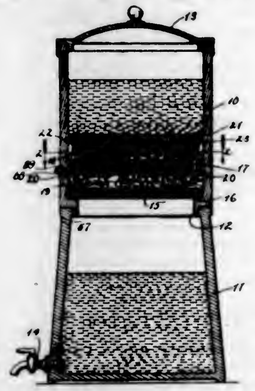
2. A device for repairing a broken vehicle pole or the like, comprising a tubular body and a plurality of resilient reinforcing and attaching arms or straps formed integral with and projecting longitudinally from one end of said body, said arms or straps being long whereby they may be engaged with and attached to the broken parts of the pole to reinforce and unite the same, substantially as described.

3. A device for repairing a broken vehicle pole or the like, comprising a tubular body and a plurality of long straps or arms projecting from one end of said body and formed with apertures to receive fastenings whereby said straps or arms may be attached to the broken parts of the pole to unite and reinforce the same, substantially as described.

4. A device for repairing a broken vehicle pole or the like, comprising a tubular body having one end closed, a plurality of integrally formed resilient straps or arms projecting from the open end of the body, said straps or arms being formed with apertures to receive fastenings and being long whereby they may be engaged with and attached to the broken parts of the pole to unite and reinforce the same, a laterally projecting stop lug formed upon the body adjacent to its closed end and an eye or loop formed upon the closed end of the body, substantially as shown and described.

866,618. ELECTRIC WATER-FILTER. MELVIN A. BRANNON, Grand Forks, N. D. Filed Apr. 11, 1906. Serial No. 311,055.

1. An electric water filter comprising upper and lower, water receiving and holding chambers arranged one above the other for gravity flow from the upper to the lower chamber, and an electric couple and a body of filtering material supported in position between said chambers to compel the passage of water therethrough, said couple comprising electro positive and negative elements insulated from each other but directly connected or short circuited at one or more points, whereby current will be generated by the action of the salt content of the water passing through the filter upon the electro positive and negative elements of said couple, substantially as described.



2. In an electric water filter, the combination with upper and lower water receiving and holding chambers, arranged one above the other, of an electric couple comprising divided positive and negative elements supported in position between said chambers, a porous partition separating the elements and an electric conductor directly connecting or short circuiting the same, substantially as described.

3. In an electric water filter, the combination with upper and lower water receiving and holding vessels, fitted one upon the other for gravity flow from the upper to the lower vessel, of an electric couple supported between the vessels comprising two porous filter-disks, finely divided positive and negative elements arranged respectively on said disks and a conductor extending through the upper disk, substantially as described.

4. In an electric water filter, the combination with upper and lower water receiving and holding vessels, fitted one upon the other for gravity flow from the upper to the lower vessel, of an electric couple supported between the vessels comprising two porous filter disks, zinc fragments and copper turnings arranged respectively on said disks, a conductor extending through said upper disk, and a sand tray supported in said upper vessel above the electric couple, substantially as described.

5. In an electric water filter, the combination with the upper and lower water receiving and holding vessels, fitted one upon the other for gravity flow from the upper receiving vessel to the lower holding vessel, of an electric couple comprising a holder removably supported between said vessels, two porous disks carried on said holder, divided positive and negative elements arranged respectively on said disks and a conductor extending through the upper disk, substantially as described.

6. An electric coupler for water filters comprising finely divided positive and negative elements, a porous partition separating said elements and an electric conductor directly connecting or short circuiting the same, substantially as described.

7. An electric couple for water filters comprising zinc fragments and copper turnings, a porous filter partition of insulating material separating the elements and an electric conductor directly connecting or short circuiting the same, substantially as described.

8. An electric water filter comprising a porous filter partition arranged for the passage of water therethrough and an electric couple formed of positive and negative elements that are short circuited or directly connected electrically and arranged on opposite sides of said porous filter partition.

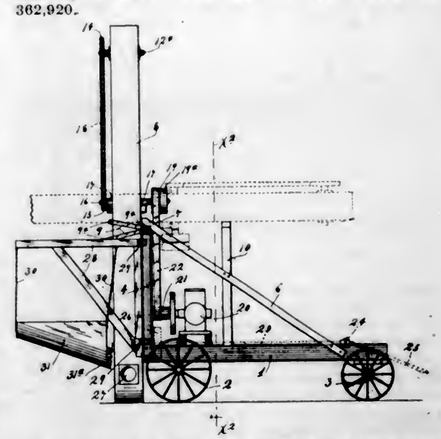
9. An electric water filter comprising a porous filter partition arranged for the passage of water therethrough and an electric couple formed of divided positive and negative elements electrically connected and arranged closely adjacent and on opposite sides of said porous filter partition, substantially as described.

10. An electric water filter comprising a suitable chamber and an electric couple formed of permeable electro positive and negative elements and a body of filtering material arranged in said chamber to compel the passage of water therethrough, the elements of said couple being directly connected electrically or short circuited at one or more points, whereby current will be generated by the action of the salt content of the water passing through the filter upon said electro positive and negative elements, substantially as described.

11. An electric water filter comprising a suitable chamber, a porous filter partition of unglazed earthenware, arranged in said chamber to compel the passage of water therethrough and an electric couple formed of electro positive and negative elements arranged respectively adjacent and on opposite sides of said partition, said elements being directly connected electrically or short circuited at one or more points, whereby current will be generated by the action of the salt content of the water passing through said partition upon said electro positive and negative elements, substantially as described.

12. An electric water filter comprising upper and lower, water receiving and holding chambers arranged one above the other for gravity flow from the upper to the lower chamber, a porous filter partition of unglazed porcelain interposed between said chambers to compel the passage of water therethrough and an electric couple formed of divided electro positive and negative elements arranged adjacent and on opposite sides of said partition but directly connected electrically or short circuited at one or more points, whereby current will be generated by the action of the salt content of the water passing through said partition upon said electro positive and negative elements, substantially as described.

866,619. PORTABLE ELEVATOR. JOHN B. BUSHNELL, Minneapolis, Minn. Filed Mar. 18, 1907. Serial No. 362,920.



1. In a machine of the kind described, the combination with a frame having upright supports, of an elevator leg intermediately connected to said upright supports by a pivot extending transversely of said frame, an endless conveyer working within said elevator leg, and a drive for said conveyer, comprising a counter-shaft mounted on the intermediate portion of said elevator leg and extending in the plane of the said leg's pivotal movement, a pulley on said counter-shaft, a pulley mounted on said frame, and a

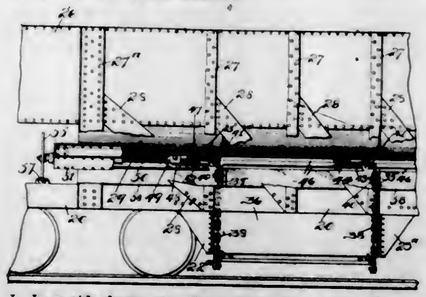
belt arranged to run over said two pulleys, the said two pulleys having approximately parallel axes when the elevator leg is in an upright or operative position, whereby the said belt will be given slack when said elevator leg is turned pivotally into a horizontal or inoperative position, substantially as described.

2. In a machine of the kind described, the combination with an elevator leg, an endless conveyer working therein and means for driving said conveyer, of an inclined feed hopper supported with freedom for endwise movements and provided with a discharge spout loosely fitting an inlet passage in the lower edge of said elevator leg and arranged to be gravity held engaged therewith, substantially as described.

3. In a machine of the kind described, the combination with a truck, of an elevator leg pivotally supported on said truck, an endless conveyer belt working within said leg, means for driving said conveyer belt, a crane supported by said truck with freedom for lateral swinging movements, and an inclined feed hopper suspended from said crane and provided with a discharge spout detachably engageable with the inlet passage in the lower portion of said elevator leg, and which hopper is adapted to feed material into said leg under the action of gravity, substantially as described.

4. In a machine of the kind described, the combination with a truck, of an elevator leg pivotally supported thereon, an endless conveyer belt working within said leg, means for driving said conveyer belt, a crane supported by said truck with freedom for lateral swinging movements, an inclined hopper provided with an inclined discharge spout detachably engageable with an inlet passage in the lower portion of said leg, and connections loosely suspending said hopper from said crane, with freedom for endwise swinging movements and so arranged that said discharge spout will be held in engagement with the inlet passage of said leg, under the action of gravity, substantially as described.

866,620. STEEL SIDE-DUMP CAR. ROBERT B. CAMPBELL, Joliet, Ill., assignor of one-half to himself, and one-half to William Q. Olden, Chicago, Ill. Filed Sept. 29, 1906. Serial No. 336,744.



1. In a side-dump car, the combination with a floor section inclined from each side of the car downward toward the longitudinal center of the car and provided with a discharge opening in each inclined portion, of two doors pivoted at substantially the longitudinal center of the car, cross-girders at each side of each door to direct all of the material discharged from the car and over the doors to the side of the car-track, lifting chains for the doors, devices movable longitudinally of the car to which said chains are connected, and means for moving said longitudinally movable devices to operate the doors, substantially as described.

2. In a side-dump car, the combination with a suitable supporting frame comprising side and end sills, of a car-body comprising sides, ends and a floor, said sides being held above and away from the said side sills, and said floor being inclined from the said sides toward the longitudinal center of the car and provided with a discharge opening in each inclined portion, two doors pivoted at substantially the longitudinal center of the car, lifting chains for the doors, devices located in the spaces between the inclined floor and the supporting frame, to which devices said chains are connected, and means for moving said devices longitudinally of the car to operate the doors, substantially as described.

3. In a side-dump car, the combination with a suitable supporting frame comprising side and end sills, of a car-body comprising sides, ends and a floor, said sides being held above and away from the said side sills, and said floor being inclined from the said sides toward the longitudinal center of the car and provided with a discharge opening in each inclined portion, two doors pivoted at substantially the longitudinal center of the car, lifting chains for the doors, longitudinally-movable bars beneath the inclined portions of the floor to which bars the said chains are attached, guides in which said bars are supported, and means for moving said bars, substantially as described.

4. In a dump-car, the combination with a suitable supporting frame comprising side and end sills, of a car-body comprising sides, ends and a floor, said sides being held above and away from the said side sills, and said floor being inclined downward from the sides towards the center and having discharge openings therein, swinging doors for said openings, lifting chains for the doors, and means located in the spaces between the inclined floor and the said supporting frame for operating the doors by pulling on the chains, substantially as described.

5. In a dump-car, the combination with a suitable supporting frame comprising side and end sills, of a car-body comprising sides, ends and a floor, said sides being held above and away from the said side sills, and said floor being inclined downward from the sides towards the center and having a discharge opening therein, cross-girders at opposite sides of said opening, said girders being connected at their ends to the said side sills and extending below the same, doors pivoted between said cross-girders, lifting chains connected to said doors, and means located in the spaces between the inclined floor and the said supporting frame for raising the doors by exerting a pull on said chains, substantially as described.

6. In a side-dump car, the combination with an inclined floor section having an opening therein, of a pivoted door for closing such opening, lifting chains for the door, a longitudinally movable member located beneath the inclined floor and to which said chains are connected, of a screw-threaded rod located at one end of the car and extending longitudinally thereof, a nut on said rod, means for holding said nut against rotation, means for connecting said longitudinally movable member with the nut, and a hand-operated device for turning the screw-threaded rod, substantially as described.

7. In a side-dump car, the combination with an inclined floor section having a discharge opening therein, of a pivoted door for closing such opening, a rotatable screw-threaded rod extending longitudinally of the car and supported in bearings at one end of the car, a nut on said screw-threaded rod, means for holding said nut against rotation, and means connected with said nut and door for causing the moving of the door when said nut is moved on said rod, substantially as described.

8. In a side-dump car, the combination with an inclined floor section having a discharge opening therein, of a pivoted door for closing such opening, a box or casing secured to the under face of said inclined floor and extending longitudinally of the car, a rotatable screw-threaded rod journaled in said box or casing, a nut on said screw-threaded rod, means for holding said nut against rotation, and means connected with said nut and door for causing the moving of the door when said nut is moved on said rod, substantially as described.

9. In a side-dump car, the combination with an inclined floor section having a discharge opening therein, of a pivoted door for closing such opening, a box or casing suitably supported at one end of the car and located beneath the inclined floor and extending longitudinally of the car, a rotatable screw-threaded rod journaled in said box or casing, a nut on said screw-threaded rod, means for holding the nut against rotation, a rod connected at one of its ends with said nut and extending longitudinally of the car, chains connecting said rod and door, and pulleys over which said chains pass, substantially as described.

10. In a side-dump car, the combination with an inclined floor section having a discharge opening therein, of a pivoted door for closing such opening, a box or casing suitably supported at one end of the car and located beneath the inclined floor and extending longitudinally of the car, a rotatable screw-threaded rod journaled in said box or casing, a nut on said screw-threaded rod, a yoke embracing said nut, a rod connected at one of its ends to said yoke and extending longitudinally of the car, chains connecting said rod and door, and pulleys over which said chains pass, substantially as described.

11. In a side-dump car, the combination with an inclined floor section having a discharge opening therein, of a pivoted door for closing such opening, a box or casing suitably supported at one end of the car and located beneath the inclined floor and extending longitudinally of the car, a rotatable screw-threaded rod journaled in said box or casing, a nut on said screw-threaded rod, a yoke embracing said nut, and having a laterally-projecting lug, a rod connected at one of its ends to said yoke and extending longitudinally of the car, a lifting chain connected at each side of the door, one of said chains being connected to the rod and the other chain to said lug, and pulleys over which said chains pass, substantially as described.

12. In a side-dump car, the combination with an inclined floor section having a discharge opening therein, of a pivoted door for closing such opening, a box or casing suitably supported at one end of the car and located beneath the inclined floor and extending longitudinally of the car, a rotatable screw-threaded rod journaled in said box or casing, a nut on said screw-threaded rod, a yoke embracing said nut, and having a laterally projecting lug, two parallel bars secured to opposite sides of said yoke and extending longitudinally of the car, a lifting chain connected at each side of the door, one of said chains being attached to said lateral lug, a second yoke secured between the pair of parallel bars to which last named yoke the other chain is connected, and pulleys over which said chains pass, substantially as described.

13. In a side dump car, the combination with an inclined floor section having an opening therein, of a pivoted door for closing such opening, lifting chains for the door, a longitudinally-movable bar located beneath the inclined floor, guiding pulleys over which the chains pass, a connection for each chain with the bar, guides for supporting the bar, and means for moving the bar to operate the doors, substantially as described.

14. In a side-dump car, the combination with an inclined floor section having an opening therein, of a pivoted door for closing such opening, lifting chains for the door, a pair of parallel longitudinally-movable bars located beneath the inclined floor, guiding pulleys over which the chains pass, a connection for attaching one of the chains between the bars, another connection for connecting another of the chains with the bars at one side of said bars, and means for moving the bars to operate the doors, substantially as described.

15. In a side dump car, the combination with an inclined floor section having an opening therein, of a pivoted door for closing such opening, and a fixed member adjacent to such floor-opening adapted to aid in checking the escape of material from the car until the door has swung past such member, substantially as described.

16. In a side dump car, the combination with an inclined floor section having an opening therein, of a pivoted door for closing such opening, and a fixed inclined member adjacent to such floor-opening adapted to aid in checking the escape of material from the car until the door has swung past such member, substantially as described.

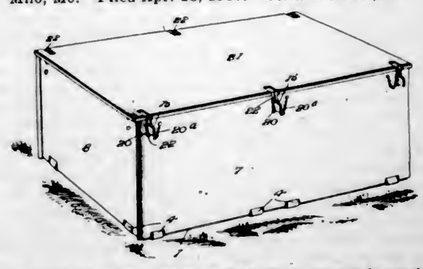
17. In a side dump car, the combination with a supporting frame comprising side and end sills, of a car-body comprising sides and ends and an inclined floor, said floor having a discharge opening through it, a pivoted door for closing such opening, lifting chains for said door, a fixed bar extending longitudinally of the car and connected with both the said supporting frame and inclined floor and located at one side of said floor-opening, said bar being provided with openings through which said chains may pass, pulleys for guiding said chains, and means for exerting a pull on said chains in the direction of the length of the car, substantially as described.

18. In a side-dump car, the combination with a suitable supporting frame comprising side and end sills, of a car-body comprising sides, ends and a floor, said sides being held above and away from the said side sills, and said floor being inclined from the said sides towards the longitudinal center of the car and provided with a discharge opening in the inclined portions, braces between the said supporting frame and the under side of the inclined portions of the floor, doors for closing the opening in the floor, lifting chains attached to the doors, a longitudinally-movable rod located at each side of the longitudinal center of the car and guided by the said braces, means for attaching the said chains to said rods, and means for moving the rods to operate the said doors, substantially as described.

19. In a side dump car, the combination with a supporting frame comprising suitable sills, a plate affixed to the upper faces of said sills and provided with a discharge opening therethrough, of a car-body comprising sides, ends and a floor, said sides being held above and away from the said side sills and said floor being inclined from the said sides towards the longitudinal center of the car and provided with a discharge opening over the opening in the said plate, braces between the said supporting frame and the under side of the inclined portions of the floor, doors for closing said openings, lifting chains attached to the doors, a longitudinally-movable device located at each side of the longitudinal center of the car and guided by the said braces, means for attaching the said chains to said longitudinally-movable devices, and means for moving said last-named devices to operate the said doors, substantially as described.

20. In a side dump car, the combination with a supporting frame comprising suitable sills, a plate affixed to the upper faces of said sills and provided with a discharge opening therethrough, of a car-body comprising sides, ends and a floor, said sides being held above and away from the said side sills and said floor being inclined from the said sides towards the longitudinal center of the car and provided with a discharge opening over the opening in the said plate, a beam at each side of the car extending longitudinally thereof and serving as a brace between the said supporting frame and the inclined floor, braces connected to the side sills and the sides of the car-body, whereby a horizontal hollow column is formed at each side of the car consisting of said plate, beam, inclined floor and braces, a longitudinally-movable device located within each of said hollow columns, doors for closing the said discharge openings, and chains connected to said doors and to said longitudinally-movable devices, substantially as described.

866,621. SHIPPING-CASE. CHARLES B. CHAMBERS, Milo, Mo. Filed Apr. 18, 1907. Serial No. 368,917.



1. A case of the character described, comprising a bottom, ends and sides, reinforcing straps secured to the bottom and provided with projecting ends, the extremities of which are doubled upon themselves to provide hinge loops, the sides and ends being provided with pintle rods re-

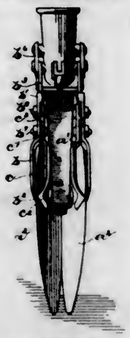
celved in said loops, the bottom being formed at an intermediate point with slots, and the longitudinal reinforcing straps being crimped intermediate of their ends and extending up through said slots, a partition provided with a pintle rod pivotally connected to the crimped portions of said straps, and means for securing the sides, ends and partition together in set-up position.

2. A case of the character described, comprising a bottom and sides and ends pivotally connected to the edges of the bottom and adapted to fold upon the same, the free edges of the sides being formed with slots, and latches mounted to slide at the corners of the ends and adapted to extend outwardly through the slots and sides, as and for the purpose set forth.

3. A case of the character described, comprising a bottom and sides and ends pivotally connected to the edges of the bottom and adapted to fold upon the same, the sides being provided at their free edges with slots, latches mounted to slide in the corners of the ends, the said ends being provided with straps extending over the latches and with curled over edges formed with slots into which the outer ends of the latches are adapted to project, each latch being provided with a stud adapted to abut against the strap and against the curled over edge of the end, whereby to limit the movement of the latch.

4. A case of the character described, comprising bottom and sides and ends pivotally connected to the edges of the bottom and adapted to fold upon the latter, the sides being formed at their free edges with slots, latches mounted at the corners of the ends and adapted to be slid outwardly through the slots in the sides, and a top provided with pivoted loops adapted to be turned downwardly over the projecting ends of the latches, as and for the purpose set forth.

866,622. SCRAPER FOR GROUND-WORKING DISKS. EDWARD CHRISTMAN and DE WITT A. MOON, Louisville, Ky., assignors to The American Seeding Machine Company, Springfield, Ohio, a Corporation of Ohio. Filed Nov. 8, 1906. Serial No. 342,576.



1. In a disk ground-working device, a frame, a revolving disk journaled in said frame, a scraping blade on each side of said disk, and a supporting shank for said blades connected to said frame, said shank being adapted to extend along in the same plane with and adjacent to the periphery of said disk, substantially as and for the purpose specified.

2. In a disk ground-working device, a frame, a revolving disk mounted thereon, and a scraper for said disk connected to the frame, said scraper consisting of a shank extending along in the same plane with and in close proximity to the periphery of said disk, and terminating in lateral blades adapted to extend across the face of each side of said disk, respectively, substantially as and for the purpose specified.

3. In a disk ground-working device, a frame, a disk mounted thereon, a scraper for said disk having a shank connected to said frame and adapted to extend along and in close proximity to the periphery of said disk and terminating in lateral blades adapted to extend on opposite sides of said disk, respectively, and means for adjusting said blades with reference to each other, substantially as and for the purpose specified.

4. In a ground working disk, a frame, a disk journaled thereon, a shank loosely connected to said frame having a scraping blade for one side of said disk, a scraping blade for the opposite side of said disk and having a connection to said shank, and means for adjusting said blades fixedly with reference to each other, substantially as and for the purpose specified.

5. In a disk ground working device, a frame, a disk mounted thereon, a shank loosely connected to said frame and extending around and in the same plane with and in close proximity to the periphery of said disk, a scraper for each side of said disk connected to said shank, said scrapers being adjustable with reference to each other, substantially as and for the purpose specified.

6. In a disk ground-working device, a frame, a disk mounted thereon, a scraper for said disk having a scraping blade on each side of said disk, bolts for connecting said blades together, and a projecting rib on one of said blades between said bolts, substantially as and for the purpose specified.

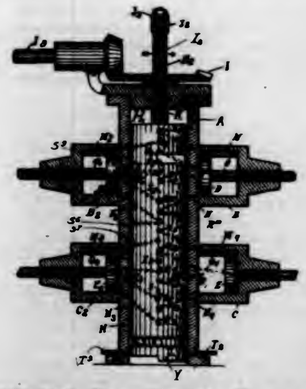
7. In a disk ground-working device, a frame, a disk mounted thereon, and a scraper for said disk, and means for connecting said scraper to said frame comprising a swinging latch, substantially as and for the purpose specified.

8. In a disk ground-working device, a frame, a disk mounted thereon, and a scraper for said disk, a projecting stud on said frame extending through an opening in the end of the scraper, and a swinging latch on said frame having a frictional engagement with the end of said stud, substantially as and for the purpose specified.

9. In a disk ground-working device, a frame, a disk mounted thereon, and a scraper for said disk having a shank connected to said frame and extending along in the same plane with and in close proximity to the periphery of said disk and terminating in lateral scraping blades extending on opposite sides of the disk, respectively, said scraping blades being offset and receded in opposite directions at the periphery of the disk, substantially as and for the purpose specified.

10. In a disk ground working device, a frame, a disk mounted thereon, and a scraper for said disk, a projecting stud on said frame extending through an opening in the end of the scraper, supports for said scraper located on said frame on either side of said stud, and a swinging latch, substantially as specified.

866,623. VALVE-GEAR. WILLIAM H. COLLIER, Jackson, Tenn. Filed Jan. 8, 1906. Serial No. 295,082.



1. In valve gear, the combination with a plurality of fluid-pressure-actuated valve-operating means, of a controlling valve for the same having ports adapted to register with ports of said valve-operating means, means for driving said controlling valve, and fluid-pressure means for shifting said valve in a direction other than that of its normal motion, said valve comprising means whereby when the valve is so moved in a direction other than that of its normal motion, the operation of said fluid-pressure-actuated valve-operating means is varied.

2. In valve gear, the combination with a plurality of fluid-pressure-actuated valve-operating means, of a controlling valve for the same having ports adapted to register with ports of said valve-operating means, said valve arranged to be driven normally in one direction and to be fluid-pressure-actuated in another direction to vary its operation, and means for moving the valve in both such directions said valve comprising means whereby when the valve is so moved in a direction other than that of its normal motion, the operation of said fluid-pressure-actuated valve-operating means is varied.

3. In a valve gear, the combination with a plurality of fluid-pressure-actuated valve-operating means, of a rotary controlling valve, a valve-chamber therefor, means for rotating said valve, means tending normally to move said valve longitudinally in such chamber, and means for admitting fluid under pressure to the chamber to oppose such movement said valve comprising means whereby when the valve is so moved longitudinally, the operation of said fluid-pressure-actuated valve-operating means is varied.

4. In a valve gear, the combination with a plurality of fluid-pressure-actuated valve-operating means, of a rotary controlling valve, a valve-chamber therefor, means for rotating said valve, and means for admitting fluid under pressure to said chamber on opposite sides of said valve to move the valve longitudinally said valve comprising means whereby when the valve is so moved longitudinally, the operation of said fluid-pressure-actuated valve-operating means is varied.

5. In a valve gear, the combination with a plurality of fluid-pressure-actuated valve-operating means, of a rotary controlling valve, a valve-chamber therefor, means for rotating said valve, means for admitting fluid under pressure to said valve comprising means whereby when the valve is so moved longitudinally, the operation of said fluid-pressure-actuated valve-operating means is varied, said chamber to move said valve longitudinally therein, and a loading device resisting such movement.

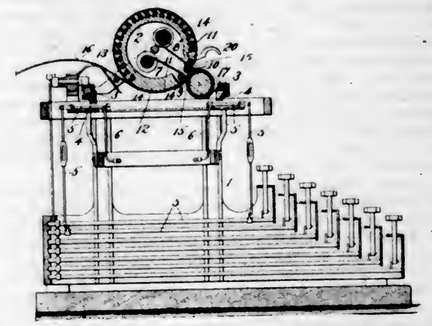
6. In a valve gear, the combination with a plurality of fluid-pressure-actuated valve-operating means, of a controlling valve therefor adapted normally to be moved in one direction but adapted also to be moved in another direction for varying the action of the valve gear, said valve having ports which open and close ports of such valve-operating means in proper sequence during the normal motion of said valve, and having also ports which are brought into registry with ports of said valve-actuating means by movement of the controlling valve in such second direction, and fluid-pressure means for so moving said valve.

7. In a valve gear, the combination with a plurality of fluid-pressure-actuated valve-operating means, of a rotary controlling valve, a valve chamber therefor, means for rotating said valve, and fluid-pressure means for moving said valve longitudinally in its chamber, said valve having ports which open and close ports of such valve-operating means in proper sequence during the normal rotation of the valve, and having ports which are brought into communication with ports of said valve-operating means by longitudinal motion of the valve.

8. In a valve gear, the combination with a plurality of fluid-pressure-actuated valve-operating means, of a rotary controlling valve, a valve chamber therefor, means for rotating said valve, means for admitting fluid under pressure from different sources to opposite ends of said chamber to move the valve longitudinally, said valve having ports which open and close ports of said valve-actuating means during rotary and during longitudinal motion of said valve.

9. In a valve gear for compressors and the like, the combination with a plurality of fluid-pressure-actuated valve-operating means controlling admission and discharge valves for opposite ends of the compressor cylinder, of a rotary controlling valve, a valve chamber therefor, means connecting one end of said chamber to opposite ends of said cylinder and for admitting fluid at receiver pressure to the opposite end of said chamber, means for rotating said valve, the latter having means for cutting off from the valve chamber that end of the cylinder in which compression is not taking place, and having also ports which open and close ports of said valve-actuating means during rotary and during longitudinal motion of said valve.

866,624. COMBINED TYPE-WRITING AND PRINTING MACHINE. WILLIAM H. COLLIER, Jackson, Tenn. Filed Nov. 7, 1906. Serial No. 342,343.



1. A combined typewriter and printer comprising in combination typewriter printing mechanism and independent printing mechanism including a member having a printing surface and arranged likewise to form a platen for said typewriter printing mechanism.

2. A combined typewriter and printer comprising in combination typewriter printing mechanism and independent printing mechanism including a rotary member having a printing surface and arranged likewise to form a platen for said typewriter printing mechanism.

3. In a combined typewriter and printer, the combination of printing mechanism comprising a type cylinder and means for holding paper thereto, inking means, a pressure device therefor, and typewriter printing mechanism coacting with said cylinder as a platen.

4. In a combined typewriter and printer, the combination of printing mechanism comprising a type cylinder and means for holding paper thereto, inking means comprising a web interposed between said printing surface and paper held thereto, means for pressing the paper and inking web against said printing surface, and typewriter printing mechanism coacting with said cylinder.

5. In a combined typewriter and printer, the combination of printing means comprising a type cylinder and means for holding paper thereto, an inking web surrounding said cylinder, and typewriter printing mechanism coacting with said cylinder and platen.

6. A combined typewriter and printer comprising in combination typewriter printing mechanism and independent printing mechanism including a member having an inking web surrounding said cylinder and passing through an opening therein, means within said cylinder for holding said web, said typewriter printing mechanism coacting with said cylinder as a platen.

7. A combined typewriter and printer comprising in combination typewriter printing mechanism and independent printing mechanism including a member having a printing surface and arranged likewise to form a platen for said typewriter printing mechanism, and a carriage for said member.

8. In a combined typewriter and printer, the combination with printing means comprising a type cylinder and means for holding paper thereto, inking means, a pressure device therefor, and typewriter printing mechanism coact-

ing with said cylinder, the latter forming a platen for said mechanism, and a carriage for said cylinder.

9. In a combined typewriter and printer, the combination with printing means comprising a type cylinder and means for holding paper thereto, an inking web surrounding said cylinder, and typewriter printing mechanism co-acting with said cylinder, the latter forming a platen for said mechanism, and a carriage for said cylinder.

10. In a combined typewriter and printer, a combined platen and printing cylinder having a printing surface and another surface to receive the impact of type and provided with means for holding paper to it, and provided also with means for holding an inking web, said printing surface and other surface to receive the impact of type being beneath said web when the latter is in place.

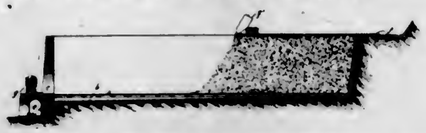
11. In a combined typewriter and printer, a combined printing cylinder and platen having a printing surface and another surface adapted to receive the impact of typewriter printing means and having a paper holding clip extending longitudinally along said cylinder.

12. In a combined typewriter and printer, a combined printing cylinder and platen having a printing surface and another surface adapted to receive the impact of typewriter printing means and having a paper holding clip extending longitudinally along said cylinder, and means for operating said clip.

13. In a combined typewriter and printer, a combined printing cylinder and platen having a printing surface and another surface to receive the impact of type and provided with a slot in its periphery and a chamber communicating with said slot, and inking means in said chamber.

14. In a combined typewriter and printer, a combined printing cylinder and platen provided with a slot in its periphery and a chamber communicating with said slot and provided also with a printing surface and with a surface to receive the impact of typewriter printing means, and means in said chamber for holding an inking web, and an inking web extending therefrom through the slot, around the cylinder and back through said slot to said holding means.

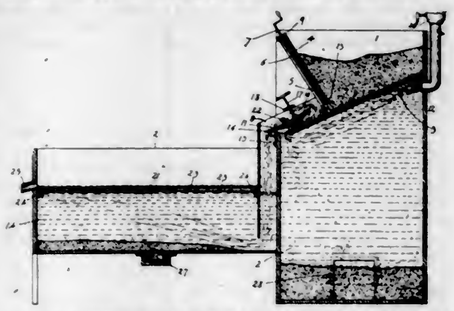
866,625. METHOD OF OBTAINING PURE COPPER SULFATE. RAIMONDO CONEDERA, Massa Marittima, Italy. Filed Feb. 6, 1906. Serial No. 299,774.



An industrial process for purifying sulfate of copper mixed with sulfates of iron in roasted copper pyritic ores, and obtaining directly from the ore solutions of sulfate of copper wholly free from sulfate of iron which consists in first crushing and roasting the ore so that it may contain no undecomposed pyrites then transforming the anhydrous sulfates of iron and copper contained in the roasted ore into hydrated sulfates by means of a liquor saturated with mixed sulfates of copper and iron obtained by an ordinary leach of a part of the same ores, then exposing the porous mass of roasted ore containing the mixed hydrated sulfates thus prepared to the action of the open air to oxidise it and completely transform all the ferrous sulfate into basic, ferric sulfate, insoluble in water, and finally leaching the ore thus purified with water to obtain solutions of sulfate of copper, completely free from salts of iron, substantially as described.

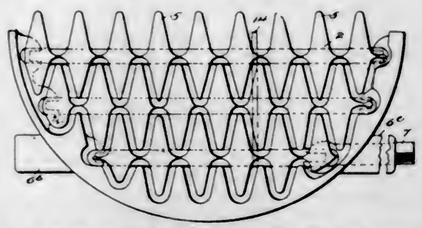
866,626. APPARATUS FOR SEPARATING FINELY-DIVIDED MATERIAL. ANDREW J. COOK, San Rafael, Cal. Filed Apr. 4, 1907. Serial No. 366,258.

1. An apparatus of the character described, comprising a sloping conduit having parallel side walls, a movable partition extending completely across said conduit between said side walls, means for feeding finely divided material downwards in said conduit from a point above the upper edge of said partition, means for impelling liquid upwards in said conduit beneath said partition, means for adjustably limiting the distance of said partition from the bottom of said conduit, and a riffle on the upper side of said partition extending between the walls of the conduit and spaced from the upper edge of the partition to form therewith a pocket to catch the heavier solid particles which escape over said front edge, substantially as described.



2. An apparatus of the character described, comprising a receptacle having a sloping top and a passage therethrough, walls on said top forming a channel, means for feeding finely divided material into said channel at its top, a partition in said channel extending upwards therein between said walls towards said feeding means, said separator comprising a shoe, a wall or riffle on said shoe, spaced from the upper edge thereof to form a pocket flexible material secured to the front end of the shoe and to the wall of said receptacle and means for supplying water under pressure to said receptacle, substantially as described.

866,627. ROCKING AND DUMPING GRATE. PAUL L. CROWE, Jersey City, N. J., and AARON FRANKENHEIM, New York, N. Y.; said Frankenheim assignor to said Crowe. Filed Apr. 6, 1906. Serial No. 310,358.



1. In a device of the character described, the combination with a grate frame, of notched supporting members positioned within and secured to said frame, a rocking arm journaled in said frame, said arm provided with a squared outer end and with a bifurcated inner end, a rocking grate bar seated at one end within a notched portion of one of the supporting members and at its opposite end within the bifurcated portion of said rocking arm, a grate bar seated at both ends within notched portions of said supporting members and means connecting the bars intermediate their ends.

2. In a device of the character described, the combination with a grate frame, of horizontal supporting members carried by said frame, rocking bars carried by said supporting member, a rocking arm provided with a vertical slot journaled in said frame, a bar positioned upon one of said supporting members at one end and at its opposite end within the slot of said rocking arm, and a connecting member extending through said bars.

3. In a device of the character described, the combination with a frame, of rocking bars carried by said frame, each of said bars provided with a transverse, elongated aperture, a connecting member positioned within the apertured portions of said bars, said connecting member provided with notches formed upon its lower edge, the notched portions of said connecting member engaging the bottom surface of the apertures of said bars, fastening means for securing said connecting member upon said bars, and means for rocking said bars.

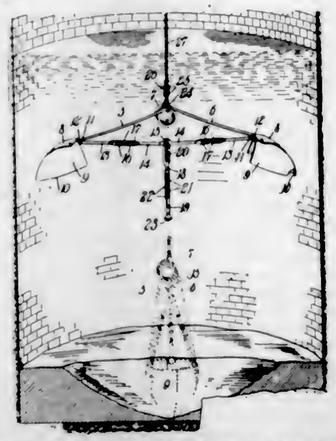
4. In a device of the character described, the combination with a support, of rocking bars carried by said support, each bar provided with a depending longitudinally extending web, connecting members secured transversely of and normally in engagement with the webs of said bars, fastening means extending transversely of the webs and securing the connecting members in engagement with said web, and means for synchronously rocking said bars.

5. In a device of the character described, the combination with a support, of rocking bars carried by said support, each bar provided with a web and with a transverse aperture formed in said web, a connecting member positioned within the apertures of said webs, a key positioned within an aperture of one of said webs and in engagement with said connecting member, and means for synchronously rocking all of said bars.

6. In a device of the character described, the combination with a support, rocking bars carried by said support, of a rocking shaft carried by said support, a member provided with a depending portion, in engagement with said shaft, said member provided with transversely curved flanges, fastening means fixedly securing said member to said shaft, and means connecting said bars and in engagement with said depending portion of the member.

7. In a device of the character described, the combination with a support, of a rocking shaft carried by said support, a strengthening member in engagement with said shaft, spacing means positioned between said shaft and strengthening member intermediate their ends, fastening means fixedly securing said strengthening member to said shaft, a rocking bar carried by said support, and means connecting said strengthening members and rocking bar.

866,628. WELL-CLEANING MACHINE. JONAS H. CROWSON, Atlanta, Tex. Filed July 18, 1907. Serial No. 384,405.



1. A well cleaning device including spring pressed jaws each provided with a scoop, spreader arms pivotally connected with the jaws and pivotally connected with each other, and a depending trigger forming the pivotal connection between the inner ends of the spreader arms.

2. A well cleaning device including spring pressed jaws having terminal scoops secured thereto, spreader arms having their inner ends pivotally connected and provided with co-acting stop shoulders and their outer ends pivotally connected with the spring jaws, and a trigger forming the pivotal connection between the inner ends of the spring jaws.

3. A well cleaning device including spring pressed jaws having scoops secured to the free ends thereof, longitudinally adjustable spreader arms pivotally connected with the jaws and having their inner ends over-lapped and provided with co-acting stop shoulders, and a trigger extending through the over-lapped ends of the spreader arms and forming a pivotal connection between the same.

4. A well cleaning device including spring pressed jaws provided with terminal scoops, spreader arms pivotally connected with the jaws and each formed of a plurality of sections having their adjacent ends over-lapped and provided with elongated slots, clamping bolts extending through said slots for locking the spreader arms in adjusted position, and a trigger operatively connected with the inner ends of the spreader arms.

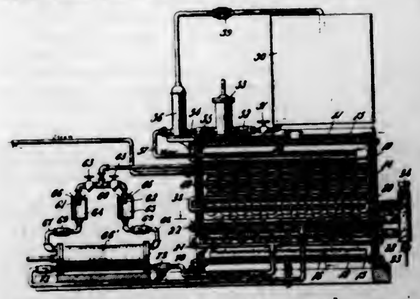
5. A well cleaning device including spring pressed jaws, scoops secured to the jaws, spreader arms pivotally connected with the jaws and having their inner ends pivotally united and provided with co-acting stop shoulders, and a depending trigger having a loop extending through the inner ends of the spreader arms and forming a pivotal connection between the same.

6. A well cleaning device including spring pressed jaws, scoops secured to the free ends of the jaws, spreader arms pivotally connected with said jaws and having their inner ends over-lapped and provided with co-acting stop shoulders, a sectional trigger having one section thereof provided with a loop extending through the spreader arms beneath the stop shoulders, elongated slots formed in the sections of the trigger, and bolts extended through said slots for locking the sections in adjusted position.

7. A well cleaning device including spring pressed jaws formed of a single piece of metal having an intermediate portion thereof bent to form a horizontally disposed coil, scoops secured to the free ends of the jaws, spreader arms pivotally connected with the jaws and having their inner ends over-lapped and pivotally united, a depending trigger extending through the inner ends of the arms at the pivotal juncture of the latter, a stirrup threaded through the coil, and an operating rope secured to the stirrup.

8. A well cleaning device including spring pressed jaws formed of a single piece of metal having an intermediate portion thereof bent to form a horizontally disposed coil and its opposite ends provided with flat bearing surfaces, scoops secured to the flat bearing surfaces and provided with cutting edges, lugs extending laterally from the jaws, longitudinally adjustable spreader arms pivotally connected with the lugs and having their inner ends pivotally united, an adjustable trigger depending from the arms and provided with a loop forming the pivotal axis of the spreader arms at the inner ends thereof, a stirrup extending through the coil, and a swiveled link secured to the stirrup.

866,629. STEAM-BOILER. SAMUEL S. DAVIS, Sidney, Ohio. Filed Dec. 5, 1906. Serial No. 346,471.



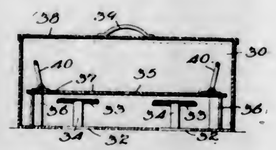
1. In a flasher, the combination with a casing, of a pair of banks of flasher tubes arranged therein, the tubes of

one bank being staggered with relation to those of the other bank, a bank of superheating tubes arranged above the flasher tubes and receiving the steam from both banks of the latter, and means for forcing jets of water alternately into the upper and lower banks of flasher tubes.

2. In a flasher, the combination with a casing, of a pair of superposed banks of flasher tubes arranged therein, the tubes of one bank being staggered with relation to those of the other bank, a bank of superheating tubes arranged above the flasher tubes and receiving the steam from both banks of flasher tubes, the tubes of the superheating bank being staggered with relation to the flasher tubes, of the other bank, and means for forcing a mingled stream of air and water alternately into the banks of flasher tubes.

3. In a flasher, the combination with a casing, of a pair of banks of flasher tubes arranged therein, a bank of superheating tubes arranged above the flasher tubes and receiving the steam therefrom, a superheating coil arranged above and connected to the superheating tubes, an additional coil arranged above the superheating coil and forming a feed water heater, means for forcing water through the feed water heater, means for alternately forcing water from the feed water heater to the banks of flasher tubes, and means for intermingling air with the water in advance of its entrance to such flasher tubes.

866,630. HEATING, COOKING, AND WASHING APPARATUS. LOUIS DE VAUX, Albert Lea, Minn., assignor of one-fourth to John C. Rogers and one-fourth to John P. Greene, Albert Lea, Minn. Filed Mar. 16, 1906. Serial No. 306,434.



1. A sheet metal stove casing comprising a box like structure open at both top and bottom, and of uniform diameter, supporting legs for maintaining the bottom of the casing above the level of the floor, a burner carrying tube having its opposite ends passing through openings in the end walls of the casing and forming a brace for the casing and a support for the burners, a plurality of spaced brackets secured to the inner walls of the casing and projecting inward therefrom at a point above the level of the burner, and a removable vessel of less horizontal area than the casing, said vessel being supported by the brackets in a position to leave a clear space between all of the vertical walls of the vessel and the casing.

2. A rectangular bottomless stove casing, a burner carrying fuel pipe extending through and supported by the walls of the casing, supporting brackets secured interiorly upon the walls above the burners, a rectangular receptacle adapted to be supported upon said brackets and having apertures registering with the burners, deflectors supported above the apertures, a perforated partition supported above the deflectors, and a lid for the receptacle.

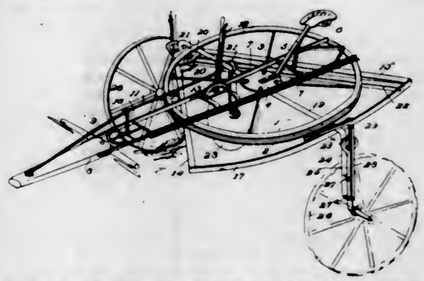
866,631. SPARKING PLUG FOR EXPLOSIVE-ENGINES. WILLIAM DIEBEL, Philadelphia, Pa. Filed July 13, 1906. Serial No. 326,010.

In combination, a body having a threaded upper end, the threaded lower portion having a small opening therein, a sparking point extending inwardly from the wall of the lower opening, a shoulder in the body, a heat insulating washer resting on the shoulder, a porcelain insulator fitting to the bore of the body and resting on the washer, said washer and porcelain insulator having coinciding apertures, and said insulation terminating at the washer, a conductor extending through the aperture of the insulator and washer having a sparking point terminating near the



sparking point in the wall of the body and a threaded collar in the body to bear on the porcelain insulator.

866,632. REVERSIBLE DISK PLOW. CHARLES E. DIXON, Forest Grove, Oreg. Filed Apr. 15, 1907. Serial No. 368,311.



1. In a plow, the combination of a traveling support, a plow frame carried by said support and embodying diverging members, a plow beam pivotally mounted between said members and adapted to swing against one or the other of said members according to the direction of travel of the plow, a disk carried by said plow beam, a tongue mounted on said support, and means for reversing the tongue end for end on the support.

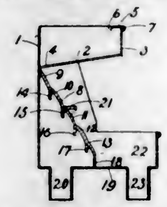
2. In a plow, the combination of a traveling support including the traveling wheels and an axle, a plow frame carried by said support and embodying two diverging beams extending obliquely to the axle, a plow beam mounted to swing in a horizontal plane between said frame beams, and a tongue revolubly mounted on said support.

3. A plow, comprising a traveling support embodying concentric rings, one of which is mounted to revolve on the other, the latter being relatively stationary, a plow frame carried by said stationary ring, a plow beam mounted to swing in a horizontal plane within the frame, a disk carried by said plow beam, and a tongue supported on the revoluble ring.

4. A plow, comprising a supporting frame work embodying upper and lower concentric rings, the latter being relatively stationary and the former revoluble on the latter, a tongue supported on said upper ring, a plow frame connected to the lower ring and embodying two transversely extending diverging beams and a curved cross beam connecting the outer ends of the diverging beams, a plow beam pivotally connected at one end between the adjacent ends of said beams and supported and guided at its opposite end on the curved beam, the said plow beam being free to swing between the two diverging beams and limited in its swinging movement by contact with said beams, and a disk carried by said plow beam.

5. A plow comprising a supporting frame work embodying horizontally disposed members, one of which is adapted to revolve on the other, the said other member being relatively stationary, an axle connected to the stationary member, traveling wheels with which said axle has a vertically adjustable connection, a plow frame connected to the stationary member, a freely swinging plow beam mounted in said frame, a disk carried by said plow beam, means for raising and lowering the axle on the traveling wheels, and a tongue supported on the revoluble member.

866,633. STRAINER FOR DOWN-SPOUTS AND THE LIKE. THOMAS DUGDALE, Waimate, New Zealand. Filed Aug. 6, 1906. Serial No. 329,370.

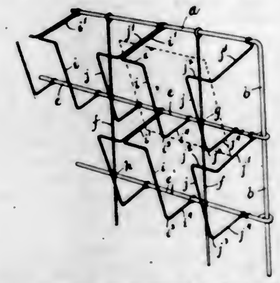


1. In a strainer, the combination with a corrugated screen of substantially vertical drips at the depressions of the corrugations, substantially as and for the purposes set forth.

2. In combination a spouthead, a ledge near the top of said spouthead extending from the front to the back thereof with an opening near the back, an inclined perforated corrugated screen extending from below said opening to the bottom of said spout head, drips secured beneath said screen at the depressions of the corrugations, a downpipe extending from the portion of said spout head closed in by said screen, and a flange at the front top edge of said spout head with a downwardly curved edge substantially as and for the purposes set forth.

3. In combination a spouthead, a ledge near the top of said spout head extending from the front to the back thereof with an opening near the back, an inclined perforated corrugated screen extending from below said opening to the bottom of said spout head, drips secured beneath said screen at the depressions of the corrugations, a downpipe extending from the portion of said spout head closed in by said screen, a flange at the front top edge of said spout head with a downwardly curved edge and a pair of triangular ledges one at each side of said screen substantially as and for the purposes set forth.

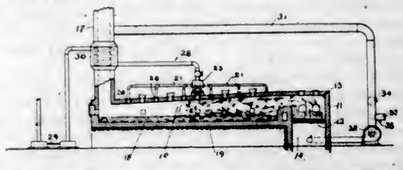
866,634. PACKAGE-DISPLAY RACK. JOHN A. DUNLAP, Nashua, N. H. Filed May 26, 1906. Serial No. 318,893.



1. A display rack consisting of a wire frame having transverse and longitudinal members, and wires attached at their ends to adjacent transverse members; said wires being arranged in pairs to form pockets, the wires of each pair between their points of attachment being carried away from the frame and bent toward each other, said points of attachment to the upper member being further separated than the corresponding points of attachment to the lower member.

2. A display rack consisting of a rectangular wire frame having intermediate transverse and longitudinal wires connected to the outer longitudinal and transverse wires respectively of the frame; and pocket-forming wires arranged in pairs and attached to the transverse wires, each pair of such wires forming one pocket, their uppermost points of attachment being separated sufficiently to admit a package between them and their lower attaching points being closer together to support a package; each pair of said pocket-forming wires extending in parallelism away from their upper points of attachment, then toward each other in alinement, then in parallelism in a plane removed from the plane of the frame, and finally extending toward the lower transverse wire to which they are attached.

866,635. HEATING-FURNACE. BYRON E. ELDRED, Brookline, Mass., assignor to Combustion Utilities Company, New York, N. Y., a Corporation of New York. Filed Sept. 21, 1904. Serial No. 225,395.



1. A furnace comprising a hearth chamber, means for supplying a flame thereto, means for localizing the combustion of said flame at a predetermined point, and automatic means to cause said point to travel relatively to the hearth.

2. A furnace comprising a hearth-chamber, means for heating the same, a series of jet-outlets directed into said chamber, and automatic means for supplying to said outlets in succession air to localize the combustion in said chamber.

3. A furnace comprising a hearth-chamber, means for supplying a flame thereto, a series of jet-outlets directed into said chamber and distributed longitudinally thereof, and automatic means for supplying air to said outlets in succession.

4. A furnace comprising a hearth-chamber, a series of jet-outlets directed thereinto, an air compressor to supply said outlets, and automatic mechanism distributing the compressed air successively to said outlets.

5. A reverberatory furnace comprising a hearth-chamber, a normally closed fire-box therefor, a stack, a conduit connecting the stack with the fire-box at a point of the latter anterior to the seat of combustion, a series of jet-outlets in the roof of the hearth-chamber directed toward the hearth, an air-compressor to supply said outlets, and automatic valve-mechanism for connecting said outlets in succession with the air-compressor.

6. A furnace comprising a hearth-chamber having heat retaining walls, a seat of combustion, means for passing therethrough a draft current of admixed air and products of combustion in controlled proportions, and means for successively and automatically passing into different portions of the hearth-chamber, jets of air under pressure.

7. A furnace comprising a hearth-chamber, a chimney stack therefrom, an air heater in the stack, a series of jet nozzles penetrating the walls of the hearth-chamber, automatic mechanism for causing hot air from the heater to flow alternately and successively through each of said nozzles.

8. A furnace comprising a hearth-chamber, a chimney stack therefor, a grate for burning fuel, a normally closed ash-pit thereunder, a pipe connection from the stack ending under the grate provided with means for causing a flow of stack gases therethrough and for admixing regulated amounts of air with said gases, and means for successively admixing an excess of air with the flame products from the grate at a plurality of points within the hearth chamber.

9. A furnace comprising a hearth-chamber, a source of tardily burning dilated flame therefor, a series of jet-nozzles penetrating the walls of the chamber and automatic means for directing a jet of air alternately and successively through each of said nozzles to impinge on the flame within the chamber.

10. A furnace comprising a hearth-chamber, a source of tardily burning dilated flame, a series of jet-nozzles penetrating the walls of the chamber, and means for directing a jet of hot air alternately and successively through each of said nozzles to impinge on the flame within the chamber.

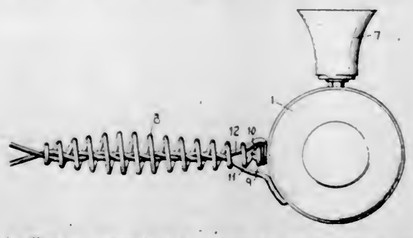
11. A furnace comprising a reverberatory hearth-chamber, a normally closed grate chamber provided with a grate, and means for supplying to said grate chamber below the grate an accelerated draft of air uniformly diluted with small and controlled proportions of products of complete combustion.

12. A furnace comprising a reverberatory hearth-chamber, a normally closed grate chamber provided with a grate, means for supplying to said grate chamber under the grate an accelerated draft of air diluted in controlled proportions with products of complete combustion and means for completing and accelerating combustion of the effluent from the grate within the reverberatory chamber by impinging jets of air.

13. A furnace comprising a reverberatory hearth-chamber, a normally closed grate chamber provided with a grate, means for supplying to said grate chamber under the grate an accelerated draft of air diluted in controlled proportions with products of complete combustion and means for completing and accelerating combustion of the effluent from the grate within the reverberatory hearth chamber by impinging jets of hot air.

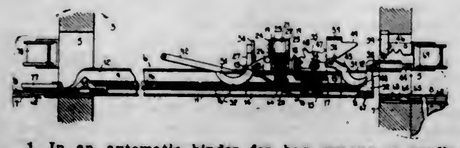
14. A furnace comprising a reverberatory hearth-chamber, a normally closed grate chamber provided with a grate, means for supplying to said grate chamber under the grate an accelerated draft of air diluted in controlled proportions with products of complete combustion, and means for completing and accelerating combustion of the effluent from the grate by a series of successively acting impinging jets of air at different points within said reverberatory hearth chamber.

866,636. VIBRATOR. CHARLES R. ELLIOTT, Rochester, N. Y. Filed Feb. 11, 1907. Serial No. 356,902.



A vibrator comprising a casing, an electric motor contained therein, a flexible coiled wire handle having its forward end whirl bent to form a terminal eye, a fastening bolt entered through said eye for attaching the handle to the casing, and conductor wires leading through the handle to the casing, one of said wires being terminally clamped on said fastening bolt between the eye and wall of the casing.

866,337. BALING-PRESS. WALTER P. EVANS and CHAS. W. CARR, Meadow Grove, Nebr. Filed June 3, 1907. Serial No. 376,995.



1. In an automatic binder for hay presses, a needle frame provided with means for reciprocally moving it across the press, a knotter reciprocally mounted thereon, and means for automatically actuating the knotter as it is being moved upon said frame.

2. In an automatic binder for hay presses, a needle frame provided with means for reciprocally moving it across the press, of a knotter reciprocally mounted thereon, and means for automatically forming two interlocking loops when the knotter is reciprocated.

3. In an automatic binder for hay presses, a needle frame, a knotter reciprocally mounted thereon provided with a pivoted looper, and means for automatically forming two sets of interlocking loops when the knotter is reciprocated.

4. In an automatic binder for hay presses, a needle frame, a knotter reciprocally mounted thereon, a bale-like looper, and twister heads for automatically forming two sets of interlocking loops.

5. In an automatic binder for hay presses, a needle frame, a knotter reciprocally mounted thereon and provided with a shaft, a bale-like looper secured to the shaft and provided with a grooved wheel at its free ends, means for rotating said looper through a substantially semi-circle, twister heads for automatically forming two sets of interlocking loops, and means for severing the wire between said loops.

6. In an automatic binder for hay presses, a needle frame, a knotter reciprocally mounted thereon, a shaft journaled on the base of the knotter and provided with mutilated gear wheels at one end and a shouldered cam at the other, a bale-like looper secured at its ends to said shaft and provided with a wheel at its free end, racks for engaging with said gear wheels and a lock for engaging with said cam, rotary twister heads for automatically forming two sets of interlocking loops, and means for severing the wires between said loops.

7. In an automatic binder for hay presses, a needle frame provided with a rack, a knotter reciprocally mounted on said frame and provided with a gear wheel for engaging with said rack, radially slotted twister heads adapted to be actuated by said gear wheel, a looper for carrying wires into said heads, means for automatically forming two sets of interlocking loops, and means for severing the wires between said loops.

8. In an automatic binder for hay presses, a needle frame provided with a longitudinally disposed rack, a knotter reciprocally mounted on said frame and provided with a gear wheel in engagement with said rack, slotted walls on the base of the knotter, a shaft and two slotted twister heads mounted in said walls, two pinions on said shaft, one of which engages with the gear wheel and the other with said slotted pinions, a swinging looper for forcing the wires into said slots, means for automatically forming two sets of interlocking loops, and means for severing the wire between said loops.

9. In an automatic binder for hay presses, a needle frame provided with a projection at each end, a looper reciprocally mounted upon said frame and provided with knives adapted to be actuated by said projections, twister heads, a looper for carrying wires thereinto and into engagement with said knives, and means for rotating the twister heads to form two sets of interlocking loops after the wire has been severed by a portion of said knives and before the wire is severed by the other knife.

10. In an automatic binder for hay presses, a needle frame, a looper reciprocally mounted thereon provided with three standards and twister heads therebetween, a knife blade pivotally secured to each standard, a lever for actuating two of said blades, a looper for placing wires in said heads, and projections for actuating said knives.

11. In an automatic binder for hay presses, a needle frame, a knotter reciprocally mounted thereon provided with three standards and slotted wheels therebetween, one of the standards being provided with a perforation, another one with a recessed horn, and each of them provided with a knife blade pivotally secured thereto, twister heads and spring-pressed hooks for the slots in said walls, a bale-like looper pivotally mounted upon the base of the knotter and having its legs provided with notches for registering with the slots in said walls, and means for rotating said twister heads, moving the looper and actuating the knife blades during the reciprocation of said knotter.

12. In an automatic binder for hay presses, a needle frame, a knotter reciprocally mounted thereon provided with twister heads, a swinging bale-like looper, a flat faced cam, a shaft journaled at one side of the knotter and provided with means for engaging with said flat face, and thereby locking the looper against movement, and means for automatically rocking said shaft when the knotter is reciprocated.

13. In an automatic binder for hay presses, a press having its sides provided with openings, tracks adjacent to said openings, a bracket, a rack and an inclined plate adjacent to the openings upon one side, a needle frame reciprocally mounted upon the track at the other side of the frame and provided with a rack, a knotter reciprocally mounted on said frame and provided with slotted twister heads, two shafts at right angles to each other, one end of one of the shafts being provided with mutilated gear wheels for engaging with said racks, horns on one end of the other shaft for carrying a wire to and from one of the twister heads and having its other end bent laterally for engaging with said inclined plate, and means for actuating the twister heads when the knotter is reciprocated.

14. In an automatic binder for hay presses, a press having its walls provided with openings, recessed tracks adjacent to said openings, a shouldered spring between the tracks at one side of the press, a flanged needle frame for engaging with said tracks and provided with a projection for engaging with one of the hooks of said spring, a knotter reciprocally mounted on said frame, and provided with a looper for engaging with the other shoulder of said spring, and means for forming two sets of interlocking loops when said knotter is reciprocated.

15. In an automatic binder for hay presses, a press having its walls provided with openings, tracks adjacent to said openings, needles reciprocally mounted on said tracks, a rock shaft journaled at one side of the press and provided with means for actuating the needles and being actuated by the plunger, a longitudinally movable member for controlling said means, a toothed wheel for engaging with the side of a bale, and a cord from said member to said wheel for automatically permitting said means to be engaged by the plunger when a bale has been completed.

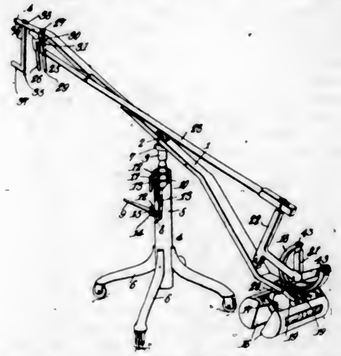
16. In an automatic binder for hay presses, a press, reciprocatory needles therefor, each provided with means for automatically binding a bale, means for reciprocally actuating the needles by means of the plunger, a lever pivotally mounted at one side of the press, one end of which is adapted to be engaged by one of said needles when it is moved across the press, a toothed wheel pivotally mounted in the other end of said lever in position for being moved into and out of engagement with a bale, and means connected with said wheel for controlling the actuating means between the plunger and the needles.

866,638. WAGON-LOADING DEVICE. ORLANDO EWERS, Longmont, Colo. Filed Jan. 21, 1907. Serial No. 353,322.

1. In an apparatus of the class described, the combination of a lifting element, a stand, a pivot on which the element is fulcrumed, circular ratchet teeth on the pivot, pawls on the stand coöperating with the teeth to raise and lower the pivot, carrying means on one end of the element, and a handle on the other end of said element.

2. In an apparatus of the class described, the combination of a lifting element mounted to move on two different axes, jaws on one end of the element, means at the opposite end of the element and connected with the jaws for opening and closing the latter, a handle adjacent said means, and a device for locking the jaws in open or closed position.

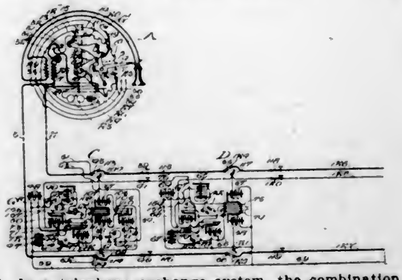
3. In an apparatus of the class described, the combination of a lifting element mounted to move on two different axes, jaws on one end of the element, toggle links connected with the jaws for opening and closing the same, a bell crank lever mounted on the element and connected with the toggle links, a device on the element at the end opposite from the jaws, and a connection between the device and bell crank lever for opening and closing the jaws by the said device.



4. In an apparatus of the class described, the combination of a lifting element mounted to swing on two right-angularly disposed axes, jaws fulcrumed on one end of the element and provided with arms arranged in crossed relation, toggle links connecting the free ends of the arms, a bell crank lever connected with the toggle links, an arm fulcrumed on the end of the element opposite from that having the jaws, a connection between the bell crank lever and arm, and a locking device associated with the said arm for holding the latter in either of two positions corresponding to the open or closed positions of the jaws.

5. In an apparatus of the class described, the combination of a suitably mounted lifting element, jaws fulcrumed thereon, a handle at the opposite end of the element, an auxiliary handle, an arm on the element adjacent the auxiliary handle, means between the arm and jaws for permitting the arm to open or close the latter, and a device associated with the arm for holding the jaws in open or closed position.

866,639. AUTOMATIC TELEPHONE RELEASE. EDWARD D. FALES, Chicago, Ill., assignor to Automatic Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 9, 1907. Serial No. 356,576.



1. In a telephone exchange system, the combination of a calling telephone line, a called telephone line, a connector for completing connection with the called line, trunk lines and a plurality of trunking switches for extending connection from the calling line to the said connector, a grounded trunk-release circuit suitably controlled at the connector and extending through and including all of the said automatic switches in series, and a battery for energizing said release circuit.

2. In a telephone exchange system, a plurality of selectors and a connector, each selector provided with a release relay, said connector provided with a release magnet, and a trunk-release circuit including said magnet and relays in series with each other, together with a source of current for energizing said magnet and relays.

3. In a telephone exchange system, the combination of a first-selector, a second-selector, a connector, a trunk-release circuit extending from the connector to the said selectors, a talking circuit excluding said release circuit, electromagnets for said connector and selectors, said electromagnets included in series in said release circuit, release mechanism controlled by said electromagnets, and a source of current for inclusion in said release circuit to energize said electromagnets.

4. In a telephone exchange system, the combination of a calling telephone line, a called telephone line, an automatic connector for completing the connection directly with the called line, trunk lines and a plurality of trunking switches for extending connection from the calling line to the said connector, switch mechanism by which the calling subscriber controls the operations of said connector and trunking switches, one of said trunking switches being individual to the calling telephone line, a trunk-release circuit controlled at the connector and extending through all of said trunking switches, and a source of current for energizing said release circuit.

5. In a telephone exchange system, the combination of an automatic switch, a telephone line, means including a plurality of switches for extending connection from the said telephone line to the said automatic switch, a trunk-release circuit controlled at the automatic switch and including the said switches in series with each other, and a source of current for energizing said circuit to release the automatic switch and switches.

6. In a telephone exchange system, the combination of a calling telephone line, a called telephone line, a connector for completing connection with the called line, trunk lines and a plurality of trunking switches for extending connection from the calling line to the said connector, a grounded trunk-release circuit suitably controlled at the connector and extending through and including all of the said automatic switches in series, a battery for energizing said release circuit, and subscribers' telephone transmitters receiving talking current from said battery.

7. In a telephone exchange system, a plurality of selectors and a connector, each selector provided with a release relay, said connector provided with a release magnet, a trunk-release circuit including said magnet and relays in series with each other, together with a source of current for energizing said magnet and relays, and a subscriber's telephone transmitter receiving talking current from said source.

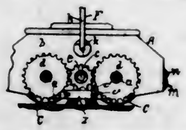
8. In a telephone exchange system, the combination of a first-selector, a second-selector, a connector, a trunk-release circuit extending from the connector to the said selectors, a talking circuit excluding said release circuit, electromagnets for said connector and selectors, said electromagnets included in series in said release circuit, release mechanism controlled by said electromagnets, a source of current for inclusion in said release circuit to energize said electromagnets, and a subscriber's telephone transmitter receiving talking current from said source.

9. In a telephone exchange system, the combination of a calling telephone line, a called telephone line, an automatic connector for completing the connection directly with the called line, trunk lines and a plurality of trunking switches for extending connection from the calling line to the said connector, switch mechanism by which the calling subscriber controls the operations of said connector and trunking switches, one of said trunking switches being individual to the calling telephone line, a trunk-release circuit controlled at the connector and extending through all of said trunking switches, a source of current for energizing said release circuit, and subscribers' telephone transmitters receiving talking current from said source.

10. In a telephone exchange system, the combination of an automatic switch, a telephone line, means including a plurality of switches for extending connection from the said telephone line to the said automatic switch, a trunk-release circuit controlled at the automatic switch and including the switches in series with each other, a source of current for energizing said circuit to release the automatic switch and switches, and a subscriber's telephone transmitter receiving talking current from said source.

11. The improved serial trunk-release for a plurality of trunk selectors or automatic switches, substantially as shown and described.

866,640. CARPET-CLEANER. GOSTE FRIEDMAN, Jamestown, N. Y. Filed Oct. 21, 1905. Serial No. 283,812.



1. A device for cleaning carpets, comprising a body with carrying wheels and propelling handle, and a brush within the body, the end portions of the body having vertical openings extending upward from their lower edges and constituting receptacles for the ends of the brush, removable bearing blocks in said openings, the openings and the bearing blocks having V-shaped meeting faces, holders pivoted near the lower edges of the body and having projections extending beneath the blocks, spring catches on said end portions engaging said holders to retain them in horizontal position, and means to rotate the brush.

2. In a device of the kind described, the combination with the body having end portions having vertical openings, removable vertical blocks in said openings having V-shaped edges fitting corresponding openings in the end pieces, holders pivoted to swing vertically and having horizontally inturned parts engaging under the lower ends of the respective bearing block, and flat spring catches at right angles to said holders for engaging said holders and holding them in normal horizontal position.

866,641. GRIT FOOD FOR FOWLS. EDWARD J. FUCHS, Scranton, Pa. Filed Aug. 30, 1905. Serial No. 276,401.

1. A food grit for fowls containing phospho-silicates of lime and soda, substantially in the proportions specified, said grit food being of a somewhat vitreous, gritty and porous nature, and being broken into pieces of proper sizes to be eaten by fowls.

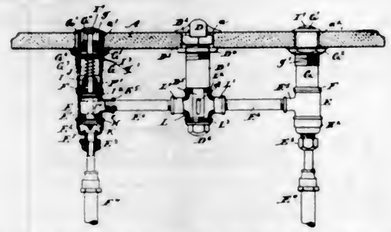
2. A grit food for fowls, containing phospho-silicates of lime and soda, substantially in the proportions specified, said grit food being a product of a somewhat vitreous, gritty and porous character.

3. A grit-food for fowls, containing phospho-silicates of lime and soda in the approximate proportion of ninety per cent. of phospho-silicate of lime to ten per cent. of phospho-silicate of soda, said grit-food being a product of a somewhat vitreous, gritty and porous character.

866,642. PLUMBING FIXTURE FOR LAVATORIES. ROBERT F. GILLIN, New York, N. Y., assignor to Margaret Gillin, Brooklyn, N. Y. Filed Mar. 2, 1906. Serial No. 303,780.

1. In a lavatory, a bowl, a basin-slab having an opening therethrough, a valve and valve-casing beneath said slab, a stem from said valve extending into said opening, a button on the upper end of said stem received in said opening normally flush with the upper face of said slab and constructed to sink therein under pressure to open said valve, a stuffing box adjustably mounted at the lower end of a recess in said casing below the upper face of the slab, a spigot for said bowl, and connections from said valve-casing to said spigot.

2. In a lavatory, a bowl, a basin-slab having an opening therethrough, a valve-casing beneath said slab extending through said opening and terminating in a recess surrounded by a flange engaged with the upper face of said slab, a valve in said casing, a valve-stem extending through said casing, a button on said stem lying in said recess normally flush with the upper face of said slab and arranged to open said valve by a downward movement therein, a stuffing box at the bottom of said recess below the upper face of the slab and below said button, a spigot for said bowl, a supply-pipe for said casing, and connections from the latter to said spigot.

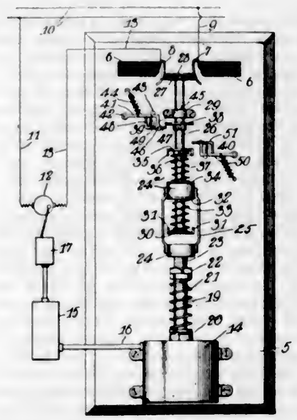


3. In a lavatory, a basin-slab having an opening therethrough, a valve-casing beneath said slab and extending through said opening, a flange on the upper end of said casing engaged with the upper face of said slab, a recess in the upper end of said casing, a stuffing box at the bottom of said recess below the upper face of the slab and below said button, a supply chamber at the lower end thereof, a valve-seat on said casing, a downwardly-opening valve in said supply chamber, a discharge-opening in said casing above said valve-seat, a downwardly-open cylinder in said casing above said discharge-opening, a valve-stem for said valve extending axially upward therefrom, a piston on said stem matching said cylinder and forming therewith a water-check, a stuffing-box above said cylinder inclosing said stem, a spring inclosing said stem and tending to close said valve, and a button on said stem received in said recess, normally flush with the upper face of said slab all constructed to open said valve by depressing said button in said recess and automatically to close said valve by the action of said spring and the water pressure in opposition to said water-check.

4. In a lavatory, a basin-slab having an opening therethrough, a valve-casing beneath said slab and extending through said opening, a flange on the upper end of said casing engaged with the upper face of said slab, a recess in the upper end of said casing, a supply chamber at the lower end thereof, a main-valve seat on said casing, a downwardly-opening main-valve in said supply chamber, a downwardly-closing auxiliary valve below said main-valve, an auxiliary-valve seat in said supply chamber, a discharge opening above said main-valve seat, a downwardly open cylinder in said casing above said discharge-opening, a stuffing-box for said cylinder, an auxiliary cylinder above said stuffing-box, a diaphragm forming the bottom of said recess, a stuffing-box in said diaphragm, a valve-stem for said main and auxiliary valves, pistons in said cylinders carried by said stem, a spring tending to raise said stem, and a button on the upper end of said stem received in said recess and adapted to open said main-valve by depression in said recess and to close said auxiliary valve by a movement of said button in the same direction to the limit of its travel.

5. In a lavatory, a bowl, a basin-slab, a basin-cock extending through said slab, a tubular extension from said cock forming a shoulder therewith and having an opening, a shell inclosing said extension and held to said shoulder by a cap-nut on said extension, branches on said shell, a valve-casing for each branch, recesses in said slab each receiving the upper end of one of said casings, a self-closing valve in each casing, a water supply-pipe for each casing, a valve-stem extending axially of each casing, and a button at the upper end of each valve-stem received in said recesses normally flush with the upper face of said slab and adapted to open said valves by depression in said recesses, and a stuffing box adjustably mounted in each recess below the top edge of the casing and below the push button.

866,643. PRESSURE-CONTROLLER. JAMES H. GLENN and MICHAEL REULE, La Fayette, Ind. Filed Apr. 10, 1907. Serial No. 367,465.

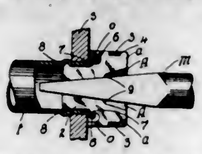


1. The combination with the receiver of an electrically-driven compressor, a cylinder in communication with the receiver, a plunger working in the cylinder and spring-actuated to oppose the receiver pressure, and a plunger-stem; of a block carried by the plunger-stem and having an opening, a stem working in said opening and carrying circuit-closing means, a yielding connection between the plunger-stem and the circuit-closing stem at both ends of the aforesaid block, tensioned latches opposing the movement of the circuit-closing stem, the tension of said latches being greater than the yielding connection between the plunger-stem and the circuit-closing stem, and latch engaging means carried by the circuit-closing stem.

2. A pressure controller for electrically driven compressors comprising a receiver, a cylinder in communication with the receiver, a plunger working in the cylinder and spring-actuated to oppose the receiver pressure, a plunger-stem, a block carried by the plunger-stem and having an opening, a stem working in the opening of the aforesaid block and having at one end circuit-closing means, a fixed collar on the circuit-closing stem below the block, a spring between the collar and the block, a fixed collar on the circuit-closing stem above the block, a spring between the last mentioned collar and the block, tensioned latches opposing the movement of the circuit-closing stem, the tension of said latches being greater than the springs on the circuit-closing stem, and latch engaging means carried by said stem.

3. A pressure controller for electrically driven compressors comprising a receiver, a cylinder in communication with the receiver, a plunger working in the cylinder and spring-actuated to oppose the receiver pressure, means for regulating the tension of the plunger-spring, a plunger-stem, a block carried by the plunger-stem and having an opening, a stem working in the opening of the aforesaid block and having at one end circuit-closing means, a fixed collar on the circuit-closing stem below the block, a spring between the collar and the block, a fixed collar on the circuit-closing stem above the block, a spring between the last mentioned collar and the block, tensioned latches opposing the movement of the circuit-closing stem, the tension of said latches being greater than the springs on the circuit-closing stem, and latch engaging means carried by said stem.

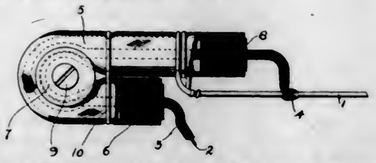
866,644. TUBE-EXPANDER. THOMAS P. GREEN, St. Louis, Mo. Filed May 18, 1907. Serial No. 374,343.



1. A tube expander comprising a series of hollow separable sections disposed about a common central axis, said expander having a socket comprising an outer reduced tapering section and an inner enlarged section, an offset or shoulder formed at the adjacent ends of said sections, in combination with a mandrel engaging the walls of the reduced section of the socket, substantially as set forth.

2. A tube expander comprising a series of hollow separable sections disposed about a common central longitudinal axis, and terminating at the outer end in a plug having a terminal bead and an annular basal shoulder, and terminating at the opposite end in an enlarged body portion having a flange extending around the base of the plug and forming a basin therewith, the edge of the flange being disposed in a plane beyond the plane of disposition of the annular shoulder aforesaid, said flange having excised portions forming sight openings for observing the end of the tube operated on, the expander having a tapering socket formed of a reduced section located in the plug, and an enlarged section formed in the body portion, the sections of the socket being separated by a shoulder or offset disposed in a transverse plane parallel to the plane of disposition of the base of the basin aforesaid, the parts operating substantially as and for the purpose set forth.

866,645. ANTIHUMMER FOR TELEPHONE AND TELEGRAPH LINES. NELS O. HAGEN, Pekin, N. D., assignor of one-half to Ole O. Forde, Pekin, N. D. Filed May 4, 1907. Serial No. 371,814.



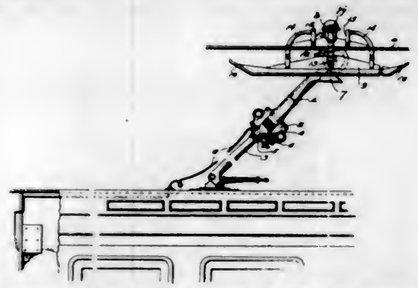
1. In a device of the kind described, a pliable tube secured to a support and provided with plugs in its ends, and a conducting wire extended through said tube and through the plugs in the ends thereof, substantially as described.

2. In a device of the kind described, the combination with a pliable tube 5 bent upon itself and secured to a support and provided with plugs 6 in its ends, of a main wire 1 coiled about and secured to one end portion of said tube 5 inward of the adjacent plug 6, and a house or station wire 2 electrically connected to said wire 1 and extended through said tube 5 and through the plugs 6 in the ends thereof, substantially as described.

3. The combination with an anchoring hub 7 adapted to be secured to a support, of a pliable tube 5 bent around said hub, a yoke 10 passed around the prongs of said tube 5 and securing the same to said hub 7, plugs 6 in the ends of said tube 5, a main wire 1 coiled around and secured to one prong of said tube 5 inward of the adjacent plug 6, and a house or station wire 2 electrically connected to said wire 1 and passed through said tube 5 and through the plug 6 thereof, substantially as described.

866,646. CONTACT DEVICE. CLARENCE J. HARTER, Ilion, N. Y. Filed Dec. 3, 1906. Serial No. 346,098.

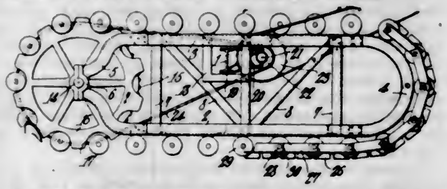
1. A device of the character described comprising a pivotally mounted contact lever adapted to be carried by a car, a spring to elevate the same, means to hold said lever in position against the tension of said spring, a contact shoe, an adjustable hanger connected to said shoe, means to connect the upper end of said hanger to a guy wire, conducting brace bars connected with said shoe, and means to connect the opposite ends of said brace rods to the hanger of said trolley wire, whereby an electric current is conducted therefrom to said contact shoe, substantially as described.



2. A contact device of the character described comprising a clamp adapted to be engaged with and insulated from the trolley pole, an adjustable spring connected to the lower end of said contact lever to yieldingly support the same in an operative position, a stop pin on said clamp to limit the movement of said contact lever, a contact head on the upper end of said lever, a contact shoe adapted to be engaged by said head, a vertically adjustable hanger connected to the upper end of said contact shoe, means on the upper end of said hanger to engage the guy wire of a trolley wire or cable, an insulating material arranged between said hanger and guy wire and conducting brace rods connected at one end to said contact shoe and engaged at their opposite ends with the hanger or bracket of the trolley wire, substantially as described.

3. A contact device comprising a contact shoe, an adjustable hanger connected to said shoe, said hanger comprising a pair of apertured plates, clamping bolts to adjustably secure said plates together through said apertures, a hook arranged on the upper end of said hanger to engage a guy wire or other support, a set screw arranged in said hook, an insulating material arranged within the latter to insulate the same from said guy wire, conducting brace rods connected at one end to said contact shoe, U-shaped clips arranged on the outer ends of said rods to engage a trolley wire hanger, set screws in said clips to hold the same in place, and a contact lever adapted to be connected to a car to engage said contact shoe, substantially as described.

866,647. TRACTION-APRON. JAMES B. HILL, Findlay, Ohio. Filed Mar. 30, 1907. Serial No. 365,548.

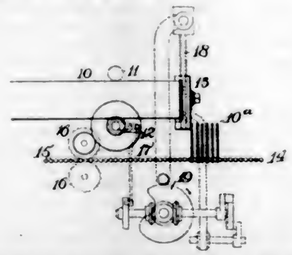


1. The combination with an axle; of a traction device comprising a runner, an anti-friction bearing interposed between the runner and axle, a traction apron movable around the runner, and anti-friction devices interposed between the apron and runner.

2. A traction device comprising rigidly connected runners, an axle projecting into and movably supported at one end by the runners, pivotally connected cross ties extending under the runners, anti-friction devices carried by the end portions of the ties and bearing against the runners, a shaft journaled within the runners, revoluble means carried thereby for engaging and simultaneously actuating the anti-friction devices, a drive shaft projecting between the runners, and means interposed between said runners for transmitting motion from the guide shaft to the first mentioned shaft.

3. The combination with an axle; of a traction device supporting one end of said axle, said device comprising a runner, anti-friction means interposed between the runner and axle, a traction apron movable around the runner, and anti-friction devices interposed between the apron and runner.

866,648. MATCH-MACHINE. WILLIAM F. HUTCHINSON, Nyack, N. Y., assignor to Sarnia Match Company, Sarnia, Ontario, Canada, a Corporation of Canada. Filed Sept. 14, 1906. Serial No. 334,607.



1. In a match machine, the cutting mechanism comprising guiding means for a plurality of strips of match stock, a plurality of knives sliding through the guiding means and acting successively on the same stock strips to cut the stock into splints, and means operating with the knives to separate the splints into a plurality of rows.

2. In a match machine, the combination with spacing and guiding means adapted to receive a series of strips of match stock, of a plurality of knives arranged one behind the other and traversing the stock so as to act on the same stock strips to cut the strips successively into splints, and means operating in conjunction with the knives to separate the splints into rows.

3. The combination with a stock feed constructed to feed a series of parallel strips of match stock, of reciprocating parallel knives sliding across the match stock so as to act successively on the same stock strips each knife acting to cut a splint from each strip of stock, and guiding means arranged to receive and hold the splints in rows.

4. In a match machine, the combination with the stock feed adapted to feed a series of stock strips side by side and spaced apart, of reciprocating knives acting to successively cut a series of match splints from each strip of stock, and a separating device acting with the knives to engage the splints and separate them into rows.

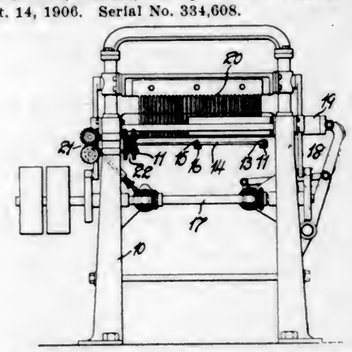
5. The combination with a plural series of guide fingers, one series being in front of the other, of means for feeding veneer strips between the fingers, and a pair of reciprocating knives traversing the several fingers to cut the stock into splints, one knife moving along the front of the forward fingers and the second knife moving between the two sets of fingers.

6. In a match machine, the cutting mechanism comprising a double set of guide fingers arranged with one set in front of the other, a knife moving along the front of the first set of fingers, a second knife moving between the two sets of fingers, and a back plate moving along the backs of the rear fingers.

7. In a match machine, the combination of the two sets of guide fingers and the means for feeding match stock between both sets of fingers, of the knives moving in unison one knife sliding along the front of the fingers and the second knife moving between the two sets of fingers, the spacing rib on the back of the rear knife, and a movable back plate on the backs of the fingers.

8. In a match machine, the combination with the series of guide fingers spaced apart to receive the stock, and also spaced apart row-wise, of the cut-off knives sliding across the fingers, and a plunger traveling with the knife and below the space between the two sets of fingers, the said plunger extending forward in advance of the cutting edge of the knife.

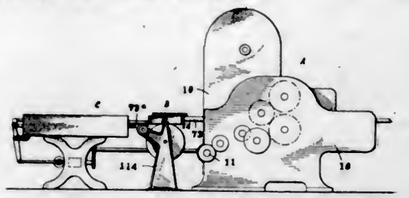
866,649. MATCH-MACHINE. WILLIAM F. HUTCHINSON, Nyack, N. Y., assignor to Sarnia Match Company, Sarnia, Ontario, Canada, a Corporation of Canada. Filed Sept. 14, 1906. Serial No. 334,608.



1. In a match machine, the combination with the carriers or frames arranged to move longitudinally through the machine, of a slotted guide, and a rib on the face of the frames or carriers running in the said slotted guide.

2. In a match machine, the combination with the splint carrier or frame, of a stationary slotted guide arranged parallel with the movement of the frame, and a rib located between the two sides of the frame and running in the slotted guide.

866,650. MATCH-MACHINE. WILLIAM F. HUTCHINSON, Nyack, N. Y., assignor to Sarnia Match Company, Sarnia, Ontario, Canada, a Corporation of Canada. Filed Oct. 24, 1906. Serial No. 340,315.



1. A match machine comprising a single splint cutting mechanism, a carrier for matches on each side of the splint cutting mechanism, a clutching device to grip the splints as they are cut and carry them to the splint carriers, and means for discharging the splints from the clutch and into the carriers.

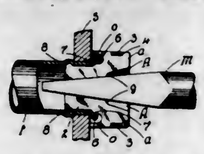
2. In a match machine, the cutting mechanism comprising a stock feed, several series of cutters spaced apart and intersecting the stock feed, and a clutching device moving between the several series of cutters to grip the splints severed by the cutters.

3. A match machine comprising a stock feed, several series of cutters spaced apart and intersecting the feed, each series comprising a group of individual hollow cutters, and clutching devices moving between the several series of cutters to clutch the severed splints.

4. In combination, a cutting mechanism, a kiln, carriers delivering from the cutter mechanism to the kiln and means for inverting the carriers before they deliver to the kiln.

5. A match machine comprising several series of cutters

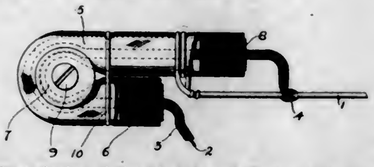
866,644. TUBE-EXPANDER. THOMAS P. GREEN, St. Louis, Mo. Filed May 18, 1907. Serial No. 374,343.



1. A tube expander comprising a series of hollow separable sections disposed about a common central axis, said expander having a socket comprising an outer reduced tapering section and an inner enlarged section, an offset or shoulder formed at the adjacent ends of said sections, in combination with a mandrel engaging the walls of the reduced section of the socket, substantially as set forth.

2. A tube expander comprising a series of hollow separable sections disposed about a common central longitudinal axis, and terminating at the outer end in a plug having a terminal bead and an annular basal shoulder, and terminating at the opposite end in an enlarged body portion having a flange extending around the base of the plug and forming a basin therewith, the edge of the flange being disposed in a plane beyond the plane of disposition of the annular shoulder aforesaid, said flange having excised portions forming sight openings for observing the end of the tube operated on, the expander having a tapering socket formed of a reduced section located in the plug, and an enlarged section formed in the body portion, the sections of the socket being separated by a shoulder or offset disposed in a transverse plane parallel to the plane of disposition of the base of the basin aforesaid, the parts operating substantially as and for the purpose set forth.

866,645. ANTIHUMMER FOR TELEPHONE AND TELEGRAPH LINES. NELS O. HAGEN, Pekin, N. D., assignor of one-half to Ole O. Forde, Pekin, N. D. Filed May 4, 1907. Serial No. 371,814.



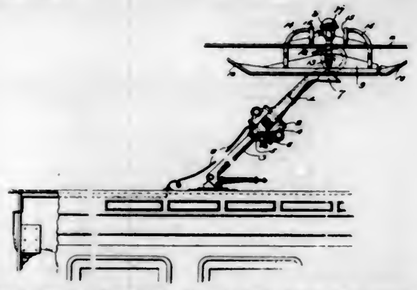
1. In a device of the kind described, a pliable tube secured to a support and provided with plugs in its ends, and a conducting wire extended through said tube and through the plugs in the ends thereof, substantially as described.

2. In a device of the kind described, the combination with a pliable tube 5 bent upon itself and secured to a support and provided with plugs 6 in its ends, of a main wire 1 coiled about and secured to one end portion of said tube 5 inward of the adjacent plug 6, and a house or station wire 2 electrically connected to said wire 1 and extended through said tube 5 and through the plugs 6 in the ends thereof, substantially as described.

3. The combination with an anchoring hub 7 adapted to be secured to a support, of a pliable tube 5 bent around said hub, a yoke 10 passed around the prongs of said tube 5 and securing the same to said hub 7, plugs 6 in the ends of said tube 5, a main wire 1 coiled around and secured to one prong of said tube 5 inward of the adjacent plug 6, and a house or station wire 2 electrically connected to said wire 1 and passed through said tube 5 and through the plug 6 thereof, substantially as described.

866,646. CONTACT DEVICE. CLARENCE J. HARTER, Ilion, N. Y. Filed Dec. 3, 1906. Serial No. 346,098.

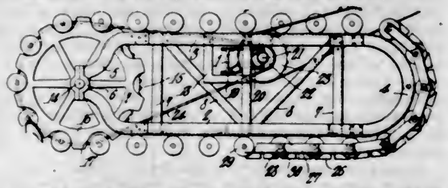
1. A device of the character described comprising a pivotally mounted contact lever adapted to be carried by a car, a spring to elevate the same, means to hold said lever in position against the tension of said spring, a contact shoe, an adjustable hanger connected to said shoe, means to connect the upper end of said hanger to a guy wire, conducting brace bars connected with said shoe, and means to connect the opposite ends of said brace rods to the hanger of said trolley wire, whereby an electric current is conducted therefrom to said contact shoe, substantially as described.



2. A contact device of the character described comprising a clamp adapted to be engaged with and insulated from the trolley pole, an adjustable spring connected to the lower end of said contact lever to yieldingly support the same in an operative position, a stop pin on said clamp to limit the movement of said contact lever, a contact head on the upper end of said lever, a contact shoe adapted to be engaged by said head, a vertically adjustable hanger connected to the upper end of said contact shoe, means on the upper end of said hanger to engage the guy wire of a trolley wire or cable, an insulating material arranged between said hanger and guy wire and conducting brace rods connected at one end to said contact shoe and engaged at their opposite ends with the hanger or bracket of the trolley wire, substantially as described.

3. A contact device comprising a contact shoe, an adjustable hanger connected to said shoe, said hanger comprising a pair of apertured plates, clamping bolts to adjustably secure said plates together through said apertures, a hook arranged on the upper end of said hanger to engage a guy wire or other support, a set screw arranged in said hook, an insulating material arranged within the latter to insulate the same from said guy wire, conducting brace rods connected at one end to said contact shoe, U-shaped clips arranged on the outer ends of said rods to engage a trolley wire hanger, set screws in said clips to hold the same in place, and a contact lever adapted to be connected to a car to engage said contact shoe, substantially as described.

866,647. TRACTION-APRON. JAMES B. HILL, Findlay, Ohio. Filed Mar. 30, 1907. Serial No. 365,548.



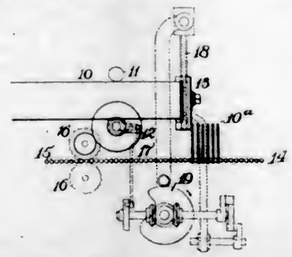
1. The combination with an axle; of a traction device comprising a runner, an anti-friction bearing interposed between the runner and axle, a traction apron movable around the runner, and anti-friction devices interposed between the apron and runner.

2. A traction device comprising rigidly connected runners, an axle projecting into and movably supported at one end by the runners, pivotally connected cross ties extending under the runners, anti-friction devices carried

by the end portions of the ties and bearing against the runners, a shaft journaled within the runners, revoluble means carried thereby for engaging and simultaneously actuating the anti-friction devices, a drive shaft projecting between the runners, and means interposed between said runners for transmitting motion from the guide shaft to the first mentioned shaft.

3. The combination with an axle; of a traction device supporting one end of said axle, said device comprising a runner, anti-friction means interposed between the runner and axle, a traction apron movable around the runner, and anti-friction devices interposed between the apron and runner.

866,648. MATCH-MACHINE. WILLIAM F. HUTCHINSON, Nyack, N. Y., assignor to Sarnia Match Company, Sarnia, Ontario, Canada, a Corporation of Canada. Filed Sept. 14, 1906. Serial No. 334,607.



1. In a match machine, the cutting mechanism comprising guiding means for a plurality of strips of match stock, a plurality of knives sliding through the guiding means and acting successively on the same stock strips to cut the stock into splints, and means operating with the knives to separate the splints into a plurality of rows.

2. In a match machine, the combination with spacing and guiding means adapted to receive a series of strips of match stock, of a plurality of knives arranged one behind the other and traversing the stock so as to act on the same stock strips to cut the strips successively into splints, and means operating in conjunction with the knives to separate the splints into rows.

3. The combination with a stock feed constructed to feed a series of parallel strips of match stock, of reciprocating parallel knives sliding across the match stock so as to act successively on the same stock strips each knife acting to cut a splint from each strip of stock, and guiding means arranged to receive and hold the splints in rows.

4. In a match machine, the combination with the stock feed adapted to feed a series of stock strips side by side and spaced apart, of reciprocating knives acting to successively cut a series of match splints from each strip of stock, and a separating device acting with the knives to engage the splints and separate them into rows.

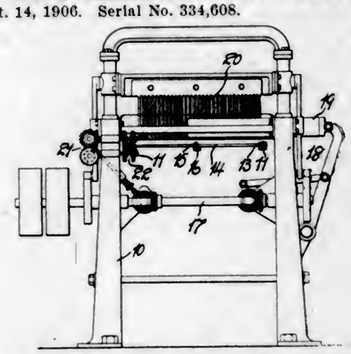
5. The combination with a plural series of guide fingers, one series being in front of the other, of means for feeding veneer strips between the fingers, and a pair of reciprocating knives traversing the several fingers to cut the stock into splints, one knife moving along the front of the forward fingers and the second knife moving between the two sets of fingers.

6. In a match machine, the cutting mechanism comprising a double set of guide fingers arranged with one set in front of the other, a knife moving along the front of the first set of fingers, a second knife moving between the two sets of fingers, and a back plate moving along the backs of the rear fingers.

7. In a match machine, the combination of the two sets of guide fingers and the means for feeding match stock between both sets of fingers, of the knives moving in unison one knife sliding along the front of the fingers and the second knife moving between the two sets of fingers, the spacing rib on the back of the rear knife, and a movable back plate on the backs of the fingers.

8. In a match machine, the combination with the series of guide fingers spaced apart to receive the stock, and also spaced apart row-wise, of the cut-off knives sliding across the fingers, and a plunger traveling with the knife and below the space between the two sets of fingers, the said plunger extending forward in advance of the cutting edge of the knife.

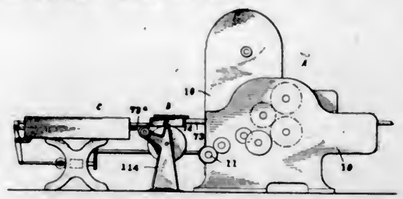
866,649. MATCH-MACHINE. WILLIAM F. HUTCHINSON, Nyack, N. Y., assignor to Sarnia Match Company, Sarnia, Ontario, Canada, a Corporation of Canada. Filed Sept. 14, 1906. Serial No. 334,608.



1. In a match machine, the combination with the carriers or frames arranged to move longitudinally through the machine, of a slotted guide, and a rib on the face of the frames or carriers running in the said slotted guide.

2. In a match machine, the combination with the splint carrier or frame, of a stationary slotted guide arranged parallel with the movement of the frame, and a rib located between the two sides of the frame and running in the slotted guide.

866,650. MATCH-MACHINE. WILLIAM F. HUTCHINSON, Nyack, N. Y., assignor to Sarnia Match Company, Sarnia, Ontario, Canada, a Corporation of Canada. Filed Oct. 24, 1906. Serial No. 340,315.



1. A match machine comprising a single splint cutting mechanism, a carrier for matches on each side of the splint cutting mechanism, a clutching device to grip the splints as they are cut and carry them to the splint carriers, and means for discharging the splints from the clutch and into the carriers.

2. In a match machine, the cutting mechanism comprising a stock feed, several series of cutters spaced apart and intersecting the stock feed, and a clutching device moving between the several series of cutters to grip the splints severed by the cutters.

3. A match machine comprising a stock feed, several series of cutters spaced apart and intersecting the feed, each series comprising a group of individual hollow cutters, and clutching devices moving between the several series of cutters to clutch the severed splints.

4. In combination, a cutting mechanism, a kiln, carriers delivering from the cutter mechanism to the kiln and means for inverting the carriers before they deliver to the kiln.

5. A match machine comprising several series of cutters

spaced apart, each series comprising a group of individual hollow cutters, the said cutters moving forward without interruption, means for feeding the stock between each group of cutters, and clutching devices independent of the cutters to engage the individual splints as they are severed by the cutters.

6. A match machine comprising a series of cutters spaced apart and moving constantly forward, feed or pressure plates for stock, means for feeding the stock between the pressure plates, and automatic means for relieving the pressure of the plates as each cutter passes said plates.

7. In a match machine the combination with the movable cutters spaced apart, of the stock feed to deliver stock between the cutters, the feed or pressure plates to hold the stock, one of said plates being hinged, and means moving with the hinges to tilt the said hinged plate as each series of cutters passes it.

8. In a match machine the combination with the forwardly moving hollow cutters, of the stock feed to move stock into the path of the cutters, splint clutching devices in the path of the cutters and adjacent to the stock, and means for opening and closing the clutching devices as the cutters approach and pass through them.

9. The combination with the stock feed and the hollow cutters arranged to pass through the stock, of splint clutches opposite the stock and in the path of the cutters the said clutches opening as the cutters pass through them and closing to grip the splints ejected by the cutters.

10. The combination with the movable cutters arranged to pass through the stock, of individual splint clutches in the path of the cutters and near the stock, said clutches being each expansible and arranged to open for the passage of the cutter through it and to close so as to grip the splints ejected by the cutter.

11. The combination with the hollow cutters arranged to pass through the stock, of the expansible clutches in the path of the cutters through which the cutters pass to engage the stock, and means for opening the clutches as the cutters approach them.

12. The combination with the hollow cutters, each having a neck, of the expansible clutches arranged in the path of the cutters, and provided with openings for the passage of the cutter necks.

13. In a match machine the combination with the stock feed and the cutters intersecting the feed and passing through the stock, of the clutch bar reciprocating laterally between the series of cutters and having clutches to receive the individual splints, and carriers to receive the splints from the clutches.

14. In a match machine the combination with the cutters arranged to pass through the stock, of a clutch bar reciprocating laterally between the series of cutters, slide plates on the clutch bars, said plates being moved in relation to each other, clutches consisting of separable parts to receive the splints, the two parts of each clutch connecting with the different slide plates, and means for discharging splints from the clutches.

15. In combination with the hollow cutters arranged to pass through the stock, of the expansible clutches in the path of the cutters through which the cutters pass to engage the stock and means carried by the cutters for opening the clutches as the cutters approach them.

16. In combination with hollow cutters arranged to pass through the stock, of the expansible clutches in the path of the cutters through which the cutters pass to engage the stock and extensions on the cutters for opening the clutches as the cutters approach them.

17. A match machine comprising several series of cutters spaced apart and moving continuously forward, each series comprising a group of individual hollow cutters, a stock feed to deliver said stock between each series of cutters and clutching devices moving between the several series of cutters to clutch the severed splints.

18. In a match machine, the combination with movable cutters spaced apart, of the stock feed to deliver stock between the cutters, the feed or pressure plates to hold the stock, one of said plates being hinged, means moving with the cutters to tilt said hinged plate as each series of cutters passes it and means to return the plate after each series of cutters have passed.

19. In a match machine, the combination with movable cutters spaced apart, of the stock feed to deliver stock between the cutters, the feed or pressure plates to hold the stock, one of said plates being hinged, means moving with the cutters to tilt said hinged plate as each series of cutters passes it and spring means for returning the plate after each series of cutters has passed.

20. In a match machine, the combination with the endless chains and means for driving them a series of cutters spaced apart and carried by the chains, feed or pressure plates for stock, one of said plates being hinged and means carried by the chains to tilt the hinged plate as each series of cutters passes it.

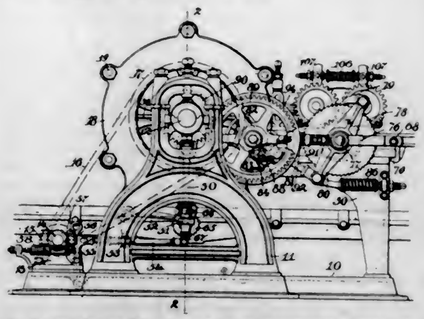
21. In a match machine, the combination with the endless chains and means for driving them, a series of cutters spaced apart and carried by the chains, feed or pressure plates for the stock, one of said plates being hinged and projections carried by the chains to tilt the hinged plate as each series of cutters passes.

22. A match machine comprising chains, wheels around which the chains are passed, gear wheels interposed between the aforesaid wheels and engaging the chains, a stock feed, said gear wheels being opposite the stock feed, and several series of cutters supported on the chains, said stock feed being adapted to deliver stock between the several series of cutters.

23. A match machine comprising chains, the inner edges of said chains being toothed, wheels around which the chains are passed, gear wheels engaging the toothed edges of the chains, a stock feed, and several series of cutters supported on the chains, said stock feed being adapted to deliver stock between the several series of cutters.

24. A match machine comprising chains, wheels around which said chains pass, gear wheels interposed between the aforesaid wheels engaging the chains, a stock feed, and several series of cutters supported on the chains, said stock feed being adapted to deliver stock between the several series of cutters.

866,651. MATCH-MACHINE. WILLIAM F. HUTCHINSON, Nyack, N. Y., assignor to Sarnia Match Company, Sarnia, Ontario, Canada, a Corporation of Canada. Filed Oct. 24, 1906. Serial No. 340,316.



1. A match machine comprising a stock feed and cutter bars carrying splint cutters, the said bars moving in a generally circular path, but being guided to move perpendicularly to the stock feed where they intersect the said feed, and means for imparting a rotary movement to the cutter bars, to bring the cutting edges tangential to said circular path at one point and radial thereto at another.

2. A match machine comprising a stock feed, cutters moving in a generally circular path and intersecting the feed, means for imparting rotary movement to the cutters to bring the cutting edges tangential to said circular path at one point and radial thereto at another, and plungers engaging the severed stock after the cutters have passed the stock feed to eject the stock from the cutters.

3. A machine comprising a stock feed, a series of cutters traveling in a generally circular path and intersecting the feed, means for imparting a rotary movement to each series of cutters to bring the cutting edges tangential to said circular path at one point and radial thereto at another, and plungers arranged concentrically with respect to the cutters and adapted to push the severed stock from the cutters.

4. A match machine comprising a stock feed, a series of cutters spaced apart and intersecting the feed, and a guide track for the cutters, the said track being arranged to move the cutters perpendicularly to the stock feed at the point where the cutters intersect the feed, and means for imparting to each series of cutters a rotatory movement before it is moved perpendicularly to bring the cutting edges tangential to said circular path at one point and radial thereto at another.

5. A match machine comprising a stock feed, a series of cutters spaced apart and rotating so as to intersect the stock feed, a guiding device to move the cutters perpendicularly to the feed at the point where the cutters and feed intersect, means for imparting to each series of cutters a rotary movement before it is moved perpendicularly to bring the cutting edges tangential to their rotary movement at one point and radial thereto at another, plungers turning with the cutters, and means for automatically moving the plungers to eject the severed stock from the cutters.

6. A match machine comprising a stock feed, cutters traveling in a generally circular path and intersecting the feed, means for imparting a rotary movement to the cutters before intersection with the feed to bring the cutting edges tangential to said circular path at one point and radial thereto at another, plungers arranged within the circle of the cutters and adapted to eject the splints from the cutters, and a carrier to receive the splints as they are pushed from the cutters; the carrier, cutters and plungers all being timed to move together.

7. A match machine comprising a stock feed, a rotating support turning on an axis transverse to the stock feed, cutters carried by the support and intersecting the stock feed, means for guiding the cutters perpendicularly to the feed, and means for turning the rotating support before it reaches the guides to bring the cutting edges tangential to said circular path at one point and radial thereto at another.

8. A match machine comprising a stock feed, radially arranged spokes turning opposite the feed in a generally circular path, cutters carried by the said spokes and arranged to slide radially thereon, means for guiding the cutters as they intersect the feed so as to make their movement perpendicular to the feed, and means for imparting a rotary movement to the cutters before their intersection with the feed to bring the cutting edges tangential to said circular path at one point and radial thereto at another.

9. A match machine comprising a stock feed, radially arranged spokes turning opposite the said feed in a generally circular path, cutters carried by the said spokes so as to intersect the feed, means for driving the cutters so that they shall travel straight across the feed, and means for imparting a rotary movement to the cutters independent of the guiding means to bring the cutting edges tangential to said circular path at one point and radial thereto at another.

10. A match machine comprising a stock feed, a series of cutter bars spaced apart and traveling in a generally circular path so as to intersect the feed, cutters on the said cutter bars, journals to permit the turning of the bars, flat-sided boxes on the cutter bars engaging guides to move the cutters straight across the path of the stock feed, and means for imparting rotary movement to the bars independent of the guides to bring the cutting edges tangential to said circular path at one point and radial thereto at another.

11. A match machine comprising a stock feed, a rotating support traveling in a generally circular path, cutters carried by the support, and intersecting the stock feed, and projections carried by the machine contacting with the cutters for turning the same on their axes to bring their cutting edges tangential to said circular path at one point, and radial thereto at another.

12. A match machine comprising a stock feed, circular guide tracks adjacent to the feed, cutter bars spaced apart traveling in a generally circular path and in the tracks, the said cutter bars carrying cutters which intersect the stock feed, guiding means to cause the cutters to move straight across the stock feed, and means independent of the guiding means to impart a rotary movement to the cutters to bring their cutting edges tangential to said circular path at one point and radial thereto at another.

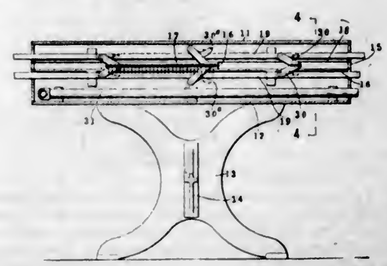
13. A match machine comprising a stock feed, a splint carrier, a series of cutters traveling in a generally circular path and intersecting the stock feed, means for guiding the cutters in position to travel straight across the stock feed, means independent of the guiding means for turning the cutters to bring their cutting edges tangential to said circular path at one point and radial thereto at another, and means for ejecting the stock from the cutters into the carrier.

14. A match machine comprising a stock feed, cutters traveling in a generally circular path and traversing the stock feed, a carrier adjacent to the path of the cutters, means for guiding the cutters perpendicular to the stock feed and perpendicular to the carrier, means for imparting movement to the cutters independent of the guiding means to bring the cutting edges tangential to said circular path at one point and radial thereto at another, and plungers moving with the cutters and arranged to move outward and eject the splints from the cutters into the carriers.

15. In a match machine, the combination with the stock feed, the carrier, the stationary guides, and the cutter bars carrying cutters and moving in a generally circular path; of the squared portions on the cutter bars, and means for turning the said squared portions so as to bring the cutting edges tangential to the circular path at one point and radial thereto at another.

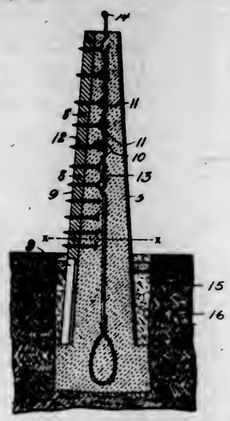
16. A match machine comprising the stock feed, rotating spokes opposite the feed turning in a circular path, cutter bars journaled in said arms and adapted to slide radially thereon, a guide track to receive the ends of the cutter bars, stationary guides opposite the stock feed, squared portions on the cutter bars to engage the said guides, means for turning the squared portions to bring the cutting edges tangentially to the circular path at one point and radial thereto at another, and a carrier moving with the cutters and arranged to eject material from the cutters into the carrier.

866,652. DRY-KILN. WILLIAM F. HUTCHINSON, Nyack, N. Y., assignor to Sarnia Match Company, Sarnia, Ontario, Canada, a Corporation of Canada. Filed Oct. 24, 1906. Serial No. 340,317.



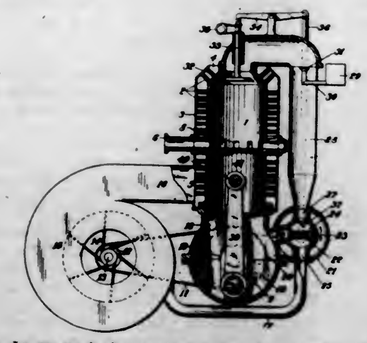
In combination, a box-like structure having an opening to receive a frame, tracks carried by the interior of the structure on which the carrier is movable, reciprocating rods arranged adjacent the edges of the frame and on both side thereof, pawls carried by the rods and clamping the frame, pawls carried by the structure engaging the opposite sides of the frame, and a heating medium within the box-like structure beneath the frame.

866,653. MOLD FOR CEMENT POSTS. CHARLES HUTCHINS, Pataskala, Ohio. Filed June 14, 1906. Serial No. 321,605.



In a device of the character described, the combination with a flexible and integral mold body which is open entirely along one side thereof and which tapers toward its upper end, of an outturned flange formed upon the mold body at each side of its open portion, a strip having a series of centrally arranged perforations formed therethrough which are adapted to receive fastening devices that extend from the center of the post to be molded, said strip entirely filling the space between said flanges and being adapted to be stripped bodily from the fastening devices when moved away from the mold, and bolts removable from the exterior of the mold which pass through both the flanges and the strip.

866,654. TWO-CYCLE GAS-ENGINE. VICTOR JAKOB, Columbus, Ohio. Filed July 31, 1906. Serial No. 328,556.



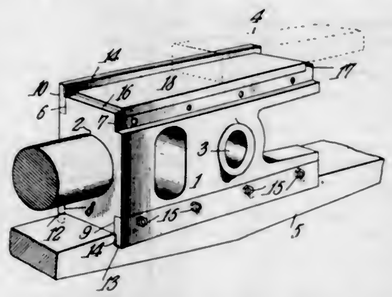
1. In an explosive engine, a cylinder, a crank chamber opening thereinto, a reciprocating piston in said cylinder, means for forcing air into said crank chamber under high pressure during the compression stroke of the piston, a pipe leading from said crank chamber into the explosion end of said cylinder, through which pipe air is driven from the crank chamber during the return stroke of the piston, and means for admitting fuel into said pipe.

2. In an explosive engine, a cylinder, a crank chamber opening thereinto, a reciprocating piston in said cylinder, a blower, a pipe leading from said blower into said crank chamber, a pipe leading from said crank chamber into the explosion end of said cylinder, a rotary valve adapted to admit air driven by the blower into said crank chamber during the compression stroke of said piston, said valve being adapted to admit air from said crank chamber into said pipe leading into the explosion end of said cylinder during the return stroke of said piston, and means for admitting fuel into said last mentioned pipe.

3. In an explosive engine having a cylinder and a piston operating therein, a crank chamber opening into said cylinder, means for driving air at a high velocity into said crank chamber during the compression stroke of said piston, means for conducting said air outwardly from said crank chamber and into the explosion end of said cylinder during the return stroke of said piston, and means for causing fuel to mix with the air as it is being conducted to the cylinder head for combustion.

4. In an explosive engine, a cylinder, a crank chamber opening thereinto, a reciprocating piston in said cylinder, a blower, a pipe leading from said blower into said crank chamber, a pipe leading from said crank chamber into the explosion end of said cylinder, a mechanically operated rotary valve positioned to control the passage ways of said pipes to admit air into the crank chamber during the compression stroke of said piston, and to permit said air to be forced out into said pipe leading to the explosion end of said cylinder during the return stroke of said piston, and means for admitting fuel into said last mentioned pipe.

866,655. CROSS-HEAD. EDWARD T. JAMES and GEORGE W. WEBB, Charlotte, N. C. Filed May 6, 1907. Serial No. 372,144.

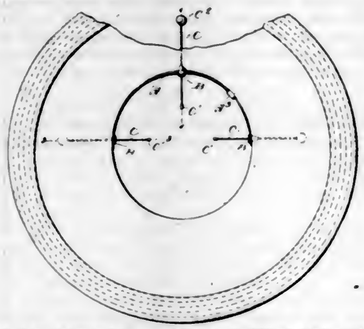


1. A cross head having a pair of oppositely arranged wear plate seats formed in the top and bottom and open at the sides thereof, and shoulders extending transversely and spaced longitudinally of the cross head and adapted to prevent longitudinal movement of the wear plates relatively to the cross head and devices arranged at the sides of the latter for removably securing the said plates in their respective seats.

2. A cross head having a pair of transversely extending seats at the top and bottom thereof and open at opposite sides of the cross head, shoulders arranged at the ends of each seat, a wear plate fitted into each seat and coöperating with the said shoulders to prevent relative longitudinal movement between each wear plate and the cross head, and pairs of independently removable locking strips secured to the opposite sides of the cross head and serving to prevent relative transverse movement of their respective wear plates.

3. A cross head having a pair of parallel transversely extending shoulders formed at the opposite ends thereof and providing a seat extending transversely of the cross head and open at the opposite sides thereof, and recesses extending longitudinally of the cross head and in line with the said seat, a wear plate fitted in the seat between said shoulders, locking strips removably fitted in said recesses and coöperating with the lateral edges of the wear plate, and bolts extending through the cross head in a direction transversely thereof, and coöperating with the locking strips for retaining them in coöperative relation.

866,656. HAT-FASTENER. MARCUS E. JENNINGS and ALBERT J. WINEBRAKE, Scranton, Pa. Filed Dec. 21, 1906. Serial No. 348,969.



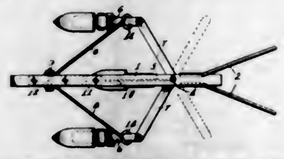
1. A hat fastener comprising a holding plate made in sections slidable along each other, whereby the holder may be adjusted to hat crowns of different sizes, said holder being normally straight whereby it may spring outwardly within the hat crown and bushings secured to said holder and having tubes projecting outwardly therefrom whereby to protrude through a hat crown, the bores of said bushings being countersunk at their inner ends, and pins sliding in said bores and provided at their inner ends with bosses which may be incased within the countersunk ends of said bores, and heads held removably on the outer ends of said pins, substantially as and for the purpose set forth.

2. In a hat fastener a holder plate normally straight and adapted when bent into bow form to spring outward within a hat crown and tubes projecting outwardly therefrom to protrude through a hat crown, and forming elongated guides for the hat pins, substantially as set forth.

3. A hat fastener comprising a holder normally straight whereby when bent into bow form it may spring outwardly within a hat crown, and a bushing secured thereto and having a flange at its inner end lapping against the inner face of the holder, and a tube projecting outward therefrom and adapted to protrude through a hat crown, substantially as set forth.

4. A hat fastener comprising a resilient holder in the form of a plate normally approximately straight whereby when bent into bow form to fit within a hat crown it may spring outwardly therein and provided with bushings having tubes projecting outwardly from said plate and adapted to protrude through a hat crown and retain the holder and also to form elongated guides for the hat pins, substantially as and for the purpose set forth.

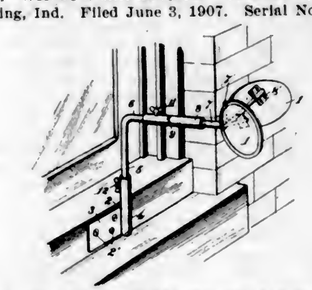
866,657. PLOW. WILLIAM S. JENNINGS, Lyon, Miss. Filed July 18, 1906. Serial No. 326,641.



1. In a plow, the combination of a plow beam, a cross-beam pivotally secured to said plow beam, plow standards carried by said cross-beam, a brace rod attached to each of said several standards, and adjustable means for securing said brace rods at different points on said plow beam for firmly bracing the plow standards in any desired angular position of said cross-beam, substantially as described.

2. In a plow, the combination of a plow beam, a cross beam pivotally secured to said plow beam, plow standards carried by said cross-beam, a brace rod swingingly attached to each of said several standards and extending angularly to said plow beam, and means for securing said brace rods at different points on said plow beam for firmly bracing the several plow standards in any desired angular position of said cross beam, substantially as described.

866,658. WINDOW-REFLECTOR. CAMILLA J. JOHNSEN, Whiting, Ind. Filed June 3, 1907. Serial No. 377,105.



1. In a device of the class described, a window sill, in combination with a bracket attached thereto, a socket formed thereon, a forked arm and mirrors fixed upon the forked end of said arm, substantially as described.

2. In a device of the class described, a window sill, in combination with a bracket attached thereto, a socket formed thereon, an arm pivoted in said socket, a joint in said arm, permitting partial rotation of the outer end thereof on a horizontal axis and mirrors fixed upon the end of said arm, substantially as described.

3. In a device of the class described, a window sill, in combination with a bracket attached thereto, a socket formed thereon, an arm comprising a vertical portion, pivotally mounted in said socket and a horizontal portion forked at the end, and mirrors fixed at the forked end of said horizontal portion, substantially as described.

4. In a device of the class described, a window sill, in combination with a bracket attached thereto, a socket formed thereon, and an arm comprising a vertical portion, pivotally mounted in said socket and a horizontal portion, a joint in said horizontal portion, permitting partial rotation of the outer end thereof on a horizontal axis and mirrors fixed at the end of said horizontal portion, substantially as described.

5. In a device of the class described, a window sill, in combination with a bracket attached thereto, a vertically disposed socket in said bracket, an arm comprising a vertical portion arranged in said socket, a horizontal portion formed of two parts in axial alinement and a sleeve arranged about the contiguous ends of said parts, and rigidly fixed to one thereof, a pin on the other part and said sleeve having a circumferential slot to receive said pin, and a pair of mirrors rigidly fixed at right angles to each other upon the outer end of said arm.

866,659. AMUSEMENT APPARATUS. CARL V. JOHNSON, Goldfield, Nev. Filed Mar. 14, 1907. Serial No. 362,370.

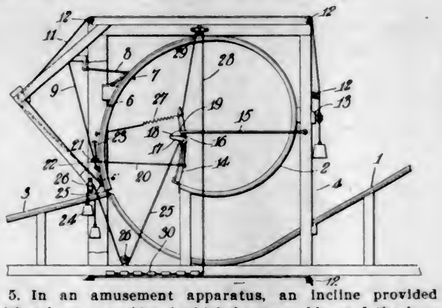
1. In an amusement apparatus, an incline provided with a loop in the plane thereof, and independent means for closing and opening the loop at two points.

2. In an amusement apparatus, an incline provided with a loop, one side of which is removable and the end terminates at a distance from said removable portion, and a trap adapted to be moved down into line with said loop and thereby bridge said space.

3. In an amusement apparatus, an incline provided with a loop, one side of which is removable, a trap hinged to the end of said loop and adapted to be moved down into position to form a continuation of the loop, means for suddenly starting said trap, and means for gradually stopping the same.

4. In an amusement apparatus, an incline provided with a loop, one side of which is removable, and the end

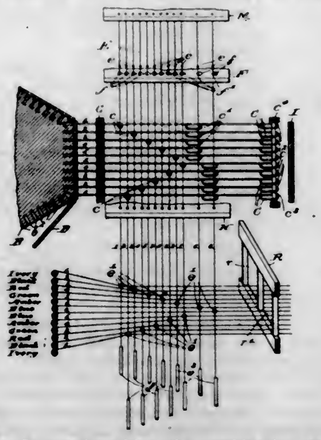
of the loop terminates at a distance therefrom, a trap hinged to the end of the loop, a spring and a weight connected with the free end of the trap, the weight being in sections, and a cord secured to the free end of the trap, the free end of which is provided with a weight.



5. In an amusement apparatus, an incline provided with a loop, one side of which is removable, and the loop terminates at a distance therefrom, a trap hinged to said end and adapted to be swung down to bridge said space, means for moving the trap into its horizontal position, pins at the edges of the trap, a hinged arm adapted to engage with each pin, elbow levers pivotally secured to the sides of the trap in position for releasing said hooks from said pins, and means for actuating said levers when said section is removed from the loop.

6. In an amusement apparatus, an incline provided with a loop, one side of which is removable, and the end of the loop terminates at a distance therefrom, a trap secured to said end, means for holding said trap in a vertical position, levers pivotally secured in position to be actuated by said removable portion of the loop when the same is actuated, and means connected with said levers for releasing said trap.

866,660. JACQUARD-MACHINE. DANIEL LAWLOR, Lowell, Mass., assignor of one-half to Leonard H. Hartley, Lowell, Mass. Filed Aug. 8, 1906. Serial No. 329,660.



1. In a Jacquard-machine the combination with the cylinder and pattern-cards, of yarn-suspending devices, means of lifting said yarn-suspending devices, and needles adapted to control the engagement of said yarn suspending devices and said lifting means, the needles controlling the devices which suspend a pair of yarns of like color being arranged at equal distances above and below the horizontal plane in which the axis of said cylinder lies.

2. The combination of a Jacquard cylinder, a needle-board or plate, a needle-rack, a vertical series of horizontal needles of an even number, pattern-cards carried by said cylinder, tail-cords, each of a pair of tail-cords which control yarns of the same color being arranged in one of a pair of needles which are arranged at equal distances on opposite sides of the horizontal plane of the axis of said cylinder, and means for lifting the tail-cords in the needles selected by said pattern-cards.

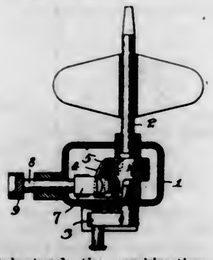
866,661. WELL-BUCKET BOTTOM. EDWARD A. LEE, Vinita, Ind. Ter. Filed June 30, 1906. Serial No. 324,260.



1. A well bucket embodying a hollow metal body tapered toward its lower end, an annular bottom therefor having a substantially cylindrical periphery, and a metal facing conforming and suitably secured to the periphery of the bottom and having a peripheral flange formed integrally therewith and extending outwardly from its lower edge, the said flange and body portion of said facing forming an angular corner or seat to receive the inturned edge at the bottom of the body portion.

2. A well bucket comprising a metal body larger at its middle than at its ends, a wooden bottom therefor, a metal collar around the periphery of the bottom and provided at one end with a right angularly extending peripheral flange forming a right-angled corner coöperating with the lower inturned edge of the metal body, means for securing the collar on the bottom, and a liquid tight joint between the flange and the bottom of the body.

866,662. SWITCH-STAND. MALCOLM W. LONG, Harrisburg, Pa., assignor to The Pennsylvania Steel Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 14, 1907. Serial No. 357,261.



1. In a switch-stand, the combination of the vertical shaft, connections between the same and the switch, a crank fixed on said shaft, the horizontal shaft, the lever arm thereon, a crank on said horizontal shaft, one of said cranks having a part engaging the other crank, said part changing its position of engagement with said other crank during the operation of the stand, substantially as set forth.

2. In a switch-stand, the combination of the vertical shaft, connections between the same and the switch, a crank fixed on said shaft, the horizontal shaft, the lever arm thereon, a crank on said horizontal shaft, said crank being horizontal when the switch-stand is in either normal position of adjustment, one of said cranks having a part engaging the other crank, said part changing its position of engagement with said other crank during the operation of the stand, substantially as set forth.

3. In a switch-stand, the combination of the vertical shaft, connections between the same and the switch, a crank-lug fixed on said shaft, the horizontal shaft, the lever arm thereon, a crank on said horizontal shaft, one of said cranks having a part slidably engaging the other crank during the operation of the stand, substantially as set forth.

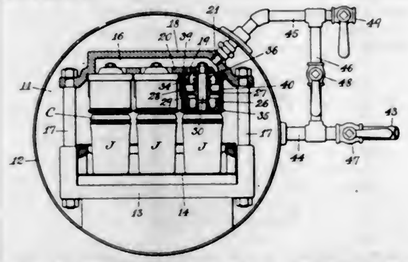
4. In a switch-stand, the combination of the vertical shaft, connections between the same and the switch, a crank-lug fixed on said shaft, and having the vertical groove therein, the horizontal shaft, the lever arm thereon, a crank on said horizontal shaft, said crank having a part fitted in and engaging the sides of said groove, substantially as set forth.

5. In a switch-stand, the combination of the vertical shaft, connections between the same and the switch, a crank-lug fixed on said shaft, and having the vertical groove therein, the horizontal shaft, the lever arm thereon, a crank on said horizontal shaft, and the block pivoted to said crank, and riding in said groove, substantially as set forth.

6. In a switch-stand, the combination of the vertical shaft, connections between the same and the switch, a crank-lug fixed on said shaft, and having the vertical groove therein, the horizontal shaft, the lever arm thereon, a crank on said horizontal shaft, and the square block pivoted to said crank and riding in and fitted to said groove, substantially as set forth.

7. In a switch-stand, the combination with the casing of a vertical target shaft journaled therein, connections between the lower end of said shaft and the switch, the crank-lug fixed on said shaft within said casing, and having the vertical groove therein, the horizontal shaft journaled in said casing, the lever arm on said horizontal shaft, a crank on said horizontal shaft within said casing, the block pivoted to said crank and engaging and fitted to said groove in said crank-lug, substantially as set forth.

866,663. VACUUM SEALING APPARATUS. WILLIAM A. LORENZ, Hartford, Conn., assignor of one-half to Beech-Nut Packing Company, Canajoharie, N. Y., a Corporation of New York, and one-fourth to William H. Honiss, Hartford, Conn. Filed Dec. 21, 1904. Serial No. 237,802.



1. In jar sealing apparatus, the combination of a jar chamber, a jar presser, a plurality of connected pistons for operating the presser, means for exhausting air from the chamber and from both sides of each piston, and means for readmitting air to one side of each piston, while maintaining a substantial degree of vacuum on the other side of each piston.

2. In jar sealing apparatus, the combination of a jar chamber for receiving a series of jars, a corresponding series of independently movable jar pressers located adjacent to their respective jars, a plurality of operating pistons for each presser, means for exhausting air from the chamber and from both sides of each piston, and means for readmitting air first to one side of each piston, and then to the jar chamber and to the other side of each piston.

3. In jar sealing apparatus, the combination of a jar presser, a plurality of pistons connected therewith and arranged in tandem relation, means for exhausting the air from beneath the pistons, and means for admitting atmospheric pressure above the pistons, while maintaining a substantial degree of vacuum beneath the two pistons.

4. The combination with an exhausting and sealing apparatus for jars, of a resiliently supported jar presser, a plurality of pistons connected therewith, and means for admitting atmospheric pressure to one side of each piston to operate the presser, while maintaining a substantial degree of vacuum on the other side of each piston.

5. The combination with an exhausting and sealing apparatus for jars, of a resiliently supported jar presser, a plurality of pistons secured together and to the presser in tandem relation, and means for admitting atmospheric pressure to one side of each piston to operate the presser, while maintaining a substantial degree of vacuum on the other side of each piston.

6. In jar sealing apparatus, the combination of a jar chamber, a resiliently supported jar presser provided with a plurality of operating pistons, means for exhausting atmospheric pressure from the chamber and from both sides of each piston, and means for admitting atmospheric pressure to one side of each piston, while maintaining a substantial degree of vacuum on the other side of each piston.

7. In jar sealing apparatus, the combination of a jar chamber, a series of resiliently supported pressers, a plurality of operating pistons for each presser, means for exhausting atmospheric pressure from the chamber and from both sides of each piston, and means for readmitting atmospheric pressure to one side of each piston, while maintaining a substantial degree of vacuum on the other side of each piston.

8. In jar sealing apparatus, the combination of a jar chamber, independently movable jar pressers, a plurality of operating pistons for each presser, means for yieldingly sustaining the pressers, means for exhausting air from the chamber and from both sides of each piston, and means for readmitting air to one side of each piston, while maintaining a substantial degree of vacuum on the other side of each piston.

9. In jar sealing apparatus, the combination of a jar chamber, a presser chamber, a wall between the two chambers, supporting a jar presser having a plurality of pistons, means for exhausting air from both chambers and from both sides of each piston; and means for readmitting air to the presser chamber and to one side of each piston while maintaining a substantial degree of vacuum on the other side of each piston.

10. In jar sealing apparatus, the combination of a jar chamber, a presser chamber, a wall between the two chambers supporting a plurality of pistons, one side of each piston having air communication with the presser chamber, and the other side of each piston having air communication with the jar chamber, means for exhausting both chambers, and means for readmitting air to the presser chamber.

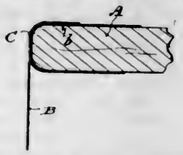
11. In jar sealing apparatus, the combination of a jar chamber, a presser chamber, a wall between the two chambers provided with a cylinder divided into a plurality of compartments, each containing a piston, a piston rod to which the pistons are secured, a jar presser operated by the pistons, means for establishing air communication between the presser chamber and one side of each piston, means for establishing air communication between the jar chamber and the other side of each piston, means for exhausting both chambers, and means for readmitting air to the presser chamber.

12. In jar sealing apparatus, the combination of a jar chamber, a presser chamber, a wall between the two chambers provided with a cylinder divided into a plurality of compartments each containing a piston, a piston rod to which the pistons are secured, resilient means for support-

ing the pistons, a jar presser operated by the pistons, means for establishing air communication between the presser chamber and one side of each piston, means for establishing air communication between the jar chamber and the other side of each piston, means for exhausting both chambers, and means for readmitting air to the presser chamber.

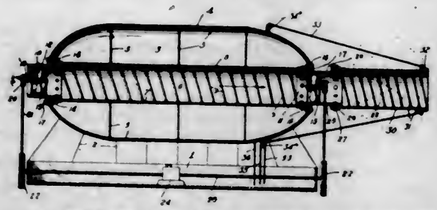
13. In jar sealing apparatus, the combination of a jar chamber, a presser chamber, a cylinder divided transversely into a plurality of compartments, one of which is open to the jar chamber, and the other of which is open to the presser chamber, a piston in each compartment, a piston rod common to all the pistons, a jar presser secured to one of the pistons, means for establishing air communication between the presser chamber and one side of each piston, means for establishing air communication between the jar chamber and the other side of each piston, means for exhausting both chambers, and means for readmitting air to the presser chamber.

866,664. DRAPERY-HOLDER. JOHN KEMMETER, Allouez, Wis. Filed Feb. 9, 1907. Serial No. 356,564.



A shelf, in combination with a drapery, and a drapery-holder having the form of a strip of pliable metal tapered to a point and provided with an integral prong at a right-angle to one side of same adjacent to its widest end, a portion of the holder being extended through the drapery parallel to the underside of the shelf, the remainder bent on said drapery and shelf and the prong of said holder embedded in the aforesaid drapery and shelf from above the same.

866,665. AIR-SHIP. THEODORE KORNBRODT, Chicago, Ill. Filed July 8, 1907. Serial No. 382,668.

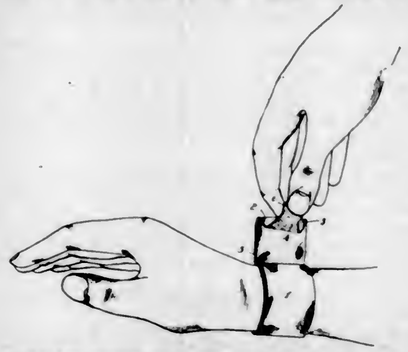


1. In an airship, a chamber or passage, cylindrical casings arranged at the ends of said chamber, propellers arranged in said casings for creating a blast of air through the chamber, an annular flange projecting radially from one of said casings adjacent to its outer end, a coil spring engaged with said end of the last mentioned casing and abutting against said flange, a flexible covering arranged upon said spring and adapted to form a tubular, blast-directing element, a ring surrounding the inner ends of the covering and spring, fastenings for clamping said band covering and spring to the outer end of said casing, a reinforcing ring or band arranged upon the outer end of the spring and its covering and means for swinging the said element in different directions, substantially as and for the purpose set forth.

2. In an airship, a gas bag, a tube extending through the bag, cylindrical casings arranged at the ends of the tube and bag and serving to unite them, and propellers arranged in said casings for creating a blast of air through said chamber, substantially as set forth.

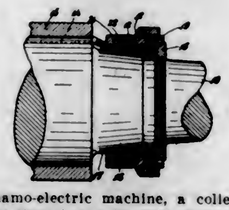
3. In an airship, a gas bag, a tube extending through the bag, cylindrical casings arranged at the ends of the tube and bag, said casings having at their inner ends right angularly disposed flanges, rings or bands for clamping the ends of said body and said tube to said flanges, propellers arranged in said casings for creating a blast of air through said tube, a flexible, tubular steering element connected to the outer end of one of said casings and means for swinging said element in different directions, substantially as and for the purpose set forth.

866,666. SURGICAL BANDAGE. HOMER M. MACE, Catskill, N. Y. Filed Aug. 16, 1906. Serial No. 330,870.



A bandage comprising a strip of fabric provided at its opposite ends with adhesive plasters, each folded upon and adhering to the opposite faces of said strip ends, the adhesive coating of said plasters being composed of a material capable of adhering to the bandage fabric and to the part being dressed, one end of each plaster being of a width corresponding to the width of the bandage fabric to provide for the smooth even winding of the bandage, and the other end of said plaster being tapered and engaging the other face of the fabric end between the side edges thereof to facilitate the separation from said fabric, when desired for use, the tapered ends of said plasters being arranged on the same side or face of the fabric, whereby one end of said bandage may be secured to the part being dressed, and the other end to the fabric when applied.

866,667. MEANS FOR FASTENING COLLECTOR-LEADS. EMIL MATTMAN, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed Jan. 31, 1907. Serial No. 355,017.



1. In a dynamo-electric machine, a collector ring, an inclined or cone-shaped seat for said ring, and a collector lead having a wedge-shaped terminal held between the ring and its seat.

2. In a dynamo-electric machine, a shaft having an inclined or cone-shaped portion, a collector ring mounted on said inclined or cone-shaped portion of the shaft, and a collector lead having a wedge-shaped terminal held between the ring and shaft.

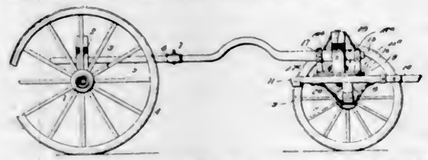
3. In a dynamo-electric machine, a collector ring, having an inclined or cone-shaped inner portion, an inclined or cone-shaped seat for said ring, said ring being provided with an inner wedge-shaped slot or opening, and a collector lead having a wedge-shaped terminal located in the slot and held between the ring and seat.

4. In a dynamo-electric machine, a collector ring having an inclined or cone-shaped inner portion, an inclined or cone-shaped seat therefor, one of said parts having a wedge-shaped slot or opening, and a collector lead having secured to one end a wedge-shaped member forming a terminal, said terminal being located in said slot.

5. In a dynamo-electric machine, a collector ring, a support therefor, one of said members having a wedge-shaped opening or slot, and a collector lead having secured at one end a wedge-shaped member forming a terminal, said terminal being located in said opening or slot and clamped between the support and ring.

6. In a dynamo-electric machine, a shaft having an inclined or cone-shaped portion, a collector ring seated on said cone-shaped portion of the shaft, said ring having a wedge-shaped slot, a collector lead having at one end a wedge-shaped member forming a terminal, said terminal being located in said slot, and a nut for clamping the ring on the shaft and for clamping the terminal between the ring and shaft.

866,668. RUNNING-GEAR. LEE H. MCGRAW, Monterey, Ky. Filed Nov. 22, 1906. Serial No. 344,610.



1. In vehicle running gear, the combination of a bolster, axle, and hounds of the forward truck, a fifth wheel between the same comprising upper and lower members attached to the respective parts, and a draft iron connection between the bolster and hounds and adapted to turn with the front axle and support and strengthen the king bolt and fifth wheel connection at all positions of the said axle.

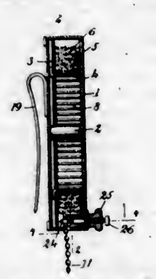
2. In vehicle running gear, the combination of a front truck comprising a bolster, an axle and the usual fifth wheel connection, a reach passed through an opening of the bolster and extending forward thereof a short distance, bracket irons attached to the front and rear portions of the upper member of the fifth wheel and supporting said reach, and a strap-iron extended over the bolster and attached thereto and having its end portions overlapping the reach and secured to said front and rear brackets.

3. In vehicle running gear, the combination of the bolster and axle, a king bolt connection between said parts, an iron attached to the bolster and having a circular projection pendent therefrom, a complemental iron having connection with the axle and provided with a hook and a draft iron in engagement at one end with said hook and having its opposite end fitted to the said circular projection to turn thereon with the axle.

4. In vehicle running gear the combination of a bolster, an axle, king bolt connection with the bolster, an iron connected to the bolster and having a pendent circular projection, a second iron having connection with the axle and provided with a hook and with projecting portions embracing the aforesaid circular projection of the iron attached to the bolster and a draft iron in engagement at one end with the aforesaid hook and having its opposite end portion fitted to the said circular projection.

5. In vehicle running gear, the combination of a bolster, an axle, a fifth wheel having its members connected to respectively the said bolster and axle, a king bolt connecting the bolster with the axle and out of line with the latter, a reach having its forward portion made rounding and passed through an opening of the bolster and adapted to turn therein, brackets secured to the front and rear portions of the fifth wheel and receiving the reach and supporting the same at each side of the bolster, cap pieces confining the reach to said brackets and a strap-iron extended from the bolster and having connection at its ends with the said brackets.

866,669. SKIRT-HOLDER. FRANK H. NEWTON, Greenville, S. C. Filed Jan. 30, 1907. Serial No. 354,860.



1. In a device of the class described, in combination, a case having an opening in the wall thereof, means for attaching said case to a skirt, a reel rotatably mounted in said case, a cord or chain wrapped upon said reel and passing through said opening, an eye-bolt mounted in said case adjacent to said opening and through which said cord or chain passes, and means for advancing said eye-bolt laterally with respect to said opening to clamp said cord or chain against being extended.

2. In a device of the class described, in combination, a case having an opening in the wall thereof, a reel rotatably mounted in said case, a chain or cord wrapped upon said reel and passing through said opening, means tending to rotate said reel to wrap said cord or chain thereupon, a sleeve mounted in said case adjacent to said opening, an eye-bolt mounted in said sleeve and having an eye through which the chain passes, and means for advancing said eye-bolt to clamp said chain or cord against the end of said sleeve, said case having means for attaching the same to a skirt.

3. In a device of the class described, in combination, a case having an opening in the side wall thereof, means for attaching said case to a skirt, a reel rotatably mounted within said case, a cord or chain wrapped upon said reel and passing through said opening, a sleeve mounted in said case adjacent to said opening and having a counterbore at the inner end thereof opposite to said opening, an eye-bolt mounted in said sleeve and having an eye disposed at said counterbore and through which said chain or cord passes before passing through said opening, said eye-bolt having a threaded shank extending beyond said sleeve, and a thumb-nut on said shank adapted to draw said eye-bolt outwardly, said eye affording means for clamping said cord or chain against the edge of said sleeve at said counterbore.

866,670. POCKET-REGISTER. WILLIAM S. NOYES, Chicago, Ill., assignor of one-half to William D. Pickels, Chicago, Ill. Filed Jan. 28, 1907. Serial No. 354,458.



1. In a device of the kind described, a plate, a ring rotatably mounted upon said plate, a pointer rotatably mounted upon said plate within said ring and arranged to engage the ring and advance the same a fixed part of a rotation for each rotation of the pointer.

2. In a device of the kind described, a plate a pointer and an indicator attached to said plate and rotatable about a common center, a series of characters upon said plate and a series of figures upon said pointer arranged about said common center and adapted to be severally designated by said pointer and said indicator respectively.

3. In a device of the kind described, a plate, a pointer and an indicator attached to said plate and rotatable about a common center, a series of characters upon said plate, and a series of figures upon said pointer arranged about said common center, and adapted to be severally designated by said pointer and said indicator respectively, and resilient means tending to check the movement of said pointer at each character and the indicator at each figure.

4. In a device of the kind described, a plate, a pointer rotatably mounted upon said plate, a series of characters upon said plate arranged about said pointer and a ring rotatably mounted upon said plate and inclosing said characters, said pointer being adapted to severally designate said characters and engage said ring once in each rotation and move the same a fixed distance at each engagement.

5. In a device of the kind described, a plate, a pointer rotatably mounted upon said plate, a series of characters upon said plate arranged about the axis of said pointer, a ring rotatably mounted upon said plate and inclosing said characters, and figures arranged at intervals about said ring, said pointer being adapted to severally designate said characters and engage said ring once in each rotation and move the same one of said intervals at each engagement.

6. In a device of the kind described, a plate, a pointer rotatably mounted upon said plate, a series of characters arranged concentrically about the axis of said pointer, a ring rotatably mounted upon said plate eccentrically to, and inclosing, said characters, said pointer being adapted to severally designate said characters and engage said ring once in each rotation and move said ring a fixed distance at each engagement.

7. In a device of the kind described, a plate, a pointer rotatably mounted upon said plate, a series of characters upon said plate arranged about said pointer, a ring rotatably mounted upon said plate inclosing said characters, a plurality of figures arranged at intervals upon said ring, and a projection upon the interior of said ring for each figure, said pointer being adapted to severally designate said characters and engage one of the projections upon the ring at each rotation and move the same one of said intervals at each engagement.

8. In a device of the kind described, a plate, a pointer rotatably mounted upon said plate, a series of characters upon said plate arranged about said pointer, resilient engaging means between said plate and said pointer for each character, and a ring rotatably mounted upon said plate inclosing said characters, said pointer being adapted to severally designate said characters and engage said ring once in each rotation and move the same a fixed distance at each engagement.

9. In a device of the kind described, a plate, a pointer and an indicator attached to said plate and rotatable about a common center, a series of characters upon said plate and a series of figures upon said pointer arranged about said common center and adapted to be severally designated by said pointer and said indicator respectively, and a ring rotatably mounted upon said plate inclosing said characters, said pointer being adapted to engage said ring and advance the same a fixed part of a rotation at each rotation of the pointer.

10. In a device of the kind described, a plate, a pointer and an indicator attached to said plate and rotatable about a common center, a series of characters upon said plate and a series of figures upon said pointer, arranged about said common center and adapted to be designated by said pointer and said indicator respectively, in combination with a ring rotatably mounted upon said plate inclosing said characters, and figures arranged at intervals about said ring, said pointer being adapted to engage said ring once in each rotation and move the same one of said intervals at each engagement.

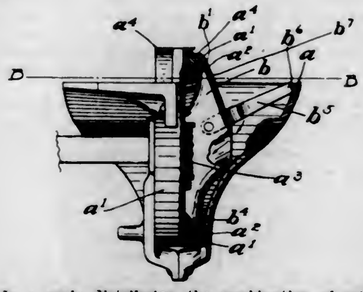
11. In a device of the kind described, a plate, a pointer and an indicator attached to said plate and rotatable about a common center, a series of characters upon said plate, and a series of figures upon said pointer, arranged concentrically about said common center and adapted to be designated by said pointer and said indicator respectively, in combination with a ring rotatably mounted upon said plate eccentric to, and inclosing, said characters, and figures arranged at intervals about said ring, said pointer being adapted to engage said ring once in each rotation and move the same one of said intervals at each engagement.

12. In a device of the kind described, a plate, a pointer rotatably mounted upon said plate, in combination with a ring rotatably mounted upon said plate, a series of figures arranged at intervals about said ring, means upon said plate for indicating the position of said ring, and resilient means tending to arrest the movement of said ring at the end of each interval, said pointer being adapted to engage said ring once in each rotation and advance the same one of said intervals at each engagement.

13. In a device of the kind described, a plate, a pointer and an indicator attached to said plate and rotatable about a common center, a series of characters upon said plate and a series of figures upon said pointer arranged about said common center and adapted to be designated by said pointer and said indicator respectively, and resilient means tending to check the movement of said pointer at each character and the indicator at each figure, in combination with a ring rotatably mounted upon said plate, a series of figures arranged at intervals upon said ring, a projection upon the interior of said ring for each figure, means for indicating the position of said ring and resilient means tending to arrest the movement of said ring at the end of each interval, said pointer being adapted to engage said ring once in each rotation and advance the same one interval at each engagement.

14. In a device of the kind described, a plate, a pointer rotatably mounted upon said plate, and a series of characters arranged about the axis of said pointer, in combination with a ring rotatably mounted upon said plate, a series of figures arranged at intervals upon said ring, a projection upon the interior of said ring for each figure, means for indicating the position of said ring, and resilient means tending to arrest the movement of said ring at the end of each interval, said pointer being adapted to engage said ring once in each rotation and move the same one of said intervals at each engagement.

866,671. DISTRIBUTER FOR SEEDING-MACHINES. GEORGE P. OATES, Springfield, Ohio, assignor to The American Seeding Machine Company, Springfield, Ohio, a Corporation of Ohio. Filed May 11, 1907. Serial No. 373,134.



1. In a grain distributer, the combination of rotatable feed wheel and hopper or casing, a reducing element, the upper part of which is of table-like form, and a measuring channel inclosed on one side and open on the opposite side thereof and formed in the lower part of the reducer, substantially as specified.

2. In a grain distributer, the combination of a stationary hopper, with a movable vertical feed wheel, a reducer with an open-sided channel, and means for holding the reducer in close proximity to the feed wheel whereby the feed wheel will form a movable wall for said channel, substantially as specified.

3. In a grain distributer, the combination of a stationary hopper, a revoluble feed wheel within the hopper, a reducer having its upper part formed of a table-like form and its lower part perforated midway with a channel extending from the perforation to the end of the reducer, and means for yieldingly holding the reducer in position within the distributer.

4. In a grain distributer, the combination of a stationary hopper, a revoluble feed wheel within the hopper, a reducer having its upper part formed of table-like form and its lower part perforated midway with a channel extending from the perforation to the end of the reducer, and a loop-shaped spring for yieldingly holding the reducer in position within the distributer.

5. In a grain distributer, the combination of a stationary hopper, a revoluble feed wheel within the hopper, a supplemental skeleton frame reducer inserted within the hopper, having an opening midway thereof, a hollow cone-shaped channel extending from the opening to the end of the reducer, and a discharge orifice at the lower end thereof, substantially as specified.

6. In a grain distributer, the combination of a revoluble vertical feed wheel, a stationary hopper, a reducer located within the hopper and alongside the vertical feed wheel, an inverted hollow cone-shaped channel within the reducer having one side thereof open, the web of the vertical feed wheel forming a movable wall to said channel, a deflecting surface formed at the upper part of the reducer for the purpose of deflecting the grain downwardly and cooperating with the wall of the hopper to force the grain toward the web of the feed wheel.

7. In a grain distributer, the combination of a stationary hopper, a vertical flanged feed wheel, a reducer located within the hopper and alongside of the feed wheel, a hollow cone-shaped channel within the reducer, the discharge end being located above the flange of the wheel, and shaped to direct the grain against the web of the wheel, for the purpose specified.

8. In a grain distributer, a stationary hopper, a vertical flanged feed wheel within the hopper, an open-sided reducer in close proximity to the feed wheel, a discharge opening at the end of the reducer terminating against the web of the feed wheel and above the flange thereof, substantially as specified.

9. In a grain distributer, the combination of a stationary hopper, a feed wheel within the hopper, a bridge above the feed wheel near the top of the distributer, a reducer having its upper edge in contact with the edge of the bridge, an open-sided channel formed within the reducer, the feed wheel forming a movable wall to said channel, substantially as specified.

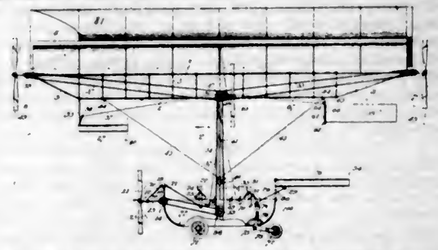
10. In a grain distributer, the combination of a stationary hopper, a revoluble feed wheel within the hopper, a reducer also within the hopper, an open-sided channel, the walls thereof converging near the bottom of the hopper, a discharge orifice at the lowermost edge of the reducer directed toward the web of the feed wheel, substantially as specified.

866,672. FLYING-MACHINE. ANTHONY O'BRATE, Enid, Okla. Filed Feb. 24, 1906. Serial No. 302,821.

1. A flying machine comprising an aeroplane, a car suspended beneath the aero-plane, propeller wheels located at the bow and stern of the aero-plane and a balance propeller adjustably mounted on the bow of the car.

2. A flying machine comprising an aero-plane, a car suspended beneath the aero-plane, propeller wheels located at the bow and stern of the aero-plane, and a pair of propellers located substantially amidships of the aero-plane and beneath the same, said last named propellers being located on each side of the longitudinal axis of the machine.

3. A flying machine comprising a frame, a pair of aeroplanes extending upwardly and outwardly from the longitudinal center of the frame, a gas bag located above the frame and immediately over the aero-planes and propellers at the bow and stern of the frame.



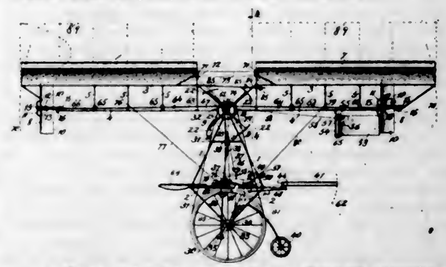
4. In a flying machine comprising an aero-plane, means for driving the aero-plane, a rudder formed of two blades pivoted vertically and side by side in close proximity at the stern of the aeroplane and means for drawing each of the blades away from the other independently of each other.

5. A flying machine comprising an aero-plane, a car suspended beneath the aero-plane, a propeller at the rear of the aero-plane for driving the same and a balance propeller mounted for vertical adjustment on the bow of the car.

6. A flying machine comprising an aero-plane, a car suspended beneath the aero-plane, means for driving the aero-plane, a balance plane pivotally mounted beneath the aero-plane and adjacent the bow end thereof, a second balance plane pivotally mounted on the stern of the car and means for adjusting each of said balance planes independently.

7. A flying machine comprising an aero-plane, a car suspended beneath the aero-plane, means for driving the car, a pair of wheels located near the front end of the car, a wheel located near the stern of the car, said wheels being adapted to support the car on the ground and means for adjusting the rear wheel whereby the angle of the aero-plane may be varied in relation to the horizontal line of movement.

866,673. FLYING-MACHINE. ANTHONY O'BRATE, Enid, Okla. Filed May 17, 1906. Serial No. 317,384.



1. A flying machine comprising a forward aeroplane section and an after aeroplane section pivoted together amidships and means for adjusting the aeroplanes at their pivotal connection.

2. A flying machine comprising an aeroplane, a pair of reciprocating propellers located at the bow, a second pair of reciprocating propellers located at the stern, a pair of rotary propellers located amidship and means for driving all the propellers, said reciprocating propellers consisting of a pair of pivoted blades adapted to close during their forward and open during the rear movements.

3. A propeller for a flying machine comprising an arm, a pair of wings hinged to the arm, stops for limiting the movement of the wings away from each other and stops for limiting the movement of the wings toward each other

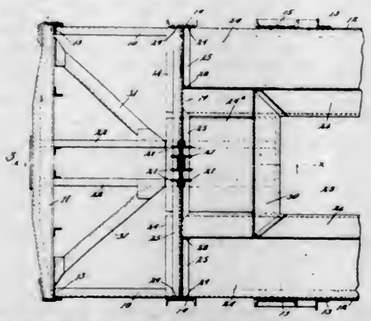
whereby when the arm carrying the wings is moved in one direction, the wings will close toward each other and when moved in the opposite direction will open.

4. A flying machine comprising an aeroplane, a bicycle structure suspended below the aeroplane comprising a large forward wheel and two small rear wheels, a pair of pedals and cranks for driving the large wheel, a pair of handles connected by links to the pedals, a bar pivoted above the bicycle and provided with cords attached to the handles and connections between the large wheel of the bicycle and the propellers whereby the propellers are driven by said wheel.

5. A flying machine comprising fore and after aeroplanes hinged together amidships, a driving mechanism supported from the hinge of the aeroplanes, adjustable means connecting the aeroplanes together above their hinged support and means connecting the ends of the aeroplanes with the driving structure whereby the angle between the sections of the aeroplanes may be varied.

6. A flying machine comprising an aeroplane, a structure mounted below the aeroplane adapted to support the occupant of the machine and a plane so located as to intercept the view below of the occupant.

866,674. CAR CONSTRUCTION. WILLIAM Q. OLDEN, Chicago, Ill., assignor of one-half to himself, and one-half to Robert B. Campbell, Joliet, Ill. Filed Nov. 19, 1906. Serial No. 344,080.



1. In a car-body, the combination with a body-bolster near each end thereof, of a triangular column-like structure at each side of the car secured at each of its ends to the said bolsters, and a plate extending transversely of the car near each end of the car and connected to each of said column-like structures.

2. In a car-body, the combination with a body-bolster near each end thereof, of a triangular column-like structure at each side of the car secured at each of its ends to the said bolsters, and a plate extending transversely of the car near each end of the car and connected to each of said column-like structures and also connected to one of said bolsters.

3. In a car-body, the combination with a body-bolster near each end thereof, of sides for the car-body, floor-sections connected at their upper ends to the said sides and inclined downwardly toward the center of the car, a plate extending longitudinally of the car between each of said floor-sections and sides, each set of triangular column-like structures thus formed being rigidly secured to said bolsters, and a plate extending transversely of the car near each end of the car and connected to each of said column-like structures.

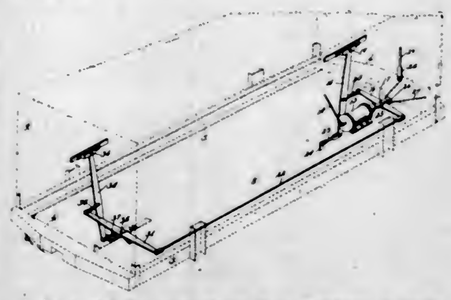
4. In a car-body, the combination with a body-bolster near each end thereof, of sides for the car-body, floor-sections connected at their upper ends to the said sides and inclined downwardly toward the center of the car, a plate extending longitudinally of the car between each of said floor-sections and sides, each set of triangular column-like structures thus formed being rigidly secured to said bolsters, and a plate extending transversely of the car near each end of the car and connected to each of said column-like structures and also connected to each of said bolsters.

5. In a car-body, the combination with a body-bolster near each end thereof, of sides for the car-body, floor-sections connected at their upper ends to the said sides and inclined downwardly toward the center of the car, a plate extending longitudinally of the car between each of said floor-sections and sides, each set of column-like structures thus formed being rigidly secured to said bolsters, center-sills at each end of the car, and a plate extending transversely of the car over said center-sills and connected to said center-sills and column-like structures.

6. In a car-body having a central opening, the combination with a body-bolster near each end of the car, of sides for the car-body, a plate extending transversely of the car adjacent to each of said bolsters and having its inner edge turned down to form the end walls of said central opening, a downwardly-inclined floor-section at each side of said opening, each floor-section at its lower edge being turned to form the side walls of said central opening, and means for securing said sides, plates and floor-sections to said bolsters.

7. In a car-body having a central opening, the combination with a body-bolster near each end of the car, of sides for the car-body, a plate extending transversely of the car adjacent to each of said bolsters and having its inner edge turned down to form the end walls of said central opening, a downwardly-inclined floor-section at each side of said opening, each floor-section at its lower edge being turned to form the side walls of said central opening, a longitudinally-extending plate between each of said floor-sections and sides, a support secured to said turned edge of each floor-section for the inner edges of said longitudinally-extending plates to rest upon, and means for securing said sides, plates and floor-sections to said bolsters.

866,675. CAR-BRAKE. WILLIAM Q. OLDEN, Chicago, Ill., assignor of one-half to himself, and one-half to Robert B. Campbell, Joliet, Ill. Filed Dec. 12, 1906. Serial No. 347,472.



1. In a car, the combination with a system of brake-levers beneath the car-body, of a depending lever pivotally connected at its lower end with such system of levers and pivotally attached at its upper end above the sills of the car, another lever extending transversely of the car, means for connecting said last two levers, and means connected with said transversely-extending lever for operating said levers and through them said system of brake-levers.

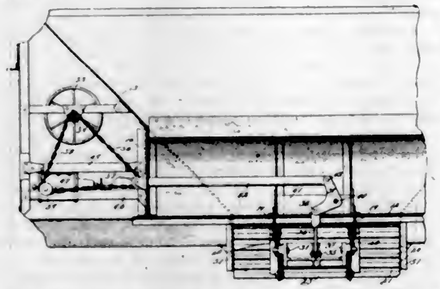
2. In a car, the combination with a system of brake-levers beneath the car-body, of a depending lever pivotally connected at its lower end with such system of levers and pivotally attached at its upper end above the sills of the car, another lever adapted to move in a plane substantially at right angles to the plane in which said depending lever moves, and means connected with said second named lever for operating it and said depending lever and through them the said system of brake-levers.

3. In a car, the combination with a system of brake-levers beneath the car-body, of a depending lever near each end of the car, of a depending lever near each end of the car, each of said levers being pivotally connected at its lower end with one of such systems of brake-levers and pivotally attached in place above the sills of the car, means for connecting said two depending levers, and means connected with one of said levers for moving said levers and through them setting in operation said two systems of brake-levers.

4. In a car, the combination with a system of brake-levers beneath the car-body near each end of the car, of a depending lever near each end of the car, each of said levers being pivotally connected at its lower end with one of such systems of brake-levers and pivotally attached in place above the sills of the car, means for connecting said two depending levers together, such connecting means comprising a rod at one side of the car adjacent to one of the side sills of the car, and means connected with one of said levers for moving said levers and through them setting in operation said two systems of brake-levers.

5. In a car, the combination with a system of brake-levers beneath the car-body near each end of the car, of a depending lever near each end of the car, each of said levers being pivotally connected at its lower end with one of such systems of brake-levers and pivotally attached in place above the sills of the car, a lever at each end of the car arranged to move in a plane substantially at right angles to the plane in which the said depending levers move, a rod connecting said last described levers, said rod lying at one side of the car adjacent to one of the side sills of the car, connections between the said depending levers and the other described levers, and means for applying power to one of said last-described levers.

866,676. DUMP-CAR. WILLIAM Q. OLDEN, Chicago, Ill., assignor of one-half to himself, and one-half to Robert B. Campbell, Joliet, Ill. Filed Dec. 12, 1906. Serial No. 347,473.



1. In a dump-car having a discharge-opening therein, the combination with a pivoted door for said opening, of toggle-levers for holding said door closed, means for breaking the toggle to permit said door to open, and a counter-weight carried by one of the toggle-levers and adapted to force said door closed after the release of the power that had been applied for opening the door.

2. In a dump-car having a discharge-opening therein, the combination with a pivoted door for said opening, of toggle-levers for holding said door closed, means for breaking the toggle to permit said door to open, and a counter-weight carried by one of the toggle-levers and adapted to force said door closed after the release of the power that had been applied for opening the door, said counter-weight projecting beyond the pivot that connects said toggle-levers together.

3. In a dump-car having a discharge-opening therein, the combination with a pivoted door for said opening, of two pairs of toggle-levers, one member of each pair of which is pivotally connected with the door and the other members of which are connected to a suitable support, and a counter-weight extending between and connecting said last-named members and adapted to force said door closed after the release of the power that had been applied for opening the door, and means for breaking said toggle.

4. In a dump-car having a discharge-opening therein, the combination with a pivoted door for said opening, of two pairs of toggle-levers, one member of each pair of which is pivotally connected with the door and the other members of which are connected to a suitable support, and a counter-weight extending between and connecting said last-named members and adapted to force said door closed after the release of the power that had been applied for opening the door, said counter-weight projecting beyond the pivots that connect said two pairs of toggle-levers together, and means for breaking the toggle.

5. In a dump-car having a discharge-opening therein, the combination with a pivoted door for said opening, of two pairs of toggle-levers, one member of each pair of which is pivotally connected with the door and the other members of which are connected to a suitable support, said last-named members being united by a counter-weight device adapted to cause a closing of the door after the release of the power that had been applied for opening the door, a rod pivotally attached to said counter-weight device, and means for exerting an upward pull on said rod to break said toggle.

6. In a dump-car having a discharge-opening therein, the combination with a pivoted door for said opening, of two pairs of toggle-levers, one member of each pair of which is pivotally connected with the door and the other members of which are connected to a suitable support, a member of one of said pairs being connected to the corresponding member of the other pair, a rod pivotally attached to the device connecting said last-mentioned members, and means for exerting an upward pull on said rod to break said toggle.

7. In a dump-car having a discharge-opening therein, the combination with a pivoted door for said opening, of two pairs of toggle-levers, one member of each pair of which is pivotally connected with the door and the other members of which are connected to a suitable support, a member of one of said pairs being connected to the corresponding member of the other pair, a rod pivotally attached to the device connecting said last-mentioned members, a bell-crank lever to which said rod is also pivotally attached, and means for rocking said bell-crank lever to raise said rod and break said toggle.

8. In a dump-car having a discharge-opening therein, the combination with a pivoted door for said opening, of toggle-levers connected with said door and a suitable support, a rod pivotally attached to a member of said toggle-levers, a bell-crank lever to which said rod is also pivotally attached, a bar extending longitudinally of the car and terminating near one end of the car, and means at that end of the car for moving said bar.

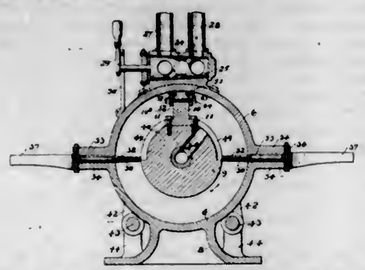
9. In a dump-car having a discharge-opening therein, the combination with two pivoted doors adapted to close said opening, of a pair of toggle-levers pivotally connected with each door, a rod pivotally attached to a member of each pair of said toggle-levers, bell-crank levers to which said rods are pivotally attached, bars connected to said bell-crank levers and extending longitudinally of the car and terminating near one end of the car, a cross-head connecting the ends of said bars, and means for moving said cross-head.

866,677. ROTARY ENGINE. ALEX H. OLSON and CARL E. NYBERG, Chicago, Ill. Filed July 16, 1907. Serial No. 384,086.

1. In a rotary engine, the combination with a cylinder having end pieces with inwardly projecting circular cuffs, of a shaft extending through said cuffs, a drum on the shaft, bored at the ends to receive said cuffs and bearing on the outer sides thereof, and a piston carried by the drum.

2. In a rotary engine, the combination with a cylinder having bearings at the ends, and end pieces with inwardly projecting circular cuffs, of a shaft extending through said cuffs, a drum on the shaft, bored to receive said cuffs and having rims at the ends projecting between

said cuffs and the said end bearings of the cylinder, and a piston carried on the drum.



3. In a rotary engine, the combination of a cylinder the ends of which have cuffs with steam chambers therein, a hollow shaft extending through said cuffs and having openings communicating with said chambers and with the space within the cylinder, packing rings between the cuffs and the shaft at the inner and outer ends of the former, spacing cages surrounding the shaft in said steam chambers and between the rings, and glands bearing against the outer packing rings.

4. In a rotary engine, the combination of a cylinder having opposite radial recesses in its wall, abutments slidable radially in said recesses, a shaft and drum in the cylinder having axial steam passages opening into the cylinder, and a piston carried by the drum, the drum being recessed on opposite sides of the piston to open a passage between the cylinder spaces on opposite sides of the abutments alternately, and the abutments having steam passages extending crosswise therethrough, to connect the recesses in the cylinder walls with the recesses in the drum and balance the abutments.

5. In a rotary engine, the combination of a cylinder having a radial recess in its wall, an abutment slidable in said recess and tapered toward the front edge to admit steam into the recess on both sides thereof, and a shaft and piston rotatable in the cylinder.

6. In a rotary engine, the combination of a cylinder having a radial recess in its wall, an abutment slidable in said recess and having passages extending crosswise therethrough, to admit steam into the recess behind the abutment, and a shaft and piston rotatable in the cylinder.

7. In a rotary engine, the combination of a cylinder, a rotary drum and piston therein, packing rings and strips between the cylinder and said drum and piston, and a pipe for leak, communicating with the spaces behind said rings and strips, and leading to the exhaust pipe of the engine.

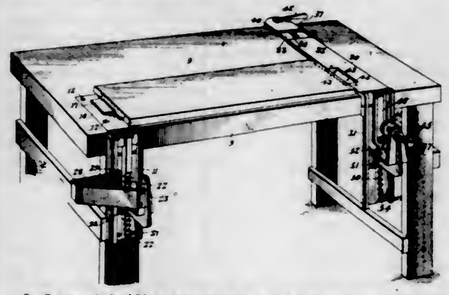
8. In a rotary engine, the combination of a cylinder, a rotary drum and piston having bearings therein, and a pipe for leak, communicating with the bearings and leading to the exhaust pipe of the engine.

9. In a rotary engine, the combination of a cylinder having a radial recess in its wall, guide rods projecting through said wall at opposite ends of the recess, an abutment slidable on the guide rods in the recess, sleeves connected to the abutment and slidable on the rods and through the cylinder wall, and means connected to the sleeves to operate the abutments.

10. In a rotary engine, the combination of a cylinder having a radial recess in its wall, guide rods extending across said recess at opposite ends thereof, an abutment slidable on the guide rods in the recess and spaced from the opposite side walls of the recess, and means to operate said abutment.

866,678. WORK-HOLDING MEANS. OLAF PEARSON, Metropolitan, Mich. Filed Aug. 26, 1905. Serial No. 275,939.

1. In work-holding means of the character described, the combination with a support comprising a horizontally disposed plate arranged to be secured upon a bench top, and a depending plate carried by the horizontally disposed plate and arranged to be located at one side of such bench, of an upright rack carried by the depending plate, a vertically movable supporting hook slidably mounted on the depending plate and having an outer upstanding bill, a dog carried by the under portion of the hook and coacting with the rack, and work clamping means carried by the bill and adjustable with the hook.



2. In work holding means of the character described, the combination with a support comprising a horizontally disposed plate arranged to be secured upon a bench top, and a depending plate carried by the horizontally disposed plate and arranged to be located at one side of such bench, of an upright rack carried by the depending plate, a vertically movable supporting hook slidably mounted on the depending plate and having an outer upstanding bill, a dog carried by the under portion of the hook and coacting with the rack, and an oppositely tapered work holding clamp carried by the bill, and projecting in a substantially horizontal direction from one side of the same and in line with the space between the bill and the depending plate.

3. In work holding means of the character described, the combination with a support comprising a horizontally disposed plate arranged to be secured upon a bench top, and a depending plate carried by the horizontally disposed plate and arranged to be located at one side of such bench, of an upright rack carried by the depending plate, a vertically movable supporting hook slidably mounted on the depending plate and having an outer upstanding bill, a dog carried by the under portion of the hook and coacting with the rack, and a screw clamp threaded through the bill and operating across the space between the same and the depending plate to engage and clamp an article placed in said space.

4. In work-holding means of the character described, the combination with spaced upright supports, of means for securing the same in upright positions at one side of a bench, work holders comprising hook members slidably mounted on the supports, means for holding the hook members in different vertical positions, a tapering clamp carried by one of the hook members and offset at one side of the same, and a screw clamp carried by the other hook member.

5. In work-holding means of the character described, the combination with an upright supporting plate having guideways and a rack between them, of means for fixedly securing the plate to a bench at one side of the same, an upstanding hook member slidably mounted on the plate, an offset tapering clamp carried by the hook member, a dog pivoted upon the hook member and engaging the rack of the support, another supporting plate, means for adjustably mounting the plate at one side of a work bench and permitting its movement to and from the fixed plate, said adjustable plate having guideways and a rack, a vertically adjustable hook member slidably mounted in the guideways, a dog pivoted upon the hook member and engaging the rack, and a screw clamp threaded through the hook member.

6. In work-holding means of the character described, the combination with a support having a guideway, of a work holder movably mounted on the support and having a portion spaced therefrom, and a work abutment having an outer portion fixed to the said portion of the holder and an inner portion slidably engaged in the guideway, said abutment extending across the space between the support and work holder.

7. In work-holding means of the character described, the combination with a support having a guideway, of a work holder having a portion movably mounted in the guideway and including an upstanding hook member, and a tapering work abutment and clamp having its outer portion secured to the upstanding hook member and its inner portion slidably engaged in the guideway.

8. In work-holding means of the character described, the combination with an extensible device arranged to be placed across a work bench, of depending portions carried by the extensible device and being arranged to engage the opposite edges of said bench, means for effecting the relative movements of the depending portions towards each other to clamp the same upon the bench, one of said portions constituting an upright support, a work holder vertically adjustable on said support, and a bench dog mounted on the device.

9. In work-holding means of the character described, the combination with a support comprising angularly disposed plates, one of which is arranged to be placed transversely upon a work bench with the other depending over the front edge thereof, of a depending clamp movably mounted on the rear portion of the transverse plate, the depending plate having a guideway, a work holder movably mounted in the guideway, and a bench dog mounted on the transverse plate.

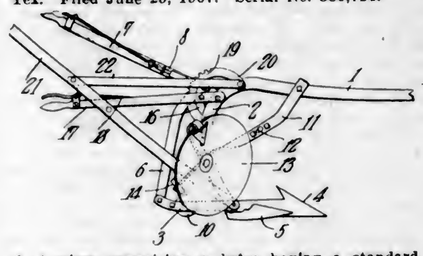
10. In work-holding means of the character described, a support comprising a sectional plate having overlapped portions, means connecting the overlapped portions for rigidly securing the same in any of a plurality of positions against movement, a depending clamp element carried by the outer end of one of the plate sections, a depending clamp element slidably mounted on the outer end of the other plate section, means mounted on said latter section and engaging the clamp element to effect its sliding movement, and a work-holding device mounted on the support.

11. In work-holding means of the character described, a support comprising a sectional plate having overlapped portions, one of said portions having openings, a screw threaded into the other portion and arranged to be placed in any of the openings, a depending clamp element carried by the outer end of one of the plate sections, a depending clamp element slidably mounted on the outer end of the other plate section, a cam journaled in rear of said sliding clamp element and engaging the same to effect its sliding movement toward the first mentioned clamp element, and a work-holding device mounted on the support.

12. In work-holding means of the character described, the combination with supports, each comprising a horizontal and a vertical plate, of means for securing the same to a work bench, a vertically adjustable bench dog carried by the horizontal plate of one of the supports, a horizontally movable bench dog carried by the horizontal plate of the other support, means for securing the latter plate in different positions upon a work bench, means for moving the horizontally movable dog, detachable and vertically adjustable work supports slidably mounted on the vertical plates and comprising upwardly extending hook members, forming work-receiving seats, and clamping means carried by the work supports.

13. In work-holding means of the character described, the combination with a support comprising a vertical and a horizontal plate, said horizontal plate having a tubular guide, a vertically adjustable bench dog having a stem slidably mounted in the guide, a yoke carried by the guide, an adjusting nut located in the yoke and engaging the stem of the dog, the vertical plate being provided with guides and a rack disposed between the same, a vertically adjustable work-supporting hook member slidably mounted in the guides and having a substantially horizontal, tapering work clamp, a dog carried by the member and engaging the rack, another support comprising a vertical and a horizontal plate, said horizontal plate being extensible, a clamp member mounted on the horizontal plate, a cam for moving the clamp member, a horizontally movable dog mounted on the horizontal plate, means for effecting the horizontal movement of the dog, a vertical plate having guideways and a rack, a vertically adjustable work-supporting hook member slidably mounted in the guideways, a dog pivoted upon the member and engaging the rack, and a screw clamp threaded in the member.

866,679. LISTING-PLOW. GOTTFRID PERSSON, Elgin, Tex. Filed June 25, 1907. Serial No. 380,714.



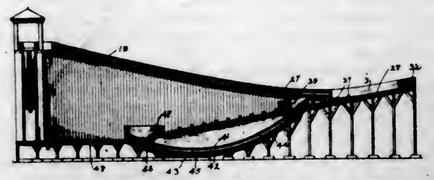
1. A plow comprising a beam having a standard, a plow foot pivoted to the standard, lever mechanism for swinging the foot vertically, arms pivoted to the beam, disks journaled for rotation upon the arms and a lever mechanism for swinging the arms vertically.

2. A plow comprising a beam having a standard, a plow foot pivoted to the standard and having a ground wheel journaled at its heel, a lever mechanism for swinging the foot vertically, arms pivoted to the beam, disks journaled for rotation upon the arm and a lever mechanism for swinging the said arms vertically.

3. A plow comprising a beam having a standard, a bar pivoted to the standard and having a cuneiform forward end, side sweeps attached to the forward portion of said bar, a ground wheel journaled to the rear portion of the bar, a lever mechanism for swinging the bar vertically on its pivot, arms pivoted to the beam, disks journaled for rotation upon the arms and a lever mechanism for swinging the arms vertically.

4. A plow comprising a beam having a standard, a plow foot pivoted to the standard, a lever mechanism for swinging said foot vertically, arms pivoted to the beam, disks journaled for rotation upon the arms at points between the ends thereof, the rear portions of the arms extending toward the rear edges of the disks, wheels journaled upon the rear ends of the arms and bearing against the inner sides of the disks and a lever mechanism for swinging the arms vertically.

866,680. AMUSEMENT APPARATUS. ALBERT L. PLOTNER, Dorchester, Mass. Filed June 1, 1907. Serial No. 376,781.



1. In an amusement apparatus, a car provided with supporting means arranged to permit the car to have a universal sliding movement, an inclined field provided with a plurality of deflecting means for producing a multiplicity of changes in the direction of said sliding movement as the car slides down the incline, a raised track leading down to said field at an inclination approximately opposite to that of the field for giving initial sliding movement to the car, and intermediate means between said track and field for changing the general direction of sliding movement of the car from the inclination of the track to the inclination of the field.

2. In an amusement apparatus, a car provided with supporting means arranged to permit the car to have a universal sliding movement, an inclined field provided with a plurality of deflecting means for producing a multiplicity of changes in the direction of said sliding movement as the car slides down the incline, a raised track leading down to said field at an inclination approximately opposite to that of the field for giving initial sliding movement to the car, and intermediate means between said track and field for changing the general direction of sliding movement of the car from the inclination of the track to the inclination of the field, said track having opposite side rails arranged to guide the car adjacent its upper part and its lower part.

3. In an amusement apparatus, a car provided with supporting means arranged to permit the car to have a universal sliding movement, an inclined field provided with a plurality of deflecting means for producing a multiplicity of changes in the direction of said sliding movement as the car slides down the incline, a raised track leading down to said field at an inclination approximately opposite to that of the field for giving initial sliding movement to the car, and intermediate means between said track and field for changing the general direction of sliding movement of the car from the inclination of the track to the inclination of the field, said track having opposite side rails arranged to guide the car adjacent its upper part and its lower part, and the car having resilient projecting bumpers for coöperating with the deflecting means of the field in easing the bump and facilitating the spinning movement of the car.

4. In an amusement apparatus, a car provided with supporting means arranged to permit the car to have a universal sliding movement, an inclined field provided with a plurality of deflecting means for producing a multiplicity of changes in the direction of said sliding movement as the car slides down the incline, a raised track leading down to said field at an inclination approximately opposite to that of the field for giving initial sliding movement to the car, intermediate means between said track and field for changing the general direction of sliding movement of the car from the inclination of the track to the inclination of the field, and a plurality of subways opening into the field from beneath the same at separated intervals in the area of the field.

5. In an amusement apparatus, a car provided with supporting means arranged to permit the car to have a universal sliding movement, an inclined field provided with a plurality of deflecting means for producing a multiplicity of changes in the direction of said sliding movement as the car slides down the incline, a raised track leading down to said field at an inclination approximately opposite to that of the field for giving initial sliding movement to the car, intermediate means between said track and field for changing the general direction of sliding movement of the car from the inclination of the track to the inclination of the field, and a plurality of subways opening into the field from beneath the same at separated intervals in the area of the field, and reëntering the field adjacent the lower end thereof.

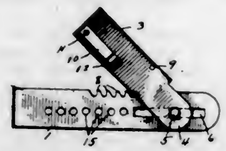
6. In an amusement apparatus, a car provided with supporting means arranged to permit the car to have a universal sliding movement, an inclined field provided with a plurality of deflecting means for producing a multiplicity of changes in the direction of said sliding movement as the car slides down the incline, a raised track leading down to said field at an inclination approximately opposite to that of the field for giving initial sliding movement to the car, intermediate means between said track and field for changing the general direction of sliding movement of the car from the inclination of the track to the inclination of the field, a plurality of subways opening into the field from beneath the same at separated intervals in the area of the field, and reëntering the field adjacent the lower end thereof, and U-shaped housings open at their lower ends protecting the lower ends of the subways.

7. In an amusement apparatus, a circular car having a plurality of universally movable supporting devices for permitting the car to travel in all directions, said car having segmental shell-like uprights for inclosing and protecting the occupants.

8. In an amusement apparatus, a circular car having a plurality of universally movable supporting devices for permitting the car to travel in all directions, said car having segmental shell-like uprights provided with opposite seats for inclosing and protecting the occupants.

9. In an amusement apparatus, a circular car having a plurality of universally movable supporting devices for permitting the car to travel in all directions, said car having segmental shell-like uprights provided with opposite seats for inclosing and protecting the occupants, and a side entrance between said uprights and seats.

866,681. DOOR-FASTENER. THEODORE C. POWELL, Middle River, Iowa. Filed Dec. 24, 1906. Serial No. 349,211.



1. A door fastener of the type set forth comprising a stationary member adapted to be secured to the jamb of a door, said stationary member having at its rear end a longitudinal slot and in its forward portion a line of apertures, a second member having a pivot pin working in said slot, and a leaf spring provided on said second member and carrying at its free end a pin projected through an aperture in said second member and designed for engagement with a selected one of said first named apertures.

2. A door fastener of the type set forth comprising a stationary member adapted to be secured to the jamb of a door, said stationary member having at its rear end a longitudinal slot and in its forward portion a line of apertures, and being further provided along its upper edge with rack teeth, a second member comprising parallel side portions inclosing said stationary member, said second member having a pivot pin working in said slot a fixed transverse pin held between said side portions for engagement with said rack teeth as a pawl and a leaf spring provided on said second member and carrying at its free end a pin projected through an aperture in said second member and designed for engagement with a selected one of said first named apertures.

866,682. BOTTLE. GEORGE H. POWELL, Gardner, Kans. Filed Feb. 28, 1907. Serial No. 359,800.



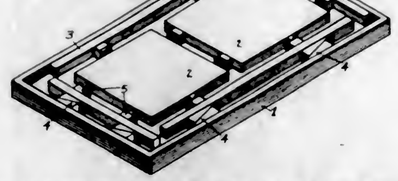
1. In a bottle, the combination with the bottle neck having a transverse weakened portion, of a stopper located in said neck above said weakened portion, a resilient, expansible, transversely divided, upwardly flaring ring encircling said stopper and, when the stopper is inserted in the neck, having its lower and upper ends engage respectively the stopper and the neck to prevent the withdrawal of the stopper, and a securing device mounted in the stopper and extending through said ring.

2. In a bottle, the combination with the bottle neck, having an inner peripheral projection, of a stopper located in said neck, and provided with a peripheral annular groove, an expansible resilient, transversely divided, upwardly flaring ring mounted in said groove and provided with oppositely disposed holes, said ring, when the stopper is inserted in the neck, expanding so that its upper edge engages the under side of said projection, and securing devices mounted in said stopper and extending through the holes in said divided ring.

3. In a bottle, the combination with the bottle neck having a transverse weakened portion, of a stopper located in said neck below said weakened portion, an upper stopper located in said neck above said weakened portion, an expansible resilient, upwardly flaring collar encircling the second stopper and which, when the second stopper is inserted in the neck, expands and engages at its upper and lower ends respectively the second stopper and the neck to prevent the withdrawal of the second stopper from the neck, and a securing device mounted in the upper stopper and extending through the collar.

4. In a bottle, the combination with the bottle neck having a transverse weakened portion, a stopper located in the neck below said weakened portion, an upper stopper located in the neck above said weakened portion, the upper stopper having an annular peripheral groove and the neck having an annular inner peripheral flange, an expansible, upwardly flaring, resilient collar encircling the upper stopper in said groove and which, when the upper stopper is inserted in the neck, expands and has its lower and upper edges engage respectively the upper stopper and the lower side of said annular flange, and a securing device mounted in the upper stopper and extending through the collar.

866,683. REGISTERING DEVICE FOR PRINTING-CHASES. PIUS RAIBLE and JOHN F. RAIBLE, Chicago, Ill. Filed May 31, 1907. Serial No. 376,664.



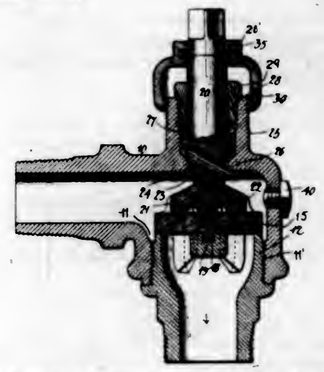
1. In a device of the class described, a block having a slot at one end and a threaded bore, in combination with a headless screw adapted to impinge against a form in a chase, said screw engaging the thread of the bore and provided with openings for receiving means for turning the screw.

2. In a device of the class described, a block having a threaded bore and a right angular recess at one end thereof extending into the bore, in combination with a screw engaging the thread of the bore and having one end provided with openings for receiving instruments inserted through the recess, said end of screw being adapted to impinge against a form in a chase, substantially as described.

3. In a device of the class described, a chase and form in combination with a registering device, comprising a block having a threaded bore and a recess at the end thereof extending into said bore, and a screw engaging the thread of said bore and adapted to impinge longitudinally against said form, said screw having a reduced end provided with wrench openings, and said screw being capable of screwing entirely within said block, substantially as described.

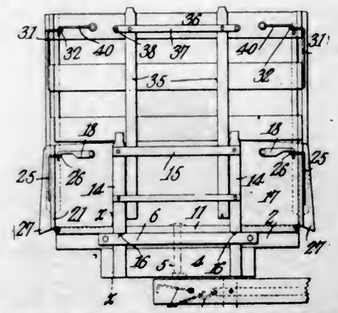
866,684. BLOW-OFF VALVE. HENRY H. RIGGIN, Altoona, Pa. Filed Dec. 17, 1906. Serial No. 348,256.

1. In a blow-off valve the combination of a valve casing having an outlet, a valve seat detachably secured therein and having a central socket and openings therethrough into the outlet, a disk valve revolubly mounted on said seat and having a depending stud to fit in said socket, a valve stem detachably connected with said valve and having a shoulder on its upper end and a lock nut engaging said shoulder and having means for adjustably connecting it with the casing.



2. In a valve, the combination of a valve casing, having an outlet, a valve seat detachably secured therein, and having openings communicating with said outlet, a tubular extension arranged opposite said valve seat, a disk valve rotatably mounted on said seat and having openings therethrough to register with the openings in said seat, a valve stem extending through said tubular extension and having means for detachably engaging said disk valve, and provided with an annular shoulder to engage a seat in said extension, and means under the control of the operator for forcing said valve stem in contact with the valve to hold it tightly on its seat.

866,685. WAGON-BODY. ANSON N. SALISBURY and LOUIE M. BRACKETT, Clarendon, N. Y. Filed Mar. 27, 1907. Serial No. 364,927.



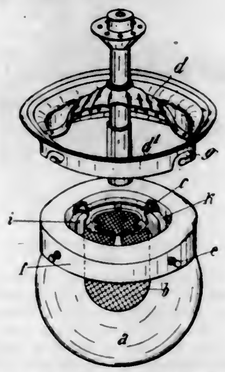
1. A vehicle body comprising a bottom having recesses in one end thereof, a retaining strip, uprights insertible into the recesses and between the bottom and retaining strip, said uprights having shoulders disposed to bear upon the retaining strip, and a front panel connecting the uprights.

2. In a vehicle body the combination with a bottom having side recesses, and fixed hinge members within the recesses; of side panels, angular hinge members connected thereto and disposed to pivotally engage the fixed hinge members, said recesses constituting means for guiding the angular hinge members into engagement with the fixed members.

3. In a vehicle body the combination with a bottom having side recesses and an eye within each recess; of a side panel, lugs projecting therebeyond, pintles upon the lugs, said recesses constituting guides for directing the pintles

into the eyes, cross strips upon the bottom, means upon the side panel for bearing against the cross strips to support the panel in inclined position, end panels, and separate means for supporting the side panel in an inclined position from the end panel and for locking said side panel to the end panel.

866,686. INVERTED INCANDESCENT GAS-BURNER. WILHELM SCHMITZ, Hamburg, Germany. Filed Feb. 5, 1907. Serial No. 355,794.



In an inverted gas burner, the combination of a support having a downwardly extending flange provided with bayonet joint slots therein, and a globe holding ring having outer and inner depending flanges, the outer of said flanges receiving set screws which support the globe and also co-act with the above mentioned slots in the flange of the support to fasten said ring and support together, and the inner of said flanges having a horizontal ledge to receive the arms of a mantle support, substantially as described.

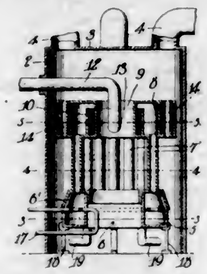
866,687. REGULATING GAS-BURNER. WILHELM SCHMITZ, Hamburg, Germany. Filed Feb. 5, 1907. Serial No. 355,796.



In a regulating gas burner, the combination of a base part having an internal threaded chamber and carrying at one end a triangular needle valve around the base of which are gas passages opening from said chamber, a second part screwing upon said base part and having an opening into which the needle valve projects, a set screw for holding said part in adjusted position, and a separate device for preventing the separation of the two parts above mentioned, substantially as described.

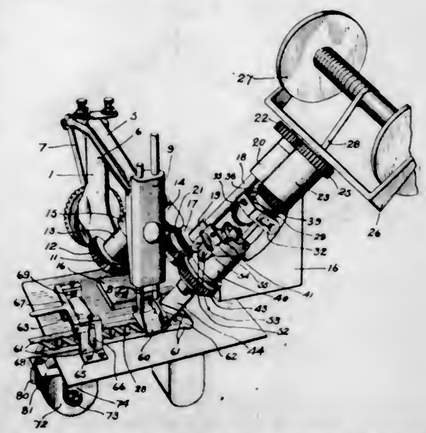
866,688. GAS-FURNACE. FRANK SCHREIBER, CARL SCHREIBER, and CHARLES E. FLAHARIDA, Zanesville, Ohio. Filed Feb. 28, 1907. Serial No. 359,886.

In a gas burning furnace, the combination with an outer shell or casing, of a furnace proper arranged therein and supported above the bottom thereof, said furnace proper comprising a combustion chamber having formed therein, a centrally-disposed air passage, an inwardly-inclined outer wall on said combustion chamber to form a heat and flame deflecting plate, a heat radiating drum having formed therein a centrally-disposed air passage and an outer series of air passages, a series of heat conducting tubes connecting the top of the combustion chamber with the bottom of the heat radiating drum, a discharge or fume pipe connected with the inner wall of said radiating drum, a baffle plate arranged in the drum between the inner wall of the latter and the heat conducting tubes to cause a circulation of heat through the drum, burner pipes arranged in said combustion chamber and a series of cold



air conducting pipes connected with the lower wall of said chamber and with the outer shell or casing of the furnace whereby air is supplied to said combustion chamber, substantially as described.

866,689. SEWING-MACHINE. CONRAD SCHÜTZ, Philadelphia, Pa., assignor of one-half to Charles B. Stretch, Jr., Philadelphia, Pa. Filed June 8, 1906. Serial No. 320,711.



1. In combination with sewing mechanism, a material holder, a revolving device with a passage therethrough for revolving said holder and passing material therefrom, rolls carried by said revolving device for drawing material therethrough, a stationary former, and mechanism whereby said material is carried to and wound around said former.

2. In combination with sewing mechanism, a former, a device to which said former is fixed, a clutch mechanism having means which alternate in engaging and disengaging said device to hold it and permit material to be revolved about said device, and means for winding said material around said former.

3. In combination with sewing mechanism, a stationary former, a shaft for supporting said former, a pair of devices adapted for engaging said shaft, and a sleeve revoluble on said shaft and having means for withdrawing said devices alternately from their engagements with said shaft.

4. In combination with sewing mechanism, a stationary former, a device fixed to and holding said former, a pair of reciprocating pins adapted for engaging said device and a revolving cam for withdrawing said pins alternately from their engagements.

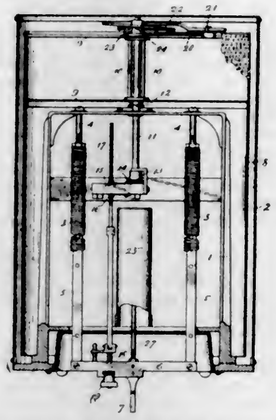
5. In combination with sewing mechanism, a bearing, a shaft with a passage therein for a strip of material, said shaft being revoluble in said bearing, means for revolving said shaft, a pair of rolls carried by said shaft for drawing material through said passage, and mechanism whereby the revolution of said shaft revolves one of said rolls.

6. In combination with sewing mechanism, a revoluble member having means for passing a strip of material carried thereby, a stationary former, a second revoluble member having means for passing said strip of material, and mechanism for holding said former, said mechanism being acted upon by said second revolving device to permit the passage of said material.

7. In combination with sewing mechanism, a bearing, a shaft revoluble in said bearing and having means for passing material carried thereby, a gear wheel fixed to said bearing, a revoluble gear wheel and rollers carried by said shaft, said gear wheels engaging to operate said rollers, a gear wheel fixed to said shaft, a revoluble shaft and a gear wheel thereon engaging said last named gear wheel, and means for revolving said last named shaft and operating said sewing mechanisms together.

8. In combination with sewing mechanism, a main shaft having a worm thereon, a gear train comprising a worm wheel operated by the worm of said main shaft, a shaft connected with and revolved by said gear train and having means for passing materials carried thereby, a sleeve having means for passing material, said sleeve being connected with and revolved by said gear train, a former, a shaft within said sleeve for supporting said former, a clutch mechanism for holding said shaft, and a cam operated by said sleeve to act upon said clutch mechanism so as to permit said sleeve to revolve said material.

866,690. COMPUTING-SCALE. HARRY B. SHERWOOD and ORAN B. BLANKENSHIP, Kansas City, Mo. Filed Feb. 7, 1907. Serial No. 356,205.



1. In a computing scale having an air-cushion consisting of a cylinder and piston-head, the combination of a swinging member extending into said piston-head and having a loose connection therewith, and a piston-rod loosely connected to the inner end of said member and connected to a movable part of the scale.

2. In a computing scale, having an air-cushion consisting of a cylinder and piston-head, the combination of a yoke extending into said piston-head and having a loose connection therewith, and a piston-rod connected to the inner end of said yoke and connected to a movable part of the scale.

3. In a computing scale having an air-cushion consisting of a cylinder and piston-head, the combination of a ring pivotally secured to one end of the piston-head, a member pivotally secured to the ring and extending into the piston-head, and a piston-rod loosely connected to the inner end of said member and connected to a movable part of the scale.

4. In a computing scale having a graduated cylinder, an equalizing-bar, gearing connecting the equalizing bar and the graduated cylinder, and an air-cushion consisting of a cylinder and a piston-head, the combination of a member extending into said piston-head and having a loose connection therewith, and a piston-rod having a ball-and-socket connection to the inner end of said member and connected to a movable part of the scale.

866,691. PROCESS FOR MAKING ARTIFICIAL-WOOD PRODUCTS. WILLIAM SIEGMANN, Baltimore, Md., assignor, by direct and mesne assignments, to Sagax Wood Company, a Corporation of Delaware. Filed Jan. 14, 1907. Serial No. 352,295.

1. A wood substitute comprising straw, saw-dust, asphalt and a binder.

2. A wood substitute comprising straw, saw dust, asphalt and a binder; all being commingled by agitation.

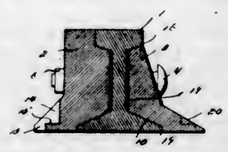
3. A wood substitute consisting of straw, saw dust, asphalt and a binder consisting of calcined magnesite, boracic acid, salammoniac, colophonium, and magnesium chlorid.

4. A wood substitute consisting of one part ground straw, one part saw dust, two parts asphalt and two parts cement.

5. A wood substitute consisting of straw, saw dust, asphalt and a cement, said cement consisting of one part calcined magnesite, one-half part boracic acid, one part salammoniac, one-half part colophonium suitably dampened by magnesium chlorid.

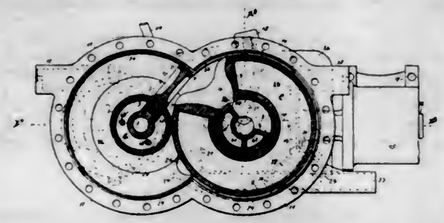
6. A wood substitute consisting of one part ground straw, one part saw dust, two parts asphalt and two parts cement, said cement consisting of one part calcined magnesite, one-half part boracic acid, one part salammoniac, one-half part colophonium suitably dampened by magnesium chlorid.

866,692. RAIL JOINT OR CHAIR. WILLIAM SLOSS, Jr., Shreveport, La. Filed Mar. 11, 1907. Serial No. 361,745.



The herein described rail joint comprising the abutting ends of two track rails, inner and outer plates each having upright portions and laterally projecting base portions, the latter portions having their upper surfaces inclined downwardly and outwardly and formed in their edges with spiked receiving notches having seats or shoulders, said notches in one plate being arranged out of transverse alinement with those in the other plate, both of said plates having their opposing inner faces shaped to fit the bottom of the head, the web and the tops of the base flanges of said track rails, the inner plate having the outer face of its upright portion inclined downwardly from the bottom of the head of the track rails, the outer plate having the top of its upright portion flat and lying flush with the tread of the track rails, said upright portion of the outer plate having its outer face disposed vertically, fastening bolts passed transversely through said plates and said rails and nuts upon the threaded ends of said bolts and engaged with the vertical outer face of the outer plate, substantially as shown and described.

866,693. ROTARY EXPLOSION-ENGINE. JOHN F. SOUTHERN, Wilmington, Del., and HENRY J. GRIEST, Chester, Pa.; said Southern assignor to said Griest. Filed Apr. 27, 1904. Serial No. 205,111.



1. In a rotary explosion engine, a revolving piston, an annular cylinder in which the piston revolves, a piston carrier concentric with the annular cylinder and with a semicircular concave cross section, intersecting the annular cylinder and fitting the concavity of the piston holder, and an opening in the abutment to permit the passage of the piston, substantially as shown and described.

2. In a rotary engine, a case, a main shaft having bearings in the case, a piston holder of concave semicircular cross section secured to the main shaft inside the case, an annular piston cylinder formed of the case and the piston holder, a piston carried by the piston holder and adapted to revolve in the piston cylinder, a hollow abutment shaft having bearings in the case, gearing connecting the main shaft with the abutment shaft, an abutment of convex semicircular cross section secured to the abutment shaft inside the case intersecting the piston cylinder and fitting the concavity of the piston holder, an opening in the abutment to permit the passage of the piston and the entry of the actuating fluid, an opening in the abutment shaft joining the opening in the abutment making a passage from the abutment shaft through the abutment, an explosion chamber inside the abutment shaft arranged to discharge at the proper time through the abutment into the piston cylinder, means for exploding gases inside the explosion chamber at proper times, and a valve controlling the admission of gases into the explosion chamber.

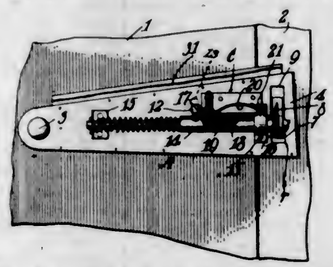
3. In a rotary engine, a piston carrier, forming with the case an annular piston cylinder, a piston carried by the piston carrier an abutment intersecting the piston cylinder, an opening in the abutment to permit the passage of the piston and admit the actuating fluid, and a channel in the case permitting the passage of the actuating fluid past the abutment.

4. The combination of the plug, 54 and explosion chamber, 8, each having a pyramidal surface with an opening through the same, a hollow shaft surrounding the plug and explosion chamber, an annular flange of V shaped cross section, forming part of the hollow shaft and extending between and in contact with the pyramidal surfaces of the plug and explosion chamber, an opening through the flange capable of being brought into conjunction with the openings through the plug and explosion chamber by the rotation of the hollow shaft, and means for rotating the hollow shaft.

5. The combination of a piston holder of concave semicircular cross section, a piston carried by said holder, and an expansion ring of semicircular cross section adapted to fit around the piston holder and cut out to admit the piston, substantially as shown and described.

6. In a rotary engine, a revolving piston, an annular cylinder in which the piston revolves, an annular abutment intersecting and closing the annular cylinder and having an opening to permit the passage of the piston, means for securing synchronism in the rotation of the piston and abutment, a hollow shaft on which the abutment is fixed and on which it rotates having an opening coinciding with the opening in the abutment, an explosion chamber inside the hollow shaft and having an opening therein arranged to coincide at predetermined intervals with the opening through the hollow shaft and abutment, and means for discharging gases in the explosion chamber at predetermined intervals as shown and described.

866,694. HASP-LOCK. EDWARD E. STACY, Central City, Nebr. Filed Oct. 11, 1906. Serial No. 338,473.



1. The combination of a hasp having an aperture at one end, means for pivotally mounting the hasp at the end opposite from the aperture, a longitudinally movable bolt on the hasp, a spring tending to move the bolt across the aperture of the hasp, means for holding the bolt indrawn to one side of the aperture against the tension of the spring, and an apertured keeper arranged to extend through the aperture of the hasp to receive the bolt and provided with a notch for engaging one wall of the aperture of the hasp.

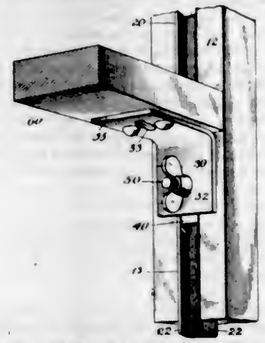
2. The combination of a hasp having an aperture adjacent one end, means for pivotally mounting the hasp at the end opposite from the aperture, brackets on the hasp, a longitudinally movable bolt mounted in the brackets and adapted to move across the apertured hasp, sockets in the bolt, a spring pressed member adapted to engage one or the other of the said sockets to hold the bolt extended across the aperture of the hasp or drawn back at one side thereof, means adapted to be actuated by a key for controlling the said member, and an apertured keeper adapted to receive the bolt and provided with a notch in which one wall of the aperture of the hasp is adapted to engage.

3. In a hasp lock, the combination with a pivotally mounted keeper having a handle, of a pivotally mounted hasp, a casing thereon, a spring pressed bolt mounted on said hasp in said casing and provided with a handle for retracting said bolt, a key operated locking device for holding said bolt in locked position, and a pair of oppositely extending lifting handles for raising said hasp.

866,695. ADJUSTABLE SUPPORT FOR SHELVING. MAURICE TAUSSIG, Chicago, Ill. Filed July 13, 1906. Serial No. 326,127.

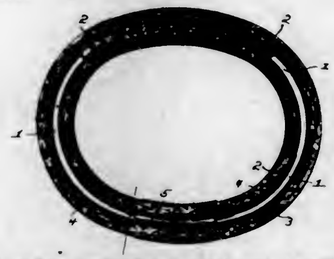
1. In a device of the class described, the combination with a suitable supporting member having an overhung groove in one of its faces, of a friction shoe slidable in said groove, and having bearing faces which engage the overhung walls of the groove to prevent rotation of the shoe, a shelf bracket bearing upon the supporting member, and a bolt and nut connecting the shoe and bracket, and arranged to draw them together to clamp the bracket upon the supporting member, said bolt containing one or more flat faces engaging one or more corresponding faces upon the shoe and bracket.

2. In a device of the class described, the combination with a suitable supporting member having an overhung groove in one of its faces, of a friction shoe slidable in said groove and having bearing faces which engage the overhung walls of the groove to prevent rotation of the shoe, a shelf bracket bearing upon the supporting member, a bolt having a head bearing upon the shoe and a squared portion extending through squared holes in the shoe and bracket, and a nut threaded upon the bolt and bearing upon the bracket.



3. In a device of the class described, the combination with a pilaster having a dovetail groove in one of its faces, of a channel iron seated in said groove and forming a lining for said groove with two of its edges projecting beyond the face of the pilaster, a shelf supporting bracket bearing upon the projecting edges of said channel iron, a friction shoe slidable in said channel iron and bearing upon the inner faces of the channel iron, and a bolt and nut connection between the shoe and bracket.

866,696. PACKING. WILLIAM F. TAYLOR, Charleston, S. C., assignor to The Charleston Metallic Packing Company, Charleston, S. C. Filed Mar. 6, 1907. Serial No. 360,922.



1. A packing comprising a metal core, a tape wound thereon and cemented thereto, and asbestos cloth wound over the tape and cemented thereto.

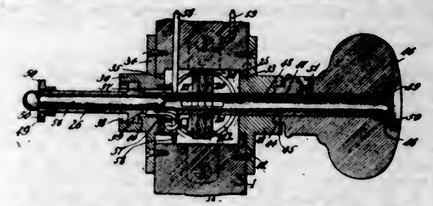
2. A packing, comprising a metal tube, a duck tape wound on the tube and asbestos cloth wound over the duck tape.

3. A packing, comprising a soft metal tube, a duck tape wound on the tube, and asbestos cloth containing a net work of wire, wound on said duck tape.

4. A gasket, comprising a packing composed of a soft metal tube, packing material wound on the tube and the ends cut diagonally and brought together, a wire coupling in the ends of the tube, and adhesive tape wound around the meeting ends of the packing.

866,697. LOCK. LOUIS E. L. THEMKE, Strathcona, Alberta, Canada, assignor of one-fourth to Franz Scheibal, Edmonton, Canada, and one-fourth to Joseph Dittrich, Strathcona, Canada. Filed July 23, 1906. Serial No. 327,314.

1. In a lock, the combination comprising a casing, a bearing block carried by the casing, rotatable members carried by the bearing block, a spring actuated locking bolt connected with the rotatable members, a tubular knob stem loosely disposed through the bearing block and the rotatable members and provided with slots, and a bifurcated member adapted to be inserted through the slots and to secure the stem to the rotatable members.

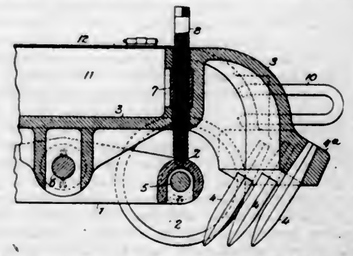


2. In a lock, the combination comprising a casing, a bearing block carried by the casing, rotatable members carried by the block and provided with recesses, a spring actuated locking bolt connected with the rotatable members, a tubular knob stem loosely disposed through the bearing block and the rotatable members, and provided with slots, to receive a bifurcated member adapted to be inserted through the slots and into the recesses and to secure the stem to the rotatable members.

3. In a lock, the combination comprising a casing, a bearing block carried by the casing and provided with segmental slots, rotatable members carried by the block, pins disposed through the slots and secured to the rotatable members, links connected to the pins, a spring actuated locking bolt connected to the links, a knob stem disposed through the casing, and means for connecting the rotatable members with the knob stem.

4. In a lock, the combination comprising a casing, rotatable members carried within the casing, a spring actuated locking bolt connected with the rotatable members, a tubular knob stem disposed through the rotatable members and provided with slots, to receive an expansible member adapted to be inserted in the knob stem and to extend through said slots.

866,698. ROAD-SCARIFIER. BENJAMIN W. TUCKER, Newark, N. J. Filed Dec. 30, 1905. Serial No. 294,006.



1. An implement for the purpose specified, having a body portion, supporting wheels under the same, a gang of picks carried at the end of said body, and means for putting said picks in and out of their operative position, all of the supporting wheels of the implement being in front of the picks when the latter are in operative position.

2. An implement for the purpose specified, having two pairs of ground-wheels, a truck-frame mounted thereon, a bed-frame pivotally mounted on the truck-frame, a gang of picks carried by each extremity of the bed-frame, the picks in said gangs being inclined with their points directed inward or toward the pivotal point of the bed-frame, and means for rocking or turning said bed-frame about its pivot, the supporting wheels of the implement being all disposed between the two gangs of picks, as specified.

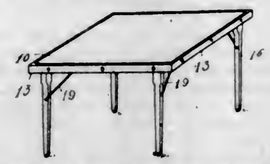
3. An implement for the purpose specified, having a bed-frame, two gangs of picks carried by said frame at its respective extremities, a truck-frame on which said bed-frame is pivotally mounted at substantially the middle of the length of the truck-frame, two pairs of ground-wheels

under and supporting said truck-frame, said pairs of wheels, which form the sole support of the implement, being disposed between the two gangs of picks and, respectively, at opposite sides of the pivotal axis of the bed-frame, and means for turning the latter about its pivot for raising or lowering either gang of picks.

4. An implement for the purpose specified, having two pairs of ground-wheels, a truck-frame supported thereon, a bed-frame pivotally mounted on said truck-frame at a point between said pairs of wheels, two gangs of picks, one gang at each end of the bed-frame and carried thereby, nuts 7 in the bed-frame at opposite sides of the pivotal point of said frame, and screws 8 which extend down through the respective nuts and bear on the truck-frame.

5. An implement for the purpose specified, having two pairs of ground-wheels, a truck-frame supported thereon, a bed-frame pivotally mounted on said truck-frame at a point between said pairs of wheels, two gangs of picks, one gang at each end of the bed-frame and carried thereby, the picks of both gangs being secured at their upper ends and being inclined downward and inward toward the pivotal point of the bed-frame, nuts 7 in the bed-frame at opposite sides of the pivotal point of said frame, and screws 8 which extend down through the respective nuts and bear on the truck-frame.

866,699. FOLDING TABLE. WILLIAM C. VAN CISE and FREDERICK J. VAN CISE, Mayville, N. Y. Filed Mar. 1, 1907. Serial No. 360,067.



1. A folding table comprising a top having grooved portions on its under side, legs pivotally mounted on said top, braces pivoted at their lower ends to said legs and each having its upper end offset and slidably engaged in one of said grooves, said offset ends being tapered towards their extremities, said top having locking openings of uniform diameter in the bottoms of said grooves to receive said tapered ends, whereby any shrinkage or warping of the wooden parts will be taken up and the legs prevented from wabbling.

2. A folding table comprising a top, frame pieces on the under side of said top along the outer edges, grooved in said frame pieces, metal channel strips having one side inserted into said groove and the other side for a guard flange, said channel strips having locking holes therein, braces pivotally engaging said legs and slidably engaging said grooves and channel pieces, and angular tapered upper ends to said braces to fit said locking holes, substantially as and for the purpose specified.

3. A folding table comprising a top, frame pieces on the under side of said top along the outer edges, folding legs hinged to said frame by a suitable bolt, grooves between said top and frame pieces, sheet metal channel strips attached to said grooved frame pieces, said channel strips partly extending out beyond said grooved frame pieces and resting against said top and having locking openings therein, braces pivotally engaging said legs and slidably engaging said channel pieces and grooves, and tapered upper angular ends to said braces to fit said locking openings, substantially as and for the purpose specified.

4. A folding table comprising a top, an open frame on the under side of said top along the outer edges, folding legs hinged to said frame, means for locking said legs in the extended position, a rectangular central frame across the grain on the under side of said top, the corners of said central frame extending out slightly into the normal path of said folded legs to hold the same by the spring of the legs against said central frame.

5. A folding table comprising a top 10, an open frame composed of pieces 12 attached to the under side of said top, legs 15 independently hinged to said frame and hinge pieces by a screw bolt, grooves 22 in said frame pieces having locking holes 24 therein, channel strips 25 having one side extending into said groove the other side outside of said groove to form a guard flange, said channel strips 25 having holes 24' corresponding to holes 24 in said grooves, braces 19 pivotally attached at their lower ends to legs 15, offset tapered upper ends for said braces to fit said locking holes and work in said groove, and a frame 11 on the under side of said top extending across the grain and into the normal path of said legs to hold the same when folded, substantially as and for the purpose specified.

866,700. ROAD-BED-WASHOUT SIGNAL. JESSE L. WALDREP, Lilly, Ga. Filed Apr. 6, 1907. Serial No 366,783.



1. A signal apparatus for railway road-beds comprising a movable signal having an operating portion movable therewith, an element connected to the said operating portion of the signal and extending longitudinally of the track, a pair of supporting rollers arranged on two adjacent cross ties and coöperating with said operating element, and a freely movable weight arranged between the ties having the rollers thereon normally supported by the road-bed and connected to actuate the operating element to move the signal to danger position when unsupported by the road-bed.

2. A signal apparatus for railway road-beds comprising a movable signal having an operating crank thereon, an operating element connected to the said crank on the signal, a pair of supporting rollers mounted on two adjacent cross ties and engaging the operating element, and a freely movable weight arranged between the ties having the rollers and normally supported by the road-bed, and serving to actuate said element to move the signal into danger position when the road-bed is in abnormal condition.

3. A signal apparatus for road-beds comprising a pivoted signal having an operating crank, a flexible operating element connected to the said crank and extending longitudinally of the road-bed, a pair of rollers mounted at the proximate sides of two adjacent cross ties and supporting the operating element, and a freely movable weight for producing a draft on the operating element to move the signal to danger position, the weight being normally held inoperative by the road-bed acting as a support.

4. A signal apparatus for railway road-beds comprising a visible signal pivoted to swing in a plane substantially parallel to the length of the bed, an operating element operatively connected to the signal and serving to turn the latter to danger position when the element is subjected to a tension, and a weight normally operating to produce a tension on the operating element and normally held inoperative by the road-bed acting as a support.

5. A signal apparatus for road-beds comprising a visual signal mounted to swing in a plane parallel to the length of the bed, a device located at a point remote from the signal and actuated by the washing away of the road-bed, and a flexible connection between the device and signal.

6. A signal apparatus for road-beds comprising a visual signal mounted to one side of the road-bed, a crank shaft supporting the signal, a weight normally resting on the road-bed and actuated by a washout thereof, a flexible element connected to the crank shaft and adapted to be actuated by the weight to positively move the signal to danger position, and rollers for supporting the flexible element.

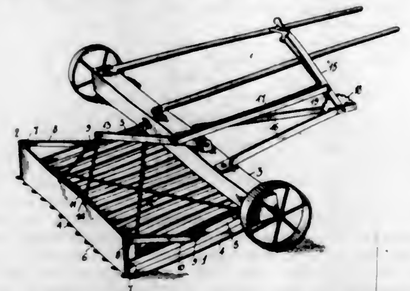
7. A signal apparatus for road-beds comprising a plurality of signal devices located at suitably distant points, a flexible element connected with the devices, and a plurality of members distributed between the signal devices and connected with the flexible element for operating through the latter to actuate the signal devices in case of a washout of the road-bed.

8. A signal apparatus for road-beds comprising a plurality of signals located at suitably distant points, crank shafts on which the signals are mounted, a flexible element connecting the crank shafts, and a device connected with the said element and normally resting on the road-bed for producing a draft on the element in case the device is undermined by a washout.

9. A signal apparatus for road-beds comprising a plurality of signals located at suitably remote points, pivotally mounted structures on which the signals are mounted a flexible element connected at its ends with the structures, and a plurality of devices distributed along the road-bed and connected with the element for singly or collectively actuating the latter in case of a washout of the road-bed.

10. A signal apparatus for road-beds comprising an actuating device normally resting upon and held inoperative by the road-bed when the latter is in normal condition, signal devices arranged at opposite sides of the said device and having operating cranks thereon arranged to turn in planes parallel to the track, and an operating element extending longitudinally of the track and connected to the operating cranks of the signal, the operating element coöperating with the actuating device when the latter is unsupported by the road-bed to move the signals into danger position.

866,701. RAKE. HUGH WATSON, Cairo, Nebr. Filed May 4, 1907. Serial No. 371,927.



1. In combination with a sweep rake, an attachment therefor comprising side members and a pushing head, the side members being pivotally connected with the rake and with the pushing head, and means for swinging the pushing head upon its pivots for varying its inclination.

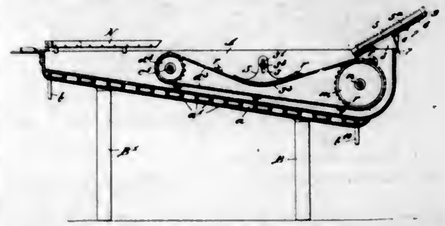
2. In combination with a sweep rake, an attachment therefor comprising side pieces pivotally secured to the rake head, a pushing head pivotally secured at its lower edge to the free ends of said side pieces, and braces pivotally secured to the upper edge of said pushing head and adjustably secured at their rear ends to said side pieces.

3. In combination with a sweep rake, an attachment therefor comprising perforated side pieces pivotally secured to the rake head, a pushing head having its ends flanged and pivotally secured at its lower edge to said side pieces, braces pivotally secured to the upper ends of said flanges, and bolts through said perforations in the side pieces for engaging with the rear ends of said braces, and holding the pushing head in its desired position.

4. In combination with a sweep rake, a pushing head pivotally secured thereto, a lever arranged on the rake head, means for connecting the free end of the lever with the pushing head, and means for holding said lever in an adjusted position.

5. In combination with a sweep rake, a pushing head, pivotally secured thereto, a support extending rearwardly from the rake head, two levers, one of which is pivotally secured to the rake head, and the other one to said support, a link for connecting the said levers, means for connecting the outer end of the lever on the rake head to the pushing head, and locking means connected with the other lever for holding said levers and the pushing head in an adjusted position.

866,702. MACHINE FOR COATING CONFECTIONERY. WILLIAM H. WEEKS, Philadelphia, Pa. Filed Feb. 21, 1907. Serial No. 358,632.



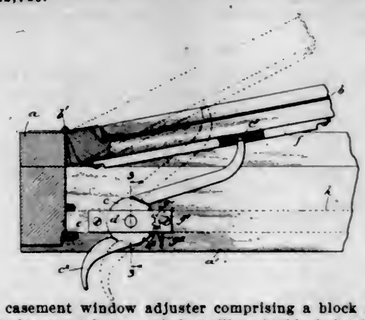
1. In a machine for coating cores by a sidewise dipping, comprising a suitable solution receptacle, an endless chain dipping-frame, means to actuate the same, and a receiving frame adapted to automatically receive thereon a detached core-holding tray delivered to it by said dipping-frame after dipping; of means to direct the path of movement of the dipping-frame through the solution receptacle in a downwardly-inclined and then in an upwardly-inclined horizontal direction, said means consisting of a pair of oppositely-disposed sector-shaped brackets mounted in a depending position on the opposite vertical walls of the solution receptacle, said brackets having curved guiding faces adapted to direct the forward path of movement of the dipping-frame.

2. In a machine for coating cores by a sidewise dipping, comprising a suitable solution receptacle, a movable dipping-frame adapted to operatively support a detached core-holding tray, means to direct the path of movement of said dipping-frame through the solution receptacle in a downwardly-inclined and then an upwardly-inclined horizontal direction, with means to receive the tray discharged by the dipping-frame, of means to automatically feed the tray to the movable dipping-frame, said means consisting of a tray-feeding-frame mounted in a downwardly-inclined position relatively to the receiving end of the solution tank, means to normally hold the tray on said feeding-frame, and means actuated by the movable dipping-frame to release the tray from said inclined tray-feeding frame.

3. In a machine for coating cores by a sidewise dipping, comprising a suitable solution tank, a movable dipping-frame adapted to operatively support a detached core-holding tray, means to direct the path of movement of said dipping-frame through the solution in a downwardly-inclined and then an upwardly-inclined horizontal direction, with means to receive the tray discharged by the dipping-frame, of means to automatically feed the tray to the movable dipping-frame, said means consisting of a pair of upright standards, a pair of tray-supporting frame-bars mounted thereon in an inclined position over the tank, a connecting cross-rod between said standards, a latch-finger pivotally mounted intermediate its length on said cross-bar, with means to maintain said latch-finger in an inclined position with one end thereof adapted to engage a tray on said frame-bars and the other end to be tripped by a tray-supporting bar on the dipping-frame.

4. In a machine for coating cores by a sidewise dipping, the combination with a suitable solution tank, and a movable dipping-frame operatively supported and actuated therein in a horizontally-inclined direction, with means to support a core-holding tray thereon, of tray-feeding and tray-receiving devices at the respective opposite ends of the solution tank, adapted to be actuated by said dipping-frame and operating to automatically deliver and discharge a tray to and from said frame.

866,703. CASEMENT-WINDOW ADJUSTER. GEORGE L. WILKINS, Chicago, Ill. Filed May 8, 1906. Serial No. 315,740.



A casement window adjuster comprising a block adapted to be secured to a window-sill, said block having an opening therethrough, a lever pivotally mounted in said opening, and constructed to practically close the same in all positions of adjustment, one end of said lever serving as an operating handle and the other end being adapted for connection to the window to be adjusted, and means mounted in said block for locking said lever in different positions of adjustment.

866,704. FRUIT-CLEANER. MARTIN F. WITT, Los Angeles, Cal. Filed May 11, 1907. Serial No. 373,175.



1. A fruit cleaner comprising a support for the fruit, adapted to cause the fruit to move longitudinally thereon, and rotary cleaning devices mounted above said support and having their axes of rotation extending obliquely with regard to the longitudinal direction of the support, and means for rotating said rotary cleaning devices.

2. A fruit cleaner comprising a support for the fruit, adapted to cause the fruit to move longitudinally thereon, rotary cleaning devices mounted above said support and having their axes of rotation extending obliquely with regard to the longitudinal direction of the support, means for rotating said rotary cleaning devices, and means for adjusting the obliquity of the rotary cleaning devices.

3. A fruit cleaner comprising a support for the fruit, adapted to cause the fruit to move longitudinally thereon, rotary cleaning devices mounted above said support and having their axes of rotation extending obliquely with regard to the longitudinal direction of the support, and means for rotating said rotary cleaning devices, said rotary cleaning devices comprising rotary brushes and rotary polishers having padded surface, and the polishers coming into action after the brushes.

4. A fruit cleaner comprising a table, means for supporting the table at an inclination and for adjusting such inclination, a series of rotary cleaners having their axes of rotation extending obliquely above the table, means for adjusting the obliquity of the axes of rotation, and means for driving the rotary cleaners.

866,705. GARMENT-SUPPORTER CLASP. ROYAL J. WRIGHT and JAMES C. ANDREWS, Springfield, Mass. Filed May 1, 1907. Serial No. 371,298.

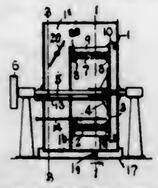
1. In a garment clasp of the button and loop class, the combination with the loop, of a button element made from a single piece of wire bent to provide a base portion and having one end formed into a shank which projects substantially at right angles to said base portion and has extending therefrom an eccentric loop which surrounds and clamps a head of suitable material that possesses frictional attrition which head extends beyond said loop in all directions and completely closes the opening of the loop, a webbing to which the rear end of said loop is



secured, and a short tape upon whose forward end the base portion of the button element is mounted and secured while the rear end of said tape is fastened to said webbing, the comparative lengths of said loop and tape being such that the fabric engaged by the clasp will be caused to surround and closely hug the entire area of said head.

2. In a garment clasp of the button and loop class, the combination with the loop, of a button element made from a single piece of wire initially bent to form a loop, thence extended diagonally and bent to form a second loop in the same plane with the first mentioned loop, the end of the wire being then bent upwardly in a plane substantially at right angles to the plane of said loops and finally extended in a plane parallel with the plane of said loops and curled around and firmly embedded within the substance of a rubber head in such manner that said head extends beyond the wire in all directions and completely fills the space inclosed thereby, the extreme end of the wire being then bent downwardly and confined behind the diagonally disposed wire.

866,706. GAS-WASHER. JOHN ZELLWEGER, St. Louis, Mo. Filed Sept. 13, 1906. Serial No. 334,513.



1. In an apparatus of the character described, the combination with a rotating filter ring, a circular reservoir connected to said filter ring, means for collecting liquid projected from the filter ring and delivering said liquid into said reservoir, a skimmer projecting into the reservoir for removing liquid therefrom, and a pipe connected to said skimmer for returning the liquid back to the interior periphery of the filter ring; substantially as described.

2. In an apparatus of the character described, the combination with a rotating filter ring, guttered vanes attached thereto for collecting liquid projected from said filter ring, a circular reservoir connected to said filter ring and into which said guttered vanes discharge said liquid, and means for removing the liquid from said circular reservoir; substantially as described.

3. In an apparatus of the character described, the combination with a rotating filter ring, a reservoir carried by said filter ring, a skimmer coöperating with said reservoir, and a pipe with which said skimmer connects, said pipe conducting the liquid delivered into said skimmer back upon the inner periphery of the filter ring; substantially as described.

4. In an apparatus of the character described, the combination with a rotating cylinder provided with perforations, of a sectional ring-shaped filter bed arranged against the inner face of said perforated cylinder, said sectional filter bed being composed of separately removable perforated boxes containing filtering material, and means for securing said boxes in position; substantially as described.

5. In an apparatus of the character described, the combination with a rotatable perforated cylinder, of a sectional filter bed disposed around the inner surface thereof, one of said sections being a key section for holding the other sections in place; substantially as described.

6. In an apparatus of the character described, the combination with a rotatable cylinder formed from perforated material, of a ring-shaped filtering member arranged inside of said cylinder and composed of a plurality of perforated boxes containing filtering material, and means for holding said boxes in position; substantially as described.

7. In an apparatus of the character described, the combination with a rotatable perforated cylinder, of boxes made up of wire mesh and containing filtering material, said boxes being arranged around the inner periphery of said cylinder and one of said boxes constituting a key for holding the remaining boxes in place, and a flanged ring coöperating with said boxes; substantially as described.

8. In an apparatus of the character described, the combination with a rotatable filter ring through which liquid and gas pass, means for collecting the liquid and delivering the same into a circular reservoir carried by said filter ring, a skimmer for removing the liquid from said reservoir and delivering the same into a pipe, said pipe extending back into the filter ring for discharging said liquid upon the inner surface thereof, and an overflow pipe connected with said first mentioned pipe; substantially as described.

9. In an apparatus of the character described, the combination with a filter ring, a circular reservoir carried thereby for receiving liquid, a skimmer arranged in said reservoir and connected to a pipe, said pipe conducting the liquid collected by said skimmer back into the filter ring, an overflow pipe coöperating with said first mentioned pipe, and a pipe for supplying fresh liquid to the inner surface of the filter ring; substantially as described.

10. In an apparatus of the character described, the combination with a casing, a rotating filter ring in said casing, a conduit for supplying gas to be washed to the eye of the filter ring, a passage leading from the space outside the filter ring back to the eye of the ring, a discharge conduit leading from said passage, and means in said passage for regulating the passage of gas therethrough; substantially as described.

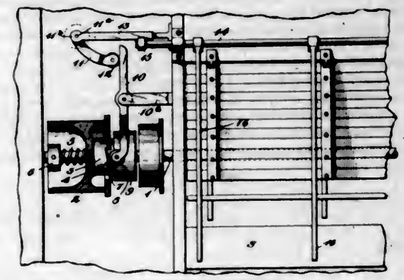
11. In an apparatus of the character described, the combination with a casing, a filter ring arranged in said casing, a conduit for supplying gas to be washed to the eye of said filter ring, said casing forming a connection between the space around the filter ring and the eye of said filter ring, a damper in said connection, and a discharge pipe leading from the casing; substantially as described.

12. In an apparatus of the character described, the combination with a casing, a wall in said casing, said wall having openings, a filter ring in said casing whose eye registers with one of the openings in said wall, a conduit for supplying gas to be washed to the eye of the filter ring, which gas passes outwardly after being washed and is discharged into a space around the filter ring and passes through an opening in said wall back to the eye of the filter ring, a damper between said last named opening and the eye of the filter ring, and a discharge pipe leading from the casing; substantially as described.

13. In an apparatus of the character described, the combination with a casing divided into three compartments, in one of which is arranged a rotating filter ring whose eye communicates with the other two compartments, a supply conduit communicating with one of said other compartments, a discharge conduit leading from the other of said compartments, and a communication between the compartment containing the filter ring and outside of said filter ring and the compartment from which leads the discharge conduit; substantially as described.

14. In an apparatus of the character described, the combination with a casing divided into three compartments, in one of which is arranged a rotating filter ring whose eye communicates with said other two compartments, a supply conduit leading into one of said other compartments, a discharge conduit leading from the other of said compartments, said last mentioned compartment communicating with the compartment containing the filter ring at a point outside of said filter ring, and a damper arranged between said point of communication and the opening leading to the eye of the filter ring; substantially as described.

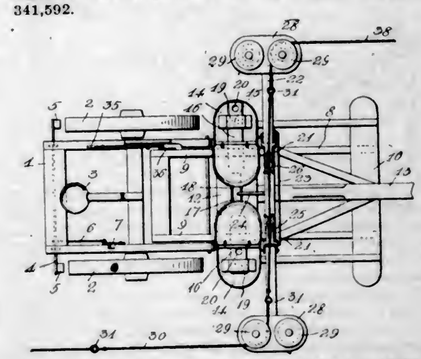
866,707. MECHANISM FOR OPERATING CLUTCHES. MARCUS ALTSTOCK, Lemberg, Austria-Hungary. Filed Mar. 17, 1905. Serial No. 250,662.



1. In a device of the class described the combination of a driven shaft, a driving belt pulley loosely mounted on said shaft and provided with a clutch member, a driven pulley rigidly mounted on said shaft and provided with a clutch member, a spring normally holding said clutch members engaged, a pivotally mounted bifurcated lever provided with rollers adapted to engage the loose pulley to disengage said clutch members, a rock shaft, an arm pivotally mounted on said shaft and provided with a roller for engaging said lever, a second arm mounted on said rock shaft, and an operating rock shaft provided with a plurality of operating levers and an operating arm for engagement with said second arm.

2. In a device of the class described the combination with a driven shaft, a loosely mounted clutch therefor, a coöperating driven clutch member nonrotatably mounted on said shaft, means normally engaging said clutch members, a lever adapted to disengage said clutch members, a rock shaft, an arm pivotally mounted on said shaft and adapted to engage said lever, a second arm mounted on said rock shaft, an operating rock shaft provided with a plurality of operating levers and an operating arm for engagement with said second arm.

866,708. CHECK-ROW CORN-PLANTER. DANIEL N. BAXTER, Wichita, Kans. Filed Nov. 1, 1906. Serial No. 341,592.

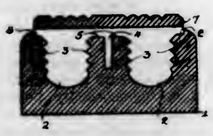


1. In a check row planter, a main frame, a hopper frame pivotally connected therewith and provided with furrow openers, the rear cross bar of the hopper frame being perforated at each end to register with said openers, and slotted longitudinally intermediate said ends, a feed hopper over each perforation, the end of the bar forming the bottom of the hopper, a cover plate in each hopper over said perforation, a bar slidably mounted in said slot, a valve plate secured at its inner end to the top of each end of said bar with its outer end under the cover plate in the box and provided with two apertures, and check-row

mechanism connected with said last mentioned bar to reciprocate it in both directions.

2. In a check row planter, a main frame, a hopper frame pivotally connected therewith, seeding mechanism on the hopper frame provided with a reciprocatory bar, two bifurcated levers pivotally mounted adjacent thereto, the lower end of one of the levers being extended, a rod connected with one of the levers above its pivotal point at one end and having its other end bent at an angle and passed through said extended end of the other lever, and an angularly bent bar connected with the reciprocatory bar at one end and having its other end connected with the end of said rod between the extended bifurcated end of said lever.

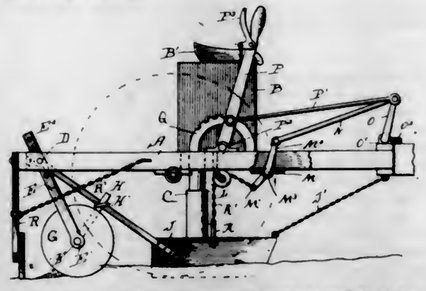
866,709. SUPPORT FOR ELECTRIC CONDUCTORS. WILLIAM W. BENSON, Philadelphia, Pa. Filed Aug. 14, 1905. Serial No. 274,094.



1. A supporting device for an electric conductor having an open channel with side corrugations adapted for engaging and holding a conductor and a cap for covering said channel.

2. A supporting device for an electric conductor having an open channel with a corrugated side and a groove forming a flexible member adapted to be sprung to permit the insertion of a conductor in said channel.

866,710. ATTACHMENT FOR POTATO-PLANTERS. WILLIAM P. BOLLER, Byron, Wis. Filed Sept. 11, 1906. Serial No. 334,189.

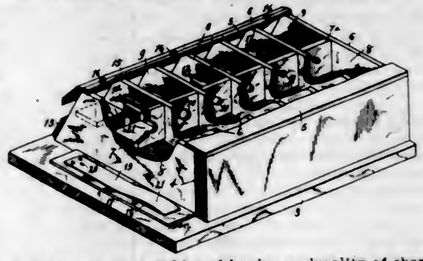


1. In a planter, the combination with a frame, of arms pivoted to said frame carrying disks, and a plow, a double crank mounted on said frame connected to said plow, a crank mounted on said frame connected to said double crank, and a lever connected to said crank, for the purpose described.

2. In a planter, the combination with a frame, of arms pivoted to said frame carrying disks and a plow, a double crank mounted on said frame connected to said plow by a chain passing over a pulley carried by the frame, a crank mounted on said frame connected to the double crank, and provided with a foot adapted to engage the frame, and a lever connected to said crank for the purpose described.

3. In a planter, the combination with a frame, of arms pivoted to said frame carrying disks and a plow a double crank mounted on said frame, a pulley mounted under said frame, a chain connected to said plow passing over said pulley connected to one of the arms of the double-crank, a crank mounted on said frame connected to the other arm of said crank by a link, a link carried by said crank and a lever connected to said link mounted on said frame.

866,711. REED-ORGAN. WILLIAM F. BULTMANN, Elgin, Ill. Filed Aug. 31, 1906. Serial No. 332,860.



1. In an organ, a reed-board having a plurality of chambers therein, each of said chambers being divided by vertical and horizontal walls into a reed-cell and a resonance-cell, the latter occupying the forward and upper portion of the chamber, said resonance cell having communication through said walls with the reed-cell, in combination with separate mutes for the reed cells and the resonance cells.

2. In an organ, a reed-board having a plurality of chambers, each of said chambers being divided by a horizontal and a vertical partition, into a reed cell and a resonance cell, said partitions having openings therein whereby communication is effected between the reed-cells and the resonance cells, in combination with separate mutes for the reed-cells and resonance cells.

3. In an organ, a reed-board having a plurality of chambers arranged in communicating pairs, each chamber being subdivided into a reed-cell and a resonance cell and provided with a plurality of openings between said cells, in combination with separate mutes for the series of reed-cells and the series of resonance-cells.

866,712. CENTRIFUGALLY-MADE COLUMN. CHARLES D. CAMPBELL, Bellefontaine, Ohio. Filed July 18, 1906. Serial No. 326,959.



1. As a new article of manufacture, an integral hollow body constructed of a plurality of concentric layers of centrifugally laid, graded cement mixtures.

2. As a new article of manufacture, an integral hollow body constructed of a plurality of concentric layers of centrifugally laid, graded cement mixtures, the layers being arranged so that the material becomes coarser from the surface inward.

3. As a new article of manufacture, an integral hollow body constructed of a plurality of concentric layers of centrifugally laid, graded cement mixtures, a layer having an excess of finer material being located near the surface whereby a smooth and less pervious surface is obtained.

4. As a new article of manufacture, an integral hollow body constructed of a suitable cement mixture, centrifugally tamped, graded according to degree of fineness, with an excess of finer material near the exterior surface, whereby a smoother and more impervious outer surface is obtained, and with the inner surface of said wall also produced by a material of relatively finer texture than the main body.

5. As a new article of manufacture, a hollow body having walls constructed of a suitable cement mixture centrifugally laid, with an inner surface separately laid, centrifugally.

6. As a new article of manufacture, a hollow cement body having a main centrifugally laid wall with the finer portions of the constituent material collected at or near the exterior surface of said walls and having a separately laid inner surface of said walls and having a separately laid inner surface of relatively fine material.

7. As a new article of manufacture, a hollow cement body having its wall made up of a plurality of centrifugally laid layers.

8. The process of producing hollow bodies of cement, which consists in feeding a suitable cement material in plastic state into a molding receptacle, while the latter is rotating and causing said material to pass by centrifugal force outwardly and forcibly against molding surfaces in said receptacle.

9. The process of producing hollow bodies of cement, which consists in feeding a suitable cement material in plastic state into a molding receptacle, while the latter is rotating and causing said material to pass by centrifugal force outwardly and forcibly against molding surfaces in said receptacles, said rotation and feeding continuing simultaneously until the desired thickness of body is built up.

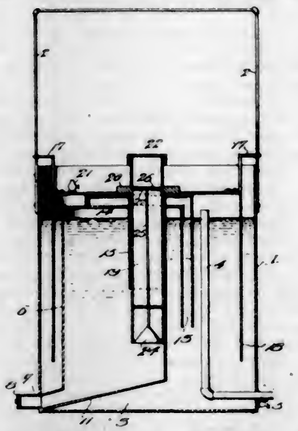
10. The process of producing bodies of cement, which consists in feeding a suitable cement material in plastic state into a revolving receptacle and causing said material to pass by centrifugal force outwardly and forcibly against molding surfaces in said receptacle and continuing the feeding of the material until the desired thickness of material is produced.

11. The process of producing hollow bodies of cement, which consists in introducing a suitable cement material in plastic state into a revolving receptacle and causing said material to pass by centrifugal force outwardly and forcibly against outer molding surfaces in said receptacle, and continuing the feeding of the material until a wall of desired thickness is produced but varying the character of the material fed into the receptacle for the purpose of producing a wall of varying texture.

12. The process of forming hollow bodies of cement, which consists in feeding a suitable composition of granular and binding materials into and throughout the length of a rapidly revolving mold and radially tamping said material by centrifugal force against the inner surface of the outer walls of the mold to impart form to the material.

13. The process of laying plastic material which consists in gradually feeding it into a revolving receptacle and gradually building up the body by the action of centrifugal force, whereby the successive layers develop in an unbroken spiral during the molding of such material.

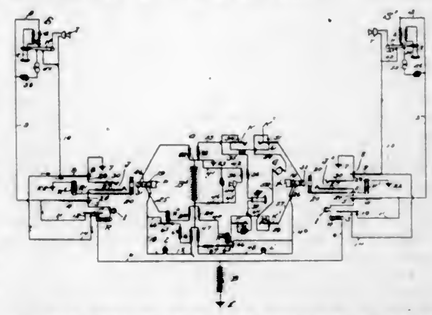
866,713. GAS-GENERATOR. THOMAS J. CHRISTY, St. Louis, Mo. Filed Mar. 12, 1907. Serial No. 362,012.



1. In a device of the class described, a tank adapted to be partially filled with liquid, a receptacle sustained in the tank and having a gas escape tube extended downward below the normal level of the liquid, said receptacle being provided with a cover having a depending guide-tube, a movable bell arranged in the tank and carrying a feed tube extended downward through said guide tube, a gas discharge pipe leading from the tank and opening within the latter at a point above the level of the liquid, means for guiding the bell in its movements, means for closing the feed tube, and a valve for controlling communication between the feed tube and receptacle.

2. In a device of the class described, a tank adapted to receive a quantity of liquid, a generating receptacle sustained in the tank and provided with a discharge tube opening outside of the latter, said receptacle having an inclined bottom leading downward to the discharge tube, a cover for the receptacle provided with a depending guide-tube, a movable bell arranged in the tank and having a feed tube slidably disposed in the said guide-tube, means for closing the feed tube, a gas duct leading from the generator to a point below the surface level of the liquid in the tank, and a discharge pipe leading from the tank and opening within the latter at a point above the surface level of the liquid.

866,714. TELEPHONE SYSTEM. HENRY P. CLAUSEN, Chicago, Ill., assignor to American Electric Telephone Company, Chicago, Ill., a Corporation of New Jersey. Filed Oct. 25, 1901. Serial No. 79,900.



1. In a telephone system, the combination of stations and line connection between the same, a calling device at one of said stations, a calling signal and a battery at the other station, a normally open local circuit including said battery, said battery being normally connected with the line, and a relay for closing said local circuit, the operation of said calling device causing the current of said battery to first flow over the line, the energization of the relay then operating to transfer the current to said local circuit, and a talking circuit including both sides of the calling circuit.

2. In a telephone system, the combination of a substation and a central station, a line circuit connecting said substation and said central station, a calling device at said substation, a calling signal and a relay and a battery at the central station, a normally open local circuit including said battery and relay, said battery being normally connected with the line, said local circuit when closed by the relay operating to completely short-circuit the said substation, so as to permit the operator to answer a call without producing sounds in the receiver at said station, and a talking circuit including both sides of the calling circuit.

3. In a telephone system, the combination of a substation and a central station and suitable line connection between the same, a calling device at said substation, a calling signal at the central station, a relay and a battery at said central station, a normally open local circuit including said battery and relay, said relay and said calling signal being responsive to said calling device, and the local circuit when closed by the relay operating to hold or lock the calling signal in operation until the call is answered by the operator, and a talking circuit including both sides of the calling circuit.

4. In a telephone system, the combination of a sub station and a central station, suitable line connection be-

tween said stations, a hook-switch at the sub station for opening and closing the line circuit, a spring-jack at the central station normally insulated from the line, a normally open short-circuit connection across the two limbs of the line at the central station, a battery normally connected with one limb of the line, a line relay for operating a line signal and arranged to close said normally open short-circuit connection, a normally open local circuit including said relay and battery, and also including said short-circuit connection, a cord-circuit having a plug adapted for insertion in said jack, said cord-circuit being connected with a suitable source of current supply, and a cut-out relay adapted to be energized when the plug is inserted in the jack, said cut out relay when energized establishing connection between the jack and the line, and also operating to break the said local circuit and deënergize said line relay.

5. In a telephone system, a substation and a central station and line connection between the same, a calling signal and a battery for operating the same at the central station, said battery and signal being normally connected with the line, the signal serving as a medium of connection between the battery and line, a calling device at the substation for operating said calling signal, the line being normally open at the substation and a normally open local circuit which closes when a call is sent in and which holds the calling signal in operation until restored by the operator, and a talking circuit including both sides of the calling circuit.

6. In a telephone system, a substation and a central station and normally open line connection between the same, a calling signal consisting of a lamp arranged to light when a call is sent in from the substation, a relay associated with said lamp a suitable device at the substation for causing the operation of said calling signal, a battery at the central station for supplying current to said lamp said battery being normally connected with the line through said relay and lamp, and a local circuit which is closed when a call is sent in and which affords a short circuit of comparatively low and unvarying resistance through which the current from said battery flows for the purpose of lighting said lamp.

7. A telephone system comprising a substation, with the normally open line thereof a battery and relay at the central station, said line normally connected with the battery and relay at the central station, a local circuit normally open but closed by said relay when a call is sent in from said substation, said local circuit when closed operating to exclude the current of said battery from the substation, a calling signal displayed when said local circuit is closed, and a circuit breaking device for opening said local circuit, a metallic talking circuit, and means for using both sides of said talking circuit in calling.

8. A telephone system comprising a substation and a central station with line connection, a battery and a local circuit at the central station, a relay for closing the current of said battery through said local circuit when a call is sent in the battery being normally connected with the line through said relay, and the relay forming a part of both line and local circuits, a calling device at the substation for operating said relay, and a calling signal at the central station associated with said relay and operated by said battery, and a talking circuit including both sides of the calling circuit.

9. In a telephone system, a substation and a central station with complete metallic line connection between the same, a relay and calling signal and a battery for operating the same at the central station, a short-circuiting connection between the line terminals at the central station, said short-circuit connection being normally open, a calling device at the substation adapted to operate said relay and thereby close said short-circuit connection, the said calling signal being also responsive to said calling device a local circuit including the battery and relay and short-circuit connection, the said short-circuiting connection operating to exclude the current of said battery from the substation line as soon as the relay is operated by a call, and a circuit-breaking device for opening said local circuit and thereby restoring said signal.

10. In a telephone system, a substation and a central station and a complete metallic line connection between the same, a calling device at the substation, a lamp and a relay and a battery for operating the same at the central station, and a short-circuit connection between the substation line terminals at the central station, said short-circuiting connection being normally open but closed by said relay when a call is sent in, said relay and short-circuiting connection forming part of a local circuit of comparatively low and unvarying resistance through which the current from said battery flows for the purpose of lighting said lamp, and a circuit-breaking device for opening up said local circuit and restoring or extinguishing said lamp.

11. In a telephone system, a substation and a central station and complete metallic line connection between the same, a lamp signal and a relay and a battery for operating the same at the central station, a short-circuit connection between the line terminals at the central station, said short-circuit connection being normally open, and a calling device at the substation for operating said relay and thereby closing the said short-circuit, a cut-out relay for opening up said short-circuit connection and extinguishing said lamp, a spring jack and a plug and cord circuit with a battery for operating said cut-out relay.

12. In a telephone system, a substation and a central station and a complete metallic line connection between the same, a spring jack and a plug and a cord circuit with a clearing out signal, a complete metallic line circuit which is opened to operate said clearing-out signal, a calling signal and a relay and a battery for operating the same at the central station, a short-circuit connection between the terminals of the line at the central station, said short-circuit connection being normally open a local circuit including the battery and relay and short-circuit connection, and a calling device at the substation for operating said relay and thereby closing said short-circuit connection so as to exclude the signal current from the main line after a call is sent in.

13. In a telephone system, the combination of a substation and a central station, a complete metallic line connection between the same, connection between the line terminals at the central station, said connection being normally open, a signal lamp and a relay and a battery for operating the same located at the central station, a normally open local circuit including said battery and relay and also said normally open connection, a receiver-hook or switch at the substation for operating said relay and thereby closing the said normally open connection between the line terminals, so as to cause current from said battery to flow through said lamp, a spring jack and a plug and a cord-circuit with a clearing out signal, and suitable connections for supplying battery current to the line through the talking strands of said cord-circuit, the complete metallic line circuit being opened to effect the operation of said clearing-out signal.

14. In a telephone system, the combination of a substation and a central station with a complete metallic line connection between the same, a short-circuit connection between the line terminals at the central station, a relay having its armature adapted and arranged to close said short-circuit connection when a call is sent in from said sub-station, a battery which operates the relay when the calling device at the substation is operated, the short-circuit connection when closed forming part of the local circuit for the current of said battery, a calling signal lamp located in said local circuit at a point outside of said short-circuit connection, the latter when closed thereby operating to exclude the current of the signal battery from the main line, a cut-out relay for opening-up said short-circuit and thereby extinguishing said lamp, a spring jack having suitable connection with said cut-out relay, a plug and cord circuit with a battery, a clearing-out signal in said cord circuit, and a complete metallic line circuit which is opened to operate said clearing-out signal.

15. In a telephone system, the combination of a subscriber's line, a hook switch for opening and closing the line circuit, a battery normally connected with the line, a line relay for operating the line signal, a normally open short-circuit connection across the line terminals at the central station, said short-circuit connection being closed by the energization of the line relay when a call is sent in, and a local circuit including said battery relay and short-circuit connection, the said relay being located in a conductor forming part of both the line and local circuits.

16. In a telephone system, a line circuit normally open at one station; a switch or like circuit-changer therefor at said station; a source of current, a relay, and a signal receiving device all at another station, and a normally open associated local circuit at said other station leading through the contact points of said relay and controlled thereby; the said source, relay, and signal device being in a section of conductor forming part of both line and local circuits.

17. The combination in a central battery telephone exchange, of a main circuit normally open at a substation and extending therefrom to a central station; and a circuit-changing switch therefor at said substation; with a normally open associated local circuit, a source of current, a relay responsive to the operation of said circuit-changer and a signal receiving device, all at said central station; the said source, the magnet of said relay, and the signal device being serially connected in the main circuit, and together with contact points of said relay in the associated local circuit also; and the said relay constituting a switch to close said local circuit, and to divert the current of the source from said main circuit through the said local circuit for the operation of said signal device.

18. In a telephone system, the combination of a metallic main circuit normally open at a substation and extending therefrom to a central station; a circuit-changing switch therefor at said substation; and an earth connection normally attached to one main conductor of said metallic circuit at said central station; with a source of current, a cutoff relay controlling the conection of said source with the main circuit conductors; an independent relay responsive to the action of said circuit-changer; and a normally detached auxiliary earth connection for the other main conductor of said metallic circuit leading through and controlled by the contact points of said independent relay; the said source and the magnet of said independent relay being serially connected in the main circuit; and the said auxiliary earth connection being branched from its associated main conductor at a point external to the cutoff relay connection of said source; whereby a short circuit for said source is constituted between the said two earth connections immediately pursuant to the operation of said substation circuit-changer to transmit a call signal, and the consequent operation of said independent relay.

19. In a central battery telephone exchange system, the combination with a main or subscriber's circuit normally open at a substation and extending therefrom to a central station; a telephone receiver and a telephone suspension switch both at said substation, the latter being adapted on the removal of said receiver therefrom to close said circuit and thereby transmit a call signal to said central station; a battery supplying current to said main circuit; switchboard devices for answering call signals transmitted over said main circuit by the operation of said substation switch; and a cutoff relay responsive to the normal operation of said switchboard devices, and acting to sever the normal connection of said battery with said main circuit, all at said central station; of associate switching and signaling devices, also at said central station, comprising an independent relay responsive to the signaling operation of said suspension switch, and a signal-receiving device controlled thereby, both normally connected in series in said main circuit together with said battery; and means actuated by said independent relay for short-circuiting the current of said battery through said relay and signal device when a call signal is transmitted from said substation, and before said cutoff relay is operated by said switchboard call answering devices to sever the connection of said battery with said main circuit.

20. In a central battery telephone exchange system, the combination with a main or subscriber's circuit normally open at a substation and extending therefrom to a central station; a telephone receiver and a telephone suspension switch, both at said substation, the latter being adapted on the removal of said receiver therefrom to close said circuit and thereby transmit a call signal to said central station; a battery supplying current to said main circuit; switchboard devices for answering call signals transmitted over said main circuit by the operation of said substation switch; and a cutoff relay responsive to the normal operation of said switchboard devices, and acting to sever the normal connection of said battery with said main circuit all at said central station; of associate switching and signaling devices, also at said central station, comprising an independent relay, and a signal receiving device controlled thereby both normally connected together with said battery in series in said main circuit; and a normally open local circuit leading through the contact points of said relay, and also containing said battery, relay, and signal device; the said relay being responsive to call signals transmitted by said suspension switch, and adapted when operated to close the said local circuit, and thereby divert the battery current from the main circuit thereto; whereby the said signal device may be operated by current flowing in said local circuit, and maintained in operation by said relay, and whereby abrupt changes in the electrical condition of the main circuit when the battery is disconnected therefrom by the cutoff relay, and sounds produced by such changes in the substation receiver may be prevented.

21. In a telephone system the combination of subscribers' lines, subscribers' hook switches for opening and closing the line circuits, jack springs normally insulated from the line, a battery normally connected with the lines, line relays for operating line signals and adapted to be energized when the line circuits are closed by the said hook switches, normally open connections across the line terminals at the central station, said normally open connections being closed when the said line relays are energized, an operator's cord-circuit provided with plugs adapted for insertion in said jacks, said cord-circuit being connected with a suitable source of current supply, local circuits including said battery and line relays and also including said normally open connections, cut out relays connected and arranged to be energized by the insertion of the said plugs in said jacks, said cut out relays when energized establishing connection between the jacks and the lines, and also operating to break the said local circuits and deenergize said line relays.

22. A telephone system comprising a subscriber's line consisting of two metallic limbs, suitable substation apparatus, suitable central station apparatus, a normally open low resistance connection across the terminals of the two limbs at the central station, and a relay for closing said connection, said connection when closed operating to short-circuit the said sub-station apparatus.

23. In a telephone system, the combination of a subscriber's line, means for closing the line, a three-way spring jack normally insulated from the line, a three-way cord circuit provided with a plug adapted for insertion in said jack, a central source of current supply connected with the line and the cord-circuit, a line relay for operating a calling-signal, a cut-out relay for establishing connection between the jack and the line, said cut-out relay being energized by the insertion of the plug in the jack, a local circuit including said source of current supply, and also including said line relay, said local circuit being broken when the cut out relay is energized, and the local circuit for said cut out relay including said source of current supply and also including the sleeve contacts of the jack and plug and the third strand of the cord-circuit.

24. In a telephone system, the combination of a subscriber's line, a subscriber's hook-switch for opening and closing the line, a spring-jack normally insulated from the line, an operator's cord circuit having a plug adapted for insertion in said jack, a line signal, adapted to be operated when the line circuit is closed, a source of current connected with the cord circuit, a cut-out relay for establishing connection between the line and the jack, said cut-out relay being energized when the plug is inserted in the jack, one terminal of said cut-out relay being permanently connected with said source of current supply, the local cir-

cuit of said cut-out relay including the sleeve contacts of the jack and the plug.

25. In a telephone system, the combination of a subscriber's line, a subscriber's hook switch for opening and closing the line circuit, a three-way spring jack normally insulated from the line, an operator's three-way cord-circuit provided with a plug adapted for insertion in said jack, a battery bridged across the strands of the cord-circuit, a line signal adapted to be operated when a call is sent in and the line-circuit closed, a cut-out relay for restoring said line signal and adapted to establish connections between the jack and the line, said cut-out relay having one terminal connected with a sleeve or testing ring of said jack, and the other terminal of said cut-out relay being permanently connected with said source of current supply.

26. In a telephone system, the combination of a subscriber's line, a subscriber's hook-switch for opening and closing the line circuit, a normally open connection across the line terminals at the central station, a source of current supply normally connected with the line, a line relay adapted to be energized when a call is sent in, and arranged to close said normally open connection, a spring jack and an operator's cord-circuit provided with a plug adapted for insertion in said jack, a supervisory lamp associated with said cord-circuit, a normally open shunt around said lamp adapted to be closed while the plug is inserted in the jack and the line-circuit is closed and a cut-out relay for restoring the line signal and adapted to be energized when the plug is inserted in said jack.

27. In a telephone system, the combination of a subscriber's line, a subscriber's hook switch for opening and closing the line, a spring-jack normally insulated both from the line and the ground, a source of current connected with the operator's cord circuit, a normally open short-circuit connection across the line terminals at the central station, a line relay adapted to respond to calls sent in from the sub-station and arranged to close said normally open short-circuit connection, a line signal operated by said line relay, a cut-out relay for restoring said line signal and adapted to establish connection between the jack and the line, the said cut-out relay being energized by the insertion of the plug in the jack, a supervisory lamp associated with the cord-circuit, and a normally open shunt around said lamp, said shunt being closed while the plug is in the jack and the line circuit closed, but said shunt opening and causing said lamp to glow when the line circuit is broken.

28. In a telephone system, the combination of sub-stations and a central station, complete metallic line connections between said stations, subscriber's hook switches at the sub-stations for opening and closing the lines, spring-jacks at the central station normally insulated from the lines, normally open short-circuit connections across the line terminals at the central station, a source of current normally connected with the lines, line relays adapted to be energized by the closing of the line circuits and to close said normally open short circuit connections, line lamp signals in series with said line relays, an operator's cord circuit provided with plugs adapted for insertion in said jacks, a source of current bridged across the said cord-circuit, supervisory lamps associated with said cord-circuit, normally open shunts around said supervisory lamps, said shunts being closed while the plugs are in the jacks and the line circuits closed, but said shunts being opened when the line circuits are broken, supervisory relays for controlling said shunts, and cut-out relays for restoring the line signals and establishing connection between the jacks and the lines, said cut-out relays being adapted to be energized by the insertion of the plugs in the jacks, each cut-out relay having one terminal permanently connected with the source of current connected with the cord circuit, and the other terminal of each cut-out relay being connected with the sleeve contact or thimble of the adjacent spring-jack.

29. In a telephone system, the combination of a subscriber's line, a line relay, a line signal operated by said relay, means for supplying current through the line circuit for initially energizing said relay, a normally open local circuit associated with said line signal, the coil and the normally separated contacts of said relay being included in said local circuit, the relay coil being also included in the line circuit, and means for calling over both sides of the line circuit.

30. In a telephone system, the combination of a subscriber's line circuit, a local circuit at the central exchange, means for supplying current through said circuits, a line relay responsive to calls and adapted for closing said local circuit, the coil of said relay being connected and arranged to form part of both line and local circuits, and a line lamp located in said local circuit.

31. In a telephone system, a substation and a central station and complete metallic line connection between the same, a lamp signal and a relay and a battery for operating the same at the central station, a short-circuit connection between the line terminals at the central station, said short-circuit connection being normally open, and a calling device at the substation for operating said relay and thereby closing the said short-circuit, a cutting-out relay for opening up said short-circuit and cutting out said battery, a spring jack and a plug and cord circuit with a battery for operating said cut-out relay.

32. The combination with a telephone line and a connection terminal therefor normally not in operative relation with said line, of a connecting plug and cord circuit adapted to coöperate with said line, a supervisory signal controlling magnet and a battery associated with said cord circuit, a switch at the subscriber's station, and means controlled by the insertion of the plug into the jack for placing said jack in operative relation with the line, whereby said signal controlling magnet is placed under the control of the subscriber.

33. The combination with a telephone line and a connection terminal in the form of a spring jack normally not in operative relation with said line, of a cord circuit and connecting plug, supervisory signaling apparatus associated with said circuit, a central source of current associated with said line and circuit to operate said supervisory apparatus, and a relay adapted to be energized from said source to place said jack in operative relation with the line when said plug is inserted into said jack.

34. The combination with a telephone line, of a connection terminal normally disconnected therefrom, a relay for connecting said connection terminal with the line, a central source of current adapted to be connected in the metallic circuit for talking purposes, means for operating said relay from said source when connection is made with the line by current flowing over a path including a portion of the cord circuit, and means for sending a calling-current over the line of the called subscriber only and at the same time maintaining said relay in operated condition.

35. The combination with a telephone-line and a connection terminal therefor normally not in operative relation with the line, of a connecting plug and cord-circuit to coöperate with said line, a supervisory signal controlling magnet and battery associated with said cord-circuit, a telephone transmitter and a switch at the subscriber's station, and means controlled by the insertion of the plug into the jack for placing the jack in operative relation with the line by current flowing over a path including a portion of the cord-circuit, whereby talking current is furnished to said transmitter and said magnet is placed under the control of the subscriber.

36. The combination with a telephone line, and a connection terminal therefor normally not in operative relation with said line, of a connecting plug and cord circuit adapted to coöperate with said line, a supervisory signal controlling magnet and a battery associated with said cord circuit, a switch at the subscriber's station, and means including a contact connected with the cord circuit controlled by the insertion of the plug into the jack for placing said jack in operative relation with the line, whereby said signal controlling magnet is placed under the control of the subscriber.

37. The combination with a telephone line and a connection termifial in the form of a spring jack normally not in operative relation with the line, of a cord circuit and a connecting plug, a central source of current associated with said line and circuit to furnish talking current to the substations, and means including said source of current actuated by the insertion of said plug in the jack and by current flowing over a part of the cord circuit for placing said jack in operative relation with said line.

38. The combination with a telephone line and a connection terminal in the form of a spring jack normally not in operative relation with said line, of a cord circuit and connecting plug, supervisory signaling apparatus associated with said circuit, a central source of current associated with said line and circuit to operate said supervisory apparatus, and a relay adapted to be energized from said source over a path including a portion of the cord circuit to place said jack in operative relation with the line when said plug is inserted in said jack.

39. The combination with a telephone line, and a connection terminal in the form of a spring jack, of a connecting plug and a cord circuit, a central source of current associated with said line and circuit to furnish current for talking purposes, supervisory signal apparatus associated with the cord circuit and operated from said source of current, and a relay actuated from said source by the insertion of said plug into and its withdrawal from said jack for controlling the operative relation of said jack with said line, said relay being actuated by current flowing over a portion of a strand of the cord circuit, a contact of the plug and jack.

40. In a telephone system, a metallic circuit line, a connection terminal in the form of a spring jack normally not in operative relation with said line, a connecting plug and a cord circuit, a signaling device normally in operative relation with said line, a central source of current and supervisory signaling apparatus associated with said line and cord circuit, said source being adapted to furnish current for the operation of said apparatus and for talking purposes, and a relay actuated from said source over a portion of the cord circuit when said plug is inserted in said jack to place said signaling device in inoperative relation with said line and said jack in operative relation with said line.

41. The combination with a telephone line having a limb extending to the central station, of a line contact for said limb normally disconnected therefrom, a cord circuit and connecting plug, supervisory signaling apparatus connected with said circuit, a central source of current associated with said line and circuit to furnish current for talking purposes, and for the operation of said supervisory apparatus, and means actuated over a portion of the cord circuit for automatically connecting said line contact with said limb when the line is in use and for disconnecting the same therefrom when the line is not in use.

42. The combination with a telephone line having a limb extending to the central station, of a signaling device normally connected with said limb, a line contact for said limb normally disconnected therefrom, a cord circuit and connecting plug, supervisory signaling apparatus associated with said cord circuit, a central battery to furnish current for talking purposes and for the operation of said apparatus, and a relay energized from said battery and connected directly to the cord circuit and adapted to disconnect said limb from said signaling device and to connect the same with the line contact when a connection is established with the line.

43. The combination with a telephone line having a limb extending to the central station, of a spring or moving part with which said limb connects at the central office, a signaling device connected with said spring or part in its normal position, a line contact for said limb, a cord circuit and connecting plug, a central battery associated with the said line circuit, supervisory signals also associated with the circuit, said battery being adapted to furnish current to the substations for talking purposes and for operating said supervisory signals, and a relay also energized from said battery over a circuit including a portion of the cord circuit and adapted to disconnect said spring or part from the signaling device and to connect it with the line contact when a connection is established with the line.

44. In a telephone system, the combination of a subscriber's line, a jack having line contacts both of which are normally disconnected from the line, a cord circuit and plug, a relay for connecting the jack with the line, and a battery for energizing said relay over a path including the sleeve of said plug and a strand of said cord circuit.

45. The combination of a subscriber's line, a jack having line contacts both of which are normally disconnected from the line, a relay for establishing connection between the jack and the line, a cord circuit and plug, and a battery for energizing said relay over a path including the sleeve contacts of said jack and plug.

46. The combination of a subscriber's line, a jack normally disconnected from the line, a relay for establishing connection between the line and said jack, a cord circuit and plug, a supervisory relay and a supervisory lamp associated with said cord circuit, and a battery for energizing both of said relays and lighting said lamp, the said first mentioned relay being energized over a path including said lamp.

47. A telephone system comprising a subscriber's line, both sides of which are normally disconnected from the spring jack, an electro magnet for an opening and closing connection between the line and spring jack, and a central source of current and an operator's cord strand included in the energizing circuit of said magnet.

48. The combination with a telephone line and a connection terminal therefor normally not in operative relation with said line, of a connecting plug and cord circuit adapted to coöperate with said line, a supervisory signal controlling magnet and a battery associated with said cord circuit, a switch at the subscriber's station, and means controlled by the insertion of the plug into the jack for placing said jack in operative relation with the line, whereby said signal controlling magnet is placed under the control of the subscriber, together with a supervisory or disconnecting circuit including both sides of said line in series, and a substation switch for opening said supervisory circuit to give a signal.

49. The combination with a telephone line and a connection terminal in the form of a spring jack normally not in operative relation with said line, of a cord circuit and connecting plug, supervisory signaling apparatus associated with said circuit, a central source of current associated with said line and circuit to operate said supervisory apparatus, and a relay adapted to be energized from said source to place said jack in operative relation with the line when said plug is inserted into said jack, together with a supervisory or disconnecting circuit including both sides of said line in series, and a substation switch for opening said supervisory circuit to give a signal.

50. In a telephone system, a subscriber's line, a line relay, a central source of electric current, a normally open line circuit for energizing said relay, and a normally open local circuit controlled by the said relay and including an energizing coil thereof, whereby the said local circuit is substituted for the said line circuit when the relay is energized, each circuit including said source of current, and the said apparatus thus provided including relay contacts controlling said line circuit, and an armature for operating said contacts.

51. In a telephone system, the combination of stations and line connection between the same, a calling device at one of said stations, a calling signal and a battery at the other station, a normally open local circuit including said battery, said battery being normally connected with the line, and a relay for closing said local circuit, the operation of said calling device causing the current of said battery to first flow over the line, and the energization of the relay then operating to transfer the current to said local circuit, a normally disconnected jack, a relay individual to the line and adapted when energized to connect the jack therewith, an operator's connecting cord, and a local energizing circuit for said individual relay, said energizing circuit including a strand of said connecting cord.

52. In a telephone system, the combination of a substation and a central station, a line circuit connecting said substation and said central station, a calling device

at said substation, a calling signal and a relay and a battery at the central station, a normally open local circuit including said battery and relay, said battery being normally connected with the line, said local circuit when closed by the relay operating to completely short-circuit the said substation, so as to permit the operator to answer a call without producing sounds in the receiver at said station, a normally disconnected jack, a relay individual to the line and adapted when energized to connect the jack therewith, an operator's connecting cord, and a local energizing circuit for said individual relay, said energizing circuit including a strand of said connecting cord.

53. In a telephone system, the combination of a substation and a central station and suitable line connection between the same, a calling device at said substation, a calling signal at the central station, a relay and a battery at said central station, a normally open local circuit including said battery and relay, said relay and said calling signal being responsive to said calling device, and the local circuit when closed by the relay operating to hold or lock the calling signal in operation until the call is answered by the operator, a normally disconnected jack, a relay individual to the line and adapted when energized to connect the jack therewith, an operator's connecting cord, and a local energizing circuit for said individual relay, said energizing circuit including a strand of said connecting cord.

54. In a telephone system, a substation and a central station and line connection between the same, a calling signal and a battery for operating the same at the central station, said battery and signal being normally connected with the line, the signal serving as medium of connection between the battery and line, a calling device at the substation for operating said calling signal, the line being normally open at the substation, and a normally open local circuit which closes when a call is sent in and which holds the calling signal in operation until restored by the operator, a normally disconnected jack, a relay individual to the line and adapted when energized to connect the jack therewith, an operator's connecting cord, and a local energizing circuit for said individual relay, said energizing circuit including a strand of said connecting cord.

55. In a telephone system, a substation and a central station and normally open line connection between the same, a calling signal consisting of a lamp arranged to light when a call is sent in from the substation, a relay associated with said lamp, a suitable device at the substation for causing the operation of said calling signal, a battery at the central station for supplying current to said lamp, said battery being normally connected with the line through said relay and lamp, and a local circuit which is closed when a call is sent in and which affords a short circuit of comparatively low and unvarying resistance through which the current from said battery flows for the purpose of lighting said lamp, a normally disconnected jack, a relay individual to the line and adapted when energized to connect the jack therewith, an operator's connecting cord, and a local energizing circuit for said individual relay, said energizing circuit including a strand of said connecting cord.

56. In a telephone system, a substation and a central station and a complete metallic line connection between the same, a spring jack and a plug and a cord circuit with a clearing-out signal, a complete metallic line circuit which is opened to operate said clearing-out signal, a calling signal and a relay and a battery for operating the same at the central station, a short-circuit connection between the terminals of the line at the central station, said short-circuit connection being normally open, a local circuit including the battery and relay and short-circuit connection, and a calling device at the substation for operating said relay and thereby closing said short-circuit connection to exclude the signal current from the main line after a call is sent in, a normally disconnected jack, a relay individual to the line and adapted when energized to connect the jack therewith, an operator's connecting cord, and a local energizing circuit for said individual relay, said energizing circuit including a strand of said connecting cord.

57. In a telephone system, a line circuit normally open at one station; a switch or like circuit-changer therefor at said station; a source of current, a relay, and a signal receiving device all at another station; and a normally open associated local circuit at said other station leading through the contact points of said relay and controlled thereby; the said source, relay, and signal device being in a section of conductor forming part of both line and local circuits; a normally disconnected jack; a relay individual to the line and adapted when energized to connect the jack therewith; an operator's connecting cord, and a local energizing circuit for said individual relay, said energizing circuit including a strand of said connecting cord.

58. A telephone system comprising a substation and a central station with line connection, a battery and a local circuit at the central station, a relay for closing the current of said battery through said local circuit when a call is sent in, the battery being normally connected with the line through said relay, and the relay forming a part of both line and local circuits, a calling device at the substation for operating said relay, and a calling signal at the central station associated with said relay and operated by said battery, a normally disconnected jack, a relay individual to the line and adapted when energized to connect the jack therewith, an operator's cord, and a local energizing circuit for said individual relay, said energizing circuit including a strand of said connecting cord.

59. In a telephone system, the combination of a subscriber's line, a hook switch for opening and closing the line circuit, a battery normally connected with the line, a line relay for operating the line signal, a normally open short-circuit connection across the line terminals at the central station, said short-circuit connection being closed by the energization of the line relay when a call is sent in, and a local circuit including said battery relay and short-circuit connection, the said relay being located in a conductor forming part of both the line and local circuits, a normally disconnected jack, a relay individual to the line and adapted when energized to connect the jack therewith, an operator's connecting cord, and a local energizing circuit for said individual relay, said energizing circuit including a strand of said connecting cord.

60. In a telephone system, the combination of a subscriber's line, a line relay, a line signal operated by said relay, means for supplying current through the line circuit for energizing said relay, and a normally open local circuit associated with said line signal, the coil and normally separated contacts of said relay being included in said local circuit, and the relay coil being also included in the line circuit, a normally disconnected jack, a relay individual to the line and adapted when energized to connect the jack therewith, an operator's connecting cord, and a local energizing circuit for said individual relay, said energizing circuit including a strand of said connecting cord.

61. In a telephone system, the combination of a subscriber's line circuit, a local circuit at the central exchange, means for supplying current through said circuits, a line relay responsive to calls and adapted for closing said local circuit, the coil of said relay being connected and arranged to form part of both line and local circuits, and a line lamp located in said local circuit, a normally disconnected jack, a relay individual to the line and adapted when energized to connect the jack therewith, an operator's connecting cord, and a local energizing circuit for said individual relay, said energizing circuit including a strand of said connecting cord.

62. A telephone system comprising a subscriber's line consisting of two metallic limbs, suitable substation apparatus, suitable central station apparatus, a normally open low resistance connection across the terminals of the two limbs at the central station, and a relay for closing said connection, said connection when closed operating to short-circuit the said substation apparatus, a normally disconnected jack, a relay individual to the line and adapted when energized to connect the jack therewith, an operator's connecting cord, and a local energizing circuit for said individual relay, said energizing circuit including a strand of said connecting cord.

63. In a telephone system, the combination of stations and line connection between the same, a calling device at one of said stations, a calling signal and a battery at the other station, a normally open local circuit including said battery, said battery being normally connected with the line, and a relay for closing said local circuit, the operation of said calling device causing the current of said battery to first flow over the line, and the energization of the relay then operating to transfer the current to said local circuit, a supervisory relay, and a complete metallic line circuit for energizing said supervisory relay.

64. In a telephone system, the combination of a substation and a central station, a line circuit connecting said substation and said central station, a calling device at said substation, a calling signal and a relay and a battery at the central station, a normally open local circuit including said battery and relay, said battery being normally connected with the line, said local circuit when closed by the relay operating to completely short-circuit the said substation, so as to remove battery current therefrom and permit the operator to answer a call without producing sounds in the receiver at said station, a supervisory relay, a complete metallic line circuit for energizing said supervisory relay, and a talking circuit including said calling device.

65. In a telephone system, the combination of a substation and a central station and suitable line connection between the same, a calling device at said substation, a talking circuit including said calling device a calling signal at the central station, a relay and a battery at said central station, a normally open local circuit including said battery and relay, said relay and said calling signal being responsive to said calling device, and the local circuit when closed by the relay operating to hold or lock the calling signal in operation until the call is answered by the operator, a supervisory relay, and a complete metallic line circuit for energizing said supervisory relay, from said battery.

66. In a telephone system, a substation and a central station and line connection between the same, a calling signal and a battery for operating the same at the central station, said battery and signal being normally connected with the line, the signal serving as medium of connection between the battery and line, a calling device at the substation for operating said calling signal, the line being normally open at the substation, and a normally open local circuit which closes when a call is sent in and which holds the calling signal in operation until restored by the operator, a supervisory relay, and a complete metallic line circuit for energizing said supervisory relay.

67. In a telephone system, a substation and a central station and normally open line connection between the same, a calling signal consisting of a lamp arranged to light when a call is sent in from the substation, a relay associated with said lamp, a suitable device at the substation for causing the operation of said calling signal, a battery at the central station for supplying current to said lamp, said battery being normally connected with the line through said relay and lamp, and a local circuit which is closed when a call is sent in and which affords a short circuit of comparatively low and unvarying resistance through which the current from said battery flows for the purpose of lighting said lamp, a supervisory relay, and a complete metallic line circuit for energizing said supervisory relay.

68. In a telephone system, a substation and a central station and a complete metallic line connection between the same, a spring jack and a plug and a cord circuit with a clearing-out signal, a complete metallic line circuit which is opened to operate said clearing-out signal, a calling signal and a relay and a battery for operating the same at the central station, a short-circuit connection between the terminals of the line at the central station, said short-circuit connection being normally open, a local circuit including the battery and relay and short-circuit connection, and a calling device at the substation for operating said relay and thereby closing said short-circuit connection so as to exclude the signal current from the main line after a call is sent in, a supervisory relay, and a complete metallic line circuit for energizing said supervisory relay.

69. In a telephone system, a line circuit normally open at one station; a switch or like circuit-changer therefor at said station; a source of current, a relay, and a signal receiving device all at another station; and a normally open associated local circuit at said other station leading through the contact points of said relay and controlled thereby; the said source, relay, and signal device being in a section of conductor forming part of both line and local circuits; a supervisory relay, and a complete metallic line circuit for energizing said supervisory relay.

70. A telephone system comprising a substation and a central station with line connection, a battery and a local circuit at the central station, a relay for closing the current of said battery through said local circuit when a call is sent in, the battery being normally connected with the line through a winding of said relay, and the relay winding and battery forming a part of both line and local circuits, a calling device at the substation for operating said relay, and a calling signal at the central station associated with said relay and operated by said battery, a supervisory relay, and a complete metallic line circuit for energizing said supervisory relay.

71. In a telephone system, the combination of a subscriber's line, a hook switch for opening and closing the line circuit, a battery normally connected with the line, a line relay for operating the line signal, a normally open short-circuit connection across the line terminals at the central station, said short-circuit connection being closed by the energization of the line relay when a call is sent in, and a local circuit including said battery relay and short-circuit connection, the said relay being located in a conductor forming part of both the line and local circuits, a supervisory relay, and a complete metallic line circuit for energizing said supervisory relay.

72. In a telephone system, the combination of a subscriber's line, a line relay, a line signal operated by said relay, means for supplying current through the line circuit for energizing said relay, and a normally open local circuit associated with said line signal, the coil and the normally separated contacts of said relay being included in said local circuit, and the relay coil being also included in the line circuit, a supervisory relay, and a complete metallic line circuit for energizing said supervisory relay.

73. In a telephone system, the combination of a subscriber's line circuit, a local circuit at the central exchange, means for supplying current through said circuits, a line relay responsive to calls and adapted for closing said local circuit, the coil of said relay being connected and arranged to form part of both line and local circuits, and a line lamp located in said local circuit, a supervisory relay, and a complete metallic line circuit for energizing said supervisory relay.

74. A telephone system comprising a subscriber's line consisting of two metallic limbs, suitable substation apparatus, suitable central station apparatus, a normally open low resistance connection across the terminals of the two limbs at the central station, and a relay for closing said connection, said connection when closed operating to short-circuit the said substation apparatus, a supervisory relay, and a complete metallic line circuit for energizing said supervisory relay.

75. In a telephone system, the combination of stations and line connection between the same, a calling device at one of said stations, a calling signal and a battery at the other station, a normally open local circuit including said battery, said battery being normally connected with both sides of the line, and a relay for closing said local circuit, the operation of said calling device causing the current of said battery to first flow over both sides of the line, and the energizing of the relay then operating to transfer the current to said local circuit, an operator's connecting cord, and a supervisory signal under the control of the subscriber when the cord is connected with the line.

76. In a telephone system, the combination of a substation and a central station, a line connecting said substation and said central station, a calling device at said substation, a calling signal and a relay and a battery at the central station, a normally open local circuit including said battery and relay, a line circuit closed while the subscriber is waiting for the operator to answer, and including the

battery in series with the receiver at the substation, said battery being normally connected with the line, said local circuit when closed by the relay operating to completely shunt or short-circuit the said substation, to remove battery current therefrom and permit the operator to answer without producing sounds in the receiver at said station, an operator's connecting cord, and a supervisory signal under the control of the subscriber when the cord is connected with the line.

77. In a telephone system, the combination of a substation and a central station and suitable line connection between the same, a calling device at said substation, a calling signal at the central station, a relay and a battery at said central station, a normally open local circuit including said battery and relay, said relay and said calling signal being responsive to said calling device, and the local circuit when closed by the relay operating to hold or lock the calling signal in operation until the call is answered by the operator, an operator's connecting cord, a talking circuit including both sides of the calling circuit, and a supervisory signal under the control of the subscriber when the cord is connected with the line.

78. In a telephone system, a substation and a central station and line connection between the same, a calling signal and a battery for operating the same at the central station, said battery being normally connected with both sides of the line, the signal serving as medium of connection between the battery and one side of line, a calling device at the substation for operating said calling signal, the line being normally open at the calling device of the substation, and a normally open local circuit which closes in parallel with the line when a call is sent in and which holds the calling signal in operation until restored by the operator, an operator's connecting cord, and a supervisory signal under the control of the subscriber when the cord is connected with the line.

79. In a telephone system, a substation and a central station and normally open line connection between the same, a calling signal consisting of a lamp arranged to light when a call is sent in from the substation, a relay associated with said lamp, a suitable device at the substation for causing the operation of said calling signal, a battery at the central station for supplying current to said lamp, said battery being normally connected with the line through said relay and lamp, and a local circuit which is closed when a call is sent in and which affords a short circuit of comparatively low and unvarying resistance through which the current from said battery flows for the purpose of lighting said lamp, an operator's connecting cord, and a supervisory signal under the control of the subscriber when the cord is connected with the line.

80. In a telephone system, a substation and a central station and a complete metallic line connection between the same, a spring jack and a plug and a cord circuit with a clearing-out signal, a complete metallic line circuit which is opened to operate said clearing-out signal, a calling signal and a relay and a battery for operating the same at the central station, a short-circuit connection between the terminals of the line at the central station, said short-circuit connection being normally open, a local circuit including the battery and relay and short-circuit connection, and a calling device at the substation for operating said relay and thereby closing said short-circuit connection so as to exclude the signal current from the main line after a call is sent in, an operator's connecting cord, and a supervisory relay under the control of the subscriber when the cord is connected with the line.

81. In a telephone system, a line circuit normally open at one station; a switch or like circuit-changer therefor at said station; a source of current, a relay, and a signal receiving device all at another station; and a normally open associated local circuit at said other station leading through the contact points of said relay and controlled thereby; the said source, relay, and signal device being in a section of conductor forming part of both line and local circuits; an operator's connecting cord; and a supervisory signal under the control of the subscriber when the cord is connected with the line.

82. A telephone system comprising a substation and a central station with line connection, a battery and a local circuit at the central station, a relay for closing the current of said battery through said local circuit when a call is sent in, the battery being normally connected with the line through a winding of said relay, and the relay winding and battery forming a part of both line and local circuits, a calling device at the substation for operating said relay, and a calling signal at the central station controlled by said relay and operated by said battery, an operator's connecting cord, a subscriber's transmitter in the line energizing circuit of said relay, and a supervisory signal under the control of the subscriber when the cord is connected with the line.

83. In a telephone system, the combination of a subscriber's line, a hook switch for opening and closing the line circuit, a battery normally connected with the line, a line relay for operating the line signal, a normally open short-circuit connection across the line terminals at the central station, said short-circuit connection being closed by the energization of the line relay when a call is sent in, and a local circuit including said battery relay and short-circuit connection, the said relay being located in a conductor forming part of both the line and local circuits, an operator's connecting cord, and a supervisory signal under the control of the subscriber when the cord is connected with the line.

84. In a telephone system, the combination of a subscriber's line, a transmitter a line relay, a line signal operated by said relay, means for supplying current through the transmitter and line circuit for initially energizing said relay, and a normally open local circuit associated with said line signal, the coil and the normally separated contacts of said relay being included in said local circuit, and the relay coil being also included in the line circuit in series with said transmitter, an operator's connecting cord, and a supervisory signal only under the control of the subscriber when the cord is connected with the line.

85. In a telephone system, the combination of a subscriber's line circuit, a local circuit at the central exchange, means for supplying current through said circuits, a line relay responsive to calls and adapted for closing said local circuit, the coil of said relay being connected and arranged to form part of both line and local circuits, and a line lamp located in said local circuit, an operator's connecting cord, and a supervisory signal under the control of the subscriber when the cord is connected with the line.

86. A telephone system comprising a subscriber's line consisting of two metallic limbs, suitable substation apparatus, suitable central station apparatus, a normally open low resistance connection across the terminals of the two limbs at the central station, and a relay for closing said connection, said connection when closed operating to short-circuit the said substation apparatus, an operator's connecting cord, and a supervisory signal under the control of the subscriber when the cord is connected with the line.

87. In a telephone system, the combination of stations and line connection between the same, a calling device at one of said stations, a calling signal and a battery at the other station, a normally open local circuit including said battery, said battery being normally connected with the line, and a relay for closing said local circuit, the operation of said calling device causing the current of said battery to first flow over the line, and the energization of the relay then operating to transfer the current to said local circuit, a subscriber's calling circuit for getting the attention of the operator, said circuit including a winding of said relay and both sides of the line in series.

88. In a telephone system, the combination of a substation and a central station, a line circuit connecting said substation and said central station, a calling device at said substation, a calling signal and a relay and a battery at the central station, a normally open bridge of practically no resistance across the line at the central station, a normally open local circuit including said battery and relay and bridge, said battery being normally connected with the line, said local circuit when closed by the relay operating to completely short-circuit the said substation, so as to take battery current away from the substation and permit the operator to answer a call without producing sounds in the receiver at said station, a subscriber's calling circuit for getting the attention of the operator, said circuit including both sides of the line in series.

89. In a telephone system, the combination of a substation and a central station and suitable line connection between the same, a calling device at said substation, a calling signal at the central station, a relay and a battery at said central station, a normally open local circuit including said battery and relay, said relay and said calling signal being responsive to said calling device, and the local circuit when closed by the relay operating to hold or lock the calling signal in operation until the call is answered by the operator, a subscriber's calling circuit for getting the attention of the operator, said circuit including a winding of said relay and both sides of the line in series, a spring jack allotted to the calling subscriber, and a local circuit extending through the jack to retire the line signal when the operator answers.

90. In a telephone system, a substation and a central station and line connection between the same, a calling signal and a battery for operating the same at the central station, said battery and signal being normally connected with the line, the signal serving as medium of connection between the battery and line, a calling device at the substation for operating said calling signal, the line being normally open at the substation, and a normally open local circuit which closes when a call is sent in and which holds the calling signal in operation until restored by the operator, a subscriber's calling circuit for getting the attention of the operator, said circuit including both sides of the line in series.

91. In a telephone system, a substation and a central station and normally open line connection between the same, a calling signal consisting of a lamp arranged to light when a call is sent in from the substation, a relay associated with said lamp, a suitable device at the substation for causing the operation of said calling signal, a battery at the central station for supplying current to said lamp, said battery being normally connected with the line through said relay and lamp, and a local circuit which is closed when a call is sent in and which affords a short circuit of comparatively low and unvarying resistance through which the current from said battery flows for the purpose of lighting said lamp, a subscriber's calling circuit for getting the attention of the operator, said circuit including both sides of the line in series.

92. In a telephone system, a substation and a central station and a complete metallic line connection between the same, a spring jack and a plug and a cord circuit with a clearing-out signal, a complete metallic line circuit which is opened to operate said clearing-out signal, a calling signal and a relay and a battery for operating the same at the central station, a short-circuit connection between the terminals of the line at the central station, said short-circuit connection being normally open, a local circuit including the battery and relay and short-circuit connection, and a calling device at the substation for operating said relay and thereby closing said short-circuit connection so as to exclude the signal current from the main line after a call is sent in, a subscriber's calling circuit for getting the attention of the operator, said circuit including both sides of the line in series.

93. In a telephone system, a line circuit normally open at one station; a switch or like circuit-changer therefor at said station; a source of current, a relay, and a signal receiving device all at another station; and a normally open associated local circuit at said other station leading through the contact points of said relay and controlled thereby; the said source, relay, and signal device being in a section of conductor forming part of both line and local circuits; a subscriber's calling circuit for getting the attention of the operator, said circuit including both sides of the line in series.

94. A telephone system comprising a substation and a central station with line connection, a battery and a local circuit at the central station, a relay for closing the current of said battery through said local circuit when a call is sent in, the battery being normally connected with one side of the line through a winding of said relay, and the relay winding forming a part of both line and local circuits, a calling device at the substation for operating said relay, a visual calling signal at the central station associated with said relay and operated by said battery, and a subscriber's calling circuit for getting the attention of the operator, said circuit including both sides of the line in series.

95. In a telephone system, the combination of a subscriber's line, a hook switch for opening and closing the line circuit, a battery normally connected with the line, a line relay for operating the line signal, a normally open short-circuit connection across the line terminals at the central station, said short-circuit connection being closed by the energization of the line relay when a call is sent in, and a local circuit including said battery relay and short-circuit connection, the said relay being located in a conductor forming part of both the line and local circuits, a subscriber's calling circuit for getting the attention of the operator, said circuit including both sides of the line in series.

96. In a telephone system, the combination of a subscriber's line, a line relay, a line signal operated by said relay, means for supplying current through the line circuit for energizing said relay, and a normally open local circuit associated with said line signal, the coil and the normally separated contacts of said relay being included in said local circuit, and the relay coil being also included in the line circuit, a subscriber's calling circuit for getting the attention of the operator, said circuit including both sides of the line in series.

97. In a telephone system, the combination of a subscriber's line circuit, a local circuit at the central exchange, means for supplying current through said circuits, a line relay responsive to calls and adapted for closing said local circuit, the coil of said relay being connected and arranged to form part of both line and local circuits, and a line lamp located in said local circuit, a subscriber's calling circuit for getting the attention of the operator, said circuit including both sides of the line in series.

98. A telephone system comprising a subscriber's line consisting of two metallic limbs, suitable substation apparatus, suitable central station apparatus, a normally open low resistance connection across the terminals of the two limbs at the central station, and a relay for closing said connection, said connection when closed operating to short-circuit the said substation apparatus, a subscriber's calling circuit for getting the attention of the operator, said circuit including both sides of the line in series.

99. The combination with a telephone line and a connection terminal therefor normally not in operative relation with the line, of a connecting plug and cord circuit to coöperate with said line, a supervisory signal controlling magnet and a battery associated with said cord circuit, a telephone transmitter and a switch at the subscriber's station, and means controlled by the insertion of the plug into the jack for placing the jack in operative relation with the line, whereby talking current is furnished to said transmitter and said magnet is placed under the control of the subscriber, a normally open low resistance connection bridged across the line at the central station, and means for closing said connection to short-circuit or shunt the line when the subscriber calls.

100. The combination with a telephone line and a connection terminal therefor normally not in operative relation with said line, of a connecting plug and cord circuit adapted to coöperate with said line, a supervisory signal controlling magnet and a battery associated with said cord circuit, a switch at the subscriber's station, and means controlled by the insertion of the plug into the jack for placing said jack in operative relation with the line, whereby said signal controlling magnet is placed under the control of the subscriber, a normally open low resistance connection bridged across the line at the central station, and means for closing said connection to short-circuit or shunt the line when the subscriber calls.

101. The combination with a telephone line, and a con-

nection terminal in the form of a spring jack normally not in operative relation with the line, of a cord circuit and a connecting plug, a central source of current associated with said line and circuit to furnish talking current to the substations, and means including said source of current actuated by the insertion of said plug in the jack for placing said jack in operative relation with said line, a normally open low resistance connection bridged across the line at the central station, and means for closing said connection to short-circuit or shunt the line when the subscriber calls.

102. The combination with a telephone line and a connection terminal in the form of a spring jack normally not in operative relation with said line, of a cord circuit and connecting plug, supervisory signaling apparatus associated with said circuit, a central source of current associated with said line and circuit to operate said supervisory apparatus, and a relay adapted to be energized from said source to place said jack in operative relation with the line when said plug is inserted into said jack, a normally open low resistance connection bridged across the line at the central station, and means for closing said connection to short-circuit or shunt the line when the subscriber calls.

103. The combination with a telephone line and a connection terminal in the form of a spring jack, of a connecting plug and a cord circuit, a central source of current associated with said line and circuit to furnish current for talking purposes, supervisory signal apparatus associated with the cord circuit and operated from said source of current, and a relay actuated from said source by the insertion of said plug into and its withdrawal from said jack for controlling the operative relation of said jack with said line, a normally open low resistance connection bridged across the line at the central station, and means for closing said connection to short-circuit or shunt the line when the subscriber calls.

104. In a telephone system, a metallic circuit line, a connection terminal in the form of a spring jack normally not in operative relation with said line, a central source of current and supervisory signaling apparatus associated with said line and cord circuit, said source being adapted to furnish current for the operation of said apparatus and for talking purposes, and a relay actuated from said source when said plug is inserted in said jack to place said signaling device in inoperative relation with said line and said jack in operative relation with said line, a normally open low resistance connection bridged across the line at the central station, and means for closing said connection to short-circuit or shunt the line when the subscriber calls.

105. The combination with a telephone line having a limb extending to the central station, of a line contact for said limb normally disconnected therefrom, a cord circuit and connecting plug, supervisory signaling apparatus connected with said circuit, a central source of current associated with said line and circuit to furnish current for talking purposes and for the operation of said supervisory apparatus, and means for automatically connecting said line contact with said limb when the line is in use and for disconnecting the same therefrom when the line is not in use, a normally open low resistance connection bridged across the line at the central station, and means for closing said connection to short-circuit or shunt the line when the subscriber calls.

106. The combination with a telephone line having a limb extending to the central station, of a signaling device normally connected with said limb, a line contact for said line normally disconnected therefrom, a cord circuit and connecting plug, supervisory signaling apparatus associated with said cord circuit, a central battery to furnish current for talking purposes and for the operation of said apparatus, and a relay energized from said battery adapted to disconnect said limb from said signaling device and to connect the same with the line contact when a connection is established with the line, a normally open low resistance connection bridged across the line at the central station, and means for closing said connection to short-circuit or shunt the line when the subscriber calls.

107. The combination with a telephone line having a limb extending to the central station, of a spring or moving part with which said limb connects at the central office, a signaling device connected with said spring or part in its normal position, a line contact for said limb, a cord circuit and connecting plug, a central battery associated with the said line circuit, supervisory signals also associated with the circuit, said battery being adapted to furnish current to the substations for talking purposes and for operating said supervisory signals, and a relay also energized from said battery adapted to disconnect said spring or part from the signaling device and to connect it with the line contact when a connection is established with the line, a normally open low resistance connection bridged across the line at the central station, and means for closing said connection to short-circuit or shunt the line when the subscriber calls.

108. The combination with a telephone line and a connection terminal therefor normally not in operative relation with the line, of a connecting plug and cord circuit to coöperate with said line, a supervisory signal controlling magnet and a battery associated with said cord circuit, a telephone transmitter and a switch at the subscriber's station, and means controlled by the insertion of the plug into the jack for placing the jack in operative relation with the line, whereby talking current is furnished to said transmitter and said magnet is placed under the control of the subscriber, a local circuit for short-circuiting or shunting the line when the subscriber calls, and means for opening said local circuit when a connection is made with the line.

109. The combination with a telephone line and a connection terminal therefor normally not in operative relation with said line, of a connecting plug and cord circuit adapted to coöperate with said line, a supervisory signal controlling magnet and a battery associated with said cord circuit, a switch at the subscriber's station, and means controlled by the insertion of the plug into the jack for placing said jack in operative relation with the line, whereby said signal controlling magnet is placed under the control of the subscriber, a local circuit for short-circuiting or shunting the line when the subscriber calls, and means for opening said local circuit when a connection is made with the line.

110. The combination with a telephone line, and a connection terminal in the form of a spring jack normally not in operative relation with the line, of a cord circuit and a connecting plug, a central source of current associated with said line and circuit to furnish talking current to the substations, and means including said source of current actuated by the insertion of said plug in the jack for placing said jack in operative relation with said line, a local circuit for short-circuiting or shunting the line when the subscriber calls, and means for opening said local circuit when a connection is made with the line.

111. The combination with a telephone line and a connection terminal in the form of a spring jack normally not in operative relation with said line, of a cord circuit and connecting plug, supervisory signaling apparatus associated with said circuit, a central source of current associated with said line and circuit to operate said supervisory apparatus, and a relay adapted to be energized from said source to place said jack in operative relation with the line when said plug is inserted into said jack, a local circuit for short-circuiting or shunting the line when the subscriber calls, and means for opening said local circuit when a connection is made with the line.

112. The combination with a telephone line and a connection terminal in the form of a spring jack, of a connecting plug and a cord circuit, a central source of current associated with said line and circuit to furnish current for talking purposes, supervisory signal apparatus associated with the cord circuit and operated from said source of current, and a relay actuated from said source by the insertion of said plug into and its withdrawal from said jack for controlling the operative relation of said jack with the line, a local circuit for short-circuiting or shunting the line when the subscriber calls, and means for opening said local circuit when a connection is made with the line.

113. In a telephone system, a metallic circuit line, a connection terminal in the form of a spring jack normally not in operative relation with said line, a connecting plug and a cord circuit, a signaling device normally in operative relation with said line, a central source of current and supervisory signaling apparatus associated with said line and cord circuit, said source being adapted to furnish current for the operation of said apparatus and for talking purposes, and a relay actuated from said source when said plug is inserted in said jack to place said signaling device in inoperative relation with said line and said jack in operative relation with said line, a local circuit for short-circuiting or shunting the line when the subscriber calls, and means for opening said local circuit when a connection is made with the line.

114. The combination with a telephone line having a limb extending to the central station, of a line contact for said limb normally disconnected therefrom, a cord circuit and connecting plug, supervisory signaling apparatus connected with said circuit, a central source of current associated with said line and circuit to furnish current for talking purposes and for the operation of said supervisory apparatus, and means for automatically connecting said line contact with said limb when the line is in use and for disconnecting the same therefrom when the line is not in use, a local circuit for short-circuiting or shunting the line when the subscriber calls, and means for opening said local circuit when a connection is made with the line.

115. The combination with a telephone line having a limb extending to the central station, of a signaling device normally connected with said limb, a line contact for said line normally disconnected therefrom, a cord circuit and connecting plug, supervisory signaling apparatus associated with said cord circuit, a central battery to furnish current for talking purposes and for the operation of said apparatus, and a relay energized from said battery adapted to disconnect said limb from said signaling device and to connect the same with the line contact when a connection is established with the line, a local circuit for short-circuiting or shunting the line when the subscriber calls, and means for opening said local circuit when a connection is made with the line.

116. The combination with a telephone line having a limb extending to the central station, of a spring or moving part with which said limb connects at the central office, a signaling device connected with said spring or part in its normal position, a line contact for said limb, a cord circuit and connecting plug, a central battery associated with the said line circuit, supervisory signals also associated with the circuit, said battery being adapted to furnish current to the substations for talking purposes and for operating said supervisory signals, and a relay also energized from said battery, adapted to disconnect said spring or part from the signaling device and to connect it with the line contact when a connection is established with the line, a local circuit for short-circuiting or shunting the line when the subscriber calls, and means for opening said local circuit when a connection is made with the line.

117. The combination with a telephone line and a connection terminal therefor normally not in operative relation with the line, of a connecting plug and cord circuit to coöperate with said line, a supervisory signal controlling magnet and a battery associated with said cord circuit, a telephone transmitter and a switch at the subscriber's station, and means including a local circuit controlled by the insertion of the plug into the jack for placing the jack in operative relation with the line when the subscriber calls, whereby talking current from said battery is furnished to said transmitter and said magnet is placed under the control of the calling subscriber, a subscriber's bell or ringer, a source of ringing current adapted to be bridged across the line to operate said bell or ringer, and a ringing circuit including both sides of the line.

118. The combination with a telephone line and a connection terminal therefor normally not in operative relation with said line, of a connecting plug and cord circuit adapted to coöperate with said line, a supervisory signal controlling magnet and a battery for energizing the same associated with said cord circuit, a switch at the subscriber's station, and means controlled by the insertion of the plug into the jack for placing said jack in operative relation with the line, whereby said signal controlling magnet and battery are placed under the control of the subscriber, a subscriber's bell or ringer, a source of ringing current adapted to be bridged across the line to operate said bell or ringer, and a ringing circuit including both sides of the line.

119. The combination with a telephone line, and a connection terminal in the form of a spring jack normally not in operative relation with the line, of a cord circuit and a connecting plug, a central source of current associated with said line and circuit to furnish talking current to the substation, means independent of said line, including said source of current, actuated by the insertion of said plug in the jack, for placing said jack in operative relation with said line, when the operator answers a call, a subscriber's bell or ringer, a source of ringing current adapted to be bridged across the line to operate said bell or ringer, and a ringing circuit including both sides of the line.

120. The combination with a telephone line and a connection terminal in the form of a spring jack normally not in operative relation with said line, of a cord circuit and connecting plug, supervisory signaling apparatus associated with said circuit, a central source of current associated with said line and circuit to operate said supervisory apparatus, and a relay adapted to be energized from said source to place said jack in operative relation with the line when said plug is inserted into said jack, a subscriber's bell or ringer, a source of ringing current adapted to be bridged across the line to operate said bell or ringer, and a ringing circuit including both sides of the line.

121. The combination with a telephone line and a connection terminal in the form of a spring jack, of a connecting plug and a cord circuit, a central source of current associated with said line and circuit to furnish current for talking purposes, supervisory signal apparatus associated with the cord circuit and operated from said source of current, a relay actuated from said source by the insertion of said plug into and its withdrawal from said jack, for controlling the operative relation of said jack with said line, a local circuit closed to keep said relay energized while the line is in use for talking purposes, a subscriber's bell or ringer, a source of ringing current adapted to be bridged across the line to operate said bell or ringer, and a ringing circuit including both sides of the line.

122. In a telephone system, a metallic circuit line, a connection terminal in the form of a spring jack normally not in operative relation with said line, a connecting plug and a cord circuit, a signaling device normally in operative relation with said line, a central source of current and supervisory signaling apparatus associated with said line and cord circuit, said source being adapted to furnish current for the operation of said apparatus and for talking purposes, a relay actuated from said source when said plug is inserted in said jack to place said signaling device in inoperative relation with said line and said jack in operative relation with said line, a local circuit closed to keep said relay energized while the line is in use for talking purposes, a subscriber's bell or ringer, a source of ringing current adapted to be bridged across the line to operate said bell or ringer, and a ringing circuit including both sides of the line.

123. The combination with a telephone line having a limb extending to the central station, of a line contact for said limb normally disconnected therefrom, a cord circuit and connecting plug, supervisory signaling apparatus connected with said circuit, a central source of current associated with said line and circuit to furnish current for talking purposes and for the operation of said supervisory apparatus, means for automatically connecting said line contact with said limb when the line is in use and for disconnecting the same therefrom when the line is not in use, a subscriber's bell or ringer, a source of ringing current adapted to be bridged across the line to operate said bell or ringer, and a ringing circuit including both sides of the line.

124. The combination with a telephone line having a limb extending to the central station, of a signaling device normally connected with said limb, a line contact for said

line normally disconnected therefrom, a cord circuit and connecting plug, supervisory signaling apparatus associated with said cord circuit, a central battery to furnish current for talking purposes and for the operation of said apparatus, a relay energized from said battery and adapted to disconnect said limb from said signaling device and to connect the same with the line contact when a connection is established with the line, a local circuit including a cord strand for energizing said relay when the line is in use for talking purposes, a subscriber's bell or ringer, a source of ringing current adapted to be bridged across the line to operate said bell or ringer, and a ringing circuit including both sides of the line.

125. The combination with a telephone line having a limb extending to the central station, of a spring or moving part with which said limb connects at the central office, a signaling device connected with said spring or part in its normal position, a line contact for said limb, a cord circuit and connecting plug, a central battery associated with the said line circuit, supervisory signals also associated with the circuit, said battery being adapted to furnish current to the substations for talking purposes, and for operating said supervisory signals, and a relay also energized from said battery adapted to disconnect said spring or part from the signaling device and to connect it with the line contact when a connection is established with the line, a subscriber's bell or ringer, a source of ringing current adapted to be bridged across the line to operate said bell or ringer, and a ringing circuit including both sides of the line.

126. The combination with a telephone line and a connection terminal therefor normally not in operative relation with the line, of a connecting plug and cord circuit to coöperate with said line, a supervisory signal controlling magnet and a battery associated with said cord circuit, a telephone transmitter and a switch at the subscriber's station, and means controlled by the insertion of the plug into the jack for placing the jack in operative relation with the line, whereby talking current is furnished to said transmitter and said magnet is placed under the control of the subscriber, a supervisory magnet energizing circuit including both sides of the line, and a supervisory lamp circuit adapted to be rendered operative by the opening of said energizing circuit.

127. The combination with a telephone line, and a connection terminal in the form of a spring jack normally not in operative relation with the line, of a cord circuit and a connecting plug, a central source of current associated with said line and circuit to furnish talking current to the substation, and means including said source of current actuated by the insertion of said plug in the jack for placing said jack in operative relation with said line, a supervisory magnet energizing circuit including both sides of the line, and a supervisory lamp circuit adapted to be rendered operative by the opening of said energizing circuit.

128. The combination with a telephone line and a connection terminal in the form of a spring jack normally not in operative relation with said line, of a cord circuit and connecting plug, supervisory signaling apparatus associated with said circuit, a central source of current associated with said line and circuit to operate said supervisory apparatus, a relay adapted to be energized from said source to place said jack in operative relation with the line when said plug is inserted into said jack, means independent of said relay for normally connecting the battery with both sides of the line, a supervisory magnet energizing circuit including both sides of the line, and a supervisory lamp circuit adapted to be rendered operative by the opening of said energizing circuit.

129. The combination with a telephone line and a connection terminal in the form of a spring jack, of a connecting plug and a cord circuit, a central source of current associated with said line and circuit to furnish current for talking purposes, supervisory signal apparatus associated with the cord circuit and operated from said source of current, and a relay actuated from said source by the insertion of said plug into and its withdrawal from said jack for controlling the operative relation of said jack with said line, a supervisory magnet energizing circuit including both sides of the line, and a supervisory lamp circuit adapted to be rendered operative by the opening of said energizing circuit.

130. In a telephone system, a metallic circuit line, a connection terminal in the form of a spring jack normally not in operative relation with said line, a connecting plug and a cord circuit, a signaling device normally in operative relation with said line, a central source of current and supervisory signaling apparatus associated with said line and cord circuit, said source being adapted to furnish current for the operation of said apparatus and for talking purposes, and a relay actuated from said source when said plug is inserted in said jack to place said signaling device in inoperative relation with said line and said jack in operative relation with said line, a supervisory magnet energizing circuit including both sides of the line, and a supervisory lamp circuit adapted to be rendered operative by the opening of said energizing circuit.

131. The combination with a telephone line having a limb extending to the central station, of a line contact for said limb normally disconnected therefrom, a cord circuit and connecting plug, supervisory signaling apparatus connected with said circuit, a central source of current associated with said line and circuit to furnish current for talking purposes and for the operation of said supervisory apparatus, and means for automatically connecting said line contact with said limb when the line is in use and for disconnecting the same therefrom when the line is not in use, a supervisory magnet energizing circuit including both sides of the line, and a supervisory lamp circuit adapted to be rendered operative by the opening of said energizing circuit.

132. The combination with a telephone line having a limb extending to the central station, of a signaling device normally connected with said limb, a line contact for said line normally disconnected therefrom, a cord circuit and connecting plug, supervisory signaling apparatus associated with said cord circuit, a central battery and means operated thereby to disconnect said limb from said signaling device and connect the same with the line contact when a connection is established with the line, a supervisory magnet energizing circuit including both sides of the line, and a supervisory lamp circuit adapted to be rendered operative by the opening of said energizing circuit, said plug having a tip contact adapted to engage said normally disconnected line contact.

133. The combination with a telephone line having a limb extending to the central station, of a spring or moving part with which said limb connects at the central office, a signaling device connected with said spring or part in its normal position, a line contact for said limb, a cord circuit and connecting plug, a central battery associated with the said line circuit, supervisory signals also associated with the circuit, said battery being adapted to furnish current to the substations for talking purposes and for operating said supervisory signals, and a relay also energized from said battery adapted to disconnect said spring or part from the signaling device and to connect it with the line contact when a connection is established with the line, a supervisory magnet energizing circuit including both sides of the line, and a supervisory lamp circuit adapted to be closed by the opening of said energizing circuit.

134. The combination with a telephone line and a spring jack therefor normally totally disconnected therefrom, of a connecting plug and cord circuit to coöperate with said line, a supervisory signal controlling magnet and a battery associated with said cord circuit, a telephone transmitter and a switch at the subscriber's station, means controlled by the insertion of the plug into the jack for placing the jack in connection with the line, said means including a local circuit closed by the plug and jack while the line is in use for talking purposes, whereby talking current is furnished to said transmitter and said magnet is placed under the control of the subscriber, a subscriber's bell or ringer, and a condenser for stopping the flow of battery current through said bell or ringer, together with provisions by which the supervision is independent of the ground between the subscriber's station and the central station.

135. The combination with a telephone line and a spring jack therefor normally totally disconnected therefrom, of a connecting plug and cord circuit adapted to coöperate with said jack, a supervisory signal controlling magnet and a battery associated with said cord circuit, a switch at the subscriber's station, means controlled by the insertion of the plug into the jack for placing said jack in connection with the line, whereby said signal controlling magnet is placed under the control of the subscriber, a subscriber's bell or ringer, and a condenser for stopping the flow of battery current through said bell or ringer, together with provisions by which the supervision is independent of the ground between the subscriber's station and the central station.

136. The combination with a telephone line, and a connection terminal in the form of a spring jack normally not in operative relation with the line, of a cord circuit and a connecting plug, a central source of current associated with said line and circuit to furnish talking current to the substations, and means including said source of current and actuated by the insertion of said plug in the jack for placing said jack in operative relation with said line, said means comprising a local circuit closed over a cord strand while the line is in use for talking purposes, a subscriber's bell or ringer, and a condenser for stopping the flow of battery current through said bell or ringer, together with provisions by which the supervision is independent of the ground between the subscriber's station and the central station.

137. The combination with a telephone line and a connection terminal in the form of a spring jack normally not in operative relation with said line, of a cord circuit and connecting plug, supervisory signaling apparatus associated with said circuit, a central source of current associated with said line and circuit to operate said supervisory apparatus, a relay adapted to be energized from said source to place said jack in operative relation with the line when said plug is inserted into said jack, a local circuit closed through said relay while the line is in use for talking purposes, a subscriber's bell or ringer, and a condenser for stopping the flow of battery current through said bell or ringer, together with provisions by which the supervision is independent of the ground between the subscriber's station and the central station.

138. The combination with a telephone line and a connection terminal in the form of a spring jack, of a connecting plug and a cord circuit, a central source of current associated with said line and circuit to furnish current for talking purposes, supervisory signal apparatus associated with the cord circuit and operated from said source of current, and a relay actuated from said source by the insertion of said plug into and its withdrawal from said jack for controlling the operative relation of said jack with said line, a subscriber's bell or ringer, and a condenser for stopping the flow of battery current through said bell or ringer, together with provisions by which the supervision is independent of the ground between the subscriber's station and the central station.

139. In a telephone system, a metallic circuit line, a connection terminal in the form of a spring jack normally not in operative relation with said line, a connecting plug and a cord circuit, a line signaling device normally in operative relation with said line, a central source of battery current and supervisory signaling apparatus associated with said line and cord circuit, said source being adapted to furnish current for the operation of said apparatus and for talking purposes, and a relay actuated from said source when said plug is inserted in said jack to place said signaling device in inoperative relation with said line and said jack in operative relation with said line, a line signaling circuit excluding all winding of said relay, a subscriber's bell or ringer, and a condenser for stopping the flow of battery current through said bell or ringer, together with provisions by which the supervision is independent of the ground between the subscriber's station and the central station.

140. The combination with a telephone line having a limb extending to the central station, of a line contact for said limb normally disconnected therefrom, a cord circuit and connecting plug, supervisory signaling apparatus connected with said circuit, a central source of current associated with said line and circuit to furnish current for talking purposes and for the operation of said supervisory apparatus, and means independent of the line outside the central station for automatically connecting said line contact with said limb when the line is in use and for disconnecting the same therefrom when the line is not in use, a subscriber's bell or ringer, and a condenser for stopping the flow of battery current through said bell or ringer, together with provisions by which the supervision is independent of the ground between the subscriber's station and the central station.

141. The combination with a telephone line having a limb extending to the central station, of a signaling device normally connected with said limb, a line contact for said line normally disconnected thereform, a cord circuit and connecting plug, supervisory signaling apparatus associated with said cord circuit, a central battery to furnish current for talking purposes and for the operation of said apparatus, and a relay energized from said battery adapted to disconnect said limb from said signaling device and to connect the same with the line contact when a connection is established with the line, a normally open local energizing circuit for said relay, closed when the operator answers a call, a subscriber's bell or ringer, and a condenser for stopping the flow of battery current through said bell or ringer, together with provisions by which the supervision is independent of the ground between the subscriber's station and the central station.

142. The combination with a telephone line having a limb extending to the central station, of a spring or moving part with which said limb connects at the central office, a signaling device connected with said spring or part in its normal position, a line contact for said limb, a cord circuit and connecting plug, a central battery associated with the said line circuit, supervisory signals also associated with the circuit, said battery being adapted to furnish current to the substations for talking purposes and for operating said supervisory signals, and a relay also energized from said battery adapted to disconnect said spring or moving part from the signaling device and to connect it with the line contact when a connection is established with the line, the line connection with the battery excluding all winding of the said relay, a subscriber's bell or ringer, and a condenser for stopping the flow of battery current through said bell or ringer, together with provisions by which the supervision is independent of the ground between the subscriber's station and the central station.

143. The combination with a telephone line and a connection terminal therefor normally not in operative relation with the line, of a connecting plug and cord circuit to coöperate with said line, a supervisory signal controlling magnet and a battery associated with said cord circuit, a telephone transmitter and a switch at the subscriber's station, and means controlled by the insertion of the plug into the jack for placing the jack in operative relation with the line, whereby talking current is furnished to said transmitter and said magnet is placed under the control of the subscriber, the supervision being absolutely independent of the ground between the subscriber's station and the central station.

144. The combination with a telephone line and a connection terminal therefor normally not in operative relation with said line, of a connecting plug and cord circuit adapted to coöperate with said line, a supervisory signal controlling magnet and a battery for energizing the same associated with said cord circuit, a switch at the subscriber's station, and means controlled by the insertion of the plug into the jack for placing said jack in operative relation with the line, whereby said signal controlling magnet and battery are placed under the control of the subscriber, the supervision being absolutely independent of the ground between the subscriber's station and the central station.

145. The combination with a telephone line, and a con-

nection terminal in the form of a spring jack normally not in operative relation with the line, of a cord circuit and a connecting plug, a central source of current associated with said line and circuit to furnish talking current to the substations, and means including said source of current actuated by the insertion of said plug in the jack for placing said jack in operative relation with said line, the supervision being absolutely independent of the ground between the subscriber's station and the central station.

146. The combination with a telephone line and a connection terminal in the form of a spring jack normally not in operative relation with said line, of a cord circuit and connecting plug, supervisory signaling apparatus associated with said circuit, a central source of current associated with said line and circuit to operate said supervisory apparatus, and a relay adapted to be energized from said source to place said jack in operative relation with the line when said plug is inserted into the said jack, the supervision being absolutely independent of the ground between the subscriber's station and the central station.

147. The combination with a telephone line and a connection terminal in the form of a spring jack, of a connecting plug and a cord circuit, a central source of current associated with said line and circuit to furnish current for talking purposes, supervisory signal apparatus associated with the cord circuit and operated from said source of current, and a relay actuated from said source by the insertion of said plug into and its withdrawal from said jack for controlling the operative relation of said jack with said line, the supervision being absolutely independent of the ground between the subscriber's station and the central station.

148. In a telephone system, a metallic circuit line, a connection terminal in the form of a spring jack normally not in operative relation with said line, a connecting plug and a cord circuit, a signaling device normally in operative relation with said line, a central source of current and supervisory signaling apparatus associated with said line and cord circuit, said source being adapted to furnish current for the operation of said apparatus and for talking purposes, and a relay actuated from said source when said plug is inserted in said jack to place said signaling device in inoperative relation with said line and said jack in operative relation with said line, the supervision being absolutely independent of the ground between the subscriber's station and the central station.

149. The combination with a telephone line having a limb extending to the central station, of a line contact for said limb normally disconnected therefrom, a cord circuit and connecting plug, supervisory signaling apparatus connected with said circuit, a central source of current associated with said line and circuit to furnish current for talking purposes and for the operation of said supervisory apparatus, and means for automatically connecting said line contact with said limb when the line is in use and for disconnecting the same therefrom when the line is not in use, the supervision being absolutely independent of the ground between the subscriber's station and the central station.

150. The combination with a telephone line having a limb extending to the central station, of a signaling device normally connected with said limb, a line contact for said line normally disconnected therefrom, a cord circuit and connecting plug, supervisory signaling apparatus associated with said cord circuit, a central battery to furnish current for talking purposes and for the operation of said apparatus, a relay energized from said battery, adapted to disconnect said limb from said signaling device and to connect the same with the line contact when a connection is established with the line, and an energizing circuit for said signaling device, said relay provided with a winding excluded from the said energizing circuit, the supervision being absolutely independent of the ground between the subscriber's station and the central station.

151. The combination with a telephone line having a limb extending to the central station, of a spring or moving part with which said limb connects at the central office, a signaling device connected with said spring or part in its normal position, a line contact for said limb, a cord circuit and connecting plug, a central battery associated with the said line circuit, supervisory signals also associated with the circuit, said battery being adapted to furnish current to the substations for talking purposes and for operating said supervisory signals, a relay also energized from said battery, adapted to disconnect said spring or part from the signaling device and to connect it with the line contact when a connection is established with the line, and an energizing circuit for said signaling device, said relay provided with a winding excluded from the said energizing circuit, the supervision being absolutely independent of the ground between the subscriber's station and the central station.

152. In a telephone system, a subscriber's line, a line relay, a source of electric current, a normally open line circuit for energizing said relay, and a normally open local circuit controlled by the said relay and including an energizing coil thereof, whereby the said local circuit is substituted for the said line circuit when the relay is energized, each circuit including said source of current, said line circuit including both sides of the line in series.

153. In a telephone system, a subscriber's line, a line relay, a source of electric current, a normally open line circuit for energizing said relay, and a normally open local circuit controlled by the said relay and including an energizing coil thereof, whereby the said local circuit is substituted for the said line circuit when the relay is energized, each circuit including said source of current, said line circuit being provided with normally closed relay contacts for opening the same.

154. In a telephone system, a subscriber's line, a line relay, a source of electric current, a normally open line circuit for initially energizing said relay over both sides of the line, and a normally open local circuit controlled by the said relay and including an energizing coil thereof, whereby the said local circuit is substituted for the said line circuit when the relay is energized, each circuit including said source of current, and a subscriber's hook switch controlling the said line circuit at the subscriber's station.

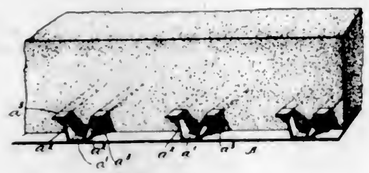
155. The combination of a telephone line, a substation at one end of said line, a low resistance connection between the limbs of the line at the other end thereof, and a relay for controlling the continuity of said connection, the resistance of said connection being sufficiently low to short-circuit or shunt the line and thereby quiet the same at the substation.

156. The combination of a plurality of subscriber's telephone lines, a substation for each line, normally disconnected jacks for said lines, metallic line signal and supervisory signal circuits between the exchange and the substations, metallic talking and ringing circuits between the exchange and substations, a common battery for supplying talking and signaling currents to the lines, a generator for supplying ringing currents to the lines, relays for connecting the jacks with the lines, an operator's cord and plugs for connecting lines together, and energizing circuits for said relays including portions of the cord, service between lines and the operations of all said instrumentalities being independent of the ground at substations.

157. The combination of a substation, a normally open metallic telephone talking circuit, a normally open metallic ringing circuit, a normally open metallic supervisory signal circuit, a subscriber's transmitter in said signal circuit, a normally open line signal circuit which includes opposite or parallel portions of the metallic talking circuit, a common battery included in all of said circuits except the ringing circuit, a generator for said ringing circuit, and a jack having a pair of disconnected line contacts included in all of said circuits except the line signal circuit, together with means operated by said battery for automatically connecting said contacts with the talking circuit when the operator answers a call emanating from said substation.

158. The combination of a subscriber's telephone line, a jack or switchboard terminal individual to said line and normally disconnected therefrom, a subscriber's common battery transmitter and hook switch, a common battery adapted to supply current to the line for both talking and signaling purposes, a line signal relay, an energizing circuit for said line relay including said battery and line and hook switch and transmitter, a cut-off relay for automatically retiring the line signal and connecting the jack with the line when the operator answers a call, an operator's connecting cord and plugs, an energizing circuit for said cut-off relay including said battery and a portion of said connecting cord, a supervisory signal relay, an energizing circuit for said supervisory relay including the said transmitter and hook switch, both sides of the line, normally disconnected contacts of the jack, the battery and a portion of the said cord, said battery permanently bridged between the talking strands of the connecting cord and normally bridged between the normally disconnected limbs of said line, a subscriber's call bell or signal, a ringing generator, an operator's switch for bridging said generator between the talking strands of the cord to operate the said call bell or signal, another subscriber's line terminal adapted to be connected with said first-mentioned line through the medium of said cord and plugs, a complete metallic circuit for energizing said bell or signal, another supervisory signal relay, and an energizing circuit for said last-mentioned supervisory relay, which energizing circuit is opened by said operator's switch when the generator is used for operating the subscriber's call bell or signal.

866,715. REINFORCED CONCRETE STRUCTURE. HERBERT F. COBB, Cleveland, Ohio. Filed Feb. 18, 1907. Serial No. 357,800.

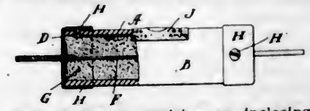


1. In concrete structures of the class described, the combination with supporting beams or walls; of a cement filling and a combined centering and reinforcement for such filling comprising a centering sheet and a plurality of independent members arranged transversely of said supporting beams or walls and adapted to serve as reinforcing members in the completed structure, said members being directly attached to the upper face of said sheet so as to thereby assist the latter in initially sustaining said cement filling while wet.

2. In concrete structures of the class described, the combination with supporting beams or walls; of a cement filling and a combined centering and reinforcement for such filling comprising a metallic centering sheet and a plurality of independent bars arranged transversely of said supporting beams or walls, said bars being formed with continuous outer laterally divergent portions whereby they are adapted to serve as reinforcing members in the completed structure, and having their lower portions directly attached to the upper face of said sheet so as to thereby assist the latter in initially sustaining said cement filling while wet.

3. In concrete structures of the class described, the combination with supporting beams or walls; of a cement filling and a combined centering and reinforcement for such filling comprising a metallic centering sheet and a plurality of independent bars arranged transversely of said supporting beams or walls, said bars having their outer portions continuously bent away from a plane perpendicular to the surface of the sheet whereby they are adapted to serve as reinforcing members in the completed structure, and having their lower portions directly attached to said sheet so as to thereby assist the latter in initially sustaining said cement filling while wet.

866,716. MANUFACTURE OF INCLOSED FUSES. ROBERT C. COLE, Hartford, Conn., assignor to Johns-Pratt Company, Hartford, Conn., a Corporation of Connecticut. Filed June 23, 1906. Serial No. 323,009.



1. An inclosed fuse comprising an inclosing case, an indicator wire associated with said case, a metallic holder fastening the end of said wire to the wall of the case and an end closure for the case covering said metallic holder.

2. As a means for securing the indicator wires of inclosed fuses, the combination with the casing having an opening therein, of an eyelet inserted in said opening and upset or pressed against the end portion of the wire.

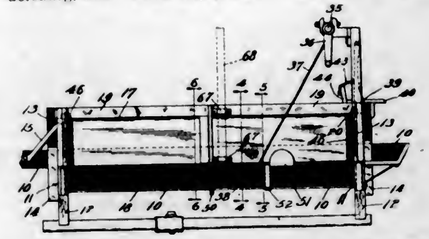
3. An inclosed fuse comprising an inclosing case having an indicator wire associated therewith, metallic holders fastening the ends of said wire to the wall of the case, ferrules closing the ends of the case and means independent of said holders for securing said ferrules in place.

4. An inclosed fuse comprising an inclosing case, an indicator wire with its ends located in openings in the wall of said case, metallic holders in said openings in contact with said ends and ferrules on the ends of the case in contact with said holders.

5. An inclosed fuse comprising an inclosing case, an indicator wire associated therewith, and an inclined contact member located on said case in electrical contact with said wire, in combination with a metallic contact terminal fitting the end of said case and adapted to ride over said inclined member.

6. An inclosed fuse comprising an inclosing case and terminal contacts thereon, an indicator wire associated with said case and a metallic holder fastening the end of said wire to the wall of the case independently of said terminal contacts.

866,717. DUMPING-WAGON. GEORGE W. CRANE, Veedersburg, Ind. Filed May 9, 1907. Serial No. 372,789.



1. In a dumping wagon, the combination, with the ends of the box thereof, of a pair of longitudinal swinging side sections pivotally supported at their upper inner corners, and means for locking said sections in load retaining position.

2. In a dumping wagon, the combination, with the ends of the box thereof, of a pair of longitudinal swinging side sections pivotally supported at their upper inner corners, means for locking said sections in load retaining position, a rotary shaft, and connections between said shaft and the two sections whereby they may be simultaneously operated.

3. In a dumping wagon, the combination, with the ends of the box thereof, of a pair of longitudinal swinging side sections pivotally supported at their upper inner corners, means for locking said sections in load retaining position, a swinging seat, and intermediate connections between the locking means and the seat for automatically operating the locking means.

4. In a dumping wagon, the combination, with the ends of the box thereof, of a pair of longitudinal swinging side sections pivotally supported at their upper inner corners,

means for locking said sections in load retaining position, a rotary shaft, connections between said shaft and the two sections whereby they may be simultaneously operated, a swinging seat, and intermediate connections between the locking means and the seat for automatically operating the locking means.

5. In a dumping wagon, the combination with the ends of the box thereof, of a pair of longitudinal swinging side sections pivotally supported at their upper inner corners, and a depending locking pawl arranged in position to engage and retain said swinging member in load retaining position.

6. In a dumping wagon, the combination with the ends of the box thereof, of a pair of longitudinal swinging side sections pivotally supported at their upper inner corners, a depending locking pawl arranged in position to engage and retain said swinging member in load retaining position, a swinging seat member, and connections between said seat member and said depending pawls whereby said pawls may be simultaneously operated by the swinging seat member.

7. In a dumping wagon, the combination, with a pair of cross-bars adapted to rest upon the bolsters of a running gear, of end boards carried by said cross-bars, means carried by said cross-bars for engaging the running gear bolsters to prevent displacement, an intermediate medial ridge connecting the cross-bars, a pair of sections extending between the end boards and each coacting with the adjacent edge of the medial ridge, and a horizontal pivotal connection between each swinging section and the end boards at the upper inner corner of the section.

8. In a dumping wagon, the combination, with a pair of cross bars adapted to rest upon the bolsters of a running gear, of end boards carried by said cross-bars, means carried by said cross-bars for engaging the running gear bolsters to prevent displacement, an intermediate medial ridge connecting the cross-bars, a pair of sections extending between the end boards and each coacting with the adjacent edge of the medial ridge, a horizontal pivotal connection between each swinging section and the end boards at the upper inner corner of the section, said pivotal connection comprising a pin and socket connection at one end and a pin and open-ended slot connection at the other end, and a removable retaining plate for said last mentioned connection.

9. In a dumping wagon, the combination, with a pair of cross-bars adapted to rest upon the bolsters of a running gear, of end boards carried by said cross-bars, means carried by said cross-bars for engaging the running gear bolsters to prevent displacement, an intermediate medial ridge connecting the cross-bars, a pair of sections extending between the end boards and each coacting with the adjacent edge of the medial ridge, a horizontal pivotal connection between each swinging section and the end boards at the upper inner corner of the section, and means for locking said swinging sides in load retaining position.

10. In a dumping wagon, the combination, with a pair of cross-bars adapted to rest upon the bolsters of a running gear, of end boards carried by said cross-bars, means carried by said cross-bars for engaging the running gear bolsters to prevent displacement, an intermediate medial ridge connecting the cross-bars, a pair of sections extending between the end boards and each coacting with the adjacent edge of the medial ridge, a horisontal pivotal connection between each swinging section and the end boards at the upper inner corner of the section, said pivotal connection comprising a pin and socket connection at one end and a pin and open-ended slot connection at the other end, a removable retaining plate for said last mentioned connection, and means for locking said swinging sides in load retaining position.

11. In a dumping wagon, the combination, with the ends of the box thereof, of a pair of longitudinal swinging side sections pivotally supported at their upper inner corners, a depending locking pawl arranged in position to engage and retain said swinging member in load retaining position, means for locking said swinging sides in load retaining position, a divider board pivotally mounted between the end boards above the crest of the ridge, and means for holding the same in medial position.

12. In a dumping wagon, the combination with the ends of the box thereof, of a pair of longitudinal swinging side sections pivotally supported at their upper inner corners, a depending locking pawl arranged in position to engage and retain said swinging member in load-retaining position, a swinging seat member, connections between said seat member and said depending pawls whereby said pawls may be simultaneously operated by the swinging seat member, a divider board pivotally mounted between the end boards above the crest of the ridge, and means for holding the same in medial position.

13. In a dumping wagon, the combination, with a pair of cross-bars adapted to rest upon the bolsters of a running gear, of end boards carried by said cross-bars, means carried by said cross-bars for engaging the running gear bolsters to prevent displacement, an intermediate medial ridge connecting the cross-bars, a pair of sections extending between the end boards and each coacting with the adjacent edge of the medial ridge, a horizontal pivotal connection between each swinging section and the end boards at the upper inner corners of the section, means for locking said swinging sides in load retaining position, a divider board pivotally mounted between the end boards above the crest of the ridge, and means for holding the same in medial position.

14. In a dumping wagon, the combination, with a pair of cross-bars, adapted to rest upon the bolsters of a running gear, of end boards carried by said cross-bars, means carried by said cross-bars for engaging the running gear bolsters to prevent displacement, an intermediate medial ridge connecting the cross-bars, a pair of swinging sections extending between the end boards and each coacting with the adjacent edge of the medial ridge, a horizontal pivotal connection between each swinging section and the end boards at the upper inner corner of the section, said pivotal connection comprising a pin and socket connection at one end and a pin and open-ended slot connection at the other end, a removable retaining plate for said last-mentioned connection, means for locking said swinging sides in load retaining position, a divider board pivotally mounted between the end boards above the crest of the ridge, and means for holding the same in medial position.

15. In a dumping wagon, the combination, with the end boards and intermediate ridge connection, of a pair of swinging body sections pivotally mounted by the end boards, each upon an axis, at the upper inner corner of the section, and each of the said sections provided at each end with a notched member adapted to interlock with the adjacent end board.

16. In a dumping wagon, the combination, with a pair of swinging side sections having substantially parallel pivotal axes at their upper inner corners, and bottom members the inner edges whereof lie materially outside of the shaft axes, of a stationary bottom member extending between and coacting with the inner edges of the bottoms of the sections.

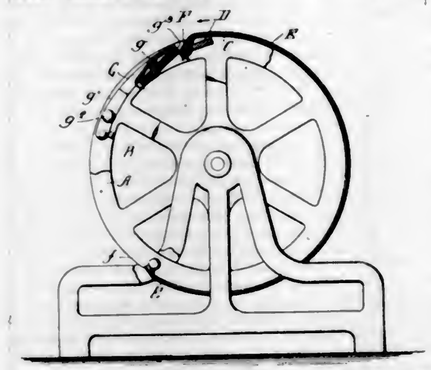
17. In a dumping wagon, the combination, with a pair of swinging side sections having substantially parallel pivotal axes at their upper inner corners, and bottom members the inner edges whereof lie materially outside of the pivotal axes, of a stationary ridge bottom member extending between and coacting with the inner edges of the bottoms of the sections.

18. In a dumping wagon, the combination, with a pair of swinging side sections having substantially parallel pivotal axes at their upper inner corners, and bottom members the inner edges whereof lie materially outside of the pivotal axes, of a stationary bottom member extending between and coacting with the inner edges of the bottoms of the sections, and means for simultaneously swinging said sections upon their pivotal axes.

19. In a dumping wagon, the combination, with a pair of swinging side sections having substantially parallel pivotal axes at their upper inner corners, and bottom members the inner edges whereof lie materially outside of the pivotal axes, of a stationary ridge bottom member extending between and coacting with the inner edges of the bottoms of the sections, and means for simultaneously swinging said sections upon their pivotal axes.

20. In a dumping wagon, the combination, with a pair of swinging side sections having substantially parallel pivotal axes at their upper inner corners, and bottom members the inner edges whereof lie materially outside of the pivotal axes, of a stationary ridge bottom member extending between and coacting with the inner edges of the bottoms of the sections, a divider board pivotally mounted between the swinging sections above the apex of the ridge, and means for holding said divider in medial position.

866,718. STENCIL-PRINTING MACHINE. ALBERT B. DICK, Chicago, Ill., assignor to A. B. Dick Company, Chicago, Ill., a Corporation of Illinois. Filed Jan. 5, 1904. Serial No. 187,833.



1. In a stencil-printing machine, the combination with a drum, of a part moving with said drum and affording means for attachment of the forward end of a stencil-sheet, a device adjacent to said part, and mechanism in juxtaposition to said part and adapted to coact with said device to secure the end of the stencil-sheet in position on said drum, substantially as set forth.

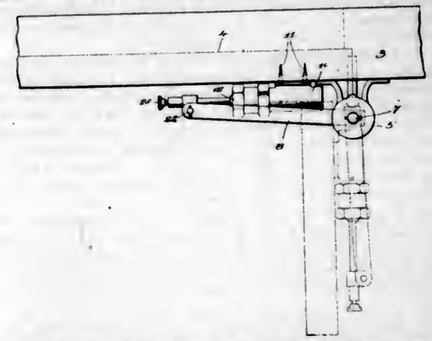
2. In a stencil-printing machine, the combination with a drum, of a part moving with said drum and having projections for coaction with the forward end of a stencil-sheet, and a movable securing device adjacent to said part and moving with said drum, said device being adapted to secure the forward end of a stencil-sheet in position, substantially as set forth.

3. In a stencil-printing machine, the combination with a drum, of a part moving with said drum and affording means for attachment of the forward end of a stencil-sheet, a supporting member carried by said drum rearward of said part, and a movable securing device carried by the drum forward of said part and adapted to coact with said member to secure the forward end of the stencil-sheet in position on the drum, substantially as set forth.

866,719. DOOR CHECK AND CLOSER. WALTER M. DIZER, Brookline, Mass. Filed Feb. 20, 1907. Serial No. 358,389.

1. In a check, the combination with a cylinder constructed to contain liquid, of a ported piston, a check valve to close the ports in the piston when it moves in one direction, a piston-rod rigid with the piston, said piston-rod having a duct or channel which communicates with the cylinder at one side of the piston-head and which is provided with a leakage port communicating with the cylinder on the other side of said piston head, and means to graduate the size of said port.

2. In a check, the combination with a cylinder constructed to contain liquid, of a ported piston, a check valve to close the ports in the piston when it moves in one direction, a piston rod rigid with the piston, said piston rod having a duct or channel which communicates with the cylinder at one side of the piston head and which is provided with a leakage port communicating with the cylinder on the other side of said piston head and a valve within the piston rod to graduate the size of said port, said valve having a portion extending through and beyond the piston rod and screw-threaded thereto.

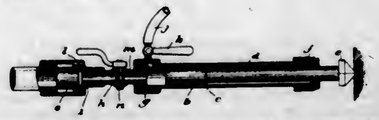


3. In a check, the combination with a cylinder constructed to contain liquid, of a ported piston therein, a piston rod on which said piston is mounted, said piston rod projecting beyond the piston, and a check valve slidably mounted on the projecting end of the piston, said check having means to permit the fluid to pass from one side of the piston to the other when the check valve is closed.

4. In a check, the combination with a cylinder constructed to contain liquid, of a ported piston therein, a piston-rod on which said piston is mounted, said piston-rod projecting beyond the piston, and a check-valve slidably mounted on the projecting end of the piston-rod, said piston-rod having a duct therein which communicates at one end with the cylinder at one side of the piston and at the other end with the cylinder at the other side of the piston.

5. In a check, the combination with a cylinder constructed to contain liquid, of a ported piston therein, a piston-rod on which said piston is mounted, said piston-rod projecting beyond the piston, and a check valve slidably mounted on the projecting end of the piston-rod, said piston-rod having a duct therein which communicates at one end with one end of the cylinder and is provided with a leakage port communicating with the other end of the cylinder, and means to graduate the size of said port.

866,720. PNEUMATIC DRILL-FEED. GEORGE H. GILMAN, Claremont, N. H., assignor to Sullivan Machinery Company, Claremont, N. H., a Corporation of Maine. Filed Dec. 26, 1905, Serial No. 293,198. Renewed Jan. 26, 1907. Serial No. 354,312.



1. The combination with a fluid pressure actuated tool, of a feeding cylinder connected with said tool by a pressure supply conduit constituting a straightaway connection therebetween, a piston in said cylinder having a piston rod projecting through the end of the cylinder opposite the tool, and means to supply pressure between the tool and the piston head.

2. The combination with a fluid pressure actuated tool, of a feeding cylinder connected with said tool by a pressure supply conduit constituting a straightaway connection therebetween, a piston in said cylinder having a piston rod projecting through the end of the cylinder opposite the tool, means to supply pressure between the tool and the piston head, and means for separately throttling the pressure supply of the tool.

3. A tool feeding and operating device having at one end thereof a tool and at the opposite end a piston alined therewith and adapted to be braced against an abutment opposing the material to be operated upon, a cylinder wherein said piston is contained, means rigidly connecting said cylinder and said tool and affording a straightaway fluid pressure connection between them, and means for supplying fluid pressure to said connection.

4. A tool feeding and operating device having at one end thereof a tool and at the opposing end a piston alined therewith and adapted to be braced against an abutment opposing the material to be operated upon, a cylinder wherein said piston is contained, means rigidly connecting said cylinder and said tool and affording a straightaway fluid pressure connection between them, means for supplying fluid pressure to said connection, and means for separately throttling the pressure supply to the tool.

5. A tool feeding and operating device comprising the tool *a*, the cylinder *b*, the connecting member between them having the straightaway passage *m*, the piston *d* within the cylinder having a piston rod projecting through the end of the cylinder opposite the tool, and the pressure supply *j*.

6. A tool feeding and operating device comprising the tool *a*, the cylinder *b*, the connecting member between them having the straightaway passage *m*, the piston *d* within the cylinder having a piston rod projecting through the end of the cylinder opposite the tool, the pressure supply *j*, and the throttling valve *n*.

7. A tool feeding and operating device adapted to be braced against opposing walls of a mine or the like and to be supported thereby, said device being of pillar or column-like formation in its entirety, and comprising a tool and a cylinder alined therewith a straightaway fitting between the tool and cylinder affording an unobstructed pressure supply connection but having throttling means therein, a piston adapted to slide in said cylinder and having a piston rod projecting through the end thereof opposite the tool, and means to supply fluid pressure to said fitting.

8. The combination with a fluid pressure actuated tool of a feeding cylinder therefor, a tubular connection between the feeding cylinder and the tool cylinder of lesser diameter than the latter, means for supplying live pressure to that end of the feeding cylinder adjacent the tool cylinder, a piston slidable in said cylinder, presenting an active pressure area to the live pressure at the said attached end of the cylinder, a piston rod projecting through the end of the cylinder opposite the tool, said tubular member presenting a direct, straightaway pressure passage between the feeding cylinder and the tool cylinder, and a throttle for said passage.

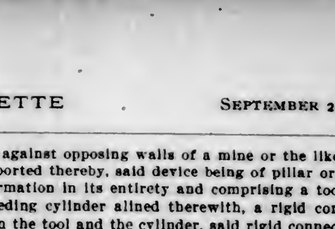
9. The combination with a fluid pressure tool, of a feeding cylinder alined therewith, a piston slidable in said cylinder and having a piston-rod projecting from the opposite end thereof for the support of said tool, a pressure supply pipe entering said cylinder at the end to which the said tool is attached, and a straightaway conduit leading directly from the pressure space of the feeding cylinder through the tubular connection to the pressure space of the tool and rigidly connecting said cylinder and tool.

10. A tool feeding and operating device adapted to be braced against opposing walls of a mine or the like and to be supported thereby and being without other means of support, said device being of pillar or column like formation in its entirety and comprising a tool and a tool feeding cylinder alined therewith, said cylinder being adapted to keep said tool to its work during the application of operating pressure to the tool, a rigid connection between the tool and the cylinder, a piston mounted in the cylinder and having a piston rod projecting through the end thereof opposite to the tool, a foot upon the end of the piston rod to engage the adjacent wall of the mine or the like, said cylinder being adapted to slide upon said piston and by means of said rigid connection to impart forward or feeding movement to the tool, a throttle valve in the connection, and means to supply cylinder and tool feeding and tool operating pressure between the tool and the piston head.

11. A tool feeding and operating device adapted to be braced against opposing walls of a mine or the like and to be supported thereby, said device being of pillar or column like formation in its entirety and comprising a tool and a tool feeding cylinder alined therewith, a rigid connection between the tool and the cylinder, said rigid connection being of reduced diameter, a piston mounted in the cylinder and having a piston rod projecting through the end thereof opposite to the tool, a foot upon the end of the piston rod to engage the adjacent wall of the mine or the like, whereby the device is supported at opposite ends thereof and clear space is afforded beneath the same from end to end thereof when maintained in a non-upright position, and whereby when maintained in an upright position an unobstructed space is afforded about the same, the end of the piston toward the tool presenting an active pressure area to live pressure whereby the cylinder may be slid upon the piston, the latter being held stationary by the pressure upon the tool end of the head thereof, the tool being fed to its work by means of the rigid connection between it and the cylinder, means to supply pressure between the tool and the piston head, and a throttle valve in the reduced connection controlling the flow of pressure through the connection to operate the tool.

12. A tool feeding and operating device adapted to be braced against opposing walls of a mine or the like and to be supported thereby, said device being of pillar or column like formation in its entirety and comprising a tool and a tool feeding cylinder alined therewith, a rigid connection between the tool and the said cylinder having means therein for throttling the tool operating pressure, a piston mounted in the cylinder and having a piston rod projecting through the end thereof opposite to the tool, a foot upon the end of the piston rod to engage the adjacent wall of the mine or the like, whereby the device may be supported solely by its ends and a clear space afforded about the same, the head of the piston presenting an active pressure area to live pressure at the end thereof toward the tool, whereby the piston may be held stationary and the cylinder, the rigid connection and the tool may be fed constantly toward the work, the piston and the cylinder being so relatively proportioned that a long feeding movement of the cylinder and tool may be afforded, and throttling means to admit feeding pressure in advance of the tool operating pressure.

866,721. DEVICE FOR SANDING RAILS. HERBERT A. HALL, Kennebunk Port, Me. Filed Mar. 20, 1907. Serial No. 363,493.



1. The herein described device for sanding rails consisting of a box, a supporting wheel adapted to run on the rail journaled under the forward end of said box, said wheel having an annular distributing groove therein, a discharge opening being provided in said box directly over said groove and a handle on the rear end of said box for propelling the same.

2. The herein described device for sanding rails consisting of a box, a supporting wheel adapted to run on the rail journaled under the forward end of the box, said wheel having angular faces on its surface to produce a jarring motion, a discharge opening being formed in said box adapted to discharge sand onto the rail and a handle on the rear end of the box for propelling the same.

3. The herein described device for sanding rails consisting of a box, a supporting wheel adapted to run on the rail, journaled under the forward end of the box, a valve discharging sand to the rail in the forward end of the box, a handle pivoted to the rear end of the box for propelling the box, a stop to retain said handle in a horizontal or working position and mechanism connecting said handle with said valve for opening the valve when the handle is raised to its normal position and means for closing said valve when the handle is released from its normal position.

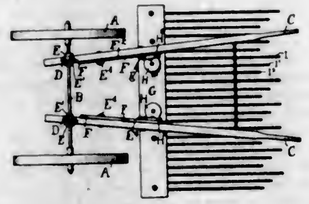
4. The herein described device for sanding rails consisting of a box, a supporting wheel adapted to run on the rail, journaled under the forward end of the box, said wheel having a central annular groove for distributing the sand, an opening being formed in the bottom of said box vertically over said groove for discharging sand therein, a slide or cutoff for closing said opening, a spring for closing said slide, a handle pivoted to the rear end of said box for propelling the same and a flexible connection connecting said handle with said slide for opening the same when the handle is brought to its normal or working position.

5. The herein described device for sanding rails consisting of a box, a supporting wheel adapted to run on the rail, journaled under the forward end of the box, said wheel having a central annular groove for distributing the sand, an opening being formed in the bottom of said box vertically over said groove for discharging sand therein, a slide or cutoff for closing said opening, a spring for closing said slide, a handle pivoted to the rear end of said box for propelling the same, an adjusting rod passing vertically through said handle, a nut for vertically adjusting said rod and a flexible connection connecting the lower end of said rod with said slide for opening the same when the handle is in its normal or working position.

6. The herein described device for sanding rails consisting of a box, a supporting wheel adapted to run on the rail journaled under the forward end of the box, a discharge opening being formed in the box to discharge sand onto the rail, a folding handle on the rear end of the box for propelling the same, a screen covering the top of the box, and a carrying handle secured to the top of the box for conveying it from place to place.

7. The herein described device for sanding rails consisting of a box, a supporting wheel adapted to run on the rail, journaled under the forward end of said box, said wheel having a flange in one side only and an annular distributing groove therein, a discharge opening being provided in said box directly over said groove and a handle on the rear end of said box for propelling the same.

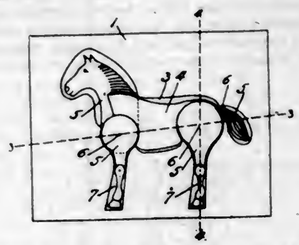
866,722. WEEDER. EDGAR A. HESS, Kendallville, Ind. Filed June 4, 1906. Serial No. 319,985.



1. An implement as described, comprising an axle, collars slidably mounted on the axle and having laterally extending portions, handles attached to the laterally-extending portions of the collars, a bar adjustably connected with the handles and carrying earth-engaging members.

2. An implement as described, comprising an axle, collars slidably mounted on said axle and each being provided with an extended portion, handles, clips for securing the front ends of the handles to the axle, said clips also serving to retain the sliding collars in desired positions, a bar having an adjustable connection with the handles, earth-engaging members carried by the bar, and means for clamping said members to the bar.

866,723. VARIABLE PRINTING-STAMP. PHILIP B. HILL, Little Rock, Ark. Filed Apr. 4, 1907. Serial No. 366,326.



1. A hand stamp provided on one of its faces with a body printing surface and a plurality of elongated printing surfaces eccentrically pivotally mounted with respect to each other, the pivots being transverse to the printing surfaces and near the margin of the body printing surface.

2. A toy printing stamp comprising a base, a body member thereon having a printing surface, and elongated members removably pivoted on said body member near their ends and likewise provided with printing surfaces, the pivots being transverse to the printing surface.

3. A toy printing stamp comprising a base, a body member thereon having a printing surface, and elongated members pivoted near their ends adjacent to the margin of the body member and likewise provided with printing surfaces, the pivots being transverse to the printing surfaces and the several printing surfaces constituting parts of a unitary design.

4. A toy printing stamp comprising a base, a body member thereon having a printing surface, elongated members pivotally mounted relative to said body member and likewise provided with printing surfaces, and a plurality of interchangeable members and means for pivotally mounting them on said body member, said interchangeable members being provided with printing surfaces of different design, the pivots being transverse to the printing surfaces.

5. A hand stamp having a base, a member fixed thereon, and elongated members pivotally mounted with respect to said base, and secondary members eccentrically pivotally mounted on said last-mentioned members near the outer ends thereof, all of said members having flush printing surfaces, the pivots being transverse to the printing surfaces.

6. A hand stamp having a member fixed thereon and provided with a printing surface simulating the body of an animal, jointed members pivotally mounted relative to said body member and having printing surfaces simulating the limbs of the animal, and members movable relative to said body member and provided with printing surfaces simulating the head and tail of said animal, all of said printing surfaces being flush with each other.

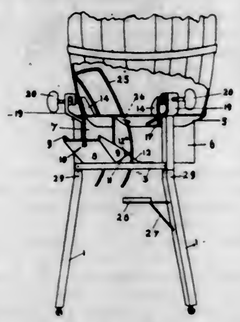
866,724. BARREL-CABINET. ALBERT HITZERT, Saginaw, Mich. Filed Mar. 7, 1907. Serial No. 361,145.

1. A dispensing cabinet comprising an inclined pan provided with a central aperture, a receptacle the edge of the receptacle adjustably received and supported upon the inclined surface of the pan, the inclined surface of the pan adapted to receive receptacles of different cross sectional areas, a delivery chamber depending beneath and inclosing the aperture in the pan, and a hinged closure for one end of the delivery chamber.

2. A dispensing cabinet comprising a frame, legs pivotally secured to the frame, clamps carried at the upper ends of the legs, thumb screws mounted in the clamps, a pan supported on the clamps, the pan provided with slots, toothed jaws mounted on the pan, means carried by the jaws and passing through the slots to engage the clamps, and a delivery chamber communicating with the pan.

3. The combination with an inverted receptacle, of a

dispensing cabinet comprising a suitably supported inclined pan on the incline of which the receptacle rests, a delivery chamber communicating with the pan, one end of the chamber being open, a door for the opening, a stud on the door and a spring, the free end of which engages the stud and is adapted to hold the door open when the stud has passed through a portion of its arc of travel.



4. The combination with an inverted receptacle, of a dispensing cabinet comprising a suitably supported inclined pan on which the receptacle rests, a delivery chamber communicating with the pan, the pan being slotted, a curved toothed jaw mounted on the pan, a guide stud carried by the jaw and received in the slot, a threaded pin carried by the jaw and projecting through the slot, an adjustable clamp through which the pin passes, means for securing the pin and clamp together and a thumb screw carried by the clamp.

5. The combination with an inverted receptacle, of a dispensing cabinet comprising a suitably supported inclined pan on which the receptacle rests, a delivery chamber communicating with the pan, and sectional means slidingly secured to the pan for concealing the joint between the pan and the receptacle.

6. The combination with an inverted receptacle, of a dispensing cabinet comprising a suitably supported inclined pan on which the receptacle rests, a delivery chamber communicating with the pan, and a curved U-shaped member passing loosely through the pan, the arms of the member being shouldered.

7. The combination with an inverted receptacle, of a suitably supported pan on which the lower open end of the receptacle rests, a delivery chamber communicating with the pan and receptacle, curved jaws on the pan adapted to engage the interior surface of the receptacle and suitably supported adjustable means for engaging the exterior surface thereof.

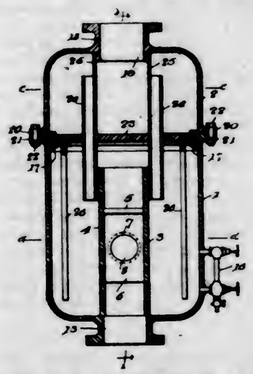
8. The combination with an inverted receptacle, of a dispensing cabinet comprising a suitably supported inclined pan on which the receptacle rests, a delivery chamber communicating with the pan, one end of the chamber being open, a door for the opening, a stud on the door, a spring, the free end of which engages the stud, and a hook on the spring adapted to take over the stud to limit its opening movement.

9. The combination with an inverted receptacle, of a dispensing cabinet comprising a suitably supported inclined pan on which the receptacle rests, a delivery chamber communicating with the pan, and sectional means slidingly secured to the pan for concealing the joint between the pan and the receptacle, the sectional means comprising arc shaped body portions, slotted lips carried by the body portions and bent at an angle thereto, and fastening means passing through the slots into the pan near its periphery.

10. The combination with a receptacle, of a dispensing cabinet comprising an inclined pan on which the receptacle rests, a delivery chamber communicating with the pan, the chamber provided with an opening, means for closing the opening, a rigid frame, legs pivotally secured intermediate their ends to the frame, and means connected with the upper ends of the legs for releasably securing the receptacle in position on the pan.

11. A dispensing cabinet comprising an inclined pan, a delivery chamber communicating therewith, a rigid frame, legs pivoted to the frame, and means carried by the legs for releasably securing a receptacle on the pan.

866,725. STEAM-SEPARATOR. GEORGE D. HOPPES, Springfield, Ohio. Filed Feb. 1, 1907. Serial No. 355,186.



1. In a device of the character described, a casing having a chamber within the same, an inlet in one end of said chamber, a plurality of outlets at the opposite end thereof, pipes mounted within said chamber and in alinement with said outlets, said pipes having their open ends near said inlet and on opposite sides thereof, and shields interposed between said inlet and the open ends of said pipes, substantially as described.

2. In a device of the character described, the combination, with a casing and a partition having an aperture therein and dividing said casing into two compartments, one having a steam inlet and the other a steam outlet, of a pipe secured to said partition in alinement with said aperture and terminating on opposite sides of said partition between said partition and the respective ends of said casing and adapted to convey the steam from one compartment to the other.

3. In a device of the character described, the combination, with a casing and a partition having a plurality of apertures therein and dividing said casing into two compartments, one having a steam inlet and the other a steam outlet, of a plurality of pipes secured to said partition in alinement with the respective apertures and terminating near said inlet and out of alinement therewith and adapted to convey the steam from one compartment to the other, substantially as described.

4. In a device of the character described, the combination, with a casing, a partition having a plurality of apertures therein and dividing said casing into two compartments, one having a steam inlet and the other a steam outlet, of pipes secured to said partition in alinement with said apertures, terminating between said partition and the end of said casing and out of alinement with said inlet, and shields interposed between said inlet and the ends of said pipes, substantially as described.

5. In a device of the character described, a casing and a partition having a plurality of apertures therein and dividing said casing into two compartments, one having an inlet and the other an outlet, and plates secured within said casing on the opposite sides of said inlet and extending into said chamber, of pipes secured to said partition in alinement with said apertures and extending into said chamber beyond the edges of said plates, substantially as described.

6. In a device of the character described, the combination, with a casing, a partition having apertures therein and dividing said casing into two compartments, a pipe secured to said partition and extending into one of said compartments, and means for introducing steam into said compartment between the ends of said pipe, of a vertically extending partition in the other compartment forming a chamber within the same, a pipe secured to the adjacent side of said first-mentioned partition in alinement with said aperture and extending into said last-mentioned compartment to a point below the upper edge of said vertical partition, and an outlet from said chamber, substantially as described.

7. In a device of the character described, the combination, with a casing having an upper and a lower compartment, a pipe connecting said compartments and extending into the same, an inlet to the upper compartment, a shield interposed between said inlet and the adjacent end of said pipe, a partition in said lower compartment forming a chamber and extending above the adjacent end of said pipe, and an outlet for said chamber, substantially as described.

8. In a device of the character described, the combination, with a casing, a partition dividing said casing into an upper and a lower compartment, pipes connecting said compartments and extending on the opposite sides of said partition, an inlet for said upper compartment, and a shield between said inlet and the adjacent ends of said pipes, of vertically extending partitions in said lower compartment forming a chamber between them and extending between the adjacent ends of said pipes, and an outlet connected to the chamber formed by said partitions, substantially as described.

9. In a device of the character described, the combination, with a casing, a partition dividing the same into upper and lower compartments, pipes connecting said compartments and extending on the opposite sides of said partition, an inlet discharging into said upper compartment below the upper ends of said pipes, vertically extending partitions in said lower compartment having a plurality of chambers between them, one of said chambers being in open communication with said lower compartment and another of said chambers having an outlet, and a valve connecting said chambers, substantially as described.

10. In a device of the character described, the combination, with a casing, a partition dividing the same into upper and lower compartments, pipes connecting said compartments and extending on the opposite sides of said partition, an inlet discharging into said upper compartment below the upper ends of said pipes, partitions extending from the bottom of said lower compartment to a point above the lower ends of said pipes and dividing said lower compartment into three parts, said central part comprising two chambers, one in open communication with said lower compartment and the other having an outlet, and a valve controlling the passage of steam from one of said chambers to the other, substantially as described.

11. In a device of the character described, the combination, with a casing, a partition dividing the same into upper and lower compartments, pipes connecting said compartments and extending on the opposite sides of said partition, an inlet discharging below the upper ends of said pipes, vertically extending partitions in said lower compartment extending above the lower ends of said pipes and dividing said compartment into three parts, said partitions having an opening therethrough connecting the two outer parts of said compartment, and an outlet for said central part thereof, substantially as described.

12. In a device of the character described, the combination, with a casing comprising upper and lower parts, a partition dividing said casing into two compartments, and an inlet in the upper part of said casing having downwardly extending shields on the opposite sides thereof, of a vertically extending partition in the lower part of said casing forming a chamber within the same, an outlet for said chamber, and pipes extending through said first-mentioned partition and having their upper ends above the lower edge of said shields and their lower ends below the upper edge of said vertical partition, substantially as described.

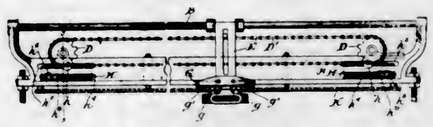
13. In a device of the character described, the combination, with a two part casing, one of said parts having an inlet and the other an outlet, an extension for said inlet extending into said casing, and a wall within said casing having a chamber within the same connected with said outlet, of a partition adapted to fit within said casing between said inlet and said outlet, and pipes extending through said partition and extending above the lower edges of said shield and below the upper edges of said wall, substantially as described.

14. In a device of the character described, the combination, with a two part casing, one of said parts having an inlet and the other having an outlet, of a partition adapted to be interposed between said inlet and said outlet, pipes extending through said partition and having their upper ends adjacent to said inlet, and shields carried by said pipes and extending between the same and the end of said casing on the opposite sides of said inlet, substantially as described.

15. In a device of the character described, the combination, with a two part casing having an inlet in one part thereof and an outlet in the other part thereof, of a partition adapted to be interposed between said inlet and said outlet, pipes extending through said partition, shields carried by the upper ends of said pipes extending between the same and the adjacent end of said casing on opposite sides of said inlet, said partition, pipes and shields being formed integral one with the other and separate from said casing, substantially as described.

16. In a device of the character described, the combination, with a two part casing, one of said parts having an inlet and the other having an outlet, of a partition adapted to be interposed between said inlet and said outlet, pipes extending through said partition, shields extending between the upper ends of said pipes and the end of said casing on the opposite sides of said inlet, and a drain pipe extending through said partition, substantially as described.

866,726. FEEDING MECHANISM FOR CARDING-MACHINES. HARRY KEMP, Newton, Mass. Filed Aug. 22, 1904. Serial No. 221,597.



1. In a feed mechanism for carding machines, in combination, a carrier-supporting bridge made with a pair of longitudinal parallel slots; a bracket for supporting the sprocket or the like of the carrier-reciprocating devices, said bracket being provided with a rigid abutment projecting through one of the slots into the path of the carrier, and a bolt in the other slot for clamping the bracket to the bridge.

2. In a feed mechanism for carding machines, in combination, a carrier-supporting bridge made with a pair of longitudinal parallel slots; a bracket for supporting the sprocket or the like of the carrier-reciprocating devices, said bracket being made with a slot opposite to and parallel with one of the slots of the bridge; an abutment adjustably fixed in the slot of the bracket and projecting through the adjacent slot of the bridge into the path of the carrier, and a bolt in the other slot of the bridge for clamping the bracket to the bridge.

3. In a feed mechanism for carding machines, in combination, a carrier-supporting bridge made with a longitudinal slot; a bracket for supporting the sprocket or the like of the carrier-reciprocating devices, said bracket being provided with an abutment projecting through the slot into the path of the carrier, and means for holding the bracket rigid with reference to the bridge.

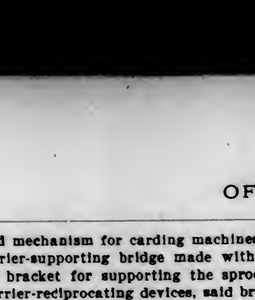
4. In a feed mechanism for carding machines, in combination, a carrier-supporting bridge made with a longitudinal slot; a bracket for supporting the sprocket or the like of the carrier-reciprocating devices, said bracket being provided with an abutment adjustably mounted upon the bracket and projecting through the slot into the path of the carrier, and means for holding the bracket rigid with reference to the bridge.

5. In a feed mechanism for carding machines, in combination a carrier-supporting bridge made with a longitudinal slot; a bracket for supporting the sprocket or the like of the carrier-reciprocating devices, said bracket being provided with an abutment projecting through the slot into the path of the carrier, and means for holding the bracket rigid with reference to the bridge, with provision for adjusting the same longitudinally with reference to the bridge.

6. In a feed mechanism for carding machines, in combination, a carrier-supporting bridge, made with a pair of longitudinal parallel slots; a bracket for supporting the sprocket or the like of the carrier-reciprocating devices; an abutment adjustably fixed to said bracket and projecting through one of the slots of the bridge into the path of the carrier, and a bolt in the other slot of the bridge for clamping the bracket to the bridge.

7. The combination of the frame, stands adjustable thereon, the driving-wheels or rolls, supported on said stands, the driving-band or chain supported on said rolls, the carrier or traveler, driven by said band or chain, the rack supported on said frame, the pivoted plate, feed or delivery-rolls carried by said plate, gears rotary with said feed-rolls and adapted to engage said rack, one at a time, and reversing stops, supported on said stands and adjustable with said driving-wheels or rolls.

866,727. SAMPLE-CASE. NATHANIEL J. LITTLE, Fargo, N. D. Filed Mar. 30, 1907. Serial No. 365,491.



1. A device of the class set forth, comprising, in combination, an expansible rack, a receptacle having a cover opening and closing with said rack, and clips by which the body and cover of said receptacle are attached to said rack, for the purposes specified.

2. A device of the class set forth, comprising, in combination with a receptacle having a hinged cover, an expansible rack provided with transverse braces, clips attached to said braces by which the free end of said cover and the body of said receptacle are engaged so as to simultaneously open and close with said rack, for the purposes specified.

3. A device of the class set forth, comprising in combination, a collapsible rack by which a receptacle having a hinged cover is adapted to be supported, and connections with said rack to which the free end of said cover and the body of said receptacle are attached, for the purposes specified.

4. A device of the class set forth, comprising in combination, an inclosing case provided with a cover, an expansible rack carried by said case and having its upper end attached to said cover, and means on said rack by which the body and cover of a receptacle are supported so that when the rack is extended and collapsed, said receptacle is respectively opened and closed.

5. Apparatus of the class set forth, comprising in combination, a collapsible rack by which a receptacle having a hinged cover is adapted to be supported, connections on said rack to which the free end of said cover and the body of said receptacle are attached, and an inclosing case in and to which said rack is fastened, for the purposes specified.

6. A device of the class set forth, comprising in combination, a collapsible rack by which a receptacle having a hinged cover is adapted to be supported, connections on said rack to which the free end of said cover and the body of said receptacle are attached, so that the receptacle and rack are simultaneously opened and closed, and a case provided with a cover, said case and cover being respectively attached to the lower and upper ends of said rack, for the purposes specified.

7. A device of the class set forth, comprising in combination, a collapsible rack by which a receptacle having a hinged cover is adapted to be supported and provided with oppositely disposed lazy tongs, transverse braces between said tongs, and clips on said braces to which the free end of said cover and the body of said receptacle are attached, so that the receptacle and rack are simultaneously opened and closed.

8. A device of the class set forth, comprising, in combination, a collapsible rack by which a receptacle having a hinged cover is adapted to be supported and provided with oppositely disposed lazy tongs, horizontal braces between said tongs, clips on said braces by which the free end of said cover is attached to one of said braces and the body of said receptacle attached to the brace immediately below it, and a case provided with a detachable lid, the body of said case being attached to the lower ends of said tongs and the lid to the upper ends thereof, for the purposes specified.

9. A device of the class set forth, comprising, in combination, a collapsible rack by which a receptacle having a hinged cover is adapted to be supported, connections on said rack to which the free end of said cover and the body of said receptacle are attached, a case provided with a detachable lid, and means for supporting said rack in superior position, the body of said case being attached to the lower end and the lid to the upper end of said rack, for the purposes specified.

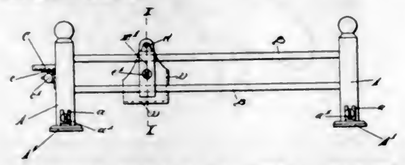
10. A device of the class set forth, comprising, in combination, a collapsible rack by which a receptacle having a hinged cover is adapted to be supported, connections on said rack to which the free end of said cover and the body of said receptacle are attached, so that the receptacle and rack are simultaneously opened and closed, a case provided with a detachable cover, and means by which said rack is supported in superior position, the body of said case being attached to the lower end and the cover to the upper end of said rack, for the purposes specified.

11. A device of the class set forth, comprising, in combination, a collapsible rack by which a receptacle having a hinged cover is adapted to be supported, connections on said rack to which the free end of said cover and the body of said receptacle are attached, means for supporting said rack in superior position, a case provided with a detachable cover and hinged sides, and means for holding the parts of said case closed, the body of said case being attached to the lower end and the cover to the upper end of said rack, for the purposes specified.

12. A device of the class set forth, comprising, in combination, a collapsible rack by which receptacles having hinged covers are adapted to be supported and provided with oppositely disposed lazy tongs, a plurality of longitudinal braces between the joints at the ends of the arms of said tongs, clips by which the free end of one of said covers is attached to one of said braces and the body of said receptacle attached to the brace immediately below it, so that the receptacle and rack are simultaneously opened and closed, a case provided with a detachable lid and a movable front and back, and means by which the parts of said case are held in closed position, the body of said case being attached to the lower end and the lid to the upper end of said rack, for the purposes specified.

13. A device of the class set forth, comprising in combination, oppositely disposed lazy tongs, horizontal rods between the joints at the ends of the arms of said tongs, means by which the free end of a hinged lid of a box is attached to one of said rods and the front portion of the body of said box to a rod immediately below it, and means for holding said rack in extended position, said tongs being adapted when open to expose the inner surface of its lid and the contents in its body to view, and when contracted to close said box, for the purposes specified.

866,728. EXERCISING APPARATUS FOR CHILDREN. EDWIN LOVELL, London, England. Filed July 10, 1905. Serial No. 269,123.

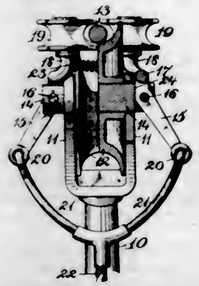


1. Exercising apparatus for children, consisting of a frame forming an inclosure constructed of corner posts, supporting bases, adjustable brackets attaching the corner posts to the bases, rails connecting the posts together, a tray at one end of the frame and adjustable brackets connecting the tray to the posts.

2. Exercising apparatus for children, consisting of a frame forming an inclosure, constructed of corner posts and connecting rails, a swinging chair and a support for the chair sliding on the side rails of the frame.

3. In exercising apparatus for children, a frame forming an inclosure, constructed of vertical posts and horizontal connecting rails, a swinging chair and a support for the chair consisting of hinged cheeks or jaws embracing the side rails of the frame and means for clamping the jaws on the rails.

866,729. TROLLEY. WILLIAM MOECKEL, Jersey City, N. J. Filed June 12, 1907. Serial No. 378,536.



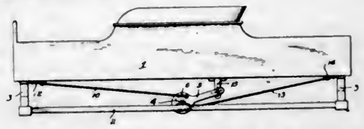
1. A trolley comprising a frame having a pin loosely arranged therein, a trolley-wheel arranged to revolve on the pin, side frames pivotally arranged in the ends of the pin having lateral rollers arranged on their ends to engage the sides of the trolley-wire, depending portios on the side frames with means for attaching a rope thereto, whereby when the rope is pulled the side frames with the lateral rollers are sustained approximately horizontal, and the lateral rollers are at the same time pulled apart, and means arranged to normally pull the lateral rollers together.

2. A trolley comprising a frame having a pin loosely arranged therein, a trolley-wheel arranged to revolve on the pin, side frames pivotally arranged in the ends of the pin having lateral rollers arranged on their ends to engage the sides of the trolley-wire, depending portions on the side frames with means for attaching a rope thereto, whereby when the rope is pulled the side frames with the lateral rollers are sustained approximately horizontal, and the lateral rollers are at the same time pulled apart, springs arranged to normally pull the lateral rollers together, and means for limiting the movement of the lateral rollers toward one another so that they will not touch.

3. A trolley comprising a frame having a pin loosely mounted therein, a trolley-wheel arranged to rotate on the pin, U-shaped side frames with laterally arranged rollers on the ends, a central depending lever on each side frame, each lever being pivotally arranged in one end of the pin, means on the lower ends of the levers for securing a rope thereto, and means tending to draw the U-shaped frames towards the trolley-wire.

4. A trolley comprising a frame having a pin loosely arranged therein, a trolley-wheel arranged to rotate on the pin, a U-shaped frame on each side of the frame of the trolley and having laterally arranged rollers on the ends, the rollers having concave peripheries to engage the sides of the trolley-wire, a depending lever centrally arranged on each frame, each lever being pivotally arranged in one end of the pin, means on the lower ends of the levers for attaching a rope thereto, means as a spring tending to normally draw the side frames with the lateral rollers toward the trolley-wire, and means for limiting the inward movement of the side frames.

866,730. VEHICLE-BODY BRACE. JOSEPH C. MORTON, Eldorado Springs, Mo., assignor of one-half to O. P. Cassity, Eldorado Springs, Mo. Filed Apr. 11, 1907. Serial No. 367,649.



1. A vehicle body brace, comprising an operating or tightening lever, front and rear brace rods connected at their outer ends to the vehicle body, means to adjustably connect the inner ends of said rods to said lever, and a locking bar to secure the lever in an operative position, substantially as described.

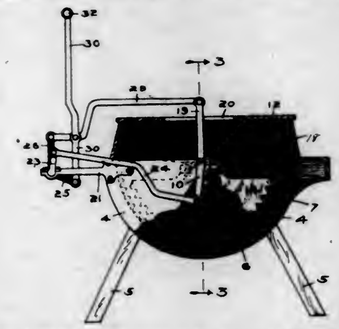
2. A vehicle body brace, comprising a pivotally mounted operating lever consisting of a head and a stem, each having a series of bolt holes formed therein, front and rear brace rods having a spring connection at their outer ends to the underside of the vehicle body, bolts to adjustably connect the opposite ends of said rods with one of the bolt holes in said head of the operating lever, and means to lock said lever in an operating position.

3. A vehicle body brace, comprising a pivotally mounted operating lever consisting of a head and a stem, each having a series of bolt holes formed therein, front and rear brace rods having a spring connection at their outer ends to the underside of the vehicle body, bolts to adjustably connect the opposite ends of said rods with one of the bolt holes in said head of the operating lever, and a locking bar adapted to be adjustably connected in one of the bolt holes in the stem of the lever and connected at its opposite end to the vehicle body, substantially as described.

4. A vehicle body brace, comprising a bearing bracket secured to the reach of the vehicle running gear, an operating lever pivotally mounted in said bracket, said lever comprising a circular head having formed therein a series of bolt holes and a rearwardly projecting stem or handle having formed therein a series of bolt holes, front and rear brace rods having a spring connection at their outer ends with the underside of the vehicle body and adapted to be adjustably secured in one of the

series of holes in the head of said lever, and a locking bar adapted to be adjustably connected to one of the series of holes in said stem of the lever, and to be connected at its opposite end to the vehicle body to lock said lever in an operative position, substantially as described.

866,731. WASHING-MACHINE. JOHN S. MCDANIEL, Lebanon, Ind. Filed Apr. 27, 1906. Serial No. 314,076.

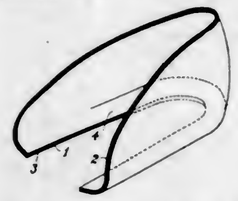


1. In a washing machine, a suds box, a semi-cylindrical rubber mounted on trunnions in said box, a crank connected with the rubber, a second rubber mounted on trunnions and entering the first rubber, said second rubber having a vertical standard, a rock-shaft mounted outside of the suds box, said rock-shaft having two fixed arms, a crank-bar connecting one of said arms with the crank of the first rubber and a second crank-bar connecting the other arm with the standard from said second rubber, a lever loosely mounted on the rock-shaft and a hand-lever pivotally secured at its lower end to the lever loosely mounted on the rock-shaft and pivotally secured at a point above its lower end to said second crank-bar.

2. In a washing machine, a suds box, a semi-cylindrical rubber mounted in said box on trunnions, a crank connected with one of the trunnions and extending in a downward direction on the outside of the suds box, a second rubber mounted within the first and capable of a rocking movement, said second rubber having an upwardly extended standard, a rock-shaft mounted on brackets outside of the suds box, said rock-shaft having two upwardly extended fixed arms, a crank-bar connecting one of said arms with the crank of the first rubber and a second crank-bar connecting the other arm with the standard from said second rubber, a lever loosely mounted on the rock-shaft and extending obliquely in a downward direction, and a hand-lever pivoted at its lower end to said loose lever and above said lower end to the crank-bar which connects one of the fixed arms of the rock-shaft with the standard of the top rubber.

3. In a washing machine, a suds box, an inverted box forming a cover to said suds box, said cover having vertical slots in its opposite sides, a semi-cylindrical rubber pivotally mounted within the suds box so as to be capable of a rocking movement, said rubber having a crank-arm extending in a downward direction on the outside of the suds box, a second rubber mounted within the first rubber and having pivots projecting into the vertical slots of the cover, said rubber also having a vertical standard which passes through a slot in the top of the cover and terminates outside of the cover, a rock-shaft supported on horizontal brackets extending outside of and from the suds box, said rock-shaft having two upwardly projecting fixed arms, a crank-bar connecting one of these arms with the crank of the first rubber, a second crank-bar connecting the other vertical arm with the standard extension from the second rubber a lever loosely mounted on the rock shaft and extending obliquely in a downward direction and a hand-lever pivoted at its lower end to the oblique loose lever and at a point above its lower end to the crank-bar extending from the second arm of the rock-shaft to the standard of the second rubber said last mentioned crank-bar being bent upwardly and after passing the top of said suds-box cover being bent back into a horizontal position and carried thence above the cover to the standard so as to avoid conflict with the cover in the operation of the machine.

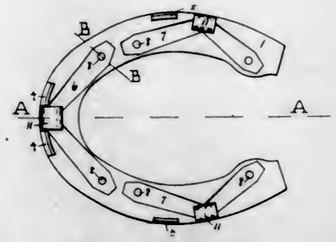
866,732. COUNTER FOR BOOTS AND SHOES. GEORGE L. PREBLE, Lynn, Mass. Filed Mar. 30, 1907. Serial No. 365,565.



1. A heel stiffener for boots and shoes consisting of a thin sheet of celluloid molded to the required shape, and a sheet of reinforcing material permanently secured thereto by an intermingling of the celluloid with the fibers of the reinforcing material.

2. A heel stiffener for boots and shoes consisting of a thin sheet of celluloid molded to the required shape, a sheet of reinforcing material upon the outer surface of said celluloid sheet and a sheet of cushioning material upon the inner surface of said celluloid sheet, said sheets being permanently united by an intermingling of the celluloid with the reinforcing and cushioning material.

866,733. HORSESHOE. GEORGE L. REYNOLDS, Auburn, N. Y. Filed Oct. 13, 1906. Serial No. 338,705.



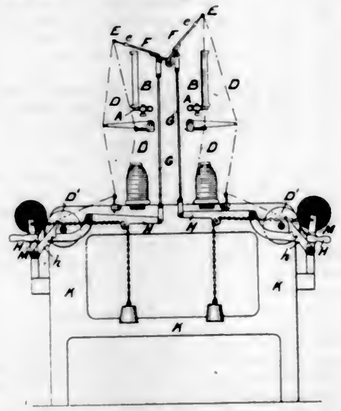
1. A horse shoe formed with recesses, springs secured in these recesses, and hooks in engagement with these springs, which hooks are adapted to secure the shoe to the hoof of a horse.

2. A horse shoe formed with recesses, springs having their ends fastened in these recesses and provided with downwardly projecting hooks at their middle portions, and claws adapted to engage grooves in the hoof of the horse and carried by these downward projecting hooks on the springs.

3. A horse shoe formed with sets of grooves, springs fitting in said grooves, and having their ends secured to said shoe, claws in engagement with the middle portions of said springs and adapted to secure the shoe to the hoof of a horse, said springs being formed with a ridge at the lower side of each end.

4. A horse shoe formed with toe and side pieces to prevent the shoe moving laterally when secured to the hoof, springs secured to said shoe, and hooks in engagement with the springs, which hooks are adapted to secure the shoe to the hoof.

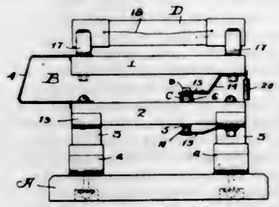
866,734. MACHINE FOR GASSING YARN OR THREAD. FRED RIVETT, Heaton Chapel, and SAMUEL OLDHAM, Heaton Norris, England. Filed June 4, 1906. Serial No. 320,096.



1. In a gassing frame for yarn or thread the combination with the burner A, vertical chamber B surrounding the burner, stop lever H, and winding drum D', of a guide eye E placed above the burner, a pivoted rod F, to which the guide eye is affixed and a connecting rod G by which the guide eye is connected with the stop lever substantially as described.

2. In a gassing frame the combination with the burner A, stop lever H, and winding drum D', of a guide eye pivoted above the burner, means for connecting the guide eye with the stop lever and a lever M', also connected with the stop lever H, by which the yarn is removed from the drum at the same time as it is removed from the burner substantially as described.

866,735. CIRCUIT-PROTECTOR. CHARLES A. ROLFE, Adrian, Mich., assignor, by mesne assignments, to Rolfe Electric Co., Rochester, N. Y., a Corporation of New York. Filed Jan. 2, 1902. Serial No. 88,037.



1. The combination with a pair of strips, of a loop spring having its arms secured to corresponding ends of the strips and tending to separate the same, a heat-responsive device arranged in an aperture in one of said strips and having its outer end enlarged, whereby it cannot be pulled through the aperture, and a connection between the other or inner end of said heat-responsive device and the other strip for holding the strips together in opposition to the spring.

2. The combination with a pair of strips, of a loop spring having its arms secured to corresponding ends of the strips and tending to swing the strips away from one another, a heat-responsive device confined in an aperture formed in one of said strips, the said device comprising a stick of high resistance material and a conductor soldered thereto, and a connection between said heat-responsive device and the other strip, said connection being adapted to hold the strips together in opposition to the spring, substantially as described.

3. The combination with a pair of insulating strips 1 and 2, of a spring 4 secured to the end of said strips and adapted to separate the same, a heat-responsive device confined in an aperture in the strip 2, the said heat-responsive device consisting of a graphite stick and a metallic cap soldered to one end of said stick, said metal cap being provided with an apertured lug or ear, a metallic strip 13 affording a connection with said graphite stick, a metallic strip 14 having one of its ends secured to the other insulating strip and the other end provided with an aperture adapted to fit over the apertured lug or ear of the heat-responsive device, and a catch 15 adapted to detachably engage the heat-responsive device by passing through the aperture of the ear or lug thereon, substantially as described.

4. The combination with a pair of strips, of spring means tending to separate the same, a heat-responsive device serving to hold said spring in tension, a fuse carried by one of said strips, and circuit connections for connecting both the heat-responsive device and the fuse in circuit.

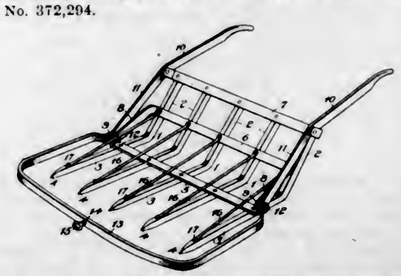
5. The combination with a pair of strips, of spring means tending to separate the same, a heat-responsive device arranged to hold the said spring in tension, a fuse block carried by one of said strips, and circuit connections whereby both the fuse of the fuse block and the heat-responsive device are connected in circuit in series.

6. The combination with a pair of insulating strips, of a bow spring having its arms secured to corresponding ends of said strips, a heat-responsive device carried by one of the strips and connected with the other so that said device holds the spring in tension, and a fuse block mounted upon the other strip and provided with contact jaws, one of which is secured to said spring, whereby the spring forms a connection with the fuse block, substantially as described.

7. A heat-responsive device comprising a block or stick of high resistance material, having one of its ends copper plated and the other end provided with an abutment, and a metallic cap adapted to inclose the copper plated end of said stick or block and soldered thereto, substantially as described.

8. A heat-responsive device comprising a stick or pencil of high resistance graphite having its opposite ends metal plated, a metallic cap having an apertured ear and adapted to inclose one of the metal plated ends of said stick or pencil, and an enlargement on the other end of said pencil, substantially as described.

866,736. SCOOP. JOHN C. S. RUMSEY and HERBERT R. RUMSEY, Vinland, Kans. Filed May 7, 1907. Serial No. 372,294.



1. A scoop of the character described comprising angular finger bars, cross bars connecting the same, handle bars uniting said cross bars and forming braces and a draft connection attached to one of said cross bars.

2. A scoop of the character described comprising finger bars having horizontal portions and upright rear portions, a cross bar uniting said horizontal portions, a cross bar uniting said upright portions and having its ends extended forwardly and downwardly to form in-

clined braces and fastenings uniting the latter to the first mentioned cross bar.

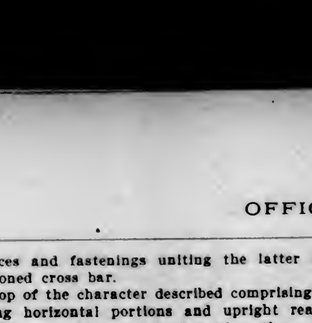
3. A scoop of the character described comprising finger bars having horizontal portions and upright rear portions, a cross bar uniting said horizontal portions, a cross bar uniting said upright portions and having its ends extended forwardly and downwardly to form inclined braces, a third cross bar uniting said upright portions and arranged above the second cross bar, handle bars secured to said third cross bar and having their forward ends extending forwardly and downwardly to provide braces and fastenings for securing the braces formed by said handle bars and said second cross bar to the first mentioned cross bar.

4. A scoop of the character described comprising finger bars having horizontal portions and upright rear portions, a cross bar uniting said horizontal portions, a cross bar uniting said upright portions and having its ends extended forwardly and downwardly to form inclined braces, a third cross bar uniting said upright portions and arranged above the second cross bar, handle bars secured to said third cross bar and having their forward ends extending forwardly and downwardly to provide braces, a draft loop or bail and fastenings for connecting the latter, the ends of the first mentioned cross bar and the braces formed by the handle bars and the second mentioned cross bar.

5. A scoop of the character described comprising a back portion and a bottom portion, the latter being composed of parallel finger bars, a cross bar arranged upon and secured to the tops of said finger bars and upwardly and rearwardly inclined brace and guide rods between the back portion of the scoop and the front portions of said finger bars, substantially as and for the purpose specified.

6. A scoop of the character described comprising angular finger bars united by cross bars, one of said cross bars being arranged upon the tops of the front portions of the finger bars and upwardly and rearwardly inclined brace and guide rods between the front and rear portions of the finger bars and disposed above the last mentioned cross bar, substantially as and for the purpose specified.

866,737. REGISTER. DANIEL J. RUSSELL, Portland, Oreg. Filed July 14, 1906. Serial No. 326,185.



1. In a pocket register, the combination of a case, a totalizing mechanism, and an item indicating mechanism embodying an internally graduated stop device, and a single means for variably operating said stop device.

2. In a pocket register, the combination of a totalizing mechanism, and an item indicating mechanism embodying a rotary internally graduated stop device, means for operating the same, and a dial operable with said stop device.

3. In a pocket register, the combination of a case a totalizing mechanism, and an item-indicating mechanism embodying an internally graduated stop device, and a single means outside said case for operating said stop device.

4. In a pocket register, the combination of a totalizing mechanism embodying an abutment, and an item indicating mechanism embodying an internally graduated rotary stop device, a single means for rotating said stop device, and an indicator operable with said stop device.

5. In a pocket register, the combination of a totalizing mechanism embodying an abutment, and an item indicating mechanism embodying a graduated rotary stop device, means for rotating said stop device, a dial secured to rotate with said stop device, a fixed pointer, a gear wheel on said stop device, a pinion engaging said gear, and means for operating said pinion.

6. In a pocket register, the combination of a totalizing mechanism, an item indicating mechanism embodying an indicator plate, a stop device on said plate, a stationary pointer for said plate, a pinion engaging teeth on said plate, means for operating said pinion, and connections between said stop device and said totalizing mechanism.

7. In a pocket register, the combination of an item indicating mechanism comprising a circular dial plate provided with gear teeth and having a variable stop opening therein, and a pinion for shifting said plate, of a totalizing mechanism embodying a connection controlled in its movement by the position of said dial plate through the variable stop opening therein.

8. In a pocket register, the combination of a case, a totalizing mechanism embodying a dial plate secured in and exposed at one side of said case, and an item indicating mechanism comprising a dial plate mounted in and exposed at the other side of said case and revolubly held therein, and means for operating the latter device.

9. In a pocket register, the combination with a totalizing mechanism comprising a pinion, a longitudinally movable rack connected to said pinion, means for varying the extent of movement of said rack, and means for operating said rack, of item indicating mechanism comprising an internally graduated stop device, and means for indicating the amount to be registered.

10. In a pocket register, the combination with a totalizing mechanism comprising a pinion, a longitudinally movable rack having a one-way connection with said pinion, means for varying the extent of movement of said rack, and means for operating said rack, of item indicating mechanism comprising an internally graduated stop device, and means for indicating the amount to be registered.

11. In a pocket register, the combination of a case, a totalizing mechanism comprising a pinion, a longitudinally movable carrier, a rack pivotally connected to said carrier and having a one-way connection with said pinion, means for varying the extent of movement of said rack, and means for operating said rack, of item indicating mechanism comprising means for indicating the amount to be registered.

12. In a pocket register, the combination of a circular case, a pendant, a crown, a totalizing mechanism, an item indicating mechanism comprising a variable stop device connected to and operated by said crown, and connections between said totalizing mechanism and said stop device.

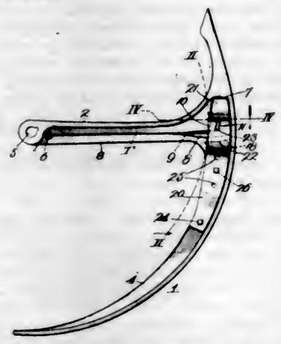
13. In a pocket register, the combination with a case, a totalizing mechanism, and an item indicating mechanism comprising a crown, an arbor connected to said crown, and a variable stop device connected to said arbor.

14. In a pocket register, the combination with a case, and a totalizing mechanism comprising a pinion and a rack connected to said pinion, of an item indicating mechanism comprising a pendant, a crown, and means controlled by said crown for indicating the amount to be registered, means controlled by the item-indicating mechanism for controlling the extent of movement of said rack, and means for operating said rack.

866,738. TWINE-TENSION FOR BINDERS. CHARLES B. SCHREPEL, Coats, Kans. Filed Dec. 29, 1906. Serial No. 349,954.

1. The combination of a needle provided with a passage and an eye and guide and with a transverse opening between the guide and passage, and a pair of lips projecting into said opening from opposite sides of the needle and pressed yieldingly together.

2. The combination of a needle provided with a passage and an eye and a guide and a pair of springs secured to the needle and disposed at opposite sides of said guide and provided with lips pressed yieldingly together between said guide and passage.



3. The combination of a needle provided with a passage and an eye and opening, a guide in said opening, horns projecting laterally therefrom, and a pair of springs secured to the needle and disposed at opposite sides of said guide and provided with openings to receive said horns and with lips pressed yieldingly together in said opening.

4. The combination of a needle provided with a guide hole in its shank and with a passage and an eye and opening, a horned guide in said opening, and a pair of spring secured to opposite sides of the needle and provided with openings to receive the horns and with lips pressed yieldingly together in said opening.

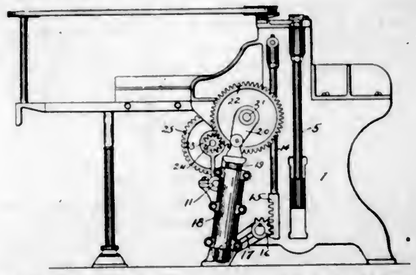
5. The combination of a needle provided with a guide hole in its shank and with a passage an an eye and a substantially boot-shaped opening, said boot-shaped portion having its foot portion disposed longitudinally of the shank and its leg portion projecting toward the point or eye of the needle, a guide projecting into the boot-shaped opening and provided at its outer end with a channel longitudinally alined with said passage and with laterally projecting horns at opposite sides of said channel, and a pair of springs secured to the needle at opposite sides of said lug and provided with openings to receive said horns and at their upper ends with lips held yieldingly together in said opening.

6. The combination of a needle provided with a passage, an eye and an opening, and also provided with a twine guide in said opening, and springs secured to opposite sides of the needle and terminating in lips projecting into said opening from opposite sides thereof between the guide and passage and adapted to clamp the twine between them; said springs being bowed outwardly between said lips and the points where they are secured to the needle.

7. The combination of a needle provided with a passage, an eye and an opening, and also provided with a twine guide in said opening and at the end of the opening most remote from the eye with outwardly projecting ribs, and springs secured to opposite sides of the needle and bowed outwardly around said ribs and terminating in lips projecting from opposite sides into said opening between the guide and passage and adapted to clamp the twine between them at such point.

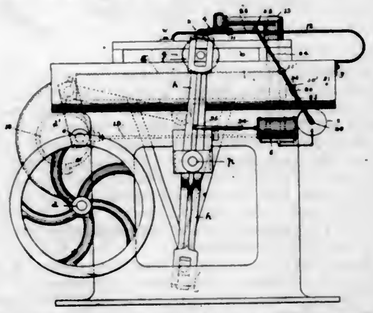
866,739. PAPER-CUTTING MACHINE. CHARLES SEYBOLD, Dayton, Ohio. Filed Nov. 6, 1905. Serial No. 286,133.

1. In a paper cutter, a clamp, comprising a clamp head, and a separate paper-compressing clamp bar, with means for actuating both said clamp head and clamp bar simultaneously by a power driven mechanism, with a foot treadle for operating the clamp bar independently of the clamp head, a shaft journaled on the clamp head parallel with the clamp bar, sleeves secured to the shaft, with flexible connection therefor to the clamp bar, and a coiled spring mounted on said shaft, one end bearing against the clamp head, and the other end secured to said shaft, whereby when the shaft is rotated under the operation of the foot treadle, torsional tension will be exerted on the clamp bar to return it to its normal position when the foot treadle is released, and when the clamp head and clamp bar are actuated by the power driven mechanism, said coiled spring will not be affected.



2. In a paper cutter, a clamp, comprising a clamp head and a separate paper compressing clamp bar, with means for actuating both said clamp head and clamp bar simultaneously by a power driven mechanism, with a foot treadle for operating the clamp bar independently of the clamp head, a shaft journaled on the clamp head parallel with the clamp bar, sleeves secured to the shaft, with flexible connection therefor to the clamp bar, and a coiled spring mounted on said shaft, one end bearing against the clamp head, a rotatable adjustable collar secured to said shaft to which the other end of said spring is attached, whereby the tension of said spring may be adjusted, and when the shaft is rotated under the operation of the foot treadle, desired torsional tension will be exerted on the clamp bar to return it to its normal position when the foot treadle is released, and when the clamp head and clamp bar are actuated by the power driven mechanism, said coiled spring will not be affected.

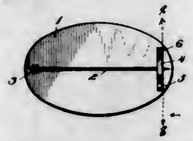
866,740. SHEET-DELIVERY FOR PRINTING-PRESSES. FRANK P. SHARP, San Francisco, Cal. Filed June 26, 1905. Serial No. 266,913.



1. In a sheet delivery for a printing press, the combination with the bed and the source of vacuum, of a pair of guide rods arranged on opposite sides of the bed, a carrier mounted to slide thereon, brackets, provided with bearings, secured to the carrier, a suction head rotatably mounted in the bearings in said brackets, telescoping pipes for connecting the source of vacuum with the suction head, an oscillating arm for operating the carrier, a valve in the suction head for admitting air thereto to release and deliver a sheet, and means for operating the valve, substantially as set forth.

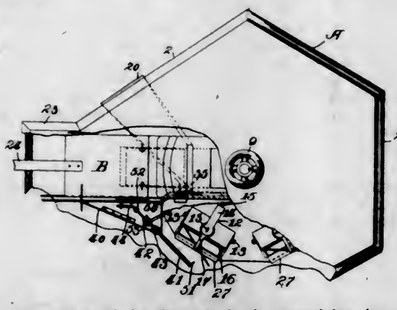
2. In a sheet-delivery for a printing-press, the combination of a reciprocating carrier, brackets carried thereby and provided with bearings, a suction-head rotatably mounted in said bearings and having an air-chamber, a source of vacuum connected with said chamber, and a removable suction-plate in the head provided with apertures communicating with the said chamber.

866,741. CLASP FOR PINS AND BROOCHES. ELIZABETH E. SMITH, Glen Ullin, N. D. Filed Jan. 26, 1907. Serial No. 354,294.



A fastening pin for a brooch, and the like, said brooch comprising a body portion, a pin pivoted thereto, ears projecting from the body portion to which the pin is pivoted, the said body portion having a raised portion, said raised portion having a semi-circular recess to receive the pin, a clamp rigidly fixed to the body of the brooch, said clamp having a yieldable rounded end, the said body of the brooch having a recess to receive said yieldable rounded end to prevent lateral bending of the said clamp.

866,742. VENDING-MACHINE. JOSEPH M. SPINDLER, Shakopee, Minn. Filed Feb. 11, 1907. Serial No. 356,708.



1. A machine of the class set forth, comprising, in combination an inclosing frame, a tray journaled in said frame and provided with means for detachably holding different articles to be vended and a series of openings through which said articles are adapted to pass, a cut-out co-acting with said magazine and adapted to register with a single one of said openings at a time, lugs on said tray between which said cut-out is adapted to slide and preventing it from being operated except when registering with a single opening and a check plate below said cut-out, for the purposes specified.

2. A machine of the class set forth, comprising, in combination an inclosing frame, a tray journaled in said frame and provided with detachable means for holding a series of different articles to be vended, and a series of openings, a cut-out co-acting with said magazine below said openings, means for turning said magazine and causing it to register with said cut-out at different openings during its movement, lugs on said tray adapted to engage said cut-out and permitting it to be withdrawn when registering with a single one of said openings and a check plate below said cut-out, for the purposes specified.

3. A machine of the class set forth, comprising, in combination, an inclosing frame, a magazine journaled in said frame, a series of containers in said magazine, clamps detachably holding said containers in said magazine, means for revolving said magazine, a cut-out with which said magazine is adapted to be brought into communication, means for preventing the movement of said cut-out and means for checking the advance of articles passing through said cut-out, for the purposes specified.

4. A machine of the class set forth, comprising, in combination, an inclosing frame, a magazine journaled in said frame, and provided with means for holding different priced articles to be vended, a cut-out co-acting with said magazine and adapted to remove a single article at a time therefrom, means for turning said magazine, means for permitting the movement of said cut-out, and a check plate pivoted below said cut-out, and means for normally pressing said plate up to close the opening in said cut-out.

5. A machine of the class set forth, comprising in combination, an inclosing frame, a vertical shaft journaled in said frame, means over said frame for turning said shaft, a tray supported by said shaft, and provided with a series of openings therein arranged circumferentially around said shaft, a series of slides for supporting articles to be vended above said openings and upon said tray, means for operating said slides, a manually operated one piece cut-out having a slot below the path of the openings in said tray, and a handle extending from said frame for reciprocating said cut-out.

6. A machine of the class set forth, comprising, in combination, an inclosing frame, a vertical shaft journaled in said frame, means for turning said shaft, a tray supported by said shaft and provided with a series of openings therein, means for supporting a series of articles to be vended above said openings and upon said tray, a slide having a slot below the path of said openings, a chute leading from below said tray and with which the slot in said slide is adapted to register, and a check plate above the entrance into said chute, for the purposes specified.

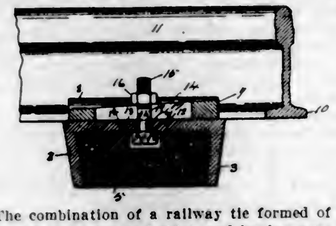
7. A machine of the class set forth, comprising in combination, an inclosing frame, a revoluble magazine journaled in said frame and having a series of openings, separate slides adapted to close each of said openings, adjustable clamps for holding articles in said magazine, a single piece cut-out below said magazine, having a slot through which articles from the magazine are adapted to pass, a dog adapted to hold said cut-out closed, a check plate below said cut-out adapted to prevent it being closed except when the article being vended falls thereon; said cut-out being provided with a pair of grooves, one of which causing said cut-out to engage a slide and open it, a series of lugs below said magazine adapted to pass through the other groove in said cut-out and prevent the operation of the machine when the magazine is not in proper position, a hand grip above said frame for turning the magazine, and a chute below the check plate through which the articles are adapted to pass.

8. A machine of the class set forth, comprising, in combination, an inclosing frame, a magazine journaled in said frame, and provided with a series of openings therein, means for supporting articles to be vended adjoining said openings, a slide having a slot below the path of the openings in said magazine, a chute below the path of said openings, and a check plate below the slot in said cut-out and above the entrance into said chute and adapted to permit the articles vended to pass into said chute, and means for limiting the movement of said cut-out.

866,743. METAL AND CONCRETE RAILWAY-TIE AND RAIL-FASTENING. MOSES STONER, Warsaw, Ind. Filed Mar. 20, 1907. Serial No. 363,352.

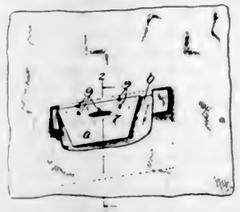
1. A composite railway tie consisting of a metallic shell or casing having inwardly flaring sides, and having near each end thereof upright longitudinally alined lugs, and provided with an interposed vertical slot in approximate alinement with the said lugs; a concrete body anchored within the said shell; a pair of longitudinally slotted rail-clamping plates wedged in cross-section both vertically and longitudinally; and means for maintaining the interlocked relationship of the said plates with the said rail.

2. In a composite railway tie, the combination of a metallic casing open upon its lower face and near each end thereof provided with upright lugs and an interposed longitudinal slot; a concrete body anchored within the said casing; means for permanently anchoring the composition in the shell; rail fastening means associated with the tie comprising a coöperating pair of clamping plates having their inner edges provided with a longitudinal flange or shoulder adapted to engage the rail-base, the said plates being wedge shaped both vertically and longitudinally; and means for securing the said plates in their holding relation.



3. The combination of a railway tie formed of a metal shell closed at its top and sides, and having near its ends a pair of upright lugs and an interposed vertical slot, and a concrete body immovably anchored within the said shell; rail fastening means associated with the said tie, consisting of wedge-shaped clamping-plates longitudinally slotted and having their inner coacting edges provided with rail engaging flanges, and bolts vertically and non-rotatably mounted in the said slot and adapted to firmly secure the said plates in their holding position.

866,744. SAFETY ATTACHMENT FOR WATCH-POCKETS. MAURICE M. STRAUSS, Chicago, Ill. Filed Jan. 5, 1906. Serial No. 294,702.



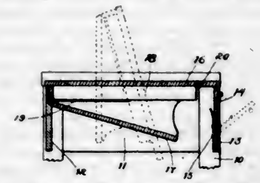
1. A safety attachment for watch pockets comprising a guard flap of flexible material having a hole therein and means for detachably fastening the same within the pocket, comprising a flat metal strip having means by which it is secured lengthwise to the inner face of said flap adjacent its upper edge and above the hole therein, said strip having a pin secured to one end thereof and a guard catch for the free end of the pin at its opposite end, substantially as described.

2. A safety attachment for watch pockets comprising a guard flap of flexible material having a hole therein and means for fastening the same within the pocket comprising a metal strip secured lengthwise to the upper edge of the flap, said strip having a pin secured to one end thereof and a pair of catches, one for engaging the free end of the pin and the other for engaging the central portion thereof, substantially as described.

3. A safety attachment for watch pockets comprising a guard flap of flexible material having a hole extending lengthwise therein and means for fastening the same within the pocket comprising a flat metal strip secured lengthwise to the upper edge of the flap, said strip having a pin secured to one end thereof and a guard-catch at its opposite end arranged to engage the free end of the pin and a second catch arranged to engage the central portion thereof, said catches being formed in piece with the metal strip and bent over from the upper edge thereof, substantially as described.

4. A safety attachment for watch pockets, comprising a guard flap of flexible material having an opening therein and means for securing the same within the pocket comprising a flat metal strip having bent prongs at its edges securing the same lengthwise to the upper edge of said flap, said strip having a pin secured at one end thereof and a guard-catch for the free end of the pin at its opposite end formed in piece therewith and bent down from its upper edge, substantially as described.

866,745. COMBINATION-BENCH FOR PIANOS AND PIANO-PLAYERS. JOHN H. TALGE, Indianapolis, Ind. Filed Mar. 7, 1907. Serial No. 361,104.

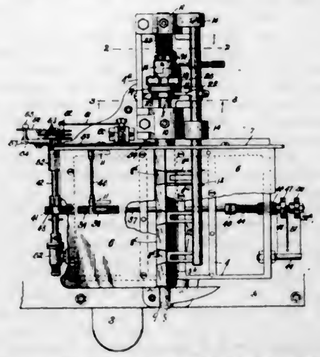


1. A piano bench comprising a suitable supporting frame, a two-faced seat member pivotally supported therein, and a movable supporting board 14 adapted to hold said seat member in either of its positions.

2. A piano bench comprising a suitable supporting frame a two-faced seat member pivotally supported therein, a movable supporting board 14 adapted to hold said seat member in either of its positions, and means arranged in said member for holding music rolls.

3. In a piano bench, a main supporting frame comprising the end members and the connecting side 12 and the hinged side 14, a two-faced seat-member pivotally supported on the end members on an axis to one side of the middle of said seat-member whereby in one position the seat-member is supported by both the side bar 12 and the swinging side bar 14, and in the other position is supported by the swinging side bar 14, and an inclined seat-member forming one face of the two-faced seat-member inclined rearwardly and upwardly from that edge of the seat-member farthest from the pivot axis of the seat-member.

866,746. FOLDING-MACHINE. FRANK W. THOMAS, Toledo, Ohio. Filed Apr. 13, 1907. Serial No. 367,913.



1. The combination with the feed-table, and the folding-mechanism of a folding-machine, of a feed-gage, and mechanism for effecting an adjustment of the feed-gage when a predetermined number of folds have been made, whereby the same gages serve to gage sheets of different sizes.

2. The combination with the feed-table, and the folding-mechanism of a folding-machine, of feed-gages movable relative to the table and in the plane of the feed of the

work, and mechanism for effecting an automatic adjustment of the feed-gages when a predetermined number of sheets have been folded.

3. The combination with the feed-table, and the folding-mechanism of a folding-machine, of feed-gages, and mechanism operative by an operation of the folding mechanism to effect an automatic adjustment of the feed-gages at predetermined periods in the operation of the machine, said gages having their adjusting movements in parallelism with the table.

4. The combination with the feed-gages, and folding-mechanism of a folding-machine, of mechanism automatically operative at predetermined folding-operations to effect an adjustment of the feed-gages, said gages serving both in the normal and adjusted positions to gage the work.

5. The combination with the feed-gages, and the folding-mechanism of a folding-machine, of mechanism automatically operative at predetermined folding-operations to effect an adjustment of the feed-gages in the plane of the feed of the work to gage a sheet of different size than the preceding sheet and to return said gages to their normal position.

6. In a folding-machine, the combination with the feed-gages and folding-mechanism, of mechanism automatically operative to effect an adjustment of the feed-gages at predetermined periods in the operation of the machine, and means for regulating the adjusting movement of the gages.

7. In a folding-machine, the combination with the feed-gages, and the folding-mechanism, of a reciprocatory element carrying the feed-gages, and mechanism movable to effect a reciprocatory movement of said element whereby to adjust the gages.

8. In a folding-machine, the combination with the feed-gages, and the folding-mechanism, of a reciprocatory element carrying the gages, and rotatable means coacting with said element and operative by the folding-mechanism to effect a reciprocatory movement of said element at predetermined periods in the operation of said mechanism whereby to adjust the gages.

9. In a folding-machine, a folding-shaft, means for operating said shaft, feed-gages, and mechanism automatically operative to effect an adjustment of the gages at predetermined operations of the shaft, whereby the same gages serve to gage sheets of different sizes.

10. In a folding-machine, the combination with the folding mechanism, of feed-gages, a plunger adjustably carrying said gages, means coacting with and movable relative to the plunger to effect a reciprocation thereof, and mechanism operative to move said means whereby a properly timed movement is imparted to the plunger and an adjustment of the gages effected.

11. In a folding-machine, a feed-gage, a movable member carrying said gage, means for effecting a relative adjustment of said gage and member, and mechanism operative to effect a movement of said member and gage at predetermined periods in the operation of the machine.

12. In a folding-machine, the combination with the folding-mechanism, of a feed-gage, a movable member carrying said gage, means for effecting a relative adjustment of said gage and member, and mechanism operative by the folding mechanism to effect an intermittent movement of said member.

13. In a folding-machine, the combination with the folding-mechanism, of feed-gages, a reciprocatory member carrying said gages, a shaft, a notched element carried by said shaft and having its notched surface engaged by the end of said member, a ratchet-wheel carried by the shaft, a pawl engaging said ratchet-wheel, and means connecting the pawl and folding mechanism for moving the pawl whereby an intermittent movement is imparted to the notched element and a reciprocatory movement is imparted to the member from said element.

14. In a folding-machine, the combination with a folding-shaft and mechanism for rocking said shaft, of a reciprocatory plunger, feed-gages carried by the plunger, a shaft, a member mounted on said shaft and having a depression into which the end of the plunger moves as they come in register, means for moving the plunger in the depression, and means for imparting a partial revolution to said latter shaft each time the folding-shaft is rocked.

15. In a folding-machine, a plate forming a folding-surface, an oscillatory folding-member having its axis approximately coinciding with one edge of the plate and provided with a folding-surface which radiates from said plate edge and coacts with the folding surface of the plate when said member is oscillated, and means for oscillating said member.

16. In a folding-machine, a plate forming a folding surface, an oscillatory folding-member mounted at an edge of said plate and having a folding surface normally lying in the plane of the plate and movable to coact with the folding surface thereof, gripping-fingers positioned for their terminals to grip the plate approximately along a line coinciding with the axis of said member, and mechanism for imparting the gripping movement to said fingers and the folding movement to said member.

17. In combination, a folding-shaft having a radial folding surface, a fixed folding-plate, a rock-shaft, grip-fingers carried by the rock-shaft to grip the work at the point of fold, and mechanism operative to rock said rock-shaft to cause the fingers to grip the work and to impart a folding movement to the folding-shaft.

18. In combination, a folding-shaft, a plate with which the shaft coacts to form a fold, a rock-shaft, grip-fingers carried by the rock-shaft, a loose clutch-collar mounted on the folding-shaft and having an annular flange provided with a depression, an arm carried by the rock-shaft and yieldingly resting in said depression when the parts are in normal position, a fixed clutch-collar mounted on the folding-shaft and positioned to permit the loose collar to have a relative initial movement sufficient to move the depression out of register with the coöperating portion of said arm whereby to effect a gripping movement of said fingers and then to engage the fixed collar to impart the folding movement to the shaft, means for imparting forward rotation to the loose collar, and means for returning the folding-shaft and said collars to normal position.

19. The combination with a rock-shaft and the part with which it coacts to make a fold of a flexible member having one end fixed to said rock shaft and partially encircling the same, a bell-crank lever having the free end of a horizontal arm attached to the other end of said member, a treadle having its forward end pivoted to the free end of the vertical arm of the lever and its rear end swingingly suspended, whereby a horizontal swinging movement of the treadle will cause the bell lever to pull the flexible member and rock the shaft.

20. In a folding-machine, an oscillatory folding-shaft, a fixed object with which the shaft coacts to form a fold, members movable to grip the work during the making of a fold, and mechanism for oscillating the shaft and moving said members.

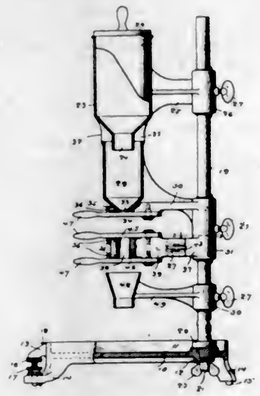
21. In a folding-machine, an oscillatory member having a radial folding surface, a part coöperating with the member to make a fold, gripping members movable to grip the work during the making of a fold, and mechanism for moving the oscillatory and gripping members.

22. In a folding-machine, a rock-shaft having a folding-surface beginning at and radiating from its center, members movable to hold the work while being folded, and mechanism for rocking the shaft and moving said members.

866,747. MEASURING-MACHINE. WILLIAM M. THOMAS and WILLIAM H. LEACH, Jr., Bridgeport, Conn., assignors to The Union Metallic Cartridge Company, Bridgeport, Conn., a Corporation of Connecticut. Filed Apr. 22, 1907. Serial No. 369,473.

1. In a machine of the character described, the combination with a lower reservoir having a discharge opening, a pivoted horizontally swinging gate below said opening and an upper reservoir having a nozzle extending into the lower reservoir, for the purpose set forth, of a measure at a fixed distance below the discharge opening and horizontally swinging gates above and below the measure.

2. In a machine of the character described, the combination with a lower reservoir having a discharge opening, a pivoted horizontally swinging gate below said opening and an upper reservoir having a nozzle extending into the lower reservoir, of a measure at a fixed distance below the discharge opening, horizontally swinging gates above and below the measure, a funnel under the measure, a base and a standard extending therefrom by which the parts are carried.



3. In a machine of the character described, the combination with a lower reservoir having a discharge opening, an upper reservoir having a nozzle extending into the lower reservoir and spacing ribs adapted to engage the lower reservoir, of a measure at a fixed distance below the lower reservoir and gates below the lower reservoir and above and below the measure, substantially as described, for the purpose specified.

4. In a machine of the character described, the combination with upper and lower reservoirs, the former having a nozzle extending into the latter, of a measure at a fixed distance below the lower reservoir, a gate for cutting off the flow from the lower reservoir, a gate for closing the measure and a gate for leveling off the top of the measure.

5. In a machine of the character described the combination with a base having a pan, a chute extending therefrom and a gate closing the chute, of a standard extending from the base, upper and lower reservoirs carried by the standard, the upper reservoir having a nozzle extending into the lower reservoir, a measure at a fixed distance from the lower reservoir and gates below the lower reservoir and above and below the measure.

6. In a machine of the character described, the combination with a base having a pan and legs provided with leveling screws and a standard extending from the base, of upper and lower reservoirs, and a measure below the lower reservoir, all secured to the standard, a gate below the lower reservoir, gates above and below the measure and a funnel between the measure and the pan.

7. In a machine of the character described, the combination with a base, a standard extending therefrom, sleeves 26 and 31 secured to the standard, an upper reservoir provided with a nozzle and spacing ribs, an arm extending from sleeve 26 by which said reservoir is carried, a lower reservoir into which the nozzle extends, a measure below the lower reservoir, arms extending from sleeve 31 by which the lower reservoir and the measure are carried, and gates below the lower reservoir and the measure.

8. In a machine of the character described, the combination with a standard having sleeves 26 and 31 detachably secured thereto, means for holding said sleeves against rotation, a lower reservoir, a measure below the lower reservoir, arms extending from sleeve 31 by which said reservoir and measure are carried, gates for closing said reservoir and measure, an upper reservoir having spacing ribs to engage the top of the lower reservoir and a nozzle extending into said lower reservoir and an arm extending from sleeve 26 by which the upper reservoir is carried.

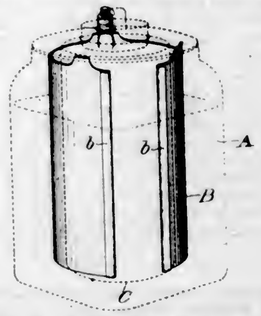
9. In a machine of the character described, the combination with a standard and a sleeve secured thereto and having arms extending therefrom, of a reservoir secured to one of said arms and having a discharge opening and a gate for closing said opening, a block detachably secured to the other arm and provided with a measure lying below the discharge opening, and a gate for closing the bottom of the measure.

10. In a machine of the character described, the combination with a standard and a sleeve secured thereto and having arms extending therefrom, of a reservoir secured to one of said arms and having a discharge opening and a gate for closing said opening, a block detachably secured to the other arm and provided with a measure lying below the discharge opening, a gate for closing the bottom of the measure, a gate for leveling off the top of the measure and means for stopping the movement of the gates at the closing position.

11. In a machine of the character described, the combination with a standard and a sleeve secured thereto and having arms 30 and 37 extending therefrom, of a reservoir secured to arm 30 and provided with a discharge opening and a gate for closing said opening, a block detachably secured to arm 37 and provided with a measure and gates above and below said measure.

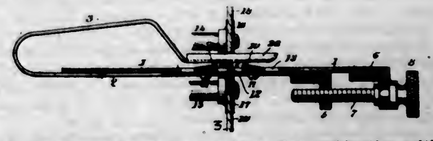
12. In a machine of the character described, the combination with a standard and a sleeve secured thereto and having an arm 37 extending therefrom and provided with a rib, of a block provided with a measure, a recess to receive the arm, a groove to receive the rib and a slot, a set-screw passing through said slot and engaging the arm and pivoted gates for closing and for leveling off the measure.

866,748. BATTERY-ZINC. HENRY C. THOMSON, Boston, Mass., assignor to Electric Gas Lighting Company, Boston, Mass. Filed Dec. 21, 1903. Serial No. 185,973.



A circular battery zinc provided at its open edges with a lip or lips *b* turned back toward and either touching or almost touching upon the zinc B, substantially as and for the purpose described.

866,749. SEAM-GUIDE FOR COLLAR-DAMPENING MACHINES. ALBERT M. TORRANCE, Bennington, Vt. Filed June 27, 1906. Serial No. 323,567.



1. In a seam dampening machine, the combination with the moistening devices of a stationary central seam-edge supporting guide located in the vertical plane of action of

the moistening devices, and in front thereof, of two lateral seam-edge guides disposed, one on each side of said central guide, a base to which said lateral guides are attached, and means connected with said base for moving it in a direction across the line of travel of the collar through the machine, whereby the seam channels between the stationary central guide and the lateral guides may be widened or narrowed at will, substantially as specified.

2. In a seam-dampening machine, the combination with the moistening devices of a work-supporting table perforated for the protrusion in use of two seam-edge guides, a stationary collar supporting guide bridging said perforation in front of said moistening devices, a movable side beneath said table having mounted thereon a right and left hand seam-edge guide, the upper inner corner of each of which lies in substantially the same horizontal plane as the upper bearing edge of said central guide, and means connected with said slide for adjusting its position in relation to said stationary central guide transversely, for the purpose of regulating the width of either seam channel, substantially as specified.

3. In a seam-dampening machine, the combination with the moistening devices, of three seam edge guides lying in substantially the same horizontal plane as to their guiding edges, the middle one of which guides is stationary and each of the others laterally adjustable in relation thereto, and means for effecting lateral adjustment of each of said side guides, substantially as specified.

4. In a seam-dampening machine, the combination with the moistening devices, of three seam-edge guides having their guiding edges lying in substantially the same horizontal plane, the middle one of said guides being stationary and each of the others laterally adjustable in relation thereto, means for effecting lateral adjustment of each of said side guides, and a presser pad located above said guides adapted in use to bear upon the upper surface of the article passing through the machine, substantially as specified.

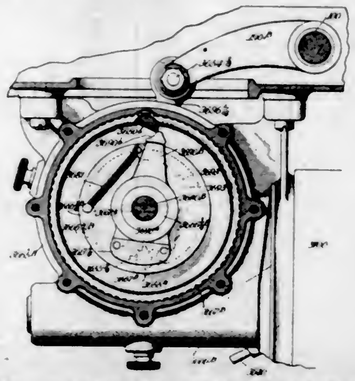
5. In a seam dampening machine, the combination with rotary moistening devices, of three seam-edge guides, of which the middle one is fixed and the side guides are adjustable, means connected with the side guides for carrying and adjusting each of them, a pad located over said guides and means connected therewith for pressing it against or towards said guides, substantially as set forth.

6. In a seam dampening machine, the combination with the moistening devices, of a stationary central collar-supporting guide located in the vertical plane of action of the moistening devices and in front thereof, of two lateral seam edge guides disposed, one on each side of said central guide, and means connected with said central and lateral guides for supporting them in their operative relations with the moistening devices, substantially as specified.

866,750. POWER-DRIVE FOR ADDING-MACHINES. JESSE G. VINCENT, Detroit, Mich., assignor to Burroughs Adding Machine Company, Detroit, Mich., a Corporation of Michigan. Filed Jan. 22, 1907. Serial No. 353,491.

1. The combination of a constantly rotatable driving member carrying an annulus formed throughout its periphery with a continuous series of notches struck on arcs, a rotary driven member having a part encircling the notched annulus and carrying a rocking clutch piece semicircular in cross-section and adapted to engage any one of the notches in the annulus, an arm journaled concentrically with the driving and driven members and geared to said clutch piece with provisions for limited movement to engage the latter with and disengage it from the notched annulus, said arm being spring-actuated in a direction to effect engagement of said parts, a detent normally restraining the arm with the effect of tensioning the spring, and means for controlling the detent.

2. The combination of a constantly rotatable driving member carrying an annulus formed throughout its periphery with a continuous series of notches struck on arcs, a rotary driven member having a part encircling the notched annulus and carrying a rocking clutch piece semicircular in cross-section and adapted to engage any one of the notches in the annulus, an arm journaled concentrically with the driving and driven members and geared to said clutch piece with provisions for limited movement to engage the latter with and disengage it from the notched annulus, said arm being spring-actuated in a direction to effect engagement of said parts, an oscillatory detent normally engaging said arm to prevent its movement in a direction to engage the clutch piece with the notched annulus, and manipulative means for turning the detent to release the arm.



3. The combination of a constantly rotatable driving member carrying an annulus formed throughout its periphery with a continuous series of notches struck on arcs, a rotary driven member having a part encircling the notched annulus and carrying a rocking clutch piece semicircular in cross-section and adapted to engage any one of the notches in the annulus, an arm journaled concentrically with the driving and driven members and geared to said clutch piece with provisions for limited movement to engage the latter with and disengage it from the notched annulus, said arm being spring-actuated in a direction to effect engagement of said parts, an oscillatory detent normally engaging said arm to prevent its movement in a direction to engage the clutch piece with the notched annulus, and manipulative means for turning the detent to release the arm, and automatic means for restoring the detent to effective position.

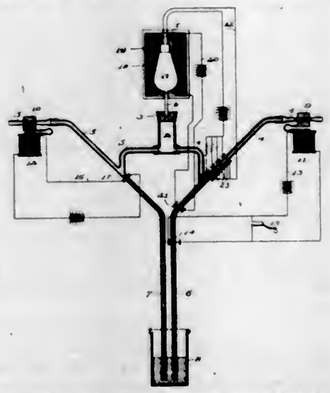
4. The combination of a constantly rotatable driving member carrying an annulus formed throughout its periphery with a continuous series of notches struck on arcs, a rotary driven member having a part encircling the notched annulus and carrying a rocking clutch piece semicircular in cross-section and adapted to engage any one of the notches in the annulus, an arm journaled concentrically with the driving and driven members and geared to said clutch piece with provisions for limited movement to engage the latter with and disengage it from the notched annulus, said arm being spring-actuated in a direction to effect engagement of said parts, a detent normally restraining the arm with the effect of tensioning the spring, means for controlling the detent, and a back-stop for preventing reverse movement when the driven member has completed a rotation and the clutch-piece is restored to normal.

5. The combination of a constantly rotatable driving member carrying an annulus formed throughout its periphery with a continuous series of notches struck on arcs, a rotary driven member having a part encircling the notched annulus and carrying a rocking clutch-piece semicircular in cross-section and adapted to engage any one of the notches in the annulus, an arm journaled concentrically with the driving and driven members and geared to said clutch piece with provisions for limited movement to engage the latter with and disengage it from the notched annulus, said arm being spring-actuated in a direction to effect engagement of said parts, a detent normally engaging said arm to prevent its movement in a direction to engage the clutch piece with the notched annulus, manipulative means for turning the detent to release the arm, and a back-stop for preventing reverse movement when the driven member has completed a rotation and the clutch-piece is restored to normal.

6. The combination of a constantly rotatable driving member carrying an annulus formed throughout its periphery with a continuous series of notches struck on arcs, a rotary driven member having a part encircling the notched annulus and carrying a rocking clutch piece semicircular in cross-section and adapted to engage any one of the notches in the annulus, an arm journaled concentrically with the driving and driven members and geared to said clutch piece with provisions for limited movement to engage the latter with and disengage it from the notched annulus, said arm being spring-actuated in a direction to effect engagement of said parts, an oscillatory detent normally engaging said arm to prevent its movement in a direction to engage the clutch piece with the notched annulus, manipulative means for turning the detent to release the arm, and a back-stop for preventing reverse movement when the driven member has completed a rotation and the clutch-piece is restored to normal.

7. The combination of a constantly rotatable driving member carrying an annulus formed throughout its periphery with a continuous series of notches struck on arcs, a rotary driven member having a part encircling the notched annulus and carrying a rocking clutch piece semicircular in cross-section and adapted to engage any one of the notches in the annulus, an arm journaled concentrically with the driving and driven members and geared to said clutch piece with provisions for limited movement to engage the latter with and disengage it from the notched annulus, said arm being spring-actuated in a direction to effect engagement of said parts, a detent normally restraining the arm with the effect of tensioning the spring, means for controlling the detent, a crank compounded with the driven member, a spring-held pawl pivoted on said crank, and a fixed stud in the path of said pawl and over which the latter wipes as the driven member completes a rotation.

866,751. METHOD OF EXHAUSTING INCANDESCENT-LAMP BULBS. FRANK L. O. WADSWORTH, Pittsburg, Pa. Filed Feb. 28, 1906. Serial No. 303,396.



1. The method for controlling the successive operations in exhausting electric lamp bulbs by the flow of a liquid under the action of pressure; substantially as specified.

2. The method of exhausting lamp bulbs, which, consists in causing the flow of a liquid under the action of pressure to control the successive steps in the operation.

3. The method of exhausting lamp bulbs, which consists in causing the flow of a liquid under the action of pressure to control in succession the several steps in the operation.

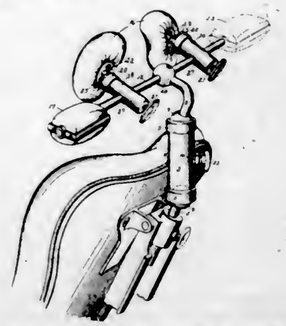
866,752. MUFFLER. JOHN H. WAY, St. Davids, Pa. Filed June 26, 1907. Serial No. 380,849.



1. A knit muffler including a back portion and laterally extending chest flaps, said flaps being partially separated from the back portion by cuts which extend from the lower edge of the flaps and at substantially a right angle to a line passing lengthwise through said flaps, said cuts being located to receive the shoulders of the wearer, whereby said muffler will fit snugly the wearer without wrinkling said flaps.

2. A knit muffler having a back portion and laterally extending chest flaps, the upper edge of said muffler being formed on substantially a straight line and the flaps being partially separated from said back portion by cuts extending at an angle to said upper straight edge for the reception of the shoulders of the wearer, whereby said muffler will fit snugly the wearer without wrinkling said flaps.

866,753. HEAD-REST. HENRY E. WEBER, Canton, Ohio. Filed Nov. 23, 1906. Serial No. 344,719.



1. A head rest supporting connection comprising a barrel, endwise elongated bearings in the sides of the barrel a rotatable cam transversely mounted in the barrel and journaled in the bearings, endwise movable blocks in the barrel abutting the cam with their inner ends and having spherical cavities in their outer ends, a chair-stem and a head-rest-shank each having balls on their ends said balls being adapted to fit in the block-cavities, and caps on the ends of the barrel having reversely concaved rings adapted to fit over the outer parts of the balls.

2. A head rest supporting connection comprising a barrel, endwise elongated bearings in the sides of the barrel a rotatable cam transversely mounted in the barrel and journaled in the bearings, endwise movable blocks in the barrel abutting the cam, a chair-stem and a head-rest-shank each having balls on their ends said balls abutting the outer ends of the blocks, and caps on the barrel abutting the outer parts of the balls.

3. A head rest supporting connection comprising a barrel, endwise elongated bearings in the sides of the barrel a rotatable cam loosely mounted transversely in the barrel and journaled in the bearings, endwise movable blocks in the barrel abutting the cam, a chair-stem and a head-rest-

shank each having balls on their ends said balls abutting the outer ends of the blocks, and caps on the barrel abutting the outer parts of the balls.

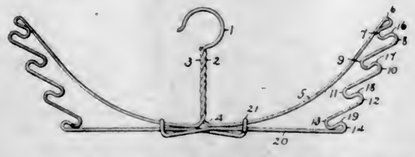
4. A head rest supporting connection comprising a barrel, endwise elongated bearings in the sides of the barrel a rotatable cam transversely mounted in the barrel and journaled in the bearings, endwise movable adjustable blocks in the barrel abutting the cam, a chair-stem and a head-rest-shank each having balls on their ends said balls abutting the outer ends of the blocks, and caps on the barrel abutting the outer parts of the balls.

5. A head rest supporting connection comprising a barrel, endwise elongated bearings in the sides of the barrel a rotatable cam transversely mounted in the barrel and journaled in the bearings, endwise movable blocks in the barrel abutting the cam, a chair-stem and a head-rest-shank each having balls on their ends said balls abutting the outer ends of the blocks, and adjustable caps on the barrel abutting the outer parts of the balls.

6. In a head rest, a tube having slots in its sides, a transverse bar in the tube extended through the slots, blocks in the tube having grooves in their adjacent ends fitting around the bar, a spherical cavity in the outer end of one block and a screw in the end of the tube adapted to abut the outer end of the other block, a rest-section having a post with a spherical head thereon adapted to fit in the block-cavity, and a cap on the adjacent end of the tube having a reversely concaved ring adapted to fit over the outer part of the spherical-head.

7. In a head rest, a tube having slots in its sides, a transverse bar in the tube extended through the slots, blocks in the tube abutting the bar, a screw in the end of the tube abutting the outer end of one block, a rest-section having a spherical-head thereon abutting the outer end of the other block, and a cap on the adjacent end of the tube abutting the outer part of the spherical head.

866,754. SKIRT AND SUIT HANGER. DANIEL A. WEDMORE, Philadelphia, Pa., assignor to Philadelphia Ornamental Wire Company, Philadelphia, Pa., a Corporation of New Jersey. Filed Feb. 19, 1906. Serial No. 301,812.



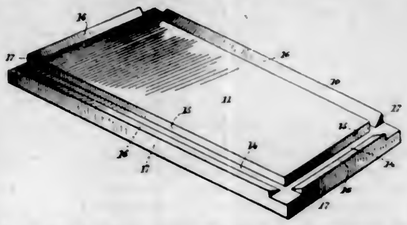
1. In a garment hanger, two wires twisted together to form a central support, each wire thereafter outwardly and upwardly curved and formed in opposite pairs of loops, each pair of loops being of decreased extension until reaching a point opposite said support, when each wire is carried inwardly to a point beyond the central support, and looped around the opposite wire.

2. In a garment hanger, a pair of wires intertwined to form a central support, then bent in opposite upwardly and outwardly directions, then formed into supporting loops each pair of which is of a different degree of extension, the wires at the lower loops being extended to and clasping the opposite one beyond the twisted part.

866,755. TILING. JOSEPH M. WELLS, Newark, N. J., assignor of one-half to Frank L. Davis, Chicago, Ill. Filed July 3, 1907. Serial No. 381,979.

1. A tile having along the edges of its inner face grooves to receive cement, said grooves having substantially vertical inner walls and outwardly inclined outer walls; substantially as set forth.

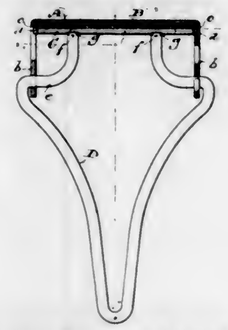
2. A tile having along the edges of its inner face grooves to receive cement, said grooves being open at their ends at the corners of the tile and having substantially vertical inner walls and outwardly inclined outer walls; substantially as set forth.



3. A tile having along the edges of its inner face grooves 14 open at their ends and defined by a base surface, substantially vertical inner walls 15 and outer inclined walls 16; substantially as set forth.

4. A tile having on its inner face an encompassing edge groove defining an inner panel and whose outer walls coöperate with the edge walls of the tile to form edge flanges 17 at the ends and sides of the tile; substantially as set forth.

866,756. RAZOR. ADOLPH WERNER, Milwaukee, Wis. Filed July 18, 1907. Serial No. 384,482.



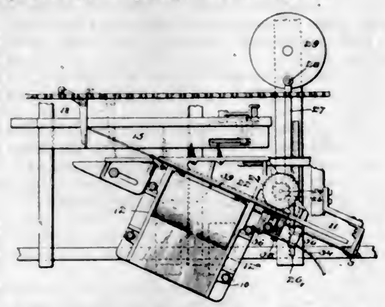
1. A razor comprising a backing having inwardly extending longitudinally slotted ears at its ends, the slot of one ear being longer than that of the other ear, a blade and guard having end lugs engageable with said slots, and a lever handle fulcrumed in connection with said ears to clamp against the guard in working position.

2. A razor comprising a backing having inwardly extending hook-ears at its ends, a blade and guard centered in connection with the backing, and a continuous suitably bent wire handle having fulcrum engagement with the backing ears to clamp at its ends against said guard when in working position.

3. A razor comprising a backing having inwardly extending hook-ears at its ends, a blade and guard centered in connection with the backing, the guard being provided with outer indentations, and a continuous suitably bent wire handle having fulcrum engagement with the backing ears and engageable at its ends with the indentations of said guard against which it clamps when in working position.

866,757. MACHINE FOR SETTING UP CARTONS. THOMAS R. WEYANT, New York, N. Y. Filed Jan. 29, 1907. Serial No. 354,760.

1. In a machine of the class described having a guideway through which cartons may be moved, the combination of a feed box communicating with said guideway through a narrow vertical passage, a pivoted plate in the box, means for moving said plate to an inclined position to receive a flat carton, means for moving it to a vertical position to bring said carton into register with said narrow passage, and means for pushing the carton through said narrow passage into said guideway.



2. In a machine of the class described having a guideway through which cartons may be moved, the combination of a feed box communicating with said guideway through a narrow vertical passage, a pivoted plate in the box, means for moving said plate to an inclined position to receive a flat carton, a fixed support for the lower end of the carton above the pivotal axis of the plate, means for moving said plate to a vertical position to bring said carton into register with said narrow passage, and means for pushing the carton through said narrow passage into said guideway.

3. In a machine of the class described having a guideway through which cartons may be moved, the combination of a feed box communicating with said guideway through a narrow vertical passage, a plate pivoted in said box and movable to an inclined position to receive a flat carton and to a vertical position to bring said carton in register with said vertical passage, and means for moving said plate to said positions.

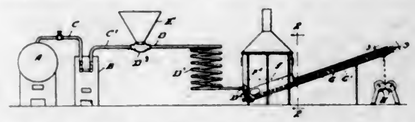
4. In a machine of the class described having a guideway through which cartons may be moved, the combination of a feed box communicating with said guideway through a narrow vertical passage, a plate pivoted in said box and movable to an inclined position to receive a flat carton and to a vertical position to bring said carton in register with said vertical passage, a spring for moving said plate to one of said positions and a cam mechanism for moving it to the other position.

5. In a machine of the class described having a guideway through which cartons may be moved, the combination of a feed box communicating with said guideway through a narrow vertical passage, a plate pivoted in said box and movable to an inclined position to receive a flat carton and to a vertical position to bring said carton in register with said vertical passage, a push-bar slidably supported in the front wall of the feed box, means for reciprocating said bar to push said carton through said vertical passage into the guideway, a spring for moving the said plate to one of said positions, and a cam device connected to the plate and actuated by the push-bar for moving said plate to the other position.

6. In a machine of the class described having a guideway through which cartons may be moved, the combination of a feed box communicating with said guideway through a narrow vertical passage, a rock shaft journaled in the lower portion of the feed box and extending beyond it on one side thereof, a cam bar rigidly connected to said shaft above it and outside said feed box, a plate rigidly connected at its lower end to said shaft within the box, a movable device for engaging said cam bar to move the plate to inclined position to receive a carton, a spring for moving said plate to a vertical position to bring the carton to register with the said narrow vertical passage, and means for pushing the carton through said narrow vertical passage into said guideway.

7. In a machine of the class described having a guideway through which cartons may be moved, the combination of a feed box communicating with said guideway through a narrow vertical passage, a rock shaft journaled in the lower portion of the feed box and extending beyond it on one side thereof, a cam bar rigidly connected to said shaft above it and outside said feed box, a plate rigidly connected at its lower end to said shaft within the box, a movable device for engaging said cam bar to move the plate to inclined position to receive a carton, fixed pins projecting through slots in the plate above said shaft, for supporting the lower end of the carton, a spring for moving said plate to a vertical position to bring the carton to register with the said narrow vertical passage, and means for pushing the carton through said narrow vertical passage into said guideway.

866,758. ART OR PROCESS OF RECLAIMING SCRAP OR WASTE VULCANIZED RUBBER. ORRIN A. WHEELER, Austin, Ill., assignor to himself, and Fred W. Garlick, Charles I. Bear, and William A. Vail, Chicago, Ill. Filed Oct. 11, 1906. Serial No. 338,428.



1. The process of reclaiming scrap or waste rubber without oxidation or further vulcanization taking place, consisting in subjecting the same while moving through a confined passage in a current of heated fluid for a short period only to a temperature above the range of vulcanization and below that of fusion, substantially as specified.

2. The process of reclaiming scrap or waste vulcanized rubber, consisting in subjecting the old rubber stock in a ground condition while moving through a confined passage to the action of a blast or moving current of heated fluid under pressure, substantially as specified.

3. The process of reclaiming scrap or waste vulcanized rubber, consisting in subjecting the old rubber stock in a ground condition while moving through a confined passage to the action of a blast or moving current of heated fluid under pressure, to cause the particles of ground rubber to be quickly raised to the temperature necessary to produce plasticity, and then quickly cooling the same, substantially as specified.

4. The process of reclaiming scrap or waste vulcanized rubber, consisting in subjecting the old rubber stock in a ground condition to the action of a blast or moving current of heated fluid under pressure in a confined passage, through which the rubber stock particles are conveyed by said heated fluid substantially as specified.

5. The process of reclaiming scrap or waste vulcanized rubber, consisting in subjecting the old rubber stock in a ground condition to the action of a blast or moving current of heated fluid under pressure in a confined passage from which air is excluded, and through which the rubber stock particles are conveyed in and by said heated fluid substantially as specified.

6. The process of reclaiming scrap or waste vulcanized rubber, consisting in feeding the old rubber stock in a ground or pulverulent condition into a moving current of heated fluid under pressure, the ground rubber stock being held in suspension, heated and conveyed by said fluid substantially as specified.

7. The process of reclaiming scrap or waste vulcanized rubber, consisting in continuously feeding the old rubber stock in a ground or pulverulent condition into a moving current of heated fluid under pressure in a confined passage or pipe, the ground rubber stock being held in suspension, heated and conveyed by said fluid substantially as specified.

8. The process of reclaiming scrap or waste vulcanized rubber, consisting in continuously feeding the old rubber stock in a ground or pulverulent condition into a moving current of heated fluid under pressure the ground rubber stock being held in suspension, heated and conveyed by

said fluid and then quickly cooling the same, substantially as specified.

9. The process of reclaiming scrap or waste vulcanized rubber, consisting in continuously feeding the old rubber stock in a ground or pulverulent condition into a moving current of heated fluid under pressure in a confined passage or pipe the rubber stock particles being heated and conveyed by said fluid and then quickly cooling the ground rubber stock, substantially as specified.

10. The process of reclaiming scrap or waste vulcanized rubber consisting in subjecting the old rubber stock in a ground or pulverulent condition while moving through a confined passage to the action of a blast or moving current of superheated steam under pressure, substantially as specified.

11. The process of reclaiming scrap or waste vulcanized rubber consisting in subjecting the old rubber stock in a ground or pulverulent condition while moving through a confined passage to the action of a blast or moving current of superheated steam under pressure and then quickly cooling the same, substantially as specified.

12. The process of reclaiming scrap or waste vulcanized rubber consisting in subjecting the old rubber stock in a ground or pulverulent condition while moving through a confined passage to the action of a blast or moving current of superheated steam under pressure and then sheeting the same, substantially as specified.

13. The process of reclaiming scrap or waste vulcanized rubber, consisting in continuously feeding the rubber stock in a ground or pulverulent condition into a blast of superheated steam under pressure in a confined passage or pipe through which the steam pressure forces the ground rubber stock and causes each particle thereof to be quickly and uniformly heated to the required degree to produce plasticity, substantially as specified.

14. The process of reclaiming scrap or waste vulcanized rubber, consisting in continuously feeding the rubber stock in a ground or pulverulent condition into a blast of superheated steam under pressure in a confined passage or pipe through which the steam pressure forces the ground rubber stock and causes each particle thereof to be quickly and uniformly heated to the required degree to produce plasticity, then quickly cooling the plastic or reclaimed rubber, substantially as specified.

15. The process of reclaiming scrap or waste vulcanized rubber, consisting in continuously feeding the rubber stock in a ground or pulverulent condition into a blast of superheated steam under pressure in a confined passage or pipe through which the steam pressure forces the ground rubber stock and causes each particle thereof to be quickly and uniformly heated to the required degree to produce plasticity, then quickly cooling the plastic or reclaimed rubber to the temperature necessary for sheeting, and then sheeting the same, substantially as specified.

16. The process of reclaiming scrap or waste vulcanized rubber consisting in feeding or forcing the same in a ground condition in and by a fluid current through a narrow or confined passage or pipe and subjecting the ground rubber stock uniformly throughout passing through such passage or pipe to the temperature necessary to produce plasticity, substantially as specified.

17. The process of reclaiming scrap or waste vulcanized rubber consisting in feeding or forcing the same in a ground condition in and by a fluid current through a narrow or confined passage or pipe and subjecting the ground rubber stock uniformly throughout for a short time only while passing through such passage or pipe to the temperature necessary to produce plasticity, and then quickly cooling the same, substantially as specified.

18. The process of reclaiming scrap or waste vulcanized rubber consisting in feeding or forcing the same in a ground condition in suspension in a moving fluid through a narrow or confined passage or pipe and subjecting the ground rubber stock uniformly throughout for a short time only while passing through such passage or pipe to the temperature necessary to produce plasticity, the temperature of the rubber stock being first quickly raised to such degree, substantially as specified.

19. The process of reclaiming scrap or waste vulcanized rubber consisting in feeding or forcing the same in a ground condition in suspension in a moving fluid through a narrow or confined passage or pipe and subjecting the ground rubber stock uniformly throughout for a short time only while passing through such passage or pipe to the temperature necessary to produce plasticity, the temperature of the rubber stock being first quickly raised to such degree, and subsequently quickly cooled, substantially as specified.

20. The process of reclaiming scrap or waste vulcanized rubber consisting in feeding or forcing the same in a ground condition in and by a steam current through a narrow or confined passage or pipe and subjecting the ground rubber stock uniformly throughout for a short time only while passing through such passage or pipe to the temperature necessary to produce plasticity, then quickly cooling the same and then sheeting the same, substantially as specified.

21. The process of reclaiming scrap or waste vulcanized rubber consisting in feeding or forcing the same in a ground condition in and by a steam current through a narrow or confined passage or pipe and subjecting the ground rubber stock uniformly throughout for a short time only while passing through such passage or pipe to the temperature necessary to produce plasticity, the temperature of the rubber stock being first quickly raised to such degree and subsequently cooled, and then sheeting the same, substantially as specified.

22. The process of reclaiming scrap or waste vulcanized rubber consisting in first reducing such scrap or waste to a ground or pulverulent condition, then separating the ground rubber stock from the fiber or foreign matter, then feeding or forcing the ground rubber stock through a passage or pipe and subjecting it while moving therethrough in suspension in a fluid current to the temperature necessary to produce plasticity, substantially as specified.

23. The process of reclaiming scrap or waste vulcanized rubber consisting in first reducing such scrap or waste to a ground or pulverulent condition, then separating the ground rubber stock from the fiber or foreign matter, then feeding or forcing the ground rubber stock through a passage or pipe and subjecting it while moving therethrough in suspension in a fluid current to the temperature necessary to produce plasticity, then cooling it, substantially as specified.

24. The process of reclaiming scrap or waste vulcanized rubber consisting in first reducing such scrap or waste to a ground or pulverulent condition, then separating the ground rubber stock from the fiber or foreign matter, then feeding or forcing the ground rubber stock through a passage or pipe and subjecting it while moving therethrough in suspension in a fluid current to the temperature necessary to produce plasticity, then cooling it, and then sheeting it, substantially as specified.

25. The process of reclaiming scrap or waste vulcanized rubber, consisting in subjecting the old rubber stock in a ground condition while moving through a confined passage to the action of a blast or moving current of heated fluid under pressure, to cause the particles of ground rubber to be quickly raised to the temperature necessary to produce plasticity and then quickly cooling the same, then sheeting it, substantially as specified.

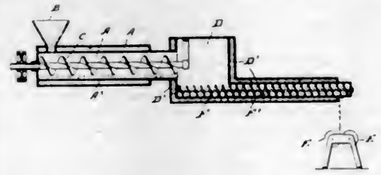
26. The process of reclaiming scrap or waste vulcanized rubber, consisting in continuously feeding the old rubber stock in a ground or pulverulent condition into a moving current of heated fluid under pressure the rubber stock particles being heated and conveyed by said heated fluid and then quickly cooling the same, and then sheeting the same, substantially as specified.

27. The process of reclaiming scrap or waste vulcanized rubber in a ground or pulverulent condition, consisting in subjecting the particles thereof individually while moving through a confined passage to the action of a heated fluid, substantially as specified.

28. The process of reclaiming scrap or waste vulcanized rubber in a ground or pulverulent condition, consisting in subjecting the particles thereof individually to the action of a heated fluid moving through a confined passage, while

held in suspension therein and conveyed thereby substantially as specified.

866,759. ART OR PROCESS OF RECLAIMING SCRAP OR WASTE VULCANIZED RUBBER. ORRIN A. WHEELER, Austin, Ill., assignor to himself, and Fred W. Garlick, Charles I. Bear, and William A. Vall, Chicago, Ill. Filed Oct. 15, 1906. Serial No. 338,978.



1. The process of reclaiming scrap or waste rubber without oxidation or further vulcanization taking place, consisting in passing the dry ground rubber stock in a thin continuous stream through a narrow heated passage and thus quickly (in a few minutes) raising the temperature of the particles as they pass to the necessary degree to produce plasticity, substantially as specified.

2. The process of reclaiming scrap or waste rubber without oxidation or further vulcanization taking place, consisting in passing the dry ground rubber stock in a thin continuous stream through a narrow heated passage and thus quickly (in a few minutes) raising the temperature of the particles as they pass to the necessary degree to produce plasticity and then quickly cooling the same, substantially as specified.

3. The process of reclaiming scrap or waste rubber without oxidation or further vulcanization taking place, consisting in passing the dry ground rubber stock in a thin continuous stream through a narrow heated passage and thus quickly (in a few minutes) raising the temperature of the particles as they pass to the necessary degree to produce plasticity, then quickly cooling the same and then sheeting the same, substantially as specified.

4. The process of reclaiming scrap or waste vulcanized rubber, consisting in continually feeding or forcing the ground or comminuted rubber stock in a dry condition through a contracted or narrow heated passage way and thus quickly (in a few minutes) raising the ground rubber stock to the temperature necessary to produce plasticity and cohesion, substantially as specified.

5. The process of reclaiming scrap or waste vulcanized rubber, consisting in continually feeding or forcing the ground or comminuted rubber stock in a dry condition through a contracted or narrow heated passage way and thus quickly (in a few minutes) raising the ground rubber stock to the temperature necessary to produce plasticity and cohesion, and then cooling the same, substantially as specified.

6. The process of reclaiming scrap or waste vulcanized rubber, consisting in continuously feeding or forcing the ground or comminuted rubber stock in a dry condition through a contracted or narrow heated passage way and thus quickly (in a few minutes) raising the ground rubber stock to the temperature necessary to produce plasticity and cohesion, then cooling the same, and then sheeting the same, substantially as specified.

7. The process of reclaiming scrap or waste vulcanized rubber, consisting in continuously feeding or forcing the ground or comminuted rubber stock in a dry condition through a contracted or narrow heated passage way and thus quickly (in a few minutes) raising the ground rubber stock to the temperature necessary to produce plasticity and cohesion under conditions isolating it from air and oxygen, substantially as specified.

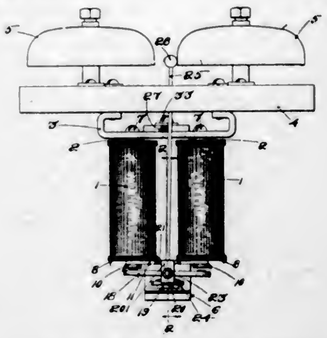
8. The process of reclaiming dry pulverulent vulcanized rubber, consisting in forcing it under pressure in a narrow continuous stream through a hot passage way into a hermetic cooling chamber, and thus quickly (in a few minutes) raising the temperature to the point necessary to produce plasticity and cohesion, and then quickly cooling it, substantially as specified.

9. The process of reclaiming dry pulverulent rubber scrap or waste, consisting in forcing it in a small compact continuous stream through a confined heated passage way in contact with the heated walls thereof, and thus quickly (in a few minutes) raising the moving rubber particles to the temperature necessary to give plasticity and cohesion under conditions excluding air from the heated rubber stock, substantially as specified.

10. The process of reclaiming dry pulverulent rubber scrap or waste, consisting in forcing it in a small compact continuous stream through a confined heated passage way in contact with the heated walls thereof, and thus quickly in a few minutes raising the moving rubber particles to the temperature necessary to give plasticity and cohesion under conditions excluding air from the heated rubber stock, then cooling it, substantially as specified.

11. The process of reclaiming dry pulverulent rubber scrap or waste, consisting in forcing it in a small compact continuous stream through a confined heated passage way in contact with the heated walls thereof, and thus quickly in a few minutes raising the moving rubber particles to the temperature necessary to give plasticity and cohesion under conditions excluding air from the heated rubber stock, then cooling it and then sheeting it, substantially as specified.

866,760. POLARIZED RINGER-MAGNET. FRANCIS H. WHITMAN, Cambridge, Mass. Filed Dec. 31, 1906. Serial No. 350,120.



1. In a polarized ringer magnet, two electro magnets, each electro magnet having a core which at one end extends beyond the end of the said magnet, said extending ends being each formed with a transverse groove, a yoke having slotted ends which embrace the necks of said cores formed by said grooves, a strap to which said electro magnets are attached at their other ends by means of screws which are screwed axially into the ends of said cores, the distance between the inner ends of the slots formed in said yoke being sufficient so that when said members are assembled, the slotted yoke will hold the cores in divergent relation to each other in the direction of the grooved ends, and by setting up said screws, the said slotted yoke will be clamped between said grooved cores.

2. In a polarized ringer magnet, two electro magnets, a support therefor to which said magnets are secured at one end, means for securing said magnets to the said support tending to draw them into parallel relation to each other, each electro magnet having a core which at the opposite end from said support extends beyond the end of the said magnet, said extending ends being each formed with a transverse groove, a yoke having slotted ends which embrace the grooved necks of said cores and hold them in a slightly divergent relation to each other, said slotted ends being brought into clamping engagement with said grooved

necks when the securing means for the opposite ends are set up.

3. In a polarized ringer magnet, two electric magnets, a support therefor to which said magnets are secured at one end, means for securing said magnets to the said support tending to draw them into parallel relation to each other, each electro magnet having a core which at the opposite end from said support extends beyond the end of the said magnet, said extending ends being each formed with a transverse groove, a yoke having slotted ends which embrace the grooved necks of said cores and are spaced apart to hold them in a slightly divergent relation to each other when fully assembled, said slotted ends being brought into clamping engagement with said grooved necks of the cores when the securing means for the opposite ends are set up, a stud projecting outward from said slotted yoke in a line parallel with the cores of said magnets, a bridge secured to said slotted yoke by a flanged tubular sleeve passing through said bridge and screwed onto said stud and a friction washer which clamps said bridge against the head of said flanged sleeve.

4. In a polarized ringer magnet, two electro magnets, a support therefor to which said magnets are secured at one end, means for securing said magnets to said support tending to draw them into parallel relation to each other, each electro magnet having a core which at the opposite end from said support extends beyond the end of the said magnet, said extending ends being each formed with a transverse groove, a yoke having slotted ends which embrace the grooved necks of said cores and are spaced apart to hold them in a slightly divergent relation to each other when fully assembled, said slotted ends being brought into clamping engagement with said grooved necks of the cores when the securing means for the opposite ends are set up, a stud projecting outward from said slotted yoke in a line parallel with the cores of said magnets, a bridge secured to said yoke by a flanged tubular sleeve passing through said bridge and screwed onto said stud, means for clamping said bridge against the flanged head of said sleeve, whereby said bridge may be held at a fixed distance from said yoke and a vibrating armature pivoted to said bridge.

5. In a polarized ringer magnet, two electro magnets, a support therefor to which said magnets are secured at one end, means for securing said magnets to said support tending to draw them into parallel relation to each other, each electro magnet having a core which at the opposite end from said support extends beyond the end of the said magnet, said extending ends being each formed with a transverse groove, a yoke having slotted ends which embrace the grooved necks of said cores and are spaced apart to hold them in a slightly divergent relation to each other when fully assembled, said slotted ends being brought into clamping engagement with said grooved necks of the cores when the securing means for the opposite ends are set up, a stud projecting outward from said slotted yoke in a line parallel with the cores of said magnets, guide slots in the sides of said yoke, a bridge having arms which engage said guide slots in said yoke, a flanged tubular sleeve which passes through said bridge and screws onto the stud which projects from said yoke, means for clamping said bridge against the flanged head of said tubular sleeve, the said tubular sleeve being adjustable on said stud whereby said bridge may be adjusted toward and from said yoke, said guide slots and clamping means holding said bridge firmly in its adjusted position, a vibrating armature between said yoke and said bridge and pivot bearings in said arms of the bridge for said armature.

6. In a polarized ringer magnet, two electro magnets, a strap to which said electro magnets are secured at one end by screws passing through said yoke and extending axially into the ends of the cores of said electro magnets, the other ends of said cores extending beyond the heads of said magnets, said extending ends being each formed with a transverse groove, a yoke having slotted ends which embrace the grooved necks of said cores and hold them in a slightly divergent relation to each other when said screws are set up, said slotted ends being brought into clamping engagement with the said grooved necks when said screws are set up in the opposite end.

7. In a polarized ringer magnet, two electro magnets, a strap to which said electro magnets are secured at one end by screws passing through said strap and extending axially into the ends of the cores of said electro magnets, the other ends of said cores extending beyond the heads of said magnets, said extending ends being each formed with a transverse groove, a yoke having slotted ends which embrace the grooved necks of said cores and hold them in a slightly divergent relation to each other when said screws are set up, said slotted ends being brought into clamping engagement with the said grooved necks when said screws are set up in the opposite end, a screw threaded stud projecting outward from said slotted yoke in a line parallel with the cores of said magnets, a bridge secured to said slotted yoke by means of a tapped out flanged sleeve passing through said bridge and screwed onto said stud, means for clamping said bridge against the flanged head of said sleeve, and a vibrating armature pivoted to said bridge between the bridge and said slotted yoke.

8. In a polarized ringer magnet, two electro magnets, a strap to which said magnets are secured at one end, means for securing said magnets to the said strap tending to draw them into parallel relation to each other, each electro magnet having a core which at the opposite end from said strap extends beyond the head of the said magnet, said extending ends being each formed with a transverse groove, a yoke having slotted ends which embrace the grooved necks of said cores and hold them in a slightly divergent relation to each other, said slotted ends being brought into clamping engagement with said grooved necks when the securing means for the opposite ends are set up and a permanent magnet secured to said strap by means independent of the means which secure said electro magnets to said strap.

9. In a polarized ringer magnet, two electro magnets having cores which at one end extend beyond the heads of said magnets, said extending ends being formed with transverse grooves, a yoke having slotted ends which engage said grooved extensions of the cores, a bridge having upturned arms which engage with slots in the sides of said yoke, a screw threaded stud which projects outwardly from said slotted yoke intermediate its ends, a nut having a tubular tapped out neck which passes through a hole in said bridge and screws onto said screw threaded stud, means for clamping said bridge against the head of said nut, said bridge being adjustable toward and from said slotted yoke by means of said nut and being held in its adjusted position with relation to said yoke by said nut and clamping means and the engagement of the arms of the bridge with said slotted yoke, and a vibrating armature pivoted between said yoke and the bridge by pivots journaled in the arms of said bridge.

10. In a polarized ringer magnet, a vibrating armature, an adjustable support for said armature comprising a yoke having slotted ends which engage the cores of said electro magnets, a bridge having arms which engage with guide slots in the sides of said yoke, a screw threaded stud projecting outwardly from said yoke parallel with the axis of said electro magnets, and a nut having a tubular neck which passes through said bridge and screws onto said threaded stud which projects from said yoke.

11. In a polarized ringer magnet, two electro magnets, each having a core which projects at one end thereof, said projecting ends being formed with transverse grooves, a yoke having slotted ends which engage the grooves in said cores, a bridge, a vibrating armature pivoted to said bridge, means for securing said bridge to said slotted yoke in adjustable relation thereto, whereby said armature may be adjusted at varying distances from the cores of said electro magnets.

12. In a polarized ringer magnet, two electro magnets each having a core which projects at one end thereof, said projecting ends being formed with transverse grooves, a yoke having slotted ends which engage the grooves in said cores, a bridge having arms which engage slots in the sides of said yoke, a screw threaded stud which projects outward from said yoke parallel with the cores of said electro magnets, a flanged sleeve which passes through said bridge and is tapped out to screw onto the said stud, a transverse groove in said sleeve, a friction washer which straddles the neck of said groove and clamps said bridge against the flanged end of said sleeve and a vibrating armature pivoted to the arms of said bridge, said bridge being adjustable toward and from said yoke by means of said sleeve.

13. In a polarized ringer magnet, two electro magnets each having a core which projects at one end thereof, said projecting ends being formed with transverse grooves, a yoke having slotted ends which engage the grooves in said cores, a bridge having arms which engage slots in the sides of said yoke, a screw threaded stud which projects outward from said yoke parallel with the cores of said electro magnets, a flanged sleeve which passes through said bridge and is tapped out to screw onto the said stud, a transverse groove in said sleeve, a spring clip which straddles the neck of said groove and clamps said bridge against the flanged end of said sleeve and a vibrating armature pivoted to the arms of said bridge, said bridge being adjustable toward and from said slotted yoke by means of said sleeve, and a strap to which the other ends of said electro magnets are secured by means of screws which pass through said strap and extend axially into the ends of said cores, the distance between the slots of said yoke being spaced with such relation to the distance between the screws which secure the electro magnets to said strap that said slotted yoke will clamp the magnets in divergent relation with each other when the screws which secure them to the strap are set up.

14. In a polarized ringer magnet, two electro magnets, each having a core which projects at one end of the magnet, said projecting ends being formed with transverse grooves, a yoke having slotted ends which engage the grooves in said cores, means for holding said cores in clamping engagement with said slotted yoke, an armature, an armature supporting bridge and adjustable means for securing said bridge to said yoke, whereby said bridge may be adjusted to vary the distance between the armature and the magnet cores.

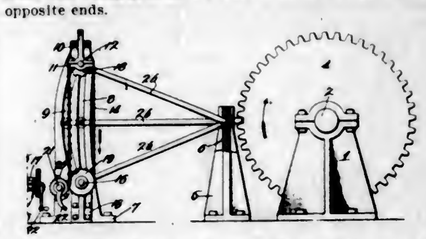
15. In a polarized ringer magnet, two electro magnets, each having a core, a strap to which said cores are secured at one end by means which tend to draw the said cores into parallel relation to each other, the other ends of said cores projecting beyond the heads of said magnets and each being formed with a transverse groove, a yoke having slotted ends which engage the grooves in said cores and prevent the cores from being drawn into parallel relation by the said attaching means for the other end of the core, an armature supporting bridge and adjustable means for securing said bridge to said yoke, whereby said bridge may be adjusted to vary the distance between the armature and the magnet cores, and an armature pivoted to said bridge.

16. In a polarized ringer magnet, two electro magnets each having a core, a support to which said cores are secured at one end by means which tend to draw the said cores into parallel relation to each other, the other ends of said cores projecting beyond the ends of said magnets and each being formed with a transverse groove, a yoke having slotted ends which engage the grooves in said cores and prevent the cores from being drawn into parallel relation by the said attaching means for the other ends of the cores, an armature and an armature support connected with said yoke.

866,761. MECHANICAL ENGINE. JOHN C. WILLIAMS, Kansas City, Mo. Filed Jan. 17, 1907. Serial No. 352,735.

1. The combination of a toothed wheel, a fulcrum, and a series of levers or pries for successive engagement with said wheel, and having a pivotal and sliding relation with said fulcrum.

2. The combination of a toothed wheel, a fulcrum, a series of levers or pries for successive engagement with said wheel and resting on said fulcrum, and means to impart an up and down movement to the front ends of said levers or pries to respectively effect the disengagement from and reëngagement with said toothed wheel, of their opposite ends.



3. The combination of a toothed wheel, a fulcrum, a series of levers or pries for successive engagement with said wheel and resting on said fulcrum, and means to cause said levers or pries to successively move downward at their front ends and in such movement engage and operate the toothed wheel, and then move upward successively to their original positions on a line forming an arc of a circle of which the fulcrum is the center.

4. The combination of a toothed wheel, a fulcrum, a standard having connecting guideways one of which is curved with the fulcrum as its center, a lever or pry having at one end a roller adapted to travel successively through said guideways and resting on said fulcrum near its opposite end with the last-named end adapted to operate pivotally and reciprocally and impart movement to said wheel.

5. The combination of a toothed wheel, a standard having a fulcrum hole, a second standard having guideways connected at their opposite ends, a lever or pry pivotally and slidingly engaging said fulcrum hole, a roller connected to the opposite end of the lever or pry, and means to cause said roller to travel successively through said guidewnys and impart intermittent rotary movement to said toothed wheel.

6. The combination of a toothed wheel, a standard having a fulcrum hole, a second standard having guideways connected at their opposite ends, a lever or pry pivotally and slidably engaging said fulcrum hole, a roller connected to the opposite end of the lever or pry, shafts coincidental with the connected ends of said guideways, sprocket wheels mounted thereon, a chain connecting the sprocket wheels, a link connecting the lever and chain, and means to impart movement to the latter for the purpose set forth.

7. The combination of a toothed wheel, a standard having fulcrum holes, a second standard having guideways connected at their opposite ends, a lever or pry pivotally and slidingly engaging each fulcrum hole, rollers connected to the opposite ends of said levers or pries, shafts coincidental with the connected ends of the guideways, sprocket wheels thereon, chains connecting the sprocket wheels, links pivotally connecting the chains and the levers or pries, a primary shaft, and means to transmit motion from the said primary shaft to said sprocket wheels.

8. The combination of a toothed wheel, a standard having fulcrum holes, a second standard having guideways connected at their opposite ends, a lever or pry pivotally and slidingly engaging each fulcrum hole, rollers connected to the opposite ends of said levers or pries, shafts coincidental with the connected ends of the guideways, sprocket wheels thereon, chains connecting the sprocket wheels, links pivotally connecting the chains and the levers or pries, a primary shaft, means to transmit motion from said shaft to said sprocket wheels, a pulley for each standard, and a cable engaging said pulley and connected at its opposite ends to the levers or pries of each standard.

866,762. NOISE-DEADENING MEANS FOR DRAIN-PIPES. BEN T. WILSON, Nacogdoches, Tex. Filed Aug. 31, 1906. Serial No. 332,824.

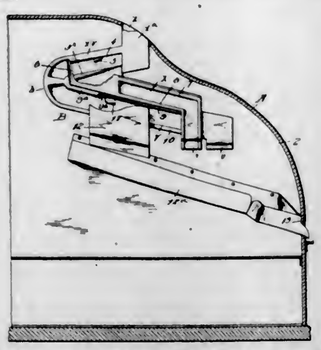
1. In means of the class described, the combination of a drain pipe embodying a connected elbow, the interior side portion of an arm of said elbow being provided with

a noise deadening base, the outer portion of the arm of the elbow to which the said base is applied being formed with integral lugs engaging the base to hold the latter in operative position.



2. In means of the class described, the combination of a drain pipe, an elbow connected therewith, a noise deadening base applied to the interior side portion of an arm of the elbow and having an extension forming a curved deflecting surface at the corner of said elbow, and means for prevent displacement of the noise deadening base.

866,763. COIN-ASSORTING MECHANISM. GEORGE C. YOCUM, Scranton, Pa. Filed Aug. 30, 1906. Serial No. 332,598.



1. In a coin assorting mechanism, an upper assorting chute having guiding means for coins of larger diameter than dimes and ejecting means for dimes, a lower assorting chute forming an extension of said upper chute and having means for ejecting pennies and guiding means for coins of larger diameter than pennies, a conducting chute for receiving the dimes ejected from said upper chute, a return chute arranged below the lower ends of said lower assorting chute and said dime conducting chute, and a device adapted to be moved into position to deflect the coins passing from said latter chutes and prevent their entrance into the return chute.

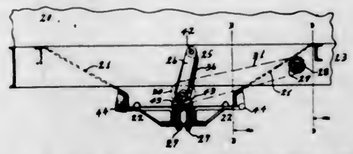
2. In a coin assorting mechanism, an upper assorting chute having guiding means for coins of larger diameter than dimes and ejecting means for dimes, a lower assorting chute forming an extension of said upper chute and having means for ejecting pennies and guiding means for coins of larger diameter than pennies, a conducting chute for receiving the dimes ejected from said upper chute, a return chute arranged to receive the ejected pennies and also to receive the coins from the ends of the lower assorting chute and dime conducting chute, and a device adapted to be moved into position to deflect the coins passing from the latter chutes and prevent their entrance into the return chute.

3. In a coin assorting mechanism, a return chute, an upper assorting chute having guiding means for five cent pieces and pennies and ejecting means for dimes, a conducting chute having its upper end arranged to receive the ejected dimes and its lower end arranged to deliver the dimes to the return chute, a lower assorting chute arranged to conduct five cent pieces from the upper chute to the return chute and having means for ejecting pennies, and movable means for deflecting coins passing from said dime conducting chute and lower assorting chute and preventing the coins from passing into the return chute.

4. In a coin assorting mechanism, a return chute, an upper assorting chute having guiding means for five cent pieces and pennies and ejecting means for dimes, a conducting chute having its upper end arranged to receive the ejected dimes and its lower end arranged to deliver the dimes to the return chute, a lower assorting chute arranged to conduct five cent pieces from the upper chute to the return chute and having means for ejecting pennies, a hopper at the upper end of the return chute for receiving the ejected pennies, and movable means for deflecting coins passing from said dime conducting chute and lower assorting chute and preventing the coins from passing into the return chute.

5. In a coin assorting mechanism a return chute, an upper assorting chute, open at one side to permit dimes to be ejected laterally therefrom and having flanges adapted to retain five cent pieces and pennies, said chute having therein a fixed cam or projection for ejecting the dimes, a chute having its upper end arranged to receive the ejected dimes and its lower end arranged to deliver the dimes to the return chute, a lower assorting chute, inclined oppositely to said upper assorting chute, and having one side open to permit pennies to be ejected therefrom, and having flanges arranged to conduct five cent pieces to the assorting chute, and having also a cam therein for ejecting pennies, and a deflecting device movable to prevent the five cent pieces and dimes from passing into the return chute.

866,764. TRANSPORTATION-CAR AND THE LIKE. JOHN M. AMES, New Brighton, N. Y., assignor to Benjamin A. Hegeman, Jr., North Plainfield, N., J. Filed Apr. 23, 1906. Serial No. 313,174.



1. A car having horizontally disposed hinged discharge gates, inclined floor sections leading thereto, and center-sills, combined with a crank-frame mounted above said gates and between said center-sills, substantially vertically disposed straight links pivotally secured at their upper ends directly to the upper end of said crank-frame and at their lower ends respectively to said gates, a sprocket wheel on said frame, a transverse operating shaft on one side of said gates and extending below one of said floor sections, a sprocket wheel on said shaft, and a chain connecting said sprocket wheels, said frame when the gates are closed being adapted to carry the upper ends of said links beyond the axial line of said frame, for locking said gates closed; substantially as set forth.

2. A car having horizontally disposed hinged discharge gates, inclined floor sections leading thereto, and center-sills, combined with a crank-frame mounted above said gates and between said center-sills, substantially vertically disposed straight links pivotally secured at their upper ends directly to the upper end of said crank-frame and at their lower ends respectively to said gates, a sprocket wheel on said frame, a transverse operating shaft at one side of said gates and extending below one of said floor sections, a sprocket wheel on said shaft, and a chain connecting said sprocket wheels, said frame when the gates are closed being adapted to carry the upper ends of said links beyond the axial line of said frame, for locking said gates closed, and said frame being an integral frame having trunnions at opposite sides of its lower end adapted to be secured by bearings to the lower edges of said center-sills; substantially as set forth.

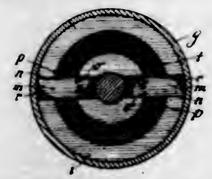
3. A car having horizontally disposed hinged discharge gates, inclined floor sections leading thereto, and center-sills, combined with a crank-frame mounted above said gates and between said center-sills, substantially vertically disposed straight links pivotally secured at their upper ends directly to the upper end of said crank-frame and at their lower ends respectively to said gates, and means for operating said crank-frame to open and close said gates, said crank-frame when the gates are closed being adapted to carry the upper ends of said links beyond the axial line of said frame and said frame also affording bearing surfaces for said links when said gates are closed; substantially as set forth.

4. A car having horizontally disposed hinged discharge gates, inclined floor sections leading thereto, and center-sills, combined with a crank-frame mounted above said gates and between said center-sills, substantially vertically disposed straight links pivotally secured at their upper ends directly to the upper end of said crank-frame and at their lower ends respectively to said gates, and means for operating said crank-frame to open and close said gates, said crank-frame when the gates are closed being adapted to carry the upper ends of said straight links beyond the axial line of said frame, for locking said gates closed; substantially as set forth.

5. A car having horizontally disposed hinged discharge gates, inclined floor sections leading thereto, and center-sills, combined with an integral crank-frame comprising a back, sides and trunnions, substantially vertically disposed straight links located between said sides and pivotally secured at their upper ends directly to the upper end of said crank-frame and at their lower ends respectively to said gates, and means for operating said crank-frame to open and close said gates, said crank-frame when the gates are closed being adapted to carry the upper ends of said straight links beyond the axial line of said frame, for locking said gates closed; substantially as set forth.

6. A car having a discharge opening in its bottom and a pair of gates thereat hinged at their outer edges and adapted to overlap one upon the other at their inner edges when closed so as to leave no open space at said edges, combined with means for opening and closing said gates comprising a pivotally mounted crank, and links pivotally secured at their upper ends to said crank and at their lower ends respectively to said gates and adapted to cause one of said gates to slightly precede the other during the closing of the gates, for effecting the overlapping of the inner edges of the same; substantially as set forth.

866,765. CLUTCH. SEVERIN C. ANKER-HOLTH, Riverside, Ill. Filed Sept. 4, 1906. Serial No. 333,188.



1. A clutch having a pair of relatively rotatable main clutch members, friction shoes movable into and out of securing frictional engagement with one of such main clutch members, and a plurality of levers each in engagement with a plurality of such friction shoes and with the other main clutch member.

2. A clutch having a pair of rotatable clutch members, friction shoes in engagement with one of such main clutch members, and a plurality of levers each having one end operatively connected with one of the main clutch members and having its opposite end portion in engagement with a plurality of such friction shoes.

3. A clutch having a pair of inner and outer rotatable clutch members, shoe mechanism movable into and out of securing engagement with one of such rotatable clutch members, and levers having their inner end portions in engagement with the inner clutch member and their outer portions fulcrumed upon the shoe mechanism laterally of the inner clutch member and on opposite sides thereof.

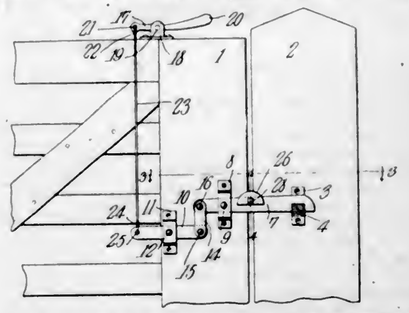
4. A clutch having a pair of relatively rotatable clutch members, lever mechanism for connecting such clutch members and permitting the release thereof, and means for forming fulcrums for such lever mechanism at different points successively.

5. A clutch having rotatable clutch members, levers for connecting and releasing such clutch members, and means for forming fulcrums for each of such levers at different points longitudinally thereof.

6. A clutch having inner and outer rotatable clutch members, shoe mechanism movable into and out of securing engagement with one of such rotatable clutch members, and levers in engagement with the other rotatable clutch member and with the shoe mechanism on opposite sides of the central portion of the clutch.

7. A clutch having a pair of rotatable clutch members, shoes movable into and out of securing engagement with one of such clutch members, and levers having their inner end portions in operative engagement with the inner one of such rotatable clutch members and their outer ends in engagement with such shoe mechanism on opposite sides of the central portion of the clutch.

866,766. GATE-LATCH. CARL J. AUSTAD, Peterson, Minn. Filed May 13, 1907. Serial No. 373,416.



1. In a device of the character described, the combination with a catch, of a pivoted latch member adapted to coöperate therewith, an actuating lever operatively connected to the latch, a pivoted operating handle connected to the actuating lever, and a weight adjustable longitudinally of the latch member and serving to overbalance the actuating lever and operating handle to retain the latch in coöperative relation with the catch.

2. In a device of the character described, the combination with a catch, of a pivoted latch member adapted to coöperate therewith at one end and having a link connection at its opposite end, an actuating lever mounted in pivotal relation to the latch member and having one end operatively connected to said link connection, and a pivoted operating handle having a rod connecting it to the opposite end of the actuating lever for unlocking the latch member relatively to the catch.

3. In a device of the character described, the combination with a catch, of a latch member pivoted at a point intermediate of its ends, one end of the latch member being adapted to coöperate with the catch, an actuating lever mounted in pivotal relation to the latch member, the actuating member being mounted pivotally at a point intermediate its ends, a pair of links arranged at the oppo-

site sides of the latch member and actuating lever and pivotally connected to the proximate ends thereof, and a device connected to the end of the actuating lever opposite to said link and serving to unlock the latch member relatively to the catch.

4. In a gate latch, the combination with a suitable catch adapted to be secured to the gate post, of a latch member pivoted intermediately to the gate and having its free end projecting beyond the gate and adapted to coöperate with said catch, an actuating lever pivoted at a point intermediate its ends, a link connection between the inner end of the latch member and the outer end of the actuating lever, an operating device pivoted on the top of the gate having a handle portion extending toward the free end of the gate and having an eye at its opposite end, and an actuating rod having one end connected to the said eye and having its opposite end connected to the end of the actuating lever opposite to the link connection.

866,767. ROTARY ENGINE. EUGENE A. BAUTER, La Salle, Ill. Filed Aug. 7, 1905. Serial No. 273,142.



1. In a rotary engine the combination of a closed cylindrical casing which carries a balanced rotor having two diametrically oposite V-shaped wings, with a back pressure valve which slides in a direction at right angles to the plane of rotation of said rotor, with a receptacle which contains said back pressure valve while the wings are passing its path, with means for operating the said back pressure valve, with two ports, one on each side of said back pressure valve, which communicate with both sides of the back pressure and the reversing plug chamber one of said ports always being closed by the reversing plug while the other is allowed to communicate with the steam chest by means of a single port; a side valve, with means for operating same, controlling the steam supply through said single port and an exhaust port diametrically opposite steam ports.

2. In a reversible rotary engine all contained in a single casing, the combination of a closed cylindrical casing which carries a balanced rotor having two diametrically opposite V-shaped wings, with a back pressure valve which slides in a direction at right angles to the plane of rotation of said rotor, with means for operating same, with a receptacle which contains said back pressure valve while the wings are passing its path; with two ports, one on each side of said back pressure valve, which communicate with both sides of the back pressure valve and with the reversing plug chamber, one of said ports always being closed by the reversing plug while the other is allowed to communicate with the steam chest by means of a single port; a slide valve, with means for operating same, controlling the steam supply through said single port and an exhaust port diametrically opposite the steam ports.

3. In a reversible rotary engine all contained in a single casing, the combination of a closed cylindrical casing which carries a balanced rotor having two diametrically opposite V-shaped wings, with a back pressure valve which slides in a direction at right angles to the plane of rotation of said rotor, with means for operating same, said means comprising a cam suitably mounted on a shaft which is geared to rotor shaft, with a receptacle which contains said back-pressure valve while the wings are passing its path; with two ports, one on each side of said back-pressure valve, which communicate with both sides of the back pressure valve and with the reversing plug chamber, one of said ports always being closed by the reversing plug while the other is allowed to communicate with the steam chest by means of a single port; a slide valve, with means for operating same, said means comprising an eccentric mounted on the rotor shaft, which controls the steam supply through said single port, and an exhaust port diametrically opposite the steam ports, substantially as shown and described.

866,768. PROCESS FOR THE MANUFACTURE OF ARTIFICIAL SILK FILAMENTS FROM NITROCELLULOSE. CHARLES BOTTLER, Jülich, Germany, assignor to Kunstfäden Gesellschaft mit Beschränkter Haftung, Jülich, Germany, a Corporation. Filed Dec. 4, 1906. Serial No. 346,214.

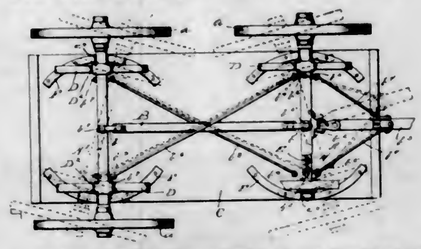
1. The herein described process for the manufacture of artificial silk which consists in treating nitrocellulose to reduce the water content thereof to from 21 to 24 per cent. and adding a solvent thereto to form a collodion solution.

2. The herein described process for the manufacture of artificial silk, which consists in subjecting a nitrocellulose to centrifugal action to reduce the water content thereof to from 21 to 24 per cent, and in subsequently forming a collodion solution by dissolving said nitrocellulose in a mixture of alcohol and ether or the like.

3. The herein described process for the manufacture of artificial silk which consists in subjecting nitrocellulose to centrifugal action to reduce the water content thereof, to from 21 to 24 per cent, and in mixing the same with a solvent to form a collodion in the approximate proportion of 18–23 kilos of said nitrocellulose to 100 liters of the solvent.

4. The herein described process for the manufacture of artificial silk which consists in reducing the water content of nitrocellulose by subjecting the same to successive centrifugal actions for predetermined intervals of time.

866,769. VEHICLE. ELMER L. BRILLHART, Ludington, Mich. Filed Sept. 9, 1905. Serial No. 277,656.



1. In a vehicle the combination with the front and rear axles, a reach pivotally connected at each end centrally to the respective axles, rods pivotally connecting each end of one axle and the opposite ends of the other axle and securing said ends in unvarying relation, a spring engaged to each end of each axle, a bolster, a plate rigidly connecting the bolster to said spring, springs connected at their inner ends centrally to each axle and at their outer ends to the respective plates adapted to prevent lateral movement of the bolsters.

2. In a vehicle the combination with the front and rear axles, a reach pivoted at each end to the respective axles, rods pivotally engaged to each axle, said rods connecting opposite ends of the axles and rigidly holding said ends a fixed distance apart, a spring rigidly bolted to the ends of each axle, a bolster, a plate connecting said bolster at its ends to said springs, a body pivoted to each bolster centrally thereof, tracks engaged to the bottom of said body at each corner thereof and wheels engaged to the ends of each bolster adapted to move over said tracks.

3. In a vehicle the combination with the front and rear axles, a reach pivoted at each end to the axles, rods pivotally connecting opposite ends of said axles, a spring rigidly engaged to each end of the axles, a bolster, plates rigidly engaging the upper leaf of said springs and the ends of the bolster, springs engaged centrally to the axles and each engaged to one of said plates, a body pivoted at each end to the bolster centrally thereof, wheels engaged to the ends of the bolsters and a track at each corner of the body.

4. In a device of the class described the combination with the front and rear axles of a reach pivotally connected with each, rods engaging opposite ends of said axles, springs rigidly engaged on said axles, a bolster engaged on the springs of each axle, coiled springs engaged at their inner ends centrally of each axle and at their outer ends on hooks beneath said bolsters, a roller on each end of each bolster, a box pivoted on said bolsters centrally thereof, and segment plates engaged to each corner of said body affording bearings for said rollers.

5. In a vehicle the combination with the axles thereof, of means connecting the same acting to cramp them oppositely in turning, leaf springs on said axles, bolsters carried on the outer leaf of said springs, coiled springs engaged to said axles centrally thereof and the tops of said leaf springs, a shaft in each end of each bolster, a roller on each, a box pivoted to the center of said bolsters and a track at each corner of the wagon affording bearings for said rollers.

6. In a device of the class described the combination with the front and rear axles of independent rods acting to cramp said axles oppositely in turning, a spring adjacent each end of each axle, bolsters rigidly engaged thereon, tension members engaged to each end of said bolsters and to said axles, a roller journaled on each end of each bolster, a box pivotally connected at each end with said bolsters centrally thereof and segment plates engaged to each corner of the body affording bearings for said rollers.

866,770. ELECTRIC-CONDUCTOR MOLDING. SIDNEY M. BURK, Philadelphia, Pa. Filed Feb. 9, 1906. Serial No. 300,329.



1. An electric conductor molding, having a channel for the receipt of an electric conductor and being provided with means whereby the cross-sectional area of such channel may be varied.

2. An electric conductor molding having a channel for the reception of a conductor and a groove situated upon one side of and near enough to the said channel to form a flexible strip or tongue between the channel and groove.

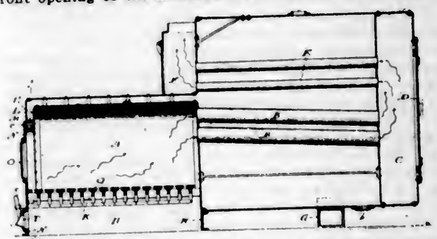
3. An electric conductor molding having a channel provided therein for the reception of an electric conductor and also having grooves situated upon opposite sides of and near enough to the said channel to form flexible strips or tongues between the channel and the grooves.

4. An electric conductor molding having channels provided therein for the reception of electric conductors and having grooves located upon each side of each of the said channels whereby flexible strips of the material of the molding are produced so that the cross-sectional area of the said channels may be varied at will.

5. A supporting device for an electric conductor having a channel and a groove forming therewith a flexible side for said channel.

866,771. BOILER. ALEXANDER B. BURNS, Green Bay, Wis. Filed May 14, 1906. Serial No. 316,608.

1. A horizontal boiler comprising a circular shell having front and rear heads, a double-wall fire-box extension projecting from the shell, the outer side-walls of the fire-box being extensions of said shell, a grate-opening in the bottom of the double-wall fire-box, a filler-strip interposed between the fire-box walls at the grate-opening, a double-wall front head for the fire-box, a front opening in the double-wall head, a filler-frame for the opening interposed between the walls of said head, in combination with an ash-pit frame having side-supporting walls, flanges projecting from the side-supporting walls, means for securing the flanges to the ash-pit opening in the fire-box, a rear-wall connecting the side-walls of the ash-pit frame, said rear-wall being adapted to close the ash-pit and support the front end of the boiler-shell, and a door-plate closure secured to the front opening of the aforesaid fire-box and ash-pit frame.



2. In a fire-box for boilers, a double-wall jacket, front and bottom openings therein, closure-strips for the openings interposed between the double-walls, in combination with an ash-pit frame for supporting the fire-box at the bottom opening therein, said frame being open at its front, and a door-plate secured to the front of the ash-pit frame and front-walls of the fire-box around the opening therein.

866,772. DOOR FOR FIRE-ALARM BOXES. FRANK G. CAMPBELL, Washington, D. C. Filed Oct. 31, 1905. Serial No. 285,351.



1. A fire alarm box having an alarm controlling handle located upon the exterior thereof and a lock the bolt of which is controllable by said handle or by a key.

2. A fire alarm box having an alarm controlling handle located upon the exterior thereof and a door controlling lock controllable by said handle and also by a key and a frangible device which normally locks said handle against movement.

3. A fire alarm box having an alarm controlling handle located upon the exterior thereof, a door controlling lock the bolt of which is controllable by said handle and by a key and a local alarm controlled by the movement of the door of the box.

4. A door for fire alarm boxes having a handle mounted upon the outer face thereof, a lever pivoted to the inner

face thereof, connecting members between said handle and said lever, a frangible device which normally prevents movement of said handle and means for forcing the door of said box open.

5. A door for fire alarm boxes having a handle located upon the outer face thereof, an alarm controlling lever connected to said handle, a door controlling lock controlled by said handle and also controlled by a key, a frangible device which normally prevents movement of said handle and means for forcing the door of the box open.

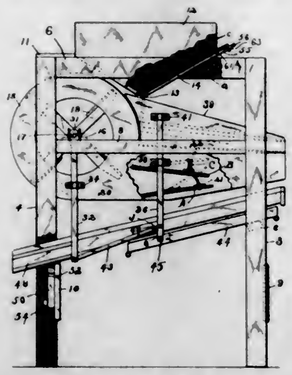
6. A door for fire alarm boxes upon which is mounted an alarm controlling handle, an alarm controlling member connected to said handle, a frangible device engaging said handle, a door controlling lock and a door actuating spring.

7. In a fire alarm box comprising an inner and an outer box, the combination with main alarm mechanism, of a lever located upon the exterior of the outer box, a shaft upon which said lever is mounted and which extends to the interior of the box, members connected to said shaft for setting the main alarm mechanism in motion when the lever is actuated and a frangible device normally preventing movement of said lever.

8. In a fire alarm box comprising an inner and an outer casing, a main alarm mechanism located in said inner casing and having a main alarm controlling member which projects through the door of the inner casing, a handle located upon the exterior of the door of the outer casing a shaft upon which said handle is mounted which projects through said door and a lever connected to said shaft the free end of which overlies the main alarm controlling member.

9. In a fire alarm box comprising an inner and an outer casing, a main alarm mechanism located in said inner casing and having a main alarm controlling member which projects through the door of the inner casing, a handle located upon the exterior of the door of the outer casing, a shaft upon which said handle is mounted and which projects through said door, a lever connected to said shaft, the free end of which is adapted to engage the main alarm controlling member and a frangible device which normally prevents movement of said handle.

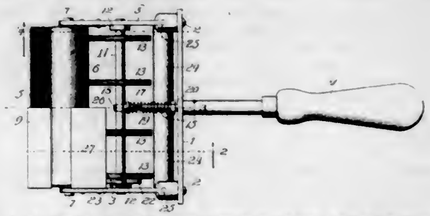
866,773. GRAIN-CLEANING MILL. CLAUDE L. CANADY, Dublin, Ind. Filed Oct. 18, 1906. Serial No. 339,434.



1. In a grain cleaning mill, a main supporting frame, a hopper, a fan and fan casing, an inclined vibratory upper riddle, a lower reversely inclined screen box carrying screens, intermediately fulcrumed hanger bars having at their upper ends a pivotal connection with said riddle, a vibratory grain conveyer located below the screen box and having a similar inclination thereto, said grain conveyer having at its upper end a support upon the main frame, and at its lower end a pivotal supporting and vibrating connection with the lower ends of said hanger bars, intermediately fulcrumed vibrator bars having at their upper ends a vibratory connection with the fan shaft, connecting bars having at one end pivotal connection with the lower ends of said vibrator bars, and at their opposite ends pivotal connection with the lower end portions of said hanger bars, said connecting bars having a similar inclination to that of the screen and grain conveyer, said screen box having at its lower end portion a support upon the main frame, and intermediately thereof a supporting and vibrating connection with the upper end portions of said connecting bars.

2. In a grain cleaning mill, a main supporting frame, a hopper, a fan and fan casing, an inclined vibratory upper riddle, a lower reversely inclined screen box carrying screens, intermediately fulcrumed hanger bars having at their upper ends pivotal connection with said riddle, intermediately fulcrumed vibrator bars having at their upper ends vibratory connection with the fan shaft, connecting bars having at one end pivotal connection with the lower ends of said vibrator bars and at their opposite ends pivotal connection with the lower end portions of said hanger bars, said connecting bars having a similar inclination to that of the screen and being provided with open notches near their upper ends, said screen box having at its lower end a support upon the main frame and at its intermediate portion being provided with a transverse supporting rod having removable engagement with said notches of the connecting bars.

866,774. MACHINE FOR PASTING AND ATTACHING LABELS. LOUIS CASPER, Chicago, Ill. Filed Jan. 29, 1906. Serial No. 298,535.



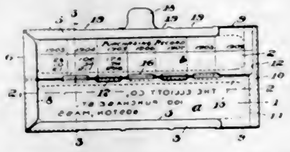
1. A device for applying paste to labels and attaching the latter to surfaces, in which is combined a source of paste supply, a paste roller arranged to receive paste therefrom and revoluble means held under resilient pressure behind said roller for primarily engaging therewith as well as with the surface to which the label is to be attached, to cause the label to first move between said paste roller and said revoluble means and thence upon said surface beneath said revoluble means.

2. A device for applying paste to labels and attaching said labels to surfaces, consisting of a paste receptacle, a paste roller arranged to partially enter therein, revoluble means in spring controlled engagement with said paste roller for primarily engaging therewith as well as with the surface upon which the label is to be attached to cause the label to move between said paste roller and said revoluble means and thence upon the surface beneath said revoluble means, and a smoothing roller behind said revoluble means.

3. A device for applying paste to labels and attaching said labels to surfaces, consisting of a paste receptacle, a paste roller arranged to partially enter therein, a shaft parallel with said paste roller having a series of wheels thereon in normal contact with the periphery of said paste roller, and a spring for yieldingly pressing said wheels into normal contact with the periphery of said roller, whereby upon introducing the edge of a label between said roller and said wheels and rotating the latter in frictional contact with the surface to which the label is to be attached, said label may be caused to move between said roller and wheels and thence upon said surface beneath said wheels.

4. A device for applying paste to labels and attaching said labels to surfaces, consisting of a paste receptacle, a paste roller arranged to partially enter therein, a series of wheels arranged to engage the periphery of said paste roller, means for yieldingly pressing the same against said roller and means in the bight between said roller and wheels for directing the label rearwardly as the same is moved downwardly after having passed between said roller and wheels.

866,775. COMBINED CARD AND STENCIL OR TYPE-PLATE FRAME. WILLIAM E. CHOATE, Melrose, Mass. Filed Feb. 3, 1906. Serial No. 299,260.



1. As a new article of manufacture, a card and printing plate holder, comprising a skeleton frame having a pair of longitudinal slots of substantially equal length and retaining devices at the sides and ends of said slots for securely holding a card and a printing plate thereon, for the purpose described.

2. As a new article of manufacture, a card and printing plate holder, comprising a skeleton frame having a pair of longitudinal slots of substantially equal length and retaining devices at the sides and ends of said slots for securely holding a card and a printing plate thereon, one of said devices having a plate stop to hold the plate in fixed position to prevent longitudinal movement thereon.

3. A card and type or stencil plate holder comprising a skeleton frame provided with a plurality of longitudinal slots having retaining devices at the sides and ends of said slots for securely holding a card and a type or stencil plate and to present both sides of said card for commercial purposes, said card having an index tongue and one of said retaining devices having one or more edge slots to receive said index tongue.

4. A combined card and type or stencil plate holder comprising a skeleton frame having a plurality of longitudinal slots and an intermediate rib, edge retaining devices on the holder for the outer edges of the card and the type or stencil plate adapted to be arranged thereon, and retaining devices arranged on said rib for the inner edge of said card and plate, one of said outer retaining devices having a stop adapted to hold a plate in said retaining devices.

5. A combined card and type or stencil plate holder comprising a skeleton frame having sides and ends presenting a plurality of longitudinal openings, and overhanging flanges on the said sides and ends forming card and plate retaining devices, the flange of one of the end pieces having a stop portion for the end of a type or stencil plate.

6. A combined card and type or stencil plate holder comprising a skeleton frame having sides and ends presenting a plurality of longitudinal openings, and overhanging flanges on the said sides and ends forming card and plate retaining devices, one of the end flanges having a stop for holding a stencil or type plate in its retaining devices, and a portion of less width adapted to facilitate insertion of a card in its retaining devices.

7. In a combined card and type or stencil plate holder, an end retaining device comprising a flange extending first inwardly to form a channel and having one part adjacent one side of the frame extended towards said frame to constitute a stop adapted to receive the ends of a card and a printing plate respectively.

8. In a combined card and type or stencil plate holder, a retaining device having a stop formed by bending the edge of the holder inwardly and transversely to the frame.

9. A new article of manufacture, comprising a card and type plate holder provided with longitudinal slots, retaining devices at the sides and ends of one of said slots, a type plate securely held by said devices, and means for holding a card upon the other of said slots, said type plate having cameo-intaglio type form presenting at its rear side, and visible through said slot, a positively readable address in intaglio and at its opposite side, a corresponding negative address in relief.

10. A combined card and type or stencil plate holder comprising a skeleton frame having sides and ends presenting a plurality of longitudinal openings, overhanging flanges on the said sides and ends forming card and plate retaining devices, one of the end flanges having a stop for holding a stencil or type plate in its retaining devices and a portion of less width notched at one corner adapted to facilitate insertion of a card in its retaining devices.

11. In a combined card and type or stencil plate holder, an end retaining device having a stop and a channel adapted to receive the ends of a printing plate and a card respectively, said channel being formed by an inturned flange to facilitate insertion of the edge of a card therein and said stop by an inturned portion of said flange.

12. In a combined card and type or stencil plate holder an end retaining device having a stop and a channel adapted to receive the ends of a printing plate and a card respectively, said channel being formed by an inturned flange having a notch at one end to facilitate insertion of the edge of a card therein.

13. A card or plate holder having overhanging flanges bent inwardly, then toward, and finally parallel to said holder adapted to hold a card or plate thereon depressed below the upper flange faces of said holder.

14. A combined card and plate holder comprising a curved skeleton frame provided with longitudinal slots 1, 2, retaining devices 5, and a stop 11, substantially as shown and described.

15. A holder having a slot and card retaining devices the latter being provided with one or more edge slots to receive an index tongue or tongues of a card, adapted to be held in said holder by said retaining devices, in combination with said card, said holder presenting both sides of said card for commercial uses substantially as shown and described.

16. A combined card and type or stencil plate holder having a skeleton frame constructed and arranged to receive a card and a type or stencil plate, and provided at one end with an inwardly extending flange, one portion of which extends inward transversely to the plane of said frame to constitute a stop for said plate to prevent longitudinal displacement thereof, substantially as shown and described.

17. A combined card and stencil or type plate holder provided with a longitudinal slot and retaining means for holding a tongued card thereon having provision for receiving the tongue of said card and presenting both sides of said card for commercial purposes.

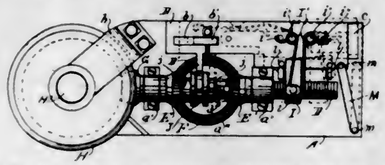
18. In a combined card and stencil or type plate holder, the combination of a card having a projecting tongue and card retaining flanges on said holder having means to receive said projecting tongue.

19. As a new article of manufacture, a printing device comprising a card and type plate holder presenting slots with holding means at the sides and ends of said slots to securely retain a card and a directly readable type plate thereon, and visible adjacent their respective slots from both sides of said holder, the whole presenting an imperforate device having an interchangeable printing portion offering a reliable and direct reading of the characters of its printing plate protected from the inked surface of the plate.

20. As a new article of manufacture, a combined card and type or stencil plate holder having a card provided with a projecting tongue and a type or stencil plate arranged thereon and devices on said holder to retain said card and plate, one or more of said retaining devices having means to receive the projecting tongue of said card.

21. A printing frame of the type described provided with holding means adjacent the edges of said frame, a device retained on said frame by said means, provided with a projecting tongue, said holding means having provision to receive the projecting tongue of said device.

866,776. REVERSING MECHANISM. ALBERT P. CRELL, Ionia, Mich. Filed June 5, 1907. Serial No. 377,459.



1. In a reversing mechanism, a base plate having boxes thereon, a driving shaft and gear revolubly secured thereto, a shaft mounted to revolve in the boxes at right angles with the driving shaft, two gear wheels revolubly mounted on the second shaft between the boxes and engaging the driving gear at diametrically opposite points, a clutch mounted on said shaft between the gear wheels and arranged to engage each alternately, a spline in the shaft to revolve the clutch with the shaft, said shaft having a screw thread at one end, a nut actuated by said screw thread, a sliding plate, a latch, a trip, and springs arranged to actuate the clutch longitudinally of the shaft.

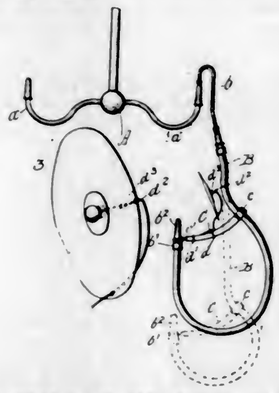
2. The combination in a reversing mechanism, of a base plate having boxes thereon, a driving shaft and gear wheel at right angles with the plate, a shaft supported in the boxes parallel with the plate, and having a screw thread on one end, two gear wheels revolubly mounted on the shaft between the boxes and engaging the driving gear wheel at diametrically opposite points, a nut mounted on the screw threaded end of the shaft, a trip pivotally mounted on the base plate in the line of travel of the nut, a latch pivotally connected with the base plate at one end and having a lug thereon a spring for actuating said latch against the trip, an upper plate slidably mounted over the latch and having a lug engaging the lug on the latch, springs connecting the plate with, and actuated by the nut, an arm extending from the plate and engaging the clutch for actuating the clutch lengthwise of the shaft, and a spline on the shaft for revolving the clutch with the shaft.

3. The combination in reversing mechanism, of a base plate, boxes on the base plate, a driving shaft mounted at right angles with the base plate, a driving gear mounted on said shaft, a shaft mounted in the boxes parallel with the base plate, and having a screw thread on one end, a nut engaging said screw thread and actuated thereby, a gear wheel on the other end of the shaft, a shaft mounted in the base plate at right angles therewith, a gear wheel mounted on said shaft and engaging the gear wheel on the parallel shaft, gear wheels mounted on the parallel shaft between the boxes and revoluble thereon, said gear wheels engaging the driving gear at diametrically opposite points, a clutch slidingly mounted on said shaft between the gear wheels, a spline in the shaft engaging said clutch, a longitudinally sliding plate having an arm thereon engaging the clutch, springs thereon engaging the nut, a latch connected with the sliding plate, a spring and a trip for actuating the latch, and an appliance for adjusting the travel of the nut.

866,777. ADJUSTABLE GAS DROP-LIGHT. JOHN J. DENNIS, Chicago, Ill., assignor of one-half to F. W. Fullmer and F. E. Ball, Chicago, Ill. Filed Nov. 21, 1905. Serial No. 288,463.

1. The combination with a flexible gas hose adapted to be secured to connect with a gas pipe at one end, of a burner at the other end, a rigid one-piece arm at one end rigidly engaged to the burner at the other adjustably engaging the hose and adjustably supporting the burner on the hose with the tip directed vertically and out of alinement with the hose above the same.

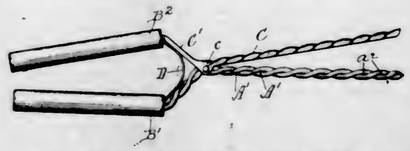
2. The combination with a gas hose adapted for connection with a gas jet of a burner on the opposite end thereof and means supporting said burner vertically and out of alinement with all parts of the hose and embracing a curved arm having one end apertured and turned at an angle with the plane of the opposite end to rigidly engage the burner, said opposite end bent to form an integral sleeve to slidably engage the hose at a point laterally of and above the burner.



3. In a device of the class described the combination with a relatively stiff gas hose of a connection on one end to engage a gas jet, a threaded nipple on the other, a tip threaded thereon, a one piece curved arm shaped to be engaged between the nipple and tip at one end, the other end bent to afford a transversely directed sleeve of a size and adapted to slidably engage the hose slightly above the burner and at a considerable distance laterally thereof.

4. As an article of manufacture, for the purpose specified, a curved rigid arm of comparatively long radius having one end shaped to engage a centrally directed gas jet, the other end bent to afford a sleeve to engage a gas hose, the axis of the sleeve being directed radially toward the axis of the jet when in place.

866,778. CURLING-IRON. MARY A. ELDRIDGE, Chicago, Ill. Filed Sept. 9, 1905. Serial No. 277,643.



1. A curling iron comprising two round metallic rods or wires connected at one end and twisted mutually together for nearly the entire length thereof and in contact with which the hair is wound.

2. A curling iron comprising a plurality of closely contacting round rods or wires fastened together at one end and twisted mutually around each other to near their opposite ends said twisted wires adapted to contact with the hair.

3. A curling iron comprising two round rods or wires twisted mutually together from one end to near the other end and closely contacting for said length, said non-twisted end flattened and bent outwardly forming spring members and a handle pivoted to engage said spring members and to turn upon the twisted part.

4. A curling iron comprising a plurality of round rods or wire twisted mutually around each other forming a non-separable spiral coil having a great and small diameter and in contact with which the hair is wound.

5. A curling iron comprising two rods or wires twisted one about the other and in close relation and providing spiral grooves around said iron for the entire length thereof said twisted part contacting with the hair and the hair adapted to fill in said grooves.

6. A curling iron comprising two round rods or wires twisted mutually together from one end of the same to near the opposite ends, said ends being rigidly engaged together and the extremities thereof bent oppositely affording spring members and an adjustable handle engaged thereon.

7. A curling iron comprising a cylindric rod bent upon itself centrally and twisted for the entire length thereof, a keeper hinged to said rod, a handle on the ends of said rod and keeper and a spring engaged between said handles and acting to hold the keeper in close contact with the rod.

8. A curling iron comprising rods or wires twisted closely together in spiral form affording grooves adapted to receive the hair therein, and a cover adapted to firmly press the hair into said grooves thereby crimping and curling the hair simultaneously.

9. A curling iron comprising a spiral rod provided with a groove on opposite sides of the same and reaching from end to end of the rod a handle on said rod and a spring engaging said handle.

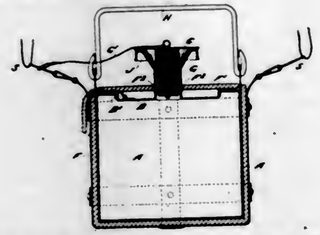
10. A curling iron comprising a plurality of rods or wires twisted closely together to form a spiral for the entire length, a spring on the inner end thereof and a handle engaged by said spring.

11. In a curling iron the combination with a spirally grooved rod of a handle engaged thereon, a keeper hinged on and shaped to fit to the rod and a spring acting to hold said keeper in closed position.

12. A curling iron comprising two rods or wires twisted together for their length, and together affording a straight rod a complemental keeper hinged thereto and handle attached to the end of said rod and to the end of the keeper.

13. In a curling iron a rod spirally grooved on opposite sides, a handle thereon, a keeper hinged to said rod and shaped to conform thereto and a spring handle thereon.

866,779. WATER-BOTTLE FOR USE IN THE ARMY. NORMAN FAICHNIE, York, England. Filed Dec. 26, 1906. Serial No. 349,535.



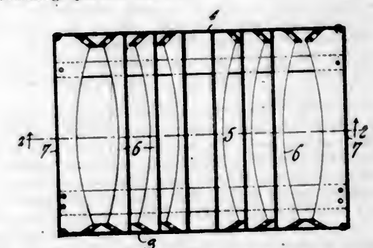
A water bottle comprising a bottle having a large opening in its top, a cover for said opening, a spout projecting upwardly from said cover, and having an outwardly flaring top, a stopper for the spout having a cup-shaped top for covering the flaring top of the spout, a handle on the bottle, a felt casing inclosing the bottle and having openings therein through which extends the handle and spout and a sling connected to the casing.

866,780. SNOW-PLOW. JOHN W. FLYNN, Bordentown, N. J., assignor of one-half to Thomas J. Marlon, Trenton, N. J. Filed May 22, 1907. Serial No. 375,086.

1. A snow plow comprising a frame, a scoop plate attached thereto and a resilient back plate located above the scoop plate.

2. A snow plow comprising a frame, a scoop plate attached thereto and a resilient anticlinal back plate located above the scoop plate.

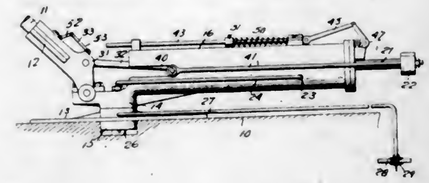
3. A snow plow comprising a frame, a scoop plate attached thereto, a back plate located above the scoop plate and having its discharge portion rearwardly inclined, vertical plates mounted upon the scoop plate and located in advance of the back plate and having their rear edges spaced from the back plate for increasing distances toward the discharge portion thereof.



4. A snow plow comprising a frame, a scoop plate attached thereto, a back plate located above the scoop plate and having a rearwardly disposed discharge portion and having its surface inclined toward said discharge portion, vertical plates mounted upon a scoop plate in advance of the back plate and being pitched in the same general direction as the direction of inclination of the surface of the back plate lying behind their rear edges.

5. A snow plow comprising a frame, a scoop plate attached thereto, a back plate located above the scoop plate, a series of vertical plates mounted upon the scoop plate and located in advance of the back plate and edge plates located at the ends of the said series of plates and being inclined generally toward a plane passing transversely and vertically through the middle of the plow.

866,781. TROLLEY. GEORGE R. FORSTER, Fithian, Ill. Filed Apr. 27, 1907. Serial No. 370,624.



1. In a trolley for electric railways, the combination of a trolley base; a cylinder located upon said base and provided with a partition forming front and rear compartments; a trolley-pole pivoted to said base; a rod pivoted to said pole and extending into the rear compartment; a coil-spring carried by said rod; a fluid-operated piston located within the front compartment and connected with said spring for compressing the latter to raise said pole; means adapted to engage said piston, to hold the spring in compressed condition; and means for releasing said holding means from engagement with said piston, to permit the spring to expand and lower the pole.

2. In a trolley for electric railways, the combination of a trolley base; a cylinder located upon said base and provided with a partition forming front and rear compartments; a trolley pole pivoted to said base; a rod pivoted to said pole and extending into the rear compartment; a coil-spring carried by said rod; a fluid-operated piston located within the front compartment and connected with said spring for compressing the latter to raise said pole; trip mechanism carried by said cylinder and adapted to automatically engage said piston, to hold the spring in compressed condition; and means carried by said pole for releasing said trip mechanism from engagement with said piston, when the pole leaves the trolley wire, to permit the spring to expand and lower the pole.

3. In a trolley for electric railways, the combination with a trolley base and a trolley pole pivoted thereto, of a cylinder located upon said base; a fluid-operated piston

disposed within said cylinder for raising said pole; means carried by said cylinder and adapted for automatic engagement with said piston, to hold the pole in raised position; automatically-operated means for releasing said last-mentioned means from engagement with said piston when the pole leaves the trolley wire; and means for automatically lowering the pole upon such release of said holding means.

4. In a trolley for electric railways, the combination with a trolley base and a trolley pole pivoted thereto, of a cylinder located upon said base; a fluid-operated piston disposed within said cylinder and connected with said pole, for raising the latter; trip mechanism carried by said cylinder for automatically engaging said piston to maintain said pole in raised position; means carried by said pole for releasing said trip mechanism from engagement with said piston when the pole leaves the trolley wire; and means disposed within said cylinder and connected with said pole for automatically lowering the latter upon the release of said trip mechanism.

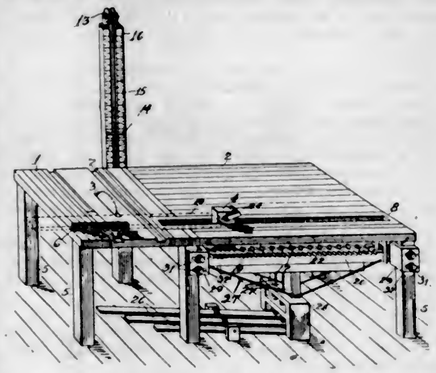
5. In a trolley for electric railways, the combination with a trolley base and a trolley pole pivoted thereto, of a cylinder located upon said base; a fluid-operated piston disposed within said cylinder and connected with said pole, for raising the latter; a rod slidably mounted upon said cylinder; trip mechanism carried by said cylinder and connected with said rod for automatically engaging said piston, to maintain said pole in raised position; means carried by said pole and adapted to contact with said rod when the pole leaves the trolley wire for moving said rod endwise to release said trip mechanism from engagement with said piston; and means disposed within said cylinder and connected with said pole for automatically lowering the latter upon the release of said trip mechanism.

6. In a trolley for electric railways, the combination with a trolley-base and a trolley pole pivoted thereto, of a cylinder located upon said base; a fluid-operated piston disposed within said cylinder and connected with said pole, for raising the latter, said piston having a notched stem; a rod slidably mounted upon said cylinder; trip mechanism carried by said cylinder and connected with said rod; a coil-spring carried by said rod for normally forcing the latter rearwardly of the cylinder, to cause the trip mechanism to automatically engage the notched stem of the piston when the latter is retracted, to maintain said pole in raised position; means carried by said pole and adapted to contact with said rod when the pole leaves the trolley wire for forcing said rod forwardly of the cylinder against the action of said spring, to release said trip mechanism from engagement with the notched stem of said piston; and means disposed within said cylinder and connected with said pole for automatically lowering the latter upon the release of said trip mechanism.

7. In a trolley for electric railways, the combination with a trolley base, a pole holder pivoted thereto, and a pole carried by said holder, of a cylinder located upon said base; a fluid-operated piston disposed within said cylinder and connected with said holder for raising the pole; a rod slidably mounted upon said cylinder; trip mechanism carried by said cylinder and connected with said rod; a coil-spring carried by said rod for normally forcing the latter rearwardly of the cylinder, to cause the trip mechanism to automatically engage said piston when the latter is retracted, to maintain said pole in raised position; a plate carried by said holder and adapted to contact with said rod when the pole leaves the trolley wire, for forcing said rod forwardly of said cylinder, to disengage the trip mechanism from said piston; and means disposed within said cylinder and connected with said holder for automatically lowering the pole upon the disengagement of said trip mechanism.

866,782. STOP FOR CUT-OFF SAWS. GEORGE GEISENDORFER, Upton, Cal. Filed Mar. 8, 1906. Serial No. 304,995.

1. In a stop for cut off saws, a saw table, a shouldered stop movably mounted thereon, and a plurality of shouldered surfaces for engaging with the stop and holding it at any desired point in the slot, said shoulders being at different distances apart.



2. In a stop for cut off saws, a slotted saw table, a stop reciprocally mounted in said slot, shouldered surfaces for engaging with the stop and holding it at any desired point in the slot, and means for moving said surfaces.

3. In a stop for cut off saws, a slotted saw table, a winged stop reciprocally mounted in the slot with its lower end projecting below the table, an indicator connected with the stop, and shouldered surfaces for engaging with said projecting portion and holding the stop at any desired point in the slot.

4. In a stop for cut off saws, a slotted saw table, a stop reciprocally mounted in the slot, an indicator connected with the stop, a plurality of shouldered bars, each adapted to be moved into engagement with the stop, and means for moving each bar into said engagement independently of the others.

5. In a stop for cut off saws, a slotted saw table, a shouldered stop reciprocally mounted in the slot, an indicator connected with the stop, a plurality of vertically movable, shouldered bars, means for holding said bars parallel, and means for moving each of the bars into engagement with the stop independently of the others.

6. In a stop for cut off saws, a slotted saw table, a stop reciprocally mounted therein, an indicator connected with the stop, a plurality of vertically movable shouldered bars for engaging with the stop and locking it against movement, each provided with a stem, means for holding said bars parallel, and a lever for engaging with each of said stems.

7. In a stop for cut off saws, a slotted saw table, a stop reciprocally mounted in the slot, an indicator connected therewith, a plurality of shouldered bars for engaging with the stop, and means for moving the bars longitudinally.

8. In a stop for cut off saws, a slotted table, a stop reciprocally mounted in the slot, an indicator connected with the stop, a plurality of shouldered bars for engaging with the stop, a plate at each end of said bars, screws for adjusting the same to move the bars longitudinally, and bolts for securing the plates in their adjusted positions.

9. In a stop for cut off saws, a slotted table, a graduated standard secured thereto, pulleys on the standard and on the table, a stop reciprocally mounted in said slot, a cord from the stop over said pulleys and provided with a weight at its free end, an index on the cord adapted to be moved in front of the graduations on said standard, and means for locking the stop at any desired point in the slot of the table.

866,783. WELL-BUCKET. PHARES E. GETZ, Neosho, Mo., assignor of one-half to Warren Heaton, Neosho, Mo. Filed Mar. 30, 1907. Serial No. 365,519.

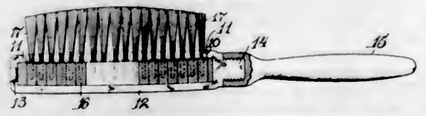
1. A well bucket comprising a tubular cylindrical body having a conical end, said conical formation being produced by folding or doubling the metal upon itself to form flat tapering, radial ribs at a limited number of places in the circumference of the portion to be coned, said ribs being wider at the frustum end of the cone and disappearing at the junction of the cylindrical body with the conical end of the bucket.



2. A well bucket comprising a tubular metal body having a conical end, said end being formed by folding or doubling upon itself the metal of the body to form a plurality of tapering ribs, said ribs being folded against the side of the conical end.

3. A well bucket having conical ends consisting of a single piece of tubing, the conical ends being formed by folding or doubling upon itself the tubing to form a plurality of tapering ribs at each end of said tubing and then folding the ribs flat against the surface of the conical ends of the bucket.

866,784. BRUSH. WILLIAM L. GLORIEUX, Jr., Irvington, and VICTOR F. STRUCK, Newark, N. J. Filed Apr. 27, 1906. Serial No. 313,973.



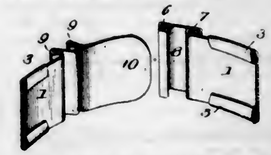
1. A brush comprising a tape provided with a set of bristles on one edge, the tape being wound to form an elliptical spiral and with the bristles parallel with its axis, a handle having means for surrounding and clamping the spirally wound tape, and means for holding the spirally wound tape flat.

2. A brush comprising a tape provided with a set of bristles on one edge, the tape being wound to form an elliptical spiral and with the bristles parallel with its axis, a handle having means for surrounding and clamping the spirally wound tape, and means on the clamping means for holding the spirally wound tape flat.

3. A brush comprising a compressible tape provided with a set of bristles on one edge, the tape being wound to form an elliptical spiral, a holding means for clamping the spirally wound tape and compressing it around its periphery, the holding means having a lip on the top for engaging the edge of the spirally wound tape, and means for clamping the holding means together.

866,785. STOVEPIPE-CONNECTOR. JOSEPH HAIGH, Hennessey, Okla. Filed Dec. 27, 1906. Serial No. 349,680.

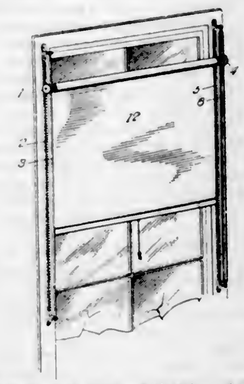
1. A stove pipe connector comprising a band having one end provided with a transversely extending hook portion upon its inner face and the opposite end with a coöperating rib upon its outer face, and side flanges upon the inner face of said band adapted to interlock with the pipe sections to which it is applied.



2. A stove pipe connector comprising a band having an inwardly extending hook and a transverse engaging rib at the opposite end thereof and disposed toward the body of the band, and a projecting end beyond said rib to extend across the joint.

3. As an article of manufacture, a stove pipe connector comprising a band having a hook bent outward from the material thereof at one end, a series of parallel transverse engaging ribs bent from the material at the opposite end thereof, and inwardly bent side edges to form locking ribs upon the inner face at opposite sides of said band.

866,786. WINDOW-SHADE HANGER. FRED S. HAZELTON, Norton, Kans. Filed Jan. 11, 1907. Serial No. 351,877.

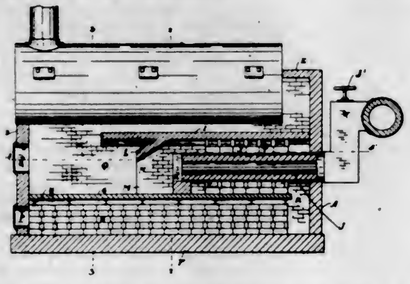


1. In a shade roller, the combination of toothed bars arranged upon opposite sides of the window opening, a shade roller, toothed pulleys fitted to the ends of the shade roller and in mesh with the said toothed bars, and means for imparting rotary movement to the shade roller to effect a raising or a lowering thereof, and a companion toothed bar arranged for coöperation with one of the toothed pulleys to secure the shade roller in the adjusted position without interfering with the raising, or lowering of the shade.

2. In a window shade, the combination of a shade roller, flanged pulleys at opposite ends of the shade roller, each having a toothed portion and one of said pulleys having in addition to the toothed portion, a plain portion, toothed bars secured to the window frame and in mesh with the toothed portions of the aforesaid pulleys, and a combined keeper and lock bar having a toothed portion and a plain portion mounted to have the toothed portion thrown into or out of engagement with the toothed portion of the pulley having the plain and toothed portions, and to have its plain portion thrown into, or out of engagement with the plain portion of the said pulley.

3. In a shade roller, the combination of pulleys applied to opposite ends of the shade roller, each pulley provided with a toothed portion and one of the pulleys having in addition to the toothed portion, a plain portion and a combined keeper and lock bar having angularly disposed edges, or faces, the one being plain, the other toothed and mounted to be turned to bring either the toothed portion, or the plain portion in engagement with the corresponding parts of the pulley having both toothed and plain portions.

866,787. FURNACE. RALPH G. HEMINGRAY, Muncie, Ind., and JOHN O. JENSEN, Rochester, N. Y. Filed Aug. 20, 1906. Serial No. 331,403.



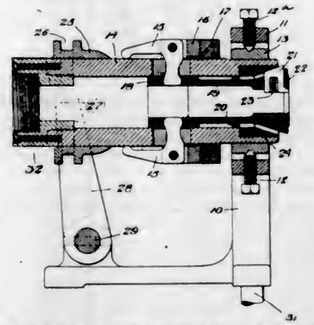
1. In a furnace, the combination with the boiler, of a combustion chamber under the front portion of the boiler, a horizontally disposed plate under the rear portion of the said boiler and separate therefrom to leave a passage-way between said plate and boiler, the forward end of the said plate extending over the rear portion of the said combustion chamber, a mixing chamber at the rear of the combustion chamber with its top inclining downward from said plate towards said combustion chamber, a producer gas conduit extending through the rear portion of said furnace below said plate and to said mixing chamber, and a baffled air passage-way surrounding said conduit and under said plate with an inlet in the rear portion of the furnace, substanitally as set forth.

2. In a furnace, the combination with a boiler, of a combustion chamber under the front portion of the boiler a horizontally disposed plate under the rear portion of said boiler and separate therefrom to leave a passage-way between said plate and the boiler, the forward end of said plate extending over the rear portion of said combustion chamber, a mixing chamber at the rear of the combustion chamber with its top inclining downward from said plate towards said combustion chamber, a producer-gas conduit extending through the rear portion of said furnace below said plate and to said mixing chamber, a baffled air passage-way surrounding said conduit and under said plate with the inlet to said passage-way in the rear portion of the furnace, a wall at the discharge end of said conduit closing the lower portion of said air passage way so that the air will be required to pass over said wall and in contact with said plate above.

3. In a furnace, the combination with a boiler, of a combustion chamber under the front portion of the boiler, a horizontally disposed plate under the rear portion of the said boiler and separate thereform to leave a passageway between said plate and the boiler, the forward end of said plate extending over the rear portion of said combustion chambef, a mixing chamber at the rear of the combustion chamber with its top inclining downward from the plate and its walls slanted toward each other and towards said combustion chamber, a producer-gas conduit extending through the rear portion of said furnace below said plate and to the said mixing chamber, a baffled air passageway surrounding said conduit and under said plate with the inlet to said passageway in the rear portion of the furnace, a wall at the discharge end of said conduit closing the lower portion of said air passageway so that the air will be required to pass over said wall and in contact with said plate above.

4. In a furnace, the combination with a boiler, of a combustion chamber under the front portion of the boiler, a horizontally disposed plate under the rear portion of the said boiler and separate therefrom to leave a passageway between the said plate and the boiler, the forward end of said plate extending over the rear portion of said combustion chamber, a mixing chamber at the rear of the combustion chamber with its top inclining downward from the plate and its walls slanted toward each other and towards said combustion chamber, a producer-gas conduit extending through the rear portion of said furnace below said plate and to the said mixing chamber, a baffled air passageway surrounding said conduit and under said plate with the inlet to said passageway in the rear portion of the furnace, a wall at the discharge end of said conduit closing the lower portion of said air-passageway so that the air will be required to pass over said wall and in contact with said plate above, and a horizontally disposed plate extending from the front of the furnace under the combustion chamber and under said passageway surrounding the producer-gas conduit, and a baffled air passageway under said last mentioned plate with an inlet at the front end of the furnace and an outlet therefrom at the rear of the furnace into the passageway surrounding said conduit, substantially as set forth.

866,788. COLLET ATTACHMENT. JOSEPH L. HOLSTEIN, Cleveland, Ohio, assignor to The Adjustable Collet Company, Cleveland, Ohio, a Corporation. Filed Oct. 8, 1906. Serial No. 337,906.



1. In a universal collet attachment the combination of a portable frame, a hollow spindle mounted in the frame, means for connecting the rear end of the spindle to a live spindle and the frame to a lathe bed, a chuck in the front end of said hollow spindle, and means in the frame to adjust and center the alinement of the front end of the spindle.

2. The combination with a portable collet frame and means thereon to attach it to a lathe bed and to adjust the alinement of a collet therein, of a hollow spindle, mounted in the frame, a collet with gripping jaws mounted in the spindle, and means on the spindle to operate the gripping jaws of the collet, substantially as described.

3. A collet attachment comprising a frame, a bearing ring therein adjustable transversely of its axis in all directions, a hollow spindle in the ring, a collet in the spindle having radially slidable gripping jaws, and means for moving the collet longitudinally of the spindle and connections between the spindle and the jaws by which such movement of the collet moves the jaws radially.

4. The combination with a revoluble shaft having a conical bearing surface therein, of a slotted collet head, means to center it in said shaft, a series of gripping jaws mounted to slide radially in the slots in said head, means to hold said jaws removably in the head.

5. In a collet the combination with a hollow shaft with a conical mouth, of a head 19 provided with longitudinal slots, a series of blocks 21 slidably mounted in the slots to engage the said conical shaft mouth, and a retaining means to hold the blocks in the slots, the collet head being provided with a separate centering and bearing rib 20, substantially as described.

6. The combination with a conical mouthed tubular spindle, of a collet head mounted therein having radially sliding blocks for gripping, means to move the collet head in the conical spindle to operate said jaws, and means to adjust the initial position of the collet head in the spindle to regulate the radial capacity of said jaws, substantially as set forth.

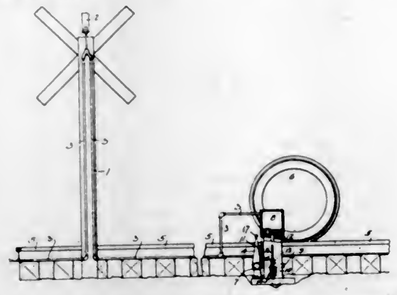
7. The combination with a conical bearing sleeve therefor, of a collet head comprising a hollow shaft with a slotted conical end, said slots opening to the end of the collet head, radially sliding blocks in the slots of the head and means for removably holding the blocks in the head, including a removable holding device closing the ends of the slots in the collet, whereby the blocks may be removed without removing the head from the said sleeve, substantially as described.

8. The combination of a portable frame having means to attach it to a lathe bed, a rotatable hollow spindle mounted therein having means to attach it to a lathe spindle, chuck-jaws in said rotatable spindle, means to operate them and an adjustable supporting ring in said frame for alining said hollow spindle.

9. As an article of manufacture a collet head comprising a hollow spindle having a bearing rib thereon, slots in the end of the spindle, radially operating jaws in said slots and a removable screw ring adapted to retain the jaws in the slots, substantially as described.

10. In a collet attachment the combination of a bearing cone, a hollow spindle slidable in said cone and having radially movable jaws engaging the cone, and means independent of said jaws to center the hollow spindle within the bearing cone.

866,789. RAILROAD-CROSSING SIGNAL. WILLIAM F. HOPKINS, Milton, Wash. Filed Dec. 27, 1906. Serial No. 349,634.



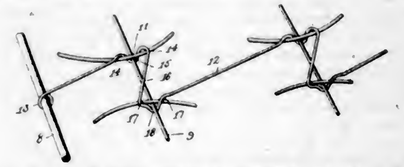
1. In a railroad crossing signal, the combination of a normally vertical lever, adapted to be actuated in either direction by the wheels of a passing train, a normally horizontal lever secured to but distant from said first lever, a fixed air cylinder, a piston therein with a piston rod projecting therefrom and adapted to be engaged and operated by said second lever when it is moved to one side of its normal position but disengaged therefrom when it is moved to the other side thereof, a pneumatic sound emitting instrument at the crossing, and a pipe joining said air cylinder to said instrument whereby said instrument is caused to sound when said piston is moved in said cylinder.

2. In a railroad crossing signal, the combination of two air pumps, one at each side of the crossing and each adapted to be actuated only by a train passing thereover toward the crossing but not being actuated by a train passing thereover from the crossing, a pipe joining said air pumps, and a pneumatic sound emitting instrument at the crossing between the pumps and connected to said pipe and operated by the pressure therein caused only by an approaching train.

3. In a railroad crossing signal, the combination of two air pumps one at each side of the crossing and each adapted to be actuated by a train passing in the direction of the other, a pipe joining said air pumps and having a parallel sided bend therein at the crossing between the pumps, a pneumatic sound emitting instrument supported beyond the end of said bend, and a Y-connection joining said instrument with both sides of said bend.

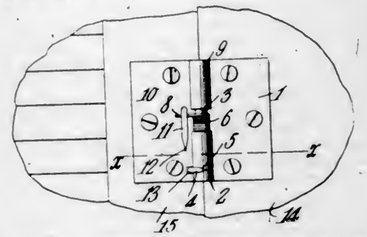
4. In an air compressor, the combination of a fixed cylinder, a reciprocating air compressing piston therein and having a piston rod extending therefrom, a spring engaging said reciprocating parts and adapted to pull said piston toward one end of said cylinder, a lever engaging and actuating said piston rod against the action of said spring when it is moved in one direction, but disengaged therefrom when moved in the other direction, and a lever secured to but distant from said first lever and adapted to be actuated by passing bodies and to actuate said piston only when the passing body is moving in one direction.

866,790. BED-BOTTOM. EARL H. HUTCHESON, Atlanta, Ga. Filed Mar. 6, 1907. Serial No. 360,939.



In a bed bottom, opposite inclosing frames, coiled springs arranged in transverse and longitudinal rows between said frames, cross braces extending across the ends of the transverse rows of springs inside of the end coils of said springs, and lacing wires passing between the longitudinal rows of springs, each wire passing over the end coil of a spring and looped under the cross brace inside of said coil, and said wire leading from a spring in one longitudinal row to the directly opposite spring in the adjacent longitudinal row and passing over the cross brace intermediate of said springs, and then leading back again diagonally across the intervening space to the succeeding spring in the original longitudinal row, said wire taking a zigzag course without crossing itself from one end of the frame to the other.

866,791. COMBINED SPRING AND LOCK HINGE. JAMES W. KEOWN, Rome, Ga. Filed May 6, 1907. Serial No. 372,157.

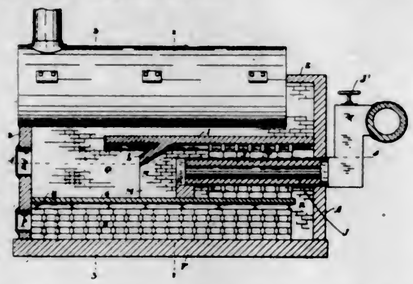


1. A hinge comprising a leaf having a pintle, a second leaf having a tubular extension pivotally and removably engaging the pintle, a spring coiled about the pintle and having one end held against movement, and means movable with the tubular extension for engaging the other end of the spring, said means being detachable from the spring simultaneously with the removal of the second leaf from the pintle.

2. A hinge comprising a fixed leaf having a pintle, a movable leaf having a tubular extension pivotally and slidably engaged with the pintle, a spring upon the pintle for holding the leaves normally folded, and means for permitting independent longitudinal movement of the leaves after a portion of the rotation of the movable leaf.

3. A hinge comprising a leaf having a pintle and a rib concentric with the axis of the pintle, a second leaf having a tubular extension slidably and pivotally mounted upon the pintle, said leaf being notched to receive the rib, and a spring for holding the leaves normally folded.

866,787. FURNACE. RALPH G. HEMINGRAY, Muncie, Ind., and JOHN O. JENSEN, Rochester, N. Y. Filed Aug. 20, 1906. Serial No. 331,403.



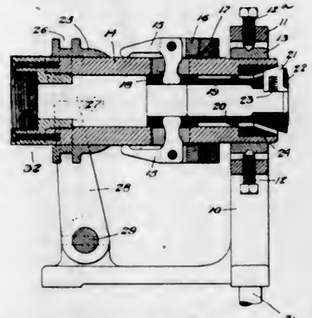
1. In a furnace, the combination with the boiler, of a combustion chamber under the front portion of the boiler, a horizontally disposed plate under the rear portion of the said boiler and separate therefrom to leave a passage-way between said plate and boiler, the forward end of the said plate extending over the rear portion of the said combustion chamber, a mixing chamber at the rear of the combustion chamber with its top inclining downward from said plate towards said combustion chamber, a producer gas conduit extending through the rear portion of said furnace below said plate and to said mixing chamber, and a baffled air passage-way surrounding said conduit and under said plate with an inlet in the rear portion of the furnace, substanitally as set forth.

2. In a furnace, the combination with a boiler, of a combustion chamber under the front portion of the boiler a horizontally disposed plate under the rear portion of said boiler and separate therefrom to leave a passage-way between said plate and the boiler, the forward end of said plate extending over the rear portion of said combustion chamber, a mixing chamber at the rear of the combustion chamber with its top inclining downward from said plate towards said combustion chamber, a producer-gas conduit extending through the rear portion of said furnace below said plate and to said mixing chamber, a baffled air passage-way surrounding said conduit and under said plate with the inlet to said passage-way in the rear portion of the furnace, a wall at the discharge end of said conduit closing the lower portion of said air passage way so that the air will be required to pass over said wall and in contact with said plate above.

3. In a furnace, the combination with a boiler, of a combustion chamber under the front portion of the boiler, a horizontally disposed plate under the rear portion of the said boiler and separate thereform to leave a passageway between said plate and the boiler, the forward end of said plate extending over the rear portion of said combustion chambef, a mixing chamber at the rear of the combustion chamber with its top inclining downward from the plate and its walls slanted toward each other and towards said combustion chamber, a producer-gas conduit extending through the rear portion of said furnace below said plate and to the said mixing chamber, a baffled air passageway surrounding said conduit and under said plate with the inlet to said passageway in the rear portion of the furnace, a wall at the discharge end of said conduit closing the lower portion of said air passageway so that the air will be required to pass over said wall and in contact with said plate above.

4. In a furnace, the combination with a boiler, of a combustion chamber under the front portion of the boiler, a horizontally disposed plate under the rear portion of the said boiler and separate therefrom to leave a passageway between the said plate and the boiler, the forward end of said plate extending over the rear portion of said combustion chamber, a mixing chamber at the rear of the combustion chamber with its top inclining downward from the plate and its walls slanted toward each other and towards said combustion chamber, a producer-gas conduit extending through the rear portion of said furnace below said plate and to said mixing chamber, a baffled air passageway surrounding said conduit and under said plate with the inlet to said passageway in the rear portion of the furnace, a wall at the discharge end of said conduit closing the lower portion of said air passageway so that the air will be required to pass over said wall and in contact with said plate above, and a horizontally disposed plate extending from the front of the furnace under the combustion chamber and under said passageway surrounding the producer-gas conduit, and a baffled air passageway under said last mentioned plate with an inlet at the front end of the furnace and an outlet therefrom at the rear of the furnace into the passageway surrounding said conduit, substantially as set forth.

866,788. COLLET ATTACHMENT. JOSEPH L. HOLSTEIN, Cleveland, Ohio, assignor to The Adjustable Collet Company, Cleveland, Ohio, a Corporation. Filed Oct. 8, 1906. Serial No. 337,906.



1. In a universal collet attachment the combination of a portable frame, a hollow spindle mounted in the frame, means for connecting the rear end of the spindle to a live spindle and the frame to a lathe bed, a chuck in the front end of said hollow spindle, and means in the frame to adjust and center the alinement of the front end of the spindle.

2. The combination with a portable collet frame and means thereon to attach it to a lathe bed and to adjust the alinement of a collet therein, of a hollow spindle mounted in the frame, a collet with gripping jaws mounted in the spindle, and means on the spindle to operate the gripping jaws of the collet, substantially as described.

3. A collet attachment comprising a frame, a bearing ring therein adjustable transversely of its axis in all directions, a hollow spindle in the ring, a collet in the spindle having radially slidable gripping jaws, and means for moving the collet longitudinally of the spindle and connections between the spindle and the jaws by which such movement of the collet moves the jaws radially.

4. The combination with a revoluble shaft having a conical bearing surface therein, of a slotted collet head, means to center it in said shaft, a series of gripping jaws mounted to slide radially in the slots in said head, means to hold said jaws removably in the head.

5. In a collet the combination with a hollow shaft with a conical mouth, of a head 19 provided with longitudinal slots, a series of blocks 21 slidably mounted in the slots to engage the said conical shaft mouth, and a retaining means to hold the blocks in the slots, the collet head being provided with a separate centering and bearing rib 20, substantially as described.

6. The combination with a conical mouthed tubular spindle, of a collet head mounted therein having radially sliding blocks for gripping, means to move the collet head in the conical spindle to operate said jaws, and means to adjust the initial position of the collet head in the spindle to regulate the radial capacity of said jaws, substantially as set forth.

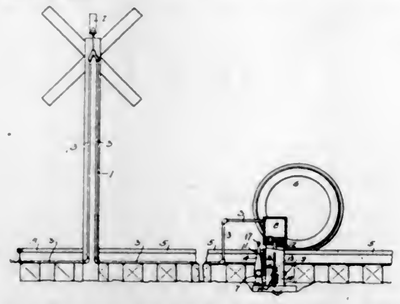
7. The combination with a conical bearing sleeve therefor, of a collet head comprising a hollow shaft with a slotted conical end, said slots opening to the end of the collet head, radially sliding blocks in the slots of the head and means for removably holding the blocks in the head, including a removable holding device closing the ends of the slots in the collet, whereby the blocks may be removed without removing the head from the said sleeve, substantially as described.

8. The combination of a portable frame having means to attach it to a lathe bed, a rotatable hollow spindle mounted therein having means to attach it to a lathe spindle, chuck-jaws in said rotatable spindle, means to operate them and an adjustable supporting ring in said frame for alining said hollow spindle.

9. As an article of manufacture a collet head comprising a hollow spindle having a bearing rib thereon, slots in the end of the spindle, radially operating jaws in said slots and a removable screw ring adapted to retain the jaws in the slots, substantially as described.

10. In a collet attachment the combination of a bearing cone, a hollow spindle slidable in said cone and having radially movable jaws engaging the cone, and means independent of said jaws to center the hollow spindle within the bearing cone.

866,789. RAILROAD-CROSSING SIGNAL. WILLIAM F. HOPKINS, Milton, Wash. Filed Dec. 27, 1906. Serial No. 349,634.



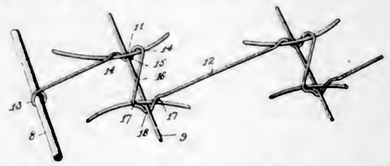
1. In a railroad crossing signal, the combination of a normally vertical lever, adapted to be actuated in either direction by the wheels of a passing train, a normally horizontal lever secured to but distant from said first lever, a fixed air cylinder, a piston therein with a piston rod projecting therefrom and adapted to be engaged and operated by said second lever when it is moved to one side of its normal position but disengaged therefrom when it is moved to the other side thereof, a pneumatic sound emitting instrument at the crossing, and a pipe joining said air cylinder to said instrument whereby said instrument is caused to sound when said piston is moved in said cylinder.

2. In a railroad crossing signal, the combination of two air pumps, one at each side of the crossing and each adapted to be actuated only by a train passing thereover toward the crossing but not being actuated by a train passing thereover from the crossing, a pipe joining said air pumps, and a pneumatic sound emitting instrument at the crossing between the pumps and connected to said pipe and operated by the pressure therein caused only by an approaching train.

3. In a railroad crossing signal, the combination of two air pumps one at each side of the crossing and each adapted to be actuated by a train passing in the direction of the other, a pipe joining said air pumps and having a parallel sided bend therein at the crossing between the pumps, a pneumatic sound emitting instrument supported beyond the end of said bend, and a Y-connection joining said instrument with both sides of said bend.

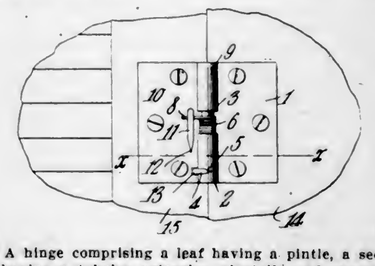
4. In an air compressor, the combination of a fixed cylinder, a reciprocating air compressing piston therein and having a piston rod extending therefrom, a spring engaging said reciprocating parts and adapted to pull said piston toward one end of said cylinder, a lever engaging and actuating said piston rod against the action of said spring when it is moved in one direction, but disengaged therefrom when moved in the other direction, and a lever secured to but distant from said first lever and adapted to be actuated by passing bodies and to actuate said piston only when the passing body is moving in one direction.

866,790. BED-BOTTOM. EARL H. HUTCHESON, Atlanta, Ga. Filed Mar. 6, 1907. Serial No. 360,939.



In a bed bottom, opposite inclosing frames, coiled springs arranged in transverse and longitudinal rows between said frames, cross braces extending across the ends of the transverse rows of springs inside of the end coils of said springs, and lacing wires passing between the longitudinal rows of springs, each wire passing over the end coil of a spring and looped under the cross brace inside of said coil, and said wire leading from a spring in one longitudinal row to the directly opposite spring in the adjacent longitudinal row and passing over the cross brace intermediate of said springs, and then leading back again diagonally across the intervening space to the succeeding spring in the original longitudinal row, said wire taking a zigzag course without crossing itself from one end of the frame to the other.

866,791. COMBINED SPRING AND LOCK HINGE. JAMES W. KEOWN, Rome, Ga. Filed May 6, 1907. Serial No. 372,157.



1. A hinge comprising a leaf having a pintle, a second leaf having a tubular extension pivotally and removably engaging the pintle, a spring coiled about the pintle and having one end held against movement, and means movable with the tubular extension for engaging the other end of the spring, said means being detachable from the spring simultaneously with the removal of the second leaf from the pintle.

2. A hinge comprising a fixed leaf having a pintle, a movable leaf having a tubular extension pivotally and slidably engaged with the pintle, a spring upon the pintle for holding the leaves normally folded, and means for permitting independent longitudinal movement of the leaves after a portion of the rotation of the movable leaf.

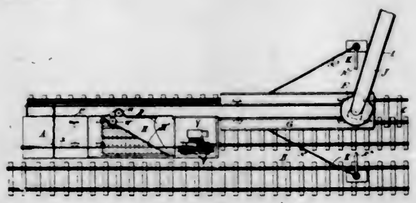
3. A hinge comprising a leaf having a pintle and a rib concentric with the axis of the pintle, a second leaf having a tubular extension slidably and pivotally mounted upon the pintle, said leaf being notched to receive the rib, and a spring for holding the leaves normally folded.

4. A hinge comprising a leaf having a pintle and a rib concentric with the axis of the pintle, a second leaf having a tubular extension slidably and pivotally mounted upon the pintle, said leaf being notched to receive the rib, a spring carried by the pintle and engaging the leaf thereof, and means upon said second leaf for detachably engaging the spring, said spring being disposed to hold the notched leaf normally disengaged from the rib.

5. A hinge comprising a leaf having a pintle and a holding rib, said rib having a tapered end, a second leaf having a tubular extension slidably and pivotally mounted upon the pintle, said leaf being notched to receive the rib, and a spring engaging the leaves and disposed to hold them normally folded and with the notched leaf disengaged from the tapered end of the rib.

6. A hinge comprising separable pivotally connected leaves, a spring secured to one of the leaves, means upon the other leaf for detachably engaging the spring, and a holding rib upon one of the leaves and disposed to be movably engaged by the other leaf, said spring being adapted to normally hold the last mentioned leaf out of engagement with the rib and against the other leaf.

866,792. CONVEYER SYSTEM. SAMUEL L. G. KNOX, Milwaukee, Wis. Filed Apr. 24, 1905. Serial No. 257,163.



1. A conveyer system, comprising a movable platform, a ballast unloader traveling thereover, a conveyer running longitudinally thereof and adapted to receive the material scraped from the platform by the ballast unloader, and an adjustable boom conveyer receiving the material from the first conveyer and delivering the material laterally of or ahead of the platform.

2. A conveyer system, comprising a movable platform, a ballast unloader traveling thereover, a belt conveyer supported at one side of the platform and running longitudinally thereof to receive the material scraped from the platform by the ballast unloader, a section at the end of the platform supporting the end of said belt conveyer, a swinging boom on the end section, a conveyer on said boom, and a hopper at the base of the boom to receive the material from the belt conveyer and deliver the same to the conveyer on the boom.

3. A conveyer system, comprising a movable platform, an unloading plow traveling over said platform, a belt conveyer at one side of the platform to receive the material from the plow, a swinging boom on the forward section of the platform, a conveyer on said boom receiving the material from the belt conveyer, and means for driving the conveyers at a higher rate of speed than that of the unloading plow.

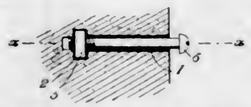
4. A conveyer system, comprising a train of cars, a movable platform upon which the cars discharge, an unloading plow traveling over the platform, a belt conveyer supported at one side of the platform, to receive the material from the plow, a swinging boom on the forward section of the platform, a conveyer on said boom to receive the material from the belt conveyer, and means for driving the conveyers and the plow, the latter moving at a slower speed than said conveyers.

5. A conveyer system, comprising a main track, a train of cars operating thereon, an auxiliary track paralleling the main track, a platform on said auxiliary track to receive the material from the cars, a plow on the platform, a conveyer running longitudinally of the platform to receive the material from the plow, a swinging boom conveyer on the forward end of the platform to receive the material from the longitudinal conveyer, and means for driving the conveyers and the plow.

6. A conveyer system, comprising a train of platform cars, an unloading plow traveling thereover, a belt conveyer supported at one side of the platform cars and running longitudinally thereof to receive the material scraped from the platform cars by the plow, a swinging boom on the forward end of said train, a conveyer on said boom, a hopper at the base of the boom to receive the material from the belt conveyer and deliver the same to the conveyer on the boom, a centralized power plant, and individual motors receiving power therefrom for operating the moving elements of the system.

7. A conveyer system, comprising a main track, a train of material conveying cars operating thereon, an auxiliary track paralleling the main track, a train of platform cars on said auxiliary track to receive the material from the conveying cars, a plow on the platform cars, a conveyer running longitudinally of the platform cars to receive the material from the plow, a swinging boom conveyer on the forward car of the platform train, to receive the material from the longitudinal conveyer, a centralized power plant, and a series of individual motors for driving the conveyers and the plow, said motors receiving power from the centralized plant.

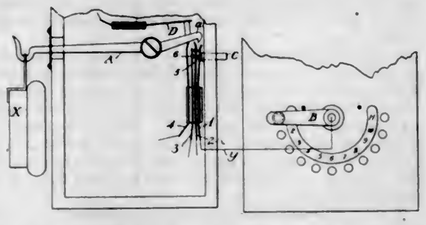
866,793. NUT-HOLDING DEVICE. CHARLES F. LANCASTER, Petoskey, Mich. Filed Apr. 30, 1907. Serial No. 371,093.



1. A device for holding an embedded nut, comprising an integral structure embodying a box, and a sleeve forming a bore and communicating with said box, in combination with the nut in said box, the box engaging the faces and sides of the nut and holding the same from either rotary or longitudinal movement while the bolt is applied thereto.

2. A device for holding an embedded nut, consisting of a strip of sheet metal bent at its middle to form a nut receiving box, the ends of said strip extending parallel and formed with longitudinal ridges, and wings on both sides of said ridges, the said ends together forming a sleeve in communication with the box.

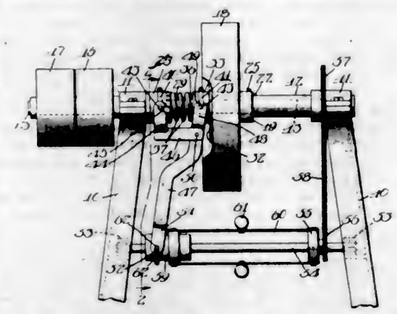
866,794. INTERCOMMUNICATING TELEPHONE. CHARLES E. LEE, Chicago, Ill., assignor to Electric Goods Manf'g Company, Boston, Mass., a Corporation of Maine. Filed Feb. 28, 1906. Serial No. 303,375.



1. In intercommunicating telephone devices, the combination with the pivot telephone-hook A of an extension thereof beyond the pivot forming a latch a thereon, a circuit-connecting mechanism controllable by said latch, a push-button controlling the relations of said latch with the circuit-conecting mechanism aforesaid, and, a circuit-connecting mechanism or switch for connecting with any desired number of terminal points; substantially as described and shown.

2. In intercommunicating telephone devices, the combination of a push-button, circuit-springs properly arranged in relation thereto, a telephone-hook properly pivoted and extending into a latch so arranged that the weight of the telephone upon the hook will hold the latch apart from any of said springs, means for depressing latch *a* on removal of telephone, a switch-arm and any desired number of terminal points, and a wire *y* connecting one of said springs with said switch-arm and terminal points; substantially as described and shown.

866,795. SPEED-GOVERNOR. GUSTAVE LIDSEEN and LUDWIG L. BLAKE, Chicago, Ill; said Lidseen assignor to said Blake. Filed Sept. 18, 1906. Serial No. 335,078.



1. In a device of the class described, the combination of a driving and a driven shaft, coöperating clutch members respectively on said shafts, yielding means for normally holding said members in engagement, a governor separate from the shafts and operative connections respectively between the governor and the driven shaft and the clutch member of the other shaft, said governor being adapted to move said clutch member against the tension of the yielding means to permit the driving shaft to rotate at a greater rate of speed than the driven shaft.

2. In a device of the class described, the combination of a driving and a driven shaft, coöperating clutch members respectively on said shafts, yielding means for normally holding said members in engagement, a governor separate from the shafts, operative connections respectively between the governor and the driven shaft and the clutch member of the other shaft, said governor being adapted to move said clutch member against the tension of the yielding means to permit the said other shaft to rotate at a greater rate of speed than the driven shaft, and means for varying the tension of said yielding means.

3. In a device of the class described, the combination of a driving and a driven shaft, clutch members on said shafts, one of said members being movable, a collar secured to the driving shaft, yielding means disposed between said collar and the movable clutch member for normally holding said clutch member in engagement with the clutch member of the driven shaft, a governor separate from the shafts, operative connection between the governor and the driven shafts and between the governor and the movable clutch member for moving said clutch member against the tension of the yielding means to permit the driving shaft to rotate at a greater rate of speed than the driven shaft.

4. In a device of the class described, the combination of a driving and a driven shaft, clutch members respectively on said shafts, one of said members being movable with relation to its shaft, a sleeve secured to the driving shaft, an adjustable collar on said sleeve, yielding means disposed between and with its ends respectively engaging the collar and the movable clutch member for normally holding said movable clutch member into engagement with the other member, a governor separate from the shafts, a connection between the clutch member and the governor, and a connection between said governor and the driven shaft for operating the governor to move the clutch member against the tension of the yielding means to permit the driving shaft to rotate at a greater rate of speed than the driven shaft.

5. In a device of the class described, the combination of concentric driving and driven shafts, coöperating clutch members respectively on said shafts, a sleeve on the driving shaft, an adjustable collar on said sleeve, the clutch member on said shaft being longitudinally movable, a spring surrounding said shaft, the ends of said spring respectively engaging the movable clutch member, and the collar for normally holding said member in engagement with the other clutch member, a governor, independent of the shafts, an operative connection between the governor and the driven shaft, and means operated by the governor for moving the movable clutch member against the tension of the spring to permit the driving shaft to rotate at a greater rate of speed than the driven shaft.

6. In a device of the class described, the combination of concentric driving and driven shafts, coöperating clutch members respectively on said shafts, a sleeve on the driven shaft, an adjustable collar on said sleeve, the clutch member on the driving shaft being longitudinally movable, a spring surrounding the shaft and disposed between the collar and the movable clutch member for normally holding said member in engagement with the other clutch member, a governor separate from said shafts, a pivoted lever one end of which is connected to the movable clutch member, the other end being connected to the governor, and an operative connection between the driven shaft and the governor, whereby the excess of speed of the driven shaft will operate the governor to move the clutch member against the tension of the spring.

7. In a device of the class described, the combination of concentric driving and driven shafts, coöperating clutch members respectively on said shafts, a sleeve on the driving shaft, an adjustable collar on said sleeve, the clutch member on the driving shaft being longitudinally movable, a spring surrounding the shaft and disposed between the collar and the movable clutch member for normally holding said member in engagement with the other clutch member, a governor separate from the shafts, a supporting yoke, a lever pivoted between its ends to the yoke, one end of said lever being connected to the movable clutch member, the other end being connected to the governor, and an operative connection between the driven shaft and the governor, whereby the excess of speed of the last said shaft will operate the governor to move the clutch member against the tension of the spring.

8. In a device of the class described, the combination of concentric driving and driven shafts, coöperating clutch members respectively on said shafts, a sleeve on the driving shaft, said sleeve being provided with a reduced threaded portion, a collar on said threaded portion, the clutch member on the last said shaft being longitudinally adjustable, a spring surrounding the threaded portion, one end of said spring engaging the collar and the other end engaging the clutch member a yoke supported by the sleeve, a lever pivotally supported by the yoke, one end of the lever engaging the clutch member, a governor separate from said shafts, an operative connection between the governor and the other end of the lever, and an operative connection between the driven shaft and the governor, the centrifugal motion of the governor being adapted to rock the lever to move the clutch member against the tension of the spring to permit the driving shaft to rotate at a greater rate of speed than the driven shaft.

9. In a device of the class described, the combination of a tubular shaft, a clutch member sleeved upon one end of the shaft, means for securing said member to the shaft, a second shaft passing through the first shaft and projecting beyond the end of the first shaft to which the clutch member is secured, a longitudinally movable clutch member on the second shaft, a sleeve also on said shaft, a spring interposed between the sleeve and the last said clutch member for holding the latter normally in frictional engagement with the first clutch member, a governor sepa-

rate from the shafts, an operative connection between the tubular shaft and the governor, and means engaging the movable clutch member and controlled by the governor, adapted to move said clutch member against the tension of the spring to release the shafts and permit one of the shafts to rotate at a greater rate of speed than the other shaft.

10. In a device of the class described, the combination of a tubular shaft, a clutch member sleeved upon one end of the shaft, means for securing said member to the shaft, a second shaft passing through the first shaft and projecting beyond the end of the first shaft to which the clutch member is secured, a longitudinally movable clutch member on the second shaft, a sleeve also on said shaft, a spring interposed between the sleeve and the last said clutch member for holding the latter normally in frictional engagement with the first clutch member, a governor independent of the shafts an operative connection between the tubular shaft and the governor, a connection between the govenor and the movable clutch member, adapted to move the clutch member against the tension of the spring to release said shafts and permit the second shaft to rotate at a greater rate of speed than the tubular shaft, and means for adjusting the tension of the spring to vary the friction of the clutch members.

11. In a device of the class described, the combination of a driving and a driven shaft, coöperating clutch members respectively on said shafts for locking the shafts to rotate in unison, a governor shaft, separate from the first said shafts gearing connecting the governor shaft with the driven shaft, and means controlled by the governor shaft and engaging the clutch member on the driving shaft, adapted to unlock the shafts when the driven shaft is rotated beyond a predetermined speed to permit the driving shaft to rotate independently of said driven shaft.

12. In a device of the class described, the combination of a driving and a driven shaft, coöperating clutch members on said shafts, a collar secured to the driving shaft, a yielding member disposed between the collar and the respective clutch member, a yoke removably engaging the collar, a governor supported independently of the shaft, a lever pivoted between its ends to the yoke, one end of said lever being removably pivoted to the clutch member on the driving shaft, the other end being pivotally connected with the governor, and gearing connecting the driven shaft and the governor for causing the governor to release the clutches when the driven shaft is rotated beyond a predetermined speed.

866,796. STRAINER FOR TEAPOTS. FREDERICK N. MARTINDALE, Gouverneur, N. Y. Filed Feb. 6, 1907. Serial No. 356,062.



1. The combination with a containing vessel having a discharge spout, of a strainer supporting frame rigidly secured to the interior walls of the vessel at said discharge spout and including spaced parallel guides having their upper and lower ends separated and their intermediate portions connected by a transverse web, and of approximately the same width as the guides, and a strainer engaging the guides and forming a closure for the spout.

2. The combination with a containing vessel having a discharge spout, of a supporting frame independent of the spout and rigidly secured to the interior walls of the vessel and including spaced longitudinal strips having their opposite ends separated and their intermediate portions connected by a relatively narrow web, said longitudinal strips being bent to form parallel guides, and a strainer slidably mounted within the guides and forming a closure for the discharge spout.

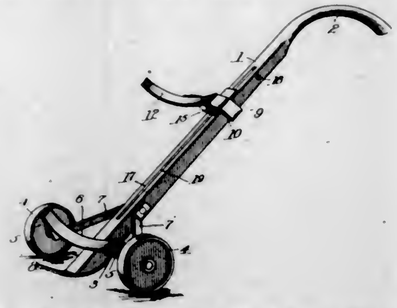
3. The combination with a containing vessel having a discharge spout, of a strainer supporting frame curved to conform to the interior walls of the containing vessel and consisting of spaced parallel guides having their opposite ends separated and their intermediate portions connected by a relatively narrow web, said guides and web being curved to conform to the interior walls of the vessel, and a strainer slidably mounted between the guides and forming a closure for the discharge spout.

4. The combination with a containing vessel having a discharge spout, of a strainer supporting frame independent of the spout and secured to the interior walls of the containing vessel and curved to conform to said walls, said frame being formed of longitudinal strips having their opposite ends separated and their inner longitudinal edges connected by a relatively narrow web formed integral with said strips, the outer longitudinal edges of the strips being bent inwardly to form parallel guides, and a removable strainer having its intermediate portion spaced from the interior walls of the containing vessel and its opposite longitudinal edges bent to form terminal flanges adapted to slidably engage the guides of the supporting frame.

5. A strainer including a supporting frame formed of a single piece of metal and consisting of spaced parallel guides having their opposite ends separated and their intermediate portions united by a relatively narrow connecting web disposed flush with the guides, and a strainer slidably mounted between the guides.

6. A strainer including a supporting frame stamped from a single piece of metal and consisting of spaced longitudinal strips having their opposite ends separated and their intermediate portions united by a relatively narrow connecting web, the outer longitudinal edges of the strips being bent to form inwardly extending guides, said strips and connecting web being curved transversely, and a strainer having oppositely disposed flanges adapted to engage the guides of the supporting frame.

866,797. HAND-TRUCK. CORWIN F. MILLER, Wolcottville, Ind. Filed Oct. 27, 1906. Serial No. 340,839.



1. A hand truck comprising a wheeled supporting lever provided with a longitudinal groove, a friction lever mounted in the groove, a member slidable on the supporting lever and held in various positions by the friction lever, means carried by the member to engage the article carried by the truck, and a second means carried by the axle of the truck to engage the article carried by the latter.
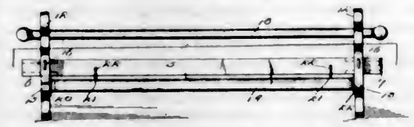
2. A hand truck comprising a wheeled supporting lever provided with a longitudinal groove and a stop at one end, a friction lever mounted in the groove, a collar slidable on the supporting lever and held in various positions by the friction lever, means secured to the collar to engage the article carried by the truck, and means disposed adjacent the stop of the supporting lever to coöperate with the means secured to the collar in the support of the article carried by the truck.

3. A hand truck comprising a wheeled supporting lever provided with a longitudinal groove, a friction lever mounted in the groove, a member slidable on the supporting lever and held in various positions by the friction lever, and means detachably secured to the member to engage the article carried by the truck.

4. A hand truck comprising a supporting element provided with a longitudinal groove, a friction element mounted in the groove, a spring acting on the friction element, a member slidable on the supporting element and held in various positions by the friction element, means held by the said member to engage the article carried by the truck, and another means coöperating with the aforesaid means in the support of the article upon the truck.

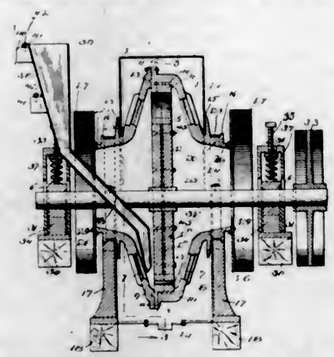
5. A hand truck comprising a wheeled supporting lever provided with a longitudinal groove, a friction lever mounted in the groove, a spring acting on the friction lever, a collar slidable on the supporting lever and held in various positions by the friction lever, and means detachably secured to the collar to engage the article carried by the truck.

866,798. SHADE AND CURTAIN HOLDER. MARY V. MORRIS, Point Marion, Pa. Filed Aug. 4, 1905. Serial No. 272,671.



A device of the class described comprising a removably supported backboard having dovetail end portions, curtain and shade supporting brackets having dovetail slots in their rear edges slidably engaged with the dovetail portions of the back-board, with their rear faces in the plane of the rear surface of the backboard, means for clamping the brackets in adjusted position on the backboard combined with the window casing and hooked supports connected therewith adapted to receive and support the backboard.

866,799. ROLLER-MILL. EDGAR S. MOULTON, Central City, Colo. Filed June 30, 1905. Serial No. 267,817.



1. In a mechanism of the class described, the combination with a supporting frame, of a lower casing positioned within said supporting frame, a drum carried by said supporting frame, said drum provided with a plurality of flanges upon each side, removable bands secured to said supporting frame and positioned between the flanged portions of said drum, and an auxiliary wheel positioned within said drum.

2. In a mechanism of the class described, the combination with a supporting frame, of a drum carried by said supporting frame, said drum provided with annular flanges formed upon its sides, a removable casing positioned between the flanged portion of said drum, a pulley removably secured to each side of said drum, and a revoluble member positioned within said drum.

3. In a mechanism of the class described, the combination with a support, of a drum having a bearing formed on each end thereof carried by said support, removable fastening members, constituting bands secured to said support and partially surrounding the bearing formed on a plurality of pulleys provided with central openings secured to the sides of said drum, and a revoluble member positioned within said drum.

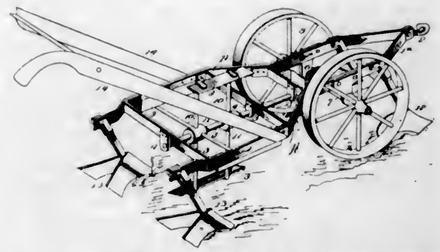
4. In a mechanism of the class described, the combination with a supporting frame, of a lower casing carried by said frame, a revoluble grinding drum carried by said frame, annular flanges formed upon said drum, said flanges positioned within the lower casing, a casing positioned between said annular flanges, and a revoluble member positioned within said drum.

5. In a mechanism of the class described, the combination with a support, of a revoluble grinding drum carried by said support, said drum comprising sections, one of said sections provided with an annular groove, the other section provided with an annular bead adapted to fit into said groove when said sections are secured together, each section provided with a screen, annular flanges of different radius formed upon each side of said drum, said drum engaging said support between the flanges upon each side, removable fastening means carried by said support, and partially surrounding portions of said drum and positioned between the flanges upon the sides, and a revoluble member positioned within said drum.

6. In a mechanism of the class described, the combination with a support, of a revoluble grinding drum carried by said support, said drum provided with a pair of annular flanges upon each side thereof, the inner flanges being of a greater radius than the outer flanges, a removable casing positioned upon said support and engaging said drum between said inner flanges, and a revoluble member positioned within said drum.

7. In a mechanism of the class described, the combination with a support, of a revoluble, primary wheel carried by said support, a shaft positioned within said primary wheel, an auxiliary wheel fixedly secured to said shaft, said auxiliary wheel comprising similarly constructed sections, and an inclosing member positioned upon the outer edge of said section.

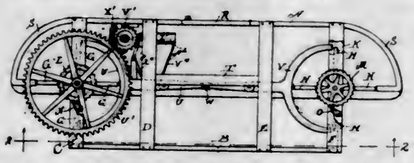
866,800. CULTIVATOR. WILKIE D. MULLINAX, Gore, Ga. Filed July 12, 1906. Serial No. 325,952.



In a cultivator, the combination of a pair of oppositely disposed side pieces flared apart at an intermediate point, the forward portions of the side pieces being approximately parallel and the rear portions being also approximately parallel and spaced further apart than the forward portions, the front extremities of the side bars being converged inwardly and provided with a draft connection, an axle journaled between the forward parallel portions of the side pieces, supporting wheels carried by the axle, a pair of standards extending downwardly in front of the wheels at the front ends of the forward parallel portions of the side pieces, plows carried by the said standards, standards projecting downwardly from the end portions of the rear parallel portions of the side pieces, sweeps carried

by the latter mentioned standards, the said sweeps being spaced further apart than the plows and being disposed out of alinement with the same, and transverse brace rods connecting the rear portions of the side bars.

866,801. VOTING-MACHINE. JOHN H. MCELROY, Chicago, Ill. Filed Jan. 23, 1899, Serial No. 703,068. Renewed Sept. 21, 1903. Serial No. 174,114.



1. In a voting machine, the combination with the registers, of plural series of register selecting members controlling the operation of said registers, means to limit the number of register setting members that may be simultaneously operated in each series, and interlocking mechanism between two or more series of said members to compel the movement of a member of one of said series before any member of another series can be moved.

2. In a voting machine, the combination with the candidate registers, of plural series of register selecting members controlling the operation of said registers, means to limit the number of register setting members that may be simultaneously operated in each series, and interlocking mechanism between two or more series of said members to compel the movement of a member of one of said series before any member of another series can be moved.

3. In a voting machine, the combination with the candidate registers, of plural series of register selecting members controlling the operation of said registers, means to limit the number of register setting members that may be simultaneously operated in each series, and interlocking mechanism between one of said series and all of the remaining series to compel the movement of a member in the first mentioned series before any member of any of the other series can be moved.

4. In a voting machine, the combination with a plural series of candidate registers, of corresponding plural series of register selecting members controlling the operation of said registers, another series of register selecting members, means to limit the number of register setting members that may be simultaneously operated in each series, and interlocking mechanism between said last mentioned series and all of the remaining series of register selecting members to compel the movement of one of said last mentioned series before any member of any of the other series can be moved.

5. In a voting machine, the combination with the registers, of plural series of register selecting members controlling the operation of said registers, means to limit the number of register setting members that may be simultaneously operated in each series, interlocking mechanism between two or more series of said members to compel the movement of a member of one of said series before any member of another series can be moved, and means for subsequently operating the registers corresponding to the operation of the register selecting members.

6. In a voting machine, the combination with the candidate registers, of plural series of register selecting members controlling the operation of said registers, means to limit the number of register setting members that may be simultaneously operated in each series, interlocking mechanism between one of said series and all of the remaining series to compel the movement of a member in the first mentioned series before any member of any of the other series can be moved, and means for subsequently operating the registers corresponding to the operation of the register selecting members.

7. In a voting machine, the combination with the plural series of candidate registers, of corresponding plural series of register selecting members controlling the operation of said registers, another series of register selecting members, means to limit the number of register setting members that may be simultaneously operated in each series, interlocking mechanism between said last mentioned series and all of the remaining series of register selecting members to compel the movement of one of said last mentioned series before any member of any of the other series can be moved, and means for subsequently operating the registers corresponding to the operation of the register selecting members.

8. In a voting machine, the combination with plural series of keys and corresponding series of registers one for each key, of a pneumatic motor for each register and a valve for each motor controlled by its key, and a source of compressed air for actuating said motors controlled by said valves.

9. In a voting machine, the combination with a series of keys and a corresponding series of registers, of a pneumatic motor for each register and a valve for each motor controlled by its key, and an air compressor for actuating said motors actuated or controlled by the exit of the voter from the booth.

10. In a voting machine, the combination of a series of candidate keys, selecting apparatus for said registers, with pneumatic motors for actuating said registers and a source of power for said motors, and a compound valve for each motor controlling the supply of air thereto, one member of said valve being connected to and controlled by the position of the selecting apparatus, and the other member of all the valves being connected and moved in unison by any actuation of the selecting apparatus.

11. In a voting machine, the combination of a plurality of keys, and a plurality of registers controlled thereby, with a plurality of motors for operating said registers adapted to be actuated by a variation of the usual pressure, controlling valves therefor, and means controlled by the voter for varying the pressure in said valves.

12. In a voting machine, the combination of the rotating reciprocating key Z, a ballot indicating device controlled thereby, with its adjacent key Z having the extension Z^3 projecting into the path of the first mentioned key, and having a ballot indicating device controlled thereby, so that the actuation of the first ballot indicating device necessitates the actuation of the second ballot indicating device substantially as described.

13. In a voting machine, the combination of the rotary key Z having the notches H' therein, with the casing D' and the spring-pressed lug F' therein coöperating with said notches, substantially as described.

14. In a voting machine, the combination of the rotary key Z having the notches H' therein and the shoulders J' and K' thereon, with the casing D' and the spring-pressed lug F' therein coöperating with said notches and shoulders, substantially as described.

15. In a voting machine, the combination of the reciprocating key shaft A' having the three-way aperture therein, with the sleeve P' having the coöperating three apertures, and the sleeve E^2 having the aperture T'.

16. In a voting machine, the combination of the reciprocating key shaft A' having the three-way aperture therein, with the sleeve P' having the coöperating three apertures, and the sleeve E^2 having the aperture T' and the pipes F^2 and J^2 connected therewith.

17. In a device of the class described, the combination with a register, of a piston for actuating the same, and means for varying the pressure on one side of said piston while it remains normal on the opposite side.

18. In a voting machine, the combination with a series of keys, arranged in party rows and office groups, with a series of registers controlled thereby, pistons for actuating said registers, and means for varying the pressure on one side of said piston while it remains normal on the opposite side, said means being controlled by the position of said keys.

19. In a voting machine, the combination with the casing, of the registers contained therein, plural series of register-selecting members controlling the operation of said registers extending through the casing, means located within the casing to limit the number of register-selecting members that may be simultaneously operated in each series, and interlocking mechanism within the casing between two or more series of said members to compel the movement of a member of one of said series before any member of another series can be moved.

20. In a voting machine, the combination with a casing, of the candidate registers within the casing, plural series of register-selecting members projecting into the casing controlling the operation of said registers, means to limit the number of register-selecting members that may be simultaneously operated in each series, and interlocking mechanism located within the casing between two or more series of said members to compel the movement of a member of one of said series before any member of another series can be moved.

21. In a voting machine, the combination with the casing, of the candidate registers located therein, plural series of register-selecting members extending into the casing controlling the operation of said registers, means to limit the number of register-selecting members that may be simultaneously operated in each series, and interlocking mechanism located within the casing between one of said series and all of the remaining series to compel the movement of a member in the first-mentioned series before any member of any of the other series can be moved.

22. In a voting machine, the combination with the casing, of the plural series of candidate registers located therein, corresponding plural series of register-selecting members controlling the operation of said registers, another series of register-selecting members, all of said register-selecting members extending within the casing, means to limit the number of register-selecting members that may be simultaneously operated in each series, and interlocking mechanism located within the casing between said last-mentioned series and all of the remaining series of register-selecting members to compel the movement of one of said last-mentioned series before any member of any of the other series can be moved.

23. In a voting machine, the combination with a casing, of the registers located therein, plural series of register-selecting members extending into the casing and controlling the operation of said registers, means to limit the number of register-selecting members that may be simultaneously operated in each series, interlocking mechanism within the casing between two or more series of said members to compel the movement of a member of one of said series before any member of another series can be moved, and means for subsequently operating the registers corresponding to the operation of the register-selecting members.

24. In a voting machine, the combination with the casing, of the candidate registers located therein, plural series of register-selecting members extending into the casing and controlling the operation of said registers, means to limit the number of register-selecting members that may be simultaneously operated in each series, interlocking mechanism within the casing between one of said series and all of the remaining series to compel the movement of a member in the first-mentioned series before any member of any of the other series can be moved, and means for subsequently operating the registers corresponding to the operation of the register-selecting members.

25. In a voting machine, the combination with a casing, of the plural series of candidate registers located therein, corresponding plural series of register-selecting members extending into the casing and controlling the operation of said registers, another series of register-selecting members extending into the casing, means to limit the number of register-selecting members that may be simultaneously operated in each series, interlocking mechanism within the casing between said last-mentioned series and all of the remaining series of register-selecting members to compel the movement of one of said last-mentioned series before any member of any of the other series can be moved, and means for subsequently operating the registers corresponding to the operation of the register-selecting members.

26. In a voting machine, the combination with the casing, of the registers therein, plural series of rotating keys journaled in and extending into the casing for controlling the operation of said registers, means to limit the number of keys that may be simultaneously operated in each series, and interlocking mechanism within the casing between two or more series of said keys to compel the movement of a key of one of said series before any key of another series can be moved.

27. In a voting machine, the combination with a casing, of the candidate registers therein, plural series of rotating keys journaled in the casing and extending therein and controlling the operation of said registers, means to limit the number of keys that may be simultaneously operated in each series, and interlocking mechanism within the casing between two or more series of said keys to compel the movement of a key of one of said series before any key of another series can be moved.

28. In a voting machine, the combination with a casing, of the candidate registers located therein, plural series of rotating keys journaled in and extending into the casing and controlling the operation of said registers, means to limit the number of keys that may be simultaneously operated in each series, and interlocking mechanism within the casing between one of said series and all of the remaining series to compel the movement of a key in the first-mentioned series before any key of any of the other series can be moved.

29. In a voting machine, the combination with the casing, of plural series of candidate registers located therein, corresponding plural series of rotating keys journaled in and extending into said casing and controlling the operation of said registers, another series of rotating keys journaled in and extending into said casing, means to limit the number of keys that may be simultaneously operated in each series, and interlocking mechanism within the casing between said last-mentioned series and all of the remaining series of keys to compel the movement of one of said last-mentioned series before any key of any of the other series can be moved.

30. In a voting machine, the combination with the casing, of the registers located therein, plural series of rotating keys journaled in and extending into said casing and controlling the operation of said registers, means to limit the number of keys that may be simultaneously operated in each series, interlocking mechanism within the casing between two or more series of said keys to compel the movement of a key of one of said series before any key of another series can be moved, and means for subsequently operating the registers corresponding to the operation of the keys.

31. In a voting machine, the combination with the casing, of the candidate registers located therein, plural series of rotating keys journaled in and extending into said casing and controlling the operation of said registers, means to limit the number of keys that may be simultaneously operated in each series, interlocking mechanism within the casing between one of said series and all of the remaining series to compel the movement of a key in the first-mentioned series before any key of any of the other series can be moved, and means for subsequently operating the registers corresponding to the operation of the keys.

32. In a voting machine, the combination with the casing, of the plural series of candidate registers located therein, corresponding plural series of rotating keys journaled in and extending into said casing and controlling the operation of said registers, another series of rotating keys journaled in and extending into said casing, means for limiting the number of keys that may be simultaneously operated in each series, interlocking mechanism within the casing between said last-mentioned series and all of the remaining series of keys to compel the movement of one of said last-mentioned series before any key of any of the other series can be moved, and means for subsequently operating the registers corresponding to the operation of the keys.

33. In a voting machine, the combination with the casing, of the registers therein, plural series of keys extending into said casing for controlling the operation of said regis-

ters, means to limit the number of keys that may be simultaneously operated in each series, and interlocking mechanism within the casing between two or more series of said keys to compel the movement of a key of one of said series before any key of another series can be moved.

34. In a voting machine, the combination with a casing, of the candidate registers therein, plural series of keys extending into said casing and controlling the operation of said registers, means to limit the number of keys that may be simultaneously operated in each series, and interlocking mechanism within the casing between two or more series of said keys to compel the movement of a key of one of said series before any key of another series can be moved.

35. In a voting machine, the combination with a casing, of the candidate registers located therein, plural series of keys extending into the casing and controlling the operation of said registers, means to limit the number of keys that may be simultaneously operated in each series, and interlocking mechanism within the casing between one of said series and all of the remaining series to compel the movement of a key in the first-mentioned series before any key of any of the other series can be moved.

36. In a voting machine, the combination with the casing; of the plural series of candidate registers located therein, corresponding plural series of keys extending into said casing and controlling the operation of said registers, another series of keys extending into said casing, means to limit the number of keys that may be simultaneously operated in each series, and interlocking mechanism within the casing between said last-mentioned series and all of the remaining series of keys to compel the movement of one of said last-mentioned series before any key of any of the other series can be moved.

37. In a voting machine, the combination with the casing, of the registers located therein, plural series of keys extending into said casing and controlling the operation of said registers, means to limit the number of keys that may be simultaneously operated in each series, interlocking mechanism within the casing between two or more series of said keys to compel the movement of a key of one of said series before any key of another series can be moved, and means for subsequently operating the registers corresponding to the operation of the keys.

38. In a voting machine, the combination with the casing, of the candidate registers located therein, plural series of keys extending into said casing and controlling the operation of said registers, means to limit the number of keys that may be simultaneously operated in each series, interlocking mechanism within the casing between one of said series and all of the remaining series to compel the movement of a key in the first-mentioned series before any key of any of the other series can be moved, and means for subsequently operating the registers corresponding to the operation of the keys.

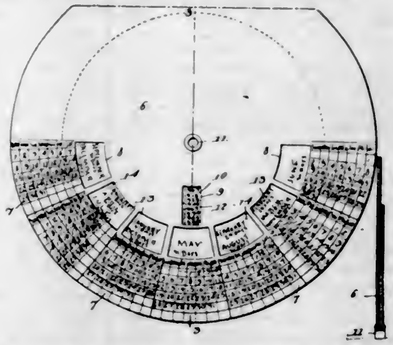
39. In a voting machine, the combination with the casing, of the plural series of candidate registers located therein, corresponding plural series of keys extending into said casing and controlling the operation of said registers, another series of keys extending into said casing, means for limiting the number of keys that may be simultaneously operated in each series, interlocking mechanism within the casing between said last-mentioned series and all of the remaining series of keys to compel the movement of one of said last-mentioned series before any key of any of the other series can be moved, and means for subsequently operating the registers corresponding to the operation of the keys.

40. In a voting machine, the combination of two series of ballot-indicating devices, with connections whereby one of the devices of one of said series must be moved for operation before any of the devices of the second series may be operated, and a corresponding series of candidate registers associated with the ballot indicating devices of one of said series, each register being adapted to be advanced to count one vote for the candidate to which it is devoted if its associated ballot indicating device is effectively operated by the voter.

41. In a voting machine, the combination with a plurality of series of ballot-indicating devices, such as keys, of corresponding series of ballot-registering mechanisms, the operation of which is controlled by the position of the corresponding ballot-indicating devices, mechanism for limiting the number of the ballot-indicating devices that may be simultaneously moved to operative position, connections between the ballot-indicating devices of two of said series, whereby one of the ballot-indicating devices of one of said series must be moved to operative position before any of the ballot-indicating devices in the other series may be moved to operative position, and means for operating all of the ballot-registering mechanisms whose ballot-indicating devices are in operative position.

42. In a voting machine, the combination of a series of ballot-indicating devices, with other series of ballot-indicating devices, an individual ballot registering mechanism for each of the ballot-indicating devices of both series, and connections between each device of said first series with one of the devices of said other series, whereby when one of said first series is moved for operation, it will necessitate its connected device being moved for operation and the consequent operation of the two ballot registering mechanisms associated with the two keys.

866,802. CALENDAR. JEROME NEULANDER, Cleveland, Ohio. Filed Jan. 17, 1907. Serial No. 352,773.



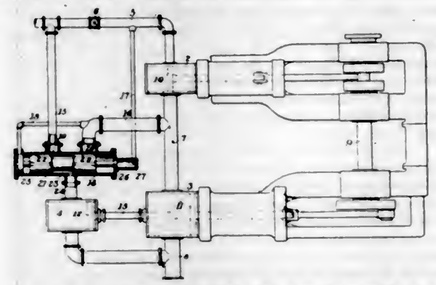
1. A calendar comprising an upper disk having a series of openings therein in one part thereof, and a single opening in another part thereof, and also having a table of the days of the months and weeks arranged in columns extending respectively from each of said series of openings, and a relatively movable disk having thereon a series of rows of years any row of which may be exposed through said single opening, and also having thereon the names of the months arranged in groups and adapted to be exposed through said series of openings.

2. A calendar comprising an upper disk having a series of openings arranged in a semi-circle in the lower part thereof, and a single opening therein and also having tables of the days of the months and weeks extending from said series of openings respectively, and a relatively rotatable lower disk having thereon a series of rows of years arranged radially, any row of which may be exposed through said single opening, and also having thereon the names of the months arranged in groups in a circle and adapted to be exposed through said series of openings.

866,803. COMPOUND ENGINE. FRED E. NORTON, Youngstown, Ohio. Filed Nov. 8, 1905, Serial No. 286,349. Renewed Feb. 11, 1907. Serial No. 356,873.

1. In a compound engine, a high pressure cylinder, a low pressure cylinder, and a third cylinder, and an automatic valve arranged to operate to connect the third cylinder to operate either as a high or a low pressure element in conjunction with the other cylinders; substantially as described.

2. In a compound engine, having three cylinders, one of which always operates as a high pressure element, a second always operating as a low pressure element, and the third either as a high or a low pressure element, an automatic valve, and differential platons connected to said valve and arranged to operate automatically to change the third cylinder from a high-pressure element to a low-pressure element; substantially as described.

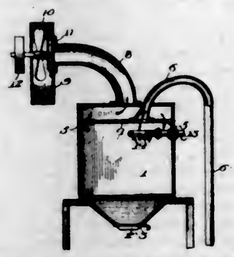


3. In a compound engine, a high-pressure element always operating as such, a low-pressure element always operating as such, and a third element arranged to operate either as a high or a low-pressure element, a valve, and a differential piston arranged to operate said valve, said piston being exposed on one side to the pressure of the high-pressure element, and on the other side to the pressure of the exhaust of said high-pressure element; substantially as described.

4. In a compound engine, having three or more cylinders, two of which normally act in conjunction as low pressure elements of the engine, an automatic valve, and actuating means therefor whereby one of said low pressure elements may be converted to a high pressure element; substantially as described.

5. In a compound engine, having a high pressure element always acting as such, a low pressure element always acting as such, and a third element having a live steam supply connection, and also a supply connection with the receiver discharge between the high and low pressure elements, of an interposed valve arranged to control said supply connections, and a differential piston for operating said valve, said piston being exposed at one side to live steam pressure and at the other side to receiver pressure; substantially as described.

866,804. PNEUMATIC CONVEYER. SAMUEL OLSON, Chicago, Ill. Filed June 27, 1907. Serial No. 381,126.



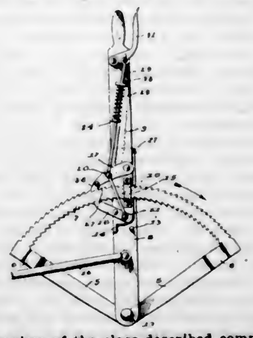
1. In a pneumatic elevator, the combination of a suitable tank or receptacle, a horizontally disposed partition arranged therein near its upper end and having an inlet and outlet openings therein, a suction-pipe passing through the top of said tank and connected to said partition in alinement with said inlet opening, a sprayer discharging into said receptacle below the partition, an air-exhaust pipe connected to the top of the tank and communicating with said tank above said partition, an exhaust-fan mounted in a chamber to the opposite end of said exhaust-pipe, an extension suction pipe secured to the lower end of said air-suction pipe, and a discharge-valve arranged in the lower end of said receptacle.

2. In a pneumatic elevator, the combination of a suitable tank or receptacle, a horizontally disposed partition arranged therein near its upper end and having an inlet and outlet openings therein, a suction-pipe passing through the top of said tank and connected to said partition in alinement with said inlet opening, a sprayer discharging into said receptacle below the partition and in alinement with said inlet opening, an air-exhaust pipe connected to the top of the tank and communicating with said tank above said partition, an exhaust-fan mounted in a chamber to the opposite end of said exhaust-pipe, an extension suction-pipe secured to the lower end of said air-suction pipe, and a discharge-valve arranged in the lower end of said receptacle.

3. In a pneumatic elevator, the combination of a suitable tank or receptacle, having a hopper-shaped bottom, a horizontally disposed partition arranged therein near its upper end and having an inlet and outlet opening therein, a suction-pipe passing through the top of said tank and connected to said partition in alinement with said inlet opening, a sprayer discharging into said receptacle below the partition, an air-exhaust pipe connected to the top of the tank and communicating with said tank above said partition, an exhaust-fan mounted in a chamber to the opposite end of said exhaust-pipe, an extension suction-pipe secured to the lower end of said air-suction pipe, and a discharge valve arranged in the apex of the hopper-shaped bottom of said receptacle.

4. In a pneumatic elevator, the combination of a suitable tank or receptacle having a hopper shaped bottom, a horizontally disposed partition arranged therein near its upper end and having an inlet and outlet openings therein, a suction-pipe passing through the top of said tank and connected to said partition in alinement with said inlet opening, a sprayer discharging into said receptacle below the partition and in alinement with said inlet opening, an air exhaust pipe connected to the top of the tank and communicating with said tank above said partition, an exhaust fan mounted in a chamber to the opposite end of said exhaust-pipe, an extension suction-pipe secured to the lower end of said air-suction pipe, and a discharge-valve arranged in the apex of the hopper-shaped bottom of said receptacle.

866,805. BRAKE-LEVER. JOSEPH C. ORRISON, Leighs, Va. Filed Oct. 30, 1906. Serial No. 341,236.

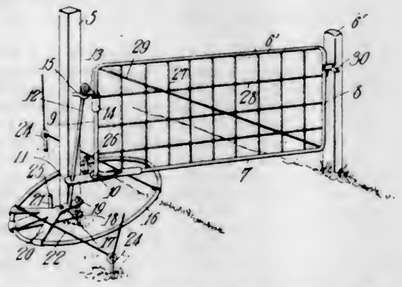


1. A mechanism of the class described comprising a segmental rack, a lever comprising pivoted sections, one of the lever sections being pivoted to the rack, means carried by the said sections for preventing relative movement of the sections in one direction, means carried by the other lever section for limiting the relative movement of the lever sections in the opposite direction, and pawls pivoted to the last-named section in position to engage opposite edges of the rack segment.

2. A mechanism of the class described comprising a seg-

mental rack, a lever comprising pivoted sections, one of the lever sections being pivoted to the rack, means carried by the said section for preventing relative movement of the sections in one direction, means carried by the other lever section for limiting the relative movement of the lever sections in the opposite direction, and pawls pivoted to the last named section in position to engage opposite edges of the rack segment, one of the said pawls having a pivoted point.

866,806. GATE OPENER AND CLOSER. WILFRID PELTIER, Concordia, Kans. Filed June 17, 1907. Serial No. 379,509.



1. The combination with spaced gate posts, of a gate pivotally mounted for swinging movement between the posts, a rotary actuating member encircling the hinge post beneath the gate and operatively connected with the hinge post and gate, respectively, and means for rotating the actuating member thereby to effect the opening and closing of the gate.

2. The combination with spaced gate posts, of a gate pivotally mounted for swinging movement between the posts, a rotary actuating member encircling the hinge post beneath the gate and operatively connected with the hinge post and gate, respectively, a pivot rod engaging the gate and actuating member and disposed at an angle to the adjacent gate post, and means for rotating the actuating member thereby to effect the opening and closing of the gate.

3. The combination with spaced gate posts, of a gate pivotally mounted for swinging movement between the posts, a rotary actuating member encircling the hinge post beneath the gate and provided with spaced inwardly extending arms having a pivotal connection with the adjacent gate post, a rod forming a pivotal connection between the gate and adjacent gate post and engaging one of the arms of the actuating member, and means for rotating the actuating member thereby to effect the opening and closing of the gate.

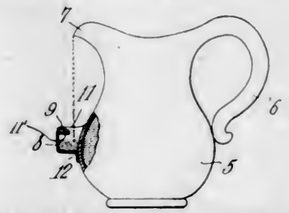
4. The combination with spaced gate posts, of a gate pivotally connected with one of said posts, an actuating member mounted for rotation beneath said gate and provided with spaced inwardly extending arms having a pivotal connection with the gate post, straps extending longitudinally from the pivoted end of the gate and provided with perforations, an eye extending laterally from the hinge post, a rod extending through the eye and the perforations in the gate straps and engaging one of the arms of the actuating member, said rod being disposed at an angle to the adjacent gate post, and means for operating the actuating member thereby to effect the opening and closing of the gate.

5. The combination with spaced gate posts one of which is provided with a keeper, a gate pivotally mounted for swinging movement on one of the gate posts and adapted to engage the keeper, lugs extending laterally from the lower portion of said gate post, a wheel mounted for rotation beneath the gate and provided with spaced inwardly extending arms having perforations formed therein for the reception of the lugs, a rod forming a pivotal connection between the gate and the adjacent gate post and having its lower end bearing in the upper arm of the wheel, and means secured to the wheel for rotating the latter thereby to effect the opening and closing of the gate.

6. The combination with spaced gate posts, of a gate pivoted to one of the posts, a wheel mounted for rotation beneath the gate at one of said posts, spaced arms extending inwardly from the periphery of the wheel and operatively connected with the lower end of the adjacent post, one of said arms being provided with a plurality of spaced perforations, a rod forming a pivotal connection between the gate and the adjacent post and having its lower end disposed at an angle to said gate post and seated in one of the openings in the upper arm of the wheel, and means secured to the wheel for rotating the latter thereby to effect the opening and closing of the gate.

7. The combination with spaced posts, of a gate including a substantially rectangular frame having one end thereof formed with a terminal eye for the reception of the opposite end of the frame, a metal strap extending beneath the eye at the lower end of said gate frame and having its inner end coiled around the frame, a metal strap secured to the upper portion of the gate frame and also coiled around said frame, said straps being provided with perforations, an eye extending laterally from the adjacent gate post, a weighted actuating member mounted for rotation on the lower portion of the gate post and provided with inwardly extending arms one of which is formed with a plurality of spaced openings, a pivot rod extending through the eye post and perforations in the straps and having its lower end seated in one of the openings in the arms of the actuating member, and operating cables secured to the actuating member for rotating the latter thereby to effect the opening and closing of the gate.

866,807. DRIP CUP OR RECEPTACLE. DAVID L. PITTS, Painted Post, N. Y. Filed Apr. 24, 1907. Serial No. 370,087.



1. The combination with a liquid containing vessel having a discharge spout, of a drip cup secured to the receptacle beneath the spout and having a flat horizontally disposed bottom wall and oppositely disposed side walls curved laterally for attachment to the adjacent exterior wall of the vessel, and a guard projecting laterally from the front wall of the cup and having its upper face inclined downwardly and its lower face extended in the direction of the front wall of the cup and disposed parallel with the bottom wall of the latter.

2. The combination with a liquid containing vessel having a discharge spout, of a drip cup secured to the exterior wall of the receptacle below the discharge spout and having a flat horizontally disposed bottom wall, and a guard extending inwardly from the front wall of the cup and having its lower face inclined downwardly and terminating short of the adjacent wall of the vessel and its lower face disposed parallel with the bottom wall of said cup.

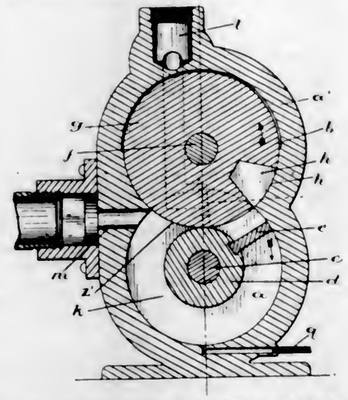
3. The combination with a liquid containing vessel having a discharge spout, of a drip cup secured to the exterior walls of the vessel beneath the discharge spout and provided with an inwardly and downwardly extending guard, the lower face of which is disposed parallel with the bottom of the cup with one edge thereof bearing against the interior front wall of said cup.

4. A drip cup for liquid containing vessels formed of a sheet metal blank having its opposite longitudinal edges bent upwardly to form vertically disposed side walls and one end thereof reduced and bent upwardly to form a front vertical wall, the end of the front wall being extended laterally between the side walls and thence bent upon itself for attachment to the vertical front wall to form a guard or shield.

5. A drip cup for liquid containing vessels formed of a single blank having its opposite longitudinal edges bent upwardly and laterally to form side walls and one end thereof bent upwardly to form a front wall, the free end of the material forming the front wall being bent inwardly and downwardly between the side walls to form a guard or shield, there being flanges formed on the opposite edges of the front wall and adapted to over-lap the side walls with their free ends bent downwardly in engagement with the guard or shield.

6. A drip cup for liquid containing vessels comprising a base having oppositely disposed side walls connected by a front wall the upper end of which is bent laterally and downwardly between the side walls and thence bent upon itself and extended in the opposite direction for attachment to the front wall to form a guard or shield, the rear end of the cup being open and the bottom thereof bent downwardly at the open end of the cup to form a depending attaching flange.

866,808. ROTARY ENGINE. ROBERT POULTON and HENRY S. POULTON, Toronto, Ontario, Canada. Filed Feb. 6, 1907. Serial No. 356,114.



1. A rotary engine comprising an engine casing, a cylindrically shaped steam chamber therein, a piston hub centrally within the steam chamber, a piston carried by the piston hub contacting the inner surface of the steam chamber, a cylindrical chamber adjoining the steam chamber and communicating therewith, an abutment roller contained within the second mentioned chamber and extending into the steam chamber to form a rolling contact with the piston hub, and of greater length than the piston, a piston chamber in the abutment roller, to receive the piston and permit it to pass the abutment roller during its revolution, the ends of the piston chamber being closed to prevent the admission of the steam endwise therein, steam inlet ports formed through the abutment roller from its end to its peripheral surface, steam ways in the sides of the engine casing with which the steam inlet ports communicate as the abutment roller revolves, a steam exhaust port formed through the engine casing between the place where the steam is admitted to the steam chamber, and the place where the piston enters the piston chamber.

2. A rotary engine comprising an engine casing, a cylindrically shaped steam chamber therein, a piston hub, centrally within the steam chamber, a piston carried by the piston hub contacting the inner surface of the steam chamber, a cylindrical chamber adjoining the steam chamber and communicating therewith, an abutment roller contained within the second mentioned chamber and extending into the steam chamber to form a rolling contact with the piston hub, and of greater length than the piston, a piston chamber in the abutment roller to receive the piston, and permit it to pass the abutment roller during its revolution, the ends of the piston chamber being closed to prevent the admission of the steam endwise therein, steam inlet ports formed through the abutment roller from its ends to its peripheral surface, steam ways in the sides of the engine casing with which the steam inlet ports communicate as the abutment roller revolves, a steam exhaust port formed through the engine casing between the place where the steam is admitted to the steam chamber and the place where the piston enters the piston chamber, and annular projections on the inner faces of the engine casing sides extending into the steam chamber to compensate for the difference between the length of the abutment roller and the piston, said projections having curved recesses to receive the ends of the abutment roller.

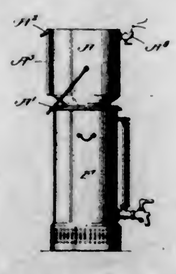
3. A rotary engine comprising an engine casing, a cylindrically shaped steam chamber therein, a piston hub centrally within the steam chamber, a piston carried by the piston hub contacting the inner surface of the steam chamber, a cylindrical chamber adjoining the steam chamber and communicating therewith, an abutment roller contained within the second mentioned chamber, and extending into the steam chamber to form a rolling contact with the piston hub and of greater length than the piston, a piston chamber in the abutment roller to receive the piston and permit it to pass the abutment roller during its revolution, the ends of the piston chamber being closed to prevent the admission of the steam endwise therein, steam inlet ports formed through the abutment roller from its ends to its peripheral surface, steam ways in the sides of the engine casing with which the steam inlet ports communicate as the abutment roller revolves, a steam exhaust port formed through the engine casing between the place where the steam is admitted to the steam chamber and the place where the piston enters the piston chamber, annular projections on the inner faces of the engine casing sides extending into the steam chamber to compensate for the difference between the length of the abutment roller and the piston, said projections having curved recesses to receive the ends of the abutment roller, and means for causing the revolution of the abutment roller unitedly with the piston.

5. A rotary engine comprising an engine casing, a cylindrically shaped steam chamber therein, a piston hub centrally within the steam chamber, a piston carried by the piston hub contacting the inner surface of the steam chamber, a cylindrical chamber adjoining the steam chamber and communicating therewith, an abutment roller contained within the second mentioned chamber and extending into the steam chamber to form a rolling contact with the

piston hub, and of greater length than the piston, a piston chamber in the abutment roller to receive the piston, and permit it to pass the abutment roller during its revolution the ends of the piston chamber being closed to prevent the admission of the steam endwise therein, steam inlet ports formed through the abutment roller from its ends to its peripheral surface, steam ways in the sides of the engine casing with which the steam inlet ports communicate as the abutment roller revolves, a steam exhaust port formed through the engine casing between the place where the steam is admitted to the steam chamber, and the place where the piston enters the piston chamber, said exhaust port being of a substantially elliptical shape and extending nearly across the steam chamber and of a narrow width in comparison to its length, and annular projections on the inner faces of the engine casing sides extending into the steam chamber to compensate for the difference between the length of the abutment roller and the piston, said projection having curved recesses to receive the ends of the abutment roller.

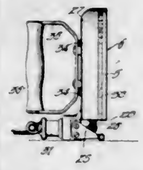
6. A rotary engine comprising an engine casing, a cylindrically shaped steam chamber therein, a piston hub centrally within the steam chamber, a piston carried by the piston hub contacting the inner surface of the steam chamber, a cylindrical chamber adjoining the steam chamber and communicating therewith, an abutment roller contained within the second mentioned chamber, and extending into the steam chamber to form a rolling contact with the piston hub and of greater length than the piston, a piston chamber in the abutment roller to receive the piston, and permit it to pass the abutment roller during its revolution the ends of the piston chamber being closed to prevent the admission of the steam endwise therein, steam inlet ports formed through the abutment roller from its ends to its peripheral surface, steam ways in the sides of the engine casing with which the steam inlet ports communicate as the abutment roller revolves, a steam exhaust port formed through the engine casing between the place where the steam is admitted to the steam chamber, and the place where the piston enters the piston chamber, said exhaust port being of a substantially elliptical shape and extending nearly across the steam chamber and of a narrow width in comparison to its length, annular projections on the inner faces of the engine casing sides extending into the steam chamber to compensate for the difference between the length of the abutment roller, and the piston, said projections having curved recesses to receive the ends of the abutment roller, and means for causing the revolution of the abutment roller unitedly with the piston.

866,809. COFFEE-PERCOLATOR. FREEMAN B. PRICE, Butte, Mont. Filed Dec. 19, 1906. Serial No. 348,646.



A device of the kind described comprising a receptacle, said receptacle having a contracted neck portion, inwardly and outwardly extending lugs formed on said neck portion, a perforated pan fitting within the neck portion and engaged by the inwardly extending lugs, a filter paper resting upon said pan when the receptacle is in its normal position, and a cap adapted to tightly fit over the neck portion, said cap having a perforated top and having slots adapted to engage the outwardly extending lugs.

866,810. ELECTRIC LAUNDRY-IRON. EARL H. RICHARDSON, Ontario, Cal. Filed Oct. 10, 1906. Serial No. 338,234.



1. A device of the class described, comprising a body having a recess; a wire wound core detachably secured in said recess; binding posts secured to said body, the ends of the wire on the core being connected with the binding posts; a cover detachably secured to said body; binding posts secured to said cover, said binding posts adapted to connect with the first named binding posts through fuses; and fuses interposed between said binding posts.

2. An electric heating unit, comprising a body having recesses formed therein; wire wound cores in said recesses; binding posts secured to said body, the ends of the wire being connected with the binding posts; a cover detachably secured to said body; binding posts secured to said cover, said binding posts adapted to connect with the first named binding posts through fuses; and thermic fuses interposed between said binding posts.

3. An electric heating unit, comprising a body having a recess formed in its top; a wire wound core in said recess; binding posts secured to said body, the ends of the wire being connected with the binding posts; a cover lined with a heat insulating material detachably secured to said body; and binding posts secured to said cover adapted to contact with the first named binding posts.

4. An electric heating unit, comprising a body having recesses formed in its top; wire wound cores in said recesses; binding posts secured to said body, the ends of the wire being connected with the binding posts; a cover lined with a heat insulating material detachably secured to said body; and binding posts secured to said cover adapted to contact with said first named binding posts.

5. A device of the class described, comprising a body; a wire wound core secured to said body; binding posts secured to said body, the ends of the wire on said core being connected with the binding posts; a cover lined with a heat insulating material detachably secured to said body; and binding posts secured to said cover adapted to contact with said first named binding posts.

6. A device of the class described, comprising a body; a wire wound core secured to said body; binding posts secured to said body, the ends of the wire on the core being connected to said binding posts; a cover lined with a heat insulating material detachably secured to said body; binding posts secured to said cover adapted to connect with the first named binding posts through fuses; and thermic fuses interposed between said binding posts.

7. An electric laundry iron, comprising a body having electric heating means secured thereto; terminals for the electric heating means; a cover lined with a heat insulating material detachably secured to said body; and terminals secured to said cover, said terminals adapted to contact with the first named terminals.

8. An electric heating unit, comprising a body having electric heating means in contact therewith; terminals for said electric heating means; a cover having terminals secured thereto; fuses interposed between said terminals; and moving means secured to the cover and to the body whereby when the cover is attached to the body it will move the terminals secured to the cover into contact with the terminals secured to the body.

9. An electric heating unit, comprising a body having electric heating means in contact therewith; terminals for the electric heating means; a cover having terminals secured thereto; fuses interposed between said terminals; and means secured to the cover and to the body for forcing the terminals secured to the cover into contact with the terminals secured to the body.

10. An electric heating unit, comprising a body having electric heating means in contact therewith; terminals for the electric heating means; a cover having terminals secured thereto; thermic fuses interposed between said terminals; and means secured to the cover and to the body for forcing the terminals secured to the cover into contact with the terminals secured to the body.

11. An electric laundry iron comprising an upper and lower member; an electric heater in contact with one of said members; and means secured to both of said members whereby when the members are secured together the circuit is automatically completed.

12. An electric heating unit, comprising a body having recesses formed in the top thereof; wire wound cores in said recesses; binding posts secured to said body, the ends of the wire on the cores being connected to the binding posts; a cover detachably secured to said body; binding posts secured to said cover; and moving means secured to the cover and to the body whereby when the cover is attached to the body it will move the terminals secured to the cover into contact with the terminals secured to the body.

13. An electric heating unit, comprising a body having recesses formed in the top thereof, said body having an inclined face on its outer end; wire wound cores in said recesses; binding posts secured to said body, the ends of the wire on the cores being connected with the binding posts; a cover detachably secured to said body having an inclined face on its outer end adapted to engage the inclined face on the body; binding posts secured to said cover; and thermic fuses interposed between said binding posts.

14. An electric laundry iron, comprising a body having electric heating means in contact therewith; a cover lined with a heat insulating material detachably secured to said body; and a heat insulating material interposed between the cover and the body.

15. An electric laundry iron, comprising an upper and lower member; electric heating means secured to one of said members; binding posts secured to each of said members, said binding posts adapted to connect with each other through fuses; and fuses interposed between said binding posts.

16. An electric laundry iron, comprising an upper and lower member; electric heating means secured to said lower member; binding posts secured to each of said members, said binding posts adapted to connect with each other through fuses; and fuses interposed between said binding posts.

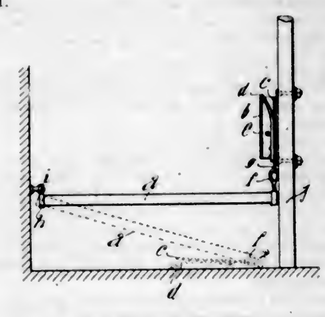
17. An electric laundry iron, comprising an upper and lower member; electric heating means secured to said lower member; binding posts secured to each of said members, said binding posts adapted to connect with each other through fuses; and thermic fuses interposed between said binding posts.

18. An electric heating unit, comprising two members; electric heating means secured to one of said members; binding posts secured to each of said members, said binding posts adapted to connect with each other through fuses; and fuses interposed between said binding posts.

866,811. DEVICE FOR THE BARRIERS OF HORSE-STABLES. JOHANN RIEDEMANN, Glinde, near Uetersen, Germany. Filed Jan. 25, 1907. Serial No. 354,063.

In a device for the barriers of horse-stables, in combination; a pillar *f* fixed in the floor of the stable, a box *b* fixed on the said pillar, a rod *c* cross-wise arranged in the said box, a plate *c* having an eye *g* and provided with a spring *d* inserted between the back plate of the box *b* and the rod *c* adapted to hold the said plate therein by the spring, a spring hook *f* hooked in the eye of the said plate *c*, a barrier *a* fixed to the lower end of the said hook, a hook *h* fixed to the said barrier at the opposite end to that of the hook *f*, and a ring *i* fixed on the wall of the stable into which the hook *h* is hooked, substantially as shown and described.

866,811.



866,812. HAND-STRAP FOR CARS AND OTHER CONVEYANCES. ELIAS E. RIES, New York, N. Y. Filed Feb. 27, 1904. Serial No. 195,536.



1. A hand strap for cars and other conveyances having at one end thereof a pair of widely separated points of support for the strap and at the other end thereof a convex hand-hold or grip portion integral with the material of the strap and formed therefrom by turning over and fastening together the edges of the strip.

2. A hand strap for cars and other conveyances having at one end thereof a pair of widely separated points of support for the strap and at the other end thereof a point of support for an individual, and elastic means normally tending to spread the sides of said strap.

3. A hand strap for cars and other conveyances having at one end thereof a pair of widely separated points for the strap and at the other end thereof a point of support for an individual, and a spring inserted in said strap and normally tending to spread the sides of the same.

4. A hand strap for cars and other conveyances having at one end thereof a pair of widely separated points of support for the strap and at the other end thereof a point of support for an individual, and a helical spring tapered from its center toward its ends inserted in said strap and normally tending to spread the sides of the same.

5. The combination with a running-rod of a car, of a hand strap supported at its upper end by said rod at two widely separated points and having at its lower end a point of support for an individual, and a spring-clip associated with said strap and having its edges in juxtaposition for frictionally clamping and holding an advertising or similar card.

6. The combination with a running-rod of a car, of a hand strap supported at its upper end by said rod at two widely separated points and shiftable along said rod and having at its lower end a point of support for an individual, and a spring-clip secured to said strap and movable therewith and having its edges in juxtaposition for frictionally clamping and holding an advertising or similar card.

7. The combination with a running-rod of a car, of a tubular clip mounted on and shiftable along said rod for frictionally holding an advertising or similar card, and a hand strap secured at its upper end to said clip at two widely separated points and having at its lower end a point of support for an individual.

8. The combination with a running-rod of a car, of a hand strap having at its upper end two widely separated points of support for the strap and at its lower end a point of support for an individual, and a spacing-bar made of sheet-metal and having an arched strengthening portion the sides of which are flattened and substantially in juxta position and which is connected with the two sides of the strap adjacent to its points of support, said strap and spacing-bar being carried by said running-rod.

9. The combination with the running-rod of a car, of a hand strap having at its upper end two widely separated points of support for the strap and at its lower end a point of support for an individual, and a substantially U-shaped spacing-bar connecting the two sides of the strap adjacent to its points of support having flattened sides substantially in juxtaposition, said strap and spacing-bar being carried by said running-rod.

10. A V-shaped hand strap having a spring metal spacing-bar extending across its upper extremities, said spacing-bar being provided with flexible lips designed and adapted to receive and hold an advertising card.

11. A V-shaped hand-strap for cars and other vehicles comprising a flexible body portion of leather or equivalent material having loops adapted to fit over and be movable along a running-rod, in combination with a rigid metal spacing or other separating bar secured to the loops of the strap at a point behind the running-rod and parallel therewith, whereby the spacing device is concealed from view by said running-bar, said spacing-bar being designed to receive and hold an advertising card or device.

12. A V-shaped hand-strap for cars and other conveyances, said strap having at its upper end a spacing-bar or spreader in the form of a spring clip adapted to hold an advertising or display card.

13. A V-shaped hand-strap for cars and other conveyances, said strap being formed from a single piece of flexible material and having at its upper end a spacing-bar or spreader in the form of a spring-clip adapted to receive and hold an advertising or display card.

14. A V-shaped hand-strap for cars and other conveyances, said strap being bifurcated and provided with a spacing-bar or spreader pivotally secured to one of its bifurcated extremities in such a manner as to permit of the spreader being folded parallel with the sides of the strap for packing purposes and to permit it to be moved into locking engagement with the opposite bifurcated extremity of the strap, said opposite extremity being provided with a stud or equivalent means designed and adapted to retain the free end of the spreader so as to permanently separate the bifurcated sides of the strap when the latter is mounted upon the running-bar or hand-rail of the car or other conveyance.

15. A self-bracing V-shaped hand-strap formed from a single piece of flexible material and having its free ends permanently separated by a rigid spacing-bar bridging the same, the angle of inclination formed by the sides of the V-shaped strap corresponding approximately to the angle or direction of the forward or backward pull which a passenger holding the strap would exert upon the same under the influence of inertia or momentum, respectively.

16. As a new article of manufacture, a hand-strap for cars and other conveyances having one rigid and two flexible sides joined together at the respective extremities thereof, in such a manner that the three sides of said strap form the boundaries of a triangle, the said rigid member or side being pivoted at a point behind the upper end of one of the flexible sides and being adapted to engage with a stud or equivalent device behind the upper end of the other flexible side, whereby the three sides of the triangle formed by said strap may be folded together.

17. As a new article of manufacture, a triangular-shaped hand-strap comprising a flexible strap-portion having divergent legs, and a rigid spreader-bar secured at its ends to the upper extremities of said legs, respectively, and constituting the base of said triangle, said spreader-bar being pivoted to the upper ends of the strap-portion in a plane parallel with the sides of the strap and in such a manner that it may be folded upon the strap to facilitate transportation of the same.

18. As a new article of manufacture, a triangular hand-strap for cars and other conveyances, said strap comprising one flexible and one rigid member, the flexible member being bifurcated and having its free ends spread apart and in engagement with the extremities of the rigid member and also having a suitable hand-hold or grip-portion at or near said point of bifurcation, the said rigid member being permanently pivoted to the rear of one extremity of the flexible member and being adapted to removably engage with the rear of the other extremity of said flexible member, so that the several sides of the strap may be folded together, substantially as set forth.

19. As a new article of manufacture, a self-bracing hand-strap for cars and other conveyances, the same comprising a flexible V-shaped strap formed from a single piece of material and having two widely separated points of support upon the hand-rail or running-rod of the car or other conveyance, said strap being provided with a rigid, non-flexible member in the form of a spreader bridging its said points of support immediately behind and in a plane parallel and horizontal with the said hand-rail or running-rod, substantially as set forth.

20. As a new article of manufacture, a self-bracing hand-strap for cars and other conveyances, the same comprising a flexible V-shaped strap having two widely separated points of support upon the hand-rail or strap-supporting rod of the car or other conveyance, in combination with a rigid, non-flexible spreader bridging its said points of support immediately behind or upon the said hand-rail and in a plane parallel therewith, said spreader being provided with means for removably holding a suitable display card or device, substantially as set forth.

21. As a new article of manufacture, a self-bracing hand-strap for cars and other conveyances, the same consisting of a flexible V-shaped strap having two widely separated points of support upon the hand-rail or strap-supporting rod of the car or conveyance, a rigid, non-flexible, metal spreader permanently bridging the points of support of the strap at a point immediately behind or upon the hand-rail and movable along the latter with said strap, said spreader having one of its longitudinal sides provided with spring clips or equivalent means for removably holding an advertising card or device in such a manner as to display the same immediately above or below the level of said hand-rail, substantially as set forth.

866,813. COMBINED METALLIC AND FRANGIBLE CAP FOR BOTTLES. FRANK T. ROBINSON, Chicago, Ill., assignor to Twin Bottle-Cap Company, Chicago, Ill., a Corporation. Filed Jan. 28, 1907. Serial No. 354,505.



1. A cap for bottles and the like, comprising two members each having its outer edge turned down and bent inwardly and provided on its upper surface with a socket, a spring on each of said members, and a connecting link having near each of its ends on its lower surface means to engage said springs.

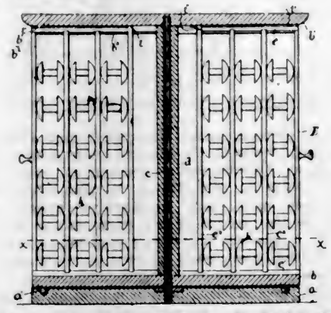
2. A cap for bottles and the like, comprising two partly circular members each having its outer edge downturned and bent inwardly and provided on its upper surface with a socket, a spring on each of said members, and a connecting link having near each of its ends in its lower surface a recess provided with serrations or teeth to engage said springs.

3. A cap for bottles and the like, comprising two partly circular members each having its outer edge downturned and bent inwardly and provided on its upper surface with a socket, a spring on each of said members, an upwardly extending transverse rib on each side of each of said springs, and a connecting link having near each of its ends on its lower surface means to engage said springs.

4. A cap for bottles and the like, comprising two members each having its outer edge downturned and bent inwardly and provided on its upper surface with a socket, a spring on each of said members, an upwardly extending transverse rib on each side of each of said springs, and a connecting link having near each of its ends on its lower surface a series of beveled serrations or teeth to engage said springs.

5. A cap for bottles and the like, comprising two members each having its outer edge downturned and bent inwardly and provided on its upper surface with a plurality of sockets, a plurality of springs on each of said members, and a plurality of connecting links having near each of their ends on their lower surfaces means to engage said springs.

866,814. DISPLAY-CABINET FOR LACES, &c. WILLIAM A. RUCKER, New York, N. Y. Filed Mar. 30, 1907. Serial No. 365,582.



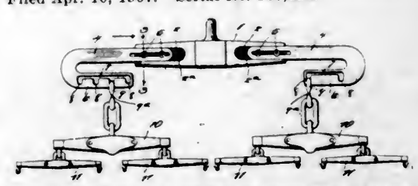
The herein described device for displaying laces and other like material consisting of a base, a spindle thereon, a cabinet adapted to rotate on said spindle and having a series of vertically disposed sliding frames radiating from the center of said cabinet and adapted to hold a plurality of spools and glass panels between the outer edges of said frames for exposing the contents of the cabinet.

866,815. PUMP-ROD ATTACHMENT. FARLEY P. SAYERS, Guthrie, Tex. Filed May 18, 1907. Serial No. 374,346.



The combination with a wind-mill rod and a pump-rod, of a longitudinally grooved bar carried by the pump-rod, a slide carried by the wind-mill rod and working in the groove of the bar, blocks on the face of the slide and the bar, oppositely presented pins projecting from the blocks, and a spring between the blocks and coiled at its ends around the pins and fastened thereto.

866,816. EQUALIZER. PETTE N. SAYERS, Pontoosuc, Ill. Filed Apr. 10, 1907. Serial No. 367,424.



1. In an equalizer, a main equalizing beam, having at each end thereof, elongated recesses, said recesses having beveled side walls and provided with serrated bottoms, a pair of lateral extensions, having their edges beveled, engaging said recesses, and provided with hook shaped portions, a pair of secondary equalizing beams connected to said hooked portions, said hooked portions having means affording adjustment of the secondary equalizing beams, said lateral extensions having slots therein, bolts engaging said slots affording fastening means for the said extensions, and nuts therefor, as specified.

2. In an equalizer, the combination with a main equalizing beam and a pair of lateral extensions, of a pair of secondary equalizing beams having swingletrees, said main equalizing beam having at each end thereof, elongated recesses, said recesses having beveled side walls, and provided with serrated bottoms, said lateral extensions are beveled upon their edges, and designed to engage said recesses and are provided with hook shaped portions, said lateral extensions are provided with slots, bolts engaging said slots, affording fastening means for the extensions, nuts to engage said bolts, said hook shaped portions having means affording adjustment of said secondary equalizing beams, comprising a slot, having recesses merging thereinto, a ring having a reduced portion to engage said recesses, said reduced portion designed to coöperate with the slot when the ring is manipulated.

866,817. BUTTON. JOSEPH W. SCHLOSS, New York, N. Y. Filed Mar. 25, 1907. Serial No. 364,482.



1. A button having a core of spongy but coherent material, and a fabric cover therefor, said cover directly enveloping said core and depending solely thereon for its support and shape.

2. A button having a core of spongy but coherent material cut to a predetermined shape, and a cover crocheted over the same, said cover directly enveloping said core and depending solely thereon for its support and shape.

3. A button having a core formed of a disk of spongy but coherent substance of uniform thickness, and a cover crocheted over the same, said cover directly enveloping said core and depending solely thereon for its support and shape.

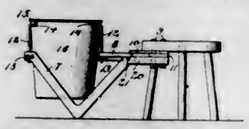
4. A button comprising a felt disk having a cover crocheted thereon, said cover directly enveloping said disk and depending solely thereon for its support and shape.

5. A button comprising a plurality of disks of spongy but coherent substance having a cover crocheted thereon, said cover directly enveloping said disks and depending solely thereon for its support and shape.

6. A button comprising a plurality of felt disks having a cover crocheted over the same, said cover directly enveloping said disks and depending solely thereon for its support and shape.

7. A button comprising a core or filler of flexible coherent material of definite form and a cover for the same, said cover directly enveloping said core and depending solely thereon for its support and shape.

866,818. MILKING-STOOL. ALBERT SCHROEDER, Jr., Chicago, Ill. Filed July 29, 1907. Serial No. 385,983.



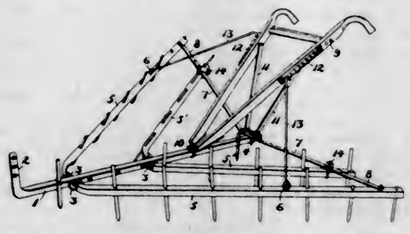
1. A milking stool provided with a pail holder, comprising arms projecting from the stool, and standards mounted on the outer ends of the arms and arranged to receive and support a pail therebetween.

2. A milking stool provided with a pail holder comprising a pair of outer arms and a pair of inner arms projecting from the stool, and having means at their outer ends to receive and hold a pail therebetween, one pair of said arms being adjustable, for various sizes of pails.

3. A milking stool provided with projecting arms adapted to hold a pail therebetween, said arms being bent down in the form of elbows which rest on the ground.

4. A milking stool provided with a pail holder comprising arms projecting from the stool, vertically adjustable standards mounted on the outer ends of the arms and arranged to turn therein and having offset portions at the top adapted to engage under the rim of a pail.

866,819. HARROW. NICHOLAS A. SEIPEL, Healdsburg, Cal. Filed May 8, 1907. Serial No. 372,495.



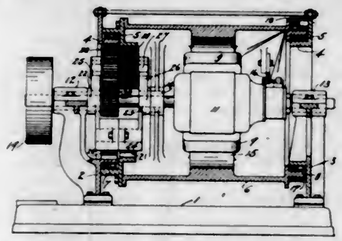
1. In a harrow, a central rail to which a team may be hitched, a pair of toothed rails hinged at their ends to the center rail and extending outwardly and rearwardly therefrom said hinges permitting said toothed rails to move either horizontally or vertically, means to adjust the outermost rail with respect to the others, handles secured to the center rail near its rear end, a plate having a series of holes carried by each handle, and a rod having a hook secured to each outer rail said hooks adapted to be placed in any one of the holes in the respective plates.

2. In a harrow, a center rail having downwardly extending teeth and to which a team may be hitched, a double eye plate carried by the center rail on each side thereof near the front end of the same, toothed rails hinged to the eyeplates and extending rearwardly and outwardly from the center rail, means to move the said hinged rails vertically with respect to the center rail, and means to adjust said rails horizontally with respect to the side center rail.

3. In a harrow, a center rail having downwardly extending teeth, a double eyeplate carried by the center rail on each side thereof near its front end, toothed rails hinged to the eyeplates and extending outwardly and rearwardly from the center rail, means to move said hinged rails vertically with respect to the center rail, means to adjust the hinged rails horizontally with respect to the center rail, and means to adjust the outer of the side rails with respect to the inner one.

866,820. ELEVATOR-MACHINE. GEORGE L. SMITH, Chicago, Ill. Filed Aug. 11, 1906, Serial No. 330,210. Renewed July 12, 1907. Serial No. 383,516.

1. In an elevator machine, in combination, a base, a pair of standards mounted thereon and terminating in central bearings, an annular flange secured to each standard, roller bearings on said flanges, a cable drum revolubly mounted on said roller bearings, an annular internal tooth rack secured to one of said flanges, an internal tooth gear secured to said drum, arranged adjacent to said rack but of differing pitch diameter therefrom, a motor revolubly mounted on the interior of the drum, a shaft for said motor rotating in said central bearings, a frame work rotatably mounted about said motor shaft, a shaft carried by said frame-work, a planetary gear rotatably mounted on said shaft and in mesh with said rack; a second planetary gear mounted on said shaft at the side of said first planetary gear and in mesh with said internal tooth gear, means for securing the planetary gears together so as to prevent their relative movement, means operatively connecting said motor shaft with said planetary gears, and means for conducting power to said motor from a source of supply.

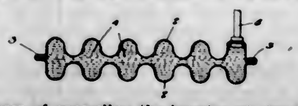


2. In an elevator machine in combination a base, a pair of standards mounted thereon and terminating in central bearings, an annular flange secured to each standard, roller bearings on said flanges, a cable drum revolubly mounted on said roller bearings, a motor revolubly mounted in the interior of said drum and on said central bearings, a gearing operatively connecting said motor with the drum, and means whereby power is conducted to said motor.

3. In an elevator machine in combination, a base, a pair of standards mounted thereon and terminating in central bearings, an annular flange secured to each standard, a cable drum, annular flanges whereby said cable drum is revolubly mounted on the flanges secured to said standards; a motor revolubly mounted in the interior of the drum and on said central bearings, a gearing operatively connecting the cable drum with the motor, four bands suitably mounted on the peripheral surface of a flange secured to the cable drum, and means electrically connecting said bands with said motor.

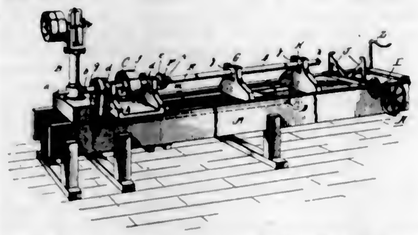
4. In an elevator machine in combination a base, a pair of standards mounted thereon, and a cable drum revolubly mounted on said standards, an annular internal tooth rack secured to one of said standards, an internal tooth gear secured to the drum and arranged adjacent to said rack and on the same axial line therewith, a motor, a shaft therefor, a frame-work rotatably mounted about said shaft, a shaft carried by said frame-work, and a planetary gear rotatably mounted thereon, and in mesh with said rack, a second planetary gear mounted on said shaft at the side of said first planetary gear, and in mesh with said internal tooth gear, means for securing said planetary gears together so as to prevent their relative movement, and means operatively connected with the motor whereby the planetary gears are rotated.

866,821. METHOD OF ENAMELING THE INTERIOR OF SHEET-METAL VESSELS. ARTHUR R. SPEER, Pittsburg, Pa. Filed Apr. 13, 1905. Serial No. 255,316.



The process of enameling the interior of closed vessels of sheet metal consisting in filling the interior of the vessel with liquid enamel under pressure to entirely cover all surfaces, joints, etc. then emptying the surplus, and then subjecting the vessel and its interior coating to a hardening heat, substantially as set forth.

866,822. WOOD-BORING MACHINE. BARNETT M. SPRATT, Chester, S. C. Filed Dec. 8, 1906. Serial No. 346,978.



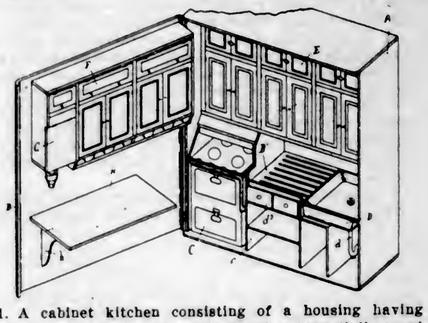
1. In a machine for the purpose described, a hollow auger comprising a tube or barrel open at its forward end, and an annular cutter-head carried by the tube or barrel at the forward end thereof and having two or more lugs on its periphery extending laterally outward therefrom and forming passages between them, and arranged with their forward ends flush with the forward end of the head, and also having inclined seats in its main portion and said lugs, and grooves in the walls of the seats, and cutters or blades arranged in the seats and having ribs disposed in the walls thereof; said cutters extending forward beyond the forward end of the head and also extending inward and outward with reference to the rim of the head.

2. In a machine for the purpose described, the combination with a hollow auger comprising a tube or barrel open at its forward end, and an annular cutter-head carried by the tube or barrel at the forward end thereof and having cutters or blades separated by a space designed to receive a core, and extending forward beyond the forward end of the head and slightly inward from the rim thereof to provide a clearance space and also extending radially outward beyond said rim, whereby passages are afforded between the cutters or blades and at the outer side of the head for cuttings; of means connected with the tube or barrel of the auger, in rear of the cutter-head, for supplying constant fluid pressure to said tube or barrel.

3. In a machine for the purpose described, the combination with a hollow auger comprising a tube or barrel open at its forward end, and an annular cutter-head carried by the tube or barrel at the forward end thereof and having two or more lugs on its periphery extending laterally outward therefrom and forming passages between them and arranged with their forward ends flush with the forward end of the head, and cutters or blades separated by a space designed to receive a core, and seated in said lugs and extending forward beyond the forward end of the head and also extending inward and outward with reference to the rim of the head and arranged with their outer edges flush with the outer sides of the lugs; of means connected with the tube or barrel of the auger, in rear of the cutter-head, for supplying constant fluid pressure to said tube or barrel.

4. In a machine for the purpose described, the combination of a hollow mandrel provided with means through which it may be rotated, means connected with the mandrel for supplying constant fluid pressure thereto, a hollow auger comprising a tube or barrel open at its ends, and an annular cutter-head carried by the tube or barrel at the forward end thereof and having cutters or blades separated by a space designed to receive a core, and extending forward beyond the forward end of the head and slightly inward from the rim thereof to provide a clearance space and also extending radially outward beyond said rim, whereby passages are afforded between the cutters or blades and at the outer side of the head for cuttings, and a coupling detachably connecting the forward end of the mandrel and the rear end of the tube or barrel of the auger.

866,823. CABINET-KITCHEN. JOSEPH G. STEINKAMP, Cincinnati, Ohio. Filed Oct. 29, 1906. Serial No. 340,961.



1. A cabinet kitchen consisting of a housing having within it a sink and a range of a depth substantially equal to that of the housing, a case attached to the back of the housing above the sink and the range, a door hinged to the housing, a table hinged to the inside of the door at the height of the sink and range, and a case secured to the door above the height of the sink and the range, the combined depth of the cases being substantially equal to the depth of the housing.

2. A cabinet kitchen consisting of a housing having within it a sink and a range, a door hinged to the housing, a drop table hinged to the inside of the door, and a movable support for the table for holding it in a horizontal position when the door is open.

3. In a cabinet kitchen a housing containing among other kitchen furniture a sink, a waste pipe located beneath the sink near the back of the housing and a removable casing located beneath the sink in front of and concealing the waste pipe from view.

4. In a cabinet kitchen the combination of a housing, a range located at one side of the housing, a sink at the other side of the housing, a drain board between the range and the sink, compartments beneath the drain board, a casing above the sink and the range secured to the back of the housing, a door hinged to the housing and a casing secured to the door above the height of the sink and range, the combined depth of the casings secured to the door and to the back of the housing being equal to the depth of the housing.

866,824. INK-WELL. FRED J. STULP, Muskegon, Mich. Filed Apr. 18, 1907. Serial No. 368,952.



1. A sheet metal ink well support having an elastic cylindrical body formed in one piece and having a slot running from top to bottom thereof.

2. A sheet metal ink well support having an elastic cylindrical body formed in one piece, having a slot running from top to bottom thereof, and an upset marginal flange.

3. A sheet metal ink well support consisting of an elastic cylindrical body having a slot running from top to bottom thereof, an upset marginal flange having separated downward bent lugs, and a cover having hinged connection with such downward bent lugs.

4. A sheet metal ink well support consisting of a slotted

cylindrical body having approximate end walls upset marginal flange provided with separated downward bent lugs and a cover having hinged engagement with such downward bent lugs.

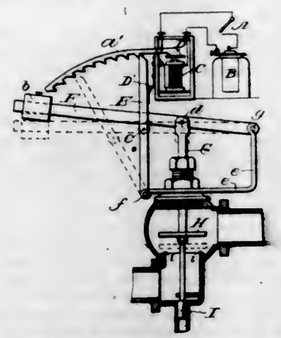
5. A sheet metal ink well support consisting of a slotted cylindrical body upset marginal flange provided with separated downward bent lugs and a cover having a neck portion provided with angularly bent lugs having hinged connection with said downward bent lugs of the flange.

6. A sheet metal ink well support having an upset marginal flange provided with separated downward bent lugs, a cover having hinged engagement with such downward bent lugs, and a transverse supporting bar for the well cup.

7. A sheet metal ink well support consisting of a slotted elastic cylindrical body, an upset marginal flange provided with separated downward bent lugs, a cover having hinged engagement with such downward bent lugs, and supporting means for the well cup.

8. A sheet metal ink well support having a body provided with an upset marginal flange having separated downward bent lugs, a cover having hinged engagement with such downward bent lugs, a transverse supporting bar for the well cup struck inward from the body of the well, such bar having an upward projecting lug at the rear, said body having an inturned flange at its bottom portion, and an absorbent mat resting upon said flange.

866,825. VALVE AND OPERATING MECHANISM THEREFOR. GEORGE G. SUMMERS and GEORGE P. BURKE, Louisville, Ky. Filed Jan. 8, 1907. Serial No. 351,357.



1. In a valve and operating mechanism therefor, the combination of a valve seat with a valve stem carrying a valve adapted to rest tightly upon said seat, a rod carrying a support, a weighted arm connected to said valve stem and adapted to rest upon said support when the valve is open, means for releasing said weighted arm from said support and means for throwing outwardly said rod carrying the support, thereby closing the valve, substantially as described.

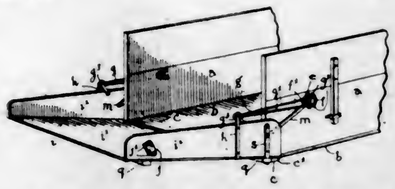
2. In a valve and operating mechanism therefor, the combination of a valve seat with a valve stem carrying a main valve adapted to rest tightly upon said seat, an auxiliary valve normally closed, a rod carrying a support, a weighted arm connected to said valve stem and adapted to rest upon said support when the main valve is open and means for releasing said weighted arm from said support and means for throwing outwardly said rod carrying a support, thereby closing the main valve and opening the auxiliary valve, substantially as described.

3. In a valve and operating mechanism therefor, the combination of a valve seat with a valve stem carrying a valve adapted to rest tightly upon said seat, a weighted arm joined at one point to the valve stem, a rod carrying a support adapted to engage with said weighted arm when said valve is open, an angular piece to one end of which an extremity of said weighted arm is pivoted and to the other end of which is pivoted an extremity of said rod carrying a support, means for releasing said rod and means for throwing said rod outwardly and liberating the weighted arm from said support whereby the valve is closed, substantially as described.

4. In a valve and operating mechanism therefor, the combination of a valve seat with a valve stem carrying a valve adapted to rest tightly upon said seat, a weighted arm joined at one point to said valve stem, a rod carrying a support adapted to engage with said weighted arm when said valve is open, an angular piece to one end of which an extremity of said weighted arm is pivoted and to the other end of which is pivoted an extremity of said rod carrying a support, an arm having a catch at one end and adapted to engage said rod, means for releasing said rod from said catch and a spring for throwing said rod outwardly and thereby knocking the support away from the weighted arm, whereby the valve is closed, substantially as described.

5. In a valve and operating mechanism therefor, the combination of a valve seat with a valve stem carrying a main valve and an auxiliary valve, a weighted arm connected to said valve stem, a rod carrying a support adapted to engage said weighted arm, an arm provided with a series of notches with any one of which one end of said rod carrying a support may engage and means for releasing said rod carrying a support from contact with said notched arm, substantially as described.

866,826. END-GATE FOR WAGONS. WILLIAM SWARD, Mediapolis, Iowa. Filed Apr. 2, 1907. Serial No. 365,993.

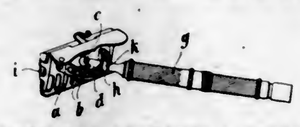


1. An end gate for wagon bodies having side flanges, and means of connection and support between end gate and wagon body, including a stop device having a stem portion provided with rotary bearings in the side wall of the wagon body, and a link device having a pivotal engagement at one end thereof with a side flange of the end gate, and an out-turned free end portion capable of stop engagement with said stop device, a side flange of the end gate having at the upper end portion thereof a catch device capable of detachable engagement with the out-turned free end portion of said link device.

2. An end gate for wagon bodies, having side flanges, and means of connection between end gate and wagon body, consisting in a loop form stop device at each side having a stem portion provided with rotary bearings in the side wall of the wagon body, a link device at each side having spring branches provided with an eye at one end having pivotal connection with a side flange of the end gate, said branches having out-turned free end portions capable of stop engagement with one of the loop devices, a hook arm at each side pivoted to the end gate at one end portion thereof and capable of engagement at the other end portion thereof with the stem of one of the stop devices, said side flanges of the end gate having each at the upper end portion thereof a catch plate adapted for detachable engagement with the out-turned ends of one of the link devices.

3. An end gate for wagon bodies having side flanges, and means of connection and support between end gate and wagon body, consisting in a loop form stop device at each side having a stem portion provided with rotary bearings in the side wall of the wagon body, a link device at each side having spring branches provided with an eye at one end having pivotal connection with a side flange of the end gate, said branches having out-turned free end portions capable of stop engagement with one of the loop devices, the side flanges of the end gate having each at the upper end portion thereof a catch device adapted for detachable engagement with the out-turned ends of one of the link devices.

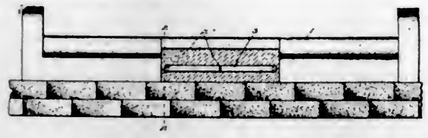
866,827. SAFETY-RAZOR. GERHARD TITTMANN, Foche, Germany. Filed May 14, 1907. Serial No. 373,621.



1. In a safety razor, a head having a laterally extending bow, and a pivoted arm, combined with a blade having a cutting edge parallel to said bow, and a handle adapted to engage said bow and arm, substantially as specified.

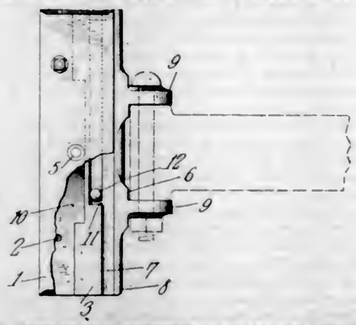
2. In a safety razor, a head having a laterally extended slotted bow, and a socketed arm pivoted to the head at the center of the bow, combined with a blade having a cutting edge parallel to the bow, a handle having a shoulder adapted to engage the bow, and a threaded stud adapted to engage the socketed arm, substantially as specified.

866,828. CULVERT. WALTER G. TODD, WILLIAM D. HARRELL, and GEORGE TODD, Wabash, Ind. Filed Aug. 11, 1905. Serial No. 273,834.



A culvert constructed of two or more independent longitudinal integral sections constructed of cement, each of said sections extending the entire length of the arch, a series of truss rods within the arch of each of said sections, said truss rods being longitudinally disposed in each section, and a transverse strap in each section at the ends of said truss rods to connect the truss rods in each section together independently of the truss rods in each fellow section, each side section being provided with a wall extending above the arch, each wall being integral with each side section, the whole being arranged whereby one or more of said independent longitudinal integral sections may be removed without disturbing the remaining sections.

866,829. CLEVIS-SUPPORT. WILLIAM UHRMACHER, Trenton, Mo. Filed May 27, 1907. Serial No. 376,013.



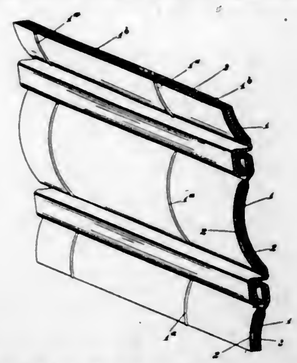
1. A clevis support comprising a means for attachment to a beam, a member slidably mounted upon said means and adapted to retain a clevis, and bearing-balls interposed between the bar and the means.

2. A clevis support comprising a bar having a portion of its edge cut away, a member slidably mounted upon said bar and a bolt passing through the member and the space at the cut away portion of the bar.

3. A clevis support comprising a bar, a member slidably mounted on said bar and having means for holding a clevis, bearing-balls interposed between the bar and the member, said bar having a portion of its edge cut away, and a bolt passing through the member and the space at the cut away edge of the bar.

4. A clevis support comprising plates bolted together and having oppositely disposed channels with adjacent edges spaced apart, a bar fitting snugly in said channels and having a reduced portion which fits between the spaced edges and a shield which overlaps the spaced edges, said bar being adapted to slide longitudinally with relation to the plates.

866,830. FIREPROOF BLIND. HERMAN E. VANCE, Columbus, Ohio. Filed Apr. 8, 1905. Serial No. 254,560.



1. A flexible fire resisting curtain embodying a plurality of hinged metallic slats or sections provided with sheathings or coatings of heat resisting material on both sides, said slats or sections having projections extending from the body of the slat substantially through the outer surface of the coatings or sheathings.

2. In a flexible fire resisting curtain, a metallic slat or section provided with means for joining it to other slats and having its body portion provided on both sides with sheathings of heat resisting material different from that of which the body of the slat is formed and metallic projections extending from both sides of the body of the slat substantially through the outer surfaces of the sheathings.

3. In a fire resisting curtain, a metallic slat provided with means for joining it to other slats and having its body portion provided on both sides with sheathing of heat-resisting material, and alternating rib-like projections bent up in opposite directions out of the body of the slat and projecting substantially through the surfaces of the sheathings.

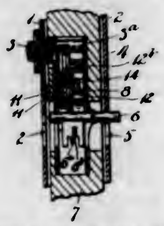
4. In a fire resisting curtain, a metallic slat provided with means for joining it to other slats and with projections bent up in opposite directions out of the body of the slat, and sheathings or coatings of heat resisting material applied to the faces of the slat, said projections extending substantially through the outer surfaces of the sheathings.

5. In a flexible fire resisting curtain, a metallic slat provided with means for joining it to other slats and having its body portion provided on both sides with sheathings of heat-resisting material different from that of which the body of the slat is formed, and transverse metallic projections extending from both sides of the body of the slat substantially through the outer faces of the sheathings.

6. In a flexible fire resisting curtain, a curved metallic slat provided with means for joining it to other slats and having its body portion provided on both sides with sheathing of heat-resisting material different from that of which

the body of the slat is formed, and metallic projections extending from both sides of the body of the slat substantially through the outer faces of the sheathing.

866,831. INDICATOR-LOCK. HENRY G. VOIGHT and CHARLES J. CALEY, New Britain, Conn., assignors to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation. Filed Feb. 25, 1907. Serial No. 359,282.



1. In combination, a lock, a bolt, a push-button indicator therefor a portion of the same projecting into the lock-casing, and means controlled by a key insertible from the inner side only to block the movement of said push-button while the bolt is projected.

2. In combination, a mortise lock including a case having alined key-holes on opposite sides, indicator mechanism comprising an inwardly and outwardly movable member, means to set said indicator mechanism when a suitable key is introduced and turned from the inside to project the bolt, and leaving said indicator uninfluenced when the same or a similar key is introduced and turned from the outside to project the bolt.

3. In combination, a case, a bolt, an indicator of the push-button type accessible from the outerside of the door, key-controlled indicator blocking mechanism within said case and including a movable member operated by a suitable key adapted to the bolt when inserted from the inner side only, and means carried by the bolt for holding said blocking-out member in its blocking-out position when the bolt has been projected by a key inserted from the inner side only.

4. In a lock in combination, an indicator of the push-button type adapted to the outerside of a door, a portion of the same extending into the lock-case, a key-controlled blocking-out device within said case, and a key bitted to operate said blocking-out device when inserted from the inner side of the lock only.

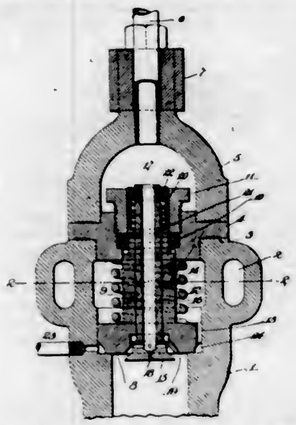
5. In a lock in combination, an indicator of the push-button type having a portion projected into the lock-case, said lock-case having inner and outer oppositely arranged key-holes, a blocking-out device in said case and a key bitted to engage said blocking-out device when said key is entered from the inner side of the lock-case only.

6. In combination, a lock, a push-button indicator a portion of the same projecting into the lock-case, an indicator blocking-out device within the case, a bolt, tumblers therefor and a key adapted to operate both the tumblers and said blocking-out device simultaneously to set the latter when said key is inserted from the inner side of the door only.

7. In a door lock, in combination, a bolt operable from both sides of the door, an indicating device for one side of the door to which the lock is applied, said device comprising a movable finger piece and means to hold said finger piece in the indicating position when said bolt has been moved from the opposite side of the door into one position and freeing said finger piece when said bolt has been moved from said opposite side of the door into another position.

8. In a door lock, in combination, a lock, a bolt, an indicator for one side of the door comprising a movable finger piece, said bolt being operable from both sides of the door, and an indicator controlling device operable only when the bolt is controlled and moved from the side of the door opposite the indicator.

866,832. VALVE FOR GAS-PUMPS. RICHARD WHITAKER, New Brunswick, N. J., assignor, by direct and mesne assignments, to Brunswick Refrigerating Company, a Corporation of New Jersey. Original application filed Jan. 11, 1904, Serial No. 188,612. Divided and this application filed Jan. 5, 1905. Serial No. 239,724.



1. In a fluid compressor, the combination with a valve casing which contains a valve seat, and an equilibrium chamber, of a duplex valve comprising an outlet valve and an inlet valve carried thereby, the outlet valve having a stem part of hollow rod form, which passes through a wall of the equilibrium chamber, the exterior diameter of such stem part being well within the diameter of the outlet valve, the bore of the stem part constituting the inlet passage for the gas, and being substantially coincident with the center of the valve.

2. In a fluid compressor, the combination with a valve casing which contains a valve seat and an equilibrium chamber, of a duplex valve comprising an outlet valve and an inlet valve carried thereby, the outlet valve having a stem part of hollow-rod form which passes through a wall of the equilibrium chamber, the stem of the inlet valve being in line with a portion of the bore of the stem part of the outlet valve, the exterior diameter of such stem part being well within the diameter of the outlet valve, and the bore of the stem part constituting the inlet passage for the gas.

3. In a fluid compressor, the combination with a valve casing which contains a valve seat, and an equilibrium chamber, of a duplex valve comprising an outlet valve and an inlet valve carried thereby, the outlet valve having a stem part of hollow-rod form which passes through a wall of the equilibrium chamber, the exterior diameter of such stem part being well within the diameter of the outlet valve, the bore of the stem part constituting the inlet passage for the gas, and a seating spring within the equilibrium chamber and surrounding the stem of the outlet valve.

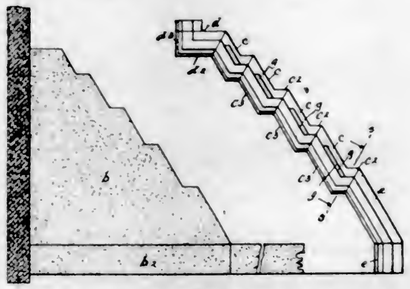
4. In a fluid compressor, the combination with a valve casing which contains a valve seat and an equilibrium chamber, of a duplex valve comprising an outlet valve and an inlet valve carried thereby, the outlet valve having a stem part of hollow-rod form which passes through a wall of the equilibrium chamber, and the outlet valve fitting the walls of the equilibrium chamber, there being a draw-off passage in the face of the valve and adjacent to the seat thereof.

5. In a fluid compressor, the combination with a valve casing which contains a valve seat and an equilibrium chamber, of a duplex valve comprising an outlet valve and an inlet valve carried thereby, the outlet valve having a stem part of hollow-rod form which passes through a wall of the equilibrium chamber and having a central bore which constitutes an inlet passage for the gas, rod packing and a gland surrounding the rod at the place where it passes through the walls of the equilibrium chamber.

6. In a fluid compressor, the combination with a valve casing, which contains a valve seat and an equilibrium chamber, of a duplex valve comprising an outlet valve and and an inlet valve carried thereby, the outlet valve having a hollow rod which extends through an opening in a wall of the equilibrium chamber, the bore of the rod being centrally arranged and constituting the gas inlet passage, the inlet valve having a stem part which is in line with the bore, and extends outside of the equilibrium chamber, and a spring for closing the inlet valve, and means outside of the chamber for adjusting the tension of the spring.

7. In a fluid compressor, the combination with an open-ended cylinder having a valve seat intermediate the ends, a cover-plate for inclosing the end of the cylinder, and a duplex valve having a hollow rod passing through the cover-plate, and a seating spring surrounding the rod, the bore of the rod constituting the gas inlet passage, and being centrally arranged, the said valve depending from the cover-plate and extending into the cylinder so that the valve may be removed with the cover-plate.

866,833. CONSTRUCTION OF CONCRETE AQUEDUCTS, TUNNELS, SUBWAYS, AND THE LIKE. JAMES T. WILSON, New York, N. Y. Filed Feb. 18, 1907. Serial No. 357,802.



1. The method herein described of forming the walls of an aqueduct, tunnel or other structure which consists in providing a casing for the side and top walls, side and top molds adapted to fit in said casing and to be moved longitudinally thereof, a bottom mold operating in connection with the side molds and adapted to be moved therewith, and moving said molds forwardly step by step and filling in the spaces thus formed in said casing with concrete to form the side and top walls and filling in the bottom portion with concrete to form the bottom wall.

2. The method herein described of forming the walls of an aqueduct, tunnel or other structure consisting in providing a casing for the side and top walls at the bottom of which is a space for the bottom wall, an abutment against which said casing is placed, side and top molds which are adapted to fit in said casing, and bottom molds operating in connection with the side molds, and moving said molds forwardly step by step and filling in the casing with concrete rearwardly of said molds at each successive forward movement of said molds and also filling in the bottom of the aqueduct, tunnel or other structure with concrete to form the bottom wall.

3. The herein described means for forming the side, top and bottom walls of an aqueduct, tunnel or other structure of concrete, comprising inner and outer sides and top shells or casings, separate side and top molds adapted to be placed in the space between said shells or casings and to be interlocked, and a bottom mold adapted to operate in connection with the side molds, said molds being provided in their faces with grooves and ribs to form corresponding ribs and grooves in the concrete, and said molds being also adapted to be moved forwardly step by step.

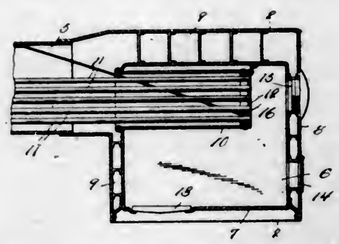
4. The herein described means for forming concrete walls for an aqueduct, tunnel or other structure, comprising inner and outer shells between which the side and top walls are formed, the inner shell being higher at the bottom than the outer shell, side and top molds movable between said shells, and a bottom mold operating in connection with the side molds and adapted to be moved therewith forwardly step by step.

5. The herein described means for forming concrete walls for an aqueduct, tunnel or other structure, comprising inner and outer shells between which the side and top walls are formed, the inner shell being higher at the bottom than the outer shell, side and top molds movable between said shells, and a bottom mold operating in connection with side molds and adapted to be moved therewith forwardly step by step, the faces of said molds being provided with tongues and grooves which extend longitudinally thereof.

6. The herein described means for forming concrete walls for an aqueduct, tunnel or other structure, comprising inner and outer shells between which the side and top walls are formed, the inner shell being higher at the bottom than the outer shell, side and top molds movable between said shells, and a bottom mold operating in connection with side molds and adapted to be moved therewith forwardly step by step, the faces of said molds being provided with tongues and grooves which extend longitudinally thereof, and the side molds being composed of horizontal bottom portions and upwardly and backwardly inclined top portions.

7. The herein described means for forming concrete walls for an aqueduct, tunnel or other structure, comprising inner and outer shells between which the side and top walls are formed, the inner shell being higher at the bottom than the outer shell, side and top molds movable between said shells, and a bottom mold operating in connection with side molds and adapted to be moved therewith forwardly step by step, the faces of said molds being provided with tongues and grooves which extend longitudinally thereof, and the side molds being composed of horizontal bottom portions and upwardly and backwardly inclined top portions, and means for locking the side molds together and for forming locking grooves in the concrete.

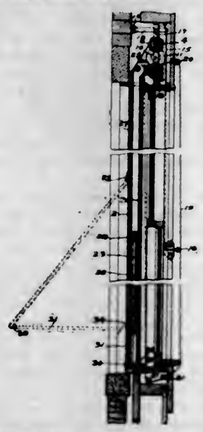
866,834. STEAM-BOILER. EDGAR L. ARNOLD, Alexandria, Minn. Filed June 5, 1906. Serial No. 320,316.



In a steam boiler, the combination with a fire box and a grate positioned within the fire box adjacent the front wall thereof, of a hollow cylindrical flue barrel secured at its forward end in an opening in the front wall of the fire box and extending rearwardly with its rear end terminating slightly short of the rear wall of the fire box, the barrel being closed at its said rear end and being entirely open at its front end, flues extending into the barrel through the open front end thereof and opening through the rear end thereof, said barrel being spaced completely from the walls of the fire box except at the point of connection of its front end with the front wall of the fire box, the rear end of the flue barrel being located in a plane considerably removed from the vertical plane occupied by the rear end of the grate, and a brace

rod extending into the flue barrel through the open front end thereof and secured at its rear end to the closed rear end of the flue barrel adjacent the lower end thereof.

866,835. SCREEN. CONRAD BAUER, Pittsburg, Pa. Filed Sept. 13, 1906. Serial No. 334,398.



1. In a window-screen, the combination of a roller, a screen adapted to be wound on the roller, means for actuating the roller, means for disengaging said roller from the actuating means and bringing it into engagement with locking means, hinged guides at the sides of the screen within which the screen is adapted to move, and devices for extending and securing the guides and screen outwardly to varying distances from the window-frame.

2. In a window-screen, the combination of a roller, a screen adapted to be wound thereon, a roller and an inner screen adapted to be wound thereon, drive-wheels secured to the ends of the said rollers, an intermediate drive-wheel, devices for bringing either of the roller drive-wheels into connection with the intermediate drive-wheel and throwing the other of the roller drive-wheels out of connection with the intermediate drive-wheel, and mechanism for imparting power to the intermediate drive-wheel.

3. In a window-screen, the combination of a roller, a slatted screen adapted to wind on the roller, actuating mechanism and a locking device adapted to be alternately connected to the roller, fixed guides in which the edges of the slatted screen are adapted to move, movable guides hinged to the fixed guides, rigid extension arms one end of each of which is pivoted to the lower end of the swinging guides, and vertically movable slides to which the other ends of the extension arms are pivoted.

4. In a window-screen, the combination of an outer screen, an inner screen, a roller adapted to wind the outer screen, a roller adapted to wind the inner screen, a vertically movable housing within which the two rollers are journaled, gear-wheels on the ends of the rollers, an intermediate gear-wheel journaled in fixed housings, devices for throwing the roller gears in and out of mesh with the intermediate gear, a sprocket-wheel fixed to the intermediate gear, and a sprocket-chain meshing with the sprocket-wheel.

5. In a window-screen, the combination of a roller, a screen adapted to be wound on the roller, means for actuating the roller, means for simultaneously locking the roller and disengaging the actuating means and for simultaneously unlocking the roller and connecting the actuating means thereto, hinged guides at the side of the screen within which the screen is adapted to move, and devices for extending the guides from the window-frame and for locking the same in position.

6. In a window-screen, the combination with a window-frame, of inner and outer screens, rollers upon which said screens are adapted to be wound, actuating means therefor, and means for alternately connecting said rollers with said actuating means.

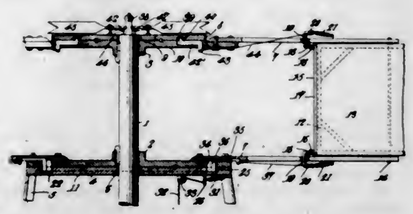
7. In a window-screen, the combination with a window-frame, of inner and outer screens, rollers upon which said screens are adapted to be wound, an actuating device therefor, locking devices, and means for unlocking either roller, and simultaneously connecting it with the actuating device.

8. In a window-screen, the combination with a window-frame, of inner and outer screens, rollers upon which said screens are adapted to be wound, an actuating device therefor, locking devices, and means for simultaneously engaging said rollers with or disengaging them from said actuating device and said locking devices, whereby either roller may be actuated.

9. In a window-screen, the combination of slats, thimbles fitting on the slats and provided with openings adjacent the top and bottom thereof, and a connecting device for said slats passing through the openings in said thimbles and between the thimbles and slats, whereby the adjacent connected edges of the slats are held in parallel relation in the process of operation.

10. In a window-screen, the combination of slats, thimbles fitting on the slats and provided with slots adjacent the top and bottom of the slats, and a connecting device for said slats passing through said slots and between the thimbles and slats, whereby the adjacent connected edges of the slats are held in parallel relation.

866,836. WINDMILL. ROBERT S. BELL, Tucumcari, N Mex. Filed Jan. 3, 1907. Serial No. 350,584.



1. In a wind mill, arms mounted for rotation about an axis, a sail pivoted between said arms and a stop-rod journaled between the arms in parallel relation to said axis and adapted to lie in the path of the sail.

2. In a wind mill, arms mounted for rotation about an axis, a sail pivoted between the arms, a spring retained stop-rod journaled between the arms in parallel relation to the said axis and adapted to lie in the path of the sail.

3. In a wind mill, arms mounted for rotation about an axis, a sail pivoted between the arms, a stop-rod having an intermediate portion adapted to lie in the path of the sail with horisontal portions at the ends thereof and trunnion portions journaled in said arms, an outstanding portion formed at the end of said trunnion portions, a means for turning the stop-rod attached to said outstanding portions and a spring attached to said portions for retaining the stop-rod.

4. In a wind mill, rotating arms, sails mounted thereon, stops for the sails, a relatively fixed plate having an annular recess, an expansible hoop located in the recess, means for expanding and contracting the hoop and means operatively connecting said hoop with the stops for the sails.

5. In a wind mill, rotating arms, sails mounted thereon, stops for the sails, a relatively fixed plate having an annular recess, a hoop having overlapping ends located in said recess, means for expanding and contracting the hoop and means operatively connecting said hoop with the stops for the sails.

6. In a wind mill, rotating arms, sails mounted thereon, stops for the sails, a relatively fixed plate having an annular recess, an expansible hoop located in the recess, means for expanding said hoop and for holding the same expanded, means for contracting the hoop and means operatively connecting said hoop with the stops for the sails.

7. In a wind mill, rotating arms, sails mounted thereon, stops for the sails, a relatively fixed plate having an annular recess with openings therein, a pulley supported thereby a hoop having overlapping ends provided with pins which are located in said openings, a spring attached to one of said pins and a pull wire attached to the said pin and passing over said pulley and means operatively connecting the hoop with the stops for the sails.

8. In a wind mill, rotating arms, sails mounted thereon, stops for the sails, a relatively fixed plate having an annular recess with openings therein, one of which is radially disposed and the other substantially tangentially disposed, an expansible hoop having overlapping ends provided with pins which are located in said openings, a spring connecting with the pin located in the tangentially disposed opening, a wire attached to said pin and a means operatively connecting said hoop with the stops for the sails.

9. In a wind mill, rotating arms, sails mounted thereon, stop-rods for the sails, a relatively fixed plate, slides mounted thereon, means operatively connecting said slides with the stop-rods and means for moving said slides and swinging the stop-rods.

10. In a wind mill, rotating arms, sails mounted thereon, stop-rods for the sails, slides supported for rotation about a fixed axis, a relatively fixed plate, means mounted upon said plate for moving the slides and means operatively connecting said slides with said stop rods.

11. In a wind mill, arms mounted for rotation about an axis, a sail pivoted between said arms, a stop-rod for the sail, means for manually moving said stop-rod and a wind operated means for moving said stop-rod.

12. In a wind mill, arms mounted for rotation about an axis, a sail pivoted between said arms, a swinging stop-rod for the sail carried by the arms, means for swinging said stop-rod manually and an elevated wind-actuated means operatively connected with the stop-rod for swinging the same.

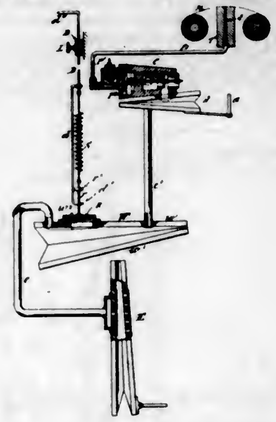
13. In a wind mill, arms mounted for rotation about an axis, a sail pivoted between said arms, a swinging stop-rod for the sail, a relatively fixed plate journaled upon the shaft of the mill and a vane fixed to said plate, said plate having wind-operated means operatively connected with the stop-rod for swinging the same.

14. In a wind mill, arms mounted for rotation about an axis, a sail pivoted between the arms, a swinging stop-rod for the sail carried by the arms, a relatively fixed plate journaled upon the shaft of the mill, a vane fixed to said plate, vanes pivoted to said plate at opposite sides of the first said vane, means for holding the last said vanes at an angle to the first said vane and means connecting the last said vanes with the stop-rod.

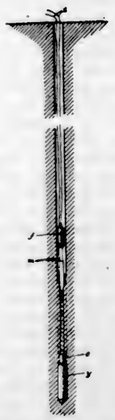
15. In a wind mill, arms mounted for rotation about an axis, a sail pivoted between the arms, a swinging stop-rod for the sail carried by the arms, a relatively fixed plate journaled upon the shaft of the mill, wind-operated means carried by the said plate, an expansible hoop carried by the plate and being operatively connected with said means and means operatively connecting said hoop with said stop-rod.

866,837. RELIEF-VALVE FOR TENSION-RESERVOIRS FOR PNEUMATIC APPARATUS. GEORGE P. BRAND, New York, N. Y. Filed Feb. 10, 1906. Serial No. 300,431.

In pneumatic apparatus, the combination of a tension reservoir, exhaust mechanism connected therewith, a relief valve in said reservoir, a shouldered stem attached to said relief valve, a spring attached at one extremity to said valve stem and at the other to an adjustable rod, said adjustable rod formed with an extension projecting beyond the said spring and adapted to engage with the shoulder on the valve stem, and means for holding said adjustable rod in a prescribed position for the purpose described.



866,838. APPARATUS FOR FIRING EXPLOSIVES IN WELLS. LUKE H. BROADWATER, Findlay, Ohio, assignor to The E. I. du Pont de Nemours Powder Company, Wilmington, Del., a Corporation of New Jersey. Filed June 24, 1907. Serial No. 380,585.



1. In an apparatus for firing explosives, in combination, a chamber containing the firing fuse, a chamber, containing an explosive, there being a space between said last mentioned chamber and the fuse chamber, firing wires, adapted to be ruptured by said explosive and electrical connection between said firing wires and the fuse and explosive.

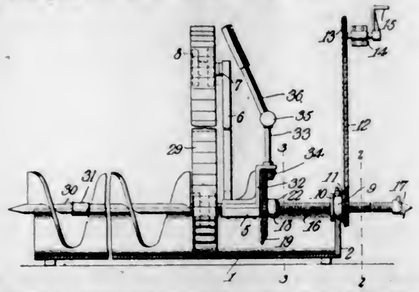
2. In an apparatus for firing explosives, in combination, a chamber containing the firing fuse, a chamber containing an explosive, there being a space between said last mentioned chamber and the fuse chamber, suspension wires, adapted to be ruptured by said explosive and electrical connection to said fuse and explosive.

3. In an apparatus for firing explosives, in combination, a chamber containing the firing fuse, a chamber containing an explosive, said first mentioned chamber being suspended from the last mentioned chamber by firing wires—firing wires supporting the first mentioned chamber, electric connection between the firing wires to the first chamber and the explosive and the firing wires suspending the second

chamber, and electrical connection between said last mentioned wires and the fuse.

4. In an apparatus for firing explosives, in combination, a chamber containing the firing fuse, a chamber containing an explosive, suspension wires connecting said chambers, suspension wires for the chamber containing the explosive and electrical connection to said fuse and explosive, said explosive controlling the connection of the suspension wires of the chamber containing the explosive.

866,839. EARTH-AUGER. FRANK BROWN, Toledo, Ohio. Filed Aug. 22, 1906. Serial No. 331,679.



1. In an apparatus of the character described the combination with a body; of a feed screw therein, an auger, driving mechanism interposed between and connected to the feed screw and auger, and means for automatically shifting the driving mechanism out of engagement with the feed screw when the auger is subjected to resistance of a predetermined degree.

2. In an apparatus of the character described the combination with a body; of a feed screw therein, and auger, driving mechanism interposed between and connected to the feed screw and auger, means for automatically shifting the driving mechanism out of engagement with the feed screw when the auger is subjected to resistance of a predetermined degree, and means for automatically moving said mechanism into engagement with the screw when said pressure is removed.

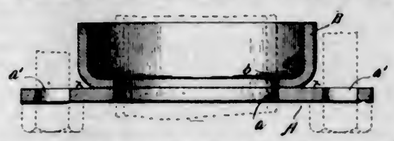
3. In an apparatus of the character described the combination with a troughshaped body; of a feed screw mounted therein, a cross head, an auger rotatably mounted within the body, driving mechanism carried by the cross head and connected to the auger, keys upon the screw, resilient means for holding the keys normally in engagement with the driving mechanism.

4. In an apparatus of the character described the combination with a trough-shaped body; of a feed screw mounted therein, a cross head, an auger rotatably mounted within the body, driving mechanism carried by the cross head and connected to the auger keys upon the screw, resilient means for holding the keys normally in engagement with the driving mechanism, and an elevator operated by the driving mechanism and extending into the body.

5. In an apparatus of the character described the combination with a trough shaped body; of a box rotatably mounted within said body, a feed screw rotatably mounted within the box, a cross head, an auger rotatably mounted within the body, driving mechanism carried by the cross head and connected to the auger, keys upon the screw, resilient means for holding the keys normally in engagement with the driving mechanism, an elevator operated by the driving mechanism and extending into the body, and means for rotating the box.

6. In an apparatus of the character described the combination with a body; of a feed screw mounted therein, a key extending therefrom, a gear having an interior annular groove adapted to receive the key, and a seat for said key and communicating with the groove, an auger connected to the gear and rotatable therewith, and a spring within the gear and holding the key normally disposed within its seat.

866,840. CLAMPING-RING. JAMES CLARK, Bradford, Pa., assignor to S. R. Dresser Manufacturing Company, Bradford, Pa. Filed Dec. 17, 1906. Serial No. 348,303.

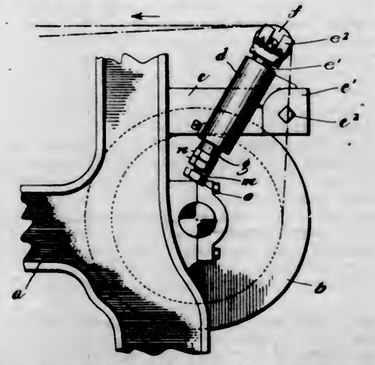


1. A clamping ring for pipe couplings comprising a substantially flat plate member having a central pipe aperture and bolt holes and a separately formed flange member having an annular portion disposed substantially perpendicularly to the plate member, and having one end bent laterally to provide a reinforcing flange engaging portions of said plate member around the pipe aperture thereof and forming a central aperture registering with the pipe aperture of the plate member, substantially as described.

2. A clamping ring for pipe couplings composed of wrought metal, comprising a substantially flat plate member, having a central pipe aperture and bolt holes formed therein and a separately formed flange member having an annular portion disposed substantially perpendicularly to the plate member and having at one end inwardly curved portions forming a reinforcing flange substantially parallel to said plate member, and engaging portions of one face thereof around the said pipe aperture, said inwardly curved portions forming a pipe aperture registering with the pipe aperture in said plate member, substantially as described.

3. A clamping ring for pipe couplings composed of wrought metal, and comprising a plate member provided with a central pipe aperture and bolt holes and a separately formed flange member having an annular portion substantially perpendicular to the plate member and having portions at one end thereof bent into position parallel with said plate member to form a reinforcing flange, said plate member and said flange member being welded at the plane of contact between said plate member and said reinforcing flange, substantially as described.

866,841. ADJUSTABLE EASE-OFF FOR WHIP-ROLLS. GEORGE S. COGSWELL, Fitchburg, Mass. Filed Oct. 18, 1906. Serial No. 339,465.



1. In an ease-off for looms, the combination of a casing, a rod therein, a bushing into which the rod projects, a spring supported by the bushing and adapted normally to force the rod upwardly in the casing, and a whip-roll or bar-support carried by the rod.

2. In an ease-off for looms, the combination of a casing, a rod therein, a bushing into which the rod projects, a spring supported by the bushing and adapted normally to force the rod upwardly in the casing, a whip-roll or bar-support carried by the rod, means for securing the bushing in adjusted positions in the casing, and adjustable means co-acting with the bushing for limiting the upward motion of the rod.

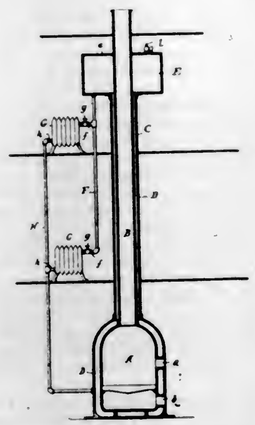
3. In an ease-off for looms, the combination of a casing, a rod therein, a bushing into which the rod projects, a spring supported by the bushing and adapted normally to force the rod upwardly in the casing, a whip-roll or bar-support carried by the rod, and means for securing the bushing in adjusted positions in the casing to adjust the position of the spring.

4. In an ease-off for looms, the combination of a casing, a rod movably mounted therein, a bushing at the lower end of the casing, a spring supported by the bushing and adapted normally to force the rod upwardly in the casing, a support for a whip-roll or bar carried by the rod, and adjustable means co-acting with the bushing for limiting the upward motion of the rod to adjust the tension of the spring.

5. In a loom, the combination of a bracket located above the yarn-beam of the loom, a casing removably mounted on the bracket in inclined position, and a resiliently supported rod mounted in said casing having a U-shaped yoke for supporting a whip-roll or bar.

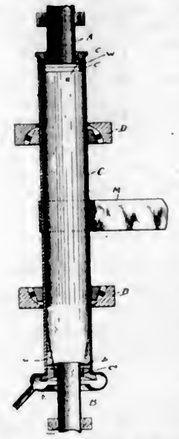
6. In an ease-off for looms, the combination of a movably mounted rod, a bushing at the lower end thereof, a spring supported by the bushing and adapted normally to force the rod in one direction, a support for a whip-roll or bar carried by the rod, and adjustable means co-acting with the bushing for limiting the motion of the rod to adjust the tension of the spring.

866,842. HOT-WATER HEATING SYSTEM. GEORGE S. COMSTOCK, Mechanicsburg, Pa. Filed June 1, 1903. Serial No. 159,667.



The combination with a furnace, its ash pit and smoke stack, the latter extending through the floor of a building, of a casing inclosing the furnace, ash pit, and smoke stack spaced a short distance therefrom, to form a continuous thin water jacket entirely surrounding the heating apparatus and smoke stack so as to form a heat insulating casing of water about said ash pit, furnace and smoke stack, except at the coal, ash and draft holes for the furnace and the upper end of the smoke stack, an expansion tank supported at the upper end of the casing and with which said water space communicates, a covering for said expansion tank through which the smoke stack passes and with which it is in engagement, a radiator below the said tank, a pipe leading from the tank to the radiator, and a pipe leading from the radiator to the lower portion of the water space, substantially as set forth.

866,843. MANUFACTURE OF SULFURIC ACID. FREDERICK G. COTTRELL, Berkeley, Cal., assignor of one-half to Harry East Miller, Oakland, Cal. Filed Jan. 4, 1906. Serial No. 294,523.



1. That step in the manufacture of sulfuric acid by the contact method, which consists in producing in the contact gases after coming from the contact mass, liquid particles of sulfuric acid representing substantially the whole of the sulfur trioxid formed in said gases by the contact mass, by suitably varying the humidity and temperature of said gases.

2. That step in the process of obtaining sulfuric acid by the contact method, which consists in converting substantially the whole of the sulfur trioxid formed in the gases by the action of the contact mass, into liquid particles of sulfuric acid, by adding aqueous vapor to the mixture after leaving the contact mass.

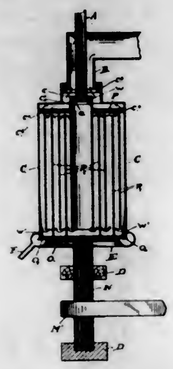
3. The process of obtaining sulfuric acid by the contact method, which consists, first, in producing in the contact gases after coming from the contact mass, liquid particles of sulfuric acid representing substantially the whole of the sulfur trioxid formed in said gases by the contact mass, by suitably varying the humidity and temperature of said gases, and, second, in separating and collecting said particles.

4. The process of obtaining sulfuric acid by the contact method, which consists, first, in converting substantially the whole of the sulfur trioxid formed in the gases by the action of the contact mass, into liquid particles of sulfuric acid, by adding aqueous vapor to the mixture after leaving the contact mass, and, second, in separating and collecting said particles.

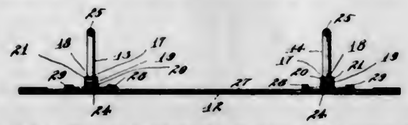
866,844. APPARATUS FOR SEPARATING SULFURIC ACID. FREDERICK G. COTTRELL, Berkeley, Cal., assignor of one-half to Harry East Miller, Oakland, Cal. Filed Jan. 4, 1906. Serial No. 294,524.

In a centrifugal apparatus for the separation of non-gaseous particles from a gaseous body in which they are held in suspension, a rotating shell having within it a plurality of concentric spaced cylinders forming a series of functionally operative annular channels for separation, a non-rotating pipe leading into said shell, and a non-rotating pipe issuing therefrom, both pipes communicating with said channels, a liquid seal guarding the fitting of each pipe against the escape of gas from the shell, and

means for discharging the separated non-gaseous particles from said channels.



866,845. LOOSE-LEAF BINDER. JAMES C. DAWSON, St. Louis, and THOMAS E. HEETER, Maplewood, Mo., assignors to Sieber & Trussell Mnfg. Co., a Corporation of Missouri. Filed Apr. 18, 1907. Serial No. 368,899.

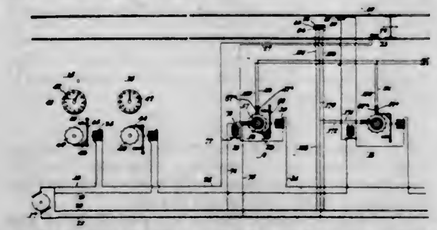


1. In a temporary binder of the form herein shown and described, in combination, a rigid plate, a pair of lugs projecting upwardly from the plate, and a pair of complementary arch members pivotally attached to such lugs and having heels for engaging the plate when the arch is closed.

2. In a temporary binder, in combination, a metal plate, a pair of lugs struck up from the plate, a pair of complementary arch members pivotally attached to such lugs and having inwardly projecting heels for bearing upon the plate when the arch is closed.

3. In a loose leaf binder, in combination, a plate, a pair of mating arch members pivotally attached to the plate and adapted to have their inner ends bear thereupon when closed.

866,846. ELECTRIC LOCOMOTIVE-CONTROLLER. CHARLES O. DAYTON, Washington, Iowa. Filed Oct. 8, 1906. Serial No. 337,999.



1. In electric-signaling and safety systems for railways, an electro-magnetically actuated indicator, a circuit extending therefrom and including a series of road bed contacts, traveling contacts arranged to engage the road-bed contacts, and means for maintaining the circuit closed around all of the contacts except that set which the train is approaching.

2. In electric signaling and safety systems for railways, an indicator, an electro-magnet for actuating the same, a circuit extending throughout the length of the road and provided with sets of contacts normally spaced from each other, the sets of contacts being disposed at intervals, train carried contacts arranged to engage the road bed contacts to close the circuit of the electro-magnet, and electro-magnetically actuated means for keeping the circuit open only at that set of contacts which the train is approaching.

3. In electric railway signaling and safety systems, traffic rails divided into blocks, road-bed contacts arranged in each block, train carried contacts arranged to engage the road bed contacts, an electro-magnetically actuated indicator, a plurality of electro-magnetically actuated circuit controllers of which there is one in each block, an energized circuit extending throughout the length of all of the blocks, and means under the joint control of the train carried contacts and the circuit controllers for maintaining the circuit closed except at that set of contacts which the train is approaching.

4. In electric signaling and safety systems for railways, traffic rails divided into blocks, a set of road bed contacts in each block, an indicator, an electro-magnet for actuating the same, an energized circuit connected to the indicator and extending throughout the length of all of the blocks, and means for maintaining the circuit closed in every block except that one which the train is approaching.

5. In electric signaling and safety systems for railways, traffic rails divided into blocks, road bed contacts arranged in sets, there being one set in each block, an energized circuit extending throughout the length of all of the blocks, an electro-magnetically actuated means arranged in each block for rendering the contacts active terminals of the system and shunting the circuit in advance of such contacts, and an electro-magnetically operated indicator connected in the circuit.

6. In electric signaling and safety systems for railways, traffic rails divided into blocks, a set of road bed contacts arranged in each block, an energized circuit extending throughout the length of all of the blocks, circuit controllers arranged in each block for determining the shunting of the circuits in advance of the contacts, train carried contacts arranged to engage the road bed contacts, and an electro-magnetically actuated indicator connected in the circuit.

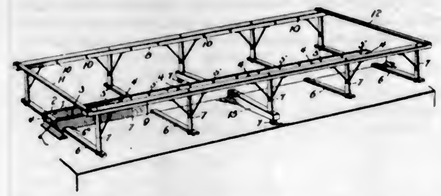
7. In railway signaling and safety systems, traffic rails divided into blocks, a pair of road bed contacts arranged in each block, a step by step circuit controller arranged in each block, and controlling the circuit of an adjacent block, an energized circuit extending throughout the length of all of the blocks, an electro-magnetically actuated indicator connected in said circuit, and train carried contacts for engaging the road-bed contacts.

8. In an electric railway signaling and safety system, traffic rails divided into blocks, a pair of road bed contacts arranged in each block, electro-magnetically actuated circuit controllers arranged in each block, and controlling the circuit of the contacts of an adjacent block, an energized circuit extending throughout the length of all of the blocks, an electro-magnetically actuated indicator connected in the circuit, and train carried contacts for engaging the road bed contacts.

9. An indicating mechanism for railway systems, comprising an indicator arranged at a suitable point on the system, an electro-magnet for actuating said indicator, a plurality of sets of contacts arranged at different points on the road bed, an energizing circuit extending through the electro-magnet, electro-magnetically actuated means for rendering the successive contacts the active terminals of the circuit and shunting the circuit around the remaining contacts, and train carried contacts for engaging and closing the circuit at the successive road bed contacts.

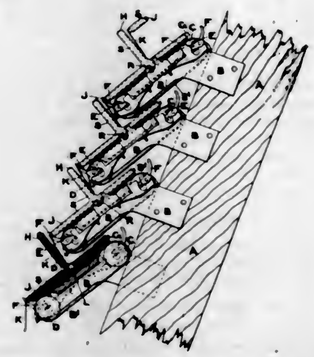
10. In block signaling and safety systems for railways, a pair of sets of road bed contacts arranged in each block, a pair of sets of train carried contacts arranged to engage the road bed contacts, an energized circuit entending throughout the length of all of the blocks, circuit controlling devices in each block, the circuit controlling devices being operatively connected between the energized circuit and the first set of contacts, and each circuit controlling device serving to control the circuit of the second set of contacts belonging to the next adjacent block, and a signaling or safety means carried by the train and connected to the second set of train carried contacts.

866,847. LAUNCHING APPARATUS FOR BOATS. CHARLES DICKENSON, Portland, Oreg. Filed Oct. 29, 1906. Serial No. 341,046.



A combined cradle and chute for launching a boat from the deck of a ship, comprising a frame having a middle cross-piece, or truck-block, mounted upon a separable support, or block, provided with casters near its ends; a keel-rest and guide extending normally lengthwise of the frame; top-rails; standards rising from cross-rails at the bottom of said frame and supporting top-rails at the top of said frame; anti-friction rollers in the inner faces of said top-rails; and end-rails loosely secured to said top-rails at, or near, their ends, to permit said end-rails to be easily and quickly knocked or forced from place when it becomes necessary to release the boat from the cradle; substantially as specified.

866,848. APPARATUS FOR CLEANING AND SEPARATING SEEDS AND THE LIKE. FREDERICK M. DOSSOR, Doncaster, England. Filed June 7, 1907. Serial No. 377,768.



1. In a seed separator, the combination, with a main frame, of a series of brackets secured thereto, pairs of revoluble rollers and endless belts arranged in the form of steps and mounted in the said brackets, T-shaped frames carried by the said brackets, and hopper boards carried by the said T-shaped frames and arranged over the said belts.

2. In a seed separator, the combination, with a main frame, of a series of brackets secured thereto, pairs of revoluble rollers and endless belts arranged in the form of steps and mounted in the said brackets, T-shaped frames carried by the said brackets, hopper boards slidable in the said T-shaped frames and provided with openings for the seed over the middle parts of the said belts, and curtains secured to the lower ends of the said hopper boards for guiding the seeds into the said openings.

3. In a seed separator, the combination, with a main frame, of a series of brackets secured thereto and provided with slots, pairs of rollers provided with bearing spindles journaled in the said slots, spring trigger caps retaining the said spindles in the said slots, endless belts passing over the said pairs of rollers and arranged in the form of steps, and hopper boards arranged between the said belts.

866,849. METHOD AND PROCESS FOR THE RECOVERY OF COPPER AND OTHER METALS FROM THEIR ORES. CHARLES H. EHRENFELD and JACOB R. GROVE, York, Pa. Filed Sept. 7, 1906. Serial No. 333,624.

1. The method of recovering metal from sulfid ores of metals capable of forming various oxygen compounds which consists in; heating the ore in an atmosphere having a limited supply of oxygen, for the purposes of expelling sulfur and converting metalliferous substances of the ore into the lower oxygen compounds of the metal; dissolving the metal out of the ore into a solution of a suitable solvent agent; and electrically depositing the metal therefrom.

2. The method of recovering metal from sulfid ores of metals capable of forming various oxygen compounds which consists in; heating the ore in an atmosphere having a limited supply of oxygen, for the purposes of expelling sulfur and converting metalliferous substances of the ore into the lower oxygen compounds of the metal; dissolving the metal out of the ore by electrolysis into a solution of a suitable solvent agent; and electrically depositing the metal therefrom.

3. The process for the recovery of metal from sulfid ores of metals capable of forming various oxygen compounds which consists in; heating the ore in an atmosphere having a limited supply of oxygen for the purposes of expelling sulfur and converting metalliferous substances of the ore into the lower oxygen compounds of the metal; dissolving the metal out of the ore into an aqueous solution of ammonium chlorid; and electrically depositing the metal therefrom.

4. The process for the recovery of metal from sulfid ores of metals capable of forming various oxygen compounds which consists in; heating the ore in an atmosphere having a limited supply of oxygen for the purposes of expelling sulfur and converting metalliferous substances of the ore into the lower oxygen compounds of the metal; dissolving the metal out of the ore by electrolysis into an aqueous solution of ammonium chlorid; and electrically depositing the metal therefrom.

5. In a process for the recovery of metal from sulfid ores of metals capable of forming various oxygen compounds; heating the ore in an atmosphere having a limited supply of oxygen for the purposes of expelling sulfur and converting metalliferous substances of the ore into the lower oxygen compounds of the metal; dissolving out the metal.

6. The process for the recovery of copper from sulfid ores which consists in; heating the ore in an atmosphere having a limited supply of oxygen for the purposes of expelling sulfur and converting the copper of the ore into the lower oxygen compounds of copper; dissolving the metal out of the ore into an aqueous solution of a suitable solvent agent; and electrically depositing the metal therefrom.

7. The process for the recovery of copper from sulfid ores, which consists in; heating the ore in an atmosphere having a limited supply of oxygen for the purposes of expelling sulfur and converting the copper of the ore into the lower oxids of the copper; dissolving the metal out of the ore into an aqueous solution of a suitable solvent agent; and electrically depositing the metal therefrom.

8. The process for the recovery of metal from sulfid ores of metals capable of forming various oxygen compounds which consists in; heating the ore in an atmosphere having a limited supply of oxygen for the purposes of expelling sulfur and converting metalliferous substances of the ore into the lower oxygen compounds of the metal placing the ore in bulk in a deposition bath, in a solution of a suitable solvent agent, upon, around or other-

wise operatively contiguous to a suitable anode in operative relation with a suitable cathode, energizing the circuit and depositing the metal upon the cathode.

9. In a process for the recovery of metal from sulfid ores of metals capable of forming various oxygen compounds which consists in; heating the ore in an atmosphere having a limited supply of oxygen for the purposes of expelling sulfur and converting metalliferous substances of the ore into the lower oxygen compounds of the metal; placing the ore in bulk in a deposition bath in a solution of ammonium chlorid, upon, around or otherwise operatively contiguous to a suitable anode in operative relation with a suitable cathode; energizing the circuit and depositing the metal upon the cathode.

10. In a process for the recovery of metal from sulfid ores of metals capable of forming various oxygen compounds; heating the ore in an atmosphere having a limited supply of oxygen for the purpose of converting metalliferous substances of the ore into the lower oxygen compounds of the metal; dissolving the metal out of the ore into an aqueous solution of a suitable solvent agent; and electrically depositing the metal therefrom.

11. In a process for the recovery of metal from sulfid ores of metals capable of forming various oxygen compounds; heating the ore in an atmosphere having a limited supply of oxygen for the purposes of expelling sulfur and converting metalliferous substances of the ore into the lower oxids of the metal; dissolving the metal out of the ore into an aqueous solution of a suitable solvent agent; and electrically depositing the metal therefrom.

12. The method of recovering metal from sulfid ores of metals capable of forming more than one oxid which consists in; heating the ore in an atmosphere having a limited supply of oxygen so as to expel sulfur from metalliferous substances of the ore, and so as to convert said metalliferous substances into the lower oxids of the metal to be recovered; dissolving the metal out of the ore into a solution of a suitable solvent agent; and electrically depositing the metal therefrom.

13. The method of recovering metal from sulfid ores of metals capable of forming various oxygen compounds which consists in; heating the ore in an atmosphere having a limited supply of oxygen, so as to expel sulfur from metalliferous substances of the ore, and so as to introduce a predetermined proportion of oxygen into combination with said metalliferous substances; dissolving the metal out of the ore into a solution of a suitable solvent agent; and electrically depositing the metal therefrom.

14. The method of recovering metal from sulfid ores of metals capable of forming more than one oxid which consists in; heating the ore in an atmosphere having a limited supply of oxygen, so as to expel sulfur from metalliferous substances of the ore, and so as to introduce a predetermined proportion of oxygen into combination with said metalliferous substances; dissolving the metal out of the ore into a solution of a suitable solvent agent; and electrically depositing the metal therefrom.

866,850. PARAFORMALDEHYDE AND PEROXID MIXTURE. ARTHUR EICHENGRÜN, Düsseldorf, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed June 2, 1906. Serial No. 319,964. (Specimens.)

1. A composition of matter generating gaseous formaldehyde and water vapor when treated with water, and consisting of a mixture of polymeric formaldehyde with metal peroxids having an alkaline reaction, substantially as hereinbefore described.

2. A composition of matter generating gaseous formaldehyde and water vapor when treated with water, and consisting of a mixture of paraformaldehyde with metal peroxids having an alkaline reaction, substantially as hereinbefore described.

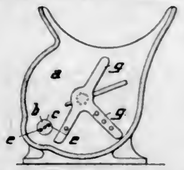
3. A composition of matter generating gaseous formaldehyde and water vapor when treated with water, and consisting of a mixture of paraformaldehyde with barium peroxid, substantially as hereinbefore described.

866,851. GENERATION OF FORMALDEHYDE GAS. ARTHUR EICHENGRÜN, Düsseldorf, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Mar. 6, 1907. Serial No. 360,907.

1. The process of generating gaseous formaldehyde, which consists in treating an aqueous formaldehyde solution with metallic peroxids having an alkaline reaction, substantially as described.

2. The process of generating gaseous formaldehyde, which consists in treating an aqueous formaldehyde solution with barium peroxid, substantially as described.

866,852. CORE-PRESSING APPARATUS. PETTER ERIKSSON, Lund, and SÖREN P. NIELSEN, Vesteras, Sweden. Filed May 14, 1906. Serial No. 316,788.

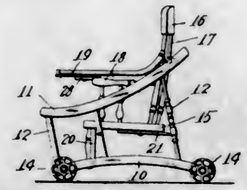


1. In a core forming machine the combination with a receptacle for core material having openings therethrough, a core mold adjacent one of the openings, a reciprocable plunger in the receptacle to force material into the mold, in combination with means to break up the end of the core adjacent the plunger as the plunger is withdrawn from the mold.

2. In a machine such as described, the combination with the core forming plunger and a core mold, of means on the end of the plunger to break up the end of the core adjacent the plunger as the latter is withdrawn from the mold.

3. In a machine such as described, the combination with the core forming plunger and a core mold of inclined pins on the end of the plunger to break up the end of the core as the plunger is withdrawn from the mold.

866,853. CHILD'S CHAIR. ERASTUS S. FRENCH, East Princeton, Mass., assignor to Arthur S. Stuart, East Princeton, Mass. Filed Sept. 26, 1903. Serial No. 174,751.



1. In a child's chair, the combination of a supporting frame comprising four corner pieces with cross-pieces or rounds, a pivotally mounted seat which can be swung back into the frame-work when the chair is to be used for a low chair, and means for locking the seat in its raised position, comprising two catches engaging the two back uprights, one of said catches being operable independently of the o ther and serving to hold the other of said catches in locked position.

2. In a child's chair, the combination of the frame-work, comprising the four corner pieces, cross-pieces or rounds, a pivoted seat which can be swung back into the frame-work of the chair when the chair is to be used as a low chair, and means for locking the seat in raised position, comprising a spring-catch engaging one of the rear corner pieces, and an independently swinging catch engaging the other rear corner piece and serving to lock the first named catch in operative position.

3. As an article of manufacture, a convertible chair comprising a rigid frame-work consisting of corner posts and connecting rounds or cross-pieces, a seat pivoted near its front in the framework so that it can be turned back inside of the framework and be supported by one of the chair-rounds when the chair is to be used as a low chair, and a locking mechanism for connecting the rear side of the chair-seat to the framework when the chair is to be used as a high chair, said locking mechanism comprising a spring-pressed lever adapted to automatically engage a socket in one of the rear corner posts, and a pivoted lever, one end of which engages a socket in the other one of the corner posts, while the opposite end of said lever will hold the spring-pressed lever in locked position.

4. In a chair, the combination of a chair frame-work, a seat portion pivotally connected by links to the front legs of the chair frame-work so that the seat portion may be turned back into the chair frame-work and will be supported by an engagement of its back with one of the rounds thereof when a low chair is desired and a locking mechanism for holding the seat in raised position comprising a spring pressed locking lever for engaging a notch at one side of the chair frame-work and a transverse lever, one end of which engages a notch at the other side of the chair frame-work, while its other end locks the spring pressed lever in place.

5. A chair having rear and front legs, a round connecting the rear legs near the bottom thereof, said legs being free of rounds above said round, and a seat having a back, the front end of said seat being pivotally connected with the front legs at points below the tops thereof, whereby the seat may swing backwardly and be contained substantially entirely between the rear legs entirely below the top thereof, and the back thereof may rest against said round.

6. As an article of manufacture, a chair having front and rear legs, a seat having a foot-rest and back, links extending downwardly from the front part of said seat and connected with the legs at points below their tops, a round connecting the rear legs near the bottom thereof, said legs being free of rounds above said round, whereby the seat may swing backwardly and be substantially contained with its foot-rest within the space between the front and rear legs and entirely below the top thereof, the back resting against said round.

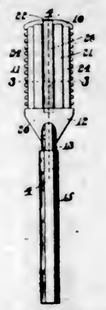
7. In a chair, the combination of front and rear legs, a round connecting said rear legs near the bottom thereof, said rear legs otherwise being free of rounds, a seat having a back, a pair of links secured to the front of said seat and extending downwardly therefrom, the lower ends of said links being pivotally connected with the front legs at points below the tops thereof, and movable means near the tops of the rear legs for holding the seat in substantially horizontal position, said means being movable so as to permit the seat to fold back and be contained substantially entirely within the space between the front and rear legs with its back resting against said round.

866,854. SAFETY-RAZOR. DANIEL W. GAGE, Cambridge, Mass. Filed Apr. 17, 1905. Serial No. 255,872.

1. In a safety razor, the combination of a guard plate provided with a handle engaging shank and a transverse shoulder adjacent to said shank extending substantially from edge to edge of said guard plate, a removable blade one end of which abuts said shoulder and extends toward the end of said guard plate, and means for clamping said blade to said guard plate.

2. In a safety razor, the combination of a guard plate provided with a handle engaging shank and a transverse shoulder adjacent to said shank extending substantially from edge to edge of said guard plate, a removable blade one end of which abuts said shoulder and extends toward the end of said guard plate, and means coöperating with said guard plate for clamping said blade thereto.

3. In a safety razor, the combination of a guard plate provided with a handle engaging shank extending longitudinally thereof and a transverse shoulder adjacent to said shank extending substantially from edge to edge of said guard plate, a removable blade one end of which abuts said shoulder and extends toward the end of said guard plate, and means coöperating with said guard plate for clamping said blade thereto.



4. In a safety razor, the combination of a guard plate provided with a handle engaging shank extending longitudinally thereof and a longitudinal shoulder and a transverse shoulder adjacent to said shank extending substantially from edge to edge of said guard plate, a removable blade coöperating with said shoulders, and a member cooperating with said guard plate to clamp said blade in position.

5. In a safety razor, the combination of a guard plate provided with a handle engaging shank extending longitudinally thereof and a clamping plate coöperating therewith one of said plates being provided with a transverse shoulder adjacent to said shank extending substantially from edge to edge of said guard plate and a longitudinal shoulder, a removable blade coöperating with said shoulders, and means for locking said plates together to clamp said blade in position.

6. In a safety razor, the combination of a guard plate provided with a longitudinal recess, two blades provided with depressed portions overlapping each other, and a clamping plate provided with a projection coöperating with said depressed portion of said blades.

7. In a safety razor, the combination of a guard plate provided with a longitudinal recess and having a socket in one end and a notch in the opposite end, removable blades provided with shouldered portions adapted to fit said recess, a clamping plate provided with a tongue to fit said socket in the guard plate, and a lip to fit the notch thereof.

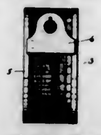
8. In a safety razor, the combination of a guard plate provided with a longitudinal recess and having a socket in one end, removable blades provided with shouldered portions adapted to fit into said recess, a clamping plate provided with a tongue to fit said socket in the guard plate, and means for connecting the opposite ends of said clamping plate and said guard plate together.

9. In a safety razor, the combination of a guard plate provided with a socket in one end and a clamping plate provided with a tongue to fit said socket, one of said plates having a longitudinal recess therein, two blades overlapping each other and provided with depressed portions adapted to rest in said recess, and means for connecting the opposite ends of said clamping plate and said guard plate together.

10. In a safety razor, the combination of a guard plate provided with a handle-engaging shank, a transverse shoulder, a socket extending inward from said shoulder, a depression extending longitudinally thereof, and a notch in the end opposite to said handle-engaging shank; a removable blade one end of which abuts said shoulder and which is provided with a longitudinal projection fitting said depression; and a clamping plate one end of which abuts said shoulder adapted to retain said blade in position provided with a tongue at one end fitting said socket and at the opposite end with an overturned lip adapted to engage said notch.

11. In a safety razor, the combination of a guard plate provided with a handle-engaging shank and having a shoulder extending transversely of said plate adjacent to said shank; a longitudinal recess extending longitudinally of said guard plate and terminating in a socket extending between said shoulder toward said handle-engaging shank; removable blade provided with a depressed portion fitting said recess; and a clamping plate provided with a depression coöperating with said depressed portion of said blade and engaging said socket at one end and provided with means at the other end to lock said clamping plate to said guard plate.

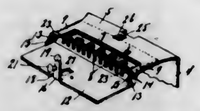
866,855. SPOOL AND THREAD PACKAGE. GEORGE E. GAY, Malden, Mass., assignor to The Linen Thread Company, New York, N. Y., a Corporation of New Jersey. Filed Nov. 22, 1905. Serial No. 288,537.



1. As a new article of manufacture, a thread package comprising a spool having a cylindrical body and two substantially parallel sides; a hole through the body in line with its axis; means in said body for holding the ends of a plurality of threads; a plurality of separate threads secured at one end to said cylindrical body and wound in parallel relation in concentric layers upon the body to a diameter substantially equal to that of the parallel sides, the outside ends of the threads being secured in a clip substantially the width of said spool in parallel relation in the same plane, said clip adapted to be secured on the outside of the circumference of the package.

2. As a new article of manufacture, a circular thread package having substantially parallel outside faces, and consisting of a plurality of separate threads wound in parallel relation in successive and concentric layers, and means for securing the outside ends of the threads in parallel relation and preventing their unwinding; said means consisting of a clip substantially the width of said package; and a pin passing through said clip into said package, and engaging said clip.

866,856. SAFETY-RAZOR. EDWARD B. GIBFORD, Adrian, Mich., assignor to American Safety Razor Co., Adrian, Mich., a Corporation. Filed Apr. 24, 1905. Serial No. 257,039.



1. In a safety razor, the combination with a suitable casing having a blade supporting plate provided with a flat surface adapted to support a flat blade, projecting end portions at the front edge thereof, and a guard at the front edge of said plate for supporting the cutting edge of the blade interposed between said projecting end portions, a clamping plate hinged at its front edge to the projecting end portions of the supporting plate and adapted to swing into clamping relation therewith to engage the blade and clamp it in position upon said supporting plate.
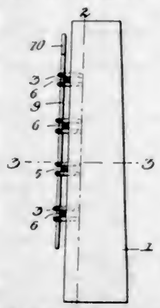
2. In a safety razor, the combination of a flat supporting plate adapted to support a flat blade, a clamping plate hinged to one margin of the supporting plate to swing into parallel relation thereto and forcibly engage the blade to clamp it in place upon the supporting plate, the area of the clamping plate being such as to cover the entire surface of the blade excepting its cutting edge, and means for retaining the clamping plate in position.

3. A safety razor, comprising a flat blade supporting plate adapted to support a flat blade, stop lugs on the forward margin of said plate to engage the blade, a clamping plate hinged to the front of the supporting plate to swing into parallel relation therewith, and to engage the blade to hold it in position upon said supporting plate, and a spring arm adapted to engage the back of the blade to temporarily maintain it in place in advance of the engagement of the blade by said clamping plate.

4. In a safety razor, the combination of a suitable casing having stop lugs to engage the edge of the blade, a flat supporting plate, a flat blade lying upon said plate, a guard supporting the edge of said blade, a clamping plate hinged to the forward edge of the supporting plate to swing into parallel relation therewith and engage the upper face of the blade to clamp it onto said supporting plate, and a catch for locking the clamping plate when swung into engagement with the blade.

5. In a safety razor, the combination of the supporting plate having projecting end portions which extend beyond the body of the plate, a thin, flat blade adapted to lie upon said plate and upon said end portions, a guard for supporting the edge of the blade interposed between the extended end portions of the supporting plate, a clamping plate hinged to the projecting end portions of the supporting plate to swing onto the blade lying thereon, and a catch for locking the clamping plate to hold the blade in position.

866,857. FENCE-POST. JOSEPH H. GRAHAM, Kempton, Ind. Filed May 29, 1907. Serial No. 376,334.



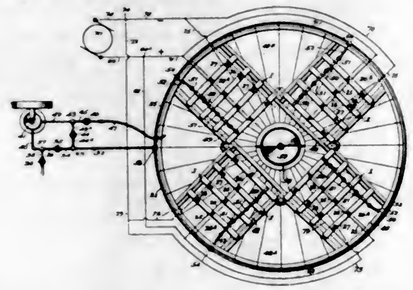
An artificial stone post composed of moldable material and having a plurality of staples partially embedded therein, said staples being each of double formation and consisting of a single length of material bent into shape to provide a pair of substantially U-shaped main portions arranged in spaced order one above the other and projecting beyond the face of the post to present a pair of eyes having a line-wire receiving space between them, said staple having at its inner end angularly disposed anchoring portions, one of said anchoring portions forming a connection between the main portions of the staple and being of substantially U-shape to hold them in spaced relation, and a locking rod removably inserted through all of the staples for confining the line-wires within the spaces.

866,858. APPARATUS FOR DEPOSITING METALS. WILBUR A. HENDRYX, Denver, Colo. Filed June 30, 1905. Serial No. 267,785.

1. A depositing cell comprising a filtering medium and metal depositing means, said filtering medium being adapted to permit the ready detachment of solid matter accumulating thereon, substantially as described.

2. A depositing cell comprising a filtering medium and metal depositing means, and means for passing a metal bearing solution through said filtering medium and into contact with said depositing means, said filtering medium being adapted to permit the ready detachment of solid matter accumulating thereon, substantially as described.

3. A depositing cell comprising a filtering medium and metal depositing means, and means for passing a metal bearing solution successively through said filtering medium and depositing means, said filtering medium being adapted to permit the ready detachment of solid matter accumulating thereon, substantially as described.



4. A depositing cell comprising a filtering medium, a support therefor, and metal depositing means, said filtering medium being adapted to permit the ready detachment of solid matter accumulating thereon, substantially as described.

5. A depositing cell comprising an open frame, a filtering medium carried thereby, and metal depositing means within said frame, substantially as described.

6. A depositing cell comprising metal depositing means, and a filtering medium arranged to cover the same and adapted to permit the ready detachment of solid matter accumulating thereon, substantially as described.

7. A depositing cell comprising metal depositing means, and a filtering medium arranged to envelop the same and adapted to permit the ready detachment of solid matter accumulating thereon, substantially as described.

8. A depositing cell comprising an open frame, supporting means carried thereby, a filtering medium disposed upon said supporting means, and metal depositing means within said frame, substantially as described.

9. In apparatus for recovering metals, a tank, and a depositing cell therein, said cell comprising metal depositing means and a filtering medium, substantially as described.

10. In apparatus for recovering metals, a tank, and a plurality of depositing cells therein, each of said cells comprising metal depositing means and a filtering medium, substantially as described.

11. A depositing cell comprising a filtering medium and electrodes adapted for connection to an external source of current, said filtering medium being adapted to permit the ready detachment of solid matter accumulating thereon, substantially as described.

12. A depositing cell comprising a filtering medium and electrodes adapted for connection to an external source of current, and means for passing a metal bearing solution successively through said filtering medium and metal depositing means, said filtering medium being adapted to permit the ready detachment of solid matter accumulating thereon, substantially as described.

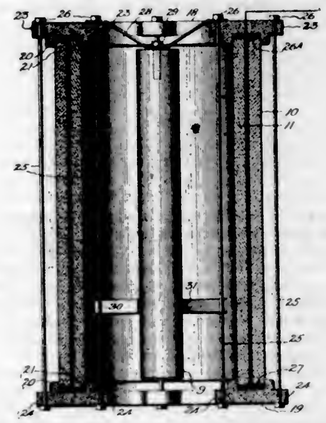
13. A depositing cell comprising electrodes adapted for connection to an external source of current, and a filtering medium arranged to cover the same and adapted to permit the ready detachment of solid matter accumulating thereon, substantially as described.

14. A depositing cell comprising an open frame, supporting means carried thereby, a filtering medium disposed upon said supporting means, and electrodes adapted for connection to an external source of current within said frame, substantially as described.

15. In apparatus for recovering metals, a tank and a depositing cell therein, said cell comprising electrodes adapted for connection to an external source of current and a filtering medium, substantially as described.

16. In apparatus for recovering metals, a tank, a plurality of depositing cells in position to be submerged in the material in said tank, each cell comprising metal depositing means and a filtering medium, and means for withdrawing the metal bearing solution from said tank through said cells, substantially as described.

866,859. APPARATUS FOR DEPOSITING METALS. WILBUR A. HENDRYX, Denver, Colo. Filed June 30, 1905. Serial No. 267,786.



1. Apparatus for precipitating metals comprising an anode, a cathode support open at both ends surrounding the same, a cathode carried thereby and a filtering medium disposed between said anode and cathode, substantially as described.

2. Apparatus for precipitating metals comprising an anode, a cathode support open at both ends surrounding the same, a cathode carried thereby and a filtering medium applied to the interior surface of said cathode, substantially as described.

3. Apparatus for precipitating metals comprising an anode, a cathode support open at both ends surrounding the same, a mercury cathode carried thereby and a filtering medium disposed between said anode and cathode, substantially as described.

4. Apparatus for precipitating metals comprising an anode, a previous casing open at both ends surrounding the same, and a cathode in said casing, substantially as described.

5. Apparatus for precipitating metals comprising an anode, a previous casing open at both ends surrounding the same, and a cathode of mercury in said casing, substantially as described.

6. Apparatus for precipitating metals comprising a cathode consisting of an amalgam of mercury and zinc, and a permeable covering for said cathode, substantially as described.

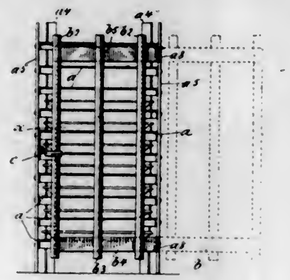
7. In apparatus for precipitating metals, a cathode support comprising a permeable casing, inlet and outlet at the upper and lower portions thereof, and a body of mercury in said casing, substantially as described.

8. In apparatus for precipitating metals, a cathode support comprising a permeable casing, inlet and outlet at the upper and lower portions thereof, and a body consisting of an amalgam of mercury and zinc in said casing, substantially as described.

866,860. PORTABLE AND ADJUSTABLE PIE-CRATE. CARL J. HEERMANN, Brooklyn, N. Y. Filed May 11, 1906. Serial No. 316,299.

1. A crate of the class described, comprising vertically arranged posts or members, horizontal partitions secured thereto, a door hinged to one of the front side corners of the crate, and a door lock connected with the opposite

front side corner, said lock being provided with means whereby the door may be locked in different positions.



2. A crate of the class described, comprising vertically arranged posts or members, horizontal partitions secured thereto, a door hinged to one of the front side corners of the crate, and a door lock connected with the opposite front side corner, said lock being provided with means whereby the door may be locked in different positions, and the horizontal partitions being cut out from the corner of the crate at which the door is hinged transversely and inwardly of the opposite corner.

3. An openwork crate, comprising vertical front and back posts, horizontal supports secured to said posts, said supports being adapted to receive plates or pans of different sizes, two of said supports being sufficiently far apart to permit of said plates or pans being passed between the same, and means for locking separate series of plates or pans of different sizes in said crate.

4. An openwork crate, comprising vertical front and back posts, horizontal supports secured to said posts, said supports being adapted to receive plates or pans of different sizes, two of said supports being sufficiently far apart to permit of said plates or pans being passed between the same, and means for locking separate series of plates or pans of different sizes in said crate, said crate being also provided with a door which is hinged to one of said posts, and means for locking said door in a closed position.

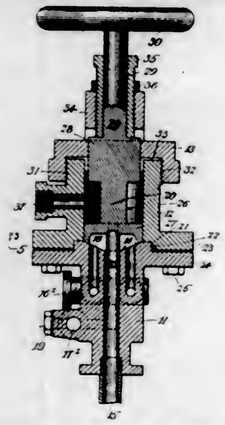
5. An openwork crate, comprising vertically arranged front and back posts, horizontal supports secured thereto and designed to support plates or pans, a door hinged to one of the front corners of said crate, and means whereby a series of plates or pans placed on said supports may be locked in the crate when the door is closed.

6. An openwork crate, comprising vertically arranged posts or supports, horizontal partitions secured to said posts or supports, a door hinged to one of the front side corners of said crate, and means whereby a series of plates or pans may be locked on said partitions when the door is closed.

7. An openwork crate, comprising vertically arranged posts or supports, horizontal partitions secured thereto, a door hinged to one of the front corners of the crate and a lock for said door, one of said parts, the lock or the door, being provided with means whereby different series of plates or pans of different sizes may be locked in said crate by closing and locking the door.

8. A crate of the class described, comprising vertically arranged posts or members, horizontal supports secured thereto, said supports being cut out at their back edges, a door hinged to one of the front side corners of the crate, and a lock for said door connected with the opposite front side corner, the vertically arranged posts or members at the back of the crate being closer together than the vertically arranged posts or members at the front of the crate, and one of said parts, the lock or the door, being provided with means whereby different series of plates or pans of different sizes may be locked in the crate by the door against lateral movement.

866,861. HYDRAULIC COCK. ALFRED HOFFBAUER, New York, N. Y. Filed Oct. 24, 1905. Serial No. 284,166.



1. In a hydraulic cock, a valve chamber having an inlet pipe and a valve seat and having a guiding bearing or journal 34, a threaded sleeve in said journal, a lock nut on said sleeve, a valve member revoluble in said sleeve and engaging said seat, said valve member having a counterbalancing head of uniform circular section, and a strip of packing material 33 coöperating with said head, said threaded sleeve bearing against the head of said valve member to keep the same in proper relation upon its seat.

2. A hydraulic cock comprising a valve chamber having an inlet pipe, a valve therein having a counter-balancing head and a valve member having a hole and a recess in its face, a stuffing box or gland surrounding said head, and a valve seat with which said valve member is in revoluble engagement.

3. A hydraulic cock comprising a valve having a counter-balancing head and a valve member having a hole and recess in its face, said valve member being of slightly larger area than said head, and a valve chamber surrounding said valve having an inlet pipe whereby a preponderance of fluid pressure is applied to hold the valve against its seat.

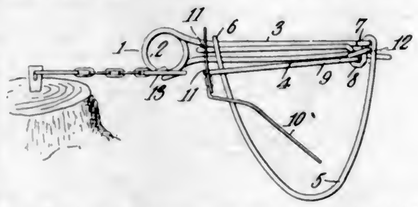
4. A hydraulic cock comprising a casing having a valve seat and a valve chamber, a valve having a counterbalancing head, a gland or stuffing box surrounding said head, holes through said valve arranged to register with ports in the valve seat, and a recess arranged to register with additional ports in the valve seat.

5. A hydraulic cock comprising a valve casing having a seat, a valve having a valve member in engagement with said seat and adapted to direct fluid alternately into different passages thereof, a shank and a counterbalancing head arranged to counter-balance part of the fluid pressure against the valve member, and a stem having a turning member thereon by which the valve may be manipulated.

866,862. TRAP. WILLIAM C. HOOKER, Abingdon, Ill. Filed Feb. 27, 1907. Serial No. 359,575.

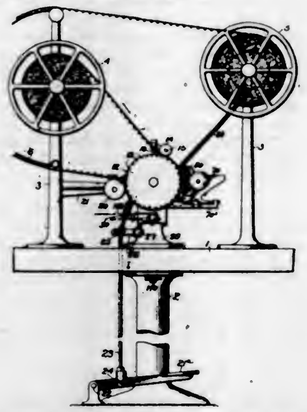
1. A trap comprising a spring member having extending ends, a bow attached to one of said ends, a bar pivoted to said bow and engaging the other end of the spring member, a trigger pivoted to said bow and having upon opposite sides of its pivotal point openings for the reception of said bar.

2. A trap comprising a spring member having a coiled intermediate portion with extended ends, a bow attached to one of said ends and bearing against the other end, a bar attached to said bow and engaging the last named end of the spring member, a trigger attached to the bow and having an opening for the reception of said bar, a link passing through the coiled portion of said member and having parallel portions which are adapted to receive be-



tween them the coiled portion of said member whereby the said link will be disposed transversely with relation to said coiled portion of the member.

866,863. PRINTING-MACHINE. GEORGE F. HOPKINS, New York, N. Y., assignor to Pollard-Alling Manufacturing Company, a Corporation of New York. Filed Mar. 18, 1902. Serial No. 98,753.



1. In a printing machine, the combination of a revoluble drum having peripheral grooves therein, a chain of hinged printing plates, the hinges of which are received within the grooves of said drum, a reciprocating supporting carrier which is adapted to support and move the material to be printed into contact with a printing surface on said printing plates, means for actuating said carrier, inking rollers, and means for automatically revolving the drum and for moving the inking rollers when the carrier is actuated.

2. In a printing machine, the combination of a revoluble drum having peripheral grooves therein, a chain of hinged printing plates, the hinges of which are adapted to be received within the grooves of said drum, a supply and take-off reel for said chain of printing plates, means for automatically rotating said take-off reel, a reciprocating carrier which is adapted to move the material to be printed into contact with a printing surface on said printing plates, means for actuating said carrier, an ink font, inking rollers which coöperate with the printing surface to supply ink to the latter, and means for automatically revolving the drum and the inking rollers when the carrier is actuated.

3. In a printing machine, the combination of a revoluble drum, a chain of hinged printing plates which coöperate therewith, means for locking said drum against rotation in either direction, an oscillating feeding device for imparting an intermittent rotary movement to said drum, and means for automatically releasing said locking means and maintaining them disengaged during the forward movement of the feeding device and for permitting said locking means to remain in the engaged position during the retractile movement of the feeding device.

4. In a printing machine, the combination of a revoluble drum, a chain of hinged printing plates which coöperates therewith, a locking pawl for locking said drum against rotation, an oscillating feeding pawl for imparting an intermittent rotary movement to said drum, a pivoted latch carried by said locking pawl, a pin with which said latch coöperates and a cam or abutment which coöperates with the latch to automatically raise said locking pawl during the movement of the cam or abutment in one direction, and for permitting said locking pawl to remain in the engaged position during the movement of the cam or abutment in an opposite direction.

5. In a printing machine, the combination of a revoluble drum having peripheral grooves therein, a chain of hinged printing plates which coöperates therewith and the hinges of which are adapted to be seated in said grooves, a locking pawl for locking the drum against rotation, a locking wheel which coöperates therewith and which is connected to said drum, an oscillating feeding pawl for imparting an intermittent rotary movement to said drum, a pivoted latch carried by said locking pawl, a pin with which said latch coöperates and a cam or abutment which coöperates with the latch to automatically raise said locking pawl through the latch during the movement of the cam or abutment in one direction and for permitting said locking pawl to remain in the engaged position during the movement of the cam or abutment in an opposite direction.

6. In a printing machine, the combination of a revoluble drum, a chain of hinged printing plates which coöperates therewith, means for locking said drum against rotation, an oscillating feeding device for imparting an intermittent rotary movement to said drum, and means for automatically releasing said locking means during the movement of the feeding device in one direction and for permitting said locking means to remain in the engaged position during the movement of the feeding device in an opposite direction, a pin on the locking pawl and a hand operated cam which is adapted to contact with said pin to raise and maintain the locking pawl out of engagement.

7. In a printing machine, the combination of a chain of printing plates, a drum coöperating therewith, a carrier for the material or article to be printed, an actuating device operatively connected to feed the printing plates, to turn the drum, and to reciprocate the carrier, and means for adjusting said carrier without affecting the feed of the printing plates or the operation of the drum, whereby different thicknesses of material to be printed may be compensated for.

8. In a printing machine the combination of printing instrumentalities, a carrier for the material to be printed, a rock shaft 27, means for rocking said shaft, an arm secured to said shaft, a set screw carried by the arm and means with which the set screw contacts and which coöperates with the carrier to move it.

9. In a printing machine the combination of an impact drum, a chain of printing plates coöperating therewith, a carrier for the material to be printed, a rock shaft 27, a treadle for rocking said shaft, an arm secured to said shaft, laterally extending studs projecting from said arm, a set screw carried by one of said studs, a loosely disposed arm which extends between said studs and with which the set screw contacts and operative connections between the loosely disposed arm and the carrier.

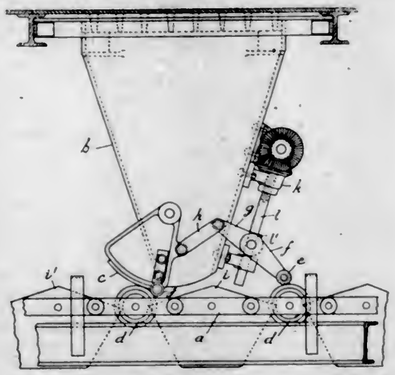
10. In a printing machine, the combination of a printing band, a drum arranged to support the band to bring successive portions to a printing position, a carrier for holding the work, an actuating device arranged to advance the drum and also to operate the carrier to and from the printing position, and adjustable means on said carrier for varying the position to which the work is carried at each operation thereof.

11. In a printing machine, the combination with a band of jointed printing plates, of a drum rotatably supported and arranged to engage the plates successively on rotation, a carrier movable to and from the drum, means for moving

the drum, means connected with said means for reciprocating the carrier at each advance of the drum, and an engaging member on the carrier adjustable thereon to vary the position to which the work is carried at each reciprocation of the carrier.

12. In a printing machine, the combination with a band of jointed printing plates, of a drum rotatably supported and arranged to engage the plates successively on rotation, a carrier movable to and from the drum, means for moving the drum, means connected with said means for reciprocating the carrier at each advance of the drum, an engaging member on the carrier adjustable thereon to vary the position to which the work is carried at each reciprocation of the carrier, and means for adjusting the member on the carrier.

866,864. AUTOMATIC FEED-GEAR FOR CONVEYERS. CHARLES W. JAMES, Sheffield, England, assignor to Edgar Allen and Company Limited, Sheffield, England. Filed Jan. 23, 1907. Serial No. 353,746.



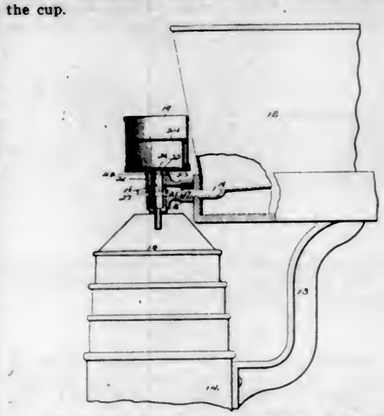
1. In combination with a conveyer comprising a chain of buckets and wheels between the buckets, a hopper suspended above the conveyer, a swinging door closing the lower end of the hopper, a two arm lever carried by the hopper and having a roller at one end, a link connecting its other end with the door, said roller being adapted to engage with one of the wheels of the conveyer to open the door, and a projection on the door with which the following wheel engages to close the door.

2. In combination with a conveyer comprising a chain of buckets and wheels between the buckets, a hopper suspended above the conveyer, a swinging door closing the lower end of the hopper, a two arm lever carried by the hopper and having a roller at one end, a link connecting its other end with the door, said roller being adapted to engage with one of the wheels of the conveyer to open the door, a projection on the door with which the following wheel engages to close the door, and means for raising the two arm lever into inoperative position.

866,865. ATTACHMENT FOR CREAM-SEPARATORS. ALBERT F. JONES, Wautoma, and BENJAMIN J. EVANS, New London, Wis. Filed Sept. 23, 1905. Serial No. 280,083.

1. In a cream separator, a support formed with a flange to receive the supply can, a lip extending through the flange and supply can and forming a channel, a valve support adapted to be connected to said lip, and a valve working in said valve support.

2. In a cream separator, a support having an annular rim to receive the supply can, a lip extending into the rim and outwardly beyond the same, a detachable tubular valve support connected to the same, a revoluble cup formed with a tubular extension, said tubular extension reaching into the tubular support, and a float having a tubular extension reaching into the tubular extension of the cup.

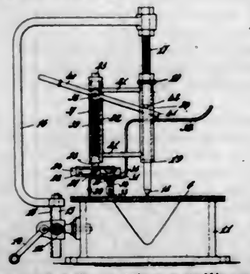


3. A cream separator, consisting of a tubular lip extending into the supply can and adapted to receive a detachable tubular valve support, said support having horizontal and tubular channels, a cup having a tubular stem extending through the support, said stem formed with a lateral opening, and a float having openings near its center and upper portion, so that the supply can may be lowered.

4. In a cream separator, a can support having a flange adapted to contact with the upper portion of the receiving bowl, a lip extending into the flange, a tubular valve support adapted to be connected to the lip, a revoluble cup having a tubular extension depending into the bowl of the separator, and a float valve working in said cup.

5. In a cream separator, a support having a detachable lip extending into the same, a tubular valve-support detachably connected to the lip, a cup having a tubular extension working in the support, a regulating valve working in the cup, and a receiving bowl into which the tubular extension depends, so that the milk supply can be lowered relatively to the bowl.

866,866. APPARATUS FOR CUTTING METAL ARTICLES. FELIX JOTTRAND, Uccle, near Brussels, Belgium. Original application filed Aug. 22, 1905, Serial No. 275,207. Divided and this application filed Sept. 15, 1906. Serial No. 334,734.



1. In an apparatus for cutting metallic articles, means for heating the article to be cut, and means for simultaneously supplying oxygen under pressure to the heated portion of the article.

2. In an apparatus for cutting metallic articles, means for directing a jet of a heating agent upon the article to be cut, and means for simultaneously directing a jet of an oxidizing agent upon the heated portion of the article.

3. In an apparatus for cutting metallic articles, means for heating the article to be cut, means for simultaneously supplying oxygen, under pressure, to the heated portion of the article, and means for causing the heating means and the oxygen-supplying means to follow the contour of the cut to be made.

4. In an apparatus for cutting metallic articles, means for directing a jet of a heating agent upon the article to be cut, means for simultaneously directing a jet of an oxidizing agent upon the heated portion of the article, and means for causing both means to follow the contour of the cut to be made.

5. In an apparatus for cutting metallic articles, a blow pipe having a discharge nozzle for directing a jet of a heating agent upon the article to be cut, a conduit for an oxidizing agent having a discharge nozzle adjacent to the nozzle of said blow pipe, and a common support for said nozzles.

6. In an apparatus for cutting metallic articles, a blow pipe having a discharge nozzle for directing a jet of a heating agent upon the article to be cut, a conduit for an oxidizing agent having a discharge nozzle adjacent to the nozzle of said blow pipe, and a movable support for said nozzles.

7. In an apparatus for cutting metallic articles, a blow pipe having a discharge nozzle for directing a jet of a heating agent upon the article to be cut, a conduit for an oxidizing agent having a discharge nozzle adjacent to the nozzle of said blow pipe, a common support for said nozzles, and means for independently adjusting the positions of said nozzles on said support.

8. In an apparatus for cutting metallic articles, a blow pipe having a discharge nozzle for directing a jet of a heating agent upon the article to be cut, a conduit for an oxidizing agent having a discharge nozzle adjacent to the nozzle of said blow pipe, a movable support for said nozzles, and means for guiding said support in its movements in accordance with the contour of the cut to be made.

9. In an apparatus for cutting metallic articles, a blow pipe having a discharge nozzle for directing a jet of a heating agent upon the article to be cut, a conduit for an oxidizing agent having a discharge nozzle adjacent to the nozzle of said blow pipe, a centering rod, and a support for said nozzles mounted upon said centering rod and adapted to rotate about the same.

10. In an apparatus for cutting metallic articles, a blow pipe having a discharge nozzle for directing a jet of a heating agent upon the article to be cut, a conduit for an oxidizing agent having a discharge nozzle adjacent to the nozzle of said blow pipe, a centering rod, means for raising and lowering said rod, and a support for said nozzles mounted upon said centering rod and adapted to rotate about the same.

11. In an apparatus for cutting metallic articles, a base or frame for supporting the article to be cut, a bracket arm mounted on said frame, means for raising and lowering said arm, an adjustable centering rod carried by said bracket arm, a tube or sleeve rotatably mounted on said rod, a blow pipe having a discharge nozzle for directing a jet of a heating agent upon the article to be cut, a conduit for an oxidizing agent having a discharge nozzle adjacent to the nozzle of said blow pipe, and a common support for said nozzles connected with said sleeve.

12. In an apparatus for cutting metallic articles, a base or frame for supporting the article to be cut, a bracket arm mounted on said frame, means for raising and lowering said arm, an adjustable centering rod carried by said bracket arm, a tube or sleeve rotatably mounted on said rod, a blow pipe having a discharge nozzle for directing a jet of a heating agent upon the article to be cut, a conduit for an oxidizing agent having a discharge nozzle adjacent to the nozzle of said blow pipe, a common support for said nozzles, and means for independently adjusting the position of said nozzles on said support.

13. In an apparatus for cutting metallic articles, a blow pipe having a discharge nozzle for directing a jet of a heating agent upon the article to be cut, a conduit for an oxidizing agent having a discharge nozzle adjacent to the nozzle of said blow pipe, a common support for said nozzles, means for guiding said support in its movements in accordance with the contour of the cut to be made, and means for forcing and holding said support to a position adjacent to the article to be cut.

14. In an apparatus for cutting metallic articles, a blow pipe having a discharge nozzle for directing a jet of a heating agent upon the article to be cut, a conduit for an oxidizing agent having a discharge nozzle adjacent to the nozzle of said blow pipe, a common support for said nozzles, a centering device about which said support is adapted to be revolved, a spring for raising said support, and means, acting in opposition to said spring, for forcing and holding said support to a position adjacent to the article to be cut.

15. In an apparatus for cutting metallic articles, a blow pipe having a discharge nozzle for directing a jet of a heating agent upon the article to be cut, a conduit for an oxidizing agent having a discharge nozzle adjacent to the nozzle of said blow pipe, a common support for said nozzles, a centering device about which said support is adapted to be revolved, a spring acting upon said support to raise it, a guide for limiting the downward movement of said support, and means acting in opposition to said spring for forcing and holding said support to a position adjacent to the article to be cut.

16. In an apparatus for cutting metallic articles, a blow pipe having a discharge nozzle for directing a jet of a heating agent upon the article to be cut, a conduit for an oxidizing agent having a discharge nozzle adjacent to the nozzle of said blow pipe, a common support for said nozzles, a centering device about which said support is adapted to be revolved, a spring acting upon said support to raise it, a roller adjustably mounted on said support for limiting the downward movement thereof, and a lever for forcing and holding said support to a position adjacent to the article to be cut.

17. In an apparatus for cutting metallic articles, a base or frame for supporting the article to be cut, a bracket arm mounted on said frame, means for raising and lowering said arm, an adjustable centering rod carried by said bracket arm, a tube or sleeve rotatably mounted on said rod, a blow pipe having a discharge nozzle for directing a jet of a heating agent upon the article to be cut, a conduit for an oxidizing agent having a discharge nozzle adjacent to the nozzle of said blow pipe, a common support for said nozzles having an upwardly extending rod thereon, a sleeve surrounding the latter rod and connected to said tube, a spring acting upon said rod for raising said support, a lever on said rod, and a projection on said tube adapted to be engaged by, and serving as a fulcrum for, said lever whereby said support may be forced and held down adjacent to the article to be cut.

18. In an apparatus for cutting metallic articles, a base or frame for supporting the article to be cut, a bracket arm mounted on said frame, means for raising and lowering said arm, an adjustable centering rod carried by said bracket arm, a tube or sleeve rotatably mounted on said rod, a blow pipe having a discharge nozzle for directing a jet of a heating agent upon the article to be cut, a conduit for an oxidizing agent having a discharge nozzle adjacent to the nozzle of said blow pipe, a common support for said nozzles having an upwardly extending rod thereon, independently adjustable plates on the sides of said support to which said nozzles are respectively attached, a sleeve surrounding the rod on said support and connected to said tube, a spring for holding said support in raised position, a lever connected with said rod and a projection on said tube adapted to be engaged by, and serving as a fulcrum for, said lever, whereby said support may be forced and held down to a position adjacent to the article to be cut.

866,867. CUSHION-HEEL FOR BOOTS AND SHOES. MAURICE J. KEARNEY, Brockton, Mass. Filed Apr. 27, 1906. Serial No. 313,974.

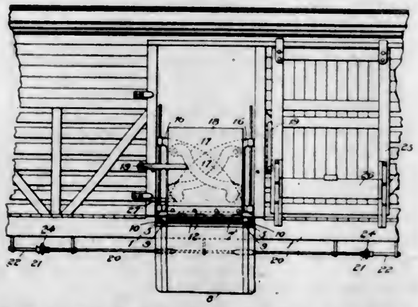
1. A cushion heel for boots and shoes consisting of a base section provided with a central cavity, and an anchor

incorporated therein and provided with screw threaded openings and further provided with a flange extending in said cavity; and a cushion section provided with an anchor having openings corresponding to the screw openings in the base section and screws extending through the strip and plate for connecting the sections together.



2. A cushion heel for boots and shoes consisting of a plastic base section provided with a central cavity, an anchor plate embedded in said section and conforming in contour to the contour of the section, said plate having a central opening and a flange extending in said cavity and further provided with screw openings and a cushion section provided with an anchor strip arranged in close proximity to the forward edge of said cushion section and having rearwardly extending arms, said strip having openings corresponding to the openings in said plate, and means extending through the strip and plate for connecting the sections together.

866,868. MEANS FOR LOADING AND UNLOADING CARS. JOSEPH C. KIMBER, Paris, Tex. Filed June 25, 1907. Serial No. 380,786.



1. In a railroad car having loading and unloading side door-ways, and a transverse open housing floor-way thereat, a skid adapted to fit into said housing-way and having a length including a hinged section at each end greater than the transverse width of the car the intermediate skid section being a rigid platform corresponding to the width of the car, whereby the hinged ends are adapted to project and depend in contact with each side of the car as the means for securing the skid in its housing.

2. In a railroad car having loading and unloading side door-ways, a transverse open housing-floor way thereat, a pair of transverse beams, a row of roll bearings mounted on the opposite wall of each of said beams, forming said housing, and a skid supported upon said roll bearings and having a length including a hinged section at each end, greater than the transverse width of the car, the intermediate section being a rigid platform corresponding to the width of the car adapting thereby the hinged ends to depend in contact with each side of the car to secure said skid within said housing.

3. In a railroad car having loading and unloading side door-ways, and a transverse open housing way thereat, a skid adapted to fit into said housing way and having a length including a hinged section at each end, greater than the transverse width of the car, the intermediate section being a rigid platform corresponding to the width of the car, and a pair of gang-sides hinged to the skid between its hinged ends adapted to be folded upon the skid, and means whereby said gang-sides are supported when in use.

4. In a railroad car having loading and unloading side door-ways, and a transverse open housing-way thereat, a skid adapted to fit into said housing way and having a length including a hinged section at each end greater than the transverse width of the car, the intermediate section being a rigid platform corresponding with the width of the car, a pair of gang-sides hinged to the skid between its hinged ends, a pair of plates each hinged to the sides of the door-way and adapted to be swung out in lapping relation to the gang-sides, and a latch pivoted on each plate and adapted to be engaged with said sides to secure and brace them when in use.

5. In a railroad car having loading and unloading side door-ways, and a transverse housing way thereat, a skid adapted to fit into said housing way and having a length including a hinged section at each end greater than the transverse width of the car, the intermediate section being a rigid platform corresponding with the width of the car, a pair of gang-sides hinged to the skid between its hinged ends, and means whereby each end of each gang-side is secured and braced to the car when in use.

6. In a railroad car having loading and unloading side door-ways, a transverse open housing thereat, a skid adapted to fit into said housing-way having a length including a hinged section at each end greater than the transverse width of the car, the intermediate section being a rigid platform corresponding to the width of the car, a pair of gang-sides hinged to the skid between its hinged ends, a pair of plates each hinged to the sides of the door-way and adapted to be swung out in lapping relation to the gang-sides, means carried by said door-way plates adapted to engage and secure the inner ends of said gang-slides, and a pair of brace rods each pivoted to the side sills and adapted to engage and secure the outer ends of said gang-sides in loading and unloading from the ground.

7. In a railroad car having loading and unloading side door-ways, a transverse housing thereat, a skid adapted to fit into said housing way having a length including a hinged section at each end greater than the transverse width of the car, the intermediate section being a rigid platform corresponding to the width of the car, and a drop platform hinged to the side of the car at the door-way and adapted to rest upon said rigid platform and to be turned up into the door-way when the slidable door is closed.

8. In a railroad car having loading and unloading side door-ways, a transverse open housing-way thereat, a skid adapted to fit into said housing way having a length including a hinged section at each end greater than the transverse width of the car, the intermediate section being a rigid platform corresponding to the width of the car, a pair of gang-sides hinged to the skid between its hinged ends, means for securing the inner ends of said gang-sides to the car, and means for securing the outer ends of said gang-sides to the car consisting of a pair of brace-rods, a bar fixed to the sill at each side of the door-way, and means for adjustably connecting one end of each brace rod to said bar, the other end of the brace-rod being adapted to be connected to the outer end of the gang-side.

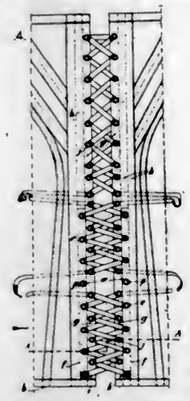
9. In a railroad car having loading and unloading side door-ways, a transverse housing floor way thereat, a skid having a length including a hinged section at each end, greater than the transverse width of the car, the mediate section being the width of the car adapting thereby the hinged ends to depend in contact with each side of the car for the purpose stated.

10. In a railroad car having loading and unloading side door-ways, a skid slidable in a floor housing thereat and having a length including a hinged section at each end greater than the transverse width of the car, the intermediate section being the width of the car, and supporting bearings for the skid.

11. In a railroad car having loading and unloading side door-ways, a skid of three hinged sections slidable in a floor housing thereat and the mediate section whereof having a length equal to the width of the car, gang-sides hinged to said mediate section, and means for connecting and bracing both ends of each gang-side to the car, and the said gang-sides having a length and a width adapting them to be folded upon each other upon the mediate section.

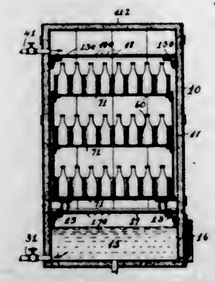
12. In a railroad car having loading and unloading side door-ways, a skid slidable in a floor housing thereat and having a length including a hinged section at each end greater than the transverse width of the car adapting thereby the hinged ends to depend in contact with each side of the car, slidable side doors, each having a recess at its lower end corresponding to the width of the skid, and a slide adapted to close said door recess when the door is closed.

866,869. CORSET. JULES LINDAUER, Paris, France. Filed May 17, 1907. Serial No. 374,316.



In a corset, the combination of an additional strip or band *a* attached by a seam *f* to the back of each half of the corset just next to the ordinary eyelet band *g* and extending from the lower end of the corset up to about the waist line, eyelets *e* provided on each of said strips or bands and arranged in an alternate manner with relation to the ordinary lacing eyelets *j*, and a lace connecting the additional strips *a* of one half of the corset to the ordinary strip *g* of the other half and passing alternately from an eyelet of the additional strip to an eyelet of the ordinary strip, the lacing being continued in the upper part of the corset in the ordinary manner, substantially as described and for the purpose set forth.

866,870. PASTEURIZER. CHARLES H. LOEW, Lakewood, Ohio. Filed Apr. 7, 1906, Serial No. 310,397. Renewed Aug. 20, 1907. Serial No. 389,401.



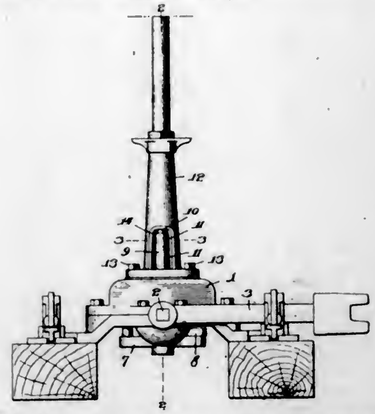
1. In a pasteurizer, the combination with imperforate side walls and ceiling, of a false ceiling having openings to admit of the downward flow of the water and means for supplying water between the two ceilings.

2. In a pasteurizer, a water collecting chamber, means for draining the same, a water supply chamber, a perforated ceiling forming the bottom thereof for delivering water therefrom in a shower, and removable means intermediate the supply and collecting chambers adapted to support bottles to be pasteurized by the heat extracted from the water passing from the supply to the collecting chamber.

3. A pasteurizer comprising a box or chamber divided into an upper water supply chamber, an intermediate pasteurizing chamber, and a lower water collecting chamber, a fixed perforated false ceiling separating the water supply chamber and the pasteurizing chamber, a fixed perforated plate separating the pasteurizing chamber and the water collecting chamber and serving as a support for a truck carrying the bottles of liquid to be pasteurized, and means for supplying water above the false ceiling.

4. A pasteurizer comprising a box or chamber divided into an upper water supply chamber, an intermediate pasteurizing chamber, a fixed perforated false ceiling separating the water supply chamber and the pasteurizing chamber, a fixed perforated plate separating the pasteurizing chamber and the water collecting chamber, a truck supported upon the last named perforated plate, removable perforated supports for the bottles on the truck, and a pipe for supplying water above the false ceiling.

866,871. SWITCH-STAND. MALCOLM W. LONG, Harrisburg, Pa., assignor to The Pennsylvania Steel Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 14, 1907. Serial No. 357,260.



1. In a switch-stand, the combination with the casing, of the horizontal shaft journaled therein, and having the lever-arm thereon, the horizontally rotatable gear within said casing, driving connections between said gear and said horizontal shaft, the vertical hub extension of said gear, the vertical signal shaft fitted to said hub extension, the bolts securing the said hub extension and signal shaft together, the housing inclosing the said shaft and hub extension, and provided with slots in line with the axes of said bolts when the lever-arm is brought to vertical position, but out of alinement therewith when said lever-arm is in either horizontal position, substantially as set forth.

2. In a switch-stand, of the class recited, the casing, the horizontally rotatable gear journaled in said casing, means for rotating said gear, the vertical tubular hub extension projecting upwardly from said gear through said casing, the vertical signal shaft fitted within said tubular extension, the through bolts securing said shaft and tubular extension together, the housing mounted on said casing and inclosing said signal shaft and hub extension, the slots

in said housing arranged in such relation to said bolts that when said shaft and gear are rotated to an abnormal position said bolts will come into alinement with said slots, but which bolts, when the parts are in either normal position will be within the housing and out of alinement with said slots, substantially as set forth.

866,872. SEMAPHORE SWITCH-STAND. MALCOLM W. LONG, Harrisburg, Pa., assignor to The Pennsylvania Steel Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 14, 1907. Serial No. 357,262.



1. In a semaphore switch-stand, the combination of switch-operating means, a casing inclosing the same, a tubular, vertical extension supported upon said casing, a vertical shaft within said tubular extension, and whose lower end is connected to said switch-operating means, a planetary gear secured to the upper end of said tubular extension, a horizontal shaft carried by said vertical shaft, a planetary gear on said horizontal shaft whose teeth engage those of said first mentioned gear, together with a semaphore blade carried by said horizontal shaft, substantially as and for the purpose set forth.

2. In a semaphore switch-stand, the combination of switch-operating means, a casing inclosing the same, a tubular, vertical extension supported upon said casing, a vertical shaft within said tubular extension, and whose lower end is connected to said switch-operating means, a planetary gear secured to the upper end of said tubular extension, a gear-case carried by and secured to said vertical shaft and incasing said planetary gear, a horizontal shaft journaled in said casing, a planetary gear upon said shaft within said casing, and whose teeth engage those of the first mentioned gear, together with a semaphore blade carried by said horizontal shaft, substantially as and for the purpose set forth.

3. In a semaphore switch-stand, the combination of switch-operating means, a casing inclosing the same, a tubular, vertical extension supported upon said casing, a vertical shaft within said tubular extension, and whose lower end is connected to said switch-operating means, a planetary gear secured to the upper end of said tubular extension, a horizontal shaft carried by said vertical shaft, a planetary gear on said horizontal shaft whose teeth engage those of said first mentioned gear, together with a semaphore blade carried by said horizontal shaft, and the target disk secured to said vertical shaft in suitable relation to said semaphore blade, substantially as and for the purpose set forth.

4. In a semaphore switch-stand, the combination of switch-operating means, a casing inclosing the same, a tubular, vertical extension supported upon said casing, a vertical shaft within said tubular extension, and whose lower end is connected to said switch-operating means, the planetary gear having the downwardly extending hub portion fixed to the upper end of said tubular extension, and through which hub and gear the said vertical shaft extends and is free to rotate, the horizontal shaft carried by said vertical shaft, a planetary gear on said horizontal shaft whose teeth engage those of said first mentioned gear, together with a semaphore blade carried by said horizontal shaft, substantially as and for the purpose set forth.

5. In a semaphore switch-stand, the combination of switch-operating means, a casing inclosing the same, a tubular, vertical extension supported upon said casing, a vertical shaft within said tubular extension, and whose lower end is connected to said switch-operating means, the planetary gear having the downwardly extending hub portion fixed to the upper end of said tubular extension, and through which hub and gear the said vertical shaft extends and is free to rotate, a gear case carried by and secured to said vertical shaft and incasing said planetary gear, a horizontal shaft journaled in said casing, a planetary gear upon said shaft within said casing and whose teeth engage those of said first mentioned gear, together with a semaphore blade carried by said horizontal shaft, substantially as and for the purpose set forth.

6. In a semaphore switch-stand the combination of a lower casing, an upwardly projecting tubular extension secured thereto, switch-operating means in said lower casing, a shaft extending through said tubular extension and operatively connected with the switch-operating means, a closed gear-box carried by said shaft, a semaphore supported on the exterior of said gear box, a stationary gear carried by said tubular extension, and operating mechanism between said gear and said semaphore whereby rotation of said shaft will cause said semaphore to be raised and lowered, substantially as and for the purpose set forth.

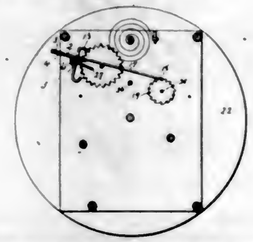
7. In a semaphore switch-stand the combination of switch-operating means, a casing inclosing the same, a tubular, vertical extension supported upon said casing and whose lower end is rotatively secured thereto, means for securing said tubular extension in any position of rotative adjustment with relation to said casing, a vertical shaft within said tubular extension and whose lower end is connected to said switch-operating means, a planetary gear secured to the upper end of said tubular extension, a horizontal shaft carried by said vertical shaft, a planetary gear on said horizontal shaft whose teeth engage those of the first mentioned gear, together with a semaphore blade carried by said horizontal shaft, substantially as and for the purpose set forth.

8. In a semaphore switch-stand the combination of switch-operating means, a casing inclosing the same, a tubular vertical extension supported upon said casing and whose lower end is screwed thereinto, a jam nut securing said extension in any position of rotative adjustment, a vertical shaft within said tubular extension, and whose lower end is connected to said switch-operating means, a planetary gear secured to the upper end of said tubular extension, a horizontal shaft carried by said vertical shaft, a planetary gear on said horizontal shaft whose teeth engage those of said first mentioned gear, together with a semaphore blade carried by said horizontal shaft, substantially as and for the purpose set forth.

9. In a semaphore switch-stand, the combination of switch-operating means, a casing inclosing the same, a tubular housing extending from and secured to said casing, the vertical tube whose lower end is screwed into the upper end of said tubular housing, the jam nut securing said tube in any position of rotative adjustment, the vertical shaft within said tubular extension and whose lower end is connected to said switch-operating means, a planetary gear secured to the upper end of said tubular extension, a horizontal shaft carried by said vertical shaft, a planetary gear on said horizontal shaft whose teeth engage those of said first mentioned gear, together with a semaphore blade carried by said horizontal shaft, substantially as and for the purpose set forth.

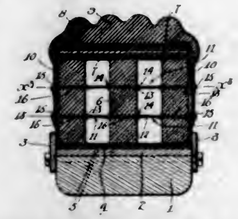
866,873. ALARM-CLOCK. PAUL LUX, Waterbury, Conn., assignor to The Waterbury Clock Co., Waterbury, Conn., a Corporation. Filed July 1, 1907. Serial No. 381,663.

1. In a convertible alarm-mechanism, the combination with a vibrating arbor, of a pivotal switch mounted thereupon so as to vibrate therewith, a wheel driven by the time-train and located in position to periodically interrupt the vibrations of the said switch when the same is pivotally swung into position for coaction with it, the pivotal movement of the switch being in a plane at a right angle to the plane of the wheel.



2. In a convertible alarm mechanism, the combination with a verge-arbor, of a carrier mounted thereupon, a switch pivotally mounted upon the said carrier and comprising a spasmodic-alarm arm and an operating lever, and a wheel driven by the time-train and located in position to coact with the spasmodic-alarm arm of the said switch when the same is pivotally swung into position for coaction with the said arm, the pivotal movement of the switch being in a plane at a right angle to the plane of the wheel.

866,874. TIRE. JOSEPH E. MACKAY, Los Angeles, Cal. Filed Jan. 23, 1907. Serial No. 353,745.



1. A tire comprising a circular woven wire element, a series of elastic blocks engaging in the meshes of the woven wire element, and a tread encircling the blocks.

2. A tire comprising a circular woven wire element, a plurality of circular rows of elastic blocks retained by the meshes of the woven wire element, and a tread encircling the blocks.

3. A tire comprising a plurality of concentric woven wire rings, a series of elastic blocks retained by the woven wire rings, and a tread encircling the blocks.

4. A tire comprising a plurality of concentric woven wire rings, a plurality of rows of elastic blocks engaging in meshes in the woven wire rings, and a tread encircling the blocks.

5. A tire comprising a circular woven wire element, a series of elastic blocks engaging in meshes in the woven wire element, a band of fabric encircling the blocks, a band of metal around said fabric, and a yielding tread around said metal band.

6. A tire comprising a circular woven wire element, a series of elastic blocks engaging in meshes in the woven wire element, a band of fabric encircling the blocks, a band of metal around said fabric, a yielding tread around said metal band, and a band of fabric around the inner ends of said blocks.

7. A tire comprising a circular woven wire element, a series of elastic blocks engaging in meshes in the woven wire element, a band of fabric encircling the blocks, a band of metal around said fabric, a yielding tread around said metal band, a band of fabric around the inner ends of said blocks, and curtains of fabric on each side of the tire extending from the tread to the inner fabric.

8. A tire comprising a plurality of concentric woven wire rings, a plurality of rows of elastic blocks engaging in meshes in the rings, a band of fabric interwoven with wires encircling the blocks, a metallic band around said fabric, a rubber tread around said metal band, a fabric band around the inner ends of said blocks, and curtains of fabric on each side extending from the rubber tread to the inner band of fabric.

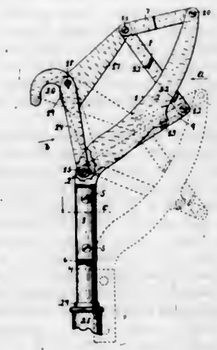
9. A tire comprising a circular woven wire element, a series of elastic blocks engaging in the meshes in the woven wire element, a tread encircling the blocks, and small wires extending through the blocks and tied to the woven wire element.

10. A tire comprising a circular woven wire element, a series of elastic blocks engaging in the meshes in the woven wire element, a tread encircling the blocks, small wires extending through the blocks and tied to the woven wire element, said woven wire element comprising twisted cross wires, and circular wires interlocking with the cross wires.

11. A tire comprising a circular woven wire element, a series of elastic blocks engaging in the meshes in the woven wire element, a tread encircling the blocks, small wires extending through the blocks and tied to the woven wire element, said woven wire element comprising twisted cross wires, circular wires having kinks which interlock with the twisted wires, said small wires being tied to the twisted cross wires and circular wires.

12. A tire comprising a plurality of concentric woven wire rings, a plurality of rows of elastic blocks engaging in meshes in the woven wire rings, a band of fabric interwoven with wires encircling the blocks, a metallic band around said fabric, a rubber tread around said metal band, a fabric band around the inner ends of said blocks, curtains of fabric on each side extending from the rubber tread to the inner band of fabric, each woven wire ring comprising circular wires with kinks, twisted cross wires interlocking with the kinks, small twisted wires extending through the elastic blocks and having their ends tied to the circular wires and twisted cross wires, the ends of said cross wires extending through said curtains and tied, there being a washer between each tie and the curtain.

866,875. PRUNING-SHEARS. FERGUS MAGILL, Williamsport, Pa. Filed Feb. 6, 1907. Serial No. 356,061.



1. A pruning shear having a main portion, a series of connected links carried by said main portion, a hook and a cutter, joined to act pivotally, carried by said links independent of the main portion, and a handle joined to the main portion.

2. A pruning shear having a main portion, a series of pivotal links carried by the main portion, a divided hook pivotally connected with one link of the series, and a cutter held to move pivotally between the separated parts

of the hook and connected movably with other links of the series, and means for operating the parts.

3. A pruning shear having a main portion consisting of two equal right-and-left members joined side by side with space between, a series of connected links held movably between said separated members, a hook consisting of two similar and equal members joined side by side with space between and movably connected with a link of the series between the members of said main portion, a cutter disposed pivotally between the members of the hook and pivotally connected with a joined pair of said links, and an operating handle for the parts rigidly joined to said main portion.

4. A pruning shear having a main portion or body, parts including a hook and a coacting cutter connected movably to form a quadrilateral carried by said body, and means for changing the form of the quadrilateral to cause the cutter to cross the space within the hook.

5. A pruning shear having a main portion or body, members including a hook and a coacting cutter connected movably to form a quadrilateral carried by said body, and means for changing the form of the quadrilateral to cause the cutter to cross the space within the hook, and stops for limiting the expanding and contracting movements of the quadrilateral.

6. A pruning shear having a main portion or body, parts including a hook and coacting cutter carried by said body and disposed to form a quadrilateral pivoted at its angles, a link connecting an angle of the quadrilateral with said body, and a handle joined to said body to move the parts of the shear independent of the hook.

7. A pruning shear comprising a body-portion, parts disposed to form a quadrilateral movable as to its members carried by the body-portion, the quadrilateral including a hook for engaging the limb and a cutter controlled by the hook, a link connected movably with the body-portion and an angle of the quadrilateral, one member of the latter being pivotally joined to the body-portion, and means for operating the parts.

8. A pruning shear comprising a body-portion, a hook and a link pivotally connected and the link being pivotally held by said body-portion, a cutter and a link pivotally connected, the said two links being pivotally joined at a point distant from the hook and the cutter, and said hook and cutter being pivotally connected at a point distant from the links, and means for moving the ends of the hook and of the cutter distant from their common pivot toward and from each other, the hook with its associated link and the cutter with its associated link acting as a pair of toggle-joints.

9. A pruning shear having a main portion, a series of connected links carried by said main portion, a hook and a cutter, joined to act pivotally, carried by said links independent of the main portion, and a handle joined to the main portion, there being insulating bodies disposed between the handle and the adjacent parts of said main portion.

10. A pruning shear having a main portion, a series of connected links carried by said main portion, a hook and a cutter carried by said links the latter and said hook and the cutter being joined pivotally to act together, and means for operating said joined parts, there being a detachable fork on the hook to act with the cutter.

11. A pruning shear having a main portion, a series of links joined carried by said main portion, a hook and a cutter carried by said links and connected to act pivotally, and a handle in separable sections joined by a coupling, and insulators for said coupling and the sections of the handle.

866,876. ROPE OR CABLE CLAMP. ALFRED H. MERCH, Chatham, N. Y. Filed Mar. 13, 1906. Serial No. 305,767.

1. A cable clamp comprising two members, one having opposed wedge faces inclined to one another and located in pairs along the length of the member, and an abutment between adjacent pairs of the wedge faces and arranged to project between the cables to be clamped.

2. A cable clamp comprising two members, one having opposed gripping faces inclined to one another and located opposite one another in a direction transverse of the member, and an abutment projecting between the cables to be clamped and between said faces and coöperating therewith to bite the cables.



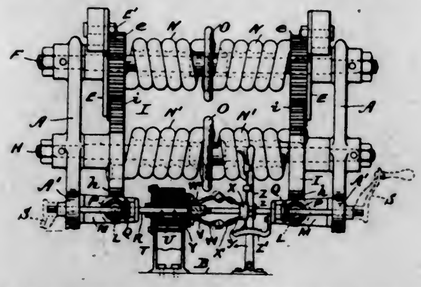
3. A cable clamp comprising a member having opposed gripping faces inclined to one another and located opposite one another in a direction transverse of the member, an abutment between said faces and coöperating therewith to bite the cable, and a plurality of pairs of opposed wedge faces coöperating with said abutment to deflect the cable into a tortuous form.

4. A cable clamp comprising two members, one having wedge faces, and an abutment arranged to project between and engage the cables to be clamped at places intermediate said wedge faces longitudinally of the member, whereby the cable is deflected into a series of bends.

5. A cable clamp, comprising a deflection member having wedge faces in spaced transverse planes along its length, an abutment at a point intermediate of the adjacent pairs and coöperating with said faces to deflect a cable into a tortuous form, and a clamping member separate from said abutment.

6. In a cable clamp, a pair of members each having legs with inside wedge faces adapted to engage a pair of cable sections to press them toward one another, and an abutment between the cable sections whereby they are deflected.

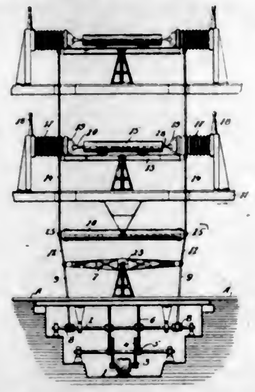
866,877. LADDER-HOIST. JOHN MUIRHEAD, Providence, R. I., assignor of one-half to George M. Bailey, Providence, R. I. Filed Mar. 11, 1907. Serial No. 361,842.



1. In an apparatus of the type described, a pivotally mounted base plate, uprights fixed to said base plate, a fixed shaft in said uprights, plates mounted on said shaft and having spur-teeth, a ladder secured to said plates, a pair of fixed shafts in the uprights, disks mounted on said pair of shafts having teeth for engagement with the teeth of said plates, and having worm-teeth, worm shafts carried by the uprights and having worms for engagement with the worm teeth of said disks and having beveled gears on their ends, a spring motor having the shaft thereof provided with beveled gears meshing with the beveled gears of said worm shafts, and a brake mechanism for said spring motor.

2. In an apparatus of the type described, the combination of a pivotally mounted base plate, uprights supported on said base plate, a ladder supported from said uprights, a spring motor mounted on the base plate, brake mechanism normally holding the spring of said motor against action, means including tension springs intermediate the ladder and the motor adapted, when the motor is released, to aid in lifting said ladder.

866,878. AIR-COMPRESSOR. ALEXANDER MCCARTHY, New York, N. Y. Original application filed Oct. 12, 1905, Serial No. 282,395. Divided and this application filed Jan. 19, 1907. Serial No. 353,054.



1. In an apparatus for the compression of air, the combination of an oscillating cylinder partially filled with fluid, means for oscillating said cylinder, a series of air compressing devices and said oscillating cylinder for the purpose specified.

2. In an apparatus for the compression of air, the combination of an oscillating cylinder partially filled with fluid, means for oscillating said cylinder, air compressing devices, and means for operating said compressing devices having a combined oscillatory and longitudinal movement.

3. An apparatus for the compression of air, comprising an oscillating beam, means for oscillating said beam, a tubular member mounted on said beam and adapted to move longitudinally thereof, a fluid in said member, and air compressing devices adapted to be operated by said tubular member.

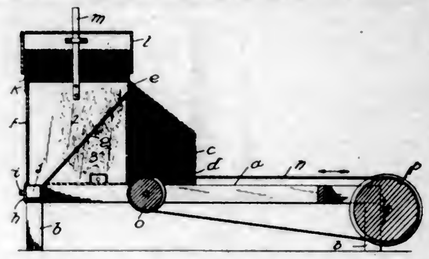
4. An apparatus for the compression of air, comprising oscillating beams, means for oscillating said beams, a longitudinally movable member mounted on each of said beams, and air compressing devices operated by said members.

5. An apparatus for the compression of air, comprising an oscillatory beam, a tubular member mounted thereon and adapted to move longitudinally thereof, and partially filled with fluid, and an air compressing device connected on one end of said tubular member.

6. An apparatus for the compression of air, comprising an oscillatory beam, a tubular member mounted thereon and adapted to move longitudinally thereof, and partially filled with fluid, and an air compressing device connected to each end of said tubular member.

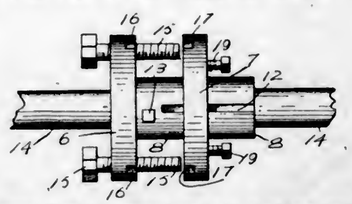
866,879. FLY-TRAP. GUY C. MCGEE, Ironton, Colo., assignor of one-fourth to A. G. Bruner, Ironton, Colo. Filed Feb. 18, 1907. Serial No. 357,950.

1. A fly-trap comprising a cage of woven wire having an opening at its bottom, a closed chamber having a top adapted to admit light therethrough, the said cage having an opening at its top communicating with the closed chamber, and the latter chamber being provided with a diagonally extended foraminous partition, and an endless traveling belt having a part extended through the said opening at the bottom of the cage.



2. A fly-trap comprising a cage of woven wire having an opening at the bottom, a closed chamber having an opening at its top communicating with the wire cage and provided with a diagonally extended foraminous partition, a drawer in the lower part of the chamber, and a wire cage on top of the chamber having an adjustable close cover, and an endless traveling-belt having a portion thereof extended into the first mentioned cage through the opening at its bottom.

866,880. CUTTER-HEAD. ANDERS A. OVERBAY, Ceres, Va. Filed June 12, 1907. Serial No. 378,613.



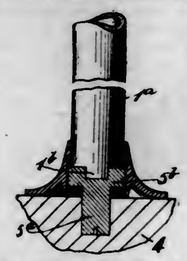
A cutter head comprising a pair of plates which are circular in form, one of the plates being provided with an axial opening, a hub formed integral with the other plate and projecting axially therefrom and through the opening in the first mentioned plate, the said hub being provided with longitudinally extending grooves, lugs formed upon the first mentioned plate at the edge of the opening therein and projecting into the grooves in the hub, whereby the first mentioned plate will be prevented from turning independently of the hub but will be adaptable of adjustment longitudinally thereof, adjusting screws engaged through the two plates upon opposite sides of the hub, the said plates being provided in their opposing faces with opposed semi-circular grooves which open through the peripheries of the respective plates, bits engaged at their edges in the grooves in the plates and having their cutting edges projecting beyond the peripheries of the plates, the said bits being adjustable in the grooves, and set screws engaged through one of the plates and bearing against the adjacent edges of the bits.

866,881. PARTITION-SUPPORT. CHARLES I. PARKER, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed Mar. 20, 1907. Serial No. 363,398.

1. In a partition support, the combination of a post, a flanged base adapted to receive the post, an adjustable support for said post within said base, means on said post engaging said support to adjust the same, and means carried by the support to prevent lateral movement of the base.

2. In a partition support, a post, a flanged base engaging the floor provided with a socket to receive said post, an adjustable support within said socket engaging

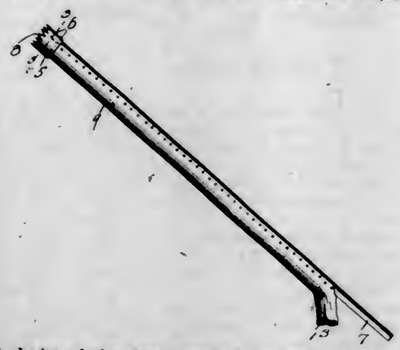
the end of the post and adapted to adjust the same in relation to the floor, and means carried by the support to prevent the longitudinal movement of said base.



3. In a partition support, a post, a flanged base engaging the floor provided with a socket to receive said post, a screw-threaded adjustable support engaging a corresponding screw-threaded portion in said socket adapted to change the relation of the post to the floor, means carried by the post to adjust said support, and means carried by said support to prevent longitudinal movement of said base.

4. In a partition support, a post, a flanged base engaging the floor provided with a socket to receive and support the said post, an adjustable support within said socket, means carried by said post engaging said support to adjust said post by rotation of said base, and means carried by the support to prevent the longitudinal movement of the base.

866,882. FRUIT-PICKER. WILLIAM J. PRIEST, Pleasant Valley, Cal. Filed July 18, 1905. Serial No. 270,252.

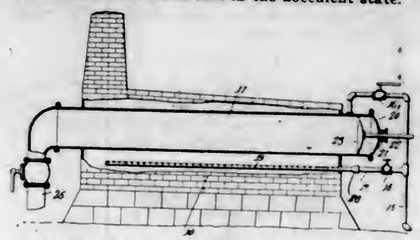


A device of the class described comprising an annular fruit picking element, a pole having its upper end disposed within said picking element and fastened against the inner face thereof, and a tubular sleeve formed of fabric and secured at its upper end within said picking element, said sleeve having its edges secured directly to opposite sides of said pole to within a short distance of its lower end, such sleeve end being unattached to said pole.

866,883. PROCESS OF MAKING CARBON-BLACK. ALBERT D. PURTLE and IRVEN E. ROWLAND, Salem, W. Va. Filed Dec. 11, 1906. Serial No. 347,313.

1. The process of producing carbon black from a hydrocarbon gas which consists in heating the gas in a closed retort to such a degree as to decompose the gas and cause the carbon to be deposited on the interior walls of the retort in a flocculent condition, and then removing the carbon while still in the flocculent state and without cooling the retort.

2. The process of producing carbon black from a hydrocarbon gas consisting in subjecting the gas under pressure in a closed retort to a heat of about 800 degrees centigrade until the carbon is deposited on the interior walls of the retort in a flocculent condition, and then removing the carbon from the retort while still in the flocculent state.



3. The process of producing carbon black from a hydrocarbon gas consisting in continuously introducing the gas under pressure into a closed retort heated to a temperature sufficient to cause the deposition of the carbon of the gas in a flocculent state upon the interior walls of the retort, and then removing the deposited carbon from time to time while still in the flocculent state and without reducing the heat of the retort.

4. The process of producing carbon black from a hydrocarbon gas consisting in subjecting the gas under pressure in a closed retort to the action of heat until the carbon is separated therefrom and deposited in a flocculent condition in the retort, and then removing the deposited carbon while still in the flocculent state, from the heat zone.

866,884. RAILWAY-FROG. CHARLES W. REINOEHL and WILLIAM M. HENDERSON, Harrisburg, Pa. Filed Feb. 14, 1907. Serial No. 357,310.

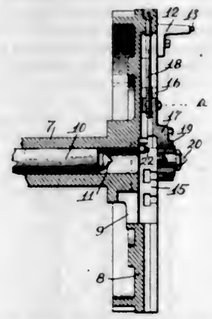


1. In a railway frog or crossing, the combination, with the stock-rails and point-rails, of the hard-metal insert piece fitted thereto, the bolts passing through said insert piece adjacent the ends thereof and securing the same to said rails, together with the clamps embracing said stock-rails and insert piece together, substantially as and for the purpose set forth.

2. In a railway frog or crossing, the combination, with the stock-rails recessed opposite the frog point and the point-rails terminating some distance to the rear of the point, of the hard-metal insert piece having the portions fitted to said recesses in the stock-rails and having also the point-forming portion in line with and extending from said point-rails, said insert piece being also provided with the filling block extension at the throat of the frog, together with the bolts passing through said filling block extension and securing said stock-rails and insert piece together, and the bolts securing said stock-rails, point-rails and insert piece together to the rear of the point, and the clamps embracing and securing the said parts together intermediate of said bolts, the crossing portion of said frog being held together by said clamps and devoid of bolts, substantially as and for the purpose set forth.

3. In a railway frog or crossing, the combination, with the stock-rails and point-rails, of the hard-metal insert piece secured to said stock and point-rails, and having head-forming portions fitted to the heads of said stock-rails and the point portion fitted to and constituting an extension of said point-rails, said point portion having a rearward extension between said point-rails and whose upper surface is in substantially the same plane as the heads of said rails, the extreme rear end of said extension being downwardly beveled, substantially as and for the purpose set forth.

866,885. DRIVING-WHEEL LATHE. GEORGE T. REISS and AUGUSTUS WOOD, Hamilton, Ohio, assignors to Niles-Bement-Pond Company, Jersey City, N. J. Filed May 24, 1907. Serial No. 375,413.



1. A face-plate provided with a central recess adapted for the reception of the return crank of a locomotive driving-wheel, a movable plate carried by the face-plate at the front of the recess and arranged for displacement so as to leave the front of the recess clear, a center carried by said movable plate at the axis of the face-plate, and means whereby said center may be adjusted in the axial line of the face-plate, combined substantially as set forth.

2. A face-plate provided with a central recess adapted for the reception of the return crank of a locomotive driving-wheel, a movable plate carried by the face-plate at the front of the recess and arranged for displacement so as to leave the front of the recess clear, means whereby said movable plate may be adjusted to and from the axis of the face-plate, a center carried by said movable plate at the axis of the face-plate, and means whereby said center may be adjusted in the axial line of the face-plate, combined substantially as set forth.

3. A face-plate provided with a central recess adapted for the reception of the return crank of a locomotive driving-wheel, a radial guide-way in the front of the face-plate, a movable plate slidable in said guide-way, means for adjusting the movable plate to and from the axis of the face-plate, a center carried by said movable plate at the axis of the face-plate, and means whereby said center may be adjusted in the axial line of the face-plate, combined substantially as set forth.

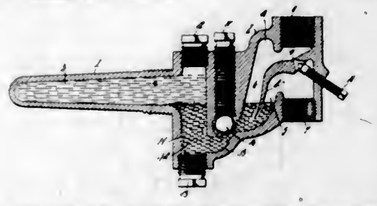
4. A lathe arbor having an axial bore, a face-plate thereon provided with a central recess adapted for the reception of the return crank of a locomotive driving-wheel, a center-spindle slidable in the axial bore of the arbor, a movable plate carried by the face-plate at the front of the recess and arranged for displacement so as to leave the front of the recess clear and having a bore concentric with the axis of the face-plate and of a diameter to fit the center spindle, a center carried by said movable plate at the axis of the face-plate, and means whereby said center may be adjusted in the axial line of the face-plate, combined substantially as set forth.

5. A face-plate provided with a central recess adapted for the reception of the return crank of a locomotive driving-wheel, a movable plate carried by the face-plate at the front of the recess and arranged for displacement so as to leave the front of the recess clear, means for adjusting said movable plate to and from the axis of the face-plate, a center carried by said movable plate at the axis of the face-plate, a stop carried by the face-plate to limit the inward movement of said movable plate, and means whereby said center may be adjusted in the axial line of the face-plate, combined substantially as set forth.

6. A lathe arbor having an axial bore, a face-plate thereon provided with a central recess adapted for the reception of the return crank of a locomotive driving-wheel, a center-spindle slidable in the axial bore of the arbor, a movable plate carried by the face-plate at the front of the recess and arranged for displacement so as to leave the front of the recess clear and having a bore concentric with the axis of the face-plate and of a diameter to fit the center spindle, a removable bushing seated in said bore, a center screwed concentrically into said bushing and axially adjustable therein, and means for binding the center in the bushing after adjustment, combined substantially as set forth.

7. A face-plate provided with a central recess adapted for the reception of the return crank of a locomotive driving wheel, a plate projecting partly across said recess and adapted for position between the driving wheel and its return crank, a center carried by said plate in the axial line of the face-plate, and means whereby said center may be adjusted axially relative to a wheel supported thereby, combined substantially as set forth.

866,886. GAS-VALVE FOR HOT-WATER BOILERS. WILLIAM C. RICKETTS, Dayton, Ohio. Filed Oct. 25, 1906. Serial No. 340,524.



1. A gas controlling valve comprising a thermostatic member, communicating gas receiving and gas discharging compartments, a mercury containing chamber forming a passage for connecting the said member and compartments, a float valve to intercept said passage, and means for actuating the valve.

2. A gas controlling valve comprising a thermostatic member, a gas chamber combined therewith and having an inlet and an outlet, a perforated septum separating the inlet and outlet and dividing the chamber into a gas receiving and a gas discharging compartment, means for controlling said perforation a mercury chamber forming a passage for connecting said member and compartments, and means for controlling said passage.

3. A gas controlling valve comprising a thermostatic member, a gas chamber combined therewith and having a gas inlet and a gas outlet, a septum separating the inlet and outlet and dividing the chamber into a gas receiving and a gas discharging compartment, a mercury chamber forming a passage for connecting the said member and compartments, means for controlling said passage, and a valve controlled by-pass in the septum.

4. A gas controlling valve comprising a body provided with an opening and having a horizontally arranged hollow member, comprising two compartments and having a partition therebetween and a mercury chamber forming a passage between said member and the gas chamber, said passage being provided with an opening and a valve seat and the partition between the gas compartments extending down nearly to said seat, a valve for the seat, a screw for controlling the valve, and screw plugs for the openings in the body and the passage, respectively.

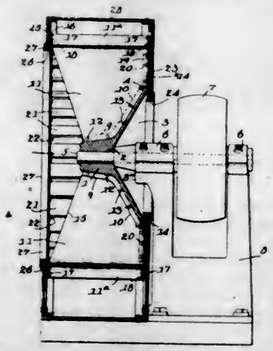
5. A gas controlling valve comprising a hollow body, one portion of which forms a thermostatic member, another portion comprises two compartments with a partition therebetween, said compartments being provided respectively with an inlet and an outlet opening, and another portion forms a tortuous passage between said member and said two compartments, said passage being provided with a valve seat, and a buoyant valve adapted to be moved toward and from said seat to regulate said passage or to close the same.

6. A gas controlling valve comprising a hollow body, one portion of which forms a thermostatic member and is exteriorly screw threaded, another portion is provided with a partition which divides it into two communicating chambers, each chamber being provided with an opening

thereinto, and the intermediate portion is provided with screw-threaded perforations and with a passage between said member and said two chambers, said passage being provided with a valve seat in alinement with one of said perforations, a buoyant valve for said seat, and a screw plug for each perforation, one of which is adapted to engage with said valve and move the same toward said seat.

7. A gas controlling valve comprising a body having a thermostatic member, a gas chamber and a mercury chamber, the gas chamber having an inlet and an outlet and a perforated septum therebetween, the lower end of the septum extending below the inlet and nearly to the bottom of the gas chamber, a screw plug through the wall of the gas chamber with its inner end adapted to control the opening in the septum, and a screw plug for controlling the height of the mercury relative to the lower end of the septum.

866,887. ROTARY FAN. JAMES R. ROBINSON, Pittsburg, Pa. Filed Apr. 11, 1906. Serial No. 311,138.



1. A rotary fan comprising a hub having a head, longitudinal ribs upon the hub, ribs upon the head leading from the ribs of the hub and disposed tangentially with respect to the axis of the fan, a radial ring carried by the outer periphery of the head, flanges upon the ring and disposed radially and terminating short of the outer edge of the ring, and blades connected to the ribs of the hub and the head and to the flanges of the ring, the outer end portion of each blade beyond the flanges being inclined rearwardly with respect to the direction of rotation of the fan.

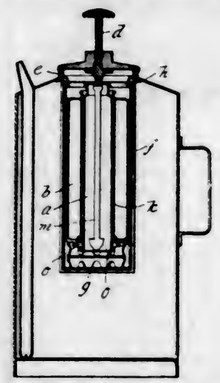
2. A rotary fan comprising a hub, full length blades carried by the hub, rings connecting the respective edges of the blades, and a series of short peripheral blades located between successive full length blades and carried by the rings.

3. A rotary fan comprising a hub having a head, full length blades carried by the hub and the head, rings connecting the outer portions of the respective longitudinal edges of the blades, and a series of short peripheral blades between successive full length blades and carried by the rings.

4. A rotary fan comprising a hub, substantially tangential blades carried by the hub, rings connecting the outer portions of the respective longitudinal edges of the blades, and a series of short peripheral blades disposed between successive tangential blades and carried by the rings, the peripheral and tangential blades being inclined rearwardly with respect to the direction of rotation of the fan.

866,888. FIRE-EXTINGUISHER. FRIEDRICH ROEMER, Stuttgart, Germany. Filed Oct. 19, 1905. Serial No. 283,560.

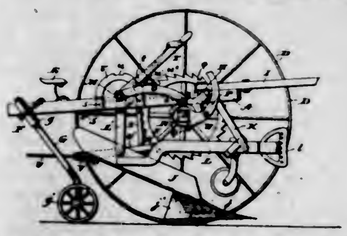
1. A fire extinguisher comprising a water containing tank having a suitable nozzle, a cylindrical container carried in the upper part of said tank and having openings leading to the tank, a partition dividing said tank into two compartments, hermetically closed cartridges containing different chemicals which when mixed together in the presence of water generate gas to expel the water, one of said cartridges being located in each compartment, whereby the said cartridges are separated by the partition, and means for opening the cartridges at their lower ends to permit the contents to be projected and commingled below the partition, substantially as described.



2. A fire extinguisher comprising a water tank having a delivery nozzle and a cylindrical cage or container having a perforated exterior wall, and an imperforate interior wall dividing the cage into two compartments, a hermetically closed cartridge located in each compartment, said cartridges containing different chemicals which when combined in the presence of water generate gas to expel the water, and means for opening the cartridges at their lower ends whereby the contents is permitted to fall down and commingle below the imperforate partitions, substantially as described.

3. A fire extinguisher comprising a water tank having a delivery nozzle, a cylindrical container located in the upper part thereof and having a perforated outer wall, a vertically disposed imperforate partition in said container located to one side of the center thereof and dividing the same into two compartments of unequal size, a cartridge fitting in each compartment, and means for opening the cartridges at the lower ends to permit the discharge of material contained therein, substantially as described.

866,889. POTATO-DIGGER. OKA SANDERSON, Conesville, Iowa. Filed Apr. 29, 1907. Serial No. 370,968.



1. In a digger, the combination of a plow, a screen attached thereto, automatic means for vibrating the plow and screen backward and forward together, and separate automatic means for vibrating the screen vertically.

2. In a digger, the combination of a plow, a screen pivoted to the plow, automatic means for imparting a backward and forward movement to the plow and screen, and automatic means for imparting a vertical swinging movement to the screen.

3. In a digger, the combination of a plow, means for vibrating the same embracing a cam, and means for automatically rendering the cam inoperative.

4. In a digger, the combination of a plow, a movable support for the plow, an axle, a cam on the axle for moving the plow on its support, and means for changing the position of the cam on the axle.

5. In a digger, the combination of a plow, movable supporting means for the plow, including a shaft, automatic means for actuating said shaft, and hand-operated means for actuating said shaft.

6. In a digger, the combination of a plow, a movable support for the plow, automatic means for moving the plow, and hand-operated means for moving the plow.

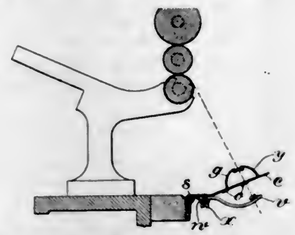
7. In a digger, the combination of an axle, a frame, a plow, links suspending the plow from the frame, a rock shaft to which the links are connected, an arm on the rock shaft, a cam on the axle to actuate said arm, a screen pivoted to the plow, and a wheel on the axle to vibrate said screen.

8. In a digger, the combination of an axle, a frame, a plow, links suspending the plow from the frame, a rock shaft to which the links are connected, an arm on the rock shaft, a cam on the axle to actuate said arm, a screen pivoted to the plow, a wheel on the axle to vibrate said screen, and a hand-lever secured to said rock shaft.

9. In a digger, the combination of a plow, means for vibrating the same comprising a cam for moving the plow in one direction, and an adjustable stop to limit the movement of the plow in the opposite direction.

10. In a digger, the combination of a frame, a plow supported by the frame, an axle on which the frame is mounted, means for vibrating the plow comprising a cam, movably mounted on the axle, and a foot lever for controlling the movements of the cam.

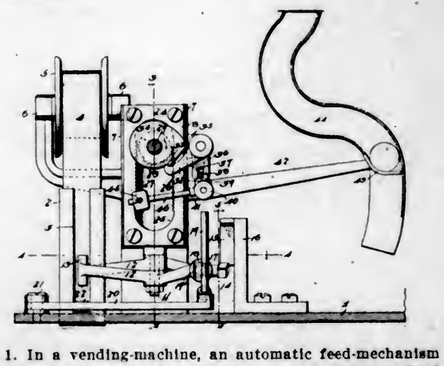
866,890. THREAD-CONTROLLER. GUSTAV SCHMIDT, Kolmar, Alsace, Germany, assignor to Edouard Schmidt, Kolmar, Germany. Filed Sept. 6, 1906. Serial No. 333,462.



1. An arrangement for preventing the entanglement or drawing in of strange threads in spinning and twisting machines of the continuous type, formed of independently articulated metal plates extending each to another so as to constitute a substantially continuous divided plate, and each of which is provided with a removably attached dome having at its top an elongated aperture with its edges bent inwardly and provided with a radial slot leading to a slot in the plate for allowing the introduction of the thread into the said aperture in the dome, each of the said plates being provided directly on its under side with a thread guide, a guiding piece for this latter allowing the thread guide to be shifted during the operation of the machine, and a screw device to secure the thread guide in its adjusted position substantially as described.

2. An arrangement for preventing the entanglement or drawing in of strange threads in spinning and twisting machines of the continuous type, formed of independently articulated metal plates extending each to another so as to constitute a substantially continuous divided plate, and each of which is provided with a removably attached dome having at its top an elongated aperture with its edges bent inwardly and provided with a radial slot leading to a slot in the plate for allowing the introduction of the thread into the said aperture in the dome, each of the said plates being provided directly on its underside with a thread guide, a guiding piece for this latter allowing the thread guide to be shifted during the operation of the machine, and a screw device to secure the thread guide in its adjusted position, the elongated aperture of each said dome being provided with slots having sharp edges allowing the device also to act as an entanglement or union breaker, substantially as described.

866,891. STAMP OR TICKET VENDING MACHINE. EDWARD D. SCHMITT, Brooklyn, N. Y., assignor of two-thirds to Robert H. Pollock and W. Frank Thomas, Baltimore, Md. Filed June 29, 1906. Serial No. 324,092.



1. In a vending-machine, an automatic feed-mechanism composed of a vertically-reciprocatory feed-gripper, a fixed check or safety-gripper adapted to be opened by the closing of the reciprocatory-gripper, and means closing said reciprocatory-gripper and thereby opening the check-gripper.

2. In a vending machine, an automatic feed-mechanism composed of a vertically-reciprocatory feed-gripper, a fixed check-gripper, arranged below said reciprocatory-gripper and adapted to be opened by the closing of the reciprocatory-gripper, and means alternately opening and closing both grippers.

3. In a vending-machine, an automatic feed-mechanism composed of a feed-gripper pivotally-mounted on a vertically-reciprocatory block or carriage, a fixed check-gripper, pivoted below said feed-gripper and adapted to be opened by the closing of the feed-gripper, and means closing said feed-gripper to cause the check-gripper to release its grip on the article being fed.

4. In a vending machine, the combination of pivotally mounted check grippers having a fixed pivot, reciprocatory pivotally mounted feed grippers, means to impart reciprocating motion to the feed grippers, means to alternately open and close them, and connections between the feed grippers and the check grippers, whereby the latter are operated by the former, substantially as described.

5. In a vending-machine, an automatic feed-mechanism composed of a feed-gripper pivotally-mounted on a vertically-reciprocatory block or carriage, a fixed check-gripper, arranged below said feed-gripper and adapted to be operated by the feed-gripper, and means alternately opening and closing both grippers.

6. In a vending-machine, the combination of a feed-gripper pivotally-mounted on a vertical block or carriage, a check-gripper, connections between the two grippers, whereby the check-gripper is opened by the closing of the feed-gripper, means reciprocating the block or carriage and thereby the feed-gripper, and means alternately opening and closing both grippers.

7. In a vending-machine, the combination of a reciprocatory feed-gripper, a check-gripper arranged below the feed-gripper, means automatically opening said feed-gripper

and connections between the two grippers, whereby the opening of the feed-gripper will cause the closing of the check-gripper.

8. In a vending-machine, the combination of a vertically-movable feed-gripper, a fixed check-gripper arranged below the feed-gripper and connected therewith, and means alternately closing the movable or feed-gripper and the check-gripper.

9. In a vending-machine, the combination of a vertically-movable feed-gripper, a fixed check-gripper arranged below the feed-gripper, connections between the grippers, and co-acting cams and tappets alternately closing and opening the movable feed-gripper and the check-gripper.

10. In a vending machine, the combination of a check gripper having a fixed pivot and guides 19, a reciprocating element, a pivoted feed gripper carried thereby and engaging said guides, whereby the check and feed grippers are slidably connected together, and means to operate one of said grippers, and thereby cause the other gripper to be operated, substantially as described.

11. In a vending machine, the combination of a relatively fixed check gripper, a reciprocating element, a feed gripper carried thereby, means to operate the feed and check gripperss in alternation, a revoluble element and racks, and a mutilated gear to convey power from said revoluble to said reciprocating element, substantially as described.

12. The combination in a vending machine, of a check gripper having a fixed pivot, a reciprocating element, a pivotally mounted feed gripper carried thereby, means to slidably connect the feed gripper to the check gripper, and coacting cams, tappets and springs to operate the check and feed grippers in alternation, substantially as described.

13. In a vending-machine, the combination of a spring-pressed movable-gripper, a relatively fixed spring-restrained check-gripper, a guide element, means operating the feed-gripper to alternately open and close both grippers, and controlling-means to permit the feed-gripper to be operated so as to deliver the article.

14. In a vending machine, the combination of a relatively fixed check gripper, a movable feed gripper, a guide element, means for operating the feed and check grippers alternately, a locking-device to lock the grippers against movement, and controlling means having connection with the locking-device and adapted to be operated to permit a movement of the feed gripper to deliver the merchandise, substantially as described.

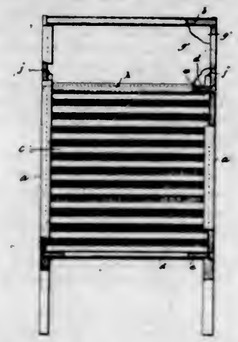
15. In a vending machine, the combination of a relatively fixed check gripper, a movable feed gripper, a guide element, means for operating the feed gripper and to alternately open and close the feed and check grippers, a locking-device to normally prevent a movement of the grippers, an operating lever having connection with the locking-device and adapted to unlock and permit a movement of the mechanism to deliver the merchandise.

16. In a vending-machine, the combination of a vertically-movable block or carriage, a feed-gripper pivoted to said block, a check-gripper pivoted below the feed-gripper, connections between the grippers, a guide element, and means reciprocating the block to operate the grippers.

17. In a vending-machine, the combination of a vertically-movable block or carriage, a spring-pressed feed-gripper pivoted to said block, a spring-restrained check-gripper pivoted below the feed-gripper, connections between the grippers, whereby the check-gripper is caused to open by the closing of the feed-gripper, a guide element, and means reciprocating the block to operate the feed-gripper.

18. In a vending-machine, the combination of a vertically-movable block or carriage, a feed-gripper pivoted to said block, a relatively fixed check-gripper, pins carried by the check-gripper, guides carried by the feed-gripper and adapted to act against said pins, a spring arranged to close the jaws of the feed-gripper, a spring arranged to close the jaws of the check-gripper, a guide element, and means reciprocating the block to operate the feed-gripper.

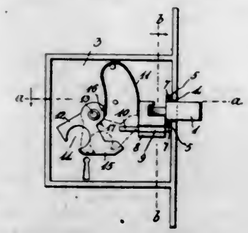
866,892. WASHBOARD. WALLER SCOTT, Richmond, Va. Filed Apr. 11, 1906. Serial No. 311,099.



1. In combination, a pair of side members grooved each along its inner side, a double-faced rub-board whose edges lie in said grooves, and a double-faced soap-receptacle having its side edges slid down in said grooves from the top of the board, said soap-receptacle comprising a pair of splash-plates arranged back to back each of whose lower edges is curved outwardly and upwardly to form a gutter, said soap-receptacle being formed of a single piece of sheet metal folded into a tube at its upper edge, and a cross-bar enveloped by said sheet metal tube, substantially as set forth.

2. In combination with side members and a rub-board therebetween, of a double-faced soap-receptacle adapted to slide down between the upper ends of the side members in grooves formed in the side members, said soap-receptacle being formed of sheet metal folded to form a tubular cross-bar at its upper end and a pair of gutters at its lower end, the gutters extending over upon the faces of the rub-board and being perforated to discharge the drainage of the soap-receptacles onto the rubbing-board surfaces.

866,893. DOOR-LOCK. FRANZ G. SEYFFARTH, Newark, N. J. Filed Feb. 11, 1907. Serial No. 356,858.

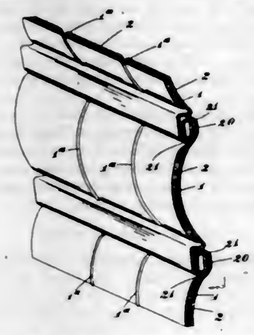


1. A lock having a latch bolt beveled on one side at its outer end, movable longitudinally and also mounted for lateral angular movement, a follower movable longitudinally with the latch bolt, and means to actuate said follower and latch bolt, substantially as described.

2. A lock having a latch bolt beveled on one side at its outer end, movable longitudinally and also mounted for lateral angular movement, a follower movable longitudinally with the latch bolt movement, and a spring to move said follower and latch bolt outwardly.

3. A lock having a latch bolt beveled on one side at its outer end, movable longitudinally and also mounted for lateral angular movement, a follower movable longitudinally with the latch bolt, a spring to move said follower and latch bolt outwardly, and means to lock said follower and latch bolt when the latter is in projected position.

866,894. FIRE-RESISTING CURTAIN. HERMAN E. VANCE, Columbus, Ohio. Filed Apr. 1, 1905. Serial No. 253,346.



1. A flexible fire resisting curtain embodying a plurality of hinged metallic slats or sections provided with a sheathing or coating of heat resisting material, said slats or sections having projections extending substantially through the outer surface of the coating or sheathing.

2. In a fire resisting curtain, a metallic slat provided with means for joining it to other slats and having its body portion provided with a sheathing of heat resisting material different from that of which the body of the slat is formed and metallic projections extending from the body of the slat substantially through the outer surface of the sheathing.

3. In a fire resisting curtain, a metallic slat provided with means for joining it to other slats and with projections bent up out of the body of the slat, and a sheathing of heat resisting material applied to the body of the slat, said projections extending substantially through the outer surface of the sheathing.

4. In a fire resisting curtain, a metallic slat provided with means for joining it to other slats, and with transverse metallic projections, a sheathing of heat-resisting material on the slat between said projections, said projections extending substantially through the outer surface of the sheathing.

5. In a fire resisting curtain, a curved metallic slat provided with means for joining it to other slats and with metallic projections, a sheathing of heat-resisting material on the slat between said projections, said projections extending from the body of the slat substantially through the outer surface of the sheathing.

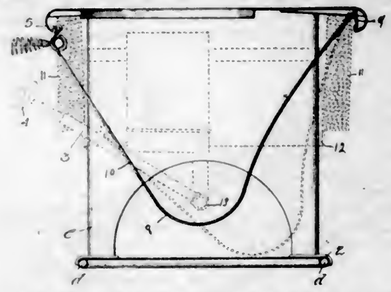
866,895. BASE-BALL MITT. SAMUEL F. WARING, Brooklyn, N. Y. Filed Nov. 16, 1906. Serial No. 343,690.



1. A baseball glove comprising an oval flexible base having a regular outline, a pair of arcuate members each of similar form secured to said base and having a space between their adjacent ends, said arcuate members each having similar inclined inner side faces, a section of material secured to the rear of said base, finger pockets secured to said section of material and having an inclined disposition, said section of material being extended to form a thumb space.

2. A baseball glove comprising a flexible oval-like base formed of two sheets of material, arcuate members each of similar contour secured to each of said sheets of material, said members having a space between their inner adjacent ends, and padding between said sheets and arranged in said space between the ends of said members and between the inner side faces thereof.

866,896. OIL-STOVE. WILLIAM H. WILDER, Gardner, Mass. Filed Nov. 2, 1903. Serial No. 179,624.



1. A stove top of sheet metal having a plain upper surface, and having rolled over edges with openings at the corners between the adjacent rolled over edges and holding means extending through the said openings and between the ends of said rolled over edges, substantially as described.

2. A stove top having a plain upper surface with rolled over edges and approximately circular openings at each corner of the rolled over edge with fastening means engaging the top through said corner openings, substantially as described.

3. A stove top having rolled over edges and an opening at each corner, a casting beneath the top, a rosette on the exterior of the corner with means for holding the casting and rosette together said casing forming means for attachment with a suitable base, substantially as described.

4. A stove top having rolled over edges and with an opening at each corner, a casting beneath the stove top, a rosette forming therewith fastening means for the top, a bottom section and end sections and fastening means for said sections in connection with the casting, substantially as described.

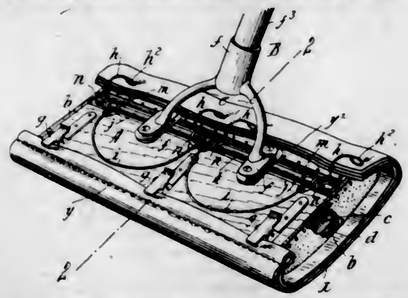
5. In combination with an oil stove having an overhanging extension at one end, a reservoir located beneath said extension and a spring connected to the said extension and supporting the reservoir, substantially as described.

866,897. DUSTING AND POLISHING DEVICE. JOHN P. WILLEY, Springfield, Mass. Filed Nov. 24, 1906. Serial No. 344,951.

1. In a device of the character described, a holder, provided with a handle, and having confining devices at its top near the opposite longitudinal edges thereof, for detachably holding a cleaning or polishing fabric or material adapted to inclose the bottom and opposite edgewise portions of said holder, and an additional confining device at the top of the holder located inwardly from one longitudinal edge of the holder for detachably confining an already used and overturned layer of the said material.

2. In a device of the character described, a holder comprising a fabric carrying holder provided with a handle arranged obliquely to the top of said holder and having a lower arch shaped part with attachment feet secured to the body, and a weight block, adapted to rest on the said holder, having a handle accommodating recess in its back and opposite hook members to engage said arch shaped part.

3. In a device of the character described, a holder comprising a body, provided with a handle connected therewith and extended obliquely therefrom, and said body having a rod supported thereon, a single length of spring wire having its intermediate portion bowed or looped, having outer portions thereof formed into axially alined coils engaging about said rod, and having its end portions formed into confining fingers opposite from said intermediate bowed portion, operable to exert a spring bearing at the upper portion of the body, near one longitudinal edge thereof, while said bowed portion exerts a spring bearing against the top of the body to the side of the rod opposite said fingers, and at a point inwardly from the other longitudinal edge thereof, and spring fingers on the top of the body at different points adjacent the latter longitudinal edge thereof, and outside of said bowed spring portion.



4. In a device of the character described, a holder comprising a body, having a handle, and having at opposite longitudinal edge portions of such body spring cloth confining devices, and having spring confining devices at its upper side along a line inside of and parallel with one of its longitudinal edges and arranged to have,—when it is opened,—the space between it and the top of the body open towards such longitudinal edge.

5. In a device of the character described, a holder comprising a body, having a handle connected therewith and extended upwardly therefrom, a longitudinally extending slot in the top, a rod in said slot, and staples embracing the rod and having its prongs engaged in the body, a pair of spring appliances at opposite sides of the handle, each thereof consisting of a single length of spring wire having its intermediate portion bowed or looped, having outer portions thereof formed into axially alined coils engaging about said rod, and having its end portions formed into confining fingers opposite from said intermediate bowed portion, operable to exert a spring bearing at the upper marginal portion of the body, while said bowed portion exerts a spring bearing against the top of the body to the side of the rod opposite said fingers.

866,898. SASH-HOLDER. ANDREW J. WILSON, Tonopah, Nev. Filed May 5, 1906. Serial No. 315,370.



1. In a sash fastener, the combination with a wedge-shaped frame mounted in said casing provided with a cross-bar having a rack portion and an arm mounted in the casing provided with an angled end extending between the cross-bar and upper reduced portion of the frame, adapted to engage said rack portion and reduced portion, for the purpose described.

2. In a sash fastener, the combination with a wedge shaped casing of a spring actuated wedge shaped frame moupnted in said casing provided with a cross bar provided with a rack portion and an arm mounted in the casing provided with an angled end adapted to engage said rack portion for locking said wedge shaped frame for the purpose described.

3. In a sash fastener, the combination with a wedge-shaped casing, of a spring actuated wedge-shaped member arranged in said casing, provided with a cross-bar having a rack portion, a shaft extending through said casing provided with a knob and an arm mounted upon said shaft adapted to engage said rack portion.

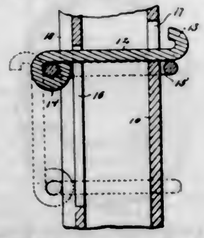
866,899. MAIL-CRANE. THOMAS J. WOLFE and FRANK L. WOOD, Fairbury, Nebr., assignors of one-tenth to James A. Jackson and three-tenths to William H. Wood, Fairbury, Nebr. Filed Feb. 13, 1907. Serial No. 357,118.



1. In a mail crane, the combination of a post provided with a support, an arm projected from the post and a spring actuate pressure plate coöperating with said support to retain the mail in proper position for delivery.

2. In a mail crane, the combination of a post, a support projected from the post, an arm extended laterally from the post, a spring clamp at the outer end of said arm, and a spring actuate pressure plate mounted upon said arm and coöperating with the aforesaid support.

866,900. FENCE-WIRE CLAMP. JOHN M. WOODS, Lanes Mills, Pa. Filed July 19, 1907. Serial No. 384,539.

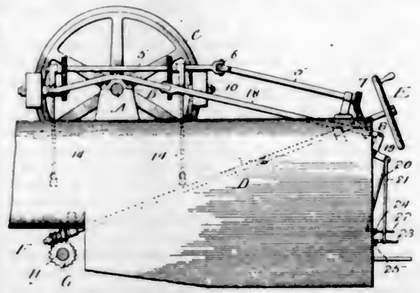


1. The combination with a fence-post having a transverse opening, of a stem extending loosely through said opening and projecting from opposite sides of the post, a hook on one end of the stem engageable with the fence-wire, and a ring loosely encircling the post and connected to the other end of the stem.

2. The combination with a tubular fence-post having on one side a slot and on the opposite side a hole, of a stem extending through said slot and said hole and projecting from opposite sides of the post, a hook on the end of the stem which projects from the hole, and engageable with the fence-wire, and a ring encircling the post and connected to the opposite end of the stem.

3. The combination with a tubular fence-post having on one side a longitudinally slotted groove, and a hole in the opposite side, of a stem extending through said slot and said hole, and projecting from opposite sides of the post, a hook on the end of the stem which projects from the hole, and engageable with the fence-wire, an eye on the opposite end of the stem, and a ring encircling the post and connected to the eye.

866,901. STEERING DEVICE. PERRY O. ZEHNER, Tank, Pa. Filed Mar. 11, 1907. Serial No. 361,772.



1. In a steering mechanism for traction engines and the like, the combination with a manually operable steering shaft, a power shaft arranged to operate said steering shaft, an oscillating frame mounted adjacent the fly wheel of the driving mechanism of said engine, friction wheels mounted in said frame and adapted to be engaged and disengaged with the peripheral edge of said fly wheel, gearing arranged between said friction wheels and said power shaft, and means for oscillating said frame to frictionally clutch one of said wheels, substantially as described.

2. In a steering mechanism for traction engines and the like the combination with a manually operable steering shaft, a power shaft arranged to operate said steering shaft, an oscillating frame mounted adjacent the fly wheel of the driving mechanism of said engine, friction wheels mounted in said frame and adapted to be engaged and disengaged with the peripheral edge of said fly wheel, gearing arranged between said friction wheels and said power shaft, means for oscillating said frame to frictionally engage one of said wheels and removable locking means for locking said wheels in said frame, whereby they may be released and used as idlers to prevent the belt slipping off said fly wheel when said engine is working stationary, substantially as described.

3. In a steering mechanism for traction engines and the like, the combination with a manually operable steering shaft, a power shaft arranged to operate said steering shaft, an oscillating frame mounted adjacent the fly wheel of the driving mechanism of said engine, friction wheels mounted in said frame, and adapted to be engaged and disengaged with the peripheral edge of said fly wheel, gearing arranged between said friction wheels and said power shaft, treadle operated means for oscillating said frame to frictionally clutch one of said wheels and removable locking means for locking said wheels in said frame, whereby they may be released and used as idlers to prevent the belt slipping off said fly wheel when said engine is working stationary, substantially as described.

4. In a steering mechanism for traction engines and the like, the combination with a manually operable steering shaft, a power shaft arranged to operate said steering shaft, an oscillating frame mounted adjacent the fly wheel of the driving mechanism of said engine, friction wheels mounted in said frame, and adapted to be engaged and disengaged with the peripheral edge of said fly wheel, gearing arranged between said friction wheels and said power shaft, and treadle operated means for oscillating said frame to frictionally clutch one of said wheels, substantially as described.

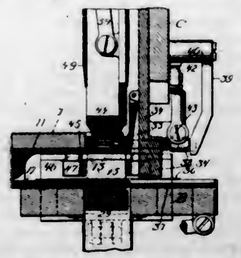
5. In a steering mechanism for traction engines and the like, the combination with a manually operable steering shaft, a power shaft arranged to operate said steering shaft, an oscillating frame mounted adjacent the fly wheel of the driving mechanism of said engine, a pair of short shafts mounted in said frame, friction wheels mounted on said short shafts and adapted to be engaged and disengaged with the peripheral edge of said fly wheel, gearing arranged between said short shafts and said power shaft, and means for oscillating said frame to frictionally clutch one of said wheels, substantially as described.

6. In a steering mechanism for traction engines and the like, the combination with a manually operable steering shaft, a power shaft arranged to operate said steering shaft, an oscillating frame mounted adjacent the fly wheel of the driving mechanism of said engine, a pair of short shafts mounted in said frame, friction wheels mounted on said short shafts and adapted to be engaged and disengaged with the peripheral edge of said fly wheel, means for normally holding said wheels disengaged, gearing arranged between said short shafts and said power shaft, and means for oscillating said frame to frictionally engage one of said wheels, substantially as described.

7. In a steering mechanism for traction engines and the like, the combination with a manually operable steering shaft, a power shaft arranged to operate said steering shaft, an oscillating frame mounted adjacent the fly wheel of the driving mechanism of the engine, a pair of short shafts mounted in said frame, friction wheels mounted on said short shafts, and adapted to be engaged and disengaged with the peripheral edge of said fly wheel, means for tightly or loosely mounting said friction wheels, gearing arranged between said short shafts and said power shaft, and means for oscillatng said frame to frictionally engage one of said wheels, substantially as described.

8. In a steering mechanism for traction engines and the like, the combination with a manually operable steering shaft, a power shaft arranged to operate said steering shaft, an oscillating frame mounted adjacent the fly wheel of the driving mechanism of the engine, a pair of short shafts mounted in said frame, friction wheels mounted on said short shafts and said power shaft, means for oscillating said frame to frictionally engage one of said wheels, and removable locking means for locking said wheels to said short shafts, whereby they may be released and used as idlers to prevent the belt slipping off said fly wheel when the engine is working stationary, substantially as described.

866,902. MACHINE FOR WRAPPING MERCHANDISE. THOMAS ADAMS, New York, N. Y.; John D. Adams and Thomas Adams, Bay Shore, N. Y., and Martha E. Adams, Brooklyn, N. Y., executors of said Thomas Adams, deceased. Filed July 28, 1902. Serial No. 117,336.



1. In a machine for wrapping merchandise, the combination of a bed or table; means for placing upon said bed or

table an outer wrapper blank; supports rising from said table to a height equal to or slightly in excess of the thickness of the body to be wrapped; means for placing an inner wrapper upon, and across the space between said supports; a plunger adapted to bear upon the body to be wrapped, and to force the same downward between the supports, whereby the inner wrapper has its ends turned upwardly and its face is brought in contact with that of the outer wrapper; and means for reciprocating the plunger.

2. In a machine for wrapping merchandise, the combination of a bed or table; raised supports upon said bed or table separated a distance equal to the length of the body to be wrapped plus slight clearance; a magazine for the merchandise, having a base or bottom raised slightly above the level of the supports on the table; a swinging bridge piece extending from said magazine base to a point over the supports and adapted to clamp a wrapper upon said supports; a slide or feeder movable across the base of the magazine and serving to push therefrom the requisite body of merchandise and to deliver the same across the bridge and upon a wrapper held thereby; a vertically moving plunger serving to force the body to be wrapped downward between the supports upon the table, and thereby to turn the ends of the wrapper upwardly; inwardly moving slides adapted to move over the depressed body and to turn the ends of the wrapper inward thereon toward each other, and provided with rollers or folders to act upon the vertical portions of the wrapper extending from bottom to top of the body, and to fold the same inward against the sides of said body; a hollow shell or slide adapted to move downward and to fold down lengthwise of the body the horizontally projecting edges of the wrapper; and means for actuating the several parts and for giving to the first plunger a further downward movement, whereby it is caused to force the partially formed package through an opening in the bed or table and thereby to fold upward lengthwise against its sides the horizontally projecting edges of the wrapper lying beneath said body.

3. In a wrapping machine, the combination of a table B, provided with an opening 29; slides 17 and 37 movable across said opening; blocks or supports 15 and 16 rising from said table to a height equal to the body of material to be wrapped; a supporting base 4; confining rods 6 rising from said base; a slide 7 movable across the base and serving to deliver merchandise therefrom; a bridge 11 extending from the base 4 to and over the supports 15 and 16; a gravitating plate 12 overhanging the bridge; slides 13 and 14 movable above the supports 15 and 16 and serving to fold the wrapper ends down upon the merchandise; and a compound or two-part plunger 44, 49, the part 44 adapted to first descend and bear upon the merchandise and wrapper lying above the supports 15 and 16 and to carry the same down to and upon the slide 17, and later upon the retraction of the slide, to force the package through the opening 29 in the table, and the slide 49 being adapted after the first or partial descent of the plunger 44, itself to descend and fold down the projecting edges of the applied wrapper.

4. In a wrapping machine, the combination of a table; raised supports above said table; means for delivering a wrapper between said supports; means for placing and for clamping a wrapper upon said supports; and a plunger movable downward relatively to said supports and serving by its downward movement to carry into the space between them the uppermost wrapper and the merchandise lying thereon, and thus to bend upward the ends of said wrapper.

5. In a wrapping machine, the combination of a bed or table; raised supports above said table; means for placing a wrapper between said supports; means for placing a wrapper upon said supports and across the intervening space; delivery mechanism adapted to deliver merchandise upon the wrapper upon the supports; a vertically-movable plunger serving to force the merchandise and the uppermost wrapper downward between the raised supports; and slides movable inward above said supports serving to fold inward upon the merchandise the ends of said wrapper.

6. In a wrapping machine, the combination of a bed or table having an opening of approximately the size of the package to be produced; raised supports above said table; means for placing a wrapper upon said supports and across the intervening space; delivery mechanism adapted to place merchandise upon said wrapper; a plunger adapted to bear upon and to force downward the merchandise and the wrapper between the raised supports, and thereby to turn or fold upwards the ends of the wrapper; slides movable inward above the supports and serving to fold or lay down upon the merchandise the ends of the wrapper; a second plunger movable relatively to the first and serving to turn down the projecting edges of the applied wrapper; and means for imparting to the first plunger longer or lower movement sufficient to force the package through the opening in the table and thereby to turn upward the projecting portions of the applied wrapper.

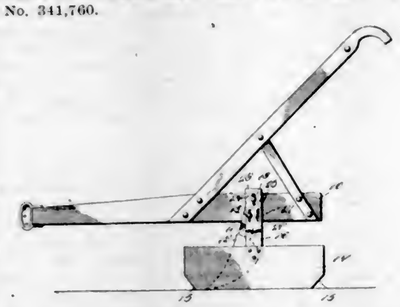
7. In a wrapping machine, the combination of a bed or table having an opening of approximately the size of the package to be produced; raised supports above said table; means for placing a wrapper upon said supports and across the intervening space; delivery mechanism adapted to place merchandise upon said wrapper; a plunger adapted to bear upon and to force downward the merchandise and the wrapper between the raised supports, and thereby to turn or fold upwards the ends of the wrapper; slides movable inward above the supports and serving to fold or lay down upon the merchandise the ends of the wrapper; rollers carried by said slides and serving to turn inward the vertical portions of the folded wrapper; a second plunger movable relatively to the first and serving to turn down the projecting edges of the applied wrapper; and means for imparting to the first plunger an additional movement sufficient to force the package through the opening in the table and thereby to turn upward the projecting portions of the applied wrapper.

8. In a wrapping machine, the combination of a bed or table having an opening of approximately the size of the package to be produced; raised supports above said table; means for placing an outer wrapper between said supports and across the opening in the table; means for placing a wrapper upon said supports and across the intervening space; delivery mechanism adapted to place merchandise upon said wrapper; a plunger adapted to bear upon and to force downward the merchandise and the wrapper between the raised supports, and thereby to turn or fold upwards the ends of the wrapper; slides movable inward above the supports and serving to fold or lay down upon the merchandise the ends of the wrapper; rollers carried by said slides and serving to turn inward the vertical portions of the folded wrapper; a second plunger movable relatively to the first and serving to turn down the projecting edges of the applied wrapper; means for imparting to the first plunger an additional movement sufficient to force the package through the opening in the table and thereby to turn upward the projecting portions of the applied wrapper; and slides movable over the table and above the opening and serving to fold down upon the package and upon the applied inner wrapper the overlapping edges of the outer wrapper.

9. In a wrapping machine, the combination of a bed or table; means for placing a wrapper thereon and for bending or folding the same across the ends of the merchandise; and slides movable over the remaining side or face of the merchandise and serving to fold down upon the same the ends of the wrapper, said slides being provided with rollers or members adapted to bear against and to turn in against the edges or sides of the merchandise those portions of the wrapper projecting outward beyond the sides of the merchandise at each end thereof.

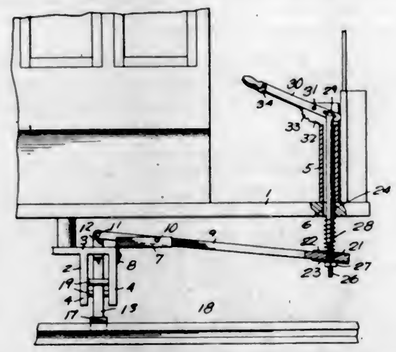
10. In a wrapping machine, the combination of the following instrumentalities: first, means for placing in position an outer wrapper; second, means for placing above the same an inner wrapper; third, means for delivering upon the inner wrapper the merchandise to be wrapped; fourth, means for turning up across the ends of the merchandise the ends of the inner wrapper and simultaneously bringing the two wrappers into surface contact; fifth, means for folding inward upon the upper face of the merchandise the end portions of the inner wrapper and simultaneously tucking in or folding those portions of the wrapper lying in vertical planes; sixth, means for folding down upon the sides of the merchandise the horizontally projecting portions of the inner wrapper lying above the merchandise; seventh, means for turning upward the corresponding lower flaps or portions of the inner wrapper and with them the outer wrapper; eighth, means for turning or folding inward and placing one upon the other the edges of the outer wrapper, and lastly, means for connecting and operating the recited mechanisms in the manner and sequence stated.

866,903. CULTIVATOR ATTACHMENT. WILLIE C. ALLBRITTON, Cairo, Ga. Filed Nov. 2, 1906. Serial No. 341,760.



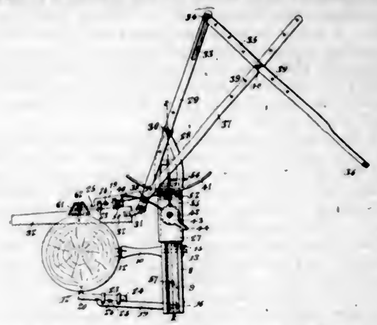
The combination, with the beam and the fender, of an intermediate angular piece having slots in its horizontal portion and to the vertical portion of which the fender is riveted, an angular plate provided with slots in both its vertical and horizontal portions, the latter portion being adjustably connected with the horizontal portion of the angular piece and the vertical portion of the latter piece being likewise connected with the beam.

866,904. CAR-BRAKE. LAWRENCE ALLENBRAND, Basehor, Kans. Filed Apr. 11, 1907. Serial No. 367,519.



A car brake of the type set forth comprising an operating lever mounted for pivotal movement on the platform of a car, a casing suspended from said platform, brake beams pivoted to one another at their upper ends and supported in said casing in divergent relation, and for downward and outward movement through the ends thereof, brake-shoes carried by said beams, one of said beams having an extension, a stationary bracket, a lever pivoted between its ends in said bracket, and at its rear end to said extension, and an operative connection between said lever and said operating lever.

866,905. SAWING-MACHINE. HENRY ANDERSON, Vega, Wash. Filed Oct. 5, 1906. Serial No. 337,649.



1. In a sawing machine, the combination with a supporting guide bar having a guide-way in one side, of swinging clamping arms pivotally mounted on the ends of the guide bar and on the opposite side from the guide-way, said arms having oppositely disposed spurs, a carrier slidably mounted in the guideway and being independent of the arms, a bracket secured to the carrier, saw actuating means movably mounted on the bracket, and means mounted on the carrier for yieldingly holding the saw to its work, said saw actuating means and yielding holding means being movable with the carrier.

2. In a sawing machine, the combination with a supporting guide, of means connected directly to the guide for mounting the same in fixed relation to the work, a carrier slidably mounted on the guide, independently of said mounting means, a bracket secured to the carrier, saw actuating means movably mounted on the bracket, and means mounted on the carrier for yieldingly holding the saw to its work, said saw actuating means and yielding holding means being movable with the carrier.

3. In a sawing machine, the combination with a supporting device, of a lever fulcrumed between its ends, and supported on the device, saw engaging means connected to one arm of the lever, an actuating bar adjustably mounted at one end on the other arm of the lever, and having a handle at its free end and a brace connecting the first mentioned arm of the lever and the bar between the handle and the connection of said bar with the lever.

4. In a sawing machine, the combination with a supporting device, of a bracket mounted on the supporting device, a lever adjustably fulcrumed between its ends on the bracket, a saw engaging clip pivoted to one arm of the lever, the other arm of said lever having a longitudinal slot, an actuating bar, a bolt carried by one end of the actuating bar and engaging in the slot to hold said end at different positions on the lever, a cross handle grip connected to the other end of the bar, a brace pivoted to the arm of the lever that has the saw engaging clip, said brace being disposed transversely of the actuating bar and being adjustable longitudinally thereof, the actuating bar being likewise adjustable longitudinally of the brace, and a bolt adjustably connecting the bar and brace for holding them in different relative positions.

5. In a sawing machine, the combination with a supporting guide, of a carrier slidably mounted thereon and having a bracket, a saw actuating lever fulcrumed on the bracket, means for holding the saw to its work, said means being arranged on the carrier, and a dog mounted on the bracket and engaging the saw holding means to prevent its movement on the carrier, said dog also engaging the supporting guide to hold the carrier against movement thereon.

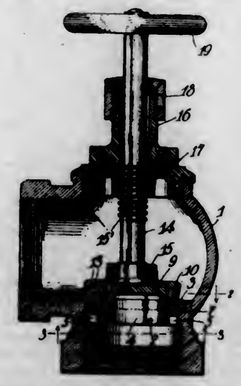
6. In a sawing machine, the combination with a support, of a carrier movably mounted on the support, saw actuating mechanism, means movably mounted on the carrier for holding the saw to its work, and a common device for holding said means against movement on the carrier and for holding the carrier against movement on the support.

7. In a sawing machine, the combination with a supporting guide, of a carrier slidably mounted thereon, saw actuating means mounted on the carrier, a saw engaging roller, a spring carrying the same and having a rotatable mounting on the carrier, a ratchet wheel associated with the spring, and a dog mounted on the carrier, said dog engaging the ratchet wheel to prevent its rotation, and engaging the supporting guide to prevent the sliding movement of the carrier.

8. In a sawing machine, the combination with a supporting bar, of saw actuating means movably mounted on one side of the same, and means mounted on the other side of the bar for securing the same to its work, said means comprising a bearing arm mounted on an intermediate portion of the supporting bar and projecting from one side of the same, said bearing arm being adjustable longitudinally of the supporting bar and clamp arms pivoted to the supporting bar on opposite sides of the bearing arm, said clamp arms each comprising slidably associated sections, the outer sections of the arms having oppositely extending spurs, and means for normally holding the sections against their sliding movements.

9. In a sawing machine, the combination with a supporting guide, of a bearing arm projecting from one side of the same, clamping arms pivoted to the guide on opposite sides of the bearing arm, a reciprocatory carrier slidably mounted on the guide and having an offset bracket, a lever fulcrumed on the bracket, an actuating bar pivoted to one end of the lever, saw engaging means pivoted to the other end of the lever, a brace adjustably connecting the latter end of the lever and the actuating bar, a saw engaging roller, a spring carrying the same, and having a rotatable mounting on the carrier, a ratchet wheel associated with the spring, and a dog movably mounted on the carrier, said dog engaging the ratchet wheel to normally prevent its rotation and engaging the supporting guide to prevent the sliding movement of the carrier thereon.

866,906. VALVE. JOHN H. BERRY, Mansfield, Ohio. Filed Jan. 29, 1907. Serial No. 354,743.



1. The combination of a valve casing, a seat formed therein and comprising a pair of spaced side walls forming a continuous channel, lugs connecting said walls and spaced relatively to provide discharge openings leading from the valve seat, a valve formed to close on said seat and having a depending flange to enter the channel between the spaced walls.

2. The combination with a valve casing, of a seat formed therein and comprising a pair of spaced continuous walls provided with connecting lugs, said lugs being spaced relatively to provide discharge openings leading from the valve seat, and the walls having parallel lower portions and beveled upper portions, a valve arranged to close on said seat and having a depending flange to seat between said walls, said flange having the lower portion of its inner and outer faces parallel and the upper portion of said faces divergently inclined to conform to the beveled portions of the walls, and means for operating the valve.

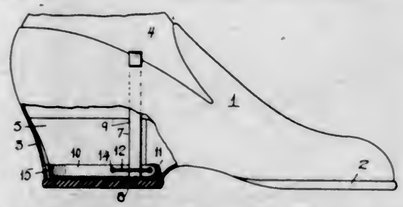
3. The combination with a valve casing, of a seat formed therein, said seat comprising an outer annular bearing wall and an inner bearing ring spaced from said outer bearing wall to form an annular space or channel, integral lugs to connect said inner ring with the outer annular wall of the seat, said lugs forming openings or spaces between themselves for the discharge of refuse, and a valve adapted to be engaged with said seat, substantially as described.

4. The combination with a valve casing, of a seat formed therein, said seat comprising an outer annular bearing wall and an inner bearing ring spaced from said outer bearing wall to form an annular space or channel, integral lugs to connect said inner ring with the outer annular wall of the seat, said lugs forming openings or spaces between themselves for the discharge of refuse, and a valve having an annular bearing flange adapted to be engaged with said inner bearing ring and outer bearing wall, substantially as described.

5. The combination with a valve casing, of a seat formed therein, said seat comprising an outer annular bearing wall and an inner bearing ring spaced from said outer bearing wall to form an annular space or channel, the upper portion of said outer bearing wall and the adjacent wall of said bearing ring being beveled or flared outwardly and having parallel, perpendicular lower walls, integral spacing lugs to connect said inner ring with the outer annular wall of the seat, said lugs forming discharge openings between said parts of the seat, and a valve adapted to be engaged with the latter, substantially as described.

6. The combination with a valve casing, of a seat formed therein, said seat comprising an outer annular bearing wall and an inner bearing ring spaced from said outer bearing wall to form an annular space or channel, the upper portion of said outer bearing wall and the adjacent wall of said bearing ring being beveled or flared outwardly and having parallel, perpendicular lower walls, integral spacing lugs to connect said inner ring with the outer annular wall of the seat, said lugs forming discharge openings between said parts of the seat, and a valve having an annular bearing flange, the inner and outer walls of the lower end of which are straight and parallel, said walls flaring outwardly toward the upper end of the valve, substantially as described.

866,907. HEEL-RETAINER FOR OVERSHOES. OLIN BERRY, Galesburg, Ill. Filed Apr. 29, 1907. Serial No. 370,913.



1. In combination with an overshoe, of an approximately U-shaped resilient adjusting member secured vertically at its center in the heel portion of the overshoe with its arms arranged on opposite sides thereof and projecting above its top edge, a resilient clamping band secured near its ends to the arms of said adjusting member, and a resilient element working between and adapted to exert a pull on the ends of said clamping band.

2. In combination with an overshoe, a horizontal approximately U-shaped resilient clamping band arranged in the heel portion thereof, a resilient element working between and adapted to exert a pull on the ends of said clamping band, with means secured near the ends of said clamping band and adapted to work vertically in the heel of said overshoe for springing the ends of said clamping band apart against the tension of said resilient element.

3. In combination with an overshoe, of a horizontal approximately U-shaped resilient clamping band arranged in the heel portion thereof, a coiled spring working between the ends of said clamping band and adapted to exert a pull thereon, and an approximately U-shaped resilient adjusting member working under said clamping band rearwardly of said coiled spring with its arms extending upwardly and secured to and adapted to pull the ends of said clamping band apart against the tension of said coiled spring.

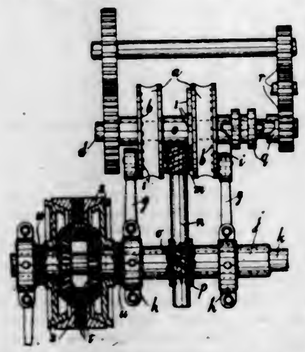
4. In heel retaining means for overshoes, an approximately U-shaped horizontal resilient clamping band, a resilient element working between and adapted to exert a pull on the ends of said clamping band, and an approximately U-shaped resilient adjusting member secured near the ends and arranged approximately at right angles to said clamping band and adapted to serve as a means for pulling its ends apart against the tension of said resilient element.

5. In heel retaining means for overshoes, the combination of a horizontal resilient clamping band, a resilient element arranged between and exerting a pull on the ends of said band, and a resilient adjusting member secured near the ends of said clamping band.

6. In heel retaining means for overshoes, the combination of an approximately U-shaped horizontal resilient clamping band, a coiled spring working between and exerting a pull on the ends of said band, a resilient adjusting member having a horizontal body portion, and two oppositely disposed upwardly extending arms secured near the ends of said clamping band at right angles thereto and adapted to serve as a means in pulling the ends of said band apart against the tension of said spring.

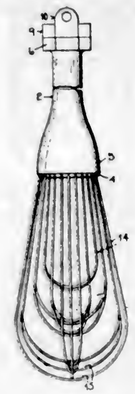
7. In combination with an overshoe, a clamping band arranged horizontally in the heel portion thereof, a resilient element working between and exerting a pull on the ends of said clamping band, a resilient adjusting member secured near the ends of said clamping band at right angles thereto and adapted to serve as a means in pulling the ends of said clamping band against the tension of said resilient element, with means for securing said clamping band, and adjusting means in the heel of the overshoe, substantially as described.

866,908. DRIVING-GEAR FOR MOTOR-VEHICLES. CHARLES R. BINNEY and JAMES L. WATKINS, London, England. Filed Mar. 21, 1907. Serial No. 363,981.



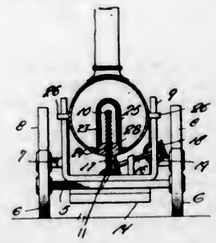
In combination, a frame, a driven shaft carried thereby, an eccentric mounted on said shaft, a disk rotatably carried by the frame, said disk having a cam groove in one of its faces, a rod on the eccentric, an arm pivoted to the rod and to the frame, a roller carried by the arm to one side thereof intermediate its pivots to engage the cam, and additional means for rotating the driving shaft acting in conjunction with the opposite face of the disk.

866,909. EGG-BEATER. FRANK A. BRENNER, Cleveland, Ohio. Filed Dec. 27, 1906. Serial No. 349,666.



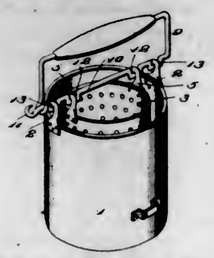
An egg beater comprising a tubular handle provided at its forward end with a hollow head, a clamping bolt extended through the handle and provided at its forward end with a head, a clamping block arranged on the bolt in rear of its head, a series of whips having their ends projected into the hollow head and clamped between the wall of the latter and the clamping block and a tension nut applied to the rear end of the bolt and operable for drawing the clamping head to clamping position, said nut being provided with a perforated projection forming a hanger for the beater.

866,910. BOILER-LEVELER. EARL J. BUDD, Kettle Falls, Wash. Filed Aug. 11, 1906. Serial No. 330,184.



The combination, in a machine of the class described, including front and rear axles; of a boiler provided at its front end with a pair of perforated ears formed on opposite sides thereof; a vertically disposed U-shaped guide mounted on the front axle, the arms of said guide extending through said ears; a rotatably mounted threaded member carried by said guide and extending into said boiler; a tubular casing arranged within the boiler and adapted to receive said threaded member; a stationary block mounted in the interior of said boiler within said casing and provided with a threaded opening through which said threaded member extends; a gear secured to said threaded member exteriorly of the boiler; a shaft journaled in one of the arms of said guide; a gear secured to said shaft in mesh with said first-mentioned gear; and means for rotating said shaft, to effect the rotation of said threaded member and the consequent raising or lowering of the front of the boiler with respect to said guide.

866,911. COOKING VESSEL. BENJAMAN F. BURCHFIELD and ELMER CONNER, Athens, Ohio. Filed Apr. 17, 1907. Serial No. 368,767.



1. The combination of a vessel, a cover for the vessel, an arched handle detachably connected to the vessel, and means carried by the handle for lifting the cover when detached from the vessel.

2. The combination of a vessel, a cover for the vessel provided with a finger piece, an arched handle having a detachable connection with the vessel, and a hook carried by the handle for engaging the finger piece of the cover when the handle is detached from the vessel.

3. The combination of an outer vessel provided with ears, an inner vessel received within the outer vessel and also provided with ears, and a detachable bail comprising a cross bar having an interlocking connection with both of the before mentioned sets of ears.

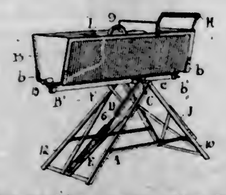
4. The combination of an outer vessel provided with hooked ears, an inner vessel received within the outer vessel and also provided with hooked ears, and a detachable bail comprising a cross bar designed to have an interlocking connection with both of the before mentioned sets of ears.

5. The combination of an outer vessel provided with hooked ears, an inner vessel received within the outer vessel and also provided with hooked ears, and a detachable bail comprising a cross bar provided with crimped portions designed to have an interlocking connection with the before mentioned ears.

6. The combination of an outer vessel provided with ears, a cover for the said vessel provided with a finger piece, an inner vessel received within the outer vessel and provided with ears, and a detachable bail comprising a cross bar intermediate portions of which have an interlocking connection with the before mentioned ears, the said cross bar being provided at its extremity with a hook adapted to engage the finger piece of the cover.

7. The combination of an outer vessel provided with ears, an inner vessel received within the outer vessel and also provided with ears, and a handle comprising a member designed to have an interlocking connection with either or both of the before mentioned sets of ears.

866,912. WASHING-MACHINE. ROBERT E. CAMPBELL, Watsonville, Cal. Filed Dec. 1, 1905. Serial No. 289,753.



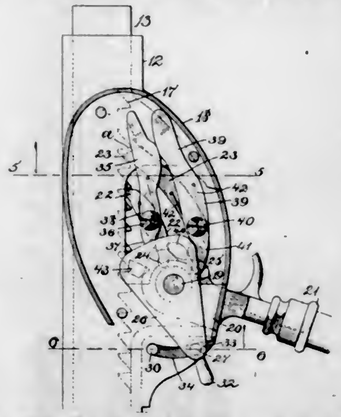
1. In washing machines, a supporting frame, in combination with a tank having greater length than width pivoted thereon off its center of gravity, and a spring mechanism to maintain the equilibrium of the tank comprising an arm D engaged with the bottom of the tank at one side of its pivot and projecting to the other side beneath the pivot and the spring connected with the free end of said arm substantially in alinement therewith and affixed at the bottom of the supporting frame.

2. In washing machines, a supporting frame, in combination with an oblong washing tank pivoted thereon off its center, and means to counterbalance the longer end of said tank and hold the tank in a substantially horizontal position, comprising an arm fixed to the bottom of the short end of the tank and extending at an inclination therefrom to opposite side of the pivot of the tank, and a spring connected with said arm in alinement therewith.

3. In washing machines, a supporting frame and a washing tank of greater length than width pivoted on said frame off its middle, in combination with an inclined arm D depending from the short end of said tank behind said pivot and extending beneath and forward thereof beneath the long end of the tank, a spring E connecting said arm with the base of said supporting frame beneath the longer end of said tank and a brace arm F from approximately the middle of the tank to said arm D above said spring, thereby bringing said arms into substantially V relation beneath the pivot of the tank.

4. In washing machines, a supporting frame, a washing tank pivoted off its center lengthwise on said frame, a depending arm D engaged with the short end of said tank behind its pivot, a retracting spring E engaged with the free end of said arm, and an arm F connecting said arm D with the bottom of the long end of the tank on the opposite side of the pivot, whereby the spring exerts a direct pull as to both ends of the tank, according to its position.

866,913. LIFTING-JACK. MICHAEL CARLUCCI, Newark, N. J. Filed May 13, 1907. Serial No. 373,194.



1. A lifting jack comprising a support embodying a standard, an arm sliding in the standard and having teeth on one edge, a lever pivoted in the standard and having a portion projecting therefrom providing for its manual manipulation, a pair of pawls pivoted to the lever on opposite sides of its fulcrum, the pawls on their outer end engaging the teeth of the arm, a reversing plate, an operative connection between the reversing plate and the pawls to cause a pawl not in engagement with a tooth to be lifted away therefrom when in one position, the reversing plate being arranged to swing on the pivot of the lever, and means on the end of the plate for locking it to the support in its operative and inoperative positions and to cause the engagement of the disengaged pawl with a tooth when in the other position.

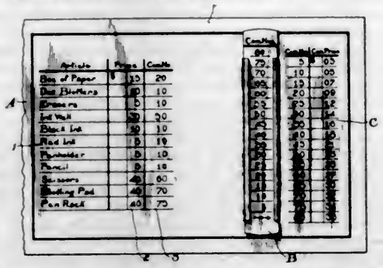
2. A lifting jack comprising a standard, an arm sliding in the standard and having teeth on one edge, a lever pivoted in the standard and having a portion projecting therefrom providing for its manual manipulation, a pair of pawls pivoted to the lever on opposite sides of its fulcrum,

the pawls on their outer edges being adapted to engage the teeth of the arm, fingers pivoted to the pawl intermediate of their ends, a reversing plate swinging on the pivot of the lever and adapted to engage the fingers to cause the pawls to be drawn away from the teeth of the arm, and means on the projecting end of the reversing plate for operating it and locking it to the support in its operative and inoperative positions.

3. A lifting jack comprising a support embodying a standard, an arm sliding in the standard having teeth on one edge, a lever pivoted in the standard and having a projecting end for manual manipulation, a pair of pawls pivoted to the lever at their ends on opposite sides of its fulcrum, the pawls on their outer ends engaging the teeth of the arm, fingers pivotally secured to the pawls intermediate of their ends, springs providing a spring action between the fingers and the pawls, a reversing plate pivoted on the pivot of the lever and having lugs thereon to engage the lower end of the fingers to draw the pawls away from the teeth alternately, and spring actuated means for locking the reversing plate in its operative and inoperative positions, the locking means acting as a medium for the manual manipulation of the plate.

4. A lifting jack comprising a support embodying a standard, an arm sliding in the standard having teeth on one edge, a lever pivoted in the standard and having a projecting end for manual manipulation, a pair of pawls pivoted to the lever at their ends on opposite sides of its fulcrum, the pawls on their outer ends engaging the teeth of the arm, fingers pivotally secured to the pawls intermediate of their ends, springs providing a spring action between the fingers and the pawls, a reversing plate pivoted on the pivot of the lever and having lugs thereon to engage the lower end of the fingers to draw the pawls away from the teeth alternately, a pin on the end of the reversing plate, a sleeve having a projection thereon, and a handle on the sleeve, the support having a groove therein to receive the pin and having holes with which the projection of the sleeve is adapted to come in register to lock the reversing plate in its operative and inoperative positions.

866,914. DEVICE FOR CALCULATING THE PRICE OF ARTICLES. JOHN A. CHEAPE, Charlottesville, Va. Filed May 4, 1907. Serial No. 371,848.



1. A device for calculating the price of articles, comprising a list of articles and club numbers, an indicator and key for computing the club numbers.

2. A device for calculating the price of articles, comprising a list of articles and club numbers, an indicator and key having club numbers thereon, and means whereby the club numbers are computed.

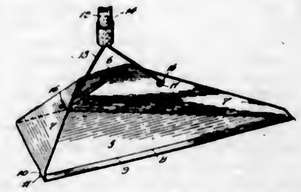
3. A device for calculating the price of articles, comprising a list of articles, prices and club numbers, an indicator having club numbers and prices thereon, a key having club numbers, and means whereby the indicator and key are adapted to compute the club numbers of the different articles.

4. A device for calculating the price of articles, comprising a list of articles and club numbers, an indicator having club numbers and club prices thereon, a key having club numbers in reverse order, and means whereby the indicator and key are adapted to compute the club numbers of the different articles and their total giving the price of the several articles.

5. A device for calculating the price of articles, comprising an indicator having club prices and numbers thereon, and a key having club numbers in reverse order.

6. A system of calculating comprising a list of price marks, a club number which goes with each price mark, an indicator having a combination price and number, and a key having combination numbers which when placed in certain relations to the combination numbers on the indicator will designate the combination price of the whole number of articles purchased.

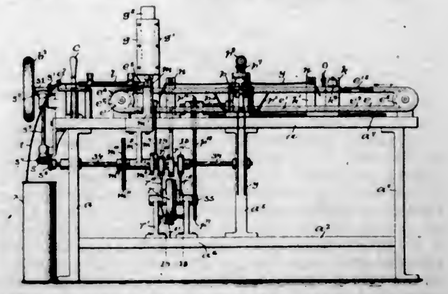
866,915. DUST-PAN. OLE A. CHRISTOPHERSON, Riverton, Wash., assignor of one-half to Clinton P. Adams, Riverton, Wash. Filed Sept. 17, 1906. Serial No. 334,957.



1. A dust pan formed from a single blank of metal, bent to form a flat bottom of trapezoidal form, the longer parallel side thereof forming the front edge of the pan, side walls bent up from the two inclined sides of the bottom, the rear portions of the side walls extending beyond the bottom at the rear of the pan and being bent over, overlapped, and connected together to form a flat rear wall for the pan which slopes to meet the shorter parallel side of the bottom at the rear of the pan.

2. A dust pan formed from a single blank of metal, bent to form a flat bottom of trapezoidal form, the longer parallel side thereof forming the front edge of the pan, side walls bent up from the two inclined sides of the bottom, the rear portions of the side walls extending beyond the bottom at the rear of the pan and being bent over, overlapped, and connected together to form a flat rear wall for the pan which slopes to meet the shorter parallel side of the bottom at the rear of the pan and a rear extension bent up from said shorter side of the bottom and folded down upon and connected to said rear wall to reinforce the same and form a tight joint between said rear wall and bottom.

866,916. MACHINE FOR MANUFACTURING SHOE-LACINGS. WILLIAM H. CHURCH, Pawtuxet, R. I., assignor to Providence Tipping Machine Co., Providence, R. I. Filed Apr. 5, 1905. Serial No. 254,064.



1. In a machine for manufacturing lacings, means for feeding the lacing material, means for applying a double tip to such material, means for cutting the double tip

and severing the lacing, means for holding the completed lacings adjacent their ends, a receiver and support for the completed lacings underlying said holding means and embodying a plurality of horizontal arms to support the completed lacings, means to operate said receiver at predetermined intervals, and means to operate said holding means to permit the completed lacings to gravitate and be supported at an intermediate point by said receiver.

2. In a machine for manufacturing lacings, the combination with means for feeding the lacing material, and means for applying tips thereto, of means for receiving the completed lacings, and means for engaging the completed lacings and moving the same to aline with said receiving means so that the lacings will gravitate onto said receiving means and be supported thereby.

3. In a machine for manufacturing lacings, means for feeding a continuous strip of lacing material into the machine, means for applying a double metallic tip to the lacing material, means for cutting the tip and severing the lacing, means for holding the completed lacing until the stretch of the same is eliminated, and receiving means disposed to engage said lacing at an intermediate point after release from said last named means.

4. In a machine for manufacturing lacings, the combination of means for feeding and tipping the material, of a receiver, stretch eliminating means to hold the completed lacings adjacent their ends, and means to move said stretch eliminating means to overlie said receiver and to release the lacings therefrom whereby the lacing may gravitate onto said receiver.

5. In a machine for manufacturing lacings, means for feeding lacing material, means for applying a double tip to said material, means for cutting the tip, means for moving said material transversely to present the same to said cutting means, means to engage and hold said completed lacing to eliminate the stretch therefrom, means to release said lacing from said last named means, and means to receive said lacings and support the same upon their gravitation from said holding means.

6. In a machine for manufacturing lacings, means for feeding a strip of lacing material, means for applying a double tip to said material, cutting means, means to carry said material to said cutting means, stretch eliminating mechanism, a rotary receiver to receive and support the completed lacings as they gravitate from said mechanism, and means to operate the receiver to present different receiving portions thereof to said stretch eliminating mechanism whereby a predetermined number of lacings may be received by said receiver.

7. In a machine for manufacturing lacings, means for feeding a continuous strip of lacing material into the machine, means for applying a double metallic tip to the lacing material, means for cutting the tip and severing the lacing, a rotatable lacing supporting receiver adapted to receive and support the completed lacings, a counting mechanism, means for connecting the counting mechanism with the rotatable lacing receiver, whereby the receiver is given an intermittent rotary movement, as described.

8. In a machine for manufacturing lacings, means for feeding lacing material, means for applying a double tip thereto, stretch eliminating means for moving the lacing after the tipping operation to bring the same to be engaged by said stretch eliminating mechanism, cutting mechanism for severing the double tip, and means for releasing the completed lacings after the cutting operation from said stretch eliminating means.

9. In a machine for manufacturing lacings, the combination of a main driving mechanism operatively connected with a back cam shaft, a center cam shaft, slip gearing connecting the back and center cam shafts, a transverse lacing carrier mechanism, and means for operatively connecting the transverse lacing carrier mechanism with the back and center cam shafts, as described.

10. In a machine for manufacturing lacings, the combination of a main driving mechanism operatively connected with a back cam shaft, a center cam shaft, slip gearing connecting the back and center cam shafts, a lower cam shaft, means for connecting the lower cam shaft with the driving mechanism, a transverse lacing carrier mechanism having a tension guide, means for feeding a continuous strip of lacing material to the machine through the tension guide, and means for operatively connecting the transverse lacing carrier mechanism with the center and lower cam shafts, as described.

11. In a machine for manufacturing lacings, the combination with means for feeding, tipping and cutting the lacing material, of stretch eliminating mechanism to support the completed lacing, a multi-arm receiver to receive the completed lacings as they gravitate from said stretch eliminating mechanism, and means for rotating said receiver to bring the individual arms thereof to a position to engage the lacings when released.

12. In a machine for manufacturing lacings, the combination of a bed supported on a frame, a driving shaft carrying the driving mechanism and supported in bearings on the bed, a back cam shaft operatively connected with the driving shaft, a center cam shaft, slip gears connecting the center cam shaft with the back cam shaft, a lacing feed mechanism operatively connected with the back cam shaft, a lower cam shaft supported in bearings under the bed, means for operatively connecting the lower cam shaft with the driving shaft, a counting mechanism supported on the frame under the bed, and means for operatively connecting the counting mechanism with the lower cam shaft, as described.

13. In a machine for manufacturing lacings, a bed supported on a frame, a guide rail on the bed, a frame adjustably secured to the guide rail, a rotatable lacing receiver supported by the frame, a counting mechanism supported on the frame of the machine, means for operating the counting mechanism, and means for operatively connecting the counting mechanism with the rotatable lacing receiver, whereby the receiver is given an intermittent rotary motion for each gross of lacings received, as described.

14. In a machine for manufacturing lacings, means for feeding a continuous strip of lacing material into the machine, a double tip forming mechanism, a cutting mechanism adapted to cut the double tip centrally and sever the lacing, and means for giving a transverse movement to the strip of lacing material to carry the same first to the tip forming mechanism and then to the cutting mechanism, as described.

15. In a machine for manufacturing lacings, the combination of the following instrumentalities: a driving mechanism, a lacing feed mechanism, a double tip forming mechanism, a tip cutting mechanism, mechanism for holding the completed lacing until the stretch of the same is eliminated, a rotatable lacing receiver, a counting mechanism, means for operating the counting mechanism, and means for operatively connecting the counting mechanism with the rotatable lacing receiver to give an intermittent rotary motion to the receiver, as described.

16. In a machine for manufacturing lacings, the combination of the following instrumentalities: a driving mechanism, a continuous lacing feed mechanism, a double tip forming mechanism, a tip cutting mechanism, means for giving a transverse movement to the lacing, a rotatable lacing receiver, a counting mechanism, means for connecting the counting mechanism with the driving mechanism, and means for operatively connecting the counting mechanism with the rotatable lacing receiver, as described.

17. In a machine for manufacturing lacings, the combination of the following instrumentalities: a driving mechanism, a lacing feed mechanism, transverse lacing carrier mechanisms, a double tip forming mechanism, a tip cutting mechanism, a rotatable lacing receiver, a counting mechanism, means for connecting the counting mechanism with the driving mechanism, means for connecting the counting mechanism with the rotatable lacing receiver, and means for adjusting the rotatable lacing receiver lengthwise on the machine for different lengths of lacings, as described.

18. In a machine for manufacturing lacings, the combination of the following instrumentalities: a driving mechanism, a lacing feed mechanism, an automatic stop motion operatively connected with the driving mechanism and the lacing, a transverse lacing carrier mechanism having jaws adapted to grasp the lacing, means for adjusting the transverse lacing carrier mechanism lengthwise of the machine, a release motion adapted to force the lacing out of the jaws of the lacing carrier, a transverse lacing carrier mechanism having a tension guide for the lacing, a rotatable lacing receiver, a counting mechanism, means for connecting the counting mechanism with the driving mechanism, and means for connecting the counting mechanism with the rotatable lacing receiver, as described.

19. In a machine for manufacturing lacings, the combination of the following instrumentalities: a bed *a* supported on a frame, a driving mechanism *b* on the bed operatively connected with a back cam shaft 32, a center cam shaft 33, and a lower cam shaft 34, an operating lever *c* connected to the driving mechanism through a clutch, an automatic stop motion *d* connected to the operating lever *c* and operated by a knot in a strip of lacing material *t*, a lacing feed mechanism *e*, a lacing feed driving mechanism *f*, a double tip forming mechanism *g*, a tip forming operating mechanism *h*, a feed roll mechanism *i*, a transverse lacing carrier mechanism *k* having jaws adapted to grasp the lacing, a transverse lacing carrier mechanism *l* having a tension guide for the lacing, a tip cutting mechanism *m* adapted to cut a double tip centrally and sever the lacing, stretch eliminating mechanisms *n n n* adapted to loosly hold the completed lacing until the stretch of the same is eliminated, a release motion *o* adapted to force the lacing out of the jaws of the transverse lacing carrier mechanism *k*, a rotatable lacing receiver *p* having arms adapted to receive the completed lacing, a counting mechanism *r*, means for connecting the counting mechanism with the lower cam shaft 34, means for connecting the counting mechanism *r* with the rotatable lacing receiver *p*, a reel *w* for holding a continuous strip of thin metal tip stock, means for indenturing the tip stock, a can *x* or other means for holding a continuous strip of lacing material *t*, and means for adjusting the transverse lacing receiver *p* lengthwise of the machine for different lengths of lacings, as described.

20. In a machine for manufacturing lacings, the combination with means for feeding, tipping and cutting the lacing material, of stretch eliminating mechanism, a multi-arm receiver disposed to receive the lacings as they gravitate from said stretch eliminating mechanism, and means to rotate said receiver at periods determined by the number of lacings received by the individual arms.

21. In a machine for manufacturing lacings, means for feeding a strip of lacing material, a double tip forming mechanism, a cutting mechanism to cut said tip centrally and sever the lacing, means for first carrying said material to the tip forming mechanism and then to the cutting mechanism, means to receive the lacings after completion, and means to release said lacings from said carrying means to permit the same to gravitate to be received by said receiving means.

22. In a machine of the character described, the combination with mechanism for feeding, tipping, and cutting the tips and lacing material, of receiving means for the completed lacings having supporting parts, and means for operating said supporting means to successively present the receiving parts thereof to receive the completed lacings at predetermined intervals determined by the number of lacings to be received by the individual supporting parts.

23. In a machine of the character described, the combination with mechanism for feeding, tipping, and cutting the tips and lacing material, of stretch eliminating mechanism embodying devices to engage the ends of the completed lacings, a receiver disposed so as to engage the released lacings at an intermediate point, and means for operating said devices to release the lacings and permit the same to gravitate to said receiver.

24. In a machine for manufacturing lacings, a receiver for receiving and supporting the completed lacings, means for feeding the lacing material, means for applying tips thereto, means to engage the ends of the completed lacings and to support the same and for carrying the lacings to overlie said receiver, and means to release said lacings from said last named means to permit the same to gravitate onto said receiver.

25. In a machine for manufacturing lacings, means for feeding the lacing material, means for tipping the material, means for cutting said tips and severing the lacing material, stretch eliminating mechanism, to support the completed lacings adjacent their ends, and a receiver disposed to operate beneath said stretch eliminating mechanism and at a point substantially central of the length of the lacing.

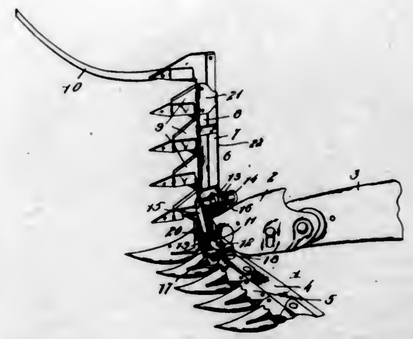
26. In a machine for manufacturing lacings, means for feeding lacing material, means for applying tips thereto, means to engage and hold said completed lacings to eliminate stretch therefrom, and means to release the completed lacings from said last named means.

27. In a machine of the class described, in combination, mechanism for applying metal blanks to a lace and cutting said blanks and lace to form tipped lacings, and mechanism coöperating with said tipped lacing-forming mechanism for automatically assembling the tipped lacings as they are formed, substantially as described.

28. In a machine of the class described, in combination, mechanism for applying metal blanks to a lace and cutting said blanks and lace to form tipped lacings, mechanism cooperating with said tipped lacing-forming mechanism for automatically assembling the tipped lacings as they are formed, and mechanism coöperating with said lacing forming mechanism and with said assembling mechanism for automatically assembling the tipped lacings in predetermined numbers, substantially as described.

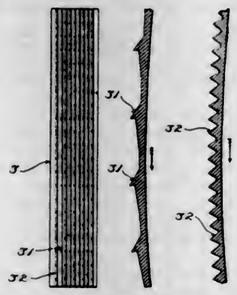
29. In a machine of the class described, in combination, mechanism for forming tipped lacings from a continuous length of lace, an assembling mechanism coöperating with said lacing forming mechanism to receive the individual tipped lacings and lay them lengthwise in predetermined numbers, a receptacle located in line with said assembling mechanism and in which said lacings are laid, and means for moving said receptacle out of line with said assembling mechanism when a predetermined number of lacings have been assembled, substantially as described.

866,917. SICKLE-BAR. HERSCHEL CLIMER, Chillicothe, Ohio. Filed July 5, 1906. Serial No. 324,819.



In combination with a horizontally disposed cutting apparatus and a vertically disposed cutting apparatus, each having a finger bar and a cutter bar, means connecting said finger bars and supporting the vertical cutting apparatus, a rock shaft having its bearings in the angle between said finger bars and having rock arms at its front and rear ends, disposed at an angle to each other, the front rock arm having a slot, an arm on the cutter bar of the horizontal cutting apparatus and having an upwardly extending portion engaging said slot, and a pitman connecting the rear rock arm to the cutter bar of the vertically disposed cutting apparatus, substantially as described.

866,918. MACHINE FOR PREPARING FIBERS FOR SPINNING. MICHAEL COLLINS, Lowell, Mass. Filed Jan. 16, 1907. Serial No. 352,501.

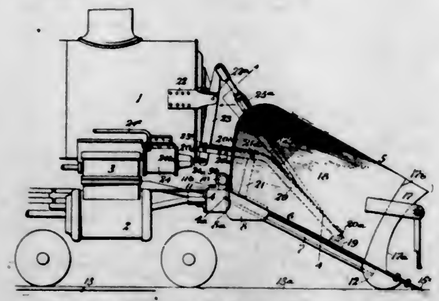


1. In a machine for preparing fibers for spinning, a rotating licker-in cylinder furnished with saw-toothed clothing having the faces of the teeth formed in part to rake back from the surface of the cylinder.

2. In a machine for preparing fibers for spinning, a rotating licker-in cylinder furnished with teeth set so that the faces of the teeth point from the surface of the cylinder at different angles.

3. In a machine for preparing fibers for spinning, the combination with means for feeding or advancing fibers gradually and holding them while being acted upon by a succeeding cylinder until delivered up thereto, of the said cylinder furnished with saw-toothed clothing having the faces of the teeth formed in part to rake back from the surface of the cylinder.

866,919. SNOW-PLOW. WILLIAM CROSS, Winnipeg, Manitoba, Canada. Filed June 15, 1907. Serial No. 379,238.



1. An apparatus of the class described, comprising a bed plate pivotally secured to the buffer beam of a locomotive, a removable nose plate carried by said bed plate, lateral deflectors and a peak carried by said bed plate, and fluid pressure operated means for raising or lowering the bed plate on its pivot, substantially as shown and described.

2. An apparatus of the class described, a bed plate pivotally secured to the buffer beam of a locomotive, a removable nose plate carried by said bed-plate, lateral deflectors and a peak carried by the bed plate, fluid pressure operated means for raising or lowering the bed plate on its pivot, and knees secured beneath the bed plate to coöperate with the track rails, substantially as shown and described.

3. An apparatus of the class described, a bed plate, means for pivotally mounting said bed plate on the buffer beam of a locomotive, track rails secured beneath said bed plate, a peak carried by said bed plate, and curved deflectors diverging from the front of the bed plate toward the rear and coöperatively engaging said peak, substantially as shown and described.

4. An apparatus of the class described, a bed plate, means for pivotally mounting said bed plate on the buffer beam of a locomotive, track rails secured beneath said bed plate, a peak carried by said bed plate, and curved deflectors diverging from the front of the bed plate toward the rear and coöperatively engaging said peak, and fluid pressure controlled means for swinging said bed plate and its carried parts on its pivot, substantially as shown and described.

5. An apparatus of the class described, a bed plate, means for pivotally mounting said bed plate on the buffer beam, of a locomotive, track rails secured beneath said bed plate, a peak carried by said bed plate, curved deflectors diverging from the front of the bed plate toward the rear and coöperating with said peak, fluid pressure controlled means for swinging said bed plate and its carried parts on its pivot, a transverse support secured beneath said bed plate and having a portion for engaging the buffer beam, of the locomotive, substantially as shown and described.

6. An apparatus of the class described, a bed plate, means for pivotally mounting said bed plate on the buffer beam, of a locomotive, track rails secured beneath said bed plate, a peak carried by said bed plate, curved deflectors diverging from the front of the bed plate toward the rear and coöperating with said peak, fluid pressure controlled means for swinging said bed plate and its carried parts on its pivot, a transverse support secured beneath said bed plate and having a portion for engaging the buffer beam of the locomotive, and knees secured beneath said bed plate for resting on the track rails, substantially as shown and described.

7. An apparatus of the class described, a bed plate, means for pivotally mounting said bed plate on the buffer beam of a locomotive, track rails secured beneath said bed plate, a peak carried by said bed plate, curved deflectors diverging from the front of the bed plate toward the rear and coöperating with said peak, fluid pressure controlled means for swinging said bed plate and its carried parts on its pivot, a transverse support secured beneath said bed plate and having a portion for engaging the buffer beam of the locomotive, knees secured beneath said bed plate for resting on the track rails, and a nose plate secured to the front edge of said bed plate to coöperate with said peak, substantially as shown and described.

8. An apparatus of the class described comprising a bed plate, means for pivotally supporting said bed plate from the buffer beam of a locomotive, means carried by the bed plate and resting on the track rails for supporting the front end thereof, a nose plate carried by the bed plate at the front end thereof, and means for deflecting the material from the bed plate toward the sides thereof, substantially as shown and described.

9. An apparatus of the class described comprising a bed plate, means for pivotally supporting said bed plate from the buffer beam of a locomotive, means carried by the bed plate and resting on the track rails for supporting the front end thereof, a nose plate carried by the bed plate at the front end thereof, means for deflecting the material from the bed plate toward the sides thereof, and fluid pressure controlled means for swinging said bed plate on its pivot, substantially as shown and described.

10. An apparatus of the class described comprising a bed plate, means for pivotally supporting said bed plate from the buffer beam of a locomotive, means carried by the bed plate and resting on the track rails for supporting the front end thereof, a nose plate carried by the bed plate at the front end thereof, means for deflecting the material from the bed plate toward the sides thereof, fluid pressure controlled means for swinging said bed plate on its pivot, said fluid pressure controlled means comprising a relatively fixed piston cylinder therefor, a pivotally mounted lever coöperatively connected with said piston and with said bed plate, substantially as shown and described.

11. An apparatus of the class described, comprising a bed plate, means for pivotally supporting said bed plate from the buffer beam of a locomotive, means carried by the bed plate and resting on the track rails for supporting the front end thereof, a nose plate carried by the bed plate at the front thereof, means for deflecting the material from the bed plate toward the sides thereof, fluid pressure controlled means for swinging said bed plate on its pivot, said fluid pressure controlled means comprising a relatively fixed piston cylinder therefor, a pivotally mounted lever coöperatively connected with said piston and with said bed plate, a brace bar secured to said bed plate and having a portion for embracing said lever, substantially as shown and described.

12. An apparatus of the class described comprising a bed plate, means for pivotally supporting said bed plate from the buffer beam of a locomotive, means carried by the bed plate and resting on the track rails for supporting the front end thereof, a nose plate carried by the bed plate at the front end thereof, means for deflecting the material from the bed plate toward the sides thereof, fluid pressure controlled means for swinging said bed plate on its pivot, said fluid pressure controlled means comprising a relatively fixed piston cylinder therefor, a pivotally mounted lever coöperatively connected with said piston and with said bed plate, a brace bar secured to said bed plate and having a portion for embracing said lever, and means for coöperatively locking said brace bar and lever together at times to hold the bed plate in its elevated position substantially as shown and described.

13. An apparatus of the class described comprising in combination with a bed plate, securable to the buffer beam of a locomotive, rails secured beneath said bed plate to brace the same longitudinally, a transverse support secured beneath said bed plate at its rear end, a nose plate secured to the bed plate at its front end, knees secured beneath said bed plate for resting on the track rails, a peak secured to the bed plate at its front end, a pair of diverging deflector members secured to the bed plate to coöperate with said knees and deflect the material toward the side of the bed plate, a pair of pivotally mounted levers carried by the locomotive, a pair of pistons and piston casings also carried by the locomotive, means for admitting working agent into said piston casings, said pistons being coöperatively connected with said levers, rods coöperatively connecting said levers with said bed plate, substantially as shown and described.

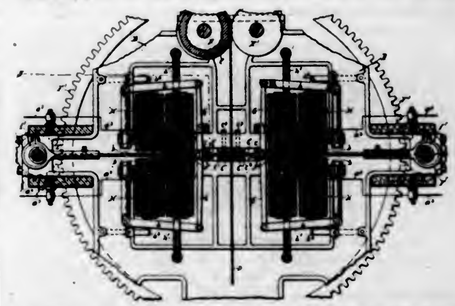
14. An apparatus of the class described comprising in combination with a bed plate securable to the buffer beam of a locomotive, rails secured beneath said bed plate to brace the same longitudinally, a transverse support secured beneath said bed plate at its rear end, a nose plate secured to the bed plate at its front end, knees secured beneath said bed plate for resting on the track rails, a peak secured to the bed plate at its front end, a pair of diverging deflector members secured to the bed plate to coöperate with said knees and deflect the materials toward the side of the bed plate, a pair of pivotally mounted levers carried by the locomotive, a pair of pistons and piston casings also carried by the locomotive, means for admitting working agent into said piston casings, said pistons being coöperatively connected with said levers, rods coöperatively connecting said levers with said bed plate, said rods having tension devices or take-ups, substantially as shown and described.

15. An apparatus of the class described, comprising in combination with a bed plate, securable to the buffer beam of a locomotive, rails secured beneath said bed plate to brace the same longitudinally, a transverse support secured beneath said bed plate at its rear end, a nose plate secured to the bed plate at its front end, knees secured beneath said bed plate for resting on the track rails, a peak secured to the bed plate at its front end, a pair of diverging deflector members secured to the bed plate to coöperate with said knees and deflect the material toward the side of the bed plate, a pair of pivotally mounted levers carried by the locomotive, a pair of pistons and piston casings carried also by the locomotive, means for admitting working agent into said piston casings, said pistons being coöperatively connected with said levers, rods coöperatively connecting said levers with said bed plate, substantially as shown and described.

16. An apparatus of the class described comprising in combination with a bed plate securable to the buffer beam of a locomotive, rails secured beneath said bed plate to brace the same longitudinally, a transverse support secured beneath said bed plate at its rear end, a nose plate secured to the bed plate at its front end, knees secured beneath said bed plate for resting on the tracks, a peak secured to the bed plate at its front end, a pair of diverging deflector members secured to the bed plate to coöperate with said knees and deflect the material toward the side of the bed plate, a pair of pivotally mounted levers carried by the locomotive, a pair of pistons and piston casings also carried by the locomotive, means for admitting working agent into said piston casings, said pistons being coöperatively connected with said levers, rods coöperatively connecting said levers with said bed plate, said rods having tension devices or take-ups, and brace bars carried by said bed plate and provided with loop portions for embracing said pivotally mounted levers, substantially as shown and described.

17. An apparatus of the class described comprising in combination with a bed plate securable to the buffer beam of a locomotive, rails secured beneath said bed plate to brace the same longitudinally, a transverse support secured beneath said bed plate at its rear end, a nose plate secured to the bed plate at its front end, knees secured beneath said bed plate for resting on the tracks, a peak secured to the bed plate at its front end, a pair of diverging deflector members secured to the bed plate to coöperate with said knees and deflect the material toward the side of the bed plate, a pair of pivotally mounted levers carried by the locomotive, a pair of pistons and piston casings carried also by the locomotive, means for admitting working agent into said piston casings, said pistons being coöperatively connected with said levers, rods coöperatively connecting said levers with said bed plate, said rods having tension devices or take-ups brace bars carried by said bed plate and provided with loop portions for embracing said pivotally mounted levers, and means for locking said brace bars and levers together to hold the bed plate elevated at times, substantially as shown and described.

866,920. PERFORATING-MACHINE. LEWIS B. DOMAN, Elbridge, N. Y., assignor to William C. Ranney, trustee, Elbridge, N. Y. Filed Mar. 7, 1899. Serial No. 708,070.



1. The combination of punches arranged at opposite sides of the path of the article to be perforated and provided with engaging shoulders, oppositely arranged actuating members movable toward each other for actuating the punches, said actuating members having faces for engaging the shoulders of the punches and returning the same to their normal position, and controlling members movable between the punches and engaging faces of the actuating members, substantially as and for the purpose set forth.

2. The combination of punches arranged at opposite sides of the path of the article to be perforated, constantly moving mechanical means for moving the punches in opposite directions for perforating said article, electrically operated controlling members movable between the punches and engaging faces of said means, and a plurality of movable keys for regulating the operation of the respective members, substantially as and for the purpose set forth.

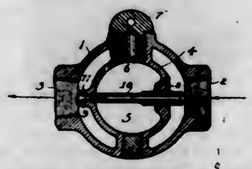
3. The combination of punches arranged at opposite sides of the path of the article to be perforated, oppositely arranged actuating members movable toward each other for actuating the punches to perforate said article, said actuating members being provided with means for returning the punches to their normal position, and oppositely arranged controlling members supported at each side of the path of said article and movable in opposite directions between the punches and engaging faces of the actuating members, substantially as and for the purpose described.

4. The combination of a frame provided with guides arranged at opposite sides of the path of the article to be perforated, punches supported by the frame at opposite sides of the path of said article, actuating members movable in the guides for actuating the punches to perforate said article, oppositely arranged controlling members supported at each side of the path of said article and movable in opposite directions between the punches and engaging faces of the actuating members, electro-magnets arranged at opposite sides of the guides, and connections between the electro-magnets and the controlling members, said connections operating to transmit motion from the armatures of the electro-magnets at one side of either of the guides to alternate controlling members movable between engaging faces of the adjacent actuating member and the punches actuated thereby, substantially as and for the purpose described.

5. The combination of punches arranged at opposite sides of the path of the article to be perforated, oppositely arranged actuating members movable simultaneously toward each other for actuating the punches to perforate said article, oppositely arranged controlling members movable between the punches and engaging faces of said actuating members, and a plurality of movable keys independently connected to the controlling members for controlling their operation, substantially as set forth.

6. The combination of punches arranged at opposite sides of the path of the article to be perforated and movable in opposite directions for perforating said article, oppositely arranged actuating members movable simultaneously toward each other for actuating the punches, controlling members for controlling the operation of the punches, electro-magnets for controlling the operation of the controlling members, and movable keys for controlling the action of the electro-magnets, substantially as and for the purpose set forth.

866,921. LUBRICATOR. WILLIAM O. DUNTLEY, Chicago, Ill., assignor to Chicago Pneumatic Tool Company, Chicago, Ill., a Corporation of New Jersey. Filed Oct. 6, 1904. Serial No. 227,477.



1. In a device of the class described, the combination of a casing arranged to be interposed in a supply pipe for conveying motive fluid to a tool or the like and forming a part of the motive fluid conduit, and an oil reservoir arranged within the casing, and having an injector coöperating therewith and operated by the motive fluid.

2. In a device of the class described, the combination of a casing arranged to be interposed in a supply pipe for conveying motive fluid to a tool or the like and forming a part of the motive fluid conduit, and an inner shell arranged within the said casing and constituting an oil reservoir having an injector coöperating with said reservoir and receiving its operating pressure from the said motive fluid.

3. In a device of the class described, the combination of a casing arranged to be interposed in a supply pipe for conveying motive fluid to a tool or the like, and an inner shell arranged concentrically within said casing and having an injector coöperating with said reservoir and receiving its operating pressure from the said motive fluid.

4. In a device of the class described, the combination of a casing arranged to be interposed in a supply pipe for conveying motive fluid to a tool or the like, and an inner shell arranged concentrically within said casing and secured thereto, leaving a substantially annular space between said shell and casing for the free flow of the main body of the motive fluid, said inner shell having an injector coöperating with said reservoir and receiving its operating pressure from the motive fluid.

5. In a device of the class described, the combination of a casing arranged to be interposed in a supply pipe for conveying motive fluid to a tool or the like and forming a part of the motive fluid conduit, and an inner shell arranged within said casing and constituting an oil reservoir having an injector extending across the reservoir and coöperating therewith and receiving its operating pressure from the motive fluid.

6. In a device of the class described, the combination of a casing arranged to be interposed in a supply pipe for conveying motive fluid to a tool or the like, and an inner shell arranged within said casing and constituting an oil reservoir having an injector extending across the reservoir in the direct line of flow of the motive fluid and coöperating with the reservoir to feed oil to the motive fluid.

7. In a device of the class described, the combination of a casing arranged to be interposed in a supply pipe for conveying motive fluid to a tool or the like, and an inner shell arranged within said casing and constituting an oil reservoir provided with two diametrically opposite openings, and a tube secured in one of said openings and coöperating with the other opening to form an injector for supplying oil to the motive fluid.

8. In a device of the class described, the combination of a casing arranged to be interposed in a supply pipe for conveying motive fluid to a tool or the like and forming a part of the motive fluid conduit, and an inner shell arranged within said casing and constituting an oil reservoir having an adjustable injector coöperating with said reservoir and with the motive fluid for supplying such motive fluid with oil.

9. In a device of the class described, the combination of a casing arranged to be interposed in a supply pipe for conveying motive fluid to a tool or the like, and an inner shell arranged within said casing and constituting an oil reservoir having an injector supported by and adjustable in said shell and coöperating therewith and with the motive fluid for supplying such motive fluid with oil.

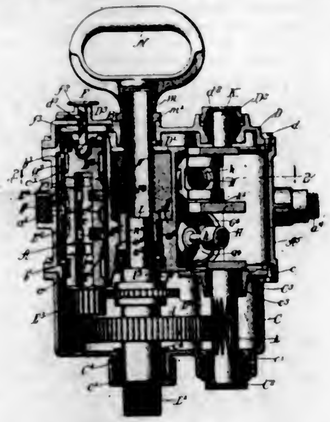
10. In a device of the class described, the combination of a casing arranged to be interposed in a supply pipe for conveying motive fluid to a tool or the like, and an inner shell arranged within said casing and constituting an oil reservoir provided with an opening 8 and an injector opening 9, and also with a charging opening 6, and having an injector 10 supported at one end in opening 8 and coöperating at its other end with the injector opening.

11. In a device of the class described, the combination of a casing arranged to be interposed in a supply pipe for conveying motive fluid to a tool or the like, an inner shell arranged within said casing and constituting an oil reservoir provided with a screw-threaded opening 8 and an injector opening 9, and with a charging opening 6, and an injector tube 10 at one end screwing into and adjustable in the opening 8 and at its other end coöperating with the injector opening.

12. In a device of the class described, the combination of a casing arranged to be interposed in a supply pipe for conveying motive fluid to a tool or the like, an inner shell within said casing and constituting an oil reservoir provided with openings 8 and 9 and with an annular lip 11 around the opening 9 to form an injector passage, and an injector tube supported in opening 8 and coöperating with the injector opening.

13. In a device of the class described, the combination of a casing arranged to be interposed in a supply pipe for conveying motive fluid to a tool or the like, such casing being substantially spherical and having inlet and outlet nozzles, a substantially spherical shell arranged within and concentric of said casing, and an injector extending diametrically of said shell in axial alinement with the nozzles and coöperating with said shell which serves as an oil reservoir.

866,922. ENGINE. WILLIAM O. DUNTLEY, Chicago, Ill., assignor to Chicago Pneumatic Tool Company, Chicago, Ill., a Corporation of New Jersey. Filed Apr. 8, 1907. Serial No. 366,988.



1. In a fluid pressure operated drill, the combination of a plurality of cylinders arranged in two sets lying in parallel planes each set comprising two cylinders with axes at right angles, pistons in the cylinders connected with a common crank shaft, and a single rotatable valve controlling the admission and exhaust of the motive fluid to and from all of the cylinders, said valve having two sets or series of ports and passages for such admission and exhaust, one set being effective when the valve is in one position to cause rotation of the drill in one direction and the other set being at such time ineffective but arranged to admit and exhaust motive fluid to and from the cylinder when the valve is adjusted to another position to cause rotation of the drill in the reverse direction.

2. In a fluid pressure operated drill, the combination of a plurality of cylinders arranged in two sets lying in parallel planes, each set comprising two cylinders with axes at right angles, pistons in the cylinders connected with a common crank shaft, a single rotatable valve for controlling the admission and exhaust of motive fluid to and from all the cylinders, and means for shifting the valve longitudinally for reversing the drill and holding the same in adjusted position with a yielding pressure.

3. In a fluid pressure operated drill, the combination of a plurality of cylinders arranged in two sets lying in parallel planes, each set comprising two cylinders with axes at right angles, pistons in the cylinders connected with a common crank shaft, a single rotatable valve for controlling the admission and exhaust of motive fluid to and from all the cylinders, a rod or stem connected with the valve whereby the latter may be shifted longitudinally for reversing the drill, and means for holding said rod or stem in one position or the other with a yielding pressure.

4. In a fluid pressure operated drill, the combination of a plurality of cylinders arranged in two sets lying in parallel planes, each set comprising two cylinders with axes at right angles, pistons in the cylinders connected with a common crank shaft, a single rotatable valve for controlling the admission and exhaust of motive fluid to and from all the cylinders, a rod or stem connected with the valve whereby the latter may be shifted longitudinally for reversing the drill, and means for holding said rod or stem in one position or the other with a yielding pressure, comprising a spring pressed pin engaging said valve stem.

5. In a fluid pressure operated drill, the combination of a plurality of cylinders arranged in two sets lying in parallel planes, each set comprising two cylinders with axes at right angles, pistons in the cylinders connected with a common crank shaft, a single rotatable valve for controlling the admission and exhaust of motive fluid to and from all the cylinders, a rod or stem having a ball and socket connection with the valve whereby the latter may be shifted for reversing the drill, and means for maintaining the valve stem and valve in one position or the other according to the desired direction of rotation of the drill.

6. In a fluid pressure operated drill, the combination with a plurality of cylinders having motive fluid passages communicating therewith, pistons in said cylinders, a driven element to which said pistons are operatively connected, a valve casing with which said passages communicate, a single valve within said casing having one series of ports for controlling the supply and exhaust of motive fluid to and from a plurality of the cylinders to rotate the driven element in one direction, and a second series of ports for controlling the supply and exhaust of motive fluid to and from said plurality of cylinders to rotate the driven element in a reverse direction, means for actuating said valve to control the supply and exhaust of motive fluid, and means for adjusting the position of the ports thereof with respect to said passages to determine the direction of rotation of said element.

7. In a fluid pressure operated drill, the combination with a plurality of cylinders having motive fluid passages communicating therewith, pistons in said cylinders, a driven element to which said pistons are operatively connected, a valve casing with which said passages communicate, a single valve within said casing having one series of ports for controlling the supply and exhaust of motive fluid to and from a plurality of the cylinders to rotate the driven element in one direction, and a second series of ports for controlling the supply and exhaust of motive fluid to and from said plurality of cylinders to rotate the driven element in a reverse direction, means for rotating said valve to control the supply and exhaust of motive fluid, and means for adjusting the valve axially to bring either series of ports therein into alinement with said passages.

8. In a fluid pressure operated drill, the combination with a pair of cylinders having motive fluid passages communicating therewith, of pistons in said cylinders, a driven element to which said pistons are operatively connected, a valve casing with which said passages communicate, a single valve within said casing having one series of ports for controlling the supply and exhaust of motive fluid to and from the pair of cylinders to rotate the driven element in one direction and a second series of ports for controlling the supply and exhaust of motive fluid to and from said pair of cylinders to rotate the driven element in a reverse direction, means for adjusting the position of the valve to bring either series of ports into alinement with said passages, and means for actuating said valve to control the supply and exhaust of motive fluid.

9. In a fluid pressure operated drill, the combination with two pairs of cylinders having motive fluid supply and exhaust passages leading thereto, of pistons in said cylinders, a driven element to which said pistons are operatively connected, a valve casing with which said passages communicate, a single valve located within said casing and having one series of ports for controlling the supply and exhaust of motive fluid to and from one pair of cylinders and a second series of ports for controlling the supply and exhaust of motive fluid to the other pair of cylinders to rotate the driven element in one direction, a third series of ports for controlling the supply and exhaust of motive fluid to the first pair of cylinders to rotate the driven element in a reverse direction, and a fourth series of ports to control the supply and exhaust of motive fluid to the second pair of cylinders to rotate the driven element in said reverse direction, means for actuating said valve to control the supply and exhaust

of motive fluid, and means for adjusting the position of the valve to bring either said first and second series of ports or said third and fourth series of ports into alinement with said passages according to the direction in which the element is to be rotated.

10. In a fluid pressure operated drill, the combination with a pair of cylinders having motive fluid passages communicating therewith, of pistons in said cylinders, a driven element to which said pistons are operatively connected, a valve casing with which said passages communicate, a cylindrical valve located within said casing having a central exhaust passage and two parallel series of radial exhaust ports leading thereinto, said valve having inlet channels intermediate of the exhaust ports in each series, means for rotating said valve to control the supply and exhaust of motive fluid to and from said passages, and means for moving said valve axially to bring either series of ports and channels into alinement with said passages.

11. In a fluid pressure operated drill, the combination with a pair of cylinders having motive fluid passages communicating therewith, of pistons in said cylinders, a driven element to which said pistons are operatively connected, a valve casing with which said passages communicate, a cylindrical valve located within said casing having a central exhaust passage and two parallel series of radial exhaust ports leading thereinto, said valve having inlet channels intermediate of the exhaust ports in each series, means for rotating said valve to control the supply and exhaust of motive fluid to and from said passages, a rod connected to one end of said valve for moving the same axially, and means engaging said rod to lock the same in position to locate either of said series of ports and channels in alinement with said passages.

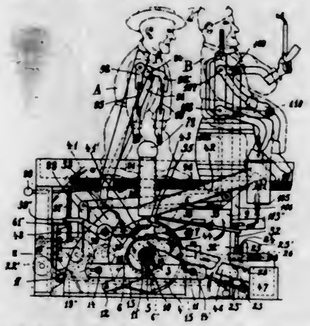
12. In a fluid pressure operated drill, the combination with a pair of cylinders having motive fluid passages communicating therewith, of pistons in said cylinders, a driven element to which said pistons are operatively connected, a valve casing with which said passages communicate, a hollow cylindrical valve having two circular grooves in its surface and two series of channels between said grooves each series comprising surface channels leading from the adjacent grooves and exhaust ports communicating with the hollow center of the valve intermediate of the supply ports, the supply and exhaust ports in the two series being staggered, means for axially adjusting said valve to bring either series of ports and channels in alinement with said passages, and means for actuating said valve to control the supply and exhaust of motive fluid.

13. In a fluid pressure operated drill, the combination with two pairs of cylinders having motive fluid supply and exhaust passages leading thereto, of pistons in said cylinders, a driven element to which said pistons are operatively connected, a valve casing with which said passages communicate, a hollow cylindrical valve having three circular grooves in its surface and two series of ports and passages between the intermediate and each end channel, each series of ports and passages comprising surface supply channels leading from the adjacent grooves and exhaust ports communicating with the interior of the hollow valve and intermediate to the supply channels, the supply channels and exhaust ports in adjacent series being staggered, means for axially adjusting said valve to vary the positions of the series of ports with respect to said passages to determine the direction of rotation of the driven element, and means for rotating said valve to control the supply and exhaust of motive fluid.

14. In a fluid pressure operated drill, the combination of a plurality of cylinders, pistons therein, a crank shaft common to said pistons, a valve for controlling the admission and exhaust of the motive fluid to and from the cylinders, said valve being adjustable to reverse the direction of rotation of the crank shaft, and means for holding the valve in its adjusted position comprising a rod or stem connected with the valve and having two recesses at different positions along its length, and a spring pressed pin arranged to engage one or the other of said recesses to hold the valve in one or the other of its adjusted positions.

15. In a fluid pressure operated drill, the combination of a plurality of cylinders, pistons therein, a crank shaft common to said pistons, a valve for controlling the admission and exhaust of the motive fluid to and from the cylinders, said valve being adjustable to reverse the direction of rotation of the crank shaft, and means for holding the valve in its adjusted position comprising a rod or stem having a ball and socket connection with the valve and provided along its length with two recesses at different positions, and a spring pressed pin arranged to engage one or the other of said recesses to hold the valve in one or the other of its adjusted positions.

866,923. APPARATUS FOR IMITATING THE GAME OF SKITTLES BY MEANS OF AUTOMATA. OTTO EICHENBERGER, Geneva, Switzerland, assignor of one-half to Léon Brock, New York, N. Y. Filed July 16, 1906. Serial No. 326,422.



1. In apparatus for the purpose set forth the combination of a base, automata mounted thereon, a series of skittles mounted on said base, means for causing one of said automata to grasp and throw a ball along said base, and means for causing another of said automata to return the ball to the first mentioned automaton.

2. In apparatus for the purpose set forth the combination of a base, automata mounted thereon, a series of skittles mounted on said base, means for causing one of said automata to grasp and throw a ball along said base in the direction of the skittles means for causing another of said automata to return the ball to the first mentioned automata and means for returning the skittles knocked down to their original positions.

3. In apparatus for the purpose set forth the combination of a base, automata mounted thereon, a driving shaft, a motor adapted to operate the latter, means for starting and stopping said motor, a series of skittles mounted on said base, means operated from said driving shaft for causing one automaton to grasp and throw a ball along the base in the direction of the skittles, means for causing another automaton to return the ball to the first mentioned automaton, and means for returning the skittles knocked down to their original position.

4. In apparatus for the purpose set forth the combination of a base, automata mounted thereon, a driving shaft, a motor adapted to operate the latter, means for starting and stopping said motor, a series of skittles resiliently mounted on said base, means operated from said driving shaft for causing one automaton to grasp and throw a ball along the base towards said skittles, means for causing another automaton to return said ball to the first mentioned automaton, means for returning the skittles knocked down to their original position, means for indicating the number of skittles knocked down at each throw and means for registering the scores of the players.

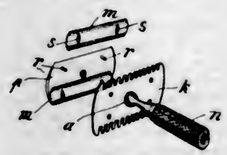
5. In apparatus for the purpose set forth the combination of a base two automata mounted thereon, an inclined trough located between said automata, a series of skittles mounted on said base, means whereby one automaton is caused to grasp a ball and throw same along the base towards the skittles, means whereby the other automaton is caused to pick up the thrown ball from the base and place same in the inclined trough aforesaid, and means for returning the skittles knocked down by the ball to their original positions.

6. In apparatus for the purpose set forth the combination of a base, automata mounted thereon, a series of skittles mounted on said base, a driving shaft, a spring motor, adapted to actuate said shaft, a crank for winding said motor, means for starting and stopping the latter, means for preventing the movement of the motor during the rotation of the crank, means for preventing movement of the crank during action of the motor, means operated from the driving shaft aforesaid for causing one of said automata to grasp and throw a ball along said base and means for causing another of said automata to return the ball to the first mentioned automaton.

7. In apparatus for the purpose set forth the combination with an alley of an automaton mounted adjacent one end thereof and adapted to rotate about its vertical axis, a second automaton mounted adjacent the opposite end of the alley, an inclined trough located between said automata, a series of skittles supported by the alley, a driving shaft, cams and lever mechanisms operated by said shaft whereby the first automaton is caused to grasp a ball and throw same along the alley towards the skittles and whereby the second automaton is caused to pick up the thrown ball from the floor of the alley and place same in the inclined trough aforesaid, a plate below the alley adjacent the skittles, flexible resilient connections between the skittles and said plate and cam and lever mechanism operated by the driving shaft whereby the plate is moved to tension said connections and raise the skittles knocked down by the ball substantially as described.

8. In apparatus for the purpose set forth the combination of an alley, automata movably mounted thereon, a series of skittles located between said automata, a driving shaft, a motor adapted to operate same, means driven from said shaft for placing a ball between the hands of one automaton, means whereby said automaton is caused to grasp the ball and throw same along said alley in the direction of the skittles, means driven from said driving shaft whereby another automaton is caused to pick up the ball from the floor of the alley and return it to the first mentioned automaton, means driven from said driving shaft for returning to their original positions the skittles knocked down by the ball, means for graphically indicating the number of skittles knocked down, means for indicating when all the skittles but one have been knocked down and means for registering the scores of the players substantially as described.

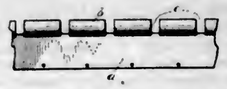
866,924. SAFETY-RAZOR. EUGEN FEIST, Solingen, Germany. Filed Apr. 29, 1907. Serial No. 371,018.



1. A safety razor provided with a guard plate, a pair of cutting blades having slots extending at right angles to the cutting edges thereof, a clamp plate having pins that pass through the blade-slots, and means for securing the clamp plate to the guard plate, substantially as specified.

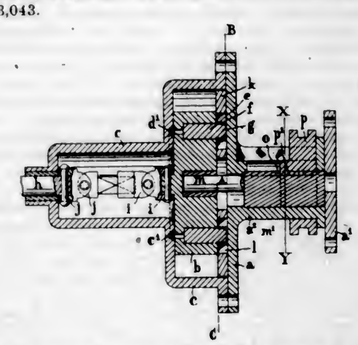
2. A safety razor provided with a perforated guard plate, a pair of cutting blades having slots extending at right angles to the cutting edges thereof, a clamp plate having pins that pass through the blade-slots and engage the guard-perforations, and means for securing the clamp plate to the guard plate, substantially as specified.

866,925. FASTENING FOR APPAREL. HERMANN FERL, Kamenz, Germany. Filed Dec. 11, 1906. Serial No. 347,352.



A fastening, comprising in combination, a flexible member presenting a tubular prehensile portion which is severed into sections by a plurality of transverse slits; and a flexible member having a beaded edge adapted to be clasped by the said prehensile part, substantially as described.

866,926. HYDRAULIC CLUTCH. ARTHUR J. FIPPARD, London, England. Filed Mar. 18, 1907. Serial No. 363,043.



1. A hydraulic clutch comprising driver and follower members, an annular recess in one of said members, blocks fitting said recess and connected to the other member, means for causing relative motion of said blocks within said recess, and means for causing a variable resistance to said relative motion.

2. A hydraulic clutch comprising a driver member, said member having a disk fitted with slots, a follower member including a piece recessed annularly, blocks fitting said annular recess and having pins whereon are mounted slippers which extend into said disk slots and liquid circulated by said blocks.

3. A hydraulic clutch comprising a driver member, a casing secured to said driver, a slotted disk arranged within said casing and secured to said driver, a follower member also arranged within said casing, an annular chamber in said follower member, blocks fitting said annular chamber and adapted to travel circumferentially therein and extensions from said blocks passing into said slots so as to be controlled by said slots, and liquid circulated by said blocks.

4. A hydraulic clutch comprising a casing, a driver member secured to said casing, a disk located within said casing and having slots formed therein, a follower member having an annular chamber arranged therein, blocks adapted to fit and travel around said annular chamber, pivots upon said blocks and slippers on said pivots, said slippers arranged to travel in said slots and liquid circulated by said blocks.

5. A hydraulic clutch comprising a driver member having a casing and a slotted disk, said casing and disk revoluble with said driver, a follower member arranged within said casing and having a shaft passing out through said casing, a coupling between said follower and its shaft, an annular groove in said follower, blocks fitting said annular groove and adapted to travel therein, liquid in said groove between said blocks, and extensions from said blocks into the slots of said disk.

6. A hydraulic clutch comprising a driver having a closed casing and a slotted disk, a follower member arranged in said casing, an annular groove forming a cham-

ber for liquid in said follower, blocks fitting said chamber and adapted to travel around said annular chamber, extensions from said blocks into said slots and liquid circulated by said blocks.

7. A hydraulic clutch comprising a driver having a slotted controlling disk, a follower member facing said disk, an annular groove forming a chamber for liquid in said follower, blocks fitting said chamber, extensions from said blocks engaging with said slots and means for varying the amount of slip between the driver and the follower.

8. A hydraulic clutch comprising a driven member having a closed casing and a slotted disk, a follower member arranged in said casing, an annular groove forming a chamber for liquid in said follower said follower bearing against said casing means for interconnecting to a variable extent various points in the circumference of said groove, blocks fitting said annular chamber, extensions from said blocks engaging with said slots in the driver disk.

9. A hydraulic clutch comprising a driver member having a drum like casing and a slotted disk, a follower member arranged in said casing, a coupling between said follower and a shaft passing out through said casing, an annular groove forming a chamber for liquid in said follower, said follower being held against said casing, means for interconnecting to a variable extent various points in the circumference of said groove, blocks fitting said annular chamber, and extensions from said blocks engaging with said slots in the driver disk.

10. In a hydraulic clutch, the combination of a driver member having a slotted disk with a follower member having an annular chamber, blocks fitting said annular chamber and adapted to travel therein, extensions from said blocks into said slots, and liquid circulated by said blocks.

11. An improved hydraulic clutch containing within a casing a driving and driven member, mounted on separate shafts, an eccentrically arranged groove in one of the members, blocks connected to the other member and designed to travel in the said groove, liquid in said groove, and means for releasing the liquid when required.

12. A hydraulic clutch, comprising a driver member having a casing and a slotted plate, a follower member having an annular groove arranged therein, blocks fitting said annular groove and adapted to travel therein, extensions from said blocks into said slots of the driver plate, a central chamber in said follower, ports between said annular groove and said central chamber, and a valve adapted to control said ports.

13. A hydraulic clutch, comprising a driver member having a casing and a slotted disk, a follower member having an annular groove formed therein, blocks fitting said groove, extensions from said blocks and slippers upon said extensions, said slippers engaging in the radial slots of said driver disk, a hollow chamber within said follower ports connecting said hollow chamber with said annular groove, liquid in said chamber and groove and a plunger valve adapted to control the passage of the liquid through the ports, the annular groove in said follower being eccentric to the axis of said follower shaft.

14. A hydraulic clutch comprising a driver member having a casing and a slotted disk, a follower member having an annular groove formed therein, said groove being eccentric to said driver member, blocks fitting said groove, extensions from said blocks and slippers revoluble upon said extensions, said slippers engaging in the slots of the driver disk, a chamber for liquid within the follower, ports between said chamber and the annular groove, and a valve movable within said chamber and over the ports so as to control the passage of liquid through the ports.

15. A hydraulic clutch comprising a driver member having a casing and a slotted disk, a follower member having an annular groove formed therein, said groove being eccentric to said driver member, blocks fitting said groove, pivots from said blocks and slippers on said pivots, said slippers being engaged in the slots of said driver disk, a chamber for liquid in said follower, passages between said chamber and said annular groove, and a displaceable plunger valve guided in said chamber and adapted to cover and control said passages.

16. In a hydraulic clutch, the combination of a driver member having a slotted disk, of a follower member having an annular groove and an internal chamber for liquid, said groove being eccentric to said driver member, said groove and chamber communicating by ports, of a plunger fitting said chamber and adapted to cover said ports, and of blocks fitting said annular groove and traveling therein, said blocks having extensions into the slots of said driver disk.

17. In a hydraulic clutch, the combination of a driver member having a slotted disk, of a follower member having an annular groove and an internal chamber for liquid, said groove being eccentric to said driver member said groove and chamber communicating by ports, of a plunger fitting said chamber and adapted to cover said ports, parallel guide pins extending outwardly from said follower, a flange from said plunger and holes in said flange to engage said guide pins, and of blocks fitting said annular groove and traveling therein, said blocks having extensions into the slots of said driver disk.

18. A hydraulic clutch, comprising a driver member having a casing and a slotted disk, a follower member having an annular groove formed therein, a wearing ring within said casing and against which said follower member bears, said groove being eccentric to said driver member, blocks fitting said groove, pivots from said blocks and slippers on said pivots, said slippers being engaged in the slots of said driver disk, a chamber for liquid in said follower, passages between said chamber and said annular groove, and a displaceable plunger valve guided in said chamber and adapted to cover and control said passages.

19. A hydraulic clutch comprising a driver member having a casing and a slotted disk, a follower member having an annular groove formed therein, said groove eccentric to said driver member, blocks fitting said groove, pivots from said blocks and slippers on said pivots, said slippers being engaged in the slots of said driver disk, a chamber for liquid in said follower, passages between said chamber and said annular groove, a displaceable plunger valve guided in said chamber and adapted to cover and control said passages, and guides for said plunger externally of said follower.

20. A hydraulic clutch, comprising a driver member having a casing and a slotted disk, a wearing ring within said casing opposite to said slotted disk, a follower member having an annular groove formed therein, said annular groove being eccentric to the driver member blocks fitting said groove, projections from said blocks extending into said slots in the driver disk, an internal chamber within the follower for liquid, ports between said chamber and said annular groove, and a valve fitting said chamber and adapted to cover and uncover said slots, said valve being provided with external guides, and means for displacing said valve.

21. A hydraulic clutch comprising a driver member having a disk provided with slots, a follower member including a device recessed to form an annular chamber, blocks fitting said annular chamber and guided by said slots in said driver disk, and liquid circulated by said blocks.

22. A hydraulic clutch comprising a driver member having a disk provided with slots, a follower member including a device recessed to form an annular chamber, blocks fitting said annular chamber and guided by said slots in said driver disk, and liquid circulated under pressure by said blocks through ports in said annular chamber.

23. A hydraulic clutch comprising a driver member, having a disk provided with slots, a follower member, including a device recessed to form an annular chamber, said chamber being eccentric to said disk, blocks fitting said annular chamber and guided by said slots, and liquid circulated by said blocks.

24. A hydraulic clutch comprising a driver member, having a disk provided with slots, a follower member provided with an annular chamber, blocks fitting said annular chamber and guided by said slots, and liquid circulated by said blocks when said chamber is eccentric to said disk.

25. A hydraulic clutch comprising a driver member and a follower member, an annular chamber in one of said members, a disk having guide slots secured to the other of said members, blocks arranged around said annular chamber extensions from said blocks into said guide slots and liquid in said chamber between said blocks.

866,927. TIRE. ROBERT A. GEHAN, Buffalo, N. Y. Filed Dec. 18, 1905. Serial No. 292,146.



1. In a wheel, the combination of a continuously coiled spring of substantially the same diameter throughout its length, a felly entirely surrounded and inclosed by said spring, spokes secured to said felly, and means for clamping the coils of said spring against the inner periphery of said felly to hold said spring in position and prevent endwise movement thereon, substantially as described.

2. In a wheel, the combination of a continuously coiled spring of substantially the same diameter throughout its length, a felly entirely surrounded and inclosed by said spring, spokes secured to said felly, a covering inclosing said spring, and means for clamping said covering and the coils of said spring against the inner periphery of said felly to hold the same in position and prevent endwise movement thereon, substantially as described.

3. In a wheel, the combination of a felly, spokes secured thereto, a coiled spring entirely surrounding and inclosing said felly, opposing clamping rings external to said spring, and means for forcing said clamping rings and felly toward each other to hold said spring in position thereon, substantially as set forth.

4. In a wheel, the combination of a felly, spokes secured thereto, a coiled spring entirely surrounding and inclosing said felly, opposing clamping rings external to said spring and said felly at the inner side thereof, and means external to said felly for adjusting said clamping rings toward said felly, substantially as set forth.

5. In a wheel, the combination of a felly, spokes secured thereto, a coiled spring entirely surrounding and inclosing said felly, opposing clamping rings external to said spring and said felly at the inner side thereof, and means on the spokes of said wheel for adjusting said clamping rings, substantially as set forth.

6. The combination of a coiled tire spring, a wheel rim located within said spring, a split cover inclosing said spring and having projecting flanges, clamping rings at opposite sides of said flanges, and means for forcing said rings together to clamp said cover flanges, substantially as set forth.

7. The combination of a coiled tire spring, a wheel rim located within said spring, a cover inclosing said spring, clamping rings for securing said spring and cover to said rim, and spokes which are secured to said rim and pass through said clamping rings, cover and spring to hold said parts from movement relative to said rim, substantially as set forth.

866,928. PRINTING-PLATE CHAIN. RICHARD GRIESER, New York, N. Y., assignor to Pollard-Alling Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Sept. 8, 1905, Serial No. 277,618. Renewed July 18, 1907. Serial No. 384,481.



1. A chain for addressing machines embodying a number of plates articulated together and each plate comprising a type-receiving portion and a curved flange along one edge, it having a number of notches, the other edge having a number of necks bent sharply at an angle to the plane of the plate, and tongues projecting from the necks in a direction longitudinally of the plate and in a different plane from the plane of the necks.

2. A printing plate chain comprising a number of sheet metal plates articulated together and each plate having a flange portion curled over from its printing face along one edge, said flange having an interruption near each end of the plate, and said plate also having a pair of offset substantially flat necks for entering said interruptions of an adjacent plate, and longitudinally curved pintles carried by the necks for entrance within the curled flange of said adjacent plate.

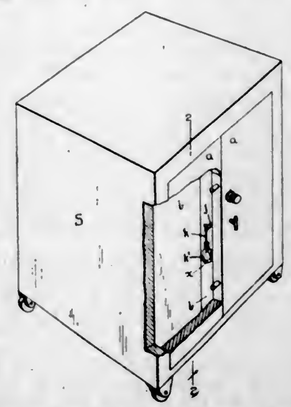
3. A printing plate chain comprising a number of plates articulated together and each plate having a flange portion curled over from its printing face along one edge, said flange having an interruption near each end of the plate, and said plate also having a pair of offset necks for entering said interruptions of an adjacent plate, pintles carried by the neck, and a flange carried by and reinforcing the end of the neck and the edges of the pintles for entrance within the curled flange of said adjacent plate.

4. A printing plate embodying a type or printing portion of plate like formation having along one edge a curled flange having its edge nearly reaching the back face of the plate and transversely notched near each end, and at the other edge having offset necks for entering the notches on a similarly formed plate, and said necks having pintles stiffened by longitudinal channels for entrance between the flange edge and back face of said similarly formed plate.

5. A printing plate embodying a sheet metal body portion having pintle sockets at one edge, and at the other edge transversely disposed necks and longitudinally disposed pintles carried by the necks and formed of said sheet metal and curved about their longitudinal axis, disposing the metal of the pintle transversely of the metal of the necks.

6. A printing plate embodying a sheet metal body portion having pintle sockets at one edge, and at the other edge necks offset at an angle from said body, and pintles carried by the necks and curved about their longitudinal axis transversely of the necks.

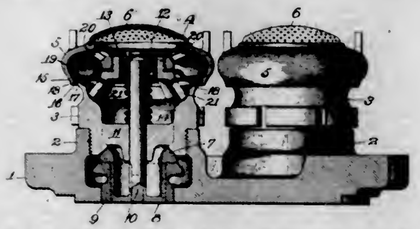
866,929. MEANS FOR PROTECTING SAFES FROM BURGLARS. BLUFORD HEAVNER and CAREY A. MANKER, Pearl, Ill. Filed Apr. 16, 1906. Serial No. 311,949.



1. A safe or vault having an inner door and an outer door, and means arranged in the space between said doors from which a pocket is suspended, and a breakable receptacle in said pocket containing a volatile injurious fluid.

2. The combination with a safe or the like having the usual inner, outer and intermediate doors, said intermediate door being spaced from the outer door and having a handle projecting into said space, a pocket suspended within said space from said handle, and a breakable receptacle in said pocket containing a volatile injurious fluid.

866,930. AIR-STRAINER FOR SUCTION-VALVES. MAURY W. HIBBARD, Chicago, Ill., assignor to Richard Fitzgerald, Chicago Ill. Filed Apr. 9, 1902. Serial No. 102,115.



1. The combination with an air compressing cylinder of an inlet valve device therefor provided with a tortuous passage for cleansing the air as it is being drawn through the inlet valve device, which passage communicates, at a point intermediate its length, with a dust outlet.

2. The combination, with an air compressing cylinder, of an inlet valve device therefor provided with a tortuous passage and also a marginal outlet passage communicating with said tortuous passage and forming the outlet for precipitated foreign particles.

3. The combination, with an air compressing cylinder, of an inlet valve device comprising a casing containing the valve proper and having an air inlet opening and a perforated cap secured to the casing and open at its bottom which forms a restricted passage along the side of the casing for the dirt or grit separated from the air.

4. The combination, with an air compressing cylinder, of an inlet valve device comprising a casing containing the valve proper and having an air inlet opening and also having a flaring lip 17 and a perforated cap secured to the casing and forming a restricted passage between itself and such lip for the exit of foreign particles separated from the air.

5. The combination, with an air compressing cylinder, of an inlet valve device comprising a casing containing a suitable inlet valve and having a lip 17 and an air opening 21 at one side thereof to communicate with the inlet valve, and a perforated cap secured to the casing and forming with the lip a restricted passage to the atmosphere.

6. The combination, with an air compressing cylinder, of an inlet valve device comprising a casing containing a suitable inlet valve and having a lip 17 and an air opening 21 at one side thereof to communicate with the inlet valve, a plate arranged in proximity to the inner side of such lip to form a restricted passage to the opening 21, and a cap 5 secured to the casing and forming with the outer side of the lip a restricted passage to the atmosphere.

7. The combination, with an air compressing cylinder, of an inlet valve device comprising a casing 3 containing a suitable inlet valve and having a flaring lip 17 and a series of air openings 21 adjacent to said flaring lip to communicate with the inlet valve and a curved circular cap arranged in close proximity to the outer side or face of such lip to form a restricted passage from one side of said cap to the atmosphere, said cap being perforated to provide air inlets, and a curved disk or plate located within said cap and disposed in close proximity to one side of such lip to form a restricted passage from said air inlets to said air openings 21.

8. An inlet valve comprising a casing arranged to communicate with the inlet port of a compressor and an inlet valve therein for governing such port, said casing having a tortuous and restricted passage for the air, a portion of said passage being substantially annular, and said casing also having an outlet passage for the escape of precipitated foreign particles and substantially concentric with said annular portion of the tortuous passage.

9. The combination, with an inlet valve, of a casing therefor communicating with the inlet port and containing two restricted passages, one leading to the inlet port and the other to the atmosphere, for the purposes herein stated.

10. The combination, with an inlet valve, of a casing therefor communicating with the inlet port and having an outwardly extending lip and means for forming two restricted passages on either side of said lip, one to said port and the other to the atmosphere for the purposes herein stated.

11. In a device of the class described, the combination with an air compressing cylinder, of an inlet valve device comprising a casing containing a suitable inlet valve having a lip 17 and an air opening 21 to communicate with the inlet valve, a trough shaped plate 19 arranged in proximity to the inner side of the lip, and a cap 5 secured to the casing and forming in connection with the said plate a restricted passage 16 and in connection with the lip a second restricted passage 18.

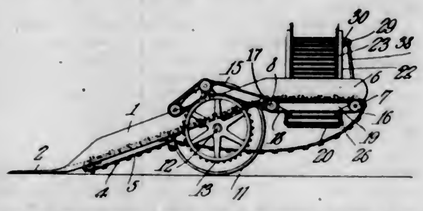
12. The combination with an air compressing cylinder of an inlet valve device therefor having a cap provided with air inlets and also provided with a tortuous inlet passage communicating with a passage for the precipitated dust and with a saparate passage for the cleansed air on its way to the inlet valve and arranged adjacent the dust passage.

866,931. COMBINATION-TOOL. ANDREW J. HIGGINS, West Philadelphia, Pa. Filed Feb. 14, 1907. Serial No. 357,362.



A tool of the character described, comprising a hand lever formed at one of its ends with a recess to provide two arms having their flat opposing faces diverging to permit nuts of different sizes to be engaged by the tool, one of said arms being notched and tapered to provide a tack puller, the other of said arms being formed with a notched guide portion and a cutting spur disposed to one side of said guide portion to permit said arm to be used as a can opener, substantially as shown and described.

866,932. COMBINED POTATO-ELEVATOR AND VINE-SEPARATOR. ARTHUR L. HOOVER, Avery, Ohio. Filed July 1, 1907. Serial No. 381,782.



1. In combination with a digger having inclined slats located behind the same, a hopper located behind the slats and having a conveyer bottom, a combined elevator and vine separator moving orbitally around the hopper and the first said slats.

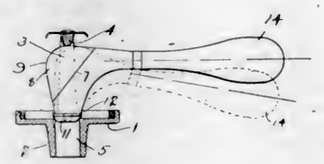
2. In combination with a digger having inclined slats located behind the same, a hopper located behind the slats and having a conveyer bottom which moves transversely of the implement, a combined elevator and vine separator passing orbitally around the hopper and the said slats.

3. In combination with a digger having inclined slats located behind the same, a hopper located behind the slats and having a movable conveyer bottom, a combined elevator and vine separator passing orbitally around the hopper and the slats, means operatively connecting the elevator with the movable hopper bottom and means operatively connecting the elevator with the ground wheels of the implement.

4. An implement as described comprising side bars having inclined forward portions and horizontal rear portions, a digger located between the forward ends of the said bars, shafts journaled at the opposite ends of the horizontal portions of the said bars, ground wheels supporting the bars, means operatively connecting the ground wheels with said shafts, a hopper located under the upper portions of the side bars and having a movable conveyer bottom, means operatively connecting said bottom with one of the said shafts, and a combined conveyer and weed separator passing orbitally around the hopper and between the said bars and around the said shafts.

5. An implement as described comprising side bars having inclined forward portions and horizontal rear portions, ground wheels supporting the bars, a digger attached to the forward ends of the bars, slats located between the bars and which extend along the inclined portions only thereof, a hopper located under the horizontal portions of the said bars and having a movable conveyer bottom, a combined elevator and vine separator passing orbitally around the hopper and the slats, means operatively connecting said elevator and separator with the ground wheel and means operatively connecting the hopper bottom with said elevator and separator.

866,933. SPRINKLER-STOPPING DEVICE. ADOLF E. JOHNSON, Providence, R. I. Filed Mar. 16, 1907. Serial No. 362,768.



1. As a new article of manufacture a stopper for sprinkler heads comprising a body portion having a manipulating handle, a plug on said body, a separate and independent retaining member secured to said body by fusible material whereby said stopper may be released to be automatically removed when subjected to heat.

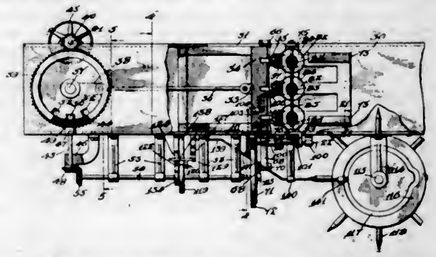
2. In a device of the character described, the combination of a sprinkler head provided with an outlet aperture, a stopper comprising a body portion having a manipulating handle, a plug on said body, means for pressing and retaining said plug in position to close said aperture, and means whereby the retaining portion of the device will be automatically removed to release the plug when the same is subjected to heat.

3. In a device of the character described, the combination of a sprinkler head provided with an outlet aperture, a stopper comprising a body portion having a manipulating handle, a plug on said body, a separate and independent retaining member secured to said body whereby said plug may be pressed and retained in position to close said outlet, said retaining member being held in position on said body portion by fusible material whereby the same will be automatically released and the stopper removed when subjected to heat.

4. In a device of the character described, the combination of a sprinkler head provided with an outlet aperture, a yoke on said head, a stopper comprising a body portion having a manipulating handle, a plug on said body, a separate and independent cam-shaped retaining member secured to said body and adapted to engage said yoke whereby said plug may be pressed and retained in position to close said outlet, said retaining member being held in position on said body portion by fusible material whereby the same will be automatically released and the stopper removed when subjected to heat.

5. In a device of the character described, the combination of a sprinkler head provided with an outlet aperture, a stopper comprising a body portion formed of a thin blade or plate having a manipulating handle, a flexible plug on said body, a separate and independent retaining member secured to said body whereby said plug may be pressed and retained in position to close said outlet, the attaching edge of said member being on an angle to the line of pressure, said retaining member being held in position on said body portion by fusible material whereby the same will be automatically released and the stopper removed when subjected to heat.

866,934. BINDER ATTACHMENT FOR BALING-PRESSES. FREDERICK J. KATZ, Chicago, Ill. Filed Sept. 28, 1905. Serial No. 280,402.



1. In a baling press, the combination of a compression chamber, a binding mechanism comprising a movable needle frame and a twister frame, means for operating the frames to seat the wires in the movable twister, means for operating the twister, and means operatively related to the twister for cutting the twisted wires at a point intermediate the ends of their twisted portions.

2. In a baling press, the combination of a compression chamber, a binding mechanism comprising a movable needle frame and a movable twister frame, means for operating the frames to seat the wires in the twisters, means for operating the twisters and means carried by the twister operating mechanism for cutting the twisted wires at a point intermediate to the ends of their twisted portions.

3. In a baling press, the combination of a chamber, means for compressing the material, a twister frame, a needle frame, a rotating shaft, means for moving the frames, means for locking the twister operating mechanism while the frames are being moved, and means whereby the movement of the compressed material will cause said shaft to move the frames and to unlock and operate the twisters.

4. In a baling press, the combination of a compression chamber, a binding mechanism, a shaft, connections between said shaft and binder for operating the latter, a pinion carried by the shaft, and a gear engaging the pinion for driving the shaft, said gear and pinion being provided with inter-engaging portions for locking said shaft to prevent a continuous rotation thereof.

5. In a baling press, the combination of a compression chamber, binding mechanism, a shaft, means for transmitting motion from the shaft to the binder, a pinion carried by the shaft, said pinion being provided with a flattened portion, a gear engaging the pinion, said flattened portion being adapted to engage the face of the gear, for locking the pinion against continuous rotation.

6. In a baling press, the combination of a compression chamber, binding mechanism, a shaft, connections between the shaft and binding mechanism, a pinion secured to the

shaft, a hub carried by the pinion and being provided with a flattened portion, a gear engaging the pinion, the face of said gear being provided with recesses adapted to permit the flattened portion thereof to be brought into and out of engagement with the face of the gear.

7. In a baling press, the combination of a compression chamber, binding mechanism, a shaft, means for transmitting motion from the shaft to the binder, means for rotating the shaft and coöperating locking means carried by the shaft and its operating mechanism for locking and unlocking said shaft to permit only a single rotation thereof.

8. In a baling press, the combination of a compression chamber, binding mechanism, a shaft, means for transmitting motion from the shaft to the binder, a wheel which is provided on its face with a section of gear teeth and cavities adjacent each of the end teeth of said section, a pinion wheel carried by the shaft adjacent to and engaging the teeth, and being provided with a flattened portion, one of said cavities being adapted to receive the corner of the said flattened portion upon the commencement or completion of one complete revolution of the pinion.

9. In a baling press, the combination of a compression chamber, a binder, a shaft comprising a rotating and an idle section, connections between the idle section and the binder, locking means carried by the contiguous ends of the shafts, said locking means comprising an engaging pawl and shoulder, a stirrup adapted to be engaged by the latch for raising the latter, and means for withdrawing the stirrup from its engagement with the latch.

10. In a baling press, the combination of a compression chamber, a binder, a shaft comprising a rotary and an idle section, connections between the binder and the idle section, locking means carried by the contiguous ends of the shafts, and comprising a pawl and a shoulder, a stirrup standing within the path of the rotation of the pawl and adapted to be engaged by the pawl to release the same, and means controlled by the compressed material for releasing the stirrup from said pawl.

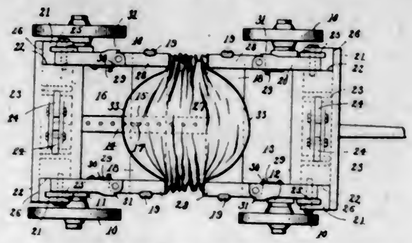
11. In combination with a machine of the class described, a shaft comprising a rotating and an idle section, a shoulder carried by one of the sections, a pawl carried by the other section and adapted to engage the shoulder, an arm standing within the path of the rotating movement of the pawl, a latch engaging said arm for moving the same and means for releasing the latch.

12. In combination with a machine of the class described, a shaft comprising a rotary and an idle section, a shoulder carried by one section and a pawl carried by the other section, a pivoted arm standing within the path of the rotary motion of the pawl, a projection carried by the arm, a latch engaging the projection for moving the arm, a projection carried by the latch, and a lug carried by one of the shaft sections for engaging the projection to release the latch.

13. In combination with a machine of the class described, a shaft comprising a rotary and an idle section, a shoulder carried by one section, a disk carried by the adjacent end of the other section, a pawl pivoted to the disk and extending beyond the periphery thereof, said pawl being adapted to engage the shoulder, a stirrup, a projection carried thereby, a latch, means for causing the latch to engage the projection to disengage the stirrup from the pawl, a projection carried by the arm and means carried by the disk for engaging the projection to release the latch from its engagement with the stirrup.

14. In combination with a machine of the class described, a shaft comprising a rotary and an idle section, a shoulder carried by one section, a disk carried by the other section, a pawl pivoted to one face of the disk and adapted to engage the shoulder, a pivoted stirrup standing within the path of the rotary movement of the pawl, a projection carried by the stirrup, a lever pivoted adjacent to the stirrup, a latch pivoted to the lever, said latch being provided with a shoulder and an inclined end, means for operating the lever to cause the latch to engage the projection for raising the stirrup, a projection carried by the latch, and a projection carried by the other face of the disk and adapted to engage the projection on the latch for releasing the same.

866,935. LIFE-SAVING APPARATUS. DANIEL KERKHS and JOSEF KENDER, Bridgeport, Conn. Filed Apr. 23, 1907. Serial No. 369,752.



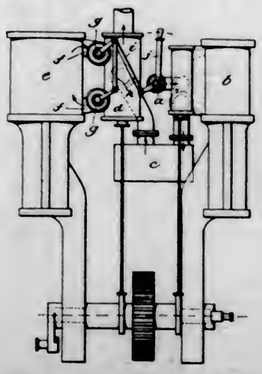
1. The combination with a pair of trucks adapted to be adjusted with relation to each other, of a pair of extensible bolsters mounted transversely upon each truck, posts hinged to the outer ends of the bolsters and adapted to be adjusted from a horizontal to a raised position, and a net suspended from the said posts.

2. In an apparatus of the class described the combination with a pair of trucks adapted to be adjusted with relation to each other, of a pair of bolsters slidably mounted upon each of the said trucks, a post pivoted to each of said bolsters and having means for retaining said posts in both a lowered and raised position, an extension pivoted to said post and adapted to be deflected in an outward direction, and a net the corners of which are secured to each of said posts.

3. In an apparatus of the class described the combination with a pair of trucks adapted to be adjustably attached together, of transverse slidable bolsters, posts hinged to the bolsters, an extension secured to each of said posts, spring clips to support the extensions in their set positions, means for supporting the posts in a raised position, and a net secured to each of said posts.

4. In an apparatus of the class described the combination with a pair of trucks and means for adjusting the same, bolsters slidably mounted upon said trucks adapted to be adjusted transversely, means for holding them in such adjusted positions, posts pivoted to swing crosswise of the bolsters, extensions of said posts adapted to swing longitudinally with the bolster, means for holding said posts and extension in such adjusted positions, and a net suspended from said posts.

866,936. COMPOUND ENGINE. CLEMENS KIESSELBACH, Rath, near Düsseldorf, Germany. Filed Dec. 8, 1905. Serial No. 290,889.



In a compound steam engine, a high pressure cylinder, a low pressure cylinder, and an intermediate receiver, combined with a steam inlet valve communicating with the high pressure cylinder, pipes connecting the receiver with the high and low pressure cylinders, a second valve controlling communication between the receiver and low pressure cylinder, a third valve controlling communication between the low pressure cylinder and the exhaust, and means for simultaneously operating said three valves, substantially as specified.

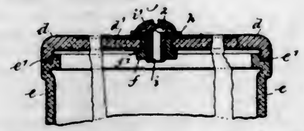
866,937. STOVE-LID LIFTER. BLANCH T. KINNEAR, Clinton, Mass. Filed Aug. 20, 1906. Serial No. 332,460.



1. As an article of manufacture, a stove lid lifter, comprising a pair of pivotally connected shanks each having a curved foot, the two curved feet together constituting means for engaging under lugs in a stove lid or the like, and having an angular bottom portion and outwardly extending ears meeting at their edges and each constituting a fulcrum for the other.

2. As an article of manufacture, a stove lid lifter, comprising a pair of pivotally connected shanks, each having a curved foot, the two curved feet together constituting means for engaging under lugs in a stove lid or the like, and having an angular bottom portion and outwardly extending ears meeting at their edges and each constituting a fulcrum for the other, said shank being provided with tangs, and a handle grip mounted on each tang.

866,938. VACUUM-VENT FOR JARS. ERNEST U. KINSEY, Rutherford, N. J. Filed Apr. 29, 1907. Serial No. 370,776.



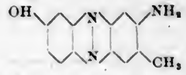
1. A vacuum vent for jars, comprising a tubular screw stem and integral head member having an air vent opening through the stem beneath the head and a washer against which the head of said member seats.

2. A vacuum vent for jars, comprising a longitudinally movable tubular screw stem and integral head member having an air vent opening through the stem beneath the head, a washer against which the head of said member seats and a nut through which the threaded stem of said member with the head thereof is longitudinally movable.

3. In a vacuum vent for jars, the combination with the jar top or cover, of a centrally apertured threaded nut seated in the body of the top or cover, an exteriorly threaded tubular stem and head integral therewith, there being an opening through the tubular stem and said stem received in said threaded nut and longitudinally movable therein, a washer adapted to lie against the outer face of the top or cover and against which the under surface of said head is adapted to seat to close off the opening and which when turned and the head raised open up communication through the tubular stem between the air and the interior of the jar.

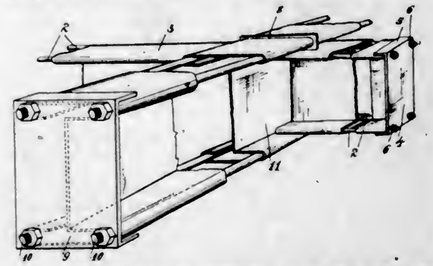
866,939. REDDISH-BROWN SULFUR DYE. FRITZ LEHMANN, Vohwinkel, near Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed July 22, 1907. Serial No. 385,053.

The herein-described new reddish-brown sulfur dye obtainable by melting aminooxytoluphenazin of the formula



with alkaline sulfid and sulfur at about 135° centigrade, being a dark brown powder very easily soluble in water in the presence of sodium sulfid with a blackish brown color, being practically insoluble in soda-lye containing 27 per cent of NaOH, being dissolved by concentrated sulfuric acid (66° Bé) with a dark brown color which by the addition of water first becomes redder, a dark reddish-brown insoluble precipitate being finally separated, dyeing unmordanted cotton in a bath of sodium sulfid reddish-brown shades of great fastness, the dyeings thus obtained remaining brown when treated on the fiber with copper salts, substantially as hereinbefore described.

866,940. CONSTRUCTION OF IRON GIRDERS. ROBERT LIPMAN, Strassburg, Germany. Filed Apr. 13, 1906. Serial No. 311,475.



1. In iron girders the combination of tie-rods with sheet metal strips bent around the tie-rods after the fashion of a profile girder substantially as described.

2. In iron girders the combination of tie-rods with sheet metal strips bent around the tie-rods after the fashion of a profile girder and spacing plates between the metal strips, substantially as described.

3. In iron girders the combination of tie-rods with sheet metal strips bent around the tie-rods after the fashion of a profile girder and spacing plates between the metal strips and end plates against the end of the girder, substantially as described.

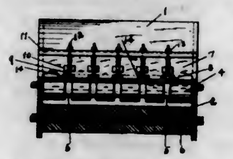
4. An iron girder comprising metal strips bent into the form of a double T and a tie rod in each of the flanges of said metal strips.

5. An iron girder of tie-rods, bent sheet metal strips, spacing plates and end plates covered with cement or the like, substantially as described.

866,941. FEED-REGULATOR FOR GRAIN-SEPARATORS. ROBERT A. LITTLE, Buffalo, N. Y., assignor of one-third to Elmer T. Anson and one-third to Charles L. Anson, Lockport, N. Y. Filed May 11, 1905. Serial No. 259,929.

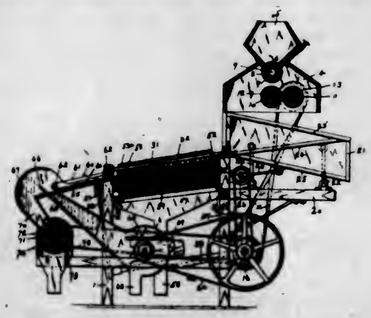
A feed regulator for grain separators comprising a hopper with an elongated opening, a roller provided with

spaced circumferential grooves across its entire length, such roller being located across and below the opening in the hopper, spring-acting individual gates adjustable into and out of the circumferential grooves in the roller,



upon one side of the same and fixed individual gates for permanently closing the circumferential grooves upon the opposite side of the roller.

866,942. SEED-CLEANING MECHANISM. ROBERT A. LITTLE, Buffalo, N. Y., assignor of one-fifth to Elmer T. Anson and one-fifth to Charles L. Anson, Lockport, N. Y., and one-fifth to Emma Taft and one-fifth to Arthur F. Kraft, Buffalo, N. Y. Filed May 11, 1905, Serial No. 259,928. Renewed May 16, 1907. Serial No. 373,982.



1. A machine of the character described, comprising a bean cleaning mechanism composed of elastic dirt-crushing rollers, vibrating grading sieves, an endless carrier moving across the path of the beans, a pivoted adjustable rake operating at one end of the endless carrier and means for intermittently raising the pivoted rake, all for removing the pods, dirt, flat stones and split beans, all combined and operating substantially as shown and described.

2. A machine of the character described, comprising a bean cleaning mechanism composed of elastic dirt-crushing rollers, vibrating grading sieves, an endless carrier moving across the path of the beans, a pivoted adjustable rake operating at one end of the endless carrier, means for intermittently raising the pivoted rake and a cleaning brush underneath the endless carrier, all for removing the pods, dirt, flat stones and split beans, all combined and operating as and for the purpose stated.

866,943. NECKTIE-FASTENER. PHILIP H. LONG, Newark, N. J. Filed Dec. 15, 1906. Serial No. 347,966.



1. A fastener comprising two plates, a pin upon which said plates are pivotally supported, a spring for closing said fastener, and loops lying at one side only of said spring and impinging against the rear portions of said plates and re-inforcing the same, substantially as described.

2. A fastener comprising two plates, a pin upon which said plates are pivotally supported, and a spring coiled around said pin, the ends of said spring being bent to form upper and lower loops, said loops lying at one side only of said spring and impinging against the periphery of the rear portions of the two said plates, substantially as described.

3. A fastener comprising two plates, a pin upon which said plates are pivotally supported, and a spring coiled around said pin, the ends of said spring being bent to form rearwardly extending loops, the free ends of which lie against opposite ends of the coiled portion of the spring, whereby said loops will be at one side only of said coiled portion, said loops impinging against the periphery of the rear portions of the two said plates, substantially as described.

866,944. BOX-FASTENER AND SEAL THEREFOR. GEORGE H. MAAS, Fargo, N. D. Filed Jan. 11, 1906. Serial No. 295,544.



1. The combination with a shipping case having a hole in its side wall a bushing fitting therein and a cover for said case, of a thin flexible disk suitably marked inserted into said bushing and having its middle portion pressed in beyond the plane of its edge, and a cover lock accessible through said hole when said disk is punctured.

2. The combination with a shipping case having a hole in its side wall a bushing fitting therein and a cover for said case, of a metallic disk of comparatively thin material fitting within said bushing and having its edge contacting with the same and its middle portion pressed inwardly beyond its edge, and a hook device mounted on said cover, a loop secured on the case wall and engaged by said hook, and said loop and hook being opposite and contiguous to said disk, for the purpose specified.

3. In a sealing device for shipping cases, a ring or bushing in combination with a diaphragm of comparatively thin material fitting therein and having a suitably marked surface, its edge contacting with said bushing and its middle portion pressed in beyond the plane of its edge, said bushing having a smooth inner surface of uniform diameter throughout its length, substantially as described.

4. A sealing device for shipping cases comprising a bushing or ring having a smooth interior surface, and a disk suitably marked and of comparatively flexible material fitting within said bushing and having its edge contacting therewith, the middle portion pressed in beyond the plane of the edge thereof whereby pressure on the middle portion of said disk will force its edge more snugly against the surface of said ring, substantially as described.

5. A sealing device for shipping cases comprising a bushing having an interiorly-arranged annular rib intermediate to its ends, and a disk suitably marked of flexible material fitting within said bushing and having its edge contacting therewith said disk assuming a convex form in said bushing, whereby its middle portion is pressed in beyond the plane of the edge of the disk.

6. In a shipping case, the combination with a vertical wall having an orifice extending therethrough, a bushing fitting within said orifice and a cover for said case, of a plate secured to said vertical wall and provided with a loop, a second plate secured to said cover and provided with a depending tongue having a hooked lower end to enter said loop, and a disk of flexible material suitably marked fitting within said bushing and opposite and contiguous to said hook and loop, for the purpose specified.

7. A shipping case having a suitable cover, in combination with a vertical wall having a hole or orifice, a bushing fitting therein and provided with an annular rib intermediate to its ends, of a loop device secured to said wall, a tongue secured to said cover and having a hooked end to enter said loop, and a disk suitably marked fitting within said bushing upon either side of said rib and adapted to be punctured to obtain access to said loop and hook, substantially as described.

8. In a shipping case having a suitable cover and a wall provided with an orifice, of a plate secured to said wall and having a loop and a guide provided thereon, a second plate secured to said cover and having a depending tongue and a lip to enter said guide, and said tongue having a hook at its lower end to engage said loop, and a disk adapted to bear suitable marks and composed of flexible material capable of being punctured and fitting within said orifice near said loop and hook, substantially as described.

9. The combination, with a shipping case having a cover and lock device secured on the wall of said case and on said cover, said wall having an opening contiguous to said lock device, and a convex disk of flexible spring material fitting within said opening and preventing access to said lock, substantially as described.

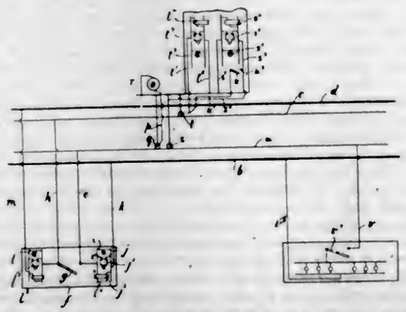
10. In a device of the class described, the combination, with a case having a cover and a lock device therefor, the wall of said case having a hole contiguous to said lock device, a bushing fitting within said hole, and a disk convex in form fitting within said bushing and normally preventing access to said lock device, the edge of said disk pressing against said bushing and pressure on the middle portion of said disk only serving to force its edge more closely against the wall of said bushing, substantially as described.

11. The combination, with a shipping case having a hole in its side wall a bushing fitting therein, a cover for said case, a lock device for said cover, and a disk of flexible spring material of greater diameter than said bushing and adapted to be fitted therein and assume a convex form with its middle portion pressed in beyond the plane of its edges and said disk concealing said locking device and normally preventing access thereto, substantially as described.

12. A sealing device comprising a shell or bushing and a disk convex in form fitting therein, the edge of said disk pressing against the inner wall of said shell, and pressure on the middle portion of said disk only serving to force its edge more closely against the wall of said shell.

13. The combination, with a receptacle having a hole in its wall, of a disk convex in form fitting within said hole, the edge of said disk pressing against the wall inclosing said hole, and pressure on the middle portion of said disk only serving to force its edge more closely against said wall, substantially as described.

866,945. ELECTRIC SIGNALING ON RAILWAYS. WILLIAM J. MACKENZIE, Dunmurry, Ireland. Filed Dec. 13, 1905. Serial No. 291,557.



1. Electrical signaling apparatus for signaling between trains and signal cabins comprising, in combination, a signaling apparatus on the engine, a similar signaling apparatus in the cabin, electrical conducting means arranged along the track, means for automatically electrically connecting the said conducting means with the signaling apparatus in the cabin, means whereby the signal men can signal to the engine driver and simultaneously show the indications in his own cabin, means to enable the engine driver to signal, by means of his switch, to the signal man, means on the engine adapted to contact with the said conducting means of the track and means for causing a short circuit and signaling to the signal man upon the breakage of a signal wire.

2. Electrical signaling apparatus for signaling between trains and signal cabins comprising, in combination, a signaling apparatus on the engine, a similar signaling apparatus in the cabin, an insulated conductor laid along the track and between the rails, means for automatically electrically connecting the said conductor with the signaling apparatus in the cabin, means whereby the signal men can signal to the engine driver and simultaneously show the indications in his own cabin, means to enable the engine driver to signal, by means of his switch, to the signal man, a trolley on the engine adapted to contact with said conductors and means for causing a short circuit and signaling to the signal man upon the breakage of a signal wire.

3. Electrical signaling apparatus for signaling between trains and signal cabins comprising, in combination, a signaling apparatus on the engine, a similar signaling apparatus in the cabin, insulated conductors laid along the track and between the rails, means for automatically electrically connecting the said conductors with the signaling apparatus in the cabin, means whereby the signal men can signal to the engine driver and simultaneously show the indications in his own cabin, means to enable the engine driver to signal, by means of his switch, to the signal man and trolleys held in position on the engine by springs and adapted to contact with said conductors and means for causing a short circuit and signaling to the signal man upon the breakage of a signal wire.

4. Electrical signaling apparatus for signaling between trains and signal cabins comprising, in combination, a signaling apparatus on the engine, a similar signaling apparatus in the cabin, an insulated conductor laid along the track and between the rails, means for electrically connecting the said conductor with the signaling apparatus in the cabin, a trolley wheel, a fork therefor, a series of springs attached to the fork, a sliding rod attached to the springs and a guide socket secured rigidly to the engine.

5. Electrical signaling apparatus for signaling between trains and signal cabins comprising, in combination, a signaling apparatus on the engine, a similar signaling apparatus in the cabin, an insulated conductor laid along the track and between the rails, means for electrically connecting the said conductor with the signaling apparatus in the cabin, a trolley wheel, a fork therefor, a series of springs attached to the upper end of the fork, a rod of T shape, a tubular socket secured to the engine and a spring in said socket.

6. Electrical signaling apparatus for railways, having in combination, two conductor wires, rods, or rails arranged along the track, a source of electricity on the engine, alarm or danger signaling apparatus on the engine, trolleys on the engine, means connecting said trolleys with the signaling apparatus on the engine and with the source of electricity, signaling apparatus in the signal cabin, wires connecting said apparatus in the cabin with the conductor wires, rods, or rails, and means for completing the circuit through the two conductor wires, rods, or rails to put the alarm or danger signals in action when engines are passing over them and to simultaneously cause the danger signal to appear in two engines and the signal cabin when two engines enter the protected area, and means for automatically causing a short circuit upon the breakage of a signal wire.

7. Electrical signaling apparatus for railways, having, in combination, two conductor wires, rods, or rails, arranged along the track, a source of electricity on the engine, alarm or danger signaling apparatus on the engine, trolleys on the engine, means connecting said trolleys with the signaling apparatus on the engine and with the source of electricity, signaling apparatus in the signal cabin, wires connecting said apparatus in the cabin with the con-

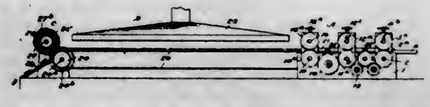
ductor wires, rods, or rails and a switch for completing the circuit through the two conductor wires, rods, or rails to put the alarm or danger signals in action when engines are passing and to simultaneously cause the danger signal to appear in two engines and the signal cabin when two engines enter the protected area, and means for causing a short circuit upon the breakage of a signal pull-wire.

8. Electrical signaling apparatus for railways, having in combination, two conductor wires, rods, or rails arranged along the track, a dynamo on the engine, alarm or danger signaling apparatus on the engine, trolleys on the engine, means connecting said trolleys with the signaling apparatus on the engine and with the dynamo, signaling apparatus in signal cabin, wires connecting said apparatus in the cabin with the conductor wires, rods, or rails and a switch for completing the circuit through the two conductor wires, rods, or rails to put the alarm or danger signals in action when engines are passing over them and to simultaneously cause the danger signal to appear in two engines and the signal cabin when two engines enter the protected area, and means for automatically causing a short circuit upon the breakage of a signal pull-wire.

9. Electric signaling apparatus for railways, comprising, in combination, insulated wires or rods laid on the railway track, means for charging said wires or rods with electricity, electrical signaling devices arranged in the signal cabin, connections between the said insulated wires or rods, and the signaling devices in the cabin, electrical signaling devices on the train and means on the train connected with the signaling devices thereon and capable of engaging with the aforesaid insulated wires or rods when the train passes over the same and to simultaneously cause the signal to appear in the two engines and the signal cabin when two engines enter the protected area, and means for automatically causing a short circuit upon the breakage of a signal pull-wire.

10. Electrical signaling apparatus for signaling between trains and signal cabins, comprising, in combination, a signaling apparatus on the engine, a similar signaling apparatus in the cabin, an insulated conductor laid along the track, means for electrically connecting the said conductor with the signaling apparatus in the cabin, a trolley wheel, a fork therefor, a sliding rod, a fixed guide socket therefor, springs interposed between said rod and yoke, a spring in the said socket against which the upper end of said rod bears and means for automatically causing a short circuit upon the breakage of a signal pull-wire.

866,946. CANDY-SPINNING MACHINE. JAMES F. MAGRUDER, Meadville, Pa. Filed May 22, 1907. Serial No. 375,018.



1. An apparatus of the class described, combining strip forming and shaping rollers with longitudinal cutting rollers and transverse cutting rollers, said longitudinal and transverse cutting rollers arranged to partially cut the strip, together with an endless conveyer to receive the longitudinal and transversely cut strip, means for cooling said strip, and means for severing the cut sections after the strip has been coiled, substantially as shown and described.

2. In a machine of the class described, a supporting frame, a main drive shaft journaled in bearings in said frame, a flanged feed and shaping roller carried by said shaft, a supplemental shaping roller coöperating with said flanged shaping roller, held to occupy the space between and operable between the flanges thereof, means for intergearing said rollers, adjustable bearings for said second roller, means for longitudinally parting the strip as it passes from the shaping and feeding rollers, means for conveying the strip from the shaping and feeding rollers to said longitudinally parting means, means for transversely parting the strip after it leaves the longitudinally parting means, said conveying means arranged to convey the strip from said longitudinally parting means to said transversely parting means, and means for separating the parted sections of the strip substantially as shown and described.

3. In a machine of the class described, a supporting frame, a main drive shaft journaled in bearings in said frame, a flanged feed and shaping roller carried by said shaft, a supplemental shaping roller coöperating with said flanged shaping roller and operable between the flanges thereof, means for intergearing said rollers, adjustable bearings for said second roller, means for longitudinally dividing the strip as it passes from the shaping and feeding rollers, means for conveying the strip from the feeding and shaping rollers to said longitudinally parting means, means for transversely parting the strip after it leaves the longitudinally parting means, said conveying means arranged to convey the strip from said longitudinally parting means to said transversely parting means, said longitudinally parting means including a smooth surfaced roller and a superimposed roller having parting blades, adjustable bearings for the shaft of said superimposed roller, a cooling means, said conveying means passing under said cooling means and consisting of an endless conveyer belt, and pulleys around which said conveyer belt passes.

4. In a machine of the class described, a supporting frame, a main drive shaft journaled in bearings in said frame, a flanged feed and shaping roller carried by said shaft, a supplemental shaping roller coöperating with said flanged shaping roller and operable between the flanges thereof, means for intergearing said rollers, adjustable bearings for said second roller, means for longitudinally dividing the strip as it passes from the shaping and feeding rollers, means for conveying the strip from the shaping and feeding rollers to said longitudinally parting means, means for transversely parting the strip after it leaves the longitudinally parting means, said conveying means arranged to convey the strip from said longitudinally parting means to said transversely parting means, said longitudinally parting means including a smooth surfaced roller and a superimposed roller having parting blades, adjustable bearings for the shaft of said superimposed roller cooling means, said conveying means projected under said cooling means, and consisting of an endless conveyer belt, pulleys around which said conveyer belt passes, and a rotary separating brush coöperating with said conveying means for separating the cooled partially severed sections of the strip from one another after being cooled.

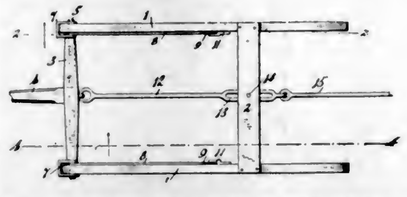
5. A machine of the class described, comprising in combination with a pair of superimposed feeding and shaping rollers, a supporting frame therefor, a pair of superimposed longitudinally parting rollers mounted in said supporting frame, one of said rollers having longitudinal parting knives, and transversely parting rollers mounted in said frame, means for intergearing all of said rollers, an idler roller mounted between the shaping and feeding rollers and the cutting rollers, and endless belt passing around said idler roller, and through said cutting rollers, a second roller around which said endless belt also takes, said first mentioned endless belt roller being mounted in said frame and one of said feed rollers having teeth or pins, a cooling means held adjacent said endless belt under which the longitudinally and transversely parted strip must pass, and means for severing the strip into its various parts after being cooled.

6. A machine of the class described, comprising in combination with a pair of superimposed feeding and shaping rollers, a supporting frame therefor, a pair of superimposed longitudinally parting rollers mounted in said supporting frame, one of said rollers having longitudinally parting knives, and transversely parting rollers mounted in said frame, means for intergearing all of said rollers, an idler roller mounted between the shaping and feeding rollers and the cutting rollers, and endless belt passing around said idler roller, and through said cutting rollers, a second roller around which said endless belt also takes, said first mentioned endless belt roller being mounted in said frame, and one of said feeding rollers having teeth or pins, a cooling means held adjacent said endless belt under which the longitudinally and transversely parted strip must pass, means for severing the strip into its various parts after being cooled, said last named means comprising a rotary separating brush adapted to engage said strip as it leaves the endless conveyer substantially as shown and described.

7. The combination with the feed and forming rollers, the longitudinally parting rollers and the transverse parting rollers, of a cooling means and a strip section separating means, substantially as shown and described.

8. The combination with the successively arranged feeding and forming rollers, longitudinal parting rollers and transverse parting rollers, a cooling means and a strip section separating means, of means for conveying the material through said rollers and to said cooling and separating means, substantially as shown and described.

866,947. SLEIGH-BRAKE. WILLIAM L. MARCHAND, Rolla, N. D. Filed Apr. 20, 1906. Serial No. 312,745.

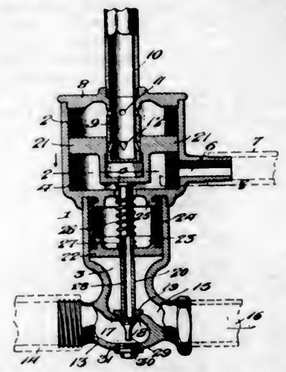


1. In combination with a sleigh, a brake therefor comprising a cross bar, a cross rod attached thereto, brake rods pivotally connected with said cross rod, slots in the sleigh runners adapted to movably receive said cross rod, gripping beveled ends on the aforesaid brake rods adapted to engage the ground surface and brake the sleigh, guides on said sleigh adapted to receive and guide the beveled ends of said brake rods into operative position, collars or links pivotally connected to the aforesaid cross rod, and adapted to overlie the end of the sleigh runner and engage the same to thereby lock the cross rod and through it the brake rod in inoperative position.

2. In combination with a sleigh, a brake therefor comprising a cross bar, a cross head attached thereto, sleigh runners, inclined parallel slots in said runners adapted to loosely receive and guide the aforesaid cross rod, brake rods pivotally connected to said cross rod, bevel points on said brake rods adapted to engage the ground surface and brake the sleigh, guides on the sleigh, runners adapted to loosely receive and guide said bevel points into engagement with said surface, and collars or links pivotally connected to the aforesaid cross rod adapted to overlie the ends of the said runners and engage therewith to thereby hold he aforesaid cross rod, and through it the brake rod in inoperative position.

3. In combination with a sleigh, a brake therefor comprising a cross bar, a cross rod attached thereto, sleigh runners, inclined parallel slots in said runners adapted to loosely receive and guide the ends of the aforesaid cross rod, bent portions on said brake rods terminating in beveled points adapted to engage the ground surface and thereby brake the sleigh, guides attached to said runners and adapted to receive and guide into operative position said bevel points, and collars or links pivotally connected to the aforesaid cross rod and adapted either to overlie or engage the end of said runner to thereby hold the aforesaid cross rod and through it the brake rods in inoperative position, or to be disengaged from the end of said runner and thrown into inoperative position to thereby allow the aforesaid brake rods to be moved longitudinally of the aforesaid inclined slots, whereby said brake rods may be lowered to allow the aforesaid bevel points to engage the ground surface and thereby brake the sleigh.

866,948. VALVE. BENJAMIN E. MEACHAM, Lorain, Ohio, assignor of one-half to Leopold Friedman, Cleveland, Ohio. Filed Nov. 7, 1905. Serial No. 286,256.



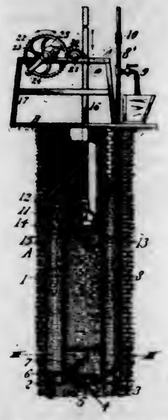
In a device of the class described, a casing having a water chamber provided with a water inlet port and a gas chamber provided with inlet and outlet ports, a main partition arranged in the casing between said chambers and having an opening forming a passage of communication between said chambers; a partition arranged in the gas chamber between the inlet and outlet ports and provided with an opening forming a passage of communication between said ports, a cover applied to the casing for closing one end of the water chamber and having a tubular guide member projected into the latter, said guide member being closed at its inner end and provided between its ends with relief openings and with water inlet passages, a service pipe connected with the outer end of the tubular guide, a rigid pressure operated piston slidably mounted on the tubular guide within the water chamber and adapted to normally close the water passages in said guide, a valve stem attached to said piston and arranged for movement through the opening in the main partition, a valve fixed on said stem and adapted to close the passage of communication between the gas inlet and outlet ports, a second rigid piston fixed on and for movement with the stem, said second piston being arranged in the gas chamber at a point between the openings in the partitions, a flexible, impervious tubular coupling member engaged at its ends respectively with the main partition and second piston and a balance spring arranged on the stem between the main partition and second piston.

866,949. WATER-ELEVATOR. STEPHEN E. MERRICK, St. Louis, Mo. Filed Sept. 1, 1906. Serial No. 332,926.

1. The combination of a well having an inbuilt part providing a ledge, a water receiving cylinder located within and spaced from the wall of the well so as to provide a reservoir, a base formed with a series of passageways surrounding the receiving cylinder, with an annular groove in which the lower end of the receiving cylinder is fitted, and with a central inlet orifice surrounded by the receiving cylinder, a check valve for controlling the central inlet orifice and pivoted to the base at one side of its central inlet orifice, and adapted to open upwardly and to close downwardly, a discharge pipe leading from the lower end of the receiving cylinder, a gravitating plunger adapted to operate in the receiving cylinder, and formed with a central inlet orifice, and a check valve for controlling the central inlet orifice of the plunger and pivoted to the bottom of the plunger at one side of its central inlet orifice and adapted to close upwardly and to open downwardly.

2. The combination of a well having an inbuilt part providing an annular ledge, a water receiving cylinder located in and spaced from the wall of the well so as to provide an annular water reservoir, an annular base formed with an annular series of passageways surrounding the receiving

cylinder, and with a central inlet orifice surrounded by the receiving cylinder, a check valve for controlling the central inlet orifice pivoted to the base at one side of its central inlet orifice and adapted to open upwardly and to close downwardly, a discharge pipe leading from the lower end of the receiving cylinder, a gravitating plunger, adapted to operate in the receiving cylinder, and formed with a central inlet orifice, and a check valve for controlling the central inlet orifice of the plunger pivoted to the bottom of the plunger at one side of its central inlet orifice and adapted to close upwardly and to open downwardly.



3. The combination of a water receiving cylinder, a base formed with a series of passageways surrounding the receiving cylinder, and with a central inlet orifice surrounded by the receiving cylinder, a check valve for controlling the central inlet orifice and pivoted to the base at one side of its central inlet orifice, and adapted to open upwardly and to close downwardly, a discharge pipe leading from the lower end of the receiving cylinder, a gravitating plunger adapted to operate in the receiving cylinder and formed with a central inlet orifice, a check valve for controlling the central inlet orifice of the plunger and pivoted to the bottom of the plunger at one side of its central inlet orifice and adapted to close upwardly and to open downwardly, and a seat for the plunger located within the receiving cylinder near the lower end of the latter for supporting the plunger out of contact with the base valve.

866,950. NEEDLE FOR TALKING-MACHINES. CHARLES L. MEYERS, Jersey City, N. J. Filed July 19, 1907. Serial No. 384,535.



1. The talking machine needle described, comprising a body and a concavely tapered point.

2. The talking machine needle described, comprising a cylindrical body and a concavely tapered point.

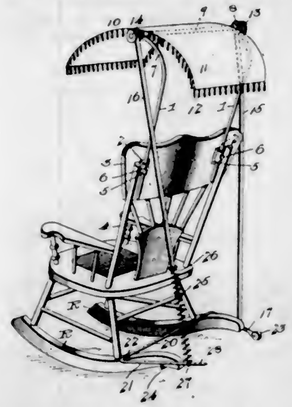
3. The talking machine needle described, comprising a body, a concavely tapered point, and a plane face forming the termination of said point.

4. The talking machine needle described, comprising a cylindrical body, a concavely tapered point, a plane face at the end of said body, and a plane face forming the termination of said point, said faces arranged parallel to each other and at a right angle to the axial line of said needle.

5. In a talking machine needle, a cylindrical body having a diameter of 65/1000 of an inch, a concavely tapered point 235/1000 of an inch in length and terminating in a plane face 2/1000 of an inch in diameter and arranged at a right angle to the axial line of said needle, the concavity of said point being 4/1000 of an inch at the greatest depth of the curve.

6. The talking machine needle described, comprising a cylindrical body, a concavely tapered point, and a plane face forming the termination of the latter, in combination with a sound-box and record of a talking machine.

866,951. FAN ATTACHMENT. MICHAEL J. MURDOCH, Youngstown, Ohio, assignor of one-third to John J. Gorman and one-third to Harry A. Ernst, Youngstown, Ohio. Filed Jan. 31, 1906. Serial No. 298,828.



1. A fan attachment for rocking chairs, comprising a suitably supported fan carrying axle, and separate reversely operating actuating springs connected with the said axle and comprising means for respectively turning the same in opposite directions, one of said springs being carried by the other, and the tension of each of said springs being alternately tightened and relaxed through the movement of the chair.

2. A fan attachment comprising a suitably supported fan carrying axle, and separate actuating springs carried by a chair and operatively connected with the axle to provide for respectively turning the same in opposite directions, one of said springs being superior in strength to the other.

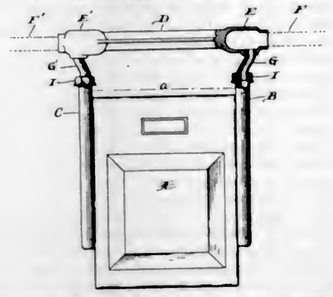
3. A fan attachment comprising a suitably supported fan axle carrying driving pulleys, reversely reciprocating tapes respectively connected with the separate pulleys, a primary spring actuator mounted on the chair and connected with one of the tapes, and a secondary spring carried by said primary actuator and connected with the other of said tapes.

4. In a fan attachment of the class described, the combination with a rocking chair, of a fan axle supported above the chair and carrying driving pulleys, reversely reciprocating tapes respectively connected with the opposite pulleys, a primary actuating spring-arm mounted on the chair rockers and having a connection with one tape, and a secondary coiled retracting spring also having a point of support from the chair rockers and connected with the other tape, one of said spring elements being of superior strength to the other.

5. In a fan attachment, the combination with a rocking chair, of a fan carrying axle supported above the chair, reversely reciprocating tapes operatively connected with the fan carrying axle, a spring wire frame hinged upon the chair rockers and having an actuating spring arm connected with one of the tapes, a holding connection for securing the spring frame to the rockers under tension, and a retractile spring connected with the other tape and also with said spring frame, said retractile spring serving to draw the frame to an inoperative position when released from its operating position.

6. In a fan attachment, the combination with a rocking chair, of a fan carrying axle supported above the rocking chair and provided with driving pulleys, reversely reciprocating tapes winding and unwinding in opposite directions respectively upon the separate pulleys, a spring frame hinged upon the chair rockers and provided with a free actuating spring-arm carrying a contact roller and also provided with a tension arm having operating means for engagement with a rocker, said actuating spring-arm having an adjustable connection with one tape and a retractile spring having a connection with the other tape and also adjustably connected with the tension arm of said spring frame.

866,952. METER CONNECTION. GARNET W. MCKEE, Detroit, Mich. Filed Jan. 25, 1907. Serial No. 353,967.



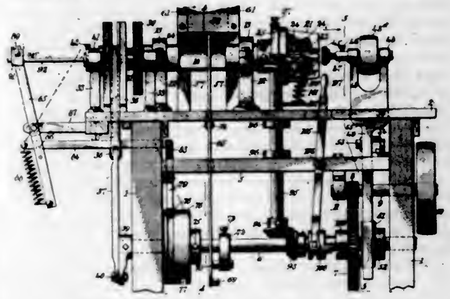
1. The combination with a gas meter provided with inlet and outlet connections on top thereof, of a coupling head provided with hollow ends, service and supply pipes connected to said hollow ends respectively and supporting the coupling head in a horizontal position adjacent to and above the top of the meter and coupling studs at the ends of the coupling head projecting downwardly and registering with the inlet and outlet of the meter, said coupling studs communicating through the hollow ends of the coupling head with the service and supply pipes respectively and provided at their lower ends with coupling members to which the inlet and outlet of the meter are connected respectively.

2. The combination with the gas meter provided with inlet and outlet connections on top thereof, of a coupling head provided with hollow ends, service and supply pipes connected to said hollow ends and supporting the coupling head in a horizontal plane adjacent to the top of the meter, coupling studs screw-threaded into the coupling head at right angles thereto and projecting downwardly, said coupling studs registering with the inlet and outlet connections of the meter and communicating through the hollow ends of the coupling head with the service and supply pipes respectively and coupling nuts at the lower end of the coupling studs adapted to detachably connect the meter inlet and outlet with said studs.

3. The combination with a gas meter provided with inlet and outlet connections on top thereof, of a coupling head provided with interiorly screw-threaded hollow ends, the intermediate portion of the coupling head being solid, service and supply pipes screw-threaded into the hollow ends and supporting the coupling head in a horizontal plane adjacent to the top of the meter and coupling studs at the opposite ends of the coupling head adapted to be adjusted to register accurately with the inlet and outlet connections of the meter, said coupling studs communicating through the hollow ends of the coupling head with the service and supply pipes respectively and provided at their lower ends with coupling members adapted to detachably connect the inlet and outlet connections of the meter to said coupling studs.

4. In combination with the meter having inlet and outlet and with the supply and service pipes of the meter, a rigid coupling head formed with openings in its opposite ends to which the supply and service pipes are respectively connected, coupling studs at the ends of the coupling head communicating with the supply and service pipes respectively through the openings in the coupling head and cooperating coupling members at the meter inlet and outlet detachably connecting the same to the coupling studs, said coupling studs formed with axial offsets adapted to adjust the same in relation to the inlet and outlet of the meter.

866,953. SCREW-THREADING MACHINE. FRANK H. MCLAIN, Stratton, Me. Filed Apr. 27, 1906. Serial No. 313,944.



1. The combination of a chuck having a projection operable to move the jaws thereof to and from each other, means for automatically feeding a blank to the chuck, resilient means co-acting with said projection to close said jaws on the blank, and rigid means co-acting with said projection to operate said jaws to release the blank.

2. The combination of a chuck having a projection operable to move the jaws thereof to and from each other, means for automatically feeding a blank to the chuck, resilient means movable into the path of said projection to close said jaws on the blank, and rigid means movable into the path of the projection for operating said jaws to release the blank.

3. The combination of a chuck having a projection operable to move the jaws thereof to and from each other, means for automatically feeding a blank to the chuck, a rotatable shaft, resilient means carried by said shaft, movable into the path of said projection to close said jaws on the blank, means for automatically cutting a screw-thread on the blank when held by the chuck, and rigid means carried by said shaft, movable into the path of said projection for opening said jaws and releasing the blank.

4. The combination of a chuck, means rotatable thereon for opening and closing the chuck jaws, means for feeding a blank to the chuck when the jaws are open, means for cutting a screw thread on the blank when the jaws are closed, a projection carried by the jaw opening and closing means, and means adapted to pass in the path of the projection for operating said opening and closing means.

5. The combination of a chuck, means rotatable thereon for opening and closing the chuck jaws, means for feeding a blank to the chuck when the jaws are open, means for automatically cutting a screw thread on the blank when the chuck jaws are closed on the same, a projection carried by the jaw opening and closing means, and revoluble means adapted to pass in the path of the projection for operating said opening and closing means.

6. The combination of a chuck, means rotatable thereon for opening and closing the chuck jaws, means for feeding a blank to the chuck when the jaws are open, means for cutting a screw thread on the blank when the jaws are closed on the same, a projection carried by the jaw opening and closing means, said screw-cutting means including

means for rotating the chuck and feeding it forward as the cutting operation takes place, and means adapted to pass in the path of the projection for operating said opening and closing means.

7. The combination of a chuck, means rotatable thereon for opening and closing the chuck jaws, means for feeding a blank to the chuck when the jaws are open, means for cutting a screw thread on the blank when the jaws are closed on the same, a projection carried by the jaw opening and closing means, resilient means adapted to cooperate with said projection for automatically closing the jaws, and rigid means adapted to coöperate with said projection in opening the jaws.

8. The combination of a chuck, means rotatable thereon for opening and closing the chuck jaws, a projection carried by the jaw opening and closing means, means for feeding a blank to the chuck when the jaws are open, means for cutting a screw thread on the blank when the jaws are closed, resilient, rotatable means coöperating with the projection in automatically closing the jaws, and rigid, adjustable means coöperating with the projection in automatically opening the jaws.

9. The combination of a chuck, means rotatable thereon for opening and closing the chuck jaws, a projection carried by the jaw opening and closing means, resilient means adapted to pass in the path of the projection to automatically operate the jaws in one direction, rigid means adapted to pass in the path of the projection for automatically operating the jaws in the opposite direction, and a rotatable tool adapted to coöperate with the work head by the chuck.

10. The combination of a chuck, means to automatically feed a blank thereto, means to automatically clamp the blank in the chuck, and means to automatically cut a thread on the blank when it is clamped, including means to revolve the chuck and means to cause the chuck to travel axially as it revolves.

11. The combination of a chuck, means to automatically feed a blank thereto, means to automatically clamp the blank in the chuck, means to automatically cut a thread on the blank when it is clamped, including means to cause the chuck to revolve and travel axially in its revolution, and means to automatically unclamp the blank.

12. The combination of a chuck, means to automatically feed a blank thereto, means to automatically clamp the blank in the chuck, thread-cutting means comprising means to alternately revolve the chuck in opposite directions, means to cause the chuck to travel axially as it revolves, a cutter, means to automatically apply the cutter to the blank when the chuck is revolving in one direction, and means to automatically withdraw the cutter from the blank when the chuck revolves in the opposite direction.

13. The combination of a chuck, means to automatically feed a blank thereto, means to automatically clamp the blank in the chuck, thread-cutting means comprising means to alternately revolve the chuck in opposite directions, means to cause the chuck to travel axially as it revolves, a cutter, means to automatically apply the cutter to the blank when the chuck is revolving in one direction, means to automatically withdraw the cutter when the chuck revolves in the opposite direction, and means to automatically release the blank from the chuck.

14. The combination of a chuck, means to automatically feed a blank thereto, means to automatically clamp the blank therein, means to revolve the chuck, means to cause the chuck to travel axially as it revolves, a cutter, means to automatically apply the cutter to the blank as it revolves whereby a thread is cut thereon, and means to automatically reverse the direction of rotation of the cutter when the thread is completed.

15. The combination of a chuck, means to automatically feed a blank thereto, resilient means operable to automatically clamp the blank in the chuck jaws, means to revolve the chuck, means to cause the chuck to travel axially as it revolves, a cutter, means to automatically apply the cutter to the blank as the blank revolves in one direction whereby a thread is cut thereon, means to automatically reverse the direction of rotation of the chuck when the thread is completed, and means acting at substantially the same time to automatically withdraw said cutter from the blank.

16. The combination of a chuck, means for automatically feeding a blank to the chuck, means for positively driving said feeding means, and means for automatically disconnecting said feeding means from said driving means when the movement of the feeding means is obstructed.

17. The combination of a chuck, means for automatically feeding a blank to the chuck, means for positively driving said feeding means, means for automatically disconnecting said feeding means from said driving means when the movement of the feeding means is obstructed, and a spring acting to yieldingly press the feeding means against the obstruction when said feeding means is disconnected.

18. The combination of a chuck, means for automatically feeding a blank to the chuck, means for positively driving said feeding means, means for automatically disconnecting said feeding means from said driving means when the movement of the feeding means is obstructed, and means for automatically reconnecting the feeding means with the driving means when the obstruction is removed.

19. The combination of a hollow spindle, means for clamping a blank carried at one end of the spindle, means for automatically feeding the blank from the spindle into said clamping means, means for positively driving said feeding means, means for automatically disconnecting the feeding means from the driving means when the movement of the feeding means is obstructed, and a spring acting to yieldingly press the feeding means against the obstruction when said feeding means is disconnected, said spring acting to reconnect the feeding means with the driving means when the obstruction is removed.

20. The combination of a hollow spindle, clamping means carried at one end thereof, means to transversely feed blanks into the spindle and project them into the clamping means, means for automatically operating the clamping means for clamping and releasing the blank, revoluble means for cutting a screw thread on the blank while held in clamped relation, and means to alternately revolve the spindle and clamping means in opposite directions.

21. The combination of a hollow spindle, clamping means carried at one end thereof, means to transversely feed blanks into the spindle and project them into the clamping means, means to revolve the clamping means and feed it axially as it revolves, a rotary cutter, means for automatically applying the cutter to the blank as it revolves, whereby a screw-thread is cut thereon, and means to automatically release the blank after the screw-thread has been cut thereon.

22. The combination of a hollow spindle, clamping means carried at one end thereof, means to transversely feed blanks into the spindle, means to project the blanks into the clamping means, rotatable means for automatically clamping the blanks in and releasing them from the clamping means, and rotatable means to automatically cut a screw-thread on the blank while held in clamped relation.

23. The combination of a hollow spindle, clamping means carried at one end thereof, means to transversely feed blanks into the spindle, means to project the blanks into the clamping means, a rotatable shaft having resilient means to automatically clamp the blanks in the clamping means, means to rotate the spindle and clamping means and feed the same axially as they rotate, a rotatable cutter, means for automatically applying the cutter to the blank as it rotates, whereby a screw-thread is cut thereon, and means carried by said shaft for releasing the blank.

24. The combination of a rotatable hollow spindle having an opening in one side thereof, a chute supported over said spindle in the path of said opening, a plate covering the bottom of the chute, means for reciprocating the plate to discharge a blank into the spindle through said opening, clamping means carried by the spindle, means to project a blank from the spindle into said clamping means, means to automatically clamp the blank in and release it from the clamping means, and means to automatically cut a screw thread on the blank when clamped.

25. The combination of a rotatable, hollow spindle, clamping means carried at one end thereof, screw-threaded means at the opposite end of the spindle for feeding the clamping means axially as the spindle rotates, a chute adjacent to the spindle, means operating in the path of the chute for automatically feeding a blank to the spindle, means for projecting the blank into the clamping means, means for automatically clamping the blank in and releasing it from the clamping means, a rotatable cutter, and means for automatically applying said cutter to the blank while it is clamped and rotates, whereby a screw thread is cut thereon.

26. The combination of a rotatable, hollow spindle, a cylinder provided with a transverse opening at an intermediate portion thereof, clamping means at one end of the spindle, screw threaded feeding means at the opposite end of the spindle, a chute adjacent to the transverse opening in the cylinder, a reciprocating bottom for the chute adapted to admit a blank through the transverse opening of the cylinder, means to project the blank into the clamping means as it is admitted to the cylinder, means for automatically clamping the blank in and release it from the clamping means, and rotatable means for cutting a screw thread on the blank.

27. In a screw threading machine, a hollow spindle rotatably journaled thereon, clamping means carried at one end of the spindle, screw threaded feeding means carried at the opposite end of the spindle, a main driving shaft, a rack bar adapted to be reciprocated from the driving shaft to alternately rotate the spindle in opposite directions in its bearings, means for feeding a blank transversely of the spindle, means for projecting the blank into the clamping means, means to automatically clamp the blank in and release it from the clamping means, and rotatable means for cutting the blank.

28. In a screw threading machine, a hollow rotatable spindle, a transverse opening intermediate the spindle's length, a chute adjacent to the transverse opening, clamping means carried at one end of the spindle, feeding means at the opposite end of the spindle for feeding the same axially in each direction, means for alternately revolving the spindle in opposite directions, means for permitting the escape of a blank from the chute to the periphery of the spindle as the spindle is completing its movement in one direction whereby the blank falls through the transverse opening into the spindle, and means for immediately projecting the blank thereafter into the clamping means.

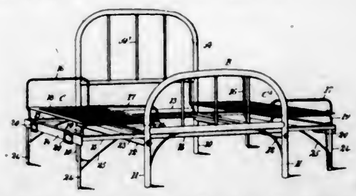
29. In a screw threading machine, a hollow, rotatable spindle, a transverse opening intermediate the spindle's length, a chute adjacent to the transverse opening, clamping means carried at one end of the spindle, means for feeding the spindle axially as it revolves, means for alternately revolving the spindle in opposite directions, means for permitting the escape of a blank from the chute to the periphery of the spindle as the spindle is completing its movement in one direction whereby the blank falls through the transverse opening into the spindle, means for immediately projecting the blank thereafter to the clamping means, means to automatically clamp the blank in and release it from the clamping means, a cutter, and means to automatically apply said cutter to the blank after it is clamped.

30. In a screw threading machine, a hollow rotatable spindle, a transverse opening near its center, a chute adjacent to the transverse opening, clamping means carried at one end of the spindle, means at the opposite end of the spindle for axially feeding it as it revolves, means for alternately revolving the spindle in opposite directions, means for permitting the escape of a blank from the chute to the periphery of the spindle as the spindle is completing its movement in one direction whereby the blank falls through the transverse opening into the spindle, means for immediately thereafter projecting the blank to the clamping means, a rotatable shaft having a projecting yielding arm for automatically contacting with means carried by the clamping means for clamping the blank, a rotatable cutter wheel for cutting a thread on the blank after it is clamped, and a rigid arm projecting from said shaft to release the blank from the clamping means.

31. The combination of a main driving shaft, a spindle alternately driven in opposite directions by said shaft, clamping means carried at one end of the spindle, means for axially feeding the clamping means as it is revolved, a chute adjacent to the spindle, means on the shaft for withdrawing the bottom of the chute to admit a blank to the spindle, independent means to return the bottom back under the chute, means to project the blank into the clamping means, a vertical shaft driven from the main driving shaft, a yielding arm projecting from the upper end of the vertical shaft, rotatable means on the clamping means to contact with the yielding arm to clamp the blank, a revoluble cutter wheel for cutting a screw thread on the blank, and a rigid arm on the vertical shaft adapted to be contacted with by said rotatable means on the clamping means for releasing the blank.

32. The combination of a main driving shaft, a clutch operated by a lever for connecting and disconnecting the shaft from the driving means, a spindle alternately driven in opposite directions by a rack bar reciprocated by said shaft, clamping means carried at one end of the spindle, screw threaded means for axially feeding the spindle as it is revolved, a chute arranged over the spindle and discharging therein, means on the shaft for withdrawing the bottom of the chute to admit a blank to the spindle, independent means to return the bottom back under the chute, a rod reciprocating in the spindle for projecting the blank into the clamping means, a vertical shaft driven from the main driving shaft, a yielding arm projecting from the upper end of the vertical shaft, a rotatable ring, having a projection, on the clamping means to contact with the yielding arm to clamp the blank, a revoluble cutter wheel for cutting a screw thread on the blank, and a rigid, adjustable arm on the vertical shaft adapted to be contacted with by the projection on said ring for releasing the blank.

866,954. BED. HERMAN F. NEHR, New York, N. Y. Filed Jan. 17, 1907. Serial No. 352,713.



1. A bed comprising a main frame having head and foot sections, guides carried at the inner faces of the head and foot sections, spring supporting sections mounted for lateral movement on said guides to and from each other, means for limiting the outward movement of said spring supporting sections, pivoted supports for the outward portions of the said spring supporting sections, and means for automatically folding and dropping the supports.

2. A bed comprising a main frame, channel irons secured to the main frame, friction rollers located in the under face of each channel iron adjacent to its ends, and bed sections movable to and from each other in said main frame, the said sections having bars mounted to slide in said channel irons and engage the said friction rollers, the said bars being provided with friction rollers mounted to travel upon the lower members of said channel irons.

3. In a bed a main frame having head and foot sections, and connecting side members, channel irons secured to the inner faces of the head and foot sections, friction rollers located in the under face of each channel iron adjacent to its ends, spring supporting sections, having head and foot bars and side bars, the head and foot bars being mounted to slide in said channel irons and engage the said friction rollers, the head and foot bars being provided at their inner ends with friction rollers mounted to travel upon the lower members of said channel irons, and stops connected with the inner side bars of the said spring supporting sections and adapted to engage with the side members of the main frame for limiting the outward movement of said spring supporting sections.

4. In a bed. a main frame comprising a head and foot

board section, and connecting side sections, spring sustaining sections having sliding and guided movement relatively to the main frame, each of said spring sustaining sections being provided with an independent head and foot board, auxiliary legs for supporting the outward portions of the spring sustaining sections, and means for automatically raising and lowering the said legs as the sections are moved inward or outward.

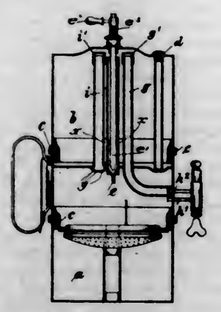
5. In a bed, a main frame comprising head and foot sections, and connecting side members, and channel irons secured to the inner faces of the foot and head sections, spring sustaining sections mounted to slide in the said channel irons, each spring sustaining section being provided with an independent head and foot portion, legs pivotally connected with the spring sustaining sections, and means for automatically dropping and raising the said legs to a folded position as the said spring sustaining sections are manipulated.

6. In a bed or similar article, the combination with a main frame comprising end members and connecting side members, of a supporting object slidably mounted in the said frame, legs pivotally attached to the said slidable object, rods attached to the said legs, and pivotally attached to the end portions of the said slidable objects, the said rods at their latter point of attachment being provided with crank terminals, the said rods being adapted in the movements of the slidable objects, to engage with the side members of the main carrying frame.

7. In a bed, a main frame comprising head and foot sections and connecting side members, guides on the inner faces of the foot and head sections, spring sustaining sections mounted to slide on said guides, each spring sustaining section being provided with an independent head and foot portion, legs pivotally connected with the spring sustaining sections, and means connected with said legs and said sections for automatically dropping and raising said legs when the sections are manipulated.

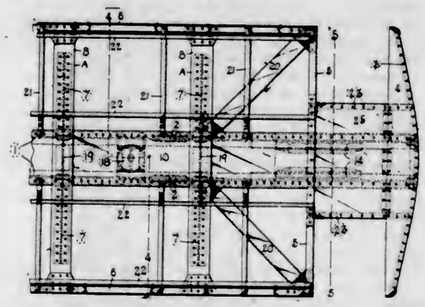
8. A bed comprising a main frame, spring supporting sections mounted in the said main frame for lateral movement to and from each other, legs pivotally attached to said spring supporting sections, and means for moving said legs when the sections are manipulated, the said means comprising rods attached to said legs and pivotally connected with the end portions of said spring supporting sections.

866,955. ACETYLENE-GAS GENERATOR. HUBERT V. NEUKIRCH, Zwickau, Germany, assignor to Ernst Emil Freytag, Zwickau, Germany. Filed Dec. 26, 1906. Serial No. 349,558.



The improved acetylene gas generator, comprising the combination, with a water container, a carbid holder beneath said water container, a drip pipe passing from the water container into the carbid holder, a main burner connected with said carbid holder, and an auxiliary burner, of an auxiliary burner pipe connecting the auxiliary burner with the water container, a sieve closing said auxiliary burner pipe, a pipe connecting the water container with the carbid holder, and sieves closing said last mentioned pipe, substantially as described.

866,956. CAR-UNDERFRAME. ALLEN E. OSTRANDER, Paterson, N. J., assignor to American Car & Foundry Company, St. Louis, Mo., a Corporation of New Jersey. Filed Dec. 12, 1906. Serial No. 347,475.



1. An underframe comprising center sills, draft sills connected to the lower sides of the center sills, and a bottom cover plate connected to the center sills and bent downwardly underneath the draft sills; substantially as described.

2. An underframe comprising center sills, draft sills connected to the underneath sides of the center sills and provided at their ends with flanges, a bottom cover plate connected to the center sills and bent downwardly to engage the end flanges of the draft sills to which they are connected; substantially as described.

3. An underframe consisting of flanged center sills, pressed metal draft sills connected to the center sills and having inclined end flanges, a bottom cover plate secured to the center sills and to the inclined flanges of the draft sills, and a reinforcing plate extending from the bolster to the draft sills and being connected to the end flanges of said draft sills and to the bottom cover plate for the center sills; substantially as described.

4. An underframe comprising flanged center sills having draft sills connected to the lower flanges thereof, and a casting resting on the flanges of the center sills and riveted to the webs of said sills and to the draft sills; substantially as described.

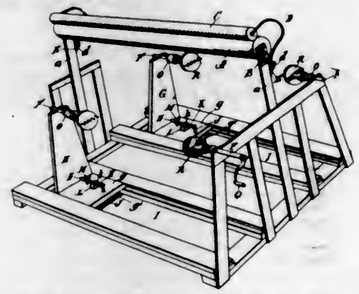
5. An underframe comprising flanged center sills having channel-shaped draft sills connected to the lower flanges thereof, the legs of said channel projecting outwardly, and a casting connected to the webs of the center sills and draft sills; substantially as described.

6. An underframe comprising flanged center sills, channel-shaped draft sills connected to the bottom flanges of the center sills with their flanges projecting outwardly, a casting having a flange which rests on the lower flanges of the center sills, said casting being connected to the webs of the center sills and draft sills, and a flanged diaphragm arranged between the center sills above said casting; substantially as described.

7. An underframe comprising center sills, side sills, two bolster members spaced apart from each other, each of said members consisting of pairs of flanged diaphragms connected to the center sills and side sills, a continuous tension plate extending over the center sills and connected to said diaphragms, and a continuous compression plate extending underneath the center sills and connected to said diaphragms, the outer ends of said compression and tension plates being connected to the side sills, and a center bearing casting secured to the center sills midway said bolster members; substantially as described.

8. An underframe comprising center sills, side sills and two parallel bolster members spaced apart and connected to the center sills and side sills, said center sills being spliced intermediate the bolster members; substantially as described.

866,957. DRY-GOODS-MEASURING MACHINE. JAMES W. PARSONS, Pleasant Green, Mo. Filed Feb. 14, 1907. Serial No. 357,324.

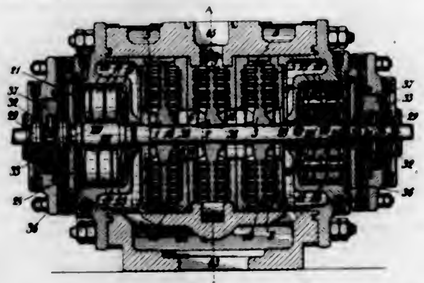


1. The combination of the main frame, the supporting roller mounted to revolve therein, counting mechanism connected with said supporting roller, a pressure roller mounted above the supporting roller and to one side of a vertical plane passing through the axis of the latter, strap springs hinged to the frame and supporting and applying pressure to the pressure roller, means for holding a roll of goods to be measured on one side of the rollers, and means on the opposite side of the rollers for receiving the goods.

2. The combination of the supporting and pressure rollers, a frame in which they are mounted, standards rising from the base of the frame, screw threaded stub shafts mounted to revolve in bearings at the upper ends of the standards, clamping levers pivoted to the stub shafts and cones mounted on the threaded portions of the shafts and engaging the levers.

3. The combination of the supporting and pressure rollers, a frame in which they are mounted, standards rising from the base of the frame, screw threaded stub shafts mounted to revolve in bearings at the upper ends of said standards, clamping levers pivoted to the stub shafts, cones mounted on the threaded portions of the shafts and engaging the clamping levers, and pin-carrying disks provdied with ribs with which the clamping levers engage.

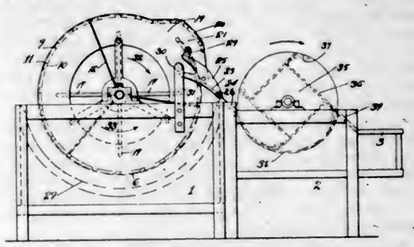
866,958. STEAM-TURBINE. ARTHUR PATSCHKE, Düsseldorf, Germany. Filed Dec. 31, 1906. Serial No. 350,252.



1. A turbine provided with a turbine wheel having concentric grooves of trapezoidal cross section, and intersecting radial slits to form plumose turbine blades, substantially as specified.

2. In a turbine, a shaft, a turbine wheel secured thereto and having concentric grooves of trapezoidal cross section, and intersecting radial slits to form plumose turbine blades, combined with a fixed ring flanking the wheel and having obliquely slotted flanges intermediate the blade-rows, substantially as specified.

866,959. ELECTROPLATING APPARATUS. LOUIS POTTHOFF, Flushing, N. Y. Filed May 1, 1906. Serial No. 314,649.



1. In an electroplating apparatus, the combination with a galvanizing tank, and a washing tank, of a single means for moving material through the galvanizing tank to be galvanized and mechanically discharging the material into the washing tank from the galvanizing tank, substantially as described.

2. In an electroplating apparatus, the combination with a galvanizing tank, and a washing tank, of a single means for moving material through the galvanizing tank to be galvanized and mechanically discharging the material into the washing tank from the galvanizing tank, and means for automatically discharging the material from the washing tank, substantially as described.

3. In an electroplating apparatus, the combination with a galvanizing tank, and a washing tank, of means for moving material through the galvanizing tank to be galvanized while automatically changing the points of contact between the material and its support, and mechanically discharging the material into the washing tank, substantially as described.

4. In an electroplating apparatus, the combination with a galvanizing tank, of a single means for moving material through the galvanizing tank to be galvanized while automatically changing the points of contact between the material and its support while being moved, and mechanically discharging the material into the washing tank, and means for automatically discharging the material from the washing tank, substantially as described.

5. In an electroplating apparatus, the combination with a galvanizing tank, of a tumbling barrel therein for shaking material while being galvanized, a washing tank, said tumbling barrel mechanically discharging material directly into the washing tank, substantially as described.

6. In an electroplating apparatus, the combination with a galvanizing tank, of a tumbling barrel therein for shaking material while being galvanized, a washing tank, said tumbling barrel mechanically discharging material directly into the washing tank, and means for automatically discharging material from the washing tank, substantially as described.

7. The combination with a tumbling barrel adapted to contain material to be treated, and a tank, of means whereby the material can be discharged by the tumbling barrel outside the tank without removing the barrel from the solution, substantially as described.

8. The combination with a tumbling barrel adapted to contain material to be treated, and a tank, of means whereby the material is retained in the barrel when rotated in one direction and discharged by the barrel directly outside the tank when rotated in the opposite direction, substantially as described.

9. The combination with a tumbling barrel adapted to contain material to be treated, and a tank, of means whereby the material is retained in the barrel when rotated in one direction and discharged therefrom down an inclined surface directly outside the tank when rotated in the opposite direction, substantially as described.

10. In a tumbling barrel apparatus, the combination with a galvanizing tank, and a washing tank, of a tumbling barrel therein adapted to retain material when rotated in one direction and to discharge material when rotated in the other, a washing tank, and means whereby the discharged material is discharged by the barrel into the washing tank, substantially as described.

11. In a tumbling barrel apparatus, the combination with a galvanizing tank, and a washing tank, of a tumbling barrel therein adapted to retain material when rotated in one direction and to discharge material into the washing tank when rotated in the other, and means for discharging the material from the washing tank, substantially as described.

12. In a galvanizing apparatus, the combination with a galvanizing tank, of means for moving material through a galvanizing solution therein comprising a tumbling barrel having a door, means whereby said door acts as a chute, means for discharging material from the barrel, and a washing tank for receiving the discharged material, substantially as described.

13. In a tumbling barrel apparatus, the combination with a tumbling barrel, having a door, of means for positioning said door to act as a chute, means for discharging material carried by the barrel onto said door when so positioned, a washing tank to receive the discharged material, and a conveyer in said tank for discharging the material therefrom, substantially as described.

14. The combination with a tank, of a tumbling barrel therein, and the barrel having means for automatically discharging material outside the tank through the side of the barrel, substantially as described.

15. The combination with a tank, of a tumbling barrel partially immersed therein, and means for preventing the discharge of material from the barrel until the material is carried out of the solution, substantially as described.

16. The combination with a tank, of a tumbling barrel partially immersed therein, means for confining the material, and means whereby the material can be carried out of the solution by the barrel and be discharged from the tank, substantially as described.

17. In a tumbling barrel apparatus, the combination with a tumbling barrel, the barrel having means for automatically discharging material through the side of the barrel, a conveyer for receiving the discharged material, and means for automatically discharging the material from the conveyer, substantially as described.

18. In a tumbling barrel apparatus, the combination with a closure for the side of the tumbling barrel, of means for automatically opening said closure to permit discharge of the material, substantially as described.

19. In a tumbling barrel apparatus, the combination with a closure for the side of a tumbling barrel, of means for automatically opening said closure upon reversal of the direction of movement to discharge the material, substantially as described.

20. In a tumbling barrel apparatus, the combination with a barrel having an opening in the side, of a pivoted door for closing said opening, and means for positively preventing the opening of said door during a portion of the revolution of said drum, substantially as described.

21. In a tumbling barrel apparatus, the combination with a barrel having an opening in the side, of a movable door for closing said opening, and a shield for keeping material away from the door, substantially as described.

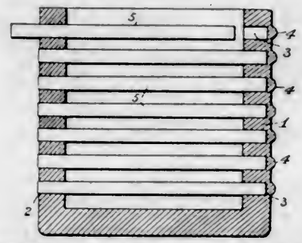
22. In a tumbling barrel apparatus, the combination with a barrel having a longitudinal opening in the side, of a pivoted door for closing said opening, and a shield within the barrel and preventing the access of material to said door except when the barrel is rotated in one direction, substantially as described.

23. In a tumbling barrel apparatus, the combination with a barrel rotatably mounted on a shaft, of rotatable cathode terminals mounted to rotate with said barrel, said cathode terminals being within the barrel, an anode carried by the barrel, and electrical connections for said anode and cathode passing through the shaft bearings, substantially as described.

24. In a tumbling barrel apparatus, the combination with a barrel having a pivoted closing door, of means whereby the door opens when a certain point is reached, and means for automatically closing the door upon further movement in the same direction, substantially as described.

25. The combination with a tank, of a tumbling barrel therein provided with means for mechanically discharging the material outside the tank without removing the barrel from the solution, substantially as described.

866,960. SAGGAR FOR THREATING TILES, &c. THOMAS PRATT, Beaver Falls, Pa. Filed Oct. 18, 1906. Serial No. 339,545.

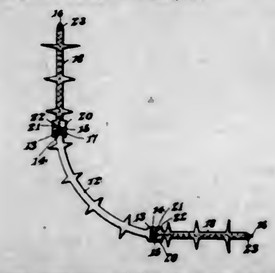


1. A device of the character described, consisting of a receptacle having tiers or rows of apertures in one wall thereof and corresponding tiers or rows of recesses in its opposite wall, said latter wall having formed therewith outstanding boss-like portions forming closures or walls for the corresponding or outer ends of said recesses, and rod or bar supports insertible through said apertures and with their rear ends lodged in said recess and limited in their insertion by, and resting against said end walls of said recesses.

2. A saggar employing series of rows of apertures and opposed recesses in opposite walls thereof, ranging at intervals apart from near the bottom of said saggar upward to near the top of the latter, and horizontally arranged bar or rod supports engaging said apertures and recesses, said recesses having opposed thereto upon outside of the saggar projections upset as it were from the material of the latter, the wall at those points thus practically retaining its initial thickness.

3. A device of the character described, consisting of a receptacle having an imperforate bottom and tiers or rows of apertures and recesses arranged in the front and rear walls thereof, respectively, and tiers or rows of bar or rod supports insertible through said apertures and into said recesses, opposed rows of said apertures and recesses being arranged in horizontal alinement for the corresponding arrangement of said rod or bar supports.

866,961. CORE-ARBOR. EDWARD H. PROFFITT, Madison Heights, Va., assignor of one-half to Lynchburg Foundry Co., Lynchburg, Va., a Corporation of Virginia. Filed Jan. 30, 1906. Serial No. 298,639.



1. In a core structure of the class described, the combination with a core arbor section having a recessed seat that opens through one side of the arbor section, one wall of the seat having a slot of less width than the seat and having an end opening through the same side of the arbor section as said seat, of a tie stem having a head at one end that is laterally movable into and out of the seat, the portion of the stem adjacent to the head being likewise movable into and out of the slot, and a core arbor section slidably mounted on the stem.

2. In a core structure of the character described, the combination with a core arbor section having an open-sided seat, and an open-ended slot communicating therewith, of a tie-stem that passes through the slot and has a head detachably engaging in the seat, said stem and head disengaging from the slot and seat on the lateral movement of the stem, another core arbor section slidably and detachably mounted in the stem and having its inner end abutted against the first mentioned core arbor section, the abutting portions of said sections being provided one with a recessed seat, and the other with a projecting lug that engages in the seat and prevents the relative rotation of the sections, said lug disengaging from the seat upon the longitudinal movement of the core arbor section on the stem, and clamping means mounted on the outer end of the stem and engaging the outer end of the core arbor section that is thereon to hold the same abutted against the first mentioned section and also to maintain the head in its seat.

3. In a core structure of the character described, the combination with a core arbor section having a plurality of open-sided seats and open-ended slots communicating therewith, of tie stems disposed in angular relation to the section and having heads located in the seats, said stems passing through the slots and being removable through the open ends thereon on the lateral movement of the stems, separate core arbor sections slidably mounted on the tie stems and having their inner ends abutted against and detachably interlocked with the first mentioned section, being movable into and out of such interlocking engagement upon their reciprocations on the stems, and clamping devices mounted on the outer ends of the stems and abutted against the outer ends of the core arbor sections mounted on said stems.

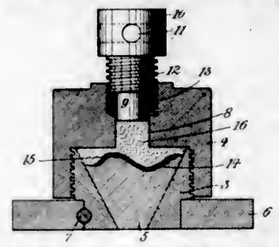
4. In a core structure of the class described, the combination with an intermediate curved solid core section formed in a single piece, of hollow straight end sections having their inner ends associated with the ends of the curved section, and detachable interlocking connections between the coacting ends of the different sections, said connections being extended through the hollow sections and operable through the outer ends thereof.

5. In a core structure, the combination with an intermediate curved solid core section having enlarged heads at its ends, said heads being provided with open sided sockets and slots communicating with the sockets, of tubular straight end sections having detachable interlocking engagements with the heads, bolts passing through the end sections and having heads that detachably engage in said sockets, said bolts passing through the slots, and means for maintaining the bolts and end sections in their interlocking engagements with the heads.

6. In a core structure of the class described, the combination with a core section having outstanding wings and a socket having an open side, said section also having an open ended slot communicating with the socket, of a second core section having an interlocking engagement with the first mentioned section, said second section having a bore and a plurality of outstanding wings, and a bolt that snugly fits in the bore and passes through the slot, said bolt having a head that detachably fits in the socket and is removable through the open side thereof.

7. In a core structure, the combination with a core arbor section having an enlarged head, said head having angularly disposed sides, a seat opening through one of the sides and a slot communicating with the seat and opening through a different side, of a tie stem passing through the slot and having a head detachably engaged in the seat, a second core section slidably mounted on the stem and having a head that abuts against the head of the first mentioned section, said head having a detachable interlocking engagement that prevents the rotation of the second section on the tie stem, and means mounted on the outer end of the tie stem for holding the second section against its sliding movement and maintaining the heads in interlocking engagement.

866,962. SWAGE FOR DENTAL CROWN-PLATES AND SIMILAR ARTICLES. CARL RAUHE, Dusseldorf, Germany. Filed June 7, 1907. Serial No. 377,704.



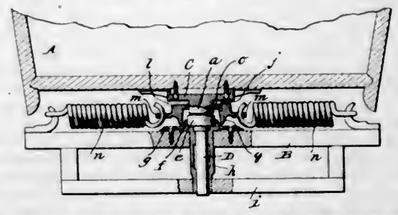
A device of the character described, comprising a lower threaded mold-section having an inverted coniform opening, a die within said opening, an upper perforated mold-section engaging the lower section, a plunger engaging the upper section, and a soft rubber filling within the mold interposed between the plunger and die, substantially as specified.

866,963. DENTAL BUR. CARL RAUHE, Dusseldorf, Germany. Filed July 9, 1907. Serial No. 382,824.



A dental bur provided with a head having teeth, grooves separating the teeth, and a pair of diametrically opposed additional grooves converging towards the apex of the head to form an apical cutting edge between the teeth, substantially as specified.

866,964. WASHING-MACHINE. HERMAN S. REAMS, Richmond, Va., assignor to Richmond Cedar Works, Richmond, Va., a Corporation of Virginia. Filed Oct. 5, 1906. Serial No. 337,577.



1. In combination with a support, a bearing therein, a tub having a depending shaft resting in said bearing, a floating plate suspended free of and out of contact with the shaft and its bearing and having a central hole through which the shaft depends and an annular depending guard flange adapted to guard the bearing and strengthen the plate, said plate being provided at opposite sides with a pair of shoulders, a pair of oppositely extending springs connected to said plate and whose balanced tension supports the plate, and a pair of depending lugs carried by the tub, for the purposes set forth.

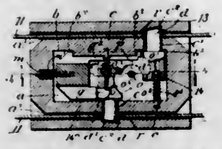
2. In combination with a tub provided with a depending central shaft and a pair of diametrically opposite lugs, a support carrying a bearing for said shaft, a plate having

a central hole through which said shaft passes, said hole being larger than the shaft and said plate being provided with stop shoulders for engagement with said lugs, and a pair of oppositely extending balanced springs adapted to suspend said plate between the bottom of the tub and the supporting frame and out of contact with the shaft, for the purpose set forth.

3. In combination with a support, a tubular bearing fastened thereon and having an upward extending annular flange, a ball-bearing device confined within this annular flange, a shaft having a hub resting on said ball-bearing device, a plate carried by this shaft and adapted to be fastened to the tub and provided with depending lugs, a plate having a hole through which said hub passes, this hole being considerably larger than the hub, said plate being provided with stops against which said lugs strike and also with a flange depending below and outside of the annular flange on the bearing, and a pair of oppositely pulling springs connected to said plate, said springs being balanced so as to maintain said plate free of and out of contact with the shaft and the upward-extending flange on the bearing.

4. In combination with a tub provided with a depending central shaft and a pair of depending lugs, a support carrying a bearing for said shaft, a plate having a central hole through which said shaft passes, said hole being considerably larger than the shaft, said plate also being provided with stop shoulders for engagement with said depending lugs, these shoulders having their contacting faces notched for the reception of the contacting edges of the lugs, and a pair of oppositely extending balanced springs adapted to suspend said plate between and out of contact with the bottom of the tub and the supporting frame and out of contact with the shaft.

866,965. MAIL-BAG LOCK. ROBERT E. REDDING, Marion, Ala. Filed May 25, 1907. Serial No. 375,621.



1. A lock, comprising a hollow body or casing, two spring-pressed latch bolts disposed transversely in the casing and having latching limbs that work in opposite side walls of the casing, means to simultaneously retract the latch bolts, and means for releasably holding said latch bolts retracted.

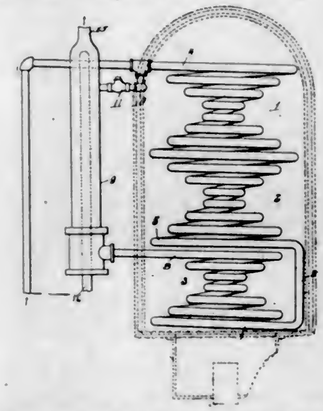
2. A lock, comprising a hollow body or casing, two spring-pressed latch bolts having latch limbs that work through opposite walls of the casing, means for simultaneously retracting the latch bolts, and spring-pressed releasable means for holding the bolts retracted.

3. A lock, comprising an oblong hollow body or casing having parallel sides and also having two longitudinal passages therein, one near each side wall, two spring-pressed oppositely trending slide bolts having latch limbs that work through the inner sides of the casing into the passages, means for simultaneously retracting the slide bolts, and spring-pressed means for releasably holding said bolts retracted.

4. A lock, comprising an oblong hollow body or casing having parallel sides, and also having two longitudinal passages therein, one near each side wall, two spring-pressed slide bolts having latch limbs and disposed transversely in the casing, said latch limbs working in openings in the inner walls of the passages and projecting into said passages, the bolts being simultaneously retractable with a suitable key, and a spring-pressed detent block having limbs adapted for releasably holding the slide bolts retracted.

5. In a mail bag lock, the combination with a bag, and a constricting strap thereon having locking apertures therein, of a lock comprising an oblong rectangular hollow body or casing, said casing having two longitudinal passages therethrough near opposite sides, the two runs of the strap occupying these passages and adapted to slide therein, two spring-pressed slide bolts having latch limbs and disposed transversely in the casing, said latch limbs working in openings in the inner walls of the passages, and entering recesses in the outer walls thereof after passing through apertures in the runs of the strap, the bolts being retracted simultaneously by means of a key, a spring-pressed detent block having limbs adapted to engage shoulders on the latch bolts for holding them retracted and thus releasing the strap, and a tongue on the detent block projecting through an opening in a cap plate on the lock casing and which by sliding manipulation will release the slide bolts.

866,966. INSTANTANEOUS WATER-HEATER. JOHN P. REINECKE, Idlewood, Pa., assignor, by mesne assignments, of one-half to Pittsburg Water Heater Company, Allegheny, Pa., a Corporation of New Jersey. Filed Aug. 29, 1906. Serial No. 332,419.



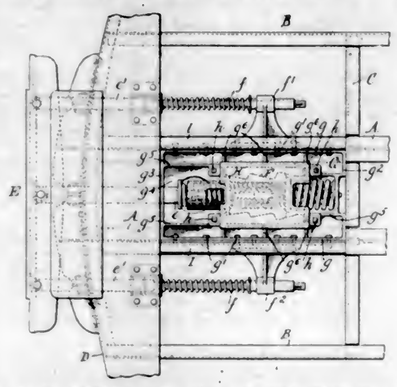
1. The combination with a thermostat, of a coil tube boiler, having upper and lower sections, a connection from the lower end of the upper section to the lower end of the lower section, an inlet to the upper section, an outlet from the upper end of the lower section passing through the thermostat and a connection having a check valve between the inlet and the thermostat, said check valve permitting a continuous flow through the thermostat, and through said connection to the said inlet when the outlet is closed.

2. The combination with a thermostat, of a coil tube boiler having an inlet to the upper portion and an outlet from the lower portion passing to the thermostat, a connection having a check valve between the thermostat and the upper portion of the boiler, the arrangement of the coils of the boiler and the check valve being such that a continuous flow of water is secured from the lower portion of the boiler through the thermostat, and the connection to the upper portion of the boiler when the outlet from the boiler is closed.

866,967. CAR-UNDERFRAME. WILLARD F. RICHARDS, Buffalo, N. Y., assignor to Gould Coupler Company, New York, N. Y. Filed Jan. 31, 1907. Serial No. 355,011.

1. In an under-frame for cars, the combination with the car end-sill and platform end-sill, of center-sills having integral portions thereof between said car and platform end-sills reduced in height, and a supporting frame or box for a buffing gear arranged between and rigidly secured to said reduced portions of the center-sills, substantially as set forth.

2. In an under-frame for cars, the combination with the car end-sills, of metal center-sills extending continuously from one end to the other of the under-frame beyond the car end-sills, and a frame or box between and rigidly secured to said center-sills beyond the car end-sills for supporting a buffing gear, substantially as set forth.

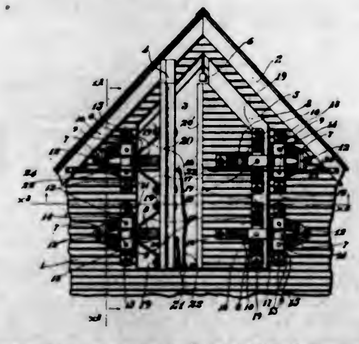


3. In an under-frame for cars, the combination with the car end-sills, of metal center-sills extending continuously from one end to the other of the under-frame and having end portions beyond the car end-sills reduced in height, and a frame or box between and rigidly secured to said reduced end portions of the center-sills for supporting a buffing gear, substantially as set forth.

4. In an under-frame for cars, the combination with the car end-sills and the platform end-sills, of metal center-sills extending continuously from one to the other of the platform end-sills and having portions between said car and platform end-sills reduced in height, and a supporting frame or box for a buffing gear between and rigidly secured to said reduced portions of the center-sills and abutting at opposite ends against said car and platform end-sills, substantially as set forth.

5. In an under-frame for cars, the combination with the car end-sill and platform end-sill, of center-sills having integral portions thereof between said car and platform end-sills reduced in height, a supporting frame or box for a buffing gear arranged between and rigidly secured to said reduced portions of the center-sills, and flanged bars rigidly secured on the outer sides of said reduced portions of the center-sills, substantially as set forth.

866,968. HINGE. JACOB SAARI, Annandale, Minn. Filed May 2, 1907. Serial No. 371,563.



The combination with a building having a door and projecting eaves, of a two part hinge supporting said door from said building, the two parts of said hinge being outwardly offset to permit said door to swing outside of said eaves, and braces for supporting the said offset portions of said hinge, substantially as described.

866,969. SAFETY-RAZOR. CARL G. SCHIMKAT, Fremont, Ohio. Filed Jan. 6, 1906. Serial No. 294,816.



1. In a safety razor, the combination of a blade support having a guard, a thin, flat blade, a rigid blade holder having extending sides which embrace the opposite sides of the blade to stiffen it and between which the blade is retractably seated, the blade support having confining members which extend onto and forcibly engage the blade retainer, and means engaging the back of the retainer to hold it in place under said confining members.

2. In a safety razor, the combination with the blade holding frame having a fixed guard and integral side confining members, a thin, flexible blade, a blade retainer having extending sides which embrace the opposite sides of the blade to stiffen it and between which the blade is retractably seated, said blade retainer removably mounted on the frame and engaged by said confining members, and means for holding the blade retainer yieldingly in place.

3. In a safety razor, the combination with the blade supporting frame having confining members, a blade, a separable blade retainer having extending sides which embrace the sides of the blade and between which the blade is retractably seated, said retainer lying on the frame, said confining members engaging said blade to hold it in place, and means on the frame for automatically locking the blade retainer in place.

4. In a safety razor, the combination of the supporting plate having marginal retaining members and provided with a spring tongue struck centrally therefrom, a relatively thin, flexible blade, a relatively rigid blade retainer in which the blade is removably seated and which extends over the major portion of said blade, said retainer having lateral shoulders which engage the confining members, the spring tongue of the supporting plate engaging the back of the blade retainer to maintain it yieldingly in position.

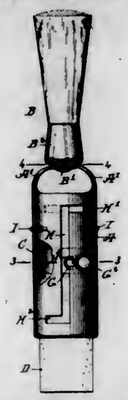
866,970. SHAVING-BRUSH AND SOAP-HOLDER. MATHIAS SCHMITZ, Schenectady, N. Y. Filed May 3, 1907. Serial No. 371,669.

1. In a combined shaving brush and soap holder, a casing provided with oppositely arranged and longitudinally extending slots, each slot having at its ends oppositely projecting lateral recesses and intermediate of its ends a third lateral recess, and a soap holder, comprising a cap having on its inner face inwardly projecting prongs and on its outer face oppositely arranged shanks working in the slots and recesses of the casing and provided with buttons on their outer ends.

2. In a combined shaving brush and soap holder, a casing for holding a stick of soap provided at one end with inwardly extending arms having overlapping ends, and a brush having its butt end secured to the said arms.

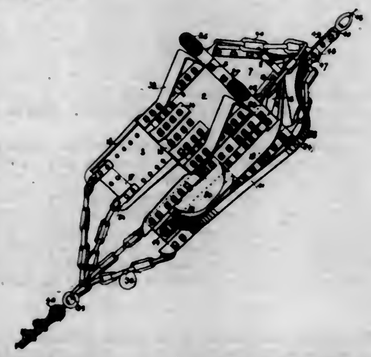
3. In a combined shaving brush and soap holder, a casing for holding a stick of soap provided with overlapping

arms, a rivet secured to the overlapping arms of the casing and having a threaded socket, and a brush having a screw in its butt end and screwing into the socket of the rivet.



4. The combination of a slotted casing having a brush at one end and provided with a sliding soap carrier having projections working in the slot of the casing, the casing being provided with exterior shoulders, and a two part box for receiving the casing and brush, one part of the box being provided at its open end with a recess for the passage of the projections of the soap carrier and the other with recesses to receive the shoulders of the casing whereby the casing and brush can be stored in the box and held from longitudinal movement therein.

866,971. SECTIONAL DREDGER-BUCKET. HARLEY L. SHERWOOD, Oakland, Cal. Filed Nov. 5, 1906. Serial No. 342,142.



1. An excavating bucket provided on the outside of each of its narrow sides with a keel to cause the bucket to automatically recover its operative position when tilted, substantially as described.

2. A bucket having short wide sides, long narrow sides extending in front of the wide sides, end pieces secured to the narrow sides, and end pieces secured to the wide sides, the latter converging to meet at their rear edges, substantially as described.

3. A bucket having extending from each of its narrow sides a runner for automatically limiting the depth of the bucket as it travels, substantially as described.

4. A bucket having on each of its narrow sides a central keel and on each side of said keel a runner for limiting the depth of the bucket, substantially as described.

5. A bucket having on each of its narrow sides a central keel and on each side of said keel a runner for limiting the depth of the bucket, said runners converging towards said keel, substantially as described.

6. A bucket having on each side of its narrow sides a central keel and on each side of said keel a runner for limiting the depth of the bucket, said runners converging towards said keel and each having a corner bent inwards toward the keel, substantially as described.

7. A bucket having two wide sides and two narrow sides, a cutter plate secured within the front edge of each wide side and supporting plates secured outside said front edge and extending in front of the same to support the cutter plate, substantially as described.

8. A bucket having two wide sides and two narrow sides, the latter extending in front of the wide sides, and an angular corner piece extending over each juncture of the wide and narrow sides, substantially as described.

9. A bucket having two wide sides and two narrow sides, the latter extending in front of the wide sides, and an angular corner piece extending over each juncture of the wide and narrow sides, said corner piece being cut away in front of the wide side and the front portion being secured to the narrow sides, substantially as described.

10. A bucket having two wide sides and two narrow sides, the latter extending in front of the wide sides, and an angular corner piece extending over each juncture of the wide and narrow sides, and a cutting blade secured to each narrow side in front of the wide side, substantially as described.

11. A bucket, a yoke pivoted to the front end of the bucket and means for connecting the rear end of the yoke with the rear cable, substantially as described.

12. A bucket, a yoke pivoted to the front end of the bucket and means for loosely connecting the rear end of the bucket with said yoke, substantially as described.

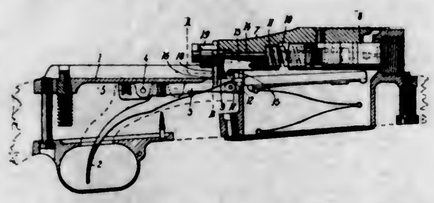
13. A bucket, a yoke pivoted to the front end of the bucket and chains attached to the rear end of the bucket, and means for variably securing the rear ends of said chains to the yoke, substantially as described.

14. A bucket having a closed converging end, and a roller on the outside adjacent to the juncture of said end with the main portion of the bucket, substantially as described.

15. A bucket having a closed converging end, and a roller on the outside adjacent to the juncture of said end with the main portion of the bucket and a shoe secured on the outside of the bucket and inclined towards said roller, substantially as described.

16. A bucket having short wide sides and long narrow sides extending in front of the two wide sides and a T-shape bar extending along each narrow side past the front edge of the wide side, substantially as described.

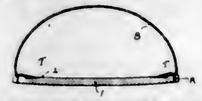
866,972. GUN. CARL A. T. SJÖGREN, Stockholm, Sweden. Filed June 1, 1906. Serial No. 319,699.



1. The combination with a gun, of a longitudinally reciprocating breech-block, a movable weight on the said breech-block adapted to move forward on account of its inertia, when the gun recoils, a spring between the said weight and the breech-block adapted to be compressed, when the former moves forward, and to throw the said weight backward, when the recoil ceases, a firing pin, a firing-pin-spring adapted to be compressed by the said weight in its forward movement, and means for locking the weight on the closing of the breech, substantially as and for the purpose set forth.

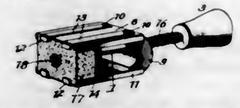
2. The combination with a gun, of a longitudinally reciprocating breech-block, a movable weight on the said breech-block adapted to move forward on account of its inertia, when the gun recoils, a spring between the said weight and the breech-block adapted to be compressed, when the former moves forward, and to throw the said weight backwards, when the recoil ceases, a firing-pin, a firing-pin-spring adapted to be compressed by the said weight in its forward movement, a trigger, a pawl adapted to lock the weight on the closing of the breech, a hook pivoted to the trigger, a sear adapted to be operated by the said hook, and a projection on the latter bearing on the upper side of the said pawl, substantially as and for the purpose set forth.

866,973. TURN-SHOE. NATHANIEL C. SMALL, Auburn, Me. Filed Apr. 16, 1907. Serial No. 368,566.



In a turn-shoe having the upper fastened to the sole on the flesh side in the usual manner, a row of stitches B outside of the turn stitching, adjacent to and substantially parallel therewith; said stitches passing through the said upper and the said sole, whereby the turn stitching is reinforced and protected, substantially as shown and described.

866,974. POSTAGE-STAMP AND LABEL AFFIXER. WILLIAM B. SPENCER, Chicago, Ill. Filed Oct. 13, 1905. Serial No. 282,641.



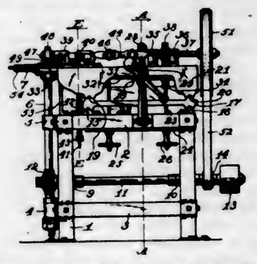
1. A device of the class described comprising a plunger having a head, a holder or carrier composed of two sides spaced apart to form side openings, and a transverse portion slidable on the plunger and connecting the inner ends of the sides, the latter being provided at the said openings with side flanges, which embrace the connecting portion and form guides for the plunger head and the stamps or labels, and a spring disposed on the plunger and engaging the transverse connecting portion.

2. A device of the class described comprising a holder or carrier for stamps or labels, a plunger having a head, a felt follower arranged against the stamps or labels and adapted to be advanced with the same by the plunger head as the stamps or labels are affixed or consumed, said follower frictionally engaging the sides of the holder or carrier so as to be retained in its adjusted position, whereby it is held against backward movement and is adapted to prevent displacement of the stamps or labels, when the plunger head is withdrawn therefrom.

3. A device of the class described, comprising a plunger, a spring-actuated carrier or holder slidable on the plunger, and a felt follower frictionally engaging the sides of the holder or carrier and held against backward movement by such engagement and arranged to fit against the stamps or labels and to be advanced with the same as the stamps or labels are affixed or consumed, said follower serving to prevent displacement of the stamps or labels when the head of the plunger is withdrawn therefrom.

4. A device of the class described, comprising a plunger, a spring-actuated holder or carrier, and a flexible follower arranged to fit against the stamps or labels and having a flat outer face and provided with a central opening, whereby the pressure is applied to and concentrated at the marginal portions of a stamp or label.

866,975. BARK-SPLITTING MACHINE. HARRISON L. STALEY, Martinsville, Ind., assignor to The Old Hickory Chair Company, Martinsville, Ind., a Corporation of Indiana. Filed Apr. 26, 1907. Serial No. 370,445.



1. A bark-splitting machine including a main frame having two guide rails thereon, a cutting disk mounted on the frame, a table base-member mounted adjustably on the guide rails and having two inclined guide rails on the top thereof, and a table top part mounted adjustably on the inclined guide rails and having feeding apparatus mounted thereon.

2. A bark-splitting machine including a main frame, a cutting disk mounted on the frame, a table base-member mounted adjustably on the frame and having inclined rails, a table top part mounted adjustably on the guide rails of the base member and having feeding apparatus mounted thereon, a screw for holding the top part or for adjustment thereof, and a screw for holding the top part against movement on the base member or for moving the base member between the frame and the top part.

3. A bark-splitting machine including a main frame provided with a slotted head, a cutting disk mounted on the frame, a table base-member mounted adjustably on the frame and provided with a slotted head and also inclined guide rails, a top part mounted adjustably on the guide rails and having two adjusting screws operating therein, one screw being mounted in the slotted head of the frame, and the other screw mounted in the slotted head of the base member, and feeding apparatus mounted on the top part.

4. A bark-splitting machine including a main frame having a table base-member mounted adjustably thereon that has inclined top parts, a cutting disk mounted on the frame, a table top part mounted adjustably on the inclined top parts of the base-member and having a clamp-bolt connected therewith, a clamp-bar on the clamp-bolt and normally engaging the frame, a clamping nut on the clamp-bolt engaging the clamp-bar, means for moving the base member adjustably between the table and the top part, and feeding apparatus mounted on the top part.

5. A bark-splitting machine including a main frame, a cutting disk mounted on the frame, a table mounted on the frame adjustably, a pair of shafts mounted rotatively on the table and having each a feed roll secured thereto, one of the shafts being flexible, operating gearing connecting the shafts together, a drive pulley secured to one of the shaft, a pair of guides fixed on the table at opposite sides of one of the feed rolls, and means for adjusting the table vertically.

6. A bark-splitting machine including a main frame, a cutting disk mounted on the frame, a table mounted adjustably on the frame and provided with means for controlling its adjustability with respect to the frame, a lower feed roll shaft mounted in the table under the top thereof and having a feed roll secured thereto, a flexible feed roll shaft mounted upon the top of the table and comprising a shaft section mounted in stationary bearings and geared to the lower feed roll shaft, a shaft section mounted in movable bearings and having a feed roll secured thereto, the two shaft sections having each a universal coupling connected thereto, and a shaft section connected to the universal couplings.

7. In a bark-splitting machine, the combination of a

main frame, a cutting disk mounted on the frame and provided with a curved guard, a table base-member mounted adjustably on the frame and having inclined guides, a table top part mounted adjustably on the guides, a drive shaft mounted in the frame and geared operatively with the cutting disk, an arm pivoted on the table top part and provided with a stop, a roll shaft section mounted on the arm and having a flexible shaft connected therewith, a feed roll secured to the roll shaft section, guides mounted at opposite sides of the feed roll, a pulley secured to the flexible shaft, a belt connecting the pulley with the drive shaft, and a spring for the pivoted arm to draw it yieldingly towards the table top.

8. In a bark-splitting machine, the combination with a frame and a cutting disk mounted thereon, of a table comprising a top part and a wedge-shaped base-member adjustable either with respect to the other and mounted with the base member adjustable on the frame, an adjusting screw operatively connecting the top part with the base member, an adjusting screw operatively connecting the top part with the frame, means for binding the table securely to the frame, and feeding apparatus mounted on the top part of the table.

9. In a bark-splitting machine, the combination with a frame and a cutting disk mounted thereon, of a table mounted on the frame, an arm pivoted on the table and provided with a stop, a roll shaft mounted on the arm, a feed roll secured to the shaft, a pair of guides mounted on the table at opposite sides of the feed roll, a lower feed roll shaft mounted in the table under the top thereof and having a feed-roll secured thereto to coöperate with the other feed-roll and the pair of guides.

10. In a bark-splitting machine, the combination with a frame and a cutting disk mounted thereon, of a table mounted on the frame, a pair of guides mounted on the table, a lower feed-roll shaft mounted in the table under the top thereof and having a feed-roll secured thereto, a flexible feed-roll shaft mounted on the top of the table and comprising a shaft section mounted in stationary bearings and geared to the lower feed-roll shaft, a shaft section mounted in movable bearings and having a feed-roll secured thereto between the guides, the two shaft sections having each a universal coupling connected thereto, and a shaft section connected to the universal couplings, and means for forcing one feed-roll yieldingly towards the other feed-roll.

866,976. ROCKER-BAR GEAR FOR VEHICLES. GEORGE W. STEVENSON, Reading, Pa., assignor of one-half to Milton H. Schnader, Lebanon, Pa. Filed Sept. 26, 1906. Serial No. 336,250.



1. In a vehicle, a resilient support for the frame of the body thereof consisting of a rocking bar which is interposed between said frame and the axle of the vehicle and resting upon the latter and endwise compressible springs bearing against the opposite ends of said bars in reverse direction.

2. In a vehicle, a resilient support for the frame of the body thereof consisting of a rocking bar which is interposed between said frame and an axle of the vehicle, springs bearing against the opposite ends of said bars in reverse direction and an additional spring seated below said axle and bearing upwardly against the same.

3. In a vehicle, a frame, a casing suspended therefrom, a plurality of springs in said casing, a rocking bar having an end adapted to enter said casing and rest on the axle of the vehicle and be subjected to the action of the upper spring, the other spring being below said axle and adapted to bear against the same.

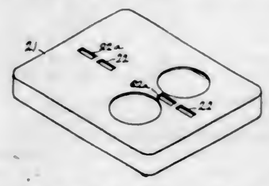
4. In a vehicle, a rocking bar fulcrumed on the frame thereof, one end of said bar resting on the axle of the vehicle and mounted for bodily vertical movement and reversely acting springs bearing against the opposite ends of said bar.

5. In a vehicle, a casing depending from the frame thereof, a rocking bar mounted on said frame below the same, one end of said bar entering said casing, resting on the axle of the vehicle and a spring connected with said frame and having an end entering said casing and resting on the adjacent portion of said bar.

6. In a vehicle, a casing depending from the frame thereof, a rocking bar mounted on said frame below the same, one end of said bar entering said casing, it being adapted to rest on the axle of the vehicle, a spring connected with said frame and having an end adapted to enter said casing and rest on the adjacent portion of said bar and an auxiliary spring seated in said casing below said axle and bearing upwardly against the latter.

7. In a vehicle, a frame, a rocking bar interposed between the frame and an axle of the vehicle, means for subjecting the ends of said bar to resiliency each independently of the other, and a resilient fulcrum on said frame intermediate its ends for said bar.

866,977. CUT-OUT. JOSEPH G. SWALLOW, New York, N. Y., assignor of one-half to Frank W. Smith, New York, N. Y. Filed Apr. 4, 1907. Serial No. 366,290.



1. A device of the character described, having a base and a cover, the latter being provided with a hole to permit the passage of a fuse plug therethrough and a piece passing through said parts in combination with means in connection with the latter for sealing said parts together.

2. A device of the character described, having a base and a cover, the latter being provided with a hole to permit the passage of a fuse plug therethrough and a securing screw passing through said parts in combination with means in connection with said screw for sealing said parts together.

3. A device of the character described having a base and a cover, the latter being provided with a hole to permit the passage of a fuse plug therethrough and a securing screw having a terminal lug provided with a hole and means in connection with said screw for sealing said parts together.

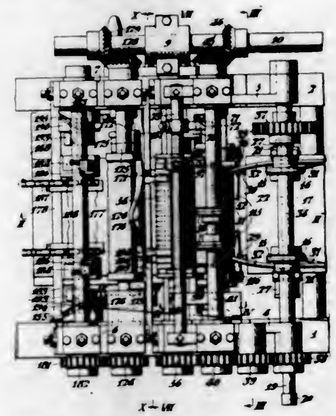
4. A device of the character described having a base adapted to receive a fuse plug, a cover provided with a hole registering with a receptacle for the fuse plug in the base in one position and covering said receptacle when in reversed position, and means for sealing said cover and base together when the cover is in either position.

5. A device of the character described having a base adapted to receive a fuse plug, a cover provided with a hole registering with a receptacle for the fuse plug in the base in one position and covering said receptacle when in reversed position, and a securing screw passing through said parts and provided with a terminal lug, in combination with means in connection with said screw for sealing said parts.

6. A cut-out block having a cover with a hole to permit the passage of a fuse plug therethrough, and provided with downwardly extending sides adapted to fit over the sides of the base and exclude access to electrically live parts of the device, substantially as described.

7. A cut-out block having a cover with a hole to permit the passage of a fuse plug therethrough, and provided with downwardly extending sides adapted to fit over the sides of the base and exclude access to electrically live parts of the device, in combination with means to secure and seal said parts together, substantially as described.

866,978. ENVELOP-MACHINE. GEORGE W. SWIFT, Jr., Bordentown, N. J. Original application filed Mar. 17, 1905, Serial No. 250,513. Divided and this application filed Jan. 27, 1906, Serial No. 298,096. Renewed Apr. 11, 1907. Serial No. 367,589.



1. In an envelop machine, the combination with means arranged to progress a paper web; of means arranged to form a line of indentations in said web without severing it; and, severing means independent of said indenting means arranged to break said web on the line of said indentations, by distorting it transversely with respect to its plane; and means operatively connecting said indenting means and said severing means to operate in the order named, substantially as set forth.

2. In an envelop machine, the combination with means arranged to progress a paper web; of a cutting blade arranged to indent said web without severing it; and, severing means arranged to break said web where indented by distorting it transversely with respect to its plane, substantially as set forth.

3. In an envelop machine, the combination with means arranged to progress a paper web; of means arranged to indent said web without severing it; and, a lever arranged to break and thereby sever said web where indented by distorting it transversely with respect to its plane, substantially as set forth.

4. In an envelop machine, the combination with means arranged to progress a paper web; of means arranged to indent said web without perforating it; a lever; and, wings on said lever arranged to break and thereby sever said web where indented, substantially as set forth.

5. In an envelop machine, the combination with means arranged to progress a paper web; of means arranged to indent one surface of said web; a lever; wings on said lever arranged to break and thereby sever said web where indented; a rock shaft arranged to actuate said lever; and, means arranged to rock said shaft, substantially as set forth.

6. In an envelop machine, the combination with means arranged to progress a paper web; of a severing roller carrying a cutting blade, arranged to indent one surface of said web; a winged lever arranged to break and thereby sever said web, where indented; a rock shaft arranged to shift said lever; and, means arranged to rock said shaft, substantially as set forth.

7. In an envelop machine, the combination with means arranged to progress a paper web; of a severing roller carrying a cutting blade, arranged to indent one surface of said web; a winged lever arranged to break said web where indented; a rock shaft having a finger distinct from, but arranged to shift said winged lever; a cam arm; and, a cam arranged to engage said cam arm and thereby rock said shaft, substantially as set forth.

8. In an envelop machine, the combination with means arranged to progress a paper web; of a severing roller; a creasing roller; a blade carried by said severing roller arranged to indent said web against said creasing roller without severing the web; a lever arranged to break and thereby sever said web where indented, by distorting it transversely with respect to its plane and, connecting means whereby the indenting blade and severing lever are actuated in the order named, substantially as set forth.

9. In an envelop machine, the combination with means arranged to progress a paper web; of a severing roller; a creasing roller; a blade carried by said severing roller arranged to indent said web against said creasing roller; a lever arranged to break said web where indented; means arranged to actuate said lever; and, means arranged to double and grip said web transversely and thereby draw it taut against said severing roller, substantially as set forth.

10. In an envelop machine, the combination with means arranged to progress a paper web; of means arranged to form a line of indentations in said web; means independent of said indenting means arranged to break said web on the line of said indentations; a pivoted gripping frame; and, a blade carried by said frame, arranged to grip said web at a predetermined distance from its broken end and thereby draw it taut against said severing roller, substantially as set forth.

11. In an envelop machine, the combination with means arranged to progress a paper web; of a severing roller carrying a cutting blade, arranged to indent said web; a winged lever arranged to break said web, where indented; a rock shaft arranged to shift said lever; means arranged to rock said shaft; a movable gripping frame carried by said severing roller; and, an oscillatory blade pivoted to said frame, arranged to grip said web at a predetermined distance from its broken end and thereby draw it taut against said roller, substantially as set forth.

12. In an envelop machine, the combination with means arranged to progress a paper web; of a severing roller carrying a cutting blade, arranged to indent said web; a winged lever arranged to break said web, where indented; a rock shaft arranged to shift said lever; means arranged to rock said shaft; a pivoted gripping frame mounted to oscillate in said severing roller; a blade pivoted in said frame, arranged to grip the web at a predetermined distance from its broken end, and thereby draw it taut around said severing roller; a spring arranged to normally maintain said blade open; and, means including a cam, rendered operative by the rotation of said severing roller to first rock said blade independently of its frame to engage said frame and thereby grip the web, and then rock said frame by the further movement of said blade, substantially as set forth.

13. In an envelop machine, the combination with means arranged to progress a paper web; of a severing roller carrying a cutting blade, arranged to indent said web; a winged lever arranged to break said web, where indented; a rock shaft arranged to shift said lever; means arranged to rock said shaft; a pivoted gripping frame mounted to oscillate in said severing roller; a blade pivoted in said frame; beans arranged to normally maintain said blade open; a creasing roller comprising a radially movable blade arranged to press said web into said gripping frame, at a predetermined distance from the broken end of said web; means comprising a cam, rendered operative by the rotation of said roller to first rock said blade independently of its frame, to engage said frame and thereby grip the web to draw it taut around said roller, and then rock said frame by the further movement of said blade, substantially as set forth.

14. In an envelop machine, the combination with means arranged to progress a paper web; of a severing roller carrying a cutting blade, arranged to indent said web; a winged lever arranged to break said web, where indented; a rock shaft arranged to shift said lever; means arranged to rock said shaft; a pivoted gripping frame mounted to oscillate on said severing roller; a blade pivoted in said frame; means arranged to normally maintain said blade open; a creasing roller comprising a radially movable blade, having a beveled edge arranged to press said web into said gripping frame at a predetermined distance from

the broken end of said web; means comprising a cam, rendered operative by the rotation of said roller to first rock said blade independently of its frame to engage said frame and thereby grip the web to draw it taut against said roller and then rock said frame by its further movement; and, a shearing mechanism arranged to operate in definite sequence with said severing blade to trim the broken end of said web; said shearing mechanism being so related to said roller that the broken end of the web gravitates into said shearing mechanism, substantially as set forth.

15. In an envelop machine, the combination with means arranged to progress a paper web; of a severing roller carrying a cutting blade, arranged to indent said web; a winged lever arranged to break said web, where indented; a rock shaft arranged to shift said lever; means arranged to rock said shaft; gripping mechanism carried by said roller arranged to grip the web at a predetermined distance from its broken end, and thereby draw it taut against said roller; a rotary shearing mechanism arranged to trim the broken end of said web, and so related to said roller that the broken end of the web descends by gravity into said shearing mechanism, substantially as set forth.

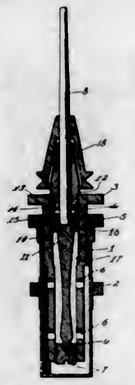
16. In an envelop machine, the combination with means arranged to progress a paper web; of a severing roller carrying a cutting blade, arranged to indent said web; a winged lever arranged to break said web, where indented; a rock shaft arranged to shift said lever; means arranged to rock said shaft; a gripping mechanism carried by said roller arranged to grip the web, at a predetermined distance from its broken end and thereby draw it taut against said roller; sectors in coöperative relation with said severing roller, arranged to progress the web in definite relation to said severing roller and thereby maintain said web taut against said roller after it is released by said gripping mechanism, substantially as set forth.

17. In an envelop machine, the combination with means arranged to progress a paper web; of a severing roller carrying a cutting blade, arranged to indent said web; a winged lever arranged to break said web, where indented; a rock shaft arranged to shift said lever; means arranged to rock said shaft; gripping mechanism carried by said roller arranged to grip the web at a predetermined distance from its broken end and thereby draw it taut against said roller; a rotary shearing mechanism comprising a stationary blade; guides arranged to direct said web to gravitate across said blade; and rotary blades arranged to coöperate with said stationary blade to shear the broken end of said web, substantially as set forth.

18. In an envelop machine, the combination with means arranged to progress a paper web; of a severing roller carrying a cutting blade, arranged to indent said web; a winged lever arranged to break said web, where indented; a rock shaft arranged to shift said lever; means arranged to rock said shaft; gripping mechanism carried by said roller arranged to grip the web at a predetermined distance from its broken end and thereby draw it taut against said roller; a rotary shearing mechanism comprising a stationary blade; guides arranged to direct said web to gravitate across said blade; rotary blades arranged to cooperate with said stationary blade to shear the broken end of said web; and, an adjustable block arranged to stop the descent of the web and thereby determine the amount of web to be trimmed off, substantially as set forth.

866,979. SPINDLE. EDWARD TACHE, New Market, N. H. Filed Aug. 21, 1906. Serial No. 331,484.

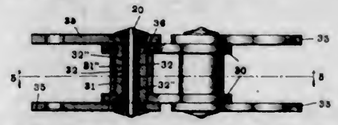
1. In a spindle, a bolster case adapted to contain oil and having an interiorly threaded portion adjacent its upper end; means whereby said case may be secured to a spindle rail; a bolster threaded exteriorly at its upper end to engage the threaded portion of said bolster case; a lock nut for securing said parts after they have been properly adjusted; upper and lower bearings carried by said bolster; a spindle supported in said bearings; a shoulder upon said spindle in contact with said upper bearing, whereby upward movement of the spindle is prevented; said spindle having an upwardly flared portion terminating at the said shoulder; and openings in said bolster through which oil contained in the bolster case has access to the spindle.



2. In a spindle, a bolster case adapted to contain oil; means whereby said case may be secured to a spindle rail; a bolster adjustably supported within said case; a lower bearing carried by said bolster; a removable upper bearing carried by said bolster; an oil passage leading from the interior of said bolster for supplying oil to said upper bearing; a spindle supported in said bearings; a shoulder upon said spindle and in contact with said upper bearing for preventing upward movement of said spindle; said spindle having an upwardly flared portion terminating at the said shoulder; means for adjusting said bolster in said case and for securing it in its adjusted position; and openings in said bolster through which oil contained in the bolster case has access to the spindle.

3. In a spindle, a bolster case adapted to contain oil; means whereby said case may be secured to a spindle rail; a bolster adjustably supported within said case; a lower bearing carried by said bolster; a removable upper bearing carried by said bolster; a recess within said bolster adjacent said upper bearing; an oil passage leading from said recess to said upper bearing; a spindle supported in said bearings; a shoulder upon said spindle and in contact with said upper bearing for preventing upward movement of said spindle; said spindle having an upwardly flared portion terminating at the said shoulder; and openings in said bolster through which oil contained in the bolster case has access to the spindle.

866,980. CHAIN. ARTHUR B. TAYLOR, Indianapolis, Ind. Filed June 28, 1905. Serial No. 267,379.



1. A chain composed of a plurality of successive pairs of links, the inner link of a pair comprising two cross bars and an intermediate connecting member, and the outer link of a pair comprising two cross bars each passing through an inner link between the two cross bars thereof, and also comprising a pair of side bars which connect and are permanently secured to the cross bars of said outer link, the adjacent faces of each pair of cross bars being formed to coöperate with a transversely-removable intermediate compression member, and the said transversely removable compression member for each pair of cross bars, said transversely removable compression member being at all times accessible at one end without dismembering the links.

2. A chain composed of a plurality of successive pairs of links, the inner link of a pair comprising two cross bars and an intermediate connecting member, and the outer link of a pair comprising two cross bars each passing through an inner link between the two cross bars thereof, and also comprising a pair of side bars which connect and are permanently secured to the cross bars of said outer link, the adjacent faces of each pair of cross bars being formed to coöperate with a transversely-removable intermediate compression member, said transversely removable compression member for each pair of cross bars the said compression member for each pair of cross bars, and a tubular roller journaled on each pair of cross bars, said transversely removable compression member being at all times accessible at one end without dismembering the links.

3. A chain composed of a plurality of successive pairs of links, the inner link of a pair comprising two side bars and two cross bars permanently connected together, and the outer link of a pair comprising two side bars and two cross bars also permanently connected together, the cross bars of the outer link each passing through the side bars of an inner link between the cross bars thereof, the adjacent faces of each pair of cross bars being formed to coöperate with a transversely-removable intermediate compression member, said transversely removable compression member for each pair of cross bars and the said compression member for each pair of cross bars, said transversely removable compression member being at all times accessible at one end without dismembering the links.

4. A chain composed of a plurality of successive pairs of links, the inner link of a pair comprising two side bars and two cross bars permanently connected together, and the outer link of a pair comprising two side bars and two cross bars also permanently connected together, the cross bars of the outer link each passing through the side bars of an inner link between the cross bars thereof, the adjacent faces of each pair of cross bars being grooved to receive a bushing member each of which is formed to coöperate with an intermediate transversely-removable compression member, such bushing members and the said compression member for each pair of cross bars, said transversely removable compression member being at all times accessible at one end without dismembering the links.

5. A chain composed of a plurality of successive pairs of links, the inner link of a pair comprising two side bars and two cross bars permanently connected together, and the outer link of a pair comprising two side bars and two cross bars also permanently connected together, the cross bars of the outer link each passing through the side bars of an inner link between the cross bars thereof, the adjacent faces of each pair of cross bars being formed to coöperate with a transversely-removable intermediate compression member, the said compression member for each pair of cross bars, and a tubular roller journaled on each pair of cross bars, said transversely removable compression member being at all times accessible at one end without dismembering the links.

6. A chain composed of a plurality of successive pairs of links, the inner link of a pair comprising two side bars and two cross bars permanently connected together, and the outer link of a pair comprising two side bars and two cross bars also permanently connected together, the cross bars of the outer link each passing through the side bars of an inner link between the cross bars thereof, the adjacent faces of each pair of cross bars being grooved to receive a bushing member each of which is formed to coöperate with an intermediate transversely-removable compression member, such bushing members, the said compression member for each pair of cross bars, and a tubular roller journaled on each pair of cross bars, said transversely removable compression member being at all times accessible at one end without dismembering the links.

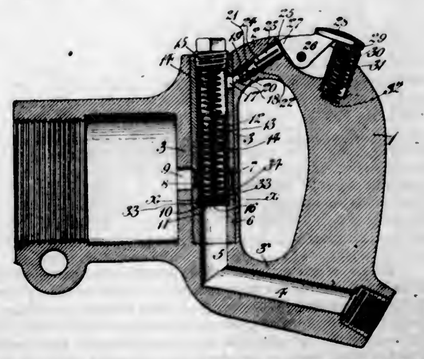
7. A chain composed of a plurality of successive pairs of links, the inner link of a pair comprising two cross bars and an intermediate connecting member, and the outer link of a pair comprising two cross bars having shouldered ends and each passing through an inner link between the two cross bars thereof, and also comprising a pair of side bars riveted to the shouldered ends of their cross bars, the adjacent faces of each pair of cross bars being formed to coöperate with a transversely-removable intermediate compression member, and said compression member for each pair of cross bars, said transversely removable compression member being at all times accessible at one end without dismembering the links.

8. A chain composed of a plurality of successive pairs of links, the inner link of a pair comprising two cross bars and an intermediate connecting member, and the outer link of a pair comprising two cross bars having shouldered ends and each passing through an inner link between the two cross bars thereof, and also comprising a pair of side bars riveted to the shouldered ends of their cross bars, the adjacent faces of each pair of cross bars being formed to coöperate with a transversely-removable intermediate compression member, said compression member for each pair of cross bars, and a tubular roller journaled on each pair of cross bars, said transversely removable compression member being at all times accessible at one end without dismembering the links.

9. A chain comprising the following elements: two links each comprising two perforated side bars and two shouldered cross bars riveted to their side bars and two other intermediate links each comprising two perforated side bars and two shouldered cross bars riveted thereto, the cross bars of the last mentioned links passing through the side bars of the first mentioned links between the cross bars thereof and the adjacent faces of each pair of cross bars being formed to coöperate with an intermediate transversely-removable compression member, and such compression member for each pair of cross bars, said transversely removable compression member being at all times accessible at one end without dismembering the links.

10. A chain comprising the following elements: two links each comprising two perforated side bars and two shouldered cross bars riveted to their side bars, and two other intermediate links each comprising two perforated side bars and two shouldered cross bars riveted thereto, the cross bars of the last mentioned links passing through the side bars of the first mentioned links between the cross bars thereof and the adjacent faces of each pair of cross bars being formed to coöperate with an intermediate transversely removable compression member, such compression member for each pair of cross bars, and a tubular roller journaled on each pair of cross bars between the side bars of the first mentioned links, said transversely removable compression member being at all times accessible at one end without dismembering the links.

866,981. PNEUMATIC TOOL. JOSEPH H. TEMPLIN, Philadelphia, Pa., assignor to Chicago Pneumatic Tool Company, Chicago, Ill., a Corporation of New Jersey. Filed Sept. 24, 1904. Serial No. 225,722.



1. In a pneumatic tool handle, a balanced valve, a counter-balancing port therethrough, an exhaust passage, a regulator therein, a manually operated lever, one end of which bears against said regulator and a plunger having a

spring therefor bearing against the other end of said lever, whereby the exhaust port is normally closed.

2. In a pneumatic tool handle, a valve whose end and the passage therefor have a slight variation in size throughout a portion of the travel of the end and a relatively great variation throughout the remainder of its travel.

3. In a pneumatic tool handle, a balanced valve, a counter-balancing port therethrough, an exhaust passage, a regulator therein, a manually operated lever, one end of which bears against said regulator, and a chambered plunger having a spring therefor bearing against the other end of said lever whereby the exhaust port is normally closed.

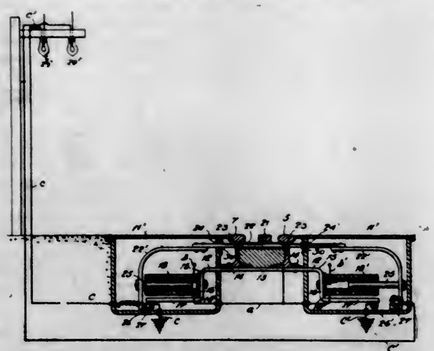
866,982. BELT-BUCKLE. JOHN D. TEMPLETON, Ada, Ohio. Filed Apr. 23, 1907. Serial No. 369,846.



1. The combination with a buckle frame having a flat back wall, a series of teeth projected forwardly on the lower edge of the back piece, and two wings on the side edges of the back piece having opposite perforations therein, of a hook piece having a laterally bent head portion, pintles on said head portion that occupy the perforations, and a hook on the lower portion of the hook piece.

2. The combination with a buckle frame having a flat back wall, a series of teeth projected downward and forward from the lower edge of the back piece, and two wings projected forward from the opposite side edges of the back piece, and having opposite perforations therein, of a hook piece having a laterally bent head portion, pintles on the head portion which occupy the perforations, and two spaced hooks on the lower portion of the hook piece.

866,983. RAILWAY-SWITCH. GUY M. THOMPSON, Seattle, Wash., assignor of one-fourth to Charles S. Follett, Seattle, Wash., and one-eighth to Samuel E. Lancaster and one-eighth to Jacob A. Meyer, Le Claire, Iowa. Filed Nov. 26, 1906. Serial No. 345,013.

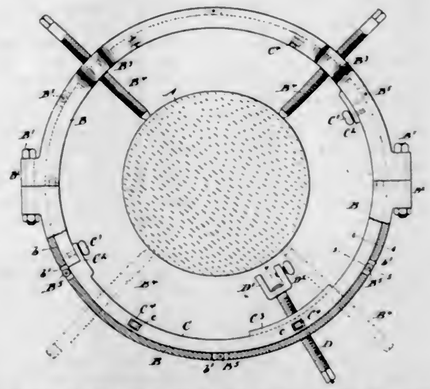


1. In an electrically-operated switch, the combination with the track-rails and a tongue, of two contact plates positioned at some distance from the switch and respectively forming the terminals of two incomplete circuits, an electro-magnet included in each such circuit and positioned within casings disposed upon opposite sides of the tongue, a supporting bar attached to the base of said track rails and extending into said casings and having its ends shaped to form brackets for supporting said electro-magnets, a transversely arranged bar connected to the tongue and extending through apertures of and into the casings, devices attached to each of said casings for wiping the bar, and a solenoid core for each said electro-magnet and rigidly secured to said bar interiorly of the respective casings.

2. In an electrically-operated switch, the combination with the track-rails and a tongue, of two contact plates positioned at some distance from the switch and respectively forming the terminals of two incomplete circuits, an electro-magnet including in each such circuit and positioned within casings disposed upon opposite sides of the tongue, a supporting bar extending into the confronting ends of the casings and being attached to said rack rails, and having brackets on its ends within said casings, upon which said electro-magnets are supported, a transversely arranged bar connected to the tongue and extending through apertures of and into the casings, a solenoid core for each said electro-magnet and rigidly secured to said bar interiorly of the respective casings, and the terminal of an incomplete light-circuit secured to said bar within each casing, one of said terminals of each such pair being secured to said bar.

3. In an electrically-operated switch, the combination with the track-rails and a tongue, of two contact plates positioned at some distance from the switch and respectively forming the terminals of two incomplete circuits, an electro-magnet included in each such circuit and positioned within casings disposed within opposite sides of the tongue, a supporting bar connected to the said track rails with its ends extending into said casings, brackets carried on the ends of said bar within the casings and to which the said electro-magnets are secured, a transversely arranged bar connected to the tongue and extending through apertures of and into the casings, and a solenoid core for each said electro-magnet and rigidly secured to said bar interiorly of the respective casings.

866,984. PLASTERING APPARATUS. PETER M. THOMSON, New York, N. Y. Filed Feb. 7, 1907. Serial No. 356,189.



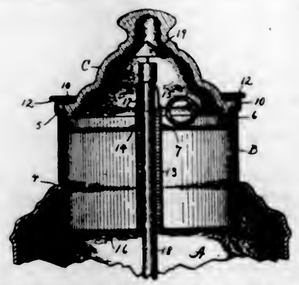
1. In an apparatus of the character set forth, guide-rings each in two portions constructed to inclose the shaft of a column, and means for securing said guide-rings to said shaft, traveling-rings guided by said guide-rings, and a striker-board carried by said traveling-rings.

2. In an apparatus of the character set forth, guide-rings each in two portions constructed to inclose the shaft of a column, means for securing said guide-rings to said shaft and adjusting them relatively to the axial line thereof, an annular groove in each of said guide-rings, a sectional traveling-ring in each of said grooves, and a striker-board carried by said traveling-rings.

3. In an apparatus of the character set forth, guide-rings each in two portions constructed to inclose the shaft of a column, screws extending radially of said guide-rings for securing the latter to said shaft and adjusting them relatively to the axial line thereof, an annular interior groove in each of said guide-rings, a sectional traveling-ring received in each groove, a clamp on each of said traveling-rings means for adjusting said clamps radially, and a striker-board held by said clamps.

4. In an apparatus of the character set forth, guide-rings each in two portions joined at the ends to inclose the shaft of a column, screws extending radially of said guide-rings for securing the latter to said shaft and adjusting them relatively to the axial line thereof, an annular interior groove in each of said guide-rings, a traveling-ring received in each groove and consisting of two portions joined at the ends, a clamp on each of said traveling-rings, means for adjusting said clamps radially, a striker-board held by said clamps, and anti-friction rollers mounted in said guide-rings and traveling-rings.

866,985. PERCOLATOR. CHARLES E. TREWHELLA, Forestville, Conn., assignor to American Silver Company, Bristol, Conn., a Corporation. Filed Nov. 7, 1906. Serial No. 342,380.



1. In a percolator, the combination of a cup having a perforated central overflow tube extending upwardly from its bottom and provided with a contracted tip at its upper end, with a fountain tube of a smaller diameter than said overflow tube and extending upwardly through the said over flow tube and its contracted tip, the smallest diameter of which is approximately the same as that of the said fountain tube, and a finely perforated retainer fitted to the upper part of the said cup and overflow tube, the perforations in which tube permit an excess of liquid to flow from the retainer into and down through the said overflow tube.

2. In a percolator, the combination of a cup having an internal shoulder within its mouth with a retainer within the said cup and seated on the said shoulder, a cover, the rim of which is seated on the said retainer, and locking recesses and lugs on the said cover and cup to hold the cover down on the retainer.

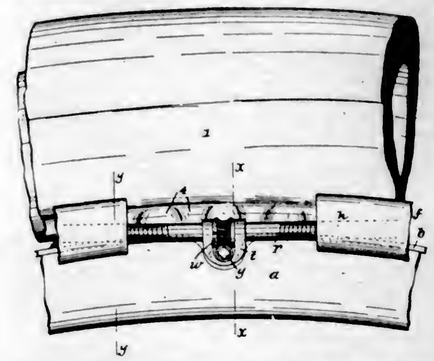
866,986. WHEEL-RIM. JOHN K. TURTON, New York, N. Y. Filed Sept. 22, 1906. Serial No. 335,706.

1. In a wheel, the combination of a felly, a rim extending around the same, a tire extending around the rim, said rim being expansible and contractible, and means permanently carried by the rim and operating on both sides of the rim simultaneously for effecting the expansion and contraction of the rim, substantially as described.

2. In a wheel, the combination of a felly, a rim extending around the same, the one being grooved and receiving the other, a tire extending around the rim, and means permanently carried by the rim and operating on both sides of the rim simultaneously for effecting the expansion and contraction of the rim, substantially as described.

3. In a wheel, the combination of a felly, a rim extending around the same, a tire extending around the rim and the one being grooved and receiving the other, and means permanently carried by the rim and operating on both sides of the rim simultaneously for effecting the expansion and contraction of the rim, substantially as described.

4. In a wheel, the combination of a felly, a rim extending around the same and being split, a tire extending around the rim, and means permanently carried by the rim and operating on both sides of the rim simultaneously for drawing together and forcing apart the ends of the rim at the split therein, substantially as described.



5. In a wheel, the combination of a felly, a rim extending around the same and being split, a tire extending around the rim, rotative screws connecting the ends of the rim at the split and having their ends reversely threaded and engaging the same, and means for operating said screws simultaneously substantially as described.

6. In a wheel, the combination of a felly, a rim extending around the same and being split, a tire extending around the rim, rotative screws connecting the ends of the rim at the split and having their ends reversely threaded and engaging the same, and means for connecting said screws for simultaneous operation, substantially as described.

7. In a wheel, the combination of a felly, a rim extending around the same and being split, a tire extending around the rim, rotative screws connecting the ends of the rim adjacent the sides thereof at the split and having their ends reversely threaded and engaging the same, a worm wheel on each screw and means for operating both worm wheels together, substantially as described.

8. In a wheel, the combination of a felly, a rim extending around the same and being split, a tire extending around the rim, rotative screws connecting the ends of the rim adjacent the sides thereof at the split and having their ends reversely threaded and engaging the same, a worm-wheel on each screw, and a transverse worm engaging both worm-wheels, substantially as described.

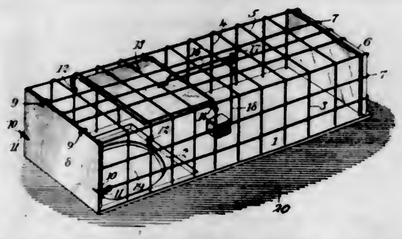
9. In a wheel, the combination of a felly having its tread portion of wedge-form in cross-section, a rim extending around the felly and being split, said rim having a groove on its inside snugly receiving said wedge-portion of the felly, a tire surrounding the rim, and means for effecting the expansion and contraction of the rim, substantially as described.

10. In a wheel, the combination of a felly, a rim consisting of a metallic tube flattened longitudinally in the intermediate part thereof to form a laminar body-portion and having the side portions thereof projecting above and below said body portion to form exterior and interior grooves, the interior groove receiving the felly, and a tire surrounding the rim and received by the exterior groove thereof, substantially as described.

11. In a wheel, the combination of a felly having a transverse groove in the tread portion thereof, a rim extending around the same and being split, a tire extending around the rim, and means for effecting the expansion and contraction of the rim, said means comprising rotative screws connecting the ends of the rim adjacent the sides thereof at the split and having their ends reversely threaded and engaging the same, a worm wheel on each screw, and a transverse worm engaging both worm-wheels and

extending in said groove under the rim, substantially as described.

866,987. ANIMAL-TRAP. HENRY TURNER, Richmond, Va. Filed Oct. 30, 1906. Serial No. 341,295.



1. A trap, comprising an inclosure having a closed end and a bottom provided with an opening therein adapted to serve as the entrance to the trap, a movable partition located intermediate the closed end and the opening, means for holding said partition out of engagement with one wall of the inclosure and means within the closed end for releasing said partition.

2. A trap, comprising an inclosure having a closed end and a bottom provided with an opening therein adapted to serve as the entrance to the trap, a hinged partition located intermediate the closed end and the opening, means for holding said partition out of engagement with one wall of the inclosure and means within the closed end for releasing said partition.

3. A trap, comprising an inclosure having an opening in the bottom thereof adapted to serve as the entrance opening, a partition hinged adjacent the top thereof, means for normally holding said partition in engagement with said top, and means whereby the partition may be released and separate the inclosure into two separate compartments.

4. A trap, comprising an inclosure having an opening in the bottom thereof adapted to serve as the entrance opening, a partition adapted when released to prevent the return of a captive through said opening, a glass end for said inclosure, means for holding said partition in engagement with the top and means intermediate the partition and the glass end for releasing said partition.

5. A trap, comprising an inclosure having a hinged end, means for locking said end in its closed or open position, a partition intermediate the ends of said inclosure and adapted when closed to sub-divide the inclosure into two separate compartments, means for holding said partition in its open position, a glass end for said inclosure, and means intermediate the partition and said glass end for releasing said partition.

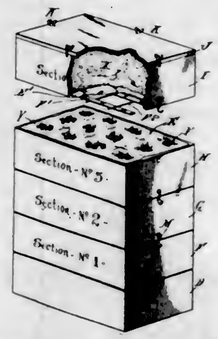
6. A trap, comprising an inclosure having an opening in the bottom thereof, a hinged end, means for locking said end in its closed position, means for locking said end in its open position, a glass end for said inclosure, a partition intermediate said ends, means for holding said partition adjacent the top of the inclosure, and means intermediate the partition and the glass end for releasing said partition, whereby it may separate the inclosure into two separate compartments.

7. A trap, comprising an inclosure having sides, a top, a closed end, and a bottom provided with an opening therein at a distance from said closed end, a movable partition adapted to prevent the return of a captive from the closed end through said opening when in its operative position, and means operatively connected to said movable partition and extending into the inclosure intermediate the partition and the closed end for permitting the partition to come into operative position.

8. A trap, comprising an inclosure having a closed end an opening in the bottom thereof adapted to serve as an entrance opening, a movable partition adapted to prevent the return of a captive from the closed end through said opening, and means operatively connected to said partition and adapted to be moved by the captive for permitting the partition to come into operative position.

9. A trap, comprising an inclosure having an open bottom adapted to serve as an entrance opening, a movable partition normally held in an inoperative position, and operating means operatively connected to said partition and adapted to be moved by the captive to permit the partition to come into operative position.

866,988. SEED-CORN TESTER. CLARK E. TWAMLY, Alexandria, S. D. Filed Feb. 8, 1907. Serial No. 356,375.



1. A germinator comprising a series of sections arranged one above the other and each containing a germinating bed, numbered strips for dividing the bed into compartments, and sheets of cloth between which the seed is arranged and which separate adjacent beds.

2. A germinating apparatus comprising a series of sections each containing a germinating bed and each provided with numbered strips dividing the bed therein into compartments, a sheet of cloth arranged at the bottom of each bed, another sheet of cloth arranged at the top of each bed except the upper one, and a detachable cover for the top bed.

3. The combination of a series of crib sections each divided into compartments, each of which is numbered, and a germinator comprising a series of sections marked correspondingly with the crib sections, each section of the germinating apparatus comprising a germinating bed, numbered strips dividing the bed into compartments and sheets of cloth for confining the bed in the section.

4. In a germinating apparatus, a section having numbered strips dividing it into compartments, a sheet of cloth arranged over the strips, a germinating bed supported by the cloth, and a sheet of cloth on top of the bed on which the seed corn is placed.

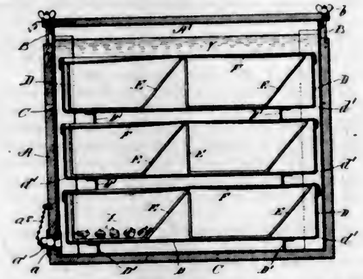
5. In a germinating apparatus a section having strips dividing it into compartments which are numbered on opposite sides, a germinating bed within the section and means for confining the bed in the section.

6. In a germinating apparatus, a section having strips dividing it into compartments which are numbered on opposite sides, a sheet of cloth arranged over the strips, a germinating bed supported by the cloth, and a sheet of cloth on top of the bed on which the seed corn is placed.

866,989. SEED-CORN TESTER. CLARK E. TWAMLY, Alexandria, S. D. Filed Apr. 9, 1907. Serial No. 367,250.

1. A seed germinator comprising a box having a detachable cover and provided with a water discharge opening at the bottom, a series of trays in the box, and a series of detachable numbered seed cups arranged in the trays.

2. A seed germinator comprising a water-tight box having a water discharge opening at the bottom, a detachable cover, a series of numbered perforated trays arranged in the box, and a series of numbered detachable seed cups or receptacles contained in the trays.



3. A seed germinator comprising a water-tight box having a detachable cover and provided with a water discharge opening at the bottom, a series of perforated numbered trays arranged one above the other in the box and having strips on the bottom to hold them apart, a series of numbered detachable seed cups or receptacles arranged in the trays and sheets of suitable material for covering the trays.

4. A seed germinator comprising a box having a detachable cover, provided with a water discharge opening at the bottom and containing a series of numbered trays having perforated bottoms and a series of receptacles for seed.

866,990. ELECTRICAL MEASURING INSTRUMENT. THOMAS W. VARLEY, New York, N. Y. Filed Sept. 7, 1905. Serial No. 277,308.

1. In an apparatus of the character described a substantially constant magnet for creating a field of force, a stationary coil for distorting or displacing said constant field, and a movable coil in a balanced condition with relation to the constant magnetic field when no current is passing through the stationary coil but becoming unbalanced so as to rotate when current is passing through the stationary coil, and so arranged as to form a two-pole armature.

2. In an apparatus of the character described a substantially constant magnet for creating a field of force, a stationary coil for distorting or displacing said magnetic field in a diagonal direction with relation to the poles of said constant magnet, and a movable coil in a balanced condition with relation to the constant magnetic field when no current is passing through the stationary coil and becoming unbalanced so as to rotate when current is passing through the stationary coil.

3. In an apparatus of the character described a substantially constant magnet for creating a field of force, a stationary coil for distorting or displacing said constant field in a diagonal direction with relation to the poles of said constant magnet and a movable coil in a balanced condition with relation to the constant magnetic field when no current is passing through the stationary coil and becoming unbalanced so as to rotate when current is passing through the stationary coil, and so arranged as to form a two-pole armature.

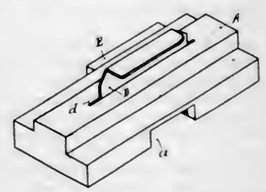
4. In an apparatus of the character described a substantially constant magnet for creating a field of force, pole pieces on said magnet having a plurality of polar projections on each pole piece, a stationary coil for distorting or displacing said constant field and a movable coil in a balanced condition with relation to the constant magnetic field when no current is passing through the stationary coil and becoming unbalanced so as to rotate when the current is passing through the stationary coil, and so arranged as to form a two-pole armature.

5. In an apparatus of the character described a substantially constant magnet for creating a field of force, pole pieces on said magnet having a plurality of polar projections on each pole piece, a stationary coil for distorting or displacing said constant magnetic field in a diagonal direction with relation to the poles of said constant magnet and a movable coil in a balanced condition with relation to the constant magnetic field when no current is passing through the stationary coil and becoming unbalanced so as to rotate when current is passing through the stationary coil.

6. In an apparatus of the character described a substantially constant magnet for creating a field of force, pole pieces on said magnet having a plurality of polar projections on each pole piece, a stationary coil for distorting or displacing said constant field in a diagonal direction with relation to the poles of said constant magnet and a movable coil in a balanced condition with relation to the constant magnetic field when no current is passing through the stationary coil and becoming unbalanced so as to rotate when the current is passing through the stationary coil and so arranged as to form a two-pole armature.

7. In an apparatus of the character described a substantially constant magnet for creating a field of force, pole pieces on said magnet having a plurality of polar projections on each pole piece, a stationary coil for distorting or displacing said constant field in a diagonal direction with relation to the poles of said constant magnet and a movable coil in a balanced condition with relation to the constant magnetic field when no current is passing through the stationary coil and becoming unbalanced so as to rotate when the current is passing through the stationary coil and so arranged as to form a two-pole closed circuit armature.

866,991. BEEHIVE. CHARLES H. W. WEBER, Cincinnati, Ohio. Filed Mar. 30, 1907. Serial No. 365,457.



1. In combination with a bee hive, a vestibule adapted to be affixed with a light excluding connection to the portal of the hive, said vestibule being provided with passages of different widths at opposite sides, and an adjustable slide adjustable to admit or exclude light without closing the opening, and strips at the bottom of said channel at opposite sides of said slide.

2. In combination with a bee hive, a vestibule adapted to be affixed with a light excluding connection to the portal of the hive, said vestibule being provided with a screened circuitous air channel excluding light, leading to the hive,

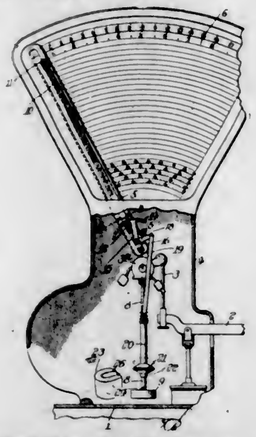
a channel for the passage of the bees to and from the hive, and a movable slide adapted to close said bee channel.

3. A vestibule having substantially vertical sides of different heights, a central rib of greater height than the sides to fit the face of the hive, said vestibule having a circuitous channel to form an exit and supply air, and at the same time to exclude light from the hive.

4. A vestibule having opposite sides of different heights, a central rib of greater height than the sides, said vestibule having openings of different widths at opposite sides, and an adjustable slide adjustable to exclude or admit light to the hive.

5. A vestibule adapted to be fitted with a light excluding connection to the portal of a hive, said vestibule being provided with a channel supplying air to the hive and serving as a passage for the bees to and from the hive, a slide adjustable relative to said vestibule to vary the size of said channel and to exclude the entrance of light through said channel, and strips at the bottom of said channel at opposite sides of said slide.

866,992. COMPUTING-SCALE. LEWIS C. WETZEL, Toledo, Ohio, assignor to Toledo Computing Scale Company, Toledo, Ohio, a Corporation of New Jersey. Filed Feb. 7, 1907. Serial No. 356,217.



1. In apparatus of the character described, the combination with a pendulum and a removable weight therefor; of an index hand having a reversible strip or bar bearing a set of numerals on each side, and means carried by the hand and pendulum and controlled by the removable weight for determining which side of the reversible bar shall be exposed.

2. In apparatus of the character described, the combination with a pendulum and a removable weight therefor; of an index hand having a reversible strip or bar bearing a set of numerals on each side, a slide-piece on the pendulum controlled by the removable weight, and operative connections between said slide-piece and the reversible strip or bar.

3. In apparatus of the character described, the combination with a pendulum and a removable weight therefor; of an index hand having a reversible strip or bar bearing a set of numerals on each side, a sliding collar or sleeve on the pendulum controlled by the removable weight, and operating connections between said sleeve and the reversible bar.

4. In apparatus of the character described, the combination with a pendulum and a removable weight therefor; of an index hand having a reversible strip or bar bearing a set of numerals on each side, and a gravity slide-piece on the pendulum operatively connected with the reversible bar and adapted to be lifted by the removable weight when the latter is applied to the pendulum.

5. In apparatus of the character described, the combination with a pendulum and a removable weight therefor; of an index hand having a reversible strip or bar bearing a set of numerals on each side, and a gravitating sleeve or collar on the pendulum operatively connected with the reversible bar and having a tapering end portion adapted to be acted upon by the removable weight to move said sleeve when said weight is applied to the pendulum.

6. In apparatus of the character described, the combination with a pendulum and a removable weight therefor; of an index hand having a reversible strip or bar bearing a set of numerals on each side, a slide-piece on the pendulum controlled by the removable weight, a pitman connected with said slide-piece, a rock-arm connected with said pitman, and connections between the rock-arm and the reversible bar.

7. In apparatus of the character described, the combination with a pendulum and a removable weight therefor; of an index hand having a reversible strip or bar bearing a set of numerals on each side, a sliding collar or sleeve on the pendulum controlled by the removable weight, a pitman connected with said sleeve, a rock-arm connected with said pitman, and connections between the rock-arm and the reversible bar.

8. In apparatus of the character described, the combination with a pendulum and a removable weight therefor; of an index hand having a reversible strip or bar bearing a set of numerals on each side, a gravitating sleeve or collar on the pendulum operatively connected with the reversible bar and having a tapering end portion adapted to be acted upon by the removable weight to move said sleeve when said weight is applied to the pendulum, a pitman connected with said sleeve, a rock-arm connected with said pitman, and connections between the rock-arm and the reversible bar.

9. In apparatus of the character described, the combination with a pendulum and a removable weight therefor; of an index hand having a reversible strip or bar bearing a set of numerals on each side, a gear wheel on said bar, an oscillatory segment on the index hand and engaged with said gear wheel, and means carried by the pendulum and controlled by the removable weight and operatively connected with said segment.

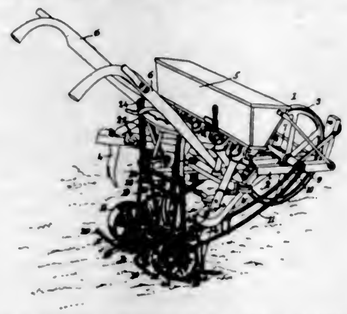
10. In apparatus of the character described, the combination with a pendulum and a removable weight therefor; of an index hand having a reversible strip or bar bearing a set of numerals on each side, a gear wheel on said bar, an oscillatory segment on the index hand and engaged with said gear wheel, and a slide-piece on the pendulum controlled by the removable weight and operatively connected with the said segment.

11. In apparatus of the character described, the combination with a pendulum and a removable weight therefor; of an index hand having a reversible strip or bar bearing a set of numerals on each side, a gear wheel on said bar, an oscillatory segment on the index hand and engaged with said gear wheel, a slide-piece on the pendulum controlled by the removable weight, and a pitman connected with said slide-piece and cranked to the oscillatory segment.

12. In computing scales, the combination of a chart of computation numerals arranged in concentric rows, an index hand adapted to sweep over said chart, a strip or bar extending lengthwise said index hand and bearing a set of price numerals on each side and journaled at its ends on bearings on the index hand, a toothed gear wheel secured to said bar, a toothed segment mounted to oscillate on the index hand in mesh with said gear wheel, a radial arm compounded with said segment, a pendulum compounded with the index arm, a weight adapted to be removably applied to said pendulum, a sleeve on the latter with an enlarged conical end portion adapted to be acted upon by said weight, and a pitman connecting said sleeve with the before-mentioned radial arm.

866,993. PLANTER. EARL B. WINSHIP, Rushville, Ind. Filed June 18, 1907. Serial No. 379,637.

1. In a planter, the combination, with a frame having drill teeth, and a supporting wheel carrying said frame near one end thereof, of means operated by said wheel for periodically elevating said frame at the end remote from said wheel, and means controlled by said first means, for releasing said frame from an elevated position.



2. In a planter, the combination, with a frame having drill teeth, and a supporting wheel carrying said frame near one end thereof, of means operated by said wheel for periodically operating said frame at the end remote from said wheel, and automatic means for controlling said elevating means, to permit the frame to be returned to a normal position.

3. In a planter, the combination, with a frame having drill teeth, and a supporting wheel carrying said frame near one end thereof, of automatic means operated by said wheel for elevating said frame at predetermined intervals at the end remote from said wheel, and means controlled by said elevating means for releasing said frame from an elevated position when said frame has been raised a predetermined distance.

4. In a planter, the combination, with a frame having drill teeth, and a supporting wheel carrying said frame near one end thereof, of a truck, a toggle connecting said frame and said truck, and means for periodically extending said toggle to elevate said frame.

5. In a planter having drill teeth, in combination, wheels, an extensible frame supported on said wheels and adapted to raise said drill teeth, and automatic means for periodically operating said extensible frame.

6. In a planter, having a supporting wheel and a plurality of drill teeth, in combination with a second wheel, means supported by said second wheel for periodically raising said drill teeth.

7. In a planter, having a supporting wheel and a plurality of drill teeth, in combination with a second wheel, automatic means supported by said second wheel and operated by said supporting wheel for periodically raising said drill teeth.

8. In a planter, having a supporting wheel and a plurality of drill teeth, in combination with a second wheel, automatic means supported by said second wheel and operated by said supporting wheel, for periodically raising said drill teeth, and automatic means for releasing said raising means.

9. In a planter, the combination, with a frame having drill teeth, and a supporting wheel carrying said frame near one end thereof, of a truck, a toggle connecting said frame and said truck, automatic means for periodically extending said toggle to elevate said frame, and automatic means for releasing said extending means.

10. In a planter, the combination, with a frame having drill teeth, and a supporting wheel carrying said frame, of a truck, a toggle connecting said frame and said truck, automatic means controlled by said supporting wheel for periodically extending said toggle to elevate said frame, automatic means for releasing said extending means, and independent means for manually releasing said extending means.

11. In a planter, a frame having drill teeth, a supporting wheel carrying said frame, a truck, a toggle connecting said frame and said truck, a pivoted arm adapted operatively to engage said toggle to extend the same, and means operated by said supporting wheel, for controlling said arm.

12. In a planter, the combination, with a frame having drill teeth, and a supporting wheel carrying said frame, of a truck, a toggle connecting said frame and said truck, automatic means controlled by said supporting wheel for periodically extending said toggle to elevate said frame, automatic means for releasing said extending means, independent means for manually releasing said extending means, and automatic means controlled by the movement of said toggle, for releasing said arm.

13. In a planter, a frame having drill teeth, a supporting wheel carrying said frame, a truck having an axle, a toggle connecting said axle and said frame, a pivoted arm mounted on said axle and adapted operatively to engage said toggle to extend the same, means operated by said supporting wheel for swinging said arm into engagement with said toggle, and means controlled by the movement of said toggle, for releasing said arm.

14. In a planter, a frame having drill teeth, a supporting wheel carrying said frame, a truck having an axle, a toggle connecting said axle and said frame, a clutch section rotatably mounted upon said axle and having an arm adapted to engage said toggle, a second clutch section rotatably mounted upon said axle and adapted operatively to engage said first clutch section, means for operating said second clutch section from said supporting wheel, and means controlled by the movement of said toggle, for disengaging said clutch sections.

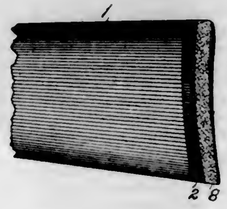
15. In a planter, a frame having drill teeth, a supporting wheel carrying said frame, a truck having an axle, a toggle connecting said frame and said axle, a clutch section rotatably mounted upon said axle and free to move longitudinally thereof, said clutch section having an arm adapted operatively to engage said toggle to extend the same, a second clutch section rotatably mounted upon said axle and adapted operatively to engage said first clutch section when said second clutch section is rotated in one direction, said second clutch section having a sprocket, a second sprocket rigid with said supporting wheel, a flexible driving member operatively connecting said sprockets, and a releasing member secured to said toggle and to said first clutch section, and adapted to move said first clutch section longitudinally of said axle when said toggle is operated, to disengage said clutch sections.

16. In a planter, a frame having drill teeth, a supporting wheel carrying said frame, a truck having an axle, a toggle connecting said axle and said frame, a clutch section rotatably mounted upon said axle and free to move longitudinally thereof, said clutch section having an arm adapted operatively to engage said toggle to extend the same, a second clutch section rotatably mounted upon said axle and adapted operatively to engage said first clutch section, when said second clutch section is rotated in one direction, said second clutch section having a sprocket, a second sprocket rigid with said supporting wheel, a flexible driving member operatively connecting said sprockets, a pivoted releasing member having arms, one of said arms being connected with said toggle, another of said arms being connected with said first clutch section whereby said first clutch section is moved longitudinally of said axle from engagement with said second clutch section, through the movement of said toggle, and means for manually disengaging said clutch sections.

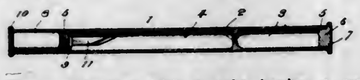
866,994. RECOIL-PAD. WILLIAM W. WOHLWEND, Akron, Ohio. Filed Feb. 8, 1907. Serial No. 356,452.

The combination with a gun-stock, of a member fixedly secured thereto and provided with a dove-tailed groove in its outer face terminating at a point removed from the lower end thereof, a resilient recoil pad consisting of a body of sponge rubber having its inner face formed with a dove-tailed ridge having an enlarged upper end and surrounded by a flexible covering, said ridge adapted to enter said groove and said enlarged portion of said ridge con-

stituting a wedge for rigidly securing the pad to said member.



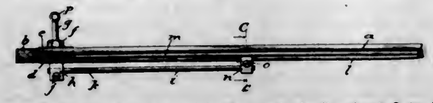
866,995. SURGICAL INSTRUMENT. FREDERICK T. WRIGHT, Douglas, Ariz. Filed June 15, 1907. Serial No. 379,210.



1. The combination with a tube having a partition therein dividing the same into two compartments, of a plug for closing the end of one of said compartments and carrying a lance inserted into the compartment closed by said plug, and a plug inserted into and closing the end of the other compartment whereby the same is adapted to contain a remedy.

2. The combination with a tube having a partition therein dividing the same into two compartments, the ends of the tube being internally screw threaded, of a plug provided with a screw threaded end, a lance mounted on the plug, said plug being adapted to be inserted into one end of said tube into one of the compartments and to close the end of the same, a screw threaded plug adapted to be inserted in the other end of said tube and to close the end of the same, whereby the other compartment is adapted to contain a remedy.

866,996. SCREEN-CLEANING APPARATUS FOR AUTOMOBILES. FRANKLIN AMES, Chicago, Ill. Filed Feb. 4, 1907. Serial No. 355,694.

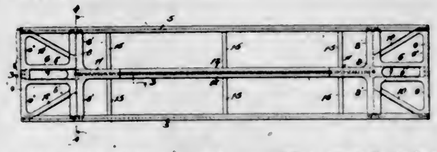


1. The combination with the rock-shaft adapted to be passed through a screen, of the handle secured on one end thereof, a wiper-supporting rod, having an offset therein and rotatably adjustably secured at one end to the other end thereof, so that by rotating the rod the distance of the wiper bar from the screen may be varied, and the elastic wiper-bar and wiper carried by the other end of the rod.

2. The combination with the bearing sleeve adapted to be passed through a screen, of the rock shaft journaled therein, the handle secured on the inner end of the rock shaft, the socket piece on the outer end thereof, the wiper-supporting rod having the offset therein for the purpose described rotatably adjustably secured at one end in the socket piece, the second socket piece secured on the other end of the rod, and the elastic wiper-bar carrying the wiper preferably secured near the middle of its length to said second socket piece.

3. The combination with a wiper, of means for securing it to a screen, a handle, and connections between the handle and the wiper for moving the latter transversely of the screen, said connections consisting of the rock shaft, the wiper-supporting rod secured thereto at one end and having the elastic wiper-bar preferably secured near the middle of its length to the other end thereof, and the socket pieces connecting the rock shaft and the rod, and the rod and the bar.

866,997. UNDERFRAME FOR CARS. JAMES S. ANDREWS, New York, N. Y. Filed June 15, 1907. Serial No. 379,114.



1. An underframe for cars comprising at each end a draw-bar sill consisting of a steel casting having thereon integral side projections constituting the body bolster, and I-beams extending from end to end of the underframe and fastened to the ends of said body bolster projections on the draw-bar sill castings to form the side sills of the underframe.

2. An underframe for cars comprising at each end a draw-bar sill consisting of a steel casting having thereon integral side projections constituting the end sill, and I-beams extending from end to end of the underframe and fastened to the ends of said end sill projections on the draw-bar sill castings to form the side sills of the underframe.

3. An underframe for cars comprising at each end a draw-bar sill consisting of a steel casting having thereon integral side projections constituting the body bolster, integral side projections constituting the end sill, integral diagonal braces connecting the outer ends of the end sill projections with the inner ends of the body bolster projections, and I-beams extending from end to end of the underframe and fastened to the ends of the body bolster and end sill projections on the draw-bar sill castings to form the side sills of the underframe.

4. An underframe for cars comprising at each end a draw-bar sill consisting of a steel casting having thereon integral side projections constituting the body bolster and integral side projections constituting the end sill of the underframe, and I-beams extending from end to end of the underframe and fastened to the ends of said end sill and body bolster projections on the draw-bar sill castings to form the side sills of the underframe.

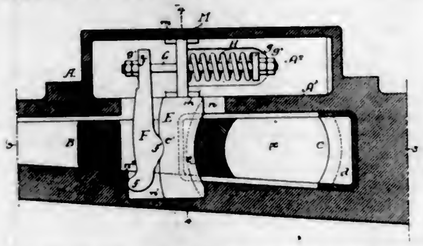
5. An underframe for cars comprising at each end a steel casting having a projection thereon in I-form extending a distance lengthwise of the frame to form part of the center sill, and two channel beams constituting part of the center sill and having their ends abutting against said castings and secured to said projections on opposite sides thereof.

6. An underframe for cars comprising at each end a steel casting, a projection in I-form on said casting extending a distance lengthwise of the frame and constituting part of the center sill, and two channel beams constituting a part of the center sill and arranged with their flat sides adjacent and their ends abutting against said castings and secured to said projections on either side of the web thereof and between the flanges thereon.

7. An underframe for cars comprising at each end a draw-bar sill having side projections constituting the end sill and side projections constituting the body bolster and a rear end projection extending a distance lengthwise of the frame to form part of the center sill, channel beams extending throughout the length of the frame and fastened to the ends of the end sills and the body bolsters to form the side sills, and two channel beams constituting part of the center sill and having their ends abutting against the draw-bar sills and fastened to the rear projections thereon and on opposite sides thereof.

866,998. SWITCH STRUCTURE. VICTOR ANGERER, Ridley Park, Pa., assignor to William Wharton, Jr., & Company, Incorporated, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Mar. 19, 1907. Serial No. 363,286.

1. The combination of the body portion of a switch structure, a tongue mounted in the body portion having a pivot at the heel end, a bearing block at the pivot, and a spring tending to force the bearing block towards the pivot of the tongue, substantially as described.



2. The combination of the body portion of a switch structure, a movable tongue, a pivot at the heel end of the tongue, the back of the pivot resting against a bearing, a block resting against the forward end of the pivot, a lever resting against the block, and means for forcing the lever against the block, substantially as described.

3. The combination of the body portion of a switch structure having a recess therein, a tongue mounted in the recess, the heel end of the tongue being depressed, an integral part of the body portion extending over the depressed portion of the tongue, a rear bearing for the tongue, a block forming the forward bearing, and means for yieldingly pressing the block towards the heel of the tongue, substantially as described.

4. The combination of the body portion of a switch structure having a recess, a tongue mounted in the recess, said tongue having a depressed portion, the overhanging portion of the structure extending over the depressed portion of the tongue, said tongue having a transverse recess, a bearing block extending through the recess and mounted in the switch structure, and springs tending to force the bearing block against the rear wall of the recess, substantially as described.

5. The combination of the body portion of a switch structure having a recess therein, a tongue mounted in the recess, a transverse slot at the heel end of the tongue, a bearing block extending through the recess and resting against the rear wall of the recess and mounted in the body of the switch structure, a lever also extending through the said recess and bearing against the block, and means for yieldingly forcing the lever against the block, substantially as described.

6. The combination of a switch structure having a recess, a tongue mounted in the recess, the bottom of the tongue being in the same line throughout its length, its upper surface being depressed at the heel end, and a bearing in the base of the switch structure for the heel end of the tongue, substantially as described.

7. The combination of the body portion of a switch structure having a longitudinal recess therein, an overhanging portion of the switch structure extending over the rear end of the recess, a tongue depressed at the heel end and extending under the overhanging portion, said tongue having a transverse slot in its under side in front of the depressed portion, a bearing block mounted in the slot, and a spring at one side of the switch structure tending to force the bearing block against the heel of the tongue, substantially as described.

8. The combination of the body portion of a switch structure having a recess, a tongue mounted in the recess, a transverse slot on the underside of the tongue near its heel end, the extreme end of the tongue and one wall of the slot being beveled, the end of the recess having a bevel corresponding with the bevel of the end of the tongue, a bearing block extending through the recess in the tongue and having a beveled bearing surface, with means tending to force the block against the tongue, substantially as described.

9. The combination of the body of a switch structure having a longitudinal recess therein, a portion of the structure overhanging the said recess, a switch tongue mounted in the recess and depressed at its heel end to extend under the overhanging portion of the structure, a transverse slot in the underside of the tongue forward of the depressed portion, the rear wall of this slot and the rear end of the tongue being rounded, a bearing for the rear end of the tongue, a transverse block having a rounded bearing surface conforming to the shape of the bearing surface of the tongue, a lever back of the block, and a spring tending to force the lever against the block, substantially as described.

10. The combination of a switch structure having a bearing surface, a switch tongue having a heel resting on the bearing surface, front and rear edges of the heel being beveled to correspond with the bevel of the fixed bearing on the structure and the movable bearing block, with means for pressing the bearing block towards the heel causing the heel to be forced down onto its fixed bearing, substantially as described.

11. The combination of a switch structure having a longitudinal recess, a portion of the switch structure overhanging the rear end of the recess, a tongue mounted in the recess and having a depressed heel end extending under the overhanging portion, a transverse slot in the underside of the tongue forward of the depressed portion, the rear wall of this slot being curved and beveled and the rear end of the tongue being also curved and beveled to fit a curved and beveled bearing, a transverse block extending through the opening in the tongue and having a curved and beveled bearing surface to fit the bearing surface of the tongue, and means tending to yieldingly force the bearing block against the tongue, substantially as described.

12. The combination of the body portion of a switch structure having a longitudinal recess therein, said body having a portion overhanging the rear end of the recess, a tongue mounted in the recess and having a depressed heel and extending under the overhanging portion of the body, the front of the overhanging portion being curved and the tongue being also curved to correspond to the curve of the overhanging portion, a transverse slot in the tongue, the end of the tongue being curved and beveled and the rear wall of the slot being also curved and beveled, all the curves being taken from the same center, a bearing block extending through the recess in the tongue and mounted in the body of the switch structure, and means for yieldingly forcing the block against the heel end of the tongue, substantially as described.

13. The combination of the body portion of a switch structure, a longitudinal recess therein, a tongue mounted in the recess, a rear bearing for the heel end of the tongue, a recess in the underside of the tongue near the heel end, a block extending transversely through the switch structure and resting against the heel end of the tongue, a lever also extending through the recess in the tongue and resting against an abutment on the body portion, a box at one side of the body portion, said lever extending into the box, a rod attached to the lever, and a spring acting upon the rod to force the lever against the bearing block, substantially as described.

14. The combination of the body portion of a switch structure having a longitudinal recess therein, a switch tongue mounted in the recess and having a depressed portion to extend under an overhanging portion of the body, a transverse slot in the tongue, the rear wall of this slot being beveled and curved and the rear of the tongue being beveled and curved, a bearing block extending through the recess in the tongue and mounted in the body portion, a lever bearing against the rear of the block and against an abutment on the body portion, a box at one side of the body portion into which one end of the lever extends, a block in the body portion, a rod extending through the lever and through the block, a washer on the rod, and a spring between the washer and the block, substantially as described.

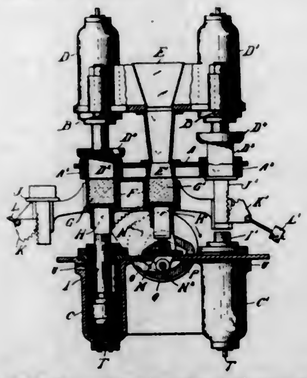
15. The combination of the body portion of a switch structure having a longitudinal recess therein, a switch tongue mounted in the recess having a depressed root end fitting under an overhanging portion of the body, a transverse slot in the underside of the tongue forward of the heel end, a beveled block and lever extending through an

opening in the body portion and through the recess in the tongue and into a recess in the body portion, one arm of the lever resting against an abutment in the recess of the body portion, a rod attached to one arm of the lever, and a spring on the rod tending to force the lever against the bearing block, substantially as described.

16. The combination of the body portion of a switch structure, a longitudinal recess therein extending under an overhanging portion of the body at one end, a tongue mounted in the recess, the heel end of the tongue being depressed and extending under the body portion, the under side of the tongue being in the same plane throughout, a tranaverse slot on the underside of the tongue forward of the depressed portion, a bearing block extending through the transverse recess in the tongue and mounted in the body portion, a lever resting against an abutment, a box at one side of the body portion into which the other arm of the lever extends, a removable block in the said box, a rod extending through the lever and through the block and having a washer at its outer end, a spring mounted on the rod between the washer and the block and tending to force the lever against the bearing, substantially as described.

17. The combination of the body portion of a switch structure having a longitudinal recess therein, a portion of the body overhanging the rear end of the recess, a bearing plate mounted in the body under the overhanging portion, a switch tongue mounted in the recess and having a depressed portion extending under the overhanging portion, the heel end of the tongue resting upon the bearing plate, the bearing plate having a projecting portion against which the rear end of the tongue rests, a bearing block resting against the forward bearing portion of the tongue, and means yieldingly forcing the block against the tongue, substantially as described.

866,999. PRESS. MOIS H. AVRAM, New York, N. Y., assignor to Avram-Leet Engineering Company, New York, N. Y., a Corporation of New York. Filed Nov. 14, 1906. Serial No. 343,341.



1. In a press the combination of a stationary mold table having a mold opening, a movable feeding member located beneath said table, and an upwardly acting plunger adapted to force material to be pressed from said feeding member into said mold opening.

2. In a press, the combination of a stationary mold table having a mold opening, a feed hopper, a reciprocating feed slide located below said mold table, and a plunger adapted to force the contents of said feed slide upward into said mold opening and compress it.

3. In a press, the combination of a stationary mold table having a mold opening, a movable feeding member located beneath said table, and an upwardly acting plunger adapted to force material to be pressed from said feeding member into said mold opening, and a downwardly acting plunger adapted to eject the contents of said mold opening.

4. In a press, the combination of a stationary mold table having a mold opening, a movable feeding member located beneath said table, and an upwardly acting plunger adapted to force material to be pressed from said feeding member into said mold opening, and a downwardly acting plunger adapted to exert a final pressure upon, and then eject the contents of said mold opening.

5. In a press the combination of a stationary mold table having a mold opening, a movable feeding member located beneath said table, and an upwardly acting plunger adapted to force material to be pressed from said feeding member into said mold opening and exert thereon a preliminary pressure upon, and a downwardly acting plunger adapted to exert a final pressure upon, then eject the contents of said mold opening.

6. In a press, the combination of a stationary mold table having mold openings at is respective ends, a feeding slide supplying material to be compressed to said mold openings alternately, means for reciprocating said slide, and means for compressing the contents of the mold openings successively.

7. In a press, the combination of a stationary mold table having mold openings at its respective ends, a feed hopper, a reciprocating feed slide having openings, one adapted to register with a mold opening and the other with the feed hopper at the end of each reciprocation, means for reciprocating said feed slide, and plungers adapted to force the contents of said slide into said mold openings and compress such contents.

8. In a press, the combination of a stationary mold table having mold openings at its respective ends, a feed hopper, a reciprocating feed slide located below said mold table, low pressure plungers adapted to force the contents of said feed slide upward into said mold openings and compress it, and high pressure plungers adapted to exert a downward and final pressure on said contents.

9. In a press, the combination of a stationary mold table having mold openings at its respective ends, a feed hopper, a reciprocating feed slide located below said mold table, low pressure plungers adapted to force the contents of said feed slide upward into said mold openings and compress it, high pressure plungers adapted to exert a downward and final pressure on said contents, receiving means, and means for causing said high pressure plungers to eject said contents when compressed.

10. In a press, the combination of a stationary mold table having mold openings at its respective ends, a feed hopper, a reciprocating feed slide located below said stationary mold table, upwardly acting plungers carried thereby and adapted to force the contents of said feed slide upward into said mold openings and compress it.

11. In a press, the combination of a stationary mold table having a mold opening, a downwardly acting plunger for compressing the contents of said mold opening, means located below said table for receiving the contents of said mold opening, and means for causing said plunger to eject said contents from said mold opening.

12. In a press, the combination of a stationary mold table, a reciprocating feed slide, a vertically movable receiving table carried by said slide, means for forcing material to be compressed from said slide into said mold openings, and means for compressing said material within said mold openings and ejecting it upon said receiving table.

13. In a press, the combination of a stationary mold table, a feed slide located beneath said mold table, means for reciprocating said slide, a vertically movable receiving table carried by said slide, means for forcing material upward from said slide into said mold openings when said slide is at the end of a movement in one direction, means for finally compressing said material, and means for ejecting said material upon said receiving table when the slide is at the end of its movement in the other direction.

14. In a press, the combination of a stationary mold table having a mold opening, a feed slide located beneath said table, means for reciprocating said slide, a receiving table carried by said slide, a feed hopper, said slide having an opening adapted to register alternately with said mold opening and said feed hopper, said receiving table being beneath said mold opening when said slide opening is in register with said hopper, means for forcing the contents of said slide opening into said mold opening and compressing it therein while said slide opening registers with said mold opening, and means for ejecting said contents upon said receiving table while said slide opening is in register with said feed hopper.

15. In a press, the combination of a stationary mold table having a mold opening, a feed slide located beneath said table, means for reciprocating said slide, a receiving table carried by said slide, a feed hopper, said slide having an opening adapted to register alternately with said mold opening and said feed hopper, said receiving table being beneath said mold opening when said slide opening is in register with said hopper, means for forcing the contents of said slide opening into said mold opening and compressing it therein while said slide registers with said mold opening, means for ejecting said contents upon said receiving table while said slide opening is in register with said feed hopper, and means for holding said receiving table when empty near the bottom of said mold table.

16. In a press, the combination of a stationary mold table having mold openings, a feed slide located beneath said table, means for reciprocating said slide and giving it periods of rest at the end of its movement in either direction, a receiving table carried by said slide, means for forcing material from said slide into said mold opening and also compressing it during one of the periods of rest of said slide, and means for ejecting the contents of said mold opening upon said receiving table during the next period of rest of said slide.

17. In a press, the combination of a stationary mold table having mold openings, a feed slide located beneath said table, means for reciprocating said slide and giving it periods of rest at the end of its movement in either direction, a lower plunger acting to force material from said slide into one of said mold openings and give it preliminary pressure during one period of rest and an upper plunger adapted to give said material final pressure during the same period of rest and to eject said material during the next period of rest of said slide.

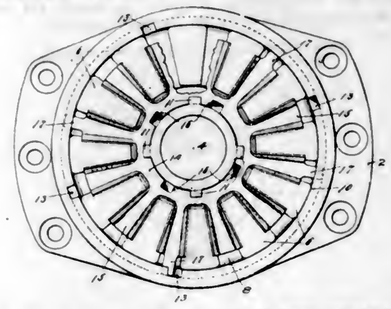
18. In a press, the combination of a stationary mold table having mold openings, a feed slide located beneath said table, means for reciprocating said slide and giving it periods of rest at the end of its movement in either direction, receiving tables carried by said slide, a lower plunger acting to force material from said slide into one of said mold openings and give it preliminary pressure during one period of rest, and an upper plunger adapted to give said material final pressure during the same period of rest and to eject said material upon one of said receiving tables during the next period of rest, said receiving tables being vertically movable and provided with means for holding them when empty near the bottom of said mold table.

19. In a brick press, the combination of a mold table having a mold opening, an upper plunger and a lower plunger, a feed slide beneath said mold table, said lower plunger being adapted to force material to be pressed from said slide into said mold opening, against the yielding resistance due to the weight of said upper plunger.

20. In a hydraulic brick-press, a mold table having a mold opening, the dimensions of said mold opening being equal respectively to the dimensions of the side face of the desired brick, that is to the largest and smallest dimensions of such brick, and a hydraulic cylinder connected with a source of pressure and a plunger therein exerting the same pressure on all bricks, said plunger having a single die, and the throw of said plunger within said mold opening being limited by the hydraulic pressure on said plunger and the amount of material within said mold opening.

867,000. ANTIFRICTION CENTER-BEARING FOR CARS. JOHN C. BARBER, Chicago, Ill. Filed Aug. 28, 1906. Serial No. 332,318.

1. The combination with annular upper and lower members of a center bearing, of a complete circuit of rollers interposed between said members, and a roller retaining device interlocked with and against separation from one of said members, but free for traveling movements with said rollers, whereby said rollers are held in position with respect to one of said bearing members, when the upper and lower bearing members of the center bearing are separated, substantially as described.



2. The combination with upper and lower members of a center bearing, of conical rollers interposed between said members, and a roller retaining device in the form of a ring having radial arms, and which retaining device is interlocked to and against separation from one of the said bearing members, but is free for traveling movements with said rollers, whereby said rollers are held in position with respect to one of said bearing members, when the upper and lower bearing members of the center bearing are separated, substantially as described.

3. The combination with upper and lower members of a center bearing, of a roller spacing and retaining device in the form of a ring having radial arms, and which spacing and retaining device is provided with projections adapted to be interlocked to the lower bearing member by vertical and rotary movements, substantially as described.

4. The combination with upper and lower members of a center bearing, the latter having lock lugs 11, of conical bearing rollers interposed between said members, and a spacing ring 14 having radial arms 15 that engage said rollers, said ring and notches 16 which when turned into registration with said lock lugs 11, permit said ring to be applied to or removed from said lower bearing member, substantially as described.

5. In a center bearing, the combination with an upper bearing member 1 having a depending hub 3, of a lower bearing member 2 formed with a center seat 4 for said hub 3, said bearing member 2 having lock lugs 11, and an annular rib 10 with an annular groove 12 and notches 13, conical bearing rollers 6 interposed between said bearing members 1 and 2, and a ring 14 with radial roller spacing and retaining arms 15, said ring having notches 16, and certain of said arms 15 having lock lugs 17, substantially as and for the purposes set forth.

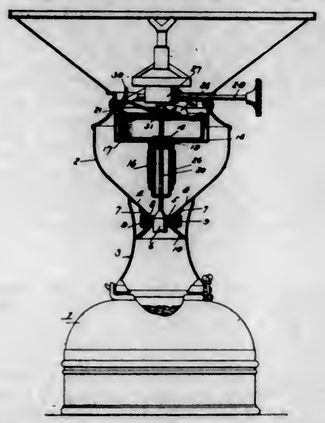
6. The combination with upper and lower members of a center bearing, of a roller retaining device having projections adapted to be interlocked to one of the said bearing members, by vertical and rotary movements, substantially as described.

867,001. ACETYLENE-GAS GENERATOR. CHARLES W. BECK, New York, N. Y. Filed Oct. 6, 1903, Serial No. 175,955. Renewed Jan. 26, 1907. Serial No. 354,315.

1. An acetylene generator comprising, a liquid receptacle, a detachable carbid holder formed with a feed aperture in its bottom and being otherwise hermetically sealed except for the gas outlet, a filling tube or funnel below the feed aperture and serving when the carbid holder is detached and inverted to direct the carbid into the holder through the aperture, a feed valve and means for moving said valve away from the feed opening to permit the carbid holder to be charged through the feed aperture.

2. An acetylene generator comprising, a liquid receptacle, a detachable carbid holder formed with a feed aper-

ture in its bottom and being otherwise hermetically sealed except for the gas outlet, a filling tube or funnel below the feed aperture and serving when the carbid holder is detached and inverted to direct the carbid into the holder through the aperture, a feed valve and means for automatically moving said valve away from the feed opening when the carbid holder is empty, to permit the carbid holder to be charged through the feed aperture.



3. In an acetylene generator, a liquid receptacle, a detachable carbid holder formed with a feed aperture in its bottom, said carbid holder being otherwise hermetically sealed whereby access to its interior may be had only through the feed aperture, a feed valve, and means for holding said feed valve open, whereby when the carbid holder is detached it may be inverted and charged through the feed aperture.

4. In an acetylene generator, a liquid receptacle, a detachable carbid holder formed with a feed aperture in its bottom, said carbid holder being otherwise hermetically sealed whereby access to its interior may be had only through the feed aperture, a feed valve, and means for normally holding said valve open when the carbid is exhausted from the carbid holder, whereby when the carbid holder is detached it may be inverted and charged through the feed aperture.

5. An acetylene gas generator comprising, a liquid holder, a carbid holder detachably secured thereto and provided with a feed aperture in its bottom, a feed valve, a self collapsing flexible gas holder wall, means connecting the feed valve to said movable wall, whereby the said valve will be depressed when the gas pressure is reduced, and manual means for moving the gas holder wall and closing the valve.

6. An acetylene generator comprising, a liquid holder, a detachable carbid holder having a feed aperture in its bottom, a feed valve therefor, a self collapsing flexible gas holder, means connecting the valve to the movable wall of said holder whereby when the gas pressure is reduced the valve will be opened, and manual means for expanding the gas holder and closing the valve.

7. An acetylene gas generator comprising, a liquid holder, a detachable carbid holder provided with a feed aperture in its bottom and being otherwise hermetically sealed except for the gas outlet whereby access can be had to the interior of said holder only through said feed aperture, a filler funnel below the feed aperture and having one of its ends registering therewith, a valve for said aperture and means for normally holding said valve open when the carbid holder is empty, whereby the carbid holder may be detached and inverted and recharged through the feed opening.

8. An acetylene gas generator comprising, a water holder, a detachable carbid holder, provided with a feed aperture in its bottom and being otherwise sealed whereby access may be had to its interior only through said feed aperture, a self collapsing flexible gas bag in the carbid holder, a feed plunger, a valve stem connecting said plunger to the movable wall of the gas bag whereby when the gas pressure is reduced the valve will be lowered, and a downwardly enlarging funnel having its smaller end registering with the feed aperture whereby when the carbid is exhausted the carbid holder may be detached and inverted and recharged through the feed aperture, and manual means for expanding the gas bag and closing the feed aperture.

9. An acetylene generator comprising, a water holder, a detachable carbid holder provided with a feed aperture in its bottom, a flexible valve ring surrounding said feed-aperture, a valve working through said valve ring and hermetically sealing the passage, the carbid hopper and water holder being otherwise hermetically sealed whereby the gas generated will pass upward through the feed aperture and the carbid holder may be recharged through said aperture when the holder is detached and inverted, and a funnel having one of its ends registering with said feed aperture and directing the carbid thereto during the filling operation.

10. An acetylene generator comprising, a liquid receptacle, a detachable carbid holder formed with a feed aperture in its bottom, said holder being otherwise sealed whereby access to its interior may be had only through the feed aperture, a feed valve working vertically through said feed aperture, means for moving said valve vertically away from the feed opening whereby when the carbid holder is detached it may be inverted and charged through the feed aperture.

11. An acetylene generator comprising, a liquid receptacle, a detachable carbid holder formed with a feed aperture in its bottom, said holder being otherwise sealed whereby access to its interior may be had only through the feed aperture, a feed valve working vertically through said feed aperture, means for moving said valve below the feed opening whereby when the carbid holder is detached it may be inverted and charged through the feed aperture.

12. An acetylene generator comprising, a water holder, a carbid holder detachably secured thereto and formed with a feed aperture in its bottom and being otherwise sealed except for the gas outlet, an intermediate chamber or filler-cup secured to the carbid holder around the feed aperture, means to connect the lower end of said chamber to the top of the water holder, a downward enlarging funnel having its smaller end registering with the said feed opening, a valve working vertically through said feed aperture, means for normally lowering said valve below the feed aperture and into the filler cup whereby when the carbid holder is emptied the said aperture will be open and the carbid holder may be detached and inverted and recharged through the feed aperture, and manual means for shifting the valve to close the feed aperture.

13. An acetylene gas generator comprising a liquid receptacle, a detachable carbid holder formed with a feed aperture in its bottom, said carbid holder being otherwise hermetically sealed whereby access may be had to its interior only through said feed opening, a valve ring secured in said feed aperture, a rigid filling tube or funnel below the feed aperture and having its contracted end in register with the opening through the valve ring and serving when the carbid holder is detached and inverted to direct the carbid into the holder through the valve ring, a valve working through said feed aperture, and means for moving said valve away from the feed opening to permit the carbid holder to be charged through the feed aperture.

14. An acetylene gas generator comprising, a liquid receptacle, a carbid holder provided with a contracted depending support extending below the bottom of the said holder and formed with a feed aperture in its bottom, a downward enlarging filling funnel in the contracted support and having its smaller end registering with the feed aperture its lower enlarged end fitting closely against the interior of the contracted support and serving when the carbid holder is detached and inverted to direct the carbid into the holder through the feed aperture, a valve for closing said feed aperture, means for moving said valve away from the feed aperture, and means for detachably connecting the lower end of the contracted support to the water holder.

15. An acetylene gas generator comprising a carbid holder formed with a feed aperture in its bottom, a water holder with an opening in its top, an intermediate part carried by the carbid holder and surrounding the feed aperture, means for detachably connecting the lower end of this intermediate part to the water holder around the opening therein, a feed valve adapted to close the feed aperture, and means whereby the carbid holder may be charged through the intermediate part when the carbid holder is detached from the water holder and inverted.

16. An acetylene gas generator comprising a carbid holder formed with a feed aperture in its bottom, a water holder formed with an opening in its top, an intermediate part carried by the carbid holder and surrounding the feed aperture, said carbid holder being hermetically sealed outside of said intermediate part except for the gas outlet to the burner whereby access to the interior of said carbid holder must be had through said intermediate part, means for detachably connecting the lower end of this intermediate part to the water holder around the opening therein, a feed valve adapted to close the feed aperture whereby the carbid holder may be charged through the intermediate part when the carbid holder is detached from the water holder and inverted.

17. An acetylene gas generator comprising a carbid holder formed with a feed aperture, a feed valve adapted to close said aperture, means for automatically actuating said feed valve, a water holder formed with an opening, means for detachably connecting the carbid holder to the water holder to hermetically seal said opening, the carbid holder being also hermetically sealed above the connection with the water holder except as to the gas outlet, so that access to its interior can be had only by disconnecting it from the water holder, whereby said carbid holder can be recharged only by disconnecting it from said water holder.

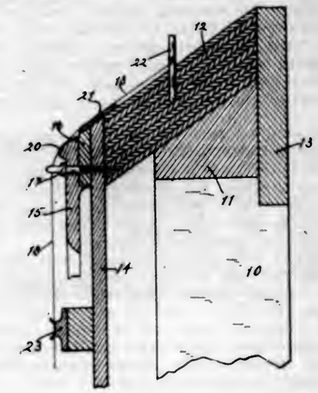
18. An acetylene gas generator comprising a carbid holder formed with a single feed and charging aperture, a feed valve to control said aperture, means for actuating said feed valve, a water holder formed with an opening, means for detachably connecting the carbid holder to the water holder in such position as to place the feed aperture of the carbid holder in communication with the opening in the water holder and to thereby seal both the water holder and carbid holder except as said parts may be in communication with each other, whereby said carbid holder can be recharged only by disconnecting it from the water holder.

19. An acetylene gas generator comprising a carbid holder, a water holder, means for detachably connecting together said parts, and means whereby the carbid holder can be recharged only when it is disconnected from said water holder, whereby it will be impossible to recharge said carbid holder during the operation of generating gas.

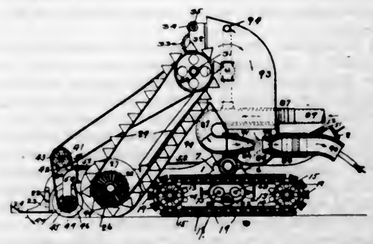
867,002. PIANO. WILLIAM G. BETZ, Newcastle, Ind. Filed Jan. 17, 1907. Serial No. 352,703.

1. In a piano, the combination of a pin block, a sounding board, a string plate, and an agraffe provided with a screw for securing it in place that extends through said string plate and sounding board and into said pin block.

2. In an upright piano, a sounding board with an inclined upper edge, an inclined pin block flush therewith, a pin in said pin block, a bearing upon the end of said sounding board, a wood bearing upon the upper end of said sounding board, a string plate with an inclined bearing edge thereon, an agraffe secured to said pin block passing through said sounding board and securing said string plate to said pin blocks, said sounding board extending above the line of said agraffe, and a string passing over said agraffe, string plate, and the bearing upon the end of said sounding board, to said pin, the arrangement of said bearings being such as to give to said string a gradual curvature passing over said agraffe and the bearing edge of said string plate and the wood bearing upon the upper end of said sounding board, substantially as shown.



867,003. MANUAL SCRAPING-MACHINE. HIRAM W. BLAISDELL, Los Angeles, Cal. Filed Nov. 16, 1904. Serial No. 233,001.



1. A machine for operating upon filters comprising traction means adapted to travel on the surface of the filter bed, a carriage pivotally supported on said traction means, sand removal means mounted in said carriage and mechanism for operating the parts.

2. A machine for operating upon filters comprising flexible traction means adapted to travel on the surface of the filter bed, a carriage pivotally supported on said flexible traction means, sand removal means mounted in said carriage and mechanism for operating the parts.

3. A machine for removing material from filters comprising sand removal means, a main frame supporting the same, a secondary supporting frame removably connected therewith and adapted to rest on the surface of the filter bed so that the machine may be guided in any direction and means for operating the parts.

4. A machine for removing material from filters comprising sand removal means, a supporting frame therefor, a second frame movably connected therewith, a flexible traction device mounted in said second frame and adapted to rest on the surface of the filter bed and mechanism for operating the parts.

5. A machine for removing material from filters comprising sand removal means, a supporting frame therefor, a second frame pivotally connected therewith, flexible traction means mounted on said second frame and a motor for driving said flexible traction means and for operating the sand removal means.

6. A machine for operating upon filters comprising sand removing means, a main frame supporting the same, a secondary supporting frame movably connected therewith and adapted to rest on the surface of the filter bed and flexible traction means supported in said secondary frame

and comprising an endless belt having transverse slats thereon the parts being so arranged that the machine may be guided in any direction.

7. A machine for removing material from filters comprising sand removing means, a supporting frame therefor, a second frame pivotally connected therewith, flexible traction means having a sectional contact surface mounted on said second frame and a motor for driving said traction means and for operating the sand removing means.

8. A machine for removing material from filters and the like provided with means for guiding the same in any direction at the will of the operator, means for collecting the material in a heap on the surface of the filter bed, a device for removing the collected material, apparatus for discharging the material so collected and removed and mechanism for operating the parts.

9. A machine for removing material from filters and the like provided with a traction portion adapted to rest upon the surface of the filter bed, means for guiding the machine in any direction at the will of the operator, means for collecting the material in a heap, a device for removing the material so collected into the machine, apparatus for discharging the material from the machine and mechanism for operating the parts.

10. A machine for removing material from filters and the like provided with means for guiding the same in any direction at the will of the operator, means for collecting the material in a heap on the surface of the filter bed, an elevator for the material collected by said means, a discharging device to remove from the machine the material raised by the elevator and mechanism for operating the parts.

11. A machine for operating upon filters and the like comprising a carriage adapted to travel on the surface of the filter, means for guiding the same in any direction at the will of the operator, main and auxiliary material collecting devices and mechanism for operating the parts.

12. A machine for operating upon filters and the like comprising a carriage adapted to travel on the surface of the filter, means for guiding the same in any direction at the will of the operator, main and auxiliary scrapers, means for removing the material collected by the scrapers and mechanism for operating the parts.

13. A machine for operating upon filters and the like comprising a carrier adapted to travel on the surface of the filter, means for guiding the same in any direction at the will of the operator, a main collecting device, and an extensible and retractable auxiliary collecting device and mechanism for operating the parts.

14. A machine for operating upon filters and the like comprising a carriage adapted to travel on the surface of the filter, means for guiding the same in any direction at the will of the operator, an extensible and retractable device for removing material from the surface whereon the machine travels and mechanism for operating the parts.

15. A machine for removing material from filters and the like provided with means for guiding the same in any direction at the will of the operator, means for collecting the material in a heap and for elevating the same, a discharging device, flexible inlet and outlet connections between said device and a source of fluid supply and discharge respectively and means for operating the parts.

16. A machine for removing material from filters and the like provided with an endless traction portion adapted to rest upon the surface of the filter bed, main and auxiliary collecting devices, means for removing the material collected by said devices, a discharging device having inlet and outlet connections and mechanism for operating the parts.

17. A machine for removing material from filters and the like provided with a main frame, a supporting frame having movable connection therewith, an endless traction device in said supporting frame adapted to rest on the surface of the filter bed, scraping devices, an elevator to remove the material collected by said device, a receiver for the material removed by the elevator, an ejector for effecting the discharge of the material from the receiver and mechanism for operating the parts.

18. A machine for removing material from filters and the like provided with a main frame, a supporting frame movably connected therewith traction means on said supporting frame adapted to rest on the surface of the filter bed, mechanism for effecting the forward and backward travel of the machine, a main scraper, an extensible and retractable auxiliary scraper, an elevator to remove the material collected by said scrapers, a receiver for the material so removed, an ejector to discharge the material from the receiver and mechanism for operating the parts.

19. A machine for removing material from filters and the like provided with means for guiding the same in any direction at the will of the operator, means for collecting the material in a heap and for elevating the same, an ejector, means for delivering the material thereto, means for discharging the material therefrom and means for operating the parts.

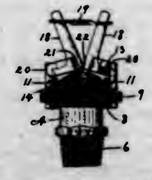
20. A machine for removing material from filters and the like provided with means for guiding the same in any direction at the will of the operator, means for collecting the material in a heap and for elevating the same, an hydraulic ejector, means for delivering the material thereto, means for discharging the material therefrom and means for operating the parts.

21. A machine for removing material from filters and the like provided with means for moving it upon the surface of the filter bed, means for collecting the material in a heap and for elevating the same, a hydraulic ejector, means for delivering the material thereto, means for discharging the material therefrom and means for operating the parts.

22. A machine constructed to remove material from a filter provided with adjustable means governed by the surface operated upon for controlling the depth of the material removed by the machine, apparatus for supplying water to the machine, a device for combining the material and water, means for disposing of the combined material and water, revolving means for supporting and progressing the machine on the surface of the filter and instrumentalities for operating the parts.

23. A machine constructed to remove material from a filter provided with a carriage adapted to travel on the surface of the filter, an ejector, means for supplying water thereto, a scraper, an elevator, apparatus for disposing of the material and water and instrumentalities for operating the parts.

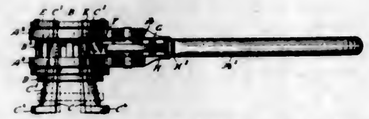
867,004. AUTOMATIC FIRE-SPRINKLER. RALPH H. BOARDMAN, New Britain, Conn. Filed Jan. 16, 1907. Serial No. 352,546.



1. The combination of the sprinkler body having a threaded and slotted head, valve seat and bearing for a valve stem, with the sliding jaws mounted in the slots of the said head, a screw ring or sleeve on the said head connected with the said sliding jaws for moving them longitudinally, a sliding valve mounted to move lengthwise to the said body, a pair of angle lever holding arms arranged to engage the outer ends of the said sliding jaws while the heels or angles of the arms bear on the valve, and a fusible tie or link for holding the parts in position with the valve pressed to its seat.

2. The combination of the sprinkler body having the threaded and slotted head and a valve seat, with the sliding jaws mounted in the slots of the said head, a screw ring or sleeve on the said head connected with the said sliding jaws for moving them longitudinally, a valve arranged to bear upon the said valve seat, holding arms arranged to engage the said sliding jaws and valve for holding the valve on its seat, and a fusible connection for securing the said arms in their holding position, the said arms being loose so as to wholly detach themselves from the sprinkler by gravity when the valve is forced into its open position.

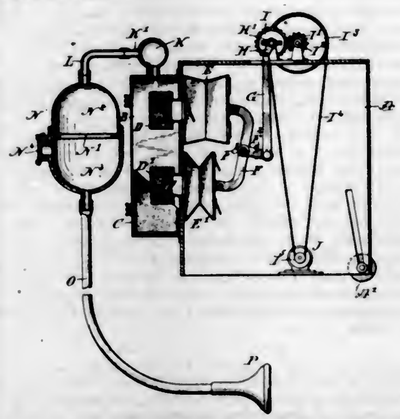
867,005. WRENCH. EMERY H. BOAZ, Benbrook, Tex. Filed Dec. 20, 1906. Serial No. 348,674.



1. A wrench comprising a handled stock, a head carrying jaws and mounted to turn in the said stock, ratchet teeth on the said head, pawls fulcrumed on opposite sides of the said stock for engaging the said ratchet teeth, slides on the stock for throwing the said pawls out of engagement with the said ratchet teeth, and springs secured on the said slides and pressing the said pawls.

2. A wrench comprising a stock having at one end a handle and at the other spaced bearing rings, a head having a central opening rotatable in the rings, jaws pivoted to the head within the central opening and projecting therefrom, the outer surface of said jaws being beveled and screw-threaded, and a nut encircling the jaws and coacting with the threads thereof.

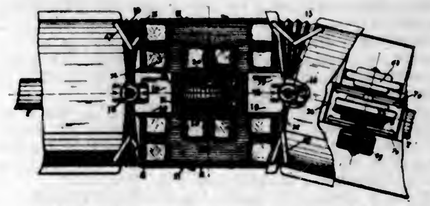
867,006. DUST-REMOVING APPARATUS. HERMANN BOGENSCHILD, Berlin, Germany. Filed Oct. 31, 1906. Serial No. 341,468.



1. A dust removing apparatus, comprising an air and dust separating chamber, a separator for separating the dust from the article to be cleaned and connected with the said air and dust separating chamber, the said dust and article separating chamber being provided with means for sucking up the article to be cleaned and delivering it to the separator, and means for producing suction in the said air and dust separating chamber.

2. A dust removing apparatus, comprising an air and dust separating chamber, air pumping means connected with the said chamber for producing a continuous suction therein, and a separator having a perforate partition for dividing the said separator into two compartments, of which one is connected with the said air and dust separating chamber, and the other is provided with a suction device for sucking up an article and delivering it to the said compartment.

867,007. SYSTEM OF RAILROADS AND APPLIANCES PERTAINING THERETO. WILLIAM H. BOYES and ERWIN F. VON WILMOWSKY, New York, N. Y. Filed July 23, 1900. Serial No. 24,586.



1. A system of one-rail railroad which consists of a car supported at the level of its gravity center by flangeless wheels of great width—such as the one-eighth part of the width of the car—and which consists besides of a track of greater width than the supporting wheels and permitting lateral play of said wheels—in combination with means to allow varying side inclinations of said wheels and of the car: all for the purpose of supporting directly the gravity center, which has a varying position relatively to the car owing to the different distribution of the passengers, and for the purpose of making independent from said inclinations the deviation of said center from the vertical plane containing the track-center-line and for the further purpose of making allowance for the gyration effect by which an oscillation of a wheel around a vertical axis (resulting in said lateral play) is mutually accompanied by an oscillation around a horizontal axis (which results in said inclinations)—substantially as described.

2. In a one-rail railroad a half-bisected car, a track girder to support said car practically at the level of its center of gravity, broad-faced supporting wheels without flanges which—when the car is not centric on the track touch the track in at least two points of different radii of rotation the lesser radius corresponding to the side to which it is desired to move the car for the purpose of centralizing—in combination with a suitable traction surface of a width sufficient to allow for the display of the centralizing effect referred to.

3. In a one-rail railroad a girder provided with a wide convex traction surface, a half-bisected car, supporting wheels in said car with a running face adaptable to said convex traction surface and of a width smaller than this surface and freely oscillating thereon for the purpose of keeping the car central to the track on straight or slightly curved stretches of the latter.

4. In a one-rail railroad a girder track provided with a wide convex traction surface, a half-bisected car riding on said track, supporting wheels in said car with a running face adaptable to the convex traction surface and of a width smaller than this surface for keeping the car centric on the track on straight or slightly curved stretches of the latter without the aid of guide wheels, and guide wheels located between the supporting wheels at the level of the center of gravity of the car and with some clearance from the side of the girder and near the top of the girder so arranged as to give to the supporting wheel a direction slightly deviating from the exact direction of the track and therefore to keep upon the track said supporting wheels on sharper curves of the track and when the car is exposed to a strong side wind—without the aid of any flanges of the supporting wheel—in combination with safety wheels running at the bottom of said girder.

5. In a one-rail railroad for a half-bisected car supporting wheels oscillating upon a wider traction surface by virtue of the "evolving effect" in combination with guide wheels located between the supporting wheels and near the top of the track girder and relieved of lateral pressure

under ordinary conditions, but taking up the centrifugal stresses at the level of the center of gravity of the car when the car is rounding curves with considerable speed.

6. In a one-rail railroad a half-bisected car and a girder the sides of which have near the bottom and close to the top rails for auxiliary wheels to run on, in combination with a broad flangeless supporting wheel and a broader supporting rail or their equivalents, the latter rail forming the top of said girder.

7. In a one-rail railroad a half bisected car and wide-faced supporting wheels, the rim of said wheels consisting of fibrous plates suitably secured, such as linen duck plates alternating with corrugated sheets of metal of smaller radius, in combination with a convex track of a width surpassing the width of the wheel-face substantially as described.

8. For a one-rail railroad a half-bisected car and wide-faced supporting wheels with yielding disks of fibrous material held between a number of thin metal plates and backed by elastic material in combination with a convex track substantially as described.

9. In a one-rail railroad a sectional half-bisected car with subdivided motive power and constructed with such distribution of the building material that the gravity center is kept near the middle of the height of the car, and, therefore, near the level of the track, in combination with means to freely permit limited side inclination of each section of the car, the motion of the gravity center not being disturbed thereby.

10. In a one-rail railroad a sectional half-bisected car, a single supporting wheel in the upper half of each section touching the track at the middle of the length—and of the width—and of the height of the section and means located between adjoining sections to mutually uphold the sections.

11. In a one-rail railroad a halfbisected car consisting of monocyclic sections in combination with uprights joining the saddle and the roof of the car and with close linking means located at two essentially different levels around said uprights substantially as described.

12. In a railroad a half-bisected car consisting of short sections, means to pivot each section at its geometric center and means to keep said center near the center line of the track in combination with other means to join the ends of the sections by a continuous flexible shell.

13. In a railroad a half-bisected car consisting of short sections, inside of the upper half of each section in the middle of its length a single supporting shaft the direction of which has a fixed relation to the car section in combination with gearless motors located around the shaft so arranged that the magnetic field lines are radial to said shaft and in combination with means—consisting in a suitable connection with the car skeleton—of keeping said shaft in alinement—and in combination with guide wheels which act as "true guide wheels" for the supporting wheels and at the same time as safety wheels for the section body, substantially as described.

14. In a railroad a half-bisected car consisting of short sections substantially without metallic contact between sections, close and at the same time elastic means of linking the sections together, supporting wheels with soft adaptable faces and soft faced guide wheels relieved of lateral pressure and means to pivot each section in combination with a track-supporting girder stiffened insides and possessing a smooth outside and reaching down to the car floor: all for the purpose of avoiding noises, vibrations and jarring.

15. In a railroad a sectional half-bisected car without platforms, individual doors on each side of said car, station platforms on each side of the track, means to afford alternating access to said station-platforms and an inclined step running along the edge of the station-platform, all for the purpose of avoiding the requirement of special attendants to secure an equal distribution of the passengers.

16. In a railroad a car, short sections forming parts of the car, flexible joints between the shells and of the sections, said shells and joints forming a smooth continuous inclosure, with uninterrupted inside space, close linking means between the frames of the sections near the highest and near the lowest point within the center plane of the car the whole car forming a vestibuled train without platforms and couplings.

17. In a railroad a car consisting of short sections, firm and elastic linking means between said sections, such as loose concentric metallic cylinders, allowing independent side inclinations, oscillations and vibrations of each section and suitable elastic elements, such as hollow substantial cylinders or elastic gums located between said metallic cylinders, for firmly opposing the motions referred to preserving thereby the required rigidity of the car.

18. In a railroad a sectional car, flexible joints between sections in combination with a fin on top of the car of suitable height consisting of rigid pieces and of short flexible pieces at the section joints the fin being made of a height to locate the center of side wind pressure at some predetermined point and for the purpose to steady the general motion of the sectional car and damping the lateral oscillations of the individual sections.

19. In a railroad a sectional car, means to allow independent oscillations of each section around a vertical axis and around a horizontal axis parallel to the direction of travel in combination with means consisting in a suitable distribution of the weights—to change the radius of gyration concerned in said oscillations in some sections, for the purpose of avoiding the coincidence of the periods of oscillation of adjoining sections substantially as described.

20. In a railroad a car consisting of short sections—such as having a length of nine feet—, elastic linking means between sections, oblique section-ends joined by flexible material for enabling the car to round curves of the track.

21. In a railroad a half-bisected car consisting of short sections—such as of nine feet length—, suitable linking means between sections in combination with oblique section-ends and with flexible material joining the sections for the purpose of enabling the half-bisected car to turn around curves of the track which have a small radius.

22. In a railroad, a train consisting of a series of monocyclic units, each unit supported near its gravity center, at the lowest point of the supporting wheel, in combination with elastic means to restrain—by the neighboring sections—the various individual oscillations of each unit around a horizontal axis passing through said lowest point, and those around a vertical axis passing through the center of the wheel.

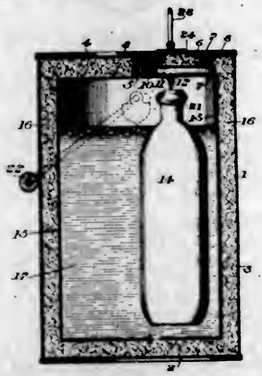
23. In a one-rail railroad for a half bisected car the combination of a supporting wheel and a pair of horizontal guide wheels, the latter located at the track-level and at the level of the center of gravity of the car and located at some distance ahead of the supporting wheel which they are guiding, for the purpose of relieving the guide-wheels of lateral pressure and of allowing the supporting wheels in a sidewind and at the curves of the track to keep in a direction slightly deviating from the direction of the track, in combination with a track the configuration of which allows a free play of the supporting wheels.

867,008. FOOD-WARMER. CHARLES J. BRANCH, Philadelphia, Pa. Filed Aug. 14, 1906. Serial No. 330,600.

1. A warmer comprising a vessel adapted to contain a heating medium, a non-conducting lining for said vessel, a closure for said vessel, a suspension device secured to the inner portion of said closure and having one end disconnected from said closure, a receptacle for the material to be warmed containing a stopper, and laterally-engageable interlocking devices common to said stopper and suspension device.

2. As an improved article of manufacture, a closure for a food warmer comprising a body portion containing a non-conducting material, a flange on the top of said closure, and a horizontally-disposed suspension device secured at one end only to said closure with its other end free and springy, said closure being adapted to engage an opening in a food warmer.

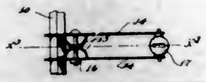
3. In a food warmer, a vessel adapted to contain a heating medium and having a non-conducting covering surrounding its sides, an opening in the top of said vessel, a closure for said opening also containing a non-conducting material, said closure having a flange extending over said opening, a suspension device on said closure and having one end disconnected from said closure, a receptacle containing the material to be warmed, and laterally-engageable interlocking devices common to said bottle and suspension device.



4. In a device of the character described, the combination of a food receptacle stopper comprising a body portion and a resilient flange secured thereto to engage over the neck of the receptacle, an eye engaging said body, and a suspension device for said eye said device extending substantially parallel with the under face of the stopper and having a depression near its mid length.

5. In a warmer of the character stated, a vessel adapted to contain a heating medium, and a closure for said vessel having a suspension device thereon substantially parallel with the under side of the closure with one end free.

867,009. LEVER. THOMAS BRENNAN, Jr., St. Louis Park, Minn., assignor to Monitor Drill Company, St. Louis Park, Minn., a Corporation of Minnesota. Filed June 24, 1907. Serial No. 380,470.



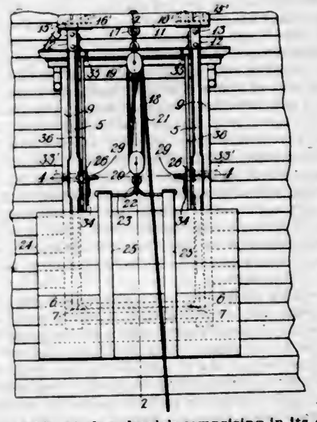
1. The combination with an angular shaft, of an arm made up of laterally spaced members having seats engaging said shaft, a combined spacing and clamping member interposed between said arm members, and means for clamping said arm members onto said spacing and clamping member and forcing the same against the said shaft, substantially as described.

2. The combination with an angular shaft, of a pair of laterally spaced arm members having angular seats engaging said shaft, a pair of reversely bowed spring clamping and spacing members interposed between said arm members, and a bolt passed through said arm members and interposed spring members, and forcing the ends of the latter against the angular shaft, substantially as described.

3. The combination with an angular shaft, of a pair of laterally spaced arm members having angular seats engaging said shaft, a pair of reversely bowed spring clamping and spacing members placed with their bowed portions pressed together and with their end portions engaging said arm members and having notched ends that engage the adjacent angular portion of said shaft, and a nutted bolt passed through said arm members and interposed spring members, substantially as described.

4. The combination with a shaft, of an arm made up of laterally spaced members having seats that engage said shaft, a combined spacing and clamping member interposed between said arm members adjacent to said shaft, and a bolt passed through said arm members and spacing and clamping member and holding the latter and the said arm members interlocked to the said shaft, substantially as described.

867,010. PORTABLE WINDOW-DERRICK. WILLIAM H. BREEN, Charlestown, Mass. Filed Dec. 15, 1906. Serial No. 347,981.



1. A portable window derrick comprising in its construction two side members adapted to contact with opposite sides, respectively, of a window casing on the exterior faces thereof, the lower ends of said members adapted to rest on the upper face of the sill of said casing, a cross member detachably and adjustably secured to said side members at or near the upper ends thereof, two horizontally arranged rods fast to said side members, respectively, extending inwardly past said casing, two nuts having screw-threaded engagement with the inner ends of said rods, respectively, and two clamps slidably mounted on said rods, respectively, each of said clamps adapted to intervene between its respective nut and the interior face of said casing, whereby said side members may be rigidly clamped to said casing.

2. A portable window derrick comprising in its construction two side members adapted to contact with opposite sides, respectively, of a window casing on the exterior faces thereof, the lower ends of said members adapted to rest on the upper face of the sill of said casing, a cross member detachably and adjustably secured to said side members at or near the upper ends thereof, two horizontally arranged rods fast to said side members, respectively, extending inwardly past said casing, two nuts having screw-threaded engagement with the inner ends of said rods, respectively, and two clamps slidably and non-rotatably mounted on said rods, respectively, each adapted to intervene between its respective nut and the interior face of said casing, whereby said side members may be rigidly clamped to said casing.

3. A portable window derrick comprising in its construction two side members adapted to contact with opposite sides, respectively, of a window casing on the exterior faces thereof, the lower ends of said members adapted to rest on the upper face of the sill of said casing, a cross member detachably and adjustably secured to said side members at or near the upper ends thereof, two horizontally arranged rods adjustably fast to said side members, respectively, extending inwardly past said casing, two nuts having screw-threaded engagement with the inner ends of said rods, respectively, and two clamps slidably mounted on said rods, respectively, and the interior face of said casing, whereby said side members may be rigidly clamped to said casing.

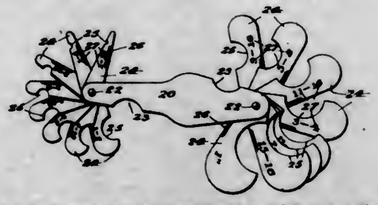
4. A portable window derrick comprising in its construc-

tion two side members adapted to contact with opposite sides, respectively, of a window casing on the exterior faces thereof, the lower ends of said members adapted to rest on the upper face of the sill of said casing, a cross member detachably and adjustably secured to said side members at or near the upper ends thereof, two horizontally arranged rods each provided with a plurality of perforations, two pins each adapted to enter a perforation in its respective rod to secure said rod to its respective side member, and two nuts having screw-threaded engagement with the inner ends of said rods, respectively, whereby said side members may be rigidly secured to said casing.

5. A portable window derrick comprising in its construction two side members adapted to contact with opposite sides, respectively, of a window casing on the exterior faces thereof, the lower end of said members adapted to rest on the upper face of the sill of said casing, a cross member detachably and adjustably secured to said side members at or near the upper ends thereof, two horizontally arranged rods each provided with a plurality of perforations, two pins each adapted to enter a perforation in its respective rod to secure said rod to its respective side member, two nuts having screw-threaded engagement with the inner ends of said rods, respectively, and two clamps slidably and non-rotatably mounted on said rods, respectively, adapted to intervene between said ends, respectively, and said casing, whereby said side members may be rigidly clamped to said casing.

6. A portable window derrick comprising in its construction two side members adapted to contact with opposite sides, respectively, of a window casing on the exterior faces thereof, the lower ends of said members adapted to rest on the upper face of the sill of said casing, a cross member detachably and adjustably secured to said side members at or near the upper ends thereof, two horizontally arranged rods each provided with a plurality of perforations, two brackets fast to said side members, respectively, each of said brackets provided with a perforation, two pins adapted to enter the perforations of said brackets, respectively, each of said pins also adapted to enter one of the perforations in its respective rod to secure said rod to its respective side member, two nuts having screw-threaded engagement with the inner ends of said rods, respectively, and two clamps slidably mounted on said rods, respectively, adapted to intervene between said nuts and said casing, whereby said side members may be rigidly clamped to said casing.

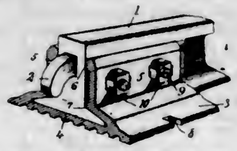
867,011. TOOL OR GAGE FOR MACHINISTS. WILLIAM S. BROMLEY, Chicago, Ill. Filed Nov. 5, 1906. Serial No. 341,981.



In a tool or gage, the combination with a handle consisting of two spaced apart side pieces, of a series of gaging members graduated in size at their free ends and pivotally secured at their other ends between the side pieces of the handle and near each end of said side pieces, each of said gaging members having its free end formed to provide a semi-circular portion and provided in one of its edges near said semi-circular portion with a semi-circular recess, the size of which recess corresponds with that of the semi-circular portion of the member in which it is formed.

867,012. RAIL-JOINT. LAWRENCE A. BUNDY, Atlanta, Kans. Filed Apr. 3, 1907. Serial No. 366,138.

1. In a rail joint, the combination of two abutting rails having thickened webs and spur connections at their point of union, and a chair embracing the flanges and thickened webs of said rails.



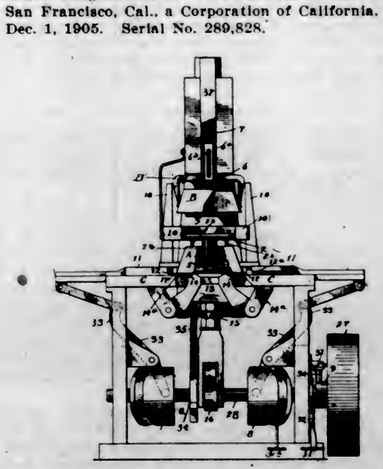
2. In a rail joint, the combination of two abutting rails having thickened webs and spur connections at their point of union, a chair embracing the flanges and thickened webs of said rails, and bolts connecting the chair and rails together.

3. In a rail joint, the combination of two abutting rails having thickened webs and spur connections at their point of union, a chair embracing the flanges and thickened webs of said rails, bolts having nuts connecting the chair and rails together, and locking plates for securing said nuts.

4. In a rail joint, the combination of two abutting rails having thickened webs at their point of union, and a chair composed of a base-plate and side-plates embracing the flanges and thickened webs of the rails, said side plates having inwardly directed ribs formed on their inner faces.

5. In a rail joint, the combination of two abutting rails having thickened webs and spur connections at their point of union, and a chair comprising a base-plate having side-plates formed integral therewith embracing the flanges and thickened webs of the rails.

867,013. BASKET-MAKING MACHINE. SECONDO L. CASELLA, San Francisco, Cal., assignor, by direct and mesne assignments, to W. F. Barnes Commercial Co., San Francisco, Cal., a Corporation of California. Filed Dec. 1, 1905. Serial No. 289,828.



1. In a basket forming machine, a stationary former block, a vertically movable plate located above the block adapted to support the veneers of which the basket is formed, a hollow rectangular frame, mechanism by which it is vertically movable with relation to the former block to fold the projecting ends of the veneers against the sides of the block, means for advancing metal binding strips upon each side of the base of the former block, means for subsequently bending the strips to inclose the block and overlap the ends of the strips and means for depressing the movable plate and veneers to insert the edges of the veneers into the binding strips.

2. In a basket making machine, a stationary former block, a guided spring-pressed plate corresponding with the upper side of the block and normally held out of contact therewith, said plate serving to receive the veneers of which the basket is formed, adjusting guides and stops against which the ends of the veneers contact and by which they are correctly located, a vertically movable hollow frame, a slidable plate located beneath said frame and adapted to contact with the veneers to hold them in place, mechanism by which the frame is depressed to fold the ends of the veneers against the sides of the former, and mechanism by which metal binding strips are simultaneously advanced upon each side of the former, and subsequently bent to inclose its base and overlap in lines coinciding with the lower edges of the veneers.

3. In a basket forming machine, a stationary former block, a guided spring-pressed plate corresponding with the upper surface of the block, stops against which the ends of the veneers contact when placed upon the plate, a hollow frame, means by which it is moved vertically to inclose the former block and hold the veneers against its sides, an independently movable plate normally held beneath the hollow frame, means for depressing the frame and plate to hold the veneers upon the former plate, and means by which the movement of the hollow frame is continued after the arrest of its holding plate so as to fold the veneers about the former block, and mechanism by which V-shaped binding strips are simultaneously advanced upon each side of the former, bent, overlapped and interlocked in line with the lower edges of the veneers.

4. In a basket making machine, a former block having a guided depressible plate carried above its upper surface and substantially coincident therewith, means for folding metal binding strips about the base of the block, stops against which the ends of veneers contact when said veneers are laid upon the plate, a hollow frame, means by which it is depressed to hold the projecting ends of the veneers against the sides of the former block, said motion being continued after the folding to depress the veneer-carrying plate and force the edges of the basket into the binding strips.

5. In a basket-making machine, a former block, an independent guided depressible plate located above the block and adapted to support veneers, stops against which the ends of the veneers contact when in place, mechanism by which V-shaped binding strips are advanced and folded about the base of the block, a vertically movable hollow frame, means by which it is depressed to fold the veneers against the sides of the former block and to depress them so that the edges will enter the groove of the binding strip, and mechanism by which said strips are crimped upon the edges of the basket.

6. In a basket-making machine, a stationary former block, a guided depressible plate located above the block, means for advancing and holding metal binding strips about the base of the block, a hollow frame, means by which it is moved vertically downward to fold veneer strips against the sides of the former back, an independently movable spring-pressed plate located beneath the frame so as to first contact with the veneer strips and retain them in position while the frame continues its motion to fold the strips against the sides of the former block, said continued motion acting to subsequently depress the veneer-carrying plate so that the edges of the veneers are inserted into the binding strips.

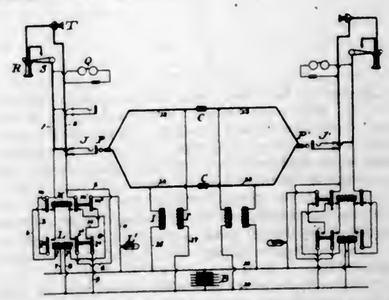
7. In a basket making machine, a stationary former block, mechanism by which V-shaped binding strips are advanced and folded about the base of the block, a depressible plate above the block upon which veneers are laid, mechanism by which the projecting ends of said veneers are folded against the sides of the block and subsequently depressed to enter the edges into the binding strips, and outwardly movable plates between which and the devices for folding the strips said strips are crimped upon the edges of the basket.

8. In a basket making machine, a stationary forming block, mechanism by which V-shaped strips are advanced upon each side of said block with their open sides upwardly, rectangular yokes or frames, means for moving them so as to fold the projecting ends of the binding strips against the remaining sides of the former block, mechanism by which veneers are folded against the side of the blocks and depressed with their edges entering the open binding strips, plates located in the plane of the binding strips and beneath the former block, and a plunger movable between said plates to force them outward whereby the binding strips are crimped upon the edges of the baskets between said plates and the surrounding yokes.

9. In a basket making machine, a stationary former block, supports located in the rear of and substantially in line with the sides of the former block, and within which V-shaped binding strips are supported with their open sides upwardly, slides and mechanism by which said slides are reciprocated so as to advance the lowermost strips and place them upon opposite sides of the former block with their ends projecting beyond said sides, rectangular yokes, mechanism by which said yokes are advanced to fold the projecting ends of the binding strips around the base of the block in readiness to receive the edges of the subsequently formed basket.

10. In a basket making machine, a stationary former block, supports located behind and substantially in line with the sides of said block, said supports being adapted to hold V-shaped binding strips with their open sides upwardly, slidable bars adapted to engage the lowermost strips and advance them simultaneously upon opposite sides of the base of the former block with their ends projecting, rectangular yokes slidable so as to enclose the former block and fold the projecting ends of the strips thereabout, one of said yokes having its inner ends undercut so as to hold the folded ends of its binding strip down upon the supporting table and the other yoke being correspondingly turned outwardly so as to raise the ends of the binding strip folded by it and cause them to overlap and coincide with the ends of the lower strip, mechanism by which veneers are folded with their edges against the sides of the former block, said mechanism acting to subsequently depress the veneers with their edges entering the open binding strips and simultaneously causing the overlapping ends of the strips to interlock.

867,014. TELEPHONE-EXCHANGE SYSTEM. EDWARD E. CLEMENT, Washington, D. C. Filed Dec. 10, 1904. Serial No. 236,282.



1. In a telephone system, a line, a line relay, a cut-off relay, and means whereby each relay controls the operative connection of the other.

2. In a telephone exchange system, a signal magnet and a controlling magnet therefor, means controlled by the signal magnet to put the controlling magnet in operative condition, means controlled by the controlling magnet to disable the signal magnet, and further means controlled respectively from two points on a line to direct these operations.

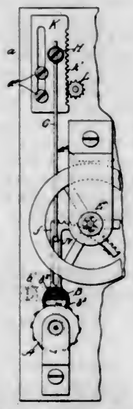
3. In a common battery telephone exchange system, a line circuit, a signal relay normally connected to the line, a battery connected to furnish current to line through the relay, a cut-off relay controlling the connection of the signal relay, means controlled by the signal relay to connect the cut-off relay, and further means becoming opera-

tive on making connection with the line to energize the cut-off relay when connected.

4. In a common battery telephone exchange system, a subscriber's line, a cut-off relay and a line signal relay having their armature contacts connected in parallel to line, coöperating contacts of the cut-off relay in circuit with the winding of the signal relay, contacts of both relays in circuit with the winding of the cut-off relay, and means controlled by an operator in making connection with the line to direct operating current through the cut-off relay.

5. In a telephone exchange system, a subscriber's line, a battery and signal magnet normally in series therewith, a cut-off relay therefor controlling said series connection and adapted to become connected in a bridge of the line when the signal magnet is actuated, an operator's cord circuit adapted for connection with the line, and battery connections for said cord circuit such that upon making connection with the line said cut-off relay becomes energized by increase of current in its bridge and disconnects the signal magnet and its battery connection.

867,015. ESCAPEMENT MECHANISM FOR TIME-PIECES. HENRI COULLERY, La Chaux-de-Fonds, Switzerland. Filed Oct. 15, 1906. Serial No. 339,082.



1. A device of the class described comprising in combination, an escapement wheel, a balance wheel, an escapement lever operatively associated with said escapement and balance wheels, yielding acting means slidably connected with said lever for limiting movement thereof, and an adjusting device for said means.

2. A device of the class described comprising in combination, an escapement wheel, a balance wheel, means operatively associating said escapement and balance wheels, and yieldingly acting device slidably connected with said means.

3. A device of the class described comprising in combination, an escapement wheel, an escapement lever operatively associated therewith provided with a toothed sector and a slot, a balance wheel provided with a pinion adapted to mesh with said sector, a rod spring provided with a stud adapted to engage said slot, a displacing device comprising a plate provided with a spring stud for anchoring said spring, said plate having a slot, screws projecting through said slot to guide said plate, said plate having rack teeth, and a pinion meshing with said teeth.

4. A device of the class described comprising in combination, an escapement wheel, an escapement lever operatively associated therewith and provided with a toothed sector and slot, a balance wheel provided with a pinion adapted to mesh with said sector, a spring rod provided with a stud adapted to engage said slot, a displacing device comprising a plate provided with a spring stud for anchoring said spring, said plate having a slot, screws projecting through said slot to guide said plate, and means for displacing said plate.

5. A device of the class described comprising in combination, an escapement wheel, an escapement lever operatively associated therewith and provided with a toothed sector and a slot, a balance wheel provided with a pinion adapted to mesh with said sector, a spring rod provided with a stud adapted to engage said slot, a displacing device comprising a plate provided with a spring stud for anchoring said spring, means for guiding said plate, and means for displacing the same.

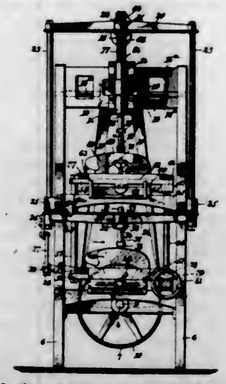
6. A device of the class described comprising in combination, an escapement wheel, an escapement lever operatively associated therewith and provided with a toothed sector and a slot, a balance wheel provided with a pinion adapted to mesh with said sector, a spring rod provided with a stud slidably engaging said slot, a displacing device to which said spring rod is anchored, and means for displacing said device.

7. A device of the class described comprising in combination, an escapement wheel, an escapement lever operatively associated therewith and provided with a toothed sector, a balance wheel provided with a pinion adapted to mesh with said sector, a spring rod slidably connected with said lever, a displacing device to which said spring rod is anchored, and means for displacing said device.

8. A device of the class described comprising in combination, an escapement wheel, an escapement lever operatively associated therewith and provided with a toothed sector, a balance wheel provided with a pinion adapted to mesh with said sector, a spring rod slidably connected with said member, and means for varying the tension of said rod.

9. A device of the class described comprising in combination, an escapement wheel, an escapement lever operatively associated therewith and provided with a toothed sector, a balance wheel provided with a pinion adapted to mesh with said sector, and yieldingly acting means slidably connected with said lever.

867,016. CARVING-MACHINE. MARI A. CUMING, New York, N. Y. Filed Aug. 30, 1906. Serial No. 332,617.



1. A device of the character described, comprising a main frame provided with ways, a sub-frame supported by said main frame and engaging said ways, a revoluble member controllable by hand for moving said sub-frame, relatively to said main frame, turntables provided with gear teeth and mounted one upon the upper portion of said sub-frame and the other upon the lower portion thereof, gear pinions engaging said gear teeth, a revoluble shaft connecting said gear pinions together, means controllable by hand for turning said revoluble shaft, so as to rotate said turntables, mechanism for securing a pattern block upon one of said turntables, means for holding a work block upon the other of said turntables, a tracer for engaging said pattern block, a cutter for engaging said work block, connections from said cutter to said tracer for enabling said tracer to guide said cutter, and means controllable at will for moving said cutter in either of two directions relatively to said work block.

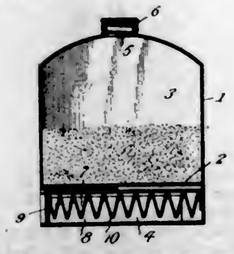
2. The combination of a framework provided with an upper deck and with a lower deck, a turntable mounted upon said upper deck, another turntable mounted upon said lower deck, said turntables being provided with gear teeth, gear pinions engaging said gear teeth of said turntables, a revoluble shaft connecting said gear pinions together, a hand-wheel provided with means for turning said revoluble shaft so as to rotate said turntables, mechanism for securing a pattern block upon one of said turntables, means for securing a work block upon the other of said turntables, a tracer for engaging the surface of said pattern block, a cutter for engaging the surface of said work block, connections from said tracer to said cutter, and means for actuating said cutter.

3. A device of the character described, comprising a main frame provided with ways, a sub-frame supported by main frame and engaging said ways, a revoluble member controllable by hand for moving said sub-frame, relatively to said main frame, turntables provided with gear teeth and mounted one upon the upper portion of said sub-frame and the other upon the lower portion thereof, gear pinions engaging said gear teeth, a revoluble shaft connecting said gear pinions together, means controllable by hand for turning said revoluble shaft, so as to rotate said turntables, and mechanism for securing a pattern block upon one of said turntables.

4. The combination of a framework provided with an upper deck and with a lower deck, a turntable mounted upon said upper deck, another turntable mounted upon said lower deck, said turntables being provided with gear teeth, gear pinions engaging said gear teeth of said turntables, a revoluble shaft connecting said gear pinions together, and a hand wheel provided with means for turning said revoluble shaft so as to rotate said turntables.

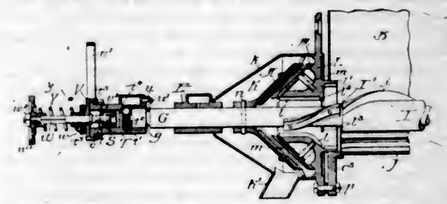
5. A device of the class described comprising a main frame provided with ways, a sub-frame supported by said main frame and engaging said ways, a revoluble member controllable by hand for moving said sub-frame relatively to said main frame, an upper and a lower deck mounted upon said frame, turntables mounted one upon said upper deck and the other upon said lower deck, means for actuating said turntables by hand, means for holding a work block upon one of said turntables and a pattern block upon the other of said turntables, and mechanism controllable by said pattern block for cutting said work block.

867,017. TOOTH-POWDER RECEPTACLE. HERMAN L. DE MOND, Philadelphia, Pa. Filed May 5, 1906. Serial No. 315,438.



A powder receptacle provided with an upper powder receiving chamber and a lower valve or cut-off chamber, a bottom forming a partition between said chambers, said bottom having a discharge opening therein, in combination with a spring closed cut-off operating beneath said discharge opening, said cut-off comprising a valve and a right angular end forming an abutment for the brush, and means for centering the brush in the cut-off chamber, said means comprising oppositely disposed bowed springs which converge inwardly toward the center of the chamber to center the brush beneath the discharge opening, substantially as described.

867,018. FEED-GRINDER. SAMUEL K. DENNIS and FRANK W. RICE, Chicago, Ill., assignors to International Harvester Company, a Corporation of New Jersey. Filed Feb. 6, 1907. Serial No. 355,990.



1. In a feed grinder, in combination, a feed hopper, a grinding chamber, a longitudinally adjustable shaft extending through said hopper and grinding chamber, a cone fixed in the grinding chamber, a coöperating cone fixed to the shaft, a thrust box support, means for securing the same to the grinder frame, a longitudinally sliding thrust box adjustably mounted on said support and engaging the end of said shaft, a cam lever rotatively engaging the end of the sliding thrust box and adapted to bear with its cam surface against the said thrust box support, a shouldered adjustment screw projecting outwardly from the thrust box support, the shoulder thereof being arranged to engage and bear against the sliding box through the said cam lever, and a spring reacting between the end of said adjustment screw and the cam lever, thereby tending normally to hold the two cones in operative relation with respect to each other.

2. In a feed grinder, in combination, a feed hopper, a grinding chamber, a longitudinally adjustable shaft extending through said hopper and grinding chamber, a cone fixed in the grinding chamber, a coöperating cone fixed to the shaft, a longitudinally adjustable sliding thrust box engaging the outer end of the shaft, a thrust box support passing transversely through said box, the support constituting an adjustable stop to limit the outward movement of the sliding box, threaded rods for adjustably securing said support to the grinder frame, an adjustment screw projecting outwardly from said box support, a shoulder on said screw with which the box engages, said shoulder forming a stop to limit the inward movement of the sliding box, and a spring reacting between the outer end of the adjustment screw and said box.

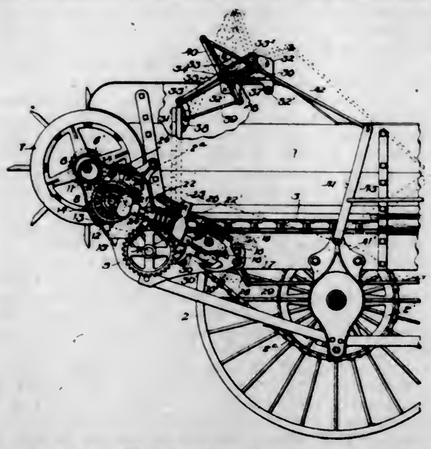
3. In a feed grinder, in combination, a hopper, a grinding chamber located adjacent thereto, a shaft extending through said hopper and grinding chamber, a cob breaker and feed screw fixed thereto. said screw consisting of a sleeve having a spirally disposed rib formed thereon, a fixed cone support located between the hopper and chamber, said support having a central bore which terminates at its inner face in an enlarged flanged opening and which is provided on its interior with longitudinally extending ribs, a fixed cone secured to said support, a movable cone secured to said shaft, and coöperating with said fixed cone, and a spirally disposed auxiliary feed screw fixed to said shaft and arranged to coact with the ribs on the interior of the fixed cone support, said auxiliary feed screw being constructed and secured to the shaft independently of the said cob breaker and feed screw.

4. In a feed grinder, in combination, a hopper, a grinding chamber located adjacent thereto, a shaft extending through said hopper and grinding chamber, a fixed cone support located between the hopper and chamber and forming the wall therebetween, the said support having a cehtral bore provided on its interior with longitudinally extending ribs and terminating on its inner face in an enlarged flanged opening, the flanged opening having formed therein a transversely extending slot, a fixed cone secured to said support, a movable cone secured to said shaft and coöperating with said fixed cone, a cob breaker

and feed screw secured to said shaft and placed in the bottom of the hopper, a spirally disposed auxiliary feed screw constructed and fixed to said shaft independent of said cob breaker and feed screw and arranged to coact with the ribs on the interior of the fixed cone support, an inwardly projecting flange formed in the mouth of the enlarged flanged opening of the central bore of said support, said flange covering substantially one-half of the mouth of said opening, and a movable slide adapted to fit in the transversely extending slot formed in the flange of said opening, said flange and slide operating to close the passageway between the hopper and grinding chamber.

5. In a feed grinder, in combination, a feed hopper, a grinding chamber, a longitudinally adjustable shaft extending through said hopper and grinding chamber, a cone fixed in the grinding chamber, a coöperating movable cone fixed to the shaft, adjusting means normally stationary for affecting the longitudinal adjustment of said shaft and cone, the shaft and cone being longitudinally movable in a direction to separate the two cones independently of said adjusting means, and a rotatable device normally stationary and operative independent of the adjusting means for positively sliding the shaft and cone thereon endwise, thereby separating the two cones without disturbing the adjustment of said adjusting means.

867,019. FERTILIZER-DISTRIBUTER. SAMUEL K. DENNIS and FRANK W. RICE, Chicago, Ill., assignors to International Harvester Company, a Corporation of New Jersey. Filed Mar. 22, 1907. Serial No. 363,802.



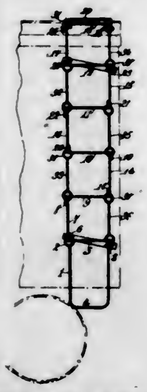
1. In a fertiliser distributer, in combination, a body, a movable apron mounted in the bottom thereof, a distributing cylinder mounted on a shaft journaled in the rear end of said body, means for driving the distributing cylinder, an apron shaft on which the rear end of said apron is supported, a vertically movable endgate mounted in front of said distributing cylinder, a foot lever for controlling the position of said endgate, a driving mechanism interposed between the distributing cylinder shaft and the apron shaft, a device for regulating the speed of said driving connection, a pawl for locking the apron shaft against rearward movement, a single hand lever for engaging and disengaging said driving connection from the apron shaft, for controlling the speed regulating device and for disengaging the pawl, the said foot lever when holding the endgate in its lower or normal position being adapted to also lock the said hand lever against movement to engage said driving connection.

2. In a fertiliser distributer, in combination, a body, a movable apron mounted in the bottom thereof, a distributing cylinder located at the rear end of said body, a pivotally hung, vertically movable endgate arranged in front of said cylinder, mountings for said endgate, said mountings including a movable fulcrum and a link engaging at one end a transversely extending slot and at the other end connecting with the endgate below its pivotal bearings for holding same rigidly when in its lower position and for permitting same to float when in its raised position and for raising and lowering said endgate.

3. In a fertilizer distributer, in combination, a body, a movable apron mounted in the bottom thereof, a distributing cylinder located at the rear end of said body, a pivotally hung, vertically movable endgate arranged in front of said cylinder, mountings for said endgate, said mountings including a forwardly and upwardly movable rock shaft, an arm on said rock shaft, a link connecting said arm to a fixed point on the frame for effecting the sliding movement of the rock shaft, means for limiting the rearward swinging movement of the lower side of the endgate when in its lower position and for permitting it to swing freely to a limited extent when in its upper position, and a lever connection for raising and lowering said endgate.

4. In a fertilizer distributer, in combination, a body, a movable apron mounted in the bottom thereof, a distributing cylinder located at the rear end of said body, endgate mountings comprising side brackets, each provided with a forwardly and upwardly inclined slot and a lower slot transversely inclined with respect to the first mentioned slot, a rock shaft fulcrumed in the upwardly inclined slots, levers, each having a long and a short arm fixed to said rock shaft, an endgate pivotally hung on the rear ends of the long arms of said levers, links connecting the short arms to fixed points on the brackets, and links engaging at one end the said lower transversely inclined slots and at the other end engaging with the endgate, and a lever having operative connection with the rock shaft for raising and lowering said endgate.

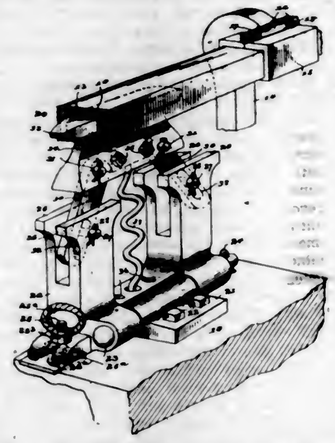
867,020. LADDER. ANDREW DEVAN, Missoula, Mont. Filed Feb. 13, 1907. Serial No. 357,205.



1. A ladder having its body formed of a plurality of integral L-shaped portions alternately disposed with respect to each other, the horizontal parts of said L-shaped portions constituting the rungs of the ladder, and links alternately disposed throughout said body for connecting the L-shaped portions together.

2. A ladder having its body formed of a plurality of integral L-shaped portions alternately disposed with respect to each other, the horizontal parts of said L-shaped portions constituting the rungs of the ladder, and links alternately disposed throughout said body for connecting the L-shaped portions together, said body further having the bottom thereof bent in a U-shaped manner, said U-shaped portion terminating in one of said L-shaped portions.

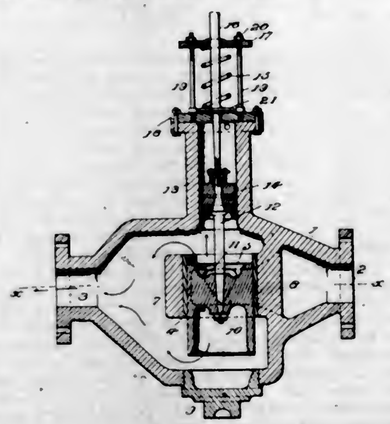
867,021. ELECTRIC CONTACT RAIL AND SHOE. GEORGE DRAWERT, Chicago, Ill. Filed May 14, 1906. Serial No. 316,670.



1. The combination of an electric contact rail having an undercut groove along its lower surface designed to accommodate a contact shoe, a standard pivotally mounted on a car below said rail, a contact shoe adapted to travel in said undercut groove and contact with the ledges of said rail provided by said groove, links connecting said shoe and standard, said links being pivoted to said shoe and having a pin and slot connection with said standard, means to maintain said standard in an upright position, and a wire connecting said shoe and standard, substantially as described.

2. In a device of the character described, the combination of an electric contact shoe, a standard pivoted or hinged to a car, one or more links connecting said standard and shoe, said link or links being pivoted to said shoe and having a pin and slot connection with said standard, means to maintain said standard in upright position, and a conducting wire electrically connecting said standard and shoe, substantially as described.

867,022. VALVE. EFFINGHAM C. DUN, Sewaren, N. J. Filed Nov. 22, 1906. Serial No. 344,619.



1. In a valve of the character described, the combination of a valve casing provided with an inlet and an outlet said inlet being divided into two passages, a cylindrical valve seat mounted within the casing and provided with a pair of oppositely disposed ports communicating with the before mentioned passages, a piston slidably mounted within the said cylindrical valve seat and provided in its sides with oppositely arranged ports corresponding to the before mentioned ports in the valve seat and communicating with the interior of the valve casing through an end of the piston, and means for moving said piston to vary the effective size of the ports in the valve seat.

2. In a valve of the character described, the combination of a valve casing formed with an inlet and an outlet, a valve seat arranged within the casing and having ports formed in the sides thereof, transverse bars supporting the valve seat, one of said bars extending across the inlet, passages being located upon opposite sides of the said bar leading to the before mentioned ports in the valve casing, a valve member operating within the valve seat, and means for controlling the valve member to vary the effective size of the ports in the valve seat.

3. In a valve of the character described, the combination of a valve casing provided with an inlet and an outlet and having an interior ported valve seat and a cylinder in axial alinement, a ported piston valve operating within the valve seat, a governor piston arranged in said cylinder, a stem connecting the two pistons, a second stem projecting from the governor piston, and a spring coöperating with the second stem to produce a pressure tending to open the valve.

4. In a valve of the variety specified, the combination of a valve casing provided with an inlet and an outlet and having an interior ported valve seat and a cylinder in axial alinement, a ported piston valve located within the valve seat, a governor piston arranged in said cylinder, a stem connecting the two pistons, a second stem projected from the governor piston, means coöperating with said second stem to limit the movements of the pistons in one direction, a spring exerting an inward pressure upon said second stem and means coöperating with the said second stem to prevent relative turning thereof to insure registry of the ports of the valve seat and piston valve.

5. In a valve of the character specified, the combination of a valve casing provided with an inlet and an outlet, a cylindrical valve seat arranged within the casing and provided with side ports, a cylinder carried by the casing and in axial alinement with the valve seat, a ported piston valve operating within the valve seat, a governor piston arranged within the cylinder, connecting means between the governor piston and piston valve, a stem projecting from the governor piston and carrying a stop limiting the movement of the valve, and a spring coöperating with the stop to normally hold the valve in an open position.

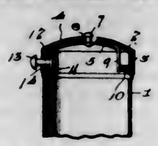
6. In a valve of the character described, the combination of a valve casing provided with an inlet and an outlet, a ported valve seat mounted within the valve casing and communicating with the inlet, a cylinder carried by the valve casing, a valve operating within the valve seat, a piston located within the said cylinder, connecting means between the valve and piston, rods extending from the cylinder head, a cross bar adjustably mounted upon the said rods, a stem projecting from the piston and engaging the said cross bar, and a spring coöperating with the stem to normally hold the valve in an open position.

7. In a valve of the character set forth, the combination of a valve casing, a valve seat mounted within the casing, a governor piston mounted within the cylinder, connecting means between the governor piston and the valve, rods extending from the cylinder, a cross bar carried by the rods, a stem connected to the governor piston and engaging the said cross bar, a stop carried by the stem to limit the movement of the valve, and a spring interposed between the stop and cross bar and operating to normally hold the valve in an open position.

867,023. DISPENSING CAN OR RECEPTACLE. CHAS. F. EBERHARD, Newark, N. J. Filed Sept. 11, 1906. Serial No. 334,139.

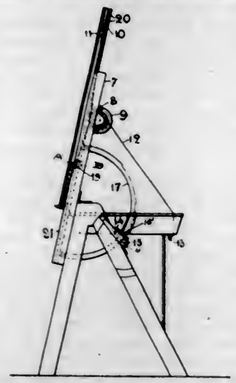
In a dispensing receptacle, a receptacle body, a flanged perforated sprinkler cap detachably fitted over one end of

the body, a reciprocal cut-off disk slidably supported at its center upon the inner side of the cap, and provided with diametrically opposite inturned brace arms, a closing



spring engaging one of the disk arms, and a sliding push button connecting with the other arm and projecting through the cap at one side thereof.

867,024. DRAWING-BOARD. CARL A. EGELIN, Stockholm, Sweden. Filed June 1, 1906. Serial No. 319,778.



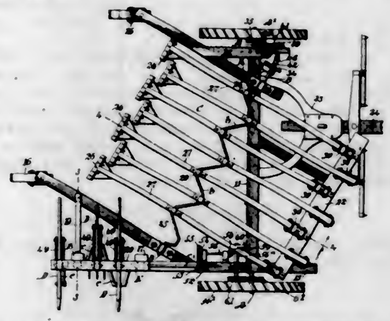
1. In a drawing table, a stand, a frame pivotally connected thereto to swing on a horizontal axis, a drawing board mounted to slide up and down on said frame, a tubular shaft having a rotary bearing on said frame at one end, a spring in said hollow shaft secured therein at one end and its other end secured to a spindle revolubly mounted at one end in the other end of said shaft, said spindle being revolubly mounted in the frame at its outer end, a cord encircling a portion of said tubular shaft and secured at its ends to the upper and lower ends of the drawing board, and a cord wound about the outer portion of said spindle and means on the stand for engaging the free portion of said cord, whereby the tension of the spring is varied as the frame is swung on its axis.

2. In a drawing table, a stand, a frame pivotally connected thereto to swing on a horizontal axis, a drawing board mounted to slide up and down on said frame, a tubular shaft, springs in said hollow shaft secured therein at their inner ends and at their outer ends secured to spindles revolubly mounted at their inner ends in the ends of said shaft, said spindles being revolubly mounted in the frame at their outer ends, rollers or drums formed on said spindles and on said shaft at each side of the table, cords encircling the drums on the shaft and at their ends each secured to the upper and lower ends of the drawing board, and cords wound about the drums on the spindles and having their free ends secured to the stand whereby the tension of the springs is uniformly varied as the frame is swung on its axis.

3. In a drawing table a stand, a frame pivotally connected thereto to swing on a horizontal axis, a drawing board mounted to slide up and down on said frame, a tubular shaft having a rotary bearing on said frame at one end, a spring in said hollow shaft secured therein at one end, and its other end secured to a spindle revolubly mounted at one end in the other end of said shaft, said spindle being revolubly mounted in the frame at its outer end, a cord encircling a portion of said tubular shaft and secured at its ends to the upper and lower ends of the drawing board, and a cord wound upon the outer portion of said spindle, and means on the stand for engaging the free portion of said cord, whereby the tension of the spring is varied as the frame is swung on its axis, said frame having a guide groove therein and a releasable spring-pressed element on said board frictionally engaged in and sliding along said groove, to normally hold the board against sliding on the frame under the tension of the spring in said shaft.

4. In a drawing table, a stand, a frame pivotally connected thereto to swing on a horizontal axis, a drawing board mounted to slide up and down on said frame, a tubular shaft, springs in said hollow shaft secured therein at their inner ends and at their outer ends secured to spindles revolubly mounted at their inner ends in the ends of said shaft, said spindles being revolubly mounted in the frame at their outer ends, rollers or drums formed on said spindles and on said shaft at each side of the table, cords encircling the drums on the shaft and at their ends each secured to the upper and lower ends of the drawing-board and cords wound about the drums on the spindles and having their free ends secured to the stand whereby the tension of the springs is uniformly varied as the frame is swung on its axis, said frame having grooves therein at each side thereof, and spring-pressed clamp-levers on said board at each side, each having a portion frictionally engaged in one of said grooves, to normally hold the board against movement under the tension of the springs in said shaft, and means for simultaneously releasing said clamps to allow the board to be moved.

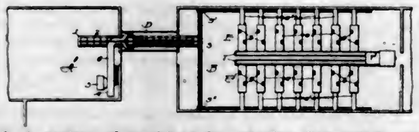
867,025. HAY RAKE AND TEDDER. KITTIE M. ELLIS and ELLA E. ELLIS, Greeley, Iowa, executrices of William B. Ellis, deceased. Filed Jan. 26, 1906. Serial No. 298,007.



1. In an agricultural implement, the combination with a wheel-supported frame and its axle, supporting wheels secured to the axle, rear supporting wheels for the frame, and a series of rakes operatively mounted on the said frame, said series having a diagonal relation with respect to the axle, the heads of the rakes being so placed as to direct the raked product to the right-hand side of the implement, of vertical supports located at the right-hand rear portion of the frame, a cross bar connecting said supports, tedders consisting of forked body sections and connected handle sections, the handle sections of the tedders extending up between the vertical supports, links pivotally connected with the handle sections of the tedders, and with the connecting bar of the said supports, a crank shaft, journaled at the lower portion of the said vertical supports, having crank arms alternately extending in opposite directions and pivotally connected with the handle sections of the tedders adjacent to their lower ends, a sprocket wheel secured at the forward end of said crank shaft, a shaft mounted to turn in the frame parallel with its right-hand side, provided with a sprocket wheel in chain connection with the sprocket wheel on the crank shaft, a bevel gear located at the forward end of said auxiliary shaft, a second auxiliary shaft journaled in the frame at right angles to the first-named auxiliary shaft, the second auxiliary shaft being provided with a bevel gear engaging with the bevel gear of the first-named auxiliary shaft, a gear at the outer end of the second auxiliary shaft, and a gear on the right hand end of the axle, meshing with the said gear on the second auxiliary shaft, for the purposes specified.

2. In an agricultural implement, a frame comprising a main cross beam, side beams attached to the ends of the cross beam, parallel auxiliary side beams having a diagonal position with relation to the transverse beam, inclining rearwardly in direction of the left-hand side of the implement, an axle journaled beneath the transverse beam, supporting wheels secured to the axle and caster wheels carried by the rear portion of the said diagonal beams, a crank shaft mounted to revolve on the frame, having a diagonal relation to said transverse beam, and diverging from said beam at the right-hand side of the machine, said crank shaft being provided with alternately arranged crank arms, a series of rakes located between the diagonal beams of the frame, the rake heads being at the rear and the shanks of the said rakes being pivotally mounted on the crank arms of the crank shaft, said shanks of the rakes occupying a downwardly and rearwardly inclined position, links pivotally connected with the forward ends of the shanks of the said rakes, a diagonal forward bar supported by the frame, diverging at its left-hand end from the transverse beam of the frame, a sprocket wheel secured on the left-hand end of said crank shaft, a gear wheel mounted on the left-hand end of the axle, a short shaft journaled at the forward left-hand portion of the frame, a chain of gearing between the axle and the said forward shaft to rotate the latter, a second forward shaft journaled at the forward portion of the frame and having a universal connection with the first-named forward shaft, and a driving connection between the second forward shaft and the sprocket wheel on the crank shaft.

867,026. SYSTEM OF MACHINES FOR TREATING FLAX-STRAW. GEORGE H. ELLIS, St. Paul, Minn., assignor to International Flax Twine Company, a Corporation of Minnesota. Filed May 1, 1907. Serial No. 371,223.



1. A system of machines for treating flax straw, comprising a primary conveyer, a plurality of brakes adapted to receive the material from said primary conveyer, and a fiber conveyer arranged to receive and form into a single sliver the plurality of slivers delivered from the several brakes, substantially as described.

2. A system of machines for treating flax straw comprising a primary conveyer, two sets or series of brakes adapted to receive the material therefrom, to break it and deliver same in the form of a plurality of slivers upon two conveyers, and two fiber conveyers, which unite and form a single sliver of the plurality of slivers delivered therefrom, substantialy as described.

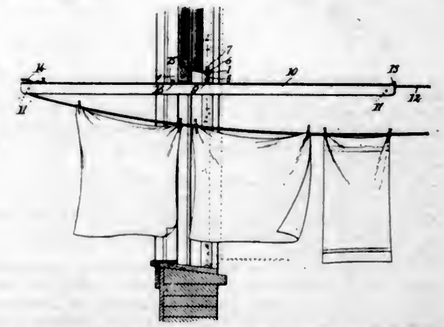
3. A system of machines for treating flax straw comprising a primary conveyer, said conveyer consisting of two oppositely moving branches leading from the discharge end of the first mentioned conveyer, two sets or series of brakes adapted to receive the material therefrom, break it and deliver same in the form of a plurality of slivers, and a fiber conveyer arranged to receive and form into a single sliver the plurality of slivers delivered from said brakes, substantially as described.

4. A system of machines for treating flax straw comprising a continuously moving conveyer on which the material is delivered in a single continuous swath, means adapted to receive, break and subdivide said material into a plurality of fiber swaths or slivers, and a conveyer for gathering and reuniting said fiber swaths or slivers into a single fiber swath or sliver, substantially as described.

5. A system of machines for treating flax straw comprising a continuously moving conveyer on which the unthreshed flax straw is delivered in a single continuous swath, a plurality of brakes adapted to receive the material from the said conveyer and convert it into a sliver and a refuse, a second conveyer for receiving the plurality of slivers from the brakes and for forming them into a single sliver, and means for simultaneously receiving said refuse from the brakes and for separating same into tow, seed and waste products, substantially as described.

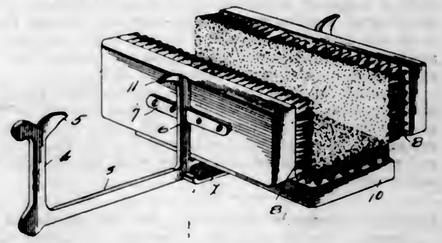
6. A system of machines for treating flax straw comprising a continuously moving conveyer on which the material is delivered, a plurality of brakes adapted to receive the material from the said conveyer and convert it into a sliver and a refuse, conveyers for receiving the plurality of slivers from the brakes, and means for simultaneously receiving said refuse from the brakes and for separating same into tow, seed and waste products, said means comprising pneumatic conveyers, a tow brake and seed cleaners.

867,027. CLOTHES-LINE HOLDER. HUMPHREY FALVEY, New York, N. Y. Filed Mar. 6, 1907. Serial No. 360,821.



A clothes line holder, comprising a trough-shaped sheet-metal arm, a sheave journaled in the trough of said arm near each end thereof, and means for pivotally attaching said arm intermediate said sheaves, whereby it is adapted to swing in a substantially vertical plane.

867,028. SHOE-CLEANER. HOMER P. FRISCH, Mount Pulaski, Ill. Filed Feb. 21, 1907. Serial No. 358,643.



1. A shoe cleaner comprising a securing plate having a scraper extension, upstanding posts on the securing plate having angularly-disposed side extensions, the securing plate also having side extensions, and brushes secured to said extensions on the post and plate.

2. A shoe cleaner comprising a securing plate having a scraper extension terminating in an upstanding scraper post, supporting posts on the plate having angular side ex-

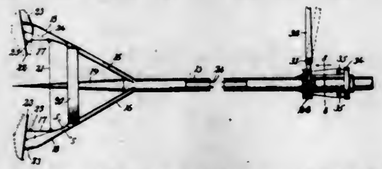
tensions, the plate having like side extensions, brushes arranged on the posts and securing plate, and means for securing the brushes in place.

3. A shoe cleaner comprising a securing plate, upstanding posts on said securing plate, inwardly projecting hooks on the posts, brushes secured by said hooks, and a brush mounted on the securing plate.

4. A shoe cleaner comprising a securing plate having a scraper extension, upstanding posts on said securing plate, hooks on the upstanding posts, angular side extensions on the posts brushes on the posts engaging the angular side extensions and held in place by said hooks, and a brush mounted on the securing plate.

5. A shoe cleaner comprising a securing plate, upstanding posts on said securing plate, inwardly projecting hooks on the posts, the upstanding posts and securing plate having angular side extensions, brushes in engagement with the angular side extensions and held in place by the hooks on the posts.

867,029. PROPELLER. ALBERT H. FRIEDEL, Cleveland, Ohio. Filed Feb. 16, 1907. Serial No. 357,620.



1. A device of the class described, comprising a hollow shaft, hollow rearwardly-extending arms rigidly secured thereto, propeller blades pivotally connected to the outer ends of said arms, and means extending through said shaft and said arms for simultaneously varying the inclination of each of said blades.

2. A device of the class described, comprising a propeller shaft, rearwardly-extending divergent arms secured to said shaft, propeller blades adjustably secured to the ends of said arms, and means for adjusting the inclination of said propeller blades.

3. A device of the class described, comprising a propeller shaft, rearwardly-extending arms rigidly secured to said shaft, each of said arms having a plurality of divergent extensions, and propeller blades pivotally connected to said extensions.

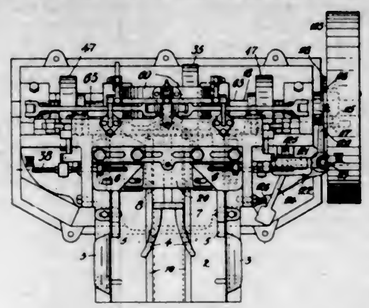
4. A device of the class described, comprising a hollow propeller shaft, hollow divergent arms extending outwardly therefrom, propeller blades pivotally connected to the outer ends of said arms, a plurality of controlling means extending through said shaft and through each of said arms and connected to said blades, and means carried by said shaft for operating said controlling means.

5. A device of the class described, comprising a hollow shaft, a propeller blade pivotally supported adjacent the end thereof, a plurality of cables extending through said shaft and operatively connected to said blade, and means for pulling upon either of said cables for varying the inclination of the blade in respect to the shaft.

6. A device of the class described, comprising a propeller shaft, a plurality of rearwardly-extending divergent arms carried thereby, means connecting said arms but independent of said shaft for supporting and bracing the former, and propeller blades secured to the outer end of each of said arms.

867,030. CAN-BODY FORMING AND SOLDERING MACHINE. GEORGE GARDNER, Yarraville, Victoria, Australia. Filed June 14, 1905. Serial No. 265,236.

1. In a machine such as described, the combination with the edge-bending boxes and clamping means for the blank; of links pivoted at one end in the boxes and having shoulders, levers pivoted in the other ends of said links, edge-bending bars mounted on the levers to seat in said notches, and mechanism to actuate the levers, whereby said bars will first be rotated to bend the edges of the blank which protrude into the boxes and then be moved bodily toward the blank to bend the edges inward.



2. In a machine such as described, the combination with a pair of oppositely situated edge-bending boxes, each having a depending clamping jaw and an oppositely situated bearing face; of a movable jaw pivoted to each box to rotate toward the center of the blank, a link having a shoulder pivoted in each box, a lever having an upper rounded end pivoted to said link, an edge-bending bar mounted on the lever and capable of seating on the shoulder, mechanism to operate the levers and means to actuate the pivoted clamping jaws, the said rounded end of the lever first rotating while bearing against the bearing face and then moved bodily toward the blank when the bar has seated on the shoulder of the link.

3. In a machine such as described, the combination with the stationary jaws; of oppositely situated pivoted jaws capable of rotating toward the center of the blank, a bar to lift the pivoted jaws to clamp the blank between them and the fixed jaws and means for raising and lowering the bar.

4. In a machine such as described, the combination with the stationary jaws; of oppositely situated pivoted jaws capable of rotating toward the center of the blank, a bar to lift the movable jaws to clamp the blank between them and the fixed jaws, reciprocating means to raise and lower the bar, and devices to adjust said bar relatively to said means.

5. In a machine such as described, the combination with the stationary jaws; of oppositely situated movable jaws, means to simultaneously adjust a stationary and the corresponding movable jaw for different widths of blanks, a bar to move the movable jaws and means to adjust the height of the bar.

6. In a machine such as described, the combination with an anvil; of a sliding block, a forming horn mounted thereon comprising a wedge-shaped central rigid part having recesses, curved wings hinged to the upper end of the rigid part, adjustable lugs in the wings to take into said recesses and means mounted in the rigid part to engage the lugs to spread the wings.

7. In a machine such as described, a forming horn comprising a central rigid wedge-shaped part having lateral and longitudinal recesses, curved wings hinged to the upper end of the wedge-shaped part, adjustable studs mounted in the wings to take into the lateral recesses, a rock-shaft mounted in the longitudinal recess, a double cam on the rock-shaft engaging the studs, a reciprocable hammer coöperating with the rigid portion and means on the hammer to actuate the rock-shaft.

8. In a machine such as described, a forming horn comprising a central, rigid wedge-shaped part having two lateral recesses and a longitudinal recess, a curved wing hinged on each side and to the upper portion of the wedge-shaped part, adjustable studs on the wings taking into the recesses, a spring-retracted rock-shaft mounted in the longitudinal recess, means to limit the rotation of the shaft, a double cam on the shaft to engage the lugs, a pinion on the shaft, a reciprocable hammer coöperating with the wedge-shaped part and a rack mounted on the hammer to engage the pinion to rotate the shaft and spread the wings.

9. In a machine such as described, the combination with a vertically reciprocable forming horn; of a horizontally reciprocating feed slide and ejector rods on the forward end of the slide and mechanism to reciprocate the horn and move it into position to permit the slides to engage the end of the can body on the horn.

10. In a machine such as described, the combination with a vertically reciprocating forming horn having a rigid central portion and expansible lateral wings having guide-ways therein; of a horizontally reciprocable feed slide and ejector rods on the forward end of the slide movable in the guide ways and mechanism to reciprocate the horn to bring the guideways in alinement with the ejector rods and to permit the rods to act on the end of the can body on the horn.

11. In a machine such as described, the combination with a crank shaft; of a vertically reciprocable slide connected thereto, a hammer mounted on the slide, a bell-crank lever fulcrumed on the frame of the machine, a feed slide connected to the upper end of said lever and means to connect the other end thereof to the slide to operate the feed-slide on the downward movement of the hammer.

12. In a machine such as described, the combination with the frame, a driving shaft and a cam thereon; of a reciprocating block mounted in the frame, a forming horn mounted on the block, a bell-crank lever, a loose link connecting the bell-crank lever to the frame, one arm of said lever connected to the block and the other arm operated by the cam, and a horizontal bar mounted on the block, substantially as described.

13. In a machine such as described, the combination with a stationary soldering horn; of a vertically reciprocating forming horn, a connecting washer on the end of the forming horn, guides on the washers and corresponding ribs on the soldering horn.

14. In a machine such as described, the combination with means for horizontally feeding a flat blank, including an ejector device, edge-bending mechanism, means to clamp the blank during the operation of the edge-bending mechanism, a forming horn and mechanism coöperating therewith to form the can body; of a soldering horn across the end of which the forming horn moves, and means to progress the can body along the horn.

15. In a machine such as described, means for horizontally feeding flat blanks, including an ejector device, edge-bending and clamping mechanism, a vertically reciprocable forming horn and mechanism to form the can body, all constituting the can-body-forming machine, in combination with a stationary soldering horn, a sliding connection between the two horns, said ejector mechanism ejecting the can body from the forming horn onto the soldering horn when the former is in register therewith, and means driven from a rotating part of the machine to progress the can body along the soldering horn, for the purposes set forth.

16. In a can-body forming machine, means for fluxing the seam, comprising a fluxing pan, a metal roller submerged in the flux therein, a lever pivoted at one end and spring-held at the other on which said roller is mounted, a second roller resting on the metal roller and a pair of swivel arms in which the second roller is mounted, substantially as and for the purpose set forth.

867,031. GARMENT-FASTENER. SAMUEL GLADING, Minneapolis, Minn. Filed May 28, 1907. Serial No. 376,121.



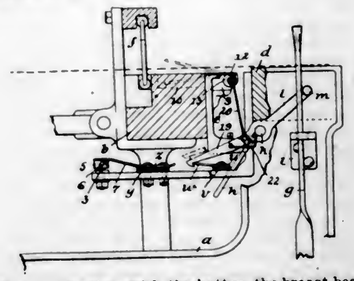
1. In a fastener of the character stated having jaws, serrations on the inner faces thereof, and an open head resiliently carrying said jaws, the longer walls of said serrations converging downwardly or toward the head, said jaws being separated throughout their entire extent and having the inner terminal of the space between them in communication with the opening in said head.

2. A fastener of the character stated composed of jaws, a head carrying the same, said head having an opening therein, said jaws being separated their entire length and having the space between them in communication with said openings, and serrations on the opposite inner faces of said jaws.

3. In a fastener of the character described, a head having an eye or opening therethrough, jaws projecting from said head and provided with serrations on the inner or adjacent walls thereof, the longer walls of said serrations converging toward said head and the outer extremities of said jaws being rounded, whereby the garment to be fastened can be readily inserted in position and removed by a continuation of movement in the direction in which it was inserted.

4. A fastener of the character described comprising a head having an opening, and jaws extending from said head with the space between the jaws communicating with said opening, said jaws being separated for their entire length and having their adjacent faces provided with serrations, whereby the article to be fastened thereby may be inserted, and removed by a continuation of movement in the direction in which it is inserted.

867,032. WEFT STOP-MOTION FOR LOOMS. WILLIAM A. GRANT, Paterson, N. J. Filed Jan. 11, 1907. Serial No. 351,806.



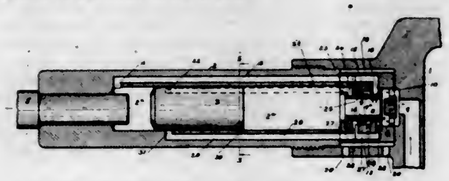
1. The combination, with the batten, the breast-beam and the controller of a loom, of a system of vibratory parts arranged on the batten and comprising the weft-fork and a hook, means, actuative from said system of parts and comprising a horizontally movable lever, for actuating the controller, said lever being arranged to be engaged by the hook when the filling is absent, a hook-actuating plate arranged in the path of movement of said hook with the batten, said lever being arranged adjacent said plate in the plane of pivotal movement of the hook and means for suporting said plate and the lever substantially as described.

2. The combination with the batten, the breast-beam and the controller of a loom, of a system of vibratory parts arranged on the batten and comprising the weft-fork and a hook, means actuative from said system of parts and comprising a horizontally movable lever, for actuating the controller, an inclined hook-actuating plate arranged in the path of movement of said hook with the batten, said lever being adapted to be engaged by said hook and being normally arranged to overlap the plate, and means for supporting said plate and the lever, substantially as described.

867,033. FLUID-PRESSURE POWER-HAMMER. CARL R. GREEN, Dayton, Ohio, assignor to The Columbus Pneumatic Tool Company, Columbus, Ohio, a Corporation of Ohio. Filed Nov. 22, 1906. Serial No. 344,549.

1. In a fluid pressure power hammer, a barrel, a hammer piston mounted to reciprocate in a bore in said barrel, a

valve for controlling the motive fluid for operating said piston, said valve being provided with a longitudinal port through the center thereof, a plug for closing said port when the valve is in one position, said means leaving the port open when the valve is in its opposite position, an annular groove surrounding said valve, and means for conducting live fluid from said groove to the front of the piston, whereby, when the port in the valve is closed by the said plug, the fluid will be transmitted through said groove to the front of the piston.



2. In a fluid pressure power hammer, a barrel, a hammer piston mounted to reciprocate in a bore in said barrel, a valve for controlling the motive fluid for operating said piston, said valve being provided with a longitudinal port through the center thereof, a stationary plug that is adapted to enter said port when the valve is in one position, said plug being free from the port when the valve is in its opposite position, an annular groove surrounding said valve, and means for conducting live fluid from said groove to the front of the piston, whereby when the port in the valve is closed by the said plug, the fluid will be transmitted through said groove and said conducting means to the front of the piston.

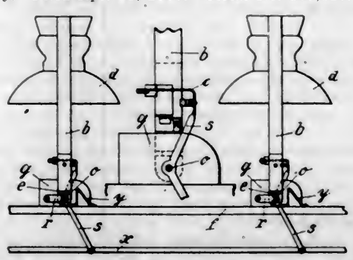
3. In a fluid pressure power hammer, a barrel, a hammer piston mounted to reciprocate in said barrel, a valve for controlling the live fluid for driving the said piston, said valve being provided with a central longitudinal port, said port conducting live air directly to the rear of the piston, means for permitting the live air to act upon the rear end of the valve for holding the same in its forward position, a shoulder surrounding said valve, the front face of said shoulder being of greater area than the rear end of the valve, a passage for live fluid connecting the bore in the barrel with the said front face of said shoulder, whereby, when said passage is opened, by the forward movement of the piston, the live fluid will pass through the center of the valve, and through said passage where it acts against the said face of the shoulder to shift the valve, and a stationary plug for closing the port in the valve when it is thus shifted.

4. In a fluid pressure power hammer, a barrel, a hammer piston mounted to reciprocate in said barrel, a valve for controlling the live fluid for driving the said piston, said valve being provided with a central longitudinal port, said port conducting live air directly to the rear of the piston, means for permitting the live air to act upon the rear end of the valve for holding the same in its forward position, a shoulder surrounding said valve, the front face of said shoulder being of greater area than the rear end of the valve, a passage for live fluid connecting the bore in the barrel with the said front face of said shoulder, whereby, when said passage is opened, by the forward movement of the piston, the live fluid will pass through the center of the valve, and through said passage where it acts against the said face of the shoulder to shift the valve, a stationary plug for closing the port in the valve when it is thus shifted, and means for simultaneously admitting live air to the front of the piston for driving the latter rearwardly, and to the front of the shoulder of the valve, for holding the valve in rearward position.

5. In a fluid pressure power hammer, a barrel, a hammer piston mounted to reciprocate in said barrel, a valve for controlling the live fluid for driving the said piston, said valve being provided with a central longitudinal port, said port conducting live air directly to the rear of the piston, means for permitting the live air to act upon the rear end of the valve for holding the same in its forward position, a groove and a shoulder surrounding the said valve, the front face of the shoulder being of greater area than the rear end of the valve, a passage for live fluid connecting the bore in the barrel with the said front face of said shoulder whereby, when said passage is opened by the forward movement of the piston, the live fluid will pass through the center of the valve and through said passage where it acts against the said face of the shoulder to shift the valve rearwardly, a stationary plug for closing the port in the valve when it is thus shifted, means connecting said groove with the bore of the barrel in front of the piston for driving the latter rearwardly, and ports connecting the said groove with the front of the shoulder on the valve whereby live air is admitted to said shoulder from said groove for holding the valve in its rearward position.

6. In a fluid pressure power hammer, a barrel, a hammer piston mounted to reciprocate in said barrel, a valve for controlling the live fluid for driving the said piston, said valve being provided with a central longitudinal port, said port conducting live air directly to the rear of the piston, means for permitting the live air to act upon the rear end of the valve for holding the same in its forward position, a groove and a shoulder surrounding the said valve, the front face of the shoulder being of greater area than the rear end of the valve, a passage for live fluid connecting the bore in the barrel with the said front face of said shoulder whereby, when said passage is opened by the forward movement of the piston, the live fluid will pass through the center of the valve and through said passage where it acts against the said face of the shoulder to shift the valve rearwardly, a stationary plug for closing the port in the valve when it is thus shifted, means connecting said groove with the bore of the barrel in front of the piston for driving the latter rearwardly, ports connecting the said groove with the front of the shoulder on the valve whereby live air is admitted to said shoulder from said groove for holding the valve in its rearward position, and means for exhausting the air from in front of said shoulder, whereby the pressure of live air on the rear of the valve shifts the latter forwardly.

867,034. DISAPPEARING TARGET. EDUARD HABERSBRUSER, Sulzbach, and JOHANN STÖCKER, Bayreuth, Germany. Filed Apr. 23, 1907. Serial No. 369,887.



1. The combination with a target hinged to a suitable support and arranged to fall, of a latch mounted on a support other than the target and engaging the target, means normally tending to disengage the latch, and a detent normally holding the latch against disengagement and arranged to release the same upon a scoring of a hit by a projectile.

2. The combination with two targets hinged one in front of the other to a suitable support and arranged to fall respectively to the front and rear, of a latch engaging the front target, means tending to disengage the latch, and means holding the latch against disengagement, said last named means arranged to release the latch upon the impact of a projectile upon the target.

3. The combination with two targets hinged one in front of the other to a suitable support and arranged to fall respectively to the front and rear, of a latch mounted on a fixed support and engaging the target, means tending to disengage the latch, and means carried by the rear target holding the latch against disengagement, said last named means arranged to release the latch upon the impact of a projectile upon the rear target.

4. The combination with two targets hinged one in front of the other to a suitable support and arranged to fall respectively to the front and rear, the front target being readily penetrable and the rear target comparatively impenetrable, of a latch positively engaging the front target, means tending to disengage the latch, and means carried by the rear target holding the latch against disengagement, said last named means arranged to release the latch upon the impact of a projectile upon the rear target.

5. The combination with two targets hinged one in front of the other to a suitable support and arranged to fall respectively to the front and rear, the front target being readily penetrable and the rear target comparatively impenetrable, of a latch arranged on a fixed support and engaging a keeper carried by the front target, means tending to disengage the latch from the keeper, and a detent carried by the rear target holding the latch against disengagement, the detent arranged to release the latch upon the impact of a projectile upon the rear target.

6. The combination with a target hinged to a suitable support and arranged to fall, of a latch engaging the target, means normally tending to disengage the latch, a detent normally holding the latch against disengagement and arranged to release the same upon the scoring of a hit by a projectile, the latch arranged upon its release to bear against the target to displace the same from its upright position.

7. The combination with two targets hinged one in front of the other to a suitable support and arranged to fall respectively to the front and rear, the front target being readily penetrable and the rear target comparatively impenetrable, of a latch arranged on the fixed support and engaging a keeper carried by the front target, means tending to disengage the latch from the keeper, and a detent carried by the rear target holding the latch against disengagement, the detent arranged to release the latch upon the impact of a projectile upon the rear target, the latch upon release arranged to bear against the inner opposing faces of the targets and press the same outwardly.

8. The combination with two targets hinged one in front of the other to a suitable support and arranged to fall respectively to the front and rear, a keeper carried by the inner face of the front target, a detent provided with a beveled approach carried by the inner face of the rear target, a spring pressed latch pivoted to the support and arranged to be tilted against the action of its spring by the beveled approach of the detent to cause one extremity of the latch to engage the keeper and the other extremity of the latch to be lightly engaged by the detent.

9. The combination with two targets hinged one in front of the other to a suitable support and arranged to fall respectively to the front and rear, a keeper carried by the inner face of the front target, a detent provided with a beveled approach carried by the inner face of the rear target, a spring pressed latch pivoted to the support and arranged to be tilted against the action of its spring by the beveled approach of the detent to cause one extremity of the latch to engage the keeper and the other extremity of the latch to be lightly engaged by the detent, the latch arranged upon its release to exert a wedge-pressure outwardly against the targets.

10. The combination with two targets hinged one in front of the other to a suitable support and arranged to fall respectively to the front and rear, of a keeper arranged on the inner face of the front target, a detent having an oblique approach arranged on the inner face of the rear target, a spring pressed latch pivoted between the keeper and detent and arranged to be turned against the action of its spring by the oblique approach of the detent to cause its obliquely extending arm to enter the keeper, the said detent snapping over the other arm of the latch to hold the latch against disengagement with the keeper, the two targets as a whole also hinged so as to be turned bodily to the front or rear, the impact of a projectile upon the rear target serving to release the latch and permit the same to press the two targets outwardly by a wedging action and the mechanical bringing of the two targets together causing the reëngagement of the latch.

11. The combination with a target hinged to a suitable support and arranged to fall, means normally holding the target upright and arranged to release the same upon the scoring of a hit by a projectile, of means for tilting the target laterally, said means rendered inoperative as to the target by the previous scoring of a hit.

12. The combination with a target hinged to a suitable support and arranged to fall, a latch engaging the target, means tending to disengage the latch, a detent normally holding the latch against disengagement and arranged to release the same upon the scoring of a hit by a projectile, of means for tilting the target laterally, said means rendered inoperative as to the target by the previous scoring of a hit.

13. The combination with a target hinged to a suitable support and arranged to fall, means normally holding the target upright and arranged to release the same upon the scoring of a hit by a projectile, of means to tilt the target laterally comprising a lever arranged to engage the target in its upright position and not to engage the same in its prostrate position.

14. The combination with two targets hinged one in front of the other to a suitable support and arranged to fall respectively to the front and rear, a latch engaging a keeper carried by the front target, means tending to disengage the latch, a detent carried by the rear target holding the latch against disengagement and arranged to release the latch upon the impact of a projectile upon the rear target, of means for tilting the targets laterally, said means rendered inoperative as to the targets by the previous scoring of a hit.

15. The combination with two targets hinged one in front of the other to a suitable support and arranged to fall respectively to the front and rear, a latch engaging a keeper carried by the front target, means tending to disengage the latch, a detent carried by the rear target holding the latch against disengagement and arranged to release the latch upon the impact of a projectile upon the rear target, of a lever arranged between the two targets and movable in a plane at right angles to the falling plane of the targets, said lever provided with prongs extending sidewise to engage the upright targets and not to engage the prostrate targets, and means for operating said lever.

16. The combination with a plurality of target sets each comprising two targets hinged one in front of the other to a suitable support and arranged to fall respectively to the front and rear, of a latch engaging a keeper carried by the front target, a detent carried by the rear target and holding the latch in engagement with the front target and arranged to release the latch upon the scoring of a hit by a projectile, each of the target sets also hinged to tilt bodily in a plane at right angles to the falling plane of the targets, said levers provided with prongs extending sidewise to engage the targets when upright and not to engage the same when prostrate, and a rod connecting the several levers by which the same may be simultaneously operated.

17. The combination with a plurality of target sets each comprising two targets hinged one in front of the other to a suitable support and arranged to fall respectively to the front and rear, of a latch engaging a keeper carried by the front target, a detent carried by the rear target and holding the latch in engagement with the front target and arranged to release the latch upon the scoring of a hit by a projectile, each of the target sets also hinged to tilt bodily in a plane at right angles to the falling plane of the targets, said levers provided with prongs extending sidewise to engage the targets when upright and not to engage the same when prostrate, a rod connecting the several levers by which the same may be simultaneously operated, and friction devices to prevent accidental tilting of the individual targets.

867,035. CORN-HUSKING ROLL. JOHN HAMM, WILLIAM HAMM, and MARTIN HAMM, Honey Creek, Wis. Filed Dec. 7, 1906. Serial No. 346,809.

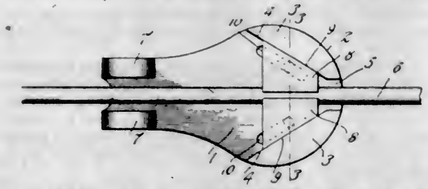
As a new article of manufacture, a husking roll comprising a tubular wood stock, a shaft projected centrally and

axially therethrough and a strip of flexible metal spirally wound upon the surface of said stock to afford a continuous



spiral projection, such that a continuous spiral groove is afforded between the windings thereof.

867,036. PULL-ROD GRIP. CHARLES C. HANFORD, Toledo, Ohio. Filed Jan. 31, 1907. Serial No. 355,162.



1. A pull-rod grip comprising a body portion provided at one end with gripping means and at its opposite end with spaced laterally projecting hooks forming between them a recess for the reception of a rod and providing means on opposite sides of such rod for the attachment of a draft-member, whereby the pull exerted on the grip is in axial alinement with the rod operated on.

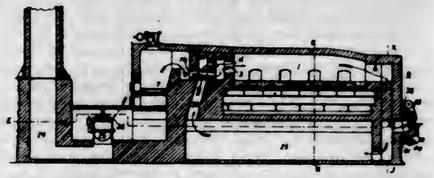
2. A pull-rod grip comprising a body portion provided at one end with oppositely-disposed lugs having oppositely inclined faces and at its other end with laterally-projecting oppositely-disposed hooks, said hooks forming between them a recess of suitable size to freely receive a pull-rod and standing longitudinally of the body in alinement with the opening between said lugs and providing means adapted for the attachment of a draft-member whereby the pull exerted on the grip is in direct axial alinement with the rod operated on, and rod-gripping means coacting with the inclined faces of the lugs on the body to grip a rod when pull is exerted on the hooks.

867,037. WIRE FENCE. PAUL C. HARGIS, St. Louis, Mo. Filed Jan. 21, 1907. Serial No. 353,307.



In combination with an angle-bar forming a fence post, and having opposite marginal alining recesses inclined downwardly from the opposite edges of the bar, a series of upwardly inclined notches inclining upwardly from said edges and forming with the respective recesses a series of cleats, the sides of the recesses being substantially at right angles to the faces of the members of the angle bar whereby suitable cutting or gripping edges are formed, a wire passed through and supported at the bottoms of the alining recesses of the angle-bar and adapted to be gripped by the cutting edges aforesaid, and suitable ties or anchor wires passed through the notches and along the sides of the cleats and looped around the wires on opposite sides of the angle-bar legs aforesaid, substantially as set forth.

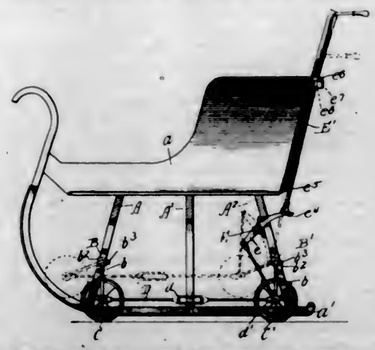
867,038. REGENERATIVE GAS-FURNACE. GEORGE HATTON, Saltwells House, near Brierley Hill, England. Filed Dec. 28, 1905. Serial No. 293,660.



1. A regenerative gas furnace comprising a heating chamber, an equalizing chamber connected therewith, two regenerators placed one on each side of the equalizing chamber and means for connecting one regenerator with the heating chamber and the other regenerator with the equalizing chamber or vise versa.

2. In a regenerative gas furnace, the combination of a heating chamber having gas and air inlets at one end or side and two outlets at the opposite end or side terminating in port holes, a heat diverting valve adapted to open and close said port holes, two regenerator chambers provided with a reversible air supply and having openings between the said port holes, and an equalizing chamber made with an inlet between the two openings to the regenerators and an outlet leading to the air and gas inlet end of the heating chamber, said valve being so arranged with the air reversing valve that the flame and products of combustion which pass continuously in one direction through the heating chamber can be caused to flow alternately through one or other of the two regenerators to the stack while the fresh air from the air reversing valve flows through the other regenerator and through the equalizing chamber to the air inlet to the heating chamber, substantially as set forth.

867,039. PERAMBULATOR-SLED. WILLIAM HAXTON, Chicago, Ill. Filed Apr. 12, 1906. Serial No. 311,229.



1. A sled, wheels carried thereon, a rod connecting the wheels on the same side of the sled and adapted to adjust the distance between said wheels and hold the same in unvarying relation, a shaft journaled at the rear of said sleigh, an arm carried centrally thereon, a lever on each end of said shaft, rods connecting each lever and the rear axles and means adapted to actuate said central arm to raise or lower said wheels.

2. A sled, front and rear wheels carried thereon and adapted to be adjusted downwardly to support the sled, extensible connecting rods connecting the front and rear wheels together on each side of the sled and acting to maintain the same an unvarying distance apart and means adjusting the wheels onto and off of the ground.

3. A sled of the class described embracing the combination with the knees of a sled of brackets secured thereon, an arm pivotally connected in each bracket, means on each bracket and adapted when said arms are directed vertically downward to support the same against rearward movement, a wheel journaled at the outer end of each arm, and adapted to project below the runners, a connecting rod adjustable as to length and connecting the axles of the wheels on each side of the sled together and acting to hold the same at unvarying distances apart, a lever engaged on one of said axles, an adjusting mechanism engaged on said lever adapted to swing said wheels upwardly out of engagement with the road or downwardly to support the sled.

4. In a device of the class described a sled, brackets rigidly engaged on the front and rear thereof on each side of the sled, a downwardly directed shoulder on the rear side of each bracket, a yoke arm pivotally engaged at its upper end on said bracket and adapted to bear against the shoulder when directed downwardly, a wheel journaled at the lower end of each arm and adapted to project below the runner of the sleigh, an extensible connecting rod connecting the lower ends of said arms together on each side of the sled and acting to hold the wheels at unvarying distances apart, a shaft journaled on the rear knee, forwardly projecting levers thereon, one on each side of the sled, levers pivotally engaged at the axles of the rear wheels and engaged on the inwardly directed ends of said levers, a rearwardly directed arm on said shaft, shaped to be engaged by the foot and an upwardly extending adjusting rod pivotally engaged on said arm at its extremity and notched for engagement with a suitable detent carried at the rear of the sled and a handle on said adjusting rod.

5. In a device of the class described, a perambulator sled embracing in combination with the knees of the sled, brackets secured thereon and arms pivotally engaged thereon and capable of swinging vertically downward and forwardly and upwardly, a stop to hold the same from rearward movement, wheels journaled on the lower end of said arms, adjusting means for shifting said arms to vertical position and rigidly engaging the same when so adjusted and means adjusting the distance between said wheels when in operative position.

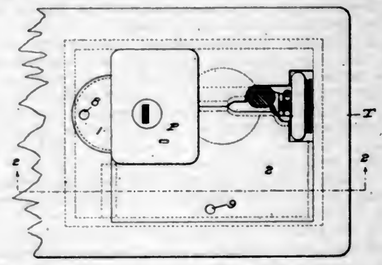
6. A mechanism of the class described embracing brackets adapted to be rigidly engaged on the knees of a sled, arms pivotally engaged thereon, a wheel at the end of each arm, connecting rods adjustable as to length and connecting a front and rear wheel on each side of the sled and adapted to hold said wheels in unvarying relation when adjusted into and out of operative position and means adjusting said wheels downwardly to support the sled or upwardly out of bearing engagement on the ground.

7. In a device of the class described the combination with a sleigh of a wheel pivoted at each corner thereof, an independent axle for each wheel, means adjustably connecting the wheels on the same side of the sleigh and means adapted to adjust the wheels onto or off the ground in any adjustment.

8. In a device of the class described the combination with a sleigh of wheels pivoted thereto, an independent axle for each, adjustable rods connecting the axles on the same side of the sleigh and adapted when adjusted to secure said wheels in unvarying relation and spring controlled means adapted to adjust said wheels into or out of operative position.

9. In a device of the class described the combination with a sleigh of independent adjustable wheels pivoted thereto, a shaft journaled at the rear of said sleigh, operative connections between said shaft and rear wheels, an arm on said shaft, a rod bearing against said arm adapted when depressed to elevate said wheels and when elevated to permit the wheels to rest on the ground, a roller on the end of said rod and means locking said rod in either adjustment.

867,040. SEWING-MACHINE TABLE. LOUISA B. HENDERSON, New York, N. Y. Filed Aug. 22, 1906. Serial No. 331,551.



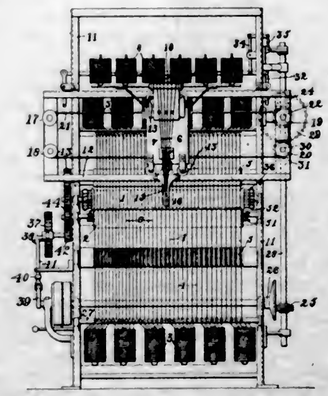
1. A sewing machine, in combination with a table top having an opening through which the upper part and work plate of the sewing machine may freely project, a rigid support below the table top, a pedestal for the sewing machine below its work plate adapted to entirely support said machine, said pedestal being secured to said rigid support.

2. A sewing machine head, a work plate and a pedestal below the work plate, in combination with a table top, a support for the pedestal below the table top, said table top having an opening shaped substantially according to the contour of the machine on a plane with its work plate, a portion of the table top on the edge of the opening thus formed being removable.

3. A sewing machine head, a work plate and a pedestal below the work plate, in combination with a table top, a support for the pedestal below the table top, said table top having an opening shaped substantially according to the contour of the machine on a plane with its work plate, a portion of the table top on the edge of the opening thus formed being removable, and supports below the table top for said removable portion.

4. A sewing machine head, a work plate and a pedestal below the work plate, in combination with a table top, a support for the pedestal below the table top, said table top having an opening shaped substantially according to the contour of the machine on a plane with its work plate, said support being in the form of a box.

867,041. MACHINE FOR MAKING PAPER OR PASTEBOARD WITH FIBROUS INSERTIONS. OSCAR HOFFMANN, Nuremberg, Germany. Filed June 25, 1906. Serial No. 323,298.



1. A machine for making paper and the like having fibrous insertion comprising a pair of pressure rollers and a device for feeding transverse threads thereto, which device

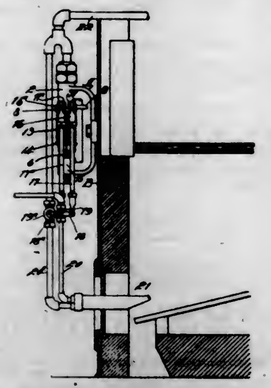
consists of a carriage, means for reciprocating said carriage in front of said rollers, means mounted on said carriage for supplying the threads and means for engaging and stretching said threads parallel with one of said pressure rollers substantially as described.

2. A machine for making paper and the like having fibrous insertion comprising a pair of pressure rollers and a device for feeding transverse threads thereto, which device consists of a carriage, means for reciprocating said carriage an extending arm on said carriage having a portion concentric with one of said rollers, a plurality of inwardly projecting eyelets on said arm, means for supplying one thread to each of said eyelets and means mounted at the ends of said roller for engaging, stretching and releasing said threads at each reciprocation of said frame substantially as described.

3. A machine for making paper and the like having fibrous insertion comprising a pair of pressure rollers and a a device for feeding transverse threads thereto, which device consists of a carriage, means for reciprocating said carriage, means for supplying threads from said carriage to one of the pressure rollers, means mounted at the ends of said roller for engaging said threads during a reciprocation of the frame, and means for rotating and then disengaging said engaging means at the end of each reciprocation substantially as described.

4. A machine for making paper and the like having fibrous insertion comprising a pair of pressure rollers and a device for feeding transverse threads thereto, which device consists of a reciprocating carriage, means for supplying threads from said carriage to one of said pressure rollers, a series of pins carried by two armed levers pivotally mounted on rings at the ends of said roller adapted to engage and stretch said threads, an annular groove in each of said rings and means engaging in said grooves for releasing the threads from said pins substantially as described.

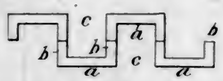
867,042. AUTOMATIC FUEL-REGULATOR. LEVI HOLBEN, San Francisco, Cal. Filed Jan. 22, 1907. Serial No. 353,442.



1. In an apparatus for the automatic control of fuel supply to boiler furnaces, a fixed cylinder having a plunger movable therein, a stem and guiding sleeve at the lower end, arms projecting outwardly from the junction of the stem with the plunger and movable in unison with said plunger, a disk having a transverse slot into which one of said arms is fitted, said arm having a guided fork at the upper end, a spring, disks surrounding the stem below said arm and between which the spring is located so as to press upwardly and retain the arms normally in their higher position, a screw thread cut upon the sleeve passing through a correspondingly threaded fixed nut whereby the lower spring supporting disk will be moved to increase or diminish the tension of the spring, means for admitting steam from the boiler into the upper end of the cylinder, a structure with valve controlled steam and oil pipes leading thereto, and means between the spring and plunger controlled arms whereby the valves are opened or closed.

2. In an apparatus of the character described, a vertically disposed cylinder having a plunger movable therein and a guided stem, means for supplying steam from the boiler to the upper end of the cylinder to depress the plunger, an adjustable spring acting in opposition to the plunger, and means for regulating its adjustment, a transversely slotted disk against which the spring acts in opposition to the plunger pressure, an arm fitting the transverse slot having a guided fork at the outer end, arms projecting from the disk, a burner, means for supplying fluids under pressure to said burner, controlling cocks and connections between said cocks and the disk-carried arms, said arms being reversible in the slotted disk to transfer the mechanism to one side or the other of the cylinder axis.

867,043. WALL OF BUILDING-BLOCKS. FRANCIS V. M. HUDSON, Brooklyn, N. Y. Filed Feb. 8, 1906. Serial No. 300,056.



1. In a wall, the combination in one course, of a series of U-blocks having their alternate ends opposed, and the surface gaps filled with auxiliary blocks.

2. In a wall, the combination in one course, of a series of U-blocks having their alternate ends opposed and the surface gaps of the interspaces filled with the heads of T-blocks, the web of each T-block extending across the center of the interspaces.

3. In a wall, the combination in one course, of a series of U-blocks having their alternate ends opposed, and each provided with a projection upon its inner side, and the surface gaps filled with the heads of T-blocks, and with their webs extended nearly across the centers of the gaps.

4. In a wall, the combination, with a course containing a series of U-blocks having their tie-bars upon the face of the wall and their alternate ends opposed and the end legs of the U-blocks of unequal length, of a superposed course having similar U blocks with their tie-bars upon the face of the wall and their legs arranged to break joints with the corresponding legs in the contiguous course, and filling blocks of T-shape having their heads inserted in the spaces between the tie-bars in the respective courses, and their webs extending nearly across the centers of the gaps between the legs.

5. In a wall, the combination in one course, of a series of U-blocks having their alternate ends opposed and the surface gaps filled with the heads of T-blocks, the web of each T-block extending toward the tie-bar of the opposed U-block, and the outer corners of the legs being indented and the heads of the T-blocks fitted thereto, to equalize the exposed surfaces of the tie-bars and heads.

6. In a wall, the combination, with a course, including a corner, containing a series of U-blocks having their alternate ends opposed and forming a zigzag design with surface gaps between the ends of the U-blocks, of a superposed course having similar U-blocks overlapped to break joints upon the course below, and T-blocks having their heads fitted to the surface gaps and their legs extended into the space between the ends of the U-blocks, and angle-blocks filling the space at the corner caused by such overlapping, substantially as set forth.

7. In a wall, the combination in one course, of a series of U-blocks having their alternate ends opposed, and the surface gaps filled with the heads of T-blocks, and the end legs of the U-blocks being beveled to break joints at different lines at the top and bottom of the course.

8. In a wall, the combination in one course, of a series of U-blocks having their alternate ends opposed, and the surface gaps filled with the heads of T-blocks, and the end legs of the U-blocks being beveled to break joints at different lines at the top and bottom of the course, and a bond extended across such beveled joint to tie the opposed blocks together.

9. In a wall, the combination in one course, of two rows of U-blocks having their extreme ends opposed, with the openings of the legs adjacent to one another within the wall, and filling blocks inserted in such openings.

10. In a wall, the combination in one course, of two rows of U-blocks having their extreme ends opposed, with the openings of the legs adjacent to one another within the wall, and filling blocks inserted in such openings, and having webs intermediate to the legs of the U-blocks, to support such legs in a continuous course.

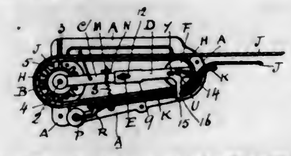
11. In a wall, the combination, with one course including a corner, and two rows of U-blocks with their extreme ends opposed, and the openings of their legs adjacent to one another with filling blocks in such openings, of a superposed course with the blocks of the rows overlapped to break joints upon the course below, and filling blocks inserted in the space at the corner caused by such overlapping.

867,044. LARDING-NEEDLE FOR MEAT. PHILIP HUSS, Lakewood, N. J. Filed May 29, 1907. Serial No. 376,255.



A larding needle having a tapered tubular body to receive a larding strip, and a removable tapered tip constituting a plug for the forward end of said body, the butt end of said body being open whereby the end of the larding strip may project and be withdrawn when the needle is forced through the body of meat.

867,045. TYPE-WRITING MACHINE. JOSEPH H. JACKSON, Hamilton, Ontario, Canada. Filed Mar. 2, 1906. Serial No. 303,786.



1. In a typewriter, end frames spaced apart and having bearings at their ends, shafts journaled in said bearings, a roller carried by one of said shafts, a roller carried by the other of said shafts and provided with spaced longitudinally extending peripheral ribs and with flanges at the ends bearing against the ends of said ribs, said flanges having transverse apertures communicating with the spaces between the ribs, and an endless belt of resilient material bearing over said rollers.

2. In a typewriter, end frames spaced apart and having bearings at their ends, shafts journaled in said bearings, a roller carried by one of said shafts, a roller carried by the other of said shafts and provided with spaced longitudinally extending peripheral ribs and with flanges at the ends bearing against the ends of said ribs, said flanges having transverse apertures communicating with the spaces between the ribs, an endless belt of resilient material bearing over said rollers, bars swinging from the journals of said rollers and over-lapping at their inner ends, and means for adjustably connecting said over-lapping ends.

3. In a typewriting machine, a cylinder having end journals and with spaced longitudinal peripheral ribs, a roller spaced from said cylinder and provided with end journals, arms connected respectively to the journals of the cylinder and roller and over-lapping at their free ends, means for adjustably coupling said over-lapping ends, tie members uniting the arms of said cylinder, tie members uniting the arms of said roller, and an endless belt extending over said cylinder and roller.

4. In a typewriting machine, a carriage including end frames having oppositely disposed bearing slots at one end and spaced lateral pins at the other ends, a cylinder having end journals engaging said bearing slots and with spaced longitudinal peripheral ribs, arms engaging the journals of said cylinder, arms having transverse bearing slots and with spaced longitudinal slots movably engaging said spaced pins and over-lapping the free end of said cylinder arms, means for adjustably coupling the over-lapping ends of said several arms, a roller having journals engaging the bearing slots of said slotted arm, and an endless belt extending over said cylinder and said roller.

5. In a typewriting machine, a carriage including end frames having oppositely disposed bearing slots at one end and spaced lateral pins at the other ends, a cylinder having end journals engaging said bearings slots and provided with end flanges and with spaced longitudinal peripheral flanges, said flanges having vent apertures communicating with the spaces between the ribs, arms engaging the journals of said cylinder, arms having transverse bearing slots and with spaced longitudinal slots movably engaging said spaced pins and over-lapping the free ends of said cylinder arms, means for adjustably coupling the over-lapping ends of said several arms, a roller having journals engaging the bearing slots of said slotted arms, and an endless belt extending over the roller and cylinder.

867,046. ELECTROMETALLURGICAL PROCESS FOR EXTRACTING COPPER FROM ITS ORES. LUCIEN JUMAU, Paris, France. Filed Dec. 29, 1905. Serial No. 293,826.

1. The herein described process for extracting copper from its ores, which consists in dissolving the copper of the ore in an ammoniacal solution by leaching said ore with a solution of ammonia mixed with an ammoniacal salt, reducing to cuprous salts, the cupric salts in the said ammoniacal solution, by passing a current of sulfur di-oxid into said solution, and electrolyzing the reduced solution, said reduced solution acting meanwhile as a depolarizer at the anode, substantially as described.

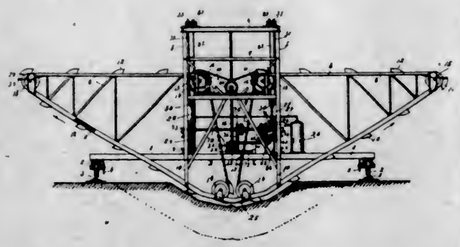
2. The herein described process for extracting copper from its ores, which consists in dissolving the copper of the ore in an ammoniacal solution by leaching said ore with a solution of ammonia mixed with an ammoniacal salt, reducing to cuprous salts, the cupric salts in the said ammoniacal solution, by passing a current of sulfur di-oxid into said solution, electrolyzing said reduced solution which acts as a depolarizer at the anode, and recovering the ammonia contained in the solution after the electrolysis by treating such solution with an alkaline-earth, substantially as described.

3. The herein described process for extracting copper from its sulfid ores, which consists in roasting said ores to drive off sulfur dioxid and reduce the ores to an oxid, collecting the sulfur dioxid evolved, leaching said oxid with an ammoniacal solution consisting of a solution of

ammonia mixed with an ammoniacal salt, passing said collected sulfur dioxid through said ammoniacal solution for reducing the cupric salts to cuprous salts, electrolyzing said reduced solution which acts as a depolarizer at the anode, and recovering the ammonia contained in the solution after electrolysis by treating said solution with the hydrate of an alkaline earth metal.

4. The herein described process for extracting copper from its sulfid ores, which consists in roasting said ores to drive off sulfur dioxid and reduce the ores to an oxid, collecting the sulfur dioxid evolved, leaching said oxid with an ammoniacal solution consisting of a solution of ammonia mixed with an ammonium sulfite, passing said collected sulfur dioxid through said ammoniacal solution for reducing the cupric salts to cuprous salts, electrolyzing said reduced solution which acts as a depolarizer at the anode, and recovering the ammonia contained in the solution after electrolysis by treating said solution with milk of lime.

867,047. EXCAVATING APPARATUS. JOHN C. JUNKIN, Drayton, N. D., assignor of one-half to George J. Patterson, Bowesmont, N. D. Filed June 29, 1906. Serial No. 324,020.



1. In an excavating apparatus, the combination with a vertically adjustable excavating device, of a fluid actuated counter-balancing device therefor, and means independent of said counter-balancing device for moving the said excavating device vertically, substantially as described.

2. In an excavating apparatus, the combination with a vertically adjustable supporting frame and excavating devices mounted thereon, of a fluid actuated counter balancing device operative on said frame, and means independent of said counter balancing device, for moving said supporting frame vertically, substantially as described.

3. In an excavating apparatus, the combination with a supporting platform, a supporting frame movable vertically therewith, and excavating devices mounted on said supporting frame, of a pneumatic counter balancing device operative on said vertically adjustable supporting frame, and means independent of said counter balancing device, operative at will, to move said supporting frame vertically, substantially as described.

4. The combination with a vertically movable support, of a pneumatic counter balancing device arranged to balance said support in an intermediate position and tending to maintain the same in such intermediate position, and power actuating mechanism independent of said counter-balancing devices, operative, at will, to force said support either upward or downward, from its said counter-balanced intermediate position, substantially as described.

5. The combination with a vertically movable support, of a pneumatic counter balancing device therefor, comprising a cylinder and piston engine having connections for moving said support vertically, and a storage tank in communication with the said cylinder, and power actuated means independent of said counterbalancing devices operative, at will, for forcing the said support upward and downward, substantially as described.

6. In an excavating apparatus, the combination with a supporting platform and a counter balanced vertically adjustable frame mounted thereon, an endless bucket equipped carrier mounted on said supporting frame, means for driving said carrier in different positions of said supporting frame, and a variable speed feed device for lowering said frame, to force the buckets to their work, substantially as described.

7. In an excavating apparatus, the combination with a supporting platform and a counter balanced vertically adjustable supporting frame mounted thereon, a bucket equipped carrier mounted on said supporting frame, means for driving said carrier under different adjustments of said frame, a variable speed drive for moving said supporting frame downward to force said buckets to their work, and a relatively high speed feed device for imparting upward or return movements to said supporting frame, substantially as described.

8. In an excavating apparatus, the combination with a supporting platform and a vertically adjustable supporting frame mounted thereon, a power driven bucket equipped carrier mounted on said frame, and a device for counter balancing said supporting frame, comprising a pair of cylinders anchored to said platform and having cooperating pistons, connections between said pistons and said supporting frame, and an air storage tank having a pipe connection leading to said two cylinders, substantially as described.

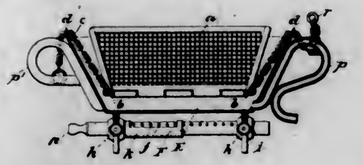
9. In an excavator, the combination with a bucket equipped carrier and supporting and driving means therefor, of a scraper located at the discharging point and arranged to pass through said buckets, the said buckets being arranged to pass outward of and around the said scraper, substantially as described.

10. In an excavator, the combination with a bucket-equipped endless carrier and supporting and driving means therefor, of a fixed scraper located at the discharging position and arranged to pass through the buckets, the said buckets being arranged to pass outward of and around the said scraper, substantially as described.

11. In an excavator, the combination with an endless bucket-equipped carrier, of an approximately U-shaped scraper fixed at the discharging position and arranged to pass through the buckets, the said buckets being arranged to pass outward of and around the said scraper, substantially as described.

12. In an excavating apparatus, the combination with an endless power driven bucket carrier and guiding devices therefor, including guide wheels located at the dumping point, buckets attached to said endless carrier, said buckets having their bottom portions formed on such lines that said bottoms extend approximately concentric to the axis of the said guide wheel when said bucket is at the dumping point, and a fixed scraper located in position to engage closely with the bottom of said buckets as the latter are moved in the vicinity of the dumping point, substantially as described.

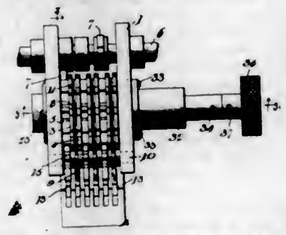
867,048. STERILIZING APPARATUS. CARL JUNKER, Karlsruhe, Baden, Germany. Filed Mar. 16, 1906. Serial No. 306,414.



1. In a sterilizing apparatus the combination of a tub of triangular section with a foldable wire net, chains fixed to the said wire net and pins fixed to the tub and adapted to receive the links of the said chains substantially as described.

2. In a steriliser, the combination of a boiler, a foldable wire net, chains secured to the wire net, and holding means on the boiler, adapted for engagement with the links of said chains substantially as described.

867,049. REGISTER. ALBERT J. KIRCHNER, Dayton, Ohio, assignor to The Recording and Computing Machines Company, Dayton, Ohio, a Corporation of Ohio. Filed Apr. 30, 1906. Serial No. 314,374.



1. In a register, a revoluble resetting shaft, and a key bar adapted to slide longitudinally therein, in combination with register wheels mounted to rotate on said shaft, said wheels and key bar having coöperating projections and recesses, and a fixed cam controlling the longitudinal movement of the key bar, whereby said recesses and projections are moved out of alinement when said shaft is rotated and are caused to register when the wheels are set at zero, substantially as described.

2. In a register, a revoluble resetting shaft, and a key bar adapted to slide longitudinally therein, in combination with register wheels mounted to rotate on said shaft, said wheels and key bar having coöperating projections and recesses, a fixed cam against which said key bar bears, and a spring holding said key bar in contact with said cam, said cam acting to cause said recesses and projections to register when the wheels are reset to zero, substantially as described.

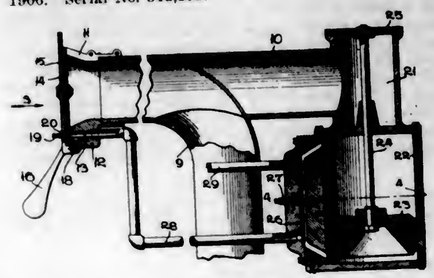
3. In a register, a revoluble resetting shaft provided with circumferential grooves, and a key bar mounted to slide longitudinally in said shaft and provided with recesses adapted to register with said grooves, in combination with register wheels mounted to rotate on said shaft and provided with projections lying in said grooves and adapted to be engaged by the key bar, and means actuated by the rotation of said shaft for moving said key bar to cause its recesses to register with said grooves and projections, substantially as described.

4. In a register, a revoluble resetting shaft provided with circumferential grooves, and a key bar mounted to slide longitudinally in said shaft and provided with recesses adapted to register with said grooves, in combination with register wheels mounted to rotate on said shaft, said wheels having projections extending into said grooves and adapted to be engaged by the key bar, and means actuated by the rotation of said shaft for automatically shifting said key bar to cause its recesses to register with said projections and grooves when the wheels are reset to zero, substantially as described.

5. In a register, a revoluble resetting shaft provided with circumferential grooves, and a key bar mounted to slide longitudinally in said shaft and provided with recesses adapted to register with said grooves, in combination with register wheels mounted to rotate on said shaft, said wheels having projections extending into said grooves and adapted to be engaged by the key bar, and means for automatically shifting said key bar to cause its recesses to register with said projections and grooves when the wheels are reset to zero, said means comprising a fixed cam and a spring acting to hold the key bar in contact therewith, substantially as described.

6. In a register, adjacent wheels having respectively a single tooth and a full gear on their adjacent sides, and a transfer gear meshing therewith, said transfer gear having the outer portions of each tooth rabbeted or cut away on the side adjacent to the single tooth, whereby said single tooth drives the transfer gear when the register is actuated in one direction as a counter, and whereby said transfer gear does not affect the single tooth when the register wheels are actuated in the opposite direction in resetting them to zero, substantially as described.

867,050. PNEUMATIC-DESPATCH-TUBE APPARATUS. FRANK W. KNOTT, St. Louis, Mo., assignor of one-half to Emanuel J. Waldeck, St. Louis, Mo. Filed Nov. 6, 1906. Serial No. 342,292.



1. In an apparatus of the class described, the combination with the usual transmission tubes provided with the usual inlet and discharge valves, of an air inlet valve connected to one of the transmission tubes, a cylinder arranged beneath said valve, a piston operating in the cylinder and connected to said valve, a tubular connection from one of the inlet valves of the transmission pipes to the lower end of the cylinder, and an exhaust tube leading from the upper end of the cylinder; substantially as specified.

2. In an apparatus of the class described, the combination with the usual transmission tubes provided with the usual inlet and discharge valves, of an air inlet valve connected to one of the transmission tubes, a cylinder arranged beneath said valve, a piston operating in the cylinder and connected to said valve, a tubular connection from one of the inlet valves of the transmission pipes to the lower end of the cylinder, an exhaust tube leading from the upper end of the cylinder, there being a passageway formed between the tubular connection and the exhaust tube; and a regulating valve in said passageway; substantially as specified.

3. In an apparatus of the class described, the combination with the usual transmission tubes provided with inlet and discharge valves, of an air inlet valve connected to one of the transmission tubes, a cylinder arranged beneath said valve, a piston operating in the cylinder and connected to said valve, a tubular connection from one of the inlet valves in the transmission tube to the lower end of the cylinder, and an exhaust tube leading from the upper end of the cylinder, said inlet valve having a disk normally closing the inlet valve in the transmission tube and the end of the tubular connection thereto.

4. In an apparatus of the class described, the combination with the usual transmission tubes provided with inlet and discharge valves, of an air inlet valve connected to one of the transmission tubes, a cylinder arranged beneath said valve, a piston operating in the cylinder and connected to said valve, a tubular connection from one of the inlet valves in the transmission tube to the lower end of the cylinder, an exhaust tube leading from the upper end of the cylinder, said inlet valve having a disk normally closing the inlet valve in the transmission tube and the end of the tubular connection thereto, and there being a passageway formed between the lower end of the cylinder and the exhaust tube, and a regulating valve located in said passageway.

5. In an apparatus of the class described, the combination with the usual transmission tubes provided with the usual inlet and discharge valves, of an air inlet valve connected to one of the transmission tubes, a cylinder arranged beneath said valve, a piston operating in the cylinder and connected to said valve, a tubular connection from one of the inlet valves of the transmission pipes to the lower end of the cylinder, an exhaust tube leading from the upper end of the cylinder, and there being a passageway formed between the lower end of the cylinder and the exhaust tube.

6. In an apparatus of the class described, the combina-

tion with the usual transmission tubes provided with inlet and discharge valves, of an air inlet valve housing connected to one of the transmission tubes, a cylinder fixed to the lower end of said valve housing, a piston operating in the cylinder, a piston rod rigidly fixed to the piston and extending upwardly through the valve housing, a valve fixed on the upper end of the piston rod and arranged to close the upper end of the valve housing, a tubular connection from one of the inlet valves of the transmission tube to the lower end of the cylinder, an exhaust tube leading from the upper end of the cylinder, there being a passageway connecting the tubular connection and the exhaust tube, and a valve arranged in said passageway.

867,051. POCKET ARTICLE-GUARD. SAMUEL KORF, New York, N. Y. Filed June 25, 1904. Serial No. 214,183. (Model.)



1. A guard for pocket articles having attaching means at each end, a tubular part, a sliding rod mounted within said part and engaging one of said attaching means, a spring pressing against said rod and tubular part to hold the rod normally retracted in the tubular part, a catch arm pivoted to the rod within the guard and said arm having a part extending substantially horizontally from the pivot when the arm is in retracted position, said arm passing under the edge of the guard wall so as to have a fulcrum bearing thereon and having a straight piercing portion lying outside the wall and extending from the other portion substantially at a right angle thereto whereby the piercing portion will be projected outward at an acute angle to the tubular part upon a slight vertical movement of the rod-pivot, and said piercing portion will lie flat against the outside surface of the tubular part when in retracted position, substantially as described.

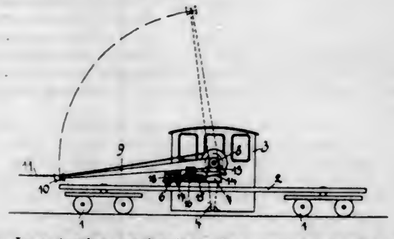
2. A guard for pocket articles having attaching means at each end thereof, a tubular part and sliding rod mounted within said tubular part and engaging one of said attaching means, a spring pressing against said rod and tubular part to hold the rod normally retracted in the tubular part, catch arms at the inner end of said rod mounted on a common pivot extending centrally across the tube, said arms each having a part extending substantially horizontally from the pivot when the arm is in retracted position, and passing under the edge of the wall of the tubular part so as to have a fulcrum bearing thereon, and having a straight piercing portion lying outside the wall and extending from the first portion substantially at a right angle thereto whereby the piercing portion will be projected outward at an acute angle to the tubular part upon a slight vertical movement of the rod pivot and the said piercing portion will lie flat against the outside surface of the tubular part when in retracted position, substantially as described.

3. A guard for pocket articles having attaching means at each end, a tubular part, a sliding spring-pressed rod within said part connected to one of said attaching means, angularly bent catch-arms pivoted to said rod at the inner part thereof and having portions which lie entirely outside of said tubular part, said tubular part being made open at its inner end and said arms bearing against the edge of said open tubular part at the bend of said arms and one of said attaching means being secured directly to the edge of the open end of said tubular part, substantially as described.

4. A guard for pocket articles having an article attaching member at one end, a slide rod secured thereto, a tubular part in which said rod moves, a spring for holding said rod in retracted position, angularly bent arms pivoted centrally to the inner part of said rod and having piercing portions lying outside of said tubular part, a hook secured to the inner end of said tubular part, a pivoted latch coöperating with said hook and having a tongue extending within the tube in position to be pressed upon by the catch arms when the latter are in retracted position, substantially as described.

5. A guard for pocket articles having attaching means at each end thereof and having an intermediate tubular part, a spring-pressed sliding rod within said tubular part and having at one end an outside portion adapted to be secured to one of said attaching means, said rod having at its inner end an enlarged portion which closely fits the bore of the tube and having angularly bent arms centrally pivoted in said enlarged portion, said arms bearing against the edge of the tubular part at the bends of the arms and having piercing portions which lie outside of the tube and are adapted to be projected outwardly and downwardly by pressure against the wall of the tube when the rod is pulled, substantially as described.

867,052. TOWING-LOCOMOTIVE. CARL KÖTTGEN, Schöneberg, and GEORG MEYER, Berlin, Germany, assignors to Siemens-Schuckert Werke, G. M. B. H., Berlin, Germany, a Corporation of Germany. Filed Mar. 12, 1906. Serial No. 305,604.



1. In a towing mechanism, the combination of a platform, of a tow line guide thereon having a horizontal pivotal movement approximately equal to 180° and a cab containing the controlling device for said guide mounted on said platform out of the path of said tow line guide.

2. In a towing locomotive, the combination with a platform, of a tow-line guide and a cab containing the controlling device for said guide, said cab and said guide being disposed side by side transverse to the running direction of the locomotive.

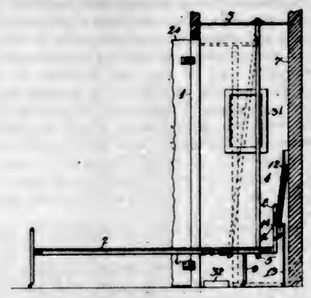
3. In a towing locomotive, the combination of a platform, a tow-line guide and a cab, containing the controlling device for said guide disposed on the platform side by side transverse to the running direction of the locomotive and having the guide substantially in the middle of the platform and the cab on the side of the platform.

4. In a towing locomotive the combination of a platform, a tow-line guide adapted to have vertical and horizontal adjustment and a cab containing the controlling device for said guide, said cab and said guide being mounted side by side transverse to the running direction of the locomotive, the guide being substantially in the middle of the platform and the cab on the side of the platform opposite the tow.

5. A towing locomotive, comprising a platform, a tow-line guide capable of unobstructed movement over that portion of the platform on one side of the longitudinal center of the platform, and means on the other side of the longitudinal center of the platform for controlling the movement of said guide.

867,053. FOLDING BED. SAMUEL KRAMER, San Francisco, Cal. Filed Apr. 16, 1906. Serial No. 312,022.

1. In combination, a swing-like support formed from two substantially U shaped bails, the ends of which are adapted to be secured together, the ends of one bail being slotted, a counter-balance, and a bed, one end of which is adapted to be detachably connected with the swing and with the counter-balance.



2. In combination, means for supporting a bed in a vertical position, a vertical movable counter-balance adapted to detachably engage with the head of the bed, and means for supporting said balance in its elevated position independently of the bed.

3. In combination, a receptacle provided with shoulders, a vertically movable counter-balance adapted to engage with said shoulders when in its elevated position, and a support for detachably holding a bed in position for engaging with the counter-balance when the bed is raised or lowered.

4. In combination, a receptacle provided with shouldered guideways, a vertically movable counter-balance within said ways and adapted to engage with said shoulders when in its elevated position, and a swinging support for detachably holding a bed in position for engaging with the counter-balance when the bed is raised or lowered.

5. In combination, a receptacle provided with shouldered guideways, a vertically movable counter-balance within said ways and adapted to engage with said shoulders when in its elevated position, the lower portion of the balance being provided with shoulders, and a swinging support for detachably holding a bed in position for its head to detachably engage with the counter-balance between said shoulders.

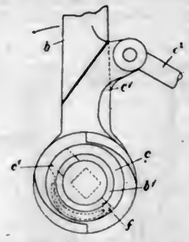
6. In combination, a swinging support, a counter-balance, a folding bed adapted to be detachably connected with the swing and the balance, and horizontal converging guide rails for causing the bed to properly position itself when being moved into the support.

7. In combination, a receptacle provided with shouldered guide ways, a counter-balance in said ways adapted to rest on said shoulders, a swinging support, and a bed detachably mounted on said support, the head of the bed being provided with a pivoted extension and adapted to detachably engage with the counter-balance.

8. In a device of the character and for the purpose described, the combination of a receptacle, a bed frame adapted to take a horizontal position wholly or partially outside the receptacle, and a vertical position within said receptacle, rear legs on the bed frame at a distance from its end, a swinging bail suspended in the receptacle and passing beneath the bed frame behind the rear legs, and from which said bed frame is detachable, a head board forming part of the bed structure, a counterweight adapted to be moved directly by said head board and having a detachable connection therewith, and a door for the receptacle independent of the bed frame.

867,054. FRICTION-BRAKE-SETTING DEVICE. FRANZ KRATZER, Bad Tölz, Germany, assignor to August Moralt, Bad Tölz, Germany. Filed May 3, 1907. Serial No. 371,681.

1. In a brake, a fixed threaded bolt, a lever threaded on the bolt and having a lateral face of its nave inclined, a ring loosely mounted on the bolt with an inclined face opposed to that of the lever, a connection between the lever and ring, a second lever pivoted on the bolt and provided with a wedge-shaped nave in juxtaposition to the inclined sides of the first lever and ring, and a connection between the second lever and the brake rod.



2. In a brake, a fixed bolt provided with a beveled thread, a lever threaded on the bolt and having a lateral face of its nave inclined, a ring loosely mounted on the bolt with an inclined face opposed to that of the lever, a connection between the lever and ring, a second lever pivoted on the bolt and provided with a wedge-shaped nave in juxtaposition to the inclined sides of the first lever and ring, a connection between the second lever and the brake rod, and a catch forming an engagement between the first lever and the bolt.

3. In a brake, a fixed bolt provided with a beveled thread and with an inclined shoulder, a lever threaded on the bolt and having a lateral face of its nave inclined, a ring loosely mounted on the bolt with a concave face opposed to the shoulder and an inclined face opposed to that of the lever, a connection between the lever and ring, a second lever pivoted on the bolt and provided with a wedge-shaped nave in juxtaposition to the inclined sides of the first lever and ring, the pitch of the inclined faces and wedge being greater than that of the thread of the bolt, and a connection between the second lever and the brake rod.

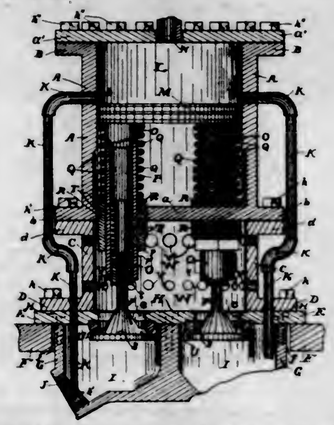
4. In a brake, a fixed bolt provided with a beveled thread and with an inclined shoulder, a lever threaded on the bolt and having a lateral face of its nave inclined, a ring loosely mounted on the bolt with a concave face opposed to the shoulder and an inclined face opposed to that of the lever, a connection between the lever and ring, a second lever pivoted on the bolt and provided with a wedge-shaped nave in juxtaposition to the inclined sides of the first lever and ring, the pitch of the inclined faces and wedge being greater than that of the thread of the bolt, a connection between the second lever and the brake rod, and a spring catch forming an engagement between the first lever and bolt.

5. In a brake, a fixed bolt provided with an inclined shoulder and with a thread and having its outer edge beveled, a lever threaded on the bolt and having a lateral face of its nave inclined, a ring loosely mounted on the bolt with a concave face opposed to the shoulder and an inclined face opposed to that of the lever, a connection between the lever and ring, a second lever pivoted on the bolt and provided with a wedge-shaped nave in juxtaposition to the inclined sides of the first lever and ring, the pitch of the inclined faces and wedge being greater than that of the thread of the bolt, a connection between the second lever and the brake rod, and a catch forming an engagement between the first lever and bolt.

6. In a brake, a fixed bolt provided with an inclined shoulder and with a left-hand thread beveled on its outer side, a lever threaded on the bolt and having a lateral face of its nave inclined, a ring loosely mounted on the bolt with a concave face opposed to the shoulder and an inclined face opposed to that of the lever, a connection between the lever and ring, a second lever pivoted on the bolt and provided with a wedge-shaped nave in juxtaposition to the inclined faces of the first lever and ring, the pitch of the inclined faces and wedge being greater than that of the thread of the bolt, a connection between the second lever and the brake rod, and a spring catch ar-

ranged in the nave of the first lever and forming an engagement between the first lever and the bolt.

867,055. AUTOMATIC AIR SANDING-MACHINE. ALBERT F. KUBICEK, Chicago, Ill. Filed May 6, 1907. Serial No. 372,213.



1. In a device provided with a plurality of chambers, one of such chambers forming an air chamber, and provided with an air inlet, an air outlet having a port, and a movable wall to control the port, and the other of such chambers forming a sand chamber and provided with a sand inlet and with a sand outlet, the combination of means to yieldingly maintain the movable wall of the air chamber, in position to close the port of the air outlet, a cylinder mounted on such movable wall, the upper end of the cylinder communicating with the air chamber, a communicating passage way between such air outlet and the sand chamber, such communicating passage way directed to discharge into the sand outlet, a valve seat and a valve to co-act therewith to control the sand inlet, a piston to such valve, such piston longitudinally movable in the cylinder which is mounted on the movable wall, and means to yieldingly hold the piston in position in the cylinder to seat the valve and close the sand outlet when the movable wall is in position to open the air port of the air chamber.

2. In a device provided with a plurality of chambers, one of such chambers forming an air chamber and provided with an air inlet, an air outlet having a port, and a movable wall to control the port, and the others of such chambers forming sand chambers a communicating passage way between the sand chambers, one of such sand chambers provided with a sand inlet and the other one provided with a sand outlet, the combination of a cylinder open at the ends thereof mounted on the movable wall of the air chamber, means to yieldingly maintain the movable wall of the air chamber in position to close the port of the air outlet, a communicating passage way between such air outlet and one of the sand chambers, such communicating passage way directed to discharge into the sand outlet of the chamber, a valve seat and a valve to co-act therewith to control the passage way between the sand chambers a piston to such valve, such piston longitudinally movable in the cylinder which is mounted on the movable wall of the air chamber, and connected to such movable wall to be mechanically moved to seat the valve and close the sand outlet when the air port of the air chamber is closed by such movable wall, and means to yieldingly hold the piston in a position to seat the valve when the air port is opened by the movement of such movable wall.

3. In a device provided with a plurality of chambers, one of such chambers forming an air chamber and provided with an air inlet, an air outlet having a port and a movable wall to control the port, a depending tube on the movable wall and a piston in the tube, the chamber in the tube above the piston communicating with the air chamber, and the others of such chambers forming sand chambers, a communicating passage way between the sand chambers, one of such sand chambers provided with a sand inlet and the other one provided with a sand outlet, the combination therewith of springs to yieldingly maintain the movable wall of the air chamber in position to close the port of the air outlet, a passage way from such air outlet arranged to discharge into the sand chamber provided with an outlet and to direct the flow of air under pressure therethrough into such sand outlet, a valve seat and a valve to co-act therewith to control the passage way between the sand chambers, springs to yieldingly maintain the valve seated, and a stem connecting the valve and the piston.

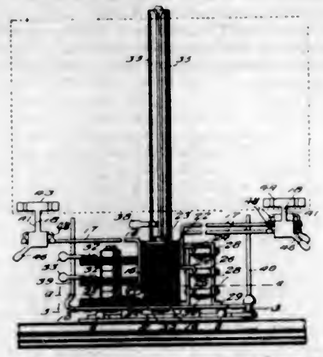
4. In a device provided with a plurality of chambers, one of such chambers forming an air chamber and provided with an air inlet, an air outlet having a port and a movable wall to control the port, and the other of such chambers forming a sand chamber and provided with a sand inlet and with a sand outlet, the combination of means to yieldingly maintain the movable wall of the air chamber in position to close the port of the air outlet, a cylinder on the movable wall, such cylinder communicating at its upper end with the air chamber, a valve seat and a valve to co-act therewith to control the sand inlet, a piston to such valve, such piston mounted in the cylinder and longitudinally movable therein, means to yieldingly hold the valve seated, when the movable wall is in position to open the port to the air outlet of the air chamber, and a connection between the valve and the movable wall to mechanically close the valve to its seat when the movable wall is in position to close the port to the air outlet, and means to deliver air flowing through the air outlet to the sand chamber, and a communicating passage for air above the piston to the air chamber.

5. In a device provided with a plurality of chambers, one of such chambers forming an air chamber and provided with an air inlet, and a plurality of air outlet ports and such chamber provided with a movable wall to control the several ports, and the others of such chambers forming a plurality of sand chambers, such chambers respectively provided with a sand inlet and with a sand outlet, the combination of means to yieldingly maintain the movable wall of the air chamber in position to close the ports of the air outlets, valve seats and valves to co-act therewith to control the sand inlets to the respective sand chambers, means to yieldingly hold the respective valves seated when the movable wall is in position to open the air ports, means to force the respective valves open by pressure in the air chamber above the pressure in the corresponding sand chamber when such air ports are open, a connection between the valve and the movable wall to mechanically close the valves to their respective seats when the movable wall is in position to close the ports to the air outlets and means to deliver air flowing through the air chamber to the sand chambers.

867,056. MUSIC-LEAF TURNER. HARRY KUEHNLEIN and WILLIAM KUEHNLEIN, Philadelphia, Pa. Filed Jan. 24, 1906. Serial No. 297,622.

1. A music leaf turner provided with means for connecting the same to a musical instrument, an upstanding post provided with a series of grooves, a plurality of leaf-turning arms, a series of hollow pinions carrying said arms and journaled on said post, an actuating spring for each pinion, said springs being inclosed within the grooves and surrounding the reduced portions formed by the grooves, a reversing gear associated with each pinion, a projecting finger on each pinion, and an inclined and socketed catch for engaging and releasing each finger.

2. A music leaf turner comprising a base-plate adapted for fastening to a musical instrument, an upstanding post thereon having spring receiving grooves, a plurality of leaf turning arms, a vertical series of pinions to which said arms are connected journaled around said post, actuating springs each housed within one of said pinions and lying within one of the grooves of the post and connecting one of said pinions to the post, a reversing gear associated with each pinion, a projecting finger on each pinion, and a series of catches provided with lever arms arranged successively one above the other, each of said catches being provided with an inclined surface and a socket or opening to receive the finger of its respective pinion.

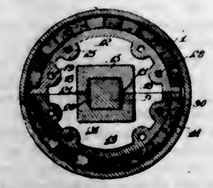


3. A music leaf turner comprising a plurality of leaf turning arms and a series of leaf holding clips mounted on said arms and said arms forming the pivotal bearings for the clip members, each of said clips embodying a pair of oppositely arranged leaf holding jaws having finger extensions for opening said jaws, a spring for holding the jaws toward each other, and a bail shaped stop connected to each leaf turning arm and adapted to position said jaws.

4. A music leaf turner comprising a plurality of leaf turning arms, and a series of leaf holding clips carried by said arms and said arms forming the pivotal bearings for the clip members; and each of said clips embodying a pair of lever arms journaled on the leaf turning arms and provided at one end with finger pieces for rocking the levers and at the other end with leaf holding jaws which are crimped to the sheet held thereby, a bail-shaped stop connected to each leaf turning arm to position said jaws and means for holding said jaws toward each other with a yielding pressure.

5. In a music leaf turner, a plurality of leaf turning arms and a leaf holding clip carried by each of said arms and said arms forming the pivotal bearings for the clip members, said clips each comprising a pair of lever arms journaled on the leaf turning arms and provided at one end with finger pieces for rocking said lever, and at the other end with leaf holding jaws, said jaws being deflected or crimped, a bail-shaped stop connected to each of said leaf turning arms to position said jaws and means for holding said jaws toward each other with a yielding pressure.

867,057. VEHICLE-BRAKE. JOHN M. LANSDEN, Jr., Orange, N. J. Filed Oct. 14, 1904. Serial No. 228,418.



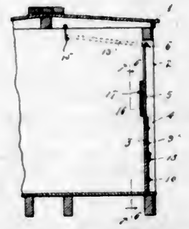
1. The combination with an axle, having a squared portion, brake blocks engaging therewith, means for elastically engaging and for separating the brake blocks, the said brake blocks having an opening of hexagonal shape through which the axle passes, whereby the brake will be self-centering.

2. The combination with an axle, of two brake blocks thereon, means on the axle for preventing rotation of the blocks, springs for engaging the blocks together, an operating lever and link for separating the blocks, and bolt holes through the blocks, the holes being symmetrically arranged so that the brake blocks may be reversed.

3. In a vehicle brake, the combination with the axle and a wheel journaled thereon, and carrying a drum, of a brake block formed in two sections, surrounding the axle and adapted to engage with the drum, the said block being supported on the axle and removably connected therewith, means connected to the axle to prevent turning of the block, and means for expanding the sections and engaging the block with the drum, the said means being supported by the block.

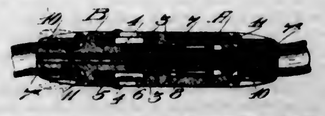
4. In a vehicle brake, the combination with the axle and a wheel journaled thereon, and carrying a drum, of a brake block formed in two sections surrounding the axle and adapted to engage with the drum, the said block being supported on the axle and removably connected therewith, means connected to the axle to prevent turning of the block, and means for expanding the sections and engaging the block with the drum, the said means being removably connected to the axle.

867,058. GRAIN-DOOR FOR BOX-CARS. PETER S. LARSON and RANDOLPH C. DUEA, Sharon, N. D. Filed May 17, 1906. Serial No. 317,309.



The combination with a car body having a door opening, metallic face plates secured to the opposite sides of said door opening and extending from the top to the bottom thereof and formed with vertical lock plate seats and with vertical guide channels, said seats and channels laterally offset and overlapping one another, and the said channels terminating at their upper ends in seats and terminating at their lower ends in entrance passages, of a grain door having at its upper portion headed trunnions adapted to enter said entrance passages and slide and work pivotally in said guide channels, and to enter said seats for supporting said door in an elevated position, lock plates mounted on the ends of said grain door for movements toward and from each other and adapted to engage the lock plate seats of said face plates, and means for imparting simultaneous movements to said lock plates in reverse directions, substantially as described.

867,059. HOSE AND LIKE COUPLING. SAMUEL B. LEAR, San Francisco, Cal. Filed Apr. 4, 1907. Serial No. 366,293.



1. In a hose or pipe coupling, members having extensions from their contiguous ends, said extensions having diagonal tongues turnably interlocking with each other, spring-pressed slidable bolts entering the spaces between

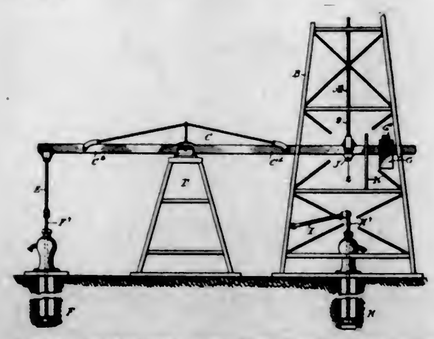
the extensions to maintain the parts in locked position, the joint-forming gasket between the two members, and means carried by one of said members for forcing the gasket into sealing contact with the other member.

2. In a hose and like coupling, members having turnably interlocking tongues and holding bolts, interior tubular portions, one of which slides into the other when the members are interlocked, a joint-forming gasket surrounding the inner tube, and a lever whereby said gasket is forced into sealing contact with the end of the outer tube.

3. In a hose and like coupling, turnably interlocking members with spring-pressed holding bolts, means for forming a tight joint between the tubular interior portions, said means comprising a gasket and a device by which the gasket is forced into sealing contact with one of said members, means for securing the hose to the ends of said members, said means comprising hinged segments adapted to clamp the hose and transverse bolts by which said segments are compressed.

4. In a hose and like coupling, members having turnably interlocking tongues, and holding bolts, interior telescoping tubular portions, a joint-forming gasket, a lever whereby said gasket is forced into sealing contact with the tube end, and a spring-pressed locking latch engaging the lever, with a disengaging device for the latch.

867,060. POWER TRANSMISSION. DANIEL M. LE BARON, Amos, Nev. Filed July 30, 1906. Serial No. 328,332.

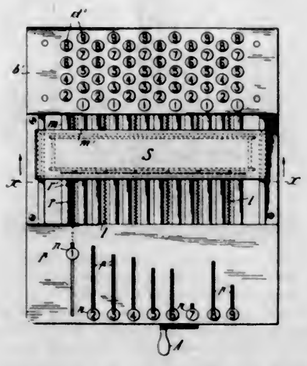


A power transmission, comprising a walking beam having its ends different distances from the fulcrum, a pump connected with the short end of the walking beam, actuating means connected with the long end of the walking beam and a second pump arranged for removable connection with the long end of the walking beam, the said second pump being in axial alinement with the actuating means, and a counterweight slidably mounted on the long end of the walking beam whereby to compensate when the said second pump is removed from connection with the beam.

867,061. CALCULATOR. ERNST LEDER, Rixdorf, Germany. Filed Mar. 21, 1907. Serial No. 363,778.

1. In a calculator, the combination with a frame, of a key board, a slide key board, slides movable in said frame between said key board and said slide key board and each provided with a pair of rollers having various series of teeth on their peripheries, a carriage movable in said frame over said slides and containing an operameter adapted to be operated by the teeth of said rollers, a mechanism controlled from said key board for shifting and adjusting the several slides, a mechanism controlled from said slide key board for shifting and adjusting said carriage, and a hand-crank with a driving mechanism for once turning all the rollers one after the other for every arithmetical operation and thereby actuating the dials in the operameter.

2. In a calculator, the combination with a frame, of a key board at one end of said frame, a slide key board at the opposite end of said frame, slides guided in said frame beneath said key board and said slide key board and each provided with a pair of rollers having various series of teeth on their peripheries, a carriage movable in said frame over said slides and containing an operameter adapted to be operated by the teeth of said rollers, a mechanism controlled from said key board for shifting and adjusting the several slides, a mechanism controlled from said slide key board for shifting and adjusting said carriage, and a hand-crank with a driving mechanism for once turning all the rollers one after the other for every arithmetical operation and thereby actuating the dials in the operameter.



3. In a calculator, the combination with a frame, of a key board at one end of said frame, a slide key board at the opposite end of said frame, slides parallelly guided in said frame beneath said key board and said slide key board at right angles thereto and each comprising two parallel rollers, the first pair of rollers in the whole series being for units, the second for tens, the third for hundreds, the fourth for thousands and so on, means pulling said slides to said slide key board, a carriage guided in said frame between said key board and said slide key board at right angles thereto, spring-pressed rockers in said key board parallel to said slides and adapted to catch and to lock same when pushed and to release same on being depressed, said key board comprising spring-pressed keys in double rows along said spring-pressed rockers and adapted to depress same for releasing the corresponding slides and to stop the latter on various points of their strokes, said slide key board comprising slide keys guided in parallel slots of varying length and adapted to push said carriage, an operameter in said carriage with a series of operating gear wheels in a common longitudinal plane, the rollers in said slides being provided on their peripheries with varying numbers of teeth in various parallel cross planes which teeth are adapted to engage in the operating gear wheels of said operameter, and means for once rotating all the rollers in said slides one after the other for every arithmetical operation, whereby the dials in said operameter are actuated.

4. In a calculator, the combination with a frame, of a key board at one end of said frame, a slide key board at the opposite end of said frame, slides parallelly guided in said frame beneath said key board and said slide key board at right angles thereto and provided with cross rods and each comprising two parallel rollers, the first pair of rollers in the whole series being for units, the second for tens, the third for hundreds, the fourth for thousands and so on, means pulling said slides to said slide key board, a carriage guided in said frame between said key board and said slide key board at right angles thereto, spring-pressed rockers in said key board parallel to said slides and provided with hooked arms adapted to catch and to hold the cross rods of said slides when pushed and to release same on being actuated, said key board comprising spring-pressed keys in double rows along said spring-pressed rockers and adapted to depress same, hooked arms of varying length at the keys and adapted to catch the cross rods of said slides when released for stopping the latter on various points of their strokes, said slide key board comprising slide keys guided in parallel slots of varying length and adapted to push said carriage, an operameter in said carriage with a series of operating gear wheels in a common longitudinal plane, the rollers in said slides being provided on their peripheries with varying numbers of teeth in various parallel cross planes which teeth are adapted to engage in the operating gear wheels of said operameter, and means for once turning all the rollers in said slides one after the other for every arithmetical operation, whereby the dials in said operameter are actuated.

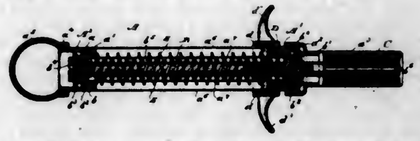
5. In a calculator, the combination with a frame, of a key board at one end of said frame, a slide key board at the opposite end of said frame, slides parallely guided in said frame beneath said key board and said slide key board at right angles therto and each comprising two parallel rollers, the first pair of rollers in the whole series being for units, the second for tens, the third for hundreds, the fourth for thousands and so on, means pulling said slides to said slide key board, a carriage guided in said frame between said key board and said slide key board at right angles thereto, a mechanism controlled from said key board for catching and holding said slides when pushed and for releasing and stopping same on various points of their strokes on the keys being depressed, said slide key board comprising slide keys guided in parallel slots of varying length and adapted to push said carriage, an operameter in said carriage with a series of operating gear wheels in a common longitudinal plane, the rollers in said slides being provided on their peripheries with varying numbers of teeth in various parallel cross planes which teeth are adapted to engage in the operating gear wheels of said operameter, parallel shafts mounted in said frame to turn and adapted to engage in the rollers in said slides, gear wheels fastened on the ends of said parallel shafts and disposed in two parallel rows, the gear wheels of the one row adapted to each control one roller in each slide and the gear wheels of the other row adapted to each control the other roller in each slide, two drums with teeth parallel to said slides and mounted in said frame to turn, an endless band placed over said two drums and provided with perforations working with their teeth and adapted to once rotate all of said gear wheels one after the other during one complete turn, a hand-crank, and a gearing adapted to move said endless band once round for every revolution of said hand-crank.

6. In a calculating-machine, the combination with a frame, of a key board, a slide key board, slides movable in said frame between said key board and said slide key board and each provided with a pair of parallel rollers with teeth on their peripheries, a carriage movable in said frame over said slides and containing an operameter adapted to be operated by the teeth of said rollers, a mechanism controlled from said key board for shifting and adjusting the several slides, a mechanism controlled from said slide key board for shifting and adjusting said carriage, and a hand-crank with a driving mechanism for once turning all the rollers one after the other for every multiplication and thereby adjusting the dials in the operameter, the two rollers in each slide having their teeth arranged in parallel cross planes and the number to be represented in each cross plane being one of the numbers 1, 2, 3, 4, 5, 6, 7, 8 and 9 or the product of any two of them, the units of the products and the single numbers being on one roller and the tens of the products on the other roller.

7. In a calculating-machine, the combination with a frame, of a key board at one end of said frame, a slide key board at the opposite end of said frame, slides guided in said frame beneath said key board and said slide key board and each provided with a pair of parallel rollers having teeth on their peripheries, a carriage movable in said frame over said slides and containing an operameter adapted to be operated by the teeth of said rollers, a mechanism controlled from said key board for shifting and adjusting the several slides, a mechanism controlled from said slide key board for shifting and adjusting said carriage, and a hand-crank with a driving mechanism for once turning all the rollers one after the other for every multiplication and thereby actuating the dials in the operameter, the two rollers in each slide having their teeth arranged in parallel cross planes and the number to be represented in each cross plane being one of the numbers 1, 2, 3, 4, 5, 6, 7, 8 and 9 or the product of any two of them, the units of the products and the single numbers being on one roller and the tens of the products on the other roller.

8. In a calculating-machine, the combination with a frame, of a key board at one end of said frame, a slide key board at the opposite end of said frame, slides parallely guided in said frame beneath said key board and said slide key board at right angles thereto and each comprising two parallel rollers with teeth on their peripheries, a carriage guided in said frame between said key board and said slide key board at right angles thereto, a mechanism controlled from said key board for shifting and adjusting the several slides, a mechanism controlled from said slide key board for shifting and adjusting said carriage, an operameter in said carriage with a series of operating gear wheels in a common longitudinal plane and adapted to be operated by the teeth of the rollers in said slides, and a hand-crank with a driving mechanism for once turning all the rollers one after the other for every multiplication and thereby actuating the dials in said operameter, the two rollers in each slide having their teeth arranged in parallel cross planes and the numbers 1, 2, 3, 4, 5, 6, 7, 8 and 9 or the product of any two of them, the units of the products and the single numbers being on one roller and the tens of the products on the other roller, whereby the teeth are arranged in such a manner that every number 1, 2, 3, 4, 5, 6, 7, 8 and 9 and every product that can be obtained by multiplication of two such single numbers appears only once on the peripheries of the rollers.

867,062. TOOTH-BRUSH. ORVILLE C. LILLIE, Conneaut, Ohio. Filed Sept. 18, 1905. Serial No. 278,871.



1. In a rotary tooth brush, the combination of a handle comprising two tubular members, one within the other; a threaded spindle mounted in the inner tubular member and adapted to receive and actuate a rotary brush; a manually operable member slidably mounted in said handle and engaging said threaded spindle; and a spring disposed intermediately of said tubular members and adapted to normally position said slidable member.

2. In a rotary tooth-brush, the combination of a handle comprising two tubular members, one within the other, joined at their ends and provided with registering longitudinal slots; a spindle mounted in the inner tubular member and provided with a rotary brush at one end, such spindle being further provided with a screw-thread; a sleeve mounted on the outer tubular member and bearing outwardly-projecting finger-pieces and teats projecting inwardly through said slots into engagement with said screw-thread; and a spiral spring surrounding said inner tubular member and lying between said teats and an abutment at one end of said handle.

867,063. ROTARY TOOTH-BRUSH. ORVILLE C. LILLIE, Conneaut, Ohio, assignor, by mesne assignments, of three-tenths to George M. Whitney, Conneaut, Ohio. Filed Feb. 10, 1906. Serial No. 300,373.

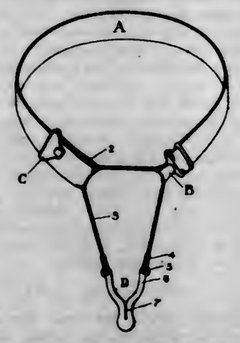
1. In a tooth brush, the combination of a tubular handle provided with finger-pieces; caps closing the ends of

said handle; a spindle, having a screw-thread, journaled in one of said caps and having an adjustable end-bearing in the other thereof, one end of said spindle projecting without said first-named cap; a rotary brush mounted upon such projecting spindle end; a nut longitudinally movable in said handle and engaging said spindle; a helical expansion spring interposed between said nut and said first-named cap and normally retaining said nut against said last named cap; rods slidably mounted in such cap and attached at their inner ends to said nut; and a thumb-piece mounted on the outer end of said rods.



2. In a tooth brush, the combination of a tubular handle, provided with finger-pieces near its forward end; a cap, having an aperture forming a bearing, fitted to such forward end; another cap, having a set-screw centrally mounted therein and forming an adjustable end-bearing, fitted to the rear end of such handle; a spindle, having a screw-thread, journaled in such bearings and projecting without said first-named cap at one end; a rotary brush mounted upon such projecting spindle end; a nut longitudinally movable in said handle and engaging said spindle; a helical expansion spring normally retaining said nut against said last-named cap; two rods slidably mounted in such cap and attached at their inner ends to said nut; and a thumb-piece mounted on the outer ends of said rods.

867,064. HOSE-SUPPORTER. HUGH G. MACWILLIAM, New Rochelle, N. Y. Filed May 19, 1906. Serial No. 317,674.



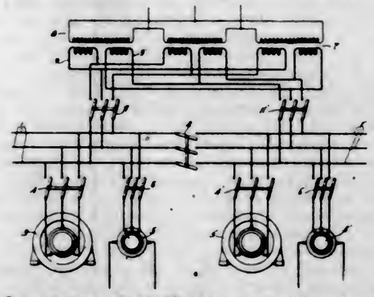
1. In a hose supporter, in combination, a supporting strap, an open topped sock-grip formed at the bottom with a sock receiving slot and having upwardly extending arms separated and spaced apart from one another entirely to the top to permit a sock-portion to be carried between them, and a cord connection between each of the grip-arms and the supporting strap.

2. In a hose-supporter, in combination, a supporting strap, a V-shaped sock-grip having divergent arms separated and spaced apart entirely to the top to permit a sock-portion to be carried between them and a cord connecting each of the grip-arms with the supporting strap.

3. In a hose supporter, in combination, a supporting strap, an open-topped sock-grip formed at the bottom with a sock-receiving slot and having upwardly extending arms separated and spaced apart from one another entirely to the top to permit a sock-portion to be carried between them, a cord-clasp pivotally connected with each of the grip-arms, and a cord having its ends held fast in the clasps and connected intermediately with the supporting strap.

4. In a hose-supporter, in combination, a leg-encircling strap, an open-ended V-shaped grip, a cord-clasp pivotally connected with each of the grip-arms, and a cord having its ends held fast in the clasps and engaging intermediately the leg-encircling strap.

867,065. SYSTEM OF ELECTRICAL DISTRIBUTION. LOUIS C. MARBURG, Norwood, Ohio, assignor to The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed Aug. 30, 1905. Serial No. 276,332.



1. In a system of distribution, a plurality of low-tension bus-bars, a source of alternating current comprising generators adapted to be connected to said bus-bars, a transformer having separate windings connected to said bus-bars, a plurality of converters, and means for connecting the converters to the source of current in such a manner that the converters are not conductively connected together on the alternating current side.

2. In a system of distribution, a plurality of low-tension bus-bars or alternating current connections, a plurality of generators adapted to be connected to or disconnected therefrom at will, a transformer having a plurality of separate low-tension windings connected to said bus-bars or connections, a plurality of converters, and means for connecting said converters to said bus-bars or connections in such a manner that the converters are not conductively connected together on the alternating current side.

3. In a system of distribution, an alternating current generator, a transformer having a high-tension winding and a plurality of low-tension windings, means for connecting the generator to one of said low-tension windings, a converter, and means for connecting the converter to another of said low-tension windings.

4. In a system of distribution, one or more alternating current generators, a transformer having a plurality of low-tension windings, means for connecting the generator or generators to one of said low-tension windings, one or more converters, and means for connecting a converter to another low-tension winding.

5. In a system of distribution, a source of alternating current, a transformer having a high-tension winding and a plurality of independent low-tension windings, a plurality of converters, and means for connecting the source of current to one of said low-tension windings and to a converter, and a second converter to a second low-tension winding.

6. In a system of distribution, a source of alternating current, a step-up transformer having a high-tension winding and a pair of low-tension windings, a pair of converters, means for connecting the source of current to one of said low-tension windings and to one of said converters and means for connecting the second of said converters to another of the low-tension windings.

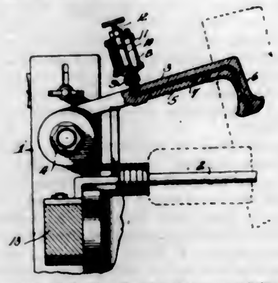
7. In a system of distribution, a plurality of independent alternating current generators, a transformer having a high-tension winding and a plurality of low-tension windings, means for connecting each of said generators to one of said low-tension windings, a plurality of converters, and means for connecting each of said converters to one of said generators.

8. In a system of distribution, a plurality of alternating current generators, each adapted to be connected independently to a section or set of sectionalized bus-bars, a transformer having a high-tension winding and a plurality of independent low-tension windings, a plurality of converters, means for connecting one set of bus-bars to one or more generators, to one low-tension winding and to one converter, and means for connecting another set of bus-bars to another low-tension winding and to another converter.

9. In a system of distribution, a plurality of alternating current generators, a transformer having a high-tension winding, and a plurality of low-tension windings, a plurality of converters and means for connecting one or more generators to each of said low-tension windings and to one of said converters.

10. In a system of distribution, a plurality of alternating current genrators, a transformer having a plurality of low-tension windings, a plurality of converters, means for connecting a generator to each low-tension winding and to a converter, or for disconnecting the generator from a low-tension winding and for connecting a converter only to said winding, so that the converters are not conductively connected together on the alternating current side.

867,066. SPINDLE-OILER. EVERETT C. MARCHANT, Maynard, Mass. Filed Feb. 14, 1907. Serial No. 357,276.



1. A lubricating device for looms comprising an oiler to overlie and bear upon the loom spindle, said oiler being formed with an oil delivery passage, and means for lifting the delivery end of the oiler at predetermined intervals and disposing the oil delivery passage therein to prevent gravital discharge of the lubricant.

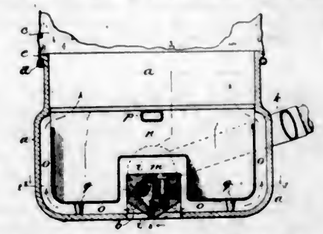
2. A lubricating device for looms comprising an arm pivotally supported on the loom frame and adapted to bear on the loom spindle, said arm being formed with an oil channel, a lubricant receptacle in communication with said channel, and means for elevating the arm at predetermined intervals and thereby inclining the oil channel to prevent gravital discharge of the lubricant during such elevation.

3. A lubricating device for looms comprising an arm pivotally mounted on the loom structure, a lubricant receptacle supported by the arm and in communication with an oil channel formed in the arm, and means to prevent the passage of the lubricant from the receptacle to the channel except during agitation of the arm.

4. A lubricating device for looms comprising an arm pivotally mounted on the loom structure, a lubricant receptacle supported by the arm and in communication with an oil channel formed in the arm, means to prevent the passage of the lubricant from the receptacle to the channel except during agitation of the arm, and means adjacent the pivot to elevate the free end thereof at predetermined intervals.

5. A lubricating device for looms comprising an arm pivotally mounted on the loom structure, a lubricant receptacle supported by the arm and in communication with an oil channel formed in the arm, means to prevent the passage of the lubricant from the receptacle to the channel except during agitation of the arm, and a lifting arm supported by the loom structure and adapted to engage beneath and elevate the free end of the lubricating device at predetermined intervals.

867,067. CARPET-CLEANER. FRANK J. MATCHETTE, Milwaukee, Wis., assignor to American Air Cleaning Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed Nov. 19, 1903. Serial No. 181,800.



1. In a carpet cleaner the combination of a casing having a transverse opening in the bottom and bearings in the ends adjacent to said opening, a nozzle journaled at the ends in said bearings and having a downwardly directed slit parallel with and adjacent to said opening, and a tubular handle attached to and communicating with said nozzle through one of its journals, which forms an air passage leading from a supply connection with the handle outside of the casing to the interior of the nozzle within the casing substantially as described.

2. In a carpet cleaner the combination of a casing having a transverse opening in the bottom and bearings in the ends adjacent to said opening, a nozzle journaled at the ends in said bearings and having a downwardly presented slit parallel with and adjacent to said opening, and a handle having a tubular ball secured to the nozzle, journals which are hollow and form air passages leading from a compressed air supply connection with the handle outside of the casing, to the interior of the nozzle within the casing substantially as described.

3. In a carpet cleaner the combination of a casing having a transverse opening in the bottom and bearings in the ends adjacent to said opening, a nozzle formed at the ends with hollow trunnions which are revolubly fitted in said bearings and having a downwardly presented slit arranged lengthwise of and adjacent to said opening, and a tubular handle having a compressed air supply connection and a tubular ball attached to said trunnions which form pivot connections between said casing and handle and air passages leading into the casing, substantially as described.

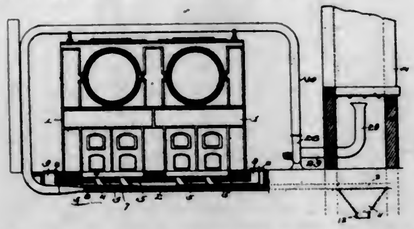
4. In a carpet cleaner the combination of a casing having a transverse opening extending across the bottom into the ends and terminating in half boxes, half boxes removably fitted into and adapted to close said openings in the ends of the casing below said boxes, a nozzle formed with hollow trunnions which are revolubly fitted in said boxes and having a downwardly presented blast orifice arranged lengthwise and adjacent to said opening, and a tubular handle attached to said trunnions substantially as described.

5. In a carpet cleaner the combination of a casing having a transverse opening in the bottom, a nozzle arranged within said casing and having a downwardly directed orifice parallel with and adjacent to said opening, and a dust pan removably fitted in said casing and forming with the bottom and sides thereof passages leading from said opening into the upper part of the pan, substantially as described.

6. In a carpet cleaner the combination of a casing having a transverse opening in the bottom and journal bearings adjacent to the ends of said opening, a nozzle composed of two sections, one of which is fitted and secured in a longitudinal recess of the other and forms therewith a downwardly directed blast orifice or slit, one nozzle section being provided at the ends with hollow trunnions which are revolubly fitted in said bearings, and a tubular handle attached to said trunnions and having a compressed air supply connection outside of the casing, substantially as described.

7. In a carpet cleaner, the combination of a portable casing having a transverse opening in the bottom and a transverse trunnion bearing adjacent to one end of said opening, a tubular operating arm having an air supply connection outside of the casing, and a hollow trunnion to which said arm is fixed mounted revolubly in said bearing, and forming an unbroken hollow pivotal connection between the casing and arm in communication with the transverse opening in said casing substantially as described.

867,068. PNEUMATIC DELIVERY SYSTEM. WILLIAM MCCLAVE, Scranton, Pa., assignor to McClave-Brooks Company, Scranton, Pa., a Corporation of Pennsylvania. Filed May 20, 1907. Serial No. 374,718.



1. In combination, a transversely rectangular conveyer tube, an intake for delivering material to said tube, a sealed circuit for said tube, means for maintaining circulation of air within said circuit and tube, and a sealed discharge for said conveyer tube.

2. In combination, a transversely rectangular relatively wide conveyer tube, an intake for said tube of less width than said tube and centrally located with respect to the width of said tube, a discharge for said tube, and means for maintaining a current of air within the tube.

3. In combination, a conveyer tube, an inlet tube communicating therewith, a discharge tube also communicating with the conveyer tube, said discharge tube being arranged to deliver only a portion of its contents at one time, so as to remain constantly sealed, sealed means of communication between the discharge end of said conveyer tube and the opposite end thereof, and means for maintaining a circuit in said conveyer tube and communicating means.

4. In combination, a conveyer tube provided with a discharge end, sealed means of communication between the discharge end of said tube and the opposite end thereof, means for maintaining circulation of air within said tube and said means of communication, and a curved inlet pipe communicating with said tube and being curved in the direction of travel of the current of air within the tube.

5. In combination, a conveyer tube provided with a discharge end, sealed means of communication between the discharge end of said tube and the opposite end thereof, means for maintaining circulation of air within said tube and said communicating means, an inlet pipe inclined at an angle with respect to the conveyer tube and communicating therewith, and a slide valve positioned at the point of juncture between the intake pipe and the conveyer tube, for controlling the communication between said pipe and tube, said valve being arranged to be opened by being moved in a direction opposite the direction of flow of air circulating within said tube.

6. In combination, a conveyer tube provided with a discharge end, sealed means of communication between the discharge end of said tube and the opposite end thereof, means for maintaining circulation of air within said tube and communicating means, an inlet communicating with said tube, and a relief valve arranged for governing the pressure of the circulating air.

7. In combination, a conveyer tube having an intake and a discharge, a sealed chamber surrounding the discharge, a tube leading from said sealed chamber, a blower having its intake communicating with said tube, and a pipe communicating with the discharge of said blower and extending to the said conveyer tube at a point beyond the intake thereof.

8. In combination, a conveyer tube having a discharge end, a sealed chamber surrounding said discharge end, means for delivering material from said sealed chamber without breaking the seal, means of communication between the said chamber and the end of the conveyer tube opposite the discharge end, means for maintaining a circulation of air in said tube and communicating means, an intake communicating with said tube intermediate the length thereof, and a variable pressure relief valve controlling discharge from said communicating means, for governing the pressure therein.

9. In combination, a conveyer tube, an inlet therefor, the conveyer tube being provided with a discharge end, a sealed chamber surrounding said discharge end, a discharge pipe extending from said sealed chamber and adapted to deliver material from the chamber only when the material is subjected to greater pressure than is maintained in the chamber, means of communication between the said sealed chamber and the end of the conveyer tube opposite the discharge end, means for maintaining a circulation of air in said conveyer tube and communicating means, and means for at times discharging material from the sealed chamber.

10. In combination, a sealed chamber, a sealed circulating system communicating with said chamber for delivering material thereto, a tube extending from said sealed chamber for facilitating delivery of material from the chamber, the tube being arranged to deliver material only when the material is subjected to pressure in excess of the pressure within the sealed chamber and in addition to the force of gravity, and a plunger, movable only part way of the length of said delivery tube, and means for reciprocating said plunger.

11. In combination, a sealed chamber, a substantially sealed circulating system communicating with said chamber for delivering material thereto, a delivery tube extending from said sealed chamber and arranged to remain at all times partly filled with material, and means for forcing material longitudinally of said delivery tube.

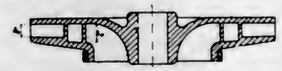
12. In combination, a sealed chamber, a substantially sealed circulating system communicating with said chamber for delivering material thereto, a delivery tube extending from said chamber, a plunger movable only part way of the length of said tube, and an operating rod extending from said plunger outside the wall of said sealed chamber, the said delivery tube being so positioned as not to deliver material by gravity or by the pressure maintained within the sealed chamber.

13. In combination a sealed chamber, a substantially sealed circulating system communicating with said chamber for delivering material thereto, a tube extending through the wall of the sealed chamber for delivering material therefrom, said delivery tube being downwardly inclined for a portion of its length and then turned from the downward incline sufficiently for preventing discharge by gravity or by the pressure contained within the sealed chamber, and means movable part way of the length of said tube for forcing material longitudinally of the same.

14. In combination, a sealed chamber, a substantially sealed circulating system communicating therewith for delivering material thereto, a hopper arranged for receiving the delivery from said system, a tube curving downwardly from said hopper and communicating therewith, and extending through the wall of said sealed chamber and curved to a position preventing delivery of material through said tube by gravity or the pressure maintained within the sealed chamber, a tube arranged at one side of and communicating with the discharge from the hopper, a plunger longitudinally movably mounted in said tube and adapted to be projected beyond the same for a suitable distance to push a portion of the conveyed material which falls from the discharge opening in the hopper into the sealing tube, and a corresponding portion of the material out of the discharge end of the sealing tube, and means for reciprocating said plunger.

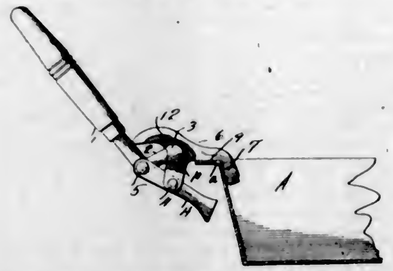
15. In combination, a sealed chamber, a substantially sealed circulating system communicating therewith for delivering material thereto, a discharge pipe extending from said sealed chamber in position for preventing discharge of material under the action of gravity or by the pressure maintained in the sealed chamber, a plunger arranged to reciprocate in position for engaging material within the discharge pipe and forcing the same longitudinally thereof for discharging portions of the material from the outer end of said pipe, means for limiting the amount of movement of the plunger to less than the length of the pipe, and a conveyer for receiving the discharge from said pipe.

867,069. BLADE-WHEEL FOR CENTRIFUGAL PUMPS. FRITZ NEUMANN, Nuremberg, Germany. Filed Dec. 17, 1906. Serial No. 348,370.



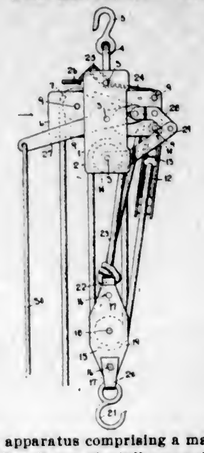
A rotary member for centrifugal pumps comprising side members connected by spirally arranged webs forming liquid passages, the entrances to said passages being of greater height than the exits and being of rectangular form on sections taken at right angles to the direction of flow of the water.

867,070. PAN-LIFTER. WALTER R. OGDEN, Louisville, Ky. Filed Oct. 19, 1906. Serial No. 339,680.



A pan lifter comprising a handle having a leg disposed at a substantial right angle thereto and terminating in an enlarged rounded engaging head, a gripping jaw pivoted to said handle at the point of juncture of said angular leg and terminating in a squared head, a second gripping jaw terminating in a depending angular extension overlying said squared head, and provided with a pair of spaced parallel ears embracing said first named jaw and pivotally connected thereto adjacent the juncture of said jaw and said handle, said second named jaw being also provided with a rearwardly extending portion overlying said angular leg, and having a concavely curved segment formed on its under face between said ears to permit of the working engagement therein of the enlarged head of said angular leg.

867,071. HOISTING APPARATUS. CARL A. OLSON, Milan, Minn. Filed Mar. 28, 1907. Serial No. 365,037.



1. A hoisting apparatus comprising a main pulley frame, an auxiliary pulley frame pivotally mounted in said main frame, pulleys arranged in said main frame and in said auxiliary frame, a pulley block loosely connected to one end of said auxiliary frame, a triple pulley block, a hoisting cable having one end connected to said triple block and passing around the pulleys therein and the pulleys in said main and auxiliary frames, gripping means adapted to engage the hoisting cable when the hoisting power is released therefrom, and means for disengaging said gripping means from said cable.

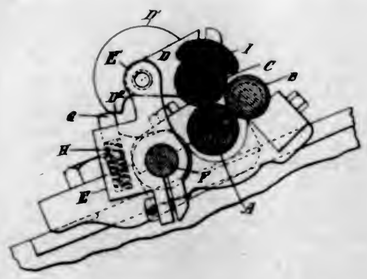
2. A hoisting apparatus consisting of a main pulley frame, pulley wheels journaled in the lower end of said frame, and auxiliary pulley frame pivotally mounted in said main frame, pulley wheels revolubly mounted in the opposite ends of said auxiliary frame, a pulley block loosely connected to one end of the latter, a triple pulley block, a hoisting cable connected at one end to said triple block and passing around the pulleys therein and pulleys in said main and auxiliary frames, a gripping or clutching lever pivotally mounted in one end of said auxiliary frame and adapted to be engaged thereby with the hoisting cable when the hoisting power is released therefrom, and means to disengage said gripping or clutching lever from said cable, substantially as described.

3. A hoisting apparatus comprising a main pulley frame, pulley wheels journaled in the lower end thereof, an auxiliary pulley frame pivotally mounted in said main frame, pulley wheels journaled in the opposite ends of said auxiliary frame, a pulley block loosely connected to one end of the latter, a triple pulley block, a hoisting cable connected at one end to said block and passing around the pulleys therein and pulley wheels in said main and auxiliary frames, a clutch or gripping lever pivotally mounted in one end of said auxiliary frame, said lever having formed therein a cam slot to engage a fixed pin or bolt in said main frame whereby upon the release of the hoisting power from said cable said auxiliary frame will be tilted by the weight of the load to cause said clutching or gripping lever to engage and clamp said hoisting cable between the free end of said lever and the pulley in the adjacent end of said auxiliary frame, and means to release said clutch lever, substantially as described.

4. A hoisting apparatus comprising a main pulley frame, pulley wheels journaled in the lower end thereof, an auxiliary pulley frame pivotally mounted in said main frame, pulley wheels journaled in the opposite ends of said auxiliary frame, a pulley block loosely connected to one end of the latter, a triple pulley block, a hoisting cable

connected at one end to said block and passing around the pulleys therein and pulley wheels in said main and auxiliary frames, a clutch or gripping lever pivotally mounted in one end of said auxiliary frame, said lever having formed therein a cam slot to engage a fixed pin or bolt in said main frame whereby upon the release of the hoisting power from said cable said auxiliary frame will be tilted by the weight of the load to cause said clutching or gripping lever to engage and clamp said hoisting cable between the free end of said lever and the pulley in the adjacent end of said auxiliary frame, a fulcrum arm on said main frame, a bell-crank lever pivotally mounted on the adjacent end of said auxiliary pulley frame, one arm of said bell-crank lever being pivotally connected to said fulcrum arm, a releasing lever pivotally mounted on said main frame and loosely engaged with the opposite arm of said bell-crank lever whereby when said releasing lever is actuated, said bell-crank lever will tilt or rock said auxiliary pulley frame and thereby disengage said fulcrum lever from said hoisting cable and an operating cord connected to said releasing lever, substantially as described.

867,072. HORSETAIL FOR DRAWING-OFF MECHANISMS. OSCAR L. OWEN, Whitinsville, Mass., assignor to The Whitin Machine Works, Whitinsville, Mass., a Corporation of Massachusetts. Filed Aug. 26, 1905. Serial No. 275,867.



1. In a drawing mechanism, a lower roller, a top roller and pivoted arms for the latter adapted to carry the same from its operative position, in engagement with said lower roller, to an inoperative position away from said roller, in combination with means tending normally to urge said arms toward the lower roller but rendered ineffective for such purpose by the movement of said top roller to its said inoperative position.

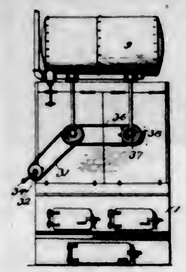
2. The combination with the drawing-off roller of cotton combing machines, of a clearing roller therefor removably held in intermeshing engagement with said drawing-off roller, a pair of pivoted carrier-arms for said clearing roller and spring detents coöperating with said arms to maintain the clearing roller in meshing engagement with the drawing-off roller after said arms are swung a predetermined extent toward their closed position.

3. In drawing-off mechanism, a pivotally mounted horsetail and a support therefor, in combination with a spring detent carried by one of said parts and acting on the other to hold the horsetail in close position after it has been swung on its pivot a preretermined extent.

4. In drawing-off mechanism, a pivoted horsetail provided with a sector terminated in a thrust receiving seat, in combination with a spring detent adapted to slide relatively on said sector and to act on the seat thereof to close the horsetail.

5. In drawing-off mechanism, a horsetail bracket having a socket therein and a spring detent housed in said socket in combination with a horsetail pivoted to said bracket, a portion of said horsetail having sliding engagement with the detent and located to confine the same within the socket.

867,073. CLEANER FOR WATER-TUBE BOILERS. GILBERT PATTERSON, Duluth, Minn. Filed Mar. 20, 1907. Serial No. 363,399.



1. The combination with a water tube boiler, of a rotatable pipe mounted within said boiler between the tubes and parallel therewith, and means for supplying the pipe with steam and rotating the same.

2. The combination with a water tube boiler, of a rotatable perforated pipe mounted within said boiler between the tubes and parallel therewith.

3. The combination with a water tube boiler, of a rotatable perforated pipe mounted within the boiler between the tubes and parallel therewith, the said pipe extending through the front wall of the boiler, a sprocket wheel keyed upon said extended portion of the pipe, a sprocket chain for rotating the sprocket, and a steam supply having a flexible connection with the outer end of the pipe.

4. The combination with a water tube boiler composed of a front and rear head connected by water tubes, of means for rotatably mounting a pipe within the space occupied by one of the tubes for washing the outside of the remaining tubes.

5. The combination with a water tube boiler, composed of front and rear heads connected by water tubes, of means for rotatably mounting a pipe within the openings formed by the removal of one of the tubes, for washing the outside of the remaining tubes.

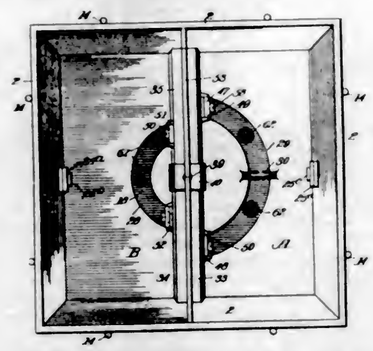
6. The combination with a water tube boiler, composed of front and rear heads connected by water tubes, of plugs mounted within the openings formed by the removal of one of the tubes, a steam pipe rotatably mounted within said heads and having openings for spraying steam upon the tubes for removing soot and scale therefrom.

7. The combination with a water tube boiler composed of a front and rear head, connected by water tubes, of plugs mounted within the openings in the heads upon the removal of one of the tubes, a steam pipe rotatably mounted within said heads and having openings for spraying steam upon the tubes, said pipe extending outwardly from the front head, means for rotating said pipe, and means for supplying steam to said pipe.

8. The combination with a water tube boiler, composed of a front and rear head connected by water tubes having one of the tubes removed, a short tube within the opening in the rear head formed by the removal of the tube, a plug expanding said short tube and having a recess in its inner face, a short tube within the opening in the rear wall of the front head, a plug within said tube and expanding the same to form a tight joint with the head, said plug having a screw-threaded opening therein, a pipe screwed within the opening in said plug and extending outwardly through the opening in the front wall of the head, a plug surrounding the said tube, means for clamping said plug tightly against the inner face of the inner wall, a packing within the plug for forming a tight joint with the tube, means carried by the plug for expanding said packing, a pipe extending through the tube in the front head and entering the recess in the plug in the rear head, and having openings therein intermediate the heads, means for supplying steam to the outer end of said pipe, and means for rotating said pipe whereby the steam is sprayed upon all the tubes to remove the soot and scale therefrom.

9. The combination with a water tube boiler, comprising a front and rear head connected by water tubes having one of the tubes removed, a bearing secured within the tube opening in the rear head, a short tube within the opening in the rear wall of the front head, a plug within the said short tube and expanding the same to form a tight joint with the head, said plug having a screw-threaded opening therein, a pipe screwed within said opening in said plug and extending outwardly through the opening in said plug, and extending outwardly through the opening in the front wall of the head, a plug surrounding the said tube, means for clamping said plug tightly against the inner face of the inner wall, a packing within the plug for forming a tight joint with the tube, means carried by the plug for expanding said packing, a pipe extending through the tube in the front head and entering the recess in the plug in the rear head, and having openings therein intermediate the heads, means for supplying steam to the outer end of said pipe, and means for rotating said pipe whereby the steam is sprayed upon all the tubes to remove the soot and scale therefrom.

867,074. SEED-PLANTER. DAVID M. PEARCE, Union City, Tenn. Filed Dec. 8, 1906. Serial No. 346,887.



1. In a planter, a hopper and a revoluble dropping plate arranged therein, said plate having two series of seed-carrying perforations therein, the portions of said plate in which said perforations are formed being thicker than the rest of said plate and the portion in which one series of perforations is formed being thicker than that in which the other series is formed, for the purpose specified.

2. In a planter, a double hopper adapted to hold two kinds of seed, and means to alternately feed seed continuously to the same row including a revoluble dropping plate having two concentric series of arcuate slots therein, the slots of one series being arranged alternately with those of the other series.

3. In a planter, a double hopper adapted to hold two kinds of seed, and means to alternately feed said seed to the same row, including a revoluble dropping plate having two concentric series of perforations therein, the perforations of one series arranged alternately with the perforations of the other series.

4. In a planter, a hopper divided into two compartments, a revoluble dropping plate arranged in the bottom of said hopper and having two series of perforations therein, means to feed the seed from said compartments to said dropping plate and an ejector having two legs, each adapted to enter one of the series of perforations in said dropping plate.

5. In a planter, a hopper divided into two compartments, a revoluble dropping plate arranged in the bottom of said hopper and having two series of perforations therein, a slotted cover plate arranged above said dropping plate and an ejector having two legs each extending through one of the slots in said cover plate and adapted to enter one of the series of perforations in said dropping plate.

6. In a planter, a hopper divided into two compartments by a partition arranged vertically across the same, a revoluble dropping plate arranged in the bottom of said hopper and having two concentric series of perforations therein, a cover plate arranged above said dropping plate and having a semi-circular slot in each compartment adapted to feed the seed in said compartment to one of the series of perforations in the dropping plate, and means to eject the seed from said dropping plate.

7. In a planter, a hopper, a revoluble dropping plate arranged in the bottom thereof, and having two concentric series of perforations therein, a cover plate arranged above said dropping plate and having a semi-circular slot in each half thereof arranged in line with one of the series of slots in said dropping plate, a chambered bridge extending across said cover plate and covering the ends of said slots, and means arranged in the chamber of said bridge for discharging the seed which is fed to said dropping plate through the slots in the cover plate.

8. In a planter, a hopper, a revoluble dropping plate arranged in the bottom thereof and having two concentric series of perforations therein, a cover plate arranged above said dropping plate and having a semi-circular slot in each half thereof arranged in line with one of the series of slots in said dropping plate, a vertical partition across said hopper dividing it into two compartments, said partition having a chamber at its base covering the ends of said slots, and means arranged in said chamber for discharging the seed which is fed through the slots in the cover plate.

9. In a planter, a hopper, a revoluble dropping plate arranged in the bottom thereof and having two concentric series of perforations therein, a cover plate arranged above said dropping plate and having a semi-circular slot in each half thereof arranged in line with one of the series of slots in said dropping plate, a vertical partition arranged across said hopper dividing it into two compartments, said partition having a chamber at its base covering the ends of said slots, and a knock-out arranged in said chamber for discharging the seed which is fed through the slots in the cover plate.

10. In a planter, a hopper divided into two compartments by a partition arranged vertically across the same, a revoluble dropping plate arranged in the bottom of said hopper, a slotted cover plate arranged above said dropping plate whereby seed from each of said compartments is fed to said dropping plate, a yoke on said cover plate extending across one of the slots therein and serving as a brace and means of taking hold of said plate to remove it, and means to eject the seed from said dropping plate.

11. In a planter, a hopper, a revoluble dropping plate having two concentric series of perforations therein, and a gravity knock-out mounted astride a pin and having two legs, each adapted to discharge the seed from one series of perforations in said dropping plate.

12. In a planter, a hopper, a revoluble dropping plate arranged in the bottom thereof and having two concentric series of perforations therein, a cover plate arranged above said dropping plate and having a semi-circular slot in each half thereof arranged in line with one of the series of slots in said dropping plate, a vertical partition arranged across said hopper dividing it into two compartments, said partition having a chamber at its base covering the ends of said slots, and a gravity knock-out mounted in said chamber astride a pin and having two legs, each adapted to discharge the seed from one series of perforations in said dropping plate.

13. In a planter, a hopper, a revoluble dropping plate having two concentric series of perforations therein, a cover plate arranged above said dropping plate and having a semi-circular slot in each half thereof arranged in line with one of the series of slots in said dropping plate, a chambered bridge made of two similar parts having lugs engaging niches in said feeding plate, a cap fitting across said parts of said bridge and secured in place by a bolt

engaging with said cover plate, and means in the chamber of said bridge to discharge the seed from said dropping plate.

14. In a planter, a hopper, a revoluble dropping plate having two concentric series of perforations therein, a cover plate arranged above said dropping plate and having a semi-circular slot in each half thereof arranged in line with one of the series of slots in said dropping plate, a chambered bridge extending across said cover plate and covering the ends of said slots, a seed ejector arranged in the chamber of said bridge, and cut-offs arranged at one end of each of the slots in the cover plate for the purpose specified.

15. In a planter, a hopper, a revoluble dropping plate having two concentric series of perforations therein, a cover plate arranged above said dropping plate and having a semi-circular slot in each half thereof arranged in line with one of the series of slots in said dropping plate, a chambered bridge extending across said cover plate and covering the ends of said slots, a seed ejector arranged in the chamber of said bridge, and adjustable cut-offs arranged at one end of each of the slots in the cover plate for the purpose specified.

16. In a planter, a hopper, a revoluble dropping plate having two concentric series of perforations therein, a cover plate arranged above said dropping plate and having a semi-circular slot in each half thereof arranged in line with one of the series of slots in said dropping plate, a chambered bridge extending across said cover plate and covering the ends of said slots, a seed ejector arranged in the chamber of said bridge and cut-offs arranged at one end of each of the slots in the cover plate for the purpose specified, each of said cut-offs having a brush at one end adapted to engage the dropping plate.

17. In a planter, a hopper, a revoluble dropping plate having two concentric series of perforations therein, a cover plate arranged above said dropping plate and having a semi-circular slot in each half thereof arranged in line with one of the series of slots in said dropping plate, a chambered bridge extending across said cover plate and covering the ends of said slots, a seed ejector arranged in the chamber of said bridge, and vertically adjustable cut-offs arranged at one end of each of said slots in the cover plate for the purpose specified, said bridge having guides for said cut-offs.

18. In a planter, a hopper, a revoluble dropping plate having two concentric series of perforations therein, a cover plate arranged above said dropping plate and having a semi-circular slot in each half thereof arranged in line with one of the series of slots in said dropping plate, a chambered bridge extending across said cover plate and covering the ends of said slots, a seed ejector arranged in the chamber of said bridge, cut-offs arranged at one end of each of said slots in the cover plate and back-fenders arranged at the other end of each of said slots for the purpose specified.

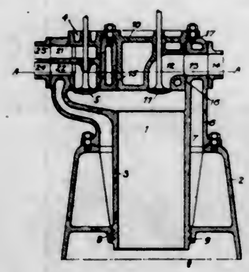
19. In a planter, a hopper, a revoluble dropping plate having two concentric series of perforations therein, a cover plate arranged above said dropping plate and having a semi-circular slot in each half thereof arranged in line with one of the series of slots in said dropping plate, a chambered bridge extending across said cover plate and covering the ends of said slots, a seed ejector arranged in the chamber of said bridge, vertically adjustable cut-offs and back-fenders arranged at the opposite ends of each of the slots in the cover plate, and guides on said bridge for said cut-offs and back-fenders.

20. In a planter, a hopper, a dropping plate in said hopper, a ring gear arranged outside of said dropping plate, means on said dropping plate and ring gear for locking them together against separate vertical displacement and means to revolve said ring gear.

21. In a planter, a hopper, a dropping plate in said hopper, said dropping plate having its edge beveled outwardly and downwardly, a ring gear arranged outside said dropping plate and having its inner edge correspondingly beveled inwardly and upwardly, means to lock said dropping plate and ring gear together, and means to revolve said ring gear.

22. In a planter, a hopper, a dropping plate in said hopper, said dropping plate having its edge beveled outwardly and downwardly, a ring gear arranged outside said dropping plate and having its inner edge correspondingly beveled inwardly and upwardly, said dropping plate having oppositely extending lugs at its edge, said lugs having their ends beveled in the opposite direction from the edge of said plate, the ring gear having notches to receive said lugs, the bases of said notches being beveled to correspond with the ends of the lugs in the opposite direction from the inner edge of said ring gear, one of said notches having a passage out therethrough for the purpose specified, and means to revolve said ring gear.

867,075. INTERNAL-COMBUSTION ENGINE. OTAKAR PODHAJSKÝ, Warren, Pa. Filed Nov. 27, 1906. Serial No. 345,287.



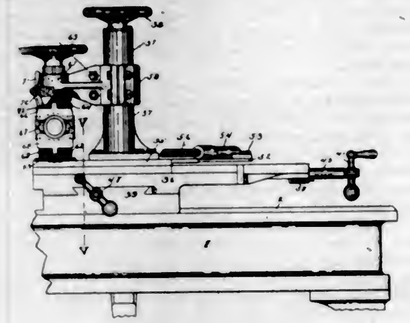
1. In an internal combustion engine, a cylinder, and a removable cylinder-head of substantially cylindrical form whose diameter is equal or greater than that of the cylinder bore, the outer surface of the cylinder head being provided with a plurality of shoulders fitting against similar shoulders on the cylinder bore; one of the valves controlling the cylinder being located in said cylinder-head and said head being provided with a passage controlled by said valve and registering with a passage in the cylinder bore, substantially as described.

2. In an internal combustion engine, a cylinder, and a removable cylinder-head of substantially cylindrical form whose diameter is greater than that of the cylinder bore, the outer surface of the said cylinder-head being provided with a plurality of shoulders fitting against similar shoulders on the cylinder wall, the inlet valves controlling the cylinder being located in the cylinder head and said head being provided with passages controlled by said valves and registering with passages in the wall of the cylinder; substantially as described.

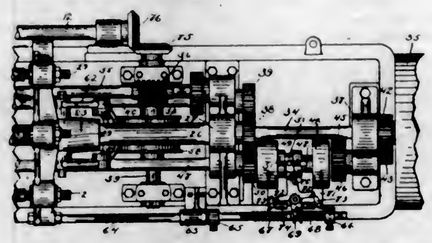
3. In an internal combustion engine, a cylinder, and a removable cylinder-head of substantially cylindrical form whose diameter is greater than that of the cylinder bore, the outer surface of the cylinder head being provided with a plurality of shoulders fitting against similar shoulders on the cylinder wall; the exhaust valve of the cylinder being located in the cylinder head, said head being also provided with a passage located between said shoulders communicating with the exhaust valve and registering with a passage in the cylinder wall, substantially as described.

867,076. HORIZONTAL REAMING, TAPPING, AND FACING MACHINE. WILLIAM PORTEOUS, College Hill, Ohio. Filed Sept. 11, 1905. Serial No. 278,015.

In a machine of the character described, a movable table having guideways, a work slide movable thereon and carrying chuck jaws, a nut on the slide, an adjusting screw engaging the nut, a sleeve rotatably mounted on the screw and a split clamp surrounding the sleeve and connected to the table.

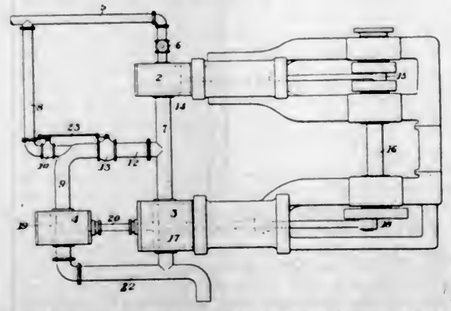


867,077. REAMING AND TAPPING MACHINE. WILLIAM PORTEOUS, College Hill, Ohio. Filed Sept. 11, 1905. Serial No. 278,017.



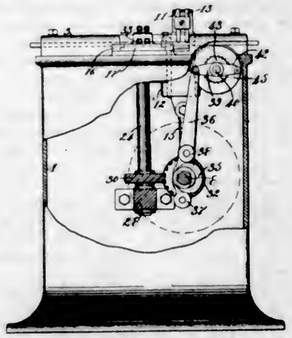
In a machine of the character described, provided with tool carrying spindles and a reciprocating carrier therefor, the combination with a shaft 47 for rotating the spindles, of clutch members 48 and 49 on said shaft, an intermediate shiftable clutch 51, a clutch lever 70 engaging a circumferential groove in the clutch and provided with double bell-crank arms 72, pivoted spring dogs 73 adapted to engage the arms 72 alternately, the shaft 64 having longitudinal movement controlled by the tool-carrying spindle carrier, coiled springs 67, 68 for connecting the said shaft to an extension of the bell-crank lever 70 and whereby said bell-crank lever is alternately shifted, substantially as described.

867,078. COMPOUND ENGINE. IRVING H. REYNOLDS and FRED E. NORTON, Youngstown, Ohio. Filed Nov. 8, 1905. Serial No. 286,348.



In a compound engine, a high pressure element always operating as such, a low pressure element connected to the exhaust of the high pressure element and deriving its sole supply therefrom to operate always as a low pressure element, and a third element having its cylinder in endwise alinement with the cylinder of the low pressure element, and its piston directly connected with the piston of said low pressure element, and valved connections whereby the third element may be operated either as a high pressure or as a low pressure element; substantially as described.

867,079. CARVING-MACHINE. FRANCIS H. RICHARDS, Hartford, Conn. Filed Jan. 16, 1903, Serial No. 139,270. Renewed Feb. 19, 1907. Serial No. 358,274.



1. In a carving machine, the combination with a table, a plurality of parallel stock guides on said table, a plurality of ways on said table oppositely disposed of said stock guides, a plurality of tool carriages reciprocatably mounted in said ways and provided with transverse yokes in their under surface, a plurality of shafts mounted in said table perpendicularly of said tool carriages, cranks on said shafts engaging said yokes, a driving shaft transverse of said stock guides, spiral gearing between said driving shaft and said before mentioned shafts, a tool carriage reciprocatably mounted in said table between said stock guides and out of alinement with said former tool carriages, a crank in said driving shaft, and a connecting rod between said crank and said latter tool carriage.

2. In a carving machine, the combination of a table, a plurality of parallel stock guides on said table, a plurality of ways on said table oppositely disposed of said stock guides, a plurality of tool carriages reciprocatably mounted in said ways and provided with transverse yokes, a plurality of shafts mounted in said table perpendicularly of said respective tool carriages, cranks on said shafts engaging said yokes, a driving shaft transverse of said stock guides and disalined with said before mentioned shafts, a crank in said driving shaft, a tool carriage reciprocatably mounted for up and down movement between said stock guides, a connecting rod connecting said latter tool carriage and said crank on said driving shaft, spiral gearing between said driving shaft and said before mentioned shafts, and an intermittent feed in operative connection with said driving shaft.

3. In a carving machine, the combination of a table, a plurality of parallel stock guides on said table, a plurality of ways on said table lying in a horizontal plane and perpendicularly to and oppositely disposed of said stock guides, a plurality of tool carriages reciprocatably mounted in said ways and having transverse yokes, a plurality of shafts mounted in said table perpendicularly of said respective tool carriages, cranks on said shafts engaging said yokes, vertical ways between said stock guides and out of alinement with said tool carriages, a tool carriage reciprocatable in said vertical ways, a horizontal driving shaft mounted transversely of said stock guides directly beneath said vertical tool carriage, a crank in said driving shaft directly beneath said vertical tool carriage, a connecting rod connecting the said vertical carriage and the said crank in said driving shaft, spiral gear-

ing between said driving shaft and said before mentioned shafts, an intermittent feed operatively connected with said driving shaft, the moment of closest approach of said horizontal tool carriages to said stock guide, the moment of closest approach of said vertical carriage to said stock guide, and the feed of said intermittent feed timed to occur at different periods in the rotation of said driving shaft.

4. In a carving machine, the combination of a stock guide having a depression in the floor thereof, a closure over said stock guide conforming to the surface of the stock to be fed therethrough the bottom of said depression being inclined downwardly in said stock guide, a wedge disposed in said depression, the upper surface of which wedge is parallel to the floor of said stock guide, said wedge being of lesser length than the length of said depression, and a spring or springs disposed between the thicker edge of said wedge and the adjacent end wall of said depression in said stock guide.

5. In a carving machine, the combination of a stock guide having a depression in the floor thereof, a bridge over said stock guide conforming on its underside to the surface of the stock to be fed therethrough, the bottom of said depression in said stock guide being inclined downwardly, a wedge disposed in said depression the upper surface of which wedge is parallel to the floor of said stock guide, said wedge being of lesser length than the length of said depression, and a spring or springs disposed between the thicker edge of said wedge and the adjacent end wall of said depression.

6. In a carving machine, the combination of a stock guide having a depression in the floor thereof, a bridge over said stock guide conforming on its under surface to the upper face of the stock to be fed therethrough, the bottom of said depression being inclined downwardly toward the direction of feed in said stock guide, a wedge disposed in said depression the upper surface of which wedge is parallel with the floor of said stock guide, said wedge being of lesser length than the length of said depression, and a spring or springs disposed between the thicker edge of said wedge and the adjacent end wall of said depression.

7. In a carving machine, the combination of a table, a plurality of parallel stock guides on said table each having a depression or depressions in the floor thereof, the bottom of said depressions being inclined downwardly in the direction of the feed in said stock guides, a wedge disposed in each of said depressions, the upper surface of said wedges being parallel to the floor of said stock guides said wedges being of lesser length than the length of said depressions, and springs disposed between the thicker edges of said wedges and the adjacent end walls of said depressions in said stock guides, bridges over said stock guides the under surfaces of which bridges conform to the upper surface of the stock to be fed therethrough, a plurality of ways on said table lying in a horizontal plane and perpendicularly to and oppositely disposed of said stock guide, a plurality of tool carriages reciprocatably mounted in said ways and having transverse yokes, a plurality of shafts mounted in said table perpendicularly of said respective tool carriages cranks on said shafts engaging said yokes, vertical ways between said stock guides and out of alinement with said tool carriages, a tool carriage reciprocatable in said vertical ways a horizontal driving shaft mounted transversely of said stock guides directly beneath said vertical tool carriage, a crank in said driving shaft directly beneath said vertical tool carriage, a connecting rod connecting the said vertical carriage and the said crank in said driving shaft. spiral gearing between said driving shaft and said before mentioned shafts, an intermittent feed operatively connected with said driving shafts, the moment of closest approach of said horizontal tool carriages to said stock guides, the moment of closest approach of said vertical carriage to said stock guide, and the feed of said intermittent feed timed to occur at different periods in the rotation of said driving shaft.

8. In a carving machine the combination with means to incise the stock in transverse directions, of a stock guide having a face conforming to the contour of the face of the stock to be worked upon and two plane surfaces disposed transversely of each other and opposite said face, and each disposed transversely of the line of work of one of said incising means, and followers therein to press said face of the stock against the face of the guide, and each for receiving the force of the working stroke of one of said incising means.

9. The combination with a pair of carving instrumentalities working in transverse directions of a stock guide having a face conforming to the face of the stock to be worked upon and followers to press upon the stock in transverse directions and force the face of the stock against said face of the guide and support the same against the working stroke of said carving instrumentalities.

10. The combination with carving instrumentalities, of a pair of closures each having a contour corresponding to that of the face of the molding, two transversely disposed faces to mate with said closures, a stock guide, and an independently movable elastically yieldable pressed follower in said respective faces.

11. In a carving machine the combination with a closure for the carving receiving face of stock, a plane face for guiding the side of the stock and a plane face for guiding the back of the stock; means for feeding the stock; and a follower in each of such plane faces having the resultant of a compound movement against the direction of feed and towards the said closure and a resultant of a compound movement with the feed and away from the face guide.

12. In a carving machine the combination with means to incise the stock in transverse directions, of a stock guide having a face conforming to the contour of the face of the stock to be worked upon and two plane surfaces disposed transversely of each other and opposite said face, and followers therein to press said face of the stock against the said face of the guide.

13. The combination with a pair of carving instrumentalities movable in intersecting paths, of a stock guide having a face conforming to the face of the stock to be worked upon, and means for pressing upon the stock in intersecting lines for forcing the face of the stock against said face of the guide and support the same against the working stroke of said carving instrumentalities.

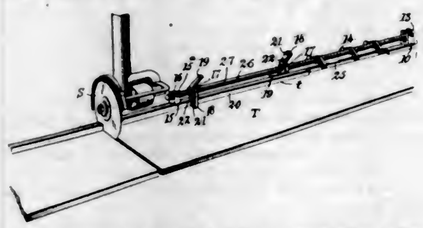
867,080. SPONGE-HOLDER. URIAH L. RIFE, Sound Beach, Conn. Filed Oct. 18, 1906. Serial No. 339,489.



1. In combination, a longitudinal member, a handle secured to one end thereof, a jaw carried by the opposite end thereof, a second member carried by said first mentioned member and longitudinally adjustable in relation thereto, a jaw carried by said second member and adapted to co-act with the first mentioned jaw, one of said members being cut away to form a tapered portion, and a ring surrounding said members at said cutaway portion, whereby the two members may be locked in their adjusted position by the longitudinal movement of said ring.

2. In combination, a longitudinal member, a handle carried thereby, a jaw carried by one end thereof, a second member carried by said first mentioned member and longitudinally adjustable in relation thereto, a jaw carried by said second member and adapted to coact with the first mentioned jaw, one of said members having the surface oppositely disposed to the other member tapered away from said jaws, and means surrounding said members at said tapered portion, whereby the two members may be locked in their adjusted position.

867,081. GAGE. JONATHAN J. ROBINSON, Bloomsburg, Pa. Filed Jan. 27, 1906. Serial No. 298,135.



1. The combination with a table provided with a longitudinally extending guide-bar having a longitudinal recess at one end, of supports carried by the guide-bar, the support adjacent to the recess of the guide-bar being pivoted, a screw-threaded carrier-bar having a portion of its thread interrupted, the end of the bar with the uninterrupted thread being pivoted to the pivoted support and having its other end in detachable engagement with the other support, and a plurality of angular gage-members on the carrier-bar, sundry of the gage-members having interrupted threads and movable parallel with the guide-bar, the remainder of the gage-members being opposite the recess of the guide-bar, and so mounted as to normally project beyond the recess, but capable of being swung into the said recess.

2. The combination of a table provided with a longitudinally extending guide-bar having a longitudinal recess at one end, a screw-threaded carrier bar mounted above the guide-bar and having a portion of its thread interrupted, and a plurality of angular gage-members on the carrier bar, sundry of the gage-members having interrupted threads and movable parallel with the guide-bar of the table, the remainder of the gage-members being opposite the recess of the guide-bar and so mounted as to normally project beyond the recess, but capable of being swung into the said recess.

3. A gage, comprising spaced supports, one of which is pivoted, a screw-threaded carrier-bar having a portion of its thread interrupted, the end of the bar with the uninterrupted thread being pivoted to the pivoted support and its other end held in detachable engagement with the other support, and a plurality of angular gage-members on the carrier bar, sundry of the gage-members having interrupted threads.

4. A gage, comprising a pivoted and screw-threaded carrier-bar having a portion of its thread interrupted, and a plurality of angular gage-members on the bar, sundry of the gage-members having interrupted threads.

5. In a gage, the combination of spaced supports, one of which is pivoted, a screw-threaded carrier-bar having one end pivoted to the pivoted support and its other end held in detachable engagement with the other support, and a plurality of gage-members having threaded openings to receive the said carrier-bar.

6. In a gage, a carrier bar having an interrupted thread and a gage member on the carrier bar, said gage member having an interrupted thread and provided with a handle for manipulating it, said handle also serving to hold the gage member in active position.

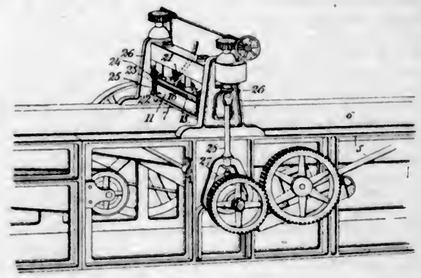
7. In a gage, spaced supports, a screw-threaded carrier-bar having one end pivoted to one support and its other end detachably held in the other support, and gage-members mounted on the carrier-bar.

8. In a gage, a table provided with a guide-bar having a longitudinal recess at one end, a carrier-bar mounted upon the table parallel with the guide-bar, and a plurality of gage-members mounted upon the carrier-bar, sundry of the gage-members being opposite the recess of the guide-bar and so mounted as to normally project beyond the recess, but capable of being swung into the said recess, the remainder of the gage members being so mounted as to be turned out of the way when not in use.

9. A gage, comprising a screw-threaded carrier bar having an interrupted thread, and a plurality of gage-members on the bar, sundry of the gage-members having interrupted threads.

10. A gage, comprising a screw-threaded carrier bar having an interrupted thread, and a plurality of gage-members on the bar and each provided with a projection which serves both as a handle and means for holding the gage-members in active position, sundry of the gage-members having interrupted threads.

867,082. BISCUIT-CUTTER. LUCIUS A. ROCKWELL. New York, N. Y. Filed Jan. 21, 1907. Serial No. 353,234.



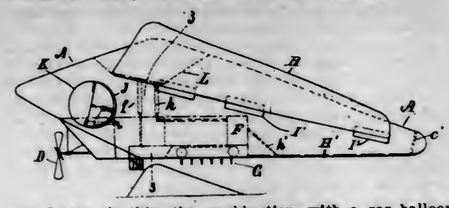
1. In a biscuit machine, opposing plates having telescoping flanges forming an air-chamber between the plates, dies and cutters carried respectively by said plates, said dies having timed movement different from that of said cutters, means for causing movement of said plates, and means for introducing compressed air between said plates.

2. In a biscuit machine, a cutter-carrying plate, cutters on said plate, a die-carrying plate, dies supported by said last-named plate and extended into the cutters, an upwardly extended flange on the cutter-carrying plate, a flange on the die-carrying plate, having sliding connection with the first-named flange, means for inducting compressed air into the space between the plates, and means for causing movements of the plates.

3. In a biscuit machine, a cutter-carrying plate, cutters attached to said plate, a die-carrying plate, rods extended downward from said die-carrying plate, and through the first-named plate, dies on said rods within the cutters, flanges on the plates having sliding connection one with the other, means for moving the plates downward, springs for moving the plates upward, and means for directing compressed air into the space between the plates.

4. In a biscuit machine, a base-plate having openings, rods extended upward from the base-plate, a cutter-carrying plate movable on said rods, cutters secured to the last-named plate and movable through said openings of the first-named plate, a die-carrying plate slidable on said rods, dies carried by the die-carrying plate and movable in the cutters, flanges on the die and cutter-carrying plates, having sliding connection one with the other, means for causing movements of the plates, and means for directing compressed air into the space between the die and cutter-carrying plates.

867,083. AIR-SHIP. ARTHUR G. RUSSELL, San Diego, Cal. Filed Sept. 14, 1905. Serial No. 278,406.



1. In an air ship, the combination, with a gas balloon having a conical body, of flat aeroplanes, of diminished width toward the rear end, having longitudinal hinges jointed upon the sides of said body diametrically opposite one another, a car carried by the body, and a motor and means located upon the car with connections for raising and lowering the aeroplanes when desired.

2. In an air ship, the combination, with a gas balloon having a conical body, of flat aeroplanes of diminished width toward the rear end, having longitudinal hinges jointed upon the sides of said body diametrically opposite one another, a car inclosed within the bottom of the balloon and having curved guide tubes extended from its bottom upwardly along the sides of the balloon, a motor and windlass carried within the car, and cords extended from the aeroplanes to the bottom of the balloon body, through the guide tubes, and thence to the windlass within the car for moving the aeroplanes when desired.

3. An air ship comprising a gas balloon A, A', having an inclosed car B, the body of the balloon being made of woven fabric, a member, as the wing H, hinged upon the woven fabric and having a straight hinge-pin I, and the balloon fabric having reinforcing patches I' sewed thereon and furnished with loops to engage said hinge-pin.

4. An air ship comprising a gas balloon A, A', having an inclosed car B, the body of the balloon being made of woven fabric, fin-rudders J projected at opposite sides of the balloon upon the conical front part A and provided with straight hinge-pins, and a metallic frame or plate K fitted to the conical part A' and secured to the balloon fabric and furnished with loops to engage the hinge-pins upon the rudders.

5. An air ship comprising a gas balloon tapered toward both ends and having an inclosed car, fin rudders hinged transversely to the conical front end of the balloon, toggle-links having their ends attached respectively to the rear sides of the rudders and to the conical front end, and cords extended from the joint of the links to the inclosed car for moving the rudders.

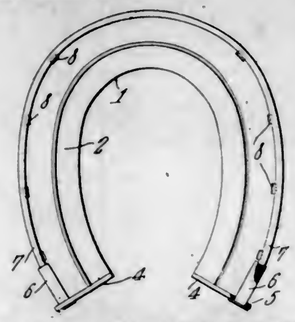
6. An air ship comprising a gas balloon having an inclosed car, and provided within the upper part with a partition forming a collapsible compartment, and connections extended from the top of the car to the bottom of the compartment to hold the partition of the compartment in position.

867,084. HORSESHOE. LEON P. SAWTELL, THADDEUS S. FIELD, and GEORGE G. CROUCH, Atlanta, Ga. Filed Apr. 24, 1907. Serial No. 370,052.

1. A horse shoe comprising a body portion having an inner non-yielding clamping member, a cushion bearing against said member, and adjustable means extending throughout the length of the cushion and bearing upon the outer face thereof for clamping said cushion against said member.

2. A horse shoe comprising a body portion having an inner non-yielding clamping member, a cushion bearing against and lapped by said member, and adjustable and removable means extending throughout the length of said cushion and bearing upon the outer face thereof for binding said cushion against the clamping member.

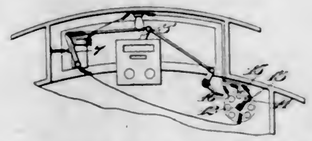
3. A horse shoe comprising a body portion having an inclined flange at the inner edge thereof, said flange forming a pocket, a cushion disposed upon the body and projecting into the pocket, a binding member extending throughout the length of, and bearing against the outer face of the cushion, and an adjustable connection between said binding member and the body.



4. A horseshoe comprising a body, a cushioning strip extending throughout the length of the body, a clamping member upon the outer face and extending throughout the length of the cushion and disposed to detachably secure the cushion upon the body, and means for drawing the clamping member longitudinally to clamp the cushioning strip.

5. A horseshoe comprising a body, a cushioning strip having one face bearing upon the body and extending throughout the length thereof, a separate clamping device bearing upon the opposite face of the cushioning strip, and means engaging the ends of the clamping device for tightening said device upon the cushioning strip to bind all portions of said strip upon the body.

867,085. FARE-REGISTER ATTACHMENT. JOHN R. SCOTT, Oakland, Cal. Filed Dec. 12, 1906. Serial No. 347,457.

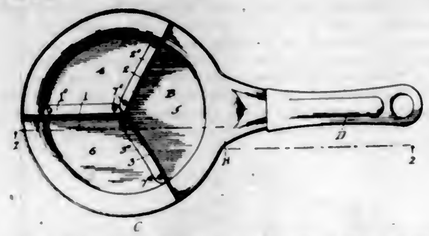


1. The combination in a car, of a fare register having an operating lever, an electric lighting circuit, a switch controlling said circuit, connections between said switch and said lever, and means for operating the lever in two directions, said connections operating in one direction without changing the normal position of the switch and operating in a reverse direction to close the switch and cut-in the light coördinately with the register of a fare.

2. The combination of a fare register, means for operating the register, means for indicating fares of different denominations paid, an electric lighting circuit corresponding to fares of different denominations, means for controlling said circuits correspondingly with the denominations of the fares indicated, and means permitting the register to be operated without changing the lighting circuit, when a different character of fare is rung up.

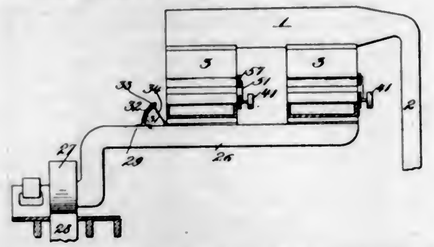
867,086. FRYING-PAN. CATHERINE SULLIVAN, Chicago, Ill. Filed Feb. 15, 1907. Serial No. 357,519.

1. In a device of the character described, the combination with a frying pan, of a series of vertically arranged partitions therein, said partitions being constructed and arranged to conform to the shape of the said pan and provided with laterally extending flanges adapted to lie close to the bottom of said pan and a series of rivets passing through said flanges and the bottom of the pan and having large heads formed thereon outside the pan to hold same from direct contact with the stove, substantially as described.



2. In a device of the character described, the combination with the frying pan, of a pair of partitions constructed of a single piece of sheet metal and bent angularly midway their length to fit within the said pan, a third partition arranged at an angle to said first named partitions and suitably connected thereto at the point of bending, said partitions being also provided with laterally extending flanges lying in close contact with the bottom of said pan and riveted thereto, to securely hold the partitions in place, substantially as described.

867,087. COTTON ELEVATING, CONVEYING, AND CLEANING APPARATUS. ALBERT F. TIDWELL, Celina, Tex. Filed July 6, 1906. Serial No. 325,039.



1. In a cotton elevating, cleaning and feeding apparatus, the combination of an upper air chamber, a receiving chamber in direct communication with the air chamber, said receiving chamber being provided with a vertical dividing screen partition to form a rear air space, a cleaning drum at the base of the receiving chamber, means for feeding the cotton from the receiving chamber to the drum, a removable door in rear of the drum, a screen between the rear portion of the drum and the door, the latter having means to engage portions of the screen, an air space being formed in rear of the screen and drum in communication with the air space in rear of the receiving chamber, an outlet in front of the drum, and a suction box below the drum and having communication with the said air spaces.

2. In a cotton elevating, cleaning and feeding apparatus, the combination of an upper air chamber having a suction pipe connected thereto, a receiving chamber immediately below the air chamber and in vertical alinement with the latter, a screen partition forming the rear wall of the receiving chamber and providing an adjacent air space, a cleaning drum at the lower termination of the receiving chamber, feeding means interposed between the drum and the receiving chamber, a removable door in rear of the drum, a screen movably mounted in rear of the drum and forming an air space between the same and the door, the door having means to bear against portions of the latter screen, which is in communication with the air space above and adjacent to the receiving chamber, a suction box below the cleaning drum, the lower air space communicating with the suction box, and an outlet in advance of the drum and above the suction box.

3. In a cotton elevating, cleaning and feeding apparatus, the combination of a casing provided with an upper air chamber having a conduit communicating therewith, a receiving chamber directly below the air chamber, the rear portion of the casing adjacent to the receiving chamber being inclined rearwardly and downwardly, a screen partition forming the rear wall of the receiving chamber and providing an air space between the same and the rear part of the casing, a cleaning drum rotatably mounted at the lower portion of the receiving chamber, a feed cylinder interposed between the drum and the receiving chamber, an automatically operating check valve or press board adjacent to the feed cylinder and above the drum, a door removably mounted in the casing in rear of the drum and provided with inwardly projecting engaging means, a movable screen in rear of the drum and having an air space between the same and the door and in communication with the air space above, a lower suction box in communication with the lower air space, and an outlet in advance of the drum and opposite movable screen.

4. In a cotton elevating, cleaning and feeding apparatus, the combination with a cleaning drum, of a receiving chamber above the same, a screen movably disposed in rear of the drum, a casing in rear of the screen having a door therein to render said screen accessible, the door having devices adapted to bear against portions of the screen to hold the latter in place, the screen being movable through the opening for the door when the latter is removed, and suction creating means coöperating with the drum.

5. In a cotton elevating, cleaning and feeding apparatus, the combination of a casing having an upper air chamber provided with a suction conduit in communication therewith, a receiving chamber immediately below the air chamber, the rear portion of the casing adjacent to the receiving chamber being inclined downwardly and rearwardly, a screen partition forming the rear wall of the receiving chamber and an air space between the same and the adjacent part of the casing, a cleaning drum having flexible strips on the ends thereof engaging the casing, a screen in rear of the drum, feeding means interposed between the receiving chamber and drum, an air space being provided in rear of the screen adjacent to the drum and in communication with the air space in rear of the partition screen, a suction box below the drum with which the lower space has communication, and an outlet in advance of the drum and above the suction box.

6. In a cotton elevating, cleaning and feeding apparatus, the combination of a casing, a cleaning drum having blades and teeth alternately projecting from the periphery thereof and also provided with flexible strips on the ends thereof engaging the casing, a receiving chamber above the drum, a screen and air space in rear of the drum, a suction box with which the air space communicates, and an outlet in advance of the drum above the suction box.

7. In an apparatus for elevating, cleaning and feeding cotton, the combination of a casing having a receiving chamber, a cleaning drum rotatably mounted at the base of said chamber, an outlet in advance of the drum, a suction box below the drum, and feed controlling devices between the drum and receiving chamber, one of said devices being in the form of an automatically operating hinged valve or press board provided with means for returning it to normal position, and the other of said devices being in the form of a toothed wheel, the teeth of which are adapted to engage the said valve.

8. In a cotton elevating, cleaning and feeding apparatus, the combination of a receiving chamber, a cleaning drum at the base of the chamber, an outlet in advance of the drum, a suction box below the drum having a trunk, an upwardly opening relief valve in the top portion of the trunk and having resilient means adjustably connected thereto for causing a self-closing movement of the said valve, and a suction fan having connection with the trunk at a distance from the valve.

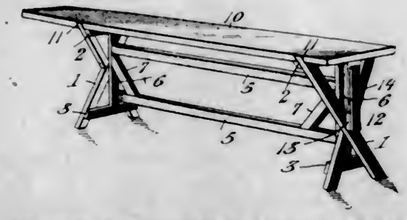
9. In a cotton elevating, cleaning and feeding apparatus, the combination of an upper air chamber having a suction conduit means communicating therewith, receiving chambers below and communicating with the said air chamber, the receiving chambers being divided by screen partitions to form air spaces in rear thereof, cleaning drums at the

bases of the receiving chambers, the air spaces continuing downwardly in rear of the said drums, movable arcuate screens disposed in rear of the drums, outlets in advance of the drums, removable doors in rear of the screens having means to engage portions of the latter, feeding means between the drums and receiving chambers, and a lower suction box with which the air spaces communicate.

10. In a cotton elevating, cleaning and feeding apparatus, the combination of a receiving chamber, a cleaning drum at the base of the receiving chamber, a feeding cylinder interposed between the drum and the receiving chamber, a driving pulley for the drum carrying a pinion, an adjustable spur gear to coöperate with the said pinion, a movable bracket arm on which said spur gear is mounted, a lever for adjusting the said bracket arm, a ratchet wheel keyed to the shaft of the feeding cylinder, arms radially projecting from the shaft of the feeding cylinder and having pawls fulcrumed on their outer extremities and held in engagement with the ratchet wheel, and connecting rods eccentrically attached to the same point on the said spur gear and adjustably connected to intermediate portions of the arms.

11. In a cotton elevating, cleaning and feeding apparatus, the combination of a receiving chamber, a cleaning drum at the base of the chamber, an outlet in advance of the drum, a suction box below the drum having a trunk connected thereto, an automatically operating relief valve in the upper portion of the trunk, a diagonal screen under the valve, a hopper-shaped outlet below the screen, and a suction fan connected to the trunk at a distance from the valve.

867,088. IRONING-TABLE. VERNON A. WHITE, Jenifer, Ala., assignor of one-half to Henry A. Stewart, Jenifer, Ala. Filed Dec. 26, 1905. Serial No. 293,427.



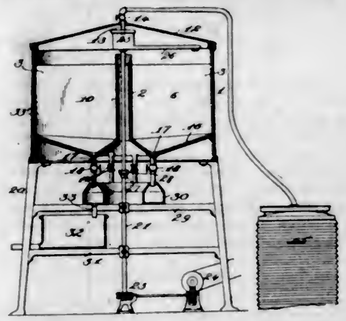
An ironing table comprising an intermediate frame with longitudinal parallel bars arranged one above the other, vertical bars having trunnions on opposite ends secured to the ends of the longitudinal bars and provided with inclined braces to contact therewith and with the lower longitudinal bar, crossed legs having reduced upper ends to provide projections, said legs being also provided with bracing cleats at their upper and lower end, each of which is provided with bearings therein which serve to pivotally secure the legs to said trunnions, an ironing board mounted on the cleats and having notches to detachably secure the same with said projections of said legs, substantially as specified.

867,089. APPARATUS FOR KILLING BACTERIA IN LIQUIDS. JOSEPH WILLMANN, Shelton, Conn. Filed Oct. 22, 1906. Serial No. 340,042.

1. An apparatus of the character described comprising means for automatically receiving and holding a plurality of charges of liquid in a continuous manner at a pasteurizing temperature a period of time necessary to kill the germs contained in said liquid, and means for automatically and successively discharging the said charges.

2. An apparatus of the character described comprising a tank provided with a plurality of compartments adapted to successively receive a body of liquid heated to a pasteurizing temperature, and means for automatically holding the liquid in each compartment a specified time at such temperature thereby killing the germs in said liquid.

3. An apparatus for killing germs in liquids comprising a tank provided with a plurality of compartments adapted to successively receive a body of liquid heated to a temperature from 158 to 168 degrees Fahr., means for successively filling from a continuous run of liquid heated to such temperature, each of said compartments with the heated liquid, means for holding the liquid at such temperature in each of the compartments for a period of time necessary to kill the germs contained in the liquid, and means for successively discharging the liquid from each of said compartments.



4. An apparatus of the character described comprising a tank provided with a plurality of compartments adapted to contain liquid, a rotatable means adapted to successively supply said compartments with a body of liquid from a continuous run of liquid heated to a pasteurizing temperature, means for retaining the liquid in each of said compartments at such temperature a period of time necessary to kill the germs in the liquid, and means for successively emptying said compartments of the liquid.

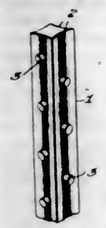
5. An apparatus of the character described comprising a tank provided with a plurality of compartments, a rotatable shaft, a receptacle carried by said shaft, means for supplying liquid heated to a pasteurizing temperature to said receptacle, said receptacle provided with an outlet adapted to discharge the heated liquid successively in each of said compartments, and means for successively opening said compartments thereby discharging the liquid therefrom.

6. An apparatus of the character described comprising a tank provided with a plurality of compartments, a rotatable shaft, a receptacle carried by said shaft, means for supplying liquid heated to a pasteurizing temperature to said receptacle, said receptacle provided with an outlet adapted to discharge the heated liquid successively in each of said compartments, means for holding the liquid at such temperature for a period of time thereby killing the germs in the liquid, and means for successively emptying said compartments.

7. An apparatus of the character described comprising a tank provided with a plurality of compartments, a receptacle arranged within the tank and communicating with a liquid supply adapted to successively fill said compartments, a rotatable member carrying said receptacle, a common receiving pipe for the contents of said compartments, an outlet pipe for each of the compartments opening into said common receiving pipe, means for opening and closing the outlet pipes, means carried by the rotatable member for successively actuating the opening and closing means for the outlet pipes, and means for conducting the liquid from said common receiving pipe.

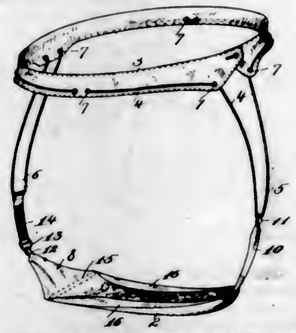
867,090. CONCRETE BAR. FREDERICK C. WOLF, Youngstown, Ohio. Filed Apr. 12, 1907. Serial No. 367,794.

1. A reinforcing unit for concrete consisting of a rolled cross-sectionally angular bar-section, each of whose sides is formed with a longitudinal concavity extending the full length and width thereof, each side being also provided with a plurality of integral binding teats of materially less width than the width of the bar-section.



2. A reinforcing unit for concrete consisting of a rolled cross-sectionally angular bar-section, each of whose sides is formed with a longitudinal concavity extending the full length and width thereof, each of said sides being further provided with a plurality of integral binding teats projecting out of and beyond the concavity and of materially less width than the width of the bar-section.

867,091. CATAMENIAL APPLIANCE. JOHN F. ALTERMATT, Missoula, Mont. Filed Nov. 30, 1906. Serial No. 345,754.



1. A catamenial appliance having a belt, an endless cord slidingly connected with the belt and having pendent loops at the front and rear of said belt, and an absorbent-carrier connected with said loops.

2. A catamenial appliance having a belt, an endless cord, the belt having openings to receive the cord, said cord slidably related to the belt and having loops at the front and rear thereof, and an absorbent-carrier connected detachably with said loops.

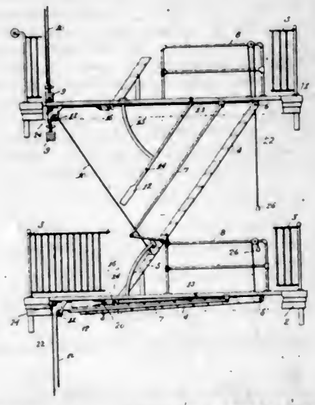
3. A catamenial appliance having an absorbent-carrier consisting of a receptacle closed at its forward end, said carrier or receptacle having a stiffening wire along its upper edge, outwardly extending flaps on said upper edge, and a stiffening member extending transversely across the carrier at the rear thereof.

4. A catamenial appliance having an absorbent-carrier consisting of a receptacle provided with a closed forward end, and a stiffening wire along the upper edge of the carrier at the front portion thereof, the intermediate and rear portions of the carrier being free of said wire.

867,092. FIRE-ESCAPE. SNOWDEN ASHFORD, Washington, D. C. Filed May 16, 1907. Serial No. 373,996.

1. A fire escape comprising successive balconies, main ladder sections of uniform length pivoted to swing from the upper balconies to points adjacent the lower balconies and fixed ladder sections projecting from the lower balconies to register with said swinging main sections when lowered.

2. A fire escape comprising successive balconies, a main ladder arranged to swing from an upper to a lower balcony, a hatchway to said ladder, and a rail therearound, a fixed ladder section projecting from the lower balcony and adjacent to the inner end of hatchway, said rail and fixed ladder section being so disposed as to protect one standing on the lower balcony from the ladder descending from above.



3. A fire escape comprising successive balconies, a ladder adapted to be swung from an upper to a lower balcony and to lie normally adjacent and parallel with an upper balcony, a separable balance weight connected with said ladder and normally adjacent to a lower balcony, means for separating said counter balance weight into two parts, one part of which is adapted to rest on the lower balcony and the other part adapted to be lifted from said lower balcony to allow the ladder to descend.

4. A fire escape comprising successive balconies, a ladder adapted to swing from an upper to a lower balcony, a counter balance for said ladder, an auxiliary weight normally supported by said upper balcony, adapted to lower said ladder against the action of said counter balance, a device on said escape to hold said auxiliary weight normally inactive and means for releasing the auxiliary weight.

5. A fire escape comprising successive balconies, a ladder adapted to swing between said balconies, a counter balance for said ladder, an auxiliary weight normally supported by said upper balcony and adapted to overcome said counter balance and lower the ladder, a lock to hold said auxiliary weight normally inactive, and a hand device to operate said lock.

6. A fire escape comprising successive balconies, a ladder adapted to swing between said balconies, means adapted to normally hold said ladder elevated beneath an upper balcony, a device to disengage said means, means normally inactive, and a hand actuator extending to a point adjacent to the landing to render operative said means to lower the ladder.

7. A fire escape comprising successive balconies, a ladder adapted to swing between said balconies, a counter-balance normally holding said ladder elevated, a pivoted weight adapted to bear upon said ladder from above, a lock to normally hold said weight inoperative, and a hand device arranged to first release said lock and thereafter disengage said counter-balance.

8. A fire escape comprising successive balconies, a ladder pivoted to an upper balcony adjacent an end thereof, a weight having connections to normally hold said ladder elevated beneath an upper balcony, a second weight pivoted to an upper balcony, and having a lock to normally hold the same inactive, a flexible member engaging said lock and extending to a point adjacent the landing for actuation to disengage said lock.

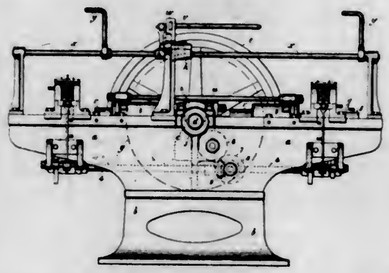
9. A fire escape comprising successive balconies, a ladder arranged to swing between said balconies, a separable counter balance connected to and normally supporting said

ladder, and means to disengage a portion of said counter balance at option to permit said ladder to be lowered.

10. A fire escape comprising successive balconies, a ladder arranged to swing between said balconies, a separable counter balance connected to said ladder, an auxiliary weight on said fire escape to depress said ladder, a device to hold said auxiliary weight normally inactive, and means arranged to first actuate said last device and thereafter disengage a portion of said separable counter balance.

11. A fire escape comprising successive balconies, a ladder arranged to swing from an upper to a lower balcony, a separable counter weight for said ladder, a second weight supported by the fire escape arranged to press upon the ladder from above, a lock to hold said second weight inactive, and a manually operated device having connections to first operate said lock and upon further movement disengage a portion of said separable counter weight.

867,093. POWER-PRESS. THOMAS R. BAYLISS, Northfield, near Birmingham, England. Filed Aug. 9, 1906. Serial No. 329,905.

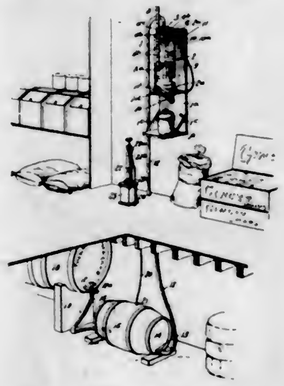


1. A power press of the class described involving a base, a frame supported thereon and having bearings, a crank shaft mounted in said bearings and having three cranks between the latter, the two outer cranks being disposed on the opposite side of the axis of the crank shaft to that of the intermediate crank, the axes of the three cranks and axis of the crank shaft being all in one plane, a rod connected to each of the outer cranks, a pair of rods connected with the intermediate crank, the last named rods being disposed in opposite directions, rams connected with the oppositely disposed connecting rod of the intermediate crank, a die-slide near one end of the machine and connected with the rods of the outer cranks, a second die-slide, and tie-rods for connecting the die-slides with each other to cause the same to move simultaneously and in opposite directions to the rams.

2. A power press of the class described involving a base, a frame supported thereon and having bearings, a crank shaft mounted in the bearings, said crank shaft having three cranks between the bearings, the two outer cranks being disposed on the opposite side of the axis of the crank shaft to that of the middle crank, the axes of the three cranks and axis of the crank shaft being in one plane, rods connected to the outer cranks, a pair of rods connected to the middle crank, the last named rods being disposed in opposite directions, rams actuated by the rods connected to the middle crank, a die-slide associated with the outer rods and actuated thereby, a second die-slide, tie-rods for connecting the respective die-slides so that the same move simultaneously, said die-slides movable in an opposite direction with respect to the movement of the rams, a fly-wheel carried by the crank shaft at one end thereof, fixed and loose belt pulleys mounted at the other end of the crank shaft, and means for shifting a belt from one pulley to the other.

3. A power press of the class described involving a base, a frame supported thereby and having bearings, a crank shaft mounted in the bearings, said crank shaft having three cranks between its bearings, the two outer cranks being disposed on the opposite side of the axis of the crank shaft to that of the middle crank, the axes of the three cranks and axis of the crank shaft being in one plane, rods connected to the respective cranks, rams connected to the middle rods, a die-slide associated with the outer rods and actuated thereby, a second die-slide, tie-rods for connecting the respective die-slides so that the same move simultaneously, said die-slides movable in an opposite direction with respect to the movement of the cranks, a fly-wheel carried by the crank shaft at one end thereof, fixed and loose belt pulleys mounted at the other end of the crank shaft, means for shifting a belt from one pulley to the other, and brake mechanism coöperative with the fly-wheel.

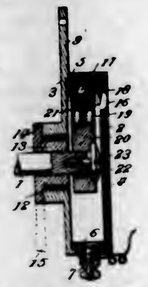
867,094. DISPENSING APPARATUS. HENRY C. BEMAN, Meadville, Pa. Filed Nov. 19, 1906. Serial No. 344,139.



1. In an apparatus of the class described, a measuring and dispensing cabinet comprising a supporting frame, a measuring vessel mounted thereon, a removable top for said measuring vessel, said top having a nipple, said measuring vessel having an outlet at its bottom, a siphon tube connecting with said outlet, a pinch cock for closing said siphon tube, a gage carried by the measuring vessel, a main supply reservoir, a supplemental reservoir, valved pipe connections between the main and the supplemental reservoir, a back check valve in said valved pipe connections, said supplemental reservoir adapted to be filled from said main reservoir by gravity, a flexible pipe connection from said supplemental reservoir to the nippled top of the measuring vessel, and means for forcing air into the supplemental reservoir to fill the measuring vessel, substantially as shown and described.

2. In an apparatus of the class described, a measuring and dispensing cabinet comprising a supporting frame, a measuring vessel mounted thereon, a removable top for said measuring vessel, said top having a nipple, said measuring vessel having an outlet at its bottom, a siphon tube connecting with said outlet, a pinch cock for closing said siphon tube, a gage carried by the measuring vessel, a main supply reservoir, a supplemental reservoir, valved pipe connections between the main and the supplemental reservoir, a back check valve in said valved pipe connections, said supplemental reservoir adapted to be filled from said main reservoir by gravity, a flexible pipe connection from said supplemental reservoir to the nippled top of the measuring vessel, and means for forcing air into the supplemental reservoir to fill the measuring vessel, said last named means comprising a pump, pipe connections between the pump and the supplemental reservoir, and a vent tube carried by the pump, substantially as shown and described.

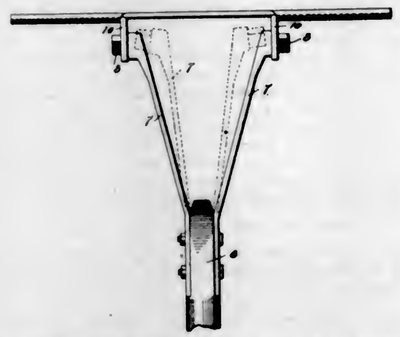
867,095. CIRCUIT-CLOSER. THOMAS A. BEMUS, Boston, Mass., assignor to T. Alton Bemus Company, Incorporated, Boston, Mass., a Corporation of Massachusetts. Filed Mar. 2, 1905. Serial No. 248,153.



1. The combination with a rotary shaft, the casing having a circumferential wall, contacts in the inner face of said wall, of a brush fixed to said shaft comprising two telescoping sleeves, and a ball at the outer end of one of said sleeves, the other sleeve being fixedly mounted, and a spring inclosed by said sleeves, as set forth.

2. The combination with a rotary shaft, the casing having a circumferential wall, and a series of contact plates in the inner face of said wall, of a brush fixed to said shaft comprising a ring having a threaded boss, two telescoping sleeves, one being secured to said boss, a ball in the outer end of the other sleeve, and a spring for holding such latter sleeve and ball in their extended positions.

867,096. HOE OR RAKE HANDLE CONNECTION. CHARLES B. BENDLAGE, Marshalltown, Iowa. Filed Mar. 21, 1907. Serial No. 363,650.



1. The combination with an implement head having a pair of perforated ears, of a handle having a pair of spring arms projecting between the ears and provided with lugs engageable in the perforations in the ears.

2. The combination with an implement head having a pair of projecting ears, of a handle having a pair of spring arms yieldingly engageable with the ears.

3. The combination with an implement head having a pair of projecting ears, of a handle having a pair of spring arms yieldingly engageable with the ears and adjustable to hold the handle at various angles with respect thereto.

4. The combination with an implement head having a pair of projecting ears with symmetrical non-circular holes therein, of a handle having a pair of arms with projecting lugs shaped to correspond with the holes and adapted to fit therein at various angles.

5. The combination with an implement head provided with spaced ears, of a handle having spring arms engaging the ears.

867,097. MILK-SEPARATOR. CARL BERGNER, Sande, near Bergedorf, Germany. Filed Aug. 7, 1905. Serial No. 273,136.



A milk separator comprising in combination with a sediment collector, of a series of hollow columns extending vertically from said collector, and a member provided with radially extending vanes for connecting the columns to each other, the front of said columns being shorter than the rear thereof.

867,098. DEVICE FOR CLEANING GUNS AND OTHER TUBES. FRANK M. BIGELOW, Aneta, N. D. Filed Jan. 16, 1907. Serial No. 352,611.

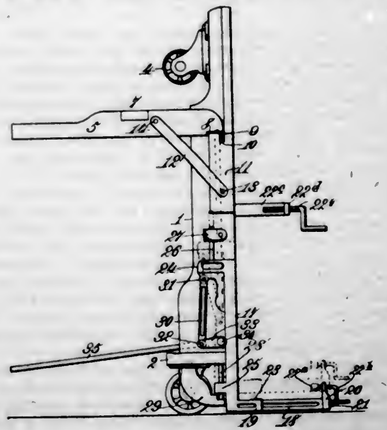


1. A device of the class described comprising a rod, a cleaning member carried thereby and consisting of a pair of relatively movable jaws, and a bow-shaped leaf spring interposed between said jaws and rigidly secured to one of them.

2. A device of the class described comprising a rod, a cleaning member carried thereby, said member being bifurcated to provide a pair of relatively movable jaws, a pliable covering applied to the outer faces of the jaws, and a pressure spring interposed between the latter and secured to one of the jaws and movably engaging the other.

3. A device of the class described, comprising a rod, a cleaning member carried thereby and consisting of a pair of relatively movable jaws provided on their inner faces with guide grooves, and a pressure spring interposed between the jaws within said grooves.

867,099. PORTABLE PIANO-TRUCK. SAMUEL BILGER, Silverdale, Pa. Filed Sept. 12, 1906. Serial No. 334,291.



1. A portable truck for the purpose set forth comprising two vertically-extending portable sections, each of which is provided with a pair of combined supporting and elevating brackets, the lower end of one of the brackets

being shorter than the lower end of the other of the brackets, said bracket having the elongated end provided with a clamping means, and an elevating and lowering means for each of the brackets.

2. A portable truck for the purpose set forth, comprising two vertically-extending portable sections, each of which is provided with a pair of combined supporting and elevating brackets, the lower end of one of the brackets being shorter than the lower end of the other of the brackets, said bracket having the elongated end provided with a clamping means, an elevating and lowering means for each of the brackets, and a combined elevating and arresting means for each of said sections.

3. A portable truck for the purpose set forth, comprising two vertically-extending portable sections, each of which is provided with a pair of combined supporting and elevating brackets, the lower end of one of the brackets being shorter than the lower end of the other of the brackets, said bracket having the elongated end provided with a clamping means, an elevating and lowering means for each of the brackets, a pair of caster wheels carried by each of the sections near the top thereof, and a handle for each of the sections.

4. A portable truck for the purpose set forth, comprising two vertically-extending portable sections, each of which is provided with a pair of combined supporting and elevating brackets, the lower end of one of the brackets being shorter than the lower end of the other of the brackets, said bracket having the elongated end provided with a clamping means, an elevating and lowering means for each of the brackets, a combined elevating and arresting means for each of said sections, a pair of caster-wheels carried by each of the sections near the top thereof, and a handle for each of the sections.

5. A piano truck comprising in its construction a vertically-extending portable section, said section provided with a pair of combined supporting and elevating brackets, the lower end of one of the brakets being shorter than the lower end of the other of the brackets, said bracket having the elongated end provided with a clamping means, and an elevating and lowering means for each of the brackets.

6. A piano truck comprising in its construction a vertically-extending portable section, said section provided with a pair of combined supporting and elevating brackets, the lower end of one of the brackets being shorter than the lower end of the other of the brackets, said bracket having the elongated end provided with a clamping means, an elevating and lowering means for each of the brackets, and a combined elevating and arresting means for each of said section.

7. A piano truck comprising in its construction a vertically-extending portable section, said section provided with a pair of combined supporting and elevating brackets, the lower end of one of the brackets being shorter than the lower end of the other of the brackets, said bracket having the elongated end provided with a clamping means, an elevating and lowering means for each of the brackets, a pair of caster-wheels carried by said section near the top thereof, and a handle for said section.

8. A piano truck comprising in its construction a vertically-extending portable section, said section provided with a pair of combined supporting and elevating brackets, the lower end of one of the brackets being shorter than the lower end of the other of the brackets, said bracket having the elongated end provided with a clamping means, an elevating and lowering means for each of the brackets, a combined elevating and arresting means for said section, a pair of caster-wheels carried by said section near the top thereof, and a handle for said section.

9. A portable truck for the purpose set forth, comprising two vertically-extending portable sections, each of which is provided with a pair of combined supporting and elevating brackets, the lower end of one of the brackets being shorter than the lower end of the other of the brackets, said bracket having the elongated end provided with a clamping means, an elevating and lowering means for each of the brackets, and a drop-handle for one of said sections.

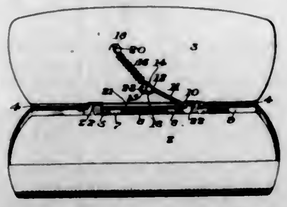
10. A portable truck for the purpose set forth, comprising a pair of vertically-extending portable sections, each of said sections provided with a pair of vertically-movable combined elevating and supporting brackets slidably connected to each of the sections and substantially L-shaped in contour, the horizontally-extending arm of one of said brackets being longer than the horizontally-extending arm of the other of said brackets and carrying a clamping means, a pair of toggle mechanisms suitably connected together and with said pair of brackets for elevating and lowering them, and a single lever-arm for operating said pair of toggle mechanisms.

11. A portable truck for the purpose set forth, comprising a pair of vertically-extending portable sections, each of said sections provided with a pair of vertically-movable combined elevating and supporting brackets slidably connected to each of the sections and substantially L-shaped in contour, the horizontally-extending arm of one of said brackets being longer than the horizontally-extending arm of the other of said brackets and carrying a clamping means, a pair of toggle mechanisms suitably connected together and with said pair of brackets for elevating and lowering them, a single lever-arm for operating said pair of toggle mechanisms, each of said sections further provided with a vertically-movable combined elevating and arresting arm, and mechanism for elevating said arm.

12. A portable truck for the purpose set forth, comprising a pair of vertically-extending portable sections, each of said sections provided with a pair of vertically-movable combined elevating and supporting brackets slidably connected to each of the sections and substantially L-shaped in contour, the horizontally-extending arm of one of said brackets being longer than the horizontally-extending arm of the other of said brackets and carrying a clamping means, a pair of toggle mechanisms suitably connected together and with said pair of brackets for elevating and lowering them, a single lever-arm for operating said pair of toggle mechanisms, each of said sections further provided with a vertically-movable combined elevating and arresting arm, mechanism for elevating said arm, and each of said sections further provided with a pair of caster-wheels near the top thereof, and a handle arranged below the caster-wheels.

13. A piano truck comprising in its construction a vertically-extending portable section, said section having a pair of combined supporting and elevating brackets, the lower end of one of the brackets being shorter than the lower end of the other of the brackets, said bracket having an elongated end provided with a clamping means, an elevating and lowering means for each of the brackets, a supporting bar carried by the sections, and a clamping bar extending through said supporting bar.

867,100. EYEGLASS OR SPECTACLE CASE. WILLIAM E. BIRMINGHAM, Philadelphia, Pa. Filed Mar. 24, 1906. Serial No. 307,791.



1. In a spring lid case comprising a body and a cover hinged thereto, a member journaled to the body and having an end portion serving as an axis and a rearwardly and upwardly deflected portion substantially parallel with the portion forming said axis, and a spring extending in the same general direction as said deflected portion with one end fixedly and immovably secured to said cover and the other end detachably connected with said terminal.

2. In a spring lid case, a body, a cover hinged thereto, a member having terminals, one of said terminals being journaled to the body in line with the hinges of the cover, and a coiled spring separate from and disposed inclinedly with relation to said terminals, one end of said spring being fixedly secured relatively to said cover and the other end thereof to one of said terminals, said spring extending in the general direction of the portion of said member between its terminals.

3. In a case, a body, a cover hinged thereto, a member having parallel terminals and an inclined intermediate portion integral therewith, one of said terminals being journaled to said body, and a coiled spring separate from and disposed inclinedly with relation to said terminals having one end fixedly secured to said cover and the other end to the other of said terminals said latter being substantially parallel with the other terminal.

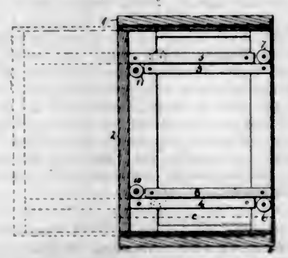
4. In an eyeglass or spectacle case, a body, a cover hinged thereto, a spring member journaled to said body and having terminals, a pivot member carried by one of said terminals, and a tension device separate from said spring member and having one end secured to said cover and its other end to said pivot member.

5. In a case, a body, a cover hinged thereto, a V-shaped member having one limb secured to said body and the other projecting therefrom and unattached thereto, a head on said last mentioned member, a sleeve movably mounted thereon, and a tension device having one end secured to said sleeve and the other end to said cover.

6. In a case, a body, a cover hinged thereto, a member having terminals and intermediate portion disposed angularly with relation thereto, one of said terminals being journaled to the body thereof the other of said terminals being substantially parallel with the other terminal and having an aperture therethrough, and a coiled spring substantially in line with said intermediate portion and independent of said member, one end of which is fixedly secured to and immovable with relation to said cover and the other end thereof to the aperture in the other of said terminals.

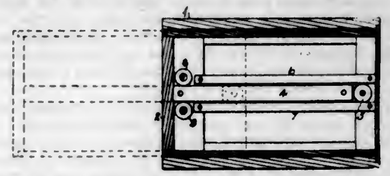
7. In a case, a body, a cover hinged thereto, a member journaled to the body and having an end portion serving as an axis and a rearwardly and upwardly deflecting portion having a member deflected downwardly therefrom, and a coiled spring substantially in line with said upwardly deflected portion and independent of said member, one end of which spring is fixedly secured to and immovable with relation to said cover, the other end thereof having a suitable eyelet through which said downwardly extending member passes.

867,101. DRAWER-GUIDE. EDWIN C. BLOMBERG, Rockford, Ill., assignor of one-half to Frank Olander, Rockford, Ill. Filed July 16, 1906. Serial No. 326,341.



An article of furniture comprising a case and a drawer, means for guiding the drawer comprising two guides secured to the case and located in the direction of the movement of the drawer, two rollers secured to the case, one for each guide which is located at the outer end thereof, two guides secured to the bottom of the drawer and located parallel with the guides secured to the case and two rollers secured to the bottom of the drawer, one for each guide which is located at the inner end thereof, the rollers secured to the drawer movable in contact with the guides secured to the case and the guides secured to the drawer movable in contact with the rollers secured to the case, the rollers supported on vertical pivots.

867,102. DRAWER-GUIDE. EDWIN C. BLOMBERG, Rockford, Ill., assignor of one-half to Frank Olander, Rockford, Ill. Original application filed July 16, 1906, Serial No. 326,341. Divided and this application filed Apr. 8, 1907. Serial No. 367,116.



An article of furniture comprising a case and a drawer, means for guiding the drawer comprising two guides secured to the case and located in the direction of the movement of the drawer, two rollers secured to the case, one for each guide which is located at the outer end thereof, a guide secured to the bottom of the drawer and located parallel with the guides secured to the case, and a roller secured to the bottom of the drawer and located at the inner end of the guides secured to the drawer, the roller secured to the drawer movable in contact with the guides secured to the case, and the guide secured to the drawer movable in contact with the rollers secured to the case, the rollers supported on vertical pivots.

867,103. GEARING. JOHN J. P. BOATMAN, Blaine, Wash. Filed Jan. 24, 1906, Serial No. 297,583. Renewed Mar. 5, 1907. Serial No. 360,762.



1. In a friction cone gearing, the combination of the vertical shaft, a cone faced wheel secured to the shaft, a horizontal shaft journaled below the vertical shaft, a friction cone on the shaft and engaging the cone shaped face of the wheel, and comprising a sleeve mounted on the shaft, a key for securing the sleeve to the shaft, a flange of relatively small diameter integral with the sleeve at the inner end, a flange of relatively large diameter on the outer end of the sleeve, a yoke key engaging the flange and sleeve, friction disks of gradually increasing diameter from within outward on the sleeve between the flanges, bolts traversing the alined openings in the disks and flanges, and nuts on the outer face of the larger flange for engaging the bolts to secure the disks and flanges together.

2. In a friction cone gearing, the combination of a vertical shaft, a cone shaped wheel secured to the shaft, a horizontal shaft journaled below the vertical shaft, a friction cone on the shaft and engaging the cone shaped face of the wheel, and comprising a sleeve mounted on the shaft, means for releasably securing the sleeve to the shaft, a flange of relatively small diameter integral with the sleeve at one end, a flange of relatively large diameter on the sleeve at its other end, means for securing the flange to the sleeve, friction disks on the sleeve between the flanges, and means for securing the friction disks and the flanges together.

3. In a friction cone gearing, the combination of the vertical shaft, a cone faced wheel secured to the shaft, a horizontal shaft journaled below the vertical shaft, a friction cone on the shaft and engaging the cone shaped face of the

wheel, and comprising a sleeve arranged on the shaft, means for securing the sleeve to the shaft, a flange of relatively small diameter secured to the sleeve at its inner end, a flange of relatively large diameter removably secured to the outer end of the sleeve, friction disks on the sleeve between the flanges, and means for securing the disks and flanges together.

4. In a friction cone gearing, the combination of the vertical shaft, a cone faced wheel secured to the shaft, a horizontal shaft journaled below the vertical shaft, a friction cone on the shaft engaging the cone shaped face of the wheel, and comprising a sleeve mounted on the shaft, a flange of relatively small diameter rigid with the inner end of the sleeve, a flange of relatively large diameter releasably secured to the outer end of the sleeve, friction disks on the sleeve between the flanges, and means for securing the flanges and disks together.

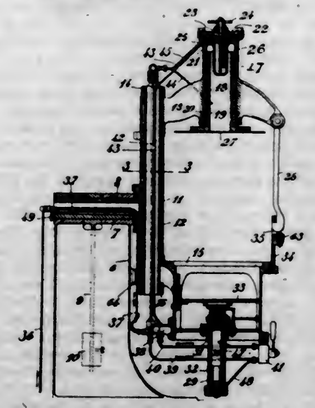
5. In a friction cone, the combination of a sleeve having an inner flange of relatively small diameter integral therewith, a flange of relatively large diameter movable thereon, and means for securing the flange to the sleeve comprising a yoke key seated in a groove on the sleeve, and having its arms embracing the faces of the flange.

6. A friction cone, comprising a sleeve having thereon a movable outer flange, and means for securing the flange to the sleeve comprising a double gib key resting in a groove on the sleeve, and embracing the faces of the flange.

7. In a friction cone gearing, the combination of a vertical shaft, a cone faced wheel secured thereto, a horizontal shaft below the vertical shaft, a friction cone on the shaft engaging the cone shaped face of the wheel, and means for adjusting the cone, comprising a collar loosely mounted on the shaft, a set screw for fixing the collar to the shaft, screw threaded rods secured to the cone and traversing openings in the collar and nuts on the rod on each side of the collar.

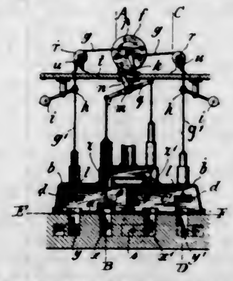
8. In a device of the character described, a shaft, a gear wheel on the shaft, and means for adjusting the gear wheel comprising a collar on the shaft, means for fixing the collar to the shaft, and means connecting the collar and the gear wheel whereby to adjust the wheel to and from the collar.

867,104. MOLDING-MACHINE. PHILIBERT BONVILLAIN and EUGÈNE RONCERAY, Paris, France. Filed June 12, 1906. Serial No. 321,315.



In a molding machine having a frame arranged to turn upon a horizontal axis, the combination with a horizontal axis of a cylindrical column fixed in perpendicular relation thereto, a cross beam arranged to turn upon one extremity of said column, a molding table arranged to turn upon the other extremity of the column, a cylinder cast with the said cross beam and closed at one of its ends by a cover, an extensible piston located in the cylinder and formed of two concentric parts screwed one upon the other, a screw arranged at the center of said cover, a nut mounted upon said screw and solid with one part of said extensible piston, a rod fixed to the cover of said cylinder and crossing said nut, a hydraulic cylinder fixed at the center of said molding table, a discharging piston movable in the second cylinder, a plate fixed upon the upper part of said discharging piston, means for regulating the stroke of this piston, and means for conveying water under pressure to one or the other cylinder, substantially as described and for the purpose specified.

867,105. REGENERATIVE FURNACE. GERHARD BRAUER, Duisburg-Beeck, and HERMANN GEWECKE, Darmstadt, Germany; said Brauer assignor to said Gewecke. Filed July 31, 1906. Serial No. 328,518.



1. A regulator for regenerator furnaces provided with a pair of gas chambers each having a gas inlet, a gas duct communicating with the furnace, a waste gas outlet, a first valve controlling the gas duct, a second valve controlling alternately the gas inlet and waste gas outlet, means for actuating the first valve, and means for actuating the second valve subsequent to the first valve, substantially as specified.

2. A regulator for regenerator furnaces provided with a pair of gas chambers each having a gas inlet, a gas duct communicating with the furnace, a waste gas outlet, a first valve controlling the gas duct, a second valve controlling alternately the gas inlet and waste gas outlet, an oscillating disk, and separate means for operatively connecting said disk with said first and second valves, substantially as specified.

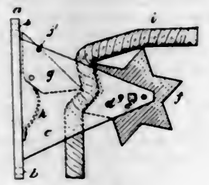
3. A regulator for regenerator furnaces provided with a pair of gas chambers, a distributing pipe communicating with each of said chambers, an inlet valve and a pair of outlet valves for said pipe, and a pair of waste gas outlets controlled by said outlet valves, substantially as specified.

4. In a regulator for regenerator furnaces, a pair of gas chambers each having a gas inlet, a gas duct communicating with the furnace and a waste gas outlet, combined with a pair of air chambers each having an air inlet, an air duct communicating with the furnace and a waste gas outlet, a first pair of valves controlling the gas and air ducts, a second pair of valves controlling alternately the gas and air inlets and the waste gas outlets, means for simultaneously actuating the first pair of valves, and means for simultaneously actuating the second pair of valves, substantially as specified.

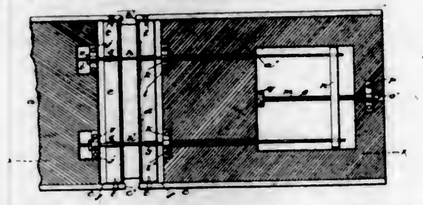
867,106. ROPE-CLAMP. WILLIAM BRUNDELL, Portland, Oreg. Filed Jan. 24, 1907. Serial No. 353,909.

1. A rope clamp consisting of a back adapted to be fastened to a support and having projecting arms, a toothed wheel movably journaled in the extremities of the arms, and a spring-controlled keeper arranged to normally project the toe thereof against the wheel.

2. A rope clamp consisting of a back adapted to be fastened to a support and having projecting arms, a toothed wheel movably journaled in the extremities of the arms, a spring-controlled keeper arranged to normally project the toe thereof against the wheel, and means for restraining the keeper.



867,107. LOOSE-LEAF LEDGER. HARRY F. BUSHONG, Portland, Oreg., assignor, by mesne assignments, to Kalamazoo Loose Leaf Binder Company, a Corporation. Filed July 15, 1904. Serial No. 216,663.



1. In a temporary binder, the combination of the covers having inwardly projecting hinge members at their inner ends; clamping jaws pivoted to said hinge members in such position that the covers and said clamping jaws may move independently on the pivots while opening and closing the book, the upper portions of the said jaws being made rounding; binding cords uniting said cover sections; means for adjusting said binding cords; the body of the covers being made with suitable cavities to contain the binding cords and the mechanism for adjusting the same, the clamping jaws also being provided with suitable cavities to receive said binding cords.

2. In a temporary binder, the combination of the covers having inwardly projecting hinge members at their inner ends; clamping jaws pivoted to said hinge members in such position that the covers and said clamping jaws may move independently on the pivots while opening and closing the book, the upper portions of the said jaws being made rounding; binding cords uniting said cover sections; and means for adjusting said binding cords.

3. In a temporary binder, the combination with the covers having inwardly projecting hinge members thereon, of clamping jaws pivoted to said hinge members in such position that the body of the covers and the clamping jaws may move independently on the pivots while opening and closing the book, the upper inner portions of said jaws being made rounding; binding cords secured to one of said covers; and means for adjusting said binding cords carried by the other cover, said jaws being provided with cavities *s* therein and holes *r* therethrough opening into said cavities through which said binding cords are arranged.

4. In a temporary binder, the combination with the covers having inwardly projecting hinge members thereon, of clamping jaws pivoted to said hinge members in such position that the body of the covers and the clamping jaws may move independently on the pivots while opening and closing the book; binding cords secured to one of said covers; and means for adjusting said binding cords carried by the other cover, said jaws being provided with cavities *s* therein and holes *r* therethrough opening into cavities through which said binding cords are arranged.

5. In a temporary binder, the combination with the covers having inwardly projecting hinge members thereon, of clamping jaws pivoted to said hinge members in such position that the body of the covers and the clamping jaws may move independently on the pivots while opening and closing the book, the upper inner portions of the said jaws being made rounding; binding cords secured to one of said covers; and means for adjusting said binding cords carried by the other cover.

6. In a temporary binder, the combination with the covers having inwardly projecting hinge members at their inner ends, of clamping jaws pivoted on said members in such position that the covers and said clamping jaws may move independently on the pivots when the book is opened or closed; and binding cords uniting said covers.

7. In a temporary binder, the combination with the covers having inwardly projecting hinge members at their inner ends, of clamping jaws pivoted on said hinge members in such position that said covers and clamping jaws may move independently when the book is opened or closed, the upper inner portions of said jaws being made rounding for the purpose specified; and binding cords for adjustably uniting said covers.

8. In a temporary binder, the combination with the covers, of clamping bars pivotally secured thereto; binding cords secured to one of said covers, arranged through said clamping bars; a bar arranged transversely of the other cover, to which said binding cords are secured; means for adjusting said bar; and guide plates for said binding cords arranged at the inner end of the cover carrying said adjusting means.

9. In a temporary binder, the combination with the covers, of the clamping jaws; connections for said jaws to said covers arranged so that the covers and jaws may move independently when the book is opened or closed; and binding cords uniting said covers connected thereto independently of said clamping jaws.

10. In a temporary binder, the combination with the covers having inwardly-projecting rigid hinge members at their inner ends, of clamping jaws arranged to lie in substantially the same plane as the covers to which they are attached, pivoted on said hinge members, so that said covers or said clamping jaws may move on the pivots independently of the other in opening or closing the binder; and adjusting means for the binder.

11. In a temporary binder, the combination with the covers having inwardly-projecting rigid hinge members at their inner ends, of clamping jaws pivoted on said hinge members so that said covers or said clamping jaws may move independently of the other in opening or closing the binder; and adjusting means for the binder.

12. In a temporary binder, the combination with the covers, of inwardly-projecting rigid hinge members at the inner ends of said covers; bar-like clamping jaws; pivots for securing said clamping jaws to said hinge members arranged centrally of said jaws, said pivots being arranged so that the said covers or the said clamping jaws may move independently of each other in the opening or closing of the book; and adjusting means for the binder.

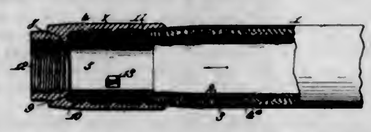
13. In a temporary binder, the combination with the covers, having inwardly-projecting rigid hinge members at the inner ends of said covers; bar-like clamping jaws pivoted on said hinge members, so that said covers or said clamping jaws may move independently of the other in opening or closing the binder; binding cords connected to said covers and arranged through said clamping bars, the pivotal connections for said clamping bars to said covers being so arranged that the tension on said binding cords is not materially varied by the opening or closing of the covers, or the movement of said clamping bars.

14. In a temporary binder, the combination with the covers, having inwardly-projecting rigid hinge members at the inner ends of said covers; bar-like clamping jaws pivoted on said hinge members; binding cords connected to said covers and arranged through said clamping bars, the pivotal connections for said clamping bars to said covers being so arranged that the tension on said binding cords is not materially varied by the opening or closing of the covers.

867,108. HOSE-TERMINAL. JAMES R. CARMER, Washington, D. C. Filed Oct. 1, 1906. Serial No. 337,002.

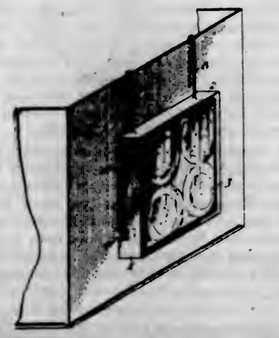
1. A terminal for a hose member of a train pipe coupling to prevent the stripping of the member by the incoming air,

consisting of an outer cylindrical section having its inner surface of two different diameters to form a shoulder, the portion of smaller diameter being substantially equal to the inner diameter of the hose member and through which the air enters the hose member, the portion of larger diameter slightly tapering towards the free end of said section and having a plurality of ribs adapted to engage in the periphery of the hose member when the said section is in operative position, said shoulder adapted to abut against the edge of the hose member when the said section is in position, and an inner annular non-expansible section having its outer diameter greater than the inner diameter of the hose member and adapted to compress the hose member in a wedge-like manner between it and said outer section, said inner section extending from the shoulder of the outer section to near the inner end of said outer section, and having its inner diameter the same as that portion of smaller diameter of the outer section.



2. A terminal for a hose member of a train pipe coupling to prevent the stripping of the member by the incoming air from a source of supply, consisting of an outer cylindrical section having its inner surface of two different diameters to form a shoulder, the outer diameter of the major portion of said section being substantially equal to the outer diameter of the hose member, that portion of smaller diameter of the inner surface of said section being substantially equal to the inner diameter of the hose member and that portion of larger diameter of the inner surface of said section formed with a plurality of ribs adapted to engage in the periphery of the hose member when the said section is in its operative position, said shoulder adapted to abut against the edge of the hose member when the said section is in position, thereby preventing the stripping of the end of the hose member by the incoming air, and an inner non-expansible annular section having its outer diameter greater than the inner diameter of the hose member and adapted to compress the hose member between it and said outer section, said inner section extending from the shoulder of the outer section to near the end of said outer section to permit of the hose to bend at the end of the outer section without possibility of injury to its inner surface by coming in contact with the inner end of the inner section.

867,109. DISPLAY-FRAME. GEORGE P. CATHREA, Vancouver, British Columbia, Canada. Filed May 23, 1907. Serial No. 375,231.

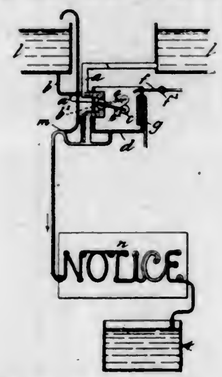


1. A display device comprising a light open frame having a glass front, a backing adjustably secured within such frame by clips folded inward on the backing from the sides of the open frame, and means for removably securing the frame to a box.

2. A display device comprising a light open frame, a glass front, a backing adjustably secured within such frame by clips on the sides of the open frame and folded inward on the backing, and means for removably securing the same to a box such means comprising wires secured to the top of the open frame and doubled over to hook on the upper edge of the box to which the display device is to be secured.

3. A display device comprising a light open frame, a glass front, a backing adjustably secured within the frame, and means for removably securing the frame to a box such means comprising portions of the sides of the frame backwardly projecting from it and adapted to be passed through slits cut in the box through which the backwardly projecting portions may be passed and bent to retain them therein.

867,110. DEVICE FOR ADVERTISING OR SPECTACULAR EXHIBITIONS. SAMUEL CHANDLER and JOSIAH CHANDLER, Westminster, England, assignors to Living Letters Limited, Westminster, London county, England. Filed Dec. 28, 1906. Serial No. 349,874.



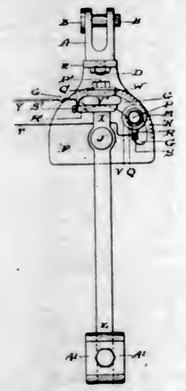
1. In devices for advertising, spectacular, or similar purposes, such as herein described, a device for varying the color of the liquid supplied to the design comprising a plurality of cisterns containing liquids of different colors, cocks controlling the supply of said liquids to said design and means for automatically operating said cocks in succession, substantially as described.

2. In devices for advertising, spectacular, or similar purposes such as herein described, a device for varying the color of the liquid supplied to the design, comprising a plurality of cisterns containing liquids of different colors, cocks controlling the supply of said liquids to said design, a tank with a constant inflow of liquid, a float in said tank arranged to operate said cocks in succession, and means for emptying said tank automatically substantially as described.

3. In devices for advertising, spectacular or similar purposes such as herein described, a device for varying the color of the liquid supplied to the design, comprising a plurality of cisterns containing liquids of different colors, cocks controlling the supply of said liquids to said design, a tank with a constant inflow of liquid, a float in said tank arranged to operate said cocks in succession, and a siphon operating to empty said tank automatically, substantially as described.

867,111. GOVERNOR FOR MARINE ENGINES. ALFRED COATES, Clifton Hill, and HENRY W. HACKETT, Carlton, Victoria, Australia. Filed Feb. 6, 1907. Serial No. 356,095.

1. In a governor for marine engines, the combination of a slotted member suspended to swing transversely of the ship, an adjustable bolt secured in the slot in said member, a contact piece attached to said bolt but insulated therefrom, a pendulum lever suspended from said member adapted to swing longitudinally of the ship, and an electrical contact piece carried by said pendulum lever but insulated therefrom; with a controlling valve, electrically actuated means for operating said valve, an electrical circuit including said controlling means and the said contacts, the circuit being closed when the said contacts impinge.



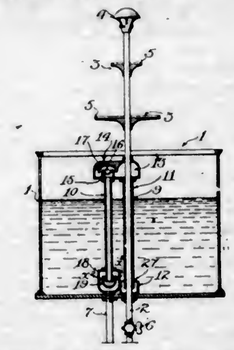
2. In a governor for marine engines, the combination of a slotted member suspended to swing transversely of the ship, a pendulum lever suspended from said member and adapted to swing longitudinally of the ship, an electrical contact piece adjustably secured in the slot in said member but insulated therefrom, and a second electrical contact piece connected to said pendulum lever and adapted to be impinged upon the first contact by the swing of the pendulum; with a steam valve, and electro-magnetic connections for controlling said valve, electrical connections between the opposite poles of such magnets and the contact on the pendulum and member respectively.

3. In a governor for marine engines, the combination of a quadrant member pivoted to swing transversely of the ship and having an arc-shaped slot, a bolt adjustably secured in said slot, an electrical contact mounted on said bolt but insulated therefrom, a pendulum lever pivoted on said member and having a weighted lower end and adapted to swing longitudinally of the ship, and a contact piece secured to the upper end of said lever but insulated therefrom, said contacts being adapted to be impinged by the swing of the pendulum with a steam valve, electrically actuated means for controlling said valve, and electrical connections between said actuating devices and the contacts on the bolt and pendulum lever respectively.

4. In a governor for marine engines, the combination of a member suspended to swing transversely of the ship and having an arc-shaped graduated slot, an adjustable electrical contact mounted in said slot, a pendulum lever suspended from said member to swing longitudinally of the ship, and an electrical contact carried by said pendulum lever but insulated therefrom; with a controlling steam valve, electro-magnetic means for operating said valve, and electrical connections between said controlling means and the contacts on the member and pendulum lever, the circuit being closed when the said contacts impinge.

5. In a governor for marine engines, the combination of a quadrant member pivoted to swing transversely of the ship and having an arc-shaped slot, a bolt adjustably secured in said slot, an electrical contact mounted on said bolt but insulated therefrom, a pendulum lever pivoted on said member and adapted to swing longitudinally of the ship, and having a weighted lower end, a contact piece secured to the upper end of said lever but insulated therefrom; with a steam valve, an electro-magnetic device for operating said valve, electrical connections between the said contacts and said electro-magnetic device whereby the latter is energized when the circuit is closed by the impingement of the contacts.

867,112. AUTOMATIC AQUARIUM AND FLUSHING DEVICE. MARK CONNOR, Los Angeles, Cal. Filed Mar. 22, 1905. Serial No. 251,362.



1. An automatic flushing device comprising a tank, a water supply connection therefor, and an outlet connection comprising a siphon with a water seal chamber at the lower end of its discharge leg and a funnel at the top of said leg.

2. An automatic flushing device comprising a tank, a water supply connection therefor, a siphon chamber, a pipe extending downwardly from said chamber and opening at its lower end into the tank, and another pipe extending downwardly from the siphon chamber, a funnel at the top of the last named pipe, a cup below the bottom of said pipe, a chamber surrounding said cup, and an outlet connection from the last named chamber.

3. An automatic flushing device comprising a tank, a water supply connection therefor, a siphon chamber, a pipe extending downwardly from said chamber and opening at its lower end into the tank, and another pipe extending downwardly from the siphon chamber, a funnel at the top of the last named pipe, a hood over said funnel, a cup below the bottom of said pipe, a chamber surrounding said cup, and an outlet connection from the last named chamber.

4. An automatic flushing device, comprising a tank, a water supply connection therefor, and an outlet connection comprising a siphon chamber having two downwardly extending legs, one of said legs communicating with the tank near the bottom thereof and the other of said legs having an outlet at the bottom provided with a water seal, said siphon chamber being formed at its bottom with a chamber at the top of the second named leg and a funnel at the top of and communicating with said chamber.

5. An automatic flushing device, comprising a tank, a water supply connection therefor and an outlet connection comprising a siphon chamber having two downwardly extending legs, one of said legs communicating with the tank near the bottom thereof and the other of said legs having an outlet at the bottom provided with a water seal, said siphon chamber being formed at its bottom with a chamber at the top of the second named leg and a funnel at the top of said chamber, and said siphon chamber having a hood extending downwardly over and around said funnel.

867,113. SELF-PLAYING PIANO. JOHN W. DARLEY, Jr., Baltimore, Md. Filed May 23, 1906. Serial No. 318,364.

1. In a self-playing piano, the combination of keys, key locking means, winding means, means for setting said winding means either to unroll or to reroll a sheet of music said key-locking means being connected to the setting means, and actuating means adapted to operate

or not to operate said locking means during the unrolling operation at the will of the operator, substantially as described.



2. In a self-playing piano, the combination of keys, means for locking said keys, means for unrolling and rerolling a sheet of music, devices for setting said means either to unroll or to reroll said sheet, and connections whereby the movement of said setting devices will either lock said keys or leave them unlocked at the will of the operator, substantially as described.

3. In a self-playing piano, the combination of keys, a locking rail for said keys, means for unrolling and rerolling a sheet of music, devices for setting said means so as to unroll or reroll said sheet, and movable connections so arranged that the locking rail may be operated or not, to lock the keys at the will of the operator during the operation of unrolling, substantially as described.

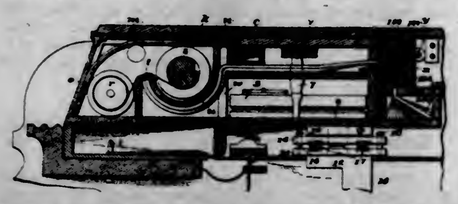
4. In a self-playing piano, the combination of keys, a locking rail for said keys, means for unrolling and rerolling a sheet of music, and means for shifting said means from the unrolling to the rerolling position and back again, and devices whereby the shifting of said means will hold the keys unlocked during the rerolling operation and will hold them either locked or unlocked at the will of the operator during the unrolling operation, substantially as described.

5. In a self-playing piano, the combination of keys, a folding pedal board, means for unrolling and rerolling a sheet of music, devices for shifting said means from the one position to the other, and means whereby the operation of said shifting devices unlocks said pedal board, substantially as described.

6. In a self-playing piano, the combination of keys, a shifting lever locking means for said keys and means for unrolling and rerolling a piece of music, controlled by said shifting lever, a pedal board, means for unlocking the same, and connections whereby the movement of said shifting lever unlocks said pedal board, substantially as described.

7. In a self-playing piano, the combination of keys, locking means therefor, means for unrolling and rerolling a sheet of music, a shifting lever for changing said means from one position into the other, a pedal board, means for locking said pedal board, and means whereby the operation of said lever will unlock said pedal board, and the reverse operation will bring said locking means in position to lock said pedal board when it is swung up, substantially as described.

867,114. AIR-DUCT AND CONNECTION FOR SELF-PLAYING GRAND PIANOS. JOHN W. DARLEY, Jr., Baltimore, Md., assignor to Ernest J. Knabe, Jr., Baltimore, Md. Original application filed July 9, 1906, Serial No. 325,409. Divided and this application filed Oct. 22, 1906. Serial No. 340,058.



1. In a self-playing grand piano, the combination of an air duct having walls made in sections adapted to yieldingly fold against each other, and means for keeping said sections in contact with each other under spring tension, substantially as described.

2. In a self-playing grand piano, the combination of an air duct having walls made in sections, one part adapted to fold down against the other, and means for resiliently holding the ends of said sections in contact with each other, thereby making an air tight joint, when the parts are folded together, substantially as described.

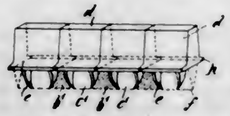
3. In a self-playing grand piano, the combination of an air duct made in sections, members surrounding the ends of said sections where they meet, and means for folding said members together yieldingly under spring tension, substantially as described.

4. In a self-playing grand piano, the combination of an air duct made in sections, members surrounding the ends of said sections where they join together, one of said members being made yielding, and springs for holding the members in air tight contact with each other, substantially as described.

5. In a self-playing grand piano, the combination of a hinged box provided with a perforated member forming an air passage, an air trunk provided with a movable member, said air trunk and member having a passage therethrough, a portion of the walls of said passage being flexible, springs for holding said movable member in contact with the member on said box, and screws for limiting the movement of said member, substantially as described.

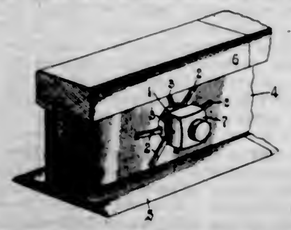
6. In a self-playing grand piano, the combination of a hinged box adapted to carry the music rolls and tracker board, a member attached to said box and perforated to form an air passage, said member being provided with a yielding cover, an air trunk provided with a movable member, said member and air trunk having an air passage therethrough, part of the walls of said air passage being flexible, springs located between the top of said air trunk and said movable member, and screws for limiting the movement of said movable member, substantially as described.

867,115. DEVICE FOR MAKING HORSESHOE-CALKS. LOUIS ENK, Aschersleben, Germany. Filed Feb. 24, 1903. Serial No. 144,854.



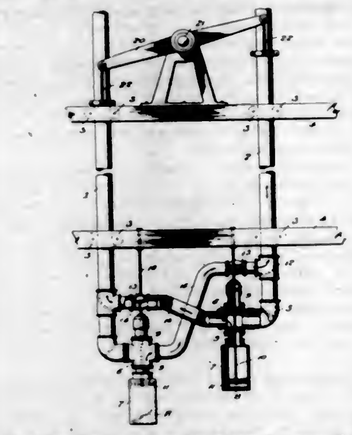
In a device for making horse shoe toe calks, the combination of a matrix guide shaped to receive a metal bar having an upper rectangular body, a flange at one end forming a foot to the said body and a web extending downwardly from the center of said flange and tapered at its free end, recesses in the said matrix to form a pair of inwardly turned fangs on each calk from the said web, said recesses being perpendicular to the direction of movement of the said bar and dies to fit said recesses and form a plurality of calks at each succeeding reciprocation.

867,116. NUT-LOCK WASHER. CHARLES G. ETTE, St. Louis, Mo. Filed June 3, 1907. Serial No. 376,942.



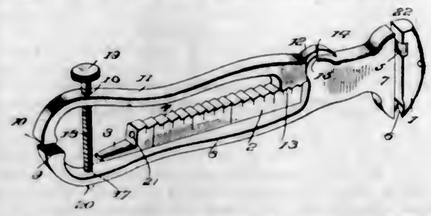
A nut-lock consisting of a comparatively thick round washer provided with a plurality of radially projecting tongues of less thickness than the washer and located the same distance from each of the side faces of the washer, one of said tongues being adapted to be bent into engagement with a nut to lock it on its bolt, and tongues of greater length than the locking tongues to prevent the washer from turning; substantially as described.

867,117. PUMP. JOSEPH A. FENSTERMAKER, Dos Cabezos, Ariz. Filed Dec. 14, 1906. Serial No. 347,894.



In a double-acting counterbalanced pump, the combination with independent cylinders, of reciprocating discharge pipes which are respectively connected to and movable with said cylinders, independent flexible pipes leading from the respective cylinders to the opposite discharge pipes, check valves preventing back flow from the discharge pipes into the cylinders, stationary plungers located within the cylinders aforesaid, and means operatively connecting the discharge pipes to cause them to alternate in their reciprocations.

867,118. COMBINATION-TOOL. JOHN H. FLORA, Tunnel Hill, Ill. Filed Jan. 15, 1907. Serial No. 352,411.



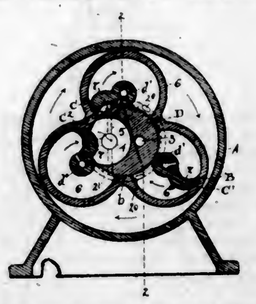
1. A tool of the character described, consisting of a movable jaw provided with a toothed shank, a hollow stationary jaw through which said shank is mounted to slide, said stationary jaw being provided with a relatively stationary handle member the outer end of which projects inwardly and is adapted to provide a vise jaw, a pivoted handle member mounted on the stationary jaw and provided with a toothed portion adapted to engage said shank, the outer end of said pivoted handle member extending inwardly towards the opposing end of the said handle member and adapted to coact therewith to form a vise, and an actuating rod adapted to extend through the outer ends of said handle members whereby to draw said ends together.

2. A tool of the character described, consisting of a movable jaw provided with a toothed shank, a hollow stationary jaw through which the said shank is mounted to slide, said stationary jaw being provided with a relatively stationary handle member, a pivoted handle member mounted on the stationary jaw and provided with a toothed head portion adapted to engage said shank, the two handle members being provided at their outer ends with registering apertures, and a screw threaded actuating rod adapted to extend through the said apertures whereby to draw the outer ends of the handle members together and grip the teeth of the pivoted handle member against said shank.

3. A tool of the character described, consisting of a movable jaw provided with a toothed shank, a stationary jaw through which said shank is mounted to move, said stationary jaw being provided with a relatively stationary handle member, a pivoted handle member mounted on the stationary jaw and provided with a toothed portion adapted to engage said shank, a detachable actuating rod adapted to extend through the outer ends of the said handle members whereby to draw the same together, one end of said actuating rod being tapered, as and for the purpose set forth.

4. A tool of the character described, consisting of a movable jaw provided with a toothed shank, a stationary jaw through which said shank is mounted to move, said stationary jaw being provided with a relatively stationary handle member, a pivoted handle member mounted on the stationary jaw and provided with a toothed portion adapted to engage said shank, and an actuating rod adapted to extend through the outer ends of said handle members whereby to draw the same together, the shank of the movable jaw being provided in its end with a socket adapted to receive said actuating rod.

867,119. ROTARY ENGINE. CHARLES E. FORSYTH, Akron, Ohio, assignor of one-half to George Ketterer, Akron, Ohio. Filed Jan. 14, 1907. Serial No. 352,316.



1. A rotary engine having a stationary central abutment of circular exterior and a cavity in its side, a series of pistons arranged to revolve about said abutment and to rotate as they revolve, a casing carrying said pistons and mounted on said abutment, and a power shaft with which said pistons are operatively connected.

2. A rotary engine comprising an inner rotatable casing having working chambers and separately rotatable pistons mounted in said chambers and adapted to travel in an orbit therewith, in combination with a stationary hub having a single cavity in which said pistons are adapted to turn successively.

3. An engine having an inner rotatable casing provided with separate piston chambers, rotatable pistons mounted in said chambers, a fixed abutment centrally of said casing about which said pistons travel, and a power shaft rigid with said casing and operatively engaged with each of said pistons.

4. The power shaft and the rotatable member thereon having a series of working chambers, in combination with rotatable pistons in said chambers, gears connected with said pistons and a central gear meshed by said piston gears.

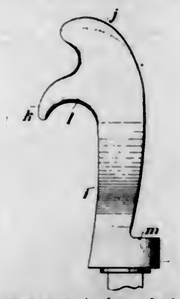
5. A rotary engine having an internal rotatable casing provided with a series of circular working chambers, an independently rotatable piston mounted in each chamber, a

stationary hub about which said casing travels and having a cavity adapted to receive said pistons in turn, and a power shaft and means to convey power thereto from said pistons.

6. A rotary engine comprising an inclosing casing, a power shaft and a rotatable inner casing fixed on said shaft and provided with circular chambers open inside toward each other, a segmentally curved rotatable piston in each chamber adapted to turn in its chamber by rotation, a fixed internal hub about which said chambers rotate having a recess to receive said pistons successively and to convey the power.

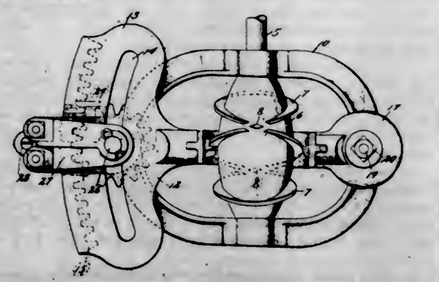
7. A rotary engine comprising a main casing, a fixed internal hub rigid therewith and provided with an exhaust cavity and channel, in combination with a tri-chambered rotatable member and a power shaft rigid therewith, a revolving piston mounted in each of said chambers and adapted to turn in the said cavity of the hub, and power connections with the spindles of said pistons.

867,120. HANDLE FOR DAGGERS, TOOLS, AND THE LIKE. FRANÇOIS P. FOURNET, Nancy, France. Filed July 29, 1905. Serial No. 271,858.



A handle for weapons, tools and the like, of approximately square cross-section with rounded edges having a slight curvature to correspond to the hollow of the hand when the latter is closed, a horn projecting from the handle in a direction parallel to the plane of said curvature to separate the fore-finger from the middle-finger, a thumb rest opposite the horn, and a lateral protecting projection at the end which receives the shank of the blade, substantially as described and for the purpose set forth.

867,121. MECHANICAL MOVEMENT. JOSEPH A. FRENIER, Davenport, Iowa. Filed Apr. 15, 1907. Serial No. 368,157.



1. The combination with a rotary shaft, terminating in a hub, a continuous series of circumferential flanges on said hub, a frame supporting said shaft, an oscillatory rack in operative relation to said hub, an operating shaft in operative relation thereto, and means for converting the continuous rotary motion of said hub into a reciprocatory motion of said operating shaft, said rack being pivotally secured on the opposite side of said hub from the rack portion.

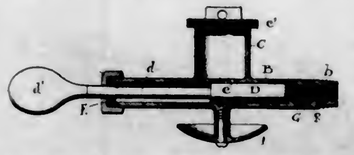
2. The combination with a rotary shaft terminating in a hub, a continuous series of circumferential flanges on said hub, a frame supporting said shaft, an oscillatory rack in operative relation to said hub, an operating shaft in operative relation thereto, and means for converting the continuous rotary motion of said hub into a reciprocatory motion of said operating shaft, said rack being pivotally secured on the opposite side of said hub from the rack portion in the plane of the center of the hub.

3. The combination with a rotary shaft terminating in a hub, a continuous series of circumferential flanges on said hub, a frame supporting said shaft, an oscillatory rack in operative relation to said hub, comprising a slotted end plate provided with curved rack teeth, a central yoke, and a pivotal end, an operating shaft and pinion in operative relation with said rack, and means for converting the continuous rotary motion of said hub into a reciprocatory motion of said operating shaft.

4. The combination with a rotary shaft terminating in a hub, a continuous series of circumferential flanges on said hub, a frame supporting said shaft, an oscillatory rack in operative relation to said hub, comprising a slotted end plate provided with curved rack teeth, a central yoke and a pivotal end, an operating shaft and pinion in operative relation with said rack, and means for converting the continuous rotary motion of said hub into a reciprocatory motion of said operating shaft, said means comprising a shoe pivotally secured to said yoke and adapted to remain in operative engagement with said circumferential flange.

5. The combination with a horizontal rotary shaft terminating in a hub provided with driving means, a frame supporting said shaft, an oscillatory rack in operative relation to said hub, comprising a slotted end plate provided with curved rack teeth, a central yoke and a pivotal end, an operating shaft and pinion in operative relation with said rack, and means for converting the continuous rotary motion of said hub into a reciprocatory motion of said operating shaft, said means comprising a shoe pivotally secured to said yoke and adapted to remain in operative engagement with said hub.

867,122. GAS-ENGINE STARTER. RALEIGH W. GODFREY, Elyria, Ohio, assignor of one-half to H. F. Thompson, Lexington, Ohio. Filed Mar. 23, 1906. Serial No. 307,603.



1. A gas engine starter having a tubular pump barrel, a liquid receptacle mounted on said barrel and having an orifice opening into said barrel, a plunger in said barrel adapted to traverse said orifice and a heating pan on the bottom of said barrel beneath said receptacle.

2. A gas engine starter adapted to be connected with an engine cylinder at its front end and comprising a liquid receptacle and a pump cylinder carrying said receptacle and open thereto, a plunger in said pump and a spraying outlet for said pump in direct line with said plunger.

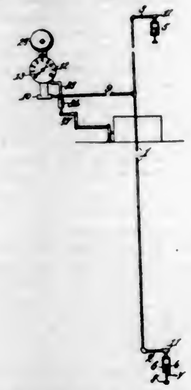
3. A gas engine starter comprising pump and a liquid receptacle mounted thereon between its ends and open to said pump, said pump having a spraying discharge, and a heating pan beneath said barrel and receptacle.

4. A gas engine starter comprising a liquid receptacle and a tubular barrel open thereto, a plunger in said barrel to force feed the liquid and said barrel having a series of outlets for the liquid at its front end and a valve adapted to close said openings.

5. A gas engine starter comprising a liquid receptacle and a pump barrel open thereto, a plunger in said barrel adapted to control the flow of liquid from said receptacle to said barrel, a spraying nozzle for said barrel in advance of said plunger, and a heating pan on the bottom of said barrel beneath said receptacle.

6. In a gas engine starter, a receptacle and pump barrel having a spraying nozzle and a valve to close said nozzle, a receptacle on said barrel substantially at its middle and having an outlet at its bottom into said barrel, a cylindrical plunger in said barrel adapted to close said outlet and to expel the liquid from the barrel at the same time, and a heating pan midway beneath said barrel.

867,123. SIGNAL APPARATUS. FRANK GOWIN, Carlinville, Ill. Filed Mar. 16, 1906. Serial No. 306,469.



1. A signal apparatus of the class set forth, involving visual and audible means, means for creating and transmitting a pneumatic impulse to the said visual and audible signal means for simultaneously operating the latter, means for automatically locking and temporarily holding the signal means in fixed position after movement, and means for simultaneously releasing both the visual and audible signal means.

2. A pneumatic signal apparatus in combination with a controlling motor or engine involving a visual and audible signal means, the visual signal means being provided with a movable indicator to temporarily fixedly register the signal given, pneumatic impulse creating and conveying means, and means for automatically restoring the parts of the visual indicating means to normal position simultaneously with the actuation of the controlling motor or engine.

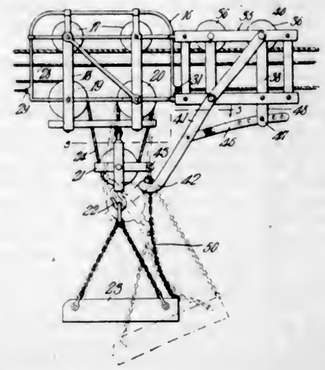
3. In a signal apparatus of the class set forth, the combination of a visual indicating means having a dial with signal indicating characters thereon, and an index movable thereover, means for temporarily holding the index in fixed position on the dial, means for creating and transmitting a pneumatic impulse to the dial, and automatically controlled means for automatically releasing and restoring the index to normal position.

4. A signal apparatus of the class set forth, having means for creating and transmitting a pneumatic impulse, the means for creating the impulse being disposed at different elevations, simultaneously operating visual and audible signal mechanism interposed intermediately with respect to the said means and actuated by either of the latter, an automatic controlling means for restoring the signal mechanism to normal position.

5. A signal apparatus of the class set forth, involving simultaneously operating visual and audible signal mechanism, the visual portion of the latter comprising a dial having an index movable thereover, a ratchet element connected thereto, and means for locking the element against rotation beyond a predetermined point, piston means having a dash pot coöperating therewith for releasing the said locking means, the dash pot being operative from a controlling motor or engine, and devices for creating and transmitting a pneumatic impulse to the said visual and audible signal mechanism.

6. A pneumatic signal apparatus having a simultaneously operating visual and audible signal mechanism involving respectively a dial bearing indicating characters thereon, an index hand movable over the dial, a ratchet wheel connected to the dial, a movable frame for operating the ratchet wheel having a depending piston element and an upwardly projecting striker, a pipe into which the said piston element projects, a gong arranged above the dial for engagement by the striker, devices for creating and transmitting a pneumatic impulse to the pipe having the piston element therein, and mechanism for automatically restoring the parts of the visual indicating means to normal position simultaneously with the actuation of a controlling motor or engine.

867,124. CONVEYER. JOSEPH M. GRIFFITH, Cardiff, Md. Filed June 17, 1907. Serial No. 379,461.

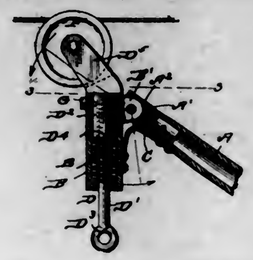


1. In conveying mechanism, a supporting cable or track, a dumping carriage on the cable, a fall block, a fall block carriage, a hoisting rope connected to the fall block, a traction rope connected to the fall block carriage, a bar projecting from the frame of the fall block, a load receiver, the rear edge of which is connected to said bar, and hooks adjustably secured to the dumping carriage and with which said bar engages.

2. In conveying mechanism, a dumping carriage, a lever pivoted thereto and provided at its lower end with a pair of spaced hooks, a rod adjustably connecting the lever to a portion of the carriage, a fall block carriage arranged to travel on the cable, a fall block, a hoisting rope carrying the fall block, a traction rope connected to the fall block carriage, a bar projecting from the fall block frame and provided with a pair of laterally extended arms arranged to engage the hooks, a load receiver, and a connecting means between the rear portion of the load receiver and the bar.

3. In mechanism of the class described, a supporting cable, a fall block carriage arranged to travel thereon, a fall block, a frame carrying the same, a hoisting rod having one end connected to the frame and extending around the fall block, and thence to a winding mechanism, a bar projecting from the fall block frame, a load receptacle hung from the fall block frame, and connecting means between the rear end of such receptacle and the frame, a dumping carriage supported by the cable and including a wheeled frame, a lever pivoted to said dumping carriage and having a bifurcated end provided with terminal hooks for engagement with the bar of the fall block, an adjusting lever connecting the hooked lever to the frame of the dumping carriage, and a haul rope, the ends of which are secured to the fall block carriage, the intermediate portion of the haul rope passing around the winding drum.

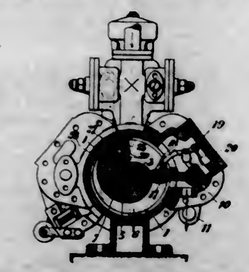
867,125. TROLLEY-WHEEL SUPPORT. GEORGE W. GRISDALE, Jr., Philadelphia, Pa. Filed Mar. 5, 1906. Serial No. 304,345.



1. The combination with a trolley pole having a bifurcated head at one end, of a sleeve having a lug that is journaled in the said bifurcated head, a spring connected to the pole and sleeve and adapted for holding the said sleeve at an acute angle with relation to the pole, a shaft held in the sleeve and having one end provided with a forked head and its opposite end with a ring, the body portion of the said shaft being of uneven diameters, thereby providing a shoulder intermediate its ends, a spring surrounding the smaller portion of the shaft and engaging the shoulder and the lower end of the sleeve, the larger portion of the shaft having a slot throughout its entire length, a screw-bolt projected through the sleeve and into the said slot, and a trolley wheel journaled in the forked head of the shaft substantially as specified.

2. The combination with a trolley pole, of a sleeve pivotally held thereto, a spring connected to the pole and sleeve, a shaft mounted in the sleeve, said shaft being reduced for a portion of its length to provide a shoulder, a spring surrounding the reduced portion and engaging the shoulder and the end of the sleeve, the larger portion of the shaft having a slot, a screw-bolt carried by the sleeve and projecting into the slot to limit the rotary movement of the shaft, and a forked head formed upon one end of the shaft, and having a trolley wheel journaled therein substantially as specified.

867,126. ROTARY ENGINE. HANS HAAGE, Erfurt, Germany. Filed June 28, 1907. Serial No. 381,332.



1. A motor comprising a cylinder, double pistons substantially helicoidal in contour operating in the cylinder, abutment blades adapted to have the motive fluid act thereon in opposite directions, and means whereby the steam pressures on the blades neutralise each other.

2. A motor comprising a cylinder, pistons operating therein and having helicoidal working faces, laterally extending inlet ports in the cylinder heads, and means whereby the inlet ports can be altered in their radial extension from the circumference to the center of the heads, causing thereby the helicoidal working faces of the piston to close the inlet during a longer or shorter position of the stroke in accordance with the position of said means and thus change the cut-off.

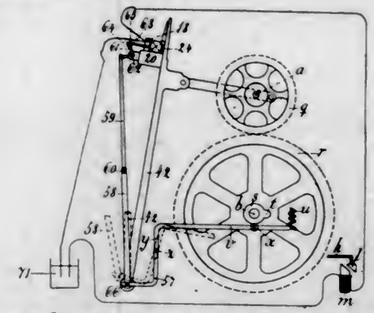
3. A motor comprising a piston, an abutment blade having a pivoted end, means for moving said end to make perfect contact with the piston, and a guide for said means.

4. In a motor comprising a cylinder having two air-tight compartments, pistons rotatably mounted in said compartments and having off-set curved working faces, an adjustable packing carried by each of the pistons and adapted to form a close contact with the interior surface of said cylinder, rotary movable abutment blades mounted within the cylinder and having packing elements adapted to contact with the surface of each piston, radially extending means for supplying steam to the cylinder, and mechanism for driving the abutment blades.

5. A motor comprising a piston, abutment blades, a crank and bell crank lever for regulating said blades, an elliptical pair of toothed wheels for actuating the crank, and an eccentric carried by the piston axis and provided with an eccentric rod acting on the joint of the bell crank lever.

6. A motor comprising a spiral-shaped piston, a movable abutment blade adapted to contact with the piston, a bell-crank lever having connection with the abutment blade, a crank having connection with the bell-crank lever, a pair of elliptical tooth-wheels for actuating the crank, an eccentric carried by the piston axis and provided with an eccentric rod operative upon the joint of the bell-crank lever, gear mechanism for actuating said crank, means for supplying a fluid to the motor, and mechanism for regulating the fluid supply.

867,127. WEFT-REPLENISHING LOOM. CHRISTIAN M. HANSEN, CARL V. MÜLLER, and JULIUS C. E. CARLSSON, Vejle, Denmark. Filed Mar. 29, 1905. Serial No. 252,726.



1. In a weft replenishing loom, a lay, guiding flanges carried thereby, a feeler-plate engaging said flanges, contact pins carried by said plate, a shuttle box, a contact plate thereon, yielding means for normally maintaining said contacts out of engagement, a driving shaft and means coacting therewith for causing said plate to engage the spool once for every two revolutions of the driving shaft and thereby closing the circuit when there is still a certain amount of weft on the spool.

2. In a weft replenishing loom, an exchange box consisting of two normally stationary cells, one of said cells normally acting as a shuttle box, means for raising said box when a shuttle exchange is to take place in order that the lower cell may receive the empty shuttle and the upper cell a fresh shuttle, spring means for forcing the shuttle downward when the exchange box is in its raised position, means for afterward lowering said box, and means for causing the empty shuttle to pass from the lower cell as the box is lowered.

3. In a weft replenishing loom, a lay, a shuttle box tongue in fixed relation therewith, an exchange box, means for raising and lowering said box and means for preventing said shuttle box tongue from following the box and spring means for forcing the shuttle downward when the exchange box is in its raised position.

4. In a weft replenishing loom, an exchange box consisting of two cells open at their back, the lower of said cells being open on its under side, a spring controlled plate for forcing the shuttle downward when the exchange box is in its raised position, and means for pressing said plate upwards so that it does not impede the free movement of the shuttle during the ordinary motion of the machine when the shuttle box is in its lowered position.

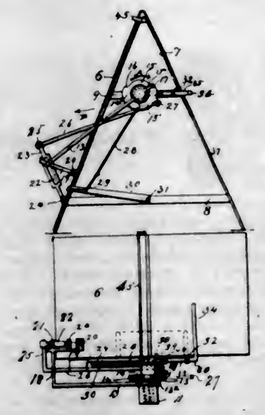
5. In a weft replenishing loom, a shuttle box tongue, and an exchange box consisting of two cells, the front wall of the lower cell being deflected inwardly at its lower end to retain the empty shuttle until it is clear of the tongue, and whereby said tongue is pressed in to permit the downward movement of the upper shuttle.

6. In a weft replenishing loom, a picking stick, a shuttle driver, a guiding shaft therefor and an exchange box having an upper and a lower cell and in firm connection with said shaft, whereby during the raising and lowering of said exchange box, said driver is permitted to move up and down along the picking stick and thus be always in the upper cell of said box.

7. In a weft replenishing loom, a driving shaft, a shaft driven thereby, an eccentric on said driven shaft, a lever actuated thereby, a second lever coacting therewith, a rod in pivotal relation with said second lever, and an exchange box carried by said rod, an electric circuit, said first lever coacting with said second lever when the weft on the spool is nearly used up and the circuit closed, whereby the exchange box will be raised when a shuttle exchange is to take place while on the contrary all of said mechanism remains stationary during the ordinary movement of the machine.

8. In a weft replenishing loom, a magazine, an exchange box having an upper and a lower cell, a shuttle being carried from said magazine into said upper cell subsequent to said box being raised, a bent lever, yielding means for controlling said lever, a vertical push rod acted on by said yielding means, and a cam-controlled lever connected with said push rod, whereby the mechanisms for pushing in the shuttle are stationary when the shuttle-exchange does not take place.

867,128. COPY-HOLDER. CHARLES H. HARRIS, Sayre, Okla. Filed Apr. 2, 1906. Serial No. 309,530.

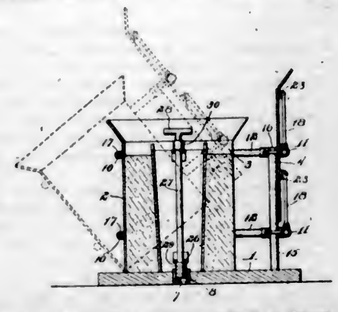


1. In a device of the character described, the combination with a frame of a sleeve, manually operable means for actuating said sleeve in one direction, a spring for actuating said sleeve in the opposite direction, gripping members and means actuated by said sleeve for imparting an initial movement to one of said gripping members ahead of the other of said gripping members and to then cause both of said gripping members to move together.

2. In a device of the character described, the combination with an A-shaped frame of gripping members, means for actuating said gripping members in such manner as to cause them to engage a sheet, means for swinging said gripping members from one side of said A-shaped frame to the other side of said frame, means for clamping the sheet after it has been swung and means for automatically returning the parts to their former position.

3. In a device of the character described, the combination with an A-shaped frame of a sleeve, a finger lever, connections between said sleeve and said finger lever adapted to actuate said sleeve in one direction when said lever is actuated, a spring for actuating said sleeve in the opposite direction, a pair of gripping members, connections between said gripping members and said sleeve adapted to impart initial movement to one of said gripping members ahead of the other of said gripping members, means for then causing both of said gripping members to move together to swing a sheet from one side of the A-shaped frame to the other side and means for gripping said sheet after it has been thus swung.

867,129. MOLD. WILLIAM L. HART and FRANK J. DANIELS, Olney, Ill.; said Hart assignor to Charles C. Daniels, Olney. Filed Dec. 1, 1906. Serial No. 345,904.



1. In a device of the class described, a frame, a mold disposed therein comprising side and end walls, one of said walls being fixed to the frame and the others movably arranged therein, a pallet on which the mold rests, and means connecting the movable walls to the frame for upward and outward swinging movement to inactive position, the mold being adapted after the movable walls have been moved to inactive position, to tip bodily forward for discharging the block.

2. In a device of the class described, a frame, a mold arranged therein and comprising side and end walls, one of said walls being fixed to the frame and the others being movably sustained therein, connecting arms pivoted in the frame and to the movable walls for carrying the latter, and a pallet on which the mold rests, the movable walls being adapted to swing upward and outward to inactive position and the mold arranged to dip bodily forward in discharging the block.

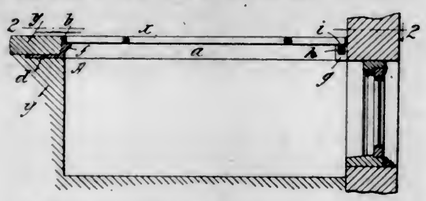
3. In a device of the class described, the combination of a flat mold base, a tiltable frame normally resting on the base, a mold comprising sides, one of which is attached to the frame to tilt therewith and the others movable independently of the frame, and parallel links connected with and disposed between each independently movable side and adjacent portion of the frame.

4. In a device of the class described, the combination of a flat mold base, a tiltable frame normally resting on the top thereof, a mold normally resting on the top of the base and having one side attached to the frame to tilt therewith and its remaining sides spaced from the frame, and links connecting the spaced sides with the mold for independent movement and adapted when in horizontal position to hold the sides in operative relation.

5. In a device of the class described, a mold, a mold base provided with a plurality of spaced and connected internally threaded keeper openings, a plurality of hollow cores removably arranged in the mold, fixed braces extended transversely of the cores and having bearing open-

ings, a rotary locking rod for each core journaled in said openings and provided with a threaded engaging portion designed for threaded engagement with the adjacent keeper opening to detachably secure the core in place, and means on each rod for engagement with the braces to fix the rod against longitudinal movement relative to the core.

867,130. GRATE-SUPPORTING STRUCTURE FOR SIDEWALKS. GUSTAV HARMAN, Holyoke, Mass., assignor to Harman and Derichs, Holyoke, Mass., a Firm. Filed Feb. 2, 1907. Serial No. 355,485.



1. A grate supporting structure for sidewalks consisting of separated opposite side members, and a member disposed right angularly between ends of, and uniting, said opposite side members, all said members having outwardly projecting base flanges, said uniting member having a horizontal, inwardly projecting ledge below its upper edge, for supporting one end of a grate, and said opposite members supporting a bar between their end portions and remotely opposite from said ledge.

2. A grate supporting structure for sidewalks consisting of a cast metal frame comprising opposite parallel side members, and a right angularly disposed cross member between and uniting the transversely opposite ends of the side members, and said members having a continuous externally projecting horizontal base flange, and the cross member having a horizontal inwardly projecting grate supporting ledge below its upper edge, and said side members having at their free end portions inwardly projecting lugs constructed with upwardly and inwardly opening sockets and a grate-end supporting bar having by the end portions thereof, supporting engagements in sockets.

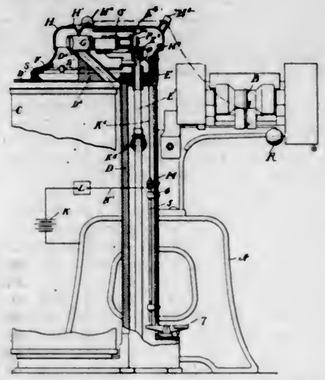
3. A structure for the purpose described consisting of separated opposite side members, and a member disposed right angularly between ends of, and uniting, said opposite side members, all said members having outwardly projecting base flanges, said uniting member having a horizontal, inwardly projecting ledge below its upper edge, for supporting one end of a grate, said opposite members having outwardly and right angularly extended webs integral therewith and with the ends of the side-member base-flanges, and a bar supported by and extending horizontally between the free end portions of the side members.

867,131. APPARATUS HAVING STOP-MOTIONS. HARRY A. HASELDEN, Whitinsville, Mass., assignor to Whitin Machine Works, Whitinsville, Mass., a Corporation of Massachusetts. Filed June 23, 1906. Serial No. 323,010.

1. The combination of a machine adapted to deliver its work in continuous form, an apparatus supplied by said machine having a detector adapted to cause the stoppage of said machine upon the failure of the supplied work, a device functioned to render said detector inoperative and adapted to be held and maintained in its effective position for this purpose by the operator, and means tending to restore said device when released by the operator.

2. The combination of a sliver delivering machine, means for starting the machine, a stop motion circuit, an apparatus supplied by said machine having a sliver detector controlling said circuit, and an automatically-returned circuit-breaker for said circuit adapted to be held by the operator in the position in which the said circuit permits the re-starting of the machine.

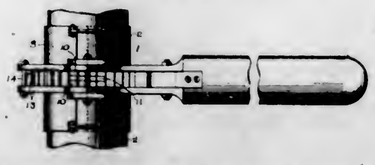
3. In apparatus of the kind described, a sliver-delivering machine, and a coiler supplied thereby having an upright frame post, in combination with a stop motion apparatus adapted to cause the stoppage of the machine upon the failure of the sliver and means located near the base of the frame post for temporarily rendering said stop motion apparatus inoperative.



4. In apparatus of the kind described, a coiler head, a supporting post therefor and a detector on said head, in combination with an upright movable rod supported by said post and means at the upper end of said rod, adapted for actuation thereby, to render said detector inoperative.

5. In apparatus of the kind described, a coiler having a hollow frame post and a detector, in combination with a stop motion circuit controlled by said detector, a circuit breaker in said circuit mounted within said hollow frame post, and means extending to the outside of the post whereby the operator may operate said circuit-breaker to render said circuit temporarily inoperative.

867,132. PIPE-TONGS. AUGUST HEIMAN, Coalinga, Cal. Filed Feb. 26, 1907. Serial No. 359,391.



1. A pipe tongs comprising a reinforcing sleeve, means for adjustably securing the sleeve about a pipe, a guide member arranged to encircle the sleeve, means for moving the guide member, and means for locking the guide member to the sleeve during movement in one direction.

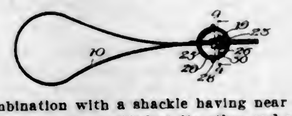
2. A pipe tongs including an adjustable sleeve, a ratchet member carried thereby, a guide member adjustable about the sleeve, and means to lock the guide member to the ratchet member during movement of the guide member in one direction.

3. A pipe tongs including an adjustable sleeve, a ratchet member carried thereby, a guide member adjustable about the sleeve, and means to lock the guide member to the ratchet member during movement of the guide member in one direction, said means being arranged to free the guide member from the ratchet member during movement of the former in the opposite direction.

4. A pipe tongs including a sleeve member made in adjustable sections, a ratchet member connected with the sleeve member and extensible to provide an encircling ratchet member in all adjustments of the sleeve sections, a guide member loosely encircling the sleeve and adjustable with relation thereto, a handle carried by the guide member, and a dog carried by the handle and arranged to engage the ratchet teeth in movment of the handle in one direction.

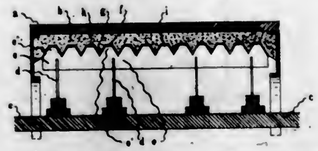
5. A pipe tongs including a sleeve member made in adjustable sections, a ratchet member connected with the sleeve member and extensible to provide an encircling ratchet member in all adjustments of the sleeve sections, a guide member loosely encircling the sleeve and comprising; spaced plates disposed above and below the ratchet member, a handle carried by the guide member, and a dog carried by the handle and arranged to engage the ratchet teeth in movement of the handle in one direction.

867,133. SEAL FOR CAR-DOORS. JOHN HOLMER, South Chicago, Ill., assignor of one-half to Carl M. Strand, South Chicago, Ill. Filed July 29, 1907. Serial No. 385,952.



The combination with a shackle having near one of its ends an opening and provided at its other end with a longitudinally disposed and spaced apart member, the said member and underlying portion of the shackle each having an opening in register with one another, and also provided with recesses in their edges, of a locking-dog having a projection adapted to engage the openings in the ends of the shackle, and also means to prevent it passing entirely through said openings, an elastic band surrounding the longitudinal member and underlying portion of the shackle at the openings therein, and adapted to retain the dog, first in its inclined position, and afterwards in its locking position, a guard-member rotatably mounted on the shackle at the recesses therein, a shell or casing member movably mounted on the shackle near each end of the opening in said longitudinal member, and means to secure said shell or casing members together, around the dog, band and guard-member.

867,134. DECORTICATOR. FRANZ HOLTZHAUSEN, Nossen, Germany. Filed Jan. 29, 1907. Serial No. 354,696.

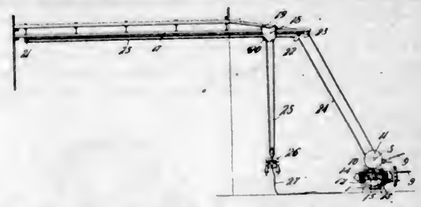


1. In a grain decorticator, the combination with a horizontal drum, internal abrading surfaces having vertically disposed parallel channels of trapezoidal profile, a horizontal shaft rotating in said drum, radial arms on said shaft and terminal blades carried by said arms, of approximately the same trapezoidal contour as that of the channels within which they revolve, substantially as and for the purpose set forth.

2. In a grain decorticator, the combination with a horizontal drum, internal abrading surfaces having vertically disposed parallel channels of trapezoidal profile, a horizontal shaft rotating in said drum, radial arms on said shaft, and terminal blades carried by said arms, of approximately the same trapezoidal contour as that of the channels within which they revolve, the outer edge of each trapeze being uneven substantially as and for the purpose set forth.

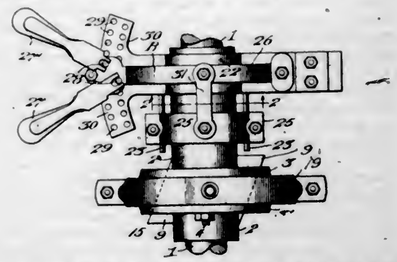
867,135. HAY-CARRIER. WILLIAM HOPPE, Freeport, Minn. Filed July 2, 1906. Serial No. 324,418.

A hay carrier comprising an elevated track, a single block depending from one end of the track, two blocks depending from the other end of the track, a carrier mounted upon the track, a pulley journaled upon the carrier and being located below the track, a combined elevating and towing tackle fixed at one end to the carrier, a hay fork located upon said tackle, said tackle passing over the pulley of the carrier through the single block at one end of the track and through one of the blocks at the opposite end of the track, a shaft journaled for rotation, a conical friction clutch member fixed to said shaft, a drum loosely mounted upon said shaft and having at its end a conical friction clutch member adjacent the first said clutch member, means for controlling the rotation of the drum, said tackle winding upon said drum; a second tackle for towing only,



separated from the first said tackle and attached at its end to the carrier and passing through the remaining block upon the track, a second shaft journaled for rotation, meshing gear wheels attached to the said first and second shafts, means for rotating the said shafts, an interlocking clutch member fixed to said second shaft, a drum loosely mounted upon said second shaft and having at its end an interlocking clutch member adjacent the said fixed interlocking clutch member, means for moving the last said drum longitudinally, the last said tackle winding upon the last said drum, the first said drum, only being provided with friction means for controlling rotation.

867,136. ECCENTRIC. JAMES A. JACKSON, Iola, Kans. Filed July 9, 1906. Serial No. 325,412.



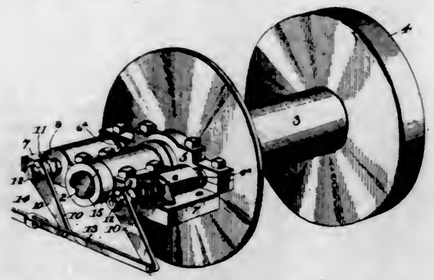
1. In a device of the class described, a sleeve or core comprising two longitudinally grooved and flanged members, one of said members being provided with a spacing block engaging a recess in the opposite flanged member, connecting bolts extending through the flanges of said members, a diametrically slotted disk interposed between the flanges of the core members in slidable engagement with the spacing block and having slots engaging the connecting bolts, and wedge shaped adjusting keys seated for longitudinal movement in the grooves of the core members, extending through slots in the flanges of the latter and engaging the ends of the diametrical slot in the disk.

2. In a device of the class described, a sleeve or core having spaced flanges and diametrically opposite longitudinal grooves, wedge shaped keys slidably mounted in the longitudinal grooves and operating through slots in the flanges, a diametrically slotted disk slidably disposed between said flanges in engagement with the wedge shaped keys, there being stems or shanks extending from the keys and having lugs, a slidable ring mounted upon the sleeve or core and having apertures engaging said lugs, a collar clamped upon

the sliding ring and having longitudinal apertures, a fixed support or bearing, guide members extending from the latter through the apertures of the clamping collar, an adjusting yoke, and links connecting the latter with the clamping collar.

3. In a device of the class described, a sleeve or core having spaced flanges and longitudinally slidable adjusting keys or wedges operating through slots in the flanges a diametrically slotted disk interposed between the flanges in engagement with the wedges, means, including a pivoted yoke, for effecting longitudinal adjustment of the wedges, a supporting member having a quadrant plate provided with two separate sets of apertures, and separate engaging members carried by the yoke for alternate engagement with the apertures in the quadrant plate.

867,137. CLUTCH-OPERATING MECHANISM. JAMES P. KARR and JOHN D. RAUCH, Logansport, Ind. Filed Feb. 12, 1907. Serial No. 357,017.



1. The combination, with a rotatable shaft a fixed pillow block and a friction clutch member fixed on the shaft, and a drum which is loose on the shaft and provided at one end with a friction member and at the other with a hub having a circumferential groove, of a yoke applied to the grooved hub and composed of separable parts, screw-shafts having heads provided with collars spaced apart and adapted for connection with the yoke, the said shafts passing through threaded bores in the pillow block and their outer ends provided with polygonal, cylindrical and threaded portions, toothed collars applied to such polygonal portions, levers having toothed heads adapted to engage the said collars and mounted on the cylindrical portions of the screw-shafts, nuts clamping the toothed parts together, and a rod connecting the levers and serving for adjusting them, substantially as described.

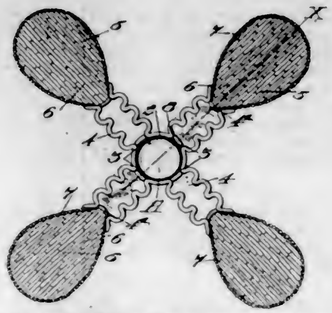
2. The combination, with a fixed pillow block, rotatable shaft and cone members, of a yoke connected with one of said members, screw-shafts engaging the yoke rotatably and passing through threaded bores in the pillow block, said shafts having polygonal and threaded end portions, toothed collars applied to such portions one of them having an extended arm constituting a lever, nuts applied to the screw-shafts for clamping the toothed parts together, and means for connecting the levers, substantially as described.

867,138. SILKWORM-BREEDING DEVICE. DATIKO KAUKASIELI, West Berkeley, Cal. Filed Apr. 17, 1907. Serial No. 368,788.

1. An apparatus for rearing silk-worms, said apparatus comprising hatching and maturing inclosures and a pathway leading from one inclosure to the other.

2. An apparatus for rearing silk-worms, said apparatus comprising a series of exterior inclosures, a central hatching inclosure and a series of pathways or channels connecting the inclosures, said hatching inclosure and pathways being composed of composite material.

3. An apparatus for rearing silk-worms, said apparatus including a preliminary hatching inclosure, sinuous pathways leading outwardly therefrom, and exterior feeding inclosures with which the outer ends of the channels connect.

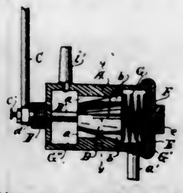


4. An apparatus for rearing silk-worms, said apparatus including a central inclosure with upwardly inclined periphery and inclosing walls, channels or pathways having sinuous walls, and extending outwardly from the inclosure, other walled inclosures with which the outer ends of the channels connect, and gates to separate the different parts of the apparatus.

5. In an apparatus of the character described, an inclosure formed from the droppings of ruminating animals, and having an upwardly inclined rim, and an inclosing wall of the same material, pathways or channels with sinuous or serpentine walls and floor of similar material, exterior inclosures formed of corn-stalks, and gates by which access between the inclosures and pathway is controlled.

6. In an apparatus of the character described, a series of inclosures, including a hatching chamber, sinuous gate-controlled passages leading outwardly therefrom, and gate-controlled maturing chambers with which the outer ends of the passages connect.

867,139. GAS-IGNITER. WALTER J. KENNEDY, Grand Rapids, Mich. Filed Nov. 2, 1906. Serial No. 341,795.



1. The combination of a cylinder having a chamber at one end with an inflow pipe leading thereto, and a chamber in the other end with an outflow pipe leading therefrom, a long tapering valve seat between the two chambers having slots cut in its surface longitudinally from the small end toward but not to the large end, a revoluble valve fitted to said valve seat and having slots open at the large end of the valve and terminating before reaching the small end, in position to be made to register with the slots in the valve seat and form longitudinal slots therethrough, an actuating spring connected with the valve and the cylinder, a stem extending from the valve through the end of the cylinder, a lever at right angles therewith, the valve, the valve stem and the lever having a continuous channel through them longitudinally.

2. The combination of a cylinder having a chamber at one end and an inflow pipe leading into it, and a chamber at the other end with an outflow pipe leading from it, a long tapering valve seat between the chambers, having longitudinal slots in its surface, opening from the small end and extending to a short distance from the large end, a valve fitted to the valve seat and having slots in its surface from the large end to near the small end, an actuating spring, a regulating screw and an actuating lever connected with the valve.

3. The combination of a cylinder having a chamber at one end with an inflow pipe entering it, a chamber at the other end with an outflow pipe leading therefrom a longitudinally tapering valve and valve seat between the chambers, the valve having slots opening from the large end and terminating before reaching the small end and the valve seat having corresponding slots opening from its small end and terminating before reaching the large end, the two sets of slots being in position to open and close to form or remove a free passage way through longitudinal of the valve, an actuating spring in one chamber to close said openings, a regulating screw, a hollow valve stem a regulating screw therein, a right angle lever connected with the valve stem and having a channel that will register with the hollow of the valve stem.

4. In combination with a gas pipe and burner, a cylinder set between the gas pipe and burner and having a chamber at each end with a tapering valve seat between them, said valve seat having longitudinal slots cut in the surface of the small end and terminating before reaching the large end, a valve fitted to turn freely in the valve seat and having longitudinal slits cut in the large end and terminating before reaching the small end, and means for turning the valve to make the slots in the valve and in the valve seat register to form longitudinal openings between the chambers in the cylinder, substantially as shown and described.

5. In combination with a gas pipe and a gas burner, a cylinder having a chamber at one end opening to the gas pipe, and a chamber at the other end opening to the gas burner, a long tapering valve seat having slots opening from the small end and terminating before reaching the large end, a valve seated therein and having slots opening from the large end and extending to near the small end and arranged to unite with the slots in the valve seat to form open passageways longitudinal of the valve and seat, an actuating spring and a regulating screw in one end of the cylinder, a valve stem projecting from the valve through the other end of the cylinder and having a small aperture through it longitudinally, a lever attached at right angles to the valve stem and having a small central aperture leading from the end of the aperture in the valve stem to the end of the lever over the gas burner, and a plate secured to the outer end of the lever and having downwardly curved radiating arms over the burner.

6. The combination, a cylinder having a chamber at one end with an inflow pipe entering it, and a chamber at the other end with an outflow pipe leaving it, a tapering valve and valve seat longitudinal of said cylinder between the chambers, having slots arranged to open and close by turning the valve, so as to form and close channels through the valve longitudinally, an actuating spring at one end of the valve, a hollow stem projecting from the valve, a lever attached to the stem at right angles therewith and having a channel registering with the channel in the valve stem, and a plate attached to the outer end of lever over the opening of the channel and having downwardly curved radiating arms.

867,140. MOLDING FOR ELECTRIC WIRING. WILLIAM H. G. KIRKPATRICK, Philadelphia, Pa., assignor to Kirkpatrick Manufacturing Company, Philadelphia, Pa., a Corporation of Delaware. Filed Apr. 27, 1906. Serial No. 313,963.



1. A molding of the class described comprising a member equipped with longitudinal grooves having a mortised partition therebetween, an interlocking keeper whose length is considerably less than the width of the molding, fitted to said mortised partition and afforded a slidable movement transversely of the said molding and means for locking the keeper against removal from said molding.

2. A molding of the class described comprising a member equipped with longitudinal grooves having a partition therebetween, said partition being mortised diagonally in respect to the plane of the underside of the molding an interlocking keeper whose length is considerably less than the width of the molding, fitted to said mortised partition and afforded a slidable movement transversely of the said molding and means for locking keeper against removal from the molding.

3. A molding of the class described comprising a member equipped with longitudinal grooves, a partition between said grooves, said partition being transversely channeled, the walls of which channel are beveled inwardly, an outwardly beveled keeper whose length is considerably less than the width of the molding, fitted to said channel and afforded a transversely slidable movement therein and means for locking the keeper against removal from said molding.

4. A molding having un-mortised side walls and equipped with longitudinal grooves having a partition there-between said partition being mortised a comparatively short keeper fitted to said mortised partition and afforded a slidable movement transversely of the partition but locked against removal therefrom.

867,141. EMULSION OF OIL AND THE LIKE. OSCAR A. H. H. KÖSTERS, Hemelingen, near Bremen, Germany. Filed May 2, 1906. Serial No. 314,889.

1. The process of producing stable emulsions of oils, fats and the like, which consists in heating a derivative of an organic compound and a salt of a higher fatty acid with water and the oil to be emulsified.

2. The process of producing stable emulsions of oils, fats and the like, which consists in heating a derivative of an organic compound and a sodium salt of a higher fatty acid with water and the oil to be emulsified.

3. The process of producing stable emulsions of oils, fats and the like, which consists in heating an amid of a higher fatty acid and a salt of a higher fatty acid with water and the oil to be emulsified.

4. The process of producing stable emulsions of oils, fats and the like, which consists in heating an amid of a higher fatty acid and an alkali salt of a fatty acid with water and the oil to be emulsified.

5. The process of producing stable emulsions of oils, fats and the like, which consists in heating an amid of a higher fatty acid and a sodium salt of a fatty acid with water and the oil to be emulsified, and adding glycerin thereto.

6. A water-emulsion of oil, fat or the like containing a derivative of an organic compound and a salt of a higher fatty acid.

7. A water-emulsion of oil, fat or the like containing a derivative of an organic compound and a sodium salt of a fatty acid.

8. A water-emulsion of oil, fat or the like containing an amid of a higher fatty acid and an alkali salt of a fatty acid.

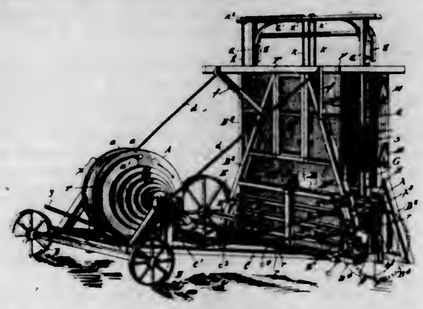
9. A water-emulsion of oil, fat or the like containing the amid of stearic acid and the sodium salt of a fatty acid.

867,142. HOP-PRESS. CHARLES KUENSTING, Woodburn, Oreg. Filed Apr. 25, 1907. Serial No. 370,248.

1. A portable press, comprising a main frame having its forward end provided with supporting wheels, a rope winding device arranged on top of said forward end and a tilting press box having its base end hinged to the rear of the main frame and having supporting wheels with an axle connection fixed to the press box at a point above its lower end to permit the press box to stand upright on the ground or be lifted therefrom when tilted forward for transportation.

2. A portable press, comprising a main frame having its forward end provided with supporting wheels, a rope

winding device arranged on top of said forward end, a tilting press box having its base end hinged to the rear of the main frame, said press box having inclined braces diverging outwardly at the bottom beyond the ends of the box, horizontal axle arms connected to both the press box and these inclined braces at points above the base end of the box and supporting wheels for these axle arms.



3. A portable press, comprising an upright press box with a follower having a cross bar extending through the ends of the box, a fixed pulley block at the bottom of the press on each side, a movable pulley block attached to each end of the cross bar of the follower, a rope for each side roving through the fixed and movable pulley blocks, pulleys under the box by which the ropes are carried toward the center, and a winding jack consisting of a double conical drum having a large middle peripheral groove for the operating rope and having on each side of the same a volute spiral rope track diminishing in diameter as it proceeds from the center of the jack, said two rope tracks having the follower-actuating ropes wound respectively upon the same.

4. A portable press, comprising a vertical box, a follower therein having a cross bar extending through the box, means for actuating the follower, a winding jack with a locking notch, a locking device with spring for forcing it into engagement with the winding jack, a trip rope and trigger for holding the lock disengaged and a latch bar arranged below the cross bar of the follower to be tripped thereby at the end of its compression movement to slacken the trip rope and lock the winding jack.

5. A press having a follower, a winding device for actuating the same, a trip device actuated by the last part of the movement of the follower, and a locking device for the winding device set into action by the trip device to relieve the press of overstrain.

6. A portable press consisting of a wheeled main frame, a winding jack on the front part of said frame and a hinged press box at the rear of said frame adapted to fold over and rest upon the winding jack.

7. A portable press, consisting of a wheeled main frame, a winding jack on the front part of said main frame and a hinged press box at the rear of said frame, said box having a removable door on the side next to the jack adapted to allow the winding jack to enter the press box when the latter is folded thereupon.

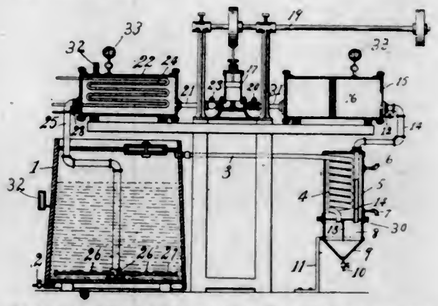
8. A vertical press having a baling chamber with doors at the lower end and an open upper end having a laterally projecting platform extending horizontally from said upper end, a follower with rope and pulleys for hoisting it and a tilting supporting frame pivoted at its lower end and arranged to deposit the follower on said platform when swung to one side.

9. A press, comprising a press box, a follower with ropes and pulleys for actuating the same, a winding jack for said ropes consisting of a double conical drum having in the middle between their larger diameters a peripheral groove to receive an operating rope and having on each side a rigidly attached volute spiral rope track decreasing in diameter away from the middle of the jack, and axial bearings arranged outside said jack, both the operating rope and the ropes from the rope track being inside the axial bearings.

10. A vertical press having a vertical press box and follower with cross bar extending through the press box and a tilting follower support constructed as an upright frame extending a distance above the press box to enable the follower to clear it and be swung to one side, said tilting frame having at its end above the press box downwardly projecting prongs adapted to inclose the cross bar of the follower.

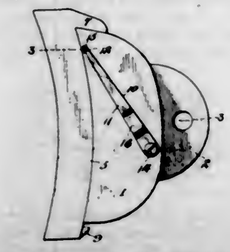
11. A vertical press, comprising a press box having vertically slotted ends, a follower with cross bar playing through said slots, and a parallel motion gate bar arranged beside said slot.

867,143. APPARATUS FOR PURIFYING AND AGING LIQUORS. HENRI D. LAIDLOW, San Francisco., Cal., assignor of one-third to William H. Burnett and one-third to Warren D. Parson, San Francisco, Cal. Filed Apr. 25, 1904, Serial No. 204,737. Renewed Jan. 21, 1907. Serial No. 353,365.



In an apparatus of the character described, the combination of a closed tank, a pipe leading from the upper portion thereof, a worm connected to said pipe, a chamber inclosing said worm and adapted to contain a cooling medium, a chamber into which the lower end of the worm enters, means for drawing off liquid from said latter chamber, a pipe leading upwards from said latter chamber, a vacuum chamber with which said pipe connects, a pump connected to said vacuum chamber to exhaust the same, a permeable partition in said vacuum chamber forming a fume arrester, means for drawing off liquids from said vacuum chamber, a heating chamber into which the gases exhausted from said vacuum chamber are discharged by said pump, means for heating said heating chamber and a connection from said heating chamber to the tank to conduct the heated gases thereto, substantially as described.

867,144. BRAKE-SHOE FOR LOCOMOTIVES. ELMOS LEE, Paducah, Ky. Filed Jan. 19, 1907. Serial No. 353,093.



1. A brake head provided at the front with a longitudinal recess, and a brake shoe having a longitudinal tongue

fitting in the recess and interlocking the brake shoe with the brake head, said brake shoe being provided at the top with a rearwardly extending projection or enlargement engaging the upper edge of the brake head.

2. The combination of a brake head provided with a longitudinal recess closed at the bottom, and a brake shoe provided with a longitudinal tongue fitting in the recess and interlocking the brake shoe with the brake head, said brake shoe being also provided at the top with a rearwardly extending projection engaging the upper edge of the brake head.

3. The combination of a brake head provided with a groove approximately T-shaped in cross section, a brake shoe having a tongue substantially T-shaped in cross section and arranged in the groove of the brake head to interlock the brake shoe with the same, means for supporting the brake shoe in its interlocked relation, and a lug projecting from the lower end of the brake shoe and arranged to engage the brake head to hold the brake shoe against upward movement, said brake shoe being capable of a limited outward movement to carry the lug out of engagement with the brake head.

4. The combination of a brake head provided with a longitudinal groove, a brake shoe having a tongue arranged in the groove of the brake head to interlock the brake shoe with the same, means for supporting the brake shoe in its interlocked relation, a lug projecting from the lower end of the brake shoe and arranged to engage the brake head to hold the brake shoe against upward movement, said brake shoe being capable of a limited outward movement to carry the lug out of engagement with the brake head, and an exteriorly arranged catch having an engaging portion piercing the brake head and the brake shoe and locking the latter against outward movement to retain the lug in engagement with the brake head.

5. The combination of a brake head provided with a groove, a brake shoe having a tongue to fit in the groove and provided at the top with a rearwardly projecting portion engaging the upper edge of the brake head, and a lug extending from the lower end of the brake shoe and engaging the lower edge of the brake head.

6. The combination of a brake head, a brake shoe slidably interlocked therewith, and a resilient catch consisting of a resilient shank, and a transverse engaging portion securing the brake shoe and the brake head in their interlocked relation.

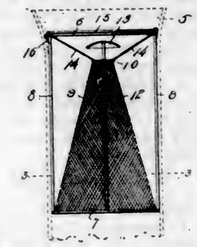
7. The combination of a brake head having a groove, a brake shoe provided with a tongue fitting in the groove and slidably interlocking the brake shoe with the brake head, said tongue having a transverse recess, and a catch mounted on the exterior of the brake head and having an engaging portion piercing one of the walls of the groove and extending into the recess of the tongue.

8. The combination of a brake head having a groove, a brake shoe provided with a tongue slidably interlocked with the groove, said brake shoe being also provided at the top with a projecting portion to engage the upper edge of the brake head and having a lug at its lower end to engage the lower edge of the said brake head, and a catch mounted on the brake head and having means for engaging the tongue of the brake shoe.

867,145. SPARK-ARRESTER. EMIL H. LUEDERS, Reedsburg, Wis. Filed Apr. 17, 1907. Serial No. 368,677.

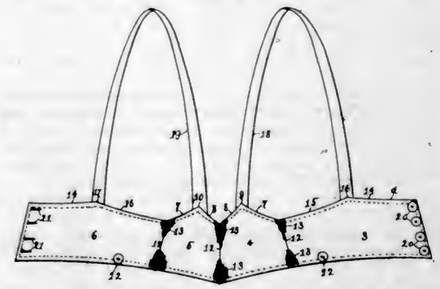
1. The combination, with a smoke stack, of a skeleton frame disposed vertically therewithin and consisting of upper and lower rings and rods connecting the same, a conical screen secured to the lower ring and provided with an open top, a vertical rod disposed within said screen and projecting through the open top thereof, an inverted cup-shaped deflector secured to the upper extremity of said rod, and a screen cover hinged to the upper ring and extending over the top of said deflector.

2. The combination, with a smoke stack, of a skeleton frame disposed vertically therewithin and consisting of upper and lower rings and rods connecting the same, a conical screen secured to the lower ring and provided with an open top, a diametrically arranged strap attached at opposite ends to the lower ring, a vertical rod disposed within said screen and secured at its lower end to said strap, the upper end of said rod projecting through the open top of said screen, an inverted cup-shaped deflector secured to



the upper exteremity of said rod, braces connecting said screen top and upper ring, and a screen cover hinged to said upper ring and extending over the top of said deflector.

867,146. GIRDLE. GRACE E. MARKELL, Boston, Mass. Filed Jan. 25, 1907. Serial No. 353,969.



1. As an improved article of manufacture, a substantially narrow girdle of flexible material capable of embracing the waist of the wearer and having its free ends of substantially the same width as the girdle at the center of the back portion, the upper edge of said girdle on opposite sides of the center having substantially short inclines or curves near the center of the girdle and longer inclines or curves near the free ends of said girdle, and shoulder straps located on opposite sides of the center of the girdle and having their ends secured at or near the high parts of the inclines or curves on the same side of the center of said girdle, substantially as described.

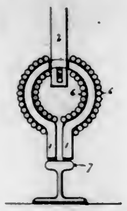
2. As an improved article of manufacture, a girdle of flexible material composed of substantially narrow center sections to engage the back portion of the waist of the wearer and having inclined upper edges and diverging side edges, end sections of a width at their free ends substantially equal to the back sections at the center of the girdle and having upper edges inclined in opposite directions, means to secure together the free ends of said end sections, and shoulder straps, each having one end secured to a back section and its other end to the end section on the same side of the center line of the back portion of the girdle and substantially near the high parts of the upper edges of said sections, substantially as described.

3. As an improved article of manufacture, a girdle of flexible material composed of end sections provided with means for fastening them together, and having their upper edges inclined in opposite directions from a point intermediate the ends of said sections, intermediate sections having diverging side edges, which are stitched to corresponding edges of the end sections, and have their upper edges inclined in opposite directions from a point intermediate their ends, shoulder straps having one end fastened to the high point of said end sections and their other end fastened

to the high point of the intermediate sections adjacent to them, substantially as described.

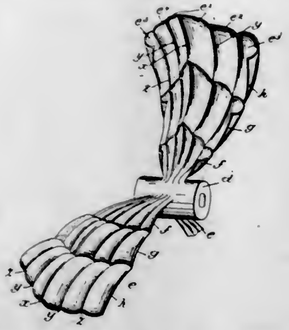
4. As an improved article of manufacture, a substantially narrow girdle of flexible material capable of embracing the waist of the wearer and having its free ends of substantially the same width as the girdle at its center, said girdle having its lower edge curved from at or near its center toward its free ends, and having its upper edge provided near its center with substantially short inclines or curves extended in opposite directions and having longer curves or inclines near its free ends, and shoulder straps, each secured at its ends on the same side of the center of the girdle and at or near the high parts of the inclines or curves, substantially as described.

867,147. RAIL MAGNETIC BRAKE. VICTOR L. OCHOA, New York, N. Y., assignor of one-half to Benjamin A. Jackson, New York, N. Y. Filed Jan. 5, 1907. Serial No. 350,889.



In a device of the character herein specified, a magnet core consisting of a tube, divided longitudinally at one side and having projecting poles; a longitudinal winding of exciting wire within and without the tube, and means for suspending said magnet from a car in close proximity to the rail, substantially as shown and described.

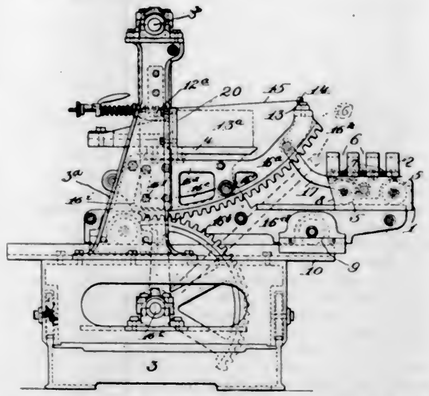
867,148. SHIP'S PROPELLER. POMPEO PIERI, Paris, France. Filed Oct. 15, 1906. Serial No. 339,058.



1. In ships having their propellers arranged on their longitudinal axis and inside the hull, a propeller having a hub provided with branches or arms arranged radially and symmetrically, each arm consisting of a central blade formed of two wings bent in a transverse direction and coming together along a ridge which is practically radial with regard to the hub so as to present a V-shaped transverse section the point or edge of which attacks the water, said central blade being provided on each side with one or several simple lateral blades which are bent in a transverse sense and form each with the corresponding wing of the central blade, or with the simple adjacent blade, likewise a double blade with a V-shaped transverse section, whereby the edge of said double blade is thus made to attack the water behind the edge of the central blade, each of the wings of the central blade as well as of the lateral blades being itself formed, in a longitudinal or radial direction of the branch of the propeller, of several pallets or elements joined together and resembling the shape of spoons, the concave side of which is turned downward in the direction of the movement of the propeller, each of the pallets or elements forming likewise with the adjacent pallet or element an active surface having a V-shaped section in a radial direction, substantially as described.

2. In a propeller, the combination of a hub, a series of radial arms or blades, each consisting of a central portion formed of two wings extending in a direction transverse to the shaft and meeting at an angle to form a ridge and thereby present a V-shaped transverse section, the edge of which attacks the water, said central portion being provided on each side with lateral blades which likewise meet at an angle to form ridges V-shaped in cross section, which latter ridges attack the water behind the first-mentioned ridge, and said central portion as well as said lateral blades being each formed of a plurality of elements joined together, spoon shaped, and extending radially out from the hub, substantially as described.

867,149. BRICK-CUTTING MACHINERY. ANDREW RAMSAY, Mount Savage, Md. Filed Mar. 24, 1905. Serial No. 251,853.



1. In brick-cutting machinery, the combination with a cutting table and a reciprocatory brick-delivery means arranged in operative relation with respect to said table, of a cutting means interposed between the table and the delivery means and adapted to move downwardly during the cutting operation, and an operative connection between the delivery means and the cutting means for moving the delivery means towards the cutting table when the cutting means is moved below the level of the cutting table.

2. In brick-cutting machinery, a cutting table, a reciprocatory support arranged in operative relation with respect to said table and having that end opposed to the end of the cutting table formed at an inclination, a cutting means interposed between the cutting table and the said support, a pallet-holder carried by said support, and a pallet mounted in said holder and arranged below the upper surface thereof.

3. In brick-cutting machinery, a cutting table, a reciprocatory support arranged in operative relation with respect to said table and having that end opposed to the cutting table formed at an inclination, a cutting means interposed between the cutting table and the said support, a pallet-holder carried by said support, a pallet mounted in said holder and arranged below the upper surface thereof, operating means for said cutting means, and an operative connection between said cutting means and said support for moving the support during a part of the operation of said cutting means.

4. Brick-cutting machinery having an oscillatory wire-holder, cutting wires connected thereto and moving therewith, a reciprocatory pallet-holder, and an operative connection between the wire-holder and pallet-holder for reciprocating the latter when the former is operated.

5. Brick-cutting machinery having an oscillatory cutting means, a cutting table, a delivery table, and an operative connection between said means and delivery table for moving the latter towards the cutting table when said means is moved to a point below the cutting table.

6. In brick-cutting machinery, an oscillatory cutting means, a delivery table, and an operative connection between said cutting means and table for moving the latter during a part of the operation of said means.

7. In brick-cutting machinery, an oscillatory cutting means, a slotted pallet-holder, pallets mounted in said slots, and an operative connection between said cutting means and holder for moving the latter during a part of the operation of said means.

8. In brick-cutting machinery, a reciprocatory cutting-table, a reciprocatory slotted pallet-holder, removable pallets mounted in the slots of said holder, an oscillatory cutting means, and an operative connection between the pallet-holder and cutting means.

9. In brick-cutting machinery, the combination with a cutting means, of a delivery table and a cutting table arranged in operative relation with respect to each other and having a clearance space to permit of the operation of the cutting means between said tables.

10. In brick-cutting machinery, a reciprocatory cutting table, a reciprocatory delivery table, and cutting means adapted to pass through the face of the brick parallel with the face and through the arc of a circle with a downward and rearward movement.

11. In brick-cutting machinery, an oscillatory wire holder, a plurality of cutting wires connected to said holder and adapted when said holder is shifted in one direction to move through the face of the brick parallel with the face and through the arc of a circle with a downward and rearward movement.

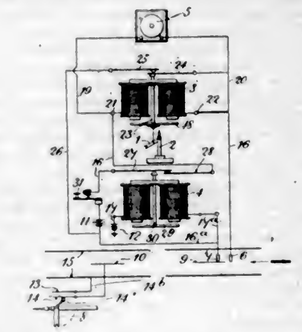
12. In brick-cutting machinery, the combination with a movable lower wire-holder, an upper wire-holder, and cutting wires connected at each end to said holders, of a reciprocatory cutting table, and a reciprocatory delivery table, said tables arranged in operative relation with respect to each other and having a clearance space therebetween to permit of the operation of said lower wire-holder.

13. In brick-cutting machinery, the combination with a movable lower wire-holder, an upper wire-holder, and cutting wires connected at each end to said holders, of a reciprocatory cutting table, a reciprocatory delivery table, said tables arranged in operative relation with respect to each other and having a clearance space therebetween to permit of the operation of said lower wire-holder, and means for operating said wire-holder and for simultaneously transmitting motion to said delivery table.

14. In brick-cutting machinery, the combination with a movable lower wire-holder, an upper wire-holder, and cutting wires connected at each end to said holders, of a reciprocatory cutting table, a reciprocatory delivery table, said table arranged in operative relation with respect to each other and having a clearance space therebetween to permit of the operation of said lower wire-holder, and an operative connection between said wire-holder and tables for suitably operating them.

867,150. RAILWAY SIGNALING APPARATUS. VINCENT L. RAVEN, Darlington, England. Filed Apr. 18, 1907. Serial No. 368,897.

1. In a railway signaling system, the combination with a vehicle, and the track over which the same is to travel, of signaling apparatus arranged on the vehicle and adapted when brought into action to continue in action and thereby indicate danger, means arranged at one part of the track whereby said signaling apparatus will be brought into action to indicate danger when the vehicle travels over such part of the track, and means under the control of a signalman whereby upon the vehicle running over another part of the track, in advance of the first mentioned part, the said signaling apparatus can be put out of action and thereby indicate line clear.



2. In a railway signaling system, the combination with a vehicle and the track over which the same is to travel, of electrically operated signaling apparatus arranged on the vehicle and adapted when brought into action to continue in action and thereby indicate danger, means arranged at one part of the track whereby said signaling apparatus will be brought into action to indicate danger when the vehicle travels over such part of the track, and means under the control of a signalman whereby upon the vehicle running over another part of the track, in advance of the first mentioned part, the said signaling apparatus can be put out of action and thereby indicate line clear.

3. In a railway signaling system, the combination with a vehicle and the track over which the same is to travel, of a signaling device on said vehicle, a normally open circuit controlling said signaling device, means arranged at one part of said track for causing the closing of said circuit and the operation of said signaling device to indicate danger when the vehicle travels over such part of the track, means adapted on the closing of said circuit to cause the signaling device to still indicate danger, and separate means under the control of a signalman whereby the said circuit can be affected to bring about the return of said signaling device to its normal condition to indicate line clear.

4. In a railway signaling system, the combination with a vehicle and the track over which the same is to travel, of a signaling device on said vehicle, a normally open circuit controlling said signaling device, means arranged at one part of said track for temporarily closing said circuit and bringing about the operation of said signaling device upon the vehicle running over said part of the track, a supplementary circuit arranged to be closed upon the closing of the main circuit and to maintain the signaling device in action after the vehicle has passed over said part of the track, and means located at a part of the track in advance of the first mentioned part thereof and under the control of a signalman, whereby said circuit can be rendered inoperative on said signaling device and permit the same to return to its normal position to indicate line clear.

5. In a railway signaling system, the combination with a vehicle and a track over which the same is to travel, of an electrically operated signaling device on the vehicle, means located at one part of the track for closing the circuit of said signaling device and thereby cause the same to indicate danger upon the vehicle running over said part of the track, a supplementary circuit arranged to be closed upon the bringing of said signaling device into action and to thereby maintain the same in action to indicate danger after the vehicle has run over said part of the track, and means under the control of a signalman whereby said signaling device can be returned to its normal condition, to indicate line clear, upon the

vehicle running over another part of the track in advance of the first mentioned part.

6. In a railway signaling system, the combination with a vehicle and the track over which the same travels, of an audible signaling device arranged on the vehicle and adapted when brought into action to continue in action and thereby indicate danger, means arranged at one part of the track whereby said signaling device will be brought into action to indicate danger when the vehicle travels over such part of the track, and means under the control of a signalman whereby upon the vehicle traveling over another part of the track in advance of the first part, the said signaling device can be put out of action and thereby indicate line clear.

7. In a railway signaling system, the combination with a vehicle and a track over which the same is to travel, of an electrically operated audible signaling device on the vehicle, means located at one part of the track for closing the circuit of said signaling device and thereby cause the same to indicate danger upon the vehicle running over said part of the track, a supplementary circuit arranged to be closed upon the bringing of said signaling device into action and to thereby maintain the same in action to indicate danger after the vehicle has run over said part of the track, and means under the control of a signalman whereby said signaling device can be returned to its normal condition to indicate line clear upon the vehicle running over another part of the track in advance of the first mentioned part.

8. In a railway signaling system, the combination with a vehicle and the track over which the same is to travel, of audible and visual signaling devices located on said vehicle, means located at one part of the track for bringing said signaling devices into action and thereby cause them to indicate danger, means for maintaining said devices in action after the vehicle has passed over said part of the track, and means under the control of a signalman whereby said signaling devices can be returned to their normal condition to indicate line clear upon the vehicle passing over another part of the track in advance of the first part.

9. In a railway signaling system, the combination with a vehicle and the track over which the same is to travel, of electrically operated audible and visual signaling devices located on said vehicle, means located at one part of the track for closing the circuits of said signaling devices and thereby cause them to indicate danger, means for maintaining the circuits of said signaling devices closed after the vehicle has passed over said part of the track, and means under the control of a signalman whereby said signaling devices can be returned to their normal condition to indicate line clear upon the vehicle passing over another part of the track in advance of the first part.

10. In a railway signaling system, the combination with a vehicle, and a track over which the same is to travel, of electrically operated signaling apparatus located on said vehicle, a longitudinally arranged bar arranged at one part of said track and adapted upon the vehicle passing over it to bring said apparatus into action to indicate danger, means adapted upon the coming into operation of said apparatus to maintain the same in action after the vehicle has passed over said bar, and a normally inoperative second bar arranged longitudinally on the track in advance of the first bar and under the control of a signalman and whereby said signaling apparatus can be put out of action to indicate line clear when the vehicle travels over it after it has been rendered operative by the signalman.

11. In a railway signaling system, the combination with a vehicle and a track over which the same is to travel, of electrically operated signaling apparatus located on said vehicle and arranged in a normally open circuit, a longitudinally arranged bar arranged at one part of said track and adapted upon the vehicle passing over it to bring about the closing of said circuit and thereby cause said apparatus to indicate danger, means adapted upon the apparatus being brought into action to complete a supplementary circuit and maintain said apparatus in action after the vehicle has passed over said bar, and a second longitudinally arranged and normally inoperative bar on the track in advance of the first one and under the control of a signalman, whereby said signaling apparatus can be put out of action to indicate line clear when the vehicle travels over it after it has been rendered operative by the action of the signalman.

12. In a railway signaling system, the combination of a vehicle and a track over which said vehicle is to travel, of a normally open circuit on said vehicle, electrically operated signaling apparatus arranged in said circuit, a bar arranged on the track and adapted on the vehicle passing over it to close said circuit and bring said signaling apparatus into action to indicate danger, a supplementary circuit arranged to be closed on the closing of the main circuit and to maintain said apparatus in action after the vehicle has passed over said bar, an electro-magnetic device arranged on said vehicle in a normally open circuit and adapted, when energized, by the closing of its circuit, to open the circuit of said signaling apparatus and put said apparatus out of action to indicate line clear, and a second, normally inoperative, bar arranged on the track in advance of the first bar and adapted, under the control of a signalman, to bring about the closing of the circuit of such electro-magnetic device.

13. In a railway signaling system, the combination with a vehicle and a track over which said vehicle is to travel, of a normally open circuit on said vehicle, electrically operated signaling apparatus arranged in said circuit, a bar arranged on the track and adapted on the vehicle passing over it to close said circuit and bring said signaling apparatus into action to indicate danger, a supplementary circuit arranged to be closed on the closing of the main circuit and to maintain said apparatus in action after the vehicle has passed over said bar, an electro-magnetic device arranged on said vehicle in a second normally open circuit and adapted when energized by the closing of its circuit to open the circuit of said signaling apparatus and put such apparatus out of action to indicate line clear, a second normally inoperative bar arranged on the track in advance of the first one, and means operated sumultaneously with a line signal for rendering said second bar operative for closing such second circuit when the vehicle runs over it.

14. In a railway signaling system, the combination with a vehicle and the track over which the same is to travel, of a normally open circuit on said vehicle, electrically operated audible and visual signals arranged in said circuit, a bar arranged on the track and adapted to close the circuit of the said signals each time the vehicle passes over it, means for maintaining said circuit closed after the vehicle has passed said bar, a second bar arranged in alinement with but in advance of the aforesaid bar, electromagnetic means for restoring the vehicle signals to normal condition controlled by the said second bar, and means operated simultaneously with a line signal for connecting and disconnecting said second bar to and from a source of electrical energy.

15. In a railway signaling system, the combination with a vehicle and the track over which the same is to travel, of audible and visual signals, electro-magnetic means for operating such signals, normally open circuited conductors leading to such electro-magnetic means, means for maintaining the circuits of such signals closed after they have been closed, current collecting devices attached to such conductors, and stationary bars co-acting with the current collectors and arranged in advance of each other along the track, some of which are invariable in electrical condition and act to close the circuits of said signals while others are varied in accordance with actuation of the line signals and serve when energized, to open the circuits of said signals.

16. In a railway signaling system, the combination with a vehicle and the track over which the same is to travel, of audible and visual signals on said vehicle, normally open circuited electromagnetic means for operating such signals, conductors leading to such electromagnetic means, stationary bars arranged one in advance of another on the track at a distant signaling point, one for first actuating the signals on the vehicle for indicating danger when the vehicle passes over it, and another for restoring the signals to normal condition when a signal to indicate line clear is to be given, and bars arranged on the track in advance of the aforementioned bars for use at a home signal and under the control of a signalman for restoring to normal condition such of the signals on the vehicle as correspond thereto and have not previously been restored to normal condition.

17. In a railway signaling system, the combination with a vehicle and the track over which the same is to travel, of audible and visual signals on said vehicle, normally open circuited electromagnetic means for operating such signals, conductors leading to such electromagnetic means, current collectors attached to said conductors, stationary bars on the track at a distant signaling point for first actuating and afterwards releasing all the signals on the vehicle in accordance with signals to be given at such distant signaling point, other bars arranged on the track and in advance of the aforementioned bars for use in conjunction with a home signal for releasing the audible and visible signal on the vehicle corresponding thereto, and electromagnetic means on the engine for indicating which of the distant and home signals the vehicle signals correspond to.

18. In a railway signaling system, the combination with a vehicle and the track over which the same is to travel, of audible and visual signals on said vehicle, a normally incomplete electric circuit therefor, electro-magnetic devices for controlling the actuation and release of said signals, a bar arranged on the track at a distant signaling point and adapted to complete the circuit of the electro-magnetic device for bringing the signals into operation to indicate danger when the vehicle passes over it, means on the vehicle for then maintaining said circuit closed, a second bar in advance of the first one for completing the circuit of the electro-magnetic device for causing said signals to resume their normal or line clear condition, a circuit for connecting the second bar with a source of electric supply, electro-magnetic indicating means adapted to be energized when the circuit of the second bar is completed, and switch mechanism under the control of a signalman for changing the connection of said second bar for alternatively reversing the direction of flow of current through the indicating means when the vehicle passes over said second bar.

19. In a railway signaling system, the combination with a vehicle and the track over which the same is to travel, of audible and visual signals on said vehicle, a normally incomplete electric circuit therefor, electro-magnetic devices for controlling the actuation and release of said signals, a bar arranged on the track at a distant signaling point and adapted to complete the circuit of the electro-magnetic device for bringing the signals into operation to indicate danger when the vehicle passes over it, means on the vehicle for then maintaining said circuit closed, a second bar in advance of the first one for completing the circuit of the electro-magnetic device for causing said signals to resume their normal or line clear condition, a circuit for connecting the second bar with a source of electric supply, electro-magnetic indicating means adapted to be energized when the circuit of the second bar is completed, and switch mechanism under the control of a signalman under the control of the signalman for connection with said second bar for reversing the direction of flow of current through the indicating means, twin home signals, and means acting in accordance with the condition of either of the home signals for controlling the indication of the vehicle signals corresponding thereto.

20. In a railway signaling system, the combination with a vehicle and the track over which the same is to travel, of audible and visual signals on said vehicle, a normally incomplete electric circuit therefor, electro-magnetic devices for controlling the actuation and release of said signals, a bar arranged on the track at a distant signaling point and adapted to complete the circuit of the electro-magnetic device for bringing the signals into operation to indicate danger when the vehicle passes over it, means on the vehicle for then maintaining said circuit closed, a second bar in advance of the first one for completing the circuit of the electro-magnetic device for causing said signals to resume their normal or line clear condition, a circuit for connecting the second bar with a source of electric supply, electro-magnetic indicating means adapted to be energized when the circuit of the second bar is completed, twin distant signals, switch mechanism operated by either of the twin distant signals alternatively for reversing the direction of current flow through the indicating means, twin home signals, a track bar in conjunction with such home signals, a circuit connecting such bar with a source of electric supply, electro-magnetic indicating means adapted to be energized when the circuit of the last mentioned bar is completed, and switch mechanism operated by either of the home signals alternatively for reversing the direction of flow of current through the indicating means of such home signals.

21. In a railway electrical signaling system, the combination with a vehicle and the track and line signals therefor, of a normally open main circuit, an electric bell and electro-magnet therein, a visual signal arranged to be moved into the danger attitude by the armature of said magnet when the latter is energized by the closing of said circuit, contacts connected to the terminals of said circuit, a normally open supplementary circuit for said bell and magnet, a supplementary switch arranged to be operated by said armature to close said supplementary circuit when said magnet is energized, said parts being on said vehicle, bars arranged on the track one in advance of the other at a distant signaling point, one of said bars being adapted to temporarily close the main circuit through said contacts when the vehicle passes over it, and a line switch arranged to be operated when a line signal is actuated to indicate line clear and thereby cause another of said bars to bring about the opening of the supplementary circuit and the consequent return of the bell and visual signal to the line clear condition.

22. In a railway signaling system, the combination with a vehicle and the track and line signals therefor, of a normally open main circuit, an electric bell and main magnet therein, a visual signal arranged to be moved into the danger attitude by said magnet when the same is energized by the closing of said circuit, contacts connected to the terminals of said circuit, a normally open supplementary circuit for said bell and main magnet, a normally open supplementary switch arranged to be operated by said magnet, when energized, to close said supplementary circuit, a releasing magnet in a third normally open circuit, and a second, normally closed, supplementary switch arranged to be operated by said releasing magnet when energized, to open said supplementary circuit, said parts being on the vehicle, a bar arranged on said track at a distant signaling point and adapted to temporarily close the main circuit through said contacts when the vehicle passes over it, a second bar arranged on the track in the neighborhood of the distant signaling point and in advance of the first bar, and a line switch arranged to be operated when a line signal is actuated to indicate line clear and thereby to enable said second bar to close the circuit of said release magnet when the vehicle passes over it.

23. In a railway signaling system, the combination with a vehicle and the track and line signals therefor, of a normally open main circuit, an electric bell and main magnet therein, a visual signal arranged to be moved into the danger attitude by said magnet when the same is energized by the closing of said circuit, contacts connected to the terminals of said circuit, a normally open supplementary circuit for said bell and main magnet, a normally open supplementary switch arranged to be operated by said magnet, when energized, to close said supplementary circuit, a releasing magnet in a third, normally open, circuit, and a second, normally closed, supplementary switch arranged to be operated by said releasing magnet, when energized, to open said supplementary circuit, said parts being on the vehicle, a bar arranged on said track at a distant signaling point and adapted to short circuit said contacts when the vehicle passes over it, an insulated bar arranged on the track and in the neighborhood of the distant signaling point and in advance of the first mentioned bar, and a line switch arranged to be operated when a line signal is actuated to indicate line clear and thereby to enable said second bar to complete the circuit of said releasing magnet when the vehicle passes over it.

24. In a railway signaling system, the combination with a vehicle and the track and line signals therefor, of an electric generator having a normally open circuit including an electric bell, and a main magnet, a visual signal arranged to be moved into the danger attitude by the armature of said magnet when the same is energized by the closing of said circuit, contacts connected to the terminals of said circuit, a normally open supplementary circuit for said bell and magnet, a normally open supplementary switch arranged to close said supplementary circuit through said generator when the main circuit is closed and the main magnet thereby energized, a releasing magnet having one terminal connected to earth and the other to an insulated contact, a second, normally closed, supplementary switch arranged to be opened by said releasing magnet when energized and thereby to open said supplementary circuit after the same has been closed by the first mentioned supplementary switch, the foregoing parts being on said vehicle, a bar arranged on the track at a distant signaling point and acting to temporarily short circuit said contacts when the vehicle passes over the said bar and thereby to close the main circuit, an insulated bar arranged on the track and with which the releasing magnet contact is arranged to make connection when the vehicle passes over said bar, a stationary electric generator having one pole connected to earth, and a line switch arranged to be operated when a line signal is actuated to indicate line clear and thereby connect said insulated bar to the second pole of the stationary electric generator.

25. In a railway signaling system, the combination with a vehicle and the track and line signals, therefor, of an electric generator, an electric bell and distant and home main magnets arranged in the main circuit of said generator and in parallel with each other, separate distant and home visual signals arranged to be moved into the danger attitude by said magnets when energized by the closing of the main circuit of said generator, two separate normally open supplementary circuits for said main magnets and bell, two separate normally open supplementary switches arranged to be operated by the respective main magnets to separately close the two supplementary circuits when the main circuit is closed, two normally closed supplementary switches arranged in the said supplementary circuits, and one of which when opened, opens the circuit of both main magnets and the bell, and the other of which when opened opens the circuits of the home main magnet and bell, distant and home releasing magnets each having one terminal connected to earth and the other to an insulated contact and adapted when energized to open the corresponding normally closed supplementary switch and supplementary circuit, the above mentioned parts being arranged on the vehicle, two bars arranged on the track in the neighborhood of a distant signaling front, one of said bars being arranged to short circuit the contacts connected to the main circuit, and the other being insulated and arranged in advance of the first bar and so as to make connection with the contact connected to one terminal of the distant releasing magnet, a stationary electric generator having one pole connected to earth, a line switch arranged to be operated when a line signal is actuated to indicate line clear and thereby connect said insulated bar to the second pole of said stationary electric generator, a second insulated bar arranged on the track in the neighborhood of but behind the home signal, and so as to make connection with the contact connected to one terminal of the home releasing magnet, a second stationary electric generator having one pole connected to earth, and a second line switch arranged to be actuated when a line signal is actuated to indicate line clear and thereby connect said second insulated bar to the second pole of said second stationary electric generator.

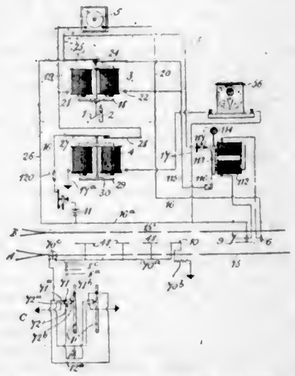
26. In a railway signaling system, the combination with a vehicle, and the track and line signals therefor, of an electric generator, an electric bell and distant and home main magnets arranged in the main circuit of said generator and in parallel with each other, separate distant and home visual signals arranged to be moved into the danger attitude by said magnets when energized by the closing of the main circuit of said generator, two separate normally open supplementary circuits for said main magnets and bell, two separate normally open supplementary switches arranged to be operated by the respective main magnets to separately close the two supplementary circuits when the main circuit is closed, two normally closed supplementary switches arranged in the said supplementary circuits, and one of which when opened, opens the circuit of both the main magnets and the bell and the other of which when opened opens the circuits of the home magnet and bell, distant and home releasing magnets each having one terminal connected to earth and the other to an insulated contact and adapted when energized to open the corresponding normally closed supplementary switch and supplementary circuit, the above mentioned parts being arranged on the vehicle, two bars arranged on the track in the neighborhood of a distant signaling point, one of said bars being arranged to short circuit the contacts connected to the main circuit, and the other being insulated and arranged in advance of the first bar and so as to make connection with the contact connected to one terminal of the distant releasing magnet, a stationary electric generator having one pole connected to earth, a line switch arranged to be operated when a line signal is actuated to indicate line clear and thereby connect said insulated bar to the second pole of said stationary electric generator, a second insulated bar arranged on the track in the neighborhood of but behind the home signal, and so as to make connection with the contact connected to one terminal of the home releasing magnet, a stationary electric generator having one pole connected to earth, a second line switch arranged to be actuated when a line signal is actuated to indicate line clear and thereby connect said second insulated bar to the second pole of said stationary electric generator, and an insulated bar arranged between the insulated bars at the distant and home signaling points and connected to the insulated bar at the home signaling point.

27. In a railway signaling system, the combination with a vehicle, a track with junction having two branch lines therefor, and home and distant line signaling mechanism for said branch lines, of electric signaling and controlling apparatus arranged on said vehicle and comprising an electric generator, an electric bell and distant and home main magnets in the main circuit of said generator and in parallel with each other, separate distant and home visual signals arranged to be moved into the danger attitude by said magnets when energized by the closing of the main circuit of said generator, two separate normally open supplementary circuits for said magnets and bell, two separate normally open supplementary switches arranged to be operated by the respective main magnets to separately close, the two supplementary circuits when the main circuit is closed, two normally closed switches arranged in the said supplementary circuits and one of which when opened, opens the circuit of both main magnets and the bell and the other of which when opened opens the circuits of the home main magnet and bell and distant and home releasing magnets each having one terminal connected to earth and the other to an insulated contact and adapted when energized to open the corresponding normally closed supplementary switch and supplementary circuit, two bars arranged on the track in the neighborhood of the distant signaling point, one of said bars being arranged to short circuit the contacts connected to the main circuit, and the other being insulated and arranged in advance of the first one and so as to make connection with the contact connected to one terminal of the distant releasing magnet, a stationary electric generator having one pole connected to earth, two line switches arranged to be operated when the respective distant line signaling apparatus is operated to indicate line clear for one or other of the two branch lines at the junction, one of said line switches when closed by the operation of its corresponding distant line signaling apparatus for indicating line clear for one branch line being arranged to connect one pole of said stationary generator to earth and the other to said insulated bar, and the second line switch when closed by the operation of its corresponding distant-line signaling apparatus for indicating line clear for the other branch line being arranged to reverse the connection of the poles of the said generator to the insulated bar and earth, and a route indicator arranged to be moved in one direction when current is caused to flow in one direction through the distant releasing magnet after one line signaling apparatus has been operated to indicate line clear for one branch line or route, and in the opposite direction when current is caused to flow in the contrary direction through said distant releasing magnet after the other line signaling apparatus has been operated to indicate line clear for the second branch line or route.

28. In a railway signaling system, the combination with a vehicle, a track having a junction with two branch lines therefor, and home and distant line signaling mechanism for said branch lines, of electric signaling and controlling apparatus arranged on said vehicle and comprising an electric generator, an electric bell and distant and home main magnets in the main circuit of said generator and in parallel with each other, separate distant and home visual signals arranged to be moved into the danger attitude by said magnets when energized by the closing of the main circuit of said generator, two separate normally open supplementary circuits for said magnets and bell, two separate normally open supplementary switches arranged to be operated by the respective main magnets to separately close the two supplementary circuits when the main circuit is closed, two normally closed switches arranged in the said supplementary circuits and one of which when opened, opens the circuit of both main magnets and the bell and the other of which when opened opens the circuits of the home main magnet and bell, and distant and home releasing magnets each having one terminal connected to earth and the other to an insulated contact and adapted when energized to open the corresponding normally closed supplementary switch and supplementary circuit, two bars arranged on the track in the neighborhood of the distant signaling point, one of said bars being arranged to short circuit the contacts connected to the main circuit and the other being insulated and arranged in advance of the first one and so as to make connection with the contact connected to one terminal of the distant releasing magnet, a stationary electric generator having one pole connected to earth, two line switches arranged at the distant signaling point, one of said line switches being arranged to be closed when the distant line signal for one branch line is operated to indicate line clear and to then connect one pole of the stationary generator to earth and the other to said insulated bar, and the other line switch being arranged to be closed when the other distant line signal for the second branch line is operated to indicate line clear and to then reverse the connection of said stationary electric generator to earth and said insulated bar, a route indicator arranged to be moved in one direction when the current is caused to flow in one direction through the said distant releasing magnet for one route and in the opposite direction when current is caused to flow in the reverse direction through said releasing magnet, a second insulated bar arranged behind and near to the two sets of home line signaling apparatus for the two branch lines and to make connection with the contact connected to one terminal of the home releasing magnet, a stationary battery, two line switches under the control of the two sets of home line signaling apparatus and arranged to connect said second insulated bar to one or other pole of said stationary generator and the opposite pole to earth, and a second route indicator arranged to be moved in one direction when current is caused to flow in one direction through the home releasing magnet and in the opposite direction when current is caused to flow in the reverse direction through said magnet.

29. In a railway signaling system, the combination with a vehicle, and a track over which the same is to travel, of electrically operated signaling apparatus located on said vehicle and arranged in a normally open circuit, a longitudinally arranged bar arranged at one part of said track and adapted upon the vehicle passing over it to bring about the closing of said circuit and thereby cause said apparatus to indicate danger, means adapted upon the apparatus being brought into action to complete a supplementary circuit and maintain said apparatus in action after the vehicle has passed over said bar, a second longitudinally arranged and normally inoperative bar on the track in advance of the first one and under the control of a signalman, whereby said signaling apparatus can be put out of action to indicate line clear when the vehicle travels over it after it has been rendered operative by the action of the signalman and one or more additional longitudinally arranged and normally inoperative bars arranged on the track in advance of the second bar and under the control of the signalman and adapted to act like the second bar.

867,151. RAILWAY SIGNALING APPARATUS. VINCENT L. RAVEN, Darlington, [illegible]. Filed Apr. 23, 1907. Serial No. 369,881.



1. In a railway electrical signaling system, the combination with a signal on the vehicle and electromagnetic means for causing the same to be maintained at danger position after being moved to such position, of means for automatically causing the said signal to be so moved to indicate danger while the vehicle is at a point on the track distant from the home signal, and means governed by a track device in accordance with the operation of the home signal to alter the vehicle signal to line clear when the home signal is operated to indicate line clear.

2. In a railway electrical signaling system, the combination with the track and a home signal thereon, of an electrically operated signal on a vehicle, a normally open electric circuit for the latter signal, a bar located on the track at a point distant from the home signal and adapted to close said circuit and cause the vehicle signal to indicate danger when the vehicle passes over said bar, means for maintaining said circuit closed after the vehicle has passed over said bar, a second track bar between the first bar and the home signal and adapted when energized to cause said vehicle signal to indicate line clear, and a source of electric supply adapted to be connected to and disconnected from said intermediate track bar in accordance with the operations of the home signal.

3. In a railway electrical signaling system, the combination with the track and a home signal thereon, of an electrically operated signal on a vehicle, a normally open electric circuit for the latter signal, a bar located on the track at a point distant from the home signal, a second track bar intermediate such bar and the home signal, an electromagnetic device arranged in the vehicle signal circuit and adapted to be energized whenever the vehicle passes over the first distant track bar and to thereafter maintain itself energized, a second electro-magnetic device arranged on the vehicle in a normally open circuit adapted to remain open when the vehicle passes over the first track bar and over the second intermediate track bar while the home signal is at danger and adapted when closed to energize the second electro-magnetic device and thereby cause the vehicle signal to return to the line

clear condition, a source of electric supply disconnected from the second track bar while the home signal is at danger, and means for connecting such electric source with the second bar aforesaid when moving the home signal to line clear, and thereby cause the second electro-magnetic device to be energized when the vehicle passes over said second bar.

4. In a railway electrical signaling system, the combination with a signal on the vehicle and electro-magnetic means for causing said signal to be maintained in a condition to indicate danger after being caused to so operate, of means for causing the said signal to be moved to indicate danger when the vehicle passes over a part of the track distant from the home signal, and means on the vehicle for indicating that the circuit conditions are normal.

5. In a railway electrical signaling system, the combination with the track and a home signal thereon, of an electrically operated signal on a vehicle, a normally open electric circuit for the latter signal, a bar located on the track at a point distant from the home signal and adapted to close said circuit and cause the vehicle signal to indicate danger when the vehicle passes over said bar, means for maintaining said circuit closed after the vehicle has passed over said bar, a second track bar between the first bar and the home signal and adapted when energized to cause said signal to indicate line clear, a source of electric supply adapted to be connected to the intermediate track bar while the home signal indicates line clear, an earthed resistance device connected to said intermediate track bar for permitting a small current to flow through the circuit, and a device for indicating such flow of current.

6. In a railway electrical signaling system, the combination with the track and a home signal thereon, of an electrically operated signal on a vehicle, a normally open electric circuit for the latter signal, a bar located on the track at a point distant from the home signal and adapted to close said circuit and cause the vehicle signal to indicate danger when the vehicle passes over said bar, means for maintaining said circuit closed after the vehicle has passed over said bar, a second track bar between the first bar and the home signal and adapted when energized to cause said vehicle signal to indicate line clear, contacting devices connected to the circuit of the vehicle signaling device and adapted to engage the track bars, and a normally energized electro-magnetic indicator connected in shunt across said contacting devices.

7. In a railway electrical signaling system, the combination with the track and a home signal thereon, of an electrically operated signal on a vehicle, a normally open electric circuit for the latter signal, a bar located on the track at a point distant from the home signal and adapted to close said circuit and cause the vehicle signal to indicate danger when the vehicle passes over said bar, means for maintaining said circuit closed after the vehicle has passed over said bar, a second track bar between the first bar and the home signal and adapted when energized to cause said signal to indicate line clear, contacting devices connected to the circuit of the vehicle signaling device and adapted to engage the track bars, a normally energized high resistance electro-magnetic indicator connected in shunt across said contacting devices, and a circuit including an audible signal adapted to be closed simultaneously with the operation of the indicator aforesaid.

8. In a railway electrical signaling system, the combination with the track and a home signal thereon, of an electrically operated signal on a vehicle, a normally open electric circuit for the latter signal, a bar located on the track at a point distant from the home signal, a second track bar between the first mentioned bar and the home signal, an electro-magnetic device arranged in the vehicle signal circuit and adapted to be energized whenever the vehicle passes over the first distant track bar and to thereafter maintain itself energized, a second electro-magnetic device arranged on the vehicle in a normally open circuit adapted to remain open when the vehicle passes over the first track bar and over the second intermediate track bar while the home signal is at danger and adapted when closed, to energize the second electro-magnetic device and thereby cause the vehicle signal to return to the line clear condition, a source of electric supply disconnected from the second track bar while the home signal is at danger, means for connecting such electric source with the second bar when moving the home signal to line clear, and thereby enable the second electro magnetic device to be energized when the vehicle passes over the second bar, means for continuously establishing a circuit while the connection is established between the second track bar and source of current, and means for indicating that current is flowing in such circuit.

9. In a railway electrical signaling system, the combination with the track and a home signal thereon, of an electrically operated signal on a vehicle, a normally open electric circuit for the latter signal, a bar located on the track at a point distant from the home signal, a second track bar between the first bar and the home signal, an electro-magnetic arranged device in the vehicle signal circuit and adapted to be energized whenever the vehicle passes over the first distant track bar and to thereafter maintain itself energized, a second electro-magnetic device arranged on the vehicle in a normally open circuit adapted to remain open when the vehicle passes over the first track bar and over the second intermediate track bar while the home signal is at danger and adapted when closed to energize the second electro-magnetic device and thereby cause the vehicle signal to return to the line clear condition, a source of electric supply disconnected from the second track bar while the home signal is at danger, and a line switch in the signaling cabin adapted to be operated by movement of the lever controlling the home signal to connect and disconnect said electric source with the second track bar.

10. In a railway electrical signaling system, the combination with the track and a home signal thereon, of an electrically operated signal on a vehicle, a normally open electric circuit for the latter signal, a bar located on the track at a point distant from the home signal, a second track bar between the first bar and the home signal, an electro-magnetic device arranged in the vehicle signal circuit and adapted to be energized whenever the vehicle passes over the first distant track bar and to thereafter maintain itself energized, a second electro-magnetic device arranged on the vehicle in a normally open circuit adapted to remain open when the vehicle passes over the first track bar and over the second intermediate track bar while the home signal is at danger and adapted, when closed, to energize the second electro-magnetic device and thereby cause the vehicle signal to return to the line clear condition, a source of electric supply disconnected from the second track bar while the home signal is at danger, a line switch in the signaling cabin adapted to be operated by movement of the lever controlling the home signal to connect and disconnect said electric source with the second track bar, an earthed resistance device connected to the second track bar for permitting a small current to continuously flow from the source of supply when the latter is connected to the bar, and a device for indicating whether such current is flowing or not.

11. In a railway electrical signaling system, the combination with the track and a home signal thereon, of an electrically operated signal on a vehicle, a normally open electric circuit for the latter signal, a bar located on the track at a point distant from the home signal, a second track bar between the first bar and the home signal, an electro-magnetic device arranged in the vehicle signal circuit and adapted to be energized whenever the vehicle passes over the first distant track bar and to thereafter maintain itself energized, a second electro-magnetic device arranged on the vehicle in a normally open circuit adapted to remain open when the vehicle passes over the first track bar and over the second intermediate track bar while the home signal is at danger and adapted, when closed, to energize the second electro-magnetic device and thereby cause the vehicle signal to return to the line clear condition, a source of electric supply disconnected from the second track bar while the home signal is at danger, a line switch in the signaling cabin adapted to be operated by movement of the lever controlling the home signal to connect and disconnect said electric source with the second track bar, an earthed resistance device connected to the second track bar for permitting a small current to continuously flow from the source of supply when the latter is connected to the bar, a device for indicating whether such current is flowing or not, contacting devices connected to the circuit of the vehicle signaling device and adapted to engage the track bar, a normally energized high resistance electro-magnetic indicator connected in shunt across said contacting devices, and a circuit including an audible signal adapted to be closed simultaneously with the operation of the indicator aforesaid.

12. In a railway electrical signaling system, the combination with a pair of home signals for a track at a junction, and audible and visual signals on a vehicle for running over said track, of a normally open electric circuit, for said vehicle signals a track bar located on the track at a point distant for the home signals, another bar between such bar and the home signals, an electro-magnetic device in the vehicle signal circuit adapted to be energized whenever the vehicle passes over the first distant track bar and to thereafter maintain itself energized, a second electro-magnetic device also arranged on the vehicle in a normally open circuit and adapted to remain deënergized while the vehicle passes over the first track bar and also over the second intermediate bar while either of the home signals is at danger, a source of electric supply disconnected from the second track bar while the home signals are at danger, a line switch for each signal operating lever in the signaling cabin adapted to supply current of reversed polarities alternatively to the second electro-magnetic device which is arranged to be energized through the second track bar and to then cause the vehicle signals to indicate line clear, and a route indicator arranged to be operated when said second electro-magnetic device is energized, to indicate which home signal has been moved to the line clear position.

13. In a railway electrical signaling system, the combination with a pair of home signals for a track at a junction, and audible and visual signals on a vehicle for running over said track, of a normally open electric circuit, for said vehicle signals, a track bar located on the track at a point distant from the home signals, another bar between such bar and the home signals, an electro-magnetic device in the vehicle signal circuit adapted to be energized whenever the vehicle passes over the first distant track bar and to thereafter maintain itself energized, a second electro-magnetic device also arranged on the vehicle in a normally open circuit and adapted to remain deënergized while the vehicle passes over the first track bar and also over the second intermediate bar while either of the home signals is at danger, a source of electric supply disconnected from the second track bar while the home signals are at danger, a line switch for each signal operating lever in the signaling cabin adapted to supply current of reversed polarities alternatively, to the second electro-magnetic device which is arranged to be energized through the second track bar to alter the condition of the vehicle signals when the vehicle runs over said second bar and a polarized indicator connected in circuit with the electro-magnetic device for indicating which home signal has been moved to indicate line clear.

14. In a railway electrical signaling system, the combination with a pair of home signals on a track at a junction, and audible and visual signals on a vehicle for running over said track, of a normally open electric circuit for said vehicle signals, a track bar located on the track at a point distant for the home signals, another bar between such bar and the home signals, an electro-magnetic device in the vehicle signal circuit adapted to be energized whenever the vehicle passes over the first distant track bar and to thereafter maintain itself energized, a second electro-magnetic device also arranged on the vehicle in a normally open circuit and adapted to remain deënergized while the vehicle passes over the first track bar and also over the second intermediate bar while either of the home signals is at danger, a source of electric supply disconnected from the second track bar while the home signals are at danger, a line switch for each signal operating lever in the signaling cabin adapted to supply current of reversed polarities alternatively to the second electro-magnetic device which is arranged to be energized through the second track bar when the vehicle passes over such bar to alter the condition of the vehicle signals to indicate line clear, contacting devices connected to the circuit of the vehicle signals and arranged to engage the track bars, a polarized indicator connected in circuit with the second electro-magnetic device for indicating which home signal has been moved into the line clear condition, an earthed resistance device connected to the second track bar for permitting a small current to continuously flow from the source of supply when the latter is connected to the bar, and a device for indicating whether such current is flowing or not.

15. In a railway electrical signaling system, the combination with the track and a home signal thereon, of an electrically operated signal on a vehicle, a normally open electric circuit for the latter signal, a bar located on the track at a point distant from the home signal and adapted to close said circuit and cause the vehicle signal to indicate danger when the vehicle passes over said bar, means for maintaining said circuit closed after the vehicle has passed over said bar, a plurality of insulated track bars between the first bar and the home signal and adapted when energized to cause said vehicle signal to indicate line clear, and a source of electric supply adapted to be connected to and disconnected from said intermediate track bars in accordance with the operations of the home signal.

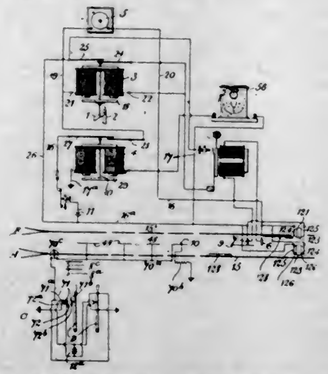
16. In a railway electrical signaling system, the combination with the track, a home signal thereon and apparatus located in a signaling cabin for operating said home signal, of a normally open circuit on a vehicle designed to travel over said track, electrically operated audible and visual signals arranged in said circuit and adapted to indicate danger when said circuit is closed, a bar arranged on said track at a distant signaling point and adapted to close said circuit when the vehicle passes over it, means for maintaining said circuit closed after the vehicle has passed over said bar, a second bar arranged in advance of the first bar, a plurality of bars intermediate the second bar and the home signal, a second electro-magnetic device arranged in a second normally open circuit on said vehicle for opening the first mentioned circuit when closed, said second bar and each of the intermediate bars being adapted, when energized, to close said second circuit, a conductor arranged to energize said second bar and each of said intermediate bars when its circuit is closed, an electric generator, and a switch located in said signaling cabin and adapted when closed to complete the circuit of said conductor through said generator, said switch being arranged to be closed and opened when the home signal is operated to respectively indicate line clear and danger.

17. In a railway electrical signaling system, the combination with the track, a home signal thereon, and apparatus located in a signaling cabin for operating said home signal, of a normally open circuit on a vehicle designed to travel over said track, electrically operated audible and visual signals arranged in said circuit and adapted to indicate danger when said circuit is closed, contacts connected to said circuit, a bar arranged on said track at a distance from said home signal and against which said contacts bear and close said circuit when the vehicle passes over it, means for maintaining said circuit closed after the vehicle has passed over said bar, a second and insulated bar arranged on the track in advance of the first bar, a plurality of insulated bars arranged on the track and intermediate the second bar and the home signal, a second electromagnetic device arranged in a second normally open circuit on the vehicle for restoring, when energized, the vehicle signals to normal or line clear condition, said second circuit having one end connected to a contact adapted to engage said second bar and each of the intermediate bars, and its other end earthed, a conductor connected to said second bar and each of said intermediate bars and having one end earthed through a resistance device, an electric generator having one pole earthed, a switch located in the signaling cabin and arranged to connect the second pole of said generator to the second end of said conductor when the

home signal is operated to indicate line clear and to disconnect said generator from said conductor when said home signal is moved to indicate danger, and a current indicator in the circuit of said conductor.

18. In a railway electrical signaling system, the combination with a track at a junction, two home signals one for each branch of the track, and separate hand operated mechanism located in a signaling cabin for separately operating said home signals, of a normally open circuit on a vehicle designed to travel over said track, electrically operated audible and visual signals arranged in said circuit and adapted to indicate danger when said circuit is closed, a bar arranged on said track at a distant signaling point and adapted to close said circuit when the vehicle passes over it, means for maintaining said circuit closed after the vehicle has passed over said bar, a second bar arranged in advance of the first bar, a plurality of bars intermediate the second bar and the home signal, a second electro-magnetic device arranged in a second normally open circuit on said vehicle for opening the first mentioned circuit when closed, said second bar and each of the intermediate bars being adapted, when energized, to close said second circuit, an indicating device arranged in said second open circuit for indicating which home signal has been operated, a conductor arranged to energize said second bar and each of said intermediate bars, when its circuit is closed, an electric generator, and two switches located in said signaling cabin and each arranged when closed to complete the circuit of said conductor through said generator, said switches being arranged to be closed and opened by the respective signal operating mechanism in said cabin when the respective home signals are operated to indicate line clear and danger respectively and to reverse the connections of said generator to said conductor and earth.

867,152. RAILWAY SIGNALING APPARATUS. VINCENT L. RAVEN, Darlington, England. Filed Apr. 23, 1907. Serial No. 369,882.



1. In a railway electrical signaling system, the combination with a track, a vehicle to travel thereon, electrically operated signaling apparatus arranged in a normally open circuit on said vehicle and adapted when brought into action by the closing of said circuit to indicate danger, and circuit closing means located on the track for closing said circuit when the vehicle passes over the same, of a supplementary circuit closing device mounted on the vehicle for insuring the closing of said normally open circuit if it be not closed by the circuit closing means on the track, and means arranged on the track, in the neighborhood of the circuit closing means thereon, for bringing said supplementary circuit closing device into action when the vehicle passes over the same.

2. In a railway electrical signaling system, the combination with a track, a vehicle to travel thereon, electrically operated signaling apparatus arranged in a normally open circuit on said vehicle and adapted when brought into action by the closing of said circuit to indicate danger, and circuit closing means located on the track for closing said circuit when the vehicle passes over the same, of a supplementary circuit closing device comprising stationary and movable switch members mounted on said vehicle and adapted when in connection with each other to close said circuit, and means arranged on said track, in the neighborhood of the circuit closing means thereon, for bringing said switch members into connection with each other when the vehicle passes over said part of the track.

3. In a railway electrical signaling system, the combination with a track, a vehicle to travel thereon, electrically operated signaling apparatus arranged in a normally open circuit on said vehicle and adapted when brought into action by the closing of said circuit to indicate danger, and circuit closing means located on the track for closing said circuit when the vehicle passes over the same, of a supplementary circuit closing device on said vehicle comprising stationary and movable switch members, the stationary switch members being connected to said circuit, a carrier for the movable switch member, and means arranged on the track in the neighborhood of the circuit closing means thereon, for actuating said carrier and movable switch member to close said circuit.

4. In a railway electrical signaling system, the combination with a track, a vehicle to travel thereon, electrically operated signaling apparatus arranged in a normally open circuit on said vehicle and adapted when brought into action by the closing of said circuit to indicate danger, and circuit closing means located on the track for closing said circuit when the vehicle passes over the same, of a supplementary circuit closing device on said vehicle comprising stationary and movable switch members, the stationary switch members being connected to said circuit, a carrier for the movable switch member mounted to rotate on said vehicle and bring the movable switch member into connection intermittently with the stationary switch members and short circuit said circuit, means arranged on the track in the neighborhood of the circuit closing means thereon, for rotating said switch carrier when the same moves over it, and means for automatically moving the rotary carrier and switch member into an inoperative position after passing over the carrier rotating means.

5. In a railway electrical signaling system, the combination with a track, a vehicle to travel thereon, electrically operated signaling apparatus arranged in a normally open circuit on said vehicle and adapted when brought into action by the closing of said circuit to indicate danger, and circuit closing means located on the track for closing said circuit when the vehicle passes over the same, of a supplementary circuit closing device comprising stationary and movable switch members mounted on said vehicle and adapted when in connection with each other to close said circuit, and a bar arranged longitudinally on the track in the neighborhood of the circuit closing means thereon and adapted to actuate the movable switch member, to close said circuit, against a force tending to move it into the inoperative position.

6. In a railway electrical signaling system, the combination with a track, a vehicle to travel thereon, electrically operated signaling apparatus arranged in a normally open circuit on said vehicle and adapted when brought into action by the closing of said circuit to indicate danger, and circuit closing means located on the track for closing said circuit when the vehicle passes over the same, of a supplementary circuit closing device comprising stationary and movable switch members mounted on said vehicle and adapted when in connection with each other to close said circuit, a vertically yielding bar arranged longitudinally on the track in the neighborhood of the circuit closing means thereon and adapted to actuate the movable switch member, to close said circuit, against a force tending to move it into the inoperative position.

7. In a railway electrical signaling system, the combination with a track, a vehicle to travel thereon, electrically operated signaling apparatus arranged in a normally open circuit on said vehicle and adapted when brought into action by the closing of said circuit to indicate danger, and circuit closing means located on the track for closing said circuit when the vehicle passes over the same, of a supplementary circuit closing device on said vehicle comprising stationary and movable switch members, the stationary switch members being connected to said circuit, a carrier for the movable switch member mounted to rotate on said vehicle and bring the movable switch member into connection intermittently with the stationary switch members and short-circuit said circuit, and a bar arranged longitudinally on the track in the neighborhood of the circuit closing means thereon and adapted to rotate said carrier and close said circuit when the vehicle passes over said bar, said carrier being weighted so as to adapt it to return to an inoperative position after passing said bar.

8. In a railway electrical signaling system, the combination with a track, a vehicle to travel thereon, electrically operated signaling apparatus arranged in a normally open circuit on said vehicle and adapted when brought into action by the closing of said circuit to indicate danger, and circuit closing means located on the track for closing said circuit when the vehicle passes over the same, of a supplementary circuit closing device on said vehicle comprising stationary and movable switch members, the stationary switch members being connected to said circuit, a weighted carrier for the movable switch member mounted to rotate on said vehicle and bring the movable switch member into connection intermittently with the stationary switch members and short-circuit said circuit, and a vertically yielding inclined bar arranged longitudinally on the track in the neighborhood of the circuit closing means so that said carrier will roll thereon when the vehicle passes over it and close said circuit in an intermittent manner.

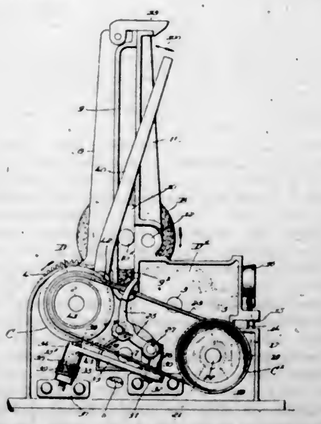
9. In a railway electrical signaling system, the combination with a track, a vehicle to travel thereon, electrically operated signaling apparatus arranged in a normally open circuit on said vehicle and adapted when brought into action by the closing of said circuit to indicate danger, and circuit closing means located on the track for closing said circuit when the vehicle passes over the same, of a supplementary circuit closing device on said vehicle comprising stationary and movable switch members, the stationary switch members being connected to said circuit, a weighted carrier for the movable switch member mounted to rotate on said vehicle and bring the movable switch member into connection intermittently with the stationary switch members and short-circuit said circuit, and a plurality of vertically yielding inclined bars arranged longitudinally on the track in the neighborhood of the circuit closing means and to successively rotate said carrier, when the vehicle passes over them, and close said circuit in an intermittent manner.

10. In a railway electrical signaling system, the combination with a track, a vehicle to travel thereon, electrically operated signaling apparatus arranged in a normally open circuit on the vehicle and adapted when brought into action by the closing of said circuit to continue in action and thereby indicate danger, means arranged at one part of said track for automatically bringing said signaling apparatus into action to indicate danger when the vehicle passes over such part of the track, and means under the control of a signalman whereby upon the vehicle passing over another part of the track in advance of the first mentioned part, after a line signal has been operated to indicate line clear, the said signaling apparatus can be put out of action and thereby indicate line clear, of a supplementary circuit closing device mounted on the vehicle for insuring the closing of said normally open circuit if it be not closed by the circuit closing means on the track, and means arranged on the track, in the neighborhood of the circuit closing means thereon, for bringing said supplementary circuit closing means into action when the vehicle passes over the same.

11. In a railway electrical signaling system, the combination with a track, a vehicle to travel thereon, electrically operated signaling apparatus arranged in a normally open circuit on the vehicle and adapted when brought into action by the closing of said circuit to continue in action and thereby indicate danger, means arranged at one part of said track for automatically bringing said signaling apparatus into action to indicate danger when the vehicle passes over such part of the track, and means under the control of a signalman whereby upon the vehicle passing over another part of the track in advance of the first mentioned part, after a line signal has been operated to indicate line clear, the said signaling apparatus can be put out of action and thereby indicate line clear, of a supplementary circuit closing device on said vehicle comprising stationary and movable switch members, the stationary switch members being connected to said circuit, a carrier for the movable switch member, and means arranged on the track in the neighborhood of the circuit closing means thereon, for actuating said carrier and movable switch member to close said circuit.

12. In a railway electrical signaling system, the combination with a track, a vehicle to travel thereon, electrically operated signaling apparatus arranged in a normally open circuit on the vehicle and adapted when brought into action by the closing of said circuit to continue in action and thereby indicate danger, contacts connected to the terminals of said circuit, a bar arranged at one part of said track for automatically short-circuiting said contacts and closing said circuit when the vehicle moves over said bar, an electro-magnetic device arranged in a second normally open circuit on the vehicle and adapted on the closing of said second circuit to open the first circuit, a second bar arranged on the track in advance of the first bar, and means under the control of a signalman whereby said second circuit can be closed through said second bar after a line signal has been operated to indicate line clear, of a supplementary circuit closing device on said vehicle comprising stationary and movable switch members, the stationary switch members being connected to the same parts of the first mentioned circuit as said contacts, a weighted carrier for the movable switch member mounted to rotate on said vehicle and bring the movable switch member into connection intermittently with the stationary switch members and short-circuit the first mentioned circuit, and a third vertically movable bar arranged longitudinally on the track in the neighborhood of the first mentioned bar and adapted to rotate said carrier and close the first mentioned circuit through said stationary switch contacts when the vehicle passes over said third bar.

867,153. BALLING-MACHINE. ALONZO E. RHOADES, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed May 2, 1907. Serial No. 371,366.



1. The combination, in a balling machine, of positively driven drums to support and rotate the ball by surface contact therewith, a traverse-shaft having double or crossing threads, a carriage reciprocated thereby and provided

with a guide-eye to deliver the chain of yarn to the ball, and means directly actuated solely from the drums to rotate the traverse-shaft and automatically effect a gradual change in the ratio between the traverse speed and the surface speed of the ball throughout the winding operation.

2. The combination, in a balling machine, of positively driven drums to support and rotate the ball by surface contact therewith, a traverse-shaft having double or crossing threads, a carriage reciprocated thereby and provided with a guide-eye to deliver the chain of yarn to the ball, and speed-changing mechanism directly connecting the drums and the traverse-shaft, to vary automatically the speed of rotation of one with relation to the other and thereby effect a gradual change in the ratio between the surface speed of the ball and the traverse speed throughout the winding operation.

3. The combination, in a balling machine, of means rotated at constant speed to effect rotation of the ball by surface contact therewith, means, including a traverse shaft, to lay the yarn chain upon the ball as the latter is rotated, direct connections between the ball-rotating means and the traverse shaft to rotate the latter, said connections including speed-changing-mechanism, and a controller for said mechanism, governed automatically by the ball, to cause said mechanism to diminish the speed of rotation of the traverse shaft as the diameter of the ball increases.

4. In a balling machine, in combination, drums driven at a constant speed, to support and rotate the ball by surface contact therewith, a driving cone connected therewith, a driven cone, a traverse shaft connected therewith and having double or crossing threads, a guide-eye for the yarn-chain, reciprocated by said shaft, a belt connecting the cones, and automatic means to gradually shift the belt from the smaller to the larger end of the driven cone as the diameter of the ball increases, to thereby reduce the speed of the traverse shaft as the winding progresses.

5. The combination, in a balling machine, of positively driven drums to support and rotate the ball by surface contact therewith, a traverse-shaft having double or crossing threads, a carriage reciprocated thereby and provided with a guide-eye to deliver the chain of yarn to the ball, connections between the drums and the traverse-shaft, including speed-cones and a belt connecting them, a belt-shifter, and means governed by the diameter of the ball to operate said belt-shifter and gradually decrease the speed of the traverse shaft as the diameter of the ball increases.

6. In a balling machine, a positively driven drum to rotate the ball by surface contact, means to traverse the yarn upon the drum, said means including a traverse shaft, reversed cones rigidly connected with the drum and the traverse shaft, a belt connecting them, to drive the shaft cone from the drum cone, and means to automatically shift the belt from the smaller to the larger end of the shaft cone as the ball increases in diameter, to thereby cause the yarn to be laid upon the ball with a gradually decreasing pitch throughout the winding operation.

7. The combination, in a balling machine, of a roll on which the chain of yarn is wound to form a ball, means to rotate the ball by surface contact therewith, means actuated independently of the ball to traverse the yarn-chain and lay it upon the ball, speed-changing mechanism to actuate the traverse means, said mechanism directly connecting the ball rotating and the traverse means, and a controller for said mechanism, operated by the change in the position of the roll as the diameter of the ball thereon increases.

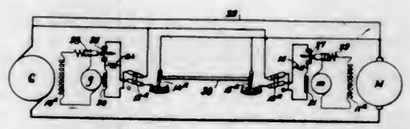
8. The combination, in a balling machine, of driving drums rotated at constant speed, a roll on which the ball is wound, driven by surface contact with the drums, upright guides for the journals of the roll, means, including a traverse shaft having a double or crossing thread, to lay the chain of yarn upon the ball, opposed cones operatively connected with the driving drums, a transmitting belt between the cones, and a belt-shifter having a member in engagement with and positioned by the roll as the ball thereon increases in diameter, to gradually shift the belt from the smaller to the larger end of the traverse shaft cone and thereby decrease the speed of the traverse means as the winding progresses.

9. The combination, in a balling machine, of means to support and rotate the ball at a constant surface speed, means to traverse the chain of yarn and lay the same upon the rotating ball, and an instrumentality to effect automatically a gradual diminution in the speed of the traverse means as the diameter of the ball increases.

10. The combination, in a balling machine, of means to rotate the ball, means actuated independently of the ball to traverse the chain of yarn and lay the same upon the ball as the latter rotates, and an instrumentality to effect automatically a gradual change in the ratio between the traverse speed and the surface speed of the ball as the winding progresses.

11. The combination, in a balling machine, of means operating at a constant speed to rotate the ball, means actuated independently of the ball to traverse the chain of yarn and lay the same upon the ball as the latter rotates, and an instrumentality governed by or through the increase in the diameter of the ball to effect automatically a gradual change in the ratio between the traverse speed and the surface speed of the ball as the diameter of the latter increases.

867,154. SYSTEM OF MOTOR CONTROL. WALTER J. RICHARDS, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey. Filed Sept. 29, 1906. Serial No. 336,665.



1. In combination, a generator, a motor supplied thereby, and series field windings for controlling said generator and said motor respectively, said field windings being in parallel to each other.

2. In combination, a generator, a motor supplied thereby, field windings for controlling said generator and said motor respectively, and connections whereby said field windings are responsive to the drop in voltage between the generator and the motor.

3. In combination, a generator, a motor supplied thereby, and field windings for controlling said generator and said motor respectively which are in shunt to one of the mains connecting the generator and the motor.

4. A system of motor control, comprising a generator, a motor supplied thereby, field windings for controlling said generator and said motor respectively which are in shunt to each other and in series with the motor armature, and rheostats for controlling said field windings.

5. A system of motor control, comprising a generator, a motor supplied thereby, series field windings for controlling said generator and said motor respectively, and a rheostat in series with each field winding for adjusting it.

6. A system of motor control, comprising a generator, a motor supplied thereby, series field windings for controlling said generator and said motor respectively, and a rheostat in series with each field winding, said field windings with their respective rheostats being in shunt to each other.

7. A system of motor control, comprising a generator, a motor supplied thereby, series field windings for controlling said generator and said motor respectively, and means for reversing the connections of said field windings.

8. A system of motor control, comprising a generator, a motor supplied thereby, series field windings for controlling said generator and said motor respectively, said field windings being in shunt to each other, and means for reversing the connections of said field windings.

9. A system of motor control, comprising a generator, a motor supplied thereby, series field windings for controlling said generator and said motor respectively, and means for regulating and reversing the connections of said field windings.

10. A system of motor control, comprising a generator, a motor supplied thereby, series field windings for controlling said generator and said motor respectively, said field windings being in shunt to each other, and means for regulating and for reversing said field windings independently.

11. A system of motor control, comprising a generator, a motor supplied thereby, and exciters for the fields of the generator and the motor respectively, the field windings of said exciters being in series with the armature of the motor.

12. A system of motor control, comprising a generator, a motor supplied thereby, and exciters for the fields of the generator and the motor respectively, the field windings of said exciters being in series with the armature of the motor and in shunt to each other.

13. A system of motor control, comprising a generator, a motor supplied thereby, and an exciter for the field of the motor, the field winding of said exciter being in series with the armature of the motor.

14. A system of motor control, comprising a generator, a motor the armature of which is exclusively supplied thereby, and an exciter for the field of the generator, the field winding of said exciter being in series with the armature of the motor.

15. A system of motor control, comprising a generator, a motor supplied thereby, an exciter for the field of the motor, and connections whereby the field of said exciter is responsive to the drop in voltage in the line between the generator and the motor.

16. A system of motor control, comprising a generator, a motor supplied thereby, and an exciter for the field of the generator, the field of said exciter being responsive to the drop in voltage in the line between the generator and the motor.

17. A system of motor control, comprising a generator, a motor supplied thereby, and exciters for the fields of said generator and said motor respectively, the fields of said exciters being responsive to the drop in voltage in the line between the generator and the motor.

18. A system of motor control, comprising a generator, a motor supplied thereby, and exciters for the fields of said generator and said motor respectively, the fields of said exciters being responsive to the drop in voltage in the line between the generator and the motor.

19. A system of motor control, comprising a generator, a motor supplied thereby, and an exciter for the field of said motor, the field winding of said exciter being in shunt to one of the leads from the generator to the motor.

20. A system of motor control, comprising a generator, a motor supplied thereby, and an exciter for the field of said generator, the field winding of said exciter being in shunt to one of the leads from the generator to the motor.

21. A system of motor control, comprising a generator, a motor supplied thereby, and exciters for the fields of said generator and said motor respectively, the field windings of said exciters being in shunt to one of the leads from the generator to the motor.

22. A system of motor control, comprising a generator, a motor supplied thereby, an exciter for the field of said motor, the field winding of said exciter being in shunt to one of the mains leading from the generator to the motor, and means for regulating the field of said exciter.

23. A system of motor control, comprising a generator, a motor supplied thereby, an exciter for the field of said generator, the field winding of said exciter being in shunt to one of the mains leading from the generator to the motor, and means for regulating the field of said exciter.

24. A system of motor control, comprising a generator, a motor supplied thereby, exciters for the fields of said generator and said motor respectively, the fields of said exciters being responsive to the drop in voltage between the generator and the motor, and means for regulating and reversing the connections of the field coils of said exciters.

25. A system of motor control, comprising a generator, a motor supplied thereby, an exciter for the field of said motor, the field windings of said exciter being in series between the generator and the motor, and means for regulating and reversing the field of said exciter.

26. A system of motor control, comprising a generator, a motor supplied thereby, an exciter for the field of said generator, the field windings of said exciter being in series between the generator and the motor, and means for regulating and reversing the field of said exciter.

27. A system of motor control, comprising a generator, a motor supplied thereby, exciters for the fields of said generator and said motor respectively, the fields of said exciters being responsive to variations in the current supplied by said generator, and means for reversing the connections of said exciter field windings.

28. In combination, a dynamo-electric machine, an exciter for the field thereof, a normally short-circuited resistance in the field circuit of said exciter, and means for opening said short-circuit when the field strength of the dynamo-electric machine attains a predetermined value.

29. In combination, a dynamo-electric machine, a normally short-circuited resistance in its field circuit, and means for opening said short-circuit when the current in its armature attains a predetermined value.

30. In combination, a dynamo-electric machine, an exciter for the field thereof, a normally short-circuited resistance in the field circuit of said exciter, and means for opening said short-circuit when the exciter current attains a predetermined value.

31. In combination, a dynamo-electric machine, an exciter for the field thereof, the field winding of said exciter being in series with the armature of said dynamo-electric machine, and a resistance for the field circuit of said exciter arranged to be cut in when the exciter current attains a predetermined value.

32. In combination, a generator, a motor supplied thereby, exciters for the fields of said generator and said motor respectively, normally short-circuited resistances in the field circuits of said exciters, and means for opening said short-circuits when the field strengths of said generator and said motor attain predetermined values respectively.

33. In combination, a motor, a generator for supplying said motor, field windings for controlling the field strengths of said generator and said motor respectively, normally short-circuited resistances in circuit with said field windings, and means for opening said short-circuits when the field strengths of the generator and the motor attain predetermined values respectively.

34. In combination, a generator, a motor supplied thereby, exciters for the fields of said generator and said motor respectively, and means for varying the electromotive forces of said exciters inversely.

35. The method of controlling an electric motor, which consists in supplying its armature and its field windings from separate sources of electromotive force, and varying the electromotive forces of both of said sources.

36. The method of controlling an electric motor, which consists in supplying its armature and its field windings from two sources of electromotive force respectively, and varying the electromotive forces of said two sources inversely.

37. The method of controlling an electric motor, which consists in supplying its armature and its field windings from separate sources of electromotive force, and varying the electromotive forces of said sources simultaneously and inversely.

38. The method of controlling an electric motor, which consists in supplying its armature and its field windings from separate sources of electromotive force, varying the electromotive forces of both of said sources, and reversing the electromotive force of the field-supplying source.

39. A motor control system comprising an electric motor, two sources of electromotive force for supplying its armature and its field windings respectively, and means for varying the electromotive forces of said two sources inversely.

40. A motor control system comprising an electric motor, separate sources of electromotive force for supplying its armature and its field windings respectively, and means for varying the electromotive forces of said sources simultaneously and inversely.

41. A motor control system comprising an electric motor, separate sources of electromotive force for supplying its armature and its field windings respectively, and means for varying the electromotive forces of both of said sources and for reversing the electromotive force of said field-supplying source.

42. The method of controlling an electric motor, which consists in supplying its armature from a dynamo-electric generator, supplying its field winding and the field winding of said generator from two sources of electromotive force respectively, and varying the electromotive forces of said sources.

43. The method of controlling an electric motor, which consists in supplying its armature from a dynamo-electric generator, supplying its field winding and the field winding of said generator from two sources of electromotive force respectively, and varying the electromotive forces of said sources inversely.

44. The method of controlling an electric motor, which consists in supplying its armature from a dynamo-electric generator, supplying its field winding and the field winding of said generator from two sources of electromotive force respectively, and varying the electromotive forces of said sources simultaneously.

45. The method of controlling an electric motor, which consists in supplying its armature from a dynamo-electric generator, supplying its field winding and the field winding of said generator from two sources of electromotive force respectively, and varying the electromotive forces of said sources simultaneously and inversely.

46. The method of controlling an electric motor, which consists in supplying its armature from a dynamo-electric generator, supplying its field winding and the field winding of said generator from two sources of electromotive force respectively, varying the electromotive forces of said sources, and reversing the direction of the electromotive force of one of said sources.

47. A motor control system comprising a motor, a generator supplying the armature of said motor, two sources of electromotive force supplying the field windings of said generator and said motor respectively, and means for varying the electromotive forces of said two sources inversely.

48. A motor control system comprising a motor, a generator supplying the armature of said motor, two sources of electromotive force supplying the field windings of said generator and said motor respectively, and means for varying the electromotive forces of said two sources simultaneously.

49. A motor control system comprising a motor, a generator supplying the armature of said motor, two sources of electromotive force supplying the field windings of said generator and said motor respectively, and means for varying the electromotive forces of said two sources simultaneously and inversely.

50. A motor control system comprising a motor, a generator supplying the armature of said motor, two sources of electromotive force supplying the field windings of said generator and said motor respectively, and means for varying the electromotive forces of said two sources and for reversing the electromotive force of one of said sources.

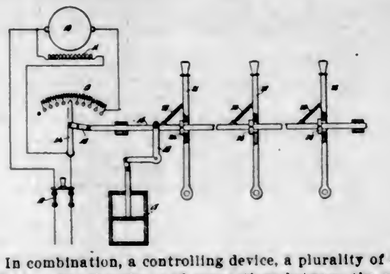
51. A motor control system comprising a motor, a generator supplying the armature of said motor, two exciters supplying the field windings of said generator and said motor respectively, and means for varying the field strengths of said exciters inversely.

52. A motor control system comprising a motor, a generator supplying the armature of said motor, two exciters supplying the field windings of said generator and said motor respectively, and means for varying the field strengths of said exciters simultaneously.

53. A motor control system comprising a motor, a generator supplying the armature of said motor, two exciters supplying the field windings of said generator and said motor respectively, and means for varying the field strengths of said exciters simultaneously and inversely.

54. A motor control system comprising a motor, a generator supplying the armature of said motor, two exciters supplying the field windings of said generator and said motor respectively, and means for varying the field strengths of said exciters and for reversing the field of one of them.

867,155. MOTOR-CONTROL SYSTEM. WALTER J. RICHARDS, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey. Filed Mar. 1, 1907. Serial No. 359,974.



1. In combination, a controlling device, a plurality of operating handles therefor, and connections between the controlling device and the operating handle whereby in case more than one operating handle is moved at any time the one which normally causes the most conservative movement of the controller will alone be effective.

2. In combination, a motor, a controller therefor, a plurality of devices for operating said controller, and connections whereby in case more than one of said devices is operated at a time that one which is moved to obtain the most conservative running of the motor will prevail.

3. In combination, a translating device, a controller therefor, a plurality of operating handles for said controller, said operating handles being connected to the controller in such a manner that in case different handles are dissimilarly moved simultaneously the controller will be moved in accordance with the most conservatively moved handle.

4. In combination, a controller, a plurality of operating handles therefor, and connections between said handles and the rheostat whereby in case of dissimilar movements of two or more of said handles the rheostat will respond to that handle which brings it nearest to "off" position.

5. In combination, a controlling device, and a plurality of devices so connected to said controlling device that they operate positively when moving it toward "off" position and through springs when moving it away from "off" position.

6. In combination, a controlling device, and a plurality of operating handles arranged to move said controller positively when themselves moved in one direction and to merely give a bias to the controller when themselves moved in the other direction.

7. In combination, a controller comprising fixed and movable members, a plurality of operating handles for said movable member, a positive connection between said movable member and each of said handles upon movement of the latter in one direction, and a flexible connection between said movable member and each of said handles upon movement of the latter in the opposite direction.

8. In combination, a translating device, a controller therefor, a plurality of operating handles for said controller, positive connections between said operating handles and said controller for movement in one direction, and springs connecting said operating handles and said controller for movement in the other direction.

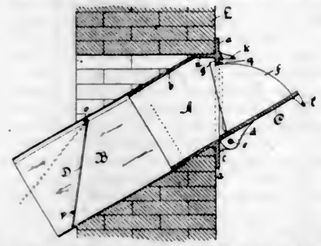
9. In combination, a controller comprising fixed and movable members, a sliding rod connected to said movable member, collars on said rod, and a plurality of operating handles which are normally held against said collars by springs which connect them with the rod.

10. In combination, a controlling device, a plurality of operating handles therefor, connections between the controlling device and the operating handle whereby in case more than one operating handle is moved at any time the one which normally causes the most conservative movement of the controller will alone be effective, and means for retarding the movement of the controller.

11. In combination, a controller comprising fixed and movable members, a sliding rod connected to said movable member, collars on said rod, a plurality of operating handles which are normally held against said collars by springs which connect them with the rod, and a dash-pot connected to said rod.

12. In combination, a motor, a controller therefor, a plurality of operating handles for said controller, and connections between the handles and the controller whereby upon conflicting movements of two or more of the handles the controller obeys the handle which was moved to cause the slowest speed of the motor.

867,156. COAL-CHUTE. HARRY W. RICHARDS, Manitowoc, Wis. Filed June 28, 1906. Serial No. 323,847.



1. In a chute of the class described, a front having an oblique sloping rectangular passageway of substantially uniform section, the upper portion of the upper side whereof is formed horizontally to support the exterior portion of the wall over the hole through which said chute passes.

2. In a chute of the class described, the combination of a front, and a door pivoted thereto and abutting against said front when closed, the lower edge of said door being arranged to stand apart from said front when said door is closed leaving a space through which water may pass, whereby water is prevented from being transferred to the chute.

3. In a chute of the class described, the combination of a front, and a door pivoted thereto and abutting against said front when closed the lower edge of said door being arranged to stand apart from said front when said door is closed leaving a space through which water may pass whereby water is prevented from being transferred to the chute; and the lower edge of said door being sharp to assist the dripping of water therefrom.

4. In a chute of the class described, the combination of a body-portion having a passageway and a front, and a door pivoted on said front and having means for limiting its motion to an angle down which material is adapted to slide, the lower edge of said door being arranged to come into close contact with said front when said door is opened and to stand apart therefrom when said door is closed whereby dust resting on said front is caused to fall through the opening left on closing the door.

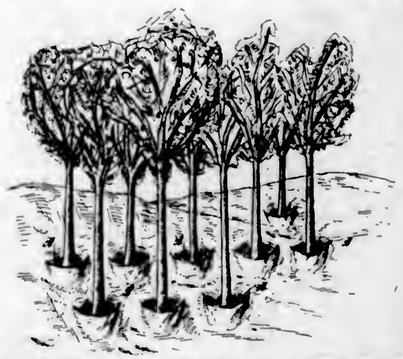
5. In a chute of the class described, a body-member having a front, a door pivoted thereto, and a raised weather-beading on said front surrounding three edges of the door, the front at the lower edge of the door being left smooth; the lower edge of said door being arranged to stand apart from said front while overlapping the same, whereby a crevice for the exit of water and dust is left therebetween.

6. In a chute of the class described, the combination of a sloping tubular passageway, a pintle-rod passing across and through the same near the upper side thereof, and a swinging-door mounted on said pintle-rod and adapted to be opened by the pressure of material sliding downwardly through said passageway.

7. In a chute of the class described, the combination of a tubular passageway, a pintle-rod passing across the upper side thereof, a swinging-door mounted on said pintle-rod and adapted to be opened by the pressure of material sliding downwardly through said passageway, and a locking-bolt passing from side to side of said passageway behind said door.

8. A coal-chute comprising, in combination, a cast-metal body-portion of rectangular section and of substantially uniform section, the upper portion close to the front thereof being flattened to hold the edge of the opening in the wall through which said chute passes, said cast-metal portion having a flanged front formed thereon surrounding the edges of said hole and carrying a pair of pintle-lugs, a door pivoted thereto and having means for limiting its open position, a bail on said door having means for engaging it with said front for locking the same in closed position, a sheet-metal portion of uniform rectangular section telescoping over and continuous with the lower end of said cast-metal portion, and an automatic swinging-door mounted in said sheet-metal portion.

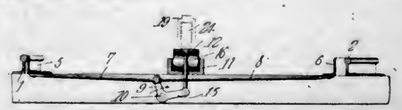
867,157. METHOD OF UTILIZING HILLSIDES AND MOUNTAINS. MAURICE RICHTER, Williamstown, W. Va. Filed July 27, 1907. Serial No. 385,796.



1. The method of conserving and utilizing hillsides and mountains, which consists in forming on the slope a succession of reservoir basins, the basins of any one series crossing the line of descent being spaced out of the descending alinement of the basins of the other adjacent series.

2. The method of conserving and utilizing hillsides and mountains, which consists in forming on the slope a succession of reservoir basins, the basins of any one series crossing the line of descent being spaced out of the descending alinement of the basins of the other adjacent series, and planting trees in the said basins to absorb and be nourished by the water accumulating therein.

867,158. RAILROAD-SWITCH. REUBEN ABBEY and WILLIE E. RISLEY, Corning, N. Y. Filed July 26, 1907. Serial No. 385,712.



1. A railroad switch having movable switch points, a flat depressible spring extending longitudinally of the track, and a lever below the spring connected to the switch points and to the spring for moving said switch points in one direction by means on an advancing car depressing said spring, and moving them in opposite direction by the resiliency of the spring when said means has been removed.

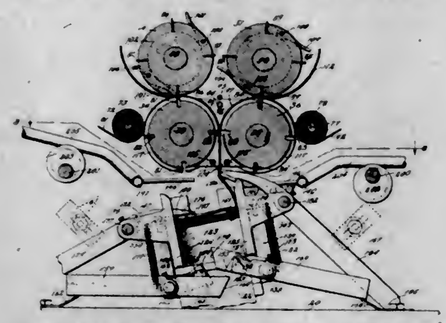
2. A railroad switch having movable switch points, a flat depressible spring extending longitudinally of the

track between the rails, a bell crank lever below the spring and connected thereto by one of its arms, a connecting rod extending from each switch point to the other arm of said bell crank, and means on a passing car for depressing said spring and throwing the switch.

3. A railroad switch normally set for one line but having a movable switch point for setting it to another line, combined with a flat longitudinal spring, a support therefor, a bell crank lever pivoted below said spring and connected thereto by one of its arms and a connecting rod extending from the other arm of the bell crank lever to the movable switch point and means carried by a passing car for moving said point by depressing said spring.

4. A railroad switch having a movable switch point or points, a box extending longitudinally of the track, a flat spring supported in said box, a longitudinal shaft carrying a bell crank lever at one end and a straight lever at the opposite end, said levers being near the end of and below the spring, a connection between each lever and the spring above it and a bar or bars pivoted to the opposite arm of the bell crank lever and attached to one or both movable switch points.

867,159. PAPER-INTERLEAVING MACHINE. HERMAN SAUTER, Chicago, Ill., assignor to Herman I. Nager, Chicago, Ill. Filed Jan. 10, 1907. Serial No. 351,600.



1. A machine comprising a cutting and creasing mechanism, adapted to deliver two strips of paper, cut and creased as described, and an oscillating chute adjacent to the point of delivery of the aforesaid paper, provided with folding mechanism adapted to fold said paper into an interleaved pile within the chute.

2. A machine comprising a cutting and creasing mechanism, adapted to deliver two strips of paper cut and creased as described, and a moving chute, adjacent to the point of delivery of the aforesaid paper, provided with folding mechanism adapted to fold said paper into an interleaved pile within the chute.

3. A machine including, mechanism for feeding out cut and creased pieces of paper as described; a chute so located as to receive the paper from the cutting and creasing mechanism movable transversely with reference to the line of travel of the paper from the cutting and creasing mechanism, provided with folding mechanism for folding said paper in zigzag form within the chute and mechanism for causing all of said parts to operate together for the purposes set forth.

4. A machine comprising means for cutting off and creasing two adjacent strips of paper and adapted to deliver the same with the adjacent cut ends of portions of one strip of paper adjacent to the lines of crease in the cut off portions of the second strip of paper as described; a chute provided with folding mechanism adapted to fold said paper in opposite directions along the successive creases to form an interleaved pile as described and mechanism for moving said chute to different positions so that when a fold is about to be made in said paper it is entering the chute adjacent to the folding mechanism which is next to operate upon it.

5. The combination of mechanism adapted to fold a strip of paper, means adjacent to said folding mechanism adapted to temporarily direct a blast of air against paper about to be folded to force it into engagement with the folding mechanism and means for varying the direction of said blast of air during the folding operation.

6. The combination of mechanism adapted to fold a strip of paper and means adjacent to said folding mechanism adapted to temporarily direct blasts of air against opposite side portions of the paper about to be folded to force it into engagement with the folding mechanism, and means for causing said blasts of air to travel along the edges of said paper as it is engaged by the folding mechanism.

7. The combination of mechanism adapted to fold a strip of paper and means adjacent to said folding mechanism adapted to temporarily direct blasts of air against opposite side portions of the paper about to be folded in directions angular to the edges of the paper to force it into engagement with the folding mechanism and means for causing said blasts of air to travel along the edges of said paper as it is engaged by the folding mechanism.

8. In mechanism of the class described the combination of mechanism adapted to fold a strip of paper, an air pipe having a nozzle and directed toward the position assumed by paper about to be folded by the folding mechanism and its other end connected to a valve for controlling the admission of compressed air to said pipe, a pivotal mounting for said pipe, a cam adapted to move said pipe upon said pivotal bearing and mechanism adapted to so operate said valve, the cam and said folding mechanism that the air temporarily emerges from said pipe, and follows paper about to be folded to force it into the folding mechanism.

9. In mechanism of the class described two rolls bearing against each other, two cutting rolls clearing each other each bearing against one of the first rolls, one or more cutting knives, and a corresponding number of creasing knives on each cutting roll meshing with suitable grooves in the adjacent first roll, said knives of each class in each roll being staggered with reference to those of the same class on the other roll for the purposes set forth.

10. In a machine of the class described, two rolls bearing against each other, two cutting rolls clearing each other each bearing against one of the first rolls, one or more cutting knives and a corresponding number of creasing knives on each cutting roll meshing with suitable grooves in the adjacent first roll, said knives of each class on each roll being staggered with reference to those of the same class on the other roll, and means for directing an end of a piece of paper coming from between each cutting roll and its adjacent first roll so that it then passes between the first rolls.

11. In a machine of the class described, two rolls bearing against each other, two cutting rolls clearing each other each bearing against one of the first rolls, means for directing the end of a sheet of paper which has come from between each cutting roll and its adjacent first roll so that it then passes between the first rolls, means for supplying a strip of paper to each cutting roll and its first roll so that it passes between them into said directing means, means for placing tension on each strip of paper as it approaches its cutting and first roll, one or more cutting knives and a corresponding number of creasing knives on each cutting roll meshing with suitable grooves in the adjacent first roll at the point of contact of each cutting roll with its adjacent first roll whereby the paper passing between said first rolls is cut or creased as desired and then passes between the first rolls for the purposes described.

12. In a machine of the class described, two rolls bearing against each other, two cutting rolls clearing each other each bearing against one of the first rolls, means for directing the end of a sheet of paper which has come from between each cutting roll and its adjacent first roll so that it then passes between the first rolls, means for supplying a strip of paper to each cutting roll and its first roll so that it passes into said directing means, means for placing tension on each strip of paper as it approaches its cutting and first rolls, one or more cutting knives and a corresponding number of creasing knives on each cutting roll meshing with suitable grooves in the adjacent first roll at the point of contact of each cutting roll with its adjacent first roll whereby the paper passing between said first rolls is cut or creased as desired and then passes between the first rolls, and means for stripping both strips of paper from the first rolls for the purposes described.

13. In mechanism of the class described in combination with mechanism for providing a continuous supply of paper, a chute into which said paper passes, means for oscillating said chute so that the paper going into it is alternately adjacent to opposite walls of the chute, temporary supporting prongs projecting inside the walls of the chute adjacent to the lines of fold of the paper and folding fingers mounted upon each wall of the chute adjacent to the supporting prongs adapted to, as said chute oscillates, fold said paper in zigzag form within the chute with successive folds upon the prongs on opposite sides of the chute for the purposes described.

14. In mechanism of the class described in combination with mechanism for providing a continuous supply of paper, a chute into which said paper passes, means for oscillating said chute between two different positions in which opposite walls of the chute are adjacent to the path of the paper going into the chute, mechanism adapted to fold paper going into the chute in zigzag form as described, movable supports adjacent to the points in the chute walls, in which the folding fingers form the folds upon the paper, capable of supporting the paper while the folding fingers make the folds, also capable of being sprung outside of the chute so as to let the folded paper pass them and then spring back into the chute to hold down the folded paper and mechanism for normally so moving the various members of the combination for the purposes described.

15. In a machine of the class described, the combination of a suitable base frame, two other frames rising therefrom, four rolls journaled therein, two of said rolls bearing against each other, and one of each of the other or cutting rolls bearing against a first roll but not against the other first roll; gearing for rotating all of said rolls at the same speed, one or more cutting and an equal number of creasing knives on each cutting roll meshing with suitable grooves in the adjacent first roll, the knives of the same class on each roll being staggered with reference to knives of the same class on the other roll; means for supplying strips of paper, from the outside of the machine, between each first roll and its adjacent cutting roll toward the center of the machine, means for maintaining tension on the paper while being cut, means for causing the cut ends of paper to, after being cut follow the adjacent first roll in between the first rolls, means for stripping the paper off from the first rolls as it comes from between the first rolls; a chute pivotally mounted on the frame with its upper end adjacent to the point of delivery of the paper from the first rolls, means for oscillating the chute between two positions in which the paper is alternately adjacent to opposite walls of the chute, folding mechanism on each of said walls of the chute adapted to fold the paper when then adjacent to it along a line of crease on one strip of paper and a line of cut on the other strip of paper previously made by the cutting and creasing mechanism, means for temporarily supporting the paper in the chute, during the folding operation, means for temporarily directing a blast of air against the paper adjacent to a folding mechanism to force it into engagement with the folding mechanism and means for causing all of said parts to operate in proper order for the purposes set forth.

16. In a machine of the class described, a support, a chute for paper pivotally mounted thereon, means for supplying paper to the open end of the chute, means for oscillating said chute between two different positions in each of which the paper is adjacent to an opposite wall of the chute, levers, pivotally mounted on bearings carried by the chute adjacent to each of said side walls each having a finger adapted to fold down paper adjacent to its side wall, means for so guiding said levers that as the chute oscillates the fingers successively so fold down portions of the paper then adjacent to the wall on which the particular finger is mounted, and mechanism for temporarily supporting the paper during each folding operation.

17. In a machine of the class described, a support, a chute for paper pivotally mounted thereon, means for supplying paper to the open end of the chute, means for oscillating said chute between two different positions in each of which the paper is adjacent to an opposite wall of the chute, levers, pivotally mounted on bearings carried by the chute adjacent to each of said side walls each having a finger adapted to fold down paper adjacent to its side wall, means for so guiding said levers that as the chute oscillates the fingers successively so fold down portions of the paper then adjacent to the wall on which the particular finger is mounted, mechanism for temporarily supporting the paper during each folding operation and mechanism adapted to temporarily withdraw said supporting mechanism as a particular fold is completed and reinsert it above the fold for the purposes set forth.

18. In a machine of the class described, a support, a chute for paper pivotally mounted thereon, means for supplying paper to the open end of the chute, means for oscillating said chute between two different positions in each of which the paper is adjacent to an opposite wall of the chute, levers pivotally mounted adjacent to each of said opposite walls of the chute, supporting latch members mounted on said levers extending inside the adjacent wall of the chute, spring mechanism for normally holding said latch members in said positions, a mechanism adapted to move said levers to successively withdraw said latch members from the chute against the action of said spring mechanism and mechanism for quickly disengaging said withdrawing mechanism so that each of said latch members is quickly reinserted in the chute at the proper times for the purposes set forth.

19. In a machine of the class described a support, a chute for paper pivotally mounted thereon, means for supplying paper to the open end of the chute, means for oscillating said chute between two different positions in each of which the paper is adjacent to an opposite wall of the chute, levers pivotally mounted one adjacent to each wall of the chute, having a finger adapted to fold down paper within the chute adjacent to its side wall, means for so guiding said levers that as the chute oscillates the finger successively folds down portions of the paper then adjacent to the wall on which the said finger is mounted, other levers 139 and 146 pivotally mounted adjacent to opposite sides of the chute, each carrying a latch member 141 and 148 entering an opposite side wall of the chute adjacent to the folding position of one of said folding fingers, short lever arms 153 and 163 secured to said levers 139 and 146, a latch 155 pivotally mounted upon the lever 153, a latch 165 pivotally mounted upon the lever 163, a supplemental lever 159 pivotally mounted upon the axis of the lever 146 having an angular face 160 engaging the latch 155, means for regulating the arc of travel of said lever 159 another supplemental lever 169 pivotally mounted upon the pivotal bearing of the lever 139 having an angular face 170 adapted to bear against the latch 165, means for regulating the arc of travel of lever 169 and spring mechanism normally holding said levers 139 and 146 in normal position with the latches 141 and 148 extending inside the chute the whole so arranged that when paper is fed into the chute and it is oscillated said paper is folded in zigzag form as described.

20. A machine comprising, a cutting and creasing mechanism, adapted to deliver two strips of paper cut and creased as described, a chute adjacent to the point of delivery of the aforesaid paper, provided with folding mechanism adapted to fold said paper into an interleaved pile within the chute and means for varying the place of entry of the paper into the chute by changing the relative positions of, the cutting and creasing mechanism, and the chute, with reference to each other, between the making of successive folds in the paper.

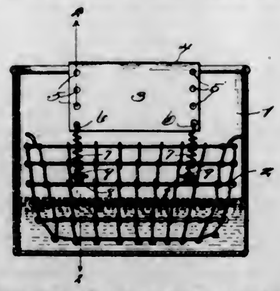
21. A machine including, mechanism for feeding out cut and creased pieces of paper as described, a chute so located as to receive the paper from said cutting and creasing mechanism movable transversely with reference to the line of travel of the paper from the cutting and creasing

mechanism, said chute being provided with folding mechanism for folding said paper in zigzag form within the chute, one or more nozzles carried by the supports which carry the cutting and creasing mechanism adapted to deliver a blast or blasts of air against the paper to force it into engagement with the folding mechanism as it is about to be operated upon by said folding mechanism and means for causing all the said parts to operate together for the purposes set forth.

22. A machine comprising, a cutting and creasing mechanism, adapted to deliver two strips of paper cut and creased as described, a chute adjacent to the point of delivery of the aforesaid paper, provided with folding mechanism adapted to fold said paper into an interleaved pile within the chute, means for varying the place of entry of the paper into the chute by changing the relative positions of the cutting and creasing mechanism and the chute with reference to each other between the making of successive folds in the paper, and one or more nozzles, carried by the same supports as the cutting and creasing mechanism, adapted to deliver a blast or blasts of air against the paper to force it into engagement with the folding mechanism as it is about to be operated upon by said folding mechanism.

23. The combination of a stationary support carrying mechanism for feeding out cut and creased pieces of paper as described, mechanism adapted to fold a strip of paper coming from the cutting and creasing mechanism, means for moving said folding mechanism between two different positions with reference to the cutting and creasing mechanism and means carried by the support for the cutting and creasing mechanism for delivering temporary blasts of air against the paper to force it into engagement with the folding mechanism.

867,160. OILING APPARATUS. PETTE N. SAYERS, Pontoosuc, Ill. Filed June 12, 1907. Serial No. 378,637.



1. In a harness oiling apparatus, receptacle, a basket positioned therein and designed at times, to be suspended within the said receptacle, said basket having connected thereto, T-shaped coil members, the said receptacle having hooked plates designed to engage the periphery of said receptacle, said plates having a plurality of apertures, said T-shaped coil members having hooks to engage said apertures.

2. In a harness oiling apparatus, a receptacle, a basket positioned therein and designed at times to be suspended within the said receptacle, said basket having loops, T-shaped coil members to engage therewith, said receptacle having hooked plates designed to engage the periphery of said receptacle, said plates having a plurality of apertures, said T-shaped coil members having hooks to engage said apertures.

3. In a harness oiling apparatus, a receptacle, a basket positioned therein and designed at times to be yieldably and adjustably suspended within the said receptacle, said basket having loops, T-shaped coil members to engage therewith, said receptacle having hooked plates designed to engage the periphery thereof, said plates having a plurality of apertures, said T-shaped coil members having hooks to engage said apertures.

867,161. WASHBOARD. WALLER SCOTT, Richmond, Va. Filed Apr. 6, 1906. Serial No. 310,372.



1. In a washboard, the combination of the side members, a top-bar, a rubbing-board connecting the side members, and a double soap-receptacle constructed of a single piece of sheet metal folded over to bring its two members back to back and having its free lower edges curled outward to form gutters, these gutters being provided with water-passages, the upper edge of the rubbing-board lying between the lower edges of the folded members, and the side edges of the folded members engaging in grooves in the side members.

2. In a reversible washboard, the combination of side members, a double-faced rubbing-board therebetween, and a double-faced soap-receptacle constructed of a single piece of sheet metal folded over upon itself, the side edges of these folded parts being engaged by the side members and the lower edge of each of these folded members being bent to form a gutter extending across the washboard at the top of the rubbing-board.

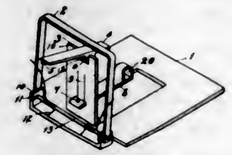
3. In a reversible washboard, the combination of side members, a double-faced rub-board, and a double-faced soap-receptacle secured between the side members above the rubbing-board, this soap-receptacle being constructed of plates secured back to back and having their side edges engaged by the side members and their lower edges bent to form gutters.

867,162. CLASP. FRANK W. SEIDL, Manitowoc, Wis. Filed Jan. 3, 1906. Serial No. 294,359.



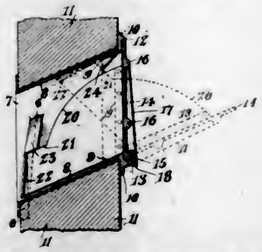
A clasp comprising a tubular member provided with a slot terminating in a pocket, a plunger constructed to snugly fit within said tubular member, a lug carried by said plunger and adapted to enter said slot and seat against the bottom wall of said pocket, a reinforcing ring secured about the periphery of said tubular member at a slight axial distance from the bottom wall of said pocket, whereby pressure of said lug against the bottom wall of the pocket will be borne entirely by said tubular member without the exertion of any displacing pressure on said reinforcing ring, a spindle carried by said plunger, a sleeve slidably engaging said spindle and provided with an enlarged bore throughout a portion of its length, a head secured to said spindle and slidably mounted in the enlarged bore of said sleeve, and a spring confined in said enlarged bore between said slidable head and the bottom of said bore, substantially as described.

867,163. RAT AND MOUSE TRAP. SAMUEL SHREFFLER, Joliet, Ill., assignor to M. A. Felman and Company, Joliet, Ill., a Firm. Filed Dec. 10, 1906. Serial No. 347,174.



An improved metal rat and mouse trap, consisting of, a base plate; an upright support 3 cohesively connected with said base plate and provided with a recess 18 in the middle of the top of said support; shoulders 19 formed by said recess 18; swivel points on the inner corners of said shoulders; a lever latch plate pivoted on said swivel points; a trap-loop, held in set and upright position by one end of said latch plate; a lever trigger plate 8 secured in said support 3; a slotted bait receptacle on one end of said trigger plate, and, a keeper 7 on the other end of said trigger plate; a beveled catch 5 on one end of said latch plate, so that turning said latch plate into a verticle position will automatically set the trap; supports 10 10 cohesively connected with base plate 1 and provided with slots 11 11; a spring bar 13 secured to said supports 10 10 in said slots 11 11; springs 12 coiled on said spring bar 13 for forcing said trap loop to said base plate when said catch 5 is released from said keeper 7, all substantially as illustrated and set forth.

867,164. CHUTE. CHARLES H. SHULTZ, St. Joseph, Mo. Filed Mar. 15, 1907. Serial No. 362,500.



1. In a chute of the character set forth, the combination with a casing having an upright outer face and spaced upstanding hooks on its outer lower margins, of a swinging closure for the casing having a rib along its lower edge that is journaled in the hooks, the inner face of the closure when in closed position, abutting flat against the outer upright face of the casing.

2. In a chute of the character set forth, the combination with a casing, of a swinging closure pivotally mounted on the lower portion of the outer end of the casing, and a reinforcing rib located on the outer face of the closure, the lower end of said rib constituting a stop shoulder that abuts against the lower margin of the casing.

3. In a chute of the character set forth, the combination with a casing, of a swinging closure pivotally mounted on the lower portion of the outer end of the casing and having spaced marginal flanges projecting from its inner face, and side walls secured to the flanges and operating within the casing and having their inner edges located within the casing when the closure is in its outermost position.

4. In a chute of the character set forth, the combination with a casing having an outer frame provided with an outstanding bead along its outer portion, and an upstanding hook on its lower portion, of a swinging closure for the casing having its lower portion journaled in the hook and having its upper portion arranged to fit within the bead, and means for locking the closure in its closed position.

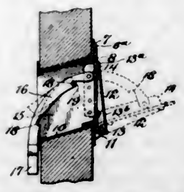
5. In a chute of the character set forth, the combination with a casing, of a swinging closure for the outer end of the casing, side walls carried by the closure and operating in the casing, said walls being capable of relative movement within the casing, and fixed projections carried by the interior of the casing and interlocking with the side walls when the closure covers the outer end of the casing, said walls disengaging from the projections on their relative movement.

6. In a chute of the character set forth, the combination with a casing, of a swinging closure for the outer end of the casing, side walls carried by the swinging closure and operating in the casing, said side walls being capable of relative movement within the casing and having rearwardly extending ears at their inner ends, and spaced inner and outer fixed projections carried by each end wall of the casing, the inner projections interlocking with the ears of the side walls when the closure covers the outer end of the casing, said walls disengaging from the inner lugs of the casing on their relative movement, and said ears abutting against the outer projections when the closure is in its outer position.

7. In a chute of the character set forth, the combination with a casing having an outer vertical frame and spaced upstanding hooks on its outer lower margins which open upwardly, of a swinging closure for the casing comprising a plate having a rounded rib along its lower edge that is journaled in the hooks and removable upwardly therefrom, the inner face of said plate, when in closed position, bearing flat against the outer face of the casing.

8. In combination with the casing having a rearwardly extending flange to fit within an opening, and outstanding integral hooks constituting bearings, a swinging closure having a longitudinal integral rib along one edge to fit within the hooks, and a transverse rib provided on the closure and having one end adapted to form a stop shoulder.

867,165. CHUTE. CHARLES H. SHULTZ, St. Joseph, Mo. Filed Mar. 15, 1907. Serial No. 362,501.



1. In a chute of the character described, the combination with a casing, of a swinging closure therefor, an operating device pivoted to the closure and projecting within the casing, and means mounted in the casing and engaging the operating device to hold it against movement and thereby lock the closure.

2. In a chute of the character described, the combination with a casing, of a swinging closure therefor, a locking stud, and an operating device pivoted to the closure and projecting within the casing, said device having a notch that receives the stud and thereby locks the closure.

3. In a chute of the character described, the combination with a casing, of a swinging closure pivoted to the lower portion of the outer end of the casing, a stud projecting within the casing, and a link pivoted to the closure and extending through the casing, said link having notches that receive the stud to maintain the closure in its closed and open positions.

4. In a chute of the character described, the combination with an outer frame having rearwardly extending ears, of a casing secured to the frame, studs carried by the ears and projecting within the casing, a closure for the casing hinged to the frame, and an operating link pivoted to the closure and projecting through the casing, said link having notches that receive the stud.

5. In a chute of the character described, the combination with a casing, of a movable closure therefor having

side walls operating in the casing, and actuating and locking means connected to the closure and disposed between the side and casing walls.

6. In a chute of the character described, the combination with a frame having a casing, of a swinging closure pivoted thereto and having rearwardly projecting side walls operating within the casing, a stud carried by the frame and interposed between the same and one of the side walls, and a link pivoted to the closure and extending between said side wall and the casing, said link projecting through the casing and having notches to receive the stud.

867,166. GAS-COCK. HENRY W. SMITH, Haddonfield, N. J. Filed Nov. 14, 1906. Serial No. 343,433.



A gas cock comprising a casing having inlet and outlet branches, the latter being provided in its underside with a boss provided with a longitudinal recess having an upper curved wall formed at its forward end with a stop shoulder, the side walls of said recess being formed with depending lugs, a cock arranged to turn in the casing and provided below the same with a turn-key and above the key with an annular shoulder and diametrically opposite grooves extending downwardly therethrough, a dog comprising a plate of segmental form, terminating at its lower rear end in a finger piece and having an upper convex edge and a lower concaved edge, said dog being pivotally mounted upon the lugs to swing within the recess, the forward end of the said convex edge being adapted to engage said stop shoulder, said dog being provided at its forward end with a locking lug for coöperation with said annular shoulder and grooves, and adapted upon the retraction of the dog to engage and ride in contact with the underside of said shoulder, and a plate spring lining the upper curved wall of the recess and having a free forward end connected with the dog to draw said locking end of the dog upward.

867,167. BLEACHING GLUE. ARMAND J. STIEGELMANN and ERICH DEHNEL, Ludwigshafen-on-the-Rhine, Germany, assignors to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany, a Corporation. Filed June 13, 1907. Serial No. 378,874.

1. The process of bleaching glue which consists in treating the glue with zinc formaldehyde sulfoxylate in the presence of water.

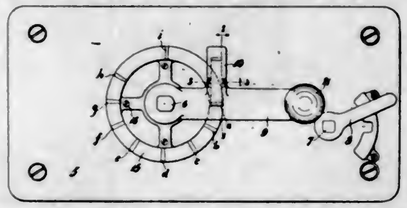
2. The process of bleaching glue which consists in treating the glue with basic zinc formaldehyde sulfoxylate in the presence of water.

3. The process of bleaching glue which consists in treating the glue with basic zinc formaldehyde sulfoxylate in the presence of water and acid.

867,168. CONTROLLER-REGULATOR. EMMETT W. STULL, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio, jointly. Filed Mar. 30, 1907. Serial No. 365,451.

1. In combination, a controller handle, a pawl carried thereby, and a fixed notched member coöperating with said pawl to regulate the movement of said handle, said pawl being arranged to be withdrawn from the notches of said member by a turning movement and advanced to clear the notch from which it has just been withdrawn by a sliding movement, said movements occurring successively when the forward pressure on the handle is released.

2. In combination, a controller handle, a pawl carried thereby, and a fixed notched member the notches of which are arranged to be successively engaged by said pawl to stop temporarily the forward movement of the handle, said pawl being arranged to be both withdrawn from said notches and advanced to clear the notch from which it has just been withdrawn by the action of gravity.



3. In combination, a controller handle, a pawl resting on a support in said handle, and a fixed notched member with which said pawl coöperates, said pawl being arranged to be withdrawn by gravity from the notches of said member by turning about said support and advanced by gravity by sliding on said support so as to clear the notch from which it has been withdrawn.

4. In combination, a controller shaft, an operating handle therefor, a fixed notched member, and a pawl carried by said handle and arranged to be actuated by gravity to engage the notches of said member to stop the forward movement of the handle and to be released from said notches by gravity when the forward pressure on the handle is relieved.

5. In combination, a controller handle, a fixed notched member, and a pawl carried by said handle and arranged to be actuated by the same force to engage the notches of said members successively in the forward movement of the handle and to be released from said notches when the forward pressure on the handle is relieved.

6. In combination, a controller handle, a fixed notched member, and a pawl carried by said handle and arranged to be moved by the same force to engage the notches of said member to stop the handle as the latter is moved forward, and to be released therefrom subsequently.

7. In combination, a controller handle, a fixed notched member, a pawl carried by said handle and arranged to be moved by the same force to engage the notches of said member successively as the handle is moved forward, to be released therefrom subsequently, and to be moved forward into position to engage the next notch after being so released.

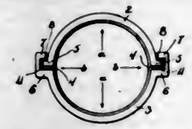
8. In combination, a controller handle, a support in said handle, a pawl resting on said support and arranged to have its center of gravity shifted from one side of said support to the other, and a fixed notched member with which said pawl coöperates to allow forward movement of the handle in an intermittent manner only.

9. In combination, a controller shaft, an operating handle therefor, a fixed notched member, and a pawl tiltable on a support carried by said handle and arranged to have one end tilted downward by gravity to engage the notches of said member to stop the forward movement of the handle at predetermined points and tilted upward by gravity out of such engagement when the forward pressure on the handle is released.

10. In combination, a controller shaft, an operating handle therefor, a fixed notched member, and a pawl carried by said handle and so arranged that as the handle is moved forward into an operative position the center of gravity of the pawl is thrown to one side of its support to stop said forward movement and immediately thereafter thrown to the other side of said support to allow forward movement.

867,169. SPLIT SLEEVE. WALTER THOMAS, Vancouver, British Columbia, Canada. Filed Aug. 11, 1906. Serial No. 330,183.

1. A split sleeve comprising two semi-cylindrical portions, an outwardly projecting flange along the joint edges of one portion said flange having a bead parallel to the joint face and in cross section normal thereto, a similar flange along the joint edges of the other portion, said flange carried around to engage the back of the flange of the first named portion, and having a groove to slidably engage the bead of said first named portion, said semi-cylindrical portions each having counter-bores at their ends concentric with the longitudinal axis of the sleeve, said semi-cylindrical portions also having supplemental calking recesses for said bead portions thereof, substantially as shown and described.



2. A split sleeve comprising two semi-cylindrical portions, and an outwardly projecting flange along the joint edge of one portion, said flange having a bead parallel to the joint face and in cross section normal thereto, a similar flange along the joint edges of the other portion, said flange carried around to engage the back of the flange of the first mentioned portion and having a groove to slidably engage the bead of the first named portion, said semi-cylindrical portions each having counterbores at their ends concentric with the longitudinal axis of the sleeve, said semi-cylindrical portions also having supplemental calking recesses for the bead portions thereof at the ends of each sleeve, said supplemental recesses merging with said counterbores, substantially as shown and described.

3. A split sleeve comprising two semi-cylindrical portions, an outwardly projecting flange along the joint edge of one portion, said flange having a bead parallel to the joint face and in cross section normal thereto, a similar flange along the joint edges of the other portion, said flange carried around to engage the back of the first mentioned portion and having a groove to slidably engage the bead of the first named portion, said semi-cylindrical portions each having counterbores at their ends concentric with the longitudinal axis of the sleeve, said semi-cylindrical portions also having supplemental calking recesses for the bead portions thereof at the ends of each sleeve, said supplemental recesses commencing at the counterbores and extending radially therefrom and terminating in right angled portions, substantially as shown and for the purposes described.

4. A split sleeve, comprising two semi-cylindrical portions, an outwardly projecting flange along the joint edge of one portion, said flange having a bead parallel to the joint face and in cross section normal thereto, a similar flange along the joint edges of the other portion, said flange carried around to engage the back of the flange of the first mentioned portion and having a groove to slidably engage the bead of the first named portion, said semi-cylindrical portions each having counterbores at their ends concentric with the longitudinal axis of the sleeve, said semi-cylindrical portions also having supplemental calking recesses for the bead portions thereof at the ends of each sleeve, said supplemental recesses commencing at the counterbore and extending radially therefrom and terminating in right angled portions, said supplemental recesses being of less depth than the counterbores, substantially as shown and described.

867,170. ATTACHMENT FOR WATER-CLOSETS. PETER T. TKATZSCHENKO, Brooklyn, N. Y. Filed Oct. 7, 1905. Serial No. 281,821.

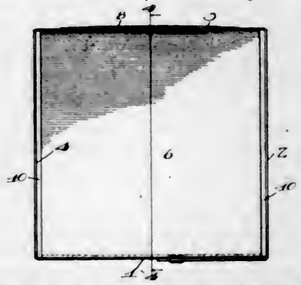


1. In an attachment for water closets the combination with a seat having an opening, of a hinged frame or ring convex in cross-section, springs between the seat and the frame, a pad of paper having detaching means for each sheet and conforming in size and shape with the ring, and adjustable clamps to secure the pad to the ring.

2. In an attachment for water closets the combination with a seat having an opening, of a thin metal ring or frame slightly overlapping the seat and dished out from below and convex on the upper side whereby contact with the seat is made on the edges only, and coiled springs between the seat and the frame to make said frame yielding.

3. In an attachment for water closets the combination of a thin metal ring or frame convex in cross section and having lateral ears with an opening in each, a pad of paper having detaching means for each sheet conforming in size and shape with the ring, and adjustable clamps passing each through the opening in each ear of the ring and securing the pad to same.

867,171. BOX. ROBERT C. TOTZKE, St. Joseph, Mich. Filed Mar. 6, 1907. Serial No. 360,881.



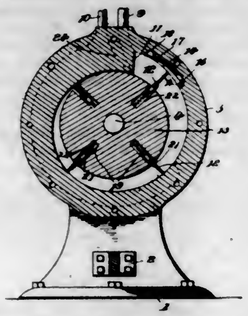
A folding berry box comprising four flexibly connected sides, a bottom narrower than the box to provide a ventilating space at each side thereof, said bottom flexibly connected to a side wall at one end and provided with a wide and square cornered projection or tongue at the other end thereof, with slightly rounded or curved shoulders at each side of said projection or tongue, one of said side walls provided with a horizontal slot adapted to receive said projection or tongue, said slot having its ends adapted to engage the square corners of the said projection, the said slotted side wall bearing against said rounded or curved shoulders on the end of the bottom and serving as a spring to keep the slot in locking engagement with the said projection or tongue, said bottom thereby bracing the whole box, and said ventilating spaces in the bottom permitting two opposite sides of the box to draw inwardly when the slotted side is sprung outwardly by the bottom, substantially as set forth.

867,172. ROTARY ENGINE. JAMES B. TROUP and WALTER C. TROUP, Midland, Ind. Filed Nov. 30, 1906. Serial No. 345,716.

1. In a rotary engine, the combination of a cylinder having an inner shoulder, a hub eccentrically mounted within the cylinder and provided with outwardly movable pistons and a wing arranged within the cylinder adjacent to the shoulder thereof and in front of said shoulder to receive the impact of the pistons as the same fly outward after clearing the aforementioned shoulder.

2. In a rotary engine, the combination of a cylinder having a shoulder upon its inner wall and having a recess in front of said shoulder, a wing located in said recess and having a limited play at one end towards and from the axis of the engine, a spring interposed between said wing and the cylinder to normally press the free end of the wing inward, and a hub mounted eccentrically within the cylinder and provided with pistons adapted to have an inward and outward movement and normally acted upon by an outward force to fly outward after clearing the aforementioned shoulder of the cylinder, the outward shock

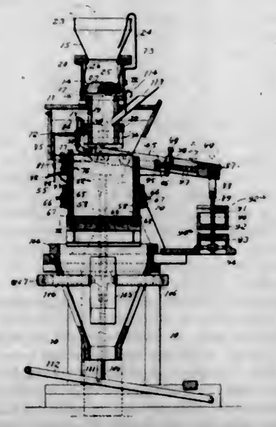
and wear of the piston being taken up by the said spring actuated wing.



3. In a rotary engine, the combination of a cylinder having an inner shoulder to form an abutment and provided with an inlet port opening through the face of said shoulder and having an exhaust and provided with a channel in communication at one end with the exhaust and extending around the inner wall of the cylinder to within a short distance of the aforementioned shoulder, and a hub eccentrically mounted within the cylinder and provided with radially movable pistons adapted to fly outward upon clearing the aforementioned shoulder.

4. In a rotary engine, the combination of a cylinder provided with inlet and exhaust ports and having an inner shoulder and a channel in its inner wall, said channel being in communication with the exhaust port and terminating a short distance from the aforementioned shoulder, a wing fitted in a recess in the inner wall of the cylinder adjacent to and in front of the said shoulder and having a limited movement at the end adjacent to the shoulder and pivoted at its opposite end to the cylinder, a spring interposed between said wing and the cylinder and located in a recess formed in the latter, a hub eccentrically mounted within the cylinder and provided with radial openings and intersecting slots, pistons slidably mounted in the slots, stems attached to the pistons and arranged to operate in the said openings, and springs mounted in the openings and normally exerting an outward pressure upon the pistons.

867,173. AUTOMATIC WEIGHING-MACHINE. CHARLES E. VAIL, New York, N. Y. Filed Aug. 30, 1906. Serial No. 332,605.



1. In an automatic weighing machine, the combination with a receiving hopper and a feed chute connected with said hopper, of gates adapted to close the lower end of said chute, adjustable devices carried by said gates, a scale bucket or hopper, a scale beam by which said bucket is pivotally held and which is adapted to engage the adjustable devices on the gates and fix the open position of the latter within the plane of movement of said beam, a movable division gate pivotally held within the scale bucket, means carried by the beam for balancing the scale bucket or hopper, together with means actuated by the movement of one of the feed gates for discharging the draft from the bucket.

2. In an automatic weighing machine, the combination with a feed chute for the material to be weighed, of gates adapted to close the lower end of said chute, devices carried by said gates, a scale bucket or hopper, a scale beam by which said bucket is pivotally held and which is adapted to engage the devices on the gates and fix the open position of the latter within the plane of movement of said beam, a movable division gate pivotally held within the scale bucket, means carried by the beam for balancing the scale bucket, together with means actuated by the movement of one of the feed gates for discharging the draft from said bucket.

3. In an automatic weighing machine, the combination with a receiving hopper, of pivoted feed gates adapted to regulate the flow of material from said hopper, devices carried by said gates adapted to move the latter against the flow of the material, a scale bucket, a scale beam by which said bucket is held and which is adapted to engage the devices on the gates and fix the open position of the latter within the plane of movement of said scale beam, a movable division gate held within the scale bucket, means carried by the beam for balancing the scale bucket or hopper, together with means actuated by the movement of one of the feed gates for discharging the draft from the bucket.

4. The combination with a scale bucket, means for weighing the draft contained in said bucket, of a receiving hopper having an elongated slot in the bottom thereof, means for controlling the flow of material from said hopper to the scale bucket, a rotary member having a blade movable within said hopper, the lower end of which is angularly disposed and which separates the material and causes the same to pass to the feed regulating means, and means for rotating the blade.

5. The combination with a receiving hopper, of a feed chute connected with said hopper, a pivoted gate adapted to close the lower end of said chute, a device carried by said gate and normally tending to force the latter shut, a scale bucket or hopper, a scale beam by which said bucket is pivotally held and which is adapted to engage the device on the gate and thereby determine the open position of the gate within the plane of movement of the beam, a movable division gate pivotally held within the scale bucket, means carried by the beam for balancing the scale bucket or hopper, together with means actuated by the movement of the feed gate for discharging the successive drafts or loads from the bucket.

6. The combination with means for holding material to be weighed, of means adapted to shut off the flow of the material, a scale hopper or bucket, a pivotally held scale beam from which the bucket is suspended, devices between the scale beam and the means shutting off the flow of the material and independent of the beam whereby the position of the latter may be partly regulated by the position of and finally released by said beam, a movable division gate pivotally held within the scale bucket, means for holding the division gate to retain a draft of material within the bucket, means for balancing the bucket, together with means for releasing the movable division gate.

7. The combination with a scale hopper or receptacle, and means for suspending the same, of means for supplying the material to said bucket, a division gate movable within the bucket, a double-acting latch movable with the division gate and having a slot with depressions therein, a pin projecting from the bucket and adapted to successively engage the depressions of the latch, and means for releasing the latch from the pin to permit the discharge of the load.

8. The combination with a scale hopper or receptacle, and means for suspending the same, of means for supplying the material to said bucket, a pivotally held division gate movable within the bucket and extending substantially the entire depth thereof, a double-acting latch movable with the division gate and having a slot with depressions, a pin projecting from the bucket and entering the slot and adapted to successively engage the depressions, and means for releasing the latch to discharge the load.

9. In a weighing machine, the combination with material feeding means, of a scale bucket or hopper, a scale beam by which the said bucket is held, weights for balancing said bucket and beam, an auxiliary weight compensating for the excess of material or that which is in transit between the time of shutting off the flow and the weighing of the material, a bar having apertures therein carried by the scale beam and a projection on the auxiliary weight adapted to fit the apertures whereby said latter weight may be made adjustable.

10. The combination with a scale bucket having an inlet and a discharge opening, of means for feeding the material, a division gate pivotally held within the bucket and adapted to form compartments and sustain a draft within said bucket, a double-acting latch movable with the gate and adapted to hold and lock the same when shifted on its pivot, and means for releasing the latch to permit the draft acting on the division gate to shift its position and discharge the draft after the feed is shut off.

11. The combination with a scale bucket or hopper having an inlet and a discharge opening, of means for feeding the material, a division gate movable within the bucket, a double-acting latch movable with the gate and adapted to hold and lock the same when shifted on its pivot, and means for releasing the latch to permit the draft acting on the division gate to shift its position and discharge the draft after the feed is shut off.

12. The combination with a scale bucket or hopper having an inlet and a discharge opening, of a division gate pivotally held within the bucket and adapted to form compartments and sustain a draft within said bucket, a fixed projection on the bucket, a double-acting latch pivoted to the gate and having portions engaging the fixed projection to hold and lock the gate when shifted on its pivot, and means for releasing the latch to permit the draft acting on the division gate to shift its position.

13. The combination with means for supplying material to be weighed, of a vertically swinging gate adapted to regulate the flow of the material, a horizontally extending arm carried by said gate, a pivoted trip or catch extending downward and arranged within the path of movement of said arm, an adjustable stop carried by the trip and adapted to engage the arm carried by the feed gate, a scale bucket, a division gate extending substantially the entire depth of the bucket and dividing the latter into two compartments, means movable with the scale bucket adapted to release the stop from the arm to permit the feed gate to close suddenly, and means operated during the movement of the feed gate to release the division gate to discharge the load.

14. The combination with means for supplying material to be weighed, of a vertically swinging gate adapted to regulate the flow of the material, a horizontally extending arm carried by said gate, a pivoted trip or catch extending downward and arranged within the path of movement of said arm, an adjustable stop carried by the trip and adapted to engage the arm carried by the feed gate, a scale bucket, a division gate held within the bucket and dividing the latter into two compartments, means movable with the scale bucket adapted to release the stop from the arm to permit the feed gate to close suddenly, and means operated during the movement of the feed gate to release the division gate to discharge the load.

15. The combination with means for supplying material to be weighed, a vertically swinging gate adapted to regulate the flow of the material, a horizontally extending arm carried by the gate, a pivoted trip or catch extending downward and arranged within the path of movement of said arm, an adjustable stop carried by the trip and adapted to engage the arm carried by the feed gate, a scale bucket, a pivotally held division gate extending substantially the entire depth of the bucket and dividing the latter into two compartments, means movable with the scale bucket adapted to release the stop from the arm to permit the feed gate to close suddenly, and means operated during the movement of the feed gate to release the division gate to discharge the load.

16. The combination with means for holding the material to be weighed, of a gate adapted to regulate the flow of material, an arm carried by said gate, a pivoted trip or catch, an adjustable stop carried by the trip and adapted to engage the arm carried by the feed gate, a scale bucket, a pivoted beam carrying the bucket, and a projection on the beam adapted to release the stop from the arm to permit the feed gate to close suddenly.

17. The combination with means for holding the material to be weighed, of a gate adapted to regulate the flow of material, an arm carried by said gate, a pivoted trip or catch, a stop carried by the trip and adapted to engage the arm carried by the feed gate, a scale bucket, and means movable with the scale bucket adapted to release the stop from the arm to permit the feed gate to close suddenly, a division gate pivotally held within the bucket, means for locking the division in a position to form compartments within the bucket, and means carried by the feed gate arm adapted to release the means holding the division gate during the closing of the feed gate to permit the discharge of the draft of material from said bucket.

18. The combination with a scale bucket and means for weighing the draft contained in said bucket, of a receiving hopper, means for controlling the flow of material from said hopper to the scale bucket, a rotary member forming a part of said hopper, blades pendent from said rotary member and having angularly disposed blades for separating the material and causing the same to pass to the feed regulating means, and means for positively rotating the blades.

19. The combination with a scale bucket, and means for weighing the draft contained in said bucket, of a receiving hopper, means for controlling the flow of material from said hopper to the scale bucket, a rotary member forming a part of said hopper, two blades movable with said rotary member and having angularly disposed blades for separating the material and causing the same to pass to the feed regulating means, and means for rotating the blades.

20. The combination with a scale bucket, and means for weighing the draft contained in said bucket, of a receiving hopper, means for controlling the flow of material from said hopper to the scale bucket, a rotary member forming a part of said hopper, blades carried by said member and having angularly disposed blades for separating the material and causing the same to pass to the feed regulating means, means for rotating the blades, together with a chute for conveying a different class of material to mix with the material from the hopper.

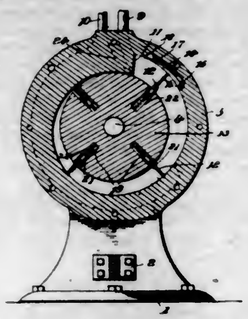
21. In a weighing machine, the combination with a scale bucket, of means for feeding material to said bucket, a hopper located directly beneath the scale bucket, means for discharging the draft of material from the bucket to said hopper, and a plunger movable in the hopper directly under the bucket and adapted to force the material discharged from the bucket from said hopper.

22. In a weighing machine, the combination with a receiving hopper, of a scale bucket, means for regulating the flow of material to said bucket from the hopper, a second or draft-receiving hopper, means for discharging the draft of material from the bucket to said latter hopper, a plunger movable in the draft receiving hopper directly under the scale bucket and adapted to force the material discharged from the bucket from said hopper, and means for operating the plunger.

867,174. CAR-COUPLING. MILES VASTINE and CHARLES H. ZEBE, South Omaha, Nebr. Filed July 13, 1906. Serial No. 326,106.

1. In a car coupler, a draw head, a coupling knuckle pivoted thereon, a locking block pivotally held in the draw

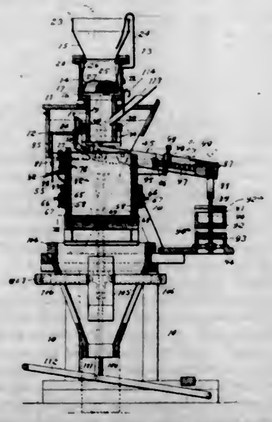
and wear of the piston being taken up by the said spring actuated wing.



3. In a rotary engine, the combination of a cylinder having an inner shoulder to form an abutment and provided with an inlet port opening through the face of said shoulder and having an exhaust and provided with a channel in communication at one end with the exhaust and extending around the inner wall of the cylinder to within a short distance of the aforementioned shoulder, and a hub eccentrically mounted within the cylinder and provided with radially movable pistons adapted to fly outward upon clearing the aforementioned shoulder.

4. In a rotary engine, the combination of a cylinder provided with inlet and exhaust ports and having an inner shoulder and a channel in its inner wall, said channel being in communication with the exhaust port and terminating a short distance from the aforementioned shoulder, a wing fitted in a recess in the inner wall of the cylinder adjacent to and in front of the said shoulder and having a limited movement at the end adjacent to the shoulder and pivoted at its opposite end to the cylinder, a spring interposed between said wing and the cylinder and located in a recess formed in the latter, a hub eccentrically mounted within the cylinder and provided with radial openings and intersecting slots, pistons slidably mounted in the slots, stems attached to the pistons and arranged to operate in the said openings, and springs mounted in the openings and normally exerting an outward pressure upon the pistons.

867,173. AUTOMATIC WEIGHING-MACHINE. CHARLES E. VAIL, New York, N. Y. Filed Aug. 30, 1906. Serial No. 332,605.



1. In an automatic weighing machine, the combination with a receiving hopper and a feed chute connected with said hopper, of gates adapted to close the lower end of said chute, adjustable devices carried by said gates, a scale bucket or hopper, a scale beam by which said bucket is pivotally held and which is adapted to engage the adjustable devices on the gates and fix the open position of the latter within the plane of movement of said beam, a movable division gate pivotally held within the scale bucket, means carried by the beam for balancing the scale bucket or hopper, together with means actuated by the movement of one of the feed gates for discharging the draft from the bucket.

2. In an automatic weighing machine, the combination with a feed chute for the material to be weighed, of gates adapted to close the lower end of said chute, devices carried by said gates, a scale bucket or hopper, a scale beam by which said bucket is pivotally held and which is adapted to engage the devices on the gates and fix the open position of the latter within the plane of movement of said beam, a movable division gate pivotally held within the scale bucket, means carried by the beam for balancing the scale bucket, together with means actuated by the movement of one of the feed gates for discharging the draft from said bucket.

3. In an automatic weighing machine, the combination with a receiving hopper, of pivoted feed gates adapted to regulate the flow of material from said hopper, devices carried by said gates adapted to move the latter against the flow of the material, a scale bucket, a scale beam by which said bucket is held and which is adapted to engage the devices on the gates and fix the open position of the latter within the plane of movement of said scale beam, a movable division gate held within the scale bucket, means carried by the beam for balancing the scale bucket or hopper, together with means actuated by the movement of one of the feed gates for discharging the draft from the bucket.

4. The combination with a scale bucket, means for weighing the draft contained in said bucket, of a receiving hopper having an elongated slot in the bottom thereof, means for controlling the flow of material from said hopper to the scale bucket, a rotary member having a blade movable within said hopper, the lower end of which is angularly disposed and which separates the material and causes the same to pass to the feed regulating means, and means for rotating the blade.

5. The combination with a receiving hopper, of a feed chute connected with said hopper, a pivoted gate adapted to close the lower end of said chute, a device carried by said gate and normally tending to force the latter shut, a scale bucket or hopper, a scale beam by which said bucket is pivotally held and which is adapted to engage the device on the gate and thereby determine the open position of the gate within the plane of movement of the beam, a movable division gate pivotally held within the scale bucket, means carried by the beam for balancing the scale bucket or hopper, together with means actuated by the movement of the feed gate for discharging the successive drafts or loads from the bucket.

6. The combination with means for holding material to be weighed, of means adapted to shut off the flow of the material, a scale hopper or bucket, a pivotally held scale beam from which the bucket is suspended, devices between the scale beam and the means shutting off the flow of the material and independent of the beam whereby the position of the latter may be partly regulated by the position of and finally released by said beam, a movable division gate pivotally held within the scale bucket, means for holding the division gate to retain a draft of material within the bucket, means for balancing the bucket, together with means for releasing the movable division gate.

7. The combination with a scale hopper or receptacle, and means for suspending the same, of means for supplying the material to said bucket, a division gate movable within the bucket, a double-acting latch movable with the division gate and having a slot with depressions therein, a pin projecting from the bucket and adapted to successively engage the depressions of the latch, and means for releasing the latch from the pin to permit the discharge of the load.

8. The combination with a scale hopper or receptacle, and means for suspending the same, of means for supplying the material to said bucket, a pivotally held division gate movable within the bucket and extending substantially the entire depth thereof, a double-acting latch movable with the division gate and having a slot with depressions, a pin projecting from the bucket and entering the slot and adapted to successively engage the depressions, and means for releasing the latch to discharge the load.

9. In a weighing machine, the combination with material feeding means, of a scale bucket or hopper, a scale beam by which the said bucket is held, weights for balancing said bucket and beam, an auxiliary weight compensating for the excess of material or that which is in transit between the time of shutting off the flow and the weighing of the material, a bar having apertures therein carried by the scale beam and a projection on the auxiliary weight adapted to fit the apertures whereby said latter weight may be made adjustable.

10. The combination with a scale bucket having an inlet and a discharge opening, of means for feeding the material, a division gate pivotally held within the bucket and adapted to form compartments and sustain a draft within said bucket, a double-acting latch movable with the gate and adapted to hold and lock the same when shifted on its pivot, and means for releasing the latch to permit the draft acting on the division gate to shift its position and discharge the draft after the feed is shut off.

11. The combination with a scale bucket or hopper having an inlet and a discharge opening, of means for feeding the material, a division gate movable within the bucket, a double-acting latch movable with the gate and adapted to hold and lock the same when shifted on its pivot, and means for releasing the latch to permit the draft acting on the division gate to shift its position and discharge the draft after the feed is shut off.

12. The combination with a scale bucket or hopper having an inlet and a discharge opening, of a division gate pivotally held within the bucket and adapted to form compartments and sustain a draft within said bucket, a fixed projection on the bucket, a double-acting latch pivoted to the gate and having portions engaging the fixed projection to hold and lock the gate when shifted on its pivot, and means for releasing the latch to permit the draft acting on the division gate to shift its position.

13. The combination with means for supplying material to be weighed, of a vertically swinging gate adapted to regulate the flow of the material, a horizontally extending arm carried by said gate, a pivoted trip or catch extending downward and arranged within the path of movement of said arm, an adjustable stop carried by the trip and adapted to engage the arm carried by the feed gate, a scale bucket, a division gate extending substantially the entire depth of the bucket and dividing the latter into two compartments, means movable with the scale bucket adapted to release the stop from the arm to permit the feed gate to close suddenly, and means operated during the movement of the feed gate to release the division gate to discharge the load.

14. The combination with means for supplying material to be weighed, of a vertically swinging gate adapted to regulate the flow of the material, a horizontally extending arm carried by said gate, a pivoted trip or catch extending downward and arranged within the path of movement of said arm, an adjustable stop carried by the trip and adapted to engage the arm carried by the feed gate, a scale bucket, a division gate held within the bucket and dividing the latter into two compartments, means movable with the scale bucket adapted to release the stop from the arm to permit the feed gate to close suddenly, and means operated during the movement of the feed gate to release the division gate to discharge the load.

15. The combination with means for supplying material to be weighed, a vertically swinging gate adapted to regulate the flow of the material, a horizontally extending arm carried by the gate, a pivoted trip or catch extending downward and arranged within the path of movement of said arm, an adjustable stop carried by the trip and adapted to engage the arm carried by the feed gate, a scale bucket, a pivotally held division gate extending substantially the entire depth of the bucket and dividing the latter into two compartments, means movable with the scale bucket adapted to release the stop from the arm to permit the feed gate to close suddenly, and means operated during the movement of the feed gate to release the division gate to discharge the load.

16. The combination with means for holding the material to be weighed, of a gate adapted to regulate the flow of material, an arm carried by said gate, a pivoted trip or catch, an adjustable stop carried by the trip and adapted to engage the arm carried by the feed gate, a scale bucket, a pivoted beam carrying the bucket, and a projection on the beam adapted to release the stop from the arm to permit the feed gate to close suddenly.

17. The combination with means for holding the material to be weighed, of a gate adapted to regulate the flow of material, an arm carried by said gate, a pivoted trip or catch, a stop carried by the trip and adapted to engage the arm carried by the feed gate, a scale bucket, and means movable with the scale bucket adapted to release the stop from the arm to permit the feed gate to close suddenly, a division gate pivotally held within the bucket, means for locking the division in a position to form compartments within the bucket, and means carried by the feed gate arm adapted to release the means holding the division gate during the closing of the feed gate to permit the discharge of the draft of material from said bucket.

18. The combination with a scale bucket and means for weighing the draft contained in said bucket, of a receiving hopper, means for controlling the flow of material from said hopper to the scale bucket, a rotary member forming a part of said hopper, blades pendent from said rotary member and having angularly disposed blades for separating the material and causing the same to pass to the feed regulating means, and means for positively rotating the blades.

19. The combination with a scale bucket, and means for weighing the draft contained in said bucket, of a receiving hopper, means for controlling the flow of material from said hopper to the scale bucket, a rotary member forming a part of said hopper, two blades movable with said rotary member and having angularly disposed blades for separating the material and causing the same to pass to the feed regulating means, and means for rotating the blades.

20. The combination with a scale bucket, and means for weighing the draft contained in said bucket, of a receiving hopper, means for controlling the flow of material from said hopper to the scale bucket, a rotary member forming a part of said hopper, blades carried by said member and having angularly disposed blades for separating the material and causing the same to pass to the feed regulating means, means for rotating the blades, together with a chute for conveying a different class of material to mix with the material from the hopper.

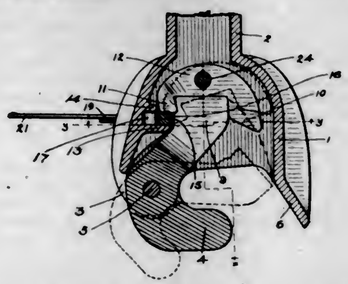
21. In a weighing machine, the combination with a scale bucket, of means for feeding material to said bucket, a hopper located directly beneath the scale bucket, means for discharging the draft of material from the bucket to said hopper, and a plunger movable in the hopper directly under the bucket and adapted to force the material discharged from the bucket from said hopper.

22. In a weighing machine, the combination with a receiving hopper, of a scale bucket, means for regulating the flow of material to said bucket from the hopper, a second or draft-receiving hopper, means for discharging the draft of material from the bucket to said latter hopper, a plunger movable in the draft receiving hopper directly under the scale bucket and adapted to force the material discharged from the bucket from said hopper, and means for operating the plunger.

867,174. CAR-COUPLING. MILES VASTINE and CHARLES H. ZERBE, South Omaha, Nebr. Filed July 13, 1906. Serial No. 326,106.

1. In a car coupler, a draw head, a coupling knuckle pivoted thereon, a locking block pivotally held in the draw

head, jaws on said block adapted to inclose the tail of the coupling knuckle, and a vertically slidable locking pin adapted to drop in front of one of the said jaws and prevent turning of the block, said locking pin when raised being adapted to engage the knuckle and turn the same toward open position.



2. In a car coupler of the class described, a draw head, a coupling knuckle pivoted thereon, a block pivotally held in the draw head and having jaws adapted to inclose the tail of the coupling knuckle, a vertically slidable locking pin engaging one of said jaws of the pivoted block to prevent turning thereof and release of the tail of the knuckle, one side of said pin being in proximity to the tail of the coupling knuckle, and inclined surfaces on the pin and draw head, said surfaces being engageable after the pin is raised to release the pivoted block, and said engagement forcing the pin against the tail of the knuckle and tending to turn the same toward its open position.

3. In a car coupling of the class described, a draw head, a coupling knuckle pivoted thereon, a block having jaws adapted to inclose the tail of said knuckle, a pin passing through the draw head and said block to pivotally secure the same therein, the portion of the pin passing through the block being eccentric to the portions thereof passing through the draw head, and a locking pin engageable with the said pivoted block to prevent turning thereof and the release from the jaws thereof of the tail of the coupling knuckle.

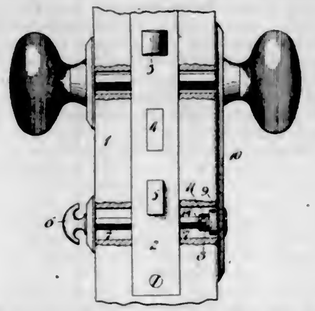
4. In a car coupling of the class described, a draw head, a coupling knuckle pivoted thereon, a transversely tiltable locking block disposed within the draw head and having jaws adapted to inclose the tail of the knuckle, and releasable means for retaining the block in such position that said tail of the knuckle cannot turn out of the jaws of the block, said releasable retaining means also serving to engage the knuckle to turn the same toward open position.

5. In a car coupling of the class described, a draw head, a coupling knuckle pivoted thereon, a block pivotally held in the draw head and having thereon jaws adapted to inclose the tail of the knuckle, means for varying the pivotal center of the block, and means releasably engaging said block to prevent turning thereof.

6. In a car coupling of the class described, a draw head, a coupling knuckle pivoted thereon, a transversely tiltable block pivoted within the draw head, jaws on said block adapted to inclose the tail of the knuckle, a locking pin releasably engaging the tiltable block to prevent turning thereof, and means on the head engageable with said pin after releasing the block, said means operating to force the pin against the tail of the knuckle and turn the same toward its open position.

867,175. LOCK-INDICATOR. HENRY G. VOIGHT, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed Mar. 22, 1907. Serial No. 363,825.

1. In a lock, a bolt, means for operating said bolt from the inner side of the door to which the lock is applied, a reciprocating indicating device for the outside of said door, said indicating device comprising an exposed movable member and means for positively moving said indicating device into and holding the same in two different indicating positions.



2. In a lock, a bolt, means for operating said bolt from the inner side of the door to which the lock is applied, an indicating device for the outside of said door, said indicating device comprising an exposed axially movable member, and means for positively moving said indicating device into and holding the same in two different indicating positions said indicator being retracted when the bolt is projected.

3. In a lock, a bolt, means for operating said bolt from the inner side of the door to which the lock is applied, an indicating device for the outside of said door, said indicating device comprising an exposed longitudinally movable member, and means for positively moving said indicating device into two different indicating positions, the movement of said operating means in both directions being dependent with the movement of the said bolt.

4. In a lock, a bolt, means for operating the same from opposite sides of the door to which the lock is applied, an indicator for the outer side of the lock, said indicator comprising an exposed movable device, and means to positively move said indicator to two different indicating positions when the bolt is operated from the inside and to only one indicating position when said bolt is operated from the outside.

5. In combination, a lock having a bolt, means for actuating the same, an indicator comprising an axially movable externally located device, means coöperatively connecting the bolt and indicator to impart a positive movement to the indicator in both directions and arranged to hold the latter positively in two different positions.

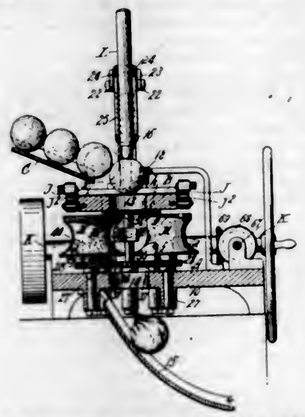
6. In combination, a lock having a bolt, means for actuating the same, an indicator comprising an axially movable externally located device, means coöperatively connecting the bolt and indicator to impart a positive movement to the indicator in both directions, said means including a spiral connection between the indicator and an adjacent part.

7. In combination, a lock case, a bolt, a spindle for operating said bolt, said spindle extending entirely through said case, an indicator comprising an externally located exposed device movable in and out, a connection between said indicator and spindle, and a spiral connection between said indicator and an adjacent part whereby, when said spindle is rotated in either direction, the indicator will be given a positive movement, in or out, to correspond with the direction of rotation of said spindle.

8. In an indicating device for locks, the combination of an externally located exposed device, with means for positively moving the same in and out, said means bearing a dependent relation to the bolt of the lock, said indicator standing in while the bolt is projected and out when the bolt is retracted.

9. An indicating device for door locks comprising a reciprocating finger-piece, a guide therefor, a rotatable spindle engaging said indicator at the rear, means to prevent the independent rotation of said indicator relatively to one of said parts, and a spiral or cam connection between said indicator and the other part.

867,176. MACHINE FOR WRAPPING ORANGES AND OTHER SPHERICAL OBJECTS. GEORGE T. WARWICK, Springfield, Mass. Filed Nov. 24, 1906. Serial No. 344,917.



1. In a machine for wrapping spherical objects, a pair of oppositely located and separated bodies and means for imparting movements thereto in opposite directions, such movable bodies having downwardly and outwardly inclined, approached, lower object supporting portions.

2. In a machine for wrapping spherical objects, a pair of oppositely located, separated, bodies, and means for imparting movements thereto in opposite directions, such movable bodies having downwardly and inwardly inclined, approached, lower, body supporting portions, and adapted to receive therebetween and turn the spherical body and the wrapper therefor, and means for inwardly deflecting, to secure the twisting thereof, the upper portion of the wrapper.

3. In a machine for wrapping spherical objects, a pair of oppositely located and separated bodies and means for imparting movements thereto in opposite directions, such movable bodies having downwardly and inwardly inclined approached lower object supporting portions, and having upper portions gradually horizontally widened, to be more closely approached under the movements of such bodies, and operable to inwardly deflect a wrapper relatively to an upper portion of the spherical object to be wrapped.

4. In a machine for wrapping spherical objects, a pair of oppositely located, separated bodies, and means for imparting movements thereto in opposite directions, such movable bodies having downwardly and outwardly inclined, approached, lower, body supporting portions, and having upper members gradually horizontally widened, the surfaces of which are of gradually decreasing height from their portions of less to their portions of greater horizontal extent.

5. In a machine for wrapping spherical objects, a pair of oppositely located, separated bodies, and means for imparting movements thereto in opposite directions, such movable bodies having the surface portions thereof composed of yielding material, and having downwardly and outwardly inclined approached lower object supporting portions.

6. In a machine for wrapping spherical objects, a pair of oppositely located, separated bodies, and means for imparting movements thereto in opposite directions, such movable bodies having downwardly and outwardly inclined, approached, lower, body supporting portions, and having upper portions gradually horizontally widened, the facing surfaces of such widened portions being roughened.

7. In a machine of the character described, a pair of oppositely located, separated, bodies, and means for imparting movements thereto in opposite directions, means for supporting a spherical object to be wrapped between, and to be rotated by, said oppositely movable bodies, and such movable bodies having gradually widening upper portions, and movable wrapper deflectors, the lines of approach thereof being angular to the lines of approach of the widened portions of said movable bodies, and means for operating said deflectors.

8. In a machine of the character described, a pair of oppositely located and separated bodies, and means for imparting movements thereto in opposite directions, such bodies having downwardly and outwardly inclined and approached lower supporting portions for the spherical body to be wrapped, and guards for the object suitably separated and located at opposite sides of the space between said bodies.

9. In a machine for wrapping spherical objects, in combination, a table, having an aperture therethrough, for the support of a wrapper sheet thereon, a pair of oppositely located and separated bodies having downwardly and outwardly inclined, approached, lower portions, said bodies being located below and adjacent the said opening, means for imparting movements to said bodies in opposite directions, and means for forcing the spherical object to be wrapped, with the wrapper therefor, through said opening to a position between,—and so that the object and wrapper will be supported and rotated, by,—said oppositely movable bodies.

10. In a machine for wrapping spherical objects, in combination, a table, having an aperture therethrough, for the support of a wrapper sheet thereon, a pair of oppositely located and separated bodies having downwardly and outwardly inclined, approached, lower portions located below and adjacent the said opening, means for imparting movements to said bodies in opposite directions, means for feeding wrapper sheets onto the table over said opening, and means for forcing the spherical object to be wrapped, with the wrapper therefor, through said opening to a position between,—and so that the object and wrapper will be rotated, by,—said oppositely movable bodies.

11. In a machine for wrapping spherical objects, in combination, a table having an aperture therethrough, for the support of a wrapper sheet thereon, a pair of oppositely located and separated bodies having downwardly and outwardly inclined, approached, lower portions located below and adjacent the said opening, means for imparting movements to said bodies in opposite directions, means for feeding spherical objects to be wrapped to position on said table at the location of and upon the wrapper, above said aperture, and means for forcing the spherical object to be wrapped, with the wrapper therefor, through said opening to a position between,—and so that such object and wrapper will be supported and rotated, by,—said oppositely movable bodies.

12. In a machine for wrapping spherical objects, in combination, a table, having an aperture therethrough, for the support of the wrapper thereon, a pair of oppositely located and separated bodies having positions below and adjacent the said opening and provided with gradually approaching and outwardly widened upper members, means for imparting movements to said bodies in opposite directions, and means for forcing the spherical object to be wrapped with the sheet through said opening to a position between,—and so that such object and sheet will be rotated by,—said oppositely movable bodies.

13. In a machine for wrapping spherical objects, in combination, a table, having an aperture therethrough, for the support of the wrapper thereon, a pair of oppositely located and separated bodies having positions below and adjacent the said opening and provided with gradually approaching and outwardly widened upper members, the surfaces of which as to height are gradually decreased from their portions of less to their portions of greater inward extent, means for imparting movements to said bodies in opposite directions, and means for forcing the spherical object to be wrapped with the sheet through said opening to position between, and so that such object and sheet will be rotated by, said oppositely movable bodies.

14. An orange wrapping device consisting of a pair of oppositely located separated circular rotatable bodies, each

having its lower portion downwardly and outwardly curved, means for rotating said circular bodies, and means for inwardly deflecting the upper portion of a wrapper.

15. An orange wrapping device consisting of a pair of oppositely located separated circular rotatable bodies, having their lower portions downwardly and outwardly curved, and having recesses to assume concurrently adjacent positions, and means for rotating said circular bodies.

16. An orange wrapping device consisting of a pair of oppositely located separated circular rotatable bodies, each having its lower portion downwardly and outwardly curved, and having its upper portion formed gradually expanding radially to constitute a revoluble inwardly deflecting wrapper member, and means for rotating said circular bodies.

17. An orange wrapping device consisting of a pair of oppositely located separated circular rotatable bodies, each having its lower portion downwardly and outwardly curved, and having its upper portion formed gradually expanding radially to constitute a revoluble inwardly deflecting wrapper member, such member having a decreasing height from a less to a more radially distended portion thereof, and means for rotating said circular bodies.

18. An orange wrapping device consisting of a pair of oppositely located rotatable arbors having circular bodies thereon composed of soft rubber, each body having its lower portion downwardly and outwardly curved, and formed with an edgewise opening recess therein, and having an upper gradually widening portion, and means for rotating said arbors in opposite directions.

19. In an orange wrapping device the combination with a pair of oppositely located separated circular rotatable bodies, each having its lower portion downwardly and outwardly curved, and having an edgewise recess, of a pair of elements, revoluble in a plane closely above the tops of said bodies, and having radially expanding wrapper deflecting portions, and means for rotating said bodies in opposite directions, and for rotating said deflector elements.

20. In an orange wrapping device the combination with a pair of oppositely located separated circular rotatable bodies, each having its lower portion downwardly and outwardly curved, and having an edgewise recess, of a pair of elements, revoluble in a plane closely above the tops of said bodies, and having radially expanding wrapper deflecting portions, orange positioning guards at opposite sides of the space between said rotatable bodies and transversely offset from a line between the axes of such bodies, and means for rotating said bodies in opposite directions, and for rotating said deflector elements.

21. In an orange wrapping mechanism, an oppositely located pair of rotatable shafts and a second pair of rotatable shafts arranged at either side of a line extended between said first pair, all of said shafts having spur gear wheels thereon, and intermeshing intermediate spur gear wheels, and means for driving the gear train,—and said first named pair of shafts having circular bodies constructed with downwardly and outwardly curved lower portions having edgewise recesses and constructed with snail cam shaped upper members decreasing in height from their less to their greater radially extended portions, and said second named shafts having at their upper portions snail cam shaped members revoluble in planes adjacent the tops of said circular bodies.

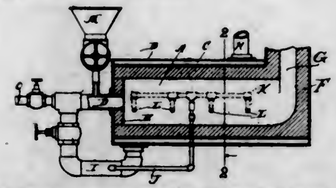
22. In an orange wrapping device the combination with a pair of oppositely located separated circular rotatable bodies, each having its lower portion downwardly and outwardly curved, and having an edgewise recess, of a pair of elements, revoluble in a plane closely above the tops of said bodies, and having radially expanding wrapper deflecting portions, orange positioning guards at opposite sides of the space between said rotatable bodies and transversely offset from a line between the axes of such bodies, means for rotating said bodies in opposite directions, and for rotating said deflector elements, a table located above said rotatable bodies, having an aperture alined with the space between them, means for feeding wrapper sheets onto said table, means for conveying oranges onto the wrapper, and means for successively forcing the oranges and wrappers through said aperture to position between and subject to the actions of the rotatable bodies and revoluble deflectors.

23. In a machine for wrapping spherical objects, adjacent separated bodies having widened object supporting lower portions, means for moving one of said bodies relatively to the other, and both of said bodies having gradually widening upper portions.

24. In a machine for wrapping spherical objects, in combination, a table, having an aperture therethrough, for the support of a wrapper sheet thereon, means for feeding wrapper sheets on said table, a chute terminating above the table adjacent said aperture, an orange stop, above the table opposite the end of the chute, a pair of oppositely located and separated bodies having downwardly and outwardly inclined, approached, lower portions located below and adjacent the said opening, means for imparting movements to said bodies in opposite directions, and means for forcing the orange with the wrapper through said aperture to a position between, and so that the orange and wrapper will be supported and rotated by said oppositely movable bodies.

25. In a machine for wrapping spherical objects, in combination, a table, having an aperture therethrough, for the support of a wrapper sheet thereon, means for feeding wrapper sheets on said table, a chute terminating above the table adjacent said aperture, an orange stop, above the table opposite the end of the chute, a pair of oppositely located and separated bodies having downwardly and outwardly inclined, approached, lower portions located below and adjacent the said opening, means for imparting movements to said bodies in opposite directions, and a vertically reciprocatory plunger movable in line with said aperture, and adjacent and across the end of the chute operable for forcing an orange with its wrapper to a position between said oppositely located movable bodies, and also to serve as a check for oranges in the chute restraining the one behind that being wrapped from unseasonably moving onto the apertured table.

867,177. METHOD OF BURNING FINELY-DIVIDED FUEL. GEORGE S. WELLES, Chicago, Ill. Filed Apr. 16, 1906. Serial No. 311,962.



1. The hereindescribed method of burning finely divided fuel which consists in directing into a combustion chamber a plurality of gaseous currents including a vehicle for finely divided fuel said currents being directed laterally to each other, neither current impinging directly upon the other.

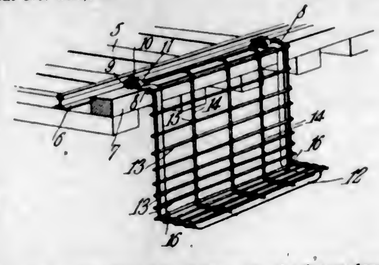
2. The hereindescribed method of burning finely divided fuel, which consists in introducing into a combustion chamber in directions lateral to each other, a gaseous vehicle for and admixed with said fuel, and gaseous jets, said vehicle and jets being directed relatively tangentially to each other to produce relatively gradual and indirect deflection thereof.

3. The hereindescribed method of burning finely divided fuel which consists in passing substantially centrally through a combustion chamber, a gaseous vehicle for and admixed with such fuel, and introducing into the said chamber between the ends thereof gaseous jets in a direction encircling the said vehicle.

4. The hereindescribed method of burning finely divided fuel which consists in introducing into a combustion chamber in directions lateral to each other a vehicle for such fuel admixed therewith, and jets of air, said vehicle and air jets being relatively so directed that neither of the same impinges directly against the other thereof.

5. The hereindescribed method of burning finely divided fuel which consists in introducing such fuel admixed with air into a combustion chamber and directing the same longitudinally therethrough, and introducing into said chamber between the ends thereof jets of air in a direction lateral to the direction of motion of said fuel but out of the path thereof.

867,178. FOOTWAY FOR RAILROAD-BRIDGES. EDWARD M. WILEY, Adams, Ind. Filed June 25, 1907. Serial No. 380,771.



1. The combination with a support, of a frame depending from the support and having one end thereof bent laterally to form a step, and a flexible cover bearing against the frame and forming a tread surface for the step.

2. The combination with a support, of a frame depending from the support, clips bearing against the fixed end of the frame, and a cover engaging the clips and bearing against one side of the frame.

3. The combination with a support, of a frame depending from the support and having its free end bent laterally to form a step, clips secured to the fixed end of the frame, and a wire fabric engaging the clips and forming a tread surface for the step.

4. The combination with a support, of a frame secured to and depending from the support, U shaped clips bearing against the fixed ends of the frame, a flexible covering engaging the clips, and fastening devices piercing the clips and frame for locking the flexible covering against accidental displacement.

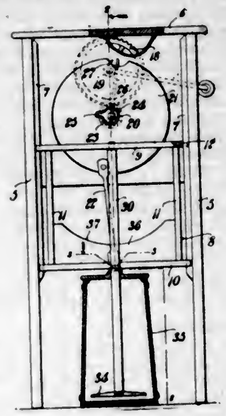
5. The combination with a support, of a frame having one end thereof provided with laterally extending arms and its opposite end bent to form a step, clips secured to the arms, a cover engaging the clips and forming a tread surface for the step, and fastening devices piercing the clips and arms for locking the cover against accidental displacement.

6. The combination with a support, of a frame having one end thereof bent laterally to form a step and its opposite end provided with spaced arms having reduced terminals, U shaped clips engaging the reduced terminals of the arms, and wire fabric engaging the clips and bearing against the frame to form a tread surface for the step, said fabric being formed of intersecting longitudinal and vertical bars.

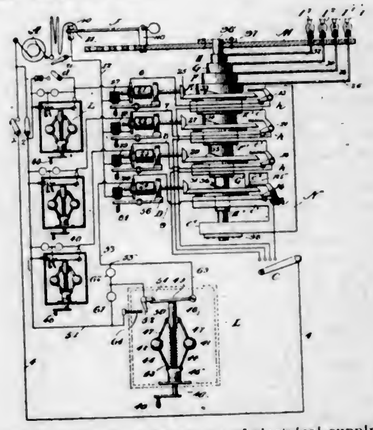
7. The combination with a support, of U shaped clips secured to the support, a flexible member suspended from the clips, and fastening devices piercing the clips and engaging the support for locking the flexible member in engagement with said clips.

867,179. CHURN. JAMES W. WILLIAMS, Stanley, Mo. Filed Apr. 6, 1907. Serial No. 366,774.

A churn including a supporting frame, a slide mounted for vertical movement on said frame, a dasher rod carried by the slide, a driving shaft, a crank wheel secured to one end of the driving shaft and having a recess formed in the face thereof, there being a depression formed in the peripheral edge of the crank wheel, a washer seated in said recess and provided with a lateral spur embedded in the face of the wheel, a locking pin piercing the crank wheel and having one end thereof seated in the peripheral depression of the wheel and its opposite end engaging the driving shaft, a pitman forming a pivotal connection between the driving wheel and slide, and means for rotating the shaft.



867,180. VEHICLE-CONTROLLING APPARATUS. GRANVILLE T. WOODS, New York, N. Y. Filed Sept. 23, 1899. Serial No. 731,411.



1. The combination of a source of electrical supply, provided with a supply circuit, a traveling railway or railroad car, an electrical motor electrically communicating with said supply circuit, and connected to said car to drive the same, a plurality of contacts arranged to be brought in circuit with said motor, to govern the speed thereof, an energy conveying coil outside of said supply circuit, and manually operable means, also outside of said supply circuit, and operating in connection with said energy conveying coil to control the operation of said motor.

2. The combination of the rails of a railway, a car or vehicle traveling thereon, an electric motor operatively connected to said car or vehicle to drive the same, a source of electrical supply communicating with said motor, a plurality of pairs of contacts arranged to influence the speed of said motor, and a manually operable device whereby the contacts of one of said pairs of contacts, are connected together and caused to influence the condition of another one of said pairs of contacts.

3. The combination of the rails of a railway, a car or vehicle traveling thereon, an electric motor operatively connected to said car or vehicle to drive the same, a

source of electrical supply communicating with said motor, a plurality of contacts arranged to be brought pair by pair into the motor circuit to influence the speed thereof, governing means for said contacts, and a manually operable master-controller provided with flexible means for conveying energy between said master-controller and said governing means to control the latter apparatus.

4. An electrically driven car carrying two unlike controllers provided with flexible means which convey energy between such controllers to influence the speed of the car; one of such controllers being manually operable and constructed to influence the action of the other controller.

5. The combination of an electrical supply circuit, a traveling motor driven railway or railroad car, an electrical driving motor operatively connected thereto and obtaining energy transferred from said supply circuit, an electro-inductive winding outside of said supply circuit and arranged to cause the transfer of energy from said supply circuit to said motor, and manually operable means whereby the electro-inductive action of said winding is changed to vary the amount of energy supplied to said motor.

6. The combination of a power operated motive device, controller-apparatus therefor operating independently of the action of said motive-device, and means constructed and arranged to automatically and instantly signal when the speed of operation of said apparatus becomes either too high or too low.

7. The combination of a power operated motive-device, controller apparatus therefor operating independently of the action of said motive-device, and two signal devices, the construction and arrangement being such that one signal device is brought into action the instant the operation of said apparatus becomes too fast, the other signal device being actuated the instant the speed of operation of said apparatus becomes too slow.

8. In an electrical system, the combination of a car, a motive device provided with a rotative member which is controlled on said car and operatively connected thereto to propel the same, a source of electrical supply for said motor, an electro-energizable winding, arranged upon said car, and adapted to cause a change in the active condition of said rotative member of said motive device, and means upon said car, and outside of the circuit containing said source of supply, and arranged to control the energy affecting said winding; said means being provided with a manually operable handle.

9. An electric motor driven car or vehicle having a driving motor and carrying two unlike controllers provided with a connection between them, and arranged to influence the speed of said car or vehicle; one of such controllers being adapted and arranged to control the circuit of said motor, the remaining controller being manually operable, and adapted and arranged to influence the action of said motor-circuit controller; the arrangement being such that any predetermined movement of said manually operable controller will cause the condition of said motor circuit-controller to be changed immediately thereafter.

10. The combination of a railway car or vehicle, an electrical motor to propel the same, a source of electrical supply electrically communicating with said motor, a plurality of motor-circuit controlling contacts connectible in pairs, in circuit with said motor, and carried by said car or vehicle, electrical apparatus for actuating said contacts, and a manually operable master-controller flexibly joined to said electrical apparatus to govern the same.

11. The combination of a railway car or vehicle, an electrical motor operatively connected to said car or vehicle to propel the same, a source of electrical supply electrically communicating with said motor, a plurality of contacts arranged in circuit with said motor and adapted to change the speed thereof, power operated apparatus for governing said contacts, a manually operable master-controller for governing said power operated apparatus, flexible connections between said master-controller and said power operated apparatus, which are independent of the circuit which contains the motor, a brake, an elastic medium for forcing the brake to set, electro-mechanical apparatus taking energy from said source of electrical supply to change the condition of said elastic medium, and apparatus adapted to automatically cause said motors to become idle and said brake to set.

12. In combination, a source of electrical supply, a motor electrically communicating therewith, and operatively connected to a moving car or vehicle, a circuit electrically communicating with said motor, motor-circuit controlling contacts for changing the speed of the motor, apparatus for actuating said contacts, a manually operable master-controller provided with flexible means for conveying energy to govern said contact actuating apparatus, a brake, an elastic medium for forcing the brake to set, electro-mechanical apparatus taking energy from said electrical source to change the condition of said elastic medium, and a tripping device arranged along the path of said moving car or vehicle, and adapted to be engaged by some portion of such car or vehicle to cause said motor to become idle, and said brake to set independently of the master controller.

13. The combination of the rails of a railway, a car or vehicle thereon, an electrical motor operatively connected to said car or vehicle, to drive the same, a source of electrical supply electrically communicating with said motor, a plurality of fixed contacts, and a movable contact for changing the speed or work of said motor, a device constructed and arranged to actuate said movable contact, and a manually operable master-controller provided with flexible means for conveying energy between said master-controller and said contact actuating device, to govern the same; the arrangement being such that any change in the condition of said master-controller will instantly cause a change in the condition of said motor.

14. The combination of the rails of a railway, a car or vehicle thereon, an electrical motor operatively connected to said car or vehicle to propel the same, a source of electrical supply electrically communicating with said motor, a plurality of contacts arranged in circuit with the motor, and adapted to change the speed of said motor, a device for actuating said contacts, a manually operable master-controller, in flexible engagement with said contact actuating device, a brake, an elastic medium for forcing the brake to stop the car, and electro-mechanical apparatus taking energy from the said source of electrical supply to change the condition of said elastic medium.

15. The combination of the rails of a railway, a car or vehicle thereon, an electrical motor operatively connected to said car or vehicle to propel the same, a source of electrical supply in, electrical communication with said motor, a plurality of contacts arranged in circuit with said motor, and adapted to change the speed thereof, apparatus for governing said contacts, manually operable master-controller mechanism, provided with flexible means carrying energy, for governing said apparatus, a brake, an elastic medium for forcing the brake to set, and electro-mechanical apparatus taking energy from said source of electrical supply to change the condition of said elastic medium; the said master-controller mechanism being so constructed and arranged that when released from manual control the said motor will thereby be automatically caused to become idle, and said brake will be automatically caused to set.

16. The combination of the rails of a railway, a car or vehicle thereon, an electrical motor operatively connected to said car or vehicle, to drive the same, a source of electrical supply electrically communicating with said motor, a plurality of separately actuated contacts carried by said car or vehicle for changing the speed or work of said motor, means for actuating said contacts, and a manually operable master-controller arranged upon said car or vehicle, and adapted to govern the contact actuating means.

17. In an electrical system, the combination of a plurality of cars or vehicles, a plurality of motors operatively connected to said cars or vehicles to propel the same, a plurality of motor-speed-controllers provided with power-circuit contacts for said motors, appropriate circuits containing said motors and the contacts of said motor-speed-controllers, a shunt-circuit, which shunts around said contacts of the motor-speed-controllers, and contains a plurality of contact connections, and a manually operable switch-device whereby said shunt-circuit may be closed at will; the construction and arrangement being such that when said switch device is caused to close said shunt-circuit, the said motors are then caused to become energized practically in unison with one another.

18. In an electrical system, the combination of a source of electrical energy, a plurality of electrical conductors mechanically held in position throughout their length, and electrically communicating with said electrical source, a car, a driving motor electrically communicating with said electrical conductors, a pair of gear wheels of different sizes, the larger wheel being operatively connected to said car, while the smaller wheel is affixed to the shaft of the armature of said motor, and engaged with said larger wheel to drive said car, a plurality of pairs of contacts in circuit with said motor, to change the speed of the same, means for supporting said contacts, and a master-controller provided with a manually operable handle, and arranged for governing said means; the construction and arrangement being such that said motor instantly responds to predetermined movements of said handle.

19. A car or vehicle, motive-apparatus for moving said car or vehicle, a source of power for said motive apparatus, a power controller, and a manually operable master controller provided with a handle and flexibly connected to said power controller; said power controller being adapted and arranged to control the application of the power to said motive apparatus; said master controller handle being arranged upon said car or vehicle to govern the master controller and thereby control the operation of said power controller; the construction and arrangement being such that when manual control of said master controller ceases, the power will be automatically cut off.

20. A car or vehicle, motive-apparatus therefor, a source of power comunicating with said motive-apparatus, and power controller apparatus provided with a manually controllable handle; such handle being arranged upon said car or vehicle and so connected that by the manipulation thereof, the application of power to said motive apparatus is controlled; the construction and arrangement being such that when manual control of said handle ceases the said power will be automatically cut off.

21. The combination of power actuated apparatus, a source of power therefor, and controlling mechanism, for said apparatus, provided with two members and having an accelerating and then a retarding action or vice versa when the condition of one of said members is progressively changed by the speed of operation of the remaining member.

22. The combination of a source of power, a power actuated mechanism communicating therewith, and controlling apparatus, for said mechanism, having an accelerating and then a retarding action or vice versa when the condition of one of the members of the controlling apparatus is automatically and progressively changed by the speed of operation of another member of said controlling apparatus.

23. The combination of a source of power, a power actuated mechanism communicating therewith, and controlling apparatus for said mechanism; one part of said controlling apparatus being so constructed and arranged that its operative condition is automatically changed by a progressive increase of the speed of action of another part of said controlling apparatus and thereby accelerates and then retards, or vice versa, the action of said power actuated mechanism.

24. In a system of the character described, the combination of a plurality of tracks or ways, provided with a finish line; devices independently movable in said tracks or ways, means for causing said devices to traverse said tracks or ways, means for causing all of said devices to simultaneously and instantaneously come to rest, irrespectively of their relative positions, upon the leading device reaching the finish line, means for starting all of the devices simultaneously from their respective positions, and causing them to move to a contest starting line, and means for stopping each device as it reaches the starting line.

25. In apparatus of the character described, the combination with a plurality of power operated devices, of an independent controller for each, and means for automatically, simultaneously and instantaneously stopping all of said devices when one of them shall have reached a predetermined position in a contest.

26. The combination with a plurality of power driven figures or vehicles independently actuated, of a power controlled stop-device for each, and an automatically acting power disconnector whereby all of the stop-devices are influenced to act simultaneously and instantaneously when the foremost figure or vehicle reaches a predetermined position.

27. In apparatus of the character described, the combination with a plurality of motor-driven figures or vehicles moving over companion tracks or ways, of a stop device for each figure or vehicle, a magnet controlling the stop-device, and an automatic circuit-breaker governing the action of said magnets, and causing all of said figures or vehicles to instantaneously, automatically and simultaneously come to rest, when the foremost figure or vehicle reaches a predetermined position.

28. The combination with a traveling figure or vehicle, of a motor for driving the figure or vehicle, means for starting the motor to bring the figure or vehicle from a position of rest, different from a starting point, up to said point, means for starting the figure or vehicle from said starting point, and causing it to traverse a course, and means for automatically stopping the motor when the figure or vehicle has reached a point different from the starting line after having traversed the course.

29. The combination with a figure or vehicle, of a motor for driving the figure or vehicle, a stop device for restraining the figure or vehicle against forward movement, a means for releasing said stop device, and for starting the motor to drive the figure or vehicle along a track or way, and means for automatically causing the figure or vehicle to come to rest at a place different from the starting point after the figure or vehicle has traversed the track or way.

30. In an apparatus of the class described, the combination with a plurality of independently driven figures, of driving means for driving the figures, means for starting the driving means, to bring all of the figures from a position of rest, different from a starting point up to said point, and in alinement, means for starting all of the figures simultaneously after they have been alined, and causing them to traverse a course, and means for stopping the driving-means when the figures have each reached a rest position, different from the starting line after having traversed the course.

31. In an apparatus of the class described, the combination with a plurality of independently driven figures, of driving-means for racing the figures, an independent controller for each stop-means for restraining the figures against forward movement, means for releasing said stop-means and for starting the driving means to race the figures, and means for stopping the driving means at the finish of the race, to cause the figures to come to rest each at a point different from the starting line.

32. The combination of a plurality of independently electrically driven devices moving over companion tracks or ways, a starting contact for each device, a stopping contact common to all of said devices, and means for switching all of said starting contacts into the circuit during one space of time, and for switching the stopping contact into the circuit at another time.

33. In apparatus of the character described, the combination with a plurality of electrically driven devices of an independent controller for each such device, and means for automatically and simultaneously stopping all of said devices the instant the foremost one of them has reached a predetermined position in a contest.

34. In apparatus of the character described, the combination with a plurality of moving-devices, of a driving electric motor for each such device, a magnetically controlled stop for each device, and an automatic circuit breaker governing the action of all of the stop-devices to cause all of said moving-devices to come to rest simultaneously independently of their different positions, different from a starting line.

35. In apparatus of the character described, the combi-

nation with two or more companion tracks or ways provided with a starting line automatic indicator, and a finish place automatic indicator, the finish place being different from the starting line, of a plurality of independently driven device moving over said tracks or ways, and stop means for restraining the devices against forward movement when they reach the starting line.

36. In apparatus of the character described, the combination with two or more companion tracks or ways, provided with a starting-line automatic indicator, and a finish point automatic indicator, the finish place being different from the starting-line, of a plurality of independently driven devices moving over said tracks or ways, stop-means for restraining the devices against forward movement when they reach the starting-line, and means for releasing said stop-means to permit said devices to be propelled.

37. The combination with the concentric driving shafts, of a driving motor connected to each shaft, a stop device for each shaft, a circuit-breaker for governing the action of each of said stops, and means brought into action by the operation of said motor to actuate the circuit breaker.

38. In apparatus of the character described, the combination with two or more companion tracks or ways provided with a starting point automatic indicator and a finsh place automatic indicator, the finish place being different from the starting point, of a plurality of independently driven devices moving over said tracks or ways, and stop means for restraining the devices against forward movement when they reach the finish place after having traversed a course.

39. In an apparatus of the class described, the combination with a plurality of traveling figures, of motive apparatus for driving the figures, means for starting the motive apparatus, to bring the figures from a position of rest up to a starting point, and in alinement, means for starting all of the figures simultaneously after they have been alined, and causing them to traverse a course, and means for stopping the motive apparatus when the figures have reached a point different from the starting line, after having traversed the course.

40. In apparatus, the combination with a plurality of traveling figures, of motive apparatus for racing the figures, stop means for restraining the figures against forward movement, means for releasing said stop means, and for starting the motive apparatus to race the figures, and means for stopping the motive apparatus at the finish of the race to cause the figures to come to rest at a point different from the starting line.

41. The combination with a traveling figure or vehicle, of a driving motor, mechanism whereby the said figure or vehicle is driven by said motor, at a speed different from that of the motor, means for starting the motor to bring the figure or vehicle from a position of rest up to a starting point, means for starting the figure or vehicle from said starting point, and causing it to traverse a course, and means for stopping the motor when the figure or vehicle has reached a point different from the starting point after having traversed the course.

42. The combination with a plurality of traveling figures or vehicles, of driving-means for driving the figures or vehicles, means for starting the motive-apparatus, to bring the figures or vehicles from a position of rest up to a starting point, and in alinement, means for starting all of the figures or vehicles simultaneously after they have been alined, and causing them to traverse a course, means whereby the speed of each of said figures or vehicles may be varied independently, and means for stopping the driving-means when the figures or vehicles have each reached a point different from the starting line, after having traversed the course.

43. The combination with a plurality of traveling figures or vehicles, of driving-means for racing the figures or vehicles, stop-apparatus for restraining the figures or vehicles against forward movement, means for releasing said stop apparatus, and for starting the driving-means to race the figures or vehicles, means for varying the speed of each of said figures or vehicles, and means for stopping the driving-means at the finish of the race, to cause all of the figures or vehicles to come to rest instantaneously and simultaneously, independently of their individual position.

44. The combination with a plurality of traveling figures or vehicles, of driving-means for driving the figures or vehicles, means for starting the driving means, to bring the figures or vehicles from a position of rest up to a starting point, and in alinement, means for starting all of the figures or vehicles simultaneously after they have been alined, and causing them to traverse a course, means for imparting an undulating motion to said figures or vehicles, and means for stopping the driving-means when the figures or vehicles have reached a point different from the starting line, after having traversed the course, the construction and arrangement being such that the stoppage of the forward movement of the figures or vehicles causes the undulatory movement of the figures or vehicles to cease.

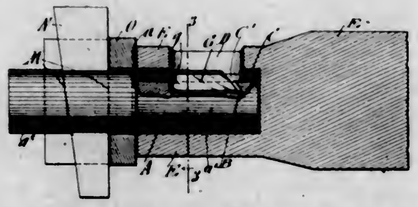
45. In apparatus of the character described, the combination with a plurality of companion tracks or ways provided with a finish-line of a plurality of independently driven devices moving over said tracks or ways, a stop-device for each driven device, of a magnet for controlling said stop-device, and a finish-line circuit breaker governing the action of said magnet.

46. In apparatus of the class described, the combination of a plurality of tracks or ways provided with automatic means to indicate a starting line, and automatic means to indicate a finish line; devices independently movable in said tracks or ways, means for causing said figures or vehicles to traverse said tracks or ways, and means whereby said figures or vehicles have a vibratory motion simultaneously with their forward movement.

47. In apparatus of the character described, the combination with a plurality of independently driven figures or vehicles, of means for driving said figures or vehicles, and a track or way provided with a starting line, a finish line, and a series of undulations whereby the figures or vehicles are given a vibratory motion while being driven forward.

48. In apparatus of the class described, the combination with two or more companion tracks or ways, provided with automatic means to indicate a starting line, and automatic means to indicate a finish line; of a plurality of motor driven figures movable in said tracks or ways, an energy generator for the driving motor or motors, and a contact device for connecting the motor or motors to said generator.

867,181. BUSHING-PULLER. JOSEPH ZIMMS, Long Island City, N. Y. Filed June 25, 1907. Serial No. 380,748.



1. A bushing puller, comprising a central rod having a recess near one end and a slot near the other, a key for the recess projecting beyond the face of the rod, a sleeve, and a wedge interposed between one end of the slot of the rod and the sleeve.

2. A bushing puller, comprising a central rod provided with a slot near one end and a recess near the other, having an inclined portion at one end thereof, a key having an inclined end adapted to engage the inclined portion of the recess, a sleeve, and a wedge interposed between one end of the slot of the rod and the sleeve.

3. A bushing puller, comprising a central rod having a recess near one end and a slot near the other, a key for the recess projecting beyond the face of the rod, a sleeve having a plurality of recesses at one end of different sizes, and a wedge adapted to engage some of the recesses of the sleeve, and the slot.

4. A bushing puller, comprising a central rod provided with a recess near one end and a slot near the other, said recess having a plane bottom with an inclined portion in respect thereto at one end thereof, and a curved portion at the other end, a key having a curved portion at one end and an inclined portion at the other adapted to respectively engage the corresponding portions of the recess of the rod, a sleeve, and a wedge interposed between one end of the slot of the rod and the sleeve.

5. A bushing puller comprising a rod having means whereby it may be engaged with the bushing, a sleeve embracing the rod, and a non-rotatable wedge whereby the rod is displaced relatively to the sleeve.

6. A bushing puller comprising a rod having means whereby it may be engaged with the bushing, said rod being provided at the opposite end with a slot, a sleeve to embrace said rod, and a wedge in said slot whereby the rod is moved relatively to said sleeve.

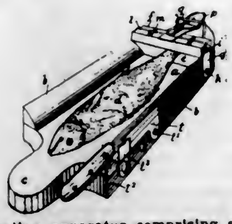
7. In a bushing puller, the combination, with a bushing-pulling rod having a slot therein, of a wedge in said slot, and a device rotatable about the rod and having a plurality of wedge-receiving openings.

8. In a bushing puller, the combination, with the rod having a slot, and the wedge operating in said slot, of a device mounted to turn on the rod and intended to be interposed between the wedge and the chuck, said device causing the rod to be driven outwardly through different distances according to the angular position of said device.

9. In a bushing puller, the combination, with the rod having a slot therein, and the wedge operating in said slot, of a sleeve mounted to turn on said rod between the wedge and the chuck and provided with wedge-receiving openings of different sizes.

10. In a bushing puller, a rod to withdraw the bushing having a recess provided with an inclined end-portion, and a key seated in said recess and having an inclined end to engage said inclined portion, said key having a shoulder to engage in the slot in the bushing.

867,182. FISH-SCALING APPARATUS. CARL H. A. BAHDE, Milwaukee, Wis. Filed June 27, 1906. Serial No. 323,555.



1. A fish-scaling apparatus comprising a plate having raised edges, means for securing a fish thereto at one end of said plate, a handle formed at the other end of said plate, a fixed knife-blade secured to one edge of said plate, and a movable knife-blade coöperating with said fixed blade and pivoted on the edge of said plate.

2. A fish-scaling apparatus comprising, in combination, a plate, a fixed clamping block secured to said plate near one end thereof, a movable clamping-block loosely connected in a longitudinally shiftable manner to said plate, and means for pressing said movable clamping-block against said fixed clamping-block.

3. In a fish-scaling apparatus, clamping devices comprising a fixed clamping-member having projecting parts secured thereto at one side thereof, a movable clamping-member adapted to coöperate therewith, a member having fingers gripping under said projecting parts and a handle extending in the opposite direction, and means for holding said handle pressed down on the other side of said fixed block.

4. A fish-scaling apparatus comprising a plate, a fixed clamping-block secured near one end thereof, a movable clamping-block coöperating therewith and connected with said plate by means of links pivoted to said plate and block, a bail-shaped member pivoted to the upper face of said movable block and having its legs extending rectangularly in one direction and a handle extending rectangularly in the other direction, means on said plate for engaging the ends of said legs, and a bail pivoted on said plate adapted to engage over the end of said handle to hold said movable block in pressed-down position.

5. A fish-scaling apparatus comprising a plate, a fixed clamping-block secured near one end thereof, a movable clamping-block coöperating therewith and connected with said plate by means of links pivoted to said plate and block, a bail-shaped member pivoted to the upper face of said movable block and having its legs extending rectangularly in one direction, and a handle extending rectangularly in the other direction, means on said plate for engaging the ends of said legs, a bail pivoted on said plate adapted to engage over the end of said handle to hold said movable block in pressed-down position, and a light spring-member secured to the face of said movable block under said handle and projecting into contact with said handle.

6. A fish-scaling apparatus comprising a plate having a clamping surface at one end thereof, a movable clamping-block having a surface coöperating with said clamping-surface, a pair of links at the respective ends of said movable clamping-block and through which said block is connected to said plate, and a clamping lever adapted to press said clamping-block against said clamping-surface.

7. A fish-scaling apparatus, comprising, in combination, a plate adapted to receive and support a fish, said plate having raised beads on its lateral edges, a raised clamping-surface at one end of said plate, a clamping-block having a clamping-surface on its under side coöperating with said first-named clamping-surface, a pair of links connected to said clamping-block at opposite ends thereof, whereby said block has a lateral shiftable motion to enable it to adapt itself to said fixed clamping-surface, and means for pressing said movable clamping-block against said fixed clamping-surface.

867,183. BRAKE-SHOE HEAD. JAMES H. BAKER, Allegheny, Pa., assignor to Solid Steel Tool & Forge Company, Brackenridge, Pa., a Corporation of Pennsylvania. Filed Nov. 12, 1906. Serial No. 343,064.



1. A brake head having in combination an open or frame-like body portion, consisting of spaced side rails, angular strips extending across the space or opening between the side rails, and forming ears or lugs for holding the shoes and beam lugs or ears on the rear of the head.

2. A brake head having in combination a body portion provided with shoe-holding lugs or ears and beam lugs or ears formed independent of the body portion and adapted to be secured thereto.

3. A brake shoe head having in combination a beam or frame-like body portion consisting of spaced side rails and beam lugs or ears having flanges adapted to seat on the body portion and to be secured thereto, and lugs or ears projecting from the side rails for holding the shoes.

4. A brake head having in combination a body portion and beam lugs or ears provided with flanges adapted to seat on the body portion and extend beyond the ends of the same to form bearings for ends of the shoes.

5. A brake head having in combination an open or frame-like body portion, bent or angular straps extending across the frame from side to side and forming shoe supporting lugs or ears and beam lugs or ears separable from the body portion and adapted to be secured thereto.

6. A brake head having in combination a body portion having shoulder or stop for engaging the brake beam and

beam lugs or ears formed independent of the body portion and of each other and adapted to be secured thereto.

7. A brake head having in combination a body portion and beam lugs or ears formed independent of the body portion and adapted to be secured thereto, the body portion being provided with shoulders forming lateral supports for the lugs or ears.

8. A brake head having in combination open or frame-like body portion consisting of spaced side rails connected at points adjacent to the ends of the side rails, angular strips extending across the space or opening between the side rails and arranged between the end connections and forming ears or lugs for holding the shoes and beam lug or ears on the rear of the head.

867,184. BRAKE-BEAM. JAMES H. BAKER, Allegheny, Pa., assignor to Solid Steel Tool & Forge Company, Brackenridge, Pa., a Corporation of Pennsylvania. Filed Jan. 9, 1907. Serial No. 351,501.



1. A brake beam having in combination a structurally shaped compression member, a tension member having its ends welded to the compression member, the end portions of the compression member being filled out solid to dimensions not materially smaller than the body of the member.

2. A brake beam having in combination a structurally shaped compression member, a tension member having its ends lying within the flanges of the compression member and welded thereto, the ends of the compression member being filled out solid.

3. A brake beam provided with seats at its ends, in combination with heads provided with sockets fitting on said journals, and a spring lock for holding the head in position on the seats.

4. A brake beam provided with semi-cylindrical journals, in combination with a head provided with circular sockets fitting over the journals, a locking block having a face or seat for the socket and provided with a shoulder engaging the socket and a spring connecting the locking block to the beam.

5. A brake beam provided with journals at its ends, in combination with heads provided with circular sockets mounted on the journals, a spring lock for holding the head in position on the journals, the journals and inner wall of the sockets being provided with interlocking projections.

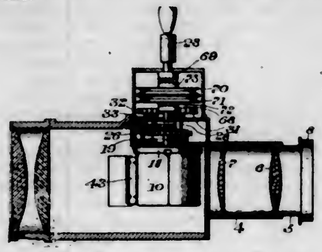
6. A brake beam provided with journals at its ends, said journals having a radially yielding portion, in combination with heads provided with circular sockets mounted on the journals, the journals and inner walls of the sockets being provided with interlocking projections.

7. A brake beam provided with a divided or sectional head seat, one of said sections being provided with retaining lugs or shoulders in combination with a head provided with a socket portion fitting around the seat, and means for forcing the sections apart.

8. A brake beam having in combination therewith a strut consisting of a head portion provided with a seat for the tension member, twisted legs integral at one end with the head and provided with feet adapted to be secured to the compression member.

867,185. APPARATUS FOR ANIMATED PICTURES. JOSEPH BIANCHI, Jersey City, N. J. Filed Aug. 15, 1905. Serial No. 274,309.

1. In a moving picture apparatus, a lens, feed mechanism for a picture band, a revoluble solid refractive body having curved surfaces, adjacent ones of which are at an angle to each other, and means for raising or lowering said feed mechanism independently of the optical center of the lens.



2. In a device of the character described, a feed drum having projections thereon to engage with a band, gearing for driving said roller, links between said feed drum and gearing, a movable frame carrying one of the gears on the shaft of which the feed drum is mounted, means whereby said shaft limits the movement of said frame and a screw-threaded rod operatively connected with said frame for varying the angle of the links.

3. In a device of the character described, an objective lens, a picture band feed mechanism embodying a feed sprocket roller, a solid body of refractive material disposed between the objective lens and the picture band and having a series of surfaces curved upon a different radius from the radius of said body, and means for moving the feed roller vertically independently of the driving mechanism.

4. In a device of the character described, feed mechanism for a picture band, means for raising and lowering the same independently of the driving mechanism, projecting lenses coöperatively related, and a refracting revoluble body having curved faces, those adjoining being at an angle to each other.

5. In a device of the character described, projecting lenses and a rotatable transparent body intermediate the band and the lenses, said body having the opposite surfaces of the same curvature, the lines connecting the centers of these curves passing through the centers of said body.

6. In a moving picture apparatus, the combination of means for moving a picture band, and a revoluble solid body of refractive material mounted in the optical center of the apparatus and having a series of surfaces curved upon a different radius from the radius of the said body.

7. In a moving picture apparatus, the combination with means for actuating a picture band or surface, of a solid body of refractive material having curved faces, and a stationary lens in the optical axis, of refracting power opposite to that of the solid body.

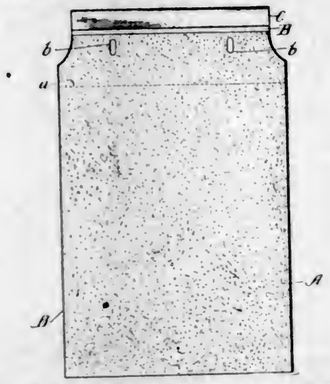
8. In a moving picture apparatus, the combination with means for actuating a picture band or surface, of a solid body of refractive material having curved faces, a stationary lens in the optical axis, of refractive power opposite to that of the solid body, and means for raising and lowering the feed mechanism independently of the optical center of the lens.

9. In a device of the character described, means for driving a picture band embodying a train of gears, a feed drum and its shaft, a movable frame, in which said shaft is mounted, said shaft carrying one of the said gears and limiting the movement of said frame, and means embodying links operatively connected with the said frame for varying the position of the picture band driving mechanism with reference to the optical center of the apparatus.

10. In a device of the character described, a storage roller, a take-up roller, shafts upon which said rollers are mounted, fixed and loose pulleys on each of said shafts, and belts adapted to be in engagement with a loose pulley on one shaft and a fixed pulley on the other shaft alternately.

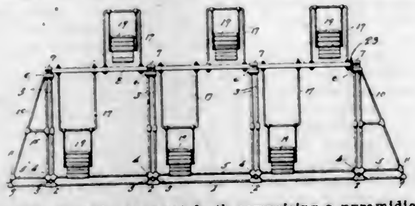
11. In a device of the character described, a storage roller, a take-up roller, shafts upon which said rollers are mounted, fast and loose pulleys upon each of said shafts, a plurality of belts adapted to be engaged with either the fast or loose pulleys on said shafts, a driving shaft, clutch members thereon, and pulleys around which said belts pass, said pulleys carrying clutch members mounted for movement into engagement with the first-mentioned clutch members.

867,186. STENCIL-SHEET. MCION J. D. CARTER, London, England, assignor to A. B. Dick Company, Chicago, Ill., a Corporation of Illinois. Original application filed May 25, 1905, Serial No. 262,285. Divided and this application filed May 22, 1906. Serial No. 318,141.



As a new article of manufacture, a stencil-sheet consisting of an open porous base provided with a waxy coating having a coloring material incorporated therein, substantially as set forth.

867,187. PLEASURE-SWING. ELTON F. CHUBBUCK, Hornell, N. Y. Filed Oct. 5, 1906. Serial No. 337,635.

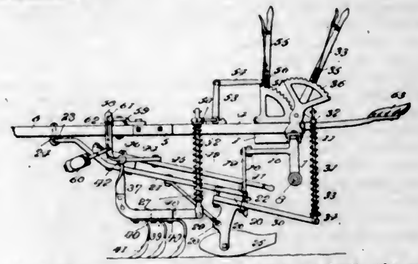


A device of the type set forth comprising a pyramidical skeleton supporting frame, a continuous straight shaft journaled longitudinally at the top thereof, U-shaped outstanding frames secured to said shaft in staggered relation, and chairs pivotally suspended within said frames to travel about said shaft, substantially as described.

867,188. HORSE-HOE AND CULTIVATOR. CHARLES H. CLARK and HOWARD F. HAMILTON, Sprague's Mill, Me.; said Hamilton assignor to said Clark, Easton, Me. Filed July 31, 1906. Serial No. 328,601.

1. In an implement of the character specified, the combination of a main frame comprising a transverse channel bar having longitudinal slots in its end portion, blocks fitted in the channel of said transverse bar and adjustable therein, standards pivotally connected with the blocks and provided with ground wheels, means connecting the standards to cause them to turn together and other means for turning the standards about to give proper direction to the machine.

2. In an implement of the character specified, the combination of a main frame, standards pivotally connected to the main frame to turn about a vertical axis, spindle arms projected from said standards and provided with ground wheels, longitudinal arms extended from the aforesaid standards, a cross bar connecting the longitudinal arms to cause the standards to turn together, a beam arranged in a different horizontal plane from the cross bar and provided with earth operating means, connecting means between the cross-bar and the said beam to cause both to move laterally at the same time, while admitting of independent vertical movement of the said beam and the earth operating means carried thereby, a draft bar having pivotal connection at its front end with the main frame and having rigid connection with the said beam, and means for exerting a yielding downward pressure upon the said beam to hold the earth operating means to the work and admit of the same clearing roots, stones and like obstructions.



3. In an implement of the character set forth, the combination of a main frame, a draft bar pivotally connected at one end of the main frame and provided with earth operating means, yielding means interposed between the main frame and the said draft bar to hold the earth operating means carried thereby to the work with a regulable force, other earth operating means having pivotal connection with said draft bar, and other yielding means interposed between the main frame and the last mentioned earth operating means to hold the same to the work.

4. In an implement of the character specified, the combination of a main frame, a draft bar, earth operating means connected with the draft bar, yielding means between the main frame and the draft bar to hold the earth operating means connected therewith to the work, a transverse support connected with said draft bar, earth operating means having lateral adjustable connection with said transverse support, yielding means interposed between the main frame and the last mentioned earth operating means to hold the same to the work, and a lever mounted upon said draft bar and having connection with the laterally adjustable earth operating means to effect either outward or inward movement thereof.

5. In an implement of the character specified, the combination of a main frame, steering mechanism therefor, a draft bar having connection with said steering mechanism to move laterally therewith and having independent vertical movement, a transverse rod connected to the draft bar and movable therewith, clevises having connection with both transverse rod and a part of the main frame and movable with reference to the latter, and earth operating means connected with the transverse rod and movable therewith.

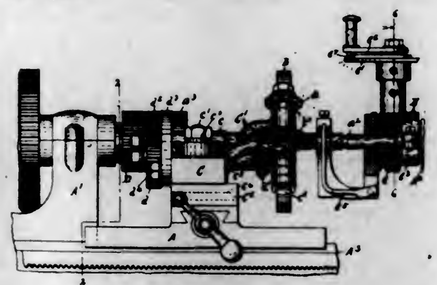
6. In an implement of the character specified, the combination of a main frame, steering mechanism therefor, a draft bar having connection with said steering mechanism to move laterally therewith and having independent vertical movement, a transverse rod connected to the draft bar and movable therewith, clevises having connection with both a transverse rod and a part of the main frame and movable with reference to the latter, earth operating means connected with the transverse rod and movable therewith, and means for adjusting the earth operating means laterally upon said transverse rod and securing the same in the adjusted position.

7. In combination, a main frame, a draft bar, means for adjusting the draft bar both laterally and vertically, a

transverse rod carried by the draft bar, clevis connection between the transverse rod and the main frame and movable with reference to the latter, earth operating means mounted upon the transverse rod to turn and slide thereon, an operating lever fulcrumed to the draft bar between its ends, links connecting the earth operating means with said operating lever upon opposite sides of its fulcrum to admit of lateral adjustment of the earth operating means, and other means between the earth operating means and the main frame for adjusting and varying the pressure for holding the earth operating means to the work.

8. In an implement of the character specified, the combination of a main frame provided with a pole or tongue, standards having pivotal connection with the main frame and provided with inwardly extended foot rests and outwardly extended arms upon which ground wheels are mounted, a cross bar connecting longitudinal arms of said standards, a draft bar, a beam carried by the draft bar, guide means between said beam and cross bar, hoe blades fitted to the said beam, a transverse rod carried by the draft bar, clevis connections between the transverse rod and a part of the main frame, cultivator gangs mounted upon the transverse rod both for lateral and vertical adjustment, means for adjusting the draft bar vertically, and other means for adjusting the cultivator gangs vertically, whereby the said cultivating means and hoe blades may be adjusted to different relative elevations, whereby the parts are adjusted simultaneously with the standards when moving the same to deflect the implement from a direct course.

867,189. GEAR-CUTTING MECHANISM. HENRY M. DARLING, Seneca Falls, N. Y., assignor to The Seneca Falls Manufacturing Company, Seneca Falls, N. Y., a Corporation of New York. Filed Mar. 6, 1900. Serial No. 7,451.



1. The combination with opposing spindles for supporting an article to be machined, one spindle being live and the other dead; of a carriage, a rotary tool supported by the carriage, means for operating the tool from the live spindle, and manually-operated means associated with the dead spindle for rotating said article atep by step, substantially as and for the purpose set forth.

2. The combination with opposing spindles for supporting an article to be machined, one spindle being live and the other dead; of a carriage, a rotary tool supported by the carriage, means connecting the live spindle and the tool for rotating said tool, means for adjusting the tool toward and from the axis of the spindles independently of the carriage, and manually-operated means associated with the dead spindle for rotating said article step by step, substantially as and for the purpose described.

3. The combination with means for supporting an article to be machined, said means being revoluble intermittently for moving the article step by step, driving means revoluble about the axis of the supporting means, and a carriage; of a shaft supported by the carriage and extending in the same general direction as the axis of the supporting means, an arm mounted on the carriage and adapted to swing toward the axis of the supporting means on an axis substantially coincident with the axis of the shaft, said arm being provided with a tool, and power-transmitting means for connecting the tool to the shaft, substantially as and for the purpose specified.

4. The combination with opposing spindles for supporting an article to be machined; of a carriage, a shaft supported by the carriage, and extending in the same general direction as the axis of said spindles, an arm adapted to swing on an axis eccentric to the axis of said spindles and substantially coincident with the axis of the shaft toward and from the axis of said spindles, said arm being provided with a tool, and power-transmitting means for connecting the tool to the shaft, substantially as and for the purpose described.

5. The combination with opposing spindles for supporting an article to be machined, one spindle being live and the other dead; of a carriage, a shaft supported by the carriage and extending in the same general direction as the axis of the spindles, an arm mounted on the carriage and adapted to swing toward the axis of the spindles on an axis substantially coincident with the axis of the shaft, said arm being provided with a tool, power-transmitting means for connecting the tool to the shaft, and power-transmitting means for connecting the shaft to the live spindle, substantially as and for the purpose set forth.

6. The combination with opposing spindles for supporting an article to be machined, one spindle being live and the other dead; of a carriage, a shaft supported by the carriage and extending in the same general direction as the axis of the spindles, an arm mounted on the carriage and adapted to swing toward the axis of the spindles on an axis substantially coincident with the axis of the shaft, said arm being provided with a tool, power-transmitting means for connecting the tool to the shaft, power-transmitting means for connecting the shaft to the live spindle, and manually-operated means associated with the dead spindle for rotating said article step by step, substantially as and for the purpose specified.

7. The combination with means for supporting an article to be machined, said means being revoluble intermittently for moving the article step by step, driving means revoluble about the axis of the supporting means, and a carriage provided with a bearing; of an arm journaled in the bearing and adapted to swing toward the axis of the supporting means independently of the carriage, a tool supported by the arm, and power-transmitting means supported by the arm and connected to the tool and to said driving means, substantially as and for the purpose specified.

8. The combination with means for supporting an article to be machined, said means being revoluble intermittently for moving the article step by step, driving means revoluble about the axis of the supporting means, and a carriage provided with a bearing; of an arm journaled in the bearing and adapted to swing toward the axis of the supporting means independently of the carriage and having a part projecting at an angle from said bearing, a tool supported by the angularly-projecting part of the arm, and power-transmitting means supported by the arm and connected to the tool and to said driving means, substantially as and for the purpose set forth.

9. The combination with opposing spindles for supporting an article to be machined, one spindle being live and the other dead; of a carriage provided with a bearing, an arm journaled in the bearing and adapted to swing toward the axis of the supporting means independently of the carriage and having a bearing arranged at an angle to the bearing of the carriage, a shaft journaled in the bearing of the arm and provided with a tool, and power-transmitting means connected to the shaft and to the live spindle, substantially as and for the purpose described.

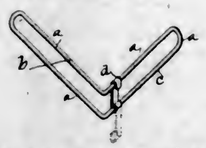
10. The combination with means for supporting an article to be machined, said means being revoluble intermittently for moving the article step by step, driving means revoluble about the axis of the supporting means, and a carriage provided with a bearing; of an arm journaled in the bearing, and adapted to swing toward the axis of the supporting means independently of the carriage, angularly-arranged shafts supported by the arm, a tool mounted on one of the shafts, and power-transmitting means for connecting the other shaft to the driving means, substantially as and for the purpose specified.

11. The combination with means for supporting an article to be machined; of a carriage, a support pivoted to the carriage and movable on its pivot, said support being provided with a bearing, an arm journaled in the bearing and adapted to swing toward the article to be machined independently of the carriage, a tool supported by the arm, a single means for holding both the support and the arm in their adjusted positions, and means for rotating the tool independently of said article, substantially as and for the purpose set forth.

12. The combination with means for supporting an article to be machined; of a carriage, a support provided with a split bearing, an arm adapted to swing toward the article to be machined independently of the carriage and having a hub journaled in the split bearing, a tool supported by the arm, a shaft journaled in the hub of the arm and connected to the tool, and a pivotal pin for the support, said pin being supported by the carriage and provided with means for clamping the support and the arm in their adjusted positions, substantially as and for the purpose described.

13. The combination with means for supporting an article to be machined; of a carriage, a bearing supported by the carriage, an arm having a hollow hub journaled in the bearing, said arm being adapted to swing toward the article to be machined independently of the carriage and being provided with a tool, a shaft journaled in the hollow hub of the arm and connected to the tool, an arm journaled on said hub and movable relatively to the former arm, and power-transmitting means carried by the relatively-movable arm and connected to the shaft, substantially as and for the purpose specified.

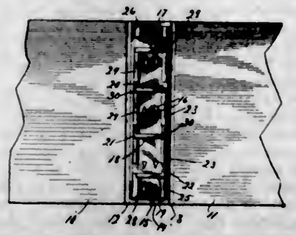
867,190. ANTIFLYING CHICKEN-WING ATTACHMENT. JAMES E. DAVISON, New York, Iowa. Filed Mar. 2, 1907. Serial No. 360,790.



1. As a new article of manufacture, an anti-flying attachment for chicken wings, consisting of an elbow-shaped frame made of a single wire, bent double, as shown, and a hook hinged to the frame, to operate as set forth.

2. An attachment for chicken wings to prevent flying, comprising an oblong wire frame having parallel sides bent into elbow-shape and a hook hinged to one of the sides of the frame to operate as set forth.

867,191. LOOSE-LEAF BINDER. JAMES C. DAWSON, St. Louis, Mo., assignor to Sieber & Trussell Manufacturing Company, a Corporation of Missouri. Original application filed Mar. 16, 1906, Serial No. 306,323. Divided and this application filed Apr. 15, 1907. Serial No. 368,253.

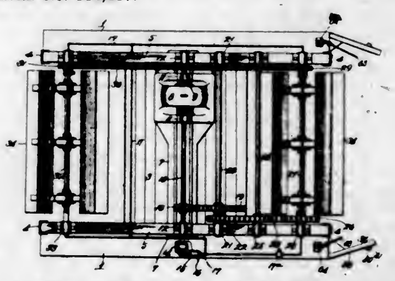


1. In a loose leaf binder, in combination, a back plate; two pairs of arches; a pivot member rigidly uniting the members of each pair of arches, the two pivot members having a rotative and sliding bearing at opposite sides of the plate, one of each pair of arches being positioned between the arches of the other pair and being engageable with the pivot member thereof; and a detent for engaging the more remote arches when closed.

2. In a loose leaf binder, in combination, a back plate; two pairs of oppositely disposed arches, the members of each pair being united by a slidable pivot; and detents for engaging the free end of one of each pair of arches and with which it is engaged by the longitudinal movement of the pivot.

3. In a loose leaf binder, in combination, a back plate; two pairs of oppositely disposed arches, the members of each pair being united by a slidable pivot; and detents for engaging the free end of one of each pair of arches and with which it is engaged by the longitudinal movement of the pivot, the two pairs of arches interlocking when closed.

867,192. FLOATING POWER PLANT. JAMES W. DAWSON, San Francisco, Cal., assignor of one-fourth to Robert W. Gees, Kansas City, Mo. Filed Sept. 13, 1906. Serial No. 334,437.



1. A floating power plant provided with one or more paddle-wheels to be rotated by the current, a dynamo, means for transmitting motion from the wheel to the dynamo, one or more motors at any desired distance from the dynamo, and means actuated by the electricity generated by the dynamo, to raise the latter and the paddle-wheel or wheels.

2. A floating power plant provided with one or more paddle-wheels to be rotated by the current, a dynamo, means for transmitting motion from the wheel to the dynamo, one or more motors at any desired distance from the dynamo, a motor pump, hydraulic jacks connected to the pump, a suction pipe extending from the pump down into the water, conductors connecting the dynamo and pump in the same circuit, and a switch to break such circuit.

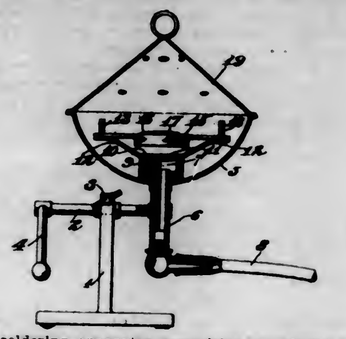
3. In apparatus of the character described, a catamaran, a paddle-wheel carried thereby depending into the water, means for varying the depth of the wheel in the water, a dynamo mounted on the catamaran and driven by said wheel, a pier in the stream provided with a station, conductors leading from the dynamo to said station, a V-shaped deflector projecting forward from the catamaran and protecting the paddle-wheel, and vertically adjustable plates carried by the deflector and adapted to be submerged varying distances in the water.

867,193. DENTAL SOLDERING APPARATUS. EDWARD FLANNIGAIN, St. Louis, Mo., assignor to The United Appliance Manufacturing Company, St. Louis, Mo., a Corporation of Missouri. Filed May 20, 1907. Serial No. 374,588.

1. A soldering apparatus comprising a burner swiveled on a horizontal axis and a work holder movable with the burner and swiveled with respect to the axis thereof.

2. A soldering apparatus comprising a pedestal, a member swiveled thereon on a horizontal axis, a burner sup-

ported by said horizontal member, a work holder above and movable with said burner and swiveled with respect thereto.



3. A soldering apparatus comprising a pedestal whose upper portion is split, a member swiveled therein on a horizontal axis, a screw for varying the friction of said horizontal member, and a work holder above and movable with said burner and swiveled with respect thereto.

4. A soldering apparatus comprising a pedestal, a horizontal member swiveled thereon on a horizontal axis, a work holder movable with the burner and swiveled with respect thereto, means for varying the frictional engagement of the horizontal member with the pedestal and a hand piece for turning said member.

5. A soldering apparatus comprising a pedestal, a member swiveled thereon on a horizontal axis, a cup mounted on said horizontal member, and a burner tube extending through said cup, a support swiveled on said tube, and a work holder on said support.

6. A soldering apparatus comprising a pedestal, a member swiveled thereon on a horizontal axis, a cup mounted on said horizontal member, a burner tube extending through said cup, a support swiveled on said tube, pins on said support and a work holder having eyes fitting over said pins.

7. A soldering apparatus comprising a pedestal, a horizontal member swiveled thereon, a cup mounted on said horizontal member, a burner tube extending through said cup, a shell swiveled on said tube and constituting a combustion chamber for said burner, laterally extending arms on said shell, and a work holder on said arms.

8. A soldering apparatus comprising a pedestal, a horizontal member swiveled thereon, a cup mounted on said horizontal member, a burner tube extending through said cup, a shell swiveled on said tube and constituting a combustion chamber for said burner, laterally extending arms on said shell, a work holder on said arms, and means for turning said horizontal member.

9. A soldering apparatus comprising a pedestal, a horizontal member swiveled thereon, a cup mounted on said horizontal member, a burner tube extending through said cup, a shell swiveled on said tube and constituting a combustion chamber for said burner, laterally extending arms on said shell, a work holder on said arms, means for turning said horizontal member, and means for varying its frictional contact with the pedestal.

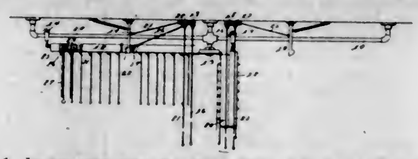
867,194. ALLOY. FREDERICK W. FLETCHER, Helpston, Market Deeping, England, assignor of one-half to Lionel William John Digby, Haycock, Wansford, England. Filed July 20, 1906. Serial No. 327,085.

1. A metallic alloy for shoes of beasts of burden, consisting of aluminium, gun metal (formed from a mixture of 90 parts of copper and 10 parts of tin), and white metal (formed from a mixture of 6 parts tin with 1 part copper admixed with a mixture of 6 parts tin and 1 part antimony) melted and alloyed together in or about the following proportions, aluminium 30 lbs., gun metal 1 lb., white metal ¼ lb., substantially as set forth.

2. A metallic alloy consisting of aluminium, gun metal and white metal.

3. A metallic alloy consisting of thirty pounds of aluminium, one pound of gun metal, one-quarter pound of white metal.

867,195. APPARATUS FOR SUSPENDING AND DISPLAYING LACE CURTAINS, &c. JOHN W. GARRETT, Creston, Iowa. Filed Mar. 20, 1907. Serial No. 363,965.



1. In an apparatus for suspending and displaying curtains and the like, a frame having parallel horizontal bars, a cross piece fixed to the parallel bars, a jointed frame hinged at one of its end to the cross piece and the other end of the jointed frame pivotally and slidably connected with the parallel bars.

2. In an apparatus for suspending and displaying curtains and the like, a frame having parallel horizontal bars, a cross piece fixed to the parallel bars, a jointed frame hinged at one of its ends to the cross piece and the other end of the jointed frame pivotally and slidably connected with the parallel bars by means of pulleys and links, to operate as set forth.

3. In an apparatus for suspending and displaying curtains and the like, a frame having parallel horizontal bars, a cross piece fixed to the parallel bars, a jointed frame hinged at one of its ends to the cross piece and the other end of the jointed frame pivotally and slidably connected with the parallel bars by means of pulleys and links and means to retain the jointed frame in an elevated horizontal position to operate as set forth.

4. In an apparatus for suspending and displaying curtains and the like, a frame having parallel horizontal bars, a cross piece fixed to the parallel bars, a jointed frame hinged at one of its ends to the cross piece and the other end of the jointed frame pivotally and slidably connected with the parallel bars by means of pulleys and links, studs in the sides of the jointed frame, spring-actuated pawls to engage the studs and cords fixed to the pawls and extended over direction pulleys to retain the jointed frame in an elevated horizontal position, to operate as set forth.

5. In an apparatus for suspending and displaying curtains and the like, a frame having parallel horizontal bars, a cross piece fixed to the parallel bars, a jointed frame hinged at one of its ends to the cross piece and the other end of the jointed frame pivotally and slidably connected with the parallel bars, means for raising and retaining the jointed frame in an elevated and horizontal position and means for folding and lowering the jointed frame.

6. In an apparatus for suspending and displaying curtains and the like, a frame having parallel horizontal bars, a cross piece fixed to the parallel bars, a jointed frame hinged at one of its ends to the cross piece and the other end of the jointed frame pivotally and slidably connected with the parallel bars, means for raising and retaining the jointed frame in an elevated and horizontal position and means for folding and lowering the jointed frame, a plurality of spring-actuated rollers mounted in the jointed frame, cords connected with the rollers and curtain bearers connected with the cords.

7. In an apparatus for suspending and displaying curtains and the like, a frame having parallel horizontal bars, a cross piece fixed to the parallel bars, a jointed frame hinged at one of its ends to the cross piece and the other end of the jointed frame pivotally and slidably connected with the parallel bars, means for raising and retaining the jointed frame in an elevated and horizontal position and means for folding and lowering the jointed frame, a plurality of spring-actuated rollers mounted in the jointed frame, cords connected with the rollers and curtain bearers connected with the cords and clasps fixed to the cords to engage the curtain bearers.

8. An apparatus for suspending and displaying lace curtains &c. comprising a frame having horizontal bars and a cross piece below the bars, a jointed frame hinged to the cross piece at one of its ends and its other end pivotally and slidably connected with the parallel bars of the main frame, means for supporting the jointed frame in an elevated and horizontal position, means for folding and lowering the jointed frame, spring-actuated rollers in the jointed frame, cords fixed to the rollers and curtain bearers fixed to the cords, arranged and combined to operate as set forth.

867,196. LEASE-ROD-SUPPORTING DEVICE. WILLIAM L. GILBERT, Auburn, Me., assignor, by direct and mesne assignments, to Gilbert Lease Rod Supporter Company, a Corporation of Maine. Filed Sept. 10, 1906. Serial No. 334,007.



1. In combination in a loom, lease rod carrying members supported on the loom frame and lease rods carried by said members said lease rods being horizontally movable with relation to said members with the movement of the warp threads.

2. In combination in a loom, lease rod carrying members supported on the loom frame and having vertical movement thereon, and lease rods carried by said members and having horizontal movement thereon caused by the warp threads.

3. In combination in a loom, lease rod carrying members supported on the loom frame and having vertical spring movement thereon, and lease rods carried by said members, having horizontal spring controlled movement on said members.

4. In combination in a loom, lease rod carrying members supported on the frame of the loom and having vertical spring controlled movement thereon and a lease rod supported upon said members, having horizontal movement on said members.

5. In combination in a loom, a lease rod, and lease rod carrying members supported upon the loom frame having vertical spring movement on said frame and springs arranged to control the horizontal movement of the lease rod.

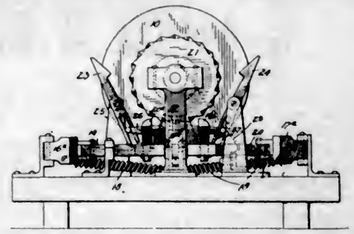
6. In combination in a loom, lease rod carrying members having vertical spring movement on their supports, and having also rocking movement in vertical planes, and lease rods carried on said members having spring controlled horizontal movement on said members.

7. In combination in a loom, lease rod carrying members, horizontally movable lease rods carried on said members, springs normally pressing said lease rods in a direction opposite to that of the feed of the warp threads, stop mechanism for the loom and means connected with the lease rods for controlling the stop motion, substantially as described.

8. A lease rod carrying attachments for looms, comprising members which directly support the lease rods, or rod, said member being adapted to move vertically on said supports upon interposed springs, means for permitting horizontal movement of the lease rod upon said supports and springs for normally pressing the lease rod in a direction opposite that of the feed of the warp threads, substantially as described.

9. In combination in a loom a lease rod carrying member composed of two parts, one movable on the other and directly carrying the lease rod or rods, a spring arranged to control the movable part a stop motion mechanism for the loom, and an arm connected to the movable part arranged with mechanism to engage the stop motion mechanism by movement of said movable part.

867,197. BLOCK-SIGNAL SYSTEM FOR ELECTRIC RAILWAYS. CLAYTON W. HAMM, York, Pa., assignor of two-fifths to Robert S. Beard, York, Pa. Filed Dec. 19, 1906. Serial No. 348,561.

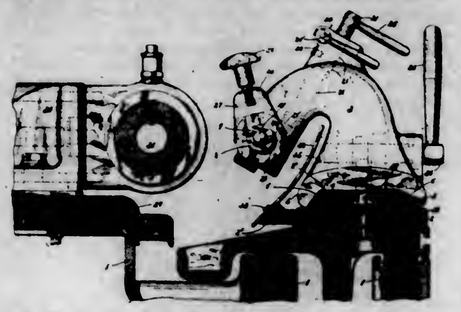


1. In a system of the class described, the combination with the signal circuit and the rotary switch a helical spring encircling said shaft and bearing at one end against a stationary part and at the other end a rotary part connected with the rotary switch for controlling the same, of a shaft carrying said switch, oppositely disposed ratchet wheels on said shaft, a sliding bar in proximity to each ratchet wheel, a pawl carried by each bar engaging the teeth of the corresponding ratchet wheel, a locking pawl pivoted upon a stationary pivot on each side of the shaft, one locking pawl being in line with each ratchet wheel, an arm from each sliding bar having a laterally projecting portion engaging the locking pawl for the wheel operated by the other sliding bar, and means controlled by the passage of the cars for operating said sliding bars, substantially as described.

2. In a system of the class described, the combination with a signal circuit and a rotary switch for controlling the same, of a shaft carrying said switch, a spring encircling said shaft to frictionally resist turning movement thereof in either direction, oppositely disposed ratchet wheels on said shaft, a sliding bar beneath each ratchet wheel, a spring pressed pawl carried by each bar for engaging the corresponding ratchet wheel a locking pawl pivoted on a stationary pivot on each side of the shaft, one locking pawl being in line with each ratchet wheel, means whereby the movement of one bar to operate its ratchet wheel throws one of the locking pawls into engagement with the other ratchet wheel and vice versa, an electro magnetic device for operating each sliding bar, and electric circuits controlled by the passage of a car or cars for energizing said electro magnetic devices.

3. In a system of the class described, the combination with a signal circuit and a rotary switch for controlling the same, of a horizontally disposed ratchet shaft carrying said switch, oppositely disposed ratchet wheels on said shaft, a horizontal sliding bar beneath each ratchet wheel, a pawl projecting upward from each bar to engage the teeth of the corresponding ratchet wheel, posts projecting up on opposite sides of said shaft, locking pawls pivoted on said posts having bifurcated lower ends, arms carried by the bars having laterally projecting portions engaging the bifurcations, an electro magnetic device for operating each sliding bar, and electric circuits controlled by the passage of a car or cars for engaging said magnets, substantially as described.

867,198. FOOT-STOCK. BENOT M. W. HANSON and ARTHUR E. THAYER, Hartford, Conn., assignors to Pratt & Whitney Company, Hartford, Conn., a Corporation of New Jersey. Filed Sept. 8, 1905. Serial No. 277,558.



1. The combination, with a support, of a sleeve movable therein; a center carried by the sleeve; a spring bearing against the sleeve; and means for adjusting the sleeve without affecting the tension of said spring.

2. The combination, with a support, of a sleeve mounted in a bore thereof; a center carried by the sleeve; a spring bearing against the sleeve; and means for adjusting said sleeve, and simultaneously with such adjustment keeping the tension of the spring constant.

3. The combination, with a support having a bore, of a sleeve mounted in said bore; a center carried by the sleeve; a helical spring bearing against the sleeve; and means for adjusting the sleeve and maintaining constant tension of said spring.

4. The combination, with a tubular support, of a sleeve mounted in the bore of said support; a center carried by the sleeve; a spring bearing against said sleeve; an abutment for said spring; means for retracting the sleeve; and means for locking said sleeve in its retracted position.

5. The combination, with a support, of a center-carrier mounted therein, and having a rack; a shaft; a pinion on said shaft for engaging said rack; means for locking the shaft against movement; and a spring carried by the support, and bearing against the center carrier.

6. The combination, with a foot-stock, of a center-carrier mounted for sliding movement therein; a spring for actuating said center-carrier in one direction; gearing for actuating said center-carrier in the opposite direction; and means for locking an element of said gearing.

7. The combination, with a foot-stock having an extension slotted to receive a tool for dressing the reducing-wheel, of a tool-clamp on said extension.

8. The combination, with a foot-stock having an overhanging arm provided with an extension slotted to receive a tool, of a tool-clamping screw threaded into said extension.

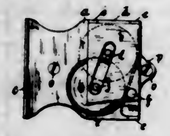
9. The combination, with a foot-stock having bores, at an angle to each other, of a sleeve mounted in one of said bores, and having a rack; a center carried by the sleeve; a shaft mounted in the other bore; a pinion carried by said shaft, and in mesh with the rack; a split-bearing through which the shaft passes; and a screw for compressing the bearing against said shaft.

10. The combination, with a stock having a bearing, of a sleeve mounted in said bearing; a cap for the sleeve having an internally-threaded wall; a plug externally-threaded to engage said wall; a key on the plug; a screw passing through the plug, and having a groove to receive said key, said screw engaging the sleeve, and its thread being of the same lead as threads of the plug and cap; a helical spring between the sleeve and plug; and a center carried by the sleeve.

11. The combination, with a stock having a bearing, of a sleeve in said bearing; a center carried by the sleeve; a screw threaded into the sleeve, and having a longitudinal groove; a hollow internally-threaded cap rigid with the rear end of the bearing; an externally-threaded plug splined to the screw; and a spiral spring between the plug and the end of the sleeve.

12. The combination, with a center-carrier and its center, of a cap having an internally-threaded wall; a spiral spring bearing against the center-carrier; and threaded devices, each having the same lead of thread for adjusting the center-carrier and the spring in consonance with said carrier, whereby compression of said spring is avoided, and the tension thereof will remain constant.

867,199. HANDLE-HOLDER. ROBERT E. JACK, Milwaukee, Wis., assignor, by mesne assignments, to Magic Broom-Holder Company, a Partnership. Filed Oct. 8, 1906. Serial No. 337,918.



1. A handle-holder for brooms and like implements comprising a roller having a slightly conical surface, a casing in which said roller is mounted to move in a direction slightly oblique to the vertical, and an abutment opposite said roller.

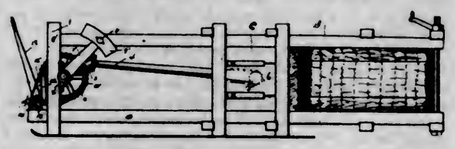
2. A handle-holder of the class described comprising, in combination, a box or casing inclosed on one side, a roller mounted therein and guided in a direction slightly oblique to the vertical, and an abutment flange on the edge of the casing opposite said roller; said roller having a rounded front edge and tapering toward the back to a slightly smaller diameter.

3. A handle-holder comprising a casing having a portion closed at front and back, one of the closed sides having an oblique slot, a roller having a gudgeon running in said slot and an abutment opposite said roller; the plane of said abutment and the axis of said roller being perpendicular to the back, and said abutment and roller being separated at the front to permit the insertion of a handle.

4. A handle-holder comprising a casing having a portion thereof closed at front and back, oblique slots in said front and back, a roller having gudgeons running in said slots, and an abutment opposite said roller; the plane of said abutment and the axis of said roller being perpendicular to the back, and said abutment and roller being separated at the front to permit the insertion of a handle.

5. In a device of the class described, the combination of a casing having a partly inclosed portion, a cover plate fitting over the front side of said inclosed portion, and having an oblique slot therein, a conical roller loosely mounted in said inclosed portion and having a gudgeon fitting in said slot, an oblique surface at one side of said roller on which it rolls, and an abutment at the opposite side of said roller and at a distance therefrom.

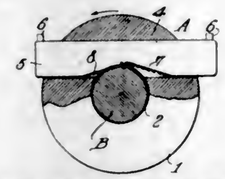
867,200. BALING-PRESS. CALVIN JELF, Granite City, Ill. Filed Oct. 19, 1906. Serial No. 339,622.



1. In a baling press, the combination with a ratchet lever, of a weight mechanism comprising a crank shaft mounted on bearings fixed to the frame of the press, a crank fixed to each end of the said shaft, each crank being provided with a crank pin adapted to carry suitable weights, an arm connecting the crank shaft with a pin fixed in the head 6; the said head; and a baling chamber through which the said head reciprocates, substantially as set forth.

2. The combination, in a baling press, of a ratchet mechanism comprising a ratchet wheel and lever mounted upon a shaft journaled in bearings fixed to the lower sill of the press; the said shaft, sprocket wheels fixed thereon, an endless sprocket chain connecting each of the said sprocket wheels with sprocket wheels mounted upon a crank shaft journaled in bearings fixed to the front end pieces of the press frame; the said crank shaft, the sprocket wheels mounted thereon having ratchet teeth formed on their outer rim to engage with a pawl upon the frame of the press; an arm connecting the crank shaft with a pin fixed in the head 6; the said head; and a baling chamber through which the said head reciprocates, substantially as set forth.

867,201. STAY-BOLT CHUCK. WILLIAM H. KAUFFMAN, Davenport, Iowa. Filed Nov. 27, 1906. Serial No. 345,337.



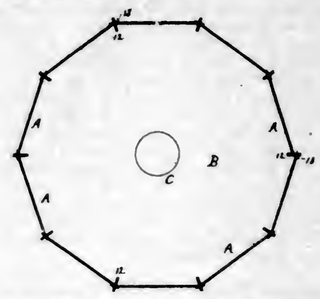
1. A tool of the character described embodying a disk-shaped stock having a circular periphery and provided with an axial bore to receive the part to be turned and a passage extending transversely through the stock at one side of the bore and forming a relatively long inner wall and a relatively shorter outer wall both terminating at the circular periphery on opposite sides of the stock, a gripping member mounted to reciprocate longitudinally of the said passage and having gripping surfaces thereon adapted to coöperate with an article resting in the bore of the stock, and a pair of limiting stops projecting from that side of the gripping member which coöperates with the shorter wall of the passage and arranged to coöperate with the corners formed between the said shorter wall of the passage and the circular periphery of the stock to permit the gripping member to engage articles of different diameters.

2. A chuck embodying a shank, a socket portion having a circular periphery formed concentrically with the axis of said shank and provided with an axially arranged socket to receive the end of a bolt, a transverse passage being formed in the socket portion and arranged tangentially of the socket, the wall of the said passage toward the periphery of the socket portion being shorter than the inner wall, a gripping member mounted to operate in said passage and having a portion adapted to coöperate with a bolt resting in said socket, and limiting stops arranged on that side of the gripping member opposite to that adapted to engage the bolt and to coöperate with the circular periphery of the socket portion at the corners formed by the ends of the shorter wall of the transverse passage and the circular periphery of the stock.

867,202. PROCESS OF MAKING STIFFENING FOR SUNBONNETS AND THE LIKE. DAVID H. KENDALL, Lathrop, Mo., assignor to American Sun Bonnet Company, Lathrop, Mo., a Corporation of Missouri. Filed Apr. 22, 1907. Serial No. 369,677.

1. The process of making a stiffening, consisting of pasting together a number of layers of cloth of muslin quality with a paste made of flour and water and alum, drying same while it adheres to a smooth surface on one side, the other side being exposed for the free vaporization of the moisture, and then seasoning the dried product by subjecting several layers thereof to moderate pressure for a suitable period to render same pliable.

2. The process of making a stiffening, consisting of pasting together a number of layers of muslin quality with a paste made of flour and water and alum, drying same while it adheres to a smooth surface on one side, the other side being exposed for the free vaporization of the moisture, then seasoning the dried product by subjecting it to pressure for two weeks or longer, then again finally and thoroughly drying the seasoned product, and then covering the product with a suitable covering cloth.

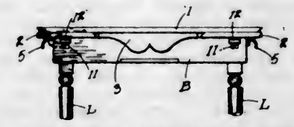


3. The process of making a stiffening, consisting of pasting together a number of layers of muslin with a paste made of flour and water and alum and thoroughly worked into the fabric, then drying same while it adheres to a smooth surface on one side, the other side being exposed so as to permit the free vaporization of the moisture, then seasoning the dried product by subjecting it to pressure for a suitable period, then again finally and thoroughly drying the seasoned product, and then sewing to the product a suitable covering cloth.

4. The process of making a stiffening consisting of pasting together a number of layers of cloth of suitable quality with a paste made of flour and water and alum, drying same while it adheres to a smooth surface on one side, the other side being exposed for the free vaporization of the moisture, and then seasoning the dried product by subjecting several layers thereof to pressure for a suitable period to render same pliable.

5. The process of making a stiffening consisting of pasting together a number of layers of cloth of suitable quality, drying same while it adheres to a smooth surface on one side, the other side being exposed for the free vaporization of the moisture, and then seasoning the dried product by subjecting it to moderate pressure for a suitable period.

867,203. EXTENSION-TABLE. JOHN MELISCH, Granite City, Ill., assignor of one-half to Charles Hedrich, Granite City, Ill. Filed May 24, 1907. Serial No. 375,483.



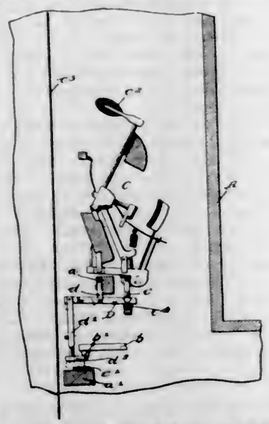
1. A table comprising a center top or section, terminal leaves, runners extending inwardly from the leaves under the top, supporting brackets on the top resting on the runners, suitable formations on the runners for elevating the top sufficiently to permit the leaves to pass under the top, the runners having formed thereon suitable depressions and means on the top for engaging said depressions and allowing the top to settle to the plane of the leaves when the latter are withdrawn, substantially as set forth.

2. A table comprising a center top or section, terminal leaves, a toggle-frame pivoted to a fixed axis at the center of the table and having its ends pivotally secured to the leaves, runners extending inwardly from the leaves and supported beneath the table, roller-brackets connected to the center top and resting on the runners in a plane conforming to the plane of disposition of the leaves for a

retracted position of the latter, and formations on the runners for retaining the top in an elevated plane for the folded position of the table whereby the leaves are adapted to pass under the top, substantially as set forth.

3. A table comprising a center top or section, terminal leaves, a toggle-frame having a fixed axis at the center of the table and having its opposite ends pivotally coupled to the leaves, runners or bars extending inwardly from the leaves beneath the table, supporting rollers for the runners, roller brackets depending from the center top and resting on the runners, the upper edge of the runners being provided with shallow and deep depressions spaced a suitable distance apart for the reception of the rollers of the roller-brackets, the unnotched portions being adapted to hold the center top sufficiently elevated for the free passage of the leaves thereunder, the shallow depressions allowing the top to come in close contact with the leaves in their closed position and the deep depressions allowing the center top to drop to a plane even with the leaves in their extended position, the adjacent edges of the center top and leaves meeting on a bevel to permit the leaves to wedge themselves under the top for a folding movement of the leaves, substantially as set forth.

867,204. PLAYER-PIANO ACTION. FRANZ MEYER, Oak Park, Ill., assignor to George A. Baker, Jr., Chicago, Ill. Filed Feb. 5, 1906. Serial No. 299,649.
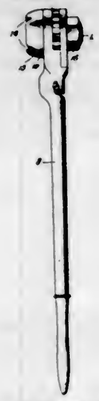


In a player-piano, the combination of a suitable piano action, a row of levers having their forward ends adapted to strike upward to operate the piano-action, rods hung on the depressible rear ends of said levers, player mechanism having fingers projecting rearwardly within the player-piano, said fingers all disposed in one level, each finger having its rear end adapted to strike downward from its normal position in the said level, the player-piano having a casing in which the player mechanism is disposed as a unit, and means for communicating the downward strokes of said fingers to said rods to actuate the said levers and the piano-action.

867,205. WRENCH-SOCKET. CHARLES H. MYERS, Buffalo, N. Y. Filed Mar. 7, 1906, Serial No. 304,714. Renewed July 16, 1907. Serial No. 384,112.

1. A wrench comprising a stock and a head rotatably mounted on the stock and having a nut-receiving socket in its front face, said head being circular in cross section and having its outer annular face continuously curved from its rear side to its front side, thereby eliminating corners to said head, securing sufficient metal on all sides of the socket to prevent the walls of said head breaking under strain, and permitting the rotation of the head in confined places.

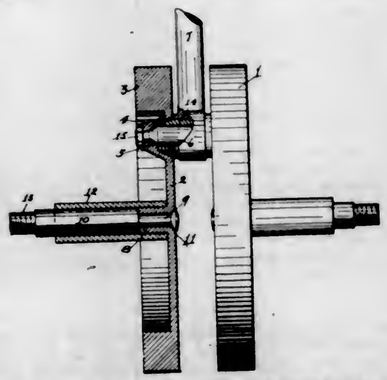
2. A wrench comprising a stock and a head having a shank journaled in the stock, said head having flat rear and front faces, a nut-receiving socket opening through its front face, said head being furthermore circular in cross section and having its outer annular face curved from its rear to its front side and intersecting the corners



of the socket, such intersection terminating short of the bottom of the socket, the contour of the head thereby eliminating corners, securing sufficient metal on all sides of the socket to prevent the walls of the head breaking under strain, and permitting the rotation of the head in confined places.

867,206. [WITHDRAWN.]

867,207. FLY-WHEEL CONSTRUCTION FOR GAS-ENGINES. ARCHIBALD J. MCCOLLUM, Chicago, Ill., assignor to Armac Motor Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 21, 1906. Serial No. 348,855.



1. A fly wheel, said wheel being constructed of two disks each of which has an annular rib at its periphery, an outwardly extending boss located on each of said disks, there being a taper socket in said bosses, an outwardly extending hub at the center of each of said disks, a rod mounted in each of said hubs whose external diameters are coincident with the external diameters of the hubs, each rod having means for securing and holding it in position, and a steel sleeve fitted over each rod and the exterior surface of the adjacent hub, for the purpose set forth substantially as described.

2. A fly wheel, said wheel being constructed of two disks each of which has an annular rib at its periphery, an outwardly extending boss located on each of said disks, there being a taper socket in said bosses, an outwardly extending hub at the center of each of said disks, a rod mounted in each of said hubs, whose external diameters are coincident with the external diameters of the hubs, each rod having means for securing and holding it in position, and a steel sleeve fitted over each rod and the exterior surface of the adjacent hub, there being threads cut upon the ends of said rods, for the purpose set forth substantially as described.

3. A fly wheel, said wheel being constructed of two disks each of which has an annular rib at its periphery, an outwardly extending boss located on each of said disks, there being a taper socket in said bosses, an outwardly extending hub at the center of each of said disks, a rod mounted in each of said hubs whose external diameters are coincident with the external diameters of the hubs, each rod having means for securing and holding it in position, a steel sleeve fitted over each rod and the exterior surface of the adjacent hub, there being threads cut upon the ends of said rods, and a connecting rod mounted in said taper socket, for the purpose set forth, substantially as described.

4. A fly wheel, said wheel being constructed of two disks each of which has an annular rib at its periphery, an outwardly extending boss located on each of said disks, there being a taper socket in said bosses, an outwardly extending hub at the center of each of said disks, a rod mounted in each of said hubs whose external diameters are coincident with the external diameters of the hubs, the inner end of each rod being riveted, securing the rod rigidly to the disk, for the purpose set forth, substantially as described.

867,208. SPROCKET-CHAIN. ROBERT S. MCINTYRE, Riverside, Cal. Original application filed Feb. 23, 1905, Serial No. 246,871. Divided and this application filed June 12, 1907. Serial No. 378,492.



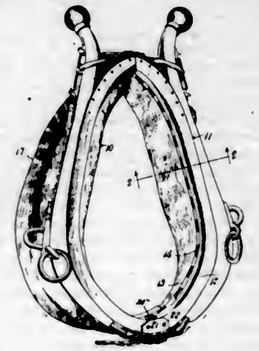
1. A sprocket chain having sprocket links with teeth formed on the edges thereof adapted to engage the sprocket teeth of a sprocket wheel, and intermediate guide links projecting downwardly beyond said teeth and adapted to be received in a guide groove in the sprocket wheel, said guide links affording means for preventing the dislodgment of the chain.

2. A sprocket chain composed of sprocket links disposed in pairs alternately attached outside and inside of each other, said sprocket links having teeth on their edges adapted to engage the teeth of a sprocket wheel, guide links disposed between alternate pairs of said sprocket links and projecting beyond the teeth of said sprocket links, said guide links being adapted to lie in a groove formed in the sprocket wheel to prevent the dislodgment of the chain.

3. A sprocket chain having sprocket links disposed in pairs attached alternately outside and inside of each other, guide links disposed in pairs and disposed between the members of the outside sprocket links, said guide links having fins projecting beyond the teeth of said sprocket links, adapted to run in the groove formed on the sprocket wheel, and plain links lying between the inside links.

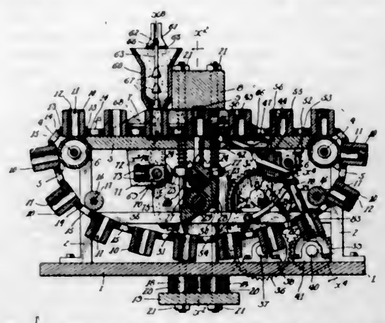
867,209. HORSE-COLLAR. ADAM REED, Middletown, Del., assignor to Joseph C. Parker, Middletown, Del. Filed Feb. 7, 1907. Serial No. 356,173.

1. A collar having a metallic rim and comprising relatively movable members hingedly connected at their lower extremities, and a protecting plate spanning the joint between the said members, secured at one end to one of the members and having a sliding engagement with the other member.



2. A collar having a metallic rim and comprising relatively movable members hingedly connected at their lower extremities, and a protecting plate spanning the joint between said members, secured at one end to one of the members and having a fastening device engaging a slot in the other member.

867,210. BRIQUET-MACHINE. CHARLES W. REYNOLDS, Los Angeles, Cal. Filed Oct. 29, 1906. Serial No. 341,193.



1. In a briquet machine, a series of mold blocks movable in an orbit, and means for advancing said mold blocks step by step comprising a dog, means for moving said dog into engagement with the chain of mold blocks and for moving said dog forward a definite distance while in such engagement, and for moving said dog out of engagement at the termination of said distance.

2. A series of mold blocks forming an endless chain movable through an orbit, a dog adapted to engage said chain, and means for operating said dog in two definite planes, said dog being in engagement with the chain while in one plane and being out of engagement with said chain when in the other plane.

3. In a briquet machine, a series of mold blocks forming a chain, a dog adapted to engage said chain, means forming a continuous way with two runs, means guided by said way for carrying said dog, and means for moving said dog in an orbit defined by the path of said way, whereby the dog is automatically engaged with the chain to drive the latter a certain distance and disengage from said chain after having moved the chain the said distance.

4. In a briquet machine, a series of mold blocks forming a chain movable in an orbit, a dog adapted to coact with said chain to advance the chain step by step, means for guiding said dog through a stroke in one plane when en-

gaged by said chain and in another plane when disengaged from said chain, an operating link connected to said dog, a shaft passing through said link and guiding the link, an eccentric on said shaft, and projections on said link bearing against opposite parts of said eccentric, whereby the rotation of the eccentric imparts a to and fro movement to said link for operating said dog.

5. In a briquet machine, a series of mold blocks forming a chain movable through an orbit, a pair of dogs adapted to engage said chain to move the chain step by step, a rod connecting said dogs, means forming ovoidal ways for guiding the respective ends of said rod, and means for operating said rod through said ways to move said dogs in one plane while in engagement with said chain and in another plane when disengaged from the chain.

6. A plurality of mold blocks connected to form an endless chain, a pair of dogs adapted to engage said chain, a rod connecting said dogs, means provided with ovoidal ways for guiding said rod in two planes, a pair of operating links connected to the respective ends of said rod, a shaft passing through said links and guiding the links, eccentrics on said shaft and pins on said links for bearing against opposite points of said eccentrics, whereby as the eccentrics rotate a to and fro movement is imparted to the operating links, and the dogs are moved through their ways.

7. In a briquet press, a series of mold blocks forming a connected chain, means for filling said mold blocks, a cross-head, a gang of plungers mounted on the cross-head for compressing the material in said mold boxes, a bulkhead for resisting the pressure of material being compressed by the plungers, bolts passing through the bulk head, a resistance plate connected to said bolts, and springs interposed between said resistance plate and a stationary abutment.

8. A series of mold blocks connected to form an endless chain, a hopper having a discharge orifice with which the mold blocks are adapted to be brought into register step by step, and a plunger having a thrust stroke mounted in said hopper, the plunger having a series of shoulders for pushing the briquet material toward the discharge orifice of the hopper.

9. A series of mold blocks arranged in gangs connected to form a chain, a hopper provided with a series of discharge mouths with which each gang of mold blocks is adapted to be brought into register step by step, a cross bar extending across the receiving mouth of said hopper, a series of filling plungers connected to said cross-bar, means for guiding said cross-bar in a vertical plane, and means for operating said cross-bar to impart a thrusting stroke to said plungers.

10. A series of mold blocks arranged in gangs connected to form a chain, a hopper provided with a series of discharge mouths with which each gang of mold blocks is adapted to be brought into register step by step, a cross bar extending across said hopper, a series of filling plungers connected to said cross-bars, means for guiding said cross-bar in a vertical plane, and means for operating said cross-bar to impart a thrusting stroke to said plungers, each plunger comprising a stem pivoted to said cross-bar and having a series of conical enlargements formed on the stem.

11. In a briquet machine, a series of mold blocks movable through an orbit, filling mechanism, compressing mechanism, a gear operating with the compressing mechanism, a pinion driven by said gear for operating the filling mechanism, means for moving said mold blocks step by step, and means for throwing said pinion out of mesh with said gearing to permit the mold blocks to be advanced without operating any of the filling mechanism.

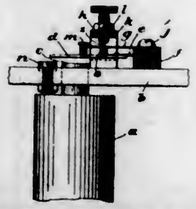
12. In a briquet machine, a series of mold blocks movable through an orbit, a hopper, a plunger operating in said hopper for forcing material into the mold blocks, an eccentric for operating said plunger, a shaft for operating said eccentric, slidable blocks in which said shaft is journaled, a compression mechanism, a gear operating with the compressing mechanism, a pinion on said shaft, yielding means for holding said slidable blocks in one position with said pinion in mesh with said gear, and means for shifting said blocks to move said shaft laterally and throw said pinion out of mesh with said gear to permit the mold blocks to be advanced.

13. In a briquet machine, a series of mold blocks movable through an orbit, a hopper, a plunger operating in said hopper for forcing material into the mold blocks, an eccentric for operating said plunger, a shaft for operating said eccentric, slidable blocks in which said shaft is journaled, a compressing mechanism, a gear operating with the compressing mechanism, a pinion on said shaft, yielding means for holding said slidable blocks in one position with said pinion in mesh with said gear, a cam shaft, a cam thereon for operating the compressing mechanism, and a cam on the cam shaft for operating against the first shaft to move said shaft laterally and throw the pinion out of mesh with the gear.

14. In a briquet machine, a series of mold blocks movable through an orbit, a pivoted rock arm, an expelling plunger external of the mold blocks and connected to said rock arm, and a cam for swinging said rock arm to thrust said expelling plunger into a mold block and expel briquets therefrom.

15. In combination with a gang of mold blocks, a pair of pivoted rock arms, a gang of expelling plungers, a rod connecting said plungers, the ends of said rock arms having slots which receive the ends of said rod, a pair of cams for acting against said rock arms to thrust said plungers into the gang of mold blocks, and means for retracting said rock arms to lift the expelling plungers out of the mold blocks.

867,211. CIRCUIT MAKING AND BREAKING DEVICE. ANDREW L. RIKER, Bridgeport, Conn., assignor to The Locomobile Company of America, New York, N. Y., a Corporation of West Virginia. Filed Jan. 18, 1904. Serial No. 189,421.



1. A circuit making and breaking device provided with a contact member and impact means for enforcing the making of the circuit.

2. A circuit making and breaking device provided with a contact member, movement of which causes the making and breaking of the circuit, and an independently movable member adapted to engage said contact member to enforce the making of the circuit.

3. A circuit making and breaking device containing a contact member, an armature member normally out of engagement therewith, and means to cause engagement between said contact member and armature member during both inward and outward movement of the latter.

4. A circuit making and breaking device provided with a contact member having both a circuit breaking and a circuit making movement, an armature having also a circuit making and a circuit breaking movement and being normally out of engagement with said contact carrying member, and means for causing engagement between said armature and contact carrying member during the circuit making movement of the former toward its corresponding contact.

5. A circuit making and breaking device provided with a resilient contact carrying member, a resilient armature carrying member normally out of engagement therewith, means upon said armature carrying member for engaging said resilient contact carrying member on the inward movement of the former to cause the latter forthwith and forcibly to interrupt the circuit and means upon said armature carrying member and immediately adjacent the location of the contact upon said contact carrying member for engaging the latter on the outward armature movement to cause the forcible making of the circuit.

6. A circuit making and breaking device provided with a contact member, a relatively movable armature actuated member, said contact member providing a stop for said relatively movable armature member on the circuit making movement thereof.

7. A circuit making and breaking device comprising a circuit controlling member of relatively small mass adapted thereby for a quick opening of the circuit and a second member of relatively greater mass adapted to engage therewith to enforce a positive making of the circuit.

8. A circuit making and breaking device provided with impact means for enforcing the making of the circuit and means for moving said device to break the circuit.

9. A circuit making and breaking device comprising a contact member and a resiliently mounted armature member provided with impact means for enforcing the making and breaking of the circuit.

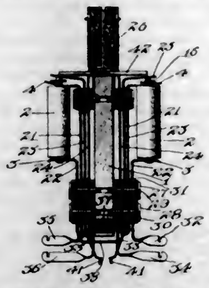
10. A circuit making and breaking device comprising a contact member and a resiliently mounted armature member provided with impact means for enforcing the making of the circuit.

11. A circuit making and breaking device containing a contact member, an armature member, a vibratable leaf spring carrying said armature member and impact means for enforcing the making of the circuit.

12. A circuit making and breaking device containing a contact member and a vibratory armature member having a vibratory movement either side of its normal position, and impact means for enforcing the making of the circuit.

13. A circuit making and breaking device containing a contact member and a vibratory armature member having a vibratory movement either side of its normal position, and impact means for making and breaking the circuit.

867,212. ELECTRICAL-CIRCUIT PROTECTOR. CHAS. A. ROLFE, Rochester, N. Y., assignor to Rolfe Electric Company, Rochester, N. Y., a Corporation of New York. Filed Sept. 18, 1905. Serial No. 279,003.



1. The combination with a board or support, of line contacts running lengthwise of the same and having their ends bent, a heat cartridge supported by said line contacts lengthwise of said board or support, said heat cartridge being provided with a sliding member, and a contact strip also running lengthwise of said board and having its end bent so as to come opposite the end of said sliding member, whereby the latter upon operation makes connection with said strip.

2. The combination with a board or support, of line contacts running lengthwise of the same and having their ends bent, a heat cartridge supported by said line contacts lengthwise of said board or support, said heat cartridge being provided with a sliding member, a contact strip also running lengthwise of said board and having its end bent so as to come opposite the end of said sliding member, whereby the latter upon operation makes connection with said strip, and a ground contact on the other side of the bent end of said contact strip, with which the latter is adapted to make connection when actuated by said plunger.

3. The combination with a board or support, of line contacts running lengthwise of the same and having their ends bent, a heat cartridge supported by said line contacts lengthwise of said board or support, said heat cartridge being provided with a sliding member, a contact strip also running lengthwise of said board and having its end bent so as to come opposite the end of said sliding member, whereby the latter upon operation makes connection with said strip, a ground contact on the other side of the bent end of said contact strip, with which the latter is adapted to make connection, when actuated by said plunger, lightning arrester electrodes 26, 26 supported upon said board or support, and contact strips 24, 24 for said electrodes.

4. The combination with a supporting board, of metallic strips secured to said board alongside of the same, there being four strips, three of which have their ends bent outwardly, and the fourth of which, extends upwardly beyond the others, a heat cartridge supported by two of the outwardly bent ends of two of said strips; said cartridge being provided with a circuit opening device and means for actuating the same, and having a part which projects outwardly upon operation, so as to engage the outwardly bent end of the third of said bent strips, and a lightning arrester with which the fourth strip makes connection.

5. The combination with a vertically disposed support, of heat cartridges arranged on opposite sides thereof, each of such cartridges being provided with circuit controlling mechanism, and the means for actuating the same, metallic strips arranged on opposite sides of said support, there being four strips on each side, three of which having their ends bent outwardly, the heat cartridge being supported by two of the same, and the third being extended over the end of the cartridge, a cross bar 42 arranged above the bent ends of the third mentioned metallic strips, and a lightning arrester mounted upon the support, the fourth strip on each side of the board being connected with said lightning arrester.

6. The combination with a pair of metallic supporting strips, of a heat cartridge supported thereby, said cartridge being provided with self-soldering circuit-opening mechanism, and having means extending through the cartridge for returning said mechanism to normal position.

7. The combination of a pair of metallic supporting strips and a heat cartridge supported thereby, said cartridge being provided with self-soldering circuit-opening mechanism, and having a reciprocating plunger operated by said mechanism and extended through the cartridge, whereby it can be actuated to return said mechanism to operative position.

8. The combination with a pair of supporting strips, of a heat cartridge supported thereby, said cartridge being provided with circuit-controlling mechanism and having a movable part extended through said cartridge, and a third strip arranged to be contacted with said movable part.

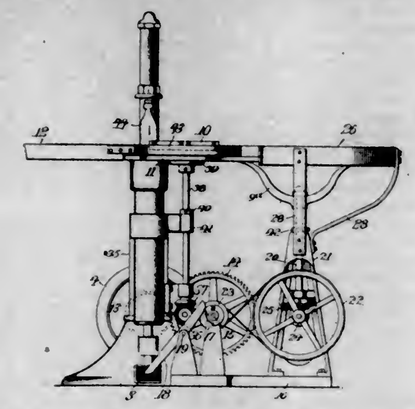
9. The combination of a pair of metallic supporting strips, a heat cartridge supported thereby and provided with self-soldering circuit-opening mechanism, having a plunger releasable by said mechanism upon operation, said plunger extending through one end of the cartridge, and a third strip arranged opposite said plunger so as to be contacted with by the same upon release.

867,213. BOTTLE-SEALING MACHINE. EDWIN T. RYAN, Baltimore, Md., assignor of one-half to Henry Scarborough, Chicago, Ill. Filed Sept. 25, 1905. Serial No. 279,982.

1. In combination with a bottle sealing machine, automatic means for feeding the bottles to the machine and starting the machine for the sealing action.

2. In combination with a bottle sealing machine, and its sealing device, a stationary table adjacent the sealing device, and on which the bottles are adapted to slide, means operating with an intermittent movement for mov-

ing the bottles on the table and presenting them to the sealing device, and means for automatically and continuously feeding the bottles to said table.



3. In combination with a bottle sealing machine and its sealing device, a stationary table adjacent the sealing device, and on which the bottles are adapted to slide, a sprocket wheel rotating in a plane above said table for engaging and presenting the bottles to the sealing device, and automatic means for continuously feeding the bottles to the sprocket wheel and causing them to continually press against such wheel.

4. In combination with a bottle sealing machine, and its sealing device, a stationary table adjacent the sealing device, and on which the bottles are adapted to slide, a sprocket wheel rotating in the plane above said table for engaging and presenting the bottles to the sealing device, and a revolving table for feeding the bottles to the sprocket wheel.

5. In combination with a bottle sealing machine, and its sealing device, a stationary table adjacent the sealing device, and on which the bottles are adapted to slide, a sprocket wheel rotating in a plane above said table for sliding the bottles on the table and presenting them to the sealing device, a revolving table for feeding the bottles to the sprocket wheel, and a delivery chute coöperating with the stationary table.

6. In combination with a bottle sealing machine and its sealing device, a stationary table adjacent the sealing device, and on which the bottles are adapted to slide, a sprocket wheel rotating in a plane above said table for engaging and presenting the bottles to the sealing device, and a guard adjacent said table to confine the bottles within the wheel.

7. In combination with a bottle sealing machine and its sealing device, a stationary table adjacent the sealing device, and on which the bottles are adapted to slide, a sprocket wheel rotating in a plane above said table for sliding the bottles thereon and presenting them to the sealing device, a revolving table for feeding them to the sprocket wheel, and a guard adjacent the edge of the latter table for confining the bottles thereon.

8. In combination with a bottle sealing machine and its sealing device, a stationary table adjacent the sealing device, and on which the bottles are adapted to slide, a sprocket wheel rotating in a plane above said table for sliding the bottles thereon and presenting them to the sealing device, a continuously revolving table for feeding the bottles to the sprocket wheel, and a pair of guards arranged adjacent the edge of the latter table and providing two points of bottle supply.

9. In combination with a bottle sealing machine and its sealing device, a stationary table adjacent the sealing device, a sprocket wheel rotating in a plane above said table for presenting the bottles to the sealing device, a revolving table for feeding the bottles to the sprocket wheel, and a guard coöperating with the stationary table and projecting across the vertical plane of said revolving table to intercept the bottles thereon and guide them to the sprocket wheel.

10. In combination with a bottle-sealing machine and its sealing device, a stationary table adjacent the sealing device, a sprocket wheel rotating in a plane above said table and presenting the bottles to the sealing device, a revolving table for feeding the bottles to the sprocket wheel, a main operating shaft, an operating connection between such shaft and the sprocket wheel for operating such wheel with a step by step movement and an operating connection between such shaft and the revolving table for continuously revolving the latter.

11. In combination with a bottle sealing machine and its sealing device, a stationary table adjacent the sealing device, a sprocket wheel rotating in a plane above said table for presenting the bottles to the sealing device, a revolving table for feeding the bottles to the sprocket wheel, a main operating shaft, a ratchet drive connection between said shaft and the sprocket wheel, and a driving connection between the shaft and the revolving table.

12. In combination with a bottle sealing machine and its starting and stopping mechanism, intermittently operated means for presenting the bottles to the sealing device of the machine, continuously operating mechanism for feeding bottles to said means, an operating shaft operatively connected with said means, and means actuated by said shaft for controlling the action of said starting and stopping mechanism.

13. In combination with a bottle sealing machine and its starting and stopping mechanism, intermittently operated means for presenting the bottles to the sealing device of the machine, continuously operating mechanism for feeding bottles to said means, an operating shaft, an operating connection with the shaft for imparting a step by step movement to said means, and means actuated by said shaft for controlling the action of said starting and stopping mechanism.

14. In combination with a bottle sealing machine and its treadle-operated device for starting and stopping the machine, means for presenting the bottles to the sealing device of the machine, and an operating shaft operatively connected with said means and with said treadle for intermittently operating the latter.

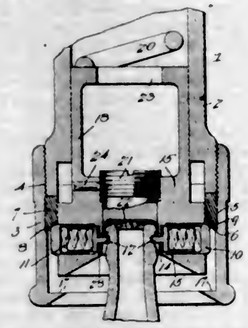
15. In combination with a bottle sealing machine and its treadle-operated device for starting and stopping the machine, means for presenting the bottles to the sealing device of the machine, an operating shaft operatively connected with said means, a cam on said shaft, and a lever forming an operating connection between said cam and the treadle.

16. In combination with a bottle sealing machine and its treadle-operated device for starting and stopping the machine, means for presenting the bottles to the sealing device of the machine, an operating shaft operatively connected with said means, and a cam carried by said shaft for actuating said treadle.

867,214. SEALING-HEAD FOR BOTTLE-SEALING MACHINES. EDWARD D. SCHMITT, Brooklyn, N. Y., assignor to Monarch Seal Company, New York, N. Y., a Corporation of New York. Filed May 11, 1907. Serial No. 373,075.

1. In a machine for applying bottle seals, a spring-backed seal applying plunger having a plurality of radially arranged recesses therein, a yielding seal locking device in each of said recesses formed of two telescoping members, the inner member having a seal indenting point and the outer member a cam surface, and a spring interposed between said members, a stationary cam element adapted to engage the outer members of the locking devices upon the upward movement of the plunger, whereby said devices are projected forward to lock the flange of a cap on a bottle.

2. In a machine for applying bottle seals, a seal applying plunger having a plurality of substantially radially arranged recesses therein, a yielding seal locking device in each of said recesses formed of an inner member having a seal indenting point and an outer member having a cam surface, means for guiding said members with relation to each other and a spring interposed between said members, and a stationary cam element adapted to engage the outer members of the locking devices upon the upward movement of the plunger, whereby said devices are projected forward to lock the flange of a cap on a bottle.



3. In a machine for applying bottle seals, a spring-backed seal applying plunger having a plurality of substantially radially arranged recesses therein, a yielding seal locking device in each of said recesses formed of two telescoping members, the inner member having a seal indenting point and the outer a cam surface, a spring interposed between said members, and a stationary ring in the path of movement of the seal locking devices, whereby said devices are projected forward upon the upward movement of the plunger to lock the flange of a seal upon a bottle.

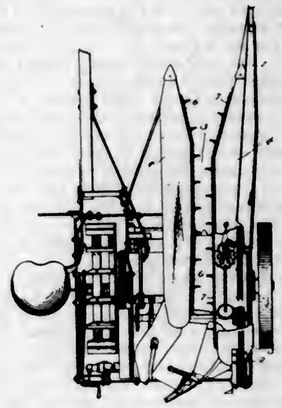
4. In a machine for applying bottle seals, a spring-backed seal applying plunger having a seal holding cavity therein and a plurality of radially arranged recesses, a yielding seal locking device in each of said recesses formed of two telescoping members, the inner member having a seal indenting point and the outer member a cam surface, a spring interposed between said members, a stationary cam element adapted to engage the outer members of the locking devices upon the upward movement of the plunger, whereby the seal indenting points are projected into the seal holding cavity to lock the flange of a cap on a bottle, and a plurality of radially aranged spring-backed pins with their ends normally projected into the seal holding cavity for temporarily holding the cap.

5. In combination, in a machine for applying bottle seals, a seal applying plunger having a seal holding cavity therein, and a plurality of substantially radially arranged recesses, a seal locking device in each recess, each having a seal indenting point, means for operating said locking devices upon the upward movement of the plunger, and a plug forming the dome or top of the seal holding cavity and capable of permanent adjustment, whereby the distance between the indenting points of the seal locking devices and the dome or top of said seal holding cavity may be varied, substantially as and for the purpose set forth.

867,215. CORN-HARVESTER. CHARLES S. SHARP, Auburn, N. Y., assignor, by mesne assignments, to International Harvester Company, a Corporation of New Jersey. Filed Oct. 6, 1902. Serial No. 126,209.

1. In a corn-harvester, a corn-passage one of the walls thereof having an upper surface adapted to engage the corn, and a supplemental arm arranged above, diverging from and projecting in advance of the upper surface of said one of the walls of the corn-passage, substantially as and for the purpose described.

2. In a corn-harvester, the combination with a corn-passage, and opposite gathering arms, each arm having a corn-supporting surface; of a supplemental arm arranged above the front end of the corn-supporting surface of one of the gathering arms, the supplemental arm diverging forwardly and downwardly from said one of the gathering arms and terminating close to the ground in advance of said gathering arm, substantially as and for the purpose described.



3. In a corn-harvester, the combination with a corn-passage, and opposite gathering arms, each arm having a corn-supporting surface; of a supplemental arm arranged above the front end of the corn-supporting surface of one of the gathering arms, the supplemental arm diverging forwardly and downwardly from said one of the gathering arms and terminating close to the ground in advance of said gathering arm, the rear end of said supplemental arm meeting the uppermost surface of said gathering arm, substantially as and for the purpose set forth.

4. In a corn-harvester, a corn-passage having an upper surface adapted to engage the corn, and a supplemental arm arranged above, diverging from and projecting in advance of said surface, the supplemental arm having its upper face inclined upwardly toward its rear end and formed rounding in cross-section, substantially as and for the purpose set forth.

5. In a corn-harvester, the combination with a corn-passage, and opposite gathering arms, each arm having a corn-supporting surface; of a supplemental arm arranged above the front end of the corn-supporting surface of one of the gathering arms, the supplemental arm diverging forwardly and downwardly from said one of the gathering arms and terminating close to the ground in advance of said gathering arm, said supplemental arm having its upper face inclined upwardly toward its rear end and formed rounding in cross-section, substantially as and for the purpose specified.

6. In a corn-harvester, the combination with a corn-passage, and opposite gathering arms, each arm having a corn-supporting surface; of a supplemental arm arranged above the front end of the corn-supporting surface of one of the gathering arms, the supplemental arm diverging forwardly and downwardly from said one of the gathering arms and terminating close to the ground in advance of said gathering arm, the rear end of said supplemental arm meeting the uppermost surface of said gathering arm, said supplemental arm having its upper face inclined upwardly toward its rear end and formed rounding in cross-section, substantially as and for the purpose described.

7. In a corn-harvester, a corn-passage with walls having upper corn-supporting surfaces extending upwardly and rearwardly, means beneath said surfaces for feeding the corn rearwardly, said means extending upwardly and rearwardly, and a feeding device extending upwardly and rearwardly and having corn-engaging means projecting above the corn-supporting surface at one side of the passage, the receiving end of said feeding device being located in substantially the same horizontal plane as the

central part of the first-mentioned means, substantially as and for the purpose set forth.

8. In a corn-harvester, a corn-passage with walls having upper corn-supporting surfaces extending upwardly and rearwardly, a gathering arm at the outer side of said passage the rear part of the upper surface of the gathering arm being extended downwardly from its outer longitudinal side toward its inner longitudinal side, means for feeding the corn rearwardly, and a feeding device having corn-engaging means projecting above the downwardly-extended rear part of the upper surface of the gathering arm, and movable in an inclined plane arranged at substantially right-angles to said downwardly-extended part, substantially as and for the purpose described.

9. In a corn-harvester, a corn-passage, devices, one on each side of the passage, for feeding the corn rearwardly, and an additional feeding device at one side of the passage having corn-engaging means projecting above the upper face of the wall of said side of the passage, substantially as and for the purpose specified.

10. The combination in a corn-harvester; of forwardly-projecting gathering arms forming a passage, devices for feeding the corn rearwardly carried by said arms on each side of the passage, said devices extending upwardly and rearwardly at different inclinations, and an additional feeding device at one side of the passage having corn-engaging means projecting above the upper face of said side of the passage, substantially as and for the purpose set forth.

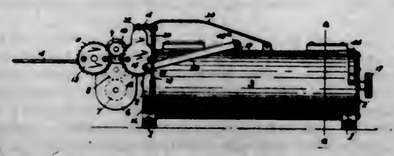
11. In a corn-harvester, a corn-passage, devices, one on each side of the passage for feeding the corn rearwardly, and an additional feeding device at one side of the passage having corn-engaging means projecting above the upper face of the wall of said side of the passage, the receiving end of the additional feeding device being located above the receiving ends of the first-mentioned feeding devices, substantially as and for the purpose described.

12. In a corn-harvester, a corn-passage one wall thereof having an upper surface adapted to engage the corn, a supplemental arm arranged above and projecting in advance of the front end of said surface, and a feeding device having corn-engaging means projecting above the rear end of said surface, substantially as and for the purpose set forth.

13. In a corn-harvester, opposite gathering arms forming a passage, each arm having a corn-engaging surface, a supplemental arm arranged above the front end of the corn-engaging surface of the outer gathering arm, and projecting in advance of said gathering arm, and a feeding device having corn-engaging means projecting above the rear end of the corn-engaging surface of said outer gathering arm, substantially as and for the purpose described.

14. In a corn-harvester, a corn-passage with walls having an upper corn-engaging surface at each side thereof, means beneath said surfaces for feeding the corn rearwardly along the passage, a supplemental arm at one side of the passage arranged above and projecting in advance of the front end of the corn-engaging surface at said side of the passage, and a feeding device at one side of the passage having corn-engaging means projecting above the rear end of the corn-engaging surface at said side of the passage, substantially as and for the purpose specified.

867,216. STAMP-AFFIXER AND ENVELOP-SEALER. JAMES SLAYBAUGH, Philadelphia, Pa. Filed Oct. 16, 1906. Serial No. 339,182.



1. The combination with a suitable framework and means combined therewith for manipulating envelops, of a decagonal roller adapted to hold a sheet of postage stamps, and having a series of teeth at each angle thereof, means for separating rows of stamps from the sheet, means for conveying such separated row into position for affixing on an envelop and means for separating individual stamps from the row and affixing said stamps to the envelop.

2. In a stamp affixing machine, a revoluble stamp-holding cylinder, having a plurality of flat facets and provided at the angles thereof with a series of laterally disposed teeth, means for manually operating said cylinder, and means for automatically operating said cylinder, a reciprocating stamp carrier arranged laterally of the said cylinder, means for oscillating the said carrier so that the same shall exert a downward pressure during its forward movement and be released therefrom during its rearward movement and means for separating and affixing the stamps, substantially as specified.

3. In an apparatus for folding, moistening and sealing gummed envelops and affixing stamps thereto, the combination with a level table, having central longitudinal opening, a fluid reservoir below said opening, fluid conveying rollers below the level of said table, a pressure roller above said opening and means for manually operating the same, of a spring controlled, depression roller, partially over the table and partially over the opening therein, arranged rearwardly of the moistening roller and adjacent to the edge of the table, means to bring a stamp into registration with the corner of an envelop, means for depositing it in proper location and means for pressing the flap and stamp to the body of the envelop, co-incident to its withdrawal.

4. In a stamp affixer, a frame, a roller journaled therein, having a plurality of flat facets, each combined with edged serrations and adapted to contain a row of stamps, a spring member co-acting with said serrations to separate an entering sheet of stamps into rows, a carrier disposed on the frame in such manner as to exert frictional contact with the top row of stamps in one direction only, means for imparting reciprocating motion to the said carrier, a gravity operated cutter for separating the rows into individual stamps, means for elevating said cutter, means for holding the cutter when so raised and means for releasing the said cutter co-incident with and upon the proper positioning of a receiving envelop, all substantially as shown and described.

867,217. THREAD-CUTTER. OLIVER SLAGLE, Leavenworth, Kans., assignor of one-half to Arthur M. Marden, Leavenworth, Kans. Filed Mar. 14, 1907. Serial No. 362,366.
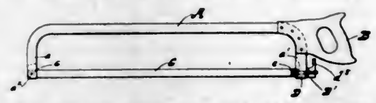


1. In a thread cutting attachment for spools, the combination of a plug fitted within the opening through the spool, a plate carried by the plug, an arm projecting from one end of the plate and designed to engage an edge of the spool, and a laterally projecting blade carried by the body portion of the plate and having a spring engagement with the end of the spool for retaining the thread.

2. In a thread cutting attachment for spools, the combination of a plug fitted within the opening through the spool, a plate carried by the plug, an integral arm extending downwardly from one end of the plate and designed to engage an edge of the spool, and an integral blade projecting laterally from the body portion of the plate, the cutting edge of the blade facing the opposite end of the plate to that provided with the before mentioned downwardly extending arm.

3. A thread cutting attachment for spools comprising a plug fitted within the opening through the spool, an elongated plate adjustably connected to the plug, an integral arm extending downwardly from one end of the plate and engaging the edge of the spool, and an integral blade projecting laterally from the plate and bearing against the head of the spool, the cutting edge of the blade facing the opposite end of the plate to that provided with the before mentioned arm.

4. A thread cutting attachment for spools comprising a plug fitted within the opening through the spool, an elongated plate stamped from spring material and provided with a longitudinally disposed slot, a fastening member extending through the slot and adjustably connecting the plate to the plug, an integral arm extending downwardly from one end of the plate and engaging an edge of the spool, and an integral blade projecting laterally from the plate, the cutting edge of the blade facing the opposite end of the plate to that provided with the before mentioned arm and the said blade serving the double function of severing the thread and of clamping the end thereof against the head of the spool.

867,218. SAW. CHARLES SMITH, Cleveland, Ohio. Filed Mar. 29, 1906. Serial No. 308,660.



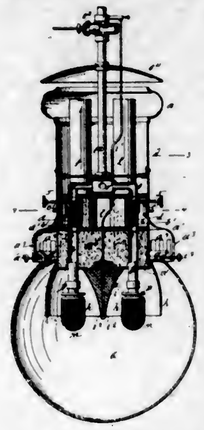
1. In a saw, the combination of a frame provided with a blade-seat in one of its ends, a member slidably mounted on its other end, said member being also provided with a blade-seat, a blade mounted in said seats, and a second member rotatably mounted upon said first member and having a cam-engagement with the adjacent frame-end, such cam having a fall which permits a single rotation or less of said rotating member to either place the saw under tension or to relieve it from such tension.

2. In a saw, the combination of a frame provided with a blade-seat in one of its ends, a bolt slidably secured to its other end, said bolt being provided with a blade-seat at its inner end, a blade removably mounted in said seats, and a nut screw-threaded upon the outer end of said bolt, said nut being provided with a cam-face adapted to engage the adjacent frame-end and having a fall sufficient to place said blade under tension and to relieve said tension upon a single rotation of said nut in opposite directions, respectively.

3. In a saw, the combination of a frame having one of its ends slotted and a pin transversely fitted therein so as to provide a blade-seat and having its other end laterally grooved, a slotted bolt engaging such grooved end and having a pin transversely fitted to its inner end so as to provide a second blade-seat, a blade removably mounted in said seats, and means for positioning said bolt on its frame end, such means comprising a nut screw-threaded on the outer end of said bolt and having a cam engagement with the adjacent frame end, such cam having a fall sufficient to place the blade under tension and to relieve such tension upon a single rotation of said nut in opposite directions, respectively.

867,219. GAS-LAMP. APPIOUS C. SWAIN, Jersey City, N. J. Filed June 29, 1907. Serial No. 381,387.

1. In a lamp of the character designated, the combination with a plurality of burners, burner tubes and connections, of a partition above the burners separating them from the lamp casing and contents, an annular apron forming a continuation of said partition extending downward and circumscribing the burners to form a combustion chamber, a plurality of chimney flues opening through said partition and arranged to conduct the products of combustion from said combustion chamber, a closed chamber above said partition inclosing the adjacent portions of said chimney flues and the adjacent portions of the burner tubes and pilot tube, and a packing of non-conducting material surrounding the portions of said chimney flues burner tubes and pilot tube, extending through said inclosed chamber, for the purpose described.



2. In a lamp of the character designated, the combination with a plurality of burners, burner tubes and connections, of a partition above the burners separating them from the lamp casing and contents, an apron forming a continuation of said partition, circumscribing the burners and extending below the same to form a combustion chamber, a plurality of chimney flues opening through said partition and arranged to conduct the products of combustion from said combustion chamber, a closed chamber above said partition inclosing the adjacent portions of said chimney flues and the adjacent portions of the burner tubes and pilot tube, and a packing of non-conducting material surrounding the portions of said chimney flues, burner tubes and pilot tube extending through said inclosed chamber, for the purpose described.

3. In a lamp of the character designated, the combination with a plurality of burners, burner tubes and connections, of a partition above the burners separating them from the lamp casing and contents, an apron forming a continuation of said partition, circumscribing the burners and extending below the same to form a combustion chamber, a plurality of chimney flues opening through said partition and arranged to conduct the products of combustion from said combustion chamber, a closed chamber above said partition inclosing the adjacent portions of said chimney flues and the adjacent portions of the burner tubes and pilot tube, and a packing of asbestos surrounding the portions of said chimney flues, burner tubes, and pilot tube extending through said inclosed chamber, for the purpose described.

4. In a lamp of the character designated, the combination with a plurality of burners, burner tubes and connections, of a partition above the burners separating them from the lamp casing and contents, an annular apron forming a continuation of said partition extending downward and circumscribing the burners to form a combustion chamber, and a plurality of chimney flues opening through said partition and arranged to conduct the products of combustion from said combustion chamber to a common outlet in the upper part of the casing above the parts contained and inclosed therein, for the purpose described.

5. In a lamp of the character designated, the combination with a plurality of burners, burner tubes and connections, of a partition above the burners separating them from the lamp casing and contents, an apron forming a continuation of said partition circumscribing the burners and extending below the same to form a combustion chamber, and a plurality of chimney flues opening through said partition and arranged to conduct the products of

combustion from said combustion chamber to a common outlet in the upper part of the casing above the parts contained and inclosed therein, for the purpose described.

6. In a lamp of the character designated, the combination with the burners, burner tubes and connections, of a partition above the burners separating them from the lamp casing and contents, an apron forming a continuation of said partition and circumscribing the burners and extending below the same, and one or more flues opening through said partition and arranged to conduct the products of combustion, for the purpose described.

7. In a lamp of the character designated, the combination with the burners, burner tubes and connections, of a partition above the burners separating them from the lamp casing and contents, an apron of transparent material forming a continuation of said partition and circumscribing the burners and extending below the same, and one or more flues opening through said partition and arranged to conduct off the products of combustion for the purpose described.

8. In a lamp of the character designated, the combination with the burners, burner tubes and connections, of a partition above the burners separating them from the lamp casing and contents, an apron forming a continuation of said partition and circumscribing the burners, one or more flues opening through said partition and arranged to conduct off the products of combustion, and an inverted cone of refractory material on the under side of said partition formed with gas ducts and connected with the pilot tube, together with said pilot tube, for the purpose described.

9. In a lamp of the character designated, the combination with the burners, burner tubes and connections, of a separating partition above the burners separating them from the lamp casing and contents, an apron forming a continuation of said partition and circumscribing the burners, one or more flues opening through said partition and arranged to conduct off the products of combustion, and an inverted cone of refractory material on the underside of said partition, said cone being formed with a light-reflecting surface and with gas ducts communicating with the pilot tube, together with said pilot tube, for the purpose described.

10. In a lamp of the character designated, the combination with a plurality of burners, and burner tubes arranged around a common center and a cone of refractory material arranged centrally with relation thereto formed with a light-reflecting surface and with gas ducts communicating with the pilot tube, together with said pilot tube, for the purpose described.

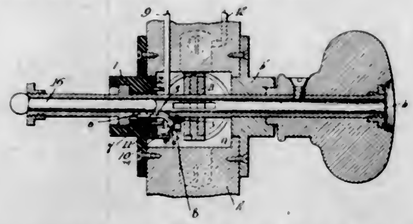
11. In a lamp of the character designated, the combination with a plurality of burners, burner tubes and connections, of a partition separating said burners from the casing, an apron forming a continuation of said partition and circumscribing the burners and extending below them, one or more flues opening through said partition and arranged to conduct off the products of combustion, a chamber above said partition containing a packing of non-conducting material surrounding the burner tubes in part, for the purpose described.

12. In a lamp of the character designated, the combination of a plurality of burners, perforated burner tubes and connections, a partition above the burners separating them from the lamp casing and contents, an annular apron forming a continuation of said partition extending downward and circumscribing the burners to form a combustion chamber, a plurality of chimney flues arranged to conduct the products of combustion from said combustion chamber to a common outlet in the upper part of the casing above the parts contained therein, an injector valve interposed between each of said burner tubes and the main supply pipe, each of said injector valves and the adjacent perforated portion of each burner tube being inclosed in an independent compartment in the casing, said valve compartment and independent means for regulating the admission of air to each of said compartments, whereby the amount of air drawn into each burner tube may be individually regulated, for the purpose described.

13. In a lamp of the character designated, the combination of a plurality of burners, perforated burner tubes and connections, a partition above the burners separating them from the lamp casing and contents, an annular apron forming a continuation of said partition extending downward and circumscribing the burners to form a combustion chamber, a plurality of chimney flues arranged to conduct the products of combustion from said combustion chamber to a common outlet in the upper part of the casing above the parts contained therein, an inclosed insulating compartment above the combustion chamber containing a non-conducting material packed around the portions of the pilot tube, burner tubes and chimney flues extending through said insulating compartment, an injector valve interposed between each of said burner tubes and the main supply pipe, each of said injector valves and the adjacent perforated portion of each burner tube being inclosed in an independent compartment in the casing, above said insulating compartment said valve compartments, and independent means for regulating the admission of air to each of said compartments, whereby the amount of air drawn into each burner tube may be individually regulated, for the purpose described.

14. In a lamp of the character designated, the combination with the burners, burner tubes and connections of a partition above the burner separating them from the casing, an apron forming a continuation of said partition, and extending below and circumscribing the said burners, a compartment above said partition containing a packing of non-conducting material around the adjacent portions of the burner tubes, and injector valve for each burner tube, each injector valve being provided with a lateral adjusting screw extending beyond the casing, for the purpose described.

867,220. CIRCUIT-CLOSER FOR DOOR-ALARMS. LOUIS E. L. THEMKE, Strathcoma, Alberta, Canada. Filed Mar. 14, 1907. Serial No. 362,409.



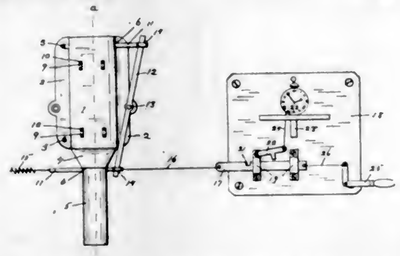
1. In combination with a door having a tubular knob stem disposed therethrough, a circuit closing mechanism comprising a battery carried by the door, an electrical circuit leading from the battery, removable means carried by the knob stem and arranged to normally maintain the circuit open, and means for closing the circuit when the removable means is removed.

2. In combination with a door, a knob rose of insulated material, a contact ring carried by the knob rose, a tubular knob stem disposed through the knob rose, a pivoted contact member carried by the knob stem, an insertible member disposed in the knob stem and adapted to depress the pivoted contact, and an electrical circuit between the ring and the pivoted member adapted to be closed when the insertible member is removed from the knob stem.

3. In combination with a door having a plurality of recesses therein, a battery disposed in one recess, a plate disposed over the recess and adapted to secure the battery in position, a tubular knob stem disposed through the door, a pivoted contact member carried by the knob stem, a contact ring disposed around the tubular knob stem, an electric circuit including the battery, the contact ring and the pivoted member, and means for maintaining the pivoted member in one position to open the circuit.

4. In combination with a door, a tubular knob stem disposed through the door and provided with a slot, a knob rose of insulating material carried by the door and adapted to support the knob stem, a pivoted contact member carried by the knob stem and adapted to project into the slot therein, a spring adapted to maintain the pivoted contact member in said slot, means for forcing the pivoted member away from the knob stem, a contact ring carried by the insulated knob rose, and an electric circuit including the contact ring and the pivoted contact member.

867,221. AUTOMATIC STOCK-FEEDER. FREDERICK V. CROSHIER, Arlington, N. Y. Filed June 16, 1906. Serial No. 322,006.

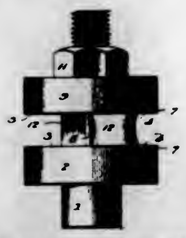


1. In a device of the class described, a receptacle having inlet and outlet apertures, valves operating to alternately open and close said apertures, means for alternately operating said valves, a spring operating to maintain one of said valves yieldably closed and the other valve open, a trip bar mounted for longitudinal movement, a connecting device between said bar and the valve to which the spring is attached, a catch operating to hold said trip bar and the valve connected therewith in retracted position, and means for releasing said catch to permit the spring to reverse the position of said valves.

2. In a device of the class described, a receptacle having inlet and outlet apertures, valves operating to open and close said apertures, means for alternately operating said valves, and a plate disposed in said receptacle and having notched lugs extending through one of the walls of the same and adapted to engage the receptacle by said notches and thereby controlling the area of the receptacle.

3. In a device of the class described, a receptacle having inlet and outlet apertures, valves operating to open and close said apertures, means for alternately operating said valves, a plate disposed within said receptacle and having notched lugs extending through one of the walls of the same and adapted to engage the receptacle by said notches, a trip bar mounted for longitudinal movement, a spring connected to said bar, connecting means between said bar and valve operating means, a catch operating to hold said trip bar in retracted position, and means for releasing said catch.

867,222. ROTARY CUTTER-HEAD. FREDERICK W. GOEDEKE, Evansville, Ind. Filed Mar. 11, 1907. Serial No. 361,877.



1. In a cutter head, the combination with a pair of clamping disks having outer flanges and relatively broad open spaces between said flanges and the central parts of said disks, of bits freely disposed between the clamping disks for bodily shifting and having flanges to engage the flanges aforesaid, and means for clamping the disks on the bits.

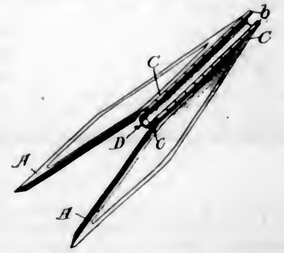
2. In a cutter head, the combination with a pair of clamping disks having outer flanges and relatively broad open spaces between said flanges and the central parts of said disks and also provided with bit-receiving outlets or notches through said flanges, of bits freely disposed between the clamping disks and having flanges to engage the flanges aforesaid, said bits being also adapted for projection through the notches or outlets, and means for clamping the disks on the bits.

3. In a cutter head, the combination with clamping disks, of independent gage-pins engaging said disks, bits located freely between the disks for bodily shifting and abutting but not attached to the gage-pins, and means for clamping the disks on the bits.

4. In a cutter-head, the combination with a pair of clamping disks having outer flanges and relatively broad open spaces between said flanges and the central parts of said disks, of gage-pins engaged with the disks, bits freely disposed between the clamping disks and having flanges adapted to engage the flanges on the disks, and also abutting the gage-pins, and means for clamping the disks on the bits.

5. In a cutter head, the combination with clamping disks and a spindle, of gage-pins engaged with the disks, bits having arc-shaped inner faces bearing against the spindle and provided at their outer cutting ends with inclined faces bearing against the gage-pins, and means for clamping the disks on the bits.

867,223. TEMPORARY BINDER FOR LOOSE LEAVES. JAMES S. MCDONALD, Chicago, Ill., assignor to J. S. McDonald Company, Chicago, Ill., a Corporation of Illinois. Filed Nov. 28, 1906. Serial No. 345,490.



1. A temporary loose leaf binder comprising covers, a sheet-metal longitudinally slit cylindrical spring clamp in the back of the binder, and sheet metal hinges to the forward plates of which said covers are secured; and the rear plates of which are secured to said clamp.

2. A temporary loose leaf binder comprising covers, a sheet-metal longitudinally slit cylindrical spring-clamp in the back of the binder, and sheet-metal hinges to the forward plates of which said covers are secured, and the rear plates of which extend to and impinge against the rear segment of said spring-clamp.

3. A temporary loose leaf binder comprising covers, a sheet-metal longitudinally slit cylindrical spring-clamp in the back of the binder, and sheet-metal hinges to the forward plates of which said covers are secured, and the rear plates of which extend to and are secured to the rear segment of said spring-clamp.

4. A temporary loose leaf binder comprising covers, a sheet-metal longitudinally slit cylindrical spring-clamp in the back of the binder, and sheet-metal hinges to the forward plates of which said covers are secured, and the rear plates of which extend between the longitudinal edges of the clamp and have their rear longitudinal edges provided with tongues that are adapted to pass through openings in said clamp and rivet said plates thereto.

5. A temporary loose leaf binder comprising covers, a sheet metal longitudinally slit cylindrical spring-clamp in

the back of the binder, and sheet-metal hinges to the forward plates of which said covers are secured, and the rear plates of which pass through the slit portion of said clamp and are secured to the rear portion of said clamp.

867,224. GARDEN IMPLEMENT. MICHAEL H. NOONAN, Modesto, Cal. Filed June 6, 1906. Serial No. 320,479.



A hand cultivator comprising a straight shank terminating at its rear end in a downwardly-extending standard and at its forward end in a tapered prong, straight shanks formed with and diverging rearwardly from the sides of the first-mentioned shank intermediate the ends of the latter and terminating at their rear ends in downwardly extending standards located respectively in front and rear of the standard of the main shank, a handle into which the prong is driven for permanent engagement therein, and turning plows carried by the standards and set obliquely with their edges disposed in front to throw the soil in one direction only upon a pulling action upon the handle, all of the shanks being secured to the handles by said prong and lying in the same plane throughout their lengths.

867,225. CARRIER FOR PNEUMATIC-TUBE APPARATUS. WILLIAM A. BROWN, Chicago, Ill., assignor of one-half to Frank W. Moser, Chicago, Ill. Filed Jan. 28, 1907. Serial No. 354,434.



1. A carrier having a slotted tube, and an ejector movable back and forth in the tube and having a finger piece extending through the slot.

2. A carrier tube having a longitudinal slot therein, and a disk extending across the tube and movable back and forth therein and having a finger piece connected thereto and extending through the slot.

3. A carrier comprising a tube open at one end, and a cap slidable on and off said open end and pivotally connected to the tube, to swing laterally beside said end.

4. A carrier comprising a tube open at one end and having bayonet slots in the walls thereof, and a swinging cap slidable on and off said end and having arms with pivot studs extending into the slots and slidable therein to close or open the cap.

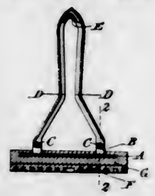
5. A carrier comprising a tube open at one end and having bayonet slots in opposite sides, said slots having enlargements in their outer ends, and a cap having arms on opposite sides of the tube with studs extending through the slots and slidable therein to allow the cap to be slid on or off the end of the tube, the studs acting as pivots when in the enlargements, to allow the cap to swing around laterally beside the tube.

6. The combination with a carrier cap having a depressed circular seat therein and a series of holes and marks around the edge of said seat, of a turning member in said seat, having an index for said marks and a latch pin engageable in any of said holes and a finger piece projecting rearwardly from the pin and through said member.

REISSUES.

12,696. [WITHDRAWN.]

12,697. DEVICE FOR GRAINING FLOORS. BONNELYN P. HESS, Goshen, Ind., assignor to The Ridgely Trimmer Company, Springfield, Ohio, a Corporation of West Virginia. Filed Mar. 6, 1907. Serial No. 360,986. Original No. 835,067, dated Nov. 6, 1906, Serial No. 308,534.



1. In a graining device, the combination of a stamp of semi-cylindrical shape comprising an outer portion of flexible material such as rubber, an inner portion of resilient material less flexible than the outer portion, a series of curved segmental raised surfaces substantially concentric and extending across the surface of the stamp, a handle projecting from the inner portion and adapted to rock the stamp upon its axis while the raised surfaces are subjected to uniform pressure throughout.

2. A graining device comprising handle, stamp of elastic material, and a flexible support for the handle within the stamp, and means connecting the handle and flexible support whereby force exerted upon the handle will curl the stamp out of normal position, substantially as specified.

3. A graining tool comprising a resilient plate, handles pivoted thereto and connected together, a transferring-surface of elastic material and a backing for the latter in which said plate is embedded, as set forth.

4. A graining tool comprising a plate of resilient material, ears projecting therefrom, pivot-pins carried by said ears, a transferring-surface having a backing of elastic material on which said plate is embedded, handles pivotally mounted upon said pins and so arranged that when the handles are forced together, said plate and the transferring-surface may be caused to yield, as set forth.

5. A graining tool comprising a plate of resilient material, ears projecting therefrom, pivot-pins carried by said ears, a transferring-surface having a backing of elastic material in which said plate is embedded, and angled handles pivotally connected to said pins and connected together at their outer ends, as set forth.

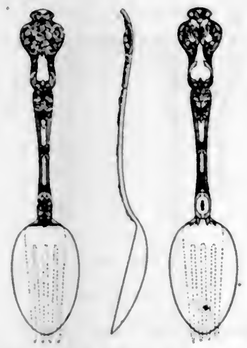
DESIGNS.

38,827. CHARM OR PIN. JOHN F. MCNAMEE, Indianapolis, Ind. Filed June 15, 1907. Serial No. 379,288. Term of patent 7 years.



The ornamental design for a charm or pin, as shown.

38,828. HANDLE FOR SPOONS, FORKS, OR SIMILAR ARTICLES. JOSEPH E. STRAKER, Jr., Attleboro, Mass. Filed Aug. 14, 1907. Serial No. 388,563. Term of patent 7 years.



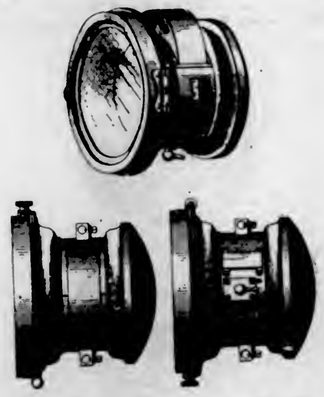
The ornamental design for the handle of a spoon, fork or similar article as shown.

38,829. BACK OF A PLAYING-CARD. JAMES A. RADCLIFFE, New York, N. Y., assignor to Radcliffe & Company, New York, N. Y., a Corporation of New York. Filed Aug. 16, 1907. Serial No. 388,929. Term of patent 14 years.



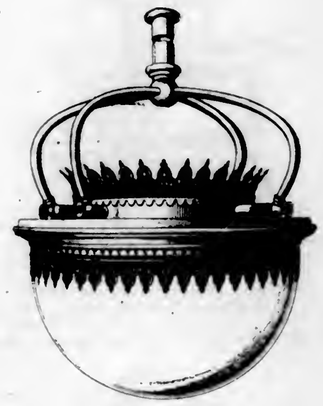
The ornamental design for the back of a playing card, as shown.

38,830. LAMP. EDWARD E. TAYLOR, Chelsea, Mass. Filed Aug. 2, 1907. Serial No. 386,826. Term of patent 7 years.



The ornamental design for a lamp, as shown.

38,831. GAS-LAMP. FRANK M. BROOKS, New York, N. Y. Filed Aug. 29, 1907. Serial No. 390,686. Term of patent 7 years.



The ornamental design for a gas lamp as shown.

38,832. INVERTED GAS-LAMP. JOSEPH LEDERER, New York, N. Y. Filed Aug. 5, 1907. Serial No. 387,245. Term of patent 7 years.



The ornamental design for an inverted gas lamp as shown in the said drawing.

38,833. BOTTLE. SYLVESTER LIEBENTHAL, Cleveland, Ohio. Filed Aug. 6, 1907. Serial No. 387,363. Term of patent 7 years.



The ornamental design for a bottle, as shown.

38,834. BOTTLE. REINHOLD BURGER, Berlin, Germany, assignor to American Thermos. Bottle Company, New York, N. Y., a Corporation of Maine. Filed Aug. 10, 1907. Serial No. 388,066. Term of patent 14 years.



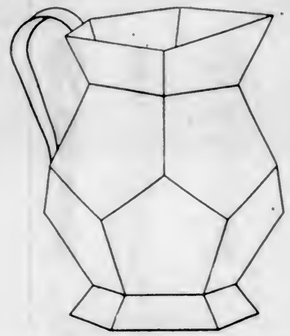
The ornamental design for a bottle, as shown.

38,835. BOTTLE. THOMAS S. OBEAR, St. Louis, Mo. Filed Aug. 28, 1907. Serial No. 390,553. Term of patent 14 years.



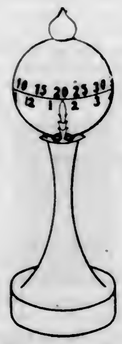
The ornamental design for a bottle, as shown.

38,836. PITCHER. ALOYSIUS M. ROSE, Philadelphia, Pa. Filed July 23, 1907. Serial No. 385,227. Term of patent 3½ years.



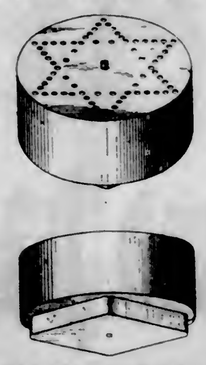
The ornamental design for a pitcher, as shown.

38,837. CLOCK-CASE. GUSTAVE JAEGER, Philadelphia, Pa. Filed Aug. 14, 1907. Serial No. 388,562. Term of patent 7 years.



The ornamental design for a clock case, as shown.

38,838. DISPLAY-RACK. EGON LOTHAR SCHMITZ, New York, N. Y., assignor to Eberhard Faber Pencil Company, Brooklyn, N. Y., a Corporation of New York. Filed May 14, 1907. Serial No. 373,679. Term of patent 14 years.



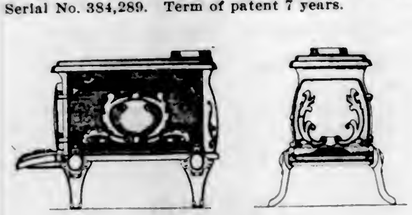
The ornamental design for a display-rack as shown.

38,839. SEAT END. JOHN B. KILBURN, Philadelphia, Pa., assignor to The Hale and Kilburn Manufacturing Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Sept. 6, 1906. Serial No. 333,576. Term of patent 7 years.



The ornamental design for a seat-end as shown.

38,840. STOVE. ROBERT GALBRAITH and EDWARD AMBROSE, Troy, N. Y., assignors to Great Western Stove Company, Leavenworth, Kans. Filed July 17, 1907. Serial No. 384,289. Term of patent 7 years.



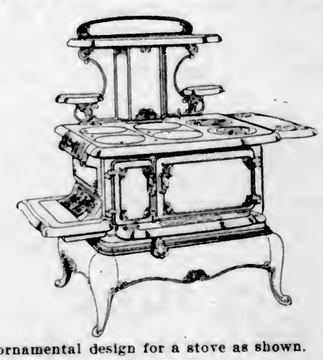
The ornamental design for a stove, as shown.

38,841. STOVE. JAMES C. HOSFORD, Malden, Mass., assignor to Magee Furnace Company, Boston, Mass., a Corporation of Massachusetts. Filed July 25, 1907. Serial No. 385,591. Term of patent 14 years.



The ornamental design for a stove, as shown.

38,842. STOVE. JAMES C. HOSFORD, Malden, Mass. Filed Aug. 1, 1907. Serial No. 386,674. Term of patent 7 years.



The ornamental design for a stove as shown.

TRADE-MARKS

PUBLISHED SEPTEMBER 24, 1907.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 5,061. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) L. WOLFF MFG. CO., Chicago, Ill. Filed May 11, 1905.

DURO

Particular description of goods.—Cocks, Faucets, Valves, and Chain-Stays.

Ser. No. 10,411. (CLASS 32. FURNITURE AND UPHOLSTERY NOT OTHERWISE CLASSIFIED.) HAGGARD & MARCUSSON CO., Chicago, Ill. Filed July 6, 1905.



THE TIGER SPRINGS

Particular description of goods.—Bed-Springs.

Ser. No. 11,149. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) JOSEPH P. COOPER, Jersey City, N. J. Filed Aug. 2, 1905.



Particular description of goods.—A Food Product Made from Egg-Albumen and Milk.

Ser. No. 15,878. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) RUBENS & MARBLE, Chicago, Ill. Filed Dec. 13, 1905. Used ten years.



Particular description of goods.—Knit Undershirts.

Ser. No. 16,597. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) EMMETT B. HALL, Salt Lake City, Utah. Filed Jan. 29, 1906.

Irone

Particular description of goods.—Flavoring for Tonic Mixtures.

Ser. No. 17,341. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GEORGE LA MONTE & SON, New York, N. Y. Filed Feb. 26, 1906. Used ten years.

NATIONAL SAFETY PAPER

Particular description of goods.—Safety-Paper, Such as is Used for Bank-Checks or other Checks, Bills of Exchange, Drafts, and All Vouchers of Value.

Ser. No. 17,348. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GEORGE LA MONTE & SON, New York, N. Y. Filed Feb. 26, 1906. Used ten years.

NATIONAL SAFETY TICKET

Particular description of goods.—Safety-Paper, Such as is Used for Bank-Checks or other Checks, Bills of Exchange, Drafts, Railway and other Tickets, and All Vouchers of Value.

Ser. No. 17,869. (CLASS 9. EXPLOSIVES.) THE PETERS CARTRIDGE COMPANY, Cincinnati, Ohio. Filed Mar. 15, 1906. Used ten years.

CHILLED BULLET

Particular description of goods.—Cartridges, Loaded Shells, Caps, Primers, and Powder.

Ser. No. 17,984. (CLASS 47. CONFECTIONERY.) RUECKHEIM BROS. AND ECKSTEIN, Chicago, Ill. Filed Mar. 17, 1906.

Cracker Jack

Particular description of goods.—Candied Popcorn.

Ser. No. 18,283. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) BENTON, HALL & CO., Cleveland, Ohio. Filed Mar. 26, 1906.

CLEVELAND FRUIT JUICE CO.

Particular description of goods.—Flavorings for Soda-Water and Like Beverages.

Ser. No. 18,897. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) CHEMISCHE WERKE HANSA GESELLSCHAFT MIT BESCHRÄNKTER HAFTUNG, Hemelingen, near Bremen, Germany. Filed Apr. 18, 1906.

Duron

Particular description of goods.—Chemicals Adapted to Form Emulsions of Oils, Fats, or Fatty Substances.

Ser. No. 19,722. (CLASS 47. CONFECTIONERY.) RUECKHEIM BROS. & ECKSTEIN, Chicago, Ill. Filed May 21, 1906.

Angelus

Particular description of goods.—Chocolates and other Candies.

Ser. No. 19,868. (CLASS 43. THREAD AND YARN.) BLODGETT & ORSWELL CO., Pawtucket, R. I. Filed May 26, 1906.

FAIRFIELD MACHINE THREAD

Particular description of goods.—Spool-Cotton or Sewing-Thread.

Ser. No. 19,869. (CLASS 43. THREAD AND YARN.) BLODGETT & ORSWELL CO., Pawtucket, R. I. Filed May 26, 1906.

RICHMOND MACHINE TWIST

The words, monogram, circles, and outlines of the panels being in gilt.

Particular description of goods.—Spool-Cotton or Sewing-Thread.

Ser. No. 19,871. (CLASS 43. THREAD AND YARN.) BLODGETT & ORSWELL CO., Pawtucket, R. I. Filed May 26, 1906.

MEDFORD MACHINE THREAD

The words, monograms, circles, and panel being shown upon a blue background.

Particular description of goods.—Spool-Cotton or Sewing-Thread.

Ser. No. 20,273. (CLASS 68. PUBLICATIONS.) KNICKERBOCKER AUDIT COMPANY, New York, N. Y. Filed June 14, 1906.

KNICKERBOCKER AUDIT CO. OF NEW YORK U.S.A.

Particular description of goods.—Pamphlets Relating to Finance.

Ser. No. 22,229. (CLASS 51. MALT PREPARATIONS NOT OTHERWISE CLASSIFIED.) THE GEORGE WIEDEMANN BREWING CO., Newport, Ky. Filed Sept. 21, 1906. Used ten years.

Amber

Particular description of goods.—Beer.

Ser. No. 23,420. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) WALTER PAPE, St. Louis, Mo. Filed Nov. 16, 1906.

UNITAS

Particular description of goods.—Knives, Razors, and Shears.

Ser. No. 24,056. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) THE AMERICAN WRINGER COMPANY, Providence, R. I., and New York, N. Y. Filed Dec. 15, 1906. Used ten years.

NOVELTY

Particular description of goods.—Clothes-Wringers.

Ser. No. 24,058. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) THE AMERICAN WRINGER COMPANY, Providence, R. I., and New York, N. Y. Filed Dec. 15, 1906. Used ten years.

COLUMBIA

Particular description of goods.—Clothes-Wringers.

Ser. No. 25,076. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) HOLMES AND BARNES, LIMITED, Baton Rouge, La. Filed Feb. 2, 1907.

HIGHEST PATENT HOLMES & BARNES LIMITED BATON ROUGE LA.

Particular description of goods.—Wheat-Flour.

Ser. No. 25,238. (CLASS 64. MEDICAL AND SURGICAL APPARATUS, APPLIANCES, AND INSTRUMENTS.) THE FAULTLESS RUBBER COMPANY, Akron, Ohio. Filed Feb. 11, 1907.

Particular description of goods.—Nursing-Bottle Nipples.

Ser. No. 25,414. (CLASS 50. MINERAL.) COALITE LIMITED, London, England. Filed Feb. 19, 1907.

COALITE

Particular description of goods.—Coal, Coke, Breeze, and Partially-Coked Coal.

Ser. No. 26,119. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) BAKER EXTRACT COMPANY, Portland, Me., and Springfield, Mass. Filed Mar. 20, 1907. Used ten years.



Particular description of goods.—Flavoring Extracts.

Ser. No. 26,715. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) LUDWIG HUPFELD AKTIENGESELLSCHAFT, Leipzig, Germany. Filed Apr. 15, 1907.

Dea

Particular description of goods.—Playing Apparatus and Their Parts for Pianos, Organs, Orchestrions, and Harmoniums, Automatic Playing Pianos, Organs, Orchestrions, Harmoniums, and Their Parts, Recording Attachments and Their Parts, Talking-Machines and Their Parts, Note-Sheets, and Note-Disks.

Ser. No. 26,772. (CLASS 8. DETERGENTS.) THE GEYSERITE MANUFACTURING COMPANY, Denver, Colo. Filed Apr. 18, 1907. Used ten years.



Particular description of goods.—Soap.

Ser. No. 27,527. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) ANTHONY THOMAS JOHNSON, Mineola, N. Y. Filed May 20, 1907.



Particular description of goods.—An Oil for Insuring a Grip Upon the Handles of Golf-Sticks and other Game Appliances and for Preserving Leather.

Ser. No. 27,528. (CLASS 19. BOATS AND ROAD-VEHICLES.) HATFIELD MOTOR VEHICLE COMPANY, Cortland, N. Y. Filed May 20, 1907.

BUGGYABOUT

Particular description of goods.—Automobiles.

Ser. No. 27,579. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) C. J. PEED & Co., Baltimore, Md. Filed May 22, 1907.



Particular description of goods.—Infants' and Children's Leather Shoes.

Ser. No. 27,671. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) THE ELECTRIC RAILWAY IMPROVEMENT CO., Cleveland, Ohio. Filed May 27, 1907.

ERICO

Particular description of goods.—Wire Bonds and Electrical Conductors for Electrical Apparatus and Machines.

Ser. No. 27,751. (CLASS 8. DETERGENTS.) VEREINIGTE CHEMISCHE WERKE AKTIENGESELLSCHAFT, Charlottenburg, near Berlin, Germany. Filed May 29, 1907.



Particular description of goods.—Soap Made of Wool-Fat.

Ser. No. 27,800. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THOMAS F. LAUBACH, New York, N. Y. Filed May 31, 1907.



Particular description of goods.—Pills, Tonics, Salves, Liniments, Cough Remedies, and Lotions.

Ser. No. 27,853. (CLASS 55. WINES.) THEODORE GRUMBACH, Los Angeles, Cal. Filed June 3, 1907.

REINA DE LOS ANGELES BRAND



Particular description of goods.—California Wines.

Ser. No. 27,965. (CLASS 51. MALT PREPARATIONS NOT OTHERWISE CLASSIFIED.) JOHANN BAPTIST WEYERMANN, Potsdam, Germany. Filed June 7, 1907.

Sinamar

Particular description of goods.—Beer, Beer of Colored Malt, Beer for Coloring Purposes, Concentrated Extracts of Color-Malt and of Beer.

Ser. No. 27,973. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) J. G. BRILL COMPANY, Philadelphia, Pa., assignor to The J. G. Brill Company, a Corporation of Pennsylvania. Filed June 7, 1907.

RETRIEVER

Particular description of goods.—Bells for Railway Rolling-Stock and Parts Thereof other Than Electric Bells.

Ser. No. 28,417. (CLASS 52. PACKING-HOUSE PRODUCTS.) KINGAN AND COMPANY LIMITED, Belfast, Ireland, and Indianapolis, Ind. Filed June 27, 1907.



Particular description of goods.—Cured and Salted Meats.

Ser. No. 28,448. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) THE CORNO MILLS COMPANY, East St. Louis, Ill. Filed June 28, 1907.



Particular description of goods.—Cereal Breakfast Foods, Cornmeal, Rice, Buckwheat-Flour, Hominy-Grits, and Pancake-Flour.

Ser. No. 28,577. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) SIEGEL COOPER COMPANY, New York, N. Y. Filed July 3, 1907.

"BULWARK"

Particular description of goods.—Leather Trunks.

Ser. No. 28,603. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) MASCHINENFABRIK ODDESSE GESELLSCHAFT MIT BESCHRÄNKTER HAFTUNG, Oschersleben, near Magdeburg, Germany. Filed July 5, 1907.

Oddesse

Particular description of goods.—Pumps, Steam Engines and Turbines, and Parts Thereof.

Ser. No. 28,681. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) M. HALFF & BRO., San Antonio, Tex. Filed July 9, 1907.

Dinah

Particular description of goods.—Hosiery.

Ser. No. 28,682. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) M. HALFF & BRO., San Antonio, Tex. Filed July 9, 1907.

Ranger

Particular description of goods.—Dress, Negligée, and Working Shirts and Overalls.

Ser. No. 28,746. (CLASS 8. DETERGENTS.) B. T. BABBITT, INC., New York, N. Y. Filed July 12, 1907.



Particular description of goods.—Toilet Soaps.

Ser. No. 28,777. (CLASS 48. DAIRY PRODUCTS.) WILLIS J. ELDRIDGE, Aurora, Ohio. Filed July 13, 1907. Used ten years.

FAMILY FAVORITE BRAND
XXXX GOSHEN CHEESE

Particular description of goods.—Cheese.

Ser. No. 28,868. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) WILMOT B. NETHERY, Atlanta, Ga. Filed July 18, 1907.

VIVA

Particular description of goods.—Non-Alcoholic Tonic Beverages.

Ser. No. 28,876. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE HENRY THODE CO., Davenport, Iowa. Filed July 19, 1907.

GREEN HILLS

Particular description of goods.—Whisky.

Ser. No. 28,932. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) EDWARD HEFFERNAN, Lynn, Mass. Filed July 22, 1907.

VICTORIA H

Particular description of goods.—Cocktails.

Ser. No. 28,937. (CLASS 52. PACKING-HOUSE PRODUCTS.) NATIONAL PACKING COMPANY, Chicago, Ill. Filed July 22, 1907.



Particular description of goods.—Sausage and Ham.

Ser. No. 28,944. (CLASS 57. DENTAL MACHINES, APPARATUS, AND SUPPLIES.) OSCAR M. SPRINGER, Boston, Mass. Filed July 22, 1907.



Particular description of goods.—Dental Cement.

Ser. No. 28,966. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) AMERICAN WRITING PAPER COMPANY, Holyoke, Mass. Filed July 22, 1907. Used ten years.

GLENDALE

Particular description of goods.—Writing and Printing Paper.

Ser. No. 29,052. (CLASS 12. MASONRY MATERIALS.) P. H. TRUMMER & OTTO VOGLER, Hamburg, Germany. Filed July 26, 1907.



Particular description of goods.—Hydraulic Cement and Asphalt.

Ser. No. 29,090. (CLASS 8. DETERGENTS.) LUKE F. SHINNERS, Cleveland, Ohio. Filed July 29, 1907.

COCANOLA

Particular description of goods.—Soaps.

Ser. No. 29,121. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) OTTO SCHOLZ, Bridgeport, Conn. Filed July 30, 1907.



Particular description of goods.—A Non-Alcoholic Fermented Beverage.

Ser. No. 29,126. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) THE ARGENTINA COMPANY, New York, N. Y. Filed July 31, 1907.



Particular description of goods.—Polishing and Plating Compounds.

Ser. No. 29,141. (CLASS 72. MERCHANDISE NOT OTHERWISE CLASSIFIED.) F. F. RICK & COMPANY, Buffalo, N. Y. Filed July 31, 1907.

"PANOK"

Particular description of goods.—Pyrographic Outfits, Including a Gasolene-Bottle, an Alcohol-Lamp, an Air-Forcing Bulb, a Pyrographic Tool, and Rubber Tubing Connecting the Parts.

Ser. No. 29,168. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) SONDHEIM & MAGNUS, New York, N. Y. Filed Aug. 1, 1907.

Fluffy Ruffles

Particular description of goods.—Pillow-Tops, Pillow-Slips, and Laundry-Bags.

Ser. No. 29,186. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) MAUDE L. CAMPBELL, Washington, D. C. Filed Aug. 3, 1907.



Particular description of goods.—Hair-Tonic and Scalp Remedy.

Ser. No. 29,211. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) PROTEGIT COMPANY, New York, N. Y. Filed Aug. 5, 1907.

PROTEGIT

Particular description of goods.—Chemical Preserving Compounds.

Ser. No. 29,214. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) LORD & TAYLOR, New York, N. Y. Filed Aug. 5, 1907.

310/13

Particular description of goods.—Hosiery.

Ser. No. 29,215. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) LORD & TAYLOR, New York, N. Y. Filed Aug. 5, 1907.

50K

Particular description of goods.—Hosiery.

Ser. No. 29,216. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) LORD & TAYLOR, New York, N. Y. Filed Aug. 5, 1907.

409K

Particular description of goods.—Hosiery.

Ser. No. 29,217. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) LORD & TAYLOR, New York, N. Y. Filed Aug. 5, 1907.

E325

Particular description of goods.—Hosiery.

Ser. No. 29,243. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) F. & E. LIEBSCHER, New York, N. Y. Filed Aug. 5, 1907.



Particular description of goods.—Stove-Polish and Metal-Polish.

Ser. No. 29,246. (CLASS 70. STATIONERY NOT OTHERWISE CLASSIFIED.) EBERHARD FABER, New York, N. Y. Filed Aug. 6, 1907.

RAY

Particular description of goods.—Lead-Pencils.

Ser. No. 29,247. (CLASS 70. STATIONERY NOT OTHERWISE CLASSIFIED.) EBERHARD FABER, New York, N. Y. Filed Aug. 6, 1907.

COMMERCE

Particular description of goods.—Lead-Pencils.

Ser. No. 29,248. (CLASS 70. STATIONERY NOT OTHERWISE CLASSIFIED.) EBERHARD FABER, New York, N. Y. Filed Aug. 6, 1907.

DOT

Particular description of goods.—Lead-Pencils.

Ser. No. 29,249. (CLASS 70. STATIONERY NOT OTHERWISE CLASSIFIED.) EBERHARD FABER, New York, N. Y. Filed Aug. 6, 1907.

LIBERTY

Particular description of goods.—Lead-Pencils.

Ser. No. 29,250. (CLASS 70. STATIONERY NOT OTHERWISE CLASSIFIED.) EBERHARD FABER, New York, N. Y. Filed Aug. 6, 1907.

BANK

Particular description of goods.—Lead-Pencils.

Ser. No. 29,251. (CLASS 70. STATIONERY NOT OTHERWISE CLASSIFIED.) EBERHARD FABER, New York, N. Y. Filed Aug. 6, 1907.

STAR

Particular description of goods.—Lead-Pencils and Rubber Erasers.

Ser. No. 29,252. (CLASS 70. STATIONERY NOT OTHERWISE CLASSIFIED.) EBERHARD FABER, New York, N. Y. Filed Aug. 6, 1907.

RUBY

Particular description of goods.—Rubber Erasers.

Ser. No. 29,277. (CLASS 52. PACKING-HOUSE PRODUCTS.) HENRY FIORENTINI, Boston, Mass. Filed Aug. 7, 1907.



Particular description of goods.—Pressed Ham, Mortadelle, Capicolli, Presiutti, and Cotteghini.

Ser. No. 29,295. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) GLASNER & BAREEN DISTILLING & IMPORTING CO., Kansas City, Mo. Filed Aug. 8, 1907.

ELM RIDGE CLUB

Particular description of goods.—Whisky.

Ser. No. 29,296. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE ULLMAN EINSTEIN CO., Cleveland, Ohio. Filed Aug. 8, 1907.



Particular description of goods.—Whisky.

Ser. No. 29,303. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) COSBY SHOE CO., INCORPORATED, Lynchburg, Va. Filed Aug. 8, 1907.



The word "Cosby" being printed in red.

Particular description of goods.—Leather Boots and Shoes.

Ser. No. 29,313. (CLASS 47. CONFECTIONERY.) GREEK AMERICAN CONFECTIONERY CO., New York, N. Y. Filed Aug. 9, 1907. Used ten years.



Particular description of goods.—Candy.

Ser. No. 29,325. (CLASS 35. BELTING, HOSE, AND MACHINERY PACKING.) THE B. F. GOODRICH COMPANY, Akron, Ohio. Filed Aug. 9, 1907.

MONITOR

Particular description of goods.—Machinery Packing Adapted for Packing Piston-Rods and Valve-Stems and Made Wholly or Partly of Rubber or Having Rubber Incorporated Therewith.

Ser. No. 29,342. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) SAMUEL B. BOWEN, Philadelphia, Pa. Filed Aug. 10, 1907.

RHINOCEROS



BRAND

Particular description of goods.—Paints, Enamels, Fillers, Stains, and Varnishes.

Ser. No. 29,351. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) E. E. TAYLOR CO., Boston, Mass. Filed Aug. 12, 1907.



Particular description of goods.—Men's and Boys' Leather Shoes.

Ser. No. 29,354. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) THE TROY CHEMICAL CO., Binghamton, N. Y. Filed Aug. 12, 1907.

ICTHOLANUM

Particular description of goods.—Surgical Antiseptic Dressing or Ointment.

Ser. No. 29,364. (CLASS 8. DETERGENTS.) PACIFIC COAST BORAX CO., Oakland, Cal.; Chicago, Ill., and New York, N. Y. Filed Aug. 12, 1907.



Particular description of goods.—A Washing Compound.

Ser. No. 29,367. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE FREDERICK LABORATORY, Toledo, Ohio. Filed Aug. 12, 1907.

ANTIUSTIO

Particular description of goods.—An Unguent or Salve for Medicinal Uses.

Ser. No. 29,375. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) RUBENS & MEYER, New York, N. Y. Filed Aug. 13, 1907.

FLUFFY RUFFLES

Particular description of goods.—Hosiery.

Ser. No. 29,386. (CLASS 47. CONFECTIONERY.) BORDEN'S CONDENSED MILK COMPANY, Jersey City, N. J., and New York, N. Y. Filed Aug. 14, 1907.



Particular description of goods.—Milk-Chocolates.

Ser. No. 29,393. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) JAMES E. LYLE, Bowling Green, Ky. Filed Aug. 14, 1907.

TUCKBOO

Particular description of goods.—A Lotion or Wash to be Applied Externally to Repel Mosquitos.

Ser. No. 29,403. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) CHARLES & CO., New York, N. Y. Filed Aug. 15, 1907.



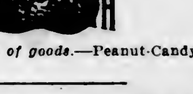
Particular description of goods.—Basketed Fresh Fruits.

Ser. No. 29,408. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) L. M. BRACKETT & Co., Rochester, Ind. Filed Aug. 15, 1907.



Particular description of goods.—Canned Vegetables.

Ser. No. 29,423. (CLASS 47. CONFECTIONERY.) BOSMAN & LOHMAN CO., Norfolk, Va. Filed Aug. 16, 1907.



Particular description of goods.—Peanut-Candy.

Ser. No. 29,429. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) FREDERICK L. CHILDS, Kalamazoo, Mich. Filed Aug. 16, 1907.

OBIFRŪT

Particular description of goods.—Tonic, Laxative, and Digestive Preparations.

Ser. No. 29,430. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) FREDERICK L. CHILDS, Kalamazoo, Mich. Filed Aug. 16, 1907.

POMOLO

Particular description of goods.—Tonic, Laxative, and Digestive Preparations.

Ser. No. 29,431. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) LEGGETT & BROTHER, New York, N. Y. Filed Aug. 16, 1907.

LITTLE GIANT

Particular description of goods.—Insecticide-Distributers.

Ser. No. 29,432. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) LEGGETT & BROTHER, New York, N. Y. Filed Aug. 16, 1907.

BROWNIE

Particular description of goods.—Insecticide-Distributers.

Ser. No. 29,436. (CLASS 17. WOOD MANUFACTURES NOT OTHERWISE CLASSIFIED.) EDWARD M. MURRAY, Chicago, Ill. Filed Aug. 17, 1907. Used ten years.

BICYCLE

Particular description of goods.—Wooden Step-Ladders.

Ser. No. 29,464. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE PHYSICIANS SUPPLY CO., Louisville, Ky. Filed Aug. 19, 1907.

LAXILITH

Particular description of goods.—Granular Effervescent Combination of Medicinal Salts.

Ser. No. 29,480. (CLASS 47. CONFECTIONERY.) SCHRADERS, New York, N. Y. Filed Aug. 20, 1907.



Particular description of goods.—All Kinds of Candy.

Ser. No. 29,483. (CLASS 43. THREAD AND YARN.) THE AMERICAN THREAD COMPANY, Jersey City, N. J. Filed Aug. 20, 1907.

GIANT

Particular description of goods.—Spool-Cotton, Sewing-Cotton, and Thread.

Ser. No. 29,523. (CLASS 1. ANIMAL.) C. SCHMITZ & Co., New York, N. Y. Filed Aug. 22, 1907.



Particular description of goods.—Tanned and Untanned Goatskins and Goatskin Rugs, Tanned and Untanned Sheepskins and Sheepskin Rugs, Tanned and Untanned Dogskins and Dogskin Rugs.

Ser. No. 29,580. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) GEORGE W. GILBERT, Boston, Mass. Filed Aug. 26, 1907.

O P G.

Particular description of goods.—Alizarin, a Coloring-Matter Made of Coal-Tar Products.

Ser. No. 29,581. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) GEORGE W. GILBERT, Boston, Mass. Filed Aug. 26, 1907.

W R.

Particular description of goods.—Alizarin, a Coloring-Matter Made of Coal-Tar Products.

Ser. No. 29,615. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) JACOB A. MARKS, Boise, Idaho. Filed Aug. 27, 1907.

"Warwick Clothes"

Particular description of goods.—Overcoats, Coats, Pants, and Vests.

Ser. No. 29,623. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) A. G. SPALDING & BROS., Jersey City, N. J. Filed Aug. 27, 1907.



Particular description of goods.—Golf-Club Irons.

Ser. No. 29,664. (CLASS 10. FERTILIZERS.) B. DIAZ & Co., New York, N. Y. Filed Aug. 29, 1907.

EL GALLITO

B D

Particular description of goods.—Fertilizers and Fertilizing Materials.

TRADE-MARKS

REGISTERED SEPTEMBER 24, 1907.

65,347. CERTAIN AGRICULTURAL MACHINERY. ADVANCE THRESHER CO., Battle Creek, Mich.
Filed June 29, 1906. Serial No. 20,643. PUBLISHED JULY 30, 1907.

65,348. CERTAIN AGRICULTURAL MACHINERY. ADVANCE THRESHER CO., Battle Creek, Mich.
Filed June 29, 1906. Serial No. 20,644. PUBLISHED JULY 30, 1907.

65,349. TRACTION-ENGINES AND HORSE-POWERS. ADVANCE THRESHER CO., Battle Creek, Mich.
Filed February 5, 1907. Serial No. 25,143. PUBLISHED JULY 30, 1907.

65,350. TRACTION-ENGINES AND HORSE-POWERS. ADVANCE THRESHER CO., Battle Creek, Mich.
Filed February 5, 1907. Serial No. 25,144. PUBLISHED JULY 30, 1907.

65,351. PETTICOATS MADE OF TEXTILE FABRICS. VICTORIA A. BOYLEN, Kansas City, Mo.
Filed June 8, 1907. Serial No. 27,982. PUBLISHED JULY 30, 1907.

65,352. CERTAIN MACHINERY. THE CLIMAX PATENTS LIMITED, Manchester, England.
Filed January 17, 1907. Serial No. 24,722. PUBLISHED JULY 30, 1907.

65,353. CERTAIN MACHINERY. DAIMLER-MOTOREN-GESELLSCHAFT, Untertürkheim, near Stuttgart, Germany.
Filed May 16, 1906. Serial No. 19,609. PUBLISHED JULY 30, 1907.

65,354. CHISELS, FILES, SAWS, AND PUNCHEONS PROVIDED WITH A CUTTING EDGE. DAIMLER-MOTOREN-GESELLSCHAFT, Untertürkheim, near Stuttgart, Germany.
Filed May 16, 1906. Serial No. 19,613. PUBLISHED JULY 30, 1907.

65,355. DISINCRUSTING AND CLEANSING SUBSTANCES FOR BOILERS. JERÓNIMO ELIZONDO, Monterey, Nuevo Leon, Mexico.
Filed August 18, 1906. Serial No. 21,657. PUBLISHED JULY 30, 1907.

65,356. BICARBONATE OF SODA, OTHERWISE KNOWN AS BAKING-SODA OR SALERATUS. J. C. GRANT CHEMICAL COMPANY, East St. Louis, Ill.
Filed June 19, 1907. Serial No. 28,249. PUBLISHED JULY 30, 1907.

65,357. BAKING-POWDER. J C. GRANT CHEMICAL COMPANY, East St. Louis, Ill.
Filed June 19, 1907. Serial No. 28,250. PUBLISHED JULY 30, 1907.

65,358. SHIRTS MADE FROM WOVEN GOODS. J. H. RICE & FRIEDMANN CO., Milwaukee, Wis.
Filed June 11, 1907. Serial No. 28,040. PUBLISHED JULY 30, 1907.

65,359. KNIVES, CHISELS, SHEARS, SCISSORS, AND RAZORS. THE KNY-SCHEERER COMPANY, Brooklyn, N. Y.
Filed April 19, 1905. Serial No. 2,305. PUBLISHED NOVEMBER 27, 1906.

65,360. CERTAIN SHEET METAL AND PIPING. LA BELLE IRON WORKS, Steubenville, Ohio.
Filed June 8, 1907. Serial No. 27,985. PUBLISHED JULY 30, 1907.

65,361. HOISTING-ENGINES. LIDGERWOOD MFG. CO., New York, N. Y.
Filed April 8, 1905. Serial No. 871. PUBLISHED JULY 30, 1907.

65,362. UNDERSKIRTS MADE OF TEXTILE MATERIAL. MAJESTIC SKIRT COMPANY, New York, N. Y.
Filed June 18, 1907. Serial No. 28,232. PUBLISHED JULY 30, 1907.

65,363. SHOULDER-BRACES. CHARLES MUNTER, New York, N. Y.
Filed June 18, 1907. Serial No. 28,233. PUBLISHED JULY 30, 1907.

65,364. DRESS AND NEGLIGÉE SHIRTS. JOHN SILVEY & Co., Atlanta, Ga.
Filed May 18, 1907. Serial No. 27,497. PUBLISHED JULY 30, 1907.

65,365. LAWN-MOWERS, LAWN-MOWER PARTS, AND GRASS-CATCHERS. SIMMONS HARDWARE COMPANY, St. Louis, Mo.
Filed June 10, 1907. Serial No. 28,017. PUBLISHED JULY 30, 1907.

65,366. FISH-DRESSING MACHINES. SMITH CANNERY MACHINES CO., Seattle, Wash.
Filed February 18, 1907. Serial No. 25,384. PUBLISHED JULY 30, 1907.

65,367. POISON FOR RATS, MICE, VERMIN, AND INSECTS. EPHRAIM S. WELLS, Jersey City, N. J.
Filed June 24, 1907. Serial No. 28,363. PUBLISHED JULY 30, 1907.

65,368. VENDING-MACHINES. GEO. A. BAYLE, St. Louis, Mo.
Filed June 22, 1907. Serial No. 28,307. PUBLISHED JULY 30, 1907.

65,369. HAIR-TONIC. ALEXANDER CRISTADORO, New York, N. Y.
Filed June 26, 1907. Serial No. 28,393. PUBLISHED JULY 30, 1907.

65,370. WHEAT-FLOUR. GEORGE URBAN MILLING COMPANY, Buffalo, N. Y.
Filed January 21, 1907. Serial No. 24,809. PUBLISHED APRIL 2, 1907.

65,371. CANNED SALMON. GORMAN & COMPANY INC., Seattle, Wash.
Filed June 28, 1907. Serial No. 28,451. PUBLISHED JULY 30, 1907.

65,372. WHEAT-FLOUR. THE HIGGINSVILLE MILLING CO., Higginsville, Mo.
Filed May 4, 1907. Serial No. 27,118. PUBLISHED JULY 30, 1907.

65,373. SOAPS. EZRA W. HOLDEN, New Orleans, La.
Filed May 10, 1907. Serial No. 27,285. PUBLISHED JULY 30, 1907.

65,374. CERTAIN MEDICINES. EDMUND HORSMAN, Devils Lake, N. D.
Filed March 12, 1907. Serial No. 25,930. PUBLISHED JULY 30, 1907.

65,375. EGGS. AUGUST L. JAENICKE, Hillsboro, Kans.
Filed June 20, 1907. Serial No. 28,265. PUBLISHED JULY 30, 1907.

65,376. REMEDY FOR HEMORRHOIDS. MALCOLM G. PRICE COMPANY, New York, N. Y.
Filed June 13, 1907. Serial No. 28,094. PUBLISHED JULY 30, 1907.

65,377. CERTAIN FOODS. THE MCCLINTOCK-TRUNKEY CO., Spokane, Wash.
Filed June 3, 1907. Serial No. 27,843. PUBLISHED JULY 30, 1907.

65,378. FRESH CANNED FROZEN OYSTERS. THE MORGAN OYSTER COMPANY, San Francisco, Cal.
Filed September 21, 1905. Serial No. 12,851. PUBLISHED JANUARY 8, 1907.

65,379. BREATH-TABLETS. SCHANDEIN & LIND, Philadelphia, Pa.
Filed June 26, 1907. Serial No. 28,389. PUBLISHED JULY 30, 1907.

65,380. BREATH-TABLETS. SCHANDEIN & LIND, Philadelphia, Pa.
Filed June 26, 1907. Serial No. 28,390. PUBLISHED JULY 30, 1907.

65,381. CERTAIN PHARMACEUTICAL PREPARATIONS. SCHANDEIN & LIND, Philadelphia, Pa.
Filed June 26, 1907. Serial No. 28,391. PUBLISHED JULY 30, 1907.

65,382. CHOCOLATES AND CANDY. WALLACE & CO., New York, N. Y.
Filed June 1, 1907. Serial No. 27,823. PUBLISHED JULY 30, 1907.

65,383. COMBINED PIANOS AND PLAYERS. THE WILCOX & WHITE COMPANY, Meriden, Conn.
Filed June 18, 1907. Serial No. 28,238. PUBLISHED JULY 30, 1907.

65,384. CERTAIN MEDICINE. THE ABBOTT ALKALOIDAL CO., Chicago, Ill.
Filed April 3, 1907. Serial No. 26,427. PUBLISHED JULY 30, 1907.

65,385. UMBRELLAS AND WALKING-STICKS. C. BEDFORD ALLISON, New York, N. Y.
Filed April 30, 1906. Serial No. 19,194. PUBLISHED JULY 30, 1907.

65,386. CHEWING-GUM. AMERICAN CHICLE CO., New York, N. Y.
Filed June 15, 1905. Serial No. 8,158. PUBLISHED JANUARY 22, 1907.

65,387. CERTAIN VEGETABLE SUBSTANCES. AMERICAN VULCANIZED FIBRE COMPANY, Wilmington, Del.
Filed June 16, 1905. Serial No. 8,337. PUBLISHED JULY 30, 1907.

65,388. COFFEE EXTRACT OR ESSENCE. PHILIP BACHERT, Buffalo, N. Y.
Filed July 5, 1907. Serial No. 28,598. PUBLISHED JULY 30, 1907.

65,389. COFFEE AND TEA. BAKER & COMPANY, Minneapolis, Minn.
Filed June 29, 1907. Serial No. 28,483. PUBLISHED JULY 30, 1907.

65,390. CANES, PARASOLS, AND UMBRELLAS. BALTIMORE UMBRELLA MANUFACTURING COMPANY, Baltimore, Md.
Filed November 5, 1906. Serial No. 23,124. PUBLISHED JULY 30, 1907.

65,391. CERTAIN FRESH VEGETABLES. THE BERMUDA GREEN VEGETABLE GROWERS' ASSN., Hamilton, Bermuda.
Filed January 4, 1907. Serial No. 24,442. PUBLISHED JULY 30, 1907.

65,392. OLIVE-OIL. BOERICKE & TAFEL, New York, N. Y.; Philadelphia, Pa.; Chicago, Ill.; Cincinnati, Ohio; Allegheny, Pa., and Baltimore, Md.
Filed April 17, 1907. Serial No. 26,766. PUBLISHED JULY 30, 1907.

65,393. CERTAIN CONFECTIONERY. THE BRADLEY, SMITH CO., New Haven, Conn.
Filed May 27, 1907. Serial No. 27,663. PUBLISHED JULY 30, 1907.

65,394. COMPUTING-MACHINES. THE CALCULUS COMPANY, Cleveland, Ohio.
Filed July 2, 1907. Serial No. 28,558. PUBLISHED JULY 30, 1907.

65,395. JEWELRY FOR PERSONAL ADORNMENT. DAGGETT & CLAP CO., Attleboro, Mass.
Filed June 11, 1907. Serial No. 28,046. PUBLISHED JULY 30, 1907.

65,396. MEDICINES USED FOR THE CURE OF DYSPEPSIA AND RHEUMATISM. JOHN J. DORIS, St. Paul, Minn.
Filed December 11, 1905. Serial No. 15,342. PUBLISHED JULY 30, 1907.

65,397. DIGESTIVE PREPARATION OF THE GASTRIC JUICE. FAIRCHILD BROS. & FOSTER, New York, N. Y.
Filed June 27, 1907. Serial No. 28,431. PUBLISHED JULY 30, 1907.

65,398. CHEWING-GUM. GUM-LAX MANUFACTURING COMPANY, Newark, N. J.
Filed May 25, 1907. Serial No. 27,647. PUBLISHED JULY 30, 1907.

65,399. WHEAT-FLOUR. KANSAS MILLING COMPANY, Wichita, Kans.
Filed June 6, 1907. Serial No. 27,897. PUBLISHED JULY 30, 1907.

65,400. WHEAT-FLOUR. KANSAS MILLING COMPANY, Wichita, Kans.
Filed June 6, 1907. Serial No. 27,898. PUBLISHED JULY 30, 1907.

65,401. APPLES. AUSTIN KIMBALL & Co., New York, N. Y.
Filed January 9, 1907. Serial No. 24,536. PUBLISHED FEBRUARY 12, 1907.

65,402. CHEWING-GUM. EDWIN H. LEE, Detroit, Mich.
Filed June 15, 1907. Serial No. 28,154. PUBLISHED JULY 30, 1907.

65,403. PRETZELS. OAKDALE BAKING COMPANY, Philadelphia, Pa.
Filed June 28, 1907. Serial No. 28,455. PUBLISHED JULY 30, 1907.

65,404. ROCK-CANDY, ROCK-CANDY SYRUP, MAPLE-SUGAR, AND MAPLE-SYRUP. RIGNEY & COMPANY, New York, N. Y.
Filed May 27, 1907. Serial No. 27,681. PUBLISHED JULY 30, 1907.

65,405. FOOD FOR FISH. JOSEPH SCHLAGHECK, Toledo, Ohio.
Filed June 6, 1907. Serial No. 27,905. PUBLISHED JULY 30, 1907.

65,406. ICE-CREAM AND FROZEN PUDDINGS. THE SEMON ICE CREAM COMPANY, New Haven, Conn.
Filed March 27, 1906. Serial No. 18,297. PUBLISHED JULY 30, 1907.

65,407. CANNED CORN AND PEAS AND TOMATO-CATSUP. STEWART & Co., Baltimore, Md.
Filed May 27, 1907. Serial No. 27,684. PUBLISHED JULY 30, 1907.

65,408. PLASTER AND PROPRIETARY MEDICINE. ERNEST JEFFREY WESCHCKE, Springfield, Minn.
Filed June 25, 1907. Serial No. 28,384. PUBLISHED JULY 30, 1907.

65,409. ORDNANCE, PARTS THEREOF, AND UNLOADED PROJECTILES. AMERICAN AND BRITISH MANUFACTURING Co., Providence, R. I., and Bridgeport, Conn.
Filed October 2, 1905. Serial No. 13,217. PUBLISHED JULY 30, 1907.

65,410. CERTAIN HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,488. PUBLISHED JULY 30, 1907.

65,411. CERTAIN HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,489. PUBLISHED JULY 30, 1907.

65,412. CERTAIN HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,490. PUBLISHED JULY 30, 1907.

65,413. CERTAIN HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,491. PUBLISHED JULY 30, 1907.

65,414. CERTAIN HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,492. PUBLISHED JULY 30, 1907.

65,415. CERTAIN HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,493. PUBLISHED JULY 30, 1907.

65,416. CERTAIN HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,494. PUBLISHED JULY 30, 1907.

65,417. CERTAIN HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,495. PUBLISHED JULY 30, 1907.

65,418. CERTAIN HOSE. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,496. PUBLISHED JULY 30, 1907.

65,419. CERTAIN MACHINERY PACKING. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,499. PUBLISHED JULY 30, 1907.

65,420. CERTAIN MACHINERY PACKING. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,500. PUBLISHED JULY 30, 1907.

65,421. CERTAIN MACHINERY PACKING. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,501. PUBLISHED JULY 30, 1907.

65,422. CERTAIN PNEUMATIC TIRES. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,502. PUBLISHED JULY 30, 1907.

65,423. CERTAIN PENCIL-ERASERS. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,504. PUBLISHED JULY 30, 1907.

65,424. CERTAIN PENCIL-ERASERS. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,505. PUBLISHED JULY 30, 1907.

65,425. SYRINGES. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,511. PUBLISHED JULY 30, 1907.

65,426. SYRINGES. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,512. PUBLISHED JULY 30, 1907.

65,427. GASOLENE. STANDARD OIL CO. OF NEW YORK, New York, N. Y.
Filed June 29, 1907. Serial No. 28,484. PUBLISHED JULY 30, 1907.

65,428. ILLUMINATING-OIL. STANDARD OIL COMPANY OF NEW YORK, New York, N. Y.
Filed June 29, 1907. Serial No. 28,486. PUBLISHED JULY 30, 1907.

65,429. ILLUMINATING-OIL. STANDARD OIL COMPANY OF NEW YORK, New York, N. Y.
Filed June 29, 1907. Serial No. 28,487. PUBLISHED JULY 30, 1907.

65,430. MIXED PAINTS AND PASTE PAINTS. ATLAS PAINT MANUFACTURING CO., Minneapolis, Minn.
Filed May 13, 1907. Serial No. 27,345. PUBLISHED JULY 30, 1907.

65,431. MINERAL WATER. WILLIAM BAIRD, Cambridge Springs, Pa.
Filed June 27, 1907. Serial No. 28,425. PUBLISHED JULY 30, 1907.

65,432. MINERAL WATER. WILLIAM BAIRD, Cambridge Springs, Pa.
Filed June 27, 1907. Serial No. 28,426. PUBLISHED JULY 30, 1907.

65,433. LUBRICATING-OILS. BASS HUETER PAINT CO. SOUTHERN CALIFORNIA BRANCH, Los Angeles, Cal.
Filed June 17, 1907. Serial No. 28,226. PUBLISHED JULY 30, 1907.

65,434. FRUIT JUICES MADE FROM GRAPES AND OTHER FRUITS. CALIFORNIA GRAPE JUICE COMPANY, Los Angeles, Cal.
Filed June 13, 1907. Serial No. 28,090. PUBLISHED JULY 30, 1907.

65,435. SPRING AND OTHER DRINKING WATERS. CHARLES A. CLEGG, New York, N. Y.
Filed June 21, 1907. Serial No. 28,278. PUBLISHED JULY 30, 1907.

65,436. WEEKLY NEWSPAPERS AND MAGAZINES. COHAN & HARRIS, New York, N. Y.
Filed June 26, 1907. Serial No. 28,405. PUBLISHED JULY 30, 1907.

65,437. CERTAIN LEATHER GOODS. DAIMLER-MOTOREN-GESELLSCHAFT, Untertürkheim, near Stuttgart, Germany.
Filed May 16, 1906. Serial No. 19,611. PUBLISHED JULY 30, 1907.

65,438. CHIFFONS. GRACE PASCAL FORD, Mount Vernon, N. Y.
Filed June 27, 1907. Serial No. 28,432. PUBLISHED JULY 30, 1907.

65,439. KNITTED FABRIC, AND KNITTED UNDERWEAR, SWEATERS, SHIRTS, AND JACKETS. FULD & HATCH KNITTING COMPANY, Albany, N. Y.
Filed June 10, 1907. Serial No. 27,998. PUBLISHED JULY 30, 1907.

65,440. CERTAIN FANCY GOODS, FURNISHINGS, AND NOTIONS. GEO. BORGFELDT & Co., New York, N. Y.
Filed May 31, 1907. Serial No. 27,774. PUBLISHED JULY 30, 1907.

65,441. CERTAIN MASONRY MATERIALS. H. H. SYMMES Co., Indianapolis, Ind.
Filed June 24, 1907. Serial No. 28,361. PUBLISHED JULY 30, 1907.

65,442. EXPLOSIVE-POWDER. INDEPENDENT NON-FREEZING POWDER COMPANY, Paulsboro, N. J.
Filed June 24, 1907. Serial No. 28,354. PUBLISHED JULY 30, 1907.

65,443. WHISKY. JNO. T. BARBEE & Co., Louisville, Ky.
Filed December 21, 1906. Serial No. 24,200. PUBLISHED FEBRUARY 12, 1907.

65,444. GIN, WHISKY, BRANDY, AND RUM. JOHN KISSEL & SON INC., Brooklyn, N. Y.
Filed May 31, 1907. Serial No. 27,799. PUBLISHED JULY 30, 1907.

65,445. SEWING-COTTON. JONAS BROOK & BROS. LIMITED, Meltham, England.
Filed June 24, 1907. Serial No. 28,385. PUBLISHED JULY 30, 1907.

65,446. CERTAIN ROOFING. LINCOLN WATERPROOF CLOTH Co., Bound Brook, N. J.
Filed April 29, 1907. Serial No. 26,988. PUBLISHED JULY 30, 1907.

65,447. CERTAIN PAINTS AND PAINTERS' MATERIALS. THE LOWE BROTHERS COMPANY, Dayton, Ohio.
Filed July 5, 1906. Serial No. 20,743. PUBLISHED JULY 30, 1907.

65,448. CORDIALS. MANLY E. MARGESON, near Kendallville Ind.
Filed June 29, 1907. Serial No. 28,470. PUBLISHED JULY 30, 1907.

65,449. TOOTH, NAIL, HAIR, AND FLESH BRUSHES. MARTIN & BOWNE COMPANY, New York, N. Y.
Filed April 9, 1906. Serial No. 18,639. PUBLISHED JULY 30, 1907.

65,450. WHISKY. JOHN H. MCBRAYER, Lawrenceburg, Ky.
Filed June 11, 1907. Serial No. 28,053. PUBLISHED JULY 30, 1907.

65,451. SILK DRESS GOODS. MENDELSON BROS. INC., San Francisco, Cal.
Filed June 25, 1907. Serial No. 28,379. PUBLISHED JULY 30, 1907.

65,452. MONTHLY JOURNAL OF MATERIA MEDICA AND THERAPEUTICS. MERCK & Co., New York, N. Y.
Filed December 21, 1906. Serial No. 24,184. PUBLISHED JULY 30, 1907.

65,453. WOVEN COTTON PLAIDS. NEUSS HESSLEIN & Co., New York, N. Y.
Filed June 15, 1907. Serial No. 28,158. PUBLISHED JULY 30, 1907.

65,454. CERTAIN RUBBER GOODS. PACIFIC COAST RUBBER CO., Seattle, Wash.
Filed February 25, 1907. Serial No. 25,587. PUBLISHED JUNE 18, 1907.

65,455. LEATHER BOOTS AND SHOES. THE PALACE CLOTHING COMPANY, Topeka, Kans.
Filed July 1, 1907. Serial No. 28,525. PUBLISHED JULY 30, 1907.

65,456. REFRIGERATORS. RAILWAY & STATIONARY REFRIGERATING CO., New York, N. Y.
Filed May 6, 1905. Serial No. 4,538. PUBLISHED JULY 30, 1907.

65,457. CERTAIN LIGHTING APPARATUS. THE SIGN OF THE HAMMER CO., Montclair, N. J.
Filed May 8, 1907. Serial No. 27,291. PUBLISHED JULY 30, 1907.

65,458. LEATHER BOOTS AND SHOES. SMITH-BRISCOE SHOE COMPANY INCORPORATED, Lynchburg, Va.
Filed October 22, 1906. Serial No. 22,838. PUBLISHED JULY 30, 1907.

65,459. LEATHER BOOTS AND SHOES. SMITH-WALLACE SHOE COMPANY, Chicago, Ill.
Filed March 18, 1907. Serial No. 26,024. PUBLISHED JULY 30, 1907.

65,460. LEATHER BOOTS AND SHOES. SMITH-WALLACE SHOE COMPANY, Chicago, Ill.
Filed March 18, 1907. Serial No. 26,026. PUBLISHED JULY 30, 1907.

65,461. EXPLOSIVES USED FOR LOADING PROJECTILES AND TORPEDOES. SPRENGSTOFF A. G. CARBONIT, Hamburg, Germany.
Filed May 8, 1907. Serial No. 27,219. PUBLISHED JULY 30, 1907.

65,462. PANTRY-CABINETS. STANDARD GAUGE MANUFACTURING COMPANY, Syracuse, N. Y.
Filed June 13, 1907. Serial No. 28,099. PUBLISHED JULY 30, 1907.

65,463. WHISKY. STEUBEN COUNTY WINE CO., Chicago, Ill.
Filed April 10, 1905. Serial No. 924. PUBLISHED JULY 30, 1907.

65,464. WHISKY. STEUBEN COUNTY WINE CO., Chicago, Ill.
Filed April 10, 1905. Serial No. 925. PUBLISHED JULY 30, 1907.

65,465. WHISKY. STEUBEN COUNTY WINE CO., Chicago, Ill.
Filed April 17, 1905. Serial No. 1,947. PUBLISHED JULY 30, 1907.

65,466. COTTON PIECE GOODS. TREMONT & SUFFOLK MILLS, Lowell, Mass.
Filed May 10, 1905. Serial No. 4,960. PUBLISHED FEBRUARY 27, 1906.

65,467. ICE-MAKING MACHINERY, AMMONIA COMPRESSORS AND CONDENSERS. THE TRIUMPH ELECTRIC CO., Cincinnati, Ohio.
Filed June 27, 1907. Serial No. 28,437. PUBLISHED JULY 30, 1907.

LABELS

REGISTERED SEPTEMBER 24, 1907.

13,805.—*Title:* "BUCHU GIN." (For Gin.) CHAS. JACQUIN ET CIE., INC., New York, N. Y. Filed August 30, 1907.

13,806.—*Title:* "BOUQUET AU LILAC DE FRANCE." (For Cologne.) CHAS. RAHAYEL, New York, N. Y. Filed August 29, 1907.

13,807.—*Title:* "CLEAN-O SHAMPOO." (For a Shampoo Preparation.) THE MICHAEL DRUG CO. New York, N. Y. Filed August 28, 1907.

13,808.—*Title:* "THE DUMMY SKIRT MARKER." (For a Skirt-Marker.) GERTRUDE F. WEDDERBURN, Chevy Chase, Md. Filed August 30, 1907.

13,809.—*Title:* "SHIRT BOSOM PROTECTOR." (For Bosom-Boards.) WOOD AND MULLEN, New York, N. Y. Filed May 28, 1907.

PRINTS

REGISTERED SEPTEMBER 24, 1907.

2,117.—*Title:* "A SMILE WITH EVERY BAKING." (For Flour.) STANDARD MILLING CO., New York, N. Y. Filed August 22, 1907.

2,118.—*Title:* "STAHL'S SPECIAL COLD CUTS." (For Cold Meats.) OTTO STAHL, New York, N. Y. Filed August 31, 1907.

2,119.—*Title:* "EUREKA PEANUT CAKES." (For Peanut-Candy.) DREYFUS BROS., Montgomery, Ala. Filed August 28, 1907.

2,120.—*Title:* "KURESORE OINTMENT." (For an Ointment.) G I CHEMICAL CO., New York, N. Y. Filed August 31, 1907.

2,121.—*Title:* "CHAIN, SADDLE AND HANDLE-BAR BACKS, BICYCLE PLAYING CARDS." (For Playing-Cards.) THE UNITED STATES PLAYING CARD COMPANY, Cincinnati, Ohio. Filed August 30, 1907.

2,122.—*Title:* "MEN'S AND BOYS' APPAREL." (For Men's and Boys' Apparel.) H. C. LYTTON. Chicago, Ill. Filed August 31, 1907.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

POE v. SCHARF.

Decided May 17, 1907.

INTERFERENCE—PRIORITY—DILIGENCE.

Where Poe, who was the first to conceive, but the last to constructively reduce to practice, was diligent at the time Scharf entered the field and the delay of three months between this time and the filing of his application was due to no inaction on the part of Poe, but to the fact that the attorney for his assignee, who was particularly skilled in the art and prepared all its patent applications, was delayed by other work which had accumulated because of his sickness, and the testimony shows that there was no intentional delay upon his part in the preparation of Poe's application, *Held* that Poe was not lacking in diligence.

APPEAL from Examiners-in-Chief.

LINOTYPE MACHINES.

Mr. Philip T. Dodge and *Mr. R. F. Rogers* for Poe.

Messrs. Redding, Kiddle & Greeley for Scharf.

MOORE, *Acting Commissioner:*

This is an appeal from the decision of the Examiners-in-Chief reversing the decision of the Examiner of Interferences and awarding priority of invention to Poe.

The issue of the interference as originally declared contained fifteen counts; but upon reference to the Primary Examiner on the recommendation of the Examiner of Interferences under Rule 126 it has been dissolved as to counts 1, 2, 4, and 7. The question of priority of invention as to counts 3, 5, 6, and 8 to 15, inclusive, remains to be considered.

The following claims serve to illustrate the character of the invention:

8. In a linotype machine, the combination with an assembler and means to discharge the assembled line from the assembler, of means to turn the assembler, the means for discharging the line being under the control of the means for turning the assembler.

11. In a linotype-machine, the combination with an assembler and means to discharge the assembled line therefrom, of a single lever adapted to lock the assembler in either of its positions, to turn the assembler and to control the discharge of the line therefrom.

15. In a linotype-machine, the combination of an assembler having sliding parts, a lever to turn the assembler from its receiving to its discharging position and vice versa, an actuating-bar, said sliding parts including a spring-pawl and a latch normally holding the pawl away from the actuating-bar, means to release the pawl from the latch so that it may engage the bar, and means to disengage the pawl from the bar again, both of which means are operated through the lever.

Both inventors are residents of Canada, and the effective date of conception of each is the date of his introduction of the invention into this country. Neither party claims an actual reduction to practice of the invention, but relies upon the date of filing of his application as his date of constructive reduction to practice.

It is undisputed that Scharf introduced his invention into this country by a communication to his attorneys which was received by them November 4, 1904. His application was filed December 19, 1904.

The Examiner of Interferences and the Examiners-in-Chief found that Poe introduced his invention into this country by a description of the invention accompanied by blue-prints which were sent to Dodge, the president of The Mergenthaler Linotype Company, in May, 1904. The sufficiency of the disclosure of the invention by means of the description and blue-prints was disputed before the lower tribunals, but was not contested at the hearing upon this appeal. It is not disputed, however, that the invention was fully disclosed by Poe to Dodge and to a draftsman, Kittredge, and pencil drawings made illustrating the invention in October, 1904, which is prior to Scharf's available date of conception. The sole questions to be determined are, therefore, whether Poe was active when Scharf entered the field November 4, 1904, and diligent in his endeavor to constructively reduce the invention to practice during the interval between that date and the date upon which he filed his application, February 4, 1905. The conclusion of the Examiners-in-Chief that Poe was diligent during this period differs from that reached by the Examiner of Interferences. The testimony shows that upon October 13, 1904, Poe visited New York and upon October 19 had an interview with Dodge, at which it was arranged that he should be given the services of a draftsman to make patent drawings, and that he should remain in New York and superintend the making of these drawings. Kittredge, the draftsman who was employed, finished the drawings, which are a part of Poe's application, in pencil on or before October 26, 1904, and upon October 29 Poe returned to Montreal. Kittredge completed the drawings in ink and turned them over to Dodge November 8, 1904. It is therefore clear that Poe was active at the time Scharf entered the field.

On November 12 Dodge wrote to Poe requesting a brief memorandum to guide him in preparing the application, and upon November 16 wrote again, acknowledging its receipt.

December 14 Dodge wrote to Poe, stating:

I hope to send you the application papers to-morrow. I have been called away repeatedly and overwhelmed with work, hence the delay.

The application papers were sent to Poe January 10, 1905, and were accompanied by a letter from Dodge, stating:

I am sending you herewith the long-delayed application papers. I rather fear that I have overlooked some of your points, or that I have not properly amplified them. I wish you would slash into the specification and into the claims, which were necessarily prepared in haste, and make any improvements you see fit.

On January 16 Poe returned the application papers to Dodge with certain suggestions, and upon January 25 Dodge sent the application in proper form for execution to Poe. The record shows that the papers were executed January 30 and the application filed February 4, 1905.

Poe's invention is assigned to The Mergenthaler Linotype Company, of which Dodge is president, and it appears that because of his familiarity with linotype-machines Dodge prepares all the applications for patent filed by this company. Dodge states that the delay in filing Poe's application was due to pressure of other work which came upon him by reason of his position and which had accumulated because of his severe sickness in April, June, and July, 1904.

It is shown by Scharf (stipulation, p. 16, Scharf's record) that during the period from November 2, 1904, to February 4, 1905, Dodge filed thirty-three applications for patent, and it is contended that the delay in filing Poe's application was merely for the purpose of business convenience. It is further urged that the preparation of Poe's application might have been delegated to others, since the invention is not in itself particularly complicated, and that therefore the reasons for delay in filing were not of such a compelling nature as should excuse the lack of diligence in constructively reducing the invention to practice.

While these contentions are not without force, it is believed that there was no such lack of diligence as should cause the forfeiture of Poe's rights. It is undisputed that Poe was first to conceive, and his personal efforts to have the application filed are beyond criticism. The delay of three months in filing the application after the drawings had been placed in the hands of the assignee is not, in my opinion, unreasonable in view of the circumstances above referred to. Where the preparation of a large number of applications in a particular art is customarily placed in the hands of one person who is most highly skilled in that art, it is easily understood how the preparation of one may be temporarily postponed, and Dodge's letter of December 14 indicates that this is what occurred in the present case. Dodge's letters of December 14, 1904, and January 10, 1905, clearly show that there was no intent to abandon the invention and no intentional delay in preparing Poe's application.

In the recent case of *Woods* v. *Poor*, decided by the Court of Appeals of the District of Columbia April 2, 1907, the facts were analogous to those in the present case and the period of delay was almost the same. Woods conceived the invention in September, 1903, and filed his application January 27, 1904. Poor conceived his invention about November 1, 1903, and filed his application December 17, 1903. It was shown that in October or November, 1903, Woods embarked in business for himself, but did nothing in respect to his invention but discuss the invention with an employee with a view to overcoming certain supposed defects. In that case the court said:

> Taking into consideration the nature of the business, the circumstances surrounding him at the time, the comparatively short time between his date of conception and the date Poor entered the field, his promptness in filing his application thereafter and the fact that the reduction to practice was constructive and not actual in each case, we conclude that Woods has shown that degree of diligence which the law requires and that he is justly entitled to the fruits of his discovery

In the present case the reduction to practice of each party was constructive. Poe was active at the time Scharf entered the field. It is clearly shown that there was no intentional delay upon the part of the assignee in filing Poe's application. The period of delay was not long, and the circumstances causing the postponement of the preparation of the application were reasonable. I find, therefore, no reason why Poe should be deprived of the benefits of his invention or his rights subordinated to those of Scharf.

The decision of the Examiners-in-Chief is affirmed.

EX PARTE INTERNATIONAL CORSET COMPANY.

APPLICATION FOR REGISTRATION OF TRADE-MARK.

Decided June 24, 1907.

1. TRADE-MARKS—INTERPRETATION.
"La Camille" for corsets *Held* to be anticipated by "Camille Royal Combination" for feminine apparel.
2. SAME—IDENTITY OF MERCHANDISE—FEMININE APPAREL—CORSETS.
Held that the term "feminine apparel" stated as the particular description of the goods to which the registrant's mark is applied is comprehensive enough to include "corsets."

ON APPEAL.

TRADE-MARK FOR CORSETS.

Messrs. Poole & Brown for the applicant.

MOORE, *Commissioner:*

This is an appeal from the action of the Examiner of Trade-Marks refusing to register the words "La Camille" as a trade-mark for corsets in view of the registration by C. Caen, November 11, 1890, No. 18,603, of the words "Camille Royal Combination" for feminine apparel.

It is contended by the appellant that his mark does not so nearly resemble that of the registrant as to cause confusion in the mind of the public and that corsets do not fall within the class of goods covered by the registration.

In my opinion neither of these contentions is well founded. The salient feature of each mark by which the goods would be identified is clearly the word "Camille," and the use of these marks upon goods of the same descriptive properties would be likely to cause confusion in trade.

The class of goods to which the registered trade-mark is appropriated is set forth in the statement of the registration as "garments" and the particular description of goods comprised in such class upon which the mark is used as "feminine apparel." It is apparent that the registrant by using the broad term "feminine apparel" intended to cover all body-garments worn by women and girls.

The facts in this case are closely analogous to those in *ex parte A. Stein & Company*, (85 O. G., 147,) in which registration of a trade-mark for garters, which closely resembled a registered trade-mark for "wearing-apparel for men and boys," was refused. In that decision Commissioner Duell said:

> It is apparent that the registrant intended to cover the class of wearing-apparel used by men and boys. In view of the decisions, both of the courts and of the Office, I am of the opinion that where an applicant intends to cover a class broadly it is unnecessary to mention every particular description of goods comprised in such class. (*Smith et al.* v. *Reynolds & Jacobs*, 3 O. G., 214; *ex parte Boehm & Co.*, C. D., 1875, 103; 8 O. G., 319.) Under these decisions I think that the registrant would be protected by the courts in the use of the trade-mark when applied to garters. I think, therefore, that the applicants are anticipated by the present registration. (*Ex parte Manny & Co.*, 17 MS. Dec., 455.)
>
> It may be that the registered mark is not in use or that its owner has not used it and does not care to use it in connection with such articles as garters. I think it would be proper for the Office to register the mark if applicants should file a written statement from the registrant evidencing his consent.

The term "feminine apparel" is clearly comprehensive enough to include corsets, and unless evidence is presented showing that the registrant's mark is not used upon corsets it is believed that registration of the applicant's mark should be refused.

The decision of the Examiner of Trade-Marks is affirmed.

WENDE v. HORINE.

PATENT INTERFERENCE.

Decided September 6, 1907.

1. INTERFERENCE—REOPENING—PRACTICE.
The Court of Appeals of the District of Columbia having held that a second interference involving claims differing merely in scope from those involved in the first interference should not have been declared, the latter will not be reopened for the purpose of allowing the issue of the second interference to be contested therein.
2. SAME—SAME—SAME.
The fact that a proceeding by bill in equity under section 4915 Revised Statutes might prove slow and expensive should not outweigh the necessity for proper and orderly procedure in an interference.

ON PETITION.

MANIFOLDING APPARATUS.

Mr. George E. Waldo for Wende.

Messrs. Bond, Adams, Pickard & Jackson for Horine.

MOORE, *Commissioner:*

This is a petition by Wende that the Commissioner, under the exercise of his supervisory power, reinstate the interference *Wende* v. *Horine*, No. 20,587, and remand the same to the Primary Examiner with instructions to amend or re-form the issue of the interference by adding thereto certain counts of the issue of a second interference, No. 24,488, between the same parties.

The interference No. 20,587, which petitioner desires to have reinstated, was determined by the decision of the Commissioner awarding priority in favor of Horine on January 2, 1904, and this decision became final through the failure of Wende to take an appeal. Horine subsequently took out his patent, whereupon Wende copied certain claims, and a second interference, No. 24,488, was declared between the same cases, but upon counts differing somewhat in scope. In the second interference Wende prevailed upon certain counts before the various tribunals of the Patent Office, but upon appeal to the Court of Appeals of the District of Columbia that court held (129 O. G., 2858) that the case came within the rules laid down in *Blackford* v. *Wilder* (127 O. G., 1255) and that Wende by acquiescing in the decision in the first interference was estopped from again litigating in a second interference the same subject-matter upon claims differing merely in scope. Wende now seeks to reopen the first interference in order that he may contest therein the subject-matter of the second interference.

It is contended by Horine that the Commissioner is without authority to grant petitioner's request. It is unnecessary to discuss this contention, since even if possessed of the authority I do not consider that the circumstances of the present case would justify the exercise of that authority. The first interference was finally determined over three years ago. To excuse the long delay of Wende in bringing his motion or petition would require a most extraordinary showing. Instead of bringing his motion promptly Wende chose to pursue another course, which the court held was an improper one. He now wishes to retrace his steps and pursue the other course. This is clearly not such a showing of extraordinary circumstances or unavoidable delay as would justify reopening the interference.

Another reason why the interference should not be reopened is that Wende claims to have a remedy by bill in equity under section 4915, Revised Statutes; but he states that he anticipates such remedy would prove slow and expensive. Even if the latter remedy is subject to the disadvantages mentioned this should not outweigh the necessity for proper and orderly procedure in the case. Wende has had his day in court so far as the interferences mentioned are concerned, and where Congress has provided still another remedy his proper course is to seek relief in that way. Moreover, Horine has his patent, so that the only question to be determined, if the interference should be reinstated, would be Wende's right to a patent, and as to this he admits he has an adequate remedy by bill in equity.

The petition is denied.

EX PARTE THE RAINIER COMPANY.

Decided June 21, 1907.

APPLICATION FOR REGISTRATION OF TRADE-MARK.

1. TRADE-MARKS—"RAINIER"—SURNAME.
The primary significance of the word "Rainier" which forms part of applicant's name is that of the name of an individual, and it is therefore not registrable as a trade-mark.
2. SAME—SAME—NOT WRITTEN IN FANCIFUL MANNER.
The word "Rainier" written in large script letters, with a flourish extending from the letter "R" beneath certain letters of the word, *Held* not to be such a distinctive display of the name as required by the act of 1905 to confer registrability upon the mere name of an individual.

ON APPEAL.

TRADE-MARK FOR MOTOR-CARS, &c.

Mr. H. A. West for the appellant.

BILLINGS, *Assistant Commissioner:*

This is an appeal from the action of the Examiner of Trade-Marks refusing to register the word "Rainier" as a trade-mark for automobiles.

Registration was refused on the ground that the word "Rainier" is geographical and on the further ground that it is the mere name of an individual not written in a particular or distinctive manner.

That the word "Rainier" is the name of an individual is not controverted by the applicant; but it is contended, first, that it is not merely the name of an individual, and, second, that if it is merely the name of an individual it is written, printed, or impressed in a peculiar and distinctive manner, and therefore registrable.

This first contention is based on the ground that besides being the name of an individual Rainier is the

name of a mountain in Washington. This use of the word is, however, not its principal use, and its primary significance is as the name of an individual, as is shown by the fact that the word constitutes the distinguishing feature of applicant's name, which is apparently derived from the name of an individual. It is held, therefore, that within the meaning of the Trade-Mark Act this name is merely that of an individual.

The word is written in large script letters with a flourish extending from the letter "R" beneath certain letters of the word.

This is not such a distinctive dispaly of the name as required by the Trade-Mark Act. A similar question came up in *ex parte United States Brewing Company*, (125 O. G., 352,) and it was held by the Commissioner that a family name printed in script on a diagonal line, the letters being shaded so as to appear in perspective and with a paraph under the word, was not such a distinctive dispaly as to justify registration.

The decision of the Examiner of Trade-Marks is affirmed.

SMITH *v.* FOX.

Decided July 18, 1907.

INTERFERENCE—MOTION TO TRANSMIT A MOTION TO DISSOLVE—DELAY IN BRINGING.

Where the hearing on a motion to transmit a motion to dissolve is extended by stipulation of the parties and before the hearing an amended motion is filed stating the grounds of the first motion more specifically, *Held* that the motion, if in proper form, should have been transmitted even if the first motion was not sufficiently specific.

APPEAL on motion.

STEAM-TURBINE.

Messrs. Goepel & Goepel for Smith.

Mr. Albert G. Davis for Fox.

BILLINGS, *Assistant Commissioner:*

This is an appeal by Smith from the decision of the Examiner of Interfefences refusing to transmit an amended motion to dissolve the above-entitled interference.

It appears that Smith filed a motion to dissolve the above-entitled interference within the time permitted, alleging one ground—namely, that the claims had different meanings when applied to the respective applications. Thirteen days after the expiration of the time within which the motion should have been filed Smith filed an amended motion making his first motion more specific. The record shows that a hearing on his first motion had not been had, for the reason that the time was extended by stipulation on account of the illness of the counsel for Smith. In view of the reasons, which appear clearly of record, why the hearing on the original motion was postponed it is clear that to have accepted the amended motion when filed would not have delayed this case any longer than if a specific motion had been originally filed. The purpose of the rules relating to the filing of motions is to prevent undue delay in the prosecution of interferences. As stated above, the filing of the amended motion under the particular circumstances of this case caused no delay.

The decision of the Examiner of Interferences is reversed.

PHILLIPS *v.* SCOTT.

PATENT INTERFERENCE.

Decided July 20, 1907.

1. INTERFERENCE—MOTION TO DISSOLVE—TRANSMISSION.

Where the opposing party is not given sufficient notice of the hearing on the motion to transmit a motion to dissolve, the motion should not be refused transmission on that ground, but the hearing should be continued.

2. SAME—SAME—SAME.

Where it is moved to dissolve an interference on the ground that the issue is not patentable in view of certain references cited, but it is not stated how these references are to be applied the motion to transmit should be denied.

APPEAL on motion.

WINDING-MACHINE.

Messrs. Wright, Brown, Quinby & May for Phillips.

Messrs. Gifford & Bull and *Messrs. Meyers, Cushman & Rea* for Scott.

BILLINGS, *Assistant Commissioner:*

This is an appeal by Phillips from the decision of the Examiner of Interferences refusing to transmit his motion to dissolve the above-entitled interference.

It clearly appears that the opposing party was not given sufficient notice of the hearing on the motion before the Examiner of Interferences, and this fact was noted in the Examiner's decision. It is believed in such cases that the hearing should be continued to such time as to give the opposing party ample notice and that such action should have been taken instead of making it one of the grounds upon which the motion was refused transmission.

The main ground given for refusing to transmit the motion is that it is not sufficiently specific, as required by the practice in such cases. It appears on inspection that there are three counts of the issue, and the moving party cited nineteen patents. It is not stated in the motion that it is to be contended that each of the patents is an anticipation of each count of the issue, nor is it otherwise indicated how the patents are to be used as references against several counts. The practice has become well settled as to preparations of motions to dissolve interferences, and it is very clear that the present motion does not comply with the requirements. (*Pym* v. *Hadaway*, 123 O. G., 1283; *Heyne, Hayward, and McCarthy* v. *De Vilbiss*, 125 O. G., 669.)

The decision of the Examiner of Interferences is affirmed.

THULLEN *v.* TOWNSEND.

PATENT INTERFERENCE NO. 27,362.

Decided August 9, 1907.

INTERFERENCE—MOTIONS FOR DISSOLUTION—TRANSMISSION—NON-PATENTABILITY—APPLICATION OF REFERENCES.

The allegation in a motion for dissolution that the issue is unpatentable in view of eight references, of which it is said that "each of the counts is also met in each of the above patents, singly or in combination," is vague and indefinite, and the transmission motion for dissolution was properly refused.

APPEAL on motion.

RELAY.

Mr. George E. Cruse for Thullen.

Mr. George H. Benjamin and *Mr. Eugene C. Brown* for Townsend.

BILLINGS, *Acting Commissioner:*

This is an appeal by Thullen from a decision by the

Examiner of Interferences refusing to transmit that part of his motion to dissolve the interference urging the ground of non-patentability of counts 1 to 9 in view of certain prior patents. The Examiner held that the allegation made in the motion was indefinite. It is stated in the motion that each of the counts from 1 to 9, inclusive, is unpatentable in view of the eight cited patents, and it is said:

Each of the counts is also met in each of the above patents, singly or in combination.

This statement is clearly alternative, and therefore the motion in this particular instead of being clear and specific, which was the end desired to be accomplished by inaugurating the present practice, is vague and indefinite.

The decision of the Examiner of Interferences is affirmed.

DECISIONS OF THE U. S. COURTS.

Court of Appeals of the District of Columbia.

WOODS *v.* POOR.

Decided April 2, 1907.

1. INTERFERENCE—PRIORITY—DILIGENCE—CIRCUMSTANCES TO BE CONSIDERED.

There is no arbitrary rule or standard by which diligence may be measured. The sole object of the law being to mete out the fullest measure of justice, each case must be considered and decided in the light of the circumstances of that case. The nature of the invention, the situation of the inventor, the length of time intervening between conception and reduction to practice, the character and reasonableness of the inventor's testimony and that of his witnesses, are all important factors in determining the question of diligence.

2. SAME—SAME—SAME.

Where on October 24, 1903, twenty-three days after his conception of the invention, Woods left the company by which he had been employed to embark in business on his own account, and during this period had made a blackboard drawing of the invention and frequently discussed with one Jacob, who was skilled in the art, the possibility of overcoming certain criticisms, and where after establishing his own business he employed said Jacob and resumed the consideration of these defects, and while he did not eventually modify his device, but filed his application January 27, 1904, *Held* he was not lacking in diligence, and priority was awarded to him over Poor, who reduced his invention to practice by filing his application December 17, 1903.

Mr. George W. Rea and *Mr. C. S. Pickard* for Woods.

Mr. Thomas F. Sheridan, Mr. Charles F. Fitts, and *Mr. Walter A. Scott* for Poor.

ROBB, *J.:*

This is an appeal in an interference case from the decision of the Commissioner of Patents.

The counts of the issue disclose the structure of the invention, and read as follows:

1. A side bearing for railway-cars comprising a casing or shell which has openings in its top and bottom and a roller in said shell adapted for rolling contact through said openings with bearing-surfaces; said casing or shell being provided with tracks located in position to support the roller when the latter is below and free from the upper bearing-surface and the said roller having free movement in the shell both endwise of the latter and vertically with respect to said tracks.

2. A side bearing for railway-cars comprising a casing or shell which has openings in its top and bottom and a roller in said shell adapted for rolling contact through said openings with bearing-surfaces and provided with trunnions at its ends; said casing or shell having inwardly-extending flanges forming tracks which are located in position to engage the said trunnions when the roller is below and free from the upward bearing-surface, and the said roller having free movemnet in the shell both endwise of the latter and vertically with respect to the said track.

3. In a device of the class described, the combination with a suitable roller, having oppositely-extending gudgeons, of a box open at the top to receive the roller and having a longitudinally-slotted bottom through which the roller projects, there being inwardly-extending side flanges on the box to limit the downward movement of the roller, and a cover for the box, separately formed and adapted to furnish an upper tread for the roller.

All the tribunals of the Patent Office concur in awarding priority of invention to Poor, the senior party, on the sole ground that Woods, the junior party, although first to conceive the invention, was lacking in diligence. The Commissioner, however, in his opinion states that the question "is not entirely free from doubt."

Counsel for appellee, with commendable fairness and conciseness, thus state the case:

Fortunately, there is no serious dispute as to most of the facts in the case, since the dates of invention of both parties are practically admitted. It is not disputed that Woods was the first to conceive the invention which forms the subject-matter of the interference, and this conception was on September 16, 1903, on which day Woods made the disclosure of his invention to others. It is not disputed that Woods reduced his invention to practice constructively by the filing of his application on January 27, 1904.

It is conclusively established by the record that Poor conceived the invention within a day or two of November 1, 1903, and this date is not seriously contested. Poor reduced his invention to practice on December 17, 1903, by the filing of his application.

The facts are, therefore, that Woods, though the first to conceive, was the last to reduce to practice; and that Poor conceived and reduced to practice in the interval between Woods's conception and reduction to practice.

Under these circumstances the burden of proof is placed upon Woods of showing either that at the time of Poor's conception he, Woods, was actively engaged in reduction to practice of his own conception and that this activity continued until his own reduction to practice, or of showing some sufficient excuse for his delay in reducing to practice.

It is apparent, therefore, that the only question here involved is whether Woods was using reasonable diligence in adapting and perfecting his invention just prior to November, 1903, the date his competitor entered the field, and continued such diligence to the time of filing his application January 27, 1904. It is perhaps not inappropriate at the outset to state what has many times been stated that there is no arbitrary rule or standard by which diligence may be measured. The sole object of the law being to mete out the fullest measure of justice, each case must be considered and decided in the light of the circumstances of that case. The nature of the invention, the situation of the inventor, the length of time intervening between conception and reduction to practice, the character and reasonableness of the inventor's testimony and that of his witnesses, are all important factors in determining the question of diligence. And, where the facts are admitted, and a mere question of law is involved, the court will not hesitate to reverse the judgment appealed from if convinced that an erroneous conclusion was reached. (*O'Connell* v. *Schmidt*, 122 O. G., 2065; 27 App. D. C., 77.)

The record in this case discloses that the appellant, Woods, is by profession a mechanical engineer and something over thirty years of age; that he was vice-president and manager of the Kindl Car Truck Company of Chicago, Ill., from February, 1898, to October 24, 1903, at which time owing to differences arising between the president of that company, Samuel W. McMunn, and himself as to the division of profits arising from sales of roller-bearings embodied in Patent No. 703,148, which was issued to said Woods and McMunn, he severed his connection with the company. During Woods's incumbency as vice-president the company had been manufacturing roller-bearings under said patent. Woods soon after leaving the company embarked in the railway supply business on his own account, in which business he continued during the remainder of the period covered by this controversy. On September 15, 1903, while at St. Louis,

he conceived this invention and made a drawing of the same with a written explanation on the reverse side thereof. This drawing, even without the explanation, fully and completely discloses the device. He returned to Chicago that night, taking the drawing with him, and the next day showed it to J. M. McConahey, an attorney, and to John Jacob, who was the draftsman and superintendent of mechanical work for the Kindl Company, and skilled in the art. Each of these gentlemen signed their names as witnesses on the reverse side of the sketch. Immediately following this Woods discussed his discovery with Jacob, who was in his room daily. Large sketches were made upon a blackboard in Woods's office, and details of the idea were discussed. Jacob appears to have made certain objections and criticisms to the device as outlined, the result being, as Woods says, "that he endeavored to think of some means to overcome this criticism." The drawings remained upon the blackboard for several weeks, and frequent discussions continued to be had with Jacob concerning them. Woods had very limited capital in which to embark in business for himself, and appears to have been very busy with many matters immediately after leaving the Kindl Company. On October 24, 1903, Jacob severed his connection with the Kindl Company and engaged with Woods. Discussions as to the possibility of perfecting the device were again had. Woods, in his testimony, speaking of these discussions, said:

I had almost constantly in mind the question of overcoming the objections referred to before, made by Mr. Jacob. I myself and alone, as well as together with Mr. Jacob, frequently went over these matters in the endeavor to overcome Mr. Jacob's objections, but I was unable to do so.

On cross-examination he was asked:

Q. Then, between September 15, 1903, and January 27, 1904, all the physical work done by you toward developing this invention was limited to the blackboard sketches which you have referred to in your direct examination; is not that true?

A. No, sir; Mr. Jacob and I, as well as myself alone, held numerous conversations which undoubtedly involved our making a number of sketches all looking to the overcoming of the objections of Mr. Jacob before referred to by me, and which objections I believed to be well founded.

Woods is fully corroborated by Jacob. In answer to a question as to what was done by Woods after he had exhibited the sketch of September 15, Jacob said:

We laid out details of this sketch on a blackboard with chalk. This blackboard was in Mr. Woods's office, and we looked his drawings on the blackboard over, with a view of more clearly finding the objections and remedies that could be made to overcome the weak construction to which I have referred.

He also testified that the drawings remained on the blackboard for two or three weeks, and that whenever he was in Woods's office they "discussed some points in reference to the drawings on the board;" and that the matter was discussed several times after he entered Woods' employ. In answer to the question, whether Woods ever succeeded in devising any means for overcoming the objections urged, witness said:

Mr. Woods advocated ribs and lugs to strengthen the sides, and we also discussed the possibilities of using different kinds of metal; that is, we looked into the merits of making the device either in steel or malleable iron, or cast-iron, and tried to arrive at a definite conclusion which of these different materials would make the best device, either from a mechanical or commercial standpoint.

The record discloses that Poor entered the employ of the Kindl Company October 24, 1903, and that, as heretofore stated, he conceived the invention in issue about November 1, 1903.

On this record we think Woods entitled to a judgment of priority. There is no doubt whatever that his date of conception antedates Poor's by a month and a half. There is no doubt that when he conceived the invention he fully realized and appreciated the value of his discovery, as he was highly skilled in the art, and, moreover, took immediate steps to fully explain his discovery to others to obtain indubitable evidence of having done so. Only twenty-three days intervened between the date of his return from St. Louis, where he conceived this invention, and the date of his leaving the Kindl Company. During that time he and Jacob had almost daily discussions as to the possibility of overcoming the criticisms which Jacob had made. Stress is laid on the fact that no models were made. We attach no importance to this fact, because, owing to the nature of the device, the blackboard drawings answered the same purpose. They enabled these two men highly skilled in the art as they were to consider and criticise and endeavor to perfect the device. That they did not succeed in further perfecting it should not redound to Woods's disadvantage, for the reason that the law does not require that the one, who first conceives a practical invention, shall perfect it thereafter to such an extent that it is better than the invention of others who subsequently enter the field. All the law requires is that the first to conceive shall be using reasonable diligence in endeavoring to perfect and adapt his invention when his rivals enter the field.

We have heretofore had occasion to remark that the law encourages such delay as is required to test the thoroughness and utility of supposed inventions, and to prevent the Patent Office from being overloaded with applications for patent for crude and incomplete devices. (*Griffin* v. *Swensen*, 89 O. G., 919; 15 App. D. C., 135, 142.)

Soon after Woods severed his connection with the Kindl Company he secured the services of Jacob, and they both testified that Woods's invention again became the subject of discussion. Of course, we do not mean to say that mere casual discussion would alone be sufficient to show diligence, but we think the evidence in this case shows much more. It must be remembered also that only three weeks elapsed between the time Woods left the Kindl Company and the time Poor entered the field, and that Woods, just having embarked in business on his own account, was busy adjusting himself to new conditions. Nevertheless, this invention appears to have received consideration for he secured the services of the man who had pointed out its defects, and immediately resumed the discussion of those defects and the possibility of overcoming them. The delay in this case was less than the delay in *O'Connell* v. *Schmidt*, *supra*, and the facts in the two cases are quite similar. What was said in that case, therefore, applies to this.

Taking into consideration the nature of the invention, the circumstances surrounding him at the time, the comparatively short time between his date of conception and the date Poor entered the field, his promptness in filing his application thereafter, and the fact that reduction to practice was constructive and not actual in each case, we conclude that Woods has shown that degree of diligence which the law requires, and that he is justly entitled to the fruits of his discovery.

The decision of the Commissioner of Patents will, therefore, be reversed, with directions to the clerk of this court to certify this opinion to the Commissioner of Patents, according to law. Reversed.

THE
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OF THE
United States Patent Office.
[BY AUTHORITY OF CONGRESS.]

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Designs	1	No. 38,843.
Trade-Marks	None.	
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TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	1		New Hampshire	1	
Arizona Territory			New Jersey	16	
Arkansas			New Mexico Ter't'y	2	
California	12		New York	40	2
Colorado	9	1	North Carolina	3	
Connecticut	5		North Dakota	2	
Delaware			Ohio	24	
District of Columbia	3		Oklahoma Territ'y	4	
Florida			Oregon	1	
Georgia	1		Panama		
Hawaii Territory			Pennsylvania	33	3
Idaho			Philippine Islands		
Illinois	36	2	Rhode Island	2	1
Indian Territory			South Carolina		
Indiana	7		South Dakota		
Iowa	7		Tennessee	2	
Kansas	3		Texas	8	
Kentucky	3		Utah	1	
Louisiana	1		Vermont	2	
Maine	8		Virginia	1	
Maryland	5	1	Washington	5	
Massachusetts	16	1	West Virginia	3	
Michigan	12		Wisconsin	11	
Minnesota	7	1	Wyoming		
Mississippi			U. S. Army		
Missouri	7		U. S. Navy		
Montana	2				
Nebraska			Total to citizens of the United States	307	12
Nevada	1				

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina			Natal		
Austria Hungary	1		Netherlands		
Belgium			Newfoundland		
Brazil			New South Wales		
British West Indies			New Zealand	3	
Canada	3		Norway		
Cape Colony			Persia		
Chile			Queensland		
China			Roumania		
Costa Rica			Russia		
Cuba			Scotland		
Denmark			South Australia		
Ecuador			Spain		
England	14		Sweden		
France	2		Switzerland	1	
Germany	7		Transvaal, South Africa		
Haiti			Tasmania		
Ireland			Western Australia		
Italy					
Japan			Total to citizens of foreign countries	32	
Java					
Mexico	1				

Photographic Copies of Drawings.

The Patent Office is now prepared to furnish black line on white ground copies of any unbound drawing, foreign or domestic, which may be in its possession, instead of the blue-prints heretofore furnished. Only the 8x12½ (patent) size and the full or 10x15 size prints will hereafter be furnished, at 15 and 25 cents per sheet, respectively.

Copies of drawings of pending, abandoned, forfeited, or informal cases and of caveats may be had in either of the above-named sizes except when they are to be certified, in which case they must be the 10x15 size.

Copies of United States or foreign patent drawings will be made only in the 10x15 size.

When ordering copies of foreign patent drawings, either the serial number of the applications in which they were cited as references or the class and subclass where they may be found must be given. The title of the invention or the number of the division will not be sufficient. Bound volumes cannot be used for making prints. Failure to give the fullest data whereby the mounted drawing may be found will result in delay and unnecessary correspondence.

The work will be much facilitated if a separate order be made for each drawing. The Office will furnish, gratuitously, blanks for this purpose on request.

As a result of abolishing the small (5x8) size the requirement that duplicate prints must be ordered in certain cases will no longer be enforced. The requirement that less than all the sheets of a case will not be printed unless there is already a full set in the file will not be insisted upon; but applicants or attorneys are strongly urged to file a set of prints or order them to be made by the Office at the time of filing an application. Such procedure will save delay later if correction of the drawing is desired or required.

Date of Patent.

RULE 207. The weekly issue closes on Thursday, and the patents of that issue bear date as of the *fourth* Tuesday thereafter. If the final fee in any application is not paid on or before Thursday, the patent will not go to issue until the following week.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business September 24, 1907.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
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304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Sept. 4	Aug. 5	219
303	XVII. Clutches, Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Sept. 3	Aug. 24	174
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Aug. 31	Aug. 14	201
232	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Iron Structures, Loading and Unloading, and Towers.	Aug. 26	Aug. 21	259
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275	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Aug. 1	Aug. 8	281
294	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Aug. 1	July 6	651
280	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making, etc.	July 31	July 22	459

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
278	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Educational Appliances, Fishing and Trapping, Stationery, Stone-Working.	July 31	July 16	544
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufactures, Nailing and Stapling, Whips and Whip Apparatus.	July 31	July 15	341
279	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Time-Controlling Mechanism.	July 31	July 12	287
332	X. Carriages and Wagons	July 26	July 13	516
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	July 25	June 1	538
282	XXVIII. Miscellaneous Heat-Engines, Internal-Combustion Engines.	July 20	July 22	613
122	XIX. Heating and Cooking Stoves, Liquid and Gaseous Fuel, Stoves and Furnaces, and Furnaces.	July 17	July 10	482
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	July 17	June 17	458
327	XVIII. Steam-Engineering, etc.	July 16	June 21	473
167	V. Bookbinding, Harvesters, Jewelry, and Music.	July 15	July 8	424
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	July 10	June 4	436
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	July 9	Aug. 2	303
175	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	July 8	June 12	527
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving and Plastics, Photography.	July 5	July 5	583
280	XL. Baggage, Check-Controlled Apparatus, Cloth, Leather, and Rubber Receptacles, Deposit and Collection Receptacles, Fine Arts, Lighting-Fixtures, Package and Article Carriers, Paper Receptacles, Special Receptacles and Packages, Wooden Receptacles.	July 5	June 11	1075
142	IX. Air and Gas Pumps, Fire-Extinguishers, Hydraulic Motors, Pumps, and Sewerage.	July 2	Aug. 3	275
343	XXXIX. Water Distribution	June 26	May 27	747
109	XVI. Telegraphy and Telephony	June 24	June 4	600
352	XLI. Railway Draft Appliances, Railway-Rails and Joints, Railway-Ties and Fasteners, Resilient Tires and Wheels.	June 8	May 3	1158

Total number of applications awaiting action 17,699

159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Trade-Marks	Sept. 18	Aug. 19	409
	Designs	Sept. 11	Aug. 31	79
	Labels and Prints			

Attorneys.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 19, 1907.

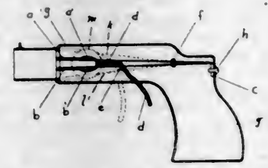
This Office has been advised by the Secretary of the Interior of the disbarment of the following attorneys from practice before the Department or any Bureau thereof: Albert F. Burnham, Ellsworth, Me., and Brookland, Mass., August 13, 1907; Nathaniel C. Goodwin, Waterboro, Me., August 13, 1907; Augustus B. Smith, Pineville, Ky., August 13, 1907.

W. F. WOOLARD,
Chief Clerk.

PATENTS

GRANTED OCTOBER 1, 1907.

867,226. TOY. JOHN K. ALLEN, New York, N. Y. Filed June 14, 1907. Serial No. 379,001.



1. In a device of the character described, the combination with two spring leaves of a lever fulcrumed upon one of the leaves, and having one end projecting below the said leaf and an upper end section between the said leaves, whereby the leaves may be held apart, substantially as shown and described.

2. In a device of the character described, the combination with two spring leaves of a lever seated in an aperture in one of the leaves, and having an end section extending between the leaves to hold them apart, and an end section extending below the same, substantially as shown and described.

867,227. UMBRELLA. ALFRED H. BAMBERGER, New York, N. Y. Filed Mar. 20, 1906. Serial No. 306,957.



1. In an umbrella, the combination of the stick, the runner mounted to slide thereon and having a flaring portion to depress the umbrella spring, and the sleeve having a limited sliding movement on the runner and provided with a cup to receive the ends of the umbrella ribs, the said sleeve having an internal flare adapted to engage the umbrella spring, the flare of the runner being in the path of the flare of the sleeve so that the runner's flare will act as a stop for the flare of the sleeve.

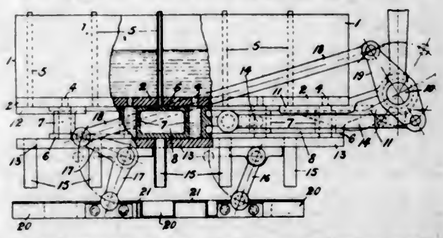
2. In an umbrella, the combination of the stick, the runner mounted to slide thereon, and the sleeve having a limited sliding movement on the runner, and provided with a cup having an inturned horizontal flange or edge to hold the ends of the umbrella ribs.

867,228. FRAGILE AND CAUSTIC PENCIL HOLDER. JOSHUA BARNES, New York, N. Y. Filed Jan. 29, 1906. Serial No. 298,343.



The combination of a handle, a fragile caustic pencil, and means connecting the pencil and handle comprising a flexible connecting portion, and a protecting sleeve of material proof against the destructive chemical action of the pencil, receiving said pencil, and applied to said flexible connection, whereby the pencil and said flexible connection are physically separate from each other.

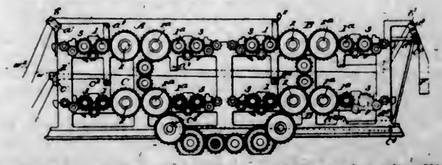
867,229. MEANS FOR SUPPLYING FLUIDS TO BAKING-MACHINES. THOMAS O. BATES, Liverpool, England. Filed Nov. 27, 1906. Serial No. 345,378.



1. In apparatus or means for supplying fluid to cooking machines such as referred to, the combination with the vibrating horizontally sliding chambered device 6 and discharge plate or device, as 13, of a tray 20, adapted to be moved alternately so as to be under the discharge apertures of the apparatus, and clear of same; for the purposes set forth.

2. An apparatus for supplying material to cooking machines comprising a container having openings in its bottom, a sliding chambered device below said bottom adapted to receive the material from the container, a discharge plate below said device, discharge tubes projecting therefrom, a tray 20 suspended below said tubes and having openings therein and means for raising said tray obliquely so that the tubes will pass through the said openings.

867,230. ROTARY PRESS, (DOUBLE LINE.) HENRY F. BECHMAN, Battle Creek, Mich., assignor to Duplex Printing Press Company, Battle Creek, Mich. Filed Aug. 22, 1906. Serial No. 331,601.



1. In a printing press, the combination of a plurality of printing mechanisms each comprising two plate and

two impression cylinders, the plate cylinders being half the diameter of the impression cylinders, and adapted to carry a plurality of single page tubular plates arranged end to end each page plate extending around the circumference of the cylinder, for the purpose described.

2. In a printing press, the combination of a plurality of perfecting mechanisms, each comprising two plate and two impression cylinders, the plate cylinders being of small diameter and slightly greater in circumference than the length of a single page and adapted to carry single page tubular plates arranged end to end, each page plate extending around the circumference of the cylinder.

3. In a newspaper printing press the combination of perfecting mechanism comprising two plate and two impression cylinders, the plate cylinders being half the diameter of the impression cylinders, and adapted to carry a plurality of single page tubular plates arranged end to end, each page plate extending around the circumference of the cylinder, and all the cylinders being arranged substantially in the same horizontal plane and guides for directing a web through said perfecting mechanism.

4. In a printing press the combination of a plurality of perfecting mechanisms—each comprising two plate and two impression cylinders, the plate cylinders being of small diameter and slightly greater in circumference than the length of a single page and adapted to carry a plurality of single page tubular plates arranged end to end, each page plate extending around the circumference of the cylinder, all the plate and impression cylinders being arranged substantially in the same horizontal plane, with guides for directing webs through said perfecting mechanisms, substantially as described.

5. In a newspaper printing press, the combination of two superposed perfecting mechanisms each comprising two plate and two impression cylinders, one perfecting mechanism being arranged above the other, the plate cylinders being of small diameter and slightly greater in circumference than the length of a single page and adapted to carry only single page tubular plates, each page plate extending around the circumference of the cylinder.

6. In a printing press the combination of two superposed perfecting mechanisms each comprising two plate and two impression cylinders, arranged in substantially the same plane and extending transversely of the press, one perfecting mechanism being arranged above the other, said plate cylinders being of small diameter and slightly greater in circumference than the length of a single page and adapted to carry only single page tubular plates, each page plate extending around the circumference of the cylinder.

7. In a newspaper printing press the combination of two superposed perfecting mechanisms each comprising two plate and two impression cylinders, one perfecting mechanism being arranged above the other, the plate cylinders being of small diameter and adapted to carry single page tubular plates each page plate extending around the circumference of the cylinder, which is slightly greater than the length of a single page, a former at the end of the press, and web guides for directing a web or webs through one or both of the perfecting mechanisms and straight to the former.

8. In a printing press the combination of two superposed perfecting mechanisms each comprising two plate and two impression cylinders, arranged in substantially the same plane and extending transversely of the press, one perfecting mechanism being arranged above the other, said plate cylinders being of small diameter and slightly greater in circumference than the length of a single page and adapted to carry a plurality of single page tubular plates arranged end to end, each page plate extending around the circumference of the cylinder, with a folder at the end of the press, and web guides for directing a web or webs through one or both of the perfecting mechanisms and straight to the folder.

9. In a printing press the combination of a plurality of tiers of printing mechanisms, superimposed one above the other, each tier containing a plurality of perfecting mechanisms arranged in substantially the same plane, each perfecting mechanism comprising two plate and two impression cylinders, the plate cylinders being of half the diameter of the impression cylinders and adapted to carry a plurality of single page tubular plates, each page plate extending around the circumference of the cylinder.

10. In a printing press the combination of a plurality of tiers of printing mechanisms, superimposed one above the other, each tier containing a plurality of printing mechanisms, each comprising two plate and two impression cylinders, the plate cylinders being half the diameter of the impression cylinders and adapted to carry a plurality of single page tubular plates, each page plate extending around the circumference of the cylinder; with a folder and guides for directing webs through the printing mechanisms to the folder.

11. In a printing press the combination of a plurality of tiers of printing mechanisms, superimposed one above the other, each tier containing a plurality of perfecting mechanisms arranged in substantially the same plane, each perfecting mechanism comprising two plate and two impression cylinders, the plate cylinders being of half the diameter of the impression cylinders and adapted to carry single page tubular plates, each page plate extending around the circumference of the cylinder; with a folder at one end of the press, guides for directing a web through each perfecting mechanism to the folder without lateral deflection of the web, and whereby one or more webs can be directed successively through one or more of the perfecting mechanisms.

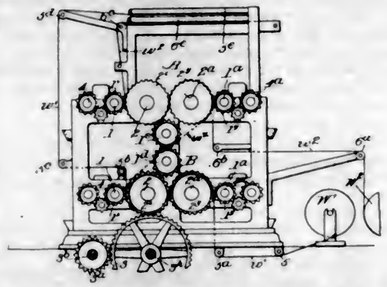
12. In a printing press the combination of a plurality of tiers of printing mechanisms arranged one over the other, each tier containing a plurality of printing mechanisms, each mechanism comprising two plate and two impression cylinders arranged in substantially the same plane, the plate cylinders being half the diameter of the impression cylinders, and adapted to carry a plurality of single page tubular plates arranged end to end, each page plate extending around the circumference of the cylinder; a former at one end of the press and means for directing a web or webs through the mechanisms in a direct line to the former without lateral deflection of the webs.

13. In a printing press wherein one or more webs may be printed in one or more colors, the combination of a plurality of tiers of perfecting printing mechanisms arranged one over the other, each tier containing a plurality of perfecting mechanisms, each perfecting mechanism comprising two plate and two impression cylinders arranged in substantially the same plane but transversely of the press, the plate cylinders being half the diameter of the impression cylinders, and adapted to carry single page tubular plates arranged end to end, each page plate extending around the circumference of the cylinder; a former at one end of the press and guides for directing a web or webs through the perfecting mechanisms in a direct line to the former without lateral deflection of the webs.

14. In a printing press, the combination of two sets of rotary perfecting mechanisms, arranged one above the other in parallel planes, each comprising two plate and two impression cylinders, the plate cylinders being of half the diameter of the impression cylinders and adapted to carry a plurality of single page tubular plates arranged end to end, each page plate extending substantially around the circumference of the cylinder, gearing between the sets of cylinders, and web guiding mechanism whereby a web or webs may be directed independently or successively through the perfecting mechanisms.

867,231. SINGLE-PLATE CYLINDER-PRESS. HENRY F. BECHMAN, Battle Creek, Mich., assignor to Duplex Printing Press Company, Battle Creek, Mich., a Corporation of Michigan. Filed Aug. 22, 1906. Serial No. 331,603.

1. In a printing press, the combination of sets of rotary printing mechanisms, each comprising two plate and two impression cylinders, the plate cylinders being of small size and each being in circumference slightly greater than the length of one page and adapted to carry a plurality of single page tubular plates, each page plate extending around the circumference of the cylinder, gearing between the sets of cylinders, and web guiding mechanisms whereby a web or webs may be directed through the perfecting mechanisms; a folding mechanism at the end of the press, and angle bars above the perfecting mechanisms whereby the printed webs may be given a quarter-turn and directed to the folder.



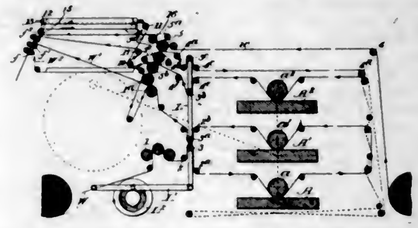
2. In a printing press, the combination of two sets of rotary perfecting mechanisms arranged one above the other in parallel planes, each comprising two plate and two impression cylinders, the plate cylinders being of small diameter and having a circumferential extent slightly greater than the length of one page and adapted to carry a plurality of single page tubular plates, arranged end to end and each page plate extending around the circumference of the cylinder, gearing between the sets of cylinders, and web guiding mechanism whereby a web or webs may be directed through the perfecting mechanisms; a folding mechanism at the end of the press, and angle bars above the perfecting mechanisms whereby the printed webs may be given a quarter-turn and directed to the folder.

3. In a printing press, the combination of four sets of rotary perfecting mechanisms arranged in two parallel planes, two sets of perfecting mechanisms being in each plane and arranged end to end, all the cylinders extending longitudinally of the press with the plate cylinders outermost, each plate cylinder being of small diameter and having a circumferential extent slightly greater than the length of one page and adapted to carry a plurality of tubular single page plates arranged end to end, each page plate extending around the circumference of the cylinder, means for driving the cylinders in unison, guides for directing a web through each perfecting mechanism, a folding mechanism, and means for directing all the printed webs to the folder.

4. In a printing press, the combination of four sets of rotary perfecting mechanisms arranged in two parallel planes, two sets of such mechanisms being in each plane and arranged end to end, all the cylinders extending longitudinally of the press with the plate cylinders at the outer sides of the press and accessible therefrom, each plate cylinder being of small diameter and having a circumferential extent slightly greater than the length of one page and adapted to carry a plurality of tubular single page plates arranged end to end, each page plate extending around the circumference of the cylinder; a folder at the end of the press, web guides, angle bars whereby the webs may be given a quarter-turn and directed to the folder, and means whereby some of the perfecting mechanisms may be put out of operation.

867,232. TRIPLEX PRINTING-PRESS. HENRY F. BECHMAN, Battle Creek, Mich, assignor to The Duplex Printing Press Company, Battle Creek, Mich. Filed Jan. 3, 1905, Serial No. 239,419. Renewed Mar. 4, 1907. Serial No. 360,498.

1. In a printing press, the combination of a plurality of printing couples each comprising a bed and co-acting cylinder, means for feeding a web twice in the same direction to one printing couple, means for delivering such web twice from said printing couple, and means for turning and deflecting such web between the point where it is first delivered from such couple by the delivery means and the point where it is a second time fed thereto by the feeding means; with means for directing another web through the other printing couples to be printed thereby, substantially as described.



2. In a printing press, the combination of a plurality of printing couples, each consisting of a bed and co-acting cylinder, means for feeding a narrow width web twice in the same direction to one printing couple, means for delivering such web twice from said printing couple, and means for turning and deflecting the web between the point where it is first delivered from such couple and the point where it is a second time fed thereto; with means for directing a full width web through the other printing couples to be perfected thereby, substantially as described.

3. In a flat bed web printing press, the combination of a plurality of printing couples each comprising a bed and co-acting cylinder, means for feeding a narrow width web twice into one printing couple, means for delivering such web twice from such couple, means for directing it twice in the same direction through such couple, and means for deflecting and turning such web between the point where it is first delivered from such couple by said delivery means and the second time fed thereto by said feeding means; with means for feeding a full width web to the other printing mechanism to be perfected thereby, substantially as set forth.

4. In a flat bed web printing press, the combination of a plurality of printing couples, arranged one above the other, each consisting of a stationary bed and reciprocating impression cylinder, means for feeding a narrow width web twice into one printing couple, means for delivering such web twice from such couple, means for directing it twice in the same direction through such couple, and means for deflecting and turning such web between the point where it is first delivered from such couple and the second time fed thereto; with means for feeding a full width web to the other printing couples, means for directing the web therethrough to be perfected thereby, and means for delivering it therefrom, substantially as set forth.

5. In a printing press, the combination of three printing couples arranged one above the other, each consisting of a bed and co-acting cylinder, means for directing a full width web between the two lower beds and cylinders, and means for directing a narrow-width web twice between the upper bed and cylinder, substantially as and for the purpose described.

6. In a printing press, the combination of three printing couples arranged one above the other, each consisting of a bed and co-acting cylinder, means for directing a full width web between two of the printing couples, and means for directing a narrow-width web twice between the third printing couple, substantially as and for the purpose described.

7. In combination, three printing couples each comprising a stationary bed and co-acting reciprocating impression cylinder, said couples being arranged parallel one above the other; with means for feeding a full width web between two of the printing couples, to be perfected thereby, means for feeding a narrow width web twice through the other printing couple, and means for deflecting and

turning the narrow web so it will be perfected by said couple, substantially as and for the purpose described.

8. In a "triplex" flat bed printing press, the combination of three stationary beds and co-acting reciprocating impression cylinders arranged parallel one above the other; with means for feeding a full width web between the two lower beds and cylinders to be perfected thereby, and means for feeding a narrow width web twice between the upper bed and cylinder, and means for deflecting and turning the narrow web so it will be perfected in its second passage between said bed and cylinder, substantially as described.

9. In combination, three printing couples, each consisting of a bed and co-acting impression cylinder, means for directing a full width web between two of the lower printing couples to be perfected thereby; and means for passing a narrow width web twice in the same direction between the third printing couple, substantially as described.

10. In combination, three printing couples arranged parallel one above the other each consisting of a bed and co-acting impression cylinder, means for directing a full width web between two printing couples to be perfected thereby; means for directing a narrow width web twice in the same direction between the third printing couple, and means for deflecting and turning said narrow web, substantially as described.

11. In combination, three printing couples arranged parallel one above the other, each consisting of a bed and co-acting impression cylinder; means for directing a full width web between two printing couples to be perfected thereby, means for directing a narrow width web twice in the same direction through the third printing couple, means for feeding such web twice to said couple, and delivering it twice therefrom, and means for deflecting and turning said narrow web between the point where it is first delivered from and the second time fed to said couple, substantially as and for the purpose described.

867,233. SIDE-SPRING VEHICLE. CHARLES A. BEHLEN, Durham, N. C., assignor to Durham Buggy Company, Durham, N. C., a Corporation of North Carolina. Filed July 20, 1906. Serial No. 326,969.



1. In a reachless side spring vehicle-gear, a pair of side springs, a center spring in the same plane as the side springs, said side and center springs being directly secured to the axle and bolster, respectively, at their ends, a plate secured to the underside of each of the side springs at the central portion thereof and having separated eyes and a pair of horizontal, transverse, brace-bars connecting the side springs and having their end portions engaging said eyes, the said bar having stops for preventing lateral or endwise movement; substantially as described.

2. In a reachless side spring vehicle gear, a pair of side springs directly connected at one end to the rear axle and at the opposite end to a portion of the bolster, a plate secured to the under side of each of the springs at its central portion, and a pair of horizontal brace bars having shouldered ends engaging eyes carried by the said plates; substantially as described.

3. In a reachless side spring vehicle, a pair of side-springs connecting the rear axle and the front bolster, an elongated plate secured to the central portion of each of the springs at the under side thereof, said plate having eyes at its end portions, and a pair of cross-braces having reduced end portions journaled in said eyes and shoulders which bear against the inner faces of the eyes; substantially as described.

4. In a side spring vehicle gear, a pair of side springs extending from axle to axle, a pair of cross-bars extending below the central portions of the springs and journaled in bearings on the under sides thereof, and a brace-rod connected to each side spring adjacent to the cross bars and extending obliquely rearward and outward to the rear axle; substantially as described.

5. In a side spring vehicle gear, a pair of side springs extending from axle to axle, a pair of cross-bars extending below the central portions of the springs and journaled in bearings on the under sides thereof, and brace rods secured at one end to the respective side-springs near the central portion of the springs and at the outer side thereof and extending thence obliquely rearward and outward to the rear axle; substantially as described.

867,234. SAFETY-VALVE FOR AIR-BRAKES. THOMAS BEHAN, Aliquippa, Pa. Filed July 12, 1907. Serial No. 383,432.



1. In a coupling for air brake system, the combination with two train pipe sections, of angle pipe sections connected to the adjacent ends of the train pipe sections, a valve in the passage-way of each angle pipe section, a longitudinal auxiliary passage-way in each angle pipe section, pistons in said auxiliary passage-ways having their rods extending outside of the angle pipe sections, and provided with heads, levers carried by said valves, and engaged by the heads on said piston rods, sections of hose arranged one within the other, connecting said coupling members with the angle pipe sections, the space between said hose sections communicating with the auxiliary passage-way in the angle pipes, and an arm 29 depending from each of said levers.

2. In a coupling for air brake systems, the combination with two train pipe sections, of angle pipe sections connected to the adjacent ends of the train pipe sections, a valve in each angle pipe section an auxiliary passage-way in each angle pipe section, a piston in each of said auxiliary passage-ways having one end extending outside the passage way, and provided with a head a lever on the valve engaged by said head, an arm pivotally secured to said lever and serving to limit its movement, coupling members, coupling pipes connecting said coupling members with the angle pipe sections, and air-tight pipes surrounding the coupling pipes.

3. A train pipe safety device comprising an angle pipe section, a plug valve therein, an auxiliary passage-way in the pipe section, a piston therein, having one end extending outside of the passage way, U-shaped head on said end, a lever on said valve, engaged by said head a stop carried by the angle pipe section engaging in a groove in the piston and limiting the travel of said piston, an arm pivotally secured to said lever, and a split washer on the pivotal support of said arm.

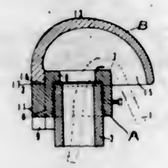
867,235. LAUNDRY STARCH-POWDER. JAMES BENOID, London, England. Filed June 17, 1907. Serial No. 379,473.

1. An improved laundry starch powder composed of 2 volumes of tungstate of soda, 2 volumes of epsom salts, 5 volumes of carbonate of magnesia, 10 volumes of borax, 10 volumes of hyposulfite of soda, 5 volumes of bicarbonate of soda, and from 1 to 7 volumes of French chalk, mixed together.

2. An improved laundry starch powder having as a part thereof tungstate of soda, epsom salts, carbonate of magnesia, borax, hyposulfite of soda, and bicarbonate of soda.

3. An improved laundry starch powder consisting of tungstate of soda, epsom salts, carbonate of magnesia, borax, hyposulfite of soda, bicarbonate of soda, and French chalk.

867,236. PIPE-CAP. WILLIAM H. BLOOD, Jr., Wellesley, Mass. Filed Jan. 19, 1907. Serial No. 353,012.



1. A device of the class described comprising in combination an upright conduit, an annular collar attached to the end thereof, a hood overlying said collar, and means for simultaneously securing the hood to said collar and the latter to a support.

2. A device of the class described comprising in combination an upright conduit, an annular collar in interfitting engagement with the end of said conduit, said collar having an ear provided with an orifice for securing said collar to a support, and a detachable hood overlying said collar and having its lower rim spaced away from the opposite portions of the collar whereby an uninterrupted space between said parts is provided, said hood having a lug provided with an orifice adapted to be brought into alinement with the orifice in said ear.

3. A device of the class described comprising in combination an annular collar adapted to be engaged in interfitting relation with a cable conduit, said collar having a rounded upper edge and being provided at its rear with ears whereby it may be secured to a support, and a hood surmounting said collar and secured to the latter at its rear by means of laterally extending lugs, the front rim of said hood being spaced away and entirely free from said collar or extensions thereof and being below the upper rounded edge thereof.

4. A device of the class described comprising in combination a collar adapted to be secured to a cable conduit and at its rear providing one or more orificed ears adapted to receive screws for securing the same to a support, and a surmounting hood having one or more extensions adapted to be engaged by said screws, whereby upon tightening said screws the hood and collar will be affixed together and secured to the support.

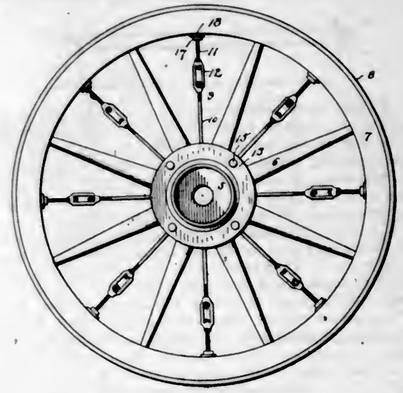
5. A device of the class described comprising in combination a collar adapted to be secured to the extreme end of a cable conduit and having one or more laterally extending ears provided with orifices adapted to receive screws passing through said orifices and into an adjacent support, and a hood surmounting said collar and having one or more bifurcated lugs adapted to straddle the shanks of said screws and be thereby positioned against displacement upon tightening said screws.

867,237. WHEEL-BRACE. ZEDDIE M. BONNER, Valdosta, Ga. Filed Dec. 29, 1906. Serial No. 349,997.

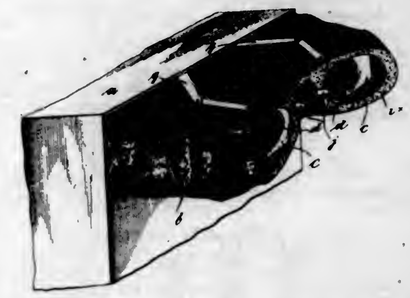
1. An attachment for vehicle wheels comprising disks mounted on the wheel hub on opposite sides of the spokes and in contact therewith, sectional brace-rods alternately secured at one end to the disks, and at the other end to the rim, and turn-buckles connecting the sections.

2. An attachment for vehicle-wheels comprising disks mounted on the wheel hub on opposite sides of the spokes and in contact therewith, sectional brace-rods alternately secured at one end to the disks, and extending at the other end through the rim and secured to the tire, clamping nuts on the sections engageable with the inner side of the rim, and turn-buckles connecting the sections.

3. An attachment for vehicle-wheels comprising disks mounted on the wheel-hub on opposite sides of the spokes and in contact therewith, sectional brace-rods secured at one end to the disks and at the other end to the rim, means for clamping the rim and tire together, and turnbuckles connecting the sections.



867,238. PHOTOGRAPHIC CAMERA. LOUIS BORSUM, Plainfield, N. J. Filed Dec. 8, 1905. Serial No. 290,916.



1. An eye piece device for a photographic camera provided with means for attachment of the eye glasses of the operator.

2. An eye piece device for a photographic camera comprising a plate c, having observation apertures and a recess for the bridge of the nose of the operator, and a curved yielding plate attached to the plate c and having corresponding apertures and recess.

3. An eye piece device for a photographic camera comprising the combination of an eye piece frame having observation apertures and a recess for the bridge of the nose of the operator, two like superposed curved spring plates attached thereto having a corresponding recess and apertures, a hood having its outer edge attached to the inner one of such spring plates and a covering of soft light-excluding material applied to the outer one.

4. An eye piece device for a photographic camera, comprising a yielding spring plate centrally supported, having in each end an observation aperture, and being outwardly curved at each end.

5. An eye piece device for a photographic camera, comprising an outer spring-yielding part whose ends are provided with observation apertures and are outwardly curved to approximate the contour of the face of the operator.

6. An eye piece device for a photographic camera, comprising two like spring-supported parts, one for each eye of the operator, each capable of yielding inwardly.

turning the narrow web so it will be perfected by said couple, substantially as and for the purpose described.

8. In a "triplex" flat bed printing press, the combination of three stationary beds and co-acting reciprocating impression cylinders arranged parallel one above the other; with means for feeding a full width web between the two lower beds and cylinders to be perfected thereby, and means for feeding a narrow width web twice between the upper bed and cylinder, and means for deflecting and turning the narrow web so it will be perfected in its second passage between said bed and cylinder, substantially as described.

9. In combination, three printing couples, each consisting of a bed and co-acting impression cylinder, means for directing a full width web between two of the lower printing couples to be perfected thereby; and means for passing a narrow width web twice in the same direction between the third printing couple, substantially as described.

10. In combination, three printing couples arranged parallel one above the other each consisting of a bed and co-acting impression cylinder, means for directing a full width web between two printing couples to be perfected thereby; means for directing a narrow width web twice in the same direction between the third printing couple, and means for deflecting and turning said narrow web, substantially as described.

11. In combination, three printing couples arranged parallel one above the other, each consisting of a bed and co-acting impression cylinder; means for directing a full width web between two printing couples to be perfected thereby, means for directing a narrow width web twice in the same direction through the third printing couple, means for feeding such web twice to said couple, and delivering it twice therefrom, and means for deflecting and turning said narrow web between the point where it is first delivered from and the second time fed to said couple, substantially as and for the purpose described.

867,233. SIDE-SPRING VEHICLE. CHARLES A. BEHLEN, Durham, N. C., assignor to Durham Buggy Company, Durham, N. C., a Corporation of North Carolina. Filed July 20, 1906. Serial No. 326,969.



1. In a reachless side spring vehicle-gear, a pair of side springs, a center spring in the same plane as the side springs, said side and center springs being directly secured to the axle and bolster, respectively, at their ends, a plate secured to the underside of each of the side springs at the central portion thereof and having separated eyes and a pair of horizontal, transverse, brace-bars connecting the side springs and having their end portions engaging said eyes, the said bar having stops for preventing lateral or endwise movement; substantially as described.

2. In a reachless side spring vehicle gear, a pair of side springs directly connected at one end to the rear axle and at the opposite end to a portion of the bolster, a plate secured to the under side of each of the springs at its central portion, and a pair of horizontal brace bars having shouldered ends engaging eyes carried by the said plates; substantially as described.

3. In a reachless side spring vehicle, a pair of side-springs connecting the rear axle and the front bolster, an elongated plate secured to the central portion of each of the springs at the under side thereof, said plate having eyes at its end portions, and a pair of cross-braces having reduced end portions journaled in said eyes and shoulders which bear against the inner faces of the eyes; substantially as described.

4. In a side spring vehicle gear, a pair of side springs extending from axle to axle, a pair of cross-bars extending below the central portions of the springs and journaled in bearings on the under sides thereof, and a brace-rod connected to each side spring adjacent to the cross bars and extending obliquely rearward and outward to the rear axle; substantially as described.

5. In a side spring vehicle gear, a pair of side springs extending from axle to axle, a pair of cross-bars extending below the central portions of the springs and journaled in bearings on the under sides thereof, and brace rods secured at one end to the respective side-springs near the central portion of the springs and at the outer side thereof and extending thence obliquely rearward and outward to the rear axle; substantially as described.

867,234. SAFETY-VALVE FOR AIR-BRAKES. THOMAS BEHAN, Aliquippa, Pa. Filed July 12, 1907. Serial No. 383,432.



1. In a coupling for air brake system, the combination with two train pipe sections, of angle pipe sections connected to the adjacent ends of the train pipe sections, a valve in the passage-way of each angle pipe section, a longitudinal auxiliary passage-way in each angle pipe section, pistons in said auxiliary passage-ways having their rods extending outside of the angle pipe sections, and provided with heads, levers carried by said valves, and engaged by the heads on said piston rods, sections of hose arranged one within the other, connecting said coupling members with the angle pipe sections, the space between said hose sections communicating with the auxiliary passage-way in the angle pipes, and an arm 29 depending from each of said levers.

2. In a coupling for air brake systems, the combination with two train pipe sections, of angle pipe sections connected to the adjacent ends of the train pipe sections, a valve in each angle pipe section an auxiliary passage-way in each angle pipe section, a piston in each of said auxiliary passage-ways having one end extending outside the passage way, and provided with a head a lever on the valve engaged by said head, an arm pivotally secured to said lever and serving to limit its movement, coupling members, coupling pipes connecting said coupling members with the angle pipe sections, and air-tight pipes surrounding the coupling pipes.

3. A train pipe safety device comprising an angle pipe section, a plug valve therein, an auxiliary passage-way in the pipe section, a piston therein, having one end extending outside of the passage way, U-shaped head on said end, a lever on said valve, engaged by said head a stop carried by the angle pipe section engaging in a groove in the piston and limiting the travel of said piston, an arm pivotally secured to said lever, and a split washer on the pivotal support of said arm.

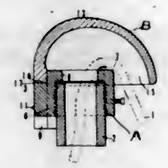
867,235. LAUNDRY STARCH-POWDER. JAMES BENOID, London, England. Filed June 17, 1907. Serial No. 379,473.

1. An improved laundry starch powder composed of 2 volumes of tungstate of soda, 2 volumes of epsom salts, 5 volumes of carbonate of magnesia, 10 volumes of borax, 10 volumes of hyposulfite of soda, 5 volumes of bicarbonate of soda, and from 1 to 7 volumes of French chalk, mixed together.

2. An improved laundry starch powder having as a part thereof tungstate of soda, epsom salts, carbonate of magnesia, borax, hyposulfite of soda, and bicarbonate of soda.

3. An improved laundry starch powder consisting of tungstate of soda, epsom salts, carbonate of magnesia, borax, hyposulfite of soda, bicarbonate of soda, and French chalk.

867,236. PIPE-CAP. WILLIAM H. BLOOD, JR., Wellesley, Mass. Filed Jan. 19, 1907. Serial No. 353,012.



1. A device of the class described comprising in combination an upright conduit, an annular collar attached to the end thereof, a hood overlying said collar, and means for simultaneously securing the hood to said collar and the latter to a support.

2. A device of the class described comprising in combination an upright conduit, an annular collar in interfitting engagement with the end of said conduit, said collar having an ear provided with an orifice for securing said collar to a support, and a detachable hood overlying said collar and having its lower rim spaced away from the opposite portions of the collar whereby an uninterrupted space between said parts is provided, said hood having a lug provided with an orifice adapted to be brought into alinement with the orifice in said ear.

3. A device of the class described comprising in combination an annular collar adapted to be engaged in interfitting relation with a cable conduit, said collar having a rounded upper edge and being provided at its rear with ears whereby it may be secured to a support, and a hood surmounting said collar and secured to the latter at its rear by means of laterally extending lugs, the front rim of said hood being spaced away and entirely free from said collar or extensions thereof and being below the upper rounded edge thereof.

4. A device of the class described comprising in combination a collar adapted to be secured to a cable conduit and at its rear providing one or more orificed ears adapted to receive screws for securing the same to a support, and a surmounting hood having one or more extensions adapted to be engaged by said screws, whereby upon tightening said screws the hood and collar will be affixed together and secured to the support.

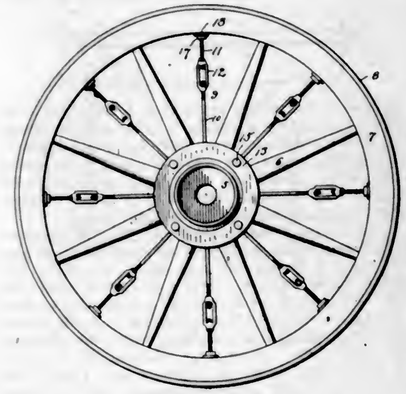
5. A device of the class described comprising in combination a collar adapted to be secured to the extreme end of a cable conduit and having one or more laterally extending ears provided with orifices adapted to receive screws passing through said orifices and into an adjacent support, and a hood surmounting said collar and having one or more bifurcated lugs adapted to straddle the shanks of said screws and be thereby positioned against displacement upon tightening said screws.

867,237. WHEEL-BRACE. ZEDDIE M. BONNER, Valdosta, Ga. Filed Dec. 29, 1906. Serial No. 349,997.

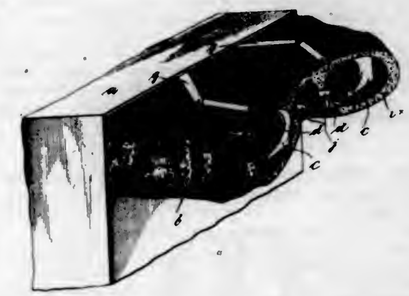
1. An attachment for vehicle wheels comprising disks mounted on the wheel hub on opposite sides of the spokes and in contact therewith, sectional brace-rods alternately secured at one end to the disks, and at the other end to the rim, and turn-buckles connecting the sections.

2. An attachment for vehicle-wheels comprising disks mounted on the wheel hub on opposite sides of the spokes and in contact therewith, sectional brace-rods alternately secured at one end to the disks, and extending at the other end through the rim and secured to the tire, clamping nuts on the sections engageable with the inner side of the rim, and turn-buckles connecting the sections.

3. An attachment for vehicle-wheels comprising disks mounted on the wheel-hub on opposite sides of the spokes and in contact therewith, sectional brace-rods secured at one end to the disks and at the other end to the rim, means for clamping the rim and tire together, and turn-buckles connecting the sections.



867,238. PHOTOGRAPHIC CAMERA. LOUIS BORSUM, Plainfield, N. J. Filed Dec. 8, 1905. Serial No. 290,916.



1. An eye piece device for a photographic camera provided with means for attachment of the eye glasses of the operator.

2. An eye piece device for a photographic camera comprising a plate c, having observation apertures and a recess for the bridge of the nose of the operator, and a curved yielding plate attached to the plate c and having corresponding apertures and recess.

3. An eye piece device for a photographic camera comprising the combination of an eye piece frame having observation apertures and a recess for the bridge of the nose of the operator, two like superposed curved spring plates attached thereto having a corresponding recess and apertures, a hood having its outer edge attached to the inner one of such spring plates and a covering of soft light-excluding material applied to the outer one.

4. An eye piece device for a photographic camera, comprising a yielding spring plate centrally supported, having in each end an observation aperture, and being outwardly curved at each end.

5. An eye piece device for a photographic camera, comprising an outer spring-yielding part whose ends are provided with observation apertures and are outwardly curved to approximate the contour of the face of the operator.

6. An eye piece device for a photographic camera, comprising two like spring-supported parts, one for each eye of the operator, each capable of yielding inwardly.

867,239. HERMETICALLY-SEALED RECEPTACLE. JOHN C. BOWERS, Boston, Mass. Filed Dec. 13, 1906. Serial No. 347,655.



1. A sheet metal vessel comprising a body and cover formed with outwardly projecting lapping seaming flanges, one of which is shouldered, and which are firmly connected and hermetically sealed and locked by a soft metal sealing strip extending around the seaming flanges, embracing them, projecting inwardly beyond the shoulder thereof, and shouldered to fit snugly the shoulder therein.

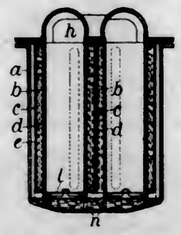
2. A sheet metal vessel comprising a body and a cover formed with outwardly projecting lapping seaming flanges, one of which is shouldered, and which are firmly connected and hermetically sealed by a soft metal readily detachable sealing strip extending around the flanges, bent into U-shape to embrace them, extending inwardly beyond the shoulder thereof and shouldered to fit the shoulder therein.

3. A sheet metal vessel comprising a body and a cover formed with outwardly projecting lapping seaming flanges, one of which is shouldered, and a detachable sealing strip embracing the flanges, extending inwardly beyond the shoulder thereof and shouldered to fit the shoulder therein.

4. A sheet metal vessel comprising a body and a cover having outwardly projecting lapping seaming flanges and united by a shouldered overlapping sealing strip having a handle by means of which it may be ripped from the vessel.

5. A seam for sheet metal vessels comprising outwardly projecting lapping shouldered flanges and a sealing strip of soft metal extending around the flanges, embracing them, projecting inwardly beyond the shoulder thereof and shouldered to fit the shoulder therein.

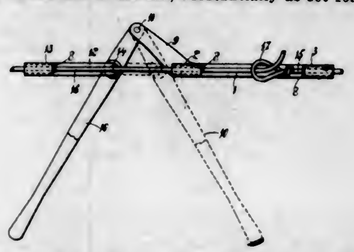
867,240. SEPARATOR. KARL BRUNNER and OTTO BÜHRING, Mannheim, Germany. Filed July 10, 1905. Serial No. 269,026.



An apparatus for separating oil from steam consisting in the combination of a chamber, through which the steam passes, a pipe or pipes within said chamber around which the steam passes, a perforated partition or partitions arranged within said chamber and encircling said pipe or pipes, and flanges integrally provided on the internal periphery of said chamber which serves to divide the space between the perforated partition and the casing of the chamber.

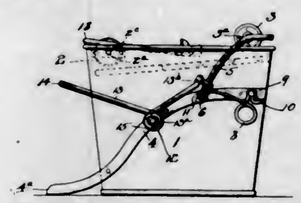
867,241. APPARATUS FOR STRAINING WIRES AND THE LIKE. CHRISTOPHER BURTON, Wellington, New Zealand. Filed Sept. 18, 1905. Serial No. 278,898.

1. Apparatus for the purpose indicated, comprising in combination, a bar, a hood integral with each end of the bar, there being a slot through one side of each hood, the top of each hood sloping downwardly, to its end of the bar, a disk within each hood, an arm projecting forwardly and laterally from one hood, an operating lever fulcrumed to the arm by a pin, a second bar pivoted to the lever and a hood integral with the end of the bar and having a slot through one of its sides and having a top sloping downwardly to the end of the bar, substantially as set forth.



2. Apparatus for the purpose indicated, comprising in combination, a bar, a hood integral with and upon each end of the bar, there being a slot through one side of each hood, the top of each hood sloping downwardly to its end of the bar a disk within the hood, and having a circumferential groove, a bar across the larger end of the hood, an arm projecting forwardly and laterally from one hood, an operating lever fulcrumed to the arm by a pin, a second bar pivoted to the lever, and a hood integral with the bar and having a slot through one of its sides and having a top sloping downwardly to the end of the bar, substantially as set forth.

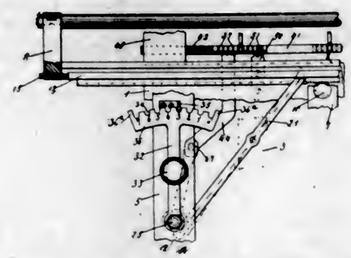
867,242. MOP-WRINGER. ARTHUR M. BURNHAM, Gardiner, Me., assignor, by direct and mesne assignments, to The Burnham Specialty Company, Waterbury, Conn. Filed Nov. 27, 1905. Serial No. 289,281.



In a mop-wringer, the combination of a receptacle, a roller journaled on said receptacle, curved bars secured to the outside of the receptacle and having projecting ends forming feet to brace the receptacle, guide strips secured on the inside of the receptacle and having the portions under the roller aforesaid closer together than the remainder thereof, a substantially U-shaped frame pivotally secured at its free ends to the curved bars aforesaid, the middle portion of said frame bent back on itself and provided with a straight portion, a roller journaled on said straight portion, a spring secured to one of said curved bars and removably secured to one of the side bars of said pivoted frame, a substantially U-shaped treadle, the sides of said treadle bent to form loops, sleeves journaled on said curved bars and inserted in said loops, and arms secured to the free ends of said U-shaped treadle and provided with holes to receive the side bars of the U-shaped frame, substantially as shown and described.

867,243. TABULATING DEVICE FOR TYPE-WRITERS. GEORGE W. CAMPBELL, New York, N. Y., assignor, by mesne assignments, to Victor Typewriter Company. Filed Oct. 31, 1906. Serial No. 341,469.

1. In a device of the character described, the combination of a carriage bearing a tabulating stop, a tabulating bar having a column stop and mounted on the machine frame so as to have longitudinal motion parallel with the carriage movement and angular movement transverse thereto, an arm rigid with said bar, a journaled oscillatory push rod or shaft mounted on the machine-frame and having a crank arm connected to said arm on the tabulating bar, and an operating finger lever for said rod or shaft.



2. In a device of the character described, the combination of a carriage bearing a tabulating stop, a tabulating bar having a column stop and mounted on the machine frame so as to have longitudinal motion parallel with the carriage movement and angular movement transverse thereto, an arm rigid with said bar, carriage escapement mechanism including a feed rack, a lever directly engaging said rack for disengaging it from the remaining escapement mechanism, an oscillatory push rod or shaft having a crank arm pivotally connected to said tabulating bar arm, and having a cam for operating said lever and a finger lever for its own operation and a finger secured to the machine frame for positioning and guiding the finger lever in several positions angularly disposed to each other.

3. In a device of the character described, the combination of a carriage bearing a tabulating stop, a tabulating bar having a column stop and mounted on the machine frame so as to have longitudinal motion parallel with the carriage movement and angular movement transverse thereto, a spring arm rigid with said bar, carriage escapement mechanism including a feed rack, a lever directly engaging said rack for disengaging it from the remaining escapement mechanism, an oscillatory push rod or shaft having a crank arm pivotally connected to said tabulating bar arm, and having a cam for operating said lever and a finger lever for its own operation, and a finger secured to the machine frame for positioning and guiding the finger lever in several positions angularly disposed to each other.

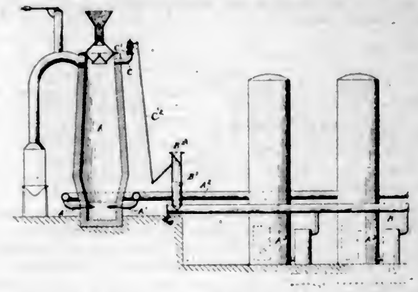
4. In a device of the character described, the combination of a paper carriage, a rack-bar pivotally mounted thereon, a pinion engaging said rack-bar, a tabulating stop on the carriage, a tabulating bar having column stops and mounted on the machine frame so as to have longitudinal motion parallel with the carriage movement and angular movement transverse thereto, a spring arm rigid with said tabulating bar, a lifting lever for said rack-bar, an oscillatory push-rod or shaft having a finger lever for its own operation and a crank arm pivotally connected to said tabulating bar arm and having a cam operatively connected controlling said lifting lever and a stop on said rack-bar limiting its upward movement, whereby said lifting lever and rack-bar act as a brake to control the carriage movement.

867,244. SAFETY DEVICE FOR BLAST-FURNACES. WARREN R. CLIFTON, Sharon, Pa. Filed May 1, 1907. Serial No. 371,324.

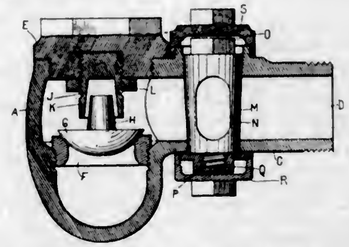
1. The combination with a blast furnace, of a blast controlling device, and means for automatically operating said device upon the occurrence of an explosion in the furnace, substantially as described.

2. The combination with a blast furnace, of a blast controlling device, an element connected with the furnace and movable under the excessive pressure produced by an explosion within the furnace, and a connection between said movable element and the controlling device, substantially as described.

3. The combination with a blast furnace, blast heating stoves, and cold and hot blast pipes, of a passage leading from the cold blast pipe to the atmosphere, a valve in said pipe, and means actuated by excessive pressure in the furnace for opening said valve, substantially as described.



867,245. CHECK-VALVE. BENJAMAN H. CONFER and JOHN W. WOODLING, Albion, Pa. Filed Mar. 6, 1905. Serial No. 248,591.



1. The combination with a valve casing, of a tapering plug valve, a nut engaging the smaller end of the said valve, the said nut having external threads, and a screw cap engaging the external threads of the nut and entirely covering the nut and the end of said valve and arranged to bear against the said casing whereby the said valve is held against rotary displacement, substantially as described.

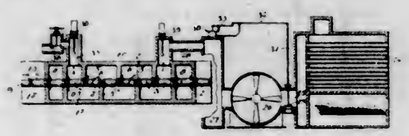
2. The combination with a check-valve having a casing provided with a lateral extension, of a plug cut-off valve situated in the lateral extension of the casing, a removable cap adapted to cover the head of said plug, a nut Q engaging the base of said plug, and a screw cap engaging the said nut and arranged to be screwed against the casing to protect and lock the said plug, substantially as described.

3. The combination with a check-valve having a casing provided with a lateral extension, of a plug cut-off valve situated in the lateral extension of the casing, the base nut Q engaging the end of the plug, and a screw cap engaging the base nut and arranged to be screwed against the casing to protect and lock the plug, substantially as described.

867,246. DEHYDRATING APPARATUS. ERNEST W. COOKE, New York, N. Y., assignor, by mesne assignments, to The Cokel Company, a Corporation of New Jersey. Filed Jan. 29, 1904. Serial No. 191,558.

1. In a dehydrating apparatus, a chamber provided with guideways for trays to carry the material to be treated, transverse partitions extending alternately downwardly from the top and upwardly from the bottom of said chamber toward said guideways, flexible packing strips on the free ends of said partitions arranged to contact with the

ends of said trays and means to force air through said chamber, whereby when the ends of pairs of adjacent trays are in line with said partitions, the air is caused to pass in a sinuous path upwardly through the material on one tray and downwardly through the material on the next adjacent tray.



2. In a dehydrating apparatus, a chamber provided at its sides with longitudinal guideways, carrying-trays movable on said guideways, transverse partitions extending alternately downwardly from the top of said chamber and upwardly from the bottom of said chamber to points adjacent to said guideways, means to force air through said chamber and automatic means to intermittently move said carrying-trays through said casing.

3. In a dehydrating apparatus, a chamber provided at its sides with longitudinal guideways, carrying trays movable on said guideways, transverse partitions extending alternately downwardly from the top and upwardly from the bottom of said chamber to points adjacent to said guideways, means to force air into one end of said chamber, means to feed said carrying-trays into the other end of said chamber and means to control the egress of the air at said last mentioned end.

4. In a dehydrating apparatus, a chamber provided at its sides with longitudinal guideways adapted to support carrying-trays for the material to be treated, transverse partitions extending alternately downwardly from the top and upwardly from the bottom of said chamber to points adjacent to said guideways, a sealing compartment at each end of said chamber provided with apertures for the passage of the trays, flexible strips of packing material on the free ends of said partitions and on the edges of said apertures and means to force air through said chamber.

5. In a dehydrating apparatus, a chamber provided with guideways adapted to support and guide trays for carrying the material to be treated, transverse partitions extending inwardly from two opposite walls of said chamber to points adjacent to said guideways, each partition extending from one of said walls being located substantially midway between a pair of partitions extending from the other wall, flexible strips of packing material on the free ends of said partitions, means to force air into one end of said chamber and means to control the egress of the air from the other end of said chamber.

6. In a dehydrating apparatus, a chamber provided with guideways adapted to support and guide trays for carrying the material to be treated, transverse partitions extending inwardly from two opposite walls of said chamber to points adjacent to said guideways, each partition extending from one of said walls being located substantially midway between a pair of partitions extending from the other of said walls, means to progressively move the carrying-trays from one end of said chamber to the other, means to force air into said chamber at the last mentioned end and means to control the egress of the air from said chamber.

7. In a dehydrating apparatus a chamber provided internally with guideways adapted to support and guide trays for carrying the material to be treated, transverse partitions extending inwardly from the walls of said chamber to points adjacent to said guideways, sealing compartments at the ends of said chamber, strips of flexible material on the free ends of said partitions adapted to contact with the trays as they pass along on said guideways, means at one end of said chamber to intermittently feed the trays through the sealing compartments and into the chamber and means to force air into the other end of said chamber.

8. In a dehydrating apparatus, a chamber provided with longitudinal guideways, carrying-trays and means to feed the same along said guideways in a continuous series, means to force air into one end of said chamber, a valve to control the egress of the air from the other end of said chamber, and means within said chamber to cause the air in its passage therethrough to pass alternately from one side of said series of carrying-trays to the other.

9. In a dehydrating apparatus, a four-sided chamber provided with longitudinal guideways located at substantially the center of two opposite sides, transverse partitions extending inwardly from the two other sides of said chamber to points adjacent to said guideways, the partitions on one of said sides being staggered with relation to the partitions on the other of said sides, means to feed carrying trays along said guideways, sealing compartments at the opposite ends of the chamber provided with apertures for the ingress and egress of the carrying-trays, means to force air into said chamber and a valve to control the egress of the air from said chamber.

10. In a dehydrating apparatus, a chamber provided with longitudinal guideways carrying trays slidably mounted on said guideways, means to feed said trays through said chamber in a continuous series in one direction, means to force air through said chamber in the other direction and means within said chamber adapted to coöperate with the said trays to cause the air in its passage therethrough to pass alternately from one side of said carrying-trays to the other.

11. In a dehydrating apparatus, the combination with a chamber, of means to pass heated air therethrough, comprising a furnace, a blower, a pipe connecting said furnace to said blower and a mixing box between said blower and said chamber, a valve to admit cold air into the pipe between the furnace and the blower, and a thermostat connected with said mixing box leading from the blower to the chamber and connected to said valve whereby the temperature of the air forced into said chamber will be automatically regulated.

12. In a dehydrating apparatus, the combination with a four-sided chamber provided at the centers of two opposite sides with longitudinal guideways, transverse partitions extending inwardly from the other two opposite sides of said chamber to points adjacent to said guideways, the said partitions on one side being staggered with reference to the partitions on the opposite side, carrying-trays for the material to be treated adapted to be movably mounted on said guideways, the distance between adjacent partitions on the same side of said guideways being a multiple of the length of said trays, and means to feed said trays on said guideways at predetermined intervals of time a distance which is also an integral multiple of the length of said trays.

13. In a dehydrating apparatus, the combination with a chamber, of means to force heated air thereinto, comprising a furnace, a blower, a pipe connecting said furnace to said blower, and a mixing compartment between said blower and said chamber, a valve to admit cold air into the pipe between the furnace and the blower, a thermostat located in the mixing compartment and connected to said valve, whereby the temperature of the air forced into said chamber will be autonatically regulated, and a valve for controlling the escape of the air from said chamber, whereby the pressure of the air within said chamber may be controlled.

14. In a dehydrating apparatus, a four-sided chamber provided at the centers of two of its opposite sides with guideways, carrying-trays adapted to slide on said guideways, transverse partitions extending inwardly from the other two opposite sides of said chamber to points adjacent to said guideways, the partitions on one side being staggered with relation to the partitions on the other side, flexible strips of packing material on the free ends of said partitions and adapted to contact with the carrying-trays, automatic means at one end of said chamber to feed trays into said chamber at regular predetermined intervals of time a distance such that the adjacent sides of each pair of trays will be brought opposite one of said partitions, means to force air through said chamber and means to control the temperature and pressure of the air.

867,247. VAGINAL SYRINGE. WESLEY G. CRONKRIGHT, Pittsburg, Pa. Filed Dec. 19, 1906. Serial No. 348,565.



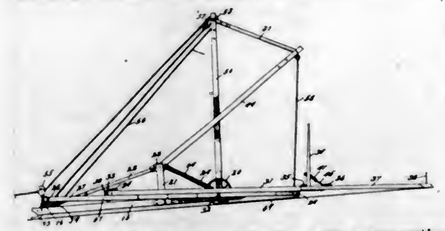
1. A syringe comprising a hose, a perforated tube therein open at one end and closed at its opposite end, a rigid tube attached to said hose, and a guard on said rigid tube.

2. A syringe comprising a hose, a perforated tube therein provided with an annular rib to retain it within the hose, a rigid tube detachably connected to said hose.

3. A syringe comprising a hose, means for attaching said hose to a faucet, a perforated tube within said hose open at one end and closed at the opposite end, a rigid tube attached to the hose, and a funnel-shaped guard on said rigid tube.

4. A syringe comprising a flexible hose, a medicament holder removably mounted within said flexible hose, a rigid tube connected to one end of said hose.

867,248. HAY-STACKER. JOSEPH DAIN, Ottumwa, Iowa. Filed Apr. 1, 1907. Serial No. 365,786.



1. In a hay stacker, the combination with a supporting frame, of a carrier frame pivotally connected with said supporting frame,—said carrier frame comprising side bars, a cross bar connecting said side bars at their forward ends and having its ends projecting beyond said side bars, and an extensible portion resting upon said bars and said projecting ends,—and means for elevating said carrier frame.

2. In a hay stacker, the combination with a pivoted carrier frame comprising side bars and a front cross bar, of means connecting said side bars and cross bars together, rods connected with said means, and devices for raising said carrier frame by exerting a pull on said rods.

3. In a hay stacker, the combination with a pivoted carrier frame comprising side bars and a front cross bar, of plates at each front corner of said frame, said plates being connected to the said side bars and to the said cross bar, rods connected with said plates, and devices for raising said carrier frame by exerting a pull on said rods.

4. In a hay stacker, the combination with a pivoted carrier frame comprising side bars and a front cross bar, of plates at each front corner of said frame, each of said plates being provided with an opening, rods having eyes on their lower ends adapted to pass through said openings, devices adapted to pass through said eyes to connect said rods to said plates, and devices for raising said carrier frame by exerting a pull on said rods.

5. In a hay stacker, the combination with a pivoted carrier frame comprising side bars and a front bar, of plates at each front corner of said frame, each of said plates being provided with an elongated opening, rods having eyes on their lower ends adapted to pass through such openings, pins having loops at their centers adapted to be passed through said rods and have their bowed central portions project through said openings in the plates when the rods are raised, and means for raising said carrier frame by exerting a pull on said rods.

6. In a hay stacker, the combination with a supporting frame provided near its front end with a fixed downwardly and forwardly inclined bar, of a spring mounted on said bar, a pivoted carrier frame, means for elevating said carrier frame, and a flexible connection connected with said elevating means and said spring.

7. In a hay stacker, the combination with a supporting frame provided near its front end with a fixed downwardly and forwardly inclined bar, of a spring mounted on said bar, a pivoted carrier frame, means for elevating said carrier frame, a flexible connection connected with said elevating means and said spring, and means for holding said spring on said rod out of operative position.

8. In a hay stacker, the combination with a supporting frame provided near its front end with a fixed downwardly and forwardly inclined bar having a transverse opening therein, of a spring mounted on said bar, a pivoted carrier frame, means for elevating said carrier frame, a flexible connection connected with said elevating means and said spring, and a pin adapted to be inserted in the opening in the inclined bar to hold said spring raised out of operative position.

9. In a hay stacker, the combination with a supporting frame provided near its front end with a fixed downwardly and forwardly inclined bar having a transverse opening therein, of a spring mounted on said bar, a pivoted carrier frame, means for elevating said carrier frame, a flexible connection secured at one end to said elevating means and adjustably connected at its other end with said spring, and a pin carried by said flexible connection and adapted to be inserted in said opening in the inclined bar to hold said spring raised out of operative position.

10. In a hay stacker, the combination with a supporting frame provided near its front end with a fixed downwardly and forwardly inclined bar, of a spring mounted on said bar, a slide on said bar against which the lower end of said spring bears, a pivoted carrier frame, means for elevating said carrier frame, and a flexible connection secured at one end to said elevating means and adjustably connected at its other end with said slide.

11. In a hay stacker, the combination with a supporting frame provided near its front end with a fixed downwardly and forwardly inclined bar, of a spring mounted on said bar, a slide on said bar against which the lower end of said spring bears, a hook on said slide, a pivoted carrier frame, means for elevating said carrier frame, and a flexible connection comprising a series of links at its lower end, said flexible connection being secured at its upper end to said elevating means and having its lower end removably attached to said hook by one of said links.

12. In a hay stacker, the combination with a supporting frame provided near its front end with a fixed downwardly and forwardly inclined bar, of a spring mounted on said bar, a slide on said bar against which the lower end of said spring bears, a hook on said slide, a laterally-projecting guide ring also carried by said slide, a pivoted carrier frame, means for elevating said carrier frame, and a flexible connection comprising a series of links at its lower end, said flexible connection being secured at its upper end to said elevating means and having its lower end passing through said guide ring and removably attached to said hook by one of said links.

13. In a hay stacker, the combination with a supporting frame comprising a side bar, a post rising therefrom, and diagonal brace bars extending downwardly from said post toward the front and rear of the machine respectively, of a spring mounted on the forwardly-extending one of said brace bars, a pivoted carrier frame, means for elevating said carrier frame, and a flexible connection connected with said elevating means and said spring.

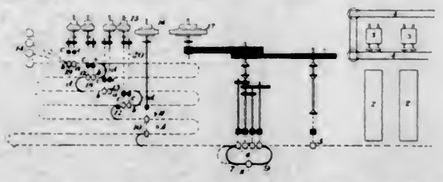
14. In a hay stacker, the combination with a pivoted carrier having a series of forwardly-projecting teeth at its front end and a series of pivoted teeth located near the rear ends of said first-named teeth, of a cylindrical bar extending transversely of and connected to said second-named series of teeth, and an adjusting device comprising a rod pivotally attached to said bar and a plate secured at its lower end to said carrier, said rod and plate being adjustably connected together.

15. In a hay stacker, the combination with a pivoted

carrier having a series of forwardly-projecting teeth at its front end and a series of pivoted teeth located near the rear ends of said first-named teeth, of a bar extending transversely of and connected to said second-named series of teeth,—and an adjusting device comprising a rod having an eye at its rear end encircling said bar so as to rotatably hold said rod to said bar and having a hook formed on its lower end, and a plate secured to said carrier frame and provided with a plurality of holes through any one of which the said hook is adapted to be passed, said plate having its upper or free end turned and provided with an opening through which latter opening said rod passes.

16. In a hay-stacker, the combination with a pivoted carrier having a series of forwardly-projecting teeth at its front end and a series of pivoted teeth located near the rear ends of said first-named teeth, of a cylindrical bar extending transversely of and connected to said second-named series of teeth, and an adjusting device pivotally mounted on said cylindrical bar and connected with said forwardly-projecting teeth.

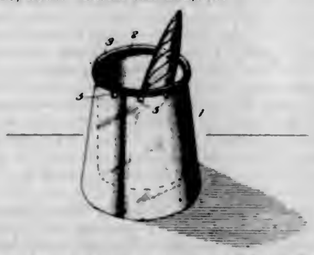
867,249. ROD OR HOOP MILL. FRED H. DANIELS, Worcester, Mass. Filed Apr. 4, 1906. Serial No. 309,825.



1. In a rod or hoop mill system, a mill having a series of sets of rolls in tandem, and a repeater arranged to repeat the billet back through said series of sets of rolls; substantially as described.

2. In a rod or hoop mill system, sets of double rolls each comprising a pair of rolls arranged in tandem, said sets being staggered or out of line with one another; substantially as described.

867,250. ASH-RECEPTACLE AND HOLDER FOR CIGARS. CLEVELAND G. DAVIS, Manistee, Mich. Filed May 16, 1907. Serial No. 373,998.



1. In a device of the character described, the combination of a receptacle, and a shell supported within the receptacle, the sides of the shell being spaced from the sides of the receptacle and the shell being formed with a perforate bottom.

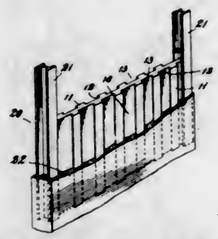
2. In a device of the character described, the combination of a receptacle, a shell arranged within the receptacle, and a rim extending around the shell and engaging the mouth of the receptacle for supporting the shell, the sides of the shell being spaced from the sides of the receptacle and the shell being formed with a perforate bottom.

3. In a device of the character described, the combination of a receptacle having upwardly converging sides, and a shell formed with straight sides and a perforate bottom, the said shell being supported within the receptacle and the perforate bottom of the shell being spaced from the bottom of the receptacle.

4. In a device of the character described, the combination of a receptacle, a shell supported within the receptacle and spaced from the sides thereof, and a perforate bottom for the shell, the said shell having an air inlet in the walls thereof for the purpose of producing a circulation of air.

5. In a device of the character described, the combination of a receptacle the sides of which converge upwardly, a shell arranged within the mouth of the receptacle and formed with straight sides, and a perforate bottom for the shell, the walls of the receptacle being formed with an air inlet to produce a circulation of air.

867,251. BUILDING CONSTRUCTION. LEWIS K. DAVIS, New York, N. Y. Filed Sept. 17, 1906. Serial No. 334,998.



A wall comprising a plurality of solid thin flat tiles of ceramic material, said tiles having parallel flaring ribs projecting from opposite surfaces of the tile, the ribs on one surface of the tile being between those on the opposite surface of the tile; metallic I-beams receiving the opposite vertical edges of the tiles between the flanges of said beams, and a body of concrete surrounding said tiles and beams and forming the outer surfaces of the wall and binding the tiles and beams together.

867,252. BUILDING CONSTRUCTION. LEWIS K. DAVIS, New York, N. Y. Filed Jan. 11, 1907. Serial No. 351,894.



1. A floor comprising a plurality of building tiles set in parallel rows with intervening spaces between the rows, each of said tiles comprising a flat body portion, strengthening ribs extending downward from said body portion, side portions extending vertically from the opposite sides of the body portion and flaring projecting ribs upon the outer surface of said side portions; and concrete between the sides of adjacent tiles, said concrete filling the intervening spaces and locking the tiles together.

2. A floor comprising a plurality of building tiles set in parallel rows with intervening spaces between the rows, each of said tiles comprising a flat body portion, strengthening ribs extending downward from said body portion thereby increasing the effective depth of the tile, side portions extending vertically from the opposite sides of the body portion and flaring projecting ribs upon the outer surface of said side portions; concrete between the sides of adjacent tiles, said concrete extending under a portion of each of said tiles between the projecting ribs thereof, and metallic reinforcement embedded in said concrete.

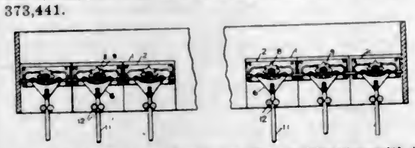
867,253. CIGAR-CLIPPER AND MATCH-BOX. THOMAS H. DAVIES, Spokane, Wash. Filed June 11, 1906. Serial No. 321,296.

1. In a device of the character stated, a receptacle having a hollow cover with an opening in one side, a fixed member arranged within said cover and having a recess registering with said opening, a push member slidably mounted in said cover and conforming to the shape thereof, a knife secured to said push member, and a spring adapted to hold said push member in its projected position.



2. In a device of the character stated, a receptacle having a hollow cover with an opening in one side and cut away for a portion of its length, a fixed member arranged within said cover and having a recess registering with said opening, a push member slidably mounted in said cover, extending into the cut away portion thereof and conforming to the shape of the cover, a knife secured to one side of the push member, and an expansion coil spring arranged between the fixed member and slidable member.

867,254. PROPULSION OF VEHICLES. CHARLES P. DELO, Shippenville, Pa. Filed May 13, 1907. Serial No. 373,441.



1. In the propulsion of vehicles, the combination with the body of a vehicle having a suitable source of energy, of plates carried by said vehicle and having grooves formed therein, pins extending into said grooves, plates carried by said pins, pin racks carried by said plates, pinions meshing with said racks, shafts supporting said pinions and driven by said source of energy, rollers journaled upon the body of said vehicle, and supporting legs connecting with the last mentioned plates and passing between said rollers.

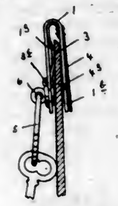
2. In the propulsion of vehicles, the combination with the body of the vehicle, grooved plates secured thereto, plates guided by said grooved plates, rollers journaled upon the body of said vehicle, supporting legs passing between said rollers and connecting with the last mentioned plates, and means carried by the body of said vehicle and contacting with the last mentioned plates for moving the same with relation to said grooved plates.

3. The combination with a suitable support, of grooved plates carried thereby, rack plates guided by said grooved plates, driven pinions meshing with the racks of said plates, supporting legs carried by said rack plates, and means carried by said support for guiding the movement of said supporting legs.

867,255. KEY-HOLDER. HERMAN F. DIETZ, Liverpool, N. Y., assignor of one-half to Edward J. Otis, Utica, N. Y. Filed Apr. 10, 1907. Serial No. 367,445.

1. In a device of the character described a U-shaped body or clip adapted to be applied to the edge of a garment and having a key hole opening in the outer member, a key ring having a base adapted to be received in said opening, a catch for securing the key ring base in said opening and means for detachably securing the body or clip to the garment, substantially as set forth.

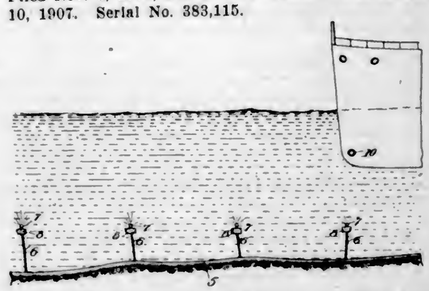
2. The combination in a device of the character described of a U-shaped body or clip adapted to be applied to the edge of a garment as described and provided with an upright key hole opening in the outer member thereof, a catch spring applied to the inner face of the outer member, a key ring and key ring base adapted to be received in the key hole opening and engaged and secured by said spring, substantially as set forth.



3. The combination in a device of the character described of a U-shaped clip adapted to be applied to the edge of a garment having in its outer member an upright key hole shaped opening, a securing spring applied to the inner face of the outer member and having an operating knob or projection extending through the face of the outer member, and a key ring having a key ring base adapted to be received in said key hole opening, substantially as set forth.

4. The combination in a device of the character described of a U-shaped body or clip adapted to be applied to the garment as described having an upright key hole opening in its outer member, a catch spring applied to the inner face of said outer member behind and opposite said key hole opening, said spring being depressed opposite the enlarged end of the opening and a key ring having a key ring base adapted to be received in said opening, substantially as set forth.

867,256. SUBAQUEOUS LIGHT SYSTEM. LEON DION, Wilkes-Barre, Pa., assignor to Dion Submarine Light Company, Wilkes-Barre, Pa., a Corporation of Arizona. Filed Nov. 6, 1906, Serial No. 342,222. Renewed July 10, 1907. Serial No. 383,115.



1. The method of aiding navigation consisting in illuminating the water from a practically fixed point below the surface of said water independently of the vessel the navigation of which is to be facilitated by said illumination.

2. The method of imparting safety to navigation, consisting in illuminating the course by a series of submerged practically fixed lights.

3. The method of imparting safety to navigation, consisting in illuminating the course by a series of submerged practically fixed lights, and observing the illuminated course from a point on the vessel below the water line.

4. As an aid to navigation, a series of permanently submerged substantially fixed lamps.

5. The combination with a series of submerged lights to indicate a marine course, of a vessel having means whereby the lights may be observed without interference by fog.

6. As a means for illuminating a marine course, a conductor of electricity laid along said course, and a series of

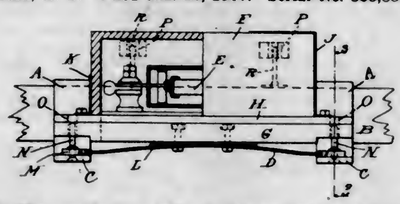
permanently submerged electric lights buoyantly supported above said conductor.

7. The combination with a marine channel or course, of a plurality of cables and permanently submerged lamps connected to said cables, whereby the courses for incoming and outgoing vessels may be indicated.

8. The combination with a marine channel or course, of a plurality of cables and permanently submerged lamps connected to said cables whereby the courses of incoming and outgoing vessels may be indicated, the lights of one course differing in color from the lights on the adjacent course.

9. As a means for illuminating a marine course or channel, a cable having a series of permanently submerged lights connected thereto, said lights having reflectors.

867,257. FUSE-BOX SUPPORT. JAMES S. DOYLE, New York, N. Y. Filed Jan. 24, 1907. Serial No. 353,839.



1. The combination with a fuse and its carrier, of a yielding support for said carrier.

2. The combination with a fuse and its carrier, of a support for said carrier, and means for yieldingly suspending said support for free vertical movement.

3. The combination with a fuse and its carrier, of a support for said carrier, means for yieldingly suspending said support for free vertical movement, and means for guiding the same during such movements.

4. The combination with a truck frame beam, of a fuse box and fuse, and means for yieldingly supporting said box upon said beam.

5. The combination with a truck frame beam, a spring supported thereby, and a fuse box and fuse supported upon said spring.

6. The combination with a truck frame beam, plates supported thereby a spring supported at its ends by said plates and a fuse box supported by said spring.

7. The combination with a truck frame beam, a spring strip, means for suspending the same at its ends from said beam, and a fuse box supported by said spring intermediate its ends.

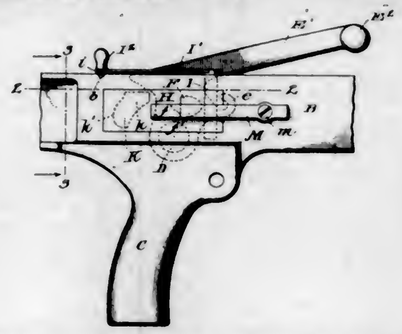
8. The combination with a truck frame beam, a spring strip, means for suspending the same at its ends from said beam, a fuse box supported upon said spring at a point intermediate its ends, and means for guiding said box in its yielding movements.

9. The combination with a truck frame beam, a spring strip, means for suspending the same at its ends from said beam, a fuse box supported by said spring at a point intermediate its ends, and means for reinforcing said spring at the point where it forms a support for said box.

10. The combination with a truck frame beam, brackets or plates carried thereby, a spring strip supported at its ends upon said brackets or plates, a bar supported upon said spring, and having guide holes through the ends thereof, guide pins working in said holes, a fuse box carried by said bar, and having a guide lug, and a guide pin carried by said beam and working in said guide lug.

867,258. SEMI-AUTOMATIC ATTACHMENT FOR BREECH-LOADING GUNS. WILLIAM H. DRIGGS, Washington, D. C., assignor to The Driggs-Seabury Ordnance Corporation, Sharon, Pa., a Corporation of Pennsylvania. Filed Nov. 13, 1905. Serial No. 287,197.

1. The combination with a gun mount, and a gun body adapted to recoil therein, of an operating shaft journaled in the gun body, an arm projecting from said shaft, a lug carried by said arm, a cam block pivoted vertically to a part of the mount, and provided with a cam projecting inwards towards the axis of the gun and lying between the vertical planes passing through its pivot and the axis of the gun, respectively, the said cam engaging said lug on counter recoil, a coil spring normally swinging the free end of said cam block inwards a cup-shaped head holding one end of the spring in place, and means for throwing said cam out of engagement, when desired, substantially as described.



2. The combination with a gun mount, and a gun body adapted to recoil therein, of an operating shaft journaled in the gun body, an arm projecting from said shaft, a lug carried by said arm, a cam block pivoted vertically to a part of the mount, and provided with a cam projecting inwards towards the axis of the gun and lying between the vertical planes passing through its pivot and the axis of the gun, respectively, the said cam having an involute surface engaging said lug on counter recoil, and a spring normally swinging the free end of said cam block inwards, substantially as described.

3. The combination with a gun mount, and a gun body adapted to recoil therein, of an operating shaft journaled in the gun body, an arm projecting from said shaft, a lug carried by said arm, a cam block pivoted vertically to a part of the mount, and provided with a cam projecting inwards towards the axis of the gun and lying between the vertical planes passing through its pivot and the axis of the gun, respectively, the said cam having an involute surface engaging said lug on counter recoil, and a coil spring normally swinging the free end of said cam block inwards a detachable cup-shaped head holding one end of the spring, with resilient means for moving said cam block and locking the same in the engaging or disengaged position, substantially as described.

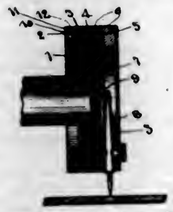
4. The combination with a gun mount, and a gun body adapted to recoil therein, of an operating shaft journaled in the gun body, an arm projecting from said shaft, a lug carried by said arm, a cam block pivoted vertically to a part of the mount, and provided with a cam projecting inwards towards the axis of the gun and lying between the vertical planes passing through its pivot and the axis of the gun, respectively, the said cam engaging said lug on counter recoil, and being provided with a shelf to engage said lug and prevent the premature opening of the breech block, a spring normally swinging the free end of said cam block inwards, and means for throwing said cam out of engagement, when desired, substantially as described.

5. The combination with a gun mount, and a gun body adapted to recoil therein, of an operating shaft journaled in the gun body, an arm projecting from said shaft, a lug carried by said arm, a cam block pivoted vertically to a part of the mount, and provided with a cam projecting inwards towards the axis of the gun and lying between the vertical planes passing through its pivot and the axis of the gun, respectively, the said cam having an involute surface engaging said lug on counter recoil, and

also being provided with a shelf to engage said lug and prevent the premature opening of the breech, and a spring normally swinging the free end of said cam block inwards, substantially as described.

6. The combination with a gun mount, and a gun body adapted to recoil therein, of an operating shaft journaled in the gun body, an arm projecting from said shaft, a lug carried by said arm, a cam block pivoted vertically to a part of the mount, and provided with a cam projecting inwards towards the axis of the gun and lying between the vertical planes passing through its pivot and the axis of the gun, respectively, the said cam having an involute surface engaging said lug on counter recoil, and also being provided with a shelf to engage said lug and prevent the premature opening of the breech, and a spring normally swinging the free end of said cam block inwards, with resilient means for moving said cam block and locking the same in the engaging or disengaged position, substantially as described.

867,259. SOUND-BOX FOR TALKING-MACHINES. JOHN H. ELFERING, Camden, N. J., assignor to Victor Talking Machine Company, a Corporation of New Jersey. Filed Nov. 12, 1904. Serial No. 232,392.



1. In a sound box for talking machines, the combination with the diaphragm thereof, of a casing for said diaphragm composed of two relatively longitudinally slidable parts, and means passing through both parts inserted from the inside of the inner member for retaining said parts adjustably in position.

2. In a sound box for talking machines, the combination with the diaphragm thereof, of a casing for said diaphragm comprising two telescoping parts, and means passing through both parts inserted from the inside of the inner member for holding said parts adjustably in their relative positions.

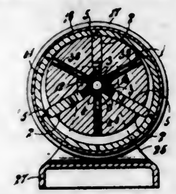
3. In a sound box for talking machines, the combination with the diaphragm thereof, of a casing for said diaphragm comprising two longitudinally slidable telescoping parts, and means passing through both parts inserted from the inside of the inner member for holding said parts adjustably in their relative positions.

4. In a sound box for talking machines, the combination with the diaphragm thereof, of a casing for said diaphragm comprising two longitudinally slidable telescoping parts, the outer one of said parts having screw-threaded openings therein, the inner one of said parts having openings therein slightly larger than said screw-threaded openings, and screws passing from the inner member through said openings for retaining the parts of said casing adjustably in their relative positions.

5. In a sound box for sound recording or reproducing machines, the combination with the diaphragm thereof, of a casing comprising a recessed inner member and an outer telescoping member, the said inner member having substantially its entire outer surface concealed within said outer member and means operated from within the recess of said inner member, passing through both members for adjustably securing said parts together.

867,260. ROTARY MOTOR. PETER ELLIS, Kilbirnie, Wellington, New Zealand. Filed May 7, 1906. Serial No. 315,662.

1. A motor comprising in combination, a base plate, pillars integral with the base plate, bearings having squared bosses fitting recesses formed in the pillars, caps upon the pillars retaining the bearings in the recesses a casing mounted upon the bearings, flanges upon the bearings fitting recesses in the casings, friction rollers between the casing and the bearings, screwed caps fitting the screwed ends of the bearings, coil springs in compression between the said caps and the pillars, packing within the caps, a hollow axle passing through the bearings, a drum revolubly mounted on the axle there being a series of radial cylinders and radial ports in the drum, pistons fitting the cylinders, a partition in the axle separating an inlet port from an exhaust port provided in the axle, each cylinder having a port which cylinder ports and the radial ports give communication to the inlet and exhaust ports of the axle alternately, substantially as set forth.



2. A motor comprising in combination, a base plate, pillars integral with the base plate, a drum having a series of cylinders and radial ports, pistons fitting the cylinders, a casing of large diameter receiving said drum, an axle hollow throughout part of its length and supported by said pillars upon which the drum is revolubly mounted, bearings in the pillars and in which the axle is mounted, a partition throughout the length of the hollow part of the axle and separating the inlet port from the exhaust port of the axle there being openings at the same end of the axle to the two sides of the partition, each cylinder having a port which cylinder ports and the radial ports give communication to the inlet and exhaust ports of the axle alternately a boss having a tapered hole fitting the tapered end of the axle, a perforated plate fitting against the end of the axle, a pin to prevent the plate from revolving, and an operating handle for revolving the axle, substantially as set forth.

3. A motor comprising in combination a base plate, pillars integral with the base plate, a drum having a series of radial cylinders, roller shaped pistons fitting the cylinders, a casing larger in diameter receiving said drum, a hollow axle upon which the drum is revolubly mounted, said axle having inlet and exhaust ports, a partition in the axle separating the inlet port from the exhaust port, each cylinder having a port giving communication to the inlet and exhaust ports of the axle alternately, substantially as set forth.

867,261. PUMP. WILLIAM B. ERB, Chicago, Ill. Filed Sept. 2, 1905. Serial No. 276,784.

1. In a well pump, in combination with the well tubing and the pump cylinder at the lower end thereof, a tubular pump rod extending from the cylinder up within the well tubing, composed of lengths or sections of pipe and exterior couplings uniting them, the several pipe sections of the tubular rod being apertured between the couplings for the passage of water between the longitudinal cavity of the rod and the space outside the same in the well tubing.

2. In a well pump, in combination with the well tubing and the pump cylinder at the lower end thereof, a tubular pump rod extending from the cylinder up within the well tubing, composed of lengths or sections of pipe and exterior couplings uniting them, the several pipe sections of the tubular rod being apertured between the couplings for the passage of water between the longitudinal cavity of the rod and the space outside the same in the well tubing, the total area of the apertures in each of said lengths or sections of pipe being as great as the annular cross section of the coupling or structure which it presents to the passage of water through the well tubing.

3. In a well pump, in combination with the well tubing and the pump cylinder at the lower end thereof, a tubular pump rod connected with the cylinder consisting of lengths or sections of pipe and exterior couplings uniting them, the exterior diameter of the couplings being only slightly less than the interior diameter of the tubing, the several



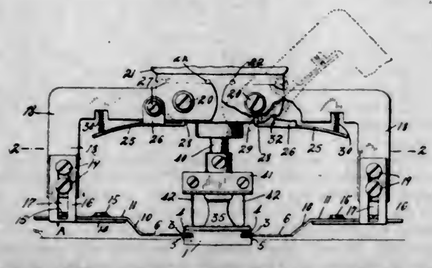
sections or lengths of pipe constituting the rod being apertured between the couplings for the passage of water into the rod to compensate for the obstruction which the couplings offer to the passage of water through the tubing outside the rod, and means at the upper end of the rod for delivery of the water therefrom.

867,262. TAPPING-DIE. GEORGE ERMOLD, Elizabeth, N. J. Filed Nov. 20, 1906. Serial No. 344,195.



A tapping die comprising sections having tapping jaws separated by clearance openings and radial slots, grooved arc-shaped ears made integral with the adjacent ends of the die-sections, caps fitting over said ears and having shoulders fitting into the grooves thereof, and pivots passing through said caps and ears for holding the sections together.

867,263. SEWING-MACHINE ATTACHMENT. EMANUEL ESCHELBACHER, New York, N. Y. Filed Apr. 29, 1907. Serial No. 370,963.



1. A plaiting attachment including a support of a pair of oppositely extending pivotal members on said support, a bracket adjustably connected with each pivotal member, a tongue adjustably connected with each bracket, the two tongues extending in opposite directions, and a plate having a pair of oppositely extending guide members overlapping said tongue.

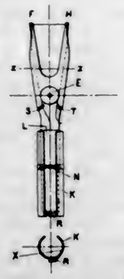
2. A plaiting attachment comprising upper and lower guide members, a tongue extending into the space between said guide members, said tongue being bent upward intermediate its ends and having a slotted extension, a bracket having a horizontal portion adjustably connected with said slotted extension of the tongue, said bracket having a vertical slotted extension, and a pivotally mounted member adjustably connected with the slotted vertical extension of said bracket.

3. A plaiting attachment comprising upper and lower guide members, a tongue projecting into the space between said upper and lower guide members, a bracket adjustably connected with said tongue, and a pivotally mounted member adjustably connected with said bracket.

4. A plaiting attachment comprising upper and lower guide members, a tongue extending into the space between said guide members, a bracket adjustably connected with said tongue, a pivotally mounted member on the sewing machine head adjustably connected with said bracket and a locking device on said pivotally mounted member for locking the tongue in place.

5. In a plaiting attachment the combination with a sewing machine table and head, of a pair of guide members mounted on said table, a tongue projecting into the space between said guide members, a bracket adjustably connected with said tongue, a member pivotally mounted on said head and adjustably connected with said bracket and a locking device having an integral ear connected with said pivotally mounted member, said locking device also having an upwardly bent end adapted to engage a recess in said head, substantially as described.

867,264. DENTAL IMPLEMENT. CHARLES S. EVANS, Dayton, Ohio. Filed Dec. 10, 1906. Serial No. 347,034.



1. A dental implement of the type specified, comprising a cylindrical body having a longitudinal slot on one side and extending the length thereof, and an out-turned annular groove around its circumference, the end of said body portion terminating in forks, a screw penetrating the portion of the implement lying between the cylindrical body and the forks, a washer penetrated by said screw, and a thumb nut having an extended portion and adapted to engage the screw, as herein shown and described.

2. In a dental implement of the type specified, a body stamped from sheet metal one end thereof being of cylindrical form with an intervening longitudinal slot, and an annular groove, said cylindrical portion being adapted to contain a thread capsule, the other end of said body terminating in prongs with notches on the ends thereof adapted to receive the thread, a screw penetrating said body adjacent to the prongs, a tooth pick pivoted on said screw, a washer penetrated by the screw, said washer being adapted to clamp the thread passed around the ends of the prongs, and a thumb nut adapted to tighten said washer.

867,265. HOSE-RACK. THOMAS V. FORSTER, Hackensack, N. J. Filed Aug. 10, 1906. Serial No. 329,980.



1. The combination of a hose, a receptacle, a hose holder therein, a cover for said receptacle, and means governed by the added weight when the water is turned on for causing the hose holder to drop said hose, and a deflector for directing said hose from the inside of said receptacle to the outside thereof.

2. The combination of a hose, a receptacle for fitting flush in the wall of a building, a hose holder therein, guides therefor, means for tripping said holder when lowered, an outlet valve handle wheel, a cord wound up on said wheel and extending to said holder, for lowering the latter by turning said wheel, and means directly below said hose for feeding the latter out of said receptacle.

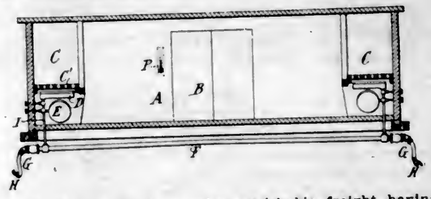
3. The combination of a hose, a receptacle for fitting flush in the wall of a building, a water pipe extending therethrough, an outlet valve handle wheel therefor, a driving cord wound on said wheel, a pulley over which said cord passes, a slide to which the end of the cord is connected, pins extending from said slide for supporting the folded hose, guides for said slide, pins in said guides for tripping said slide and hose supporting pins to an inclined position for dropping said hose, and an inclined board vertically below said hose for directing the latter out of said receptacle.

4. The combination of a hose, a receptacle for fitting flush in the wall of a building, a cover for said receptacle, an outlet valve handle wheel in said receptacle, which has a sufficiently large interior to contain a folded up hose, and means by which said hose will fall from the said receptacle when the cover thereof is removed and the water turned on by said handle wheel.

5. In a hose rack, the combination of a hose, a receptacle for fitting flush in the wall of a building, means for holding a hose in a folded condition in said receptacle, a device for lowering said means, mechanism for inclining said means when in its lowered position, and a deflector for directing said hose from said receptacle.

867,266. HEATING APPARATUS FOR FRUIT-CARS. EDWARD E. GOLD, New York, N. Y. Filed Mar. 12, 1906. Serial No. 305,563.

1. A car for fruit or other perishable freight having walls of limited or very low conductivity and adapted to be tightly closed to preserve its contents from exposure to the exterior temperature, combined with steam-heating means adapted to act by direct or quick radiation and adapted also to act by storage and slow radiation, and adapted when acting by storage and slow radiation to store a considerable quantity of heat and to radiate it so slowly as to warm the car for several hours after the steam is cut off, and at such a rate as to approximately compensate for the loss of heat in normal winter weather, said steam-heating means being controllable from the exterior of the car, so that without opening the car it may be initially warmed by quick radiation and a quantity of heat stored to be slowly radiated to keep the contents of the car safely above the freezing point for several hours after being severed from the source of steam.



2. A car for fruit or other perishable freight having walls of limited or very low conductivity and adapted to be tightly closed to preserve its contents from exposure to the exterior temperature, combined with steam-heating means adapted to act by direct or quick radiation and adapted also to act by storage and slow radiation, and adapted when acting by storage and slow radiation to store a considerable quantity of heat and to radiate it so slowly as to warm the car for several hours after the steam is cut off, and at a rate approximating but slower than the rate of radiation from the car in normal winter weather, said steam-heating means being controllable from the exterior of the car so that without opening the car it may be initially warmed by quick radiation and a quantity of heat stored to be slowly radiated to keep the contents of the car safely above the freezing point for several hours after being severed from the source of steam.

3. A car for fruit or other perishable freight having walls of limited or very low conductivity and adapted to be tightly closed to preserve its contents from exposure to the exterior temperature, and having steam-heating means comprising a direct-steam radiator for rapidly warming up the car, controllable from the exterior, and a storage radiator of large capacity adapted to radiate its stored heat so slowly as to warm the car for several hours after the steam is cut off, and at such rate as to approximately compensate for the loss of heat by radiation while traveling in normal winter weather, whereby the car may be initially warmed before starting its journey and may travel for several hours in cold weather after being severed from the source of steam, during which time by such slow radiation of the heat its contents are kept safely above the freezing point.

4. A car for fruit or other perishable freight adapted to be tightly closed to preserve its contents from exposure to the exterior temperature, having therein a direct-steam radiator for rapidly warming up the car, and a storage radiator for maintaining the car warm for a long time after the steam is cut off.

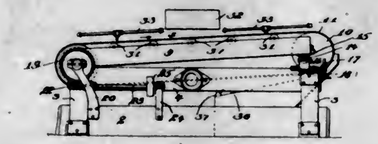
5. A car for fruit or other perishable freight adapted to be tightly closed to preserve its contents from exposure to the exterior temperature, and to be sealed to prevent tampering with its contents, having therein steam heating means comprising a direct-steam radiator for rapidly warming up the car, and a storage radiator for maintaining the car warm for a long time after the steam is cut off, and means for controlling the same having its operating handle extending to the exterior of the car.

6. A refrigerator car for fruit or other perishable freight adapted to be tightly closed, said car having a compartment raised above the floor adapted when charged with ice to cool the contents of the car by a free circulation of air between the compartment and the freight space, and steam-heating means arranged within the vertical space occupied by said compartment and adapted to warm the contents of the car by circulation of air through said compartment, and means for controlling said radiator from the exterior of the car.

7. A refrigerator car for fruit or other perishable freight

adapted to be tightly closed, said car having a compartment with an open bottom raised above the floor adapted when charged with ice to cool the contents of the car by a free circulation of air between the compartment and the freight space, and steam-heating means arranged within the vertical space occupied by said compartment so that the two occupy the same floor space, and the compartment forms a vertical flue through which the air circulates.

867,267. ORE-CONCENTRATOR. ABEL GUIONNEAU, Denver, Colo. Filed Apr. 29, 1907. Serial No. 370,835.



1. In an apparatus of the class described, an endless traveling transversely vibratory belt upwardly inclined from one end toward the other and adapted to discharge mineral values from each end, the belt having transversely-disposed riffles on the outer side thereof of progressively decreasing thickness from the back toward the front thereof, a feed-box at the back of the belt between the ends thereof, and wash-water pipes extending longitudinally of the feed-box, said belt serving on its vibratory movement to discharge mineral values from the front thereof.

2. In an apparatus of the class described, an endless traveling transversely vibratory belt upwardly inclined from one end toward the other and adapted to discharge mineral values from each end, the belt having transversely-disposed riffles on the outer side thereof of progressively decreasing thickness from the back toward the front thereof, a feed-box at the back of the belt between the ends thereof, wash-water pipes extending longitudinally of the feed-box, said belt serving on its vibratory movement to discharge mineral values from the front thereof, a tank under one end of the belt, and a pipe for washing slimes from the belt into said tank.

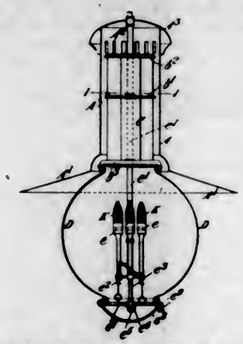
3. In an apparatus of the class described, an endless traveling transversely-vibratory belt upwardly inclined from one end toward the other and adapted to discharge mineral values from each end, the belt having transversely disposed riffles on the outer side thereof of progressively decreasing thickness from the back toward the front thereof and adapted on said transverse vibratory movement to discharge mineral values from said front.

4. In an apparatus of the class described, an endless traveling transversely-vibratory belt upwardly inclined from one end toward the other and adapted to discharge mineral values from each end, the belt having transversely disposed riffles on the outer side thereof of progressively decreasing thickness from the back toward the front thereof and adapted on said transverse vibratory movement to discharge mineral values from said front, and means for washing slimes from the under side of the belt.

5. In an apparatus of the class described, an endless traveling transversely-vibratory belt upwardly inclined from one end toward the other and adapted to discharge mineral values from each end, the belt having transversely disposed riffles on the outer side thereof and being adapted to discharge mineral values over its front on its transverse vibration.

6. In an apparatus of the class described, an endless traveling transversely-vibratory belt upwardly inclined from one end toward the other and adapted to discharge mineral values from each end, the belt having transversely disposed riffles on the outer side thereof and being adapted to discharge mineral values over its front on its transverse vibration, said belt also having a flange at the rear outer side thereof and extending throughout the complete extent of said belt.

867,268. INCANDESCENT GAS-LAMP. THORNE S. HAIGHT, Manchester, England, assignor to Clark Way Harrison, Glasgow, Mo. Filed Dec. 15, 1905. Serial No. 291,885.



1. In an incandescence gas lamp, the combination with the burners and the mantles; of a surrounding transparent casing, a plurality of draft screens for the mantles, means for enabling simultaneous movement of said draft screens to and from their protecting position relatively to said mantles, and means for enabling said screens to be independently manipulated while in their protecting position for the purpose specified.

2. In an incandescence gas lamp, the combination with the burners and the mantles; of a surrounding transparent casing, a plurality of hollow or tubular draft screens for the mantles, a vertically movable frame carrying said draft screens, and means for enabling said screens to be independently raised and lowered in said frame while they are in their protecting position for the purpose specified.

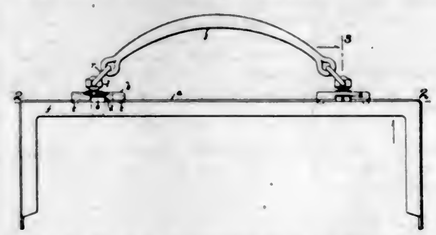
3. In an incandescence gas lamp, the combination with the burners and the mantles; of a surrounding transparent casing, a plurality of hollow or tubular draft screens for the mantles, a vertically movable frame carrying said draft screens, means for limiting the movement of the frame, and means for enabling said screens to be independently raised and lowered in said frame while they are in their protecting position for the purpose specified.

4. In an incandescence gas lamp, the combination with the burners and the mantles; of a surrounding transparent casing, a plurality of hollow or tubular draft screens for the mantles, a vertically sliding frame carrying said draft screens, means for limiting the movement of said frame, and guide plates forming part of said frame in which the draft screens are adapted to be independently raised and lowered while in their protecting position for the purpose specified.

5. In an incandescence gas lamp, the combination with the burners, and the mantles; of a surrounding transparent casing, a plurality of hollow or tubular draft screens for the mantles, a vertically sliding tube surrounding the central gas supply pipe, horizontal guide plates carried by said sliding tube and loosely supporting each of said draft screens, means for limiting the extent to which the said tubular screen may descend in the guide plates, and means for limiting the extent of downward movement of said sliding tube substantially as and for the purpose specified.

6. In an incandescence gas lamp, the combination with the burners and the mantles; of a surrounding movable transparent casing or globe, a plurality of hollow or tubular draft screens for the mantles, a vertically sliding tube surrounding the central gas supply pipe, horizontal guide plates carried by said sliding tube and loosely supporting each of said draft screens, means for detachably connecting the movable globe to the lowermost one of said guide plates, means for limiting the extent to which the said tubular screens may descend in the guide plates, means for limiting the extent of downward movement of said sliding tube, and means for supporting the movable globe in its raised position substantially as described.

867,269. BAG-LOCK. CHRISTIAN HIRRING and ALBERT FULLER, Newark, N. J., assignors to The J. E. Mergott Company, Newark, N. J., a Corporation of New Jersey. Filed Jan. 2, 1907. Serial No. 350,486.



1. In a bag lock, the combination of a chambered cap having a longitudinal slot in its upper wall and a rectangular notch in its forward wall, a sliding locking member within said cap, a stud rigidly secured to said locking member and projecting through said slot and means for securing a bag handle to said cap.

2. In a bag lock, a chambered cap having a longitudinal slot in its upper wall and a rectangular notch in its forward wall, a channel shaped sliding locking member within said cap, means for sliding said locking member extending through said slot and means for securing a bag handle to said cap.

3. In a bag lock, the combination of a chambered cap secured to a bag frame member, a channeled locking member slidably secured within said cap and a spring located within the channel of said locking member and adapted to bear upon said locking member to retain it in either locked or unlocked position.

4. In a bag lock, the combination of a chambered cap, means for securing a bag handle thereto, a sliding locking member within said cap, a stud secured to said locking member and projecting through a slot in the top of said cap and a spring within said cap for retaining said locking member in either locked or unlocked position.

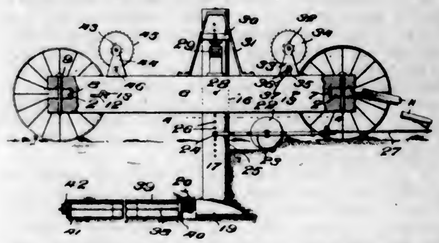
5. In a bag lock, the combination of a chambered cap, means for securing said cap to a bag frame, a sliding locking member within said cap, a spring within said cap to retain said locking member in either locked or unlocked position, a stud projecting through a slot in said cap and secured to said locking member and means for securing a bag handle to said stud.

6. In a bag lock, the combination of a bag frame comprising a pair of hinged members, a chambered cap secured to one of said members, a sliding locking member within said cap, said locking member having a locking element thereon, a locking clip rigidly secured to the other frame member for engagement with said locking element, a stud secured to said sliding locking member and projecting through a slot in said cap and a bag handle pivotally secured to said stud.

7. In a locking mechanism for hand bags, the combination of a pair of hinged bag frame members, a pair of chambered caps secured to one of said frame members, a sliding locking member within each of said caps, a pair of locking clips secured to the other frame members designed for engagement with said sliding locking members respectively, a bag handle having its ends pivotally secured to said sliding locking members, whereby a strain upon said handle will move said locking members into locked position respectively or hold them in such position.

867,270. EXCAVATOR. JOHN O. HIMBLE, Boswell, Pa. Filed Jan. 25, 1907. Serial No. 354,059.

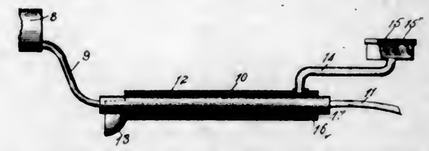
1. In a device of the character described, the combination with a reach bar having an opening therethrough and supporting means at each end of said reach bar, of a vertically disposed beam extending through said opening, a power jack mounted on said reach bar, a bracket mounted on said reach bar, and a block secured to said beam, said power jack being reversible for use with said block for raising and lowering the beam.



2. In a device of the character described, the combination with a reach bar having an opening therethrough and supporting means at each end of said reach bar, of a vertically disposed beam extending through said opening, a power jack mounted on said reach bar, a bracket mounted on said reach bar, a block secured to said beam, said power jack being reversible for use with said block for raising and lowering the beam, and a head carried by the lower end of said beam and extending in advance thereof.

3. The combination with the vertically-movable beam, and a head at the lower end thereof, of a cable pivotally attached to said head, a disk at one end of said cable adjacent said head, a disk at the other end of said cable, and a clamp adjustable on said cable to engage said last-named disk, said disks being adapted to engage within opposite ends of a string of tile.

867,271. AUTOMOBILE-HEATING APPLIANCE. PAUL P. HOFMANN, Chicago, Ill. Filed Dec. 15, 1905. Serial No. 291,854.



1. In combination with an automobile comprising a body, an engine, a part through which the engine exhausts, heated by such exhaust and located at a level below the body, a jacket arranged to conduct air into such proximity to the exhaust-heated part as to be heated thereby, a flue leading upward from said jacket into the body, said jacket and flue forming an air passage, and one of said parts being provided with an air escape opening to a point without the body; and means operable from within the body for regulating the passage of air through said flue and said escape opening.

2. In combination with a motor vehicle comprising a gas engine motor, and a part providing a passage for the escape of the products of combustion therefrom, a jacket associated with said part, having an inlet opening to the air, and an outlet opening to the air, a flue from said jacket to the area of the vehicle to be heated and means for controlling the delivery of air to or without the area to be heated.

3. In combination with a motor vehicle involving a body, a gas engine, and a passage for the escape of the products of combustion, a jacket surrounding said passage open in part to the air, and provided with air escape openings, means for closing said air escape openings, and a heating flue communicating with said jacket and the body of the vehicle.

4. In combination with a motor vehicle involving a body, a gas engine, and a muffler for said gas engine, a jacket surrounding said muffler, disposed longitudinally of the machine and open at its front end, said jacket having apertures at its rear end, means for closing said apertures

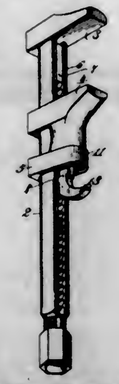
and a flue leading from said jacket adjacent its rear end, into the body of the vehicle.

5. In combination with a motor vehicle involving a body, a gas engine and an exhaust muffler for said gas engine, a jacket surrounding said muffler disposed longitudinally of the machine with its front end open, said jacket having an expanded lip partially surrounding the front opening, and being provided with apertures for the escape of air from said jacket, means for regulating the opening of said apertures, a register 15 within the body of the vehicle, and a flue 14 connecting said register and the jacket surrounding the muffler.

6. In combination with a motor vehicle involving an internal-combustion engine, a muffler for said engine, and a body, a jacket surrounding the muffler and spaced apart therefrom to permit circulation of air between the jacket and the muffler, said jacket having an air inlet opening therein near one end, a flue leading from the other end of said jacket, opening into the body of the vehicle, said jacket and flue affording an air passage and being provided with an air opening to the outside of the body of the vehicle, and means operable from within the body of the vehicle for regulating the passage of air through the openings into and to the outside of the vehicle body.

7. The combination with a motor vehicle involving a body to be heated, a gas engine, a muffler for said gas engine disposed longitudinally of the body beneath the same, a jacket surrounding the muffler, spaced apart therefrom and having an inlet near one end thereof; a flue leading upward from the jacket to the body, said jacket and flue forming an air passage, there being an air escape opening from said passage to a point without the body remote from the inlet end, and means operable from within the body for regulating the passage of air through the flue and said escape opening.

867,272. WRENCH. CHARLES T. HOLMAN, Meadville, Pa. Filed June 29, 1907. Serial No. 381,487.

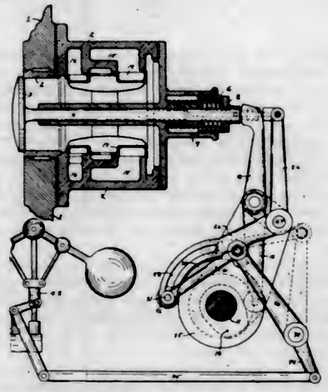


1. A wrench embodying a shank having a fixed jaw and also having a longitudinally disposed channel, a rack-bar fitted in said channel for end-wise movement, a thimble-like nut threaded onto the outer end of the shank and operative for moving the rack-bar in an end-wise direction, a slidable jaw on the shank, a pawl movable with the slidable jaw and adapted to engage the toothed portion of the rack-bar, and a series of anti-friction rollers bearing against the bottom of the said nut and also bearing against the outer end of said rack-bar.

2. A wrench embodying a shank provided with a fixed jaw, a bar carried by and movable longitudinally of said shank, a jaw slidable with respect to said bar, means connected with said slidable jaw for fixedly connecting the same with said bar, a nut in threaded relation with the shank for imparting an endwise movement to said bar, and a rod connected with the nut, extending longitudinally of said bar and provided with a lateral offset, the shank having a longitudinal slot to receive said offset.

3. A wrench embodying a shank provided with a fixed jaw, a rack-bar movably connected with said shank, a slidable jaw on said shank, a pawl on the slidable jaw to engage the teeth of the rack-bar, a nut in threaded relation with the shank for imparting an advancing movement to said bar, and a rod connected with the nut, extending longitudinally of said rack-bar, and provided with a lateral offset, the shank having a longitudinal slot to receive said offset.

867,273. VALVE MECHANISM. ERNEST H. HOLMES, Milwaukee, Wis. Filed Aug. 30, 1905. Serial No. 276,357.



1. The combination with a valve, of a valve actuating lever and a rotary, lever-actuating cam; said lever being provided with a movable device arranged for contact with the cam; and means for shifting said device along the lever in an arc of increasing radius from the cam axis and corresponding in curvature substantially to that of the contacting surface of the cam projection.

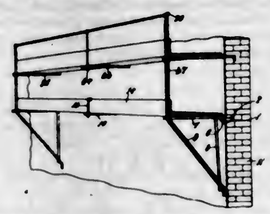
2. The combination with a valve, of a valve actuating lever, and a rotary, lever-actuating cam; a device movably mounted on said lever, adapted for motion receiving contact with the cam; a governing shaft, and means for transmitting motion from the governing shaft to shift said device along said lever in a curved line eccentric to the cam axis to vary the interval of motion receiving contact.

3. The combination with the main inlet valve of a gas engine cylinder; of an auxiliary cut off valve, controlling the admission of air or gas thereto; a lever for actuating the auxiliary valve in one direction; a cam in operative relation to said lever; a motion receiving device mounted on the lever and movable substantially in the arc of the contacting surface of the cam projection and eccentric to the cam axis; and governing mechanism for shifting the motion receiving device.

4. The combination with the inlet passage of a gas engine cylinder, of a valve therefor; a valve actuating lever; a lever actuating cam; a motion receiving device arranged to transmit motion from the cam to the lever; and a governing device arranged to move the motion receiving device along said lever in a direction to increase or decrease its distance from the axis of cam rotation and to shift it from one cam radius to another, substantially for the purpose set forth.

867,274. SCAFFOLDING. GEORGE E. HUMPHRIES, Wellington, New Zealand. Filed Feb. 26, 1907. Serial No. 359,517.

1. In scaffolding, the combination of supporting eyes provided with outwardly tapered apertures, means for securing said eyes to a support, brackets provided with tapered hooks for engaging said apertures, and downwardly inclined struts on said brackets for abutting against said support, substantially as described.

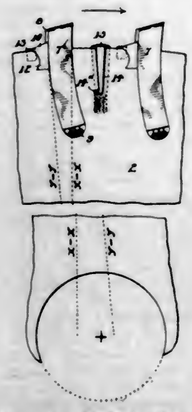


2. In scaffolding, the combination of supporting eyes, means for securing said eyes to a support, brackets adapted to engage said eyes and to abut against said support, upward extensions on said bracket provided with notches at their tops, bolts extending through the lower portions of said upward support, side posts provided with notches in their lower ends for engaging said bolts, bolts extending through said side posts in position to engage the notches in said upward extension, and means for tightening said bolts for clamping said side posts in position on said upward extensions, substantially as described.

3. In scaffolding, the combination of supporting eyes, means for securing said eyes to a support, brackets adapted to engage said eyes and to abut against said support, upward extensions on said bracket, side posts detachably secured to said upward extensions, eyes formed at the upper ends of said side posts and provided with slots extending through the walls thereof, chains secured to said side posts and adapted to be latched in said slots, and a side rail supported on said chains, substantially as described.

4. In scaffolding, the combination of brackets, means for securing them to a support, a guard board extending between and resting on said brackets, a rod secured to said support and extending beneath said guard board, a bracket hooked over said guard board and provided with a yoke for receiving said rod, a tapered key in said yoke for wedging said rod in the latter, and a screw threaded in the upper portion of said bracket for engagement with said guard board for clamping together said guard board and rod, substantially as described.

867,275. INSERTED-TOOTH MILLING-SAW. HARRY S. HUNTER, Aspinwall, Pa. Filed May 7, 1906. Serial No. 315,509.



1. In a milling saw, a blade having a series of tooth-sockets, teeth for the sockets, a reinforcing device in each socket against which the back of the tooth therein bears, the blade having an opening in front of each tooth socket, and a securing device fitting said opening and operating to force the front wall of the socket against the tooth and clamp the latter and the reinforcing device.

2. In a milling saw, a circular blade having a series of arcuate tooth-sockets extending inward from its periphery with the concave of the sockets facing the direction of motion of the saw, teeth fitting the sockets and projecting therefrom, the arcuate sockets being so disposed that a line from the juncture of the rear side of the tooth and the blade periphery will, when projected inward, pass in front of the blade center without extending over the tooth.

3. In a milling saw, a blade having tooth-sockets, the outer portion of the rear side of each socket being enlarged, a tooth fitting the inner unenlarged portion of the socket and projecting therefrom, and a tooth-reinforcement fitting the socket enlargement and bearing against the rear edge of the tooth.

4. In a milling saw, a blade having tooth-sockets, the rear side of each socket being enlarged with the wall of the enlargement curved convexly, a tooth in the socket, and a tooth-reinforcement corresponding in shape to and fitting the socket-enlargement and against which the back of the tooth bears.

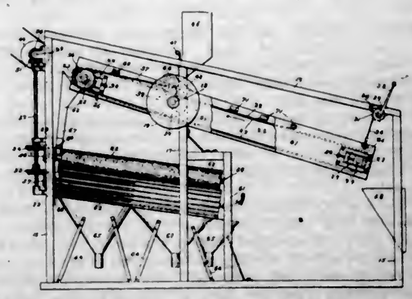
5. In a milling saw, a blade having tooth-sockets, teeth and reinforcing devices therein, each reinforcing device having fixed position in the socket with means for maintaining it in that position, and means for contracting the socket walls for clamping the tooth and reinforcing device.

6. In a milling saw, a blade having tooth-sockets, teeth and reinforcing devices therein, each socket and reinforcing device interlocking to prevent movement of said device longitudinally of the tooth, and means for contracting the socket walls for clamping the tooth and reinforcing device.

7. In a milling saw, a blade having its edge recessed inwardly from one face to the other to form a tooth-socket, the rear portion of the socket being enlarged, a tooth within the socket, a tooth-reinforcement fitting the socket-enlargement and against which the back edge of the tooth bears, means for securing the tooth, the engaging edges of the tooth-reinforcement and the wall of the socket-enlargement having a key-opening, and a key in said opening.

8. In a milling saw, a circular blade having a series of curved tooth-sockets, curved teeth complementary with and fitting the sockets and projecting therefrom, the convex edges of the teeth facing the direction of motion of the blade, the curvature of each edge being such that when in upright position a line intersecting the cutting extremity of the tooth and the juncture of the front edge of the tooth with the blade-edge will when extended inward pass to the rear of the blade center, and a line from the rear edge of the tooth in the plane of the blade-edge will when projected inward pass in front of the blade-center without extending over the tooth.

867,276. MACHINE FOR SEPARATING AND GRADING COFFEE GRAINS OR BEANS. JAY JENKINS, Chicago, Ill. Filed July 5, 1906. Serial No. 324,744.



1. In a machine of the character described, the combination with the main frame, of a conveyer-frame ad-

justably mounted thereon, an endless conveyer mounted to travel in said conveyer-frame and carrying a series of upwardly projecting pins arranged in a row across the same, a feed hopper mounted on the main frame above the conveyer, one or more bars transversely located on the conveyer-frame at the rear of the feed hopper and having downwardly and forwardly extending teeth arranged in staggered relation to one another, and means to drive the conveyer, substantially as described.

2. In a machine of the character described, the combination with the main frame, of a conveyer-frame adjustably mounted thereon in an inclined position, an endless conveyer mounted to travel in said conveyer-frame and carrying a series of upwardly projecting pins arranged in a row across the same, a hopper mounted on the upper portion of the main frame, a bar located transversely across the conveyer-frame and having downwardly and forwardly inclined teeth or prongs arranged in diagonally disposed rows, and means to drive the conveyer, substantially as described.

3. In a machine of the character described, the combination with the main frame, of a conveyer-frame adjustably mounted thereon in an inclined position, an endless conveyer mounted to travel in said conveyer frame and carrying on its outer surface a series of spaced apart and outwardly projecting pins arranged across the same in diagonally disposed rows, a hopper mounted on the main frame above the conveyer, a bar located transversely on the conveyer-frame in front of the hopper and having forwardly and downwardly inclined prongs or teeth arranged in diagonally disposed rows, one or more bars transversely located on the conveyer-frame at the rear of the hopper and having downwardly and forwardly extending teeth or prongs arranged in staggered relation with respect to one another, and means to drive the conveyer, substantially as described.

4. In a machine of the character described, the combination with the main frame, of a corrugated roller and a brush roller journaled in parallelism in inclined positions on said frame, a hopper supported on the main frame and having a chute communicating at its lower end with the corrugations of said corrugated roller, the said corrugations being enlarged towards the lower portion of the roller, means to drive the said rollers, and receptacles located below the corrugated roller to receive the grains therefrom, substantially as described.

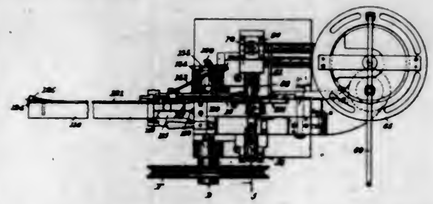
5. In a machine of the character described, the combination with the main frame, of a conveyer-frame adjustably mounted thereon in an inclined position, a conveyer mounted to travel in the conveyer-frame, a supply hopper mounted on the main frame above the conveyer, a longitudinally corrugated feed roller transversely journaled above the conveyer, a corrugated grading roller longitudinally journaled in an inclined position on the main frame, a brush roller longitudinally journaled in parallelism with the grading roller, the corrugations of the grading roller being enlarged towards the lower portion of said roller, means to drive the conveyer and feed roller, and means to rotate the grading and brush rollers, substantially as described.

867,277. TYPE-CASTING MACHINE. FRANK A. JOHNSON, New Bedford, Mass., assignor, by mesne assignments, to The Unitype Company, Manchester, Conn., a Corporation of New Jersey. Filed Nov. 14, 1898. Serial No. 696,419.

1. In a type casting machine, in combination, a mold, a movable body piece therefor, a lever connected with the body piece and a movable fulcrum for the lever whereby the opening of the mold may be adjusted, substantially as described.

2. In a type casting machine, in combination, a mold, a movable body piece therefor, a lever connected with the body piece and arranged to move the same, a movable fulcrum for the lever whereby the movement of the body piece is varied, and a gage connected with the movable fulcrum and forming a positive stop for the body piece, substantially as described.

3. In a type casting machine, in combination, a mold, a movable body piece therefor, a lever having its middle portion connected with the body piece, means for swinging one end of said lever a constant distance, and a movable fulcrum for the other end of said lever whereby the movement of the body piece and the opening of the mold may be varied, substantially as described.



4. In a type casting machine, in combination, a mold, a movable body piece therefor, a lever connected to the body piece, and a fulcrum for said lever movable at right angles to the line of movement of the body piece to vary the mold opening as the lever assumes its last position, said lever in its uppermost position being always at right angles to the said body piece whereby the uppermost position of the body piece is not varied, substantially as described.

5. In a type casting machine, the combination of the mold, the movable body piece therefor, the lever connected to the body piece, means for imparting constant movement to one end of said lever, a movable fulcrum for the other end of said lever, means for moving the fulcrum, and a dial and index connected with the fulcrum and adapted to indicate the mold opening, substantially as described.

6. In a type casting machine, a mold comprising two sides, a movable body piece forming the bottom of the mold, and a mold slide closing the top of the mold, in combination with a reciprocating transfer slide above said mold slide, substantially as described.

7. In a type casting machine, the mold having one end closed by a mold slide, and a body piece adapted to eject the type from the mold and carry it above the mold slide, in combination with a knife for severing the jet from the type and a transfer slide above the mold slide and adapted to carry the type from the body piece to a position under the jet knife, substantially as described.

8. In a type casting machine, the combination, with the mold, a mold slide therefor, means for ejecting the type from the mold and conveying it above the mold slide, a movable jet-knife, a presser foot for holding the type in position under said knife, a transfer slide above the mold slide, and means for operating the transfer slide to carry the ejected type from the mold to a position under said presser foot, said means also operating to cause the transfer slide to register exactly with the jet-knife, substantially as described.

9. In a type casting machine, in combination, the mold and jet knife, the transfer slide coöperating with the mold and the jet knife, the crank and connecting link for operating said slide, and means for swinging said crank through 180 degrees and stopping the same in line with the connecting link at each extreme of its movement whereby the transfer slide is caused to register exactly with the mold and the jet knife, substantially as described.

10. In a type casting machine, means for delivering the type from the mold comprising a transfer slide, a type-holding spring connected to said slide, a spring presser foot having friction springs 107 connected thereto, and a friction piece 112 in the rear of the presser foot, said presser foot being adapted to hold the type temporarily while the jet is cut off, substantially as described.

11. In a type casting machine, the combination of the presser foot lever, the presser foot, and the spring therefor, with the friction piece having one end interlocked with the presser foot and the other end movable to and from the runway and the spring pressing said friction piece toward the runway, substantially as described.

12. In a type casting machine, the combination with a runway, of a spring pressed friction piece overlying the runway, the lower edge of said piece being concavely curved whereby its pressure is brought to bear on the end types of a line passing under it, substantially as described.

13. In a type casting machine, in combination, a mold, a movable body piece therefor, a lever connected with the body piece, means for adjusting the movement of the lever for varying the opening of the mold, and a gage adjusted with the lever and forming a positive stop for the body piece, substantially as described.

14. The combination with a type casting machine having a delivery runway, of a vertically movable series of type line holders, devices for counting the type delivered to each holder, means for shifting the holders periodically, said means being controlled by the counting devices, whereby the holders are shifted as they become filled and empty holders substituted therefor, and means for adjusting the counting mechanism for different sizes of type, substantially as described.

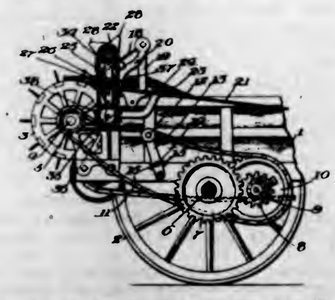
15. The combination with a type casting machine having a melting pot, a mold, means for ejecting the type, and a power shaft for operating the mold and ejecting mechanism, of a movable series of type line holders, means for moving the type from the mold into said holders successively, devices operated by the aforesaid shaft for counting the type delivered to each holder, and means controlled by said devices for shifting the holders periodically, substantially as described.

16. The combination with a movable tray frame having supports for holding the trays in an inclined position, of a warped runway having one end horizontal and the other end inclined to register with the trays, and a suitable friction piece over said runway, substantially as described.

17. The combination with a type casting machine having a delivery runway, of a vertically movable series of type-line holders, devices for counting the type delivered to each holder and means for shifting the holders periodically, said means being controlled by the counting devices whereby the holders are shifted as they become filled and empty holders substituted therefor, substantially as described.

18. The combination with a movable type-line holder, and a rotating shaft, of a rack upon said holder, a pawl for operating the rack, a latch normally holding the pawl in an elevated position, a ratchet wheel, a pawl connected with the shaft for moving the ratchet wheel, an adjustable pin or projection upon said ratchet wheel arranged to release the latch when the wheel has been rotated a predetermined amount, a cam on the shaft adapted to operate the line holder lifting pawl when the latter is released from the latch, and means for automatically returning the ratchet wheel to its initial position each time the line holder is shifted, substantially as described.

867,278. FERTILIZER-DISTRIBUTER. LOUIS A. KEENE, Waterman, and MOTT R. PHARIS, Moline, Ill. Filed Jan. 5, 1907. Serial No. 350,880.



1. A fertiliser distributer comprising a beater cylinder, a rake, and a cutting device located rearwardly of said rake.

2. A fertiliser distributer comprising a beater cylinder, a rake, and a rotary cutting device located rearwardly of said rake.

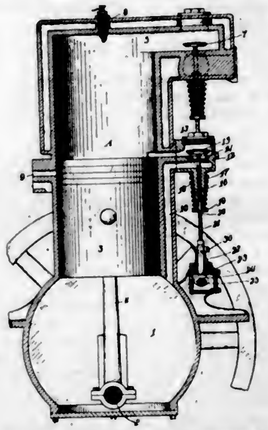
3. A fertiliser distributer comprising a beater cylinder, a rake, and a series of cutting elements extending through said rake.

4. A fertiliser distributer comprising a beater cylinder, a rake, and a series of rotary cutting elements lying between the tines of said rake.

5. In a fertiliser distributer, in combination, distributing mechanism; and a plurality of pairs of knives, the members of each pair being arranged at right angles with each other, and said pairs being spaced apart.

6. In a fertiliser distributer, in combination, a beater cylinder; means for rotating said beater cylinder comprising a drive chain; a rotary cutting device; means for supporting said cutting device adapted to provide an adjustment of said device toward and away from said beater cylinder, said supporting means comprising a pivoted bracket and means for securing said bracket in adjusted position; and two drive members rotatably mounted on said bracket and operatively connected with each other for driving said cutting devices, one of said driving members being arranged to be driven by said driving chain.

867,279. EXPLOSIVE-ENGINE. MARTIN C. KESSLER, Denver, Colo., assignor to The Kessler Motor Company, Denver, Colo. Filed Sept. 17, 1906. Serial No. 334,926.



1. In an engine in which air is compressed in the crank case, means for controlling and varying the volume of air delivered from the crank case to the engine cylinder with each alternate revolution of the crank shaft.

2. In an engine in which air is compressed in the crank case by the inward stroke of the engine piston, means for discharging air from the crank case into the cylinder with every inward stroke of the piston, said means being capable of regulation and control with the alternate inward strokes of the piston.

3. In an engine in which air is compressed by the piston in the crank-case, means for discharging the compressed air in the crank-case into the cylinder with each alternate revolution of the crank-shaft, a valve which normally shuts off the air supply with the remaining revolutions of the crank shaft, and means within the control of the operator for causing the discharge of the compressed air into the cylinder with each inward stroke of the piston.

4. In an explosive engine, the combination with a cylinder, crank case and piston, the engine provided with an induction port adapted to supply air to the crank case, and having a by-pass leading from the crank case to the cylinder and means for discharging air from the crank case into the cylinder with each alternate revolution of the crank shaft, and controllable means whereby air may

be discharged into the cylinder from the crank case with the remaining revolutions of the crank shaft.

5. In an explosive engine, the combination with a cylinder, crank case, crank shaft and piston, the engine provided with a by-pass having a valve seat therein, a valve which is normally held open with every alternate in stroke of the piston and normally closes with the remaining inward strokes of the piston, said valve being within the control of the operator.

6. In an explosive engine, the combination with a cylinder, crank case, crank shaft and piston, the engine provided with a by-pass having a valve seat therein, a valve which is normally held open with every alternate in stroke of the piston and normally closes with the remaining inward stroke of the piston and controllable means for regulating and varying the degree of closure of said valve on the intermediate alternate inner stroke of the piston.

7. In an explosive engine, the combination with a cylinder, crank case and piston, the engine provided with a by-pass leading from the crank case to the cylinder, a valve therein and means actuated by the crank shaft of the piston for positively opening said valve during every alternate revolution of the crank shaft, means for normally closing the valve with the remaining revolutions and controllable means for preventing and limiting the amount of said valve closure.

8. The combination with a cylinder and piston, the cylinder having an air inlet port, of a valve for said port which normally opens and then closes, and means for holding it open a greater or less degree during the entire running of the engine.

867,280. COUPLING DEVICE FOR AIR-BRAKES. CLAYTON B. KOEHLER, East Lebanon, Pa. Filed Jan. 10, 1907. Serial No. 351,719.



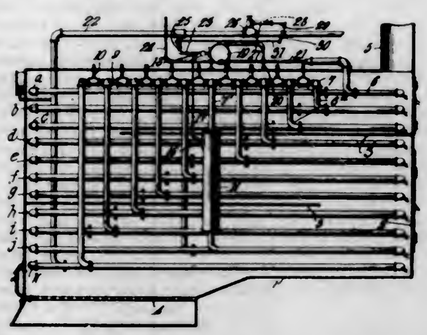
1. A coupling device of the kind described, comprising coupling members having oppositely disposed air passages, each of said members being provided with a pivoted block, the said block having an air passage therein alining with the air passage of the coupling member when the blocks of the coacting members are brought parallel to each other, and spring actuated means for throwing the air passage of the block out of alinement with the air passage of the coupling member upon withdrawal of the coacting coupler member.

2. A coupling device of the kind described comprising coacting coupling members, each of said coupling members being provided with a head, said head having an air passage upon one side, said passage being at an angle to the body portion of the coupling member, a block pivoted in said head and forming a one-way valve, the said block having an air passage therethrough, a rod working loosely through the head and loosely connected at its inner end to the block carried by said head, a coil spring carried by the rod upon its outer portion, the expansion of said spring normally turning the block upon its pivotal point and closing the air passage of the head, a hook member carried by the head of each of the coupling members and adapted to enter and pass through the head of an opposing member, a wedge-shaped block carried by each of said hook members, said blocks being adapted to engage the pivoted block carried by the head into which the hook member enters thereby bringing the pivoted blocks of said heads into parallel relation with each other and bringing the air passages of said blocks into alinement with the air passages of the heads, the air passages of the blocks alining upon contact of the heads with each other.

3. A coupling device of the kind described, comprising casings connected to air brake pipes, coacting heads carried by said casings, pivoted blocks having air passages formed therethrough, said blocks closing the air passages of the casing when at an angle to the length of the casing, means for normally holding said blocks at an angle to the casing, means carried by each of the coupling members for forcing blocks of an opposing member into a position in alinement with the length of the casing, thereby bringing the blocks of the coacting members parallel to and in engagement with each other, and bringing the air passages of said blocks into alinement with each other and with the air passages of the casings.

4. A coupling member of the kind described comprising coacting heads, said heads having air passages opening in the same upon one side, the said air passages of the coacting heads being oppositely arranged, pivoted blocks carried by the heads and having air passages therethrough, the said blocks having smooth faces adapted for sliding contact upon each other, the air passages of the blocks alining with each other and with the air passages of the heads when the faces of the blocks are in engagement, and means for swinging said blocks upon their pivotal points and closing the air passages of the heads when the coupling members are separated.

867,281. FLASH-BOILER. CHARLES W. LINDE, Slater, Colo. Filed Apr. 4, 1907. Serial No. 366,425.



1. In a boiler, a unit consisting of a coil lying in a plane, a transverse section lying parallel with the plane of the coil and a connecting section at a right angle to the plane of the coil and the transverse section.

2. A boiler comprising a series of units each consisting of a coil lying in a plane, said coils being arranged one above the other and sections leading from each unit and passing over the same and connecting with the next lower unit.

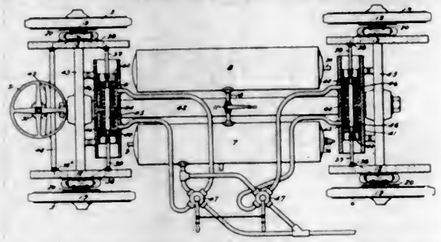
3. A boiler consisting of a series of units arranged one above the other, connections between the units which extend transversely and lie in a plane above all of the units, a pipe connecting all of said connections together and valves located upon the pipe between the connections.

4. A boiler comprising a series of units having interconnecting sections, said sections being provided with means whereby any particular unit may be cut out of the circuit.

867,282. STEERING-GEAR FOR AUTOMOBILES. WALTER W. MACFARREN, Pittsburg, Pa., assignor to Wm. H. Donner, Pittsburg, Pa. Filed Mar. 9, 1907. Serial No. 361,623.

1. In a motor vehicle, the combination of four wheels, a fluid pressure supply, and means for steering either the front or rear wheels independently or simultaneously by the application of said fluid pressure.

2. In a motor vehicle, wheels, a reservoir of compressed air, a cylinder, a piston, connections between said piston and said wheels adapted to steer the same, and a spring arranged to return the wheels to their original position.



3. In a motor vehicle, the combination of four wheels, a fluid pressure supply, a pressure cylinder connected to a pair of wheels and adapted to steer the same, a controlling valve adapted to control the admission of the pressure to said cylinder, a second pressure cylinder connected to a second pair of wheels and adapted to steer the same, a second controlling valve adapted to control the admission of the pressure to the second cylinder, and means for operating said valves independently or simultaneously to steer the wheels.

4. In a motor vehicle, the combination of wheels, a reservoir of compressed air, a double acting cylinder, pistons in said cylinder, connections between said pistons and said wheels, springs between said pistons and the cylinder head adapted to hold said pistons in a central position when the air pressure is not applied to said cylinder, and to return said pistons to a central position after the air pressure has been released.

867,283. HANGER FOR DOORS. OSCAR F. MANN, Indianapolis, Ind. Filed Dec. 26, 1906. Serial No. 349,522.



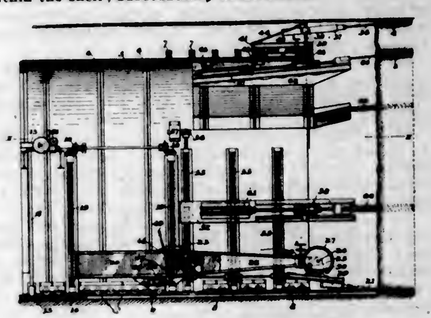
In a fixture for the purposes specified, a tubular track round in cross section having a longitudinal slot, a body-plate entering the track through said slot, a spindle mounted in the end of said body-plate, a pair of hemispherical rollers mounted on said spindle within the track on opposite sides of the body-plate, both of said hemispherical rollers having an annular ball race on each of their flat sides concentric with the spindle, and friction balls in said ball races.

867,284. APPARATUS FOR TUNNELING. DAVID MAXWELL, Oakmont, Pa. Filed Nov. 24, 1905, Serial No. 288,879. Renewed July 13, 1907. Serial No. 383,625.

1. Tunneling apparatus comprising a hollow shell carrying drilling machinery and made hollow for the passage of cars; substantially as described.

2. In tunneling apparatus, a hollow shell closed at its top and sides and open at its ends and bottom to permit cars to pass therethrough, and drill mechanism carried by said shell; substantially as described.

3. In tunneling apparatus, a hollow shell closed at its top and sides and open at its ends to permit cars to pass therethrough, and a drill mechanism movably mounted within the shell; substantially as described.



4. In tunneling apparatus, a hollow shell closed at the top and sides, and open at the ends to permit cars to pass therethrough, drill mechanism movably mounted within the shell, and other drill mechanism mounted on the roof or top of the shell; substantially as described.

5. In a tunneling apparatus, a hollow shell closed at the top and sides to protect workmen therein, and to form a platform for workmen on the top thereof, said shell being open at its ends to permit cars to pass therethrough, tracks upon which the shell is mounted, a motor on the shell for actuating the same, and drill mechanism carried by the shell; substantially as described.

6. In tunneling apparatus, a hollow shell, a vertically movable drill carrying frame mounted therein, and having a forwardly projecting portion connected thereto for independent vertical movement whereby it may be given different angles of inclination, drills mounted thereon, and means for locking said portion in its different positions; substantially as described.

7. Tunneling apparatus comprising a frame carrying channel-cutters, and drills exterior to the channel-cutters; substantially as described.

8. In tunneling apparatus, a hollow shell, a vertically-movable drill carrying frame mounted therein, and having a forwardly projecting portion pivoted thereto for independent vertical movement, and a rotary drill-carrying head carried by the pivoted portion; substantially as described.

9. In tunneling apparatus, a hollow shell, a vertically-movable drill-carrying frame mounted therein, and having a forwardly-projecting portion pivoted thereto for independent vertical movement, a rotary head carried by said portion, a laterally sliding frame or carrier on the head, and a drill cylinder mounted on said frame or carrier; substantially as described.

10. In tunneling apparatus, a hollow shell, a vertically-movable drill-carrying frame mounted therein, and having a forwardly-projecting portion pivoted thereto for independent vertical movement, a rotary head carried by said portion, a laterally sliding frame or carrier on the head, and a drill cylinder mounted on said frame or carrier by a vertical trunnion on which it can be swung laterally; substantially as described.

11. In tunneling apparatus, a hollow movable shell, vertically and angularly adjustable drill mechanism mounted within the shell and vertically-movable channel cutters also mounted within the shell; substantially as described.

12. In tunneling apparatus, a hollow shell having channel cutters and carriages therefor, movable vertically within the shell, a curved track within the upper portion of the shell, a carriage movable on said track and a channel cutter on said carriage; substantially as described.

13. In tunneling apparatus, a vertically-movable frame,

means for raising and lowering the same, a motor cylinder mounted on the frame and having its piston connected with a channeling tool, and a feeding cylinder for advancing and retracting the motor cylinder; substantially as described.

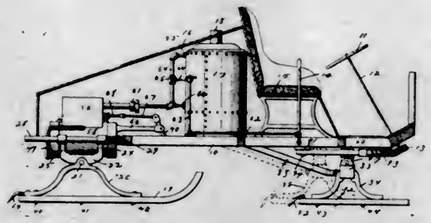
14. In tunneling apparatus, a hollow arched shell closed at its top and open at its ends, carriages mounted exteriorly on the top of the shell, and drill mechanism on the carriages; substantially as described.

15. In tunneling apparatus, a hollow shell having a closed top, a carriage movably mounted upon said top, drills mounted on said carriage, and motor cylinders for actuating the drills; substantially as described.

16. In tunneling apparatus, a hollow arched shell closed at the top and having curved tracks at the upper interior portion thereof, a head movable on said tracks, channel cutting mechanism carried by said head, and a motor for actuating the head; substantially as described.

17. In tunneling apparatus, a hollow curved shell having the interior of its roof provided with tracks, a sliding head hung from the top of the shell and arranged to traverse said tracks, a motor for actuating the head and channel cutters carried by the head; substantially as described.

867,285. AUTOMOBILE SLEIGH. WILLIAM C. MIELKE, Parkers Prairie, Minn. Filed Apr. 16, 1906. Serial No.



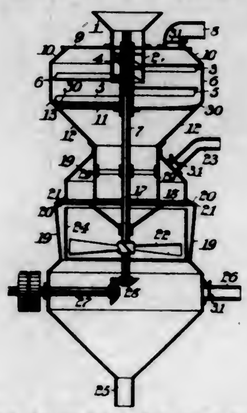
1. In a device of the class described, a body, a rear sled secured to the said body, a forward sled formed of a frame slidingly mounted relative to the said body, and provided with runners means for forcing the forward sled forwardly, and the body and rear sled forwardly while the forward sled is retained at its forward limit of movement a steering segment secured to the forward sled, and means for operating said segment.

2. In a device of the class described, a body, a rear sled secured to said body, a forward sled formed of a frame slidingly mounted relative to said body and provided with runners means for forcing the forward sled forwardly and the body and rear sled forwardly while the forward sled is retained at its forward limit of movement, and steering means engaging the forward sled.

3. In a device of the class described, a body, a rear sled pivotally secured in position relative to the body, runners in said sled, dogs secured to said runners designed to enter snow or ice and prevent rearward movement of the sled, a forward sled formed of a frame provided with runners, teeth secured to said runners designed to prevent rearward movement of said sled, means for moving the forward sled forwardly to a position where it is retained by its teeth, and for drawing the body and rear sled forwardly, and steering means engaging the forward sled.

4. In a device of the class described, a body, a rear sled pivotally secured in position relative to the body, runners in said sled, dogs secured to said runners designed to enter snow or ice and prevent rearward movement of the sled, a forward sled formed of a frame provided with runners, teeth secured to said runners designed to prevent rearward movement of said sled, means for moving the forward sled forwardly to a position where it is retained by its teeth, for drawing the body and rear sled forwardly a steering segment carried by the forward sled, and means for operating said segment.

867,286. APPARATUS FOR OBTAINING PURE FIBER. PAUL H. MINCK, Hemelingen, near Bremen, Germany. Filed June 25, 1906. Serial No. 323,339.



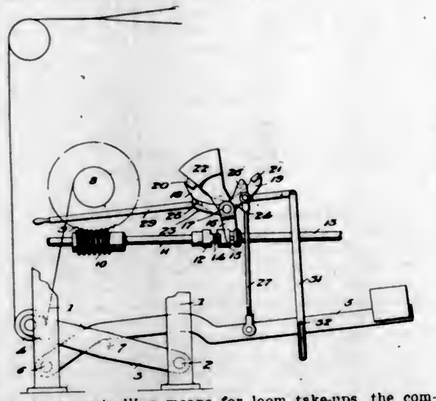
1. Apparatus for obtaining fiber from waste products containing fiber, comprising in combination a casing provided above with a charging hopper, a vertically rotating shaft substantially concentric with said hopper, a nave fixed on said shaft and arranged under the hopper and provided with a passage passing helically downwards round the shaft, beaters attached to said nave, a second set of beaters fixed to the shaft and arranged under the former beaters, the beaters being arranged in a helix running upwards round the shaft during rotation so as to adapt same to retard the material in falling through the casing, and to blow the fibers set free away from the residue of said material.

2. Apparatus for obtaining fiber from waste products containing fiber, comprising in combination a casing provided above with a charging hopper and having an outlet hole in its upper part, a vertical rotating shaft substantially concentric with said hopper, a plurality of beaters fixed on said shaft, a horizontal bottom plate for the aforesaid casing provided with an opening for the passage therethrough of the shaft and arranged close under the lowermost of said beaters, said plate being provided with radial flutings at its peripheral portion of which flutings the surfaces facing substantially the direction of rotation are provided with perforations 16 to allow fine material to pass through said plate, under the action of the aforesaid beaters, which simultaneously blow the fibers set free out of said casing through the outlet hole provided in the same.

3. Apparatus for obtaining fiber from waste products containing fiber, comprising in combination a casing provided with a charging hopper and having an outlet opening, a rotating vertical shaft passing through said casing, a nave fixed on said shaft and arranged under the aforesaid charging hopper and provided with a passage leading helically downwards round the shaft, beaters attached to said nave, a second set of beaters fixed to the shaft beneath the former beaters, the beaters being arranged in a helix running upwards round the shaft during rotation, a fixed perforated plate close under the lowermost beater, a funnel-shaped casing under said plate terminating in a pipe 29, an outer casing 19 provided above with an outlet opening and surrounding said pipe 29 and fixed above to the same so as to form between itself and said pipe an annular chamber, a rotating horizontal plate immediately under said pipe 29 and extending almost up to the casing 19, that portion of the plate immediately under the pipe 29 being unperforated and that portion under the annular chamber being perforated, a fan mounted on the shaft under said plate for forcing air through said plate and blowing the fiber-remnants carried therewith through the latter outlet opening in the outer casing.

4. Apparatus for obtaining fiber from waste products containing fiber, comprising in combination a casing provided with a charging hopper and having an outlet opening, a rotating vertical shaft passing through said casing, a plurality of beaters on said shaft, a fixed perforated plate close under the lowermost beater, a funnel-shaped casing under said plate terminating in a pipe 29, an outer casing 19 provided above with an outlet opening and surrounding said pipe 29 and fixed above to the same so as to form between itself and said pipe an annular chamber, a rotating horizontal plate immediately under said pipe 29 and extending almost up to the casing 19, that portion of the plate immediately under the pipe 29 being unperforated and that portion under the annular chamber being perforated, a fan mounted on the shaft under said plate, and a fixed pipe surrounding said fan, said pipe having a diameter less than that of the plate whereby the air current passes through the plate and blows the fiber-remnants through the latter outlet opening in the outer casing while the material projected from the plate passes between said plate and the casing and falls outside the pipe surrounding the fan.

867,287. CONTROLLING MEANS FOR TAKE-UPS FOR LOOMS. MARTIN MOUL, Hanover, Pa. Filed Apr. 29, 1907. Serial No. 370,852.



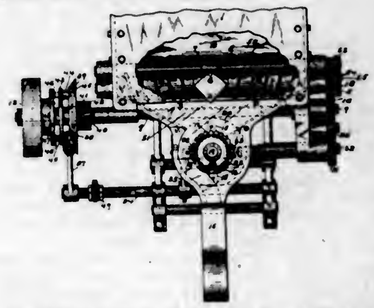
1. In a controlling means for loom take-ups, the combination with a movable tension mechanism, and a clutch for controlling the take-up, of a clutch shifter, a drop-weight shifter, an operative connection between the movable tension mechanism and the drop-weight shifter, and a drop-weight mounted loosely in relation to the drop-weight shifter for loose movement in relation thereto which is adapted to coöperate with the clutch shifter.

2. In a controlling means for loom take-ups, the combination with a movable tension mechanism, and a clutch for controlling the take-up, of a clutch-shifter, a pivoted drop-weight adapted to coöperate with the clutch-shifter, a double rocker having arms adapted to engage the drop-weight to move it in opposite directions, and an operative connection between the movable tension mechanism and the double rocker.

3. In a controlling means for loom take-ups, the combination with a movable tension mechanism, and a clutch for controlling the take-up, of a rock-shaft having an operative connection with the clutch, a double-armed rocker secured to the rock-shaft, a drop-weight pivotally mounted on the rock-shaft and adapted to play between and engage the arms of the rocker aforesaid, a drop-weight shifter, and an operative connection between the drop-weight shifter and the movable tension mechanism.

4. In a controlling means for loom take-ups, the combination with a movable tension mechanism, and a clutch for controlling the take-up, of a rock-shaft having an operative connection with the clutch, a double-armed rocker secured to the rock-shaft, a drop-weight pivotally mounted on the rock-shaft and adapted to play between and engage the arms of the rocker aforesaid, a drop-weight shifter, a double-armed rocker loosely mounted on the shaft whose arms lie on opposite sides of and are adapted to engage the drop-weight, and an operative connection between the last named double rocker and the movable tension mechanism.

867,288. FEEDING DEVICE. FELIX MUELLER, New York, N. Y., assignor to Standard Stopper Company, New York, N. Y., a Corporation of New Jersey. Filed Aug. 10, 1904. Serial No. 220,181.



1. In a feeding device, the combination with an exteriorly channeled rotating selector, of means for presenting articles thereto, and means for removing from the selector the articles not passed thereby, substantially as described.

2. In a feeding device, the combination with a selecting mechanism embodying a spirally channeled rotating selecting device, of means for presenting articles thereto, substantially as described.

3. In a feeding device, the combination with a spirally channeled rotating selector, of means for presenting articles thereto, and means for removing from the selector the articles not passed thereby, substantially as described.

4. In a feeding device, the combination with a selecting mechanism embodying a rotating selecting device having its exterior spirally channeled, of means for presenting articles thereto, substantially as described.

5. In a feeding device, the combination with a rotating selector having its exterior spirally channeled, of means for presenting articles thereto, and means for removing from the selector the articles not passed thereby, substantially as described.

6. In a feeding device, the combination with a rotating selector having its exterior spirally channeled, of means for presenting articles thereto, and an inclined guide for removing from the selector the articles not passed thereby, substantially as described.

7. In a feeding device, the combination with a selector, of means for moving the selector, means for presenting articles thereto, a delivery mechanism, and means for automatically stopping the movement of the selector, substantially as described.

8. In a feeding device, the combination with a selector, of means for rotating the selector, means for presenting articles thereto, a delivery mechanism, and means for automatically stopping the rotation of the selector, substantially as described.

9. In a feeding device, the combination with an exteriorly channeled selector, of means for rotating the selector, means for presenting articles thereto, a delivery mechanism, and means for automatically stopping the rotation of the selector, substantially as described.

10. In a feeding device, the combination with a selector having its exterior spirally channeled, of means for rotating the selector, means for presenting articles thereto, a delivery mechanism, and means for automatically stopping the rotation of the selector, substantially as described.

11. In a feeding device, the combination with a selector, of means for moving the selector, means for presenting articles thereto, a delivery mechanism, means for automatically stopping the movement of the selector, and means for removing from the selector the articles not passed thereby, substantially as described.

12. In a feeding device, the combination with a selector, of means for rotating the selector, means for presenting articles thereto, a delivery mechanism, means for automatically stopping the rotation of the selector, and means for removing from the selector the articles not passed thereby, substantially as described.

13. In a feeding device, the combination with an exteriorly channeled selector, of means for rotating the selector, means for presenting articles thereto, a delivery mechanism, means for automatically stopping the rotation of the selector, and means for removing from the selector the articles not passed thereby, substantially as described.

14. In a feeding device, the combination with a selector having its exterior spirally channeled, of means for rotating the selector, means for presenting articles thereto, a delivery mechanism, means for automatically stopping the rotation of the selector, and means for removing from the selector the articles not passed thereby, substantially as described.

15. In a feeding device, the combination with a selecting mechanism embodying a rotating selector having oppositely arranged spiral channels, of means for presenting articles thereto, substantially as described.

16. In a feeding device, the combination with a rotating selector having oppositely arranged spiral channels, of means for presenting articles thereto, and means for removing the articles from the selector not passed thereby, substantially as described.

17. In a feeding device, the combination with a rotating selector having oppositely arranged spiral channels, of means for presenting articles thereto, and removing means located between the channels and operating to remove from the selector the articles not passed thereby, substantially as described.

18. In a feeding device, the combination with a rotating selector having oppositely arranged spiral channels, of means for presenting articles thereto, and inclined guides located between the channels and operating to remove from the selector the articles not passed thereby, substantially as described.

19. In a feeding device, the combination with a rotating selector having oppositely arranged spiral channels, of means for presenting articles thereto, and a block having inclined guiding faces located between the channels and operating to remove from the selector the articles not passed thereby, substantially as described.

20. In a feeding device, the combination with a selector mechanism, of selector rotating means, a delivery mechanism including a forward device, and means operated by the forwarding device for stopping the rotation of the selector, substantially as described.

21. In a feeding device, the combination with a rotating selector having its exterior spirally channeled, of means for presenting articles thereto, means for removing from the selector the articles not passed thereby, delivery means including a suitable forwarding device, means for rotating the selector, and means under the control of the forwarding device for automatically stopping the rotation of the selector, substantially as described.

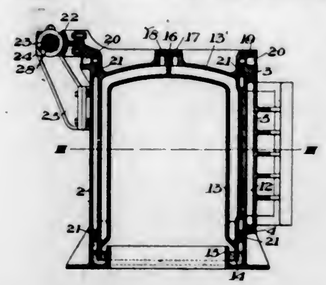
22. In a feeding device, the combination with a selector mechanism, of rotating means therefor, a delivery channel, a device for forwarding the articles from the selector mechanism to the channel, a clutch mechanism, and means operated by the forwarding device for disconnecting the clutch mechanism when the channel is filled, substantially as described.

23. In a feeding device, the combination with a selector mechanism, of a shaft, driving means therefor, said means including a suitable clutch, means whereby the shaft drives the selector mechanism, a forwarding device operating on the articles passed by the selector mechanism, means whereby the shaft drives said device, a channel into which the forwarding device delivers, and means automatically operated by the forwarding device when the channel is filled for disconnecting the clutch, substantially as described.

24. In a feeding device, the combination with a rotating exteriorly channeled selector, of means for presenting articles thereto, means for removing the articles not passed by the selector, a wall toward which the selector rotates, and means for giving the wall a rotating movement in a direction reverse to that of the selector, substantially as described.

25. In a feeding device, the combination with a rotating selector having a spirally channeled exterior, of means for presenting articles thereto, means for removing the articles not passed by the selector, a wall toward which the selector rotates, and means for giving the wall a rotating movement in a direction reverse to that of the selector, substantially as described.

867,289. WATER-COOLED VALVE. NIVEN MCCONNELL, Pittsburg, Pa. Filed Apr. 20, 1907. Serial No. 369,276.



1. In a reversing valve, a cylindrical casing, an oscillating valve within the casing having a side port, and a passage extending through it and in constant communication with the end port of the casing, and a separate casing member carrying side ports and yieldingly pressed against the valve; substantially as described.

2. In a reversing valve, a casing, and a turning valve therein, said valve having a closed water cooled top and water cooled sides, and separated inlet and outlet pipes arranged to circulate water through the hollow jacket at the top and sides of said valve; substantially as described.

3. In a reversing valve, a cylindrical casing and a hollow water-cooled valve therein having top and bottom expansion rings between it and the casing; substantially as described.

4. In a reversing valve, a cylindrical casing having an upper circular track, a hollow valve therein having an upper continuous projecting ring overhanging the track, and loose anti-friction members between the ring and track; substantially as described.

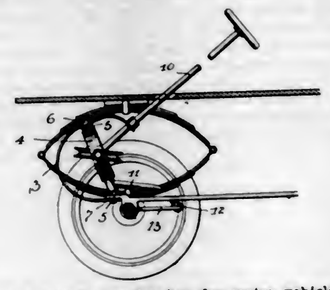
5. In a reversing valve, a cylindrical casing comprising a stationary casing chamber, and a yielding casing member carrying ports, a hollow rotary valve within the casing, and connections for yieldingly pressing the port section against said valve; substantially as described.

6. In a reversing valve, a cylindrical casing comprising a stationary casing member and a yielding casing member carrying ports, a hollow rotary valve within the casing, and springs arranged to force the yielding casing member toward the valve; substantially as described.

7. In a reversing valve, a casing, a jacketed rotary valve arranged to oscillate therein and having a closed jacketed top, and inlet and outlet pipes at the central portion of said top; substantially as described.

8. In a reversing valve, a cylindrical casing comprising a stationary casing member, an adjustable casing member having ports, springs arranged to press the adjustable casing member inwardly, and a hollow rotary valve in the casing having top and bottom expansion rings; substantially as described.

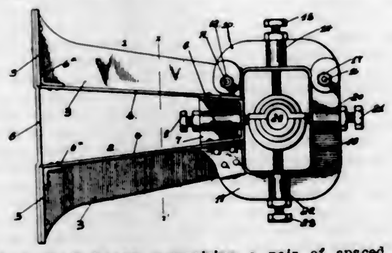
867,290. STEERING-GEAR. MARTIN A. MCENTIRE, Ashland, Ohio. Filed July 1, 1907. Serial No. 381,648.



1. In a steering mechanism for motor vehicles, a ring mounted to pivot on a substantially vertical axis, connections between the ring and steering wheels whereby the movement of the rings swings the latter, a circular member within the ring, projections on one of said parts engaging grooves in the other, and means for swinging the circular part, substantially as described.

2. In a steering mechanism for motor vehicles, a ring mounted to pivot on a substantially vertical axis, connections whereby the swinging of the ring swings the steering wheels, a grooved disk located within the ring, projections from the ring entering the grooves of the disk, and a steering rod secured to the disk at an oblique angle thereto, substantially as described.

867,291. SHAFT-HANGER. ELMER E. MCINTYRE, Pittsburg, Pa. Filed Oct. 15, 1906. Serial No. 338,989.

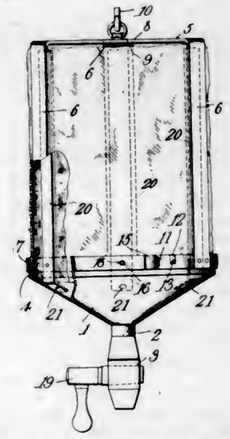


1. A shaft hanger comprising a pair of spaced legs each embodying a web flanged at one end and having laterally-extending flanges along one edge, a tie plate binding the flanged ends of said legs together, a cross head interposed between the legs at the outer end of the latter and secured to the flanges thereof and having a bearing therein, a bearing-support having one end fixedly-secured to one of said legs at the outer end of the latter and having bearings, a yoke connected at one end to the outer end of the other leg and at its opposite end connected to the free end of said bearing-support, a bearing in said yoke, screws mounted in said several bearings, and a journal-box supported by said screws.

2. In a shaft hanger, two supporting legs each embodying a web having a flanged end and having laterally-extending flanges projecting in opposite directions from one edge of the web, a cross-head mounted between the outer ends of said legs and having lateral-flanges secured to the lateral-flanges of the legs, a substantially J-shaped bearing-support secured at one end to one of said legs, a yoke secured at one end to the other of said legs and at its opposite end secured to the free end of said bearing-support, screws adjustably-mounted in said bearing-support and cross-head and yoke, and a journal-box carried by said screws.

3. In a shaft hanger, the combination with a pair of supporting-legs, a cross-head connecting the legs together at their outer ends and having a bearing, and a yoke connected at one end to the outer end of one of the legs and having a bearing, of a bearing support of substantially J-shape secured at one end to the other of said legs and at its other end secured to said yoke, and having bearings, screws in said several bearings, and a journal-box carried by said screws.

867,292. BARREL OR BAG EMPTYING DEVICE. WILLIAM NEEF, Marcellon, Wis. Filed July 23, 1906. Serial No. 327,417.



1. In a device of the character described, the combination with an upper portion adapted to be suspended from a suitable support and embodying a series of rigid uprights connected at their upper ends and forming an opening at their lower ends, and a ring rigidly secured to the lower ends of said uprights and capable of expansion and contraction, and means for locking said ring in contracted condition, of a hopper having a rim adapted to coöperate with said ring to close the lower end of the structure formed by said uprights and having means adapted to be locked and unlocked relatively to said ring by the contraction and expansion thereof.

2. In an apparatus of the class described, the combination of a hopper-shaped bottom provided with a rim, a split ring extending around the rim, means for locking the ends of the ring together, means for detachably connecting the ring and rim, a supporting structure connected with the ring, and devices on the hopper arranged to hold the bag extended.

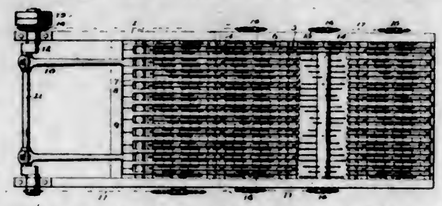
3. In an apparatus of the class described, the combination of a hopper-shaped bottom provided with a rim, a ring extending around the rim, means for locking the ends of the ring together, devices for supporting the bottom on the ring, a supporting structure rigidly connected with the ring for holding the bag to be emptied, and members extending upwardly from the bottom to hold the bag extended.

4. In a device of the character described, the combination with an upper portion having a series of suitably spaced rigid uprights adapted to coöperate with the outer sides of a sack, of a bottom adapted to coöperate with the upper portion and having a series of suitably spaced uprights rigidly secured thereto and arranged to coöperate with the inner side of a sack to support the latter in expanded position.

5. In a device of the character described, the combination with an upper portion embodying a series of suitably spaced rigid uprights fixed at their upper ends and providing an opening at their lower ends, a ring connecting the lower ends of said uprights and provided with suitable attaching devices, of a hopper-shaped bottom having devices thereon adapted to coöperate with the attaching

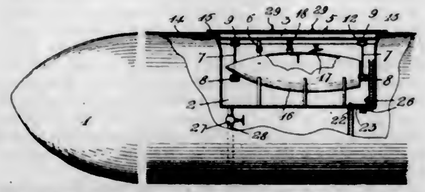
devices on said ring for retaining the bottom in coöperative relation with the upper portion, and a series of suitably spaced rigid uprights having their lower ends rigidly secured to the bottom at points within the uprights of the upper section and arranged to hold a sack expanded against the inner side of the uprights of the upper portion.

867,293. REFUSE-SEPARATOR FOR BEETS. FREDERICK NOBLE and FREDERICK WIETZER, Rocky Ford, Colo. Filed Dec. 22, 1906. Serial No. 349,194.



In a refuse separator for beets, the combination of a stationary frame provided with inclined stepped parallel bars, rollers carried thereby, a movable frame provided with stepped parallel bars, said movable frame moving back and forth on said rollers in the plane of the stationary bars, a plurality of separator rollers, each provided with a series of spirally-disposed fingers, playing between the stationary and movable bars, and means for reciprocating said movable frame and for rotating said separator rollers, substantially as described.

867,294. SUBMARINE BOAT. WILLIAM J. O'HAIRE, Washington, D. C. Filed Jan. 15, 1906. Serial No. 296,204.



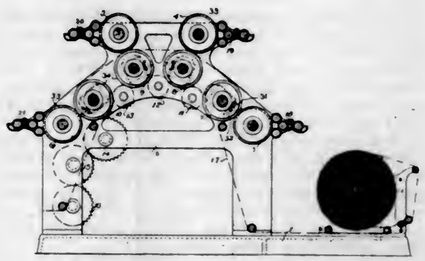
1. A sub-marine boat having a water-tight life boat compartment separate from the main body of the boat and opening through the top of said boat, water-tight hatches or doors to close said compartment, means to secure said door, and means whereby said compartment may be flooded, substantially as described.

2. A sub-marine boat having a water-tight life boat compartment separate from the main body of the boat and opening through the top of said boat, water-tight hatches or doors to close said compartment, a locking screw to engage said doors thereby securing the same in closed position, a flooding valve, and a drain valve arranged in said compartment, substantially as described.

3. A sub-marine boat having a water tight life boat compartment separate from the main body of the boat and opening through the top of said boat, water-tight hatches or doors to close said compartment on the outside, a trap door to afford access to said compartment from the submarine boat, fastening devices arranged on each side of said trap door, whereby the same may be locked from within the compartment or from within the main body of the sub-marine boat, a closed life boat arranged in said compartment, said boat having a water-tight trap door, and means operated within the life boat to hold the door in closed water-tight position, substantially as described.

4. A sub-marine boat having a water-tight life boat compartment separate from the main body of the boat and opening through the top of said boat, hinged hatches or doors to close said compartment on the outside, said hatches or doors having laterally-projecting flanges on their outer edges to project over onto the deck or top of the sub-marine boat, a flange formed on the inner edge of one of said hatches to lap over onto the meeting edge of the other, braces pivotally connected at one end to one side of said compartment and adapted to loosely engage pivoted socket castings on the inner side of the adjacent hatch or trap door, valves to flood and to drain said compartment, a closed life boat arranged therein, and means to secure said hatches or trap doors of the compartment to said life boat, substantially as described.

867,295. PRINTING-PRESS. GEORGE E. PANCOAST, Brooklyn, N. Y., assignor to American Lithographic Company, a Corporation of New York. Filed May 27, 1901, Serial No. 62,062. Renewed Dec. 3, 1904. Serial No. 235,333.



1. In a web printing press the combination with a series of impression surfaces from one to another of which the paper is successively transferred during printing, of a series of rotary printing members one of which is provided, irrespective of the printing surfaces, with one or more circumferentially continuous web forwarding surfaces which make pressure contact with the web being printed and continuously operate in such contact.

2. In a web printing press the combination with a series of impression surfaces from one to another of which the paper is successively transferred in printing, of a series of rotary printing members, the final one of which is provided, irrespective of the printing surfaces, with one or more circumferentially continuous web forwarding surfaces which make pressure contact with the web being printed and continuously operate in such contact.

3. In a web printing press, the combination with a series of impression surfaces from one to another of which the paper is successively transferred between impressions of a series of rotary printing members, each one of which is provided, irrespective of the printing surfaces, with one or more circumferentially continuous web forwarding surfaces, which make pressure contact with the web being printed and continuously operate in such contact.

4. A web printing press comprising a series of rotary printing couples having circumferentially discontinuous printing and impression surfaces, one couple at least having one or more sets of circumferentially continuous web-forwarding surfaces which make pressure contact with the web being printed and continuously operate in such contact.

5. A web printing press comprising a series of rotary printing couples having circumferentially discontinuous printing and impression surfaces, the final couple of the series having one or more sets of circumferentially continuous web-forwarding surfaces which make pressure contact with the web being printed and continuously operate in such contact.

6. A web printing press comprising a series of rotary printing couples having circumferentially discontinuous printing and impression surfaces, each couple of the series having one or more sets of circumferentially continuous web-forwarding surfaces which make pressure contact with the web being printed and continuously operate in such contact.

7. In a web printing press the combination with a series of printing cylinders, of a corresponding series of impression cylinders each of which is provided with one or more circumferentially continuous web-forwarding surfaces, and means irrespective of the printing surfaces for coöperating with said web-forwarding surfaces whereby the web may be continuously and uniformly advanced through the press.

8. In a web printing press the combination with a series of printing cylinders, of a corresponding series of impression cylinders each of which is provided with one or more laterally adjustable circumferentially continuous web-forwarding surfaces, and means irrespective of the printing surfaces for coöperating with said web-forwarding surfaces whereby the web may be continuously and uniformly advanced through the press.

9. A web printing press comprising a series of rotary printing couples, one couple at least of the series having one or more sets of circumferentially continuous web-forwarding surfaces which are laterally adjustable with relation to the printing surface or surfaces and make continuous pressure contact with the web being printed.

10. A web printing press comprising a series of rotary printing couples, each couple of the series having one or more sets of circumferentially continuous web-forwarding surfaces which are laterally adjustable with relation to the printing surface or surfaces and make continuous pressure contact with the web being printed.

11. In a web printing press the combination with a series of impression surfaces from one to another of which the paper is transferred successively between impressions, of a series of rotary printing members one of which is provided with two circumferentially continuous web forwarding surfaces, the said web forwarding surfaces being located adjacent to the opposite ends of the printing surface and adapted to make continuous pressure contact with the outer margins of the web being printed, substantially as described.

12. A web printing press comprising a series of rotary printing couples having circumferentially discontinuous printing and impression surfaces, one couple at least having two sets of circumferentially continuous web-forwarding surfaces, said sets of web-forwarding surfaces being located adjacent to the opposite ends of the printing surfaces and adapted to make continuous pressure contact with the outer margins of the web being printed, substantially as described.

13. In a web printing press the combination with a series of printing cylinders, of a corresponding series of impression cylinders each of which is provided with two circumferentially continuous web-forwarding surfaces located adjacent to the opposite ends of the printing surfaces, and means for coöperating with said web-forwarding surfaces whereby the web may be continuously and uniformly advanced through the press, substantially as described.

14. In a web printing press a printing cylinder having one or more circumferentially continuous web-forwarding surfaces each consisting of a circumferentially continuous inflexible ring adjustably secured in place upon the cylinder, said ring being so formed on one edge as to adapt it as a means for securing one edge of the printing plates.

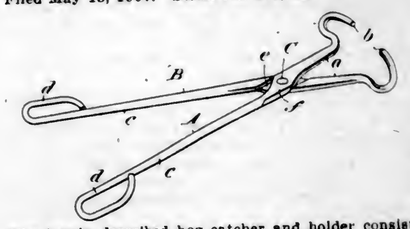
15. In a web printing press a printing cylinder having one or more circumferentially continuous web-forwarding surfaces each consisting of a circumferentially continuous inflexible ring having a yielding face and adjustably secured in place upon the cylinder said ring being undercut at one edge to form one member of a securing means for the printing plates, substantially as described.

16. In a web printing press an impression cylinder having a circumferentially discontinuous impression surface and one or more bridge pieces forming with the impression surface one or more circumferentially continuous web forwarding surfaces.

17. In a web printing press an impression cylinder having a circumferentially discontinuous impression surface and one or more laterally adjustable bridge pieces forming with the impression surface one or more laterally adjustable circumferentially continuous web-forwarding surfaces.

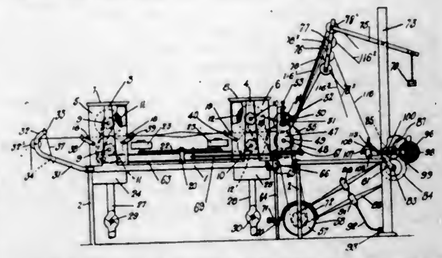
18. In a web printing press the combination with a printing cylinder having one or more circumferentially continuous web-forwarding surfaces each consisting of a ring adjustably secured in place upon the cylinder of an impression cylinder having a circumferentially discontinuous impression surface and one or more bridge pieces forming with the impression surface one or more circumferentially continuous web-forwarding surfaces adapted to coöperate with the web-forwarding surfaces of the printing cylinder, whereby the web may be advanced continuously and uniformly through the press, substantially as described.

867,296. HOG-CATCHER. ARTHUR W. PARK, Viola, Ill. Filed May 15, 1907. Serial No. 373,782.



The herein described hog catcher and holder consisting essentially of the members A and B having straight forward arms arranged in the same plane, U-shaped jaws *b* inclined upward and forward from the forward ends of said forward arms, and straight rear arms arranged in the same plane with their rear portions bent laterally outward forward and inward to form open handles lying in the same plane as the rear arms, and also having diamond-shaped recesses and diamond-shaped portions, increased in width and reduced in thickness, arranged intermediate the forward and rear arms; the diamond-shaped portion of one member being disposed in the correspondingly shaped recess of the other, and a pintle connecting the said diamond-shaped portion.

867,297. SINGEING AND WINDING MACHINE. WILLIAM C. PERRY, Charlestown, R. I. Filed Dec. 6, 1905. Serial No. 290,555.



1. In a machine of the character described the combination with the frame, of means upon the frame for carrying a twisted fabric strip, a support pivoted to the frame, a plurality of burners mounted on the support below and in alinement with the strip, and means for transversely moving the burners out of alinement with the strip.

2. In a machine of the character described the combination with the frame, and means upon the frame for advancing a horizontally disposed twisted fabric strip, of a support pivotally mounted on the frame beneath the strip, a plurality of burners upon the support and normally in vertical alinement with the fabric strip, and means for partially rotating the support to carry the burners out of vertical alinement.

3. The combination with the frame, driving shaft, tight and loose pulleys, and shipper of a machine of the character described, of a burner support pivoted upon the frame, a bar pivotally mounted in the frame, two arms fixed to the bar, a shipper rod connecting the shipper with one of the arms, and a rod connecting the other arm with the burner carrier.

4. The combination with the frame, driving shaft, tight and loose pulley, and shipper of a machine of the character described, of a burner support pivoted upon the frame, a bar pivotally mounted in the frame, a stop upon the bar, two arms adjustably fixed to the bar, a shipper rod connecting the shipper with one of the arms, and a rod connecting the other arm with the burner carrier.

5. In a machine of the character described, the combination with the frame of a plurality of pairs of brush rolls mounted in the frame, a housing provided with lateral slits to admit the passage of the fabric inclosing each pair of brush rolls, a pair of drawing rolls mounted upon the frame adapted to draw the fabric through the brush rolls, and guiding means for the fabric mounted upon the housings adjacent the lateral slits.

6. In a machine of the character described the combination with the frame of a pair of brush rolls on the frame, a housing with lateral slits to allow passage of the fabric therethrough inclosing the brush rolls, a removable cover upon the housing, a waste receptacle beneath the housing, a waste pipe leading from the receptacle, and means in the waste pipe for exhausting the refuse from the receptacle.

7. In a machine of the character described a guide for a plurality of fabric strips, the same comprising a bar with bent extremities, a plurality of plates provided with slots, wings upon the ends of the plates, and binding screws traversing the slots.

8. In a machine of the character described the combination with the drawing rolls and frame of the singeing mechanism of a winding roll mounted in the frame to receive the singed fabric, a reciprocating carriage adjacent the winding roll for directing the fabric to the winding roll, means intermediate the drawing rolls and carriage for tensioning the singed fabric in its travel to the carriage, and means for actuating the winding roll and carriage actuating the drawing rolls.

9. In a machine of the character described the combination with the drawing rolls and frame of the singeing mechanism, of a winding roll mounted in the frame, to receive the singed fabric, a reciprocating carriage adjacent the winding roll for directing the fabric to the winding roll, a spool rack pivoted to the frame, spools upon the rack over which the singed fabric passes to the carriage, means for pressing the spools against the fabric, and means for actuating the winding roll and carriage actuating the drawing rolls.

10. In a machine of the character described the combination with the frame, of a drum rotatably mounted in the frame, a winding roll removably mounted in the frame resting upon and rotated by the drum, guide rods in the frame adjacent the roll, a carriage slidably mounted upon the guide rods, means upon the frame adjacent the rods for sliding the carriage, and means upon the winding roll actuating the sliding means.

11. In a machine of the character described, the combination with the frame, of a drum rotatably mounted in the frame, a winding roll removably mounted in the frame resting upon and rotated by the drum, guide rods fixed in the frame adjacent the roll, a reciprocating carriage on the guide rods, an endless belt moving parallel with the guide rods, a pitman rod connecting the belt and carriage, a driving pulley engaged by the belt, means for rotating the pulley, and means carried by the winding roll actuating the means for rotating the pulley.

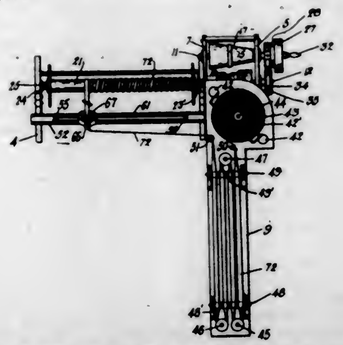
12. In a machine of the character described the combination with the frame of a drum rotatably mounted in the frame, a winding roll removably mounted in the frame resting upon and rotated by the drum, a shaft on the winding roll, a removable pinion on the shaft, a bracket upon the frame, a stud in the bracket, a nest of gears upon the stud meshing with the stud, a bevel gear upon the nest of gears, an arm upon the bracket, a pulley shaft in the arm a gear on the pulley shaft engaging the bevel gear, a pulley also on the pulley shaft, guide rolls fixed in the frame adjacent the winding roll, a reciprocating carriage on the guide rods, an endless belt moving parallel with the guide rods and driven by the pulley, and a pitman rod connecting the belt and carriage.

13. In a machine of the character described the combination with the drawing rolls, frame, and driving shaft of the singeing mechanism, of a cone pulley on the driving shaft, a driven shaft mounted in the frame, a drum and a cone pulley oppositely disposed in relation to the driving pulley upon the driven shaft, an endless belt connecting the two pulleys a shipper mounted upon the frame, and operating upon the belt to vary the speed of the drum, and a winding roll resting upon and driven by the drum.

14. In a machine of the character described the combination with the frame, of a drum rotatably mounted in the frame, a winding roll resting upon the drum, guide rods in the frame adjacent the roll, a carriage slidably mounted upon the guide rods, means upon the frame adjacent the rods for sliding the carriage, and means operated by the winding roll and actuating the sliding means for regulating the speed of the carriage in relation to the speed of the roll.

15. In a machine of the character described the combination with the frame, of a drum rotatably mounted in the frame, a winding roll mounted on the drum, a shaft on the winding roll, a removable pinion on the shaft, a nest of stepped gears driven by the pinion, guide rods in the frame adjacent the winding roll, a carriage slidably mounted upon the guide rods, and means upon the frame operated by gears for sliding the carriage.

867,298. WINDING-MACHINE. WILLIAM C. PERRY, Charlestown, R. I. Filed May 21, 1906. Serial No. 317,878.



1. In a machine of the type set forth the combination with a table upon which a webbing block is rotatably mounted, of a series of interspaced vertical rollers upon the table over which the webbing strip alternately passes from the block, means upon the table for maintaining the strip in a horizontal plane intermediate the rollers, and means for drawing the strip from the block and around the rollers.

2. In a machine of the type set forth the combination with a table upon which a webbing block is rotatably mounted, of pins upon the table adjacent the block for guiding the fabric strip from the block, vertically disposed interspaced rollers upon the table around which the strip is adapted to pass intermediate the guide pins, transversely disposed horizontal rollers mounted upon the table adjacent the vertical rollers, and means for drawing the strip around the pins and over the rollers.

3. In a machine of the type set forth the combination with the frame, of a guide rail on the frame, a feeding carriage upon the rail, a driven pulley mounted in the frame parallel with the guide rail, a removable spool rotatably mounted in the frame with one of its ends resting in the end of the pulley and interlocking means upon the spool for engaging the pulley, and means for driving the driven pulley actuating means for reciprocating the carriage.

4. In a machine of the type set forth the combination with the spool and reciprocating feeding carriage, of a table for rotatably supporting the fabric block, means for rotating the spool, and means upon the table for tensioning the fabric in its travel from the block to the carriage.

5. In a machine of the type set forth the combination with a winding spool and reciprocating feeding carriage, of a table for rotatably supporting the fabric block, means for rotating the spool, and means upon the table for displaying the opposite sides of the fabric in its travel from the block to the carriage.

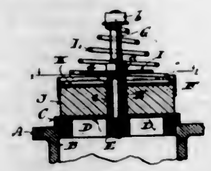
6. In a machine of the type set forth the combination with a winding spool, of a driven shaft, a cone pulley on the driving shaft, a second shaft, a cone pulley on the second shaft, an open belt connecting the two pulleys, a rotatable threaded bar parallel with the shaft and within the belt, a longitudinaly movable block mounted on the bar, roller couplets on each side of the block adapted to engage the opposite flat sides of the belt, and a driving connection between the second shaft and the driven shaft.

7. In a machine of the type set forth the combination with the guide rail, winding spool, and spool driving mechanism, of sprocket wheels in the rail, a chain connecting the sprocket wheels, a pin in the chain, a carriage base slidably mounted on the rail provided with a transverse slot to receive the end of the pin, a fork upon one side of the carriage base, a roller upon the opposite side of the base, an arm projecting from the side of the base, a guide frame upon the arm and operative connections between the sprocket wheels and spool driving mechanism.

8. In a machine of the type set forth the combination with the frame, of a guide rail upon the frame, a feeding carriage mounted upon the rail, a spool rotatably mounted in the frame adjacent the guide rail, means for rotating the spool, actuating means for imparting constant continuous rectilinear movement to the carriage, and means for changing the speed of the spool rotating means in relation to the speed of the carriage actuating means.

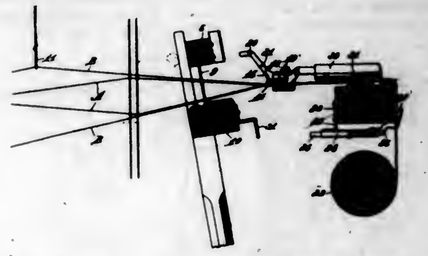
9. In a machine of the type set forth the combination with the frame, of a guide rail on the frame, a feeding carriage slidably mounted upon the rail, a stepped pulley in the frame for driving the carriage, operative connections between said stepped pulley and the carriage, a spool rotatably mounted in the frame, a second stepped pulley mounted in the frame and engaging the end of the spool and a driving connection between the stepped pulleys.

867,299. CHECK-VALVE. ANTON J. PFLUGER, Brillion, Wis., assignor of one-third to Charles Boetcher and one-third to Edward H. Kloehn, Brillion, Wis. Filed Mar. 31, 1906. Serial No. 309,107.



In a check valve, a seat therefor having a central hub and supporting spider arms, a stem fitted in said hub, a spacing sleeve provided with an upper disk, a retaining nut threaded on the stem and adapted to bind said sleeve and disk between the nut and aforesaid hub, a valve having a rubber face, and metal cup piece provided with flanges in either direction and adapted to slide on the sleeve of said stem, a helical spiral spring above said cap piece, and a retaining nut fitted upon the aforesaid stem whereby the spring tension is regulated.

867,300. SELVAGE-FORMING MECHANISM FOR LOOMS. JAMES L. POALK, Philadelphia, Pa., assignor to Automatic Oscillating Loom Company of America, a Corporation of New Jersey. Filed July 28, 1906. Serial No. 328,241. Renewed July 30, 1907. Serial No. 386,246.

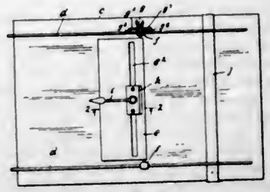


1. In a loom provided with regular sets of warps into a plurality of the sheds of which a continuous weft thread cut into definite lengths is adapted to be thrown, a set of auxiliary warp threads arranged to interlock periodically with the projecting loose ends of said continuous weft thread at one edge only of the fabric and means for operating said auxiliary warp threads independently of the main warps.

2. A selvage forming mechanism for looms provided with regular warps into a plurality of the sheds of which a continuous weft thread cut into definite lengths is adapted to be thrown, said mechanism comprising a set of auxiliary warp threads operated independently of the regular warps and arranged to interlock periodically with the loose ends of the weft and a hook mechanism adapted to interlock with the bends connecting the portions of the weft entering successive sheds.

3. A selvage forming mechanism for looms provided with regular warps into a plurality of the sheds of which a continuous weft thread cut into definite lengths is adapted to be thrown, said mechanism comprising essentially a set of auxiliary warp threads operated independently of the regular warps and arranged to interlock periodically with the projecting loose ends of the weft at one edge only of the fabric, in combination with a cutting mechanism arranged to cut off said loose ends during the taking up of the fabric.

867,301. COPY-HOLDER. CHARLES C. PRICE, Boone Grove, Ind., assignor of one-half to Etta De Forrest, Andover, Mass. Filed May 22, 1907. Serial No. 374,997.

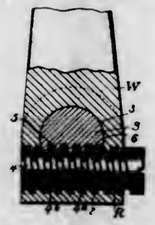


1. A copy holder, comprising a back member, parallel raised supports connected with the opposite side portions thereof, a transversely arranged line indicator provided with slides mounted on said supports, means for adjusting the line indicator and slides on said supports, a slide mounted on the line indicator and adjustable transversely of the back member, and a pointer pivoted to said slide and adapted to swing in a plane parallel with the line indicator.

2. A copy holder, comprising a back member, parallel raised supports connected with the opposite side portions thereof, slides mounted on said supports, a transverse line

indicator connected with said slides a clamp device connected with one of said slides and operating in connection with the support on which said slide is mounted to hold the line indicator in any desired position, said clamp device comprising spring operated jaws having handles by means of which the said clamp device may be operated and the line indicator adjusted on said supports, a slide mounted on the line indicator and adjustable transversely of the back member, and a pointer pivoted to said slide.

867,302. FASTENING DEVICE. FRANCIS H. RICHARDS, Hartford, Conn. Filed Dec. 18, 1901, Serial No. 86,374. Renewed Jan. 31, 1906. Serial No. 298,825.



1. In a two-part fastening device, the combination with a locking piece, of a part having intersecting transverse openings, one for the reception of the part to be connected to the mentioned part and the other a shouldered opening with the shoulders of which the locking piece is adapted to engage, one at least of the contactual surfaces of the locking piece being inclined to the axis of said piece, while the contactual surface at the diametrically opposite side thereof is substantially parallel to said axis.

2. In a two-part fastening device, the combination with a locking piece, of a part having intersecting transverse openings, one for the reception of the part to be connected to the mentioned part and the other a shouldered opening with the shoulders of which the locking piece is adapted to engage, one at least of the contactual surfaces at the side of the locking piece being curved and inclined to the axis of said piece, while the contactual surface at the diametrically opposite side thereof is cylindrical.

3. In a two-part fastening device, the combination with a locking piece, of a part having transverse openings, one for the reception of the part to be connected to the mentioned part and the other a shouldered opening with the shoulders of which the locking piece is adapted to engage, one at least of the contactual surfaces at the side of the locking piece being inclined to the axis of the locking piece while the contactual surface at the diametrically opposite side thereof is substantially parallel to said axis and spirally arranged.

4. In a two-part fastening device, the combination with a locking piece, of a part having intersecting transverse openings, one for the reception of the part to be connected to the mentioned part and the other a shouldered opening with the shoulders of which the locking piece is adapted to engage, one at least of the contactual surfaces at the side of the locking piece being inclined to the axis of the locking piece while the contactual surface at the diametrically opposite side thereof is cylindrical, both the conical and cylindrical surfaces being spirally disposed.

5. In a two-part fastening device, the combination with a locking piece having a cylindrical contactual surface at one distance from the axis and a diametrically opposite conical contactual surface at a less distance therefrom, of a part having intersecting transverse openings, one for the reception of the part to be connected to the mentioned part, and the other opening being provided with shoulders adapted to engage with the locking piece.

6. In a two-part fastening device, the combination with a locking piece having a cylindrical contactual surface located at one distance from its axis and a diametrically opposite conical contactual surface at another distance therefrom, and both of which surfaces are spirally arranged, of a part having intersecting transverse openings, one for the reception of the part to be connected to the mentioned part and the other opening being provided with shoulders adapted to engage with the locking piece.

7. In a two-part fastening device, the combination with a locking piece having a cylindrical contactual surface located at one distance from its axis and a diametrically opposite conical contactual surface at a less distance therefrom, and both of which surfaces are spirally arranged, of a part having intersecting transverse openings, one for the reception of the part to be connected to the mentioned part, and the other opening being provided with shoulders adapted to engage with the locking piece.

8. In a two-part fastening device, the combination with a locking piece, of a part having intersecting transverse openings, one of which openings has a smooth bore and is adapted to receive the part to be connected to the mentioned part and the other opening being provided with shoulders adapted to engage with the locking piece, one at least of the contactual surfaces at the side of the locking piece being inclined to the axis thereof while the contactual surface at the diametrically opposite side thereof is parallel to said axis.

9. In a two-part fastening device, the combination with a locking device having diametrically opposite cylindrical and conical contactual surfaces, both spirally disposed, of a part having intersecting transverse openings, one for the reception of the part to be connected to the mentioned part and the other for the reception of the locking piece, this latter opening having an operative surface spirally disposed.

10. In a two-part fastening device, the combination with a locking piece having diametrically opposite conical and cylindrical contactual surfaces at different distances from the axis of the piece, of a part having intersecting transverse openings, one of the openings having a smooth bore and being adapted to receive the part to be connected to the mentioned part and the other of the openings having an operative surface spirally disposed and being adapted to receive the locking piece.

11. In a two-part fastening device, the combination with a screw-like locking piece having a greater depth of thread at the entering end of the screw than at the other end, of a part having intersecting transverse openings, one for the reception of the part to be connected to the mentioned part, and the other opening having an operative surface spirally disposed and adapted to engage with the locking piece.

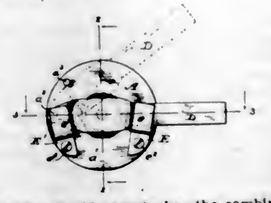
12. In a two-part fastening device, the combination with a screw-like locking piece having a greater depth of thread at the entering end of the screw than at the other end, of a part having intersecting transverse openings, one opening having a smooth bore and being adapted to receive the part to be connected to the mentioned part and the other opening having an operative surface spirally disposed and adapted to engage with the locking piece.

13. In a two-part fastening device, the combination with a screw-like locking piece having a greater depth of thread at the entering end of the screw than at the other end, of a part having intersecting transverse openings, one opening having a smooth bore and being adapted to receive the part to be connected to the mentioned part, and the other opening having a thread of a depth not greater than the minimum depth of the thread upon the locking piece and being adapted to receive said locking piece, and a part connected to the said first mentioned part, said connected part having thread sections of a depth not less than the maximum depth of the thread on the locking piece.

14. In a fastening device the combination with a screw-like locking piece having a greater depth of thread at the entering end of the screw than at the other end, of a part having intersecting transverse openings, one for the reception of the part to be connected to the mentioned part and the other opening having a thread of a depth not greater than the minimum depth of the thread on the locking piece and which is adapted to engage with the thread on said locking piece, the connected part having thread sections constituting a continuation of the thread within the opening in which the locking piece is located and the depth of which thread sections are not substantially less than the maximum depth of the thread on the locking piece.

15. In a two-part fastening device, the combination with a locking piece having a conical core and a spirally disposed thread, the perimeter of the spiral being cylindrical throughout, of a part having intersecting transverse openings, one of these for receiving the part to be coupled to the mentioned part and the other being cylindrical and provided with a spirally disposed thread not greater than the minimum depth of the thread upon the locking piece, and a part occupying the first of said openings and having a thread of a depth not less than the maximum depth of the thread on the locking piece.

867,303. GATE FOR LIQUID-RECEPTACLES. WILLIAM S. ROBERTSON, Barberton, Ohio, assignor of one-half to Albert F. Hughes, Cleveland, Ohio. Filed May 22, 1905. Serial No. 261,731.



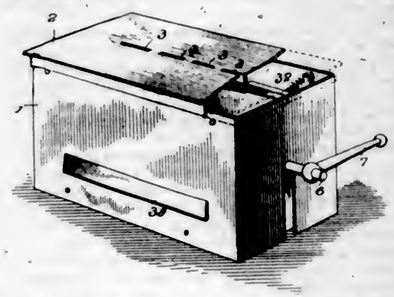
1. In a gate for liquid receptacles, the combination of a body-portion adapted to be connected to the receptacle and provided with an outlet for the receptacle's contents; a pin secured to said body-portion at one side of said outlet; a handle pivoted at one end to said pin; means movably mounted upon said body-portion and adapted to retain such end of said handle upon said pin; and a cap borne by said handle and adapted to close said outlet.

2. In a gate for liquid receptacles, the combination of a body-portion adapted to be connected to the receptacle and provided with an outlet for the receptacle's contents; a pin secured to said body-portion at one side of said outlet; a handle pivoted at one end to said pin; a clip movably mounted upon said body-portion and provided with an angular offset adapted in one position of said clip to retain such end of said handle upon said pin; and a cap borne by said handle and adapted to close said outlet.

3. In a gate for liquid receptacles, the combination of a body portion adapted to be connected to the receptacle and provided with an apertured boss adapted to register with said receptacle's outlet; a pin secured to said body portion at one side of said boss; a handle pivoted at one end on said pin and conforming to the shape of said boss so as to be movable transversely across the same; a clip movably mounted on said body portion and adapted normally to retain such end of said handle upon said pin; a separate cap borne by said handle and adapted to close the aperture in said boss; and a second clip adapted to engage said handle when disposed across said boss so as to seat said cap tightly upon the latter.

4. In a gate for liquid receptacles, the combination of a body portion adapted to be connected to the receptacle and provided with a hollow boss adapted to register with the receptacle outlet; a pin secured to said body portion, an operating handle pivoted at one end to said pin and movable transversely of said boss; stop-lugs secured to said body portion and adapted to contact with said handle to limit the movement of the latter; a cap located intermediately of said handle and said boss and adapted to close the outlet of the latter; a seat in said handle for said cap; a cylindrical teat upon said cap; and a socket, of less depth than the thickness of the teat, in said seat-portion of said cap for receiving said teat; said stop-lugs being arranged to allow the movement of said handle only upon one side of said boss, and on that side only to the extreme engaging position of said cap and said boss; and said cap arranged, by the construction of said teat and socket, to assume a tilted position except when it completely covers said boss opening.

867,304. COIN-TESTING MACHINE. MORGAN D. SADTLER, Baltimore, Md., assignor of one-half to Jesse B. Forrester, Baltimore, Md. Filed June 22, 1906. Serial No. 322,904.



1. In a coin testing machine, the combination with a plurality of pairs of jaws, each pair being adapted to hold a coin between them, of means for subjecting one jaw of each pair to a resistance sufficient to bend anything of less hardness than the coin to be tested and means for moving all the jaws not subject to tension simultaneously whereby a coin or token held between any of the pairs of jaws will either move the jaw subject to tension or be bent.

2. In a coin testing machine, the combination with a plurality of pairs of jaws, each pair of jaws being provided with slots in their adjacent faces adapted to receive a coin between them, of means for subjecting one of each pairs of jaws to a resistance sufficient to bend anything of less hardness than the coin to be tested and means for turning all the jaws not subject to tension simultaneously, whereby a coin or token held between any of the pairs of jaws will either move the jaw subject to tension or be bent.

3. In a coin testing machine, the combination with a shaft, of a pair of jaws spaced apart and mounted on said shaft, one of said jaws being fast on said shaft and the other being loosely mounted thereon, means for subjecting the jaw which is loose on said shaft to a resistance sufficient to bend anything of less hardness than the coin to be tested and means whereby the shaft may be rotated whereby a coin or token held between the jaws will either move the jaw subject to tension or be bent.

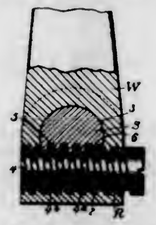
4. In a coin testing machine, the combination with a shaft, of a plurality of pairs of jaws mounted on the shaft, one of the jaws of each pair being fast on the shaft and the other loose thereon, means for subjecting the latter one of each pair of jaws to a resistance sufficient to bend anything of less hardness than the coin to be tested and means whereby the shaft may be rotated to rotate all the jaws fast thereon whereby a coin or token held between any of the pairs of jaws will either move the jaw subject to tension or be bent.

5. In a coin testing machine, the combination with a shaft, of a pair of jaws mounted on said shaft, one of said jaws being fast and the other loose thereon, said jaws being adapted to hold a coin between them, means for subjecting said loose jaw to a resistance sufficient to bend anything of less hardness than the coin to be tested, means whereby the shaft may be turned to rotate the jaw not subject to tension whereby the coin or token held between the jaws will either turn the jaw not subject to tension or be bent and means fast on the shaft and adjacent to the loose jaw adapted to return the jaw to its normal position after it has been moved therefrom by a coin.

6. In a coin testing machine, the combination with a shaft, of a pair of disks mounted on the shaft adapted to hold a coin in them, one of said disks being fast on the

indicator connected with said slides a clamp device connected with one of said slides and operating in connection with the support on which said slide is mounted to hold the line indicator in any desired position, said clamp device comprising spring operated jaws having handles by means of which the said clamp device may be operated and the line indicator adjusted on said supports, a slide mounted on the line indicator and adjustable transversely of the back member, and a pointer pivoted to said slide.

867,302. FASTENING DEVICE. FRANCIS H. RICHARDS, Hartford, Conn. Filed Dec. 18, 1901, Serial No. 86,374. Renewed Jan. 31, 1906. Serial No. 298,825.



1. In a two-part fastening device, the combination with a locking piece, of a part having intersecting transverse openings, one for the reception of the part to be connected to the mentioned part and the other a shouldered opening with the shoulders of which the locking piece is adapted to engage, one at least of the contactual surfaces of the locking piece being inclined to the axis of said piece, while the contactual surface at the diametrically opposite side thereof is substantially parallel to said axis.

2. In a two-part fastening device, the combination with a locking piece, of a part having intersecting transverse openings, one for the reception of the part to be connected to the mentioned part and the other a shouldered opening with the shoulders of which the locking piece is adapted to engage, one at least of the contactual surfaces at the side of the locking piece being curved and inclined to the axis of said piece, while the contactual surface at the diametrically opposite side thereof is cylindrical.

3. In a two-part fastening device, the combination with a locking piece, of a part having transverse openings, one for the reception of the part to be connected to the mentioned part and the other a shouldered opening with the shoulders of which the locking piece is adapted to engage, one at least of the contactual surfaces at the side of the locking piece being inclined to the axis of the locking piece while the contactual surface at the diametrically opposite side thereof is substantially parallel to said axis and spirally arranged.

4. In a two-part fastening device, the combination with a locking piece, of a part having intersecting transverse openings, one for the reception of the part to be connected to the mentioned part and the other a shouldered opening with the shoulders of which the locking piece is adapted to engage, one at least of the contactual surfaces at the side of the locking piece being inclined to the axis of the locking piece while the contactual surface at the diametrically opposite side thereof is cylindrical, both the conical and cylindrical surfaces being spirally disposed.

5. In a two-part fastening device, the combination with a locking piece having a cylindrical contactual surface at one distance from the axis and a diametrically opposite conical contactual surface at a less distance therefrom, of a part having intersecting transverse openings, one for the reception of the part to be connected to the mentioned part, and the other opening being provided with shoulders adapted to engage with the locking piece.

6. In a two-part fastening device, the combination with a locking piece having a cylindrical contactual surface located at one distance from its axis and a diametrically opposite conical contactual surface at another distance therefrom, and both of which surfaces are spirally arranged, of a part having intersecting transverse openings, one for the reception of the part to be connected to the mentioned part and the other opening being provided with shoulders adapted to engage with the locking piece.

7. In a two-part fastening device, the combination with a locking piece having a cylindrical contactual surface located at one distance from its axis and a diametrically opposite conical contactual surface at a less distance therefrom, and both of which surfaces are spirally arranged, of a part having intersecting transverse openings, one for the reception of the part to be connected to the mentioned part, and the other opening being provided with shoulders adapted to engage with the locking piece.

8. In a two-part fastening device, the combination with a locking piece, of a part having intersecting transverse openings, one of which openings has a smooth bore and is adapted to receive the part to be connected to the mentioned part and the other opening being provided with shoulders adapted to engage with the locking piece, one at least of the contactual surfaces at the side of the locking piece being inclined to the axis thereof while the contactual surface at the diametrically opposite side thereof is parallel to said axis.

9. In a two-part fastening device, the combination with a locking device having diametrically opposite cylindrical and conical contactual surfaces, both spirally disposed, of a part having intersecting transverse openings, one for the reception of the part to be connected to the mentioned part and the other for the reception of the locking piece, this latter opening having an operative surface spirally disposed.

10. In a two-part fastening device, the combination with a locking piece having diametrically opposite conical and cylindrical contactual surfaces at different distances from the axis of the piece, of a part having intersecting transverse openings, one of the openings having a smooth bore and being adapted to receive the part to be connected to the mentioned part and the other of the openings having an operative surface spirally disposed and being adapted to receive the locking piece.

11. In a two-part fastening device, the combination with a screw-like locking piece having a greater depth of thread at the entering end of the screw than at the other end, of a part having intersecting transverse openings, one for the reception of the part to be connected to the mentioned part, and the other opening having an operative surface spirally disposed and adapted to engage with the locking piece.

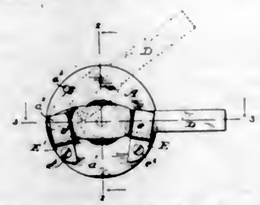
12. In a two-part fastening device, the combination with a screw-like locking piece having a greater depth of thread at the entering end of the screw than at the other end, of a part having intersecting transverse openings, one opening having a smooth bore and being adapted to receive the part to be connected to the mentioned part and the other opening having an operative surface spirally disposed and adapted to engage with the locking piece.

13. In a two-part fastening device, the combination with a screw-like locking piece having a greater depth of thread at the entering end of the screw than at the other end, of a part having intersecting transverse openings, one opening having a smooth bore and being adapted to receive the part to be connected to the mentioned part, and the other opening having a thread of a depth not greater than the minimum depth of the thread upon the locking piece and being adapted to receive said locking piece, and a part connected to the said first mentioned part, said connected part having thread sections of a depth not less than the maximum depth of the thread on the locking piece.

14. In a fastening device the combination with a screw-like locking piece having a greater depth of thread at the entering end of the screw than at the other end, of a part having intersecting transverse openings, one for the reception of the part to be connected to the mentioned part and the other opening having a thread of a depth not greater than the minimum depth of the thread on the locking piece and which is adapted to engage with the thread on said locking piece, the connected part having thread sections constituting a continuation of the thread within the opening in which the locking piece is located and the depth of which thread sections are not substantially less than the maximum depth of the thread on the locking piece.

15. In a two-part fastening device, the combination with a locking piece having a conical core and a spirally disposed thread, the perimeter of the spiral being cylindrical throughout, of a part having intersecting transverse openings, one of these for receiving the part to be coupled to the mentioned part and the other being cylindrical and provided with a spirally disposed thread not greater than the minimum depth of the thread upon the locking piece, and a part occupying the first of said openings and having a thread of a depth not less than the maximum depth of the thread on the locking piece.

867,303. GATE FOR LIQUID-RECEPTACLES. WILLIAM S. ROBERTSON, Barberton, Ohio, assignor of one-half to Albert F. Hughes, Cleveland, Ohio. Filed May 22, 1905. Serial No. 261,731.



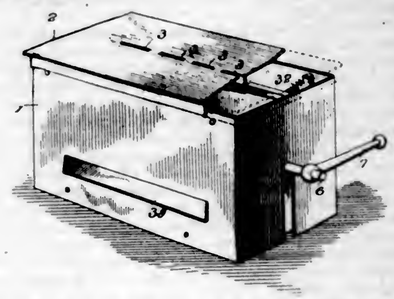
1. In a gate for liquid receptacles, the combination of a body-portion adapted to be connected to the receptacle and provided with an outlet for the receptacle's contents; a pin secured to said body-portion at one side of said outlet; a handle pivoted at one end to said pin; means movably mounted upon said body-portion and adapted to retain such end of said handle upon said pin; and a cap borne by said handle and adapted to close said outlet.

2. In a gate for liquid receptacles, the combination of a body-portion adapted to be connected to the receptacle and provided with an outlet for the receptacle's contents; a pin secured to said body-portion at one side of said outlet; a handle pivoted at one end to said pin; a clip movably mounted upon said body-portion and provided with an angular offset adapted in one position of said clip to retain such end of said handle upon said pin; and a cap borne by said handle and adapted to close said outlet.

3. In a gate for liquid receptacles, the combination of a body portion adapted to be connected to the receptacle and provided with an apertured boss adapted to register with said receptacle's outlet; a pin secured to said body portion at one side of said boss; a handle pivoted at one end on said pin and conforming to the shape of said boss so as to be movable transversely across the same; a clip movably mounted on said body portion and adapted normally to retain such end of said handle upon said pin; a separate cap borne by said handle and adapted to close the aperture in said boss; and a second clip adapted to engage said handle when disposed across said boss so as to seat said cap tightly upon the latter.

4. In a gate for liquid receptacles, the combination of a body portion adapted to be connected to the receptacle and provided with a hollow boss adapted to register with the receptacle outlet; a pin secured to said body portion, an operating handle pivoted at one end to said pin and movable transversely of said boss; stop-lugs secured to said body portion and adapted to contact with said handle to limit the movement of the latter; a cap located intermediately of said handle and said boss and adapted to close the outlet of the latter; a seat in said handle for said cap; a cylindrical teat upon said cap; and a socket, of less depth than the thickness of the teat, in said seat-portion of said cap for receiving said teat; said stop-lugs being arranged to allow the movement of said handle only upon one side of said boss, and on that side only to the extreme engaging position of said cap and said boss; and said cap arranged, by the construction of said teat and socket, to assume a tilted position except when it completely covers said boss opening.

867,304. COIN-TESTING MACHINE. MORGAN D. SADTLER, Baltimore, Md., assignor of one-half to Jesse B. Forrester, Baltimore, Md. Filed June 22, 1906. Serial No. 322,904.



1. In a coin testing machine, the combination with a plurality of pairs of jaws, each pair being adapted to hold a coin between them, of means for subjecting one jaw of each pair to a resistance sufficient to bend anything of less hardness than the coin to be tested and means for moving all the jaws not subject to tension simultaneously whereby a coin or token held between any of the pairs of jaws will either move the jaw subject to tension or be bent.

2. In a coin testing machine, the combination with a plurality of pairs of jaws, each pair of jaws being provided with slots in their adjacent faces adapted to receive a coin between them, of means for subjecting one of each pairs of jaws to a resistance sufficient to bend anything of less hardness than the coin to be tested and means for turning all the jaws not subject to tension simultaneously, whereby a coin or token held between any of the pairs of jaws will either move the jaw subject to tension or be bent.

3. In a coin testing machine, the combination with a shaft, of a pair of jaws spaced apart and mounted on said shaft, one of said jaws being fast on said shaft and the other being loosely mounted thereon, means for subjecting the jaw which is loose on said shaft to a resistance sufficient to bend anything of less hardness than the coin to be tested and means whereby the shaft may be rotated whereby a coin or token held between the jaws will either move the jaw subject to tension or be bent.

4. In a coin testing machine, the combination with a shaft, of a plurality of pairs of jaws mounted on the shaft, one of the jaws of each pair being fast on the shaft and the other loose thereon, means for subjecting the latter one of each pair of jaws to a resistance sufficient to bend anything of less hardness than the coin to be tested and means whereby the shaft may be rotated to rotate all the jaws fast thereon whereby a coin or token held between any of the pairs of jaws will either move the jaw subject to tension or be bent.

5. In a coin testing machine, the combination with a shaft, of a pair of jaws mounted on said shaft, one of said jaws being fast and the other loose thereon, said jaws being adapted to hold a coin between them, means for subjecting said loose jaw to a resistance sufficient to bend anything of less hardness than the coin to be tested, means whereby the shaft may be turned to rotate the jaw not subject to tension whereby the coin or token held between the jaws will either turn the jaw not subject to tension or be bent and means fast on the shaft and adjacent to the loose jaw adapted to return the jaw to its normal position after it has been moved therefrom by a coin.

6. In a coin testing machine, the combination with a shaft, of a pair of disks mounted on the shaft adapted to hold a coin in them, one of said disks being fast on the

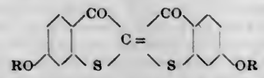
shaft, and the other loose, means for subjecting the loose disk to a resistance sufficient to bend any coin of less hardness than the coin to be tested, means whereby the shaft may be turned to turn the disk not subject to tension whereby the coin or token will either turn the jaw subject to tension or be bent, a disk mounted on the shaft adjacent to the loose disk and a connection between said last mentioned disk and the loose disk whereby the loose disk will be returned to its normal position upon the return of the shaft.

7. In a coin testing machine, the combination with a shaft, of a plurality of pairs of jaws mounted on the shaft each pair of jaws being adapted to hold a coin between them, one of each of said pairs of jaws being loose on said shaft and the other fast thereon, the loose jaw of one pair being adjacent to the fast jaw of the adjacent pair, means for subjecting the loose jaw to a resistance sufficient to bend anything of less hardness than the coin to be tested, means whereby the shaft may be rotated to rotate all the jaws fast thereon simultaneously whereby a coin or token held between any of the pairs of jaws will either move the jaw subject to tension or be bent, and connections between the adjacent jaws of the adjacent pairs, whereby the fast jaw of one pair will return the loose jaw of the adjacent pair when the same has been moved from its normal position.

8. In a coin testing machine, the combination with a pair of jaws adapted to hold the coin between them, of means for subjecting one of the jaws to a resistance sufficient to bend anything of less hardness than the coin to be tested, means for moving the jaw not subjected to tension whereby the coin or token will either move the jaw subject to tension or be bent, a movable part adapted to form a guide for the coin to the jaws and means for moving said movable part out of the path of movement of the coin in the grip of the jaws.

867,305. VAT-DYESTUFF. KARL SCHIRMACHER and BERNHARD DEICKE, Höchst-on-the-Main, Germany, assignors to Farbwerke vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany, a Corporation of Germany. Filed Jan. 26, 1907. Serial No. 354,166.

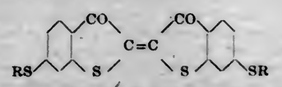
As products the vat dyestuffs whose composition corresponds to the formula:



wherein "R" means ethyl and methyl, being yellow-red powders, insoluble in water, little soluble in hot alcohol, benzene, acetic acid and chloroform with a yellow-red color, soluble in concentrated sulfuric acid with a red-blue color, splitting off when heated with hydrochloric acid alkyl chlorids, dissolving in an alkaline hydro-sulfite solution with a yellow color to a vat, dyeing wool and cotton yellow-red tints.

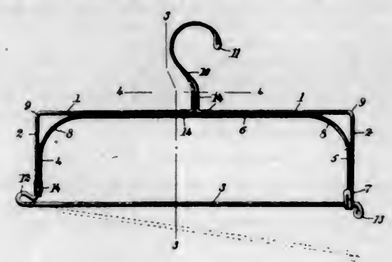
867,306. VAT-DYESTUFF. KARL SCHIRMACHER and RICHARD LEOPOLD, Höchst-on-the-Main, Germany, assignors to Farbwerke, vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany, a Corporation of Germany. Filed Jan. 26, 1907. Serial No. 354,167.

As new products, the vat dyestuffs of which the composition corresponds to the formula:



wherein "R" means ethyl and methyl, being red powders, insoluble in water, little soluble in hot alcohol, acetic acid, benzene and chloroform with a yellow-red, soluble in concentrated sulfuric acid with a greenish-blue color, splitting off when heated with hydrochloric acid alkyl chlorids, dissolving in an alkaline hydrosulfite solution with a yellow color to a vat, dyeing wool and cotton alizarin-red tints.

867,307. MUFF-HOLDER. LUCIUS W. SCOTT, Boston, Mass. Filed Feb. 8, 1907. Serial No. 356,361.



1. A muff holder comprising a double longitudinal bar having double end bars extending outward therefrom, and a double hook arranged centrally in said longitudinal bar, a double hook formed on one of the double end bars, and a single supporting bar having a free end adapted to engage said hook of the end bars, all formed of a single piece of metal, substantially as shown and described.

2. A muff holder comprising a frame having a double longitudinal bar, a double hook located centrally of said bars, double end bars extending outward from the longitudinal bars, a double hook formed on one of the end bars, a single supporting bar having its free end adapted to engage the hook of the end bar, and wire windings securing together the sections forming one of the end bars, the longitudinal bar, and the hook of the longitudinal bar, substantially as shown and described.

867,308. PIANO-PEDAL. EARL P. SEDGWICK, Highland Park, Ill. Filed Jan. 10, 1907. Serial No. 351,631.



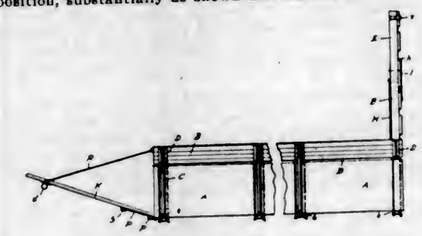
1. The combination in a piano pedal, of a supporting bracket formed with a flat attaching base and a pair of upright side members having near their upper ends opposed journal depressions, a pedal the shank of which is provided with journal studs on its sides for engagement in said depressions, and a transverse bolt arranged midway the height of the side members and adapted to draw the same together, substantially as set forth.

2. The combination in a piano pedal, of a supporting bracket formed with a flat attaching base having attaching ends curved laterally in opposite directions and with a pair of upright side members having near their upper ends opposed journal depressions, a pedal the shank of which is provided with journal studs on its sides for engagement in said depressions, and a transverse bolt arranged midway the height of said members and adapted to draw the same together, substantially as set forth.

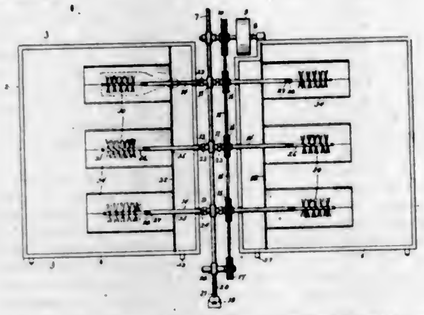
867,309. COMBINATION WAGON BED AND RACK. JUSTIN I. SHARP, Inza, Mo. Filed Feb. 8, 1907. Serial No. 356,438.

In a combined wagon bed and rack, a rack extension hinged to the top of the front of the rack, a spring metal strip, its lower end attached to the rack, a finger thereon adapted to engage with the top edge of a cross piece of the extension to retain said extension in an upright position and a thumb piece by which to release the extension

from such engagement and permit it to fold into seat position, substantially as shown and described.



867,310. BOTTLE-WASHING MACHINE. DAVID E. SHAW, Milwaukee, Wis. Filed Aug. 4, 1906. Serial No. 329,154.



1. A bottle cleaning machine, comprising a tank containing cleaning liquid, a rotary brush dipping in the cleaning liquid and adapted to have a bottle placed thereon, means for injecting a liquid into the bottle when the bottle is forced onto the brush and means for keeping the injected liquid separate from the liquid in the tank.

2. In a bottle washing machine, a tubular spindle connected with a liquid supply and having a valve seat, a tubular stem slidably fitting in the tubular spindle and provided with a valve for engaging the valve seat, and a rotary brush on the stem adapted to receive a bottle and be forced thereby to open the valve and permit the liquid to be injected into the bottle through the tubular stem.

3. In a bottle washing machine, a tubular spindle having connection with a liquid supply and provided with a valve seat, a tubular stem fitting in the spindle and having a valve on its end for normally closing the valve seat, a set pin on the tubular stem riding in a slot of the tubular spindle, and a rotary brush formed on the tubular stem and adapted to receive a bottle, there being an inclined opening in the end of the tubular stem through which liquid may be injected into the bottle when the stem is moved by means of the bottle to open the valve.

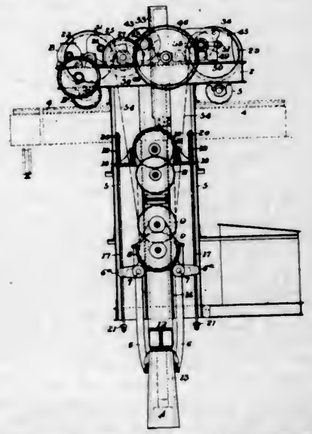
4. A bottle washing machine, comprising a tank containing cleaning liquid, a rotary brush dipping into the cleaning liquid of the tank and adapted to receive a bottle thereon, means for injecting liquid into the bottle when it is in position on the brush, and means for receiving the liquid from the bottle mouth and carrying it away without mixing it with the liquid in the tank.

5. A bottle washing machine comprising a pair of tanks containing cleaning liquid, a liquid supply pipe, T-connections communicating with the liquid supply pipe and supported thereby, tubular spindles journaled in the T-connections, grooved pulleys carried by the tubular spindles, means in connection with the grooved pulleys for driving the tubular spindles, said tubular spindles having communication with the supply pipe through the T-connections, valved tubular stems in the ends of the spindles, rotary brushes formed thereon, partitions in the tanks, and V-shaped guides on the partitions for engaging the outside of the bottles when they are placed on the rotary brushes, the tubular stems being adapted to inject liquid into the bottles when the bottles are pressed thereon, and the partitions being adapted to engage the heads of the bottles to hold them pressed against the tubular stems, the liquid passing from the mouths of the bottles and into the tanks on the other side of the partitions.

6. In a bottle washing machine, a tubular spindle having connection with a liquid supply and provided with a valve seat, a tubular stem fitting in the spindle and having a valve for normally closing the valve seat, a pin on the tubular stem riding in a slot of the tubular spindle, and a rotary brush formed on the tubular spindle and adapted to receive a bottle, there being an opening in the tubular stem through which liquid may be injected into the bottle when the stem is moved by means of the bottle to open the valve.

7. In a bottle washing machine, a grooved drive pulley fixed in its position, a grooved take up pulley adjustable with relation to the drive pulley, an intermediate grooved pulley, a belt connecting the several pulleys and crossing itself between the drive pulley and the intermediate pulley and between the intermediate pulley and the take up pulley, a tubular spindle carried by the intermediate pulley, a water jacket surrounding the tubular spindle and communicating therewith, and a brush carried by the spindle and supplied with water therefrom, the said intermediate pulley being balanced by the opposing forces thereon so as to require no fixed bearings and to relieve the water jacket from wear.

867,311. INGOT-STRIPPING MECHANISM. GEORGE W. SHEM and HOMER W. ISRAEL, Alliance, Ohio, assignors to The Alliance Machine Company, a Corporation of Ohio. Filed Jan. 9, 1907. Serial No. 351,402.



1. In an ingot stripper, a mold-engaging device, a carrier therefor, an ingot stop, a carrier therefor, sheaves supported by the carriers, a single continuous rope or cable having its intermediate portion engaged with the sheaves on both carriers, and a winding means for at least one end portion of the rope or cable; substantially as described.

2. In an ingot stripper, a mold-engaging device, a carrier therefor, an ingot stop, a carrier therefor, sheaves supported by the carriers, a single hoisting rope or cable on the sheaves, two hoisting drums to which the ends of the rope or cable are connected, a motor for actuating said drums, and a second motor having gear connections for actuating the ingot stop carrier and also geared to said drums; substantially as described.

3. In ingot-stripping mechanism, a vertically-movable stripping column, a tongs carrier arranged to move with

the column and also independently thereof, a hoisting rope or cable, a hoisting motor and gearing for operating the tongs carrier, and a motor and gearing for operating the column, the last-named motor and gearing being arranged to also wind up the hoisting rope or cable; substantially as described.

4. In ingot-stripping mechanism, a vertically-movable stripping column having a cross-head fixed thereto, a second cross-head movable with and independently of the column, and having tongs connected thereto, a hoisting rope or cable connecting the two cross-heads, a hoisting motor and gearing for operating said cable, and a second motor and gearing for operating the stripping column, the last-named motor and gearing being also arranged to operate the hoisting rope or cable to raise the movable cross-head without changing its relation to the fixed cross-head; substantially as described.

5. In ingot-stripping mechanism, a vertically-movable stripping column having a cross-head fixed thereto, an independently-movable cross-head having tongs connected thereto, a hoisting rope or cable connected to and connecting the two cross-heads, hoisting drums for the ends of said cable, a hoisting motor geared to the drums, and a second motor connected to the stripping column, and also geared to the drums; substantially as described.

6. In ingot-stripping mechanism, a vertically-movable stripping column, a cross-head fixed to said column, a tongs-carrying cross-head movable with the column and also independently thereof, a hoisting rope or cable connected to and connecting the two cross-heads, a motor and gearing for operating the hoisting cable, and a second motor and gearing for actuating the stripping column, and also arranged to operate the hoisting cable; substantially as described.

7. In ingot-stripping mechanism, a stripping column having an ingot stop and a rack, a cross-head fixed to said column, a cross-head movable with and also independently of the column, tongs carried by the last-named cross-head, a hoisting rope or cable connected to and connecting the two cross-heads, a winding drum for each end portion of the cable, a motor geared to the two drums, and a second motor also geared to the drum and to the rack of the stripping column; substantially as described.

8. In ingot-stripping apparatus, a stripping column, a tongs-carrier, a hoisting rope or cable for the tongs-carrier, a motor and gearing for actuating the hoisting cable, to move the tongs-carrier independently of the column, and a second motor having gearing for actuating the column, and also connected to the tongs-carrier hoisting gear; substantially as described.

9. In ingot-stripping mechanism, a stripping column, a tongs-carrier movable with and also independently of the stripping column, a hoisting rope or cable connected to the tongs-carrier, and also to the stripping column, a pair of hoisting drums to which the ends of the cable are connected, a shaft geared to both drums, a hoisting motor geared to said shaft, and a second motor geared to said shaft and also having connections for operating the stripping column; substantially as described.

10. In ingot-stripping mechanism, a vertically-movable tongs carrier, a vertically-movable stripping column, a pair of hoisting drums for the tongs-carrier, a shaft geared to both drums, a hoisting motor geared to said shaft, and a second motor also geared to said shaft and to the stripping column; substantially as described.

11. In ingot-stripping mechanism, a tongs-carrier, a rope or cable for operating the same, a pair of drums to which the respective end portions of the rope or cable are connected, a stripping column, a shaft geared to both drums, a motor, a system of planetary gearing connecting the motor with the drums, and a second motor geared to operate the stripping column, and also connected with the drum-operating shaft through the planetary gearing; substantially as described.

12. In ingot-stripping mechanism, a vertically-movable stripping frame or column having a vertical rack bar, a tongs-carrier movable with and also independently of the column, a hoisting rope or cable connected to and connecting the tongs with the stripping column, a pair of drums to which the end portions of the rope or cable are respectively connected, an operating shaft geared to both drums, a motor, a system of planetary gearing connecting the motor with the said shaft, and a second motor geared to the rack of the stripping frame, and also connected to said shaft through the planetary gearing; substantially as described.

13. In ingot-stripping mechanism, a vertically-movable stripping frame or column, a cross-head fixed thereto, sheaves journaled on the cross-head, a tongs-carrier also having sheaves journaled thereon, a hoisting rope or cable having its intermediate portion passed around the sheaves and the tongs-carrier and cross-head, two winding drums to which the end portions of the cable are connected, a motor geared to both drums, and a second motor having operating connections for the stripping frame or column, and also geared to the said drums; substantially as described.

14. In ingot-stripping mechanism, a vertically-movable stripping frame or column, sheaves journaled thereon, a tongs-carrier movable with and independently of the column, and also having sheaves, an actuating rope or cable having its intermediate portion passed around the two sets of sheaves, a pair of winding drums to which the ends of the rope or cable are connected, a motor geared to the drums, and a second motor having connections for operating the stripping frame or column, and also geared to said drums to operate them at a speed corresponding to the movement of the stripping frame or column, substantially as described.

15. In ingot-stripping mechanism, an ingot stop, a carrier therefor, sheaves supported by the carrier, a mold-engaging device, a carrier therefor, a single rope or cable having its intermediate portion engaged with the sheaves, and winding means for the rope or cable, the mold-engaging device having pivoted tong arms provided with lateral extensions, together with means for guiding the extensions and limiting their movement; substantially as described.

16. In ingot-stripping mechanism, a vertically-movable stripping frame or column, an independently-movable tongs-carrier, a pair of tongs pivoted to the carrier and having lateral extensions, a pair of guide rods carried by the stripping frame and engaged by the extensions, and stops on the guide rods; substantially as described.

17. In ingot-stripping mechanism, a vertically-movable stripping frame, an independently-movable tongs-carrier, tongs pivoted to the tongs-carrier, and having lateral extensions, and guide rods carried by the stripping frame, and having stops arranged to be engaged by the extensions, said rods having a limited independent vertical movement, and provided with cushioning springs; substantially as described.

18. In ingot stripping mechanism, a vertically-movable stripping frame or column having an ingot stop at its lower end, a vertical rack bar at its upper end, a motor having gear connections engaging the rack bar, a mold-engaging device having guides on the column, sheaves carried by the column, and winding mechanism connected to said sheaves; substantially as described.

19. In ingot-stripping mechanism, a vertically-movable tongs-carrier, two winding drums therefor, and a single continuous hoisting rope or cable having its intermediate portion connected to the tongs-carrier and its end portions connected to the respective drums, and means for operating the two drums in unison; substantially as described.

20. In an ingot stripper, an ingot stop, a vertically-movable frame carrying the stop, a mold-engaging device having an independent movement, sheaves on the mold-engaging device and on the frame, and a single continuous rope or cable having its intermediate portion on the sheaves of both the mold-engaging device and the frame, and at least one end portion connected to winding mechanism; substantially as described.

21. In an ingot stripper, a vertically-movable ingot stop, a carrier therefor, a mold-engaging device, a carrier therefor, sheaves on the carriers, a single continuous hoisting rope or cable having its intermediate portion on both sets of the sheaves, winding means to which at least one end portion of the cable is connected, a motor for actuating the drums, and a second motor for actuating the stop carrier; substantially as described.

22. In ingot-stripping mechanism, a vertically-movable stripping frame or column having an ingot stop at its lower end, a hollow depending guide frame for the frame or column, a carrier for the stop having guides in the frame, a vertical rack bar at the upper end of the frame or column, and a motor having gear connections engaging the rack bar; substantially as described.

23. In an ingot stripper, a crane carriage having a depending hollow guide frame, an ingot stop, a carrier for the stop movable in the guide frame, and a mold-engaging device having guides on the stop carrier; substantially as described.

24. In an ingot stripper, a depending open frame carrying an ingot stop at its lower end, and having its lateral portions provided with vertically-extending guide-ways, a mold engaging device, and a carrier therefor engaging the said guide-ways and moving therein within the open frame; substantially as described.

25. In an ingot stripper, a crane carriage having a depending hollow guide frame, an ingot stop carrier movable within and provided with guides on the frame, a mold-engaging device, and a carrier therefor movable within and guided by the stop carrier; substantially as described.

26. In ingot-stripping mechanism, a vertically-movable tongs-carrier, a vertically-movable ingot stop, a carrier therefor, a single continuous hoisting rope or cable having its intermediate portion connected to the tongs-carrier and to the ingot stop carrier, and winding means to which at least one end of the hoisting rope or cable is connected; substantially as described.

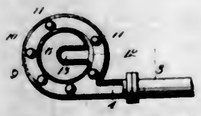
867,312. ELECTRIC-WIRE CONNECTOR. JOHN A. SHUTZ, Richmond, Ind., assignor of one-third to Madison L. Kirkman and one-third to William H. Woolley, Richmond, Ind. Filed Dec. 3, 1906. Serial No. 346,061.



1. An electric wire connector comprising two terminal members each secured to the end of opposing wires, means for interlocking the members together, a spring seated in the end of each member and adapted to contact with the end of the opposite member, and a band inclosing and holding together the interlocking portions of said members, all substantially as described.

2. A connector for electric wires or the like comprising two identical members connected tandem by interlocking wedges integral with their respective members, a coiled spring extending out longitudinally from the end of the wedge portion of each of the members each spring being adapted to contact with a shoulder on the opposing member to normally retain the members apart, and a band slidable over the united members to retain the interlocking wedges in engagement with each other against the resiliency of said springs, substantially as set forth.

867,313. PROCESS OF TREATING WATER. ALONZO J. SIMMONS, Los Angeles, Cal. Filed Jan. 17, 1907. Serial No. 352,774.



1. The herein described process of treating water which consists in whirling a chemical laden body with the water under the influence of the latter to disintegrate the body in the presence of the water.

2. The herein described process of treating water which consists in whirling chemical laden balls under the moving influence of the water.

3. The herein described process of treating water which consists in subjecting chemical laden balls to a whirling action under the moving influence of the water.

4. The herein described process of treating water which consists in subjecting water under pressure to the action of chemical-laden balls.

5. The herein described process which consists in whirling a chemical laden body bodily with the water over the same course to disintegrate the body in the presence of the water, for the purposes set forth.

6. The herein described process which consists in moving a chemical laden body bodily freely under the moving influence of the water only for the purposes set forth.

7. The herein described process which consists in causing the feed water of a boiler to travel past a freely movable chemical laden body which is movable under the moving influence of the water only and capable of disintegration during its movement to continuously present particles thereof to the water for the purposes set forth.

8. The herein described process which consists in moving a chemical laden body bodily over the same course under the moving influence of the water only to cause disintegration of the body for the purposes set forth.

9. The herein described process of treating water which consists in whirling a chemical laden body under the influence of the water to disintegrate the body and present particles of the latter to the water.

10. The herein described process which consists in passing the feed water of a boiler through a chamber containing independent, movable chemical laden bodies to cause continuous movement of the bodies over the same course under the moving influence of the water only to disintegrate the bodies in the presence of the water for the purpose set forth.

11. The herein described process which consists in subjecting a brittle chemical-laden body to unrestricted movement within a chamber under the moving influence of the water only to disintegrate the body in the presence of the water for the purpose set forth.
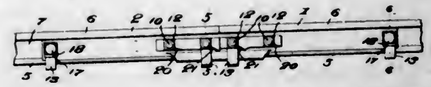
12. The herein described process of treating water which consists in whirling a chemical laden body bodily with the water over the same course to disintegrate the body in the presence of the latter.

13. The herein described process of treating water which consists in subjecting the water to the action of a chemical laden body having unrestricted movement in a fixed chamber.

14. The herein described process of treating water which consists in subjecting the water to the action of a chemical laden body having unrestricted movement in a fixed chamber to frictionally reduce the body to small particles for the purposes set forth.

15. The herein described process of treating water which consists in subjecting the water to the action of a chemical laden body having unrestricted movement in a fixed chamber to frictionally reduce the body to small particles to flow with the water from the chamber.

867,314. COMBINED FISH-PLATE AND RAIL-LOCK. WILLIAM SMITH and JAMES N. JONES, Bastrop, La. Filed May 22, 1907. Serial No. 375,071.

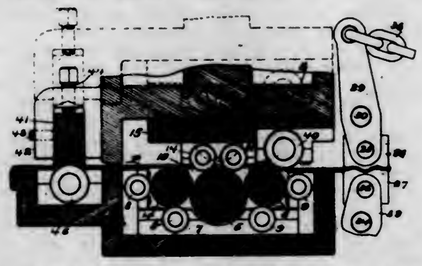


1. The combination with the abutting ends of rails, having openings therethrough; of a pair of plates adapted to extend a distance at each side of the juncture point of said rails, a supporting plate at the longitudinal center of said first mentioned plates adapted to receive and support the base of said rails, a plurality of stirrups engaging the base of said rails, arms on said stirrups having openings therein and means carried by portions of said

stirrups to bind the ends of said first mentioned plates to the rails.

2. The combination with rails; of means to secure and brace the meeting ends of said rails, comprising a pair of parallel plates, bolts adapted to extend through said rails and central portion of the plates, a supporting plate below the meeting ends of said rails and integral with the parallel plates, a pair of stirrups surrounding said supporting plates and engaging bolts extending through said plates and rails, a stirrup at each end of said parallel plates having threaded openings therein, binding posts in said openings adapted to clamp the ends of the plates against the rails and means to hold said bolts against rotation.

867,315. APPARATUS FOR OPENING PACKS OF PLATES. DANIEL M. SOMERS, New York, N. Y. Filed June 9, 1905. Serial No. 264,427.



1. In an apparatus for opening packs of plates, the combination with a flexing mechanism, of means for firmly holding the end of a pack and drawing the pack through the flexing mechanism.

2. In an apparatus for opening packs of plates, the combination with a flexing mechanism, of means for firmly holding the end of the pack and drawing the pack through said mechanism, and straightening means located between the drawing means and the flexing mechanism.

3. In an apparatus for opening packs of plates, the combination with a flexing mechanism, of means for firmly holding and drawing the packs therethrough, and a tension device.

4. In an apparatus for opening packs of plates, the combination with a flexing mechanism, of means for firmly holding the end of the pack and drawing the pack through the flexing mechanism, straightening means located between the drawing means and the flexing mechanism, and means for applying tension to the pack.

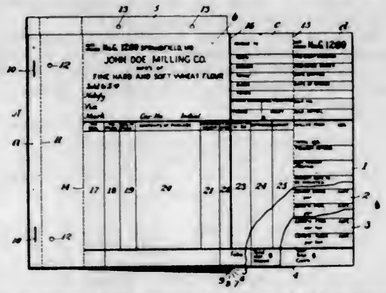
5. In an apparatus for opening packs of plates, the combination with a flexing mechanism, of a gripper, means for operating the gripper to seize the forward end of a pack and for drawing the pack through the flexing mechanism.

6. In an apparatus for opening packs of plates, the combination with a flexing mechanism, of a gripper, means for operating the gripper to seize the forward end of a pack and for drawing the pack through the flexing mechanism, and a staightening device between the gripper and the flexing mechanism.

7. In an apparatus for opening packs of plates, the combination with a flexing mechanism, of a gripper, means for operating the gripper to seize the forward end of a pack and for drawing the pack through the flexing mechanism, a straightening device between the gripper and the flexing mechanism, and tensioning means for the pack.

867,316. ACCOUNT AND SHIPPING PAD. CHARLES B. SPERRY, Springfield, Mo. Filed May 18, 1906. Serial No. 317,597.

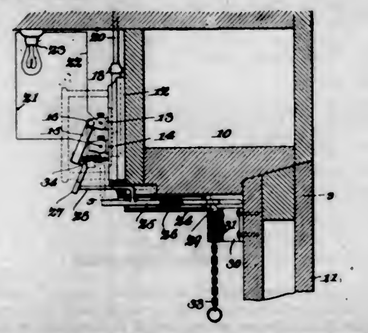
1. A shipping and account pad comprising a plurality of account leaves and a plurality of shipping leaves connected together along one edge, each of said leaves having an order portion with headings and columns for entering an order and shipping directions, said headings and columns being arranged to register on the leaves, and said order portions being identically numbered, said account leaves having also invoice portions extending laterally beyond the shipping leaves and provided with registering headings and columns for indicating the name of the customer and the charges, and certain of said account leaves



having broker's credit portions extending laterally beyond the invoice portions and provided with registering headings for indicating the broker's name, the particulars of the shipment and the broker's commissions, said credit portions having also the same numbers as the order portions and some of said credit portions being detachably connected, along weakened lines, to the remaining portions of their respective account leaves.

2. A shipping and account pad comprising a plurality of account leaves and a plurality of shipping leaves connected together along one edge, each of said leaves having an order portion with headings and columns for entering an order and shipping directions, said headings and columns being arranged to register on the leaves, and said order portions being identically numbered, said account leaves having also invoice portions extending laterally beyond the shipping leaves and provided with registering headings and columns for indicating the name of the customer and the charges, three of said account leaves having broker's credit portions extending laterally beyond the invoice portions and provided with registering headings for indicating the broker's name and particulars of the shipment and the broker's commissions, said credit portions having also the same numbers as the order portions, two of said credit portions being detachably connected, along weakened lines, to the remaining portions of two of said account leaves, and one being permanently connected to the remaining part of an account leaf.

867,317. ATTACHMENT FOR ICE-BOXES. WINFIELD W. STEVENSON, Philadelphia, Pa. Filed Apr. 11, 1906. Serial No. 311,170.



1. The combination of a lamp circuit, a switch for controlling the circuit, a wall, a movably mounted member

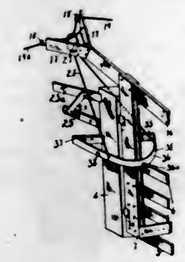
arranged on the wall to actuate the blade of the switch, a door, a device arranged on the door to strike and move the member as the door is swung closed, and means attached to the said device for moving the same out of engagement with the member.

2. The combination of a lamp circuit, a switch for controlling the same, a wall, a member movably mounted on the wall adjacent the switch and arranged to actuate the blade of the latter, a door, a device arranged on the door to strike and move the member for opening the switch, a manually controlled means for disengaging the device from the member, and means for actuating the member when the said device is released from the latter.

3. The combination of a chamber having an opening, a closure for the opening, a lamp for illuminating the interior of the chamber, a circuit for the lamp, a switch for the circuit having a tendency to close the latter, a spring controlled bolt arranged to hold the switch open and when released to permit the latter to close automatically, and a controllable means carried by the closure and arranged in coöperative relation with the bolt for rendering the later operative or inoperative.

4. An inclosed chamber, a closure to said chamber, an electric lamp within said chamber, means for controlling the current through said lamp, a spring-controlled bolt carried by one of the walls of said chamber and engaging said controlling means, a spring controlled bolt carried by said closure and adapted to operate said first-mentioned bolt when the closure is closed, and means for actuating the bolt carried by said closure from within said chamber.

867,318. FARM-GATE. ALBERT M. STORK, Millers, Nev. Filed Jan. 2, 1907. Serial No. 350,436.



1. An automatic gate, including an inclined brace extending rearwardly in the vertical plane of the gate, a plurality of diverging arms secured to the free extremity of said brace, a plurality of operating ropes attached to said arms and engaging an eye, a main latch and a retaining latch, a rope attached to said main and retaining latches and engaging said eye, and means for supporting said operating ropes.

2. An automatic gate, including a rearwardly extending operating arm, secured to the gate, a laterally extending truss, an automatic latch attached to the hinge post, and means for operating the arm secured to the gate and the said latch.

3. An automatic gate, including a rearwardly extending arm secured to the gate, a laterally extending fixed arm, a universal latch pivoted to a fixed support, operating means for the arm secured to the gate and for the universal latch.

867,319. ELECTRODE. JOHN W. STUBBS, Middlewich, England, assignor to The General Electrolytic Parent Company Limited, a Joint Stock Company, of Great Britain. Filed Apr. 9, 1907. Serial No. 367,276.

In the construction of an electrode the combination with the end of an electrical conductor of a mass of a mixture of powdered carbon, resin, and tetrachlorid of carbon, substantially as described.



867,320. ELECTROLYTIC PROCESS AND PRODUCT. CLINTON P. TOWNSEND, Washington, D. C., assignor to Elmer A. Sperry, Brooklyn, N. Y. Filed Apr. 24, 1905. Serial No. 257,273.

1. The method of producing lead oxid which consists in decomposing a suitable electrolyte with an anode of lead and producing compounds in which lead occurs in the basic and acid radicals respectively, and effecting a reaction between said compounds, substantially as described.

2. The method of producing lead oxid which consists in decomposing an alkali-metal acetate solution with an anode of lead and producing compounds in which lead occurs in the basic and acid radicals respectively, and effecting a reaction between said compounds, substantially as described.

3. The method of producing lead oxid which consists in passing an electric current from an anode of lead through a suitable electrolyte and diaphragm and producing compounds in which lead occurs in the basic and acid radicals respectively, and effecting a reaction between said compounds, substantially as described.

4. The method of producing lead oxid which consists in passing an electric current from an anode of lead through an alkali-metal acetate solution and producing compounds in which lead occurs in the basic and acid radicals respectively, and effecting a reaction between said compounds, substantially as described.

5. The method of producing lead oxid which consists in passing an electric current from an anode of lead through an alkali-metal acetate solution and diaphragm and producing compounds in which lead occurs in the basic and acid radicals respectively, and effecting a reaction between said compounds, substantially as described.

6. The method of producing lead oxid, which consists in effecting a reaction between compounds in which lead occurs in the basic and acid radicals respectively, substantially as described.

7. The method of producing lead oxid, which consists in effecting a reaction between a plumbite and a soluble salt of lead, substantially as described.

8. The method of producing lead oxid, which consists in effecting a reaction between a plumbite and lead acetate, substantially as described.

9. The method of producing lead oxid which consists in passing an electric current from an anode of lead through a suitable electrolyte, and causing the anode and cathode products to react under such conditions as to produce lead oxid, substantially as described.

10. The method of producing lead oxid which consists in passing an electric current from an anode of lead through a suitable electrolyte and diaphragm, and permitting the cathode product to return to the region of the anode at such rate as to produce lead oxid, substantially as described.

11. The method of producing lead oxid, which consists in electrolytically dissolving lead and precipitating lead monoxid, substantially as described.

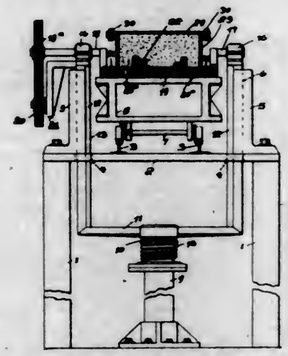
12. The method of producing lead oxid, which consists in electrolytically dissolving lead, precipitating lead monoxid, and heating the precipitate, substantially as described.

13. The herein described electrolytic product consisting substantially of lead and oxygen in atomic proportions, ex-

isting initially as yellow crystals, darkening by exposure to light, and readily hydrated.

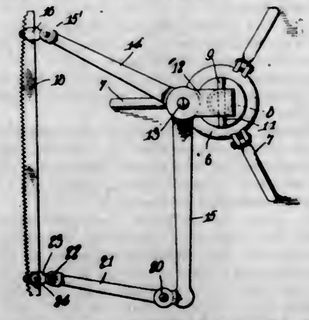
14. The herein described electrolytic product consisting substantially of lead and oxygen in atomic proportions, existing initially as yellow crystalline plates having opposite reëntrant angles, darkening by exposure to light, and readily hydrated.

867,321. MACHINE FOR REVERSING FLASKS AND MOLDS. WILLIAM E. TROUTMAN, Vandergrift, Pa. Filed Mar. 4, 1907. Serial No. 360,446.



In a molding machine, standards supporting a connecting plate and a car track carried by the latter, a car adapted to travel thereon, said plate having diametrical openings on each side of said track, V-shaped guide ways mounted on said plate adjacent said openings, a hoisting mechanism beneath said plate and a U-shaped elevator supported thereby, said elevator having side arms slidably retained within said openings, the V-shaped guides upon said guide arms slidably fitting said guide ways, a pattern support trunnioned in the free ends of said side arms, pivoted clamps carried by said plate, a flask centered upon said support and removably held by said clamps and means carried by said elevator arms for inverting said pattern support and flask.

867,322. SAWING-MACHINE. GEORGE WALKER, Chicago, Ill. Filed Mar. 28, 1907. Serial No. 365,182.



1. The combination of a vertical supporting post, horizontally swinging arms pivotally connected at one end to the top thereof, a link pivoted to the other end of one of the arms, clips pivoted to the link and the other arm respectively, and a saw held at opposite ends by the clips.

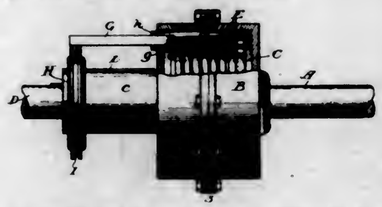
2. The combination of a support, horizontally swinging arms mounted at one end thereof, clips pivotally connected to the other end of the arms, one of the clips having a projecting handle, and a saw held at opposite ends in the clips.

867,323. MEDICINE-DOSE INDICATOR. RALPH L. WARDIN, Nevada, Mo. Filed Oct. 11, 1906. Serial No. 338,525.



A dose indicator comprising a pivot member, an index mounted to turn thereon, a disk-like body mounted at its center upon the pivot member and having graduations thereon, any one of said graduations being designed to be designated by the index, and a pointed supporting device having an eye at one end engaged by the pivot member, the point of said supporting device extending beyond the periphery of the body and said device being partly embedded within one face of the body to hold the supporting device and the body against independent movement.

867,324. POWER-TRANSMISSION DEVICE. EDWARD P. WARNER, Chicago, Ill., assignor, by mesne assignments, to Warner Clutch Company, a Corporation of Illinois. Filed Aug. 15, 1906. Serial No. 330,730.



1. A power transmission device comprising a power-shaft; a driven-shaft; a friction member connected to said driven-shaft and means having a longitudinal reciprocal movement independent of said driving and driven members whereby it is adapted to engage said friction-member commencing at one end of the same and advancing to the other end thereof.

2. A power transmission device comprising a power-shaft; a drum mounted thereon; a driven-shaft; a friction member loosely connected to said driven-shaft; and means having a longitudinal reciprocal movement independent of said driving and driven members whereby it is adapted to engage said friction member commencing at one end of the same and advancing to the other end thereof.

3. A power transmission device comprising a power-shaft; a drum mounted thereon; a driven-shaft; a friction-member loosely connected to said driven-shaft and surrounding and normally out of contact with said drum and means having a longitudinal reciprocal movement independent of said driving and driven members whereby it is adapted to engage said friction member commencing at one end of the same and advancing to the other end thereof.

4. A power transmission device comprising a power-shaft; a drum mounted thereon; a driven-shaft; a cylindrical shell; a friction-member loosely connected to said shell and normally out of contact with said drum, and means having a longitudinal reciprocal movement independent of said driving and driven members whereby it is adapted to engage said friction-member commencing at one end of the same and advancing to the other end thereof.

5. A power transmission device comprising a power-shaft; a driven-shaft; a friction member consisting of a coil-spring connected to said driven-shaft; and a reciprocal rod adapted to contact with said friction member and cause the coils of the latter to progressively engage said power-shaft.

6. A power transmission device comprising a power-shaft; a drum mounted thereon; a driven-shaft; a friction member consisting of a coil-spring loosely connected to said driven-shaft; and a reciprocal rod adapted to contact with said friction member and cause the coils of the latter to progressively engage said drum.

7. A power transmission device comprising a power-shaft; a drum mounted thereon; a driven-shaft; a friction member consisting of a coil-spring loosely connected to said driven-shaft and surrounding and normally out of contact with said drum; and a reciprocal rod adapted to contact with said friction member and cause the coils of the latter to progressively engage said drum.

8. A power transmission device comprising a power-shaft; a drum mounted thereon; a driven-shaft; a cylindrical shell surrounding said drum and revoluble with said driven shaft; a friction member consisting of a coil-spring loosely connected to said shell and normally out of contact with said drum; and a reciprocal rod adapted to contact with said friction member and cause the coils of the latter to progressively engage said drum.

9. A power transmission device comprising a power-shaft; a drum mounted thereon; a driven-shaft; a cylindrical shell surrounding said drum and revoluble with said driven-shaft; a friction member consisting of a series of substantially flat segmental bands normally out of contact with said drum; and a reciprocal rod adapted to contact with said friction member and cause the bands of the latter to progressively engage said drum.

10. A power transmission device comprising a power-shaft; a driven-shaft; a friction member connected to said driven-shaft consisting of a series of substantially flat segmental bands; and a reciprocal rod adapted to contact with said friction member and cause the bands of the latter to progressively engage said power-shaft.

11. A power transmission device comprising a power-shaft; a drum mounted thereon; a driven-shaft; a friction member connected to said driven-shaft consisting of a series of substantially flat segmental bands; and a reciprocal rod adapted to contact with said friction member and cause the bands of the latter to progressively engage said drum.

12. A power transmission device comprising a power-shaft; a driven-shaft; a friction member connected to said driven-shaft consisting of a series of separable clamping-jaws each surrounding said power shaft and provided with hooked ends forming sectional rings; and a reciprocal rod adapted to pass through said rings and draw the clamping-jaws together whereby said power-shaft is progressively engaged by said friction member.

13. A power transmission device comprising a power-shaft; a drum mounted thereon; a driven-shaft; a friction member connected to said driven-shaft consisting of a series of separable clamping-jaws each surrounding said drum and provided with hooked ends forming sectional rings; and a reciprocal rod adapted to pass through said rings and draw the clamping-jaws together whereby said drum is progressively engaged by said friction member.

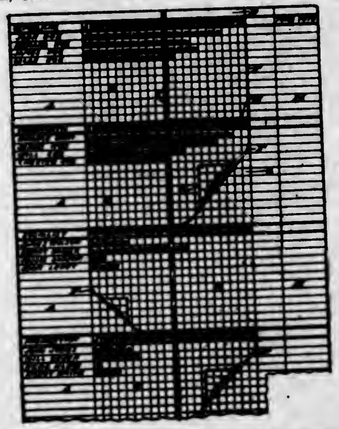
14. A power transmission device comprising a power-shaft; a drum mounted thereon; a driven-shaft; a cylindrical shell surrounding said drum and revoluble with said driven-shaft; a friction member connected to said shell consisting of a series of separable clamping-jaws each surrounding said drum and provided with hooked ends forming sectional rings; and a reciprocal rod adapted to pass through said rings and draw said clamping-jaws together whereby said drum is progressively engaged by the friction member.

15. A power transmission device comprising a power member, a driven member, a friction device connected to one of said members, and means having a longitudinal reciprocal movement independent of either of said members whereby it is adapted to engage said friction device commencing at one end of the same and advancing to the other end thereof.

16. A power transmission device comprising a power member, a drum mounted thereon, a driven member, a friction device connected to one of said members, and means having a longtitudinal reciprocal movement independent of either of said members whereby it is adapted to engage said friction device commencing at one end of the same and advancing to the other end thereof.

17. A power transmission device comprising a power member, a drum mounted thereon, a driven member, a friction device loosely connected to one of said members and surrounds and is normally out of contact with said drum, and means having a longitudinal reciprocal movement independent of either of said members whereby it is adapted to engage said friction device commencing at one end of the same and advancing to the other end thereof.

867,325. TALLYING-SHEET. MONTGOMERY H. WATSON, Dayton, Ohio. Filed Mar. 20, 1907. Serial No. 363,437.



A tally sheet comprising an initial sheet divided into sections each section containing the name of a ticket and the names of candidates and a series of spaces on one side of said names formed by lines extending at right angles, a supplemental sheet of a length equal to that of said initial sheet and of a width equal to the portions of the initial sheet which contain said spaces, said supplemental sheet having a series of spaces on both sides formed by lines extending at right angles and corresponding in number and alining with the spaces on the initial sheet, said supplemental sheet being provided with a series of transverse lines of perforations dividing it into sections equal in number and area to the portions of the sections of the initial sheet which contain the spaces, and a final sheet of a length equal to the length of the initial sheet or the supplemental sheet, said final sheet being provided with a series of spaces formed by lines extending at right angles and equal in number and area to the spaces on the initial sheet or one side of the supplemental sheet.

867,326. WRENCH. GEORGE P. WEICHEL, Lorain, Ohio. Filed Feb. 27, 1907. Serial No. 359,592.

1. A wrench, comprising a shank carrying a fixed jaw upon its end and provided with oppositely-disposed longitudinally-extending grooves or ways, a movable jaw mounted on said shank, a pair of rack-bars slidably-mounted in said grooves or ways and secured to said

movable jaw, a handle secured to the lower end of said shank and provided with oppositely-disposed pocket-openings, ratchet-dogs tiltably-mounted in said pocket-openings and provided with depending arms having teeth adapted to engage said rack-bars, and a spring-resisted cross-bar interposed between said ratchet-dogs and provided with an operating-stud whereby said ratchet-dogs may be tilted into and out of engagement with said rack-bars.



2. A wrench, comprising a shank carrying a fixed jaw and provided with oppositely-disposed longitudinally-extending ways, a movable jaw mounted on said shank, a pair of rack-bars slidably-mounted in said ways and secured to said movable jaw, a handle secured to said shank and provided with oppositely-disposed pocket-openings, ratchet-dogs mounted in said pocket-openings and provided with depending-arms having teeth adapted to engage said rack-bars, and a spring-resisted cross-bar interposed between said ratchet-dogs and adapted to be moved along the inner faces of said depending-arms whereby the same may be thrown into and out of engagement with said rack-bars.

3. In a wrench, an adjusting and locking mechanism, comprising a pair of slidably-mounted longitudinally-extending rack-bars carrying a movable jaw, a handle taking over the lower ends of said rack-bars and provided with oppositely-disposed pocket-openings having recess-bearings, ratchet-dogs straddling said rack-bars and provided with fulcrum-bearing-beads mounted in said recess-bearings, and a spring-resisted cross-bar impinging against the inner sides of said ratchet-dogs and adapted to tilt said ratchet-dogs into and out of engagement with said rack-bars.

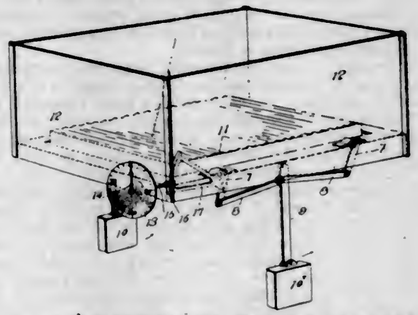
4. In a wrench, the combination with a pair of rack-bars carrying a movable jaw, and a shank carrying a fixed jaw and a handle taking over the lower ends of said rack-bars; of oppositely-disposed ratchet-dogs tiltably-mounted in said handle and straddling said rack-bars and comprising depending-arms provided with teeth for engaging with the teeth of said rack-bars, fulcrum-bearing-beads formed on the outer faces of said dogs near the upper ends thereof, and short arms formed above said bearing-beads, and a spring-resisted cross-arm impinging against the inner sides of said short arms whereby said depending-arms may be tilted into and out of engagement with said rack-bars.

5. In a wrench, a movable jaw, a pair of slidably-mounted rack-bars, a handle taking over the lower ends thereof and provided with pocket-openings having recess-bearings, a pair of ratchet-dogs tiltably-mounted in said pocket-openings by means of fulcrum-bearing-beads taking into said recess-bearings, arms depending from said bearing-beads to the outer sides of said rack-bars and provided with teeth adapted to engage therewith, short arms extending above said bearing-beads, and a spring-resisted cross-arm mounted above said rack-bars and impinging against said short arms whereby said ratchet-dogs may be moved to engage or release said rack-bars.

6. In a wrench, a pair of rack-bars, a movable jaw carried thereby, a handle provided with pocket-openings, a pair of ratchet-dogs mounted in said pocket-openings and provided with depending-arms having teeth adapted to engage with the teeth of said rack-bars, short arms extending above said depending-arms, and a spring-resisted cross-arm mounted above said rack-bars and impinging against said short arms whereby said ratchet-dogs may be tilted to engage or release said rack-bars.

7. In a wrench, the combination with a shank carrying a fixed jaw and provided with longitudinally-extending grooves; of a movable jaw mounted on said shank by means of sleeves and provided with openings intermediate said sleeves, rack-bars slidably-mounted in said grooves and provided with laterally-extending head-blocks taking into said openings, a handle secured to said shank and provided with a pair of oppositely-disposed ratchet-pawls straddling said rack-bars, and a spring-resisted cross-bar mounted above said rack-bars and interposed between said ratchet-pawls and provided with an operating-stud extending through said handle.

867,327. WEIGHING-SCALE FOR REFRIGERATORS. FRED D. WEST, Chicago, Ill. Filed Jan. 2, 1907. Serial No. 350,411.



1. The combination with a refrigerator, of a platform adapted to support the ice, shafts having crank portions supporting said platform, arms projected from and movable with said shafts, a frame-work within which said platform is mounted, a weighted swing bar pivotally suspended from said frame, links connecting said arms with said swing bar and registering mechanism operatively connected to said arms and adapted to be actuated by the latter.

2. In combination, parallel shafts having pivot bearings and provided with crank portions, a platform supported upon said crank portions, arms projected from said shafts, a weighted swing bar, links connecting said arms with said swing bar, a registering mechanism embodying a shaft, a pinion fast to the last mentioned shaft, and a toothed bar in mesh with said pinion and attached to one of the aforementioned arms to move therewith.

3. In combination, a main frame, shafts mounted in said frame and provided with crank portions, a platform mounted upon the crank portions of the shafts, arms fast to the shafts, weighted swing bars, links connecting said arms with said weighted swing bars, a registering mechanism embodying a shaft, a pinion fast to said shaft, and a toothed bar in mesh with the pinion and attached to one of the aforementioned arms to swing therewith.

4. In combination, a main frame provided with oppositely disposed bearings, shafts mounted in said bearings and extending across the frame, arms connected to said shafts, said shafts being cranked, a platform mounted within the frame, and upon the cranks of said shafts, links connected at one end to the said arms, weighted swing bars pivotally suspended from said frame and pivotally connected to the other end of said links, and a registering mechanism embodying a shaft mounted in said frame, a pinion fastened to said shaft, and a toothed bar in mesh with the pinion and attached to one of said arms.

867,328. TELESCOPE-MOUNTING FOR GUNS. JOSEPH WILKINSON, Bridgeport, Conn. Filed Feb. 14, 1907. Serial No. 357,387.

1. The combination with a gun and telescope, of two links pivotally supporting the telescope on the gun and arranged near the ends of the telescope whereby the latter has a free longitudinal swinging movement, the two sleeves tight sleeves around the telescope barrel the rear link being pivoted to the loose sleeve, and a collar loose around

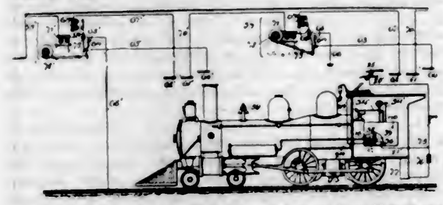
the telescope barrel and connected at its ends with said sleeves in such manner that rotary movements of said collar will cause said loose sleeve to be shifted to elevate or lower the telescope.



2. The combination with a gun and telescope, of two links pivotally supporting the telescope on the gun and arranged near the ends of the telescope whereby the latter has a free longitudinal swinging movement, the two sleeves around the telescope barrel and having facing screw threaded portions, and the threaded collar which engages each of said threaded portions, one of said sleeves being loose on the telescope barrel and pivoted to the rear link while the other sleeve is provided with means for temporarily clamping it to the telescope barrel.

3. The combination with a gun and telescope, of two links pivotally supporting the telescope on the gun and arranged near the ends of the telescope whereby the latter has a free longitudinal swinging movement, the sleeve to which the rear link is pivoted said sleeve being loose around the telescope barrel and having a threaded extension, a second sleeve clamped around the telescope barrel in proximity to the first named sleeve and having a threaded extension, the threads on said extensions being of opposite natures, and the collar loose around the telescope barrel and having its ends threaded interiorly and engaged with said threaded extensions.

867,329. BLOCK-SIGNAL APPARATUS. FRANK C. WILLIAMS, Philadelphia, Pa. Filed July 17, 1905. Serial No. 270,134.



1. In a signaling system for cars, a signal station, magnets for throwing signals to a danger or safety, position, stationary plates arranged along the track and electrically connected to the signal, a yielding contact carried by the train adapted to engage said plates as the car passes by them, and an independent stop circuit adapted to be closed by the signal when the signal is thrown to the danger position and a second yielding stop carried by the train for contacting with said stop plate whereby when the train passes said plates and the signal is set at danger, the train will be automatically stopped.

2. The combination in a railroad car, of an air brake or throttle lever, of a stop mechanism, an electric magnet for controlling said stop mechanism, means for actuating said stop mechanism when released by said electro-magnet, a yielding contact carried by the car, and electrically connected with said yielding contact and said magnet, stationary contacts elevated above and placed at suitable intervals along the track and connected by an electrical conductor with a signal, a circuit closer closed by the setting of said signal, and a source of electrical energy carried by the car whereby when the signal is set to a danger position and the yielding and stationary contacts become disengaged, the stop mechanism will be permitted to continue to operate to close the throttle or apply the brakes to bring the cars to a stand-still.

3. An electrical signaling and stop system for trains, comprising an external partial circuit, a signal and a contacting plate in said circuit, a second external partial circuit, a contact plate and a circuit breaker included in said second circuit, said breaker being closed by said signal, a car, a battery carried by said car, a partial circuit carried by the car and passing through said battery to the earth, a yielding contact carried by the car and adapted to engage said first mentioned plate, a stop mechanism and a second yielding contact carried by the car, a second partial circuit carried by the car and including said stop mechanism and said battery and said second yielding contact, said plates being situated at intervals upon the track and in position to be engaged by said yielding contacts.

4. An electrical signaling and stop system for trains, a signal, a magnet for throwing said signal, an elevated contact plate, a lead from said plate through said magnet to the earth, a magnet for re-setting said signal, a second elevated contact plate and a lead from said second plate through said re-setting magnet to the earth, a circuit breaker controlled by said signal, a third elevated contact plate, a lead from said third circuit plate through said circuit breaker to the earth, a car, a battery carried by the car, a yielding contact carried by the car and adapted to coöperate with the said first and second plates, a lead from said yielding contact through the battery to the earth, a second yielding contact adapted to coöperate with said third plate, an electric magnet stop mechanism, and a lead from said second yielding contact through said stop mechanism and battery to the earth.

5. A block signal system having each station provided with an electro-magnet for throwing a signal to danger, the said magnet being located in a circuit which is closed by a passing train, a second electro-magnet located in a circuit which is closed by a passing train when the signal is set to danger, a motor located on the car for shutting off the power and operating the air brake the said motor being set in operation by the last mentioned magnet, and a further circuit in which is included a magnet at the preceding station corresponding to the first mentioned magnet, the latter circuit being arranged to be closed by the passing of a train at the first mentioned station.

6. A block signal system having each station provided with an electro-magnet for throwing a signal to danger, the said magnet being located in a circuit which is closed by a passing train, a second electro magnet located in a circuit which is closed by a passing train, only when said signal is set to danger, a motor located on the train for bringing the latter to a full stop, said motor being arranged to be set in operation by the last mentioned magnet, and a further circuit in which is included a corresponding magnet for throwing a signal at the preceding station, the latter circuit being arranged to be closed by the passing of a train at the first mentioned station, to reset the signal at the preceding station.

7. A block signal system having each station provided with an electro-magnet for throwing a signal to danger, the said magnet being located in a circuit which is closed by a passing train, a second electro-magnet located in a circuit which is closed by a passing train only when the signal is set to danger and a motor set in operation by the last mentioned magnet, and located on said train for bringing the latter to a full stop when said last mentioned circuit is closed.

8. Mechanism for stopping rail-way cars comprising a controller located on the car, a motor arranged to be thrown into and out of operation by an electro-magnet for actuating said controller, a contact located on the car, a stationary contact located above the track, an electric circuit including said electro-magnet and both contacts, and a signal operating to close said circuit when set to danger position.

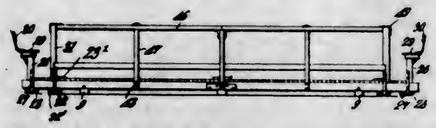
9. Mechanism for stopping rail-way cars comprising a controller located on the car, motor operated means for actuating said controller, an electro-magnet for throwing said means into and out of operation, a contact located on the car a stationary contact located above the track, means for generating an electric current externally to the car, a circuit including the electro-magnet and both contacts, a signal arranged to close said circuit when set to danger position, means for generating another electric current on

the car, the said means being so arranged that the current will pass through the electro-magnet after the first mentioned circuit has been broken and will continue until the controller has reached its final position.

10. Means for stopping rail-way cars comprising a controller located on the car, a train of mechanism including a shaft operated by a motor for actuating said controller, an electro-magnet for throwing said mechanism into and out of operation, a contact located on the car, a stationary contact located above the track, means for generating an electric current externally to the car, an electric circuit including said electro-magnet and contact plates, a signal arranged to close said circuit when set to its danger position, means for generating a second electric current located upon the car, said means being so arranged that the current will pass through the electro-magnet after the first mentioned circuit has been broken and will continue until the controller has reached its final position and contact segments alternately arranged to rotate with said shaft for transferring the magnet from one circuit to the other and for grounding said circuits.

11. A block signal system having each station provided with an electro magnet for throwing the signal to danger, the said magnet being located in a circuit which is closed by a passing train, a second electro magnet which is closed by a passing train only when the signal is set to danger, a controller located upon the train and a motor for actuating said controller, the said motor being thrown into and out of operation by the last mentioned magnet.

867,330. PORTABLE ROLLER-SKATING-RINK FLOOR. FRANK R. YOUNG, Brookfield, Mo. Filed Apr. 2, 1907. Serial No. 366,042.



1. A portable floor including a plurality of rows of detachable sections, the sections of each row being provided with tongue and groove connections, means connecting the opposite ends of adjacent sections for drawing said sections together, a stationary member disposed parallel with the longitudinal edge of one of the outer rows of sections and provided with spaced inclined faces, and wedges interposed between the inclined faces of the stationary member and the longitudinal edge of said outer row of floor sections for exerting a lateral pressure on the several rows of sections.

2. A portable floor including a plurality of rows of detachable sections, means connecting the abutting ends of the sections of each row for drawing said sections together, and drip receptacles interposed between some of the sections and having their upper and lower ends open and their side walls provided with lateral drain openings.

3. A portable floor including a plurality of sections detachably secured together and provided with tongue and groove connections, means connecting the abutting ends of adjacent sections for drawing said sections together, receptacles interposed between some of the sections and locked in position by engagement with said sections, liquid receiving compartments formed in said receptacles and drain openings communicating with the compartments for discharging the liquid therefrom.

4. A portable floor including supporting joists, a plurality of detachable floor sections supported on the joists and provided with transverse cleats adapted to bear against said joists, fastening devices connecting the abutting ends of adjacent floor sections, and anchoring members secured to some of said floor sections.

5. A portable floor including longitudinal supporting sills, spaced transverse joists mounted on the sills, laterally extending brackets carried by the joists some of which are secured to the sills, a plurality of separable floor sections bearing against the joists and provided with tongue and groove connections, and anchoring members depending from some of the floor sections and secured to the adjacent brackets.

6. A portable floor including longitudinal sills, spaced supporting joists mounted on the sills, a plurality of detachable floor sections resting on the joists and provided with transverse cleats, the abutting ends of adjacent floor sections being provided with tongue and groove connections, and anchoring members secured to some of the cleats and engaging the adjacent joists.

7. A portable floor including longitudinal sills, spaced joists mounted on the sills and provided with laterally extending brackets for engagement with said sills, a plurality of floor sections bearing against the joists and provided with transverse cleats adapted to engage adjacent joists, the abutting ends of adjacent floor sections being provided with tongue and groove connections, sockets formed in some of the transverse cleats and bolts seated in said sockets and adapted to engage the adjacent joists.

8. A portable floor including spaced joists, a plurality of floor sections bearing against the joists and provided with transverse cleats adapted to bear against adjacent joists, horizontally disposed bolts connecting the cleats of adjacent sections, there being sockets formed in some of the transverse cleats, plates covering said sockets and having elongated slots formed therein, and anchoring members depending from some of the cleats and provided with enlarged heads seated in said sockets.

9. A portable floor including longitudinal sills, spaced joists mounted on the sills, a plurality of floor sections detachably secured to the joists and provided with tongue and groove connections, the free ends of the joists being extended laterally beyond the opposite longitudinal edges of the floor, and seats secured to the free ends of the joists.

10. A portable floor including longitudinal sills, spaced joists mounted on said sills, a plurality of floor sections engaging the joists and having their abutting ends provided with tongue and groove connections, the opposite ends of the joists being extended laterally beyond the adjacent longitudinal edges of the floor, posts extending vertically from the free ends of the joists, stirrups carried by the posts and engaging the adjacent joists, seats secured to the posts and wedges interposed between the stirrups and the adjacent joists for locking the posts against lateral displacement.

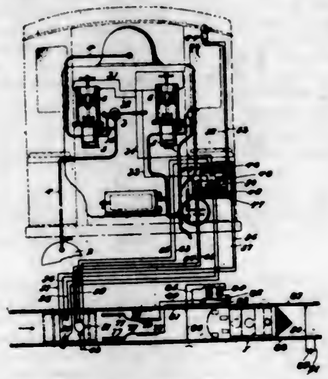
11. A portable floor including spaced joists, a plurality of detachable floor sections bearing against the joists and having their abutting ends provided with tongue and groove connections, said joists being extended laterally beyond the opposite longitudinal edges of the floor, spaced standards secured to the marginal edge of the floor, guard rails connecting the standards, posts spaced laterally from the standards, stirrups carried by the posts and embracing the joists, seats secured to the posts and provided with folding backs, and wedges interposed between the stirrups and adjacent joists for locking the posts against accidental displacement.

867,331. AUTOMATIC SAFETY CONTROLLING MEANS FOR TRAINS. DAVID S. APPLECK, Chicago, Ill. Filed Aug. 16, 1906. Serial No. 330,908.

1. In a block system for railways, the combination of signal and safety appliances mounted upon the car or like part and included in independent electric circuits, signal and safety contact rails provided for each block or section of the track and adapted to control respectively the signal and safety appliances of the car when short-circuited, and means for electrically short-circuiting the signal and safety contact rails, substantially as set forth.

2. In a block system for railways, the combination of a car adapted to be mechanically propelled and provided with usual brake mechanism, a signal circuit, electric actuators for cutting off the motive power and applying the brakes and included in an electric and safety circuit, signal and safety contact rails adapted to actuate the signal and safety circuits on the car to first set the signal and subsequently apply the brakes and cut off the motive power, and

means for short circuiting the signal and safety rails from a block or section.



3. In a block system for railways, the combination of a track subdivided into blocks or sections which are electrically insulated, signal and safety contact rails for each block or section of the track, means for short-circuiting said contact rails from an adjacent block when the same is occupied, signal and safety appliances provided upon a car and included in separate electric circuits, and contacts for the signal and safety circuits to bring the latter into effective operation when coming in engagement with the closed signal and safety contact rails.

4. In a block system for railways, the combination of a track subdivided into blocks or sections which are electrically insulated, contact rails for each block or section of track, a circuit closer therefor, a track circuit for each section or block including a relay and opposite rails of the block or section and adapted to control the aforesaid circuit closer to effect short-circuiting of the contact rails of a block or section immediately in the rear of an occupied block or section, and safety appliances provided upon a car and included in an electric circuit which is adapted to be brought into operation when engaging with the short-circuited contact rails.

5. In a block system for railways, the combination of safety appliances provided upon a car or like carrier and included in an electric circuit, contact rails for actuating the electric circuit of said safety appliances, a circuit closer for short-circuiting said contact rails, an electro-magnet for normally holding said circuit closer open and having its terminals connected with opposite rails of a block or section of the track, and a battery having its poles electrically connected with said track rails and adapted to be short-circuited when the block is occupied by a car, whereby the electro-magnet is deënergized to permit operation of the aforesaid circuit closer to short circuit the aforementioned contact rails.

6. In a block system for railways, the combination of a signal circuit provided upon a car or like carrier, a controlling circuit for the signal circuit including brushes or contact pieces, contact rails for each block or section of track and adapted to operate the aforesaid controlling circuit to bring the signal circuit into operation, and means for short-circuiting the contact rails when a block or section of track is occupied so as to effect operation of the signal of the car entering the succeeding block or section to the one occupied.

7. In a block system for railways, the combination of safety appliances provided upon a car or like part and adapted to bring the same to a stand-still either by application of the brakes or cutting off of the motive power or both, said safety appliances being included in an electric circuit, contact rails for operating said electric circuit for bringing the safety appliances into active operation, and means for short-circuiting said contact rails near the block or section of track ahead of a following train or car to bring the latter to a stand-still, substantially in the manner specified.

8. In a car or like part, the combination of a self closing valve having connection with the train pipe to effect application of the brakes, a second self-closing valve to effect cutting off the motive power, an electric device for normally holding each valve in restraint and included in a closed circuit on the car, a controlling circuit including a switch for breaking the circuit including the said electric devices, a track circuit, contact rails for short-circuiting the said controlling circuit, and a circuit closer for bridging the circuit of the contact rails and controlled by an electro-magnet in the aforesaid controlling circuit.

9. In combination an electric block system for railways, a normally closed track circuit adapted to be short circuited by means of the moving car, or like carrier, or to be broken under abnormal conditions, safety appliances mounted upon said car, an electro-magnet normally energized and adapted to hold said safety appliances in running position and included in a closed circuit, a second electric circuit including an electro-magnet for controlling a circuit breaker in the safety appliances actuating circuit, and a controlling circuit for said second electric circuit and brought into action when the aforesaid track circuit is either short circuited or broken.

10. In a block system, the combination of a controlling valve operatively connected with the engineer's valve and with the train pipe, and having a vent, a piston or plug constituting the working element of said valve and normally closing said vent and relief of the train pipe and establishing communication between the engineer's valve and the source of motive fluid supplied thereto, an electrically controlled device normally holding the controlling valve in running position and adapted to effect release thereof under abnormal conditions, whereby the safety appliances may be automatically actuated.

11. In combination, a controlling valve mounted upon the car or like part and operatively connected with the engineer's valve and with the train pipe and having a vent and a relief, the latter being connected with the train pipe, a working piston or plug normally closing said vent and the relief oft he train pipe and establishing communication between the engineer's valve and its source of fluid motive medium supply, electric appliacnes mounted upon the train for normally holding the controlling valve in running position, and other appliances applied to the track and adapted to coöperate with the electric appliances of the train to effect automatic actuation of said valve and operation of the safety appliances.

12. In combination, a valve comprising a cylinder and a piston, said cylinder having communication with the engineer's valve and with the train pipe and provided with a vent, the piston normally closing the relief of the train pipe and the vent and normally establishing communication between the engineer's valve and its source of fluid motive medium supply, an electro-magnet normally energized and acting upon the valve to hold it in running position, a relay included in the same circuit with said electro-magnet and adapted to break said circuit under abnormal conditions and permit automatic actuation of the aforesaid controlling valve, and track means including an electric circuit for neutralizing the relay circuit of the train to effect a breaking of the circuit including the aforesaid controlling electro-magnet.

13. In a safety appliance for railway trains, and in combination with the engineer's valve, train pipe and source of supply for the brake setting medium, a cylinder having communication with the engineer's valve and the source of fluid supply therefor, a release pipe connecting the train pipe with said cylinder, the latter having a vent, a piston arranged to work in said cylinder and having a port to establish communication between the pipes leading from the engineer's valve and the source of fluid medium supply therefor and normally closing the release pipe and vent port, and automatic controlling means for said piston.

14. In a safety appliance for railway train including an engineer's valve, train pipe and source of fluid medium supply, the combination of a cylinder provided with an opening in one end and a vent near the opposite end, a pis-

ton having an opening for establishing communication between the pipes leading from the engineer's valve and source of fluid medium supply to said cylinder and normally closing the vent port and the relief pipe leading from the train pipe to said cylinder, the latter having the opening in the end opposite to the relief end of the piston for relieving the jar incident to the stoppage of the rapid movement of the piston under the action of the escape of the fluid medium from the train pipe, and operating means for said piston.

15. In combination, signal and safety appliances mounted upon a moving train, independent brushes or contacts for the signal and safety appliance circuits, safety and signal contact rails located out of line and in position to make separate connection with the respective contacts of the train, and means for connecting said safety and signal contact rails to effect automatic operation of the signal and safety appliances.

16. In combination, signal and safety appliances mounted upon the moving train and included in separate circuits, safety and signal contact rails arranged out of line and in position to make electrical connection with the brushes or contacts of the train, a track circuit having direct connection with the safety contact rails, means connecting the safety contact rails with the contact signal rails, and a relay circuit to effect closing of the track circuit and adapted to be closed by the moving train, substantially as set forth.

17. In a block system for railways, the combination of a car provided with safety appliances included in an electric circuit, contact rails for each block or section of track, a switch for short-circuiting the contact rails to effect operation of the safety appliances upon the car, a track signal, and contact rails for the track signal included in the track rails and electrically insulated from the rails of the blocks or sections of track provided with the aforementioned contact rails.

18. In combination, contact rails, contact pieces therefor, a head, and oppositely inclined pin and slot connections between said head and contact piece to admit of the latter having a limited angular movement.

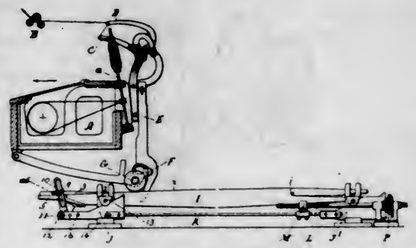
19. In combination, a contact rail, a coöperating contact piece, a head, an inclined pin and slot connection between opposite end of the contact piece and head to admit of the contact piece having a limited angular movement, a support, and a yielding connection between the support and the said head to admit of a relative vertical play of said head.

20. In a railway signal, the combination of safety devices on the car or like carrier, an actuator therefor included in an electric circuit, a track circuit, a controlling circuit for the safety devices circuit actuated by the track circuit, and a signal circuit looped into the said controlling circuit and including a switch.

21. In a railway signal, the combination of safety devices on the car or like carrier, an actuator therefor included in an electric circuit, a track circuit, a controlling circuit for the safety devices circuit actuated by the track circuit, a signal circuit, and a switch in the said controlling circuit to enable the engineer or other party to determine upon trial the source of the signal when a number of track circuits have connection with a block.

867,332. MULE-SPINNING MACHINE. WILLIAM E. AHERN, Worcester, Mass., assignor of two-thirds to George M. Bassett and one-third to Arthur J. Bassett, Worcester, Mass. Filed Jan. 2, 1907. Serial No. 350,416.

1. In a mule spinning machine, the combination, with fallers, faller-lock mechanism, and cop builder-rail; of an adjustable nose-forming means disposed at the rear end of the builder-rail and comprising a flatwise tapered wedge-shaped member overlying the top surface of the cop-builder-rail and longitudinally adjustable thereon to and from a position that corresponds to the final part of the wind-up, and means for effecting endwise adjustment of said member to give later or earlier effect when coacting with the faller-lock carrier for imparting a final downward wind at the latter end of the winding-on action.



2. In mechanism of the class described, in combination with the faller mechanism, its carrier roll, the builder-rail, and inclined builder-plates supporting said builder-rail; an endwise movable nose-forming element comprising a forwardly tapered piece mounted on guide-ways in connection with the rear part of said builder-rail, and in continuation of the track surface thereof, and means in connection with one of the inclined builder-plates, for moving said nose-forming element endwise in relation to the builder-rail.

3. In a mule spinning machine, the combination, with the faller mechanism, and cop-builder-rail, of an attachable rear-end extension member having longitudinal guide-ways thereon, means for securing said member to the rear end of said builder-rail, an endwise movable forwardly tapered nose-former piece fitted on said guide-ways and extending along the top of the builder-rail, and engaging means for automatically effecting endwise movement of said nose-former in conjunction with the means for depressing the builder-rail.

4. In a mule spinning machine, in combination with the fallers, faller-lock mechanism, builder-rail, inclined builder-plates, and plate regulating screw; a removable endwise-slidable inclined nose-former-piece arranged at the rear part of the builder-rail in alinement with the track surface thereof, a stud fixed in said nose-former piece, and a slotted arm carried by the builder-plate and engaging with said stud, for the purposes set forth.

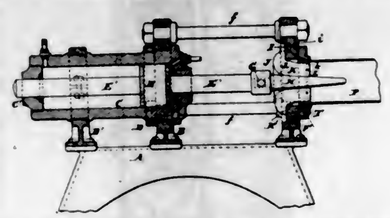
5. In mechanism of the class described, the combination, with the faller-lock carrier, builder-rail, and movable wedge-shaped builder-plate supporting said builder-rail; of a tapered endwise movable nose-former member mounted on the builder-rail, an actuating arm carried by the builder-plate, and means connecting said arm and nose-former member, said arm being adjustable to forward or rearward inclination for varying the relative position and action of the nose-former member in respect to the builder-rail and faller-lock-carrier.

6. In a mule spinning machine, in combination, a self-operating nose-former device carried upon the builder-rail and coacting with the traveler roll and faller mechanism, means for automatically regulating the fall of the builder-rail, and means for automatically shifting said nose-former device forward upon the builder-rail, for increasingly modifying the wind of yarn at the nose of the bobbin, substantially as set forth.

7. In a mechanism for the purpose described, the combination of the builder-rail, the builder-plate having a rearward extension provided with a plurality of openings therein, a tapered nose-forming piece mounted for endwise movement upon said builder-rail, a projecting stud on said movable piece, and a slotted arm engaging with said stud and attached to said builder-plate extension by an adjustable connection.

867,333. PIPE-FLANGING MACHINE. JOHN H. ALLEN and FRANKLIN M. PATTERSON, Philadelphia, Pa. Filed Mar. 25, 1907. Serial No. 364,254.

1. A pipe flanging device consisting of an annular die divided into sections and having its sections provided with circumferential ribs for acting on the interior surface of the tube to be expanded, combined with means for expanding the annular die, and means independent of the annular die fixedly supported independent of the work acted upon for sustaining the die against longitudinal movement toward the pipe or the flange in which it is to be expanded and as a guide for the pipe for insuring its proper adjustment longitudinally with relation to the die.



2. A pipe flanging device consisting of an expanding annular die divided into sections and having the outer surfaces of its sections provided with circumferential retaining flanges and rib structure for acting on the interior surface of the tube to be expanded and their inner surfaces tapered to form a tapered aperture through the die, combined with a tapered arbor to expand the die, an annular frame fixedly supported independent of the work and die and having a flat annular surface against which the flanges of the die rest to hold the die against longitudinal movement toward the work while permitting lateral adjustment of the die sections and of the die as a whole relatively to the frame and power devices connected with the annular fixed frame for reciprocating the tapered arbor.

3. In a pipe flanging machine, an expanding annular die divided into sections and having the outer surfaces of its sections provided with circumferential ribs for acting on the interior surface of the tube to be expanded and their inner surfaces tapered to form a tapered aperture through the die, combined with means for expanding the annular die consisting of a tapering arbor, power devices for reciprocating the arbor, fixed means for holding the annular die in alinement with the arbor and supporting it against movement away from the power devices when the arbor is moved forward in the act of expanding the die.

4. A pipe flanging device consisting of an expanding annular die divided into sections and having the outer surfaces of its sections provided with at least three circumferential ribs for acting on the interior surface of which the outer ribs are of less height than the inner ribs of the tube to be expanded, combined with means for expanding the annular die and holding it in fixed position, and a circular spring secured to the several sections for normally holding them in collapsed position.

5. A pipe flanging die consisting of an annular structure radially divided into sections and having the outer surface of the sections provided with an outwardly extending annular rib of small cross section for acting upon the interior surface of the pipe within the flange, combined with a fixed support sustained in position independently of the work to hold the die against longitudinal movement, and power devices connected with the fixed support for expanding the die and without putting pressure upon the pipe in the direction of its length.

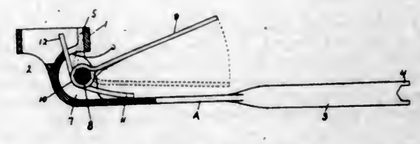
6. A pipe flanging die consisting of an annular flanged structure radially divided into sections and having the outer surface of the sections provided with an outwardly extending annular rib of small cross section for acting upon the interior surface of the pipe within the flange and radial flanges to prevent longitudinal shifting, combined with an annular permanently fixed abutment ring supported independent of the work having a flat face against which the flanges rest and relatively to which the die may adjust itself in all transverse directions, and a tapering arbor for expanding the die.

7. In a pipe flanging machine, the combination of a fixed abutment ring supported independent of the work, a flanged die removably resting against the abutment ring and divided radially into sections and said sections having their smaller ends extended through the abutment ring and provided with circumferential ribs beyond the ring, means independent of the abutment ring to hold the sections of the die together and an arbor for expanding the die.

8. In a pipe flanging machine, the combination of a hydraulic cylinder and plunger, a housing rigidly connected to the cylinder, an abutment ring removably fitted to the housing, a flanged die resting against the abutment ring and divided radially into sections and said sections having their smaller ends extended through the abutment ring and housing and provided with circumferential ribs beyond the ring, and an arbor for expanding the die carried by the plunger.

9. In a pipe flanging machine, a bed combined with two annular housings bolted to the bed, a hydraulic cylinder secured to one of the housings, bolts connecting the two housings, an abutment ring carried by the other housing, an expanding annular flanging die resting against the abutment ring, a plunger for the cylinder, and a taper arbor carried by the plunger and movable through the flanging die.

867,334. BUGGY-WRENCH. EDWARD I. ALLISON, Saginaw, Mich. Filed Mar. 2, 1907. Serial No. 360,266.



1. A wrench comprising a handle, one portion of which lies at approximately right angles to the remaining portion, a hollow jaw on one end of the handle, the jaw provided with an offset terminating in an opening beneath the handle, a wing carried by the handle near one edge thereof, a post projecting laterally from the wing beneath and protected by the handle, a spring bent to form a lever, coils formed near the free ends of the spring, one of the free ends being bent backwardly and taking against the under face of the handle to constitute a stop, the remaining free end of the spring passing down through the opening into the offset, the coils received on the post and means for retaining the coils on the post.

2. A wrench comprising a handle, a hollow jaw at one end of the handle, a support carried by the wrench and a spring lever journaled on the support, and normally lying at an angle to the handle, one end of the spring lever terminating in a clamping finger projecting into the hollow jaw, the opposite end of the lever engaging the wrench to form a fulcrum for the lever, the lever and handle adapted to be grasped to bring the lever approximately parallel with the handle when placing the wrench on a nut.

3. A wrench comprising a handle, bent at one end, a hollow jaw carried by the bent end of the handle, a wing carried by the handle, a post projecting laterally from the wing, a combined integral spring, lever and clamping finger pivotally mounted on the post, and means for preventing its disengagement from the post, the clamping finger normally projecting into the hollow jaw, the lever normally lying beneath and at an angle to the handle.

4. A wrench comprising a handle, a hollow jaw carried thereby, and a pivotally supported combined spring, clamping finger and lever, the lever projecting beneath and movable toward and from the handle, the hollow jaw provided with a recess or offset, the clamping finger movable into and out of the recess in the hollow jaw, and a stop carried by the lever and taking against the handle to afford resilience to the lever and clamping finger.

867,335. CEMENTITIOUS POLE FOR SUPPORTING OVERHEAD WIRES AND THE LIKE. WILLIAM M. BAILEY, Richmond, Ind., assignor to The American Concrete Pole Company, Richmond, Ind., a Corporation. Filed Dec. 17, 1906. Serial No. 348,131.



A reinforced cement pole consisting of an elongated cement body inclosing a plurality of longitudinal rods or the like remote from each other and disposed about the longitudinal axis of the body, and a wire or the like disposed in a continuous spiral about and closely encircling said rods substantially from end to end of the body.

867,336. SWELLED BAR FOR CASKET-HANDLES. NATHANIEL L. BARMORE, Chicago, Ill. Filed Apr. 13, 1907. Serial No. 367,934.



1. A swelled grip bar, comprising a bar 1, in combination with a substantially triangular strap arranged with its base longitudinal to the bar and regularly wrapped thereabout, and with its small end centrally secured upon the wrapping.

2. A swelled grip bar comprising a suitable bar, in combination with a substantially triangular strap with fluted edges 3, arranged with its base extending longitudinally of the bar and regularly wrapped thereabout and secured in such position, the fluting forming parallel ribs on each side of the center.

867,337. BEEHIVE. CHARLES D. BARNES, Kansas City, Mo., assignor of one-third to J. E. Crooks and one-third to J. A. Hanson, Kansas City, Mo. Filed Mar. 31, 1906. Serial No. 309,061.

A beehive, comprising a housing provided with internal cleats, a door, a screen-covered opening, means to close the same, and an opening for the bees; a box within and on the bottom of the housing and between certain of said cleats and communicating with the bee opening and having its wall opposite said opening of transparent material, valve-controlled openings in the top wall of said box, a vertical partition upon the box, boxes fitting removably upon the first-named box at opposite sides of said partition and spaced from the side walls of the housing by certain of said cleats, and valve-controlled openings in the bottoms of said boxes.

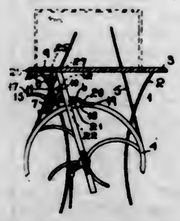


867,338. BARBED-WIRE FENCE. THOMAS J. BARNES, Julesburg, Colo. Filed Dec. 7, 1906. Serial No. 346,738.



A barbing device for wire-fences consisting of a metal blank having terminal teeth or spurs, the blank between the teeth being bent into cylindrical form and the teeth being bent outward radially to the cylinder.

867,339. SEWING-MACHINE LOCK. RICHARD BARR, Ravine, Pa. Filed June 25, 1906. Serial No. 323,311.

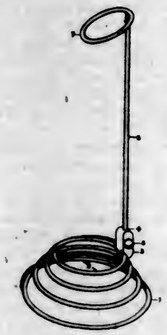


1. The combination with a rotary element provided with transversely spaced peripheral stops, of a swinging dog having a terminal to engage the stops, a lever for actuating the dog, a rigid guide for the lever, and springs in the guide for holding the lever in adjusted positions.

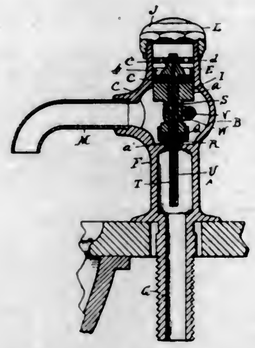
2. A locking device comprising a bracket provided at one end with means for attachment to a support, and intermediate its ends with a slot, a dog having at one end a catch and having its other end diagonally-rabbeted and pivoted within the slot, and a lever operatively connected with the dog.

867,340. SURGICAL APPLIANCE. ROBERT C. BARRIE, Philadelphia, Pa. Filed Dec. 1, 1906. Serial No. 345,962.

The combination in a surgical appliance of a conical spiral spring having a venal compressing coil (2) and attached adjusting sleeve (3) with a rod (6) and smoothly closed ring (7) alike cooperative with aforesaid coil all substantially as set forth.



867,341. VALVE. AUGUST F. BLESCH, Detroit, Mich. Filed Sept. 30, 1905. Serial No. 280,735.



1. In a slow closing valve, a piston comprising a body, a cup packing at one end thereof, and an intermediate section of non-heat conducting material.

2. In a slow closing valve, a casing having an inlet, a piston chamber thereabove, a lateral discharge, a valve controlling the inlet, a piston within the chamber connected to the valve and having its upper surface of greater area than the surface of the valve exposed to the pressure, a restricted passage leading from the inlet to and within the piston chamber at a point above the piston, and a guide plate interposed between the piston and the outlet of said restricted passage.

3. In a slow closing valve, a casing having an inlet, a piston chamber thereabove and a lateral discharge, a valve controlling the inlet, a piston stem secured to the valve and extending upwardly into the piston chamber, a piston secured to said piston stem and working within the piston chamber and having its upper surface of greater area than the surface of the valve exposed to the pressure, a restricted passage in the piston stem leading from the inlet to and within the piston chamber at a point above the piston, a guide plate on said piston stem intermediate the piston and the outlet of the restricted passage and having fluid passages extending therethrough, and operating means for said valve.

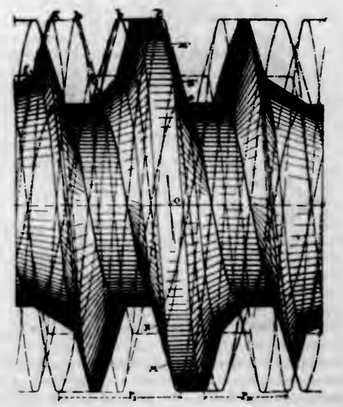
4. In a slow closing valve, the combination with a casing having an inlet, a lateral discharge and a piston chamber above the inlet, a valve controlling said inlet, a piston working within said chamber having an end exposed to the pressure of greater area than the exposed surface of the inlet valve, said piston comprising a body, a cup packing at one end thereof and an intermediate section of non-heat conducting material, and a restricted passage leading from the inlet to and within the piston chamber at a considerable distance beyond the piston, whereby a quantity of water is constantly maintained in the piston chamber above the piston.

5. In a valve, the combination with a casing having an inlet, a lateral discharge, and a piston chamber above the inlet, of a valve controlling the inlet, a piston within the chamber connected to the valve and having an end exposed to the pressure, of greater area than the exposed surface of the inlet valve whereby the latter is seated by fluid pressure, and a restricted passage leading from the inlet to a point within the casing above the piston, and adapted to be flushed by the movement of fluid in a direction opposite to the pressure.

6. In a valve, the combination with a casing having an inlet, a lateral discharge, and a closed piston chamber above the inlet, of a valve controlling the inlet, a piston within the chamber connected to the valve, and having its upper surface exposed to the pressure, of greater area than the exposed surface of the inlet valve, whereby the latter is seated by fluid pressure, a restricted passage leading from the inlet through the valve and piston and communicating with the piston chamber, and means for operating the valve.

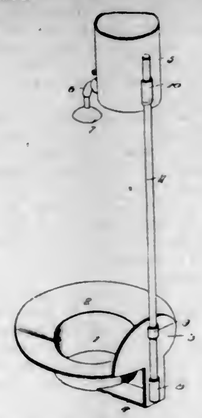
7. In a valve, the combination with a casing provided with an inlet, a lateral discharge, and a closed piston chamber above the inlet, of a valve controlling the inlet, a piston within the chamber connected to the valve, and having an end exposed to the pressure, of greater area than the exposed surface of the inlet valve, whereby the latter is seated by fluid pressure only, a restricted passage leading from the piston chamber through the piston and valve and extending below the latter a considerable distance within the casing inlet, and operating means for the valve.

867,342. CUTTER FOR STRAIGHT, HELICOIDAL, AND CONICAL GEAR-TEETH. LOUIS BOISARD, Lyon, France. Filed Dec. 21, 1905. Serial No. 292,774.



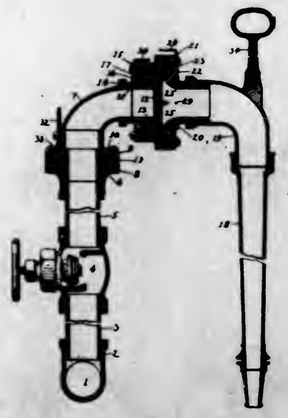
A spiraloidal cutter for cutting straight gears, helicoidal gears and bevel gears having its cutting teeth in a helix reduced towards its extremities and formed upon a surface of revolution said helix being composed by the intersection of threads of different pitch placed symmetrically with regard to given points on said surface.

867,343. BATH-TUB AND SPRINKLER ATTACHMENT. OLIVER C. BRANT, Danville, Ill. Filed Dec. 21, 1906. Serial No. 349,004.



A bathtub provided with a flared rim and with an upstanding back rest at the outer edge of the rim, an angular brace secured to the bottom of the tub and to the rim at a point midway of the back rest and the vertical member of the brace and the back rest being each provided with a strap, said straps being located in vertical alinement, a rod designed to extend through a strap of the back rest with its lower end fitted in the strap of the brace, and a reservoir provided with a shower attachment and supported in an elevated position by said rod.

867,344. FIRE-HYDRANT. FRANK V. CARMAN, Oakland, Cal. Filed Dec. 20, 1906. Serial No. 348,774.



1. A fire-hydrant comprising a universally jointed connection from a normally open supply; a nozzle; a rotatable coupling joining the nozzle to said connection; and a valve-structure included in said coupling and operated by the movement of the nozzle to open and close the fluid communication between said connection and nozzle.

2. A fire-hydrant comprising a universally jointed connection from a normally open supply; means for temporarily locking said connection against movement; a nozzle; a rotatable coupling joining the nozzle to said connection; and a valve-structure included in said coupling and operated by the movement of the nozzle to open and close the fluid communication between said connection and nozzle.

3. A fire-hydrant comprising a universally jointed connection from a normally open supply; means for temporarily locking said connection against movement; a nozzle; a rotatable coupling joining the nozzle to said connection; a valve-structure included in said coupling and operated by the movement of the nozzle to open and close the fluid communication between said connection and nozzle; and means for locking said valve-structure in an open position.

4. A fire-hydrant comprising a normally open supply; a vertically disposed connection therewith, having interposed in its length, a horizontally rotatable joint; a horizontally disposed connection coupled to the vertical connection, and having interposed in its length, a vertically rotatable joint; a normally depending nozzle having a vertically rotatable connection with said horizontal connection; and a valve-structure in said rotatable nozzle connection, opened and closed by swinging said nozzle.

5. A fire-hydrant comprising a normally open supply; a vertically disposed connection therewith, having interposed in its length, a horizontally rotatable joint; a horizontally disposed connection coupled to the vertical connection, and having interposed in its length, a vertically rotatable joint; a normally depending nozzle having a vertically rotatable connection with said horizontal connection; a valve-structure in said rotatable nozzle connection, opened and closed by swinging said nozzle; and a locking device for said rotatable nozzle connection to hold the valve open.

6. A fire-hydrant comprising a normally open supply; a vertically disposed connection therewith, having interposed in its length, a horizontally rotatable joint; a horizontally disposed connection coupled to the vertical connection, and having interposed in its length, a vertically rotatable joint; a means for locking and releasing said joint; a normally depending nozzle having a vertically rotatable connection with said horizontal connection; and a valve-structure in said rotatable nozzle connection, opened and closed by swinging said nozzle.

7. A fire-hydrant comprising a normally open supply; a vertically disposed connection therewith, having interposed in its length, a horizontally rotatable joint; a horizontally disposed connection coupled to the vertical connection, and having interposed in its length, a vertically rotatable joint; means for locking and releasing said joint; a normally depending nozzle having a vertically rotatable connection with said horizontal connection; a valve-structure in said rotatable nozzle connection, opened and closed by swinging said nozzle; and a locking device for said rotatable nozzle connection to hold the valve open.

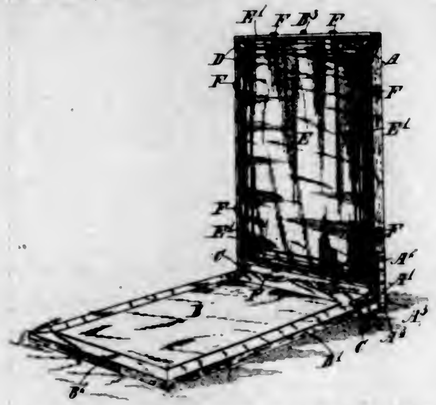
8. A fire-hydrant comprising a normally open supply; a vertically disposed connection therewith, having interposed in its length, a horizontally rotatable joint; a means for locking said joint in either direction; a horizontally disposed connection coupled to the vertical connection, and having interposed in its length, a vertically rotatable joint; a normally depending nozzle having a vertically rotatable connection with said horizontal connection; and a valve-structure in said rotatable nozzle connection, opened and closed by swinging said nozzle.

9. A fire-hydrant comprising a normally open supply; a vertically disposed connection therewith, having interposed in its length, a horizontally rotatable joint; a means for locking said joint in either direction; a horizontally disposed connection coupled to the vertical connection, and having interposed in its length, a vertically rotatable joint; a means for locking and releasing said joint; a normally depending nozzle having a vertically rotatable connection with said horizontal connection; a valve-structure in said rotatable nozzle connection, opened and closed by swinging said nozzle; and a locking device for said rotatable nozzle connection to hold the valve open.

10. In a fire-hydrant, the combination of a normally open supply connection; a nozzle; a rotatable valve joint between them comprising a casting on the end of the supply connection, having ports, a casting on the nozzle base, having ports, and means for rotatably fitting the castings together to effect the alinement of said ports through the swinging movement of the nozzle; and a locking device for said joint to hold the ports in alinement.

11. In a fire-hydrant, the combination of a normally open supply connection; a nozzle; a rotatable valve joint between them comprising a casting on the end of the supply connection, having ports, a casting on the nozzle base, having ports, and means for rotatably fitting the castings together to effect the alinement of said ports through the swinging movement of the nozzle; means for defining the movement of the nozzle to aline the ports; and a locking device for said joint to hold said ports in alinement.

867,345. DIAPHRAGM FOR DUPLICATORS. MCION J. D. CARTER, London, England. Filed Mar. 10, 1906. Serial No. 305,419.



1. In a duplicator the combination with a frame having channels D, of a diaphragm, side bars to the diaphragm and adjusting screws passing through the channels and the bars for the purpose described.

2. The combination in a duplicator of a frame having channels D, a fabric diaphragm having side pockets E^2, separate bars at the edges of the diaphragm resting in the channels in the frame and adjusting screws passing through the frame and operatively connected with the side bars of the diaphragm for the purpose described.

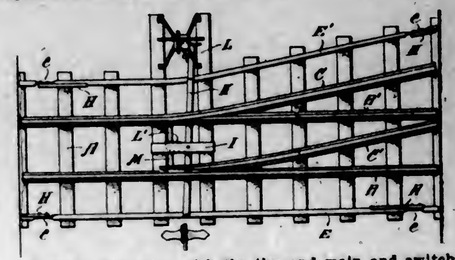
3. In a duplicator, the combination of a frame, a diaphragm having its edges extending into channels formed in the frame, and adjustable means engaging the diaphragm within said channels for maintaining the diaphragm taut.

4. In a duplicator, the combination of a diaphragm, a frame supporting the diaphragm and having channels formed in its sides and opening through the face against which the diaphragm bears, independent bars arranged in said channels and connected with the edges of the diaphragm, and means for adjusting the bars in said channels, for the purpose described.

5. In a duplicator, the combination of a bed, a frame having channels D formed in its sides, a fabric diaphragm having pockets formed at its edges, bars in said pockets and lying within the channels in the frame, and adjusting screws passing through said bars and engaging the frame.

867,346. AUTOMATIC RAILWAY-SWITCH. CHRISTOPHER C. CHANCEY, Hartford, Ala. Filed June 8, 1907. Serial No. 377,933.

1. The combination with the ties, and main and switch rails; of a system of levers comprising two outer movable horizontal levers movably secured to the ties, one of which lies parallel with the main rail, and the other outside lever located at an angle and parallel with the side track rail, a transversely arranged lever pivotally connected to said levers at one end and near the opposite end of the transverse lever, one end of which engages a substantially bell-crank-shaped projection secured to the lower end of a signal rod, substantially as described.



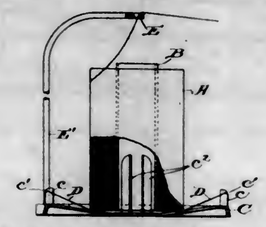
2. The combination with the ties and main and switch rails; a system of levers comprising two outer movable horizontal levers movably secured to the ties one of which lies parallel with the main rail and the other outside lever located at an angle and parallel with the side track rail, a transversely arranged lever pivotally connected to said levers at one end and near the opposite end of the transverse lever, one end of which engages a substantially bell-crank-shaped projection secured to the lower end of a signal rod; of a plate secured to the ties and centrally located between the switch rails which serves as a fulcrum for the transverse operating lever, a connecting angular ended brace located transversely below the fulcrum plate and connecting the two ends of the switch rails, a short lever formed integrally on the transverse operating lever for positively operating the switch rails, short metallic pieces secured to the ties near their ends, upright levers pivotally secured to said short metallic pieces at their lower ends and pivotally secured to the outside straight and angular levers.

3. The combination with the ties, main and switch rails, a system of levers comprising two outer movable horizontal levers movably secured to the ties, one of which lies parallel with the main rail and the other outside lever located at an angle and parallel with the side track rail, a transversely arranged lever pivotally connected to said levers at one end and near the opposite end of the transverse lever, one end of which engages a substantially bell-crank shaped projection secured to the lower end of a signal rod, a plate secured to the ties and centrally located between the switch rails which serves as a fulcrum for the transverse operating lever, a connecting angular ended brace located transversely below the fulcrum plate and connecting the two ends of the switch rails, a short lever formed integrally with the transverse operating lever for positively operating the switch rails, short metallic pieces secured to the ties near their ends, upright levers pivotally secured to said short metallic pieces at their lower ends and pivotally secured to the outside straight and angular levers, the said last named levers being adapted to be actuated by trips on moving vehicles.

4. The combination with the ties, main and switch rails, a system of levers comprising two outer movable horizontal levers movably secured to the ties one of which lies parallel with the main rail and the other outside lever located at an angle and parallel with the side track rail, a transversely arranged lever pivotally connected to said levers at one end and near the opposite end of the transverse lever, one end of which engages a substantially bell-crank shaped projection secured to the lower end of a signal rod, a plate secured to the ties and centrally located between the switch rails which serve as a fulcrum for the transverse operating lever, a connecting angular brace located transversely below the fulcrum plate and connecting the two ends of the switch rails, a short lever formed integrally with the transverse operating lever for positively operating the switch rails, short metallic pieces secured to the ties near their ends, upright levers pivotally secured to said short metallic pieces at their lower ends and pivotally secured to the outside straight and angular levers; of the longitudinal rod having angular lever ends

secured to the footway of the locomotive the forward angular end being secured to the horizontal arm contacting with the upright levers for operating the switch.

867,347. THREAD-RETAINER. ARTHUR N. CHARTIER, Boston, Mass. Filed Apr. 5, 1906. Serial No. 309,959.

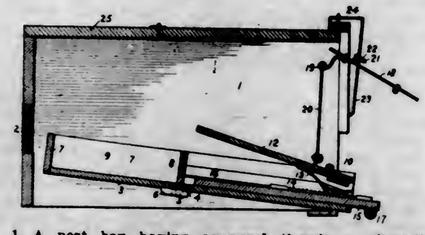


1. A thread retaining device comprising a base, supports rising from the base, flexible bands extending across the base from support to support, and a device for entering the thread body and holding the body with its end against the bands and below the points of support for the bands, substantially as described.

2. A thread retaining device comprising a base provided with supports, flexible bands extending across from support to support at a distance above the surface of the base and held under tension by said supports, a device rising from the base between said supports for entering the thread body and holding the thread body with its end below the points of support for the bands, substantially as described.

3. A thread retaining device comprising a base C provided with posts *c*, bands D extending diametrically from post to post, and fingers c^2 for gripping the inner surface of the bobbin on which the thread is wound, substantially as described.

867,348. NEST-BOX FOR FOWLS. ALBERT D. CROSLEY, Jewell, Iowa. Filed Feb. 14, 1907. Serial No. 357,360.



1. A nest box having arranged therein a pivotally mounted bottom having a tilting platform mounted on its front end, a hinged door arranged at the front end of said box, means for connecting said door to the front end of the platform whereby said door is closed on the entrance of a fowl in the box, means for counter-balancing the weight of the eggs deposited on the inner end of the pivoted bottom and means connected with said platform to move said counter-balancing means outward a predetermined distance actuated by the passage of a fowl in and out of the box.

2. A nest box for fowls having an open bottom, and an open front end, a pivotally mounted bottom arranged in the lower open side of the box, an egg receiving compartment on the inner end of said bottom, a pivotally-mounted door adapted to close the open front end of the box, a crank arm on the upper end of said door, a rod connecting said crank arm to the forward end of the bottom whereby the weight of said end will hold the door in an open position, a counterbalancing board slidably-mounted in the forward end of the bottom, and means actuated by the passage of a fowl in and out of the box to move said board outwardly, substantially as described.

3. A nest box for fowls having an open bottom and an open forward end, a pivotally mounted bottom arranged in the lower open side of the box, an egg receiving compartment on the inner end of said bottom, a pivotally-mounted door adapted to close the open forward end of the box, a crank arm on the upper end of said door, a rod connecting said crank arm to the forward end of the bottom, whereby the weight of said end will hold the door in an open position, a counterbalancing board slidably-mounted in the forward end of the bottom, a tilting platform pivotally mounted in the forward end of the bottom, and means on said platform to engage said counterbalancing plate and move the same outwardly to a predetermined distance each time a fowl passes across said platform, substantially as described.

4. A nest box for fowls having an open bottom and an open forward end, a pivotally-mounted bottom arranged in the lower open side of the box, an egg receiving compartment on the inner end of said bottom, a pivotally-mounted door adapted to close the open forward end of the box, a crank arm on the upper end of said door, a rod connecting said crank arm to the forward end of the bottom, whereby the weight of said end will hold the door in an open position, a counterbalancing board slidably-mounted in the forward end of the bottom, a rack bar on said counterbalancing plate, a pivotally-mounted platform arranged in the forward end of the bottom above said plate, a pawl carried by said platform to consecutively engage the teeth of said rack bar, whereby upon the passage of a fowl back and forth across the platform, the latter will be actuated to force the board or counterbalancing plate outwardly, substantially as described.

5. A nest box for fowls having an open lower side and forward end, a bottom pivotally-mounted in said lower open side, a door hingedly-mounted in said forward open end, means whereby the door is held in an open position by the weight of the forward end of the platform and closed by the weight of a fowl on the inner end of the same and a slidably-mounted locking bar adapted to automatically hold said door in closed position when said bar is arranged in an operative position, substantially as described.

6. A nest box for fowls having open lower and front ends and a ventilating opening in its rear end covered by a wire netting, a bottom pivotally arranged in the said open lower end, a slatted door hingedly mounted in the forward open end of the box, a crank arm on said door, a rod connecting said crank arm to the front end of said bottom, whereby the weight of the latter will hold said door in an open position and whereby the weight of the fowl on the inner end of the bottom will close said door, guide rods arranged on the forward end of the box, a locking bar slidably mounted on said guide rods to drop in front of the door when in a closed position, means on the upper end of said guide rods to hold said locking bar in an inoperative position, and means arranged in the bottom of the box to counterbalance the weight of the eggs deposited on the inner end of said bottom, substantially as described.

867,349. TESTING SYSTEM FOR TELEPHONE-LINES. WILLIAM W. DEAN, Chicago, Ill., assignor to Kellogg Switchboard & Supply Company, Chicago, Ill., a Corporation of Illinois. Filed July 27, 1903. Serial No. 167,063.

1. In a telephone system, the combination with subscribers' lines, of a plurality of cord circuits, a test relay and an operator's telephone set common to said cord circuits, a circuit inductively associated with the circuit of the operator's telephone set, and means controlled by said relay for breaking said circuit in testing, to thereby cause a sound in the operator's telephone, substantially as described.

2. In a telephone testing system, the combination with a plurality of cord circuits, of a test responsive device common to said cord circuits, said device being normally

isolated from said circuits through the contacts of the answering supervisory relay actuated over a portion of the talking circuit, substantially as described.

3. In a telephone testing system, the combination with a plurality of cord circuits, of a high resistance test relay common to said cord circuits but normally isolated therefrom, and electro-magnetic means operated by the connection of the cord circuit with the calling line to connect said device with the cord circuit employed for the connection, substantially as described.

4. In a telephone system, the combination with a plurality of cord circuits, of a test responsive device common to said cord circuits, a relay adapted to be actuated by current over one of the talking strands of the cord circuit during connection, and contacts of said relay normally isolating said test responsive device from the cord circuit, substantially as described.

5. In a telephone system, the combination with a plurality of cord circuits, of a test responsive device common to said cord circuits, a sleeve supervisory relay associated with the answering end of the cord circuit, and contacts of said relay in the circuit of said test responsive device, substantially as described.

6. In a telephone testing system, the combination of a plurality of cord circuits, of a test responsive device common to said cord circuits, a sleeve supervisory relay associated with the calling end of the cord circuit, a relay associated with the other end of the cord circuit, said responsive device having its circuit controlled through the contacts of said relays in series, substantially as described.

7. In a telephone system, the combination with subscribers' lines, a plurality of cord circuits to establish connections therewith for conversation, a test relay and an operator's telephone set common to said cord circuits, a circuit inductively associated with the circuit of the operator's set and containing closed contacts of said relay whereby in testing said relay is adapted to break said circuit to cause a sound in the operator's telephone, substantially as described.

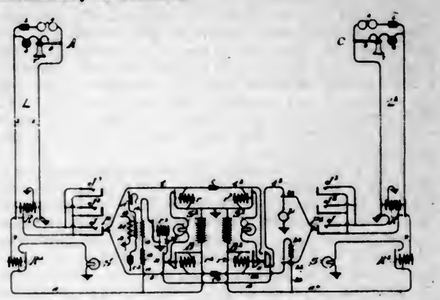
8. In a telephone circuit, the combination with a plurality of subscribers' lines, of a plurality of cord circuits to establish connections therewith for conversation, a test relay and an operator's telephone set common to said cord circuits, said operator's telephone set including an induction coil having a tertiary winding, a local circuit including said tertiary winding and normally-closed contacts of said relay, whereby in testing said relay is adapted when operated to break said local circuit to inductively cause a sound in the operator's telephone receiver, substantially as described.

9. In a telephone system, the combination with a plurality of cord circuits, of a high resistance test relay for said cord circuits, said relay being normally isolated from the cord circuits by contacts of the sleeve answering supervisory relay, substantially as described.

10. In a telephone system, the combination with a plurality of cord circuits, of a normally isolated high resistance test relay for said cord circuits, means to automatically connect said relay with a cord circuit by the insertion of the answering plug in the jack of the calling line, and means to again sever the connection of said relay from the cord circuit by the insertion of the calling plug in the jack of the called line, substantially as described.

11. In a telephone system, the combination with a plurality of cord circuits, of a high resistance test relay normally isolated from the cord circuit, and means independent of the position of the listening key for connecting said relay with the cord circuit, and further means for again isolating the test relay when connection is established with the called line, substantially as described.

12. In a telephone system, the combination with a plurality of cord circuits having a normally intercepted tip strand, a test conductor normally connected with the tip of the calling plug, a high resistance test relay normally isolated from said test conductor, means to connect said test conductor with the high resistance relay before testing the condition of a telephone line, and means to sever the connection of the high resistance relay and to complete the continuity of the tip strand of the talking circuit when a connection is established with the calling line, substantially as described.



13. In a telephone testing system, the combination with a plurality of cord circuits, of a test responsive device common to said cord circuits, said responsive device having its circuit completed through contacts of relays one actuated over a portion of the talking circuit of one end of the cord circuit and the other over a portion of the talking circuit of the other end of the cord circuit, substantially as described.

14. In a telephone testing system, the combination with a plurality of telephone lines, of a plurality of cord circuits to establish connections therewith for conversation, a central source of common current associated with said cord circuits and adapted to be included in the telephone lines during connections to furnish current for conversation, a testing conductor common to said cord circuits but normally disconnected therefrom, means associated with the answering ends of said cord circuits for automatically connecting said conductor with any of said cord circuits for the purpose of making a busy test, and means associated with the calling end for disconnecting the testing conductor without disconnecting the operator's listening set, substantially as described.

15. In a telephone testing system, the combination with a plurality of telephone lines, of a plurality of cord circuits to establish connections therewith for conversation, a central source of common current associated with said cord circuits and adapted to be included in the telephone lines during connections to furnish current for conversation, a testing conductor out of the electric connection with the operator's communicating set common to said cord circuits but normally disconnected therefrom, and means for automatically connecting said conductor with any of said cord circuits, said means being rendered operative by the act of making a connection with a calling subscriber, substantially as described.

16. In a telephone testing system, the combination with a plurality of telephone lines, of a plurality of cord circuits to establish connections therewith for conversation, a central source of common current associated with said cord circuits and adapted to be included in the telephone lines during connections to furnish current for conversation, a testing conductor common to said cord circuits but normally disconnected therefrom, and electromagnetic means associated with each cord circuit and energized by current over a portion of the talking circuit and actuating contacts in the circuit of said conductor for connecting it with the corresponding cord circuits when a connection is established thereby with a calling subscriber's line, substantially as described.

17. In a telephone testing system, the combination with a plurality of telephone lines, of a plurality of cord circuits to establish connections for conversation with said lines, supervisory relays associated with said cord circuits and controlling supervisory signals, a testing conductor common to said cord circuits normally isolated therefrom and from the operator's communicating set, and means for automatically connecting said conductor with any of the

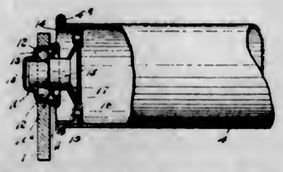
cord circuits through the medium of said supervisory relays, substantially as described.

18. In a telephone testing system, the combination with a plurality of telephone lines, of a plurality of cord circuits to establish connections for conversation with said lines, supervisory relays associated with said cord circuits and controlling supervisory signals, a testing conductor common to said cord circuits normally isolated therefrom, a testing relay in circuit with said conductor, and means for connecting said conductor and relay with any of the cord circuits through the medium of supervisory relays when a connection is established with a calling line, substantially as described.

19. In a telephone system, the combination with a plurality of telephone lines, of a plurality of cord circuits adapted to be connected therewith for conversation, an operator's communicating set, a testing conductor common to said cord circuits, a supervisory relay associated with each end of the cord circuit to suitably operate or control the corresponding supervisory signals, said common conductor being normally isolated from the cord circuits but adapted to be connected therewith by the operation of the supervisory relay at the answering end of the cord circuit and to be again disconnected from the cord by the relay at the opposite end when energized without preventing the connection of the operator's communicating set with the cord circuit at any time, substantially as described.

20. In a telephone testing system, the combination with a cord circuit, of a testing device therefor, an electromagnetic winding energized over a portion of the talking circuit when a connection is established by the cord circuit with a calling line to connect said testing device therewith, a second electromagnetic winding to disconnect said device when the cord circuit is connected with the called subscriber, an operator's listening set, and means to connect said set with the cord circuit during a complete connection, substantially as described.

867,350. GRAVITY-CONVEYER. ALBERT S. DEHLER, Minneapolis, Minn. Filed Dec. 28, 1906. Serial No. 349,856.



1. The combination with roller supporting rails or bars, of sockets 10 held in the seats formed in said rails or bars and provided with roller heads 11 clenched to the inner edges thereof, of rollers provided with projecting trunnions working in said sockets 10, and bearing balls interposed between said trunnions and sockets, substantially as described.

2. The combination with supporting rails or bars and ball equipped sockets held in the seats formed therein, of rollers having heads interlocked with the end portions thereof, and headed trunnions interlocked with said roller heads, and journaled in said ball equipped sockets, substantially as described.

3. The combination with a roller having a flange at its end, of a roller head interlocked with the end flange of said roller, and a headed trunnion seated in and held by said roller head, substantially as described.

4. A roller comprising a rolled sheet metal body having flanged ends, and abutting longitudinally extended edges, and roller heads interlocking with the end flanges of said roller, substantially as described.

5. A roller comprising a rolled metal body portion having abutting in-turned longitudinally extended edges 5^a and out-turned end flanges 5^b, and roller heads having flanges bent or clenched around said end flanges 5^b, substantially as described.

867,351. NUT-LOCK. JOHN L. DOELP, Cincinnati, Ohio. Filed Jan. 25, 1907. Serial No. 354,090.

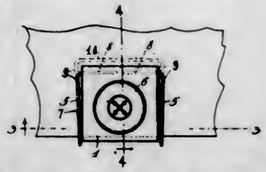


1. The combination of a nut formed with a split sleeve having a cam surface on its periphery, a ring surrounding the sleeve formed on its interior with a corresponding cam surface engaging that on the sleeve and a stop-flange on the outer end of the sleeve having an inclined inner wall, down which the outer edge of the wall of the hole in the ring slides when the latter is forced over the sleeve.

2. The combination of a nut formed with a split sleeve having a cam surface on its periphery and a ring surrounding the sleeve formed on its interior with a corresponding cam surface engaging that on the sleeve and a flange on the outer end of the sleeve formed with a curved periphery and an inclined inner wall down which the outer edge of the wall of the hole in the ring slides when the latter is forced over the sleeve.

3. The combination of a nut formed with a split sleeve having a cam surface on its periphery and raised rear walls, a flange at the outer end of the sleeve having an inclined inner wall and a ring surrounding the sleeve formed on its interior with a cam surface engaging that on the sleeve and formed also with an inner surface fitting the raised surface at the rear end of the sleeve the arrangement being such that as the ring is forced on to the sleeve, the outer edge of the wall of the hole in the ring slides down the inclined surface of the flange and causes the inner surface of the ring to fit closely on the sleeve whereby a solid and rigid structure is produced.

867,352. BUTTON-ATTACHING DEVICE. CHARLES H. DOME, Enid, Okla. Filed Jan. 7, 1907. Serial No. 351,186.



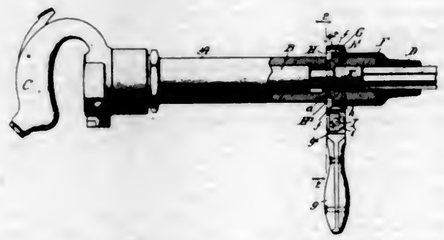
1. In a button attaching device, the combination of a clamping plate having inwardly-extending teeth at its inner edge, an inwardly-extending longitudinal flange having a transverse perforation and catch at each of its side edges, and a frame comprising inwardly-extending arms, parallel side wires, and an inner horizontal wire, substantially as described.

2. In a button attaching device, a frame presenting two pairs of parallel spaced side portions, one pair of said portions being provided with inwardly projecting arms, and the other pair connected by an end bar, a clamping plate pivoted on said inwardly extending arms and provided at its inner end with sharpened engaging teeth, said plate having side flanges bent adjacent their outer ends to form catches for engagement between the respective pairs of side portions, and a button attached to the clamping plate.

867,353. PNEUMATIC HAMMER. ALFRED J. DOUGHTY, Detroit, Mich. Filed Aug. 15, 1905. Serial No. 274,262.

1. In a pneumatic hammer having a rotatable nose-piece arranged on the front end of the cylinder thereof and adapted to receive a drill or working tool, an operating piece for engaging and rotating the nose-piece and holding the same to the cylinder or body of the hammer.

2. In a pneumatic hammer having a rotatable nose-piece arranged on the front end of the cylinder thereof and adapted to receive a drill or working tool, a clamping handle arranged to clamp the nose-piece and having means for connecting the latter with the cylinder or body of the hammer.



3. In a pneumatic hammer having a rotatable nose-piece arranged on the front end of the cylinder thereof and adapted to receive a drill or working tool, of a hand rotating device comprising a rotatable yoke or strap encircling the nose-piece and connected therewith and with the cylinder against longitudinal movement, and means for tightening the yoke onto the nose-piece to clamp the same.

4. In a pneumatic hammer having a rotatable nose-piece arranged on the front end of the cylinder thereof and adapted to receive a drill or working tool, of a hand rotating device comprising a yoke or strap encircling the nose-piece and connected therewith and with the cylinder against longitudinal movement, and a screw engaging said yoke for tightening the yoke onto the nose-piece to clamp the same.

5. In a pneumatic hammer having a rotatable nose-piece arranged on the front end of the cylinder thereof and adapted to receive a drill or working tool, of a hand rotating device comprising a yoke or strap encircling the nose-piece and connected therewith and with the cylinder against longitudinal movement, said yoke having a projecting handle, and a screw engaging said handle and an end of the yoke for tightening the yoke onto the nose-piece.

6. In a pneumatic hammer having a rotatable nose-piece arranged on the front end of the cylinder thereof and adapted to receive a drill or working tool, a clamping device encircling the nose-piece, said device and nose-piece having engaging shoulders, and means for tightening the yoke onto the nose-piece.

7. In a pneumatic hammer having a rotatable nose-piece arranged on the front end of the cylinder thereof and adapted to receive a drill or working tool, a clamping device encircling the nose-piece, and means for tightening and loosening the device, said device being arranged to engage the cylinder or body of the hammer and hold the nose-piece in proper relation with such cylinder.

8. In a pneumatic hammer having a rotatable nose-piece arranged on the front end of the cylinder thereof and adapted to receive a drill or working tool, a clamping device encircling the nose-piece and having an inturned annular flange, said cylinder having a correspondingly annular groove to receive the flange, and means for clamping the device upon the nose-piece.

9. In a pneumatic hammer having a rotatable nose-piece arranged on the front end of the cylinder thereof and adapted to receive a drill or working tool, a clamping device encircling the nose-piece and having an inturned annular flange, and also an internal shoulder, said cylinder having a corresponding annular groove to receive the flange and the nose-piece having a shoulder to coöperate with said shoulder of the clamping device, and means for clamping such device upon the nose-piece.

10. In a pneumatic hammer having a rotatable nose-piece arranged on the front end of the cylinder thereof to receive a drill or other working tool, a hand rotating device comprising a yoke or strap and a split collar engaging the nose-piece, said yoke being arranged to clamp the collar onto the nose-piece and means for operatively connecting the nose-piece to the cylinder.

11. In a pneumatic hammer having a rotatable nose-piece arranged on the front end of the cylinder thereof to receive a drill or other working tool, a hand rotating device comprising a yoke or strap, and a collar made in two pieces arranged within the spoke or strap and engaging the nose-piece, said yoke being arranged to clamp the collar onto the nose-piece and means for operatively connecting the nose-piece to the cylinder.

12. In a pneumatic hammer having a rotatable nose-piece arranged on the front end of the cylinder thereof to receive a drill or other working tool, a hand rotating device comprising a yoke or strap having a handle extension, and a split collar engaging the nose-piece, said yoke being arranged to clamp the collar onto the nose-piece and means for operatively connecting the nose-piece to the cylinder.

13. In a pneumatic hammer having a rotatable nose-piece arranged on the front end of the cylinder thereof to receive a drill or other working tool, a hand rotating device comprising a yoke or strap, and a split collar having a groove and flange connection with the nose-piece, said yoke being arranged to clamp the collar onto the nose-piece and means for operatively connecting the nose-piece to the cylinder.

14. In a pneumatic hammer having a rotatable nose-piece arranged on the front end of the cylinder thereof to receive a drill or other working tool, a hand rotating device comprising a yoke or strap, and a split collar having a groove and flange connection with the nose-piece and also with the yoke or strap, said yoke being arranged to clamp the collar onto the nose-piece and means for operatively connecting the nose-piece to the cylinder.

15. In a pneumatic hammer having a rotatable nose-piece arranged on the front end of the cylinder thereof to receive a drill or other working tool, a hand rotating device comprising a yoke or strap, and a split collar arranged within the yoke and clamping the nose-piece and engaging the cylinder to connect the nose-piece thereto.

16. In a pneumatic hammer having a rotatable nose-piece arranged on the front end of the cylinder thereof to receive a drill or other working tool, a hand rotating device comprising a yoke or strap, and a split collar arranged within the yoke and clamped by the rotating device, said collar having a groove and flange connection with a nose-piece and also with the cylinder.

17. In a pneumatic hammer having a rotatable nose-piece arranged on the front end of the cylinder thereof and adapted to receive a drill or working tool, a clamping yoke encircling the nose-piece and having a handle-piece g, a two-part collar H within the yoke and adapted to engage the nose-piece and cylinder, and a screw or bolt for clamping the yoke onto the collar and thereby clamping the collar onto the nose-piece and cylinder.

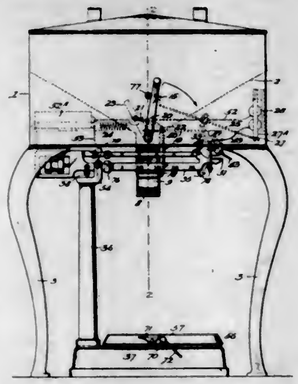
18. In a pneumatic hammer having a rotatable nose-piece arranged on the front end of the cylinder thereof and adapted to receive a drill or working tool, a clamping yoke encircling the nose-piece and terminating at its ends respectively in a handle-piece, g, and an extension g', a two-part collar within the yoke to engage the nose-piece and cylinder, and a single screw engaging the extension g', and the handle g for drawing them together and thereby clamping the yoke upon the collar.

19. The combination, with the hammer cylinder A having the annular groove a, of a nose-piece F having a forwardly facing shoulder f, a collar H having a shoulder h engaging the shoulder f and also having a flange H^1 engaging the groove a, a yoke G encircling the collar and having an internal groove g^2, said collar having a flange h^1 received by the groove g^2, a handle g on the yoke, and a single screw I engaging the yoke to clamp it to the collar and the latter to the nose-piece.

867,354. AUTOMATIC WEIGHING-MACHINE. CLINTON A. DOUGLASS and FRED L. JONES, Denver, Colo. Filed Apr. 15, 1907. Serial No. 368,296.

1. In a weighing machine, the combination with a scale and a hopper arranged above the scale, of a chute leading

from the hopper, having a cut-off at its upper end and a gate at its lower end; means for simultaneously opening said gate and cut-off; means for holding said gate and cut-off open; means connected with the scale beam for releasing said holding means when the beam is tipped, and a spring for restoring the parts to their normal positions.



2. In a weighing machine, a scale, a hopper located above said scale having an outlet at its lower end; a cut-off for controlling said outlet, a chute below said outlet having a gate at its lower end; means for simultaneously opening said gate and cut-off, and an electrically operated latch for holding them open, and means for making an electrical circuit when the scale beam is tipped, whereby to release the latch, and a spring for closing the gate and cut-off.

3. In a weighing machine, a scale, a hopper located above said scale, having a discharge outlet; a cut-off which normally closes said outlet; a chute below said outlet having a gate at its lower end; a manually operated rod for operating the cut-off; means connecting the rod and gate whereby the gate and cut-off are operated simultaneously; an electrically operated latch arm connected in circuit for holding said gate and cut-off open, terminal contacts for closing the circuit when the scale beam is tipped, whereby to release the latch, and a spring for closing the said gate and cut-off.

4. In a weighing machine, a scale, a hopper located above the scale having an outlet; a chute below said outlet having a gate at its discharge end; a cut-off to control the hopper outlet; a hand-operated rod for manipulating the cut-off; a crank arm on the gate, and means connecting the rod and crank arm whereby the gate and cut-off move simultaneously, a latch on said rod; an electrically operated catch arm in circuit for engaging said latch; a contact at one terminal of the circuit, and a contact on the scale beam, which engages the first contact when the beam is tipped to close the circuit and thereby release the latch, and a spring for restoring the parts to their normal positions.

5. In a weighing machine, a scale, a hopper located above the same having an outlet; a chute below the outlet having a gate at its lower end; a cut-off for the hopper outlet; an operating rod connected to the cut-off having a handle; a rock arm on said rod, a crank arm on said gate, and an arm connecting the crank arm and rock arm; a latch on the rod; a pivoted catch for engaging the latch when the gate and cut-off are open, a magnet and armature in a make and break circuit with said gate and cut-off in which said scale beam is included, and terminal contacts which close the circuit when the beam is tipped, thereby rocking the catch arm to release the latch, and a spring for restoring the latch, gate, and cut-off to their normal positions.

6. In a weighing machine, the combination with a scale, a hopper located above said scale having an outlet; a chute below said outlet having a gate at its lower end, and a cut-off for the hopper outlet, of means for opening said cut-off and gate simultaneously, a latch for holding them open for a predetermined period, a magnet and armature in a make and break circuit with said latch, means including contact terminals for closing the circuit when the scale beam is tipped, thereby energizing the magnet and releasing the latch, and a spring for closing the cut-off and gate.

7. In a weighing machine, the combination with a scale, a hopper above the scale having an outlet; a cut-off for the outlet; a chute below the outlet having a gate at its lower end, of means for opening said cut-off and gate simultaneously, a latch for holding them open, a magnet and armature in circuit with said latch; terminal contacts for closing the circuit when the beam is tipped, thereby energizing the magnet and releasing the latch, and a spring for closing the gate and cut-off.

8. In a weighing machine, a scale; a frame above said scale supporting a hopper; a bracket on said frame having an opening through which one end of the scale beam passes, a magnet in said frame in circuit with a battery; a terminal contact on the bracket, connected with the magnet, and a connection between the magnet, battery, and scale beam; a cut-off for the hopper; a chute below the cut-off having a gate at its lower end; an operating rod connected with the cut-off and with the gate whereby both are opened in unison; a latch on said rod; a pivoted catch for engaging the latch and holding the gate and cut-off open when the rod is turned, one end of which is connected to the magnet armature, the end of said beam when tipped being adapted to engage the terminal contact on the bracket, close the circuit, and release the catch, a spring for restoring the movable parts to their normal position, and means for shifting the contact to break the circuit.

9. In a weighing machine, a scale, a frame above the scale supporting a hopper, having an outlet in its bottom, a cut-off for the outlet, a chute below the outlet, a gate at the lower end of the chute; a rod extending from the cut-off through the frame and having an operating handle; a rock arm on the rod, a crank arm on the gate and an arm connecting the crank arm and rock arm; a bracket on the frame through which the forward end of the scale beam passes; a magnet in said frame in circuit with a battery; a terminal contact in said bracket secured upon a rock arm and insulated therefrom and from the bracket; a connection between said terminal contact and magnet, and from said magnet through the battery with the scale beam; a latch on the cut-off rod; a pivoted catch arm which engages said latch when the rod is turned, one end of which connects with the armature of the magnet, a terminal contact on the end of the scale beam which engages the contact on the bracket when the beam is tipped, thereby closing the circuit and releasing the latch by means of the armature; a spring for returning the parts to their normal position, and a rod connecting the rock arm to which one of the terminals is secured with the latch, whereby the circuit is broken when the latch is tripped.

10. In a weighing machine, the combination with a scale, a frame located above the scale, a hopper supported in the frame having an outlet; a cut-off for the outlet, and a chute below the outlet, having a gate at its lower end pivoted upon a crank arm; of means for opening said gate and cut-off simultaneously including a hand-operated rod secured to the cut-off and extending through the frame; a rock arm on the rod, an arm connecting said rock arm with the gate crank arm, and having a spring on its outer end which exerts a pressure against the rock arm, and an adjustable nut with which the rock arm abuts; an electric circuit in said frame including a battery and magnet, having a terminal contact adjacent to the end of the scale beam, said circuit including the beam; a latch on the rod; a catch arm pivoted to the frame having one end in the path of the latch and the other connected with the armature of the magnet, a spring for turning the rod and parts connected therewith to their normal position; a terminal contact on the end of the scale beam which engages the first-mentioned contact when the beam is tipped to close the circuit, and release the latch, and means for breaking the circuit when the latch is released.

11. In a weighing machine, the combination with a scale; a frame located above the scale, having a hopper provided with an outlet; a cut-off for the outlet; a chute below the outlet having a gate at its lower end; means for opening said gate and cut-off simultaneously; and means including a latch and catch arm for holding them open; of means for tripping said catch arm when the scale beam tips, comprising a bracket secured to the said frame, through which the end of the scale beam passes; an electric circuit including a magnet arranged in said frame having a terminal contact in said bracket adjacent to the end of the beam, but normally out of its path, and a contact on the end of said beam; means connected with the latch for moving the contact in the bracket, within the path of the beam contact to engage the same when the beam is tipped; a link connecting the latch arm and armature of the magnet, whereby the arm is tripped when the circuit is closed, and the latch released, and a spring for restoring the latch to its normal position.

12. In a weighing machine, the combination with a scale, a frame above said scale, a hopper in said frame having an outlet, a chute below the outlet having a gate at its lower end, a cut-off for the hopper outlet; a hand-operated rod connected with the cut-off and with the gate, a latch on said rod, and a pivoted catch arm, one end of which is in the path of the latch, of means for releasing the catch arm through the tipping of the scale beam when the required weight of material has discharged from the hopper, comprising a magnet the armature of which is connected with the catch arm, a battery in circuit with said magnet, a bracket on the frame through which the end of the scale beam passes; a rock arm pivoted to the bracket, and connected with the latch, a non-conducting element on said rock arm having a terminal contact thereon connected with the magnet; a connection between the battery and scale beam, and a spring for returning the latch, cut-off, and gate.

13. In a weighing machine, comprising a scale, a frame above the scale having a hopper with a discharge outlet, a cut-off for said outlet, a chute below the outlet having a gate in its lower end; means for opening the cut-off and gate in unison, and a latch for holding them open, and a magnet in an electric circuit, the armature of which is connected with the latch, said circuit including the scale beam; of a bracket on the frame through which the end of the scale beam passes; a rock arm pivotally secured to the bracket; a non-conducting spool on the rock arm; a spring contact on said spool; a pin engaging said contact; a spring which bears on the pin and which connects with the magnet; a spring for closing said gate and cut-off when the circuit is closed by the tipping of the scale beam, and means connecting the latch and rock arm, whereby the latter is turned to bring its contact in the path of the end of the scale beam when the gate and cut-off are open, and to turn it out of said path when the latch is tripped.

14. In a weighing machine, the combination with a scale, a hopper above the scale having a discharge outlet; a chute below the outlet, a cut-off for the outlet, and a gate in the lower end of the chute, of means for opening said gate and chute simultaneously, comprising a hand operated rod secured to the cut-off; a rock arm on the rod; a crank arm on the gate; a push arm connected at one end to the crank arm, the other end of which passes loosely through the end of the rock arm and has a nut on its outer end, a spring interposed between the rock arm and nut, and an abutment on the push arm adjacent to the opposite side of the rock arm; a latch mechanism for holding the gate and cut-off open, and means for automatically releasing the latch simultaneously with the tipping of the scale beam.

15. In a weighing machine, the combination with a scale, a hopper above the scale having an outlet; a chute below the outlet, a cut-off for the outlet, and a gate in the chute, means for opening the gate and cut-off simultaneously and a latch for holding them open; of means for tripping the latch, comprising a magnet, the armature of which is connected with the latch, a non-conducting element on said rock arm having a terminal contact thereon connected with the magnet; a connection between the battery and scale beam, and a spring for returning the latch, cut-off, and gate.

which connects with the magnet and the other with the scale beam; a movable terminal adjacent to the end of the scale beam connected with the magnet; a terminal on the end of the scale beam which acts in conjunction with the first-mentioned terminal to close the circuit and release the latch when the beam tips; means for shifting the movable terminal to break the circuit when the latch is tripped, and a spring for closing the gate and cut-off.

16. In a weighing machine, a scale, a frame above the scale having a hopper with an outlet, a chute below the outlet having a gate at its lower end and a cut-off for controlling the hopper outlet; means for opening the gate and cut-off simultaneously; a latch for holding them open; a bracket on the frame through which the forward end of the scale beam passes; an arm pivoted in the bracket having a fiber spool on its pivot stem; a metal band surrounding said spool, one end of which extends beyond the spool to form a terminal contact, a batter, and a magnet in circuit with the terminal and scale beam, and a contact on the end of the scale beam; a connection between the pivoted bracket arm and the latch, an adjusting screw in the bracket for varying the position of the scale beam relatively to the contact on the pivoted arm; means for connecting the latch with the armature of the magnet, and a spring for returning the movable parts to their normal position.

17. In a weighing machine, the combination with a scale, a hopper having an outlet; a chute below the outlet having a gate; a cut-off connected to said outlet; means for opening the cut-off and gate, a latch for holding them open, and means connected with the scale beam and latch for releasing said latch at a predetermined time; of an auxiliary platform for said scale, having lazy tong levers at each end connected with the main platform, an arm connecting the levers; a rack on said arm, a pinion in mesh with said rack, and means for turning the pinion to raise the arm and levers and elevate the platform.

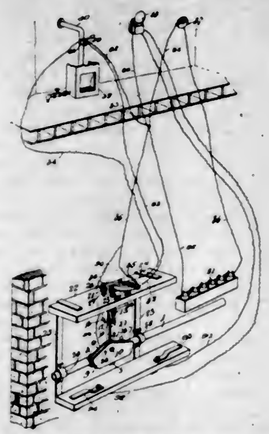
18. In a weighing machine, the combination with a scale, of a hopper having a semicircular plate in its bottom, with a discharge opening; a semicircular cut-off plate over said opening, a chute below the opening having a gate across its lower end; a rod connected with the cut-off, a collar on said rod, and a spring interposed between the collar and the end of the hopper; a crank arm on the gate, a rock arm on the rod and an arm connecting the crank arm and rock arm; a handle on the rod for opening the gate and cut-off, a latch on the rod, a pivoted catch arm, one end of which is in the path of the latch, a magnet in an electric circuit; a link connecting the catch arm and the armature of the magnet, a terminal contact at the end of the scale beam for closing the circuit when the beam tips, thereby to trip the latch; means for breaking the circuit when the latch is tripped, a spring for returning the movable parts, and a buffer for receiving the blow of the returning handle.

867,355. SAFETY DEVICE FOR HEATERS. IRA FILSON, Springfield, Ohio. Filed May 28, 1906. Serial No. 319,129.

1. A safety device for heaters, comprising a gas supply pipe, a stop-cock controlling said pipe and having a laterally extended arm, a weighted lever pivoted near said stop-cock and arranged to strike said arm when released to operate said stop-cock, an electro-magnet having an armature which acts when free to prevent the fall of said lever, an electric circuit including said electromagnet and a source of electricity, and a circuit-closing device controlling the circuit and actuated by the temperature of the heater, substantially as described.

2. A safety device for heaters, comprising a gas supply pipe, a stop-cock controlling the same, a normally upright lever acting to operate said stop-cock by its fall in either direction when released, two electromagnets, the armatures whereof support said lever on opposite sides, an electric circuit including said electromagnets, and a circuit-closing arm, contacts located on opposite sides of said arm and electrically connected with the respective magnets, and a thermostat controlled by the temperature of

the heater and acting to move said circuit-closing arm against one or the other of said contacts as the temperature either rises or falls excessively, substantially as described.



3. In a safety device for heaters, a stop-cock controlling the gas supply, and a normally upright lever acting to operate said stop-cock by its fall in either direction when released, in combination with two electromagnets, the armatures whereof engage and support said lever on opposite sides, means for energizing said electromagnets upon an undue rise or fall of temperature, respectively, and springs interposed between said magnets and armatures, whereby when one armature releases the lever the spring which engages the other armature gives the lever an initial impulse, substantially as described.

4. In a safety device for heaters, a gas supply pipe, a stop-cock controlling the same and provided with a cross head, a weighted lever pivotally mounted on the cross head and adapted to strike the same when it falls in either direction, means for holding said lever normally in upright position, and means for releasing said lever to cause it to fall in one direction or the other upon an undue increase or decrease in the temperature, substantially as described.

5. In a safety device for heaters, a stop-cock, a normally upright lever controlling the same and acting to operate said stop-cock by its fall in either direction, two electromagnets, the armatures whereof support said lever on opposite sides, an electric circuit including a source of electricity, a circuit-closing arm, and branch circuits including said electromagnets and contacts on opposite sides of said arm, and a shunt circuit including the lever, an alarm, and contacts arranged on opposite sides of said lever and electrically connected with said alarm, substantially as described.

6. In a safety device for heaters, the combination, with the outlet pipe of the heater, of a contact lever having one end extending into said pipe, a contact in the path of the outer end thereof, and an expansion bar located in said pipe and connected with the inner end of said contact lever, substantially as described.

7. In a safety device for heaters, the combination, with the outlet pipe of the heater, of a contact lever having one end extended into said pipe, contacts located on opposite sides of said contact lever, and an expansion bar located in said pipe and connected with the inner end of said contact lever, substantially as described.

8. In a safety device for heaters, the combination, with the outlet pipe of the heater, of a contact lever, a contact located in the path thereof, an expansion bar located in the pipe and connected at one end with the contact lever, and means for shifting the other end of said expansion bar to vary the distance between the contact lever and contact, substantially as described.

9. In a safety device for heaters, the combination, with the outlet pipe of the heater, of a contact lever, a contact located in the path thereof, an expansion bar located in the pipe and connected at one end with the contact lever, means for shifting the other end of said expansion bar to vary the distance between the contact lever and contact, and an indicating mechanism operating in unison with said lever, substantially as described.

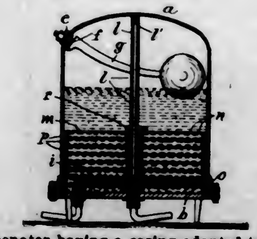
10. In a safety device for heaters, the combination, with the outlet pipe of the heater, of a contact lever, contacts located on opposite sides thereof, an expansion bar located within the flue and connected at one end with the contact lever, and means for shifting the other end of said expansion bar to vary the position of said lever relatively to the contacts, substantially as described.

11. In a safety device for heaters, the combination, with the outlet pipe of the heater, of a contact lever pivotally mounted on said pipe and extending across the same, a contact in the path of said lever, a screw shaft mounted to rotate in said pipe, and an expansion bar having a threaded engagement with the screw shaft at one end, its other end being connected with the contact lever, substantially as described.

12. A safety device for heaters, comprising a gas supply pipe, a stop-cock controlling the same, a normally upright lever acting to close said stop-cock by its fall in one direction and to partly close said stop-cock by its fall in the opposite direction, two electromagnets, the armatures whereof support said lever on opposite sides, an electric circuit including said electromagnets, and a circuit closing arm, contacts located on opposite sides of said arm and electrically connected with the respective magnets, and a thermostat controlled by the temperature of the heater and acting to move said circuit closing arm against one or the other of said contacts as the temperature either rises or falls excessively, substantially as described.

13. In a safety device for heaters, a gas supply pipe, a stop-cock controlling the same and provided with a cross head, a weighted lever pivotally mounted on the cross head, abutments differentially located on opposite sides of said cross head, whereby the cross head is moved to different extents according as the lever falls in one direction or the other and strikes one or the other of said abutments, means for holding said lever normally in upright position, and means for releasing said lever to cause it to fall in one direction or the other upon an undue increase or decrease in the temperature, substantially as described.

867,356. CARBONATING APPARATUS. JOHN H. FOX, New York, N. Y. Filed Mar. 9, 1906. Serial No. 305,038.



1. A carbonator having a casing adapted to contain carbonated water and free gas with means to prevent the water from rising above a certain level, and a drawing-tube extended into the water and gas space, and having perforations within the water space for the discharge of the liquid, and a perforation in the gas space for the entrance of gas to the drawing-tube, whereby the gas is mingled with the water in the drawing-tube.

2. A carbonator having a series of horizontal disks spaced apart and immersed in water and perforated for diffusing the gas, a gas-inlet with pipe for distributing the gas below the perforated disks, means for supplying water to the casing, means to prevent the water from rising above a certain level, a carbonated water-outlet having a drawing-tube extended through the water into the gas-space of the casing and having perforations in the water to withdraw the liquid, and a perforation in the gas-space for admitting gas to the drawing-tube to mingle with the water.

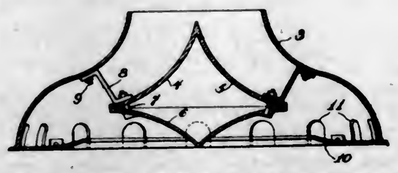
3. A carbonator having a casing adapted to contain carbonated water and free gas and provided with a removable bottom, a water inlet to the casing for supplying water, means to prevent the water from rising above a certain level, thimbles extended through the bottom of the carbonator and clamped therein and provided with threaded sockets upon their inner ends and a gas distributer and drawing-tube screwed into the said sockets respectively, the drawing-tube extending through the water into the gas-space of the casing and having a perforation in said gas-space for the entrance of gas to the drawing-tube, whereby the gas is mingled with the water in the drawing-tube.

4. A carbonator having a casing adapted to contain carbonated water and free gas and provided with a removable bottom, a water inlet to the casing for supplying water, means to prevent the water from rising above a certain level, a gas-inlet extended through the bottom for supplying gas, a carbonated water-outlet extended through the bottom for withdrawing the charged liquid, with a drawing-tube extended through the water into the gas-space of the casing, and having perforations in both the said spaces for admitting gas and water, whereby the gas is mingled with the water in its passage through the drawing-tube.

5. A carbonator having a casing adapted to contain carbonated water and free gas and provided with a removable bottom, a water-inlet to the casing for supplying water, a series of horizontal disks resting upon the bottom and spaced apart and immersed in water and perforated for the upward passage of the gas, the detachable bottom having a gas-inlet with pipe discharging below the perforated disks for supplying the gas, and a carbonated water-space having a drawing-tube extended through the water-space into the gas-space and having perforations in both the said spaces for admitting gas and water, whereby the gas is mingled with the water in its passage from the drawing-tube.

6. A carbonator having a casing adapted to be partially filled with water, and a series of perforated disks normally immersed in the water to diffuse the gas, means for supplying gas beneath the disks, a drawing-tube extended through the center of the disks and having perforations between the disks to discharge the liquid, and loose spiders arranged between the disks for spacing them apart, and having each a hub of less depth than the spider encircling the drawing-tube, whereby the liquid between the disks has access to the perforations in the tube.

867,357. HEATER. REYNOLDS C. FRAMPTON, Swissvale, Pa., assignor of one-half to John P. Reinecke, Pittsburg, Pa., and one-half to Pittsburg Water Heater Company, Allegheny, Pa., a Corporation of New Jersey. Filed Nov. 19, 1906. Serial No. 343,977.



1. The combination with a heater cap or hood provided with outwardly directed openings, of a deflector supported in the hood adjacent the openings and shaped to deflect downward draft outwardly through the openings.

2. The combination with a heater cap or hood provided with outwardly directed openings, of a deflector supported in the hood with its lower edges adjacent the openings, and having upwardly converging sides.

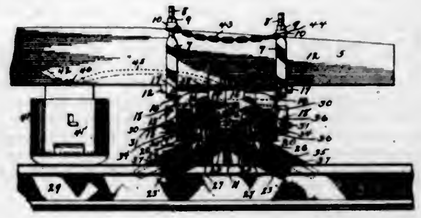
3. The combination with a heater cap or hood provided with outwardly directed openings, and with a laterally extending plate below the openings, of a deflector supported in the hood adjacent the openings and shaped to deflect downward draft outwardly through the openings.

4. The combination with a heater cap or hood provided with outwardly directed openings, and with a laterally extending plate with its inner edge upwardly directed, of a deflector supported in the hood adjacent the openings and shaped to deflect downward draft outwardly through the openings.

5. In a heater cap or hood provided with outwardly directed openings, of a deflector therein comprising a double cone with one apex extending upwardly and the other extending downwardly, the cone being located opposite the openings.

6. The combination with a heater cap or hood, provided with outwardly directed openings and with a laterally extending plate below the openings, of a deflector supported in the hood adjacent the openings, and comprising a double cone with one apex extending upwardly and the other downwardly.

867,358. ICE AND SLEET CUTTING CONTACT-SHOES. RUTHERFORD FULLERTON, Columbus, Ohio. Filed Mar. 13, 1907. Serial No. 362,154.



1. In a device of the character described, a cutting member which extends across the rail at an angle thereto and engages with said rail along its edge, and springs for drawing said member into engagement with the edge of the rail.

2. In a device of the character described, ice cutting members which lie across the rail at an angle thereto and which engage with said rail at its edges, and springs for drawing said members into engagement with the edges of the rail.

3. In a device of the character described, the combination with a supporting member, of a swinging plate carried by said supporting member, and a cutting and contacting arm carried by said swinging plate which engages the edge of a current carrying rail, and means for drawing said last named arm into engagement with the rail.

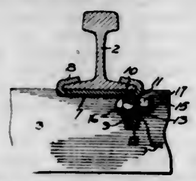
4. In a device of the character described, the combination with a supporting member, of swinging plates pivoted to said supporting member, arms carried by said swinging plates which engage both of the uper edges of the rail, and means for drawing said arms into engagement with the edges of said rail.

5. In a device of the character described, the combination with a current carrying rail, of a contact member which engages with said rail only along its upper edge, said contact member being adapted to remove the ice and sleet from said rail, and a current conductor connected to said contact member.

867,359. RAIL-STAY. CLARENCE E. GUTHRIDGE, Pittsburg, Pa., assignor to Oliver Iron and Steel Company, a Corporation of Pennsylvania. Filed Dec. 26, 1906. Serial No. 349,375.

1. In a rail stay, a bar extending substantially across the lower face of the rail having a clip at one end thereof adapted to engage the flange of the rail, and an abruptly downwardly projecting portion at the opposite end of said

bar, a movable clip adapted to engage the flange of the rail, and means for securing said clip to said downwardly projecting portion of said bar.

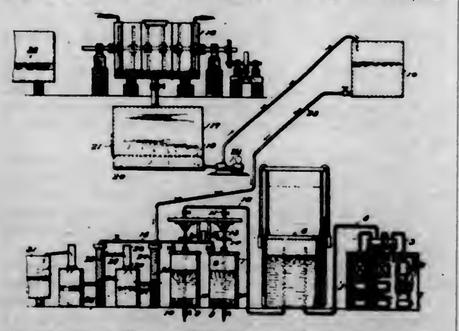


2. In a rail stay, a bar adapted to extend substantially across the bottom of the rail having a clip at one end thereof and an abruptly downwardly projecting portion at the opposite end, a movable clip adapted to engage the flange of the rail and having a downwardly projecting portion, and means for securing the downwardly projecting portion of said clip and the downwardly projecting portion of said bar together.

3. In a rail stay, a bar extending substantially across the bottom of the rail having a clip at one end adapted to engage the flange of the rail and having an abruptly downwardly projecting portion at the opposite end, a movable clip adapted to engage the flange of the rail and having a downwardly projecting portion, and a bolt passing through the downwardly projecting portion of said clip and the downwardly projecting portion of said bar.

4. In a rail stay, a bar adapted to extend across the bottom of the rail having a clip at one end thereof adapted to engage the flange of the rail and a downwardly extending curved portion at the opposite end, a movable clip adapted to engage the flange of the rail and having a downwardly projecting portion, and a bolt passing through said downwardly projecting curved portion of said bar and the downwardly projecting portion of said movable clip.

867,360. ORE-SEPARATOR. JOHN A. HARALSON, Mexico, Mexico. Filed Jan. 24, 1907. Serial No. 353,861.

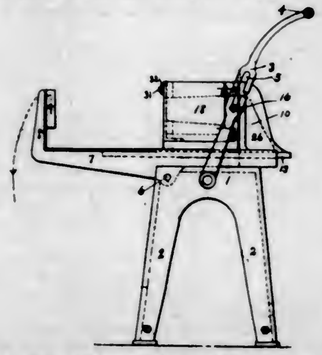


1. Apparatus for precipitating metals from solutions, the same comprising a retort for generating gas, a gasometer for storing the gas as produced, a generator containing water and the material previously retorted, means for supplying gas from the retort to the generator and agitating the solution therein, a mixer, means for supplying metalliferous solution and the gas from the generator to the mixer in regulable quantity, and a separator receiving the metalliferous solution impregnated with the gas from the mixer to effect separation of the metal by precipitation.

2. In apparatus for precipitating metals from solutions, the combination of a series of separators, a corresponding series of mixers, the separators discharging into the mixers and the latter in turn discharging into the successive separators, a main pipe for supplying gas to each of the mixers, branch pipes leading from the main pipe to each of the mixers, valves for regulating the supply of gas to the mixers and admitting of one being cut off from a supply of gas, and means for supplying a metalliferous solution to the first mixer.

3. In apparatus for precipitating metals from solutions, the combination of a mixer, a separator in communication with the mixer, a pipe rising from the separator, a filter at the lower end of said pipe, a second mixer in communication with the pipe of the first separator, a second separator in communication with the second mixer, means for supplying a metalliferous solution to the first mixer and a pipe for supplying gas to each of the mixers to effect chemical combination of the gas with the metal held in solution.

867,361. BLOCK-MACHINE. JERVIS R. HARBECK, Detroit, Mich. Filed Apr. 24, 1907. Serial No. 369,894.



1. In a block machine, the combination of a base and legs for the same, a tilting frame mounted thereon, a back plate slidably mounted on the tilting frame, end plates and a bottom plate hinged to the back plate and a removable pallet forming the front of the mold and supported by end plates and bottom plate.

2. In a block machine, a tilting frame, means to support the same, said frame comprising side bars, a core carrier and a cross plate, cores mounted on the core carrier, a back plate slidably mounted on the side bars and having apertures for the cores, end plates and a bottom plate hinged to the back plate, and a pallet forming the front of the mold, the parts being so mounted that the mold when closed may be moved against the core carrier and there filled, the frame then tilted to vertical position and the mold slid down until the pallet rests on the cross plate, the mold then opened to release the pallet with the molded block thereon, and the mold and frame swung back to original position.

3. In a block machine, the combination of a base, a tilting frame mounted thereon, a mold formed of hinged parts, which mold rests on the frame when being filled, and means to carry the mold down to discharging position and up to loading position along the tilting guide frame.

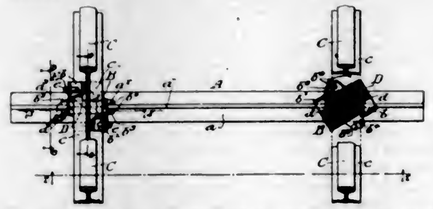
4. In a block machine, the combination of a base, a normally horizontal tilting frame mounted thereon, a back plate slidably mounted on the tilting frame, end plates, a bottom plate, and a removable pallet forming the front of the mold, and means to secure the parts of the mold together.

5. In a block machine, the combination of a base, a normally horizontal frame mounted thereon and adapted to be swung to vertical position, and a mold mounted on said frame, one of the sides of the mold being vertical when the mold is being filled and adapted to be swung down to horizontal position, the remainder of the mold being adapted to be moved away from said side to permit the molded block to be removed from the machine.

6. In a block machine, the combination of a base, a frame mounted thereon and adapted to be swung from horizontal to vertical position, and a mold mounted on said frame and adapted to rest at one end of the same when the frame is in horizontal position, and to slide to the other end of the same when the frame is in vertical position.

7. In a block machine, the combination of a base, a tiltable frame mounted thereon, and a mold formed of hinged sections adapted to move along said tiltable frame, one of the sections being slidably mounted on the frame.

867,362. SUPPORT FOR RAILWAY-RAILS. ALBERT J. HARMS, Victoria, Ill. Filed Aug. 17, 1906. Serial No. 330,937.



1. A support for railway rails, comprising a metal tie having a vertical web formed at its top with cut-away spaces and with expanded parts or flanges integral with the web and extending at each side of the web at the base of said cut-away spaces.

2. A support for railway rails, comprising a metal tie having a vertical web formed with cut-away spaces at its upper edge and tie plates resting upon said web and set within said cut-away spaces and flanged to engage the base of the rail.

3. A support for railway rails, comprising a metal tie having a vertical web provided at its upper edge with cut-away spaces, tie plates resting upon said web and set within said cut-away spaces and having shoulders interlocking with said web and having integral flanges oppositely disposed to interlock with the base of the rails.

4. A support for railway rails comprising a tie having a vertical web provided with cut-away spaces at its upper edge, tie plates set within said cut-away spaces and having oppositely disposed upturned flanges to engage the base of the rails, said tie plates being broader than the base of the rails and being interlocked with the web of the tie.

5. A support for railway rails comprising a metal tie having a vertical web provided at its upper edges with cut-away spaces, tie plates set within said cut-away spaces and having centrally disposed laterally projecting ears or flanges to interlock with the web of the tie, said tie plates being formed at their opposite ends with upwardly turned integral flanges to overlap the base flanges of the rails.

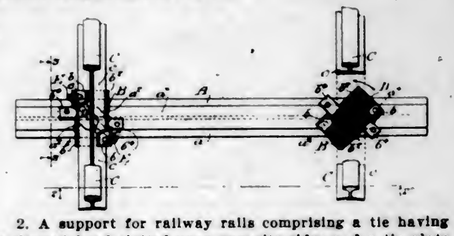
6. A support for railway rails comprising a tie plate provided at each end and at each edge with an upwardly turned flange to engage the base flanges of the rail and provided at opposite corners with depending flanges adapted to extend to the base flanges of the tie.

7. A support for railway rails, comprising a tie plate provided at its ends with oppositely disposed, reverted flanges to engage the base flanges of the rail and provided with depending plates or legs to rest upon the base portions of the tie.

8. A support for railway rails, comprising a tie plate provided at its ends with oppositely disposed, reverted flanges to engage the base flanges of the rail and provided also with shoulders to interlock with the tie and hold the tie plate against longitudinal movement and with depending legs or plates to rest upon the tie.

867,363. SUPPORT FOR RAILWAY-RAILS. ALBERT J. HARMS, Victoria, Ill. Filed Aug. 17, 1906. Serial No. 330,938.

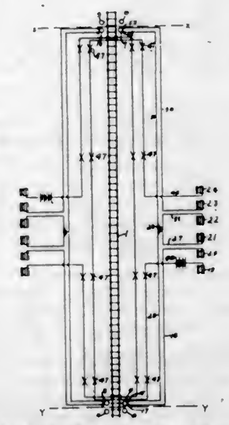
1. A support for railway rails comprising a metal tie having a slotted flanged head, tie plates resting upon said head and arranged to extend beneath and across the base flanges of the rails, each of said tie plates having at its opposite sides upturned flanges to engage the base flanges of the rail and each of said tie plates having a downwardly extending part adapted to engage and pass beneath the slotted flanged head of the tie.



2. A support for railway rails comprising a tie having a flanged head slotted upon opposite sides and a tie plate upwardly flanged to engage the base of the rail and arranged to extend beneath said rail base and having downwardly and inwardly projecting flanges upon opposite sides adapted to enter the slots of the tie and pass beneath the flanged head thereof.

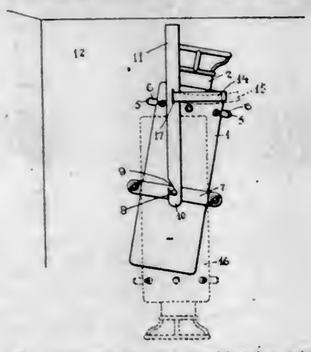
3. A support for railway rails comprising a tie plate having at each end an upwardly and inwardly turned flange to engage the base of the rail, said flanges being arranged at opposite sides of the tie plate and having laterally projecting ears extending in the plane of the tie plate between the upturned flanges thereof.

867,364. AUTOMATIC RAILROAD-SIGNAL. WILLIAM H. HARRIS, Stark, Mont. Filed Jan. 9, 1907. Serial No. 351,497.



In a system of the class described, the combination with two sources of electrical supply, of a circuit connected with one of said sources, train actuated means for closing said circuit, an electro magnet in said circuit, parallel metallic disks, ratchet wheels carried thereby, one of said disks being formed with a section of insulation flush with its periphery, the other of said disks being formed with a brush overlying the periphery of said first named disk, said disks being in circuit with the other source of electrical supply, signaling devices in said last named circuit, an iron shoe adapted to be attracted by said electro magnet, a resilient rod projected fast through said shoe and having its upper end shaped as a pawl to engage one of said ratchet wheels, a compressible spring surrounding said rod, a second electrical circuit from said first named source of supply, train actuated means for closing said second circuit, an electro magnet in said second circuit, a shoe adapted to be attracted thereby, a resilient rod projected fast through said shoe and having its upper end shaped as a pawl for engagement with the other of said ratchet wheels and a compressible spring surrounding said last named rod.

867,365. FIRE-EXTINGUISHER. WILLIAM E. HASKINS, Barre, Vt. Filed Dec. 31, 1904. Serial No. 239,086.

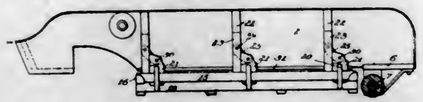


1. In a fire extinguisher, the combination with a tank, of a bracket for removably supporting said tank, and means for detachably holding said tank in an inclined position in said bracket, said means being fusible at a predetermined degree of heat.

2. In a fire extinguisher, the combination with a tank, of a bracket for removably supporting said tank, and a semicircular retaining band for detachably supporting said tank in an inclined position, said band consisting of separate overlapping parts united by a fusible connection.

3. In a fire extinguisher, the combination with a tank, of a detachable band inclosing said tank below its center of gravity, gudgeons on said band, a bracket provided with slots to receive said gudgeons and a semicircular fusible band for detachably supporting said tank in an inclined position.

867,366. DUMPING-WAGON. JOHN HEBERLING, Rochester, N. Y. Filed Jan. 6, 1906. Serial No. 294,837.



1. In a dumping wagon, the combination with a box and a movable bottom therefor, of links pivoted to the side of the box and movable longitudinally thereof, hinge connections between the links and the bottom and means for operating the latter.

2. In a dumping wagon, the combination with a box and a movable bottom therefor, of hinge members on the bottom and links pivotally connected to the hinge members and the side of box and movable longitudinally thereof and means for operating the bottom.

3. In a dumping wagon, the combination with a box and a movable bottom therefor, of links pivoted on the side of the box, hinge members also arranged at the side of the box and pivotally suspended on the links and pivotal connections between the hinge members and bottom and means for operating the latter.

4. In a dumping wagon, the combination with a box, a movable bottom therefor and a plurality of hinge members connected to the bottom and located at the side of the box, of links pivoted to said members and to the side of the box, a stop for limiting the movement of the bottom in one direction and means for operating the latter.

5. In a dumping wagon, the combination with a box having side pieces, straps arranged thereon and forming channels or guides, of a bottom on the box, hinge members on the bottom and a longitudinally extending rod movable longitudinally and vertically in the channels and engaging the members and means for operating the bottom.

6. In a dumping wagon, the combination with a box having side pieces, straps arranged thereon and forming vertically extending channels or guides, of a bottom on the box, hinge members on the bottom arranged in alinement with the lower ends of the channels and a pintle rod engaging the hinge members and extending longitudinally of the wagon box and movable longitudinally and vertically in the channels and means for operating the bottom.

7. In a dumping wagon, the combination with a box having side pieces, straps arranged thereon and links pivoted to the straps, of a movable bottom on the box, hinge members pivoted thereto and located at one side of the straps, pivoted connections between the ends of the links and said members and means for operating the bottom.

8. In a dumping wagon, the combination with a box having side pieces, straps secured thereon and spaced from the side of the box and links pivotally supported beneath the straps, of a movable bottom on the box, hinge members thereon extending over the side of the box and located in rear of the straps, pivoted connections between the links and said members and means for operating the bottom.

9. In a dumping wagon, the combination with a box having side pieces, straps secured thereon and spaced from the side of the box and curved links pivotally supported beneath the straps, of a movable bottom on the box, hinge members provided with transversely extending recesses receiving the ends of the links, pivot pins connecting them and means for operating the bottom.

10. In a dumping wagon, the combination with a box having side pieces, a plurality of straps secured thereon and spaced from the side of the box and a link pivotally supported beneath each strap, of hinge members attached to the links, a pintle rod extending beneath the straps and connecting the hinge members to the bottom and means for operating the latter.

11. In a dumping wagon, the combination with a box, a bottom section thereon and hinges supporting it, of means for supporting the hinges to permit the bottom section to move in a relative longitudinal and vertical direction on the box when in an open position and means for closing said section.

12. In a dumping wagon, the combination with a box comprising ends and side pieces and a movable bottom located beneath the box, of an upwardly extending rib on the bottom located adjacent one end of the box, a shield on the latter projecting over the rib and means for closing the bottom.

13. In a dumping wagon, the combination with a box, an axle bolster located in rear of and beneath the box and a bottom located beneath the box and provided with a recessed end and hinges at one side of the bottom, of means for supporting the hinges to permit the bottom to move rearward when in an open position into proximity with the axle and means for operating the bottom.

14. In a dumping wagon, the combination with a box comprising ends and side pieces, an axle bolster located in rear of and beneath the box and a hinged bottom located beneath the box and provided with a recess in its end beneath the end of the box, of means for supporting the bottom at the side of the box to permit its rearward movement when in an open position into proximity with the axle, a rib on the bottom projecting upwardly adjacent the inner side of the rear end of the box, a shield on the latter extending over the rib when the parts are in normal position and means for closing the bottom.

15. In a dumping wagon, the combination with a box, movable bottom sections and a revoluble shaft, of drums connected to the shaft and capable of an independent movement thereon, an equalizing connection between the drums, connections between the drums and bottom sections and means for rotating the shaft.

16. In a dumping wagon, the combination with a box, movable bottom sections thereon and a revoluble shaft, of drums connected to the latter and capable of an independent movement thereon and connections between them for rotating them relatively in opposite directions, separate connections between the drums and the bottom sections and means for rotating the shaft.

17. In a dumping wagon, the combination with a box, movable bottom sections thereon and a revoluble shaft, of drums journaled on the latter, means connecting the drums and connecting them to the shaft to permit their relative movement thereon, separate operating connections between the drums and bottom sections and means for rotating the shaft.

18. In a dumping wagon, the combination with a box, movable bottom sections thereon and a revoluble shaft, of drums journaled on the latter, means connecting the drums to each other and to the shaft to permit their differential movement and means for moving one of the drums into a position on the shaft in advance of the other, connections between the drums and the bottom sections and means for operating the shaft.

19. In a dumping wagon, the combination with a box, movable bottom sections thereon and a revoluble shaft, of drums journaled on the latter, means connecting the drums to each other and to the shaft to permit their differential movement and a spring connecting the shaft and one of the drums to rotate it on the shaft into a position in advance of the other, a separate connection between each drum and bottom section and means for rotating the shaft.

20. In a dumping wagon, the combination with a box, movable bottom sections thereon and a winding shaft, of a pulley journaled on the shaft on an axis extending transversely thereof, a drum located at each side of the pulley and a flexible connection between the drums, winding connections between the latter and the bottom sections and means for operating the shaft.

21. In a dumping wagon, the combination with a box, movable bottom sections thereon and a winding shaft, of a pulley journaled on the shaft on an axis extending transversely thereof, a drum located at each side of the pulley and a flexible connection between the drums, means normally operating one of the drums on the shaft to a position in advance of the other, separate winding connections between the drums and the bottom sections and means for operating the shaft.

22. In a dumping wagon, the combination with a box, a movable bottom section thereon, a winding shaft and means for operating it, of connections between the shaft and the bottom section, a ratchet wheel on the shaft and a locking pawl coöperating therewith, a rock shaft journaled on the box having a finger coöperating with the pawl to move it into an inoperative position and a foot lever attached to the shaft.

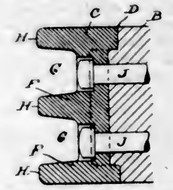
23. In a dumping wagon, the combination with a box comprising ends and side pieces, a movable bottom section thereon, a winding shaft connected to the bottom section and journaled between the side pieces and having an end projecting exteriorly of one of the side pieces of box and a ratchet wheel mounted on said end, of a locking pawl coöperating therewith, a rock shaft located within said side piece of the box and having an operating finger coöperating with the pawl, an operating foot lever on the rock shaft and means coöperating with the ratchet wheel to rotate the winding shaft in one direction.

24. In a dumping wagon, the combination with a box comprising ends and side pieces, a movable bottom section thereon, a winding shaft connected to the bottom section and journaled between the side pieces and having an end projecting exteriorly of one of the side pieces of box and a ratchet wheel mounted on said end, of an operating lever journaled on the shaft and carrying an operating pawl coöperating with the ratchet wheel, a stationary finger mounted on the box and projecting over said wheel and coöperating with the operating pawl to release it, means for locking the winding shaft in operative position and devices for releasing it.

25. In a dumping wagon, the combination with a box, movable bottom sections thereon and a winding shaft, of connections between the latter and said sections, means for taking up one of said connections on the shaft to cause its respective bottom sections to close in advance of the other section, and means for operating the shaft.

26. In a dumping wagon, the combination with a box, movable bottom sections thereon and a winding shaft, of connections between the latter and said sections, means operating to yieldingly take up one of said connections on the shaft to cause its respective bottom section to close in advance of the other section and pay it out during the closing movement of the other section.

867,367. ATTACHMENT FOR PREVENTING TELESCOPING OF CARS. FRANK HEDLEY, New York, N. Y. Filed Dec. 10, 1906. Serial No. 347,057.



1. An attachment adapted to be secured to the end of a car or car platform, and having ribs or projections and seats or depressions in the outer surface thereof, the ends of the ribs or projections presenting vertical bearing surfaces.

2. An attachment adapted to be secured to the end of a car or car platform, and having outwardly extending ribs or projections, and intermediate seats or recesses in the outer surface thereof, the ends of the ribs or projections presenting vertical bearing surfaces, said ribs or projections extending longitudinally of the attachment.

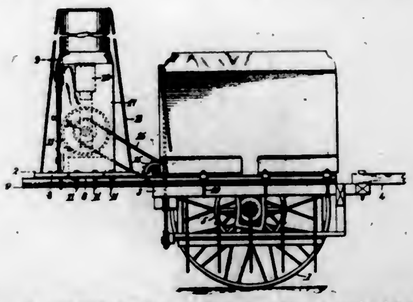
3. An attachment adapted to be secured to the ends of a car or car platform, and consisting of a casting having ribs in its outer surface extending lengthwise thereof, with seats or recesses intermediate said ribs.

4. The combination with a car and its platform said platform having a recess in the end thereof, of an attachment adapted to be secured in said recess, and having ribs and seats in the outer face thereof.

5. The combination with a car and its platform, of an attachment adapted to be secured to the end of said platform, said attachment having ribs and seats formed in the outer face thereof, the outer edges of the ribs presenting vertical bearing surfaces.

6. An attachment adapted to be secured to the end of a car or car platform, and having ribs or projections and seats or depressions formed therein, said ribs or projections being outwardly tapering.

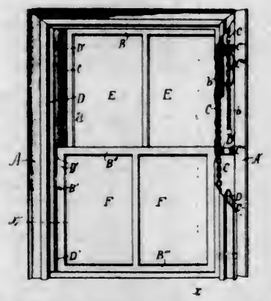
867,368. ATTACHMENT FOR TRACTION-OPERATED IMPLEMENTS. GILBERT O. HELVIG and EDWARD DANIELSON, Dawson, Minn. Filed Sept. 17, 1906. Serial No. 334,894.



1. In combination, an implement having a main frame, machinery carried thereby, a main shaft, a traction wheel mounted thereon, a sprocket wheel on said shaft, whereby the machinery may be operated from said shaft, a plurality of pipes or tubes adjacent and parallel to the opposite sides of said main frame and extending outwardly therefrom, the outer ends being unsupported means for rigidly securing said pipes or tubes to said frame, a platform rigidly but detachably secured to said pipes or tubes at the outer ends thereof, an engine supported upon said platform, means whereby the machinery may be operated by said engine, and a casing surrounding said engine and secured to said platform.

2. In combination, an implement, comprising a main frame having parallel side members, a traction wheel, machinery supported upon said main frame and adapted to be operated by said traction wheel, longitudinal supports rigidly secured to the side members of the frame and extending outwardly therefrom, a platform carried by said supports, an engine carried by said platform, and means for operatively connecting said engine to the machinery of the implement.

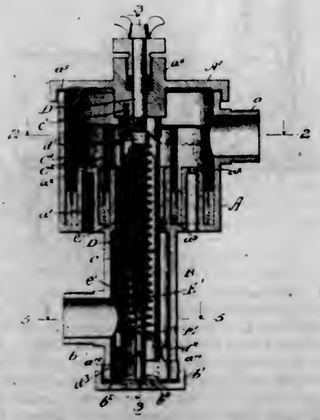
867,369. METALLIC WINDOW-FRAME. WILLIAM J. HENRY, Oklahoma, Okla. Filed Oct. 26, 1906. Serial No. 340,695.



1. In a metallic window frame, the right and left permanent jambs C C having upper, central and lower threaded plates C' horizontally secured to said jambs upon their rear surfaces by the rivets *f*, the said jambs having upper and lower hand-holes or weight-adjusting openings C'', as described.

2. In a metallic window frame having right and left permanent jambs with upper central and lower threaded plates secured to their rear surfaces, the right and left false or removable jambs D D forming pulley-stiles *a* and being temporarily or removably secured to the said permanent jambs, substantially as described.

867,370. PRESSURE-EQUALIZING VALVE. CHARLES W. HENSON, Chicago, Ill. Filed Nov. 21, 1906. Serial No. 344,409.



1. A pressure equalizing valve comprising a casing having an inlet and an outlet port, a plurality of annular passages in said casing, a sealing fluid in said passages, a bell sealed at its lower edge in each passage and having an aperture therethrough through which the fluid flows and a valve actuated by pressure above said bells to regulate the pressure.

2. In a device of the class described the combination with a casing, of a pipe engaged thereto, annular channels in said casing, a sealing fluid therein, a tube in said casing extending into said pipe, means normally holding said tube at its upper limit of movement and means movable with said tube adapted to regulate the flow of gas.

3. In a gas regulator the combination with a casing of an integral extension thereon, ribs integral with said casing affording annular passages between the same, a sealing fluid in said passages, a tube movable in said casing, a seat or closure for said tube, cups rigidly engaged to said tube and movable therewith one for each passage and at all times sealed and adapted by pressure to seat said tube, and means for returning the tube to its normal position as the pressure decreases.

4. In a device of the class described the combination with a casing, a pipe engaged thereto, a closure in the bottom of said pipe, a tube in said casing adapted to seat on said closure by pressure, communicating passages in said casing containing a sealing liquid, cups movable in said passages adapted to move in one direction when the pressure exceeds normal and means returning the cups to their normal positions.

5. In a device of the class described the combination with a casing of a plurality of concentric annular passages therein, a sealing fluid in said passages, a tube movable in said casing, a seat therefor, concentric cups movable with said tube, one for each passage, and adapted by pressure to seat said tube and means adapted to unseat said tube.

6. In a device of the class described the combination with a casing of concentric annular passages therein, a sealing fluid in said passages, a tube movable vertically in said casing, a seat therefor, cups concentric with said tube one for each passage adapted by pressure above to close said tube, and means for returning said tube to its normal position.

7. In a device of the class described, the combination with a casing, a pipe engaged thereto, an inlet pipe opening into said pipe and an outlet pipe opening from asid casing, a tube in said casing and extending into said first mentioned pipe, a closure at the lower end of said tube, concentric annular communicating passages in said casing, a sealing fluid therein, means rigidly engaged to said tube and extending into said passages adapted by pressure above normal to move said tube to its closure and means for returning said tube to its open position.

8. In a device of the class described the combination with a casing, a plurality of integral ribs affording communicating annular concentric passages therein, a sealing fluid in said passages, concentric bells or cups in said casing and movable in said passages and means automatically actuated by said bells from pressure above the same to regulate the supply of gas.

9. In a gas regulator the combination with a casing of concentric integral flanges engaged thereto affording channels therebetween, a sealing fluid in said channels, a tube in said casing, concentric cups rigidly engaged to said tube and adapted by pressure above normal to close said tube and a spring normally holding said tube against the top of the casing.

10. In a gas regulator the combination with a casing and a sealing fluid therein, of a plurality of concentric cups in said casing having their lower ends sealed forming a plurality of chambers, a tube rigidly engaged to said cups adapted to admit gas into the chamber above said cups, and means for holding said tube against the top of the casing when the pressure in said chamber is normal.

11. In a gas regulator the combination with a casing of a plurality of upwardly directed flanges integral with the bottom of the same affording annular passages, a sealing fluid therein, a tube in said casing, a closure at its lowest limit of movement, concentric cups in said casing rigidly engaged to said tube adapted to regulate the feed of the gas by moving said tube to its closure from pressure above and means adapted to force the tube from its closure as the flow of gas becomes normal.

12. In a gas regulator a casing, concentric annular

communicating passages therein, concentric cups movable in said casing and having their lower ends at all times sealed in said passages, a tube rigidly engaged to said cups and open at both ends, a closure therefor, said cups adapted to regulate the admission of gas by closing or partially closing said tube when the flow of gas is above normal and a spring aided by gas and atmospheric pressure adapted to open said admitting means as the flow becomes normal.

13. As an article of manufacture a casing having concentric ribs affording channels therebetween, an extension or pipe engaged to the casing and communicating therewith, an outlet and an inlet pipe communicating one with the casing and one with the extension or pipe, a tube in said casing, extending into the pipe or extension, cups on said tube adapted to extend into the channels and means holding said cups in normal position when the fluid pressure equals the pressure for which said means are set.

14. As an article of manufacture the combination with a casing having an inlet and an outlet, concentric ribs in said casing, an extension rigidly engaged to said casing, a tube in said casing, a seat therefor, cups movable with said tube and regulable means adapted to set the cups for any desired pressure.

15. As an article of manufacture the combination with a casing having an inlet and an outlet of concentric integral ribs in said casing, a tube in said casing, cups engaged thereto and movable therewith, a seat for said tube and means firmly holding said tube unseated for a given pressure and adapted to unseat said tube after the pressure has exceeded normal and returns to normal.

16. In a device of the class described the combination with a casing having an outlet of an extension having an inlet, communicating channels in said casing containing a sealing fluid, a tube in said casing and extending into the extension, cups movable therewith having their lower ends sealed at all times, a spring adapted to hold said cups in normal position and means limiting the compression of said spring.

17. In a device of the class described the combination with a casing of an inlet and outlet therefor, ribs in said casing affording channels therebetween, a sealing fluid therein, cups having their lower edges sealed in said channels a spring adapted to hold said cups in normal position and means limiting the extension of said spring.

18. In a device of the class described the combination with a casing having an inlet and an outlet, of a plurality of passages or channels in said casing, a sealing fluid therein, a pipe engaged thereto having an orifice, a tube in the casing and said pipe, cups engaged thereto having their lower ends sealed in said passages, a spring holding said cups in normal position, means varying the tension of said spring, means limiting the retraction of said spring and means limiting the extension of said spring.

19. In a device of the class described the combination with a casing of a pipe connected thereto, an inlet and an outlet, a sealing fluid in the casing, a tube in the casing, a closure therefor, concentric cups engaged to the tube having their lower ends sealed, a spider or bar engaged to said tube, a spring secured at one end thereto adapted to hold said tube and cups in normal position under normal fluid pressure and rotatable means acting to vary the tension of said spring.

20. In a device of the class described the combination with a casing having an inlet and outlet, a tube in the casing, a closure therefor, concentric channels in said casing containing a sealing fluid, sealed means movable with the tube dividing the casing into a plurality of chambers, a spring operatively connected with the tube adapted to normally hold the same elevated, said tube adapted when the outlet pressure exceeds the pressure for which said spring is set to seat on said closure and to gradually unseat as outlet pressure decreases and rotatable means varying the tension of said spring.

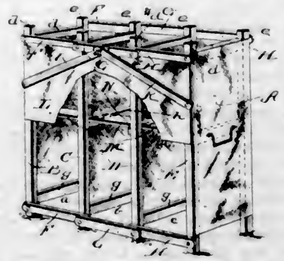
21. In a device of the class described the combination with a casing, of a pipe engaged thereto, an inlet and an outlet for said casing, annular channels in the casing containing a sealing fluid, a tube in the casing projecting into said pipe, cups connected to said tube having their lower edges sealed, a rod extending through the casing and pipe, a spider or bar engaged to the tube, a spring engaged thereto at one end, longitudinally movable means on said rod engaging the opposite ends of said spring, means for turning said rod to vary the tension of said spring, means limiting the extension of said spring and means limiting the compression thereof.

22. In a device of the class described the combination with a casing, of a pipe engaged thereto, an inlet and an outlet for said casing, annular channels in the casing containing a sealing fluid, a tube in the casing projecting into said pipe, cups connected to said tube having their lower edges sealed, a rod extending through the casing and pipe, a spider or bar engaged to the tube, a spring engaged thereto at one end, longitudinally movable means on said rod engaging the opposite ends of said spring, means preventing said longitudinal means from rotating and a stop engaged to said rod adapted to abut against the spider to prevent undue extension of said spring.

23. In a device of the class described the combination with a casing of a pipe engaged thereto, an inlet and an outlet for said casing, concentric ribs in the casing, a sealing fluid in the casing, a valve seat, a tube movable longitudinally of the casing adapted to seat thereon, a transverse bar in the tube, a rotatable rod extending through the tube having a portion thereof threaded, a threaded element on said rod, a spring engaged at its ends to said transverse bar and threaded element, means adapted to prevent rotation of said threaded element when said rod is rotated and means firmly holding said threaded element in position to engage said threads on the rod when at its lowest limit of movement.

24. In a device of the class described the combination with a casing of a pipe engaged thereto, an inlet and an outlet for said casing, concentric ribs in the casing, a sealing fluid in the casing, a valve seat, a tube movable longitudinally of the casing adapted to seat thereon, a transverse bar in the tube, a rotatable rod extending through the tube having a portion thereof threaded, a threaded element on said rod, a spring engaged at its ends to said transverse bar and threaded element, means adapted to prevent rotation of said threaded element when said rod is rotated, means limiting the upward movement of said rod, and guides in said casing and pipe for said tube.

867,371. ELECTION-BOOTH. WILLIAM H. H. HILL, Sr., Sullivan, Ind. Filed Dec. 15, 1906. Serial No. 348,016.



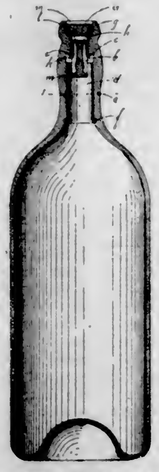
1. A booth comprising a series of canvas covered frames pivotally connected together by links, braces carried by the end frames, shelves hinged to the center bar of the frame, curtains carried by the links at the top of the frames, and means carried by one of the links for locking the braces together, as set forth.

2. A booth comprising a series of canvas covered frames pivotally connected by the links, hinged shelves arranged in the compartments, formed by the frames, braces pivotally connected to the outside frames, and means carried by the central link for locking the braces to the same, as set forth.

3. A booth comprising a series of compartments formed of a plurality of rectangular frames, links arranged on the exterior of said compartments, pivotally connecting said

frames together, braces pivotally connected to the outside end frames at one end, and at the other end connected to one of said links, curtains carried by links at the top of the frame, hinged shelves arranged in the compartments, buttons arranged on said frames for holding the shelves in a folded position, and means carried by the central link at top of said frames for locking said frames in an extended position.

867,372. BOTTLE. JULIER C. HIZAR, San Diego, Cal. Filed Apr. 8, 1907. Serial No. 367,064.



1. A bottle comprising a bottle having a neck portion provided with a recess at its top forming an internal annular shoulder and also provided with an intermediate internal annular recess, a plug having a flange fitting snugly within said top recess and provided with a transverse perforation, a packing or gasket having a like perforation and surrounding said plug below its flange, and a wire catch passing through said perforations in the plug and gasket and provided with hooked ends adapted to snap into the intermediate annular recess and prevent the withdrawal of the plug and gasket from the neck of the bottle.

2. A bottle comprising a bottle having a neck portion provided with an internal annular recess, a plug provided with a transverse perforation, a gasket or packing having a like perforation surrounding said plug, and a wire catch passing through said perforations in the plug and gasket and provided with hooked ends adapted to snap into the annular recess and prevent the withdrawal of the plug and gasket from the neck of the bottle.

3. A bottle comprising a bottle having a neck portion provided with an internal annular recess, a plug provided with a transverse perforation, a gasket or packing having a like perforation surrounding said plug, a wire catch passing through said perforations in the plug and gasket and provided with hooked ends adapted to snap into the annular recess and prevent the withdrawal of the plug and gasket, and a thimble fitting within the neck portion of the bottle below said annular recess and irremovably fixed at its lower end to the inner wall of the bottle, said neck portion of the bottle being provided with means adapting it to be broken transversely intermediate the ends of the thimble.

4. A bottle comprising a bottle having a neck portion provided with an internal annular recess, a plug provided with a transverse perforation, a gasket or packing having a like perforation surrounding said plug, a wire catch passing through said perforations in the plug and gasket and provided with hooked ends adapted to snap into the annular recess and prevent the withdrawal of the plug and gasket, a thimble tapered toward its upper end fitting within the neck portion of the bottle below said annular recess irremovably fixed at its lower end to the inner wall of the bottle, and a metal ring cast in the wall of said neck portion of the bottle outside of and intermediate the ends of the thimble.

5. In a bottle having a neck portion provided with a closure, a thimble fitting within said neck portion and irremovably fixed at its lower end therein, said neck portion of the bottle being provided with means adapting it to be broken transversely intermediate the ends of the thimble.

6. In a bottle having a neck portion provided with a closure, a thimble tapered toward its upper end fitting within said neck portion and irremovably fixed at its lower end therein, said neck portion of the bottle being provided with means adapting it to be broken transversely intermediate the ends of the thimble.

7. In a bottle having a neck portion provided with a closure, a thimble fitting within said neck portion and provided at its lower end with a flange or bead cast in the wall of the neck of the bottle, said neck portion having also cast in its wall a metal ring intermediate the ends of the thimble.

867,373. TOP. ERNEST A. HOEN, Richmond, Va. Filed Sept. 12, 1906. Serial No. 334,363.



1. A spinning top comprising a wooden upper portion, a metallic apex, and a plug or point having screw threaded connection with the apex.

2. A spinning top comprising an upper portion, an apex made of heavier material than the upper portion and provided with peripheral grooves, and a plug or point.

3. A spinning top comprising an upper portion, an apex made of heavier material than the upper portion, and a plug or point rigidly and detachably secured to the apex.

4. A spinning top comprising an upper portion and an apex made of heavier material than the upper portion, one of which is provided with a screw threaded extension and the other of which has a hollow portion to receive the screw threaded extension, the walls of the hollow portion being screw threaded, and a plug or point carried by the apex.

5. A spinning top comprising an upper portion, an apex portion made of heavier material and rigidly secured to the upper portion, and a plug or point rigidly secured to the apex portion.

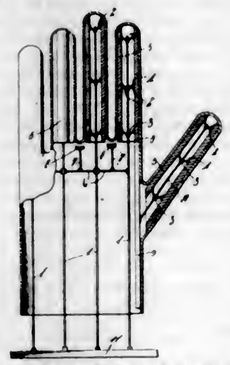
6. A spinning top comprising an upper portion; an apex portion made of heavier material than the upper portion; a rigid connection between said upper and lower portion consisting of a socket provided in one of said portions, and a projection on the other portion, extending into the sockets and provided with means to engage the walls of the socket; and a plug or point rigidly secured to the apex.

867,374. GLOVE-STRETCHING IMPLEMENT. ALFRED G. HOSTACHY, New York, N. Y. Filed Nov. 22, 1906. Serial No. 344,627.

1. A glove stretcher embodying independent sectional finger members, independent means for expanding the members, and means connected with said expanding means for expanding said members in unison.

2. A glove stretcher embodying finger and thumb stretching members, and independent longitudinally movable quirk stretching members.

3. A glove stretcher embodying finger, thumb and quirk stretching members and means for expanding all of the finger members and for moving the quirk members forward in unison.



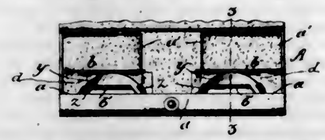
4. A glove stretcher embodying laterally expansible finger and thumb stretching members, and longitudinally movable quirk stretching means.

5. A glove stretcher embodying finger and thumb stretching members, each comprising a plurality of sections, a toggle bar for each member, and a plurality of toggle levers connecting the toggle bars and the sections.

6. A glove stretcher embodying finger and thumb stretching members, each comprising a plurality of sections, a plurality of toggle bars, series of toggle levers connecting the bars and the sections, quirk stretching elements carried by the bars, and means for actuating the toggle bars.

7. A glove stretcher embodying finger and thumb stretching members, each comprising a plurality of hollow orificed sections, a toggle bar for each member, and a plurality of toggle levers connecting the toggle bars and the sections.

867,375. CASE FOR DETACHABLE SEGMENT-LENSES. HARMAN G. HUFFMAN, Youngstown, Ohio. Filed Apr. 15, 1905. Serial No. 255,816.



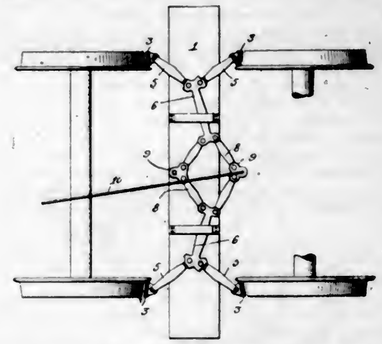
1. A case for detachable segment lenses having upper and lower bearings, one of which is resilient, forming a shallow receptacle or recess between them open at the front and adapted to receive and bear upon upper and lower edges of a segment and permitting a main lens to be applied thereto without handling such segment.

2. In a case or box a supporting device for a segment lens comprising lower and upper bearings projecting from a base, and forming a shallow recess between them, one of said bearings being of a height corresponding approximately to the thickness of the lens and one of the bearings being resilient for engaging the opposite peripheral edges of a lens, and permitting a second lens to be applied thereto, substantially as described.

3. A case or box having a bottom pad or cushion at its rear portion for supporting a main lens, a bearing at the lower edge thereof, a lower resilient bearing at the front edge forming between the two a recess for a segment lens and a front guard-piece, substantially as described.

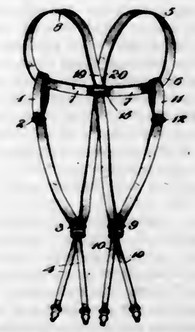
4. In a case or box, the combination with a pocket of a supporting device having means for engaging the upper and lower edges of a segment lens, and a segment lens having means for engaging it with a main lens, whereby such segment may be manipulated by the main lens, for attaching it to, or detaching it therefrom, substantially as described.

867,376. CAR-BRAKE. EMERY E. JETT and CLINTON S. PALMER, Chicago, Ill. Filed May 13, 1907. Serial No. 373,273.



The combination of brake-shoes, vibratory levers pivoted to the brake shoes, a pair of levers having a fixed support, a second pair of levers connected with the first pair of levers, means for moving the joint of the second pair of levers toward and away from the first pair of levers, and a common connection between both said pairs of levers and the vibratory levers which are pivoted to the brake-shoes.

867,377. HOSE-SUPPORTER. EDWARD JOHNSON, Cincinnati, Ohio. Filed Aug. 2, 1906. Serial No. 328,901.



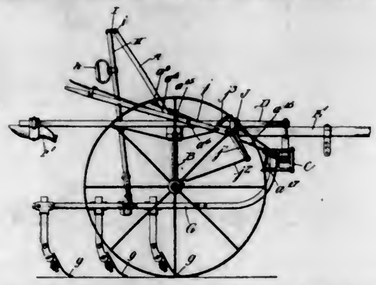
1. In a hose supporter, the combination, with attaching devices for securing the supporter to the hose, of a single continuous strip of webbing material extending from said attaching devices across the back, and engaging in front of each shoulder to form shoulder braces, with the opposite ends of the webbing looped loosely over the shoulder brace portion under each arm, and a fastening device for securing and locking together the three portions of the webbing which cross in the back.

2. In a hose supporter, the combination, with attaching devices for securing the supporter to the hose, of a single continuous strip of webbing material extending from said attaching devices across the back, and engaging in front of each shoulder to form shoulder braces, with the opposite ends of the webbing looped loosely over the shoulder brace portion under each arm, and a buckle provided with a base plate slotted to receive the transverse webbing, and having a locking plate pivoted thereon to engage simultaneously said transverse webbing and the two other portions where they cross at the back.

3. In a hose supporter having three portions of webbing crossing at the back, a buckle provided with a slotted base plate to receive one portion of said webbing and a hinged locking plate, between which and the base plate, the two

other portions of the webbing pass, said locking plate having a serrated edge to lock simultaneously said three portions of the webbing together.

867,378. CULTIVATOR. WILLIAM E. JOHNSON, Rock Island, Ill. Filed Jan. 19, 1906. Serial No. 296,750.



1. A cultivator comprising shovel gangs, mast arms and mast pipes for raising and lowering said gangs, springs for assisting in raising the gangs, and readily adjustable means for varying the lateral pressure on said springs to vary the working depth of the shovels.

2. A cultivator comprising shovel gangs, mast arms and mast pipes for raising and lowering said gangs, springs for assisting in raising the gangs, and pivoted lever arms and adjustable racks for varying the pressure on the said springs to vary the working depth of the shovels.

3. A cultivator comprising shovel gangs, mast arms and mast pipes for raising and lowering said gangs, springs for assisting in raising the gangs, and pivoted lever arms a^3 and adjustable racks a^5, together with bolts a^4 engaging said racks, for varying the lateral upward pressure on said springs to vary the working depth of the shovels.

4. A cultivator comprising shovel gangs, springs for assisting in lifting said gangs, and for holding said gangs in elevated positions, pivoted lever arms having their free ends loosely engaging the under sides of said springs when the shovels are in the ground, and manually adjustable racks for varying the pressure of the said lever arms upon the said springs, and for thereby varying the working depth of the shovels.

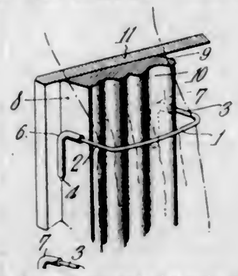
5. A cultivator comprising shovel gangs, beam couplings for the forward ends of said gangs, lifting springs having their forward ends hitched to said couplings, said springs having a rearward and slightly upward direction or trend, pivoted lever arms having their free ends loosely engaging the under sides of the said springs when the shovels are in the ground, adjustable racks connected for varying the degree of pressure of the said lever arms upon the said springs, and bolts the teeth of said racks engaging said bolts to give the shovels any desired degree of working depth.

6. A cultivator comprising shovel gangs, a ball-shaped axle, vehicle wheels upon said axle, a U-shaped frame upon said axle, a tongue secured to said frame, a seat mounted on said frame, mast arms pivotally supported by said axle, mast pipes connecting the upper ends of said mast arms to said shovel gangs, beam couplings for the forward ends of said gangs, a balancing shaft and connections for rocking the axle beneath the same to balance the weight thereon, springs having their rear ends hitched to said mast arms and their forward ends hitched to said beam couplings, pivoted levers carried by the axle and having their free ends at times loosely engaging the under sides of said springs, bolts carried by the mast arms, and racks having sliding connection with both the mast arms and the said lever arms, the teeth of said racks lockingly engaging said bolts to hold the shovels at the desired depth in the ground, and the rear ends of said racks being conveniently disposed within reach of the driver occupying the said seat.

7. A cultivator comprising shovel gangs, lifting springs for said gangs, a forward hitch for each spring, connections between the shovel gangs and the rear ends of said springs, pivoted lever arms having free ends to engage the under sides of said springs to limit the downward movement of the shovel gangs, racks having sliding connections with said lever arms and having shifting connections with the medium of connection between the gangs and the rear ends of said springs, the teeth of said racks engaging means to permit the springs to yieldingly support the gangs at any desired depth.

8. A cultivator comprising shovel gangs, lifting springs for said gangs, mast arms and mast pipes for lifting the gangs, I-bolts connecting the mast arms with the upper ends of the mast-pipes, lever arms engaging the under sides of said springs, and adjustable racks for varying the pressure of the lever arms upon the springs, together with means for engaging the teeth of said racks.

867,379. CURTAIN-DRAPER. JOHN KAUFMANN, Prairie du Sac, Wis. Filed May 6, 1907. Serial No. 372,159.



1. A curtain draper composed of a strip of resilient material having an intermediate spring portion and forming substantially straight curtain engaging portions extending in opposite directions, the ends of the strip being thence bent laterally of the intermediate portion to form a pair of substantially parallel clamping arms both arranged at the same side of the intermediate portion, and steadying arms formed by bending both ends of the strip downwardly from their respective clamping arms.

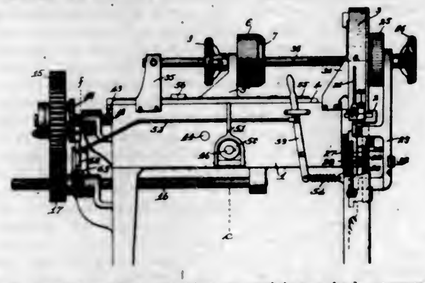
2. A curtain draper composed of a strip of resilient material having an intermediate spring portion adapted to receive a curtain, a pair of coöperatively arranged clamping arms turned at substantially right angles from the same side of the intermediate portion and extending parallel to one another, the ends of the clamping arms being extended in the same direction transverse to the plane occupied by the intermediate portion and arms and substantially in parallelism.

3. A curtain draper composed of a strip of resilient material having an intermediate portion provided with a bend or spring portion, curtain receiving portions arranged substantially in alinement at opposite sides of the spring portion, and a pair of clamping arms extending laterally and in the same direction from one side of the respective curtain receiving portions.

4. A curtain draper composed of a strip of resilient material having an intermediate spring portion, curtain engaging portions arranged in alinement at opposite sides of the spring portion, a pair of coöperatively arranged clamping arms turned at substantially right angles from the same side of the ends of the curtain engaging portions, the ends of the clamping arms being extended in the same direction transverse to the plane occupied by the intermediate portion and arms and substantially in parallelism, and coverings of relatively soft material applied to the clamping arms and their extensions.

867,380. PIPE-CURVING MACHINE. WILLIAM C. KIRK, Chattanooga, Tenn. Filed July 13, 1907. Serial No. 383,555.

1. A pipe-curving machine comprising a bed, corrugating mechanism mounted thereon for carrying an inwardly acting corrugating tool around a tube in an orbit eccentric to the axis of the tube, a fixed disk to the rear of said tool, a steady-rest nose surrounding the disk, a sliding chuck adapted to hold the terminal end of the tube and to be advanced toward the corrugating mechanism, a swinging chuck with its axis coinciding with that of the sliding chuck and adapted to hold the initial end of the tube, and an arm carrying the swinging chuck and mounted for swinging motion on a pivot at right angles to and at one side of the axis of the sliding chuck, combined substantially as set forth.



2. A pipe-curving machine comprising a bed, corrugating mechanism mounted thereon for carrying an inwardly acting corrugating tool around a tube in an orbit eccentric to the axis of the tube, a fixed disk to the rear of said tool, a steady-rest nose surrounding the disk, a sliding chuck adapted to hold the terminal end of the tube and to be advanced toward the corrugating mechanism, feeding mechanism for progressively and continuously advancing the sliding chuck toward the corrugating mechanism, a swinging chuck with its axis coinciding with that of the sliding chuck and adapted to hold the initial end of the tube, and an arm carrying the swinging chuck and mounted for swinging motion on a pivot at right angles to and at one side of the axis of the sliding chuck, combined substantially as set forth.

3. A pipe-curving machine comprising a bed, corrugating mechanism mounted thereon for carrying an inwardly acting corrugating tool around a tube in an orbit eccentric to the axis of the tube, a fixed disk to the rear of said tool, a steady-rest nose surrounding the disk, a sliding chuck adapted to hold the terminal end of the tube and to be advanced toward the corrugating mechanism, feeding mechanism for advancing the sliding chuck toward the corrugating mechanism, a driving device connected with the feeding mechanism, a stop-clutch between the driving device and feeding mechanism for imparting motion from the former to the latter, a hand-controlled shifting piece for throwing the stop-clutch into action so as to connect the feeding mechanism with the driving device, a spring acting on the shifting piece and tending to hold the stop-clutch in condition disconnecting the driving device from the feed mechanism, a trigger to hold the shifting piece in position corresponding with the condition of connection between the driving device and feed mechanism, a dog moving with the sliding chuck and adapted to release the trigger when the sliding chuck has moved a given distance toward the corrugating mechanism, a swinging chuck with its axis coinciding with that of the sliding chuck and adapted to hold the initial end of the tube, and an arm carrying the swinging chuck and mounted for swinging motion on a pivot at right angles to and at one side of the axis of the sliding chuck, combined substantially as set forth.

4. A pipe-curving machine comprising a bed, corrugating mechanism mounted thereon for carrying an inwardly acting corrugating tool around a tube in an orbit eccentric to the axis of the tube, a fixed disk to the rear of said tool, a steady-rest nose surrounding the disk, a sliding chuck adapted to hold the terminal end of the tube and to be advanced toward the corrugating mechanism, a swinging chuck with its axis coinciding with that of the sliding chuck and adapted to hold the initial end of the tube, an arm carrying the swinging chuck and mounted for swinging motion on a pivot at right angles to and at one side of the axis of the sliding chuck, a carriage supporting said arm and adapted for movement in a direction at right angles to the axis of the sliding chuck, and hand mechanism for shifting said carriage, combined substantially as set forth.

5. A pipe-curving machine comprising a bed, corrugating mechanism mounted thereon for carrying an inwardly acting corrugating tool around a tube in an orbit eccentric to the axis of the tube, a fixed disk to the rear of said tool, a steady-rest nose surrounding the disk, a sliding chuck adapted to hold the terminal end of the tube and to be advanced toward the corrugating mechanism, a swinging chuck with its axis coinciding with that of the sliding chuck and adapted to hold the initial end of the tube, an arm carrying the swinging chuck and mounted for swinging motion on a pivot at right angles to and at one side of the axis of the sliding chuck, a carriage supporting said arm and adapted for movement in a direction at right angles to the axis of the sliding chuck, hand mechanism for shifting said carriage, and a latch engaging said arm and adapted to temporarily hold the arm in such position that the swinging chuck is in line with the sliding chuck, combined substantially as set forth.

6. A pipe-curving machine comprising a bed, corrugating mechanism mounted thereon for carrying an inwardly acting corrugating tool around a tube in an orbit eccentric to the axis of the tube, a fixed disk to the rear of said tool, a steady-rest nose surrounding the disk, a sliding chuck adapted to hold the terminal end of the tube and to be advanced toward the corrugating mechanism, a swinging chuck with its axis coinciding with that of the sliding chuck and adapted to hold the initial end of the tube, an arm carrying the swinging chuck and mounted for swinging motion on a pivot at right angles to and at one side of the axis of the sliding chuck, a carriage supporting said arm and adapted for movement in a direction at right angles to the axis of the sliding chuck, hand mechanism for shifting said carriage, a latch engaging said arm and adapted to temporarily hold the arm in such position that the swinging chuck is in line with the sliding chuck, a shifting device for moving the corrugating mechanism transversely of the axis of the sliding chuck, and a projection shifting with the corrugating mechanism and adapted to engage and release said latch when the corrugating mechanism is moved into working position, combined substantially as set forth.

7. A pipe-curving machine comprising a bed, corrugating mechanism mounted thereon for carrying an inwardly acting corrugating tool around a tube in an orbit eccentric to the axis of the tube, a fixed disk to the rear of said tool, a steady-rest nose surrounding the disk, a sliding chuck adapted to hold the terminal end of the tube and to be advanced toward the corrugating mechanism, a swinging chuck with its axis coinciding with that of the sliding chuck and adapted to hold the initial end of the tube, an arm carrying the swinging chuck and mounted for swinging motion on a pivot at right angles to and at one side of the axis of the sliding chuck, a driving device for transmitting rotation to the corrugating mechanism, a stop-clutch between the driving device and corrugating mechanism for transmitting motion from the former to the latter, a hand-controlled shifting piece for putting the stop-clutch to active condition in transmitting motion, a spring acting on the shifting piece and tending to put the stop-clutch to condition disconnecting the power device from the corrugating mechanism, a trigger to hold the shifting piece in adjusted position against the resistance of the spring, and a dog moving with the sliding chuck and adapted to release the trigger when the sliding chuck shall have moved a given distance toward the corrugating mechanism, combined substantially as set forth.

8. A pipe-curving machine comprising a bed, corrugating mechanism mounted thereon for carrying an inwardly acting corrugating tool around a tube in an orbit eccentric to the axis of the tube, a fixed disk to the rear of said tool, a steady-rest nose surrounding the disk, a sliding chuck adapted to hold the terminal end of the tube and to be advanced toward the corrugating mechanism, a swinging chuck with its axis coinciding with

that of the sliding chuck and adapted to hold the initial end of the tube, an arm carrying the swinging chuck and mounted for swinging motion on a pivot at right angles to and at one side of the axis of the sliding chuck, a carriage supporting said arm and adapted for movement at right angles to the axis of the sliding chuck, hand mechanism for shifting said carriage, and a latching device adapted to hold the arm in position with the axis of the swinging chuck at right angles to the axis of the sliding chuck, combined substantially as set forth.

9. A pipe-curving machine comprising a bed, corrugating mechanism mounted thereon for carrying an inwardly acting corrugating tool around a tube in an orbit eccentric to the axis of the tube, a fixed disk to the rear of said tool, a steady-rest nose surrounding the disk, a sliding chuck adapted to hold the terminal end of the tube and to be advanced toward the corrugating mechanism, a swinging chuck with its axis coinciding with that of the sliding chuck and adapted to hold the initial end of the tube, an arm carrying the swinging chuck and mounted for swinging motion on a pivot at right angles to and at one side of the axis of the sliding chuck, a carriage supporting the arm and adapted for movement to and from the axis of the sliding chuck, a hand lever for shifting the carriage, a link connecting said lever with the carriage and adapted for a limited degree of motion independent of the carriage, a latch-part carried by the link, and a latch-part carried by the arm and adapted to engage with the latch-part on the link when the arm has moved the swinging chuck to position with its axis at right angles to the axis of the sliding chuck, combined substantially as set forth.

10. A pipe-curving machine comprising a bed, transversely adjustable corrugating mechanism mounted thereon for carrying an inwardly acting corrugating tool around a tube in an orbit eccentric to the axis of the tube, a fixed disk to the rear of said tool, a steady-rest nose surrounding the disk, a sliding chuck adapted to hold the terminal end of the tube and to be advanced toward the corrugating mechanism, a swinging chuck with its axis coinciding with that of the sliding chuck and adapted to hold the initial end of the tube, an arm carrying the swinging chuck and mounted for swinging motion on a pivot at right angles to and at one side of the axis of the sliding chuck, stops to limit the transverse adjustment of the corrugating mechanism, and a hand operative device for shifting the corrugating mechanism to and from said stops and locking it against one of said stops, combined substantially as set forth.

11. A pipe-curving machine comprising a bed, corrugating mechanism mounted thereon for carrying an inwardly acting corrugating tool around a tube in an orbit eccentric to the axis of the tube, a fixed disk to the rear of said tool, a steady-rest nose surrounding the disk, a sliding chuck adapted to hold the terminal end of the tube and to be advanced toward the corrugating mechanism, a swinging chuck with its axis coinciding with that of the sliding chuck and adapted to hold the initial end of the tube, an arm carrying the swinging chuck and mounted for swinging motion on a pivot at right angles to and at one side of the axis of the sliding chuck, a driving device, transmitting mechanism connecting the driving device and corrugating mechanism, transmitting mechanism connecting the driving device and sliding chuck for automatically advancing the latter, and a hand-operative clutch interposed in the transmitting mechanism between the power device and sliding chuck to permit the sliding chuck to be released from the power device and be moved to and from the corrugating mechanism by hand, combined substantially as set forth.

12. A pipe curving machine comprising a bed, corrugating mechanism mounted thereon for carrying an inwardly acting corrugating tool around the tube in an orbit eccentric to the axis of the tube, a fixed disk to the rear of said tool, a steady-rest nose surrounding the disk, a chuck ring disposed with its axis parallel with the axis of the corrugating mechanism and adapted to fit the exterior of the terminal end of the tube, an expansible plug disposed within the ring and adapted to clamp the tube therein, a conical spreader disposed within the plug, a handle for drawing the spreader endwise and expanding the plug, said ring, plug, spreader and handle constituting a chuck for the terminal end of the tube, a carrier supporting said chuck and adapted to advance the chuck toward the corrugating mechanism, an arm mounted for swinging motion on a pivot at right angles of the axis of said sliding chuck, and a chuck similar to said sliding chuck but supported on said arm, combined substantially as set forth.

13. A pipe-curving machine comprising a bed, corrugating mechanism mounted thereon for carrying an inwardly acting corrugating tool around a tube in an orbit eccentric to the axis of the tube, a disk fixedly supported to the rear of said tool and having its face toward the tool beveled throughout a portion of its periphery, a steady-rest nose surrounding the disk, a sliding chuck adapted to hold the terminal end of the tube and to be advanced toward the corrugating mechanism, a swinging chuck with its axis coinciding with that of the sliding chuck and adapted to hold the initial end of the tube, and an arm carrying the swinging chuck and mounted for swinging motion on a pivot at right angles to and at one side of the axis of the sliding chuck, combined substantially as set forth.

14. A pipe-curving machine comprising a bed, a chuck to hold the terminal end of a tube and adapted for sliding motion axially of the tube, a second chuck to hold the initial end of the tube in line with the first-mentioned chuck, an arm carrying the second chuck and mounted for swinging motion on a pivot at right angles to and at one side of the axis of the first-mentioned chuck, a disk fixedly supported between the two chucks concentric with the axis of the first-mentioned chuck, a steady-rest nose surrounding the disk, a bearing disposed between the two chucks and with its axis eccentric to the axis of the disk, a driving-ring mounted for rotation in said bearing, and a corrugating tool carried by said driving ring and presenting a thin inwardly-acting edge in advance of the steady-rest nose, combined substantially as set forth.

15. A pipe-curving machine comprising a bed, a chuck to hold the terminal of a tube and adapted for sliding motion axially of the tube, a second chuck to hold the initial end of the tube in line with the first-mentioned chuck, an arm carrying the second chuck and mounted for swinging motion on a pivot at right angles to and at one side of the axis of the first-mentioned chuck, a disk fixedly supported between the two chucks concentric with the axis of the first-mentioned chuck, a steady-rest nose surrounding the disk, a bearing disposed between the two chucks and with its axis eccentric to the axis of the disk, a driving-ring mounted for rotation in said bearing, a carrier within said driving-ring, means for adjusting the position of the carrier in the driving-ring, and a corrugating tool carried by said carrier and presenting a thin inwardly-acting edge in advance of the steady-rest nose, combined substantially as set forth.

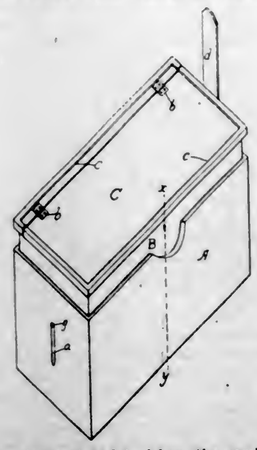
16. A pipe-curving machine comprising a bed, a chuck to hold the terminal end of a tube and adapted for sliding motion axially of the tube, a second chuck to hold the initial end of the tube in line with the first-mentioned chuck, an arm carrying the second chuck and mounted for swinging motion on a pivot at right angles to and at one side of the axis of the first-mentioned chuck, a disk fixedly supported between the two chucks concentric with the axis of the first-mentioned chuck, a steady-rest nose surrounding the disk, a bearing disposed between the two chucks and with its axis eccentric to the axis of the disk, a driving-ring mounted for rotation in said bearing, a carrier secured within the driving-ring and formed with a bearing eccentric to the axis of the driving-ring, a ring-tool disposed within said last-mentioned bearing and presenting a thin inner edge in advance of the steady-rest nose, and means for adjusting the eccentricity and angularity of said thin inner edge relative to the driving-ring, combined substantially as set forth.

17. A pipe-curving machine comprising a bed, a chuck to hold the terminal end of a tube and adapted for sliding motion axially of the tube, a second chuck to hold the initial end of the tube in line with the first-mentioned chuck, an arm carrying the second chuck and mounted for swinging motion on a pivot at right angles to and at one side of the axis of the first-mentioned chuck, a disk fixedly supported between the two chucks concentric with the axis of the first-mentioned chuck, a steady-rest nose surrounding the disk, a bearing disposed between the two chucks and with its axis eccentric to the axis of the disk, a driving-ring mounted for rotation in said bearing, a carrier secured within the driving-ring and formed with a bearing eccentric to the axis of the driving-ring, a ring-tool disposed within said last-mentioned bearing and presenting a thin inner edge in advance of the steady-rest nose, an annular series of rolls between the ring-tool and its bearing, and means for adjusting the eccentricity and angularity of said thin inner edge relative to the driving-ring, combined substantially as set forth.

18. A pipe-curving machine comprising a bed, a chuck to hold the terminal end of a tube and adapted for sliding motion axially of the tube, a second chuck to hold the initial end of the tube in line with the first-mentioned chuck, an arm carrying the second chuck and mounted for swinging motion on a pivot at right angles to and at one side of the axis of the first-mentioned chuck, a disk fixedly supported between the two chucks concentric with the axis of the first-mentioned chuck, a steady-rest nose surrounding the disk, a bearing disposed between the two chucks and with its axis eccentric to the axis of the disk and mounted for adjustment transversely of the axis of the tube, a driving-ring mounted for rotation in said bearing, a ring-tool mounted eccentrically within the driving-ring and presenting a thin inner edge in advance of the steady-rest nose, means for shifting said bearing transversely of the tube, stops to limit the transverse shifting movement of said bearing, and a locking device to hold said bearing in shifted position against one of said stops, combined substantially as set forth.

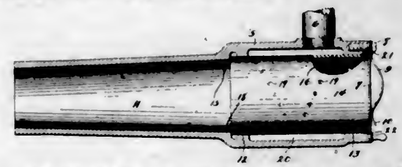
19. A pipe curving machine comprising a device for clamping and advancing the terminal end of the tube, a device for clamping the initial end of the tube and supporting it in movement through a curved path as the tube is bent, a disk to interiorly support an intermediate portion of the tube, a steady-rest nose surrounding the disk, a ring-tool surrounding the tube in advance of the steady-rest nose, mechanism for supporting the ring-tool and carrying it in a circular orbit eccentric to the axis of the disk, and mechanism for progressively and continuously advancing the clamping device at the terminal end of the tube, combined substantially as set forth.

867,381. COMBINATION SEAT AND TOOL-BOX FOR LOCOMOTIVE-CABS. RUDOLPH KOELLE, Sioux City, Iowa. Filed July 6, 1906. Serial No. 324,945.



In a locomotive seat and tool box, the combination with an outer box having slots in the ends thereof, of an inner box adjusted therein, bolts projecting from the ends of the inner box for guidance in said slots, coil springs resting on the bottom of said outer box and supporting said inner box, the springs being graduated in size and height and "nested" or placed one within the other and adapted to act together, a hinged cover for said inner box and means for holding the springs in place in the center of the outer box, substantially as described.

867,382. GAS-BURNER FOR FURNACES. JOHN C. KRIEG, Newark, Ohio, assignor to The Krieg Gas Burner Company, Newark, Ohio, a Corporation of Ohio. Filed Jan. 30, 1907. Serial No. 354,804.



1. In a gas burner, the combination with an outer shell, of a combustion tube located within said shell and spaced therefrom to form a gas chamber between said shell and said tube, there being ports formed in the wall of the combustion tube which establish communication between said gas chamber and the interior of said tube, said ports being directed at an acute angle to the axial line of the tube in the direction of gas flow, but toward said axial line, and said ports being spirally arranged about said tube, and a nozzle projecting from the outer shell, the interior diameter of which is equal to the interior diameter of the combustion tube at their juncture, substantially as described.

2. In a gas burner, the combination with an outer shell, of a combustion tube located within said shell and spaced therefrom to form a gas chamber between said shell and said tube, there being ports formed in the wall of the combustion tube which establish communication between said gas chamber and the interior of said tube, said ports being directed at an acute angle to the axial line of the tube in the direction of gas flow, but toward said axial line, and said ports being spirally arranged about said tube, a nozzle projecting from the outer shell, the interior diameter of which is equal to the interior diameter of the combustion tube at their juncture, and a door adapted to control the admission of air to the rear end of the combustion tube, substantially as described.

3. In a gas burner, the combination with an outer shell which comprises a body portion and an integral nozzle projecting from said body portion; of annular flanges formed upon the inside of the body portion, a combustion tube supported by said flanges, there being a shoulder formed upon the nozzle portion of the burner against which the forward end of said combustion tube abuts, the interior diameter of said combustion tube and the interior diameter of said nozzle portion being equal at their juncture to form a continuous and unbroken wall, a swinging door hinged to the rear end of the casing which is adapted to close the rear end of the combustion tube there being a gas chamber formed by the shell and the outer surface of the combustion tube, there being ports formed through the wall of the combustion tube which establish communication between said gas chamber and the interior of said tube, said ports being spirally arranged about said tube and directed at an acute angle to the axial line of the tube in the direction of gas flow but toward said axial line, substantially as described.

867,383. SOLDER-HEMMED CAP. EDWARD M. LANG, Jr., Portland, Me. Filed Apr. 19, 1906. Serial No. 312,629.

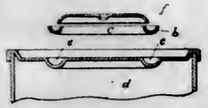
1. A cap having a continuous hem of solder, the under side of said hem being roughened or knurled at repeated intervals, substantially as described.

2. As a new article of manufacture, a cap, the edge of which is provided with a continuous hem of solder, said



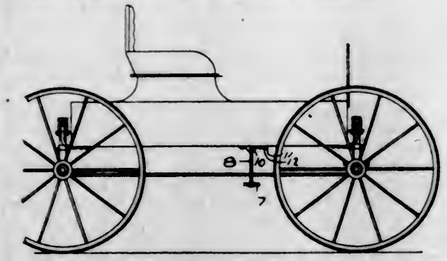
hem being knurled or roughened upon the under side thereof at frequent intervals, substantially as described.

867,384. MANUFACTURED SOLDER. EDWARD M. LANG, Jr., Portland, Me. Filed Dec. 10, 1906. Serial No. 347,172.



As a new article of manufacture, a split solder ring, curved uniformly in cross section to fit around the edge of a can cap, and having a layer of flux therein, entirely inclosed by the solder, substantially as described.

867,385. VEHICLE-STEP. WILSON A. LANNOM, Detroit, Tex. Filed July 6, 1907. Serial No. 382,450.

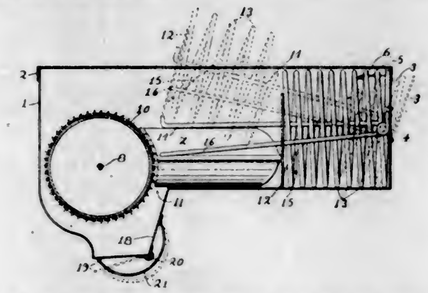


In a device of the class described, the combination, with the bed of a vehicle body, of bearings supported beneath the bed, a step hanger having a portion journaled in the bearings whereby the hanger may have a rocking movement, a tongue formed integral with this portion of the hanger and extending forwardly from the same and in position to rest against the under side of the bed when the step hanger is in normal position, and a spring coiled around the said portion of the hanger and having one of its ends extended forwardly and turned to underlie the tongue and its opposite end extended rearwardly and bearing against the under side of the bed substantially as described and for the purpose set forth.

867,386. SOAP HOLDER AND GRATER. JOHN J. LEE, Minneapolis, Minn. Filed Apr. 15, 1907. Serial No. 368,196.

1. The combination with a holder and a follower within said holder, of a rotary grater within said holder, means for rotating said grater, a spring compressed between said holder and said follower to press the soap against said grater, a receptacle for receiving the soap in powdered form from said grater, and automatic means suitably mounted upon the holder for intermittently discharging the soap in powdered form from said receptacle, substantially as described.

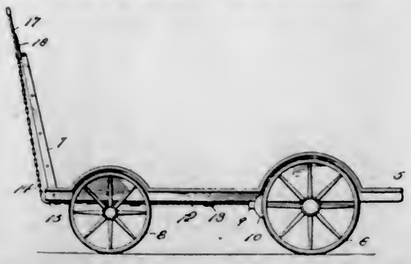
2. The combination with a holder and a follower within said holder, of a rotary grater mounted within said holder, a crank for operating said grater, a spring compressed between said holder and said follower to press the soap against said grater, a receptacle for receiving the soap in powdered form from said grater, a hinged bottom in said receptacle, and automatic means suitably mounted upon the holder for intermittently opening and closing said bottom to discharge the soap in powdered form, substantially as described.



3. The combination with a holder and a follower within said holder, of a rotary grater mounted within said holder, a crank for operating said grater, a spring compressed between said holder and said follower to press the soap against the grater, a receptacle for receiving the soap in powdered form from said holder, a hinged bottom in said receptacle and means suitably mounted upon the holder for yieldingly holding said bottom closed, a notched disk carried by said holder, an arm carried by said crank for engagement with said notched disk to cause the same to rotate by a step by step movement, and a cam finger secured to said bottom and adapted to be engaged by said notched disk to open said bottom to discharge the soap in powdered form, substantially as described.

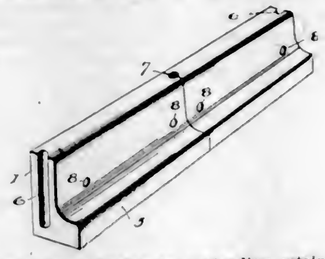
4. The combination with a holder and a follower within said holder, of a rotary grater mounted within said holder, a crank for operating said grater, a spring compressed between said holder and said follower to press the soap against the grater, a receptacle for receiving the soap in powdered form from said holder, a hinged bottom in said receptacle, a spring for holding said bottom closed, a notched disk carried by said holder, an arm carried by said crank for engagement with said notched disk to cause the same to rotate by a step by step movement, an adjustable pin secured to said notched disk, and a cam finger secured to said bottom and adapted to be engaged by said adjustable pin to intermittently open said bottom to discharge the soap in powdered form, substantially as described.

867,387. WAGON-BRAKE. LOUIS C. LEOPOLD, Hancock, Iowa. Filed Aug. 10, 1906. Serial No. 330,086.



The combination with a wagon, of transverse brake beams pivoted between their ends and carrying brake shoes at their outer ends, the inner ends of said brake beams being spaced away, an operating rod supported longitudinally beneath said wagon for axial sliding movement, toggle links having common pivotal connection with said rod between the ends thereof, and having pivotal connection with the inner ends of said brake beam, a retractile coil spring fixed rearwardly of said rod and having an end connected to the rear ends of said rod, a lever pivoted to a stationary support and formed with a crank arm extending angularly from said pivot and transversely of said wagon, the end of said crank arm being designed for movement in an arc in a vertical plane, a pulley supported at the front end of said wagon, and a chain trained over said pulley and having connection with the end of said crank arm and with the forward end of said rod.

867,388. CURBING. SOLOMON W. LERCH, Manasquan, N. J., assignor of one-half to John M. Braly, Villapark, N. J. Filed Feb. 21, 1907. Serial No. 358,583.

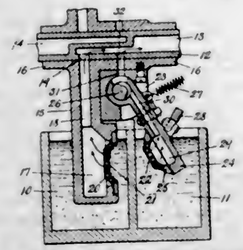


1. A curb block having an upstanding retaining wall portion and an angular foot extension disposed at right angles to the body of the block, half round vertical bonding grooves in the ends of the block, and hand hold openings formed in the face of the block.

2. A curb block comprising a flat base portion and a retaining wall portion at one edge thereof upstanding at right angles therefrom, the base and wall provided with recesses therein to form bonding connection with the filling material of the street and curb.

3. A curb block comprising a flat base portion and a retaining wall portion upstanding from one edge thereof, the base and wall provided with recesses therein to form bonding connection with the material of the street and curb, the ends of the block provided with vertical bonding grooves and the face of the block having hand hold openings therein.

867,389. PROCESS OF MAKING FORMED PULP VESSELS. WILLIAM A. LORENZ, Hartford, Conn., assignor of one-half to Joseph Merritt, Hartford, Conn. Filed Feb. 25, 1907. Serial No. 359,071.



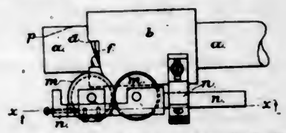
1. The process of making a formed double layer pulp vessel from two grades of pulp-stuff, consisting of dipping a depressed pervious mold-form into a primary vat containing one grade of pulp-stuff, and depositing a layer of pulp thereon; dipping a correspondingly raised pervious mold-form into a secondary vat containing another grade of pulp-stuff and depositing a layer of pulp thereon; removing both mold-forms from the vats, and bringing the two mold-forms with the deposited layers together, thereby nesting the layers, and uniting them into a single vessel composed of two grades of pulp.

2. The process of making a formed double layer pulp vessel from two grades of pulp-stuff, consisting of dipping a depressed pervious mold-form into a primary vat containing one grade of pulp-stuff, and depositing a layer of pulp thereon; dipping a correspondingly raised pervious mold-form into a secondary vat containing another grade of pulp-stuff and depositing a layer of pulp thereon; removing both mold-forms from the vats, and bringing the two mold-forms with the deposited layers together, thereby nesting the layers, and uniting them by transferring one layer upon the other and thus forming a single vessel composed of two grades of pulp.

3. The process of making a formed double layer pulp vessel from two grades of pulp-stuff, consisting of dipping a depressed pervious mold-form into a primary vat containing one grade of pulp-stuff, and depositing a layer of pulp thereon; dipping a correspondingly raised pervious mold-form into a secondary vat containing another grade of pulp-stuff and depositing a layer of pulp thereon; removing both mold-forms from the vats, and bringing the two mold-forms with the deposited layers together, thereby nesting the layers, and uniting them by pressure into a single vessel composed of two grades of pulp.

4. The process of making a formed double layer pulp vessel from two grades of pulp-stuff, consisting of dipping a depressed pervious mold-form into a primary vat containing one grade of pulp-stuff, and depositing a layer of pulp thereon; dipping a correspondingly raised pervious mold-form into a secondary vat containing another grade of pulp-stuff and depositing a layer of pulp thereon; removing both mold-forms from the vats, and bringing the two mold-forms with the deposited layers together, thereby nesting the layers, and uniting them into a single vessel, and drying the completed article.

867,390. COILING-MACHINE. MARCELLUS C. LOVEJOY, Portland, Me., assignor to Edward M. Lang, Jr., Portland, Me. Filed Feb. 27, 1904. Serial No. 195,543.



1. In a device of the character described, the combination of a shaft, a former adapted to slide upon said shaft, a track adjacent said shaft, and an anti-friction device carried by said former and engaging said track, substantially as described.

2. In a device of the character described, the combination of a shaft, a former adapted to slide upon said shaft and having a recess upon its periphery, an interlocking rod adapted to register with said recess, a track adjacent said shaft, and an anti-friction device whereby said rod may slide freely with said former and lock it against rotation, substantially as described.

3. In a device of the character described, the combination with a shaft having a slot therein adapted to temporarily hold the free end of the coil, of a former provided with a longitudinal opening to receive said shaft, and having a recess upon its periphery, an interlocking rod, one end of which is adapted to enter said recess, a sleeve disposed upon the other end, and a pair of parallel bars adjacent said shaft, between which said sleeve on said rod is adapted to travel, substantially as described.

4. In a device of the character described, the combination with a former having a recess in its face, of means jacent said shaft, between which said sleeve on said rod is for feeding the material into said recess under tension, comprising a frame secured to said former, a pair of rollers mounted in said frame, having oppositely disposed flanges, whereby the material is fed through between the faces of said rollers and the flanges, substantially as described.

5. In a device of the character described, the combination with a former having a recess in its face, of means for feeding the material into said recess under tension, comprising a frame secured to said former, a pair of rollers

mounted in said frame having oppositely disposed flanges, and means for adjusting said rollers to regulate the tension, substantially as described.

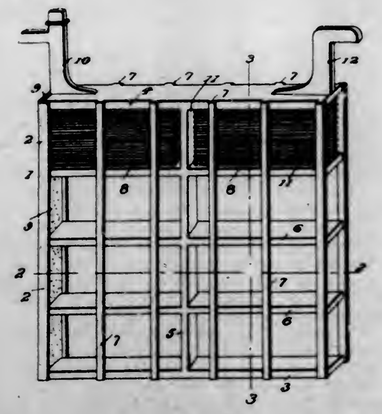
6. In a device of the character described, the combination of a rotatable shaft having a central opening to receive said shaft, an annular recess in one end extending from said central opening to the exterior wall, said wall having an opening to admit the material to said annular recess and means whereby said former is prevented from revolving while free to slide upon said shaft, substantially as described.

7. In a device of the character described, the combination with a rotatable shaft, having a slot therein adapted to hold the free end of the material, of a former having a central opening to receive said shaft, and an annular recess in one end extending from said central opening to an exterior wall, said exterior wall having an opening to admit the material to said annular recess, means for admitting the material under tension, comprising a pair of suitably mounted rollers having oppositely disposed flanges, and means for adjusting said rollers to regulate the tension, substantially as described.

8. In a device for coiling a ribbon of solder upon its edge upon a shaft or mandrel, the combination with a rotatable shaft, of a former having a central opening to receive said shaft, and an annular recess in one end extending from said central opening to the exterior wall, said wall having an opening to admit the material to said recess, means for feeding the material under tension, comprising a pair of suitably-mounted rollers having oppositely-disposed flanges, and means for adjusting said rollers to regulate the tension, substantially as described.

9. In a device of the character described, the combination with a rotatable shaft, of a former having a central opening to receive said shaft, and an annular recess in one end extending from said central portion to the exterior wall of said former, said wall having an opening to admit the material to said recess, means for feeding the material under tension into said recess, comprising a pair of suitably-mounted rollers having oppositely-disposed flanges, and means for adjusting said rollers to regulate the tension of the feed, substantially as described.

867,391. STORAGE-BATTERY PLATE OR GRID. JOSEPH MARX, Buffalo, N. Y. Filed Jan. 30, 1907. Serial No. 354,927.

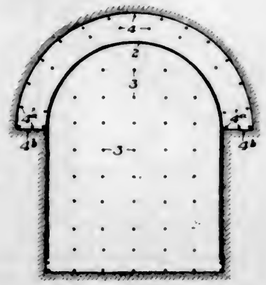


1. A storage battery plate, comprising a frame embodying spaced side bars, bottom and top bars and an intermediate bar, horizontally extending shelves and vertically extending spaced ribs on both sides of said shelves, and units adapted to be held between said shelves and ribs, as and for the purpose specified.

2. A storage battery plate or grid, consisting of a frame provided with end openings and with a series of superposed shelves and with ribs on both sides of said shelves, units adapted to be inserted in the end openings of the frame between said shelves and the ribs, and frame elements 9 to which the said units are adapted to be secured.

3. A storage battery plate or grid, comprising a frame provided with a series of superposed shelves and ribs extending vertically on both sides of said shelves, the ribs being spaced from each other with respect to the ribs on the same side of a shelf, and units held between said shelves and said ribs, with spaces 11 around the units, as and for the purpose set forth.

867,392. METHOD OF TUNNELING. DAVID MAXWELL, Detroit, Mich. Original application filed Aug. 25, 1904, Serial No. 222,040. Renewed Feb. 4, 1907, Serial No. 355,724. Divided and this application filed Mar. 4, 1907. Serial No. 360,350.



1. The herein described method of tunneling, which consists in preliminarily cutting or drilling to outline the cross-section of the tunnel, and also drilling exteriorly of such cross-section at the top of the tunnel, and subsequently dislodging and removing the material contained in the outlined area and in the exteriorly drilled area; substantially as described.

2. The herein described method of tunneling, which consists in first cutting or drilling around a cross-section of the material to be removed and removing the material so outlined, and concurrently with the advance of the tunnel excavating and removing additional material at the upper portion of the tunnel but exteriorly of the tunnel proper; substantially as described.

3. The herein described method of tunneling which consists in outlining the tunnel proper by a channel cut and also drilling an enlarged space at the top of the tunnel outside the channel cut, and then blasting out the material within the channel cut and at the outside; substantially as described.

4. The herein described method of tunneling which consists in outlining the tunnel proper by a channel cut, and also drilling outside of the channel cut above and around the upper portion of the same, and then removing the material within the channel cut and that which has been drilled outside of said cut, the removal within the cut being effected from the top downwardly and the removal outside of the cut being effected from the center outwardly; substantially as described.

5. The herein described method of tunneling which consists in outlining the tunnel proper by a channel cut and also drilling outside of, above and around the upper portion of such cut, then blasting and removing the material within said cut and from the outside drilled area, the blasting and removal of the latter being conducted from the center outwardly; substantially as described.

6. The herein described method of tunneling, which consists in outlining the tunnel by a channel cut, forming a series of blast-holes extending from the top to the bottom of the face of the rock, blasting out by successive blasts the entire face of the rock, and removing the dislodged material; substantially as described.

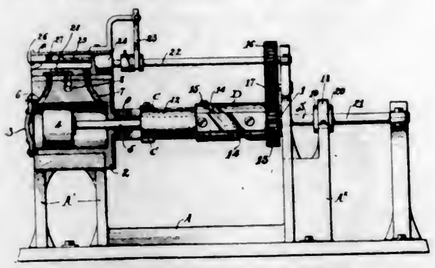
867,393. BEARING FOR PEDALS. GORDON MERRITT, Ridgewood, N. J., assignor to Hammacher, Schlemmer & Company, New York, N. Y., a Corporation of New Jersey. Filed Dec. 28, 1906. Serial No. 349,803.



1. In a pedal bearing, a pair of bearing members each having a resilient loop portion, a pair of tubular wooden bushings each having a flange at one end, each bushing being inserted in a loop with its flange engaging one end thereof and retained in the loop by the resilient structure thereof, and a pedal pin having its extremities rotatable in the wooden bushings.

2. In a pedal bearing, a pedal pin, a pair of bearing members each formed of a flat strip having a resilient loop portion at one end, tubular wooden bushings each having a flange at one end, the bushings being inserted in the loop portions of the bearing members and securely retained therein by the resilient structure of the loops, the end portions of the pin being rotatable in said wooden bushings, with the flanges of the bushings adjacent the pedal.

867,394. STEAM-ENGINE. FRANK H. MILLS, Camden, N. J. Filed Dec. 23, 1903. Serial No. 186,287.



1. In an engine of the class recited, a cylinder, a piston and piston rod therefor, a rotatable power shaft in alinement therewith, an end-thrust bearing therefor, a cam-grooved sleeve and actuating pin therefor operatively mounted between the piston rod and power shaft, a steam chest cylindrically bored, with inlet and exhaust passages leading therefrom to the engine cylinder, a hollow cylindrical valve having ports and passages adapted to be brought into register with the ports and passages of the steam chest, a valve-actuating shaft parallel with the rotatable power shaft of the engine, with power transmitting devices intermediate said power shaft and valve actuating shaft.

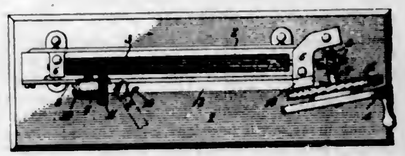
2. In an engine of the class recited, a cylinder and piston rod, a rotatable power shaft operatively supported in alinement therewith, means to directly rotate said power shaft by the reciprocatory movement of the piston rod, said means comprising a hollow sleeve the peripheral wall of which is provided with a reversely-set spiral cam-groove having inwardly inclined walls, and an actuating cam pin provided with a rotatable collar in operative engagement with said cam groove, power transmitting gearing carried by said power shaft, valve-actuating mechanism in substantial parallelism with said power shaft, and a hollow valve actuated thereby and having inlet and exhaust ports governing the steam ports and passages of the piston cylinder.

3. In combination with the engine cylinder, piston, piston rod, a rotatable power shaft, a thrust-bearing therefor, means to effect alinement of said elements, a cam-grooved sleeve and actuating cam pin therefor between the power shaft and the piston rod, gearing upon the power shaft communicating through a pinion with other gearing, a rotating valve stem driven by the latter, a steam chest cylindrically bored, with inlet and exhaust passages leading therefrom to the engine cylinder, and a cylindrical hollow plug-valve rotating therein and having inlet and exhaust ports and passages adapted to register with the ports and passages in the steam chest.

4. In combination with the engine cylinder, a piston movable therein, a piston rod, a sleeve adapted to receive said piston rod, connections between said sleeve and piston-rod whereby said sleeve is rotated through the reciprocation of said piston rod, a power shaft in alinement with said sleeve; connections between said sleeve and shaft for driving the latter from the former, valve actuating mechanism for controlling the supply of steam to the cylinder and connections between the aforesaid sleeve and said valve actuating mechanism for operating the latter.

5. In combination with the engine cylinder, a piston therein, a piston rod, a sleeve adapted to receive said piston rod, connections between said piston rod and sleeve, whereby said sleeve is rotated through the reciprocation of the piston rod, said connections comprising a cam groove in said sleeve and a coöperating pin on said piston rod, valve actuating mechanism for controlling the supply of steam to the cylinder and suitable connections between said sleeve and said valve actuating mechanism whereby the latter is operated.

867,395. PENCIL-SHARPENER. JAMES H. MORRISON, Dayton, Ohio. Filed May 18, 1906. Serial No. 317,436.



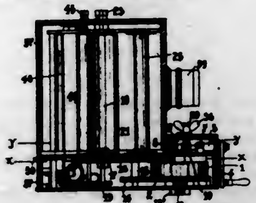
1. A pencil sharpener embodying a longitudinally movable gear carrying a pencil-holding member, a cutter, a spirally toothed shaft meshing with the gear, and means for actuating the shaft to impart rotary and longitudinal motions to the gear.

2. In a pencil sharpener, a rotary cutter, a holder for the pencil to be sharpened, a spiral toothed shaft, a gear meshing therewith for simultaneously rotating and feeding the pencil holder, means for rotating the cutter and shaft, and a supporting frame.

3. In a pencil holder, the combination of a rotatable member, and a coiled wire for engaging the pencil.

4. In a pencil holder, the combination of a rotatable element, a wire carried thereby which is adapted to coil around the pencil to be sharpened, and serrations provided on the wire which grip the pencil.

867,396. PANORAMA-CAMERA. AUGUST MÜLLER and JOHANN KLEIN, Rhöndorf-on-the-Rhine, Germany. Filed June 5, 1906. Serial No. 320,242.

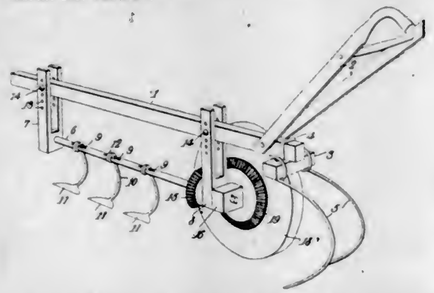


1. In a panorama-camera of the kind described, the combination of a main motive-spring and a second motive-spring, an independent rotatable case for each spring, means whereby the main spring revolves the camera, a

film-spool, a film receiving-spool, and means whereby the second spring rotates the latter, substantially as set forth.

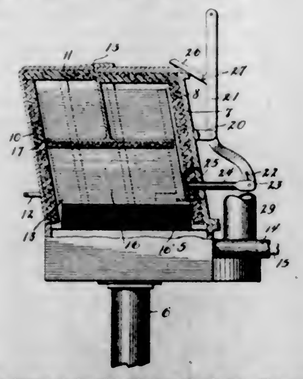
2. In a panorama-camera of the kind described, the combination with the rotatable shaft of the camera, and the film feeding and receiving spools, of a main spring, and a case therefor suitably coupled with the shaft of the camera, a pair of feed-rollers, and suitable connections between said rollers and the spring case, a second spring and the case therefor, suitably coupled with the shaft of the film receiving spool, substantially as set forth.

867,397. COTTON-CHOPPER. JOEL S. MURRAY, Brushy Creek, Tex., assignor of one-half to Ezen H. Scarborough, Brushy Creek, Tex. Filed Nov. 27, 1906. Serial No. 345,320.



A cotton chopper comprising a beam, hangers supported thereby, a shaft journaled in the hangers and provided with longitudinally-disposed slots, choppers having their shanks longitudinally adjustable in the slots and coiled around the shaft to provide friction-acting clamps to hold the shanks in adjusted positions when the machine is in operation, and means for rotating the shaft.

867,398. FURNACE FOR HEATING NAIL-PLATES. WILLIAM S. MYERS, Ashland, Ky., assignor to Norton Iron Works, Ashland, Ky., a Corporation of Kentucky. Filed June 8, 1907. Serial No. 377,872.



1. In a furnace for heating nail plates, the combination with a heat producing element, of a movable support having an overhanging rear wall against which the rear ends of the nail plates lie, and means for moving said support bodily toward the front of the furnace.

2. In a furnace for heating nail plates, the combination with a heat producing element, of a movable support having an overhanging rear wall against which the rear ends of the nail plates lie, means for moving said support bodily toward the front of the furnace, and means for locking said support at its forward limit of movement.

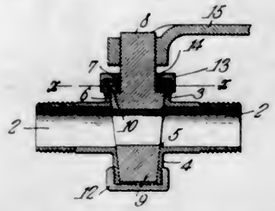
3. The combination with a furnace for heating nail plates, of a door for the front of said furnace, a movable support adapted to support a pile of nail plates, said support having an inclined rear wall against which the piles of nail plates lie, and means controllable from the exterior of the furnace for moving said support toward the front of the furnace.

4. The combination with a furnace for heating nail plates, of a door for the front of said furnace, a movable support adapted to support a pile of nail plates, said support having an inclined rear wall, means controllable from the exterior of the furnace for moving said support toward the front of the furnace, and means for locking said support at its forward limit of movement.

5. In a furnace for heating nail plates, the combination with a heat producing element, of abutments located above and at each side of said heat producing element, movable supports mounted upon said abutments and adapted to support piles of nail plates, and means controllable from the exterior of the furnace for sliding said supports upon said abutments.

6. In a furnace for heating nail plates, the combination with a heat producing element, of abutments located above and at each side of said heat producing element, movable supports mounted upon said abutments and adapted to support piles of nail plates, and means controllable from the exterior of the furnace for sliding said supports upon said abutments, said supports having inclined rear walls.

867,399. PLUG-VALVE. MICHAEL J. MCGILL, Park City, Utah. Filed Feb. 27, 1907. Serial No. 359,602.

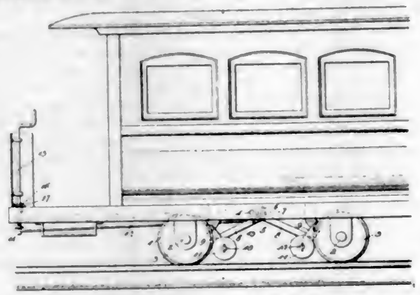


A valve comprising a casing having a tapered seat extending therethrough, the large end of the seat being counterbored, both ends of said seat being open, a screw cap surrounding and engaging the small end of the seat and constituting a closure therefor, a tapered plug valve bearing upon the seat and having a stem at the large end thereof, there being an annular shoulder surrounding the stem, a ring bearing upon the shoulder and disposed within the counterbored portion of the seat, a key engaging said ring and the counterbored portion to prevent rotation of the ring, and a nut surrounding and detachably engaging the large end of the seat and disposed to bear upon the ring and force it against the shoulder.

867,400. BRAKE MECHANISM. ROBERT J. MCINTYRE, Allentown, Pa. Filed June 17, 1907. Serial No. 379,444.

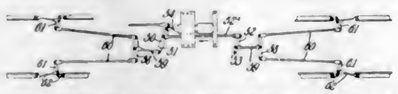
1. The combination with a wheeled truck adapted to run on a track, of vertically disposed hangers arranged beneath said truck adjacent the wheels thereof, transversely disposed axles supported by said hangers, brake wheels journaled to said axles in position to engage the track rails and vehicle wheels, and a mechanism coacting with said hangers and axles for maintaining the brake wheels in disengagement with the track rails and vehicle wheels.

2. The combination with a wheeled truck adapted to run on a track, of a transversely disposed rock shaft arranged between the front and rear truck wheels, brake wheels journaled below the truck frame in position to engage the peripheries of the truck wheels and the track rails, means for connecting said brake wheels with the rock shaft, and means carried by the truck for rocking the rock shaft in either direction to throw the brake wheels in and out of engagement with the truck wheels and track rails.



3. The combination with a truck adapted to run on a track, of a transversely disposed rock shaft arranged between the front and rear truck wheels, vertically disposed hangers free for limited endwise movement pivotally connected beneath the truck frame adjacent the truck wheels, means for connecting the hangers with said rock shaft, brake wheels journaled to said hangers in position to engage the truck wheels and track rails, and means for rocking the rock shaft in either direction to throw said brake wheels in and out of engagement therewith.

867,401. BEAMLESS-BRAKE MECHANISM. JAMES B. MCKIEL, Marshall, Tex. Filed July 9, 1907. Serial No. 382,869.



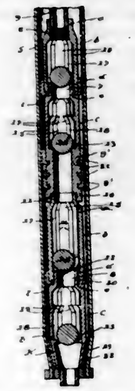
1. In a beamless brake, brake shoe levers, brake shoes carried thereby, a floating lever for each pair of brake shoe levers, tension rods connecting the floating lever to the brake shoe lever, primary and secondary brake levers, and tension rods connecting the primary and secondary levers to the floating levers.

2. In beamless brakes, a pair of brake shoe levers, brake shoes thereon, a floating lever arranged between and pivotally connected to both brake shoe levers, tension rods connecting the floating lever to the brake shoe levers, and a tension rod for operating the floating lever.

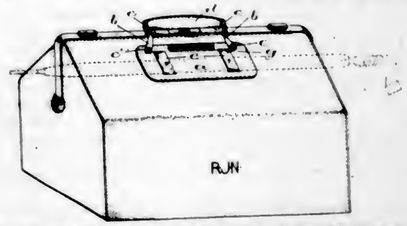
3. In beamless brakes, a pair of vertically swinging levers, pivot lugs on which said levers are mounted, brake shoe heads pivoted to the lower ends of said levers, brake shoes carried by the head, a floating lever arranged between the two vertically pivoted levers, and tension rods connecting said lever to the floating lever.

867,402. PUMP-VALVE. RICHARD B. MCMAKIN, Clayton, N. Mex. Filed Sept. 21, 1904. Serial No. 225,333.

A lifting-pump and its cylinder or penstock provided with a standing valve and a piston or suction valve, each of said valves being of dual construction and each comprising two valve-cages one above the other and each cage having a valve seat, a ball valve in each cage adapted to rest closely upon the seat, each valve cage being appreciably larger in diameter than the diameter of the ball-valve the bars of the valve-cage having wide interspaces between its bars extended down to the plane of the valve-seat, and the valve-cage being widely spaced from the pump-cylinder above the plane of the valve seat, whereby an obstruction dropped into the penstock and lodging upon or being caught by one valve of a dual set, and rendering it inoperative, will leave the other valve undisturbed, and at a successive operation of the pump the obstruction will be released from the valve upon which it was caught and allowed to drop through the wide interspaces in the valve-cage to the valve below, and eventually be discharged from the valves.

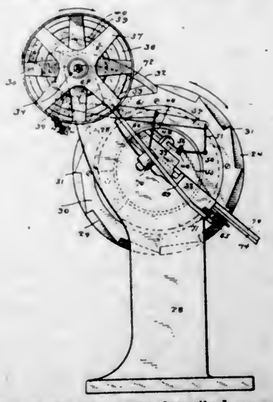


867,403. UMBRELLA AND WALKING-STICK ATTACHMENT. REGINALD J. NEWSON, Toronto Junction, Ontario, Canada. Filed Jan. 29, 1907. Serial No. 354,684.



The hereinbefore described article of manufacture comprising, an elongated stiff body part, suspender straps connected to the body part for detachably connecting it to the handle loops of a suit case, bag or grip, and other straps connected to the body part intermediate its ends to yieldingly hold the article carried thereby.

867,404. AUTOMATIC FEEDING-MACHINE. AXEL H. NILSON, Bridgeport, Conn., assignor to The A. H. Nilson Machine Company, Bridgeport, Conn., a Corporation of Connecticut. Filed Feb. 8, 1907. Serial No. 356,387.



1. A device of the character described comprising a rotating barrel having buckets by which the articles to be

fed are carried upward, an inclined frame within the barrel upon which the articles drop and which is provided with a receiving groove that can only receive them in proper position, gates upon the frame above the receiving groove which normally form a pocket for the articles as they slide down the frame and operating mechanism by which the gates are opened to permit the articles that do not pass into the receiving groove to drop into the barrel.

2. A device of the character described comprising a rotating barrel having buckets by which the articles to be fed are carried upward, an inclined frame within the barrel upon which the articles drop and which is provided with a receiving groove that can only receive them in proper position, gates upon the frame above the receiving groove which normally form a pocket for the articles as they slide down the frame and operating mechauism by which the gates are opened to permit the articles that do not pass into the receiving groove to drop into the barrel, and are held open for a predetermined time and are then closed.

3. A device of the character described comprising a rotating barrel having buckets by which the articles to be fed are carried upward, an inclined frame within the barrel upon which the articles drop and which is provided with a receiving groove that can only receive them in proper position, gates upon the frame above the receiving groove which normally form a pocket for the articles as they slide down the frame and operating mechanism by which the gates are opened successively, for the purpose set forth, and are then closed.

4. A device of the character described comprising a rotating barrel having buckets by which the articles to be fed are carried upward, an inclined frame within the barrel upon which the articles drop and which is provided with a receiving groove that can only receive them in proper position, upper and lower gates upon the frame above the receiving groove, mechanism for opening the upper gate, retaining it open for a predetermined time and then closing it and mechanism for opening the lower gate after the upper gate has been opened, retaining it open a predetermined time, and then closing it.

5. In a machine of the character described the combination with a standard, a barrel carried thereby and provided with internal buckets for the purpose set forth, and mechanism for rotating the barrel, of a frame rigidly secured to the standard and projecting into the barrel at an incline to the axis of the barrel, said frame being provided with a receiving groove which can only receive the articles to be fed in one position, upper and lower gates hinged to the frame, which in the closed position form a pocket for the articles above the receiving groove and means for opening the gates to permit articles that have not passed into the receiving groove to drop into the barrel.

6. In a machine of the character described the combination with a standard and a rotating barrel having internal buckets, of an inclined frame projecting into the barrel and provided with a receiving groove for articles to be fed, hinged gates upon the frame which permit articles that do not pass into the receiving groove to drop into the barrel and an agitating rod in the frame lying in contact with articles in the receiving groove whereby clogging of the articles is prevented.

7. In a machine of the character described the combination with a standard, a rotating barrel and mechanism for imparting intermittent rotation to the barrel, of a frame secured to the standard and projecting into the barrel at an incline, said frame being provided with a receiving groove, gates hinged to the frame above the receiving groove and forming a pocket for the purpose set forth, mechanism for opening and closing the gates at predetermined times, for the purpose set forth, and an agitating rod reciprocating in the frame whereby articles in the receiving groove are prevented from clogging.

8. In a machine of the character described the combination with the standard, the barrel having a ratchet, the inclined frame projecting into the barrel and provided with a receiving groove, and gates hinged to the frame, of a shaft carrying cams 39 and 40 and a disk 41, connections intermediate the cams and the gates whereby the latter are opened and closed and a pawl pivoted to the disk and engaging the ratchet on the barrel whereby intermittent rotation is imparted thereto.

9. In a machine of the character described the combination with the standard, the barrel having a ratchet, the inclined frame projecting into the barrel and provided with a receiving groove, gates hinged to the frame and the agitating rod, of a shaft carrying cams 38, 39 and 40 and a disk 41, connections intermediate cams 39 and 40 and the gates whereby the latter are opened and closed, a pawl pivoted to the disk and engaging the ratchet on the barrel, for the purpose set forth, and a rock lever engaging cam 38 and the agitating rod whereby the latter is reciprocated.

10. In a machine of the character described the combination with the standard, the barrel having a ratchet, the inclined frame projecting into the barrel and provided with a receiving groove, and gates hinged to the frame, of a shaft carrying cams 39 and 40 and a disk 41, levers engaging the cams, connections intermediate the levers and the gates whereby the latter are opened and closed and a pawl pivoted to the disk and engaging the ratchet on the barrel, substantially as described, for the purpose specified.

11. In a machine of the character described the combination with a rotating barrel having internal buckets, a frame projecting into the barrel at an angle to the axis thereof and provided with a receiving groove, and gates upon the frame which permit articles that do not pass into the groove to drop into the barrel, of a trough connected to the receiving groove and provided with a turn so that articles will change ends in passing from the groove to the trough and a guide strip under which the articles pass and by which they are retained in the trough.

12. In a machine for feeding corset eyes with rivets set therein, the combination with a rotating barrel having internal buckets, an inclined frame projecting into the barrel and provided with a receiving groove that can only receive the lower ends of the eyes when the rivets project upward and gates upon the frame which permit the eyes that do not pass into the groove to drop into the barrel, of a trough connected to the groove and provided with a turn in which the eyes change ends and the rivet ends drop downward, and a guide strip secured to the trough centrally under which the eyes pass with the rivets on opposite sides thereof.

13. In a machine of the character described the combination with an inclined frame having a receiving groove that can only receive articles in one position, means for supplying articles to the frame and hinged gates upon the frame which permit articles that do not pass into the groove to drop off, of a trough connected to the receiving groove into which the articles pass.

14. In a machine for feeding corset eyes with rivets set therein, the combination with an inclined frame having a receiving groove that can only receive the lower ends of the eyes when the rivets project upward, means for supplying eyes to the frame and gates upon the frame which permit eyes that do not pass into the groove to drop off, of a trough connected to the receiving groove and provided with a turn in which the eyes change ends and the rivet ends drop downward and a central guide strip secured to the trough under which the eyes pass with the rivets on opposite sides thereof.

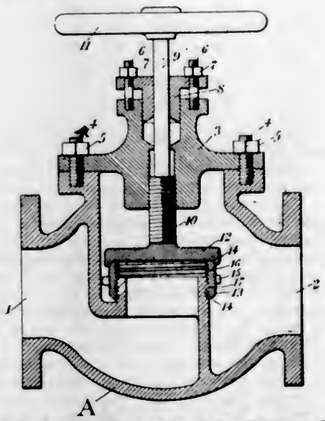
15. In a machine of the character described, the combination with a rotating barrel having buckets on its inner periphery, of a frame extending into the barrel and inclined downward and outward, said frame being provided with a receiving groove for the purpose set forth, a gate 46 hinged to the frame and mechanism for opening and closing said gate, substantially as described, for the purpose specified.

16. In a machine of the character described, the combination with a rotating barrel having buckets on its inner periphery, of a frame extending into the barrel and inclined downward and outward, said frame being provided with a receiving groove for the purpose set forth, gates 46 and 47 hinged to the frame and mechanism for opening and closing said gates, substantially as described, for the purpose specified.

17. In a machine of the character described, the combination with a rotating barrel having buckets on its inner periphery, of a frame extending into the barrel at an incline, for the purpose set forth, gates 46 and 47 hinged to the frame which in the closed position form a pocket into which articles drop from the buckets before passing to the receiving groove and mechanism for opening and closing the gates.

18. In a machine of the character described, the combination with a rotating barrel having buckets on its inner periphery, of a frame extending into the barrel at an incline and provideo with a receiving groove, gates 46 and 47 hinged to the frame which in the closed position form a pocket into which articles drop from the buckets before passing to the receiving groove, mechanism for opening and closing the gates and a rod reciprocating in the frame whereby articles in the receiving groove are prevented from clogging.

867,405. VALVE. CHARLES F. OBRECHT, Baltimore, Md. Filed Feb. 9, 1907. Serial No. 356,505.

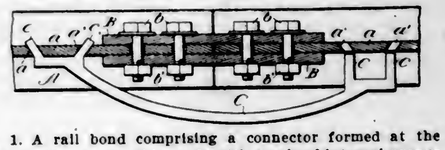


1. The combination in a valve of the character described, comprising a body portion provided with an inlet and outlet therein, of a bonnet secured on the body portion, a gland secured within the bonnet, a spindle provided with a wheel on the upper end thereof, the said spindle being extended through the bonnet and the said gland secured thereinto, the lower end portion of the said spindle being screw threaded and provided with a valve disk secured on the end thereof, an interiorly threaded collar, lugs exteriorly provided on the said collar, valve seats formed on the upper and lower edges of the said collar, an internal threaded body portion upon which the said collar is secured, the threads on the said internal body portion being oppositely disposed from those on the end of the spindle upon which the valve disk is secured, substantially as described.

2. The combination in a valve of the character described, comprising a body portion and a collar, of a valve seat formed on the upper and lower edges of the said collar, lugs exteriorly provided on the collar, screw threads inwardly provided within the said collar, an internal threaded body portion upon which the said collar is secured, a screw threaded spindle provided with a valve disk on the lower end thereof, the threads on the spindle being oppositely disposed from those on the said internal body portion and within the said collar, substantially as described.

3. The combination in a valve of the character described, and a collar, of valve seats provided on the upper and lower edges of the said collar, screw threads inwardly provided within the said collar, a threaded valve stem, a valve disk secured on the lower end of the said valve stem, the said threads on the valve stem being oppositely disposed from those within the said collar, lugs exteriorly provided on the said collar for the purpose of adjustment and removal, substantially as described.

867,406. RAIL-BOND. LEWIS T. PATES, Upper Alton, Ill. Filed Dec. 26, 1906. Serial No. 349,561.



1. A rail bond comprising a connector formed at the inner side of each of its ends with a pair of integral prongs adapted to be laterally deflected for the purpose set forth.

2. A rail bond provided at the inner side of its ends with pairs of nut embracing jaws and prongs projecting from the inner ends of the jaws.

3. The combination with the rail ends each having an inclined aperture formed complete in the body of the metal, of a rail bond comprising a connector provided with prongs at its ends forced into said apertures and bent thereby, whereby the separation of the rail ends can not effect the displacement of the prongs.

4. The combination with rail ends having pairs of oppositely inclined apertures, of a rail bond comprising a connector having pairs of prongs forced into said apertures and bent in opposite directions thereby.

5. The combination with rail ends having inclined apertures in their webs, of a rail bond comprising a connector having prongs at its ends forced into said apertures and bent thereby, against displacement.

6. The combination with rail ends having pairs of apertures the aperture of each pair being oppositely inclined, of a rail bond comprising a connector having pairs of prongs forced into said apertures and bent correspondingly thereby.

7. The combination with rail ends, fish plates, bolts and nuts; the plates and the rail webs having pairs of registering apertures at opposite sides of said bolts, of a rail bond having pairs of nut engaging jaws at its ends and a prong projecting from every jaw and adapted to be forced into the apertures.

8. The combination with rail ends, fish plates, bolts and nuts; the plates and rail webs having pairs of registering inclined apertures at opposite sides of the bolts, of a rail bond having pairs of nut engaging jaws at its ends and a prong projecting from every jaw and adapted to be forced into the apertures and bent apart.

867,407. TURBINE-WHEEL. JOHANN F. M. PATITZ, Milwaukee, Wis., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Filed Oct. 19, 1903, Serial No. 177,663. Renewed Mar. 24, 1905. Serial No. 251,736.

1. A turbine-vane provided with flanges at the vane ends extending beyond the concave side of the vane, said flanges being beveled outwardly as to steam flow, and being provided with fastening means for the vanes, substantially as described.

2. A turbine vane, flanges at the vane ends extending beyond the concave side of the vane, and pins on the flanges for fastening the vane.

3. A turbine vane provided with flanges at the vane ends extending beyond the concave side of the vane, said flanges being beveled outwardly as to steam flow and fastening means on the flanges for holding the vane.

4. A turbine wheel consisting of a hub and two side plates and vanes inserted between the plates and fastened thereto, said vanes consisting of a central curved part, end flanges extending to the outer lines of the curved part, beveled portions on the flanges affording increasing cross section of steam passage, and fastening means on the flanges and co-acting with the side plates of the wheel.

5. A turbine wheel comprising a hub, side plates attached to said hub, and flanged vanes rigidly held between the side plates the flanges being formed to provide nozzle passages between the vanes.



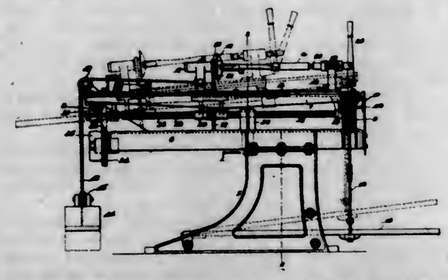
6. A wheel including annular side plates, a hub upon which the plates are mounted, and vanes peripherally mounted between the side plates, the plates being ported for exhaust and for balancing.

7. The combination with a turbine shaft, of a turbine running wheel having an interior cavity and apertures in both side walls communicating with the exterior at the sides of said wheel and between the shaft and the periphery of the wheel; said wheel being provided with peripheral vanes arranged for the inward delivery of motive fluid to said cavity, and the interior wall-faces of said cavity being substantially parallel.

8. The combination with a turbine shaft, of a turbine running wheel having an interior cavity and apertures in both side walls communicating with the exterior at the sides of said wheel and between the shaft and the periphery of the wheel; said wheel being provided with peripheral vanes arranged for the inward delivery of motive fluid to said cavity, and the interior wall-faces of said cavity being substantially parallel adjacent to the vanes.

9. The combination with a turbine shaft, of a turbine running wheel comprising parallel side disks; vanes interposed between the peripheral portions of said disks; and nozzles arranged for the inward delivery of motive fluid to the vanes and the interior space between said disks; said disks being both provided with apertures, of greater capacity than the capacity of the nozzles.

867,408. AUTOMATIC HAMMER-HANDLE-SANDING MACHINE. FREDERICK A. PHELPS, Newark, N. J., assignor to The Atha Tool Company, a Corporation of New Jersey. Filed Nov. 12, 1906. Serial No. 343,144.



1. An apparatus for sanding work, having a support, a tilting platform pivoted thereto, and a sliding carriage, means for supporting the work upon the carriage, means for moving the carriage along the platform, and means for tilting the platform.

2. A device for sanding work, comprising a support, a tilting platform, a sliding carriage and means for supporting the work upon the carriage, a screw moving with the carriage, means for rotating the screw, and a fixed nut on the support.

3. A device for sanding work, comprising a support, a tilting platform, a sliding carriage on the tilting platform, a shaft, a screw depending from the carriage, a fixed nut on the support, gears for rotating the shaft and a connection between the shaft and the gears to permit the shaft sliding within the gears, and a fixed nut on the support.

4. A device for sanding work, comprising a support, a tilting platform thereon, a sliding carriage on the platform, means for supporting the work on the sliding carriage, such means being rotatable, a screw mounted on the carriage, means for rotating the screw, connections between the screw and the work supporting means for rotating it and a fixed nut on the support.

5. A device for sanding work, comprising a support, a tilting platform, a sliding carriage on the tilting platform, a shaft, a screw depending from the carriage, a fixed nut on the support, gears for rotating the shaft and a connection between the shaft and the gears to permit the shaft sliding within the gears, and means for supporting the work upon the sliding carriage and means for rotating the work, such means being operated from the shaft.

6. A device for sanding work, comprising, in combination, a supporting and tilting platform, a sliding carriage on the platform, means for tilting the platform, a latch for preventing tilting, and means for moving the carriage to disengage the latch.

7. In a device for sanding work, the combination of a support and a tilting platform, a sliding carriage on the platform, a work-holding means on the carriage, means for rotating the work-holding means, a shaft, a screw on the carriage and moving with it, a fixed nut on the support, connections between the shaft and the work-supporting means for rotating the latter, means for rotating the shaft, means for tilting the carriage, a latch for preventing tilting, means carried by the carriage for freeing the latch, and means for moving the carriage in the opposite direction to the movement caused by the screw.

8. In a device for sanding work, the combination of a support, a tilting platform, pedal and connections for tilting the platform, springs for raising the platform, a latch for holding the platform in position, a sliding carriage on the platform, means for supporting the work on the carriage, a shaft, a screw on the carriage, connections between the shaft and the work-supporting means for rotating the latter, a fixed nut on the support adapted to engage with the screw when the platform is lowered, an adjustable pin on the carriage adapted to engage with the latch and free the latter, a weight and flexible connections for returning the carriage to its initial position after the latch has been tripped.

9. An apparatus for sanding work, having a supporting frame, a tilting platform thereon, a sliding carriage, a chuck carried on the carriage for supporting one end of the work, a tail-stock for supporting the other end of the work, and means for automatically centering the work on the tail-stock.

10. An apparatus for sanding work, having a supporting frame, a tilting platform thereon, a sliding carriage, a chuck for supporting one end of the work, means for revolving the work, a tail-stock for supporting the other end of the work and a cup for automatically centering one end of the work on the tail-stock center.

11. An apparatus for sanding work, having a supporting frame, a tilting platform thereon, a sliding carriage, a chuck for supporting one end of the work, means for revolving the work, a tail-stock, a cup for engaging the end of the work, and a cam for engaging the cup with the work and for disengaging it therefrom.

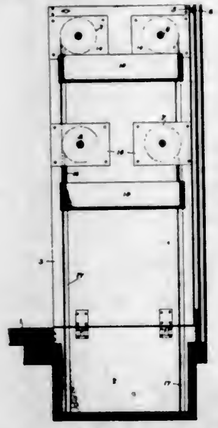
12. An apparatus for sanding work having a supporting frame, a tilting platform thereon, a sliding carriage, a chuck for supporting one end of the work, means for revolving the work, a tail-stock, a cup for engaging the end of the work, and for engaging the cup with the work and for disengaging it therefrom, a center, and a cam for moving the center into and out of engagement with the work.

13. An apparatus for sanding work, having a supporting frame, a tilting platform thereon, a sliding carriage, a chuck for supporting one end of the work, means for revolving the work, a tail-stock, a cup for engaging the end of the work, a cam for engaging the cup with the work and for disengaging it therefrom, a center, a cam for moving the center into and out of engagement with the work, and a spring for forcing the center into more intimate contact with the work.

14. In an apparatus for sanding work, the combination with an endless sanding belt, of a frame projecting beneath the belt, a platform secured to the frame and movable relatively thereto, a carriage mounted on the platform and movable relatively thereto, means for holding the work on the carriage, means on the platform for moving the carriage relatively thereto, means carried by the carriage for disengaging the platform from the frame, and means carried by the platform for moving the carriage relatively to the platform and the platform relatively to the frame.

15. In an apparatus for sanding work, the combination with an endless sanding belt, of a frame, a platform secured to the frame and movable relatively thereto, a carriage mounted on the platform and movable relatively thereto, means on the carriage for holding the work, means for moving the carriage relatively to the platform, means for disengaging the platform and frame, such means being actuated by the movement of the carriage and means for moving the platform relatively to the frame.

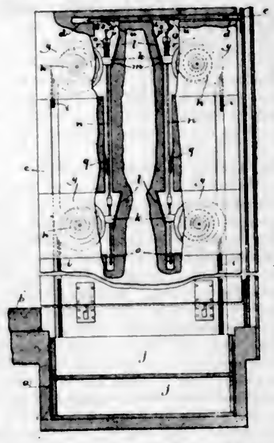
867,409. BERTH-RAISING MECHANISM FOR RAILWAY-CARS. GEORGE H. POOR, Portland, Me., assignor, by mesne assignments, to The American Palace Car Company, Portland, Me., a Corporation of Maine. Filed Dec. 7, 1905, Serial No. 290,815. Renewed Feb. 28, 1907. Serial No. 359,826.



1. In a railway car, a car body, and pockets below the floor of the car body, combined with trap doors each hinged at opposite ends of the pockets, means permitting the trap doors being arranged when recumbent to form part of the car floor and when held upright to constitute section partitions to support berths, spring actuated drums in the trap doors, and connections from the drums to the berths, substantially as described.

2. In a railway car, a trap door forming part of the floor system of the car, plates on the faces of the door, and means for holding the door upright, combined with an arbor pivoted in the plates, a drum pivoted on the arbor, a spring secured to the arbor and drum, means for winding the spring, a ratchet and pawl to maintain the tension of the spring, a cord having one end secured to the drum, devices to guide the cord on the rim of the drum and a berth fastened to the other end of the cord, substantially as described.

867,410. DEVICE FOR LOCKING THE DRUMS OF SLEEPING-CAR BERTHS. GEORGE H. POOR, Portland, Me., assignor, by mesne assignments, to The American Palace Car Company, Portland, Me., a Corporation of Maine. Filed Dec. 7, 1905, Serial No. 290,817. Renewed Feb. 28, 1907. Serial No. 359,828.



1. In a railway car, pockets below the floor of the car, trap doors hinged at the floor line and devices for supporting the said doors from the side of the car, combined with spring drums in the doors, berths hung from cords wound about the spring drums, and means to lock and free the said spring drums substantially as described.

2. In a railway car, a trap door and a bolt to hold the door in upright position, combined with winding drums mounted in the door, plates on the door inclined toward the drums, pawls supported between the drums and plates, and means to wedge the pawls between the drums and plates to interrupt the motion of the drums, substantially as described.

3. In a railway car, pairs of berth supporting drums and devices for locking the drums, combined with means for adjusting the locking devices of each pair of drums to act in unison, substantially as described.

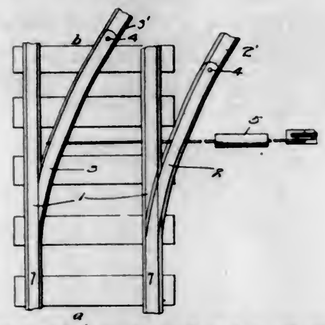
4. In a railway car, a trap door, a bolt to position the door in a car, and toothed drums having winding springs and cords to support berths, combined with pawls attached to rods mounted in guides in the door, plates to direct the pawls into contact with the drums, and connections to actuate the pawls from the bolt, substantially as described.

5. In a railway car, trap doors, bolts to position the doors in a car, and spring drums to support berths, combined with pawls to lock the drums, bell-cranks connected with the pawls, and tappets on the bolts to actuate the pawls at some positions of the said bolts, substantially as described.

867,411. RAILWAY-SWITCH. EUGENE M. REILY, Marshfield, Wis. Filed Oct. 19, 1904. Serial No. 229,129.

1. The combination, with the rails of the main track and the rails of the siding, of the switch rails pivoted at one end to the respective ends of the siding-rails, their free ends being adapted to be moved into contact with the main rails to form a connection therewith the said main

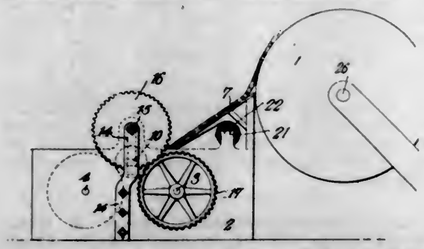
rails having at all times free tread surfaces where the siding rails are brought into contact therewith and to be moved away from said main rails to break said connections, a rod connected with both of the said pivoted switch-rails, and a balanced spring mechanism with which said rod is also connected and means also for moving the said rod and rails manually.



2. The combination, with the rails of the main track and the rails of the siding, of the switch rails pivoted at one end to the respective ends of the siding-rails, their free ends being adapted to be moved into contact with the main rails to form a connection therewith the said main rails having at all times free tread surfaces where the siding rails are brought into contact therewith and to be moved away from said main rails to break said connections, a rod connected with both of the said pivoted switch-rails, a balanced spring mechanism with which said rod is also connected, and a manually operated lever and operable connections between the same and the balanced spring mechanism for setting the switch.

3. The combination, with the rails of the main track and the rails of the siding, of the switch rails pivoted at one end to the respective ends of the siding-rails, their free ends being adapted to be moved into contact with the main rails to form a connection therewith the said main rails having at all times free tread surfaces where the siding rails are brought into contact therewith and to be moved away from said main rails to break said connections, a rod connected with both of the said pivoted switch rails, a balanced spring mechanism with which said rod is also connected, and a manually operated lever and operable connections between the same and the balanced spring mechanism for setting the switch, the said lever and its connection and the balanced spring mechanism being located outside of the track rails.

867,412. ATTACHMENT FOR LINTER-GINS. WILLIAM REINHARDT and HENRY W. BAYLISS, Memphis, Tenn. Filed Jan. 12, 1907. Serial No. 351,995.



1. An attachment for linter gins comprising a take-up roll, means for detachably securing a paper web thereto, means extending longitudinally above a portion of the web for directing linters upon the web from the gin, and means operated by the gin for positively rotating and shifting the take-up roll to wrap the linters and web thereon in alternate layers.

2. An attachment for linter gins comprising a sectional take-up roll for clamping upon a paper web, means for directing linters from the gin and on to the web, means operated by the gin for positively rotating the take-up roll to wrap the linters and web thereon in alternate layers, and means for positively shifting the roll to maintain the outer layer of material constantly in the same plane.

3. An attachment for linter gins comprising a take-up roll, means for securing a paper web thereto, supporting rolls disposed beneath and adapted to contact with the paper web, and means operated by the gin for rotating the take-up roll to wrap the linters and web thereon in alternate layers, said means adapted to gradually shift the take-up roll to maintain the outer layer of material thereon in contact with the supporting rolls.

4. An attachment for gins comprising a take-up roll, means for detachably securing a paper web thereto, a spiral gear, a gear rotatable with the take-up roll and meshing with the spiral gear, and means operated by the gin for rotating the spiral gear to simultaneously and positively rotate the take-up roll and shift it perpendicularly to its axis.

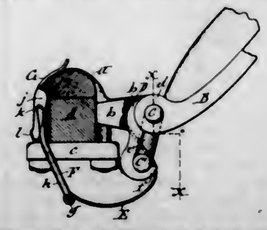
5. An attachment for linter gins comprising guides, a take-up roll mounted therebetween, means for detachably securing a paper web to said roll, spiral gears adjacent the roll, gears upon the roll and meshing with the spiral gears, and means operated by the gin for rotating the spiral gears to positively rotate the take-up roll and shift it perpendicularly to its axis.

6. An attachment for linter gins comprising guides, a take-up roll mounted therebetween, means for detachably securing a paper web to said roll, spiral gears adjacent the roll, gears upon the roll and meshing with the spiral gears, means operated by the gin for rotating the spiral gears to rotate the take-up roll and shift it perpendicularly to its axis, means for directing linters from the gin on to the web, and supporting rolls adjacent the take-up roll.

7. An attachment for linter gins comprising a sectional take-up roll, a paper roll supporting device, said take-up roll adapted to receive and clamp upon a web of paper from the paper rolls, guide standards, boxes therein constituting journals for the take-up roll, gears rotatable with the take-up roll, spiral gears meshing therewith, and means operated by the gin for rotating the spiral gears to simultaneously rotate and shift the take-up roll.

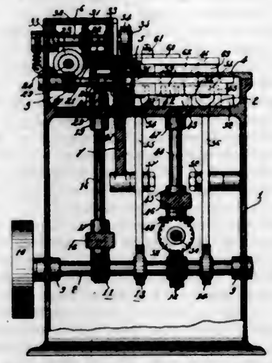
8. An attachment for linter gins comprising a sectional take-up roll, guides, boxes movably mounted within the guides and constituting journals for the rolls, gears rotatable with the take-up roll, spiral gears meshing with and adapted to simultaneously rotate and shift the gears of the take-up roll, means for attaching a paper web to the take-up roll, means for directing linters from the gin on to the web, and means operated by the gin for rotating the spiral gears.

867,413. THILL-COUPLING. HERMAN M. REYNOLDS, Oneida, N. Y. Filed Feb. 15, 1905, Serial No. 245,694. Renewed Mar. 20, 1907. Serial No. 363,505.



In a thill-coupling of the class herein described, the combination with the anti-rattler spring formed with a transverse sleeve on its rear end, of a link having a straight transverse end portion pivotally embraced by said sleeve and having its longitudinal portions terminating in hook-shaped deflections, and a locking-lever consisting of a transverse bar seated on the top of the rear end of the clip-bar, longitudinal bars extending from the ends of said transverse bar and perforated at their upper ends and receiving therethrough the hooks of the link, and a thumb-piece extending upward from the longitudinal bars of the lever and uniting said bars as set forth and shown.

867,414. CARVING-MACHINE. FRANCIS H. RICHARDS, Hartford, Conn. Filed Jan. 20, 1903. Serial No. 139,798.



1. In a carving machine, the combination of a support, a carrier slidably mounted upon said support, said carrier having an upstanding narrowed waist portion thereon, a table having a portion for surrounding said waist portion and permitting a circuitous movement of said carrier, an upstanding flange on said table, and a bed mounted upon the top of said upstanding portion overhanging said upstanding flange.

2. In a carving machine, the combination of a frame, a carrier slidably mounted on said frame and provided with radial arms contacting said frame, a narrow waist portion upstanding from said carrier, said frame having a portion for surrounding said waist portion for permitting a circuitous movement of said carrier, said frame contacting the upper surfaces of said arms, an upstanding flange on said frame, and a bed mounted upon the top of said waist portion and overhanging said flange.

3. In a carving machine, the combination of a frame, a carrier slidably mounted upon said frame, a portion upstanding from said carrier, a table mounted on said frame and surrounding said portion for permitting a circuitous movement of said carrier, said table contacting the upper surface of said carrier.

4. In a carving machine, the combination of a support, a carrier slidably mounted on said support and having an upstanding narrow waist portion, a table mounted on said support and surrounding said portion for permitting a circuitous movement of said carrier, and an overhanging bed mounted on the top of said portion.

5. In a carving machine, the combination of a frame, a carrier slidably mounted on said frame and having a narrow upstanding waist portion, a table mounted on said frame to contact the upper surface of said carrier and surrounding said narrow waist portion for permitting a circuitous movement of said carrier, and an overhanging bed mounted on top of said portion.

6. In a carving machine, the combination of a frame, a carrier slidably mounted thereon and having an upstanding portion, a table mounted on said frame, and contacting the upper surface of said carrier and surrounding said portion for permitting a circuitous movement of said carrier, a flange upstanding from said table, and a bed mounted on the top of said portion to overhang said upstanding flange.

7. In the carving machine, the combination of a frame, a carrier slidably mounted on said frame, a portion upstanding from said carrier, a table mounted on said frame adapted to contact the upper surface of said carrier and apertured to surround said portion and permit of a circuitous movement of said carrier, a bed mounted on the top of said portion to overhang said aperture, means for imparting a reciprocating motion in one direction to the said carrier, and separate means for simultaneously imparting a reciprocating motion transversely of said first reciprocating motion to said carrier to produce a resultant circuitous movement of said carrier.

8. In a carving machine, the combination of a frame, a carrier slidably mounted upon said frame, an upstanding portion on said carrier, a table mounted upon said frame, contacting the upper surface of said carrier and surrounding said portion and permitting a circuitous movement of said carrier, an overhanging bed mounted on the top of said portion to overhang said aperture, transverse guideways in the under surface of said carrier, rocking levers engaging one of said guideways, a crank engaging the other of said guideways, and suitable connections for producing by the movement of said levers and said crank a resultant movement of said carrier in a circuitous path.

9. In a carving machine, the combination of a support, a carrier slidably mounted on said support, an upstanding portion on said carrier, a table mounted on said support and contacting the upper surface of said carrier and surrounding said portion for permitting a circuitous movement of said carrier, an overhanging bed mounted on the top of said portion, transverse guideways in the under surface of said carrier, a crank mounted in said frame engaging one of said transverse guideways, rocking levers mounted on said support and engaging the other of said transverse guideways, and driving mechanism operatively connected to rotate said crank and to simultaneously rock said levers organized and timed to produce a resulting circuitous movement of said carrier having a diametral velocity uniform throughout an appreciable distance in one direction.

10. In a carving machine, the combination of a frame, a plurality of raised bearing surfaces upon said frame, a cruciform carrier mounted with its arms slidably supported on said surfaces, a table mounted on said frame above said carrier, depending bearing surfaces on said table contacting the upper surfaces of the arms of said carrier, and means for imparting a circuitous translation to said carrier within the limits of the engagement of the arms of said carrier by said bearings.

11. In a carving machine, the combination of a frame, a plurality of bearing surfaces upstanding from said support, a cruciform carrier mounted with its arms slidably supported on said surfaces, an upstanding portion on said carrier, said frame having bearing surfaces contacting the upper surfaces of the arms of said carrier, said frame being apertured to surround said portion and permit of a circuitous translation of said carrier within the limits of the engagement of the arms of said carrier by said bearings, a flange upstanding from said carrier surrounding said aperture, and a bed mounted on the top of said portion to at all times overhang said upstanding flange.

12. In a carving machine, the combination of a frame, a plurality of bearing surfaces on said frame, a cruciform carrier mounted with its arms slidably supported upon said surfaces, a portion upstanding from said carrier, said frame having a plurality of bearing surfaces contacting the upper surfaces of said arms of said carrier, said frame apertured to surround said portion and permit of a circuitous translation of said carrier within the limits of engagement of said arms by said bearings, a bed mounted on the top of said upstanding portion to overhang at all times said aperture, transverse guideways in the under surface of the arms of said carrier, and driving means mounted in said frame and engaging said transverse guideways to impart a resulting circuitous translation to said carrier.

13. In a carving machine, the combination of a frame, a carrier slidably mounted on said frame for movement in one plane only, transverse guideways in the under surface

of said carrier, a shaft mounted in said frame, a crank on said shaft engaging one of said guideways, a driving shaft mounted in said frame and geared to said crank carrying shaft for driving the same, a plurality of cams mounted fast on said driving shaft, a plurality of rocking levers engaging said cams and the other of said guideways in said carrier, and means for maintaining the contact of said cams by said rocking levers all organized and timed to effect a resulting circuitous translation of said carrier, said cams conformed to produce through the medium of said rocking levers a diametral movement of said carrier in one direction of uniform velocity throughout an appreciable distance in the movement of said carrier.

14. In the carving machine, the combination of a frame, a carrier slidably mounted on said frame, transverse guideways in the under surface of said carrier, a shaft mounted in said frame perpendicularly of said carrier, a crank on said shaft engaging one of said guideways, a plurality of rocking levers pivoted on said frame engaging the other of said guideways, a driving shaft mounted in said frame parallelly of the plane of movement of said carrier and that guideway in said carrier engaged by said rocking lever, said driving shaft geared to said crank carrying shaft for driving the same, a plurality of cams mounted fast on said driving shaft adapted to be engaged by said rocking levers and conformed to produce like movements of said rocking levers which movement of said rocking levers shall impart to said carrier a translation of uniform velocity for an appreciable distance in the direction of the planes of movement of said rocking levers, a stock guide on said frame parallel to the plane of movement of said carrier and to the planes of movement of said carrier and to the planes of movement of said rocking levers, a feed roll mounted in said frame in operative positionment with regard to said stock guide, said feed roll geared to said driving shaft to have a peripheral velocity equal to the translation of said carrier by said rocking levers during the period of uniform translation of the said carrier by said rocking levers, said crank timed with said rocking levers to produce a circuitous movement of said carrier.

15. In a carving machine, the combination of a support, a carrier slidably mounted on said frame for movement in one plane only, transverse guideways in the under surface of said carrier, a crank mounted for rotation in said frame and engaging one of said guideways, a plurality of rocking levers pivoted upon said frame and engaging the other of said guideways, a driving shaft mounted for rotation in said support, a plurality of cams driven by said driving shafts and adapted to be contacted by said rocking levers, said cams conformed to produce through said rocking levers a translation of said carrier at uniform velocity in one direction, a stock guide mounted on said frame parallel to the plane of movement of said carrier and to the direction of the translation of said carrier by said rocking levers, a feed roll or feed rolls mounted in operative position to said stock guide, a rotary cutter mounted in operative position to said stock guide and opposite that of said feed rolls, said feed rolls and said rotary cutter geared to said driving shaft to have a peripheral velocity equal to the uniform translation of said carrier by said rocking levers, said crank geared to said driving shaft and timed to produce with said rocking levers a resultant movement of said carriage in a circuitous path.

16. In a carving machine, the combination of a frame, a carrier slidably mounted upon said frame, transverse guideways in the under surface of said carrier, a crank engaging one of said guideways and rocking levers engaging the other of said guideways, said crank and said rocking levers connected and timed to produce a circuitous movement of said carrier having a uniform diametral movement in one direction.

17. In a carving machine, the combination of a frame, a carrier slidably mounted on said frame, transverse guideways in the under surface of said carrier, a crank mounted for rotation in said frame engaging one of said guideways, a plurality of rocking levers pivoted on said frame and engaging the other of said guideways, a driving shaft geared to said crank, cams on said driving shaft adapted to be contacted by said rocking levers, said cams and said crank timed to produce a circuitous movement of said carrier, and a spring between said carrier and said support for maintaining the contact of said rocking levers with said cams.

18. In a carving machine, the combination of a frame, a plurality of studs upstanding from said support, a cruciform carrier mounted with its arms slidably supported upon said studs, an upstanding portion on said carrier, a table mounted on said frame, a plurality of bearing surfaces depending from said table and engaging the upper surfaces of said arms of said carrier, said table apertured to surround said portion and permit of a circuitous translation of said carrier within the limits of the engagement of said arms by said bearings, a flange upstanding from said table and surrounding said aperture, a bed mounted on the top of said portion and overhanging at all times said flange, transverse guideways in the under surfaces of said arms of said carrier, a shaft mounted in said frame perpendicularly of the plane of movement of said carrier, a crank mounted fast on said shaft and engaging one of said guideways, a plurality of rocking levers pivoted on said support engaging the other of said guideways, a driving shaft mounted in said support parallelly of the plane of movement of said carrier and said guideway in said carrier engaged by said rocking levers, said driving shaft geared to said crank carrying shaft, a plurality of cams on said driving shaft adapted to be contacted to said rocking levers, said cams conformed to produce a translation of said carrier through said rocking levers at a uniform velocity for an appreciable distance, said crank and said rocking levers timed to produce a circuitous movement of said carrier, a stock guide on said frame parallel to the plane of movement of said carrier, and to the planes of oscillation of said rocking levers, a feed roll or rolls mounted in operative positionment to said stock guide, a rotary cutter mounted in operative positionment to said stock guide oppositely disposed to said feed rolls, and feed rolls and reciprocatory cutter geared to said driving shaft to have peripheral velocities equivalent to the uniform velocity of the translation of said carrier by said rocking levers, a spring connected to said carrier and to said support for maintaining the contact of said levers with said cams and effecting the retraction of said carrier, and spring pressed presser rolls in connection with said feed rolls.

19. In a carving machine, the combination of a frame, a carrier slidably mounted upon said frame, sai dcarrier having a narrow waist portion thereon, said frame surrounding said portion and permitting a circuitous movement of said carrier, a flange in the frame, and a bed mounted upon said portion overhanging said flange.

20. In a carving machine, the combination of a frame, a carrier slidably mounted on said frame and provided with radial arms contacting said support, a narrow waist portion mounted upon said carrier, a table mounted on said frame and apertured to surround and permit of a circuitous movement of said carrier, said table contacting the upper surfaces of said arms, a flange surrounding said aperture in said table, and a bed mounted upon the top of said portion overhanging the flange.

21. In a carving machine, the combination of a frame, a carrier slidably mounted upon said frame, a narrow waist portion mounted upon said carrier, a table mounted on said frame and apertured to surround said portion and permit of a circuitous movement of said carrier, said table contacting the upper surface of said carrier.

22. In a carving machine, the combination of a frame, a carrier slidably mounted on said frame, a narrow waist portion mounted upon said carrier, a table mounted on said frame and apertured to surround said portion and permit of a circuitous movement of said carrier, and a bed mounted on the top of said portion to overhang said aperture.

23. In a carving machine, the combination of a frame, a carrier slidably mounted on said frame, said frame contacting the upper surface of said carrier and apertured to surround a portion of the carrier and permit of a circuitous movement of said carrier, and a bed mounted on top of said portion to overhang said aperture.

24. In a carving machine, the combination of a frame, a carrier slidably mounted on said frame and having a narrow waist portion, said frame contacting the upper surface of said carrier and surrounding said portion to permit of a circuitous movement of said carrier, a flange upstanding from said frame, and a bed mounted on the top of said portion to overhang said flange.

25. In a carving machine, the combination of a frame, a carrier slidably mounted on said frame and having a narrow waist portion, said frame adapted to contact the upper surface of said carrier and surrounding said portion and permitting a circuitous movement of said carrier, an overhanging bed mounted upon the top of said portion, means for imparting a reciprocating motion in one direction to the said carrier, and separate means for simultaneously imparting a reciprocating motion transversely of said first reciprocating motion to said carrier to produce a resultant circuitous movement of said carrier.

26. In a carving machine, the combination of a frame, having an upstanding column, a carrier slidably mounted upon said support, a narrow waist portion mounted upon said carrier, a table mounted upon said frame to contact the upper surface of said carrier and apertured to surround said portion and permit of a circuitous movement of said carrier, a bed mounted on the top of said column to overhang said aperture, transverse guideways in the under surface of said carrier, a crank engaging one of said guideways and a lever or levers engaging the other of said guideways, and suitable connections for producing by the movement of said levers and said crank a resultant movement of said carrier in a circuitous path.

27. In a carving machine, the combination of a frame, a carrier slidably mounted on said frame, a narrow waist portion mounted upon said carrier, a table mounted on said frame and contacting the upper surface of said carrier and apertured to surround said portion to permit of a circuitous movement of said carrier, a bed mounted on the top of said portion to overhang said aperture, transverse guideways in the under surface of said carrier, a crank mounted in said frame engaging one of said transverse guideways, rocking-levers mounted on said frame and engaging the other of said transverse guideways, a driving mechanism operatively connected to rotate said crank and to simultaneously rock said levers organized in time to produce a resulting circuitous movement of said carrier having a diametral velocity uniform throughout an appreciable distance in one direction.

28. In a carving machine, the combination of a frame, a plurality of studs mounted upon said support, a carrier mounted with its arms slidably supported on said studs, a table mounted on said frame above said carrier, depending studs on said table contacting the upper surfaces of the arms of said carrier, and means for imparting a circuitous translation to said carrier within the limits of the engagement of the arms of said carrier by said studs.

29. In a carving machine, the combination of a frame, a plurality of studs mounted upon said support, a carrier provided with arms slidably mounted on said studs and having a narrow waist portion, a table mounted on said frames above said carrier, depending studs on said table contacting the upper surfaces of the arms of said carrier, said table apertured to surround said waist portion and permit of a circuitous translation of said carrier within the limits of the engagement of the arms of said carrier by said studs, a flange mounted upon said carrier surrounding said aperture, and a bed mounted on the top of said column to at all times overhang said flange.

30. In a carving machine, the combination of a frame, a plurality of studs upstanding from said frame, a carrier mounted with its arms slidably supported upon said studs, a narrowed waist portion mounted upon said carrier, a table mounted on said frame above said carrier, a plurality of studs depending from said table and contacting the upper surfaces of said arms of said carrier, said table apertured to surround said portion and permit of a circuitous translation of said carrier within the limits of engagement of said arms by said studs, a bed mounted on the top of said portion to overhang at all times said aperture, transverse guideways in the under surface of the arms of said carrier, and driving means mounted in said support and engaging said transverse guideways to impart a resulting circuitous translation to said carrier.

867,415. RAIL-BOND. FRANK W. RICHEY, Chicago, Ill., assignor to General Electric Company, a Corporation of New York. Filed Dec. 5, 1902. Serial No. 133,960.



1. A rail bond comprising a body portion and terminal heads, the body portion surrounding a projection upon each of the heads, a plate located over each of said loops and said projections, and each plate being secured in position by an overturned portion of the respective terminal heads compressed upon it.

2. A rail bond comprising a body portion and terminal heads, the body portion surrounding a projection upon each of the heads, a plate located over each of said loops and said projections, each plate being secured in position by an overturned portion of the respective terminal heads compressed upon it, the said body portion, terminal heads and plates being welded together to form a homogeneous structure.

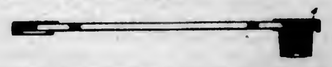
3. A rail bond comprising a body portion provided with loops at its opposite ends, terminal heads each provided with a projection upon its upper end, a flange surrounding each of said projections but separated therefrom by a space in which one of said loops is placed, a plate located over each of said loops and the end of the corresponding projection, said flanges being turned over on the plates, and the terminal heads, loops and plates being welded together.

4. A rail bond comprising a body portion provided with loops at its opposite ends, terminal heads each provided with a projection centrally disposed on its upper end, one of said loops surrounding each of said projections, a plate located over each of said loops and engaging the end of the corresponding projection, a flange surrounding each of said loops and said plates, the edge of said flange being turned over upon the greater portion of the peripheral edges of said plates, the body portion, heads and plates being compacted and welded together into a homogeneous structure.

5. A rail bond comprising a terminal head formed with a projection centrally disposed on one of its ends and a flange surrounding said projection but separated therefrom by a space, a body portion having a portion looped about said projection and located within said flange, and a plate placed over the looped end of the body portion and the end of said projection, said plate being secured to the flange and to the projection.

6. A rail bond comprising a terminal head formed with a projection centrally disposed on one of its ends and a flange surrounding said projection but separated therefrom by a space, a body portion having a portion looped about said projection and located within said flange, and a plate placed over the looped end of the body portion and the end of said projection, said plate being welded to the end of the projection and to the flange.

867,416. ELECTRICAL CONDUCTOR. FRANK W. RICHEY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 10, 1904. Serial No. 192,903.



1. A rail bond comprising a terminal member formed with a projection at one end, a stranded conductor looped

about said projection and a sheet metal cap piece formed with a flange, the top of said cap piece covering one side of the looped end of the flexible conductor and the flange embracing the edges of the end of the stranded conductor and a portion of said member.

2. The method which consists in looping a stranded conductor about a projection at one end of a terminal blank, then covering the top and sides of the looped conductor with a sheet metal cap blank, thereafter compressing the parts together cold to form a substantially solid mass from which all air is excluded and then welding the parts together.

3. In combination, a main terminal member, and a cap blank comprising a portion substantially parallel to the end of said terminal member and having a flange extending part way about and upset upon the periphery of said terminal blank, one of said members being formed with a projection about which a stranded conductor may be looped.

4. A rail bond comprising a terminal member having a flange and a centrally formed projection at one end, a stranded conductor looped about said projection and a sheet metal cap piece covering the looped end of said stranded conductor and a portion of the terminal member, the edge of the flange being embedded in the cap piece.

5. The method which consists in looping a stranded conductor about a projection extending centrally from the dished end of a terminal member, covering the top and sides of the looped conductor and a portion of the terminal member with a sheet metal cap piece, compressing the parts together cold to form a substantially solid mass from which all air is excluded and in such manner as to take the dish out of the end of the terminal member and embed its edges in the cap piece.

6. In combination for use in the manufacture of an electrical conductor comprising a stranded body portion and a solid terminal portion, a cap shaped blank, and a terminal stud having a flange formed at one end of a diameter to fit in said cap blank, the end of the stud and flange being concaved.

7. In the terminal of an electrical conductor, an expanding device comprising a pin having end portions connected by an intermediate reduced portion, and a split bushing surrounding said reduced portion.

8. In the terminal of an electrical conductor, an expanding device comprising a pin having end portions connected by an intermediate reduced portion and a split bushing surrounding said reduced portion, the outer diameter of said bushing being equal to the diameter of said end portions.

9. In the terminal of an electrical conductor, an expanding device, comprising a pin having two end portions and a reduced barrel shaped intermediate portion, and a split bushing closely embracing said barrel shaped portion with its outer surface flush with the outer surfaces of said end portions.

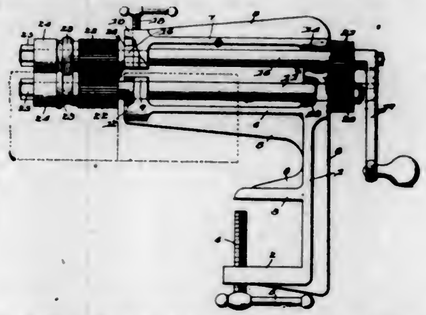
10. In the terminal of an electrical conductor, an expanding device comprising a pin having end portions connected by an intermediate reduced portion, and a bushing surrounding said reduced portion.

11. In the terminal of an electrical conductor, an expanding device comprising a pin having cylindrical portions connected by an intermediate reduced portion, and a bushing embracing said reduced portion, the outer surface of said bushing being flush with the outer surface of said cylindrical end portion.

12. In combination, for use in the manufacture of an electrical conductor comprising a stranded body part and a solid terminal part, a terminal stud having a radial flange, and a cap shaped blank adapted to embrace a portion of the stranded body part and a portion of the periphery of the terminal stud flange.

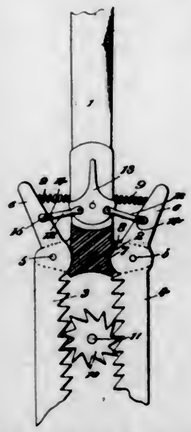
13. The method of securing together a stranded conductor and a slotted terminal blank which consists in inclosing a portion of the terminal and a portion of the stranded conductor in a cup shaped sheet metal blank, thereafter compressing the parts together cold to form a substantially solid mass from which all air is excluded, and then welding the parts together.

867,417. SHEET-METAL-WORKING MACHINE. EDWARD RILEY, Spokane, Wash. Filed Oct. 16, 1905. Serial No. 283,019.



A metal working machine comprising a frame having means for attachment to a fixed object, said frame having a perforation which increases in diameter toward its inner end and forms a bearing, a vertically adjustable bearing located in the frame substantially opposite said perforation, a shaft journaled in said adjustable bearing and said perforation, a means for rotating said shaft, a beveled gear wheel fixed to said shaft, a second shaft journaled for rotation in said frame, a gear wheel fixed to said second shaft and meshing with said beveled gear wheel, work engaging members carried by said shafts, and a beveled cutting disk attached to the first said shaft immediately behind the work engaging member and having its cutting edge overlapping the end of the work engaging member attached to the second said shaft.

867,418. MECHANICAL MOVEMENT. BENJAMIN O. RINGO, Perry, Okla. Filed Dec. 4, 1906. Serial No. 346,320.



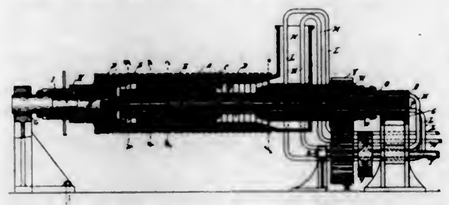
1. In a mechanical movement, the combination of a head adapted to have a reciprocating movement imparted thereto, a pinion, rack bars arranged upon opposite sides of the pinion and having their teeth facing in opposite directions the said rack bars being pivoted to the head and having arms extending beyond their pivot points, a lever pivotally mounted upon the head, and links connecting the lever and the arms of the rack bars, the said links having a pivotal connection with one of the parts and a pin and slot connection with the opposite part.

2. In a mechanical movement, the combination of a reciprocating rod, a head carried by the rod and provided upon opposite sides thereof with depressions, a pinion, a pair of rack bars pivotally mounted upon opposite sides of the head and located upon opposite sides of the pinion, the pivot ends of said rack bars being formed with enlargements fitting loosely within the before mentioned depressions in the head and the said rack bars having their teeth in coöperative relation with the teeth of the pinion, and means for normally holding the rack bars in engagement with the pinion.

3. In a mechanical movement, the combination of a pinion, rack bars located upon opposite sides of the pinion and having their teeth facing in opposite directions and in cooperative relation with the teeth of said pinion, a head mounted to receive a reciprocating movement and having said rack bars pivoted thereto, and having an approximate ball and socket joint between the said rack bars and head, means for holding the rack bars in coöperative relation with the pinion, a lever, and a link connection between said lever and the rack bars to admit of independent pivotal movement of the latter, or of throwing the rack bars out of action as may be required.

4. In a mechanical movement, the combination of a head adapted to have a reciprocating movement imparted thereto, a pinion, rack bars arranged upon opposite sides of the pinion and having their teeth facing in opposite directions and pivoted to the said head, and having arms extended beyond their pivots, springs exerting an outward pressure upon said arms, a lever having pivotal connection with the said head, links between the arms of the rack bars and the said lever and having pivotal connection with one of said parts, and a pin and slot connection with the other of said parts.

867,419. TURBINE ADAPTED FOR THE USE OF COMBUSTIBLE GASES AT VERY HIGH TEMPERATURES. CHARLES ROLLIN, Newcastle-upon-Tyne, England. Filed Jan. 16, 1907. Serial No. 352,612.



1. In gas turbines used for producing motion from the combustion of gas and air, the combination of an outer revolving structure or "rotor", consisting of refractory material, with an outer metallic casing, and an inner stationary structure or "stator" formed of refractory material.

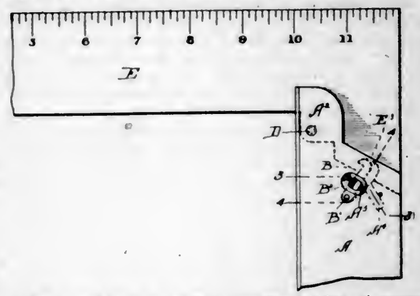
2. In gas turbines used for producing motion from the combustion of gas and air, the combination of an outer revolving structure or "rotor", consisting of refractory material, with an outer casing of steel framing, an inner stationary structure or "stator" consisting of rings and segments of fireclay or other refractory material, and a central steel rod or spindle on which said "stator" is built up.

3. In gas turbines used for producing motion from the combustion of gas and air, the combination of an outer revolving structure or "rotor", an inner stationary structure or "stator", said structures having a combustion chamber at one end and an exhaust at the other end, and fuel ducts passing longitudinally through the body of the "stator" from the exhaust end and opening into the combustion chamber.

4. In gas turbines used for producing motion from the combustion of gas and air, the combination of an outer revolving structure or "rotor", an inner stationary structure or "stator", said structures having a combustion chamber at one end and an exhaust chamber at the other end, and fuel ducts passing first through the exhaust chamber and then longitudinally through the body of the "stator" and opening into the combustion chamber.

5. In gas turbines used for producing motion from the combustion of gas and air, the combination of an outer revolving structure or "rotor", an inner stationary structure or "stator", said structures having a combustion chamber at one end and an exhaust at the other end, ducts passing longitudinally through the body of the "stator" from the exhaust end and opening into the combustion chamber, and means for supplying certain of said ducts with fuel and other of said ducts with air.

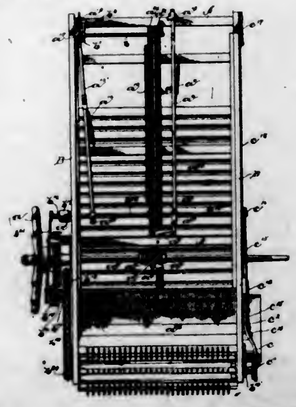
867,420. FOLDING STEEL SQUARE. JOHN ROOP, Carnegie, Pa. Filed July 19, 1906. Serial No. 326,888.



1. The combination with a tongue having a grooved angled end provided with a recess having an opening leading out to one side, of a spring actuated pawl mounted in said recess provided with a lip under said opening, ears projecting out from said end of the tongue, a blade provided with an ear pivoted between said ears of the tongue and having a notched angled end adapted to fit in the groove and over the catch of the tongue for the purpose described.

2. The combination with a tongue provided with a grooved angled end having a recess formed in its bottom having an opening communicating therewith, leading out to one side, of ears projecting out from said end, a blade pivoted between said ears having a notched angled end adapted to fit in the groove of the tongue, and a spring actuated catch mounted in the recess of the groove adapted to engage said notch and provided with a lip on its side under the opening, leading into the recess, for the purpose described.

867,421. MANURE-SPREADER. ELMORE P. ROSS, Springfield, Ohio, assignor to The E. W. Ross Company, Springfield, Ohio, a Corporation of Ohio. Filed Mar. 19, 1906. Serial No. 306,777.



1. In a manure spreader, a main operating device, two sets of driven gear, two controlling devices for said driven

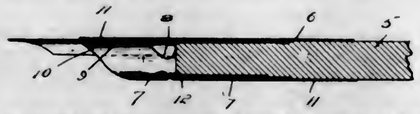
gears and located at one end of the machine, a beater located at the other end of the machine, a web driven by one set of said driven gear, a connecting device for the beater and main operating device located near the center of the machine and in proximity to the main operating device, and means operated by the beater for driving the web, a lock for one of said controlling devices controlled by the connecting device, substantially as specified.

2. In a manure spreader, a main operating device, two sets of driven gear and two controlling devices for said gears, a beater connected to one set and a web connected to the other set, gear connecting the beater with the web, and a controlling device for said last-mentioned gear, an intermediate connecting device connected at one end to said last-mentioned controlling device and at the other end connected to the set of gear between the operating device and the beater and intermediate of the ends having a lock adapted to lock one of the first-mentioned controlling devices, substantially as specified.

3. In a manure spreader, the combination of a main operating device, a beater, a set of gear connecting the beater with the main operating device, a controlling lever for said gear, a web, and a set of gear connecting the web with the main operating device and a controlling lever for said second mentioned gear, a third set of gear connecting the beater with the web, a controlling mechanism for said gear, an intermediate connecting device common to said first-mentioned gear and said third-mentioned gear, and a lock controlled by said intermediate connecting device for said second mentioned gear, substantially as specified.

4. In a manure spreader, the combination of a main operating device, a beater and a set of driven gear connecting the beater with the operating device, a web, and a set of gear connecting the web with the main operating device, separate controlling devices for said driven gears, a third set of gear connecting the beater with the web including a ratchet pawl connection, and a controlling mechanism for said third-mentioned gear, an intermediate device common to the first-mentioned gear and the third-mentioned gear, an operating lock for the second mentioned gear operated by the intermediate device, and adjusting mechanism for the pawl ratchet device operated independent of the controlling mechanism, for the purpose specified.

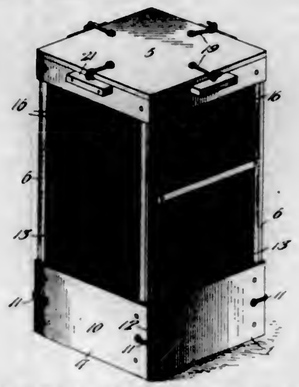
867,422. PENHOLDER. KNUTE G. RUDY, Northfield, Minn. Filed Apr. 14, 1906. Serial No. 311,738.



A pen-ejecting penholder comprising a pen-stock; a fixed sleeve mounted on the forward end of the pen-stock and provided with a longitudinal slot formed in its under side, and with a notch and a narrow slot formed in its upper side, the forward part of the notch being inclined forwardly and upwardly and communicating with the rear end of said narrow slot, and the rear end of said notch being straight and formed on a line coincident with the terminus of the pen-stock, whereby the latter serves to limit the inward movement of the pen-point; and an imperforate sliding sleeve disposed upon the front end of the pen-stock and unconnected therewith, said sleeve covering the fixed sleeve and having a protuberance punched inwardly therefrom on its lower side and extending into the longitudinal slot in said fixed sleeve, whereby the movement of the sliding sleeve in one direction or the other will be limited by the contact of said protuberance with the corresponding end of said slot.

867,423. MEANS FOR CLEARING BEES FROM SUPERS WHEN TAKING SURPLUS HONEY. JOHN H. RUPE, Williamsburg, Kans. Filed Dec. 1, 1905. Serial No. 289,913.

1. A bee clearing device comprising duplicate side and end walls, means for securing said walls together, and a top connected to the upper end of the walls, each of said walls being formed with a plurality of bee escapes having a plurality of spaced walls.



2. A bee clearing device comprising duplicate side and end walls, each formed for a portion of its length of screening material, said material being cut and bent to provide an opening, and a bee guard of conical form and having an outlet at the apex, said guard overlying the opening formed in the screening material.

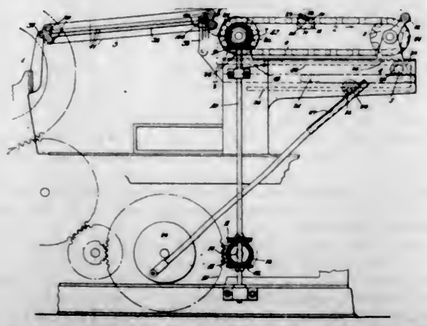
3. A bee clearing device comprising a plurality of walls, latch members for detachably securing said walls together, a cover removably secured to the upper ends of the walls, bee escapes formed in the respective walls, and means carried by the walls to direct the bees toward said escapes.

4. A bee escape for bee clearing devices consisting of a conical guard secured to one wall of the device and overlying an opening formed in the wall, said opening having projecting walls disposed within the guard.

5. A bee escape for bee clearing devices having a screen wall consisting of a conical guard overlying an opening formed in the screen wall, the material of the wall surrounding the opening being projected within the conical guard.

6. A bee escape for bee clearing devices having a screen wall consisting of a conical guard overlying an opening formed in the screen wall, the material of the wall surrounding the opening being projected within the conical guard and spaced from the inner surface of said guard.

867,424. DELIVERY MECHANISM. WALTER SCOTT and DAVID J. SCOTT, Plainfield, N. J. Filed June 18, 1904. Serial No. 213,084.



1. In a printing or other machine, the combination with an endless conveyer, of adjustable means for conveying the sheet to the top or underside of the said endless conveyer, means for driving the endless conveyer in either direction, a gripping mechanism carried by the endless conveyer adjustable to correspond to the direction of movement of the endless conveyer, means for opening and closing the gripping mechanism whereby the sheet can be delivered with the printed side up or down in the same machine.

2. In a printing or other machine, the combination with an endless conveyer, of adjustable conveying means for conveying the sheet to the top or underside of the said endless conveyer, means for driving the said endless conveyer in either direction, an adjustable gripping mechanism traveling with the said conveyer for seizing the sheet at the feeding point, and two sets of cams for releasing the sheet at the delivery point depending upon the direction of movement of the endless conveyer.

3. In a printing or other machine, the combination with an endless conveyer, of adjustable conveying means for conveying the sheet to the top or underside of the said endless conveyer, means for driving the said endless conveyer in either direction, an adjustable gripping mechanism traveling with the said conveyer for seizing the sheet at the feeding point, two sets of cams for releasing the sheet at the delivery point depending upon the direction of movement of the endless conveyer, a collapsible apron below the endless conveyer for receiving the sheet from the endless conveyer, and a delivery board below the apron for receiving the sheet from the said apron.

4. In a printing or other machine, the combination of a cylinder, an endless conveyer, side bars carrying rollers for tapes or the like interposed between the cylinder and endless conveyer, a pivot supporting said bars adjacent to the cylinder, and means for adjustably securing the said bars adjacent to the endless conveyer to deliver the sheets either to the top or underside of the said endless conveyer.

5. In a printing or other machine, the combination with an endless conveyer, of a gripping mechanism carried by the same for delivering the sheet with the printed side down, means for causing the said gripping mechanism to seize the sheet at the feeding point of the said conveyer, means for causing the said gripping mechanism to release the sheet after it is turned over, a collapsible apron below the endless conveyer for receiving the sheet from the endless conveyer, and means below the apron for receiving the sheet from the said apron.

6. In a printing or other machine, the combination with an endless conveyer, of means for conveying the sheet to the top of the said endless conveyer, a gripping mechanism carried by the said endless conveyer for delivering the sheet with the printed side down, means for causing the said gripping mechanism to seize the sheet at the feeding point of the said conveyer, means for causing the said gripping mechanism to release the sheet after it is turned over, a collapsible apron below the endless conveyer for receiving the sheet from the endless conveyer, and means below the apron for receiving the sheet from the said apron.

7. In a printing or other machine, the combination with an endless conveyer, of a gripping mechanism carried by the same for delivering the sheet with the printed side down, means for causing the said gripping mechanism to seize the sheet at the feeding point of the said conveyer, means for causing the said gripping mechanism to release the sheet after it is turned over, a collapsible apron below the endless conveyer for receiving the sheet from the endless conveyer, means below the apron for receiving the sheet from the said apron, and a stop interposed between the endless conveyer and apron for preventing the sheet from adhering to the gripping mechanism.

8. In a printing or other machine, the combination with an endless conveyer, of means for conveying the sheet to the top of the said endless conveyer, a gripping mechanism carried by the said endless conveyer for delivering the sheet with the printed side down, means for causing the said gripping mechanism to seize the sheet at the feeding point of the said conveyer, means for causing the said gripping mechanism to release the sheet after it is turned over, a collapsible apron below the endless conveyer for receiving the sheet from the endless conveyer, means below the apron for receiving the sheet from the apron, and a stop interposed between the endless conveyer and apron for preventing the sheet from adhering to the gripping mechanism.

9. In a printing or other machine, the combination with an endless conveyer, of adjustable conveying means for conveying the sheet to the top or underside of the said endless conveyer, means for driving the said endless conveyer in either direction, a reversible gripper frame having grippers traveling with the said conveyer, two sets of cams, one set on each side of the machine for opening the grippers to seize and release the sheet, the set of cams used depending upon the direction of movement of the endless conveyer and the adjustment of the gripper frame.

10. In a printing or other machine, the combination with an endless conveyer, of adjustable conveying means for conveying the sheet to the top or underside of the said endless conveyer, means for driving the said endless conveyer in either direction, a reversible gripper frame having grippers traveling with the said conveyer, two sets of adjustable cams, one set on each side of the machine for opening the grippers to seize and release the sheet, the set of cams used depending upon the direction of movement of the endless conveyer and the adjustment of the gripper frame.

11. In a delivery mechanism, the combination of means for turning over the sheet, of a collapsible apron adapted to receive the sheet therefrom, and sheet conveying means for conveying the sheet to the means for turning the same over.

12. In a delivery mechanism, the combination of a delivery board, means for turning the sheet, and a collapsible apron adapted to receive the sheet from the means for turning the same over and to deliver it to the board.

13. In a delivery mechanism, the combination of a delivery board, means for turning the sheet, a collapsible apron adapted to receive the sheet from the means for turning the same over and to deliver it to the board, and sheet conveying means for conveying the sheet to the means for turning the same over.

14. In a delivery mechanism, the combination of a reciprocating delivery, and means for transferring sheets thereto either side up.

15. In a delivery mechanism, the combination of a reciprocating delivery for withdrawing from under sheets to deliver the same, and means for transferring sheets thereto either side up.

16. In a delivery mechanism, the combination of a collapsible apron, and means for transferring sheets thereto either side up.

17. In a delivery mechanism, the combination of a delivery board, a reciprocating delivery mechanism for delivering sheets to the board, and means for delivering sheets with the printed side up or down at will to the said reciprocating delivery mechanism.

18. In a delivery mechanism, the combination of a delivery board, a reciprocating delivery mechanism having a collapsible sheet support for delivering sheets to the board, and means for delivering sheets with the printed side up or down at will to the said reciprocating delivery mechanism.

19. In a delivery mechanism, the combination of a reciprocating delivery, and an endless conveyer for transferring sheets thereto either side up.

20. In a delivery mechanism, the combination of a reciprocating delivery for withdrawing from under sheets to deliver the same, and an endless conveyer for transferring sheets thereto either side up.

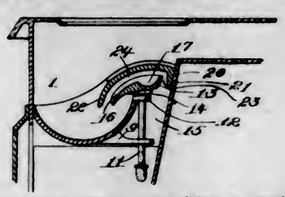
21. In a delivery mechanism, the combination of a collapsible apron, and an endless conveyer for transferring sheets thereto either side up.

22. In a delivery mechanism, the combination of a delivery board, a reciprocating delivery mechanism for delivering sheets to the board, and an endless conveyer for delivering sheets with the printed side up or down at will to the said reciprocating delivery mechanism.

28. In a delivery mechanism, the combination of a delivery board, a reciprocating delivery mechanism having a collapsible sheet support for delivering sheets to the board, and an endless conveyer for delivering sheets with the

printed side up or down at will to said reciprocating delivery mechanism.

867,425. HYDROCARBON-BURNER. JOHN L. SEAGONDOLLAR and WILLIAM A. WINANS, Hoisington, Kans. Filed Apr. 12, 1907. Serial No. 367,816.



1. A hydrocarbon burner comprising a receiving tray provided with a lug and an arm, a discharging plate mounted over the top of the tray and having its upper face formed with a sloping portion and a depression and its lower face provided with a boss, said depression forming an oil receiving chamber, said boss adapted to be seated upon said lug for positioning the plate above the tray forming thereby an air passage between the plate and the tray and which opens into the tray, an oil supply pipe extending through said lug, arm and boss and communicating with said depression, and a cap inclosing the plate and suitably spaced therefrom to form an air passage, said cap conforming in contour to the shape of the plate.

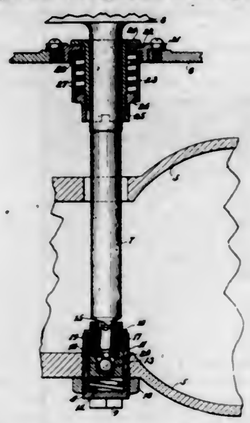
2. A hydrocarbon burner comprising a pair of supporting members, a concavo-convex tray formed on the inner face of said members and provided with a rearwardly-extending apertured arm and a rearwardly-extending apertured lug, a supply pipe extending through the arm and the lug, a discharging plate secured to the supply pipe arranged above the rear edge of said tray forming thereby an air channel opening into the tray, said cap having a portion of its upper face sloping and its remaining portion depressed to form the oil-receiving chamber communicating with the supply pipe, and a cap inclosing said plate and projecting into said tray and suitably spaced from the plate forming thereby an air inlet passage and a vaporizing chamber.

3. A hydrocarbon burner comprising a pair of supporting members, a receiving tray substantially concave in contour formed on the inner face of said members, a rearwardly-extending apertured lug formed integral with the top edge of the rear of said tray, a distributing plate mounted upon said lug forming thereby an air channel between the plate and the rear edge of the tray, said plate having a portion of its upper face depressed to form an oil-receiving chamber communicating with an oil supply and the remaining portion of said face sloping downwardly towards the tray, said plate having a wall at each end extending above the sloping portion of its upper face, and a cap mounted upon said members and inclosing said plate, said cap spaced from the plate forming thereby an air inlet passage and a vaporizing chamber.

867,426. STEP-BEARING FOR SEPARATOR-SPINDLES. JAMES T. SHIELDS. Milwaukee, Wis. Filed Apr. 27, 1907. Serial No. 370,544.

1. A step bearing for separator spindles, comprising a sleeve fitting the end of the spindle and provided with a spherical portion, a casing having a bearing surface against which the spherical portion of the guide sleeve fits, a member slidably mounted in the casing and engaging the guide sleeve to hold it against its bearing, and a spring for pressing the member against the guide sleeve.

2. A step bearing for separator spindles, comprising a guide sleeve fitting the end of the spindle and provided with a spherical portion, a casing, a bushing threaded in the end of the casing and having a bearing surface against which the spherical portion of the guide sleeve fits, a member movably mounted in the casing having a conical recess receiving the spherical portion of the guide sleeve, and a spring contained within the casing and bearing on the member for forcing the member against the guide sleeve to hold the guide sleeve against its bearing.



3. A step bearing for separator spindles, comprising a guide sleeve fitting the end of the spindle and provided with a spherical portion, an adjustable threaded casing, a jam nut threaded on the casing, a bushing threaded in the casing and provided with a bearing surface against which the spherical portion of the guide sleeve fits, a member slidably mounted in the casing and having a conical recess receiving the spherical portion of the guide sleeve, and a spring contained within the casing and bearing on the member for holding it against the guide sleeve to force the guide sleeve against its bearing.

4. A step bearing for separator spindles, comprising a guide sleeve fitting the end of the spindle and provided with a spherical portion, a casing having a bearing against which the spherical portion of the guide sleeve fits, a member slidable in the casing adapted to press the guide sleeve against the bearing, and a ball seated on said member forming a bearing for the end of the spindle.

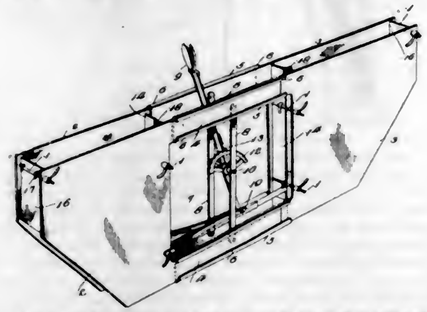
5. A step bearing for separator spindles, comprising a guide sleeve fitting the end of the spindle and having a spherical portion, a casing provided with a bearing surface against which the spherical portion of the guide sleeve fits, a bearing member slidably mounted in the casing with a recess receiving the spherical portion of the guide sleeve, a spring forcing the bearing member against the guide sleeve to hold the guide sleeve against its bearing, and a ball in the recess of the bearing member on which the end of the spindle rests.

6. A step bearing for separator spindles, comprising a guide sleeve fitting the end of the spindle and provided with a spherical portion, a casing having a bearing against which the spherical portion of the guide sleeve fits, a spring pressed bearing member slidably mounted in the casing and provided with a recess receiving the spherical portion of the guide sleeve, a ball located in the recess of the bearing member, and a tapering bearing point removably fitting in the end of the spindle and bearing on the ball.

7. A step bearing for separator spindles, comprising a guide sleeve fitting the end of the spindle and provided with a spherical portion, a casing, a bushing threaded in the casing and provided with a bearing against which the spherical portion of the guide sleeve fits, a spring pressed bearing member in the casing having a recess receiving the spherical portion of the guide sleeve, and a ball located in the recess of the bearing member and forming a bearing for the end of the spindle, said guide sleeve having an inwardly extending flange of smaller internal diameter than the diameter of the ball.

8. A step bearing for separator spindles, comprising a guide sleeve fitting the end of the spindle and provided with a spherical portion, an adjustable threaded casing containing a bearing for the spherical portion of the guide sleeve permitting the guide sleeve to accommodate itself to the position of the spindle, spring means for holding the spherical portion against the bearing and a jam nut threaded on the casing to lock it in its adjustments.

867,427. CEMENT-GATE MOLD. IRA SHIVELY and JAY HUBER, Dexter, N. Mex. Filed June 3, 1907. Serial No. 377,014.



1. A mold for constructing cement gates for irrigating systems, said mold comprising spaced side pieces, and each side piece comprising adjustable sections having a gate opening formed between their inner ends.

2. A mold for constructing cement gates for irrigating systems, said mold comprising spaced side pieces, and each side piece comprising adjustable sections having a gate opening formed between their inner ends, complemental sections having projected strips located above and below the gate opening and held and directed in their movements by suitable guides.

3. A mold for constructing cement gates for irrigating systems, said mold comprising spaced side pieces, and each side piece comprising adjustable sections having a gate opening formed between their inner ends, complemental sections having projected strips located above and below the gate opening and held and directed in their movements by suitable guides, an operating lever having positive connection with corresponding sections, and a link connecting said operating lever with the opposite sections.

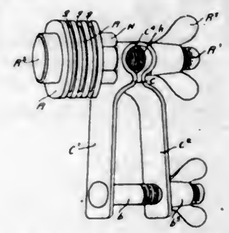
4. A mold for constructing cement gates for irrigating systems, said mold comprising spaced side pieces having a gate opening and having interposed side pieces bordering upon the gate opening, and a bar adapted to be located below said gate opening and between the interposed side pieces to form a groove in the cement gate at a point below the gate opening formed therein.

5. A cement mold for constructing gates of concrete, said mold comprising adjustable sections, and a bar located between the side pieces and sections of the mold and composed of adjustable parts and adapted to form a groove in the cement or concrete gate at a point below the gate opening.

6. A mold for constructing cement gates for irrigating systems, said mold comprising side pieces spaced apart, each side piece embodying complemental sections having inwardly extended strips, the strips of one section having flanges to embrace longitudinal edge portions of the strips of the other section, bars connecting the inner strips, a lever fulcrumed to said bars, links connecting said lever with the opposite sections of the side pieces, and means for holding the lever in an adjusted position.

7. A mold for constructing cement gates for irrigating systems, the same comprising side pieces having a gate opening between their ends and spaced apart, fastenings connecting said side pieces and located near the outer edges thereof and the edges bordering upon the gate opening, and side pieces for closing the space formed between the side pieces of the mold and provided with hooks to engage over the said fastenings for holding the inclosing side pieces in place.

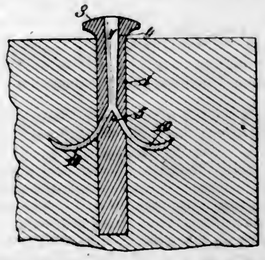
867,428. SAW-SUPPORT FOR UNDERCUTTING. ANGUS E. SHROY, La Center, Wash. Filed May 2, 1907. Serial No. 371,539.



1. A clamp of the character described, adapted to be fastened upon a support, said clamp having resilient arms and a head provided with passages arranged at right angles to each other, a clamping bolt passed through perforations in the ends of said arms, a bolt adapted to be passed through and rigidly secured in either of said passages in said head, and a grooved roller mounted freely on said bolt and adapted to hold and guide a saw for undercutting.

2. A clamp of the character described, adapted to be fastened upon a support, said clamp comprising a strip of resilient metal bent to form arms and a looped head having openings or passages through the opposite sides thereof, a bolt adapted to be passed through and secured either in said loop or in said passages, and a grooved roller mounted freely on said bolt and adapted to hold and guide a saw for under cutting.

867,429. SPIKE. ROBERT E. L. SIMMERMAN, Hartford, Ky. Filed June 1, 1907. Serial No. 376,776.



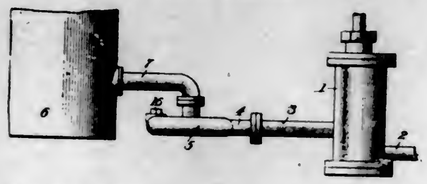
A spike having a tapering bore extending through the upper portion of the shank and head thereof and communicating at its lower terminal with divergent outlet openings separated by an angular anvil, and a key having a tapering body and a lower split extremity to form legs, the key when driven home into the spike having the upper end thereof flush with the top surface of the spike head and the upper terminal of the slit in the lower extremity engaging the apex of the angular anvil to immovably hold the key against upward or downward movement within the spike.

867,430. MEANS FOR PREVENTING AND REMOVING INCRUSTATION FROM BOILERS. ALONZO J. SIMMONS, Los Angeles, Cal. Filed Oct. 25, 1906. Serial No. 340,569.

1. The combination with a boiler feed pipe; of an incrustation preventive body movably arranged in the path of water passing through the feed pipe.

2. A mixing chamber provided with a race-way and a

ball arranged to travel in the race-way under pressure, the ball carrying a chemical compound.



3. A mixing chamber provided with a race-way, and a series of balls arranged to travel in the race-way under pressure, each ball carrying a chemical compound.

4. A mixing chamber, and an incrustation preventive ball arranged for movement in the chamber.

5. The combination with a boiler feed pipe; of incrustation preventive bodies movably arranged in the path of water passing through the feed pipe.

6. The combination with a boiler feed pipe; of an incrustation preventive body movably arranged in the path of water for continuous movement by the water passing through the feed pipe.

7. The combination with a boiler feed pipe; of a series of incrustation preventive bodies movably arranged in the path of water for continuous movement by the water passing through the feed pipe.

8. The combination with a boiler feed pipe; of a chamber disposed in the line of the feed pipe; and an incrustation preventive body disposed in the chamber for whirling action therein under presure of the water passing through the pipe and chamber.

9. In combination with a boiler and a pump; of a chamber arranged between the pump and boiler, and an incrustation preventive ball movable in said chamber.

10. In combination with a boiler and a pump; of a chamber arranged between the pump and boiler, and chemical carrying balls arranged to move in said chamber.

11. The combination with a boiler feed pipe; of a chamber disposed in the line of the feed pipe; and a series of incrustation preventive bodies disposed in the chamber for whirling action therein under the pressure of water passing through the pipe and chamber.

12. The combination with a boiler feed pipe; of an incrustation preventive body arranged in the path of water passing through the pipe for disintegration within said pipe.

13. The combination with a boiler feed pipe; of a race-way arranged in the pipe, and an incrustation preventive body adapted to travel in the race-way.

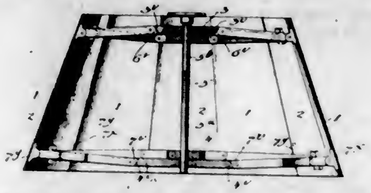
14. The combination with a boiler feed pipe; of a race-way arranged in the pipe and an incrustation preventive body arranged for continuous travel in the race-way under the pressure of water passing through the pipe.

15. The combination with a boiler feed pipe; of an incrustation preventive body arranged for movement in the feed pipe, and means constructed and arranged in the pipe to limit the movement of the body.

867,431. COLLAPSIBLE INNER SHELL FOR MOLDING TAPERING PIPE. CHARLES L. SIMPSON, Minneapolis, Minn., assignor to Miracle Pressed Stone Company, Minneapolis, Minn., a Corporation of South Dakota. Filed June 29, 1907. Serial No. 381,414.

1. An inner member of a pipe mold consisting of an expansible and collapsible shell comprising two sets of segmental plates, the plates of one set being lapped outside those of the other set; an axial shaft and two travelers mounted for movement there-along; links from each traveler to the plates of the two sets, the links for the outer-lapped set being pivoted to the travelers nearer the axis of the shell than those for the inner-lapped set.

2. The inner member of a pipe mold consisting of an expansible and collapsible shell comprising two sets of segmental plates, the plates of one set being lapped outside those of the other set; an axial screw shaft oppositely threaded at its opposite end portions; two travelers mounted for non-rotative travel on the shaft by rotation of the latter; links from each traveler to the plates of the two sets, the length of the links for the outer-lapped set being greater in proportion to the distance from the axis of their pivotal connection to the traveler than the links for the other set.



3. An inner member of a pipe mold consisting of an expansible and collapsible shell comprising two sets of segmental plates, the plates of one set being lapped outside those of the other set; an axial screw shaft oppositely threaded at its opposite end portions; two travelers engaged with said oppositely threaded portions respectively; links which connect the travelers respectively to the opposite ends of the segment plates, the links for the outer-lapped plates being pivoted to the travelers at transverse planes inward from the planes at which the links for the other set are pivoted, all the links from each spider being pivoted to the segments at substantially the same transverse plane.

4. The inner member of a pipe mold consisting of an expansible and collapsible shell comprising segmental plates; an axial screw shaft having its opposite end portions oppositely threaded; two travelers engaged with said oppositely threaded portions respectively for non-rotative travel along the shaft by the rotation thereof; links connecting the travelers respectively with opposite ends of the plates, the shaft having its thread for engagement with one of the travelers of greater pitch than that for engagement with the other.

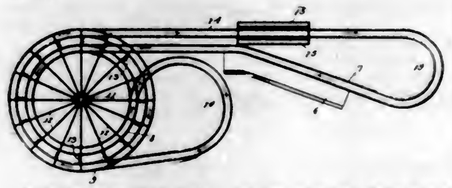
5. In an inner member of a pipe mold consisting of an expansible and collapsible shell comprising two sets of segmental plates, the plates of one set being lapped outside those of the other set; an axial screw shaft oppositely threaded at its opposite end portions and travelers mounted respectively on said oppositely threaded portion for non-rotative travel there-along by the rotation of the shaft; links from the respective travelers to opposite ends of the plates, the shaft having its thread for engagement with one of the travelers of greater pitch than the other, and means for rotating the shaft in the travelers.

6. An inner member of a pipe mold consisting of an expansible and collapsible shell comprising two sets of tapered segmental plates, the plates of one set being lapped outside those of the other set; an axial screw shaft having its opposite end portions oppositely threaded; two travelers mounted on said shaft for the non-rotative movement there-along by the rotation of the shaft; links connecting the travelers respectively with opposite ends of the plates, the links for the outer-lapped set being longer relatively to the distance from the axis of their pivotal connection with the travelers than the links of the other set, the shaft having its thread for engagement with one of the travelers of greater pitch than that for engagement of the other traveler, and means for rotating the shaft.

867,432. PLEASURE-RAILWAY. CHARLES H. SMITH, Chicago, Ill. Filed Feb. 8, 1907. Serial No. 356,302.

1. A railway having a track with a descending course curved in one direction with respect to the direction of travel, followed by an ascending course curved in the reverse direction, and inclined tracks leading respectively to and from the top of the respective courses.

2. A railway having a track with a descending spiral course curved in one direction with respect to the direction of travel, followed by an ascending spiral course curved in the reverse direction, and inclined tracks leading respectively to and from the top of the respective courses.



3. The combination with a railway having a descending course curved in one direction with respect to the direction of travel, followed by an ascending course curved in the reverse direction, and inclined tracks leading respectively to and from the top of the respective courses, of a car which travels on the track, the car having a swinging body which will swing out under centrifugal force as the car travels along the track.

4. The combination with a railway having a descending course curved in one direction with respect to the direction of travel, followed by an ascending course curved in the reverse direction, and inclined tracks leading respectively to and from the top of the respective courses, of a car which travels on the track, the car having a truck which travels on the track, and a laterally-swinging body pivotally supported on the truck.

5. A railway comprising a supporting structure having a central column, uprights standing around the same, and diverging arms extending from the column to connection with the uprights, and an inclined track mounted on the arms and extending around the structure.

6. A railway comprising a supporting structure having a central column, diverging arms extending therefrom, uprights arranged around the column and supporting the outer ends of the arms, and a track having descending and ascending portions mounted on the arms and extending around the structure on opposite sides of the uprights respectively.

7. A railway comprising a supporting structure having a central column, diverging arms extending therefrom, uprights arranged around the column and supporting the outer ends of the arms, a track having descending and ascending portions mounted on the arms and extending around the structure on opposite sides of the uprights respectively, and a loop connecting said portions at the bottom, to reverse the direction of curvature.

8. The combination with a railway track, of a water tank having a portion containing shallow water through which the track passes, and deep portions on each side thereof, the latter having transparent walls through which the water therein is visible from a car on the track.

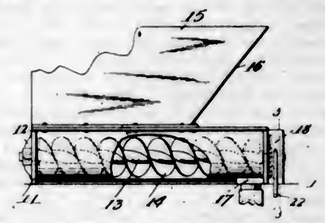
9. The combination with a railway track, of a water tank having a shallow portion through which the track passes, deep portions on each side thereof, the latter having transparent walls through which the water therein is visible from a car on the track, and water curtains across the track at each end of the tank.

867,433. LABEL ATTACHMENT FOR COATS. CHARLES S. SMITH, New York, N. Y. Filed Apr. 1, 1907. Serial No. 365,756.



A garment having a reinforcing yoke member secured at its top and sides in the seams of the garment, said yoke member having its lower edge left free to provide for the fastening and removal of a label to and from said yoke and avoid attachment thereof to the material of the garment.

867,434. TRACK-SANDER. JOSEPH M. SMITH, Worcester, Mass., assignor of one-half to William J. Saunders, Worcester, Mass. Filed Jan. 30, 1907. Serial No. 354,847.



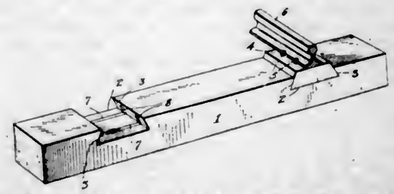
1. In a track sanding device, the combination of a casing, a worm in the casing, a shaft on which the worm is mounted, a wheel on the shaft having alternate long and short flukes or teeth, a casing for the wheel, and means for directing compressed air into the casing at an angle against the teeth.

2. In a track sanding device, the combination of a worm, a toothed wheel connected with said worm for operating it, a casing in which said wheel is located, and a nozzle located in position to direct compressed air against the teeth or flukes of said wheel.

3. In a track sanding device, the combination of a worm, a toothed wheel connected with said worm for operating it, a casing in which said wheel is located, a nozzle located in position to direct compressed air against the teeth or flukes of said wheel, and means for controlling the flow of air to said nozzle, said means comprising a valve having a spring for keeping it closed, a valve stem connected with said valve, a rod resting on said valve stem, and a button on the platform of the car, whereby the depression of said button will open the valve and the spring will immediately close it when the pressure is removed.

4. In a track sanding device, the combination of a worm, a shaft, a disk wheel mounted rigidly with respect to the shaft and having alternating long and short flukes or teeth on one side thereof, the outer ends of all the teeth being at the same distance from the axis of the wheel, a casing for the wheel and means for directing compressed air against the teeth.

867,435. RAILROAD-TIE. JOHN C. SPEAKER, Magnolia, Ohio. Filed Feb. 18, 1907. Serial No. 358,140.



1. A cross tie comprising a body of plastic material having seats in its top for track supporting blocks, and a longitudinally extending metallic reinforcing member embedded in said body and having seats to register with the seats in said body.

2. A cross tie comprising a body of plastic material formed in its top with transversely extending undercut seats and a metallic reinforcing plate embedded in the body and arranged longitudinally thereof in an upright position, the upper edge of said plate being formed with undercut seats or recesses to register with the seats in said body.

3. A cross tie comprising a body of plastic material formed in its top with transversely extending dove-tail seats, a metallic reinforcing plate embedded in the body and arranged longitudinally thereof in an upright position.

the upper edge of said plate being formed with dove-tail seats or recesses to register with the seats in said body and dove-tail blocks of wood driven into said seats transversely of the tie and having their upper surfaces in a plane above the top of the tie for supporting track rails.

4. A cross tie comprising a body of plastic material having a seat in its top for a track supporting block and a metallic reinforcing member embedded in said body and having a seat to register with the seat in said body.

5. A cross tie comprising a body of plastic material having seats in its top for track supporting blocks and a longitudinally extending metallic reinforcing member embedded in said body and having seats to register with the seats in said body, said member also having openings for the reception of plastic material of the body, substantially as set forth.

6. A cross tie comprising a body of plastic material having seats in its top for track supporting blocks and the longitudinally extending metallic reinforcing plate 7 formed with a lateral flange 10 at its bottom and with openings 9 and seats 8, said seats being in its upper edge and adapted to register with the seats in said body, substantially as set forth.

867,436. LEAD PIGMENT AND SIMILAR COMPOUNDS. ELMER A. SPERRY, Brooklyn, N. Y. Filed Aug. 30, 1906. Serial No. 332,701.

1. The process of preparing pigments and similar compounds of lead possessing peculiar qualities which consists in subjecting lead to electrolysis as anode in an electrolyte causing deposition of metallic lead at the cathode and treating the cathode product for production of the desired compound.

2. The process of preparing pigments and similar compounds of lead possessing peculiar qualities which consists in subjecting lead to electrolysis as anode in an electrolyte causing deposition of metallic lead at the cathode and then exposing the cathode product as anode in another electrolyte causing deposition of a lead compound.

3. The process of preparing pigments and similar compounds of lead possessing peculiar qualities which consists in subjecting lead to electrolysis as anode in an electrolyte causing deposition of metallic lead at the cathode, then exposing the cathode product without changing its form as anode in another electrolyte causing deposition of the desired lead compound.

4. The process of preparing pigments and similar compounds of lead possessing peculiar qualities which consists in subjecting lead to electrolysis as anode in an electrolyte causing deposition of metallic lead at the cathode and then exposing the cathode product as anode in another electrolyte causing deposition of a lead compound and subjecting this compound to a reacting agent at an elevated temperature thus producing the desired terminal product.

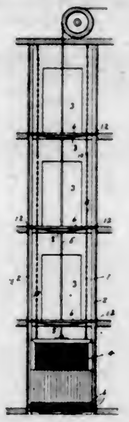
867,437. ELEVATOR. THOMAS J. SPICER, Baltimore, Md., assignor of one-eighth to James T. Lahey and one-eighth to U. Grant Border, Baltimore, Md. Filed Dec. 5, 1906. Serial No. 346,508.

1. The combination with the cage and elevator shaft, of a plurality of concaved platforms suspended above the cage and adapted to be raised and lowered by the cage.

2. The combination with the cage and elevator shaft, of a plurality of concaved platforms suspended from the cage and adapted to be raised and lowered by said cage.

3. The combination with the cage and elevator shaft, of a plurality of concaved platforms suspended from the cage, and a plurality of concaved platforms suspended below the cage, the platforms above and below the cage being adapted to be operated by the cage.

4. The combination with the cage and elevator shaft, of a plurality of concaved platforms suspended from the top of the elevator shaft and normally at each floor above the cage, and a plurality of concaved platforms suspended from the bottom of the cage, whereby when the cage is raised and lowered a platform will be at each of the floors above and below the cage.

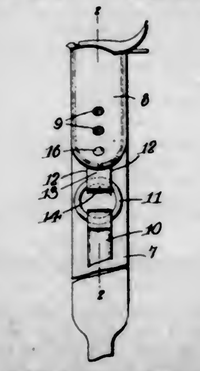


5. The combination with the cage and elevator shaft having guide rails on opposite sides thereof, of a plurality of concaved platforms suspended above the cage and each having shoes on opposite sides to fit the said guide rails, and a plurality of concaved platforms suspended below the cage and each having shoes on opposite sides thereof to fit the said guide rails, the platforms above and below the cage being adapted to be raised and lowered by the latter.

6. The combination with the cage and elevator shaft, of a plurality of concaved platforms suspended above the cage each having upwardly projecting guards around the sides thereof, and a plurality of concaved platforms suspended below the cage and having upwardly projecting guards around the sides thereof, the platforms above and below the cage being adapted to be operated by the latter.

7. The combination with the cage and elevator shaft, of a plurality of concaved platforms suspended above the cage, each having upwardly projecting guards around the sides thereof and a central aperture around which is an upwardly projecting guard, and a plurality of concaved platforms suspended below the cage and having upwardly projecting guards around the sides thereof, the platforms above and below the cage being adapted to be operated by the latter.

867,438. HARNESS-SADDLE. CHRISTOPH A. SPIES, Chicago, Ill., assignor to A. Ortmayer & Son, Chicago, Ill. Filed June 11, 1907. Serial No. 378,414.



1. A harness saddle having a skirt with longitudinal slits forming a tongue, and a bearer ring through which the tongue extends, said tongue being fastened to hold the ring.

2. A harness saddle having a tree, a skirt having an integral tongue formed by slitting the skirt lengthwise, and a bearer ring through which the tongue passes, the end of the tongue being fastened to the tree.

3. A harness saddle having a skirt slitted lengthwise to form a tongue, a loop under the tongue, and a bearer ring which extends through the slits at the lower ends thereof and through the loop, the tongue and loop being fastened to the skirt and the saddle tree.

867,439. FISHING-TACKLE. JOSEPH STAEHLE, Schenectady, N. Y. Filed June 10, 1907. Serial No. 378,150.



1. As an article of manufacture, a device for holding fish hooks having one or more compartments for the reception and inclosure of the point and barb of the hooks, and spring clips for securing the shank of the hooks.

2. As an article of manufacture, a one-piece carrier for fish hooks having a plurality of open-ended compartments for incasing the point and barb of the hooks, one or more bearing surfaces for the hooks, and a spring clip socket for receiving and securing the shank of the hooks.

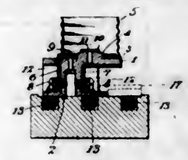
3. A one-piece holder for fishing tackle having one or more open-ended compartments for the reception and inclosure of the points and barbs of the hooks, said compartments being spaced to provide a passage for the shank of the hooks, and a socket for receiving the shank of the hook having bent portions which form spring clips for securing the shank in the socket.

4. A carrier for fish hooks having compartments for receiving and incasing the points and barbs of the hooks so spaced as to form a passage for the shank of the hooks, and a socket for receiving the shank of the hooks having spring clips which engage the shank and secure the hook in the carrier.

5. In combination, a fish pole or rod, a carrier for a fish hook detachably secured thereto, said carrier having compartments for receiving and inclosing the points and barbs of the hooks, and a spring clip socket for receiving and securing the shank of the hooks.

867,440. THREE-WIRE MOLDING-RECEPTACLE. JAMES S. STEWART, New York, N. Y., assignor to Annie Stewart, New York, N. Y. Filed June 29, 1906. Serial No. 323,987.

1. An electrical appliance adapted to be placed on a three-wire molding and to make electrical connection with two circuit wires thereof, comprising a block of insulating material having a pair of terminal clips thereon, and a sleeve secured to said block at one side of one of said clips and centrally over the other, whereby the sleeve is symmetrically disposed on the molding when the clips are attached to the circuit wires of either side thereof.



2. An electrical appliance, comprising a block of insulating material having passages therein for two circuit wires of a three-wire system, and a sleeve on said block having its axis vertically above one of said passages.

3. An electrical appliance, comprising a block of insulating material having a sleeve secured thereto, terminal clips on said block and extending on one side of the axis of said sleeve, whereby they may be connected to two of the three circuit wires of a molding on which the receptacle is symmetrically placed.

4. An electrical appliance, comprising a block having a sleeve thereon and a central stud terminal, and a pair of metallic clips connected with said sleeve and said terminal and laterally offset therefrom so as to extend into proximity to two circuit wires of a three-wire system when the receptacle is symmetrically placed on the molding thereof.

5. An electrical receptacle adapted to be placed symmetrically on a three-wire molding to make electrical connection with two circuit wires thereof, comprising a block having a sleeve, said block also having a base opposite to one side of the axis of said sleeve, the base having curved passages on each side thereof into which a pair of wires of the three-wire system may project, and a plate having a width corresponding to the width of said base and adapted to be positioned beside the same in use so as to cover up the third wire of the three-wire system when the receptacle is placed to have the sleeve symmetrically on the molding.

867,441. FASTENER. EDWIN B. STIMPSON, New York, N. Y. Filed Sept. 22, 1906. Serial No. 335,789.



1. As a new article of manufacture, a fastener plate of thin flat metal having apertures produced in a longitudinal series, a portion of the metal of said plate at each such aperture being integrally attached to said plate along the side of said aperture and being folded flush along said side of the aperture and forming a reinforce of increased thickness extended along said side of such aperture for engagement with a member passed through said aperture.

2. As a new article of manufacture, a fastener plate of thin flat metal having apertures produced in a longitudinal series, the metal removed from said plate to produce each such aperture being integrally attached to said plate along one side of said aperture and being folded flush against the body portion of the plate along said side of the aperture and forming a rounded reinforce of increased thickness extended along said side of such aperture for engagement with a member passed through said aperture.

867,442. FLAT-IRON WAXER, CLEANER, AND REST. EDWARD A. STONE, Paterson, N. J., assignor to Edward C. Ewen, Saginaw, Mich. Filed Dec. 2, 1905. Serial No. 289,962.

1. A device of the character set forth comprising a waxing member, a cleaning member and a rest member adapted to fold one upon the other, so that the lower member constitutes a support for the two superposed members, a waxing surface on the waxing member, the cleaning member being separate from the waxing member, the rest member comprising a base separate from the

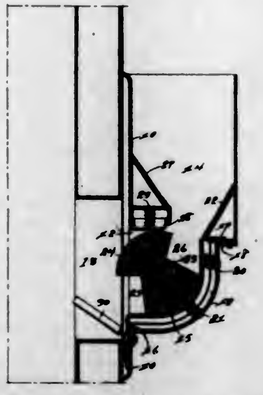
cleaning and waxing members and means on the base noninjuriously affected by direct contact with a heated surface and flexible means connecting and extending between the respective separate members.



2. In a flat-iron waxing, cleaning and rest device, the combination of a waxing member, a cleaning member and a rest member adapted to fold face to face, said waxing member comprising a base and a waxing surface on said base, said cleaning member comprising another and separate base and layers of cleaning material secured to said base, and said rest member comprising another and also separate base and a layer of nonheat-conducting material secured to said base, and flexible connections between said members.

3. In a flat-iron waxing, cleaning and rest device, the combination of a waxing member, a cleaning member, a rest member, and means for connecting the said members together edge to edge, said means having its flexing portions located, as regards one pair of said members, adjacent their upper faces, and, as regards the other pair of said members, adjacent their lower faces, substantially as described.

867,443. MECHANICAL STOKER. MARTIN SWINTEK, Des Moines, Iowa. Filed Mar. 19, 1906. Serial No. 306,748.



1. A mechanical stoker, comprising a hinged furnace door formed with an opening, a hopper mounted on said door and communicating with said opening, a notched fuel feeder mounted for oscillation in said hopper adjacent said opening, a motor mounted on said door and adapted to oscillate said fuel feeder, a bottom spring-held in said hopper, a guard plate spring-held in said hopper above said fuel feeder and a deflector in said hopper above said fuel feeder and opposite said guard plate.

2. A mechanical stoker, comprising a hinged furnace door formed with an opening, a hopper on said door and communicating with the opening therein, a notched fuel feeder mounted for oscillation in said hopper adjacent said opening, deflectors in said hopper above said fuel feeder and opposite each other, a guard plate spring-held in said hopper beneath one of said deflectors, a curved bottom in said hopper and spring-held against said fuel feeder, and a motor mounted on said furnace door and adapted to actuate said fuel feeder.

3. A mechanical stoker comprising a hinged furnace door formed with an opening, a hopper on said door communicating with the opening therein, the bottom of said hopper formed of a curved plate having its end portions bent at angles and slidingly engaging the hopper, a yoke bar on said hopper, springs between said yoke bar and curved plate, and a notched fuel feeder mounted for oscillation in said hopper and normally engaging said curved plate.

4. A mechanical stoker, comprising a hinged furnace door formed with an opening, a hopper mounted thereon and communicating with said opening, a notched fuel feeder mounted in said hopper adjacent said opening, a motor mounted on said door and adapted to oscillate said fuel feeder, a bottom spring-held in said hopper and a spring-held guard plate in said hopper above said fuel feeder.

5. A mechanical stoker comprising a hinged furnace door formed with an opening, a hopper on said door, a fuel feeder mounted for oscillation in said hopper, adjacent said opening, said fuel feeder formed with opposite notches adapted to receive and convey portions of fuel alternately in opposite directions, a shaft carrying said fuel feeder, cranks on said shaft in staggered relations to each other, motors on said door, and pitmen connecting said motors to said cranks.

6. A mechanical stoker, comprising a hinged furnace door formed with an opening, a hopper on said door, a receptacle mounted above said hopper and independent of said door, a slide valve in said receptacle, a fuel feeder mounted for oscillation in said hopper and formed with opposite notches adapted to receive and convey fuel alternately in opposite directions through the opening in said door, and motors mounted on said furnace door and connected to said fuel feeder.

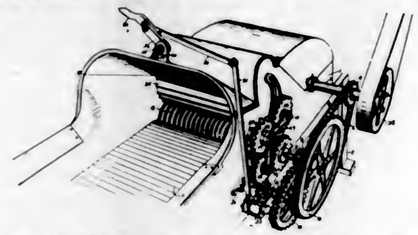
7. In a mechanical stoker, a fuel feeder formed with diametrically opposite notches, means for oscillating said fuel feeder and means for supplying fuel alternately to the notches of the feeder, said notches being so constructed that in the movements of the feeder the fuel will be fed to different parts of the fire box.

8. In a mechanical stoker, the combination of a furnace, a door hinged thereto and formed with an opening communicating with the furnace, a hopper mounted on said door and surrounding said opening, a fuel feeder mounted pivotally in said hopper, said fuel feeder formed with diametrically opposite notches adapted to communicate alternately with the hopper and with the furnace through the opening in the door, and means for oscillating said fuel feeder.

9. In a mechanical stoker, the combination of a furnace, a door hinged thereto and formed with an opening communicating with the furnace, a hopper on said door and surrounding the opening therein, a fuel feeder pivotally mounted in said hopper and formed with diametrically opposite fuel-receiving notches adapted to communicate with the hopper and furnace alternately and successively, and means for oscillating said fuel feeder.

867,444. GEAR FOR FEED-CUTTERS. STOTEN A. TAYLOR and CHARLES F. HALDEMAN, Salem, Ohio, assignors to The Silver Manufacturing Company, Salem, Ohio, a Corporation of Ohio. Filed May 1, 1907. Serial No. 371,329.

1. In a gear for feed cutters, the combination of a suitable frame, with a shaft having mounted thereon, a cutter head, a gear wheel mounted upon said shaft, feed roll shafts having mounted thereon feed rolls gear wheels fixed to said shafts, a gear wheel mounted between the gear wheels mounted upon the feed roll shafts, said gear wheels supported in link bearings, said link bearings being pivoted at their opposite ends, a gear wheel adapted to mesh with one of the gear wheels upon one of the feed roll shafts and the gear wheel carried by the pivoted links, a pinion securely mounted upon a shaft, said shaft being provided with a slidable clutch member and a clutch member fixed to said shaft, a gear wheel loosely mounted upon the shaft having the fixed clutch member and a pinion adapted to mesh with said gear wheel, said pinion being loosely mounted upon the feed roll shaft and a gear wheel adapted to be driven by the gear wheel located upon the cutter head shaft and a clutch shift, and means for moving the clutch shift, substantially as and for the purpose specified.



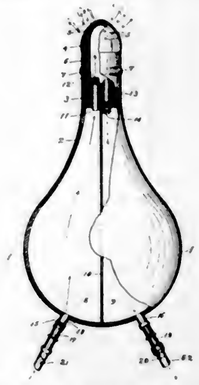
2. In a gear for feed cutters, the combination of feed roll shafts, feed rolls mounted thereon, gear wheels secured to said shafts, one of the shafts and its feed roll adapted to move from the other shaft and feed roll, links pivoted to the movable feed roll shaft, a gear wheel mounted upon a shaft, said gear wheel adapted to mesh with the gear wheel upon the movable shaft, a gear wheel mounted upon a fixed shaft, links pivotally connected to said fixed shaft, and to the shaft of the gear wheel meshing with the gear wheel upon the movable feed roll shaft, and the gear wheel upon the fixed shaft adapted to mesh with the gear upon the non-movable feed roll shaft, a gear wheel and a pinion loosely mounted upon the fixed feed roll shaft, a gear wheel adapted to mesh with the loosely mounted pinion upon the feed roll shaft, said last mentioned gear wheel being mounted upon a shaft, said shaft provided with a pinion adapted to mesh with the gear wheel meshing with the gear wheel upon the fixed feed roll shaft, a clutch, and means for moving the clutch in and out of engagement, substantially as and for the purpose specified.

3. In a gear for feed cutters, a frame, a feed roll, shafts provided with feed rolls, one of said shafts fixed and the other movable and pivoted links, gear wheels fixed to the feed roll shaft, a gear wheel mounted on a short shaft, the short shaft of the gear wheel being journaled in said pivoted links, a stud having mounted thereon a gear wheel adapted to mesh with the gear wheel carried by the pivoted links and said pivoted links being connected to the movable feed roll shaft, and the stud and the gear wheel mounted upon the stud adapted to mesh with the gear upon the fixed feed roll shaft, a shaft and a clutch located upon said shaft and means for operating the clutch, substantially as and for the purpose specified.

4. In a gear for feed cutters, the combination of a frame and a cutter head shaft thereon, with feed roll shafts provided with feed rolls, one of said shafts being fixed and the other movable, gear wheels fixed to the feed roll shafts, a gear wheel journaled in pivoted links, a stud having mounted thereon, a gear wheel adapted to mesh with the gear wheel carried by the pivoted links and said pivoted link being connected to the movable feed roll shaft, and the stud and the gear wheel mounted upon the stud meshing with the gear wheel upon the fixed feed roll shaft, and a pinion adapted to mesh with the gear wheel upon the short stud, and a clutch located upon a shaft, and means for shifting the clutch and gear wheels located intermediate the stud and cutter head shaft, substantially as and for the purpose specified.

867,445. SYRINGE. JAMES H. THAYER, Chicago, Ill., assignor to Edward Hilker, Chicago, Ill. Filed June 18, 1906. Serial No. 322,178.

1. In a syringe, the combination with a soft rubber bulb having a neck portion integral therewith and reduced towards its outer end and provided near said end with a transverse wall so as to afford a socket in the outer end of the said neck portion, of a partition extending from said transverse wall to the end of the bulb opposite the same and dividing the bulb into two compartments, an outwardly opening valve in the transverse wall on one side of said partition and an inwardly opening valve therein on the other side of said partition, a tube communicating with each of said compartments, a controlling valve in each of said tubes, and a hollow discharging head made of rigid material and provided with a series of diagonally disposed channels for the passage of liquid therefrom and located at its inner end within the socket of the neck portion of the bulb, substantially as described.



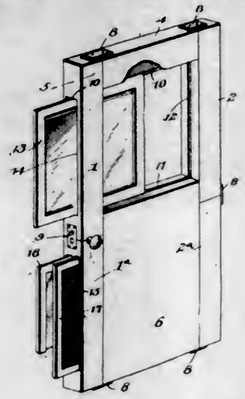
2. In a syringe, the combination with a soft rubber bulb having a neck portion integral therewith and reduced towards its outer end and provided near said end with a transverse wall so as to afford a socket in the outer end of the said neck portion, of a partition extending from said transverse wall to the end of the bulb opposite the same and dividing the bulb into two compartments, an outwardly opening valve in the transverse wall on one side of said partition and an inwardly opening valve therein on the other side of said partition, a tube communicating with each of said compartments, a controlling valve in each of said tubes, and a discharging head having its inner portion annularly reduced to fit in the socket of the neck portion of the bulb and its outer portion provided with a series of diagonally disposed channels for the passage of liquid, the said annular reduced portion of the head having on its outer surface an annular bead to engage the soft rubber neck portion, the said head being made of hard rubber to give rigidity to the neck portion of the bulb within which it is located substantially as described.

867,446. COMBINATION-DOOR. HARRY THOMAS, New York, N. Y. Filed Apr. 4, 1907. Serial No. 366,352.

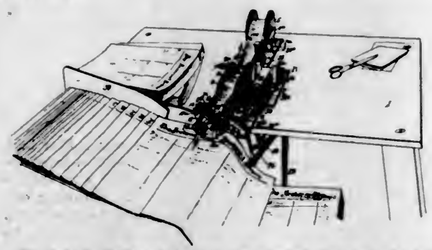
1. A door structure, consisting of stiles constructed in upper and lower detachable sections having interlocking tongue and groove connection, an upper rail having an interlocking tongue and groove connection with the upper end portions of the stiles, and a panel having an interlocking tongue and groove connection with the stiles and extending from the lower ends thereof past the joint between the sections of the same.

2. A door, consisting of stiles, a top rail and a relatively stationary lower panel, said panel being formed with a chamber constituting a storage compartment for panels, and the upper and lower walls of said chamber being formed with tongues so that two panels of the proper size may be received in said chamber, and one separated from the other, the upper portion of the stile at the free edge of the door being formed with an opening extending therethrough, and a removable panel adapted to be slipped with

a horizontal motion through said opening to close the space between the lower panel and the top rail.



867,447. MAILING-MACHINE. JOHN C. THOMSON, Rock Island, Ill. Filed Dec. 15, 1906. Serial No. 347,979.



1. A bed plate, a bobbin supported thereon, a strip mounted on said bobbin, a paste-pan, guide members pivotally mounted in bearings on said paste-pan between which said strip passes, a paste applying roller engaging the strip, combined with means for feeding the strip over the paste roller, and means for cutting the strip and applying the cut section of the strip to the article to be labeled.

2. A bed plate, a bobbin supported thereon, a strip mounted on said bobbin, a paste-pan, guide members pivotally mounted in bearings on said paste-pan between which said strip passes, a paste applying roller engaging the strip, combined with means for feeding the strip over the paste roller, means for cutting the strip and applying the cut section of the strip to the article to be labeled, together with a receiving board coöperatively supported beneath the cutting mechanism, substantially as shown and described.

3. A strip carrying reel, means for applying paste to the strip, means for cutting the strip and pressing it against the article to be labeled, means for feeding the strip to the cutting and pressing means combined with adjustable guides for the strip, together with a receiving board having a hinged wing, substantially as shown and described.

4. A strip carrying reel, means for applying paste to the strip, means for cutting the strip and pressing it against the article to be labeled, means for feeding the strip to the cutting and pressing means combined with adjustable guides for the strip, together with a receiving board having a hinged wing, and a guide for the article being labeled.

5. In a machine of the class described, a bed plate, a bobbin mounted thereon to receive the address strip, a paste-pan mounted on the bed plate and having a drum portion adjacent the bobbin and a depressed portion merging with the drum portion, a pivotally supported bar held within the paste-pan adjacent the depressed portion, under which bar the address strip is adapted to pass, a pasting roller mounted in bearings in the paste-pan, over which roller the address strip is adapted to pass, a feeding mechanism and a cutting mechanism, means for operating the feeding mechanism and the cutting mechanism, substantially as shown and described.

6. In an apparatus of the class described, a paste-pan having a drum shaped end, a pasting roller mounted in bearings in said paste-pan combined with a pivoted baffle adjacent the drum shaped end, substantially as shown and described.

7. In an apparatus of the class described, a plurality of sets of relatively fixedly held feed rollers combined with a pivotally mounted roller carrying frame, feed rollers carried by the roller carrying frame, one for each pair of relatively fixedly held feed rollers, a separate means for normally tending to hold said pivotally mounted frame with its rollers adjacent the relatively fixed feed rollers, together with a finger engageable and operated mechanism for moving the pivotally mounted frame on its fulcrum and swing the rollers in the arc of a circle out of proximity with the relatively fixed rollers, substantially as shown and described.

8. In a machine of the class described, a fixedly held knife, combined with a pivotally mounted arm, a movable knife pivotally mounted on said movable arm, means for swinging said movable arm on its pivot to bring its knife in coöperation with the fixedly held knife to cut the strip and press it against the article to which it is to be affixed, substantially as shown and described.

9. In a machine of the class described, a fixedly held knife, combined with a movable arm, and a knife pivotally connected with said movable arm, means for moving said movable arm with its knife into coöperation with the fixedly held knife to cut the strip and press it against the article to which it is to be affixed, together with means for engaging the pivotally connected knife as the movable arm is moved to cause the pivotally connected knife to effect a shearing action with the fixedly held knife, substantially as shown and described.

10. In an apparatus of the class described, a bed plate, an address strip carrying bobbin mounted thereon, a paste-pan mounted on said bed plate, said paste-pan having a drum portion adjacent the bobbin, a cross rod carried by the paste-pan adjacent the drum under which the address strip passes, a pasting roller carried by the paste-pan over which the addressing strip passes, guide arms carried by the paste-pan for coöperating with the strip, a feed mechanism for drawing the strip through the paste-pan, combined with a cutting mechanism, said cutting mechanism comprising a fixed knife, and a movable knife, and means for directing the movable knife into operative relation with the fixed knife to cut the strip, substantially as shown and described.

11. In an apparatus of the class described, a bed plate, an address strip carrying bobbin mounted thereon, a paste-pan mounted on said bed plate, said paste-pan having a drum portion adjacent the bobbin, a cross rod carried by the paste-pan adjacent the drum under which the address strip passes, a pasting roller carried by the paste-pan over which the address strip passes, guide arms carried by the paste-pan for coöperating with the strip, a feed mechanism for drawing the strip through the paste-pan combined with a cutting mechanism, said cutting mechanism comprising a fixed knife, and a movable knife, means for directing the movable knife into operative relation with the fixed knife to cut the strip, said last named means comprising an arm pivotally mounted in bearings in the bed plate, a presser pivotally carried by said arm to which said movable knife is secured, means connecting the presser and the movable arm together to normally elevate the presser with relation to the arm, means for normally holding the arm elevated, and means for lowering the arm to bring the movable cutter into coöperative relation with the fixed cutter to cut the strip, substantially as shown and described.

12. In an apparatus of the class described, a bed plate, an address strip carrying bobbin mounted thereon, a paste-pan mounted on said bed plate, said paste-pan having a drum portion adjacent the bobbin, a cross rod carried by the paste-pan adjacent the drum under which the address strip passes, a pasting roller carried by the paste-pan over which the addressing strip passes, guide arms carried by the paste-pan for coöperating with the strip, a feed mechanism for drawing the strip through the paste-pan combined with a cutting mechanism, said cutting mechanism comprising a fixed knife, and a movable knife, means for directing the movable knife into operative relation with the fixed knife to cut the strip, said last named means comprising an arm pivotally mounted in bearings in the bed plate, a presser pivotally carried by said arm to which said movable knife is secured, means connecting the presser and the movable arm together to normally elevate the presser with relation to the arm, means for normally holding the arm elevated, means for lowering the arm to bring the movable cutter into coöperative relation with the fixed cutter to cut the strip, together with means for engaging the presser as the movable arm guides it and the movable cutter into operative relation with the fixed cutter to effect a shearing action of the cutters to cut the strip, substantially as shown and described.

13. A machine of the class described, comprising the following elements in combination, a bed plate, an endless strip carrying bobbin mounted thereon, a paste-pan mounted in alinement with said bobbin, pasting means carried within the paste-pan, a fixed knife carried by the bed plate, a presser, a knife carried by said presser for coöperating with the fixed knife, means for normally holding the entire presser and its knife elevated, means interposed between the paste-pan and the fixed knife for feeding the address strip over the pasting means and to the knife and presser mechanism, means for lowering the presser and its knife into operative relation with the fixed knife to cut the strip and press the cut portion against the article to be labeled substantially as shown and described.

14. A machine of the class described, comprising the following elements in combination, a bed plate, an endless strip carrying bobbin mounted thereon, a paste pan mounted in alinement with said bobbin, pasting means carried by the paste-pan, a fixed knife carried by the bed plate, a presser, a knife carried by said presser for coöperating with the fixed knife, means for normally holding said presser and its knife elevated, means interposed between the paste-pan and the fixed knife for feeding the address strip over the pasting means and to the knife and presser mechanism, means for lowering the presser and its knife into operative relation with the fixed knife to cut the strip and press the cut portion against the article to be labeled, and means coöperating with the presser for effecting a shearing action between said knives, substantially as shown and described.

15. A machine of the class described, comprising the following elements in combination, a bed plate, an endless strip carrying bobbin mounted thereon, a paste-pan mounted in alinement with said bobbin, pasting means carried by the paste-pan, a fixed knife carried by the bed plate, a presser, a knife carried by said presser for coöperating with the fixed knife, means to which said presser is pivotally secured for normally holding said presser and its knife elevated, means interposed between the paste-pan and the fixed knife for feeding the address strip over the pasting rollers and to the knife and presser mechanisms, means for lowering the presser and its knife into operative relation with the fixed knife to cut the strip and press the cut portion against the article to be labeled, and means engaging the presser while being lowered to move the same on its pivot to effect a shearing action between the knives, substantially as shown and described.

16. A machine of the class described, comprising the following elements in combination, a bed plate, an endless strip carrying bobbin mounted thereon, a paste-pan mounted in alinement with said bobbin, pasting means carried by the paste-pan, a fixed knife carried by the bed plate, a presser, a knife carried by said presser for coöperating with the fixed knife, means for normally holding said presser and its knife elevated, means interposed between the paste-pan and the fixed knife for feeding the address strip over the pasting means and to the knife and presser mechanism, means for lowering the presser and its knife into operative relation with the fixed knife to cut the strip and press the cut portion against the article to be labeled, means coöperating with the presser for effecting a shearing action between said knives, an article guide-board carried by the bed plate, and a feed board adjustably mounted on a projecting portion of the bed plate.

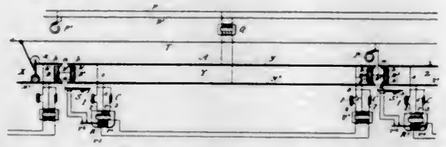
17. In a machine of the class described, a bed plate having an elongated portion and a laterally projecting portion, a pair of uprights mounted at one end of said elongated portion, a strip carrying bobbin mounted at the other end of said elongated portion, a paste-pan interposed between the uprights and the bobbin and in alinement therewith, said paste-pan having a drum shaped end adjacent the bobbin, a bar carried by the paste-pan adjacent the drum under which the address strip passes, a paste applying roller carried by the paste-pan over which the address strip passes, a pair of guides adjustably carried by the paste-pan for engaging each side of the address strip as it passes there across, a relatively fixed knife adjustably mounted on the bed plate between the uprights, a rotatable shaft mounted in said uprights, feed rollers carried by said rotatable shaft, said rotatable shaft projecting through one of said uprights, a pinion carried by the projecting portion of said shaft, a stub shaft carried by one of said uprights, a gear mounted on said stub shaft for engaging said pinion, a ratchet carried by said gear and stub shaft, a roller carrying frame pivotally mounted between said uprights, rollers carried by said frame for coöperating with the first mentioned feed rollers, means for normally holding the pivotally mounted frame with its rollers adjacent the first mentioned feed rollers, said address strip passing between said feed rollers, bearings mounted on said projecting portion of the bed plate, an arm pivotally mounted in said bearings, a presser pivotally mounted on the end of said arm, a knife carried by said presser for coöperating with the guides on the bed plate, a spring connecting the presser and the pivotally mounted arm for normally holding the presser elevated with relation to the arm, a post carried by the pivot portion of said arm, a pawl carried by said post and having an end for engaging said ratchet, means for normally holding said arm elevated, and means for drawing said arm down at times, substantially as shown and described.

18. In a machine of the class described, a bed plate having an elongated portion and a laterally projecting portion, a pair of uprights mounted at one end of said elongated portion, a strip carrying bobbin mounted at the other end of said elongated portion, a paste-pan interposed between the uprights and the bobbin and in alinement therewith, said paste-pan having a drum shaped end adjacent the bobbin, a bar carried by the paste-pan adjacent the drum under which the address strip passes, a paste applying roller carried by the paste-pan over which the address strip passes, a pair of guides adjustably carried by the paste-pan for engaging each side of the strip as it passes there across, a relatively fixed knife adjustably mounted on the bed plate between the uprights, a rotatable shaft mounted in bearings in said uprights, feed rollers carried by said rotatable shaft, said rotatable shaft projecting through one of said uprights, a pinion carried by the projecting portion of said shaft, a stub shaft carried by one of said uprights, a gear mounted on said stub shaft for engaging said pinion, a ratchet carried by said gear and stub shaft, a roller carrying frame pivotally mounted between said uprights, rollers carried by said frame for coöperating with the first mentioned feed rollers, means for normally holding the pivotally mounted frame with its rollers adjacent the first mentioned feed rollers, said address strip passing between said feed rollers, bearings mounted on said projecting portion of the bed plate, an arm pivotally mounted in said bearings, a presser pivotally mounted on the end of said arm, a knife carried by said presser for coöperating with the knife on the bed plate, a spring connecting the presser and the pivotally mounted arm for normally holding the presser elevated, with relation to the arm, a post

carried by the pivot portion of said arm, a pawl carried by said post and having an end engaging said ratchet, means for normally holding said arm elevated, means for drawing said arm down at times, and means for engaging the presser as the arm is drawn down to cause the cutter knives to effect a shearing action on the address strip and a feed-board held under the cutting mechanism, substantially as shown and described.

19. In an apparatus of the class deacribed, an endless strip carrying bobbin, a paste applying means, a pair of pivotally mounted strip side engaging guides mounted adjacent the paste applying means, means for feeding the endless strip over the paste applying means between the guides and to the articles to be labeled, combined with means for cutting a section off of the strip and applying it to the article to be labeled.

867,448. SIGNALING SYSTEM FOR RAILWAYS. LOUIS H. THULLEN, Edgewood, Pa., assignor to The Union Switch and Signal Company, Swissvale, Pa., a Corporation of Pennsylvania. Filed June 23, 1906. Serial No. 322,987.



1. In combination with an electric railway the track rails of which form part of the return path for the car propulsion current, a source of alternating current of one frequency for propelling the cars; and a signaling system for the railway which comprises track circuits each of which includes a source of alternating signaling current of a frequency different from the frequency of the propulsion current, and a relay responsive thereto, said relay being arranged with coils which when energized by the alternating propulsion current act to move the armature of the relay to open or hold open a circuit on a railway signal.

2. In combination with an electric railway the track rails of which form part of the return path for the car propulsion current, a source of alternating current of one frequency for propelling the cars; and a signaling system for the railway which comprises track circuits each of which includes a source of alternating signaling current of a frequency different from the frequency of the propulsion current, and a relay responsive thereto, said relay being provided with a field coil and an armature coil.

3. In combination with an electric railway the track rails of which form part of the return path for the car propulsion current, a source of alternating current of one frequency for propelling the cars; and a signaling system for the railway which comprises track circuits each of which includes a source of alternating signaling current of a frequency different from the frequency of the propulsion current, and a relay responsive thereto, said relay having a divided field coil and means in circuit with one half of said coil which will permit the flow of alternating current of one frequency and retard the flow of an alternating current of a different frequency.

4. In combination with an electric railway the track rails of which form part of the return path for the car propulsion current, a source of alternating current of one frequency for propelling the cars; and a signaling system for the railway which comprises track circuits each of which includes a source of alternating signaling current of a frequency different from the frequency of the propulsion current, and a relay responsive thereto, said relay having a divided field coil and a divided armature coil and means in circuit with one half of each coil which will permit the flow of alternating current of one frequency and retard the flow of an alternating current of a different frequency.

5. In combination with an electric railway the track rails of which form a part of the return path for the car propulsion current; a source of alternating current of one frequency for propelling the cars; a signal system for the electric railway which comprises railway signals, block sections, and track circuits for the block sections each of which track circuits includes a source of alternating current of a frequency different from the frequency of the propulsion current and a relay; each of said relays being operative by the combined action of two coils of said relay, said coils being differentially wound and so connected that the relay will operate in one direction by the car propulsion current, and in the reverse direction by the track current.

6. In combination with an electric railway the track rails of which form part of the return path for the propulsion current; a source of alternating current of one frequency for propelling the cars; a signal system for the railway which comprises railway signals, block sections, and track circuits for the block sections each of which track circuits includes a source of alternating signal current of a frequency different from the frequency of the propulsion current, and a relay; said relay being operated by the combined action of two coils, said coils being differentially wound and so connected that the relay will operate in one direction by currents of one frequency and in the reverse direction by currents of another frequency.

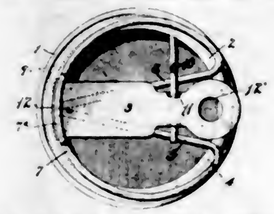
7. In combination with an electric railway the track rails of which form part of the return path for the propulsion current; a source of alternating current of one frequency for propelling the cars; a signal system for the railway which comprises railway signals, block sections and track circuits for the block sections; each of which track circuits includes a source of alternating signal current of a frequency different from the frequency of the propulsion current and a relay; said relay being operated by the combined action of two coils, said coils being differentially wound and having inductance and capacity in series with the different coils so as to produce a movement of the relay in one direction by current of one frequency and in a reverse direction by current of another frequency.

8. In combination with an electric railway the track rails of which form part of the return path for the propulsion current; a source of alternating current of one frequency for propelling the cars; a signal system for the railway which comprises railway signals, block sections and track circuits for the block sections, each of which track circuits includes a source of alternating signal current of a frequency different from the frequency of the propulsion current and a relay, said relay being operated by the combined action of two coils, said coils being differentially wound and having inductance and capacity in series with the different halves of the coil so as to produce a movement in one direction by current of one frequency and in the reverse direction by current of another frequency.

9. In combination with an electric railway the track rails of which form part of the return path for the propulsion current; a source of alternating current of one frequency for propelling the cars; a signal system for the railway which comprises railway signals, block sections and track circuits for the block sections; each of which track circuits includes a source of alternating signal current of a frequency different from the frequency of the propulsion current and a relay, said relay being operated by the combined action of two coils, said coils being differentially wound and having inductance and capacity in series with either of the coils, so as to produce a movement of the armature in one direction by current of one frequency and in the reverse direction by current of a different frequency.

867,449. CLIP OR HOLDER. JOHN W. L. TODD, St. Louis, Mo., assignor of one-half to Joseph Monnig, St. Louis, Mo. Filed July 10, 1906. Serial No. 325,441.

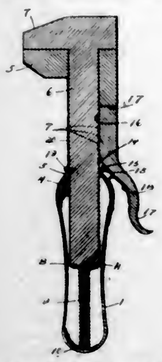
1. A device of the character described, comprising a top member provided with an inwardly extending flange, a frame arranged on the rear side of said member and consisting of a spring wire bent to form portions which extend under the flange on said member and also to form a clamping portion arranged above the portions previously referred to and coöperating with the edge portion of said top member, and a device carried by said frame and projecting under the clamping portion of the wire to move it away from the top member; substantially as described.



2. A device of the class described, comprising a top member, a clamping member formed of spring wire which is connected to said top member, and which is adapted to coöperate with said top member to form a clamp, and a pivotally mounted device having its inner end arranged in an offset in the clamping member for moving said member away from the top member; substantially as described.

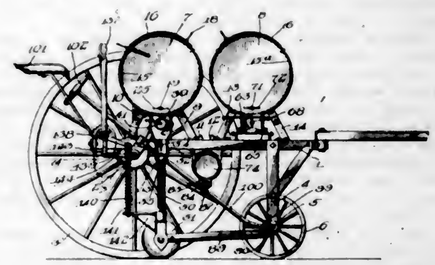
3. A device of the character described comprising a top member provided with an inwardly extending flange, a spring wire bent to form portions which extend underneath the flange on the top member to form a curved clamping portion conforming to the outline of the top member and coöperating with the edge portion thereof and also to form a fulcrum 10, and a lever provided with ears through which said fulcrum extends and having its inner end arranged in an offset of the curved clamping portion of the spring wire for moving it away from the top member; substantially as described.

867,450. WRENCH. RALPH TOWARD, Carnegie, Pa. Filed June 10, 1905. Serial No. 264,640.



A wrench comprising a hollow handle, a hollow shank connected with the handle, a jaw carried by the shank at its outer end, said shank having a longitudinal passage in its forward face, a movable outer jaw having a shank engaged within the hollow shank and extending into the handle, a spring secured to the inner end of the second named shank and within the handle, and arranged to hold the shank yieldably against outward movement, said movable shank having teeth upon its rearward face, said hollow shank having an opening at its rearward side to expose the teeth, and having ears at the lower end of the opening, a dog having an ear pivoted between the ears of the hollow shank and provided with teeth for engagement of those in the movable shank, to hold the latter against movement, a finger piece carried by the movable shank and extending outwardly through the longitudinal slot of the hollow shank for engagement to move the movable shank against the action of the spring, a finger piece carried by the dog and extending downwardly over the handle and in spaced relation thereto, and a spring secured to the handle and engaged with the inner surface of the finger piece, to hold the latter yieldably with the dog in engagement with the teeth of the movable shank.

867,451. PLANTING-MACHINE. THEODOR UMRATH, Chicago, Ill. Filed Oct. 26, 1906. Serial No. 340,682.



1. In a planting machine, the combination of a main frame, a receptacle supported thereby, a frame removably supported below said receptacle and carrying a series of feeding devices each communicating with said receptacle, and means for actuating said feeding devices.

2. In a planting machine, the combination of a main frame, a receptacle supported above said frame and provided with a series of openings through the bottom thereof, a frame removably secured to said last-named frame and carrying a series of feeding devices, each of these feeding devices having an open top which is adapted to be closed by the bottom of the receptacle without being connected therewith.

3. In a planting machine, the combination with a main frame, of a receptacle supported thereby, a removable frame carrying a feeding device provided with an open top, said receptacle having an opening in the bottom thereof adapted to communicate with the opening in the top of the said feeding device and said receptacle being hingingly supported so that it may be swung away from the feeding device.

4. In a planting machine, the combination of a main frame, a removable frame carrying a series of feeding devices having open tops, a receptacle above said main frame, said receptacle having a series of openings in the bottom thereof adapted to register with the open tops of the series of feed devices, said receptacle being horizontally supported that it may be tipped away from the feeding devices.

5. In a planting machine, the combination of a receptacle having a series of feed openings, said receptacle being tiltably supported, a series of feed devices having open tops adapted to register with said openings when the receptacle is in its normal position, but unattached thereto, a shaft rotatably arranged in said receptacle, and a series of pins carried by said shaft, said pins being arranged to rotate partly within the receptacle and partly within the feed device when the receptacle is in its normal position.

6. In a planting machine, a receptacle having a sheet metal bottom, said receptacle extending across the machine, and being provided with a plurality of elongated discharge openings stamped in said bottom and extending transversely of the length of said receptacle, a shaft carrying a plurality of pins, and means for causing said pins to travel within said cylinder and through said discharge openings, substantially as shown.

7. In a planting machine, the combination of a main driving axle, a frame, a series of feed devices supported by said frame, a shaft extending through said series of feed devices, two gear wheels loosely mounted upon said shaft, means for transmitting movement from the main axle to said gear wheels, said means causing said gear wheels to rotate in opposite directions, and a clutch longitudinally movable on the shaft and rotating therewith

and adapted to be thrown into engagement with either of said gear wheels.

8. In a planting machine, a receptacle, means for feeding material from said receptacle, a main axle, a differential gear disk loosely mounted upon said axle, power-transmitting means between said disk and said feeding devices, a clutch upon said axle, said clutch adapted to rotate with said axle and to have movement longitudinally of said axle, and means for moving said clutch into and out of connection with the differential gear disk.

9. In a planting machine, the combination of a main driving axle, power transmitting means loosely mounted upon said axle, a clutch adapted to establish communication between said axle and said power transmitting means, a shaft, a series of levers secured to said shaft, a series of planting devices, connections between each of said planting devices and one of said levers, connection between said clutch and said shaft, and a hand lever by which said shaft may be turned, whereby movement of said shaft and hand lever will simultaneously move the planting devices and the clutch.

10. In a planting machine, the combination of a main frame, a series of planting devices supported thereby, draft means at the forward end of the frame by which it may be drawn over the ground, a stationary axle, a wheel at each end of said axle, said wheels being adapted to be swung in a horizontal plane, means for steering said wheels whereby the turning of the draft means may be compensated and the planting devices made to travel substantially in straight lines, connecting means removably secured to said stationary axle, and a series of braces each hingingly secured at one of its ends to said last-named means and secured at its opposite end to one of the planting devices.

867,452. ELECTROLYTIC BLEACHING OF COTTON. AUGUST A. VOGELSANG, Dresden, Germany, assignor, by mesne assignments, to The British Hosiery and Electrolytic Bleaching Company, Limited, London, England. Original application filed Sept. 21, 1901, Serial No. 76,103. Divided and this application filed July 28, 1902. Serial No. 117,392.

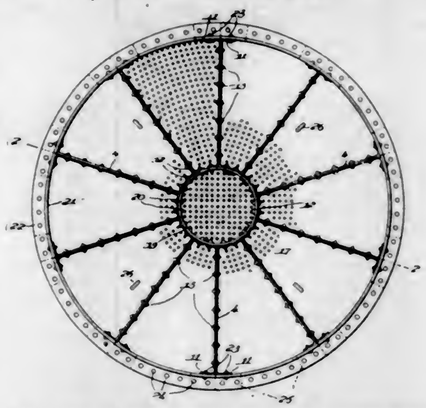
1. In the electrolytic bleaching of textile material in bulk, the process which consists in placing the whole of the material in a vat at one time, treating it with caustic solution, collecting from an electrolyzer bleaching liquor in a separate vessel in sufficient quantity to cover the whose bulk of the material and in sufficient strength to bleach it without further electrolytic treatment, admitting the collected liquor into the vat after the withdrawal of the caustic liquor, allowing the bleaching liquor to act *in situ* on the material continuously until said liquor is exhausted, substantially as described.

2. In the electrolytic bleaching of textile material in bulk, the process which consists in placing the whole of the material in a vat at one time, treating it with caustic solution, connecting from an electrolyzer bleaching liquor in a separate vessel in sufficient quantity to cover the whole bulk of the material and in sufficient strength to bleach it without further electrolytic treatment, admitting the collected liquor into the vat after the withdrawal of the caustic liquor, allowing the bleaching liquor to act *in situ* on the material continuously until said liquor is exhausted, then running off such exhausted bleach liquor, and finally treating the material with a single quantity of weak acid liquor, substantially as described.

867,453. COVER FOR BLEACH AND DYE VATS. FRANCIS R. VOSE, Manchester, N. H. Filed Mar. 11, 1907. Serial No. 361,679.

1. A cover for bleaching and dyeing vats, comprising perforated metallic segmental sections having integral, radially disposed side flanges, rigid connections between the abutting flanges of adjacent sections, an annular center member, and a concentric pressure-resisting ring, the inner and outer ends of the flanges being secured to the center member and the ring, respectively.

2. A cover for bleaching and dyeing vats, comprising perforated metallic segmental sections having integral, radially disposed side flanges, rigid connections between the abutting flanges of adjacent sections, an annular center member, to which the inner ends of the flanges are secured, and a peripheral, continuous pressure-resisting ring having a lateral flange, the outer ends of the section flanges being secured to the ring and the outer ends of the sections being secured to the lateral flange.



3. A cover for bleaching and dyeing vats, comprising a plurality of segmental sections formed of metallic plates perforated and having upturned radially disposed side flanges increasing in depth from the periphery of the cover toward its center, rigid connections between the abutting flanges of adjacent sections, a center member secured to the inner ends of the flanges, and a continuous pressure-resisting member rigidly secured to the outer ends of the sections and their flanges.

4. A cover for bleach and dye vats, comprising a circular, dished body portion, radial stiffening members thereon, and a continuous pressure-resisting member rigidly attached to the periphery of the body portion and to the outer ends of the stiffening members.

5. A cover for bleach and dye vats, comprising a perforated, circular and dished body portion, radial stiffening members thereon decreasing in depth from the center of the body toward its periphery, and a continuous pressure-resisting member rigidly attached to the outer ends of the stiffening members and having a base flange to which the periphery of the body portion is secured.

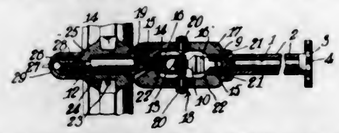
6. A cover for bleach and dye vats, comprising a circular, dished body portion composed of segmental metallic plates having upturned side flanges abutted against and rigidly connected with the flanges of adjacent plates, each pair of connected flanges forming a radial stiffening member, the ends of the flanges on each plate being inturned, a circular center member to which the inturned inner ends of the flanges are secured, and a continuous ring of angle iron secured to the inturned outer ends of the flanges and to the peripheral portions of the plates.

7. A cover for bleaching and dyeing vats, comprising a cup-like center member having a perforated bottom, a series of segmental sections each formed of a perforated metallic plate having upturned side flanges inturned at their ends, the inner ends of the flanges being secured to the circular wall of the center member, rigid connections between abutting flanges of adjacent sections, to form radial stiffening members, and a continuous pressure-resisting ring rigidly secured to the outer ends of the flanges and to the peripheral portions of the sections between the flanges, the sections sloping downward from the periphery to the center member, to dish the cover.

8. A cover for bleaching and dyeing vats, comprising a cup-like center member having a perforated bottom, a series of segmental sections each formed of a perforated metallic plate having upturned side flanges secured at their inner ends to the circular wall of the center member, a continuous strengthening ring above said member and to which the inner ends of the flanges are also secured, rigid connections between abutting flanges of adjacent sections, said flanges having a gradually decreasing depth from the center member outward, a continuous pressure-resisting ring secured to the outer ends of the flanges and having a base flange to which the peripheral portions of the sections are secured, and peripheral stiffening members secured to the under side of said sections below the base flange, said members crossing the joints of adjacent sections.

9. A cover of the class described, comprising a circular, dished body portion composed of segmental metallic perforated plates each having upturned side flanges decreasing in depth from the center outward, the abutting flanges of adjacent sections being riveted together to form radial stiffening arms for the body, a circular center member to which the inner ends of the flanges are riveted, and a continuous pressure-resisting ring riveted to the outer ends of the flanges and having an outwardly extended base flange riveted to the peripheral portions of the sections extended beneath said base flange.

867,454. VEHICLE-AXLE. SAMUEL C. WAGNER, Abilene, Tex. Filed Mar. 8, 1907. Serial No. 361,285.



1. An axle of the character described, means whereby said axle is driven, a bearing sleeve on said axle, a spindle, a universal joint connection between said spindle and axle, said connection comprising a central ball member and inner and outer members pivotally connected at diametrically opposite points to said central ball member, said inner and outer sections being formed in separable parts, means to secure said parts of the members together and into engagement with the inner end of the axle and the spindle, a two-part casing arranged around said joint, pivot bolts to pivotally connect said parts of the casing together, means to secure the inner section of said casing to the outer end of said bearing sleeve, a tubular cylindrical extension formed on the outer end of the outer section of said casing to receive said axle spindle, a hub revolubly mounted on said bearing extension and keyed to the outer end of said spindle, a locking pin arranged through the outer end of the spindle, and a cap adapted to be screwed on the outer end of the hub, substantially as described.

2. An axle of the character described, means whereby said axle is driven, a bearing sleeve on said axle, a spindle, a universal joint connection between said spindle and axle, said connection comprising a central ball member, and inner and outer members pivotally connected at diametrically opposite points to said central ball member, said inner and outer sections being formed in separable parts, means to secure said parts of the members together and into engagement with the inner end of the axle and the spindle, a two-part casing arranged around said joint, pivot bolts to pivotally connect said parts of the casing together, means to secure the inner section of said casing to the outer end of said bearing sleeve, a tubular cylindrical extension formed on the outer end of the outer section of said casing to receive said axle spindle, a hub revolubly mounted on said bearing extension, said hub having oppositely disposed grooves adapted to be brought into alinement with similar grooves in the end of the spindle, keys adapted to be inserted into said alined grooves, a locking pin adapted to be inserted through alined holes in the extension of said hub and in said spindle, and an internally threaded cap adapted to be secured on the threaded outer end of the extension on said hub, substantially as described.

867,455. FLOWER OR ORNAMENT HOLDER FOR GARMENTS. GEORGE WALKER, Newton, Mass. Filed Apr. 2, 1906. Serial No. 309,294.



1. A flower or ornament holder for garments, consisting of a supporting base which when in use is adapted to lie parallel with the surface of the garment, a pair of parallel arms which project into the area included within a circumscribing line connecting the extreme limits of the base, a pair of gripping members one attached to each arm, and which project at right angles thereto and to the plane of the base upon one side thereof within said area, and a spring to actuate each arm and tend constantly to press the gripping members together.

2. A button-hole ornament holder, consisting of a pair of parallel arms, a supporting base therefor which is adapted when in use to lie parallel with the surface of the garment, a hooked gripping member attached to each arm with the hook points turned in opposite directions in the same plane, which members extend at right angles to the supporting base upon one side thereof within the area circumscribed by a line passing through the extreme limits thereof, and which members are adapted to project through a button-hole and engage the ornament on the side of the garment opposite to the base, and a spring to actuate each arm and tend constantly to press the gripping members together.

3. A button-hole flower holder, comprising a pair of interlocking parallel arms each provided with a gripping member, which members project in the same direction at right angles to and upon one side of the plane, substantially, in which said arms and the base of the holder lie, and within the area bounded by a line passing through the extremes of said base, which members also are adapted to pass through a button-hole and grip a flower on the side of the garment opposite to said arms, and a spring which tends constantly to press said gripping members together.

4. A button-hole ornament holder, consisting of a pair of arms with parallel portions which overlap one another, a spring to actuate the arms, a gripping member which projects from each of said parallel portions in the same direction at substantially right angles thereto and to the plane practically in which the parts of the base of the holder lie, and within the area bounded by a line passing through the extreme limits of the base, which members are constantly pressed toward one another by the arm-actuating spring, and are adapted to extend through a button-hole and engage an ornament on the side of the garment opposite to said arms.

5. A button-hole ornament holder, consisting of a pair of arms with parallel portions which overlap and interlock and are adapted to slide longitudinally past each other within the area circumscribed by a line passing through the extreme limits of the holder base, a spring to actuate said arms, a pair of gripping members, one of which is attached to each of said parallel portions of the arms and projects therefrom at right angles to and upon one side of the plane in which the arms and base of the holder lie, and within said area of the base.

6. A button-hole ornament holder, consisting of a supporting base, a pair of parallel gripping members which project substantially at right angles to the plane of the base upon one side thereof within the area circumscribed by a line passing through the extreme limits of the base, spring actuated arms to which the said members are attached and which tend constantly to press the members together, and parts as *b*, *b'*, which serve as a part of the base and project from said arms in a direction substantially at right angles thereto and to the said gripping members and radially therefrom in a direction different from that of the other portions of the base, but in substantially the same plane therewith, and which parts

tend to prevent the gripping members from tilting while in use.

867,456. ELECTRODE FOR ARC-LAMPS AND METHOD OF MAKING THE SAME. WILLIAM S. WEEDON, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Dec. 10, 1903. Serial No. 184,653.



1. An arc lamp electrode containing the sub-oxid of titanium.

2. An electrode containing an electrically conductive oxid of titanium.

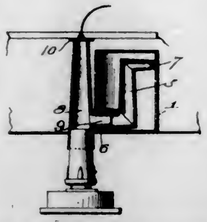
3. The method which consists in forming a mixture containing approximately seven parts of rutile and one part of carbon, forming electrodes out of the mixture, and then heating the electrodes to convert the mixture into titanium sub-oxid.

4. The method which consists in forming a mixture containing substantially seven parts of titanium oxid and one part of carbon, forming electrodes out of the mixture, and prior to the completion of the electrodes converting the mixture into titanium sub-oxid.

5. An arc lamp electrode formed of an oxid of titanium conducting at ordinary temperatures.

6. An electrode containing a chemical combination of titanium and oxygen in which the proportion of titanium to oxygen is greater than in the titanium oxid (TiO_2).

867,457. INCUBATOR-HEATER. JAMES W. WHITFIELD, Bigtimber, Mont. Filed Aug. 9, 1906. Serial No. 329,913.



In an incubator, a compartment provided with a support, a hot water pipe in the compartment and having its ends projecting therefrom, a boiler secured to and communicating with the ends of said pipe, said boiler having a filling opening and provided with a tapering angular passage between said opening and the ends of said pipe and extending from near the bottom of one side to near the top of the other side, a chimney exterior of and adjacent to the boiler and extending above and below the same, one side of the chimney, near its lower end, being provided with a tapering, laterally extending elbow removably inserted into the lower end of said passage, a damper above the chimney, and a damp upon the support with its chimney in the lower end of the first-mentioned chimney.

867,458. FENCING-FASTENER. JONAS H. WIEST, Indianapolis, Ind., assignor of one-half to Leonidas R. O'Haver, Indianapolis, Ind. Filed Feb. 6, 1907. Serial No. 355,993.

1. A fencing fastener comprising a straight body part at an end of which is a crook, a portion extending from the crook and having a loop extending therefrom, and a terminal part extending from the loop, all being formed of one piece of wire.

2. A fence post having straight sockets therein that extend downwardly and inwardly from the face of the post, and fencing fasteners having straight body parts that are in the sockets and also having loops exterior to the sockets.

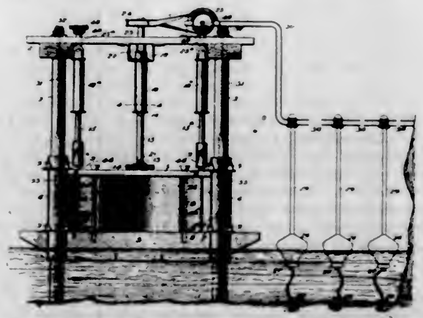


3. A fence post having straight sockets therein, one or more of the sockets extending upwardly and inwardly and the remaining sockets extending downwardly and inwardly from the face of the post, and fencing fasteners having straight body parts extending into the sockets.

4. A fencing fastener comprising a cylindrical body part, a crook at the end of the body part, a straight portion extending from the crook, a loop extending from the straight portion, and a terminal part extending from the loop to be bent to form an eye, all parts being integrally connected together.

5. The combination of a fence post, horizontal fencing wires, vertical wires attached to the horizontal wires, a plurality of fencing fasteners embedded in the post and secured to the horizontal wires, the fasteners having straight main body parts, one or more of the body parts extending inwardly and upwardly and the remaining body parts extending inwardly and downwardly from the face of the post.

867,459. WATER-CURRENT MOTOR. CHARLES H. WILLARD, Pasadena, Cal. Filed Jan. 21, 1907. Serial No. 353,299.



1. In a water current motor, the combination with a waterwheel, of a casing therefor, an inlet opening for directing the water into the casing, a pair of swinging gates for directing the water to the opening when they are open and adapted to close together in angular arrangement to each other when closed, chains connected to the gates, and means for simultaneously operating the chains to simultaneously open or close the gates.

2. In a water current motor, the combination with a water wheel, of a casing therefor, an inlet opening for directing the water into the casing, a pair of swinging gates for directing the water to the opening, endless

flexible connections attached to the gates, and means for simultaneously operating said endless flexible connections.

3. In a water current motor, the combination with a waterwheel, of a casing therefor, an inlet opening for directing the water into the casing, a pair of swinging gates for directing the water to the opening when they are opened and adapted to close together in angular arrangement to each other when closed, a rotary shaft carrying wheels, endless flexible connections passing around the respective wheels and respectively connected to the gates, and other wheels around which the respective flexible connections pass.

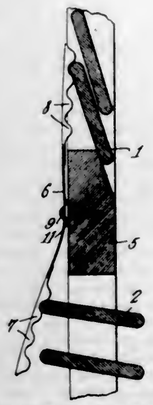
4. In a water current motor, the combination with a float, adapted to rise and fall, and means for guiding the float, of a waterwheel and waterwheel casing carried by the float, a platform which is stationary in relation to the float, and a telescopic shaft journaled in the platform and operatively connected to the waterwheel, whereby the float may rise and fall without interfering with the transmission of power from the waterwheel.

5. In a water current motor, the combination with a float adapted to rise and fall, and means for guiding the float, of a waterwheel and waterwheel casing carried by the float, a gate or closure for regulating the flow of water into the waterwheel casing, a platform which is stationary in relation to the float, and a telescopic shaft journaled in the platform and operatively connected to the gate, whereby the float may rise and fall without interfering with the operation of the gate.

6. In a water current motor, the combination with pillars, of a float, a platform above the float, a waterwheel carried by the float, a waterwheel shaft passing through the platform, and sleeves connected to the float and to the platform and encircling the pillars.

7. In a water current motor, the combination with pillars, of a float, a platform above the float, a waterwheel carried by the float, a waterwheel shaft passing through the platform, sleeves connected to the float and to the platform and encircling the pillars, and antifriction rollers carried by the float and platform which bear upon the pillars and guide the float and platform in their up and down movements.

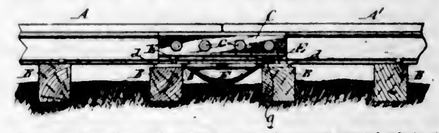
867,460. BLIND-SLAT FASTENER. WALTER W. WINSLOW, Laredo, Tex. Filed Mar. 2, 1907. Serial No. 360,186.



1. A slat retaining device for window shutters embodying a resilient member pivoted to turn in a plane parallel to the plane of the shutter frame and having projections at one end adapted to coöperate with adjacent slats of the shutter.

2. A slat retaining device for window shutters embodying a resilient member having sets of projections formed on its opposite ends and spaced longitudinally thereof, said projections being adapted to coöperate with the edges of the adjacent slats and connected respectively to the upper and lower sets, and means for pivoting the spring member at an intermediate point to the window shutter and permitting a turning movement thereof in a plane parallel to the plane of the shutter.

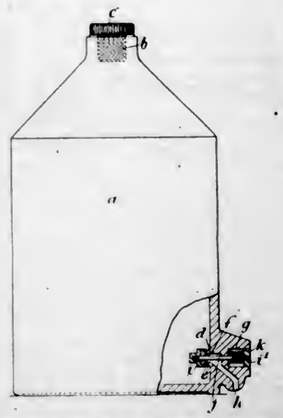
867,461. BRIDGE FOR RAIL-JOINTS. WILLIAM H. WOODCOCK, Buffalo, N. Y., assignor to Niagara Forged Steel Company, Buffalo, N. Y., a Corporation of New York. Filed Oct. 29, 1906. Serial No. 340,936.



1. A bridge for rail joints pressed out of metal plate to form a flat upper surface, and a hollow stiffening rib—arranged lengthwise and centrally on the underside of the plate, said rib being depressed out of the stock of the plate and both sides of the central part of the same being drawn inwardly so as to leave wide end portions on the bridge and a narrow central part which is of uniform thickness and forming recesses on both sides of the plate, substantially as set forth.

2. A bridge for rail joints comprising a sheet metal plate pressed to form a flat upper surface, a hollow stiffening rib arranged lengthwise and centrally on the underside of the plate, and retaining hooks which are arranged adjacent to diagonally opposite corners of the plate and opening inwardly and which are adapted to receive wedges whereby the fish plates of the rails are tightened on the bridge, said hooks being punched out of the stock at the end of the plate and said rib being formed by depressing the central part of the plate and contracting the sides of the same so as to retain the metal at this part of the plate of uniform thickness and leave wide ends on the bridge, substantially as set forth.

867,462. JAR OR OTHER VESSEL FOR CONTAINING GASEOUS LIQUIDS AND THE LIKE. NORMAN WRIGHTSON and WILLIAM BROWN, Croydon, England; said Brown assignor to said Wrightson. Filed July 27, 1906. Serial No. 328,114.



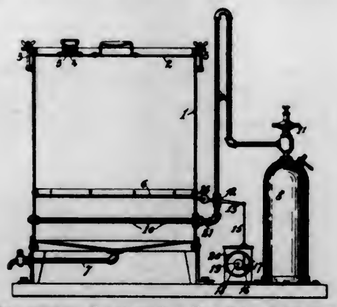
1. The combination with a vessel for holding liquids having an integral projection on its side wall adjacent to the bottom thereof, said projection having a horizontally disposed aperture extending therethrough to the interior of the vessel and a downwardly inclined discharge passage in communication with the interior of the vessel, of a

valve stem projecting into said horizontally disposed aperture, said stem being provided at its inner end with a valve closing said discharge aperture, substantially as described.

2. The combination with a vessel for holding liquids having an integral projection on its side wall adjacent to the bottom thereof, said projection being provided on its outer face with a recess, and having a horizontally disposed aperture extending from said recess to the interior of the vessel and a downwardly inclined discharge aperture in communication with the interior of the vessel, of a valve stem projecting into said horizontally disposed aperture, the outer end of said stem terminating in said recess, said stem being provided at its inner end with a valve for closing said discharge aperture, substantially as described.

3. The combination with a vessel for holding liquids having an integral external projection adjacent to but located above the plane of the bottom of the vessel, said projection having a recess in its outer face, a horizontally disposed aperture extending from said recess to the interior of the vessel and a downwardly inclined discharge aperture in communication with the interior of the vessel and extending to the bottom of said projection, of a valve stem projecting through said horizontally disposed aperture to the interior of the vessel and having its other end terminating in said recess in said projection, said stem being provided at its inner end with a valve for closing said discharge aperture, whereby the discharge aperture is prevented from being soiled by coming into contact with the support for the vessel and the end of said valve stem housed in said recess in said projection, thus preventing accidental operation of the same, substantially as described.

867,463. METHOD AND APPARATUS FOR PRESERVING LIVE FISH. JOHN G. YINGLING, Port Clinton, Ohio. Filed Dec. 26, 1906. Serial No. 349,392.



1. The process of preserving live fish which consists in confining the fish in water in a tank of limited depth and area and then, during the storage period, at regular predetermined intervals, supplying to and mixing with the water a regulated volume of oxygen.

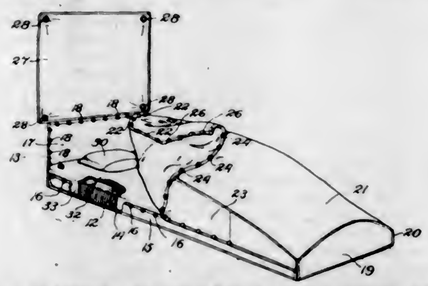
2. The process of preserving live fish which consists in confining the fish in water in a tank of limited depth and area, then during the storage period, supplying to and mixing with the water a suitable volume of oxygen and then confining the gas in the water tank at a pressure greater than atmospheric pressure.

3. In an apparatus of the described character, a tank, a gas-holder, connections between the tank and the gas-holder, a reducing valve for delivering gas from said holder through said connections at a uniform pressure, and an escape-valve connected with the top of the tank arranged to control the pressure of the gas in the tank.

4. An apparatus of the described character, comprising a tank, a foraminous false bottom in the tank, a gas-holder, a pipe leading from the chamber of the gas-holder into the lower part of the chamber of the tank, means for delivering gas through said pipe into the tank at a uniform regulated pressure, a valve in said pipe, and means for automatically opening and closing said valve at predetermined intervals.

5. In an apparatus of the described character, a tank, a gas-holder, connections between the tank and gas-holder, means for delivering gas through said connections at uniform pressure, a valve in said connections, and means for automatically opening and closing said valve at predetermined intervals.

867,464. PNEUMATIC SLEEPING-BAG. THOMAS A. ABBOTT, Reading, Mass., assignor of one-half to Metropolitan Air Goods Co., Reading, Mass., a Corporation of Massachusetts. Filed Apr. 15, 1907. Serial No. 368,408.



1. A sleeping bag comprising a bottom portion, head and foot end portions, front and rear side portions, and a top portion, the front side portion being composed of a lower longitudinal section attached to the bottom portion, and an upper longitudinal section attached to the top portion, and overlapping the lower section, the upper section having fastening members at its lower edge and head end, adapted to engage complemental fastening members on the lower section and the front end of the head portion, while the top portion has fastening members at its head end adapted to engage complemental fastening members at the upper edge of the head portion, and a pneumatic mattress bearing on the bottom portion and confined thereon by the side and end portions.

2. A sleeping bag comprising a bottom piece, head and foot pieces attached to the ends of the bottom piece, the head piece having fastening members at one end and at its upper edge, a lower front side piece attached to one longitudinal edge of the bottom piece, and provided with fastening members, a wider rear side piece attached to the opposite longitudinal edge of the bottom piece, a top piece attached to the rear side piece and to the foot piece, and provided at its head end with fastening members adapted to engage the fastening members at the upper edge of the head piece, an upper front side piece attached to the front edge of the top piece, and provided at its lower edge with fastening members adapted to engage the fastening members on the lower front side piece, and at its head end with fastening members adapted to engage the fastening members on the front end of the head piece, and a pneumatic mattress bearing on the bottom piece and confined thereon by the side and end pieces, the end pieces, the rear side piece and the upper front piece projecting above the mattress and forming a body chamber adapted to be opened and closed at the front side and at the head end of the bag, the mattress being deflatable to permit the folding of the entire structure.

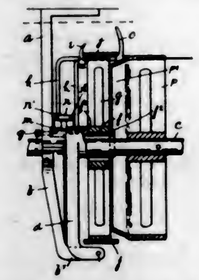
867,465. COMBINATION BABY-CARRIAGE AND HIGH CHAIR. JOHN L. BACON, Joliet, Ill., assignor of one-third to Lem Norham and one-third to Maurice A. Grant, Joliet, Ill. Filed Feb. 23, 1907. Serial No. 359,095.

A combination go-cart and high-chair, the combining mechanisms consisting of two bars connected to the spindles on the out side of the front wheels, two bars connected to the axle on the inside of the hind wheels, each bar having hinge connection with the opposite bar connected to the other axle or spindle, the bars 3 having hinge connections with the bars 5, the bars 2 having hinge connections with the supports 7, the handles 1 having hinge connections with the bars 5 and bars 6, bars 5 having hinge connections with seat 11, supports 7 rigidly connected to seat 11, by means of which mechanisms the vehicle can be positioned as either a go-cart or high-chair by



bringing bars 5 and handles 1 in lengthwise conjunction and keying them with clamps 15, as shown in Fig. 2, or releasing with said clamps, and allowing the vehicle to lower until the bars 2 and the bars 3 are locked by brace 21, as shown in Fig. 1, and the above named mechanisms in combination with the hinge connection of the back and seat, and slots in arms 12, and supports 7, by means of which the vehicle can be folded, all substantially as illustrated and set forth.

867,466. BELT-SHIFTER. SAMUEL R. BAILEY, Amesbury, Mass. Filed Jan. 4, 1907. Serial No. 350,733.



1. In combination with a fast pulley, a belt driven thereby, an idle pulley, a hub on which said idle pulley is mounted, and a pivotal support for said hub located to hold the idle pulley at one side of the fast pulley in position to permit the idle-pulley to be swung to carry the belt into engagement with the fast pulley, substantially as described.

2. In combination with a fast pulley, a belt driven thereby, an idle pulley, a hub on which said idle pulley is mounted, and a pivotal support for said hub located beneath the rim of the idle pulley and in position to hold the same at one side of the fast pulley to permit it to carry the belt into engagement with the fast pulley, substantially as described.

3. In combination with a fast pulley, a belt driven thereby, an idle pulley, a hub on which said idle pulley is mounted, and a pivotal support for said hub located to hold the idle pulley at one side of the fast pulley in position to permit the idle-pulley to be swung to carry the belt into engagement with the fast pulley, said pivotal support being also so located that the center of gravity of said hub and said idle pulley passes thereover as the idle pulley is moved to carry the belt towards the fast pulley, substantially as described.

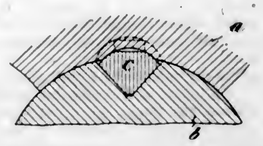
4. In combination with a fast pulley, a belt driven thereby, and a belt holder at one side of said fast pulley adapted to support the belt with its edge portion projecting therefrom and to carry said edge portion into engagement with the fast pulley, said fast pulley having an obliquely and inwardly extending belt-guiding projection at its edge, adjacent the holder, adapted to extend within said projecting portion of the belt out of contact therewith, substantially as described.

867,467. ROPE-BUCKLE. CHARLES W. BAKER, Paw Paw, Mich. Filed Nov. 4, 1904. Serial No. 231,440.



In a rope buckle, the combination of a main loop, oblong in form, provided with an eye extension at one end, the central portion of said main loop on one side being reduced to a cylindrical journal to form a tongue pivot and having laterally and outwardly projecting separated stop lugs at each end of said tongue pivot; a tongue arranged transversely across said loop and provided with malleable fingers which embrace said pivot and provided with lateral projections to engage the said stop lugs on the loop, coacting for the purpose specified.

867,468. WEDGE CONNECTION BETWEEN AXLE-TREES AND NAVES. CLEMENS VON BECHTOLSHEIM, Munich, Germany. Filed Sept. 11, 1905. Serial No. 278,046.



1. A key connection comprising a part provided with a groove formed of two flat faces disposed at an angle to each other; a nave part provided with a curved groove arranged at an inclination to the groove in the first mentioned part; and a key having on one side a pair of plane faces arranged at an angle to each other and fitting the first named groove and having on the opposite side a curved face fitting the second named groove and inclined longitudinally of the key relatively to the faces on the first mentioned side.

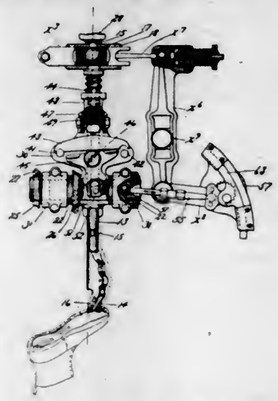
2. A key having one side wedge shaped and formed by a pair of plane faces arranged at an angle to each other and having on its opposite side a convex face inclined longitudinally of the key.

3. A key connection comprising a part provided with a groove formed of two flat faces disposed at an angle to each other; a nave part provided with a curved groove arranged at an inclination to the groove in the first mentioned part; and a key having on one side a pair of plane faces arranged at an angle to each other and fitting the first named groove, and having on the opposite side a curved face fitting the second named groove and inclined longitudinally of the key relatively to the faces on the first-mentioned side; said curved face of the key having an interrupted portion at its top.

4. A key having on one side a pair of plane faces arranged at an angle to each other, and having on its opposite side a curved face inclined longitudinally of the key; said curved face of the key having an interrupted portion at its top.

5. A key having a face parallel to the axis of the key and a convex face inclined relatively to the first named face and provided with an interrupted portion.

867,469. LASTING-MACHINE. WILLIAM A. BOND, Lynnfield, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Feb. 23, 1906. Serial No. 302,484.



1. In a machine for working an upper over a last, the combination with grippers, of actuating mechanism arranged for moving the grippers laterally to plait the upper, and means for limiting the lateral movement of the grippers.

2. In a machine for working an upper over a last, the combination with grippers, of actuating mechanism arranged for moving the grippers laterally to plait the upper, and means for limiting the lateral movement of the grippers, said means being adjustable to vary the extent of lateral movement which the grippers may have imparted to them.

3. In a machine for working an upper over a last, the combination with grippers and means for operating them to grip and release the upper, of actuating mechanism comprising a yielding element arranged to move the grippers from one side of the machine across the median line of the machine to the opposite side thereof for plaiting the upper, and means for preventing overthrow of the grippers caused by the reaction of the yielding element after the grippers have released the stock.

4. In a machine for working an upper over a last, the combination with grippers, of actuating mechanism, comprising a yielding element, arranged for moving the grippers laterally toward and from gripping position for the purpose of plaiting the upper, and means for limiting the lateral movement of the grippers in each direction.

5. In a machine for working an upper over a last, the combination with grippers, of actuating mechanism comprising a yielding element arranged to move the grippers from one side of the machine across the median line of the machine to the opposite side thereof for plaiting the upper, and means arranged to be positioned for stopping the lateral movement of the grippers approximately at the median line of the machine.

6. In a machine for working an upper over a last, the combination with grippers, of actuating mechanism for moving the grippers laterally and turning them, and means for varying the relative extents of said lateral and turning movements.

7. In a machine for working an upper over a last, the combination with grippers, of actuating mechanism for moving the grippers laterally and turning them, and means for arresting one of said movements while the other movement continues.

8. In a machine for working an upper over a last, the combination with grippers, of actuating mechanism for moving the grippers laterally and turning them, and means for arresting the lateral movement while the turning movement continues.

9. In a machine for working an upper over a last, the combination with grippers, of actuating mechanism for moving the grippers laterally to plait the upper, and means for arresting the lateral movement, said machine having provision for turning the grippers after the lateral movement has been arrested.

10. In a machine for working an upper over a last, the combination with grippers, of actuating mechanism therefor having a predetermined stroke, a yielding connection arranged between the actuating mechanism and the grippers and having sufficient strength to insure the movement of the grippers to a desired position, and means for preventing the movement of the grippers beyond said desired position.

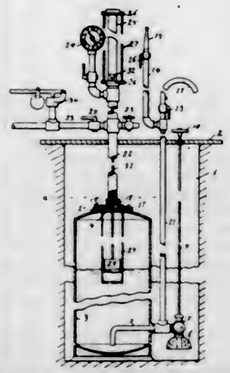
11. In a machine for working an upper over a last, the combination with grippers, means for actuating the grippers to engage the upper and mechanism adapted to impart yieldingly to the grippers while they have hold of the stock a movement in excess of the distance it is desired to pull the stock, of means for arresting the movement of the grippers and thereby regulating the pulling strain on the stock.

12. In a machine for working an upper over a last, the combination with grippers, of a carrier therefor and actuating mechanism for moving the grippers laterally, said actuating mechanism comprising a slide mounted for movement with relation to said carrier, a yielding connection between the slide and the carrier, and means for limiting the movement of the grippers independently of the movement of the slide.

13. In a machine for working an upper over a last, the combination of grippers movable laterally to form a plait in the upper, and means to limit the lateral movement, of means for actuating the grippers to tighten the plait at its edge adjacent to the unlasted portion of upper after the lateral movement has been discontinued.

14. In a lasting machine, the combination with grippers and actuating mechanism therefor including means for yieldingly moving the grippers laterally to plait the upper, of means comprising coöperating relatively adjustable stop members one of which is movable with the grippers for limiting the lateral movement of the grippers.

867,470. PNEUMATIC WATER-ELEVATOR. JOHN E. BOURNE and ORLANDO W. STEVENS, Somerville, Ohio; said Stevens assignor to said Bourne. Filed May 28, 1906. Serial No. 319,015.

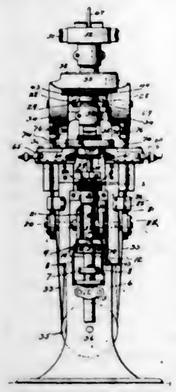


The combination of a pressure tank provided with an opening in its top and with a filling pipe near its bottom, said filling pipe being provided with a strainer and with a hand actuated inlet valve, a discharge pipe branching from the filling pipe between the valve and the tank and provided with a stop cock, a cover removably secured over the opening, a cage depending therefrom within the tank, a vertical air pipe communicating through the cover with the tank and provided with a pet cock and with a pressure gage, a glass tube closed at one end and removably secured with its other end on the upper extremity of said pipe and in the extended axial line thereof, a float within the cage and provided with a rod which is vertically movable thereby within the air pipe and which rod terminates in an indicator within the glass tube, and an air supply pipe provided with a safety valve and with a lever cock communicating with the vertical air pipe.

867,471. PAPER OR BOARD. EDMUND BOUSEK, Wiener Neustadt, Austria-Hungary, executor of Christian Esser, deceased, assignor, by mesne assignments, to Edward P. Metcalf, Providence, R. I., and Adolph Loewenthal and Clifford E. Dunn, New York, N. Y., trustees. Original application filed Dec. 20, 1905, Serial No. 292,661. Divided and this application filed Mar. 17, 1906. Serial No. 306,607.

A process of forming paper or board and the like from half stuff containing peat fibers and the natural gelatinous matter of the peat, which process consists in floating the intimately mixed fibers and gelatinous matter of the half stuff and then running said fibers and gelatinous matter into paper or board and the like.

867,472. CAN-HEADING MACHINE. JULIUS BRENZINGER, New York, N. Y., assignor to The Max Ams Machine Company, New York, N. Y., a Corporation of New York. Filed Feb. 16, 1903. Serial No. 143,620.



1. In a can-heading machine, in combination with a chuck, a plurality of seam-forming rollers, a plurality of seam-locking rollers, a separate oscillatory carriage for each set of rollers, a pattern cam, and pattern-cam rollers for each set of seaming rollers, a sliding support on each carriage on which said rollers are mounted and means to independently and successively move each set of rollers toward and from the chuck, substantially as described.

2. In a can heading machine, a plurality of seaming rollers, a common slide for said rollers and means for permitting the oscillation of said slide, substantially as described.

3. In a can heading machine, in combination with a pattern cam, an oscillatory carriage, a plurality of seaming rollers mounted on said carriage, a chuck and means to move said rollers toward and from said chuck, substantially as described.

4. In a can-heading machine, in combination with a chuck, a pattern-cam, a plate extending rigidly from the main frame, a frame having a disk fixed thereon and rotatably mounted on said plate, said frame forming a roller carriage, pattern rollers mounted on said carriage, a seaming roller-support housed in said carriage, one part of said support being slidable and the other part being adjustably fixed thereon, means intermediate said parts to effect a sliding movement of one part toward and from the chuck, said means connected to the adjustable part and means to adjust said part, substantially as described.

5. In a can heading machine, a seaming roller, a movable member carrying said roller and a toggle-lever for actuating said member, substantially as described.

6. In a can heading machine a seaming roller, a slide and a toggle-lever for actuating said slide, substantially as described.

7. In a can heading machine, a seaming roller, a movable member carrying said roller, a toggle-lever for actuating said member and a cam for operating said toggle-lever, substantially as described.

8. In a can heading machine, a seaming roller, a movable member carrying said roller, a toggle-lever for actuating said member, a cam for operating said toggle-lever, and a rocking lever between said cam and toggle-lever, substantially as described.

9. In a can heading machine, a pattern cam, an oscillatory support, a slide carried by said support, a seaming roller carried by said slide, and a roller carried by said support and engaging said pattern cam, substantially as described.

10. In a can heading machine, a pattern cam, a seaming roller, a slide carrying said roller, an oscillatory support for said slide, and a toggle-lever for actuating said slide, substantially as described.

11. In a can heading machine, a seaming roller, a slide on which said roller is mounted, a toggle-lever for actuating said slide having an arm engaging said slide, a block engaging the other arm, and a yielding buffer engaging said block, substantially as described.

12. In a can heading machine, a seaming roller, a slide carrying said roller, a support for said slide, screws fixed to and projecting from said support, a bar mounted on said screws, and an adjusting screw carried by said slide and extending through said bar, substantially as described.

13. In combination with a two-part slide, a seaming roller carried by one of said parts, a toggle-arm pivoted to one part and another toggle-arm pivoted to the other part, and a toggle-finger for operating said toggle-arms, substantially as described.

14. In combination with a two-part slide, a seaming roller carried by one of said parts and an adjusting screw carried by the other part and means to operate said slide, substantially as described.

15. In a can-heading machine, in combination with a chuck, a rotatably and vertically movable can-supporting table, gearing for synchronously rotating said chuck and table, driving means, a clutch between chuck and driving means, said table normally out of engagement with said gearing, and means for throwing said clutch into operation and for moving the table into engagement with the gearing upon the raising of the table, substantially as described.

16. In a can-heading machine, a chuck and a vertically movable can-supporting table, means for positively rotating both table and chuck, seaming rollers, means to advance said rollers to their work, driving means and controlling means to connect said driving means to said chuck, table and advancing means, and a lever which simultaneously raises said table to position a can and actuates said controlling means to throw the mechanisms into operation, substantially as described.

17. In a can-heading machine, in combination with a vertically-movable can-supporting table, seaming rollers, driving means, a lever for raising said table to position a can, a rod connected with said lever, a cam controlling said rod, means for advancing the rollers to their work, and means whereby the advancing means and the table are simultaneously connected to the driving means by the raising of the table, said cam operating to release the table and advancing means when the can has been seamed, substantially as described.

18. In combination with a rotatable table, a rotary chuck, driving means, a clutch, a brake, and an operating member and means to raise said table, engage the clutch and release said brake by the actuation of said operating member, substantially as described.

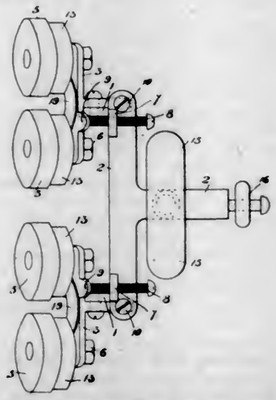
19. In a can-heading machine, a rotatable can-seaming mechanism, an operating lever, a driving mechanism, a locking mechanism, a clutch mechanism, and a brake, in combination with a rocking arm connected to said lever and locking mechanism, an arm for operating said clutch and a connection between said locking mechanism, arm and clutch arm, a brake operating arm and a connection between said clutch operating and brake operating arm, substantially as described.

20. In combination with an operating lever, a driving mechanism, seaming rollers, a rotatable can-table, means to connect said rollers and table to the driving means by the same movement of the lever, a can rotating mechanism a shaft, a cam on said shaft, having a depression, a swinging frame, a roller in said frame adapted to engage said cam, substantially as described.

21. In combination with a driving mechanism, a can rotating mechanism, a clutch between said mechanisms, comprising pivoted clutch shoes, toggle-arms connected to said shoes, a slide, a cam, said slide having means to bear on said cam, and a return spring for said slide, substantially as described.

22. In a can-heading machine, in combination with a chuck, a rotatable shaft on which said chuck is fixed, a driving pulley loosely surrounding said shaft, a clutch fixedly connected to said shaft, a brake wheel fixed directly on said chuck shaft, a brake engaging said wheel, a lever for releasing said brake and means for automatically applying the same, substantially as described.

867,473. APPARATUS FOR SHARPENING THE KNIVES OF GUILLOTINE CUTTING-MACHINES. ARTHUR V. BROWN, London, England. Filed May 7, 1907. Serial No. 372,415.



1. In a device for sharpening knives, the combination of a frame, one or more grinding disks carried by and adapted to oscillate with respect to said frame, and adjustable means for limiting the oscillation of said disks.

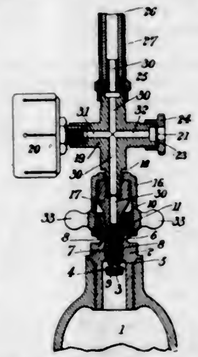
2. In a device for sharpening knives, the combination of a frame, one or more revoluble and yieldable grinding disks carried by said frame, and resilient tread surfaces for said disks.

3. The combination with a movable frame, of one or more arms pivotally connected thereto, one or more revoluble and yieldable grinding disks mounted thereon, projections carried by said arms, and adjustable means mounted on said frame for engaging said projections and thereby limiting the movement of the arms.

4. In a device for sharpening knives, the combination of a movable frame, one or more arms pivotally connected thereto, a revoluble grinding disk, a metallic bushing, a block having a resilient tread carried by said bushing and secured to said disk, a spring engaging the lower flanged portion of said bushing, and an axle extending through said bushing and spring and detachably secured to said arm.

5. In a device for sharpening knives, the combination of a frame and one or more grinding disks carried by said frame, of means for causing said disks to automatically adjust themselves to the angle of the knife edge and the position of the knife.

867,474. DEVICE FOR INFLATING TIRES, &c. ROBERT H. CAMPBELL, Edmonton, England, assignor to Aerators Limited, Angel Road, Edmonton, England. Filed Sept. 29, 1906. Serial No. 336,730.



1. A device for inflating pneumatic tires and for other purposes; the said device consisting of a cylinder provided with a valve and an attachment provided at one end with means for opening the valve and at the other end with means for attachment to the nozzle of the inlet valve of the tire, or the equivalent, to which gas is to be supplied, the said attachment also being provided with a branch therefrom carrying a pressure gage.

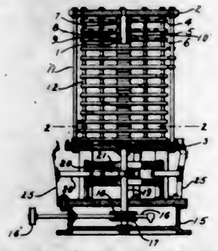
2. A device for inflating pneumatic tires and for other purposes; the said device consisting of a cylinder provided with a valve and an attachment provided at one end with means for opening the valve and at the other end with means for attachment to the nozzle of the inlet valve of the tire, or the equivalent, to which gas is to be supplied the said attachment being also provided with a branch therefrom carrying a safety device.

3. A device for inflating pneumatic tires and for other purposes; the said device consisting of a cylinder provided with a valve and an attachment consisting of a perforated cross-piece the arms of which respectively carry gas liberating means, a pressure gage, a safety device and means for attachment to the nozzle of the inlet valve of the tire, or the equivalent, to which gas is to be supplied.

4. A device for inflating pneumatic tires and for other purposes; the said device consisting of a cylinder provided with a valve in a piece screwed into the neck of the cylinder and having, on its upper end, a screw adapted to receive the attachment for opening the valve and for connection with the nozzle of the inlet valve of the tire, or the equivalent, to which gas is to be supplied and a cap adapted to be screwed onto the last named screw and perforated for the passage of a wire, or the like, a recess for the said wire, or the like, in the piece which carries the valve and a seal applied to the said wire, or the like.

5. A device for inflating pneumatic tires and for other purposes; the said device consisting of a cylinder provided with a valve in a piece screwed into the neck of the cylinder and with a groove therein to receive a sealing wire, or the like, an attachment consisting of a perforated cross-piece the arms of which respectively carry gas-liberating means, a pressure gage, a safety device, and a tube for attachment to the nozzle of the tire, or the equivalent, to which gas is to be supplied and a cap perforated for the said wire, or the like, and adapted to be screwed onto the piece carrying the valve when the aforesaid cross-piece is removed therefrom.

867,475. MOTOR-STARTING RHEOSTAT. EUGENE R. CARICHOFF, East Orange, N. J., assignor to General Electric Company, a Corporation of New York. Filed May 25, 1905. Serial No. 262,172.



1. A controller for electric motors, comprising a plurality of resistance units and contacts for varying the circuit arrangements thereof, a movable element coöperating with said contacts, and means whereby the said contacts may be successively operated to start the motor by moving said element from any position as a starting point.

2. A circuit controller, comprising a plurality of resistance units arranged in series, a short-circuiting device for each of said units, a movable controlling element, and means whereby said devices may be successively operated to cut out said resistance units by moving said element from any position as a starting point.

3. A circuit controller, comprising a plurality of resistance units arranged in series, circuit-closers for independently short-circuiting each of said units, a movable controlling element for electro-magnetically operating said closers successively to cut out said units, and electromagnetic means for maintaining the same in a closed position independently of said element.

4. A circuit controller, comprising a plurality of resistance units arranged in series, a normally open short-circuiting device for each of said units, an electromagnet arranged to maintain said devices in a closed position, and an armature coöperating therewith mounted for movement into operative relation with said devices to electromagnetically close the same.

5. A circuit controller, comprising a series of resistances and short-circuiting switches therefor, means for successively operating the same comprising an electromagnet arranged to hold the switches closed, and an armature within the field thereof mounted for movement to electromagnetically influence said switches to operate the same.

6. A controller for electric circuits comprising a plurality of resistance units arranged in series, each composed of spirals electrically connected at their inner ends, a short-circuiting device for each of said units, and electrical connections between said short-circuiting devices and the outer ends of said spirals.

7. A controller for electric circuits comprising a plurality of resistance spirals electrically connected in pairs at their inner ends, a short-circuiting device for each of said pairs, and electrical connections between said short-circuiting devices and the outer ends of said pairs.

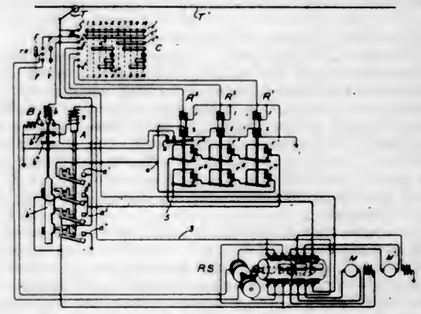
8. A controller for electric circuits comprising a shaft, a series of spiral resistance grids supported thereon at their inner ends, and a conducting rod in electrical connection with each grid at its outer end, the successive grids being in electrical connection alternately through the inner ends and the rods.

9. A controller for electric circuits comprising a series of spiral resistance grids, a shaft for centrally supporting the same, and a series of conducting rods supporting said grids at their outer ends and in electrical connection therewith, the successive grids being in electrical connection alternately through the inner and outer ends.

10. A controller for electric motors, comprising a plurality of superposed resistance spirals arranged in pairs, the spirals of each pair being electrically connected at their inner ends, and a supporting terminal conductor for each spiral at its outer end, said conductors having a circular arrangement and means for successively cutting the terminals out of circuit.

11. A controller for electric circuits, comprising a supporting shaft, a series of spiral resistance grids electrically connected in pairs and supported thereon at their inner ends, a series of conducting rods supporting said grids at their outer ends and in electrical connection therewith, a short-circuiting switch for each pair of grids, and means for successively actuating the same comprising a normally energized magnet coil and an armature coöperating therewith and mounted for movement to influence said switches to operate the same.

867,476. SYSTEM OF CONTROL. EUGENE R. CARICHOFF, East Orange, N. J., assignor to General Electric Company, a Corporation of New York. Filed Jan. 19, 1906. Serial No. 296,766.



1. In combination, a source of current supply, a motor or motors connected to said source of supply, a controlling device for said motor or motors, an actuating coil for said device whose current depends upon the counterelectromotive force of said motor or motors, and a coil whose current depends upon the potential of said source of current supply, said latter coil being arranged to oppose the actuating coil.

2. In combination, a source of current supply, a motor or motors connected to said source of supply, a controlling device for said motor or motors, actuating and opposing coils associated with said controlling device, means connecting said opposing coil directly to said source of supply, and means connecting said actuating coil in shunt to the motor armature or armatures.

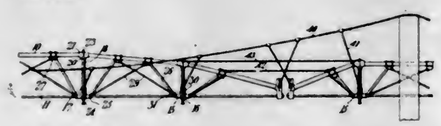
3. In combination, a source of current supply, a motor or motors connected to said source of supply, a speed controller comprising a plurality of individual switches and actuating coils constructed and arranged to operate said switches in succession as the counterelectromotive force of said motor or motors increases, and opposing coils for said switches connected directly to said source of current supply.

4. In combination, a source of current supply, a motor or motors connected to said source of supply, a resistance in the motor circuit, a series of individual switches connected to said resistance for cutting it out step by step, actuating coils associated with said switches, means for connecting said actuating coils to the source of current supply in series with said resistance and in shunt to said motor or motors, the arrangement being such that the switches are operated successively as the counterelectromotive force of the motor rises, and opposing coils for said switches connected directly to said source of supply.

5. In combination, a source of current supply, a motor or motors connected to said source of current supply, a motor controller comprising a plurality of individual

switches, electromagnetic actuating means for said switches controlled by the counterelectromotive force of said motor or motors and arranged to close said switches in automatic progression, a master switch, and connections between said master switch and said actuating means for interrupting the automatic progression of said switches at any point.

867,477. BRIDGE CONSTRUCTION. JOHN M. CARROLL, Weatherford, Tex. Filed May 10, 1907. Serial No. 372,927.



1. In bridge construction, a plurality of trussed panels, each including a single lower chord, connecting plates to which the chords of adjacent panels are pivoted, upper and lower socket members, vertical posts or standards connecting the same, and pivotal connections between the lower socket members and the connecting plates.

2. In bridge construction, a trussed panel including a single lower chord, and a single upper chord, upper and lower socket members, the upper socket members being recessed for the reception of the ends of the upper chord, and the lower socket member having depending ears, a connecting plate pivoted between said ears, means for pivotally connecting the opposite ends of said plates to the lower chords of adjacent panels, and vertically disposed posts or standards connecting the upper and lower socket members.

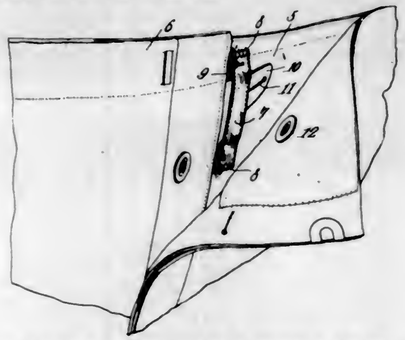
3. In bridge construction, a plurality of trussed panels, each including a single lower chord and a single upper chord, upper and lower socket members at the adjacent ends of the panels, the upper members being provided with sockets for the reception of the upper chord, vertical posts or standards connecting the upper and lower socket members, the lower socket members having transversely arranged openings, floor beams extending through said openings, tie bolts extending through the lower socket members, the floor beams and the standards, and connecting plates pivotally connected to the lower socket members and to the lower chords.

4. In bridge construction, a plurality of connected panels, each including an upper and a lower chord, upper and lower socket members provided with vertically alined sockets, the upper members being further provided with horizontally alined sockets, the latter being arranged to receive the upper chord, hollow posts or standards fitting in the vertically alined sockets, the lower socket members being provided with transverse openings, floor beams extending through the openings, ears depending from the lower socket members, connecting plates pivoted between said ears, pivot pins connecting said plates to the lower chords, and tension and compression members pivoted at one end on the pins and connected at the opposite end to the upper chords.

5. In bridge construction, a pair of suspension cables, a plurality of independent truss members, hanger rods connecting the truss members to the suspension cables, the hanger rods being inclined outward from the vertical center of the truss, and the hanger rods at the ends of adjacent trusses crossing each other, and the rods extending between adjacent trusses, substantially as specified.

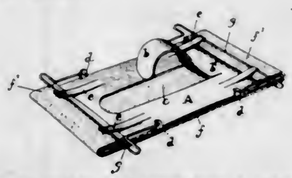
867,478. GARMENT-SUPPORTER. ELBERT N. CASE, Grand Junction, Colo. Filed Dec. 12, 1906. Serial No. 347,491.

1. An under garment having a loop secured to the exterior walls thereof at the front of the garment and adapted to receive the tab of the fly of a pair of trousers, and a fastening device secured to the interior walls of the trousers on one side of the fly of the latter and adapted to engage the free end of the tab.



2. An under garment having a vertically disposed loop secured to the exterior walls thereof at the front of the garment and adapted to receive the tab of the fly of a pair of trousers, said tab being provided with a terminal button-hole, and a button secured to the interior walls of the trousers on one side of the fly of the latter and adapted to engage the button-hole in said tab.

867,479. THUMB-CARRIED BLOTTER-PAD. FREDERICK P. CHILDRESS, Baltimore, Md. Filed Nov. 3, 1906. Serial No. 341,917.



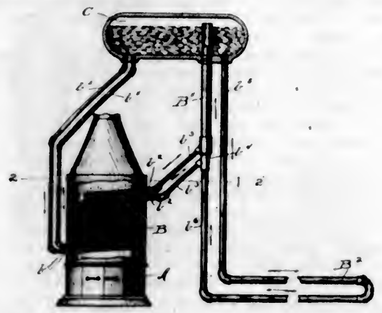
1. A thumb blotter pad comprising a plate having a strip punched from the center thereof and bent into a loop to receive the thumb of the hand, a clip bar at each end of the plate and said clip bars having their ends projecting beyond the side edges of said plate, spring fingers punched from said plate and having their ends resting upon the clip bars, and blotting paper extending beneath the lower surface of the plate and having its ends folded over the opposite ends of the plate and clamped by the clip-bars.

2. A thumb blotter pad comprising a metal plate having a longitudinal strip punched from its central portion and bent into a loop which has position nearer to one end of the plate, clip bars pivoted to the plate at opposite ends of said looped strip, spring fingers formed integrally with the plate and having their free end resting on said clip bars, and blotting paper having its ends beneath the clip bars and held by means of the spring fingers and said paper passing beneath the lower surface of the plate.

867,480. WATER-HEATER. WILLIAM P. COSPER, Chicago, Ill. Filed June 5, 1905. Serial No. 263,707.

1. In a device of the class described the combination with a circulating or expansion tank of a radiating pipe communicating therewith at one end below the water level and discharging above the normal water level in said tank at its opposite end and a heating coil opening from said tank below the water level and discharging into the return portion of the radiating pipe tending to create a vacuum in the return portion of the radiating pipe.

2. In a device of the class described the combination with a circulating or expansion tank of a heating coil communicating therein at its intake end, a radiating pipe or coil communicating at both ends with said tank and adapted to discharge above normal water level in the tank, the discharge end of the heating coil communicating with the discharge portion of the radiating pipe to augment the circulation therein.



3. In a device of the class described the combination with a circulating or expansion tank of a heating pipe or coil connected at its intake end in the bottom thereof, a radiating pipe or coil communicating at both ends with said tank and the returning end of the heating coil connecting obliquely in the return portion of the radiating pipe and directed toward the tank to augment the circulation therein, said return end of the radiating pipe discharging above the normal water level in the tank.

4. The combination with an expansion and supply tank of a radiating circuit or coil connected at its ends therein and having its discharge end opening above the water level in said tank, a heating coil opening at its intake end in said tank independently of the radiating coil and at its outer end communicating with the discharge portion of the radiating coil or circuit adapted to heat the water in said coil and to force the same into the expansion chamber and a source of heat to which the heating coil is exposed.

5. In a heating apparatus the combination with an expansion tank or chamber of a radiating pipe or coil having both ends opening therein, the discharge end opening above the water level in said tank, a heating coil having one end opening into the expansion tank and its discharge end opening upwardly into the discharge portion of the radiating pipe and adapted to create a partial vacuum in said pipe and to force the fluid in the discharge pipe into the tank.

6. The combination with an expansion and supply tank of a radiating pipe communicating at both ends therewith, one or more heating coils communicating with said tank at their intake ends, and with the return portion of the radiating pipe with their discharge ends, said return portion of the radiating pipe being increased in size and extending above the normal water level in said tank.

7. The combination in a water heating system with the expansion or supply tank of a radiating pipe or coil communicating at its ends therein, the discharge end of said pipe extending above the bottom of the tank and being of relatively large size, one or more heating coils communicating at their intake ends with the tank, the discharge ends communicating with the return discharge portion of the radiating pipe at its point of enlargement and directed obliquely toward the tank and means heating the coil.

8. In a fluid heating system the combination with a tank of a radiating circuit communicating therein, a heating coil having its intake end communicating with the tank and having the discharge end connecting obliquely in the return portion of the radiating circuit in the direction of flow and acting to augment circulation, said discharge end of the radiating circuit extending above the normal water level in said tank and means heating said coil.

9. In a fluid heating system the combination with a radiating pipe of a heating coil, the discharge end thereof communicating with the return portion of the radiating pipe, an expansion tank opening into the inlet ends of said radiating pipe and heating coil, said radiating pipe discharging above the normal water level in said tank and means heating the fluid in the coil and radiating pipe.

10. In a device of the class described the combination with an expansion tank of a radiating pipe connected therein at its intake end and its discharge end opening therein above the normal water level and a heating coil communicating with the tank at one end and at its other end communicating obliquely with the discharge portion of the radiating pipe and adapted to create a vacuum in the discharge portion of said radiating pipe.

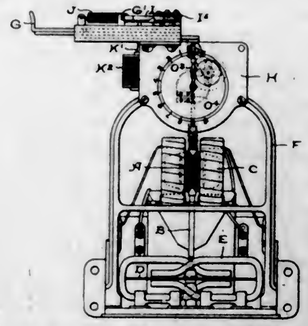
11. In a device of the class described the combination with a heater of an expansion tank above the same, a radiating pipe communicating with said tank at both ends, with the discharge end thereof opening above the normal water level, a heating coil connected in circuit with the radiating pipe and through which the fluid in the radiating pipe passes and a heating coil opening from the tank and communicating with the discharge portion of the radiating pipe adapted to create a vacuum in the discharge end of the radiating pipe.

12. In a device of the class described the combination with an expansion tank of a radiating coil communicating therewith and having its inlet end opening below the water level and its outlet end opening in the tank above the water level, means for heating said coil and a heating coil communicating with the tank and discharge portion of the radiating coil adapted to facilitate the circulation in the radiating coil.

13. In a device of the class described the combination with an expansion tank of a radiating pipe opening at its intake end below the water level in said tank and the discharge end thereof opening above the water level therein and a heating circuit communicating at one end with the expansion tank and discharging upwardly into the discharge portion of the radiating pipe and adapted to heat and force the circulating fluid into the tank.

14. In a device of the class described the combination with an expansion tank of a radiating pipe opening therefrom and thereinto with its discharge end opening above the water level in said tank, a coil communicating at one end with said tank and opening at its other end into the radiating pipe and adapted to heat the liquid in and accelerate the circulation through said radiating pipe and means for heating said coil.

867,481. PREPAYMENT-METER. FRANK P. COX, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed July 14, 1897. Serial No. 644,553.



1. In a coin-controlled electric meter mechanism, the combination of a motor mechanism driven by the current in the consumption circuit, and comprising coarse and fine wire windings, a switch for closing the circuit of the

coarse and fine windings and also the consumption circuit, coin-controlled means regulating the operation of the switch, and a magnet controlled by the meter mechanism for causing the interruption of all of the said circuits including its own after a prepaid amount of energy has been consumed.

2. In a prepayment electric meter, the combination of an armature and field-magnet coil each in a separate circuit and acting together to register the consumption of energy in the circuit, a manually-actuated switch for closing the circuit of the consumer and also that of the armature and field-magnet coil, a magnet controlled by the meter mechanism for automatically opening all of said circuits including its own, and leaving the meter on the consumption side of the circuit, and a coin-controlled device which regulates the closing of the switch.

3. In a prepayment electric meter system, the combination of a meter mechanism responsive to the energy consumed in the circuit of the consumer, a manually-actuated device controlled by the insertion of a coin in the meter for closing the circuit of the meter and also of the consumer, and automatic means controlled by the meter mechanism, for interrupting the circuit of both meter and consumer, the said means remaining inoperative after so doing until the circuit is again closed after depositing a coin.

4. In a prepayment meter, the combination of a sliding piece adapted to be operated by an exterior handle upon the insertion of a coin or token, means operated by the sliding piece to permit the supply to the meter, a sleeve adapted to be rotated in one direction when the sliding piece is operated, and in the opposite direction by a movement of the meter mechanism, and means operated by the sleeve to close an electrical circuit when the sleeve returns to its normal position, and thereby cut off the supply until a coin or token is again inserted in the meter.

5. In a prepayment electric meter, the combination with the meter mechanism, of a main circuit and a derived local circuit, a coin-controlled device adapted on the insertion of a coin to separate two contacts in a local circuit a certain distance and simultaneously close the supply circuit through the meter, means operated by the meter mechanism for moving one of the contacts to establish electrical connection between them, and means operated by the local circuit to cut off further supply to the meter.

6. In a prepayment electric meter, the combination with a meter mechanism having a main circuit and a local circuit derived therefrom, of a contact device in the main circuit, a contact device in the local circuit, manually operated devices controlled by the insertion of a coin or token to simultaneously close the main circuit and break the local circuit, means operated by the working of the meter mechanism to close the local circuit, and means operated by the local circuit when closed to break the main circuit.

7. In a prepayment electric meter, the combination of a meter mechanism having a main circuit and a local circuit derived therefrom, with a switch in the main circuit normally open, a detent normally held in position to engage with the switch and hold it in its closed position, a contact device adapted to close the local circuit, manually actuated devices adapted on the insertion of a coin or token to simultaneously close the main circuit and break the local circuit, means operated by the working of the meter mechanism for closing the local circuit, and a magnet in the local circuit adapted upon the closing of the circuit to disengage the detent from the main circuit switch.

8. In a prepayment meter mechanism, the combination of a circuit, means responsive to the current flowing in the circuit for indicating the consumption of energy, a switch arranged to be manually closed, a coin controlled slide which engages with the switch and closes it, means for insuring a quick opening of the switch, and a magnet controlled by the meter mechanism for releasing the switch, the circuit of the magnet being interrupted at the time the switch opens.

9. In a prepayment meter mechanism, the combination of a reciprocating coin slide, an armature, a registry train, a worm between the armature and the train, an indicating pointer having a slip joint with the armature and moved by the slide, and a magnet controlled by the pointer for opening the circuit.

10. In a prepayment meter, the combination of a vertical shaft, a worm thereon, a register train geared to the shaft through a slip joint, a coin controlled slide for advancing one portion of the train while the remainder is stationary, and a contact driven by the vertical shaft for closing an electric circuit.

11. In a prepayment mechanism, the combination of a reciprocating coin slide, an actuator extending parallel therewith, a forked arm carried by the actuator, and a pointer which is adjusted by the arm.

12. In combination, an electric circuit, translating devices located therein, means for connecting said circuit to a source of energy, said means comprising a switch, a meter for measuring the electric consumption in said circuit, a latch for holding said switch closed, electro-magnetic means for rendering said latch inoperative, comprising a circuit energized from said source and a switch controlling said circuit, coin-controlled means for closing the first switch, and means operated by the meter upon a predetermined consumption for closing the second switch.

13. In combination, an electric circuit, translating devices located therein, means for connecting said circuit to a source of energy, said means comprising a switch, a motor meter for measuring the electric consumption in said circuit, a latch for holding said switch closed, electromagnetic means for rendering said latch inoperative, comprising a circuit energized from said source and a switch controlling said circuit, an operating handle by which upon the insertion of a coin the first switch can be closed and the second opened, and means operated by the meter upon a predetermined consumption for closing the second switch.

14. In combination, a source of current supply, a consumption circuit, a meter for measuring the consumption in said consumption circuit, a switch for connecting said consumption circuit to said source, a local circuit derived from the said consumption circuit for controlling the opening of said switch, and coin controlled means for simultaneously closing said switch and opening said local circuit.

15. In combination, a source of current supply, a consumption circuit, a meter for measuring the consumption in such consumption circuit, a switch for connecting said consumption circuit in said source, a magnet for controlling the opening of said switch, a local circuit including said magnet and said switch so that when the consumption circuit is opened the local circuit is also opened, and a coin controlled means for closing said switch.

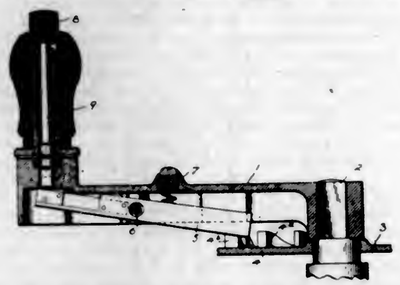
16. In a prepayment electric meter, the combination with a meter mechanism of a switch in the main circuit of the meter, manually-operated means controlled by the insertion of a coin or token to close said switch, an electromagnet controlling the opening of said switch, and contacts controlling said magnet and controlled jointly by said manually-operated means and by the meter mechanism.

867,482. LOCKING MECHANISM FOR CONTROLLER-HANDLES. ARCHIBALD S. CUBITT, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Jan. 2, 1906. Serial No. 294,091.

1. In combination, a movable device, a dog carried by said device, an operating member for said dog, said dog being normally held out of operative relation to said operating member, and a stop located in the path of said dog when the device is moved, the arrangement being such that the stop engages said dog and moves it into operative relation with its said operating member and arrests the movement of said device.

2. In combination, a movable device, a stop, a dog carried by said device and lying normally in the plane of said stop for engagement therewith to arrest the said device, a member adapted to move said dog out of the plane of said stop, and means controlled by said stop for moving said dog out of operative relation with said operating member.

3. In combination, a movable device, a lock for said device comprising a fixed stop and a dog carried by said device, a releasing member for said dog normally out of operative relation thereto, said dog being moved into operative relation to its releasing member by said stop.



4. In combination, a movable device, a dog carried by said device and having limited movement in planes at an angle to each other, a member adapted to operate said dog in one of said planes and normally out of operative relation to said dog, a stop mounted on a fixed member and adapted to be engaged by said dog and to move it in the other of said planes into operative relation to said operating member.

5. A controller handle provided with a dog having a limited movement in two planes at an angle to each other, a device adapted to operate said dog in one of said planes, and a spring for holding said dog out of operative relation to said device.

6. In combination, a stop, and a movable device cooperating with said stop and comprising a dog mounted on said device and movable between limits in the direction of movement of said device and having a further movement into and out of engagement with said stop, a releasing member coöperating with said dog only when the dog is at one of its limits of movement, and means for moving said dog to the other of said limits.

7. In combination, a movable device, a stop, a dog mounted on said device and adapted to engage said stop, an operating member for said dog, and means tending normally to move said dog in the plane of movement of said device and out of the path of movement of said operating member.

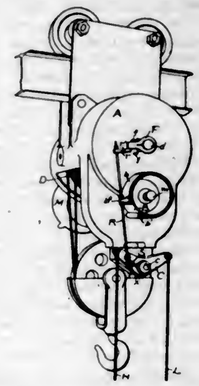
8. In combination, a movable device, a locking dog on said device, a member for operating said dog normally out of operative relation to said dog, and a stop mounted on a fixed support and adapted to engage said dog and move it into operative relation to said operating member.

9. In combination, a movable device, a stop, a dog on said device adapted to engage said stop, an operating member for releasing the dog from the stop, and a spring for disconnecting said dog from said operating member when the dog is released from the stop.

10. In combination, a movable device, a stop, a dog carried by said device, an operating member for said dog, means for holding said dog normally out of operative relation to said operating member, the arrangement being such that the dog is brought into operative relation with the operating member only when the dog is in engagement with the stop.

867,483. SELF-ADJUSTING BRAKE FOR HOISTS. PHILIP J. DARLINGTON, Glenridge, N. J., assignor to Sprague Electric Company, a Corporation of New Jersey. Filed May 11, 1904. Serial No. 207,372.

1. The combination with an electric motor, a controller for said motor and a brake, both constructed and arranged to coöperate to release the brake when the controller is moved from its off position, and to apply the brake when the controller is moved to its off position, and means constructed and arranged to be made operative by an increased, abnormal range of movement of the brake to and from its effective breaking position, due to wear, to maintain the effective operation of the brake substantially constant.



2. The combination, of an electric motor, a controller for the motor, a brake, means for normally applying the brake, means operated by the power application of the controller to release the brake, means for adjusting for the wear of the brake, and means controlled by an increased, abnormal range of movement of the brake to and from its effective braking position, due to wear, to operate said adjusting means.

3. The combination with a device to be braked, of a brake therefor, means for automatically applying the brake immediately upon the discontinuance of the application of power thereto, and means constructed and arranged to be made operative by an increased, abnormal range of movement of the brake to and from its effective braking position, due to wear, to maintain the effective operation of the brake.

4. The combination with a device to be braked, of a brake therefor, a spring arranged to normally apply the brake, and means constructed and arranged to be made operative by an increased, abnormal range of movement of the brake to and from its effective braking position, due to wear, to maintain the effective operation of the spring.

5. The combination with a device to be braked, of an adjustable, pivoted brake therefor, and means constructed and arranged to transmit an increased range of pivotal movement of the brake, to adjust the pivot of the brake.

6. The combination with a device to be braked, of a brake therefor, means for adjusting the brake, and means constructed and arranged to be operated by an abnormal range of movement of the brake, to operate said adjusting means.

7. The combination with an electric motor to be braked, of two adjustably pivoted arms having braking surfaces, a controller for the electric motor, the shaft of which controller extends between said arms and is constructed and arranged to force said arms apart when the controller is moved from its off position, and means constructed and arranged to be made operative by an increased, abnormal range of movement of the arms to and from the non-releasing position of the controller shaft, to adjust closer together the pivots of the arms.

8. The combination with a device to be braked, of two adjustably pivoted arms arranged to bear on opposite sides of said device to be braked, means for causing the operation of the device to be braked, a releasing device located between said arms and adapted to be made operative by said last-named means to force the arms from the device to be braked, and means constructed and arranged to be made operative by an increased, abnormal range of movement of the arms to and from the device to be braked, to adjust closer together the pivots of the arms.

9. The combination with a device to be braked, of two

adjustably pivoted braking arms arranged to bear on opposite sides of said device to be braked, a releasing device located between said arms, means for forcing the arms against the device to be braked, and means constructed and arranged to be made operative by an increased, abnormal range of movement of the arms to and from the non-releasing position of said releasing device, to adjust closer together the pivots of the arms.

10. The combination with a device to be braked, of two adjustably pivoted braking arms arranged to bear against said device to be braked, means for adjusting the pivots of said arms, a link pivoted to one arm, a bellcrank lever pivoted to the other arm and to said link, and a connection from said lever, said connection being constructed and arranged to draw the pivots of the arms closer together, when the arms have an increased, abnormal range of pivotal movement, due to wear.

11. The combination with a device to be braked, of two braking arms arranged to bear against said device to be braked, a threaded rod on which the braking arms are pivotally mounted, a stationary nut engaged by said rod, a spring arranged to pivotally move the arms together, and means constructed and arranged to be made operative by an increased, abnormal range of movement of the arms, to operate the threaded rod to draw together the pivots of the arms.

12. The combination with a device to be braked, of two adjustably pivoted braking arms arranged to bear against said device to be braked, means for adjusting the pivots of the arms, means continuously exerting a force normally sufficient to force said arms toward each other on said pivots with an operative pressure against the device to be braked, and means constructed and arranged to be operated by an increased, abnormal range of movement of the arms, due to wear, to operate said adjusting means to hold the pivots closer together.

13. The combination with a member to be braked, of two braking members constructed and arranged to be movable toward each other against a device to be braked, means for operatively applying the braking members against the device to be braked, and means constructed and arranged to be made operative by an increased range of movement of the braking members, due to wear, to maintain the operative braking effect of said applying means.

14. In combination, an electric motor, a brake, means for releasing said brake when said motor is energized, and automatic means operative upon a relative displacement of the parts of said brake, due to wear, to restore said parts to their normal relative positions.

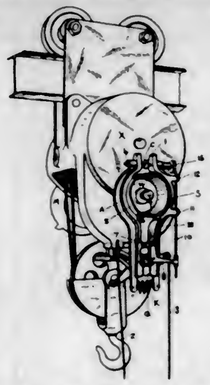
15. In combination with a device to be braked, of two pivoted breaking arms arranged to bear against said device to be braked, a link mechanism carried by said arms, and adjusting means arranged to be operated by said mechanism when said arms are relatively displaced due to wear.

16. In combination with a device to be braked, of two pivoted braking arms arranged to bear against said device to be braked, a link pivoted to one arm, a lever pivoted to the other arm and connected to said link, and adjusting means arranged to be operated by said lever when said arms are relatively displaced due to wear.

867,484. SPUR-GEARED HOIST. PHILIP J. DARLINGTON, Glenridge, N. J., assignor to Sprague Electric Company, a Corporation of New Jersey. Filed May 11, 1904. Serial No. 207,375.

1. In combination with a hoist, a motor for operating the hoist, a controlling device for said motor, a brake, means operated by the movement of the hoist mechanism for releasing said brake when the hoisting movement has begun, and operative connections between said brake and said controlling device arranged to release said brake when the controlling device is moved to its lowering position.

2. In combination with a hoist, an electric motor for operating the hoist, a controller for said motor, a brake, means operated by the movement of the hoist mechanism for releasing said brake when the hoisting movement has begun, and operative connections between said brake and said controller arranged to release the brake when the controller is moved into its lowering position.



3. In combination with a hoist having a low-speed shaft, an electric motor for operating the hoist, a controller for the motor, a brake, a member frictionally mounted on the low-speed shaft and arranged to release the brake when the motor is raising the hoist, and operative connections between said brake and said controller arranged to release the brake when the controller is moved to its lowering position.

4. In combination with a hoist having a low-speed shaft, a motor geared to said hoist, a controlling device for said motor, a brake independent of the gearing connecting the motor to the hoist, and a member frictionally mounted on the low-speed shaft and arranged to release said brake.

5. In combination with a hoist having a low-speed shaft, a motor geared to said hoist, a brake independent of the gearing connecting the motor to the hoist, and means operated by said low-speed shaft for releasing said brake.

6. In combination with a hoist, a motor geared to said hoist, a controlling device for said motor, a brake independent of the gearing connecting the motor to the hoist, means operated by the movement of the hoist mechanism for releasing said brake when the hoisting movement has begun, and operative connections between said brake and said controlling device arranged to release the brake when the controlling device is moved to its lowering position.

7. In a hoist, a brake adapted and arranged normally to prevent a lowering movement of the hoist and to exert a reduced restraint upon the hoisting movement, and means operated by said hoisting movement for totally relieving said restraint.

8. In a hoist, a high-speed shaft, a brake engaging said shaft and arranged to be tightened by a movement of said shaft for lowering and to be loosened by a movement of said shaft for hoisting, and means operated by the hoisting movement of the hoist for totally releasing said brake.

9. In a hoist, a high-speed shaft, a brake engaging said shaft and arranged to be tightened by a movement of said shaft for lowering and to be loosened by a movement of said shaft for hoisting, manually-controlled means for loosening said brake for lowering, and automatic means for totally releasing said brake when the hoisting movement has begun.

10. In a hoist, a high-speed shaft, a brake engaging said shaft and arranged to be tightened by a movement of said shaft for lowering and to be loosened by a movement of said shaft for hoisting, a low-speed shaft, and a member having a frictional bearing thereon and adapted to engage and totally release said brake upon the hoisting movement of said low-speed shaft.

11. In a hoist, a high-speed shaft, a brake engaging said shaft and arranged to be tightened by a movement of said shaft for lowering and to be loosened by a movement of said shaft for hoisting, a rod engaging said band-brake and adapted by its movement to tighten or release said brake, manually-controlled means for moving said rod to loosen said brake for lowering, a low-speed shaft, and a member having a frictional bearing thereon and adapted to move said rod to release said brake upon a hoisting movement of said low-speed shaft.

12. In a hoist, a high-speed shaft, a brake engaging said shaft and arranged to be tightened by a movement of said shaft for lowering and to be loosened by a movement of said shaft for hoisting, a manually-operated controlling lever for said hoist, connections between said lever and said brake whereby said brake is loosened when said lever is moved for lowering, a low-speed shaft, a member having a frictional bearing thereon, and connections between said member and said brake whereby said brake is released upon a hoisting movement of said low-speed shaft.

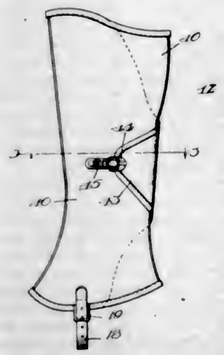
13. In a motor-operated hoist, a brake engaging the motor shaft and arranged to be tightened by a movement of said shaft for lowering and to be loosened by a movement of said shaft for hoisting, a controller for said motor, connections between said controller and said brake whereby said brake is loosened when said controller is moved to lowering position, a low-speed shaft driven by said motor, a member frictionally mounted on said shaft, and connections between said member and said brake whereby said brake is released when said low-speed shaft is driven for hoisting.

14. In a motor-operated hoist, a brake adapted and arranged normally to prevent a lowering movement of the hoist and to exert a reduced restraint upon the hoisting movement, a controller for the motor, and connections between said brake and the controller, whereby said brake may be released for lowering by the movement of said controller.

15. In a motor-operated hoist, a brake engaging the motor-shaft and arranged to be tightened by a movement of said shaft for lowering and to be loosened by a movement of said shaft for hoisting, a controller for said motor, and connections between said controller and said brake whereby said brake is loosened when said controller is moved to lowering position.

16. In a motor-operated hoist, a spring-applied brake arranged to normally prevent a lowering movement of the hoist and to exert a reduced restraint upon the hoisting movement, a controller for the motor, and means including a stop on the controller for causing the brake to be released when the controller is moved to lowering position.

867,485. LEGGING. ALBERT M. DOCTER, Chicago, Ill. Filed Dec. 6, 1906. Serial No. 346,520.

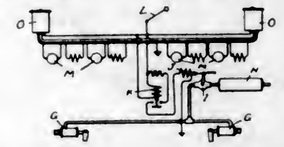


1. In combination, a legging comprising a flexible body, one end thereof being secured to the body portion at a point remote from the other end to form a tubular portion, fastening means for the free end, and a supporting stay secured to the body portion adjacent the meeting point of the other edge therewith, said body portion being adapted to be folded adjacent the stay when the free end is fastened in position.

2. In combination, a legging comprising a flexible body, one end of which is secured to the body portion at a point remote from the other end to form a tubular portion, fastening means for the free end, and supporting stays secured to the body portion one on each side of and adjacent the meeting point of the other edge therewith, one of said stays being adapted to be brought over the other stay to fold that portion of the body adjacent the latter stay when the free end is secured in position.

3. In combination, a legging comprising a flexible body, one end of which is secured to the body to form a tubular portion, the other end extending beyond the meeting point and being reduced to form a centrally disposed fastening flap, fastening members respectively on the body and the flap, and stays secured to the body portion one on opposite sides of the meeting point of the edge therewith and spaced from each other, one of said stays being adapted to be passed over the other and against the body to fold that portion of the body adjacent to the latter stay, when the fastening members are brought into engagement.

867,486. ELECTRIC LOCOMOTIVE. SAMUEL T. DODD, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 18, 1907. Serial No. 357,905.



1. In an electric locomotive having driving-wheels and idlers, means operative upon a predetermined variation of load on the driving motors for varying the distribution of weight on the wheels.

2. In an electric locomotive having driving-wheels and idlers, means for automatically increasing the proportionate load on the driving-wheels when the motor current reaches a predetermined value.

3. In an electric locomotive having driving-wheels and idlers, an electromagnet in the motor circuit and means controlled thereby for varying the distribution of load on the wheels.

4. In an electric locomotive having driving-wheels and idlers, an electromagnet in the motor circuit, a valve controlled thereby, and pneumatically-actuated means controlled by said valve for varying the distribution of load on the wheels.

5. In an electric locomotive having driving-wheels and idlers, an electromagnet, a switch controlling both the driving-motors and said electromagnet, and means controlled by said electromagnet for varying the distribution of load on the wheels.

6. In an electric locomotive having driving-wheels and idlers, means controlled by the motor-controlling switches for varying the distribution of load on the wheels.

7. In an electric locomotive having driving-wheels and idlers, pneumatically-actuated means for varying the distribution of load on the wheels, and means controlled by the motor-controlling switches for controlling said pneumatically-actuated means.

8. In an electric locomotive having driving-wheels and idlers, pneumatically-actuated means for varying the distribution of weight on the wheels, a controlling valve therefor, and means controlled by the motor-controlling switches for controlling said valve.

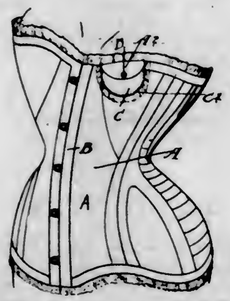
9. In an electric locomotive having driving-wheels and idlers, an equalizing link suspended between a driving-wheel and idler and supporting a portion of the weight of the locomotive frame, and means operative upon a predetermined variation of load on the driving motors for shifting the effective load-point on said link.

10. In an electric locomotive having driving-wheels and idlers, an equalising link suspended between a driving-wheel and idler and supporting a portion of the weight of the locomotive frame, and means controlled by the motor-controlling switches for shifting the effective load-point on said link.

11. In an electric locomotive having driving-wheels and idlers, an equalising link suspended between a driving-wheel and idler and supporting a portion of the weight of the locomotive frame, an electromagnet in the motor circuit, and means controlled thereby for varying the effective load-point on said link.

12. In an electric locomotive having driving-wheels and idlers, an equalising link suspended between a driving wheel and idler and supporting a portion of the weight of the locomotive frame, pneumatically-actuated means for shifting the effective load-point on said link, and means controlled by the motor-controlling switches for controlling said pneumatically-actuated means.

867,487. CORSET. JENNIE G. DRENNAN, St. Thomas, Ontario, Canada. Filed May 14, 1907. Serial No. 373,528.



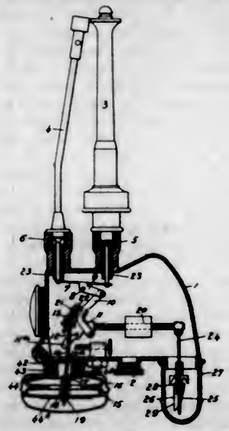
The combination with a corset, of a piece of fabric stitched around the sides and lower portion to the fabric of the corset near the upper edge thereof, and a suitable flap forming portion of the fabric of the corset and extending from the upper edge of the corset and over the piece, and a suitable fastening for connecting the flap to the piece the inner wall of the pocket thus formed consisting of the material of the corset itself as and for the purpose specified.

867,488. APPARATUS FOR LIGHTING AND EXTINGUISHING GAS-LAMPS. EDMUND H. ELTON and RICHARD STEPHENS, Clevedon, England. Filed Aug. 6, 1907. Serial No. 387,361.

1. An apparatus of the class described comprising a gas chamber having a gas supply inlet, a main and a pilot burner connected to said chamber, a valve controlling the passage to each burner, a rocking lever adapted to open and close said valves in alternation, adjustable reacting means acting upon said lever tending to keep the valve of the main burner normally closed, and a flexible expansible element having connections for overcoming the tension of said reacting means to positively rock said lever and reverse said valves on increase of pressure within the chamber, substantially as described.

2. An apparatus of the class described comprising a gas chamber having a gas supply inlet, a main and a pilot burner connected to said chamber, a valve controlling the passage to each burner, a rocking lever adapted to open and close said valves in alternation, a second rocking lever having a link connection with said first named lever, adjustable reacting means tending normally to rock said levers in one direction and to keep the valve of the main burner normally closed, and an expansible diaphragm connected to said second lever and adapted under pressure of gas to rock said levers against the force of the reacting means, substantially as described.

3. An apparatus of the class described comprising a gas chamber having a gas supply inlet, a main and a pilot burner connected to said chamber, a valve controlling the passage to each burner, a rocking lever adapted to open and close said valves in alternation, a second rocking lever having a link connection with said first named lever, adjustable reacting means tending normally to rock said levers in one direction and to keep the valve of the main burner normally closed, and an expansible diaphragm, an adjustable connection between said second lever and expansible diaphragm, substantially as described.



4. An apparatus of the class described comprising a gas chamber having a gas supply inlet, a main and a pilot burner connected to said chamber, a valve controlling the passage to each burner, a rocking lever adapted to operate said valves in alternation, a second rocking lever having a link connection to said first named lever, a weight adjustably mounted on one arm of said second lever and tending to rock said lever to keep the main burner normally closed, an expansible element adapted to be operated by increase of pressure within the chamber to rock said second lever against the action of the weight, and a connection between said second lever and expansible element, substantially as described.

5. An apparatus of the class described comprising a gas chamber having a gas supply inlet, a main and a pilot burner connected to said chamber, a valve controlling the passage to each burner, a rocking lever adapted to operate said valves in alternation, a second rocking lever having a link connection to said first named lever, a weight adjustably mounted on one arm of said second lever, an expansible element adapted to be operated by increase of pressure within the chamber to rock said second lever against the action of the weight, and a connection between said second lever and expansible element, and an adjustable stop for limiting the movement of said second lever, substantially as described.

6. An apparatus of the class described comprising a gas chamber having a gas inlet, a main and a pilot burner connected to said chamber, valves controlling the passages to said burners, a rocking lever adapted to open and close said valves in alternation, reacting means tending normally to close the valve to the main burner and open that to the pilot burner, an expansible diaphragm adapted under pressure of gas in said chamber to overcome the action of said reacting means, and a check device comprising a swinging element connected to one of the movable parts and a fixed element, one of said elements having a notch and the other a projection adapted to rest in said notch to permit a variation in pressure without corresponding movement of the valves, substantially as described.

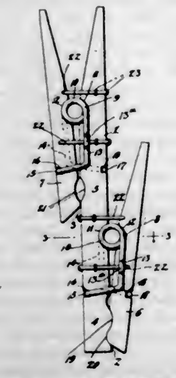
7. An apparatus of the class described comprising a gas chamber, having a gas supply inlet, a main and a pilot burner connected to said chamber, valves controlling the passages to said burners, a rocking lever arranged to open and close said valves in alternation, a pivoted lever having a link connection to said first named lever and having a horizontally extended arm, a weight adjustably mounted on said arm, a diaphragm arranged to be operated by pressure of gas within the chamber and operatively connected to said second named lever, a rod depending from the free end of said horizontally extended arm, and having a lateral projection, a vertical plate arranged in the path of said projection and having an inclined side and notched upper end, and a deflecting element arranged over said notched upper end and having inclined deflecting surfaces, substantially as described.

8. In an apparatus of the class described, a gas chamber having a gas inlet, main and pilot burners connected therewith, valves controlling the passages to said burners, reacting means located within the chamber tending normally to close the valve to the main burner and open that to the auxiliary burner, a casing, a flexible diaphragm located in said casing, means connecting both said casing and diaphragm to the gas chamber, and connections between said diaphragm and reacting means whereby expansion of gas in the chamber overcomes said reacting means and reverses the valves, substantially as described.

9. In an apparatus of the class described, a gas chamber having a gas inlet, main and pilot burners connected therewith, valves controlling the passages to said burners, reacting means located within the chamber tending normally to close the valve to the main burner and open that to the auxiliary burner, a casing secured to the gas chamber and communicating therewith, an expansible element within the casing and arranged to be expanded by the pressure of gas in the chamber, connections whereby the expansion of said element shifts the valves against the action of the reacting means, and a gas pipe connecting with said casing and terminating in lighting proximity to one of the burners for indicating leakage in the expansible element, substantially as described.

10. In an apparatus of the class described, a gas chamber having a gas inlet, main and pilot burners connected therewith, valves controlling the passages to said burners, reacting means located within the chamber tending normally to close the valve to the main burner and open that to the auxiliary burner, a casing secured to the gas chamber and communicating therewith, an expansible element within the casing and arranged to be expanded by the pressure of gas in the chamber, connections whereby the expansion of said element shifts the valves against the action of the reacting means, and means for circulating heated air in proximity to said parts for keeping them warm in cold weather, substantially as described.

867,489. CLOTHES-PIN. WILLIAM E. FAULKINGHAM, Jonesport, Me. Filed Feb. 18, 1907. Serial No. 358,060.

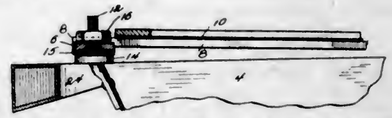


1. A clothes-pin comprising a body and a pair of levers arranged upon opposite sides of the same and pivoted intermediate their ends, each of said levers having a jaw at one end and a handle at its other end, the jaws of said levers projecting toward the same end of the body and the handles of said levers projecting in the opposite direction and being arranged in diverging relation whereby both may be grasped in one hand and simultaneously pressed toward the same end of the body to simultaneously open said jaws, substantially as set forth.

2. A clothes-pin comprising two co-acting members formed with opposing seats, a spring having a centrally arranged cylindrical coil to engage said seats and form a journal or pivot and arms on the ends of said coil engaged with the opposite faces of said members, said arms being formed with laterally projecting offset portions and transverse guide pins carried by one of said members and adapted to engage the opposite faces of the other member and to project beneath the offset portions of said arms, substantially as set forth.

3. A clothespin comprising two co-acting members formed with opposing seats, a spring having a centrally arranged cylindrical coil to engage said seats and form a pivot or journal and arms on the ends of said coil to engage said members and hold them together, and U-shape guides arranged upon one of said members, one guide being upon each side of the pivot coil of the spring, and each of said guides having its closed end surrounding the member to which it is attached and also having its rigid parallel arms engaged with the opposite sides of the other member to prevent lateral movement of one member with respect to the other, substantially as and for the purpose set forth.

867,490. FEEDER FOR GRAIN-MILLS. JOHN H. FELDERMAN, Bellevue, Iowa. Filed Aug. 7, 1905. Serial No. 273,086.



1. In a device of the character described, the combination with a hopper, of a screen, a pivot pin on one end of the hopper, a shoulder on said pivot pin disposed in a plane above the hopper, said screen disposed above the hopper and pivotally supported for lateral oscillation on the said pivot pin, and a nut threaded on the upper end of the pivot pin for ventical movement thereon and engaging the said screen for regulating the dip thereof.

2. In a device of the character described, upper and lower hoppers, a vertical pin provided on the lower hopper, a screen pivotally supported on said pin for lateral oscillation between the hoppers, and a nut threaded on said pin for regulating the dip of the screen.

3. In a device of the character described, the combination with a hopper provided centrally of one of its ends with a vertically projecting pin, a screen pivoted centrally of one of its ends on and supported by said pin, and means movable on said pin for regulating the dip of the screen.

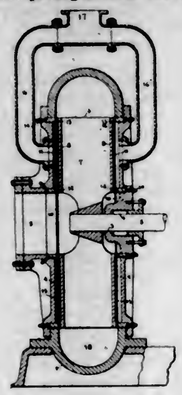
867,491. CENTRIFUGAL PUMP. CHARLES A. FRAYER, Chicago, Ill., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Filed Apr. 22, 1905. Serial No. 256,900.

1. In a centrifugal pump, the combination of a casing, a runner therein, chambers for liquid under pressure exceeding pump pressure on opposite sides of the runners between it and the casing, and discharge passages from the chamber adjacent the axis and periphery of the runner, whereby balancing of the runner is maintained and the runner is kept free from grit.

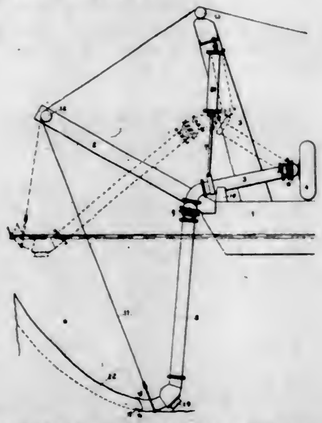
2. In a centrifugal pump, a casing, a runner therein, excess pressure chambers between the casing and runner and having outer and inner outlets, and means for adjusting the outlet passages from the chambers.

3. In a centrifugal pump, a casing, a runner therein, balanced excess pressure chambers between the casing and

runner and having outer and inner outlets, and rings for adjusting the outlet passages from the chambers.



867,492. HYDRAULIC DREDGE. CHARLES A. FRAYER, Milwaukee, Wis., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Filed May 5, 1905, Serial No. 258,980. Renewed July 1, 1907. Serial No. 381,740.



1. In a hydraulic dredge, a shovel, a hollow arm therefor for conveying away material dug by the shovel, a separate water inlet for the hollow arm, and a recess within the arm opposite the water inlet.

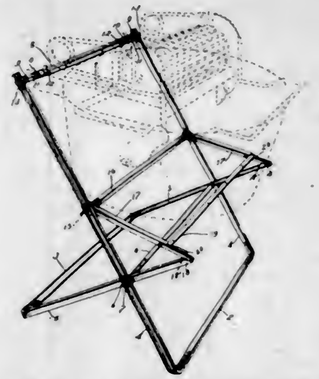
2. In a hydraulic dredge, a suction pipe having an inlet for solid material, a separate inlet for water, and a recess therein opposite the water inlet.

3. In a hydraulic dredge, a pipe having an inlet for solid material, a separate inlet for water, and formed opposite the water inlet for breaking up the solid material.

4. In a hydraulic dredge, a shovel comprising a conducting arm, a cutting portion, an inlet to the arm at the cutting portion, a separate intermediate inlet to the arm and structure near the intermediate inlet coacting to break up solid material.

867,493. WASHING-MACHINE STAND. GOTTLIEB W. FROELICH, St. Paul, Minn., assignor to Froelich Manufacturing Company, Merriam Park, St. Paul, Minn., a Corporation of Minnesota. Filed May 7, 1904, Serial No. 206,827. Renewed Dec. 13, 1906. Serial No. 347,694.

1. A stand for washing machines, comprising legs 4 and 5 pivoted together at points intermediate to their ends, the legs 4 being longer than the legs 5 and projecting above the upper ends of the same, a washing machine attaching means provided at the upper ends of the legs 4 and adjustable thereon, a rod 15 connecting said legs 4 on a level substantially with the upper ends of said legs 5, bars 17 pivoted at their rear ends on said rod 15 and having pivotal connections at their forward ends with the upper ends of said legs 5 and a cross-bar 19 arranged between said bars 17.



2. A stand for washing machines comprising legs pivotally connected together, forwardly extending side bars pivotally connected at their rear ends to two of said legs, a rear cross bar provided between the rear ends of said side bars, links pivotally connecting the forward ends of said side bars with the upper ends of the contiguous legs, and a forward cross bar supported on said links and adapted to slide toward or from said rear cross bar.

3. A stand for washing machines comprising pairs of channel bar iron legs pivotally connected, a rod connecting the opposite legs of the same pair, angle bars mounted on said rod and projecting forwardly therefrom, pairs of links connecting the forward ends of said angle bars with the other pair of legs, and an angle bar slidably supported on said links, for the purpose specified.

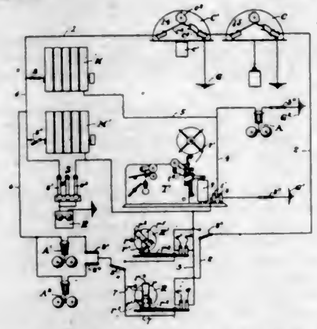
4. A stand for washing machines comprising channel bar iron frames substantially U-shaped having ends 2 and 3 and legs 4 and 5, a rod 6 connecting said legs 4 and 5 and provided with an angle bar 6', a rod 15 connecting the legs 4 and having an angle bar 16 forming the rear support for the tub, a washing machine attaching means adjustably secured to said legs 4 forwardly extending angle bars 17 pivoted on said rod 15 and pivotally connected with the upper ends of the legs 5, and a forward cross bar also of angle iron arranged between said bars 17.

5. The combination, with a washing machine stand provided with legs 4, of a bar 8 connecting the upper ends of said legs and provided with lugs 9 and 10 near each end, pins 11 loosely mounted in said lugs and having thumb nuts on one end and hooks on their opposite ends to engage the legs 4, said pins forming pivots for washing machine arms, substantially as described.

6. A stand for washing machines comprising forward and rear legs pivoted on one another, forwardly extending side bars pivotally connected at their forward and rear ends to said legs respectively, forward and rear cross bars connecting the corresponding ends of said side bars, said rear legs projecting above the top of said forward legs and a bar 8 provided between the upper ends of the rear legs, and means adjustably securing the said bar 8 to said rear legs, and said bar 8 forming an attaching means for a washing machine to said stand, substantially as described.

7. A stand for washing machines, comprising legs pivotally connected together, and forwardly extending side bars and cross bars connecting said side bars, a bar 8 connecting the opposite sides, of a pair of said legs at the rear of the stand, and having lugs 9 and 10, and pins 11 slidably mounted in said lugs and having means for engaging said legs and adjustably securing said bar thereon, substantially as described.

867,494. FIRE-ALARM-TELEGRAPH SYSTEM. MANIOUS GARL, Akron, Ohio. Filed Oct. 20, 1905. Serial No. 283,626.



1. In a fire alarm telegraph system, a normally closed line circuit, alarm transmitting appliances connected therein, a normally open ground circuit, suitable alarm apparatus therein, and a normally open local alarm circuit, said local circuit being closed by the breaking of the line circuit, and said ground circuit being closed and opened alternately with said line circuit.

2. In a fire alarm telegraph system, a single source of current, a normally closed line circuit, alarm transmitting appliances connected therein, a normally open ground circuit, suitable alarm apparatus therein, and a normally open local alarm circuit, said local circuit being closed by the breaking of the line circuit, said ground circuit being closed and opened alternately with said line circuit, and all of said circuits being energized by said single source of current.

3. In a fire alarm telegraph system, a constantly driven generator of alternating current, a normally closed line circuit, alarm transmitting appliances connected therein, a normally open ground circuit, suitable alarm apparatus therein, and a normally open local alarm circuit, said local circuit being closed by the breaking of the line circuit, said ground circuit being closed and opened alternately with said line circuit, and all of said circuits being energized by said generator.

4. In a fire alarm telegraph system, a constantly driven generator of alternating current, a normally closed line circuit, alarm transmitting appliances connected therein, a normally open ground circuit, suitable alarm apparatus therein, a local alarm circuit, and a relay in said line circuit controlling said local alarm circuit to normally maintain the latter open, said ground circuit being closed and opened alternately with said line circuit, and all of said circuits being energized by said single source of current.

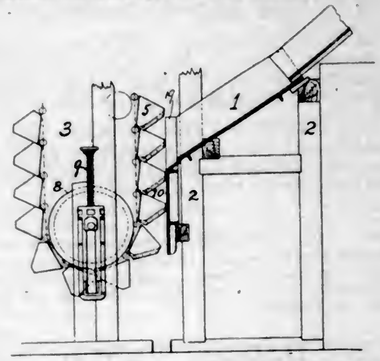
867,495. FEED MEANS FOR TRACTION-ELEVATORS. ALBERT J. GATES, Chicago, Ill., assignor to Allis-Chalmers Company, Chicago, Ill., a Corporation of New Jersey. Filed Feb. 13, 1905. Serial No. 245,545.

1. In a feed means for traction elevators, the combination of a rectilinearly traveling elevating means, an unobstructed gravity spout feeding to said elevating means, and a fixed apron depending from the spout and co-acting therewith and with the elevating means.

2. In a feed means for traction elevators, the combination of a sectional rectilinearly traveling elevating means, a discharge spout feeding to said elevating means, and an apron having its portion within the limits of width of the discharge, below the discharge.

3. Traveling buckets, an unobstructed spout feeding to the buckets, and a fixed apron depending from the spout.

4. Traveling buckets, a discharge spout feeding to the buckets, and an apron having its portion within the limits of width of the discharge, below the discharge.

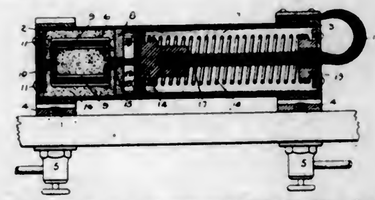


5. Traveling buckets, an unobstructed spout feeding to the buckets, and a fixed apron depending from the spout and of length sufficient to constantly co-act with at least one of the buckets.

6. Traveling buckets, a spout in feeding relation to the buckets, and an apron depending from the spout, the buckets being at least as wide as the spout discharge and the apron being at least as wide as the buckets.

7. In a feed means for traction elevators, a flexible means, buckets thereon, a gravity spout in feeding relation to the buckets, and an apron depending from the spout, the buckets being at least as wide as the delivery end of the spout, and the apron being at least as wide as the buckets.

867,496. FUSE. HENRY GEISENHÖNER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 29, 1903. Serial No. 163,515.



1. In a fuse, the combination with a body, of a partition therein having a hole, a fusible conductor having one end passed through said hole, a spring attached to the end of said conductor, and means for plugging said hole when the fuse blows.

2. In a fuse, the combination with a body, of a partition therein having a hole, a fusible conductor having one end passed through said hole, a spring attached to the end of said conductor, and a bunch of flexible fireproof material attached to said conductor on the opposite side of the partition from the spring.

3. The combination with a body containing two chambers, of a fuse in one of them, a follower in the other chamber attached to the end of said fuse, a spring for actuating said follower, and a flexible conductor connected with said follower and passing freely through the end of said body.

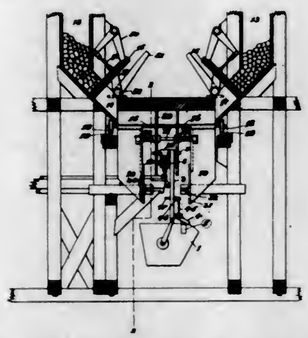
4. The combination with a body, of caps on the ends thereof, a partition having a hole, a fuse attached to one of said caps, a spring-actuated follower connected with the other end of said fuse, and a flexible conductor connected with said follower and passing freely through a hole in the other cap.

5. In a fuse, the combination with a body, of caps on the ends thereof, a fuse and a spring therein, and a flexible conductor attached to said spring, passing freely through the end of said body and curled up to a point of attachment with the cap.

6. In a fuse, the combination with a body containing two chambers, of a fuse in one of them, a spring in the other connected with said fuse, and a lock for preventing the operation of the spring when only a temporary overload occurs.

7. The combination with a body containing a fuse chamber and a spring chamber, of a fuse, a spring attached thereto, and a non-fusible locking-piece in the fuse chamber for sustaining the tension of the spring.

867,497. AERIAL TRAMWAY. WALTER S. GEMMER and EMIL J. SCHLEICHER, St. Louis, Mo., assignors of one-third to Broderick & Bascom Rope Company, St. Louis, Mo., a Corporation of Missouri. Filed Feb. 20, 1907. Serial No. 358,373.



1. In an aerial tramway system, the combination of a traveling bucket and a traveling loader, said loader embodying a plurality of hoppers which discharge into said bucket.

2. In an aerial tramway system, the combination of a traveling bucket and a traveling loader, said loader embodying a pair of hoppers discharging into said bucket, one of said hoppers being on each side of the bucket.

3. In an aerial tramway system, the combination of a traveling bucket and a loader traveling synchronously therewith, said loader embodying a plurality of hoppers which discharge into said bucket.

4. In an aerial tramway system, the combination of a traveling bucket and means for loading same while in motion, said loading means being actuated by said bucket and traveling a predetermined distance therewith and embodying a pair of hoppers, one hopper being on each side of the center of the path of travel of said bucket.

5. In an aerial tramway system, the combination of a traveling bucket, means for supporting same, and a loader embodying a plurality of hoppers for loading same, said loading means being actuated by said supporting means.

6. In an aerial tramway system, the combination of a traveling bucket, means for supporting same, a loader embodying a plurality of hoppers for loading same, and means upon said loading means engaged by said supporting means and causing a forward movement of said loading means.

7. In an aerial tramway system, the combination of a traveling bucket, a loader embodying a plurality of hoppers for loading same, means in connection with said traveling bucket for actuating said loading means, means upon said loading means engaged by said actuating means, and means for releasing said aforementioned means from engagement at a predetermined point.

8. In an aerial tramway system, the combination of a traveling bucket having means for supporting same, a traveling loader, which embodies a plurality of hoppers, means projecting from said supporting means to actuate the loader, and means to stop said actuation at a predetermined point.

9. In an aerial tramway system, the combination of a traveling bucket having means for supporting same, a traveling loader, a pintle projecting from said bucket-support to actuate the loader, and means to stop said actuation at a predetermined point.

10. In an aerial tramway system, the combination of a traveling bucket, a traveling loader, said loader embodying two hoppers, and means for actuating said loader at a point between the hoppers.

11. In an aerial tramway system, the combination of a traveling bucket, a traveling loader, said loader embodying two hoppers, and means whereby said traveling bucket actuates said traveling loader from a point between the two hoppers.

12. In an aerial tramway system, the combination of a traction cable, a traveling bucket drawn thereby, a traveling loader, said loader embodying two hoppers, means cross-connecting said hoppers, and means actuated by the traction cable engaging said cross-connecting means, thereby to actuate the loader.

13. In an aerial tramway system, the combination of a traction cable, a traveling bucket drawn thereby, a support for said bucket, a traveling loader embodying two hoppers, means cross-connecting said hoppers, and means connected to said bucket-support engaging said cross-connecting means, thereby to actuate the loader.

14. In an aerial tramway system, the combination of a traction cable, a traveling bucket drawn thereby, a traveling loader embodying two hoppers, means cross-connecting said hoppers, a lever upon said cross-connection, and means actuated by the traction cable engaging the lever, thereby to actuate the loader.

15. In an aerial tramway system, the combination of a traction cable, a traveling bucket drawn thereby, a traveling loader, a lever fulcrumed upon said loader, and means drawn by said traction cable and engaging the lever, thereby to actuate the loader.

16. In an aerial tramway system, the combination of a traction cable, a traveling bucket drawn thereby, a support for same, a traveling loader, a lever fulcrumed upon said loader, and a member projecting from said bucket-support and engaging the lever, thereby to actuate the loader.

17. In an aerial tramway system, the combination of a traction cable, a traveling bucket drawn thereby, a bucket support, a traveling loader, a pair of hoppers carried thereby, a shaft connecting said hoppers, a lever fulcrumed upon said shaft, and means drawn by the cable for engaging said lever, thereby to actuate the loader.

18. In an aerial tramway system, the combination of a traction cable, a traveling bucket drawn thereby, a traveling loader, a pair of hoppers carried thereby, a shaft connecting said hoppers, a spring-controlled lever fulcrumed upon said shaft, and means drawn by the cable engaging said lever, thereby to actuate said loader.

19. In an aerial tramway system, the combination of a traction cable, a traveling bucket drawn thereby, a traveling loader, a pair of hoppers on the loader, a shaft between said hoppers, a lever fulcrumed upon said shaft, a spring encircling said shaft and having one end secured to said lever, and means drawn by the cable engaging said lever, thereby to actuate said loader.

20. In an aerial tramway system, the combination of a traction cable, a traveling bucket drawn thereby, a traveling loader, a pair of hoppers on the loader, a shaft between said hoppers, a lever fulcrumed upon said shaft, a hook-like end upon said lever, means drawn by the cable and engaging said lever, said means causing same to rock about said shaft until said means seats in said hook, thereby to actuate said loader.

21. In an aerial tramway system, the combination of a traction cable, a traveling bucket drawn thereby, a traveling loader, a pair of hoppers upon said loader, a lever supported between said hoppers, and means drawn by said cable and engaging the lever, thereby to actuate the loader.

22. In an aerial tramway system, the combination of a traction cable, a traveling bucket drawn thereby, a support for same, a traveling loader, a pair of hoppers upon said loader, a lever supported between said hoppers, and a member projecting from said bucket support and engaging the lever, thereby to actuate the loader.

23. In an aerial tramway system, the combination of a traction cable, a traveling bucket drawn thereby, a bucket support, a traveling loader, a pair of hoppers carried thereby, a shaft between said hoppers, a pair of levers fulcrumed upon said shaft, and means drawn by the cable for engaging said levers, thereby to actuate the loader.

24. In an aerial tramway system, the combination of a traction cable, a traveling bucket drawn thereby, a traveling loader, a pair of hoppers carried by the loader, a shaft between said hoppers, a pair of spring-controlled levers fulcrumed upon said shaft, and means drawn by the cable and engaging said levers, thereby to actuate the loader.

25. In an aerial tramway system, the combination of a traction cable, a traveling bucket drawn thereby, a traveling loader, a pair of hoppers on the loader, a shaft between said hoppers, a pair of levers fulcrumed upon said shaft, a pair of springs encircling said shaft, each of said springs having one end secured to one of said levers, and means drawn by the cable engaging said levers, thereby to actuate said loader.

26. In an aerial tramway system, the combination of a traction cable, a traveling bucket drawn thereby, a traveling loader, a pair of hoppers on the loader, a shaft between said hoppers, a pair of levers fulcrumed upon said shaft, a hook-like end upon the levers, means drawn by the cable and engaging the levers, said means causing said levers to rock about said shaft until said means seats in said hook, thereby to actuate the loader.

27. In an aerial tramway system, the combination of a traveling bucket and a loader, said loader embodying a plurality of hoppers.

28. In an aerial tramway system, the combination of a traveling bucket and a loader for loading same, said loader embodying a plurality of hoppers and being pushed forward from behind.

29. In an aerial tramway system, the combination of a traveling bucket, a loader embodying a plurality of hoppers, means for connecting said loader to said bucket, and means for predeterminedly disconnecting same.

30. In an aerial tramway system, the combination of a traveling bucket, a loader embodying a plurality of hoppers, and means upon the loader for causing same to move at a gradually increasing rate of speed.

31. In an aerial tramway system, the combination of a traveling bucket, a two-hopper loader for loading same, and means upon the loader for causing same to move at a gradually increasing rate of speed, said means being carried between the hoppers.

32. In an aerial tramway system, the combination of a traveling bucket, a two-hopper loader for loading same, and means upon the loader for causing same to move at a gradually increasing rate of speed, said means being carried between and supported by the hoppers.

33. In an aerial tramway system, the combination of a traveling bucket, a loader embodying a plurality of hoppers, and means upon the loader for causing same to move at a gradually increasing rate of speed, said means being engaged and actuated by the bucket-supporting means.

34. In an aerial tramway system, the combination of a traveling bucket, a two-hopper loader for loading same, and means upon the loader for causing same to move at a gradually increasing rate of speed, said means being carried between the hoppers and being engaged and actuated by the bucket-supporting means.

35. In an aerial tramway system, the combination of a traveling bucket, a two-hopper loader for loading same, and a pair of levers upon the loader, said levers securing the actuation of the loader.

36. In an aerial tramway system, the combination of a traveling bucket, a two-hopper loader for loading same, a pair of spring-controlled levers upon the loader, said levers securing the movement of the loader, and means secured to the bucket support for actuating the lever.

37. In an aerial tramway system, the combination of a trolley beam supporting a traveling bucket, a traveling loader, and a member projecting from said beam, said member actuating said loader.

38. In an aerial tramway system, the combination of a traveling bucket, a trolley beam supporting the same, a traveling loader, and a member projecting from said beam, said member supporting said bucket, and, also, actuating said loader.

39. In an aerial tramway system, the combination of a traveling bucket, a triangular trolley beam supporting same, a traveling loader, sheaves being journaled in the beam adjacent two of the angles, and a member carried adjacent the third angle, said member supporting the bucket, and, also, actuating said loader.

40. In an aerial tramway system, the combination of a traveling loader, a cable, a shaft secured to the loader, a lever fulcrumed upon said shaft, and means drawn by the cable and engaging said lever, thereby to actuate the loader.

41. In an aerial tramway system, the combination of a cable, a traveling loader, a shaft thereupon, a lever fulcrumed upon said shaft, and means drawn by the cable and engaging said lever and causing said lever to rock upon said shaft, thereby to actuate the loader.

42. In an aerial tramway system, the combination of a cable, a traveling loader, a shaft thereupon, a lever fulcrumed on said shaft, and means drawn by the cable and engaging said lever and causing said lever to rock upon said shaft, said lever when thus rocked exerting a gradually increasing forward pressure on the shaft, thereby to actuate the loader.

43. In an aerial tramway system, the combination of a cable, a traveling loader, a shaft thereupon, a lever fulcrumed on said shaft, a spring intermediate said lever and said loader through which spring the forward pressure of said lever is communicated to the loader, and means drawn by the cable and engaging said lever and causing said lever to rock upon said shaft, thereby to actuate the loader.

44. In an aerial tramway system, the combination of a cable, a traveling loader, a shaft thereupon, a lever fulcrumed on said shaft, a spring intermediate said lever and said loader, said spring converting the upward pressure of the lever into forward pressure on the loader, and means drawn by the cable and engaging said lever and causing said lever to rock upon said shaft, thereby to actuate the loader.

45. In an aerial tramway system, the combination of a cable, a traveling loader, a lever pivoted upon said loader, means drawn by said cable and engaging said lever, and means for releasing said lever from such engagement at a predetermined point.

46. In an aerial tramway system, the combination of a cable, a traveling loader, a lever pivoted upon said loader, a pintle drawn by said cable and engaging said lever, and means for releasing said lever from such engagement at a predetermined point.

47. In an aerial tramway system, the combination of a cable, a traveling loader, a lever pivoted upon said loader, a hook upon said lever, a pintle drawn by the cable engaging said hook, and means for predeterminedly releasing said hook from said pintle.

48. In an aerial tramway system, the combination of a cable, a traveling loader, a spring-controlled pivoted lever upon said loader, the movement of said lever being communicated to said loader through said spring, and means to rock said lever, thereby to actuate the loader.

49. In an aerial tramway system, the combination of a cable, a traveling loader, a pivoted lever swinging in a vertical plane, a fulcrum therefor secured to said loader, and means to rock the lever, thereby to actuate the loader.

50. In an aerial tramway system, the combination of a cable, a traveling loader, a pivoted lever swinging in a vertical plane, a fulcrum therefor secured to the loader, a

spring having one end secured to the lever and the opposite end secured to the loader, and means to rock the lever, thereby to actuate the loader.

51. In an aerial tramway system, the combination of a cable, a traveling loader, a spring-controlled lever pivoted thereupon, said lever having a hook-like end, a member drawn by the cable and engaging said lever, said member causing said lever to swing about its fulcrum until said member seats in said hook.

52. In an aerial tramway system, the combination of a cable, a traveling loader, a lever pivoted thereupon, said lever having a hook-like end, a member drawn by the cable and engaging said hook, and means for releasing said hook from engagement with said member.

53. In an aerial tramway system, the combination of a cable, a traveling loader, a lever pivoted thereupon, one end of said lever being hook-like, a member drawn by the cable and engaging said hook, and means engaging the end of said lever opposite said first-mentioned end, said means moving said lever and releasing said first-mentioned end from engagement with said member.

54. In an aerial tramway system, the combination of a cable, a traveling loader, a lever pivoted thereupon, one end of said lever being hook-like, a member drawn by the cable and engaging the lever adjacent its pivot, said member moving forward in a straight line and causing said lever to swing about its fulcrum until said member engages said hook-like end, and means for moving said lever still farther about its pivot, thereby to release said lever from engagement with said member.

55. In an aerial tramway system, the combination of a traveling loader, a cable, a shaft secured to the loader, a plurality of levers fulcrumed upon said shaft, and means drawn by the cable and engaging said levers, thereby to actuate the loader.

56. In an aerial tramway system, the combination of a cable, a traveling loader, a shaft thereupon, a plurality of levers fulcrumed upon said shaft, and means drawn by the cable and engaging said levers and causing said levers to rock upon said shaft, thereby to actuate the loader.

57. In an aerial tramway system, the combination of a cable, a traveling loader, a shaft thereupon, a plurality of levers fulcrumed on said shaft, and means drawn by the cable and engaging said levers and causing said levers to rock upon said shaft, said levers when thus rocked exerting a gradually increasing forward pressure on the shaft, thereby to actuate the loader.

58. In an aerial tramway system, the combination of a cable, a traveling loader, a plurality of levers fulcrumed on said shaft, a spring intermediate said levers and said loader, through which spring the forward pressure of the levers is communicated to the loader, and means drawn by the cable and engaging said levers and causing said levers to rock upon said shaft, thereby to actuate the loader.

59. In an aerial tramway system, the combination of a cable, a traveling loader, a shaft thereupon, a plurality of levers fulcrumed on said shaft, a spring intermediate each of said levers and said loader, through which springs the forward pressure of said lever is communicated to the loader, and means drawn by the cable and engaging said levers and causing said levers to rock upon said shaft, thereby to actuate the loader.

60. In an aerial tramway system, the combination of a cable, a traveling loader, a shaft thereupon, a plurality of levers fulcrumed on said shaft, a spring intermediate said levers and said loader, said spring converting the upward pressure of the levers into forward pressure on the loader, and means drawn by the cable and engaging said levers and causing said levers to rock upon said shaft, thereby to actuate the loader.

61. In an aerial tramway system, the combination of a cable, a traveling loader, a plurality of levers pivoted upon said loader, means drawn by said cable and engaging said levers, and means for predeterminedly releasing said levers from such engagement.

62. In an aerial tramway system, the combination of a cable, a traveling loader, a plurality of levers pivoted upon said loader, a pintle drawn by said cable and engaging said levers, and means for predeterminedly releasing said levers from such engagement.

63. In an aerial tramway system, the combination of a cable, a traveling loader, a plurality of levers pivoted upon said loader, a hook-like end upon each of said levers, a pintle drawn by the cable and engaging said hooks, and means for predeterminedly releasing said hooks from said pintle.

64. In an aerial tramway system, the combination of a cable, a traveling loader, a plurality of spring-controlled pivoted levers upon said loader, the movement of said lever being communicated to said loader through the springs, and means to rock said levers, thereby to actuate the loader.

65. In an aerial tramway system, the combination of a cable, a traveling loader, a plurality of pivoted levers swinging in a vertical plane, a fulcrum for said levers secured to said loader, and means to rock said levers about said fulcrum, thereby to actuate the loader.

66. In an aerial tramway system, the combination of a cable, a traveling loader, a plurality of pivoted levers swinging in a vertical plane, a fulcrum for said levers secured to said loader, a spring having one end secured to the loader and the opposite end secured to the levers, and means to rock the levers, thereby to actuate the loader.

67. In an aerial tramway system, the combination of a cable, a traveling loader, a plurality of spring-controlled levers pivoted upon said loader, said levers each having a hook-like end, a member drawn by the cable and engaging said levers, said member causing said levers to swing about their fulcrum until said member seats in said hooks.

68. In an aerial tramway system, the combination of a cable, a traveling loader, a plurality of levers pivoted thereupon, said levers each having a hook-like end, a member drawn by the cable and engaging said hooks, and means for releasing said hooks from engagement with said member.

69. In an aerial tramway system, the combination of a cable, a traveling loader, a plurality of levers pivoted thereupon, one end of said levers being hook-like, a member drawn by the cable and engaging said hooks, and means engaging the ends of said levers opposite said hook-like ends, said means moving said levers and releasing said hook-like ends from engagement with said member.

70. In an aerial tramway system, the combination of a cable, a traveling loader, a plurality of levers pivoted thereupon, one end of said levers being hook-like, a member drawn by the cable and engaging the levers adjacent the pivots, said member moving forward and causing said levers to swing about their pivots until said member engages said hook-like ends, and means for predeterminedly moving said hook-like ends out of engagement with said member.

71. In an aerial tramway system, the combination of a cable, a traveling loader, a shaft thereupon, a plurality of levers fulcrumed on said shaft, a spring intermediate each of said levers and said loader, said spring converting the upward pressure of said levers into forward pressure on the loader, and means drawn by the cable and engaging said levers and causing same to rock about their pivots, thereby to actuate the loader.

72. In an aerial tramway system, the combination of a cable, a traveling loader, a traveling bucket, a support for same, and a guide upon the loader, said guide engaging the bucket support.

73. In an aerial tramway system, the combination of a traveling bucket, a traveling loader, a bucket support, a guide upon the loader above the bucket-support, said guide preventing undue upward motion of said bucket-support.

74. In an aerial tramway system, the combination of a loader, a hopper carried by said loader, and a bulkhead fixed at the loading station, said bulkhead being disposed in front of the mouth of said hopper and closing said mouth.

75. In an aerial tramway system, the combination of a traveling loader, a hopper carried by said loader, and a bulkhead, said hopper, while in one position, having its mouth closed by said bulkhead.

76. In an aerial tramway system, the combination of a traveling loader, a hopper carried by said loader, a bulkhead closing the mouth of the hopper, and means for drawing said hopper clear of said bulkhead so as to open the mouth of said hopper.

77. In an aerial tramway system, the combination of an ore chute, a traveling hopper, a stationary bulkhead closing the mouth of the hopper, a traveling bucket, means controlling the delivery of ore from said chute into said hopper, and means for drawing said hopper clear of said bulkhead, thus to allow the ore to pass from said hopper into said bucket.

78. In an aerial tramway system, a traveling bucket, a traveling loader, a plurality of hoppers embodied in said loader and an inclined track upon which said loader travels.

79. In an aerial tramway system, a traveling bucket, a traveling loader for same, a plurality of hoppers embodied in said loader, means for actuating said loader, and means for automatically causing the return of said loader to starting position.

80. In an aerial tramway system, the combination of a traveling loader, a lever upon said loader, moving means engaged by one end of said lever, and means interposed in the path of travel of the end of said lever opposite said first-mentioned end, said means actuating said lever and releasing same from engagement with said moving means.

81. In an aerial tramway system, the combination of a traveling loader, a lever upon said loader, a hook-like end upon said lever, moving means engaged by said hook, and a trip interposed in the path of travel of said lever and engaging the end opposite said hook-like end, said trip depressing said lever and releasing said hook from engagement with said moving means.

82. In an aerial tramway system, a two-hopper loader having yielding contact means and movable means engaging said yielding means, thereby to actuate the loader.

83. In an aerial tramway system, the combination of a cable, a two-hopper loader, yielding contact means upon the loader, and means actuated by the cable for engaging said contact means.

84. In an aerial tramway system, the combination of a cable, a two-hopper loader, yielding contact means between the hoppers, and means actuated by the cable for engaging said contact means.

85. In an aerial tramway system, the combination of a cable, a two-hopper loader, traveling means carried by the cable to actuate the loader, yielding means upon the loader engaged by said traveling means, and means for releasing said yielding means from engagement with said traveling means.

86. In an aerial tramway system, the combination of a loader embodying a plurality of hoppers, means for moving the same, and means for returning the same to starting position.

87. In an aerial tramway system, the combination of a loader embodying a plurality of hoppers, means for moving the same, and a counterweight attached to the loader to return same to starting position.

88. In an aerial tramway system, the combination of a loader embodying a plurality of hoppers and an inclined track on which said loader travels.

89. In an aerial tramway system, the combination of a loader embodying a plurality of hoppers, an inclined track on which said loader travels, and a counterweight attached to said loader and causing the automatic return thereof.

90. In an aerial tramway system, the combination of a cable, a traveling loader, a horizontal shaft upon said loader, an actuating lever which rocks upon said shaft, and means drawn by the cable for engaging said lever, thereby to actuate the loader.

91. In an aerial tramway system, the combination of a cable, a traveling loader, a traveling bucket, a support for same, and means upon said loader to limit the upward movement of said bucket.

92. In an aerial tramway system, the combination of a cable, a traveling loader, a horizontal shaft upon said loader, an actuating lever which rocks upon said shaft, means drawn by the cable for engaging said lever, thereby to actuate the loader, and means interposed in the path of travel of said lever predeterminedly to release same from the cable.

93. In an aerial tramway system, the combination of a cable, a traveling loader, a horizontal shaft upon said loader, a lever which rocks upon said shaft, means drawn by the cable for hooking with said lever, thereby to actuate the loader, and means interposed in the path of travel of said lever to unhook same from said loader.

94. In an aerial tramway system, the combination of a cable, a traveling loader embodying a pair of hoppers, a shaft countersunk in each of said hoppers, and means whereby said cable pulls upon said shaft, thereby to actuate the loader.

95. A bucket-loader comprising a framework approximately rectangular in shape, wheels supporting same, and a plurality of hoppers depending from said framework.

96. In an aerial tramway system, the combination of a bucket-loader comprising a framework and an open-mouthed hopper depending therefrom, and means at the loading station for closing the mouth of said hopper.

97. In an aerial tramway system, the combination of a bucket-loader, a pair of rails on which same travels, and means for actuating the loader, said means being disposed between said rails.

98. In an aerial tramway system, the combination of a bucket-loader, a pair of rails on which same travels, and a traction cable for moving said loader, said cable being disposed between said rails.

99. In an aerial tramway system, the combination of a bucket-loader, a pair of rails on which same travels, a lever supported by the loader between said rails, and a traction cable to pull said lever, thereby to actuate the loader.

100. In an aerial tramway system, the combination of a bucket-loader, a pair of rails on which same travels, front wheels and back wheels riding on said rails, and means for actuating the loader at a point midway between said front wheels and said back wheels.

101. In an aerial tramway system, the combination of a traveling bucket, a traveling loader, a pair of levers on the loader, and means engaging the levers, thereby to actuate the loader.

102. In an aerial tramway system, the combination of a cable, a traveling bucket, a traveling loader, a lever the axle of which is fixed to the loader, means drawn by the cable for engaging said lever, and means for predeterminedly releasing said lever from such engagement.

103. In an aerial tramway system, the combination of a cable, a traveling loader, a traveling bucket, a support for same, and means upon said loader above the bucket-support, said means limiting upward movement of said bucket-support.

104. In an aerial tramway system, the combination of a cable, a traveling loader having a yielding contact means thereupon, and means actuated by the cable for engaging said contact means.

105. In an aerial tramway system, the combination of a cable, a traveling loader, a traveling bucket, and a guide adapted to limit upward movement of said bucket.

106. An aerial tramway system, the combination of a traveling loader, a hopper carried thereby, a bulkhead fixed at the loading station, and a brace for said bulkhead.

107. In an aerial tramway system, the combination of a traveling loader, a hopper carried thereby, and a bulkhead fixed at the loading station, said bulkhead having a flaring edge.

108. In an aerial tramway system, the combination of a traveling bucket, a hopper carried thereby, a bulkhead fixed at the loading station, said bulkhead having a flaring edge, and a brace member which engages said bulkhead at a point between said flaring edge and the edge opposite thereto.

109. In an aerial tramway system, the combination of a sliding ore-gate, a bell-crank in pivotal connection therewith, a rock-shaft, a link intermediate the rock-shaft and the bell-crank, and means to move the rock-shaft, thereby to move the ore-gate.

110. In an aerial tramway system, the combination of a

sliding ore-gate, a rock-shaft, means intermediate the rock-shaft and the ore-gate, and means to rock the rock-shaft, thereby to move the ore-gate.

111. In an aerial tramway system, the combination of a cable, a traveling loader, a lever fulcrumed thereupon, said lever having a hook-like end, an inclined stop disposed in the path of travel of said lever, and a member drawn by the cable for engaging said hook, said stop being adapted to release said hook from said member.

112. In an aerial tramway system, the combination of a cable, a traveling loader, a lever fulcrumed thereupon, said lever having a hook-like end and bearing a roller at the opposite end, a member drawn by the cable and engaging said hook, and a stop interposed in the path of travel of said lever, said roller being adapted to ride on said stop, thereby to release said hook from said member.

113. In an aerial tramway system, the combination of a cable, a traveling loader, a pair of levers fulcrumed thereupon, means drawn by the cable and adapted to engage the levers, thereby to actuate the loader, and means cross-connecting the levers, to cause the same to move in unison.

114. In an aerial tramway system, the combination of a cable, a traveling loader, a pair of levers carried thereupon, means drawn by the cable and adapted to engage the levers to actuate the loader, a member cross-connecting said levers, rollers journaled on said member, and means interposed in the path of travel of said rollers to release the levers from said cable-drawn means.

115. In an aerial tramway system, the combination of a traveling bucket, a pair of material-feeding chutes, and a traveling hopper intermediate each chute and said bucket.

116. In an aerial tramway system, the combination of a traveling bucket, a pair of material-feeding chutes, a hopper, intermediate each chute and said bucket, means to load said hoppers from said chutes, and means to discharge said hoppers into said bucket while said hoppers are in motion.

117. In an aerial tramway system, the combination of a cable, a traveling bucket, a traveling loader, a spring-controlled lever on the loader, and means drawn by the cable and engaging said lever, thereby to actuate the loader.

118. In an aerial tramway system, the combination of a traveling loader, a traveling bucket, a bucket-support having a curved top, and a guide upon the loader against which said curved top bears.

119. In an aerial tramway system, the combination of a cable, a traveling loader having a pair of yielding contact members thereupon, and means actuated by the cable for engaging said contact members.

120. In an aerial tramway system, the combination of a cable, a traveling loader embodying a pair of hoppers, a pair of yielding contact members, one of said members being adjacent each of said hoppers, and means actuated by the cable for engaging said contact members.

121. In an aerial tramway system, the combination of a traveling bucket, a pair of material-feeding chutes, a hopper intermediate each chute and said bucket means to load said hoppers from said chutes while said hoppers are at rest, means at the loading station to retain the material in said hoppers, and means to move said hoppers away from said retaining means, thereby to discharge the hopper-contents into said bucket while said hoppers are in motion.

122. In an aerial tramway system, the combination of a bucket-loader, a pair of rails on which same travels, and a traveling bucket, the discharge from said loader into said bucket being located at a point intermediate said rails.

123. In an aerial tramway system, the combination of a bucket-loader embodying a pair of hoppers, a pair of rails on which said loader travels, and a traveling bucket, the discharge of said hoppers into said bucket being located intermediate said rails.

124. In an aerial tramway system, the combination of a bucket-loader, a pair of rails on which same travels, and a traveling bucket which travels in approximately the same direction as said rails extend, and intermediate said rails.

125. In an aerial tramway system, the combination of a cable, a bucket-loader, a lever fulcrumed thereupon, said lever having a curved edge, and means drawn by the cable and adapted to engage said curved edge, thereby to actuate the loader.

126. In an aerial tramway system, the combination of a cable, a bucket-loader, a pair of levers fulcrumed thereupon, said levers each having a curved edge, and means drawn by the cable adapted to engage said curved edges, thereby to actuate the loader.

127. In an aerial tramway system, the combination of a cable, a bucket-loader, a pair of levers fulcrumed thereupon, said fulcra being in alinement, each of said levers having a curved edge, and means drawn by the cable adapted to engage said curved edges, thereby to actuate the loader.

128. In an aerial tramway system, the combination of a cable, a traveling loader, a pair of levers fulcrumed thereupon, said fulcra being in alinement, and means drawn by the cable and adapted to engage said levers, thereby to actuate the loader.

129. In an aerial tramway system, the combination of a bucket-loader, a pair of rails on which same travels, and a traveling bucket, the discharge from said loader into said bucket being located at a point approximately midway between said rails.

130. In an aerial tramway system, the combination of a bucket-loader, a pair of rails on which same travels, and a traveling bucket, said bucket being suspended intermediate said rails.

131. In an aerial tramway system, the combination of a bucket-loader, a pair of rails on which same travels, and a traveling bucket, said loader being adapted to discharge into said bucket while said bucket is intermediate said rails.

132. In an aerial tramway system, the combination of a traveling bucket, a traveling hopper on each side thereof, and means to load said hoppers.

133. In an aerial tramway system, the combination of a traveling bucket, a traveling hopper on each side thereof, which hoppers discharge into said bucket, said hoppers being actuated by said bucket and being adapted to travel a predetermined distance therewith.

134. In an aerial tramway system, the combination of a traveling bucket and loading means embodying a plurality of hoppers, one hopper being on each side of the bucket.

135. In an aerial tramway system, the combination of a traveling bucket and loading means embodying a plurality of traveling hoppers, one hopper being on each side of the bucket.

136. In an aerial tramway system, the combination of a traveling bucket, means for supporting same, and a plurality of traveling hoppers for loading same, one hopper being on each side of said bucket, said hoppers being actuated by said supporting means.

137. In an aerial tramway system, the combination of a traveling bucket, a traveling hopper on each side thereof, and means for actuating said hoppers at a point intermediate the hoppers.

138. In an aerial tramway system, the combination of a traveling bucket, a traveling hopper on each side thereof, and means for causing said hoppers to move at a gradually-increasing rate of speed.

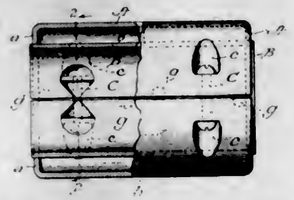
139. In an aerial tramway system, the combination of a traveling bucket, a traveling hopper on each side thereof, and a lever for each hopper to actuate same.

140. In an aerial tramway system, the combination of a traveling bucket, a traveling hopper on each side thereof, means for connecting said hoppers to said bucket, and means for predeterminedly disconnecting same.

867,498. PULLEY. HENRY J. GILBERT, Saginaw, Mich. Filed July 6, 1903. Serial No. 164,426.

1. The herein described sheet metal structure for pulleys and the like, comprising the two-part outer shell A having the end flanges *a* and the indentations *c* forming the clamping surfaces for the bolts, and the bolts C; substantially as described.

2. The herein described sheet metal structure for pulleys and the like, comprising the two-part outer shell A having the end flanges *a* and the indentations *c* forming the clamping surfaces for the bolts, and provided along the meeting edges of the shell with interlocking projections, and the bolts C; substantially as described.



3. The herein described sheet metal structure for pulleys and the like, comprising the two-part outer shell A having the end flanges *a* and indentations *c* forming the clamping surfaces for the bolts, and provided with the lugs *g* and the bolts C; substantially as described.

4. The herein described sheet metal structure for pulleys and the like, comprising the two-part outer shell A having the end flanges *a* and indentations *c* forming the clamping surfaces for the bolts, the two-part inner shell B provided with the supporting saddles *f* projecting beneath the clamping surfaces of the outer shell, and the bolts C for uniting the two halves of the pulleys; substantially as described.

5. The herein described sheet metal structure for pulleys and the like, comprising the two-part outer shell A having the end flanges *a* and indentations *c* and provided along the meeting edges of the shell with interlocking projections, the two-part inner shell B provided with the supporting saddles *f* for the clamping surfaces formed by the indentations *c*, and the bolts C; substantially as described.

6. The herein described sheet metal structure for pulleys and the like, comprising the two-part outer shell A having the end flanges *a* and indentations *c* and provided along the meeting edges of the shell with the lugs *g*, the two-part inner shell B provided with the supporting saddles *f* for the clamping surfaces formed by the indentations *c*, and the bolts C; substantially as described.

7. The herein described sheet metal structure for pulleys and the like, comprising the two-part outer shell A having the end flanges *a* and indentations *c* forming clamping surfaces for the clamping bolts, the two-part inner shell *b* having the openings *c* to accommodate the inner corners of the indentations *c* in the outer shell and provided with the supporting saddles *f* for the clamping surfaces, and the bolts C; substantially as described.

8. A sheet metal pulley comprising the two-part outer shell A having the end flanges *a* and indentations *c* and provided along the meeting edges of its halves with the lugs *g*, the two-part inner shell B having the openings *e* to accommodate the inner corners of the indentations and provided with the supporting saddles *f* for the clamping surfaces formed by said indentations, and the bolts C; substantially as described.

9. The herein described pulley comprising a two-part outer shell having marginal flanges *a* inwardly directed towards the shaft opening and adjacent thereto, and means for clamping the parts of the shell; substantially as described.

10. The herein described pulley comprising a two-part outer shell having marginal flanges *a* inwardly directed towards the shaft opening and also having interlocking edges, and means for clamping the parts of the shell; substantially as described.

11. The herein described pulley comprising a two-part outer shell A having flanges *a* inwardly directed towards the shaft opening, a two-part inner shell arranged within the outer shell, and means for clamping said shells; substantially as described.

12. The herein described pulley comprising a two-part outer shell A having flanges *a*, a two-part inner shell arranged within the outer shell and in contact with said flanges, said outer shell having indentations forming clamping surfaces for the bolts, and bolts for clamping said parts together; substantially as described.

13. The herein described pulley comprising a two-part outer shell A having flanges *a*, a two-part inner shell upon which the outer shell is saddled and arranged concentric therewith, and means for clamping the parts of the shells; substantially as described.

14. The herein described pulley comprising a two-part outer shell A having flanges *a* and also having along the meeting edges ears or lugs *g* alternately arranged upon the opposite halves of the pulley and each fitting within the edge of the opposing half of the shell, and means for clamping the parts of the shell; substantially as described.

15. A pulley comprising a two-part outer shell and a two-part inner shell, means for supporting said shells in concentric relation, and means for clamping the parts of the shell; substantially as described.

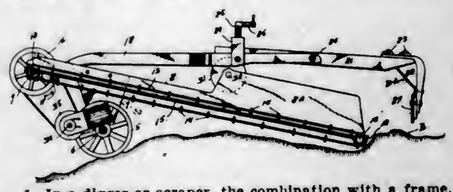
16. A pulley comprising a two-part outer shell and a two-part inner shell, one of said shells having flanges for spacing the two shells; substantially as described.

17. A pulley comprising a two-part outer shell and a two-part inner shell, means for supporting said shells in concentric relation, and clamping bolts passing through and engaging the parts of the outer shell for clamping together the parts of said shell and for also clamping together the outer and inner shell; substantially as described.

18. A pulley comprising two concentric shells, one of the shells having end flanges closing the annular space between such shells, and means for clamping the shells together; substantially as described.

19. A pulley comprising two concentric shells, one of which has a flange bearing against and arranged to support the other shell, and means for clamping the shells together; substantially as described.

867,499. DIGGER OR SCRAPER. CHARLES H. GUNN, Marysville, Cal. Filed Feb. 4, 1907. Serial No. 355,747.



1. In a digger or scraper, the combination with a frame, an endless conveyer or carrier mounted on the frame, wheels also mounted on the said frame, a digger or scraper, and a crank connection between the latter and said wheels, whereby the digger or scraper is made to coöperate with the carrier, substantially as described.

2. The combination with a frame, of an endless conveyer mounted thereon, wheels also mounted on the frame, a scraper or digger, a pitman connection between the latter and the wheels, and means for preventing the lateral displacement of the digger during the operation of the machine, substantially as described.

3. In apparatus of the class described, the combination with a frame, an endless conveyer mounted thereon, wheels for operating the conveyer, a digger or scraper, and a pitman connection between the latter and the said operating wheels, substantially as described.

4. The combination of a frame, an endless conveyer mounted thereon, wheels connected with the conveyer shaft at one extremity, a digger or scraper, a pitman connection between the latter and the said wheels, a guide wheel mounted on the frame, and a trough-shaped guide connected with the digger and engaging the said guide wheel to prevent lateral displacement of the digger, substantially as described.

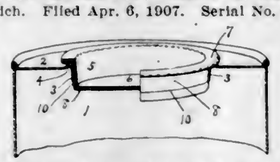
5. The combination with a frame, a conveyer mounted thereon, wheels connected in operative relation with the conveyer, a digger provided with a forwardly projecting arm, a pitman adjustably connected with the digger at one extremity, the opposite extremity of the pitman having a crank connection with the said wheels, substantially as described.

6. The combination with a frame, a conveyer mounted thereon, wheels for operating the conveyer, a digger having a forwardly projecting arm, a pitman connecting the digger with the said wheels, a guide wheel journaled in the frame intermediate its extremities, a trough-shaped guide pivotally connected with the digger arm, whereby the guide is adapted to swing independently of the said arm, the guide engaging the guide wheel and being provided with cam members at its extremities for controlling the manipulation of the digger during the operation of the machine, substantially as described.

7. The combination with a frame, operating wheels mounted thereon, a digger or scraper, a crank connection between the digger or scraper and the operating wheels for imparting a reciprocating movement to the digger or scraper, and suitable means acting on the latter to produce a vertical movement simultaneously with the reciprocating action imparted by the operating wheel, substantially as described.

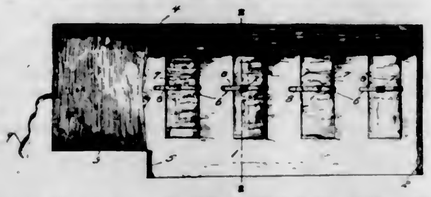
8. The combination with a suitable frame, of operating wheels mounted thereon, a digger or scraper provided with a forwardly projecting arm, a pitman having a crank connection with the operating wheels, and an adjustable connection between the pitman and the digger arm, substantially as described.

867,500. CONTAINER-TOP. JERVIS R. HARBECK, Detroit, Mich. Filed Apr. 6, 1907. Serial No. 366,680.



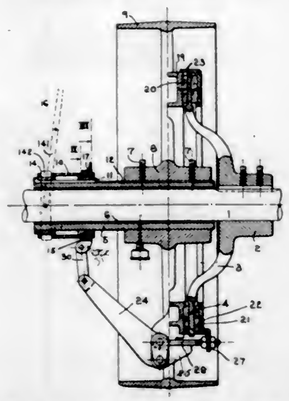
In a container, the combination of a top provided with an inwardly extending flange, a tapering closure having its lower end closed, the closure when in place extending below the edge of the flange, and a gasket of absorbent fibrous material secured across the closed end and around the shell of the closure, this gasket being adapted to swell by reason of absorbing a portion of the material in the container and to project over the lower edge of the flange of the head and thus securely hold the closure in position.

867,501. MAIL-POUCH. JOHN E. HARRIS, Danville, Vt. Filed Aug. 10, 1905. Serial No. 273,580.



An article of manufacture consisting of a mail-pouch comprising a sheet of material having a pocket formed at one end from an integral part of the body portion of said material, said pocket being narrower than the body of the material and having its opening at the inner edge where it joins the body portion, substantially in alinement with the ends of the extended margins of the said body, divers parcel-holding straps secured in spaced relationship to the inner face of the material, in alinement midway of its side edges, the inner face of the body portion including its margins being otherwise free and unincumbered, the said margins of the body portion lying beyond the ends of the pocket being adapted to be folded inward toward said parcel-holding straps.

867,502. FRICTION-CLUTCH. JOHN F. HARRISON, Milwaukee, Wis., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Filed Jan. 20, 1906. Serial No. 296,967.

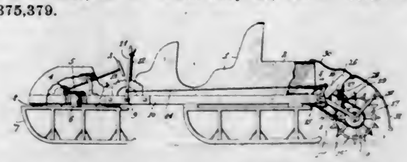


1. A shaft, a means rotating with the shaft, a member loose relative to the shaft, a collar longitudinally slidable on the member, an element coacting with the collar and disengageable therefrom on relative rotation and longitudinal separation of the element and collar, clamping means on the member for causing rotation of the member with the shaft, and linkage connecting the element and the clamping means.

2. A shaft, a member loose relative to the shaft, a collar movable but nonrotatable on the member, a recessed ring coacting with the collar, lugs on the collar registrable with the ring recesses for assembling the collar and ring, clamping means on the member for causing rotation of the member with the shaft, and linkage connecting the ring and the clamping means and, in combination with the connection between the collar and the member, preventing registration of the lugs and recesses.

3. A shaft, a member, a grooved collar movable on the member, a plurality of radially loose rings in the groove, operable means for connecting the shaft and the member, and a plurality of links connecting the means to the rings in recurring series.

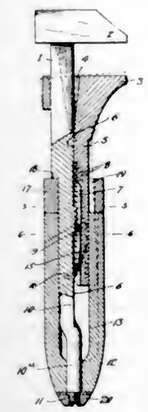
867,503. AUTOMOBILE SLEIGH. FREDRICK HARTJE, St. Thomas, N. D. Filed May 24, 1907. Serial No. 375,379.



1. In an automobile sleigh, a series of drive wheels adapted to engage the surface traversed, arms supporting the shaft of said drive wheels, a transverse bar to which the inner ends of said arms are connected, means for rocking said arms to raise or lower said shaft and drive wheels, a sleeve encircling said transverse bar, a motor, and connections between said motor and sleeve and said sleeve and drive wheel shaft for rotating the latter.

2. In an automobile sleigh, a series of drive wheels adapted to engage the surface traversed, means for rotating said wheels, means for shifting said wheels vertically, a shield pivoted to the automobile body and covering said drive wheels, and connections between the drive wheel shaft and said shield whereby vertical movement imparted to said drive wheels will be similarly imparted to said shield.

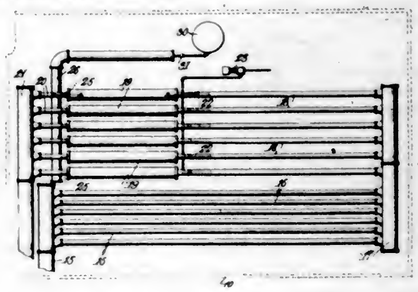
867,504. WRENCH. MERL H. HARTMAN, Elkins, W. Va. Filed Apr. 1, 1907. Serial No. 365,790.



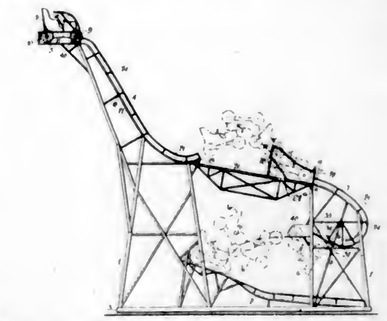
A wrench comprising a stationary jaw having a shank formed at one end with a cylindrical bearing portion and at points intermediate its ends with a stop shoulder and a stationary pawl, a movable jaw having a shank and a loop to surround the shank of the stationary jaw, one wall of said loop being inclined to permit the shank of the movable jaw to rock upon the shank of the stationary one said shank of the movable jaw being provided with a longitudinal series of ratchet teeth to engage said stationary pawl and with a longitudinally extending groove, a leaf spring carried by the shank of the stationary jaw and adapted to enter said groove, a stationary collar surrounding the shanks of both jaws and engaged with the shoulder upon the shank of the stationary one, said collar being adapted to guide the shank of the movable jaw in its sliding and rocking movement, a handle to telescope and rotate upon both of said shanks and formed with a bore having an enlarged upper portion and a reduced lower portion to engage said cylindrical bearing on the shank of the stationary jaw, the enlarged upper portion of the bore of the handle being formed with a cavity or recess to receive the shank of the movable jaw, and means upon the shank of the stationary jaw for retaining said collar and handle upon said shanks, substantially as described.

867,505. GAS-COOLING AND GASOLENE-SEPARATING APPARATUS. DENNIS HASTINGS and ANDREW W. BRINK, New Martinsville, W. Va. Filed Dec. 10, 1906. Serial No. 347,148.

In apparatus for removing gasolene from gas under compression, a reservoir constructed to contain a cooling fluid, a plurality of headers arranged in the reservoir, cooling pipes connecting the headers, expansion chambers connected in the pipes and of greater diameter than said pipes, means for discharging the liquid condensed in said chambers, and water spraying tubes arranged centrally of the pipes and provided with perforations for directing jets of water transversely across the pipes in the path of the streams of gas.



867,506. AMUSEMENT APPARATUS. OTTO HERMANN, Philadelphia, Pa. Filed Nov. 19, 1906. Serial No. 344,127.



1. In an amusement apparatus, an inclined track provided with an interruption or jump, a platform spaced from said interruption or jump and having guide devices which diverge laterally toward said space, and a lower track leading from said platform, in combination with a vehicle to descend said inclined track, rise over the space and alight upon said platform, said laterally diverging devices serving to guide the vehicle onto the lower track.

2. The combination of a car having front and rear supporting wheels, front pivoting elements at the centers of and projecting outwardly from said front supporting wheels, a track having downwardly curved reversely bent rails for the supporting wheels of the car, similarly-disposed holding rails for coaction with the holding elements of the car, pivoted terminal rails for said holding rails, an inclined track for coaction with the front holding wheels of the car after the latter leave the holding rails of the track, and drop guideways at the upper end of said inclined track for coaction with the pivoting elements of the car to momentarily arrest the latter, cause it to descend and then release said car so that the latter is caused to swing through a somersault in space and become reversed, end for end, as it drops from the track.

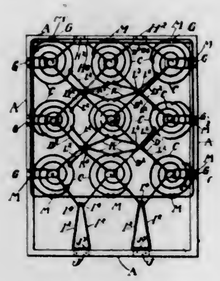
3. An amusement apparatus comprising a car, an inclined track having an outwardly and upwardly-inclined portion and a landing so related as to cause the car after descending said inclined track to spring outwardly and upwardly, front end foremost, turn a complete somersault in space, in contra-carwheel-wise direction, and descend on such landing, substantially as specified.

4. In combination with a car having supporting wheels, holding elements and lateral guide elements, an inclined track having two sections separated by a space, and each provided with supporting rails for the said supporting wheels and holding rails for coaction with the said holding elements, the lower track section being also provided,

at its upper end with upwardly, laterally-diverging guide rails to coact with the lateral guide elements of the car as to cause the latter to alight upon the lower track after leaving the upper track, substantially as described.

5. The combination of a car having front and rear supporting wheels, front pivoting elements, front and rear holding elements, a track having downwardy-curved, reversely-bent rails for the supporting wheels of the car, similarly-disposed holding rails for coaction with the holding elements of the car, pivoted terminal rails for said holding rails, an inclined track for coaction with the front holding wheels of the car after the latter leave the holding rails of the track, and drop guideways at the upper end of said inclined track for coaction with the pivoting elements of the car to momentarily arrest the latter, cause it to descend and then release said car so that the latter is caused to swing through a somersault in space and become reversed, end for end, as it drops from the track.

867,507. SPRING-PLATFORM FOR VEHICLE-SEATS, CHAIRS, LOUNGES, AND BED-BOTTOMS. HENRY HIGGIN, Newport, Ky., assignor to The Higgin Manufacturing Company, Newport, Ky., a Corporation of West Virginia. Filed Nov. 19, 1904. Serial No. 233,320.



1. In a spring platform, seats for the springs, and frames having mid portions D^4, inclined portions D^2, one end of the frame provided with a hooking device, substantially as and for the purposes specified.

2. In a spring platform, seats for the springs, and frames having sides D^3, and middle portions D^4, and end portion D^7, and end hook at the other end, substantially as and for the purposes specified.

3. In a spring platform, seats for the springs, and frames connected to the seats, each made of a single rod bent so as to have mid-portions D^4, inclined portions D^2, an end portion D^7, the ends of the rod being approximated, and bent forming the hook D^4, substantially as and for the purposes specified.

4. In a spring platform, and as an element of connection, frames each made of a single rod bent so as to have mid-portions D^4, inclined portions D^2, end portion D^7, and opposite end where the rods approximate provided with the hook D^4, substantially as and for the purposes specified.

5. In a spring platform, and as an element of connection, frames each made of a single rod bent so as to have mid-portions D^4, inclined portions D^2, end portion D^7, and opposite end where the rods approximate provided with the hook D^4, the hook of one frame engaging the end D^7 of an adjacent frame, substantially as and for the purposes specified.

6. In a spring platform, as a new article of manufacture, a seat for a spring, consisting of a plate having a raised central portion bounded by depressed channel portion, an eye formed in the channel at a given point by raising the bottom of the channel, the adjacent portion of the spring adapted to rest in the channel and to pass through this eye, and means for securing this seat to other portions of the platform, substantially as and for the purposes specified.

7. In a spring platform, as a new article of manufacture, a seat for a spring, consisting of a plate having a raised central portion bounded by depressed channel portion, eyes formed in the channel at given points by raising the bottom of the channel, the adjacent portion of the spring adapted to rest in the channel and to pass through these eyes, and means for securing this seat to other portions of the platform, substantially as and for the purposes specified.

8. In a spring platform, as a new article of manufacture, a seat for a spring, consisting of a plate having a raised central portion, bounded by a depressed channel portion, in turn bounded by a raised portion, an eye formed in the channel at a given point, by raising the bottom of the channel, the adjacent portion of the spring adapted to rest in the channel and to pass through this eye, and means for securing this seat to other portions of the platform, substantially as and for the purposes specified.

9. In a spring platform, as a new article of manufacture, a seat for a spring, consisting of a plate having a raised central portion, bounded by a depressed channe' portion, in turn bounded by a raised portion, the eyes formed in the channel at given points by raising the bottom of the channel, the adjacent portion of the spring adapted to rest in the channel and to pass through these eyes, and means for securing this seat to other portions of the platform, substantially as and for the purposes specified.

10. In a spring platform, as a new article of manufacture, a seat for a spring, consisting of a plate having a channel provided with opening formed by raising the bottom of the channel, the adjacent end portion of the spring adapted to rest in the channel and to pass within this opening, and the ends curved over into the hook portions, substantially as and for the purposes specified.

11. In a spring platform, as a new article of manufacture, a seat for a spring, consisting of a plate having a channel provided with two openings formed by raising the bottom of the channel, the adjacent end portion of the spring adapted to rest in the channel and to pass within these openings, and the ends of the plates formed into hooks, substantially as and for the purposes specified.

12. In a spring platform, as a new article of manufacture, a seat for a spring, consisting of a plate having a channel provided with opening formed by raising the bottom of the channel, the adjacent end portion of the spring adapted to rest in the channel and to pass within this opening, and the ends curved over into the hook portions, and the frame D, one of whose sides is engaged by a hook of the seat, substantially as and for the purposes specified.

13. In a spring platform, seats for the springs, the coiled inverted conical truncated springs, whose apexes respectively rest upon these seats, and are secured thereto, each seat provided with curved ends, a link pivoted at one end to a plate of the frame, and at the other end pivoted to a curved end of the spring seat, substantially as and for the purposes specified.

14. In a spring platform, seats for the springs, having the channel openings for the end of the springs formed by raising the bottoms of the channels, and having the curved end hooks, and the links F pivotally connected to the frame, and engaging the adjacent hooks of these seats, substantially as and for the purposes specified.

15. In a spring platform, the combination of the springs and their seats, and the rod having a portion D^3, and at each end of this portion an inclined portion D^2, each inclined portion connected to a spring seat, and a pivotal holder H^3, H^5, H^6, pivotally engaging the midportion D^4 of the said rod, substantially as and for the purposes specified.

16. In a spring platform, the combination of the springs and their seats, and the rod having a portion D^3, and at each end of this portion an inclined portion D^2, each inclined portion connected to a spring seat, and a pivotal holder H^3, H^5, H^6, pivotally engaging the midportion D^4 of the said rod and the link F, pivotally connected to the frame at one end and to the spring seat on the side opposite where said rod engages the latter, substantially as and for the purposes specified.

17. In a spring platform, the combination of the spring seats having curved ends, rod frames having sides D^3, and mid-sides D^4 and end portions, these rod frames connected at their mid-sides to the spring seats, and at their end portions to each other, and the links F, connecting the spring seats to the sides of the frame, and the fixed holders H^6, connecting the rod frames to the front of this frame, substantially as and for the purposes specified.

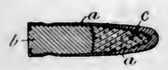
18. In a spring platform, the combination of the spring seats, rod frames having sides D^3, midsides D^4 and end portions, these rod frames connected at their midsides to the spring seats, and the end extension link devices, having a straight end I^3, pivotally connected to the frame, and having converging sides I^2, I^2, provided at their meeting ends with hooks I, engaging an end portion of the said rod frame, substantially as and for the purposes specified.

19. In a spring platform, the combination of the spring seats having curved ends, rod frames having sides D^3, and midsides D^4 and end portions, these rod frames connected at their mid-sides to the spring seats, and at their end portions to each other, and the links F, connecting the spring seats to the sides of the frame, and the fixed holders H^6, connecting the rod frames to the front of this frame, and the end extension link devices, having a straight end I^3, pivotally connected to the frame and having converging sides I^2, I^2, and where these sides meet connected to an end of the said rod frame, substantially as and for the purposes specified.

20. In a spring platform, the springs, and a rod frame made of one piece and bent substantially as shown, its free ends located together and formed with a hook K^8, its mid-sides having the clamps K^7 curved as shown and adapted to engage the parts of adjacent springs, and the connecting pieces L^2, L^2, one set connected to one end of the rod frame K, and the other set to the other end of this rod frame, the other ends of said connecting pieces being respectively connected to adjacent springs, substantially as and for the purposes specified.

21. In a spring platform, springs, rod frames K, having side clamps engaging springs, and ends, and the converging connecting pieces L^2, L^2, one set in one piece and hooked at its converged end to the end of the rod frame, by a hook on the latter, and the other set of two pieces, each having at each end a hook, the converging ends hooked onto the end of the rod frame, and the other ends respectively to springs, and connections to the upper frame of the platform, substantially as and for the purposes specified.

867,508. PROJECTILE FOR RIFLED SMALL-ARMS. HENRY W. HOLLAND and THOMAS WOODWARD, Willesden, England. Filed Feb. 12, 1907. Serial No. 356,994.

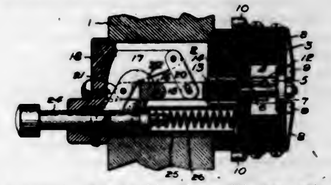


1. A projectile consisting of an outer case, a filling of lead for the rear portion of the case, and a wood filling for the front portion thereof.

2. A projectile consisting of an outer case, a filling of high specific gravity for the rear portion of the case and a filling for the front portion of the case the specific gravity of which is considerably less than half that of the first mentioned filling.

867,509. ELECTRIC SWITCH. EDWIN JOHNSON, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Aug. 24, 1905. Serial No. 275,567.

1. In a switch, the combination with two sets of contacts, of a contact-disk, a spring-actuated stem connected therewith, a toggle connected with said stem, and a plunger provided with means for straightening said toggle when said plunger is moved in one direction and for flexing said toggle when said plunger arrives at the end of its movement in the opposite direction.



2. In a switch, the combination with two sets of contacts, of a contact-disk, a spring-actuated stem connected therewith, a toggle pivoted to said stem, a plunger, and a rocker actuated by said plunger and operating to set and trip said toggle.

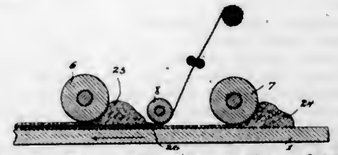
3. In a switch, the combination with two sets of contacts, of a contact-disk, a stem carrying said disk, a toggle pivoted to said stem, a rocker having one end above said toggle and the other end below it, and a plunger pivotally connected with said rocker.

4. In a switch, the combination with two sets of contacts, of a contact-disk, a stem carrying said disk, a toggle pivoted to said stem, a rocker having one end above said toggle and the other end below it, a plunger pivoted to said rocker, a spring for actuating said stem when the toggle is tripped, and a stronger spring for actuating said plunger to set said toggle.

5. In a switch, the combination with the panel 1 having an opening 2, of a block 3 having a socket 4 and transverse slot 5, contacts 9 at the outer end of the socket, contacts 12 in said slot, a metallic contact-disk 7 in said socket, a spring-actuated stem 6 for said disk, a toggle for moving said disk from one set of contacts to the other, and a rocker for setting and tripping said toggle.

6. In a switch, the combination with the panel 1 having an opening 2, of a block 3 and a cover 18 at opposite ends of said opening, a tube 25 held between said block and cover, a spring plunger in said tube, a rocker pivotally supported by said cover and connected with said plunger, a movable contact, and a toggle for moving it, adapted to be set and tripped by the toe and heel of said rocker.

867,510. PROCESS OF MAKING FIRE-RETARDANT GLASS. CLEMENT J. JUNGERS, Streator, Ill., assignor to The Western Glass Company, Streator, Ill., a Corporation of Illinois. Filed Oct. 29, 1906. Serial No. 340,998.



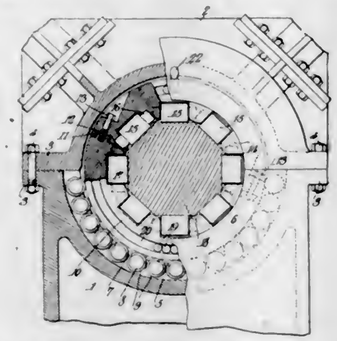
1. The process of making glass having a fire-resisting material incorporated therein, which consists in concurrently forming upon a substantially horizontal support two layers of glass, one upon the other and formed in successive order, and simultaneously paying out under tension and positively and continuously directing into the relatively progressing line of juncture between the finished upper surface of the first layer and advance meeting portion of the second layer, a fire-resisting reinforcement, said reinforcement being held free from contact with either body of glass until overflowed by the relatively advancing edge of the second layer.

2. The process of making glass having a fire-resisting material incorporated therein, which consists in making a first pour of glass and starting the rolling of a layer therefrom, making a second pour of glass upon said started first layer, confining said second pour to cause its relatively advancing edge to initially assume a substantially straight line across the first layer, thereafter con-

currently rolling out the two layers, one upon the other, and simultaneously paying out under tension and accurately guiding into the relatively progressing line of juncture between the finished upper surface of the first layer and advance meeting portion of the second layer, a fire-resisting reinforcement, said reinforcement being held free from contact with either body of glass until overflowed by the relatively advancing edge of the second layer.

3. The process of making glass having a fire-resisting material incorporated therein, which consists in concurrently forming upon a substantially horizontal support two layers of glass, one upon the other and formed in successive order, and simultaneously paying out under tension and positively and continuously directing into the relatively progressing line of juncture between the finished upper surface of the first layer and advance meeting portion of the second layer, a fire-resisting reinforcement.

867,511. SHAFT-BEARING. JOHN P. KARNS, Boulder, Colo., assignor to The J. P. Karns Tunneling Machine Co., Boulder, Colo. Filed Feb. 23, 1907. Serial No. 358,901.



1. An anti-friction roller bearing comprising a rotatable collar, journaled rollers supporting the same and arranged parallel to the axis of rotation of said collar, and longitudinally-disposed series of rollers constituting the inner bearing face of the collar with the axis of rotation of each roller disposed parallel to the plane of rotation of the collar.

2. An anti-friction roller bearing comprising a rotatable collar, journaled rollers supporting the same and arranged parallel to the axis of rotation of said collar, and longitudinally-disposed series of rollers constituting the inner bearing face of the collar with the axis of rotation of each roller disposed parallel to the plane of rotation of the collar, the rollers of one series within the collar being staggered with relation to the rollers of the next adjacent series thereto.

3. An anti-friction roller bearing comprising a rotatable collar, journaled rollers supporting the same and arranged parallel to the axis of rotation of said collar, longitudinally-disposed series of rollers constituting a polygonal inner bearing face for the collar, and a shaft polygonal in cross section extending through the collar and supported by said rollers.

4. An anti-friction roller bearing comprising a rotatable collar, journaled rollers supporting the same and arranged parallel to the axis of rotation of said collar, longitudinally-disposed series of rollers constituting a polygonal inner bearing face for the collar, and a shaft polygonal in cross section extending through the collar and supported by said rollers, the rollers of one series within the collar being staggered in relation to the rollers of the next adjacent series thereto.

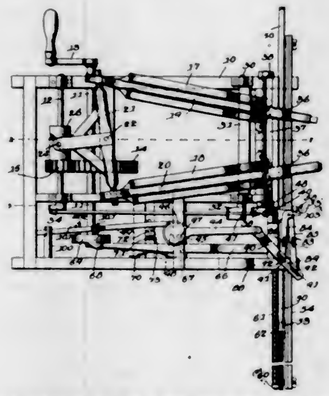
5. An anti-friction roller bearing comprising a collar having a polygonal inner face, longitudinal ribs formed along the meeting edges of the facets on the interior of the collar, journal bearings in staggered relation on opposite sides of the ribs, rollers having journals seated in said journal bearings, and other rollers exterior to said collar and supporting the same and arranged longitudinally parallel with the axis of said collar.

6. An anti-friction journal bearing comprising a supporting member carrying a semi-circular series of longitudinally-extending rollers, a rotatable collar seated on said rollers, longitudinal series of rollers carried by the interior of the collar and arranged to form a polygonal bearing surface therein, a polygonal shaft engaging the polygonally-disposed rollers within the collar, and a cap plate confining the collar to the bed-plate of the journal support.

7. An anti-friction journal bearing comprising a supporting member carrying a semi-circular series of longitudinally-extending rollers, a rotatable collar seated on said rollers, longitudinal series of rollers carried by the interior of the collar and arranged to form a polygonal bearing surface therein, a polygonal shaft engaging the polygonally-disposed rollers within the collar, a cap plate confining the collar to the bed-plate of the journal support, and anti-friction ball-bearings interposed between the ends of the collar and the journal support adjacent to the collar.

8. An anti-friction journal bearing comprising a two-part journal support, longitudinally arranged rollers in the lower section of said support and arranged in semi-circular series, a cylindrical collar split longitudinally into two equal parts with dovetailed tenons formed on one part and corresponding dovetailed mortises on the other part, securing means for fastening the two parts together, equidistant radially-disposed inwardly-projecting longitudinal ribs formed on the inner face of the collar, longitudinal series of rollers having their axes of rotation parallel with the plane of rotation of the collar, with the rollers of one series in staggered relation to the rollers of the next adjacent series, the said rollers forming a polygonal bearing face on the interior of the collar, and a polygonal shaft engaging said rollers.

867,512. SAW-FILING MACHINE. LOGAN S. KEETER, Salisbury, N. C. Filed Apr. 11, 1906. Serial No. 311,153.



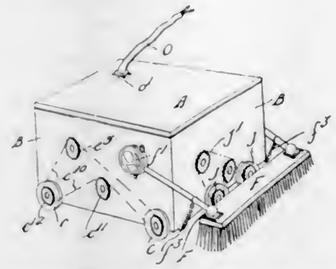
1. In a machine of the class described, a frame, a saw support, a pair of reciprocatory file carriers arranged at an angle to each other, a rocker bar to which said carriers are connected, a driven shaft, a cam carried thereby, and connected to the rocker bar to simultaneously impart movement to the carriers in opposite directions, respectively, a cam shaft, an elongated cam carried thereby and extending under both of the file carriers, a rocker arm on said cam shaft, and means for connecting said rocker arm to the driven shaft to time the movement of the cam with relation to the movement of the file carriers.

2. In a machine of the class described, the combination with a saw support, of a pair of file carriers, means for reciprocating said file carriers, means for elevating the file carriers to hold the files from engagement with the saw during the idle or return stroke, pressure springs acting on such carriers, means for supporting said pressure springs, and means for moving the spring supports to relieve the pressure on the file carriers during such idle stroke.

3. In a machine of the class described, the combination with a saw support, of a pair of file carriers, means for reciprocating the same, a cam shaft, cams carried by the shaft and arranged to move the carriers to elevated position during the idle stroke, a rock shaft, springs carried thereby and bearing on the file carrier, and means for turning said shaft to relieve the spring pressure during the idle stroke.

4. In mechanism of the class described, the combination with a saw support, of a pair of reciprocatory file carriers, a rocker bar to which one end of each carrier is connected, means for actuating said rocker bar, a cam shaft, a cam carried by the shaft and arranged to elevate said file carriers, a rock shaft, springs carried by the rock shaft and bearing on the carrier, a rocker arm extending from the rock shaft, a second rocker arm carried by the cam shaft, a link connecting the two rocker arms, and means for imparting movement to the cam shaft.

867,513. SHIP-CLEANING APPARATUS. JOHN A. KENNEDY-MCGREGOR, Birmingham, England. Filed July 7, 1906. Serial No. 325,048.



1. A ship cleaning apparatus comprising, a casing, a cleaning means carried thereby, self contained means for selectively moving said casing lengthwise or laterally, and means for holding said casing against the surface of the ship.

2. A ship cleaning apparatus comprising, a casing, a cleaning means carried thereby, self contained means for selectively moving said casing lengthwise or laterally and a magnet for holding said casing against the surface of the ship.

3. A ship cleaning apparatus comprising, a casing, a cleaning means carried thereby, forwarding wheels journaled on said casing, a motor in said casing, connecting means between said motor and said forwarding wheels, means for moving said casing laterally, and a magnet for holding said casing against the surface of the ship.

4. A ship cleaning apparatus comprising, a casing, a cleaning means carried thereby, forwarding wheels journaled on said casing, a motor in said casing, connecting means between said motor and said forwarding wheels, other wheels for moving the casing laterally, driving motors for the last mentioned wheels, means for putting said last mentioned wheels out of operation during the forward movement of the casing and a magnet for holding said casing against the surface of the ship.

5. A ship cleaning apparatus comprising, a casing, a cleaning means carried thereby, forwarding wheels journaled in said casing, a motor in said casing connecting means between said motor and said forwarding wheels, lateral movement wheels of larger diameter than the said forwarding wheels having semi-circumferential recesses of such depth that the radius of the inner periphery so formed is less than the radius of the forwarding wheels, driving motors for said lateral movement wheels and a magnet for holding said casing against the surface of the ship.

6. A ship cleaning apparatus comprising, a casing, a cleaning means carried thereby, forwarding wheels journaled in said casing, a motor in said casing, connecting means between said motor and said forwarding wheels, lateral movement wheels of larger diameter than the said forwarding wheels having semi-circumferential recesses of such depth that the radius of the inner periphery so formed is less than the radius of the forwarding wheels, means for stopping said lateral movement wheels when their recesses are in the lowermost position, driving motors for said lateral movement wheels and a magnet for holding the casing against the surface of the ship.

7. A ship cleaning apparatus comprising, a casing, a cleaning means carried thereby, forwarding wheels journaled in said casing, a motor in said casing, connecting means between said motor and said forwarding wheels, lateral movement wheels of larger diameter than the said forwarding wheels having semi-circumferential recesses of such depth that the radius of the inner periphery so formed is less than the radius of the forwarding wheels, driving motors for said lateral movement wheels, shafts connected to said lateral movement wheels, connecting means between said driving motors and said shafts, electric conducting drums on said shafts, insulating parts on said drums, brushes engaging said drums and a magnet for holding the casing against the surface of the ship.

8. A ship cleaning apparatus comprising, a watertight casing, a cleaning means carried thereby, a motor within said casing, a shaft within said casing and extending outside the same, gearing between said shaft and motor, chain wheels on the ends of said shaft, forwarding wheels journaled outside said casing, chain wheels on said forwarding wheels, chains connecting said chain wheels with the chain wheels on said shaft, lateral movement wheels of larger diameter than said forwarding wheels positioned at right angles to the forwarding wheels and having semi-circumferential recesses of such depth that the radius of the inner periphery so formed is less than the radius of the forwarding wheels, driving motors for said lateral movement wheels, shafts connected to said lateral movement wheels, connecting means between said driving motors and said shafts, electric conducting drums on said shafts, insulating parts on said drums, brushes engaging said drums and a magnet for holding said casing against the surface of the ship.

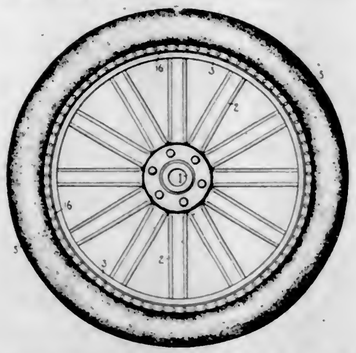
9. A ship cleaning apparatus comprising, a watertight casing, a motor within said casing, a shaft within said casing and extending outside the same, gearing between said shaft and motor, chain wheels on the ends of said shaft, forwarding wheels journaled outside said casing, chain wheels on said forwarding wheels, chains connecting said chain wheels with the chain wheels on said shaft, a second shaft within said casing and extending outside the same, gearing between said second shaft and said motor, eccentrics on the ends of said second shaft, arms connected to said eccentrics, a dirt remover on said arms, lateral movement wheels of larger diameter than said forwarding wheels positioned at right angles to the forwarding wheels and having semi-circumferential recesses of such depth that the radius of the inner periphery so formed is less than the radius of the forwarding wheels, driving motors for said lateral movement wheels, shafts connected to said lateral movement wheels connecting means between said driving motors and said shafts, electric conducting drums on said shafts, insulating parts on said drums, brushes engaging said drums and a magnet for holding said casing against the surface of the ship.

867,514. FRUIT-CLIPPER. JAMES C. KING, Callahan, Cal. Filed Sept. 16, 1905. Serial No. 278,718.



A fruit clipping device consisting of a pair of pivotal jaws having flat opposing stem clamping faces, one of the said jaws having a handle extension that terminates in a thumb receiving ring, the other jaw having a handle member that opposes and extends beyond the thumb engaging handle, its outer end having transverse corrugations for the fingers of the hand and a flat severing blade detachably supported on that jaw which has the thumb ring handle, said blade being mounted to project over the flat edge of the jaw to which it is attached and to extend over the top face of the opposing jaw when the two jaws are closed against the severed fruit stem, as set forth.

867,515. TIRE-PROTECTING DEVICE. LEONARD H. KINNARD, Harrisburg, Pa., assignor of one-half to Rollin S. Chamberlin, Harrisburg, Pa. Filed Dec. 8, 1904. Serial No. 235,932.



1. A tire-protecting device composed of a shoe in which the tire fits, a stay consisting of a stiff endless ring fastened only to the shoe at one edge thereof, another similar stay, and a fastening connecting the shoe at its other edge with the latter stay, said fastening being adjustable to draw the edge of the shoe towards the stay.

2. A tire-protecting device composed of a shoe in which the tire fits, a stay consisting of a stiff endless ring fastened only to the shoe at one edge thereof, another similar stay, and a fastening connecting the shoe at its other edge with the latter stay, said fastening being adjustable to draw the edge of the shoe towards the stay and being detachable from the stay.

3. A tire-protecting device composed of a shoe in which the tire fits, a stay consisting of a stiff endless ring fastened only to the shoe at one edge thereof, another similar stay, and means for detachably fastening the shoe at its other edge to the latter stay, said means being adjustable to draw the edge of the shoe towards the stay.

4. A tire-protecting device composed of a shoe in which the tire fits, an annular stay fastened only to the shoe at one edge thereof, another annular stay, and means comprising lacing for detachably fastening the shoe at its other edge to the latter stay.

5. A tire-protecting device composed of a shoe in which the tire fits, and stays consisting of stiff endless rings fastened only to the shoe at its edges, one of the stays being larger than the other.

6. A tire-protecting device composed of a shoe in which the tire fits, and stays consisting of stiff endless rings fastened only to the shoe at its edges, one of the stays being larger than the other and the shoe being detachable from the larger stay.

7. A tire-protecting device composed of a shoe in which the tire fits, a stay consisting of a stiff endless ring fastened only to the shoe at one edge thereof, another larger stay similar to the first-mentioned stay, and means for detachably fastening the shoe at its other edge to the larger stay.

8. A tire-protecting device composed of a shoe in which the tire fits, an annular stay fastened only to the shoe at one edge thereof, another larger annular stay, and means comprising lacing for detachably fastening the shoe at its other edge to the larger stay.

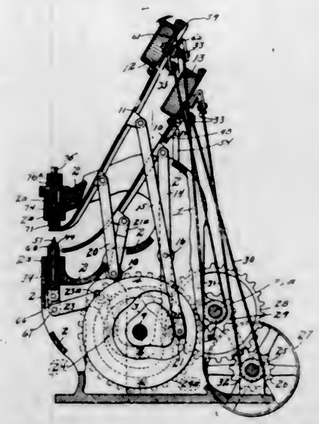
9. A tire-protecting device composed of a shoe in which the tire fits, and annular stays fastened only to the shoe at its edges, said shoe including a convexo-concave ring of hard material, whose diameter is greater at one edge than at the other.

10. A tire-protecting device composed of a shoe in which the tire fits, and annular stays fastened only to the shoe at its edges, said shoe including a convexo-concave metal ring whose diameter is greater at one edge than at the other.

11. A tire-protecting device composed of a shoe in which the tire fits, and stays consisting of stiff endless rings of different diameters fastened only to the shoe at its edges, said shoe including a convexo-concave ring of hard material.

12. A tire-protecting device composed of a shoe in which the tire fits, and stays consisting of stiff endless rings of different diameters fastened only to the shoe at its edges, said shoe including a convexo-concave metal ring.

867,516. EYELETING-MACHINE. NICHOLAS T. LAUSE, JOHN C. COLLETT, MILTON O. KEPLER, and LOUIS GRUBER, Dayton, Ohio, assignors to Schopps Special Bag Co., Dayton, Ohio, a Firm. Filed Nov. 26, 1906. Serial No. 345,000.



1. In a machine of the type specified, a movable punch, means for supporting a male gromet in a position surrounding said punch, means for delivering a female gromet to the punch above the fabric, and a series of vertical pins yieldingly mounted and engaging the upper surface of the female gromet to maintain said gromet in a level position on the upper surface of the fabric during the operation of uniting the gromets to the fabric.

2. In a machine of the type specified, a punch, means for delivering male gromets to said punch, means for elevating said punch to first receive a male gromet and then to perforate the fabric, and finally to receive a female gromet, means for delivering female gromets to said punch, means for clenching said male and female gromets after being so received by said punch, a series of vertically movable pins adapted to engage the upper side of the female gromet to maintain the same in a level position while being united to the male gromet and a spring exerting a normal downward pressure upon said pins.

3. In a machine of the type specified, a clenching block, a punch adapted to receive a male gromet and to perforate a fabric means for operating said punch, means for delivering to said punch a male gromet before perforating the fabric, means for delivering to said punch a female gromet after perforating the fabric, and means mounted above the clenching block and adapted to engage the upper side of the female gromet and to maintain said gromet in a level position on the fabric during the operations of uniting said male and female gromets.

4. In a machine of the type specified, a plunger, a punch yieldingly supported therein, means for delivering a male gromet to said punch, means for delivering a female gromet to the punch automatically with the concaved surface thereof lying downwardly, means for clenching the gromets to unite them to the fabric, and vertically-yielding means engaging the upper side of the female gromet when the punch is being elevated and by means of which the female gromet is held in a level position while being clenched or united with the male gromet.

5. In a machine of the type specified, a plunger, a punch yieldingly supported in said plunger, means for operating said plunger and punch, means for holding a male gromet in position with the punch extending therethrough, automatic means for delivering said male gromet to said support, means for automatically delivering the female gromet into a position with the concaved side thereof down and with the axis thereof in alinement with the punch and after said punch has penetrated the fabric to which the gromets are to be united, an upper clenching device against which the female gromet is pressed and into which the punch extends in completing the operation of clenching the gromets, and a series of spring-pressed pins adapted to engage the female gromet to maintain the same in a level position against the fabric while the plunger is advancing to engage the upper clenching device.

6. In a machine of the type specified, a plunger, a punch yieldingly supported therein, means for operating said plunger, a support for the male gromets and through which said punch penetrates, a hopper and a feed chute extending therefrom with means for feeding the female gromets from said hopper to the chute with their concaved surfaces downward, means for clenching the male gromet and the female gromet after the punch has penetrated the fabric and both gromets, and a series of spring-pressed pins adapted to engage the upper side of the female gromet to maintain the same in a level position on the fabric while the gromets are being united.

7. In a machine of the type specified, a movable punch adapted to perforate a fabric means for operating said punch, means for supporting a male gromet below said fabric and surrounding said punch, means for supporting a female gromet in a position to receive the punch as the latter moves upwardly, an upper clenching member against which the female gromet is pressed when the punch is elevated, and a yielding device mounted above said upper clenching member and extending therethrough and adapted to hold the female gromet in a level position against the upper surface of the fabric during the clenching operation.

8. In a machine of the type specified, a movable punch, means for delivering the male gromets to said punch, means for supporting the male gromets with the punch extending therethrough, and means for delivering the female gromets to said punch with the concaved side of said gromets down, said means comprising a disk rotatable on the bottom of the hopper and provided with a plurality of openings adapted only to receive the female gromets with the concaved sides downward, and a reciprocating slide below said disk and adapted to permit the gromets to pass from said openings below said disk.

9. In a machine of the type specified, a plunger, an anvil supported on said plunger, a punch yieldingly supported on said plunger, means for delivering a male gromet to said punch, a clenching block above said punch, means for delivering a female gromet below said clenching block and above the punch, and means extending through said clenching block to hold the female gromet in a level position against the fabric.

10. In a machine of the type specified, an anvil, a plunger supporting said anvil, a punch projecting from the axis of said anvil, means for delivering a male gromet to said punch, means for operating the plunger to elevate the anvil and the punch with the male gromet in position thereon and to perforate a fabric, means for delivering a female gromet to the punch above the fabric, a clenching block coöperating with the anvil to unite the gromets, and pins loosely penetrating the clenching block and adapted to engage the upper side of the female gromet to hold said gromet in a level position against the fabric during the operation of uniting the gromets.

11. In a machine of the type specified, an anvil and a punch adapted to respectively support a gromet and perforate a fabric during the simultaneous movement of said anvil and punch, means for imparting such movement to said anvil and punch, a gromet hopper, a chute extending therefrom and adapted to deliver a second gromet to the punch above the fabric, means within the hopper to compel the last-named gromet to feed with the concaved side thereof down, a clenching block coöperating with the anvil to unite the two gromets to the fabric, and a series of yielding pins penetrating said clenching block and adapted to hold the female gromet in a level position against the upper surface of the fabric until said clenching block and anvil complete the operation of uniting the gromets.

12. In a machine of the type specified, an anvil and a punch adapted to respectively support a gromet and perforate a fabric during the simultaneous movement of said anvil and punch, means for imparting such movement thereto, a clenching block coöperating with the anvil, a series of yielding pins adapted to engage the female gromet to hold it in a level position while the anvil and the punch are advancing to the clenching block, and adjustable means for varying the position of the clenching block.

867,517. METHOD OF PRELIMINARY TREATMENT FOR ACCUMULATOR-PLATES. HENRY LEITNER, Maybury, Woking, England. Filed Aug. 25, 1904. Serial No. 222,162.

1. The process of preparing electrodes for secondary batteries, which consists in immersing the plate in a weak electrolyte, comprising a sulfate solution containing not more than three and one-half per cent. of the sulfate, to which is added not more than three and one-half parts per 1000 of a chlorid, and subjecting the plate as an anode to an electric current of as high density as possible, without raising the temperature of the electrolyte above 85° F., artificially cooling the electrolyte to permit the use of a higher current density than could otherwise be employed, then washing the plate to cleanse it and consolidate the oxidized layer, then treating the plate as a cathode in an innocuous electrolyte, treating the plate with water and then exposing it to the action of warm air, substantially as described.

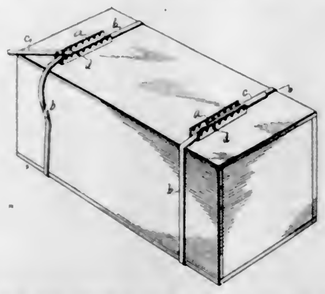
2. The process of preparing electrodes for secondary batteries which consists in immersing the plate in a weak electrolyte, comprising a sulfate solution containing not more than three and one-half per cent. of the sulfate, to which is added not more than three and one-half parts per 1000 of a chlorid, and subjecting the plate as an anode to an electric current of as high density as possible without raising the temperature of the electrolyte above 85° F.,

artificially cooling the electrolyte to permit the use of a higher current density than could otherwise be employed, substantially as described.

3. The process of preparing electrodes for secondary batteries which consists in immersing the plate in a weak electrolyte comprising a sulfate solution containing not more than three and one-half per cent. of the sulfate, to which is added not more than three and one-half parts per 1000 of a chlorid, and subjecting the plate as an anode to an electric current of as high density as possible, without raising the temperature of the electrolyte above 85° F., substantially as described.

4. In a process of preparing electrodes for secondary batteries, immersing the plate in a weak electrolyte comprising not more than three and one-half per cent. of sulfuric acid, to which is added not more than three and one-half parts per 1000 of hydrochloric acid, subjecting the plate as an anode to an electric current of high density and maintaining the electrolyte at a temperature of not more than 85° F., substantially as described.

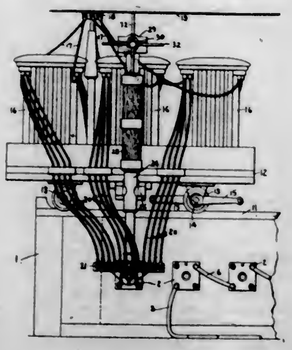
867,518. BAND AND FASTENER COMBINED. JOHN S. MARK, Adel, Iowa. Filed May 23, 1907. Serial No. 375,368.



1. A band and fastener combined composed of a flexible band, a duplex rack fixed to one end of the band and a lever having a cross head at its lower end to engage the rack and operate as set forth.

2. A band and fastener comprising a flexible band, a duplex rack and a lever having a cross head at its end, in combination with a box or the like as set forth.

867,519. ELECTRIC FURNACE. JOHN T. MARSHALL, Metuchen, N. J., assignor to General Electric Company, a Corporation of New York. Filed Jan. 26, 1907. Serial No. 354,227.



1. An electric furnace comprising a plurality of tubes, a source of alternating current, and movable terminals adapted to be connected successively to the ends of said tubes.

2. An electric furnace comprising a plurality of carbon tubes, a source of alternating current, movable terminals therefor, and means for forcing said terminals into good electrical connection with any one of said tubes.

3. An electric furnace comprising a plurality of carbon tubes, metal sockets for holding the ends of said tubes, and movable terminals adapted to be forced into contact with said sockets.

4. An electric furnace comprising a plurality of carbon tubes, and tubular terminals adapted to be connected with the ends of any one of said tubes.

5. An electric furnace comprising a plurality of carbon tubes, tubular sockets for the ends of said tubes, and tubular terminals adapted to make contact with said sockets.

6. An electric furnace comprising a plurality of carbon tubes, hollow metal sockets for receiving the ends of said tubes, and means for feeding a cooling fluid through said sockets.

7. An electric furnace comprising a plurality of carbon tubes, a carriage adapted to travel transverse to said tubes, and movable terminals supported on said carriage.

8. An electric furnace comprising a plurality of carbon tubes, a carriage adapted to travel transverse to said tubes, and tubular terminals supported on said carriage in line with the ends of said tubes.

9. An electric furnace comprising a plurality of carbon tubes, a carriage adapted to travel transverse to said tubes, levers pivoted on said carriage, and terminals carried by said levers.

10. An electric furnace comprising a plurality of carbon tubes, a carriage adapted to travel transverse to said tubes, levers pivoted on said carriage, terminals carried by said levers, and means for moving said levers to force said terminals into good electrical connection with the ends of any one of said tubes.

11. An electric furnace comprising a plurality of carbon tubes, a carriage adapted to travel transverse to said tubes, levers pivoted on said carriage terminals carried by said levers, means for moving said levers to force said terminals into good electrical connection with the ends of any one of said tubes, said means consisting of a shaft uniting said levers and having a screw-threaded connection with one or both thereof.

12. An electric furnace comprising a box-like structure, carbon tubes arranged transverse thereto, a carriage movable along the top of said furnace, and terminals carried by said carriage and adapted to make contact with the ends of any one of said tubes.

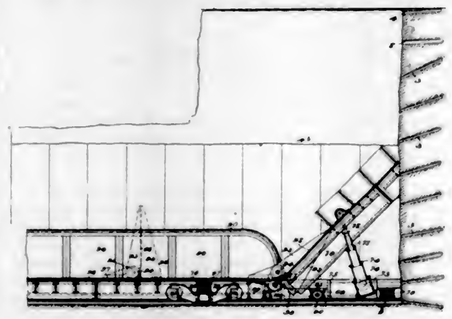
13. An electric furnace comprising a box-like structure, carbon tubes arranged transverse thereto, removable tubular sockets in the walls of said structure for holding the ends of said tubes, a carriage movable along the top of said structure, tubular terminals carried by said carriage, and means for forcing them into contact with said sockets.

14. An electric furnace comprising a box-like structure, carbon tubes transverse thereto, a carriage movable along the top of said structure, a transformer carried on said carriage, and movable secondary terminals therefor adapted to be brought into connection with the ends of any of said tubes.

15. An electric furnace comprising a box-like structure, a filling of loose refractory material, carbon tubes extending across said box below the surface of the filling, metal sockets in the walls of the box for holding the ends of said tubes, a carriage movable along the top of said box, levers pivoted on said carriage and carrying terminals adapted to engage with the sockets, and a transformer on said carriage having its secondary coils connected with said terminals.

16. An electric furnace comprising a box-like structure, a filling of loose refractory material, carbon tubes extending across said box below the surface of the filling, metal sockets in the walls of the box for holding the ends of said tubes, a carriage movable along the top of said box, levers pivoted on said carriage and carrying terminals adapted to engage with the sockets, a transformer on said carriage having its secondary coils connected with said terminals, and a screw shaft uniting said levers for simultaneously operating them.

867,520. APPARATUS FOR TUNNELING. DAVID MAXWELL, Oakmont, Pa. Filed Aug. 25, 1904, Serial No. 222,040. Renewed Feb. 4, 1907. Serial No. 355,724.



1. Tunneling apparatus comprising carrier mechanism to receive the rock to be blasted, said mechanism being arranged to fill the tunnel from side to side at the face of the rock, and means for operating said carrier to discharge its contents upon a car; substantially as described.

2. Tunneling apparatus comprising a carrier and a pivoted apron adapted to rest at an inclination against the face of the rock to receive the blasted rock, and means for operating the carrier to discharge its contents upon a car; substantially as described.

3. Tunneling apparatus comprising carrier mechanism adapted to fill the tunnel from side to side at the base of the rock to be blasted to receive said rock, and plow mechanism for distributing the blasted rock upon said carrier; substantially as described.

4. Tunneling apparatus comprising a carrier, a pivoted apron adapted to rest at an inclination against the face of the rock to receive the blasted rock, and a plow at the base of the apron; substantially as described.

5. Tunneling apparatus comprising a carrier, a pivoted apron adapted to rest at an inclination against the face of the rock to receive the blasted rock, and mechanism for varying the inclination of the apron; substantially as described.

6. Tunneling apparatus comprising a carrier, a pivoted apron adapted to rest at an inclination against the face of the rock to receive the blasted rock, and mechanism for varying the inclination of the apron, said mechanism comprising a pivoted power-cylinder; substantially as described.

7. Tunneling apparatus comprising a carrier, a pivoted apron adapted to rest at an inclination against the face of the rock to receive the blasted rock, and mechanism for varying the inclination of the apron, said mechanism comprising a pivoted power-cylinder, said power-cylinder being made in telescopic sections; substantially as described.

8. Apparatus for blasting comprising trucks movable within the tunnel and having laterally shifting beds; substantially as described.

9. Tunneling apparatus comprising trucks adapted to be drawn within the tunnel and to extend from side to side thereof in front of the rock to be blasted, and means for shifting the beds of the trucks laterally; substantially as described.

10. Tunneling apparatus comprising trucks adapted to receive the blasted rock, said trucks having removable bed portions, and means whereby they can be tipped to discharge their contents; substantially as described.

11. A shifting cylinder having stationary pistons on which it is movable and having an intermediate floating piston-head; substantially as described.

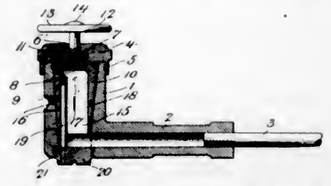
12. Apparatus for tunneling comprising a truck, a pivoted apron, and a pivotally mounted plow adapted to rest on the apron and to be elevated therefrom into plowing position; substantially as described.

13. Tunneling apparatus comprising a carrier for receiving the rock as it is blasted, and transfer mechanism in the tunnel adapted to elevate the bed of the carrier and to discharge its contents upon a car; substantially as described.

14. Tunneling apparatus comprising a truck and an apron adapted to be set at varying inclinations against the face of the rock; substantially as described.

15. Tunneling apparatus comprising a hollow frame, mounted on wheels, and adapted to be traversed along the tunnel, and trucks movable through the frame to receive the blasted rock; substantially as described.

867,521. NOZZLE. DELOS MOULTON, Elgin, Ill., assignor of one-half to Isaac H. Warren, Elgin, Ill. Filed Feb. 8, 1906. Serial No. 300,124.



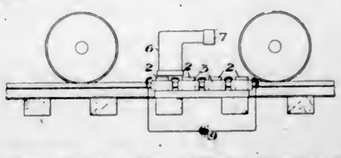
1. The combination, in a nozzle, of a hollow bowl provided with a lateral discharge-opening, a hollow plug mounted for rotation therein and provided with a discharge-opening adapted to be brought into alinement with the discharge-opening of the bowl, and a scraping device extending in said hollow plug.

2. The combination, in a nozzle, of a hollow bowl provided with a lateral discharge-opening, a hollow plug mounted for rotation therein and provided with a lower open end and above the same with a discharge-opening adapted to be alined with that of the bowl, and a scraping post or pin rising from the bottom of the bowl and extending into the open lower end of said hollow plug.

3. The combination, in a nozzle, of a hollow bowl, a plug mounted for rotation therein, discharge openings formed in the bowl and plug, an opening formed at the bottom of the bowl, a removable plug therefor, and a scraping device carried thereby and extending upwardly into the hollow plug.

4. The combination, of the bowl 1 provided with a lateral hollow stem adapted to receive a supply-pipe and having its cavity tapered and below the same having the opening 21, the perforated cap 4 mounted on the bowl and having the opening 6 and countersink 7, the opening 9, the plug 10 tapered to fit the cavity in the bowl and having the bearing 11 seated in the bearing or countersink 7, the stem 12, wheel 13, and the plug 20, having the post or pin 19.

867,522. MEANS FOR AUTOMATICALLY CONTROLLING THE SPEED OF RAILWAY-TRAINS. DANIEL J. MCCARTHY, Wilkinsburg, Pa., assignor to Union Switch & Signal Company, Swissvale, Pa., a Corporation of Pennsylvania. Filed Apr. 25, 1907. Serial No. 370,231.



1. In speed-controlling mechanism for trains, a brake-controlling valve, a magnet for opening said valve, an energizing circuit for said magnet on the locomotive or train, and means whereby the movement of the train beyond a predetermined speed is caused to generate a current of

proper character to energize said circuit at predetermined places along the road; substantially as described.

2. In speed-controlling mechanism for trains, a speed-controlling device, an electro-magnetic device for operating the same, and responsive only to a current having a frequency above a predetermined limit, and inductive means for generating an alternating current for actuating said device at predetermined places along the road, substantially as described.

3. In speed-controlling mechanism for trains, a speed-controller, an electro-magnetic device for operating the controller to reduce the speed of the train, and means for inducing a current in the circuit of said device, said means being carried in part by the train and in part located along the trackway, said electro-magnetic device being responsive only to a current having a frequency above a certain predetermined frequency; substantially as described.

4. In apparatus for the purpose described, a speed controller, an electro-magnetic means for operating said controller to reduce the speed, means for inducing current in the circuit of said device by the movement of the train past predetermined points, and means for automatically returning the speed controller to said normal position; substantially as described.

5. In apparatus for the purpose described, a speed-controlling device, an electro-magnetically operated actuating device therefor, an induction coil in the circuit of said device, and means along the right of way for inducing a circuit in said coil of a certain frequency at a predetermined speed of the train; substantially as described.

6. In apparatus of the character described, a speed controlling device, electro-magnetic operating means therefor, an induction coil in the circuit of said means, and electro-magnets adjacent to the right of way adapted to induce a current in said coil and spaced at such distances as to cause a given frequency to such current at a given speed of the train; substantially as described.

7. In apparatus of the character described, a speed controlling device, an electro-magnetically operated actuator therefor arranged to be moved by a current of a certain character, and means along the trackway for inducing a current of the proper character to move the actuator when the speed of the train reaches a predetermined limit; substantially as described.

8. A speed controlling device for trains, consisting of a valve chamber connected with the train brake system and having an escape opening, valve means for controlling said opening, an electro-magnetic device for actuating said valve means in one direction, springs for actuating the valves in the opposite direction, a lock for holding the valve means in open position, and means for releasing the lock after a predetermined time interval; substantially as described.

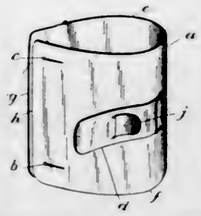
9. A speed controlling device connected with the brake system of a locomotive or train, and having an escape opening, valve means controlling said opening, an electro-magnetic device for operating the valve means in one direction, spring means for operating the valve means in the other direction, a lock for the valve means, and a pneumatic device for releasing said lock after a predetermined time interval; substantially as described.

867,523. DOOR-HANGER. ORIGEN A. MCFADDEN, Fairfield, Me., assignor of one-half to William H. Gray, Boston, Mass. Filed Dec. 3, 1906. Serial No. 346,109.

A door hanger of the type described comprising an elongated riderbar having an outwardly projecting lateral flange and depending hanger arms made integral with said flange, in combination with an overhead track consisting of a pair of parallel side bars connected in spaced relation by transverse spacing blocks formed integral with the lower edges of said bars at intervals throughout their length, pintles extended between and terminally secured in the bars at relatively spaced intervals throughout the entire length of the track, and bearing rollers journaled on said pintles and spanning the space between the bars and on which the rider bar travels, the bottom of the track being wholly open and unobstructed at points between the rollers.



867,524. SHIRT-CUFF. THOMAS D. MACGREGOR, Peterborough, Ontario, Canada. Filed Feb. 7, 1906. Serial No. 299,937.

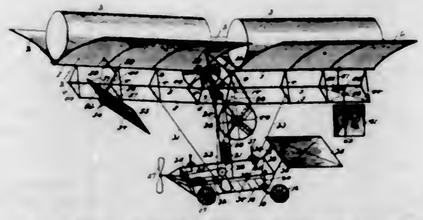


1. The herein described article of manufacture consisting of the cuff band, the cuff holding member projecting beyond the outer surface of the cuff band intermediate its edges, a detent means for the cuff holding member and means for detachably connecting the cuff holding member to the cuff band.

2. The herein described article of manufacture comprising a cuff band and a cuff holding member projecting from the outer surface of the cuff band intermediate its edges in combination with a garment sleeve and a pocket therein to receive the cuff holding member.

3. The herein described article of manufacture comprising a cuff band, a cuff holding member projecting from the outer surface of the cuff band intermediate its edges and a detent catch for the cuff holding member in combination with a garment sleeve and a pocket therein to receive the cuff holding member and detent catch.

867,525. FLYING-MACHINE. ANTHONY O'BRATE, Enid, Okla. Filed Dec. 21, 1906. Serial No. 348,991.



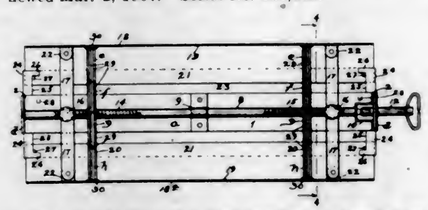
1. In a flying machine the combination with a frame having a shaft journaled therein, of a pair of aeroplanes secured to the shaft in fixed relation to each other, an aeroplane extending outwardly from each side of said shaft, a car supported from said frame and connections controlled from the car, whereby said aeroplanes may be tilted to steer said machine laterally.

2. In a flying machine the combination with a frame having a shaft journaled therein, of a pair of aeroplanes secured to the shaft in fixed relation to each other, an aeroplane extending outwardly from each side of said shaft, means permitting the tilting of the aeroplanes in relation to the frame, a rudder mounted at the rear of said frame, connections between said rudder and said shaft whereby the rudder will be shifted in accordance with the tilt of said aeroplanes, a car suspended from said frame and connections controlled from the car whereby the aeroplanes may be tilted to steer said machine laterally.

3. In a flying machine the combination with a frame, of a pair of aeroplanes one extending outwardly from each side of said frame, means permitting the tilting of the aeroplanes in relation to the frame, a third aeroplane journaled on the frame and below said pair of aeroplanes, said third aeroplane being mounted at an angle to the plane of said pair of aeroplanes and connections between said pair of aeroplanes and said third aeroplane whereby said aeroplanes will all tilt in unison to steer said machine laterally.

4. A propeller for flying machines comprising a shaft, a rim, a second rim surrounding the first rim, spokes connecting said two rims and said shaft together, a plurality of shafts journaled between said rims, propeller blades mounted on said last mentioned shafts, the surface of said blades on one side of said shafts being greater than the surface on the other, and means stationarily supported adjacent to the inner ends of said last mentioned shafts for holding the blades at right angles to the plane of rotation during a portion of their rotation only, whereby the blades will be permitted to turn into a plane parallel to the plane of rotation during the remainder of their movement by the unequal pressure on opposite sides of the blades carried by the shafts.

867,526. LOOSE-LEAF BINDER. ARTHUR OPALLA, Chicago, Ill. Filed Feb. 21, 1906. Serial No. 302,264. Renewed Mar. 2, 1907. Serial No. 360,225.



1. The combination of a back forming a telescope case, angular cover boards or plates, means for distending and contracting said plates relatively to the back, intermediate plates, and means telescopingly connecting said cover plates and the intermediate plates, whereby the cover-plates act to close in or draw out the intermediate plates as they themselves are contracted or spread.

2. The combination of a back forming a telescope case, angular cover-boards or plates, means for distending and contracting said plates relatively to the back, intermediate plates formed with guides which receive a web of the cover-plates, and means telescopingly connecting said cover-plates and the intermediate plates, whereby the cover-plates are caused to open or close in upon the intermediate plates as they are spread or contracted.

3. The combination of a back forming a telescope case, a shaft running centrally therealong and having right and left screw-threads, angular cover plates, nuts and toggles connecting said cover plates and shaft, and intermediate extension plates connecting the cover-plates with the back and serving as guides to the cover-plates and telescoped thereby.

4. The combination of a back having double telescope cases, a shaft running centrally therealong and having right and left screw-threads, angular cover-plates the back web of one entering one of the telescope cases and the back web of the other entering the second, nuts and toggles connecting said cover-plates and shaft, and intermediate extension plates connecting the cover-plates with the back and telescopingly connected with each.

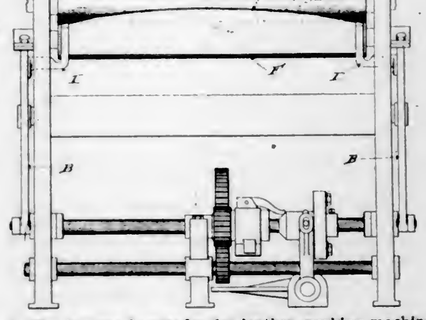
5. The combination of the back, the shaft running centrally therealong and having right and left screw-threads, the intermediate plates turned up and overlapped at the ends to serve as guides, the angular cover-plates, the nuts and toggles connecting the cover plates with the shaft, the lugs upon the cover-plates, the stops upon the plates forming the back, and the fingers upon the overlaps of the intermediate plates.

6. The combination, to form telescoping posts for loose leaf binders, of sliding sector-bars and slide-ways and keys whereby said bars are interlocked to close together and form a cylinder and to draw out to extend said cylinder in skeleton form.

7. The combination, to form telescoping posts for loose leaf binders, of sliding sector-bars, slide-ways and keys whereby they are interlocked in such manner as to close together and form a cylinder or drawn out to extend said cylinder in skeleton form, and inclosed telescopic tubes moving with said bars.

8. The combination, to form telescoping posts for loose leaf binders, or sliding sector-bars, dovetail slide-ways in one face of each sector-bar, opening at one end of the bar, dovetail keys on the opposite face of each bar, and pins closing the open ends of the slide-ways to stop the escape of the keys.

867,527. LEATHER-WORKING MACHINE. FRED C. PACKARD, Salem, Mass. Filed Dec. 6, 1906. Serial No. 346,610.



1. The improved spreader for leather working machines comprising a board over the working edge of which the skin or hide is fed, the said working edge being in the form of a curve in the plane of the board.

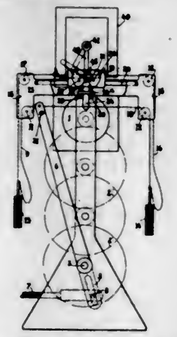
2. The combination with feeding mechanism for the operating instrumentalities of a leather working machine of a spreader board whose upper edge is in the form of a curve, the highest point of said curve being above the point of contact of the feeding instrumentalities.

867,528. POINT-SHIFTER FOR TRAMWAYS AND THE LIKE. GEORGE D. A. PARR, Leds, England. Filed Aug. 18, 1905. Serial No. 274,789.

1. A switch-point, an electric motor for operating the same, a switch in the motor circuit, a power-storing device energized by the motor and operating the switch, and an electrically-controlled latch for the power-storing device operated from the car, substantially as described.

2. A switch-point, an electric motor for operating the same, a reversing switch in the motor circuit, a power-

storing device energized by the motor and moving the switch alternately into its reversing positions, and an electrically controlled latch therefor operated from the car, substantially as described.



3. A switch-point, an electric motor for operating the same, a reversing-switch in the motor circuit, a power-storing device energized by the motor and moving the switch alternately in opposite directions into its reversing positions, and an electrically controlled latch operated from the car normally restraining the action of the power-storing device irrespective of the direction in which it has a bias to move, substantially as described.

4. A switch-point, an electric motor for operating the same, a switch in the motor circuit, a power-storing device for operating the switch comprising weights alternately raised and lowered by the motor, said weights being connected by partially stretched and partially loose chains, and an electrically controlled latch for the power-storing device, substantially as described.

5. A switch-point, an electric motor for operating the same, a switch in the motor circuit, a power-storing device energized by the motor and comprising a slider operating the switch, and a latch for the slider, substantially as described.

6. A switch-point, an electric motor for operating the same, a switch in the motor circuit biased to stay in a normal position, a power-storing device for operating the switch energized by the motor and comprising a tripping-catch for holding the switch out of its normal position, and a latch for the power-storing device, substantially as described.

7. A switch-point, an electric motor for operating the same, a reversing switch in the motor circuit biased to stay in a central position, a power-storing device for operating the switch energized by the motor and comprising a tripping catch for holding the switch to either side of its central position, and a latch for the power-storing device, substantially as described.

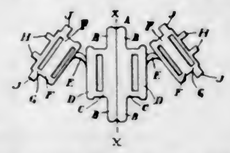
8. A switch-point, an electric motor for operating the same, a switch in the motor circuit biased to stay in a central position, a power-storing device for operating the switch energized by the motor and comprising a catch for holding the switch to either side of its central position, and a loosely pivoted arm operated by the motor for tripping the catch, substantially as described.

9. A switch-point, a pair of hanging weights connected by a pair of chains, each chain having a loose section adjacent to one of the weights, a latch and a connection from the switch-point to one of the chains; whereby motion of the switch-point in opposite directions alternately raises and lowers the weights and reverses the position of the loose sections of chain to constitute a power-storing device, acting in either direction, substantially as described.

10. A switch-point, a pair of hanging weights connected by a pair of chains, each chain having a loose section adjacent to one of the weights, a latch and a pivoted arm connected to the switch-point and to one of the chains, the whole constituting a power-storing device acting in either direction, substantially as described.

11. A switch-point, an electric motor for operating the same, an electric switch controlling the motor normally biased to a central position, a weight-actuated slide moving the switch alternately in opposite directions, a pivoted catch for holding the switch in either of its extreme positions, and a trip for releasing the catch and permitting the switch to return to its central position, substantially as described.

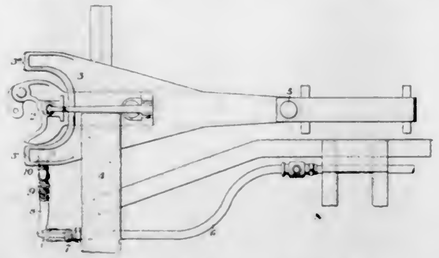
867,529. CUFF-BUTTON. JOSEF PEJCHAR, Cincinnati, Ohio. Filed Oct. 17, 1906. Serial No. 339,413.



1. A blank for forming a cuff button comprising a central part having lateral members D, members F angularly arranged in relation to the central part, arms E connecting said members F with the members D and means carried by the members F supporting an ornamental part.

2. A blank for forming a cuff button composed of a single piece of material and consisting of a central part B bent on itself, two members D one on each side of the central part, a pair of members F, G angularly arranged in relation to the central part on each side thereof, arms E connecting each pair F, G to the members D, each member of the pairs of members D, E and F lying against the other member of the same pair when the blank is bent on itself to form single pairs and the members G being adapted to be bent at right angles to the members F and claws carried by the members G and adapted to be bent to form holding means.

867,530. PIPE CONNECTION FOR RAILWAY-CARS. HENRY F. POPE, Cleveland, Ohio, assignor to The National Malleable Castings Company, Cleveland, Ohio, a Corporation of Ohio. Filed Nov. 8, 1906. Serial No. 342,497.



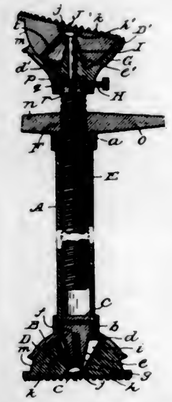
1. A coupler mounted to swing radially and having a laterally projecting stop-wing, and a pipe coupling attached to the stop-wing and having a connection for an adjacent car and a yielding connection between the stop-wing and the train pipe.

2. A coupler mounted to swing radially and having stop-wings constituted by a separately formed pocket within which the coupler is set, and a pipe coupling attached to one of said wings and having a connection for an adjacent car.

3. A coupler mounted to swing radially and having a laterally projecting stop-wing, and a pipe coupling attached to said wing and having a connection for an adjacent car and a yielding connection extending to a coupling on the end structure of the car.

4. A coupler having a radially swinging pocket within which the coupler is mounted, a pipe-coupling attached to the pocket and adapted to connect with an adjacent car, and a yielding connection between the swinging pocket and the train-pipe.

867,531. COMBINATION JACK AND BRACE. JOSEPH L. POTTER, Indianapolis, Ind. Filed Sept. 27, 1906. Serial No. 336,404.



1. A combined jack and brace comprising a hollow body part provided with a socket having a concavely-curved surface and a boss projecting from the center thereof having a screw-hole therein, an end part fitting in the socket and having an opening therein at one end of which is a recess to receive the boss and at the opposite end of which is a recess having a curved surface, a screw extending through the opening into the screw-hole and having a head provided with a curved under surface, a screw in the body part provided with a head, a nut on the screw.

2. A combined jack and brace comprising a hollow body part having a foot, a screw in the body part and provided with a socket on an end thereof having a concavely-curved surface and a boss projecting from the center thereof, a screw-bolt in the boss having a head provided with a curved under surface, and an end part having a convexly-curved surface fitting into the socket and having a recess to receive the boss and also a recess having a curved surface to receive the head of the screw-bolt, and a nut on the screw.

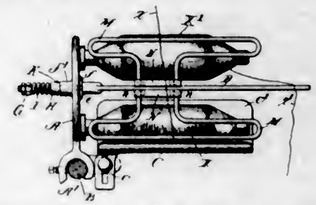
3. A combined jack and brace comprising a body part having a foot or end part, a screw in the body part, a nut on the screw, a socket screwed onto the screw, a set-screw in the socket for binding the socket to the screw, a screw-bolt secured to the screw, and an end part in the socket and held adjustably by the screw-bolt.

4. A combined jack and brace comprising a body part having a socket attached thereto, an end part adjustable in the socket, a screw holding the end part in the socket, a lug attached to the end part, a screw in the body part, a nut on the screw that is in the body part, a socket attached to the screw, an end part adjustable in the socket that is attached to the screw, a screw-bolt holding the last mentioned end part in the socket, and a lug attached to the last mentioned end part.

867,532. BOBBIN-HOLDER. WILLIAM G. RAGSDALE, Jamestown, N. C. Filed Apr. 13, 1907. Serial No. 368,080.

1. A bobbin-holder having a fixed rest to hold a bobbin in feeding position while the yarn is being unwound therefrom, means for ejecting a spent bobbin, and means for supporting a reserve bobbin in the holder.

2. A bobbin-holder having a fixed rest for holding a bobbin in feeding position while the yarn is being unwound therefrom, means for ejecting an empty bobbin from its rest, and means for simultaneously feeding a reserve bobbin to feeding position in the rest.



3. A bobbin-holder provided with a fixed rest, duplicate sets of side guards for a bobbin while feeding and for a reserve bobbin, and means for moving one set of guards from feeding position on the rest and simultaneously bringing the other set of guards into feeding position.

4. A bobbin-holder comprising a fixed rest, a spindle mounted to turn over the rest and duplicate sets of side guards carried by the spindle for supporting a bobbin in feeding position and a reserve bobbin.

5. A bobbin-holder provided with a fixed rest having a laterally projecting extension on one side, a spindle mounted to turn above the rest and duplicate sets of side guards carried by the spindle for holding one bobbin in feeding position and a reserve bobbin.

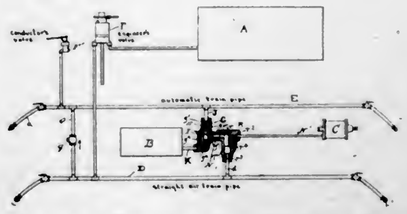
6. A bobbin-holder provided with means for holding a bobbin in feeding position while the yarn is being unwound therefrom and a reserve bobbin and devices for moving the holding means to eject an empty bobbin and to bring the reserve bobbin into feeding position and hold it there.

7. A bobbin-holder comprising a supporting frame, a spindle having yielding locking devices connecting it with the frame, a fixed rest and duplicate sets of side guards carried by the spindle for holding one bobbin in feeding position and a reserve bobbin.

8. A bobbin-holder comprising a supporting frame having rearwardly projecting lugs, a spindle carrying a block sliding longitudinally on the spindle and formed with recesses engaged by the lugs, means for yieldingly pressing the sliding block into engagement with the lugs, and bobbin-supporting means carried by the spindle.

9. A bobbin-holder comprising a supporting frame, a spindle mounted to turn in the frame and formed with a slot at its outer end to receive the loose end of yarn, and duplicate sets of side guards for holding a bobbin in feeding position and a reserve bobbin.

867,533. AIR-BRAKE SYSTEM. HENRY N. RANSOM, Cleveland, Ohio, assignor to General Electric Company, a Corporation of New York. Filed July 10, 1905. Serial No. 268,923.



1. In an air brake system, the combination of the main reservoir, the automatic train pipe, connection between said reservoir and pipe, a check valve in said connection opening toward the automatic train pipe, an auxiliary reservoir, a valve casing interposed between the automatic train pipe and auxiliary reservoir, said casing containing a valve chamber which has two ports leading from opposite ends of said valve chamber and are respectively connected with the automatic train pipe and auxiliary

reservoir, and has also a port leading from the side of said valve chamber, a brake cylinder, a connection between said brake cylinder and the last named port, a valve in said valve casing, a spring normally moving said valve so as to cover the side port and that end port which is connected with the auxiliary reservoir, said valve casing also containing a small duct connecting the port which is connected with the auxiliary reservoir with the side of that end of the valve chamber which is connected with the automatic train pipe.

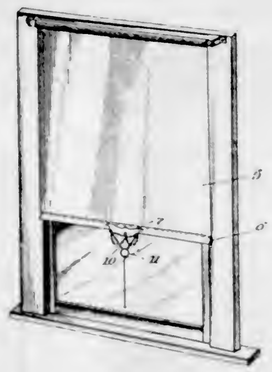
2. In an air brake system, the combination of the brake cylinder, the main reservoir, the automatic train pipe, with the auxiliary reservoir, a valve casing containing a valve chamber and having three ports of which the ports g', g^2 lead from opposite ends of said valve chamber and are connected with the automatic train pipe and the auxiliary reservoir respectively, and the port g^3 leads from one side of the valve chamber and is connected with the brake cylinder, and a sliding valve fitted to said valve chamber and adapted when in one end thereof to cover the ports g^2, g^3 and when in the other end of said chamber to uncover both of said ports, said valve casing containing a duct g^4 connected at one end with the side of said valve chamber at a point where it is uncovered when the valve is covering the ports g^2, g^3 and vice versa,—which duct at its other end is in communication with the auxiliary reservoir.

3. In an air brake system, the combination of a main reservoir, a straight air train pipe, a valve controlled connection between said pipe and reservoir, an automatic train pipe, a connection between said two train pipes, which connection contains a check valve opening toward the automatic train pipe, an auxiliary reservoir, and a brake cylinder, with a valve casing G containing a valve chamber and having ports g', g^2 leading from said valve chamber at opposite ends thereof and connected respectively with the automatic train pipe and the auxiliary reservoir, and having also a port g^3 leading from the side of said valve chamber, at a point where it will be closed when the contained valve is at that end of the valve chamber from which the port g^3 extends, and having also a duct through which the auxiliary reservoir is connected with the side of said valve chamber at a point where it will not be covered by the contained valve when the ports g^2 and g^3 are closed thereby, a valve casing R containing a valve chamber having two ports g' and g^2 which lead from one end of said valve chamber and are respectively connected with the port g^3 and with the brake cylinder, and a port r^3 leading from the other end of said chamber and connected with the straight air pipe, and two freely movable valves located respectively in said valve chambers.

4. In an air brake system, the combination of the main reservoir, the straight air train pipe, the automatic train pipe, and valved connection between said pipes and said reservoir, an auxiliary reservoir, and a brake cylinder, with a valve casing G containing a valve chamber and having ports g' g^2 leading from said valve chamber at opposite ends thereof and connected respectively with the automatic pipe and the auxiliary reservoir, and having also a port g^3 leading from the side of said valve chamber, a valve casing R containing a valve chamber having two ports r', r^2 which lead from one end of said valve chamber and are respectively connected with the port g^3 and with the brake cylinder, and a port r^3 leading from the other end of said chamber and connected with the straight air train pipe, and a duct r^4 which leads from the last named end of the valve chamber and is in communication with the brake cylinder, two freely movable valves located in said two valve chambers, and a passage-way which permits air to flow from the automatic train pipe to the auxiliary reservoir when ports g^2 and g^3 are closed by the valve in casing G.

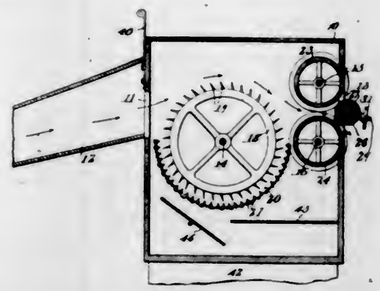
867,534. SHADE-PULL. DELIA B. RAWSON, Los Angeles, Cal. Filed Sept. 17, 1906. Serial No. 334,902.

1. The combination with a clamp adapted to grasp the stiffening bar of a window shade at a point midway thereof, of fastening devices passing through the bent portion of the said clamp at the center and near each end thereof and entering the lower edge of the stiffening bar, a ring below the central fastening device, and chains of equal length connecting the ring with the fastening devices at the ends of the clamp.



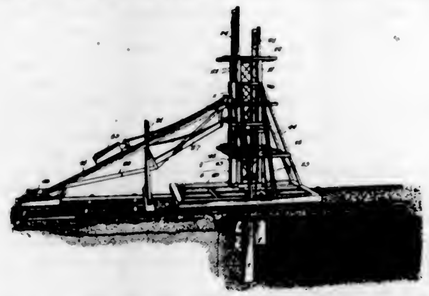
2. The combination with a clamp adapted to grasp the stiffening bar of a window shade at a point midway thereof, of fastening devices passing through the bent portion of the said clamp at points near the ends thereof and entering the lower edge of the stiffening bar, a ring below the central portion of the clamp, means for connecting the ring with the said fastening devices, and an independent fastening device also passing through the bent portion of the clamp and holding the latter on the stiffening bar, whereby the end fastening devices are firmly held against lateral strain.

867,535. COTTON CLEANER AND CONDENSER. EDGAR REAGAN, San Antonio, Tex., assignor, by mesne assignments, to Reagan Bale Company, San Antonio, Tex. Filed July 7, 1906. Serial No. 325,124.



In a cotton cleaning and condensing machine, the combination with a casing, of a lint flue leading thereto, a valve controlling communication between the flue and the casing, a beating drum mounted in the casing, a portion of the periphery of the drum extending above the inlet opening from the flue, so that the cotton will be directed on to the upper portion of said drum, a pair of bat forming rollers arranged within the casing at a point opposite the inlet opening, a curved screen surrounding the lower portion of the drum and through which the dirt is forced, a dirt flue below the screen, a partition arranged below the screen and separating the same from the flue, and a valve forming a part of said partition and movable to close the passage in the event of fire.

867,536. WELL-MAKING MACHINE. MARK D. ROCHFORD and ROBERT T. ROCHFORD, Los Angeles, Cal. Filed Mar. 8, 1904, Serial No. 197,064. Renewed Aug. 22, 1907. Serial No. 389,730.



1. A casing, a chain extending into the casing, scoops on the chain, diggers on the chain between the scoops, means for driving the chain and sinking the casing, and means for lowering or raising the chain in the casing.

2. A chain, digging devices on the chain, means for driving the chain, a casing, and means for sinking the casing and for pulling up a casing.

3. A chain, digging devices on the chain, means for driving the chain, a casing means for sinking the casing, and a separate means for pulling up a casing.

4. A chain, digging devices on the chain, means for driving the chain, a casing having an open front, and means for sinking the casing.

5. An open front casing, a chain digging devices on the chain, means for suspending the chain with one loop within the casing and the other loop without the casing, and means for driving the chain.

6. A casing, means for sinking the casing, a chain, digging devices on the chain, means for supporting the chain with a loop in the casing, means for driving the chain, and means for lowering the loop of the chain.

7. A casing, means for sinking the casing, a chain, digging devices on the chain, means for supporting the chain with a loop in the casing, a follower weight hung in the loop, and means for driving the chain.

8. A casing having an open front, a chain digging devices on the chain, means for supporting the chain with a loop in the casing, means for driving the chain, and means for guiding a reach of the chain through the open front of the casing.

9. A casing, means for sinking the casing, a chain, digging devices on the chain, means for supporting the chain with a loop in the casing, a follower weight hung in the loop in the casing, and a tension weight hung from another loop of the chain.

10. A casing, means for sinking the casing, a chain, digging devices on the chain, means for supporting the chain with a loop in the casing, and means for driving one reach of the chain faster than the other.

11. A casing comprising side plates, a back plate, and a plurality of detachable sectional front plates.

12. A casing comprising side plates, a back plate, and a plurality of detachable sectional front plates, and bails on the casing.

13. An actuating frame, means for supporting the frame, means for moving the frame up and down, a casing, a connection between the frame and the casing, a chain, digging devices on the chain, means for supporting the chain with a loop in the casing, and means for driving the chain.

14. An actuating frame, means for supporting the frame, means for moving the frame up and down, a casing, means for automatically catching the casing and moving it down with the actuating frame.

15. An actuating frame, means for supporting the frame, means for moving the frame up and down, a casing, means for automatically catching the casing and moving it down with the actuating frame, and means for automatically releasing the casing when the actuating frame moves up.

16. A base frame, a superstructure, and actuating frames on the superstructure.

17. A base frame, a superstructure, an actuating frame slidably mounted on the superstructure, said actuating frame comprising vertical bars and hooks carried by the bars.

18. A base frame, a superstructure thereon, an actuating frame slidably mounted on the superstructure, said actuating frame comprising a pair of vertical bars, a plurality of hooks on each bar, said hooks having inclined bearing edges which converge toward an intermediate point on the hook.

19. A base frame, a superstructure thereon, an actuating frame slidably mounted on the superstructure, said actuating frame comprising a pair of vertical bars, a plurality of hooks on each bar, said hooks having inclined bearing edges which converge toward an intermediate point on the hook, said hook having a notch formed at said intermediate point.

20. A base frame, a superstructure thereon comprising a plurality of upright posts, a platform frame at the top of the posts, another platform formed at an intermediate point on the posts, said superstructure being located at one side of the base frame and inclined braces from the base frame to the superstructure.

21. A base frame, a superstructure thereon, an inclined frame extending from the superstructure, an open-front casing, means on the superstructure for sinking a casing, a digging chain, means on the superstructure for driving the digging chain, the free loop of the digging chain extending along the inclined frame, and a tension weight hung in the free loop and resting on the inclined frame.

22. A base frame, a superstructure thereon, an inclined frame extending from the superstructure, an open-front casing, means on the superstructure for sinking a casing, a digging chain, means on the superstructure for driving the digging chain, the free loop of the digging chain extending along the inclined frame, a tension weight hung in the free loop and resting on the inclined frame, and a suitable trough suspended underneath the upper part of the inclined frame.

23. A base frame, a superstructure thereon, an inclined frame extending from the superstructure, an open-front casing, means on the superstructure for sinking a casing, a digging chain, means on the superstructure for driving the digging chain, the free loop of the digging chain extending along the inclined frame, a tension weight hung in the free loop and resting on the inclined frame, and a standard connected to the inclined frame at an intermediate point for supporting the frame.

24. A base frame, a superstructure thereon, an inclined frame extending from the superstructure, an open-front casing, means on the superstructure for sinking a casing, a digging chain, means on the superstructure for driving the digging chain, the free loop of the digging chain extending along the inclined frame, a tension weight hung in the free loop and resting on the inclined frame, and a shoe pivoted at the lower end of the inclined frame.

25. A base frame, a superstructure thereon, an inclined frame extending from the superstructure, an open-front casing, means on the superstructure for sinking a casing, a digging chain, means on the superstructure for driving the digging chain, the free loop of the digging chain extending along the inclined frame, a tension weight hung in the free loop and resting on the inclined frame, said tension weight comprising a gear mounted on the inclined frame, idle sprockets on the gear over which passes the digging chain, and a suitable weight carried by the car.

26. A base frame, a superstructure mounted thereon, an inclined frame pivoted to the superstructure, two pair of chain driving sprockets, a digging chain the two reaches of which pass over respectively the two pair of chain driving sprockets, and means for driving one of said pair of sprockets faster than the other.

27. A base frame, a superstructure mounted thereon, an inclined frame pivoted to the superstructure, two pair of chain-driving sprockets, a digging chain the two reaches

of which pass over respectively the two pair of chain-driving sprockets, means for driving one of said pair of sprockets faster than the other, and means for stopping the rotation of one of said pair of sprockets.

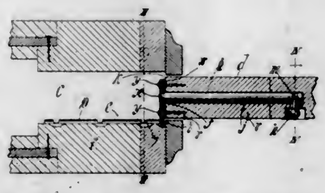
28. A base frame, a superstructure mounted thereon, an inclined frame pivoted to the superstructure, two pair of chain-driving sprockets, a digging chain the two reaches of which pass over respectively the two pair of chain-driving sprockets, means for driving one of said pair of sprockets faster than the other, said last means comprising suitable gearing embracing two friction wheels, and means for swinging one of said friction wheels into or out of engagement with the other.

29. An actuating frame, suitable hooks thereon, an open-front casing bails on the casing and hooked links engaging said bails and said hooks, and said hooks having inclined edges which converge toward an intermediate point.

30. A base frame, a superstructure mounted thereon, a pair of parallel actuating frames mounted on the superstructure, a plurality of open-front casings, means for connecting a casing with an actuating frame for moving the casing down and up, a digging chain, means for suspending the chain with its digging loop substantially in a line with the actuating frame within the adjacent casing, and suitable gearing for driving the digging chain.

31. A base frame, a superstructure mounted thereon, a pair of parallel actuating frames mounted on the superstructure, a plurality of open-front casings, means for connecting a casing with an actuating frame for moving the casing down and up, a digging chain, means for suspending the chain with its digging loop substantially in a line with the actuating frame within the adjacent casing, suitable gearing for driving the digging chain, and means for driving the gearing and for shifting the base frame along.

867,537. FASTENER FOR EDGEWISE-MOVING CLOSURES. DANIEL SCHUYLER, Los Angeles, Cal., assignor to The Perfect Sliding Door Company, Los Angeles, Cal., a Corporation of California. Filed Dec. 14, 1900. Serial No. 39,893.



1. The combination of a frame furnished with an opening and with a pocket; an edgewise moving closure for the opening, said closure adapted and arranged to enter the pocket; a stationary keeper at one side of the opening and within the pocket; a shaft journaled in the closure and extending along the path of said closure and furnished with a handle, and at a distance from the handle with an arm inside the pocket to be brought into engagement with the keeper and to be disengaged therefrom by the partial rotation of the shaft.

2. The combination of a stationary catch-member furnished at intervals with slots; a member to slide alongside said stationary member; a shaft journaled in the sliding member and extending through a portion of the sliding member and in the direction of movement thereof and furnished with an arm to enter the respective slots of the stationary member, and also furnished with a handle extending through a portion of the sliding member by which the shaft can be partially rotated to throw the arm into and out of the slots.

3. The combination of an edgewise moving member furnished with a hole extending into its edge in the direction of movement thereof, and with a recess communicating with the inner end of said hole; a shaft furnished at one end with a laterally-projecting arm and having its other end inserted into the hole and brought opposite the recess, and provided opposite the recess with a screw-threaded hole; and a handle fastened to said shaft and extending into said recess and engaging in said screw-threaded hole, for the partial rotation of the shaft.

4. The combination of an edgewise-moving member furnished with a hole extending in the direction of movement of said member, from one edge toward the other edge thereof, and with a recess communicating with the inner end of said hole; a shaft furnished at one end with a laterally-projecting arm and having its other end inserted into the hole and brought opposite the recess; a handle fastened to said shaft and extending into said recess for the partial rotation of the shaft; and a retaining-plate fastened to said member and extending over the arm.

5. In a device of the character described, a shaft adapted to be mounted in a hole on a sliding closure provided at one end with a projecting arm, and at a distance from said arm with two perforations extending at different angles to the arm; and a handle for insertion into either of said perforations.

6. The combination of an edgewise-moving member furnished with a hole extending into the member from one edge thereof, and a recess opening into the side of the member and communicating with the hole; a shaft journaled in the hole and furnished at one end with a projecting arm and furnished with a perforation at the other end; a socket member seated in the recess and furnished with a slot to register with the perforation in the shaft; a handle extending through the slot and fastened in the perforation; and a spring to engage the handle and to forcibly press against the same.

7. In a fastener for doorways, the combination of a stationary keeper; a sliding member; a shaft journaled in said member and extending in the direction of movement thereof; means for turning the shaft; and an arm fastened to the shaft and projecting beyond the side of the member and provided with a broad portion which at one position of the shaft will project slightly beyond the face of the sliding member, and a narrow portion extending beyond the broad portion, said arm being arranged to be wholly withdrawn from its projecting position when the shaft is rotated into the appropriate position for that purpose.

8. In a fastener, the combination of a slotted socket-plate furnished with projecting eyelet-tubes; a spring bowed to extend across a portion of the slot and furnished at its ends with loops around the eyelet-tubes and fastened to said tubes.

9. The combination of a stationary keeper, a sliding member, a shaft journaled to the sliding member, means for partially rotating the shaft, and a locking-arm on the shaft furnished with a projection to engage the catch at one position of the shaft and to be disengaged from the catch at another position of the shaft, and also furnished with a sloping shoulder to shear across the opening between the sliding member and the catch as the locking-arm is moved to withdraw it from its fully-locked position.

10. In a fastener for doorways and the like, the combination of a stationary keeper at one side of the doorway, a sliding closure for such doorway furnished with a hole extending from one edge toward the other edge and with a recess communicating with said hole; a plate applied to the edge of the sliding closure and furnished with a perforation registering with said hole and with perforations for fastening-screws; a shaft journaled in said hole and the perforation registering therewith and furnished with a locking-arm engaging said plate and with a handle extending into said recess; a plate mounted outside said arm, furnished with perforations registering with said fastening-perforations, one of said plates being furnished around its fastening-perforations with bosses to space the plates apart to chamber the locking-arm between them, and screws inserted through the perforations of said plates and screwed into the edge of the closure.

11. The combination of a stationary part furnished with an opening and with a pocket at one edge of the opening; an edgewise moving part forming a closure for said opening; a keeper; a locking-arm for engagement with the keeper; and a rock-shaft operatively connected with the locking-arm to move the same into and out of engagement with the keeper; said rock-shaft being furnished with means for partial rotation thereof for engaging the locking-arm with and disengaging it from the keeper, the keeper being fastened to one of said parts and the shaft and locking-arm being on the other of said parts.

12. The combination of an edgewise moving member furnished with a hole extending into the member from one edge thereof and a recess opening into the side of the member and communicating with the hole; a shaft journaled in the hole and furnished at one end with a projecting arm and furnished with a handle in the recess; and a spring to prevent rotation of the shaft except under applied pressure.

13. The combination of a wall provided with a pocket; a disappearing edgewise moving closure arranged to move into and out of the pocket; a part on the closure and a part permanently in the pocket adapted to positively engage with each other and constructed and arranged to prevent the edgewise movement of the closure by application of force; said part on the closure being provided with a handle that enters the pocket when the closure is open.

14. The combination of a wall provided with a pocket; a disappearing edgewise moving closure arranged to move into and out of the pocket; a catch plate on the closure and a part permanently in the pocket, the same being provided with a plurality of slots adapted to positively engage the closure to lock the closure at several positions along its path against movement by application of force.

15. The combination of a frame having an opening and a pocket at one edge of the opening, a keeper in said pocket having a plurality of retaining means located at different distances from the opening, a closure moving edgewise in the opening and pocket, and a shaft mounted in said closure in the direction of the edgewise movement and provided with an arm to engage the aforesaid retaining means, and with a handle for partial rotation of the shaft.

867,538. SWEEPING COMPOUND. BERTHOLD SINGER, Chicago, Ill., assignor to The Perolin Company of America, Chicago, Ill., a Corporation of Illinois. Filed Aug. 1, 1906. Serial No. 328,736.

1. The herein-described composition of matter containing separate or detached granules or particles, individually porous, and a solution of a resinous compound with which the individual pores are impregnated, all in a mass of detached granules.

2. A composition of matter for the purpose specified comprising sawdust, a resinous material, and a silicious material, said mixture being adapted to absorb dust, substantially as described.

3. The herein-described composition of matter containing saw-dust saturated with resin soap in a mass of detached granules.

3. The herein-described composition of matter containing absorbent granules, each individually porous, a solution of resin soap with which the individual pores of said granules are impregnated, a granulated material mixed therewith for separating said granules, all in a state of free detached granules.

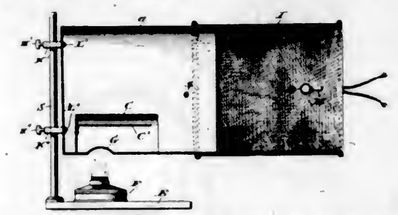
5. The herein-described composition of matter containing individually-porous granules, a resin soap with which the said granules are impregnated, and sand intermingled therewith.

6. The herein-described method for the manufacture of a sweeping compound, which consists in producing a resin soap and introducing thereinto a quantity of absorbent granules until all of the free liquid is absorbed.

7. The herein-described process of manufacturing a sweeping compound, which consists in producing a hot solution of a resinous compound, and introducing thereinto while hot a quantity of absorbent granules sufficient to absorb all of the liquid.

8. The herein-described process of manufacturing a sweeping compound, which consists in producing a solution of resin soap, and introducing into the solution while hot a quantity of saw-dust to absorb the free liquid.

867,539. APPARATUS FOR APPLYING DRY HOT AIR TO THE FACE. WILLIAM L. SMITH, Dallas, Tex. Filed Nov. 20, 1906. Serial No. 344,346.



1. In a device of the character described, an air heating chamber closed at one end and provided with an opening in the body portion thereof for the admission of heated air, a deflector positioned over said opening and serving to deflect the heated air to the open end of the air chamber, and a shelf carried by said deflector.

2. In a device of the character described, an air heating chamber closed at one end and having an opening therein for the admission of heated air, an arched reflector plate positioned above the opening in the air chamber, said deflector plate being provided with a wall closing the rear end thereof, and a shelf secured to the end wall of the deflector plate.

3. A hood for an apparatus of the character described comprising a flexible open ended tube provided adjacent one end thereof with means for attaching the same to the outlet portion of the apparatus and adjacent the other end with a mouth piece positioned within the tube and passing through the wall thereof to communicate with the outer air.

4. A hood for an apparatus of the character described comprising a flexible open ended tube provided adjacent one end thereof with means for attaching the same at the outlet portion of the apparatus, a hollow tube extending transversely of said flexible tube and projecting through apertures formed in the side thereof, and a mouth piece extending from said hollow tube and communicating therewith.

5. In a device of the character described, a chamber closed at one end and having an opening in the body portion thereof, a shelf supported above said opening, and a deflector plate arranged adjacent said shelf and serving to deflect the vapors arising therefrom to the open end of the chamber.

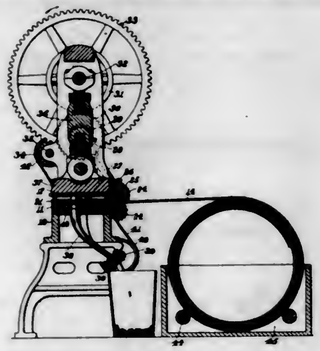
867,540. DIE-PRESS. ALFRED J. THOMSON, Boston, Mass. Filed Dec. 31, 1904. Serial No. 239,070.

1. The combination of a male die having two rows of cutting-off members and hole-punching members every pair of which is in an alternate row, and a female die provided with a plurality of openings to coöperate with said members.

2. The combination of a male die having two rows of cutting-off members and hole-punching members every pair of which is in alternate rows and the cutting-off members of each row being a distance from each other equal to the width of one of such members, and a female die provided with a plurality of openings to coöperate with said members.

3. The combination of a male die provided with a plurality of cutting-off members in two transverse rows and hole-punching members also in two transverse rows, a female die provided with a plurality of openings to co-operate therewith, said openings and said members being so located that in each operation of the male die a set of blanks will be cut from material through which holes have been previously punched and at the same time holes will

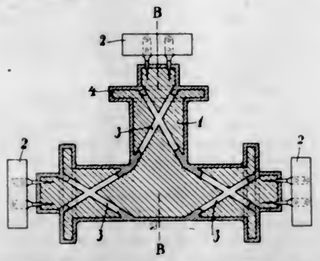
be punched through that portion of the material from which blanks will be cut at the next operation.



4. The combination of a female die provided with a plurality of openings therein in two transverse rows, a male die provided with a plurality of cutting-off members to coöperate with said openings said members being so situated relative to each other that a plurality of blanks will be cut from the material at each operation and at the same time cut one or more edges of the blanks to be separated from the material at the next operation.

5. The combination of a male die, and mechanism for operating the same, a female die consisting of two plates each provided with alined openings corresponding to the male die members, parallel side guide plates between said female die plates at a distance apart equal to the sum of the width of all of said male dies, and a fixed immovable stop between said plates to prevent further forward movement of the strip of material fed between said plates.

867,541. PRODUCTION OF CASTING-PATTERNS. FRANZ WALENTA, Bellinzona, Switzerland. Filed Mar. 29, 1907. Serial No. 365,272.

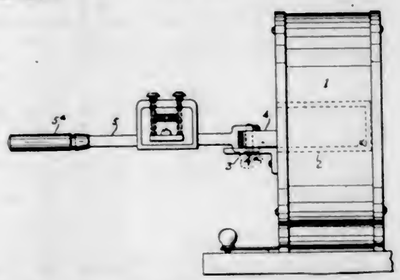


1. A process for the production of casting patterns consisting in preparing a temporary model from soft wood, corresponding to the casting to be produced, impressing the model in sand, withdrawing it and reducing it by removing a shallow layer from its surface, replacing in the mold and filling the space between the mold and the model with a melted alloy.

2. A process for the production of casting patterns consisting in preparing a wooden model, impressing the model in sand, withdrawing it, reducing it by the removal of a shallow surface layer, boring it with a series of holes, replacing it in the mold and filling the space between the mold and the model and the holes in the latter with a melted alloy.

3. A process for the production of casting patterns consisting in preparing a wooden model, inserting supporting irons in the said model, impressing it in said, withdrawing it and reducing it by the removal of a shallow surface layer, replacing in the mold, filling the space between the mold and the model with a melted alloy, withdrawing when the alloy has set, removing the supporting irons and filling up the holes left by them with metal.

867,542. ATTACHMENT FOR ELECTRICAL FURNACES. SAMUEL M. WEAVER and WILLIAM AMBLER, Cleveland, Ohio. Filed Sept. 29, 1905. Serial No. 280,598.



1. In an attachment for a furnace, the combination with a thermo-pile, of means for supporting the work in a fixed relationship thereto.

2. In an attachment for a furnace, the combination with a heat indicating device, of means for supporting the work in a fixed relationship thereto.

3. In an attachment for an electrical furnace the combination with a thermo-pile, of means for supporting the work in a fixed relationship thereto.

4. In a furnace, the combination with an arm pivoted thereto, of means for indicating the heat in said furnace and mounted upon said arm, and means also carried by said arm for holding the work in a fixed relationship with respect to said indicating means.

5. In a furnace, the combination with an arm pivoted thereto, of a thermo-pile carried by said arm, and means for supporting the work in a fixed relationship to said thermo-pile.

6. An attachment for an electrical furnace, consisting of a thermo-pile, and means carried thereby for supporting the work in a fixed relationship thereto.

7. In an attachment for an electrical furnace, the combination with the casing, of a fire clay portion carried thereby, thermo-couples mounted in said fire clay portion, and means carried thereby for supporting the work in a fixed relationship to said thermo-couples.

8. In an attachment for an electrical furnace, the combination with the casing, of thermo-couples carried thereby, and a pan mounted in said casing for supporting the work in a fixed relationship to said couples.

9. In an attachment for an electrical furnace, the combination with the casing, of a fire clay portion carried by said casing, thermo-couples projecting from the face of said fire clay portion, a pan carried thereby and adapted to support the work in a fixed relationship to said couples.

10. In an attachment for an electrical furnace, the combination with the casing, of a fire clay portion within said casing and provided with a recess, thermo-couples projecting from the face of said fire clay portion, a pan mounted in said recess, and set screws for holding the same in place.

867,543. FILLING FOR THERMAL CUT-OUTS. FREDERICK H. WESTON, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Apr. 22, 1905. Serial No. 256,989.

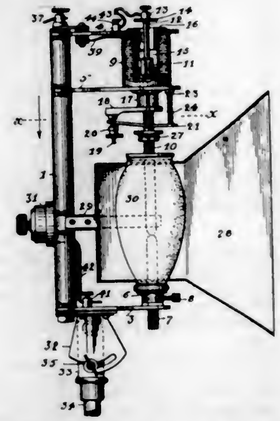


1. An absorptive filling for thermal cut-outs consisting of granules or pellets of slaked lime and a binder.

2. An absorptive filling for thermal cut-outs consisting of dry granules or pellets of slaked lime and a binder.

3. An absorptive filling for thermal cut-outs consisting of granules or pellets of slaked lime and calcium sulfate.

867,544. ELECTRIC-ARC LAMP. EDWARD F. WINFIELD, Los Angeles, Cal. Filed Mar. 14, 1905. Serial No. 250,102.



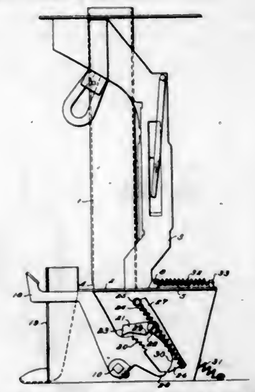
1. In an electric arc light, vertical supports, insulated brackets thereon, a solenoid in the upper brackets, and a carbon support in the lower bracket, rods depending from the lower one of the upper brackets, a perforated guide carried by two of said rods, a spring on the other rod, the end of which extends below the end of said rod, an arm on the solenoid, the free end of which is provided with a depending screw threaded rod adapted to normally stand opposite said spring and its rod, a perforated clutch plate upon the screw threaded rod at one end and resting against said spring at the other with its intermediate portion adapted to engage with said guide, and a nut on the screw threaded rod.

2. In an electric arc light two vertical supports, insulated brackets secured at their rear edges thereto, a solenoid between the front edges of the upper brackets and a carbon holder in the forward edge of the lower bracket, means connected with the solenoid for holding and feeding a carbon, a cross bracket on said supports intermediate their ends, and a reflector on the bracket with its forward end extending beyond the front edges of said brackets.

867,545. VENDING-MACHINE. IRVING C. WOODWARD, Chicago, Ill., assignor to Merchants' Vending Machine Company, Chicago, Ill. Filed June 23, 1906. Serial No. 322,984.

1. In a machine of the class described, the combination of an operating lever having a limited oscillatory movement, said lever being normally urged toward one limit of its movement, a series of ratchet teeth aranged concentrically of the fulcrum of said lever, a pivoted pawl engaging said ratchet teeth, and a tension spring connected to said pawl and extending across the pivoted axis thereof for yieldingly holding said pawl into or out of engagement with said ratchet teeth, said pawl and lever being suitably formed to engage each other for causing the pawl to swing so as to reverse the action of said spring whenever the lever arrives at either limit of its movement.

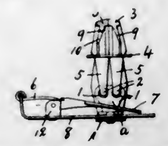
2. The combination of a pair of members movable in parallel paths, each being normally urged to a certain initial position adjacent to the other, and being separately movable away from such initial position, each of said members having thereon a shoulder extending toward the other, said shoulders being spaced to form a pocket for supporting a check between said members and being adapted to engage such check for causing one of said members to be moved along through the movement of the other member, means for causing said other member to return to its initial position in advance of the first, for separating said shoulders and discharging the check, and a second shoulder on said first member adapted to engage the check and cause it to rebound when thrown toward the normal initial position of said members through a sudden or violent operation of the parts.



3. A pair of members movable in parallel relation, together and independently of each other, a shoulder projecting from each of said members toward the other and suitably spaced to engage opposite edges of a coin to retain the same between said members, both of said members being normally urged toward one end of their path, a catch for holding one of the members at the opposite end of the path to permit their separation and the release of the coin, a release for said catch actuated by said other member during its return to the normal position, and a second shoulder on said one member spaced from the other shoulder to permit the coin to pass between the same, but adapted to abut against and cause the rebound of the coin when thrown toward the normal position of said members.

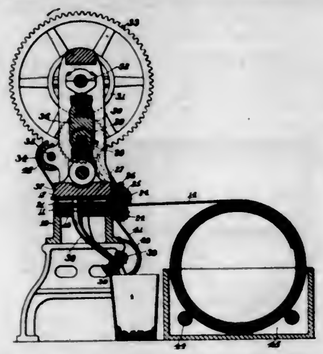
4. In a check operated mechanism, the combination of a pair of members movable in parallel planes and separately urged to certain adjacent normal positions, delivery mechanism operated through the movement of one of said members, means for moving the second member, each of said members having thereon a shoulder extending toward the other and arranged to form a pocket for supporting a check between said members and adapted to engage said check for causing said first member to be moved along through the movement of the second member, means for causing said members to separately return to their normal positions so as to release the check and permit the same to fall out of said pocket, and means for deflecting the check and preventing the same from rebounding into engagement with the lug on said second member.

867,546. ANIMAL-TRAP. ORRIN D. WRIGHT, Oneida, N. Y., assignor to Oneida Community, Limited, Kenwood, N. Y., a Corporation of New York. Filed Sept. 6, 1904. Serial No. 223,465.



An animal trap comprising a supporting base provided with upwardly projecting apertured ears, opposite jaws

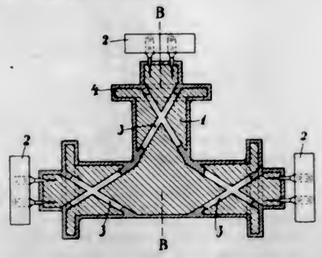
be punched through that portion of the material from which blanks will be cut at the next operation.



4. The combination of a female die provided with a plurality of openings therein in two transverse rows, a male die provided with a plurality of cutting-off members to coöperate with said openings said members being so situated relative to each other that a plurality of blanks will be cut from the material at each operation and at the same time cut one or more edges of the blanks to be separated from the material at the next operation.

5. The combination of a male die, and mechanism for operating the same, a female die consisting of two plates each provided with alined openings corresponding to the male die members, parallel side guide plates between said female die plates at a distance apart equal to the sum of the width of all of said male dies, and a fixed immovable stop between said plates to prevent further forward movement of the strip of material fed between said plates.

867,541. PRODUCTION OF CASTING-PATTERNS. FRANZ WALENTA, Bellinzona, Switzerland. Filed Mar. 29, 1907. Serial No. 365,272.

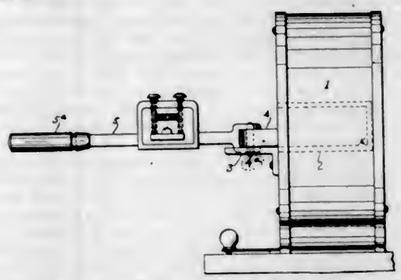


1. A process for the production of casting patterns consisting in preparing a temporary model from soft wood, corresponding to the casting to be produced, impressing the model in sand, withdrawing it and reducing it by removing a shallow layer from its surface, replacing in the mold and filling the space between the mold and the model with a melted alloy.

2. A process for the production of casting patterns consisting in preparing a wooden model, impressing the model in sand, withdrawing it, reducing it by the removal of a shallow surface layer, boring it with a series of holes, replacing it in the mold and filling the space between the mold and the model and the holes in the latter with a melted alloy.

3. A process for the production of casting patterns consisting in preparing a wooden model, inserting supporting irons in the said model, impressing it in said, withdrawing it and reducing it by the removal of a shallow surface layer, replacing in the mold, filling the space between the mold and the model with a melted alloy, withdrawing when the alloy has set, removing the supporting irons and filling up the holes left by them with metal.

867,542. ATTACHMENT FOR ELECTRICAL FURNACES. SAMUEL M. WEAVER and WILLIAM AMBLER, Cleveland, Ohio. Filed Sept. 29, 1905. Serial No. 280,598.



1. In an attachment for a furnace, the combination with a thermo-pile, of means for supporting the work in a fixed relationship thereto.

2. In an attachment for a furnace, the combination with a heat indicating device, of means for supporting the work in a fixed relationship thereto.

3. In an attachment for an electrical furnace the combination with a thermo-pile, of means for supporting the work in a fixed relationship thereto.

4. In a furnace, the combination with an arm pivoted thereto, of means for indicating the heat in said furnace and mounted upon said arm, and means also carried by said arm for holding the work in a fixed relationship with respect to said indicating means.

5. In a furnace, the combination with an arm pivoted thereto, of a thermo-pile carried by said arm, and means for supporting the work in a fixed relationship to said thermo-pile.

6. An attachment for an electrical furnace, consisting of a thermo-pile, and means carried thereby for supporting the work in a fixed relationship thereto.

7. In an attachment for an electrical furnace, the combination with the casing, of a fire clay portion carried thereby, thermo-couples mounted in said fire clay portion, and means carried thereby for supporting the work in a fixed relationship to said thermo-couples.

8. In an attachment for an electrical furnace, the combination with the casing, of thermo-couples carried thereby, and a pan mounted in said casing for supporting the work in a fixed relationship to said couples.

9. In an attachment for an electrical furnace, the combination with the casing, of a fire clay portion carried by said casing, thermo-couples projecting from the face of said fire clay portion, a pan carried thereby and adapted to support the work in a fixed relationship to said couples.

10. In an attachment for an electrical furnace, the combination with the casing, of a fire clay portion within said casing and provided with a recess, thermo-couples projecting from the face of said fire clay portion, a pan mounted in said recess, and set screws for holding the same in place.

867,543. FILLING FOR THERMAL CUT-OUTS. FREDERICK H. WESTON, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Apr. 22, 1905. Serial No. 256,989.

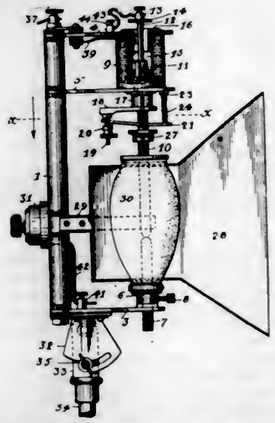


1. An absorptive filling for thermal cut-outs consisting of granules or pellets of slaked lime and a binder.

2. An absorptive filling for thermal cut-outs consisting of dry granules or pellets of slaked lime and a binder.

3. An absorptive filling for thermal cut-outs consisting of granules or pellets of slaked lime and calcium sulfate.

867,544. ELECTRIC-ARC LAMP. EDWARD F. WINFIELD, Los Angeles, Cal. Filed Mar. 14, 1905. Serial No. 250,102.



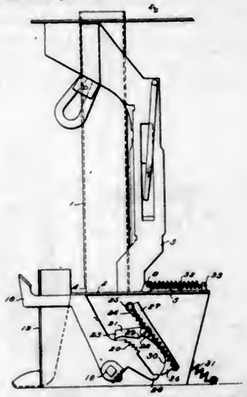
1. In an electric arc light, vertical supports, insulated brackets thereon, a solenoid in the upper brackets, and a carbon support in the lower bracket, rods depending from the lower one of the upper brackets, a perforated guide carried by two of said rods, a spring on the other rod, the end of which extends below the end of said rod, an arm on the solenoid, the free end of which is provided with a depending screw threaded rod adapted to normally stand opposite said spring and its rod, a perforated clutch plate upon the screw threaded rod at one end and resting against said spring at the other with its intermediate portion adapted to engage with said guide, and a nut on the screw threaded rod.

2. In an electric arc light two vertical supports, insulated brackets secured at their rear edges thereto, a solenoid between the front edges of the upper brackets and a carbon holder in the forward edge of the lower bracket, means connected with the solenoid for holding and feeding a carbon, a cross bracket on said supports intermediate their ends, and a reflector on the bracket with its forward end extending beyond the front edges of said brackets.

867,545. VENDING-MACHINE. IRVING C. WOODWARD, Chicago, Ill., assignor to Merchants' Vending Machine Company, Chicago, Ill. Filed June 23, 1906. Serial No. 322,984.

1. In a machine of the class described, the combination of an operating lever having a limited oscillatory movement, said lever being normally urged toward one limit of its movement, a series of ratchet teeth aranged concentrically of the fulcrum of said lever, a pivoted pawl engaging said ratchet teeth, and a tension spring connected to said pawl and extending across the pivoted axis thereof for yieldingly holding said pawl into or out of engagement with said ratchet teeth, said pawl and lever being suitably formed to engage each other for causing the pawl to swing so as to reverse the action of said spring whenever the lever arrives at either limit of its movement.

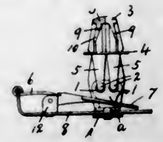
2. The combination of a pair of members movable in parallel paths, each being normally urged to a certain initial position adjacent to the other, and being separately movable away from such initial position, each of said members having thereon a shoulder extending toward the other, said shoulders being spaced to form a pocket for supporting a check between said members and being adapted to engage such check for causing one of said members to be moved along through the movement of the other member, means for causing said other member to return to its initial position in advance of the first, for separating said shoulders and discharging the check, and a second shoulder on said first member adapted to engage the check and cause it to rebound when thrown toward the normal initial position of said members through a sudden or violent operation of the parts.



3. A pair of members movable in parallel relation, together and independently of each other, a shoulder projecting from each of said members toward the other and suitably spaced to engage opposite edges of a coin to retain the same between said members, both of said members being normally urged toward one end of their path, a catch for holding one of the members at the opposite end of the path to permit their separation and the release of the coin, a release for said catch actuated by said other member during its return to the normal position, and a second shoulder on said one member spaced from the other shoulder to permit the coin to pass between the same, but adapted to abut against and cause the rebound of the coin when thrown toward the normal position of said members.

4. In a check operated mechanism, the combination of a pair of members movable in parallel planes and separately urged to certain adjacent normal positions, delivery mechanism operated through the movement of one of said members, means for moving the second member, each of said members having thereon a shoulder extending toward the other and arranged to form a pocket for supporting a check between said members and adapted to engage said check for causing said first member to be moved along through the movement of the second member, means for causing said members to separately return to their normal positions so as to release the check and permit the same to fall out of said pocket, and means for deflecting the check and preventing the same from rebounding into engagement with the lug on said second member.

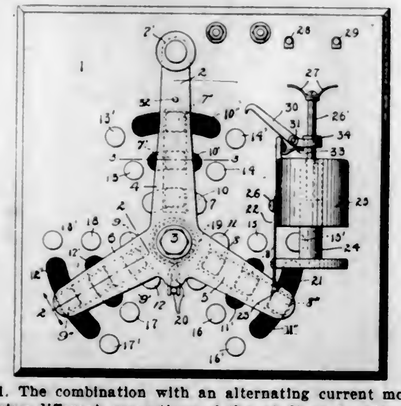
867,546. ANIMAL-TRAP. ORRIN D. WRIGHT, Oneida, N. Y., assignor to Oneida Community, Limited, Kenwood, N. Y., a Corporation of New York. Filed Sept. 6, 1904. Serial No. 223,465.



An animal trap comprising a supporting base provided with upwardly projecting apertured ears, opposite jaws

journaled in said ears, a spring for closing said jaws, means for holding the jaws in their open position, said jaws having inwardly projecting lengthwise flanges substantially midway between their inner and outer edges and diverging laterally from the meeting faces of the jaws when the latter are closed and between which flanges the leg of the animal will be wedged against withdrawal.

867,547. STARTING DEVICE FOR ALTERNATING-CURRENT MOTORS. WILLIAM C. YATES, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Oct. 18, 1905. Serial No. 283,247.



1. The combination with an alternating current motor having different connections of the windings for starting and running, of a switch biased to the off position for changing said connections, and a no-voltage magnet controlled by the switch for holding the latter in running position.

2. The combination with a single phase induction motor, of phase splitting devices for starting the same, a switch biased to the off position and arranged to connect the motor for starting or running, and a no-voltage magnet controlled by the switch for holding the latter in running position.

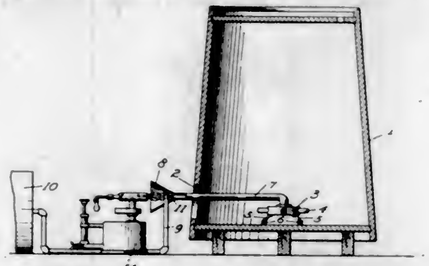
3. The combination with an alternating current motor having different connections for starting and running, of a switch therefor biased to an off position between the starting and running position, a no-voltage magnet for holding the switch in running position, and means controlled by said magnet for preventing the moving of the switch into one of the operative positions without first passing through the other operative position.

4. The combination with a single phase induction motor of phase splitting devices for starting said motor, a switch biased to the off position and arranged to connect the motor for starting or running, a no-voltage magnet for holding the switch in running position, and means controlled by said magnet for preventing the movement of the switch into the running position without first passing through the starting position.

5. The combination with an alternating current motor having different connections for starting and running, of a switch biased to the off position for changing said connections, a no-voltage magnet for holding the switch in running position, a stop controlled thereby for preventing the movement of the switch from the off position directly to the running position, and means for removing said stop as the switch is moved to starting position.

6. The combination with an alternating current motor having different connections for starting and running, of a switch biased to the off position for changing said connections, a no-voltage magnet for holding the switch in running position, a stop controlled thereby for preventing the movement of the switch arm from the off position directly to the running position, and means whereby said stop is removed and the circuit of said magnet closed by the movement of said switch to starting position.

867,548. MEANS FOR DRYING THE INTERIOR OF VATS, &c. JACOB H. BECKMAN, Seattle, Wash. Filed Mar. 13, 1907. Serial No. 362,234.



1. In a device for drying the interior of vats, means adapted to be arranged for movement within the vat for distributing air therein, a pipe leading from said means without the vat and having a funnel shaped mouth, means for heating the mouth of said pipe, and means for directing air under pressure into the mouth of said pipe, for the purpose specified.

2. In a device for drying the interior of vats, an air distributing means adapted to be arranged for movement within the vat and comprising a hollow head provided with a plurality of discharge orifices, a pipe extending from said head without the vat and having a flared mouth, means to heat the mouth of said pipe, and means to direct air under pressure for discharge into the mouth of said pipe.

3. In a device for drying the interior of vats, an air distributing means adapted to be arranged for movement within the vat and comprising a hollow head provided with a plurality of discharge orifices, a pipe extending from said head without the vat and having a flared mouth, means to heat the mouth of said pipe, and a pipe communicating with a source of supply of air under pressure, projecting through the wall of the mouth of said first named pipe and having a discharge nozzle for the purpose specified.

4. In a device for drying the interior of vats, a distributing means adapted to be arranged within the vat and provided with a plurality of discharge orifices, said distributing means being supported on rollers, a pipe extending from said distributing means without the vat and being in communication with a source of air supply under pressure, and means to heat the air prior to its delivery into said first means.

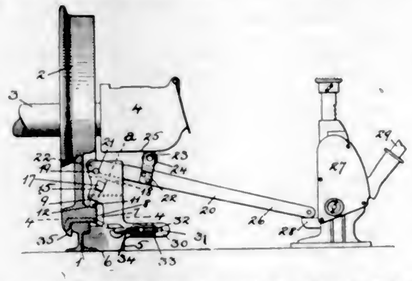
867,549. DEVICE FOR RAISING THE BOXES OF RAILWAY-CARS. WILLIAM F. BENTLEY, Baltimore, Md., and EUGENE B. MILLER, Keyser, W. Va., assignors, by direct and mesne assignments, to said Bentley. Filed Feb. 6, 1907. Serial No. 355,979.

1. The combination with a lifting bar, of means for pivotally sustaining one end of the bar adjacent the box, means for engaging the wheel to hold the latter down, and means at the other end of the lifting bar for raising said latter end.

2. The combination with a lifting bar, of means for sustaining one end of the bar beneath the box; means for coacting between the sustaining means and the wheel to hold the latter down, and means at the other end of the lifting bar for raising said latter end.

3. The combination with a lifting bar, of means for sustaining one end of said bar adjacent the box; means coacting between the sustaining means and the wheel to hold the latter down; a movable device carried by the bar and interposed between the bar and box, and means at the other end of the bar for raising said latter end.

4. The combination with a lifting bar, of means for pivotally sustaining one end of said bar beneath the journal box; a movable device carried on the bar adjacent its pivoted end and interposed between the bar and box; means coacting between the bar sustaining means and the wheel for holding the latter down, and mechanical means at the outer end of the lifting bar for raising said end.



5. The combination with a lifting bar, of means for pivotally sustaining one end of the bar beneath the box; means at the other end of the bar for raising said latter end, and a roller carried by the bar and to be interposed between the latter and the bottom of the box during the lifting operation.

6. The combination with a lifting bar, of means for engaging the wheel and pivotally sustaining one end of the bar beneath the box; brackets carried by the bar adjacent its pivoted end; a roller mounted between said brackets so as to contact with the box, and a lifting jack at the outer end of said bar.

7. The combination with a lifting bar, of a support for pivotally sustaining one end of the bar; means carried by the support for engaging the wheel to hold the latter down, and means at the other end of the bar for raising said end.

8. The combination with a lifting bar, of a block beneath the box for supporting one end of said bar an adjustable device carried by the block for engaging the wheel, and mechanical means for raising the outer end of said lifting bar.

9. The combination with a lifting bar of a block for pivotally supporting one end of the bar, and means for securing the block to the rail.

10. The combination with a lifting bar, of a block for pivotally supporting one end of the bar; means for securing the block to the rail, and means carried by the block for engaging the wheel.

11. The combination with the lifting bar, of a block for pivotally supporting one end of the bar; means for securing the block to the rail; means carried by the block for engaging the wheel, and a movable device interposed between the box and bar.

12. The combination with a block, of a lifting bar having one end pivotally connected to said block; means for holding the block against the rail; means carried by the block for engaging the wheel; a roller mounted on the lifting bar for contacting with the box, and a lifting jack at the other end of the bar.

13. The combination with a block, of a lifting bar having one end pivotally connected to said block; an adjustable pin carried by the block for engaging the wheel to hold the latter down, and a mechanical lifting device at the outer end of said lifting bar.

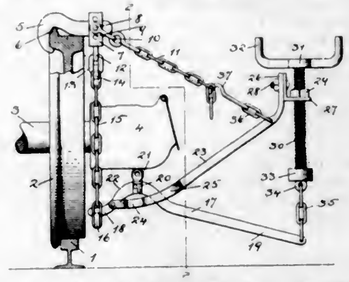
14. The combination with a block of means for securing the block with respect to the rail; a pin carried by the block for engaging the wheel; a lifting bar having one end pivotally sustained by said block and a jack at the other end of the bar.

15. The combination with a block having a laterally-projecting arm; means carried by said arm for engaging the rail; means carried by the block for engaging the wheel and a lifting bar having one end pivotally sustained by said block.

16. The combination with a block having a laterally-projecting arm; a bar sustained by said arm; connections carried by the bar for engaging the rail; means carried by the block for engaging the wheel and a lifting bar having one end pivotally sustained by said block.

17. The combination with a block having a laterally-projecting slotted arm; a bar passing through said slotted arm; hooks connected to the opposite ends of said bar; means for moving the bar with respect to the arm to draw the block against the rail, and a lifting bar having one end pivotally sustained by said block.

867,550. MEANS FOR RAISING THE BOXES OF RAILWAY-CARS. WILLIAM F. BENTLEY, Baltimore, Md. Filed Apr. 12, 1907. Serial No. 367,882.



1. The combination with a lifting bar, of means for sustaining the inner end of the bar adjacent to the box and at the side of the car wheel; a lifting device at the outer end of the lifting bar and connecting the latter; means for sustaining the lifting device from a portion of the car and means for moving the lifting device vertically to operate the lifting bar.

2. The combination with a lifting bar, of means for sustaining the inner end of the bar below the box; a lifting device connecting the outer end of said bar, and means for sustaining the lifting device from a portion of the car.

3. The combination with a lifting bar, of means for sustaining the inner end of said bar adjacent to the bottom of the box; a supporting bar; a lifting device carried by the supporting bar, and means coacting between the supporting bar and a portion of the car to hold the bar in position.

4. The combination with a lifting bar, of means for sustaining the inner end of the bar below the box; a supporting bar having one end supported below the box and its other end extending outwardly therefrom, and a lifting device at the outer end of the supporting bar, and connected with the lifting bar.

5. The combination with a lifting bar, of a supporting bar; a lifting device carried by the supporting bar and connecting the lifting bar, and means for sustaining the supporting bar and lifting device above the lifting bar.

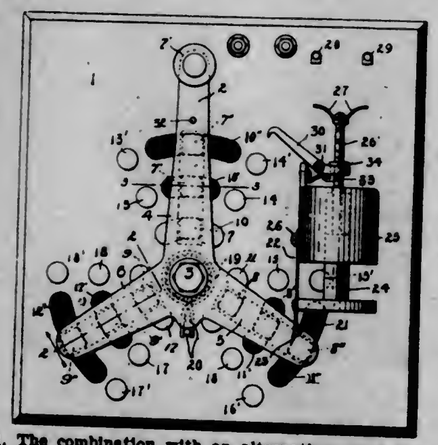
6. The combination with a lifting bar, of means for supporting the inner end of the lifting bar adjacent to the bottom of the box; a supporting bar having its lower end supported below the box and its other end extending outwardly from the box; means for sustaining the outer end of the supporting bar, and a lifting device at the outer end of the supporting bar and connected with the lifting bar.

7. The combination with a lifting bar, of means for supporting the inner end of said bar adjacent to the bottom of the box; a supporting bar; a screw device carried by the supporting bar and sustained above the lifting bar, and a connection between the screw device and the lifting bar.

8. The combination with a lifting bar, of means for sustaining one end of said bar from the car wheel and beneath the box; a supporting bar; a lifting device carried by the supporting bar and connected with the lifting bar, and means for sustaining the supporting bar and lifting device, from a portion of the car.

journaled in said ears, a spring for closing said jaws, means for holding the jaws in their open position, said jaws having inwardly projecting lengthwise flanges substantially midway between their inner and outer edges and diverging laterally from the meeting faces of the jaws when the latter are closed and between which flanges the leg of the animal will be wedged against withdrawal.

867,547. STARTING DEVICE FOR ALTERNATING-CURRENT MOTORS. WILLIAM C. YATES, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Oct. 18, 1905. Serial No. 283,247.



1. The combination with an alternating current motor having different connections of the windings for starting and running, of a switch biased to the off position for changing said connections, and a no-voltage magnet controlled by the switch for holding the latter in running position.

2. The combination with a single phase induction motor, of phase splitting devices for starting the same, a switch biased to the off position and arranged to connect the motor for starting or running, and a no-voltage magnet controlled by the switch for holding the latter in running position.

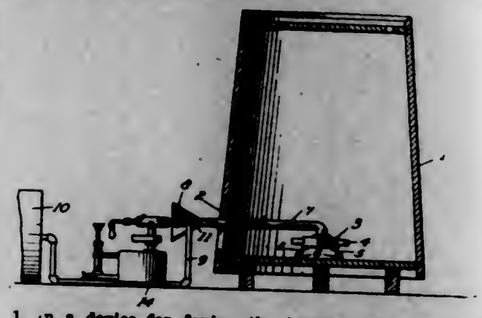
3. The combination with an alternating current motor having different connections for starting and running, of a switch therefor biased to an off position between the starting and running position, a no-voltage magnet for holding the switch in running position, and means controlled by said magnet for preventing the moving of the switch into one of the operative positions without first passing through the other operative position.

4. The combination with a single phase induction motor of phase splitting devices for starting said motor, a switch biased to the off position and arranged to connect the motor for starting or running, a no-voltage magnet for holding the switch in running position, and means controlled by said magnet for preventing the movement of the switch into the running position without first passing through the starting position.

5. The combination with an alternating current motor having different connections for starting and running, of a switch biased to the off position for changing said connections, a no-voltage magnet for holding the switch in running position, a stop controlled thereby for preventing the movement of the switch from the off position directly to the running position, and means for removing said stop as the switch is moved to starting position.

6. The combination with an alternating current motor having different connections for starting and running, of a switch biased to the off position for changing said connections, a no-voltage magnet for holding the switch in running position, a stop controlled thereby for preventing the movement of the switch arm from the off position directly to the running position, and means whereby said stop is removed and the circuit of said magnet closed by the movement of said switch to starting position.

867,548. MEANS FOR DRYING THE INTERIOR OF VATS, &c. JACOB H. BECKMAN, Seattle, Wash. Filed Mar. 13, 1907. Serial No. 362,284.



1. In a device for drying the interior of vats, means adapted to be arranged for movement within the vat for distributing air therein, a pipe leading from said means without the vat and having a funnel shaped mouth, means for heating the mouth of said pipe, and means for directing air under pressure into the mouth of said pipe, for the purpose specified.

2. In a device for drying the interior of vats, an air distributing means adapted to be arranged for movement within the vat and comprising a hollow head provided with a plurality of discharge orifices, a pipe extending from said head without the vat and having a flared mouth, means to heat the mouth of said pipe, and means to direct air under pressure for discharge into the mouth of said pipe.

3. In a device for drying the interior of vats, an air distributing means adapted to be arranged for movement within the vat and comprising a hollow head provided with a plurality of discharge orifices, a pipe extending from said head without the vat and having a flared mouth, means to heat the mouth of said pipe, and a pipe communicating with a source of supply of air under pressure, projecting through the wall of the mouth of said first named pipe and having a discharge nozzle for the purpose specified.

4. In a device for drying the interior of vats, a distributing means adapted to be arranged within the vat and provided with a plurality of discharge orifices, said distributing means being supported on rollers, a pipe extending from said distributing means without the vat and being in communication with a source of air supply under pressure, and means to heat the air prior to its delivery into said first means.

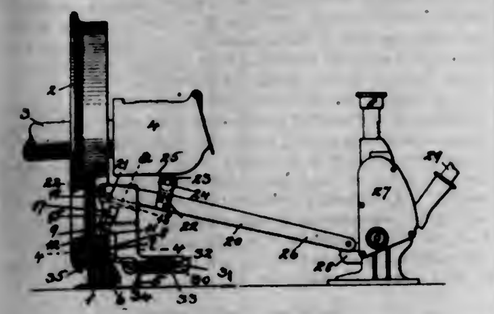
867,549. DEVICE FOR RAISING THE BOXES OF RAILWAY-CARS. WILLIAM F. BENTLEY, Baltimore, Md., and EUGENE B. MILLER, Keyser, W. Va., assignors, by direct and mesne assignments, to said Bentley. Filed Feb. 6, 1907. Serial No. 355,979.

1. The combination with a lifting bar, of means for pivotally sustaining one end of the bar adjacent the box, means for engaging the wheel to hold the latter down, and means at the other end of the lifting bar for raising said latter end.

2. The combination with a lifting bar, of means for sustaining one end of the bar beneath the box; means for coacting between the sustaining means and the wheel to hold the latter down, and means at the other end of the lifting bar for raising said latter end.

3. The combination with a lifting bar, of means for sustaining one end of said bar adjacent the box; means coacting between the sustaining means and the wheel to hold the latter down; a movable device carried by the bar and interposed between the bar and box, and means at the other end of the bar for raising said latter end.

4. The combination with a lifting bar, of means for pivotally sustaining one end of said bar beneath the journal box; a movable device carried on the bar adjacent its pivoted end and interposed between the bar and box; means coacting between the bar sustaining means and the wheel for holding the latter down, and mechanical means at the outer end of the lifting bar for raising said end.



5. The combination with a lifting bar, of means for pivotally sustaining one end of the bar beneath the box; means at the other end of the bar for raising said latter end, and a roller carried by the bar and to be interposed between the latter and the bottom of the box during the lifting operation.

6. The combination with a lifting bar, of means for engaging the wheel and pivotally sustaining one end of the bar beneath the box; brackets carried by the bar adjacent its pivoted end; a roller mounted between said brackets so as to contact with the box, and a lifting jack at the outer end of said bar.

7. The combination with a lifting bar, of a support for pivotally sustaining one end of the bar; means carried by the support for engaging the wheel to hold the latter down, and means at the other end of the bar for raising said end.

8. The combination with a lifting bar, of a block beneath the box for supporting one end of said bar an adjustable device carried by the block for engaging the wheel, and mechanical means for raising the outer end of said lifting bar.

9. The combination with a lifting bar of a block for pivotally supporting one end of the bar, and means for securing the block to the rail.

10. The combination with a lifting bar, of a block for pivotally supporting one end of the bar; means for securing the block to the rail, and means carried by the block for engaging the wheel.

11. The combination with the lifting bar, of a block for pivotally supporting one end of the bar; means for securing the block to the rail; means carried by the block for engaging the wheel, and a movable device interposed between the box and bar.

12. The combination with a block, of a lifting bar having one end pivotally connected to said block; means for holding the block against the rail; means carried by the block for engaging the wheel; a roller mounted on the lifting bar for contacting with the box, and a lifting jack at the other end of the bar.

13. The combination with a block, of a lifting bar having one end pivotally connected to said block; an adjustable pin carried by the block for engaging the wheel to hold the latter down, and a mechanical lifting device at the outer end of said lifting bar.

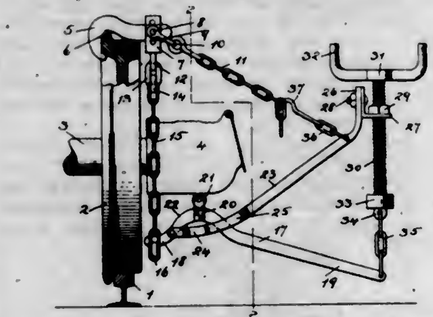
14. The combination with a block of means for securing the block with respect to the rail; a pin carried by the block for engaging the wheel; a lifting bar having one end pivotally sustained by said block and a jack at the other end of the bar.

15. The combination with a block having a laterally-projecting arm; means carried by said arm for engaging the rail; means carried by the block for engaging the wheel and a lifting bar having one end pivotally sustained by said block.

16. The combination with a block having a laterally-projecting arm; a bar sustained by said arm; connections carried by the bar for engaging the rail; means carried by the block for engaging the wheel and a lifting bar having one end pivotally sustained by said block.

17. The combination with a block having a laterally-projecting slotted arm; a bar passing through said slotted arm; hooks connected to the opposite ends of said bar; means for moving the bar with respect to the arm to draw the block against the rail, and a lifting bar having one end pivotally sustained by said block.

867,550. MEANS FOR RAISING THE BOXES OF RAILWAY-CARS. WILLIAM F. BENTLEY, Baltimore, Md. Filed Apr. 12, 1907. Serial No. 367,882.



1. The combination with a lifting bar, of means for sustaining the inner end of the bar adjacent to the box and at the side of the car wheel; a lifting device at the outer end of the lifting bar and connecting the latter; means for sustaining the lifting device from a portion of the car and means for moving the lifting device vertically to operate the lifting bar.

2. The combination with a lifting bar, of means for sustaining the inner end of the bar below the box; a lifting device connecting the outer end of said bar, and means for sustaining the lifting device from a portion of the car.

3. The combination with a lifting bar, of means for sustaining the inner end of said bar adjacent to the bottom of the box; a supporting bar; a lifting device carried by the supporting bar, and means coacting between the supporting bar and a portion of the car to hold the bar in position.

4. The combination with a lifting bar, of means for sustaining the inner end of the bar below the box; a supporting bar having one end supported below the box and its other end extending outwardly therefrom, and a lifting device at the outer end of the supporting bar, and connected with the lifting bar.

5. The combination with a lifting bar, of a supporting bar; a lifting device carried by the supporting bar and connecting the lifting bar, and means for sustaining the supporting bar and lifting device above the lifting bar.

6. The combination with a lifting bar, of means for supporting the inner end of the lifting bar adjacent to the bottom of the box; a supporting bar having its lower end supported below the box and its other end extending outwardly from the box; means for sustaining the outer end of the supporting bar, and a lifting device at the outer end of the supporting bar and connected with the lifting bar.

7. The combination with a lifting bar, of means for supporting the inner end of said bar adjacent to the bottom of the box; a supporting bar; a screw device carried by the supporting bar and sustained above the lifting bar, and a connection between the screw device and the lifting bar.

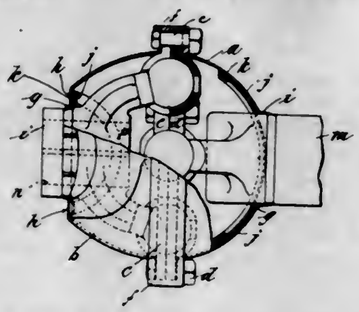
8. The combination with a lifting bar, of means for sustaining one end of said bar from the car wheel and beneath the box; a supporting bar; a lifting device carried by the supporting bar and connected with the lifting bar, and means for sustaining the supporting bar and lifting device, from a portion of the car.

9. The combination with the wheel engaging means, of a fulcrum bar below the box and sustained by the wheel engaging means; a lifting bar having one end engaging the fulcrum bar; a supporting bar having one end supported below the box and its other end extending outwardly therefrom, and a lifting device carried by the supporting bar and connected with the lifting bar.

10. The combination with the fulcrum bar below the box, of means for sustaining the said bar; a lifting bar having its inner end engaging said fulcrum bar and extending outwardly from beneath the box; a supporting bar having its inner end sustained by the lifting bar and its outer end extending upwardly therefrom and a lifting device at the outer end of said supporting bar and connected with the outer end of the lifting bar.

11. The combination with a lifting bar, of means for pivotally sustaining one end of the bar below the box; a supporting bar having its lower end sustained beneath the box and its other end extending upwardly therefrom; means for sustaining the upper end of said supporting bar; a screw device carried by the supporting bar and connected with the lifting bar, and means for sustaining the supporting bar and screw from the wheel.

867,551. UNIVERSAL-JOINT CASING. FRED H. BOGART, Hartford, Conn., assignor to Hartford Automobile Parts Co., Hartford, Conn. Filed Oct. 15, 1906. Serial No. 338,886.



1. In a universal joint-casing of the class described, an inclosing casing therefor comprising elements adapted to be secured to the bearing pieces of the joint, and having openings therethrough, there being cylindrically shaped surfaces at opposite sides of the same and located in planes at right angles to each other; said surfaces surrounding the openings thereof, and closure pieces also having cylindrically shaped surfaces and engaging the first mentioned cylindrically shaped surfaces, said closure pieces being detachably secured to the driving and driven parts of the joint.

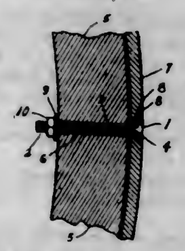
2. In a joint of the class described, a two-part casing therefor, means for securing the same to the bearing portions of the joint and having cut out portions elongated in shape for receiving the driving and driven elements of the joint, there being cylindrically shaped surfaces formed in the casing elements about the marginal edges of said openings, closure pieces carried by the driving and driven elements of the joint and having correspondingly shaped surfaces extending away from the openings for engaging said casing elements, there being beaded edges on said closure pieces for receiving packing material, whereby a tight joint is formed between the two said cylindrical surfaces, and whereby the operative elements of the joint always move in planes at right angles to each other, as described.

3. In a joint of the class described, a casing therefor, said casing being made in two parts and having elongated openings in opposite sides thereof, and arranged so that the major axes of the openings are at right angles to each other, the marginal edges of the openings being in a cylindrically curved surface, and closure pieces for said openings each having a collar or ring portion that normally projects through the openings there being cylindrical portions integral with the collar or ring portion and lying within the casing and normally engaging the cylindrical portion of the casing as described.

4. A casing for universal joints a portion of the casing being substantially spherical in shape and another portion cylindrical in shape, and having an elongated opening located within the cylindrical shaped surface, means for closing said opening comprising a collar or ring portion for engaging one of the transmitting members of the joint and also a portion corresponding in shape with the cylindrical portion of the casing, as described.

5. A casing for universal joints made in two parts and attached to the section supporting elements *c* and *d* of the joint, a clamping ring *f*, each part of the casing having an elongated opening *g* provided with a cylindrical curved surface *h*, a closure piece having wing-portions *i* for closing the elongated opening and carried by the driving and driven elements and engaging the cylindrical surfaces *h* of the casing whereby the path of movement of the driving and driven shaft sections are in planes at right angles to each other, as described.

867,552. MEANS FOR FASTENING TIRES TO WHEEL-RIMS. ALLEN N. BRADFORD, Sterling, and WILLIAM H. HOLDEN, Rock Falls, Ill., assignors to Russell Burdsall & Ward Bolt & Nut Company, Port Chester, N. Y. Filed Dec. 1, 1905. Serial No. 289,906.



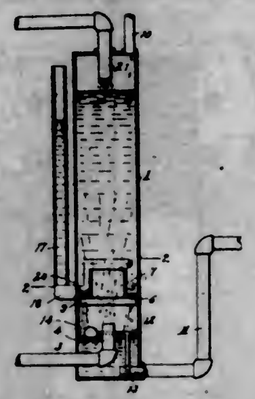
In combination, a wheel rim, a tire thereon, said rim being formed with an opening, said tire being formed with an opening registering with the rim opening, the outer portion of the tire opening tapering outwardly and the portion of the tire opening adjacent to the wheel rim having parallel walls and being of slightly greater diameter than the rim opening, a bolt formed with a tapering head which is received by the outwardly tapering portion of the tire opening, a collar on the bolt received in the portion of the tire opening with parallel walls, said collar abutting against the outer face of the wheel rim, a left hand threaded portion on the outer end of the bolt, said threads being of greater diameter and of less length than the rim opening and received thereby, a right hand threaded portion on the inner end of the bolt and being of less diameter than the left hand threaded portion and than the rim opening and being received in the rim opening and projecting beyond the inner face of the rim, and a nut and washer on the said projecting bolt end for securing the parts together.

867,553. APPARATUS FOR TREATING GASES WITH LIQUIDS AND LIQUIDS WITH GASES. CHARLES S. BRADLEY, New York, N. Y. Filed June 5, 1905. Serial No. 263,818.

1. In apparatus of the character described, the combination with a chamber adapted to contain a liquid, and a chamber adapted to contain a gas; of a gas communication from the gas chamber to the liquid chamber, a liquid communication from the liquid chamber to the gas chamber, and means for maintaining the liquid pressure on the liquid communication above the gas pressure and on the gas communication below the gas pressure.

2. In apparatus of the character described, the combination with a tower adapted to contain a body of liquid above and gas under pressure below, and an intermediate

transverse partition having two perforated portions at different depths in said body of liquid, and means for maintaining the liquid-pressure on the lower perforated portion of said partition above the pressure of said gas, and on the upper perforated portion thereof below the pressure of said gas.



3. In apparatus of the character described, the combination with a vessel adapted to contain a body of liquid above and gas under pressure below, and an intermediate transverse partition adapted to support said body of liquid; of means of communication from the space below said partition into said body of liquid at a lesser depth in said liquid, means of communication from above said partition into said gas at a greater depth in said liquid, and means controlled by the depth of the liquid above said partition for maintaining the pressure on the communication of lesser depth below that of the gas and a pressure on the communication of greater depth above that of the gas.

4. In apparatus of the character described, the combination with a vessel provided with a chamber adapted to contain a body of liquid and a chamber adapted to contain a gas under pressure; of means of communication from the gas chamber into said body of liquid at a lesser depth in said body of liquid, means of communication from said body of liquid into said gas chamber at a greater depth in said body of liquid, and means controlled by the depth of liquid for maintaining the pressure on the communication of lesser depth lower than the gas pressure and on the communication of greater depth higher than the gas pressure.

5. In apparatus of the character described, the combination of a tower having an inlet for liquid at its upper portion, an inlet for gas at its lower portion, a diaphragm having an apertured portion for the passage of gas, and means for regulating the passage of liquid through said diaphragm controlled by the height of liquid above the diaphragm.

6. In apparatus of the character described, the combination of a tower having a perforated diaphragm, means for supplying liquid above said diaphragm and gas below it, and means for controlling the passage of liquid through said diaphragm controlled by the liquid above the diaphragm.

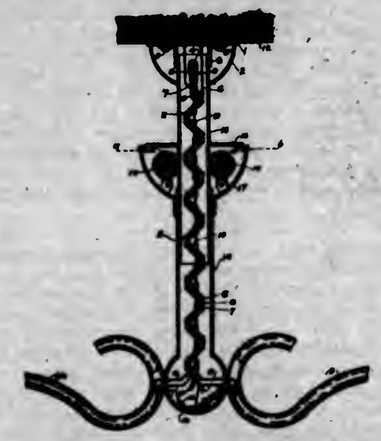
867,554. STREET-CAR SIGN. WILLIAM BRUNDELL, Portland, Oreg. Filed Dec. 29, 1906. Serial No. 350,045.

1. A sign comprising a back, a series of pivots a plurality of horizontal strips thereby loosely hinged centrally at their upper edges to the back, and cords uniting the ends of said strips to each other, whereby the latter are free to oscillate individually in a vertical plane and simultaneously to tilt, in relative unison, on their pivots.

2. A sign comprising a back, a friction obviating strip affixed to the middle thereof, a series of pivots thereon, a plurality of horizontal strips thereby loosely hinged centrally at their upper edges to such friction obviating strip, and cords uniting the ends of the strips to each other, whereby the strips are free to oscillate individually in a vertical plane and simultaneously to tilt, in relative unison, on their pivots.



867,555. CHANDELIER. FREDERICK A. BURTON, Wahpeton, N. D., assignor of one-third to Christina E. Kouba and one-third to Peter H. Stenerson, Wahpeton, N. D. Filed June 21, 1906. Serial No. 322,746.

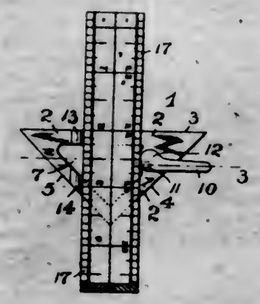


1. In a device of the class described, an upper member, a lower member capable of vertical adjustment, frictional rollers connected with one of the members and in contact with the other, means for increasing or diminishing the frictional capacity of the rollers simultaneously, electric wires within said members, a removable pin passing horizontally through the upper member and a coil spring depending from the pin, and means for securing electric wires to the convolutions of said spring.

2. In a device of the class described, an upper member, a lower member capable of vertical adjustment, frictional rollers connected with one of the members and in contact with the other, tension devices connecting the frictional rollers, and adjustable means for regulating the tension devices for increasing or diminishing the retaining capacity of the rollers, electric wires within said members, a pin passing horizontally through the upper member said pin being removable, a coil spring, depending from the pin, and means for securing said wires to the convolutions of said spring.

3. In a device of the class described, an upper member, a lower member capable of vertical adjustment, frictional rollers connected with one of the members and in contact with the other, means for increasing or diminishing the friction of the rollers simultaneously, electric wires within said members, a pin located in the upper member, a coil spring for carrying the electric wires, means for supporting the pin, and means for securing the wires to said spring.

867,556. COMBINATION-TOOL. ROBERT CAMPBELL, Elizabeth, N. J. Filed Oct. 2, 1906. Serial No. 337,060.



1. The herein described stock for use as a tri-square in connection with a rule or straight-edge, comprising a triangular body formed of three sides 3, 4 and 5 having an opening 7 between them, a flange 6 extending downwardly from the edge of each side, a perforated extension connected with one of said sides and extending partway into said opening 7, a lug upon each of the sides 3 and 5 of said stock, each lug being provided with a vertical face 15, said faces 15 lying in the same vertical plane at right angles to the plane of the flange 6 of said side 3, and a lever arranged upon the outer face of said extension, said lever being provided with a stud arranged in the perforation of said extension and formed with a head 16, and means at the pivoted end of the lever adapted to be forced against one edge of the rule or straight-edge for forcing the opposite edge of the rule or straight-edge in retaining engagement with the faces 15 of the lugs upon said sides 3 and 5, substantially as and for the purposes set forth.

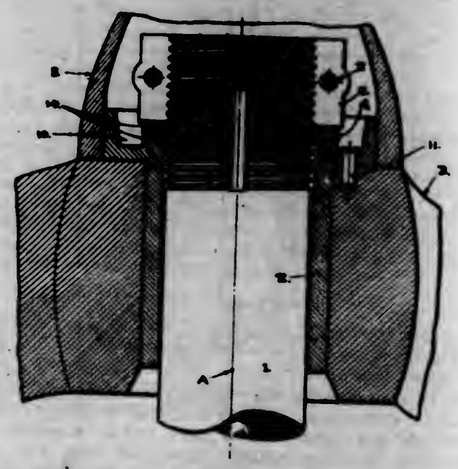
2. The herein described stock for use as a tri-square in connection with a rule or straight-edge, comprising a triangular body formed of three sides 3, 4 and 5 having an opening 7 between them, a flange 6 extending downwardly from the edge of each side, a perforated extension connected with one of said sides and extending partway into said opening 7, a lug upon each of the sides 3 and 5 of said stock, each lug being provided with a vertical face 15, said faces 15 lying in the same vertical plane at right angles to the plane of the flange 6 of said side 3, and a lever arranged upon the outer face of said extension, said lever being provided with a stud arranged in the perforation of said extension and formed with a head 16, and a cam-shaped binding member 12 at the pivoted end of the lever adapted to be forced against one edge of the rule or straight-edge for forcing the opposite edge of the rule or straight-edge in retaining engagement with the faces 15 of the lugs upon said sides 3 and 5, substantially as and for the purposes set forth.

867,557. SHAFT SUSPENSION. THOMAS W. CAPEN, Milwaukee, Wis., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Filed Oct. 26, 1905. Serial No. 284,441.

1. An outer member having a through bore, a bushing therein having an outwardly extending supporting flange at an end of the through bore, the flange having a spherical zone rocking bearing surface, and the bushing providing a fulcrum bearing, and an inner member loosely supported on the bushing and coacting with the bushing at the fulcrum bearing and at the rocking bearing.

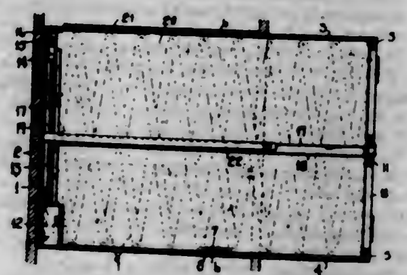
2. A loose positively rocked member, a supporting means, a bushing coacting with the supporting means and providing a fulcrum for the member, adjusting means for the member, and a bearing ring having a plane side and a concave side interposed between the adjusting means and the bushing.

3. In an ore crusher of the class described the combination of a spider portion having a bore, a bushing portion fixed in the bore and provided with an end projecting beyond the bore for supporting the bushing portion, a gyrating shaft, a supporting means secured to the upper end of said shaft, and a loose bearing ring surrounding said shaft and resting solely upon the projecting end of the spider bushing and interposed between the projecting end of the bushing and the supporting means.



4. In a crusher, a spider portion having a through bore devoid of counterbore, a shaft suspended from the spider, a bushing fixed to the spider and extending within the bore of the spider to form for the shaft a fulcrum bearing fixedly maintained as to the spider and also extending beyond the bore of the spider to form a rocking bearing for the shaft, and adjusting means for the shaft.

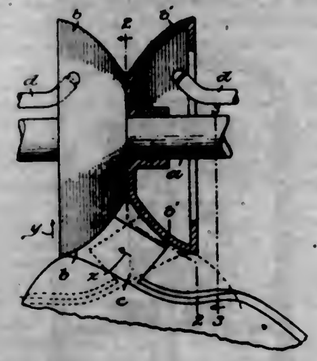
867,558. COLLAPSIBLE VALUABLE-CASE. JOHN E. CARROLL, Seattle, Wash. Filed Feb. 15, 1907. Serial No. 357,848.



A case of the character indicated comprising a back, vertical sides composed of strips pivotally connected together, top and bottom sides composed of sections hinged together, all of said sides being connected with said back, a frame connected to the outer ends of said sides, and a door hinged to said frame.

867,559. HEEL-BURNISHING APPLIANCE. WILLIAM W. CROOKER, Lynn, Mass. Filed Sept. 13, 1906. Serial No. 334,435.

A rotary heel-burnishing appliance comprising two burnishing wheels mounted side by side in axial alinement, and provided with oppositely-facing peripheries, molded to conform to the edge of a heel, and duplicates each of the other in form, the peripheries of said wheels being separated by an unobstructed recess adapted to permit the application of the entire width of a heel edge to either wheel without contact of the top lift with the other wheel, substantially as set forth.



867,560. REGULATING-VALVE FOR LIQUID-FUEL BURNERS. CHARLES F. CURREY, Topeka, Kans., assignor of one-half to Charles T. Sears, Topeka, Kans. Filed Mar. 6, 1906. Serial No. 304,553.



1. In a liquid-fuel burner, the combination of a thermostatic device arranged to be acted upon directly by the flame of the burner whereby it is readily responsive to variations in the temperature of the combustion chamber, a fuel-supply pipe, and a regulating valve therein automatically controlled by said device.

2. In a liquid-fuel burner, the combination of a thermostatic device arranged to be acted upon directly by the flame of the burner whereby it is readily responsive to variations in the temperature of the combustion chamber, a fuel-supply pipe, and a regulating valve therein, automatically controlled by said device so as to increase the size of the valve opening when the temperature is lowered and to reduce the size of said opening when the temperature is raised.

3. In a liquid-fuel burner, the combination of a thermostatic device arranged to be acted upon directly by the flame of the burner whereby it is readily responsive to variations in the temperature of the combustion chamber, a fuel-supply pipe, and a regulating valve therein automatically controlled by said device so as to increase the size of the valve opening when the temperature is lowered and to reduce the size of said opening when the temperature is raised, together with a cut-off cock and means for manually adjusting the regulating valve.

4. In a liquid-fuel burner, the combination with the wall of a heating or combustion chamber, said wall being readily responsive to changes of temperature, a fire-box, a fuel-supply pipe, and a regulating valve therein, of a rod connected with said wall and not readily responsive to changes of temperature, and a device operable by the relative expansion and contraction of said wall and said rod and connected with the regulating valve.

5. In a liquid-fuel burner, the combination with a combustion or heating chamber having a wall adapted to contract and expand on changes of temperature, a fire-box, a fuel-supply pipe, and a regulating valve therein, of a device connected with the combustion or heating chamber and operable by the expansion and contraction thereof caused by variations in the temperature, said device being connected to said regulating valve so as to increase the size of the valve opening in case of contraction and to reduce the size thereof in case of expansion

6. In a liquid-fuel burner, the combination with a combustion or heating chamber having a metallic wall readily responsive to changes in the temperature of the combustion chamber, of a jointed rod connected with two places on said wall and not being readily responsive to such changes of temperature, a fire-box, a fuel-supply pipe and a regulating valve therein, and connecting means between the rod and the regulating valve whereby said valve is controlled by the expansion and contraction of said wall.

7. The combination with a liquid-fuel stove having a sheet-metal combustion or heating chamber with a wall readily responsive to changes in the temperature of the combustion chamber, of a bracket at the top and another at the bottom, a heavy rod secured to one of the brackets and not readily responsive to such changes of temperature, a lever secured to the other and to said rod, a fuel-supply pipe, and a regulating valve controlled by said lever.

8. The combination with a liquid-fuel stove having a sheet-metal combustion or heating chamber with a wall readily responsive to changes in the temperature of the combustion chamber, of a bracket at the top and another at the bottom, a heavy rod not readily responsive to such changes of temperature and secured to one of the brackets and a lever secured to the other and to said rod, a fuel-supply pipe, a regulating valve controlled by said lever and means for controlling said regulating valve manually.

9. The combination with a liquid-fuel stove having a sheet-metal combustion or radiating chamber with a wall readily responsive to changes in the temperature of the combustion chamber, of a heavy rod not readily responsive to such changes of temperature and a lever secured at places spaced apart on said chamber and pivoted to each other, a fuel-supply pipe, a regulating valve controlled automatically by said lever, a cut-off cock and means for controlling said regulating valve manually.

10. The combination with a stove having walls which are readily responsive to variations in temperature inside and outside thereof, a fuel-supply pipe and a regulating valve therein, a device not so responsive and means connecting the wall and the device and the regulating valve for controlling the valve by the expansion and contraction of the wall.

11. The combination with a stove having sheet-metal walls readily responsive to changes in the temperature of the combustion chamber, a fuel-supply pipe, a cut-off cock and a regulating valve, a rod less readily responsive to such changes of temperature and a lever outside of the stove and secured to places spaced apart on said wall and said rod and said lever being pivoted to each other and operably connected with said regulating valve so that the expansion of the wall will reduce the valve opening and the contraction will increase it.

12. The combination with a stove having a sheet-metal wall readily responsive to changes in the temperature of the combustion chamber, a fuel-supply pipe, a cut-off cock, and a regulating valve, of a heavy rod less readily responsive to such changes of temperature and secured to the outside of the stove, a lever also secured to said stove, the places of attachment of said lever and of said rod being spaced apart, said rod and lever being pivoted together, a nut carried in trunnions by said lever, said regulating valve having its stem threaded and extending through the nut and provided with a handle.

13. The combination with a liquid-fuel burner and a combustion or radiating chamber having a thin sheet-metal

wall between said chamber and the outside area to be heated whereby said wall is quickly responsive, by expansion and contraction, to variations in the temperature both inside and outside said combustion chamber; a liquid-fuel supply pipe and a regulating valve in said pipe; and connecting mechanism between said wall and said valve whereby said valve is actuated by such expansion and contraction.

14. The combination with a liquid-fuel burner and a combustion or radiating chamber having a thin sheet-metal wall between said chamber and the outside area to be heated whereby said wall is quickly responsive, by expansion and contraction, to variations in the temperature both inside said chamber and in the outside area; a liquid-fuel supply pipe for the burner; and a regulating valve in said pipe actuated by the expansion and contraction of said wall.

15. The combination with a liquid-fuel burner and a combustion or radiating chamber therefor having a thin sheet-metal wall between said chamber and the area to be heated, said wall being exposed to the temperatures both of said chamber and of said area, whereby said wall is readily responsive, by contraction and expansion, to variations in the temperatures both of said chamber and of said area; a liquid-fuel supply pipe for the burner; and a regulating valve in said pipe actuated by the said contraction and expansion of said wall.

16. The combination with a liquid-fuel burner and a combustion or radiating chamber therefor having a thin sheet-metal wall between said chamber and the area to be heated, said wall being exposed to the temperatures both of said chamber and of said area, whereby said wall is readily responsive, by contraction and expansion, to variations in the temperatures both of said chamber and of said area; a fulcrum-rod secured to said wall said rod not being readily responsive to such changes of temperature; a lever pivoted to said wall at a point spaced apart from the place at which the fulcrum-rod is secured, said rod and lever being pivoted together so that the lever is actuated by the contraction and expansion of said wall; a liquid-fuel supply pipe for the burner; a cut-off cock and a regulating valve for the supply pipe; a connecting element between the lever and the regulating valve whereby the valve is actuated by the lever; and means for manually adjusting the valve.

17. The combination with a liquid-fuel burner and a combustion chamber therefor; a liquid-fuel supply pipe for the burner; and a regulating valve in said pipe; of a thermostatic device directly actuated by the variations in temperature within the combustion chamber, and a lever operable thereby; a nut mounted in trunnions in said lever; a stem for the regulating valve having a threaded engagement with the nut; and means for manually adjusting the regulating valve.

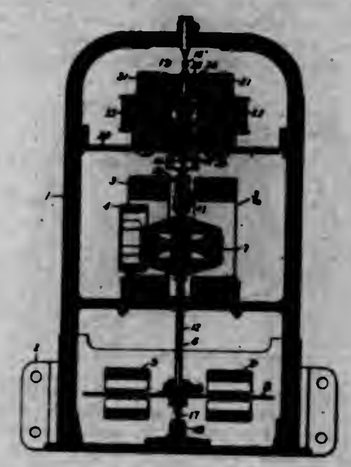
867,561. MEASURING INSTRUMENT. ALBERT G. DAVIS and CARYL D. HASKINS, Schenectady, N. Y., assignors to General Electric Company, a Corporation of New York. Filed Mar. 15, 1904. Serial No. 198,219.

1. In a measuring instrument, a measuring element rotating in one direction only, a fiber or wire suspension therefor, and means for automatically taking the twist out of said fiber.

2. In a measuring instrument, an element free to revolve under the influence of the force measured, a member from which it is supported by a flexible connection, and means for causing said member to revolve with the same average speed with which said element revolves.

3. In a measuring instrument, a revolving measuring element, a counting train, a motor for driving said counting train, the axes of revolution of said motor and of said measuring instrument being in alinement with each other; a pair of contact devices carried by the motor and diametrically opposed to each other with respect to the axis thereof, and a pair of coöperating contact devices carried by the measuring element.

4. In a measuring instrument, a measuring element revolving in one direction only, a counting train, a motor for driving it, and a flexible connection by which the element is supported from the motor.



5. In a measuring instrument, a rotatable support, a rotatable measuring element supported from said support by a flexible connection, and means for turning said support with the average speed with which the measuring element turns.

6. In a measuring instrument, a rotatable support, a rotatable measuring element supported therefrom by a connection allowing relative movement between the support and the element, and means for causing the support to rotate with the average speed with which the measuring element rotates.

7. In a measuring instrument, a rotatable support, a measuring element supported therefrom by a connection allowing relative movement between the support and the element, and means responsive to a pre-determined relative movement in one direction for causing a relative movement in the opposite direction.

8. In combination, an electric motor provided with a vertical shaft, an electric meter comprising an armature, means for supporting said armature from said shaft to allow a relative movement of the armature with respect to the shaft, and means controlled by the meter for energizing the motor upon a predetermined relative movement.

9. In a measuring instrument, a working element rotating in one direction only, a measuring element rotating in the same direction, and a flexible connection by which the measuring element is supported from the working element.

10. In a measuring instrument, a working element, and a measuring element supported therefrom by a flexible connection.

11. In a measuring instrument, a working element movable in one direction only, a movable measuring element, means for supporting said measuring element from the working element arranged to allow a relative movement of one element with respect to the other, and means for limiting said relative movement.

12. In combination, a pair of vertical shafts, one of said shafts being supported from the other by a flexible connection, and independent means for turning said shafts with the same average speed.

13. In combination, a pair of vertical shafts, one of said element, a movable member or device by which it is supported, and means energized from a source independent of the torque of the measuring element for moving the member at the speed with which the said element moves.

14. In a measuring instrument, a measuring element, a counting train, a motor for driving it, a pair of switch contacts for controlling the motor circuit, and operating means therefor comprising a contact device carried by the motor, a coöperating contact device carried by the measuring element, and a power multiplying connection between the switch contacts and the contact device carried by the motor.

15. In combination, a driving element, a measuring element carried thereby, and means operated by the measuring element for controlling the energization of the driving element.

16. In combination, a rotating measuring element, a receiving device, and a rotating motor for driving said receiving device, the speed of said motor being proportional to and controlled by the speed of the measuring element.

17. In combination, a driving element, a measuring element carried thereby, and a commutator for the measuring element carried by the driving element.

18. In combination, a working element, a measuring element carried thereby through a fiber or wire connection, means for rotating said measuring element, and means controlled by the measuring element for preventing a relative movement of the two elements in excess of a predetermined amount.

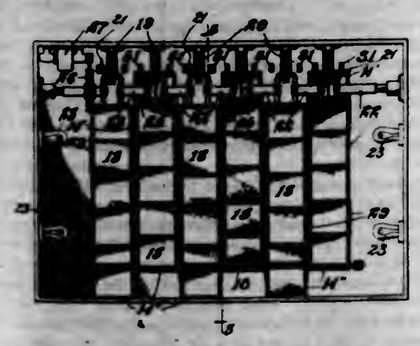
19. In combination, a shaft, a motor for driving said shaft, a motor meter including an armature, a non-rigid connection for supporting said armature from said shaft, and means operated by the rotation of said armature for controlling the speed of said motor to cause said shaft and said armature to rotate with the same average speed.

20. In combination, a rotatable member, a motor meter including an armature, a connection for supporting said armature from said member, said connection being arranged to allow relative movement between said member and said armature, and means receiving energy from a source independent of the movement of said armature but controlled thereby for rotating said member with the same average speed with which the armature rotates.

21. In a measuring instrument, a motor, a measuring element having its shaft vertically disposed, a flexible connection between the motor and said shaft for supporting the weight of the latter and the parts carried by it, and a ring bearing for preventing lateral displacement of said shaft.

22. In a measuring instrument, a motor, a measuring element having its shaft vertically disposed, a flexible connection between the motor and said shaft for supporting the weight of the latter and the parts carried by it, and means for preventing lateral displacement of said shaft comprising a ring bearing encircling the lower end of said shaft.

867,562. ADVERTISING DEVICE. JOSEPH W. FAWKES, Los Angeles, Cal. Filed June 25, 1906. Serial No. 323,187.



1. In an advertising device, a case; frames mounted in the case adapted to hold display surfaces; a sectional shaft mounted in the case; adjustable cranks on the shaft; connecting means between the cranks and the frames; and means to rotate the shaft.

2. In an advertising device, a case; a series of display frames mounted in said case; supplementary frames having slidable connection with said display frames; means adapted to keep said supplementary frames at one end of their travel; and means to reciprocate the display frames.

3. In an advertising device, a case; a series of display frames mounted in the case; supplementary display frames slidably attached to the first named frames; means for limiting the movement of the supplementary display frames and means for reciprocating the first named frames.

4. In an advertising device, a case; display frames mounted in the case; guides for the display frames; auxiliary display frames slidably connected to the first named frames; means for limiting the movement of the auxiliary display frames; a shaft mounted in the case; cranks mounted on the shaft opposite each of the display frames; connecting means between corresponding cranks and display frames; and means to operate the shaft.

5. In an advertising device, a case; display frames mounted in the case; supplementary display frames slidably connected to the top of the display frames; stops for the supplementary display frames; and means for reciprocating the advertising frames.

6. In an advertising device, a case having an exhibition aperture therein; a series of display frames mounted in the case; supplementary display frames attached to the top and bottom of each of the display frames and having a slidable connection therewith; means for restricting the movement of the supplementary display frames after they have passed from behind the exhibition aperture; and means for reciprocating the display frames.

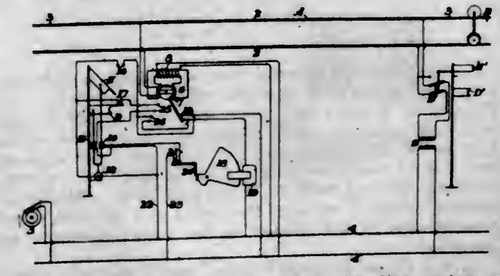
7. In an advertising device, a case having an exhibition aperture therein; display frames mounted in the case; supplementary display frames slidably connected with the display frames; stops on the display frames for the supplementary display frames; stops on the case for the supplementary display frames; a glass plate of irregular cross-section in the aperture of the case; and means to reciprocate the display frames.

8. In an advertising device, a case having an exhibition aperture therein; display frames mounted in the case; supplementary display frames slidably connected with the display frames; stops on the case for the supplementary display frames; stops on the display frames adapted to contact with the supplementary display frames and lock the display frames and the supplementary display frames together; and means for reciprocating the display frames behind the aperture in the case.

9. In an advertising device of the character herein described, the combination of display frames comprising longitudinal U-shaped grooved strips; traneverse S-shaped grooved strips attached to the longitudinal strips, the grooves in both strips being adapted to hold display surfaces, together with means for reciprocating the display frames.

10. In a device of the character herein described comprising a case; display surfaces secured in frames operatively mounted in said case; a sectional shaft; adjustable oppositely disposed cranks secured to said shaft; connecting means operatively secured to said cranks and display surfaces; and means to rotate said shaft.

867,563. AUTOMATIC BLOCK-SIGNALING SYSTEM. DANIEL J. MCCARTHY, Wilkinsburg, Pa., assignor to The Union Switch & Signal Company, Swissvale, Pa., a Corporation of Pennsylvania. Filed Aug. 16, 1907. Serial No. 388,750.



1. In an alternating current block signaling system, a normally closed track circuit, line wires from which the

track circuit is energized, means for reversing the polarity of the track circuit, a reversing relay controlled by the reversal of polarity of the track circuit and controlling the operating mechanism for the home and distant signal blades, alternating current slot magnets, and an auxiliary circuit controlling device for holding the circuit of the home signal slot magnet closed while the relay is reversing; substantially as described.

2. In alternating current block signaling system of the character described, a main reversing relay, a slot magnet for the home signal, and an auxiliary circuit-controlling device for maintaining the circuit of the slot magnet closed while the relay is reversing; substantially as described.

3. In an automatic block signaling system using alternating current, a closed track circuit, a reversing relay controlled thereby, home and distant signal blades, an actuating motor therefor, alternating current slot magnets, an auxiliary circuit-closing device for holding the circuit of the home signal slot magnets closed while the relay is reversing; substantially as described.

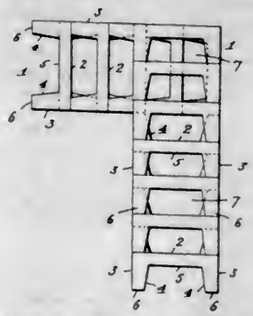
4. In an alternating current block signaling system of the character described, a slot magnet, a reversing relay, and an auxiliary device for maintaining the circuit of the slot magnet while the relay is reversing; substantially as described.

5. In an alternating current block signaling system of the character described, an alternating current slot magnet, a reversing relay, and an auxiliary device controlled by the track circuit for maintaining the circuit of the slot magnet while the relay is reversing; substantially as described.

6. In an alternating current block-signaling system of the character described, home and distant signal blades, a reversing relay through which said blades are controlled by the track circuits, a line circuit, and an alternating current slot magnet, and a slow-motion circuit controlling device for controlling the circuit of said magnet; substantially as described.

REISSUES.

12,698. BUILDING-BLOCK. FRANK M. SAWYER, Charlotte, N. C., assignor to American Roofing Tile Company, a Corporation of North Carolina. Filed Aug. 1, 1907. Serial No. 386,675. Original No. 812,369, dated Feb. 13, 1906, Serial No. 249,256.



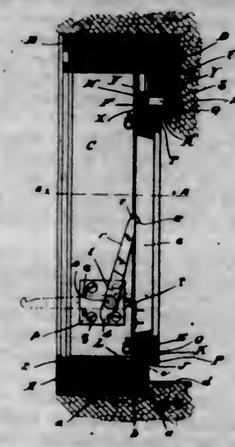
1. The herein-described building-wall made up of bricks or blocks having three unbroken surfaces 2, 3, 3, the surfaces 3, 3, forming the inner and outer facing of the wall, and a recessed side forming feet 6, the inner walls 4 of which are oblique and providing the inner wall or web 5, said blocks being placed in reverse order in each alternate layer to break joint and to provide vertical ventilating spaces 7 between the bricks and to form cross bracing-webs in the corners of the walls, essentially as described.

2. The herein described building wall made up of bricks or blocks, each having three unbroken outer surfaces and having its remaining surface recessed, said blocks being reversed in each alternate layer and placed so that their oppositely disposed unbroken surfaces form the inner and outer facings of the wall.

3. The herein described building wall, made up of bricks or blocks, each having three unbroken outer surfaces and having its remaining surface recessed, said blocks being reversed in each alternate layer and placed so that their oppositely disposed surfaces form the inner and outer facings of the wall and so that the portions connecting said oppositely disposed surfaces register vertically with each other.

4. The herein described building wall, made up of bricks or blocks, each having three unbroken outer surfaces and having its remaining surface recessed, said blocks being reversed in each alternate layer and placed so that their oppositely disposed surfaces form the inner and outer facings of the wall and so that the portions connecting said oppositely disposed surfaces register vertically with each other, thus spacing the joints in said outer and inner facings in each alternate layer the thickness of said connecting portions.

12,699. CASEMENT-WINDOW. IGNACY WROBLEWSKI, Krakow, Austria-Hungary. Filed Nov. 21, 1906. Serial No. 344,361. Original No. 780,696, dated Jan. 24, 1905, Serial No. 141,635.



1. In a casement-window, the combination with a window-frame, of a window-sash pivotally connected to the window-frame, and adapted for vertical movement, an interlocking connection between a rail of the window-frame and the adjacent rail of the sash and adapted to prevent swinging movement of the sash until the latter has been raised, and a lever having arms of unequal length pivoted to the window-frame, and a projection on the sash adapted to be engaged by the shorter arm of the lever for the purpose set forth.

2. In a casement-window, the combination with a window-frame, of a sash pivotally connected thereto, and adapted for vertical movement, an interlocking connection between the upper and lower rails of the window-frame and the corresponding rails of the sash, a lever having arms of unequal length pivoted to the window-frame, a projection on the sash adapted to be engaged by the shorter arm of the lever, and a projection adapted to be engaged by the longer arm of the lever to hold the same in a position with the sash raised.

3. In a casement-window, the combination with a window-frame, of a sash pivotally connected thereto and adapted for vertical movement, a strip secured to the lower rail of the window-frame, a strip secured to the lower rail of the sash, the said strips being constructed on their opposing faces to provide an interlocking connection for the window frame and sash, the strip on the rail of the window-frame having a trough and channels leading therefrom to the outside as described.

4. In a casement-window, the combination with a window-frame, of two meeting pivoted and vertically movable window-sashes, means for raising and lowering said sashes, a window sill having a groove extending across the width of the same, and the lower rails of the sashes having corresponding tongues or projections adapted to enter said groove in the lowered position of the sashes, the upper rail of the window-frame and the upper rails of the sashes also being provided with interlocking hooked connections extending across the width of the window.

5. In a casement-window, the combination with a window-frame and two meeting pivotally and vertically movable sashes and means for raising and lowering the sashes of tongue and grove connections between the window sill and the lower sash rails, and interlocking hooked connections extending across the width of the sashes between the upper sash rails and the upper rail of the window frame.

6. In a casement-window, the combination with two pivoted and vertically movable wings or window-sashes, of a double window, means for raising and lowering said sashes, and interlocking means on the meeting faces of the meeting rails of the window-sashes for locking said sashes together in closed and lowered position.

7. In a casement-window, the combination with the two pivoted and vertically movable wings or sashes of a double window, of interlocking connections between the meeting faces of the meeting rails of said wings adapted to lock said sash rails together in closed and lowered position.

8. A casement window comprising the frame having top and bottom rails and side rails, a sash pivotally connected to one side rail and adapted for vertical movement, a metallic strip secured to the bottom rail of the frame and provided with a longitudinal locking groove, (and another longitudinal groove forming a drip trough extending substantially parallel to and behind the locking groove, said drip trough communicating with the exterior of the frame by channels extending transversely through the strip, the lower sash rail also being provided with a metallic strip on its lower edge having a tongue adapted to enter the locking groove.

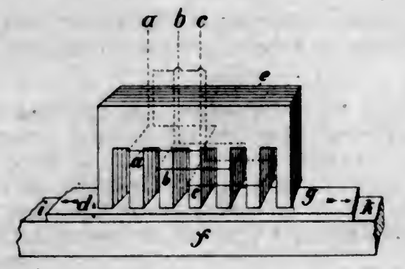
9. A casement window comprising the frame having top and bottom rails and side rails, a sash pivotally connected to one side rail and adapted for vertical movement, a metallic strip secured to the bottom rail and provided with a longitudinal locking groove, the lower sash rail also being provided with a metallic strip having a tongue adapted to enter the locking groove, and a projection on the lower sash rail adapted to extend downwardly in front of the strip on the sill to insure a tight joint to prevent entrance of water and dust from outside.

10. A casement window, comprising a frame having a top rail and an outer top rail having a recess, side rails and bottom rail or sill, a sash pivotally connected to one side rail and adapted for vertical movement, a metal strip secured to the upper sash rail and provided with a downwardly extending tongue or rib, and a metal strip secured in the recess in the outer top rail of the frame and provided with an upwardly extending rib with which the tongue on the sash is adapted to interlock when the sash is in lowered position.

11. A casement window, comprising a frame having a top rail and an outer top rail having a recess, side rails and bottom rail or sill, a sash pivotally connected to one side rail and adapted for vertical movement, the upper sash rail being adapted to move in the recess in the outer top rail of the frame and having an upwardly extending projection in the rear of the outer top rail, the upper sash rail and outer top rail also being provided with interlocking metal strips.

12. A casement window, comprising a frame having a top rail, grooved side and bottom rails, sashes adapted for vertical movement, and having tongues on their lower rails, and outer side rails adapted to coöperate with the grooves on the bottom and sides of the frame, interlocking connections between the top sash rails and the top rail of the frame, upwardly projecting hooked pivots secured to the inside surfaces of the side rails of the frame, and having the shanks of the hooks diverging inwardly from said surfaces, and apertured lugs carried by the sash and engaged over the hooked pivots, whereby the tongues on the outer side rails of the sashes are drawn tightly into the grooves in the side rails of the frame, when the sashes are in lowered position.

12,700. ELECTRIC TRACTION APPARATUS. ALFRED ZEHDEN, Frankfort-on-the-Main, Germany, assignor to J. M. Woodward, Cleveland, Ohio. Filed Aug. 21, 1907. Serial No. 389,589. Original No. 782,312, dated Feb. 14, 1905, Serial No. 112,716.



1. The combination of a rail-like armature, a traveling-field magnet, and means for neutralizing the magnetic attraction of the latter, substantially as set forth.

2. The combination of a plurality of rail-like armatures, and a plurality of traveling-field magnets arranged to act thereon in opposite directions, substantially as set forth.

3. The combination of a rail-like armature and an electro-magnet on a carriage, said armature being located relatively to said magnet so that by the coöperation of these parts the carriage is not only moved forward but its weight in whole or in part is counterbalanced, substantially as set forth.

4. The combination of a rail-like armature provided with openings, and a traveling-field magnet arranged in juxtaposition to said armature, substantially as set forth.

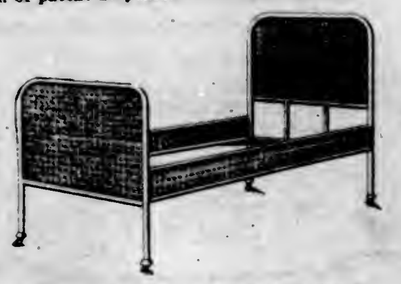
5. The combination of a rail-like armature provided with openings of different breadths, a traveling field magnet, and means for neutralizing the magnetic attraction of said magnet, substantially as set forth.

6. The combination of a rail-like armature, a traveling-field magnet movable transversely to said armature, means for neutralising the magnetic attraction of said magnet, and means for guiding said magnet out of contact with said armature, substantially as set forth.

7. The combination of a rail-like armature, reinforced at its outer sides at curves, a traveling-field magnet, and means for neutralizing the magnetic attraction of said magnet, substantially as set forth.

DESIGNS.

38,843. BEDSTEAD. ELSIE DE WOLFE, Versailles, France. Filed May 23, 1907. Serial No. 375,364. Term of patent 14 years.



The ornamental design for a bedstead as shown.

track circuit is energized, means for reversing the polarity of the track circuit, a reversing relay controlled by the reversal of polarity of the track circuit and controlling the operating mechanism for the home and distant signal blades, alternating current slot magnets, and an auxiliary circuit controlling device for holding the circuit of the home signal slot magnet closed while the relay is reversing; substantially as described.

2. In alternating current block signaling system of the character described, a main reversing relay, a slot magnet for the home signal, and an auxiliary circuit-controlling device for maintaining the circuit of the slot magnet closed while the relay is reversing; substantially as described.

3. In an automatic block signaling system using alternating current, a closed track circuit, a reversing relay controlled thereby, home and distant signal blades, an actuating motor therefor, alternating current slot magnets, an auxiliary circuit-closing device for holding the circuit of the home signal slot magnets closed while the relay is reversing; substantially as described.

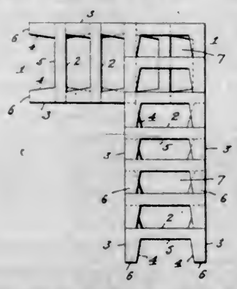
4. In an alternating current block signaling system of the character described, a slot magnet, a reversing relay, and an auxiliary device for maintaining the circuit of the slot magnet while the relay is reversing; substantially as described.

5. In an alternating current block signaling system of the character described, an alternating current slot magnet, a reversing relay, and an auxiliary device controlled by the track circuit for maintaining the circuit of the slot magnet while the relay is reversing; substantially as described.

6. In an alternating current block-signaling system of the character described, home and distant signal blades, a reversing relay through which said blades are controlled by the track circuits, a line circuit, and an alternating current slot magnet, and a slow-motion circuit controlling device for controlling the circuit of said magnet; substantially as described.

REISSUES.

12,698. BUILDING-BLOCK. FRANK M. SAWYER, Charlotte, N. C., assignor to American Roofing Tile Company, a Corporation of North Carolina. Filed Aug. 1, 1907. Serial No. 386,675. Original No. 812,369, dated Feb. 13, 1906, Serial No. 249,256.



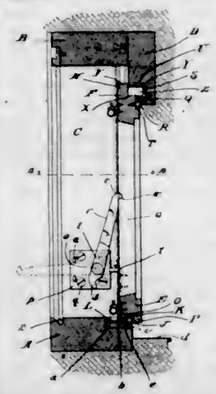
1. The herein-described building-wall made up of bricks or blocks having three unbroken surfaces 2, 3, 3, the surfaces 3, 3, forming the inner and outer facing of the wall, and a recessed side forming feet 6, the inner walls 4 of which are oblique and providing the inner wall or web 5, said blocks being placed in reverse order in each alternate layer to break joint and to provide vertical ventilating spaces 7 between the bricks and to form cross bracing-webs in the corners of the walls, essentially as described.

2. The herein described building wall made up of bricks or blocks, each having three unbroken outer surfaces and having its remaining surface recessed, said blocks being reversed in each alternate layer and placed so that their oppositely disposed unbroken surfaces form the inner and outer facings of the wall.

3. The herein described building wall, made up of bricks or blocks, each having three unbroken outer surfaces and having its remaining surface recessed, said blocks being reversed in each alternate layer and placed so that their oppositely disposed surfaces form the inner and outer facings of the wall and so that the portions connecting said oppositely disposed surfaces register vertically with each other.

4. The herein described building wall, made up of bricks or blocks, each having three unbroken outer surfaces and having its remaining surface recessed, said blocks being reversed in each alternate layer and placed so that their oppositely disposed surfaces form the inner and outer facings of the wall and so that the portions connecting said oppositely disposed surfaces register vertically with each other, thus spacing the joints in said outer and inner facings in each alternate layer the thickness of said connecting portions.

12,699. CASEMENT-WINDOW. IGNACY WROBLEWSKI, Krakow, Austria-Hungary. Filed Nov. 21, 1906. Serial No. 344,361. Original No. 780,696, dated Jan. 24, 1905, Serial No. 141,635.



1. In a casement-window, the combination with a window-frame, of a window-sash pivotally connected to the window-frame, and adapted for vertical movement, an interlocking connection between a rail of the window-frame and the adjacent rail of the sash and adapted to prevent swinging movement of the sash until the latter has been raised, and a lever having arms of unequal length pivoted to the window-frame, and a projection on the sash adapted to be engaged by the shorter arm of the lever for the purpose set forth.

2. In a casement-window, the combination with a window-frame, of a sash pivotally connected thereto, and adapted for vertical movement, an interlocking connection between the upper and lower rails of the window-frame and the corresponding rails of the sash, a lever having arms of unequal length pivoted to the window-frame, a projection on the sash adapted to be engaged by the shorter arm of the lever, and a projection adapted to be engaged by the longer arm of the lever to hold the same in a position with the sash raised.

3. In a casement-window, the combination with a window-frame, of a sash pivotally connected thereto and adapted for vertical movement, a strip secured to the lower rail of the window-frame, a strip secured to the lower rail of the sash, the said strips being constructed on their opposing faces to provide an interlocking connection for the window frame and sash, the strip on the rail of the window-frame having a trough and channels leading therefrom to the outside as described.

4. In a casement-window, the combination with a window-frame, of two meeting pivoted and vertically movable window-sashes, means for raising and lowering said sashes, a window sill having a groove extending across the width of the same, and the lower rails of the sashes having corresponding tongues or projections adapted to enter said groove in the lowered position of the sashes, the upper rail of the window-frame and the upper rails of the sashes also being provided with interlocking hooked connections extending across the width of the window.

5. In a casement-window, the combination with a window-frame and two meeting pivotally and vertically movable sashes and means for raising and lowering the sashes of tongue and grove connections between the window sill and the lower sash rails, and interlocking hooked connections extending across the width of the sashes between the upper sash rails and the upper rail of the window frame.

6. In a casement-window, the combination with two pivoted and vertically movable wings or window-sashes, of a double window, means for raising and lowering said sashes, and interlocking means on the meeting faces of the meeting rails of the window-sashes for locking said sashes together in closed and lowered position.

7. In a casement-window, the combination with the two pivoted and vertically movable wings or sashes of a double window, of interlocking connections between the meeting faces of the meeting rails of said wings adapted to lock said sash rails together in closed and lowered position.

8. A casement window comprising the frame having top and bottom rails and side rails, a sash pivotally connected to one side rail and adapted for vertical movement, a metallic strip secured to the bottom rail of the frame and provided with a longitudinal locking groove, (and another longitudinal groove forming a drip trough extending substantially parallel to and behind the locking groove, said drip trough communicating with the exterior of the frame by channels extending transversely through the strip, the lower sash rail also being provided with a metallic strip on its lower edge having a tongue adapted to enter the locking groove.

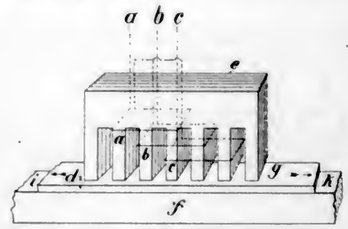
9. A casement window comprising the frame having top and bottom rails and side rails, a sash pivotally connected to one side rail and adapted for vertical movement, a metallic strip secured to the bottom rail and provided with a longitudinal locking groove, the lower sash rail also being provided with a metallic strip having a tongue adapted to enter the locking groove, and a projection on the lower sash rail adapted to extend downwardly in front of the strip on the sill to insure a tight joint to prevent entrance of water and dust from outside.

10. A casement window, comprising a frame having a top rail and an outer top rail having a recess, side rails and bottom rail or sill, a sash pivotally connected to one side rail and adapted for vertical movement, a metal strip secured to the upper sash rail and provided with a downwardly extending tongue or rib, and a metal strip secured in the recess in the outer top rail of the frame and provided with an upwardly extending rib with which the tongue on the sash is adapted to interlock when the sash is in lowered position.

11. A casement window, comprising a frame having a top rail and an outer top rail having a recess, side rails and bottom rail or sill, a sash pivotally connected to one side rail and adapted for vertical movement, the upper sash rail being adapted to move in the recess in the outer top rail of the frame and having an upwardly extending projection in the rear of the outer top rail, the upper sash rail and outer top rail also being provided with interlocking metal strips.

12. A casement window, comprising a frame having a top rail, grooved side and bottom rails, sashes adapted for vertical movement, and having tongues on their lower rails, and outer side rails adapted to coöperate with the grooves on the bottom and sides of the frame, interlocking connections between the top sash rails and the top rail of the frame, upwardly projecting hooked pivots secured to the inside surfaces of the side rails of the frame, and having the shanks of the hooks diverging inwardly from said surfaces, and apertured lugs carried by the sash and engaged over the hooked pivots, whereby the tongues on the outer side rails of the sashes are drawn tightly into the grooves in the side rails of the frame, when the sashes are in lowered position.

12,700. ELECTRIC TRACTION APPARATUS. ALFRED ZEIDEN, Frankfort-on-the-Main, Germany, assignor to J. M. Woodward, Cleveland, Ohio. Filed Aug. 21, 1907. Serial No. 389,589. Original No. 782,312, dated Feb. 14, 1905, Serial No. 112,716.



1. The combination of a rail-like armature, a traveling-field magnet, and means for neutralizing the magnetic attraction of the latter, substantially as set forth.

2. The combination of a plurality of rail-like armatures, and a plurality of traveling-field magnets arranged to act thereon in opposite directions, substantially as set forth.

3. The combination of a rail-like armature and an electro-magnet on a carriage, said armature being located relatively to said magnet so that by the coöperation of these parts the carriage is not only moved forward but its weight in whole or in part is counterbalanced, substantially as set forth.

4. The combination of a rail-like armature provided with openings, and a traveling-field magnet arranged in juxtaposition to said armature, substantially as set forth.

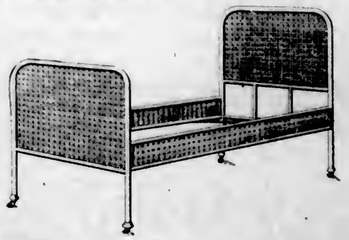
5. The combination of a rail-like armature provided with openings of different breadths, a traveling field magnet, and means for neutralizing the magnetic attraction of said magnet, substantially as set forth.

6. The combination of a rail-like armature, a traveling-field magnet movable transversely to said armature, means for neutralizing the magnetic attraction of said magnet, and means for guiding said magnet out of contact with said armature, substantially as set forth.

7. The combination of a rail-like armature, reinforced at its outer sides at curves, a traveling-field magnet, and means for neutralizing the magnetic attraction of said magnet, substantially as set forth.

DESIGNS.

38,843. BEDSTEAD. ELSIE DE WOLFE, Versailles, France. Filed May 23, 1907. Serial No. 375,364. Term of patent 14 years.



The ornamental design for a bedstead as shown.

TRADE-MARKS

PUBLISHED OCTOBER 1, 1907.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 18,386. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) HEWLETT BROS. CO., Salt Lake City, Utah. Filed Mar. 31, 1906.



Particular description of goods.—Coffees.

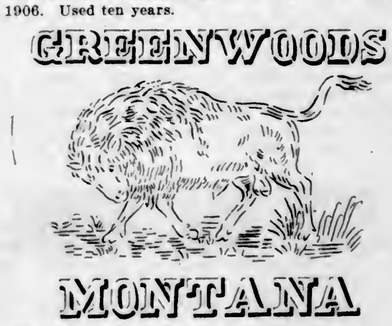
Ser. No. 19,872. (CLASS 43. THREAD AND YARN.) BLODGETT & ORSWELL CO., Pawtucket, R. I. Filed May 26, 1906.



The words, monogram, circles, and panels being in yellow.

Particular description of goods.—Spool-Cotton or Sewing-Thread.

Ser. No. 20,567. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) MOUNT VERNON-WOODBERRY COTTON DUCK COMPANY, Baltimore, Md. Filed June 25, 1906. Used ten years.



Particular description of goods.—Cotton Duck.

Ser. No. 22,703. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) DUPLEX PHONOGRAPH CO., Kalamazoo, Mich. Filed Oct. 15, 1906.



Particular description of goods.—Phonographs.

Ser. No. 25,044. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) A. BOAKE ROBERTS & CO. LTD., Stratford, London, England. Filed Feb. 1, 1907. Used ten years.

KMS

Particular description of goods.—Potassium Meta Sulfite, a Preparation for Preserving Wine and Beer.

Ser. No. 25,525. (CLASS 38. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) THE FAULTLESS RUBBER COMPANY, Akron, Ohio. Filed Feb. 23, 1907.



Particular description of goods.—The Following Articles, All Made Essentially of Rubber: Balloons, Balls, and Bladders.

Ser. No. 25,526. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) THE FAULTLESS RUBBER COMPANY, Akron, Ohio. Filed Feb. 23, 1907.



Particular description of goods.—The Following Articles, All Made Essentially of Rubber: Air Pillows and Cushions, Bath-Caps, Finger-Cots, Gloves, Mats, Mittens, Sheeting, Sleeves, Soap-Trays, Sponges, Sponge-Bags, Sponge-Rubber, Sponge-Scrap, Test-Tube Caps, and Umbrella-Rings.

Ser. No. 25,527. (CLASS 64. MEDICAL AND SURGICAL APPARATUS, APPLIANCES, AND INSTRUMENTS.) THE FAULTLESS RUBBER COMPANY, Akron, Ohio. Filed Feb. 23, 1907.



Particular description of goods.—Water-Bottles, Breast-Shields, Catheters, Colon-Tubes, Cupping-Tubes, Face-Masks, Ice-Bags, Ice and Water Caps, Intragastric Bags, Medicine-Droppers, Nipple-Shields, Pessaries, Rectal Tubes, Syringes, Combined Water-Bags and Syringes, Syringe-Bags, Fountain-Syringe Attachments, Nipples, Nursing-Bottles, Baby-Pacifiers, and Urinals.

Ser. No. 25,807. (CLASS 47. CONFECTIONERY.) ROWNTREE AND COMPANY, LIMITED, York, England. Filed Mar. 6, 1907.



Particular description of goods.—Gum-Drops.

Ser. No. 25,825. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) JOHN DEWAR & SONS, LTD., Perth, Scotland. Filed Mar. 7, 1907. Used ten years.

DEWARS'

WHISKY

Particular description of goods.—Whisky.

Ser. No. 25,881. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) WOLFF & GLASERFELD, Berlin, Germany. Filed Mar. 9, 1907. Used ten years.



Particular description of goods.—Collars, Cuffs, Shirt-Fronts, and Shirt-Waists Made of Textile Material.

Ser. No. 26,972. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JOHN WAGNER & SONS, Philadelphia, Pa. Filed Apr. 27, 1907. Used ten years.

FISHER'S

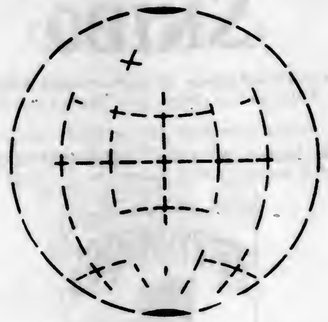
Particular description of goods.—Bitters.

Ser. No. 27,886. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) CORN PRODUCTS REFINING COMPANY, New York, N. Y. Filed June 5, 1907.

GLOBE

Particular description of goods.—Corn-Oil.

Ser. No. 27,887. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) CORN PRODUCTS REFINING COMPANY, New York, N. Y. Filed June 5, 1907.



Particular description of goods.—Corn-Oil.

Ser. No. 28,387. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) ENRICO CIABURRI & FLI., Naples, Italy. Filed June 26, 1907.

AMARO DI FELSINA

Vero

FELSINA BITTER

ENRICO CIABURRI

NAPOLI

Particular description of goods.—Liqueurs.

Ser. No. 28,388. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) ENRICO CIABURRI & FLI., Naples, Italy. Filed June 26, 1907.



Particular description of goods.—Liqueurs.

Ser. No. 28,468. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) FRITZ HARNISCH, Berlin, Germany. Filed June 29, 1907.



Particular description of goods.—A Preparation for the Treatment of Finger-Nails, in Solid, Liquid, and Pasty Form.

Ser. No. 28,578. (CLASS 56. CANES, PARASOLS, AND UMBRELLAS.) SIEGEL COOPER COMPANY, New York, N. Y. Filed July 3, 1907.

Beaconsfield

Particular description of goods.—Umbrellas.

Ser. No. 28,817. (CLASS 68. PUBLICATIONS.) THE SPORTING GOODS PUBLISHING COMPANY, St. Louis, Mo. Filed July 15, 1907.



Particular description of goods.—A Monthly Magazine Devoted to the Interests of Manufacturers and Dealers in Sporting Goods.

Ser. No. 28,818. (CLASS 68. PUBLICATIONS.) THE SPORTING NEWS PUBLISHING COMPANY, St. Louis, Mo. Filed July 15, 1907.

The Sporting News.

Particular description of goods.—A Weekly Paper Devoted to the Interests of Base-Ball.

Ser. No. 29,275. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) FLEMING & CHRISTIAN CO., Richmond, Va. Filed Aug. 7, 1907.

MOUNTAIN TOP

Particular description of goods.—Cider.

Ser. No. 29,402. (CLASS 71. TOBACCO PRODUCTS.) RUBEN ROSENBERG, Pittsburg, Pa. Filed Aug. 15, 1907.

ORIGINAL
604

Particular description of goods.—Stogies.

Ser. No. 29,404. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) L. HESS & CO., INC., New York, N. Y. Filed Aug. 15, 1907.



Particular description of goods.—White and Colored Cotton Cloth.

Ser. No. 29,409. (CLASS 71. TOBACCO PRODUCTS.) ISRAEL SJOBERG, Roseau, Minn. Filed Aug. 15, 1907.



Particular description of goods.—Snuff.

Ser. No. 29,412. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WILLIAM L. WHITE, Brooklyn, N. Y. Filed Aug. 16, 1907.

PLASTERETTES

Particular description of goods.—A Remedy for the Treatment of Corns, Bunions, and Callus and for a Corn-Plaster.

Ser. No. 29,413. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WILLIAM L. WHITE, Brooklyn, N. Y. Filed Aug. 16, 1907.

WALKEASY

Particular description of goods.—A Foot-Powder.

Ser. No. 29,466. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) CONSOLIDATED COTTON DUCK COMPANY, Baltimore, Md. Filed Aug. 19, 1907. Used ten years.

LA GRANGE

Particular description of goods.—Cotton Duck.

Ser. No. 29,482. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) STRAWBRIDGE & CLOTHIER, Philadelphia, Pa. Filed Aug. 20, 1907.

SKIBO

Particular description of goods.—Dress Fabrics Composed of Worsted or Cotton, and Worsted and Cotton.

Ser. No. 29,504. (CLASS 71. TOBACCO PRODUCTS.) HYMAN RIPPEN, Perth Amboy, N. J. Filed Aug. 21, 1907.



Particular description of goods.—Smoking-Tobacco.

Ser. No. 29,512. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) WORUMBO MANUFACTURING COMPANY, Bath, Me. Filed Aug. 22, 1907.



Particular description of goods.—Woolen Piece Goods.

Ser. No. 29,525. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) C. SCHMITZ & CO., New York, N. Y. Filed Aug. 22, 1907.



Particular description of goods.—Cotton Piece Goods.

Ser. No. 29,536. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) SOLON PALMER, New York, N. Y. Filed Aug. 24, 1907.

ALBERTA

Particular description of goods.—Perfumes and Perfumed Toilet Powders.

Ser. No. 29,562. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THOMAS J. MOWRY, Renovo, Pa. Filed Aug. 24, 1907.

M. N. H. T.

Particular description of goods.—Hair-Tonics.

Ser. No. 29,565. (CLASS 71. TOBACCO PRODUCTS.) RUPP & OESCHGER, Berlin, N. H. Filed Aug. 24, 1907.

7-60-2

Particular description of goods.—Cigars.

Ser. No. 29,621. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) MYSTIC WINE OF LIFE CO., Bristol, Tenn. Filed Aug. 27, 1907.



Particular description of goods.—Remedy for Bruises, Cuts, Old or Fresh Sores, Burns, Scalds, Rheumatism, Neuralgia, Swellings, Lumbago, Spinal Affections, Sore Throat, Stiff Neck and Joints, Bleeding Piles, Sweeny, Fistula, Poll Evil, Scratches, Swelled Hocks and Joints, Sprains, Hollow-Horn, Ringbone, Spavin, and Splint.

Ser. No. 29,662. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) F. A. REICHARD, (a Firm,) New York, N. Y. Filed Aug. 29, 1907.

FAR
No

Particular description of goods.—Ochers.

Ser. No. 29,663. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) F. A. REICHARD, (a Firm,) New York, N. Y. Filed Aug. 29, 1907.

SOF
No

Particular description of goods.—Ochers.

Ser. No. 29,676. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Aug. 30, 1907.



Particular description of goods.—Naphtha.

Ser. No. 29,704. (CLASS 17. WOOD MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE REES-SCOTT COMPANY, LIMITED, New Orleans, La. Filed Aug. 31, 1907.



Particular description of goods.—Timber, Logs, Lumber, Sawmill Products, Staves, and Cooperage Material.

Ser. No. 29,706. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) G. O. RANSON & CO., Fortuna, Cal. Filed Aug. 31, 1907.

YANKEE DOODLE

Particular description of goods.—Hair Tonics and Restorers.

LABELS

REGISTERED OCTOBER 1, 1907.

13,810.—*Title:* "NEDRA." (For Tea.) ARBUCKLE BROTHERS, New York, N. Y.; Pittsburg, Pa., and Chicago, Ill. Filed September 5, 1907.

13,811.—*Title:* "BUFFALO MEAD" (For a Carbonated Beverage.) THOMAS BRAZELL, Gardner, Mass. Filed September 5, 1907.

13,812.—*Title:* "FINE ROLLMOPS." (For Fish Prepared for the Market.) S. SCHMIDT & CO., New York, N. Y. Filed September 4, 1907.

13,813.—*Title:* "HYDRONA." (For a Complexion-Powder.) A. WARBURG LEMAN, Denver, Colo. Filed August 26, 1907.

13,814.—*Title:* "U-AUTO POLISH." (For a Polish for Automobiles and Carriages.) SHOVE & GAGE CO. INC., Providence, R. I. Filed September 5, 1907.

13,815.—*Title:* "SILKELLA HANDKERCHIEFS." (For Handkerchiefs.) BACON ART COMPANY, Philadelphia, Pa. Filed September 3, 1907.

13,816.—*Title:* "BANZAI PONGEE HANDKERCHIEFS." (For Handkerchiefs.) BACON ART COMPANY, Philadelphia, Pa. Filed September 3, 1907.

13,817.—*Title:* "H & L SANITAS SOFT FINISH GENTLEMEN'S HANDKERCHIEFS." (For Handkerchiefs.) BACON ART COMPANY, Philadelphia, Pa. Filed September 3, 1907.

PRINTS

REGISTERED OCTOBER 1, 1907.

2,123.—*Title:* "EVENTUALLY." (For Flour.) WASHBURN-CROSBY COMPANY, Minneapolis, Minn. Filed September 3, 1907

2,124.—*Title:* "APPAREL FOR MAN AND BOY." (For Clothing.) E. L. BOONE, Chicago, Ill. Filed June 29, 1907.

2,125.—*Title:* "MENS APPAREL." (For Men's Apparel.) SCHLOSS BROS. & CO., Baltimore, Md. Filed September 5, 1907.

2,126.—*Title:* "WEAR EDESCO CLOTHES." (For Men's Clothing.) EDWARD E. STRAUSS & CO., Chicago, Ill. Filed September 5, 1907.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE WALTERS.

Decided January 19, 1907.

ANTICIPATION—PATENT—FAILURE OF SPECIFICATION TO STATE CHARACTER OF MATERIAL.

Where the specification of a patent cited as an anticipation does not state of what material the article is composed, it cannot ordinarily be assumed to be of any particular material.

APPEAL from Examiners-in-Chief.

BANDAGE.

Messrs. Wiedersheim & Fairbanks for the applicant.

MOORE, *Assistant Commissioner, now Commissioner:*

This is an appeal from a decision of the Examiners-in-Chief refusing the allowance of the following claims:

1. A bandage having its inner or contact face composed wholly of soft rubber, and having means associated therewith for adjustment upon the anatomy of the wearer.

2. A bandage composed of soft rubber, and having a flap for bridging the ends of the bandage thus to present a continuous structure, the flap being also of soft rubber.

3. A bandage composed of soft rubber and having its terminals reinforced, adjusting means associated with the reinforced portion, and a soft-rubber flap bridging the gap between the terminals.

4. A bandage composed of soft rubber, and having its terminals reinforced and provided with lacing-eyes, and a flap secured to the inner side of one end of the bandage and bridging the gap between the terminals.

5. A bandage composed of soft rubber and having a flap for bridging its ends when positioned upon the wearer, the flap in conjunction with the body of the bandage forming a continuous and unbroken sweating zone.

6. A bandage composed of soft rubber and having its terminals reinforced and provided with lacing-eyes, and a flap secured to the inner side of one end of the bandage and bridging the gap between the terminals, the back of the bandage being wider than the front.

The references are Rowley, July 27, 1875, No. 165,955; Wilson, November 12, 1901, No. 686,498; Barnett, August 12, 1902, No. 706,715; Ewing, April 21, 1903, No. 725,688.

The object of the invention is stated to be—

> * * * to retain the natural heat of the body or part to which the bandage is applied and to stimulate circulation, thereby preventing and curing inflammatory and muscular rheumatism, reducing objectionable adipose tissue and preventing formation thereof; to obviate the necessity of employment of supporting-straps to hold the device in position upon the wearer; to dispense with the employment of fabric in the making up of the bandage and also of bones, stays and other additions which would render it uncomfortable in use; and generally to improve bandages of this character.

The most pertinent references are the patents to Ewing and Barnett. The patent to Ewing discloses a bandage composed of textile fabric and soft rubber, the soft rubber forming a continuous lining adapted to lie next to the body of the wearer, lacing-eyes to secure the ends of the bandage together, and a flap to bridge the gap between the ends of the bandage when laced together. Although the specification does not specify of what material this flap is made, it is represented in the drawings in the same way as another part which is said to be composed of drilling—a textile material. It is thought, therefore, that this flap cannot be assumed to be of soft rubber.

The patent to Barnett discloses a bandage made of "a single sheet of rubber or gutta-percha." As the properties of gutta-percha are very different from soft rubber, it can scarcely be concluded that the "sheet of rubber" described by this patentee is the *soft* rubber of appellant. This bandage is primarily intended to fit the abdomen, and in order to give it the proper form the sheet is gored at points, the edges of the gores are secured together, and strips of rubber secured over the joints. These strips present an irregular surface, which tends to chafe the skin.

Appellant uses soft rubber instead of the gutta-percha or equivalent of the Barnett patent, and she does away with the textile backing of the Ewing patent except for a fabric strip to strengthen the eyelets; but what seems more important, she uses a flap of soft rubber and so disposes it as to make, with the main portion of the bandage, a continuous "sweating" zone. The structure as a whole appears to present a slight improvement over the prior art sufficient to sustain claims 2 and 3, which include the bandage composed of soft rubber and the soft-rubber flap. Claims 1, 4, 5, and 6 do not properly bring out the distinctions of appellant's construction over the prior art and should not be allowed.

The decision of the Examiners-in-Chief is affirmed as to claims 1, 4, 5, and 6 and reversed as to claims 2 and 3.

EX PARTE STREATOR METAL STAMPING COMPANY,

APPLICATION FOR REGISTRATION OF TRADE-MARK.

Decided September 10, 1907.

TRADE-MARK—RED CROSS ACT.

A mark an essential feature of which is a cross printed in red properly refused registration under the act of January 5, 1905, since such a cross is a colorable imitation of the cross of the American National Red Cross.

ON APPEAL.

TRADE-MARK FOR CARPET-SWEEPERS.

Messrs. Parker & Carter for the applicant.

MOORE, *Commissioner:*

This is an appeal by the Streator Metal Stamping Company from a decision of the Examiner of Trade-Marks refusing to register as a trade-mark for carpet-sweepers a mark the essential feature of which is a red cross.

Registration was refused under authority of the act of Congress approved January 5, 1905, entitled "An Act to Incorporate the American National Red Cross." Section 4 of this act provides in part as follows:

> Nor shall it be lawful for any person or corporation, other than the Red Cross of America, not now lawfully entitled to use the sign of the red cross hereafter to use such sign or any insignia colored in imitation thereof for the purposes of trade or as an advertisement to induce the sale of any article whatsoever.

The applicant does not claim to have adopted its mark prior to the passage of this act, but contends that the act should be construed narrowly, and that as the cross of its mark is not exactly the same as the red cross of the Red Cross Society the mark should be registered.

Applicant's mark comprises the representation of a cross inclosed in a circle which cuts the arms of the cross. Both circle and cross are described as printed in red and are so shown in the specimens on file. The cross of the Red Cross Society has rectangular arms.

The difference between the two crosses is not, however, sufficient to entitle the applicant to register its mark. The cross printed in red is certainly a colorable imitation of the red cross of the American National Red Cross, whether it be an exact copy of that cross or differs slightly therefrom.

It is also contended that the act referred to is unconstitutional; but it is deemed unnecessary to discuss that matter. The question of the constitutionality of an act of Congress is one which this Office cannot pass upon, but which must be left to the courts to decide.

The decision of the Examiner of Trade-Marks is affirmed.

PLANTEN *v.* CANTON PHARMACY COMPANY.

TRADE-MARK INTERFERENCE.

Decided September 19, 1907.

1. TRADE-MARKS—MOTIONS FOR DISSOLUTION—INTERFERENCE IN FACT—MARKS SHOWN IN DRAWINGS ALONE CONSIDERED.

In determining the question of interference in fact between two trade-marks which are presented for registration only the marks disclosed in the applications of the respective parties are to be considered.

2. SAME—SAME—SAME.

Held that interference in fact exists between the words "Black Caps" written in script on a black rectangular background and a mark comprising the words "Black Capsules" printed in Roman letters on a similar background.

APPEAL on motion.

TRADE-MARK FOR PHARMACEUTICAL PREPARATIONS.

Mr. James L. Ewing for Planten.

Mr. A. S. Pattison for Canton Pharmacy Company.

MOORE, *Commissioner:*

This is an appeal from the decision of the Examiner of Trade-Marks refusing a motion of the Canton Pharmacy Company to dissolve this interference on the ground that there is no interference in fact between the trade-marks disclosed in the applications of the respective parties.

The trade-mark of the Canton Pharmacy Company consists of the words "Black Caps" written in script upon a black rectangular background. The trade-mark disclosed in the application of John Rutgert Planten consists of the words "Black Capsules" in Roman type on a black rectangular background.

The specimens filed by Planten disclose a black rectangular background having thereupon the words "Planten's C & C Or Black Capsules."

It is contended upon behalf of the appellant that it is necessary to consider the entire mark used by Planten upon the goods as his trade-mark and not merely that which is shown in the drawing forming a part of his application. It is urged that the marks when thus considered are sufficiently distinguished to avoid confusion in the mind of the public.

This contention is untenable. The court of appeals *in re Standard Underground Cable Company* (123 O. G., 656) refused to restrict an applicant to the registration of a device including all the matter shown in his specimens and held that the applicant had the right to designate the part of the mark shown which he considered his trade-mark.

In that decision the court said:

> The act is silent as to the use to which the specimens are to be put. The drawing is manifestly to be furnished for photolithographic purposes. It may be that the specimens may be required for the purpose of showing that the mark has actually been used, how affixed to the goods, and that the claimed mark actually appears upon the specimens furnished. It does not seem to us that it is to be presumed that the specimens are to be furnished in order that the Commissioner of Patents may pass upon the question as to how much of the matter which appears upon the specimens constitutes the mark. * * *
>
> We repeat that we do not think that Congress intended to confer upon the Commissioner of Patents authority to say to an applicant how much or how little of the embellishments appearing, in connection with what may be called the essential feature of a trade-mark, form an actual part of the trade-mark. Rather do we think that this right of selection and designation rests with the applicant. No general rule can possibly be applied, and where this is the case, it is unwise to attempt to exercise a power not expressly vested in an executive officer.

Planten has in his application for registration averred that he is the owner of the trade-mark shown in his drawing, and this, in view of the decision of the court above cited, is all that can be considered in determining whether or not there is interference in fact. The similarity in appearance and in the significance of these marks is in my opinion such as would be likely to cause confusion in the mind of the public and to deceive purchasers.

The decision of the Examiner of Trade-Marks refusing to dissolve the interference is right and is affirmed.

SUGDEN AND PIDGIN *v.* LAGANKE AND SMITH *v.* MARSHALL.

PATENT INTERFERENCE.

Decided June 13, 1907.

INTERFERENCE—MOTION TO DISSOLVE—TRANSMISSION.

A motion to dissolve on the ground of irregularity in the declaration of the interference properly refused transmission where the alleged irregularity is that the issue of the present interference is substantially the same as that of a former interference which the Primary Examiner dissolved.

APPEAL on motion.

CALCULATING AND TYPE-WRITING MACHINES.

Messrs. Wright, Brown, Quinby & May for Sugden and Pidgin.

Mr. E. G. Siggers for Laganke and Smith.

Messrs. Bates, Fouts & Hull for Marshall.

BILLINGS, *Assistant Commissioner:*

This is an appeal by Laganke and Smith from a decision of the Examiner of Interferences in part denying their motion to transmit a motion to dissolve the above-entitled interference.

The Examiner of Interferences refused to transmit

that part of the motion which alleged that there had been an irregularity in the declaration of the interference such as to preclude the proper determination of the question of priority of invention. The ground of irregularity as contemplated by the rule relates to some formal error in the declaration of the interference and does not contemplate those errors which necessarily arise because there has been an alleged mistake in considering questions relating to the merits.

As stated in the decision of the Examiner of Interferences, the alleged irregularity consists in the fact—

> * * * that the declaration of this interference is on substantially the same issue as that of a former interference which the Examiner dissolved on the ground that the combination of a book type-writer and an adding-machine was not patentable, the issue of the present interference differing only from the first by the inclusion of the ordinary features of a book type-writer, which in no way affect the combination.

The Examiner of Interferences was right in holding that this objection forms no basis for a motion to dissolve on the ground of irregularity, since it relates to the patentability of the issue.

The decision of the Examiner of Interferences is affirmed.

EX PARTE COLLINS.

APPLICATION FOR REGISTRATION OF TRADE-MARK.

Decided July 22, 1907.

1. TRADE-MARKS—ANTICIPATION—EXPIRED REGISTRATION.

An expired registration is still evidence to some extent of the existence of a mark, and the Office is not justified in permitting registration of the same mark or a similar mark by another until he has in some way overcome the registration.

2. SAME—SAME—SAME—FOREIGN APPLICANT.

Inasmuch as the act of 1881 did not require that applicants residing in a foreign country obtain registration in that country as a prerequisite to registration in this country and since the laws of Great Britain, where the applicant resides, provides for re-registration of marks, *Held*, that in the absence of proof the expiration of the trade-mark, registration under section 5 of the act of 1881 will not be presumed merely because more than fourteen years, the period of registration in Great Britain, has elapsed since registration in this country.

ON APPEAL.

TRADE-MARK FOR PORTLAND CEMENT.

Mr. Richard H. Manning for the applicant.

BILLINGS, *Assistant Commissioner:*

This is an appeal from the decision of the Examiner of Trade-Marks refusing to register as a trade-mark for cement a mark consisting of three pyramids with their bases united and the word "Pyramid" appearing therebelow.

Registration was refused on the prior registrations of Knight, Bevan & Sturge, No. 11,787, December 16, 1884, and No. 13,782, November 2, 1886. In the former of these the representation of a pyramid is claimed as a mark for cement; in the latter the word "Pyramid."

Applicant does not contend that the mark shown in these registrations is not so nearly like his as to cause confusion in trade and deceive the public, but contends that under section 5 of the act of 1881 these registrations expired in 1898 and in 1900, respectively, and therefore are not available as references.

It appears that Knight, Bevan & Sturge are or were at the time the marks were registered residents of Great Britain, doing business in the city of London. Section 5 of the act of 1881 is as follows:

> Section 5. That a certificate of registry shall remain in force for thirty years from its date, except in cases where the trade-mark is claimed for and applied to articles not manufactured in this country, and in which it receives protection under the laws of a foreign country for a shorter period, in which case it shall cease to have any force in this country by virtue of this act at the time that such trade-mark ceases to be exclusive property elsewhere. At any time during the six months prior to the expiration of thirty years, such registration may be renewed on the same terms and for a like period.

The original registration of a trade-mark in Great Britain is for a period of fourteen years. Applicant therefore contends that the registrations are of no force and effect. It does not appear, however, that the trade-marks in question were registered in Great Britain at the time they were registered here, such prior registrations not being required by the act of 1881 as a prerequisite to the registration in this country. Furthermore, the laws of Great Britain provide for the re-registration of a mark, and it does not appear that the marks in question have not been re-registered.

Moreover, if the registrations of Knight, Bevan & Sturge have expired they would still be evidence to some extent of the existence of a mark substantially the same as that of applicant, and for the reasons pointed out in *ex parte The Star Distillery Company* (119 O. G., 964) and *Schneider* v. *The Union Distilling Company*, (121 O. G., 1766,) with reference to the marks registered under the invalid act of 1870, the Office would not be justified in registering applicant's mark until he has in some way overcome these registrations.

The decision of the Examiner of Trade-Marks is affirmed.

MARTIN *v.* GOODRUM *v.* DYSON *v.* LATTIG AND GOODRUM.

PATENT INTERFERENCE.

Decided July 31, 1907.

MOTION TO DISSOLVE—NON-PATENTABILITY—REFERENCE FAILING TO ANTEDATE ALLEGATIONS OF PRELIMINARY STATEMENT—TRANSMISSION.

Although the date of a reference relied upon in a motion to dissolve alleging anticipation of the issue is later than the date of conception set up in the preliminary statement of the opposing party, the motion may nevertheless be transmitted in order that the Primary Examiner may consider the pertinency of the reference and permit the filing of an affidavit alleging the facts required by Rule 75 outside of those contained in such preliminary statement.

APPEAL on motion.

TELEPHONE SYSTEM.

Messrs. Bulkley & Dyrand for Martin.

Messrs. Church & Rich for Goodrum.

Mr. Thos. H. Ferguson for Dyson.

Messrs. Church & Rich for Lattig and Goodrum.

BILLINGS, *Assistant Commissioner:*

This is an appeal by Martin from the decision of the Examiner of Interferences transmitting Dyson's motion to dissolve the interference.

It is alleged in behalf of Martin that that portion of the motion which sets forth an alleged bar to the grant of a patent to him should not have been transmitted, because the reference cited in the motion is on its face not a reference for his application. Martin alleges in his preliminary statement a date of conception prior to the filing date of the application upon which the patent cited as a reference was granted. The proofs to be submitted by Martin if effective to warrant a decision in his favor in the interference would also be effective to overcome the reference cited. In such cases the interference should continue without requiring a party to set forth his case by means of the *ex parte* affidavits provided for in Rule 75. The appellee, however, contends that the appellant should be required at least to file an affidavit setting forth the other facts required to be alleged by Rule 75 before Martin should have standing in this interference. It is believed that this contention has sufficient force to warrant the transmission of the motion to the Primary Examiner to consider the

pertinency of the reference cited and to permit the filing of an affidavit by Martin alleging the facts required by Rule 75, should he be able to do so, in addition to those which he has already set forth in his preliminary statement.

The decision of the Examiner of Interferences is affirmed.

IN RE U. S. STANDARD VOTING MACHINE COMPANY

Decided August 10, 1907.

COPIES OF AFFIDAVIT FILED UNDER RULE 75—CERTIFICATE OF COURT REQUIRED.

The Patent Office will not, upon the request of the defeated party of an interference proceeding, furnish copies of an affidavit filed *ex parte* by his opponent under Rule 75 to overcome a reference against claims not involved in the interference merely upon a showing that petitioner has brought a suit in equity under Sec. 4915 R. S. to determine priority of invention and desires a copy of such affidavit for use in such suit. Under such circumstances a copy will be furnished only upon a certificate of the court that such affidavit would constitute material and proper evidence in such suit.

Mr. Melville Church for the U. S. Standard Voting Machine Company.

Mr. William A. Megrath for James C. Garrett.

BILLINGS, *Acting Commissioner:*

This is a petition by the U. S. Standard Voting Machine Company that it be permitted to have a certified copy of an affidavit (paper No. 49) filed under Rule 75 by Garrett in his application No. 552,153. The U. S. Standard Voting Machine Company is the assignee of the application of Davis, No. 727,200, formerly involved with said application of Garrett in interference No. 22,102, *Davis* v. *Garrett*.

Petitioner and its assignor have made repeated but unsuccessful efforts extending over a number of years, not only in the Patent Office, but before the Secretary of the Interior and the courts, to obtain access to said affidavit.

Petitioner represents that after the adverse decision in the interference by the Court of Appeals of the District of Columbia a suit in equity was brought in the United States Circuit Court for the District of New Jersey under section 4915, Revised Statutes, for the purpose of having the said Davis adjudged entitled to a patent for the invention constituting the issue of said interference and that petitioner deems said affidavit material evidence in its behalf.

The record shows that the said affidavit was filed by Garrett prior to the declaration of the interference for the purpose of overcoming the Davis patent, No. 526,668, issued on an application filed June 13, 1894, and cited as a reference against his claims 39, 40, 41, and 270. It should be noted that these claims were not involved in the interference, nor are they involved in the present court proceeding.

Petitioner claims that it is advised and believes that in said affidavit Garrett states that he actually constructed a machine embodying the subject-matter of said claims prior to June, 1894, and that if such is the case it contradicts his testimony given in the interference proceedings that he never constructed a machine prior to December, 1894. Petitioner states that he therefore desires a copy of said affidavit for the purpose of attacking Garrett's credibility as a witness in the pending court proceeding.

In this contention petitioner starts out with a false premise. It is not necessary that Garrett should have actually constructed a machine prior to June, 1894, in order to overcome the Garrett patent under Rule 75. As stated in *ex parte Gasser*, (17 O. G., 507:)

> The applicant, therefore, must state on oath facts showing either that a reduction to practice had been made before the filing of the application on which the patent was granted, or that the invention had been conceived before that time and by due diligence connected with a subsequent reduction to practice.

See also *ex parte Donovan*, (52 O. G., 309.)

In view of petitioner's repeated efforts to obtain access to this affidavit it is believed to be not improper to state that said affidavit has been inspected and is not found to disclose the inconsistency alleged by petitioner.

Petitioner bases his right to a certified copy of said affidavit on section 892 of the Revised Statutes.

On an appeal by Davis to the Secretary of the Interior from a former denial by the Commissioner of a petition for said affidavit the Acting Secretary of the Interior held, (*Davis* v. *Garrett*, 112 O. G., 1211:)

> Upon the merits of the matter presented, it is not open to question, and is admitted, that the Commissioner of Patents is not bound to submit for either public or private inspection many papers filed in his Office in support of applications for patents. This is in accord with a manifest public policy, declared by the rules governing procedure in that Office and recognized by the courts, and, in my judgment, no good reason is shown and none exists why a party to an interference proceeding should be permitted to examine papers relating to claims not involved in the interference, even though the party in whose interest the papers were filed happens to be a party to such proceeding.

In *Electric Light Company* v. *Commissioner of Patents* (1891, C. D., 271) and *Huckley* v. *Butterworth*, (1897, C. D., 685,) where it was attempted by mandamus proceedings to compel the Commissioner of Patents to furnish copies of applications, the court held that section 892 does not require or authorize the Commissioner to furnish such copies. In the latter case the court said:

> No person is required to submit his private papers to others or produce them in court on the demand of a party to a suit on his allegation or claim that they are material evidence for such party, but only in obedience to the mandate of the court in which such suit is pending, and it is only reasonable that when a public officer has under his control a paper or document in its nature private, or such as the public generally is not entitled to have access to as a public record, he should not be compellable to produce it or deliver copies of it until he has some information from the court in which the case is pending that it is required as evidence. The certificate or order which the regulation in question provides for is the equivalent of a subpœna *duces tecum*, and the statute in question was enacted to avoid the necessity of using such process to obtain papers required as evidence from the Executive Departments of the Government. The court in which a suit is pending and not the Department officer is the appropriate tribunal to determine whether a given paper should be produced as evidence, and it is not to be doubted that the respondent upon such certificate from the Circuit Court of the United States for the Northern District of California would furnish the copies requested.

The affidavit of Garrett in question does not relate to the claim forming the issue, and its relevancy to the suit in question is not apparent. Under these circumstances it is not believed that this Office would be warranted in permitting petitioner to have access to said affidavit or in furnishing it with a certified copy thereof without a certificate of the court before which the suit is pending that said affidavit would constitute material and proper evidence in said suit. (*In re Heard*, 114 O. G., 2381; *in re Benedict and Morsell*, 116 O. G., 874.)

The petition is denied.

STONE v. FESSENDEN.

PATENT INTERFERENCE.

Decided August 15, 1907.

INTERFERENCE—ACCESS TO RECORDS OF ANOTHER INTERFERENCE.

Where S. requested copies of the decision of the Examiner upon a motion for dissolution in another interference to which F. was a party and which is referred to in F.'s record, *Held* that since S. was not a party to the other interference and the claims forming the issue of that interference are not made by S. he should be denied access to the record of that interference, even though the issue thereof is based upon the same structure as that upon which the claims in the present interference are drawn.

ON PETITION.

SPACE TELEGRAPHY.

Messrs. Browne & Woodworth and *Messrs. Foster, Freeman, Watson, & Coit* for Stone.

Mr. Francis W. H. Clay for Fessenden.

BILLINGS, *Acting Commissioner:*

This is a petition by Stone that he be permitted to obtain copies of certain papers containing actions upon the merits of certain claims of Fessenden not included in the issue of this interference. The papers which Stone requests copies of comprise a decision of the Primary Examiner upon a motion for dissolution in another interference, *Vreeland* v. *Fessenden* v. *Schloemilch*, to which Stone is not a party, the decision of the Board of Examiners-in-Chief upon appeal by Vreeland from the decision of the Examiner upon the motion for dissolution, and a subsequent action of the Examiner in that interference relative to Fessenden's claims. It is contended by Stone that he is entitled to access to all the data of actions upon claims relating to the invention in issue and that the claims forming the issue of the other interference do not relate to a divisible invention from that involved in the present interference. Stone now has access to the specifications and all the claims of Fessenden's application and is therefore in possession of sufficient information to enable him to determine the propriety of any action which he is entitled to take in this interference. No reason therefore appears why he should be permitted access to records of an interference in which he is not involved. The fact that the claims of the other interference are based upon the same structure as that upon which the claims involved in this interference are drawn is not thought to be material so long as these claims are not made by Stone.

In Stone's request for access to these papers he states that he does not ask to see the data relating to the applications of Vreeland and Schloemilch in the other interferences, but only to the subject-matter relating to the Fessenden application. It would be impracticable in many cases, as in the present, for the Office to furnish extracts of decisions upon motion for dissolution in other cases, since in such decisions the merits of each party's application is discussed with more or less particularity in connection with the applications of the other parties and disclosure would be made to the moving party of subject-matter of applications which are not concerned in the present interference.

It is believed that the Office would not be justified in permitting Stone to have copies of the papers requested in view of the facts above stated.

The petition is denied.

DECISIONS OF THE U. S. COURTS.

Court of Appeals of the District of Columbia.

MCCORMICK *v.* HALLWOOD.

Decided June 4, 1907.

INTERFERENCE—PRIORITY—REDUCTION TO PRACTICE—LONG DELAY.

Where the evidence satisfactorily shows that Hallwood constructed a machine embodying the invention in issue and successfully operated it more than five years prior to the filing of his application and that several machines were afterward constructed and sent to various parts of the United States, *Held* that these acts should not be considered merely as evidence of an abandoned experiment, but as evidence of a reduction to practice, although other machines were built embodying an older form of device for performing the same function, where it appears that the old devices satisfactorily performed the desired function in ordinary use and that they were so made in order to dispose of old materials then on hand.

Mr. Frank Parker Davis and *Mr. J. B. Haywood* for the appellant.

Mr. Paul A. Staley for the appellee.

MCCOMAS, *J.:*

The subject-matter of the issue involved in this appeal is found in the counts of this interference from eight to sixteen, inclusive, and relates to means for preventing the overthrow of the adding-wheels in a cash-register. These counts are as follows:

8. The combination with a toothed wheel, a pivoted lever, a pawl on said lever for turning said wheel, an angular locking-lever also carried on the pivoted lever and normally engaging the pawl to lock the same into engagement with the wheel, and means movable into contact with said locking-lever after the pawl has come to rest to release the pawl from the wheel.

9. In a cash-register of the class described, the combination with a registering mechanism, of operating-levers for the same, operating pawls mounted on said levers, locking bell-cranks mounted on said levers and each formed with an extended arm, movable tripping devices for said bell-cranks adapted to contact with the extended arms no matter what positions the operating-levers may have assumed.

10. In a cash-register, the combination with a register comprising a series of wheels, of a series of levers, pawls mounted on said levers, locking devices for said pawls also mounted on said levers, an independent rock-frame arranged to lock said pawls to the wheels, means connecting said frame to the movable parts of the machine and means for connecting the locking devices to said movable parts of the machine.

11. In a cash-register the combination with a register comprising a series of wheels, of operating-levers, pawls mounted on said levers and engaging said wheels, locking devices mounted on said levers and engaging said pawls and formed with operating extensions, and movable means independent of the levers and continuously in position for actuating said extension.

12. In a cash-register the combination with a register comprising a series of wheels, a series of levers, pawls mounted on said levers, locking devices for said pawls also mounted on said levers, an independent rock-frame arranged to lock said pawls to the wheels and operate the locking devices, and means connecting said frame to the movable parts of the machine.

13. In a cash-register the combination with a registering mechanism, a series of movable members, register-operating pawls mounted on said members, an operating member connected to the movable parts of the machine, a series of movable pawl-locking devices mounted on the movable members, and means for maintaining an operating connection between the operating member and the locking devices no matter what positions the movable members may take up.

14. In a cash-register the combination with a series of registering-wheels, of a series of pivoted levers, operating-pawls mounted on said levers, a series of locking-pawls mounted on said levers and having upwardly-projecting curved extensions, and a relatively stationary tripping device for said curved extensions arranged to operate the same, no matter what position the pivoted levers may have assumed.

15. In a cash-register, a registering-wheel, a pivoted lever, a pawl carried by said lever for turning the register-wheel, an angular locking-lever also carried by said pivoted lever for engaging the pawl and locking it to the register-wheel, a key, and means released by the depression of said key for tripping the angular lever to free the pawl from its register-wheel, substantially as described.

16. In a cash-register, a register-wheel, a pivoted lever, a pawl carried by said lever for turning the register-wheel, an angular locking-lever also carried by said pivoted lever and having an extended arm, means for normally holding the locking lever in engagement with the pawl to lock the same to the register-wheel, and means engaging the extended arm of said angular lever to free the same from the wheel after the pawl has come to rest, substantially as described.

The adding-wheels are mounted on the main shaft of the machine on which the main and auxiliary yokes are mounted. Mounted on this shaft alternately with the adding-wheels are arms which carry pawls which are by springs pressed into engagement with the ratcheted peripheries of the adding-wheels and these pawls carrying arms, have legs which rest on the auxiliary yokes so that as the yokes drop, the arms follow them, the pawls tripping over the teeth of the adding-wheel. As the main yoke is swung upward, it carries auxiliary yokes and the arms with it, and the

pawls engaging the teeth of the adding-wheels, the latter are turned so that the values of the pressed keys are added thereon.

The counts we here consider show devices to prevent the adding-wheel being carried by momentum beyond the pawls, thereby registering an amount greater than that indicated by the keys. The applications of McCormick, appellant, and of Hallwood, the appellee alike show means consisting of a bell-crank pivoted to the end of the pawl-carrying arm, the shorter arm being spring-pressed against the rear of the pawls; the longer arm of the bell-crank projects over a rocking frame-piece which is so arranged that when the main yoke moves downward it is rocked, throwing the bell-crank out of engagement with the pawls and allowing the latter to trip over the teeth of the adding-wheels but when the yoke moves upward it is rocked and allows the bell-crank to be thrown against the pawls, thereby locking the adding-wheels and pawl-carrying arms and preventing the adding-wheels from being overthrown. It is claimed that these means prevent the overthrow of the counting-wheels which register the amount of the purchase and add it to the amount registered from previous purchases. It was conceded in argument that without some such means such an overthrow could be produced by closing the cash-drawer violently or by pounding or hammering on it.

The tribunals below fully discussed the facts. The appellant, McCormick, took no testimony, relying on the date of the filing of his application as his dates of conception and reduction to practice and this date in respect of the counts we here consider is December 30, 1897. Hallwood is the junior party and upon him is the burden of proof in order to prevail in this interference. He has produced no testimony to support the dates of his conception and disclosure alleged in his preliminary statement. He produces much testimony tending to show that devices embodying the subject-matter of the issue were constructed and successfully tested during the summer of 1897. The Examiner of Interferences concluded that Hallwood proved a conception of the invention in issue at that time but that there was such delay in making use of the invention and in applying for a patent that the alleged reduction to practice was nothing more than an abandoned experiment. The Examiners-in-Chief concluded that Hallwood has fully proven a reduction to practice and reversed the decision of the Examiner of Interferences relating to the counts which we here consider and awarded priority of invention to Hallwood as to counts eight to sixteen, inclusive.

The Commissioner of Patents affirmed the decision of the Examiners-in-Chief, awarding priority of invention to McCormick as to counts one to seven, inclusive, and with these we are not here concerned, and awarding priority of invention to Hallwood as to counts eight to sixteen, inclusive. With the latter award we are concerned on this appeal.

We agree with the conclusion of the Examiners-in-Chief and of the Commissioner of Patents. It was satisfactorily shown that several machines embodying the subject-matter of the counts with which we are here concerned were made and tested by the Hallwood Company in 1897 before McCormick filed his application. It is true no one of these machines was in evidence but it was proved that they embodied the constructions in Hallwood's drawings number three and number four, number three disclosing the subject-matter of some, and number four disclosing the subject-matter of all of the counts we here consider.

The machine corresponding to drawing number three not proving satisfactory, the construction shown in drawing number four was substituted. The evidence of the witnesses Simpson, Vlerebome, Hill, Ward, Hildebrand, Hold, Squires and Emory in connection with other facts and circumstances is convincing that a machine containing the devices corresponding to drawing number four and embodying the features of each count here in controversy was made, tested and found satisfactory during the summer or early fall in 1892. Most of these witnesses were familiar with the machine to which the improvements were applied and identified the devices and speak intelligently of their operation. Hallwood testified that three machines, embodying the invention, were made and shipped to three cities he named. Although he produced none of them, the positive testimony of his witnesses satisfactorily supplies such omission. It is true that for some time after this successful reduction to practice Hallwood's company used an old form of interlock for the register, but it is also true that his company had on hand a stock of the old material and the old interlock was sufficient for the ordinary use of the machines when not subjected to violent slamming. To say that the Hallwood Company adopted the tailpiece construction does not satisfy us that the company did not continue to use old material on hand. While the construction was not adopted commercially until some months later it was not discarded as unsatisfactory but quite the contrary. It is true that Spangler and Huckins, witnesses called by McCormick in rebuttal were employed by the Hallwood Company at the time and might have known of such a construction and both say they were ignorant of it. And it is notably true that Spangler's special employment and the experimental work in which he was engaged ought to have made it impossible for Hallwood's improved machine to have escaped Spangler's familiar acquaintance with it. The witnesses for Hallwood, however, so strongly confirm Hallwood that Spangler and Huckins are overborne. But on the other hand, Hill, Ward and Emory during the same period tested these very devices and testified that they operated satisfactorily. We concur with the Examiners-in-Chief and the Commissioner of Patents in holding that Hallwood reduced to practice the construction of counts eight to sixteen, inclusive, before McCormick's application was filed, and that therefore Hallwood was properly awarded priority as the inventor in respect of these counts. All of the tribunals agreed that Hallwood was the first to conceive and it is clear he did not abandon his invention.

The decision of the Commissioner of Patents is affirmed and the clerk of this court will certify this opinion and decision to the Commissioner of Patents in the manner required by law.

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.
[BY AUTHORITY OF CONGRESS.]

VOL. 130—No. 6. TUESDAY, OCTOBER 8, 1907. PRICE—$5 per year.

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Prints	8	No. 2,127 to No. 2,134, inclusive.
Reissues	1	No. 12,701.
Total	555	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	3	.....	New Hampshire	.....	2
Arizona Territory	.....	.....	New Jersey	20	4
Arkansas	1	.....	New Mexico Ter't'y	.....	.....
California	10	4	New York	78	41
Colorado	2	5	North Carolina	1	1
Connecticut	8	2	North Dakota	2	.....
Delaware	.....	.....	Ohio	20	11
District of Columbia	5	2	Oklahoma Territ'y	2	.....
Florida	1	4	Oregon	2	.....
Georgia	1	2	Panama	.....	.....
Hawaii Territory	.....	.....	Pennsylvania	36	8
Idaho	2	.....	Philippine Islands	.....	.....
Illinois	43	18	Rhode Island	1	.....
Indian Territory	.....	.....	South Carolina	2	.....
Indiana	8	3	South Dakota	2	.....
Iowa	3	2	Tennessee	2	.....
Kansas	1	1	Texas	2	2
Kentucky	1	2	Utah	1	.....
Louisiana	2	.....	Vermont	1	2
Maine	1	3	Virginia	5	1
Maryland	3	.....	Washington	3	1
Massachusetts	30	17	West Virginia	3	.....
Michigan	9	.....	Wisconsin	2	4
Minnesota	8	11	Wyoming	.....	.....
Mississippi	.....	.....	U. S. Army	.....	.....
Missouri	10	6	U. S. Navy	.....	.....
Montana	2	.....			
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Nevada	.....	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina	.....	.....	Natal	.....	.....
Austria-Hungary	1	.....	Netherlands	.....	.....
Belgium	2	.....	Newfoundland	.....	.....
Brazil	.....	.....	New South Wales	.....	.....
British West Indies	.....	.....	New Zealand	.....	.....
Canada	3	.....	Norway	1	.....
Cape Colony	.....	.....	Persia	.....	.....
Chile	.....	.....	Queensland	.....	.....
China	.....	.....	Roumania	.....	.....
Costa Rica	.....	.....	Russia	1	.....
Cuba	.....	.....	Scotland	1	.....
Denmark	1	.....	South Australia	.....	.....
Ecuador	.....	.....	Spain	.....	.....
England	14	4	Sweden	.....	.....
France	1	2	Switzerland	4	.....
Germany	12	2	Transvaal, South Africa	.....	.....
Haiti	.....	.....	Venezuela	1	.....
Ireland	1	.....	Western Australia	.....	.....
Italy	1	.....			
Japan	.....	.....	Total to citizens of foreign countries	44	8
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Notice.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 28 1907.

Rule 72, providing for the withdrawal of drawings from this Office, was intended to apply only to cases in which a correction of a drawing or model could not be made by the officials of this Office or by local counsel.

E. B. MOORE,
Commissioner.

Disclaimer.

577,916.—*Godfrey Engel*, South Baltimore, Md. STEAM-BOILERS. Patent dated March 2, 1897. Disclaimer filed October 1, 1907, by assignee.

Enters this disclaimer:

"To those parts of the specification which are contained in lines 83 to 106, page 3, of the printed specification, being the following words, to wit:

"The drawings of this application show the connection of tubes with the sides of cylindrical drums and headers. It is obvious, however, that the invention is not limited in its application to the connecting of tubes with the sides of cylindrical drums, but that tubes may be connected to any curved surface in precisely the same manner by forming in such surface bosses the faces of which are substantially at right angles to the tubes. The ends of drums frequently are formed from wrought-iron, steel, or similar metal and have a spherical or approximately spherical form, in order to secure strength and stiffness without the use of internal braces. If it be desired to connect tubes to the heads of such drums, the heads may be provided with bosses similar to those with which the drums and headers illustrated in the drawings are provided. My invention therefore is not limited to the connection of tubes to the sides of cylindrical drums and headers, but is applicable to the connection of tubes to curved surfaces generally."

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business October 4, 1907.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
303	XVII. Clutches, Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Sept. 14	Sept. 5	182
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Sept. 11	Aug. 23	218
147	XXIX. Coopering, Fire-Escapes, Ladders, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools, Woodworking.	Sept. 11	Aug. 15	270
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Sept. 7	Aug. 19	177
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Aug. 29	Aug. 2	191
321	I. Tillage, etc., Fences	Aug. 28	Aug. 9	316
244	XXXV. Baths and Closets, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Garment-Supporters, Toilet, Signals.	Aug. 28	July 22	616
232	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Iron Structures, Loading and Unloading, and Towers.	Aug. 26	Aug. 26	259
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	Aug. 21	June 18	529
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Aug. 20	Aug. 13	272
172	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	Aug. 20	Aug. 6	223
312	VII. Games and Toys, Mechanical Motors, Optics, Paper Manufactures, Velocipedes.	Aug. 19	Aug. 7	396
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	Aug. 19	July 17	363
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Educational Appliances, Fishing and Trapping, Stationery, Stone-Working.	Aug. 15	July 16	509
148	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Refrigeration.	Aug. 15	June 13	497
307	XIV. Compound Tools, Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Sheet-Metal Ware, Making, Tools, Wire-Working.	Aug. 14	June 13	300
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery.	Aug. 13	Aug. 6	397
322	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Aug. 13	July 26	351
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers. Time-Controlling Mechanism.	Aug. 12	July 12	299
128	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Pneumatics, Presses, Store-Service, Tobacco, etc.	Aug. 10	Aug. 5	275
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Aug. 6	Aug. 1	264
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufactures, Nailing and Stapling, Whips and Whip Apparatus.	Aug. 3	July 24	332

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
327	XVIII. Steam-Engineering, etc.	Aug. 3	July 2	422
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Aug. 2	Aug. 7	293
167	V. Bookbinding, Harvesters, Jewelry, and Music.	Aug. 2	July 13	428
142	IX. Air and Gas Pumps, Fire-Extinguishers, Hydraulic Motors, Pumps, and Sewerage.	Aug. 1	Aug. 3	253
330	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making, etc.	Aug. 1	July 24	445
382	XXVIII. Miscellaneous Heat-Engines, Internal-Combustion Engines.	Aug. 1	July 20	649
324	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Aug. 1	July 6	604
122	XIX. Heating and Cooking Stoves, Liquid and Gaseous Fuel, Stoves and Furnaces, and Furnaces.	July 29	July 20	491
332	X. Carriages and Wagons	July 26	July 13	533
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	July 25	June 5	569
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	July 23	Aug. 2	303
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	July 20	June 4	445
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	July 17	June 17	496
175	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	July 17	June 14	574
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving and Plastics, Photography.	July 12	July 16	615
280	XL. Baggage, Check-Controlled Apparatus, Cloth, Leather, and Rubber Receptacles, Deposit and Collection Receptacles, Fine Arts, Lighting-Fixtures, Package and Article Carriers, Paper Receptacles, Special Receptacles and Packages, Wooden Receptacles.	July 8	June 11	1087
343	XXXIX. Water Distribution	July 1	May 27	743
109	XVI. Telegraphy and Telephony	June 28	June 4	594
352	XLI. Railway Draft Appliances, Railway-Rails and Joints, Railway-Ties and Fasteners, Resilient Tires and Wheels.	June 8	May 3	1196

Total number of applications awaiting action 17,976

159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Trade-Marks	Sept. 27	Sept. 9	400
	Designs	Sept. 11	Aug. 31	80
	Labels and Prints	Sept. 27	Sept. 28	14

Attorneys.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 5, 1907.

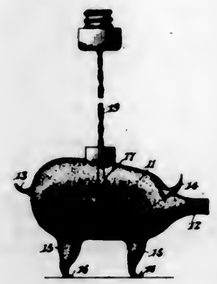
This Office has been advised by the Secretary of the Interior of the disbarment of the following attorneys from practice before the Department or any Bureau thereof: William C. Hershberger Independence, Howard, and Wichita, Kans., September 18, 1907 David S. Michael, South Gibson, Pa., September 25, 1907; Joseph E. Walker, Gunnison, Miss., September 25, 1907; Charles W. Sunshine, St. Louis, Mo., September 28, 1907.

A. L. POPE,
Acting Chief Clerk.

PATENTS

GRANTED OCTOBER 8, 1907.

867,564. ADVERTISING AND ILLUMINATING DEVICE. JAMES E. AUCLAIR, St. Marys, Pa., assignor to Novelty Incandescent Lamp Company, St. Marys, Pa. Filed Feb. 26, 1906. Serial No. 303,088.



1. As an article of manufacture, an incandescent lamp comprising a transparent bulb or globe having spaced supporting projections on one side thereof, constituting means for preventing the rolling of the bulb or globe and spacing it from the surface on which it is placed, said bulb or globe having the air exhausted therefrom, and an incandescing filament sealed within the bulb or globe.

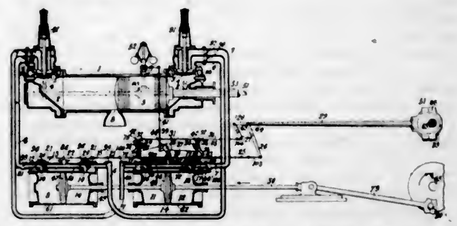
2. As an article of manufacture, an incandescent lamp comprising a transparent bulb or globe having spaced hollow projections communicating with the interior of the bulb or globe, said bulb or globe having portions of its walls of different characters to produce advertising designations, and said bulb or globe having the air exhausted therefrom, and an incandescing filament sealed within the said bulb or globe.

3. As an article of manufacture, an incandescent lamp comprising a transparent bulb or globe in the shape of an article of commerce and having spaced projections on certain sides thereof, said bulb or globe having the air exhausted therefrom, and an incandescing filament sealed within the bulb or globe.

4. As an article of manufacture, an incandescent lamp comprising a transparent bulb or globe in the shape of an article of commerce and having spaced projections, the outer portions of said projections being located in substantially the same plane and constituting spaced supporting devices for the bulb or globe, said bulb or globe having the air exhausted therefrom, and an incandescing filament sealed within the bulb or globe.

5. As an article of manufacture, an incandescent lamp comprising a transparent bulb or globe in the shape of an article of commerce and having spaced hollow projections communicating with the interior of the bulb or globe, said projections having their outer terminals located in substantially the same plane and constituting spaced supporting devices for the bulb or globe, said bulb or globe having portions of its walls of different characters to produce advertising designations and having the air exhausted therefrom, and an incandescing filament sealed within the said bulb or globe.

867,565. REGULATING APPARATUS FOR INTERNAL-COMBUSTION ENGINES. JOSEPH E. AUE, New York, N. Y., assignor to De La Vergne Machine Company, New York, N. Y., a Corporation of New York. Filed Aug. 26, 1903. Serial No. 170,810.



1. In regulating apparatus for internal combustion engines, the combination of an engine proper, a fluid-fuel pump connected with the engine and with a source of fluid-fuel a regulating valve controlling communication between the pump and the source of fluid-fuel and operative from a position of opening such communication to a position of closing such communication and vice versa, a valve-operating mechanism for periodically moving the valve into one of such positions, a second valve-operating mechanism for periodically moving the valve into the other of such positions, and automatic governing mechanism actuated by the engine and periodically determining the phase or instant of operation of the second valve-operating mechanism.

2. In regulating apparatus for internal combustion engines, the combination of an engine proper, a fluid-fuel pump connected with the engine and with a source of fluid-fuel, a regulating valve controlling communication between the pump and the source of fluid-fuel and operative from a position of opening such communication to a position of closing such communication and vice versa, a valve-operating mechanism in constant phase relation to the working cycle of the engine for periodically moving the valve into a position of opening such communication, retractive valve-operating mechanism in variable phase relation to the working cycle of the engine for moving the valve into a position of closing such communication, and automatic retraction-governing mechanism actuated by the engine and periodically determining the phase or instant of retraction.

3. In regulating apparatus for internal combustion engines, the combination of a reciprocating engine proper, a fluid-fuel pump in constant phase relation to the engine and connected through suitable fluid conduits with the engine and with a source of fluid-fuel, a regulating valve controlling communication between the pump and the engine and operative from a position of opening such communication during the compression stroke of the engine to a position of closing such communication and vice versa, valve-operating mechanism for periodically moving the valve into one of such positions, retractive valve-operating mechanism for moving the valve into the other of such positions, and automatic retraction-governing mechanism actuated by the engine and periodically determining the phase or instant of retraction.

4. In regulating apparatus for internal combustion engines, the combination of an engine proper, a fluid-fuel

pump connected by suitable fluid conduits with the engine and with a source of fluid-fuel, a regulating valve controlling communication between the pump and the engine, valve-operating mechanism for periodically moving the valve into a position of closing such communication, retractive valve-operating mechanism for moving the valve into a position of opening such communication, and automatic retraction-governing mechanism actuated by the engine and periodically determining the phase or instant of retraction.

5. In regulating apparatus for internal combustion engines, the combination of an engine proper, a fluid-fuel pump communicating with the engine and with a source of fluid-fuel, a check valve interposed between the pump and the engine, a regulating valve controlling communication between the pump and source of fluid-fuel and operative from a position of opening such communication to a position of closing such communication and vice versa, valve-operating mechanism for periodically moving the valve into one of such positions, retractive valve-operating mechanism for moving the valve into the other of such positions, and in variable phase relation to the first said valve-operating mechanism and automatic retraction-governing mechanism actuated by the engine and periodically determining the phase or instant of retraction.

6. In regulating apparatus for internal combustion engines, the combination of an engine proper, a fluid-fuel pump communicating with the engine and with a source of fluid-fuel, a regulating valve controlling communication between the pump and the engine and source of fluid-fuel and operative from a position effecting communication between the pump and engine but non-communication between the pump and source of fluid-fuel to a position effecting communication between the pump and source of fluid-fuel but non-communication between the pump and engine and also operative reversely from the second of such positions to the first of such positions, valve-operating mechanism for periodically moving the valve from one of such positions of opening such communication to a position of closing such communication and vice versa, valve-operating mechanism for periodically moving the valve into one of such positions, retractive valve-operating mechanism for moving the valve into the other of such positions, and automatic retraction-governing mechanism actuated by the engine and periodically determining the phase or instant of retraction.

7. In regulating apparatus for internal combustion engines, the combination of an engine proper, a fluid-fuel pump communicating with the engine and with a source of fluid-fuel, a regulating valve effecting exchange of communication with the pump between the engine and source of fluid-fuel, valve-operating mechanism for periodically moving the valve into a position effecting communication between the pump and source of fluid-fuel, retractive valve-operating mechanism for moving the valve into a position effecting communication between the pump and engine, and automatic retraction-governing mechanism actuated by the engine and periodically determining the phase or instant of retraction.

8. In apparatus for regulating internal combustion engines, the combination of an engine proper comprising a plurality of working or expansion chambers, a fluid-fuel pump, comprising a plurality of compression chambers communicating with respective expansion chambers of the engine and also communicating with a source of fluid-fuel, regulating valves controlling communication between respective compression chambers and their corresponding expansion chambers and the source of fluid-fuel and adapted to assume positions affording communication between the compression chambers and their corresponding expansion chambers and the source of fluid-fuel or positions affording communication between the compression chambers and source of fluid-fuel but effecting non-communication between the compression chambers and their corresponding expansion chambers, common valve-operating mechanism for periodically moving all the valves into one of the positions aforesaid, common valve-retracting mechanism for moving all the valves into the other of such positions and variable in its phase or instant of operation relatively to the cycle of the pump, and automatic retraction-governing mechanism actuated by the engine and periodically determining the instant or phase of retraction.

9. In apparatus for regulating internal combustion engines, the combination of an engine proper comprising a plurality of working or expansion chambers, a fluid-fuel pump comprising a plurality of compression chambers connected with respective expansion chambers and communicating with a source of fluid-fuel, an air pump, comprising a plurality of compression chambers also connected with respective expansion chambers and communicating with a source of air, regulating valves controlling communication with respective compression chambers of the fluid-fuel pump and movable into positions affording communication between the compression chambers and the source of fluid-fuel but effecting non-communication between the compression chambers and their respective expansion chambers or positions affording communication between the compression chambers and their corresponding expansion chambers but effecting non-communication between the compression chambers and the source of fluid-fuel, air pump valves controlling communication with respective air pump compression chambers and likewise movable into either of two positions respectively affording communication between the compression chambers and source of air but effecting non-communication between the compression chambers and their corresponding expansion chambers or affording communication between the compression chambers and their corresponding expansion chambers but effecting non-communication between the compression chambers and the source of air, common valve-operating mechanism actuated by the engine and alternately moving the air pump valves into each of such positions and periodically moving the regulating valves into one of their positions aforesaid, common valve-retracting mechanism for moving all the regulating valves into the other of such positions and variable in its phase or instant of retraction as related to the working cycle of the fluid-fuel pump, and common automatic retraction-governing mechanism actuated by the engine and periodically determining such phase or instant of retraction of all the regulating valves.

10. In regulating apparatus for internal combustion engines, an engine proper comprising a plurality of working or expansion chambers, fluid-fuel pumping apparatus actuated by the engine and comprising a plurality of compression chambers, air pumping apparatus actuated by the engine and comprising a plurality of compression chambers, two independent fluid-fuel and air conduits communicating with each expansion chamber through a common valve-controlled inlet port or passage into such chamber, such conduits leading respectively from one of the fluid-fuel compression chambers and from one of the air compression chambers, and for each air compression chamber an air valve controlling its inlet and the outlet to its respective air conduit and movable to either of two positions respectively opening the inlet but closing the outlet or opening the outlet but closing the inlet, and for each fluid-fuel compression chamber a regulating valve controlling its inlet and the outlet to its respective fluid-fuel conduit and movable to either of two positions respectively opening such inlet but closing such outlet or opening such outlet but closing such inlet, common valve-operating mechanism actuated by the engine and moving the air valves into each of their two positions alternately while moving the regulating valves periodically into one of their two positions, common valve retracting mechanism moving the regulating valves into the other of their two positions and variable in its phase or instant of operation relatively to the cycle of the valve-operating mechanism, and common automatic retraction-governing mechanism actuated by the engine and periodically determining such instant or phase of retraction.

11. In regulating apparatus for internal combustion engines, the combination of an engine proper comprising a double acting piston and a working or expansion chamber at either end thereof, air and gas pumps comprising compression chambers at opposite ends of double acting pistons arranged in tandem on a common piston rod and actuated by the engine, independent air and gas conduits communicating with each expansion chamber of the engine proper through a common valve-controlled inlet port or passage and containing check valves and leading from respective air and gas compression chambers respectively, oscillating air valves controlling communication with each air compression chamber, oscillating regulating valves controlling communication with each gas compression chamber, valve-operating devices actuated by a common connection to the engine and moving the air valves so as to transfer communication with their respective compression chambers from the inlets of such chambers to the outlets of such chambers leading to their corresponding air conduits and also reversely moving the air valves, but moving the regulating valves only so as to transfer communication with their respective compression chambers from the outlets of such chambers connecting with corresponding gas conduits to the inlets to such chambers, valve retracting springs connected with the regulating valves and exerting a continuous effort to move the valves so as to reversely transfer communication with their respective compression chambers from the inlets thereof, valve-locking devices opposed to the retracting springs and retaining the regulating valves in their positions of outlet communication, unlocking or tripping devices actuated by a common connection to the engine and coöperating with locking devices to unlock or release the regulating valves and thus permit their retraction, and release controlling mechanism acting in conjunction with the locking and unlocking devices to vary the phase or instant of unlocking relative to the cycle of the valve-operating devices and actuated by a governor proper driven by the engine.

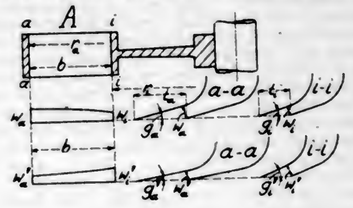
12. In regulating valve mechanism for internal combustion engines, the combination of a regulating valve movable into either of two operative positions, periodically operative valve-operating mechanism placing the valve in one of its positions, valve-retracting means for moving the valve into the other of its positions, a valve-retaining device mounted to oscillate upon a movable pivot and engaging a suitable coöperating member connected to the valve and thereby retaining the valve against the effort of the valve-retracting means, a periodically oscillating valve-releasing device mounted upon the movable pivot with the valve retaining device and coöperating therewith when in definite angular relation thereto to release the valve therefrom and permit the valve to be retracted, and release-controlling mechanism operating to vary the position of the movable pivot and thereby vary the angular relation of the valve-retaining device and the valve-releasing device so as to effect a variation in the instant or phase of release and retraction.

13. In regulating apparatus for internal combustion engines, the combination of an engine proper, a fluid-fuel pump connected by a suitable fluid conduit with the engine proper, a regulating valve in control of communication between the pump and the engine and having a normal bent to open condition, valve closing means coöperative with the regulating valve mechanism to close the regulating valve periodically, and speed controlled retraction-governing means controllable by the engine speed and arranged to release the valve mechanism to permit it to assume its normal open condition.

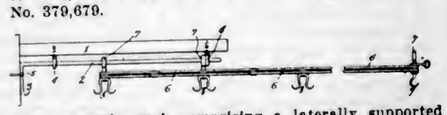
14. An internal combustion engine comprising an engine cylinder, a double acting engine piston in the cylinder dividing the cylinder into two combustion chambers, a source of fluid fuel, trip-valve mechanism including two valves in control of communication between the respective combustion chambers and the source of fluid fuel, and an engine driven speed governor in control of the tripping phase or instant of the valve mechanism.

867,566. TURBINE. NILS BAASHUUS, Christiania, Norway. Filed May 25, 1907. Serial No. 375,604.

In a turbine, a running-wheel in which the minimum of the inside widths of exit lies in that quarter of the length of the exit edge which is most remote from the axis of rotation, substantially as and for the purposes set forth.



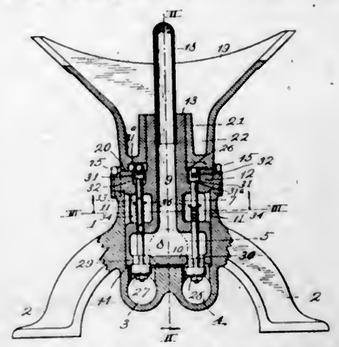
867,567. COLLAPSIBLE WARDROBE-RACK. FRANK J. BAST, New York, N. Y. Filed June 19, 1907. Serial No. 379,679.



1. A wardrobe rack comprising a laterally supported rod provided with a hook, toggle links provided with hooks adapted to slide on said rod by means of screw eyes, the outer one of which is adapted to leave the rod and means for preventing the inner screw eyes from leaving said rod.

2. A wardrobe rack comprising a rod, which inner end forms a hook, screw eyes for laterally supporting said rod adjacent the ends thereof, toggle links slidably carried by said rod, by means of screw eyes, one of which is intermediate the rod supporting screw eyes and hooks carried by said links.

867,568. BARREL-RINSER. SEGVART C. O. BERG, Kansas City, Mo. Filed Aug. 12, 1907. Serial No. 388,176.



1. A barrel-rinser consisting of an outer shell having two separated inlets and two outlets, an inner shell separating the outlets and provided with lower ports communicating with the inlets and upper ports communicating with the outlets, valves carried by the inner shell for normally closing the lower ports, a nozzle communicating with the inner shell, and a rotatable saddle adapted to alternately open the valves and provided with a port which alternately communicates with the upper ports of the inner casing.

2. A barrel-rinser consisting of an outer shell having two separated inlets and two outlets, an inner shell having two lower ports communicating with the inlets and upper ports communicating with the outlets, a transverse partition on the inner shell separating the outlets, valves carried by the inner shell for normally closing the lower ports, a nozzle communicating with the inner shell, and a rotatable saddle adapted to alternately open the valves

and provided with a port which alternately communicates with the upper ports of the inner casing.

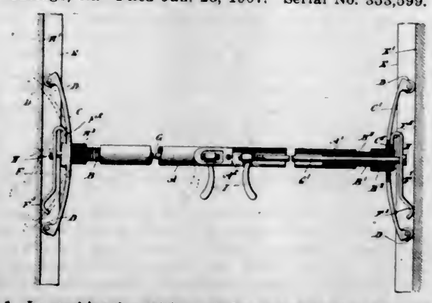
3. A barrel-rinser consisting of an outer shell having two separated inlets and two outlets, an inner shell separating the outlets and provided with lower ports communicating with the inlets and upper ports communicating with the outlets, self-closing valves carried by the inner shell for normally closing the lower ports, a nozzle communicating with the inner shell, and a rotatable saddle adapted to alternately open the valves and provided with a port which alternately communicates with the upper ports of the inner casing.

4. A barrel-rinser consisting of an outer shell having separated inlets and outlets, an inner shell having lower ports communicating with the inlets and upper ports communicating with the outlets, valves carried by the inner shell for normally closing the lower ports, guides on said valves slidably arranged in the inner shell, a nozzle communicating with the inner shell, and a rotatable saddle on the inner shell having a cam which alternately opens the valves and a port which alternately communicates with the upper ports of the inner casing.

5. A barrel-rinser consisting of an outer shell having separated inlets and outlets, an inner shell having lower ports communicating with the inlets and upper ports communicating with the outlets, valves carried by the inner shell for normally closing the lower ports, said valves being provided with antifriction rollers, a nozzle communicating with the inner shell, and a rotatable saddle on the inner shell having a cam which alternately contacts with the antifriction rollers, and a port which alternately communicates with the upper ports of the inner casing, said saddle having a basin communicating with its ports.

6. A barrel-rinser consisting of an outer shell having two separated inlets and two outlets, an inner shell separating the outlets and provided with lower ports communicating with the inlets and upper ports communicating with the outlets, said inner shell being also provided with a tubular extension and a circular seat, valves carried by the inner shell for normally closing the lower ports, a nozzle communicating with the tubular extension, and a rotatable saddle adapted to alternately open the valves and provided with a port which alternately communicates with the upper ports of the inner casing.

867,569. CURTAIN-FIXTURE. DOUGLAS E. BONNER, Chicago, Ill. Filed Jan. 23, 1907. Serial No. 353,599.



1. In combination with a window frame having a groove, a shade stick, a plurality of spring arms connected with said shade stick and extending into said groove, a brake and means for moving the brake into and out of contact with the window frame independently of the spring arms, substantially as described.

2. In combination with a window frame having a groove, a shade stick, a plurality of spring arms connected with said shade stick and extending into said groove, antifriction devices carried by said spring arms, a brake and means for moving the brake into and out of contact with the window frame independently of the spring arms, substantially as described.

3. A curtain fixture comprising a hollow shade stick, a hollow plug movable lengthwise of the shade stick, and spring guiding arms and a brake, and a rod extending through said shade stick and plug for actuating the brake independently of the guiding arms, substantially as described.

867,570. PNEUMATIC SUSPENSION MEANS. JAMES H. CLARK, Richmond, Va., assignor of one-half to Frank M. Thompson, Richmond, Va. Filed May 18, 1906. Serial No. 317,439.



1. In an apparatus of the class described, the combination with a pair of telescoping tubular members each closed at one end, of a flexible elastic tube connected to the open end of the inner telescopic member and the closed end of the outer telescoping member, and a flexible rubber lined fabric tube likewise connected to said telescoping members and surrounding the first mentioned flexible tube, and means for admitting compressed air into said first mentioned flexible tube, substantially as shown and described.

2. In an apparatus of the class described, the combination with a pair of telescoping tubular members each closed at one end, of a flexible elastic tube connected to the open end of the inner telescopic member and the closed end of the outer telescoping member, and a flexible rubber lined fabric tube likewise connected to said telescoping members and surrounding the first mentioned tube, means for admitting compressed air into said first mentioned flexible tube, and an auxiliary reservoir carried by one of said telescoping members and in communication with the interior of the first mentioned flexible tube.

3. An apparatus of the class described, comprising the combination with a pair of telescoping cylinders, a hollow cylindrical piston formed within one of said cylinders to project into the other telescopic cylinder, packing devices between the telescoping cylinders, a resilient air reservoir within one of said telescoping cylinders and having its ends connected with said cylinder and said piston, means for admitting compressed air into said resilient reservoir, and an auxiliary reservoir within said piston in communication with said resilient reservoir, substantially as shown and described.

4. An apparatus of the class described, comprising the combination with a pair of telescoping cylinders, a hollow cylindrical piston formed within one of said cylinders to project into the other telescopic cylinder, packing devices between the telescoping cylinders, a resilient air reservoir within one of said telescoping cylinders and having its ends connected with said cylinder and said piston, means for admitting compressed air into said resilient reservoir, said piston having an aperture in its wall and a vacuum valve mechanism secured to said piston carrying cylinder

and in communication with the interior of the piston, substantially as shown and described.

5. In an apparatus of the class described, the combination with a pair of telescoping cylinders and means for forming an air cushion between them, of a ring carried by the inner telescoping cylinder, said ring having packing receiving grooves, a packing in one of said grooves and an absorbent wick in the other groove, said ring having an oil receiving groove in its upper edge and apertures communicating between the oil receiving groove and the absorbent wick packing grooves, oiling apertures within the outer cylindrical member, and a stop ring in the outer cylindrical member, substantially as shown and described.

6. In an apparatus of the class described, the combination with a pair of telescoping cylinders, means for forming an air cushion between them, of a ring carried by the inner telescoping cylinder, said ring having packing receiving grooves, a packing in one of said grooves and an absorbent wick in the other groove, said ring having an oil receiving groove in its outer edge and apertures communicating between the oil receiving groove and the absorbent wick packing groove, oiling apertures within the outer cylindrical member, a stop ring in the outer cylindrical member, and a resilient washer carried by the inner cylindrical member for coöperating with said stop ring, substantially as shown and described.

7. An apparatus of the class described, comprising a pair of upper and lower telescoping cylinders, a ring secured to the inner telescoping cylinder near its upper end, separate packing and lubricating devices carried by said ring for engaging the inner walls of the upper cylindrical member, a stop ring carried by the upper cylindrical member at its lower edge, a hollow cylindrical piston carried by the upper cylindrical member and projecting into the lower cylindrical member and spaced therefrom, an air retaining resilient tubular member secured at one end to said piston and at the other end to said lower telescoping member to form an air reservoir, means for admitting air into said reservoir, and an auxiliary reservoir within said hollow piston and communicating with said flexible reservoir, substantially as shown and described.

8. An apparatus of the class described, comprising a pair of upper and lower telescoping cylinders, a ring secured to the inner telescoping cylinder near its upper end, packing devices carried by said ring for engaging the inner walls of the upper cylindrical member, a stop ring carried by the upper cylindrical member at its lower edge, a hollow cylindrical piston carried by the upper cylindrical member and projecting into the lower cylindrical member and spaced therefrom, an air retaining resilient tubular member secured at one end to said piston and at the other end to said lower telescoping member to form an air reservoir, means for admitting air into said reservoir, said piston having an aperture in its wall communicating with the space between the piston and the piston carrying telescoping cylinder, and a vacuum valve communicating with the atmosphere and the interior of the piston, substantially as shown and described.

9. An apparatus of the class described, comprising an outer telescoping cylinder closed at one end, a hollow piston carried within said cylinder and in communication with the interior of the cylinder, a vacuum valve in said cylinder communicating with the atmosphere and the interior of the piston, a second telescoping cylinder telescoping within said first mentioned cylinder between the cylinder wall and the piston, a guide ring carried by the second telescoping cylinder, packing devices between the guide ring and the first mentioned telescoping cylinder, a flexible air tube connected at one end to said piston, and a valve connected to the other end of said flexible air tube and projecting through the outer end of the second telescoping cylinder, for admitting air into the air tube, substantially as shown and described.

10. An apparatus of the class described, comprising an outer telescoping cylinder closed at one end, a hollow piston carried within said cylinder and in communication with the interior of the cylinder, a vacuum valve in said cylinder communicating with the atmosphere and the interior of said piston, a second telescoping cylinder telescoping within said first mentioned cylinder between the cylinder wall and the piston, a guide ring carried by the second telescoping cylinder, packing devices between the guide ring and the first mentioned telescoping cylinder, a flexible air tube connected at one end to said piston, a valve connected to the other end of said flexible air tube and projecting through the outer end of the second telescoping cylinder, for admitting air into the air tube, and an auxiliary reservoir within said piston and communicating with said air tube, substantially as shown and described.

11. An apparatus of the class described, comprising an outer telescoping cylinder closed at one end, a hollow piston carried within said cylinder and in communication with the interior of the cylinder, a vacuum valve in said cylinder communicating with the atmosphere and the interior of the piston, a second telescoping cylinder telescoping within said first mentioned cylinder between the cylinder wall and the piston, a guide ring carried by the second telescoping cylinder, packing devices between the guide ring and the first mentioned telescopic cylinder, a flexible air tube connected at one end to said piston, and a valve connected to the other end of said flexible air tube and projecting through the outer end of the second telescoping cylinder, for admitting air into the air tube, said air tube comprising an inner rubber casing and an outer casing of expansible fabric substantially as shown and described.

12. An apparatus of the class described, comprising an outer telescoping cylinder closed at one end, a hollow piston carried within said cylinder and in communication with the interior of the cylinder, a vacuum valve in said cylinder communicating with the atmosphere and the interior of said piston, a second telescoping cylinder telescoping within said first mentioned cylinder between the cylinder wall and the piston, a guide ring carried by the second telescoping cylinder, packing devices between the guide ring and the first mentioned telescoping cylinder, a flexible air tube connected at one end to said piston a valve connected to the other end of said flexible air tube and projecting through the outer end of the second telescoping cylinder, for admitting air into the air tube, an auxiliary reservoir within said piston and communicating with said air tube, said air tube comprising an inner rubber casing and an outer casing of expansible fabric, substantially as shown and described.

13. The combination with a pair of telescoping cylinders closed at their outer ends, of a piston carried by one of said cylinders and projecting into the other cylinder, a rubber air tube connected to the end of said piston and projecting into the other cylinder, an air admitting valve mechanism secured to the other end of said air tube and projecting through the outer end of said other cylinder, and a resilient bumper carried by said valve mechanism for coöperating with said piston at times.

14. The combination with a pair of telescoping cylinders, of an inner flexible air tube within one of said cylinders, a piston carried by the other cylinder for projecting into the air tube carrying cylinder, a closure member for the end of said piston having an annular seat, a pair of annular rings held on said seat, an outer expansible tube surrounding said inner flexible tube and held with one end between said pair of rings, a headed stem passing through said piston end closure member, a washer on said stem, for securing one end of the inner tube between the washer and the stem, a nut on the stem for holding the washer in place, and means for drawing the stem against the piston end closure member to hold the end of the outer tubular member clamped, and a valve mechanism similarly connected to the other end of said flexible tubular members, substantially as shown and described.

15. The combination with an outer cylindrical member and an inner cylindrical piston carried by said outer cylindrical member and spaced from the inner walls thereof, said piston having an aperture communicating with the interior of the outer cylindrical member, a vacuum valve communicating with the atmosphere and the interior of the piston, a second telescoping member telescopically projected into the outer telescoping member between it and the piston and spaced from the walls of

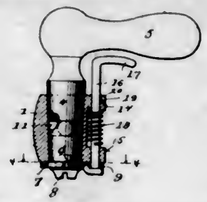
each, a ring carried by the second telescoping member, said ring having packing grooves, packing held in said grooves, means for admitting oil to one of said packing grooves, a stop ring carried by the first mentioned cylindrical member at its open end, an inner and outer flexible tube held within said second telescoping member, an inflating valve connected with said inner and outer flexible tubes at one end and projecting through the end of said second telescoping member, means for connecting the other end of said inner and outer tubes to said piston, all being arranged substantially as shown and described.

16. The combination with an outer cylindrical member and an inner cylindrical piston carried by said outer cylindrical member and spaced from the inner walls thereof, said piston having an aperture communicating with the interior of the outer cylindrical member, a vacuum valve communicating with the atmosphere and the interior of the piston, a second telescoping member telescopically projected into the outer telescoping member between it and the piston and spaced from the walls of each, a ring carried by the second telescoping member, said ring having packing grooves, packing held between said grooves, means for admitting oil to one of said packing grooves, a stop ring carried by the first mentioned cylindrical member at its open end, and inner and outer flexible tubes held within said second telescoping member, an inflating valve connected with said inner and outer flexible tubes at one end and projecting through the end of said second telescoping member, means for connecting the other end of said inner and outer tubes to said piston, and an auxiliary air reservoir held within said piston and communicating with said flexible tubes, substantially as shown and described.

17. The combination with an outer cylindrical member and an inner cylindrical piston carried by said outer cylindrical member and spaced from the inner walls thereof, said piston having an aperture communicating with the interior of the outer cylindrical member, a vacuum valve communicating with the atmosphere and the interior of the piston, a second telescoping member telescopically projected into the outer telescoping member between it and the piston and spaced from the walls of each, a ring carried by the second telescoping member, said ring having packing grooves, packing held in said grooves, means for admitting oil to one of said packing grooves, a stop ring carried by the first mentioned cylindrical member at its open end, and inner and outer tubes held within said second telescoping member, an inflating valve connected with said inner and outer flexible tubes at one end and projecting through the end of said second telescoping member, means for connecting the other end of said inner and outer tubes to said piston, an auxiliary air reservoir held within said piston and communicating with said flexible tubes, and graduations on the outer surfaces of said second telescoping member for coöperating with the first telescoping member to indicate the relative position of said telescoping members, substantially as shown and described.

18. The combination with an outer cylindrical member and an inner cylindrical piston carried by said outer cylindrical member and spaced from the inner walls thereof, said piston having an aperture, communicating with the interior of the outer cylindrical member, a vacuum valve communicating with the atmosphere and the interior of the piston, a second telescoping member telescopically projected into the outer telescoping member between it and the piston and spaced from the walls of each, a ring carried by the second telescoping member, said ring having packing grooves, packing held between said grooves, means for admitting oil to one of said packing grooves, a stop ring carried by the first mentioned cylindrical member at its open end, and inner and outer flexible tubes held within said second telescoping member, an inflating valve connected with said inner and outer flexible tubes at one end and projecting through the end of said telescoping member, means for connecting the other end of said inner and outer tubes to said piston, an auxiliary air reservoir held within said piston and communicating with said flexible tubes, and a resilient bumper carried by said air admitting valve for coöperating with said piston at times.

867,571. GAS-COCK. EMIL L. CLAUS, Milwaukee, Wis. Filed May 11, 1907. Serial No. 373,131.

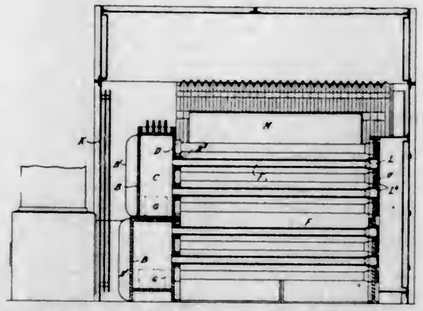


1. A stop-cock for gas-burners, comprising a casing, a plug fitted in the casing, a handle on the plug, a disk secured to the plug, the disk being provided with an interruption in its surface, and a spring-plunger secured to the casing adapted to engage the disk.

2. A stop-cock for gas-burners, comprising a casing, a plug fitted in the casing, a handle on the plug, a disk secured to the plug, the disk being provided with an interruption in its surface, a spring-plunger secured to the casing adapted to engage the disk, and a gripping-trigger on the plunger.

3. A stop-cock for gas-burners, comprising a casing, a plug fitted in the casing, and a handle on the plug, in combination with a disk secured to the plug and having an interrupted surface, stops projecting from the disk, and a hand-controlled spring-plunger secured to the casing for engagement with the interrupted surface of said disk.

867,572. STOVE AND APPARATUS FOR HEATING AIR. SAMUEL C. DAVIDSON, Belfast, Ireland. Filed Sept. 18, 1906. Serial No. 335,130.



1. In stoves and apparatus for heating air the combination of an inclosed furnace, groups of horizontal tubes at the side of said furnace, laterally extending back flues at the rear end of said furnace, fixed tube plates forming the forward walls of said flues with externally projecting cylindrical flanges around the tube holes therein, fixed rear walls to said flues having heat radiating gills on the exterior, cleaning doors disposed at the end of said flues, flues leading from said laterally extending flues to the chimney, substantially as set forth.

2. In stoves and apparatus for heating air the combination of an inclosed furnace, laterally extending back flues at the rear end of said furnace, fixed tube plates forming the forward walls of said back flues, externally projecting cylindrical flanges around the tube holes in said back tube plate, horizontal tubes having their rear ends of smaller diameter than the front ends of the tubes, shoulders upon the rear ends of said tubes said shoulders being adapted to enter within the flanges around the tube holes in the back tube plates, fixed rear walls to said back flues having radiating gills on the exterior, cleaning doors disposed at the ends of said flues, laterally extending front flues at the front ends of said horizontal tubes, tube plates forming the rear walls of said front flues, substantially as set forth.

3. In stoves and apparatus for heating air the combination of an inclosed furnace, laterally extending back flues at the rear end of said furnace, cleaning doors disposed at the end of said flues, fixed back plates to said flues with heat radiating gills on their exterior surface, a back tube plate forming the front of said back flues, flanges around the tube holes in said back tube plate, said flanges extending towards the front of the stove, tubes having shoulders at their rear ends fitting within said flanges and packings disposed around the tubes within said flanges, an enlargement at the front end of each tube of a size at least equal to said shoulders on the rear end, a front tube plate having holes for receiving the enlargements at the front ends of the tubes, means for securing the front ends of said tubes, and flues for conveying the products of combustion from said tubes to the chimney, an inclosing casing to said apparatus.

4. In an air heating stove or apparatus the combination with groups of smoke tubes disposed at the side of an inclosed furnace and an inclosing casing forming a chamber by which air to be heated is led around and amongst the group of tubes, of deflecting plates disposed in the midst of the groups of tubes and so arranged as to deflect the air towards the exterior of the side walls of the furnace and to interrupt the radiation of heat substantially as set forth.

5. In an air heating stove or apparatus the combination with groups of smoke tubes disposed at the side of an inclosed furnace and an inclosing casing forming a chamber by which air to be heated is led around and amongst the group of tubes, of deflecting plates disposed in the midst of the groups of tubes and so arranged as to deflect the air towards the exterior of the side walls of the furnace and to interrupt the radiation of heat substantially as set forth, spacing ribs on the deflecting plates and hooks for suspending said plates from the tubes.

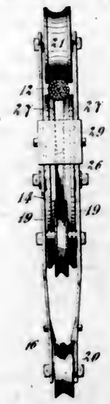
6. A stove or apparatus for heating air, having in combination a series of tubes, front and rear plates to which the ends of the tubes are connected, said rear plate having a series of holes into which the ends of the tubes extend, and said tubes having shoulders surrounding said holes, and packings compressed between such shoulders and said rear plate, and said front plate having holes of sufficient diameter to permit the shouldered ends of said tubes to pass therethrough, and means connected with said front plate for holding said tubes in place with said packings compressed, whereby said tubes can be inserted or removed through said front plate.

7. A stove or apparatus for heating air, having in combination a series of tubes, front and rear plates to which the ends of the tubes are connected, said rear plate having a series of holes into which the ends of the tubes extend, and flanges surrounding said tubes, and said tubes having shoulders surrounding said holes and fitting in said flanges, and packings compressed between such shoulders and said rear plate, and said front plate having holes of sufficient diameter to permit the shouldered ends of said tubes to pass therethrough, and means connected with said front plate for holding said tubes in place with said packings compressed, whereby said tubes can be inserted or removed through said front plate.

8. A stove or apparatus for heating air, having in combination a series of tubes, front and rear plates to which the ends of the tubes are connected, said rear plate having a series of holes into which the ends of the tubes extend, and flanges surrounding said tubes, and said tubes having shoulders surrounding said holes and fitting in said flanges, and packings compressed between such shoulders and said rear plate, and said front plate having holes of sufficient diameter to permit the shouldered ends of said tubes to pass therethrough, and means connected with said front plate for holding said tubes in place with said packings compressed, said means comprising annular caps adapted to engage said tubes and to be fixed to said front plate.

9. In a stove or apparatus for heating air the combination with a central inclosed furnace and back and front flues disposed laterally of said furnace, of horizontal tubes connecting the said back and front flues, flanges formed on the tube plate of the back flues and made of larger diameter than the holes in the said tube plate, collars on the rear ends of the tubes adapted to fit within said flanges with compressible packings between the collars and the tube plate, an enlargement in the front end of each tube at least as large in diameter as the collar upon the rear end, the front tube plate being formed with holes corresponding to said enlargements and means for securing the front end of the tubes in position, substantially as set forth.

867,573. FALL-ROPE CARRIER. JAMES G. DELANEY and ASHER LAMBERT, Newark, N. J. Filed Mar. 18, 1904. Serial No. 198,768.



1. In a conveyer, a rope carrier having a frame, a traction roller carried thereby and comprising a small face and flange-like portions at each side thereof, projecting beyond the same and spaced from each other to form a large face, said faces being adapted respectively to engage the haul rope and main cable.

2. A rope carrier for conveyer systems including a driving roller having two faces adapted respectively to be engaged by the conveyer trackway or main cable and the conveyer haul rope, said faces of the roller having their central or middle planes coincident, for the purpose specified.

3. A rope carrier for conveyer systems having a driving roller with two faces of different diameters adapted respectively to be engaged by the conveyer trackway or main cable and a haul rope, said faces of the roller having their central or middle planes coincident, for the purpose specified.

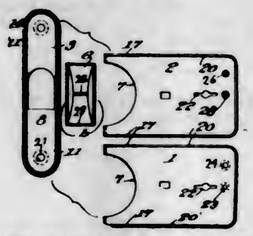
4. In a conveyer system a track rope and a haul rope combined with a rope carrier including a suitable frame with a single traction roller having separate grooves for the track rope and the haul rope, said roller engaging the under side of said track rope, a pair of anti-friction devices running on said track rope and means for holding the haul rope in driving engagement with the under side of said traction roller.

5. In a conveyer a rope carrier consisting of a single traction roller, a groove or face on said roller for the track rope, a groove or face on said roller for the haul rope, a suitable frame supporting said roller, and a pair of anti-friction devices traveling on the track and means for holding the haul rope in propelling engagement with the under side of said traction roller.

6. In a conveyer system two ropes of respectively different diameter combined with a rope carrier consisting of a frame, a single traction roller supported in said frame, two grooves on said roller, having their central planes coincident, corresponding in diameter respectively to the

diameter of the two ropes aforesaid, means for pressing said roller against the under side of one rope and means for pressing said roller against the upper side of the other rope.

867,574. MORTISE-CASE. FREDERICK EGGE, Bridgeport, Conn., assignor to The Perfect Sliding Door Company, Los Angeles, Cal., a Corporation of California. Filed June 18, 1904. Serial No. 213,119.



1. A face plate having an opening and rearwardly projecting shoulders, case members externally of said opening interlocking with said shoulders, and each furnished with a rim wall, the rim walls of said members being constructed to engage each other when the members interlock with said shoulders, and being beveled as shown and described at the ends near said shoulders to allow disengagement of the members with the shoulders when the members are spread apart.

2. The combination of a face plate, having an opening and having shoulders on its rear face, two sheet metal members externally of said opening, each having a rim wall projecting from one side of the member around three edges thereof; and tongues projecting from the other sides at the other edge, the walls of the members being adapted to engage each other and the tongues being adapted to interlock with the shoulders of the face plate, and means for fastening the members together.

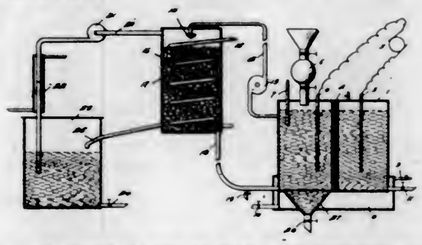
3. In a mortise case, two side members, each having a rim wall projecting on one side from three of its edges and tongues projecting on the opposite side from the other edge, said member being recessed at the edge between said tongues, a face plate provided with shoulders on its rear face for engaging with the tongues on the side members, and a receptacle in said recesses provided with openings for the lock mechanism.

4. In a mortise case, two side members, each having a rim wall on its inner side around three of its edges and tongues on the outer side at the other edge, each member being cut away between said tongues to form semi-circular recesses, a face plate provided with a perforated rim-wall on its rear face for engaging with said tongues, and a substantially semi-cylindrical receptacle in the recesses, the forward portion of which fits between the rim-wall of the face plate and the rear portion is only as wide as the thickness of the case, the side walls of the receptacle being inclined and the curved wall provided with openings for the lock mechanism.

5. In a device of the class described, a casing comprising an open end, the side walls of said casing being each cut away at the open end to form a recess, a face plate secured to said open end and provided within an opening, and a receptacle in said recess, the front of which is open and adjacent to and opposite the opening in the face plate and the rear is provided with an opening at one end and another opening substantially midway between said ends, and the bottom of the opening in the face plate being at a point vertically between the openings in the receptacle, whereby it is adapted for use as a locking wall and for a finger-hold.

6. In a device of the class described, a casing, one end of which is provided with an opening, comprising a receptacle mounted in the casing proper adjacent to and communicating with said opening, one wall of which is provided with two openings, one of which is below the opening in the face plate and the other one is above the lower edge thereof, and locking mechanism within the casing proper, a portion of one member of which is movable vertically through the lower opening in the receptacle to release the latch and a portion of another member is movable longitudinally through the other opening in the receptacle for holding the latch in position.

867,575. PROCESS OF REDUCING FORMIC ACID. CARLETON ELLIS, White Plains, N. Y., and KARL P. MCELROY, Washington, D. C. Filed May 2, 1907. Serial No. 371,387.



1. The process of reducing acids of the monobasic fatty acid series with formation of aldehydes and alcohols which consists in electrolyzing the same in the presence of a stronger mineral acid.

2. The process of reducing acids of the monobasic fatty series with the formation of aldehydes and alcohols which consists in electrolyzing the same in the presence of sulfuric acid.

3. The process of reducing formic acid which consists in electrolyzing the same in the presence of a stronger mineral acid.

4. The process of reducing formic acid which consists in electrolyzing the same in the presence of sulfuric acid.

5. The process of reducing formic acid which consists in electrolyzing the same in a cathode compartment in the presence of a stronger mineral acid.

6. The process of reducing formic acid which consists in electrolyzing the same in a cathode compartment in the presence of sulfuric acid.

7. The process of reducing fatty acids which consists in electrolyzing the same in the presence of a stronger mineral acid, removing a portion of the bath from time to time, distilling out reduction products and returning the residual liquid to serve anew.

8. The process of reducing formic acid which consists in electrolyzing the same in the presence of a stronger mineral acid, removing a portion of the bath from time to time, distilling out reduction products and returning the residual liquid to serve anew.

9. The process of reducing fatty acids which consists in electrolyzing the same in the presence of a stronger mineral acid, removing a portion of the reduced liquid, passing the same through a stripping still and returning to the electrolytic bath with addition of more fatty acid.

10. The process of reducing formic acid which consists in electrolyzing the same in the presence of a stronger mineral acid, removing a portion of the reduced liquid, passing the same through a stripping still and returning to the electrolytic bath with addition of more formic acid.

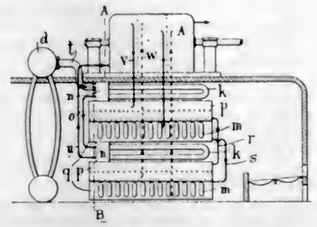
11. In the electrolytic reduction of organic compounds, the process of continuously recovering volatile reduction products which consists in removing a portion of the electrolyzed and reduced liquid, passing the same through a stripping still to remove such volatile reduction products, and returning the stripped liquid to the electrolytic bath.

12. In the electrolytic reduction of organic compounds, the process of continuously recovering volatile reduction products which consists in removing a portion of the electrolyzed and reduced liquid, passing the same through a stripping still in filmiform condition against a circulating gas mass to remove such volatile products, and returning the stripped liquid to the electrolytic bath.

13. In the electrolytic reduction of organic compounds, the process of continuously recovering volatile reduction products which consists in removing a portion of the electrolyzed and reduced liquid, heating and filming the same, circulating a gas mass in closed circuit through a condenser, over the filmed liquid and back to the condenser and thereby stripping said liquid of volatile products, and returning the stripped liquid for renewed electrolysis.

14. In the electrolytic reduction of organic compounds, the process of recovering volatile reduction products which consists in filming and heating the electrolytically reduced liquid and while in such filmed and heated condition stripping it by a circulating gas mass traveling in closed circuit through a condenser, and reëlectrolyzing the stripped liquid.

867,576. HEATING DEVICE. SEBASTIAN Z. DE FERRANTI, London, England. Filed Dec. 28, 1905. Serial No. 293,672.



1. In combination, a plurality of turbine chambers; conduits connecting said chambers in series, certain of said conduits having operative portions exterior to said chambers; flue means through which hot gases flow, certain of said conduit operative portions standing in the same operative relation to different chambers being disposed side by side across said flue means in portions of said hot gases at substantially the same temperature.

2. In combination, a plurality of turbine chambers; a superheater connected to the inlet of the first of said chambers; conduits connecting said chambers in series, certain of said conduits having operative portions exterior to said chambers; flue means through which hot gases flow, certain of said conduit operative portions together with said superheater being disposed side by side across said flue means in portions of said hot gases at substantially the same temperature.

3. In combination, a plurality of turbine chambers; conduits connecting said chambers in series, certain conduits having operative portions exterior to said chambers; flue means through which hot gases flow, certain of said conduit operative portions standing in the same operative relation to different chambers being disposed side by side across said flue means in portions of said hot gases at substantially the same temperature; boiler elements also disposed in said flue means and on that side of said conduit operative portions from which said hot gases flow.

4. In combination, a plurality of turbine chambers in which working fluid undergoes successive expansions together with means for rendering the aggregate expansion through certain of said chambers on the whole substantially isothermal, said means including conduits connecting said certain chambers, said conduits having operative portions exterior to said chambers and including also flue means through which hot gases flow, said conduit operative portions being disposed in parallel in said flue means as regards the flow of said hot gases therethrough.

5. In combination, a plurality of sets of heat absorbing elements, through which sets fluid passes, the corresponding elements of different sets being arranged cyclically in a certain order together with duct means through which a heating medium passes, said heat absorbing sets being disposed in parallel in said duct means as regards the flow of said heating medium therethrough.

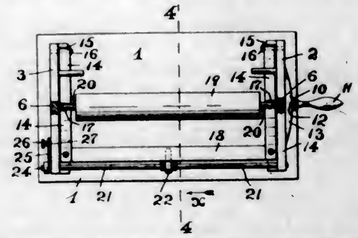
6. In combination, a plurality of turbine chambers; conduits connecting said chambers in series, certain of said conduits having operative portions exterior to said chambers; flue means through which hot gases flow, certain of said conduit operative portions standing in the same operative relation to different chambers being disposed in said flue means in portions of said hot gases at substantially the same temperature.

7. In combination, a plurality of turbine chambers; a superheater connected to the inlet of the first of said chambers; conduits connecting said chambers in series, certain of said conduits having operative portions exterior to said chambers; flue means through which hot gases flow, certain of said conduit operative portions together with said superheater being disposed in said flue means in portions of said hot gases at substantially the same temperature.

8. In combination, a plurality of turbine chambers; conduits connecting said chambers in series, certain conduits having operative portions exterior to said chambers; flue means through which hot gases flow, certain of said conduit operative portions standing in the same operative relation to different chambers being disposed in said flue means in portions of said hot gases at substantially the same temperature; boiler elements also disposed in said flue means and on that side of said conduit operative portions from which said hot gases flow.

9. In combination, a plurality of turbine chambers in which working fluid undergoes successive expansions; a superheater connected to the inlet of the first of said chambers; together with means for rendering the aggregate expansion through certain of said chambers on the whole substantially isothermal, said means including conduits connecting said certain chambers, said conduits having operative portions exterior to said chambers and including also flue means through which hot gases flow, said conduit operative portions and said superheater being disposed in parallel in said flue means as regards the flow of said hot gases therethrough.

867,577. STENCILING-MACHINE. WILLIAM G. FUERTH, Newark, N. J., assignor to Equilibrator Company, a Corporation of New Jersey. Filed Dec. 23, 1905, Serial No. 293,053. Renewed July 3, 1907. Serial No. 382,075.



1. A printing-apparatus or stenciling machine comprising a pair of standards, a main cylinder adapted to carry a stencil mounted between said standards, points of pivotal support extending inwardly from and at the back of each support, spring-bands of great resilience connected at their rear ends with said points of pivotal support, said spring-bands being capable of oscillatory motion in vertical planes, at right angles to the central longitudinal axis of said cylinder, a laterally extending band at or near the front end-portions of the standards, said laterally extending band having an oscillatory action in a vertical plane substantially parallel to the vertical plane passing through the central longitudinal axis of said cylinder, and the oscillatory action of said laterally extending band coöperating with the resilient action of the rearwardly extending spring-bands, means for securing the free and unsupported ends of the laterally extending band to the free and unsupported ends of the rearwardly extending spring-bands, a pressure-roller having its journals supported on said spring-bands intermediate of the points of oscillatory support of said spring-bands and their free and unsupported

ends, and in vertical alinement with the vertical plane passing through the central longitudinal axis of said main cylinder, and a support centrally disposed beneath said laterally extending band, all arranged to produce a pressure upwardly of the pressure-roller against the main cylinder, but permitting of a rocking motion of the laterally extending band on opposite sides of its central support and simultaneously therewith of an oscillatory motion of the rearwardly extending spring-bands, for equalizing the pressure of the pressure-roller against the main cylinder, substantially as and for the purposes set forth.

2. A printing-apparatus or stenciling machine comprising a pair of standards, a main cylinder adapted to carry a stencil mounted between said standards, points of pivotal support extending inwardly from and at the back of said support, spring-bands of great resilience connected at their rear ends with said points of pivotal support, said spring-bands being capable of oscillatory motion in vertical planes, at right angles to the central longitudinal axis of said cylinder, a laterally extending band at or near the front end-portions of the standards, said laterally extending band having an oscillatory action in a vertical plane substantially parallel to the vertical plane passing through the central longitudinal axis of said cylinder, and the oscillatory action of said laterally extending band coöperating with the resilient action of the rearwardly extending spring-bands, means for securing the free and unsupported ends of the laterally extending band to the free and unsupported ends of the rearwardly extending spring-bands, a pressure-roller having its journals supported on said spring-bands intermediate of the points of oscillatory support of said spring-bands and their free and unsupported ends and in vertical alinement with the vertical plane passing through the central longitudinal axis of said main cylinder, and a cam-shaped lifting or raising support centrally disposed beneath said laterally extending band, all arranged to produce a pressure upwardly of the pressure-roller against the main cylinder, but permitting of a rocking motion of the laterally extending band on opposite sides of its central support and simultaneously therewith of an oscillatory motion of the rearwardly extending spring-bands, for equalizing the pressure of the pressure-roller against the main cylinder, substantially as and for the purposes set forth.

3. A printing-apparatus or stenciling machine comprising a pair of standards, a main cylinder adapted to carry a stencil mounted between said standards, points of pivotal support extending inwardly from and at the back of each support, spring-bands of great resilience connected at their rear ends with said points of pivotal support, said spring-bands being capable of oscillatory motion in vertical planes, at right angles to the central longitudinal axis of said cylinder, a laterally extending band at or near the front end-portions of the standards, said laterally extending band having an oscillatory action in a vertical plane substantially parallel to the vertical plane passing through the central longitudinal axis of said cylinder, and the oscillatory action of said laterally extending band coöperating with the resilient action of the rearwardly extending spring-bands, means for securing the free and unsupported ends of the laterally extending band to the free and unsupported ends of the rearwardly extending spring-bands, a pressure-roller having its journals supported on said spring-bands intermediate of the points of oscillatory support of said spring-bands and their free and unsupported ends and in vertical alinement with the vertical plane passing through the central longitudinal axis of said main cylinder, and a laterally extending shaft having its ends rotatably supported in bearings of said standards, a cam-shaped lifting or raising support centrally disposed upon said shaft, said support being in engagement with the lower surface of said laterally extending band at a point centrally between the ends of said band, and means connected with said shaft for producing an oscillatory motion of the shaft, all arranged to produce and regulate the pressure upwardly of the pressure-roller against the main cylinder, but permitting of a rocking motion of the laterally extending band on opposite sides of its central support and simultaneously therewith of an oscillatory motion of the rearwardly extending spring-bands, for equalizing the pressure of the pressure-roller against the main cylinder, substantially as and for the purposes set forth.

4. A stenciling machine comprising a pair of standards, a main cylinder adapted to carry a stencil mounted between said standards, a pair of rearwardly extending spring bands, each band being located adjacent to a standard and having a point of pivotal support at its rear end, so as to be capable of oscillatory motion in vertical planes, at right angles to the central longitudinal axis of said cylinder, a laterally extending band, said band having an oscillatory action in a vertical plane substantially parallel to the vertical plane passing through the central longitudinal axis of said cylinder, and the oscillatory action of said laterally extending band coöperating with the resilient action of said rearwardly extending bands and having its free and unsupported ends connected with the free and unsupported ends of the rearwardly extending bands, and a raising or lowering support centrally disposed beneath and in engagement with said laterally extending band for permitting of a rocking motion of said laterally extending band and simultaneously therewith of an oscillatory motion of the rearwardly extending bands, substantially as and for the purposes set forth.

5. A stenciling machine comprising a pair of standards, a main cylinder adapted to carry a stencil mounted between said standards, a pair of rearwardly extending spring bands, each band being located adjacent to a standard and having a point of pivotal support at its rear end, so as to be capable of oscillatory motion in vertical planes, at right angles to the central longitudinal axis of said cylinder, a laterally extending band, said band having an oscillatory action in a vertical plane substantially parallel to the vertical plane passing through the central longitudinal axis of said cylinder, and the oscillatory action of said laterally extending band coöperating with the resilient action of said rearwardly extending bands and having its free and unsupported ends connected with the free and unsupported ends of the rearwardly extending bands, and an adjustable raising or lowering support centrally disposed beneath and in engagement with said laterally extending band for permitting of a rocking motion of said laterally extending band and simultaneously therewith of an oscillatory motion of the rearwardly extending bands, substantially as and for the purposes set forth.

6. A stenciling machine comprising a pair of standards, a main cylinder adapted to carry a stencil mounted between said standards, a pair of rearwardly extending spring bands, each band being located adjacent to a standard and having a point of pivotal support at its rear end, so as to be capable of oscillatory motion in vertical planes, at right angles to the central longitudinal axis of said cylinder, a laterally extending band, said band having an oscillatory action in a vertical plane substantially parallel to the vertical plane passing through the central longitudinal axis of said cylinder, and the oscillatory action of said laterally extending band coöperating with the resilient action of said rearwardly extending bands and having its free and unsupported ends connected with the free and unsupported ends of the rearwardly extending bands, and an oscillatory and cam-shaped raising or lowering support centrally disposed beneath and in engagement with said laterally extending band for permitting of a rocking motion of said laterally extending band and simultaneously therewith of an oscillatory motion of the rearwardly extending bands, substantially as and for the purposes set forth.

7. In a stenciling machine in which a waxed paper stencil and an ink pad are wrapped upon a perforated inking cylinder, the combination with a resilient roll to press the sheets against the stencil upon the cylinder, of a spring at each end of the roll to press it yieldingly against the cylinder, a bar for whose ends said springs serve as supports, and means for applying pressure to the bar at a point midway of its length to compensate for difference in their power and put them under equal tension and cause the pressure of the roll upon the cylinder to be the same at one end as at the other.

8. In a stenciling machine in which a waxed paper stencil and an ink pad are wrapped upon a perforated inking cylinder, the combination with a resilient roll to press the sheets against the stencil upon the cylinder, of springs at the ends of the roll to press it yieldingly against the cylinder, and means for tensioning said springs to press the roll against the cylinder, said tensioning means including a device whereby said springs are caused to act one against the other to bring them into equilibrium and cause the pressure of the roll upon the cylinder to be the same at one end as at the other.

9. In a stenciling machine in which a waxed paper stencil and an ink pad are wrapped upon a perforated inking cylinder, the combination with a resilient roll to press the sheets against the stencil upon the cylinder, of springs at the ends of the roll to press it yieldingly against the cylinder, and means for tensioning said springs to press the roll against the cylinder, said tensioning means including a device whereby said springs are caused to act one against the other to bring them into equilibrium and cause the pressure of the roll upon the cylinder to be the same at one end as at the other, and a device adjustable to regulate the degree to which said springs are tensioned by said tensioning means while preserving their equilibrium.

10. In a stenciling machine in which a waxed paper stencil and an ink pad are wrapped upon a perforated inking cylinder, the combination with a resilient roll to press the sheets against the stencil upon the cylinder, of a spring at each end of the roll to press it yieldingly against the cylinder, a bar for whose ends said springs serve as supports, a shaft, means for turning and detaining said shaft in various positions to which it is turned, and means upon said shaft to apply pressure to said bar at a single point midway of the length of the latter to tension said springs and cause one spring to act against the other to bring them into equilibrium and cause the pressure of the roll upon the cylinder to be the same at one end as at the other.

11. In a stenciling machine in which a waxed paper stencil and an ink pad are wrapped upon a perforated inking cylinder, the combination of a resilient roll to press the sheets against the stencil upon the cylinder, independently yieldable spring arms at the ends of the roll, supports upon the framework for said spring arms, a bar connecting said spring arms, and means for applying pressure to the bar at a point midway of its length to compensate for the difference in the power of the spring arms and put them under equal tension and cause the pressure of the roll upon the cylinder to be the same at one end as at the other.

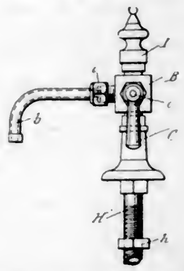
12. In a stenciling machine in which a waxed paper stencil and an ink pad are wrapped upon a perforated inking cylinder, the combination of a resilient roll to press the sheets against the stencil upon the cylinder, independently yieldable spring arms at the ends of the roll, supports upon the framework for said spring arms, a bar connecting said spring arms, and means for applying pressure to the bar at a point midway of its length to compensate for the difference in the power of the spring arms and put them under equal tension and cause the pressure of the roll upon the cylinder to be the same at one end as at the other, each of said arms being supported at one end upon the framework and at the other end connected to said bar, and said roll being journaled upon said arms between their ends.

13. In a stenciling machine in which a waxed paper stencil and an ink pad are wrapped upon a perforated inking cylinder, the combination of a resilient roll to press the sheets against the stencil upon the cylinder, independently yieldable spring arms at the ends of the roll, supports upon the framework for said spring arms, a bar connecting said spring arms, and means for applying pressure to the bar at a point midway of its length to compensate for the difference in the power of the spring arms and put them under equal tension and cause the pressure of the roll upon the cylinder to be the same at one end as at the other, said arms being loosely journaled upon the framework, and said roll being journaled directly upon said arms.

14. In a stenciling machine having a perforated inking cylinder to carry both an ink pad and a waxed paper stencil, the combination with a resilient roll to press the sheets against the stencil upon the cylinder, said roll releasable from the cylinder, of a single pressure device to press the roll against the cylinder, and a finger-piece having means to regulate the pressure of said pressure device; the roll being mounted so that either end may move away from the cylinder independently of the other, and said pressure device being connected to distribute its pressure evenly between the ends of the roll.

15. In a stenciling machine in which a waxed paper stencil and an ink pad are wrapped upon a perforated inking cylinder, the combination of a resilient roll to press the sheets against the stencil upon the cylinder, a pair of arms upon which said roll is journaled, said arms being journaled independently of each other upon the framework, a bar connecting said arms, and means for applying pressure to the bar at a point midway of its length; and means movable to relieve the pressure, and provided with a finger-piece.

867,578. VALVE. DENNIS J. GALBRAITH, Plainfield, N. J. Filed Mar. 4, 1907. Serial No. 360,343.



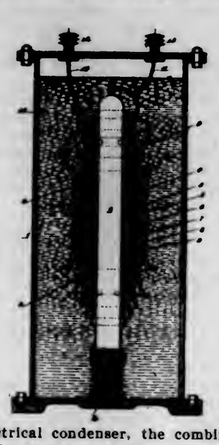
In a valve for a washstand, the combination, with a base having a water inlet, of a reversible valve-body having a screwthreaded portion and a valve-seat at each end of it and a stuffing-box at its middle part, each of the said screwthreaded portions being adapted to engage with the said base, a cap also adapted to engage with either of the said screw-threaded portions, a revoluble delivery spout connected to the middle portion of the said valve-body, a valve-spindle journaled in the said stuffing-box and provided with a crank inside the said body-portion, an operating handle secured on the projecting end portion of the said spindle, and a single plug-valve operatively connected with the said crank and adapted to engage with either of the said valve-seats, whereby the device can be changed from a right-hand to a left-hand valve.

867,579. ELECTRICAL CONDENSER. LÉON GERARD, Brussels, Belgium, assignor to Percy Thompson, East Orange, N. J. Filed June 14, 1905. Serial No. 265,259.

1. In an electrical condenser, the combination of vertically arranged annular condensing surfaces separated by annular spaces having a gradually increasing width at the ends of such surfaces, an inclosing tank, and a liquid dielectric in said tank filling the spaces between the condensing surfaces and circulating therethrough, substantially as set forth.

2. An electrical condenser having condensing surfaces composed of several concentric open-ended annular plates, such plates from the one of smallest diameter to the one of largest diameter having a progressively increasing out-

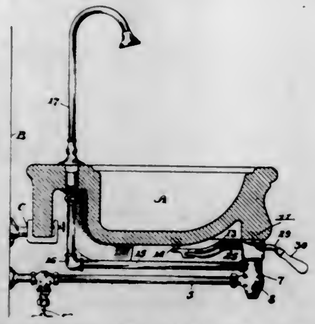
ward curvature towards their ends, substantially as set forth.



3. In an electrical condenser, the combination of concentric condensing surfaces having outwardly flared ends producing spaces of gradually increasing width towards the ends of the cylinders, such cylinders being made progressively shorter as their diameters are increased, and a liquid dielectric filling the spaces between the cylinders, substantially as set forth.

4. In an electrical condenser, the combination of a series of concentric condensing surfaces having flaring ends producing spaces of gradually increasing width at the ends of the cylinders, the ends of the cylinders being removable to permit the assembling of the cylinders, and a liquid dielectric filling the spaces between the cylinders, substantially as set forth.

867,580. FAUCET-VALVE. LOUIS M. HOOPER, Rutherford, N. J., assignor to The J. L. Mott Iron Works, a Corporation of New York. Filed Feb. 11, 1905. Serial No. 245,178.



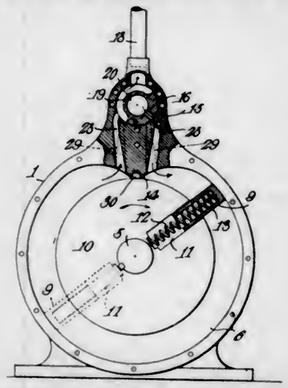
1. The combination with a valve, of a pivoted cam arm for operating the same, a pivoted rod contacting therewith, the plane of oscillation of the rod being substantially at right angles to the plane of oscillation of said arm.

2. The combination with a valve, of a pivoted cam arm for operating the same, a pivoted rod contacting therewith, the plane of oscillation of said rod being substantially at right angles to the plane of oscillation of said arm, and a downwardly inclined handle for said rod.

3. The combination with a valve, of a pivoted cam arm for operating the same, a pivoted rod extending across and contacting with the cam arm, the plane of oscillation of the rod being substantially at right angles to the plane of oscillation of the arm, and means for limiting the arc wherein such rod moves.

4. The combination with a plurality of valves, a plurality of cam arms for operating the same supported on a common pivot, and a pivoted rod contacting with said arms, the plane of oscillation of said rod being substantially at right angles to the plane of oscillation of the arms.

867,581. ROTARY EXPANSION-ENGINE. EMIL HORN, Hillyard, Wash., assignor of one-third to Joseph A. Steele and one-third to William E. James, Hillyard, Wash. Filed Jan. 25, 1907. Serial No. 354,025.



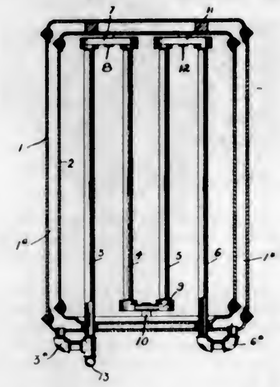
1. In a rotary engine, the combination of a casing divided into compartments, a drum piston in each compartment, wings on the pistons angularly displaced one with respect to another, and a shaft for the pistons, with a single valve for admitting and cutting off the motive fluid to the front side of the wings and exhausting the fluid from the rear side of the wings, an automatically actuated throttle for regulating the supply of motive fluid to the valve, and a reversing mechanism connected with the valve.

2. The combination of a rotary engine comprising a casing divided into compartments, and pistons therein, with a cut-off valve mechanism therefor, said mechanism comprising a steam chest, a set of spaced passages between each compartment of the engine casing and the chest, a rotary valve in the chest comprising a hollow body, radially extending ports in the valve each adapted to communicate with one of the passages of each set, an arc-shaped port in the valve for the other passage of each set, a pipe communicating with the hollow of the valve and all of the radial ports thereof, and a second pipe communicating with the steam chest and the arc-shaped ports of the valve.

3. The combination of a rotary engine comprising a casing divided into compartments, pistons therein, and a shaft for the pistons, with a cut-off valve mechanism therefor actuated by the shaft, said mechanism comprising a valve chest mounted on the casing, a plurality of sets of passages extending from the chest to each compartment of the casing, a single rotary valve in the chest which is hollow at its center, sets of inlet and exhaust ports each arranged to communicate with one of the sets of passages, heads on the chest, a supply pipe connected with one of the heads and communicating with the hollow of the valve, an exhaust pipe communicating with the chest, a stem on the valve extending through the other head of the chest, means between the engine shaft and stem for locking the valve, and a device for adjusting the valve to reverse the engine or stop the same.

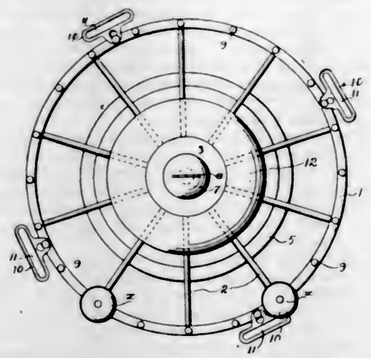
867,582. TUBULAR GRATE. ERIK KYLLONEN, Enterprise, N. D. Filed Mar. 25, 1907. Serial No. 364,525.

The combination with a boiler having shells 1 and 2 spaced apart to form a water chamber 1^a surrounding the fire box, of a grate made up of water tubes 3, 4, 5 and 6 and hollow coupling heads 7, 9 and 11, connecting the said tubes, tube extensions 6^a connecting said tubes 6 with said water chamber 1^a, a tube extension 3^a connecting said



tube 3 with said water chamber 1^a, and a water supply tube 13 leading to said tube 3 and extension tube 3^a, substantially as described.

867,583. SEWING-IMPLEMENT HOLDER. HALVOR A. LEE, Minneapolis, Minn. Filed Mar. 21, 1907. Serial No. 363,598.

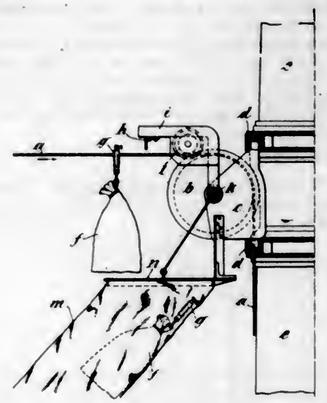


In a device of the kind described, the combination with a vertical shaft having a base, of a rotary hub mounted on the upper end of said vertical shaft, a wheel-like rim, spokes connecting said rim to said hub, vertical spool-supporting pins and scissor supporting devices carried by said rim, and a pin-cushion carried by and resting upon said spokes and located at the axis of the wheel rim, substantially as described.

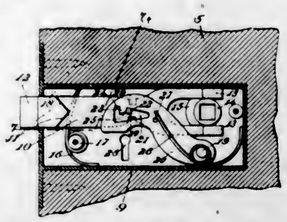
867,584. CHUTE FOR ENDLESS-ROPE TRANSPORTING APPLIANCES. GEORG LEUE, Berlin, Germany. Filed Aug. 18, 1905. Serial No. 274,743.

In an endless-rope transporting appliance having a rope-pulley and a horizontally swinging device to which it is secured and load-carrying hooks gripping the rope and automatically released therefrom on arrival at a certain place, rigid means secured to the pulley-carrying device so as to share the lateral oscillations of the rope, and a flexible tubular chute the inlet opening of which is held open by the said means, while the outlet is located at

the place where the goods are to be shot, substantially as described.



867,585. COMBINED LOCK AND LATCH. JAMES W. LINDSAY, Riverside, Cal. Filed Mar. 23, 1906. Serial No. 307,710.



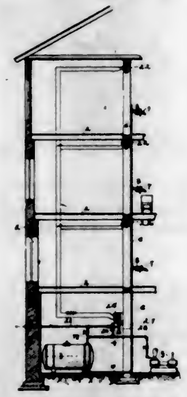
1. A lock comprising a casing, a latch slidably mounted within the casing and provided with oppositely disposed inclined shoulders, a lug secured to the casing and extended beyond said shoulders, said lug having its free end inclined, a spring bearing against the apex of said shoulders and engaging the inclined end of said lug, a pin extending laterally from the opposite sides of the latch, means for operating the latch, a locking dog pivotally mounted within the casing and provided with a locking recess adapted to receive the pin for locking the latch in projected position, and a spring bearing against the locking dog.

2. A lock comprising a casing, a latch slidably mounted within the casing and provided on its opposite longitudinal edges with oppositely disposed alined key-wards, one end of the latch being inclined or beveled and the opposite end thereof bifurcated and formed with terminal lugs, a knob receiving spindle journaled in the casing and provided with a cam face operating in the bifurcated end of the latch and adapted to engage the lugs for actuating said latch, a pin extending laterally on both sides of the latch and disposed between said key-wards, a spring bearing against the inclined end of the latch, a dog pivotally mounted within the casing and provided with an opening for the reception of the pin, a lug projecting within the opening and defining a locking recess, said locking recess being adapted to engage the pin for locking the bolt in projected position.

3. A lock comprising a casing, a reversible latch slidably mounted in the casing and provided on its opposite longitudinal edges with alined key-wards, one end of the latch being bifurcated and provided with terminal lugs and the other end thereof formed with inclined shoulders on each side of said latch, a lug secured to the casing and projecting beyond the apex of the inclined shoulders, a spring bearing against the apex of the shoulders on one

side of the latch and engaging said lug, pins extending laterally from the opposite side faces of the latch and disposed between the key-wards, a locking dog having an opening formed therein for the reception of one of the pins, a lug projecting within the opening and defining a locking recess, said lug having its free end inclined or beveled, and a spring engaging the locking dog for depressing said dog thereby to cause the locking recess to engage the adjacent pin on the latch and lock the latter in projected position.

867,586. LIQUID-DISTRIBUTING MEANS. EDWARD J. MOORE, Cleveland, Ohio. Filed Jan. 14, 1907. Serial No. 352,092.



1. In liquid distributing means, a liquid storage tank having compressed air connections, and a line of distributing pipe for said tank having valved outlet connections, in combination with means to relieve said tank of compressed air, and an air intake valve for said line of pipe adapted to open automatically when the pressure is relieved within said tank, whereby the liquid within the pipe is drained back into said tank.

2. In liquid distributing means, a combined pressure and storage tank and a line of distributing pipe therefrom having an automatic air intake valve adapted to facilitate the drainage of the pipe, in combination with means to relieve the pressure within the said tank and thermostatic devices adapted to control said relief means whereby the liquid within the pipe is drained back into said tank.

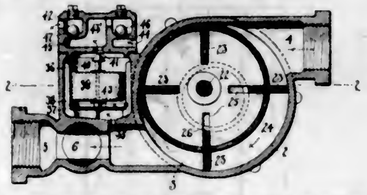
3. In liquid distributing means, a source of supply under pressure and a distributing line of connections therefor having valved outlets, in combination with means to relieve the pressure and to return the liquid in the distributing line of connections to its source and whereby said returned liquids may be again utilized and fed forward over the line as originally.

4. In liquid distributing means, a storage tank having pressure connections and a line of distributing pipe for said tank having valved outlet connections, an air vent for said line of pipe having a valve adapted to close the vent upon final filling of the said line with liquid, and supplementary check valves for said air vent adapted to keep the same closed after the pipes are emptied of liquid, said parts adapting the liquid to be returned to the tank and leaving the line of pipe sealed to the atmosphere.

867,587. COMBINATION VALVE AND METER. EDWARD J. MOORE, Cleveland, Ohio. Filed Jan. 22, 1907. Serial No. 353,541.

1. A meter and a liquid controlling valve therefor, in combination with an air valve arranged between said meter and valve and constructed to automatically open and close upon the operation of the meter.

2. The combination of a meter and valve therefor, said meter provided with air openings and a main air controlling valve therefor, said meter and supplemental check valves to close the air openings to said meter when the main valve and said meter are inactive.



3. A combination meter and valve device provided with an air intake and exhaust opening intermediate of the valve and meter parts, and a float controlled valve for said opening.

4. A meter having a main rotatable member and a dial hand and operating connections therefor, combined with a valve for said meter having self closing means and a handle having a trip engaging member for said valve adapted to project in the path of the dial hand, and means to lock said handle in set positions.

5. A combined liquid meter and valve device having valved air intake and exhaust openings adapted to control filling and emptying of the device, said meter comprising a rotatable member having a dial connections, and said valve adapted to control the flow of liquid through the device and having a handle and locking means therefor to set the valve, means operatively engaged by said dial connections to unlock the handle, and means to close the valve automatically upon such release.

6. A liquid meter comprising a cylindrical casing having inlet and outlet passages, a rotatable liquid driven member within the casing, a shaft for said member having a reduced and tapered portion seated within the casing and projecting through the same, and said shaft having spring pressed means adapted to hold said shaft seated, in combination with a recording dial, and a dial hand having gear connections with said shaft.

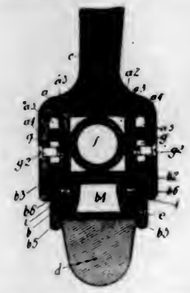
7. A meter and a valve therefor, in combination with controlling mechanism between said valve and meter adapted to automatically shut off the flow of liquid through said meter upon withdrawal of predetermined amounts, and an air valve located between said meter and valve and constructed to automatically open and close upon the operation of the meter.

8. A meter and a valve therefor and an air valve arranged between said meter and valve and constructed to automatically open and close upon the operation of the meter, in combination with mechanism adapted to set said meter for the withdrawal of predetermined amounts of liquid and means operated thereby to close said valve when the predetermined amount is withdrawn.

867,588. RIM AND TIRE CONSTRUCTION FOR VEHICLE-WHEELS. MONTFORD P. MORRISON, Atlanta, Ga. Filed Nov. 5, 1906. Serial No. 341,987.

1. A rim and tire construction for vehicles, comprising a rim member provided in its outer face with a deep annular channel the walls of which are parallel, said rim member being provided at the opposite sides with two projecting parallel annular flanges between which are deep annular grooves the walls of which are parallel, an elastic device placed in said channel, and an annular tire member provided with a central inwardly directed annular portion which fits in and is movable in said channel and which bears on said elastic device and the side walls of which are parallel, said tire member being provided at the opposite sides of said inwardly directed annular portion with deep annular grooves the side walls of which are parallel, said grooves being adapted to receive the inner flanges of the rim member, and said tire member being also provided at its opposite sides with inwardly directed parallel annular

flanges adapted to enter the grooves formed by the flanges at the opposite sides of the rim member and the walls of which are parallel, said tire member being free to move in and on said rim member.

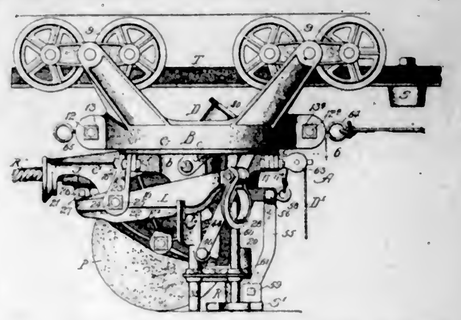


2. A rim and tire construction for vehicles, comprising a rim member provided in its outer face with a deep annular channel the walls of which are parallel, said rim member being provided at the opposite sides with two projecting parallel annular flanges between which are deep annular grooves the walls of which are parallel, an elastic device placed in said channel, and an annular tire member provided with a central inwardly directed annular portion which fits in and is movable in said channel and which bears on said elastic device and the side walls of which are parallel, said tire member being provided at the opposite sides of said inwardly directed annular portion with deep annular grooves the side walls of which are parallel, said grooves being adapted to receive the inner flanges of the rim member, and said tire member being also provided at its opposite sides with inwardly directed parallel annular flanges adapted to enter the grooves formed by the flanges at the opposite sides of the rim member and the walls of which are parallel, said tire member being free to move in and on said rim member, and said tire member and said rim member being provided with means for limiting the movement of the tire member on said rim member.

3. A rim and tire construction for vehicles, comprising a rim member provided in its outer face with a deep annular channel the walls of which are parallel, said rim member being provided at the opposite sides with two projecting parallel annular flanges between which are deep annular grooves the walls of which are parallel, an elastic device placed in said channel, and an annular tire member provided with a central inwardly directed annular portion which fits in and is movable in said channel and which bears on said elastic device and the side walls of which are parallel, said tire member being provided at the opposite sides of said inwardly directed annular portion with deep annular grooves the side walls of which are parallel, said grooves being adapted to receive the inner flanges of the rim member, and said tire member being also provided at its opposite sides with inwardly directed parallel annular flanges adapted to enter the grooves formed by the flanges at the opposite sides of the rim member and the walls of which are parallel, and said tire member and said rim member being provided with means for limiting the movement of the tire member on said rim member, and said tire member being also provided with an elastic tread tire.

867,589. HAY-CARRIER. DAVID M. MOTHERWELL, Chicago, Ill., assignor to The Whitman & Barnes Manufacturing Company, Akron, Ohio, a Corporation of Ohio. Filed June 14, 1907. Serial No. 379,039.

1. In a hay carrier, the combination of upper and lower frames swiveled together, a stationary rope clutch member on said lower frame, a lever pivoted to said frame, having its short arm curved beneath said stationary member and provided with a rocking clutch jaw to form the movable member of a rope clutch and its long arm extended towards the rear of the carrier at an angle to the plane in which said carrier travels, and means for lifting the long arm of said lever to unlock said clutch for the purposes described.



2. In a hay carrier, the combination of upper and lower frames swiveled together, a stationary rope clutch member on said lower frame, a lever pivoted to said frame, having its short arm curved beneath said stationary member and provided with a rocking clutch jaw to form the movable member of said rope clutch and its long arm extended towards the rear of the carrier at an angle to the plane in which said carrier travels, a pulley on said lower frame in alinement with and to the rear of said rope clutch, a load supporting rope secured to the end of the long arm of said lever, passed over said pulley and through said clutch, means for alternately lifting and releasing the long arm of said lever, and means for suspending a load beneath the carrier from said rope, whereby the weight of said load automatically locks said clutch and lifting said long arm unlocks it for the purposes described.

3. In a hay carrier, in combination with upper and lower frames swiveled together, a lever, pivoted near its forward end to said lower frame and adapted to support a load upon its rear end and a rope clutch comprising a stationary member on said lower frame extending forward in the direction of travel of the carrier and a movable member pivoted on the forward end of said lever, whereby the weight of the load is applied through said lever to lock said clutch.

4. In a hay carrier, upper and lower frames swiveled together, a lever, pivoted near its forward end to said lower frame, a rope clutch, the movable member of which is pivoted on the short arm of said lever while its stationary member is secured to the forward end of said lower frame, means for securing a load to the rear end of said lever and means for alternately lifting and dropping said lever to unlock and lock said rope clutch.

5. In a hay carrier, in combination with upper and lower frames swiveled together, a rope clutch, a lever adapted to operate said clutch, a vertical bar having an arm adapted to lift an end of said lever to unlock said clutch, a dog adapted to lift said vertical bar, and a tripping lever adapted to lock said bar in elevated position, all of said parts being secured upon said lower frame.

6. In a hay carrier, a lever, the short arm of which carries one member of a rope clutch and the long arm, a load suspending device, a tilting dog, a vertical bar having a projection beneath the long arm of said lever, links connecting the upper part of said dog and the lower portion of said bar, whereby rocking said dog into vertical position lifts said lever and lowering said dog permits said lever to drop, substantially as described.

7. In a hay carrier, in combination with upper and lower frames having a swiveling connection, a stationary rope clutch member secured to said lower frame, a lever, pivoted to said lower frame, its short arm carrying the movable member of said rope clutch and its long arm one end of a load supporting rope, the other end of said rope being drawn between the members of said rope clutch, a tilting dog mounted in said lower frame, a vertical bar

having an arm extended beneath the long arm of said lever, links connecting the lower part of said bar and the upper part of said dog, whereby tilting said dog into upright position raises said bar to lift said lever and unlock said rope clutch and lowering said dog lowers said bar, releases said lever and permits the weight of the load to lock said clutch.

8. In a hay carrier, a frame having a lever pivoted thereon, the long arm of which is adapted to support a hay sling, a pulley, a rope clutch operated by said lever, a vertical bar having a side arm extending beneath the long arm of said lever, a tilting dog supported on said frame having links connecting the upper portion of said dog and the lower part of said bar and adapted when rocked into upright position to draw said side arm into contact with said lever and elevate the long arm thereof to unlock said clutch, a central vertical slot in said bar, a trip lever, fulcrumed on said frame having its long arm extended through said slot, its short arm being adapted to rock into said slot to support said bar when in elevated position and a bumper carried on a bracket attached to the end of the long arm of said trip lever, adapted to contact with said hay sling when the latter is hoisted to said carrier, whereby said trip lever is rocked out of said slot, said bar drops and the weight of said hay sling locks said clutch.

9. In a hay carrier, mechanism adapted alternately to lock and unlock a load thereto, a vertical bar mounted therein, a tilting dog having angle links whereby tilting said dog alternately raises and lowers said bar, a trip lever, adapted alternately to rock under said bar to support it and away therefrom to allow it to drop, and a stop adapted to tilt said dog, said bar having a side arm adapted to unlock said load when said bar is in elevated position.

10. In a hay carrier, a vertical bar having an arm adapted to raise one end of a lever, a vertical central slot and guides adapted to limit it to a short vertical movement, a tilting dog adapted to lift said bar on contact with an overhead stop, an overhead stop, and a tripping lever, one arm of which is adapted to support said bar in elevated position, the other is passed through said slot to the rear of said carrier, whereby operation of said tripping lever simultaneously starts said carrier off said stop, and releases said lever end, for the purposes described.

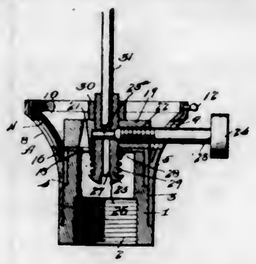
11. In a hay carrier, a lever adapted to operate a rope clutch, a vertical bar having an arm adapted to lift the free end of said lever when in elevated position and to release it when in lowered position, a central vertical slot in said bar, a tilting dog, adapted to lift said bar when thrown in upright position, a tripping lever fulcrumed forward of said vertical bar, its long arm extending to the rear of the carrier through the lower portion of said slot, its short arm being curved to drop into said slot to support said bar when lifted by said dog and means for rocking said tripping lever out of said slot to drop said vertical bar.

12. In a hay carrier, a tilting dog provided with a ring top and connections adapted to operate rope grasping and releasing mechanism when tilted or rocked, and a stop supported above said carrier and having a curved knocking surface adapted to strike within said ring top and tilt said dog.

13. In a hay carrier, an upper and lower frame swiveled together, a horizontal bridge secured near the top of said lower frame having a vertical bumper, a dog pivoted on said bridge and adapted to tilt above it from said bumper to the top surface of the bridge, a ring top on said dog, a stop supported above said carrier having a knocker projecting into the plane in which said ring lies upon said bridge, and connections on said dog adapted to operate rope grasping and releasing mechanism.

14. In a hay carrier, a lever L adapted to operate a rope clutch, a dog D above said lever adapted to tilt in a short arc, a bar E secured to said dog and moving up and down as said dog is tilted, an arm E' adapted to lift said lever as said bar is raised and drop it when lowered, a trip lever F adapted to be rocked to support said bar in elevated position and to release it, means for rocking said trip lever, and means for tilting said dog substantially as described.

867,590. INCANDESCENT GAS-BURNER. RICHARD N. OAKMAN, Brooklyn, N. Y. Filed Mar. 1, 1906. Serial No. 303,652.



1. In an incandescent burner, the combination with the base and a fixed plate at the top thereof having gas ports, of a rotatable valve-disk mounted thereon and having vertically long or extended gas passages adapted to register with said ports in the fixed plate, a tubular center bolt and nut connecting said valve-disk and plate and a set-screw lever engaging with said disk and extending into the passage of the tubular bolt for controlling the flow of gas therethrough, substantially as set forth.

2. In an incandescent burner, the combination with the base and a fixed plate at the top thereof having gas ports, of a rotatable valve-disk thereon and having vertically long tapering ports of greater diameter at the base and adapted to register with said ports in the fixed plate, for causing the passing currents of gas to shoot straight up into the mixing chamber and draw in the desired proportion of air, and a center bolt and nut connecting said disk and plate, substantially as described.

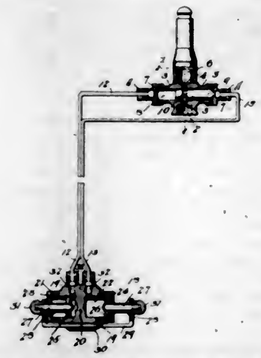
3. In an incandescent burner, the combination with the base and a fixed plate at the top thereof having gas ports, of a rotatable valve-disk thereon and having tapering gas passages adapted to register with the ports in the fixed plate, a tubular center bolt and nut connecting said valve-disk and plate, a pilot tube connecting with said bolt and a set-screw lever engaging with said valve disk and entering the tubular bolt for controlling the flow of gas to the pilot tube, substantially as described.

4. In an incandescent burner, the combination with the base and a fixed plate at the top thereof having ports for admitting gas to the main burner and a separate port for admitting gas to the pilot tube, of a rotatable valve-disk thereon having gas passages therethrough, adapted to register with said ports in the fixed plate, also having a passageway leading to the center, a center bolt having a longitudinal bore or passage and a lateral opening therefrom adapted to register with said passageway in the valve-disk, and a pilot tube connecting with the passageway in the center bolt, whereby gas may be cut off from the pilot tube when it is admitted to the main burner, or cut off from the main burner when it is admitted to the pilot tube, substantially as described.

5. In an incandescent burner, the combination with the base and a fixed plate at the top thereof having gas ports for a main burner and a pilot tube, of a rotatable valve-disk thereon having gas passages adapted to register with said ports for the main burner in the fixed plate, also having a passageway from its under side to its center, a center bolt passing through said plate and disk and having a longitudinal gas passage and a lateral passage thereupon adapted to register with said passage in the disk, a set-screw lever having a conical end or needle point entering the longitudinal passage of the bolt and passageway in the disk, substantially as described.

6. In an incandescent burner, the combination with the base and a cap fitted thereon and having elongated gas ports, of a rotatable valve-disk thereon and having tapering gas passages adapted to register with said ports in the fixed plate, a tubular center bolt passing through said cap and disk and having a lower head, a spring between said head and the cap, a securing nut applied to the upper end of said bolt, a pilot tube connecting with the passageway of the bolt and a set-screw lever engaging with the disk and center bolt, substantially as described.

867,591. PNEUMATIC VALVE-CONTROLLING APPARATUS FOR GAS-BURNERS. RICHARD N. OAKMAN, Brooklyn, N. Y. Filed Sept. 26, 1906. Serial No. 336,297.



1. The combination with a burner pillar having a gas passage and a transverse piston chamber provided with ports opening into said passage, of pressure and exhaust pipes connecting at opposite ends of the piston chamber, said chamber being otherwise closed at its ends, a reciprocating valve in the chamber, means for positively forcing a fluid into one end of the chamber and simultaneously exhausting it from the opposite end, for positively reciprocating the valve and preventing leakage of gas, substantially as described.

2. The combination with a burner pillar and a transverse valve chamber opening by ports into the passage-way of the pillar, of a pressure and exhaust pipe connecting with each end of the chamber and with the cylinder of a pump, a reciprocating valve in said chamber and a double acting pump for positively reciprocating the valve and preventing leakage of gas, substantially as described.

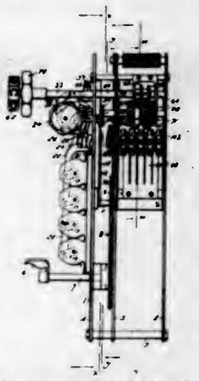
3. In apparatus for pneumatically controlling valves for distance lighting burners, a pressure and exhaust device, consisting of two adjacent pump cylinders, each having a port and a piston, means connecting the pistons and a pipe connection from each cylinder to the opposite ends of the valve chamber in the burner, substantially as described.

867,592. FARE-REGISTER. WILFRED I. OHMER, Dayton, Ohio, assignor to The Recording and Computing Machines Company, Dayton, Ohio. Filed Feb. 9, 1903. Serial No. 142,523.

1. In a variable fare register, the combination, with a plurality of registers or counters for registering the different fares, each counter being provided with an operating rod, of an operating member, an actuating part moving in a fixed path and operatively connected with the operating member, a setting shaft having a series of cams, and a corresponding plurality of setting levers operatively connecting said cams and the corresponding operating rods, whereby any one of the operating rods may be moved into the path of the actuating part, substantially as described.

2. In a variable fare register, the combination, with a plurality of registers or counters for registering the different fares, each counter being provided with an operating rod, of an operating member, a slide connected with and actuated by said member, a setting shaft having a series of cams, and a corresponding plurality of setting levers operatively connecting said cams and the corresponding operating rods, whereby any one of the operating rods may be engaged with and actuated by said slide, substantially as described.

3. In a variable fare register, the combination, with a common operating member, of a total fare register for registering the total number of fares received, a plurality of independent registers or counters for registering the different fares, each having its own immediate operating device, and a setting mechanism comprising, first, a series of setting devices which permanently connect, respectively, with the operating device of each counter and, second, means for positioning at will any one of said setting devices to engage the immediate operating device of any one of said counters with said common operating member, substantially as described.



4. A fare register comprising a series of independent counters for counting separate classes of fares, an actuating device for each counter, an operating slide common to said actuating devices, and a series of setting cams, one for each actuating device, each of said cams when set moving its proper actuating device into operative relation with said common operating slide.

5. A fare register comprising a series of independent counters for counting separate classes of fares, setting cams, one for each counter, connected link and lever mechanism between each cam and its appropriate counter, and a common operating slide, each of said mechanisms being thrown into operative relation with said common operating slide by its appropriate cam.

6. A fare register comprising a series of independent counters for counting separate classes of fares, setting cams mounted on a common shaft, one for each counter, connected link and lever mechanism between each cam and its appropriate counter, and a common operating slide, each of said mechanisms being thrown into operative relation with said common operating slide by its appropriate cam.

7. A fare register comprising a series of independent counters for counting separate classes of fares, setting cams mounted on a common setting shaft, one for each counter, connected link and lever mechanism between each cam and its appropriate counter, and a common operating slide, each of said mechanisms being thrown into operative relation with said common operating slide by its appropriate cam.

867,593. TREATING PIG-IRON. GEORGE S. PAGE, Pittsburg, Pa., assignor to Crucible Steel Company of America, Pittsburg, Pa., a Corporation of New Jersey. Filed Apr. 18, 1906. Serial No. 312,509.

1. The method herein described which consists in charging iron ore and lime into a basic lined furnace, charging solid or unmelted pig metal into the furnace, subjecting the charge to a temperature at or above a dephosphorising temperature, continuing such heating with a partial withdrawal of the slag, and thereby effecting a continued reduction of phosphorus and carbon, removing and solidifying the treated charge without further treatment.

2. The method herein described which consists in charging iron ore and lime into basic lined furnace, charging

solid or unmelted pig metal into the furnace, subjecting the charge to an increasing temperature from and above the dephosphorizing temperature to effect a simultaneous elimination of phosphorus and carbon, discontinuing the treatment before the temperature has become sufficiently high to effect a reduction of the carbon of the bath to a steel percentage, and removing and solidifying the treated charge without further treatment.

867,594. WHEEL CLAMP OR ANCHOR. MARTIN PAULSON, Omaha, Nebr., assignor to Jacob L. Kaley and Eliza S. Stotts, Omaha, Nebr. Filed June 18, 1907. Serial No. 379,562.



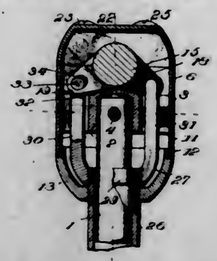
1. A wheel clamp having a rectangular base with end-portions extending outwardly and above the plane of said base to form divergent arms, said divergent arms having end-portions bent to extend outwardly and substantially parallel with said rectangular base to form holding-heads.

2. A wheel clamp or anchor having a rectangular base with end-portions extending outwardly and above the plane of said base to form divergent arms, said divergent arms having end-portions bent to extend outwardly and substantially parallel with said rectangular base to form holding-heads; one of said divergent arms having a length less than the other of said divergent arms.

3. A wheel clamp or anchor having a rectangularly formed base with end-portions extending above the plane of the base and outwardly therefrom to form divergent arms, said divergent arms having end-portions bent to extend outwardly and substantially parallel with said rectangular base to form holding-heads; said holding-heads provided with downwardly-extending terminals to form contact-blades transversely with reference to said rectangularly formed base.

4. A wheel clamp or anchor having a rectangular base with end-portions extending outwardly and above the plane of the base to form divergent arms, said divergent arms having end-portions bent to extend outwardly and substantially parallel with said rectangular base to form holding-heads, one of said divergent arms having a length less than the other of said divergent arms; said holding-heads provided with downwardly-extending terminals to form contact-blades transversely with reference to said rectangularly-formed base.

867,595. PROPELLER. OLE PETERSON, Duluth, Minn. Filed May 11, 1906. Serial No. 316,350.



1. A propeller of the character described, comprising a shaft, a hub rigidly secured to the shaft, propeller blades pivotally mounted in said hub, a sleeve sliding on the shaft and extending within the hub and having outwardly-extending arms passing through the hub and oscillating said blades, and a cap carried by the inner end of the hub and flush with side walls thereof, and covering the oscillating arms at all times.

2. A propeller of the character described, comprising a shaft, a hub rigidly secured to said shaft, propeller blades pivotally mounted in said hub, crank-arms carried by the propeller blades and extending radially outwardly within the hub, a sleeve surrounding the shaft, arms secured to the sleeve and passing through openings in the hub and connected to said crank arms, and caps carried by the ends of said hub for inclosing all working parts.

3. A propeller of the character described, comprising a shaft, a solid hub rigidly secured to said shaft, propeller blades mounted in recesses in its outer end, a solid cap secured to the hub and having recesses corresponding with the recesses in the hub and forming therewith the bearings for the blades, blades having their shanks pivotally mounted in the openings formed by the recess, crank arms carried by the shanks and extending outwardly within recesses in the hub, a sleeve slidably mounted upon the shaft, arms carried by the sleeve and extending outwardly through openings in the hub, means for securing the said arms and crank arms together with a limited movement, and a cap secured to the inner end of the hub and covering the arms carried by the sleeve.

4. A propeller of the character described, comprising a shaft, a hub rigidly secured to said shaft, propeller blades pivotally mounted in said hub, crank arms carried by the propeller blades and extending within the hub, a sleeve surrounding the shaft, arms carried by the sleeve and secured to the crank arms, an inwardly extending internally screw-threaded flange carried by the hub, and a cap screwed within the flange and flush with the hub, and covering the operating arms.

5. A propeller of the character described, comprising a shaft, a hub formed of a solid block of metal and rigidly keyed to the shaft, propeller blades pivotally mounted in the outer end of said hub, said blocks having radially extending recesses, communicating at their outer ends with longitudinal openings extending through the hub, crank arms carried by the propeller blades and extending outwardly within said recesses, the outer end of said crank arm having elongated openings therein, a sleeve slidably mounted upon the shaft, arms rigidly secured to the sleeve and extending through the openings in the hub, and laterally-extending pins carried by the outer ends of said arms and entering the elongated openings in the crank arms.

6. A propeller of the character described, comprising a shaft, a hub formed of a solid block of metal and rigidly secured at its inner end to the shaft, the outer end of said block having concaved grooves oppositely arranged, and recesses radially arranged at right angles to the grooves, said hub having longitudinal openings communicating with the outer end of said recesses, propeller blades having shanks mounted in the grooves, crank arms carried by the shanks and extending within the recess, and the outer ends of the arms having elongated slots therein, a cap having grooves corresponding with the grooves in the hub, means for securing the cap on the hub, said hub having recesses corresponding with those in the hub to allow the crank arms to swing upwardly, a sleeve slidably mounted upon the shaft, arms secured to the sleeve and extending through the openings in the hub, laterally-extending pins carried by the outer ends of the arms and entering the openings in the crank arms, an internally screw-threaded flanged portion formed integral with the hub, and a cap screwed within the flange flush with the hub and covering the operating arms.

867,596. WARP STOP-MOTION FOR LOOMS FOR WEAVING. FRIEDRICH PICK, Vienna, Austria-Hungary. Filed July 20, 1905. Serial No. 270,491.

1. An electric stop motion for looms comprising in combination, coöperating heddle bars, means for adjustably connecting said bars, an apertured conducting strip for the upper of said bars, said upper bar also having laterally disposed conducting strips, a heddle cord of conducting material connected with said lower bar and looped about said upper bar and passing through said apertured strip, yieldingly mounted contacts electrically connected with said apertured and laterally disposed strips, and stationary contacts connected with a source of current and adapted to be engaged by said yielding contacts whereby circuit may be closed, upon breakage of a warp thread, through said heddle cord and said apertured and lateral strips.

2. An electric stop motion for looms comprising in combination, coöperating heddle bars, an apertured conducting strip for the upper of said bars, said upper bar also having laterally disposed conducting strips, a heddle cord of conducting material connected with said lower bar and looped about said upper bar and passing through said apertured strip, yieldingly mounted contacts electrically connected with said apertured and laterally disposed strips, and stationary contacts connected with a source of current and adapted to be engaged by said yielding contacts whereby circuit may be closed, upon breakage of a warp thread, through said heddle cord and said apertured and lateral strips.

3. An electric stop motion for looms comprising in combination, coöperating heddle bars, a supporting conducting strip for the upper of said bars, laterally disposed conducting strips for said upper bar, a heddle cord of conducting material connected with said lower bar and looped about said upper bar, yieldingly mounted contacts electrically connected with said supporting and lateral strips, and stationary contacts connected with a source of current and adapted to be engaged by said yielding contacts whereby circuit may be closed, upon breakage of a warp thread, through said heddle cord and said supporting and lateral strips.

4. An electric stop motion for looms, comprising in combination, coöperating heddle bars, conducting strips for the upper of said bars, a heddle cord of conducting material connected with said lower bar and looped about said upper bar in a manner to engage said strips, yielding mounted contacts for said upper bar electrically connected with said strips, and stationary contacts connected with a source of current and adapted to be engaged by said yielding contacts whereby circuit may be closed upon breakage of a warp thread, through the resulting engagement of said heddle cord with said strips.

5. An electric stop motion for looms comprising in combination, coöperating heddle bars, conducting members for the upper most bar, a heddle cord of conducting material operatively associated with said heddle bars, contacts for said upper bars electrically connected with said members, and stationary contacts connected with a source of current and adapted to be engaged by said bar contacts whereby circuit may be closed, upon breakage of a warp thread, through the resulting engagement of said heddle cord with said members.

6. An electrical stop motion for looms comprising in combination, coöperating heddle bars, electrical conducting members for one of said bars, means for connecting said members with a source of current, and a flexible heddle cord of conducting material looped about said heddle bars and adapted, upon breakage of a warp thread, to close circuit through said members.

7. An electric stop motion for looms comprising in combination, a heddle bar provided with laterally disposed contact strips, a contact strip mounted on top of said bar, said contact strips being connected with a source of current, and a flexible heddle cord of conducting material looped about said bar and adapted to close circuit through said strips upon breakage of a warp.

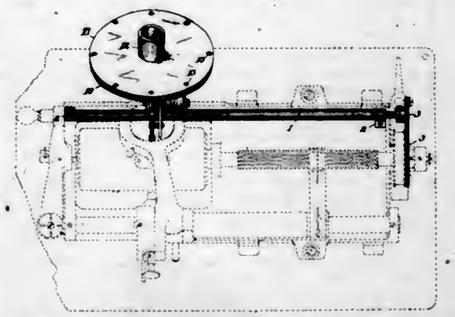
8. An electric stop motion for looms comprising in combination, a heddle bar provided with a combined guiding and contact member, a second contact member for said bar, said contact members being connected with a source of current and insulated from each other, and a heddle cord of conducting material guided by said first mentioned member and adapted upon breakage of a warp to close circuit through said contact members.

9. An electric stop motion for looms comprising in combination, a heddle bar provided with a perforated contact member, a second contact member for said bar, said contact members being connected with a source of current and insulated from each other, and a heddle cord of conducting material threaded through said perforated member and adapted upon breakage of a warp to close circuit through said members.

10. An electric stop motion for looms comprising in combination, a heddle bar provided with two contact members connected with a source of current and insulated from each other, and a flexible heddle cord of conducting material looped about said bar and adapted to close circuit through said members upon breakage of a warp.

11. An electric stop motion for looms comprising in combination, a heddle bar provided with two contact members connected with a source of current and insulated from each other, and a flexible heddle member of conducting material adapted upon breakage of a warp thread to close circuit through said contact members.

867,597. FRICTION REPRODUCING ATTACHMENT FOR PHONOGRAPHS. ALEXANDER N. PIERMAN, Newark, N. J., assignor to New Jersey Patent Company, West Orange, N. J., a Corporation of New Jersey. Filed Mar. 13, 1905. Serial No. 249,687.



1. In a friction reproducing attachment for phonographs and allied talking machines, the combination with a pinion shaft mounted in fixed bearings, of friction reproducing means movable longitudinally of the record to be reproduced and a gear coöperating with the friction reproducing means and meshing continuously with said shaft, as and for the purposes set forth.

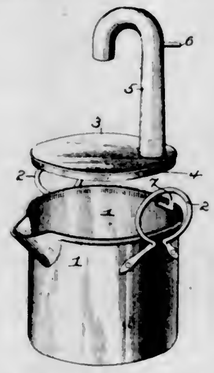
2. In a friction reproducing attachment for phonographs and allied talking machines, the combination with a pinion shaft mounted in fixed bearings, of a support movable longitudinally of the record, a friction wheel carried by said support, friction reproducing devices operated by said wheel and a gear for driving said wheel and meshing with said shaft, substantially as set forth.

3. In a phonograph or allied talking machine, the com-

bination with the feed screw, feed nut, guide rod and traveling carriage sleeved thereon, of reproducing means comprising a friction wheel carried by said carriage, means carried by the frame for driving said friction wheel, the arrangement of parts being such that the raising of the carriage disconnects the friction wheel from its said driving means, substantially as set forth.

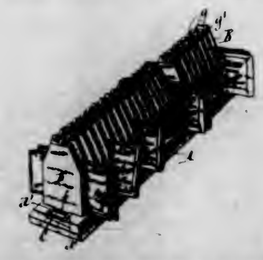
4. The combination with a talking-machine and a relay-device therefor comprising a reproducer and the relatively stationary part of the relay-device proper, the relatively movable part of said relay device, and a detachable bracket carrying means for rotating said movable part.

867,598. DOMESTIC BOILER. PHILIP RAHM, New Orleans, La., assignor of one-half to Charles Reymershoffer, Galveston, Tex. Filed Apr. 28, 1906. Serial No 314,218.



The combination with a utensil having an angular slot in the upper edge of its wall, of a device for preventing the boiling over of liquids comprising a flat base or disk provided with a shallow depending portion for supporting it near the bottom of the utensil, said base or disk having a hole near its edge, an upwardly projecting pipe supported by the base or disk near the edge thereof and communicating with the hole therein, the upper end of said pipe being bent to discharge downwardly into the utensil in which the device may be located, and a pin projecting laterally from said pipe to enter the angular slot in the wall of the utensil.

867,599. ASSORTING DEVICE. JAMES H. RAND, Newtonville, Mass. Filed Mar. 23, 1907. Serial No. 364,106.



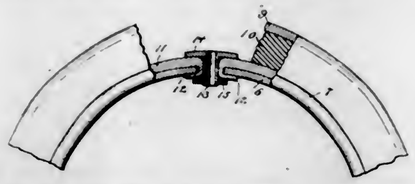
1. An assorting device, comprising a base, a series of slides guided on the base and capable of longitudinal adjustment thereon, and a series of partitions each pivotally attached to one of said slides, substantially as set forth.

2. An assorting device, comprising a base, a series of slides guided thereon and adjustable toward and from one another, partitions pivoted to said slides, and means for limiting the swinging movements of the partitions, substantially as set forth.

3. An assorting device, comprising a base having a longitudinal groove, slides guided and confined in said groove, and partitions pivoted at their lower ends to said slides, respectively, substantially as set forth.

4. An assorting device, comprising a base provided in its upper side with a longitudinal groove, sliding blocks guided in said groove and each having a recess, partitions having their lower ends arranged in the recesses of the respective blocks, and retaining pins extending across the recesses of the blocks and through the partitions, substantially as set forth.

867,600. VEHICLE-TIRE. ALBERT D. RAY, Cleveland, Ohio. Filed Nov. 7, 1906. Serial No. 342,362.

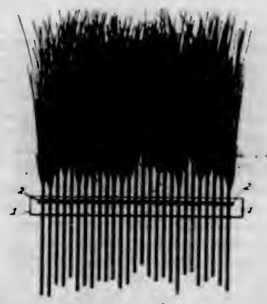


1. A tire comprising a flanged rim having a hole therein, a casing on the rim having a split base with shoulders at the sides engageable with the flanges, a flexible band extending lengthwise around within the casing upon the base thereof and having flexible ends extending through the hole, means to fasten said ends, and a resilient filler within the casing.

2. A tire comprising a flanged rim having a hole therein, a casing on the rim having a split base engageable with the flanges to hold the casing on the rim, a band extending lengthwise around within the casing upon the base thereof and adapted to expand the same to engagement with the flanges, the band having flexible reduced ends extending through the hole, means to fasten the ends, and a resilient filler within the casing.

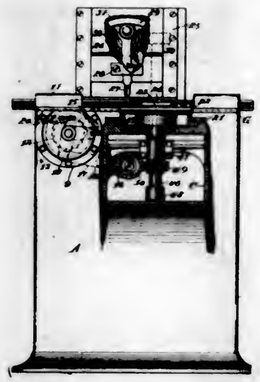
3. A tire comprising a rim, a casing secured thereon, and a filler within the casing consisting of a compound of gelatin, glucose, rubber, turpentine, glycerin and acetic acid.

867,601. PREPARING STALKS OF GRAIN FOR FORMING SHEAVES. MOSES RICE, Philadelphia, Pa. Filed Apr. 19, 1907. Serial No. 369,102.



The mode herein described of preparing stalks of grain for being tied into a sheaf, said mode consisting in first separating the stalks, and spreading them out in a thin layer so that they may be manipulated by both hands, then pulling upon the stalks in the direction of their length and positively arresting the movement of the heads of the stalks when they have reached a common plane.

867,602. CARVING-MACHINE. FRANCIS H. RICHARDS, Hartford, Conn. Filed Jan. 10, 1903. Serial No. 138,470.



1. In a carving machine, the combination of a support, a guideway thereon, a tool carriage mounted to reciprocate in such guideway, said tool carriage being recessed in its underside and having within said recess a pivot bearing and a sector shaped bearing, a link pivoted to said pivot bearing and having a face for engaging said sector shaped bearing, a shaft mounted in said support, a crank on said shaft extending through said support and into said recess and engaging said link.

2. In a carving machine, the combination of supports, guideways thereon, a tool carriage mounted to reciprocate in each guideway and transversely one to the other, said carriages each having a pivot bearing and a sector shaped bearing concentric with the pivot bearing, a driver, a pair of cranks driven thereby and extending through said supports, one beneath each tool carriage, and links connected to said cranks, each link in engagement with the pivot bearing and the sector shaped bearing in the carriage.

3. In a carving machine, the combination of a support, a guideway on said support, a tool carriage mounted to reciprocate in said guideway, said tool carriage having a sector-shaped recess in its underside, a shaft mounted in said support, a crank on said shaft projecting without said support and into said recess in said tool carriage, and a link connecting said crank and said tool carriage within said recess in said tool carriage, the crank end of said link slidably abutting the sector-shaped end wall of said recess in said tool carriage.

4. In a carving machine, the combination of a support, a guideway on said support, a tool carriage mounted to reciprocate in said guideway, said tool carriage having a sector-shaped recess in its underside, a shaft mounted in said support, a crank on said shaft projecting without said support and into said recess in said tool carriage, and a link pivoted to said tool carriage within said recess at a point corresponding to the axis of the sector formed by said recess and connected at its free end with said crank, the free end of said link conforming to and slidably abutting the arc-shaped end wall of said recess.

5. In a carving machine the combination of a support, a guideway thereon, another guideway on said support and transverse to said first mentioned guideway, tool carriages respectively mounted to reciprocate in said guideways, said tool carriages recessed in their under surfaces, counter-shafts mounted in said support relative to said guideways, cranks on said counter-shafts projecting beyond said support and into said recesses and tool carriages, links connecting said cranks with their respective tool carriages within the recesses in said tool carriages, each link having a ball and socket and segmental slide connecting with its respective carriage, a driving shaft mounted in said support and traverse to said counter-shafts and operative connections between said driving shaft and said counter-shaft.

6. In a carving machine, the combination of a support, transversely directed guideways in said support, tool carriages mounted to reciprocate in said respective guideways, said tool carriages each having a sector-shaped recess in their under surface, shafts mounted in said support perpendicularly of said respective guideways, cranks mounted on said respective shafts projecting without said support and into the respective recesses in said tool carriages, links pivoted to said respective tool carriages within the said recesses at points corresponding to the axes of the sectors formed by said recesses and journaled at their free ends to said cranks within said recesses, the free ends of said links conforming to and slidably abutting arc-shaped end walls of said recesses, and a driving shaft mounted in said support operatively connected with said before-mentioned shafts.

7. In a carving machine, the combination of a support, transversely directed guideways on said support, tool carriages mounted to reciprocate in said respective guideways, shafts mounted in said support perpendicularly of said respective guideways, cranks on said respective shafts projecting without said support and beneath said carriages, links connecting said cranks with the undersides of their respective tool carriages, an intermittent feed suitably mounted upon said support in operative relation to said tool carriages, and a driving shaft mounted in said support and operatively connected with said before-mentioned shafts and said intermittent feed.

8. In a carving machine, the combination of a support, transversely directed guideways on said support, tool carriages mounted to reciprocate in said respective guideways, said tool carriages having sector-shaped recesses in their under surfaces, shafts mounted in said support perpendicularly of said respective guideways, cranks mounted on said respective shafts projecting without said support and into said sector-shaped recesses in said tool carriages, links pivoted to said respective tool carriages within said recesses at points corresponding to the axes of the sectors formed by said recesses and connected to said respective cranks at their free ends, the free ends of said links conforming to and slidably abutting the arc-shaped end walls of said sector-shaped recesses in said tool carriages, an intermittent feed mounted on said support in operative relation to said tool carriages, and a driving shaft mounted in said support operatively connected with said above-mentioned shafts and said intermittent feed.

9. In a carving machine, the combination of a support, a guideway on said support, a tool carriage mounted to reciprocate in said guideway, said tool carriage having a sector-shaped recess in its under surface, the median line of said sector-shaped recess being parallel with said guideway, a shaft mounted in said support perpendicularly of said guideway, a crank on said shaft projecting without said support and into said recess in said tool carriage, and a link pivoted to said tool carriage within said recess at a point corresponding to the axis of the sector formed by said recess and connected at its free end with said crank within said recess, the free end of said link conforming to and slidably abutting the arc-shaped end wall of said recess in said tool carriage.

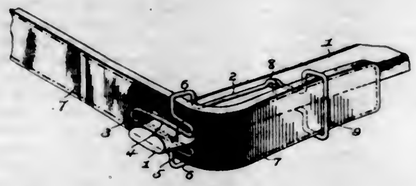
867,603. TRACE-HOLDER. WILLIAM L. RICHARDSON, Salt Lake City, Utah. Filed Mar. 2, 1906, Serial No. 303,858. Renewed Aug. 27, 1907. Serial No. 390,382.

1. A trace holder, comprising arms to be pivotally secured to a whiffletree, an open spring clamp to engage the whiffletree and secure the holder thereon against pivotal movement, and a trace receiving loop formed in the holder between the clamp and the pivotal point of the holder.

2. A trace holder, comprising a spring wire bent forming an open clamp at its end to slide onto the whiffletree and clamp the same, a trace receiving loop formed in the wire to one side of the clamp, and means for pivotally securing the inner ends of the wires to the whiffletree.

3. A trace holder comprising a spring wire to be

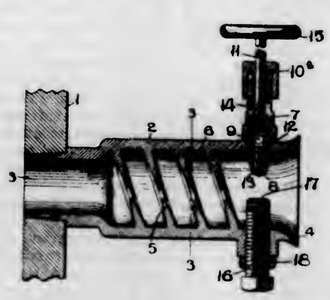
pivotally attached at its ends to a whiffletree and bent between its ends forming a spring clamp open at one end to receive the outer end of the whiffletree, and loops formed in the wire in proximity to the clamp to embrace the edges of the trace.



4. The combination with a whiffletree, of a trace holder pivoted thereto having an open spring clamp at its outer end to engage the outer end of the whiffletree, trace receiving loops formed in the holder between the clamp and points of pivotal attachment to embrace the edges of the trace, and a trace receiving loop pivotally attached to the holder.

5. A wire trace holder comprising two parts, pivotally connected together, one to be pivotally attached to a whiffletree and constructed with an open spring clamp to receive the whiffletree outside of the connection of the trace to the latter, and the other to receive and hold the overlapping end of the trace.

867,604. CARBURETER. WILLIAM F. ROTHE, East St. Louis, Ill. Filed Sept. 18, 1905. Serial No. 278,858.

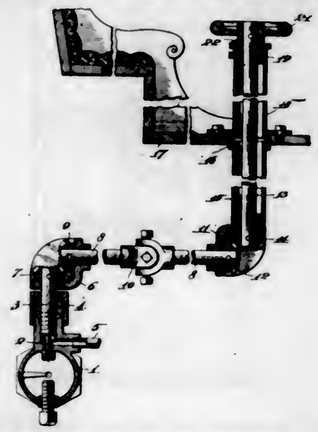


1. In a carbureter, a cylindrical member provided with an interiorly arranged spiral passageway, means whereby oil is discharged into the cylindrical member in front of the spiral passageway, means whereby the discharge of oil into the cylindrical member is regulated, and an adjustable member arranged beneath the oil inlet to receive the excess discharge of oil; substantially as specified.

2. In a carbureter, a cylindrical member, a spirally arranged flange integral with the interior of said cylindrical member, a hydrocarbon inlet arranged in the cylindrical member in front of the flange, and a vertically adjustable member arranged in the cylindrical member beneath the hydrocarbon inlet for receiving any excess hydrocarbon delivered to the front of the cylindrical member.

3. In a carbureter, an open ended cylindrical member, a spirally arranged flange integral with the cylindrical member on the interior thereof to form a spiral passageway through the greater portion of the cylindrical member, an oil inlet valve arranged in top of the cylindrical member in front of the spirally arranged flange, a screw threaded member operating through the bottom of the cylindrical member below the oil inlet, and there being a recess formed in the top of the screw threaded member to receive the excess of oil from the oil inlet valve.

867,605. FUEL-VALVE CONTROLLER FOR HYDROCARBON-ENGINES. WILLIAM F. ROTHE, East St. Louis, Ill. Filed Jan. 12, 1906. Serial No. 295,785.



1. In a device of the class described, the combination with a carbureter, of a valve for controlling the supply of hydrocarbon to the carbureter, the stem of which valve is screw threaded; a beveled pinion fixed on the upper end of the valve stem, a horizontally arranged shaft, beveled pinions on each end thereof one of which meshes with the pinion on the valve stem, a vertically arranged shaft, a beveled pinion on the lower end thereof which meshes with the pinion on the opposite end of the horizontal shaft, angle frames loosely mounted on the ends of the shafts around the meshing beveled pinions; and an operating handle fixed on the upper end of the vertical shaft; substantially as specified.

2. The combination with a carbureter, having an inlet valve, the stem of which is screw threaded, of a beveled pinion fixed on the upper end of the valve stem, a horizontally disposed shaft in the center of which is arranged a universal joint, beveled pinions on each end of said shaft, one of which meshes with the pinion on the upper end of the valve stem, an angle frame loosely mounted on the upper end of the valve stem and the adjacent end of the shaft around the meshing pinions, a vertically disposed tube, a plug fixed in the upper end thereof, a shaft passing through said tube and journaled for rotation in the plug, a pinion fixed on the lower end of said vertical shaft and meshing with the beveled pinion on one end of the horizontally disposed shaft, an angle frame loosely mounted on the ends of the shafts and surrounding the last mentioned pair of beveled pinions, a handle fixed on the upper end of the vertical shaft, and an indicating finger carried thereby.

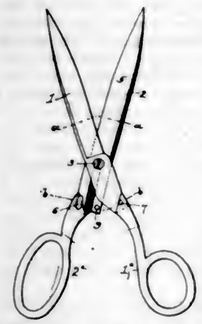
867,606. [WITHDRAWN.]

867,607. SCISSORS OR SHEARS. THOMAS S. SAYRE, Cape May, N. J., assignor, by direct and mesne assignments, to Sayre Scissors and Shears Company, Cape May, N. J., a Corporation of New Jersey. Filed Nov. 3, 1906. Serial No. 341,869.

1. Shears having a reversible supplementary cutting blade sharpened on both edges, and adapted to be secured to either blade of the shears.

2. Shears having a reversible supplementary cutting blade sharpened on both edges and combined with means for securing it to either blade of the shears.

3. Shears having a reversible supplementary cutting blade sharpened on both edges and combined with means for securing it to either blade of the shears, said supplementary blade being mounted upon the same pivot as the main blades.



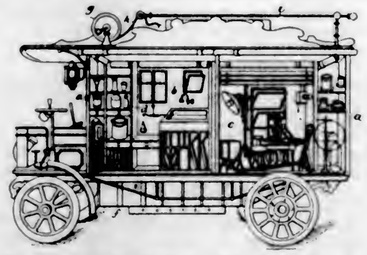
4. Shears having a reversible supplementary cutting blade sharpened on both edges, slotted for reception of the pivot pin, and combined with means for securing it to either blade of the shears.

5. Shears having a reversible supplementary cutting blade sharpened on both edges and combined with means for securing it to a handle portion of either blade of the shears.

6. Shears having a reversible supplementary cutting blade sharpened on both edges and slotted for the reception of the pivot pin, said blade being combined with means whereby one leg of its slotted portion may be secured to the handle of one blade of the shears and the other leg to the handle of the other blade of the shears.

7. Shears having a reversible supplementary cutting blade sharpened on both edges, handles constructed for the reception of the inner end of said supplementary blade, and means whereby said supplementary blade can be secured to either handle.

867,608. PHOTOGRAPHER'S CAR. JEAN SCHMIDT, Frankfort-on-the-Main, Germany. Filed Aug. 16, 1906. Serial No. 330,934.

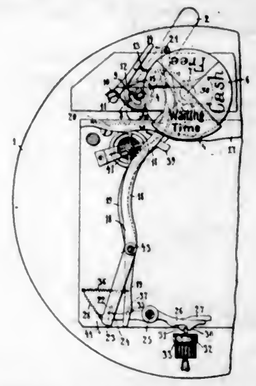


1. The combination with a photographer's car and a source of electricity carried thereon, of a drum on said car, and a conductor wound on said drum and connected with said source of electricity and also adapted to be connected to a lighting device, substantially as and for the purpose described.

2. The combination with a photographer's car and a source of electricity carried thereon, of a drum on said car, and a conductor wound on said drum and connected with said source of electricity and also adapted to be connected to a lighting device, arranged at a distance from said car, substantially as and for the purpose described.

3. The combination with a photographer's car and a source of electricity carried thereon, of a drum on said car, and a conductor wound on said drum and connected with said source of electricity and also adapted to be connected to a lighting device, arranged at a distance from said car, and an adjustable support for said conductor on the roof of the car, substantially as and for the purpose described.

867,609. FARE-INDICATOR. BERTHOLD SCHNEIDER, Berlin, Germany. Filed Sept. 14, 1906. Serial No. 334,656.



1. A fare indicator for vehicles comprising time mechanism, actuating means under the control of the driver of the vehicle for throwing said time mechanism into operation when the vehicle stops, means for indicating cash and the like, means for shifting said indicating means to "Cash", means operated by said actuating means for concealing said indicating means, and means for automatically discontinuing the operation of the time mechanism for returning said concealing means to normal position when the vehicle resumes its journey or when said indicating means is shifted to "Cash".

2. A fare-indicator comprising a shaft, a disk for indicating cash and the like, means for shifting said disk to "Cash", a disk 5 mounted upon the shaft and provided with a suitable inscription, a handle for actuating the shaft causing thereby the shifting of the disk 5 in front of the indicating disk, means for retaining the disk 5 in its shifted position, and means for automatically returning the disk 5 to its normal position when the vehicle starts or when the indicator-disk is adjusted to "Cash."

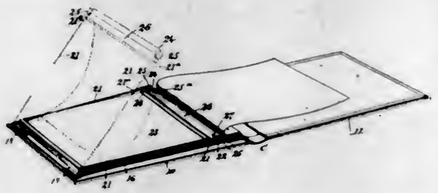
3. A fare-indicator for vehicles comprising a shaft, a disk for indicating cash and the like, means for shifting said disk to "Cash", a disk 5 mounted upon the shaft and provided with a suitable inscription, a handle for actuating the shaft causing thereby the shifting of the disk 5 in front of the indicating disk, means for retaining the disk 5 in its shifted position, means for automatically returning the disk 5 to its normal position when the vehicle starts or when the indicator-disk is adjusted to "Cash," and means for automatically returning the shaft and handle to normal position.

4. A fare-indicator for vehicles comprising a shaft, a disk for indicating cash and the like, means for shifting said disk to "Cash", a disk 5 mounted upon the shaft and provided with a suitable inscription, a handle for actuating the shaft causing thereby the shifting of the disk 5 in front of the indicating disk, means for retaining the disk 5 in its shifted position, means for automatically returning the disk 5 and shaft to normal position when the vehicle starts or when the indicator-disk is adjusted to "Cash," a time mechanism, means operated when the vehicle starts or when the indicator-disk is adjusted to "Cash" for retarding the operation of the time mechanism, a cam carried by the shaft, and a lever mechanism adapted to be actuated by said cam for releasing said retarding means for the time mechanism.

5. A fare-indicator for vehicles comprising a shaft, a disk for indicating cash and the like, means for shifting said disk to "Cash," disk 5 mounted upon the shaft and provided with a suitable inscription, a handle for actuating the shaft causing thereby the shifting of the disk 5 in front of the indicating disk, means for retaining the disk 5 in its shifted position, a time mechanism, means operated when

the vehicle starts or when the indicator-disk is adjusted to "Cash" for retarding the operation of the time mechanism, a cam carried by the shaft, and a lever mechanism adapted to be actuated by said cam for releasing said retarding means for the time mechanism.

867,610. MANIFOLDING SALES-BOOK. ALVA L. SCHULTZ, Pocahontas, Iowa. Filed Aug. 9, 1906. Serial No. 329,870.



1. A book comprising a back and a cover hinged thereto, a filler, means on the back for holding the filler, socket members at the corners of the back at the end remote from the cover, arms having angular ends engaging the sockets, a plate connecting the free ends of the arms, a second plate hinged to one of the arms and having a catch for engaging the other arm, said plate being provided with an offset portion adapted to overlie said first-named plate whereby to form a clamp therewith for holding a sheet of carbon.

2. A book comprising a back and a cover hinged thereto, a filler, means on the back for holding a filler, socket members at the corners of the back at the end remote from the cover, arms having angular ends engaging the sockets, a plate connecting the free ends of the arms, and a second plate hinged to one of the arms and having a portion adapted to overlie said first-named plate whereby to form a clamp therewith for holding a sheet of carbon.

867,611. STEAM-TURBINE. RICHARD SCHULZ, Berlin, Germany. Filed Mar. 6, 1906. Serial No. 304,521.



1. In a parallel flow turbine, a nozzle containing element concentric with the turbine axis and comprising a plurality of concentric stationary elements dividing the nozzles into a plurality of portions along their lengths whereby the exit and entrance ends of the nozzles will be formed in separate pieces coöperating when assembled to form complete nozzles.

2. In a parallel flow turbine, a nozzle containing element comprising a plurality of parts concentric with the turbine axis, one of which parts is stationary, said parts dividing the nozzle lengthwise into a plurality of parts and coöperating when assembled in juxtaposition to form complete nozzles.

3. In a parallel flow turbine, a composite nozzle ring comprising a main part containing a portion of the length of the nozzles and a completing ring containing the remainder of the length of the nozzles and fitted to the main part, whereby each part can be separately finished and assembled in juxtaposition to form the complete nozzle rings.

4. In a steam turbine, a nozzle containing element comprising a stationary part, and a movable part slidable thereon and containing the exit ends of the nozzles.

5. In a steam turbine, a nozzle containing element comprising a stationary middle part, and a part on each side thereof, one containing the exit and the other the entering ends of the nozzles.

6. In a steam turbine, a nozzle containing element comprising a middle part containing the bodies of the nozzles, a part containing the exit ends of the nozzles and a part containing the entering ends of the nozzles, both of the last named parts slidable on the middle part.

7. In a steam turbine, a nozzle containing element comprising a middle stationary part and sliding parts in juxtaposition thereto, some of said parts having portions of the side walls of the steam nozzles as comb-like projections.

8. In a parallel flow steam turbine, a stationary nozzle ring in which the nozzles are arranged in groups, the combination of a slidable ring coöperating therewith and having one end of the nozzles arranged in like groups therein and slidable in relation to the stationary ring.

9. In a steam turbine, the combination with a stationary nozzle part in which the nozzles are arranged in groups, of an element carrying the exit ends of the nozzles arranged in similar groups, and each group divided into sets.

10. In a steam turbine, the combination with a stationary nozzle part in which the nozzles are arranged in groups, of a movable element having the exit ends of the nozzles arranged in similar groups, each group divided into sets, each set of exit ends being different from the other sets of the group and means to move the movable element to bring a set of nozzles into coöperation with the nozzle portions in the stationary part.

11. In a steam turbine, the combination with a middle stationary nozzle part in which the nozzles are arranged in groups, of a movable element having the exit ends of the nozzles arranged in similar groups and each group divided into sets and each set of nozzle ends differing in form and direction from those in the other set or sets, a rack on the movable part and a worm to operate said part in relation to the stationary part.

12. A nozzle containing element comprising a plurality of parts, one of which is stationary, the division between the parts being both longitudinally of and transversely to the nozzles, one of the parts having only portions of the side walls of the nozzles.

13. In a parallel flow steam turbine, a composite nozzle containing ring comprising a stationary part containing steam passages, a movable ring having steam passages to complete the nozzles capable of registering with those in the stationary part and means to move the movable ring to successively close the passages in the stationary part, the two parts arranged side by side to form the complete parallel flow nozzle.

14. A nozzle containing element comprising a stationary and a movable part, each part containing portions of the steam passages and an independent valve for each steam passage.

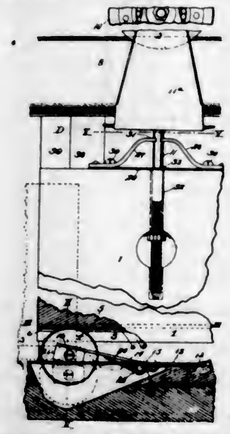
15. In a parallel flow turbine, a composite nozzle having a main portion containing the entrance ends, the body portions and a part of the exit ends of the nozzles and a coöperating part to complete the formation of the nozzles at their exit ends.

16. In a steam turbine, the combination with the casing, a stationary element containing a portion of each steam passage, of a removable element containing also a portion of the steam passages and seated thereon, and set screws passing through the casing and engaging the removable element.

17. In a steam turbine, the combination with the casing, of a nozzle crown for the first stage of expansion composed of two parts, one of which has side walls of the nozzles formed comb-like thereon and independent valves to control each nozzle entrance.

18. In a steam turbine, the combination with a casing, of a nozzle crown for the first stage of expansion having a fixed and a removable part, both parts containing portions of the steam passages, an independent valve to control the passage of steam to each nozzle, a nozzle containing element for intermediate stages of expansion comprising a stationary part and a slidable part, one of the last named parts having the side walls of the nozzles formed of comb-like projections thereon and inclined set screws through the turbine casing to hold the sliding part on the stationary part.

867,612. DOOR-HANGER AND ROLLER-SUPPORT FOR EDGEWISE-MOVABLE DOORS. DANIEL SCHUYLER, San Diego, Cal., assignor to The Perfect Sliding Door Company, Los Angeles, Cal., a Corporation of California. Filed Feb. 18, 1905. Serial No. 246,325.



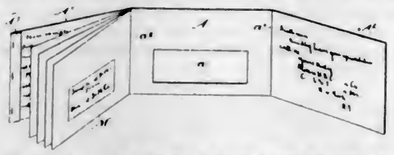
1. A movable body having a groove, the inner portion of the face of which is curved in cross-section, means for supporting said body and a roller having a portion of its rim in said groove, said portion being curved correspondingly to said face.

2. An edgewise moving closure grooved in its lower edge, an over-head rail and rollers for supporting the closure, and a roller stationed below the closure and yieldingly pressed into the groove.

3. A sliding closure, a bolt suspending the closure, resilient braces engaging said bolt, and means for holding the braces in tension between the bolt and closure.

4. In a door hanger, the combination with the closure and its suspension bolt of a bed plate through which the bolt passes, two resilient braces fastened on the plate, and engaging the bolt, and screws through the braces and plate, into the closure for producing a tension in the braces.

867,613. RETURN MAILING-CARD. GEORGE H. SCRAGG, New York, N. Y., assignor to Lyndon P. Smith, Piermont, N. Y. Filed Jan. 11, 1907. Serial No. 351,774.



1. In a reply mailing-card, an address section having an opening therein, a detachable reply flap joined thereto and arranged to fold thereon, and means on the free end of said section adapted to receive the fold at the joined edges of the reply flap and adjoining portion for holding said section and flap in the folded condition, the said flap adapted to bear an address readable through said opening.

2. In a reply mailing-card, an address section having an opening therein, a detachable reply flap joined thereto and arranged to fold thereon, means for holding said section and flap in the folded condition, the said flap adapted to bear an address readable through said opening, and an insert attached to said card and inclosed therein when the later is folded.

3. In a reply mailing-card, an address section having an opening therein, a detachable reply flap on one edge of said section and arranged to fold thereon, a communication flap on another edge of said section and arranged to fold on said reply flap and address section, and means for holding said flaps and section in the folded condition, the said reply flap adapted to bear an address readable through said opening.

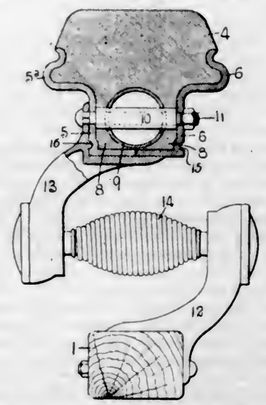
4. In a reply mailing-card, an address section having an opening therein, a detachable reply flap on one edge of said section and arranged to fold thereon, a communication flap on another edge of said section and arranged to fold on said reply flap and address section, means for holding said flaps and section in the folded condition, the said reply flap adapted to bear an address readable through said opening, and an insert attached to said card and inclosed therein when the latter is folded.

5. In a reply mailing-card, an address section having an opening therein, a detachable reply flap on one edge thereof and arranged to fold thereon, a communication flap on another edge of said section and arranged to fold on said reply flap and address section, and a tuck on one of the free edges of said communication flap adapted to receive margins of said address section and reply flap and hold the card in the folded condition, the said reply flap adapted to bear an address readable through said opening.

6. In a reply mailing-card, an address section having an opening therein, a detachable reply flap on one end of said section and arranged to fold thereon, a communication flap on the opposite end of said address section and arranged to fold on said reply flap and address section, and a tuck on the free end of said communication flap, adapted to receive the fold at the joined edges of said address section and reply flap and hold the card in the folded condition, the said reply flap adapted to bear an address readable through said opening.

7. In a reply mailing-card, an address section having an opening therein, a detachable reply flap on one end of said section and arranged to fold thereon, a communication flap on the opposite end of said address section and arranged to fold on said reply flap and address section, a tuck on the free end of said communication flap, adapted to receive the fold at the joined edges of said address section and reply flap and hold the card in the folded condition, the said reply flap adapted to bear an address, readable through said opening, and an insert between said address section and communication flap.

867,614. WHEEL. BENJAMIN C. SEATON, St. Louis, Mo. Filed June 7, 1906. Serial No. 320,669.



1. A wheel comprising a felly, an outer rim having a tread connected thereto, a plurality of independent arms formed separate from the felly to which they are connected and arranged alternately on the opposite sides thereof, independent arms formed separate from the outer rim to which they are connected and arranged alternately

on the opposite sides thereof, transversely arranged tension springs connected to the arms on the felly and outer rim that are located opposite each other, and coöperating means on the outer rim and the arms connected thereto for preventing said arms from twisting; substantially as described.

2. A wheel comprising a felly, an outer rim having a tread connected thereto, independent arms connected to the felly and arranged alternately on the opposite sides thereof, independent arms connected to the outer rim and arranged alternately on the opposite sides thereof, ribs on said arms coöperating with recesses in the outer rim, and transversely arranged tension springs connected to the arms on the felly and outer rim that are located opposite each other; substantially as described.

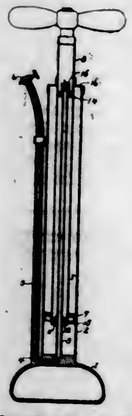
867,615. METHOD OF PRODUCING ALUMINUM NITRIDS. OTTOKAR SERPEK, Madulein, Switzerland. Filed June 19, 1906. Serial No. 322,448. (Specimens.)

1. The method of producing aluminum nitrids, which consists in heating aluminum carbid in an atmosphere containing nitrogen to red heat.

2. The method of producing aluminum nitrids, which consists in heating a mixture of aluminum carbid and a diluent substance in an atmosphere containing nitrogen to red heat.

3. The method of producing aluminum nitrids, which consists in heating aluminum carbid in an atmosphere containing nitrogen and an acid gas to red heat.

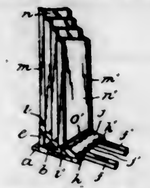
867,616. PUMP. STEPHEN G. SKINNER, Chicago, Ill. Filed Mar. 30, 1905. Serial No. 252,838.



In a pump of the described class, the combination of a base; inner and outer stationary cylinders rigidly connected therewith; a tubular piston rod extending downwardly between the upper ends of the cylinders; a piston on the lower end of said rod having a down-turned cup leather working on the inner surface of the outer cylinder; and a piston on the inner cylinder having an up-turned cup leather working on the inner surface of the tubular piston rod, said piston rod being provided with a valved passage leading to the interior of the rod from below the first mentioned piston, and said inner stationary cylinder being provided with a valved passage leading to the interior of the inner cylinder from above the other piston.

867,617. CREDIT-ACCOUNTING APPLIANCE. ANSEL STEVENS, Westbrook, Me., assignor to The McCaskey Register Company, Alliance, Ohio, a Corporation of Ohio. Filed Dec. 29, 1906. Serial No. 349,962.

1. Credit-accounting appliances including a portable leaf-base, means for supporting the leaf-base fixedly in a normal operative position, and a plurality of bill-holding leaves pivoted on the leaf-base, the rearmost leaf normally supported in leaning position by contact with the base in proximity to the axis of the pivot of the leaf.



2. Credit-accounting appliances including a portable stand provided with means for supporting itself normally in upright position, a leaf base mounted removably on the stand, and a plurality of bill-holding leaves pivoted on the base and leaning when in upright positions against the base in proximity to the planes of the axes of the pivots thereof.

3. Credit-accounting appliances including a portable stand, a leaf base mounted removably on the top of the stand, and a plurality of bill-holding leaves pivoted on the base and leaning when in upright positions against the base in proximity to the planes of the axes of the pivots thereof.

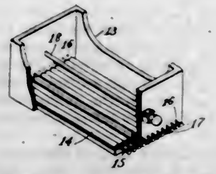
4. Credit-accounting appliances including a base provided with pivots, a plurality of bill-holding leaves each comprising a plate and a frame having parts extending beyond the plate, said parts being mounted on the pivots, and the plates of the leaves engaging the base and being stopped thereby at predetermined angles thereto, the plates swinging clear of the base at other relative angles thereto.

5. Credit-accounting appliances including a stand provided with folding arms for its support, a base mounted removably on the stand, a plurality of bill-holding leaves pivoted on the base and leaning when in upright positions against the base, means for locking the base on the stand, and means on the leaves for holding bill-slips.

6. Credit-accounting appliances including a portable stand comprising two foot pieces and a rail and also upright end pieces, the foot pieces extending beyond the end pieces and having lips on their ends, a leaf base mounted removably upon the end pieces and the foot pieces and engaging the lips of the latter, and bill-holding leaves pivoted on the base.

7. Credit-accounting appliances including a portable stand comprising two foot pieces having upright end pieces mounted thereon and a rail secured to the foot pieces, the foot pieces extending beyond the end pieces, the end pieces having notches in the higher parts thereof, a leaf base mounted removably upon the end parts and the projecting portions of the foot pieces and having loops held in the notches of the end pieces, and bill-holding leaves pivoted on the base.

867,618. CARD-INDEX SYSTEM. WILLIAM M. STRETCH, Mount Vernon, N. Y. Filed Oct. 19, 1904. Serial No. 229,189.



1. In a card indexing system, a series of cards distinguished by groups, each card having distinguishing characteristics on the lower edge thereof, cards belonging to the same group having said characteristics in line, means for holding said cards in mass normally in uniform position, a plurality of card separating rods, permanently secured in said card holding means, underlying the mass of said cards and separately controlling each group and adapted to operate upon the lower edges thereof, means for operating said separating rods extending outside of said card holder, the said separating rods so arranged as to be ineffective until operated and upon operation to simultaneously separate all of the cards of any desired group, substantially as described.

2. In a card indexing system, a receptacle for the cards wherein said cards are normally held in uniform position and separating means in said receptacle extending throughout the lower part thereof and operating in connection with the lower edges of said cards, a connection to said separating means outside of said receptacle for operating the same whereby all the cards will be held in the same position until said separating means are operated whereupon all cards whose lower edges are affected by said separating means will be simultaneously separated and held in separated position to permit the removal of a part or all thereof, substantially as described.

3. In a card indexing system, a series of cards distinguished by groups and provided with distinguishing characteristics on the lower edge thereof, the position of which on each card determines the character of the card, cards in the same group being similarly distinguished, a receptacle adapted to contain said cards and to hold the same normally in uniform position irrespective of the arrangement thereof, a plurality of permanent means in said receptacle underlying the mass of said cards and coöperating with said distinguishing characteristics, and separately controlling each group whereby the cards of any desired group may be simultaneously separated, means outside of said receptacle for controlling said separating means, means for holding either of said separating means in separating position the said parts so arranged that said cards will be unaffected by said separating means until the same are operated, substantially as described.

4. In a card indexing system, a series of cards provided with distinguishing characteristics on an edge thereof, a receptacle adapted to receive said cards, and bars in said receptacle operating in connection with the distinguishing characteristics in said cards, each bar extending across the entire mass of said cards and adapted to select therefrom all cards having like distinguishing characteristics, substantially as described.

5. In a card indexing system, a series of cards distinguished by groups and provided with distinguishing characteristics on the lower edge thereof, cards of the same group having like characteristics, a receptacle adapted to receive said cards and to hold the same normally in uniform position, and a bar in said receptacle underlying all of said cards and operating in connection with the distinguishing characteristics in the lower edges thereof and adapted to separate any desired group of said cards from the mass, means for holding said bar in separating position, a projection on said bar outside of said receptacle for operating the same, upon the operation of which all of the cards whose distinguishing characteristics are adjacent to said bar, will be simultaneously separated from the remaining cards, substantially as described.

6. In a card indexing system, a series of cards distinguished by groups each of which is provided with a distinguishing characteristic on an edge thereof at a predetermined point to determine its character, cards of the same group being similarly distinguished, and a card containing receptacle adapted to hold said cards normally in uniform position, and a plurality of card separating rods extending across the entire mass of such cards, separately controlling each group and adapted to select any desired group from the mass and in contact with but disconnected therefrom, operating means outside said receptacle, connected to said separating means, upon the operation of which means all of the cards having like distinguishing characteristics will be simultaneously separated from the mass, and means for locking either of said rods in separating position substantially as described.

7. In a card indexing system, a card receiving receptacle provided with a series of openings in its front and back walls, a series of cards each of which is provided at a predetermined point upon its lower edge with a distinguishing characteristic to determine its character, like cards having distinguishing characteristics in alinement, and rotary means underlying all of said cards and journaled in said openings, co-acting with the said distinguishing characteristics for simultaneously selecting all cards whose distinguishing characteristics are adjacent to the particular selecting means operated, substantially as described.

8. A series of record cards, distinguished in groups by differences in the contour of the lower edges, a receptacle for said cards wherein the distinguishing portion of cards in the same group are held in alinement and said cards are normally maintained in uniform position, and a separating rod underlying all of said cards and co-acting therewith whereby all of the cards of any desired group may be simultaneously selected, and means for locking said rod in separating position substantially as described.

9. A series of record cards, comprising a plurality of groups distinguished from each other by distinguishing contours, a receptacle for said cards adapted to hold the same normally in uniform position, and a plurality of separating rods in said receptacle coöperating with said cards but disconnected therefrom whereby all of the cards of the same group may be simultaneously selected, and means outside of said receptacle for operating said selecting means, and means for locking any of said rods in its separating position substantially as described.

10. A series of record cards, comprising a plurality of groups, distinguished by differences in contour, cards of the same group having the same contour, and a card containing receptacle provided with a series of bars, each bar extending across the entire mass and controlling a group of cards and adapted in operation to select all of the cards comprised in said group from the mass, substantially as described.

11. A series of record cards, comprising a plurality of groups, distinguished by differences in contour, cards of the same group having the same contour, and a card containing receptacle provided with means whereby a selected group of said cards may be raised above the mass, comprising a series of bars each bar extending across the entire mass and controlling a group of cards and adapted in operation to select all of the cards comprised in said group from the mass, substantially as described.

12. A series of record cards comprising a plurality of groups, each of said cards having a part of one edge cut away, cards of the same group having the uncut parts of the said edge in line, and out of line with the uncut parts of the edges of cards of other groups, a receptacle for said cards and means coöperating with said edges to simultaneously select all of the cards of the same group, substantially as described.

13. A series of record cards comprising a plurality of groups, each card provided with a plurality of recesses, and with a straight portion, cards in the same group having their straight portions in alinement and means cooperating therewith to simultaneously separate all of the cards of the same group from the mass of cards, and a receptacle for said cards, substantially as described.

14. A card containing and separating receptacle provided with a series of separating bars whose upper edges are normally flush with the bottoms of the cards, openings in the front and rear walls of the receptacle in line with each of said bars and operating means for each bar outside of the receptacle, upon the operation of which means the connected bar will rise above the bottom of the box, substantially as described.

15. A card containing and separating receptacle provided with a series of separating bars, which control the entire adjacent edge of the cards and whose upper edges are normally flush with the bottoms of the cards, openings in the front and rear walls of the receptacle in line with each of said bars and operating means for each bar outside of the receptacle, upon the operation of which means the connected bar will rise above the bottom of the receptacle, substantially as described.

16. A card containing and separating receptacle provided with a series of separating bars whose upper edges are normally in the same plane, openings in the front and rear walls of the receptacle, in line with each of said

bars and operating means for each bar outside of the receptacle, upon the operation of which means the connected bar will rise above the bottom of the receptacle, and means for locking said bar in its raised position, substantially as described.

17. A card containing and separating receptacle, provided with a series of grooves, and slots in line with the ends thereof adapted to receive a selecting rod and to allow said rod to move into or out of either of said grooves, and a selecting rod adapted to enter said slots and grooves, substantially as described.

18. A card containing and separating receptacle, provided with a series of grooves, slots in line with the ends thereof, selecting rods in said slots and normally in said grooves, and means whereby said rods may be raised and locked in the raised position, substantially as described.

19. In a card indexing system, a series of cards distinguished in groups by differences of each card in contour below the top edge, cards of the same group having the same contour, a card receptacle adapted to hold all said cards normally in uniform position, means in said receptacle adapted to engage the outer edges of said cards, whereby cards of the same contour may be simultaneously separated from the mass, means whereby said separating means may be locked in the separating position, substantially as described.

20. In a card indexing system, a series of cards having differences in contour, cards of the same class having the same contour, a card receptacle, means in said receptacle adapted to engage the outer edges of said cards, whereby cards of the same contour may be simultaneously separated from the mass, and means whereby said separating means may be locked in the separating position, said separated cards being capable of removal from the mass without disturbing said separating means, substantially as described.

21. A series of record cards distinguished in groups by differences in the contour of the lower edges, cards of the same group having the same contour, a receptacle adapted to receive said cards and hold the same normally in uniform position, separating means permanently held in said receptacle and means for operating said separating means upon the operation of which all of the cards of any one group may be simultaneously separated from the mass, substantially as described.

22. A series of record cards distinguished in groups by differences in the contour of the lower edges, cards of the same group having the same contour, a receptacle adapted to receive said cards and hold the same normally in uniform position, separating means permanently held in said receptacle and controlling the entire length of an edge of said cards and means for operating said separating means upon the operation of a portion of which all of the cards of any one group may be simultaneously separated from the mass, substantially as described.

23. A series of record cards distinguished in groups by differences in the contour of the lower edges, cards of the same group having the same contour, a receptacle adapted to receive said cards and hold the same normally in uniform position, separating means permanently held in said receptacle and means for operating said separating means upon the operation of which all of the cards of any one group may be simultaneously separated from the mass, and means for holding said cards in separated position, substantially as described.

24. In a card indexing system, a series of cards distinguished in groups by differences in contour of each card below the top edge, cards of the same group having the same contour, a card receptacle adapted to hold all said cards normally in uniform position, and means permanently secured in said receptacle adapted to engage the edges of said cards below the top edge whereby cards of the same contour may be simultaneously separated, and any one or all of said cards removed from the mass, without changing the adjustment of said separating means, substantially as described.

25. In a card indexing system, a series of cards having differences in contour, cards of the same class having the same contour, a card receptacle, means in said receptacle adapted to engage the outer edges of said cards, whereby cards of the same contour may be simultaneously separated from the mass, and means whereby said separating means may be locked in the separating position, substantially as described.

26. In a card indexing system, a series of cards divided in groups by differences in contour, cards of the same group having like distinguishing characteristics, which are in line and are out of line with the distinguishing characteristics of cards in the other groups, a card receiving receptacle provided with a series of openings, in line with said distinguishing characteristics, each of which is adapted to receive a separating rod, a separating rod operable from the outside of the receptacle adapted to coöperate with the said distinguishing characteristics to select all the cards of a desired group and separate them from the mass and maintain them in separated position and permit them to be withdrawn, in part or whole, without changing the position of the separating rod, substantially as described.

27. A series of record cards distinguished in groups by differences in the coutour of an edge, cards belonging to the same group having their said edges similarly shaped and a receptacle for said cards provided with a selecting member extending across the entire mass of cards, and coöperating with said differences in contour, means for controlling said selecting member from the outside of said receptacle, whereby all of the cards of any desired group may be simultaneously separated from the mass of cards, substantially as described.

28. A series of record cards, distinguished in groups by distinguishing characteristics on an edge thereof, cards of the same group having their distinguishing characteristics in line, and a receptacle for said cards provided with a selecting member underlying all of said cards, a connection to said selecting member from without the receptacle whereby all of the said cards belonging to any one group may be simultaneously separated from the mass of cards, substantially as described.

29. A series of cards distinguished by groups, by distinguishing characteristics on an edge of said cards, cards of the same group having their distinguishing characteristics in line and out of line with those of other groups, a receptacle adapted to receive said cards, selecting means in said receptacle extending across the entire mass of cards and operable from the outside of the receptacle and adapted to engage the adjacent edges of the cards at different points of their width and to simultaneously separate from the mass all the cards of any desired group, by cooperation with the said distinguishing characteristics, substantially as described.

30. A series of record cards distinguished by groups, by recesses on an edge thereof, cards of the same group having their recesses in line, a receptacle for said cards, a selecting member in the lower part thereof extending entirely across the cards and operable from the outside of the receptacle and adapted to engage the adjacent edges of the entire mass of cards at different points in their width, and to select from the mass all the cards of any desired group by coöperation with the said recesses, substantially as described.

31. A card index system comprising a separating box, a series of cards provided at different points in their width with recesses, the position of which determines the class of the card, cards of the same class having their recesses in line, selecting means in said box underlying the whole mass of cards, adapted, in coöperation with said recesses, to select all the cards of any desired class from the entire mass of cards, and a connection to said selecting means, outside said box, substantially as described.

32. A series of record cards distinguished in groups by differences in the coutour of an edge, cards belonging to the same group having their said edges similarly shaped, and a receptacle for said cards provided with a selecting member extending across the entire series of cards and outside of the same, and adapted to engage different points in the width thereof, a connection to said selecting member outside said receptacle, said selecting member adapted to simultaneously separate from the mass of cards, all the cards belonging to any desired group wherever located and to enable said group to be removed without disturbing the selecting member, substantially as described.

867,619. SELF-ACTING VALVE FOR COMPRESSORS AND THE LIKE. FERDINAND STRNAD, Schmargendorf, Germany. Filed Mar. 29, 1906. Serial No. 308,763.



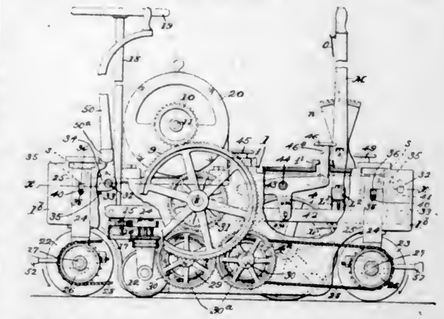
1. In compressors and the like, the combination with a cylinder open at both ends and flushing at one end with the inside of the working cylinder and provided in its wall with discharge-apertures, of a disk-valve seated in said cylinder and provided round its periphery with a cylindrical projection which is guided in said cylinder and is adapted to uncover the discharge apertures in the latter, a cap closing the other end of said cylinder and extending through same so as to leave an annular narrow space for the cylindrical extension of said disk-valve and a chamber for the play of the latter, said cap having a central hole and being bored to form a cylinder, a cushioning piston reciprocating in the cylindrical bore of said cap, a stem passing through the central hole of said cap and rigidly connecting said disk-valve with said piston, a spring disposed in the working cylinder and adapted to force said piston towards the bottom of said cap, and relieving means in said cap and adapted to open towards said piston under the pressure of the fluid within the chamber between said disk-valve and said cap.

2. In compressors and the like, the combination with a cylinder open at both ends and flushing at one end with the inside of the working cylinder and provided in its wall with discharge-apertures, of a disk-valve seated in said cylinder and provided round its periphery with a cylindrical projection which is guided in said cylinder and is adapted to uncover its discharge-apertures upon the lifting of the valve, a cap closing the other end of said cylinder and extending through same so as to leave an annular narrow space for the cylindrical extension of said disk-valve and a chamber for the play of the latter, said cap having a central hole and being bored to form a cylinder, a cushioning piston reciprocating in the cylindrical bore of said cap, a stem passing through the central hole of said cap and rigidly connecting said disk-valve with said piston, a spring disposed in the working cylinder and adapted to force said piston towards the bottom of said cap, and relief-valves in said cap and adapted to open towards said piston under the pressure of the fluid within the chamber between said disk-valve and said cap, said cushioning piston serving for rendering silent the closure of said disk-valve, and said relief-valves serving for rendering silent the opening of said disk-valve and allowing of an ample stroke of the latter.

867,620. FLOOR-SURFACING MACHINE. WALTER L. TAFT, Cincinnati, and ALOIS N. VERDIN, Glendale, Ohio, assignors to Walter L. Taft, Cincinnati, Ohio. Filed Jan. 12, 1907. Serial No. 351,959.

1. A floor-surfacer comprising a propulsion-supported frame, an abrading-drum journaled in bearings sliding vertically in the frame, a T-shape foot-treadle pivoted intermediate its ends to the frame and having an upright pivotal presser-lever at one end and an upright pivotal releasing-lever at its other end, a horizontal rod pivotally-connected to the pendent portion of the foot-treadle, a transverse rock-shaft journaled at its opposite ends in the frame, a bell-crank lever mounted on the rock-shaft and pivotally connected at one end to the rod and at its other end pivotally engaging one of the vertically-sliding bearings of the abrading-drum and an arm on said rock-shaft pivotally-engaging the other sliding bearing of the abrading-drum.

2. A floor-surfacer comprising a frame, an abrading-drum journaled in vertically-sliding bearings at opposite ends of the frame, a transverse rock-shaft at the opposite ends of the frame adjacent the vertically-sliding drum-bearings, bell-crank levers rigidly attached to said rock-shafts adjacent said vertically-sliding drum-bearings at one side of the machine, independent horizontal arms or levers rigidly attached to said shafts adjacent the drum-bearings at the other side of the machine, a longitudinal rod or coupling-bar pivotally connected at its opposite ends to the pendent arms of said bell-crank levers, means at the outer ends of the other arms of said bell-crank levers and, also, on the said horizontal arms for pivotally connecting them with the vertically-sliding drum-bearings, a T-shape foot-treadle pivotally-mounted on the frame and pivotally-connected at its lower slotted end to said rod, a pivotal vertical presser-lever at one end of the horizontal portion of the foot treadle, a pivotal, vertical drum-raising or friction releasing lever at the opposite end of the foot-treadle, means for supporting and propelling the machine, and means for steering or guiding the machine over the surface to be dressed and finished.

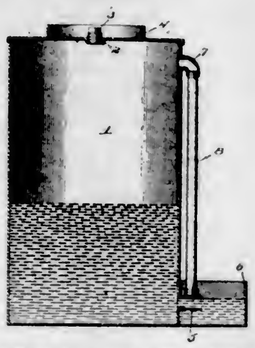


3. A floor-surfacing machine comprising a propulsion-supported frame, steering means, abrading-drums mounted on vertically-sliding bearings at the opposite ends of said frame, a longitudinal rod, transverse rock-shafts at the opposite ends of the frame, bell-crank levers rigidly-mounted on said rock-shafts adjacent the said vertically-sliding bearings at one side of the machine, each bell-crank having pivotal-connection at one end with an end of the said rod, horizontal arms or levers rigidly mounted on the rock-shafts adjacent the bearings at the other side of the machine, horizontal arms loosely-mounted on the rock-shafts adjacent and parallel to the other arms of the bell-crank levers and to said horizontal levers, means for uniting said bell-cranks and horizontal levers through said loosely-mounted arms with the vertically-sliding drum-bearings so that all the latter shall act in unison, elastic means intermediate the bell-cranks and horizontal arms and the drum-bearings, means mounted on the frame and connected with the rod for actuating the latter in the operation of raising and depressing said abrading-drums, and means for actuating the abrading-drums.

4. A floor-surfacing machine comprising a propulsion-supported frame, abrading-drums mounted in vertically-sliding universal-bearings at opposite ends of the frame, elastic means in said bearings, transverse rock shafts at opposite ends of the frame adjacent the drums, bell-crank levers rigid on said rock shafts adjacent the vertically-sliding drum-bearings at one side of the machine, a longitudinal rod connecting the pendent or downwardly-projecting arms of said bell-cranks, horizontal levers rigid on the shaft adjacent the drum-bearings at the other side of the machine, means on the frame for moving said rod so that the bell-cranks, horizontal levers and said shafts operate in unison, loosely-mounted levers on said shafts adjacent said bell-cranks and horizontal levers and having lateral lugs at one side engaging forks in both the horizontal arms of the bell-cranks and in said horizontal levers, and lateral pins at the other side engaging springs in the vertically-

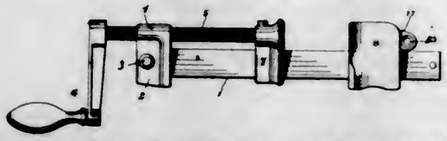
sliding drum-bearings, and suitable levers, one at each corner of the machine adjacent a bell-crank arm and horizontal-lever, for independently depressing the respective opposite ends of each of the two abrading-drums against the pressure of said springs.

867,621. DRINKING-FOUNTAIN. JOHN F. TANNEHILL, Walnut Grove, Ill. Filed Oct. 30, 1905. Serial No. 285,171.



A drinking fountain comprising a tank having a normally closed inlet, a horizontally disposed outlet pipe extending from and at right angles to the tank and disposed above the lower end thereof, a trough into which said pipe projects near its mid-height, said trough being immovably connected with the tank, an air pipe extending from the upper portion of the tank to the outlet pipe and spaced a distance from the tank, said air pipe intersecting the bore in said outlet pipe adjacent its longitudinal center, the end of the air pipe being in the same horizontal plane as the upper surface of the outlet pipe, a flange upon the tank and surrounding the inlet and a detachable plug for closing the outlet pipe.

867,622. SCREW-CLAMP. JAMES L. TAYLOR, Bloomfield, N. J. Filed June 26, 1906. Serial No. 323,456.



1. In a clamp, the combination with a bar, of an adjustable head slidably mounted on said bar and having a recess adjacent to said bar, a wedge in said recess having its large end rearward and a transverse slot in its edge next the bar, and a gripping block in said slot held against lateral escape by the walls of the said recess.

2. In a clamp, the combination with a bar, of an adjustable head slidably mounted on said bar and having a recess adjacent to said bar, a wedge in said recess having its large end rearward and a transverse slot in its edge next the bar, a gripping block in said slot held against lateral escape by the walls of the said recess, and a spring adapted to force said wedge longitudinally.

3. In a clamp, the combination with a bar, of a head slidably mounted on said bar and having on the side of the bar where the work lies a recess at its rear and being closed at its front against said bar, a wedge in said recess with its large end rearward and adapted to engage the bar, and a spring inclosed and concealed by said recess and acting longitudinally of the bar and the wedge to force said wedge forward.

4. In a clamp, the combination with a bar, of a head slidably mounted on said bar and having on the side of the bar where the work lies a recess at its rear and being closed at its front against said bar, a wedge in said recess adapted to engage the bar and having its large end projecting rearward from said recess and provided with a finger grasp, and a spring inclosed and concealed by said recess and acting longitudinally of the bar and the wedge to force said wedge forward.

5. In a clamp, the combination with a bar, of a head slidably mounted on said bar and having on the side of the bar where the work lies a recess at its rear and being closed at its front against said bar and having an interior enlargement or extension of the inner end of said recess in a direction away from the bar, a wedge in said recess adapted to engage the bar and having its large end rearward, and a spring inclosed in said extension of the recess and adapted to act longitudinally of the bar and wedge upon the inner end of said wedge to force said wedge forward.

6. In a clamp, the combination with a bar, of an adjustable head slidably mounted on said bar and having at its rear on the side of the bar where the work lies a recess and an interior enlargement or extension at the inner end of said recess, a wedge in said recess adapted to engage the bar, having its large end rearward and its small end upturned in said extension or enlargement of the recess, and a spring adapted to act longitudinally of the wedge between said up-turned end and the rearward wall of the said enlargement chamber.

7. In a clamp, the combination with a bar, of an adjustable head slidably mounted on said bar and having at its rear on the side of the bar where the work lies a recess and an interior enlargement or extension at the inner end of said recess, a wedge in said recess and adapted to engage the bar, having its large end rearward and its small end up-turned in said extension or enlargement of the recess, a rearwardly projecting pin on said up-turned end, and a coiled spring on said pin and adapted to engage the rear wall of the said enlargement chamber.

8. In a clamp, the combination with a bar, of an adjustable head slidably mounted upon said bar and having a recess adjacent to said bar, a wedge in said recess having end extensions which will not pass through said recess between the head and bar and having a pocket in its face next the bar, and a gripping-block in said recess of greater thickness than the space between the bar and wedge in the loosest position of the latter.

9. In a clamp, the combination with a bar, of a head apertured to receive said bar and providing a serrated surface at the forward end portion of the wall of the aperture on the side of the bar away from the work, and a wedge between said bar and the rear end portion of the wall of the aperture at the side of the bar where the work lies, presenting to the bar a serrated surface, said serrated surfaces of the wedge and opposite wall of the aperture in the head projecting from said wedge and wall of the aperture, respectively, constituting the only engagements of the head with the edges of the bar and engaging on opposite sides of a plane transverse to the bar.

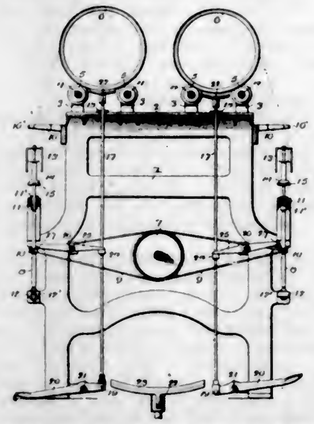
10. In a clamp, the combination with a bar, of a head slidably mounted on said bar and having on the side of the bar where the work lies a recess, a wedge in said recess having its large end rearward away from the work and having a transverse slot in its face next the bar, the forward end portion of the wall of the aperture at the side of the bar away from the work having a pocket, and removable gripping blocks in said pockets projecting from said wedge and wall of the aperture, respectively, constituting the only engagements of the head with the edges of the bar and engaging on opposite sides of a plane transverse to the bar.

11. In a clamp, the combination with a bar, of an adjustable head slidably mounted on said bar and having at its rear on that side of the bar where the work lies a recess and an interior enlargement or extension at the inner end of said recess, a wedge in said recess having its large end rearward, a pocket in its face next the bar and its small end up-turned in said extension or enlargement of the recess, a spring adapted to act longitudinally of the wedge between said up-turned end and the rearward wall of the said enlargement chamber, and a gripping block in said pocket adapted to bite against the bar.

12. In a clamp, the combination with a bar, of an adjustable head slidably mounted on said bar and having at its rear on that side of the bar where the work lies a recess and an interior enlargement or extension at the inner end of said recess, a wedge in said recess having its large end rearward, a pocket in its face next the bar and its small end up-turned in said extension or enlargement of the recess, a rearwardly projecting pin on said up-turned end, a coiled spring on said pin and adapted to engage the rear wall of the said enlargement chamber, and a gripping block in said pocket.

13. In a clamp, the combination with a bar, of a head slidably mounted on said bar and having at its rear on the side of the bar where the work lies a recess and an interior enlargement or extension at the inner end of said recess, a wedge in said recess adapted to engage the bar, having its large end rearward and its small end up-turned in said extension or enlargement of the recess, a rearward projection on said up-turned end adapted at its extremity to engage the rear wall of said recess extension and positively limit rearward motion of the wedge with respect to the head, and a spiral compression spring on said projection normally projecting beyond the end thereof into permanent engagement with the said rear wall of the recess extension.

867,623. MACHINE FOR TWISTING TOGETHER THE FILAMENTS OF A THREAD OF ARTIFICIAL SILK. MONTGOMERY WADDELL, New York, N. Y., assignor to Silas W. Pettit, Philadelphia, Pa. Filed Feb. 23, 1906. Serial No. 302,387.



1. In a machine for twisting together filaments of a thread, the combination with a body adapted to have wound thereon a thread composed of filaments, and means for positively rotating said body, of a twisting mechanism and means for conducting said untwisted thread directly from said body to said twisting mechanism and for allowing the twist to extend from the said twisting mechanism to said body.

2. In a machine for twisting together filaments of a thread, the combination with a body adapted to have wound thereon a thread composed of filaments, and means for positively rotating said body, of a twisting mechanism, means for conducting said thread directly from said body to said twisting mechanism and for allowing the twist to extend from the said twisting mechanism to said body and means for stopping the rotation of said body.

3. In a machine for twisting together the filaments of a thread of artificial silk or similar material, the combination with a spinning spindle, of a ring adapted to have wound thereon the thread of untwisted filaments, and means to positively rotate said ring, to deliver the filaments directly to said spindle, means to positively rotate said spindle and a bobbin loosely mounted on said spindle to wind up the thread as it is spun.

4. In a machine for twisting together the filaments of a thread of artificial silk or similar material, the combination with a spinning spindle, of a ring adapted to have wound thereon the thread of untwisted filaments, of means to positively rotate said ring, to deliver the filaments directly to said spindle, means to positively rotate said spindle, a bobbin loosely mounted upon said spindle to wind up the thread as it is spun, and means for simultaneously disconnecting said ring from its driving means and stopping the rotation of said spindle.

5. In a machine for twisting together the filaments of a thread, the combination with a twisting mechanism, of a pair of shafts, means to positively rotate said shafts, and a ring supported and rotated by said shafts, of means to twist the thread from the point at which it leaves said ring.

6. In a machine for twisting together the filaments of a thread of artificial silk or similar material, the combination with a flanged ring and means for supporting and rotating said ring by its flanges, of means adapted to be brought into engagement with said flanges to lift said ring from its engagement with said rotating means.

7. In a machine for twisting together the filaments of a thread of artificial silk or similar material, the combination with a pair of shafts, means to rotate said shafts in the same direction, and a flanged ring adapted to carry the thread of untwisted filaments, of means adapted to be brought into engagement with the flanges of said ring to lift said ring out of its driving connection with said shafts.

8. In a machine for twisting together the filaments of a thread of artificial silk or similar material, the combination of a pair of parallel shafts, a series of rollers mounted on said shafts, means to rotate said shafts in the same direction, a flanged ring supported on and rotated by said rollers, a spinning spindle, means to rotate said spindle, and foot operated means for lifting said ring from its engagement with said rollers and simultaneously applying a brake to said spindle.

9. In a machine for twisting together the filaments of a thread of artificial silk or similar material, the combination of a flanged ring adapted to contain the thread of untwisted filaments, a pair of parallel shafts, means to rotate said shafts, rollers mounted upon said shafts and adapted to support said ring and to rotate the same by their contact with the flanges of said ring, a spindle, means for positively driving said spindle, a flier mounted upon said spindle and rotated thereby, a bobbin loosely mounted upon said spindle and adapted to wind the twisted filaments as they are delivered from said ring, a brake for said spindle, a lifting device located between said shafts and beneath the flanges of said rollers, and foot operated means for simultaneously applying said brake to said spindle, and for moving said lifting device upwardly into engagement with the flanges of said ring to lift said ring out of contact with said rollers.

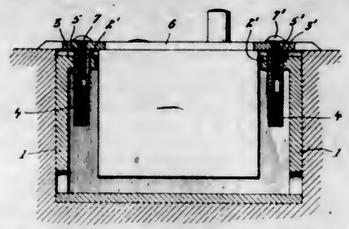
10. In a machine for twisting together the filaments of a thread of artificial silk or similar material, the combination with a ring and means for supporting and rotating said ring of means normally out of contact with said ring and adapted to be brought into engagement with said ring to lift the same from its engagement with said rotating means.

867,624. SWITCH-BOX. HARRY J. WARTHEN, Washington, D. C. Filed July 28, 1906. Serial No. 328,169.

1. An article of the class described comprising a wall box carrying internally and externally screw-threaded sleeves adapted to be adjusted inwardly and outwardly, and a wall plate secured to said sleeves, substantially as described.

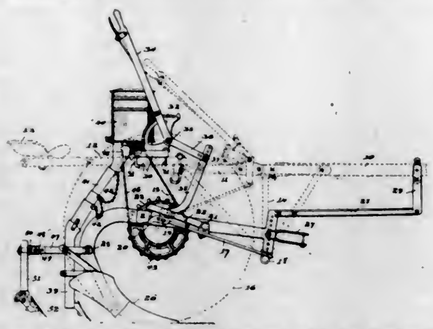
2. An article of the class described comprising a wall box, adjustable sleeves carried thereon, and a wall plate adapted to close said box secured to said sleeves, substantially as described.

3. An article of the class described comprising a wall box adapted to contain switch mechanism, internally and externally screw-threaded sleeves adapted to be adjusted



inwardly and outwardly, carried on said box, a wall plate closing said box secured upon said sleeves by screws, substantially as described.

867,625. PLANTER. IRA A. WEAVER, Springfield, Ill., assignor to Racine-Sattley Company, Springfield, Ill., a Corporation of Illinois. Filed Dec. 3, 1906. Serial No. 346,068.



1. In a two wheeled machine of the character described, the combination of a frame, carrying wheels, a plow or middle breaker located to throw the dirt back of said wheels, an operator's seat, and a seed box and feeding mechanism, said seat being located in the rear of said feed box and feeding mechanism, whereby the operator can at all times observe the operation of the feeding mechanism substantially as described.

2. In a two wheeled planter, the combination of a frame, a pair of carrying wheels, a plow or middle breaker located to throw the dirt back of said wheels, an operator's seat, and a seed box and feeding mechanism mounted on said frame, said seat being located in the rear of said seed box and feeding mechanism, whereby the operator can at all times observe the operation of the feeding mechanism substantially as described.

3. A planting attachment adapted to be detachably fastened to a cultivator frame equipped with carrying wheels, said attachment including a seed-dropping device, a plow or middle breaker, and means for supporting said device and plow on the cultivator frame substantially as described.

4. A planting attachment adapted to be detachably fastened to a cultivator frame equipped with a coupling arch, an axle, and carrying wheels, said attachment including bars adapted to be secured to said coupling arch and axle, a middle breaker, a beam supporting said middle breaker, a ball supporting said beam and mounted on said bars, and a seed-dropping mechanism, substantially as described.

5. A planting attachment adapted to be detachably fastened to a cultivator frame equipped with a coupling arch, an axle, and carrying wheels, said attachment including bars adapted to be secured to said coupling arch and axle, each of said bars having one end bent to form a foot rest, a middle breaker, a beam supporting said middle breaker, and a member mounted on said bars supporting said beam, substantially as described.

6. A planting attachment adapted to be detachably fastened to a cultivator frame equipped with a coupling arch, an axle, and carrying wheels, said attachment including means adapted to be secured to said coupling arch and axle, a middle breaker, a beam supporting said middle breaker, and a ball adjustably mounted on said means and supporting said beam, substantially as described.

7. In a machine of the character described, the combination of a frame, a pole or tongue, a plow beam, a ball supporting said beam and connecting it to said frame, a draft clevis on said beam, an arm forming an extension of said plow beam projecting forwardly past said draft clevis, and means connecting the front end of said arm to said pole or tongue, substantially as described.

8. In a machine of the character described, the combination of a frame, a pole or tongue, a plow beam, a plow, a ball supporting said beam and connecting it to said frame, a draft clevis on said beam, an arm forming an extension of said plow beam projecting forwardly past said draft clevis, and one or more links pivoted to said pole or tongue and to the front end of said arm, substantially as described.

9. A planting attachment adapted to be fastened to a cultivator frame, said attachment including a plow beam, a plow mounted on said beam, a ball partially supporting said beam, a draft clevis on said beam, an arm forming an extension of said plow beam projecting forwardly past said draft clevis, and means adapted to connect the front end of said arm to the pole or tongue of the cultivator, substantially as described.

10. In a planting attachment adapted to be detachably fastened to a cultivator frame, the combination of a frame, a seed-dropping mechanism mounted on said frame, a plow or breaker, a plow beam, a ball connecting said plow beam to said cultivator frame, a lifting lever and connections adapted to raise or lower said plow beam and plow, substantially as described.

11. In a planting attachment adapted to be detachably fastened to a cultivator frame, the combination of an adjustable plow beam, a plow or breaker carried by said beam, means for supporting said plow beam and plow on the cultivator frame, a seed-feeding mechanism mounted thereon, and a telescoping tube for conveying the seed from said seed-feeding mechanism, substantially as described.

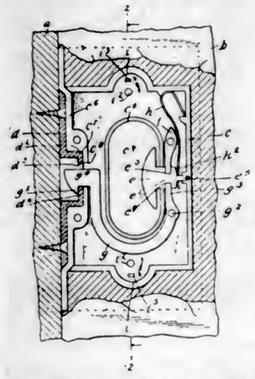
12. A planting attachment adapted to be detachably fastened to a cultivator frame, said attachment including a frame, a seed box thereon, a seed-feeding mechanism for said box, and a plow beam lifting lever pivotally mounted on said attachment frame, substantially as described.

13. A planting attachment adapted to be detachably fastened to a cultivator frame, said attachment including a frame having mounted thereon, a seed-box, seed-feeding mechanism, a plow-beam lifting lever, a segmental rack, and a locking dog on said lever coöperating with said segmental rack, substantially as described.

14. In a planting machine, the combination of a plow or breaker, a plow beam, a pair of rearwardly extended arms fastened to said plow beam, a portion at least of said arms being divergent, covering shovels having shanks, and means adjustably connecting said shanks to the divergent portions of said arms whereby the distance between said shovels may be varied, substantially as described.

867,626. LOCK FOR ELEVATOR-DOORS. GUSTAF R. WIKANDER, New York, N. Y. Filed July 2, 1907. Serial No. 381,888.

1. In a lock for sliding doors, a case one side of which is provided with an opening, a block placed in said opening and provided with a shank movable through one side thereof, a spring adapted to bear on said shank and force the block inwardly, arms pivoted on the opposite sides of said shank and adapted to enter recesses formed therein, one of said arms being a lock arm and being curved around said opening and provided with a laterally directed extension which passes outwardly through the side of the case opposite that in which said arms are pivoted.



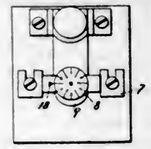
2. In a lock for sliding doors, a case one side of which is provided with an opening, a block placed in said opening and provided with a shank movable through one side thereof, a spring adapted to bear on said shank and force the block inwardly, arms pivoted on the opposite sides of said shank and adapted to enter recesses formed therein, one of said arms being a lock arm and being curved around said opening and provided with a laterally directed extension which passes outwardly through the side of the case opposite that in which said arms are pivoted, and a strike plate adapted to be secured to one side of the door frame and provided with a keeper adapted to enter a recess in the adjacent side of the lock and to receive the extension of the lock arm.

3. In a lock for sliding doors, a case one side of which is provided with an opening, a block provided in said opening and provided with a shank movable through one side wall thereof, a spring adapted to bear on said shank and force the block inwardly, arms pivoted on the opposite sides of said shank and adapted to enter recesses formed therein, one of said arms being a lock arm and being curved around said opening and provided with a laterally directed extension which passes outwardly through the side of the case opposite that in which said arms are pivoted, and a strike plate adapted to be secured to one side of the door frame and provided with a keeper adapted to enter a recess in the adjacent side of the lock case and to receive the extension of the lock arm, the other side of the lock case being provided with a key hole through which a key may be inserted to release the lock arm.

4. In a lock for sliding doors, a case one side of which is provided with an opening, around which is a wall, a block placed in said opening and provided with a shank movable through one side of said wall, a spring adapted to bear on said shank and force the block inwardly, a lock arm pivoted adjacent to said shank and one end of which operates in a recess formed therein, the other end of said arm being curved around said opening and provided with a laterally directed extension which passes outwardly through the side of the case opposite that in which said arm is pivoted.

867,627. INDUCTION-COIL APPARATUS. ERNEST C. WILCOX, Meriden, Conn., assignor to The Connecticut Telephone and Electric Company, Incorporated, a Connecticut Corporation. Filed June 19, 1907. Serial No. 379,731.

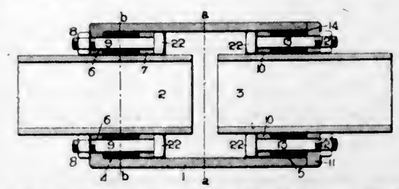
1. In an ignition system, the combination of an ignition device, a source of primary current, an induction device having its primary in circuit with the source of current and having its secondary in circuit with the ignition device, a vibrator in the primary circuit and having an adjustable member, a condenser shunted across the terminals of the vibrator and proportioned to the normal current consumption, and means for indicating the correct adjustment of the vibrator at the normal current consumption.



2. An induction apparatus, comprising a box, primary and secondary windings therein, a bridge, a stationary pointer, an adjustable member carried by said bridge and having a plurality of indicating marks adapted to register with said pointer for indicating the correct adjustment for normal conditions.

3. As an article of manufacture, a bridge member for an induction vibrator, a pointer carried thereby, and an adjustable member adjacent the pointer and having a plurality of scales from the zeros of which said member is adapted to be moved.

867,628. PIPE-COUPLING. ELI S. WILLIAMSON, Buffalo, N. Y. Filed Apr. 25, 1906. Serial No. 313,620.



1. In a coupling for pipes, pipes having their ends in juxtaposition, a straight cylindrical sleeve around said pipe ends and a friction locking and sealing mechanism between the sleeve and each pipe end each comprising a rubber ring of rectangular cross section, annular metal surfaces on opposite sides of each rubber ring, and screw bolts extending parallel with the sleeve and passing through the metal and rubber rings whereby each rubber ring is expanded equally and evenly, substantially as set forth.

2. In a coupling for pipes, pipes having their ends in juxtaposition, a straight cylindrical sleeve around said pipe ends having an inwardly projecting flange at one end, a ring of yielding material within the sleeve and interposed between the sleeve and one of the pipe ends; said ring being of rectangular cross section and considerably wider than it is thick, an inner metal ring between which and the flange of the sleeve the yielding ring is located; said yielding ring being approximately inclosed and protected by the sleeve pipe end inner metal ring and sleeve flange, bolts extending parallel to the sleeve and pipe end and passing through the inner metal ring, yielding ring and sleeve flange, screw nuts on the outer ends of the bolts, a similar rectangular cross sectional yielding ring interposed between the sleeve and another pipe end, inner and outer metal rings between which said last mentioned yielding ring is located and approximately inclosed bolts extending parallel to the sleeve and pipe end and passing through the inner and outer metal rings and the yielding ring and screw nuts on the outer ends of said bolts, substantially as set forth.

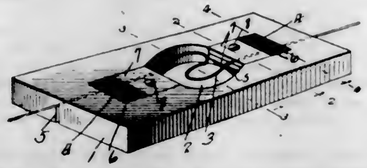
3. In a coupling for pipes, pipes having their ends in juxtaposition, a straight cylindrical sleeve around said pipe ends, a plurality of yielding rings each of said rings being of rectangular cross section and considerably wider than it is thick, one being interposed between the sleeve and each of the pipe ends; means for expanding the yielding rings, to frictionally lock and seal the pipe ends to the sleeve comprising annular metal elements having flat surfaces between which the yielding rings are embraced and

bolts for drawing said metal elements toward each other to equally and evenly expand the yielding rings.

4. In a coupling for pipes, pipes having their ends in juxtaposition, a straight cylindrical sleeve around said pipe ends, a plurality of yielding rings one being interposed between the sleeve and each of the pipe ends; means for expanding the yielding rings, to frictionally lock and seal the pipe ends to the sleeves comprising annular metal elements having flat surfaces between which the yielding rings, are located and approximately inclosed and protected and screw bolts extending parallel with the sleeve and through the annular metal surfaces and yielding rings for drawing said surfaces together equally and evenly expanding the yielding rings, substantially as set forth.

5. In a coupling for pipes, pipes having their ends in juxtaposition, a straight cylindrical sleeve around said pipe ends having an inwardly projecting flange at one end, a ring of yielding material within the sleeve and interposed between the sleeve and one of the pipe ends; said ring being of rectangular cross section and considerably wider than it is thick, an inner metal ring between which and the flange of the sleeve the yielding ring is located; said yielding ring being approximately inclosed and protected by the sleeve pipe end, inner metal ring and sleeve flange, bolts extending parallel to the sleeve and pipe end and passing through the inner metal ring, yielding ring and sleeve flange, screw nuts on the outer ends of the bolts, a similar rectangular cross sectional yielding ring interposed between the sleeve and another pipe end, inner and outer metal rings between which said last mentioned yielding ring is located and approximately inclosed, a flange on one of said metal rings for centering said ring in the sleeve, bolts extending parallel to the sleeve and pipe end and passing through the inner and outer metal rings and the yielding ring and screw nuts on the outer ends of said bolts, substantially as set forth.

867,629. WIRE-HOLDER. NOAH L. WINE, Polo, Ill. Filed Jan. 16, 1907. Serial No. 352,624.

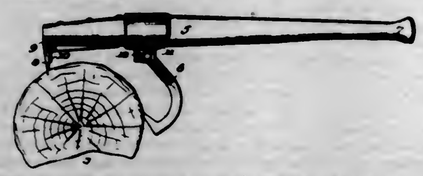


1. A device of the type set forth comprising a body portion having a central slack opening, wire clamping means adjacent to said opening and a section of yieldable shock absorbing material adjacent said clamping means and contacting with the wire.

2. A device of the type set forth comprising a body portion, wire clamping means carried thereby, and a section of rubber held in said body portion adjacent said clamping means and being recessed to receive a wire therethrough.

3. A device of the type set forth comprising wire clamping means and shock absorbing material adjacent thereto and contacting with the wire held by said clamping means.

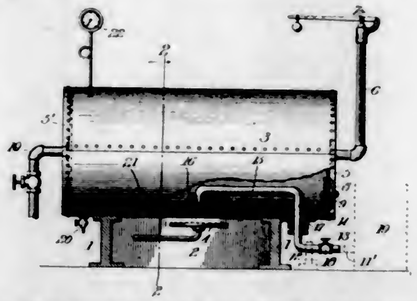
867,630. CANT-HOOK. WILLIAM A. WOOD, Doyle township, Schoolcraft county, Mich. Filed Apr. 3, 1907. Serial No. 366,163.



1. A cant-hook comprising a lever carrying a pivoted hook, spurs at the toe of the lever offset laterally therefrom, and a spur between and of less length than the offset spurs.

2. A cant-hook comprising a lever carrying a pivoted hook, a plate secured to the lever, a cross-bar projecting from the plate at the toe of the lever, downturned spurs at the ends of the cross-bar, and intermediate downturned spurs on the cross-bar, the points of which are above the points of the first mentioned spurs.

867,631. STEAM-GENERATOR. CHARLES BAKEHAUS, Sigourney, Iowa. Filed Mar. 28, 1907. Serial No. 365,035.



1. In an apparatus of the class described, the combination with a support, of a cylindrical receptacle carried by said support, said receptacle provided with a vertical end, a safety valve carried by said vertical end, said vertical end provided with an opening between said safety valve and the lower portion of said receptacle, removable means closing said opening, a supply pipe extending through the lower portion of said receptacle between said opening and said support, and means engaging said supply pipe outside of said receptacle for securing said receptacle against independent movement upon said support.

2. In an apparatus of the class described, the combination with a support, of a cylindrical receptacle carried by said support, a drain-cock formed upon said receptacle between its ends, said receptacle provided with grooves formed in its inner face and extending from near its ends to said drain-cock and opening into the same, each groove increasing in depth from one end of the receptacle to said drain cock, means for supplying liquid to said receptacle, and heating means for said receptacle.

3. In an apparatus of the class described, the combination with a support provided with a fire-box or furnace formed therein, a receptacle carried by said support, of a supply pipe extending into said receptacle, fastening means positioned contiguous to said receptacle and engaging said supply pipe for preventing movement of said receptacle upon said support, and means for supplying liquid to said supply pipe.

4. In an apparatus of the class described, the combination with a support, of a cylindrical receptacle carried by said support, a drain-cock formed upon the lowest portion of said receptacle between its ends, said receptacle provided with horizontal grooves formed in the inner face of the lowest portion thereof, the grooves formed upon opposite sides of said drain-cock and extending from near the ends of the receptacle and opening into said drain-cock, means for supplying liquid to said receptacle, and means for heating said receptacle.

5. In an apparatus of the class described, the combination with a support provided with a furnace formed therein, of a horizontal, cylindrical receptacle carried by said support, a supply pipe provided with a vertical portion, the vertical portion extending through the lowest portion of said receptacle, said supply pipe provided with a plurality of horizontal portions projecting only in opposite directions from the upper and lower ends of the vertical portion, the horizontal portions at the upper end of said vertical portion positioned within said receptacle and terminating at its inner end in a downwardly-extending nozzle, the nozzle adapted to discharge liquid only upon the receptacle over the central portion of the furnace, the horizontal portion of the supply pipe integral with the lower end of the vertical portion positioned outside of said receptacle and extending outwardly beyond one end thereof, whereby a reservoir or source of liquid supply may be connected thereto.

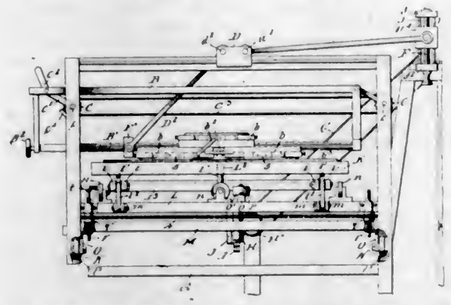
6. In an apparatus of the class described, the combination with a support, of a cylindrical receptacle carried by said support, a supply pipe provided with a vertical portion and with an inner and an outer horizontal portion, said inner and outer horizontal portions extending in opposite directions, the vertical portion positioned contiguous to one of the ends of said receptacle and extending through the body of the receptacle, the inner, horizontal portion extending parallel with the body of the receptacle and provided at its inner end with a downwardly-extending nozzle adapted to discharge liquid upon the inner face of said receptacle only over the central portion thereof, the outer horizontal portion extending outwardly from said support and projecting beyond one end of said receptacle, fastening means engaging the outer horizontal portion of said supply pipe, and means engaging the outer portion of said supply pipe for supplying liquid thereto.

867,632. METHOD OF WELDING COPPER. WILLIAM A. BARNES, Woronoco, Mass. Filed Mar. 19, 1907. Serial No. 363,307.

1. The herein described flux or welding compound consisting of sand, copper filings, glass, borax and cyanid of potassium.

2. The herein described flux or welding compound consisting of sand, two parts; glass, two parts; copper filings, two parts; borax, eight parts and cyanid of potassium, two parts, substantially as described.

867,633. POLISHING-MACHINE. PAUL H. BARZ, Chicago, Ill. Filed Jan. 26, 1907. Serial No. 354,224.



1. In a polishing machine, the combination with a bed for the work, of a vertically and laterally adjustable frame above the same, having a guide bar, a rubbing block slidable on the guide bar, and driving devices connected to the block, including a sliding cross bar and a link connecting the bar and block and movable along the bar according to the lateral movement of the said frame.

2. In a polishing machine, the combination with a main frame, and a bed for the work supported thereon, of a guide bar adjustable laterally above the bed, a polishing block slidable on the guide bar, a pair of spaced blocks slidable on the top of the frame and having a cross bar connecting the same, a link pivotally connected to the polishing block and to the cross bar, and means to reciprocate said sliding blocks.

3. In a polishing machine, the combination with a main frame and a bed for the work, of a frame suspended within the main frame and having a guide bar which may be turned on its longitudinal axis, a polishing block mounted upon the guide bar and having a circular head extending around the guide bar, a collar rotatably mounted on the head, and means connected to the collar to reciprocate the block.

4. In a polishing machine, the combination with a main frame and a bed for the work therein, of a polishing block slidable over the work, a pair of blocks slidable on the upper part of the frame and having a connecting rod, a link pivotally connected to the rod and to the block and adjustable laterally along the rod, and means to reciprocate the said sliding blocks.

5. In a polishing machine, the combination with a main frame, of a bed for the work, having vertical and angular adjustment therein, a frame mounted in the main frame above the bed and having vertical and lateral adjustment, rubbing blocks carried by the frame, and means to reciprocate the blocks.

6. In a polishing machine, the combination with a bed, and means to reciprocate the same, of a polishing block, and means to reciprocate the same above the bed, at an angle to the line of reciprocation of the bed.

7. In a polishing machine, the combination with a bed pivoted at the center, of a platform under the bed having rollers thereon, the bed being rotatable upon said rollers, and means to lift the bed above said rollers and to lower the same thereon.

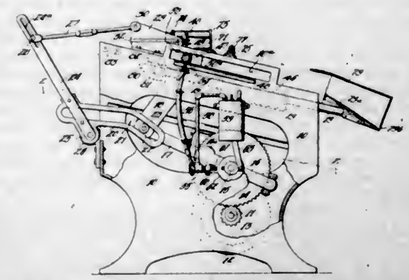
8. In a polishing machine, the combination with a vertically adjustable platform having rollers upon the top thereof, of a bed pivoted upon the platform and rotatable upon the rollers, the bed being also vertically movable, and means to raise and lower the bed with respect to said rollers.

9. In a polishing machine, the combination with a platform, of a frame above the same, pivoted links between the frame and the platform, means to swing the links to raise or lower the frame, a bed mounted upon the frame and movable up and down therewith, the frame having rollers on which the bed rests and means to reciprocate the bed.

10. In a polishing machine, the combination with a guide bar, of a rubbing block slidable thereon, said block being formed of upper and lower parts pivoted together, the former of which engages the bar and the latter of which may be turned on the pivot at various angles with respect to the former.

11. In a polishing machine, the combination with a main frame and a bed for the work, of a frame mounted within the main frame above the bed and having a lower guide bar which may be turned on its longitudinal axis, means to raise and lower the latter frame, means to shift the same laterally, a polishing block mounted on the guide bar and capable of being turned therewith to various angles, and means to reciprocate the block on the bar.

867,634. AUTOMATIC FEED AND DELIVERY MECHANISM FOR PRINTING-PRESSES. SAMUEL C. BEALE, Los Angeles, Cal., assignor to The Mills Automatic Press Company, a Corporation. Filed Jan. 25, 1907. Serial No. 353,950.



1. In a printing press, an intermittently traveling paper carrier having adjustable ends and sides and having the front portion of the bottom open; cam operated mechanism

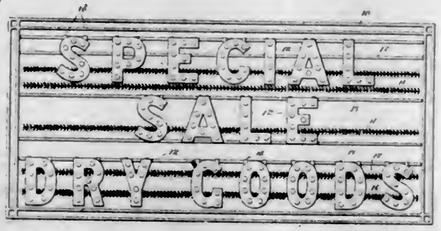
secured to said carrier to intermittently operate the same; and mechanism operable by the carrier but not longitudinally movable to support the front end of the paper during a portion of the travel of the carrier.

2. In a printing press an intermittently traveling paper carrier; a pivoted lever operatively connected thereto; an arm secured to said lever intermediate its ends and adjacent the pivot of the lever, said arm having a cam slot therein; and mechanism engaging said arm within said slot to intermittently move the free end of the lever.

3. In a printing press, the combination of a reciprocating paper carrier having the front end of the bottom open; a plurality of supporting fingers secured to a shaft; and mechanism secured to said carrier and other mechanism secured to said finger shaft and co-acting to move the front end of the fingers up to and hold the same on a level with the bottom of said carrier during the latter part of the forward movement of the carrier and during the first part of the backward movement of the carrier, and then to move the front end of the fingers below the level of the bottom of the carrier.

4. In a printing press an intermittently traveling paper carrier; an adjustable pitman secured thereto; a pivoted lever adjustably connected to said pitman; an arm secured to said lever intermediate its ends; and adjacent to the pivot of the lever, said arm having a cam slot therein; and mechanism engaging said arm within said slot to intermittently move the end of the lever connected to the pitman.

867,635. ELECTRIC SIGN. WILLIAM A. F. BECKER, Chicago, Ill. Filed Oct. 26, 1906. Serial No. 340,784.

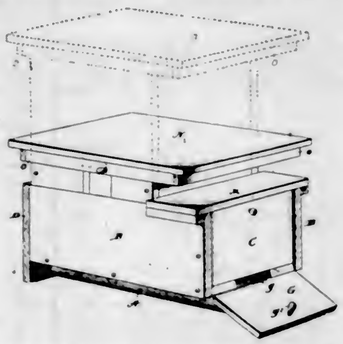


1. In an electrical sign, the combination with a base-board and a plurality of electric sign characters adapted to be removably supported, and variously arranged, on the face of the base-board, of a row of closely spaced sockets carried by the base-board and alternately connected with the opposite sides of the feed circuit, and plugs carried by the sign characters and arranged to enter two sockets of alternate polarity on the board, said plugs being permanently wired to the opposite sides of the sign character circuits.

2. In an electric sign, the combination with a base-board provided with a plurality of individual, closely spaced, separated sockets permanently connected to the feed and return wires of the circuit, sign characters supported on the front face of the board and plugs carried by the sign characters and permanently wired to the opposite sides of the sign character circuits, said plugs being separated such distance that when one plug is engaged with a negative socket of the base-board the other plug is engaged with a positive socket thereof and the sockets being so closely spaced that a character may be shifted from one pair of sockets to an adjacent pair without indicating an objectional separating space between the characters on the base board.

3. In an electrical sign, the combination with a base-board and a plurality of electric sign characters adapted to be removably supported, and variously arranged, on the face of the base-board, of a row of closely spaced sockets carried by the base-board and alternately connected with the opposite sides of the feed circuit, plugs of opposite polarity carried by each sign character designed to enter said sockets, and a suspending bar extending outwardly from the face of the base-board on which the sign characters are suspended.

867,636. BEEHIVE. WILLIAM BEESON, Giltedge, Mont. Filed Mar. 2, 1907. Serial No. 360,156.



1. A bee hive, having a plurality of nested or telescoping boxes, separated to provide comb spaces between the walls of adjacent boxes the hive being constructed to give the bees access to such comb spaces.

2. A bee hive, having a plurality of nested or telescoping boxes, separated to provide comb spaces between the walls of adjacent boxes, said boxes being shiftable relative to each other, so that at different times they may be in different relative positions the hive being constructed to give the bees access to such comb spaces.

3. A bee hive, having a plurality of nested or telescoping boxes, separated to provide comb spaces between the walls of adjacent boxes, said boxes being shiftable relative to each other, so that at different times different side walls may be near each other the hive being constructed to give the bees access to such comb spaces.

4. A bee hive, having a plurality of nested or telescoping boxes, separated to provide comb spaces between the walls of adjacent boxes, the innermost box having a chamber for brood frames the hive being constructed to give the bees access to such comb spaces.

5. A bee hive, having a plurality of nested or telescoping boxes, separated to provide comb spaces between the walls of adjacent boxes, said boxes having at their bottoms bars that lie alongside each other between which are bee spaces.

6. A brood frame comprising a solid comb supporting core, and means for supporting such core.

7. The combination of a brood chamber and brood frame consisting of solid comb supporting cores, and means for supporting cores in the brood chamber.

8. A bee hive having an air-admitting opening in its lower part, and a top cover that is shiftable horizontally to vary a means of communication between the top of the hive and the external atmosphere.

9. The combination of a bee hive, and a top cover that is shiftable horizontally to control means of communication between the interior of the hive and the external atmosphere.

10. The combination of a bee hive, and a top cover having in its underside a space forming an air passage, said top cover being shiftable to different positions to change the position of such air space relative to the interior of the hive.

11. A bottom board for bee hives having side walls longer than the hive body from front to rear, whereby a vestibule-like space is provided at the front of the hive body, said bottom board having a front wall that is shiftable from a vertical to a horizontal position in said vestibule its horizontal position being above the floor and providing bee passages above and below it.

12. A bottom board for bee hives comprising a base piece and floor pieces at opposite sides of the base piece, between which, above the base piece, is a space, and said floor pieces extending from front to rear and projecting beyond the sides of the base so that beneath the floor pieces there is a space on either side of the base piece.

13. A bottom board for bee hives, comprising a base piece and floor pieces at opposite sides of the base piece, between which is a space said floor pieces extending from front to rear, and projecting beyond the sides of the base.

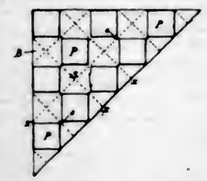
14. A bottom board for bee hives comprising a base piece, floor pieces at opposite sides of the basepiece, side walls arising from said floor pieces, a rear wall, and a horizontal frontwall shiftable to different positions.

15. The combination of a bottom board having side walls, a hive shorter than the side walls, from front to rear whereby a space exists in front of the hive in the bottom board, and an alighting board shiftable from its position at the front of the bottom board to a position in said space next the front of the hive.

16. The combination of a bottom board having side walls, a hive in the bottom board shorter than the bottom board, from front to rear whereby a vestibule-like space exists in the bottom board at the front of the hive, the bottom board having a passage leading beneath the hive, and an alighting board having a projection fitting such passage and shiftable from a position at the front of the bottom board to a position at the front of the hive with its projection extending in said passage.

17. The combination of a bottom board having side walls, a hive, the bottom board having a vestibule-like space in front of the hive between the side walls, and a removable cover for the top of said vestibule-like space resting on said side walls and having a projection engaging each side wall.

867,637. PROCESS OF MAKING FLOORING AND THE FLOORING ITSELF. GEORGE H. BENNETT, New York, N. Y. Filed May 14, 1904. Serial No. 207,920.



1. A rubber flooring composed of a blank having a base and a series of integral projections constituting tiles, extending from said base, and a second series of projections interposed between the units of the first series, all substantially as set forth.

2. A rubber flooring composed of a blank having a base and a series of integral projections constituting tiles, extending from said base, a second series of projections constituting tiles interposed between the members of the first series and a series of cement lines interposed between the various projections, all substantially as set forth.

3. The process of making rubber flooring which consists in forming an integral blank unit having a base and a projection constituting a tile, a second blank adapted to fill the space in the first blank adjacent to its projection placing one upon the other with cement between and vulcanizing the mass.

4. A rubber flooring composed of a blank having a base and a series of integral projections constituting tiles extending from said base, and a second series of projections interposed between the members of the first series of projections and all united into one mass, substantially as set forth.

5. The process of making rubber flooring, which consists in forming an integral blank unit having a base and a projection, a complemental blank, placing one upon the other, with cement between and vulcanizing the mass.

6. The process of making rubber flooring which consists in forming an integral blank having a base and a series of projections extending therefrom but separated one from the next, and a second blank having projections adapted to enter the intervals between the first series, placing one upon the other, interposing a cement and vulcanizing the mass, all substantially as set forth.

7. The process of making rubber flooring, which consists in forming an integral blank having a base and a series of projections extending therefrom but separated one from the next, and a second blank having a base and projections extending therefrom adapted to enter the intervals between the first series, placing one upon the other, interposing a cement, vulcanizing the mass and then removing one or both of the bases, all substantially as set forth.

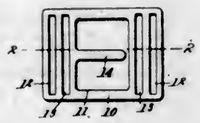
8. The process of making rubber flooring, which consists in forming an integral blank having a base and a series of projections extending therefrom, some of which are of a given color, but separated one from the next, and a second blank having projections, some of which are of a color differing from the first color, adapted to enter the intervals between the first series, placing one upon the other, interposing a cement and vulcanizing the mass, all substantially as set forth.

9. The process of making rubber flooring, which consists in forming an integral blank having a base and a series of projections extending therefrom, some of which are of a given color, but separated one from the next, and a second blank having a base and projections extending therefrom, some of which are of a color differing from the first color, adapted to enter the intervals between the first series, placing one upon the other, interposing a cement, vulcanizing the mass and then removing one or both of the bases all substantially as set forth.

10. The process of making rubber flooring, which consists in forming an integral blank having a base and a series of projections extending therefrom but separated one from the next, a second blank having a base and a series of projections adapted to enter spaces between the first series of projections and a third blank adapted to fill the spaces between the projections of the first and second blanks, placing the various blanks in position with cement interposed and vulcanizing the mass, all substantially as set forth.

11. The process of making rubber flooring, which consists in forming a blank having a base and projections, a complemental blank representing the cement line, placing one in position with relation to the other with cement between and vulcanizing the mass.

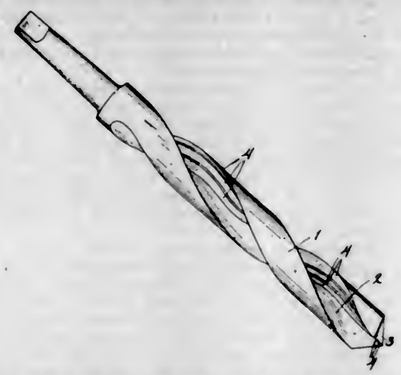
867,638. BELT-BUCKLE. BENJAMIN F. BOYDEN, Mount Washington, Md., assignor, by mesne assignments, to For-Man Belt Company of Pittsburgh, Pa., a Corporation of Pennsylvania. Filed Nov. 1, 1902. Serial No. 129,672.



1. A buckle comprising a plate having each end provided with a pair of slots, and an inwardly bent garment engaging tongue struck up from said plate.

2. A buckle comprising a plate having each end provided with a pair of slots, said plate being also cut out centrally intermediate of said slots, and an inwardly bent garment engaging tongue struck up from said plate and extending across said cut out portion.

867,639. TWIST-DRILL. GEORGE J. BRAGG, Newark, N. J. Filed May 21, 1906. Serial No. 317,850.



1. A longitudinally grooved drill having sub-grooves in a groove thereof extending to the cutting end of the drill, each of the said sub-grooves being provided with an overhanging edge.

2. A longitudinally grooved drill having a plurality of longitudinal main grooves and having sub-grooves in said main grooves extending to the cutting end of the drill, each of said sub-grooves being provided with an overhanging edge, the sub-grooves of the said main grooves staggered relatively so that the over-hanging edges of the sub-grooves of the different main grooves do not track.

867,640. ELEVATING DEVICE. PAUL BURNAH, Clayburg, N. Y. Filed June 20, 1907. Serial No. 379,097.



1. An elevating device comprising an inclined plate, and anchoring means for the plate comprising levers pivoted thereto, and stakes pivoted to the levers, and adapted to be driven into the ground.

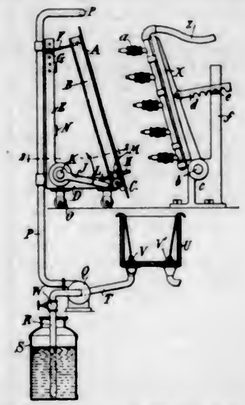
2. An elevating device comprising an inclined plate having teeth engageable with a support, levers pivoted to the plate, and stakes pivoted to the free ends of the levers and adapted to be driven into the ground.

867,641. APPARATUS FOR CONCENTRATING MILK, &c. CHARLES H. CAMPBELL, New York, N. Y. Filed Oct. 3, 1906. Serial No. 337,320.

1. An apparatus for concentrating milk including in combination an approximately vertical inclined support, stationary in operation and adjustable in inclination, means for supplying the milk to the top of said support so that it spreads thereon and runs down the support in a thin coating, and a heater opposite the face of the inclined support so that the milk is heated to a higher degree than its support.

2. An apparatus for concentrating milk including in combination an inclined support, means for supplying the milk to the top of said support so that it spreads thereon and runs down the support in a thin coating, and a heater opposite the face of the inclined support so that the milk is heated to a higher degree than its support, said heater comprising heating devices at different elevations and adapted to be adjusted to different intensities opposite the portions of the milk of different degrees of concentration.

3. An apparatus for concentrating milk including in combination an inclined support, means for supplying the milk to the top of said support so that it spreads thereon and runs down the support in a thin coating, and a heater opposite the face of the inclined support so that the milk is heated to a higher degree than its support, and a scraper arranged to scrape the concentrated milk from the support.



4. An apparatus for concentrating milk including in combination a sheet A constituting a support and arranged in an inclined approximately vertical position and adapted to be adjusted in inclination, means for supplying milk to the top of said support so that it spreads thereon and runs down the support in a thin coating, and a heater opposite the face of the inclined support and comprising a standard X carrying a series of heating devices at different heights.

5. An apparatus for concentrating milk including in combination a support comprising a sheet A, end frames having horizontal arms D and vertical arms E, the sheet A being pivoted near its lower edge to the horizontal arms D, and means for attaching the upper part of the sheet to the vertical arms E and at different distances therefrom so as to vary the inclination, a pipe P arranged to distribute milk upon the sheet A, and a pump Q for forcing the milk through said pipe P.

6. An apparatus for concentrating milk including in combination a support comprising a sheet A, end frames having horizontal arms D and vertical arms E, the sheet A being pivoted near its lower edge to the horizontal arms D, and means for attaching the upper part of the sheet to the vertical arms E and at different distances therefrom so as to vary the inclination, a pipe P arranged to distribute milk upon the sheet A, a pump Q for forcing milk through said pipe P, a receptacle U arranged below the sheet A to receive the material therefrom, and connected with the pump Q to permit the reconcentration of said material.

7. An apparatus for concentrating milk including in combination a stationary inclined support, means for supplying the milk to the top of said support so that it spreads thereon and runs down the support in a thin coating, and a heater opposite the face of the inclined support comprising a standard X pivoted and adjustable in inclination, a series of heating devices Y at different elevations upon said standard, and means for regulating separately the individual heating devices.

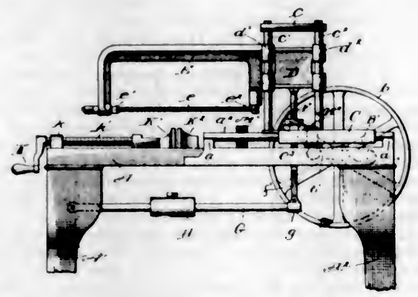
867,642. ALLOY STEEL. JAMES CHURCHWARD, New York, N. Y. Filed Mar. 5, 1907. Serial No. 360,744.

1. An alloyed steel containing parts or percentages of titanium, chromium, nickel and manganese.

2. An alloyed steel containing the following metals in about the proportions given, namely: steel, which contains from .15% to 1.% of carbon, 98.20 to 74 parts; titanium .50 to 10 parts; chromium .15 to 5 parts; nickel 1 to 10 parts and manganese .15 to 1 part.

3. An alloyed steel containing the following metals in about the proportions given, namely:—steel having in it .50% of carbon, 96 parts; titanium 1 part; chromium .50 parts; nickel 2 parts and manganese .50 parts.

867,643. SAWING-MACHINE. HOWARD W. COTTON, Rochester, N. Y., assignor, by mesne assignments, to Quincy, Manchester, Sargent Company, Chicago, Ill., a Corporation of New Jersey. Filed Aug. 25, 1902. Serial No. 120,910.



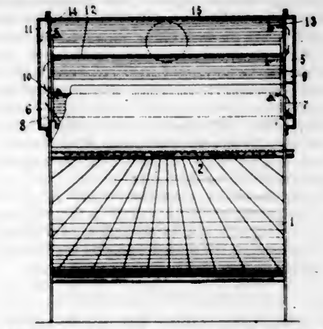
1. In a sawing machine, the combination with a reciprocating carriage, of a vertically movable saw frame supported upon said carriage, a saw blade carried by said frame, a rod secured to said frame, a clutch mounted upon said carriage, and means for operating said clutch to grip said rod and for lifting the clutch, rod and frame upon the completion of each cutting stroke of the saw blade.

2. In a sawing machine, the combination with a reciprocating carriage, of a vertically movable saw frame, supported upon said carriage, a saw blade carried by said frame, a rod secured to said frame, a two part friction clutch surrounding said rod and pivotally secured to said carriage, a bell crank lever pivoted to said carriage and adapted when oscillated to close and clutch around said rod and lift the same, and means of oscillating said bell crank lever when said carriage reaches the limit of its stroke in each direction.

3. In a sawing machine, the combination with a table, of a reciprocating carriage mounted upon said table, a vertically movable saw frame supported upon said carriage, a saw blade carried by said frame, a rod secured to said frame, a two part friction clutch surrounding said rod and pivotally secured to said carriage, a bell crank lever pivoted to said carriage and adapted when oscillated to close and clutch around said rod and lift the same and obstructions projecting above said table into the path of movement of said bell crank lever for oscillating the latter and thereby actuating the clutch.

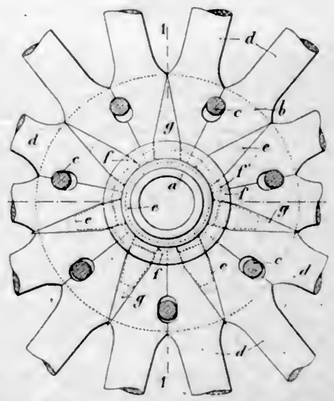
4. In a sawing machine, the combination with a table, of a reciprocating carriage mounted upon said table, a vertically movable saw frame supported upon said carriage, a saw blade carried by said frame, a depending rod pivotally secured to said frame, a clutch formed of two hinged portions surrounding said rod, one portion of said clutch being pivotally secured to said carriage, a finger projecting from the other portion of said clutch, a bell crank lever pivoted to said carriage and adapted when oscillated to close said clutch around said rod and thereby lift the same, an obstruction secured to said table in the path of movement of the bell crank lever to be engaged thereby to actuate the clutch to grip said rod, a second obstruction secured to said table in the path of movement of the bell crank lever to be engaged thereby to actuate the clutch to release said rod, and a spring for releasing said clutch from its engagement with said rod when the bell crank lever has been oscillated by the releasing obstruction.

867,644. GAS STOVE AND RADIATOR. FLORENT DE GRAUWE, Antwerp, Belgium. Filed Apr. 3, 1906. Serial No. 309,587.



In a gas-stove of the class described, the combination with the main reflector, the upper substantially horizontal reflector, and the gas-burner, of two side-boxes, an opening in the inner wall of each box and in the bottom part thereof for the entrance of the hot combustion gases, a substantially horizontal partition in the right-hand-side box, whereby the latter is divided into upper and lower compartments, a substantially vertical partition in the left-hand-side box, whereby the same is divided into right and left compartments, a horizontal obliquely arranged pipe leading from the lower compartment of the right-hand-side box into the left compartment of the right-hand-side box, a horizontal obliquely arranged pipe extending from the right compartment of the left-hand-side box into the upper compartment of the right-hand-side box, suitable discharge passages leading from each side-box, and a common controllable discharge pipe for leading the combustion gases from said passages into the chimney, substantially as set forth.

867,645. SPOKE-TIGHTENING DEVICE. JEAN L. DELHOMME, Lyon, France. Filed Sept. 29, 1906. Serial No. 336,770.



1. In a spoke-tightening device for vehicle wheels, the combination of a nave, a spoke socket thereon having a plurality of wedge displacing members integral therewith, a plurality of tightening wedges engaging said members, a plurality of key wedges for displacing the spokes outward alternating with said tightening wedges, and wedge actuating means common to both sets of wedges.

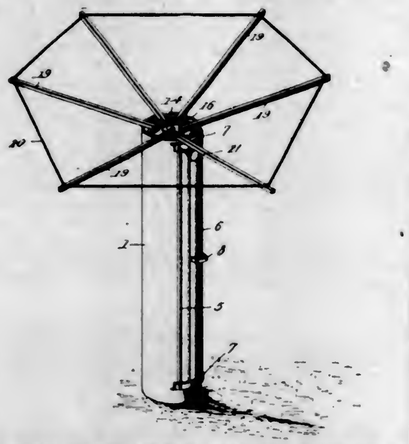
2. In a spoke-tightening device for vehicle wheels, the

combination of a nave having flanges, a screw-threaded spoke socket provided with a plurality of wedge displacing members having faces inclined to the axis of the nave, spoke-tightening wedges between said flanges and engaging said displacing members, a plurality of spoke displacing wedges, and a nut on said spoke socket for actuating said wedges.

3. In a spoke tightening device for vehicle wheels, the combination of a nave, a spoke socket movable thereon spokes engaging said spoke socket, spoke displacing wedges, tightening wedges between the spokes, and wedge moving means for simultaneously adjusting said wedges to displace the spokes radially and tighten the feet of the spokes in the spoke socket.

4. In a device of the character described, the combination of a nave, a spoke socket movable thereon, spokes engaging said socket, a plurality of wedges and wedge moving means for displacing the spokes radially and for tightening the feet of the spokes in the spoke socket.

867,646. CLOTHES-DRIER. TURINA DITMANSON, Summit, S. D. Filed Apr. 25, 1907. Serial No. 370,246.



1. A device of the character described, comprising a cylindrical casing having a vertical slot and an open top, a hinged cover for said top, guides arranged upon the side of the casing at the opposite ends of its slot, a sliding door engaged with said guides and adapted to close said slot, a sliding head in said casing, an operating element carried by said head and projecting through said slot for sliding movement therein and a foldable supporting frame carried by said head and movable into and out of the casing through its open top.

2. A device of the character described comprising a casing having a vertical slot and an open top, a closure for said top, a closure for said slot, a sliding head in said casing, an operating element carried by said head and projecting through said slot for sliding movement therein and a foldable supporting frame connected to said head and movable into and out of the casing through its open top.

3. A device of the character described comprising a casing having a vertical slot and an open top, a closure for said top, a closure for said slot, a concentric guide in said casing, a head rotatably and slidably mounted on said guide, an operating element loosely engaged with said head and projecting through and slidable in the slot in said casing and a foldable frame carried by said head and movable into and out of the casing through its open top.

4. A device of the character described comprising a casing having a vertical slot and an open top, a closure for said top, a closure for said slot, a guide rod in said casing, a stop at the upper end of said rod, a head slidable upon said guide, an operating element carried by said head and projecting through and slidable in the slot in said casing, and a foldable supporting frame carried by said head and movable into and out of the casing through its open top.

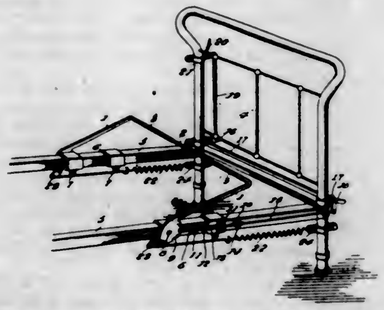
5. A device of the character described comprising a casing having a vertical slot and an open top, a concentric guide in said casing, a head rotatably and slidably mounted upon said guide, an operating element loosely engaged with said head and projecting through and slidable in the slot in said casing and a foldable frame carried by said head and movable into and out of the casing through its open top.

6. A device of the character described comprising a tubular casing, a concentric guide therein having a stop at its upper end, a sliding head upon said guide and adapted to engage said stop and a foldable frame carried by said head and movable into and out of the casing.

7. A device of the character described comprising a casing having an open top and a vertical slot, a guide arranged in said casing, a head slidably and rotatably mounted upon said guide and provided with spaced collars or flanges, a foldable support carried by said head and movable into and out of the casing, and an operating rod projecting through and slidable in a slot in the casing and having its inner end bent around said head between said collars or flanges for the purpose set forth.

8. A device of the character described comprising a tubular casing having an open top and a vertical slot, means for anchoring the lower end of said casing, a removable cover for the open top of said casing, a sliding door to close said slot, a concentric guide rod in said casing having a stop at its upper end, a sleeve slidable upon said rod, a plate at the upper end of said sleeve, spaced collars or flanges upon said sleeve, an operating rod having its inner end bent around said sleeve between said spaced collars or flanges and its outer end projecting through the slot in said casing, radial arms pivoted to said plate and clothes lines connecting said arms, substantially as described.

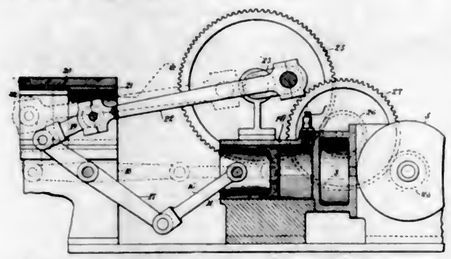
867,647. REST ATTACHMENT FOR BEDS. EMIL ELBERT, Joliet, Ill. Filed Sept. 20, 1906. Serial No. 335,662.



The combination of a bedstead, brackets secured to the side rails thereof, a rest embodying sides having the end portions thereof provided with segmental toothed sections which are pivoted to the brackets, a latch rod slidably mounted upon each of the brackets and designed to engage with the segmental toothed sections to hold the rest in an adjusted position, a rock shaft mounted upon the bedstead, arms carried by the rock shaft, link members connecting the arms to the slidably mounted latch rods, and means for operating the rock shaft to simultaneously actuate the latch rods upon opposite sides of the bedstead.

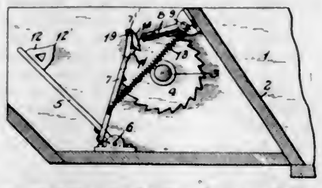
867,648. MOTOR. KARL F. ERICKSEN, New York, N. Y. Filed Apr. 12, 1905. Serial No. 255,122.

1. In a motor operated by explosive fuel, a cylinder, a piston, an outlet valve for controlling the passage of exploded fuel, a rocking lever, a link connection between one end of said lever and the piston, a reciprocating crosshead, a link connection between the crosshead and the opposite end of said lever, a crank shaft, a connection between the crank of said shaft and the crosshead and means for operating the crank shaft.



2. In a motor operated by explosive fuels, a piston cylinder, a piston, an outlet valve for exploded fuels, a rocking lever, a link connection between one end of lever and piston, a reciprocating crosshead, a link connection between the crosshead and the opposite end of said lever, a crank shaft, a connection between crank of said shaft and cross-head, a turbine and a shaft operated from the turbine.

867,649. OPERATING MECHANISM FOR PORTABLE DUMP-BEDS. GEORGE E. EVERETT, Chicago, Ill. Filed Mar. 9, 1907. Serial No. 361,458.



1. In an operating mechanism for a portable dumping bed, the combination of a ratchet wheel, a lever, a pull-pawl operated by the lever, a hold-pawl to prevent reverse movement of the ratchet wheel, and means for locking said hold-pawl.

2. In an operating mechanism for a portable dumping bed, the combination of a ratchet wheel, a lever, a pull-pawl operated by the lever, a hold-pawl to prevent reverse movement of the ratchet wheel, and means carried by the lever for locking said hold-pawl.

3. In an operating mechanism for a portable dumping bed, the combination of a ratchet wheel, a lever, a pull-pawl operated by the lever, a hold-pawl to prevent reverse movement of the ratchet wheel, and a locking device on the lever for engaging and locking said hold pawl.

4. In an operating mechanism for a portable dumping bed, the combination of a ratchet wheel, a lever, a pull-pawl operated by the lever, a hold-pawl to prevent reverse movement of the ratchet wheel, and means for simultaneously locking said pull and hold pawls.

5. In an operating mechanism for a portable dumping bed, the combination of a ratchet wheel, a lever, a pull-pawl operated by the lever, a hold-pawl to prevent reverse movement of the ratchet wheel, and means carried by the lever for simultaneously locking said pull and hold pawls.

6. In an operating mechanism for a portable dumping bed, the combination of a ratchet wheel, a lever, a pull-pawl operated by the lever, a hold pawl to prevent reverse movement of the ratchet wheel, and a locking device on the lever for engaging and locking said pull and hold pawls.

7. In an operating mechanism for a portable dumping bed, the combination of a ratchet wheel, a lever, a link pull-pawl operated by the lever, a hold-pawl to prevent reverse movement of the ratchet wheel, and a locking device on the lever arranged to enter said pull-pawl and lock said hold-pawl.

8. In an operating mechanism for a portable dumping bed, the combination of a ratchet wheel, a lever, a link pull-pawl operated by the lever, a link hold-pawl to prevent reverse movement of the ratchet wheel, and a locking device having a nose to be pinched between said pawls to lock them.

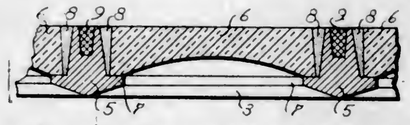
9. In an operating mechanism for a portable dumping bed, the combination of a ratchet wheel, a lever, a pull-pawl operated by the lever, a hold-pawl to prevent reverse movement of the ratchet wheel, devices on said pull-pawl to lift the hold-pawl out of engagement with the ratchet wheel, and means for preventing said devices from lifting the hold-pawl.

10. In an operating mechanism for a portable dumping bed, the combination of a ratchet wheel, a lever, a pull-pawl operated by the lever, a hold-pawl to prevent reverse movement of the ratchet wheel, devices on said pull-pawl to lift the hold-pawl out of engagement with the ratchet wheel, and a guide pivotally mounted on the pull-pawl to prevent said devices from lifting the hold-pawl.

11. In an operating mechanism for a portable dumping bed, the combination of a ratchet wheel, a lever, a pull-pawl operated by the lever, a hold-pawl to prevent reverse movement of the ratchet wheel, devices on said pull-pawl to lift the hold-pawl out of engagement with the ratchet wheel, and a guide pivotally mounted on the pull-pawl and comprising depending members to overlap and shield said devices and prevent them from lifting the hold-pawl.

12. In an operating mechanism for a portable dumping bed, the combination of a ratchet wheel, a lever, a pull-pawl operated by the lever, a hold-pawl to prevent reverse movement of the ratchet wheel, devices on said pull-pawl to lift the hold-pawl out of engagement with the ratchet wheel, and a guide pivotally mounted on the pull-pawl and comprising members arranged to overlap and shield said devices and prevent them from lifting the hold-pawl, said members having curved outer faces and rounded shoulders on their under sides.

867,650. ILLUMINATING-TILE. JAMES B. FRENCH, Chicago, Ill. Filed May 20, 1905. Serial No. 261,451.



An illuminating tile comprising a plate having light apertures therein, intersecting cross bars formed integral with the plate and extending upwardly therefrom in the spaces between the light apertures, said cross bars being narrower than said spaces so as to provide ledges at each side of the bars, lights supported on said ledges, being spaced therefrom and flush with the upper surface thereof, each of said cross bars having a groove extending along its upper face and entirely around each light, a filling of cement in the spaces between said lights and cross bars, said cement completely surrounding each light, and a filling of friction material in said grooves, said friction material being softer than said lights and cross bars, and extending completely around the cement inclosing each light.

867,651. STOP AND WASTE COCK. CHARLES S. FRISHMUTH, Philadelphia, Pa. Filed July 15, 1905. Serial No. 269,860.

1. A stop and waste cock, having a shell provided with an integral main valve to control the flow of liquid through the shell and provided with an externally pro-

jecting stem, a secondary valve seat constituting a drainage nipple arranged externally upon the shell, and a secondary valve carried by the main valve stem and arranged outside of and exposed to view beyond the shell and operated by the main valve stem and serving to open and close the drainage nipple.

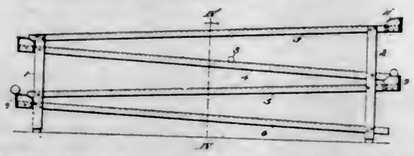


2. A stop and waste cock, having a shell provided with an internal main valve, an operating stem connected to said valve and extending through the shell and providing a passage outside of the shell, a secondary valve applied to the stem outside of and wholly exposed to view beyond the shell and operated directly by said stem, and a drainage nipple wholly external to the shell, and communicating with the shell through the said passage in the stem, and opened and closed automatically by said secondary valve by the closing and opening respectively of the main valve.

3. A stop and waste cock, comprising a shell having a main valve, an operating stem for said valve extending through the shell, a secondary valve carried by said stem outside of and exposed to view beyond the shell, and a drainage nipple opened and closed automatically by said secondary valve by the closing and opening respectively of the main valve, and a flange arranged next to and beyond the secondary valve, the said secondary valve and flange intercepting the outflowing fluid and deflecting it laterally away from the operator.

4. A stop and waste cock, comprising a shell having a main valve, an operating stem thereon extending through the shell, a drainage nipple on the shell through which the valve stem passes and provided with a conical seat exposed to view on the outside of the shell, a secondary conical valve for said drainage nipple carried by the main valve stem outside of and exposed to view beyond the shell, and a flange arranged next to and projecting beyond the secondary valve, the said conical secondary valve and the flange intercepting the drainage water and deflecting it laterally away from the operator.

867,652. GAME APPARATUS. JOHN B. FRY, Bloomington, Ill., assignor to Ira S. Whitmer, McLean county, Ill. Filed Oct. 18, 1906. Serial No. 339,561.

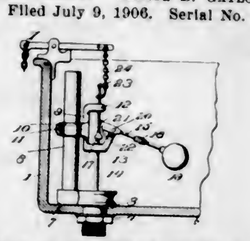


1. In a game apparatus, the combination with a plurality of successively communicating track-rails, disposed in the same vertical plane and having their adjacent ends free and unconnected, of means for assembling said track-rails, and a pocket carried at the end of one rail of each pair of track-rails in such a position as to permit a body traveling on the rails to pass from one to the other, or to escape therefrom, according to its momentum.

2. In a game apparatus, the combination with a plurality of successively communicating inclined track-rails disposed in the same vertical plane and adapted to carry a spherical body, of means for assembling said track-rails, and a pocket upon the upper end of each track-rail, disposed below the unobstructed lower end of the next higher track-rail, whereby passage of the spherical body from one track-rail to the other is rendered uncertain.

3. In a game apparatus, the combination with a plurality of successively communicating inclined track-rails disposed in the same vertical plane, of means for assembling said track-rails, and a pocket comprising a barrier surrounding and carried by the upper end of each track-rail, said pocket being disposed below the plane of the next higher track-rail.

867,653. FLUSH-VALVE. GEORGE B. GAYLORD, Springfield, Mass. Filed July 9, 1906. Serial No. 325,369.



1. An apparatus of the character described comprising a valve body designed for attachment to a supply tank and provided with an upwardly facing valve seat and below the same with a lateral branch, an overflow pipe extending upwardly from said branch, a bracket provided with a clamping arm and a set screw therein, the arm being adapted to encircle the overflow pipe and arranged for adjustment vertically thereon, the bracket being provided with an upper and a lower arm formed with coincident apertures, a valve stem mounted to slide longitudinally through said apertures, a valve secured to the lower end of said stem and adapted to close on said valve seat, the stem being provided between the two arms of the bracket with an inverted turbinate projection, a float arm pivoted intermediate its ends on the lower bracket arm and carrying a float at its outer end, a shoe mounted upon the other end of said float arm, said shoe being formed with an upwardly facing toe and curved on its outer edge and formed also on such edge with a shouldered heel below the toe, the conformation of the outer edge of said shoe approximating the outline of the said projection and the shoe extending into the path of said projection, and means for raising said stem to open the valve, whereby the projection will brush past said toe and the latter will catch underneath the projection and hold the valve temporarily elevated to its full extent, and whereby also as the level of the water in the tank lowers below the float, the projection will slide downwardly and gradually on the outer edge of the shoe and be also temporarily supported at a lower elevation, with the valve, by the engagement of the projection with the heel portion.

2. An apparatus of the character described, comprising a valve body provided with a valve seat, a valve adapted to close on said seat, a stem secured to said valve, a bracket in which said stem is mounted to slide, the stem being provided with an inverted turbinate projection, means for supporting said bracket a float arm pivotally mounted on said bracket, and provided with a shoe arranged to project into the path of movement of the projection as the stem slides, said shoe conforming on its outer edge approximately to the shape of the said projection for the purpose specified, a float on the outer end of said float arm, and means for raising said stem.

3. An apparatus of the character described, comprising a valve body provided with a valve seat, a valve adapted to close on said seat, a stem secured to said valve and provided with a projection, means for supporting said stem so that it may slide and carry the valve to and from said seat, a rocking float arm provided at one end with a float and at its other end with a shoe said shoe being provided with a toe portion adapted to engage underneath the projection, said shoe being also formed with a heel underneath the toe portion and adapted to engage under said projection with the latter and the stem on which it is mounted in a lower plane than when engaged by the toe, a float secured to said arm, and means for moving said stem in a direction to carry the valve off the seat.

4. An apparatus of the character described, comprising a valve body provided with a valve seat, a valve adapted to close on said seat, a stem to which said valve is secured, said stem being provided with a projection, means for supporting said stem so as to allow it to slide to carry the valve towards and from the valve seat, means for moving said stem outwardly to carry the valve off the seat, and a rocking float arm, and means for supporting the same, said float arm provided at one end with a float and provided at its other end with a shoe designed to project into the path of movement of the projection, said shoe being provided with an upper toe portion to engage the projection to hold the valve at one elevation and also formed with a lower heel portion arranged to automatically engage the projection to hold the valve in a lower plane.

5. An apparatus of the character described comprising a valve body provided with a valve seat, a valve adapted to close on said seat, a stem to which said valve is secured, said stem being provided with a projection, means for supporting said stem, and permitting the same to slide, a rocking float arm, means for supporting said arm, said means being vertically adjustable, the arm being provided at one end with a float and at its other end with a shoe adapted to project into the path of movement of the said projection on the stem, said shoe being formed with an upper toe and a lower heel portion each of which is arranged to engage the projection at different elevations for the purpose specified, and means for moving said stem outwardly to carry the valve off the seat.

6. In a device of the character described, the combination with a valve body, a valve mounted thereon, means for actuating the valve, and an overflow pipe communicating with the valve body below the valve, of a swinging partition controlling the communication between the overflow pipe and the valve body below the valve.

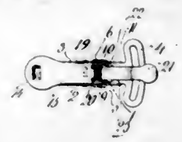
867,654. HULL FOR VESSELS. SAMUEL GOLDEN, Buffalo, N. Y. Filed Feb. 24, 1905. Serial No. 247,099.



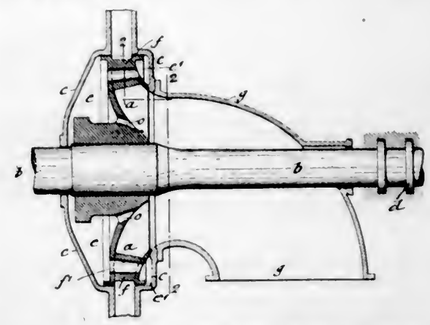
The combination of a vessel hull having a hollow horizontal bottom extension of less length and width than the hull, said extension being overhung by the bottom of the hull at the front, rear and sides, the front portion of the extension sloping from the bottom of the hull downwardly and rearwardly to the bottom of the extension, the front and rear ends of the extension being arranged at a distance rearwardly and forwardly of the front and rear ends of the hull, and the bottom of the hull extending approximately at right angles outwardly from the upper ends of the sides of the extension, a propelling engine arranged with its lower portion in said extension, a horizontal propeller shaft extending from said engine rearwardly through the extension, a propeller arranged at the rear end of said extension, and a rudder arranged in rear of said propeller underneath the overhanging bottom of the rear portion of the hull, substantially as set forth.

867,655. CLASP. EMIL GUTMANN, New York, N. Y. Filed Apr. 22, 1907. Serial No. 369,447.

A clasp comprising a fixed jaw having upwardly extended side walls, vertically disposed ribs struck from the side walls forming grooves in their inner faces, a movable jaw hinged to the fixed jaw, the said movable jaw having depending ears, an operating lever having depending lugs, a rivet passing through said ears and lugs for pivotally connecting the operating lever and movable jaw, the heads of the said rivet being located in the grooves in the side walls of the fixed jaw.



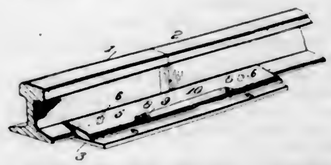
867,656. TURBINE. MAX HAEBERLEIN, New York, N. Y., assignor to The Pelton Water Wheel Co., San Francisco, Cal., a Corporation of California. Filed Feb. 27, 1907. Serial No. 359,587.



1. In a turbine, the combination, with the runner and runner-shaft, of a casing inclosing the runner and forming annular spaces of unequal size between the runner-crown and casing at opposite sides of the runner, the vanes of the runner being provided with transverse channels in their outer ends for equalizing the pressure in the annular spaces.

2. In a turbine, the combination, with the runner and its shaft, of a casing surrounding the runner-crown and the runner-shaft and forming annular spaces between the runner and casing at both sides of the runner, the runner-bottom being provided with inclined outlet-channels, and the vanes of the runner with transverse channels near their outer ends for equalizing the pressure in the annular spaces between the runner-crown and casing at opposite sides of the runner.

867,657. RAIL-JOINT. JOSEPH J. HERNDON, Newkirk, Okla., assignor of one-half to Abner C. Harrington, Newkirk, Okla. Filed Jan. 28, 1907. Serial No. 359,524.



The combination with the two abutting ends of rails, of a chair consisting of a base plate adapted to extend under the rails and provided with an integral plate adapted to extend up over one base flange of the rails, a removable plate adapted to extend over the opposite base flange, bolts extending through the base plate and through the removable plate whereby to secure the said removable plate in place, said bolts being provided with nuts on their upper ends, and a lock-bar provided with forked ends fitted over said nuts.

867,658. PROCESS OF MAKING ELECTRIC CONDUCTORS. WILLIAM HOOPES, Pittsburg, Pa., and NORMAN A. ROBERTSON, New York, N. Y. Filed Jan. 16, 1905. Serial No. 241,199.



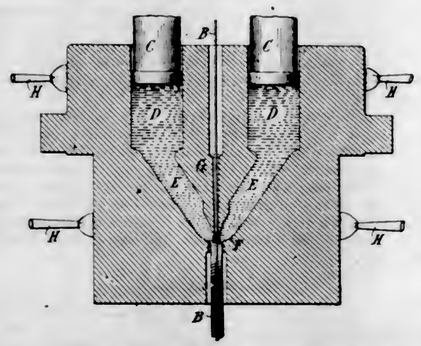
1. The process of manufacturing a compound conductor of aluminium and a longitudinal reinforcing core of stronger metal, which consists in extruding the aluminium while heated to plasticity upon and enveloping the stronger metal.

2. The process of manufacturing a compound conductor of an envelop of aluminium and a longitudinal reinforcing core of stronger metal, which consists in extruding the the aluminium at approximately a dull red heat and also cools it shrinks tightly onto the core.

3. The process of manufacturing a compound conductor of an envelop of aluminium and a longitudinal reinforcing core of stronger metal, which consists in maintaining the aluminium at a temperature slightly below its solidifying point and extruding it upon such core.

4. The process of manufacturing a compound conductor of an envelop of aluminium and a longitudinal reinforcing core of stronger metal, which consists in extruding the aluminium upon such core through a die while maintaining the aluminium at approximately a dull red heat and also heating the die during the period of extrusion.

867,659. ELECTRIC CONDUCTOR. WILLIAM HOOPES, Pittsburg, Pa., and NORMAN A. ROBERTSON, New York, N. Y. Original application filed Jan. 16, 1905, Serial No. 241,199. Divided and this application filed May 11, 1906. Serial No. 316,279.



1. A continuous conductor of extruded aluminium reinforced by a longitudinal core of stronger metal.

2. A conductor of extruded aluminium reinforced by a longitudinal core of stronger metal, the aluminium tightly embracing the core.

3. A conductor of aluminium reinforced by a plurality of longitudinal wires of stronger metal.

4. A conductor of extruded metal reinforced by a plurality of longitudinal wires of stronger metal spaced apart from each other.

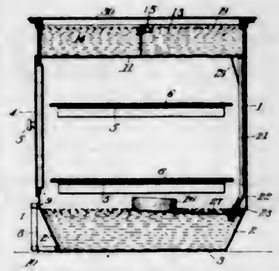
5. A conductor of extruded metal reinforced by a plurality of longitudinal wires of stronger metal extended spirally.

6. A continuous conductor of extruded aluminium reinforced by a core of iron surrounded and protected by the aluminium.

7. A continuous conductor consisting of a core of naked iron wire and a tubular envelop of extruded aluminium inclosing said core in metallic contact therewith.

8. A continuous conductor consisting of a core of iron wire and a tubular envelop of extruded aluminium inclosing and tightly embracing said core in close, conductive metallic contact therewith.

867,660. AUTOMATIC STEAM-COOKER. WILLIAM H. JOHNSON, Miami, Fla., assignor of one-half to Edward J. Sweet, Miami, Fla. Filed Apr. 25, 1907. Serial No. 370,218.



1. In an automatic steam cooker, the combination with a receptacle provided with an upper, open end, of a tank supported upon the upper end of said receptacle and partly closing said end, an auxiliary receptacle supported upon the upper end of said receptacle and on said tank, a tube secured at one end to the bottom of said tank and extending downwardly within said first-mentioned receptacle, a valve-casing formed upon said tube, a rotatable valve-member positioned within said valve casing and provided at one end with an extension, a stem fixedly secured near one end to said extension, and a float fixedly secured to said stem near its opposite end.

2. In an automatic steam cooker, the combination with a receptacle provided with an upper, open end, of a substantially L-shaped tank supported upon the upper end of said receptacle, a substantially square, auxiliary receptacle supported upon the upper end of said first-mentioned receptacle and upon part of said tank, and valve means carried by said tank.

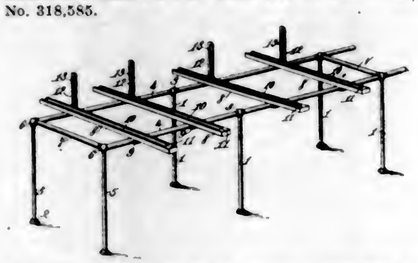
3. In an automatic steam cooker, the combination with a receptacle provided with an open end, of a tank supported entirely upon part of the upper edges of said receptacle, an auxiliary receptacle supported partly upon some of the upper edges of said receptacle and upon said tank, and valve means carried by said tank.

4. In a steam cooker, the combination with a receptacle provided with an open end, of a closure for said end comprising a plurality of receptacles, one supported entirely upon said first-mentioned receptacle and the other supported partly upon said first-mentioned receptacle and partly upon the other receptacle of the closure, and valve means carried by one of the receptacles constituting said closure.

5. In a steam cooker, the combination with a receptacle provided with an upper open end, of a detachable tank or receptacle positioned within the upper end of and supported only upon the upper edges of said first-mentioned receptacle, a pipe secured near one end to the bottom of said tank or receptacle, a rotatable valve carried by the pipe near its lower end, said valve provided with a flat extension, a flat float contiguous to said extension, and a straight stem extending entirely across said float and extension of the valve, whereby the connection between said float and stem, and stem and extension is strengthened.

6. In a steam cooker, the combination with a primary receptacle having an upper, open end, an auxiliary receptacle positioned within the upper, open end of said primary receptacle and resting upon its upper edges, of a vertical pipe engaging, near its upper end, the bottom of said auxiliary receptacle, said pipe positioned near one side of said auxiliary receptacle and normally engaging the side of said primary receptacle, a semi-conical brace fixedly secured at its upper, widest end to the bottom of said auxiliary receptacle and at its lower, narrowest end to said vertical pipe, the vertical edges of said brace positioned parallel with the side of said primary receptacle, whereby the interior of said brace may be cleaned and said vertical pipe braced and positioned contiguous to the side of the primary receptacle, and valve means carried by said pipe near its lower end.

867,661. TABLE RACK AND EXHIBITOR. MORRIS H. KEATING, Johnstown, Pa. Filed May 24, 1906. Serial No. 318,585.



1. A combined table rack and exhibitor comprising supported parallel rails, and runners slidably mounted on said rails and pivotally secured to one of them.

2. A combined table rack and exhibitor comprising supported parallel rails, runners pivotally secured to one of said rails and projecting outward beyond the same and resting upon the other rail, and means on said other rail for limiting the pivotal movement of said runners.

3. A combined table rack and exhibitor comprising supported parallel rails, runners pivotally mounted on one of said rails and projecting outward beyond the same and resting upon the other rail, slotted arms pivotally secured to said other rail at their lower ends, and pins on said runners working in the slots of said arms for limiting the pivotal movement of said runners.

4. A combined table rack and exhibitor comprising supported parallel rails, runners pivotally and slidably secured to one of said rails and projecting outward beyond the same and resting upon the other rail, slotted arms pivotally secured at their lower end to said other rail, and pins on said runners engaging in the slots of said arms whereby to limit the pivotal movement thereof.

5. A combined table rack and exhibitor comprising supported parallel rails, grooved runners pivotally and slidably secured to one of said rails and projecting outward beyond the same and resting upon the other rail, and means on said other rail for limiting the pivotal movement of said runners.

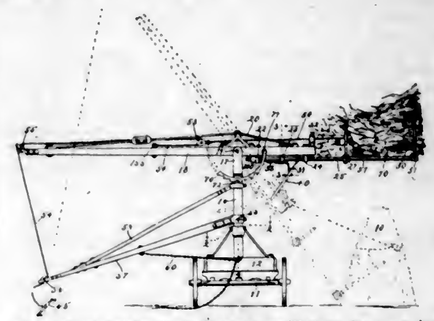
6. A combined table rack and exhibitor comprising a support, a pair of runners pivotally mounted thereon and projecting at one end outward beyond the same, each of said runners having a longitudinal groove in its upper side which is closed at the outer end of said runners, and means on said support for limiting the pivotal movement of said runners.

867,662. SHOCK-LOADER. DANIEL W. KEMP, Anderson, Ind. Filed Jan. 10, 1907. Serial No. 351,598.

1. A shock-loader including means for holding and supporting a shock on its side in a horizontal position, means operative in connection therewith for tilting a shock over on the upper side of said holding and supporting means, and means for turning over said shock holding and supporting means to discharge the shock.

2. A shock-loader including a beam fulcrumed between its ends, means in connection with said beam for holding the shock sidewise, means for tilting the beam down beside the shock before it is loaded, and a cable mounted on said beam and movable longitudinally thereof and for engaging the upper portion of the shock and drawing it over upon said shock holding means.

3. A shock-loader including a vehicle, a rotary post mounted thereon, an oscillatory beam mounted on said post so that it may be tilted, transversely extending shock holding arms on said beam, and a cable mounted on said beam and movable longitudinally thereof for engaging the upper portion of the shock and drawing it over upon said shock holding arms and beam when the beam is tilted down.



4. A shock-loader including an oscillatory beam, a load bar mounted parallel with said beam and in connection therewith so as to be rotatable and to extend beyond the end of the beam, releasable means for holding said loading bar from rotation, and shock-holding arms extending laterally and upwardly from both sides of said loading bar.

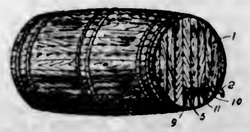
5. A shock-loader including an oscillatory beam a load bar mounted parallel with said beam in connection therewith so as to be rotatable and to extend beyond the end of the beam, releasable means for holding said loading bar from rotation, and a pair of substantially semicircular shock-holding arms secured midway between their ends on said loading bar, one larger than the other, the larger being connected with the end of said loading bar so as to hold the butt of the shock, and the other at some distance from the end of said loading bar.

6. A shock-loader including a truck, a rotary post, a beam mounted oscillatory upon said post, a shock holder extending from said beam and arranged so as to hold the shock sidewise, and means for limiting and preventing the rotary movement of said post.

7. A shock-loader including a vehicle, an oscillatory beam mounted thereon, a shock-holder mounted in connection with said beam adapted to receive and hold the shock sidewise, a cable mounted in connection with said beam for both tilting a shock upon the holder and oscillating said beam, and a drum upon a wheel of the vehicle for winding up said cable.

8. A shock-loader including a vehicle, an oscillatory beam mounted thereon, a shock-holder mounted in connection with said beam adapted to receive and hold the shock sidewise, a cable mounted in connection with said beam for both tilting a shock upon the holder and oscillating said beam, a cylinder secured to the wheel of the vehicle with a ratchet thereon, a drum revoluble on said cylinder for winding up said cable, a pawl on said drum for engaging said ratchet to drive the drum, and handles on said drum for revolving it independently of the cylinder, whereby said cable may be actuated while the vehicle is standing sufficiently to lift the shock free of the ground and the subsequent elevation of the shock be accomplished by moving the vehicle.

867,663. FAUCET-PROTECTOR. GEORGE H. KÖRNER, San Francisco, Cal. Filed Apr. 10, 1906. Serial No. 310,919.

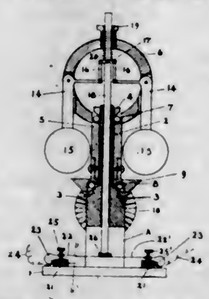


1. In a combination with a faucet constructed to be screwed into a barrel, a device also constructed to be

screwed into a barrel at the side of the faucet, one of said elements the faucet and device having an aperture, a connection pivoted to the other element and having an aperture adapted to be brought into alinement with the other aperture, and a padlock for locking the same by means of its shackle passed through said apertures, substantially as described.

2. In combination with a faucet constructed to be screwed into a barrel, and a screw having an apertured head, clamp members pivoted upon the faucet and encircling same, the ends of said clamp members being apertured, and a padlock, the shackle of which can be passed through said apertures when the faucet and screw are both screwed into the barrel to prevent the turning of said faucet and screw, substantially as described.

867,664. GOVERNOR. CLINTON R. LANPHEAR, Midland, Mich. Filed Dec. 6, 1906. Serial No. 346,629.

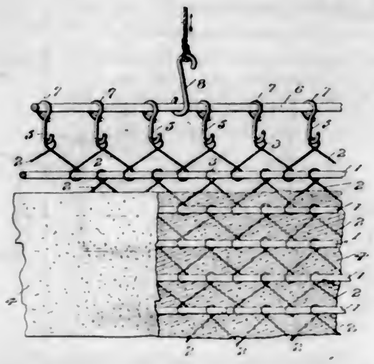


The combination in a governor with a base, insulating blocks on the base, of a make-and-break contact carried by the blocks, the contact comprising a bow-string and an upwardly pressing spring arm, the free end of which lies between the ends of the bow spring, a vertically movable rod, an insulating block interposed between the lower end of the rod and the spring arm, a collar fixed to the rod, an annular rotatable frame, bell cranks pivotally mounted in the opposite sides of the annular rotatable frame, and carrying governor balls, links connecting the bell cranks and collar, the annular rotatable frame provided with a downwardly extending rotatable sleeve carrying a bevel gear whereby the frame is rotated, a compression spring adapted to counteract the upward effect of the spring arm, an adjusting cap controlling the tension of the compression spring, a hollow spindle carried by the base, and ball bearings at the upper and lower ends of the rotating sleeve.

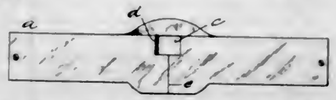
867,665. REINFORCED CONCRETE STRUCTURE. CHARLES MANKEDICK, Sullivan, Ind. Filed Mar. 2, 1907. Serial No. 360,253.

1. The method of building reinforced concrete structures which consists in supporting a wire bent into zigzag form, and molding concrete around the body of the same, leaving the line of angles on one side of said wire projecting, then connecting a second wire bent into zigzag form by passing a rod through the angles of the embedded wire and said second wire, supporting said second wire in the desired position, molding concrete around the uncovered portion of the first wire and the major portion of the second wire, and continuing said operation till the structure desired is produced.

2. The method of building reinforced concrete structures which consists in supporting a wire bent into zigzag form and having an eye formed at each bend of the wire, molding concrete around the body of the same, leaving the eyes on one side projecting, then connecting a second wire similarly bent by passing a straight rod through the adjacent eyes of the wires, supporting said second wire in the desired position, molding concrete around the uncovered eyes of the first wire and the major portion of the second wire, leaving the eyes on the free edge of the second wire uncovered, and continuing said operation till the structure desired is produced.



867,666. TYPE-WRITING MACHINE. WILLARD E. MASON, Burnside, Conn. Filed Mar. 6, 1906. Serial No. 304,499.

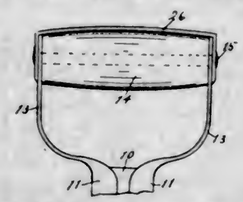


1. The combination in a typewriting machine of the understrike variety comprising the frame and platen, the reflector located on the frame underneath the platen, and an indicator on said reflector in alinement with the impression point on the platen.

2. The combination in a typewriting machine of the understrike variety comprising the frame and platen, of a stationary reflector located on the frame immediately underneath the platen, and an indicator in alinement with the impression point on the platen.

3. The combination in a typewriting machine of the understrike variety comprising the machine frame and type bars, the platen and the carriage for the platen, of a reflector secured to the frame of the machine underneath said platen, said reflector having an opening for the passage of the type and a guard for the edge of said opening, as and for the purposes specified.

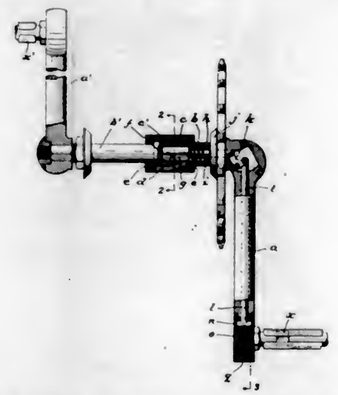
867,667. D-HANDLE. FREDERICK P. MAUS, Newcastle, Ind., assignor of one-half to Charles W. Mouch, Newcastle, Ind. Filed Apr. 1, 1907. Serial No. 365,687.



1. A D handle having a transverse wooden hand piece, sheet metal secured to each end thereof and curved to form the D and extended so as to be secured about the handle of a tool and a metal reinforcement of said wooden hand piece extending between the upper ends of said sheet metal side pieces and, secured thereto, substantially as shown.

2. A D handle having a transverse wooden hand piece, a strip of sheet metal secured to each end thereof and curved to form the D and extended so as to be secured about the handle of a tool, and a strip of sheet metal extending across the D upon and adjacent the wooden hand piece and secured at each end, substantially as shown.

867,668. MOTOR AND OTHER CYCLE. JOHN L. MILLER, Paulsboro, N. J. Filed June 12, 1907. Serial No. 378,517.



1. In a cycle, in combination, cranks and pedals, a shaft section for each crank normally connected and means adapted, when one of the pedals is moved backward, to sever said connection.

2. In a cycle, in combination, cranks and pedals, a shaft connection for each crank normally connected and means adapted, when one of the pedals is moved backward, to sever said connection and means to return said connection in the return movement of said pedal.

3. In a cycle, in combination, two cranks and pedals, a shaft section for each crank and means, in the backward movement of one of the pedals, to sever the connection between said shaft sections.

4. In a cycle, in combination, two cranks and pedals, a shaft section for each crank and means, in the backward movement of one of the pedals, to sever the connection between said shaft section and to connect said shaft section in the return movement of said pedal.

5. In a cycle, in combination, two cranks and pedals, a shaft section for each crank, means to maintain connection between said shaft sections, in the forward movement of the pedals and means, in the backward movement of one of the pedals, to sever said connection.

6. In a cycle, in combination, two cranks and pedals, a shaft section for each crank, means to maintain connection between said shaft sections, in the forward movement of the pedals, means, in the backward movement of one of the pedals, to sever said connection, and means, in the return movement of said last mentioned pedal, to return said connection.

7. In a cycle, in combination, two cranks and pedals, a shaft section for each crank, a clutch device adapted to normally connect said shaft sections and connection between said clutch device and one of said pedals adapted, in the movement of the pedal in one direction, to release said clutch.

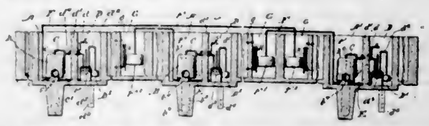
8. In a cycle, in combination, two cranks and pedals, a shaft section for each crank, a clutch device for engaging said sections, a rod, connection between said rod and said clutch, said rod moving with said crank, an eccentric having a cam slot in which the end of said rod rests, and a strap surrounding said eccentric to which said crank is connected—the pedal being connected to said eccentric—whereby, in the movement of said eccentric in one direction, said rod is operated and the clutch disengaged.

9. In a cycle, in combination, two cranks, and pedals, a shaft section for each crank, a clutch device for engaging said sections, a rod, connection between said rod and said clutch, said rod moving with said crank, an eccentric having a cam slot in which the end of said rod rests, and a strap surrounding said eccentric to which said crank is connected—the pedal being connected to said eccentric—whereby, in the movement of said eccentric in one direction, said rod is operated and the clutch disengaged, and a spring for bringing said clutch into engagement in the opposite movement of the pedal.

10. In a cycle, in combination, two cranks and pedals, a shaft section for each crank, a clutch device for engaging said sections, a rod, connection between said rod and said clutch, said rod moving with said crank, an eccentric having a cam slot in which the end of said rod rests, and a strap surrounding said eccentric to which said crank is connected—the pedal being connected to said eccentric—whereby, in the movement of said eccentric in one direction, said rod is operated and the clutch disengaged, and a spring for returning said eccentric and returning said rod when the pedal is released.

11. In a cycle, in combination, two cranks and pedals, a shaft section for each crank, a clutch device for engaging said sections, a rod, connection between said rod and said clutch, said rod moving with said crank, an eccentric having a cam slot in which the end of said rod rests, and a strap surrounding said eccentric to which said crank is connected—the pedal being connected to said eccentric—whereby, in the movement of said eccentric in one direction, said rod is operated and the clutch disengaged, and a spring for returning said eccentric and returning said rod when the pedal is released, and a spring for bringing said clutch into engagement on the return of said rod.

867,669. APPARATUS FOR EMPTYING LIQUID-TANKS. SIDNEY W. MILLER, Chicago, Ill. Filed May 25, 1907. Serial No. 375,582.



1. Means for emptying a liquid tank, as the contact bed of a sewage purifying system, comprising an emptying device through which the liquid contents of the tank are discharged, means whereby the emptying operation of the said device is automatically prolonged after the contents of the tank have been substantially discharged and means operating at a predetermined period thereafter to discontinue the operation of the emptying device.

2. Means for emptying a liquid tank, as the contact bed of a sewage purifying system of that class wherein said tank is periodically filled or charged to a predetermined level, comprising an emptying device through which the liquid contents of the tank are discharged, means whereby the emptying operation of said device is automatically prolonged after the contents of the tank have been substantially discharged, and means controlled by the rise of liquid supplied from a source which fills said tank for discontinuing the operation of said emptying device.

3. Means for emptying a liquid tank, as the contact bed of a sewage purifying system, comprising an emptying device through which the liquid contents of the tank are discharged, means coöperating with said emptying device for maintaining the liquid in the tank for a predetermined time after the tank has been filled, means whereby the emptying operation of said device is automatically prolonged after the contents of the tank have been substantially discharged, and means controlled by the rise of liquid supplied from a source which fills said tank for discontinuing the operation of the emptying device.

4. Means for emptying a liquid tank, as the contact bed of a sewage purifying system, comprising a deep-seal trapped siphon apparatus through which the liquid contents of the tank are discharged, the siphon apparatus and

its seal being so proportioned that the emptying flow of liquid through said siphon is prolonged, and means operating at a predetermined period thereafter to discontinue the operation of the emptying device.

5. Means for emptying a liquid tank, as the contact bed of a sewage purifying system, comprising a deep-seal trapped siphon apparatus through which the liquid contents of the tank are discharged, said siphon apparatus and its seal being so proportioned that the emptying flow of liquid through the siphon apparatus is prolonged, and means controlled by the rise of liquid supplied from a source which fills said tank for discontinuing the flow of liquid through the siphon.

6. Means for emptying a liquid tank, as the contact bed of a sewage purifying system, comprising a deep-seal trapped siphon apparatus through which the liquid contents of the tank are discharged, said siphon apparatus and its seal being so proportioned that the emptying flow of liquid through the siphon apparatus is prolonged, and means controlled by the rise of liquid supplied from a source which fills said tank for venting said siphon apparatus.

7. Means for emptying a liquid tank, as the contact bed of a sewage purifying system, comprising a deep-seal trapped siphon apparatus through which the liquid contents of the tank are discharged, said siphon apparatus and its seal being so proportioned that the emptying flow of liquid through the siphon is prolonged, and means controlled by the rise of liquid supplied from a source which fills said tank for transmitting air pressure to the air space of the siphon apparatus in a manner to vent the same.

8. Means for emptying a liquid tank, as the contact bed of a sewage purifying system, comprising a deep-seal trapped siphon apparatus through which the liquid contents of the tank are discharged, the siphon apparatus and its seal being so proportioned that the emptying flow of liquid through said siphon is prolonged, and a downwardly opening dome connected by a pipe with the air space in the siphon apparatus, said dome being located in a chamber supplied by liquid from the source supplying liquid to said tank.

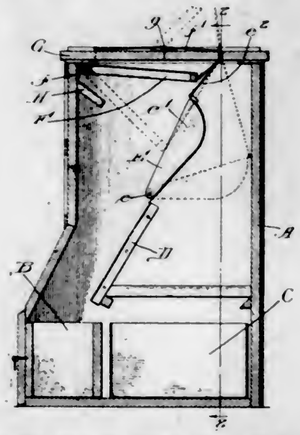
9. Means for emptying a liquid tank, as the contact bed of a sewage purifying system, of that class wherein the tank is periodically filled or charged, comprising, in combination with a plurality of such tanks, of an emptying device for each tank through which the liquid contents are discharged from the tank, means whereby the emptying operation of said device is automatically prolonged after the contents of the tank have been substantially discharged, and means controlled by the rise of liquid in each tank for discontinuing the operation of the emptying device of another tank.

10. Means for emptying a liquid tank, as the contact bed of a sewage purifying system, of that class wherein the tank is periodically filled or charged, comprising, in combination with a plurality of said tanks, of a deep-seal trapped siphon apparatus for each tank through which the contents of the tank are discharged, the siphon apparatus and its seal being so proportioned that the emptying flow of liquid through the siphon is prolonged, and means operated by the rise of liquid in each tank for transmitting air pressure to the air space of the siphon apparatus of another tank for venting the latter siphon apparatus.

11. Means for emptying a liquid tank, comprising a main siphon through which the liquid contents of the tank are discharged provided with a deep-seal trap, an auxiliary siphon associated with the main siphon having its intake limb located closely adjacent to or below the floor of said tank and to the level of the invert of the outlet end of the trap of the main siphon, and means operating after cessation of the emptying flow of liquid through the main siphon for venting the auxiliary siphon.

12. Means for emptying a liquid tank, as the contact bed of a sewage purifying system, comprising, in combination with a plurality of such tanks, of a deep-seal trapped siphon through which the liquid contents of the tank are discharged, an auxiliary siphon associated with each main siphon, having its intake end located closely adjacent to or below the floor of said tank and discharging into the seal of the main siphon, and means operated by the rise of liquid supplied from the source that fills said tank for venting the auxiliary siphon.

867,670. ASH-SIFTER. ANDREW M. NELSON, Chicago, Ill. Filed Aug. 21, 1905. Serial No. 275,178.



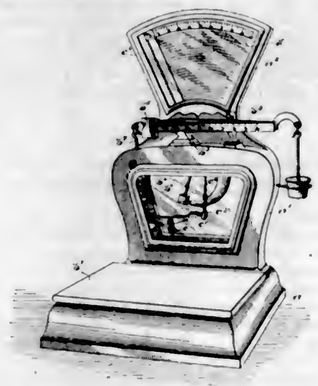
1. In an ash sifter, the combination with a receptacle, a cover therefor, a pair of screens adapted to be swung into operative position on the opening of said cover, whereby one of said screens assumes a downwardly extending position, permitting the passage of the coarser material onto the second screen, said second screen being in a substantially horizontal position and adapted to retain a coarse material on its surface, a third screen onto which said material is discharged on the closing of said cover, and a pair of removable receptacles arranged to receive the fine material as it falls through the screen and the gross material as it falls off of the last screen.

2. In an ash sifter, the combination with a receptacle, a cover therefor, a pair of screens adapted to be swung into operative position on the opening of said cover, whereby one of said screens assumes a downwardly extending position, permitting the passage of the coarser material onto the second screen, said second screen being in a substantially horizontal position and adapted to retain a coarse material on its surface, a third screen onto which said material is discharged on the closing of said cover, and a pair of removable receptacles arranged to receive the fine material as it falls through the screen and the gross material as it falls off of the last screen, and a rigid deflector located in the upper part of said box whereby the unsifted ashes are prevented from passing directly into said last-named receptacle.

867,671. COMPUTING-SCALE. ORANGE O. OZIAS and JOSEPH HOPKINSON, Dayton, Ohio, assignors to The Computing Scale Company, Dayton, Ohio, a Corporation of Ohio. Filed June 18, 1906. Serial No. 322,143.

1. In a scale, the combination of a bifurcated platform lever, a weighing beam and an intermediate lever parallel with the platform lever, each connected to the ends of the platform lever, an indicator and an eccentric connected therewith, flexible connection between the intermediate lever and said eccentric, the connecting part connecting said intermediate lever and flexible connection being located in substantially the same plane, substantially as specified.

2. In a scale, the combination of a bifurcated platform lever, a weighing beam connected with one and an intermediate lever connected with the other of the bifurcations, an eccentric and indicator located near the center of the machine, a flexible connection between the free end of the intermediate lever and the eccentric, the end of said intermediate lever being in alinement with the eccentric, substantially as specified.



3. In a scale, a platform lever, a goods-receiver, a weighing beam connected to said platform lever, an intermediate lever also connected to said platform lever, a differential counter-balancing mechanism, connections between said counter-balancing mechanism and said intermediate lever, a dash-pot, a plunger therein, an intermediate connecting device extending from the plunger to the weighing beam, a connecting device extending from said plunger to the platform lever, a part of said last-mentioned connecting device encircling the dash-pot, substantially as specified.

4. In a scale, a platform lever, a goods-receiver, a weighing beam employing a counterpoise, a differential counter-balancing indicator pivotally supported independent of the weighing beam, operating connections between said indicator and platform lever, an offset connecting rod between the platform lever and weighing beam, and a dash pot within the offset portion, and the plunger of said dash pot being substantially in alinement with the points of attachment of said connecting rod, substantially as specified.

5. In a scale, a platform lever, a goods-receiver, a differential counter-balancing mechanism connected to said platform lever, a stationarily supported dash-pot, including a plunger, a connection from the plunger to the platform lever, a part of said connection encircling the dash-pot, and the plunger being in substantial alinement with the lower part of said connecting device, substantially as specified.

6. In a scale, a main frame, a weighing beam, platform levers pivoted thereto, and a pivoted indicator having a pendulum counter-weight connected to said platform lever, a dash pot support on said main frame and connected to said platform lever, a dash pot in said support, and a plunger for said dash pot connected to said platform levers, said connection being offset to bring said plunger in substantial alinement with the connections between said platform lever and said weighing beam, substantially as specified.

867,672. SLACK-ADJUSTER. AUGUSTUS PARKER-SMITH, New York, N. Y., assignor to Atlas Slack Adjuster Company, a Corporation of New York. Filed June 25, 1906, Serial No. 323,388. Renewed June 21, 1907. Serial No. 380,048.

1. In a fluid pressure brake apparatus, the combination with the usual cylinder, piston and foundation brake rigging of a telescoping piston rod connecting the piston with one of the brake levers, and automatic means for lengthening the telescoping piston rod to compensate for the wearing down of the brake shoes, said means comprising a friction dog having a bearing on the hollow member of the telescoping joint and gripping the other at any portion of its length.



2. In a fluid pressure brake apparatus, the combination with the usual cylinder, piston and foundation brake rigging of a telescoping piston rod connecting the piston with one of the brake levers, and automatic means for lengthening the telescoping piston rod to compensate for the wearing down of the brake shoes, said means comprising a gripping apparatus having a bearing on one member of the telescoping joint and gripping the other member at any point of its length, and mechanism which after the predetermined maximum of piston travel has been exceeded on any stroke extends the telescopic joint after release of the brakes by an amount equal to the excess travel on such piston stroke.

3. In a fluid pressure brake apparatus, the combination with the usual cylinder, piston and foundation brake rigging of a telescoping piston rod connecting the piston with one of the brake levers, and automatic means for lengthening the telescoping piston rod to compensate for the wearing down of the brake shoes, said means comprising a gripping apparatus having a bearing on one member of the telescoping joint and gripping the other member at any point of its length, and mechanism which after the predetermined maximum of piston travel has been exceeded on any stroke extends the telescopic joint after release of the brakes by an amount equal to the excess travel on such piston stroke, said mechanism comprising a second gripping apparatus mounted on the second member of the telescoping joint, a spring mounted between the two gripping devices, and an adjustable stop for the second gripping apparatus.

4. In a fluid pressure brake apparatus the combination with the usual cylinder, piston and foundation brake rigging of a hollow piston rod, a push rod telescoped therein and connected to one of the brake levers, a friction clutch loosely mounted on the push rod and adapted to bear against the end of the hollow piston, a second friction clutch also loosely mounted on the push rod, a stop therefor rigidly supported with reference to the brake cylinder, and a spring located between the two clutches.

5. In a fluid pressure brake apparatus, the combination with the usual cylinder, piston and foundation brake rigging of a hollow piston rod, a push rod telescoped therein and connected to one of the brake levers, a friction clutch loosely mounted on the push rod and adapted to bear against the end of the hollow piston, a second friction clutch also loosely mounted on the push rod, a stop therefor rigidly supported with reference to the brake cylinder, and a spring located between the two clutches, together with a second but more flexible spring located on the other side of the first mentioned friction clutch and having its outer end confined on the push rod.

6. In a fluid pressure brake apparatus, the combination with the usual cylinder, piston and foundation brake rigging of a hollow piston rod, a push rod having an enlarged inner end telescoped therein and connected to one of the brake levers, a friction clutch loosely mounted on the push rod and adapted to bear against the end of the hollow piston, a second friction clutch also loosely mounted on the push rod, a stop therefor rigidly supported with reference to the brake cylinder, and a spring located between the two clutches, together with a second spring confined between the first mentioned friction clutch and the enlarged end of the push rod.

7. In a fluid pressure brake apparatus, the combination with the usual cylinder, piston and foundation brake rigging of a hollow piston rod, a push rod telescoped therein and connected to one of the brake levers, a fricti-

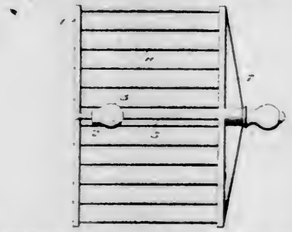
loosely mounted on the push rod and adapted to bear against the end of the hollow piston, a second friction clutch also loosely mounted on the push rod, a stop therefor rigidly supported with reference to the brake cylinder, and a spring located between the two clutches, said stop also forming a guide for the push rod.

8. The combination of a hollow piston rod, a push rod telescoped therein, and the friction dog having a perforation through which the push rod passes and a bent end which bears on the end of the hollow piston.

9. The combination in a friction clutch of a rod, a perforated member through which the rod passes, and a dog having an opening through which the rod also passes and a projection at one end which bears on the face of the perforated member.

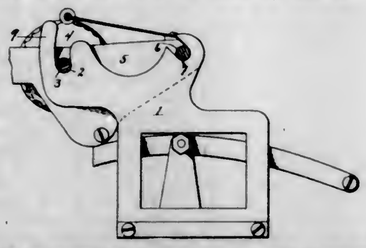
10. The combination in a friction clutch of a rod, a perforated member through which the rod passes, and a dog having an opening through which the rod also passes and a projection at one end which bears on the face of the perforated member, together with a stop located on the other side of the dog having a bearing face in a plane at right angles to the axis of the rod.

867,673. VENTING-TOOL. ALEXANDER C. PEARCE, Baton Rouge, La. Filed May 14, 1906. Serial No. 316,778.



In a portable hand venting tool for sand cores for molds, the combination with a guide bar having a plurality of transverse openings, of a handle extending at an angle thereto from the central part thereof, a guide rod connected to the guide bar at the central part thereof and extending at right-angles thereto and provided with a button at its outer end portion, a bar or beam disposed parallel to the guide bar and slidable at its central portion on the guide rod, a handle connected to the slidable bar and perforated to receive the guide rod, and venting tines or teeth secured to the slidable bar and slidable through openings in the guide bar.

867,674. TYPE-WRITER. LYMAN R. ROBERTS, Detroit, Mich. Filed July 14, 1906. Serial No. 326,169.



1. In a typewriter, in combination with a platen provided with an arbor and a counter-shaft fixedly spaced thereby the one from the other, a typewriter carriage, a saddle thereon, provided with a bearing for said arbor having a curved groove opening into said bearing from above, a bearing for said counter-shaft having a groove opening into said bearing and inclined to coincide approximately with a radius of the curvature of said first mentioned groove being located on the concaved side thereof, whereby the bearings for the two shafts rest normally on diverging surfaces, substantially as described.

2. In a typewriter, in combination with a platen frame provided with a platen arbor and a counter-shaft whose distance the one from the other is invariable, bearings for the said platen arbor and counter-shaft having slots leading thereinto from above, the slot for said arbor being curved around the normal center of the counter shaft when located in its bearing, the slot for said counter-shaft leading into said bearing on an incline from above downward, substantially as described.

867,675. DRUMHEAD. ISAAC H. SAPP, Oakland, Cal. Filed July 10, 1906. Serial No. 325,523.



1. A device of the character described comprising a counterhoop having an annular groove, a head stretched upon the hoop, means for binding the head within the groove, said head being folded over said means, and a clamping device surrounding the folded portion of the head.

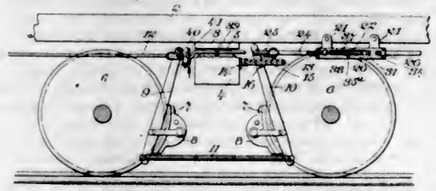
2. A device of the character described comprising a counterhoop having an annular groove therein, a head upon the hoop, means surrounding the hoop for securing the marginal portion of the head within the groove, said portion being folded over said securing means, and a reinforcing band adjustably secured around the hoop for clamping the forward portion of the head within the groove.

3. A device of the character described comprising a counterhoop having an annular groove therein, a head upon the hoop, means for securing the marginal portion of the head within the groove, said portion being folded upon said means, and an adjustable band surrounding the hoop for clamping the folded portion thereof into the groove.

4. In a drum the combination with a shell; of a counterhoop surrounding the shell and having an annular groove therein, a head stretched upon the shell and overlapping the hoop, means for securing the marginal portion of the head within the groove, said portion being folded upon said means, and an adjustable band surrounding the hoop and clamping the folded portion of the head within the groove.

5. The combination with a counterhoop having an annular groove therein; of a head overlapping one edge of the groove, a cord for securing the head within the groove, the marginal portion of said head being folded over the cord, a band surrounding the folded portion of the head and having an ear at one end, the other end of said band being threaded and slidably mounted within the ear, and means upon the threaded portion of the band for contracting the band to clamp the cord and the folded portion of the head into the groove.

867,676. SLACK-ADJUSTER. WILLIAM H. SAUVAGE, New York, N. Y., assignor, by mesne assignments, to Atlas Slack Adjuster Company, New York, N. Y., a Corporation of New York. Filed Jan. 27, 1906. Serial No. 298,191. Renewed Jan. 11, 1907. Serial No. 351,898.



1. In an automatic slack adjuster for railway brakes, the combination of the wheel truck and brake system therefor, comprising a "live" lever and a "dead" lever, the car body, the brake cylinder mounted on said car body, and an automatic take-up device mounted on the car body and connected to the "dead" lever on the wheel truck.

2. In an automatic slack adjuster for railway brakes, the combination of the wheel truck and brake system therefor, comprising a "live" lever and a "dead" lever, the car body, the brake cylinder mounted on said car body, and an automatic take-up device mounted on the car body and connected to the "dead" lever on the wheel truck by a flexible series of tension links.

3. In an automatic slack adjuster for railway brakes, the combination of the wheel truck and brake system therefor, comprising a "live" lever and a "dead" lever, the car body, the brake cylinder mounted on said car body, and an automatic take-up device mounted on the car body and connected to the "dead" lever, and means operated by excessive movement of the "live" lever to actuate said automatic take-up device.

4. In an automatic slack adjuster for railway brakes, the combination of the wheel truck and brake system therefor, comprising a "live" lever and a "dead" lever, the car body, the brake cylinder and piston mounted on said car body and operatively connected to the "live" lever of the brake system and an automatic take-up device mounted on the car body and connected to the "dead" lever of the brake system, said take-up device comprising a holding clutch, an adjusting clutch, and a "lost motion" connection from the adjusting clutch to the "live" lever.

5. In an automatic slack adjuster for railway brakes, the combination of the car body and swiveling wheel truck for same, the brake cylinder and piston mounted on said car body, the brake system carried by the truck, comprising a "live" lever and a "dead" lever, the "live" lever and top rod connecting it to the piston of the brake cylinder, the connection to the "live" lever being at a point to one side of a vertical plane passing through the swivel bearing of the truck and parallel to the "top" rod, and an automatic take-up device fastened to the car body and connected to the "dead" lever to form an adjustable fulcrum for said dead lever.

6. In an automatic slack adjuster for railway brakes, the combination with the standard brake rigging of the main frame of the take-up mechanism provided with guides, a take-up rod sliding in said guides, a stationary friction clutch mounted on said frame and operating to prevent motion of the rod in one direction, but permitting motion in the other direction, a movable friction clutch grasping said rod to move it in the direction permitted by the first clutch, a spring normally tending to force said movable clutch in the same direction, connections from said take-up rod to the "dead" lever of the brake rigging and a "lost motion" connection from the movable clutch to the "live" lever.

7. In an automatic slack adjuster for railway brakes, the combination with the standard brake rigging of the main frame of the take-up mechanism provided with guides, a take-up rod sliding in said guides, a stationary friction clutch mounted on said frame and operating to prevent motion of the rod in one direction, but permitting motion in the other direction, a movable friction clutch grasping said rod to move it in the direction permitted by the first clutch, a spring normally tending to force said movable clutch in the same direction, connections from said take-up rod to the "dead" lever of the brake rigging and an adjustable "lost motion" connection from the movable clutch to the "live" lever.

8. In an automatic slack adjuster for railway brakes, the combination with the standard brake rigging of the main frame of the take-up mechanism provided with guides, a take-up rod sliding in said guides, a stationary friction clutch mounted on said frame and operating to prevent motion of the rod in one direction, but permitting motion in the other direction, a movable friction clutch grasping said rod to move it in the direction permitted by the first clutch, a spring normally tending to force said movable clutch in the same direction, connections from said take-up rod to the "dead" lever of the brake rigging and a "lost motion" connection from the movable clutch to the "live" lever, together with a spring mounted in the movable clutch for normally holding same in engagement, and a spring mounted in the main frame normally holding the stationary clutch in engagement.

9. In an automatic slack adjuster for railway brakes, the combination with the standard brake rigging of the main frame of the take-up mechanism provided with guides and lugs for attachment to a car body, a take-up rod sliding in said guides, a stationary friction clutch mounted on said frame and operating to prevent motion of the rod in one direction, but permitting motion in the other direction, a movable friction clutch grasping said rod to move it in the direction permitted by the first clutch, a spring normally tending to force said movable clutch in the same direction, connections from said take-up rod to the "dead" lever of the brake rigging and a "lost motion" connection from the movable clutch to the "live" lever.

10. In an automatic slack adjuster for railway brakes, the combination with the standard brake rigging of the main frame of the take-up mechanism provided with guides, a take-up rod sliding in said guides, a stationary friction clutch mounted on said frame and operating to prevent motion of the rod in one direction, but permitting motion in the other direction, a movable friction clutch grasping said rod to move it in the direction permitted by the first clutch, a spring normally tending to force said movable clutch in the same direction, connections from said take-up rod to the "dead" lever of the brake rigging and a "lost motion" connection from the movable clutch to the "live" lever, each of said clutches having tripping means projecting outside of the main frame.

11. In an automatic slack adjuster for railway brakes, the combination with the standard brake rigging of the main frame of the take-up mechanism provided with guides, a take-up rod sliding in said guides, a stationary friction clutch mounted on said frame and operating to prevent motion of the rod in one direction, but permitting motion in the other direction, a movable friction clutch grasping said rod to move it in the direction permitted by the first clutch, a spring normally tending to force said movable clutch in the same direction, connections from said take-up rod to the "dead" lever of the brake rigging and a "lost motion" connection from the movable clutch to the "live" lever, each of said clutches having tripping means projecting outside of the main frame and located adjacent one to the other.

12. In an automatic slack adjuster for railway brakes, the combination with the standard brake rigging of the main frame of the take-up mechanism provided with guides, a take-up rod sliding in said guides, a stationary friction clutch mounted on said frame and operating to prevent motion of the rod in one direction, but permitting motion in the other direction, a movable friction clutch grasping said rod to move it in the direction permitted by the first clutch, a spring normally tending to force said movable clutch in the same direction, connections from said take-up rod to the "dead" lever of the brake rigging and a "lost motion" connection from

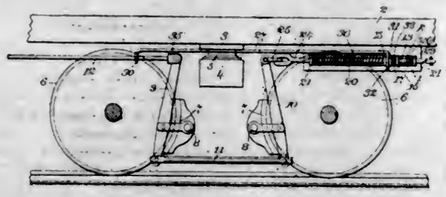
the movable clutch to the "live" lever, the swinging members of said friction clutches being pivoted on vertical axes.

13. In an automatic slack adjusting mechanism for railway brakes, the combination of the brake rigging, an automatic take-up mechanism mounted on the car body comprising an endwise adjustable take-up rod, flexible connecting means extending from such rod to the "dead" lever of the brake rigging and guiding means for such flexible connecting means also mounted on the car body.

14. In an automatic slack adjusting mechanism for railway brakes, the combination of the main frame of the take-up mechanism, a take-up rod sliding therein, clutching means mounted on said main frame and engaging the take-up rod to prevent motion of it in one direction and a tension spring normally tending to force said rod in the direction in which motion is prevented by the clutching means.

15. In an automatic slack adjuster for railway brakes, the combination of the car body, the wheel truck provided with brake rigging, an automatic take-up device mounted on the car body, a flexible connection from the same to the "dead" lever of the brake rigging, and means for manually adjusting the fulcrum of the dead lever which also serve as guiding means for said "dead" lever when the automatic take-up device is in use and manual adjustment is dispensed with.

867,677. SLACK-ADJUSTER. WILLIAM H. SAUVAGE, New York, N. Y., assignor, by mesne assignments, to Atlas Slack Adjuster Company, New York, N. Y., a Corporation of New York. Filed Sept. 1, 1906, Serial No. 332,890. Renewed June 21, 1907. Serial No. 380,039.



1. A take-up and holding mechanism for automatic slack adjusters comprising in combination, a holding frame, a fulcrum projection rigidly located with reference to said frame, a take-up frame movable within said holding frame, a rod passing through both said frames, a take-up clutch dog mounted on said rod within the take-up frame, a holding clutch dog mounted on said rod and having one end pressing against the fulcrum projection and a spring normally tending to hold the take-up frame at a fixed position in the holding frame.

2. A take-up and holding mechanism for automatic slack adjusters comprising in combination, a holding frame, a fulcrum projection rigidly located with reference to said frame and forming part of the means for attaching the holding frame to its support, a take-up frame movable within said holding frame, a rod passing through both said frames, a take-up clutch dog mounted on said rod within the take-up frame, a holding clutch dog mounted on said rod and having one end pressing against the fulcrum projection and a spring normally tending to hold the take-up frame at a fixed position in the holding frame.

3. A take-up and holding mechanism for automatic slack adjusters comprising in combination, a holding frame, a fulcrum projection rigidly located with reference to said frame and forming part of the means for attaching the holding frame to its support, a take-up frame movable within said holding frame, a rod passing through both said frames, a take-up clutch dog mounted on said rod within the take-up frame, a holding clutch dog mounted on said rod and having one end pressing against the fulcrum projection and a spring normally tending to hold the take-up frame at a fixed position in the holding frame pressed against the other side of the fulcrum projection for the holding dog.

4. A take-up and holding mechanism for automatic slack adjusters comprising in combination, a holding frame composed of a body portion with two ends bent up and perforated, a bolt passing through said body portion near one end and having its head on the inside of the frame, a take-up frame movable within said holding frame and having perforations in line with those in the ends of the holding frame, a rod passing through all of said perforations, a take-up clutch dog mounted on said rod within the take-up frame, a holding clutch dog mounted on said rod and having one end pressing against the above described bolt head and a spring mounted on the rod with one end against the end of the holding frame and normally forcing the take-up frame against the other side of the bolt head.

5. A take-up and holding mechanism for automatic slack adjusters comprising in combination, a holding frame composed of a body portion with two ends bent up and perforated, a bolt passing through said body portion near one end and having its head on the inside of the frame, a take-up frame movable within said holding frame and having perforations in line with those in the ends of the holding frame, a rod passing through all of said perforations, a take-up clutch dog mounted on said rod within the take-up frame, a holding clutch dog mounted on said rod and having one end pressing against the above described bolt head and a spring mounted on the rod with one end against the end of the holding frame and normally forcing the take-up frame against the other side of the bolt head, together with two other springs mounted on the rod and tending to force the clutch dogs into action.

6. The combination in a friction clutch of a frame composed of a middle portion and two bent end portions provided with perforations in line one with another, a rod passing through said perforations, a loose clutch dog having a perforation through which the rod also passes, a fulcrum projection rigidly located with reference to the frame and against which one end of the dog bears, and a spiral spring surrounding the rod, and compressed between one bent end portion of the frame, and the side of the dog opposite to the fulcrum.

7. The combination in a friction clutch of a frame composed of a middle portion and two bent end portions provided with perforations in line one with another, a rod passing through said perforations, a loose clutch dog having a perforation through which the rod also passes, a fulcrum projection rigidly located with reference to the frame and against which one end of the dog bears, and a spiral spring surrounding the rod, and compressed between one bent end portion of the frame, and the side of the dog opposite to the fulcrum, together with a take-up frame composed or a shorter middle portion and two bent end portions provided with perforations through which the rod also passes, a second loose clutch dog within said take-up frame and having a perforation through which the rod passes, a spring confined between said second clutch dog and one end of the take-up frame, and yielding means for holding the take-up frame against the before mentioned fulcrum projection.

8. A take-up and holding mechanism for automatic slack adjusters comprising in combination, a holding frame having bent up perforated end portions, a shorter take-up frame within the holding frame having bent up end portions perforated in line with the perforations in the ends of the holding frame, a take-up rod passing through all said perforations, a holding dog consisting of a piece of metal perforated nearer to one end than to the other mounted on the rod in the holding frame, with its longer end inmost, and a second take-up dog composed of a similar piece of metal mounted on the rod within the take-up frame with its shorter end inmost.

9. In a take-up and holding device for automatic slack adjusters, the combination of a take-up rod, a perforated clutch dog through which the rod passes, mechanism affording a fulcrum for one end of said dog, and a spring normally holding said dog in clutching position.

10. In an automatic slack adjuster for railway brakes, the combination with a take-up rod and holding device

therefor, of a take-up frame, a perforated friction dog mounted on said rod in said take-up frame, and a reach rod for moving said take-up frame, the bent end of the reach rod passing through the take-up frame and serving as a fulcrum for the clutch dog.

11. In an automatic slack adjuster for railway brakes the combination with the standard brake rigging comprising a "live" lever, a "dead" lever, and top rod connected to said "live" lever, of a take-up rod connected to the "dead" lever, a holding device therefor, a take-up device, and a reach rod connected at one end to the take-up device and having its other end loosely encircling the top rod.

12. A take-up and holding mechanism for automatic slack adjusters, comprising in combination a holding frame, a take-up rod sliding in said frame, a gripping mechanism for holding said rod in different positions of adjustment, and means for holding said gripping mechanism in the holding frame which also serve to fasten the holding frame to its support.

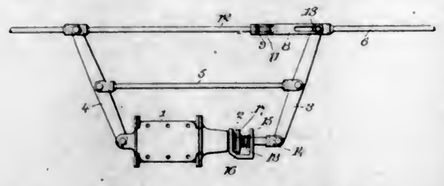
13. A take-up and holding mechanism for automatic slack adjusters, comprising in combination a holding frame, a take-up rod sliding in said frame, a gripping mechanism for holding said rod in different positions of adjustment and a device for holding said gripping mechanism in the holding frame which said means constitute the sole means for connecting the holding frame to its support.

14. A take-up and holding mechanism for automatic brake slack adjusters which comprises in combination a holding frame, a take-up rod sliding in said holding frame, a perforated friction clutch dog mounted on said rod, and a bolt passing through said frame and adapted to serve as its means of attachment to its support, the head of said bolt also serving as a fulcrum for the clutch dog.

15. A take-up and holding mechanism for automatic brake slack adjusters which comprises in combination a holding frame, a take-up rod sliding in said holding frame, a perforated friction clutch dog mounted on said rod, and a swiveling bolt passing through said frame and adapted to serve as its sole means of attachment to its support, the head of said bolt also serving as a fulcrum for the clutch dog.

16. In a take-up and holding device for automatic slack adjusters, the combination of a take-up rod, a perforated clutch dog through which the rod passes, mechanism affording a fulcrum for one end of the dog, and means for normally holding said dog in clutching position.

867,678. SLACK-ADJUSTER. WILLIAM H. SAUVAGE, New York, N. Y., assignor, by mesne assignments, to Atlas Slack Adjuster Company, New York, N. Y., a Corporation of New York. Filed Nov. 21, 1906, Serial No. 344,440. Renewed June 21, 1907. Serial No. 380,040.



1. In a mechanism for automatically taking up and holding the slack in railway brakes, the combination with the usual cylinder, piston, brake levers and tie-rod, of a telescoping piston rod, a gripping device adapted to permit said piston rod to be lengthened, but prevent it being shortened, and mechanism connecting the outer ends of the brake levers and operating to lengthen the piston rod whenever the predetermined maximum travel of the piston is exceeded.

2. In a mechanism for automatically taking up and holding the slack in railway brakes, the combination with the usual cylinder, piston, brake levers and tie-rod, of a telescoping piston rod, a gripping device adapted to permit said piston rod to be lengthened, but prevent it being shortened, and mechanism connecting the outer ends of the brake levers and operating to lengthen the piston rod whenever the predetermined maximum travel of the piston is exceeded, said mechanism comprising a telescoping rod having a lost motion connection to the brake levers, and a gripping device adapted to permit the shortening but preventing the lengthening of said rod.

3. In a mechanism for automatically taking up and holding the slack in railway brakes, the combination with the usual cylinder, piston, brake levers and tie-rod, of a telescoping piston rod, a gripping device adapted to permit said piston rod to be lengthened, but prevent it being shortened, and mechanism connecting the outer ends of the brake levers and operating to lengthen the piston rod whenever the predetermined maximum travel of the piston is exceeded, said mechanism comprising a stirrup pivoted to one brake lever by a pin and slot connection, a rod pivoted to the other brake lever and telescoping into said stirrup, and a friction clutch mounted in said stirrup and engaging the said rod.

4. In a mechanism for automatically taking up and holding the slack in railway brakes, the combination with the usual cylinder, piston, brake levers and tie-rod of a telescoping piston rod, a gripping device adapted to permit said piston rod to be lengthened, but prevent being shortened, and mechanism connecting the outer ends of the brake levers and operating to lengthen the piston rod whenever the predetermined maximum travel of the piston is exceeded, said mechanism comprising a stirrup pivoted to one brake lever and perforated for the passage of a rod, a rod pivoted to the other brake lever and passing through this perforation, a perforated clutch dog mounted on said rod and in said stirrup, a spring forcing said dog into action and a lost motion connection between one of said brake levers and the member pivoted thereto.

5. In a mechanism for automatically taking up the slack in railway brakes, the combination with the usual cylinder, piston having a hollow piston rod, push rod, brake levers and tie-rod, of a friction clutch mounted on the hollow piston rod and engaging the push rod and a friction clutch mechanism extending between the outer ends of the brake levers and having a lost motion connection with one of them.

867,679. RED-VIOLET VAT DYE AND PROCESS OF MAKING SAME. ALBRECHT SCHMIDT and WILHELM BERTRAM, Höchst-on-the-Main, Germany, assignors to Farbwerke vorm. Meister Lucius & Brüning, Höchst-on-the-Main, Germany, a Corporation of Germany. Filed Jan. 22, 1907. Serial No. 353,528.

1. The process herein described for making red violet vat dyestuffs, which consists in heating dihalogen-thioglycollic-ortho-carboxylic acids with bisulfites.

2. As new product, the red violet dyestuff, obtained from 3:5 dichloro-phenylthioglycollic-ortho-carboxylic acid, said dyestuff being a violet black powder, very difficultly soluble in concentrated sulfuric acid with a green, in hot nitrobenzene with a red violet color and producing on porcelain a violet black metallic stroke.

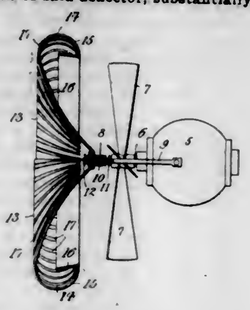
867,680. FAN. OTTO SELG, New York, N. Y. Filed May 2, 1907. Serial No. 371,423.

1. A fan provided with a deflector composed of slotted sections, means for independently turning said sections, means for locking said sections, and means for setting said sections at various inclinations to the axis of the fan, substantially as specified.

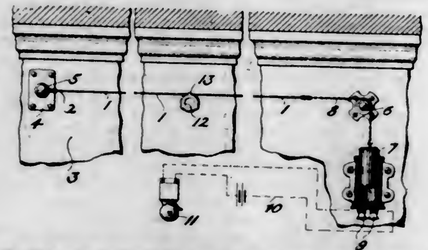
2. A fan provided with a deflector composed of a slotted body having a rearwardly extending slotted rim, and an imperforate flange extending forwardly from said rim, substantially as specified.

3. A fan provided with a housing, a rod secured thereto, a socket adjustably engaging said rod, a slotted curved

deflector secured to the socket, and an imperforate flange on the rear side of said deflector, substantially as specified.



867,681. AUTOMATIC FIRE-ALARM. CHARLES SMITH, South Croydon, England. Filed July 9, 1907. Serial No. 382,856.



1. In an automatic fire alarm; the combination with a flexible cord, a fusible metallic member around the external periphery of which the cord passes to support said member and to reduce the effective length of said cord until said member becomes fused, means for holding the said cord in tension, and means for completing an electric circuit by the extension in length of said cord when said member is fused, substantially as set forth.

2. In an automatic fire alarm; the combination with a flexible cord, means for holding one end of said cord stationary, a pendent weight connected to the opposite end to hold said cord in tension, stationary electric contact studs adapted to be electrically connected by said weight to complete an electric circuit when said weight descends, and an alarm device in said circuit; of a fusible metallic member, around the external periphery of which the cord passes to support said member and to reduce the effective length of said cord until said member becomes fused and thereby permits said weight to descend, substantially as set forth.

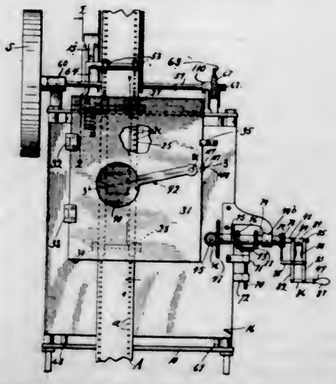
3. In an automatic fire alarm; the combination with a flexible cord, means for holding one end of said cord stationary, a pulley over which the opposite end of the cord passes, a pendent weight connected to the latter end of the cord to hold the said cord in tension, stationary electric contact studs adapted to be electrically connected by said weight to complete an electric circuit when said weight descends, and an alarm device in said circuit; of a fusible metallic member located between the fixed end of the cord and the pulley at the weighted end, and around the external periphery of which member the cord passes to support said member and to reduce the effective length of the cord until the said member becomes fused, and permits said weight to descend, substantially as set forth.

4. In an automatic fire alarm; the combination with a flexible cord, means for holding one end of said cord stationary, a pendent weight connected to the opposite end to hold said cord in tension, stationary electric contact studs adapted to be electrically connected by said weight to complete an electric circuit when said weight descends, and an alarm device in said circuit; of a ring of metallic alloy fusible at a comparatively low temperature, around the external periphery of which ring said cord passes to support the said ring and to reduce the effective length of said cord until said ring becomes fused and thereby permits the said weight to descend, substantially as set forth.

5. In an automatic fire alarm; the combination with a flexible cord, means for holding one end of said cord stationary, a pendent weight connected to the opposite end to hold said cord in tension, stationary electric contact studs adapted to be electrically connected by said weight to complete an electric circuit when said weight descends, and an alarm device in said circuit; of a ring of metallic alloy fusible at a comparatively low temperature, around the external periphery of which ring said cord passes to support the said ring and to reduce the effective length of said cord until said ring becomes fused and thereby permits said weight to descend, and means for retaining said cord upon the periphery of said ring, substantially as set forth.

6. In an automatic fire alarm; the combination with a flexible cord, means for holding one end of said cord stationary, a pendent weight connected to the opposite end to hold said cord in tension, stationary electric contact studs adapted to be electrically connected by said weight to complete an electric circuit when said weight descends, and an alarm device in said circuit; of a ring of metallic alloy fusible at a comparatively low temperature, radial ears extending from the outer periphery of said ring, each of said ears having a hole formed through it near its base in the plane of the ring, and having a slot extending from the top of the ear to the hole to permit said cord to pass into said hole through said slot of each ear as said cord is passed around the periphery of the ring to support the latter and to reduce the effective length of said cord, the hole of one of said ears containing two strands of said cord, one passing in the direction of the pendent weight and the other in the direction of the holding means, substantially as set forth.

867,682. KINETOSCOPE. FRANKLIN SPAULDING and JAMES D. SMITH, Chicago, Ill., assignors of one-third to Chicago Film Exchange, a Corporation of Illinois. Filed Feb. 21, 1907. Serial No. 358,624.



1. In a kinetoscope, in combination, a carrying frame, a lens carried thereby, an apertured plate slidably mounted on the frame in front of the lens, an elevating screw supporting the plate, film-feeding mechanism including a driving shaft mounted on the apertured plate, a hand crank shiftably mounted on the driving shaft, and means controllable by the hand crank for driving the elevating screw in either direction.

2. In a kinetoscope, in combination, a carrying frame, a lens carried thereby, an apertured plate slidably mounted on the frame in front of the lens, an elevating screw supporting the plate, film-feeding mechanism including a driving shaft mounted on the apertured plate, a hand crank shiftably mounted on the driving shaft, and differential gear connection between the driving shaft and the elevating screw controllable by the hand crank.

3. In a kinetoscope, in combination, a carrying frame, a lens carried thereby, an apertured plate slidably mounted on the frame in front of the lens, film-feeding mechanism including a driving shaft mounted on the apertured plate, a sleeve slidable on the driving shaft and fixed against rotation thereon, oppositely facing gears formed on the sleeve, an elevating screw supporting the apertured plate, the head of the screw entering between the gears on the sleeve and being provided with gear-teeth, a crank-arm pivotally secured to the driving shaft, a spring for maintaining the crank-arm in central position, and connection between the crank-arm and the sleeve.

4. In a kinetoscope, in combination, a film-carrier, means for adjusting the carrier, and means for driving the film carrier arranged to actuate the carrier-adjusting means at the will of the operator.

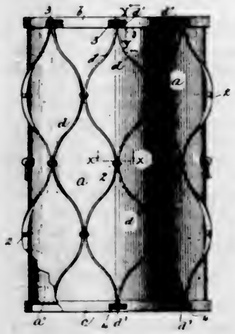
5. In a kinetoscope, in combination, a film carrier, means for adjusting the carrier, and means for driving the film carrier operatively engageable with the carrier-adjusting means.

6. In a kinetoscope, in combination, a projecting lens, a film carrier shiftably mounted in front of the lens, means for shifting the carrier, and means for driving the film carrier, operatively engageable with the carrier shifting means.

7. In a kinetoscope, in combination, a projecting lens, a film carrier slidably mounted in front of the lens, an elevating screw supporting the carrier, and means for driving the film carrier operatively engageable with the screw.

8. In a kinetoscope, in combination, a projecting lens, a film carrier shiftably mounted in front of the lens, means for shifting the carrier, means for driving the carrier including a shaft and a hand crank shiftably mounted thereon, and operative connection, controlled by the hand crank, between the carrier-driving means and the carrier-shifting means.

867,683. ASH-CAN. CHARLES J. SUSSMAN, New York, N. Y. Filed Mar. 14, 1907. Serial No. 362,335.



1. A metallic can for ashes etc., comprising a sheet metal body, circumferential metal hoops at the ends thereof and a series of reverse curved bands laid edgewise to the can and flatwise together extending circumferentially of the body, means for connecting together the adjacent meeting faces of the series of bands, the free ends of each of said bands being carried over the surface of the said hoops overturned against themselves, and outturned against the said hoops, and means for connecting the outturned ends of the said bands to the said hoops.

2. A metallic can for ashes, etc., comprising a sheet metal body, circumferential hoops at each end thereof, and a series of bands laid edgewise to the body and flatwise together, each of the said bands being independently secured at its ends to the said hoops and connected to each of the next adjacent bands intermediately of the said hoops to form a net work around the said can.

3. A metallic can for ashes, etc., comprising a sheet metal body, circumferential hoops at each end thereof, a series of bands laid edgewise to the body and flatwise together, each of the said bands being secured at its ends to the said hoops and to each of the next adjacent bands intermediately of the said hoops to form a net work around the said can, the ends of each of the said bands being carried over the surface of the said hoops, overturned against themselves, and outturned to lie against the surface of the bands, and means for connecting the ends of each band to the said hoops independently of any of the other bands.

4. A metal can for ashes, etc., comprising a sheet metal body and sheet metal bottom, circumferential metal bands or hoops placed exteriorly to the can at the respective ends thereof and secured to the body, a series of reverse curve bands laid edge-wise to the can and flatwise together, extending circumferentially of the body and also lengthwise of the same, rivets connecting together the adjacent meeting faces of the series of bands so as to produce a metallic net work, the bands being of reverse curve so as to produce substantially circular and semi-circular figures, the free ends of said bands being over-turned against the bands and out-turned and perforated to lie against the outer surface of the end bands, and rivets connecting the same in place thereto.

867,684. PRINTED-SHEET-RECEIVING TABLE FOR PRINTING-PRESSES. FRANK W. THOMAS, Toledo, Ohio. Filed Apr. 13, 1907. Serial No. 367,914.

1. The combination with a printing-press, of a rotatable member turnable on a vertical axis, a series of tilted sheet-receiving parts carried by said member, and mechanism driven by the press for rotating the member at a predetermined speed to successively bring the sheet-receiving parts in position for each to receive only one printed sheet at each revolution of the member.

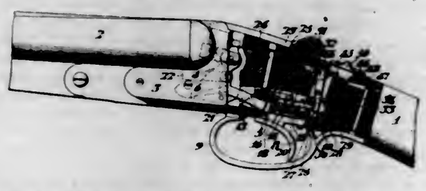
2. The combination with a printing-press, of a rotatable member having a vertical axis, a circular series of sheet-receiving pockets carried by said member and mechanism driven by the press for continuously rotating the member at a predetermined speed to successively bring the sheet-receiving pockets in position for each to receive one printed sheet at each revolution of the member.

3. In combination, a vertical shaft, a gear carried by the shaft, a table revolubly supported by the shaft and having a part loosely receiving the upper end of the shaft and having its lower end resting on the gear whereby rotation is frictionally communicated thereto from the gear, and mechanism for driving the gear at a predetermined speed.

4. The combination with a printing-press, of a table mounted at the side thereof and revoluble about a vertical axis, mechanism for imparting rotation to the table, and a plurality of circularly arranged trays carried by the table in tilted relation thereto, said trays each comprising a bottom and two adjoining sides, the corner formed by the

two sides being lowered and disposed toward the center of the table.

867,685. FIREARM. THEODORE M. THORSEN, Camden, N. J. Filed Apr. 16, 1906. Serial No. 311,844.



1. In a firearm comprising a plurality of barrels, the combination with a trigger; of a block mounted to reciprocate on said trigger; a spring tending to shift said block forward; a spring detent arranged to retain said block in its rearward position; means arranged to adjust said detent; means on said block whereby the first pulling of the trigger discharges one barrel and releases said block, and the subsequent pulling of said trigger discharges the remaining barrel, substantially as set forth.

2. In a firearm comprising a plurality of barrels, the combination with a trigger; of a block mounted to reciprocate on said trigger; means arranged to detain said block in different positions on said trigger; means arranged to adjust said detaining means; and means whereby the successive operations of said trigger, shifts said block to successively discharge said barrels, substantially as set forth.

3. In a firearm comprising a plurality of barrels, the combination with a trigger; of a block mounted to reciprocate on said trigger; a spring tending to shift said block forward; a spring detent arranged to retain said block in its rearward position; means arranged to shift said block into engagement with said detent; means arranged to adjust said detent; adjustable mechanism on said block whereby successive operations of said trigger successively discharge said barrels; and adjustable means arranged to predetermine the order of succession of discharge of said barrels, substantially as set forth.

4. In a firearm comprising a plurality of barrels, the combination with a trigger; of a block mounted to reciprocate on said trigger; a spring tending to shift said block forward; a spring detent arranged to retain said block in its rearward position; means arranged to shift said block into engagement with said detent; means arranged to adjust said detent; adjustable mechanism on said block whereby successive operations of said trigger successively discharge said barrels; adjustable means arranged to predetermine the order of succession of discharge of said barrels; and, a safety device arranged to prevent the accidental discharge of said barrels, substantially as set forth.

5. In a firearm comprising a plurality of barrels, the combination with a trigger; of a block mounted to reciprocate on said trigger; a spring tending to shift said block forward; a spring detent arranged to retain said block in its rearward position; means arranged to shift said block into engagement with said detent; means arranged to adjust said detent; adjustable mechanism on said block whereby successive operations of said trigger successively discharge said barrels; adjustable means arranged to predetermine the order of succession of discharge of said barrels; and a safety device arranged to be automatically set to prevent the accidental discharge of the barrels, and to be manually shifted to permit the discharge of said barrels, substantially as set forth.

6. In a fire arm comprising a plurality of barrels, the combination with trigger mechanism; of adjustable mechanism carried by said trigger, arranged to selectively discharge said barrels a detent arranged for coöperative connection with said trigger mechanism; and, adjustable means arranged to vary the relation between said trigger mechanism and said detent, substantially as set forth.

7. In a fire arm comprising a plurality of barrels, the combination with a trigger; of adjustable mechanism carried by said trigger arranged to selectively discharge said barrels; a spring detent; and screw threaded adjustable means arranged to vary the relation between said adjustable mechanism and said detent, substantially as set forth.

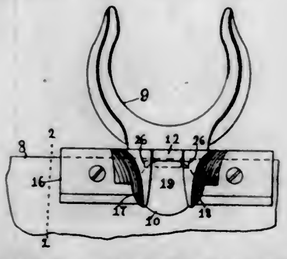
8. In a fire arm comprising a plurality of barrels, the combination with a trigger; of adjustable mechanism carried by said trigger arranged to selectively discharge said barrels; a spring detent 28, arranged to engage said adjustable mechanism; a set screw 30, arranged to vary the relation between said adjustable mechanism and said detent, substantially as set forth.

9. In a fire arm comprising a plurality of barrels, the combination with sears arranged to coöperate with hammers to discharge respective barrels; of a trigger; an adjustable plate on said trigger, comprising a projection arranged to be shifted to selectively engage said sears; means arranged to normally shift said plate forward; an adjustable spring detent arranged to retain said plate in its rearward position; and means arranged to shift said plate irrespective of the position of the hammers to engage its projection with either one of said sears, whereby the first operation of the trigger shifts said sear, and automatically sets said plate to engage the other sear when the trigger is subsequently operated, substantially as set forth.

10. In a fire arm comprising a plurality of barrels, the combination with a bolt arranged to engage said barrels; of a trigger; a block mounted to reciprocate on said trigger; a spring tending to shift said block forward; an adjustable spring detent arranged to retain said block in its rearward position; means carried by said bolt arranged to directly engage said block and shift it into engagement with said detent; and, adjustable mechanism on said block whereby successive operations of said trigger successively discharge said barrels in alternation, substantially as set forth.

11. In a fire arm comprising a plurality of barrels, the combination with sears each having a depending projection, and arranged to coöperate with hammers to discharge respective barrels; of a trigger carrying an adjustable plate, comprising a recess arranged to receive either of said projections; and, means arranged to shift said plate to predetermine the sequence in which said sears are operated, substantially as set forth.

867,686. ROWLOCK. BENJAMIN F. TRIPP, Medford, Mass., assignor of one-half to Daniel G. Langlands, Medford, Mass. Filed Mar. 30, 1906. Serial No. 308,907.

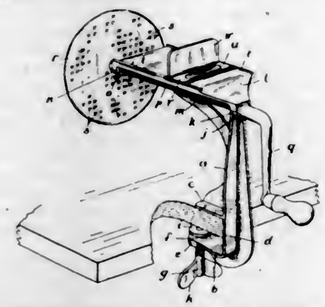


1. The combination with a boat, of a socket member attached thereto and having an opening in its side communicating with said socket, and a row-lock provided with a ball movable in said socket and with a shank movable through said opening in said socket member to permit the row-lock to be turned from an upright into a depending position, and a locking projection on said ball to engage said socket member and prevent accidental displacement thereof, substantially as described.

2. The combination with a row-lock provided with a pivot member or ball, of a socket member comprising a top plate having a depending finger and side plates provided with fingers coöperating with the finger on said top plate to form a socket for the reception of said ball, the fingers of said side plates being separated to permit of movement of the row-lock between them, substantially as described.

3. The combination with a row-lock provided with a pivot member or ball, of a socket member provided with fingers forming a socket for the reception of said ball, said fingers being separated to permit of movement of the row-lock between them, and a projection on said ball to engage said socket member and prevent vertical movement of the row-lock in one direction, substantially as described.

867,687. GRATER. HERMENIA VAN DER VOORT, Toronto, Ontario, Canada. Filed July 21, 1906. Serial No. 327,196.



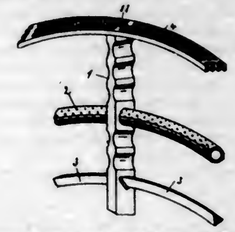
1. A grater, comprising an upright or standard having a lateral extension therefrom at its extreme upper end forming a table and a journal orifice below said extension, said table having longitudinal upwardly extending flanges from the sides thereof forming guide-ways and a lug depending from one corner thereof having a journal orifice in alinement with the aforesaid journal orifice, a shaft extending through said journal orifices beneath said table, a grater wheel secured to the end of said shaft in proximity to said table, means for rotating said shaft secured to the other end thereof, and a feed plate sliding between the aforesaid flanges having an upright portion thereto and a roughened face to said upright portion, substantially as described.

2. A grater, comprising an upright arm having a vise hold at the lower end thereof and a journal orifice at the upper end, a table having suitable guide-ways thereon rigidly supported by and above the said upright arm by a suitable bracket therefrom a journal bearing supported by said table in alinement with the aforesaid journal orifice, a shaft turning in said bearings, a grater wheel secured to one end of said shaft in proximity to the end of said table and a crank handle secured to the other end, a feed plate having a flat portion sliding between the aforesaid guide-ways and an upright portion having its inner face roughened to grip the material to be grated, substantially as described.

867,688. CORE-SUPPORTING FRAME. MICHAEL D. WALDRON, Utica, N. Y., assignor of two-thirds to Utica Heater Company, Utica, N. Y. Filed Apr. 26, 1906. Serial No. 313,761.

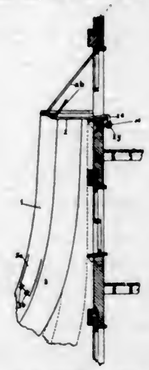
1. A core supporting frame-work adapted to become embedded in the core consisting of post parts, a sectional supporting and venting pipe passing through the post part, connecting sectional supporting bar engaging with the post parts and grate-like plates applied to the post parts, substantially as set forth.

2. A sectional core supporting frame consisting of a set of post parts, set of sectional perforate tube parts, set of sectional supporting bar parts and set of plate parts adapted to be assembled and set up with the tube bar and plate parts in a circular form and the post parts extending transversely and engaging with the other three sets of parts, substantially as set forth.



3. The combination in a core support for circular cores sectional detachable encircling parts, post parts with which the encircling parts engage, spacing and supporting said encircling parts and readily detachable therefrom, substantially as set forth.

867,689. FIRE-ESCAPE. JOHN WENIG, Mount Pleasant, Mich. Filed Feb. 18, 1907. Serial No. 358,093.



1. A fire escape comprising a flexible chute, an approximately U-shaped frame, to which the upper edges of the outer and side faces of the chute are secured, the arms of the frame being bent, hooks formed on the inner ends of the arms, the frame adapted to rest on a window sill with the hooked ends depending inside, strengthening ropes extending longitudinally of the under face of the chute, the upper ends of the ropes terminating in loops protruding from the upper edge of the inner face of the chute, a rod engaging the hooks of the arms and threaded through the loops and eyes through which the rod passes, to retain the chute in position.

2. A fire escape comprising a flexible chute, an approximately U-shaped frame, to which the upper edges of the outer face and sides of the chute are secured, the free ends of the U-shaped frame resting upon the window sill, hooks formed on the free ends of the frame and depending within the building, the ends of the hooks being apertured, a rod secured within the building, the hooks journaled on the rod, the upper edge of the inner face of the chute being supported by the rod.

3. A fire escape comprising a flexible chute, a substantially U-shaped frame open at one end, the upper edges of the outer face and sides of the chute secured to the frame, a rod secured within the building, the inner ends of the frame journaled on the rod, the upper end of the inner face of the chute extending between the arms of the frame into the building and there secured.

4. A fire escape comprising a flexible chute, an approximately U-shaped frame, to which the upper edges of the outer face and sides of the chute are secured, a rod secured to the building, the inner ends of the frame being journaled on the rod, the upper edge of the inner face of the

chute extending over the window sill into the building and being secured to the rod.

5. A fire escape comprising a chute, a frame to which the upper edges of the outer face and sides of the chute are secured, a rod secured to the building, the inner ends of the frame being journaled on the rod, the upper end of the inner face of the chute extending over the window sill into the building, longitudinally extending strengthening ropes embedded in the inner face of the chute, the upper ends of the ropes projecting beyond the upper end of the inner face of the chute and formed into loops, the rod passing through the loops.

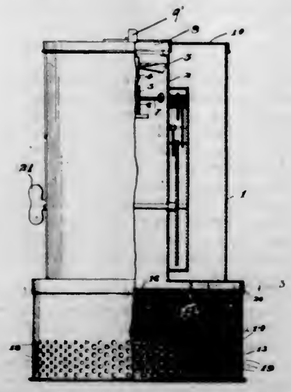
6. A fire escape comprising a flexible chute, an approximately U-shaped frame, the upper edges of the outer face and sides of the chute being secured to the frame, the outer end of the frame being bent upwardly, the inner ends of the arms of the frame resting on the window sill, and a rod secured within the building, the inner free ends of the arms being journaled on the rod, the upper edge of the inner surface of the chute being connected to the rod.

7. A fire escape comprising a chute, a substantially U-shaped frame to which the upper edges of the chute are secured, a rod secured within the building, the inner ends of the frame extending within the building and journaled on the rod, and longitudinally extending strengthening ropes embedded in the chute.

8. A fire escape comprising a flexible chute, an approximately U-shaped frame to which the upper edges of the outer face and sides of the chute are secured, a suitably supported rod, the inner ends of the frame being journaled on the rod, pivotally secured braces, and hooks on the free ends of the braces adapted to removably engage the outer overhanging end of the frame.

9. A fire escape comprising a chute, a substantially U-shaped frame to which the upper edges of the chute are secured, and a rod secured within the building, the inner ends of the frame extending within the building and journaled on the rod.

867,690. HUMIDIFIER. CHARLES E. WHITMORE, Chicago, Ill. Filed Jan. 8, 1903. Serial No. 138,220.



1. A device of the kind described, comprising an inlet tube the lower portion of which is enlarged to form a chamber, perforations formed in the lower portion of the walls of said chamber, a foraminated plate dividing said chamber above the perforations, a layer of porous material extending across said chamber supported by said plate, an upper perforated plate spaced from the top of said chamber, resting upon said porous material, and a regulating valve at the entrance to said inlet tube, in combination with a fan within said tube whereby air may be drawn into the tube and discharged through the perforations in said chamber after passing through said porous material.

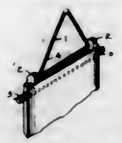
2. A device of the kind described, comprising a vertical inlet tube enlarged at its lower end to form a chamber, and a layer of moist porous material extending across said chamber, in combination wtih a rotary fan positioned in said air tube and means for driving the same, and a pair of slidable valve plates adapted to jointly cover the upper end of said air tube, each plate arranged to be independently moved to vary the inlet to said tube.

3. A device of the kind described, comprising a vertical air tube whose cross section is increased near its lower end to form a chamber, a horizontal layer of moist porous material extending across said chamber at a point about midway of its height and a pair of pivoted valve plates adapted to be operated independently of each other to control the inlet opening to said tube, in combination with a rotary fan within said air tube, and means for driving said fan.

4. In a device for humidifying air, an air tube, a subjacent layer of moist porous material, a rotary fan and means for driving it, in combination with a pair of pivoted slidable valve-plates positioned close to the outer end of the air tube, said plates having apertures through their proximate edges, and one of said plates partially overlapping the other; substantially as described.

5. A device for humidifying air, an air tube, a subjacent layer of moist porous material, a rotary fan within the air tube, means for driving the fan, in combination with a plate 10 having an opening that substantially registers with the top of said tube, and a pair of valve-plates, one of which partially overlaps the other, said plates being pivotally connected to said plate 10, and each plate having a plurality of apertures therein, for the purpose described.

867,691. GARMENT-HANGER. JOHN F. WILLIAMS, Sandusky, Ohio. Filed Dec. 28, 1906. Serial No. 349,800.



1. In a garment hanger the combination of a pair of clamps each having diverging legs or branches, and a supporting device coöperating therewith, said device having inclined sides adapted to be inserted between the diverging legs or branches of the clamps to force the material of the garment against the same, substantially as specified.

2. In a garment hanger, the combination of a pair of clamps each having diverging legs or branches, and a supporting device coöperating therewith, said device having inclined, rounded or beveled sides adapted to be inserted between the diverging legs or branches of the clamps to wedge the material of the garment against the same, substantially as specified.

3. In a garment hanger, the combination of a pair of clamps adapted to be applied to suitable portions of the garment and having each a pair of diverging legs or branches, and an angular support adapted to be applied to the garment with the inclined sides thereof inserted between the legs or branches of the clamps to force the material into engagement with said legs or branches and operate to stretch the garment, substantially as specified.

4. In a garment hanger and stretcher, the combination of a pair of clamps adapted to be applied to suitable portions of the garment and having each a pair of diverging legs or branches, and an angular support adapted to be applied to the garment with the inclined sides thereof inserted between the legs or branches of the clamps, said sides being rounded or beveled to wedge the material into engagement with said legs or branches as well as to operate to stretch the garment, substantially as specified.

5. In a garment hanger and stretcher, the combination of a pair of clamp members each having diverging legs or branches adapted to receive between them suitable portions of the garment, an angular support adapted to be inserted between the adjacent portions of the garment with opposite inclined portions thereof in engagement with the portions of the garment which are between the legs or branches of the clamp, said support being provided with suspending means located at one or more corners thereof.

6. In a garment hanger and stretcher, the combination of a pair of clamp members each having diverging legs or branches adapted to receive between them suitable portions of the garment, a support adapted to be inserted between the adjacent portions of the garment, said support being in the shape of a triangle having rounded or beveled opposite inclined portions thereof in engagement with the portions of the garments which are between the legs or branches of the clamp, said support being provided with suspending means at one or more corners thereof, substantially as specified.

7. In a garment hanger, the combination of a pair of clamps having each diverging legs or branches, and a supporting member, said member having a pair of arms each adapted to be inserted between the legs or branches of a clamp to force the material of the garment against the same, substantially as specified.

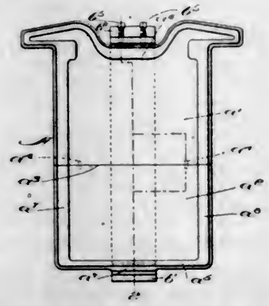
8. In a garment hanger, the combination of a pair of clamps each having diverging legs or branches, and an angular supporting member, having inclined sides and an arm projecting from each of two of said inclined sides and adapted to be inserted between the legs or branches of the clamps to force the material of the garment thereagainst, substantially as specified.

9. In a garment support and hanger, the combination of a supporting member comprising a pair of inclined sides each having an arm projecting laterally therefrom, and a clamp slidably mounted on each of said sides and having diverging legs or branches adapted to straddle the adjacent arm and force the material of the garment thereagainst, substantially as specified.

10. In a garment hanger, the combination of a pair of side members having each an arm projecting laterally therefrom, and a clamp mounted on each of said members and having legs or branches adapted to straddle the adjacent arm and cause said arm to force the material of the garment into contact with the legs or branches, substantially as specified.

11. A garment hanger comprising a pair of clamps each having diverging legs or branches, a hanging or supporting member provided with suitable suspending means and a pair of oppositely extending branches, each of said branches having a member adapted to be inserted between the legs or branches of a clamp to force the interposed portions of the garment into contact with the said legs or branches, substantially as specified.

867,692. MOLD FOR CASTING COPPER. FRANK L. ANTISELL, New York, N. Y. Filed Nov. 21, 1905. Serial No. 288,394.



1. A metal mold having a bottom and side walls extending around and connected to the bottom, the said bottom and walls consisting of a plurality of sections loosely connected together, and means for holding the sections together while in use and permitting the bottom to expand on one surface to a greater extent than the other and to resume its normal position without cracking the mold.

2. A metal mold consisting of a bottom and side walls, said bottom and walls being made up of a plurality of sections loosely connected together so that when the sections are joined together an open top mold is formed, and means for holding the sections together, but permitting the upper or inner surface of the mold to expand to a greater degree than the outer surface when the mold is used, and also permitting the mold to resume its normal position when cold without cracking.
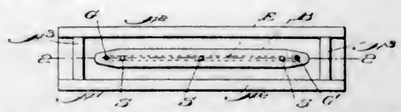
3. A mold consisting of sections joined together, one wall of the mold being provided with a ledge and the other with an inclined surface, a clamp below the mold extending from one of these walls to the other, said clamp having upturned ends on one of which rests the ledge of the mold, a set screw passing through the other end and resting against the other wall of the mold, as and for the purpose set forth.

4. A mold consisting of sections of metal loosely joined together, dowels extending across the joined edges, one section having a ledge on the outside thereof and the other having an inclined surface, a clamp extending underneath the two sections, said clamp having two upturned ends resting against the lug, and a set screw passing through the other end which bears against the inclined edge of the other part of the mold, whereby the two sections are held together to form a completed mold and whereby the two sections are permitted to expand and move on the lower meeting edges without straining or cracking the mold.

5. A metal mold consisting of a plurality of sections joined together with a space between the meeting edges of said sections, a flat metal filler in said space, means for holding the metal filler in said space asbestos also in said space, and means for holding the sections together.

6. A metal mold consisting of a plurality of sections having an opening between the meeting edges, a dowel connecting the sections, a metal filler in said space, said filler having an opening therein through which the dowel passes, asbestos or similar material also in said space, and means for holding the sections together.

867,693. WIRE-BAR MOLD-CORE. FRANK L. ANTISELL, New York, N. Y. Filed July 5, 1906. Serial No. 324,772.



1. A mold core having a chamber at each end thereof, a pipe extending through the core and communicating at each end with the chamber, a supply pipe connected with one of the chambers, and a waste pipe connecting with the other chamber.

2. A mold core formed of metal having a chamber at each end thereof, a pipe extending through said core, each end of the pipe projecting into a chamber, a supply pipe connected with one of the chambers, and a waste pipe connected with the other chamber.

3. A mold core having a chamber at each end thereof, a pipe extending through the core and communicating at each end with the chamber, said pipe being covered or coated with graphite, a supply pipe connected with one of the chambers, and a waste pipe connected to the other chamber.

867,694. WATCH-GUARD. HORACE N. BOLTON, Paterson, N. J. Filed June 15, 1907. Serial No. 379,138.

1. The combination of a contractible ring or band, means for clamping the same around the stem of a watch, sliding bolts diametrically arranged in said ring or band

and each having a projection at its outer end, and means for normally maintaining said bolts extended, substantially as described.

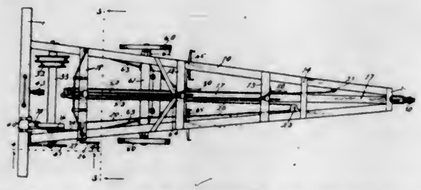


2. The combination of a contractible ring or band, means for clamping the same around the stem of a watch, sliding bolts diametrically arranged in said ring or band and each having an upturned spur at its outer end, and means for normally maintaining said bolts extended, substantially as described.

3. The combination of a ring or band, means for clamping the same around the stem of a watch, and spring-actuated sliding bolts arranged substantially diametrically in said ring or band and each having a spur at its outer end, substantially as described.

4. The combination of a ring or band, means for clamping the same around the stem of a watch, spring-actuated sliding bolts arranged substantially diametrically of said ring or band and each having a spur at its outer end, and a sheathing means for the spurs forming guides for said bolts, substantially as described.

867,695. PORTABLE DERRICK. WILLIAM C. BOOZ, Vanburen, Ind. Filed Mar. 21, 1907. Serial No. 363,553.



1. The combination with a derrick, of a two wheel truck upon which the derrick is adapted to be placed loosely, bars extending rearwardly from said truck that are detachably secured to the derrick and means for hitching a team to the truck and forward part of the derrick, substantially as shown.

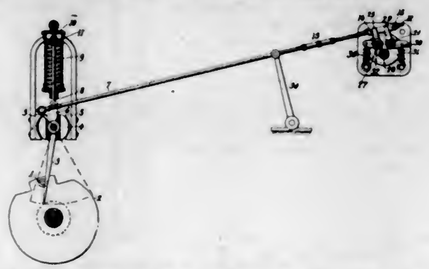
2. The combination with a derrick, of a two wheel truck upon which the derrick is adapted to be placed loosely, channeled brackets secured to the derrick with holes in them, bars extending rearwardly from the truck to said brackets, and removable pins for coupling said bars to said brackets.

3. The combination with a derrick frame with cross beams, a telescoping member extending through the cross beams, means for elevating the telescoping member, and means on the crossbeams movable into and out of position for stopping and holding the telescoping member in its elevated position.

4. The combination with a derrick frame with cross beams, a telescoping member extending through the cross beams, means for elevating the telescoping member, hinged tables on the cross beam, and means for moving said tables into and out of the path of movement of the telescoping member.

867,696. IGNITING MEANS FOR EXPLOSIVE-ENGINES. BORIS BOTKOWSKI, New York, N. Y., assignor to De La Vergne Machine Company, New York, N. Y., a Corporation of New York. Filed Aug. 27, 1903. Serial No. 170,931.

1. In combination with the combustion chamber of an internal combustion engine, a movable electrode and fixed electrode, an actuating lever for the movable electrode, a valve for supplying supplemental fuel enriching fluid, an actuating lever for such valve, and an operating lever provided with means for successively operating the actuating levers of such valve and the movable electrode.



2. In combination with the combustion chamber of an internal combustion engine, a movable electrode and fixed electrode, a supplemental fuel supply valve having a discharge duct located in proximity to the point of sparking, and common operating means for the supply valve and movable electrode.

3. In combination with the combustion chamber of an internal combustion engine, a movable electrode and fixed electrode, a supplemental fuel supply valve, an igniter body carrying the movable electrode and fixed electrode and the supplemental fuel supply valve, retractive means for normally holding the movable electrode in contact with the fixed electrode and for normally holding the valve closed, and common operating means for both the movable electrode and the supplemental fuel supply valve.

4. The combination of an explosion chamber and charging means therefor, an electric igniting device, a supply tube having a valve shoulder thereon, such valve shoulder having a valve duct therein, a bearing for such supply tube having a seat for such valve shoulder and a supply duct through such seat, and terminating in proximity to the point of ignition, retractive means for holding the valve shoulder to its seat, and means for rotatively operating the supply tube, substantially as set forth.

5. The combination with the combustion chamber of an internal combustion engine, of a supplemental fuel supply valve, an igniting device, an oscillating arm actuated by the engine and operating an electric current generator, and an operating arm connected to said oscillating arm and actuating in common the supplementary fuel supply valve and the igniting device.

6. The combination, with the combustion chamber of an internal-combustion engine, of an igniting device therein, supplemental-fuel-injecting means, and means for operating the igniting device and the supplemental-fuel-injecting means constructed and operating to begin the fuel injection before the operation of the igniting device and to interrupt it substantially at the instant of ignition.

7. The combination, with the combustion chamber of an internal-combustion engine, of an igniting device therein, supplemental-fuel-injecting means, and means for operating the igniting device and the supplemental-fuel-injecting means constructed and operating to begin the fuel injection before the operation of the igniting device and to interrupt it substantially at the instant of ignition, said operating means being adjustable to vary the time at which the fuel injection begins.

8. The combination, with the combustion chamber of an internal-combustion engine, of an igniting device therein, supplemental-fuel-injecting means provided with an admission valve, and means for operating the igniting device and the valve constructed and operating to open the valve before the operation of the igniting device, and to close the valve and operate the igniting device substantially simultaneously.

9. The combination, with the combustion chamber of an internal-combustion engine, of an igniting device therein provided with an external operating lever, a supplemental-fuel valve provided with an operating lever, and an actuating member for said levers operating in timed relation with the engine and provided with abutments arranged to engage and actuate said levers alternately when the actuating member is reciprocated.

10. The combination, with the combustion chamber of an internal-combustion engine, of an igniting device located therein, and means, operating independently of the means for supplying the engine with combustible mixture, for injecting a small quantity of combustible gas into the combustion chamber in the immediate vicinity of the igniting device during the compression stroke of the engine and previous to the igniting operation.

867,697. SINGLE-TRIGGER MECHANISM FOR DOUBLE-BARRELED GUNS. ORSON W. BRENIZER, Philadelphia, Pa. Filed Aug. 8, 1903, Serial No. 168,727. Renewed Feb. 16, 1905. Serial No. 245,876.



1. In a single trigger mechanism for double-barrel guns, the combination of the right and left sears and hammers, the pivoted trigger having the blade, the slide-plate mounted on the latter, the laterally extending arms carried by said plate and adapted to engage said sears respectively, the rod pivotally connected to said plate, the arm in which said rod is adapted to slide, the spring mounted on said rod and tending to slide back said plate, means for sliding forward the latter against the stress of said spring into position for one of said arms to register with one of said sears, and means released by the movement of said trigger, for locking said plate in said position, and a stop for insuring the registry of the other arm of said piece with the other sear when said plate is retracted by the stress of said spring, substantially as set forth.

2. In a single trigger mechanism for double-barrel guns, the combination with the right and left sears and hammers, of the pivoted trigger having the blade, the slide plate mounted on the latter, the arms carried by said plate and adapted to engage said sears respectively, the rod pivoted to said plate, the arm in which said rod is adapted to slide, the spring mounted on said rod and tending to slide back said plate, means for unlocking and locking the barrels, and connections between said means and said plate for bringing the latter into position against the stress of said spring for one of said arms to register with its corresponding sear, when said means for locking and unlocking the barrels is operated to unlock the same, together with means released by the movement of the trigger for maintaining said slide-plate in said position, substantially as set forth.

3. In a single-trigger mechanism for double-barrel guns, the combination with the right and left sears and hammers of the pivoted trigger having the blade, the slide-plate on the latter, the laterally extending arms mounted on said slide-plate and adapted to engage said sears respectively, the bell-crank lever, the rod connecting one arm of said lever and said slide-plate, the spring upon said rod, the rotatable post having the part adapted to engage the other arm of said lever, the lever for actuating said post, whereby said plate is adapted to be brought into position for one of said arms mounted thereon to register with a sear, and means released by the movement of the trigger for locking said plate in said position, substantially as set forth.

4. In a single trigger mechanism for double barrel guns, the combination of the right and left sears and hammers, the pivoted trigger having the blade, the slide-plate mounted on the latter, the arms carried by said plate, one of which is adapted to engage one of said sears and the other the second sear, the spring tending to slide back said plate, means for sliding the latter forward on said trigger blade against the stress of said spring, means released by the movement of the trigger, for locking said slide-plate in the forward position, means for directing the rearward movement of said plate in a plane to cause the second of said arms to pass beneath the corresponding sear when said plate is released by the trigger, and a stop for insuring the registry of the last-mentioned arm with the latter sear, substantially as set forth.

5. In a single trigger mechanism for double barrel guns, the combination of the right and left sears and hammers, the pivoted trigger having the blade, the slide-plate mounted on the latter, the arms carried by said plate, one of which is adapted to engage one of said sears, and the second arm the second sear, the spring tending to retract said plate, means for sliding the latter forward against the stress of said spring, means released by the movement of the trigger, for locking said plate in the forward position, a stop for insuring the registry of the second of said arms with said second sear, together with the escapement device consisting of the rotatable cylinder journaled to said plate having the cam-groove, the fixed pin projecting into said groove, the toothed wheel loosely mounted on the shaft of said cylinder, the pivoted arm having the pallets which engage the teeth of said wheel, and the ratchet wheel fixed on said shaft, and the pawl carried by said toothed wheel, all substantially as and for the purpose set forth.

6. In a single trigger mechanism for double barrel guns, the combination of the right and left sears and hammers, of the pivoted trigger having the blade, the slide-plate mounted on the latter, the spring tending to press back said plate, means for sliding forward the latter against the stress of said spring, the laterally extending arms carried by said plate, one of which arms is adapted to register with one of said sears when the plate is in the forward position, and the other arm to register with the other sear when said plate is in the retracted position, means for adjusting said arms to cause either one of the same to register with its corresponding sear when said plate is in the forward position, and the other arm to register with its corresponding sear when said plate is in the retracted position, means released by the movement of said trigger, for locking said plate in the forward position, and a stop for limiting the retraction of said plate, substantially as set forth.

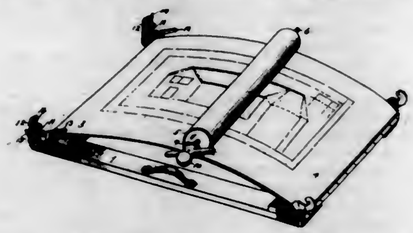
7. In a single trigger mechanism for double barrel guns, the combination of the right and left sears and hammers, of the pivoted trigger having the blade, the slide-plate mounted on the latter, the spring tending to press back said plate, means for sliding forward the latter against the stress of said spring, the laterally extending arms carried by said plate, one of which arms is adapted to register with one of said sears when said plate is in the forward position, and the other arm to register with the other sear when said plate is in the retracted position, the horns to engage the said arms respectively, the pivot-pin on which said horns are carried, means, released by the movement of the trigger, for locking said plate in the forward position, and a stop for limiting the retraction of said plate, substantially as set forth.

8. In a single trigger mechanism for double barrel guns, the combination of the right and left sears and hammers, of the pivoted trigger having the blade, the slide-plate mounted on the latter, the spring tending to press back said plate, means for sliding forward the latter against the stress of said spring, the bar rotatably mounted on and projecting from the sides of said plate, and adapted to register with said sears respectively, means for rotating said bar whereby either projection thereof may be caused to register with its corresponding sear when said plate is in the retracted position, and means for locking said plate in the forward position substantially as set forth.

867,698. BLUE-PRINTING FRAME. JULIEN A. BRIED, San Francisco, Cal. Filed Sept. 27, 1900. Serial No. 336,514.

1. In a photographic printing frame, the combination of an arched or convex smooth base or foundation, a sheet of

translucent flexible material secured at one end to one end of said arched base, and means for securing the other end of said sheet at the other end thereof and for drawing the sheet tight over the base, substantially as described.



2. In a photographic printing frame, the combination of an arched or convex smooth base or foundation, a sheet of translucent flexible material secured at one end to one end of said arched base, and means for securing the other end of said sheet at the other end thereof and for drawing the sheet tight over the base, comprising a roller to which the sheet is secured, a shaft therefor, a spring connecting the roller and shaft, and means for turning said shaft, substantially as described.

3. In a photographic printing frame, the combination of an arched or convex smooth base or foundation, a sheet of translucent flexible material secured at one end to one end of said arched base, a roller to which the other end is secured, a shaft for the roller, a coiled spring around the shaft connected thereto and to the roller, sockets for the shaft at the other end of the base or foundation, and means for turning the shaft in the sockets to wind up the spring, and apply tension to the sheet, substantially as described.

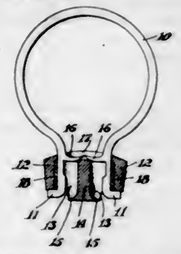
4. In a photographic printing frame, the combination of an arched or convex smooth base or foundation, a sheet of translucent flexible material secured at one end to one end of said base, a roller to which the other end is secured, a shaft for said roller, a coiled spring around the shaft connected thereto and to the roller, sockets for the shaft at the other end of the base or foundation, means for removably securing the shaft in the sockets, and means for turning the shaft in the sockets to wind up the spring, and apply tension to the sheet, substantially as described.

5. In a photographic printing frame, the combination of an arched or convex smooth base or foundation, a sheet of translucent flexible material secured at one end to one end of said base, a roller to which the other end is secured, a shaft for said roller, a coiled spring around the shaft connected thereto and to the roller, sockets for the shaft at the other end of the base or foundation, means for turning the shaft in the sockets, and means for holding the roller in the position to which it is turned, substantially as described.

6. In a photographic printing frame, the combination of an arched or convex smooth base or foundation, a sheet of translucent flexible material secured at one end to one end of said base, a roller to which the other end is secured, a shaft for said roller, a coiled spring around the shaft connected thereto and to the roller, sockets for the shaft at the other end of the base or foundation, means for turning the shaft in the sockets, and means for holding the roller in position to which it is turned, said means comprising a ratchet wheel carried by the roller and a pawl carried by the frame and adapted to engage said ratchet wheel when the shaft has been moved into said sockets, substantially as described.

867,699. SEAL. FRANKLIN V. BROOKS, New York, N. Y., assignor to International Seal Company, New York, N. Y., a Corporation of New York. Filed Mar. 2, 1907. Serial No. 360,299.

1. A seal composed of a soft metal body provided with passageways and a recess between said passageways, in combination with a shackle provided with spurs adapted to engage said recess and having bent terminals adapted to engage said passageways.

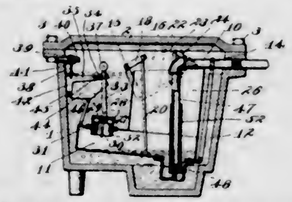


2. A seal composed of a soft metal body provided with passageways, a recess at the top thereof between said passageways, shoulders at the bottom of said passageways, in combination with a shackle provided with spurs adapted to engage said recess and having bent terminals adapted to engage said shoulders.

3. A seal consisting of a shackle of comparatively heavy gage wire provided with spurs and having its terminals bent at substantially a right angle, and a soft metal body provided with a recess at the top adapted to engage said spurs and having shackle passages extending through the same and terminating above the lower extremity of said body producing shoulders adapted to interlock with the exposed angular portion of the shackle.

4. A seal composed of a soft metal body having shackle passages terminating above the lower extremity of said body and provided with a recess at the top thereof, in combination with a shackle provided with spurs and having its terminals bent at substantially a right angle.

867,700. STEAM-TRAP. WILLIAM C. BROWN, Chicago, Ill., assignor of one-third to Fritz Knackstedt and one-third to Henry Brown, Chicago, Ill. Filed Aug. 9, 1906. Serial No. 329,816.



1. A steam trap comprising a float adapted to be flooded, and a valve-controlled outlet from said float, said float having an inlet located at a point above the upper surface of said float, and means for holding said float down, adapted to permit said float to rise before the steam can escape through said outlet.

2. A float for steam traps, having an extension upon its upper side, and an upwardly extending member upon its upper side providing an inlet located at a point above the upper surface of the float.

3. A steam trap comprising an inlet and a float, and means actuated by said float and independent of the inlet for increasing the level of the liquid supporting said float.

4. A steam trap comprising a float and a receptacle adapted to be emptied by said float for decreasing the weight of said float.

5. A steam trap comprising a float and a water-retaining cup adapted to be tilted by the rising movement of said float to spill the water contained in said cup.

6. A steam trap comprising a float, a pivoted cup, and a link connecting said cup with said float.

7. A steam trap comprising a casing; an inlet valve; a float; and means for utilizing the weight of said float to hold the inlet valve closed.

8. A steam trap comprising a casing, an inlet valve, a float adapted to be flooded, and means for supporting said float when flooded, adapted to hold said inlet valve closed.

9. A steam trap comprising a casing, an inlet valve, a float adapted to be flooded, and a lever arranged to support said float when flooded and adapted to operate said inlet valve.

10. A steam trap comprising a casing, an inlet valve, a float adapted to be flooded, and means for suspending said float in the liquid when flooded, said suspending means being adapted to hold said inlet valve closed.

11. In a steam trap, in combination, a casing; an inlet valve; a discharge valve; a float; means for supporting said float, comprising a lever pivotally mounted at opposite sides of said casing and a link connecting said lever with said float; and an operative connection between said lever and said inlet valve.

12. In a steam trap, in combination, a casing; a float; and means for supporting said float comprising a yoke lever, two arms of which yoke lever are pivotally mounted upon the side walls of said casing, said yoke lever comprising an arm having a link connection with said float.

13. In a steam trap, in combination, a casing; a float; means for supporting said float comprising a yoke lever, two arms of which lever are pivotally mounted upon opposite sides of said casing, said yoke comprising an arm having a link connection with said float; a register-actuating shaft; and an operative connection between said yoke lever and said shaft.

14. In a steam trap, in combination, a casing; an inlet pipe; a valve for said inlet pipe; and a by-pass pipe connected at one end with said casing and at its other end with a point in said inlet pipe above the point to which water probably will accumulate in said inlet pipe, said by-pass pipe rising some distance above said latter point.

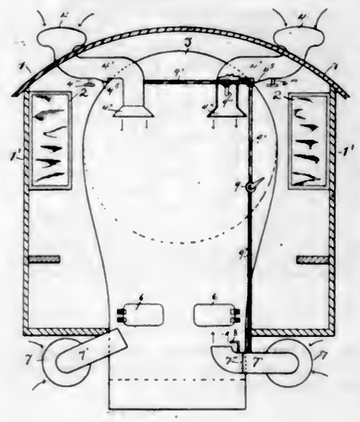
15. In a steam trap, in combination, a float; a valve-seat member secured to said float; a valve adapted to be seated upon said member, said valve having a stem; and means for limiting the movement of said stem.

16. In a steam trap, in combination, a float; a cylinder secured to said float, and provided with a valve seat at one end; a cross bar in said cylinder having an opening therethrough; a valve adapted to be seated upon said valve seat, said valve having a stem extending through the opening in said cross bar; a stem pivotally connected with said valve; and means for limiting the movement of said latter stem.

867,701. VENTILATOR FOR LOCOMOTIVE-CABS. ROBERT BURNS, Rensselaer, N. Y. Filed Jan. 10, 1906. Serial No. 295,466.

1. In combination with the cab of a locomotive, a conduit having its open mouth fixed and set in the direction the locomotive is moving, said conduit passing into said cab, the exit end thereof terminating in said cab and in proximity to the rear end of the boiler and arranged so that the air is forced down said conduit and into the space in front of said boiler in said cab and having other conduits their open mouths being fixed and set in the direction the locomotive is moving, these conduits entering the cab at different angles to the first mentioned conduit and discharging their contents in the space in said cab at the rear end of said boiler and mixing the air from the first set of conduits and second set thereof so as to produce rapid moving and whirling currents in said cab in the rear of said boiler, that the intense heat in said cab may be carried away, substantially as described.

2. In combination with the practically open cab of a locomotive of a plurality of conduits having their open mouths set in the direction of the movement of the locomotive and to catch the air as the locomotive moves forward, said conduits entering the cab and discharging their contents therein at the rear of the end of the boiler and at different angles and so as to commingle said streams of air and produce a whirling motion in said currents, said air being practically unobstructed in making its escape from said cab, substantially as described.



3. In a locomotive cab a plurality of conduits having open mouths set facing the direction the locomotive is moving, the body of the conduits entering the cab and discharging their currents of air in the cab in the vicinity of the rear end of the furnace, some of the conduits discharging their currents of air at different angles and commingling them so as to produce a swirling movement to the atmosphere in the cab said cab being practically open for the unobstructed escape of said currents of air therefrom, substantially as described.

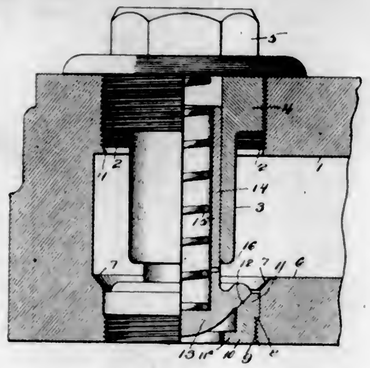
4. In a locomotive cab a plurality of conduits having their open mouths in the direction of the movement of the locomotive said conduits entering the cab and having their discharge ends set at different points in said cab and their discharge ends in the vicinity of the rear end of the boiler, said cab being practically open and presenting no practical obstruction to the escape of the air in said cab and arranged so that the conduits will commingle their discharged air and produce a strong blast in said cab, all operating to force the heated atmosphere in said cab, and arising from the boiler and furnace, out of said cab, substantially as described.

5. In a locomotive cab a conduit having its mouth set to catch the air as the locomotive advances, said conduit entering the cab and its discharge end terminating in the vicinity of the rear end of the boiler in said cab and arranged to discharge its air in the open space in said cab that the heat may be forced away from the interior of said cab said cab being practically open and offering no practical obstruction to the escape of said heated air, substantially as described.

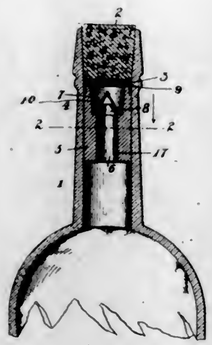
867,702. DISCHARGE-VALVE FOR GAS-COMPRESSORS. ARTHUR F. CLARKE, Butler, Pa. Filed Aug. 13, 1906. Serial No. 330,360.

The combination with a compressor cylinder having a discharge opening, and a hardened-steel bushing threaded into engagement with the walls of said opening and beveled at its upper end to form a valve seat, a tubular guide mounted in the wall of said cylinder, having a closed upper end, a hollow valve-stem mounted to work in said tubular guide and having an air inlet port, a valve carried by said valve-stem to engage the valve-seat, and a spring

in the valve-stem resting at its lower end on the valve and at its upper end engaging the closed upper end of the guide.



867,703. BOTTLE-STOPPER AND STOPPERED BOTTLE. FRANK E. CLARK, New York, N. Y. Filed Nov. 5, 1906. Serial No. 341,963.



1. The herein-described bottle-stopper, comprising a lengthwise perforated plug having a valve chamber in its upper end and communicating with said perforation; a tubular lining for said perforation, the upper end of the lining being contracted and projecting into said chamber; a cup-like valve seated, open side down, on said contracted end; and a cover of meshed material for said chamber, fixedly secured to the plug.

2. The combination, with a bottle having a cork or stopper in the mouth of its neck with a bottle-stopper mounted in the lower portion of the bottle-neck and comprising a lengthwise perforated plug having a valve chamber in its upper end and communicating with said perforation; a tubular lining for said perforation, the upper end of the lining being contracted and projecting into said chamber; a cup-like valve seated, open side down, on said contracted end, and a cover of meshed material for said chamber fixedly secured to the plug; and a loose protecting disk mounted in the bottle-neck between said cover and the outer stopper.

3. A bottle stopper having a valve chamber and a lengthwise perforation communicating with said valve chamber; a valve in said chamber; a flexible guard of meshed material at the upper end of the stopper to keep the valve in the chamber; and a lining for said perforation projecting into the valve chamber.

867,704. PROCESS FOR TREATING FIBROUS TOW. MARY H. COLAHAN, Chicago, Ill. Filed Aug. 27, 1906. Serial No. 332,220.

1. The herein described process in degumming of flax tow or hemp or other fiber, which consists in subjecting the same to the action of a solvent produced from the elements contained in the first discharge white water that has been used in the washing of oils, combined with a small percentage of paraffin oil, and blended by heat and agitation, then drying the tow, and thereafter cleaning the same by mechanical means.

2. The herein described solvent for the degumming or retting, and softening of flax tow or hemp fiber which solvent is produced from hydro-carbon, acid, and alkaline elements contained in the waste discharge water that has been used in the manufacture and washing of petroleum and paraffin oils, by combining this liquid with small percentage of paraffin oil, and blending the same by heat and agitation, for the purposes described.

3. The herein described process for the treatment of unretted tow or other fiber, which consists in subjecting it to the action of a solvent herein described, to degum and soften it, whereby the retting and softening are effected by one operation, and then drying the tow, and thereafter cleaning it.

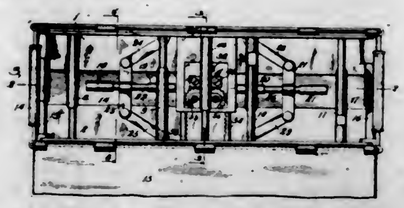
4. As a new solvent, the product obtained in the discharge and washing of petroleum oils, known as "white-water", containing slight traces of hydro-carbons, acid and alkali elements used in treating the oils; combined with a small percentage paraffin oil, then blended by agitation and heat to dissolve and unite the particles for the purposes herein described.

867,705. CLOSURE FOR JARS, BOTTLES, AND LIKE RECEPTACLES. MASCHIL D. CONVERSE, Newark, N. J., assignor, by mesne assignments, to Howland Metallic Cap Company, New York, N. Y., a Corporation of New York. Filed Jan. 14, 1907. Serial No. 352,203.



In a manually unsealable and re-sealable metallic closure of the class described, adapted to be initially applied to a receptacle as set forth, a cap, adapted to inclose a sealing medium, and a ductile, circumferential clamping band, having its ends joined by a lock-seam the outermost ply of which is circumferentially extended to form a lever for manually opening and closing of said lock-seam.

867,706. BINDER. ROBERT J. COPELAND and ALBERT E. CHATTERSON, Toronto, Ontario, Canada. Filed Jan. 21, 1905. Serial No. 242,058.



1. In a binder the combination of upper and lower strips movable to and from each other; a rack post carried by one strip; a gear meshing with said rack post and carried by the other strip; and key operated means automatically engaging the gear at each step of its forward rotation for locking the gear against backward rotation whereby when the gear is locked the strips are locked against separation.

2. In a binder the combination of upper and lower strips movable to and from each other; a rack post carried by one strip; a gear meshing with said rack post and carried by the other strip; and key operated means automatically engaging the gear at each step of its forward rotation for locking the gear against backward rotation whereby when the gear is locked the strips are locked against separation.

3. In a binder, the combination of upper and lower strips; movable to and from each other; a rack post carried by one strip; a gear meshing with said rack post and carried by the other strip; and a key operated spring latch automatically engaging the gear at each step of its forward rotation for locking the gear against backward rotation.

4. In a binder, the combination of upper and lower strips movable to and from each other; a rack post carried by one strip; a gear meshing with said rack post and carried by the other strip; and rotatable by said rack post in a forward direction when the strips are pressed toward each other and a reciprocating key operated latch automatically engaging the gear at each step of its forward rotation for locking the gear against backward rotation.

5. In a binder, the combination of upper and lower strips movable to and from each other; a rack post carried by one strip; a gear meshing with said rack post and carried by the other strip; a latch automatically engaging the gear at each step of its forward rotation for locking the gear against backward rotation, said latch having a cam; and a key rotated piece to engage said cam and operate the latch.

6. In a binder, the combination of upper and lower strips movable to and from each other; a rack post carried by one strip; a gear meshing with said rack post and carried by the other strip; a reciprocating spring latch automatically engaging the gear at each step of its forward rotation for locking the gear against backward rotation, said latch having a cam; and a key rotated piece to engage said cam and operate the latch.

7. In a binder the combination of upper and lower strips movable to and from each other; two racks carried by one strip; two gears carried by the other strip and meshing each with a rack; and a latch to engage the teeth of both gears and thereby lock them against backward rotation.

8. In a binder, the combination of upper and lower strips movable to and from each other; two racks carried by one strip; two gears carried by the other strip and meshing together and also each with a rack; and a latch to engage the teeth of both gears and thereby lock them against backward rotation.

9. In a binder, the combination of upper and lower strips movable to and from each other; two racks carried by one strip; two gears carried by the other strip and meshing each with a rack; and a reciprocating key operated spring latch to engage the teeth of both gears and thereby lock them against backward rotation.

10. In a binder the combination of upper and lower strips movable to and from each other; two racks carried by one strip; two gears carried by the other strip and meshing each with a rack; a reciprocating latch to engage the teeth of both gears and thereby lock them against backward rotation, said latch having a cam; and a key rotated piece to engage said cam and operate the latch.

11. In a binder the combination of upper and lower strips movable to and from each other; two racks carried by one strip; two gears carried by the other strip and meshing together and also each with a rack; a reciprocating latch to engage the teeth of both gears and thereby lock them against backward rotation, said latch having a cam; and a key rotated piece to engage said cam and operate the latch.

12. In a binder, the combination of upper and lower strips; a lock for the binder; a removable post extending between the strips and through the upper strip; and a plate carried by the upper strip arranged to engage and release said post, said plate being mechanically separate and disconnected from the binder lock and independently operable.

13. In a binder, the combination of upper and lower strips; a lock for the binder; a removable post extending between the strips and through the upper strip; and a reciprocating plate carried by the upper strip arranged to engage and release said post, said plate being mechanically separate and disconnected from the binder lock and independently operable.

14. In a binder, the combination of upper and lower strips; a lock for the binder; a removable post extending between the strips and through the upper strip; and a plate carried by the upper strip arranged to engage and release said post, said plate being mechanically disconnected from the binder lock; and a key operated latch for said plate.

15. In a binder the combination of upper and lower strips; a lock for the binder; a removable post extending between the strips and through the upper strip; and a spring retracted reciprocating plate carried by the upper strip and arranged to engage and release said post, said plate being mechanically disconnected from the binder lock.

16. In a binder, the combination of upper and lower strips; a lock for the binder; a removable post extending between the strips and through the upper strip; and a spring retracted reciprocating plate carried by the upper strip arranged to engage and release said post, said plate being mechanically disconnected from the binder lock; and a key operated latch for said plate.

17. In a binder the combination of upper and lower strips movable to and from each other; a rack post carried by one strip; a gear carried by the other strip meshing with said rack post and rotatable in a forward direction when the strips are pressed towards each other; a reciprocating spring latch to engage the teeth of said gear and prevent its rotation in a backward direction; said latch having a cam; and a key operated and axially mounted cylindrical cam piece provided with a projecting pin to engage said cam and operate said latch.

18. In a binder the combination of upper and lower strips movable to and from each other; two rack posts carried by one strip; two gears carried by the other strip each meshing with a separate rack post and rotatable in a forward direction when the strips are pressed towards each other; a reciprocating spring latch to engage the teeth of said gears and prevent their rotation in a backward direction, said latch having a cam; and a key operated and axially mounted cylindrical cam piece provided with a projecting pin to engage said cam and operate said latch.

19. In a binder the combination of upper and lower strips movable to and from each other; two rack posts carried by one strip; two gears carried by the other strip meshing together and each meshing with a separate rack post and rotatable in a forward direction when the strips are pressed towards each other; a reciprocating spring latch to engage the teeth of said gears and prevent their rotation in a backward direction; said latch having a cam; and a key operated and axially mounted cylindrical cam piece provided with a projecting pin to engage said cam and operate said latch.

20. In a binder the combination of upper and lower strips movable to and from each other; a rack post carried by one strip; a gear carried by the other strip meshing with said rack post and rotatable in a forward direction when the strips are pressed towards each other; a reciprocating spring latch to engage the teeth of said gear and prevent its rotation in a backward direction; said latch having a cam; a key operated and axially mounted cylindrical cam piece provided with a projecting pin to engage said cam and operate said latch, said cam piece mounted on one strip approximately parallel with said rack post and terminating adjacent the inner face of said strip; and said strip being provided with a key hole in alinement with said cam piece.

21. In a binder the combination of upper and lower strips movable to and from each other; two rack posts carried by one strip; two gears carried by the other strip each meshing with a separate rack post and rotatable in a forward direction when the strips are pressed towards each other; a reciprocating spring latch to engage the

teeth of said gears and prevent their rotation in a backward direction, said latch having a cam; a key operated and axially mounted cylindrical cam piece provided with a projecting pin to engage said cam and operate said latch, said cam piece mounted on one strip approximately parallel with said rack posts and terminating adjacent the inner face of said strip; and said strip being provided with a key hole in alinement with said cam piece.

22. In a binder the combination of upper and lower strips movable to and from each other; two rack posts carried by one strip; two gears carried by the other strip meshing together and each meshing with a separate rack post and rotatable in a forward direction when the strips are pressed towards each other; a reciprocating spring latch to engage the teeth of said gears and prevent their rotation in a backward direction; said latch having a cam; a key operated and axially mounted cylindrical cam piece provided with a projecting pin to engage said cam and operate said latch, said cam piece mounted on one strip approximately parallel with said rack posts and terminating adjacent the inner face of said strip; and said strip being provided with a key hole in alinement with said cam piece.

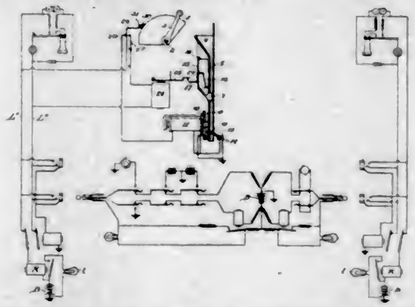
23. In a binder the combination of upper and lower strips movable to and from each other; a rack post carried by one strip; a gear carried by the other strip meshing with said rack post and rotatable in a forward direction when the strips are pressed towards each other; a reciprocating spring latch to engage the teeth of said gear and prevent its rotation in a backward direction; said latch having a cam; a key operated and axially mounted cylindrical cam piece provided with a projecting pin to engage said cam and operate said latch, said cam piece mounted on the strip carrying the gear and terminating adjacent the inner face of said strip; and said strip being provided with a key hole in alinement with said cam piece.

24. In a binder the combination of upper and lower strips movable to and from each other; two rack posts carried by one strip; two gears carried by the other strip meshing together and each meshing with a separate rack post and rotatable in a forward direction when the strips are pressed towards each other; a reciprocating spring latch to engage the teeth of said gears and prevent their rotation in a backward direction; said latch having a cam; and a key operated and axially mounted cylindrical cam piece provided with a projecting pin to engage said cam and operate said latch; said cam piece mounted on the strip carrying the gears approximately parallel with the said rack-posts and terminating adjacent the inner face of said strip; and said strip being provided with a key hole in alinement with said cam piece.

25. In a binder the combination of upper and lower strips movable to and from each other; a rack post carried by one strip; a gear carried by the other strip meshing with said rack post and rotatable in a forward direction when the strips are pressed towards each other; a reciprocating spring latch to engage the teeth of said gear and prevent its rotation in a backward direction; said latch having a cam; and a key operated and axially mounted cylindrical cam piece provided with a projecting pin to engage said cam and operate said latch, said cam piece mounted on one strip approximately parallel with said rack post and terminating adjacent the inner face of said strip; a thrust spring bearing against the inner end of said cam piece to retard its rotation; and said strip being provided with a key hole in alinement with said cam piece.

26. In a binder the combination of upper and lower strips movable to and from each other; two rack posts carried by one strip; two gears carried by the other strip meshing together and each meshing with a separate rack post and rotatable in a forward direction when the strips are pressed towards each other; a reciprocating spring latch to engage the teeth of said gears and prevent their rotation in a backward direction; said latch having a cam; and a key operated and axially mounted cylindrical cam piece provided with a projecting pin to engage said cam and operate said latch; said cam piece mounted on the strip carrying the gears approximately parallel with the said rack-posts and terminating adjacent the inner face of said strip; a thrust spring bearing against the inner end of said cam piece to retard its rotation; and said strip being provided with a key hole in alinement with said cam piece.

867,707. COIN-COLLECTOR. EDWARD B. CRAFT, Wilmette, Ill., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 11, 1907. Serial No. 356,687.



1. In a coin collector for a telephone system, the combination with coin-actuated toll indicating mechanism constructed and arranged to receive a coin deposited in said coin collector, a line signaling mechanism and means controlled by a deposited coin, in the operation of said first-mentioned mechanism, for governing the transfer of said coin to said line signal mechanism.

2. In a coin collector for a telephone system, the combination with coin-actuated toll indicating mechanism constructed and arranged to receive a coin deposited in said coin collector, of coin-actuated line signaling mechanism, a coin chute having a channel leading from said indicating mechanism to said signaling mechanism, a guide normally closing said channel, and means controlled by a deposited coin of predetermined size, in the operation of said first-named mechanism, for withdrawing said guide, and thereby directing said coin to said line signal mechanism.

3. In a coin collector for a telephone system, a movable temporary coin-receiver, toll indicating mechanism controlled by a coin in the movement of said coin receiver, a coin chute arranged to receive a coin from said temporary receiver, said chute having a plurality of channels for directing the final disposition of said coin, line signaling mechanism arranged to be operated by a coin directed into one of said channels, and means controlled by a deposited coin in the movement of said temporary receiver for directing said coin into one or the other of said channels.

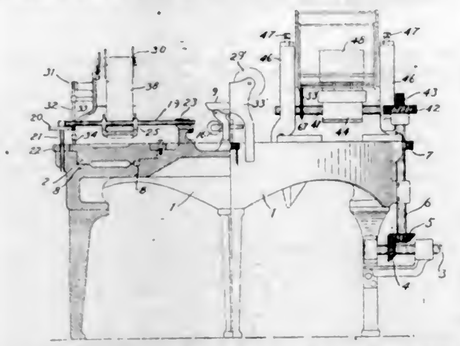
4. In a coin collector for a telephone system, a rotatable temporary coin-receiver, toll indicating mechanism controlled by a coin in the rotation of said coin-receiver, a coin chute arranged to receive a coin from said temporary receiver, said chute having a plurality of channels for directing the final deposition of said coin, line signaling mechanism arranged to be operated by a coin directed into one of said channels, and a guide normally preventing the entrance of a coin into said channel, and means controlled by a deposited coin of predetermined size, in the forward movement of said rotatable receiver, for operating said guide to transfer a coin from said rotatable coin-receiver to said line signaling mechanism.

5. In a combined local and toll coin collector for a telephone, a coin receptacle, toll-indicating mechanism arranged to be operated by a coin deposited in said receptacle, a cash box, a coin chute arranged to receive a coin from said coin-receptacle, said chute having two channels one of which leads directly to said cash box, additional signaling mechanism arranged to be operated by a coin directed into said other channel, means for depositing or refunding a coin after it has operated said latter signaling mechanism, and means controlled by said toll-indicating mechanism for guiding a coin from said coin receptacle into the one or the other of said channels.

6. In a coin collector for a telephone system, the combination with coin-actuated toll indicating mechanism constructed and arranged to receive a coin deposited in said coin collector, of coin-actuated line signaling mechanism, a coin chute having a channel leading from said indicating mechanism to said signaling mechanism, a guide normally closing said channel, a spring tending to withdraw said guide, a lever normally blocking the withdrawal of said guide, and means controlled by a deposited coin of a predetermined size, in the operation of said toll indicating mechanism, for moving said lever into position to permit the automatic withdrawal of said guide from the channel, whereby said coin is directed to said line signaling mechanism.

7. In a coin collector for a telephone, the combination with coin-actuated line-signaling mechanism, of a coin chute having a channel leading to said signaling mechanism, a pivoted lever provided with a guide normally closing the entrance to said channel, a spring tending to move said lever backward, to withdraw said guide, a laterally moving blocking lever normally preventing the withdrawal of said stop, and a movable coin-receiver arranged to receive a coin deposited in the collector and to transfer it to said coin chute, said coin receiver and lever being so relatively located that a coin of predetermined size in said receptacle will move said blocking lever laterally into position to permit the backward movement of said guide-carrying lever.

867,708. AUTOMATIC PLATE-PRINTING MACHINE. THOMAS R. DEMERY and JOSEPH H. DEMERY, Philadelphia, Pa. Filed Aug. 14, 1906. Serial No. 330,529.



1. In combination, a horizontal shaft, means comprising the disk 20, shaft 21 and gear 22 for imparting an eccentric motion thereto, a vertically adjustable wiping-pad carried by said horizontal shaft, a delivery roll, a winding roll actuated thereby, a wiping strip carried from said delivery roll over the face of said wiping pad to said winding roll, and means for periodically shifting the wiping strip upon said wiping-pad, substantially as described.

2. In combination, an annular rotary table, a printing bed carried thereby and capable of a pivotal and transverse motion thereon, an eccentrically moving horizontal shaft mounted over said rotary table, a wiping-pad carried by said horizontal shaft and vertically adjustable relatively to said printing-bed, a delivery roll, a winding roll actuated thereby, a wiping strip carried by said delivery roll and passing over the face of said wiping pad to said winding roll and means comprising the ratchet and pawl mechanism 31, ratchet rod 32, roller 34, rollers 36 and 37 and raised section 35 for shifting said wiping strip upon said wiping pad, substantially as described.

3. In combination, a horizontal shaft, means comprising the disk 20^1, shaft 21^1, and gear 22^1, for imparting an eccentric motion thereto, a vertically adjustable polishing pad carried by said horizontal shaft, a delivery roll, a winding roll actuated thereby, a tank, a polishing strip carried from said delivery roll through said tank, thence over the face of said polishing pad to said winding roll, and means for periodically shifting the polishing strip upon said polishing pad, substantially as described.

4. In combination, a rotary table, a printing bed carried thereby and capable of both pivotal and transverse motion thereon, an impression segment mounted over said rotary table and adapted to exert a rolling pressure upon said printing bed, grippers adapted to automatically grip the sheet, draw the same upon the impression segment, retain it during impression and release it from the segment after impression, guides adapted to cause said printing bed to move in a right line beneath said impression segment, and means whereby said table and impression segment may be rotated at the same rate of speed, substantially as described.

5. In combination, a rotary table, a printing bed carried thereby and capable of pivotal and transverse movement, an impression segment adapted to rotate at the same rate of speed as that of the table and printing bed and to exert a rocking pressure upon said printing bed, an inking mechanism, a wiping mechanism consisting of a horizontal shaft, a wiping pad carried thereby and means for imparting an eccentric movement to said horizontal shaft and wiping pad, a polishing mechanism consisting of a horizontal shaft, a polishing pad carried thereby, a delivery roll, a winding roll, a reservoir, a polishing strip carried from said delivery roll, through said reservoir and over the face of said polishing pad to said winding roll, means for periodically and automatically shifting said polishing strip upon said polishing pad, and means for imparting an eccentric motion to said horizontal shaft and polishing pad, and guides adapted to direct said printing bed in a right line as it passes beneath said inking mechanism and impression segment, substantially as described.

6. In combination, means for feeding the sheet, consisting of a feed table, fingers controlling the edge thereof, a cam actuating said fingers and a tumbler adjustably secured to a gear wheel and adapted to actuate said cam; means for holding the sheet during impression, consisting of an impression segment the heel of which is furnished with grippers, an upsetting cam controlling said grippers, a vertical shaft actuated by said impression segment and provided with pins adapted to semi-rotate said upsetting cam and a compression spring adapted to maintain said upsetting cam in each position; and means for delivering the sheet, consisting of the arms 71 and 72, connecting piece 74 and jaw 75, actuated through the connecting members 69 and 73 by the gear wheel 53, substantially as described.

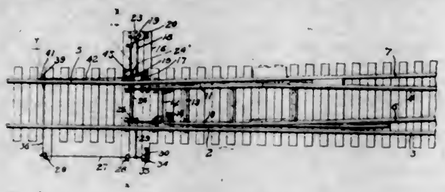
7. In combination, an annular rotary table, a printing bed mounted and capable of a pivotal and transverse motion thereon, a printing mechanism, consisting of a feed table, fingers controlling the edge thereof, means for actuating said fingers consisting of a cam, a gear wheel and a tumbler adjustably mounted thereon, an impression segment furnished with grippers and an upsetting cam, means comprising the shaft 61 and pins 64 and 65 for semi-rotating said upseting cam, a compression spring adapted to maintain said upsetting cam in position when semi-rotated, the arms 71 and 72, connecting piece 74, jaw 75 and connecting members 69 and 73; and guides adapted to cause said printing bed to move in a right line beneath said impression segment, substantially as described.

8. In an automatic plate printing machine, an annular rotary table, a printing bed mounted and capable of a pivotal and lateral movement thereon, an impression segment disposed above said rotary table and adapted to move at the same rate of speed as that of said table and printing bed, an inking mechanism disposed above said table, a wiping mechanism consisting of the rod 19, block 26, frame 25, wiping pad 24 and springs 28, with means comprising the disk 20, shaft 21 and gear 22 for imparting an eccentric movement to the rod 19, said impression segment, inking and wiping mechanisms being actuated by the rotation of said table, and guides adapted to cause said printing bed to move in a right line beneath said inking mech-

anism and said impression segment, substantially as described.

9. In combination, the horizontal rod 19, the block 26, the frame 25, the wiping pad 24 and springs 28, and means comprising the disk 20, shaft 21 and gear 22 for imparting an eccentric movement to said horizontal rod, substantially as described.

867,709. SAFETY DEVICE FOR POINT SWITCHES. LOUIS DUNN, St. Paul, Minn. Filed Mar. 15, 1907. Serial No. 362,436.



1. In a switch, the combination, with the track rails, of the movable main and side track points, means for moving said points simultaneously a predetermined distance, and means for moving the side track point the remainder of its stroke independently of the other point, substantially as described.

2. The combination, with the track rails, of the movable main and side track points, a switch stand having an operating lever, and a rod connected with said points for operating them simultaneously, and means located on the opposite side of the track from said switch stand for moving said side track point against its rail independently of the movement of the other point.

3. The combination, with the track rails, of the movable main and side track points, a switch stand and its lever, a bar pivoted at one end and connected at an intermediate point to said lever, means connecting said bar with said points, the connection with said main track point being nearer the pivot of said bar than the connection with said side track point, whereby the travel of said main track point will be less than that of the other point, and means for moving said side track point a predetermined distance independently of said main track point.

4. The combination, with the track rails, of the main and side track points, a switch stand having an operating lever, a rod connected with said lever, mechanism connecting said rods with said points and whereby the side track point is permitted to travel a greater distance than the main track point, and means for operating said side track point independently of said main track point.

5. The combination, with the track rails, of the main and side track points, a switch stand mechanism for operating said points simultaneously to move the main track point away from its rail and the side track point toward its rail to set the switch for the siding, and mechanism located on the opposite side of the track from said switch stand and comprising a rock shaft and operating lever therefor, and a rod connecting said rock shaft with said side track point for moving it against its rail to complete the operation of setting the switch for the side track.

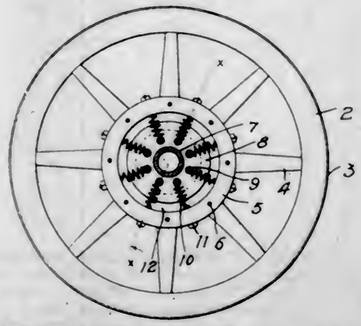
6. The combination, with the main track rails, of the main and side track points, a switch stand mechanism connected with said points, spring devices for normally holding said points in position to set the switch for the main track, said spring devices being put under tension by the operation of the switch stand mechanism to set the points in a neutral position, and mechanism located on the opposite side of the track from the switch stand for moving the side track point against its rail independently of the main track point, substantially as described.

7. The combination, with the track rails, of the main and side track points, a switch stand connected with said points for operating the same, spring devices for normally holding said points in position to set the switch for the main track, said side track points having a movement independent of the movement of said main track point, a rock shaft connected with said side track point, a lever mounted on said rock shaft and having a sliding extension, a dog arranged to lock said side track point in contact with its rail against the tension of said spring device, and said dog being tripped when said sliding extension of said lever is released to allow said side track point to be returned automatically to its neutral position.

8. The combination, with the track rails, of the main and side track points, a switch stand mechanism connected with said points to operate them simultaneously a predetermined distance, means for moving said side track point independently of said main track point to a position in contact with its rail, spring devices adapted to hold said switch points set for the main track and said switch stand mechanism having a locking device for holding said points against the tension of said spring devices, and a tripping mechanism arranged to be actuated by an approaching train for releasing said lock device and allowing said spring device to return said points to a neutral position.

9. The combination, with the track rails, of the main and side track points, a switch stand mechanism having an operating lever and means for locking the same, means connecting said switch stand mechanism with said points, spring devices for normally holding said points set for the main track, said side track points being movable independently of said main track point, mechanism on the opposite side of the track from the switch stand for moving said side track point to set the switch for the side track, and comprising a rock shaft connected with said switch point, and an operating lever, and a trip device also connected with said rock shaft and in the path of an approaching train, and means connecting said trip device with said switch stand lever, whereby if the points are left in a neutral position said switch stand lever will be released to allow said points to be set for the main track by the passage of the train over the switch.

867,710. WHEEL. WILLIAM EICHERS, Minneapolis, Minn. Filed Jan. 7, 1907. Serial No. 351,063.



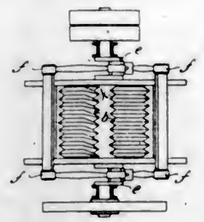
1. A wheel comprising a rim and tire, a ring of channel bar iron concentric with said rim and having its flanges extending inwardly toward the said hub, a hub within said ring having outwardly extending annular flanges, the space between said flanges corresponding substantially to the width of said ring, bolts connecting said flanges, coiled springs having their inner ends connected to said bolts and their outer ends adjustably connected to said ring, and plates secured on the flanges of said ring and having sliding contact with the flanges on said hub, substantially as described.

2. A wheel comprising a rim and tire, a ring concentric with said rim, a hub within said ring having outwardly extending annular flanges, the space between said flanges corresponding substantially to the width of said ring, coiled springs having their inner ends attached at intervals to said flanges and their outer ends connected to said ring, and plates contacting with said flanges and with the edges of said ring and having a sliding movement on one of them, substantially as described.

3. A wheel comprising a rim and tire, a ring of channel bar iron concentric with said rim and having its flanges extending inwardly toward the center of the wheel, a hub within said ring having outwardly extending annular flanges, bolts connecting said flanges, coiled springs having their inner ends attached to said bolts and their outer ends connected to said ring, and plates contacting with said flanges and the edges of said ring and having a sliding bearing on one of them, substantially as described.

4. A wheel comprising a rim and tire, and a ring within said rim and concentric therewith, spokes having their ends rigidly secured to said ring and rim, a hub within said ring having outwardly extending flanges, coiled springs having their inner ends attached to said flanges, bolts connected to the outer ends of said springs and passing through said ring between said spokes and adjustable in said ring to regulate the tension of said springs, and plates arranged to contact with said ring and flanges, and having a sliding bearing on one of them.

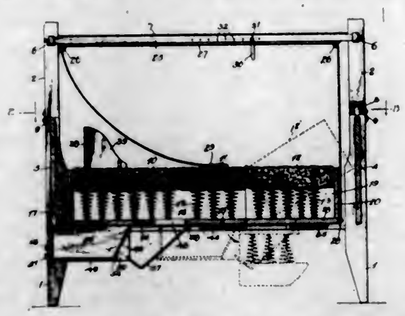
867,711. SPLITTING-MACHINE. CHRISTIAN EITLE, Stuttgart, Germany. Filed Jan. 18, 1905. Serial No. 241,578.



1. In a machine of the class described, a crusher plate having vertical longitudinal teeth extending from top to bottom thereof, a coacting crusher plate having similar teeth on the upper portion merging at the lower end into teeth set at an angle less than a right angle to the upper portion of such teeth and to the teeth of the straight coacting plate, a support for the crusher plates and means for moving the plates so as to comminute the material lying between them.

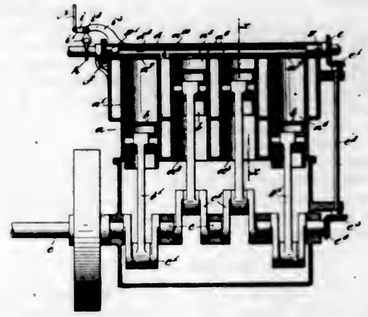
2. A jaw for crushing machines, provided with grooves separated by longitudinal parallel teeth having upper and lower straight portions, the lower portions being slightly inclined to the upper.

867,712. HOSPITAL-BED. ANDREW G. ELO, Chicago, Ill. Filed Mar. 25, 1907. Serial No. 364,325.



In a hospital bed, the combination of a mattress-support jointed on a transverse line intermediate of its ends, the section at the head end being adapted to be tilted to support a patient in a reclining position, the foot section having an opening therein, a mattress-section adapted to fill said opening a support for said mattress section hinged at one end of said opening, a receptacle carrier slidably mounted below said mattress support, and a link connecting said receptacle carrier and hinged section and adapted to shift said carrier into and out of registering position with said opening through the movement of said hinged support.

867,713. VALVE FOR EXPLOSIVE-ENGINES. JOSEPH S. ELVERSON, Catasauqua, Pa. Filed Feb. 6, 1907. Serial No. 355,977.



1. In an explosive engine, a cylinder, a head for closing the cylinder at one end and having a semi-circular opening, a valve having a semi-circular opening, reversed in respect to the opening of said head, said openings arranged when brought with their curved portions into alinement with each other to form combined, an opening of gradually increasing size.

2. In an explosive engine, a cylinder, a head for closing the cylinder at one end and having a semi-circular opening, a valve having a semi-circular opening reversed in respect to the opening of said head, said openings arranged when brought with their curved portions into alinement with each other to form combined an opening of gradually increasing size and when brought with their straight portions into alinement with each other to suddenly close the opening formed.

3. In an explosive engine, a cylinder, a head for closing the cylinder at one end and having a semi-circular opening, a valve having a semi-circular opening, reversed in respect to the opening of said head, said openings arranged when brought with their curved portions into alinement with each other to form combined an opening of gradually increasing size, and means for sliding the valve in the head, said valve arranged, when shifted, to permit a portion only of the opening to register with the opening of the head, or to prevent such registering.

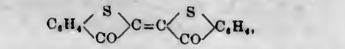
867,714. PROCESS OF MAKING A HALOGENATED RED DYE. GADIENT ENGI, Basel, Switzerland, assignor to The Firm of Society of Chemical Industry in Basle, Basel, Switzerland. Filed Mar. 23, 1907. Serial No. 364,021.

1. The herein described process for the manufacture of red vat-dyeing dyestuffs by treating with a mixture of concentrated hydrochloric acid and of concentrated nitric acid the products resulting from the condensation of one mol. of alphaoxythionaphthene with one mol. of an isatin-compound.

2. The herein described process for the manufacture of a red vat-dyeing dyestuff, by treating with a mixture of concentrated hydrochloric acid and of concentrated nitric acid the product resulting from the condensation of one mol. of alphaoxythionaphthene with one mol. of isatin.

867,715. HALOGENATED RED VAT DYE AND PROCESS OF MAKING SAME. GADIENT ENGI, Basel, Switzerland, assignor to The Firm of Society of Chemical Industry in Basle, Basel, Switzerland. Filed Mar. 23, 1907. Serial No. 364,022.

1. The described process for the manufacture of halogenated vat-dyeing dyestuffs, by treating thioindigo



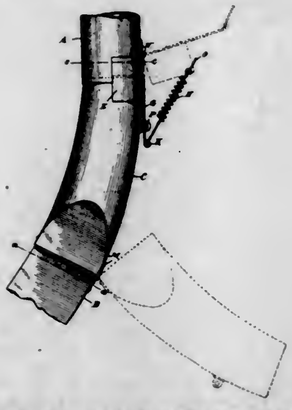
with a halogen, in presence of an indifferent diluent.

2. The described process for the manufacture of a halogenated vat-dyeing dyestuff by treating thioindigo with bromin in presence of nitrobenzene.

3. As new products the described halogenated vat-dyeing dyestuffs, which can be obtained by treating thioindigo with a halogen in presence of an indifferent diluent.

4. As a new product, the herein described bromoderivative of thioindigo, which is obtained by treating thioindigo with bromin in presence of nitrobenzene, constituting in dry state a greyish violet crystalline powder, soluble in concentrated sulfuric acid to a bluish green solution from which a red-violet precipitate is separated on addition of water, sparingly soluble in hot benzene with a violet-red coloration, easily soluble in hot nitrobenzene with a raspberry red coloration and yellow fluorescence and yielding by treatment with alkaline reducing agents a light-yellow colored vat, from which unmordanted cotton is dyed in bordeaux-red shades.

867,716. ATTACHMENT TO ELBOWS OF WIND-STACKERS. SIDNEY W. ERICKSON, Red Wing, Minn. Filed Apr. 9, 1907. Serial No. 367,295.



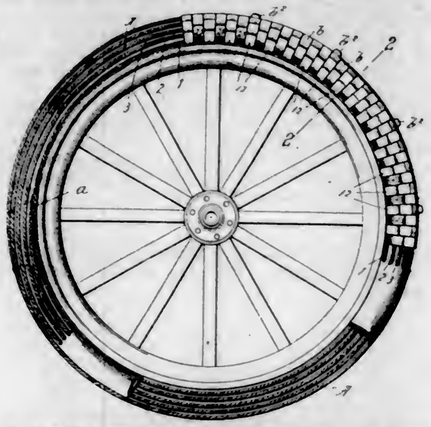
1. The combination with the hinged sections of a stacker tube, of the cap E, pivoted thereto for holding said sections in alinement and fastening means for the same substantially as described.

2. In combination with the sections of a stacker tube, part of which are hinged together, a cap E, having a lever G secured thereto, said cap and lever being locked against said sections in the alined position, and being withdrawn therefrom by spring H secured thereto, when released, substantially as described.

867,717. TIRE-COVERING. GEORGE R. EUKERS and ROBERT H. ATCHESON, Chicopee, Mass. Filed Apr. 3, 1906. Serial No. 309,583.

1. A tire covering consisting of a body comprising a plurality of circularly coursed bands arranged to conform to the shape of an annular trough, and a multiplicity of metallic link-tubes engaged with and connecting each of said bands with another thereof which is transversely therebeyond, said tubes being provided in such number and having such proximate arrangement as to produce a flexible metallic tread and protective portion for the appliance.

2. In a tire covering a body consisting of a cable formed into a plurality of coils conformed to the shape of an annular trough, and a multiplicity of metallic link-tubes engaged with and connecting each of said coils with another thereof which is transversely therebeyond, and constituting a protective exterior to the flexible appliance.



3. In a tire covering, a body consisting of a cable formed into a plurality of coils conformed to the shape of an annular trough, and repeated series of metallic link-tubes, the various tube-link series having alternated arrangements, relatively to each other whereby those of one series engage with and connect sidewise adjacent coils, while the relatively intermediate links of each succeeding series engage but one of the pair of coils connected by the first link series, and engage and connect a still further sidewise located one of the coils.

4. In a tire covering, a body consisting of a single cable formed into a plurality of coils conformed to the shape of an annular trough, and having the terminals of the outer and oppositely located coils united to the respective coils next thereto, and therewithin, and a multiplicity of metallic link-tubes engaged with and connecting each of said coils with another thereof which is transversely therebeyond, and constituting a protective exterior to the flexible appliance.

5. A tire covering consisting of a body comprising a plurality of circularly coursed bands arranged to conform to the shape of an annular trough, and series of metallic flat faced tie pieces engaged with and connecting each of said bands with another thereof which is transversely therebeyond, said tie pieces being provided in such number and proximate arrangement as to constitute a flexible metallic exterior for the appliance.

6. A tire covering consisting of a body comprising a plurality of circularly coursed bands conformed to the shape of an annular trough, and a multiplicity of metallic ties engaged with each of said bands and connecting it with another transversely located relatively thereto, and said ties covering the bands and constituting a flexible metallic exterior for the appliance.

7. A tire covering consisting of a body comprising a plurality of circularly coursed bands conformed to the shape of an annular trough, and a multiplicity of metallic ties engaged with each of said bands and connecting it with another transversely located relatively thereto, said ties covering the bands and constituting a flexible metallic exterior for the appliance, and certain of said metallic ties at the tread portion of the tire covering having calks or projections.

8. An armor composed of a series of tubes and strands on which the tubes are strung.

9. An armor for cushion and like tires, comprising circumferentially arranged rows of tubes flexibly connected.

10. A flexible armor for tires composed of a series of short metallic tubes flexibly connected.

11. An armor composed of fabric composed of series of short tubes and metallic strands on which the tubes are strung.

12. An armor for cushion tires comprising a circumferentially arranged series of rows of short metallic tubes flexibly connected.

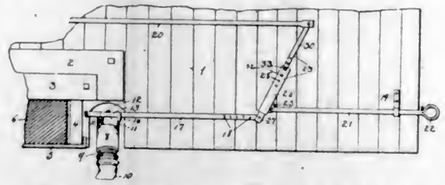
13. In combination with a tire, an armor therefor composed of a series of circumferentially disposed tubes and metallic stranda upon which the tubes are strung.

14. An armor for cushion and like tires consisting of a fabric composed of connected impenetrable tubes.

15. An armor for tires composed of a plurality of layers of impenetrable tubes.

16. In combination with a tire, an armor therefor composed of a series of closely adjacent connected impenetrable tubes.

867,718. DEVICE FOR OPERATING AIR-COCKS ON AIR-BRAKE CARS. ARCHA FRAVOR, Galesburg, Ill. Filed June 4, 1907. Serial No. 379,041.



1. The combination in a device of the character described, with a valve-stem, of means adapted to reciprocate it, and adjustable means engaged with said means and with a car and adapted to oscillate the first named means.

2. The combination in a device of the character described, with a valve-stem, of means adapted to reciprocate it, means for limiting the extent of movement thereof, and adjustable means attached to said last named means and to a car and adapted to oscillate the first named means.

3. The combination in a device of the character described, with a valve-stem, of means adapted to reciprocate it, a pitman pivoted thereto, an adjustable rocker to which the pitman is pivoted, and means for actuating said rocker.

4. The combination in a device of the character described, with a valve-stem, of means adapted to reciprocate it, a pitman pivoted thereto, an adjustable rocker to which the pitman is pivoted, and means pivoted to the rocker, extending across a car end and adapted to actuate the rocker.

5. The combination in a device of the character described, of an air-cock including a valve-stem, of eccentric means adapted to engage said stem, a pitman pivoted to said eccentric means, a rocker fulcrumed on the car, means for pivotally connecting it and the pitman, and an actuating bar pivoted to each end of the rocker.

6. The combination in a device of the character described, of an air-cock including a valve-stem and abutments, a lever adapted for engagement with said stem and to be limited in its movements by said abutments, a pitman connected to said lever, a rocker including a swiveled member to which the other end of the pitman is secured, and means pivoted to each end of the rocker for actuating it.

7. In combination in a device of the character described, with a valve stem, of a lever adapted to actuate it, an adjustable rocker fulcrumed on the car and pivoted to the lever, and means adapted to be operated from the sides of the car for actuating the rocker.

8. In combination, a valve-stem, eccentric means secured thereto, a rod pivoted to the eccentric means, adjustable oscillatory means to which the rod is pivoted, and means whereby said oscillatory means is actuated.

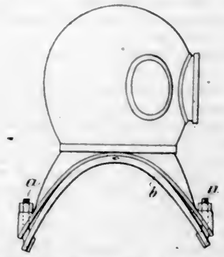
9. In a device of the character described, in combination, a member adapted to engage the valve-stem, a rod adapted to actuate said member, adjustable rocking means to which the rod is pivoted, and bars adapted to be actuated by hand and to actuate said rocking means.

10. In a device of the character described, in combination, an eccentric member adapted to engage the valve-stem, a rod adapted to actuate said member, adjustable rocking means to which the rod is pivoted, and bars adapted to be actuated by hand and to actuate said rocking means.

11. The combination with a valve stem, of an actuating member having an aperture adapted for engagement therewith, a rocker, means intermediate the actuating member and rocker for actuating the former, and means whereby the rocker may be actuated by hand.

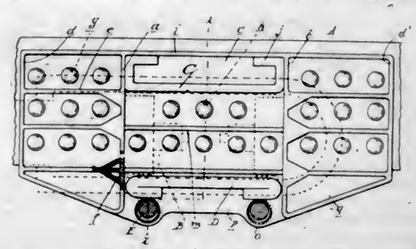
12. A device for operating angle-cocks comprising a horizontally disposed stop-cock with a horizontally disposed and movable lever, a rocker adapted to impart movement to said lever, and reciprocating means extending from the sides of the car for actuating said rocker.

867,719. DIVER'S HELMET. PETER HANSEN, Copenhagen, Denmark. Filed July 27, 1907. Serial No. 385,870.



A diver's helmet, characterized by a loose ring with two screw bolts said ring being placed under the collar of the diver's dress and screwed on to the hat.

867,720. DRAFT-RIGGING. GEORGE L. HARVEY, Chicago, Ill. Filed Dec. 20, 1905. Serial No. 292,569.



1. In a draft rigging, integral cheek-plates, shoulders thereon and detachable top guide members entirely between said shoulders.

2. In a draft rigging, integral cheek-plates, shoulders thereon, inwardly-extending flanges at the top of the plates between the shoulders and detachable top guides below the flanges.

3. In a draft rigging, integral cheek-plates having pockets formed between shoulders and top flanges on the plates, said pockets being deeper than the vertical height of the followers, whereby the center line of draft may be changed without changing the plates and detachable top guides below the flanges.

4. In a draft rigging attachment, a cheek-plate, separated abutment shoulders, ribs on the ends of the plate

connecting to the shoulders, and fillets or braces from the sides of the ribs to the shoulders.

5. In a draft rigging attachment, a flat cheek plate, vertical flanges or shoulders on the inner face thereof, the end portions of the plate tapering upwardly from said vertical flanges, and a horizontal flange at the top on the inner side of said plate and tapering from said vertical flanges to the ends of the plate, said horizontal and vertical flanges forming a pocket, for the purpose described.

6. In a draft rigging, the combination with cheek-plates formed with follower end stops, of a stop integral with said cheek-plate for limiting the vertical movement of said follower and a guide interposed between said last mentioned stop and the follower.

7. In a draft rigging, the combination with a cheek-plate having an end stop for the follower, of a stop integral with the cheek-plate for limiting vertical movement of the follower and interchangeable guides for the follower, forming spacers of varying width between said follower and the last mentioned stop for limiting vertical movement.

8. In a draft rigging, stops secured to the sills for the abutment of the followers, the stops projecting above the followers and a top guide member entirely between the stops.

9. In a draft, rigging, stops secured to the sills for the abutment of the followers, said stops being greater in height than the followers and adjustable top and bottom guides secured between the stops for raising and lowering the center line of the draw-bar.

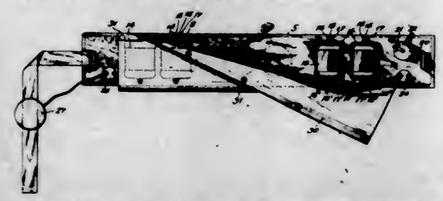
10. In a draft gear, horizontal stops secured to the sills, the followers and a filler between the followers and stops.

11. In a draft rigging, horizontal stops secured to the sills, the followers and a guide having a bent extension forming a filler between the followers and stops.

12. In a draft rigging, cheek-plates, shoulders thereon for the abutment of the followers, lower guides carried by the tie bolts between the cheek-plates and top guide members above the followers between the shoulders.

13. In a draft rigging, the combination with follower end stops and a stop for limiting vertical movement, of a follower guide, the end of said guide being return-bent to form a spacer between said follower and the last mentioned stop for limiting vertical movement.

867,721. ELECTRIC BELT AND APPLIANCES THEREFOR. MICHAEL HATZENBUEHLER, Chicago, Ill. Filed Jan. 7, 1907. Serial No. 351,039.



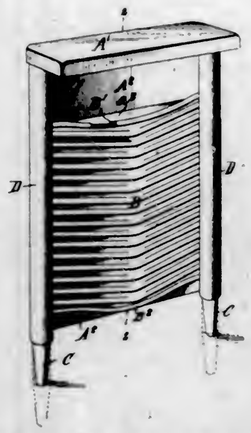
1. In an electric belt, studs permanently secured to said belt and adapted to form part of the electric circuit thereof, a battery having terminal clips permanently secured thereto and connected with the battery terminal, said clips being symmetrically disposed and arranged each for connection with either of the studs whereby the battery may be reversed relative to the permanent studs.

2. In an electric belt, body electrodes, studs permanently applied to said belt, and adapted for inclusion in the circuit with said electrode, and a battery adapted for connection with said studs comprising current producing means, a casing therefor having metallic end pieces insulated from each other and respectively connected to the terminals of the current producing means, and clips secured to said metallic caps, adapted for detachable connection with the studs upon the belt.

3. In a device of the character described, a supporting body, studs secured thereto, adapted for inclusion in an electric circuit, a battery for connection with said studs comprising a current producing means, a casing therefor having an electrically non-conducting mid-portion and electrically conducting end pieces, clips permanently secured to said end pieces and adapted to engage the permanent studs upon the supporting structure, said clips and studs being symmetrically arranged, whereby the battery may be reversed upon the studs.

4. In a device of the character described, a supporting structure, studs thereon, a battery comprising a plurality of current producing cells electrically connected, an envelop for said plurality of cells, comprising an insulated mid-portion and electrically conducting caps, said caps being connected with the cells for inclusion in the electric circuit, and clips permanently secured to said caps adapted for connection with the studs upon the supporting structure.

867,722. WASHBOARD. GUSTAVE C. HAYSLER, Clinton, Mo. Filed Mar. 27, 1907. Serial No. 364,773.



1. A wash board comprising a body having a main plate, and provided with a forwardly projecting pressed rubber reinforcing portion, having the soap shelf at its upper end, and a shoulder at its lower end, the sides of the main plate being bent forwardly and returned forming side posts, the free edges of which are deflected forwardly within the posts, a rubber having upper and lower beads engaging above and below the forwardly pressed portion of the main plate, and projecting at its side edges under the free edges of the side posts for engagement thereby, and legs having longitudinal kerfs or grooves and projecting into the lower end of the side posts with the kerfs or grooves receiving the inwardly projecting wings of said posts, substantially as and for the purposes set forth.

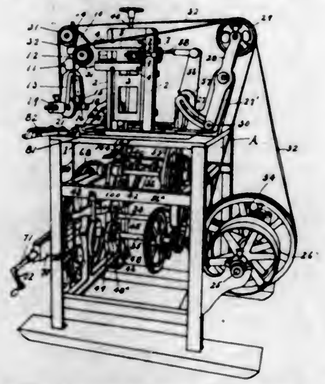
2. A wash board, comprising a main plate, having its side edges bent forming the tubular upright side posts and having the wings projecting into the said posts, and the legs fitting within the posts and having longitudinal kerfs or grooves receiving the wings thereof, substantially as set forth.

3. A wash board, comprising a main plate having the forwardly pressed rubber reinforcing portion, and having its side edges curved forwardly and returned forming tubular side posts, a rubber fitting over the reinforcing portion of the main plate, and projecting at its side edges beneath the free edges of the tubular side posts, and the legs fitting within the lower ends of the tubular side posts, substantially as set forth.

4. A wash board comprising a main plate, having the forwardly pressed reinforcing portion, and the tubular side posts, and a rubber fitted over said reinforcing portion and conforming generally thereto and having its side edges projecting into the tubular side posts and engaged and clamped by the free edges thereof, and provided at its upper and lower ends on its rear side with beads overlapping the reinforcing portion of the main plate, substantially as set forth.

5. The combination in a wash board, of a main plate having its sides curved forwardly and returned, forming tubular side posts and having the wings projecting into the said posts, a rubber fitted to the main plate, and having its side edges projecting into the tubular side posts, and the legs fitting within the lower ends of the tubular side posts and having longitudinal grooves receiving the inwardly projecting wings thereof, substantially as and for the purposes set forth.

867,723. MACHINE FOR SHARPENING SAW-TEETH. JOHN P. HEDSTROM, Big Rapids, Mich., assignor to Volney H. Hanchett and Arthur K. Hanchett, composing the firm of Hanchett Swage Works, Big Rapids, Mich. Filed Apr. 26, 1906. Serial No. 313,823.



1. In a saw sharpening machine, a vertically movable sash, transversely extending ways on the sash, a head slidingly received on the ways and projecting beyond the sash, a cutter-carrying member mounted in the projecting end of the head, and means connecting the head and sash for adjusting the head relative to the sash and maintaining its adjustment.

2. In a saw sharpening machine, the combination with a suitable support, of a forked hanger, an extended bearing on one arm of the forked hanger, a grinding arbor, one end of which is received and supported in the extended bearing, the opposite arm of the hanger being removable, a bearing screw received in the removable arm for supporting the free end of the arbor, and means for clamping the bearing screw.

3. A machine of the character disclosed, comprising a reciprocating sash, a rotary arbor supported by this sash, a pulley on the arbor, a drive pulley, a flexible connection between the pulleys, a belt tightening means located between the pulleys, said means comprising a bracket having a slot formed therein, a lever pivoted intermediate its ends to the bracket, a pin carried by the lever and received in the slot, and a pulley mounted on the lever, the belt passing over the pulley.

4. In a saw-sharpening machine, a work support, comprising a rotatable wheel, a way extending across the wheel, a carriage adjustable on the way, gearing for rotating the wheel, and stationary guiding means engaged by the wheel at points near its periphery for maintaining the support rigid.

5. A universal adjustment for work supports, comprising a pivotally mounted disk, a saw supporting carriage adjustably mounted on the disk, teeth carried by the disk, a scroll engaging the teeth, and means for actuating the scroll.

6. A universally adjustable work support for saw sharpening machines, comprising a rotatable wheel, having a groove formed therein, a guide finger extending into the groove, means for rotatably adjusting the wheel, and a saw supporting carriage adjustably mounted on the wheel.

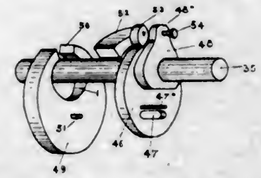
7. A feed mechanism for saw sharpening machines, comprising a rocking post pivotally secured at its lower end, a feed arm pivotally connected to the upper end of the post, a bell crank lever, means for oscillating the lever, an approximately right angled bar, one end of which is pivotally and the opposite end adjustably secured to the post and engaged by the bell crank for moving the post in one direction, and means for moving the post in the opposite direction.

8. A machine for sharpening saws, comprising a frame having a slot formed therein, a rocking post extending through the slot, means for rocking the post, a feed arm connected to the post, and an adjustable frame inclosing the slot in the main frame, the adjustable frame comprising a base secured to the machine and lying on one side of the post, a cap lying on the opposite side of the post, and means passing across the opposite ends of the post for adjustably connecting the cap to the base.

9. A feed mechanism for saw sharpening machines, comprising a rocking post, a feed arm pivotally connected thereto, an angle arm, one end of which is pivotally secured to the post, the opposite end of the angle arm having a slot therein, means passing through the slot for adjustably securing the angle arm at any incline relative to the post, a pivotally supported bell crank, one arm of which engages the angle arm, and means for actuating the bell crank lever.

10. In a saw-sharpening machine, a main frame having a slot therein, a rocking post extending through and operating in the slot, means for rocking the post, and a feed-arm connected to the post, of a sectional frame adjustably secured to the main frame adjacent the slot and inclosing the rocking post, and means for adjusting one section of the frame relative to the remaining section and to the post.

867,724. ADJUSTABLE CAM. JOHN P. HEDSTROM, Big Rapids, Mich., assignor to Volney H. Hanchett and Arthur K. Hanchett, composing the firm of Hanchett Swage Works, Big Rapids, Mich. Original application filed Apr. 26, 1906, Serial No. 313,823. Divided and this application filed Jan. 22, 1907. Serial No. 353,507.



1. The combination with a shaft, of an eccentric comprising a support fixedly secured to the shaft, a disk eccentrically apertured and slotted at its periphery, to permit the disk to be removed and replaced transversely of the shaft, a pivotally supported filling member adjustably received in the peripheral slot, and means for removably and adjustably connecting the disk and support.

2. The combination with a shaft, of a base plate fixedly mounted thereon, an eccentrically apertured disk having a peripheral slot communicating with the aperture, the disk placed and removed transversely of the shaft, means pivotally secured to the base plate and received in the slot for bridging the peripheral slot, and means for removably connecting the disk and base plate.

3. The combination with a shaft, of a base plate secured thereon, an eccentrically apertured circular disk having a peripheral slot communicating with the aperture, the diameter of the shaft being less than the width of the slot to permit the disk to be placed and removed transversely of the shaft, an adjustable bridge piece pivotally secured to the base plate and receivable in the slot to form a continu-

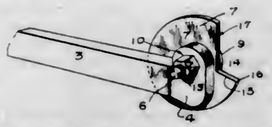
ation of the periphery of the disk, and means for removably securing the disk to the fixed base plate.

4. The combination with a shaft, of a base plate secured thereon, an eccentrically apertured circular disk having a peripheral slot communicating with the aperture, a boss on the base plate, an apertured ear carried by the boss and projecting beyond the periphery of the base plate, an eccentrically apertured disk having a peripheral slot, communicating therewith, the shaft receivable in the aperture through the slot, a bridge piece pivotally secured to the ear and bridging the peripheral slot, and fastening means received and adjustable in the slot for connecting the base plate and disk.

5. The combination with a shaft, of a fixed support having a slot therein, an eccentrically apertured disk provided with a peripheral slot communicating with the aperture, means received in the slot in the disk for bridging the slot and fastening means carried by the disk and received in the slot in the plate for removably and adjustably connecting the disk and plate.

6. The combination with a shaft, of a base plate fixedly secured thereon, an eccentrically apertured disk having a peripheral slot communicating therewith, a bridge piece pivotally secured to the base plate for bridging the slot, and means for removably connecting the disk and base plate.

867,725. LATHE-TOOL AND HOLDER. BYRON A. HEMENWAY, Watertown, N. Y. Filed May 16, 1907. Serial No. 374,072.



1. In a tool of the class described, the combination of a holder, a cutting tool mounted thereon and consisting of a detachable member provided with a cutter, means for holding the cutter in an adjusted position upon the holder and comprising a pin, the detachable member aforesaid having a plurality of sockets any one of which is adapted to receive an end of said pin, the holder having an opening therein to receive the other end of the pin, and a removable member applied to the holder to prevent displacement of the pin therefrom, and permitting of ready removal of the pin from the holder should the socket received portion thereof be sheared off.

2. In a tool of the class described, the combination of a holder, a cutting tool mounted thereon and rotatable about an axis, said tool embodying a plurality of sockets arranged concentrically with relation to the axis thereof and the holder having a transverse opening therethrough of which the outer portion is enlarged and threaded, a pin seated in the inner portion of the opening of the holder and having one end arranged in one of the sockets of the cutting tool, and a detachable screw member in the outer threaded portion of the aforesaid opening in the holder for preventing displacement of the pin and facilitating its removal should its socket received portion become sheared off.

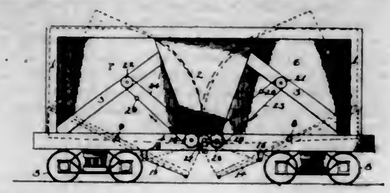
867,726. DUMPING-CAR. MAURICE P. HENVIS and DANIEL S. CLARK, Norfolk, Va. Filed July 6, 1907. Serial No. 382,436.

1. A dump car comprising a braced frame, hoppers supported by said frame, said hoppers having curved ends, and sliding bottom extensions to said hoppers.

2. A dump car comprising a frame, of hoppers pivoted to said frame, a bottom for said hoppers having a sliding extension thereto, and means for sliding said extension when the hopper is operated.

3. A dump car comprising hoppers, of bottoms shorter than the sides thereof and sliding extensions adapted to lengthen said bottoms.

4. A dumping car comprising tilting hoppers, said hoppers having curved sides on one end, of fixed bottoms shorter than the sides, a recess under the bottom, an extension slidably mounted on the sides of the hoppers, and automatic means for actuating said extensions.



5. A dumping car comprising tilting hoppers, said hoppers having bottoms adapted to slide and partly open the bottoms and means for affecting said opening when the hoppers are tilted.

6. A dumping car comprising a frame, tilting hoppers therein having rounded sides, bottoms to said hoppers having slidable extensions, and means for operating said extensions from a fixed point on the car frame.

7. A dumping car comprising a frame, hoppers supported in said frame, sliding bottoms to said hoppers, gear and chain wheels attached to said frame, chains on said wheels, and lugs on said hoppers for raising and lowering the hoppers.

8. A dumping car comprising a frame, oppositely tilting hoppers having automatic sliding bottom portions, fixed wheels and chains, and a movable point on said hopper for fastening the chain.

9. A dumping car comprising a frame, movable hoppers having a sliding portion thereto, and wedge means for holding said hoppers in their normal position.

10. A dumping car comprising a frame, tilting hoppers, chain means for operating the hoppers to tilt the same, and screw means for operating a wedge for holding said hoppers in a horizontal position.

867,727. SURGICAL-INSTRUMENT HOLDER. MAX P. HERMANN, Philadelphia, Pa. Filed June 14, 1907. Serial No. 378,951.



1. An instrument holder embodying a stock, a socket pivotally connected therewith, and an instrument adapted to be removably connected with said socket and folded with the holder on said stock.

2. In an instrument holder, a stock, an instrument adapted to be pivotally connected therewith and folded thereon, and a device on said stock for retaining the instrument in folded condition.

3. In an instrument holder, a stock, an instrument adapted to be pivotally connected therewith and folded thereon, and a resilient device on said stock for retaining the instrument in folded condition.

4. In an instrument holder, a stock, a socket pivotally connected therewith, and an instrument adapted to be secured to said socket, said socket and instrument being foldable on said stock.

5. In an instrument holder, a stock, a socket pivotally connected therewith, and an instrument, said socket being threaded and said instrument having a threaded member adapted to engage the threads of said socket.

6. In an instrument holder, a socket, a support with which the same is pivotally connected, an instrument having a threaded shank adapted to be screwed to said socket, and a shoulder on said shank, the latter having flattened or oblong sides.

7. In an instrument holder, a stock, means for pivotally connecting an instrument therewith, and a handle for said instrument, said stock having a chamber adapted to receive said handle.

8. In an instrument holder, a stock, a head thereon, an instrument adapted to be pivotally connected with said stock, an expansible tongue on said head, a sheath for the holder and the instruments, and means on said head for engagement with said tongue to press it against the adjacent portion of said sheath.

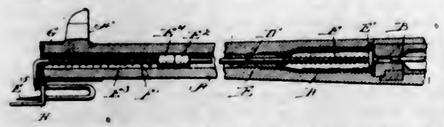
9. In an instrument holder, a stock, a head thereon, a screw projecting from said head, an expansible tongue, means for carrying said tongue on said head, a sheath for the holder and the instruments, and a nut fitted on said screw adapted to engage said tongue and force it into locking engagement with the adjacent portion of said sheath.

10. In an instrument holder, a sheath therefor, a collar fitted on said holder, said collar having a divided side forming a resilient tongue, a shoulder on said sheath adjacent to said tongue, and means on the holder for forcing said tongue into engagement with said shoulder.

11. In an instrument holder, an instrument adapted to be detachably connected therewith and folded thereon, and a handle for said instrument being adapted to have said instrument attached thereto and clamped therewith.

12. In an instrument holder, an instrument having a flattened or oblong shank, and a handle for said instrument having an opening to receive said shank, and means for firmly clamping the instrument to said handle, said opening being flattened or oblong, corresponding to that of the instrument.

867,728. ATTACHMENT FOR SMALL-ARMS. HORATIO B. HOLLIFIELD, Washington, D. C. Filed Feb. 6, 1907. Serial No. 355,976.



1. The combination with a rigid rod adapted to be mounted in the rear portion of the bore of a gun in the path of the firing pin, a spring to urge said rod rearward, a second rod adapted to be slidingly mounted in the forward portion of the barrel in alinement with the first rod and provided with a target piercing point, and a guide, for the second rod, adapted to be secured to the muzzle portion of the barrel.

2. The combination with a sliding rod adapted to be slidingly mounted in the rear portion of the bore of a gun in the path of the firing pin, of a spring to resist the forward sliding of the rod under the impact of the firing pin, a second rod adapted to be slidingly mounted in the forward portion of the bore in alinement with the first rod and provided with a target piercing point at the muzzle end of the gun, and a spring yieldingly resisting the forward movement of the second rod.

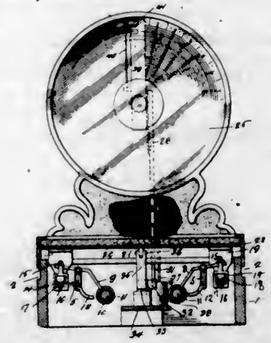
3. The combination with a gun and a sliding rod mounted in the rear portion of the bore in the path of the firing pin, a second rod mounted in the front portion of the bore, normally abutting the first rod and provided with a target piercing point offset laterally from the axis of the rod, and a spring yieldingly resisting the advance of the second rod.

4. The combination with a gun, of an unloaded shell fitting the cartridge chamber and provided with a longitudinally perforated plug fitting the bore in front of said chamber, a rigid rod sliding in said plug and extending rearward through the shell in the path of the firing pin, a spring within the shell normally holding the rod in its rearmost position, a second sliding rod located in the forward part of the bore, abutting the first rod and having an offset pointed end projecting in front of the gun, a guide for said projecting end secured to the muzzle of the gun, and a spring resisting the forward movement of the second rod.

5. The combination with a gun, of a centrally perforated cup detachably secured over the muzzle of the gun and provided with a forwardly extending arm below the bore, of a sliding rod lying in the perforation in the cup, extending rearwardly in the barrel, and having a forwardly projecting offset portion in front of the gun, a spring resisting forward movement of said rod, and means whereby the advance of the firing pin impels said rod forward.

6. In target practice attachments for small arms, the combination with a gun, of a rigid lateral projection detachably fixed to the barrel between its ends and adapted to engage a suitable rigid support and hold the muzzle of the gun at a substantially constant distance from a sub-target while leaving the gun free to be aimed, substantially as set forth.

867,729. SCALE. DANIEL J. HOLLIGER, Columbus, Ohio. Filed June 20, 1907. Serial No. 379,900.



1. A scale consisting of a casing, beams arranged in said casing, weighted levers pivotally mounted upon said beams, links suspended from said levers, rods carried by said links, supports carried by said rods, a slab carried by said supports, a dial frame arranged upon said casing, a graduated dial carried by said frame, a rack slidably mounted in said frame, pinion meshing with said rack, a hand revolved by said pinion, a lever fulcrumed in said casing and connecting with said rack, and with said slab, and a dash-pot for controlling the movement of said rack.

2. A scale consisting of a casing, weight levers pivotally mounted in said casing, links suspended from said levers, a slab supported indirectly by said links, a dial frame carried by said casing, a hand revolubly mounted in said frame, a rack arranged in said frame for revolving said hand, a lever fulcrumed upon said casing and connected respectively to said platform and to said rack, and a dash-pot for controlling the movement of said rack.

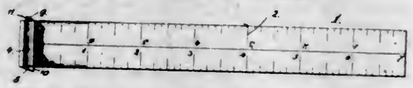
3. A scale consisting of a casing, weighted lever pivotally mounted in said casing, links suspended from said levers, a slab supported indirectly by said links, a dial frame carried by said casing, a lever fulcrumed in said

casing connecting with said slab, and means located in said dial frame and actuated by said lever for designating the weight upon said dial, and means for governing the movement of said lever.

4. A scale consisting of a casing, weighted levers pivotally mounted therein, a slab indirectly supported by said levers, a dial frame carried by said casing, a lever fulcrumed in said casing and connecting with said slab, means actuated by said lever for designating the weight upon said dial, and means for controlling the movement of said lever.

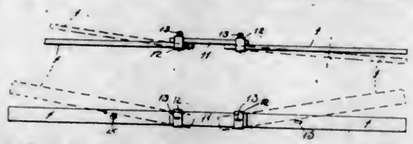
5. A scale consisting of a casing, weighted levers pivotally mounted therein, a slab indirectly supported by said levers, a dial frame carried by said casing, a lever fulcrumed in said casing and connecting with said slab, and means actuated by said lever for designating the weight upon said dial.

867,730. RULE. HENRY JEFFREYS, West Salisbury, Pa. Filed Apr. 12, 1907. Serial No. 367,879.



A rule having graduated sides, ridges carried by the sides of said rule and spaced from one end thereof, and having oppositely disposed shoulders, and lugs carried by the edges of said rule adjacent to said ridges and having shoulders oppositely disposed at right angles to the rule edges, the faces of each pair of similarly disposed shoulders alining with each other and with the zero graduation upon opposite sides of the rule.

867,731. HARROW. JOSEPH H. JOHNSON, near Elmwood, Ill., assignor of one-half to Thomas L. Galpin, Galesburg, Ill. Filed May 21, 1907. Serial No. 374,865.



1. In harrows, spaced draft-bars by which the harrow sections are drawn, a connecting bar overlying said space and overlapping their proximal ends, means adapted to slip over the overlapping ends of the draft-bars and the connecting-bar, said means being of such dimensions that the ends of both the draft-bars and the connecting-bar are free to flex in all directions therein, and means for pivotally connecting all of said elements.

2. In harrows, spaced draft-bars by which the harrow sections are drawn, a connecting-bar overlying said space and overlapping their proximal ends, loops adapted to slip over the overlapping ends of said bars, said loops being of such dimensions that the ends of all of said bars are free to flex in all directions therein, and means for pivotally connecting all of said elements.

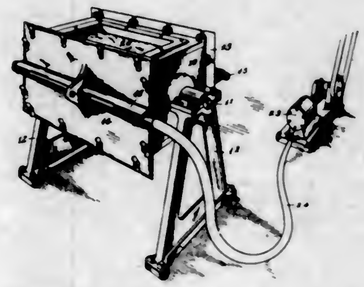
867,732. CLOCKWORK FOR RECORDING INSTRUMENTS. FLORENTINE A. JONES, Boston, Mass. Filed Dec. 19, 1904. Serial No. 237,364.



1. In a recording instrument, a rotatable chart-carrying arbor provided with a shoulder and having a screw thread formed on its end portion and adapted to serve as the winding-arbor, a chart holding nut turned on the threaded end of said arbor, a main spring attached at one end to said arbor for rotating it, and for holding it under constant tension, and a clock train connected with said arbor for regulating its movement, substantially as described.

2. In a recording instrument, a chart-carrying arbor provided with a shoulder for resisting the action of the chart securing means, chart securing means applied to said arbor, a spring for driving said arbor and for holding it under constant tension, a frame having a bottom plate, a stationary barrel containing said spring, which is lifted above the bottom plate of the frame and recessed at one side, and a clock train connected with said arbor for regulating its movement, one of the wheels of which projects into the recess of the barrel, substantially as described.

867,733. PROCESS OF PACKING FILTERS. GEORGE KNOCK, Cleveland, Ohio. Filed Apr. 8, 1907. Serial No. 366,936.



1. The process of packing a filter consisting of maintaining a suction through the porous filter material while such filter material is being placed.

2. The process of packing a filter which consists in supplying moist filter material to the filter while maintaining a suction from the receptacle.

3. The process of packing a filter consisting of maintaining a suction through the porous filter material while such filter material is being placed, and placing such material gradually.

4. The process of packing a filter having a perforated member, and filter material adjacent thereto, consisting in maintaining a suction through such member while placing the filter material about it.

5. The process of packing a filter having a perforated member, and filtering pulp adjacent thereto, consisting in maintaining a suction through such member while gradually placing the pulp about it.

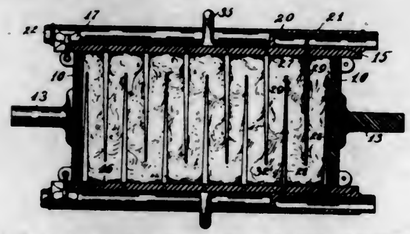
6. The process of packing a filter having a tank, and an internal perforated orifice member, consisting of maintaining a suction through such orifice member and at the same time placing moist filter material about such member, the suction drawing the filter material evenly into place.

867,734. FILTER. GEORGE KNOCK, Cleveland, Ohio. Filed Apr. 8, 1907. Serial No. 366,937.

1. In a filter, the combination of a body having removable covers and orifice members removably carried by said covers and projecting inwardly therefrom, and packing between said members.

2. In a filter, the combination of a body having open opposite sides, a pair of covers adapted to close said sides, each cover carrying removable perforated members, the members projecting inwardly laterally from the two sides past each other, and filtering material between the said members.

3. In a filter, the combination of a body having open sides, a pair of covers adapted to close said sides, and orifice members secured to said covers and projecting inwardly alternately from the opposite sides.



4. In a filter, the combination of a body having open sides, a pair of covers adapted to close said sides, and hollow wedge-shaped orifice members removably secured to said covers and projecting inwardly alternately from the opposite sides.

5. In a filter, the combination with the body, of a removable cover, a conduit for the liquid carried thereby and having ports through the cover, and removable orifice members carried by the cover on its inner sides opposite said ports.

6. In a filter, the combination of a rectangular box having open opposite sides, a pair of covers adapted to removably close said sides, each cover carrying perforated members projecting inwardly laterally from the two sides past each other, filtering material between the said members, there being ports through the covers communicating with the interior of the perforated members, and conduits leading to or from said ports.

7. The combination with a filter body of a removable cover and perforated orifice members carried by the cover on its inner side.

8. The combination of a filter body, of a removable cover, and wedge-shaped perforated members carried by the cover on its inner side.

9. The combination with a body, of a removable cover, and wedge shaped perforated hollow members removably carried on the inner face of the cover, and passageways through the cover communicating with the interior of said wedge-shaped members.

10. The combination with the filter body open on its opposite sides, of a pair of covers adapted to removably close said sides, perforated hollow members removably secured on the inner faces of the covers and projecting laterally from opposite covers inwardly, ports through the covers communicating with the interiors of such hollow members, and conduits leading to and from said ports.

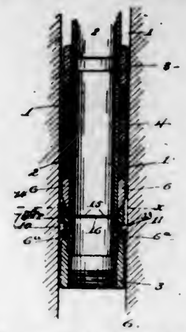
11. In a filter, the combination of a body having open opposite sides, removable covers for closing said sides, intake and exit members carried on the inner sides of said covers, and trunnions projecting from the ends of the body and adapted to support the filter and allow it to be inverted.

12. The combination in a filter of a body, a cover therefor and perforated hollow members removably carried by the inner face of the cover.

13. In a filter, the combination with a wall having ports through it, of gibs secured on the inner side of the wall adjacent to the ports, and hollow perforated members having external flanges adapted to slide between said gibs and the wall, the interior of the member communicating with the port.

14. The combination of a filter body having ends and two sides, the other two sides being open, cover plates for the open sides, bolts and thumb nuts for securing the cover plates in position, pipes on the outer sides of the covers, there being ports through the cover and plates communicating with said pipes, gibs on the inner side of said cover plates adjacent to the ports, and perforated wedge-shaped hollow members having external flanges adapted to slide between the gibs and cover plate, said hollow members having their interior communicating with the ports and projecting laterally from opposite cover plates, and filtering material between the hollow members.

867,735. WELL-PACKER. WALTER W. LEWIN, Parkersburg, W. Va. Filed Apr. 1, 1907. Serial No. 365,723.



1. A well packer comprising a pair of joined rings, independent segments slidably held between the rings, and means for sliding the sections upwardly and outwardly from the rings.

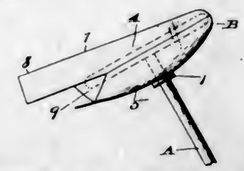
2. A well packer comprising rings joined together one above the other and having spaces between them, independent segments slidable upwardly and outwardly through said spaces, means for holding the segments against sliding, and means for sliding the segments.

3. A well-packer comprising rings joined together so as to leave spaces between them, independent segments slidable from one of said rings against the other ring and through said spaces, a breakable-bar for holding the segments, and spiral springs for sliding the segments.

4. A well-packer comprising a series of rings joined together vertically so as to leave spaces between the rings, certain of the rings having spring-seats and a beveled face, a series of segments slidable in said spaces independently one of the other, and a series of springs for sliding the segments.

5. In a well-packer, the combination, with the packer-rings, and the sections connecting the rings and having slots therein, of the toothed segments working between the rings and having-pins which engage the said slots.

867,736. STEERING-WHEEL MUFF. WILLIAMS H. MANDEVILLE, Bluffton, Ind. Filed May 10, 1907. Serial No. 372,875.



1. In combination with the steering-post and wheel of a motor vehicle, a ring loosely mounted on the post, and a flexible covering secured to said ring and inclosing the wheel, said covering being closed at the front and open toward the rear to receive the hands and arms of an operator, substantially as shown and described.

2. In combination with the steering wheel and post of a motor vehicle, a ring losely mounted on the post, and a flexible covering for the wheel having its bottom formed with a central opening with its edge secured to said ring, and a top secured to the front edge of the bottom and extending free of the bottom to the rear of the wheel, substantially as shown and described.

3. In combination with the steering wheel and post of a motor vehicle, an open ring loosely mounted on the post, a bottom having a central hole with its edge secured to the open ring and an opening extending from the opening in the ring to the outer edge of the bottom, means to tem-

porarily close the opening in the ring and bottom, and a top secured to the outer edge of the bottom and extending to the rear of the wheel, substantially as shown and described.

4. In combination with the steering wheel and post of a motor vehicle, a ring comprising two hinged semicircular segments, a temporary fastening for the free ends of said segments, a covering for said steering-wheel made of any suitable fabric comprising a bottom having a central opening with its edge secured to said ring-segments, said bottom formed with an opening extending radially from the open portion of said ring to the outer edge of the bottom, a temporary fastening for said opening, a top portion having its front and sides secured to the front and sides of the bottom portion and its rear portion formed the full width of the covering and separate from the bottom, and gussets connecting a portion of the edges of the top and bottom at each side of the covering, substantially as shown and described.

867,737. HARD-RUBBER SUBSTITUTE AND PROCESS FOR MAKING THE SAME. CÆSAR MARTER, London, England. Filed July 1, 1907. Serial No. 381,787.

1. The process of making a hard rubber substitute, which consists in mixing powdered vegetable material containing a considerable proportion of tannin or tannic acid with sulfur and molding the same under heat, substantially as described.

2. The process of making a hard rubber substitute, which consists in pulverizing vegetable material containing a considerable proportion of tannin or tannic acid, mixing therewith sulfur, heating and stirring the mixture until it is in the form of a black powder, pulverizing said powder and molding it under heat, substantially as described.

3. The process of making a hard rubber substitute, which consists in pulverizing vegetable material containing a considerable proportion of tannin or tannic acid, mixing the powder with sulfur, heating and stirring the mixture until a coarse black powder is produced, pulverizing said black powder, mixing with it a solution of raw rubber and hardening the same under the influence of pressure and heat, substantially as described.

4. A hard rubber substitute composed of a powdered vegetable material containing a considerable proportion of tannin or tannic acid mixed with sulfur, the whole mass being heated and stirred, and finally heated and molded, substantially as described.

5. A hard rubber substitute consisting of a powdered vegetable material containing a considerable proportion of tannin or tannic acid, mixed with about one-fourth its weight of sulfur and heated, the product being then mixed with raw rubber and molded under pressure and heat, substantially as described.

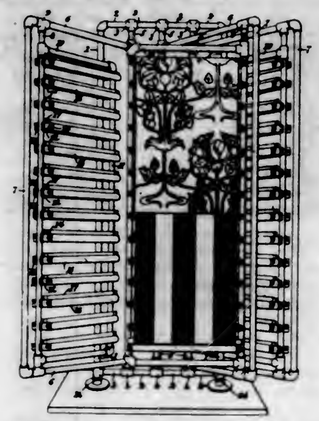
867,738. DISPLAY-RACK. RALPH E. MARTIN, Davenport, Iowa. Filed Feb. 20, 1907. Serial No. 358,357.

1. The combination with a main frame, of auxiliary frames hinged vertically to the main frame and provided with rearwardly extending arms connected together by a flexible coupling, and means connected with said arms adapted to limit the pivotal movement of said auxiliary frames on the main frame.

2. A display rack comprising a main frame, auxiliary frames separately hinged to the main frame, inner frames hinged to the outer portion of the auxiliary frames and adapted to be folded in the plane of the auxiliary frames, and display racks secured to the inner frames.

3. A display rack comprising a main frame, auxiliary frames hinged separately at one side to the main frame, inner frames hinged at one side to the outer portion of the auxiliary frames, and display racks arranged in vertical series on the inner frames.

4. A display rack comprising a main frame, auxiliary frames hinged separately at one side to the main frame, inner frames hinged at one side to the outer side portion of the auxiliary frames, and racks mounted on said inner frames and extending in vertical series on opposite sides in the plane of the auxiliary frames.

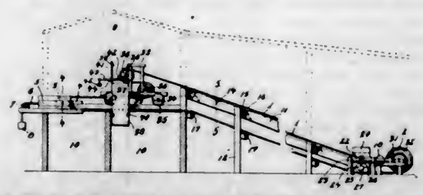


5. A display rack comprising a main frame, auxiliary frames hinged at their inner sides to the main frame and provided with rearwardly extending arms, means for connecting said arms together, and inner frames pivotally mounted on the outer portion of the auxiliary frames.

6. A display rack comprising a main frame, auxiliary frames separately hinged at their inner portion to the main frame, inner frames hinged at one side to the outer portion of the auxiliary frames, and locking mechanism adapted to hold the inner frames in fixed relation to the auxiliary frames.

7. A display rack comprising a main frame having transverse sections and connecting unions, auxiliary frames hinged at one side to the unions of the main frame, and inner frames hinged at one side to the outer portions of the auxiliary frames.

867,739. CONVEYER SYSTEM. CHARLES MERRITT, Pomeroy, Ohio. Filed Aug. 18, 1906. Serial No. 331,155.



1. In a system of the class described, a conveyer, means for actuating the same, a delivery carriage associated with said conveyer for discharging at different points the material carried thereby, and a sectional folding chute mounted upon said delivery carriage to discharge the material at either side or simultaneously at both sides of the delivery carriage.

2. In a system of the class described, a conveyer, means for actuating the same, a delivery carriage adjustably mounted in relation to said conveyer for discharging at different points the material carried thereby, a sectional folding chute mounted upon said delivery carriage to discharge the material at either side or simultaneously at both sides of the delivery carriage, and means for tensioning said conveyer to permit adjustment of the delivery carriage.

3. In a system of the class described, a conveyer, means for actuating the same, a delivery carriage associated with said conveyer, and an inverted V-shaped sectional folding chute associated with said carriage for directing the discharge of the material from the carriage, at either side or simultaneously at both sides thereof.

4. In a system of the class described, a conveyer, means for actuating the same, a delivery carriage adjustably mounted in relation to said conveyer for discharging at different points the material carried thereby, means for tensioning said conveyer to permit adjustment of the delivery carriage, and an inverted V-shaped sectional folding chute associated with said carriage for directing the discharge of the material from the carriage, at either side or simultaneously at both sides thereof.

5. In a system of the class described, a conveyer, means for actuating the same, a delivery carriage associated with said conveyer for discharging at different points the material carried thereby, an inverted V-shaped sectional folding chute mounted upon said delivery carriage to discharge the material at either side or simultaneously at both sides of the delivery carriage, and a transfer or feed conveyer arranged in proximity to said conveyer and discharging upon the latter.

6. In a system of the class described, a conveyer, means for actuating the same, a delivery carriage associated with said conveyer for discharging at different points the material carried thereby, a chute mounted upon the delivery carriage formed of sections disposed in opposite relation and hingedly connected to each other, whereby the material may be discharged at either side or simultaneously at both sides of the delivery carriage, a transfer or feed conveyer arranged in proximity to said conveyer and discharging upon the latter, and means for tensioning the transfer or feed conveyer.

7. In a system of the class described, a conveyer, means for actuating the same, a plurality of bins, supporting tracks arranged at an elevated point in proximity to said bins, a delivery carriage mounted upon said tracks and adapted to travel thereon for discharging within the respective bins the material carried by said conveyer, and a chute mounted upon the delivery carriage formed of sections disposed in opposite relation and hingedly connected to each other, whereby the material may be discharged at either side or simultaneously at both sides of the delivery carriage.

8. In a system of the class described, a conveyer, means for actuating the same, a plurality of bins, supporting tracks arranged at an elevated point in proximity to said bins, a delivery carriage mounted upon said tracks and adapted to travel thereon for discharging within the respective bins the material carried by said conveyer, a sectional folding chute associated with said carriage for directing the discharge of the material from the carriage, and means for holding the sections of said chute in elevated position.

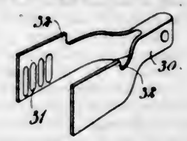
9. In a system of the class described, a conveyer, means for actuating the same, a plurality of bins, supporting tracks arranged at an elevated point in proximity to said bins, a delivery carriage mounted upon said tracks and adapted to travel thereon for discharging within the respective bins the material carried by said conveyer, a sectional folding chute associated with said carriage for directing the discharge of the material from the carriage, means for holding the sections of said chute in elevated position, and a transfer or feed conveyer arranged in proximity to said conveyer and discharging on the latter.

10. In a system of the class described, a conveyer, means for actuating the same, a delivery carriage associated with said conveyer for discharging at different points the material carried thereby, a chute associated with said conveyer for directing the discharge of the material from the carriage, and an apron or guard also associated with said carriage to insure the material discharged from the conveyer passing upon said chute.

11. In a system of the class described, a conveyer, means for actuating the same, a delivery carriage associated with said conveyer for discharging at different points the material carried thereby, a chute associated with said conveyer for directing the discharge of the material from the carriage, an apron or guard also associated with said carriage to insure the material discharged from the conveyer passing upon said chute, and a scraper associated with said apron or guard and coacting with the conveyer for cleaning the latter of the material carried thereby.

12. In a system of the class described, a conveyer, means for actuating the same, a delivery carriage associated with said conveyer for discharging at different points the material carried thereby, a chute associated with said conveyer for directing the discharge of the material from the carriage, an apron or guard also associated with said carriage to insure the material discharged from the conveyer passing upon said chute, a scraper associated with said apron or guard and coacting with the conveyer for cleaning the latter of the material carried thereby, and means for holding said scraper in close contact with the conveyer.

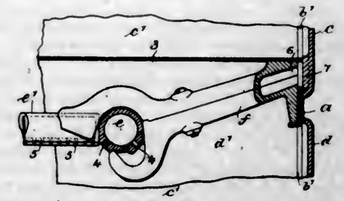
867,740. LOOM-SHUTTLE. FRANCIS A. MILLS, Lawrence, Mass. Filed Apr. 20, 1905. Serial No. 256,636.



1. A shuttle comprising a shuttle-frame formed with a bobbin-receiving receptacle, a spring arranged in said receptacle and adapted to engage the heel of the bobbin, a part on said spring arranged to be engaged by the bobbin to maintain said spring open during the ejectment of one bobbin and the insertion of another.

2. In a magazine loom, a magazine, a shuttle-box, a shuttle, a bobbin spring carried by the shuttle arranged to engage the heel of the bobbin and means whereby the spring is held open during the ejectment of one bobbin and the insertion of another.

867,741. GAS-RANGE. WILLIAM A. MILLS, Port Chester, N. Y. Filed Sept. 20, 1906. Serial No. 335,353.



1. In a gas range, the combination with an oven, an oven bottom or plate, a chamber beneath said plate, a burner in the latter chamber and a flame conveyer extending forward therefrom and a door for the oven, of the side plates of the range, a front plate extending across between the side plates and of a width narrower than the distance between the oven bottom and the top of the opening of the lower chamber, whereby a longitudinal opening is provided below the oven bottom through which the burners can be viewed and into which the flame conveyer from the burners extends with the lower edge of the oven door extending below the said opening to close off the same and cut off communication between the opening and the oven when the door is shut.

2. In a gas range, the combination with the oven bottom and the door of the broiling chamber, of a horizontal division plate at the front, the lower edge of which underlaps the upper edge of the broiling chamber door and the upper edge of which stops at an appreciable distance below the oven bottom so as to leave a longitudinal opening between said upper edge and the oven bottom through which the burners can be viewed and into which opening the flame conveyer of the burners extends for lighting the burners at the orifice thereof, an oven door, the lower edge of which extends over said longitudinal opening and

overlaps the upper edge of the division plate so that when the oven door is closed said aperture is closed off and a plate projection 7 formed with the oven door near the lower edge on the inner surface and adapted when the door is closed to close off the orifice of the flame spreader and also completely close off the longitudinal opening.

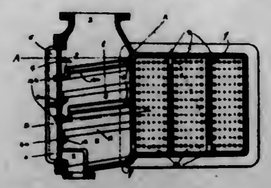
3. In a gas range, the combination with the oven, the oven door and oven bottom and a burner in a chamber beneath the latter, of a horizontal division plate at the front spaced apart from the oven bottom so that the upper edge of said plate stops at an appreciable distance below the oven bottom so as to leave a longitudinal opening between said upper edge and the oven bottom extending the entire length of the oven and through which the burners can be viewed, and means extending forward from the burner into the longitudinal opening and by which the burner can be lighted.

4. In a gas range, the combination with the oven bottom and the door of the broiling chamber, of a horizontal division plate at the front, the lower edge of which is provided with a ledge and underlaps the upper edge of the broiling chamber door and the upper edge of which stops at an appreciable distance below the oven bottom so as to leave a longitudinal opening between said upper edge and the oven bottom through which the burners can be viewed and a flame conveyer extending from the burners forward toward the said longitudinal opening and constructed at its orifice with a part extending down and resting upon the ledge of the said front division plate and its upper part extending up to the under side of the oven bottom as a support, the lighting orifice of the said flame spreader being in the said horizontal opening.

5. In a gas range, the combination with the oven, the oven door and oven bottom, and a burner in a chamber beneath the latter, of a horizontal division plate at the front spaced apart from the oven bottom so that the upper edge of said plate stops at an appreciable distance below the oven bottom so as to leave a longitudinal opening between said upper edge and the oven bottom extending the entire length of the oven and through which the burners can be viewed, the lower edge of the oven door extending over the said longitudinal opening and having a longitudinally extending projection or plate 7 closing over the said opening and also cutting off communication between said opening and the oven when the door is shut.

6. In a gas range, the combination with the oven, the oven door and the oven bottom, and a burner in a chamber beneath the latter, of a horizontal division plate at the front spaced apart from the oven bottom so that the upper edge of said plate stops at an appreciable distance below the oven bottom so as to leave a longitudinal opening between said upper edge and the oven bottom extending the entire length of the oven and through which the burners can be viewed, the lower edge of the oven door extending over the said longitudinal opening and having a part contacting with the edge of the oven bottom so as to simultaneously close over the said opening and cut off communication between the opening and the oven when the door is shut.

867,742. APPARATUS FOR SEPARATING OIL AND WATER FROM STEAM. DONALD B. MORISON, Hartlepool, England. Filed July 3, 1905. Serial No. 268,251.



1. In apparatus for separating oil and water from steam before it is condensed, a steam cleansing chamber having a steam inlet at its upper end, a laterally arranged steam outlet at its lower end extending practically the whole length of said chamber, and steam distributing and oil and water separating and collecting devices extending across said chamber between said inlet and outlet.

2. Apparatus for separating oil and water from steam before it is condensed, comprising a vertically arranged steam cleansing chamber having a steam inlet at the top and a laterally arranged steam outlet near the bottom extending practically the whole length of said chamber, and a condenser arranged adjacent to said cleansing chamber and in direct communication therewith through said steam outlet.

3. Apparatus for separating oil and water from steam before it is condensed, comprising vertically arranged steam cleansing and condensing chambers arranged side by side and in communication with each other near their lower ends through a laterally arranged steam outlet extending practically the whole length of said chambers.

4. Apparatus for separating oil and water from steam before it is condensed, comprising a casing formed with vertically arranged steam cleansing and condensing chambers arranged side by side and in communication with each other near their lower ends through a laterally arranged steam outlet extending practically the whole length of said chambers, and steam distributing and oil and water separating devices arranged to extend across said cleansing chamber between the steam inlet and outlet.

5. Apparatus for separating oil and water from steam before it is condensed, comprising a vertically arranged steam cleansing chamber having a steam inlet at the top and a laterally arranged steam outlet near the bottom extending practically the whole length of said chamber, a slotted steam distributing plate or diaphragm arranged nearly horizontally across said chamber between its inlet and outlet, oil and water separating and collecting devices arranged nearly horizontally below said plate or diaphragm, and a condenser arranged adjacent to one side of said cleansing chamber and in direct communication therewith through said steam outlet.

6. Apparatus for separating oil and water from steam before it is condensed, comprising steam cleansing and condensing chambers arranged side by side and in communication with each other through an opening or openings extending practically the whole length or height of said cleansing chamber, said chambers being formed in one casing or structure.

7. Apparatus for separating oil and water from steam before it is condensed, comprising a casing having steam cleansing and condensing chambers arranged side by side and in communication with each other through an opening or openings extending practically the whole length or height of said cleansing chamber, said opening or openings being formed in a wall or division that is common to one side of the cleansing chamber and the adjacent side of the condensing chamber.

8. Apparatus for separating oil and water from steam before it is condensed, comprising a steam cleansing chamber, oil and water separating and collecting devices located in said chamber, and a condensing chamber having water tubes extending lengthwise thereof, said chambers being in direct communication with each other through an opening or openings parallel to said tubes and extending practically the whole length of the cleansing chamber and water tubes.

9. Apparatus for separating oil and water from steam before it is condensed, comprising a vertically arranged steam cleansing chamber having a steam inlet at its upper end, and at its lower end, a laterally arranged steam outlet that extends practically the whole length of said chamber and a separate outlet for separated oil and water, a steam distributing plate extending across said chamber in a nearly horizontal direction and having inclined guide slots therethrough, oil and water separating devices arranged below said plate with their surfaces inclined to said guide slots, and oil and water collecting devices arranged below said separating devices and adapted to direct the separated oil and water to said separate outlet.

10. Apparatus for separating oil and water from steam before it is condensed, comprising a steam cleansing chamber having a steam inlet at its upper end, a laterally arranged steam outlet at its lower end, and a separate outlet for oil and water, a steam distributing plate extending in a nearly horizontal direction across said chamber and having inclined guide slots therethrough, oil and water separating devices carried by said plate and having surfaces inclined to and arranged opposite said guide slots, and oil and water collecting devices below said separating devices and arranged to direct the separated oil and water to said separate outlet.

11. Apparatus for separating oil and water from steam before it is condensed, comprising a steam cleansing chamber having a steam inlet at its upper end, a laterally arranged steam outlet at its lower end, and a separate outlet for oil and water, a steam distributing plate extending in a nearly horizontal direction across said chamber and having inclined guide slots therethrough, oil and water separating devices carried by said plate and having surfaces inclined to and arranged opposite said guide slots, and oil and water collecting devices carried by and below said separating devices and arranged to direct separated oil and water to said separate outlet.

12. Apparatus for separating oil and water from steam before it is condensed, comprising a steam cleansing chamber having a steam inlet at its upper end, a laterally arranged steam outlet at its lower end, and a separate outlet for oil and water, a steam distributing plate extending in a nearly horizontal direction across said chamber and having inclined guide slots therethrough, oil and water separating devices in the form of plates extending downward from the distributing plate and each arranged between two of the inclined guide slots in said steam distributing plate, and troughs supported below said downwardly extending plates and arranged to direct separated oil and water towards said separate outlet.

13. Apparatus for separating oil and water from steam before it is condensed, comprising a steam cleansing chamber having a steam inlet at its upper end, a laterally arranged steam outlet at its lower end, and a separate outlet for oil and water, a steam distributing plate extending in a nearly horizontal direction across said chamber and having inclined guide slots therethrough, oil and water separating devices carried by said plate and having surfaces inclined to and arranged opposite said guide slots, and oil and water collecting devices detachably supported by and below said separating devices and arranged to direct separated oil and water to said separate outlet.

14. Apparatus for separating oil and water from steam before it is condensed, comprising a steam cleansing chamber having a steam inlet at its upper end, a steam outlet at its lower end, and a separate outlet for separated oil and water, steam distributing plates arranged in a slightly inclined position across said chamber and each formed with a number of pairs of inclined guide slots therethrough, oil and water separating plates carried by and depending from the lower sides of said steam distributing plates and each arranged between two of said inclined guide slots, and collecting troughs carried by the lower ends of said separating plates and arranged to direct separated oil and water to said separate outlet.

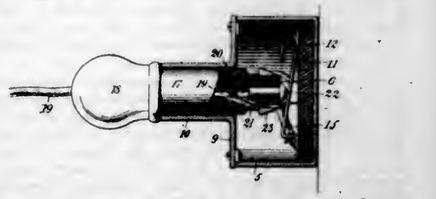
15. Apparatus for separating oil and water from steam before it is condensed, comprising a steam cleansing chamber having a wide steam outlet therefrom, a steam distributing plate supported in an inclined position in said chamber, said plate having a channeled upper side and inclined guide slots therethrough, oil and water separating devices carried from the lower side of said plate and against which steam issuing from said slots will impinge in an inclined direction, oil and water collecting troughs carried by said separating devices, and drain passages for leading away separated oil and water.

16. Apparatus for separating oil and water from steam before it is condensed, comprising a steam cleansing chamber having a wide steam outlet and a removable side wall or cover, a steam distributing plate supported in an inclined position in said chamber and formed with guide slots for passages of steam, oil and water separating and collecting devices arranged below said plate, a receptacle for separated oil and water, and drain passages that are formed in said side wall or cover, are in communication with said receptacle, and into which the collecting devices can drain.

17. Apparatus for separating oil and water from steam before it is condensed, comprising a steam cleansing chamber having a steam inlet at its upper end, a laterally arranged steam outlet at its lower end, a separate outlet for separated oil and water, and a movable side wall or door, and slotted steam distributing plates with oil and water separating and collecting devices carried thereby, said plates being removably supported within said chamber so as to be capable of being withdrawn therefrom and replaced when the movable side wall or door is opened.

18. Apparatus for separating oil and water from steam before it is condensed, comprising a steam cleansing chamber having a steam inlet at its upper end, a laterally arranged steam outlet at its lower end, a separate outlet for separated oil and water, and a movable side wall or door having drain passages therein that normally communicate with said separate outlet, slotted steam distributing plates removably supported within said chamber and capable of being withdrawn therefrom and replaced when the side wall or door is opened, oil and water separating devices carried by said plates, and oil and water collecting troughs carried by said separating devices and arranged to direct separated oil and water to the drain passages in said movable side wall or door.

867,743. PLUG-IN SWITCH. HENRY D. MURDOCK, New York, N. Y. Filed Mar. 21, 1907. Serial No. 363,645.



1. The combination of a box, a disk of insulating material mounted therein, a stationary contact hook mounted upon said disk, a contact spring mounted upon said disk and normally engaging said contact hook, a plug provided with a contact member for engaging said contact spring and forcing the latter out of engagement with said hook, said plug being encircled by another contact member, and another contact spring mounted upon said disk and adapted to engage said contact member encircling said plug.

2. The combination of a box provided with a lid having a neck, a member of insulating material mounted within said box, a contact hook mounted upon said member of insulating material, a contact spring mounted upon said member of insulating material and normally engaging said hook, a plug adapted to fit into said neck, a contact member mounted upon said plug and adapted to engage said contact spring so as to force the same into engagement with said contact hook, a contact member mounted upon said plug and encircling the same, and a spring contact mounted upon said member of insulating material within said box, and adapted to engage said contact sleeve upon said plug.

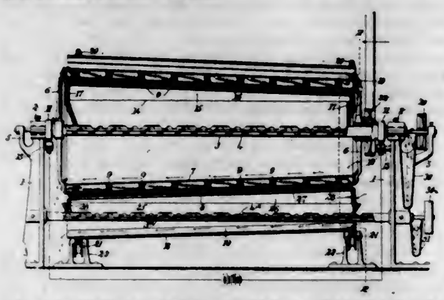
867,744. MAGNETIC SEPARATOR. JAMES B. MCCABE, Buffalo, N. Y. Filed Nov. 13, 1906. Serial No. 343,186.

1. A magnetic separator comprising a drum having inner and outer magnetic surfaces adapted to serve independently in the separation of magnetic from non-magnetic particles, and means for detaching the magnetic particles from said surfaces.

2. A magnetic separator comprising a drum having an outer magnetic surface, an elevating drum surrounding the magnetic drum, and means for detaching adhering particles from said outer surface of the magnetic drum.

3. A magnetic separator comprising a drum having an outer magnetic surface, an elevating drum surrounding

the magnetic drum, a hollow shaft having openings therein intermediate the two drums, means for detaching adhering particles from the outer surface of the magnetic drum, and discharging them through said openings, and a conveyer operable in said hollow shaft.



4. A magnetic separator, comprising a drum having inner and outer magnetic surfaces adapted to serve independently in the separation of magnetic from non-magnetic particles, an elevating drum surrounding the magnetic drum, and means for detaching the magnetic particles from both the inner and outer surfaces of the drum.

5. A magnetic separator, comprising a revoluble magnetic drum having inner and outer magnetic surfaces adapted to serve independently in the separation of magnetic from non-magnetic particles, a revoluble elevating drum surrounding the magnetic drum, and means for detaching the magnetic particles from both the inner and outer surfaces of the magnetic drum.

6. A magnetic separator, comprising a revoluble magnetic drum having inner and outer magnetic surfaces adapted to serve independently in the separation of magnetic from non-magnetic particles, a revoluble, elevating drum eccentrically surrounding the magnetic drum, and means arranged in each drum for detaching the magnetic particles respectively from the inner and outer surfaces of the magnetic drum.

7. A magnetic separator, comprising a conical, magnetic drum having inner and outer magnetic surfaces adapted to serve independently in the separation of magnetic from non-magnetic particles, a conical elevating drum surrounding the magnetic drum, and means for detaching magnetic particles from the inner and outer surfaces of the magnetic drum.

8. A magnetic separator, comprising a conical, magnetic drum revolubly mounted having inner and outer magnetic surfaces adapted to serve independently in the separation of magnetic from non-magnetic particles, a conical, elevating drum revolubly mounted and eccentrically surrounding the magnetic drum, and means for detaching the magnetic particles from both the inner and outer surfaces of the magnetic drum.

9. A magnetic separator comprising a drum having a magnetic outer surface, a drum surrounding the magnetic drum having corrugations therein, providing ribs on its inner surface, and means arranged in the outer drum for detaching adhering particles from said magnetic surface.

10. A magnetic separator comprising a fixed hollow shaft having openings therein, a drum journaled on said shaft composed of an inner and outer shell, electro-magnets radially arranged interposed between said shells, means for detaching adhering particles from the inner shell and discharging them into the openings of said shaft, and means for detaching adhering particles from the outer shell.

11. A magnetic separator comprising a fixed hollow shaft having openings therein, a drum journaled on said shaft having means adapted to magnetize both its inner and outer surfaces, an elevating drum surrounding the magnetic drum, a second hollow shaft having openings therein fixed between said drums, means for detaching adhering particles from the inner surface of the magnetic drum and discharging them through the openings of the first-named shaft, and independent means for detaching adhering particles from the outer surface of the magnetic drum and discharging them through the openings of said second shaft.

12. A magnetic separator comprising a revoluble drum having a magnetic outer surface, a conical drum revolubly mounted and surrounding the magnetic drum, said conical drum having ribs on its inner surface, a hollow shaft fixed intermediate the two drums having openings therein, a conveyer operable in said hollow shaft, a trough carried by said shaft inclosing the openings therein, and means positioned above said trough for detaching adhering particles from the outer surface of the magnetic drum and discharging them in the said trough.

13. A magnetic separator, comprising a drum having inner and outer magnetic surfaces adapted to serve independently in the separation of magnetic from non-magnetic particles, means for detaching adhering particles from said surfaces, and means surrounding said drum operable to carry material to an elevated position and discharge it thereon.

14. A magnetic separator comprising a conical drum having an inner and outer magnetic surface, means for detaching adhering particles from said surfaces, and revoluble means operable to carry material to an elevated position and discharge it upon the outer surface of said magnetic drum.

15. A magnetic separator comprising a hollow shaft having openings therein, a conveyer operable in said shaft, a drum having an inner and outer magnetic surface revolubly mounted on said shaft, an elevating drum revolubly mounted and surrounding the magnetic drum, a second hollow shaft having openings therein fixed intermediate the two drums, a conveyer operable in said second shaft, and means for detaching adhering particles from the inner and outer surfaces of the magnetic drum and discharging them, respectively, through the openings of said first and second shafts.

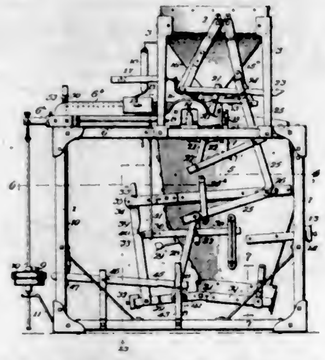
16. A magnetic separator comprising a fixed hollow shaft having openings therein, a conical drum revolubly mounted on said shaft having inner and outer magnetic surfaces, a revoluble, conical, elevating drum eccentrically surrounding the magnetic drum, a second hollow shaft having openings therein fixed between said drums, a conveyer operable in each of said shafts, a trough carried by each of said shafts and inclosing the openings therein, and means arranged above each trough for detaching adhering particles from the inner and outer surfaces of the magnetic drum.

17. A magnetic separator comprising a revoluble drum having an outer magnetic surface, an elevating drum surrounding the magnetic drum, means for detaching adhering particles from the outer surface of the magnetic drum, rollers for revolubly supporting the outer drum, and means for driving one of said rollers.

867,745. AUTOMATIC WEIGHING-MACHINE. JOHN H. MCLEOD, La Salle, Ill. Filed Feb. 27, 1907. Serial No. 359,630.

1. In a weighing machine, the combination with a frame, a receiving hopper, a weighing hopper and weighing weighted levers pivoted upon the upper portion of the frame, the weighing hopper being suspended directly from the shorter arms of said levers, a pivoted gate for closing the mouth of the hopper, a lever arm connected with the gate, a vertical guide bar attached to the lower portion of the frame, and a lateral projection of the gate arm which works in contact with such guide as the hopper descends and rises in the weighing operation, substantially as described.

2. In a weighing machine, the combination with a frame, and weighing levers pivoted thereon, of a weighing hopper pivoted on the shorter arms of said levers, a balance weight applied to the outer side of the hopper, a stop and guide arranged on the opposite side of said hopper and attached to a fixed portion of the frame, a part connected with the hopper being arranged for contact therewith as the hopper rises and falls, substantially as described.



3. In a weighing machine, the combination with a frame, and a receiving hopper, of a movable cut-off for the latter, the weighted weighing levers pivoted on the frame, a swinging hopper pivoted on said levers and having a pivoted gate which normally closes the mouth of the same, a notched latch bar pivoted to the aforesaid cut-off, a lever pivoted to the hopper and its upper end provided with a pin for engaging the said latch bar, and means connecting the said lever with the gate whereby the closing of the latter opens the cut-off, substantially as described.

4. In a weighing machine, the combination with a frame, and a receiving hopper, of a movable reducing valve for said hopper, weighted weighing levers pivoted on the frame, a weighing hopper supported directly on said levers, a pivoted gate which normally closes the mouth of the weighing hopper, a lever mechanism attached to the hopper, a latch bar pivoted to the aforesaid valve and engaging said mechanism a stop fixed on the frame and adapted for engagement with the said latch bar, whereby it is raised out of engagement with the lever when the hopper descends, thus allowing the valve to close, substantially as described.

5. In a weighing machine, the combination with a frame and receiving hopper, of a swinging cut-off provided with a latch bar, a weighing hopper and weighing levers upon which it is hung, a gate pivoted to the lower end of the hopper and normally closing its mouth, and mechanism for operatively connecting such gate with the latch bar of the cut-off, whereby as the gate opens and closes the cut-off closes and opens correspondingly, substantially as described.

6. In a weighing machine, the combination with a frame, and a receiving hopper, of a swinging cut-off having a notched latch bar, a weighing hopper and weighted weighing levers pivoted on the frame and supporting said weighing hopper, a gate for closing the mouth of the weighing hopper, a lever pivoted to the hopper and its upper end engaging the latch of the cut-off, and means for connecting such lever with the gate whereby as the latter opens the cut-off is allowed to close and when the gate closes the lever is operated to open the cut-off, substantially as described.

7. In a weighing machine, the combination with a frame and a receiving hopper, of two swinging cut-offs for the latter, a weighing hopper supported below the receiving hopper and pivoted weighing levers upon which such hopper is directly supported, latch bars connected with the respective cut-offs, levers pivoted to the hopper and their upper ends provided with pins for engaging shoulders of said latch bars, a bar connecting the two levers, a gate pivoted to the lower end of the weighing hopper and normally closing its mouth, and a bar connecting it with the lever mechanism for operating the cut-offs whereby when the gate closes after discharge of a load, the levers connected with the latches of the two cut-offs are shifted on their pivots so as to move the cut-offs backward to the open position, substantially as described.

8. In a weighing machine the combination with a frame, and weighted levers pivoted thereon, of a weighing hopper hung directly on said levers, a gate pivoted and adapted to normally close the mouth of the hopper, and provided with a laterally extended arm, a shouldered lock bar pivoted to said arm, an arm fixed to the hopper and engaging the shoulder of the lock bar, a dog pivoted to the hopper and engaging said lock bar for holding the gate closed, and a stop or hanger connected with the frame which serves to prevent downward movement of the free end of the dog, whereby when the hopper descends with its load the outer end of the dog is raised and releases the lock bar thus allowing the gate to open, substantially as described.

9. In a weighing machine the combination with a frame, weighted weighing levers pivoted thereon, and a weighing hopper supported directly on the levers, of a gate pivoted to the lower end of the hopper for normally closing its mouth, and having a laterally extended arm, a lock bar pivoted to said arm, and having a notch and shoulder, a bar projecting from the hopper and engaging the shoulder of the lock bar, a dog pivoted to the hopper and a hanger for supporting its outer end, whereby it is held normally engaged with the lock bar at the edge of the notch therein, whereby as the hopper descends with its load, the notch of the lock bar is brought opposite the dog and the lock bar thereby released, thus allowing the gate to open, substantially as described.

10. In a weighing machine, the combination with a frame, weighted weighing levers pivoted thereon, a hopper suspended from said levers, a gate pivoted to the lower end of the same and normally closing the hopper, a lock bar operatively connected with the hopper and detachably engaging a fixed portion of the hopper, a device for holding it thus engaged, and a device for releasing the lock bar when the hopper descends with its load so that the gate is allowed to open automatically by gravity, substantially as described.

11. In a weighing machine, the combination with a frame and weighing levers, of a weighing hopper suspended from said levers, a pivoted gate for closing its mouth, a lock bar operatively connected with the gate for holding it normally closed, a dog pivoted to the hopper and engaging the lock bar, and a device attached to the frame and arranged for tripping the dog and releasing the lock bar and gate, substantially as described.

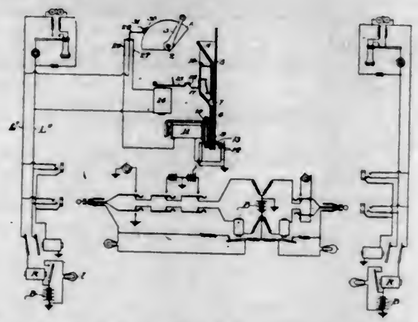
12. In a weighing machine, the combination with the frame, pivoted weighing levers and a hopper suspended therefrom and provided with a pivoted gate having a lever arm provided with a lateral projection, a pivoted lever with which such projection engages when the gate opens, a register mounted on the frame, and means for operatively connecting it with the aforesaid lever whereby the register is operated when the gate opens, substantially as described.

867,746. COIN-COLLECTOR. JAMES L. MCQUARRIE, Oak Park, Ill., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 11, 1907. Serial No. 356,713.

1. In a coin collector for a telephone system, the combination with coin-actuated toll indicating mechanism constructed and arranged to receive a coin deposited in said coin collector, of coin actuated line signaling mechanism, means, controlled by a coin of a predetermined size in initiating a call for a connection, for directing the transfer of said coin to said line signaling mechanism, and additional means for blocking the transfer to said signaling mechanism of a like coin subsequently deposited in payment of toll.

2. In a coin collector for a telephone system, the combination with coin-actuated toll indicating mechanism constructed and arranged to receive a coin deposited in said coin collector, of coin-actuated line signaling mechanism, a coin chute having a channel for depositing toll,

and a channel leading to said line signaling mechanism, means controlled by a coin of a predetermined size, in initiating a call for a connection, for directing said coin into said latter channel, and means, controlled in the operation of said toll indicating mechanism, whereby a coin of the same or a different denomination subsequently deposited in the payment of toll, will be directed into the depositing channel.



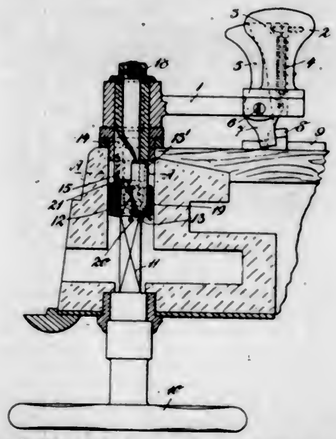
3. In a coin collector for a telephone system, the combination with a movable temporary coin-receiver and toll indicating mechanism controlled by a coin in the movement of said coin-receiver, of coin-actuated line-signaling mechanism, a coin chute arranged to receive a coin from said temporary receiver, said chute having a channel for depositing coin and a channel for transferring coin to said line signaling mechanism, a guide normally preventing the entrance of a coin into said latter channel, means controlled by a coin of predetermined size, in initiating a call for a connection, for placing said guide in position for said coin to enter said latter channel, and means controlled in the operation of said toll indicating mechanism, whereby said guide is locked into position to guide coins, subsequently used in the payment of toll, into said depositing channel.

4. In a coin collector for a telephone, the combination with a cash box, of coin-actuated toll indicating mechanism constructed and arranged to receive a coin deposited in said coin collector, coin actuated line signaling mechanism, means controlled by a coin, in inkiating a call for a connection, for governing the transfer of said coin to said line signal mechanism, or to said cash box, and automatically-operated means for preventing the transfer to said line signaling mechanism of a coin subsequently used in the payment of toll.

5. In a coin collector for a telephone, the combination with a cash box, of coin-actuated toll indicating mechanism constructed and arranged to receive a coin deposited in said coin collector, coin actuated line signaling mechanism, means controlled by a coin, in initiating a call for a connection, for governing the transfer of said coin to said line signal mechanism, or to said cash box, and electromagnetically-controlled means for preventing the transfer to said line signaling mechanism of a coin subsequently used in the payment for toll.

6. In a coin collector for a telephone system, the combination with a movable temporary coin-receiver, and toll indicating mechanism controlled by a coin in the movement of said coin-receiver, of coin-actuated line-signaling mechanism, a coin chute arranged to receive a coin from said temporary receiver, said chute having a channel for depositing coin and a channel for transferring coin to said line signaling mechanism, a guide normally preventing the entrance of a coin into said latter channel, means controlled by a coin of predetermined size, in initiating a call for a connection for placing said guide in position for said coin to enter said latter channel, an electromagnet adapted to be energised upon the response of the central office operator, and means controlled by said magnet for preventing the movement of said guide from its normal position, whereby any suitable coin used in the payment of toll will be directed into said depositing channel.

867,747. LOCKING DEVICE FOR CARRIAGE-DOORS. ARTHUR NATHAN, Charlottenburg, Germany. Filed Oct. 22, 1906. Serial No. 340,044.



1. In a locking device for doors of railway carriages with operating handles pivoted apart from each other, with coengaging stops carried by the shafts of both handles and a catch arranged on the inside handle to engage a stop and for preventing the lock from being unintentionally opened from the inside, a spiral spring, one end of said spring being connected with one of said handles, the other end being connected with the other handle.

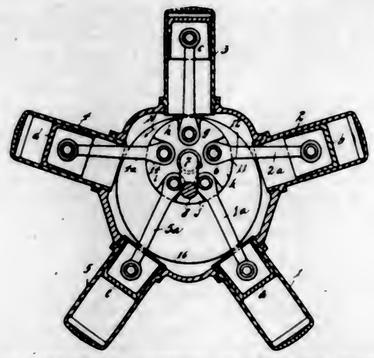
2. In a locking device for doors of railway carriages the combination of operating handles pivoted apart from each other, coengaging stops connected with the shafts of both handles, a lever pivotally connected with the inside handle, an engaging member for said lever on the inside of the door, a spiral spring wound around the shafts of both of the operating handles, one end of said spring being connected with one of said shafts and the other end with the other shaft.

3. In a locking device for doors of railway carriages the combination of operating handles pivoted apart from each other, coengaging stops connected with the shafts of both handles, a lever pivotally connected to the inside handle, a hook on the free end of said lever, a notch on the inside of the door, said hook engaging said notch for securing the inside handle, means connected with both handles and independent of said engaging stops on said shafts for securing the joint guided motion of the operating handles when the inside handle is disengaged and the lock is closed by the turn of said inside handle.

4. In a locking device for doors of railway carriages the combination of operating handles pivoted apart from each other, coengaging stops connected with the shafts of both handles, a straight lever pivotally connected with the inside handle, a hook on the free end of said lever, a notch on the inside of the door, said hook engaging said notch for securing the inside handle, a spiral spring around the shafts of said handles, one end of said spring being connected with one of said operating handles and the other end with the other operating handle.

867,748. MECHANICAL MOVEMENT. WILLIAM B. NORTON, Detroit, Mich. Filed Oct. 16, 1905. Serial No. 282,912.

1. In a mechanical movement for converting motion, in combination with a plurality of radially disposed cylinders, a plurality of pistons therefor, connecting rods pivoted to said pistons, a shaft central to said cylinders, a crank on said shaft, a wrist plate having a rotating connection with said crank and provided with sockets in which the ends of said connecting rods engage, the boundaries of said sockets being adapted to limit oscillation of the plate with respect to the several connecting rods, substantially as described.



2. In a mechanical movement for converting rectilinear to rotary motion, a crank shaft and a crank therefor, a plate mounted to rotate on said crank provided with sockets for the reception of the ends of connecting rods, fixed cylinders having rectilinearly moving pistons with connecting rods pivoted thereto, the said sockets being shaped to coact with the end of the connecting rod to prevent oscillation of the plate, substantially as described.

3. In a mechanical movement for converting rectilinear into rotary motion, a plurality of radially disposed cylinders, a plurality of pistons therefor, connecting rods pivoted to said pistons, a crank shaft provided with a crank, a plate arranged to rotate on said crank and provided with sockets, means for joining the connecting rods to the plate with the ends of said rods engaging in said sockets, each socket being adapted to limit the oscillation of the plate with respect to the connecting rod whose end engages therein, substantially as described.

4. In a mechanical movement for converting reciprocating into rotary motion, in combination with reciprocating pistons and a shaft provided with a crank, a plate on said crank provided with sockets having a circular boundary toward the center of the plate, and boundaries extending from the termini of the circular boundary to the perimeter of the plate on lines substantially parallel to a diameter of said plate combined with connecting rods having circular terminals, and a stem part narrower than the terminals with the intervening part between the stem part and the terminal adapted to engage closely against the straight walls of said socket when the connecting rod is oscillated on its connecting pin, substantially as described.

867,749. TIE-ROD. LA VERNE W. NOYES, Chicago, Ill. Filed May 15, 1907. Serial No. 373,809.



1. A tie rod or other part having an eye, the two sides of which lie wholly upon opposite sides, respectively, of a given plane and are spread apart in directions parallel with said plane.

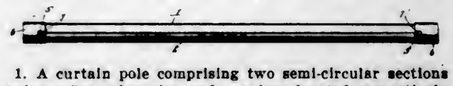
2. A tie rod or other part having an eye the two sides of which lie wholly upon opposite sides, respectively, of an axial plane of the rod, and are spread apart in directions parallel with said plane, each of said sides being equal in cross section to a longitudinal half of the rod.

3. A tie rod or other part having an eye the two sides of which lie wholly upon opposite sides, respectively, of an axial plane of the rod and are spread apart in directions parallel with said plane, the spread of the sides being abrupt at one end of the eye and more gradual at the other end.

4. A tie rod or other part having an eye formed by splitting the rod longitudinally in a plane of its axis and spreading the resulting half-sections apart in directions parallel with said plane to form the two sides of the eye.

5. A tie rod or other part having an eye the two sides of which are of semi-cylindric cross section and lie wholly upon opposite sides, respectively, of a given plane and are spread apart in directions parallel with said plane, the flat faces of the sides being parallel with said plane.

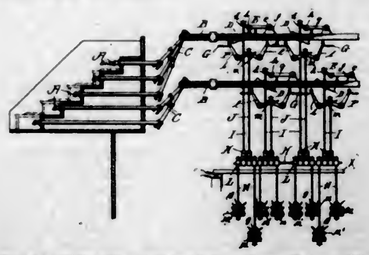
867,750. CURTAIN-POLE. LEWIS H. PFLEGHARDT, Fayette City, Pa. Filed Aug. 3, 1906. Serial No. 329,035.



1. A curtain pole comprising two semi-circular sections having coöperating pins and openings located respectively in the two sections, each section having a flat face, said faces opposing and lying parallel with each other, and separable only in a direction corresponding with the longitudinal axis of the pins to preserve the parallel relationship of the faces, lugs carried by the sections adjacent the ends thereof, and end-caps having bayonet slots to receive the lugs.

2. A curtain pole comprising two equal semi-circular half sections, one provided longitudinally of its flat face with a series of openings, pins passed entirely through the other section and projecting beyond the flat face thereof and adapted to be received in said openings, said sections having their faces lying parallel with each other and separable only in a direction corresponding with the longitudinal axis of the pins to preserve the parallel relationship of the faces, a lug projecting from each section near the end thereof, the lug of one section being at the end opposite to the lug on the other section, and end caps for said section having bayonet slots to receive said lugs, said slots having their lateral recesses extending in opposite directions, substantially as shown and described.

867,751. COMBINATION ORGAN STOP-ACTION. JOSEPH E. PHILIE, Woonsocket, R. I. Filed Sept. 26, 1906. Serial No. 336,345.



1. In a combination organ stop action, the combination of a stop rod, a rocker having a straight slot and an obtuse angle slot, pins on the rod and entering the slots through which the rocker is connected to the rod, means for engaging the rocker to adjust the same, and means for engaging the rocker to move the rod.

2. In a combination organ stop action, the combination of a stop rod having a vertical slot, a rocker located in said slot and having a straight slot and an obtuse angle slot, pins on the rod and entering the slots through which the

rocker is connected to the rod, means for engaging the rocker to adjust the same, and means for engaging the rocker to move the rod.

3. In a combination organ stop action, the combination of a group of horizontal stop rods, vertically-movable rockers carried thereby, a vertically swinging device for adjusting the rockers having a cross-bar and arms thereon pivoted above the group of rods, vertically swinging devices located below the group of rods and arranged to coöperate with the rockers to move the rods in opposite directions, and having inwardly extending arms a rod connected to and depending from the rocker adjusting device, a rod connected to and depending from the arms of the rod-moving devices and means connected to said rods for actuating them and thereby the rocker adjusting device and the rod moving devices.

4. In a combination organ stop action, the combination of a group of horizontal stop rods, vertically movable rockers having straight slots and obtuse-angle slots pins on the rods and entering the slots by which the rockers are connected to the rods, a vertically swinging rocker-adjusting device pivoted at a point above the rods and having a cross-bar extending above all of the rockers, and vertically-swinging rod-moving devices located below the group of rods and having cross-bars for engaging all of the rockers.

5. In a combination organ stop action, the combination of a group of stop rods, adjustable devices carried by said rods, a device for adjusting the adjustable devices, devices for coöperating with the adjustable devices to move the rods; an adjuster finger-button, a combination finger-button; a lever and bar thereon, a bellows, operating mechanism connected with the adjusting device and comprising an element movable into and out of the path of the bar and controlled by the said bellows, electric means controlled by the adjuster finger-button for letting fluid under pressure into said bellows; a second bellows, operating mechanism connected with the rod-moving devices and comprising an element movable into and out of the path of the bar and controlled by the second mentioned bellows, electric means controlled by the combination finger-button for letting fluid under pressure into the second mentioned bellows; a third bellows connected with the lever, and electric means controlled by the first and second mentioned operating mechanisms for letting fluid under pressure into said bellows.

6. In a combination organ stop action, the combination of stop rods, adjustable devices carried by said rods, a device for adjusting the adjustable devices, devices for coöperating with the adjustable devices to move the rods; an adjuster finger-button, a combination finger-button; a bellows, electric means controlled by the adjuster finger-button for letting fluid under pressure into said bellows; a second bellows, electric means controlled by the combination finger-button for letting fluid under pressure into the second mentioned bellows; a third bellows, means movable by said third bellows, operating mechanism connected with the adjusting device and comprising an element controlled by the first mentioned bellows and movable into and out of the path of the means that is movable by the third mentioned bellows; and operating mechanism connected with the rod-moving devices, comprising an element controlled by the second mentioned bellows and movable into and out of the path of the means that is movable by the third mentioned bellows.

7. In a combination organ stop action, the combination of a group of stop rods, adjustable devices carried by said rods, a device for adjusting the adjustable devices, devices for coöperating with the adjustable devices to move the rods; an adjuster finger-button, a combination finger-button; two bellows; electric means controlled by the adjuster finger-button for letting fluid under pressure into one bellows, electric means controlled by the combination finger-button for letting fluid under pressure into the other bellows; levers K each connected with one adjusting device or rod-moving device; pendent arms R connected to said levers K and arranged to normally assume oblique positions; a lever L connected with the bellows controlled by the adjuster finger-button, a bell-crank connected to said lever L and provided with means for moving to an upright position the pendent arm R of the lever K that is connected with the adjusting device; a lever L connected with the bellows controlled by the combination finger-button; a bell-crank connected to said lever L and provided with means for moving to an upright position the pendent arm R of the lever K that is connected with the rod-moving devices; a lever having a bar located below the pendent arms R when the latter are upright; and means for moving the latter lever when any one of the levers L is swung downward.

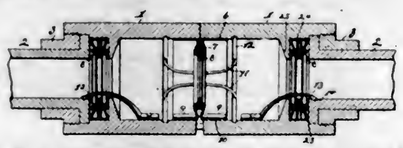
8. In a combination organ stop action, the combination of a group of stop rods, adjustable devices carried by said rods, a device for adjusting the adjustable devices, devices for coöperating with the adjustable devices to move the rods; an adjuster finger-button, a combination finger-button; two bellows, electric means controlled by the adjuster finger-button for letting fluid under pressure into one bellows, electric means controlled by the combination finger-button for letting fluid under pressure into the other bellows, levers K connected with the adjusting device and the rod-moving devices, respectively, pendent arms R connected to said levers K and arranged to normally assume oblique positions, a lever L connected with the bellows controlled by the adjuster finger-button, a bell-crank connected to said lever L and provided with means for moving to an upright position the pendent arm R of the lever K that is connected with the adjusting device, a lever L connected with the bellows controlled by the combination finger-button, a bell crank connected to said lever L and provided with means for moving to an upright position the pendent arm R of the lever K that is connected with the rod-moving devices, a lever having a bar located below the pendent arms R when the latter are upright, a third bellows connected with the latter lever, and electric means controlled by the levers L for letting fluid under pressure into said third bellows.

9. In a combination organ stop action, the combination of stop rods, adjustable devices carried by said rods, a device for adjusting the adjustable devices, devices for coöperating with the adjustable devices to move the rods; an adjuster device arranged to be moved by a performer, a combination device arranged to be moved by a performer; operating means, operating mechanism connected with the said adjusting device and comprising means movable into and out of the path of the operating means and controlled by the said adjuster device, and operating mechanism connected with the rod moving devices and comprising means movable into and out of the path of the operating means and controlled by the said combination device.

10. In a combination organ stop action, the combination of stop rods, adjustable devices carried by said rods, a device for adjusting the adjustable devices, devices for coöperating with the adjustable devices to move the rods; an adjuster device arranged to be moved by a performer, a combination device arranged to be moved by a performer, a movable device for operating the device for adjusting the adjustable devices and for also operating the devices for coöperating with the adjustable devices to move the rods; operating mechanism connected with the said adjusting device and comprising means movable into and out of the path of the said movable operating device and controlled by the said adjuster device, operating mechanism connected with the said rod moving devices and comprising means controlled by the said combination device and movable into and out of the path of the said movable operating device, and means controlled by the said operating mechanisms, for moving the said movable operating device.

867,752. PIPE OR HOSE COUPLING. JOHN H. PHILLIPS, Jr., Jackson, Mich. Filed Jan. 7, 1907. Serial No. 351,196.

1. In a structure of the class described, the combination with the coupling heads, each having on one side a forwardly projecting rigid latch provided with a downturned engaging hook and on the other side a stop adapted to engage the latch of the opposite member; a projecting pin arranged at the bottom of the head adapted to engage the opposite member; a spring arranged in a chamber provided therefor adapted to hold said pin normally outward; each head having a spring metal packing ring having an inwardly projecting flange-like portion at its outer end provided with a bearing lip at its edge, the body portion of said ring having a transverse slit therein; a joint lap piece secured at one side of said slit and arranged to overlap the same; a swivel having an outwardly projecting flange at its inner end seated against a suitable shoulder in the head; an inwardly projecting annular flange in the head; and a U-shaped packing ring having ring-like bearing lips on the arms thereof arranged to seat against the inner end of said swivel and the said flange in the head.



2. In a structure of the class described, the combination with the coupling heads, each having on one side a forwardly projecting rigid latch provided with a downturned engaging hook and on the other side a stop adapted to engage the latch of the opposite member; a projecting pin arranged at the bottom of the head adapted to engage the opposite member; a spring arranged in a chamber provided therefor adapted to hold said pin normally outward; each head having a spring metal packing ring having an inwardly projecting flange-like portion at its outer end provided with a bearing lip at its edge, the body portion of said ring having a transverse slit therein; a joint lap piece secured at one side of said slit and arranged to overlap the same; a swivel having an outwardly projecting flange at its inner end seated against a suitable shoulder in the head; an inwardly projecting annular flange in the head; and a U-shaped packing ring having ring-like bearing lips on the arms thereof arranged to seat against the inner end of said swivel and the said flange in the head.

3. In a structure of the class described, the combination with the coupling heads, each having on one side a forwardly projecting rigid latch provided with a downturned engaging hook and on the other side a stop adapted to engage the latch of the opposite member; a projecting pin arranged at the bottom of the head adapted to engage the opposite member; a spring arranged in a chamber provided therefor adapted to hold said pin normally outward; each head having a spring metal packing ring having an inwardly projecting flange-like portion at its outer end provided with a bearing lip at its edge, the body portion of said ring having a transverse slit therein; and a joint lap piece secured at one side of said slit and arranged to overlap the same.

4. In a structure of the class described, the combination with the coupling heads, each having on one side a forwardly projecting rigid latch provided with a downturned engaging hook and on the other side a stop adapted to engage the latch of the opposite member; each head having a spring metal packing ring having an inwardly projecting flange-like portion at its outer end provided with a bearing lip at its edge, the body portion of said ring having a transverse slit therein; a joint lap piece secured at one side of said slit and arranged to overlap the same; a swivel having an outwardly projecting flange at its inner end seated against a suitable shoulder in the head; an inwardly projecting annular flange in the head; and a packing ring formed of a plurality of united U-shaped spring metal rings having ring-like lips on the outer arms thereof arranged to seat against the inner end of said swivel and the said flange in the head.

5. In a structure of the class described, the combination with the coupling heads, each having on one side a forwardly projecting rigid latch provided with a downturned engaging hook and on the other side a stop adapted to engage the latch of the opposite member; each head having a spring metal packing ring having an inwardly projecting flange-like portion at its outer end provided with a bearing lip at its edge, the body portion of said ring having a transverse slit therein; a joint lap piece secured at one side of said slit and arranged to overlap the same; a swivel having an outwardly projecting flange at its inner end seated against a suitable shoulder in the head; an inwardly projecting annular flange in the head; and a U-shaped packing ring having ring-like bearing lips on the arms thereof arranged to seat against the inner end of said swivel and the said flange in the head.

6. In a structure of the class described, the combination with the coupling heads, each having on one side a forwardly projecting rigid latch provided with a downturned engaging hook and on the other side a stop adapted to engage the latch of the opposite member; each head having a spring metal packing ring having an inwardly projecting flange-like portion at its outer end provided with a bearing lip at its edge, the body portion of said ring having a transverse slit therein; and a joint lap piece secured at one side of said slit and arranged to overlap the same.

7. In a structure of the class described, the combination with the coupling heads, each head having a spring metal packing ring having an inwardly projecting flange-like portion at its outer end provided with a bearing lip at its edge, the body portion of said ring having a transverse slit therein; a joint lap piece secured at one side of said slit and arranged to overlap the same; a swivel having an outwardly projecting flange at its inner end seated against a suitable shoulder in the head; an inwardly projecting annular flange in the head; and a packing ring formed of a plurality of united U-shaped spring metal rings having ring-like bearing lips on the outer arms thereof arranged to seat against the inner end of said swivel and the said flange in the head.

8. In a structure of the class described, the combination with the coupling heads, each head having a spring metal packing ring having an inwardly projecting flange-like portion at its outer end provided with a bearing lip at its edge, the body portion of said ring having a transverse slit therein; a joint lap piece secured at one side of said slit and arranged to overlap the same; a swivel having an outwardly projecting flange at its inner end seated against a suitable shoulder in the head; an inwardly projecting annular flange in the head; and a U-shaped packing ring having ring-like bearing lips on the arms thereof arranged to seat against the inner end of said swivel and the said flange in the head.

9. In a structure of the class described, the combination with the coupling heads, each head having a spring metal packing ring having an inwardly projecting flange-like portion at its outer end provided with a bearing lip at its edge, the body portion of said ring having a transverse slit therein; and a joint lap piece secured at one side of said slit and arranged to overlap the same.

10. In a structure of the class described, the combination with the coupling heads, each head having a spring metal packing ring having an inwardly projecting flange-like portion at its outer end curved in cross section provided with a bearing lip at its edge, the body portion of said ring having a transverse slit therein; and a joint lap piece secured at one side of said slit and arranged to overlap the same.

11. In a structure of the class described, the combination with the coupling heads, each head having a spring metal packing ring having an inwardly projecting flange-like portion at its outer end provided with a ring-like bearing lip at its edge, the body portion of said ring having a transverse slit therein; and a joint lap piece secured at one side of said slit and arranged to overlap the same.

12. In a structure of the class described, the combination with the coupling heads, each head having a spring metal packing ring having an inwardly projecting flange-like portion at its outer end curved in cross section provided with a ring-like bearing lip at its edge, the body portion of said ring having a transverse slit therein; and a joint lap piece secured at one side of said slit and arranged to overlap the same.

13. In a structure of the class described, the combination with the coupling heads, each having on one side a forwardly projecting rigid latch provided with a down-

turned engaging hook and on the other side a stop adapted to engage the latch of the opposite member; a projecting pin arranged at the bottom of the head adapted to engage the opposite member; a spring arranged in a chamber provided therefor adapted to hold said pin normally outward; a packing member having an inwardly projecting flange-like resilient portion at its outer end provided with a bearing lip at its edge; a swivel having an outwardly projecting flange at its inner end seated against a suitable shoulder in the head; an inwardly projecting annular flange in the head; and a packing ring formed of a plurality of united U-shaped spring metal rings having ring-like bearing lips on the outer arms thereof arranged to seat against the inner end of said swivel and the said flange in the head.

14. In a structure of the class described, the combination with the coupling heads, each having on one side a forwardly projecting rigid latch provided with a downturned engaging hook and on the other side a stop adapted to engage the latch of the opposite member; a projecting pin arranged at the bottom of the head adapted to engage the opposite member; a spring arranged in a chamber provided therefor adapted to hold said pin normally outward; a packing member having an inwardly projecting flange-like resilient portion at its outer end provided with a bearing lip at its edge; a swivel having an outwardly projecting flange at its inner end seated against a suitable shoulder in the head; an inwardly projecting annular flange in the head; and a U-shaped packing ring having ring-like bearing lips on the arms thereof arranged to seat against the inner end of said swivel and the said flange in the head.

15. In a structure of the class described, the combination with the coupling heads, each having on one side a forwardly projecting rigid latch provided with a downturned engaging hook and on the other side a stop adapted to engage the latch of the opposite member; a projecting pin arranged at the bottom of the head adapted to engage the opposite member; a spring arranged in a chamber provided therefor adapted to hold said pin normally outward; and a packing member having an inwardly projecting flange-like resilient portion at its outer end provided with a bearing lip at its edge.

16. In a structure of the class described, the combination with the coupling heads, each having on one side a forwardly projecting rigid latch provided with a downturned engaging hook and on the other side a stop adapted to engage the latch of the opposite member; a packing member having an inwardly projecting flange-like resilient portion at its outer end provided with a bearing lip at its edge; a swivel having an outwardly projecting flange at its inner end seated against a suitable shoulder in the head; an inwardly projecting annular flange in the head; and a packing ring formed of a plurality of united U-shaped spring metal rings having ring-like bearing lips on the outer arms thereof arranged to seat against the inner end of said swivel and the said flange in the head.

17. In a structure of the class described, the combination with the coupling heads, each having on one side a forwardly projecting rigid latch provided with a downturned engaging hook and on the other side a stop adapted to engage the latch of the opposite member; a packing member having an inwardly projecting flange-like resilient portion at its outer end provided with a bearing lip at its edge; a swivel having an outwardly projecting flange at its inner end seated against a suitable shoulder in the head; an inwardly projecting annular flange in the head; and a U-shaped packing ring having ring-like bearing lips on the arms thereof arranged to seat against the inner end of said swivel and the said flange in the head.

18. In a structure of the class described, the combination with the coupling heads, each having on one side a forwardly-projecting rigid latch provided with a downturned engaging hook and on the other side a stop adapted to engage the latch of the opposite member, the said hooks and stops of said heads being arranged to be engaged or disengaged by the transverse rocking movement of said heads, and a packing member having an inwardly-projecting flange-like resilient portion at its outer end.

19. In a structure of the class described, the combination with the coupling heads, each having a packing member having an inwardly projecting flange-like resilient portion at its outer end provided with a bearing lip at its edge; a swivel having an outwardly projecting flange at its inner end seated against a suitable shoulder in the head; an inwardly projecting flange in the head; and a packing ring formed of a plurality of united U-shaped spring metal rings having ring-like bearing lips on the outer arms thereof arranged to seat against the inner end of said swivel and the said flange in the head.

20. In a structure of the class described, the combination with the coupling heads, each having a packing member having an inwardly projecting flange-like resilient portion at its outer end provided with a bearing lip at its edge; a swivel having an outwardly projecting flange at its inner end seated against a suitable shoulder in the head; an inwardly projecting annular flange in the head; and a U-shaped packing ring having ring-like bearing lips on the arms thereof arranged to seat against the inner end of said swivel and the said flange in the head.

21. In a structure of the class described, the combination with a head, of a swivel having an outwardly projecting flange at its inner end seated against a suitable shoulder in the head; a collar threaded into the head for retaining said swivel therein; an inwardly projecting annular flange in the head; and a packing ring formed of a plurality of united U-shaped spring metal rings having ring-like bearing lips on the outer arms thereof arranged to seat against the inner end of said swivel and the said flange in the head.

22. In a structure of the class described, the combination with a head; a swivel having an outwardly projecting flange at its inner end seated against a suitable shoulder in the head; a collar threaded into the head for retaining said swivel therein; an inwardly projecting annular flange in the head; and a U-shaped spring metal packing ring having ring-like bearing lips on the arms thereof arranged to seat against the inner end of said swivel and the said flange in the head.

23. In a structure of the class described, the combination with a head, of a swivel having an outwardly projecting flange at its inner end seated against a suitable shoulder in the head; an inwardly projecting annular flange in the head; and a packing ring formed of a plurality of united U-shaped spring metal rings having ring-like bearing lips on the outer arms thereof arranged to seat against the inner end of said swivel and the said flange in the head.

24. In a structure of the class described, the combination with a head, of a swivel having an outwardly projecting flange at its inner end seated against a suitable shoulder in the head; an inwardly projecting annular flange in the head; and a U-shaped spring metal packing ring having ring-like bearing lips on the arms thereof arranged to seat against the inner end of said swivel and the said flange in the head.

25. In a structure of the class described, the combination with a head; a spring metal packing ring having an inwardly-projecting flange-like portion at its outer end curved in cross section and provided with a ring-like bearing lip at its edge, the body of said ring having a transverse slit therein; and a joint lap-piece secured at one side of the said slit and arranged to overlap the same.

26. In a structure of the class described, the combination with a head; a spring metal packing ring having an inwardly-projecting flange-like portion at its outer end and provided with a ring-like bearing lip at its edge, the body of said ring having a transverse slit therein; and a joint lap-piece secured at one side of the said slit and arranged to overlap the same.

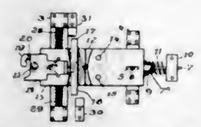
27. In a structure of the class described, the combination with a head; a spring metal packing ring having an inwardly-projecting flange-like portion at its outer end curved in cross section, the body of said ring having a transverse slit therein; and a joint lap piece secured at one side of said slit and arranged to overlap the same.

28. In a structure of the class described, the combination with a head; a spring metal packing ring having an inwardly-projecting flange-like portion at its outer end, the body of said ring having a transverse slit therein; and a joint lap-piece secured at one side of said slit and arranged to overlap the same.

29. In a structure of the class described, the combination of a coupling head having a cylinder-like bore; and a sleeve-like packing ring sleeved into said coupling head, said packing ring having an inwardly-projecting flange at its outer end, said flange being provided with a ring-like bearing lip at its edge.

30. In a structure of the class described, the combination of a coupling head having a cylinder-like bore; and a sleeve-like packing ring sleeved into said coupling head, said packing ring having an inwardly-projecting flange at its outer end.

867,753. CAR-COUPLING. LOUIS RADO and DANIEL KERKES, Branford, Conn. Filed June 10, 1907. Serial No. 378,303.



1. The combination, with a car, of a coupling comprising a draw bar, hangers beneath the car on which said draw bar is adapted to have both a longitudinal and a lateral movement, a detachable draw head, laterally movable and pivotally supported arms of the draw bar engaging the draw head, means on said draw head and arms whereby said draw head is anchored in said arms, pivotally supported locking levers for said arms, lateral springs adapted to maintain the normal central position of the draw bar, means on the under side of the car to release the locking levers, for the purpose set forth.

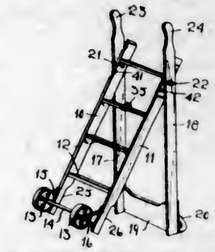
2. The combination, with a car, of couplings at each end thereof, said couplings constructed as follows: a draw bar comprising a base, laterally movable arms pivoted thereto, a draw head anchored between said arms, locking levers for said arms and pivotally supported thereon, front and rear hangers projecting beneath the car to support the base of the draw bar, a pivotal support for the rear end of the draw bar, side springs at the front end to maintain the normal central position of the coupling, adjusting rods connecting the couplings at each end of the car, means to permit of a longitudinal movement of said couplings, means to effect such movement, buffer springs at each inner end of the couplings, kicking posts for said springs, means connected with the car adapted to be engaged by the arm locking levers and release the draw head of the coupling, for the purpose set forth.

3. In a car coupling of the character described, comprising a laterally and longitudinally operating draw bar, a detachable draw head, pivotally supported arms and means for anchoring said draw head therein, locking levers for said arms, means for releasing said levers, a pivotally supported knuckle for the draw head having a tail piece adapted to project beyond the draw head when said knuckle is opened, a coupling pin adapted to rest on said tail piece when said knuckle is in open position and to drop by gravity in front of said tail piece and thus lock the knuckle when closed, for the purpose set forth.

4. In a car coupling, a draw bar, a draw head, locking arms pivotally mounted on said draw bar and adapted to normally hold the draw head to the draw bar, detachable locking levers for said arms and pivotally supported at their center and such pivotal center located between the meeting faces of said locking arms, for the purpose set forth.

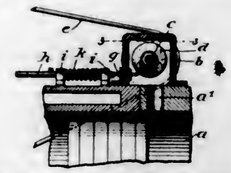
867,754. COMBINATION TRUCK AND STEP-LADDER. JOSEPH E. RANDALL, Sandpoint, Idaho. Filed Oct. 29, 1906. Serial No. 341,105.

1. The combination of two frames pivotally connected at one end, one of said frames being provided with a recess extending transversely thereof and the other frame having a socket with a ball disposed therein, said ball projecting into said recess to limit the movement of said frames relatively to each other when in open position.



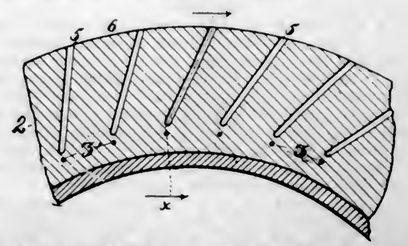
2. In a device of the class described, two frames swingingly connected at one end, to fold one within the other, the inner frame being provided with spaced transverse steps and with bearing wheels at the free end thereof and the other of said frames being provided with a laterally projecting bearing member at its free end, one of said frames being provided with transverse recesses and the other of said frames having stops extending into said recesses, to limit the movement of said frames when in open position.

867,755. IGNITER FOR INTERNAL-COMBUSTION ENGINES. FREDERICK E. REAM, Green Ridge, Mo. Filed May 29, 1906. Serial No. 319,277.



The combination with a combustion cylinder, and a piston therein, of a drive shaft driven by the piston, a case on the cylinder and communicating therewith, an emery wheel journaled in the case, a steel tongue mounted for reciprocation on the cylinder, the end of said tongue projecting into the case, and means connected with the drive shaft for rotating the emery wheel, and for moving the tongue intermittently into contact with said wheel, whereby to produce a shower of sparks within the case.

867,756. ELASTIC TIRE. JACOB W. ROCK, Akron, Ohio. Filed Aug. 13, 1906. Serial No. 330,352.



1. An elastic vehicle tire provided with a plurality of holes, said holes extending from the tread portion thereof inwardly and arranged at an angle to the radii of the wheel on which said tire is mounted.

2. An elastic tire provided with holes in the body portion thereof extending from the tread inwardly and at an angle to the radii of the wheel on which said tire is mounted.

3. An elastic cellular tire adapted to be mounted on a

vehicle wheel the cells of which extend from the tread of the tire inwardly and at an angle to the radii of the wheel.

4. An elastic tire provided with a plurality of holes in the body portion thereof extending from the tread thereof inwardly, the axis of each of said holes being at an angle to the radius of the wheel on which said tire is mounted.

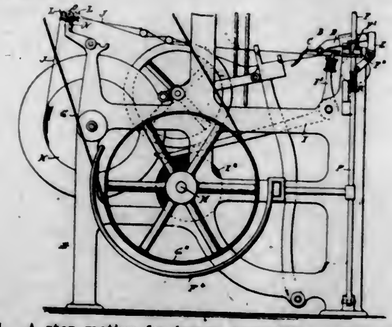
867,757. PITCH SUBSTITUTE AND PROCESS FOR MAKING THE SAME. KARL RÜCKER, Berlin, Germany, assignor to Deutsche Conservierungs-Gesellschaft für Nahrungs-und Genussmittel mit Beschränkter Haftung, Berlin, Germany. Filed Nov. 9, 1906. Serial No. 342,748.

1. The process of manufacturing a pitch substitute, which consists in thickening linseed oil until it is solid when cold by passing air therethrough, mixing the thickened oil with resin and paraffin, and still further thickening the mixture by passing the air therethrough, substantially as described.

2. A solid pitch substitute composed of resin, paraffin and thickened linseed oil, the whole thickened together and solid when cold, substantially as described.

3. A pitch substance composed of substantially 50 per cent. of resin, 38 per cent. of paraffin and 12 per cent. of thickened linseed oil, the whole being thickened together and solid when cold, substantially as described.

867,758. ELECTRIC STOP-MOTION. FRANK A. SANDFORD, Adams, Mass. Filed June 27, 1906. Serial No. 323,733.



1. A stop motion for looms, comprising a stop motion controlled by the filling and having a filling fork and a weft hammer, an electro-magnet on the said weft hammer for attracting the said filling fork, and means controlled by the warp and electrically connected with the said electro-magnet.

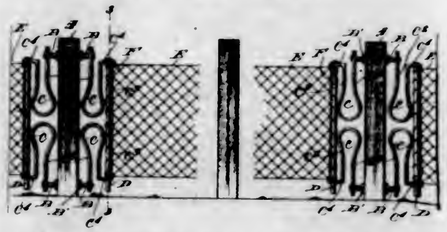
2. A stop motion for looms, comprising a thread guide for the passage of a warp thread, a contact adapted to be engaged by the said guide, the latter being normally held out of engagement with the said contact by the warp thread, an electro-magnet electrically connected with the said thread guide and the said contact, a weft hammer carrying the electric magnet a belt shifting device and a shifting member for the belt shifting device adapted to be attracted by the said electro-magnet when the latter is energized on the breaking of a warp thread.

3. A stop motion for looms, comprising a thread guide for the passage of a warp thread, a contact adapted to be engaged by the said guide, the latter being normally held out of engagement with the said contact by the warp thread, an electro-magnet electrically connected with the said thread guide and the said contact, and a belt shifting device, comprising a belt shifter, a locking device for the same, a releasing device for the belt shifter, a filling fork for actuating the said releasing device, and a weft hammer for actuating the said filling fork and carrying the said electro-magnet for attracting the filling fork.

4. A stop motion for looms, comprising a thread guide for the passage of a warp thread, a contact adapted to be engaged by the said guide, the latter being normally held out of engagement with the said contact by the warp thread, and electro-magnet electrically connected with the said thread guide and the said contact, a weft hammer carrying the electric magnet a belt shifting device, and a shifting member for the belt shifting device adapted to be attracted by the said electro-magnet when the latter is energized on the breaking of a warp thread, and a circuit breaker controlled by the said oscillating member to break the circuit for the said electro-magnet.

5. An electric stop motion for looms, comprising a stop motion having a filling fork controlled by the weft and a weft hammer for shifting the filling fork, an electro-magnet on the said weft hammer for attracting the said filling fork, and a circuit closer for the said electro-magnet and controlled by the warp to energize the said electro-magnet on a break in the warp.

867,759. FENCE. CROCKETT I. SAUNDERS, Fowler, S. C. Filed May 20, 1907. Serial No. 374,584.



1. The improvement in fences herein described comprising the combination of a post, bolts passing through the same and arranged in different vertical planes, the said bolts being arranged in pairs, loop springs having post wings provided with openings for the bolts, said springs being arranged in pairs with their bow portions adjacent to each other midway between the ends of the posts and having their panel wings provided at their free extremities with horizontal lugs having openings with the openings of each pair of springs in alinement and rods passed through said openings in the horizontal lugs, substantially as set forth.

2. The combination in a fence, of fence material a post, a tension spring in the form of a bow having an upright post wing, and means connecting the same at its free end with the post the tension spring having its bow portion free of connection with the post and also provided with a panel wing on the panel side of the post and between the latter and the fence material and having at its free extremity a horizontal perforated lug, and intermediate devices between the fence material and said horizontal lug, substantially as set forth.

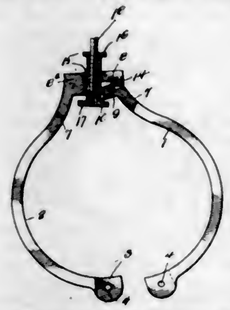
3. The combination of a post, upper and lower bow springs with their bow portions arranged adjacent to each other and having post wings connected at their free ends with the post, and panel wings the bow spring being at its bow portion free of connection with the post, substantially as set forth.

4. The combination of the post fence material, bow springs between the post and the fence material and arranged one above the other and having wings connected at their free ends with the post and also provided with panel wings the bow springs, being disconnected at their intermediate or bow portions from the post, and means whereby the fence material may be secured in connection with the panel wings of the bow springs, substantially as set forth.

5. The combination with the post and fence material, of bow springs having panel wings connected with the fence material and also having post wings provided with openings, and bolts passed through said openings and through their respective posts, and nuts on said bolts, substantially as set forth.

6. The combination with a post, of upper and lower bow springs having their bow portions arranged adjacent to each other and provided with post wings, and means for securing the same to the post, the springs also having panel wings provided with horizontal lugs, the lugs of each pair of springs having openings in alinement, a rod in said openings, and fence material secured to the rod between the horizontal lugs, substantially as set forth.

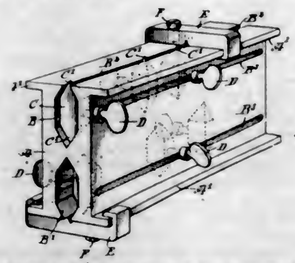
867,760. PIPE-HANGER. MICHAEL SCHANG, Pittsburg, Pa. Filed Apr. 12, 1907. Serial No. 367,877.



1. A pipe hanger consisting of two semi-cylindrical members pivotally connected together at one end and each provided at its other end with an enlargement, one of said enlargements being shouldered and grooved, the other of said enlargements being bifurcated and provided with a recess adapted to receive the shouldered enlargement, and a flanged sleeve arranged between said enlargements.

2. A pipe hanger consisting of two semi-cylindrical straps pivotally connected together and each of which terminate at one end in an enlargement, one of said enlargements being shouldered and grooved, the other of said enlargements being bifurcated and provided with depending lugs adapted to engage the shoulder of the other enlargement, and a flanged sleeve arranged between said enlargements.

867,761. MARKING-GAGE. ABRAHAM SOLOMON, New York, N. Y. Filed May 16, 1907. Serial No. 373,927.



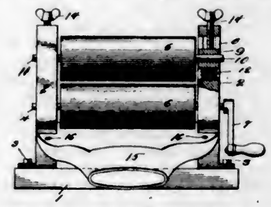
1. A marking gage comprising a stock provided with a longitudinal guideway having a face slot and a side slot, a plurality of independent markers mounted to slide in the said guideway and having their points extending through the said face slot, and clamping screws engaging the markers, extending through the said side slot to fasten the markers in place in the guideway.

2. A marking gage comprising a stock provided with a longitudinal guideway having a face slot and a side slot, markers mounted to slide in the said guideway and having their points extending through the said face slot, clamping screws engaging the markers and extending through the said side slot to fasten the marker in place in the guideway, and an abutment bar held adjustably on the face of the stock.

3. A marking gage comprising a stock, a guideway formed lengthwise in the stock and having a face slot and a side slot, markers slidingly fitting the said guideway and having double points for extending through the said face slot, and clamping screws engaging the markers and extending through the said side slot.

4. A marking gage comprising a stock, a guideway formed lengthwise in the stock and having a face slot and a side slot, markers slidingly fitting the said guideway and having double points for extending through the said face slot, clamping screws engaging the markers and extending through the said side slot, a guideway on the surface of the stock, an abutment bar slidingly mounted on the said surface guideway, and a set screw for securing the abutment bar in position.

867,762. LARD-PRESS. EMMA A. SPROAT, Waynesburg, Pa. Filed Apr. 25, 1907. Serial No. 370,214.



A lard press comprising a support, a pair of standards carried thereby, rolls journaled in said standards, one above the other, each of said rolls covered with a non-absorbent material, means for vertically adjusting the upper of said rolls, a handle connected with the lower of the rolls for revolving it, and a combined collecting and conducting member having the rear portion thereof cut away so as to extend below the lower of the rolls and abut against the front face of the standard, said member having the forward portion thereof contracted to form a spout, said forward portion projecting from the front of the support, combined with a hold-fast device extending through that part of the member in proximity to the standards for fixedly securing said member to the standards.

867,763. MANUFACTURE OF TUBES. WILLIAM J. STILL, Ealing, England. Filed Dec. 27, 1905. Serial No. 293,506.



1. In the manufacture of a tube built up of rings, or of rings and perforated plates, the method of producing the joints between the several rings, or rings and plates, which consists in pressing them together with interposition of jointing material comprising metallic material and flux and adapted to keep the joints open until their surfaces are cleaned by the hereinafter referred to expulsion of oxid or other foreign matter therefrom; heating the rings or rings and plates to above the setting point of said jointing material and expelling the oxid or

other foreign matter from the joints while the component parts of the tube are still pressed together; and finally heating the tube with said parts sufficiently pressed together until proper jointing is effected, substantially as described.

2. In the manufacture of a tube built up of rings, or of rings and perforated plates, the method of producing the joints between the several rings, or rings and plates, which consists in pressing them together with interposition of jointing material comprising metallic material and flux and adapted to keep the joints open until their surfaces are cleaned by the hereinafter referred to expulsion of oxid or other foreign matter therefrom; heating the rings or rings and plates to above the setting point of said jointing material and expelling the oxid or other foreign matter from the joints by blowing it through the joints while the component parts of the tube are still pressed together; and finally heating the tube with said parts sufficiently pressed together until proper jointing is effected, substantially as described.

3. In the manufacture of a tube built up of rings, or of rings and perforated plates, the method of producing the joints between the several rings, or rings and plates, which consists in pressing them together with interposition of jointing material comprising metallic material and flux and adapted to keep the joints open until their surfaces are cleaned by the hereinafter referred to expulsion of oxid or other foreign matter therefrom; heating the rings or rings and plates to above the setting point of said jointing material and expelling the oxid or other foreign matter from the joints by subjecting the tube to internal gaseous pressure while the component parts of the tube are still pressed together; and finally heating the tube with said parts sufficiently pressed together until proper jointing is effected, substantially as described.

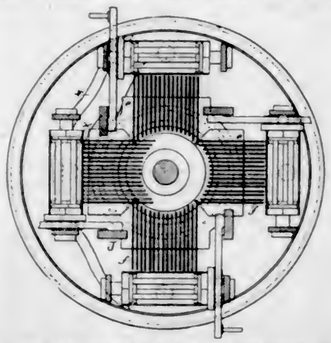
4. In the manufacture of a tube built up of rings, or of rings and perforated plates, the method of producing the joints between the several rings, or rings and plates, which consists in pressing them together with interposition of jointing material comprising metallic material and flux and adapted to keep the joints open until their surfaces are cleaned by the hereinafter referred to expulsion of oxid or other foreign matter therefrom; heating the rings or rings and plates to above the setting point of said jointing material and expelling the oxid or other foreign matter from the joints by subjecting the tube to internal pressure produced by gas generated by the heating of the jointing material while the component parts of the tube are still pressed together; and finally heating the tube with said parts sufficiently pressed together until proper jointing is effected, substantially as described.

5. In the manufacture of a tube built up of rings or of rings and perforated plates, the method of producing the joints between the several rings or rings and plates which consists in coating the surfaces to be jointed with flux, pressing them together with an interposed strip of jointing metallic material, heating the rings or rings and plates to above the setting point of the flux and expelling the oxid or other foreign matter from the joints while the component parts of the tube are still pressed together, and finally heating the tube with said parts sufficiently pressed together until proper jointing is effected.

6. The method of making a tube which consists in forming a stack of rings and plates with jointing material interposed between adjacent rings and plates, pressing said rings and plates together elastically by means of end disks while said plates are held in proper position in relation to said rings by means of rods extending from one of said disks through holes in said plates and into the other of said disks and engaging said rings, heating said stack to above the setting point of said jointing material and expelling the oxid or other foreign matter from the joints while the component parts of said stack are still pressed together, and finally heating said stack with said parts sufficiently pressed together until proper jointing is effected, substantially as described.

7. In the manufacture of a tube built up of rings, or of rings and perforated plates, the method of producing the joints between the several rings, or rings and plates, which consists in pressing them together with interposition of jointing material comprising metallic material and flux, heating the rings or rings and plates by heat produced by combustion, and afterwards passing an electric current of sufficient strength through the juxtaposed rings or rings and plates and across the jointing material between them to effect the proper jointing of the said juxtaposed parts.

867,764. CIRCULAR INDEPENDENT-NEEDLE KNITTING-MACHINE. HEINRICH STOLL, Jr., Reutlingen, Germany. Filed Oct. 14, 1905. Serial No. 282,867.



1. The combination with a knitting machine, of a jacquard mechanism formed of a number of independently operable sections, a revoluble cam cylinder having needle-operating cams, and jacquard actuating means carried by the cam cylinder.

2. The combination with a knitting machine, of a jacquard mechanism divided into a plurality of independent and successively operable sections, a revoluble cam cylinder having needle-operating cams and jacquard actuating mechanism movable with said cam cylinder.

3. A circular knitting machine having stationary needle cylinders, needles and jacks therein, revoluble cams, a jacquard or pattern mechanism, and an operating device therefor, revoluble with the cams.

4. In a machine of the class described, the combination with the cylinders, needles and jacks, of needle operating cams a jacquard or pattern mechanism divided into sections, each section controlling an independent group of needles, and means carried by the cams for actuating the jacquard.

5. In a circular knitting machine, stationary cylinders, needles and jacks therein, revoluble cams, a jacquard mechanism for controlling the needles, said jacquard mechanism being divided into succesively operable sections, and jacquard actuating means carried by the cams.

6. A circular knitting machine having stationary needle cylinders, needles and jacks therein, revoluble cams arranged to move corresponding upper and lower jacks to idle position, and a jacquard mechanism arranged to operate while the jacks are idle, and thus control the positions subsequently assumed by said jacks.

7. In a circular knitting machine, superposed needle cylinders, needles and jacks therein, auxiliary jacks in the upper cylinder and in part controlling the movement of the main jacks of said upper cylinder, and a pattern mechanism connected to said auxiliary jacks.

8. In a circular knitting machine of the class described, upper and lower stationary needle cylinders, jacks and needles supported thereby, a cam ring having a cam member arranged to move all of the jacks of one cylinder to a position beyond the control of the remaining portion of the cam, and a jacquard mechanism for determining the jacks to be readjusted to operative position.

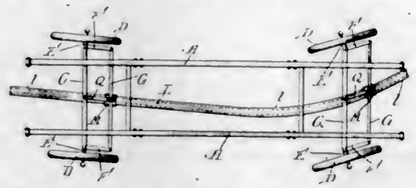
9. In a circular knitting machine of the class described, a pair of superposed needle cylinders, needles and jacks therein, a cam arranged to move one set of jacks to idle position, auxiliary jacks, a restoring cam arranged in position to engage the auxiliary jacks and through the latter restore the idle jacks to operative position, and a pattern mechanism for moving said auxiliary jacks out of the path of the restoring cam.

10. In a knitting machine of the class described, superposed needle cylinders, needles and jacks therein, revoluble cam rings, a pattern mechanism, auxiliary jacks arranged in the upper cylinder and adapted to engage the upper jacks, a restoring cam for engaging the auxiliary jacks, and means connecting the auxiliary jacks to the pattern mechanism, whereby said auxiliary jacks may be raised beyond the path of movement of the needle jacks.

11. The combination with a circular knitting machine, of a jacquard mechanism, said mechanism being divided into sections each complete in itself and including a card cylinder and jack needles, and means for successively operating the sections of said jacquard mechanism.

12. In a knitting machine of the class described, superposed needle cylinders, needles and jacks therein, a pair of revoluble cam rings, the cams of both rings being arranged to move the alined jacks of the upper and lower cylinders to idle position, a series of auxiliary jacks arranged in the upper cylinder, a restoring cam for engaging the auxiliary jacks and transmitting movement through said auxiliary jacks to the main jacks of the upper cylinder, a pattern mechanism, an operating means therefor, revoluble with the cam rings, said mechanism being divided into independently and succesively operable sections, means for connecting the pattern mechanism to the auxiliary jacks, and a cam carried by the cam ring and serving to move all of the jacks to initial position once during each revolution of the cam rings.

867,765. AUTOMATIC STEERING MECHANISM FOR VEHICLES. WILLIAM H. STRICKLER, Chicago, Ill. Filed Feb. 19, 1907. Serial No. 358,281.



1. The combination with a car having independently pivoted wheels, and means including a laterally movable part for connecting them, of automatic steering mechanism having a fixed guide, a runner engaging said guide and means for connecting the runner to said laterally movable part.

2. The combination with a car having independently pivoted wheels and means including a laterally movable part connecting them, of automatic steering mechanism having a guide, a runner engaging the guide, a guard for preventing the disengagement of the runner and guide and means for connecting the guide to said laterally movable part.

3. The combination with a car having independently pivoted wheels and means including a laterally movable part connecting them, of automatic steering mechanism having a guide, a runner engaging the guide, means for pivotally connecting the runner to said laterally movable part, and a bar rigidly attached to said runner at one end and at the other pivotally attached to a fixed part of the car.

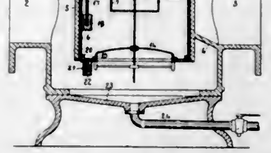
4. The combination with a car having independently pivoted wheels and means including a laterally movable part connecting them, of automatic steering mechanism having a guide, a runner engaging the guide, and means for connecting the runner to said laterally movable part, said runner having a housing and shoes carried by the housing for contacting with the guide.

5. The combination with a car having independently pivoted wheels and means including a laterally movable part connecting them, of automatic steering mechanism having a guide a runner engaging the guide and means for connecting the runner to the laterally movable part, said runner having pivoted shoes mounted eccentrically and adapted to contact with the guide.

6. The combination with a car having independently pivoted wheels and means including a laterally movable part for connecting them, of automatic steering mechanism having a guide, a runner engaging the guide and means for connecting the runner to said laterally movable part, said runner having pivoted shoes mounted eccentrically and adapted to contact with the guide, and springs for holding said shoes normally with their minimum radii presented forward.

7. The combination with a car having independently pivoted wheels and means for connecting them, of automatic steering mechanism having a guide, a runner engaging the guide and means for connecting the runner to the means for connecting the wheels, the runner having shoes adapted to engage the guide, and springs for yieldingly holding the shoes normally in contact with the guide.

867,766. ROTARY GAS-METER. THOMAS THORP, Whitefield, near Manchester, England. Filed July 24, 1906. Serial No. 327,545.



1. In a gas meter, a rotary wheel, vanes arranged thereon, an annularly arranged series of tubes directing the gas on to the vanes, and a plate in which the tubes are fixed, the tubes being constricted at their outlet ends and projecting above said plate.

2. In a gas meter, a rotary wheel, vanes arranged thereon, an annularly arranged series of tubes directing the gas on to the vanes, and a plate in which the tubes are fixed, the tubes being constricted at their outlet ends and projecting above said plate, and a trapped drain pipe adapted to drain off any oil collecting on said plate.

3. In a rotary fan wheel gas meter the combination of an outer casing having an inlet and an outlet branch, a central open ended cylinder in said casing, a partition plate between the inlet and outlet branches, a second cylinder inserted into said central cylinder and having a bottom and an orifice therein, a valve adapted to close said orifice, a smaller and shorter cylinder closed at the top in the center of said second cylinder an annular plate between these cylinders, annularly arranged tubes fixed in said plate so as to project above the same and having restricted orifices at the top, a trapped drainpipe fixed to said plate, a fan wheel mounted on a vertical spindle and bearings for supporting the same.

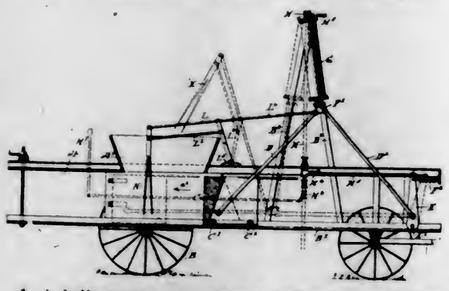
4. In a rotary fan wheel gas meter the combination of an outer casing having an inlet and an outlet branch, a central open ended cylinder in said casing, a second cylinder inserted into said central cylinder and having a bottom, an orifice therein surrounded by a raised valve seating, a valve adapted to fit said casing, and a trapped drain pipe fixed to said bottom and adapted to drain off any oil collecting thereon.

5. In a rotary fan wheel gas meter the combination of

an outer casing having an inlet and an outlet branch, a central open ended cylinder in said casing, a second cylinder inserted into said central cylinder, a bottom to said second cylinder having a central orifice, a valve adapted to close said orifice, a sunk channel surrounding the seating of said valve and a trapped drain pipe adapted to drain off the oil collecting in said channel.

6. In a rotary fan wheel gas meter the combination of an outer casing having an inlet and an outlet branch, a central open ended cylinder in said casing, a partition plate between the inlet and outlet branches, a second cylinder inserted into said central cylinder and having a bottom and an orifice therein, a raised valve seating surrounding said orifice and a valve adapted to close the same, a trapped drain pipe adapted to drain off any oil collecting on said bottom, a smaller and shorter cylinder closed at the top in the center of said second cylinder an annular plate between these cylinders, annularly arranged tubes fixed in said plate so as to project above the same and having restricted orifices at the top, a trapped drain pipe fixed to said plate and adapted to drain off any oil collecting thereon, and a fan wheel mounted on a vertical spindle and bearings for supporting the same.

867,767. BALING-PRESS. HIRAM B. TROUT, Shelbyville, Ill. Filed Dec. 26, 1906. Serial No. 349,567.



1. A baling press comprising a baling box, a follower reciprocating therein, toggle bars of which one is connected with the said follower, a spring-pressed movable member connected with the other toggle bar, and an engine connected with the said toggle bars.

2. A baling press comprising a baling box, a follower reciprocating therein, toggle bars of which one is connected with the said follower, a spring pressed movable member connected with the other toggle bar and a valve controlled by the said movable member for admitting more steam to the engine during the last portion of the compression period of the said follower.

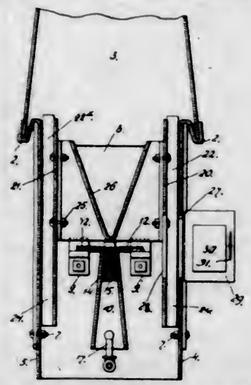
3. A baling press comprising a baling box, a follower reciprocating therein, toggle bars of which one is connected with the said follower, a spring pressed movable member connected with the other toggle bar a steam supply pipe for the said engine and having a throttle valve, and a by-pass containing a valve, and a connection between the said by-pass valve and the said movable member.

4. A baling press comprising a baling box, a follower reciprocating therein, toggle bars of which one is connected with the said follower, a swing arm connected with the other toggle bar, a spring pressing the said swing arm to give resistance to the toggle bars, an engine connected with the toggle bars, a steam supply pipe having a throttle valve, and a by-pass containing a gate valve, and a connection between the said gate valve and the said swing arm.

5. A baling press comprising a baling box, a follower, toggle bars connected with the said follower, an engine cylinder mounted to oscillate, a piston reciprocating in the said cylinder and having its piston rod connected with the said toggle bars, a valve for controlling the admission and exhaust of the motive agent to both ends of the said cylinder, and means whereby an increase of resistance to the movement of the follower will open said valve.

6. A baling press, comprising a baling box, a follower reciprocating therein, toggle bars one of which is connected with the said follower, an oscillating engine connected with the toggle bars, and means connected with the other of said toggle bars for increasing the admission of the motive agent during the last portion of the compression of the said follower.

867,768. HEATER. WILLIAM S. TURNEY, Greensburg, Pa. Filed June 13, 1907. Serial No. 378,852.

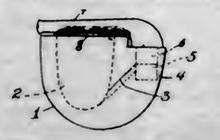


1. In a heater, the combination with a gas supply pipe and jet, of a casing located over said pipe and having its upper edges flanged to provide sockets, a hood mounted in the sockets of said casing, tapering cold air conduits carried by the sides of said casing and communicating with the interior thereof, a tapering burner casing detachably mounted in said heater casing and housing said gas jet, gauze arranged in the upper end of said burner casing, a V-shaped deflector detachably mounted in said casing and having front and rear plates providing air conduits, and means whereby easy access can be had to the interior of said heater.

2. A heater consisting of a casing, a tapering hood carried by the upper end of said casing, tapering cold air conduits carried by the sides of said casing and communicating with the interior thereof, a tapering burner casing located within the first mentioned casing, gauze arranged in the upper end of said burner casing, a V-shaped deflector detachably mounted above said burner casing and having plates providing air conduits, and means whereby easy access can be had to the interior of said casing.

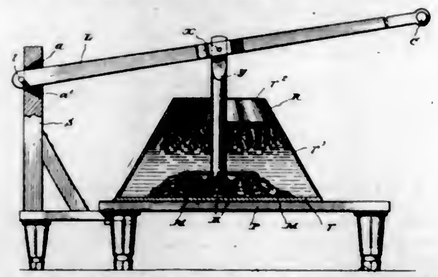
3. A heater consisting of a casing, a hood carried thereby, cold air conduits arranged at the sides of said casing and communicating with the interior thereof, a burner casing detachably mounted in the first mentioned casing, a V-shaped deflector located above said burner casing and having plates providing cold air conduits, and means whereby easy access can be had to the interior of said casing.

867,769. PIPE. LORING UNDERWOOD, Belmont, Mass. Filed Feb. 20, 1907. Serial No. 358,360.



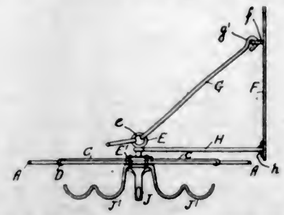
As an article of manufacture, a pipe comprising in its construction a flat bowl oblong in cross section, said bowl being formed with a tobacco pocket, a stem swiveled to said bowl at one end of the latter and at or near one end of the longer axis of said bowl in position to be swung over the top of the bowl, said stem being of substantially the same length as said diameter so that both ends of said stem are flush with the ends of the pipe when the stem is swung in its closed position over the bowl, a passageway connecting said pocket and said stem, and a cover carried by said stem midway its ends adapted, when the stem is swung over the bowl, to fit tightly over and close the mouth of the pocket, whereby when the cover is over the pocket, the free end of the stem is protected by the sides of the bowl and the cover prevents escape of the contents of the bowl.

867,770. WASHING-MACHINE. JAMES F. WADE, Quincy, Ill. Filed May 24, 1906. Serial No. 318,475.



A washing machine comprising a platform, a standard arranged upon one side of the same and formed with the opening *a*, a receptacle arranged upon the platform, a hand lever having one end projecting through the opening in the standard and provided with the transverse cross pin *l*, the agitator rod *y* pivoted to the lever and projecting into the receptacle, and the radially projecting U-shape clothes receiving loops K arranged in an annular row upon the lower end of said rod, substantially as described.

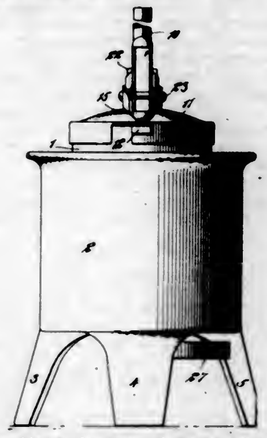
867,771. DRESS-CASE. EMILY H. L. WALLACE, London, England. Filed July 7, 1906. Serial No. 325,141.



A dress case of the type set forth, comprising the combination with a plurality of spaced superposed hoops and struts spanning the uppermost of said hoops of a suspension device comprising a shank having a base formed with bores to receive said struts at their intersection, suspension hooks below said base, said shank at its upper end being formed with an eye, a wall bracket provided at its upper end with an eye and at its lower end with a strap, a tie having its ends hooked for engagement with the eyes of said bracket and said shank and a link having one end formed for pivotal engagement through said strap and its other end formed to surround said shank below said eye.

867,772. MOLDER AND CUTTER FOR BUTTER AND ANALOGOUS SUBSTANCES. ALBERT W. WARD, New York, N. Y. Filed Jan. 31, 1907. Serial No. 354,968.

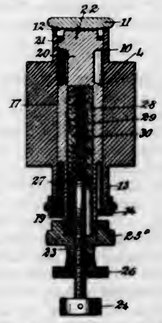
1. In a molder and cutter of the character described, the combination with the cylinder for containing the material to be molded and cut, of a piston and piston rod movable therein, a removable cover for said cylinder, a hand piece affixed to the cover, a friction ratchet for operating the piston rod, a hand lever for engaging said ratchet, and a spring applied between the cover and ratchet, substantially as explained.



2. In a molder and cutter of the character described, the combination with the two cylinders, of which the inner one is provided with an open mouth at the bottom, and means for forcing the material through said mouth, a space being left between the two cylinders, of a bent flexible spring, a cutting wire applied on the spring and held taut thereby, said spring having lugs, and a hinge pin secured in the base part of the apparatus between the two cylinders and packed in said base as explained, the hinge pin receiving the lugs on the spring and the spring being arranged to carry the wire past the open mouth of the inner cylinders, the parts being constructed and arranged substantially as shown and described.

3. The herein described molder and cutter comprising the two cylinders one of which has an open mouth at the bottom part, piston, piston rod, friction ratchet and means for operating the same, the removable cover, and means for cutting off the material projected from the said open mouth, the friction ratchet and its operating means being applied on the cover, the parts being constructed and arranged for operation substantially as shown and explained.

867,773. ATTACHMENT FOR TALKING-MACHINES. ALFRED D. P. WEAVER and JOHN E. CARNEY, Montgomery, Ala.; said Weaver assignor to said Carney. Filed Mar. 15, 1907. Serial No. 362,473.



1. The combination of a casing, a grid mounted therein, a mass of porous material connected with said grid for

permitting passage of sound waves therethrough while preventing undue resonance, and means controllable at will for changing the position of said grid for the purpose of affecting sounds passing through the same.

2. The combination of a casing, a cylindrical grid mounted therein, a mass of porous material mounted within said cylindrical grid, means controllable at will for exerting different degrees of pressure upon said material for the purpose of governing the porosity thereof, and means for moving said cylindrical grid for the purpose of affecting the sounds passing through said material.

3. The combination of a member provided with a sound passage, a cylindrical grid mounted within said sound passage, a member of rubber sponge mounted within said cylindrical grid, a cylinder of cotton fiber encircling said rubber member, a spring for restoring said rubber member and said cylinder of cotton fiber after compression of the same, and means controllable at will for compressing said rubber member and said cylinder of cotton fiber to a predetermined extent.

4. The combination of a longitudinal hollow member provided with a sound passage, a mass of porous material mounted within said sound passage and extending transversely of the general axis thereof, and means for compressing said mass of porous material in a direction crossing said axis of said longitudinal hollow member.

5. The combination of a casing, a revoluble cord mounted therein for the purpose of regulating the capacity of said casing for transmitting sound waves, and a mass of porous material mounted within said cord and compressible in a direction crossing the general direction of propagation of said sound waves.

6. The combination of a casing, a revoluble cord mounted therein and provided with slots serving as sound passages, and means for turning said cord relatively to said casing.

7. The combination of a casing provided with a sound passage, a revoluble cord mounted within said casing and partially obstructing the same, the axis of said cord crossing the general direction of propagation of the sound waves, and means for moving said cord in the general longitudinal direction of its own axis of rotation, for the purpose of partially obstructing said sound waves.

8. The combination of a casing provided with a sound passage, a revoluble cord mounted within said casing and provided with sound passages, and means for securing said revoluble cord in a predetermined fixed position.

9. The combination of mechanism provided with a sound passage, a member of compressible material partially obstructing said sound passage, and a spiral spring depressed within said member of compressible material, and means for compressing said compressible material and said spiral spring.

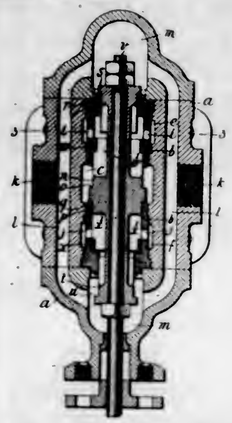
10. The combination of a casing provided with a sound passage extending therethrough, a core of compressible material mounted within said casing and adapted to partially obstruct the propagation of the sound waves therethrough, a central spring disposed concentrically to said core of compressible material, and means controllable at will for compressing both said core and said spring, to any desired extent.

867,774. VALVE FOR DIRECT-ACTING STEAM-PUMPS. WILLIAM WEIR, Glasgow, Scotland. Filed June 7, 1907. Serial No. 377,796.

1. In a valve for direct acting steam engines and like machines a steam valve member; an exhaust valve member; a cylinder inclosing same and having supply and exhaust ports and an intermediate port; and a valve member adapted to close said intermediate port.

2. A steam chest, a steam valve therein, an exhaust valve movable synchronously therewith, a main engine cylinder, means for connecting same with the steam chest and means whereby in a predetermined position of the said valves said connecting means is closed.

3. A steam chest or valve box, an admission valve; an exhaust valve; and a plurality of valves for the outlet of live steam; said last named valves being arranged to be temporarily closed when the other valves are in certain predetermined positions.



4. A steam chest or valve box; an admission valve; a plurality of exhaust valves; a plurality of valves for the outlet of live steam; and means for actuating said several valves; the last-named valves being arranged to be closed when the other valves are in certain predetermined positions.

5. A steam chest or valve box; a plurality of admission valves; an exhaust valve; a plurality of valves for the outlet of live steam; and means for actuating said several valves; the last named valves being arranged to be closed when the other valves are in certain predetermined positions.

6. The combination with an engine cylinder of a steam chest or valve box having an admission port and an exhaust port and being in communication with the main engine cylinder; a steam valve, an exhaust valve and an intermediate valve, said intermediate valve being arranged to close the communication between the steam chest or valve box and the main engine cylinder when the other valves are in a predetermined position.

7. The combination with an engine cylinder of a valve device therefor comprising a steam chest or valve box having communication between its ends and the respective ends of the engine cylinder; a valve controlling the supply and exhaust of said steam chest or valve box, and means working synchronously with said valve for closing the aforesaid communication with the engine cylinder in a predetermined position of the valve.

8. The combination with an engine cylinder of a double acting inlet valve, a steam chest or valve box for same having on opposite sides of the inlet valve means for connecting with opposite ends of the engine cylinder according as said valve is moved towards one end or the other of its throw; means for exhausting the steam chest or valve box; and means intermediate an admission position and an exhaust position of the valve whereby the connection with the engine cylinder is closed.

9. The combination with an engine cylinder of an inlet valve; a steam chest or valve box for same having on opposite sides of the inlet valve means for connecting with opposite ends of the engine cylinder; means for actuating said valve; means for exhausting the steam chest or valve box at each end of the throw; and means whereby in an intermediate position of the valve the communication with the engine cylinder is closed.

10. The combination with an engine cylinder of a steam chest or valve box; a valve therein adapted to divide same into a plurality of chambers separated from each other, each of said chambers having means for connecting it with a respective end of the engine cylinder; means whereby when the valve is past its mid position the respective chamber can exhaust; and means whereby the chamber that is to exhaust is shut off from the engine cylinder.

11. The combination with a steam chest or valve box having a port admitting pressure fluid thereto, ports for exhausting same from either end thereof and ports intermediate the admission and each exhaust for the outlet of the live fluid; of a valve comprising an admission controlling member, exhaust controlling members and intermediate outlet controlling members.

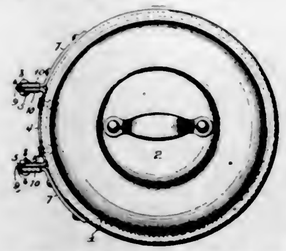
12. The combination with a steam chest or valve box an inlet port, a plurality of exhaust ports and a plurality of live fluid outlet ports; of a valve comprising a plurality of inlet controlling parts, a plurality of exhaust controlling parts and a live fluid outlet controlling part.

13. The combination with a steam chest or valve box of an inlet port, an exhaust port and a live fluid outlet port; of a valve comprising a stem, an inlet controlling part thereon; an exhaust controlling part on said stem and a piston carried by said stem and adapted to control said live fluid outlet port.

14. The combination with a steam chest or valve box having an inlet port, an exhaust port and a live fluid outlet port, of a valve comprising a stem, a web carried thereby, a hollow piston carried by said web and adapted in a predetermined position of the valve to close said live fluid outlet port and means carried by said stem for respectively closing the inlet port and the exhaust port in other predetermined positions of the valve.

15. The combination with a steam chest or valve box having an inlet a plurality of end chambers communicating therewith and a lateral port leading from each of the end chambers; of a valve combination comprising means for temporarily opening one of the end chambers to the inlet and simultaneously cutting off the other end chamber therefrom, means for exhausting said cut off chamber, means for temporarily closing the lateral port of said exhausting chamber, and means for actuating the said parts of the valve combination in unison so as to alternately control the end chambers.

867,775. HINGE. GEORGE C. WITT, Cincinnati, Ohio. Filed Oct. 29, 1906. Serial No. 341,113.

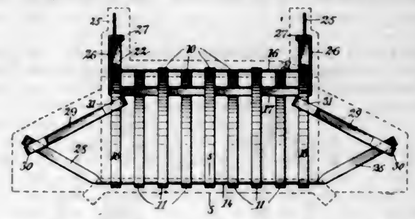


1. The combination with hinge members pivotally secured together, of a stop between the hinge members comprising a triangular plate having oppositely projecting lateral flanges at its upper and lower edges to limit the movement of the hinge members.

2. The combination with a receptacle and a cover therefor, of outwardly projecting arms on the body, outwardly projecting arms on the cover, bolts or rivets pivotally connecting said arms, stops between the arms comprising tri-angular plates having openings to receive the bolts or rivets and oppositely projecting lateral flanges at the upper and lower edges of the plates.

867,776. REINFORCEMENT FOR CONCRETE ARCHES. MARTIN A. ABBOTT, Chrisney, Ind. Filed Apr. 26, 1907. Serial No. 370,446.

1. A reinforcement for concrete arches, comprising a plurality of reinforcing rings having horizontally disposed end portions, and a plurality of floor straps having inturned hook-shaped ends adapted to receive said horizontally disposed end portions of the rings to prevent the latter from spreading.



2. A reinforcement for concrete arches, comprising a plurality of reinforcing rings, a floor strap having inturned ends adapted to engage with the ends of said rings for preventing the latter from spreading, and a plurality of longitudinally disposed reinforcing bars interwoven across said rings.

3. A reinforcement for concrete arches, comprising a plurality of reinforcing rings, a floor strap having inturned ends adapted to engage with the ends of said rings for preventing the latter from spreading, and a plurality of longitudinally disposed reinforcing bars interwoven between said rings.

4. A reinforcement for concrete arches, comprising a plurality of reinforcing rings, floor straps connecting the ends thereof, and a plurality of longitudinally disposed reinforcing straps interwoven between said rings.

5. A reinforcement for concrete arches, comprising a plurality of reinforcing rings, and longitudinally disposed bars connecting the base portions of said rings, said longitudinally disposed bars having outwardly extending portions adapted to reinforce the wing walls.

6. A reinforcement for concrete arches, comprising a plurality of reinforcing rings, longitudinally disposed reinforcing bars connecting the base portions of said rings and having outwardly and upwardly extending end portions, and links connected to said end portions and forming therewith reinforcement for the wing walls.

7. A reinforcement for concrete arches, comprising a plurality of reinforcing rings, longitudinally disposed bars connecting said rings, uprights secured to the end portions of each of the end rings, and means connecting said uprights to form reinforcements for the spandrels.

8. A reinforcement for concrete arches, comprising a plurality of reinforcing rings, uprights extending upward from the end portions of the said rings, lateral bars connecting said uprights, and balustrade reinforcements connected to said lateral bars.

9. A reinforcement for concrete arches, comprising a plurality of reinforcing rings, uprights extending upward from the end portions of the end rings, lateral bars connecting said uprights, and a plurality of longitudinally disposed reinforcing bars connecting said rings and having end portions extending upward into engagement with said lateral bars for forming a reinforcement for the spandrels and balustrades.

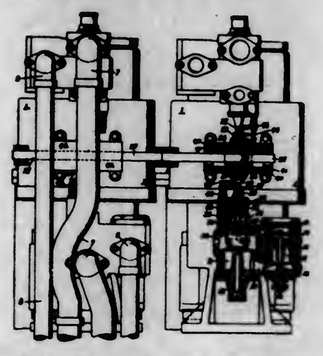
10. A reinforcement for concrete arches, comprising a plurality of reinforcing rings, laterally disposed bars connecting the base portions of said rings and having outwardly and upwardly extending end portions, uprights connected to the end portions of the end rings, and links connecting the said uprights and the end portions of said longitudinally disposed bars and forming a reinforcement for the wing walls.

11. A reinforcement for concrete arches, comprising a plurality of reinforcing rings, a plurality of floor straps engaging with the ends thereof to prevent said rings from spreading, and a plurality of longitudinally disposed bars in engagement with said rings for preventing longitudinal movement thereof.

12. A reinforcement for concrete arches, comprising a plurality of reinforcing rings, a plurality of floor straps engaging therewith to prevent said rings from spreading,

a plurality of longitudinally disposed bars in engagement with said rings for preventing longitudinal movement thereof, a plurality of uprights, lateral bars connecting said uprights, and extensions in engagement with said bars and forming reinforcement for the balustrades.

867,777. INTERNAL-COMBUSTION ENGINE. CHARLES H. T. ALSTON, London, England. Filed June 28, 1907. Serial No. 381,323.



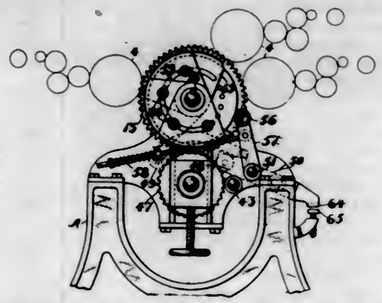
1. In an internal combustion engine, a working cylinder and piston, an air pipe adapted to force air into the cylinder prior to the combustible fluid; a combustible fluid delivery pipe; an automatic lift valve 6 a valve case 11 therefor, said valve 6 being in communication with the cylinder and with the combustible fluid supply pipe and the air supply pipe, adapted to be kept closed by the pressure of said air while at or near its initial pressure, and also pressed in the opening direction by the pressure of said combustible fluid, and adapted to be opened by the pressure thereof when the counter-pressure of said air has been reduced by its release into the said cylinder by the exhaust of products of combustion; a non-return valve 5 and casing 9, having its outer area in communication with said valve case 11; a piston 14 connected with valve 6, a piston cylinder 15 for said piston 14; and means for connecting the cylinder 15 on one side of the piston with the space on the discharge side of valve 6, whereby said combustible fluid valve 6 is pressed towards its seat by said pressure acting on the piston prior to release of such pressure, and is relieved of same on release of such pressure; substantially as described.

2. In an internal combustion engine, the combination of a cylinder; an air pipe; a combustible fluid pipe; a non-return lift valve 5 controlling communication between said cylinder and said air and combustible fluid pipes; a non-return lift valve 6, the space in the discharge side of the casing of which is in communication with the inlet space and side of the said non-return valve 5, and the space at the other side of said valve 6 is in communication with the said combustible fluid pipe; a cylinder 15 and piston 14 adapted to work therein, and connected directly with said valve 6; and a passage 16 communicating with the space and chamber between the valves 6 and 5, and with the end of the said cylinder 15 nearest the valve 6; substantially as described.

867,778. PRINTING-PRESS. JOHN F. AMES, Portland, Oreg. Filed May 29, 1906. Serial No. 319,336.

1. In a printing-press, the combination with a form cylinder, of an impression cylinder, means for feeding a continuous strip of material to be printed between the form cylinder and said impression cylinder independent of the contact of the two cylinders, and grip means acting prior to the entry of the unprinted portion of the material between the cylinders and alternately with said feeding means to arrest the progress of the material.

2. In a printing-press, the combination with the form cylinder, of an impression cylinder, and variable and adjustable means for intermittently feeding a continuous strip of material between said cylinders, said feed means including a roller movable to and from one of said cylinders.



3. In a printing-press, the combination of continuously operating form and impression cylinders, of adjustable means operated by said cylinders for feeding material intermittently thereto, said adjustable means including a roller movable to and from the impression cylinder.

4. In a printing press, the combination with the form and impression cylinders, of means for operating them continuously, means including a roller movable to and from the impression cylinder for feeding material intermittently to said cylinder, and means for adjusting the feed of the material to the size of the brand and the desired border around the brand on the material to be printed.

5. In a printing-press, the combination with constantly rotating form and impression cylinders, of means operating in unison with the cylinders and including a roller movable to and from the impression cylinder to intermittently feed material thereto, and means including an expansible cam for varying the amount of this feed independent of the rotation of the cylinders.

6. In a printing-press, the combination with form and impression cylinders, of means including a roller movable to and from one of said cylinders and operating in unison therewith to feed material thereto, and means for varying the amount of feed independent of the speed of the cylinders.

7. In a printing-press, the combination with form and impression cylinders, of means operating in unison therewith to feed material intermittently thereto, and means for varying the amount of feed independent of the speed of the cylinders, said last named means including a circumferentially expansible cam.

8. In a printing press, the combination with form and impression cylinders between which a continuous strip of fabric is adapted to be passed, of means for operating the cylinders continuously, means engaging the entire width of the strip of fabric and independent of the contact of the form and impression cylinders to advance the strip step by step, and means for varying the length of feed of said strip.

9. In a printing-press, the combination with the form and impression cylinders, of a feed roller movable to and from the impression cylinder and contacting therewith periodically to advance material between the cylinders and means for varying the interval between the said periods of contact.

10. In a printing press, the combination with the form and impression cylinders, of a feed roller movable to and from the impression cylinder and contacting therewith periodically to advance material between the cylinders and means for varying the interval between the said periods of contact, said last named means comprising an expansible cam.

11. In a printing-press, the combination with the form and impression cylinders, of a feed roller, an oscillating support for said roller, said roller arranged to contact

with the impression cylinder to advance material between the two cylinders, and means for operating the said oscillating support and means for varying the point of contact and also the period of contact of said roller with the impression cylinder.

12. In a printing-press, the combination with the form and impression cylinders of a feed roller, an oscillating support for said roller, said roller arranged to contact with the impression cylinder to advance material between the two cylinders and means for operating the said oscillating support, said last named means including an expansible cam.

13. In a printing-press, the combination with the form and impression cylinders, of a feed roller, an oscillating support for said roller, said roller adjustably mounted on said oscillating support and arranged to contact with the impression cylinder to advance material between the two cylinders, means for operating the said oscillating support, said last named means including an expansible cam, and said oscillating support provided with means for guiding the material between the cylinders.

14. In a printing-press, the combination with the form and impression cylinders, of two rollers movable to and from the impression cylinder and on opposite sides of the form cylinder, and means operating conjunctively with the form cylinder to operate said rollers.

15. In a printing-press, the combination with the form and impression cylinders, of two rollers movable to and from the impression cylinder and on opposite sides of the form cylinder, and means operating conjunctively with the form cylinder to operate said rollers, said last-named means including a cam on the form cylinder shaft.

16. In a printing-press, the combination of a suitable frame, form and impression cylinders, an oscillating support journaled in said frame, a roller carried by said support and movable into contact with the impression cylinder to feed material between the cylinders, a second roller carried by said support and arranged contiguous to the impression cylinder and on the opposite side of the form cylinder to strip the printed material from the form, and means to oscillate said support.

17. In a printing-press, the combination of form and impression cylinders, a movable support, two rollers carried by said support and arranged on opposite sides of the form cylinder and movable into and out of contact with the impression cylinder, and means to operate said support.

18. In a printing-press, the combination of form and impression cylinders, a movable support, two rollers carried by said support and arranged on opposite sides of the form cylinder and movable into and out of contact with the impression cylinder, and means to operate said support, said last-named means including an expansible cam on the shaft of the form cylinder.

19. In a printing-press, the combination of form and impression cylinders, an oscillating support, a feed roller carried by said support and movable into and out of contact with the impression cylinder, a perforated bar carried by said support with pins fitting the perforations therein for guiding the material between the cylinders, and means operated conjunctively with the form cylinder for oscillating said support.

20. In a printing-press, the combination of form and impression cylinders, an oscillating support, a feed roller carried by said support and movable into and out of contact with the impression cylinder, a perforated bar carried by said support with pins fitting the perforations therein for guiding the material between the cylinders, and means operated conjunctively with the form cylinder for oscillating said support, and a stripping roller carried by said support and arranged proximate to the impression cylinder on the opposite side of the form cylinder.

21. In a printing-press, the combination of a form cylinder and its shaft, an impression cylinder, a feed roller, a movable support for said feed roller, an arm connected with said support, and a cam comprising a plurality of adjustable sectors on the form cylinder shaft engageable with said arm to operate said feed roller.

22. In a printing-press, the combination of a form cylinder and its shaft, an impression cylinder, a feed roller, a movable support for said feed roller, an arm connected with said support, and a cam on the form cylinder shaft engageable with said arm to operate said feed roller, and a stripping roller adjustably carried by said support and arranged on the opposite side of the impression cylinder.

23. In a printing-press, the combination of a form cylinder and its shaft, an impression cylinder, a feed roller, a movable support for said roller, a rock shaft on which said support is mounted, an arm on said rock-shaft, and an expansible cam on the form cylinder shaft engageable with said arm to operate the feed roller.

24. In a printing-press, the combination of a form cylinder and shaft, of an impression cylinder, a feed roller, a movable support for said roller, a rock shaft on which said support is mounted, an arm on said rock-shaft, and an expansible cam on the form cylinder shaft engageable with said arm to operate the feed roller, and a stripping roller pivotally and adjustably mounted on said feed roller support and arranged on the opposite side of the impression cylinder.

25. In a printing-press, the combination with form and impression cylinders of a feed roller arranged to contact with the impression cylinder, means for moving said roller to and from said cylinder synchronously with the revolution of the form cylinder, and a stripping roller on the other side of the impression cylinder movable in unison with said feed roller.

26. In a printing-press, the combination with the form and impression cylinders, of a feed roller, an oscillating support for said roller, said roller arranged to contact with the impression cylinder to advance material between the two cylinders, means for operating the said oscillating support, and a stripping roller adjustably connected with said support and movable in unison with the feed roller.

27. In a printing-press, the combination with form and impression cylinders of a feed roller arranged to contact with the impression cylinder, means for moving said roller to and from said cylinder synchronously with the revolution of the form cylinder, and grip mechanism operated alternately with the feed roller for checking the movement of the material.

28. In a printing-press, the combination with form and impression cylinders of a feed roller arranged to contact with the impression cylinder, means for moving said roller to and from said cylinder synchronously with the revolution of the form cylinder, grip mechanism operated alternately with the feed roller for checking the movement of the material, and means including an expansible cam for operating said feeding and gripping means.

29. In a web printing press, the combination with the form and impression cylinders, of a feed device movable to and from the impression cylinder and co-acting with said impression cylinder to grip the web between said device and said impression cylinder to feed the web positively to the cylinders and means including an expansible cam to operate said feed device.

30. In a web printing press, the combination with the form and impression cylinders, of a feed device movable to and from the impression cylinder and co-acting with said impression cylinder to grip the web between said device and said impression cylinder to feed the web positively to the cylinders, and means for varying the period of contact of said device with said impression cylinder to permit longer or shorter lengths of web to be fed to the cylinders.

31. The combination with form and impression cylinders, of a feed roller movable to and from one of said cylinders to feed material between said cylinders, and means alternating with the action of said feed roller to arrest the feed of the imprinted portion of the web to the cylinders.

32. In a web printing press, the combination with the form and impression cylinders, of a feed device movable to and from the impression cylinder and co-acting with said impression cylinder to grip the web between said device and said impression cylinder to feed the web positively to the cylinders, and intermittently actuated means operating

prior to the entry of the unprinted part of the web between the cylinders to arrest the feed of the web.

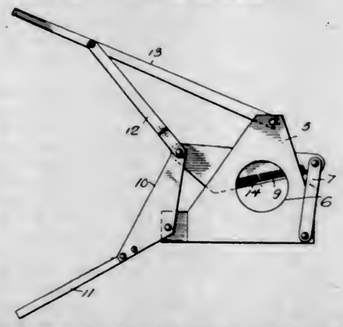
33. In a web printing press, the combination with the form and impression cylinders, and means to convey the web intermittently therebetween, of a gripping device acting on the web for positively checking the forward movement of the web between each imprinting operation said gripping device positioned to grip the web prior to its entry between the form and impression cylinders, and means to operate it alternately with said web conveying means.

34. The combination with a web printing press, and means for feeding the web intermittently, of a gripping device acting on the web alternately with the imprinting operations to arrest the movement of the web said gripping device comprising two coacting jaw members positioned to engage the web prior to its being imprinted,—one of said jaw members being yieldingly supported, and means to move the other jaw member towards and from the first.

35. The combination with a web printing press, and means for feeding the web intermittently, of a gripping device acting on the web alternately with the imprinting operations to arrest the movement of the web, and means including an expansible cam for operating said gripping device said gripping device comprising two coacting jaws, one of said jaws being yieldingly supported and the other mounted on a rockable support.

36. In a web printing press, the combination of form and impression cylinders, means for feeding a web intermittently, a gripping device acting on the web to arrest its movement, and an expansible cam on the shaft of one of said cylinders to operate said gripping device said gripping device comprising two coacting jaws, one of said jaws yieldingly supported and the other mounted on a rockable support.

867,779. DEHORNER. GUSTAV ANDERSON, Dunlap, Kans. Filed Jan. 29, 1907. Serial No. 354,707.



An implement of the class described comprising a pair of angular plates having registering openings therein arranged for the reception of the horn to be cut, a pair of arms pivoted to the plates, a blade pivoted at its forward end between the spaced upper ends of the said arms, said blade being extended between the plates and having its cutting edge disposed at an angle to its back, a pair of plates pivoted at the lower rear corners of the first mentioned plates, the rear end of the blade being pivoted between the said plates at their upper ends, a handle secured at one of its ends between the lower ends of the last mentioned plates, a handle pivoted at its forward end between the first mentioned plates and above the back of the blade, and links pivoted to the handle at their upper ends and to the rear end of the blade at their lower ends substantially as described.

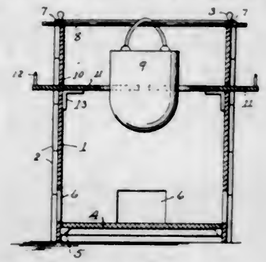
867,780. METAL-COATED SPIGOT. HENRY AUCHU, Emporium, Pa. Filed Feb. 21, 1907. Serial No. 358,556.

1. A spigot formed of vitrified material and provided with a metallic coating surrounding the outer surface thereof and extended longitudinally beyond the ends of the spigot to form a metallic prolongation thereof shaped to form a portion of a soft metal joint for an attaching portion.



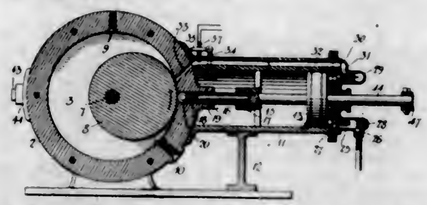
2. A spigot formed of vitrified material and provided with a metallic jacket inclosing the same and having an attaching portion extending beyond the ends of the spigot body and shaped to form a portion of a soft metal joint and provided with a shoulder to engage said ends.

867,781. MELTING-FURNACE. THOMAS D. BAUSHER, Reading, Pa. Filed Mar. 15, 1907. Serial No. 362,563.



In a knock down melting furnace, a rectangular body comprising four vertical walls each of which is formed with interlocking hinge members, pins for securing together said members, a removable floor, a door in each of said wall members in line with said floor, two oppositely disposed, horizontally sliding dampers, said dampers having their inner edges concaved and provided with handles at their outer ends, a movable supporting rod and a melting pot supported by said rod and depending below the line of said dampers.

867,782. REVOLVING-PISTON EXPLOSIVE-ENGINE. ADOLF BAYER, Brooklyn, N. Y. Filed Mar. 9, 1907. Serial No. 361,519.



1. In an explosive engine, the combination with an engine shaft, of a cylindrical revolving piston, a casing inclosing the said piston, a pump cylinder projecting radially from the said casing, a piston rod passing axially through the pump cylinder to the outside in one direction and into the said casing in the other direction, a pump piston secured to the said rod, a crosshead secured to the end of the said rod and movable by the rod into the said casing, and external devices operated by the engine shaft and arranged to act upon the said piston rod whereby the said crosshead is moved in correspondence with the said revolving piston, substantially as described.

2. In an explosive engine, the combination with an engine shaft, of a cylindrical revolving piston, a casing inclosing the said piston, a pump cylinder projecting radially

from the said casing, a piston rod passing axially through the pump cylinder to the outside in one direction and into the said casing in the other direction, a pump piston secured to the said rod, a crosshead secured to the end of the said rod and movable by the rod into the said casing, a spring and means constructed and arranged to advance the crosshead yieldingly against the said revolving piston, and external devices operated by the engine shaft and arranged to act upon the said piston rod whereby the said crosshead is moved in correspondence with the said revolving piston, substantially as described.

3. In an explosive engine, the combination with an engine shaft, of a cylindrical revolving piston, a casing inclosing the said piston, a pump cylinder projecting radially from the said casing, a piston rod passing axially through the pump cylinder to the outside in one direction and into the said casing in the other direction, a pump piston secured to the said rod, a crosshead secured to the end of the said rod and movable by the rod into the said casing, sliding side bars, bearings adapted to support the said bars movably, a cross-bar connecting the said bars and piston rod, and means operated by the said engine shaft and arranged to reciprocate the side bars and piston rod whereby the said crosshead is moved in correspondence with the said revolving piston, substantially as described.

4. In an explosive engine, the combination with an engine shaft, of a cylindrical revolving piston, a casing inclosing the said piston, a pump cylinder projecting radially from the said casing, a piston rod passing axially through the pump cylinder to the outside in one direction and into the said casing in the other direction, a pump piston secured to the said rod, a crosshead secured to the end of the said rod and movable by the rod into the said casing, a spring and means constructed and arranged to advance the said crosshead yieldingly against the said revolving piston, sliding side bars, bearings adapted to support the said bars movably, a cross-bar connecting the said bars and piston rod, and means operated by the said engine shaft and arranged to actuate the side bars and piston rod whereby the said crosshead is moved in correspondence with the said revolving piston, substantially as described.

5. In an explosive engine, the combination with an internally cylindrical casing, of a transverse engine shaft passing centrally through the casing, a cylindrical revolving piston eccentrically secured upon the engine shaft and arranged to sweep the interior of the casing, a crosshead provided with extensible devices, and means operated by the said engine shaft whereby the said crosshead is moved in the casing in correspondence with the said revolving piston, substantially as described.

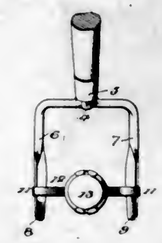
6. In an explosive engine, the combination with an internally cylindrical casing, of a transverse engine shaft passing centrally through the casing, a cylindrical revolving piston eccentrically secured upon the engine shaft and arranged to sweep the interior of the casing, a crosshead provided with extensible devices, a pump having a piston rod connected with the said crosshead, and means operated by the said engine shaft, whereby the said piston rod and crosshead are moved in correspondence with the movement of the revolving piston, substantially as described.

867,783. RAILWAY TORPEDO-PLACER. WALTER C. BECKWITH, Fostoria, Ohio. Filed Mar. 12, 1907. Serial No. 361,949.

1. A torpedo placer, comprising a member having two broad portions spaced a distance apart to straddle the rail and upon which the spring clip of the torpedo is held in its expanded position whereby the downward movement of the member causes the rail to engage the torpedo and place the same upon the rail.

2. A torpedo placer, comprising a forked member having broad portions adapted to straddle the rail and upon which the spring clip of the torpedo is held in its expanded position, whereby the downward movement of the member causes the rail to engage the torpedo and place it upon the rail.

3. A torpedo placer comprising a member having two broad curved portions adapted to straddle the rail and upon which the spring clip of the torpedo is held in its expanded position, whereby the downward movement of the member causes the rail to engage the torpedo and place it upon the rail.



4. A torpedo placer, comprising a member having elongated flat portions adapted to straddle the rail, and said flat portions having convexed outer faces upon which the clip of the torpedo is held in its expanded position.

5. A torpedo placer, comprising an elongated handle, and a forked member carried by each end of the handle and having broad curved portions adapted to hold the clip of the torpedo in its expanded position to be placed upon the rail.

6. A torpedo placer, comprising an elongated handle, and a forked member carried by each end of the handle and having a curved portion extending at an angle to the forks, and adapted to hold the clip of the torpedo in its expanded position to be placed upon the rail.

7. A torpedo placer, comprising a forked member adapted to straddle the rail and having a broad curved end extending at an angle thereto, and adapted to hold the torpedo by the clip and protect the same against engagement with the rail.

8. A torpedo placer, comprising a handle, a forked member carried thereby and parallel therewith, and the lower ends of said forked member turned at an angle and having broad curved outer faces over which the clip of the torpedo is held in its expanded position.

9. A torpedo placer, comprising a handle, a forked member carried thereby and parallel therewith, and the lower ends of said forked members turned at an angle and having a broad vertically-arranged portion over which the clip of the torpedo is held in its expanded position.

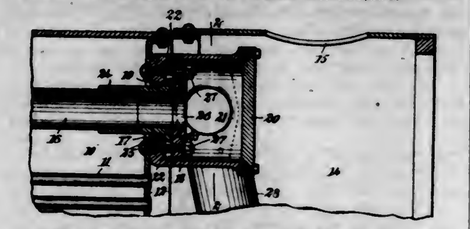
10. A torpedo placer, comprising a handle, a forked member carried thereby and parallel therewith, and the lower ends of said forked members turned at an angle and having a broad portion twisted at an angle to the forked member, and over which the clip of the torpedo is held in its expanded position.

11. A torpedo placer, comprising a handle, a forked member carried thereby and parallel therewith, and the lower ends of said forked member turned at an angle and having a broad portion twisted with their lower ends closer together and having convexed outer faces over which the clip of the torpedo is held in its expanded position.

12. A torpedo placer, comprising a handle, a forked member carried thereby and parallel therewith, and the lower ends of said forked members turned at an angle and having a broad curved portion twisted at an angle and over which the clip of the torpedo is held in its expanded position.

13. A torpedo placer, comprising a handle having a forked member carried thereby and parallel therewith, and the lower ends of said forked member turned at an angle and terminating in broad portions having their lower ends closer together than their upper ends, and having concaved inner faces and convexed outer faces over which the clip of the torpedo is held in its expanded position, whereby the downward movement of the member over the rail causes the same to engage the torpedo and places the same upon the rail.

867,784. T-PIPE. WILLIAM H. BELLMAINE, Pocatello, Idaho, assignor of one-half to George Stone, Pocatello, Idaho. Filed Apr. 3, 1906. Serial No. 309,696.



1. The combination with a boiler having a smoke box, flue sheet and dry steam pipe, of a case fastened to the flue sheet within the smoke box, a tube passing through the case and flue sheet and engaging the dry steam pipe, means located within the casing and engaging the end of the tube within the casing for fastening the tube in place, and a steam pipe communicating with the casing and located in the smoke box.

2. The combination with a boiler having a smoke box, flue sheet and dry steam pipe, of a case fastened to the flue sheet within the smoke box, a tube having one end passing through the rear end of the case and through the flue sheet and engaging the dry steam pipe, the other end of said tube extending within the casing, means located within the casing and engaging the said end of the tube for fastening the tube in place, and steam delivery pipes located in the fire box at the sides thereof and communicating with said casing.

3. The combination with a boiler having a smoke box, flue sheet and dry steam pipe, of a casing fastened to the flue sheet within the smoke box, a tube projecting through the casing and flue sheet, and engaging the dry steam pipe, said tube having within the casing an enlarged end engaging the walls thereof, a plate located within the casing and having a central opening registering with the tube, the said plate engaging the enlarged end of the tube, means for clamping the said plate against the enlarged end of the tube to force said end into engagement with the casing, for the purpose specified, and a steam pipe communicating with the casing.

4. The combination with a boiler having a smoke box, flue sheet and dry steam pipe, of a casing fastened to the flue sheet within the smoke box, a tube projecting through the casing and flue sheet and engaging the dry steam pipe, said tube having within the casing an enlarged end engaging the walls thereof, means located within the casing for forcing the enlarged end into engagement with the casing, for the purpose specified, and two steam delivery pipes located in the smoke box at the respective sides thereof and communicating with the opposite sides of the said casing.

5. The combination with a boiler having a smoke box, a flue sheet, and a dry steam pipe, of a casing fastened to the flue sheet within the smoke box, a sleeve extending through the casing and flue sheet and engaging the dry steam pipe, the sleeve having within the casing an enlarged end engaging the walls thereof, a collar engaging said end of the sleeve, means for clamping the collar against the sleeve, and a steam pipe in the smoke box and communicating with the casing.

6. The combination with a boiler having a smoke box, a flue sheet, and a dry steam pipe, of a casing fastened to the flue sheet within the smoke box, the casing having an opening the wall of which is beveled, a sleeve extending through the casing and flue sheet and engaging the dry steam pipe, the sleeve having within the casing an enlarged conical end engaging the beveled wall surrounding the opening in the casing, a collar engaging said end of the sleeve, means for clamping the collar against the sleeve, and two steam pipes located within the smoke box respectively at the sides thereof and communicating with opposite sides of the casing.

7. The combination with a boiler having a smoke box, a flue sheet, and a dry steam pipe, of a casing fastened to the flue sheet within the smoke box, a sleeve extending through the casing and flue sheet and engaging the dry steam pipe, the sleeve having within the casing an enlarged end engaging the walls thereof, a collar engaging said end of the sleeve, means for clamping the collar against the sleeve, a steam pipe in the smoke box and communicating with the casing, and a removable cover plate for the front end of the casing.

8. The combination with a boiler having a smoke box, flue sheet and dry steam pipe, of a case fastened to the flue sheet within the smoke box, a tube passing through the case and flue sheet and engaging the dry steam pipe, means for fastening the tube within the casing, a steam pipe communicating with the casing and located in the smoke box, and a removable cover plate for the front end of the case.

9. In a boiler, the combination with a smoke box, flue sheet, and dry steam pipe, of a casing fastened to the flue sheet within the smoke box, a tube for connecting the interior of the casing with the dry steam pipe, means located within the casing and removably secured to the same, for fastening the tube in place, a removable cover plate for the front side of the casing, and a steam pipe within the smoke box communicating with the casing.

10. In a boiler, the combination with a smoke box, flue sheet and dry steam pipe, of a casing secured to the flue sheet within the smoke box, a tube extending through the casing and flue sheet and communicating with the dry steam pipe, means for removably fastening the tube in place, a removable cover plate for the front end of the casing, and a steam pipe in the smoke box communicating with the casing.

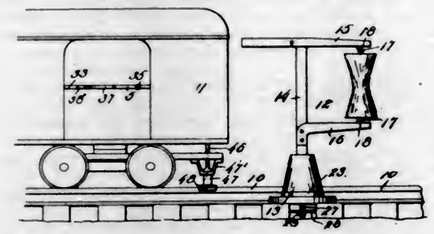
11. In a boiler, the combination with a smoke box, flue sheet and dry steam pipe, of a casing within the smoke box, a tube extending through the casing and flue sheet and connected with the dry steam pipe, the said tube having an enlarged end within the casing engaging the wall thereof, a collar within the casing engaging the enlarged end of said tube, fastening means engaging the flue plate, casing and collar for fastening the casing to the flue plate and clamping the said collar against the end of the tube, and a steam delivery pipe leading from the casing.

12. The combination with a boiler having a smoke box, a flue sheet provided with an opening, and a dry steam pipe, of a casing located within the smoke box and having an opening in its rear wall registering with the opening in the flue sheet, a tube extending through the openings in the casing and flue sheet and engaging the dry steam pipe, the said tube being provided with a conical enlargement at the end within the casing for engaging the wall of the casing, a collar engaging said end of the tube, fastening means for securing the casing to the flue sheet and clamping the collar against the tube, and steam delivery pipes located in the smoke box and communicating with said casing.

13. The combination with a boiler having a smoke box, a flue sheet provided with an opening, and a dry steam pipe, of a casing located within the smoke box and having an opening in its rear wall registering with the opening in the flue sheet, a tube extending through the openings in the casing and flue sheet and engaging the dry steam pipe, the tube having an enlarged end within the casing engaging the wall thereof around the said opening, a collar engaging the enlarged end of the tube and having a central opening registering with the opening in the tube, stud bolts for fastening the casing to the flue sheet, the said stud bolts extending through the said collar, nuts on the said bolts for clamping the collar against the tube, a steam pipe in the smoke box and communicating with the casing, and a removable cover plate for the front end of the casing.

14. The combination with a boiler having a smoke box, a flue sheet having an opening therein, and a dry steam pipe, of a casing within the smoke box and having an opening in its rear wall provided with a beveled edge, the said opening registering with the openings in the flue sheet, stud bolts for fastening the casing to the front of said flue sheet, the said bolts extending within the casing, a sleeve extending through the openings in the casing and flue sheet and fitting over the front end of the dry steam pipe, the said sleeve being provided with a conical enlargement at its front end within the casing, the said enlargement being adapted to bear against the beveled edge of the wall surrounding the opening in the casing, a collar located within the casing and engaging the conical end of the sleeve, the collar having a central opening registering with the opening in the sleeve, the said stud bolts extending through openings in the said collar, nuts on said bolts for clamping the collar against the front end of the sleeve and steam pipes in the smoke box and communicating with opposite sides of the casing.

867,785. MAIL-CRANE. DANIEL J. BERTHOLD, Braddock, Pa. Filed July 11, 1907. Serial No. 383,240.



1. In a mechanism of the class described, a crane comprising a rotatable post formed with bag supporting arms, a stand for said post, a plate carried by the lower end of said post, a spring for rotating said post, a movable latch member formed for engagement with said plate, a leaf spring, operative connections between said leaf spring and said latch member, for moving the latter from the former, and train operative means for moving said spring to disengage said latch member from said plate.

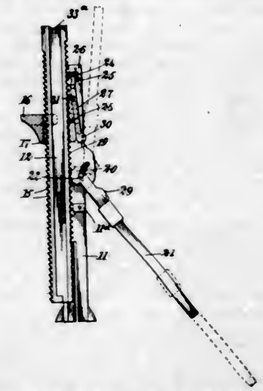
2. A mechanism of the class described, comprising the combination with a car and track rails, of a rotatable post mounted adjacent one of said track rails and carrying bag supporting arms, a spring engaged with said post to rotate the same, means for holding said post against rotation under the tension of said spring, a leaf spring mounted adjacent one of said rails, operative connections between said leaf spring and said means, a shaft mounted in the car, a bag catching arm carried by said shaft, a depressible rod, a shoe carried by said rod adapted to ride upon one of the track rails and to engage said leaf spring to move the same to disengage said holding means and operative connections between said shaft and said rod for lowering said rod upon movement of the shaft to throw said arm outwardly.

867,786. LIFTING-JACK. GLEN R. BOOTH, Chana, Ill. Filed July 5, 1907. Serial No. 382,378.

1. In a lifting jack, a slotted standard, a lifting-bar slidably mounted within the slot of said standard having rack-teeth formed at one side thereof, said lifting-bar being reduced in thickness on its longitudinal center, forming thickened heads at opposite sides, the edges of the inner head being dove-tailed adjacent to the reduced central portion of said lifting-bar, an operating lever having a toothed inner end adapted to engage the teeth of the lifting-bar and pivotally supported in inclined slots formed in the standard, and a pawl pivoted to said standard adapted to automatically engage the teeth of the lifting-bar and support the same as the bar is elevated.

2. In a lifting jack, a slotted standard, a lifting-bar slidably mounted in the slot of said standard, having rack-teeth at one side thereof, an operating lever having a toothed inner end adapted to engage the teeth of said lifting-bar, and a pawl engaging the teeth of said bar, having a depending tail provided with a braking-tooth adapted to be thrown into engagement with the teeth of the lifting-bar by the operating lever.

3. In a lifting jack, a base supporting a slotted standard, a lifting-bar slidably mounted in the slot of said standard, having rack-teeth formed at one side thereof, said lifting-bar being scalloped out at its upper end, an operating lever having a toothed inner end pivotally and slidably supported in inclined slots formed in said standard and adapted to engage the teeth of the lifting-bar, and a pawl normally engaged with the teeth of said bar, having a depending tail provided with a braking-tooth or projection on its inner face adapted to be thrown into engagement with the teeth of the lifting-bar by the operating lever.



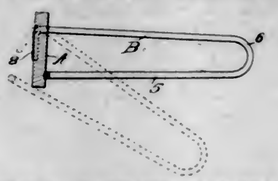
4. In a lifting jack, a lifting-bar having rack-teeth, an operating lever having a toothed inner end adapted to engage the teeth of the rack-bar, a pawl adapted to automatically engage the teeth of the lifting-bar and support the same as the bar is elevated by the operating lever, said pawl having a depending tail provided with a braking-tooth adapted to be thrown into engagement with the teeth of the lifting-bar for the purpose described.

5. In a lifting jack, a slotted standard, a lifting-bar slidably mounted within the slot of said standard, having rack-teeth formed at one side thereof, an operating lever having a toothed inner end adapted to engage the teeth of the lifting-bar, a pawl normally engaged with the teeth of said bar, having a depending tail provided with a braking-tooth adapted to be thrown into engagement with the teeth of the lifting-bar by the operating lever, and fingers projecting from the opposite sides of said pawl through slots formed in said standard for the purpose described.

6. In a lifting jack, a standard, a lifting-bar slidably mounted on the standard, having rack-teeth formed at one side thereof, an operating lever having a toothed inner end adapted to engage the teeth of the lifting-bar, a spring-pressed pawl normally engaged with the teeth of the lifting-bar, having a depending tail provided with a braking-tooth, and a lug formed on the operating lever adapted to engage the said tail of the pawl and force said braking-tooth into engagement with the teeth of the lifting-bar for the purpose described.

7. In a lifting jack, a standard, a lifting bar slidably mounted on the standard, having rack teeth formed at one side thereof, said lifting bar being reduced in thickness on its longitudinal center, forming thickened heads at opposite sides, the edges of the inner head being dove-tailed adjacent to the reduced central portion of said lifting-bar, an operating lever having a toothed inner end adapted to engage the teeth of the lifting-bar, a spring-pressed pawl normally engaged with the teeth of the lifting bar, having a depending tail provided with a braking-tooth, and a lug formed on the operating lever adapted to engage the said tail of the pawl and force said braking-tooth into engagement with the teeth of the lifting-bar for the purpose described.

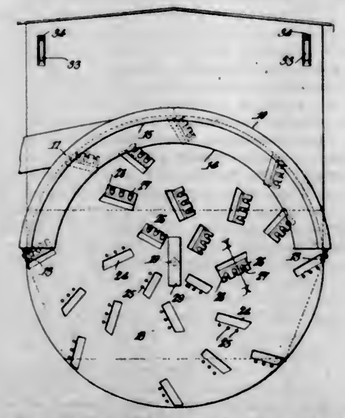
867,787. BROOM-HOLDER. TERRANCE BRENNAN, Coatesville, Pa. Filed Mar. 2, 1907. Serial No. 360,201.



1. In a device of the class described, a baseboard having a pair of apertures and provided in its rear side with approximately vertical and parallel recesses adjacent to said apertures; in combination with a detachable resilient broom gripping or engaging member detachably connected with the baseboard; said broom gripping member being formed of wire and comprising a horizontal loop, approximately vertical loops adjacent thereto and hooked terminals extended through and detachably engaging the apertures in the baseboard and accommodated in the recesses in the rear side of the latter; the arched portion of the horizontal loop abutting upon the front side of the baseboard intermediate the vertical loops.

2. A broom holder comprising, in combination, a baseboard and a broom engaging member detachably connected therewith, said baseboard being provided with apertures in the rear side thereof extending downward from said apertures, and said broom engaging-member comprising a U-shaped loop disposed in a horizontal plane with its arched portion abutting upon the front side of the baseboard, and approximately vertical loops formed upon the side members of the horizontal loop and having side members provided at their free ends with downturned extensions projecting through the apertures of the baseboard and retained detachably in the recesses in the rear side of the latter by the pressure of the horizontal U-shaped loop against the front side of the baseboard.

867,788. DREDGING-MACHINE. GEORGE M. BROWN, Tacoma, Wash. Filed Feb. 8, 1907. Serial No. 356,421.



1. In an apparatus of the character described, the combination with a floating structure, of a rotary cutter-head at one end of said structure, the diameter of said cutter-head being greater than the width or draft of the structure, and an adjustable hood supported above the cutter head.

2. In an apparatus of the character described, a cutter-head comprising a disk having an inturned peripheral portion, said disk being provided with concentric series of apertures, the apertures of each series projecting between the apertures of the next adjoining series, and a cutting blade detachably secured to the head adjacent each of said apertures.

3. In an apparatus of the character described, a cutter-head comprising a disk having a concentric series of apertures therein, the apertures of each series projecting between the apertures of the next adjoining series, each aperture being disposed at an angle to the radius of the disk, and a cutting blade adjacent each aperture.

4. In an apparatus of the character described, the combination with a cutting disk having a plurality of apertures therein, said apertures being arranged in concentric series and the apertures of each series projecting between the apertures of the next adjoining series; of a cutting blade secured to the head adjacent each aperture, and a central cutter having inturned ends secured to the head adjacent to the center thereof, said center cutter extending between the apertures of the inner series.

5. In an apparatus of the character described, the combination with a floating structure having a head at one end and a sheathing adjacent the head of the structure and overlapped by said sheathing, said cutter-head having a plurality of apertures, there being a cavity between the two heads, a hood adjustably mounted above the heads, an outlet spout extending therefrom, cutting blades upon the head adjacent the apertures, and means for directing the material from the cavity and through the spout.

6. In an apparatus of the character described the combination with a floating structure; of a rotary cutter head at one end of said structure, the diameter of said cutter head being equal to or greater than the width and draft of the structure, there being a continuous cavity between the head and the end of the structure, adjustable means upon the head for cutting material and directing it into the cavity, and revoluble means within the cavity for expelling said material therefrom.

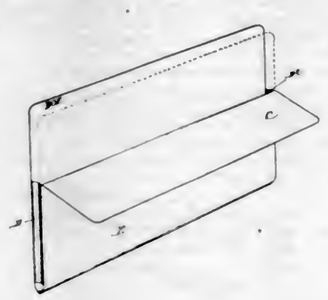
7. In an apparatus of the character described the combination with a floating structure; of a revoluble cutter head at one end thereof, the diameter of said head being equal to and greater than the width and draft of said structure, said head having concentric series of apertures, the apertures of each series projecting between the apertures of the next adjoining series, there being a continuous cavity between the cutter head and the end of the structure, said cavity having an outlet, and a cutting blade detachably secured to the cutter head adjacent each of said apertures.

8. In an apparatus of the character described the combination with a floating structure; of a revoluble cutter head at one end thereof, the diameter of said head being equal to or greater than the width and draft of said structure, said head having concentric series of apertures, the apertures of each series projecting between the apertures of the next adjoining series, there being a continuous cavity between the cutter head and the end of the structure, said cavity having an outlet, a cutting blade detachably secured to the cutter head adjacent each of said apertures, and revoluble means within the cavity for expelling material through the outlet.

9. In an apparatus of the character described the combination with a floating structure; of a rotary cutter head at one end of said structure having a plurality of apertures, a cutting blade detachably secured to the head adjacent each aperture, said blades being disposed to cut along intersecting paths, and a central cutter upon the head having end portions secured to the head adjacent the center thereof.

867,789. VERTICAL FILE-POCKET. ALVAH BUSHNELL, Jr., Philadelphia, Pa. Filed Jan. 30, 1906. Serial No. 298,597.

1. As a new article of manufacture, a file pocket consisting of a single piece of material so folded as to form a front and back portion, and a flap the vertical edges of the front and back sections being movably secured together by end strips, the edges of which strips are secured to the inner surface of said sections and covered by a lining pasted over the same and covering the inner surface of the front and back sections.



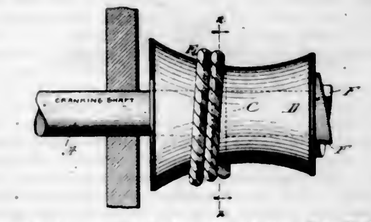
2. A vertical file pocket consisting of one piece of material bent upon itself so as to form a front and back portion, the front portion being scored or creased horizontally at a point between its upper and lower ends so that the upper portion of the front will form a movable flap, end strips extending from a point a little above the lower end of the pocket up to the point where the movable flap is hinged, the vertical edges of said end strips being bent inward and secured to the back and front portions, material secured to the front and back portions and covering these inturned edges of the end strips, as and for the purpose specified.

3. In a vertical file pocket, one piece of material folded upon itself so as to form a front and back portion, the front portion being scored or creased horizontally at a point between its upper and lower ends so that the upper part of the front portion will form a movable flap, end strips arranged at each end of the pocket to join the front and back portions together, said end strips extending from a point a little above the lower end of the pocket upward to the point where the movable flap is hinged, said end strips being scored or creased vertically so as to fold upon themselves to allow the pocket to expand or be collapsed, the vertical edges of said end strips being turned inward, one inturned edge of each strip being secured to the inside of the back, the other edge being secured to the inside of the front portion, a lining material covering the whole of the inside of the back portion and also the inturned edges of the strips, lining covering the whole of the inside of the front portion up to the point where the flap begins, and also covering the inturned edges of the strips upon this side, as specified.

4. In a vertical file pocket one piece of material bent upon itself to form a front and back portion, flaps formed of this same piece of material adapted to be bent inward and overlap one another when the strip is folded, the overlapping portions being secured together thus forming the ends of the pockets, said ends being scored or creased vertically so as to fold upon themselves, and a lining material lining the inside of the front and back portions, as specified.

5. In a vertical file pocket, one piece of material bent upon itself to form a front and back portion, the front portion being scored or creased horizontally at a point between its upper and lower ends so that the upper portion of the front will form a movable flap, end strips formed integral with either the front or back portion, said strips extending from a point a little above the lower end of the pockets up to the point where the movable flap begins, the vertical free edge of each of said strips being bent inward and secured to the inside of that portion of the pocket opposite to the portion which they are formed integral with, and a lining material secured to the inside of the front and back portions, said lining material covering the inturned edges of the end strips, as and for the purpose specified.

867,790. ATTACHMENT FOR AUTOMOBILES. HARRY J. CARR, Sumter, S. C. Filed July 2, 1907. Serial No. 381,859.



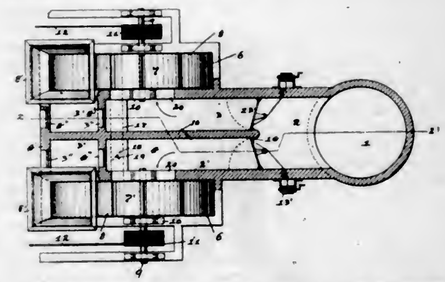
1. The automobile attachment herein described, comprising the drum for application to a cranking shaft, and having a longitudinal bore or opening to receive the said shaft, a transverse opening intersecting the said longitudinal bore or opening, and ratcheted at its outer end for engagement by a crank handle, substantially as set forth.

2. An automobile attachment comprising a drum for application to a cranking shaft, and adapted between its ends to receive a winding rope or cable and ratcheted at its end for engagement by a crank handle, substantially as set forth.

3. The combination with a cranking shaft of an automobile, of a drum held thereon and adapted to receive a winding rope or cable, and ratchet devices at the outer end of the drum for engagement by a crank handle, substantially as set forth.

4. An automobile having its crank shaft provided with a drum adapted to receive a rope or cable, and means at the outer end of the said drum for engagement by a crank handle for cranking the shaft, substantially as set forth.

867,791. SYSTEM FOR VENTILATING MINES, &c. GEORGE M. CAPELL, Passenham, England. Filed Nov. 21, 1906. Serial No. 344,454.



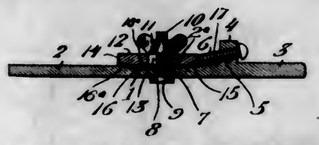
1. In a system for ventilating mines, etc., the combination of two air drifts leading from the mine, a fan connected to each of said drifts, and a main passage-way connected to and between said drifts for equalizing the pressure of the air within said drifts.

2. In a system for ventilating mines, etc., the combination of two air drifts leading from the mine, a fan connected to each of said drifts, and a valve controlled air passage-way connected to and between said drifts for equalizing the pressure of the air within said drifts.

3. In a system for ventilating mines, etc., the combination of two air drifts leading from the mine, a fan connected to each of said drifts, and an air passage-way connected to and between the casings of said fans for equalizing the pressure of the air within said casings.

4. In a system for ventilating mines, etc., the combination of two air drifts leading from the mine, an air passage-way connected to each of said drifts, and a valve controlled air passage-way connected to and between the casings of said fans for equalizing the pressure of the air within said casings.

867,792. SAW-SET. WILLIAM CARMER, Coudersport, Pa. Filed Aug. 8, 1906. Serial No. 329,783.

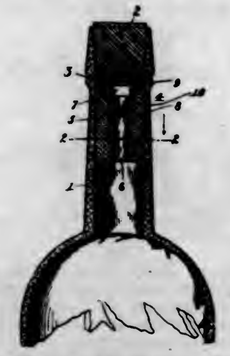


1. A saw-set comprising a body provided with a downwardly and rearwardly inclined setting recess, a die block provided in its end with a notch to receive the point of a tooth, said block being adjustable to set the notch above the recess at any point along the length thereof, means for securing the block in adjusted position, and means for tilting the block to progressively force its notched end downward in its rearward adjustment.

2. A saw-set comprising a body provided with a downwardly and rearwardly inclined setting recess, a block adjustable longitudinally of the recess and provided in one of its ends with a coacting notch to receive the point of a saw tooth, means for securing the block in adjusted position, an adjustable contact device for limiting the rearward movement of the block, and means for tilting the block to progressively force its notched end downward in its rearward adjustment.

3. A saw-set comprising a body provided with a downwardly and rearwardly inclined setting recess, a lug arranged in rear of said recess, and an upwardly inclined surface located adjacent said lug, a die block adjustable toward and from the lug and provided in its forward end with a notch to receive the point of a tooth, fastening means for securing the block in adjusted position, and a set screw supported by the lug and adapted to engage the rear end of the block.

867,793. BOTTLE-STOPPER AND STOPPERED BOTTLE. FRANK E. CLARK, New York, N. Y. Filed Nov. 5, 1906. Serial No. 341,962.

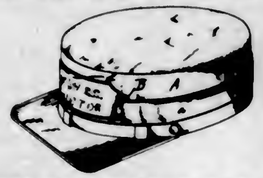


1. The herein-described bottle stopper, comprising a lengthwise perforated plug having in its outer end a valve-receiving chamber communicating with said lengthwise perforation; an easily destructible cover of meshed material for said chamber; and a valve freely movable in said chamber.

2. The herein-described bottle stopper, comprising a lengthwise perforated plug having in its outer end a valve-receiving chamber communicating with said lengthwise perforation; an easily destructible cover of meshed material for said chamber; a valve freely movable in said chamber; and a tubular lining for the lengthwise perforation in the plug.

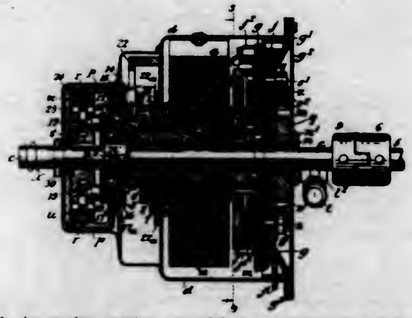
3. The combination of a bottle neck with a stopper mounted at its mouth, another stopper mounted in the lower part of the bottle neck and comprising a lengthwise perforated plug having in its upper end a valve-receiving chamber which communicates with said perforation; an easily destructible cover of meshed material for said chamber; a valve freely movable in said chamber; and a loose protecting disk between said cover and the stopper which is at the mouth of the bottle neck.

867,794. CHECK-HOLDER. WALTER R. CLARK, Glenwood, Minn. Filed Jan. 14, 1907. Serial No. 352,227.



A clip of the type set forth having its lower end bent to form a ledge, its upper end bent rearwardly upon itself, and a portion of the material at one side bent forwardly upon itself and including a fastening spur or tooth struck from its body portion.

867,795. AUTOMATIC ENGINE-STARTER. CLYDE J. COLEMAN, New York, N. Y., assignor to Conrad Hubert, New York, N. Y. Filed Feb. 26, 1906. Serial No. 303,130.



1. An engine starter comprising a power-storing device, an engine-actuating member normally connected to rotate with the engine, means for rotatably connecting the power-storing device and the engine-actuating member to start the engine, said means being constructed and operating to operatively engage the engine-actuating member only when the power-starting device tends to rotate faster than the engine and being movable out of engagement by the relative rotation of the engine-actuating member during the normal operation of the engine, and frictional means for holding said connecting means out of engagement until the starter is again thrown into operation to start the engine.

2. An engine starter comprising a power-storing device, an engine-actuating member normally connected to rotate with the engine, means for rotatably connecting the power-storing device with the engine-actuating member to start the engine, said means being constructed and operating to operatively engage the engine-actuating member only when the power-storing device tends to rotate faster than the engine and being movable out of engagement by the relative rotation of the engine-actuating member during the normal operation of the engine, and frictional means operating to hold said connecting means out of engagement during such normal operation and to throw the connecting means into operation when the starter is again thrown into operation to start the engine.

3. An engine-starter comprising a power-storing device, means for connecting the power-storing device and an engine to start the engine, such means including a pawl operated by the power-storing device and a ratchet normally connected with and operated by the engine, the pawl being movable out of engagement under the forward impulse of the engine, and means for frictionally holding the pawl out of engagement during the continued running of the engine.

4. An engine-starter comprising a power-storing device, means for connecting the power-storing device and an engine to start the engine, such means including a pawl operated by the power-storing device and a ratchet normally connected with and operated by the engine, and means for frictionally controlling the pawl so as to move it into engagement with the ratchet under the forward impulse of the power-storing device and to hold it out of engagement when it is pushed out of engagement by the forward impulse of the engine.

5. An engine-starter comprising a power-storing device, means for connecting the power-storing device and an engine to start the engine, such means including a pawl operated by the power-storing device and a ratchet normally connected with and operated by the engine, and a drag-plate frictionally controlling the pawl so as to move it into engagement with the ratchet under the forward impulse of the power-storing device and to hold it out of engagement when it is pushed out of engagement by the forward impulse of the engine.

6. An engine-starter comprising a power-storing device, means for connecting the power-storing device and an engine to start the engine, such means including a plurality of pawls connected to the power-storing device and a ratchet-wheel connected to the engine, and an annular drag-plate connected to all of the pawls and frictionally controlling the same so as to move them into engagement with the ratchet-wheel under the forward impulse of the power-storing device and to hold them out of engagement when they are pushed out of engagement by the forward impulse of the engine.

7. An engine-starter comprising a power-spring, a rotating part operatively connected therewith, a sleeve concentric with the spring-connected part, gearing connecting the spring-connected part and sleeve at one side of the spring, a part operatively connected with the engine, means for connecting the sleeve with the engine-connected part at the other side of the spring, to wind the spring and starting means for connecting the spring-connected part and the engine-connected part independently of the gearing.

8. An engine-starter comprising a power-spring, a rotating part operatively connected therewith, a lock-wheel and locking means controlling the same, the lock-wheel being connected with the spring-connected part so as to be engageable therewith in only one direction of movement, a sleeve concentric with the spring-connected part, gearing fulcrumed on the lock-wheel and connecting the spring-connected part and sleeve, a part operatively connected with the engine, means for connecting the sleeve with the engine-connected part to wind the spring, and starting means for connecting the lock-wheel and the engine-connected part independently of the gearing.

9. An engine-starter comprising a power-spring, a rotating part operatively connected therewith and having internal gear teeth, a lock-wheel and locking means controlling the same, the lock-wheel being connected with the spring-connected part so as to be engageable therewith in only one direction of movement, a sleeve concentric with the spring-connected part and having gear-teeth thereon, planetary gearing carried by the lock-wheel and meshing with the teeth upon the spring-connected part and sleeve, a part operatively connected with the engine means for connecting the sleeve with the engine-connected part, to wind the spring and means for connecting the lock-wheel and the engine-connected part to start the engine, comprising a ratchet-wheel on the engine-connected part and a pawl on the lock-wheel.

10. An engine-starter comprising a power-storing device, a part operatively connected therewith, a rotating part operatively connected with the engine, a centrifugal engaging device movable by centrifugal force into engaging position to connect the engine-connected part and power-storing device, a thrust-part having an inclined engagement with the power-storing-device-connected part, a non-rotative part movable by the power-storing device into operative position, an oscillating arm carried by the power-storing-device-connected part and coöperative with the non-rotative part and the pinion actuating the thrust-part, and releasing means for the centrifugal engaging device controlled by the thrust-part, and a yielding resilient connection between the arm and the centrifugal engaging device and operative to complete the releasing movement.

11. An engine-starter comprising a power-storing device, a part operatively connected therewith, a rotating part operatively connected with the engine, a centrifugal engaging device movable by centrifugal force into engaging position to connect the engine-connected part and power-storing device, a thrust-part having an inclined engagement with the power-storing-device-connected part, a non-rotative part movable by the power-storing device into operative position, an oscillating arm and pinion carried by the power-storing-device-connected part, the arm being coöperative with the non-rotative part and the pinion actuating the thrust-part, releasing means for the centrifugal engaging device controlled by the thrust-part, and a yielding resilient connection between the arm and pinion and operative to complete the releasing movement.

12. An engine-starter comprising a power-storing device, a part operatively connected therewith, a rotating part operatively connected with the engine, a centrifugal engaging device movable by centrifugal force into engaging position to connect the engine-connected part and power-storing device, a thrust-part having an inclined engagement with the power-storing-device-connected part, a non-rotative part movable by the power-storing device into operative position, an oscillating arm and pinion carried by the power-storing-device-connected part, a spring between the arm and pinion and stops permitting a limited relative movement of the arm and pinion, the arm being coöperative with the non-rotative part and the pinion actuating the thrust-part, and releasing means for the centrifugal engaging device controlled by the thrust-part.

13. An engine-starter comprising a power-storing device, a part operatively connected therewith, a rotating part operatively connected with the engine, a centrifugal engaging device movable by centrifugal force into engaging position to connect the engine-connected part and power-storing device, a thrust-part having an inclined engagement with the power-storing-device-connected part, a non-rotative cam-plate movable by the power-storing device into operative position, an oscillating arm carried by the power-storing-device-connected part, a cam-roller carried by the oscillating arm and coöperative with the cam-plate, yielding resilient means controlling the cam-roller in the direction of the axis of the cam-roller, and releasing means for the centrifugal engaging device controlled by the thrust-part.

14. An engine-starter comprising a power-storing device, a part operatively connected therewith, a rotating part operatively connected with the engine, a centrifugal engaging device movable by centrifugal force into engaging position to connect the engine-connected part and power-storing device, a thrust-part having an inclined engagement with the power-storing-device-connected part, a non-rotative cam-plate movable by the power-storing device into operative position, an oscillating arm carried by the power-storing-device-connected part, a cam-roller carried by the oscillating arm and coöperative with the cam-plate, a spring controlling the cam-roller in the direction of the axis of the cam-roller, the cam-plate and cam-roller having a flange and groove engagement, and releasing means for the centrifugal engaging device controlled by the thrust-part.

15. An engine-starter comprising a power-storing device, a part operatively connected therewith, a rotating part operatively connected with the engine, a centrifugal engaging device movable by centrifugal force into engaging position to connect the engine-connected part and power-storing device, a thrust-part carried by the power-storing-device-connected part, means controlled by the power-storing device for actuating the thrust-part, and a releasing pin carried by the engine-connected part; the thrust-

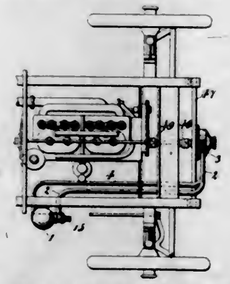
part and releasing pin having an annularly grooved engagement so that the releasing pin is orbitally movable relatively to the thrust-part but is controlled thereby in its engaging and releasing movements.

16. An engine-starter comprising a power-storing device, a part operatively connected therewith, a rotating part operatively connected with the engine, a centrifugal pawl carried by the engine-connected part, a projection on the power-storing-device-connected part engageable by the centrifugal pawl, a thrust-part carried by the power-storing-device-connected part, means controlled by the power-storing device for actuating the thrust-part, and a releasing pin carried by the engine-connected part and having an inclined face coöperative with the centrifugal pawl, the thrust-part and releasing pin having an annularly grooved engagement so that the releasing pin is orbitally movable relatively to the thrust-part but is controlled thereby in its engaging and releasing movements.

17. An engine-starter comprising a shaft rotatively connected with the engine, an inner sleeve thereon, an outer sleeve on the inner sleeve, a power-spring carried by the outer sleeve, gearing connecting the outer sleeve and inner sleeve at one side of the spring, and a combined shaft-operating and winding crank engageable either with the inner sleeve to wind the power-spring or with the shaft to turn the engine, and engageable therewith from the side of the spring opposite to that at which the gearing is located.

18. An engine-starter comprising a power-storing device, a part operatively connected therewith, a shaft rotatively connected with the engine, and a combined shaft-operating and winding crank having a hub engageable with the power-storing-device-connected part to store power in the power-storing device and having an inner sleeve movable relatively to the hub and engageable with the engine-connected shaft to turn the engine, and means for holding either the hub or sleeve in position for engagement.

867,796. ENGINE-STARTER. CLYDE J. COLEMAN, New York, N. Y., assignor to Conrad Hubert, New York, N. Y. Filed Nov. 12, 1906. Serial No. 342,999.



1. In a starter for engines, the combination of a hydraulic motor, means engageable only in one direction of movement for connecting the motor to the engine to start the engine, a source of motive liquid under pressure connected to the motor, and means for returning the used motive liquid to its source.

2. In a starter for engines, the combination of a hydraulic motor, means engageable only in one direction of movement for connecting the motor to the engine to start the engine, a source of motive liquid under pressure connected to the motor, means for starting and stopping the motor, and means for returning the used motive liquid to its source.

3. In a starter for engines, the combination of a hydraulic motor, means engageable only in one direction of movement for connecting the motor to the engine to start the engine, a source of hydraulic pressure connected to the motor, manually operatable means for controlling the engine-starting operation of the motor, and means automatically operated by the engine for continuously returning the used motive liquid to its source during the operation of the engine.

4. In a starter for engines, the combination of a pressure reservoir, a hydraulic motor connected to receive motive liquid from the reservoir and operatively connected to the engine shaft, manually operatable means for controlling the engine-starting operation of the motor, a receiver into which the motor discharges, and means for returning the liquid to the reservoir at a relatively constant and less rate than it is discharged by the motor during the engine starting operation.

5. In a starter for engines, the combination of a pressure reservoir, a hydraulic motor connected to receive motive liquid from the reservoir, means engageable only in one direction of movement for connecting the motor to the engine to start the engine, manually operatable means for controlling the engine-starting operation of the motor, a receiver into which the motor discharges, and an automatically operating pump for returning the liquid to the reservoir.

6. In a starter for engines, the combination of a pressure reservoir, a hydraulic motor connected to receive motive liquid from the reservoir, means engageable only in one direction of movement for connecting the motor to the engine to start the engine, manually operatable means for controlling the engine-starting operation of the motor, a receiver into which the motor discharges, and a continuously-acting pump for returning the liquid to the reservoir.

7. In a starter for engines, the combination of a pressure reservoir containing a motive liquid under pressure, a hydraulic motor connected to receive motive liquid from the reservoir, means engageable only in one direction of movement for connecting the motor to the engine to start the engine, manually operatable means for controlling the engine-starting operation of the motor, a receiver for the exhaust liquid from the motor, and a pump operated by a moving part of the engine for returning the liquid to the reservoir.

8. In a starter for engines, the combination of a pressure reservoir containing a motive liquid and also containing an elastic fluid under minimum pressure greater than atmospheric pressure, means for preventing the escape of the elastic fluid, a hydraulic motor connected to receive liquid from the reservoir and operatively connected to the engine shaft, manually operatable means for controlling the engine-starting operation of the motor, a receiver for the exhaust liquid from the motor, and automatically operated means for returning the liquid to the reservoir at a less rate than it is used by the motor in operation.

9. In a starter for engines, the combination of a pressure reservoir containing a motive liquid and also containing an elastic fluid under minimum pressure greater than atmospheric pressure, means for preventing the escape of the elastic fluid, a hydraulic motor connected to receive liquid from the reservoir and operatively connected to the engine shaft, manually operatable means for controlling the engine-starting operation of the motor, a receiver for the exhaust liquid from the motor, and a pump operated by a moving part of the engine for returning the liquid to the reservoir.

10. In a starter for engines, the combination of a pressure reservoir containing a motive liquid under elastic fluid pressure, a hydraulic motor connected to receive liquid from the reservoir and operatively connected to the engine shaft, manually operatable means for controlling the engine-starting operation of the motor, a receiver for the exhaust liquid from the motor, a pump operated by a moving part of the engine for returning the liquid to the reservoir, and automatic means for sealing the reservoir against escape of all of the liquid therefrom, whereby the retained liquid prevents the elastic fluid from escaping from the reservoir.

11. In a starter for engines, the combination of a pressure reservoir containing a motive liquid under elastic fluid pressure, a hydraulic motor connected to receive liquid from the reservoir and operatively connected to the engine shaft, manually operatable means for controlling the engine-starting operation of the motor, a receiver for the exhaust liquid from the motor, a pump, operated by a moving part of the engine, for returning the liquid to the reservoir, and means by which the engine shaft and the motor are automatically operatively disconnected from each other when the engine outspeeds the motor.

12. In a starter for engines, the combination of a pressure reservoir containing a motive liquid under elastic fluid pressure, a hydraulic motor connected to receive liquid from the reservoir, means engageable only in one direction of movement for connecting the motor to the engine to start the engine, manually operatable means for controlling the engine-starting operation of the motor, a receiver for the exhaust liquid from the motor, and a pump operated by a moving part of the engine for returning the liquid to the reservoir.

13. In a starter for engines, the combination of a pressure reservoir containing a motive liquid under elastic fluid pressure, a hydraulic motor connected to receive liquid from the reservoir and operatively connected to the engine shaft, manually operatable means for controlling the engine-starting operation of the motor, a receiver for the exhaust liquid from the motor, a pump operated by a moving part of the engine for returning the liquid to the reservoir, means for forcing elastic fluid under pressure into the pressure reservoir, and a safety blow-off valve for the elastic fluid in the reservoir.

14. In a starter for engines, the combination of a pressure reservoir containing a motive liquid under elastic fluid pressure, a hydraulic motor connected to receive liquid from the reservoir and operatively connected to the engine shaft, manually operatable means for controlling the engine-starting operation of the motor, a receiver for the exhaust liquid from the motor, a pump operated by a moving part of the engine for returning the liquid to the reservoir, the pump having a liquid outlet connected to the reservoir, and means for introducing elastic fluid into said outlet, whereby the elastic fluid is forced with the liquid into the pressure reservoir.

15. In a starter for engines, the combination of a pressure reservoir containing a motive liquid under air pressure, a hydraulic motor connected to receive liquid from the reservoir and operatively connected to the engine shaft, manually operatable means for controlling the engine-starting operation of the motor, a receiver for the exhaust liquid from the motor, a pump operated by a moving part of the engine for returning the liquid to the reservoir, the pump having a liquid outlet connected to the reservoir, an upwardly opening delivery valve in said outlet, an air-inlet valve beneath the delivery valve, and means, operated by a moving part of the pump, for holding the air-inlet valve open during the last portion of the suction stroke of the plunger.

16. In a starter for engines, the combination of a pressure reservoir containing a motive liquid under elastic fluid pressure, a hydraulic motor connected to receive liquid from the reservoir and operatively connected to the engine shaft, manually operatable means for controlling the engine-starting operation of the motor, a receiver for the exhaust liquid from the motor, a pump operated by a moving part of the engine for returning the liquid to the reservoir, and means for voiding the pump of air without permitting liquid to escape through said means.

17. In a starter for engines, the combination of a pressure reservoir containing a motive liquid under elastic fluid pressure, a hydraulic motor connected to receive liquid from the reservoir and operatively connected to the engine shaft, manually operatable means for controlling the engine-starting operation of the motor, a receiver for the exhaust liquid from the motor, a pump operated by a moving part of the engine for returning the liquid to the reservoir, the pump comprising a cylinder and a plunger therein, the pump having an air escape opening leading from the interior to the exterior of the cylinder, a valve permitting the passage of air from the cylinder outward through said opening and preventing such passage of liquid, and a check valve to prevent air from flowing into the cylinder through said opening, whereby when the pump becomes filled with air the air will be voided without permitting the escape of the liquid.

18. In a starter for engines, the combination of a pressure reservoir, a hydraulic motor connected to receive motive liquid from the reservoir and operatively connected to the engine shaft, manually operatable means for controlling the engine-starting operation of the motor, a receiver into which the motor discharges, and a pump for returning the liquid into the reservoir, the pump having a ratchet connection with the engine shaft, whereby the pump may be operated independently of the operation of the engine.

19. In a starter for engines, the combination of a pressure reservoir, a hydraulic motor connected to receive motive liquid from the reservoir and operatively connected to the engine shaft, manually operatable means for controlling the engine-starting operation of the motor, a receiver into which the motor discharges, a pump for returning the liquid into the reservoir, the pump having a ratchet connection with the engine shaft, whereby the pump may be operated independently of the operation of the engine, and a crank adapted to be severally operatively connected to the pump and to the engine.

20. In a starter for engines, the combination of a pressure reservoir containing a motive liquid and an elastic fluid under a minimum pressure greater than atmospheric, a hydraulic motor connected to receive the liquid from the reservoir and operatively connected to the engine shaft, means for manually controlling the engine starting operation of the motor, a receiver for the exhaust liquid from the motor and automatically operating means for returning the motive liquid from the receiver to the reservoir.

21. In a starter for engines, the combination of a pressure reservoir containing a motive liquid under elastic fluid pressure, a hydraulic motor connected to receive liquid from the reservoir, a directional clutch connecting the motor to the engine shaft, means for starting and stopping the motor, a receiver for the exhaust liquid from the motor, and a pump, operated by a moving part of the engine, for returning the liquid from the receiver to the reservoir and for forcing elastic fluid into the reservoir.

22. In a starter for engines, the combination of a pressure reservoir containing a liquid and an elastic fluid under minimum pressure above atmospheric, a hydraulic motor connected to receive motive liquid from the reservoir, a directional clutch for connecting the motor and the engine shaft, a receiver for the exhaust liquid from the motor, a pump, operated by a moving part of the engine, for returning the liquid from the receiver to the reservoir, and means for maintaining the elastic fluid in the reservoir within substantially constant limits of pressure above atmospheric pressure at the minimum and sufficient for the engine starting operation.

23. In a starter for engines, the combination of a pressure reservoir containing a liquid and an elastic fluid under minimum pressure above atmospheric, the reservoir having an outlet for the liquid, means for preventing the elastic fluid from escaping through the liquid-outlet, a hydraulic motor connected to receive motive liquid from the liquid-outlet of the reservoir, a directional clutch for connecting the motor and the engine shaft, a receiver for the exhaust liquid from the motor, a pump, operated by a moving part of the engine, for returning the liquid from the receiver to the reservoir, means for maintaining the elastic fluid in the reservoir within substantially constant limits of pressure, means for automatically priming the pump with liquid, and means for operating the pump independently of the operation of the engine shaft.

24. An engine starter comprising a hydraulic power-storing device, means for connecting the power-storing device with an engine to start the engine, and means continuously operated by the engine to store power in the power-storing device at a less rate than power is used in starting the engine.

25. In a starter for engines, the combination of a pressure reservoir, a hydraulic motor connected to receive motive liquid from the reservoir and operatively connected to the engine shaft, manually operatable means for controlling the engine-starting operation of the motor,

a receiver into which the motor discharges, and means for automatically taking the exhaust liquid from the receiver at a less rate than it is discharged thereinto by the motor during an engine starting operation and returning the liquid into the pressure reservoir.

26. In a starter for engines, the combination of a pressure reservoir containing a motive liquid and also containing an elastic fluid under minimum pressure greater than atmospheric pressure, means for preventing the escape of the elastic fluid, a hydraulic motor connected to receive liquid from the reservoir and operatively connected to the engine shaft, manually operatable means for controlling the engine-starting operation of the motor, a receiver for the exhaust liquid for the motor, and means for automatically taking the exhaust liquid from the receiver at a less rate than it is discharged thereinto by the motor during an engine starting operation and returning the liquid into the pressure reservoir.

27. In an engine starter, the combination of a pressure reservoir containing a motive liquid and also containing an elastic fluid under minimum pressure sufficiently above atmospheric pressure for the engine starting operation, a hydraulic motor connected to receive motive liquid from the reservoir and operatively connected to the engine to start the engine, and means for preventing the pressure of the elastic fluid from being reduced below the minimum.

28. In an engine starter, the combination of a pressure reservoir containing a motive liquid and also containing an elastic fluid under minimum pressure sufficiently above atmospheric pressure for the engine starting operation, a hydraulic motor connected to receive motive liquid from the reservoir and operatively connected to the engine to start the engine, means for returning the used motive liquid to the reservoir, and means for preventing the pressure of the elastic fluid from being reduced below the minimum.

29. In an engine starter, the combination of a pressure reservoir containing a motive liquid and also containing an elastic fluid under minimum pressure above atmospheric pressure, a hydraulic motor connected to receive motive liquid from the reservoir and operatively connected to the engine to start the engine, and means assuring the retention of a liquid seal within the reservoir to prevent the escape of the elastic fluid therefrom.

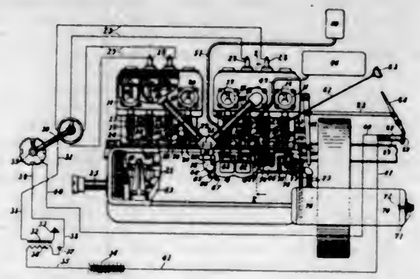
30. An engine starter comprising a reservoir containing liquid under pressure, means for using the liquid to start the engine, and means continuously operated by the engine for returning the used liquid to the reservoir at a less rate than such liquid is used in starting the engine.

31. In a starter for engines, the combination of a pressure reservoir containing a liquid and an elastic fluid under minimum pressure above atmospheric pressure, a hydraulic motor connected to receive motive liquid from the reservoir, a directional clutch for connecting the motor and the engine shaft, a receiver for the exhaust liquid from the motor, a pump, operated by a moving part of the engine, for returning the liquid from the receiver to the reservoir, means for forcing elastic fluid under pressure into the pressure reservoir, means for preventing the pressure in the pressure reservoir from rising above a predetermined maximum, and means for preventing the pressure in the pressure reservoir from being reduced to that of the atmosphere.

867,797. ENGINE-STARTER. CLYDE J. COLEMAN, New York, N. Y., assignor to Conrad Hubert, New York, N. Y. Filed Mar. 13, 1907. Serial No. 362,102.

1. In an engine starter for multiple-cylinder internal combustion engines, the combination of a carbureter, fluid-carrying connections from the outlet of the carbureter to the inlets of the respective cylinders, manually actuatable means for concurrently opening an outlet from each cylinder, an atmospheric air inlet for the carbureter, means for closing the atmospheric air inlet, a source of compressed air communicating with the carbureter, and a manually actuatable valve in control of such communication.

2. In an engine starter for multiple cylinder internal combustion engines, the combination of a carbureter, fluid-carrying connections from the outlet of the carbureter to the inlets of the respective cylinders, the cylinders having outlets, a source of compressed air communicating with the carbureter, manually actuatable means for concurrently opening the cylinder outlets and such communication, an atmospheric air inlet for the carbureter, and means for sealing such inlet when the above named communication is open.



3. In an engine starter for multiple cylinder internal combustion engines, the combination of a carbureter, fluid-carrying connections from the outlet of the carbureter to the inlets of the respective cylinders, outlet-valves for the cylinders, a source of compressed air communicating with the carbureter, an air-controlling valve in control of such communication, manually actuatable means for concurrently opening all of the cylinder outlet valves and the air-controlling valve, an atmospheric air inlet for the carbureter, and means for preventing the escape of compressed air through such inlet.

4. In an engine starter for multiple-cylinder internal combustion engines, the combination of a carbureter, fluid-carrying connections from the outlet of the carbureter to the inlets of the respective cylinders, manually actuatable means for concurrently opening an outlet from each cylinder, an atmospheric air inlet for the carbureter, means for closing the atmospheric air inlet, a source of compressed air communicating with the carbureter, a manually actuatable valve in control of such communication, an ignition circuit for the engine, and means for preventing the operation of such circuit when the air-controlling valve is open and restoring such circuit to operative condition after such valve has closed.

5. In an engine starter for multiple-cylinder internal combustion engines, the combination of a carbureter, fluid-carrying connections from the outlet of the carbureter to the inlets of the respective cylinders, the cylinders having outlets, a source of compressed air communicating with the carbureter, manually actuatable means for concurrently opening the cylinder outlets and such communication, an atmospheric air inlet for the carbureter, means for sealing such inlet when the above named communication is open, an ignition circuit for the engine, and means for preventing the operation of such circuit when all of the cylinder outlets and the above named communication are open.

6. In an engine starter for multiple-cylinder internal combustion engines, the combination of a carbureter, fluid-carrying connections from the outlet of the carbureter to the inlets of the respective cylinders, outlet-valves for the cylinders, a source of compressed air communicating with the carbureter, an air-controlling valve in control of such communication, manually actuatable means for concurrently opening all of the cylinder outlet valves and the air-controlling valve, an atmospheric air inlet for the carbureter, means for preventing the escape of compressed air through such inlet, an ignition circuit for the engine, and means for preventing the operation of such circuit when the air-controlling valve and the cylinder outlet valves are open.

7. In an engine starter for multiple-cylinder internal combustion engines, the combination of a carbureter, fluid-carrying connections from the outlet of the carbureter to the inlets of the respective cylinders, a source of compressed air communicating with the carbureter, an air-controlling valve in control of such communication, manually controllable means for concurrently opening the air-controlling valve and also all of the inlet and exhaust valves of the engine cylinders, an atmospheric air inlet for the carbureter, and means for preventing the escape of compressed air through such inlet.

8. In an engine starter for multiple-cylinder internal combustion engines, the combination of a carbureter, fluid-carrying connections from the outlet of the carbureter to the inlets of the respective cylinders, a source of compressed air communicating with the carbureter, an air-controlling valve in control of such communication, manually controllable means for concurrently opening and holding open the air-controlling valve and also all of the inlet and exhaust valves of the engine cylinders, an atmospheric air inlet for the carbureter, means for preventing the escape of compressed air through such inlet, an ignition circuit for the engine, and means preventing the operation of such circuit when the air-controlling valve and the inlet and exhaust valves are held open.

9. In an engine starter for multiple-cylinder internal combustion engines, the combination of a source of liquid fuel, vaporizing means for the fuel communicating with the inlets of the respective cylinders, a source of compressed air communicating with the vaporizing means, an air-controlling valve and also all of the inlet and exhaust manually controllable means for concurrently opening the air-controlling valve and also all of the inlet and exhaust valves of the engine cylinders, means preventing the escape of the compressed air to the atmosphere before it has passed through the vaporizing means, another source of liquid fuel, vaporizing means for this last named source also communicating with the inlets of the respective cylinders, and manually controllable means for conjointly controlling the vaporizing means so that when one such means is in use the other is not in use.

10. In an engine starter for multiple-cylinder internal combustion engines, the combination of a source of liquid fuel, vaporizing means for the fuel communicating with the inlets of the respective cylinders, a source of compressed air communicating with the vaporizing means, an air-controlling valve in control of such communication, manually controllable means for concurrently opening the air-controlling valve and also all of the inlet and exhaust valves of the engine cylinders, an atmospheric air inlet for the vaporizing means, means for preventing the escape of compressed air through such inlet, another source of liquid fuel, vaporizing means for this last named source also communicating with the inlets of the respective cylinders, and manually controllable means for conjointly controlling the vaporizing means so that when one such means is in use the other is not in use.

11. In an engine starter for multiple-cylinder internal combustion engines, the combination of a source of liquid fuel, vaporizing means for the fuel communicating with the inlets of the respective cylinders, outlet valves for the cylinders, a source of compressed air communicating with the vaporizing means, an air-controlling valve in control of such communication, manually actuatable means for opening all of the cylinder outlet valves and the air-controlling valve concurrently, an atmospheric air inlet for the vaporizing means, means for preventing the escape of compressed air through such inlet, another source of liquid fuel, vaporizing means for this last named source also communicating with the inlets of the respective cylinders, and manually controllable means for conjointly controlling the vaporizing means so that when one such means is in use the other is not in use.

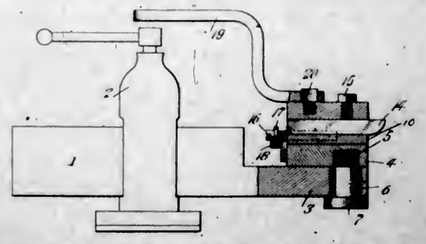
12. In an engine starter for multiple-cylinder internal combustion engines, the combination of a carbureter, fluid-carrying connections from the outlet of the carbureter to the inlets of the respective cylinders, a source of compressed air communicating with the carbureter, an air-controlling valve in control of such communication, manually controllable means for concurrently opening the air-controlling valve and also all of the inlet and exhaust valves of the engine cylinders, an atmospheric air inlet for the carbureter, means for preventing the escape of compressed air through such inlet, a plurality of sources of liquid fuel, and manually controllable means for connecting different sources of fuel with the carbureter.

13. In an engine starter for multiple-cylinder internal combustion engines, the combination of a carbureter, fluid-carrying connections fro: the outlet of the carbureter to the inlets of the respective cylinders, a source of compressed air communicating with the carbureter, an air-controlling valve in control of such communication, manually controllable means for concurrently opening the air-controlling valve and also all of the inlet and exhaust valves of the engine cylinders, an atmospheric air inlet for the carbureter, means for preventing the escape of compressed air through such inlet, a plurality of sources of liquid fuel each having communication with the carbureter, and a manually actuatable fuel-valve in control of such communications and adapted to connect different sources of fuel with the carbureter when in different positions.

14. In an engine starter for multiple-cylinder internal combustion engines, the combination of a carbureter, fluid-carrying connections from the outlet of the carbureter to the inlets of the respective cylinders, a plurality of sources of liquid fuel each having communication with the carbureter, a fuel-valve in control of such communications and adapted to connect different sources of fuel with the carbureter when in different positions, a source of compressed air communicating with the carbureter, an air-controlling valve in control of such communication, manually controllable means for concurrently opening the air-controlling valve and all of the inlet and exhaust valves and also adapted to shift the fuel-valve to a certain position should such valve not already occupy that position, an atmospheric air inlet for the carbureter, and means for preventing the escape of compressed air through such inlet.

15. In an engine starter for multiple-cylinder internal combustion engines, the combination of a carbureter, fluid-carrying connections from the outlet of the carbureter to the inlets of the respective cylinders, two sources of liquid fuel each having communication with the carbureter, a fuel-valve common to both communications and adapted when moved to one of its positions to open one of such communications and close the other and when moved to another position to open the other communication and close the first named, a source of compressed air communicating with the carbureter, an air-controlling valve in control of such communication, and manually controllable means for concurrently opening the air-controlling valve and all of the inlet and exhaust valves and also adapted to move the fuel-valve to a certain one of its positions and to prevent the return of the fuel-valve to its original position until the restoring of the manually controllable means to its original position also.

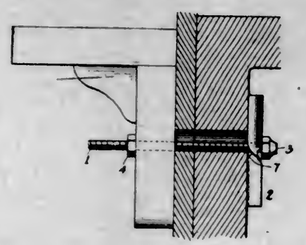
867,798. LATHE-TOOL. WILLIAM COLLINS, West Philadelphia, Pa. Filed May 19, 1906. Serial No. 317,835.



In a lathe tool, the combination with a holder adapted to be secured to a lathe carriage, of a base rotatably mounted thereon, a pivot screw passing through the holder and having a head engaging the under side thereof and screw threaded into the under side of the base, means whereby a cutting bit may be mounted on the base, and

means whereby a handle may be secured so as to enable the base with the cutting bit thereon to be rotated during the operation of turning, substantially as specified.

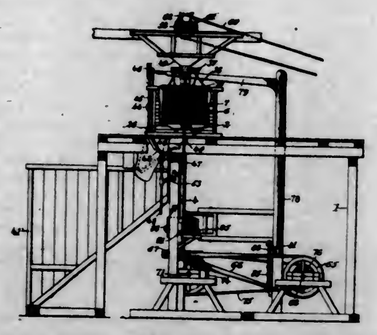
867,799. TOGGLE-BOLT. JOHN H. COOK, New York, N. Y. Filed Mar. 28, 1907. Serial No. 365,130.



1. A toggle bolt comprising a stem and a bar having an opening through which the stem extends, and oppositely-facing longitudinal channels communicating with said opening, said opening adapting the said bar to be turned angularly with respect to said stem and coacting with said channels to adapt said bar to be turned parallel and to lie in a common plane with said stem, for the purposes set forth.

2. In combination with a toggle bolt, a holding pin having arms to be disposed astride of said bolt, one of said arms having an offset to engage one side of the said bolt and lie in the screw-threads thereof, for the purposes set forth.

867,800. CENTRIFUGAL SEPARATOR. RAMÓN F. COÉDERO, Rubio-Tachira, Venezuela. Filed July 16, 1906. Serial No. 326,357.



1. In a centrifugal separator, two perforated casings arranged one within the other and spaced apart to form a chamber between the same, for the material to be treated, means for rotating the said casings, swinging doors for forming the bottom of said spaces, and means for closing said doors by the rotation of the casings.

2. A centrifugal separator, comprising two perforated casings arranged one inward of the other, and spaced apart to form a chamber between them, a shaft upon which the casings are mounted, segmental doors at the bottom of said spaces, a plate mounted to turn loosely on the shaft above said casings, and flexible connections between said plate and said doors.

3. In a centrifugal separator, a vertical shaft, a centrifugal on the shaft, consisting of inner and outer perforated casings spaced apart, means for feeding material to the space between the casings, swinging doors at the lower portion of said space, and means for raising and lowering said doors, the said means being actuated to raise said doors by the rotary movement of the separator.

4. In a separator, a centrifugal, vertical swinging bottom closures for the centrifugal, and means actuated by the rotation of the centrifugal for moving said closures to closed position.

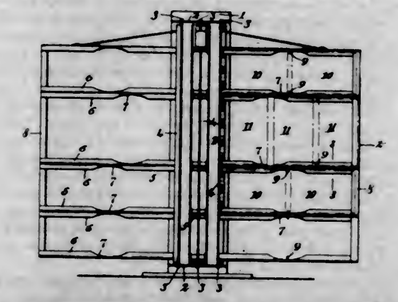
5. A centrifugal separator, comprising two perforated casings arranged one within the other and spaced apart to form a chamber between the same, a shaft upon which the casings are mounted, a plurality of segmental hinged doors at the bottom of said chamber, collars adjustably held on said shaft above said casings, a plate mounted to turn loosely on said shaft between the collars, and chains connecting said doors with said plate, the said chains crossing the shaft when the centrifugal is in motion and holding the doors closed.

6. In a centrifugal separator two casings arranged one within the other and spaced apart to form a chamber between the same, a shaft mounted to turn and to which the casings are secured, a plurality of swinging bottom doors for said chamber, a plate adjustable vertically on the shaft and mounted to turn loosely thereon, means for holding the plate in the adjusted position, and flexible connections between said doors and said plate, and extending upward through said chamber, whereby when the centrifugal is in motion the said connections will cross the shaft and hold the doors closed and when the centrifugal stops the connections will be brought into substantially straight lines to permit the doors to open.

7. In a centrifugal separator, two perforated or reticulated casings arranged one within the other and spaced apart to form a chamber between the same for the material to be treated, the said casings being provided at their ends with clamping rings, a shaft, collars secured to the shaft, flanges connected with the collars, and arms extending outward from the flanges and secured to the clamping rings at the ends of the said casings.

8. In a centrifugal separator, two casings arranged one within the other and spaced apart to form a chamber between them, the casings being provided at their ends with inner and outer clamping rings, a shaft, collars secured to the shaft, flanges connected with the collars, arms secured in sockets in the flanges and extending outward from the flanges, the arms having angular outer ends engaging the outer surface of the outer clamping rings at the ends of the outer casing, shorter arms extending outward from the sockets of said flanges, and having angular ends engaging the inner sides of the inner clamping rings at the ends of the inner casing, and means for securing the said arms to said clamping rings.

867,801. DISPLAY-RACK. FRANK H. CORWIN, Riverhead, N. Y. Filed May 9, 1907. Serial No. 372,656.



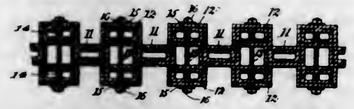
1. A display rack having a plurality of sections pivotally mounted upon suitable supports, each section having transverse members provided with lateral flanges cut-away intermediate their ends, and stops extending transversely of said members dividing said members into sections.

2. A display rack having a plurality of transverse members provided with flanges cut-away intermediate their ends, stops extending transversely of said members dividing said members into sections, and a vertical bar connected to the outer ends of said members intermediate the sides thereof.

3. A display rack having an inner bar adapted to be pivotally mounted upon a suitable support, a plurality of supporting members provided with lateral flanges cut-away intermediate their ends, and stops extending transversely of said members dividing said members into sections, and a vertical bar connecting the outer ends of said members intermediate the sides thereof.

4. A display rack having a plurality of transverse supporting members arranged back to back, and each provided with lateral flanges extending in opposite directions, and cut-away intermediate their ends, stops extending transversely of said members, and a vertical bar connecting said members at their outer ends intermediate their width.

867,802. REINFORCED CONCRETE JETTY. WILLIAM C. COTTRELL, Asbury Park, N. J. Filed Jan. 29, 1907. Serial No. 354,693.



1. A jetty comprising reinforced concrete piles arranged in interlocking series with alternate vertical projections and depressions formed in the side walls of said jetty, substantially as shown and described.

2. A jetty comprising a series of hollow reinforced concrete piles interlocking with each other, and a reinforced concrete coping extending across the upper ends of said piles, substantially as shown and described.

3. A jetty comprised of a series of tongue and groove reinforced concrete piles provided with alternate vertical ridges and depressions formed in the wall of said jetty, substantially as shown and described.

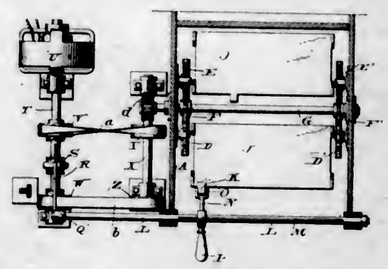
4. A jetty comprising reinforced concrete piles arranged in interlocking series, with the sides of some of the piles projected beyond the face of the adjacent piles, so as to form vertical depressions in the wall of said jetty, substantially as shown and described.

867,803. HEAT-TRANSFERRING APPARATUS. VITTORIO CROIZAT, Turin, Italy. Filed Mar. 13, 1906. Serial No. 305,907.



An apparatus of the class described, comprising a series of elements each consisting of a plate having at its central portion a frusto-conical depressed portion, provided with a perforated bottom, the depressed portion of each element being equal in diameter to the depressed portions of the other elements, said plates being arranged in parallelism with the depressed portion of each fitting into the depressed portion of the preceding plate to form a conduit, an annular member provided with a cross bar at each end of the series, a bolt traversing the depressed portions and the cross bars, a nut threaded on to the end of the bolt for securing the parts together, and tubular connections connected to the outermost elements of the series and communicating with said conduit.

867,804. STORE-SERVICE APPARATUS. HENRY J. DAVIS and PLAYFAIR G. AULT, Birmingham, Ala. Filed Mar. 19, 1907. Serial No. 363,185.



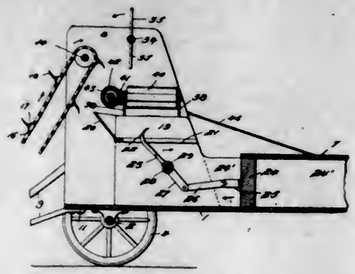
1. In combination with a pair of endless chains or belts; a series of shelves suspended therefrom, each shelf being provided with a projection extending forwardly from the same, the projections of the various shelves being out of alinement; a rocker-shaft; a lever slidably mounted upon said shaft and adapted to be brought into alinement with one or another of said projections; driving mechanism for the chains or belts; and connections intermediate said rocker-shaft and the driving mechanism, whereby when the lever carried by the rocker-shaft comes in contact with one of the projections on the shelves the shaft will be moved and the driving mechanism thrown out of action.

2. In combination with a pair of endless chains or belts; a series of shelves pivotally supported therefrom; a projection extending out from each of said shelves, the projections standing out of alinement; a rocker-shaft; a lever mounted upon said shaft and slidable longitudinally thereof; a motor for actuating said endless chains or belts; and connections between the rocker-shaft and the motor for causing the motor to drive the chains in one or the other direction.

3. In an apparatus of the character specified, the combination of a housing; series of sprockets mounted upon the opposite side walls of said housing; an endless chain passing about each series of sprockets; shelves suspended from said chains; a projection extending outward from the forward face of each shelf, said projections standing out of alinement; a rocker-shaft; a lever slidably mounted upon said shaft and adapted to be struck by one or another of said projections according to the adjustment of the lever; a motor for driving the sprockets and thus imparting motion to the chains; and connections intermediate said motor and the rocker-shaft, whereby the motor may be thrown out of or into action to cause the chains to travel in one or the other direction and to come to rest when a particular shelf has reached the desired position.

4. In an apparatus of the character specified, the combination of a pair of endless chains or belts; a series of shelves pivotally supported therefrom, each of said shelves being provided with a projection extending outward from the forward face thereof; means for driving the chains; and adjustable means coacting with the projections on the shelves to arrest the motion of the driving means, whereby any particular shelf may be brought to position and the movement of the driving chains arrested.

867,805. COMBINED RAKE AND BALING-PRESS. PLEASANT E. DAY, Oakman, Ala. Filed Apr. 8, 1907. Serial No. 367,056.



1. In a mechanism of the class described, the combination with a support, said support provided with a compression chamber, of a hopper formed upon said support, said hopper provided with a slotted bottom, a fork pivotally mounted upon said support, said fork provided with a finger working in the slot of said hopper, a plunger-head positioned within said compression chamber, means connecting said fork and plunger-head, an endless carrier provided with a tooth, carried by said support, a rotatable comb positioned contiguous to said carrier and adapted to coöperate therewith for removing material off of said tooth and depositing the same into said hopper, and means for synchronously actuating said carrier, comb, fork, and plunger-head.

2. In a mechanism of the class described, the combination with a support, of a hopper provided with a slotted bottom carried by said support, a shaft journaled upon said support, a fork provided with a hub, said hub positioned upon said shaft and fixedly secured thereto, said fork provided with a lower, bifurcated end, said fork provided with curved fingers, said fingers positioned within the slotted bottom of said hopper, said support provided with a compression chamber, a plunger-head working in said chamber, means secured to said plunger-head and positioned in the bifurcated end of said fork for connecting said fork and plunger-head, means for elevating and depositing material in said hopper, and means for actuating said shaft for imparting synchronous movement to said fork and plunger-head.

3. In a mechanism of the class described, the combination with a truck, of parallel uprights carried by said truck, endless elevating means carried by said truck and uprights, a hopper formed upon said truck between said uprights, a pair of transverse conveyers positioned above said hopper and below the upper end of said elevating means, whereby material deposited from said elevating means upon said conveyers will be directed in said hopper, and means for synchronously actuating said elevating means and conveyers.

4. In a mechanism of the class described, the combination with a support, of a hopper carried by said support, conveyers positioned at opposite sides of said hopper and adapted to direct material into the same, endless elevating means carried by said support and positioned contiguous to said conveyers and adapted to deposit material upon said conveyers and into said hopper, and cleaning means for said elevating means, said cleaning means positioned contiguous to and above said conveyers.

5. In a mechanism of the class described, the combination with a support, of an endless rake provided with teeth, carried by said support, a rotatable comb provided with fingers, carried by said support, the fingers of said comb adapted to work between the teeth of said rake, a hopper formed upon said support below said comb and contiguous to said rake, a conveyer positioned beneath said comb and contiguous to said hopper, and means for removing material from said hopper.

6. In a mechanism of the class described, the combination with a truck and uprights, of a hopper formed upon the central portion of said truck, said hopper provided with a slotted bottom, a fork extending through the slotted portion of said bottom and working in said hopper, conveyers positioned at the sides of and adapted to direct material into said hopper, elevating means positioned contiguous to said hopper and conveyers and adapted to direct material upon said conveyers and into said hopper, means for cleaning said elevating means, and means for synchronously actuating said fork, conveyer, cleaning means, and elevating means.

7. In a mechanism of the class described, the combination with a truck and uprights, of a hopper formed upon said truck, a rotatable shaft journaled upon said uprights, a fork fixedly secured to said shaft, a portion of said fork positioned and adapted to rock back and forth in said hopper, a collar secured near one end of said shaft, said collar provided with a bifurcated portion, means positioned within the bifurcated portion of said collar for imparting rotary movement to said shaft, and elevating means supported upon said truck and uprights and adapted to deposit material in said hopper.

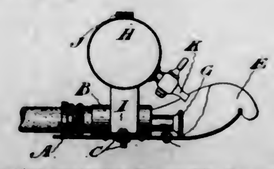
8. In a mechanism of the class described, the combination with a truck and uprights, of an endless rake provided with teeth, carried by said truck and uprights, a rotatable comb provided with straight fingers, carried by said uprights, the fingers of said comb working between the teeth of said rake, a hopper formed upon said truck, transverse conveying means positioned under said comb and below the upper end of said rake for receiving material from said rake and depositing the same into said hopper, and means for removing material from said hopper.

9. In a mechanism of the class described, the combination with a truck and uprights, of compression means formed upon said truck, elevating means formed upon said truck and uprights, conveying means positioned contiguous to and adapted to receive material from said elevating means, cleaning means positioned contiguous to said conveying means and adapted to clean said elevating means and deposit material upon said conveying means, and means for receiving material from said conveying means and delivering the same to said compression means.

10. In a mechanism of the class described, the combination with a truck, of a hopper formed upon said truck, said truck provided with a baling chamber, a conveyer positioned contiguous to and having a portion above said hopper, means carried by said truck below said conveyer and adapted to clean said hopper, and endless lifting means carried by said truck and adapted to discharge material above said hopper and upon said conveyer.

11. In a mechanism of the class described, the combination with a truck provided with a baling chamber, a hopper provided with a slot, positioned contiguous to said baling chamber, of a shaft journaled upon said truck, a fork fixedly secured to said shaft and positioned in said slot and extending into said hopper, and means for oscillating said shaft and thereby reciprocating said fork within said slot and hopper.

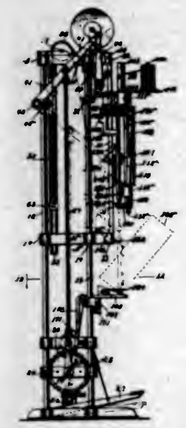
867,806. SPRAYING APPARATUS. ROBERT DITCHFIELD, Woodstock, Ontario, Canada. Filed Oct. 30, 1906. Serial No. 341,304.



1. In spraying apparatus the combination of a plate; a nozzle; the nozzle and the plate being so arranged and connected that the water from the nozzle impinges on part of the plate; and side wings pivotally secured substantially perpendicular to the surface of the plate, substantially as described.

2. In spraying apparatus the combination of a plate; a nozzle; the nozzle and the plate being so arranged and connected that the water from the nozzle impinges on part of the plate; and side wings each pivoted on a single pivot bolt located adjacent to the end of the nozzle, substantially as described.

867,807. TAPE-APPLYING MACHINE. ISIDOR DREYFUSS, New York, N. Y. Filed Sept. 11, 1906. Serial No. 334,159.



1. In a machine for applying tape to boxes, a support, a carriage mounted for movement in said support, means for imparting movement to the carriage, a plunger and a tape introductory member operated by the carriage, means for directing tape into the path of the introductory member, means for temporarily holding the tape when so directed, and means for cutting the tape while so held.

2. In a machine for applying tape to boxes, a support, a carriage mounted for movement on the support, means for imparting movement to the carriage, a plunger bar, a tape introductory member operated by said carriage, means for directing tape to the said member, a detent for the tape preventing its backward movement, a feed for the tape, and a swinging device for holding an end of the tape in the path of the said introductory member.

3. In a machine for applying tape to boxes, a support, a carriage having sliding movement upon said support, a drive shaft, a connection between said drive shaft and the carriage, whereby to give an up-and-down movement to said carriage at each revolution of the shaft, a stop mechanism for the shaft, acting at the finish of each revolution thereof, a plunger bar and tape introductory member operated by the carriage, means for guiding tape into the path of the said member, a detent and feed for the tape which prevents its backward movement and carries it downward, a cutting mechanism, and devices operated by the carriage, for bringing the cutting mechanism into cutting action after the downward stroke of the plunger bar.

4. In a machine for applying tape to boxes, a support, a carriage having sliding movement upon said support, a needle bar and needle operated by the movement of the carriage, a drive shaft, a connection between the drive shaft and the carriage whereby to give an up and down movement to the carriage at each revolution of the shaft, a stop mechanism for the shaft acting at the finish of each revolution thereof, means for guiding the tape into the path of the needle, a cutting mechanism in the path of the tape, a detent for the tape that prevents its backward motion, and means operated by the carriage for opening and closing the cutters of said cutting mechanism, opening them for the passage of the needle and accompanying tape, and closing them for cutting action for such passage.

5. In a machine for placing tape on boxes, a frame, a carriage slidably mounted on the frame, a reciprocating tape carrying needle, a tension-controlled member that directs the tape to the needle, a cutting mechanism adjacent to the path of the needle including horizontally mounted pivoted blades having movement to and from each other, and devices controlled by the movement of the carriage for opening and closing the cutters, opening them for the passage of the needle and closing them for cutting after the passage of said needle, and means also controlled by the carriage for timedly operating the needle relatively to the cutting mechanism.

6. In a machine for placing tape in boxes, a frame, a carriage slidably mounted on the frame, a support for a box, a cutting mechanism above said support, a tape-carrying needle mounted for sliding movement past the cutters of the cutting mechanism, and devices controlled by the movement of said carriage for timedly operating the needle and the cutting mechanism, first opening the cutters of said cutting mechanism, then passing the needles by the open cutters and then causing the cutters of said cutting mechanism to close and cut the tape carried between them by said needle.

7. In a machine for placing tape in boxes, a frame, a carriage slidably mounted on said frame, a support for a box, a cutting mechanism above said support, a tape-carrying needle mounted for sliding movement past the cutters of the cutting mechanism, and devices controlled by the movement of the carriage for timedly operating the needle and said cutting mechanism, first opening the cutters of the cutting mechanism, then passing the needle by the open cutters and then causing the cutters of said cutting mechanism to close and cut the tape carried between them by the said needle, a table to receive the box located below the cutting mechanism, spring-controlled jaws carried by the said table, adapted to take the tape from the needle at its downward throw after passing through the box on the table and to temporarily retain said tape, and means for opening the jaws during the upward movement of the needle.

8. In a machine for applying tape to boxes, a fixed frame, a carriage mounted to slide on the same, a driven shaft, means for timing the same, a stop for the driven shaft, acting at the end of each revolution of said shaft, connections between the driven shaft and the carriage to impart an up-and-down movement thereto at each revolution of said driven shaft, a tape-carrying needle, a reciprocating carrier therefor, a fixed cutting mechanism, the needle having movement past the cutters thereof to conduct tape thereto, and devices controlled by the carriage for timedly operating said needle and opening and closing the cutters of the cutting mechanism.

9. In a machine for applying tape to boxes, a reciprocating plunger bar and a tape introductory member, a guide for the tape and a spring directing member carried by the guide and adapted to direct the free end of the tape into the path of the descending introductory member.

10. In a machine for applying tape to boxes, a reciprocating plunger bar and a tape introductory member, a guide for the tape pivotally mounted for movement to and from the plunger bar and introductory member, a swinging directing member carried by the guide and adapted to direct the tape to the lower portion of the guide into the path of the introductory member in its descent, and means for controlling the movement of the guide by the movement of the plunger bar.

11. In a machine for applying tape to boxes, a reciprocating plunger bar and a tape introductory member, a guide for the tape operated by the movement of the plunger bar, a directing member pivotally mounted upon the said guide to swing below its lower end and direct the lower end of the tape to the descending introductory member, and a detent and flap for the tape mounted to act in conjunction with the said tape guide being carried thereby.

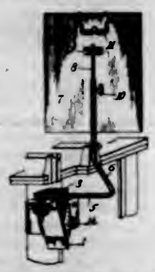
12. In a machine for applying tape to boxes, a reciprocating plunger bar, a tape introductory member, a cutting mechanism acting in conjunction therewith, a clamping device for the lower end of the tape, having clamping action in advance of the action of the cutting mechanism,

and an automatically operated release for the clamping device.

13. In a machine for applying tape to boxes, a reciprocating plunger bar, a needle bar, a tape carrying instrument attached to the needle bar, a cutting mechanism acting in conjunction with the plunger bar and needle bar, the said cutting mechanism being in the path of the tape carrying instrument, an actuating mechanism common to the plunger bar, the needle bar, and the cutting mechanism, means for timedly controlling the movement of the cutting mechanism relatively to the movements of the needle bar, a support for the box, and means for removing the tape from its carrying instrument and temporarily holding said tape.

14. In a machine for applying tape to boxes, a reciprocating plunger bar, a needle bar, a tape carrying needle for said bar, a tape cutting mechanism in the path of the needle, and an actuating mechanism common to the plunger bar, the needle bar, and the cutting mechanism, acting timedly upon each of the said factors, opening the cutters of the cutting mechanism for the passage of the nedle, and closing the said cutters to sever the tape, a feed device for the tape, a clamping mechanism for the lower end of the tape when the latter has been passed through a box, and a timedly operating release for the clamping mechanism.

867,808. COPY-HOLDER. ELIPHALET B. DUKE, Cookeville, Tenn. Filed June 12, 1907. Serial No. 378,473.



1. A copy holder consisting of a slotted member by which the copy holder may be secured to a typewriter, a rod pivoted to the slotted member, the said rod having its terminals approximately at right angles to each other, its middle portion being bent and the outer terminal of the rod being disposed approximately over the middle of the inner terminal of the rod, and a copy rack attached to the rod.

2. A copy holder consisting of a slotted member by which the copy holder may be secured to a typewriter, a rod pivoted to the slotted member, and a copy rack secured to the outer terminal of the rod, said rod being bent inwardly to keep the copy rack in close proximity to the slotted member while at the same time keeping the center of gravity of the copy rack and rod at a relative distance therefrom.

3. A copy holder consisting of a wedge-shaped member by which the copy holder may be secured to a typewriter, a rod pivoted to the wedge-shaped member, the said rod having its terminals approximately at right angles to each other, its middle portion being bent and the outer terminal of the rod being disposed approximately over the middle of the inner terminal of the rod, and a copy rack attached to the rod.

4. A copy holder consisting of a wedge-shaped member by which the copy holder may be secured to a typewriter, a rod pivoted to the wedge-shaped member, and a copy rack secured to the outer terminal of the rod, said rod being bent inwardly to keep the copy rack in close proximity to the wedge-shaped member while at the same time keeping the center of gravity of the copy rack and rod at a relative distance therefrom.

5. A copy holder consisting of a slotted wedge-shaped member by which the copy holder may be secured to a typewriter, a rod pivoted to the slotted, wedge-shaped member, said rod having its terminals approximately at right angles to each other, its middle portion being bent and the outer terminal of the rod being disposed approximately over the middle of the inner terminal of the rod, and a copy rack attached to the rod.

6. A copy holder consisting of a slotted, wedge-shaped member by which the copy holder may be secured to a typewriter, a rod pivoted to the slotted, wedge-shaped member, and a copy rack secured to the outer terminal of the rod, the said rod being bent inwardly to keep the copy rack in close proximity to the slotted, wedge-shaped member while at the same time keeping the center of gravity of the copy rack and rod at a relative distance therefrom.

7. A copy holder consisting of a slotted member by which the copy holder may be secured to a typewriter, a telescopic rod pivoted to the slotted member, the said telescopic rod having its terminals approximately at right angles to each other, its middle portion being bent and the outer terminals of the telescopic rod being disposed approximately over the middle of the inner terminal of the telescopic rod, and a copy rack attached to the telescopic rod.

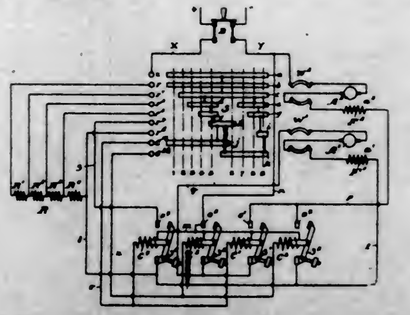
8. A copy holder consisting of a wedge-shaped member, a rod pivoted to the wedge-shaped member, the said rod having its terminal approximately at right angles to each other, its middle portion being bent and the outer terminal of the rod being disposed approximately over the middle of the inner terminal of the rod, a copy rack attached to the rod, and a clamp by means of which the wedge-shaped member may be secured to a typewriter.

9. A copy holder consisting of a wedge-shaped member, a rod pivoted to the wedge-shaped member, a copy rack attached to the rod, and a clamp by which the wedge-shaped member may be detachably secured to a stand.

10. A copy holder consisting of a member by means of which the copy holder may be secured to a typewriter, a rod pivoted to the said member, the said rod being bent to keep the copy rack in close proximity to the said member while at the same time keeping the center of gravity of the copy holder and rod at a relative distance therefrom.

11. A copy holder having a rod adapted to be pivotally secured to a typewriter, means to pivotally secure the rod to the typewriter, the said rod being bent to keep the copy rack in close proximity to the typewriter while at the same time keeping the center of gravity of the copy holder and rack at a relative distance therefrom.

867,809. SERIES-PARALLEL CONTROLLER. ARTHUR C. EASTWOOD, Cleveland, Ohio. Filed Sept. 6, 1906. Serial No. 333,563.



1. In a series-parallel controller, the combinaion of a resistance divided into parts, means for short circuiting one part of the resistance while the motors are connected in series, means for short circuiting another part of the resistance to increase the speed of the motors while in the series position, means for changing the connections of the motors from series to parallel, means for concurrently opening the short circuit around the first portion of the resistance, and means for again short circuiting the resistance.

2. In a series-parallel controller, a resistance, means for throwing a short circuit around a portion of the resistance while the motors are connected in series and means for opening the short circuit around the said portion of the resistance concurrently with the change of the motor connections from series to parallel.

3. In a controller for two or more motors, the combination of a resistance for limiting the flow of current to said motors, a power operated series switch for connecting the motors in series, a power operated resistance switch for short circuiting a portion of the resistance when said motors are connected in series, a power operated parallel switch for connecting the motors in parallel, and means for energizing the closing mechanism of the parallel switch prior to deënergizing the closing mechanism of the series switch and the resistance switch.

4. In a controller for two or more motors, the combination of a resistance for limiting the flow of current to the motors, a power operated series switch for connecting said motors in series, a power operated resistance switch for short circuiting a portion of the resistance when the motors are connected in series, a power operated parallel switch for connecting the motors in parallel, means for energizing the closing mechanism of the parallel switch prior to deënergizing the closing mechanism of the series switch and the resistance switch, and means for preventing the parallel switch from closing while the series switch and the resistance switch are closed.

5. In a series parallel controller in which the circuit is opened in changing the motor connections from series to parallel, a resistance and means for inserting the resistance in series with the motors concurrently with the opening of the circuit in passing from series to parallel.

6. In a series parallel controller in which the circuit is opened in changing the motor connections from series to parallel, the combination of a series switch, a parallel switch or switches, a resistance, and means for inserting all or a portion of the resistance in series with the motors concurrently with the opening of the series switch and the closure of the parallel switch or switches.

7. In a series parallel controller, the combination of a series switch for connecting the motors in series, a parallel switch for connecting the motors in parallel, a resistance, means for short circuiting the resistance when the series switch is closed, means acting concurrently with the opening of the series switch for inserting a portion of the resistance in series with the motors, a switch for connecting the motors in parallel and means for reducing and finally short circuiting said portion of the resistance when the motors are connected in parallel.

8. In a system of series parallel control, means for connecting the motors in series with a resistance, means for reducing the resistance and finally short circuiting the same, means for opening the short circuit and simultaneously connecting the motors in parallel.

9. In a series parallel controller, a resistance, an operating switch, a switch mechanism for opening the series circuit, means for inserting the resistance in the series circuit prior to the establishing of the parallel circuit and means for opening said series circuit, inserting the resistance, and connecting the motors in parallel in a period of time independent of the speed at which the operating switch is moved.

10. In a series parallel controller, the combination of a resistance, an operating switch for reducing and finally short circuiting the resistance while the motors are connected in series and for controlling the amount of resistance in circuit when the motors are connected in parallel, and means independent of said operating switch for timing the insertion of said resistance prior to connecting the motors in parallel.

11. In a series parallel controller for two or more motors, the combination of a power actuated series switch, a power-actuated parallel switch or switches, a power actuated resistance switch, and means for interlocking the action of said power actuated switches so that, when the series switch and the resistance switch are opening, the parallel switch is closing and vice versa.

12. In a series parallel controller for two or more motors, a series switch for connecting the motor windings in series, a parallel switch for connecting the motor windings in parallel, a resistance, a resistance switch for short-circuiting said resistance, a controlling switch for regulating the amount of said resistance in circuit with said motors and for controlling the action of said series switch, said parallel switch, and said resistance switch, the connections being such that said parallel switch tends to close prior to the opening of said series switch and said resistance switch, and means for preventing said parallel switch from closing while either the said series switch or the said resistance switch is closed.

13. In a series parallel controller, a resistance, a resistance switch for short-circuiting said resistance, a parallel switch, and means for causing said parallel switch in closing to tend to open said resistance switch.

14. In a series parallel controller, a resistance, a resistance switch for short-circuiting said resistance, a series switch, a parallel switch, and means whereby the parallel switch in closing tends to open said resistance switch and said series switch.

15. In a series parallel controller, a resistance, a controlling switch for regulating the amount of said resistance in circuit, a resistance switch for short-circuiting said resistance, a series switch, a parallel switch, and means whereby the tendency of said parallel switch to close is governed by said controlling switch and the time of its closure is governed by the resistance switch.

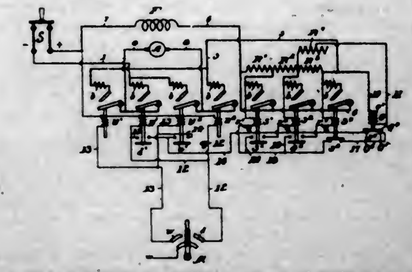
16. In a series parallel controller, a resistance switch, a switch for short-circuiting said resistance, a parallel switch, means for preventing either of said switches from closing while the other is closed, and means tending to close either of said switches prior to the opening of the other.

17. In a series parallel controller, a resistance, an operating switch, and means whereby the connections of the motors are changed from the full series relation to parallel relation with said resistance in series with said motors, said change being made at a speed independent of the speed at which said operating switch is moved.

18. In a series parallel controller, a resistance, a resistance switch of the separately actuated type for short-circuiting said resistance, a parallel switch also of the separately actuated type, and a mechanical interlock whereby the parallel switch cannot close while the resistance switch is closed.

19. In a series parallel controller, a resistance, a resistance switch of the separately actuated type for short-circuiting said resistance, a parallel switch also of the separately actuated type, a mechanical interlock whereby the parallel switch cannot close while the resistance switch is closed, and means for energizing the closing mechanism of said parallel switch prior to deënergizing the closing mechanism of said resistance switch.

867,810. AUTOMATIC ACCELERATING-CONTROLLER. ARTHUR C. EASTWOOD, Cleveland, Ohio. Filed Jan. 15, 1907. Serial No. 352,407.



1. In an electric controller, sections of resistance, magnetically operated switches for controlling said resistance,

and a relay for controlling the action of said switches, said relay having its winding in a circuit connected in a shunt to a portion of said resistance.

2. In an electric controller, sections of resistance, magnetically operated switches for controlling said resistance, the last of said resistance sections to be cut out being made up of two banks of resistance in parallel, and a governing relay having its winding in series with one of said parallel banks of resistance.

3. In an electric controller, sections of resistance, magnetically operated switches for controlling said resistance, the last of said resistance sections to be cut out being made up of two banks of resistance in parallel, a governing relay having its winding in series with one of said parallel banks of resistance, and means for adjusting the amount of resistance in one of said parallel banks.

4. In an electric controller, sections of resistance for limiting the flow of current to a motor, magnetically operated switches for controlling said resistance, each of said switches having one end of its winding connected to a point on said resistance, an auxiliary resistance connected to the remaining end of each of said windings and to one side of the supply circuit, an auxiliary switch operatively connected with each of said first named switches and controlled by the next preceding switch, a short-circuit including the auxiliary switch of said last named switch, the short-circuit passing around each auxiliary resistance, and a current-controlled relay having its contacts in the path short-circuiting said resistance.

5. In an electric controller, a motor circuit, the combination of sections of resistance in the motor circuit, magnetically operated switches for controlling said resistance, each of said switches having one end of its winding connected to one of the supply mains through a portion of said resistance, and an auxiliary resistance for each winding having one end connected to the remaining end of said winding and the other end thereof to the other supply main.

6. In an electric controller, the combination of sections of resistance in a motor circuit and magnetically operated switches for controlling said resistance, each of said switches having one end of its winding connected to one of the supply mains through a portion of said resistance, an auxiliary resistance for each winding having one end connected to the other supply main and the other end to the remaining end of the said winding, and means for short-circuiting said auxiliary resistance.

7. In an electric controller, the combination of sections of resistance in a motor circuit, magnetically operated switches for controlling said resistance, each of said switches having one end of its winding connected to one of the supply mains through a portion of said resistance, an auxiliary resistance for each winding having one end connected to the other supply main and the other end to the remaining end of said winding, and a current-controlled relay having contacts which short-circuit said auxiliary resistance when less than a predetermined current is flowing through the winding of said relay.

8. In an electric controller, the combination of sections of resistance in a motor circuit, magnetically operated switches for controlling said resistance, each of said switches having one end of its winding connected to one of the supply mains through a portion of said resistance, an auxiliary resistance for each winding having one end connected to the other supply main and the other end to the remaining end of said winding, and means for short-circuiting said auxiliary resistance, said means comprising an auxiliary switch closed by the closure of a preceding resistance-controlling switch and a current-controlled relay.

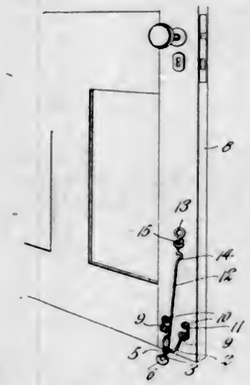
9. In an electric controller, a motor circuit, a series of separately-actuated magnetically-operated resistance switches, a separate auxiliary resistance for each switch and in series with the winding of its respective switch, and means for short-circuiting said resistance when the current falls below a predetermined strength.

10. In an electric controller, a motor circuit, a series of separately-actuated, magnetically-operated resistance switches, an auxiliary resistance in series with the winding of each switch, a short-circuit around the auxiliary resistance of each closed resistance switch, and means for opening the short-circuit when the current in said circuit rises above a predetermined strength.

11. In an electric controller, a resistance, a series of separately actuated magnetically operated resistance switches, and a relay for controlling the said switches, the winding of said relay being in shunt to a portion of the resistance controlled by the last resistance switch whereby said winding is short circuited when said last resistance switch closes.

12. In an electric controller, the combinations of sections of resistance, magnetically operated switches for controlling said resistance, a current controlled relay having a single winding and governing the closure of said switches, and means for varying the proportion of current which will flow through the winding of said relay.

867,811. DOOR-CHECK. JENNIE V. EDGCOMB, Binghamton, N. Y. Filed Oct. 27, 1906. Serial No. 340,873.



1. A door check comprising a ball-shaped body formed of wire, the arms of the body being bent to provide coils and attaching portions above the coils, the arms of the body being straight and arranged in parallel relation and a buffer member projecting from the bight of the body and lying in the plane of the arms thereof.

2. A door check comprising a ball-shaped body formed of a single piece of wire, the wire composing the arms of the body being bent to form coils and attaching portions above the coils, and further bent at the free end of the body to provide a shank having a terminal eye or loop forming a combined buffer and contact member.

3. A door check comprising a body portion formed of a spring wire and having an outwardly extending shank at its lower end provided with a terminal contact and buffer member, said body portion being provided with coils at its upper end, and arms joined to said coils, and means connected with the shank whereby the check may be elevated against the resistance of said coils.

4. In combination with a door, a guide eye upon the door, a check upon the door below said eye, said check being of ball-form and comprising a single piece of wire, the wire being bent to form coils in the arms of the check and attaching portions adjacent said coils secured to the door and being further bent to form a shank at the free end of the ball formed with an eye and a combined floor-engaging and buffer member, and a controlling rod pivotally connected with said eye and passing at its upper end through the guide eye on the buffer, said rod being bent to form an offset locking portion to engage said eye, whereby the check may be elevated above the floor to form a buffer and locked in such position.

867,812. EXTENSIBLE MEASURING-POLE. JOHN EDWARDS, Troy, Ill. Filed Jan. 16, 1907. Serial No. 352,567.



1. In an extension pole, the combination with a pair of U-shaped main sections each having a guide collar connecting the outer ends of its legs, and a hinge connecting said sections at their proximate ends, of an adjustable section mounted to slide between the legs of each main section and coöperating with the respective guide collars of the main sections, and a guide collar on the inner end of each adjustable section coöperating with both legs of their respective main sections.

2. In an extensible measuring pole, the combination of a pair of main sections each embodying a pair of parallel legs, a guide collar connecting the legs at one end of each main section, and a hinge pivotally connecting the opposite ends thereof, of an adjustable section fitted to slide longitudinally between the legs of each main section and coöperating with the guide collar at the end thereof, a coöperating guide collar on the inner end of each adjustable section adapted to slide longitudinally of the legs of each main section, and clamping means carried by said coöperating guide collar and operating on one of the legs of the main section for preventing relative longitudinal movement of the main and adjustable sections.

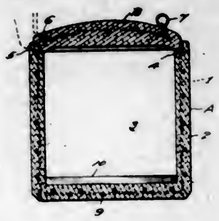
3. In a device of the class described, the combination of hingedly connected main sections each embodying a pair of parallel legs, a locking device coöperating therewith for preventing the sections from folding, a stationary guide collar on the outer end of each main section, an adjustable section arranged between the legs of each main section and slidable through the guide collar thereof, a slide collar secured to the inner end of each adjustable section and slidably engaging the adjacent main section, and a clamping device mounted on the slide collar of each adjustable section.

4. In a device of the class described, the combination of hingedly connected main sections, a locking device on the sections arranged to prevent the same from folding, a clamping means for the locking device, a stationary guide collar on the outer end of each main section, an adjustable section slidably mounted on each main section and extending through the guide collar thereof, a slide collar secured to the inner end of each adjustable section and slidably engaging around the adjacent main section, a clamping cam on each slide collar, and a plate interposed between each cam and adjacent main section and having one end folded about a portion of the sliding collar supporting the cam.

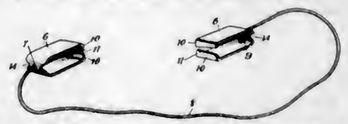
5. In a folding measuring pole, the combination with a pair of coöperating sections having a pivotal connection and provided with longitudinally extending dovetail grooves arranged in alinement at the proximate ends of the sections, one of said grooves being longer than the other, of a locking plate dovetailed in cross section and adapted to operate longitudinally of the correspondingly formed groove, said plate being of substantially the same length as the longer groove and adapted to extend into the shorter groove when in locking position to prevent folding movement of the sections about their pivotal connection, and a device carried by said locking plate and coöperating with a portion of one of the sections for retaining the plate in locked or unlocked position.

867,813. BURIAL-VAULT. ALBERT EHLITZ, Stillwater, Minn. Filed June 28, 1907. Serial No. 381,295.

A vault comprising a body, a cover capable of being bodily removed therefrom, a bead and groove joint between one edge of the cover and one side of the body to permit the cover to swing open or closed, and a device secured to the cover adjacent the edge thereof opposite from the joint for attachment to means for swinging the cover open or closed.



867,814. HAT-GUARD. ALFRED FORNANDER, New York, N. Y., assignor of one-half to Walter J. Vogt, Brooklyn, N. Y. Filed Oct. 14, 1905. Serial No. 282,759.



1. In a hat guard, the combination of a metallic member provided with jaws having gripping edges disposed obliquely in relation to each other in order to enable them to be slipped over the edge of an article of clothing, and a cord connected with said member and provided with means whereby it may be secured to an article of clothing.

2. In a hat guard, a clasp provided with gripping jaws and with indentations, a cord connected with said clasp at a point adjacent to said indentations in order to enable said cord to be wound within the latter, and means for connecting another part of said cord to an article of clothing.

3. In a hat guard, a cord, means for connecting the same to an article of clothing, and a single metallic member of resilient material connected with said cord and provided with jaws having oppositely disposed edges, said edges being inclined obliquely in relation to each other to enable them to be slipped over the edge of an article of clothing.

4. In a hat guard, the combination of a cord, means for securing the same to an article of clothing, and a spring member of sheet metal provided with an aperture through which said cord may be threaded, said member being further provided with oppositely disposed edges inclined relatively to each other whereby they may be slipped over the edge of a collar or the like.

5. In a hat guard, the combination of a cord, means for connecting the same to an article of clothing, and a metallic member of spring sheet metal connected with said cord, said metallic member being provided with oppositely disposed edges having teeth integral therewith, said edges being inclined obliquely to each other in order to enable them to be slipped over a collar or the like.

867,815. LOOSE-LEAF BOOK. WILLIAM H. GARLAND, Kansas City, Mo., assignor of one-half to Raymond M. Havens, Kansas City, Mo. Filed Oct. 4, 1906. Serial No. 337,374.



1. In a loose leaf book, a plate having openings and a slot at one end, a pair of hooks extending through said openings and adapted to interlock at their free ends and provided with parallel body portions suitably journaled and equipped with inwardly projecting arms, a rod extending longitudinally of said plate and suitably journaled and

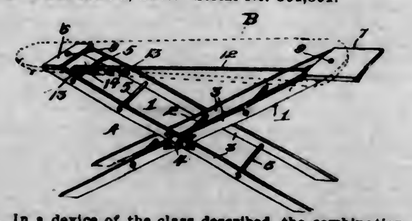
provided with a cam portion overlying said arms and adapted when the rod is turned to one position to permit said arms to rise and the hooks to open and when the rod is turned part way round to depress said arms and close the hooks, and a handle pivoted to one end of the rod and adapted when the hooks are closed to fit in the slot in the plate and prevent turning movement of the rod.

2. In a loose leaf book, a channel plate provided with outwardly projecting side flanges and openings, and with inwardly projecting supports, bearing plates resting on said supports, segmental hooks extending through said openings and provided with longitudinal body portions journaled in said bearing plates and equipped with inwardly projecting arms, a rod extending longitudinally of the plate and suitably journaled and provided with cam portions overlying the arms of said body portions, means for holding said arms upward with a yielding pressure when the cam portions of the rod occupy their highest position, and means to lock said rod against turning movement after it has been turned to lower said cam portions and effect the depression of said arms.

3. In a loose leaf book, a channel plate provided with outwardly projecting side flanges and openings and with inwardly projecting supports, bearing plates resting on said supports and having arched middle portions, segmental hooks extending through said openings and provided with longitudinal body portions journaled in said bearing plates and equipped with inwardly projecting arms, a rod extending longitudinally of the plate and journaled in said arched portions of the bearing plates, and provided with cam portions underlying the arms of said body portions, means for holding said arms upward with a yielding pressure when the cam portions of the rods occupy their highest position, and means to lock said rod against turning movement after it has been turned to lower said cam portions and effect the depression of said arms.

4. In a loose leaf book, a channel plate provided with outwardly projecting side flanges and openings and with inwardly propecting supports, bearing plates resting on said supports and having arched middle portions, segmental hooks extending through said openings and provided with longitudinal body portions journaled in said bearing plates and equipped with inwardly projecting arms, a rod extending longitudinally of the plate and journaled in said arched portions of the bearing plates, and provided with cam portions underlying the arms of said body portions, and with collars engaging the bearing plates, means for holding said arms upward with a yielding pressure when the cam portions of the rod occupy their highest position, and means to lock the rod against turning movement after it has been turned to lower said cam portions and effect the depression of said arms.

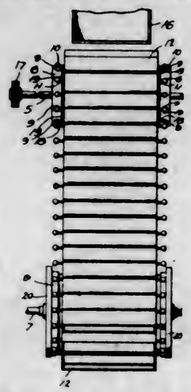
867,816. IRONING-TABLE. JEAN GARRET, Pittsburg, Pa. Filed Mar. 8, 1907. Serial No. 361,391.



1. In a device of the class described, the combination of a stand comprising a pair of hingedly connected and crossed legs including cross bars and apertured members, an ironing board resting on the members, fastenings extending through the apertured members and connected with the ironing board for securing the board to the members, and a bracing member disposed under the ironing board and having a hook at one end and a plurality of spaced hooks at the opposite end for engaging over the cross pieces to vary the position of the legs and the head of the ironing board.

2. In a device of the class described, the combination of a stand comprising a pair of hingedly connected and crossed legs including cross bars and apertured members, an ironing board resting on the members, a plurality of socketed and threaded plates adjacent the ends of the ironing board and on the bottom side thereof, a bracing member disposed under the ironing board and having portions for adjustably engaging one of the cross bars of the legs, and a screw extending through each apertured member and adapted to engage in any one of the socketed plates for rigidly securing the ironing board to the stand at any desired height.

867,817. WATER-MOTOR. CHARLES M. GIRTON, Jerseytown, Pa. Filed May 2, 1907. Serial No. 371,484.



1. The combination, in a water motor, of a main shaft; a secondary shaft located therebeneath; a pair of sprocket wheels carried by said main shaft in spaced relation to each other, said sprocket wheels having their peripheries provided with a series of hemispherical depressions; an idler wheel carried by said secondary shaft and located directly beneath the space between said sprocket wheels; and an endless chain of buckets adapted to travel over said sprocket and idler wheels, said buckets being pivotally connected to a series of rods provided at opposite ends with spherical knobs adapted for engagement in said depressions.

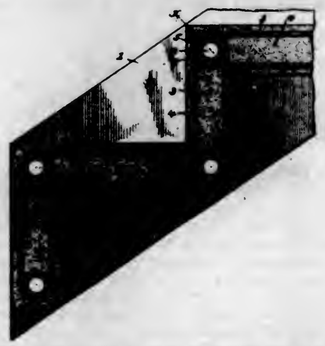
2. The combination, in a water motor, of a main shaft; a secondary shaft located therebeneath; a pair of sprocket wheels carried by said main shaft in spaced relation to each other, the periphery of each sprocket wheel having a series of hemispherical depressions formed therein, each depression having a groove extending radially therefrom; an idler wheel loosely mounted upon said secondary shaft and located directly beneath the space between said sprocket wheels; and an endless chain of triangular buckets adapted to travel over said sprocket and idler wheels, each bucket having a series of knuckles formed on its lower edge for coöperation with the knuckles located upon the rear upper edge of the preceding bucket in forming a sleeve for the reception of a hinge rod, each hinge rod being provided at opposite ends with spherical knobs adapted for engagement in said depressions.

867,818. REINFORCED CONCRETE STEP. GEORGE M. GRAHAM, Chicago, Ill., assignor to G. A. Edward Kohler, Chicago, Ill. Filed June 1, 1907. Serial No. 376,809.

1. Reinforced concrete steps, comprising side stringers, a series of cross rails extending between said stringers and arranged in zig-zag relation, windings of wire connecting said rails, and a mass of concrete inclosing said rails and windings to form the treads and risers of the steps, substantially as set forth.

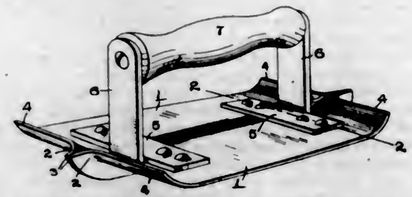
2. Reinforced concrete steps, comprising side stringers, a series of cross rails formed of round tubing and extending between said stringers and arranged in zig-zag relation, windings of wire connecting said rails and a mass of concrete inclosing said rails and windings to form the treads and risers of the steps, substantially as set forth.

3. Reinforced concrete steps, comprising side stringers, a series of cross rails formed of round tubing and extending between said stringers and arranged in zig-zag relation, members arranged within said tubular cross rails and extending through the stringers and upset against the outer faces thereof, windings of wire connecting said rails, and a mass of concrete inclosing said rails and windings to form the treads and risers of the steps, substantially as set forth.



4. Reinforced concrete steps, comprising side stringers, a series of cross rails formed of round tubing and extending between said stringers and arranged in zig-zag relation, tubular members arranged within said tubular cross rails and extending through the stringers and upset against the outer faces thereof, windings of wire connecting said rails, and a mass of concrete inclosing said rails and windings to form the treads and risers of the steps, substantially as set forth.

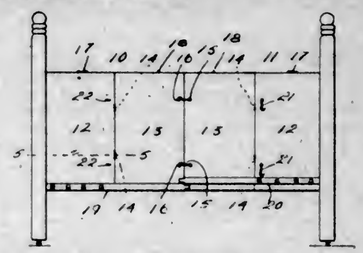
867,819. CEMENT-WORKER'S TOOL. FREDERICK W. GRUNDMANN, St. Louis, Mo., assignor to Crescent Novelty Manufacturing Company, St. Louis, Mo., a Corporation of Missouri. Filed May 15, 1906. Serial No. 317,016.



As a new article of manufacture, a cement workers' tool, comprising a pair of sheet metal plates having smooth bottom surfaces and having their meeting edges bent downwardly to form a longitudinally extending centrally disposed rib on the under side of the tool, both ends of which plates, together with the edges forming the ribs, being curved upwardly, means whereby the plates are rigidly connected, and a handle carried by the plate connecting means.

867,820. EXTENSION-BED. ANNA C. HAMILTON, Brownstown, Ind. Filed Jan. 14, 1907. Serial No. 352,219.

1. An extension bedstead comprising a head-board, a foot-board and connected side rails, the head-board and foot-board each comprising two fixed sections each having a swinging section hinged thereto and movable into and out of the plane of the fixed section, and means for holding the swinging sections together when in the planes of their respective fixed sections.

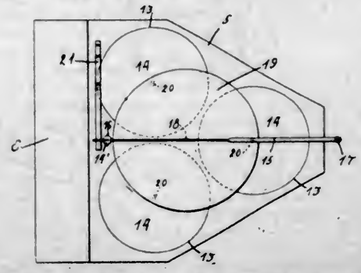


2. An extension bedstead comprising two-part head and foot boards; a swinging section secured to one member of each board and adapted to be folded back upon said member when the bedstead is to be used as single, and to be connected with the opposite member of the corresponding board when the bedstead is to be used as double, and means for holding said swinging section in each of said positions.

3. An extension bedstead comprising two-part head and foot boards, one member of each of said boards having a swinging section hingedly connected therewith, said section being adapted to be folded back upon said member when the bedstead is to be used as single, and to be connected with the opposite member of the corresponding board when the bedstead is to be used double, means for holding said swinging section in each of said positions, means for directly connecting together the corresponding members of said boards when the bedstead is used as single, and guide strips secured to the outer face of each member of said boards and extending beyond the outer side edge thereof, for coöperation with each other in retaining the corresponding members in position.

4. An extension bedstead comprising two-part head and foot boards each consisting of a stationary section and a movable section hingedly connected thereto, said movable section being adapted to be connected together when the bedstead is to be used as double, and to be folded back upon the corresponding stationary sections when the bedstead is to be used as single, means for securing said movable sections in each of said positions, and means for directly connecting together the corresponding stationary sections when the bedstead is to be used as single.

867,821. SOUND-REPRODUCER FOR GRAPHOPHONES. WILLIAM HART, Kirksville, Mo. Filed May 4, 1907. Serial No. 371,928.



1. A sound reproducer for graphophones, comprising a pivotally mounted diaphragm plate, diaphragms arranged in said plate, a record engaging lever pivotally mounted on said plate, and a transmission disk supported by said lever and held in engagement with said diaphragms, substantially as described.

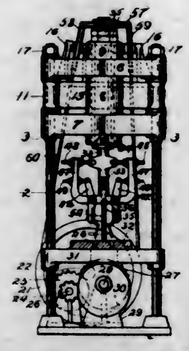
2. A sound reproducer for graphophones, comprising a pivotally mounted diaphragm plate, a weight arranged on one end of said plate, a counterbalancing spring connected

to the opposite end thereof, a plurality of diaphragms arranged in said plate, a record engaging lever, and a sound transmitting disk supported by said lever and held in engagement with said diaphragms, substantially as described.

3. A sound reproducer for graphophones, comprising a horn, a diaphragm plate pivotally mounted on the lower end of said horn, said plate having formed therein a plurality of diaphragm openings, a plurality of diaphragms arranged in said openings, a record engaging lever pivotally mounted to the underside of said plate, a sound transmission disk supported by said lever and held thereby in operative engagement with said diaphragms, a record engaging point on the outer end of said lever, and means to force the latter downwardly to engage said point with the grooves on the record, substantially as described.

4. A sound reproducer for graphophones, comprising a horn, means to adjustably secure the end thereof in the frame of the graphophone, a diaphragm plate pivotally mounted on the lower end of said horn, said plate having formed therein a plurality of diaphragm openings, diaphragms in said openings, a weight secured to one end of said plate, a counterbalancing spring connected to the other end thereof, a pivot stud on the underside of said plate, a spring record engaging lever pivotally mounted in said stud, a record engaging point on the outer end of said lever, a bearing pin arranged upon the inner portion of the lever, a sound transmitting disk supported upon said bearing pin, diaphragm engaging points on said disk and adapted to be engaged with the diaphragms in said plate, and a spring to support said lever and disk when the former is disengaged from the record, substantially as described.

867,822. CORK CUTTING AND TAPERING MACHINE. JOHN A. HELLSTROM, Pittsburg, and GEORGE W. EXLER, Allegheny, Pa., assignors of one-third to Thomas H. Flynn, Pittsburg, Pa. Filed Dec. 13, 1905, Serial No. 291,625. Renewed Feb. 15, 1907. Serial No. 357,576.

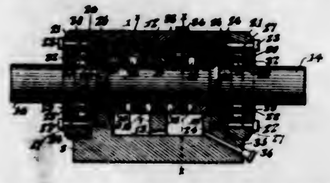


1. In a machine of the class described, a supporting-frame, a rotating shaft carried by said frame, L-shaped brackets pivotally connected at one end to said shaft, bolts connected to said shaft and passing through the opposite ends of said brackets, knife-holders pivotally mounted on said shaft, the pivotal points of the knife-holders co-inciding with the pivotal points of the brackets and bolts pivotally attached to the knife-holders and extending through the brackets, a movable blank holder disposed adjacent said shaft and means for moving the blank holder towards said shaft.

2. In a machine of the class described, a supporting frame, a rotatable shaft mounted in said frame, a blank-support movable relatively to the shaft, means for moving said blank-support, brackets fulcrumed on said shaft, means for connecting the free ends of the brackets to the shaft and for adjusting said free ends, knife-holders fulcrumed on the shaft, the fulcrum points of the knife-holders and the brackets co-inciding and means carried by the brackets for adjusting the angle of the knife-holders and sustaining the knife-holders rigidly in adjusted position relative to the brackets.

3. In a cork cutting and tapering machine, a frame, blank-supporting means carried thereby, a revolving shaft journaled in said frame, knife-holders fulcrumed upon said shaft, brackets fulcrumed upon said shaft at the same point as said knife-holders, adjustable connections between said brackets and said knife-holders and adjustable connections between said brackets and said shaft.

867,823. JOURNAL-BOX. SHELBY HICKS, Providence, Ky. Filed June 22, 1907. Serial No. 380,276.



1. The combination of a journal box comprising a removable cap and provided with an interiorly arranged rib dividing the journal box into separate oil chambers, a bearing sleeve supported by the said rib and by the ends of the journal box, a rotary member provided with collars fitting against the ends of the bearing sleeve, and closures for the ends of the journal box.

2. The combination of a journal box, a rotary member provided with spaced collars located at the ends of the journal box, closures for the ends of the journal box, and yieldably mounted rings surrounding the rotary member and fitting against the collars and the journal box to form a lap joint.

3. The combination of a journal box, a rotary member provided with spaced collars located at the ends of the journal box, closures for the ends of the journal box, rings fitting against the collars and the journal box, slidable means connected with the rings for holding the same against rotary movement, and yieldable means for holding the rings against the said collars and the journal box.

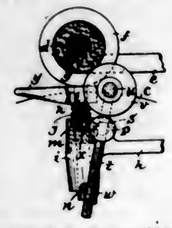
4. The combination of a journal box, a rotary member provided with spaced collars located at the ends of the journal box, closures for the ends of the journal box, rings fitting against the collars and the journal box and provided with pins slidable in the said closures, and yieldable means for holding the rings tightly against the collars and the journal box.

5. The combination of a journal box, a rotary member provided with spaced collars located at the ends of the journal box, closures for the ends of the journal box, rings fitting against the collars and the journal box, means for holding the rings against rotary movement, and coiled springs interposed between the rings and the closures and having their ends fitted in the same.

6. The combination of a journal box provided at its ends with recesses, a rotary member having collars located at the ends of the journal box, a bearing sleeve arranged within the journal box and fitting within the said collars, closures secured to the ends of the journal box, gaskets arranged between the closures and the journal box, rings fitting in the recesses of the journal box and engaging the collars, pins extending from the rings and guided in the closures, and springs interposed between the closures and the rings and housed within the former.

867,824. STOP-MOTION FOR QUILTING-MACHINES. DANIEL LAWLOR, Paterson, N. J., assignor to Benjamin Eastwood Co., Paterson, N. J. Filed June 11, 1906. Serial No. 321,212.

1. In a quilling machine, the combination, with a supporting structure, of a spindle driving wheel, a spindle adapted to be driven from said wheel and movable to and from the same, and mechanism for automatically disengaging the spindle from the wheel upon a predetermined amount of material being wound on the quill carried by the spindle comprising a longitudinally movable spring-pressed dog, means for normally holding the dog retracted, and a lever fulcrumed in said structure and operative from the material being wound on the quill, for releasing said dog from its holding means, substantially as described.



2. In a quilling machine, the combination, with a supporting structure, of a spindle driving wheel, a spindle adapted to be driven from said wheel and movable to and from the same, and mechanism for automatically disengaging the spindle from the wheel upon a predetermined amount of material being wound on the quill carried by said spindle comprising a longitudinally and rotatively movable spring-pressed dog having a projecting part normally engaged with a part of said supporting structure to hold the dog retracted, and means, operative from the material being wound on the quill, for rotating said dog and thereby releasing it from the retaining part of said structure, substantially as described.

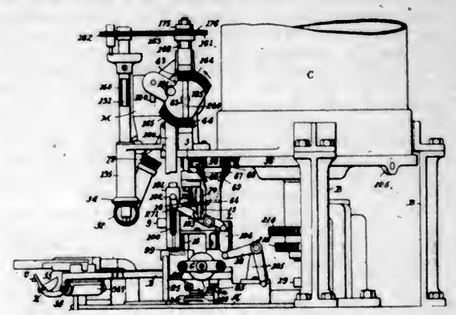
3. In a quilling machine, the combination, with a supporting structure, of a spindle driving wheel, a spindle adapted to be driven from said wheel and movable to and from the same, and mechanism for automatically disengaging the spindle from the wheel upon a predetermined amount of material being wound on the quill carried by said spindle comprising a longitudinally and rotatively movable spring-pressed dog having a projecting part normally engaged with a part of said supporting structure to hold the dog retracted, and a lever fulcrumed in said structure, adapted to be actuated from the material being wound on said quill, and projecting into engageable proximity to said dog, whereby to rotate said dog and thus effect the release thereof from the retaining part of said structure, substantially as described.

4. In a quilling machine, the combination, with a supporting structure, of a spindle driving wheel, a spindle adapted to be driven from said wheel and movable to and from the same, and mechanism for automatically disengaging said spindle from the wheel upon a predetermined amount of material being wound on the quill carried by the spindle comprising a movable dog adapted to move said spindle out of contact with the wheel, a stud rotatively arranged in said structure, and a lever adjustably arranged in said stud and engageable at one end with said dog and having its other end extending into operative proximity to the material being wound on the quill whereby to be actuated therefrom and so actuate the dog, substantially as described.

867,825. CIGAR-MACHINE. TRAUGOTT MOESINGER, Brooklyn, N. Y. Filed June 17, 1903. Serial No. 161,909.

1. The combination with a reversely curved flexible apron, of means for depositing tobacco thereon, means for folding the apron to form a pocket inclosing the tobacco, and means for contracting the curved portions successively at different sides to roll and condense the tobacco at the opposite ends, substantially as set forth.

2. The combination with a reversely curved flexible apron, of means for depositing tobacco thereon, means for folding the apron to form a pocket inclosing the tobacco, means for contracting the curved portions successively at different sides to roll and condense the tobacco at the opposite ends, and means for presenting a binder to receive the tobacco so as to be wound about the latter as it is rolled, substantially as set forth.



3. The combination with a reversely curved flexible apron, of means for depositing tobacco thereon, means for folding the apron to form a pocket inclosing the tobacco, means for contracting the curved portions successively at different sides to roll and condense the tobacco at the opposite ends, and means for presenting a binder to the tobacco to be wound about the same as it is rolled, and means for also applying the wrapper to and winding it about the tobacco, substantially as set forth.

4. The combination with a reversely curved flexible apron, of means for depositing tobacco thereon, a roller round which the apron is carried forward of the point where the tobacco is deposited, and means for securing relative movements of the roller and apron first radially as to one curve and then radially as to the other curve, substantially as set forth.

5. The combination with the table, of a frame 40 pivoted on one side of the table, a reversely curved platform supported by the frame with one of its curved sides substantially concentric with the pivot of the frame, a sliding support on the opposite side of the table, a carriage pivoted to said support, a frame pivoted to said carriage, a roller carried by the said frame, a rolling apron passing over the roller and connected at its ends to the frame which supports the platform, means for swinging the roller carrying frame about its pivot, and means for swinging the carriage about its pivot, substantially as set forth.

6. The combination of a swinging frame supporting a platform, an apron connected at the ends to the frame, a roller extending over the platform and over which the apron is passed, means for carrying the roller over the platform, means for swinging it at an angle thereto, and means for swinging the platform below the roller, substantially as set forth.

7. The combination of a swinging frame supporting a platform, an apron connected at the ends to the frame, a roller extending over the platform and over which the apron is passed, said roller tapering in opposite directions from the center, means for tilting the roller in opposite directions and means for carrying the roller over the platform and the latter below the roller, substantially as set forth.

8. The combination of a swinging frame supporting a platform, an apron connected at the ends to the frame, a roller extending over the platform and over which the apron is passed, said roller made or consisting of two independent sections, means for tilting the roller in opposite directions, and means for carrying the roller over the platform and the latter below the roller, substantially as set forth.

9. The combination of a swinging frame supporting a platform, an apron connected at the ends to the frame, a roller extending over the platform and over which the apron is passed, means for carrying the roller over the platform and the latter below the roller, a tapering pin, and means for moving it to and from a position adjacent

to the roller to contract the bend in the apron, substantially as set forth.

10. The combination of a swinging frame supporting a platform, an apron connected at the ends to the frame, a roller extending over the platform and over which the apron is passed, means for depressing the apron beyond the rear end of the platform to form a pocket, and means for carrying the roller radially over the platform and the latter radially below the roller, substantially as set forth.

11. The combination of the swinging platform, an apron supported beyond the end of the platform to swing therewith, means for depressing the apron to form a pocket beyond the platform, a carriage supporting a roller over which the apron passes, and means for carrying the roller to and over the platform and for swinging it about a pivot above the same, substantially as set forth.

12. The combination of the platform, an apron supported beyond the end of the platform, means for depressing the apron to form a pocket beyond the platform, a carriage supporting a roller over which the apron passes, means for carrying the roller to and over the platform and for swinging it above the same, and means for swinging the platform below the roller, substantially as set forth.

13. The combination with the platform, an apron carried thereby, and a carriage movable above the platform, of an arm extending from the carriage, a swinging frame carried by said arm, and a roller carried by said frame, the apron connected at one end to the platform and passing over the roller, substantially as set forth.

14. The combination with the platform, an apron carried thereby, and a carriage movable above the platform, of an arm extending from the carriage, a swinging frame carried by said arm, and a roller tapering toward both ends and carried by the frame, the apron being connected at one end to the platform and extending over the roller, substantially as set forth.

15. The combination with the platform, an apron carried thereby, and a carriage movable above the platform, of an arm extending from the carriage, a swinging frame carried by said arm, and a roller in two sections tapering toward both ends and carried by the frame, the apron being connected at one end to the platform and extending over the roller, substantially as set forth.

16. The combination with a vertically reciprocating box L, a platform below the same, an apron carried by the platform, and means for depositing a leaf on the apron, of a clamping plate carried by the box for clamping the leaf to the apron, substantially as described.

17. The combination with the platform, apron, and box L, of a hopper, means for carrying the box vertically between the apron and the hopper, a plate provided with recesses pivoted to turn below and to carry the recesses between the hopper and box and beyond the hopper, doors below the recesses, and means for opening the doors when the box is below the same, substantially as set forth.

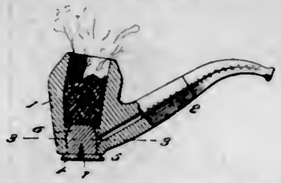
18. The combination with the platform, apron and box L, of a hopper, a plate provided with recesses, pivoted to rotate below and to carry the recesses below and beyond the hopper, doors below the recesses, and inclined blades revolving within the hopper above said recesses, substantially as set forth.

19. The combination of the platform, apron carried thereby, carriage G, arm, roller round which the apron is folded, pin 85, and means for carrying said pin into and from the fold of the apron, substantially as set forth.

867,826. SMOKING-PIPE. PATTISON F. MCCLURE, Pierre, S. D. Filed Sept. 21, 1906. Serial No. 335,620.

1. A pipe for smoking tobacco comprising a bowl and a stem, said bowl being open at its upper and lower ends, and said stem having a draft opening entering said bowl immediately above the lower open end thereof, and a plug of absorbent material removably fitted in the lower end of said bowl and forming the bottom thereof, said plug intersecting the plane of said draft opening and forming a support for the tobacco lead above said opening.

2. A pipe for smoking tobacco comprising a bowl and a stem, said bowl being open at its upper and lower ends, and said stem having a draft opening entering said bowl immediately above the lower open end thereof, and a plug of absorbent material removably fitted in the lower end of said bowl and forming the bottom thereof, said plug intersecting the plane of said draft opening and forming a support for the tobacco load above such opening, and formed to provide a continuous surrounding space between itself and the wall of the bowl.



3. A pipe for smoking tobacco comprising a bowl and a stem, said bowl being open at its upper and lower ends, and said stem having a draft opening entering said bowl immediately above the lower open end thereof, and a plug of absorbent material removably fitted in the lower end of said bowl and forming the bottom thereof, said plug comprising a truncated cone of absorbent material intersecting the plane of said draft opening and having a base fitted against the lower end of the bowl.

4. A pipe for smoking tobacco comprising a bowl and a stem, said bowl being open at its upper and lower ends, and said stem having a draft opening entering said bowl immediately above the lower open end thereof, and a plug of absorbent material removably fitted in the lower end of said bowl and forming the bottom thereof, said plug comprising a truncated cone of absorbent material intersecting the plane of said draft opening, its lower end projecting beneath the bowl sufficiently to permit the plug to be grasped and forming a stop therefor against the bottom of the bowl.

5. A pipe for smoking tobacco comprising a bowl and a stem, said bowl being open at its upper and lower ends, and said stem having a draft opening entering said bowl on a plane intersecting the opening in the bottom of the bowl, and a plug of absorbent material removably fitted in the lower end of the bowl and forming the bottom thereof, said plug forming a support for the tobacco load above said draft-opening and being wholly removable without disturbing the load to permit the cleaning of the stem opening.

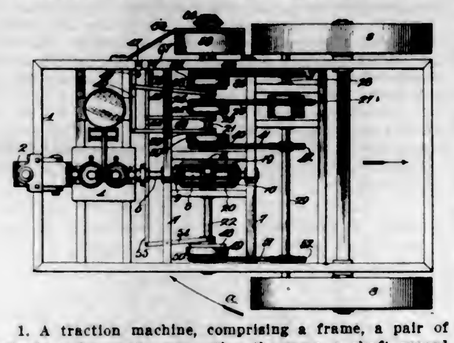
867,827. INHALER. JOHN H. MCCULLOCH, Newville, Pa. Filed May 14, 1906. Serial No. 316,806.



1. The herein described inhaler, comprising a reservoir portion having three short parallel tubes projecting therefrom, rubber sleeves surrounding the outer tubes and projecting beyond the same and nasal tubes secured in said rubber sleeves, said central neck being also formed to receive the end of a flexible tube for the mouth-piece, substantially as described.

2. The herein described inhaler, comprising a reservoir portion having removable nasal tubes, flexible sleeves connecting the nasal tubes with the reservoir portion and a mouth-piece also secured to the reservoir, said reservoir being provided with an externally screw-threaded lower neck and a screw cap fitting thereon, substantially as described.

867,828. TRACTION-MACHINE. GEORGE W. MCGILL, Enid, Okla. Filed Feb. 19, 1907. Serial No. 358,234.



1. A traction machine, comprising a frame, a pair of wheels and a caster supporting the same, a shaft geared to one of said wheels and a second shaft geared to the other of said wheels, a compensating wheel mounted on said shafts, means to operate said compensating wheel, and means whereby either of said shafts may be turned at a greater speed than that of the compensating wheel.

2. A traction machine, comprising a frame, a pair of wheels and a caster supporting the same, a shaft geared to one of said wheels and a second shaft geared to the other of said wheels, a compensating wheel mounted on said shafts, a driven shaft geared to the compensating wheel, a pair of clutches on the driven shaft and each geared to one of the first-named shafts, and means for operating and holding said clutches inoperative or one of them inoperative and the other operative.

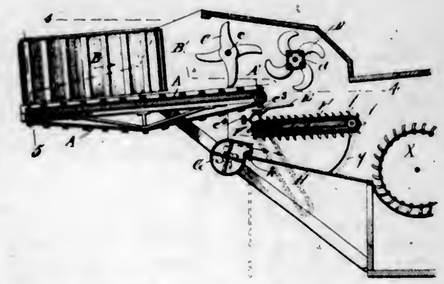
3. A traction machine, comprising a frame, a pair of wheels and a caster supporting the same, a shaft geared to one of said wheels and a second shaft geared to the other of said wheels, a compensating wheel mounted on said shafts, a driven shaft geared to the compensating wheel, a pair of clutches on the driven shaft and each geared to one of the first-named shafts, and a lever connected to said clutches for operating and holding both of them inoperative or one inoperative and the other operative.

4. A traction machine, comprising a frame, a pair of wheels and a caster supporting the same, a shaft geared to one of said wheels and a second shaft geared to the other of said wheels, a compensating wheel mounted on said shafts, a pair of oppositely driven shafts, a clutch on one of the driven shafts geared to the compensating wheel, a clutch on the other driven shaft geared to one of the first-named shafts, and means for simultaneously operating said clutches and throwing one to inoperative condition and the other to operative position successively.

5. A traction machine, comprising a frame, a pair of wheels and a caster supporting the same, a shaft geared to one of said wheels and a second shaft geared to the other of said wheels, a compensating wheel mounted on said shafts, a driven shaft, a pair of shafts driven in opposite directions by said driven shaft, clutches mounted on the last-named shafts, a sprocket wheel and chain connection between one of said clutches and the compensating wheel, a sprocket wheel and chain connection between the other of said shafts and one of the shafts on which the compensating wheel is mounted, levers connected to said clutches, a link connecting said levers and a lever for operating said link to throw said clutches to inoperative position simultaneously, or to throw one of them to inoperative and the other to operative position successively.

6. A traction machine, comprising a frame, a pair of wheels and a caster supporting the same, a shaft geared to one of said wheels and a second shaft geared to the other of said wheels, a compensating wheel mounted on said shafts, a driven shaft, a pair of shafts suitably journaled and longitudinally alined and equipped with bevel gears, a clutch on one of said shafts and geared to the compensating wheel, a clutch on the other of said shafts and geared to one of the shafts on which the compensating wheel is mounted, a sleeve rotatable with and slidable longitudinally on the driven shaft and provided with oppositely facing pinions, means to cause one of said pinions or the other to simultaneously engage and the other to become disengaged from said bevel gears, and means for holding said clutches inoperative or for throwing one of them to inoperative and the other to operative position successively.

867,829. THRESHING-MACHINE FEEDER. DANIEL MCIVOR, Crookston, Minn. Filed Mar. 14, 1906. Serial No. 306,052.



1. In a threshing machine feeder comprising two bundle carrier belts set at an angle converging toward each other at their delivery ends and approaching to close juxtaposition and having at their outer ends, which are widest apart, two vertical endless aprons set between the carrier belts and gears for driving the carrier belts and aprons to advance the bundles, the outer sides of the carrier belts being open.

2. A threshing machine feeder comprising two bundle carrier belts set at an angle converging toward each other at their delivery ends and approaching to close juxtaposition, driving shafts and rollers arranged at the delivery ends, vertical endless aprons set between the outer divergent ends of the two carrier belts, gears for the same, and a vertical stationary board extending from the inner end of each of the vertical aprons to the delivery ends of the carrier belts.

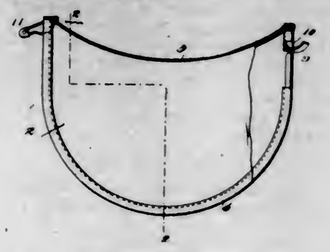
3. A threshing machine feeder comprising a bundle carrier belt, a rotary cutter, a rotary spreader with alternately reversed deflected blades located above the delivery end of the belt, a continuously rotating retarder apron with upwardly projecting teeth arranged below the delivery end of the bundle carrier and a series of horizontal and laterally oscillating fingers projecting from below the bundle carrier belt and over the retarder apron.

4. In a threshing machine feeder, the combination with the bundle carrier belt, of a series of horizontal and oscillating fingers projecting rearwardly from below the belt, a transverse bearing bar for the fingers, each of said fingers being made as a double cranked rock-shaft journaled in the bearing bar, a connecting rod connecting the rear cranks of the fingers and gears for reciprocating said connecting rod.

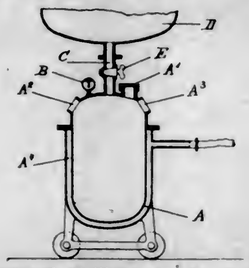
867,830. DRESS-SHIELD. MARGARET H. MCMANN, New York, N. Y. Filed Apr. 8, 1905. Serial No. 254,526.

A dress shield comprising arm and body flaps constructed of a single length of material formed in duplicate plies, and a layer of impervious material included between the plies, in combination with a binding strip secured to and curved throughout the length of the curved edges of each flap, said binding strip being spaced from the face of one ply of each flap to provide a pocket, the respective pockets being arranged on proximate surfaces of the flaps, a reinforcing strip loosely seated in each pocket, and a reinforcing section overlying the pockets at

each end of each reinforcing strip, said sections being secured to the respective flaps.



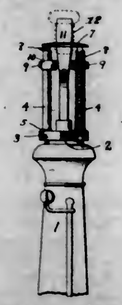
867,831. PROCESS FOR STERILIZING CLOSED VESSELS. LEOPOLD NATHAN, Zurich, Switzerland. Filed June 28, 1907. Serial No. 381,248.



1. The process of sterilizing vessels, which consists in heating and vaporizing alcohol in a confined space so as to create a pressure above atmospheric pressure thereupon releasing the confined vapors and passing them into the vessel to be sterilized, said vessel being closed against the outside air, and allowing the vapors to become condensed and to flow down on the walls of the vessel.

2. The process of sterilizing vessels, which consists in heating and partially vaporizing alcohol in a confined space so as to create a pressure above atmospheric pressure, therenpon releasing the confined vapors and passing them into the vessel to be sterilized and continuing to heat until all the alcohol has been vaporized, and then discontinuing the application of heat and allowing the vapors to become condensed on the walls of the vessel.

867,832. REED-PROTECTOR FOR WIND INSTRUMENTS. ELMER NELSON, Deer Lodge, Mont. Filed Apr. 26, 1907. Serial No. 370,364.

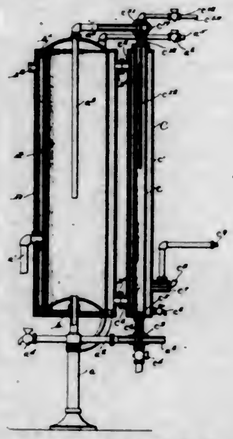


1. In a mouth piece or reed protector for wind instruments, the combination of a base, tubular standards mounted thereon and provided with pockets, adjusting nuts mounted in said pockets, screw-threaded rods slidably mounted in the tubular standards and adapted to be longitudinally adjusted in the same by means of said nuts, and a concave shield mounted on the ends of said rods, the mouth piece or reed of the instrument extending freely through openings in said shield and base.

2. In a protector, the combination with the mouth piece of a reed instrument, of an adjustable shield, rods supporting the shield, means to adjust the rods, tubular standards to support the rods and the adjusting means and means to support the standards.

3. In a musical instrument, the combination of a mouth piece comprising a reed, a perforated shield to extend around the same near its end, and means connected to the instrument to adjust and secure the shield in predetermined position.

867,833. CONDENSER. OSCAR A. NENNINGER, El Paso, Tex. Filed Feb. 6, 1907. Serial No. 356,016.



1. The combination with the house boiler, provided with water circulation pipes for connection with a water back, of a condenser comprising concentric inner and outer casings, said outer casing having a valved discharge pipe, and a relatively large steam inlet pipe, a relatively small air inlet pipe concentric with the steam inlet pipe, said inner casing communicating at each end with the corresponding end of the house boiler, a cold water inlet pipe at the upper end of the inner casing, an outlet pipe at the lower end thereof, a jacket for the boiler provided with an air vent at the top thereof, and communications between the jacket and the outer casing of the condenser at the top and bottom thereof.

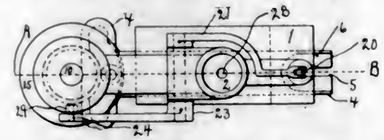
2. The combination with the house boiler, of a water condenser comprising concentric inner and outer casings, said outer casing having a valved discharge pipe and a steam inlet pipe, said inner casing communicating at each end with the corresponding end of the house boiler, a cold water inlet pipe at the upper end of the inner casing, a valved outlet pipe at its lower end, a jacket for the boiler provided with an air vent, and communications between the jacket and the outer casing of the condenser at the top and bottom thereof.

3. The combination with the house boiler, of a water condenser comprising concentric inner and outer casings, said outer casing having a valved discharge pipe, and a steam inlet pipe, said inner casing communicating at each end with the corresponding end of the house boiler, a cold water inlet pipe at the upper end of the inner casing and extending thereinto, and a valved outlet pipe at its lower end.

4. The combination with the house boiler, of a water condenser comprising concentric inner and outer casings, said outer casing, having a valved discharge pipe, and a steam inlet pipe, said inner casing communicating at each end with the corresponding end of the house boiler, and a cold water inlet pipe at the upper end of the inner casing.

5. The combination with a house boiler, of a jacket for the boiler, a water condenser comprising concentric inner and outer casings supported by the jacket, said outer casing having a valved discharge pipe and a steam inlet pipe and communicating with the jacket at its top and bottom, said inner casing communicating at each end with the corresponding end of the house boiler, and a cold water inlet pipe at the upper end of the inner casing.

867,834. DISK-FEEDING MACHINE. ANDREW H. NEUREUTHER, Peru, Ill., assignor to The Western Clock Manufacturing Company, La Salle, Ill., a Corporation of Illinois. Filed Dec. 28, 1906. Serial No. 349,923.



1. In a machine for feeding disks, the combination of a frame having an aperture for laterally supporting a column of disks, a slide vertically supporting said column of disks, a recess in said slide, a slot extending into said recess, and means for giving said slide a reciprocating motion, with a rod passing through an aperture in said frame and the slot of said slide, and means for giving said rod a reciprocating motion, said means comprising a lever and a cam.

2. In a machine for feeding disks, the combination of a frame having an aperture for laterally supporting a column of disks, a slide vertically supporting said column of disks, a recess in said slide, a slot extending into said recess, and means for giving said slide a reciprocating motion, in combination with a rod passing through an aperture in said frame and the slot of said slide, and means for giving said rod a reciprocating motion, said means comprising a lever and a cam.

3. In a machine for feeding disks, the combination of a frame having an aperture for laterally supporting a column of disks, a slide vertically supporting said column of disks, a recess in said slide, a slot extending into said recess, and means for giving said slide a reciprocating motion, said means comprising a cam path in said slide, a roll journaled on a pin fastened to a crank disk, said crank disk being fastened to a shaft having a rotary motion, with a rod passing through an aperture in said frame and the slot of said slide, and means for giving said rod a reciprocating motion, said means comprising a lever journaled to said frame and a cam on said shaft having a rotary motion.

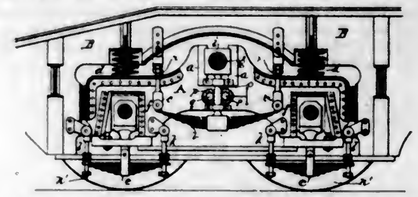
4. In a machine for feeding disks, the combination of a frame having an aperture for laterally supporting a column of disks, a slide vertically supporting said column of disks, a recess in said slide, a slot extending into said recess, and means for giving said slide a reciprocating motion, said means comprising a cam path in said slide, a roll journaled on a pin fastened to a crank disk, said crank disk being fastened to a shaft having a rotary motion, with a rod passing through an aperture in said frame and the slot of said slide, and means for giving said rod a reciprocating motion, said means comprising a lever journaled to said frame and a cam on said shaft having a rotary motion, substantially as shown and described.

867,835. LOCOMOTIVE-TRUCK. WASSILY PERVENKO, St. Petersburg, Russia. Filed Jan. 23, 1906. Serial No. 297,511.

1. In a traction engine, having an engine frame and a rotary driving wheel, a spring coupling between the engine frame and the shaft of the driving wheel.

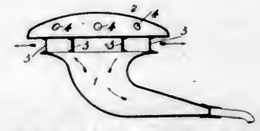
2. In a traction engine having an engine frame, a rotary driving wheel and a truck carrying such driving wheel, in combination with spring couplings between said engine frame, the shaft of said driving wheel, and the truck carrying such driving wheel.

3. In a traction engine having an engine frame, a rotary driving wheel and a wheeled truck carrying said driving wheel, a spring coupling between the engine frame and the shaft of the driving wheel, a spring coupling between the engine frame and the truck, and a spring coupling between the engine frame, the truck and the running wheels of the truck, substantially as described.



4. In a traction engine having a rotary driving wheel, a shaft for such wheel vertically slidable, a toothed bar connecting with said shaft and a double pair of toothed wheels on stationary revoluble axes, one pair on each side of and one wheel of each pair gearing with the teeth of said bar, the other wheels gearing with each other.

867,836. TRUMPET OR HORN OF SOUND-REPRODUCING INSTRUMENTS. ROLAND REVELL, West Hampstead, London, England, assignor to Thomas Knight Barnard, Stroud, England. Filed July 21, 1906. Serial No. 327,233.



1. In combination with the trumpet or horn of a sound reproducing instrument, a sound deflector arranged at the mouth of the horn and secured to the latter and providing an annular aperture through which the sound is projected in all directions simultaneously in a plane practically at right angles to that at which it would normally issue from the horn.

2. In combination with the trumpet or horn of sound reproducing instruments, a sound deflector arranged at the mouth of the horn and secured to the latter and providing an annular aperture through which the sound is projected practically horizontally in all directions simultaneously.

3. In combination with the trumpet or horn for sound reproducing instruments arranged to discharge the sound in an approximately vertical direction, a sound deflector arranged at the mouth of the horn and secured to the latter and providing an annular aperture through which the sound is projected practically horizontally in all directions simultaneously.

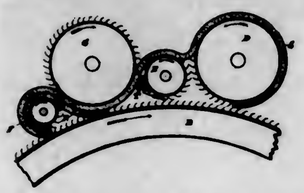
4. In combination with the trumpet or horn of sound reproducing instruments, a sound deflector arranged at the mouth of the horn and secured to the latter and providing an annular aperture through which the sound is projected in all directions simultaneously in a plane practically at right angles to that at which it would normally issue from the horn, and a sounding board coöperating with said deflector.

5. In combination with the trumpet or horn of sound reproducing instruments, a sound deflector arranged at the mouth of the horn and secured to the latter and providing an annular aperture through which the sound is projected in all directions simultaneously in a plane practically at right angles to that at which it would normally issue from the horn, and a perforated sounding board coöperating with said deflector.

6. In combination with the trumpet or horn of a sound reproducing instrument having a flared lip, a sound deflector arranged at the mouth of the horn and having its deflecting surface substantially parallel to the lip of the

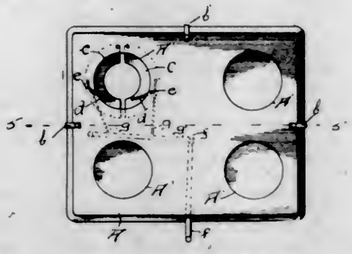
horn, and providing in connection therewith an annular aperture through which the sound is projected in all directions simultaneously in a plane practically at right angles to that at which it would normally issue from the horn.

867,837. CARDING-MACHINE. ROBERT B. ROBINSON and EDDO V. BATES, Lowell, Mass., assignors to Bates and Robinson Machine Company, Lowell, Mass., a Corporation of Massachusetts. Filed June 18, 1906. Serial No. 322,276.



In a carding-machine, the combination of a main cylinder and a plurality of sets of rolls coöperating therewith, each set including two workers which engage the main cylinder but do not engage each other, a transfer-roll of such size and location as to engage both workers and the main cylinder for transferring stock from the second to the first worker, and a stripper for taking stock from the first worker and replacing it upon the main cylinder.

867,838. STOVE. JAMES E. ROCKEY, Colorado Springs, Colo. Filed Aug. 3, 1904. Serial No. 219,395.

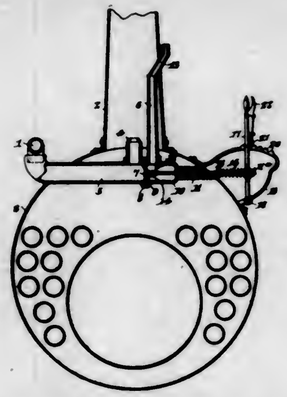


A stove cover comprising a sheet of material having holes formed therein coinciding with the holes in the top of a stove, plates arranged upon the under side of the cover for movement to and from each other to increase or decrease the size of the openings in the cover, said plates being slotted, and headed pins carried by the cover and extending through the slots in the plates for supporting and guiding the same, a push rod carried by the cover and having a handle portion extending beyond one edge of the cover, and rods connecting both of the plates with the push rod.

867,839. AUTOMATIC DRAFT-REGULATOR. SAMUEL W. SALMON, Mineral Point, Wis. Filed Apr. 7, 1906. Serial No. 310,540.

1. The combination with the exhaust pipe of a steam engine having a discharge nozzle opening into the stack, of a relief pipe discharging exteriorly of the stack, a valve for establishing communication between the exhaust pipe and the relief pipe and for cutting out the latter, and means for yieldably holding the valve closed, said means being exteriorly adjustable and being provided with exteriorly arranged operating mechanism for manually opening and closing the valve.

2. The combination of the exhaust pipe of a steam engine having a nozzle opening into the stack and provided with a horizontal transverse connecting portion and with a horizontal extension located on the opposite side of the nozzle from the connecting portion, a valve mounted in the extension, a relief pipe communicating with the extension in rear of the valve when the latter is closed, said valve being adapted to open to establish communication between the relief pipe and the exhaust pipe, and means for yieldably holding the valve closed, said means being exteriorly adjustable, whereby an even draft is maintained in the stack.



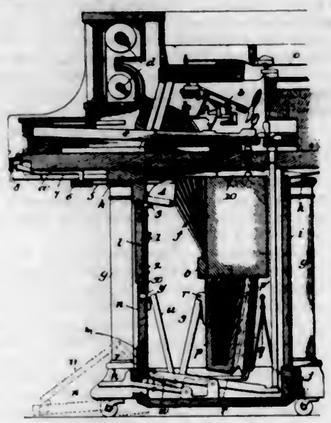
3. The combination of the exhaust pipe of a steam engine having a nozzle opening into the stack and provided with a transverse connecting portion and with an extension located opposite the connecting portion, a valve mounted in the extension, a relief pipe communicating with the extension in rear of the valve when the latter is closed, said valve being adapted to open to establish communication between the relief pipe and the exhaust-pipe, a rod connected with the valve, a spring disposed on the rod for holding the valve yieldably in its closed position, and operating mechanism connected with the rod for manually opening the valve and also engaging the spring for placing the same under tension.

4. The combination of the exhaust pipe of a steam engine having a nozzle opening into the stack and provided with a transverse connecting portion and with an extension located opposite the connecting portion, a valve mounted in the extension, a relief pipe communicating with the extension in rear of the valve when the latter is closed, said valve being adapted to open to establish communication between the relief pipe and the exhaust-pipe, a rod connected with the valve, a spring disposed on the rod for holding the valve yieldably in its closed position, an operating lever connected with the rod and engaging the spring, and means for securing the operating lever in its adjustment.

5. The combination with an exhaust pipe of a steam engine, a relief pipe, a valve arranged between the relief pipe and the exhaust pipe for cutting off and controlling communication between the said pipes, a rod connected with the valve, a spring for yieldably holding the valve in its closed position, an operating lever connected with the rod and engaging the spring, and means for securing the lever in its adjustment.

6. The combination with an exhaust pipe of a steam engine, a relief pipe, a valve arranged between the relief pipe and the exhaust pipe for cutting off and controlling communication between the said pipes, a rod connected with the valve, a spring for yieldably holding the valve in its closed position, an operating lever connected with the rod and engaging the spring, a bracket supporting the lever and provided with a plurality of teeth, and means carried by the lever for engaging the teeth to secure the lever in its adjustment.

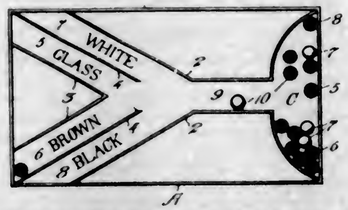
867,840. AUTOPNEUMATIC GRAND PIANO. JOHN H. SANDLAS and JOHN W. DARLEY, Jr., Baltimore, Md., assignors to William Knabe & Company Manufacturing Company of Baltimore City, Baltimore, Md., a Corporation of Maryland. Filed Jan. 13, 1906. Serial No. 295,987.



1. In an auto-pneumatic grand piano, the combination of a piano frame provided with the usual keys and piano action, with a removable base therefor carrying the pneumatic devices, a pedal board normally locked and connected to said pneumatic devices, a movable slip attached to the piano frame, and connections operated by said slip for unlocking said pedal board, substantially as described.

2. In an auto-pneumatic grand piano, the combination of a piano frame provided with keys and piano action, with a removable base therefor carrying pneumatic devices, said base being detachably connected with said piano frame and comprising movable parts whereby ready access may be had to the interior thereof, pneumatic devices supported in said base, a folding pedal board normally locked, connections between said pedal board and said pneumatic devices, means for unlocking said pedal board and allowing it to be folded out, said means including a folding slip, a spring operated bar provided with a catch normally locking said pedal board, and connections between said slip and said bar, substantially as described.

867,841. PUZZLE. JOHN H. SAVIDGE, Bloomington, Ill. Filed Feb. 19, 1907. Serial No. 358,223.



1. The herein described puzzle or game apparatus of the character described comprising a base having edge flanges, flanges or partitions disposed on the base so as to form channels in the shape of the letter Y, the divergent branches of which channels are wider than the shank of said letter Y, curved walls diverging from the base of the shank of the Y and extending to the opposite corners of one end of the box, said walls forming an inclosed compartment, and rolling objects in the channels.

2. The herein described puzzle or game apparatus of the character described comprising a base having edge flanges, flanges or partitions disposed on the base so as to form channels in the shape of the letter Y, divergent branches of which channels are wider than the shank of said letter Y, and auxiliary partitions or flanges placed in said divergent branches intermediate the walls of the latter and parallel therewith, said auxiliary partitions forming a plurality of divergent alleys, said diverging alleys communicating with the shank of the Y shaped passage, curved walls diverging from the base of the shank of the Y shaped passage and extending to the opposite corners of one end of the box, said walls forming an inclosed compartment for balls.

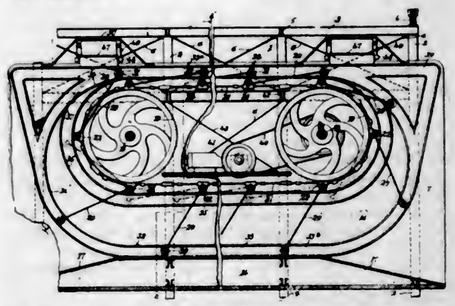
867,842. KETTLE-COVER KNOB. ERNEST A. SAWYER, Chiltonville, Mass. Filed Jan. 23, 1907. Serial No. 353,676.



1. A knob for culinary vessels comprising a spirally coiled resilient wire knob, the ends of which are reduced, and a split pin passed through the coils, said split ring provided with a head, and a washer having a slot therein passed over the ends of the split pin, and said ends being bent downward against the washer for holding the knob in place.

2. A knob for the covers of culinary vessels comprising a spirally wound resilient wire knob having reduced ends, a split pin provided with an enlarged head, and a washer provided with a slot or opening for the legs of the split pin, said spring knob being compressed and the ends of the split pin bent against the washer for firmly holding the knob in place, substantially as described.

867,843. WATER-CURRENT MOTOR. HENRY W. SCHMIDT, New York, N. Y. Filed June 14, 1906. Serial No. 321,690.



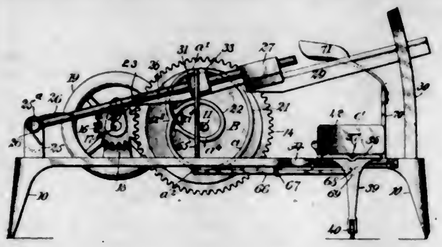
1. In a motor of the class described, in combination, a frame, wheels mounted thereupon, cables passing around said wheels, buckets mounted on said cables, a track on said frame affording means for guiding said buckets, said track having a turn-out into which the ends of said buckets may be guided to reverse the position thereof.

2. In a motor of the class described, in combination, a frame, wheels mounted therein, cables passing around said wheels, buckets attached to said cables at their inner edges, a main track below said cables, and an auxiliary track below said cables affording means for guiding the outer ends of said buckets, said main track being adapted to hold said buckets in an open position, said auxiliary track being adapted to hold said buckets in a folded position at the under side of said cables, and switches for directing said buckets at the points of connection between said main track and said auxiliary track.

3. In a motor of the class described, in combination, a frame, wheels mounted thereupon, cables passing around said wheels, buckets carried by said cables, a main track

and an auxiliary track adapted to direct the outer ends of said buckets, switches at the points of connection between said tracks, reversing turn-outs constituting extensions from said tracks, and reversing switches for directing said buckets into said turn-outs.

867,844. SLICING-MACHINE. EDWARD A. SEABURG, Seattle, Wash. Filed Dec. 28, 1905. Serial No. 293,623.



1. In a slicing machine, a support, an arm pivoted for movement at its free end to and from the support, a knife having sliding connection with said arm, a driving mechanism for imparting reciprocating motion to the knife, and connections between the said driving mechanism and said arm for imparting simultaneous vertical movement to the arm and therefore to the knife.

2. In a slicing machine, a support, a pivoted arm, a block having sliding and guided movement on the arm, a knife carried by said block, a driven shaft, means for reciprocating the block from the shaft, and means for imparting an up and down movement to the arm from said shaft.

3. In a slicing machine, a support, a pivoted arm, a block having sliding and guided movement on the arm, a knife carried by said block, a driven shaft, means for reciprocating the block from the shaft, and a cam operated by the said shaft and operating the arm to impart an up and down movement to the same.

4. In a slicing machine, a support, a tension-controlled arm pivoted for movement at its free end to and from the support, a knife mounted to slide upon the said arm, a drive shaft, a driven shaft, a gear connection between the two shafts, the gear on the driven shaft being the smaller, a crank arm connected with the driven shaft, a link connection between said drive shaft and the knife whereby to impart rapid reciprocating motion to the knife, a cam carried by the gear of the drive shaft, and an extension from said arm, engaging said cam, whereby to give a slow vertical movement to the said arm simultaneously with the rapid reciprocating motion of the knife.

5. In a slicing machine, a support, an arm pivoted for movement at its free end to and from the support, a knife having sliding connections with the said arm, a driving mechanism, connections between the knife and the driving mechanism for imparting reciprocating motion to the knife, connections between said driving mechanism and said arm for imparting simultaneous vertical movement to the arm, a reticulated support for the article to be sliced, a carrier adapted to move the said article toward the knife, and means for controlling the outward movement of the said carrier by the movement of the said knife-carrying arm.

6. In a slicing machine, a support, an arm pivoted for movement at its free end to and from the support, a knife having sliding connection with said arm, a driving mechanism, connections between the knife and the driving mechanism for imparting reciprocating motion to the knife, and connections between said driving mechanism and said arm for imparting simultaneous vertical movement to the arm, a carrier having sliding movement on the support beneath the knife, the said carrier being spring-controlled in an outward direction, ratchet teeth located on the carrier, a spring-controlled pawl for engagement with the said ratchet teeth, and a trip for the said pawl, automatically and periodically operated by the movement of the said arm.

7. In a slicing machine, a support, an arm pivoted for movement at its free end to and from the support, a knife having sliding connection with said arm, a driving mechanism, connections between the knife and the driving mechanism for imparting reciprocating motion to the knife, and connections between said driving mechanism and said arm for imparting simultaneous vertical movement to the arm, a gridiron located upon the said support, extending beneath the said knife, a carrier mounted to slide between the said support and the gridiron, an upwardly-extending toothed plate located at the rear end of the carrier, ratchet teeth formed upon the carrier, a tension device carried by the support and connected with the rear of the carrier, tending to force the same outward, a spring-controlled pawl arranged for engagement with the said ratchet teeth to stop or limit the movement of the carrier, and a trip mechanism for the pawl, being timedly operated by the knife-carrying arm.

8. In a slicing machine, a support, an arm pivoted for movement at its free end to and from the support, a knife having sliding connection with said arm, a driving mechanism, connections between the knife and the driving mechanism for imparting reciprocating motion to the knife, and connections between said driving mechanism and said arm for imparting simultaneous vertical movement to the arm, a gridiron located on said support beneath the said knife, a carrier mounted to slide between the said support and the knife, having a plate at its rear end for engagement with an article to be sliced, series of ratchet teeth secured to the said carrier, a slice support located at the forward end of the carrier, an adjustable spring-controlled pawl adapted for engagement with either set of ratchet teeth on the carrier to stop or limit the outward movement of the carrier, a trip member for the said pawl, and means for operating the trip member to disengage the pawl from the ratchet teeth at the upward movement of the knife-carrying arm, a tension device located beneath the said support, and a collapsible connection between the tension device and the rear end of the carrier, to automatically move the carrier outward when it is disengaged from the said pawl.

9. In a slicing machine, a support, a knife, a means for operating the knife, a carrier, a spring actuated device for feeding the carrier forward, a pawl and ratchet mechanism for holding the carrier stationary, and means for periodically disengaging the pawl from the ratchet.

10. In a slicing machine, a support, a knife, means for operating the knife, a carrier, a spring actuated device for feeding the carrier forward, a pawl and ratchet mechanism for holding the carrier stationary, and means controlled by the movement of the knife for periodically disengaging the pawl from the ratchet.

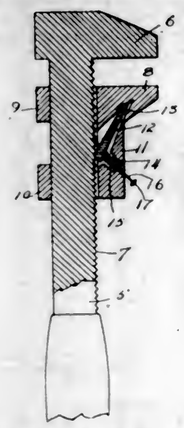
11. In a slicing machine, a support, a knife carrying arm, means for operating the said arm, a carrier, a spring actuated device for feeding the carrier forward, a pawl and ratchet mechanism for holding the carrier stationary, a trip mechanism for the pawl, and means for actuating the trip mechanism periodically from a knife carrying arm.

12. In a slicing machine, a support, a knife, means for operating the knife, a carrier provided with a plurality of rows of ratchet teeth, means for feeding the carrier forward, an adjustable pawl for engaging either row of ratchet teeth, and means for disengaging the pawl from the ratchet teeth periodically.

13. In a slicing machine, a support, a knife, means for operating the knife, a carrier provided with ratchet teeth, means for feeding the carrier forward, a pawl for engaging the ratchet teeth, a trip bar for engaging the pawl to disengage it from the ratchet teeth, and means for operating the trip bar periodically.

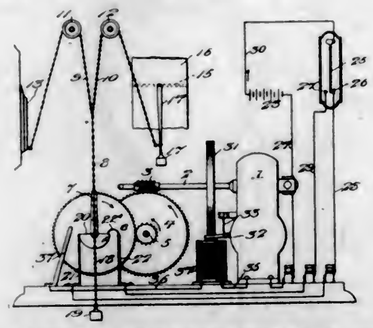
14. In a slicing machine, a support, a knife carrying arm, means for operating said arm, a carrier provided with ratchet teeth, means for feeding the carrier forward, a pawl for engaging the ratchet teeth of the carrier and provided with an extension, a trip bar for engaging the extension of the pawl to disengage it from the ratchet teeth, and means for operating the trip bar from the knife carrying arm.

867,845. RATCHET-WRENCH. ARLAN E. SMITH, Bridgeport, W. Va. Filed May 18, 1906. Serial No. 317,598.



A wrench comprising a handle-bar provided on its forward end with a fixed jaw, and having rack teeth on its front edge; the sliding body and its jaw, adapted to be adjusted longitudinally on the handle-bar, the body being provided with a chamber, having closed sides; a pawl in the form of a prop, having a hook-like formation on its upper end; a projection in the chamber, with which said hook engages; the pawl extending in an inclined direction in said chamber, supported by the closed sides thereof and having its lower end engaged with the rack-teeth of the handle-bar; a socket formed in said body part at a right angle to the pawl and below the same; a spring in said socket bearing at its inner end on the upper end of the pawl and at its outer end on the bottom of the socket thus giving the spring an upward thrust at a right angle to the pawl to hold the latter in place; and a rod having a knob on its outer end connected with the pawl to control the same.

867,846. THERMO-ELECTRIC CONTROLLING MECHANISM. HARRIE C. SMITH, New York, N. Y. Filed Oct. 7, 1905. Serial No. 281,830.

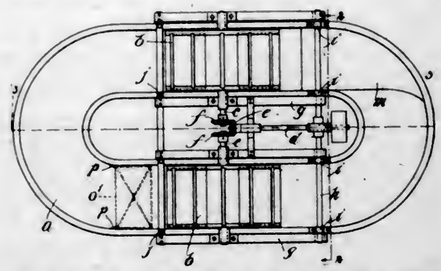


1. In a device of the character described, the combination of a motor having its armature shaft horizontally arranged, a worm on said shaft, a vertically disposed driving gear meshing with the worm, a pinion fixed to turn with said driving gear, a vertically disposed transmission gear arranged in a plane parallel with the driving gear and meshing with the pinion, a controlling arm and semi-circular commutator disk fixed to rotate with said transmission gear, said disk having an uninsulated acting surface, a brush in contact with the transmission gear, a pair of brushes arranged vertically on opposite sides of the commutator and having contact portions arranged to be alternately engaged by the curved edge of the disk in the plane of rotation of the latter, a battery, a brake wheel on the motor shaft, a spring projected brake shoe supported adjacent said wall and adapted to engage the same, a magnet for retracting said shoe, a conductor connecting the motor, magnet and first named brush with one pole of the battery, a pair of contacts, a thermostat connected with the other pole of the battery and arranged to play between said contacts, and conductors respectively connecting said contacts with the commutator brushes.

2. A device of the character described embodying an electric motor, a gear-train driven by the motor, a semi-circular uninsulated commutator disk driven by the gear-train, a pair of brushes arranged on opposite sides of the commutator disk and adapted to engage the curved edge thereof, one of said brushes being normally out of contact with the disk and provided with a hooked resilient finger for coacting therewith, an electric circuit including said brushes, motor and gear-train, and a thermostat controlling said circuit.

3. In a device of the character described, the combination of a motor, a worm upon the armature shaft of the motor, a drive gear meshing with said worm, a pinion driven by the gear, a power transmitting gear in mesh with the pinion, a semi-circular uninsulated commutator disk driven by the transmitting gear, a brush in contact with the transmitting gear, a pair of brushes arranged on opposite sides of the commutator disk and adapted to engage the curved edge thereof, one of said brushes being normally out of contact with said disk and having a hooked resilient finger for coaction therewith, a battery, a conductor connecting the motor and first-named brush with one pole of the battery, a pair of contacts, a thermostat connected with the other pole of the battery and arranged to play between said contacts, and conductors respectively connecting said contacts with the commutator brushes.

867,847. APPARATUS FOR TREATING SKINS. WILLIAM R. SMITH, Buffalo, N. Y., assignor to Buffalo Leather Co., Buffalo, N. Y., a Corporation of West Virginia. Filed June 21, 1905. Serial No. 266,266.



1. An apparatus of the character stated comprising an endless tank, means for moving the contents of the tank horizontally, said tank being free from obstructions to the passage of the liquid and skins flotatively carried thereby, whereby such skins may float horizontally and independently of each other, and means for turning or inverting the skins, said means being located sufficiently remote from the means for moving the contents of the tank to prevent simultaneous direct action of the impelling means and the turning means upon the skins.

2. An apparatus of the character stated comprising an endless tank, means for moving the contents of the tank horizontally, said tank being free from obstructions to the passage of the liquid and skins flotatively carried thereby, whereby such skins may float horizontally and independently of each other, and a deflector adapted to turn or invert the skins, said deflector being located sufficiently remote from the means for moving the contents

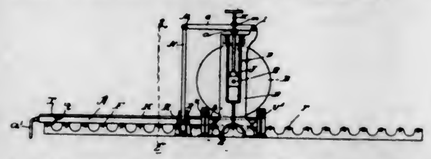
of the tank to prevent simultaneous direct action of the impelling means and the deflector upon the skins.

3. An apparatus of the character stated comprising an endless tank, rotary paddle-wheels therein, means for rotating said wheels simultaneously in opposite directions, and a deflector between the wheels adapted to turn or invert the skins, said deflector being located sufficiently remote from the paddle wheels to prevent simultaneous direct action of the deflector and paddle wheels upon the skins.

4. An apparatus of the character stated comprising an endless tank, means for moving the contents of the tank horizontally, and means for arresting and elevating skins carried by the current of liquid.

5. An apparatus of the character stated comprising an endless tank, means for moving the contents of the tank horizontally, a basket having a bottom and an open or grated back adapted to form a gate across the tank, and means for raising and lowering the basket.

867,848. APPARATUS FOR DRYING SKINS, &c. WILLIAM R. SMITH, Buffalo, N. Y., assignor to Buffalo Leather Co., Buffalo, N. Y., a Corporation of West Virginia. Filed Sept. 29, 1905. Serial No. 280,597.



1. In a device of the character specified, a reciprocating bed having an absorbent blanket cushion secured thereon and adapted to support a hide, a pressure-roll arranged to bear on the hide supported by the blanket, and means for automatically positioning the roll to press on the hide during one motion of the bed and to press on the blanket cushion during the return motion of the bed.

2. In a device of the character specified, a reciprocating bed having an absorbent blanket cushion secured thereon and adapted to support a hide, a pressure-roll located in proximity to the bed, and means carried by the bed for varying the distance of the roll from the bed.

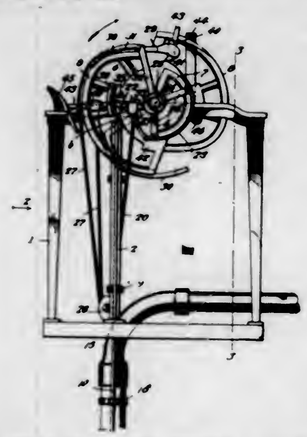
3. In a device of the character specified, a reciprocating bed, a roll slidably mounted in guideways above said bed, mechanism connected to said roll for moving the roll in the guideways, and means carried by the bed for actuating said mechanism.

4. In a device of the character specified, a reciprocating bed, a roll slidably mounted in guideways above said bed, arms movably connected to a fixed part of the machine, adjustable connections between said roll and arms, and dogs carried by the bed, arranged to engage the arms at each reciprocation of the bed, and raise and lower said arms and roll.

5. In a device of the character specified, a reciprocating bed, standards having guideways rising above said bed, a pressure-roll adjustably mounted in said guideways, levers pivoted to the standards and connected to the pressure-roll, downwardly extending bars connected to said levers, dogs connected to the bed near opposite ends thereof and located to engage portions of said bars during the reciprocations of the bed, one of the dogs having a cam-face arranged to force the bars upwardly, and the other having a face arranged to force the bars downwardly, and means for adjusting the pressure-roll relatively to the levers.

867,849. PUMP. ROBERT H. STOKER, Houston, Ohio. Filed Jan. 17, 1906. Serial No. 296,526.

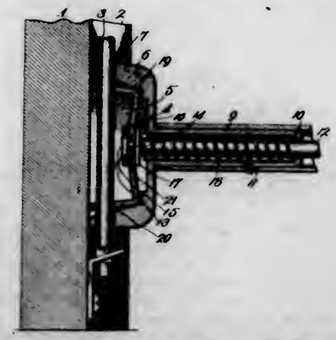
1. In a device of the class described, a reciprocatory pumping member, a pumping head having raising and lowering cams provided with engaging portions, flexible operating elements connected with the pumping member, coupling heads connected respectively with said elements and provided with movable locking dogs adapted for engagement respectively with the engaging portions of the separate cams, and means for moving the dogs alternately to and from engaging position at determined intervals for operatively connecting the elements with their respective operating cams.



2. In a device of the class described, a reciprocatory pumping member, a rotary pumping head having raising and lowering cams, a pair of flexible operating elements connected with the pumping member and adapted for operation by the cams, movable locking dogs connected with the elements and formed for engagement with the cams, and an abutment disposed in the path of the dogs for moving them alternately to and from engaging position.

3. In a device of the class described, a reciprocatory pumping member, a frame, a rotary shaft journaled in the frame and carrying a pumping head provided with raising and lowering cams, grooved guide members adapted to conform to the peripheries of the cams, coupling members carried by the guides and having movable devices for engagement with the cams, a pair of flexible operating elements connected with the pumping member and engaged respectively with the guide members, means for alternately and successively moving the devices to and from engaging position, and means for moving the guides away from the cams upon movement of the devices to releasing position.

867,850. CURTAIN-FIXTURE. HERBERT M. STURGIS, Kansas City, Mo. Filed Sept. 22, 1906. Serial No. 335,813.



1. In a curtain fixture, a hollow shoe open at its outer side and provided with a tubular stem, a rod extending longitudinally through said stem and projecting into the shoe and provided within the latter with a head, a pair of angular dogs within and fulcrumed in said shoe above and below said rod respectively and having their contiguous ends disposed inwardly of said head, and an expansive spring mounted on said rod within said stem and bearing at its inner end against the latter and exerting a yielding pressure at its outer end whereby the said contiguous ends of the dogs are held against said head.

2. In a curtain fixture, a hollow shoe open at its outer side and provided with a tubular stem, a rod extending slidingly through said stem and projecting into the shoe and provided with a head within the latter, a sliding collar mounted on said rod, and a pair of angular dogs having their contiguous ends held between said head and collar with a yielding pressure.

3. In a curtain fixture, a hollow shoe open at its outer side and provided with a tubular stem, a rod extending slidingly through said stem and projecting into the shoe and provided with a head within the latter, a sliding collar mounted on said rod, a pair of angular dogs having their contiguous ends interposed between the head and collar of said rod, and a spring mounted on the rod and bearing at its inner end against the stem of the shoe and at its outer end against said collar to clamp the latter yieldingly against the dogs.

4. The combination with a window casing having a groove in its inner side, a vertical rod in said groove and a tubular rod for attachment to a curtain, of a hollow shoe fitting in said groove and having its outer side open and provided with vertically alined holes in its upper and lower ends, internal shoulders and a tubular stem projecting into the rod movable with the curtain and having its inner end flanged inwardly, a rod extending through the tubular curtain-rod and the stem and projecting into the shoe and provided within the latter with a stationary head and a sliding collar, a pair of angular dogs fulcrumed on said internal shoulders and having their contiguous ends engaging the rod between its head and collar and provided with apertures near their opposite ends engaging the vertical rod, and a spring surrounding the rod and bearing at its inner end against the flanged end of the stem and at its outer end against the said collar to cause the same to clamp said contiguous ends of the dogs against said head.

867,851. AUTOMOBILE-TIRE. GEORGE G. SULLIVAN, Buffalo, N. Y. Filed Nov. 13, 1906. Serial No. 343,183.



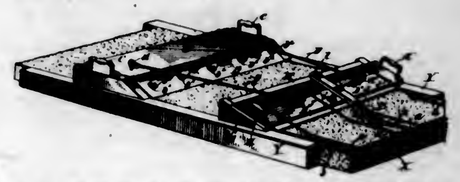
1. A link shield arranged between layers of rubber fabric and provided with rings connected therewith, partially surrounding rubber cores.

2. A tire tube having an outer casing, an inner link shield embedded within rubber fabric, V-shaped metallic rings secured to the edges of said shield, and hard rubber cores connected with said rings.

3. A tire tube having a link shield embedded in rubber and fabric, metallic rings secured to the edges of said shield, hard rubber cores connected with said rings, and a metallic rim clamped onto the inner portion of said shield.

4. A tire tube having enlarged edges, a metallic shield embedded in rubber and fabric, rings connected with the edges of said shield, hard rubber cores connected with said rings, and a rim clamping the enlarged edges of said tube.

867,852. DEVICE FOR LAYING CONCRETE PAVEMENTS. GEORGE W. SWITZER and GEORGE F. SWITZER, Salisbury, N. C., assignors of one-third to Henry G. Campbell, Salisbury, N. C. Filed Feb. 28, 1907. Serial No. 359,717.



1. A device for laying concrete pavements, consisting of a straight bar having a broad flat base, a narrower upper surface and a beveled rear edge with an adjustable trowel affixed to said edge and also having handles at its opposite ends and downwardly projecting transverse fins on the base side of its opposite ends arranged to define the marginal edges of the pavement and form guides.

2. A device for laying concrete pavements, consisting of a straight bar having handles at its opposite ends and downwardly projecting transverse fins on the lower side of its opposite ends arranged to define the marginal edges of the pavement and an adjustable straight metal trowel plate attached to the bar at one edge and capable of being extended below the bar to contact with the pavement to apply the necessary compacting and smoothing pressure on the plastic material.

3. A device for laying concrete pavements, consisting of a straight bar having handles at its opposite ends and downwardly projecting transverse fins on the lower side of its opposite ends and a metal smoothing plate adjustably attached to the bar at one edge and extensible below the bar, and having at the ends down-turned flanges for shaping the side edges of the pavement.

4. A device for laying concrete pavements, consisting of a straight bar having handles at its opposite ends and downwardly projecting transverse fins at the lower side of its opposite ends, and a metal smoothing plate arranged along the edge of the bar and means for adjusting said plate to or from the pavement, said plate being of less length than the bar and stopping short of each end of the bar.

5. A device for laying concrete pavements, consisting of a straight flat-bottom bar forming a float and provided with handles at its ends, a second bar with an inclined metal edge having down-turned ends forming a trowel extending below the bar and separable coupling devices for connecting the two together for operation at one pass over the pavement.

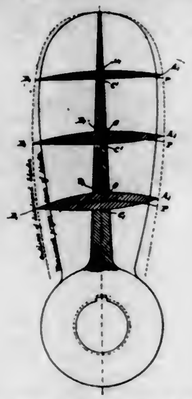
6. A device for laying concrete pavements, consisting of a sheet metal trowel plate, guide blocks at the ends for holding it at an acute angle, handles for manipulating the same, a dividing creaser with plow-shoe at its lower end, and a plurality of marker rods, both attached to the finishing trowel and extending at their trailing ends to a point below the trowel edge.

7. A device for laying concrete pavements, consisting of a sheet metal trowel plate, guide blocks at the ends for holding it at an acute angle, handles for manipulating the same, a dividing creaser attached to the trowel having a plow foot at its lower end and an adjustable and spring seated connection at its upper end.

867,853. SCREW-PROPELLER. DAVID W. TAYLOR, Washington, D. C. Filed Dec. 27, 1906. Serial No. 349,685.

1. A propeller blade whose developed section is derived from a curved directrix extending from the forward or leading part of the blade to the following edge, the blade having the forward half of its back parallel to said directrix, the rear halves of the back and face of the blade converging to meet the directrix at the following edge and the forward half of the face of the blade determined

from the thickness of the section and the curved back of the blade.



2. A propeller blade whose developed section is derived from a parabolic directrix extending from front to rear of the blade, the blade having the forward half of its back parallel to the directrix and the rear halves of the back and face of the blade substantially symmetrical to the directrix and curved to meet the directrix at the following edge, and the forward half of the face determined from the thickness of the section and the curved back of the blade.

3. A propeller blade the rear halves of whose developed sections are symmetrical to a curved directing surface of axially increasing pitch, and constant radial pitch.

4. A propeller blade the rear halves of whose developed sections are derived by proportionally distributing the thickness on the opposite sides of a curved directing surface of axially increasing pitch and constant radial pitch.

5. A propeller blade the back of the forward half of whose developed section is parallel to a curved directrix passing through the following edge and the face of whose forward half is curved from the center of the blade to meet the back at the leading edge.

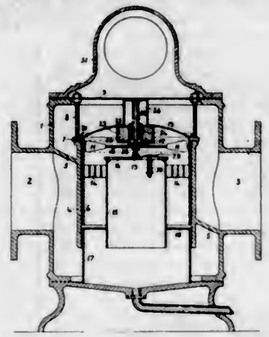
6. A propeller blade of which the thickness of any section thereof, at any point of the length of said section, is proportional to the ordinates of a curve of sines that is plotted upon the length of said section which is taken to represent 180°.

7. A propeller blade the thickness of any section of which at any point of its rear half is proportionally distributed on both sides of a curved directrix, the whole thickness of the blade section at such point being proportional to the ordinates of a curve of sines plotted upon the length of the entire section, which length is taken to represent 180°.

867,854. ROTARY GAS-METER. THOMAS THORP, Whitefield, near Manchester, England. Filed June 5, 1906. Serial No. 320,365.

1. In a rotary gas meter the combination of an open ended cylinder through which the gas is compelled to pass, a second internal cylinder concentric with the first, closed at the top, and having an annular space between itself and the cylinder and having tubular guide passages in the said annular space between the two cylinders, a wheel in the first cylinder having a solid central disk and outer inclined vanes above said guide passages, and a lifting valve covering the top of the first cylinder.

2. In a rotary gas meter the combination of an open ended cylinder through which the gas is compelled to pass, a second internal cylinder concentric with the first and closed at the top, and having an annular space between itself and the cylinder and having tubular guide passages in the said annular space between the two cylinders, a wheel in the first cylinder above the top of the second cylinder, having a solid disk and outer inclined vanes above said guide passages, a lifting valve covering the top of the first cylinder, and means for retarding the movement of the valve in either direction.



3. In a rotary gas meter the combination of an open ended cylinder through which the gas is compelled to pass, a second internal cylinder concentric with the first and closed at the top, and having an annular space between itself and the cylinder and having tubular guide passages in the said annular space between the two cylinders, a wheel in the first cylinder above the top of the second cylinder, having a central disk and outer inclined vanes, a lifting valve covering the outlet from the first cylinder, means for retarding the movement of the valve in either direction, and a brake operated by the valve and adapted to arrest the rotation of the wheel when the valve closes.

4. In a gas meter the combination of an open ended cylinder, means for compelling the gas to pass through said cylinder, a second internal cylinder concentric with the first and closed at the top, and having an annular space between itself and the cylinder and having tubular guide passages in the said annular space between the two cylinders, a wheel in the first cylinder above the top of the second cylinder having a central disk and inclined outer vanes, a lifting valve covering the outlet from the first cylinder, a dashpot connected to the valve, and a tube depending from the center of the valve and adapted to rest upon the disk of the wheel when the valve is closed.

5. In a rotary gas meter the combination of a wheel having inclined vanes, a cylinder having its outlet end surrounding said wheel, and a lifting valve adapted to close the outlet end of the cylinder so as to regulate the flow of gas over the vanes.

6. In a rotary gas meter the combination of a wheel with inclined vanes, a cylinder having its outlet end surrounding said wheel, a lifting valve adapted to close the outlet end of the cylinder so as to control the flow of gas over the vanes and perforated screens between the other end of the cylinder and the inlet to the meter.

7. In a rotary gas meter the combination of an open ended cylinder in the center of the meter casing, a second internal cylinder concentric with the first open at the bottom and closed at the top, said cylinders having guide passages arranged between them, a wheel in the first cylinder having a solid central disk and outer inclined vanes above said guide passages, said internal cylinder having an opening in its top, a valve adapted to close said opening and a spring adapted to press the valve upon its seating.

8. In a rotary gas meter the combination of an open ended cylinder inside the casing, means for introducing the gas at the low end of said cylinder, a second internal cylinder concentric with the first open at the bottom and closed at the top, said cylinders having tubular guide passages arranged between them, a wheel in the first cylinder having a solid central disk and outer inclined vanes above the guide passages, said internal cylinder having an opening in the top thereof, a valve adapted to close said opening, a spring adapted to press the valve on its seating, a lifting valve covering the outlet from the first cylinder, means for retarding the motion of this valve in either direction and a brake operated by said valve and adapted to arrest the rotation of the wheel when the valve closes.

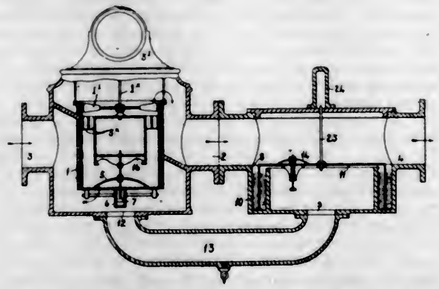
9. In a rotary gas meter the combination of a casing, an open ended cylinder inside the casing, means for introducing the gas at the lower end of said cylinder, a second internal cylinder concentric with the first open at the bottom and closed at the top, said cylinders having tubular guide passages between them, a wheel in the first cylinder having a solid central disk and inclined vanes above the guide passages, said internal cylinder having an opening in the top thereof, a spring loaded valve closing said opening, a lifting valve covering the top of the first cylinder, a dashpot connected to this valve and a tube depending from the valve and adapted to bear upon the wheel disk when the valve is closed.

10. In a rotary gas meter the combination of a casing an open ended cylinder in the center thereof, means for introducing the gas at the lower end of the cylinder, a second internal cylinder, concentric with the first open at the bottom and closed at the top, an annular plate between the cylinders and tubular guide passages through the same, a wheel in the first cylinder having a solid center and inclined vanes above the guide passages, said internal cylinder having an opening thereof, a valve adapted to close the same and a spring adapted to close the valve, a lifting valve covering the top of the first cylinder, a top plate covering the gas chamber, a tube attached to said plate and an annular piston carried by said tube, an annular cylinder carried by the said lifting valve in which cylinder said piston slides, a tube attached to the underside of the cylinder and adapted to bear upon the disk of the wheel when the valve is closed, and perforated screens between the cylinders and the gas inlet.

11. In a rotary gas meter, the combination of a cylinder through which the gas passes, a wheel in said cylinder having inclined vanes subjected to the current of gas, and a lifting valve covering the outlet end of the cylinder, substantially as and for the purposes described.

12. In a rotary gas meter, a cylinder through which the gas flows, a wheel in said cylinder near the outlet end thereof and having inclined vanes in the path of flow of the gas, in combination with a lifting valve covering the outlet from the cylinder and being of substantially the same size as the vane-wheel and means for retarding the movement of the valve in either direction.

867,855. APPARATUS FOR OBTAINING A UNIFORM RATE OF FLOW OF GASES IN PIPE-CONDUITS. THOMAS THORP, Whitefield, near Manchester, England. Filed July 11, 1906. Serial No. 325,719.

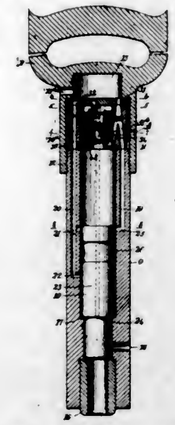


1. In a pipe conduit for gases the combination of a free lifting valve adapted to close the inlet to said conduit, a dashpot and a spring connected to said valve, said spring being adapted to maintain a uniform difference of the pressures in said conduit before the inlet and at the outlet, an extensible and contractible chamber the outside of which is exposed to the pressure in the outlet from the conduit and the inside of which is exposed to the pressure in the inlet to the conduit, said chamber being in equilibrium for the same difference of external and internal pressures as that maintained by the valves.

2. In a pipe conduit for gases the combination of a free lifting valve adapted to close said conduit, a dashpot connected to said valve, a spring connected to said valve and adapted to maintain a uniform difference of the pressures before the valve and at the outlet of the conduit, a casing in open communication with the conduit behind the valve, an extensible and contractible chamber inside said casing and in open communication with the conduit before the valve, a flexible diaphragm forming a side of said chamber and a spring connected to the diaphragm and adapted to maintain the same difference of the inside and outside pressures as that maintained by the valve.

3. In a pipe conduit for gases, a loaded valve adapted to open and close the conduit, means for preventing abrupt movements of said valve, a by-pass around said valve and a loaded movable abutment in said by-pass movable under variations of pressure in the conduit, as and for the purpose set forth.

867,856. PNEUMATIC TOOL. EDWARD M. TOBIN, Barre, Vt. Filed July 13, 1906. Serial No. 325,994.



1. A pneumatic tool having a valve casing provided with an axial opening, means connected to said valve casing and having an annular flange inclosing said valve casing, said valve casing and inclosing means having radial passages lying in the same plane, and a valve within the axial opening of said casing, said valve having an open-ended body portion in engagement with the inner walls of said axial opening, and a partition intermediate the ends thereof, said valve being provided with a plurality of radial passages below the partition and adapted to lie in the same transverse plane with the above mentioned radial passages and permit the escape of exhaust air from the interior of the valve to the atmosphere when the valve is in one position, and lie in a different plane and prevent this escape from in the opposite position.

2. A pneumatic tool, comprising a cylindrical barrel, a hammer located therein, a valve casing adjacent one end of said barrel and having an axial opening in communication with the interior of said barrel, an annular recess adjacent one end of said opening, a passage whereby compressed air may be delivered to said recess, and a second passage whereby compressed air may be delivered to said opening independently of the recess, the walls of the casing and of the barrel having a passage, one end thereof terminating within the axial opening of the casing adjacent the

outlet of the last mentioned passage and the other end of said passage terminating within the barrel adjacent the lower end of the hammer, and a valve within the axial opening of the valve casing and having an annular groove in its outer surface in communication with both of the last mentioned passages when the valve is in its closed position.

3. A valve casing having an axial opening, an annular recess adjacent each end thereof, a plurality of radial passages leading from said axial opening to the outside atmosphere from points intermediate the annular recesses, a passage for supplying compressed air to one of said recesses, a passage for supplying compressed air to said axial opening, and a passage adjacent said last mentioned passage, and a valve within said axial opening, said valve having an open-ended body portion in engagement with the wall of said axial opening, and a partition intermediate its ends, said valve being provided with a plurality of radial openings adapted to communicate with the axial opening of the casing, and an annular groove communicating with said axial opening intermediate the ends of the latter.

4. A tubular valve having both ends thereof open, an imperforate partition intermediate the ends thereof, and an annular flange upon the perimeter of said valve adjacent one end thereof, the wall of said valve being provided with a plurality of openings intermediate the partition and one end of the valve, and a circumferential groove in the perimeter of the valve intermediate the partition and the opposite end.

5. A valve for the purpose set forth, having a hollow cylindrical body portion, the ends of said body portion being open, an imperforate partition within said body portion and at right angles to the axis thereof, and an annular flange surrounding the body portion adjacent one end thereof, the outer cylindrical surface of the body portion being provided with a groove intermediate the annular flange and the partition, and the cylindrical wall of said body portion being provided with a plurality of axial openings intermediate the partition and the opposite end.

6. A valve having a cylindrical body portion of substantially uniform diameter throughout its length, and an annular flange encircling the perimeter thereof adjacent one end of the valve and constituting a seat, said valve having the ends thereof open and separated by an imperforate partition, the perimeter of said valve adjacent the annular flange being provided with a groove, and the wall adjacent the opposite end thereof being provided with a series of perforations.

7. In a pneumatic hammer, the combination with the barrel thereof having a series of ports therein, a tubular valve having an annular flange encircling the perimeter thereof adjacent one end and constituting a seat, said valve being separated into two open-ended compartments by a transverse diaphragm intermediate the ends thereof, one of said compartments being in open communication with the barrel of the hammer and the other of said compartments together with the annular flange, serving as means whereby the valve may be closed, the wall of said valve being provided with a plurality of axial openings whereby the air may escape from the barrel and the first mentioned compartment when air is delivered to the last mentioned compartment.

867,857. AUTOMATIC CAR-REPLACER. JAMES W. WALLS, Morley, Colo. Filed Apr. 8, 1907. Serial No. 367,014.



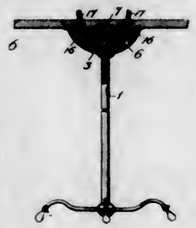
1. In a car replacing device, the combination with a track rail, of a bar mounted along-side the rail, the said bar being highest at its center and tapering longitudinally in both directions, the said bar provided with smooth faces transversely inclined in opposite directions, the center of the bar being nearest the rail while its parts on opposite sides of the center recede from the rail in both directions.

2. As an improved article of manufacture, a car replacing frog comprising a bar highest in the center and tapering longitudinally in both directions, the portions of the bar on opposite sides of the center receding transversely in one direction, the said frog provided with smooth faces transversely inclined downwardly in opposite directions.

3. In an automatic car replacing or remounting device, the combination with the track, of a bar made fast to the device adjacent each rail, the said bar being on the inside of one rail and on the outside of the other rail, each bar being highest in the center and tapering downwardly longitudinally in both directions, the said bar also receding from the rail in both directions from the center and provided with smooth faces transversely inclined from a ridge or apex, downwardly in the direction of the rail, substantially as described.

4. In a device of the class described, the combination with a track rail, of a bar, said bar having a high central portion located a short distance from the adjacent edge of the tread of the rail, said bar tapering downwardly longitudinally from the center in both directions, and also provided with smooth faces tapering transversely downwardly from an apex toward the rail, the bar being secured to the ties or supporting means for the rails, substantially as described.

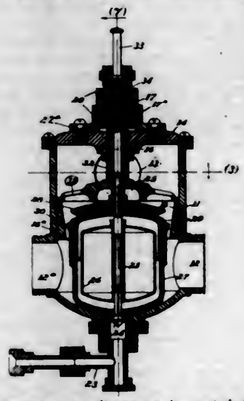
867,858. ELECTROLIER-HANGER. ROBERT T. WATT, Laurel Springs, N. J., assignor of one-half to Walter I. Raymond, Collingswood, N. J. Filed Nov. 8, 1906. Serial No. 342,477.



1. A chandelier coupling comprising a ceiling plate, a coupling member, an adjusting plate formed integral therewith, means connecting said coupling member and adjusting plate with the chandelier tube, said ceiling plate being formed with a vertical diametrical opening for the reception of the coupling member, the upper face of the ceiling plate being countersunk on opposite sides of said opening and formed with seats at right angles to said diametrical opening, said countersunk portions each beginning with said opening and terminating with said seats, said coupling member being adapted to be passed through said diametrical opening and turned into said seats, and adjusting screws carried by said adjusting plate adapted to bear against the lower face of the said ceiling plate.

2. In a chandelier coupling, a chandelier tube, a ceiling plate formed with a diametrical opening extending therethrough, a T-headed member on the upper end of said chandelier tube, said ceiling plate being formed in its upper face with segmental recesses of a depth slightly in excess of the vertical thickness of the arms of said T-headed member, said recesses communicating with opposite ends of said opening on opposite sides thereof and each recess terminating in a depression and shoulder, said T-headed member being adapted to be inserted through said opening and turned in said recesses to engage said shoulders and to seat in said depressions, and means on the chandelier tube for drawing the T-headed member into and firmly retaining the same in said depressions and for adjusting said chandelier tube.

867,859. CARBURETER. EDMOND M. J. WEINAT and JOSEPH BOGNY, Chicago, Ill., assignors, by mesne assignments, of three-fourths to Andrew A. Brock, Chicago, Ill. Filed Apr. 7, 1905. Serial No. 254,310.



1. In a carbureter, an oil reservoir containing a float and an inlet valve governed thereby, and having an outlet formed by an annular series of multiplex small passages, in combination with an annular air inlet valve for the carbureter surrounding said reservoir.

2. In a carbureter the combination with an annular air inlet valve, of an oil reservoir having an annular outlet for the oil vapor therefrom, adjacent to said air valve, and the air valve seating on the reservoir, substantially as described.

3. The combination with the oil reservoir having an outside face partially conical and an oil outlet adjacent thereto, of a combined air valve and mixing chamber comprising an interiorly conical cup surrounding and registering with the conical surface of the reservoir to form an air inlet valve, substantially as described.

4. In a carbureter, an oil reservoir comprising two telescoping cups, one of the contiguous surfaces of which has outlet grooves a part of which communicate with the interior of the reservoir and a part of which cross the first mentioned part intermediate the ends thereof, and means for forcing the oil through the grooves.

5. In a carbureter, an oil reservoir comprising two telescoping cups, one of the contiguous surfaces of which has a plurality of grooves communicating with the oil reservoir and a plurality of cross grooves intermediate the ends of such first grooves, and means for forcing the oil through the grooves.

6. The combination with the casing 11 and the contained oil reservoir, of an annular air inlet valve having a seat on the reservoir, means to move the valve and thereby open and close it, and means on said valve for controlling also the outlet of mixed oil and air from the said casing.

7. In a carbureter the combination with the casing having air inlets and an outlet for the mixture, of an air inlet valve closing by sliding vertically in the casing and having a wing controlling the mixture outlet by revolution of the valve, and means for raising and rotating the said valve.

8. In a carbureter the combination of a cylindrical casing, a cylindrical oil chamber concentrically located therein and having an oil inlet in its top and a parti-conical exterior face, and an air inlet valve comprising a perforated cup fitting in the casing between the casing and said reservoir and having an interiorly conical face cooperating with the cone on the reservoir to open and close the air inlet by vertical movement of the air valve, substantially as described.

9. A carbureter valve opening by vertical movement to admit air to the mixing chamber, and having the wing 16ª and being revoluble to close the mixture outlet thereby, in combination with a casing having air inlets and an outlet for the mixture, substantially as described.

10. In a carbureter the combination with an inclosing casing, of an oil reservoir therein having a sloping outside surface, and a valve between the casing and reservoir surrounding the reservoir and having a sloping surface cooperating with the sloping surface on the reservoir to open and close an air discharge in the casing by relative movement of the said annular valve with respect to the casing, substantially as described.

11. In a carbureter the combination with a reciprocating annular valve ring having a sloping surface, of a surrounding casing and an oil reservoir placed within said valve ring and having a surface adapted to open and close the space between the reservoir and the valve ring by reciprocation of the ring, and said oil reservoir having an outlet contiguous to the annular space between it and the valve ring, substantially as described.

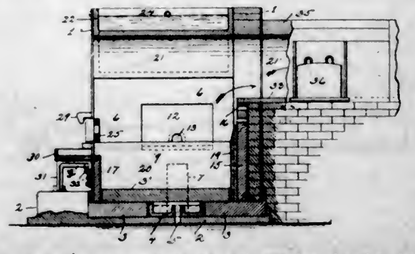
867,860. SUSPENDER-END. HERMAN WEISS, New York, N. Y. Filed Feb. 23, 1907. Serial No. 358,875.



1. As an improved article of manufacture, a suspender end having a slotted tab extending from its inner face being integral therewith, a strap passed through the slot of the tab, and a clasp carried by the strap.

2. As an improved article of manufacture, a suspender end having a tab integral therewith and extending from the inner side of its body portion adjacent to one of its terminals, the said tab being provided with a diagonal slot and an auxiliary supporting strap loosely passed through the slot in the said tab, and a clasp at the lower end of the said strap.

867,861. KNOBBLING-FURNACE. WILLIAM F. WESTLUND, Washington, Pa. Filed Mar. 22, 1906. Serial No. 307,351.



1. A knobbling furnace comprising a fire chamber having relatively low front and side walls and an elevated rear wall with the smoke flue leading through said rear wall and provided with a horizontal bottom and with charging doors communicating with said flues, wall sections detachably engaging the side walls of said furnace

and having means for receiving twyer devices, a top section bearing upon said side wall sections and against the elevated rear wall section and above the flue aperture thereof.

2. A knobbling furnace comprising a fire chamber having relatively low front and side walls and with an elevated rear wall having a smoke flue leading therethrough and provided with a horizontal bottom and with charging doors communicating with said flue, wall sections detachably bearing upon said side walls and provided with means for supporting twyer devices, a top section provided with vertical sides and an arching bottom and forming an open water receptacle and bearing upon said side wall sections and against said elevated rear wall and above the flue opening therein.

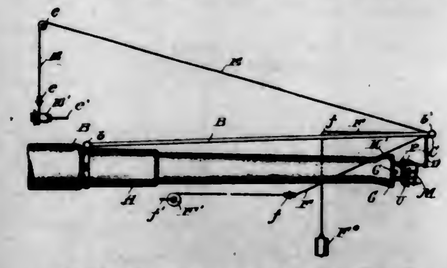
3. A knobbling furnace comprising a fire chamber having a relatively low front wall and a relatively high rear wall with the smoke flue leading through the rear wall and formed with a horizontal bottom, and with charging doors communicating with the flue, a detachable top section bearing upon the side walls and against the elevated rear wall and above the flue opening therein, whereby a relatively large opening in front of the furnace is produced with the entrance to the flue and the flat bottom of the same accessible through said opening.

4. A knobbling furnace comprising a fire chamber having a relatively low front and a relatively high rear wall, with the smoke flue leading therethrough and formed with a horizontal bottom and with charging doors communicating with the flue, the top section bearing upon the side walls and against the rear wall and above the flue opening therein and formed with vertical sides and an arched bottom constituting an open water receptacle.

5. A knobbling furnace comprising a fire chamber formed in detachable and interchangeable sections, a detachable top to said fire chamber having means for supporting a non-heat conducting element, twyer devices associated with said fire chamber, a flue leading from said chamber and having a flat bottom, and means for depositing charges of metal in the said flue in position to be transferred to the fire chamber.

6. A knobbling furnace of the class described, comprising a metal jacket, a fire chamber disposed within said jacket and formed of detachable and interchangeable sections, a detachable cover to said chamber and constituting a receptacle adapted to support a non-heat conducting element and with an arched lower portion above the fire in the chamber, a smoke flue leading from said fire chamber and having a charging door, twyers associated with said fire chamber, and means for maintaining the charge in said fire chamber.

867,862. APPARATUS FOR INSTRUCTING GUN-LAYERS IN POINTING GUNS. RICHARD D. WHITE, Washington, D. C. Filed Jan. 21, 1907. Serial No. 353,370.



1. The combination with a target mounted in front of the gun sights, with means for moving said target both laterally and vertically, of a swinging arm carried by the gun and having a marking point, with means for causing said point to strike the target after a predetermined firing interval, substantially as described.

2. The combination with a target mounted in front of the gun sights with means for moving said target both laterally and vertically, of a swinging arm carried by the gun and having a marking point with means for causing said point to strike the target after a predetermined firing interval, and means for varying the firing interval, substantially as described.

3. The combination with a target mounted in front of the gun sights with means for moving said target both laterally and vertically, of a swinging arm carried by the gun and having a marking point, and electro-magnetic means controlled by the gun pointer for swinging said arm and thus causing said point to strike the target after a predetermined firing interval, substantially as described.

4. The combination with a target mounted in front of the gun sights with means for moving said target both laterally and vertically, of a swinging arm carried by the gun and having a marking point, and electro-magnetic means controlled by the gun pointer for swinging said arm and thus causing said point to strike the target after a predetermined firing interval, and means for varying the firing interval, substantially as described.

5. The combination with a target mounted in front of the gun sights with means for moving said target with varying and independent velocities, both laterally and vertically of a swinging arm carried by the gun and having a marking point, and electro-magnetic means controlled by the gun pointer for swinging said arm and thus causing said point to strike the target after a predetermined firing interval, substantially as described.

6. The combination with a target mounted in front of the gun sights with means for moving said target with varying and independent velocities, both laterally and vertically, of a swinging arm carried by the gun and having a marking point, electro-magnetic means controlled by the gun pointer for swinging said arm and thus causing said point to strike the target after a predetermined firing interval, with means for varying the firing interval, substantially as described.

7. The combination with a target mounted in front of the gun, with means for moving said target both laterally and vertically, of a swinging arm carried by the gun and having a marking point, electro-magnetic means con- and vertically, of a swinging ram carried by the gun and causing said point to strike the target after a predetermined firing interval, and means for varying the firing interval, comprising a pneumatic cylinder and piston, and an adjustable valve for controlling the flow of fluid from said cylinder, substantially as described.

8. The combination with a swinging boom or derrick pivoted to the gun, a target carried by said boom in front of the gun with means for moving said boom both laterally and vertically, of a swinging arm also carried by the gun and having a marking point with means for causing said point to strike the target after a predetermined firing interval, and means for varying the firing interval, substantially as described.

9. The combination with a swinging boom or derrick pivoted to the gun, of a target carried by said boom in front of the gun with means for moving said boom both laterally and vertically, a swinging arm also carried by the gun and having a marking point, and electro-magnetic means controlled by the gun pointer for swinging said arm and thus causing said point to strike the target after a predetermined firing interval, substantially as described.

10. The combination with a target mounted in front of the gun sights, with means for moving said target both laterally and vertically, a swinging arm also carried by the gun and having a marking point, a roller engaging said arm at a varying leverage and electro-magnetic means controlled by the gun pointer for moving said roller and thereby swinging said arm and thus causing said point to strike the target after a predetermined firing interval, substantially as described.

11. The combination with a target mounted in front of the gun sights, with means for moving said target both laterally and vertically, of a swinging arm also carried by the gun and having a marking point, a roller engaging said arm at a varying leverage, electro-magnetic means

controlled by the gun pointer for moving said roller and thereby swinging said arm and thus causing said point to strike the target after a predetermined firing interval, and means for varying the firing interval, substantially as described.

12. The combination with a swinging boom or derrick pivoted to the gun, with means for moving said boom with varying and independent velocities, both laterally and vertically, of a target carried by said boom, a swinging arm carried by the gun and having a marking point, and means controlled by the gun pointer for swinging said arm and thus causing said point to strike the target, substantially as described.

13. The combination with a swinging boom or derrick pivoted to the gun, with means for moving said boom with varying and independent velocities, both laterally and vertically, of a target carried by said boom, a swinging arm carried by the gun and having a marking point, electro-magnetic means controlled by the gun pointer for swinging said arm and thus causing said point to strike the target after a predetermined firing interval, and means for varying the firing interval, substantially as described.

14. The combination with a swinging boom or derrick pivoted to the gun, with means for moving said boom with varying and independent velocities, of a target carried by said boom, a swinging arm carried by the gun and having a marking point, electro-magnetic means controlled by the gun pointer for swinging said arm and thus causing said point to strike the target after a predetermined firing interval, and means for varying the firing interval, comprising a pneumatic cylinder and piston, and an adjustable valve for controlling the flow of fluid from said cylinder, substantially as described.

15. The combination with a series of targets mounted in front of the gun sights, with means for moving said series of targets both laterally and vertically, of a swinging arm carried by the gun and having a marking point, and means for causing said point to strike one of said targets after a predetermined firing interval, substantially as described.

16. The combination with a series of targets connected together and mounted in front of the gun sights, with means for moving said series of targets both laterally and vertically, of a swinging arm carried by the gun and having a marking point, with means for causing said point to strike one of said targets after a predetermined firing interval, and means for varying the firing interval, substantially as described.

17. The combination with a series of targets connected together and mounted in front of the gun sights, with means for moving said series of targets both laterally and vertically, of a swinging arm carried by the gun and having a marking point, and electro-magnetic means controlled by the gun pointer for swinging said arm and thus causing said point to strike one of said targets after a predetermined firing interval, substantially as described.

18. The combination with a series of targets connected together and mounted in front of the gun sights, with means for moving said series of targets both laterally and vertically, of a swinging arm carried by the gun and having a marking point, and electro-magnetic means controlled by the gun pointer for swinging said arm and thus causing said point to strike one of said targets after a predetermined firing interval, and means for varying the firing interval, substantially as described.

19. The combination with a series of targets connected together and mounted in front of the gun, with means for moving said series of targets with varying and independent velocities, both laterally and vertically, of a swinging arm carried by the gun and having a marking point and electro-magnetic means controlled by the gun pointer for swinging said arm and thus causing said point to strike one of said targets after a predetermined firing interval, substantially as described.

20. The combination with a series of targets connected together and mounted in front of the gun, with means for moving said series of targets with varying and independent velocities, both laterally and vertically, of a swinging arm carried by the gun and having a marking point, electro-magnetic means controlled by the gun pointer for swinging said arm and thus causing said point to strike one of said targets after a predetermined firing interval, and means for varying the firing interval, substantially as described.

21. The combination with a series of targets connected together and mounted in front of the gun, with means for moving said series of targets both laterally and vertically, of a swinging arm carried by the gun and having a marking point, electro-magnetic means controlled by the gun pointer for swinging said arm and thus causing said point to strike one of said targets after a predetermined firing interval, and means for varying the firing interval, comprising a pneumatic cylinder and piston, and an adjustable valve for controlling the flow of fluid from said cylinder, substantially as described.

22. The combination with a swinging boom or derrick pivoted to the gun, of a crosshead carried by said boom, a series of targets carried by said cross head, with means for moving said boom both laterally and vertically, and a swinging arm also carried by the gun and having a marking point with means for causing said point to strike one of the targets after a predetermined firing interval, substantially as described.

23. The combination with a swinging boom or derrick pivoted to the gun, of a cross head carried by said boom, a series of targets carried by said cross head, with means for moving said boom both laterally and vertically, and a swinging arm also carried by the gun and having a marking point with means for causing said point to strike one of the targets after a predetermined firing interval, with means for varying the firing interval, substantially as described.

24. The combination with a swinging boom or derrick pivoted to the gun, of a cross head carried by said boom, a series of targets carried by said cross head, with means for moving said boom both laterally and vertically, a swinging arm also carried by the gun and having a marking point, and electro-magnetic means controlled by the gun pointer for swinging said arm and thus causing said point to strike the target after a predetermined firing interval, substantially as described.

25. The combination with a swinging boom or derrick, pivoted to the gun, of a cross head carried by said boom, a series of targets carried by said crosshead, with means for moving said boom both laterally and vertically, a swinging arm also carried by the gun and having a marking point, and electro-magnetic means controlled by the gun pointer for swinging said arm and thus causing said point to strike the target after a predetermined firing interval, with means for varying the firing interval, substantially as described.

26. The combination with a series of targets mounted in front of the gun sights, with means for moving said series of targets both laterally and vertically, of a swinging arm also carried by the gun and having a marking point, a roller engaging said arm at a varying leverage, and electro-magnetic means controlled by the gun pointer for moving said roller and thereby swinging said arm and thus causing said point to strike one of the targets after a predetermined firing interval, substantially as described.

27. The combination with a series of targets mounted in front of the gun sights, with means for moving said series of targets both laterally and vertically, of a swinging arm also carried by the gun and having a marking point, a roller engaging said arm at a varying leverage, electro-magnetic means controlled by the gun pointer for moving said roller and thereby swinging said arm and thus causing said point to strike one of the targets after a predetermined firing interval, and means for varying the firing interval, substantially as described.

28. The combination with a swinging boom or derrick pivoted to the gun, with means for moving said boom with varying and independent velocities, both laterally and vertically, of a series of targets carried by said boom, a swinging arm carried by the gun and having a marking point, and means controlled by the gun pointer for swinging said arm and thus causing said point to strike one of the targets, substantially as described.

29. The combination with a swinging boom or derrick pivoted to the gun, with means for moving said boom with varying and independent velocities, both laterally and vertically, of a series of targets carried by said boom, a swinging arm carried by the gun and having a marking point, electro-magnetic means controlled by the gun pointer for swinging said arm and thus causing said point to strike one of the targets after a predetermined firing interval, and means for varying the firing interval, substantially as described.

30. The combination with a swinging boom or derrick pivoted to the gun, with means for moving said boom with varying and independent velocities, of a series of targets carried by said boom, a swinging arm carried by the gun and having a marking point, electro-magnetic means controlled by the gun pointer for swinging said arm and thus causing said point to strike one of the targets after a predetermined firing interval, and means for varying the firing interval, comprising a pneumatic cylinder and piston, and an adjustable valve for controlling the flow of fluid from said cylinder, substantially as described.

31. In an apparatus of the character described, the combination with a plate and brackets secured thereto, of a swinging frame provided with an arm carrying a pointer pivoted in one of said brackets and having a cam engagement with the first frame, means for normally holding both frames in the initial position, and an electro magnet for swinging the second frame, substantially as described.

32. In an apparatus of the character described, the combination with a plate and brackets secured thereto, of a swinging frame provided with an arm carrying a pointer pivoted in one of said brackets, a second frame pivoted in a second bracket and having a cam engagement with the first frame, means for normally holding both frames in the initial position, and an electro-magnet for swinging the second frame, with means for checking the movement of the second frame when acted upon by said electro-magnet, substantially as described.

33. In an apparatus of the character described, the combination with a plate and brackets secured thereto, of a swinging frame provided with an arm carrying a pointer pivoted in one of said brackets, a second frame pivoted in a second bracket and having a cam engagement with the first frame, means for normally holding both frames in the initial position, and an electro magnet for swinging the second frame, with adjustable means for checking the movement of the second frame when acted upon by said electro magnet, substantially as described.

34. In an apparatus of the character described, the combination with a plate and brackets secured thereto, of a swinging frame provided with an arm carrying a pointer pivoted in one of said brackets, a second frame pivoted in a second bracket and having a cam engagement with the first frame, means for normally holding both frames in the initial position, and an electro magnet for swinging the second frame, with adjustable means for checking the movement of the second frame when acted upon by said electro magnet, comprising a pneumatic brake connected to said second frame, substantially as described.

35. In an apparatus of the character described, the combination with a plate and brackets secured thereto, of a swinging frame provided with an arm carrying a pointer pivoted in one of said brackets, a second frame pivoted in a second bracket and having a cam engagement with the first frame, means for normally holding both frames in the initial position, and an electro magnet for swinging the second frame, with adjustable means for checking the movement of the second frame when acted upon by said electro magnet, comprising a pneumatic cylinder, a piston in said cylinder, a piston rod connecting said piston and said second frame, and means for regulating the movement of said piston in said cylinder, substantially as described.

36. In an apparatus of the character described, the combination with a plate and brackets secured thereto, of a swinging frame provided with an arm carrying a pointer pivoted in one of said brackets, a second frame pivoted in a second bracket and having a cam engagement with the first frame, means for normally holding both frames in the initial position, and an electro magnet for swinging the second frame, with adjustable means for checking the movement of the second frame when acted upon by said electro magnet, comprising a pneumatic cylinder, a piston in said cylinder, a piston rod connecting said piston and said second frame, means for regulating the movement of said piston in said cylinder, consisting of an air inlet pipe connected to said cylinder, and a throttle valve regulating the flow of air into said inlet pipe, substantially as described.

37. The combination with a gun, a target, means for causing relative movement between the gun and target, and means for effecting a delayed record of the aim of the gun.

38. The combination with an aiming device of a target or other like object at which aim may be taken, an electro-magnetic device for recording the aim, and means for retarding the action of the recording device.

39. The combination with an aiming device of means for effecting a delayed record of the aim thereof at any given time without the issuance of a projectile.

40. The combination with an aiming device, means for recording the aim thereof without the issuance of a projectile, and adjustable means for delaying the action of said recording means.

41. The combination with a gun, a target, means for causing both lateral and vertical relative movement between the target and the gun, aim recording means, and means for effecting record of the aim by said aim recording means after a predetermined firing interval, substantially as described.

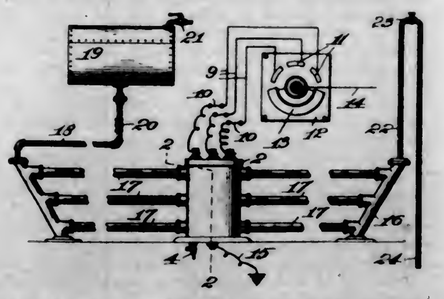
42. The combination with a gun, a plurality of targets mounted in front of the gun sights, a marker, and means for effecting engagement between the marker and one of said targets after a predetermined firing interval, substantially as described.

43. The combination with a gun, a target, means for moving the target vertically, independent means for moving the target laterally, and means for effecting a delayed record of the aim of the gun, substantially as described.

44. The combination with a gun of a marking device, electro-magnetic means for actuating the marking device to effect record of the aim after a predetermined firing interval, and means for varying the firing interval, substantially as described.

45. The combination with a gun, of a gun sight, a movable target in the line of said gun sight, means for moving the target, and means for effecting a delayed record of the aim of the gun taken through said sight at said movable target, substantially as described.

867,863. ELECTRIC WATER-HEATER. MENDAL W. WILLSON, St. Louis, Mo., assignor of one-third to James R. Walker and one-third to Lewis P. Leathers, St. Louis, Mo. Filed Dec. 26, 1906. Serial No. 349,408.



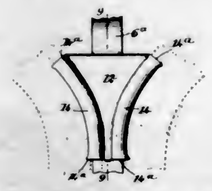
1. In an electric water heater, an electrode, comprising a metal rod, and a jacket of carbon detachably fixed on said rod.

2. In an electric water heater, the combination with a tank, of an electrode extending into said tank, which electrode comprises a metallic rod, a carbon jacket detachably fixed upon and inclosing the greater portion of the rod, and insulator blocks arranged between the rod and the body of the tank.

3. In an electric water heater, the combination with a tank, there being a groove formed in the bottom of the tank adjacent the wall thereof, and a series of electrodes projecting into said tank.

4. An electric water heater, constructed with a tank, there being a groove formed in the bottom thereof, adjacent the wall, a plurality of circulation tubes connected to the tank and extending in opposite directions therefrom, inclined hollow posts connecting the outer ends of each series of circulation tubes, a reservoir connected to the tubes for maintaining a reserve supply of water, means whereby an electric current is delivered to the electrodes, and means whereby said electric current is delivered to any number of said electrodes.

867,864. GARMENT-FASTENER. FRANK G. WRIGHT, New York, N. Y. Filed Nov. 14, 1906. Serial No. 343,361.



1. A guide plate for a placket closure, having a front plate provided with oppositely disposed curved guideways spaced from each other, curved in cross section and provided with flaring ends, and a back plate formed integral with the front plate and provided with means for securing the free edge of the back plate on the free edge of the front plate.

2. A guide plate for a placket closure, having a front plate provided with oppositely disposed curved guideways, curved in cross section and provided with flaring ends, and a back plate formed integral with the front plate and provided with oppositely disposed slots forming an intermediate clamping plate adapted to be secured to a closing strip.

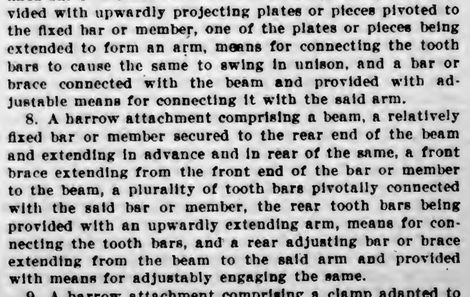
3. A closing member for a placket opening, consisting of a flexible strip adapted to overlap the edges of the opening, and provided with clasps having a sliding engagement with said edges, and a guide plate secured to said strip and provided with recesses flaring laterally from the lower portion of said guide plate adapted to receive the edges of said opening.

4. The combination with a flexible strip provided with clasps having a lateral opening, and a guide plate secured to said strip provided with curved guide-ways and recesses flaring laterally from the lower portion of said guide plate.

867,865. HARROW ATTACHMENT FOR CULTIVATORS. AUGUST A. YACKEE, Roberts, Ill. Filed Aug. 27, 1906. Serial No. 332,160.

1. In a harrow attachment, the combination with cultivator beams provided with shovels, of harrow beams extending rearwardly beyond the cultivator beams, harrow sections located in rear of the shovels and mounted on the lower ends of the harrow beams, and means for connecting the harrow beams with the cultivator beams and for adjusting the harrow sections laterally toward and from each other.

2. In a harrow attachment, the combination with cultivator beams provided with shovels, of harrow beams extending rearwardly beyond the cultivator beams, harrow sections located in rear of the shovels and mounted on the lower ends of the harrow beams, and means for hinging the harrow beams to the cultivator beams and for adjusting the harrow sections laterally toward and from each other.



3. In a harrow attachment, the combination with cultivator beams provided with shovels, of harrow beams connected with the cultivator beams and extending rearwardly beyond the shovels, and harrow sections mounted on the rear ends of the harrow beams and comprising a plurality of pivotally mounted tooth bars provided with harrow teeth, and diagonally arranged side bars located at opposite sides of the harrow sections and pivotally connected with the tooth bars beyond the pivotal points thereof.

4. A harrow attachment comprising a beam, a relatively fixed bar or member, a plurality of tooth bars pivotally connected with the said bar or member and provided with harrow teeth, said tooth bars being located at different distances from the longitudinal center to arrange the teeth in staggered relation, angularly bent side bars pivotally connected to the ends of the tooth bars, and means for adjusting the tooth bars.

5. A harrow attachment comprising a beam, pivotally mounted harrow bars carried by the beam, one of the bars being provided with a projecting arm, means located below the pivotal points of the tooth bars and connecting the same to cause the tooth bars to swing in unison, and means connected with the said arm for securing the tooth bars in their adjustment.

6. A harrow attachment comprising a beam, a relatively fixed bar or member secured to the beam, harrow bars provided with upwardly projecting plates or pieces pivoted to the fixed bar or member, one of the plates or pieces being extended to form an arm, means for connecting the tooth bars to cause the same to swing in unison, and means connected with the said arm for securing the tooth bars in their adjustment.

7. A harrow attachment comprising a beam, a relatively fixed bar or member secured to the beam, harrow bars provided with upwardly projecting plates or pieces pivoted to the fixed bar or member, one of the plates or pieces being extended to form an arm, means for connecting the tooth bars to cause the same to swing in unison, and a bar or brace connected with the beam and provided with adjustable means for connecting it with the said arm.

8. A harrow attachment comprising a beam, a relatively fixed bar or member secured to the rear end of the beam and extending in advance and in rear of the same, a front brace extending from the front end of the bar or member to the beam, a plurality of tooth bars pivotally connected with the said bar or member, the rear tooth bars being provided with an upwardly extending arm, means for connecting the tooth bars, and a rear adjusting bar or brace extending from the beam to the said arm and provided with means for adjustably engaging the same.

9. A harrow attachment comprising a clamp adapted to engage a standard or other portion of a cultivator or other machine and provided with a pivot, a harrow section having a beam connected with the pivot, and means carried by the cultivator and located beneath and arranged to support the harrow beam for adjusting the attachment simultaneously with the cultivator, said harrow beam being also adapted to be swung upwardly from the supporting means to adjust it independently of the cultivator.

10. In a harrow attachment, the combination with culti-

vator beams having shovels, harrow beams extending rearwardly beyond the shovels, harrow sections mounted on the beams and located in rear of the shovels, clamps connected with the cultivator beams and having laterally extending pivots receiving the harrow beams, and means for adjusting the harrow beams laterally on the said pivots.

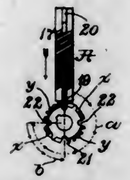
11. A harrow attachment comprising a harrow section having a beam, a clamp provided with a pivot receiving the beam, and removable sleeves also arranged on the pivot and adapted to be placed on either side of the beam for adjusting the same laterally.

12. A harrow attachment comprising a harrow section having a beam, a clamp having a pivot receiving the beam, and means also carried by the clamp and located below the beam for supporting the same.

13. A harrow attachment comprising a harrow section having a beam, a clamp having a pivot receiving the beam, and a laterally extending stud carried by the clamp and located below the beam.

14. A harrow attachment comprising a beam section having a beam, and a clamp composed of two adjustable plates or members, one of the plates or members being provided with a pivot receiving the beam, and the other plate or member having a lateral stud arranged to support the beam.

867,866. MECHANICAL MOTION. HARRIE A. BALLARD, Ashland, Mass., assignor, by mesne assignments, to The Boylston Manufacturing Company, Boston, Mass., a Corporation of New Jersey. Filed Jan. 24, 1905. Serial No. 242,490.



1. A motion-converting device comprising two rotatable gears, one of said gears having two or more teeth of opposite pitch, and the other of said gears having teeth adapted to mesh with all the teeth of the first gear, certain of the teeth of the second gear being constructed to mesh only with part of the teeth of the first gear.

2. A motion-converting device comprising two rotatable gears, one of said gears having two or more peripheral spiral teeth of opposite inclinations, and the other of said gears having teeth adapted to mesh with all the teeth of the first gear, certain of the teeth of the second gear being constructed to mesh only with those teeth of the first gear having a particular inclination.

3. A motion-converting device comprising spiral gears coacting peripherally, one gear having teeth of such pitch as to drive the other second gear in one direction, and other teeth of a different pitch to drive the second gear in the opposite direction through part of the distance previously traversed in the first direction.

4. A motion-converting device comprising spiral gears coacting peripherally, one gear having teeth of such pitch as to drive the other second gear in one direction, and other teeth separated from the first-named teeth of a different pitch to drive the second gear in the opposite direction through part of the distance previously traversed in the first direction; said gears having interlocking portions to hold the second gear from rotation at predetermined times.

5. A motion-converting device comprising two rotatable mutilated gears on axes transverse to each other, one of said gears having spiral teeth of which a part are of right or left hand pitch, and of which a part are of crossed pitch, and the other of said gears having spiral teeth of which a part are of right or left hand pitch and adapted to intermesh with all the teeth of said first-described gear, and of which a part are of left or right hand pitch and adapted to intermesh with said cross-pitched teeth only.

6. A motion converting device comprising a continuously rotating driving gear having on its periphery a plurality of spiral-gear segments of right and left hand pitch, respectively and segmental flanges connecting said gear segments; and a driven gear on an axis transverse to that of said driving gear, and having on its periphery a plurality of spiral gear segments of which one or more are adapted to intermesh with the right or left hand segments only of said driving gear, and all of which driven gear segments are adapted to intermesh with the left or right hand segments of said driving gear; and said driven gear having notches between its segments in which said segmental flanges are adapted to slide.

7. A motion-converting device comprising a rotatable driving-member having one or more right-hand spiral gear-segments and one or more left-hand spiral gear-segments, a driven member having one or more spiral gear-segments adapted to intermesh with those of a similar inclination on said driving member, and having one or more spiral gear-segments adapted to intermesh with all of the segments of said driving member.

867,867. JUSTIFYING MECHANISM FOR TYPE-MATRICES AND TYPES. ERL V. BEALS, Boston, Mass. Filed Feb. 21, 1898. Serial No. 671,171.



1. In a matrix and type justifying mechanism, a lever and slide device for justifying lines of matrices and types adapted to be set during the composition of a line by a key operated at intervals between the words of said line, and justifying keys to produce the insertion of spaces in proper position and of such thickness as to justify the line.

2. In a matrix and type justifying mechanism, the combination of a registering pointer, a series of justifying keys, and means consisting of a movable chart, sliding levers and intermediate connections operated by a space key for determining the particular justifying key or keys to be operated to produce the justification of a line.

3. The combination with a matrix and type justifying mechanism, provided with justifying keys, of a movable chart bearing certain predetermined combinations of symbols, and a registering pointer for directly indicating on said chart the particular justifying key or keys required to be operated to produce the justification of a line.

4. The combination with a matrix and type justifying mechanism, provided with a plurality of sets of justifying keys, of a movable chart bearing certain predetermined combinations of symbols, and means for directly indicating on said chart the particular justifying key or keys of the several sets required to be operated to produce the justification of a line.

5. The combination with a matrix and type justifying mechanism, provided with a plurality of sets of justifying keys, of a rotating chart containing certain predetermined combinations of symbols, mechanism actuated by a space key for variably rotating said chart, and means for indicating on said chart the particular justifying key or keys of the several sets to be operated to produce the justification of a line.

6. The herein described ring for use with a matrix and type justifying mechanism, said ring having lugs of various lengths projecting from its outer periphery as the means for selecting blank spaces or types of the same or varying thicknesses.

7. In a series of set rings adapted to control mechanism for assembling a line of matrices or types, one or more space selecting rings to control the assembling of spaces for justifying said line.

8. The combination with means for controlling the assembling of blank matrices or types, of one or more space selecting rings adapted to actuate the same.

9. In a matrix and type justifying mechanism, rings for controlling the selection of the space blanks of a matrix or type assembling mechanism, mechanism for controlling said rings, means operated by a space key during the composition of a line for setting said mechanism to operate said rings, and special keys for operating said mechanism when so set after the composition of a line to produce the justification thereof.

10. In a matrix and type justifying mechanism, rings for controlling the selection of the space blanks in a matrix or type assembling mechanism, mechanism for controlling said rings, means operated by a space key during the composition of a line for setting said mechanism to operate said rings, means for operating said mechanism when so set after the composition of a line to produce the justification thereof, a chart and a pointer for indicating the manipulations required to operate the justifying mechanism.

11. The combination with a matrix and type justifying mechanism, provided with a plurality of justifying keys, of a rotating cylinder carrying a chart containing predetermined combinations of symbols, mechanism actuated by the space key for variably rotating said chart, said mechanism comprising a ratchet wheel fixed to the shaft of the chart cylinder, an actuating pawl mounted on a reciprocating arm, and suitable connections between the same and the space key, a stepped-stop, a pawl pivoted to said reciprocating arm and adapted to engage the different steps of said stop, and a series of cams at the end of the chart cylinder for controlling the latter pawl, whereby it is caused to engage the different steps of the stop in a predetermined order, and a registering pointer coöperating with said chart to indicate thereon the particular justifying key or keys to be operated to produce the justification of a line.

12. In a matrix and type justifying mechanism, rings for controlling the selection of the space blanks in a matrix or type assembling mechanism, mechanism for controlling said rings, means operated by a space key during the composition of a line for setting said mechanism to operate said rings, and a series of keys for operating said mechanism when so set after the composition of a line to produce the justification thereof.

13. A series of space producing rings provided with lugs and adapted to control the assembling of spaces in a matrix or type assembling machine.

14. A series of space producing rings provided with lugs adapted to control the assembling of spaces in a matrix or type assembling machine combined with mechanism set by justifying devices and adapted to coöperate with the lugs of said rings to produce the justification of a line.

15. In a matrix and type justifying mechanism provided with a plurality of justifying keys, a rotating cylinder carrying a chart containing certain predetermined combinations of symbols, a pointer coöperating therewith a space key and means connected therewith for intermittently rotating said chart cylinder and an automatic variable checking device whereby the movement of said cylinder is varied at each depression of the space key.

16. In a matrix and type justifying mechanism, a series of slides adapted to be projected different distances to control mechanism for assembling blank matrices or types, a series of justifying keys, mechanism intermediate between said keys and slides, whereby the latter are projected by said keys.

17. In a matrix and type justifying mechanism, a series of slides adapted to be projected different distances to control mechanism for assembling blank matrices or types, a series of justifying keys, mechanism intermediate between said keys and slides whereby the latter are projected by said keys, and stops for varying the throw of said keys.

18. In a matrix and type justifying mechanism, the combination of a series of slides carrying circuit-breakers controlling a matrix or type assembling mechanism, said slides being adapted to be projected different distances, a series of justifying keys, and intermediate mechanism whereby said slides are projected by said keys, and a rotating cylinder composed of a series of rings provided with lugs set in the same or different radial positions and adapted to actuate said circuit-breakers to produce the justification of a line.

19. In a matrix and type justifying mechanism, the combination with the swinging and sliding plunger-bars and the slides actuated thereby, of a rock-shaft carrying an arm splined thereon and adapted to raise any one of said plunger-bars beneath which it may be temporarily located, a rack-bar coupled to said splined arm and having an intermittent or step-by-step movement, a space key connected with and adapted to oscillate said rock-shaft, a rotating cylinder carrying a chart containing predetermined combinations of symbols, a pointer coöperating therewith means connected with the rock-shaft for variably and intermittently rotating said chart-cylinder, and means substantially as described for variably checking the movement of the rock-shaft and chart-cylinder-actuating-mechanism connected therewith.

20. In a matrix and type justifying mechanism, the combination with the circuit-breaker carrying slides provided with retracting springs, of retaining devices for holding the same when projected by the justifying keys, and means for automatically releasing said slides after the justification of a line.

21. The combination with the plunger-bars and their retracting springs, of retaining pawls for holding the same in their different raised positions, and means for automatically releasing said bars at the conclusion of the justification of a line.

22. In a mechanism for justifying matrices and types, a series of slides adapted to be projected different distances to control mechanism for assembling blank matrices or types, a series of swinging and sliding plunger-bars for projecting said slides, means for selecting one of said bars and raising the same to a predetermined height at each depression of a space key, a series of pusher-bars arranged one above the other acting on said raised plunger-bars, and a set of justifying keys for each pusher-bar, each key of a set being provided with a different stop to determine its throw.

23. In a matrix and type justifying mechanism, a series of slides adapted to be projected different distances to control mechanism for assembling blank matrices and types, a series of sliding and swinging plunger-bars adapted to be raised to varying heights by means of a space key, a variable check-mechanism operated by said space key for determining the height to which said plunger-bars are raised, a combination chart connected with and operated by said check-mechanism, a pointer coöperating therewith a series of pusher-bars arranged in different planes and moving in arcs of circles and acting on said plunger-bars to swing the same and thereby thrust out the slides in contact therewith, justifying keys arranged in sets to act on said pusher-bars, and means for limiting the throw of each key.

24. In a matrix and type justifying mechanism, the combination of a registering pointer, a movable chart, a series of justifying keys, mechanism operated by said keys for controlling the assembling of blank matrices or types, and means operated by a space-key for determining the particular justifying key or keys to be operated to produce the justification of a line.

25. In a matrix and type justifying mechanism, the combination of a registering pointer, a movable chart, justifying keys, mechanism operated by the same for controlling the assembling of blank matrices or types, a space key for setting said mechanism, and means operated by said

space key for determining the particular justifying key or keys to be operated to produce the justification of a line.

26. In a matrix and type justifying mechanism, the combination of a registering pointer, a chart, justifying keys, a series of space-selecting rings, mechanism operated by said justifying keys and coöperating with said rings for controlling the assembling of blank matrices or types, a space key for setting said mechanism, and means operated also by said space key for determining the particular justifying key or keys to be operated to produce the justification of a line.

27. A movable chart for use in mechanism for justifying matrices or types, said chart having groups of symbols arranged in as many rows as will equal the greatest number of spaces to be put into a composed line, each of said rows containing all the combinations of symbols necessary to effect the justification of a composed line having a certain definite number of words, there being a different row of groups for each different number of spaces which may occur in a line.

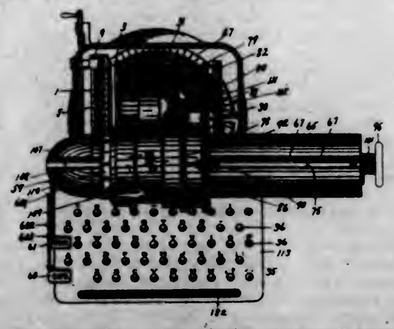
28. A movable chart for use in mechanism for justifying matrices or types said chart having groups of symbols arranged in as many rows as will equal the greatest number of spaces to be put into a composed line, said rows being equally spaced transversely, and each space containing a single group or combination of symbols, and the number of said spaces corresponding to the greatest number of units of residue in a composed line which can be filled by spaces inserted between the words of said line by the justifying mechanism.

29. The combination with the matrix and type justifying mechanism, of a movable chart having certain predetermined combinations of symbols and a registering pointer for indicating on said chart the subsequent manipulation to produce the justification of a line.

30. In a matrix and type justifying mechanism, the combination of a movable chart and pointer for pointing out directly, definitely, and without mental calculation, a succeeding mechanical manipulation by which "spaces" may be inserted in a composed line of types or matrices in such number and of such thicknesses as to accurately justify or flush said line.

31. A movable chart having groups of symbols arranged thereon for use in mechanism for justifying matrices or types, said chart coöperating with a pointer to designate directly such key or keys of a series of justifying keys as will exactly produce the insertion of "spaces" in such number and of such thicknesses as will accurately justify or flush a composed line of types or matrices.

867,868. TYPE-WRITER. EARL V. BEALS, Boston, Mass. Filed Apr. 18, 1901. Serial No. 56,387.



1. In a typewriter, a type-wheel, a platen roll arranged to make a complete rotation and an additional character spacing part of a rotation for a printing cycle of the type-wheel, and a keyboard controlling the printing.

2. In a type-writer, a type-wheel comprising a holder, a series of types frictionally held therein and movable into and out of printing position, a keyboard controlling the projection of said types into printing position, and a stationary abutment to effect their retraction.

3. In a typewriter, a continuously-moving type-holder having a series of types movable thereon into and out of printing position, a type-actuator adapted to be brought into operative relation with said types in succession by the movement of said type-holder, a series of key-circuits, and an electrical selector adapted to bring the particular key-circuit which is actuated into operative relation with the actuator.

4. In a typewriter, a continuously-rotated type-wheel comprising a holder and a circumferential series of types movable thereon into and out of printing position, a normally inactive type-actuator, a series of key-circuits, and an electrical selector adapted to bring the particular key-circuit which is actuated into operative relation with the actuator.

5. In a typewriter, a continuously-rotated type-wheel comprising a holder and a circumferential series of types movable thereon into and out of printing position, a normally-inactive rotary type-actuator, and key-board controlled means to bring said actuator into projecting relation with any of the types of said series.

6. In a typewriter, a continuously-rotated typewheel having a circumferential series of types movable thereon into and out of printing position, a normally non-rotating type-actuator, a continuously-rotating driver synchronous with the type-wheel, and key-controlled clutching means to connect said driver and actuator.

7. In a typewriter, a rotary type-wheel having movable types, an actuator for projecting said types, a stationary eccentric for imparting actuating movement to said actuator, and key-controlled means to effect an intermittent revolution of said actuator.

8. In a typewriter, a continuously rotated type-wheel comprising a holder and a series of types radially movable thereon into and out of printing position, a normally stationary type-actuator mounted to rotate eccentrically of said type-wheel, and keyboard-controlled means to rotate said type-actuator in angular projecting relation with any of said types.

9. In a typewriter, a continuously-rotated type-wheel, a platen, a circuit selector having a continuously rotating member synchronous with the type-wheel, a series of keyboard circuits controlled by said selector, and means controlled by said circuits for bringing the type-wheel and platen into printing relation without stopping the type-wheel.

10. In a typewriter, a continuously-rotated type-wheel comprising a holder and a series of types movable thereon into and out of printing position, a circuit selector having a rotating member synchronous with the type-wheel, a series of key-circuits controlled by said selector, a type-actuator, and a clutch controlled by the key-circuits and adapted to bring said actuator into projecting relation with any of the types.

11. In a typewriter, a continuously rotated type-wheel having movable types, a normally inactive rotary type-actuator, a normally stationary platen-roll mounted to rotate in unison with said type-actuator during its actuating cycle, a circuit selector having a member synchronous with the type-wheel, a clutch controlling said type-actuator and platen-roll, and a series of key-circuits controlling said clutch and governed by said selector.

12. In a typewriter, a continuously rotated type-wheel having movable types, a normally inactive type-actuator, a clutch comprising an electro-magnet having an armature member attached to said type-actuator and constituting a clutch member, and a complemental clutch member synchronous with the type-wheel and mounted to rotate between said magnet and its armature, and a keyboard controlling said magnet.

13. In a typewriter, a continuously rotated type-wheel having movable types, a normally inactive type-actuator, a clutch comprising an electro-magnet having an armature member attached to said type-actuator and constituting a clutch member, and a complemental clutch member synchronous with the type-wheel and mounted to rotate between said magnet and its armature, a keyboard controlling said magnet, and a platen-roll rotated by said armature.

14. In a typewriter, a normally stationary platen-roll, an electro-magnetic clutch having a member adapted to rotate said roll and a continuously rotated member, a circuit selector having a rotating member synchronous with the continuously rotated clutch-member, and a series of keyboard circuits controlled by said selector and controlling said clutch.

15. In a typewriter, a normally inactive member of a printing mechanism, a continuously operating motor member, a device movable in one direction to connect the first said member to the motor member and in a contrary direction to release and arrest the first said member, electro-magnetic means controlling said device, and a series of keyboard circuits controlling said means.

16. In a typewriter, a normally inactive member of a printing mechanism, a continuously operating motor member, oppositely acting propelling and arresting electro-magnets adapted respectively to connect the first said member to the motor member and to release and arrest the same, the said magnets having continuously energized circuits of which that of the arresting magnet has the greater magnetic effect, a neutralizing circuit for said arresting magnet, and a series of keyboard circuits controlling said neutralizing circuit.

17. In a typewriter, a printing device having a plurality of sets of movable characters, a key-controlled actuator adapted for alternative operative co-action with the different types of each set, an eccentric by which the actuator is operated, and means to associate said actuator alternatively with the different sets.

18. In a typewriter, a type-wheel having a plurality of rows of movable types, a type-projecting actuator adapted for alternative operative co-action with the different types of each row, an eccentric by which the actuator is operated, and means to associate said actuator alternatively with the different rows.

19. In a typewriter, a continuously-rotated type-wheel comprising a holder having a plurality of rows of movable types, a type-actuator, and means to relatively shift one of said members to register the actuator with the different rows, said means comprising a reciprocating shifter synchronous with the actuator, and a key-controlled abutment adapted to be interposed between said shifter and the shiftable member.

20. In a typewriter, a shiftable printing device having a plurality of rows of types, a power-reciprocated shifter, an abutment adapted to be interposed between said device and shifter and having steps corresponding to different ones of said rows, and a plurality of keys adapted respectively to bring the different steps into operative position.

21. In a typewriter, a printing device having a plurality of sets of movable types, type-actuating means, a series of key-circuits controlling said actuating means, a circuit-selector having divisions corresponding to the key-circuits, and means to associate said type-actuating means alternatively with the different sets of types.

22. In a typewriter, a type-wheel having duplicate sets of characters in successive segments of its circumference, a single set of keyboard circuits controlling said sets of type-wheel characters, and a circuit selector controlling said circuits and having duplicate brushes.

23. In a typewriter, a continuously-rotated type-wheel having duplicate sets of movable types in its circumference, a normally inactive type-actuating member having duplicate type-actuators, and a single set of keyboard circuits controlling said actuating member.

24. In a typewriter, a type-wheel having duplicate sets of characters in successive segments of its circumference and capable of a corresponding number of printing cycles for each rotation, a rotary platen having a complete rotation for each printing cycle of the type-wheel, and a keyboard controlling the printing.

25. In a typewriter, a series of types, a general type-actuator for the said series a platen-roll having a cycle synchronous with that of the type-actuator, and a keyboard controlling said type-actuator and platen-roll.

26. In a typewriter, a continuously rotated type-wheel, a normally stationary rotary type-actuator and a normally stationary platen-roll having synchronous cycles, and a keyboard controlling said type-actuator and platen roll.

27. In a typewriter, a continuously rotated type-wheel, a normally inactive type-actuator having a predetermined actuating cycle, and a normally stationary platen-roll arranged to make a complete rotation and an additional character-spacing fraction thereof for each cycle of said actuator.

28. In a typewriter, a series of types, a normally inactive rotary type-actuator, key-controlled means for effecting a type-actuating cycle of said actuator, a device to magnetically lock said actuator in inactive position and a circuit controlling said device and controlled by the rotary position of the actuator.

29. In a typewriter, a type-wheel, a clutch, an intermittently-acting device for coöperation with said type-wheel driven by the engagement of said clutch, means to effect an initial engagement of the clutch, and means controlled by the position of said part for continuing said engagement.

30. In a typewriter, a type-wheel, a clutch, an intermittently-acting device for coöperation with said type-wheel driven by the engagement of said clutch, means to effect an initial engagement of the clutch, and means controlled by the position of said part for continuing and terminating such engagement.

31. In a typewriter, an electro-magnetic clutch, a part rotated by the engagement of said clutch, a series of keyboard circuits adapted to effect an initial engagement of said clutch, and a contact device controlled by the rotary position of said part for continuing such engagement.

32. In a typewriter, an electro-magnetic clutch, a part rotated by the engagement of said clutch, a circuit selector comprising a relatively rotating commutator and brush, a series of keyboard circuits including the respective segments of the commutator and adapted to effect an initial engagement of the clutch, and a contact device controlled by the rotary position of said part for continuing such engagement.

33. In a typewriter, a series of types, an electro-magnetic clutch, a type-actuator and a platen-roll rotated by the engagement of said clutch, a series of keyboard circuits adapted to effect an initial engagement of the clutch, and a contact device controlled by the rotary position of said type-actuator and platen-roll for continuing such engagement.

34. In a typewriter, a series of types, a type-actuator and a platen-roll connected to rotate together, a contact device controlled by the rotary position of said type-actuator and platen-roll, a series of keyboard circuits, and an electro-magnetic clutching and locking device adapted to rotate said type-actuator and platen-roll and to arrest the same after rotation, said clutching and locking device being initially controlled by the key-circuits and finally controlled by said contact device.

35. In a typewriter, a type-wheel, a platen-roll arranged to make a complete rotation and an additional character-spacing part of a rotation for a printing cycle of the type-wheel, a key-board controlling the printing, and means controlled by the absolute rotary position of the platen-roll for automatically effecting a relative axial line-spacing movement of said type-wheel and platen-roll.

36. In a typewriter, a printing device, a platen-roll, provisions whereby the printing is effected in lines extending circumferentially of the platen, a key-board controlling the printing, and means for automatically effecting a plurality of rotations of said roll at a predetermined point in a line.

37. A platen, coöperating printing means, a key-board controlling the printing, and means for automatically exposing the printed character or space at a distance from the printing point greater than that corresponding to a character or space after each single printing or spacing operation.

38. In a typewriter, a platen-roll, a key-board controlling the same, and provisions for rotating said roll through an arc greater than that corresponding to a character or space at each actuation of a character-key or space-key.

39. In a typewriter, a platen-roll and a type-wheel adapted to print by rolling together, a key-board controlling the printing and provisions for rotating said platen-roll through an arc greater than that corresponding to a character or space at each actuation of a character-key or space-key.

40. In a typewriter, a sleeve-shaped rotary platen-roll holder, and a platen-roll mounted within and connected to rotate with said holder and adjustable axially thereof.

41. In a typewriter, a platen-roll having a longitudinal spline-slot, a sleeve-shaped rotary holder for said roll, and a spline-key on said holder occupying the slot.

42. In a typewriter, a sleeve-shaped rotary platen-roll holder, and a platen-roll removably mounted therein and having a tapered inserting end.

43. In a typewriter, a platen-roll, a rotary platen-roll holder, a longitudinally-disposed ratchet on the roll, a ratchet-feeding pawl on the roll-holder, and means automatically actuated through rotation of the roll for producing a ratchet-feeding movement of said pawl.

44. In a typewriter, a hollowed platen-roll, a longitudinal feed-ratchet axially held within said roll, a holder for said roll, and a feed-pawl mounted on said holder and co-operating with said ratchet.

45. In a typewriter, a sleeve-shaped rotary platen-roll holder, a platen-roll mounted in said holder and having a spline slot and an internal longitudinally-disposed feeding device exposed through said slot, a spline on the holder occupying said slot, and feeding means on the holder reaching said feeding device through said slot.

46. In a typewriter, a platen-roll, a rotary platen-roll holder having a line-writing movement composed of a plurality of rotations, a device on the roll-holder movable to impart an axial feed movement to the roll, and means operative after a predetermined plurality of rotations of the roll-holder for actuating said device.

47. In a typewriter, a platen-roll, a rotary platen-roll holder, having a gear and a device movable radially inward with respect to the roll-holder to impart an axial feed movement to the roll, and a gear meshing with the holder gear and having a member for actuating said device, said gears being so related as to bring the device and its actuating member into contact after a predetermined number of rotations of the roll-holder.

48. In a typewriter, a platen-roll, a rotary platen-roll holder, co-acting axial-feed members on said roll and holder, and means to throw said members into and out of engagement.

49. In a typewriter, a platen-roll, a rotary platen-roll holder, co-acting axial-feed members on said roll and holder, and means at one end of the roll for throwing said members into and out of engagement.

50. In a typewriter, a platen-roll, a rotary platen-roll holder, a longitudinally-disposed feed ratchet on the roll, a feed pawl on the holder, and provisions for rotating said ratchet to throw it into and out of engagement with the pawl.

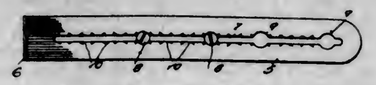
51. In a typewriter, a sleeve-like rotary platen-roll holder, a platen-roll movable longitudinally therein, and anti-friction rollers interposed between said holder and said roll.

52. In a typewriter, a platen-roll, a driving device therefor, a positive geared connection between said device and roll, and a frictional slipping device included in said connection and adapted to normally transmit motion to said roll but capable of slipping to permit manual rotation of the roll in any rotary position thereof.

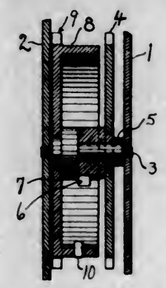
53. A keyboard for typewriters comprising an outer insulating plate having a series of outer key-seats, an inner conductive plate having a series of inner key-seats constituting electrodes, a series of keys movable between said seats and constituting electrodes, and means normally projecting said keys toward the outer seats.

867,869. SHADE-BRACKET. WILLIAM A. BENNETT, Enterprise, W. Va. Filed Dec. 18, 1906. Serial No. 348,461.

A device of the class described comprising a strip of material arranged to support one end of a curtain spindle, said spindle being provided with a slot and being crimped at the edges of the slot, and screws engaged through the slot in the strip.



867,870. WATCH-BARREL. THEODORE S. BINDSCHEDLER, Peru, Ill., assignor to The Western Clock Manufacturing Company, La Salle, Ill., a Corporation of Illinois. Filed Aug. 20, 1906. Serial No. 331,346.



A watch barrel comprising the following separably formed elements: a shouldered arbor, a winding barrel, a shouldered cylindrical member with a hook and the main wheel; said shouldered arbor being staked to said winding barrel and said shouldered member being staked to the main wheel and journaled on said arbor so that the shoulders on said members form the support for the main spring.

867,871. LAMP-SHADE. WILLIAM J. BOESEN, Orange, N. J. Filed Jan. 10, 1907. Serial No. 351,618.



1. A lamp shade comprising a plurality of sectors, a cloth member mounted upon each sector and bent backward upon itself so as to straddle the sector, and a strip connecting adjacent pairs of said cloth members together, said cloth members being stitched together and also stitched to said strip.

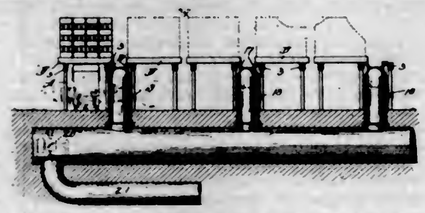
2. A lamp shade comprising a pair of sectors, a pair of gores of flexible material stitched together and provided with edges, said edges and said gores being secured upon said sectors, and a strip sewed upon said gores.

3. A lamp shade comprising a plurality of sectors, each provided with an arcuate edge integral therewith, cloth members bent back upon themselves and secured upon said sectors, said cloth members being stitched together, and a strip stitched to said cloth members for the purpose of reinforcing the same.

867,872. APPARATUS FOR DRYING BRICKS. JOHN C. BOSS, Elkhart, Ind. Filed Sept. 28, 1906. Serial No. 336,621.

1. In a brick drying apparatus a trunk for conveying the air-supply, a series of pallets for supporting the bricks, said pallets having openings for the passage of air to the bricks placed thereon, supports for the pallets arranged to permit the ends of the pallets to project over said supports, and means for detachably connecting said projecting ends of the pallets with the air trunk, substantially as described.

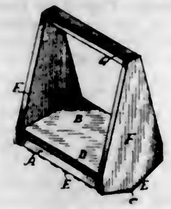
2. In a brick drying apparatus, a pallet having an air chamber provided with discharge openings and an inlet opening on its under side, a support for the pallet, an air supply apparatus having a port engaging with the inlet opening when the pallet is on its support and means for raising the pallet off its support.



3. In a brick drying apparatus, a pallet having an air chamber with discharge openings, supports adapted to receive the ends of the pallet, a track for the pallet conveying truck between the pallet supports, an air supply pipe by the side of the support, and detachable connections between the air supply and the pallet chamber, substantially as described.

4. In a brick drying apparatus, a pallet having an air chamber with discharge openings, supports adapted to receive the ends of the pallet, a track for the pallet conveying truck between the pallet supports, an air supply pipe by the side of the support, and detachable connections between the air supply and the pallet chamber, and an automatic valve in said connections, substantially as described.

867,873. CLOTHES-WASHER. ISAIAH D. BUCK, Philadelphia, Pa. Filed Oct. 3, 1906. Serial No. 337,206.



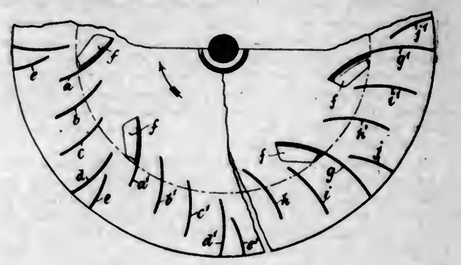
1. The combination in a washing machine, of a body portion having a series of perforations and transverse passages connecting certain of said perforations, a valve at each side of the machine, transverse ribs extending between each series of perforations and means for rocking the machine on said ribs, substantially as described.

2. The combination in a washing machine, of a body portion having two series of perforations, and passages communicating with the perforations, one set of passages communicating with the perforations on one side of the center and the other set of passages communicating with the perforations on the other side of the center, valves at each side of the machine arranged to close the outlets of the passages, with a series of transverse ribs on the under side of the body portion, constructed to serve as rockers for the machine and projecting beyond the surface of the body portion in which the perforations are formed, substantially as described.

3. The combination in a washing machine, of a perforated body portion having transverse passages therein, and a cover plate, said body portion being notched at each side, a flat rubber valve secured in each notched portion of the body and arranged to close the transverse passages, side plates and a handle, and transverse ribs extending downwards from the body portion, said ribs being deeper at the center than at the sides, substantially as described.

867,874. CENTRIFUGAL FAN AND PUMP-WHEEL. GEORGE M. CAPELL, near Stony Stratford, England. Filed July 11, 1906. Serial No. 325,695.

1. A centrifugal wheel for circulating fluids, having a series of vanes extending inwardly from the periphery and blades back of the vanes, each such blade extending inwardly toward its vane and at a greater angle from the radius than such vane, said wheel having an opening at or near the inner end of the blade leading into the space between the blade and vane.



2. A centrifugal wheel for circulating fluids, having a series of vanes extending inwardly from the periphery, and blades back of the vanes, each such blade extending inwardly toward its vane and at a greater angle from the radius than such vane to a point between the inlet and the periphery, said wheel having an opening at or near the inner end of the blade leading into the space between the vane and blade.

3. A centrifugal wheel for circulating fluids, having a series of vanes extending inwardly from the periphery, and blades back of the vanes, each such blade extending inwardly toward its vane and at a greater angle from the radius than such vane, said wheel having an opening at the inner end of said blade communicating with the space between the vane and blade.

4. A centrifugal wheel for circulating fluids, having a series of vanes extending inwardly from the periphery, and blades back of the vanes, each blade extending from the periphery inwardly toward its vane and at a greater angle from the radius than such vane to a point between the inlet and the periphery, said wheel having an opening at the inner end of said blade communicating with the space formed between the vane and the blade.

5. A centrifugal wheel for circulating fluids, having a tail-blade fitted at the back of a vane, which blade diverges from the vane as reckoned from the inner to the outer edge, a space interval being provided between the inner edge of the blade and the adjacent portion of the surface of the vane.

6. A centrifugal wheel for circulating fluids, comprising a series of vanes so radially stepped relatively to one another that the second and each of the following vanes of the series is situated at a greater radial distance from the center of rotation than the vane which next precedes it.

7. A centrifugal wheel for circulating fluids, comprising a series of vanes so radially stepped relatively to one another that the second and each of the following vanes of the series is situated at a greater radial distance from the center of rotation than the vane which next precedes it, and a tail blade fitted at the back of the most outwardly extending portion of the terminal vane of the series.

8. A centrifugal wheel for circulating fluids, comprising a series of vanes so radially stepped relatively to one another that the second and each of the following vanes of the series is situated at a greater radial distance from the center of rotation than the vane which next precedes it, and a tail blade fitted at the back of the most outwardly extending portion of the terminal vane of the series which tail-blade is, at its outer edge, inclined backward relatively to the wheel periphery more than the immediately preceding vane and, at its inner edge is separated from the back of the preceding vane.

9. A centrifugal wheel for circulating fluids, comprising a plurality of series of vanes so radially stepped relatively to one another that the second and each of the following vanes of the series is situated at a greater radial distance from the center of rotation than the vane which next precedes it and, interposed between each series, a vane whose outer portion is substituted for the terminal

vane of the preceding series and inner portion for the leading vane of the succeeding series.

10. A centrifugal wheel for circulating fluids, comprising a plurality of series of vanes so radially stepped relatively to one another that the second and each of the following vanes of the series is situated at a greater radial distance from the center of rotation than the vane which next precedes it and, interposed between each series, a vane whose outer portion is substituted for the terminal vane of the preceding series and inner portion for the leading vane of the succeeding series, and a tail-blade fitted at the back of the outward portion of each of the most radially extended vanes.

11. A centrifugal wheel for circulating fluids, comprising a series of vanes so radially stepped relatively to one another that the second and each of the following vanes of the series is situated at a greater radial distance from the center of rotation than the vane which next precedes it, the portion of a vane which lies within the air inlet circle having a scoop-shaped addition which extends laterally from the wheel.

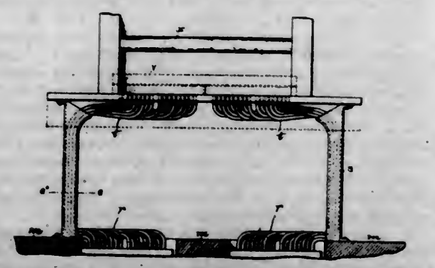
12. A centrifugal wheel for circulating fluids, comprising a plurality of series of vanes so radially stepped relatively to one another that the second and each of the following vanes of the series is situated at a greater radial distance from the center of rotation than the vane which next precedes it and, interposed between each series, a vane whose outer portion is substituted for the terminal vane of the preceding series and inner portion for the leading vane of the succeeding series, and a tail-blade fitted at the back of the outward portion of each of the most radially extended vanes, the inward portion of each of the innermost extending vanes having a scoop-shaped addition which extends laterally from the wheel.

13. A centrifugal wheel for circulating fluids, having a series of vanes extending inwardly from the periphery, and blades back of said vanes, each such blade extending inwardly toward its vane and at a greater angle from the radius than such vane and terminating short of the inner end of the vane and leaving an opening between the inner end of the blade and the vane.

14. A centrifugal wheel for circulating fluids, having a series of vanes extending inwardly from the periphery and concave in the direction of rotation, and blades back of the vanes, each such blade extending inwardly toward its vane and at a greater angle from the radius than such vane and terminating short of the inner end of the vane and leaving an opening between the inner end of the blade and the vane.

15. A centrifugal wheel for circulating fluids, having a series of main vanes extending inwardly from the periphery, and one or more vanes located between said main vanes and extending from the inlet opening toward the periphery but terminating short thereof.

867,875. AUTOMATIC PIANO. JOHN W. DARLEY, Jr., Baltimore, Md., assignor to Ernest J. Knabe, Jr., Baltimore, Md. Filed Oct. 20, 1906. Serial No. 339,870.



1. In an automatic piano, the combination of the pneumatic box, the roll box, a tracker board in said roll box, pipes and headers connecting said pneumatic box with said tracker board, said pipes being grouped into two similarly shaped but oppositely arranged sets, said sets being located near the sides of the roll box affording an unobstructed central space, and larger tubes for the reception of said sets of tubes, said larger tubes being connected to and supporting said roll box, substantially as described.

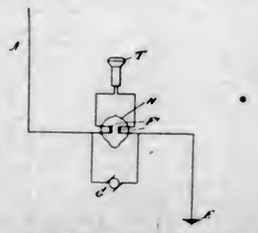
2. In an automatic piano, the combination of the key bottom, large tubes carried by said key bottom, said tubes being open on one side, a roll box fastened to and supported by said tubes, a tracker board within said roll box, a header connected to said tracker board, a pneumatic box, a header connected to said pneumatic box, and a series of tubes connecting said headers, said last-named tubes being located near the sides of the roll box in two similarly shaped, but oppositely disposed sets, said last named tubes passing through said first-named tubes, substantially as described.

3. In an automatic piano, the combination of a pneumatic box, a music roll box and tubes connecting said boxes, said tubes being bent and collected into similar shaped, but oppositely arranged sets, and larger tubes for the reception of said sets of tubes, said larger tubes being bent to provide room for the fall board to be moved back, substantially as described.

4. In an automatic piano, the combination of a key bottom, large tubes having open backs carried by said key bottom, a roll box fastened to and supported by said tubes, a pneumatic box and smaller tubes leading to said pneumatic box from said roll box, said smaller tubes being introduced into said large tubes through said open backs and passing through holes in the key bottom, substantially as described.

5. In an automatic piano, the combination of a key bottom, a roll box, a pneumatic box, headers located at the front of the pneumatic box, pipes connecting from said headers through the key bottom to headers arranged on the roll box, and pipes for retaining said connecting pipes, substantially as described.

867,876. OSCILLATION-RESPONSIVE DEVICE. LEE DE FOREST, New York, N. Y., assignor to George K. Woodworth, Boston, Mass. Original application filed Feb. 2, 1905, Serial No. 243,913. Divided and this application filed Apr. 4, 1906. Serial No. 309,762.



1. An oscillation responsive device comprising a receptacle inclosing a sensitive gaseous conducting medium, means for increasing the electrical conductivity of said gaseous medium, means for impressing electrical oscillations upon said medium, and means operatively connected therewith and responsive to alterations in the conductivity thereof.

2. An oscillation responsive device comprising a receptacle inclosing a sensitive gaseous conducting medium, electrical means for heating said gaseous medium, means for impressing electrical oscillations upon said medium, and means operatively connected therewith and responsive to alterations in the conductivity thereof.

3. An oscillation responsive device, comprising a receptacle inclosing a gas, electrical means for rendering said gas sensitive to electrical oscillations, means for impressing electrical oscillations upon said gas and means operatively connected therewith and responsive to alterations in the conductivity thereof.

4. An oscillation responsive device comprising a receptacle inclosing a gas, electrical means for putting said gas

in a condition of molecular and ionic activity, means for impressing electrical oscillations upon said gas and means operatively connected therewith and responsive to alterations in the conductivity thereof.

5. An oscillation responsive device comprising a receptacle inclosing a gaseous medium, means for rendering said gaseous medium sensitive to electrical oscillations and means for impressing electrical oscillations upon said gaseous medium.

6. An oscillation responsive device comprising a receptacle inclosing a gaseous medium, means for putting said medium in a condition of molecular and ionic activity whereby it will become the sensitive element of said oscillation responsive device, and means for impressing electrical oscillations upon said gaseous medium.

7. An oscillation responsive device comprising a receptacle inclosing a gaseous medium, electrical means for heating said medium and means for impressing electrical oscillations upon said gaseous medium.

8. An oscillation responsive device comprising a receptacle inclosing a gaseous medium, electrical means for rendering said medium sensitive to electrical oscillations and means for impressing electrical oscillations upon said gaseous medium.

9. An oscillation responsive device comprising an inclosed partially conducting gaseous medium, means for rendering said gaseous medium sensitive to electrical oscillations and means for impressing electrical oscillations upon said gaseous medium.

10. An oscillation responsive device comprising an inclosed partially conducting gaseous medium, means for increasing the conductivity of said gaseous medium to such an extent as to render the same sensitive to electrical oscillations and means for impressing electrical oscillations upon said gaseous medium.

11. A self-restoring, constantly-receptive oscillation responsive device, comprising in its construction a sensitive conducting gaseous medium inclosed in a receptacle and means for impressing electrical oscillations upon said gaseous medium.

12. An oscillation responsive device comprising a gaseous medium, electrical means for putting said medium in a condition of molecular and ionic activity and means for impressing electrical oscillations upon said gaseous medium.

13. An oscillation responsive device comprising a gaseous medium, electrical means for rendering said medium sensitive to electrical oscillations and means for impressing electrical oscillations upon said gaseous medium.

14. An oscillation responsive device comprising a gaseous medium, electrical means for heating the same and means for impressing electrical oscillations upon said gaseous medium.

15. An oscillation responsive device comprising a gaseous medium, electrical means for increasing the electrical conductivity of said medium and means for impressing electrical oscillations upon said gaseous medium.

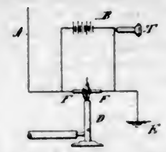
16. An oscillation responsive device comprising a receptacle inclosing a gaseous medium, means for heating said medium and means for impressing electrical oscillations upon said gaseous medium.

17. An oscillation responsive device comprising a receptacle, two separated electrodes inclosed within said receptacle, a source of electric current associated with said electrodes, said source of electric current being so proportioned and arranged as to render the gaseous medium inoscillations and means for impressing electrical oscillations upon said gaseous medium.

18. An oscillation responsive device comprising a receptacle, two separated electrodes inclosed within said receptacle, electrical means whereby the gaseous medium intervening between said electrodes is maintained in a condition of molecular and ionic activity and means for impressing electrical oscillations upon said gaseous medium.

19. An oscillation responsive device comprising a receptacle inclosing a gaseous medium, electrical means for putting said medium in a condition of molecular and ionic activity and means for impressing electrical oscillations upon said gaseous medium.

867,877. ART OF DETECTING OSCILLATIONS. LEE DE FOREST, New York, N. Y., assignor to George K. Woodworth, Boston, Mass. Original application filed Feb. 2, 1905, Serial No. 243,913. Divided and this application filed June 12, 1907.. Serial No. 378,503.



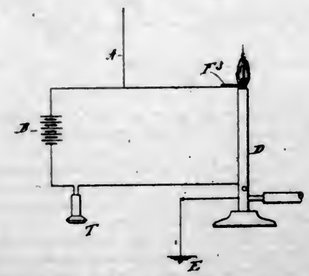
1. As an improvement in the art of receiving electromagnetic signal waves, the method herein described which consists in establishing in a circuit a gaseous medium maintained in a condition of molecular and ionic activity, impressing the electrical oscillations resulting from the waves to be received upon said gaseous medium and thereby altering the electrical condition of the circuit of which said gaseous medium forms a part, and translating the resulting current variations into signal indications.

2. As an improvement in the art of receiving electromagnetic signal waves, the method herein described which consists in establishing in a circuit a gas having dissociated and conducting ions, altering by the energy of the electrical oscillations resulting from the waves to be received, the conductive properties of said gas, and translating the resulting current variations into signal indications.

3. As an improvement in the art of receiving electromagnetic signal waves, the method herein described which consists in causing the electrical oscillations developed by electromagnetic waves in a wireless telegraph receiving system to vary the electrical conductivity of a gas maintained in a condition of intense molecular and ionic activity and having dissociated and conducting ions, and translating the resulting current variations into signal indications.

4. As an improvement in the art of receiving electromagnetic signal waves, the method herein described which consists in absorbing the energy of said waves, impressing the resulting electrical oscillations upon a gas maintained in a condition of molecular and ionic activity, thereby creating current variations in the circuit of a source of electromotive force associated with said gas, and translating said current variations into signal indications.

867,878. OSCILLATION-DETECTOR. LEE DE FOREST, New York, N. Y., assignor to George K. Woodworth, Boston, Mass. Original application filed Feb. 2, 1905, Serial No. 243,913. Divided and this application filed June 12, 1907. Serial No. 378,504.



1. An oscillation responsive device comprising a Bunsen burner, an electrode placed in the flame thereof, a local circuit connecting said burner and electrode, a signal indicating device and a source of electromotive force con-

nected in said local circuit, and means whereby the oscillations to be detected may be impressed upon said flame.

2. An oscillation responsive device comprising a gaseous medium maintained in a condition of molecular and ionic activity, two electrodes associated with said gaseous medium, one of said electrodes being maintained at a high temperature and the other at a relatively lower temperature, a local circuit connecting said electrodes, a source of electromotive force and a signal indicating device connected in said local circuit, and means whereby the oscillations to be detected may be impressed upon said gaseous medium.

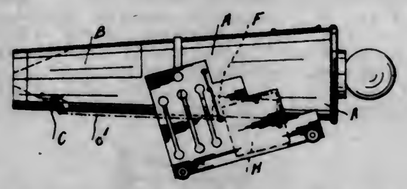
3. An oscillation responsive device comprising a gaseous medium maintained in a condition of molecular and ionic activity, two electrodes associated with said gaseous medium, one of said electrodes being maintained at a high temperature and the other at a relatively lower temperature, a local circuit connecting said electrodes, a source of electromotive force included in said local circuit, a signal-indicating device operatively connected with said local circuit, and means whereby the oscillations to be detected may be impressed upon said gaseous medium.

4. An oscillation responsive device comprising a gaseous medium maintained in a condition of molecular and ionic activity, two electrodes associated with said gaseous medium, one of said electrodes being maintained at a high temperature and the other at a relatively lower temperature, means whereby the oscillations to be detected may be impressed upon said gaseous medium, and means operatively connected therewith and responsive to alterations in the conductivity thereof.

5. An oscillation responsive device comprising a gaseous medium maintained in a condition of molecular and ionic activity, two electrodes associated with said gaseous medium, one of said electrodes being maintained at a relatively high temperature with respect to the other, means whereby the electrical oscillations to be detected may be impressed upon said gaseous medium, a local circuit connecting said electrodes and a signal indicating device operatively associated with said local circuit.

6. A wireless-telegraph local-receiving-circuit having a portion of its length formed of a gaseous medium maintained in a condition of intense molecular and ionic activity and possessing an asymmetric electrical conductivity, a signal indicating device operatively associated with said local circuit and means whereby the oscillations to be detected may be impressed upon said gaseous medium.

867,879. MEANS FOR PRODUCING STAGE ILLUSIONS. HORACE GOLDIN, London, England. Filed Feb. 21, 1906. Serial No. 302,250.



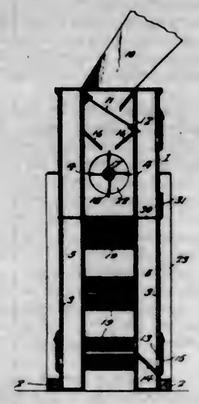
1. In an illusion apparatus, an imitation cannon, provided with means for effecting an explosion and a concealed means of egress.

2. In an illusion apparatus, an imitation cannon, having an entrance for the person and a concealed egress, a carriage for the cannon within which said egress opens, said carriage also having an egress.

3. In an illusion apparatus, an imitation cannon, having a door through which a person may enter in full view, a concealed means of egress, a firing means, and a carriage within which said egress opens.

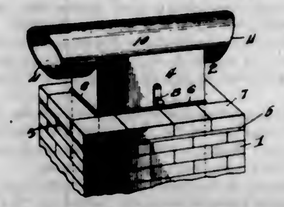
4. In an illusion apparatus, an imitation cannon having an inlet door in its upper side, an outlet or recess in its lower rear portion, and a carriage concealing said egress.

867,880. GRAIN CLEANER AND SEPARATOR. WILLIAM C. HARMON, Seneca, Mo. Filed June 28, 1906. Serial No. 323,761.



A grain separator comprising an inclosed separating chamber, refuse chambers extending throughout the length of the sides of the separating chambers and beyond the end walls thereof, a screen supported in the upper end of the separating chamber and inclining toward and terminating within one of the refuse chambers, a revolving spreader mounted in the separating chamber below the screen, a series of alternately and reversely inclined guide plates arranged within the separating chamber, air chambers arranged at the ends of the separating chamber and between the projecting ends of the refuse chambers, said air chambers being in communication with the separating chamber through openings formed in the walls of the latter adjacent the connected ends of the guide plates, and means for creating a suction in the air chambers.

867,881. CHIMNEY-COWL. AMOS H. HOLTZINGER, Bedford City, Va. Filed May 23, 1907. Serial No. 375,347.



1. A chimney cowl in the form of an oblong rectangular box comprising a base section, a cowl-carrying section telescopically engaging the base section, projections upon said base section to extend over and beneath the top course of bricks of a chimney, the upper projection forming a support and stop to limit the downward movement of the cowl-carrying section, fastening means for detachably connecting said sections, and an elongated tubular hood or cowl mounted upon said cowl-carrying section.

2. A chimney cowl in the form of an oblong rectangular box comprising a base section provided with a surrounding basal flange to extend beneath the top course of bricks of a chimney, and a shoulder above said flange to rest upon the upper surface of the bricks, and a hood or cowl-carrying section detachably mounted upon the upwardly projecting portion of said base section and resting upon and limited in downward movement by said flange.

3. A chimney cowl in the form of an oblong rectangular box comprising a base section having an external basal anchoring flange extending around the same, and an external shoulder arranged above said flange, a top section telescopically engaging said base section and adapted to rest upon the flange, means for detachably connecting said sections, and a cowl comprising a tube horizontally mounted upon the top section.

867,882. RUBBER OVERSHOE. FREDERIC C. HOOD, Boston, Mass. Filed Apr. 10, 1907. Serial No. 367,432.



1. A rubber overshoe having in connection with the lining thereof a reinforcing strip of frictioned fabric located in proximity to the upper edge of the upper, substantially as described.

2. A rubber overshoe having its upper provided with inner and outer layers of frictioned fabric and a reinforcing strip of frictioned fabric located between said layers and near the upper edge, substantially as described.

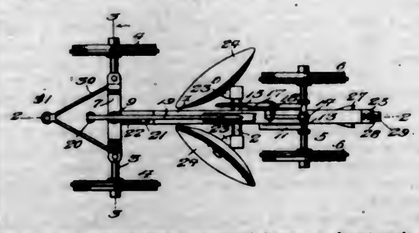
3. A rubber overshoe having incorporated in the upper thereof a layer of frictioned fabric, said frictioned fabric having an upper edge portion folded upon itself forming a reinforcing strip, substantially as described.

4. A rubber overshoe having incorporated in the upper thereof, inner and outer layers of frictioned fabric, one of said layers being formed of a bias cut fabric, and a reinforcing strip located between said layers, substantially as described.

5. A rubber overshoe having incorporated in the upper thereof inner and outer layers of frictioned fabric, said outer layer being formed of bias cut fabric and having its upper edge folded over and lying between said inner and outer layers and forming a reinforcing strip.

6. A low cut rubber overshoe having a fabric lining and a beaded rubber strip secured to the inside face of said fabric lining, substantially as described.

867,883. PLOW. EDMOND J. INGRAM, Scott, Ark. Filed Aug. 15, 1906. Serial No. 330,759.

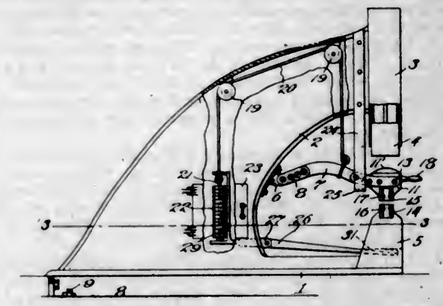


1. A plow comprising a central beam, a front axle, a vertical bolt, means on the front end of the beam pivotally connected with the bolt and slidable on the latter and adapted to rest directly on the axle when in lowermost position, means for raising the front end of the beam, a rear axle having a central U-shaped crank portion disposed directly under the beam and adapted to straddle the same, a link connected with the rear axle, an operating lever fulcrumed on the beam, an arm movable with the lever and connected with the link, a toothed sector carried by the beam, and a latch device on the lever arranged to engage the sector.

2. A plow comprising a central beam, a front axle, an arched member thereon, a vertically extending bolt passing through the axle and member, a connection between the front end of the beam and bolt for permitting the beam to hinge and move vertically on the bolt, wheels on the axle, oppositely disposed rotary disks attached to the beam behind the front axle, a rear axle, wheels thereon, a controlling lever attached to the front of the beam for raising and lowering the same, and a lever mechanism between the rear portion of the beam and rear axle for raising and lowering the beam.

3. A plow comprising a central beam, oppositely disposed rotary disks attached to the beam, a rear axle having a central U-shaped crank disposed under and journaled on the beam and capable of straddling the latter from underneath, wheels on the ends of the axle, an inverted U-shaped member spanning the beam and hingedly connected with the axle, a lever fulcrumed on the beam and connected with the member for raising and lowering the beam with respect to the wheels, and a stationary blade depending from the beam and arranged in a plane extending between the rotary disks.

867,884. MACHINE FOR REMOVING GATES AND RISERS FROM CASTINGS. RODNEY O. JONES, Granite City, Ill. Filed Mar. 29, 1907. Serial No. 365,391.



1. In a machine of the class described, a curved or arcuate bracket constituting a housing, a steam hammer carried thereby, an anvil block disposed beneath the hammer, an arm pivoted upon the housing, a die carrying block supported near the free end of said arm intermediate the anvil block and hammer, cutting dies connected adjustably with the anvil block and with the die carrier, and means within the housing for counterbalancing the arm and the parts carried thereby.

2. In a machine of the class described, a housing having a door through which access may be had to the interior, a steam hammer supported by the housing, a die carrying anvil disposed beneath the hammer, an arm pivoted upon the housing, a die carrying block mounted near the free end of the arm, a handle connected with the block, a flexible element connected with the arm and guided within the housing, and a weight carrying rod at the free end of the flexible element within the housing and accessible through the door in the latter.

3. In a machine of the class described, a pivoted arm having detachable pivot lugs and detachable lugs at its free end, a die carrying block supported between the lugs at the free end of the arm, and a handle connected with the die carrying block.

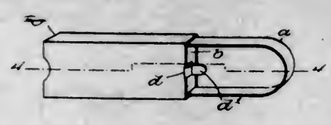
4. In a machine of the class described, a pivotally supported arm and a die carrying block supported at the free end of said arm, said block having a curved or arched surface, in combination with a steam hammer adapted to engage the curved surface of the die carrying block.

5. In a machine of the class described, an anvil block carrying a stationary cutting die, a pivotally supported arm carrying a movable cutting die, and means for limiting the movement of the die carrying arm under the impulse of a hammer stroke in the direction of the stationary cutting die.

6. In a machine of the class described, a pivotally supported arm carrying a movable cutting die, means for counterbalancing said arm including a flexible element and weights carried thereby, and means for supporting the weights to relieve the arm from the counterbalance.

7. In a machine of the class described, a stationary cutting die, a pivoted arm carrying a movable cutting die, a suitably guided flexible element connected with the arm and carrying weights for counterbalancing the arm, a foot lever having a weight engaging frame, and means for engaging the foot lever to support the weights in a raised position and to relieve the die carrying arm from said weights.

867,885. PIPE-CLEANER. MORRIS E. KANALY, Arlington, Mass. Filed Jan. 14, 1907. Serial No. 352,283.



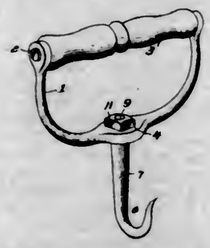
1. A pipe cleaner comprising a U-shaped resilient blade, a shank to which the ends of the blade are secured, and a casing in which the blade and shank are slidingly mounted.

2. A pipe cleaner comprising a U-shaped resilient blade, a shank to which the ends of the blade are secured, and a casing in which the blade and shank are adjustably mounted, means being employed for securing the blade and shank to the casing against pressure tending to move the blade into the casing.

3. A pipe cleaner comprising a U-shaped resilient blade, a shank to which the ends of the blade are secured, and a casing in which the blade and shank are slidably mounted, the shank being provided with a spring catch adapted to engage one end of the casing, and prevent movement of the blade and shank into the casing.

4. A pipe cleaner comprising a flexible reamer formed of a single uninterrupted piece of resilient metal adapted to conform to the interior of a pipe bowl, and an operating handle therefor.

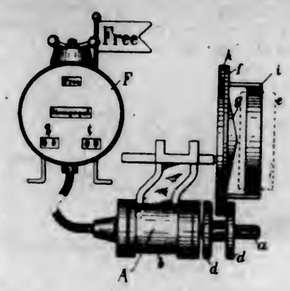
867,886. HOOK. JEREMIAH KRINER, Carlisle Springs, Pa. Filed Apr. 3, 1907. Serial No. 366,217.



A device of the character described comprising a ball handle having an enlargement provided with a non-circular opening, a hook having a shoulder to bear against the underside of the enlargement, a non-circular portion to fit within the opening, and a threaded stem projecting above said non-circular opening, and a nut for engaging said stem and bearing against the upper side of the enlargement to draw said shoulder against the underside of said enlargement and thereby clamp the hook in position.

867,887. MEANS FOR OPERATING FARE AND DISTANCE INDICATORS. OTTO KUNTZEN, Berlin, Germany. Filed Oct. 19, 1905. Serial No. 283,543.

In combination with an indicator, a cam wheel adapted to be actuated from the wheel of a vehicle, a sliding rod provided with shoulders between which said cam wheel revolves and by means of which it imparts a positive to and fro movement to the rod in both directions, and means whereby such motion is transmitted from the rod to the indicator.



867,888. DOOR. FRANK A. LANG, New York, N. Y. Filed Dec. 29, 1906. Serial No. 349,934.



1. A door structure including in combination a casing comprising two opposed segmental members, a door arranged for rotation within said casing, said door comprising a door member bent longitudinally and constructed and arranged to be moved so as to present its concave side and its longitudinal edges toward a contiguous segment of the door casing or to prevent its convex side thereto.

2. A door structure including in combination a casing comprising two opposed segmental members, a door arranged for rotation within said casing, said door comprising a door member bent longitudinally and constructed and arranged to be rotated so as to present its concave side and its longitudinal edges toward a contiguous segment of the door casing or to present its convex side thereto.

3. A door structure including in combination a casing comprising two opposed segmental members, a door arranged for rotation within said casing, said door comprising two door members bent longitudinally, said door members being separated and symmetrically arranged and each being constructed and arranged to be moved so as to present its concave sides and its longitudinal edges toward a contiguous segment of the door casing or to present its convex side thereto, and a door member for closing the space between the said two door members in one of the positions described.

4. A door structure including in combination a casing comprising two opposed segmental members, a door arranged for rotation within said casing, said door comprising two door members bent longitudinally, said door members being separated and symmetrically arranged and each being constructed and arranged to be moved so as to present is concave side and its longitudinal edges toward a contiguous segment of the door casing or to present its convex side thereto, and a door member for closing the space between the said two door members when the said door members present their concave sides toward the casing segments.

5. A door structure including in combination a casing comprising two opposed segmental members, a door arranged for rotation within said casing, said door comprising a plurality of door members bent longitudinally, each being constructed and arranged to be independently moved so as to present its concave side and its longitudinal edges toward a contiguous segment of the door casing or to present its convex side thereto.

6. A door structure including in combination a casing comprising two opposed segmental members, a door arranged for rotation within said casing, said door comprising a door member bent longitudinally and constructed and arranged to be moved so as to present its concave side and its longitudinal edges toward a contiguous segment of the door casing or to present its convex side thereto, and means for locking said door member against movement.

7. A door structure including in combination a casing comprising two opposed segmental members, a door within said casing mounted to rotate about an axis, said door comprising two members symmetrically arranged with reference to the door axis, each of said door members being symmetrically mounted upon an axis of its own carried by the door structure.

8. A door structure including in combination a casing comprising two opposed segmental members, a door within said casing mounted to rotate about an axis, said door comprising a plurality of door members, one of said door members being constructed and arranged so as to be rotatable independently of the rotation of the door and so as to either permit or prevent a passageway between the said door member and a casing segment as the door rotates past the segment.

9. A door structure including in combination a casing comprising two opposed segmental members having a doorway therebetween, a longitudinally-bent door member mounted for rotation within the said casing, said member being constructed and arranged that it may be moved to present either its concave side or its convex side to the doorway while its edges are closely contiguous to the edges of the casing, and means for locking it in one of said positions.

10. A door structure including in combination a casing comprising two opposed segmental members having a doorway therebetween, a longitudinally-bent door member mounted for rotation within the said casing, said member being constructed and arranged that it may be moved to present its concave side or its convex side to the doorway while its edges are closely contiguous to the edges of the casing, a bolt for holding said door member from movement, and a lock for said bolt.

11. A door structure including in combination a casing, said casing comprising two opposed segmental members, a door constructed and arranged to rotate within the said casing, a swinging door member constituting a part of the said rotatable door, means which may be set to hold the swinging door member fixed with reference to the other member of said rotatable door and to permit the door as a whole to rotate within the casing, or to permit the said swinging door to swing with reference to the other members of the said rotatable door and to hold the door as a whole from rotation within its casing, and a lock for said means after it is set.

12. A door structure including in combination a casing comprising two segmental members, a door mounted for rotation within the said casing, said door comprising two separated door members, a swinging door member between the said door members, a foot plate between the said separated door members, and means which may be moved to attach the separated door members to the foot plate or to detach them therefrom.

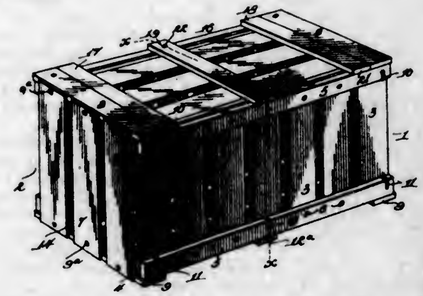
13. A door structure including in combination a casing comprising two segmental members, a door mounted for rotation within the said casing, said door comprising two separated door members mounted for rotation, a swinging door member between said rotatable door members, a foot plate between said rotatable door members, and means which may be moved to attach the rotatable door members to the foot plate or to detach them therefrom.

14. A door structure including in combination a casing comprising two segmental members, a door mounted for rotation within the said casing, said door comprising two longitudinally-bent members mounted for rotation, a swinging door member between the said rotatable members, a foot plate between the said separated door members, means for attaching the said separated door members and the foot plate together, an overhead frame to which the said separated door members are pivoted for rotation, and means engaging the said separated door members and the said frame for holding the said door members to position.

15. A door structure including in combination a casing comprising two opposed segmental members, a door mounted for rotation within said casing, said door comprising two symmetrically arranged, separated members, said members being movable so as to form a passageway between each of said door members and a segment of the casing as the door member rotates past or so that there will be no passageway as the door member rotates past the segment, and another door member for closing the space between said separated door members when they are in the relative position with respect to the segments first indicated above.

16. A door structure including in combination a casing comprising two opposed segmental members, a door mounted for rotation within said casing, said door comprising a plurality of door members each of which is constructed and arranged so as to be movable relatively to the other parts of the door and so as to be moved into position either to provide a passageway between such member and a casing segment or so that no passageway is provided between said member and the casing segment, while permitting the door to rotate within the casing.

867,889. COLLAPSIBLE CRATE. BENNETT F. LEWIS, Longview, Tex. Filed July 31, 1906. Serial No. 328,599.



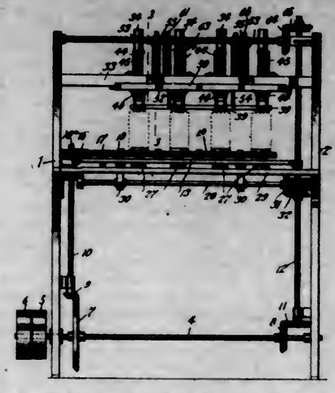
A collapsible crate comprising sides having longitudinal side bars at their upper and lower edges, ends provided at their upper and lower edges with transverse connecting bars receiving the sides between them and fitted against the lower edges of the lower side bars and the upper edges of the upper side bars, malleable fastening devices piercing the transverse connecting bars and passing between the sides and the upper and lower side bars and bent outward around the inner edges of the latter and extended partially across the outer faces of the side bars, said side bars being provided at their inner faces with grooves to receive the fastening devices and interlocking the same with the sides, said fastening devices constituting pivots on which the sides and ends are adapted to turn to collapse the body, and a removable top and a removable bottom fitted between the transverse connecting bars.

867,890. CAPPING APPARATUS. GEORGE W. LYNN, Detroit, Mich. Filed July 7, 1906. Serial No. 325,104.

1. In a machine of the character described, the combination of a relatively stationary yieldingly mounted cap holder, a container holder movable from and toward the cap holder, means for automatically opening and closing the cap holder, means for feeding caps thereto, and means for rotating the container holder to effect the application of the cap.

2. In a machine of the character described, the combination of a rotary container holder, a cap holder, means for automatically opening and closing the same, means for feeding caps to the cap holder, means for moving the container holder toward and from the cap holder, means for

rotating the container holder, and means for automatically clamping the container to and releasing it from its holder.



3. In a machine of the character described, the combination of a supporting frame, a series of cap holders mounted upon the frame, a table movable toward and from said cap holders, jar holders carried by the table, means for automatically feeding caps to said cap holders, means for closing said holders, means for moving the table toward the cap holders and closing the jar holders thereon, means for rotating the latter to secure the caps upon the jars, means for releasing the caps from the cap holders, means for releasing the capped jars from their holders, means for operating the table, and primary actuating mechanism for operating the several parts in timed relation.

4. In a machine of the character described, the combination of a supporting frame, cap holders carried by the frame, means for feeding caps to the cap holders, means for opening and closing said cap holders, a table movable toward and from the cap holders, jar holders upon the table, means for automatically opening and closing said holders, means for rotating the jar holders when the jars are moved to cap-applying position, and means for operating the several parts in timed succession.

5. In a machine of the character described, the combination of a supporting frame, a cap holder carried by the frame, means for feeding the caps thereto, a table movable toward and from the cap holder, a jar holder carried by the table, means for operating the table, means for rotating the jar holder when the jar comes into cap-applying position, and means for releasing the applied cap from the cap holder and the jar from the jar holder.

6. In a machine of the character described, the combination of a supporting frame, a series of cap holders carried thereby, means for opening and closing said holders and feeding caps thereto, a table movable toward and from said cap holders, rotary jar holders carried by the table, means for opening and closing said holders, and gearing for the operating parts including a mutilated drive gear arranged to impart a prescribed number of rotations to the jar holders.

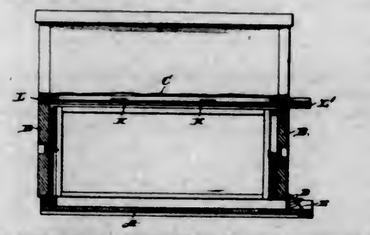
7. In a machine of the character described, the combination of a supporting frame, cap holders yieldingly mounted thereon, each holder comprising movable gripping jaws, means for opening and closing said jaws, means for feeding caps thereto, a table movable toward and from the cap holders, rotary jar holders carried by the table, means for opening and closing said holders, and means for operating the several parts at timed intervals to feed the caps, close the cap holders, move the table toward the cap holders, rotate the jar holders, release the applied caps, retract the table and open the jar holders.

8. In a machine of the character described, the combination of a supporting frame, cap holders carried thereby, a table movable toward and from the cap holders, jar holders carried by the table, means for automatically feeding caps to the cap holders, means for operating the table and opening and closing the holders, and means for rotating the jar holders to effect the application of the caps thereto.

9. In a machine of the character described, the combination of a supporting frame, a series of cap holders carried thereby, each comprising pivoted spring closed clamping members, means for periodically opening and closing said members, means for feeding the caps to the cap holders when the members thereof are open, a table movable toward and from the cap holders, rotary jar holders carried thereby, each embodying spring closed clamping arms, means for operating the table and rotating the jar holders when the jars are brought into cap-applying position, means for releasing the jars from the holders, and drive gearing for the operating parts.

10. In a machine of the character described, the combination of a supporting frame, cap-feeding means, cap-holders coöperating therewith, jar holders movable vertically toward and from the cap holders, means for projecting, retracting and rotating the jar holders, and drive gearing for operating the parts at timed intervals to feed caps to the cap holders, move the jar holders to cap applying position, rotate said holders to screw the caps thereon, release the applied caps and retract the jar holders and release the jars therefrom.

867,891. BEEHIVE. FRANK G. MARBACH, Medina, Ohio, assignor to The A. I. Root Co., Medina, Ohio. Filed Apr. 23, 1907. Serial No. 369,800.



1. As a means for controlling the movements of bees, a device comprising a series of parallel wires or rods held at fixed distances apart to permit the passage between adjacent bars or wires of worker bees only.

2. As a means for controlling the movements of bees, a device comprising a series of parallel wires or rods held at fixed distances apart to permit the passage between adjacent bars or wires of worker bees only, and parts connecting said wires or rods at points intermediate their ends.

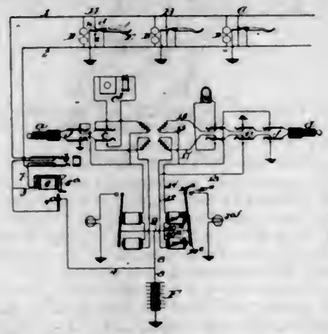
3. As a means for controlling the movements of bees, a device comprising a series of parallel horisontal wires or rods held at fixed distances apart to permit the passage between adjacent bars or wires of worker bees only.

4. As a means for controlling the movements of bees, a device comprising a series of parallel horisontal wires or rods held at fixed distances apart to permit the passage between adjacent bars or wires of worker bees only, and parts connecting said wires or rods at points intermediate their ends.

867,892. TELEPHONE SYSTEM. FRANK E. MAYBERRY, Medford, Mass., assignor to Boston Telephone Selector Company, Boston, Mass., a Corporation of Maine. Filed Aug. 11, 1902. Serial No. 119,248.

1. The combination with controlling devices bridged across the line at the several stations, of a source of current at the central office adapted to be connected with the line terminals when two stations are connected for conversation, a supplemental source of current connected with one line terminal only, a third conductor, and means for controlling a circuit including the line conductors, the controlling devices, the third conductor and the supplemental source of current.

2. The combination with controlling devices bridged across the line at the several stations, of a source of current at central office, a cord-circuit for connecting the terminals of said source with the line terminals, a wire conductor leading from one terminal of said source to one of the line conductors, a supplemental source of current in series with said wire conductor, a ground conductor leading from the other terminal of the said supplemental source to the several stations, means located at each station for momentarily connecting the other line conductor with the ground conductor, and means for disconnecting the wire conductor from the line in response to the insertion of the cord-circuit plug in its jack.



3. The combination with controlling devices bridged across the line at the several stations, of a source of current at central office adapted to be connected with the line terminals when two stations are connected for conversation, a third conductor connected with said source midway between the line terminals, means for connecting either line with said third conductor, and a signal controlled by current flowing in either circuit thus closed.

4. The combination with the main line conductors, of a source of current at the central office, means for connecting the terminals of said source with the line terminals, a third conductor connected with said source midway between the line terminals, means located at the subscriber's station for momentarily connecting either line with said third conductor, and a signal controlled by current flowing in either circuit thus closed.

5. The combination with the controlling devices bridged across the line at the several stations, of a source of current at the central office adapted to be connected with the line terminals to supply current for conversation, a supplemental source of current, a signaling device, a third conductor, and means located at each station for momentarily closing a circuit including the line conductors, the controlling devices, the third conductor, the supplemental source of current, and the signaling device, as set forth.

6. The combination with the two line conductors, of a third conductor, means located at each subscriber's station for momentarily connecting either line conductor with said third conductor in response to the movement of the receiver hook, a calling signal located at central office included in circuit with one line conductor and said third conductor, and a clearing out signal included in circuit with the other line conductor and said third conductor.

7. The combination with the two line conductors, of a third conductor, means located at each subscriber's station for momentarily connecting either line conductor with said third conductor, a calling signal located at central office and controlling devices located at the several stations, said calling signal and said controlling devices being included in circuit with one line conductor and said third conductor, and a clearing out signal included in circuit with the other line conductor and said third conductor.

8. The combination with two supervisory signals located at central office and corresponding respectively with the calling and called subscriber's lines, of controlling devices along the called subscriber's line, means located at central for operating said controlling devices and the supervisory signal corresponding to the called subscriber's line, means under control of the called subscriber for restoring the supervisory signal when the call is answered, means under control of each subscriber for operating the supervisory signal corresponding to its own line when conversation is finished, and means located at central for restoring the controlling devices and signals when the lines are disconnected.

9. The combination with the line conductors, of a third conductor, an electro-magnet in a circuit including one of said line conductors and said third conductor, a second electro-magnet in a circuit including the other of said line conductors and said third conductor; a signal controlled by both of said magnets, and means for separately controlling said circuits.

10. The combination with two lines and the line conductors thereof; of a cord-circuit having conductors for closing the circuits of said lines respectively without connecting said lines; induction coils for transmitting the variable transmitter controlled current from one line to the other; a third conductor leading to each line; means located at the substation for momentarily closing a circuit including one or the other of the line conductors, said third conductor and one member of said cord circuit; and separate signals controlled by current in the circuits thus closed.

11. The combination with the line conductors; of a third conductor; a source of current; a circuit including both lines and said third conductor; controlling devices included in said circuit; a circuit including one line and said third conductor; a supervisory signal located at the central station and included in the circuit last named; means for momentarily closing the circuit first named when a receiver is taken down; and means for momentarily closing the circuit last named when a receiver is hung up.

12. In a supervisory signal system for telephones, a signal corresponding to each line; an electro-magnetic device for operating said signal provided with two coils; a circuit for said device including one of said coils to cause one operation of said signal; means located at central office for controlling said circuit; a circuit including the other of said coils to cause a different operation of said signal; and means located at a substation for controlling said latter circuit.

13. The combination with the main conductors of a telephone line; of a source of current and two oppositely wound coils in circuit with each line conductor; two cores each having wound thereon one of the coils of each line; a polarized armature; a signal controlled by said armature; a third conductor; and means for momentarily closing a circuit including one of said line conductors, the coils thereof, and said third conductor.

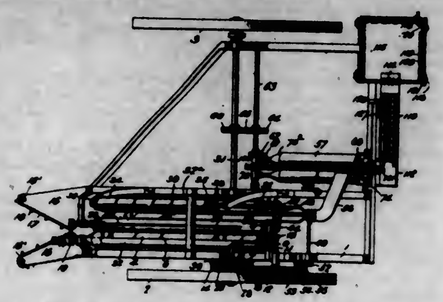
14. In a party line telephone system, a controlling device at each station; a circuit including all the controlling devices of one line; an electro-magnetic coil included in said circuit; means located at the central office for closing said circuit; a second circuit including another electro-magnetic coil; means located at each substation for closing said second circuit; and a signal operated by current flowing through one of said coils and restored by current flowing through the other.

15. In a party line telephone system, a controlling device at each station; a circuit including all the controlling devices of one line; an electro-magnetic coil included in said circuit; means located at the central office for closing said circuit; a second circuit including another electro-magnetic coil; means located at each substation for closing said second circuit; a signal operated by current flowing through one of said coils and restored by current flowing through the other; a third circuit including the controlling devices and one of said coils; and means located at the central office for closing said third circuit.

867,893. CORN HARVESTING AND HUSKING MACHINE. WILLIAM B. METCALF, Auburn, Nebr. Filed Apr. 26, 1905. Serial No. 257,521.

1. In a machine of the class described, ear snapping mechanism and gathering mechanism including vertically

disposed shafts having continuous convolute flanges which are broadest transversely at their lower ends and decrease in breadth toward their upper end.



2. Ear snapping rolls and an endless slatted device moving continuously and transversely of the rolls and cooperating with the same for detaching ears from stalks.

3. Rearwardly and upwardly inclined ear snapping rolls, laterally operating stalk bending means and transversely operating ear detaching means coöperating with the rolls for detaching ears from stalks.

4. In a machine of the class described, an ear detaching device including endless traveling means, and slats pivotally connected therewith.

5. In a machine of the class described, an ear detaching device including endless traveling means, slats pivotally connected therewith, and means for rotating said slats.

6. Ear snapping rolls, means operating upon the tops of stalks passing between the rolls to bend said stalks over one of the rolls, and ear detaching means coöperating with said bending means and snapping rolls.

7. Ear snapping rolls, stalk bending means, and ear detaching means coöperating therewith and including an endless movable slatted device.

8. Ear snapping rolls, stalk bending means, and ear detaching means coöperating therewith and including endless traveling means and slats pivotally supported thereby.

9. Ear snapping rolls, stalk bending means, and ear detaching means coöperating therewith and including endless traveling means, slats pivotally supported thereby, and means for rotating said slats.

10. In a machine of the class described, ear detaching means including endless traveling means, slats supported for rotation by said traveling means, pinions connected with said slats, and racks supported in the path of said pinions.

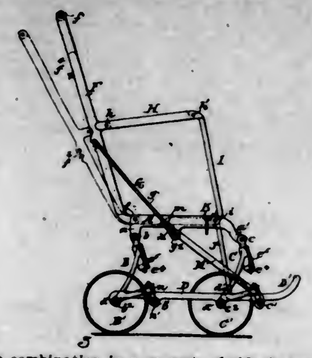
11. Ear snapping rolls, ear detaching means coöperating therewith and including endless slatted traveling means supported adjacent to one of the rolls, and a conveyer disposed beneath and between said snapping rolls and detaching means.

867,894. GO-CART. EDWARD C. MOORE, Philadelphia, Pa. Filed Feb. 27, 1907. Serial No. 359,560.

1. The combination in a folding go-cart, of the side frames, longitudinal bars, wheel carriers extending from the side frames to the longitudinal bars and pivoted to both the bars and the side frames, wheels on the carriers, the parts being arranged so that the frames can be brought close to the longitudinal bars and the wheels can fold under the frames, substantially as described.

2. The combination in a go-cart, of a side section having side frames, longitudinal bars below the side frames, wheel carriers pivoted to the bars and to the side frames, wheels mounted on the wheel carriers, the said carriers having double pivots so that the frames can be brought close to the longitudinal bars and the wheels can turn under the frames, substantially as described.

3. The combination of a seat section having side frames, longitudinal bars below the side frames, wheel carriers pivoted to the side frames and to the longitudinal bars, hooked projections on the longitudinal bars arranged to engage the wheel sections, with wheels mounted on the spindles, substantially as described.



4. The combination in a go-cart, of side frames, longitudinal bars, connecting wheel carriers, a back section pivoted to the side frames, and a bar also pivoted to the side frames at a point distant from the pivot of the back frame and engaging the back frame to hold it in its adjusted position, substantially as described.

5. The combination in a folding go-cart, of a seat section, longitudinal bars under the side frames, wheel carriers pivoted to the side frames and to the longitudinal bars, wheels mounted on the carriers, a back section pivoted to the rear of the side frames of the seat section, arms pivoted to the back frame, a connecting rod extending from the forward end of the arms to the forward end of side bars, with means for holding the back section in its adjusted position, substantially as described.

6. The combination in a folding go-cart, of the side frames, longitudinal bars below the side frames, wheel carriers pivoted to the side frames and to the longitudinal bars, wheels mounted on the carriers, an apron suspended from the side frames and resting against the lugs on the longitudinal bars, with means for holding the apron in its adjusted position, substantially as described.

7. The combination in a go-cart, of side frames, longitudinal bars, wheel carriers connecting the longitudinal bars to the side frames, a back section pivoted to the side frames, a rod retaining the back section in position, a crank on each pivot end of the rod, bars pivoted to the cranks and connected to the longitudinal bars so that when the back section is folded over the seat section and the bar folded over the back it will bring the longitudinal bars up close to the seat section, substantially as described.

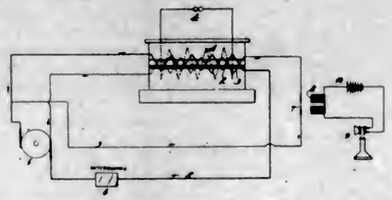
8. The combination in a go-cart, of a seat section, longitudinal bars, wheel carriers connecting the bars to the seat section, an apron pivoted to the front of the seat section having a series of teeth at the pivot end, and a cross bar arranged to engage any one of the teeth to hold the apron in its adjusted position, substantially as described.

9. The combination of a go-cart, a seat section, longitudinal bars, wheel carriers connecting the seat section to the longitudinal bars, an apron pivoted to the front end of the seat section, a back section, arms connecting the back section with the front portion of the seat section, and lugs on the apron engaging the arm section, substantially as described.

10. The combination of a go-cart, a seat section, longitudinal bars, wheel carriers mounted between the bars and the seat section, each carrier having two sockets, pivot pins pivoted to the seat section and the longitudinal bars and mounted in the sockets, substantially as described.

11. The combination of a go-cart, side frames, longitudinal bars, wheel carriers connecting the longitudinal bars to the side frames, each wheel carrier having a socket, a spring mounted in the socket, and a pin mounted in the socket and resting against the spring, substantially as described.

867,895. WIRELESS TRANSMISSION OF SONOROUS VIBRATIONS. HENRY A. MCCARTY, San Francisco, Cal., administrator of Francis Joseph McCarty, deceased, assignor to McCarty Wireless Telephone Co., San Francisco, Cal., a Corporation of California. Filed Sept. 20, 1906. Serial No. 335,396.



1. In apparatus for transmitting sonorous vibrations, primary coils, a secondary coil with connected spark gap device, a source of electrical energy with which the primaries are connected, and means whereby the passing electrical currents are independently varied.

2. In an apparatus for transmitting sonorous vibrations, a plurality of primary coils, a secondary coil and spark gap device, a source of electrical energy with which the primaries are connected, an interrupter disposed in the circuit of one primary and means to independently vary the current flowing through the other primary.

3. In an apparatus for transmitting sonorous vibrations, a plurality of primary coils, a secondary coil and spark gap device, a source of electrical energy with which the primaries are connected, an interrupter disposed in the circuit of one primary, an arc light located in the circuit of the second primary, and means whereby the impulses created by sonorous vibrations act to independently vary the vibrations in the second primary circuit.

4. In an apparatus for transmitting sonorous vibrations, a plurality of primary coils, a secondary coil energized thereby and having a spark gap device, a source of electrical energy with which the primaries are connected, an interrupter disposed in the circuit of one primary, an arc light located in the circuit of the second primary, a magnet contiguous to the arc, a telephone transmitter and electrically energized connection between the transmitter and the magnet.

5. In an apparatus for the transmission of sonorous vibrations, a plurality of primary coils, a secondary coil with spark gap device and energized by the primary coils, a source of electrical energy, connections whereby an electrical current flows in opposite directions through the two primaries, an interrupter disposed in the circuit of one primary, an arc light in the circuit of the other primary, a telephone transmitter and an electrically energized magnet with which the transmitter is connected, said magnet being located in close proximity with the arc light.

6. In an apparatus for transmitting sonorous vibrations, a plurality of primary coils, a source of electrical energy from which currents are transmitted through the coils in opposite directions, a secondary coil having a spark gap device and energized by the two primaries, an interrupter in one primary circuit, an arc light located in the other primary circuit, said circuit normally neutralising the magnetic field of the interrupted circuit.

7. In an apparatus for transmitting sonorous vibrations, a source of electrical energy, two contiguous primary coils in which electrical currents flow in opposite directions, and a secondary coil and spark gap device energized by said primaries, an interrupter disposed in the circuit of one primary, and controlled means for varying the current of the other primary.

8. In an apparatus for transmitting sonorous vibrations, a source of electrical energy, two contiguous primary coils in which electrical currents flow in opposite directions, a secondary coil and spark gap device energized by said primaries, an interrupter disposed in the circuit of one primary and vocally controlled means for varying the current of the other primary.

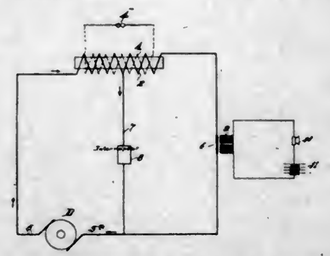
9. In an apparatus for transmitting sonorous vibrations, a source of electrical energy, two contiguous primary coils in which electrical currents flow in opposite directions, an induction coil with a spark gap, said coil being energized by the primaries, an interrupter disposed in one of the primary circuits, an arc light within the other primary circuit, an electro magnet located contiguous to the arc, a battery and a telephone transmitter in circuit with the electro-magnet.

10. In an apparatus for transmitting sonorous vibrations, a source of electrical energy, an electrically energized primary coil, having an interrupter disposed in its circuit, a second primary coil contiguous to the first, and having an electric current passing through it in opposite direction from that of the first primary, whereby the magnetic field of the first primary is neutralized, an arc light located in said second primary circuit, an electro magnet contiguous to the arc, and a telephone transmitter and battery in circuit with the electro magnet.

11. In an apparatus for transmitting sonorous vibrations, a source of electrical energy, a secondary coil having a spark gap device in circuit, an electrically energized primary coil with an interrupter in circuit, means to normally neutralize the magnetic field of the primary, and a telephone transmitter and connections whereby the spark gap discharges are varied.

12. In an apparatus for transmitting sonorous vibrations, a secondary coil with spark gap device in circuit, an electrically energized primary coil and interrupter, means for neutralizing the magnetic field of said coil, a telephone transmitter and connections whereby the spark gap discharges will be varied by vocal impulses through the transmitter.

867,896. WIRELESS TRANSMISSION OF SONOROUS VIBRATIONS. HENRY A. MCCARTY, San Francisco, Cal., administrator of Francis Joseph McCarty, deceased, assignor to McCarty Wireless Telephone Co., San Francisco, Cal., a Corporation of California. Filed Sept. 20, 1906. Serial No. 335,397.



1. In an apparatus for the transmission of sonorous vibrations, a primary coil, a source of electrical energy with which it is connected, a secondary coil and spark-gap device, a return connection from the central portion of the primary coil, said return having an interrupter located within its length, and means located in the main portion of the primary circuit to independently vary the current flowing therethrough.

2. In an apparatus for transmitting sonorous vibrations a primary coil, a secondary coil and spark-gap devices, a source of electrical energy with which the primary coil is connected, a connection between the central portion of the primary coil and the source of electrical energy, an interrupter disposed in the circuit of the said intermediate connection, an arc light located in the main circuit of the primary and beyond the interrupter circuit, and means whereby the impulses created by sonorous vibrations act to independently vary the vibrations in the circuit.

3. In an apparatus for transmitting sonorous vibrations, a primary coil, a source of electrical energy with which it is connected, a secondary coil energised by said primary coil having a spark-gap device, a return wire connecting

with the central portion of the primary coil having an interrupter disposed in its circuit, an arc light located in the main circuit of the primary, a magnet contiguous to the arc, a telephone-transmitter, and electrically energised connection between the transmitter and the magnet.

4. In an apparatus for the transmission of sonorous vibrations, a primary coil, a source of electrical energy connections between said coil and the source of electrical energy, a secondary coil energized by the primary coil and having a spark gap device, an intermediate circuit connecting the central portion of the primary coil with the source of electrical energy, an interrupter located in said circuit, an arc light in circuit with the remainder of the primary circuit, a telephone transmitter, and an electrically energised magnet with which the transmitter is connected, said magnet being located in close proximity with the arc light.

5. In an apparatus for transmitting sonorous vibrations, a primary coil, a source of electrical energy from which currents are transmitted through the coil, a secondary coil energized by said primary and having a spark gap device, a circuit connecting the central portion of the primary coil with the source of electrical energy, an interrupter located in said circuit, an arc light located in the exterior portion of the primary circuit and normally neutralising the variations of the magnetic field of the interrupted circuit.

6. In an apparatus for transmitting sonorous vibrations, a primary coil with means for transmitting an electrical current therethrough, a secondary coil, and a spark gap energised by said primary, a circuit connecting the central portion of the primary coil with the source of electrical energy, an interrupter disposed in said circuit, and controlled means located in that portion of the primary circuit exterior to the short circuit and varying the current of the short circuit.

7. In an apparatus for transmitting sonorous vibrations, a primary coil, a source of electrical energy, a secondary coil, a spark gap device energised by the primary, a circuit connecting the central portion of the primary coil with the source of electrical energy, an interrupter disposed in the circuit, and vocally controlled means connecting with the main portion of the primary circuit for varying the current of the circuit.

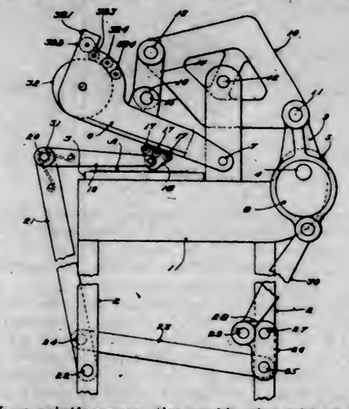
8. In an apparatus for transmitting sonorous vibrations, a primary coil, a source of electrical energy connected therewith, a secondary coil with a spark gap, said coil being energised by the primary coil, a circuit connecting the central portion of the primary coil with the source of electrical energy, an arc light located within the remainder of the primary circuit, an electro magnet located contiguous to the arc, a battery, and a telephone transmitter in circuit with the battery.

9. In an apparatus for transmitting sonorous vibrations, an electrically energised primary coil, a source of electrical energy a circuit connecting the central portion of the primary coil with the source of electrical energy and having an interrupter disposed in its circuit, an arc light located in the remainder of the primary circuit and acting to neutralise the variations of the magnetic field in the primary produced by the interrupted circuit, an electro magnet contiguous to the arc, and a telephone transmitter and battery in circuit with the electro magnet.

10. In an apparatus for transmitting sonorous vibrations a secondary coil having a spark gap in circuit, an electrically energised primary coil, a source of electrical energy a circuit connecting the central portion of said coil with the source of electrical energy, an interrupter in said circuit, and means to normally neutralise the variations of the magnetic field of said primary and circuit, and a telephone transmitter and connections whereby the spark gap discharges are varied.

11. In an apparatus for transmitting sonorous vibrations, a secondary coil with spark gap device in circuit, an electrically energised primary coil, a source of electrical energy a return circuit connecting with the central portion of said coil, an interrupter located within said circuit, means for neutralising the variations of the magnetic field of said circuit, a telephone transmitter and connections whereby the spark gap discharges are varied by vocal impulses through the transmitter.

867,897. PRINTING-PRESS. THOMAS A. NEEDHAM, Everett, Mass. Filed Feb. 14, 1907. Serial No. 357,252.



1. In a printing-press, the combination with the platen, and the type-head movable toward and from the said platen, of the form-rollers, a roll-carrier, a swinging support for the roll-carrier, a moving carrier mounted independently of the type head and on which the said swinging support is pivotally mounted, and means to actuate the said carrier.

2. The combination, in a printing-press with the platen, and the type-head movable toward and from the platen, of the form-rollers, an actuating shaft at one side of the path of the web an eccentric thereon, and operating connections extending from the said eccentric around the platen to the other side of the said path and serving to actuate the form-rollers to distribute the ink upon the faces of the type.

3. In a printing-press, the combination with the platen, and a type-head swinging transversely with respect to the path of the web about pivotal centers located at one side of the said path, of operating means for the said type-head comprising a rotating shaft, a rocker or walking-beam, and operating connections between said shaft and the outer arm of the said rocker or walking-beam and between the inner arm of the latter and the type-head.

4. In a printing-press, the combination with the platen, and a swinging type-head, of a rotating eccentric, a strap and eccentric-rod, a rocker or walking-beam with one arm of which said eccentric-rod is operatively combined, and a link through which motion is transmitted from the other arm of the rocker or walking-beam to the swinging type-head.

5. In a printing-press, the combination with the platen, and the swinging type-head, and the form-rollers, of a shaft at one side of the path of the web, operating connections extending around the platen to the other side and serving to actuate the form-rollers to distribute the ink upon the faces of the type, a rocker or walking-beam, and operating connections between the latter and the swinging type-head.

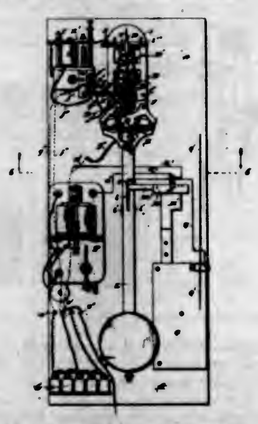
6. In a printing-press, the combination with the platen, a swinging type-head, and the form-rollers, of a rotating eccentric, a strap and eccentric-rod, a rocker or walking-beam with which said eccentric-rod is operatively combined, operating connections between the rocker or walking-beam and the swinging type-head, and operating connections extending around the platen from the said strap and eccentric-rod and serving to actuate the form-rollers to distribute the ink upon the faces of the type.

7. In a printing-press, the combination with the platen, and type-head, of the form-rollers, a roll-carrier, a swinging support for the roll-carrier, a swinging carrier to which the said support is hinged, means for moving the said swinging carrier to cause the form-rollers to travel across the face of the type, and means acting upon the said support to press the form-rollers toward the face of the type.

8. In a printing-press, the combination with the platen, and type-head, of the form-rollers, a roll-carrier, a swinging support for the roll-carrier, a swinging carrier to which the said support is hinged, a spring acting upon said swinging support to press the form-rollers toward the face of the type, and means for moving the said swinging carrier to cause the form-rollers to travel across the face of the type.

9. In a printing-press, the combination with the platen, and a type-head movable toward and from the said platen, of an ink-fountain and a distributing roll carried by the said type-head, the form-rollers, a roll-carrier, a swinging support for the roll-carrier, a carrier to which the said support is hinged, means acting upon the said swinging support with yielding force to press the form-rollers toward the face of the type, and actuating means for moving the said carrier to cause the form-rollers to travel across the face of the type.

867,898. SPACE ELECTROMECHANICAL SYNCHRONIZING MEANS. AUSTIN H. STEWART, Nashville, Tenn. Filed June 18, 1903. Serial No. 162,113.



1. In combination with a time piece, synchronizing mechanism including a coherer operatively connected therewith, a transmitter for creating a wave operable through space upon said coherer for the purpose described, and decohering instrumentalities arranged to be actuated by a moving part of the mechanism.

2. In combination with a time piece, synchronizing mechanism including a coherer operatively connected therewith, means operable through space upon the coherer for the purpose described, and decohering instrumentalities arranged to be actuated by a moving part of the mechanism.

3. In combination with a time piece, synchronizing mechanism including a coherer operatively connected therewith, a transmitter adapted to create a codal disturbance operable through space upon the coherer for the purpose described, and decohering instrumentalities arranged to be actuated by a moving part of the mechanism.

4. In combination with an indicator, and means for normally operating the same, a motor for reënergising the operating means, means for setting said indicator, means for controlling said motor and setting means including a coherer operatively connected therewith, a transmitter adapted to create a wave operable through space upon said coherer for the purpose described, and decohering instrumentalities arranged to be actuated by a moving part of the mechanism.

5. In combination with a time piece, means for setting the hands and winding the operating means thereof, and means for controlling said setting and winding mechanism including a coherer operatively connected therewith, a transmitter adapted to create a wave operable through space upon said coherer for the purpose described, and decohering instrumentalities arranged to be actuated by a moving part of the mechanism.

6. In combination with an indicator, and means for normally operating the same, a motor for reënergising the operating means, means for setting said indicator, and means for controlling said motor and setting means including a coherer operatively connected therewith, a transmitter adapted to create a codal disturbance operable through space upon said coherer for the purpose described, and decohering instrumentalities arranged to be actuated by a moving part of the mechanism.

7. In combination with a time piece, means for setting the hands and winding the operating means thereof, and means for controlling said setting and winding means including a coherer operatively connected therewith, a transmitter adapted to create a codal disturbance operable through space upon said coherer for the purpose described, and decohering instrumentalities arranged to be actuated by a moving part of the mechanism.

8. In combination with a time piece, winding means, means for controlling the operation thereof including a coherer operatively connected therewith, a transmitter adapted to create a wave operable through space upon said coherer for the purpose described, and decohering instrumentalities arranged to be actuated by a moving part of the mechanism.

9. In combination with a motor, means for controlling the operation thereof including a coherer operatively connected therewith, and a transmitter adapted to create a codal disturbance operable through space upon said coherer for the purpose described, and decohering instrumentalities arranged to be actuated by a moving part of the mechanism.

10. In combination with a time piece, winding means, means for controlling the operation thereof including a coherer operatively connected therewith, a transmitter adapted to create a codal disturbance operable through space upon said coherer for the purpose described, and decohering instrumentalities arranged to be actuated by a moving part of the mechanism.

11. In a clock, hand setting means, winding means, electrical means for operating said setting and winding means, means for throwing said electrical means into and out of operation including a moving part on the clock mechanism, two controlling devices constituting switches operatively related thereto, an electric circuit terminal for each switch, and means whereby said terminals may be adjusted relative to said controlling devices.

12. In a clock, hand setting means, winding means, electrical means for operating said setting and winding means, means for throwing said electrical means into and out of operation including a moving part on the clock mechanism, two controlling devices constituting switches operatively related thereto, adapted to be alternately actuated, an electric circuit terminal for each switch, and means whereby said terminals may be adjusted relative to said controlling devices.

13. In a clock, hand setting means, winding means, electrical means for operating said setting and winding means, and means for throwing said electrical means into and out of operation including a moving part on the clock mechanism, two pivoted controlling devices constituting switches, operatively related thereto, a lead in the electric circuit, and branch terminals on said lead one for each switch.

14. In a clock, hand setting means, winding means, electrical means for operating said setting and winding means, means for throwing said electrical means into and out of operation including a moving part on the clock mechanism, two controlling devices constituting switches operatively related thereto, an electric circuit spring terminal for each switch, and means whereby said spring terminals may be adjusted relative to said controlling devices.

15. In a clock, hand setting means, winding means, elec-

trical means for operating said setting and winding means, means for throwing said electrical means into and out of operation including a moving part on the clock mechanism, two controlling devices constituting switches operatively related thereto, adapted to be alternately actuated, an electric circuit spring terminal for each switch, and means whereby said spring terminals may be adjusted relative to said controlling devices.

16. In a clock, hand setting means, winding means, electrical means for operating said setting and winding means, means for throwing said electrical means into and out of operation including a moving part on the clock mechanism, two controlling devices constituting switches operatively related thereto, a lead in the electric circuit, branch spring terminals on said lead one for each switch, and adjustable means for limiting the bending of said spring terminals toward the controlling devices.

17. In a clock, hand setting means, winding means, electrical means for operating said setting and winding means, and means for throwing said electrical means into and out of operation including a moving part on the clock mechanism, two controlling devices constituting switches operatively related thereto, adapted to be alternately actuated, a lead in the electric circuit, branch spring terminals on said lead one for each switch, and adjustable means for limiting the bending of said spring terminals toward the controlling devices.

18. In a clock, hand setting means, winding means, electrical means for operating said setting and winding means, means for throwing said electrical means into and out of operation including a moving part on the clock mechanism, two controlling devices constituting switches operatively related thereto, an electric circuit spring terminal for each switch, means whereby said spring terminals may be adjusted relative to said controlling devices, and adjustable means for limiting the bending of said spring terminals toward the controlling devices.

19. In a clock, hand setting means, winding means, electrical means for operating said setting and winding means, means for throwing said electrical means into and out of operation including a moving part on the clock mechanism, two controlling devices constituting switches operatively related therewith, adapted to be alternately actuated, an electric circuit spring terminal for each switch, means whereby said spring terminals may be adjusted relative to said controlling devices, and adjustable means for limiting the bending of said spring terminals toward the controlling devices.

20. In a clock, means for regulating a part of the clock mechanism, and electric means for controlling the operation of said means, including a moving part on the clock mechanism, a switch operatively related thereto, a lead in the electric circuit, a terminal on said lead for said switch, and means whereby said terminal may be adjusted relative to said switch.

21. In a clock, means for regulating a part of the clock mechanism, and electric means for controlling the operation of said means including a moving part in the clock mechanism, a switch operatively related thereto, a lead in the electric circuit, a spring terminal on said lead for said switch, and means whereby said spring terminal may be adjusted relative to said switch.

22. In a clock, means for regulating a part of the clock mechanism, and electric means for controlling the operation of said means including a moving part in the clock mechanism, a switch operatively related thereto, a lead in the electric circuit, a spring terminal on said lead for said switch, means whereby said spring terminal may be adjusted relative to said switch, and means for limiting the bending of said spring terminal toward the switch.

23. In a clock, means for regulating a part of the clock mechanism, and electric means for controlling the operation of said means including a moving part in the clock mechanism, a switch operatively related thereto, a lead in the electric circuit, a spring terminal on said lead for said switch, means whereby said spring terminal may be adjusted relative to said switch, and adjustable means for limiting the bending of said spring terminal toward the switch.

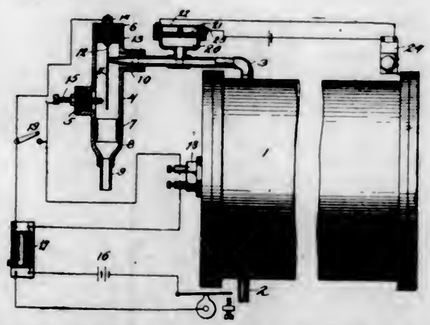
24. In combination with a clock, electrically controlled means for setting the minutes and seconds hands, said means including a disk having a substantially V-shaped notch in its periphery, a correspondingly-shaped engaging member adapted to engage and center said disk, a pivoted lever carrying said engaging member, an operating rod loosely connected to said member, and a rock-shaft having a stub with which said rod is operatively connected.

25. In combination, clock mechanism, including a motor and means for controlling the operation of the motor of said mechanism and for setting a hand of the clock including a coherer susceptible to the influence of a codal disturbance operable through space.

26. In combination, clock mechanism, a motor for reenergizing the motor of said mechanism, means susceptible to the influence of a codal disturbance transmitted through space for controlling said first mentioned motor, and a transmitter adapted to create such disturbance.

27. In combination, clock mechanism, a motor for reenergizing the motor of said mechanism, and means susceptible to the influence of a codal disturbance transmitted through space for controlling said first-mentioned motor.

867,899. AUTOMATIC STOPPING DEVICE FOR INTERNAL-COMBUSTION ENGINES. DANIEL B. ADAMS, Summitville, N. Y. Filed May 23, 1902. Serial No. 108,630.



1. The combination with a water-cooled explosive or internal combustion engine having an electric igniter, of automatic stopping means operated by the cooling water in its flow and controlling the flow of current through said igniter, said automatic stopping means arranged to decrease such flow of current, upon diminution in flow of cooling water, to such an extent as to prevent ignition.

2. The combination with a water-cooled explosive or internal combustion engine having an electric igniter circuit, of an automatic stopping device controlling said circuit and operated by the cooling water as the latter flows through the engine, said automatic stopping device arranged when the flow of cooling water ceases to break said igniter circuit.

3. The combination in an internal combustion engine or the like, of a water-jacketed cylinder, electrical igniting means, and automatic stopping means comprising means for automatically breaking the circuit of said igniting means operated by diminution of the water pressure in said jacket.

4. In an automatic stopping device for water-cooled engines or the like, the combination of a water-jacketed cylinder, electrical igniting means and an element moving automatically upon a diminution of the water pressure in said jacket to decrease the flow of current through such igniting means to such extent as to prevent ignition.

5. The combination, with a water-cooled explosive or internal combustion engine having an electric igniter circuit, of controlling means adapted to complete or interrupt the igniter circuit, said controlling means comprising a movable plate located in the path of the water and arranged to be moved thereby, and forming an electric contact piece, and another contact piece with which said plate may make contact.

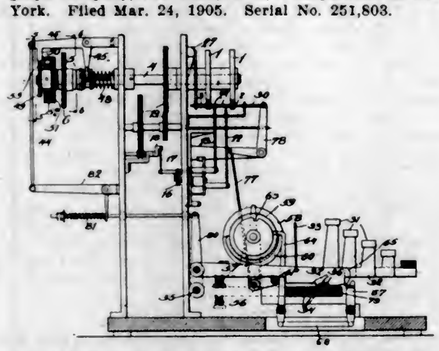
6. In a device of the class described, the combination with a casing having a water inlet and outlet, of a plate located in the path of the water, means operated by said plate adapted to control the operation of an engine, and a plug located in an opening of said casing and provided with means for suspending said plate.

7. In a device of the class described, the combination with a casing having a water inlet and outlet, of a plate located in the path of the water, means operated by said plate adapted to control the operation of an engine, a plug located in an opening of said casing, and a split taper plug supporting said plate and located in a taper socket of said first plug and provided with means for drawing it into said socket.

8. The combination with a water-jacketed cylinder and means for supplying water thereto, of an electric contact device located in the path of the water and comprising a plate against which the water impinges, said plate constituting an electrical contact piece, and another contact piece with which said plate makes contact while full circulation of the water continues.

9. The combination with a water-jacketed cylinder and means for conveying water thereto and therefrom, of an electrical contact device connected to the means for conveying water from the engine and comprising a casing, a movable plate therein, located in the path of the water, constituting an electrical contact piece, and another contact piece with which said plate is held in contact while full water circulation continues.

867,900. TELEGRAPH-TRANSMITTER. JOHN C. BARCLAY, New York, N. Y., assignor to Western Union Telegraph Company, New York, N. Y., a Corporation of New York. Filed Mar. 24, 1905. Serial No. 251,803.



1. In a telegraph transmitter, the combination with a movable carrier, adjustable circuit-controlling devices carried thereby, and mechanical adjusting means therefor, of a keyboard, selecting mechanism operated thereby mechanically connected with and adapted to operate said adjusting means, and contact mechanism comprising controlling members adapted to be vibrated but arranged to be controlled in such vibration by said circuit-controlling devices, driving means automatically operated adapted to vibrate said members, and contact means operated by the vibration of said members.

2. In a telegraph transmitter, the combination with a movable carrier, means for driving the same adjustable circuit-controlling devices carried thereby, and mechanical adjusting means therefor, of a keyboard, selecting mechanism operated thereby mechanically connected with and adapted to operate said adjusting means, means operated by said keyboard for arresting the motion of said carrier prior to and during the engagement of the circuit-controlling devices thereof by said adjusting means, and contact mechanism controlled by said circuit-controlling devices comprising controlling members, means other than said circuit-controlling devices for vibrating the same, and contact means operated by the vibration of said members.

3. In a telegraph transmitter, the combination with a movable carrier, means for driving the same, comprising a clutch, adjustable circuit-controlling devices carried by said carrier, and mechanical adjusting means therefor, of a keyboard, selecting mechanism operated thereby mechanically connected with and adapted to operate said adjusting means, means operated by said keyboard for opening and closing said clutch, and arranged to open the same prior to engagement of said circuit-controlling devices by said adjusting means, and to close said clutch subsequent to the disengagement of said circuit-controlling means by said adjusting means, and contact mechanism controlled by said circuit-controlling devices.

4. In a telegraph transmitter, the combination with a movable carrier, means for driving the same comprising a clutch, adjustable circuit-controlling devices carried thereby, and push-pins for adjusting said circuit-controlling devices, of a keyboard, selecting mechanism operated thereby mechanically connected with and adapted to operate said push-pins, means operated by said keyboard for opening said clutch prior to the engagement of said push-pins with said circuit-controlling devices and for closing said clutch after disengagement of said circuit-controlling devices by said push-pins, and contact mechanism controlled in its operation by said circuit-controlling devices.

5. In a telegraph transmitter, the combination with a movable carrier, means for driving the same comprising a clutch, adjustable circuit-controlling devices carried thereby, and push-pins for adjusting said circuit-controlling devices, of a keyboard, selecting mechanism operated thereby mechanically connected with and adapted to operate said push-pins, means operated by said keyboard for opening said clutch prior to the engagement of said push-pins with said circuit-controlling devices and for closing said clutch after disengagement of said circuit-controlling devices by said push-pins, and contact mechanism comprising controlling members, means for vibrating the same, and contact means operated by the vibration of said members.

6. In a telegraph transmitter, the combination with a movable carrier, means for driving the same, adjustable stops carried thereby, and mechanical adjusting means for setting said stops, of a keyboard, selecting mechanism operated thereby mechanically connected with and adapted to operate said adjusting means, and contact mechanism comprising controlling fingers, adapted to be vibrated but controlled in such vibration by said stops, means for vibrating said fingers, and contact means operated by the vibration of said fingers.

7. In a telegraph transmitter, the combination with a movable carrier, adjustable stops carried thereby, means for driving the carrier comprising a clutch, locking means for said carrier, and mechanical adjusting means for setting said stops, of a keyboard, selecting mechanism operated thereby mechanically connected with and adapted to operate said adjusting means, clutch-operating and lock-operating means operated by said keyboard in advance of the adjustment of said stops and subsequent to the disengagement of the stops by said adjusting means, and contact mechanism controlled by said stops.

8. In a telegraph transmitter, the combination with a movable carrier, adjustable stops carried thereby, means for driving the carrier comprising a clutch, locking means for said carrier, and mechanical adjusting means for setting said stops, of a keyboard, selecting mechanism operated thereby mechanically connected with and adapted to operate said adjusting means, means operated by said keyboard for opening said clutch and operating said locking means prior to the engagement of said stops by the adjusting means, comprising an elastic connection between the keyboard and locking means, and contact mechanism controlled by said clutch.

9. In a telegraph transmitter, the combination with a movable carrier, adjustable stops carried thereby, means for driving the carrier comprising a clutch, locking means for said carrier, means for opening said clutch and operating said locking means to lock the carrier, and for

releasing said carrier and closing said clutch, and mechanical adjusting means for setting said stops, of a keyboard, means operated mechanically by said keyboard for adjusting said stops differently for each different key depressed, and means operated by the keys of said keyboard when depressed for operating said clutch and locking means.

10. In a telegraph transmitter, the combination with a movable carrier, adjustable stops carried thereby, means for driving the carrier comprising a clutch, locking means for said carrier, means for opening said clutch and operating said locking means to lock the carrier, and for releasing said carrier and closing the clutch, and mechanical adjusting means for setting said stops, of a keyboard, means mechanically operated by said keyboard for adjusting said stops differently for each different key depressed, and means operated by the keys of said keyboard when depressed and comprising an elastic connection for operating said clutch and locking means.

11. In a telegraph transmitter, the combination with a movable carrier, means for driving the same, and adjustable circuit-controlling devices carried thereby, of a keyboard, means operated mechanically by said keyboard for adjusting said circuit controlling devices differently for each different key operated, and contact mechanism comprising controlling members adapted to be vibrated but arranged to be controlled in such vibration by said circuit-controlling devices, means for vibrating said members, and contact means operated by the vibration of said members.

12. In a telegraph transmitter, the combination of a movable carrier, means for driving the same, and adjustable circuit-controlling devices carried thereby, of contact mechanism comprising controlling members adapted to be vibrated toward and from said circuit-controlling devices, said devices having recesses adapted to be entered by said controlling members, and means for adjusting said circuit-controlling devices differently for each different character to be transmitted.

13. In a telegraph transmitter, the combination of a movable carrier, means for driving the same, and a plurality of movable stops carried thereby, of contact mechanism comprising controlling members adapted to be vibrated toward and from said stops, said stops having recesses adapted to register with one or another of said controlling members according to the adjustment of the stops, and means for adjusting said stops differently for each different character to be transmitted.

14. In a telegraph transmitter, the combination with a movable carrier, circuit-controlling devices carried thereby, and means for driving said carrier intermittently comprising a clutch, of a plurality of finger keys, selecting mechanism operated thereby and means operated by said selecting mechanism for adjusting said circuit-controlling devices, and a master-bar operated by all of said keys, arranged to open said clutch prior to engagement of said circuit-controlling devices by the adjusting means therefor, and to close said clutch after disengagement of said circuit-controlling devices by said adjusting means.

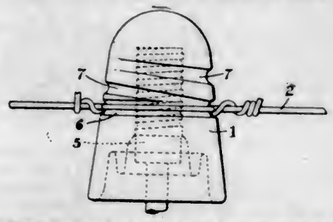
15. In a telegraph transmitter, the combination with a movable carrier, circuit-controlling devices carried thereby, and means for driving said carrier comprising a clutch, of finger keys, selecting mechanism, means for adjusting said circuit-controlling devices, and a master-bar operated by said finger keys and controlling said clutch.

16. In a telegraph transmitter, the combination with a movable carrier, circuit-controlling devices carried thereby, and means for driving said carrier comprising a clutch and a lock, of finger keys, selecting mechanism, means for adjusting said circuit-controlling devices, and a master-bar operated by said finger keys and means operated thereby for operating said clutch and lock, comprising a yielding connection.

17. In a telegraph transmitter, the combination with a revoluble drum, adjustable sliding stops carried thereby, and means for driving said drum, of a keyboard, selecting means operated thereby, a plurality of levers arranged with their ends opposite stops of said drum and provided with means for adjusting said stops, and links connecting said levers with said selecting mechanism, whereby said levers are operated positively in both directions.

18. In a telegraph transmitter, the combination with a revoluble drum, adjustable sliding stops carried thereby, and means for driving said drum, of a keyboard, selecting means operated thereby, a plurality of levers having their portions adjacent to said drum bent to bring their ends opposite stops of said drum, said levers provided with means for adjusting said stops, and connected with and operated by said selecting mechanism.

867,901. INSULATOR. JOHN C. BARCLAY, New York, N. Y. Filed July 22, 1907. Serial No. 384,999.



1. An insulator such as described, comprising a tapering body of vitreous material having a screw threaded pin-socket adapted to receive a supporting pin and having, between the ends of such pin-socket and in the exterior surface of the insulator, a tie-wire channel extending around the insulator and a spiral channel opening from such tie-wire channel and extending spirally around the insulator toward the smaller end thereof, and constituting a tie-wire-thread.

2. An insulator such as described, comprising a tapering body of vitreous material having a screw threaded pin-socket adapted to receive a supporting pin and having, between the ends of such pin-socket and in the exterior surface of the insulator, a tie-wire channel extending around the insulator and a spiral channel opening from such tie-wire channel and extending spirally around the insulator toward the smaller end thereof and constituting a tie-wire-thread, the direction of said tie-wire-thread and thread of the pin-socket being opposite.

3. The combination with a line conductor provided with a fastening loop, of an insulator consisting of a tapering body, having an external channel extending completely around it to receive such loop and having a spiral thread of approximately the size of such channel and opening therefrom, said channel located near the middle of the insulator.

867,902. BOTTLE-SEAL. LEONARD BARTLETT, New York, N. Y., assignor to American Cork and Seal Company, a Corporation of Maine. Filed Dec. 18, 1906. Serial No. 348,426.



1. A bottle seal comprising a cap and gasket, said cap having a weakened, integral center.

2. A bottle seal comprising a cap and gasket, said cap having a center less in thickness than the rim and skirt of the cap.

3. A bottle seal comprising a cap and gasket, said cap having the inner, central portion thereof removed to form a recess, for the purpose set forth.

4. A bottle seal comprising a cap having a skirt with an outwardly extending projection intermediate between the top and bottom thereof, and having a recessed center, and a gasket, as and for the purpose set forth.

867,903. SEAL FOR BOTTLES. LEONARD BARTLETT, New York, N. Y., assignor to American Cork and Seal Company, a Corporation of Maine. Filed Jan. 18, 1907. Serial No. 352,884.



1. A seal for bottles comprising a cap, and gasket, said cap having a crimped skirt with the several scallops irregular in distance from the edge of the skirt.

2. In a bottle seal, a cap having a crimped skirt with scallops in different planes.

3. In a bottle seal, a cap having a crimped skirt with scallops in different planes, said scallops being in series.

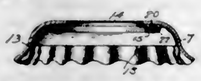
4. In a bottle seal, a cap having a crimped skirt with scallops in different planes, said scallops being in series advancing from the lowest plane successively to the highest, and the highest succeeded immediately by the lowest.

5. In a bottle seal, a cap having a crimped skirt with the scallops in three different planes, said scallops being in series whereby but two scallops intervene between any two scallops in the same plane, as and for the purpose set forth.

6. The herein described seal for bottles comprising a cap and gasket, said cap having a crimped skirt with the scallops in three different planes arranged in series, and running regularly from the highest to the lowest, substantially as and for the purpose set forth.

7. In a bottle seal, a cap having a skirt with locking points projecting from the surface thereof, said projections being in different planes, for the purpose set forth.

867,904. SEAL FOR BOTTLES. LEONARD BARTLETT, New York, N. Y., assignor to American Cork and Seal Company, a Corporation of Maine. Filed Jan. 18, 1907. Serial No. 352,885.



1. A seal for bottles comprising an outer member having an open center, an inner member closing said center, and a gasket, one of said members being provided with means to hold said outer and inner member together when detached from a bottle, said inner member extending beyond said gasket to engage the locking shoulder of a bottle.

2. A seal for bottles comprising an outer member having an open center, an inner member extending across said center, and a gasket for engaging the lip of a bottle, said inner member being extended to engage the locking shoulder of a bottle beyond said gasket, said outer member having means to hold the inner member in position.

3. A bottle seal comprising an outer, locking member, and an inner member of non-corrosive material, said inner member being provided with a rib adapted to engage the lip of a bottle, and being extended to engage the outer surface of the locking shoulder of a bottle, and a gasket mounted around said rib, for the purpose set forth.

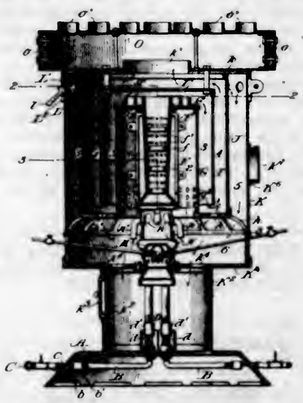
4. A seal for bottles comprising an outer member having an open center, and a clamping skirt, an inner member closing said center composed of non-corrosive material, said inner member being provided with a rib adapted to engage the lip of a bottle, and being extended to engage the outer surface of the locking shoulder of a bottle, and a gasket mounted on said rib, as and for the purpose set forth.

5. A seal for bottles comprising an outer member of rigid material having an open center, an inner member of different material closing said center, and extending to engage the outer surface of the locking shoulder of a bottle, said inner member having two annular ribs formed therein adapted to engage the lip of a bottle, and a rubber gasket mounted between said ribs, for the purpose set forth.

6. A seal for bottles comprising an outer member of rigid material, an inner member, of yielding, non-corrosive material having two annular ribs formed therein adapted to engage the lip of a bottle, and a rubber gasket mounted between said ribs, for the purpose set forth.

7. A seal for bottles comprising an outer member of rigid material having an open center, an inner member of yielding, non-corrosive material closing said center, and extending to engage the outer surface of the locking shoulder of a bottle, said inner member having two annular ribs formed therein adapted to engage the lip of a bottle, and a rubber gasket mounted between said ribs, and held therein by friction, as and for the purpose set forth.

867,905. FURNACE. VIRGIL W. BLANCHARD, New York, N. Y. Filed Jan. 22, 1906. Serial No. 297,245.



1. In a gas burning air heating furnace, the combination of a tubular burner provided with perforated walls, and means for supplying combustible gases to said burner, a cylinder inclosing said burner, a second cylinder surrounding the first cylinder and closed at its upper end and forming a descending flue for the products of combustion, an ascending flue surrounding the descending flue and communicating therewith at its lower end, means for admitting fresh air into the descending current of gases, and an outlet for the gases and air above the second cylinder.

2. In a gas burning air heating furnace, the combination of a tubular burner provided with perforated walls, means for supplying combustible gases to said burner, a cylinder surrounding said burner and inclosing an air heating space surrounding said burner and communicating with the perforations thereof, a second cylinder surrounding the first cylinder and closed at its upper end and forming a descending flue for the products of combustion, an ascending flue surrounding the descending flue and communicating therewith at its lower end, means for admitting fresh air into the descending current of gases and an outlet for the gases and air above the second cylinder.

3. The combination of a burner, means for supplying gaseous mixtures to said burner, a cylinder surrounding the burner, an inverted cup shaped cylinder inclosing the first cylinder and forming a descending flue exterior thereto, an annular partition surrounding the second cylinder forming an ascending flue exterior thereto, means for admitting air into the descending current of gases and into the gases as they ascend into the flue; with a casing inclosing the burner and flues, means for admitting air into said casing, and a distributing chamber above the casing into which the mixed air and gases are discharged.

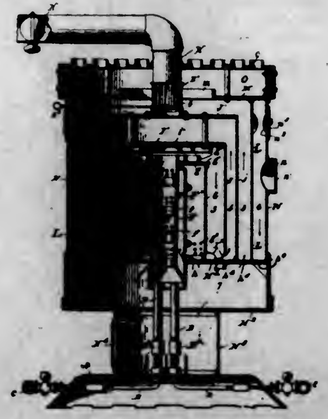
4. The combination of a casing, an annular casting supported in the casing, an annular partition in the casing supported on said casting, an inverted cup shaped member supported within the partition above the casting, a second cylinder within said cup shaped member, provided

with apertures in its lower end, an apertured plate inclosing the upper end of said second cylinder, and a tubular burner suspended from said plate, provided with perforations in its walls.

5. The combination of a base, a cylinder supported thereon, a casing mounted on the cylinder, an annular casting supported in the casing above the cylinder, an annular partition in the casing supported on said casting, an inverted cup shaped member supported within the partition above the casting, a second cylinder within said cup shaped member, provided with apertures in its lower end, and a burner in said second cylinder; with an air heating jacket surrounding the burner, mixing tubes within the first mentioned cylinder adapted to discharge into said burner, and a distributing chamber on top of the casing into which the commingled gases and hot air are discharged.

6. The combination of a casing, an annular casting supported in the casing, an annular partition in the casing supported on said casting, an inverted cup shaped member supported within the partition above the casting, a second cylinder within said cup shaped member, provided with apertures in its lower end, an apertured plate inclosing the upper end of said second cylinder, and a tubular burner suspended from said plate, provided with perforations in its walls, an air heating jacket surrounding the burner, mixing tubes adapted to discharge into said burner, and a distributing chamber on top of the casing into which the commingled gases and hot air are discharged.

867,906. GAS-BURNING AIR-HEATING FURNACE. VIRGIL W. BLANCHARD, New York, N. Y. Filed Jan. 22, 1906. Serial No. 297,246.



1. In a gas burning hot air furnace, the combination of a burner, a descending flue exterior to the burner communicating therewith, an ascending flue exterior to the descending flue communicating therewith, and means for supplying heated air to the burner and to said flues; with a distributing chamber connected with the flues, an outlet pipe and a valved opening in the outlet pipe for the products of combustion whereby the products of combustion may be admitted into said distributing chamber.

2. In a gas burning hot air furnace, the combination of a burner, a descending flue exterior to the burner communicating therewith, an ascending flue exterior to the descending flue communicating therewith, and an outlet from the upper end of the ascending flue; with means for supplying gaseous fuel to said burner, and means for supplying heated air to the burner and to said flues; with a distributing chamber, and a valved opening in the outlet flue whereby the products of combustion may be admitted into said distributing chamber.

3. In a gas burning hot air furnace, the combination of a burner, a descending flue exterior to the burner communicating therewith, an ascending flue exterior to said descending flue and communicating therewith, a valved outlet from the upper end of the said ascending flue, means for supplying gaseous fuel to said burner, and means for supplying heated air to the burner and to said flues; with a distributing chamber above the said ascending flue, an ascending air flue surrounding the said ascending flue, a descending air flue surrounding the ascending air flue, and an air chamber below the said flues communicating therewith.

4. The combination of a casing having an air chamber at its lower end and a distributing chamber at its upper end, a burner in the casing, a cylinder surrounding the burner, a second cylinder surrounding the first cylinder, and a plate closing the second cylinder above the burner, a third cylinder surrounding the second cylinder, an outlet flue connected with said third cylinder, a partition between the walls of the casing and said third cylinder forming an exterior descending air flue and an interior ascending air flue, the latter communicating with the distributing chamber, and said air chamber communicating with said flues and with the burner.

5. The combination of a casing having an air chamber at its lower end and a distributing chamber at its upper end, a burner located centrally in the casing, a cylinder surrounding the burner, a second cylinder surrounding the first cylinder, a plate closing the second cylinder above the burner, a third cylinder surrounding the second cylinder, a plate closing the upper end of the third cylinder, and an outlet flue connected with said plate; with a partition between the walls of the casing and said third cylinder forming an exterior descending air flue and an interior ascending air flue, the latter communicating with the distributing chamber, and said air chamber communicating with said flues, and with the burner.

6. The combination of a burner, the cylinder inclosing the burner, a perforated plate on the upper end of said cylinder to which the burner is attached, said plate being provided with annular upstanding ribs, a second cylinder inclosing the first cylinder, a plate closing the upper end of the cylinder above the burner and provided with downwardly projecting annular ribs the space between said cylinders forming a descending flue for the products of combustion, a third cylinder exterior to the second cylinder forming an ascending flue, and an outlet for the gases at the top of the third cylinder.

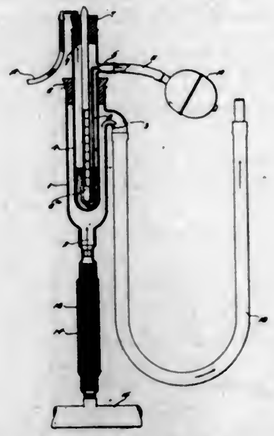
7. The combination of a burner, a cylinder inclosing the burner, a plate on the upper end of said cylinder to which the burner is attached, a second cylinder inclosing the first cylinder, a plate closing the upper end of the cylinder above the burner, the space between said cylinders forming a descending flue for the products of combustion, and a third cylinder exterior to the second cylinder forming an ascending flue, and an outlet for the gases at the top of the third cylinder, a distributing chamber above said third cylinder, a casing surrounding said cylinders, and an annular partition between the cylinder and casing forming an exterior descending air flue and an interior ascending air flue, the latter communicating with the distributing chamber.

8. The combination of a burner, the cylinder inclosing the burner, a perforated plate on the upper end of said cylinder to which the burner is attached, said plate being provided with annular upstanding ribs, a second cylinder inclosing the first cylinder, a plate closing the upper end of the cylinder above the burner and provided with downwardly projecting annular ribs, the space between said cylinders forming a descending flue for the products of combustion, a third cylinder exterior to the second cylinder forming an ascending flue, and an outlet for the gases at the top of the third cylinder, and a distributing chamber above the third cylinder with an air chamber below all said cylinders and communicating with the burner and with the several flues, and a valve whereby the products of combustion may be kept separate from or commingled with the fresh air in the distributing chamber.

9. The combination of a burner, a cylinder inclosing the burner, a plate on the upper end of said cylinder to which the burner is attached, a second cylinder inclosing the first cylinder, a plate closing the upper end of the cylinder above the burner, the space between said cylinders forming a descending flue for the products of combustion, and a third cylinder exterior to second cylinder forming an ascending flue, and an outlet for the gases at the top of the third cylinder, a distributing chamber above said third cylinder, a casing surrounding said cylinders, an annular partition between the cylinder and casing forming exterior descending and interior ascending air flues, the latter communicating with the distributing chamber, an air chamber below all said cylinders communicating with the burner and with the several flues, and valves whereby the products of combustion may be kept separate from or commingling with the fresh air in the distributing chamber.

10. The combination of a burner, a plate surrounding the upper end of the burner, provided with upstanding rings or ribs and perforations for the admission of air, and a plate overlying the burner and provided with depending ribs for the purpose described, the depending ribs alternating in position with the upstanding ribs.

867,907. MEANS FOR ASCERTAINING THE TEMPERATURE OF ILLUMINATING-GAS IN MAINS. CHARLES O. BOND and CARRINGTON C. TUTWILER, Philadelphia, Pa., assignors to The United Gas Improvement Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Nov. 21, 1906. Serial No. 344,405.



1. A direct reading hygrometer for the determination of minimum temperatures in gas mains and the like comprising means for establishing a flow of gas from the mains and for excluding the flowing gas from the air and cooling the same and exhibiting moisture of condensation therefrom, and a thermometer exposed to the cooling means for indicating the temperature of said devices, substantially as described.

2. A direct reading hygrometer for the determination of minimum temperatures in gas mains and the like comprising means for establishing a flow of gas from the mains and for excluding the flowing gas from the air and cooling the same and exhibiting moisture of condensation therefrom, a thermometer exposed to the cooling means for indicating the temperature of said devices, and apparatus for removing unfixed vapors from the gas prior to its cooling, substantially as described.

3. A hygrometer comprising the combination of a gas chamber having a gas inlet and outlet, a cooling chamber arranged in the gas chamber and provided with cooling means and upon which condensation is exhibited and a thermometer exposed to the cooling means for ascertaining the temperature at the cooling chamber, substantially as described.

4. A hygrometer comprising the combination of a gas chamber having a gas inlet and outlet, a cooling chamber arranged in the gas chamber and provided with cooling means and upon which condensation is exhibited, a thermometer exposed to the cooling means for ascertaining the temperature at the cooling chamber, and apparatus at the gas inlet for removing unfixed vapors from the gas, substantially as described.

5. A hygrometer comprising the combination of an external tube having a contracted end constituting a gas inlet and a lateral opening constituting a gas outlet, an internal tube arranged in the external tube and having a closed end, a stopper between said tubes, a stopper for the inner tube, a thermometer arranged in the inner tube and supported by its stopper, a duct leading into the inner tube and arranged to discharge near its closed end and near the thermometer, and an outlet from the inner tube, substantially as described.

867,908. CALENDER-ROLLER. HARRY BOSTELL, Dusseldorf-Obercassel, Germany. Filed May 26, 1906. Serial No. 318,947.



Improved locking for calender-rollers comprising in combination the roller axle having cavities inside the end-disk and suitable packing material in said cavities, substantially as described and shown and for the purpose set forth.

867,909. BOOT AND SHOE HEEL. WILLIAM F. BOSTOCK, Brockton, Mass. Filed Feb. 18, 1907. Serial No. 357,798.



1. A heel comprising a plurality of relatively thick pieced lifts, and a plurality of relatively thin continuous binding lifts alternating with the pieced lifts, the members of each pieced lift being compressed edgewise, and cemented together edge to edge, and also cemented to the adjoining binding lift, whereby the binding lifts preserve the intimate relationship of the members of the pieced lifts.

2. A heel comprising a plurality of relatively thick pieced lifts, each composed of sole leather pieces or members compressed edgewise, and having their edges cemented together, and their flesh sides facing in the same direction, and a plurality of relatively thin continuous binding lifts cemented to the flesh sides of the members of the pieced lifts, whereby the binding lifts preserve the intimate relationship of the members of the pieced lifts.

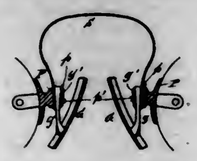
3. A heel comprising a plurality of relatively thick pieced lifts, each composed of sole leather pieces or members compressed edgewise, and having their edges cemented together, and their flesh sides facing in the same direction, and a plurality of relatively thin continuous binding lifts composed of leather skivings, cemented to the flesh sides of the members of the pieced lifts, whereby the binding lifts preserve the intimate relationship of the members of the pieced lifts.

4. A heel comprising a plurality of superimposed heel elements, each composed of a relatively thick pieced lift, the members of which are abutted together edge to edge, and subjected to edgewise compression, and a relatively thin continuous binding lift cemented to the members of the pieced lift, and preserving the intimate relationship of the members of the pieced lift.

5. A heel lift comprising a relatively thick pieced

layer having its members compressed edgewise and cemented together, and a relatively thin continuous layer cemented to the members of the pieced layer and binding them together to maintain the pressure of the edgewise compressed members of said pieced layer and preserve the intimate relationship thereof.

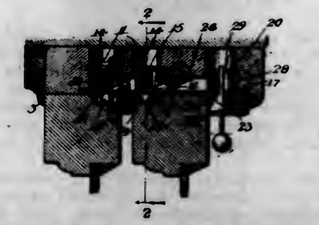
867,910. EYEGLASSES. WILLIAM L. BREATH, New York, N. Y., assignor of one-half to Abner F. Barkelew, Jersey City, N. J. Filed Aug. 21, 1906. Serial No. 331,438.



1. In eyeglasses, the combination with a lens post having a socket with two opposite walls parallel from end to end of the socket and the other two relatively inclined, a bridge spring having flat parallel-faced end fitted in said socket, and a guard having a shank with a portion tapered for the length of said socket and wedged therein with one side engaging the end of the spring.

2. In eyeglasses, the combination with a lens post having a socket with two opposite walls parallel from end to end of the socket and the other two relatively inclined, a bridge spring having flat parallel-faced end fitted in said socket, and a guard having a shank with a portion tapered for the length of said socket and wedged therein with one side engaging the end of the spring, said socket and shank being shoulderless whereby endwise movement only of the shank secures the parts and interlocking of the guard shank and spring is obviated.

867,911. SASH-LOCK. HOWARD BUTTRESS, Los Angeles, Cal. Filed May 21, 1907. Serial No. 374,940.



1. A sash lock comprising a locking bolt, a spring for moving the same to locking position, a slide having operative engagement with the locking bolt to move the bolt to unlocking position, and means for moving the slide longitudinally, said means comprising a member slidable transversely to the aforesaid slide and having an inclined portion operatively engaging with said slide.

2. A sash lock comprising a plate having two cylindrical cups, locking bolts slidable therein, springs in the cups pressing the locking bolts to locking position, a slide movable through the cups and having inclined portions embracing and engaging the bolts to move same to locking position, and means for actuating said slide.

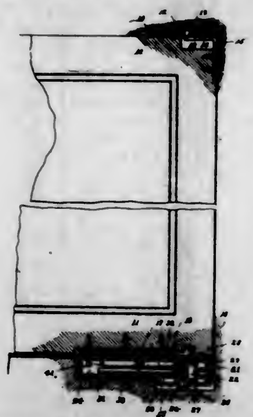
3. A sash lock comprising a plate having two cylindrical cups, locking bolts slidable therein, springs in the cups pressing the locking bolts to locking position, a slide movable through the cups and having inclined portions embracing and engaging the bolts to move same to locking position, means for actuating said slide, said means comprising a member slidable transversely to the aforesaid slide and having an inclined portion operatively engaging with the said slide.

867,912. MEANS TO PRESS CREASES IN TROUSERS. NANCY M. COURT, Longbeach, Cal. Filed Mar. 14, 1907. Serial No. 362,271.



In a trousers clamp a pair of flat strips hinged together along one of their edges, each of said strips being hinged near its center so as to fold flatly on itself, and a plurality of clasps pivotally secured to one of said strips and adapted to pass around the hinged edges of both of said strips and hold said strips flatly against each other.

867,913. DOUBLE-ACTING HINGE. JOHN J. COWELL, Newark, N. J. Original application filed Mar. 20, 1905, Serial No. 251,162. Divided and this application filed Nov. 28, 1906. Serial No. 345,467.



1. In a double-acting hinge, the combination with a casing, of a headed slide rod mounted therein, a shaft rotatively mounted in the casing, a pair of bearing rolls mounted therein and adapted to engage the head of the sliding rod, and a spring mounted on said rod to normally hold the same in engagement with said rolls.

2. In a double acting hinge, the combination with a casing, of a shaft journaled therein and having an extended shouldered lug, a plate receiving said shouldered lug, rolls operatively connected to and moving with the shaft, a slidable rod mounted in said casing and having a head located in the path of the rolls, and a spring mounted on said rod to normally hold said rod in engagement with said rolls.

3. In a double acting hinge, the combination with a casing, of a shaft journaled therein, a pair of rolls operatively connected to and moving with the shaft, a rod having a transverse head to engage said rolls, bearings in the casing to slidably support the rod relative to the shaft and rolls, and a spring mounted on said rod to retain the rod in engagement with the rolls.

4. In a double acting hinge, the combination with a casing, of a shaft journaled therein, and having spaced plates, rolls journaled between said plates, a rod slidably mounted in said casing and having a head which lies between said plates and in the path of said rolls, a spring mounted on said casing to retain the rod in engagement with said rolls, and means slidably supporting the rod against lateral displacement.

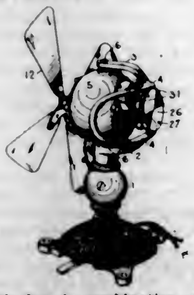
5. In a double acting hinge, the combination with a casing comprising a body and a cover portion, of a shaft provided with spaced plates journaled in both said cover and body portion and having a projecting end, rolls journaled between said plates, a rod slidably mounted in the casing and having a concaved enlarged end and a pocket within the concavity, and a spring mounted on said rod to hold said concaved and pocketed surface of the rod in yieldable engagement with said rolls.

6. In a double acting hinge of the class described, the combination of a casing having guideways upon either side, a cover for the casing having guides in line with the guideways of the casing, a shaft journaled in the casing, and having spaced plates, rolls journaled between said plates, a rod having a head slidably mounted intermediate of said guideways and guides, and a spring mounted on said rod to normally hold the same against the rolls.

7. In a double acting hinge, the combination of a casing, a shaft provided with spaced parallel plates journaled therein and having a shouldered lug, a pair of rolls journaled between said plates, a shouldered plate engaging the shouldered lug, a T-rod slidably mounted within the casing and bearing against the rolls, a spring mounted on said rod to yieldably hold the head of said rod against said rolls, and guides for said rod to retain the same in operative position.

8. In a double-acting hinge, the combination with a pintle socket-plate constructed to be let into a door-casing, of a door having a recess cut in the top edge thereof, and a pintle-bracket secured to the hinge-edge of said door and having a portion carrying a pintle projecting over said recess, said pintle arranged to engage said socket-plate.

867,914. ELECTRIC FAN. FREDERICK DIEHL and ADOLPH F. BECKER, Elizabeth, N. J. Filed Apr. 22, 1907. Serial No. 369,526.



1. In an electric fan, in combination, a motor-frame, a standard upon which said motor-frame is pivotally supported, a motor comprising an armature-shaft journaled in said motor-frame, a rotary actuating member carried by said motor-frame and mounted concentrically with said armature-shaft, differential gearing intermediate the armature-shaft and said actuating member, and an operative connection between the standard and said actuating member whereby as the latter rotates it communicates to the motor-frame a to-and-fro movement relative to said standard.

2. In an electric fan, in combination, a motor-frame, a standard upon which said motor-frame is pivotally supported, a motor comprising an armature-shaft journaled in said motor-frame, a rotary actuating member carried by said motor-frame and mounted concentrically with said armature-shaft, differential gearing intermediate the armature-shaft and said actuating member provided with a closed dust-proof casing, and an operative connection between the standard and said actuating member whereby as the latter rotates it communicates to the motor-frame a to-and-fro movement relative to said standard.

3. In an electric fan, in combination, a motor-frame, a standard upon which said motor-frame is pivotally supported, a motor comprising an armature-shaft journaled in said motor-frame, concentrically arranged gear-wheels having different numbers of peripheral teeth, both being carried by said motor-frame, the one being adapted to rotate and the other stationary in respect of the same, a planet-wheel mounted to revolve around and free to rotate in respect of said armature-shaft and meshing with said concentric gear-wheels, and an operative connection between said standard and the rotating gear-wheel carried by said motor-frame whereby as the latter rotates it communicates to the motor-frame a to-and-fro movement relative to said standard.

4. In an electric fan, in combination, a motor-frame, a standard upon which said motor-frame is pivotally supported, a motor comprising an armature-shaft journaled in said motor-frame, a rotary actuating member carried by said motor-frame concentrically with said armature-shaft, concentrically arranged gears having different numbers of peripheral teeth, the one carried by and stationary in respect of the motor-frame and the other carried by and movable with said actuating member, a planet-wheel mounted and free to rotate upon said shaft and adapted to mesh with said concentric gear-wheels, and an operative connection between said standard and the actuating member, whereby as the latter rotates it communicates to the motor-frame a to-and-fro movement relative to said standard.

5. In an electric fan, in combination, a motor-frame, a standard upon which said motor-frame is pivotally supported, a motor comprising an armature-shaft journaled in said motor-frame, a rotary actuating member carried by said motor-frame concentrically with said armature-shaft, concentrically arranged internal gear-wheels having different numbers of peripheral teeth, the one carried by and stationary in respect of the motor-frame and the other carried by and movable with said actuating member, an eccentric fixed upon said armature-shaft, a planet-wheel loosely mounted upon said eccentric and adapted to mesh with both of said internal gear-wheels, and an operative connection between said standard and the actuating member, whereby as the latter rotates it communicates to the motor-frame a to-and-fro movement relative to said standard.

6. In an electric fan, in combination, a motor-frame having a bearing-boss, a standard upon which said motor-frame is pivotally supported, a motor comprising an armature-shaft journaled within said bearing-boss of the motor-frame, a rotary sleeve loosely mounted upon the bearing-boss of said motor-frame and provided with a gear-cavity, internal gears having different numbers of peripheral teeth disposed within said gear-cavity concentrically with the armature-shaft, the one being fixed to and stationary in respect of said bearing hub and the other being carried by and movable with said rotary sleeve, an eccentric fixed upon said armature-shaft, a planet-wheel loosely mounted upon said eccentric and adapted to mesh with both of said internal gear-wheels, and an operative connection intermediate said standard and said sleeve whereby as the latter rotates it communicates to the motor-frame a to-and-fro movement relative to said standard.

7. In an electric fan, in combination, a motor-frame having a bearing-boss, a standard upon which said motor-frame is pivotally supported, a motor comprising an armature-shaft journaled within said bearing-boss of the motor-frame, a rotary sleeve loosely mounted upon the bearing-boss of said motor-frame and provided with a gear-cavity, internal gears having different numbers of peripheral teeth disposed within said gear-cavity concentrically with the armature-shaft, the one being fixed to and stationary in respect of said bearing hub and the other being carried by and movable with said rotary sleeve, an eccentric fixed upon said armature-shaft, a planet-wheel loosely mounted upon said eccentric and

adapted to mesh with both of said internal gear-wheels, a removable cap applied to and adapted to close the cavity of said sleeve, and an operative connection intermediate said standard and said sleeve whereby as the latter rotates it communicates to the motor-frame a to-and-fro movement relative to said standard.

8. In an electric fan, in combination, a standard provided with parallel ways, a motor-frame pivotally mounted thereon and having a bearing boss extending in a direction intermediate said ways, a motor comprising an armature-shaft journaled within said bearing-boss of the motor-frame, a rotary actuating member carried by said motor-frame and mounted concentrically with said armature-shaft and having a rolling contact with said ways of the standard, and differential gearing intermediate the armature-shaft and said actuating member.

9. In an electric fan, in combination, a standard provided with parallel ways, a motor-frame pivotally mounted thereon and having a bearing boss extending in a direction intermediate said ways, a motor comprising an armature-shaft journaled within said bearing-boss of the motor-frame, a rotary actuating member carried by said motor-frame and mounted concentrically with said armature-shaft, a removable peripheral facing extending partly around said rotary member and adapted to establish rolling contact relation alternately between the same and the parallel ways of said standard, and differential gearing intermediate the armature-shaft and said actuating member.

10. In an electric fan, in combination, a standard provided with parallel ways, a motor-frame pivotally mounted thereon and having a bearing-boss extending in a direction intermediate said ways, a motor comprising an armature-shaft journaled within said bearing-boss of the motor-frame, a rotary actuating member carried by said motor-frame and mounted concentrically with said armature-shaft, a yielding facing extending partly around the periphery of said actuating member and adapted to establish rolling contact relation alternately between the same and the parallel ways of said standard, and differential gearing intermediate the armature-shaft and said actuating member.

11. In an electric fan, in combination, a standard provided with parallel ways, a motor-frame pivotally mounted thereon and having a bearing-boss extending in a direction intermediate said ways, a motor comprising an armature-shaft journaled within said bearing-boss of the motor-frame, a rotary actuating member carried by said motor-frame and mounted concentrically with said armature-shaft, a yielding and elastic facing extending partly around the periphery of said actuating member and adapted to establish rolling contact relation alternately between the same and the parallel ways of said standard, and differential gearing intermediate the armature-shaft and said actuating member.

12. In an electric fan, in combination, a standard provided with parallel ways, a motor-frame pivotally mounted thereon and having a bearing-boss extending in a direction intermediate said ways, a motor comprising an armature-shaft journaled within said bearing-boss of the motor-frame, a rotary actuating member carried by said motor-frame and mounted concentrically with said armature-shaft, a yielding and elastic facing formed of rubber tubing extending partly around the periphery of said actuating member and adapted to establish rolling contact relation alternately between the same and the parallel ways of said standard, and differential gearing intermediate the armature-shaft and said actuating member.

13. In an electric fan, in combination, a motor-frame having a bearing-boss, a standard upon which said motor-frame is pivotally supported, a motor comprising an armature-shaft journaled within said bearing-boss of the motor-frame, a rotary sleeve loosely mounted upon the bearing-boss of said motor-frame and provided with a gear-cavity, internal gears having different numbers of peripheral teeth disposed within said gear-cavity concentrically with the armature-shaft, the one being fixed to and stationary in respect of said bearing hub and the other being carried by and movable with said rotary sleeve, an eccentric fixed upon said armature-shaft, a planet-wheel loosely mounted upon said eccentric and adapted to mesh with both of said internal gear-wheels, a removable cap applied to and adapted to close the cavity of said sleeve, and a segmental peripheral facing of yielding material applied to said cap and adapted to establish rolling contact relation alternately between the same and the parallel ways of said standard.

14. In an electric fan, in combination, a motor-frame having a bearing-boss, a standard upon which said motor-frame is pivotally supported, a motor comprising an armature-shaft journaled within said bearing-boss of the motor-frame, a rotary sleeve loosely mounted upon the bearing-boss of said motor-frame and provided with a gear-cavity, internal gears having different numbers of peripheral teeth disposed within said gear-cavity concentrically with the armature-shaft, the one being fixed to and stationary in respect of said bearing-boss and the other being carried by and movable with said rotary sleeve, an eccentric fixed upon said armature-shaft, a planet-wheel loosely mounted upon said eccentric and adapted to mesh with both of said internal gear-wheels, a removable cap applied to and adapted to close the cavity of said sleeve, and a segmental peripheral facing of yielding material and extending more than a semi-circumference around said cap and adapted to establish rolling contact relation alternately between the same and the parallel ways of said standard.

15. In an electric fan, in combination, a motor-frame, a standard upon which said motor-frame is pivotally supported and provided with a rigid yoke affording spaced parallel ways, and with an arm extending laterally from one of said ways to carry one of the pivotal supports of said motor-frame, a motor comprising an armature-shaft journaled in said motor-frame, a rotary actuating member carried by said motor-frame and mounted concentrically with said armature-shaft, a segmental facing applied to the periphery of said actuating member and adapted to establish rolling contact relation between the latter and the said ways, and an operative connection between the armature-shaft and said actuating member.

867,915. ARTIFICIAL FUEL AND METHOD OF MAKING THE SAME. DANIEL DRAWBAUGH, Eberlys Mill, and BLAKE E. GAMBLE, Bowmansdale, Pa.; said Drawbaugh assignor to The Drawbaugh Artificial Fuel Company, Harrisburg, Pa., a Corporation of Pennsylvania. Filed June 18, 1906. Serial No. 322,310.

1. The herein described method of producing an artificial fuel, consisting of mixing the ingredients, compressing the same in briquets, and then spraying the briquets with a solution of water glass to coat the briquet to resist water and weather.

2. The herein described method of producing an artificial fuel, consisting in mixing together comminuted carbonaceous material adding thereto and mixing therewith manganese oxid; adding thereto and thoroughly mixing therewith a cementing compound; moistening the mixed mass to insure coalescence of the particles; pressing and molding the moistened and mixed mass into blocks or briquet; drying the product; and spraying the product with water glass to make the product water-proof and weather resistant.

3. An artificial fuel, composed of comminuted carbonaceous material, a cement and water, and manganese oxid; and a coating of water glass for the briquet, formed of the above material to form a water-proofing and weather-resisting coating for the briquets.

4. An artificial fuel, composed of thoroughly commingled comminuted carbonaceous material, dehydrated sulfate of lime, manganese oxid, and water; and a coating of water glass for the briquets formed of the above material to form a water-proofing and weather-resisting coating for the briquets.

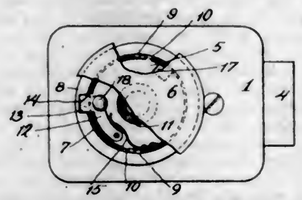
5. An artificial fuel, composed of comminuted carbonaceous material, a cement and water, and manganese oxid; and a coating of potash water glass for the briquet, formed of the above material to form a water-proofing and weather-resisting coating for the briquets.

6. An artificial fuel, composed of thoroughly commingled comminuted carbonaceous material, dehydrated sulfate of lime, manganese oxid, and water; and a coating of potash water glass for the briquets formed of the above material to form a water-proofing and weather-resisting coating for the briquets.

7. An artificial fuel, the ingredients of which are cemented by a quick-setting cement and pressure; and a coating of water glass for the compressed and completed briquets so as to coat the same to resist water and weather.

8. An artificial fuel, the ingredients of which are cemented by a quick-setting cement and pressure; and a coating of potash water glass for the compressed and completed briquets so as to coat the same to resist water and weather.

867,916. LOCK-PROTECTING DEVICE. FRANK DUERSTERWALD, New York, N. Y., assignor to Charles E. Leighton, Brooklyn, N. Y. Filed July 18, 1906, Serial No. 326,729. Renewed July 25, 1907. Serial No. 385,515.



1. In a permutation lock, the combination with permutation mechanism and an inclosing casing therefor having a removable member, of locking means for said removable member comprising a pivoted locking member carried by said removable member and arranged to engage a portion of the lock which is not removable with said removable member, said locking member provided with means engaging and controlled by said permutation mechanism.

2. In a permutation lock, the combination with permutation mechanism and an inclosing casing therefor having a removable member, of a locking pawl pivoted to said removable member and arranged to engage the main portion of the lock casing, and provided with means engaging and controlled by said permutation mechanism, controlling its movement.

3. In a permutation lock, the combination with a lock casing having a removable member provided with a tumbler-spindle, and tumblers on said spindle, and means for holding said member in place, of a pivoted locking member carried by said removable member and arranged to engage a portion of the lock which is not removable with said removable member, said locking member provided with means engaging and controlled by said tumblers, controlling its movement.

4. In a permutation lock, the combination with a lock casing having a back plate provided with a tumbler spindle and a flange surrounding said spindle and fitting into an orifice of said lock casing, and tumblers on said spindle, of a locking member carried by said back plate and located between said spindle and flange, and arranged to engage a portion of the lock which is not removable with said removable member, said locking member provided with means engaging and controlled by said tumblers, controlling its movement.

5. A permutation lock comprising permutation mechanism, a casing inclosing the same and having a removable member, and a locking device for said removable member comprising a member pivotally supported, normally preventing removal of said removable casing member, controlled by said permutation mechanism, and comprising removable means to prevent locking of said removable casing member.

6. A permutation lock comprising permutation mechanism, a casing inclosing the same and having a removable member, and a locking device for said removable member comprising a pivoted pawl normally preventing removal of said removable casing member, controlled by said permutation mechanism, and comprising removable means to prevent locking of said removable casing member.

867,917. CONVERTIBLE RAILWAY-CAR. MAURICE P. HENVIS, Norfolk, Va. Filed May 7, 1907. Serial No. 372,310.



1. A convertible railway car, studs or uprights supporting the roof thereof, and window sash carrying side members adapted to pass through said studs.

2. A convertible railway car, studs or vertical members, and hollow sash boxes adapted to be passed through the studs, said boxes adapted to form the sides of a closed car.

3. A convertible railway car comprising studding, and box side members adapted to be slidably carried through said studding, said box members adapted to movably support the window sashes.

4. A convertible railway car and its upright posts or studding, independent side members movably positioned to pass through said studding, said side members adapted to inclose the window sash.

5. A convertible street car, of studding, box side members of said car adapted to pass through said studding, said side members adapted to be operated independently of each other.

6. A convertible railway car, of uprights or studding, box members adapted to form the sides of a closed car, said box members positioned to pass through said studding to the ends of the car, and a track way for slidably mounting the box members.

7. A convertible car, of upright posts or studding, box sides adapted to pass through said studding, said box sides being independent of each other and adapted to be placed at the ends of the car.

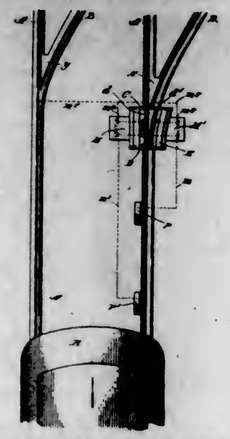
8. A convertible car comprising studding having openings therethrough, side members partly inclosed by said studding, shoulders in said openings, and cam means for raising said side members against the shoulders.

9. A convertible railway car comprising studding, box members adapted to pass through notches or openings in said studding, a track for said box members, and a cam rod beneath said track.

10. A convertible car comprising studding having openings or notches therein, window sash boxes forming the sides of the car adapted to be movably positioned within the studding, a track under the boxes, a cam rod under said track, and lever and rod means from said cam rod to a second cam rod on the opposite side of the car.

11. A convertible car comprising seats and their backs, an isle seat and back adapted to be placed between the first named seats, said isle seat being inclosed by one of the side seats and its back in another seat, and slot and lug means for holding the isle seat integral with the others.

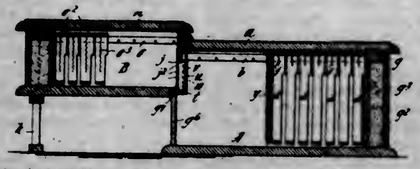
867,918. ELECTRICALLY-OPERATED RAILWAY-SWITCH. FRANK J. JOHNS, Scranton, Pa., assignor of one-third to John Nelson Garrett, Scranton, Pa., and one-third to James P. Pulsifer, Philadelphia, Pa. Filed Mar. 20, 1907. Serial No. 363,421.



1. An automatic railway switch comprising a sliding plate carrying a switch point, a box or casing for said plate in which it is guided, a housing below the plate, electro-magnets within said housing, an armature common to said magnets, an arm projecting downwardly from the sliding plate between the magnets, a bifurcated lever engaging said arm, and a pivotal connection between the lever and the armature.

2. An automatic railway switch comprising a sliding plate carrying a switch point and having a downwardly projecting arm, electro-magnets on opposite sides of said arm, an armature common to both magnets, mechanical connections between the armature and the arm, contact plates connected with the magnets, a ground connection for the magnets, and means carried by a passing car for closing the circuit through either magnet.

867,919. BEEHIVE. LEWIS H. KESELER, Agawam, Mass., assignor of one-half to Harry W. Howes, Agawam, Mass. Filed May 6, 1907. Serial No. 371,991.



1. A beehive comprising a brood chamber having an opening through the side thereof at which is provided a foraminous wall, and also having a bee entrance and exit opening, a honey storage chamber located at the side of the brood chamber, having an opening at the side thereof adjacent the foraminous wall of the opening at the side of the brood chamber, and having honey frame supports therein.

2. A beehive comprising a brood chamber having an opening through the side thereof at which is provided a foraminous wall, and also having a bee entrance and exit opening, a honey storage chamber constructed separable from the brood chamber located at the side of the brood chamber, having an opening at the side thereof adjacent the foraminous wall of the opening at the side of the brood chamber, and having honey frame supports therein.

3. A beehive comprising a brood chamber having an opening through the side thereof at which is provided a foraminous wall, and also having a bee entrance and exit opening, a honey storage chamber constructed separable from the brood chamber located at the side of the brood chamber, having an opening at the side thereof adjacent the foraminous wall of the opening at the side of the brood chamber, and having honey frame supports therein, and means for detachably locking the separable chambers together.

4. A beehive comprising a brood chamber having an opening through the side thereof at which is provided a foraminous wall, and also having a bee entrance and exit opening, a honey storage chamber located at the side of the brood chamber, having an opening at the side thereof adjacent the foraminous wall of the opening at the side of the brood chamber, having honey frame supports therein, said honey storage chamber having an opening independent of the brood chamber for the entrance and escape of worker bees.

5. A beehive comprising a brood chamber having an opening through the side thereof at which is provided a foraminous wall, said chamber at such open side being of step form, and having a bee entrance and exit opening, and a honey storage chamber located at the side of the brood chamber, having an opening at the side thereof adjacent the foraminous walled opening at the side of the brood chamber, and having honey frame supports therein, said honey storage chamber having portions at its open side to receive support on the step shaped side of the brood chamber, and having supporting members at its portion outwardly removed therefrom.

6. A beehive comprising a brood chamber having an opening through the side thereof at which is provided a foraminous wall, and having a bee entrance slot through another wall thereof, a plate slidable along said slot and operative to fully close or leave said slot more or less open, and a honey storage chamber located at the side of the brood chamber, having an opening at the side thereof adjacent the foraminous wall of the opening at the side of the brood chamber, and having honey frame supports therein.

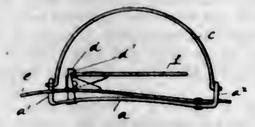
7. A beehive comprising a brood chamber having an opening through the side thereof at which is provided a foraminous wall, and having a bee entrance and exit slot through another side, a pair of plates slidable towards and from each other for fully closing, and for regulating the length of opening of said slot, and a honey storage chamber located at the side of the brood chamber, having an opening at the side thereof adjacent the foraminous walled opening at the side of the brood chamber, and having honey frame supports therein.

8. A beehive comprising a brood chamber having an opening through the side thereof at which is provided a foraminous wall, and also having a bee entrance and exit opening, and a honey storage chamber located at the side of the brood chamber, having an opening at the side thereof adjacent the foraminous walled opening at the side of the brood chamber, and having honey frame supports therein, a ledge horizontally extending along the inner face of the brood chamber wall below the said opening therein, and the opposite brood chamber walls, adjacent the ends of said opening and of said ledge, having vertical ribs forming upwardly opening grooves for the engagement therein of a removable plate for fully closing the opening leading from the brood chamber to the honey storage chamber.

9. The combination with a brood chamber, and a honey storage chamber connected therewith, said latter chamber having a passage leading through the wall thereof for worker bee entrance and exit, and formed with an outwardly projecting ledge adjacent said passage, a block removably placed in the angle between said ledge and adjacent wall of the storage chamber having a recess at its inner side and leading to one edge of the block, and communicating with said passage, also having a hole extending from said recess outwardly through the block and a cone shaped appliance secured on said block, incloeing at its larger end said hole, and having an opening at its outer, contracted, end smaller than the block opening.

10. In a beehive, a brood chamber having supports therein for a plurality of brood frames, having an opening through one side thereof at which is provided a foraminous plate and constructed with double walls at all of its sides excepting that provided with said opening, and having a bee entrance and exit opening, a honey storage chamber constructed separable from the brood chamber, located at the side thereof, having an opening at its side adjacent the side opening of the brood chamber and having honey supports therein, and a dividing board adapted to be fitted within the brood chamber outside of the brood frames, and leaving a space for a protective filling between it and the wall of the chamber having said opening.

867,920. TRAP. GEORGE W. LEAVENWORTH, Hartford, Conn., assignor to Homer H. Judd, Bristol, Conn. Filed Mar. 28, 1907. Serial No. 364,976.



1. In an article of the character described comprising a base having upturned ends, jaws pivotally supported in these upturned ends, a spring secured at one end to one end of the base, the opposite end of the spring having an opening therethrough for the jaws, a pan pivotally supported on the spring, and a locking post rigidly secured to the base and adapted to engage said pan.

2. In an article of the character described comprising a base, jaws pivotally supported thereon, a spring secured at one end to the base and having an opening through its opposite end for the jaws, a pan pivotally supported on the spring with an edge adjacent to said opening, and a post rigidly secured to said base and adapted to project through said opening to engage said pan.

3. In an article of the character described comprising a base having jaws pivotally supported thereon, a spring secured at one end to the said base and having an opening through its opposite end for said jaws, a pan pivotally secured to said spring within said jaws, and a post rigidly secured to said base between the pivotal points of said jaws and adapted to engage said pan to hold the spring in active position.

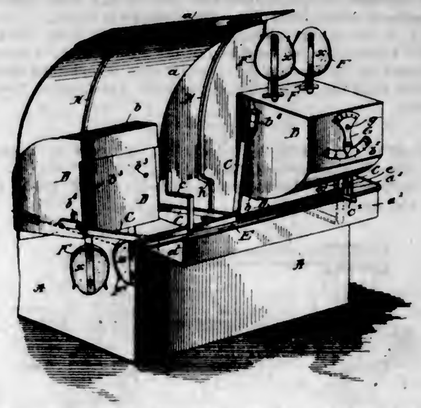
4. In an article of the character described comprising a base having upturned ends, jaws pivotally supported in these upturned ends, a spring secured at one end to one end of the base, the opposite end of the spring having an opening therethrough for the jaws, a pan pivotally supported on the spring, and means rigidly secured on the base and adapted to engage said pan, as and for the purposes specified.

867,921. AUTOMATIC EGG-BOILER. CHARLES B. MARTIN, Portland, Oreg., assignor of ten one-hundredths to J. Fred Kennedy, Portland, Oreg. Filed July 17, 1907. Serial No. 384,203.

1. The improved automatic egg-boiler comprising a boiler, a swinging frame journaled thereon, a hollow vessel provided with an egg holder and pivoted at the free end of the frame, and provided at one side with a water inlet whereby, when lowered into the water in the boiler, the inflow of water shifts the center of gravity of said vessel so that the eggs held temporarily submerged are raised out of the water, substantially as described.

2. The improved automatic egg-boiler comprising a boiler proper, a hollow vessel having an egg-holder and means for pivotally supporting it so that it may be swung into and out of the water, means for regulating the flow of water into said vessel when in a lowered position, and means for automatically engaging and tilting the vessel as it descends into the water, substantially as described.

3. The improved automatic egg-boiler comprising a boiler proper, a frame pivoted on the upper portion thereof, a vessel pivoted on the free end of the frame and provided with an egg-holder, and a water inlet and water outlet at opposite points, a device for regulating the inflow of water at the inlet, and a device attached to the upper portion of the boiler and adapted for engaging the vessel when lowered, thereby rotating it to the position required to submerge the eggs, substantially as described.



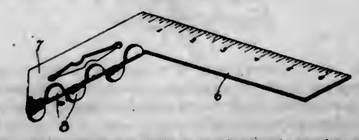
4. The improved automatic egg-boiler comprising a boiler proper, a frame pivoted thereon and adapted to swing inward, a vessel pivoted to the free end of the frame at a point near one side, egg-holders attached to such sides in proximity to the pivots, a water inlet provided adjacent to the side whereon the egg-holders are attached, a water-discharge opening on the opposite side, and means for engaging the vessel when lowered into the water, for tilting it a half revolution to bring the eggs into the water, and means for regulating the admission of water to the chamber of the vessel, substantially as described.

5. The improved automatic egg-boiler comprising a boiler proper, a frame pivoted thereon, a vessel pivoted to the free end of the frame and provided with egg-holders, and means for regulating admission of water for timing the submerging of the eggs, and a swinging bar pivoted to the top portion of the boiler and provided with a shoulder adapted to engage a portion of the vessel when lowered, whereby the latter is rotated a half revolution and the eggs submerged, as shown and described.

6. The improved automatic egg-boiler comprising a boiler proper, a frame pivoted thereon, a vessel having an egg-holder and water inlet with regulator therefor and pivoted to the free end of the said frame at a point near the side to which the egg-holders are attached, and stops arranged adjacent to the pivot and for engagement with the frame for arresting rotation of the vessel when lowered into or raised out of the water, substantially as described.

7. The combination, with the boiler proper having a lateral shelf provided with a flange, of a frame pivoted near the junction of the shelf and the boiler proper and provided with a lateral arm for use in tilting the frame and for supporting it when in a vertical position, a vessel pivoted to the free end of the frame and provided with egg-holders, and means for regulating inflow of water and permitting its discharge therefrom in the manner described.

867,922. TRY-SQUARE. FRANK B. MILLER, Unionville, Conn., assignor to The Union Cutlery & Hardware Company, Unionville, Conn., a Corporation of Connecticut. Filed May 20, 1907. Serial No. 374,586.



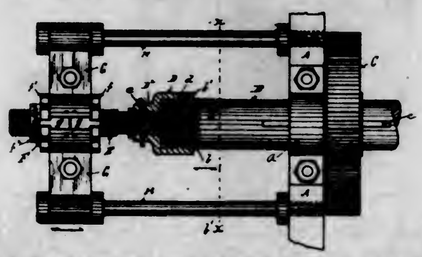
1. A try square formed from a single piece of metal and including a blade and stock, the latter having a flange of

a single thickness of metal extending from opposite sides of the inner edge thereof and formed integrally therewith.

2. A try square including a blade and a stock formed of a single piece of sheet metal and having a flange constructed of projections of a single thickness of metal bent in opposite directions from the sides of the inner edge of the stock and formed integrally therewith.

3. A try square including a blade and a stock formed of a single piece of sheet metal, the stock having a flange formed by projections alternately bent in opposite directions from the inner edge of the stock and integral therewith.

867,923. TAPPING MECHANISM. THOMAS G. MORSE, Erie, Pa., assignor to Morse Iron Works, Erie, Pa., a Corporation of Pennsylvania. Filed June 19, 1906. Serial No. 322,436.



1. In a tapping machine the combination of, a tap-spindle, a guide-screw operating through a longitudinally fixed nut and operatively connected to the inner end of the tap-spindle so as to allow of a limited degree of rotation of one upon the other, and means between them whereby the rotation of one upon the other will produce relative longitudinal movement of the tap-spindle, substantially as and for the purpose set forth.

2. In a tapping machine the combination of, a tap-spindle, a guide-screw operatively jointed to the end of the tap-spindle, a longitudinally fixed non-rotatable nut on the guide-screw, a screw joint producing a limited longitudinal movement between the guide-screw and the inner end of the tap-spindle operating to slightly shorten the combined length of the tap-spindle and guide-screw as it starts forward to tap a thread, and slightly increase such combined length as the tap starts to retreat from the thread tapped and means to limit the action of said screw joint, substantially as set forth.

3. In a tapping mechanism, the combination of a tap-spindle, a guide-screw, a longitudinally fixed guide-screw nut, a screw cap secured to the guide-screw engaging a screw-thread on the end of the tap-spindle, shoulders on said cap, and a stop on the tap-spindle engaging said shoulders so as to limit its rotation on said tap-spindle, substantially as and for the purpose set forth.

867,924. BUTTON. FRANK P. PFLEGHAR, New Haven, Conn., assignor to F. P. Pfleghar & Son, New Haven, Conn., a Firm. Filed Oct. 27, 1905. Serial No. 284,607.



1. A button comprising a stationary hollow stud for receiving an eye in the curtain, a bolt seated in and movable transversely of the stud and a rotary key and eccentric for operating the bolt.

2. A button comprising a hollow stationary stud for receiving an eye in the curtain, a bolt seated in and movable transversely of the stud, an eccentric mounted in the stud and adapted to be engaged with the bolt for operating it and a key mounted on the outer end of the stud and engaged with the eccentric for operating it.

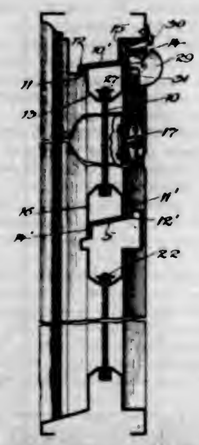
3. A button comprising a hollow stationary stud for receiving an eye in the curtain, a bolt seated in and movable transversely of the stud, an eccentric engaged with the bolt and removable only from the rear face or end of the stud and a key engaged with the eccentric and removable only from the outer end of the stud.

4. A button comprising a hollow stationary stud provided with a shallow recess in its base, a bolt movable transversely of the stud, a disk provided with an eccentric projecting therefrom for operating the bolt and a retaining spring engaged with the said disk for retaining it and hence the bolt in the desired position.

5. A button comprising a hollow stud, a bolt seated transversely in the stud and provided with communicating slots extending transversely through it, an eccentric located in one of the slots and a key having a projection extending through the other slot into engagement with the eccentric.

6. A button comprising a hollow stud, a bolt seated transversely therein and having its locking end partially cut away, an eccentric for projecting the bolt from the stud and withdrawing it, and a key for operating the eccentric.

867,925. FIREPROOF WINDOW. SILAS H. POMEROY, New Rochelle, N. Y. Filed Nov. 9, 1906. Serial No. 342,761.



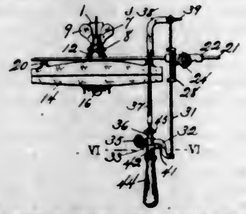
1. In a fireproof window, side casing members provided with longitudinal channels, an adjustable jamb of two part construction fitting within said channel, one part interfitting longitudinally with the other, a sash member pivoted within said casing, and means securing said casing jamb rigidly and in permanent adjustment within said channel after the casing jamb has been adjusted relative to the sash member.

2. In a fireproof window, a side casing member provided with a longitudinal channel, a jamb of two-part construction fitting within said channel, one of said parts being adapted to telescope within the other, a sash pivoted within said casing, and weathering flanges upon the casing and jamb, respectively.

3. In a fireproof window, a casing member provided with a longitudinal channel, a jamb of two-part construction fitting within said channel, a lip-like flange upon one part of said jamb, a hooked flange upon the other part of said casing jamb, a sash pivoted within said casing, a hooked flange upon said casing coöperating with the first named flange upon said jamb, and a lip-like flange upon the sash member coöperating with the hooked flange upon the jamb.

4. In a fireproof window, the combination of a hollow sheet metal casing provided at its sides with inwardly facing channel grooves, the bottoms whereof are outwardly deflected in their central portions whereby the depth of the channels is greatest adjacent to its side walls, jamb members, each of two-part construction, fitting within said channel, said jamb members being of general channel shape in cross section, returned bent portions upon the inner edges of the jamb members adapted to fit against the inclined bottom walls of the channel grooves, a sash pivoted within said casing and fitting between said jamb members, interfitting weathering flanges upon the jamb members and sash frame, respectively, and means securing the jamb members fixedly in adjusted position within their respective grooves.

867,926. SAW-FILING DEVICE. WILLIAM M. POTTER, Syracuse, N. Y., assignor to E. C. Stearns & Company, Syracuse, N. Y., a Corporation of New York. Filed Dec. 26, 1903. Serial No. 186,736.

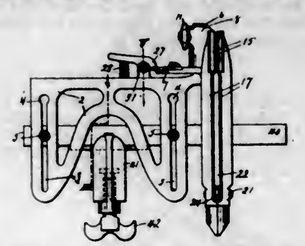


1. In a saw-filing device, the combination with a file having a handle, a file holder having a collar to receive the handle and a socket to receive the tip of the file, means to support the holder adjacent to the saw, a set-screw in the collar to clamp the file in the holder, of a longitudinal rib on the holder, and a notched segment on the file handle, said segment being arranged outside of said collar and at right angles to the rib so that its notches will engage with the rib when the file is clamped in operative position.

2. In a saw-filing device, the combination with the file having a handle, of a holder having a rod, an adjustable arm on the outer end of the rod having a socket on its inner end to receive the file tip, a thumb screw to secure said arm on the rod, a fixed arm on the inner end of the rod, a collar on the inner end of said fixed arm to receive the file-handle, said arms being curved so that their ends approach, a set-screw on the collar to engage with the file-handle, a short longitudinal rib on the fixed arm outside of the collar and a segment on the file handle arranged at a right angle to the rib and provided with notches to engage with the rib, whereby the file may be moved longitudinally to disengage the rib from the segment, and then readjusted by rotation on its axis and restored to operative position.

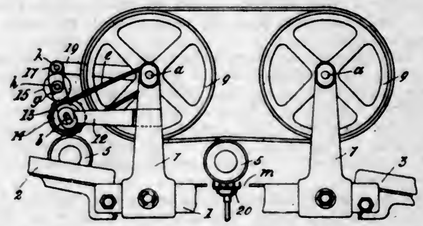
867,927. MITER-BOX. WILLIAM M. POTTER, Syracuse, N. Y., assignor to E. C. Stearns & Company, Syracuse, N. Y., a Corporation of New York. Filed Apr. 27, 1905. Serial No. 257,646.

In a folding miter-box, the combination with the base composed of a face-plate and integral top-plate arranged at a right angle to the face-plate, whereby the base fits a square edge of a round bearing pin on the upper surface of the top-plate near one end and arranged within the plane of the face-plate, a clamping sleeve fitted to said pin and adapted to turn thereon, means to clamp said sleeve on the pin in fixed position, a downwardly depending inner shank and an inner jaw transversely arranged on the upper end of the shank, said jaw and shank being integral with the sleeve, a corresponding outer shank and jaw, said outer shank being secured to said inner shank at their lower ends, by two screws, and said shanks having correspondingly flaring outer ends and flat, vertically arranged faces arranged parallel and close together, an integral platform on the inner face of the sleeve arranged parallel to the top plate, a segmental plate on said platform having a notched inner edge and indicating numerals on its upper surface, a spring latch on the top plate to engage



with said notches, a supporting plate of greater width, thickness and length than the top-plate arranged parallel thereto on the inner face of the face-plate, means to secure said supporting plate to the inner face of the face-plate at adjustable distances from the top-plate, and a bench clamp secured on said supporting plate, substantially as described and shown.

867,928. MACHINE FOR APPLYING IDENTIFYING-MARKS TO CANS. EZRA H. SAWYER, Vineland, N. J., assignor to Burt Machine Company, a Corporation of Delaware. Filed Mar. 7, 1907. Serial No. 361,048.



1. In a machine for applying identifying marks to cans, a bed, a conveyer belt to carry the cans along the bed, and an inclined runway to deliver cans to the conveyer belt, combined with a marking device placed over the inclined runway under which the cans pass and from which the cans receive an impression, substantially as specified.

2. In a machine for applying identifying marks to cans, a bed and a conveyer belt to carry the cans along the bed, combined with a stand erect on the bed, a swinging arm supported from the stand, bars pendent from the swinging arm, and a rotary marking wheel supported by the said pendent bars adapted to bear on the cans as the same pass through the machine, substantially as specified.

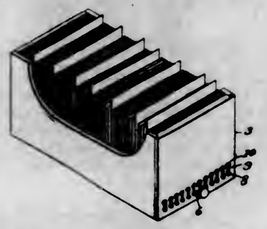
867,929. SNAP-FASTENER. WALLACE C. STILES, West Boylston, Mass., assignor to Mills Woven Cartridge Belt Company, Worcester, Mass., a Corporation of Massachusetts. Filed May 29, 1907. Serial No. 376,325.



1. A snap fastener comprising a socket-member having a spring retaining member, and formed with entrance openings on both sides thereof to receive a stud, and a double stud comprising two stud-members.

2. A snap fastener comprising a socket member provided with a spring retaining member and an entrance opening on each side thereof, and a double stud comprising two stud members disposed on opposite sides of the part carrying the same, one of said stud members formed with a base having a circumferentially-extending shoulder and the other member formed with an eyelet portion adapted to be spread over said shoulder, and means carried by the first mentioned stud member for automatically spreading said eyelet portion.

867,930. CARD-INDEX SYSTEM. WILLIAM M. STRETCH, Mount Vernon, N. Y. Original application filed Oct. 19, 1904, Serial No. 229,189. Divided and this application filed Aug. 2, 1905, Serial No. 272,312. Renewed May 8, 1907. Serial No. 372,613.



1. A series of record cards distinguished in groups, each card having a projection on an edge thereof, cards belonging to the same group having their projections in line and a receptacle for said cards provided with means whereby all of said cards belonging to any one group may be simultaneously separated from the mass of cards substantially as described.

2. A series of record cards distinguished in groups each card having a projection on an edge thereof, cards belonging to the same group having their projections in line, a receptacle for said cards provided with a series of grooves adapted to receive said projections, and a bar in said receptacle adapted to separate the cards whose projections are adjacent to said bar from the mass, substantially as described.

3. In a card indexing system, a receptacle for the cards, means therein for receiving projections on the lower edges of said cards and alining same, selecting means in said receptacle underlying the whole body of said cards and said projection receiving means, and means for operating said selecting means, whereby all cards belonging to any desired group or class may be separated from the mass by being projected above the rest of the cards, substantially as described.

4. In a card indexing system, a series of cards distinguished in groups, provided with projections on the lower edge thereof, the position of which determines the character of the card, cards of like character having the said projections in line, and a receptacle adapted to contain said cards and provided with means underlying the mass of said cards and coöperating with said projections by the operation of which means all the cards of any desired group may be simultaneously raised above the rest of the cards substantially as described.

5. A series of record cards distinguished in groups by projections on the lower edges of said cards, cards of the same group having their projections in line, a receptacle for said cards provided with means for holding the said projections in alinement and with means underlying all of said cards, and coöperating with said projections, upon the operation of which all cards belonging in a certain group may be separated from the mass by being projected above the rest of the cards, substantially as described.

6. A card receptacle provided on its inner lower surface with a series of grooves, a slot at the bottom of each groove, the said grooves and slots extending throughout the entire length of the box, said slots adapted to allow the passage of a selecting rod, and openings in the front and rear walls of the said receptacle through which said rod is adapted to pass, substantially as described.

7. A card containing and separating receptacle, provided with a series of grooves, in its lower wall, and a channel in the bottom of each groove adapted to receive a selecting rod, the said grooves and channels extending from front to rear of the box, slots in the front and rear walls of the receptacle in line with each groove and channel, a selecting rod normally in one of said channels, and means whereby the said rod may be raised and locked in the raised position substantially as described.

8. A series of record cards distinguished in groups, each card provided with a projection upon the lower edge thereof, the position of which determines the group to which the card belongs, cards of the same group having their projections in line, a receptacle therefor provided with a support for said cards which permits free access to said projections, a selecting rod, underlying said projections and adapted to be lifted and cause the said cards whose projections are directly above said rod to be projected above the rest of the cards, substantially as described.

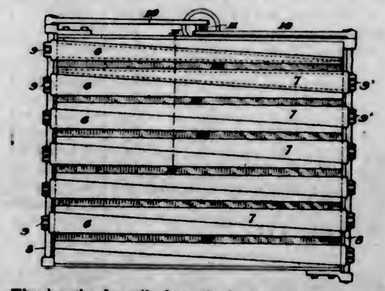
9. In a card index, a card provided with a bearing member extending below the normal edge of the said card.

10. In a card index, a card provided with a bearing member extending below the normal edge of the said card, and means for supporting and raising the said bearing member and the attached card.

11. A selective card index device comprising a receptacle adapted to contain cards, selecting members adapted to engage the bottom edges of the cards at different points of their width, and index cards provided at their bottom edges with differently placed projections in positions corresponding to those which may be assumed by the said selecting members.

12. A selective card index device comprising a receptacle adapted to contain cards, index cards provided with differently placed projections at their bottom edges, and a selecting member movable to different points in the width of the cards and adapted, according to its position, to engage different projections of the cards.

867,931. MANUFACTURE OF GLASS HAVING SURFACE PROJECTIONS. FRANK L. O. WADSWORTH, Morgantown, W. Va., assignor to Pressed Prism Plate Glass Company, New York, N. Y., a Corporation of West Virginia. Filed May 20, 1904. Serial No. 208,910.



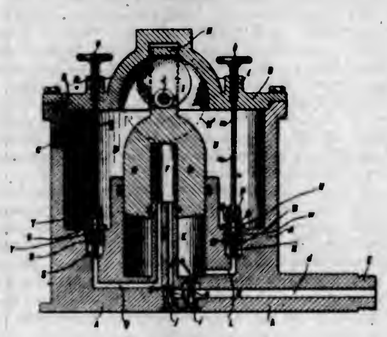
1. The herein described method of making glass having surface projections which consists in distributing the glass on a grooved surface in sheet form with portions thereof in the grooves of the surface, and then moving the walls of the grooves relatively in a direction both lateral and endwise to cause them to exert a sliding formative and compressive action upon the glass; substantially as described.

2. The herein described method of making glass having surface projections which consists in rolling a sheet or slab of glass upon a grooved surface, and then moving the walls of the grooves both endwise and laterally to exert a compressive formative action upon the glass in the grooves; substantially as described.

3. The herein described method of making glass having surface projections, which consists in distributing the glass on a grooved surface with portions thereof in the grooves of the surface, then moving the groove-walls in a direction both lateral and endwise to cause them to exert a sliding formative and compressive action upon the glass in the grooves, and then spreading the walls to release the glass; substantially as described.

4. The herein described method of making glass having surface projections, which consists in distributing the glass on a grooved surface with portions thereof in the grooves, and then compressing and shaping the glass in the grooves by moving the grooved walls both laterally and endwise while maintaining their parallelism; substantially as described.

867,932. FORCE-PUMP AND SIMILAR APPARATUS. JOHN WEEKS, Locust Valley, N. Y., assignor of one-half to Henry C. Dudgeon, Locust Valley, N. Y. Filed Mar. 5, 1907. Serial No. 360,747.



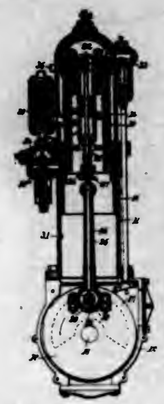
1. In hydraulic apparatus of the class stated, the combination of two pumps of different capacities, one located within the piston of the other, waterways for supplying liquid to and conveying it from both pumps, a valve set in the intake waterway of each pump and means actuated from the exterior of the apparatus and adapted to co-act with each of said valves, whereby they may be controlled and the pumps which they respectively supply thrown into and out of operation at will.

2. In hydraulic apparatus of the class stated, the combination of two pumps of different capacities, one located within the piston of the other, a single piston the reciprocation of which operates both pumps, waterways for supplying liquid to and conveying it from both pumps, a valve set in the intake waterway of each pump and means actuated from the exterior of the apparatus and adapted to co-act with each of said valves, whereby they may be controlled and the pumps which they respectively supply thrown into and out of operation at will.

3. In hydraulic apparatus of the class stated, the combination of two pumps of different capacities, waterways for supplying liquid to and conveying it from both pumps, a valve set in the intake waterway of each pump and means actuated from the exterior of the apparatus and adapted to co-act with each of said valves, whereby they may be controlled and the pumps which they respectively supply thrown into and out of operation at will.

4. In hydraulic apparatus of the class stated, the combination of two pumps of different capacities, a single reciprocating part or piston which actuates both pumps, waterways for supplying liquid to and conveying it from both pumps, a valve set in the intake waterway of each pump and means actuated from the exterior of the apparatus and adapted to co-act with each of said valves, whereby they may be controlled and the pumps which they respectively supply thrown into and out of operation at will.

867,933. PISTON-VALVE FOR INTERNAL-COMBUSTION ENGINES. HARRY W. ADAMS, Fargo, N. D., assignor of one-half to Philip W. Farnham, Fargo, N. D. Original application filed July 11, 1905, Serial No. 269,154. Divided and this application filed Nov. 21, 1906. Serial No. 344,394.



1. An internal combustion engine having a working piston, an extended, hollow, perforated, tubular member carried thereby, said piston having a passage therethrough communicating with the interior of said tubular member, a valve for controlling the flow of fluid through said passage, a valve rod for said valve slidably mounted within the outer end of said tubular member, an enlarged curved head secured to the outer end of said valve rod, means intermediate said head and said tubular member for resiliently holding said valve in its closed position, and means in operative engagement with the crank shaft and having an enlarged curved head adapted to engage with the head of the valve rod to intermittently open the valve one of said heads being longitudinally adjustable to control the extent to which said valve is opened.

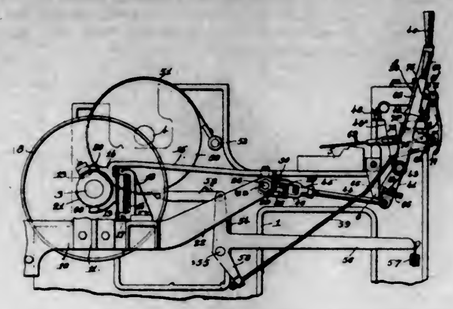
2. An internal combustion engine having a working piston provided with a passage extending therethrough, a valve for controlling said passage, a perforated tubular member carried by said piston and forming an extension for said passage, a valve rod for said valve supported and guided within said tubular member, a head on the end of said valve rod and longitudinally adjustable in relation thereto, means for resiliently holding said valve in its closed position, and means in operative engagement with the crank shaft for engaging with said head of the valve rod to open the valve, the extent to which the valve is opened being dependent upon the adjustment of said head.

3. An internal combustion engine having a working piston provided with a passage extending therethrough, a valve for controlling said passage, a valve rod for said valve, means carried by said piston for supporting and guiding said valve rod, an enlarged head upon the outer end of said valve rod and longitudinally adjustable in relation thereto, and means in operative engagement with a moving part of the engine for engaging with said head to intermittently open said valve.

867,934. STARTING AND STOPPING MECHANISM FOR LOOMS. GEORGE B. AMBLER, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Mar. 25, 1907. Serial No. 364,212.

1. In a loom, a brake, an actuator therefor, a controller for the actuator, a shipper, a fixed fulcrum on which the shipper and controller are pivotally mounted side by side, and means to effect movement of the shipper to stopping position by movement of the controller to cause the actuator to apply the brake, movement of the shipper to run-

ning position acting through said means to cause release of the brake by or through the controller.



2. In a loom, a shipper, a brake, a controller therefor mounted adjacent the shipper, means adapted to effect movement of the controller to apply the brake by or through an abnormal operation of the loom, and a device on the controller to coöperate with the shipper and prevent movement of the controller to apply the brake while the shipper is in running position.

3. In a loom, means, including a shipper, to throw the power on and off, a starting rod extended along the front of the loom, an arm thereon to act upon the shipper and move it to running position by turning of the rod, and handles mounted at intervals on the starting-rod and having a lost-motion connection therewith, whereby when a handle has been moved to take up the lost motion the rod will be turned to act through its attached arm and move the shipper to running position.

4. In a loom, in combination, a brake, a controller therefor having a lateral projection, a shipper with which the projection coöperates, a fixed fulcrum on which the controller and shipper are mounted side by side, movement of the controller to apply the brake acting through the projection to effect movement of the shipper to stopping position, and a starting instrumentality operative manually at different points at the front of the loom to move the shipper to running position and by such movement acting through the projection on the controller to effect release of the brake.

5. The combination, in a loom, of a shipper, a brake, a controller therefor mounted independently of the shipper, and means to effect movement of the shipper to stopping position by movement of the controller to apply the brake, said means permitting a reverse movement of the controller independently of the shipper, to release the brake.

6. The combination, with a brake, of a controller therefor, a shipper, and means to prevent movement of the controller to apply the brake while the shipper is in running position while permitting independent movement of the controller to release the brake when the shipper is in stopping position.

7. The combination, with a brake, of a controller therefor, a shipper, a fixed fulcrum on which the controller and shipper are separately pivoted, and means to cause the controller to release the brake by or through movement of the shipper to running position while permitting independent movement of the controller to release the brake when the shipper is in stopping position.

8. The combination, with a brake, and a controller therefor, of a shipper, said controller and shipper being pivotally mounted side by side, and a lug on the controller to engage the shipper and prevent movement of the controller to apply the brake unless the shipper is simultaneously moved to stopping position, movement of the controller independently of the shipper when in stopping position releasing the brake and effecting disengagement of the lug from the shipper.

9. The combination, with a brake, and a controller therefor, of a shipper, said controller and shipper being pivotally mounted side by side, a lug on the controller, and an adjustable stop on the shipper, to be engaged by the lug when the controller is moved to apply the brake, such engagement of the lug and stop causing movement of the shipper to stopping position when the controller is moved to apply the brake.

10. The combination, in a loom, of a shipper, a fixed fulcrum on which it is pivotally mounted, a brake, a controller therefor also pivotally mounted on said fulcrum, separate devices adapted to act upon the controller and cause the brake to be applied upon improper boxing of the shuttle or failure of the filling, and means whereby operation of the controller effects movement of the shipper to stopping position.

11. The combination, in a loom, of a shipper, a fixed fulcrum on which it is pivotally mounted, a brake, a controller therefor also pivotally mounted on said fulcrum, and on dead-center when the brake is released, a frog, a bunter thereon to engage the controller and swing it off dead-center to effect the application of the brake when the frog is moved, and means to move the shipper to stopping position by or through such movement of the controller.

12. The combination, in a loom, of a shipper, a fixed fulcrum on which it is pivotally mounted, a brake, a controller therefor also pivotally mounted on said fulcrum, adjacent the shipper, a toe extended laterally from the controller and adapted to coöperate with the shipper when the controller is moved to apply the brake, to thereby move the shipper to stopping position, fixed stops to limit angular movement of the shipper, and a toggle device connected with the shipper and maintaining the shipper in running position when the toggle is set.

13. In a loom, in combination, brake mechanism, including a lever and an actuator therefor, a pivotally mounted controller connected with said lever, to hold the latter against the action of its actuator, a shipper, and means to prevent movement of the controller to release the connected lever when the shipper is in running position while permitting independent movement of the controller to release the brake while the shipper remains in stopping position.

14. In a loom, means to throw the power on or off, brake mechanism, a controller for each of said instrumentalities, said controllers moving in adjacent paths parallel to the loom side, and means whereby movement of the brake-mechanism controller to apply the brake effects movement of the power-controller to throw off the power, said means permitting release of the brake by movement of its controller independently of the power-controller when the power is off.

15. In a loom, in combination, a clutch, an actuating lever connected therewith, a spring acting through the lever to effect release of the clutch, a toggle to move the lever to set the clutch, a shipper, and a transmitter between it and the toggle, movement of the shipper to running position straightening the toggle and setting the clutch, the centers of the toggle at such time being held in set position and the toggle acting through the transmitter to maintain the shipper in running position.

16. In a loom, a clutch, a spring to release it, a shipper, connections between it and the clutch, said connections including a toggle to set the clutch when movement of the shipper to running position throws the toggle members just over dead-center, and a separate spring to retain the toggle members in such position.

17. In a loom, in combination, a device to shift the power on and off, a lever connected therewith, a fixed stud extending from the loom-side, a sleeve movable thereon and pivotally connected with the lever, toggle members jointed together and at their opposite ends connected with the sleeve and a fixed part of the loom, respectively, a spring acting upon the sleeve to maintain the toggle members set, a shipper, a link connecting it with the joint of the toggle, movement of the shipper to running position setting the toggle members just over dead-center, moving the sleeve against the action of the spring and causing the power-shifting device to throw on the power, the toggle members when set acting through the link to maintain the shipper in running position, and a strong spring acting upon the lever to cause the shifting device to throw off the power when the shipper is moved to break the toggle.

18. In a loom, in combination, actuating means including a clutch, a spring to release the clutch, a sleeve, a light spring acting thereon, a toggle one of whose members is connected with the sleeve, the other member being fixedly pivoted, a shipper, and a link connecting it with the joint of the toggle, movement of the shipper to running position acting through the link to set the toggle with its members over dead-center and moving the sleeve against the stress of the light spring, the latter then acting to retain the toggle set, the shipper remaining inert in running position.

19. In a loom, in combination, actuating means including a clutch, a spring to release the clutch, a toggle one of whose members is fixedly pivoted, a connection between the other member and the clutch, a light spring to maintain the toggle set, a shipper, a fixed fulcrum therefor near its lower end, and a link connecting the shorter arm of the shipper with the joint of the toggle, movement of the shipper to running position acting through the link and against the light spring to set the toggle and throw the clutch into operation, the shipper remaining inert when in running position, initial movement of the shipper from such position breaking the toggle and permitting the clutch-releasing spring to act through the toggle to release the clutch and complete the movement of the shipper to stopping position.

20. The combination, with a clutch, a shipper, and connections between it and the clutch, said connections including a toggle to set the clutch when movement of the shipper to running position throws the toggle members just over dead-center, of a spring to retain the toggle members in such position, and a stronger spring to throw the shipper to stopping position and release the clutch when the toggle is broken by initial movement of the shipper from running position.

21. The combination, with a clutch, of a lever connected therewith to throw it into and out of operation, a toggle one of whose members is fixedly pivoted and the other member pivotally connected with said lever, setting of the toggle moving the lever to throw the clutch into operation, a shipper, a transmitter connecting it with the toggle, to set or break the latter and thereby govern the clutch, and a spring coöperating with the toggle to retain it set, the transmitter at such time retaining the shipper inert in running position.

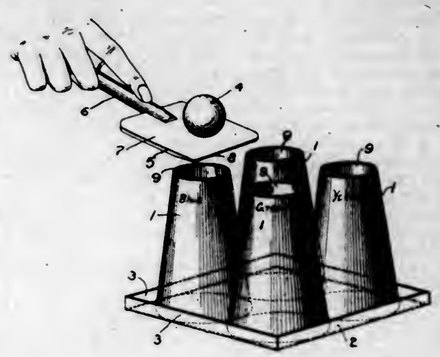
22. The combination, with a clutch, a shipper, and connections between it and the clutch, said connections including a toggle to set the clutch when movement of the shipper to running position throws the toggle members just over dead-center, of a spring to throw the shipper to a stopping position and release the clutch when the toggle is broken by initial movement of the shipper from running position.

867,935. GAME APPARATUS. GEORGE S. PARKER, Salem, Mass., assignor to Parker Brothers, Salem, Mass., a Corporation of Maine. Filed June 10, 1907. Serial No. 378,051.

1. As a new article of manufacture, a game apparatus of the type described comprising a repository consisting of a frusto conical hollow shell of relatively light material adapted to be supported upon its base, and to receive a plurality of balls therein through the open upper end, and to be tilted by an accumulation of such balls.

2. As an article of manufacture, a game apparatus of the type described comprising a plurality of repositories having distinguishing characteristics, each consisting of a frusto conical hollow shell of relatively light material adapted to be supported upon its base and to receive a plurality of balls therein through the open upper end and to be tilted by an accumulation of such balls.

3. As a new article of manufacture, a game apparatus of the type described, comprising a tray, a plurality of repositories supported upon said tray, each repository consisting of a frusto-conical hollow shell of relatively light material adapted to be supported upon its base and to receive a plurality of balls therein through the open upper end, and to be tilted by an accumulation of such balls, the tray and the outer periphery of the plurality of repositories being of substantially the same shapes and sizes.



4. As an article of manufacture, a game apparatus of the type described having a tray, 2, provided with an upturned edge 3, a plurality of repositories supported upon said tray, each repository consisting of a frusto-conical hollow shell of relatively light material adapted to be supported upon its base and to receive a plurality of balls therein through the open upper end, and to be tilted by an accumulation of such balls, the upturned edge having the general outline of the plurality of repositories.

REISSUES.

12,701. JAR-CAP. THE AMERICAN DAIRY SUPPLY CO., Augusta, Me., and Washington, D. C., a Corporation of Maine, assignee, by mesne assignments, of Eldridge J. Smith, deceased. Filed May 27, 1907. Serial No. 376,027. Original No. 765,049, dated July 12, 1904, Serial No. 176,999.



1. A jar-cap consisting of a disk having a corrugation with its ends located within the edge of the disk.

2. A jar-cap consisting of a disk having a corrugation with its ends located within the edge of the disk, the edge of said corrugation being in alinement with that of the cap.

3. A jar-cap consisting of a disk having a corrugation with its ends located within the edge of the disk, said corrugation having an upwardly and outwardly extending edge adapted to come in contact with the jar.

4. A jar-cap consisting of a disk having a corrugation with its ends located within the edge of the disk, a handle secured to the cap in the space between the ends of the corrugation.

5. A jar-cap consisting of a disk having a corrugation embracing a plain surface and having its ends located

within the edge of the disk, a handle secured to the cap in the space between the ends of the corrugation and adapted to lie flat upon said plain surface.

6. A jar-cap consisting of a disk having a flat top face extending from the central portion thereof to the edge of the disk, and a flat handle on said flat face and extending inwardly of the disk and at its outer end secured to the disk adjacent to its outer edge with its outer end edge flush with the disk edge, substantially as described.

7. A jar-cap consisting of a disk, a handle attached to said disk and having its free edge cut on the same arc as the edge of the cap whereby projecting points are formed at the corners of the handle.

8. A jar-cap consisting of a disk having a corrugation the inner edge of which is eccentric with the disk.

9. A jar-cap consisting of a disk having a corrugation with its ends located within the edges of the disk the inner edge of said corrugation being eccentric with the disk.

10. A jar-cap consisting of a disk having a corrugation with its ends located within the edge of the disk, the outer edge of which is concentric with the disk and the inner edge eccentric therewith.

11. A jar-cap consisting of a disk having a corrugation, the outer edge of which is concentric with the disk and the inner edge eccentric therewith.

12. A jar-cap consisting of a disk having a corrugation with its ends located within the edge of the disk, the outer edge of the corrugation being in alinement with the edge of the disk and the inner edge eccentric therewith.

13. A jar-cap consisting of a disk having a curved corrugation and a transverse crease.

14. A jar-cap consisting of a disk having a peripheral corrugation and a transverse crease.

15. A jar cap consisting of a disk having a flat plain top surface extending to the edge thereof, and a flat handle at its outer end portion fixed to the flat edge portion of the disk, the handle extending inwardly along the flat surface of the disk and adapted to be bent upwardly and exert a direct pull on said flat edge portion of the disk to initially release the same during the operation of removing the cap from the jar mouth.

16. A jar-cap consisting of a disk having a curved corrugation and a transverse crease entering said corrugation.

17. A jar-cap consisting of a disk having a corrugation with its ends located within the edge of the disk and a transverse crease.

18. A jar-cap consisting of a disk having a corrugation with its ends located within the edge of the disk and a transverse crease located on one side of the center of the disk.

19. A jar cap consisting of a disk having a flat plain top surface, and a flat handle extending inwardly of the disk on said flat surface from the outer edge thereof and at its outer end secured flat on and to the flat edge portion of the disk.

20. A jar-cap consisting of a disk having a corrugation with its ends located within the edge of the disk and a transverse crease, and a handle attached to the disk.

21. A jar-cap consisting of a disk having a curved corrugation the ends of which are spaced apart.

22. A receptacle closure consisting essentially, of a disk having a flat handle arranged throughout its length on the top surface thereof and extending inwardly with its outer edge cut off flush and concentric with the disk edge, and a staple securing the outer end portion of the handle down on the top surface of the edge portion of the disk, substantially as described.

23. A receptacle closure comprising a disk having a flat edge portion, a handle arranged on the top surface thereof, and means passing through the disk and handle and clamping its outer end down on the top surface of said edge portion of the disk, substantially as described.

24. A receptacle closure comprising a disk having a flat edge portion, a flat short narrow handle arranged radially of and on the top surface of the disk, and a staple securing the outer end portion of said handle down on the top surface of said flat edge portion of the disk.

DESIGNS.

38,844. BADGE. PETER A. MANDABACH, Columbus, Ohio. Filed July 16, 1907. Serial No. 384,114. Term of patent 3½ years.



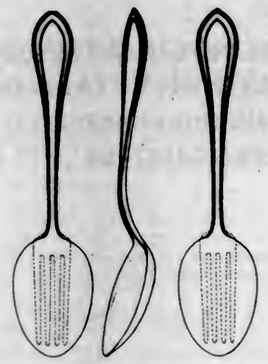
The ornamental design for a badge as shown.

38,845. HANDLE FOR SPOONS, FORKS, OR SIMILAR ARTICLES. GILBERT L. CROWELL, Jr., Arlington, N. J., assignor to Dominick & Haff, New York, N. Y., a Joint Stock Association. Filed July 3, 1907. Serial No. 382,113. Term of patent 7 years.



The ornamental design for a handle for a spoon, fork or similar article as shown.

38,846. HANDLE FOR SPOONS, FORKS, OR SIMILAR ARTICLES. JOSEPH E. STRAKER, Jr., Attleboro, Mass. Filed Aug. 5, 1907. Serial No. 387,247. Term of patent 7 years.



The ornamental design for the handle of a spoon, fork or similar article as shown.

38,847. COMB. JOSEPH WILCOX, Athol, Mass. Filed Aug. 30, 1907. Serial No. 390,834. Term of patent 3½ years.



The ornamental design for a comb, as shown.

38,848. COMB. JOSEPH WILCOX, Athol, Mass. Filed Aug. 30, 1907. Serial No. 390,835. Term of patent 3½ years.



The ornamental design for a comb, as shown.

38,849. COMB. JOSEPH WILCOX, Athol, Mass. Filed Aug. 30, 1907. Serial No. 390,836. Term of patent 3½ years.



The ornamental design for a comb, as shown.

38,850. COMB. JOSEPH WILCOX, Athol, Mass. Filed Aug. 30, 1907. Serial No. 390,837. Term of patent 3½ years.



The ornamental design for a comb, as shown.

38,851. COMB. JOSEPH WILCOX, Athol, Mass. Filed Aug. 30, 1907. Serial No. 390,838. Term of patent 3½ years.



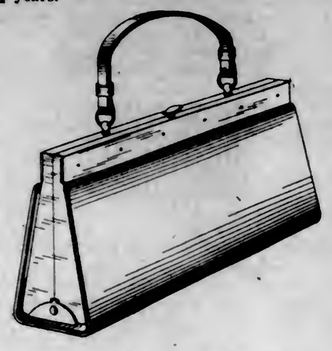
The ornamental design for a comb, as shown.

38,852. COMB. JOSEPH WILCOX, Athol, Mass. Filed Aug. 30, 1907. Serial No. 390,839. Term of patent 3½ years.



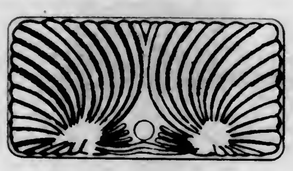
The ornamental design for a comb, as shown.

38,853. HAND-BAG. LEOPOLD HAUSER, New York, N. Y., assignor to Samstag & Hilder Bros., New York, N. Y. Filed May 25, 1907. Serial No. 375,745. Term of patent 3½ years.



The ornamental design for a hand-bag, as shown.

38,854. ELECTRIC-LIGHT REFLECTOR. AUGUSTUS D. CURTIS, Chicago, Ill. Filed June 22, 1906. Serial No. 322,976. Term of patent 7 years.





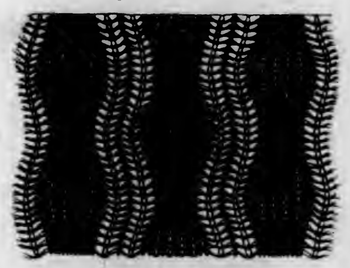
The ornamental design for an electric light reflector as shown.

38,855. FONT OF TYPE. CHARLES WILLIAM SMITH, Philadelphia, Pa., assignor to Keystone Type Foundry, Philadelphia, Pa. Filed Nov. 17, 1904. Serial No. 233,221. Term of patent 7 years.

ABCDEFGHIJKLMNOPQ
RRSTUVWXYZ&abcdef
ghijklmmnopqrstuvwx
yz£$1234567890.,;:"'"-!?

The ornamental design for a font of printing type as shown in the accompanying drawing.

38,856. KNITTED FABRIC. JOSEPH J. CURRY, Philadelphia, Pa. Filed Aug. 14, 1907. Serial No. 388,564. Term of patent 7 years.



The ornamental design for knitted fabric as shown in the accompanying drawing.

TRADE-MARKS

PUBLISHED OCTOBER 8, 1907.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 7,242. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) CHARLES JACQUIN ET CIE. INC., New York, N. Y. Filed June 2, 1905.



Particular description of goods.—Stomach-Bitters.

Ser. No. 7,249. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) CHARLES JACQUIN ET CIE. INC., New York, N. Y. Filed June 2, 1905.



Particular description of goods.—Orange Bitters.

Ser. No. 10,496. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) MOUNT VERNON-WOODBERRY COTTON DUCK COMPANY, Baltimore, Md. Filed July 18, 1905. Used ten years.



Particular description of goods.—Cotton Duck.

Ser. No. 11,727. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) DE NEDERLANDSCHE GIST- & SPIRITUSFABRIEK, Delft, Holland. Filed Aug. 17, 1905.



Particular description of goods.—Geneva.

Ser. No. 12,127. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) GEORGE LUND, London, England. Filed Aug. 31, 1905.

SIL-KEE-NA

Particular description of goods.—Knitted Shirts, Skirts, and Hosiery.

Ser. No. 13,604. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) JOHANNES ARTHUR SANDER, Hamburg, Germany. Filed Oct. 14, 1905.

BACILLOL

Particular description of goods.—Disinfectant Materials.

Ser. No. 14,203. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) CLIFFORD L. MILLER & Co., New York, N. Y. Filed Nov. 2, 1905.

MINWAX

Particular description of goods.—Preservative Paints in Liquid or Paste Form.

Ser. No. 15,025. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) ELLENDALE MILLING COMPANY, Ellendale, N. D. Filed Nov. 27, 1905. Used ten years.

STANDARD

Particular description of goods.—Wheat-Flour.

Ser. No. 17,828. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE BURLINGAME CHEMICAL CO., Los Angeles, Cal. Filed Mar. 14, 1906.

Pepso-Laxatone



The word "Pepso" being printed in red with blue shadows, the word "Laxatone" being printed in red, the border of the shield being blue and the lower field thereof red, the letter "P" of the monogram being red, the circles and the horizontal bars being printed in red.

Particular description of goods.—A Remedy for Gastric Disorders, Indigestion, and Constipation.

Ser. No. 19,991. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) CHEMISCHE FABRIK VON HEYDEN AKTIEN-GESELLSCHAFT, Radebeul, near Dresden, Germany. Filed June 2, 1906.

Xeroform

Particular description of goods.—A Phenol Bismuth Compound and a Tribromophenol Bismuth Compound.

Ser. No. 20,135. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) SOCIÉTÉ ANONYME DE LA GRANDE DISTILLERIE E. CUSENIER FILS AÎNÉ & CIE., Paris, France. Filed June 7, 1906.

OXYGÉNÉE CUSENIER

Particular description of goods.—Absinthe and Vermuth.

Ser. No. 21,735. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) TOM RUSSELL WYLES, Chicago, Ill. Filed Aug. 24, 1906.

VARCUT

Particular description of goods.—Paint and Varnish Solvents and Removers.

Ser. No. 21,875. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) GEORGE CUTTER Co., South Bend, Ind. Filed Sept. 4, 1906.

Ajax

Particular description of goods.—Insulating Cross-Arms.

Ser. No. 24,082. (CLASS 9. EXPLOSIVES.) HENRY J. PAIN, New York, N. Y. Filed Dec. 17, 1906. Used ten years.

Electric

Particular description of goods.—Fireworks.

Ser. No. 24,083. (CLASS 9. EXPLOSIVES.) HENRY J. PAIN, New York, N. Y. Filed Dec. 17, 1906. Used ten years.

PAIN'S MANHATTAN BEACH FIREWORKS

Particular description of goods.—Fireworks.

Ser. No. 24,691. (CLASS 8. DETERGENTS.) PACIFIC COAST BORAX COMPANY, Oakland, Cal.; Chicago, Ill., and New York, N. Y. Filed Jan. 16, 1907.

QUEEN BORAX SOAP

Particular description of goods.—Soap.

Ser. No. 25,412. (CLASS 2. MINERAL.) COALITE LIMITED, London, England. Filed Feb. 19, 1907.

COALINE

Particular description of goods.—Coal, Coke, Breeze, and Partially-Coked or Charred Coal.

Ser. No. 26,109. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) P. LOOPUYT & Co., Schiedam, Holland. Filed Mar. 20, 1907.

P. LOOPUYT & Co. SCHIEDAM

Particular description of goods.—Gin.

Ser. No. 26,643. (CLASS 63. MEASURING AND SCIENTIFIC APPARATUS, APPLIANCES, AND INSTRUMENTS.) JOS. BIANCHI, Toronto, Canada. Filed Apr. 11, 1907.

ZOESCOPE

Particular description of goods.—Animated and Moving Picture Apparatus.

Ser. No. 26,644. (CLASS 63. MEASURING AND SCIENTIFIC APPARATUS, APPLIANCES, AND INSTRUMENTS.) JOS. BIANCHI, Toronto, Canada. Filed Apr. 11, 1907.

ZOEGRAPH

Particular description of goods.—Animated and Moving Picture Apparatus.

Ser. No. 26,679. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) BENTLEY & OLMSTED COMPANY, Des Moines, Iowa. Filed Apr. 13, 1907.

Overland

Particular description of goods.—Leather shoes.

Ser. No. 27,122. (CLASS 47. CONFECTIONERY.) LITTLEFIELD & STEERE Co., Knoxville, Tenn. Filed May 4, 1907.

SOUTHERN MADE BY SOUTHERN MAIDS

Particular description of goods.—Candies of All Kinds.

Ser. No. 27,262. (CLASS 9. EXPLOSIVES.) THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn. Filed May 9, 1907.



The disk being red.

Particular description of goods.—Shotgun, Rifle, and Pistol Cartridges, Caps, and Primers.

Ser. No. 27,278. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) THE GLOVERSVILLE SILK MILLS, Gloversville, N. Y. Filed May 10, 1907.



The body of the leaf being printed in green.

Particular description of goods.—Silk Gloves.

Ser. No. 27,441. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GRAHAM PAPER Co., St. Louis, Mo. Filed May 17, 1907. Used ten years.

LOCKLAND

Particular description of goods.—Printing and Writing Paper Commonly Employed for Printing and Writing Purposes.

Ser. No. 27,442. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GRAHAM PAPER Co., St. Louis, Mo. Filed May 17, 1907. Used ten years.

ALASKA

Particular description of goods.—Printing and Writing Paper Commonly Employed for Printing and Writing Purposes.

Ser. No. 27,445. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GRAHAM PAPER Co., St. Louis, Mo. Filed May 17, 1907.

REQUISITION BOND

Particular description of goods.—Printing and Writing Paper Commonly Employed for Printing and Writing Purposes.

Ser. No. 27,446. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GRAHAM PAPER Co., St. Louis, Mo. Filed May 17, 1907. Used ten years.

NATIONAL RECORD

Particular description of goods.—Printing and Writing Paper Commonly Employed for Printing and Writing Purposes.

Ser. No. 27,447. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GRAHAM PAPER Co., St. Louis, Mo. Filed May 17, 1907.

DIANA BOND

Particular description of goods.—Printing and Writing Paper Commonly Employed for Printing and Writing Purposes.

Ser. No. 27,448. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GRAHAM PAPER CO., St. Louis, Mo. Filed May 17, 1907.

SAXON

SUPERFINE

Particular description of goods.—Printing and Writing Paper Commonly Employed for Printing and Writing Purposes.

Ser. No. 27,449. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GRAHAM PAPER CO., St. Louis, Mo. Filed May 17, 1907. Used ten years.

Tyrone Linen

Particular description of goods.—Printing and Writing Paper Commonly Employed for Printing and Writing Purposes.

Ser. No. 27,453. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GRAHAM PAPER CO., St. Louis, Mo. Filed May 17, 1907.

OLYMPIA BOND

Particular description of goods.—Printing and Writing Paper Commonly Employed for Printing and Writing Purposes.

Ser. No. 27,457. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GRAHAM PAPER CO., St. Louis, Mo. Filed May 17, 1907. Used ten years.

KENILWORTH

Particular description of goods.—Printing and Writing Paper Commonly Employed for Printing and Writing Purposes.

Ser. No. 27,459. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GRAHAM PAPER CO., St. Louis, Mo. Filed May 17, 1907. Used ten years.

ARCADIA BOND

Particular description of goods.—Printing and Writing Paper Commonly Employed for Printing and Writing Purposes.

Ser. No. 27,500. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) WILLIAM J. WATSON, Oakland, Cal. Filed May 18, 1907. Used ten years.

PLASTIC SLATE

Particular description of goods.—A Preservative and Waterproof Paint.

Ser. No. 28,028. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) H. MUELLER MANUFACTURING COMPANY, Decatur, Ill. Filed June 10, 1907. Used ten years.

MUELLER

Particular description of goods.—Brass and Iron Pipe-Fittings.

Ser. No. 28,412. (CLASS 52. PACKING-HOUSE PRODUCTS.) KINGAN AND COMPANY, LIMITED, Belfast, Ireland, and Indianapolis, Ind. Filed June 27, 1907.

SHAMROCK

Particular description of goods.—Cured Meats and Sausage.

Ser. No. 28,413. (CLASS 52. PACKING-HOUSE PRODUCTS.) KINGAN AND COMPANY, LIMITED, Belfast, Ireland, and Indianapolis, Ind. Filed June 27, 1907.



Particular description of goods.—Cured, Cooked, Canned, and Salted Meats, Lard, and Sausage.

Ser. No. 28,415. (CLASS 52. PACKING-HOUSE PRODUCTS.) KINGAN AND COMPANY, LIMITED, Belfast, Ireland, and Indianapolis, Ind. Filed June 27, 1907.

PORTER

Particular description of goods.—Cured and Salted Meats.

Ser. No. 28,419. (CLASS 52. PACKING-HOUSE PRODUCTS.) KINGAN AND COMPANY, LIMITED, Belfast, Ireland, and Indianapolis, Ind. Filed June 27, 1907.

F.F.V.

Particular description of goods.—Cured Meats.

Ser. No. 28,421. (CLASS 52. PACKING-HOUSE PRODUCTS.) KINGAN AND COMPANY, LIMITED, Belfast, Ireland, and Indianapolis, Ind. Filed June 27, 1907. Used ten years.

KINGAN

Particular description of goods.—Fresh Cured, Cooked, Canned, and Salted Meats, Lard, and Sausage.

Ser. No. 28,573. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) DETMER WOOLEN COMPANY, New York, N. Y. Filed July 2, 1907.



Particular description of goods.—Cotton and Woolen Piece Goods.

Ser. No. 28,579. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) WATKINS PACKING CO., Odessa, Del. Filed July 3, 1907.



Particular description of goods.—Canned Corn and Tomatoes.

Ser. No. 28,583. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) CLIFTON MANUFACTURING COMPANY, Clifton, S. C. Filed July 3, 1907. Used ten years.



CLIFTON

MILLS

CCC

Particular description of goods.—Sheetings, Shirtings, and Drillings.

Ser. No. 28,585. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) SAMUEL GOLDBERG, Cleveland, Ohio. Filed July 3, 1907.



Particular description of goods.—A Remedy for Sleeplessness.

Ser. No. 28,640½. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) OTTO WICKE, Brooklyn, N. Y. Filed July 8, 1907.

BISLAC

The background being red.

Particular description of goods.—A Remedy for Dyspepsia, Chronic Catarrh of the Stomach, Indigestion, and other Diseases of the Stomach.

Ser. No. 28,691. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) LANCELOT WILKINSON, London, England. Filed July 9, 1907.

MEKANO

Particular description of goods.—Preparation for Rendering Coal and other Such Fuel Smokeless and More Combustible.

Ser. No. 28,692. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) DUNHAM BROS., Brattleboro, Vt. Filed July 9, 1907.

WAUKEZY

Particular description of goods.—Rubber Heels.

Ser. No. 28,775. (CLASS 48. DAIRY PRODUCTS.) WILLIS J. ELDRIDGE, Aurora, Ohio. Filed July 13, 1907. Used ten years.

CLOVER HILL FACTORY BRAND XXXX FAMILY FAVORITE CHEESE

Particular description of goods.—Cheese.

Ser. No. 28,780. (CLASS 48. DAIRY PRODUCTS.) WILLIS J. ELDRIDGE, Aurora, Ohio. Filed July 13, 1907. Used ten years.

IMPERIAL
BRAND
XXX
GOSHEN
CHEESE

Particular description of goods.—Cheese.

Ser. No. 28,783. (CLASS 48. DAIRY PRODUCTS.) WILLIS J. ELDRIDGE, Aurora, Ohio. Filed July 13, 1907. Used ten years.

CLOVER
HILL
FACTORY
BRAND
IMPERIAL
XXXX CHEESE

Particular description of goods.—Cheese.

Ser. No. 28,859. (CLASS 30. CROCKERY, EARTHENWARE, AND PORCELAIN.) AMERICAN SANITARY WORKS, New York, N. Y. Filed July 18, 1907.

B.O.T

Particular description of goods.—Earthenware Closet-Bowls.

Ser. No. 29,015. (CLASS 71. TOBACCO PRODUCTS.) JULIUS C. NEWMAN, Cleveland, Ohio. Filed July 24, 1907.

JUDGE WRIGHT



Particular description of goods.—Cigars.

Ser. No. 29,025. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) THE HOCKADAY PAINT COMPANY, Wichita, Kans. Filed July 25, 1907.

SUNFLOWER ENAMEL



Particular description of goods.—Enamel-Paint, Enamel-Varnish, and Enamel.

Ser. No. 29,104. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) ALFRED DEWSBURY, Walsall, England. Filed July 30, 1907.

V.S. NICKEL

Particular description of goods.—Bridle-Bits, Stirrups, and Spurs, All Being Made from Nickel Alloy in Imitation of Precious Metals.

Ser. No. 29,117. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) BOERICKE & TAFEL, Philadelphia, Pa. Filed July 30, 1907.



Particular description of goods.—Remedies for the Treatment of Diseased and Disordered Conditions of the Blood, Stomach, Kidneys, Bladder, Bowels, the Alimentary Canal, Throat, Lungs, and Air-Passages, Skin, Nerves, Heart, Eye, Ear, Membranes of the Nose, Head, and Throat, Brain, Joints, Bones, and Tendons; Coughs, Colds, Catarrh, Dyspepsia, Diarrhea, Dysentery, Fevers, Headaches, Neuralgia and Neuralgic Conditions and Afflictions, Painful and Suppressed Menses, Leucorrhea, Dysmenorrhea, Chlorosis, and other Diseases of the Female Generative Organs, General Debility, Rheumatism and Rheumatic Conditions, Asthma, Scrofula and Scrofulous Conditions, Ecsema and Ecsematous Conditions and Eruptions, Catarrhal Conditions of the Mucous Membranes, Internal and External Inflammation, Piles, Prurigo, Muscular Rheumatism, Sore Nipples, Caking of the Breast, Seasickness, Insomnia, Sore Throat, Obesity, Croup, Roup, Deafness, Grippe, Cancer, Carbuncles, Constipation, Biliousness, Neurasthenia, Goiter, Pneumonia, Lumbago, Gleet, Gonorrhea and other Private Diseases, Erysipelas, Chilblains, Wounds, Boils, Eruptions, Burns, Bruises, Tumors, Abscesses, Felons, Ulcers, Sores, Stings and Bites of Insects, Warts, Cutaneous Growths, Wheals, and Itchings, Sprains, Otorrhea, Fissures of the Anus, Hemorroidal Growths and Afflictions; Suppositories, Pills, Plasters, Salves, Ointments, Tonics, Tinctures, Astringents, Medicated Oils and Medicated Syrups, Toilet Powders, Ointments, Pastes, Lotions, Cosmetics, Tooth Powder and Paste, Hair Tonics and Washes, Toilet Creams, Arnica.

Ser. No. 29,131. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE DAVIS CHEMICAL COMPANY, Denver, Colo. Filed July 31, 1907.

Membros

Particular description of goods.—A Remedy for the Treatment of Coughs, Colds, Hoarseness, and Irritations of the Throat.

Ser. No. 29,134. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) HAPP BROTHERS COMPANY, Macon, Ga. Filed July 31, 1907.



Particular description of goods.—Overalls, Pants, and Denim Jackets.

Ser. No. No. 29,149. (CLASS 68. PUBLICATIONS.) THE EVENING STAR NEWSPAPER CO., Washington, D. C. Filed Aug. 1, 1907.

The Sunday Star.

Particular description of goods.—A Newspaper Published on Sunday.

Ser. No. 29,150. (CLASS 68. PUBLICATIONS.) THE EVENING STAR NEWSPAPER CO., Washington, D. C. Filed Aug. 1, 1907.

The Evening Star.

Particular description of goods.—A Daily Newspaper.

Ser. No. 29,151. (CLASS 68. PUBLICATIONS.) THE WASHINGTON TIMES CO., Washington, D. C. Filed Aug. 1, 1907.

The Washington Times

Particular description of goods.—A Newspaper Issued Daily and Sunday.

Ser. No. 29,173. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HENRY E. TURPIN, Haywards, Cal. Filed Aug. 1, 1907.

Equi Kurine

Particular description of goods.—A Remedy for Coughs and Colds of Horses and Mules.

Ser. No. 29,219. (CLASS 12. MASONRY MATERIALS.) UNION PORTLAND CEMENT COMPANY, Ogden, Utah. Filed Aug. 5, 1907.



RED DEVIL

The conventional representation of the devil and the words "Red Devil," being printed in red.

Particular description of goods.—Portland Cement.

Ser. No. 29,241. (CLASS 12. MASONRY MATERIALS.) IDEAL CONCRETE MACHINERY COMPANY, South Bend, Ind. Filed Aug. 5, 1907.



Particular description of goods.—Waterproofing-Powder for Cement and Concrete.

Ser. No. 29,253. (CLASS 70. STATIONERY NOT OTHERWISE CLASSIFIED.) EBERHARD FABER, New York, N. Y. Filed Aug. 6, 1907.

COMET

Particular description of goods.—Rubber Erasers.

Ser. No. 29,292. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) HATTIE ESTELLE HARRIS, Newark, N. J. Filed Aug. 8, 1907.



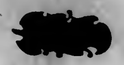
Particular description of goods.—Fruit-Butter.

Ser. No. 29,302. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) COSBY SHOE CO., INCORPORATED, Lynchburg, Va. Filed Aug. 8, 1907.



Particular description of goods.—Leather Boots and Shoes.

Ser. No. 29,319. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) J. H. WINCHELL & CO INC., Haverhill, Mass. Filed Aug. 9, 1907.



Particular description of goods.—Leather Boots and Shoes.

Ser. No. 29,337. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) PARAMOUNT KNITTING COMPANY, Chicago, Ill. Filed Aug. 10, 1907.

DRESS PARADE

Particular description of goods.—Hosiery.

Ser. No. 29,341. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) HENRY BERKELE, New York, N. Y. Filed Aug. 10, 1907.



Particular description of goods.—Razors.

Ser. No. 29,347. (CLASS 47. CONFECTIONERY.) JOHN A. WITT, Chicago, Ill. Filed Aug. 12, 1907.

HANS & FRITZ

Particular description of goods.—Specially-Prepared Corn Sweetened and Flavored with Honey and Specially-Prepared Wheat Sweetened and Flavored with Honey.

Ser. No. 29,374. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) ALEXANDER M. SCHNEIDER, North Manchester, Ind. Filed Aug. 13, 1907.

Beau Monde

Particular description of goods.—Silk and Muslin Underskirts.

Ser. No. 29,388. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) GENERAL STORAGE BATTERY CO., Boonton, N. J., and New York, N. Y. Filed Aug. 14, 1907.

Permanbloc

Particular description of goods.—Storage Batteries and Storage-Battery Plates.

Ser. No. 29,450. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) B. S. FLERSHEIM MERCANTILE CO., Kansas City, Mo. Filed Aug. 19, 1907.

Old Kingdom

Particular description of goods.—Whisky, Brandy, and Gin.

Ser. No. 29,453. (CLASS 55. WINES.) GREAT WESTERN WINE CO., Chicago, Ill. Filed Aug. 19, 1907.

SILVER PLUME



Particular description of goods.—Wine.

Ser. No. 29,454. (CLASS 55. WINES.) GREAT WESTERN WINE CO., Chicago, Ill. Filed Aug. 19, 1907.

WESTWINE



Particular description of goods.—Wine.

Ser. No. 29,463. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) HANNAH & HOGO, Chicago, Ill. Filed Aug. 19, 1907.



Particular description of goods.—Blackberry and Apricot Cordials.

Ser. No. 29,468. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) JULIUS H. MICHAEL, Detroit, Mich. Filed Aug. 19, 1907.

St. Michael

Particular description of goods.—Whisky.

Ser. No. 29,486. (CLASS 55. WINES.) KRUG & Co., Rheims, France. Filed Aug. 20, 1907.



The letters, figures, and lines being in gold upon a red ground.

Particular description of goods.—Champagne-Wine.

Ser. No. 29,487. (CLASS 55. WINES.) KRUG & Co., Rheims, France. Filed Aug. 20, 1907. Used ten years.



Particular description of goods.—Champagne-Wine.

Ser. No. 29,513. (CLASS 59. HOROLOGICAL INSTRUMENTS.) MATHEY BROS., MATHEZ & CO., New York, N. Y. Filed Aug. 22, 1907. Used ten years.

C. H. MEYLAN.

Particular description of goods.—Watches.

Ser. No. 29,519. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) A. G. HYDE & SONS, New York, N. Y. Filed Aug. 22, 1907.

Hyperion

Particular description of goods.—Bleached, Unbleached, Dyed, and Printed Textile Fabrics.

Ser. No. 29,524. (CLASS 1. ANIMAL.) C. SCHMITZ & Co., New York, N. Y. Filed Aug. 22, 1907.



Particular description of goods.—Bristles.

Ser. No. 29,538. (CLASS 9. EXPLOSIVES.) EDWARD H. WAGNER, New York, N. Y. Filed Aug. 23, 1907.

METEOR SPARKLERS

Particular description of goods.—Stick-Fireworks of Wood or Metal in Different Shapes.

Ser. No. 29,539. (CLASS 9. EXPLOSIVES.) EDWARD H. WAGNER, New York, N. Y. Filed Aug. 23, 1907.

GOLD SPARKLERS

Particular description of goods.—Stick-Fireworks of Wood or Metal in Different Shapes.

Ser. No. 29,540. (CLASS 9. EXPLOSIVES.) EDWARD H. WAGNER, New York, N. Y. Filed Aug. 23, 1907.

BRILLIANT STAR SPARKLERS

Particular description of goods.—Stick-Fireworks of Wood or Metal in Different Shapes.

Ser. No. 29,558. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE ASSOCIATED SHOE COMPANY, Hartford, Conn. Filed Aug. 24, 1907.

TASCO

Particular description of goods.—Leather Boots, Leather Shoes, Leather Pumps, Leather Sandals, and Leather Slippers.

Ser. No. 29,569. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HALL & CUMMINGS, St. Louis, Mo. Filed Aug. 24, 1907.

U-LIV-OLD

Particular description of goods.—A Remedy for Disorders of the Stomach, Liver, and Blood.

Ser. No. 29,627. (CLASS 68. PUBLICATIONS.) THE CLASS JOURNAL CO., New York, N. Y. Filed Aug. 28, 1907.

THE AUTOMOBILE

Particular description of goods.—A Magazine Issued Weekly.

Ser. No. 29,651. (CLASS 59. HOROLOGICAL INSTRUMENTS.) BYRON L. STRASBURGER, New York, N. Y. Filed Aug. 28, 1907.

WOODMERE

Particular description of goods.—Watches and Watch-Movements.

Ser. No. 29,658. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) MORRIS HERRMANN & CO., New York, N. Y. Filed Aug. 29, 1907.



Particular description of goods.—Paris-Green.

Ser. No. 29,659. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) MORRIS HERRMANN & Co., New York, N. Y. Filed Aug. 29, 1907.



Particular description of goods.—Paris-Green.

Ser. No. 29,687. (CLASS 68. PUBLICATIONS.) THE WASHINGTON POST COMPANY, Washington, D. C. Filed Aug. 30, 1907.

The Washington Post.

Particular description of goods.—Newspapers.

Ser. No. 29,693. (CLASS 28. SEWING-MACHINES AND ATTACHMENTS.) THE STANDARD SEWING MACHINE COMPANY, Cleveland, Ohio. Filed Aug. 31, 1907. Used ten years.

DRAGON.

Particular description of goods.—Sewing-Machines and Attachments.

Ser. No. 29,695. (CLASS 28. SEWING-MACHINES AND ATTACHMENTS.) THE STANDARD SEWING MACHINE COMPANY, Cleveland, Ohio. Filed Aug. 31, 1907. Used ten years.

"Standard" Grand.

Particular description of goods.—Sewing-Machines and Attachments.

Ser. No. 29,696. (CLASS 28. SEWING-MACHINES AND ATTACHMENTS.) THE STANDARD SEWING MACHINE COMPANY, Cleveland, Ohio. Filed Aug. 31, 1907. Used ten years.

NEW HOME

Particular description of goods.—Sewing-Machines and Attachments.

Ser. No. 29,697. (CLASS 28. SEWING-MACHINES AND ATTACHMENTS.) THE STANDARD SEWING MACHINE COMPANY, Cleveland, Ohio. Filed Aug. 31, 1907. Used ten years.

STANDARD.

Particular description of goods.—Sewing-Machines and Attachments.

Ser. No. 29,699. (CLASS 28. SEWING-MACHINES AND ATTACHMENTS.) THE STANDARD SEWING MACHINE COMPANY, Cleveland, Ohio. Filed Aug. 31, 1907. Used ten years.

Favorite

Particular description of goods.—Sewing-Machines and Attachments.

Ser. No. 29,709. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) POLK MILLER DRUG CO., Richmond, Va. Filed Aug. 31, 1907. Used ten years.

SERGEANT'S

Particular description of goods.—The Following-Named Dog Remedies: Condition-Pills, Arsenic and Iron Pills, Soft Carbolic Soap, Mange-Ointment, Remedy for Fleas, Canker-Wash, Remedy for Worms, Rheumatic Tablets, and Constipation Cure.

Ser. No. 29,718. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) OGDEN AND SHIMER, Middletown, N. Y. Filed Sept. 3, 1907.

MYSTIC

Particular description of goods.—A Toilet Cream.

TRADE-MARKS

REGISTERED OCTOBER 8, 1907.

65,468. VALVES. THE ASHTON VALVE COMPANY, Boston, Mass.
Filed July 1, 1907. Serial No. 28,517. PUBLISHED AUGUST 6, 1907.

65,469. CERTAIN MACHINERY PACKING. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,497. PUBLISHED AUGUST 6, 1907.

65,470. CERTAIN MACHINERY PACKING. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,498. PUBLISHED AUGUST 6, 1907.

65,471. BARBERS' ANTISEPTICS. ROLLO W. BROWNE, Washington, D. C.
Filed June 19, 1907. Serial No. 28,241. PUBLISHED AUGUST 6, 1907.

65,472. DISINFECTANTS. ROLLO W. BROWNE, Washington, D. C.
Filed June 19, 1907. Serial No. 28,242. PUBLISHED AUGUST 6, 1907.

65,473. COLOR-SETTING COMPOUND USED IN DYEING. AUG. ELHARDT SÖHNE, Dietmannsried, Germany.
Filed March 8, 1907. Serial No. 25,841. PUBLISHED AUGUST 6, 1907.

65,474. WIRE FENCE. FARMERS' FENCE CO., Morton, Ill.
Filed November 20, 1905. Serial No. 14,860. PUBLISHED AUGUST 6, 1907.

65,475. FLEXIBLE METALLIC SPRAYS. THE FLEXO SPRAY CO., New York, N. Y.
Filed June 26, 1907. Serial No. 28,394. PUBLISHED AUGUST 6, 1907.

65,476. LAUNDRY STARCH. GRAND UNION TEA CO., Brooklyn, N. Y.
Filed July 7, 1905. Serial No. 9,869. PUBLISHED AUGUST 6, 1907.

65,477. PULP-BOARD. INDESTRUCTIBLE FIBRE COMPANY, Massena and New York, N. Y.
Filed May 15, 1907. Serial No. 27,372. PUBLISHED AUGUST 6, 1907.

65,478. PULP-BOARD. INDESTRUCTIBLE FIBRE COMPANY, Massena and New York, N. Y.
Filed May 15, 1907. Serial No. 27,373. PUBLISHED AUGUST 6, 1907.

65,479. WRITING-PAPER. J. W. BUTLER PAPER CO., Chicago, Ill.
Filed July 8, 1907. Serial No. 28,641. PUBLISHED AUGUST 6, 1907.

65,480. WRITING-PAPER. J. W. BUTLER PAPER CO., Chicago, Ill.
Filed July 8, 1907. Serial No. 28,642. PUBLISHED AUGUST 6, 1907.

65,481. WRITING-PAPER. J. W. BUTLER PAPER CO., Chicago, Ill.
Filed July 8, 1907. Serial No. 28,648. PUBLISHED AUGUST 6, 1907.

65,482. WRITING-PAPER. J. W. BUTLER PAPER CO., Chicago, Ill.
Filed July 8, 1907. Serial No. 28,652. PUBLISHED AUGUST 6, 1907.

65,483. WRITING-PAPER. J. W. BUTLER PAPER CO., Chicago, Ill.
Filed July 8, 1907. Serial No. 28,653. PUBLISHED AUGUST 6, 1907.

65,484. WRITING-PAPER. J. W. BUTLER PAPER CO., Chicago, Ill.
Filed July 8, 1907. Serial No. 28,654. PUBLISHED AUGUST 6, 1907.

65,485. WRITING-PAPER. J. W. BUTLER PAPER CO., Chicago, Ill.
Filed July 8, 1907. Serial No. 28,657. PUBLISHED AUGUST 6, 1907.

65,486. WRITING-PAPER. J. W. BUTLER PAPER CO., Chicago, Ill.
Filed July 8, 1907. Serial No. 28,659. PUBLISHED AUGUST 6, 1907.

65,487. WRITING-PAPER. J. W. BUTLER PAPER CO., Chicago, Ill.
Filed July 8, 1907. Serial No. 28,661. PUBLISHED AUGUST 6, 1907.

65,488. WRITING-PAPER. J. W. BUTLER PAPER CO., Chicago, Ill.
Filed July 8, 1907. Serial No. 28,644. PUBLISHED AUGUST 6, 1907.

65,489. CERTAIN PAPER. JAMES R. CROMPTON & BROTHERS, LIMITED, Elton Paper Mills, near Bury, England.
Filed August 25, 1905. Serial No. 11,992. PUBLISHED AUGUST 6, 1907.

65,490. STEEL. JNO. HY. ANDREW & CO. LD., Sheffield, England.
Filed May 25, 1907. Serial No. 27,641. PUBLISHED AUGUST 6, 1907.

65,491. CERTAIN METAL GOODS. JOHN A. ROEBLING'S SONS CO., Trenton, N. J.
Filed February 12, 1906. Serial No. 16,920. PUBLISHED AUGUST 6, 1907.

65,492. CERTAIN METAL GOODS. JOHN A. ROEBLING'S SONS CO., Trenton, N. J.
Filed February 24, 1906. Serial No. 17,326. PUBLISHED AUGUST 6, 1907.

65,493. CERTAIN WIRE. JOHN A. ROEBLING'S SONS CO., Trenton, N. J.
Filed April 27, 1907. Serial No. 26,955. PUBLISHED AUGUST 6, 1907.

65,494. CREAM OF TARTAR, BICARBONATE OF SODA, AND SALERATUS. JOHN BIRD COMPANY, Rockland, Me.
Filed May 15, 1907. Serial No. 27,397. PUBLISHED AUGUST 6, 1907.

65,495. ANTIFRICTION METALS. THE KOOL METAL MANUFACTURING COMPANY, New York, N. Y.
Filed May 22, 1907. Serial No. 27,566. PUBLISHED AUGUST 6, 1907.

65,496. CERTAIN PAPER. MITTINEAGUE PAPER COMPANY, West Springfield, Mass.
Filed July 8, 1907. Serial No. 28,671. PUBLISHED AUGUST 6, 1907.

65,497. ANIMAL-TRAPS. ONEIDA COMMUNITY LTD., Oneida and Niagara Falls, N. Y.
Filed May 25, 1906. Serial No. 19,862. PUBLISHED AUGUST 6, 1907.

65,498. ANIMAL-TRAPS. ONEIDA COMMUNITY LTD., Oneida and Niagara Falls, N. Y.
Filed May 25, 1906. Serial No. 19,864. PUBLISHED AUGUST 6, 1907.

65,499. RUBBER PACKING, GASKETS, AND HOSE. PENNSYLVANIA RUBBER COMPANY, Jeannette, Pa.
Filed July 6, 1906. Serial No. 20,762. PUBLISHED OCTOBER 16, 1906.

65,500. TRACING-PAPER. EDWARD G. SOLTMANN, New York, N. Y.
Filed October 5, 1906. Serial No. 22,502. PUBLISHED AUGUST 6, 1907.

65,501. WATCHES, PARTS OF WATCHES, AND WATCH-CASES. A. WITTNAUER CO., New York, N. Y.
Filed May 23, 1907. Serial No. 27,586. PUBLISHED AUGUST 6, 1907.

65,502. BREAD AND BISCUITS. CALLARD, STEWART AND WATT, LIMITED, London, England.
Filed May 2, 1907. Serial No. 27,062. PUBLISHED JUNE 4, 1907.

65,503. FLAVORING EXTRACTS. GRAND UNION TEA CO., Brooklyn, N. Y.
Filed July 7, 1905. Serial No. 9,868. PUBLISHED AUGUST 6, 1907.

65,504. TRADING-STAMPS. THE INTERCHANGEABLE REBATE SYSTEM COMPANY, Denver, Colo.
Filed April 27, 1907. Serial No. 26,961. PUBLISHED JUNE 18, 1907.

65,505. CERTAIN WATERPROOFING COMPOUND. THEODORE F. KOCH, St. Paul, Minn.
Filed April 15, 1907. Serial No. 26,719. PUBLISHED AUGUST 6, 1907.

65,506. PHOTOGRAPHIC DRY-PLATES AND FILMS. M. A. SEED DRY PLATE COMPANY, St. Louis, Mo.
Filed May 15, 1907. Serial No. 27,386. PUBLISHED AUGUST 6, 1907.

65,507. MEN'S SOFT AND STIFF FELT HATS. THE MAXIM HAT WORKS, New York, N. Y.
Filed April 26, 1907. Serial No. 26,942. PUBLISHED AUGUST 6, 1907.

65,508. TEAS AND COFFEES. THE MCGEE MERCANTILE CO., Victor, Colo.
Filed February 18, 1907. Serial No. 25,375. PUBLISHED AUGUST 6, 1907.

65,509. LEATHER BOOTS, SHOES, AND SLIPPERS. POWELL BROTHERS SHOE COMPANY, New York, N. Y.
Filed June 10, 1907. Serial No. 28,030. PUBLISHED AUGUST 6, 1907.

65,510. WITHDRAWN.

65,511. WOOL SOLES. DAVID I. ROGOW, Worcester, Mass.
Filed June 28, 1907. Serial No. 28,445. PUBLISHED AUGUST 6, 1907.

65,512. WHEAT-FLOUR. SHEFFIELD-KING MILLING CO., Minneapolis, Minn.
Filed July 8, 1907. Serial No. 28,673. PUBLISHED AUGUST 6, 1907.

65,513. REMEDY FOR RHEUMATISM. LOUIS THANOS, Galveston, Tex.
Filed May 18, 1907. Serial No. 27,498. PUBLISHED AUGUST 6, 1907.

65,514. MUSHROOMS, CEPAS, CANNED VEGETABLES, JELLIES, TRUFFLES, CAPERS, AND OLIVES. VON BREMEN, MACMONNIES & CO., New York, N. Y.
Filed May 23, 1907. Serial No. 27,608. PUBLISHED AUGUST 6, 1907.

65,515. WEIGHING-SCALES. THE W. BINGHAM COMPANY, Cleveland, Ohio.
Filed May 13, 1907. Serial No. 27,339. PUBLISHED AUGUST 6, 1907.

65,516. LEATHER BOOTS AND SHOES. J. L. WALKER & CO., Lynn, Mass.
Filed October 22, 1906. Serial No. 22,842 PUBLISHED DECEMBER 11, 1906.

65,517. PREPARED SMOKING AND CHEWING TOBACCO. WARFIELD, PRATT HOWELL COMPANY, Sioux City, Des Moines, and Cedar Rapids, Iowa.
Filed May 8, 1907. Serial No. 27,245. PUBLISHED AUGUST 6, 1907.

65,518. CANDY. PHILIP WUNDERLE, Philadelphia, Pa.
Filed January 3, 1907. Serial No. 24,427. PUBLISHED AUGUST 6, 1907.

65,519. METAL-POLISH. LÉON ADROT, New York, N. Y.
Filed July 3, 1907. Serial No. 28,581. PUBLISHED AUGUST 6, 1907.

65,520. COFFEE. BAKER & COMPANY, Minneapolis, Minn.
Filed June 29, 1907. Serial No. 28,481. PUBLISHED AUGUST 6, 1907.

65,521. REFRIGERATORS. THE BALDWIN REFRIGERATOR CO., Burlington, Vt.
Filed July 8, 1907. Serial No. 28,634. PUBLISHED AUGUST 6, 1907.

65,522. WHEAT-FLOUR. CLIMAX MILLING CO., Hopkinsville, Ky.
Filed June 13, 1907. Serial No. 28,091. PUBLISHED AUGUST 6, 1907.

65,523. GALL-SALVE. FRANK B. DENNIE, Minneapolis. Minn.
Filed May 29, 1907. Serial No. 27,763. PUBLISHED AUGUST 6, 1907.

65,524. CHEESE. WILLIS J. ELDRIDGE, Aurora, Ohio.
Filed July 13, 1907. Serial No. 28,776. PUBLISHED AUGUST 6, 1907.

65,525. CHEESE. WILLIS J. ELDRIDGE, Aurora, Ohio.
Filed July 13, 1907. Serial No. 28,781. PUBLISHED AUGUST 6, 1907.

65,526. WINTER-WHEAT FLOUR. THE HALL & WOODS CO., Lima, Ohio.
Filed June 17, 1907. Serial No. 28,224. PUBLISHED AUGUST 6, 1907.

65,527. CERTAIN WORKMEN'S CLOTHING. J. H. RICE & FRIEDMANN CO., Milwaukee, Wis.
Filed June 11, 1907. Serial No. 28,038. PUBLISHED AUGUST 6, 1907.

65,528. CERTAIN WIRE. JOHN A. ROEBLING'S SONS CO., Trenton, N. J.
Filed April 27, 1907. Serial No. 26,956. PUBLISHED AUGUST 6, 1907.

65,529. FELT MATTRESSES. JONES DRY GOODS CO., Kansas City, Mo.
Filed July 6, 1907. Serial No. 28,632. PUBLISHED AUGUST 6, 1907.

65,530. CERTAIN HEADWEAR. LAMSON & HUBBARD, Boston, Mass.
Filed May 2, 1907. Serial No. 27,068. PUBLISHED AUGUST 6, 1907.

65,531. CERTAIN HEADWEAR. LAMSON & HUBBARD, Boston, Mass.
Filed May 3, 1907. Serial No. 27,084. PUBLISHED AUGUST 6, 1907.

65,532. CERTAIN HEADWEAR. LAMSON & HUBBARD, Boston, Mass.
Filed May 4, 1907. Serial No. 27,119. PUBLISHED AUGUST 6, 1907.

65,533. CERTAIN HEADWEAR. LAMSON & HUBBARD, Boston, Mass.
Filed May 8, 1907. Serial No. 27,246. PUBLISHED AUGUST 6, 1907.

65,534. MACARONI AND VERMICELLI. LIBERTY MACCHERONI MFG. CO., Buffalo, N. Y.
Filed July 5, 1907. Serial No. 28,602. PUBLISHED AUGUST 6, 1907.

65,535. SOAP. THE M. WERK CO., Cincinnati, Ohio.
Filed June 10, 1907. Serial No. 28,022. PUBLISHED AUGUST 6. 1907.

65,536. BREAD. HENRY MATTHAEI, Kansas City, Mo.
Filed July 6, 1907. Serial No. 28,631. PUBLISHED AUGUST 6, 1907.

65,537. TEA. MENOWN & GREGORY, St. Louis, Mo.
Filed June 28, 1907. Serial No. 28,453. PUBLISHED AUGUST 6, 1907.

65,538. ANIMAL-TRAPS. ONEIDA COMMUNITY LT'D, Oneida and Niagara Falls, N. Y
Filed May 25, 1906. Serial No. 19,863. PUBLISHED AUGUST 6, 1907.

65,539. CERTAIN HATS AND CAPS. PARHAM-MATTHEWS HAT CO., Cairo, Ill.
Filed May 15, 1907. Serial No. 27,388. PUBLISHED AUGUST 6, 1907.

65,540. SOUND RECORDING OR REPRODUCING MACHINES, PARTS THEREOF, AND RECORDS THEREFOR. UNIVERSAL TALKING MACHINE MANUFACTURING COMPANY, New York, N. Y., and Newark, N J.
Filed May 27, 1907. Serial No. 27,667. PUBLISHED AUGUST 6, 1907.

65,541. CANNED FRUITS AND VEGETABLES. WAYNE COUNTY CANNING COMPANY (LIMITED), Marion, N. Y.
Filed July 3, 1907. Serial No. 28,593. PUBLISHED AUGUST 6, 1907.

65,542. CERTAIN ROOFING AND BUILDING MATERIALS. WEATHERPROOF MANUFACTURING COMPANY, St. Louis, Mo.
Filed June 17, 1907. Serial No. 28,221. PUBLISHED AUGUST 6, 1907.

65,543. WHEAT-FLOUR. THE WESTERN STAR MILL COMPANY, Salina, Kans.
Filed July 10, 1907. Serial No. 28,704. PUBLISHED AUGUST 6, 1907.

65,544. CHEWING AND SMOKING TOBACCO. THE AMERICAN TOBACCO COMPANY, New York, N. Y.
Filed July 6, 1907. Serial No. 28,609. PUBLISHED AUGUST 6, 1907.

65,545. CHEWING AND SMOKING TOBACCO. THE AMERICAN TOBACCO COMPANY, New York, N. Y.
Filed July 6, 1907. Serial No. 28,611. PUBLISHED AUGUST 6, 1907.

65,546. CHEWING AND SMOKING TOBACCO. THE AMERICAN TOBACCO COMPANY, New York, N. Y.
Filed July 6, 1907. Serial No. 28,612. PUBLISHED AUGUST 6, 1907.

65,547. CIGARS, CHEROOTS, AND LITTLE CIGARS. VALENTINO M. ANTUONO, Tampa, Fla.
Filed July 3, 1907. Serial No. 28,574. PUBLISHED AUGUST 6, 1907.

65,548. CIGARS, CHEROOTS, AND LITTLE CIGARS. VALENTINO M. ANTUONO, Tampa, Fla.
Filed July 3, 1907. Serial No. 28,576. PUBLISHED AUGUST 6, 1907.

65,549. CERTAIN MEDICINE. CURT BORCHERT. Berlin, Germany.
Filed April 24, 1906. Serial No. 19,034. PUBLISHED AUGUST 6, 1907.

65,550. CERTAIN MEDICINES. THE DAVIS-BRIDAHAM DRUG COMPANY, Denver, Colo.
Filed March 16, 1907. Serial No. 26,001. PUBLISHED AUGUST 6, 1907.

65,551. CLEANING FLUID. THE DAVIS CHEMICAL COMPANY, Denver, Colo.
Filed July 11, 1907. Serial No. 28,720. PUBLISHED AUGUST 6, 1907.

65,552. WEIGHING-SCALES. E. AND T. FAIRBANKS AND COMPANY, St. Johnsbury, Vt.
Filed June 28, 1907. Serial No. 28,450. PUBLISHED AUGUST 6, 1907.

65,553. DENTAL TOOTH-PASTE. GOODRICH & SIQVELAND, St. Paul, Minn.
Filed June 29, 1907. Serial No. 28,466. PUBLISHED AUGUST 6, 1907.

65,554. REMEDY FOR CATARRH, HAY-FEVER, AND COLDS IN THE HEAD. HAKKA CHEMICAL COMPANY, Boston, Mass.
Filed July 6, 1907. Serial No. 28,619. PUBLISHED AUGUST 6, 1907.

65,555. TOILET POWDERS, TOILET WATERS, AND PERFUMES. HANA ZONO COMPANY, Chicago, Ill.
Filed April 23, 1906. Serial No. 19,028. PUBLISHED AUGUST 6, 1907.

65,556. CERTAIN MEDICINE. THE HATTON CHEMICAL COMPANY, Denver, Colo.
Filed June 25, 1907. Serial No. 28,378. PUBLISHED AUGUST 6, 1907.

65,557. MEDICINAL TONIC FOR ANEMIC CONDITIONS. HERFF & WILDING, San Antonio, Tex.
Filed June 28, 1907. Serial No. 28,452. PUBLISHED AUGUST 6, 1907.

65,558. CERTAIN MEDICINES. CHARLES W. HORN, Slatington, Pa.
Filed August 22, 1905. Serial No. 11,916. PUBLISHED AUGUST 6, 1907.

65,559. RAIN-COATS, COATS, WAISTS, AND SKIRTS. I. A. HARRIS & BRO., New York, N. Y.
Filed June 20, 1907. Serial No. 28,263. PUBLISHED AUGUST 6, 1907.

65,560. STERLING-SILVER TABLEWARE. JOS. MAYER & BROS., Seattle, Wash.
Filed June 14, 1907. Serial No. 28,127. PUBLISHED AUGUST 6, 1907.

65,561. BEER. JOSEPH JUNK BREWING COMPANY, Chicago, Ill.
Filed June 17, 1907. Serial No. 28,210. PUBLISHED AUGUST 6, 1907.

65,562. MEN'S AND BOYS' COATS, VESTS, TROUSERS AND OVERCOATS. KENTUCKY JEANS CLOTHING COMPANY, Louisville, Ky.
Filed April 28, 1905. Serial No. 3,504. PUBLISHED NOVEMBER 13, 1906.

65,563. CERTAIN HEADWEAR. LAMSON & HUBBARD, Boston, Mass.
Filed January 3, 1907. Serial No. 24,424. PUBLISHED AUGUST 6, 1907.

65,564. REMEDY FOR DYSPEPSIA AND INTESTINAL DISORDERS. HUGO LITZ COMPANY, New York, N. Y.
Filed May 27, 1907. Serial No. 27,677. PUBLISHED AUGUST 6, 1907.

65,565. PERFUMES, TOILET WATERS, AND PERFUMERY EXTRACTS. FREDERICK LOESER & CO., New York, N. Y.
Filed June 27, 1907. Serial No. 28,427. PUBLISHED AUGUST 6, 1907.

65,566. CERTAIN BRUSHES AND BROOMS. LORD & TAYLOR, New York, N. Y.
Filed June 1, 1907. Serial No. 27,836. PUBLISHED AUGUST 6, 1907.

65,567. CERTAIN KNITTED GOODS. NOVELTY KNITTING CO., Albany, N. Y.
Filed May 29, 1907. Serial No. 27,769. PUBLISHED AUGUST 6, 1907.

65,568. BOYS' AND MEN'S OVERALLS, COATS, AND PANTS. THE PANDORA OVERALL COMPANY, Pandora, Ohio.
Filed June 19, 1907. Serial No. 28,256. PUBLISHED AUGUST 6, 1907.

65,569. FIRELESS COOK-STOVES. THE REPUBLIC METALWARE COMPANY, Buffalo, N. Y.
Filed July 5, 1907. Serial No. 28,605. PUBLISHED AUGUST 6, 1907.

65,570. AMALGAM FILLING FOR TEETH. JOHN B. Z. ROBERTS, Kansas City, Mo.
Filed July 12, 1907. Serial No. 28,759. PUBLISHED AUGUST 6, 1907.

65,571. VETERINARY REMEDY FOR EXTERNAL APPLICATION. SANDERSON & CO., Madelia, Minn.
Filed April 8, 1907. Serial No. 26,570. PUBLISHED AUGUST 6, 1907.

65,572. LEATHER GLOVES. SARANAC GLOVE COMPANY, Littleton, N. H.
Filed April 25, 1907. Serial No. 26,902. PUBLISHED AUGUST 6, 1907.

65,573. BREATH-TABLETS. SCHANDEIN & LIND, Philadelphia, Pa.
Filed June 29, 1907. Serial No. 28479. PUBLISHED AUGUST 6, 1907.

65,574. BREATH-TABLETS. SCHANDEIN & LIND, Philadelphia, Pa.
Filed June 29, 1907. Serial No. 28,480. PUBLISHED AUGUST 6, 1907.

65,575. PERFUMERY AND FACE-TINTS. SOCIÉTÉ GUERLAIN, Paris, France.
Filed June 7, 1906. Serial No. 20,105. PUBLISHED AUGUST 6, 1907.

65,576. PERFUMERY. SOCIÉTÉ GUERLAIN, Paris, France.
Filed June 7, 1906. Serial No. 20,106. PUBLISHED AUGUST 6, 1907.

65,577. CERTAIN MEDICINES. W. F. SEVERA COMPANY, Cedar Rapids, Iowa.
Filed June 11, 1907. Serial No. 28,054. PUBLISHED AUGUST 6, 1907.

65,578. CHOCOLATES AND CANDY. WALLACE & Co., New York, N. Y.
Filed June 1, 1907. Serial No. 27,824. PUBLISHED AUGUST 6, 1907.

65,579. CHOCOLATES AND CANDY. WALLACE & Co., New York, N. Y.
Filed June 1, 1907. Serial No. 27,822. PUBLISHED AUGUST 6, 1907.

65,580. FLUID DETERGENT. THE ZOZOENE MANUFACTURING COMPANY, Tampa, Fla.
Filed July 11, 1907. Serial No. 28,731. PUBLISHED AUGUST 6, 1907.

65,581. CERTAIN PAINTS AND PAINTERS' MATERIALS. ANDREW HANLEY COMPANY, Savannah, Ga.
Filed July 3, 1907. Serial No. 28,586. PUBLISHED AUGUST 6, 1907.

65,582. SILK PIECE GOODS. CHENEY BROTHERS, South Manchester, Conn.
Filed July 1, 1907. Serial No. 28,519. PUBLISHED AUGUST 6, 1907.

65,583. SALVES, SOFT SALVES, OINTMENTS, AND UNGUENTS. J. W. COLE & CO., Black River Falls, Wis.
Filed June 12, 1907. Serial No. 28,069. PUBLISHED AUGUST 6, 1907.

65,584. COMB-POLISH. THE COLLONOID COMPANY, Leominster, Mass.
Filed June 25, 1907. Serial No. 28,377. PUBLISHED AUGUST 6, 1907

65,585. WHISKY. PATRICK DONAGHUE, Hartford, Conn.
Filed June 22, 1907. Serial No. 28,303. PUBLISHED AUGUST 6, 1907.

65,586. ELECTRIC INSULATING MATERIAL. ELECTRIC SERVICE SUPPLIES CO., Philadelphia, Pa.
Filed April 29, 1907. Serial No. 26,984. PUBLISHED AUGUST 6, 1907.

65,587. SHEETINGS AND DRILLINGS. EXPOSITION COTTON MILLS, Atlanta, Ga.
Filed February 23, 1906. Serial No. 17,256. PUBLISHED AUGUST 6, 1907.

65,588. BLEACHED AND UNBLEACHED COTTON PIECE GOODS. EVAN J. FRASER-CAMPBELL, New York, N. Y.
Filed April 3, 1906. Serial No. 18,461. PUBLISHED AUGUST 6, 1907.

65,589. BLEACHED AND UNBLEACHED COTTON PIECE GOODS. EVAN J. FRASER-CAMPBELL, New York, N. Y.
Filed April 1, 1907. Serial No. 26,377. PUBLISHED AUGUST 6, 1907.

65,590. BLEACHED AND UNBLEACHED COTTON PIECE GOODS. EVAN J. FRASER-CAMPBELL, New York, N. Y.
Filed April 1, 1907. Serial No. 26,379. PUBLISHED AUGUST 6, 1907.

65,591. RYE AND BOURBON WHISKIES. W. C. FULCHER, near Staunton, Va.
Filed February 28, 1907. Serial No. 26,654. PUBLISHED AUGUST 6, 1907.

65,592. WOVEN COTTON PIECE GOODS. HILL MANUFACTURING COMPANY, Lewiston, Me.
Filed June 4, 1907. Serial No. 27,875. PUBLISHED AUGUST 6, 1907.

65,593. WOVEN COTTON PIECE GOODS. HILL MANUFACTURING COMPANY, Lewiston, Me.
Filed June 4, 1907. Serial No. 27,876. PUBLISHED AUGUST 6, 1907.

65,594. STOVES, RANGES, AND HEATERS. HOOSIER STOVE CO., Marion, Ind.
Filed July 2, 1907. Serial No. 28,563. PUBLISHED AUGUST 6, 1907.

65,595. COTTON PIECE GOODS AND BLANKETS. JACKSON COMPANY, Nashua, N. H.
Filed August 31, 1906. Serial No. 21,830. PUBLISHED AUGUST 6, 1907.

65,596. WHISKY, BRANDY, RUM, AND GIN. M. WOLLSTEIN & Co., Omaha, Nebr.
Filed January 30, 1907. Serial No. 25,022. PUBLISHED AUGUST 6, 1907.

65,597. PORTABLE BAKE-OVENS. MIDDLEBY OVEN MANUFACTURING COMPANY, Chicago, Ill.
Filed January 12, 1907. Serial No. 24,602. PUBLISHED AUGUST 6, 1907.

65,598. FURNITURE-POLISH. ORCHARD & WILHELM CARPET CO., Omaha, Nebr.
Filed July 16, 1907. Serial No. 28,822. PUBLISHED AUGUST 6, 1907.

65,599. LACQUER OR VARNISH. THE SHERWIN-WILLIAMS CO., Cleveland, Ohio.
Filed June 28, 1907. Serial No. 28,457. PUBLISHED AUGUST 6, 1907.

65,600. DRY COLORS AND COLORS IN OIL. SIEMON & ELTING, New York, N. Y.
Filed January 19, 1907. Serial No. 24,776. PUBLISHED AUGUST 6, 1907.

65,601. WHISKY. LEOPOLD SONNENSCHEIN, Chicago, Ill.
Filed June 25, 1907. Serial No. 28,381. PUBLISHED AUGUST 6, 1907.

65,602. PAINT, OILS, VARNISHES, AND JAPANS. WORDEN MEEKER CO., INCORPORATED, Oakland, Cal.
Filed May 18, 1907. Serial No. 27,501. PUBLISHED AUGUST 6, 1907.

65,603. CERTAIN HAND-TOOLS. ABNER DOBLE COMPANY, San Francisco, Cal.
Filed March 20, 1907. Serial No. 26,085. PUBLISHED AUGUST 6, 1907.

65,604. AIR CLEANING MACHINERY AND PARTS THEREOF. AMERICAN AIR CLEANING COMPANY, Milwaukee, Wis.
Filed May 13, 1907. Serial No. 27,319. PUBLISHED AUGUST 6, 1907.

65,605. ELECTRIC BATTERIES. AMPERE MANUFACTURING CO., New York, N. Y.
Filed April 17, 1907. Serial No. 26,752. PUBLISHED AUGUST 6, 1907.

65,606. WINDMILLS. BAKER MANUFACTURING COMPANY Evansville, Wis.
Filed July 6, 1907. Serial No. 28,613. PUBLISHED AUGUST 6, 1907.

65,607. HOISTS. THE CHISHOLM & MOORE MANUFACTURING COMPANY, Cleveland, Ohio.
Filed June 8, 1907. Serial No. 27,978. PUBLISHED AUGUST 6, 1907.

65,608. GINGER-ALE. THE FORESTER GROCERY CO., INC., Wilkesboro, N. C.
Filed June 18, 1907. Serial No. 28,235. PUBLISHED AUGUST 6, 1907.

65,609. CERTAIN MACHINERY. GEO. S. HARWOOD & SON, Boston, Mass.
Filed June 11, 1907. Serial No. 28,051. PUBLISHED AUGUST 6, 1907.

65,610. BUGGIES, WAGONS, AND CARRIAGES. THE HERCULES BUGGY CO., Evansville, Ind.
Filed June 18, 1907. Serial No. 28,239. PUBLISHED AUGUST 6, 1907.

65,611. CERTAIN PARTS OF MACHINERY. JNO. HY. ANDREW & Co. LD., Sheffield, England.
Filed May 25, 1907. Serial No. 27,642. PUBLISHED AUGUST 6, 1907.

65,612. RAZORS, KNIVES, SCISSORS, AND SHEARS. MAX KLAAS, New York, N. Y.
Filed February 20, 1907. Serial No. 25,476. PUBLISHED AUGUST 6, 1907.

65,613. WOOL SOLES. DAVID I. ROGOW, Worcester, Mass.
Filed June 28, 1907. Serial No. 28,443. PUBLISHED AUGUST 6, 1907.

65,614. REMEDY FOR HEADACHES. TOSHIKUNI MORI, San Francisco, Cal.
Filed May 28, 1907. Serial No. 27,711. PUBLISHED AUGUST 6, 1907.

65,615. BLOOD MEDICINE. TOSHIKUNI MORI, San Francisco, Cal.
Filed May 28, 1907. Serial No. 27,713. PUBLISHED AUGUST 6, 1907.

65,616. LAWN-MOWERS AND GRASS-CATCHERS THEREFOR. THE W. BINGHAM COMPANY, Cleveland, Ohio.
Filed May 13, 1907. Serial No. 27,340. PUBLISHED AUGUST 6, 1907.

LABELS

REGISTERED OCTOBER 8, 1907.

13,818.—*Title:* "LA SANO." (For Cigars.) SCHMIDT & Co. New York, N. Y. Filed September 6, 1907.

13,819.—*Title:* "SIGARI SCANGA." (For Stogies and Cigars.) JOSEPH G. SCANGA, Pittsburg, Pa. Filed September 6, 1907.

13,820.—*Title:* "ALONSO REJAS." (For Cigars.) ALONSO REJAS CA., Key West, Fla. Filed August 16, 1907.

13,821. WITHDRAWN.

13,822.—*Title:* "SONG OF THE BUTTER-MAKER." (For Butter.) G. W. MARTIN & BRO., New York, N. Y. Filed September 7, 1907.

13,823.—*Title:* "TICKLE-CHICLE CHEWING GUM." (For Chewing-Gum.) ALBERT A. AUSTIN. Indianapolis, Ind. Filed August 14, 1907.

13,824.—*Title:* "COMMON SENSE CATHARTIC GUM." (For Chewing-Gum.) COMMON SENSE GUM COMPANY, Boston, Mass. Filed September 9, 1907.

13,825.—*Title:* "LISTERATED PEPSIN GUM." (For Chewing-Gum.) COMMON SENSE GUM COMPANY, Boston, Mass. Filed September 9, 1907.

13,826.—*Title:* "COMMON SENSE COUGH GUM." (For Chewing-Gum.) COMMON SENSE GUM COMPANY, Boston, Mass. Filed September 9, 1907.

13,827.—*Title:* "MUSCLE CULTURE GUM." (For Chewing-Gum.) COMMON SENSE GUM COMPANY, Boston, Mass. Filed September 9, 1907.

13,828.—*Title:* "QUICK DEATH." (For a Disinfectant and Insecticide.) WORLD DISINFECTING & INSECTICIDE CO. INC. Philadelphia, Pa. Filed September 10, 1907.

13,829.—*Title:* "JEWEL CEMENT." (For a Cement.) ELIZA B. CHANNELL, Chicago, Ill. Filed August 19, 1907.

PRINTS

REGISTERED OCTOBER 8, 1907.

2,127.—*Title:* "ALASKAN SCENE." (For a Breakfast Food.) CREAM OF WHEAT CO., Minneapolis, Minn. Filed August 5, 1907.

2,128.—*Title:* "RURAL DELIVERY." (For a Breakfast Food.) CREAM OF WHEAT CO., Minneapolis, Minn. Filed August 5, 1907.

2,129.—*Title:* "CREAM OF WHEAT BLOCKS." For a Breakfast Food.) CREAM OF WHEAT CO., Minneapolis, Minn. Filed August 5, 1907.

2,130.—*Title:* "MOTHER AND CHILD." (For a Breakfast Food.) CREAM OF WHEAT CO., Minneapolis, Minn. Filed August 5, 1907.

2,131.—*Title:* 'THE CHEF AND THE TURKEYS." (For a Breakfast Food.) CREAM OF WHEAT CO., Minneapolis, Minn. Filed August 5, 1907.

2,132.—*Title:* "B. T. BABBITT'S 'BEST SOAP' AND '1776' SOAP POWDER." (For Soap and Powder.) AMERICAN LITHOGRAPHIC CO., New York, N. Y. Filed September 9, 1907.

2,133.—*Title:* "MEN'S AND BOYS' APPAREL." (For Men's and Boys' Apparel.) H. C. LYTTON, Chicago, Ill. Filed September 7, 1907.

2,134.—*Title:* "KEEP YOUR EYE ON CONTINENTALS." (For Tires for Automobiles.) A. W. ERICKSON ADVERTISING AGENCY, New York, N. Y. Filed August 31, 1907.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE FIELD.

Decided December 13, 1906.

INTERFERENCE—SUSPENSION—POSTPONEMENT OF TIME FOR OPENING PRELIMINARY STATEMENTS.

An interference relating to a machine will not be suspended and the time for opening the preliminary statements postponed in order that one of the parties may take out a patent upon an application covering a closely related process not involved in the interference before the existence of such application is discovered by his opponent through access to the machine application which contains a cross-reference thereto.

ON PETITION.

METHOD OF ACTING UPON WARP-THREADS

Messrs. Emery & Booth for the applicant. (*Messrs. Dodge & Sons* of counsel.)

MOORE, *Assistant Commissioner, now Commissioner:*

This is a petition for suspension of interference proceedings and postponement of the time for opening the preliminary statements therein in order that the petitioner may take out a patent upon an application not involved in the interference before the existence of such application is discovered by his opponent through access to the application in interference which contains a cross-reference to the application which it is desired to issue.

On November 1, 1906, the Examiner made the following action in the case which is not involved in the interference:

> The amended method claims are considered to be allowable, but this application must be withheld from issue pending a decision on the question of priority of invention of the subject-matter of such apparatus claims of the original application as are involved in the issues of the interference proceedings now under way.

The applicant brought a petition from this action, which was recently granted. Prior to the grant of said petition the present petition for suspension of proceedings in interference was brought.

It seems clear that this Office should no more suspend an interference proceeding for a party in order that an application of his not involved therein may be issued as a patent before his opponents obtain knowledge thereof than it should withhold his application from issue for the sole purpose of permitting such knowledge to be obtained. The Office is not interested in pursuing one of these courses rather than the other, and there seems to be no point to the statement in the brief last filed that the Office in refusing to grant the requested suspension of the interference is taking an advantage in the matter. Nor does it appear that in withholding the application from issue pending the determination of the question whether issue should be suspended until the interference is concluded the Office has been guilty of any wrong to the applicant; as charged in said brief. The applicant has no right at any time in the matter of an application for patent to any other status than that which has resulted through the regular course of the prosecution of his application. He is not injured in any legal sense by any delay in the issue of his application incident to the proper determination by the Patent Office of the propriety of issuing the same. In this case the Examiner was of the opinion that the application should be withheld from issue pending the determination of the question of priority in the interference proceedings. There are some reasons which may be urged in support of this position, and the language of Rule 106 might well have been taken to authorize the same. Being of this opinion, the Examiner properly withheld the case, and the fact that his judgment has been reversed upon appeal affords the petitioner no good reason to complain of the delay incident to obtaining such reversal.

The petitioner states that refusal to suspend the interference, resulting in the disclosure to his opponents of the existence of the application not involved therein, gives them information to which they have no right in law or in equity. I find in this, however, no reason why the suspension should be granted. It does not appear that the petitioner has any right in law or equity to have this information kept from his opponents. A disclosure of such information under the circumstances of this case is fully contemplated by the very decision upon which the petitioner has relied in his contention for the early issue of his application. In the decision *ex parte Atwood*, (C. D., 1888, p. 74,) referring to the application involved in interference and to the application not involved, but which had been held up by the Examiner in view of the interference, Commissioner Hall stated:

> Not only this, but in the present application I understand there is a cross-reference to the apparatus application, and I infer that there is a similar cross-reference in the latter. If there is not there should be, and it should still be introduced. This gives the other party to the interference notice of the existence of the present application for the process, and if he does not choose to promptly file his application for such process (if he claims to be the inventor of it), and thus bring himself into interference with it, he ought not to be allowed by indirection to do what he refuses to do directly—tie up the present application and delay issuance upon an imaginary or supposititious interference not contemplated and not provided for in the rules.

No good reason is found in the matters which have been called to my attention for suspending proceedings in the interference. It seems clear that this Office should not take action in a proceeding for no other purpose than to insure to a party a business advantage which he might otherwise fail to secure.

The petition is denied.

EX PARTE WILLIAMS.

Decided December 15, 1906

PATENTABILITY—CHANGES INVOLVING MECHANICAL SKILL ONLY—NO INVENTION.

Where the device shown in the application differs from that of a prior patent merely in the shape of the grooves in which a sealing mixture is to be placed, *Held* that it would be a mere matter of mechanical skill to adapt the shape of the groove to the nature of the sealing material to be used.

APPEAL from Examiners-in-Chief.

BURIAL-CASE.

Messrs. Robinson, Martin & Jones for the applicant.

MOORE, *Assistant Commissioner, now Commissioner:*

This is an appeal from the decision of the Examiners-in-Chief affirming the Primary Examiner's rejection of the following claim:

An outside burial-case consisting of a cement body of suitable form and size to receive a casket having an open top with a shoulder and an upwardly-standing flange outside of the shoulder around the upper edge of the wall, the flange having an inwardly-facing groove, a cement cover adapted to close the top of the case and rest on the shoulder and having around its edge an outwardly-facing groove, the groove of the cover and the groove of the flange together forming an upright elliptical space, and the cover and flange arranged to provide an open joint to receive in connection with said elliptical space a liquid cement, substantially as set forth.

The claim was rejected on the ground that the structure specified therein is anticipated in the patent to Zarling, No. 712,080, granted October 28, 1902. In the patentee's structure the grooves in the cover and the wall of the case are rectangular in cross-section, while in the applicant's structure the grooves are of curved outline in cross-section, forming, as stated in the claim, an elliptical space when the cover is in place.

It is contended on behalf of the applicant that the construction shown by the patentee could not be better devised to facilitate the formation of cracks and defects in the joint-filling and that the form of the grooves is such that when the joint filling or sealing material is poured in air will be trapped and prevent the grooves from being properly filled. These defects, it is contended, are overcome in the joint shown in the application and defined in the appealed claim.

It is not apparent that the sealing material which the patentee states is to be poured into the groove or the liquid cement mentioned in the claim would not properly fill the groove shown in the patent or that air would be trapped in the groove. It would seem, on the contrary, that a liquid of a consistency to permit its being poured into the comparatively narrow channels shown in the patent and in the appellant's application would fill the rectangular space of the patentee's structure as completely as the elliptical space to which the appealed claim is limited. Moreover, even if it were satisfactorily established that the patentee's structure is defective for the reasons referred to by the appellant nothing more than ordinary mechanical skill would be required to adapt the shape of the sealing-grooves to the nature of the sealing material used in closing the casket.

The decison of the Examiners-in-Chief is affirmed.

EX PARTE SMITH.

APPLICATION FOR DESIGN PATENT.

Decided September 6, 1907.

DESIGN—FONT OF TYPE—PATENTABILITY.

Where as in the art of printing the field of inventive design is limited to modifications of detail in predetermined forms of letters, and an inventor has succeeded in producing a new font having clearly distinguishing characteristics running through the whole, and the esthetic value of his production is confirmed by an extensive demand for the same, it is believed that he should be granted the right to a lawful monopoly of the results of his labor for the limited time provided by the design statutes.

APPEAL from Examiners-in-Chief.

DESIGN FOR FONT OF TYPE.

Mr. Ernest W. Bradford for the applicant.

MOORE, *Commissioner:*

This is an appeal from the decision of the Examiners-in-Chief affirming the action of the Examiner of Designs and refusing a patent upon a design for a font of type in view of the design patent to Capitain, No. 36,461, July 21, 1903. The Examiners-in-Chief agree with the Examiner of Designs that the peculiarities of the individual letters of the appellant's font do not bear such relation to the font as a whole as to render it patentable and that the differences in the appellant's font over that of the patent are not such as involved the exercise of the inventive faculties.

The fonts of type disclosed in both the application and the patent are of the bold character used in advertising and comprise, in general, the "Roman" form of letters.

In the font disclosed in the patent the letters are composed wholly of heavy lines, which, while varying somewhat in breadth in different parts of the letters, when observed in a line of type give an impression of bold uniformity of heavy lines. In the font shown by the appellant the letters, which include a plurality of straight lines, comprise certain heavy lines and other thin lines, which the appellant well states—

gives the letter an open and easily-read character while at the same time, because of the thick lines it has a heavy appearance.

The letters embodying curved lines are similarly distinguished and where joined to straight lines form well-defined angles instead of being provided with fillets. The serifs in the appellant's font are formed of much thinner lines than those of the patented font. The union between the main parts of the letters and their serifs is also distinguished by sharply-defined angles. Where fillets are employed, as in the letters E, F, L, T, and Z, they are formed of straight lines terminating short of the points of the letters, while the fillets of the corresponding letters of the patented font merge into the curved or rounded points of the letters. By reason of these features the "counters" or open spaces within appellant's letters are made more prominent, giving the letters an open appearance when assembled in words. This characteristic is common to all the letters of the alphabet, both in the capitals and the small or lower-case letters, and is the real distinguishing feature of the appellant's font. I do not agree with the opinion of the lower tribunals that the peculiarities of the individual letters of the appellant's font do not bear a definite relation to the whole.

It remains to be considered whether the differences between the appellant's font and that of the reference involved invention and not merely the exercise of mechanical skill and whether the design is ornamental in character.

The "Roman" form of type is used both by the appellant and by the patentee. The question of invention is therefore limited to whether the variation

in the details of the letters is such as involved the exercise of anything more than mechanical skill.

The style of letter designed by the patentee is uniform in character, but has an individuality which has been recognized to involve patentability. The appellant's font by reason of the open character of the letters, produced more or less by changes in detail, has an individuality which clearly distinguishes it from that of the reference. No confusion would, in my opinion, be likely to exist between these fonts when used upon the printed page, whether found side by side or in separate places.

It is believed that more than ordinary skill of a designer was required to produce the font of type presented by the applicant, which differs not merely in individual letters but as an entirety from the font disclosed in the reference.

The esthetic value of a new font of type is in a great measure dependent upon the harmonious effect produced upon the eye of the observer by the predominant characteristics of the font. In the decision *in re Schraubstadter* (120 O. G., 1167) the Court of Appeals of the District of Columbia said that—

The eye to which the design is to appeal is that of the ordinary man and not the eye of the artist.

In the art of printing, and especially the advertising branch of that art, the measure of the artistic value may often be determined by the extent of use of the font, for if the font does not as a whole commend itself to the purchaser the demand therefor will fail. In the present case there is no doubt that the appellant's font of type is ornamental in appearance, and the fact that it has gone into very extensive use, as shown by affidavits of record in this case, confirms, in my mind, the artistic value of the design.

Where, as in the art of printing, the field of inventive design is limited to modifications of details in predetermined forms of letters and an inventor has succeeded in producing a new font having clearly distinguishing characteristics running through the whole and the esthetic value of his production is confirmed by an extensive demand for the same, it is believed that he should be granted the right to a lawful monopoly of the results of his labors for the limited time provided by the design statutes.

The decision of the Examiners-in-Chief is reversed.

EX PARTE MEYER.

APPLICATION FOR PATENT.

Decided September 17, 1907.

WITHDRAWAL OF APPLICATION FROM ISSUE.

An application will not be withdrawn from issue for the purpose of permitting the applicant to adopt claims of a patent where it appears that the question of interference between the applications of the respective parties was considered by the Examiner before the cases were allowed.

ON PETITION.

METALLIC SEALING-CAP.

Messrs. Barthel & Barthel for the applicant.

MOORE, *Commissioner:*

This is a petition that the application be withdrawn from issue.

As the ground for the petition it is stated that a patent to Parker, No. 855,198, was issued May 28, 1907, on an application copending with this application, that the Parker patent contains claims dominating and conflicting with applicant's invention and the claims drawn thereon, and that applicant was given no chance to contest the same.

The petition is not accompanied by an amendment containing the claims of the Parker patent which it is stated applicant has a right to make. This of itself is sufficient ground for denying the petition.

In his statement the Examiner says that the question of interference between this application and the Parker application was carefully considered, and it was decided there were no conflicting claims. It is not the practice of the Office to withdraw a case from issue unless the Office has made an obvious mistake, except in a case where irremediable injury would occur.

In this case applicant is not without his remedy, for he can allow the case to become forfeited, renew the same, and present the claims of the Parker patent which he thinks he is entitled to make.

The petition is denied.

JOSLEYN *v.* HULSE.

PATENT INTERFERENCE.

Decided June 20, 1907.

1. INTERFERENCE—MOTION FOR DISSOLUTION—TRANSMISSION OF.

Where a motion to dissolve, on the ground that the adverse party had no right to make the claims and that his application did not show an operative device, was brought nearly two months after the expiration of the thirty days, *Held* that the fact that attorneys were busy with other matters and that it was necessary to make certain models constitutes no sufficient excuse for the delay, especially as no showing was made why it was necessary to make so many models or to take so long a time to complete them.

2. SAME—SAME—SAME.

The pendency of a motion under Rule 109 is no excuse for the delay in bringing a motion to dissolve.

APPEAL on motion.

TYPE-WRITING MACHINE.

Mr. Jacob Felbel for Josleyn.

Messrs. Knight Bros. for Hulse.

BILLINGS, *Assistant Commissioner:*

This is an appeal by Josleyn from a decision of the Examiner of Interferences refusing to transmit to the Primary Examiner a motion to dissolve on the ground that Hulse has no right to make the claims.

The Examiner of Interferences refused to transmit the motion on the ground that it was brought long after the expiration of the thirty days allowed for bringing such motions and that no sufficient excuse had been given for such delay.

The reason alleged why Hulse has no right to make the claims is that his application does not disclose an operative device.

Motions on the ground of inoperativeness are not favored, and it is incumbent upon a party bringing such a motion to do so promptly.

It appears that nearly two months elapsed between the expiration of the thirty days and the bringing of the motion to dissolve.

In explanation of this delay it is stated in affidavits accompanying the motion that it was found necessary to make certain models and that the attorneys for

Josleyn were exceedingly busy with this matter and with other matters.

It is well settled, as pointed out by the Examiner of Interferences, that the mere fact that the attorneys were busy with other matters will not excuse delay. Furthermore, it does not appear why, if it was necessary to test the question of inoperativeness by making models, it was necessary to make so many of them or why it should have taken so long a time to complete them. The models exhibited at the hearing were small and apparently could have been made in a short time by a mechanic skilled in the art.

The fact that there is now pending before the Primary Examiner a motion to amend under Rule 109 is no excuse for the delay in bringing the present motion. (*Townsend* v. *Copeland* v. *Robinson*, 124 O. G., 1210.)

Moreover, if this motion should be transmitted merely because of the pendency of another motion a third motion might be brought before the Primary Examiner had decided this one and its transmission urged on the same ground. Such practice would tend to cause endless delay.

The decision of the Examiner of Interferences is affirmed.

DYSON *v.* LAND *v.* DUNBAR *v.* BROWNE.

PATENT INTERFERENCE.

Decided August 17, 1907.

1. INTERFERENCE—MOTION TO SUPPRESS TESTIMONY—CONSIDERATION POSTPONED UNTIL FINAL HEARING.

Where a consideration of a motion to suppress testimony would involve a consideration of a large portion of the record, a decision upon the motion will be postponed until final hearing.

2 SAME—SAME—QUESTION OF RIGHT TO TAKE SURREBUTTAL TESTIMONY.

The right to take surrebuttal testimony is not merely dependent upon the propriety of opponent's testimony and is therefore not affected by a refusal to consider a motion to suppress prior to final hearing.

APPEAL on motion.

TELEPHONE SYSTEM.

Mr. George L. Cragg for Dyson.

Mr. Thomas S. Ferguson for Land.

Messrs. Bacon & Milans for Dunbar.

Mr. Charles Neave and *Messrs. Mauro, Cameron, Lewis & Massie* for Browne.

BILLINGS, *Acting Commissioner:*

This is an appeal by Browne from the decision of the Examiner of Interferences dismissing his motion to strike out certain portions of the deposition of Harry G. Webster, a witness testifying in behalf of Dyson. The record shows that the motion as brought before the Examiner of Interferences also requested the suppression of parts of the testimony of Dyson and of Land, together with certain exhibits of the latter. The present appeal is confined to the action of the Examiner of Interferences in dismissing the motion to suppress the deposition of Webster. The Examiner of Interferences in his decision dismissing the motion held that the consideration of this motion would involve a review of a large portion of the records of the case and dismissed the motion without prejudice to the right of Browne to renew the same at the final hearing. The action of the Examiner of Interferences is in accordance with the well-established practice of the Office (*Talbott* v. *Monell*, 99 O. G., 2965; *Hall* v. *Alvord*, 101 O. G., 1833; *Royce* v. *Kempshall*, 119 O. G., 338) and should not be disturbed unless an obvious error has been committed. It may be observed that in the cases cited by Browne in support of his contention that the motion to suppress testimony should be decided prior to the final hearing the testimony which it was found necessary to suppress was apparent without reviewing a large part of the record of the case in which it was involved.

It is alleged in the motion and also in the affidavit of McKnight, of counsel for Browne, that the deposition of Webster comprises expert testimony and information evidence. It is, however, apparent from statements in McKnight's affidavit that the testimony of Webster refers to testimony of Browne, Morowck, McDonough, and other witnesses and also to certain exhibits presented by Browne. It is therefore apparent that the consideration of Browne's motion would involve the consideration of a large portion of the record, which would necessarily be reviewed upon the final hearing of the case.

It is urged by Browne that the decision should be rendered upon the question of the suppression of Webster's testimony prior to the final hearing in order that he may know whether to bring the motion for permission to take surrebuttal testimony. As well stated by the Examiner of Interferences:

> The right to take surrebuttal testimony is not merely dependent upon the propriety of opponent's testimony. If the opponent's testimony is improper it will not be considered and surrebuttal is unnecessary. If it is proper the right to take surrebuttal founded upon this alleged impropriety falls. It is clear that the surprise which will authorize surrebuttal testimony must reside in something else than the fact that the opponent has offered inadmissible evidence.

It is not therefore apparent that the refusal to consider the motion to suppress testimony at this time will impose any hardship upon Browne.

The decision of the Examiner of Interferences is affirmed.

UNDERWOOD TYPEWRITER COMPANY *v.* A. B. DICK COMPANY.

OPPOSITION.

Decided August 27, 1907.

1. OPPOSITION—TESTIMONY—SUPPRESSION.

Rebuttal testimony taken for the purpose of establishing facts not alleged in the notice of opposition or which should have been offered as part of the testimony-in-chief is improper rebuttal, and a motion to suppress the same will be granted.

2. SAME—SAME—PRINTED RECORD.

Where the motion to suppress was granted after the testimony was printed, it will be a sufficient compliance with the ruling in *Marconi* v. *Shoemaker* v. *Fessenden* (121 O. G., 2664) for the docket clerk to indicate in the usual manner in the printed record the matter which has been expunged.

APPEAL on motion.

TRADE-MARK FOR DUPLICATING-MACHINES AND PARTS THEREOF.

Messrs. Mason, Fenwick & Lawrence for Underwood Typewriter Company.

Mr. S. O. Edmonds for A. B. Dick Company.

BILLINGS, *Acting Commissioner:*

This is an appeal by the Underwood Typewriter Company from the decision of the Examiner of Interferences holding that certain testimony taken by

said company in rebuttal was not proper rebuttal testimony and that it should for that reason be expunged from the record.

An examination of the record shows that in the notice of opposition it was alleged that the A. B. Dick Company was not entitled to register the word "Mimeograph" as a trade-mark for duplicating-machines on the ground that that word was the name of a patented article, the patent having expired. In the rebuttal witnesses are called for the purpose of showing that the word "mimeograph" was generally used in the trade to identify any one of a number of duplicating-machines for doing similar work. It is very clear that this testimony is taken for the purpose of establishing facts not alleged in the notice of opposition, for the notice of opposition alleges that the word particularly identifies the machine of a certain patent.

On the other hand, if the notice of opposition could be construed broadly enough to warrant the presentation of such testimony, which has been taken in rebuttal and which has been objected to by the A. B. Dick Company, it is very clear that this testimony should have been made a part of the testimony-in-chief.

Viewed in either light the testimony objected to is improper rebuttal testimony, and the Examiner of Interferences was right in granting the motion.

It is set forth in the appeal that the Examiner of Interferences did not indicate in what manner the testimony should have been expunged. This has been clearly indicated by the Commissioner in the case of *Marconi* v. *Shoemaker* v. *Fessenden*, (121 O. G., 2664.) The facts in this case, however, differ from those in the Marconi case, in that the motion to strike out was not brought until after the testimony of the Underwood Typewriter Company had been printed. While the excuse for the delay in bringing the motion is regarded as sufficient, yet in view of the fact that the motion was not brought until after the testimony had been printed it will be a sufficient compliance with the ruling in this case for the docket clerk to indicate in the usual manner in the printed record the testimony which has been expunged.

The decision of the Examiner of Interferences is affirmed.

DECISIONS OF THE U. S. COURTS.

Court of Appeals of the District of Columbia.

MACMULKIN *v.* BOLLEE.

Decided June 4, 1907.

INTERFERENCE—PRIORITY—APPEAL TO COURT—SUFFICIENCY OF DISCLOSURE CONSIDERED.

Whether or not an application involved in interference discloses the subject-matter in issue and therefore whether or not the interference is properly declared, is a question to be ordinarily determined by the Patent Office, (*Ostergren* v. *Tripler*, 17 App. D. C., 558; 1901, C. D., 350; *Herman* v. *Fullman*, 23 App. D. C., 264, 265; 1904, C. D., 625;) but in extreme cases where palpable error has been committed the court may review the decision of the Patent Office on this point. (*Podlesak and Podlesak* v. *McInnerney*, 26 App. D. C., 399; 120 O. G., 2127.)

Mr. Hubert Howson for the appellant.

Mr. A. S. Pattison for the appellee.

McCOMAS, *J.:*

MacMulkin, the appellant, filed his application on December 9, 1903, and Bollee, the appellee, filed on August 3, 1903, and is, therefore, the senior party, although a patent was issued to the appellant upon his subsequent application. MacMulkin took no testimony and conception and reduction to practice by him is therefore deemed to have happened at his filing date. Testimony taken by Bollee to show he had secured certain foreign patents was taken but need not be considered because his filing date is earlier than that of MacMulkin. The Examiner of Interferences awarded priority of invention to MacMulkin, holding that the original application of Bollee did not disclose the invention in controversy which was only disclosed by his subsequent drawings and specification and so restricting Bollee to the date of filing them. Such date was subsequent to the filing of MacMulkin's application. The Examiners-in-Chief, who were affirmed by the Commissioner of Patents, reversed the decision of the Examiner of Interferences and held that Bollee's original application did disclose this invention and they therefore awarded priority to Bollee.

The three following issues show the matter in controversy:

> 1. A vaporizer for liquid hydrocarbons, comprising a number of hydrocarbon-inlets, a separate air-inlet to such hydrocarbon-inlet, a common outlet-pipe and means for cutting off one or more of the pairs of hydrocarbon-inlets and air-inlets simultaneously, as described.
>
> 2. A vaporizer for liquid hydrocarbons, comprising a number of inlets for hydrocarbon and means at all times to supply a constant flow to each inlet, an air-supply to each said inlet, an outlet for the vaporized mixture and a throttle-valve between the individual inlets and the outlet adapted to cut off or open more or fewer of the combined air and hydrocarbon inlets, substantially as described.
>
> 3. A vaporizer for liquid hydrocarbons, comprising an outlet-pipe, a throttle-valve opening thereto, a body part containing a plurality of chambers, a separate passage from each chamber to the throttle-valve and an air-supply and a hydrocarbon-supply to each chamber, the throttle-valve being adapted to cut off more or fewer of the chambers from the outlet-pipe, substantially as described.

Whether or not the application discloses the subject-matter of the interference and, therefore, whether or not the interference is properly declared, is a question to be ordinarily determined by the Patent Office. (See *Ostergren* v. *Tripler*, 17 App. D. C., 558; *Herman* v. *Fullman*, 23 App. D. C., 264, 265.) However, this court has held that in extreme cases where palpable error has been committed, the decision of the Patent Office holding identity of invention between the devices of the parties to the interference may be reversed. (See *Podlesak and Podlesak* v. *McInnerney*, 26 App. D. C., 399.)

The case we are now considering is not such an exceptional case.

The Primary Examiner first declared that because the specification did not explain what was meant by "carbureter" and by "sprayer" in Bollee's specification, he could take no action on the merits. The Examiner of Interferences held that Bollee's application did not disclose any particular kind or form of carbureter and that such disclosure was only incorporated by amendment after MacMulkin's patent had issued and the inclusion of the added elements was new matter. The Commissioner, however, justly states that:

> The Examiner's action in admitting the substitute specification and drawing was in effect a ruling on his part that the substitute specification and drawing did not contain new matter, and that there was a foundation in Bollee's original application for the claims which he suggested to him.

The Examiners-in-Chief reversed the Examiner of Interferences and found that the invention was disclosed in Bollee's original application and, therefore, awarded to him priority of invention. They were affirmed by the Commissioner of Patents. We hold the finding of the Patent Office that the Bollee application as originally filed, disclosed the invention in controversy, is conclusive upon this court in this interference.

The only point at issue here is whether or not Bollee's original application discloses this invention and whether or not Bollee has the right to make the claims as based upon said application. If so, he is entitled to judgment of priority. The invention in issue is an improvement in carbureters for internal-combustion engines. It is intended to provide means for varying the quantity of explosive mixture supplied to the cylinder without altering the proportion of air to gas in the mixture; and this result is accomplished by providing a series of carbureters together with a valve by means of which one or more of the carbureters can be placed in communication with the cylinder. If Bollee's application of August 3, 1903, contained such a disclosure of this invention as to enable those skilled in the art to practice it, that date is to be deemed as the date of constructive reduction to practice by him and he is entitled to an award of priority in this case.

The Examiners-in-Chief concluded that taking the drawing and the specification together, Bollee's application shows a construction within the terms of the counts of this issue. They conclude that the first count requires that the vaporizer shall comprise a number of hydrocarbon-inlets, separate air-inlets for each of these, a common outlet-pipe, and means for cutting off one or more pairs of hydrocarbon-inlets and air-inlets simultaneously. In the second and third counts this last element is called a throttle-valve. The second count adds further means for a constant flow of hydrocarbon to each inlet, and the third count specifies further that the vaporizer has a body part with a series of chambers with a separate passage from each chamber to the throttle-valve, with an air and hydrocarbon supply for each chamber, and the Examiners-in-Chief very clearly argue that Bollee's original drawings and specifications disclose the exact invention of the counts of the issue.

In affirming this Board, the Acting Commissioner aptly said:

> In the drawing of his original application Bollee showed a valve controlling communication between several chambers, which he termed carbureters, and a passage leading to the cylinder of the engine. The primary purpose of a carbureter for an internal-combustion engine is to form a mixture of air with hydrocarbon. There can be no question, therefore, that the mere use of the term "carbureter" was a sufficient disclosure of the idea of providing "hydrocarbon-inlets," as specified in the issue. It is contended by MacMulkin that from all that appears in Bollee's application, he might have intended to supply carbureted air from a reservoir, or if he intended to use an oil-supply, he might have used a common mixer leading to the various passages controlled by the valve. Bollee, however, in his original specification, stated that he proposed to use a number of carbureters and he referred to the several chambers controlled by the valve as carbureters. He furthermore stated that practically perfect results could be secured by the use of two carbureters.

We agree with the Commissioner that it would be impossible for any one skilled in the art to read Bollee's original specification in connection with the drawings accompanying it without perceiving that air and hydrocarbon were to be supplied separately to each of the passages controlled by the valves. The specification refers to the use of "sprayers" and in effect states that the several chambers supply mixtures varying in the proportion of contained hydrocarbon, which result could only be secured by providing each of the chambers controlled by the valve with means for supplying both air and hydrocarbon, or, in other words, each chamber must be a carbureter, "a thing which was old and well known." Section 4888 Revised Statutes requires that the description shall be sufficiently full and clear—

> to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same.

Bollee's specification and drawing meet this requirement. The exhaustive argument of appellant's counsel is met by the decision of the Patent Office that Bollee's original application was a constructive reduction to practice and that the amendment of his specification was in no wise an admission that his original application was an insufficient disclosure. It follows also that because his original application sufficed, no question of diligence in acquiring constructive reduction to practice arises here. The argument in behalf of the appellant that Bollee's application as amended does not disclose one essential element of the third issue and that the lack of a suction control leaves Bollee's disclosure an inoperative device, is not convincing. In respect to the point that count 3 requires three throttles it appears that the count called for only one throttle-valve namely the one which is adapted to cut off more or fewer of the chambers from the outlet-pipe as defined in that count. The new objection that Bollee's disclosure is not operative is in this instance a theoretical objection which need not here be discussed.

The decision of the Commissioner of Patents is affirmed and the clerk of this court will certify this opinion and decision to the Commissioner of Patents in the manner required by law.

Court of Appeals of the District of Columbia.

IN RE WILLIAMS.

Decided June 4, 1907.

PATENTABILITY—MERE CHANGE IN DESIGN—NO INVENTION.

Where the claim is distinguishable from the prior art by a mere arbitrary variation which amounts only to a change in mechanical design, *Held* that such a claim is unpatentable.

Mr. M. E. Robinson for the appellant.

Mr. Fairfax Bayard for the Commissioner of Patents.

SHEPARD, *J.:*

This is an appeal from the decision of the Commissioner of Patents rejecting an application for a patent having the following claim:

> An outside burial-case consisting of a cement body of suitable form and size to receive a casket having an open top with a shoulder and an upwardly-standing flange outside of the shoulder around the upper edge of the wall, the flange having an inwardly-facing groove, a cement cover adapted to close the top of the case and rest on the shoulder and having around its edge an outwardly-facing groove, the groove of the cover and the groove of the flange together forming an upright elliptical space, and the cover and flange arranged to provide an open joint to receive in connection with said *elliptical space* a liquid cement, substantially as set forth.

Patent was denied on reference to a patent to Zarling—No. 712,030, issued October 28, 1902. The only difference between the two is in the shape of the space made to receive the liquid cement. In appellant's casket this space has around its edge an outwardly-facing groove, which makes it elliptical. In Zarling's patent this space is rectangular. The difference is one of design merely, and is clearly not patentable.

The decision is affirmed. This decision will be certified to the Commissioner of Patents as the law requires.

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.
[BY AUTHORITY OF CONGRESS.]

VOL. 130—No. 7. TUESDAY, OCTOBER 15, 1907. PRICE—$5 per year.

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TO CITIZENS OF THE UNITED STATES.

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Alabama	4	.....	New Hampshire	3	.....
Arizona Territory	.....	.....	New Jersey	20	7
Arkansas	1	.....	New Mexico Ter't'y	.....	.....
California	29	1	New York	112	23
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Connecticut	18	3	North Dakota	1	.....
Delaware	1	.....	Ohio	46	7
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Indiana	13	4	South Dakota	1	.....
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Maryland	7	1	Washington	9	.....
Massachusetts	47	6	West Virginia	4	.....
Michigan	23	2	Wisconsin	11	1
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Nebraska	7	1	Total to citizens of the United States	605	93
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China	.....	.....	Roumania	.....	.....
Costa Rica	.....	.....	Russia	.....	.....
Cuba	.....	.....	Scotland	1	.....
Denmark	1	.....	South Australia	.....	.....
Ecuador	.....	.....	Spain	.....	.....
England	30	4	Sweden	3	.....
France	10	2	Switzerland	2	1
Germany	30	4	Transvaal, South Africa	.....	.....
Haiti	.....	.....	Victoria	1	.....
Ireland	1	.....	Western Australia	1	.....
Italy	1	.....			
Japan	.....	.....	Total to citizens of foreign countries	94	12
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Notice.

Hereafter coupons unless properly filled out will not be accepted in payment for copies of publications.

Date of Patent.

RULE 207. The weekly issue closes on Thursday, and the patents of that issue bear date as of the *fourth* Tuesday thereafter If the final fee in any application is not paid on or before Thursday the patent will not go to issue until the following week.

The Official Gazette.

The OFFICIAL GAZETTE is published every Tuesday, simultaneously with the weekly issue of patents. From January 1, 1872, (the commencement of its publication,) to June 30, 1883, it was published and bound in semi-annual volumes; from July 1, 1883, to December 31, 1902, in quarterly volumes; since January 1, 1903, in bimonthly volumes. Terms: Annual subscriptions, $5. For postage upon foreign subscriptions, except those from Canada and Mexico, $5 or more, as required. Moneys received from foreign subscribers in excess of the subscription price of $5 will be deposited to the credit of the subscriber and applied to postage upon the subscription as incurred. Single copies, 10 cents; if mailed to foreign countries, excepting Canada and Mexico, 20 cents additional for postage. *Payment in advance required. No club rates. No discount to newsdealers. No sample copies.* All subscriptions must commence with the beginning of a volume. None taken for less than an entire volume. All orders should be addressed to "The Commissioner of Patents, Washington, D. C."

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business October 8, 1907.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Sept. 23	Aug. 24	198
303	XVII. Clutches, Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Sept. 20	Sept. 9	189
147	XXIX. Coopering, Fire-Escapes, Ladders, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools, Woodworking.	Sept. 12	Aug. 24	247
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Sept. 12	Aug. 22	193
244	XXXV. Baths and Closets, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Garment-Supporters, Toilet, Signals.	Sept. 11	July 29	616
232	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Iron Structures, Loading and Unloading, and Towers.	Sept. 10	Sept. 3	275
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Sept. 4	Aug. 13	289
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery.	Sept. 3	Aug. 12	374
313	I. Tillage, etc., Fences	Aug. 30	Aug. 15	324
247	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Aug. 30	Aug. 10	210
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327	XVIII. Steam-Engineering, etc.	Aug. 17	July 10	366
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278	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Refrigeration.	Aug. 15	June 13	520
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Aug. 14	Aug. 15	268
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307	XIV. Compound Tools, Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Sheet-Metal Ware, Making, Tools. Wire-Working.	Aug. 14	June 22	272
264	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Aug. 13	July 26	326
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	Designs	Oct. 5	Oct. 3	71
	Labels and Prints			

Full Names of Applicants.

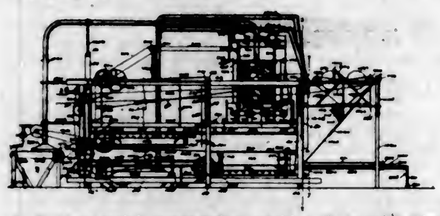
* * * All applications which disclose the full name of the applicant in the preamble of the specification will be received and considered as a sufficient compliance with Rule 40 of the Rules of Practice. (Order 521.)

When the full first name of the applicant does not appear either in his signature or in the preamble to the specification, the Examiner will, in his first official letter, require an amendment supplying the omission, and he will not pass the application to issue until the omission has been supplied, unless an affidavit shall have been filed setting forth that the full first name of the applicant is the one originally given by him. (Order 600.)

PATENTS

GRANTED OCTOBER 15, 1907.

867,936. MATTRESS-FILLING MACHINE. ERNEST J. ANTONI, Kansas City, Mo. Filed June 5, 1906. Serial No. 320,234.



1. In a material compressing machine the combination with the material supporting traveling receptacle and with the upper compressing means of rods pivotally connected with the sides of the said receptacle and hooks upon the upper ends of said rods springs connected with said rods and the sides of the traveling receptacle loops upon the compressing means adapted to be engaged by said hooks and stationary devices in the path of the lower ends of said pivoted rods.

2. In a material compressing machine the combination with the lower material supporting carriage and track rails of the upper material compressing carriage and upper suspended track rails therefor, raising and lowering means for said upper track rails and rods pivotally connected with the sides of said lower carriages forwardly directed barbed hooks upon the upper ends of said rods spring connected with said rods and the sides of said lower carriage, transverse bar upon the upper carriage and loops upon said bar adapted to be engaged by said hooks and stationary outwardly extended rods upon the lower track rails adapted to meet by the lower ends of said rods upon the rearward movement of the said carriages.

3. The combination with the upper compressing carriage and the material compressing plates secured at one end thereto, of a supporting shaft and supporting devices on said carriage within which said shaft is journaled, a hook on said shaft and a loop on said plates and means for communicating a partial rotary movement to said hook.

4. The combination with the upper material compressing carriage and the compressing plates secured at one end thereto of a longitudinal supporting shaft for said plates and separate rotatable and non rotatable sliding parts, an external spiral thread upon said the non-rotatable part and a grooved support for the latter part, a hook on said part and a loop on the compressing plate and means for imparting a forward movement to the rotatable part of said shaft.

5. The combination with the upper carriage and the material compressing plates of loops on said plates and hooks on said carriage supporting said plates having separate yielding parts.

6. The combination with the upper carriage and the material compressing plates, of loops on said plates, hooks on said carriage having separate parts, sliding connecting devices for said parts and an expanding spring.

7. The combination with the upper material compressing carriage and the compressing plates secured at one end thereto, of loops on their free ends, self extensible hooks engaging with the loops and a rocking support for said hook.

8. The combination with the upper material compressing carriage and the compressing plate secured at one end thereto, of loops on their free ends, a sliding shaft upon said carriage, a hook on said shaft engaging with said loop, means for communicating a sliding movement to said shaft in one direction and a shaft retracting spring.

9. The combination with the upper material compressing carriage and the compressing plate secured at one end thereto, of loops on their free ends, a sliding shaft on said carriage, a hook on said shaft engaging with the said loop, means for communicating a sliding movement to said shaft in one direction and a latch for holding said shaft and a retracting spring.

10. The combination with the upper material compressing carriage and the compressing plates secured at one end thereto, of loops on said plates, a longitudinally extended shaft on said carriage, having rotatable and non rotatable telescopic parts and an external screw thread upon the rotatable part of said shaft and a grooved support therefor, a spiral spring on the said rotatable portion of the shaft acting upon the non rotatable portion of the shaft to extend said portion in one direction, means for sliding the said non rotatable part telescopically in the opposite direction and a notch in the sliding part of said shaft and a depending latch, engaging with the said notch and a hook on the rotatable portion of said shaft engaging with the loops on said compressing plates.

11. In a material compressing machine for mattress covers the combination with the main frame, a lower carriage supporting the mattress cover and the upper compressing carriage, an elevated track in said frame for said upper carriage, means for raising and lowering said track compressing plates secured at one end to the ends of the respective upper and lower carriages, means for drawing a mattress cover over said plates and a frame connected with the main frame beneath which said lower carriage is movable, means for drawing the compressing plates from said mattress cover and means for drawing the said upper and lower carriages rearwardly in position and devices on the upper carriage acting automatically to raise the free ends of said upper compressing plates.

12. In a mattress filling machine a receptacle for the material comprising separate parallel carriages movable toward each other, hollow tubes in said carriages and nuts upon said tubes and shafts having right and left hand screw threads and sprocket wheels on said shafts and an endless sprocket chain.

13. In a material compressing machine the combination with the main frame and the lower receptacle for the filling material, a frame connected with the main frame having one end extending within the receptacle, hinged cover grasping plates on the sides of the receptacle, a head block supported by said frame and rearwardly extended guide plates upon the ends of the head block adapted to prevent the said hinged cover grasping plates from falling in rear of the head block.

14. In a material compressing machine a head block consisting of hollow bars telescopically connected with each other, expanding springs within said telescopic parts of the head block and retaining devices on the said bars acting to limit the withdrawal of telescopic portions thereof.

15. In a cover filling apparatus hinged cover extending devices for extending the sides of the opening in the cover.

16. In a cover filling apparatus hinged plates and cover-grasping plates extending therefrom and adapted to extend the sides of the opening in a cover.

17. In a cover filling apparatus hinged plates and cover

grasping extensible plates adapted to extend the sides of the opening in a cover.

18. In a cover filling apparatus the combination with a sliding plate of hinged self locking cover grasping plates for holding the sides of the opening in a cover in an open position.

19. In a cover filling receptacle the combination with its sides of plates supported thereby and separate plates hinged to the plates on the sides of the receptacle and T extensions on the latter plates adapted to extend the sides of an opening in a cover.

20. In a filling machine for mattress covers a receptacle for the material and plates supported by the sides of the receptacle and cover grasping plates hinged to the former plates and self locking devices for the hinged plates.

21. In a filling machine for mattress covers the combination with the receptacle for the material and its sides of material compressing plates and sliding cover grasping hinged plates adapted to draw a cover over said plates mounted on the sides of said receptacle, self latching devices for said plates and releasing devices on the receptacle.

22. In a filling machine for mattress covers the combination with the receptacle for the material and its sides of cover grasping devices comprising the main sliding plates mounted on the sides of said receptacle extensions at the lower ends of said plates and separate plates hinged to said extensions and securing plates hinged to the upper ends of the sliding plates engaging with the plates hinged to said extensions, and a spring latch securing the hinged plates with each other.

23. In a filling machine for mattress covers the combination with the receptacle for the material and its sides of sliding plates thereon, separate cover grasping plates hinged to the former plates and spring latches for the hinged plates and turn buttons, a pivoted releasing bar on the sliding plate adapted to come in contact with said turn button and a stationary device on the sides of the receptacle in the path of the pivoted releasing bar.

24. In a filling machine for mattress covers the combination with the receptacle for the material and its sides of sliding plates mounted thereon, power actuated devices connected with and moving said plates on said sides, hinged cover grasping plates connected with the sliding plates, self fastening devices on the hinged plates and releasing devices on said plates and stationary blocks on the sides of said receptacle in the path of the releasing devices.

25. In a cover filling machine the combination with the receptacle for the material and its sides and with the rollers in the bottom of said receptacle, a rotary power shaft, gear wheels on said shaft, sliding rack bars actuating said gear wheels and means for operating the rack bars, power transmitting devices acting to transmit the power from the power shaft to said rollers in succession and sliding cover grasping hinged plates mounted on the sides of said receptacle connected with the said rack bars.

26. In a cover filling machine the combination with the receptacle for the material and its sides and with rollers in the bottom of said receptacle, a rotary power shaft gear wheels on said shaft, sliding track bars actuating said gear wheels, power transmitting devices acting to transmit the power from the power shaft to said rollers in succession, sliding grasping plates for a cover mounted on the sides of said receptacle and connected with the rack bars and means on the rack bars acting to draw the grasping plates for a cover to the sides of the receptacle.

27. In a cover filling apparatus the combination with the receptacle for the material, upper and lower supporting plates for a cover, means for introducing the material between said plates, a table for supporting a cover and tension imparting devices on the table for extending a cover.

28. In a filling apparatus for covers the combination with a supporting frame of power transmitting wheels upon said frame, an endless chain upon said wheels and self releasing grasping devices upon said chain adapted to grasp a cover.

29. In a filling apparatus for covers the combination with a supporting frame, of power transmitting wheels upon said frame, endless chains upon said wheels and flexible and rigid plates connected with said chains adapted to grasp a cover.

30. In a filling apparatus for covers the combination with a supporting frame of a rotary shaft wheels on said shaft, an endless chain on said wheels, grasping devices on said chain acting to grasp a cover and means acting to feed a cover to the grasping devices.

31. In a filling machine for covers the combination with the receptacle for the material having separate extensible parts, of a table connected with the receptacle, said table having separate adjustable parts.

32. In a filling machine for mattress covers a table and a sliding carrier mounted upon said table and hanger bars extending from the carrier adapted to support a cover.

33. In a cover filling machine for mattress covers a table having a longitudinal slot, a sliding carrier within the slot on said table and bars having hooks extending from said carrier.

34. In a cover filling machine for mattress covers, a table having a longitudinal slot, a sliding carrier within the slot on said table, bars connected with the carrier and hooks thereon, adapted to support a cover and a spring acting upon the carrier to draw the hooks from the cover.

35. In a cover filling machine for mattress covers a table having a longitudinal slot, a sliding carrier within said slot and a self securing pivoted bar upon said carrier adapted to support a cover.

36. In a cover filling machine for mattress covers a table having a longitudinal slot a sliding carrier, a bar pivotally connected with the carrier and devices upon said bar for supporting a cover, a rack pivotally connected with the rear end of the said bar engaging devices on the carrier for the rack and a spring on the said carrier retaining the rack in position.

37. In a filling machine for mattress covers the combination with the receptacle for the material, of a table connected therewith, a carrier upon said table and supporting bars for a cover connected with the carrier between which a cover is adapted to be extended.

38. In a filling machine for mattress covers the combination with the receptacle for the material of a travelling supporting means on the bottom of the receptacle, means for compressing the material and a table connected with the receptacle and a carrier supported by the table and bars upon said carrier adapted to support and extend a cover.

39. In a filling machine for mattress covers the combination with the receptacle for the material, of a table connected therewith, independent supporting means within the receptacle for the material, means for compressing the material within the receptacle, grasping devices acting to draw a cover within the receptacle over the material supporting means and sliding mechanism upon the table supporting a cover in an extended position.

40. In a filling machine for mattress covers the combination with the receptacle for the material of a table connected therewith, independent supporting means within the receptacle for the material, means for compressing the material within the receptacle, grasping devices acting to draw a cover within the receptacle over the material supporting means, sliding supporting devices upon table for supporting a cover in an extended position and means self acting to withdraw the supporting devices from a cover.

41. In a filling machine for mattress covers the combination with the receptacle for the material and sliding grasping devices for cover upon the sides of said receptacle, of a table connected with said receptacle, a sliding carrier upon said table and bars connected with said carrier extending toward said receptacle and engaging devices for a cover upon said bars, a sliding block upon said table and transverse bar on said block, devices on said bar for supporting a cover, a rack bar connected with said block and supported by one of the bars on the said carrier and a pawl on the carrier engaging with the rack bar, a pin connected with the pawl and a spring connected at one end with the carrier and the other end with said sliding block, means for drawing the grasping devices for a cover upon the sides of the receptacle and means for drawing rearwardly the rack bar and a releasing or trip block on the table in the path of the pin on said pawl.

42. In a filling machine for mattress covers the combination with the receptacle for the material and rollers in the bottom of said receptacle, a rotary power shaft, gear wheels on said shaft, power transmitting devices for conveying power from said shaft to said rollers, sliding rack bars actuating said gear wheels and a connecting bar for the rack bars, a table connected with the forward end of the receptacle and a sliding carrier on said table and bars on said carrier extending toward said receptacle adapted to support a cover, a sliding block on said table and a bar connected with said block at one end and with the said connecting bar to the rack bars, a rack on the bar connected with said block and a counter balanced pawl in the carrier engaging with said rack, a coiled spring connected at one end with the carrier and with the sliding block at the other end, a transverse bar on said block and devices thereon for supporting a cover and a pin on said pawl and a trip block on the said table in the path of the said pin.

43. In a material compressing machine the combination with the main frame, a receptacle for the material, traveling supporting means for the said receptacle, a head block within the receptacle and a supporting frame therefor and adjusting devices connected with the said frame and the head block and also with said frame and the main frame.

44. In a material compressing machine the combination with the main frame, a traveling receptacle for the material, a head block within the receptacle and a supporting frame adjustably connected with the head block.

45. In a material compressing machine the combination with the main frame and a receptacle for the material and traveling supporting means for said receptacle, of a head block and a supporting frame, extensible sides to said frame and vertically adjustable supporting devices for said frame connected therewith and with said main frame and the said head block.

46. In a material compressing machine the combination with the main frame, a receptacle for the material and a head block within the receptacle, means for moving the receptacle in the direction of the head block and a supporting frame, rotary shafts journaled at their ends in the ends of said frame and bars connected with said main frame and extensions of said bars having racks and gear wheels on said shafts engaging with said racks.

47. The combination with the lower material supporting carriages and the sliding rack bars, of means for drawing the said rack bars and also said carriages rearwardly in position and self engaging means on the rear ends of said carriages and engaging with the rear ends of the rack bars upon the rearward movement of the carriages.

48. The combination with the lower material supporting carriages and the sliding rack bars, of means for drawing the rack bars and also said carriages rearwardly in position, hooks upon said carriages and pivoted bars supporting said hooks, devices in the rack bars with which the hooks engage and means in the path of the said bars for releasing the said hooks.

49. The combination with the lower material supporting carriage and the sliding rack bars and a connecting bar of hooks on the carriages, means for releasing the hooks from the connecting bar and means in the hooks self acting to hold said hooks from engagement.

50. The combination with the lower material supporting carriages and the sliding rack bars and a connecting bar of hooks on the carriages engaging with the said bar, means for disconnecting the hooks from the said bar and auxiliary self expanding barbs on the said hooks.

51. The combination with the main frame, the lower material supporting carriages, the track rails, sliding rack bars on said carriage and rods in suitable supports upon the sides of said carriage, retracting springs connected with said rods, devices in the path of the forward end of the said rods on the main frame and hooks on said carriages engaging with the rack bars and releasing devices for said hooks in the path of the rear ends of said rods.

52. The combination in filling machine for mattress covers with the lower carriages and the movable sides of brace bars upon said carriages and sliding supports for said sides upon said brace bars, vertical shafts upon said carriages and devices upon said shaft for moving the sides inwardly and outwardly in position and a gear upon the lower ends of the said shaft and recoiling rack bars upon said carriages actuating said gear.

53. The combination in a filling machine for matress covers with the lower carriages and the movable sides of brace bars upon the outer sides of said carriages and sliding pins supporting said sides extending through said brace bars, vertical shafts and supports therefor upon the brace bars, gear wheels upon said shaft and rack bars connected with the said sides and actuated by said gear wheels, horizontal bars on suitable bearings upon the sides of said carriage and racks upon said bars and gear wheels on the lower ends of the vertical shafts engaging with said rack bars, springs acting to move said rack bars in one direction and devices in the path of said rack bars for moving the said bars in the opposite direction.

54. The combination with a suitable carriage and the track rails and with the rack bars journaled upon the sides of the carriage of a spring actuating said bars in one direction, a frame and a sliding device on the frame in the path of the said bars, means for holding said carriage from movement, a catch for holding the sliding devices in a retracted position and a spring acting to move said devices in the direction of the said bar upon the release of the catch.

55. In a filling machine for mattress covers the combination with the main frame, the lower carriages and track rails, movable sides to said carriages and brace bars upon said carriages, sliding supporting devices for said sides upon said brace bars and rack bars extending outwardly from said sides, arms supporting said bars, vertical shafts upon said carriages and cog wheels upon said shafts engaging with the rack bars on said sides, longitudinally extended sliding bars upon the sides of said carriages and gear wheels upon said shafts engaging with said rack bars, lugs on said bars and coiled springs extending around said bars bearing upon said lugs at one end and at the other end upon the supporting arms, a sliding board on the main frame in the path of said bars and boxes upon said frame for the ends of said board, pivoted bars upon said main frame and springs upon said bars and adapted to be contracted in the forward movement of the sliding board and hooks upon said pivoted bars engaging with said sliding board.

56. The combination in a filling machine for mattress covers with the main frame of a receptacle for the material and movable sides, supports for said sides and mechanism acting to move said sides inwardly and outwardly in position, an end gate to said receptacle hoisting mechanism upon said main frame for the end gate, power storing reacting devices on said frame actuating the side moving mechanism to the receptacle when released and releasing devices actuated by the gate in its upward movements.

57. The combination with the main frame and the lower material compressing carriages of inwardly movable sides to said carriages and devices actuating said sides, a traveling bench or table connected therewith, means for moving forwardly and rearwardly said compressing carriage and a sliding board on the forward end of the said main frame and springs actuating the board rearwardly in position, recoiling mechanism connected with and actuating said side moving devices and also contacting with said movable board and moving said board forwardly and compressing said springs, a hook engaging with said movable board, a vertically movable end gate upon the main frame and sliding devices on said frame connected with the said hook and actuated by said end gate in its upward movement to release said hook and devices on the said bench contacting with the said board on the rearward movement of said carriages.

58. The combination with the main frame and the lower material compressing carriages and the sliding rack bar and a connecting bar, a main driven shaft and a power driving shaft and power transmitting devices connecting

said shafts, draft devices on the driven shaft connected with the rack bar and a lever on the main frame adapted to be actuated in the rearward movement of the rack connecting bar and power disconnecting devices on the main shaft connected with said lever.

59. The combination with the main frame and the receptacle for the material of an end gate, a rotary shaft upon said frame, hoisting devices upon the shaft for said gate and means upon said frame self acting to raise and lower said gate.

60. The combination with the main frame and the receptacle for the material of an end gate a rotary shaft upon said frame, hoisting devices upon said shaft for said gate, a ratchet wheel on said shaft and a pawl, means for communicating power to said shaft and hoisting said gate and means for releasing said pawl.

61. The combination with the main frame and the receptacle for the material and a carriage supporting said receptacle and the track of means for imparting tractive power to the said carriage and self coupling devices on said frame and carriage.

62. The combination with the main frame and the receptacle for the material and the carriages supporting said receptacle and the track rails of a transverse shaft on said carriages, pivoted yoke bars on said frame and means for locking said bars.

63. The combination with the main frame and the movable carriages and the track rails of a transverse shaft on said carriages, yoke bars pivoted on said frame, adapted to couple with said shaft, self locking devices for the yoke bars on said frame, means for releasing said yoke bars and gravitating weights on said bars.

64. The combination with the main frame and the lower carriages and track rails of a transverse shaft on said carriages, yoke bars pivotally connected with said frame, adapted to couple with said shaft, self locking devices for the yoke bars and means for releasing said devices.

65. The combination with the main frame and the lower carriages and track rails of a transverse shaft on said carriages, pivoted bars on said frame having an upper forked end, a hinged bar on said frame, having a hook upon one end engaging with said pivoted bar, a bolt extending through said hinged bar and a spring upon said bolt, bearing inwardly against said bar and a crank arm upon said frame adapted to move said bar outwardly and disengage said bar from said pivoted bar.

66. The combination with the main frame and the lower carriages and the sliding rack bars and the transverse connecting bar, of means for drawing said rack bars rearwardly, a pivoted yoke bar on said frame, a transverse shaft on said carriages adapted to be coupled with the yoke bar, a locking bar on said frame for said yoke bars, releasing devices for the locking bar and mechanism actuating said releasing devices in the path of the connecting bar for the rack bars.

67. The combination with the main and the lower carriages, the tracks therefor and the sliding rack bars and transverse connecting bar of guiding plates for the ends of the connecting bar on the main frames, a pivoted yoke bar on the main frame, a transverse shaft on said carriages adapted to be coupled with the yoke bars, locking bars on said frame for the yoke bars, releasing devices on said frame for the locking bars, sliding bars on the guiding plates for the connecting bar to the rack bars and connecting devices connecting said bars with the releasing devices, bell crank levers on the guiding plates connected with the sliding bars actuated by the said connecting bar to the rack bars and openings on the guiding plates for the bell crank levers and springs for returning said levers to a normal position.

68. The combination with the main frame of the machine and the upwardly and downwardly movable carriage supporting beams, means for raising and lowering said beams and adjustable suspensory devices connected with said beams and said main frame.

69. The combination with the main frame the longitudinal vertically movable carriage supporting beams on said frame, raising and lowering means therefor and ropes on said main frame and rods on said beams and adjusting nuts connected with the said rods and the said ropes.

70. The combination with the main frame and the longitudinally extended vertically movable carriage supporting beams of auxiliary pivoted track beams adapted to be inclined in position.

71. The combination with the main frame the longitudinally extended vertically movable carriage supporting beams, raising and lowering means therefor, auxiliary pivoted track beams on the vertically movable beams and means for inclining said auxiliary track beams.

72. The combination with the main frame and the longitudinally extended vertically movable carriage supporting beams, of auxiliary pivoted track beams pivoted at their forward ends to the vertically movable beams and raising and lowering devices for the rear ends of said auxiliary track beams.

73. The combination with the main frame and the longitudinal carriage supporting vertically movable beams, of auxiliary track beams pivoted at their forward ends to the said vertically movable beams, a transverse shaft on the main frame and raising and lowering devices thereon connected with the rear ends of said auxiliary track beams.

74. The combination with the main frame and the longitudinal carriage supporting vertically moving beams of raising and lowering devices therefor, auxiliary track beams pivoted to said vertically movable beams, a rotary shaft upon said main frame and raising and lowering devices thereon for said auxiliary track beams, power transmitting means for communicating power to said shaft and raising the auxiliary track beams and securing devices on said shaft and main frames for holding said shaft from reverse movement and releasing devices operated by the vertically moving beam to release the securing devices upon the downward movement of said beams.

75. The combination with the main frame and the vertically movable carriage raising and lowering beams, of a rotary power shaft and auxiliary track beams pivoted to said vertically movable beams, means for raising and lowering said latter beams, and raising and lowering devices on said rotary shaft connected with the auxiliary track beams, a ratchet wheel on said rotary shaft and a self acting pawl on the main frame, a lever pivoted on the main frame and a weight, a connecting rope or cable connected with the said lever and said pawl and a bar on the vertically movable beam beneath said lever.

76. The combination with the vertically movable carriage supporting beams of pivoted auxiliary track beams, means for elevating the ends of said beams and traveling devices supported by the auxiliary track beams and means for reversing the direction of movement of the traveling devices.

77. The combination with the main frame, the vertically movable carriage raising and lowering beams, the upper compressing carriages and the raising and lowering cables and the cable winding shaft connected with said cables of the lower carriages the sliding rack bars and connecting bars, a main power rotary shaft and a rotary power driven shaft on said frame and power transmitting devices connected therewith and said cable winding shafts, power connecting and disconnecting devices connected with the main shaft, a lever on the main frame actuated by the connecting bar to the rack bars in its rear movement.

78. The combination with the main frame, the vertically movable carriage raising and lowering beams, the upper compressing carriages and the raising and lowering cables and the cable winding shaft, the lower carriages, the main rotary driving shaft and a rotary driven shaft on said frame and power transmitting devices connected therewith, power connecting and disconnecting devices connected with the main shaft and a recoiling lever upon the main frame connected with the power connecting and disconnecting devices and disconnecting said power and devices on the lower carriages adapted to contact with said lever on its rearward movement.

79. The combination in a material compressing machine with the upper and lower compressing members and with transverse power transmitting shafts thereon of differential gear on said shafts meshing with each other.

80. The combination in a material compressing machine with the upper and lower compressing members and transverse power transmitting shafts thereon of adjustable differential gear on said shafts meshing with each other.

81. The combination in a mattress filling machine with the main frame of the machine and the lower carriage and the track rails of elevated track rails, and raising and lowering devices therefor rearwardly movable suspended upper carriages upon the upper track rails and vertical coupling bars on the sides of the lower carriage and slotted plates upon the sides of the upper carriages adapted to receive said bars when said upper carriages are lowered in position and means for moving said upper and lower carriages rearwardly in position simultaneously.

82. The combination in a material compressing machine with the upper and lower compressing carriages and with transverse power transmitting shafts on said carriages and devices actuated by said shafts to draw a cover between said carriages of adjustable differential gear on said shafts meshing with each other.

83. In a mattress filling machine the combination with the receptacle for the material, a carriage supporting said receptacle, a head block within the receptacle, an upper compressing carriage and an elevated track, track beams for said carriages supporting the track, means for raising and lowering the track supporting beams, and a vertically adjustable frame connected with the head block and said main frame.

84. In a mattress filling machine the combination with the main frame, the lower carriages and the material compressing plates and with the upper carriage and the upper material compressing plates elevated track rails for the upper carriage and means for raising and lowering said track rails, means on the upper carriages and upper compressing plates for securing the free ends of said plates, means for drawing a cover over said upper and lower plates, a head block on the lower carriages and a vertically adjustable frame supporting the head block connected with the main frame and devices on the said frame releasing the plate engaging devices on the downward movement of the carriages.

85. The combination with the main supporting frame of a main track having a movable section of track rails and means for coupling the ends of the movable section with the ends of the main track rails.

86. The combination with the main supporting frame of a main track movable sections of track rails, carriages upon the main track rails and coupling devices for coupling the end of movable sections of the rails with the ends of the main track rails.

87. The combination with the main supporting frame of a main track and movable sections of track rails, carriages upon the main track rails and mechanism actuated by the carriage in passing over the track, rails for coupling and uncoupling said section of track rails with the main track rails.

88. The combination with the main supporting frame, an elevated main track and laterally movable sections of the track and mechanism for drawing said movable sections in alinement with the main track rails.

89. The combination with the main supporting frame, the longitudinal vertically movable carriage supporting beams, the transverse track beams and traveling supporting devices therefor on the longitudinal beams of the longitudinal main and sections of track rails, carriages upon said track rails, means for moving the sections of parallel track rails laterally in position on the transverse track beams, transverse bars connected with the parallel track rails on the respective main and sectional track rails and self engaging devices on said bars engaging with each other.

90. The combination with the main supporting frame the longitudinal vertically movable carriage supporting beams, the transverse track beams and traveling supporting devices therefor on the longitudinal beams and hangers on the transverse beams and longitudinal main and sections of track rails supported by said hangers, material compressing carriages and hangers upon said longitudinal track rails connected with said carriages connecting devices for connecting the ends of the main and sectional track rails and a lever actuating said devices in the path of one said hangers supporting the carriage.

91. The combination with the main supporting frame, the longitudinal vertically movable carriage supporting beams, the transverse track beams and traveling supporting devices therefor on the longitudinal track beams, hangers on said transverse beams and longitudinal main and sections of parallel track rails connected with said hangers, material compressing carriages and hangers upon the said longitudinal track rails connected with said carriages, transverse connecting bars connected with the adjacent ends of the main and sections of parallel track rails, hooks upon said transverse bars, and a sliding plate actuating one of said hooks and an operating wheel with which the said sliding plate is eccentrically and pivotally connected.

92. In a filling machine for mattress covers the combination with the main frame and the compression carriages of elevated main and sections of parallel track rails and transverse supporting track beams and means self acting to move said sections of track rails laterally in position upon said beams.

93. In a filling machine for mattress covers the combination with the main frame and sections of parallel track rails and the transverse track beams supporting said main and sections of parallel track rails, means for raising and lowering said transverse beams, track rail drawing devices acting to draw the ends of the rails in the track sections in alinement with the ends of the main track rails, a sliding rack bar on one of the track rails communicating powers to the track rail drawing devices and a trip lever connected with the track bar and adapted to move with the rack bar in the forward and rearward movement of the carriages and a spring for holding said trip lever in a normal position.

94. In a mattress filling machine the combination with the upper material compressing carriages and with the longitudinal track rails supporting said carriages, a guide plate upon the lower surface of said rails having notches at the ends of a flange on the side of the rail and a lip, a movable bar within the said flange supported by said lip, a T trip lever pivotally connected with the sliding bar adapted to enter said notches and spring plate on the ends of said guide plate.

95. In a filling machine for mattress covers the combination with the receptacle for the material and with material compressing mechanism of material feeding mechanism coacting to impart alternate reciprocal movements to and from the receptacle.

96. In a material compressing machine the combination with the receptacle for the material of a vertically movable self discharging hopper for the material.

97. In a material compressing machine the combination with the receptacle for the material of a movable hopper raising and lowering devices therefor and means acting to discharge the quantity of the material to be compressed from the hopper.

98. In a material compressing machine the combination with the main frame and the receptacle for the material, a movable hopper raising and lowering devices therefor and a bottom within the hopper having hinged parts and devices on the main frame supporting said parts and adapted to release said parts upon the downward movement of the hopper.

99. In a material compressing machine the combination with the main frame and the receptacle for the material, of a movable hopper and a supporting frame for said hopper and a sliding bar within said frame connected with the hopper, raising and lowering devices for the hopper, a bottom to said hopper having hinged parts, pins connected therewith, sheaves on the said sliding bar and a cord connected with said pins extending over said sheaves and connected with the hopper supporting frame.

100. In a material compressing machine the combination with the main frame, the longitudinal vertically movable carriage supporting beams and means for raising and low

ering said beams of a material discharging hopper supported by said beams.

101. In a material compressing machine the combination with the main frame the longitudinal vertically movable supporting beams and means for raising and lowering said beams, a hopper and a frame supporting said hopper mounted on said supporting beams and raising and lowering means on the hopper supporting frame for said hopper.

102. In a material compressing machine the combination with the main frame the receptacle for the material longitudinal vertically moving supporting beams and means for raising and lowering said beams of a hopper mounted on said supporting beams, material compressing means adapted to be extended within the receptacle, raising and lowering devices for said hopper and raising and lowering devices for said material compressing means and power actuated mechanism connected with and imparting movement to said raising and lowering devices to said hopper and to said compressing means alternately.

103. In a material compressing machine the combination with means for compressing the material of means self acting to distribute the material within the receptacle.

104. In a material compressing machine the combination with the receptacle for the material of a hopper and material distributing devices upon the hopper movable in opposite directions within the receptacle.

105. In a material compressing machine the combination with the receptacle for the material of a hopper material distributing and tamping devices on said hopper and devices acting to impart alternate opposite movements to said distributing and tamping devices.

106. In a material compressing machine the combination with the receptacle for the material and with material distributing devices acting to distribute the material within the receptacle of a material retaining frame adapted to be mounted upon the sides of the receptacle to prevent scattering of the material.

107. In a material compressing machine the combination with the receptacle for the material of a material retaining frame, adapted to be seated upon the sides of the receptacle and material distributing devices upon said frame.

108. In a material compressing machine the combination with the receptacle for the material of a hopper and a material retaining frame extending around the lower portion of the hopper and supported thereby, means on the hopper and frame for distributing the material within the receptacle and means for compressing the material after distribution.

109. In a material compressing machine the combination with the receptacle for the material of a hopper and discharging means within the hopper for discharging into the receptacle the quantity for compression, means extending around the lower portion of the hopper for preventing scattering and devices on the hopper for distributing the material within the receptacle discharged from the hopper and compressing means acting to compress the material within the receptacle.

110. In a filling machine for mattress covers the combination with the main frame and the receptacle for the material of a vertically movable hopper material distributing devices on the hopper and a guiding frame for said hopper, a rotary shaft upon said hopper, raising and lowering devices on the hopper and rotary power transmitting shafts on said hopper and said hopper supporting frame, a balanced arm on one of the said rotary power transmitting shafts on said frame and power transmitting devices on said shafts and said arm and the shaft on said hopper and power transmitting devices on the latter shaft transmitting power to the material distributing devices.

111. The combination with a receptacle for the material of distributing devices adapted to be extended within said receptacle and a supporting frame and crank arms for communicating motion to said devices on said frame.

112. The combination with the hopper of distributing rods upon said hopper, bearings upon said rods on the hopper and crank arms for communicating vibratory movement to said rods.

113. The combination with the hopper and with perforate plates thereon and distributing rods within said plates and perforate plates connected with the upper ends of said rods thimbles on said plates, shafts on the hopper and crank arms on said shafts.

114. The combination with a receptacle for the material of a hopper crank arms upon said hopper and reciprocating material distributing devices upon the crank arms.

115. The combination with the receptacle for the material and a suitable supporting frame adapted to be supported upon the sides of the receptacle of material distributing rods having heads, perforate plates through which said rods extend thimbles on said plates and crank arms within said thimbles and lugs on said rods and springs between said plates and lugs.

116. In a filling machine for mattress covers the combination with the hopper of an adjustable frame and adjustable shafts upon said hopper supporting the said frame.

117. In a filling machine for mattress covers the combination with a suitable supporting frame with the material distributing rods and the crank arms supporting said rods of shafts with which arms are connected and power transmitting devices on said shafts and means for reversing the movements of said shafts.

118. In a filling machine for mattress covers the combination with a hopper, a frame extending around said hopper, a supporting means on said hopper connected with said frame, material distributing devices on said frame and hopper, a rotary shaft on said frame and power transmitting devices on said shaft and said frame actuating the distributing devices.

119. In a filling machine for mattress covers the combination with a hopper, a frame extending around said hopper, supporting means on said hopper connected with said frame, a rotary power shaft on said frame, material distributing and tamping devices on said frame and hopper, power transmitting devices on said shaft and said frame, actuating the material distributing devices and tamping devices.

120. In a filling machine for mattress covers the combination with a supporting frame, a vertically movable hopper, raising and lowering means therefor, power actuated mechanism communicating power to the lowering means and causing the descent of the hopper and mechanism acting to reverse the power and actuate the raising means.

121. In a filling machine for mattress covers the combination with a supporting frame of a movable hopper material distributing devices on said hopper raising and lowering means for said hopper, power actuated mechanism for actuating the raising and lowering means to said hopper and transmitting power to said material distributing devices and power reversing mechanism on said hopper controlling the upward movement of the hopper.

122. In a filling machine for mattress covers the combination with the main frame a movable hopper and a hopper supporting frame, raising and lowering means oh the same frame for the hopper material distributing devices on the hopper, power actuated mechanism on the said frame and hopper actuating the raising and lowering means and transmitting power to said material distributing devices on the hopper, a main power shaft on the machine and power transmitting devices connected therewith and the mechanism for raising and lowering said hopper and an automatic means on the main frame for controlling the action of the power through the transmitting devices to raise the hopper.

123. In a filling machine for mattress covers the combination with the hopper and hopper raising and lowering mechanism, the main power shaft and the power transmitting devices from said shaft to said raising and lowering mechanism, of engaging and disengaging devices on the power shaft, a lever actuating said devices and a driven wheel and a projection on said wheel actuating the said lever in its rotation.

124. In a filling machine for mattress covers the combination with a supporting frame of a movable hopper, raising shafts on said frame and lowering means for the hopper on said shafts reverse power transmitting devices for transmitting power from one shaft to the other and a brake and brake lever and power transmitting devices loosely connected with said shaft, mechanism for connecting and disconnecting the loose transmitting devices with the said shafts and actuating the brake lever.

125. In a filling machine the combination with laterally movable track rails of a vertically movable frame between the said rails, raising and lowering devices for said frame and sliding connecting devices connecting said rails and said frame.

126. In a filling machine the combination with a supporting frame and laterally movable elevated track beams on said frame of a vertically movable frame, inclined slotted guide plates on the said movable frame and supporting axles or journals, wheels on the ends of the journals extending respectively within the slots in said guide plate and also supported by said track beams and means for raising and lowering said frame.

127. In a filling machine the combination with a supporting frame and laterally movable elevated track beams on said frame of a vertically movable frame having extensible parts upwardly and outwardly inclined slotted guide plates on the said movable frame and supporting axles or journals, wheels on the ends of the journals extending respectively within the slots in said guide plates and also bearing upon said track beams and raising and lowering devices for said movable frame.

128. In a filling machine for mattress covers the combination with the main frame and elevated main tracks and laterally movable sections of track rails, a vertically movable frame adapted to move between said movable sections and means therein and upon said sections of track for moving said sections to and from each other and coupling devices for coupling said main and sections of track rails.

129. In a filling machine for mattress covers the combination with the main frame and elevated main tracks and laterally movable sections of track rails and with compression carriages upon said track rails of a vertically movable frame adapted to move between said movable sections, means on said frame for moving said sections in opposite directions, means for moving said frames and fastening devices for said movable sections of track rails on the main tracks and means actuated by the carriages for operating the rail fastening devices.

130. In a filling machine for mattress covers the combination with the main frame and the longitudinal carriage supporting beams and the transverse track beams of parallel main track rails and sections of main track rails and hanger frames supporting said main and section of track rails and rollers within said frames mounted on the transverse track beams, having extended journals, a frame adapted to be extended between the parallel sections of track rails and upwardly and outwardly inclined grooved plates on said frame and a roller within the grooves mounted on the extended journals of said rollers in the hanger frames and raising and lowering means for said frame.

131. In a filling machine for mattress covers the combination with the main frame the elevated main track and laterally movable sections of track rails and a receptacle for the material of a vertically movable hopper and a hopper supporting frame, material distributing devices on the hopper, material compressing carriages on the said main tracks and a main driving shaft on the main frame, mechanism on the hopper and hopper supporting frame actuated by the power shaft for lowering the hopper and devices actuated by the hopper for moving outwardly and inwardly the movable track sections, mechanism on the hopper communicating power to and actuating the material distributing devices on the hopper and mechanism acting to raise the hopper after the discharge of the material and its distribution within the receptacle, means for connecting the ends of main and sections of track rails and devices acting to move the carriages upon the track rails to a position above the receptacle and raising and lowering devices acting to lower the carriages and compress the material.

132. In a filling machine for mattress covers the combination with the main frame and the receptacle for the material of a longitudinal carriage supporting beams, raising and lowering means therefor on the main frame and main driving shaft, a vertically movable end gate to the receptacle and a rotary shaft on said main frame and raising and lowering devices on said shaft for the said gate, power transmitting devices transmitting power from the main driving shaft to the shaft supporting said gate devices for connecting the power from the main driving to the rotary shaft actuated by the said carriage supporting beams in their downward movement and raising the gate.

133. In a filling machine for mattress covers the combination with the main frame and the receptacle for the material of a vertically movable end gate, upper and lower compressing carriages for compressing the material and compressing plates, a main driving shaft on said main frame, rotary winding shafts actuated by the main shaft, power controlling devices on the main shaft and winding and unwinding devices on the winding shafts connected with the respective upper and lower carriages, means on said carriages for drawing a cover over said plates, a rack shaft on the said frame actuated in the upward movement of the said gate and a link connecting the rack shaft with the power controlling devices on the main shaft.

134. In a filling machine for mattress covers the combination with the main frame and the receptacle for the material of a vertically movable end gate, a rotary shaft on said frame and raising and lowering devices thereon connected with the end gate, a ratchet wheel on the said shaft and a self engaging pawl on the main frame, a vertically movable hopper on the main frame and mechanism actuated by the hopper in its downward movement to release the said pawl.

135. The combination with the main frame and the receptacle for the material of an end gate, a rotary shaft upon said frame, hoisting devices upon said shaft for said gate, a ratchet wheel on said shaft, a self engaging pawl on said main frame engaging with the ratchet wheel, a vertically movable hopper on said main frame and a transverse supporting bar on said hopper and a rod on said bar, a post on the main frame, a bell crank lever on said post in the path of and actuated by said rod and a rod connecting the bell crank lever and said pawl.

136. In a filling machine for mattress covers the combination with the main frame and the elevated carriage supporting tracks and the upper and lower material compressing carriages, the rack bars and the connecting bar of guide plates on the main frame for the ends of the connecting bar, rotary winding shafts on said main frame and winding and unwinding devices thereon connected with the respective carriages, a main driving shaft on said main frame and power transmitting devices connected therewith and the rotary winding shaft power controlling devices on the main shaft and devices on the guide plate in the path of the connecting bar to the rack bars actuating the power controlling devices on the said main shaft.

137. In a filling machine for mattress covers the combination with the receptacle for the material, of means acting to feed layers of fibrous material within the receptacle and material compressing means and a hopper and mechanism coacting to discharge the material from the hopper within the receptacle.

138. In a filling machine for mattress covers the combination with the receptacle for the material of sliding grasping devices for drawing layers of fibrous material within the receptacle and means for operating said devices.

139. In a filling machine for mattress covers the combination with the receptacle for the material of sliding layer grasping devices within the receptacle having adjustable parts.

140. In a filling machine for mattress covers the combination with the receptacle for the material and the sides to said receptacle of a sliding apparatus upon the sides of the receptacle and a layer grasping device within the receptacle coacting to grasp layers of fibrous material.

141. In a filling machine for mattress covers the combination with the receptacle for the material and the sides

of said receptacle of self locking fabric drawing sliding devices mounted upon and engaging with said sides and releasing means therefor.

142. The combination with the receptacle for the material and the sides of said receptacle of a sliding plate, a guide block upon the sides of said receptacle, a pivoted oscillating securing device on said sliding plate adapted to engage with said guide block.

143. The combination with the receptacle for the material and the sides of said receptacle of a sliding plate and a runway or guide block upon said sides, having a return bent portion and a groove, an extension plate on the sliding plate extending within the said groove, having an opening, a vibrating locking bar on the sliding plate, having one end extending within said opening, a spring acting to retain said end within said opening, said guide block having notches adapted to be engaged by the locking bar and means for releasing said locking bar.

144. The combination with the receptacle for the material and the sides of said receptacle of sliding plate mounted thereon, self engaging devices on said plate engaging with the sides of the receptacle, suitable bearings upon the sliding plate and rock shaft arms on said shaft, a vibrating indrawing fabric grasping device within the receptacle, power transmitting devices connected therewith and also with one of the arms on the rock shaft and operating devices connected with the other arm of the rock shaft.

145. The combination with the receptacle for the material and the sides of said receptacle of sliding plates mounted thereon, self locking pivoted oscillating bars upon said plates having upwardly extended portions and securing means on the sides of the receptacle with which portions of the locking bar is adapted to engage bearings on the said sliding plates and rock shafts on said plates, arms on said rock shafts which arms are adapted to come into contact with and act as a brake to the upturned portions of the locking bars, pulleys on the sliding plates and operating cables connected with the arms on the rock shafts and extending over said pulleys.

146. The combination with the receptacle for the material and the sides of said receptacle of a sliding plate mounted thereon, pivoted locking bars upon said plates, having vertically extended rear end portions and securing means for said bars upon the forward ends and the sides of the receptacle and vertical plates upon the locking plates, between said ends bearings on the sliding plates rock shafts on said bearings, arms on said shaft adapted to come into contact with and act as a brake to the upwardly extended portions of the locking bars pulleys on the sliding plates and operating cable connected with the arms on the crank shaft and extending over said pulleys and blocks on said cables adapted to come into contact with the vertical plates on the locking bars.

147. The combination with the receptacle for the material and the sides to said receptacle of sliding plates thereon having upward extensions rock shafts journaled therein and arms on the outer and inner ends of the rock shafts, locking devices on the outer side of the sliding plates adapted to hold said sliding plate from movement, downwardly and forwardly extended portions of the sliding plates within the receptacle and a pivoted frame on said plates adapted to be vibrated, bell crank levers on said plates and ropes connecting the said levers with the said frame, rods connected with the said bell crank levers and the arms on the outer ends of the rock shafts, pulleys on the sliding plates and operating cables connected with the arms on the outer ends of the rock shaft, extending over said pulleys and means actuated by the cable to release the locking devices on the sliding plates.

148. In a cover filling machine the combination with the inner frame, a forwardly and rearwardly movable carriage and a receptacle for the material upon said carriage of a head block within said receptacle and stationary supporting devices therefor upon the main frame, means for operating the said carriage and self engaging layer drawing device upon the sides of said receptacle adapted to come into contact with the head block and engage with the sides of the receptacle.

149. In a cover filling apparatus the combination with the receptacle for the material of material compressing plates within the receptacle, means for introducing the filling material between the plates and means for drawing layers of fibrous material within the receptacle between said plates.

150. In a cover filling apparatus the combination with the receptacle for the material of upper and lower material compressing plates, means for drawing layers of fibrous material between said plates and means for introducing the filling material between said plates and devices upon the receptacle for drawing a cover over the said plates.

151. In a cover filling machine the combination with the main frame and the upper and lower material compressing carriages and vertically movable track rails supporting said upper carriage of material compressing plates upon said carriages, raising and lowering means for said track rails, means for introducing the filling material between said plates and devices on the sides of the receptacle for drawing layers of fibrous material between said plates and power actuated devices communicating power to the layer drawing devices and sliding grasping devices on the sides of the receptacle for drawing a cover over said plates and means on said main frame communicating power to said cover grasping devices.

152. In a filling machine for mattress covers the combination with the receptacle for the material of an inclined sliding table or pan adapted to be extended within and withdrawn from the receptacle.

153. In a filling machine for mattress covers the combination with the receptacle for the material of an inclined sliding table or pan adapted to be extended within and withdrawn from the said receptacle and raising and lowering means for said table.

154. In a filling machine for mattress covers the combination with the receptacle for the material of an inclined sliding table or pan, said pan having adjustable parts.

155. In a filling machine for mattress covers the combination with the receptacle for the material of a supporting frame rollers upon said frame adapted to support layers of fibrous material and mechanism self acting to communicate power to the rollers and feed the layers toward the receptacle.

156. In a filling machine for mattress covers the combination with the receptacle for the material of a supporting frame, rollers upon said frame adapted to support layers of fibrous material and sliding layer grasping devices upon said receptacle.

157. In a filling machine for mattress covers the combination with the receptacle for the material and a supporting frame of rollers upon said frame adapted to support layers of fibrous material and a sliding layer supporting table, means for raising and lowering said table and sliding layer grasping devices on the receptacle and means for communicating power to said devices.

158. In a filling machine for mattress covers the combination with the receptacle for the material and a supporting frame of rollers upon said frame adapted to support a continuous length of fibrous material and means self acting to separate the fibrous material in divisible parts.

159. The combination with the supporting frame and means on said frame for supporting continuous lengths of fibrous material of mechanism self acting to separate the material in equal divisible parts.

160. In a filling machine for mattress covers the combination with the supporting frame of a table, means for drawing over said table a length of fibrous material and self acting material separating devices upon said supporting frame.

161. In a filling machine for mattress covers the combination with the receptacle for the filling material of a supporting frame, rollers upon said frame adapted to support continuous lengths of fibrous material and self releasing sliding grasping devices upon the receptacle adapted to draw the material within the receptacle.

162. In a filling machine for mattress covers a supporting frame and a receptacle for the filling material,

means upon the said frame for supporting continuous lengths of fibrous material and means self acting to draw the said material within the receptacle and devices on the said frame self acting to separate the material into divisible parts.

163. The combination with the supporting frame of rollers, adapted to support continuous layers of material mounted on said frame, power transmitting shafts on said frame transmitting power to said rollers, a table, means for drawing the material over the table, movable material separating devices adapted to be moved toward said table and mechanism actuated by said devices for controlling the movement of said power transmitting shafts.

164. In a filling machine for mattress covers the combination with the supporting frame of rollers mounted on said frame and adapted to support continuous layers of fibrous material, power operated shafts on said frame transmitting power to and actuating said rollers a table, arms upon said frame, shafts upon said arms actuated by the power operated shafts and movable material separating devices upon said arms movable toward said table and mechanism on said shafts for controlling the movement of the power operated shafts.

165. In a filling machine for mattress covers the combination with the supporting frame of rollers mounted on said frame and adapted to support continuous layers of fibrous material, power operated shafts on said frame transmitting power to and actuating said rollers, a table arms on said frame having slots and sliding shaft bearings in said slots and springs upon which said bearings are yieldingly supported, a rotary shaft mounted in said bearings and material separating devices on said shaft and stud shafts on said bearings, gear on the stud shafts engaging with the gear on the shaft carrying the material separating devices, pinions on the stud shaft and mutilated gear on the power transmitting devices adapted to engage at intervals with the said pinions.

166. The combination in a filling machine for mattress covers with the receptacle for the material and a supporting frame of an inclined sliding table adapted to be extended within the receptacle, rack bars on said table, a rotary shaft on said frame and cog wheels on said shaft engaging with the rack bars, power transmitting devices connected with and actuating said shaft and raising said table and mechanism on the supporting frame, self acting to release the shaft and lower said table.

167. The combination in a filling machine for mattress covers with the receptacle for the material and a supporting frame of an inclined sliding table adapted to be extended within the receptacle and grooved table guiding plates, rack bars on said table, a rotary shaft in said frame and cog wheels on said shaft engaging with the rack bars, power transmitting shafts on said frame and idle shafts on said frame adapted to carry continuous layers of fibrous material and actuated by the power transmitting shafts and loose and fixed band wheels on said shaft and loose band wheel on the shaft carrying said cog wheels, clutches on said shafts and clutch levers and latch bars on said levers, a bell crank lever on said table, guiding plates and a rod connecting one arm of said lever and one of the power transmitting shafts and a lug on the sliding table adapted to come into contact with one of the arms of the bell crank lever.

168. The combination in a filling machine for mattress covers with the main frame and the receptacle for the material of an auxiliary frame and an inclined sliding table in said latter frame, means for raising the table in position and self securing devices on the main frame for holding the table in a raised position, a vertically movable hopper on the main frame and mechanism on the main frame actuated on the downward movement of the hopper to release the securing devices to the end gate.

169. The combination with the main frame the forward end rearwardly movable lower carriages and the traveling bench or table connected therewith and with an auxiliary frame, an inclined table guide plates on said frame and a rack shaft, rack bars on said inclined table and cog wheels on said shaft, a ratchet wheel on said shaft and a pawl on said auxiliary frame devices on said frame connected with and raising said pawl, a hook on said table and devices on the said auxiliary frame in the path of said hook actuating the pawl raising devices in the rearward movement of said carriages.

170. The combination in a filling machine for mattress covers with the main frame and the main driving shaft and the receptacle for the material within said frame of an auxiliary frame and power transmitting shafts therein, means connected with the said shafts for supporting and feeding continuous layers of fibrous material within the receptacle, sliding material grasping means in the receptacle, a power shaft on the main frame and power transmitting devices connected therewith and said main driving shaft and power connecting and disconnecting devices on the main shaft and mechanism on the auxiliary frame actuated by the power transmitting devices to the material feeding means connected with and actuating the power connecting devices on the main shaft.

171. The combination with the main frame, the main driving shaft and the receptacle for the material and the sliding grasping devices thereon and with the winding shaft of winding devices connected with the sliding grasping devices, power transmitting means connected with the main and winding shafts and power connecting and disconnecting devices on said main shaft, an auxiliary frame and mechanism thereon for feeding continuous layers of material within the receptacle and controlling the power connecting devices on the main driving shaft.

172. In a filling machine for mattress covers the combination with the receptacle for the filling material of draft devices for drawing lengths of fibrous material within the receptacle, a chute and means for discharging mattress filling material from the chute upon the fibrous material during its passage within the receptacle.

173. In a filling machine for mattress covers the combination with the main frame and the receptacle for the material of a power actuated shaft on said frame sliding grasping devices on the receptacle for the fibrous layers and draft devices on said shaft connected with the sliding devices on the receptacle and material conveying devices actuated by said shaft.

174. In a filling machine for mattress covers the combination with the receptacle for the material and with means for drawing layers of fibrous material within the receptacle of means for discharging fine mattress filling material upon the layers.

175. In a filling machine for mattress covers the combination with the receptacle for the material with the means for feeding layers of fibrous material within the receptacle of means for discharging fine mattress filling material upon the layers in its passage.

176. In a filling machine for mattress covers the combination with the receptacle for the material and with draft devices for drawing lengths of fibrous material within the receptacle, of means for supporting continuous lengths of the said material, devices for separating the material into divisible parts and means for discharging fine mattress filling material upon the fibrous material in its passage.

177. In a filling machine for mattress covers the combination with the main frame and the receptacle for the material of an auxiliary frame, a vertically movable hopper on the main frame, means on the auxiliary frame for supporting and feeding layers of fibrous material to the receptacle, a main power shaft on the main frame, power transmitting shafts in said auxiliary frame actuating the material feeding means and mechanism on the main frame and auxiliary frame actuated by the hopper in its downward movement to communicate power from the main shaft to the power transmitting shafts on the auxiliary frame.

178. In a filling machine for mattress covers the combination with the main frame and the main driving shaft and the receptacle for the material of an auxiliary frame, rollers thereon adapted to support continuous lengths of fibrous material, power transmitting shafts on said latter frame and means actuated by said shaft for communicating motion to and feeding the said material to the receptacle, power transmitting devices connected with the

main driving shaft and the power transmitting shafts, loose band wheels in the said shafts and clutches on said shafts and clutch operating levers, a vertically movable hopper on the main frame and transverse bars supporting said hopper and a rod connected with one of said bars, bell crank lever on the auxiliary frame and connecting devices connecting said levers with the clutch operating lever and bell crank lever on the main frame in the path of and actuated by the rod on the hopper supporting bar in its downward movement and connecting devices connecting said bell crank lever on the main frame with the bell crank levers on the auxiliary frame.

179. The combination in a filling machine for mattress covers with the main frame of a chute on said frame having laterally extensible parts, an adjusting rod on said chute having screw threaded lugs and screw threads on said parts within which said rod extends.

180. In a filling machine for mattress covers the combination with the main frame and with the receptacle for the material of a hopper, discharging means on the hopper for discharging a quantity of material into the receptacle and a pipe leading to the hopper and a material discharging apparatus for discharging the quantity of material into the hopper.

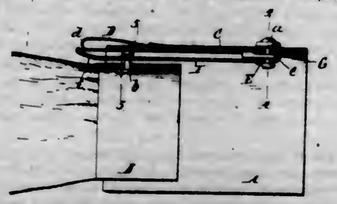
181. In a filling machine for mattress covers the combination with the main frame and with the receptacle for the material of a hopper, a conduit leading to the hopper and a movable table supporting the mattress filling material and an air suction and blast apparatus connected with the conduit.

182. In a filling machine for mattress covers the combination with the main frame and the receptacle for the material of draft devices acting to draw layers of fibrous material within the receptacle, a chute for discharging fine filling material upon the layers of fibrous material, a pipe leading to the chute and an air suction and blast apparatus connected with the pipe.

183. The combination in a mattress filling machine with the main frame, the main driving shaft, the receptacle for the material and sliding grasping devices on the receptacle for grasping layers of fibrous material, of a power driven shaft on the main frame and power transmitting devices connected therewith and with the main driving shaft draft devices on the driven shaft connected with the material grasping devices, a chute on the main frame and pipes for conveying filling material to the chute and an air suction and blast fan and a fan shaft on the said pipe and power transmitting devices on said latter shaft connected with the power driven shaft actuating the layer grasping devices.

184. The combination with the main frame the receptacle for the mattress filling material and the hopper upon said frame of a pipe conveying material to said hopper and suction and blast fan in said pipe and a fan shaft, an operating shaft on said main frame and power transmitting devices connected therewith and said fan shaft, an endless traveling apron and a shaft operating said apron and power transmitting devices connected therewith and the shaft operating said fan shaft.

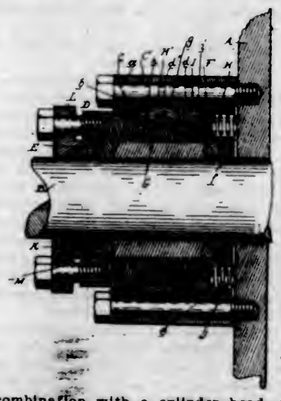
867,937. CUFF-HOLDER. GEORGE E. BAKER, Buffalo, N. Y. Filed Nov. 11, 1904. Serial No. 232,306.



1. A cuff holder comprising two bars arranged side by side and connected at their front ends by a bow and provided on opposite sides adjacent to said bow with notches forming hooks for connection with a cuff button, spring detents extending across the mouths of said hooks and secured at their rear ends to one of said bars while their front ends bear against said bow, and means arranged on one of said bars for connection with a shirt button, substantially as set forth.

2. A cuff holder comprising a bar E, means for connecting the rear part of said bar with a shirt button, a hook F arranged at the front end of said bar and having a laterally opening mouth for receiving a button at the front end of a cuff, and a detent G normally arranged lengthwise across said mouth and connected at its rear end with said bar while its front end projects forwardly beyond the same, forming a shoulder which may be engaged with said cuff button for moving the detent laterally away from the hook and admitting said cuff button into the same, substantially as set forth.

867,938. STUFFING-BOX. JAMES R. BEAMER, Detroit, Mich. Filed Jan. 14, 1907. Serial No. 352,272.



1. The combination with a cylinder head, of a casing secured thereto, a stuffing box mounted within the casing for compensating movement, and an adjustable gland for compressing the packing within the box.

2. The combination with a cylinder head and a reciprocating stem or rod, of a casing secured to the head, a stuffing box mounted within the casing for rocking and relative transverse movement, a compression member within the box, and an adjustable manually operable gland for the compression member.

3. The combination with a cylinder head, of the stem or rod extending therethrough, a casing secured to the head, an automatically adjustable stuffing box within the casing, and spacing means associated with the box for holding the latter out of engagement with the rod.

4. The combination with a cylinder head, of a casing secured thereto, a stuffing box mounted within the casing for compensating movement, compression rings within the box and an external adjustable gland for the rings.

5. The combination with a cylinder head, of a stem or rod, a casing connected to the head, a stuffing box arranged within the casing for compensating movement, compression rings within and extending beyond the box, spacing the latter from the stem or rod, and a gland for adjusting the rings.

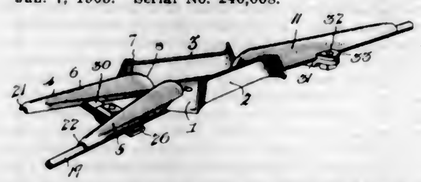
6. The combination with a cylinder head, of the casing secured thereto, a stuffing box within and having a rocking bearing upon the casing, and a plurality of springs interposed between the cylinder head and stuffing box, acting to hold the latter in engagement with the casing.

7. The combination with a cylinder head, of a casing secured thereto, a stuffing box within the casing comprising an annular flanged member adjoining the head, and an elongated sleeve detachably connected to the annular section, a bearing ring encircling the sleeve and having a rocking bearing against the casing, and a plurality of springs interposed between the head and stuffing box holding the bearing ring in rocking engagement with the casing.

8. The combination with a cylinder head, of a casing secured thereto, a stuffing box within the casing comprising an annular flanged member adjoining the head, and an elongated sleeve detachably connected to the annular section, a bearing ring encircling the sleeve and having a rocking bearing against the casing, a plurality of springs interposed between the head and stuffing box for holding the bearing ring in rocking engagement with the casing, sectional compression rings within the box, and an external gland for shifting one of the rings in relation to the other.

9. The combination with a cylinder head, of a casing secured thereto, a stuffing box mounted within the casing for universal compensating movement, and a gland operable from the exterior of the casing for compressing the packing within the box.

867,939. LINE-WIRE SWITCH-FROG FOR ELECTRIC RAILWAYS. HARRY J. BECK, Winburne, Pa., assignor to S. B. Stine and J. C. Stine, Osceola Mills, Pa. Filed Jan. 7, 1905. Serial No. 240,008.



1. In a switch frog the combination with its body part and a plurality of splice-pieces, one of which is movable and provided with a pivotal connection with the body part, of means of line wire connection with said splice-pieces including line-wire engaging means upon said movable piece, substantially at its aforesaid point of pivotal connection.

2. In a switch frog the combination with its body part and a plurality of splice-pieces, one of which is movable and provided with a pivotal connection with the body part, of means of line wire connection with said splice-pieces including line-wire engaging means upon said movable piece substantially at its aforesaid point of pivotal connection, and an intermediate line wire chair upon the body part.

3. In a switch frog the combination with a body part provided with a plurality of relatively movable splice-pieces and means of effecting line wire connection with said pieces, of a line wire chair upon said body part, between said pieces substantially as and for the purpose specified.

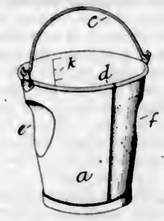
4. In a switch frog the combination with its body part and an arm, of means for adjustably and detachably securing said members together, said means consisting of a corresponding obliquely disposed slot and tongue connection located respectively upon either of the members aforesaid.

5. In a switch frog the combination with its body part provided with a slot and with oppositely disposed sectoral recesses as shown, of an arm and a tongue upon the arm adapted to enter said slot and by engagement with the side walls thereof, to separably unite said members.

867,940. MILK-BUCKET AND SIMILAR VESSEL. SAMUEL E. BELL, Wangaratta, Victoria, Australia. Filed Apr. 24, 1907. Serial No. 370,074.

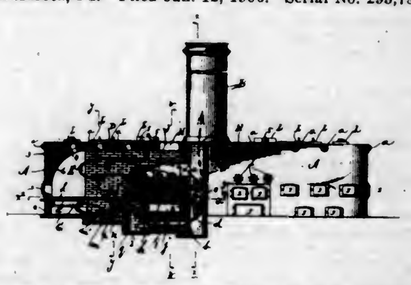
1. A bucket having its walls at substantially opposite points depressed forming supporting shoulders at the upper parts of said depressions whereby the bucket may be supported by the knees of the user or upon a suitable frame, substantially as described.

2. A bucket having its walls at opposite points depressed, forming supporting shoulders at the upper part of said depressions whereby the bucket may be supported by the knees of the user or upon a suitable frame, said depressed portions at opposite points being provided by an annular depression extending about the bucket, substantially as described.



3. A bucket having its walls at substantially opposite sides depressed and deepened more abruptly at the upper parts of said depressed portions than at the lower parts thereof, whereby the bucket may be supported by the knees of the user or upon a suitable frame, substantially as described.

867,941. GARBAGE-CREMATOR. DAVID E. BENNETT, Nazareth, Pa. Filed Jan. 12, 1906. Serial No. 295,782.



1. In a cremator of the class described, in combination, one or more arched furnaces each having two connected garbage cells; a central partition wall longitudinally between said garbage cells and beneath the apex of the arch; a horizontal sectional garbage floor and an ash pit floor; a sub-superheating chamber below said garbage floor and said ash pit floor; dust collecting cisterns and spraying and dust deflecting devices located within said sub-superheating chamber; a fire-grate; a carcass supporting grate with widely separated bars arranged in the vertical plane of the said fire grate; damper cells respectively having openings to the chimney, to said garbage cells, and to the sub-superheating chamber, and manually operable bar-connected, simultaneously reverse acting, draft reversing and regulating dampers arranged in said damper cells.

2. In a cremator of the class described, in combination, one or more arched furnaces each having two connected garbage cells; a central partition wall longitudinally between said garbage cells and beneath the apex of the arch; a horizontal sectional garbage floor and ash pit floor; a sub-superheating chamber below said garbage floor and said ash pit floor; dust collecting cisterns and spraying and dust deflecting devices located within said sub-superheating chamber; a fire grate; damper cells respectively having openings to the chimney, to said garbage cells, and to the sub-superheating chambers, and connected, simultaneously reverse acting, draft reversing and regulating dampers arranged in said damper cells.

3. In a cremator of the class described, in combination, one or more arched furnaces each having two connected garbage cells; a central partition wall longitudinally between said garbage cells and beneath the apex of the arch; a horizontal sectional garbage floor and ash pit floor; a sub-superheating chamber below said garbage floor and said ash pit floor; dust collecting cisterns and spraying

and dust deflecting devices located within said sub-superheating chamber; a fire grate; a tubular carcass-supporting grate with widely separated tubular bars arranged in the vertical plane of the said fire grate; damper cells respectively having openings to the chimney, to said garbage cells, and to the sub-superheating chamber, and connected, simultaneously reverse acting, draft reversing and regulating dampers arranged in said damper cells.

4. In a cremator of the class described, in combination, one or more furnaces each having two connected garbage cells; a partition wall between said garbage cells and beneath the longitudinal center of the top thereof; a horizontal sectional garbage floor and an ash pit floor; a sub-superheating chamber below said garbage floor and said ash pit floor; dust collecting cisterns and spraying and dust deflecting devices located within said sub-superheating chamber; a fire grate; a carcass supporting grate with widely separated bars arranged in the vertical plane of the said fire grate; damper cells respectively having openings to the chimney, to said garbage cells, and to the sub-superheating chamber, and connected, simultaneously reverse acting, draft reversing and regulating dampers arranged in said damper cells.

5. In a cremator of the class described, in combination, one or more furnaces each having two connected garbage cells; a partition wall between said garbage cells and beneath the longitudinal center of the top thereof; a horizontal sectional garbage floor and ash pit floor; a sub-superheating chamber below said garbage floor and said ash pit floor; dust collecting cisterns and spraying and dust deflecting devices located within said sub-superheating chamber; a fire grate; damper cells respectively having openings to the chimney, to said garbage cells, and to the sub-superheating chamber, and connected, simultaneously reverse acting, draft reversing and regulating dampers arranged in said damper cells.

6. In a cremator of the class described, in combination, one or more furnaces each having two connected garbage cells; a partition wall between said garbage cells and beneath the longitudinal center of the top thereof; a horizontal sectional garbage floor and ash pit floor; a sub-superheating chamber below said garbage floor and said ash pit floor; dust collecting cisterns and spraying and dust deflecting devices located within said sub-superheating chamber; a fire grate; a tubular carcass supporting grate with widely separated tubular bars arranged in the vertical plane of the said fire grate; damper cells respectively having openings to the chimney, to said garbage cells, and to the sub-superheating chamber, and connected, simultaneously reverse acting, draft reversing and regulating dampers arranged in said damper cells.

7. In a semi-elliptical cremator furnace of the class described, in combination, two connected garbage cells respectively having a carcass supporting grate with widely separated air conveying tubular bars; a partition wall between said garbage cells and beneath the longitudinal center of the top of the furnace; a flue in the said partition wall connecting with the inner ends of said tubular grate bars and with a chimney, and water circulating pipes arranged axially through said tubular grate bars from outside to outside of the furnace.

8. In a semi-elliptical cremator of the class described, in combination, two connected garbage cells respectively having a carcass supporting grate with widely separated air conveying tubular bars; a partition wall between said garbage cells and beneath the longitudinal center of the top of the furnace, and a flue in the said partition wall connecting with the inner ends of said tubular grate bars and with a chimney.

9. In an arched semi-elliptical cremator furnace of the class described, in combination, two connected garbage cells respectively having a carcass supporting grate with widely separated air conveying tubular bars; a partition wall between said garbage cells and beneath the apex of the arch; a flue in the partition wall connecting with the inner ends of said tubular grate bars and with a chimney, and water circulating pipes arranged axially through said tubular grate bars from outside to outside of the furnace.

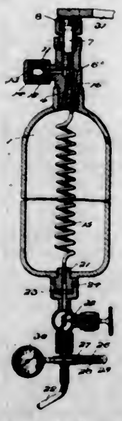
10. In an arched semi-elliptical cremator furnace of the class described, in combination, two connected garbage cells respectively having a carcass supporting grate with widely separated air conveying tubular bars; a partition wall between said garbage cells and beneath the apex of the arch, and a flue in the partition wall connecting with the inner ends of said tubular grate bars and with a chimney.

11. In a cremator of the class described, in combination, one or more arched furnaces, each having two connected garbage cells; a central partition wall longitudinally between said garbage cells and beneath the apex of the arch; a horizontal sectional garbage floor and an ash pit floor; a sub-superheating chamber below said garbage floor, and said ash pit floor; a fire grate; a carcass supporting grate with widely separated bars arranged in the vertical plane of the said fire-grate; damper cells respectively having openings to the chimney, to said garbage cells, and to the sub-superheating chamber, and simultaneously reverse acting, draft reversing and regulating dampers arranged in said cells.

12. In a cremator of the class described, in combination, one or more arched furnaces each having two connected garbage cells; a central partition wall longitudinally between said garbage cells and beneath the apex of the arch; a horizontal sectional garbage floor and ash-pit floor; a sub-superheating chamber below said garbage floor, and said ash pit floor; a fire-grate; damper cells respectively having openings to the chimney, to said garbage cells, and to the sub-superheating chambers, and simultaneously reverse acting, draft reversing and regulating dampers arranged in said damper cells.

13. In a cremator of the class described, in combination, one or more arched furnaces, each having two connected garbage cells; a central partition wall longitudinally between said garbage cells and beneath the apex of the arch; a horizontal sectional garbage floor and ash pit floor; a sub-superheating chamber below said garbage floor and said ash pit floor; a fire-grate; a tubular carcass-supporting grate with widely separated tubular bars arranged in the vertical plane of said fire-grate; damper cells respectively having openings to the chimney, to said garbage cells, and to the sub-superheating chamber, and simultaneously reverse acting, draft reversing and regulating dampers arranged in said damper cells.

867,942. COMPRESSED-FLUID CHARGING AND DISCHARGING DEVICE. GABRIEL A. BOBRICK, Los Angeles, Cal. Filed Dec. 21, 1906. Serial No. 348,994.



1. In a device of the character described, the combination of a reservoir for a liquefied or compressed gas, with a manually-operable gas-expansion device, and means utilizing the heat of the liquefied or compressed gas in the reservoir to neutralize the cold due to expansion.

2. In a device of the character described, the combination of a reservoir for a liquefied or compressed gas, with a manually-operable gas-expansion device, and a conduit leading from said expansion device through the liquefied or compressed gas in the reservoir, whereby the temperature of the latter will act to raise the temperature of the expanded gas.

3. In a device of the character described, the combination of a reservoir for a liquefied or compressed gas, with a gas-expansion device, and a tubular coil constituting a conduit leading from said expansion device through the liquefied or compressed gas in the reservoir, whereby the temperature of the latter will act to raise the temperature of the expanded gas.

4. In a device of the character described, the combination of a reservoir for a liquefied or compressed gas, with a manually-operable valve permitting the expansion of said gas from the reservoir, and means utilizing the heat of the liquefied or compressed gas in the reservoir to neutralize the cold due to expansion.

5. In a device of the character described, the combination of a reservoir for liquefied or compressed gas having a discharge orifice, a manually-operable valve controlling the expansion of the gas from the reservoir through said orifice, and a conduit leading through said reservoir from said orifice, whereby the cold due to expansion of the gas is neutralized by the heat of the fluid in the reservoir.

6. In a device of the character described, the combination of a reservoir for liquefied or compressed gas having a discharge orifice, a valve controlling the expansion of the gas from the reservoir through said orifice, a coiled tube constituting a conduit leading from said orifice through said reservoir and having its discharge end projecting outward through the wall of the reservoir.

7. In a device of the character described, the combination of a reservoir for liquefied or compressed gas, with a valve casing having a duct therein provided with a port opening into the reservoir, a conduit leading from said duct through the reservoir, and a valve controlling the passage of gas through said duct.

8. In a device of the character described, the combination of a reservoir for liquefied or compressed gas, a valve casing connected to said reservoir and having an inlet duct leading from the exterior of the casing and opening into the reservoir, an outlet or expansion duct in said casing in communication with said inlet duct, and a valve controlling the passage of gas from the reservoir to the outlet duct via said inlet duct.

9. In a device of the character described, the combination of a reservoir for liquefied or compressed gas, a valve casing connected to said reservoir and having an inlet duct leading from the exterior of the casing and opening into the reservoir, a valve controlling said inlet duct, an outlet or expansion duct in said casing in communication with said inlet duct, and a valve controlling the passage of gas from the reservoir via the inlet duct to the outlet duct.

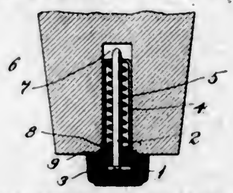
10. In a device of the character described, the combination of a reservoir for liquefied or compressed gas, a valve casing connected to said reservoir and having an inlet duct leading from the exterior to the interior of said casing, a valve controlling said duct and having an operating part projecting from the casing, a cap or shield inclosing said operating part, an outlet duct, a valve controlling said outlet duct, and means exposed on the exterior of said casing for operating said last-mentioned valve.

11. In a device of the character described, the combination of a reservoir for liquefied or compressed gas, with a gas-expansion device, a conduit leading from said expansion device through the liquefied or compressed gas in the reservoir, and a pressure-relief device connected to said conduit.

12. In a device of the character described, the combination of a reservoir for liquefied or compressed gas, with a gas expansion device, a conduit leading from said expension device through the liquefied or compressed gas in the reservoir, and a pressure-indicating device connected to said conduit.

13. In a device of the character described, the combination of a receptacle for a liquefied or compressed gas, and a conduit relatively immovable to said receptacle leading from the interior of said receptacle to the exterior thereof, said conduit being located for a portion of its length within the area of said receptacle, whereby the gas passing outward through said conduit will have imparted to it approximately the temperature of the fluid in the receptacle.

867,943. PIN-AND-SOCKET FASTENER. WARREN H. BOLES, Newark, N. J., assignor to Boles Friction Fastener Company, Newark, N. J., a Corporation of New Jersey. Filed Nov. 8, 1906. Serial No. 342,517.



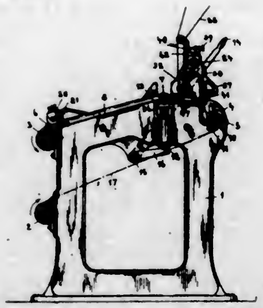
1. A pin and socket fastener comprising in combination a socket, a pin and a spiral spring within said socket adapted to receive said pin within it and having coils of substantially the same diameter, certain of which are offset with respect to certain others.

2. A pin and socket fastener comprising in combination a socket, a pin and a spiral spring within said socket adapted to receive said pin within it and having staggered coils.

3. A socket for socket and pin fasteners, comprising a shell and a retaining keeper for a pin comprising a spiral spring having coils of substantially the same diameter, certain of which are offset with respect to certain others.

4. A socket for socket and pin fasteners, comprising a shell and a retaining keeper for a pin comprising a spiral spring, having staggered coils.

867,944. CLOTH-CUTTING MACHINE. ALBERT BOSSHARD, Zurich, Switzerland. Filed May 11, 1906. Serial No. 316,325.



1. In a cloth cutting machine the combination with a laterally slidable rotatable knife and table located below same of a knife guide comprising a block mounted to be slidable laterally on said table and having a longitudinal slot, springs supported adjacent said slot, a pin in connection with said springs adapted to bear on said block and means for preventing forward and rearward movement of said block on the table aforesaid, substantially as described.

2. In a cloth cutting machine the combination with a table and a cloth web pasing thereover of a vertically adjustable tensioning bar adapted to bear from below on said cloth, slides carrying said bar, rods connected to said slides and lever mechanism adapted to act on said rods to adjust the bar, substantially as described.

3. In a cloth cutting machine the combination with a

table and cloth web passing thereover a fixed tensioning bar in front of said table in the direction of travel of the web, an adjustable smoothing plate secured to said tensioning bar, an adjustable tensioning bar to the rear of said table and an adjustable second smoothing plate to the rear of said adjustable tensioning bar, substantially as described.

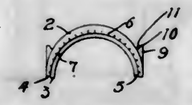
4. In a cloth cutting machine, the combination of a laterally slidable rotatable knife, means for feeding the cloth thereto, a fixed axle carrying said knife, a laterally adjustable carriage carrying said axle, a guide on which said carriage is adapted to slide, and means whereby the carriage can be adjusted to permit the knife to cut in definite directions, substantially as described.

5. In a cloth cutting machine, the combination of a laterally slidable rotatable knife, means for feeding the cloth thereto a laterally slidable knife guide coacting therewith, a pin in connection with said guide adapted to bear on the cloth, fixed and adjustable tensioning bars over which the cloth travels, a table located between said bars and supporting the aforesaid knife guide, a smoothing plate in front of the fixed tensioning bar, a winding roller for the cut cloth, and a second smoothing plate in front of said winding roller, substantially as described.

6. In a cloth cutting machine, the combination of a laterally slidable rotatable knife means for feeding the cloth thereto, fixed and adjustable tensioning bars over which the cloth travels, a table located between said bars, means for keeping the surface of said table always parallel to the cloth, a fixed axle carrying the knife aforesaid, a laterally adjustable carriage carrying said axle, a guide on which said carriage is adapted to slide, a smoothing plate in front of the fixed tensioning bar, a winding roller for the cut cloth, a second smoothing plate in front of said winding roller, and means for keeping said plate always parallel with the cloth, substantially as described.

7. In a cloth cutting machine, the combination of a laterally slidable rotatable knife, means for feeding the cloth thereto, a laterally slidable knife guide coacting therewith, a pin in connection with said guide adapted to bear on the cloth, fixed and adjustable tensioning bars over which the cloth travels, a table located between said bars and supporting the aforesaid knife guide, means for keeping the surface of said table parallel to the cloth, a fixed axle carrying the knife aforesaid, a laterally adjustable carriage carrying said axle, a guide on which said carriage is adapted to slide, a smoothing plate in front of the fixed tensioning bar, a winding roller for the cut cloth, a second smoothing plate in front of said winding roller, means for keeping said plate parallel with the cloth, and adjustable and removable guide rollers for the cloth, substantially as described.

867,945. DRAIN-TILE. WILLIAM H. CARSON, Madison, Minn. Filed Feb. 18, 1907. Serial No. 357,841.

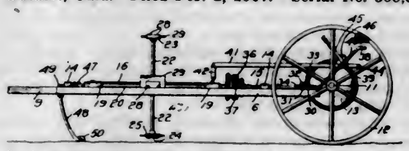


1. A composition tile comprising two longitudinally divided sections of equal size, each section having a longitudinally arranged tongue and an adjoining flat surface on one edge, and a longitudinally arranged recess and a flat surface on the other edge, said tongue and recess being oppositely aranged on the sections of each tile, whereby the edges of the tile will interlock when placed together, substantially as described.

2. A composition tile comprising longitudinally divided sections having interlocking abutting edges, each tile section gradually decreasing in thickness from its middle portion toward the edges thereof, and a reinforcing material embedded within said tile sections.

3. A tile composed of separable sections substantially semi-circular in form, webs provided on the peripheries of said sections, each web having a surface adapted to fit the edge of a tile section placed thereon, whereby said sections may be piled one upon another and supported by said webs.

867,946. COTTON-CHOPPER. JOSEPH CHAMNESS, Guthrie, Okla. Filed Feb. 2, 1907. Serial No. 355,513.



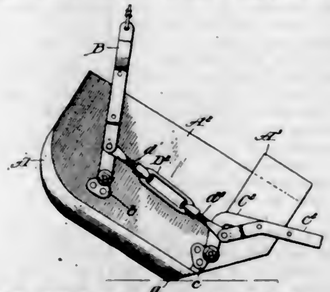
1. A cotton chopper comprising a frame mounted for travel, a driven shaft carried by the frame, a shaft supported by the driven shaft, and a chopping device carried by the last mentioned shaft.

2. A cotton chopper comprising a frame mounted for travel, a driven shaft journaled upon the frame, a sleeve loosely carried by the shaft, a shaft supported from the sleeve and geared with the driven shaft, a chopping member carried by the last named shaft, and means for rocking the sleeve upon the driven shaft.

3. A cotton chopper comprising a frame arranged for travel, a driven shaft journaled upon the frame, a sleeve loosely engaged upon the driven shaft, arms carried by the sleeve, a chopper shaft journaled at the ends of the arms and geared with the driven shaft, and means connected with one of the arms whereby the arms and the sleeve together with the shaft supported thereby may be rocked.

4. A cotton chopper comprising a frame arranged for travel, a driven shaft journaled upon the frame, arms connected with the shaft for vertical rocking movement, a shaft journaled in the arms and geared with the driven shaft, a cutting device carried by the last named shaft, and means for swinging the arms.

867,947. EXCAVATING-SHOVEL. HENRY CHANNON, Chicago, Ill. Filed Jan. 8, 1907. Serial No. 351,299.



1. In a device of the character described, the combination with an excavating shovel, of a supporting member pivotally supporting said shovel, means for forcing said shovel into the material, and means for varying the inclination of the shovel when digging according to the character of the material worked upon.

2. In a device of the character described, the combination with an excavating shovel, of a supporting member pivoted to said shovel, hauling mechanism engaging said supporting member and connected to the shovel, and means for adjusting the hauling mechanism to vary the inclination of the shovel when digging according to the character of the material worked upon.

3. In a device of the character described, the combination with an excavating shovel, of a supporting member pivoted to said shovel at the rear of its center of gravity, hauling mechanism secured to said supporting member and connected to the shovel at the front of its center of gravity, and means for adjusting the hauling mechanism to vary the inclination of the shovel when digging according to the character of material worked upon.

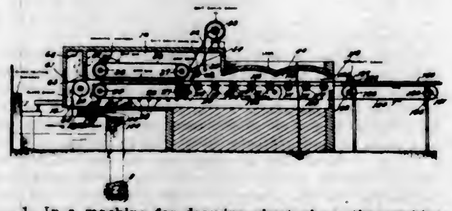
4. In a device of the character described, the combination with a shovel, of a supporting bail between the arms of which said shovel is pivoted at the rear of its center of gravity, pulling mechanism secured to the portions of said bail on the opposite sides of the shovel, said mechanism being connected to each side of the shovel at the front of its center of gravity, and means for adjusting the hauling mechanism to vary the inclination of the shovel when digging according to the character of the material worked upon.

5. In a device of the character described, the combination with a shovel, of a supporting bail to the arms of which said shovel is pivoted at the rear of its center of gravity, a lever pivotally connected to said shovel in front of said bail, a link pivotally connecting said bail and lever, means for adjusting the length of said link, and means connected to said lever to which the hauling power is applied.

6. In a device of the character described, the combination with a shovel, of a supporting bail between the arms of which said shovel is pivoted at the rear of its center of gravity, a bell-crank lever pivotally connected to said shovel in front of said bail, a link pivotally uniting said bail and lever, means for adjusting the length of said link, and means connected to said lever by means of which hauling power is applied.

7. In a device of the character described, the combination with a shovel, of a supporting bail between the arms of which said shovel is pivoted at the rear of its center of gravity, a bell-crank lever on each side of said shovel fulcrumed thereon at the end of one arm thereof, a link pivotally connecting each bell-crank lever adjacent its angle to the corresponding arm of said bail, means for adjusting the length of said links and means connected to the other arms of said bell-crank levers for applying hauling power to the shovel.

867,948. APPARATUS FOR DRAWING SHEET-GLASS. IRVING W. COLBURN and EDGAR WASHBURN, Franklin, Pa., assignors, by direct and mesne assignments, to Colburn Machine Glass Company, Franklin, Pa., a Corporation of New Jersey. Filed Mar. 6, 1906. Serial No. 304,555.



1. In a machine for drawing sheet glass, the combination of a receptacle containing a mass of molten glass, means for drawing a sheet of glass of uniform width from said mass, and an idler roller over which said sheet is bent to change its direction of movement.

2. In a machine for drawing sheet glass, the combination of a receptacle containing a mass of molten glass, means for vertically drawing a sheet of glass of uniform width from said mass, and an idler roller over which said sheet is bent to change its direction of movement.

3. In a machine for drawing sheet glass, the combination of a receptacle containing a mass of molten glass, means for drawing a sheet of glass from said mass, means moving in said molten mass to maintain the uniform width of the sheet, and an idler drum or roller over which the sheet is bent to change its direction of movement.

4. In a continuous sheet glass making machine, the combination of a receptacle containing a mass of molten glass, means for continuously drawing a sheet of glass of uniform width therefrom, and means moving in unison with said drawing means and determining a line of cut, whereby said continuously moving sheet may be severed into sections along predetermined lines without interrupting the drawing operation.

5. In a continuous sheet glass making machine, the combination of a receptacle containing a mass of molten glass, means for continuously drawing a sheet of glass of uniform width therefrom, a leer into which the sheet is passed as drawn, and means at the exit end of the leer moving in unison with the drawing means and determining a line of cut, whereby the annealed sheet may be cut into regular sections along predetermined lines.

6. In a continuous sheet glass making machine, the combination of a receptacle containing a mass of molten glass, means continuously drawing a sheet of uniform width therefrom, and ruler-controlling means moving at the same rate as the drawn sheet, whereby a straight line for the cutter may be had without interrupting the advancing movement of the sheet.

7. In a continuous sheet glass making machine, the combination of a receptacle containing a mass of molten glass, a leer, with means continuously drawing a sheet of uniform width and advancing it through said leer, and ruler-controlling devices moving in unison with said drawing means, whereby a ruler may be placed on the moving sheet and be moved with it during the cutting operation.

8. In a continuous sheet glass making machine, the combination of a receptacle containing a mass of molten glass, means continuously drawing a sheet of uniform width therefrom, and a pair of ruler-controlling abutments one adjacent to each edge of said sheet, and means moving said abutments synchronously with said sheet.

9. In a continuous sheet glass making machine, the combination of a receptacle containing a mass of molten glass, means continuously drawing a sheet of uniform width therefrom, a leer through which the sheet is advanced as drawn, a pair of ruler-controlling abutments one adjacent to each edge of said sheet near the exit end of the leer, and means moving said abutments synchronously with said sheet.

10. In a continuous sheet glass making machine, the combination of a receptacle containing a mass of molten glass, means for continuously drawing a sheet of uniform width therefrom including grip bars which seize the sheet at uniform intervals, and ruler-controlling means moving synchronously with said sheet adjacent to the points where the sheet has been engaged by said grip bars, whereby the sheet may be cut at the points where the grip bars mar the same.

11. In a continuous sheet glass making machine, the combination of a receptacle containing a mass of molten glass, means for continuously drawing a sheet of uniform width therefrom including grip bars which seize the sheet along transverse lines at uniform intervals, and ruler-controlling abutments one adjacent to each edge of the sheet opposite the ends of said transverse lines, and means moving said abutments synchronously with said sheet, whereby said sheet may be cut along the lines where the grip bars have marred the sheet.

12. In a continuous sheet glass making machine, the combination of a receptacle containing a mass of molten glass, means for drawing a continuous sheet of uniform width therefrom, a leer through which the sheet is advanced, a table along which the sheet is advanced as it emerges from the leer, and a pair of oppositely disposed ruler-controlling abutments moving along the edges of the table synchronously with the sheet.

13. In a machine for drawing sheet glass, the combination of a receptacle containing a mass of molten glass, means for drawing a sheet of glass therefrom, a pair of oppositely disposed hooks one adjacent to each edge of the sheet being drawn, and means moving said hooks in the mass of molten glass and in a plane of the sheet being drawn.

14. In a machine for drawing sheet glass, the combination of a receptacle containing a mass of molten glass, means for drawing a sheet of glass therefrom, a pair of oppositely disposed hooks one adjacent to each edge of the sheet being drawn, and means moving said hooks in curved

paths within the molten mass and in the plane of the sheet being drawn.

15. In a machine for drawing sheet glass, the combination of a receptacle containing a mass of molten glass, means for drawing a sheet therefrom, a pair of oppositely disposed hooks one adjacent to each edge of the sheet being drawn, and means moving said hooks in the mass of molten glass in proportion to the rate of movement of the sheet being drawn and in the plane of said sheet.

16. In a machine for drawing sheet glass, the combination of a receptacle containing a mass of molten glass, means for drawing a sheet of glass therefrom, means for maintaining the width of the sheet uniform consisting of a pair of oppositely disposed hooks one adjacent to each edge of the sheet being drawn but within the mass of molten glass, and means moving each of said hooks in an elliptical path within the molten mass and in the plane of the sheet being drawn.

17. In a machine for drawing sheet glass, the combination of a receptacle containing a mass of molten glass, means drawing a sheet of glass therefrom, means for maintaining the width of the sheet uniform consisting of two pairs of hooks one pair adjacent to each edge of the sheet being drawn, and means moving each pair in the mass of molten glass and in the plane of the sheet being drawn.

18. In a machine for drawing sheet glass, the combination of a receptacle containing a mass of molten glass, means drawing a sheet of glass vertically therefrom, an idling roller over which said sheet is bent as drawn, a pair of oppositely disposed hooks one adjacent to each edge of the sheet being drawn, and means moving said hooks within the mass of molten glass and in the plane of the sheet being drawn.

19. In a machine for drawing sheet glass, the combination of a receptacle containing a mass of molten glass, means drawing a sheet of glass vertically therefrom, an idling roller over which said sheet is bent as drawn, a pair of oppositely disposed hooks one adjacent to each edge of the sheet being drawn, and means moving said hooks in elliptical paths within the mass of molten glass and in the plane of the sheet being drawn.

20. In a sheet-glass drawing machine, the combination of a receptacle containing a mass of molten glass, means for drawing a sheet of glass therefrom, refractory bodies moving in said mass to hold the sheet to uniform width, shanks or supports for said bodies projecting out of the molten mass, and means directing a melting heat against said shanks or supports.

21. In a sheet-glass drawing machine, the combination of a receptacle containing a mass of molten glass, means for drawing a sheet of glass therefrom, bodies moving in said mass to hold the sheet to uniform width, supports for said bodies projecting out of the molten mass, and burners directing a melting heat around said supports.

22. In a sheet-glass drawing machine, the combination of a receptacle containing a mass of molten glass, means for drawing a sheet of glass therefrom, channels or ways formed in the walls of said receptacle, bodies moving in said mass to hold the sheet of uniform width and having supporting members extending outward through said channels or ways, and means directing a melting heat along said channels or ways around said supporting members.

23. In a sheet-glass drawing machine, the combination of a receptacle containing a mass of molten glass, means for drawing a sheet of glass therefrom, a chamber into which the sheet passes as drawn, means for heating said chamber, operative parts of the mechanism mounted on hollow revolving shafts passing through said chamber, and means directing a cooling medium through said hollow shafts.

24. In a sheet-glass drawing machine, the combination of a receptacle containing a mass of molten glass, a heated drawing chamber, drawing means in said chamber, including grip devices and hollow shafts for revolving the same, means for moving said shafts bodily in adjusting them into and out of operative position, and flexible connections directing a cooling medium through said hollow shafts.

25. In a sheet-glass drawing machine, the combination of a receptacle containing a mass of molten glass, a heated drawing chamber, drawing devices in said chamber and including a continuous carrier and continuously moving grip bars co-acting therewith, hollow shafts for supporting and driving said carrier and grip bars, and means directing a cooling medium through said hollow shafts.

26. In a sheet-glass drawing machine, the combination of a receptacle containing a mass of molten glass, a drawing chamber, a continuous carrier in said chamber, continuously moving grip bars co-acting with said carrier to grip the sheet and impart the drawing pull thereto, and means moving said grip bars out of coöperative relation with said carrier.

27. In a sheet-glass drawing machine, the combination of a receptacle containing a mass of molten glass, a heated drawing chamber, a continuous carrier in said chamber, a pair of shafts located above said carrier and bearing sprocket chains, a plurality of grip bars on said chains and normally coöperating with the carrier to grip and draw the sheet, openings in the walls of said chamber through which the ends of said shafts project, bars pivoted at one end to the walls of said chamber and having bearings for said shafts at the other end, and means supporting the free ends of said pivoted bars.

28. In a sheet-glass drawing machine, the combination of a receptacle containing a mass of molten glass, a heated drawing chamber, a carrier and grip devices acting to draw a sheet of glass into said chamber, an idler roller in said chamber and over which the sheet is bent as drawn, and a partition wall across the upper portion of the chamber and in advance of the carrier and grip devices.

29. In a sheet-glass drawing machine, the combination of a receptacle containing a mass of molten glass, a drawing chamber, a continuous carrier and grip devices in said chamber operating to draw a sheet of glass from said receptacle into said chamber, an idler roller in the chamber and over which the sheet is bent as drawn, a partition across said chamber above said roller, and a burner entering the upper forward part of the chamber formed by said partition.

30. In a sheet-glass drawing machine, the combination of a receptacle containing a mass of molten glass, a drawing chamber, a continuous carrier and grip devices in said chamber operating to draw a sheet of glass from said receptacle into said chamber, an idler roller in said chamber over which the sheet is bent as drawn, a partition across said chamber above said roller, and a burner directing flame upon the sheet of glass at or near the point where it is bent over the idler roller.

31. In a sheet-glass drawing machine, the combination of a receptacle containing a mass of molten glass and means for drawing the sheet of glass therefrom, with a cover for said receptacle, a pair of trucks at each end of said cover, means on said trucks for lifting said cover, and ways along which said trucks may be moved.

32. In a sheet-glass drawing machine, the combination of a receptacle containing a mass of molten glass, and means for drawing a sheet of glass therefrom, hooks located in the molten glass one adjacent to each edge of the sheet, bearings in which the projecting shanks of said hooks reciprocate, means for reciprocating the hooks, and means for vertically adjusting said bearings to determine the amount of immersion of said hooks in the molten mass.

33. In a sheet-glass drawing machine, the combination of a glass-melting furnace, a working chamber or pot from which the glass is drawn, a conduit leading from beneath the surface of the molten glass in the melting furnace to the exterior of one side wall of the working chamber, conduits leading along said side wall to the ends of said working chamber, and ducts or ports at the ends of said chamber and conducting the molten glass from the said conduits to the interior of the chamber.

34. In a sheet-glass drawing machine, the combination of a glass-melting furnace, a working chamber or pot from which the glass is drawn, a conduit leading from beneath the surface of the molten glass in the melting furnace to the exterior of one side wall of the working chamber, conduits leading along said side wall to the ends of said working chamber, a passage for the hot gases of combustion over the surface of the glass in said melting furnace and said conduits, and flues and dampers in said furnace and in connection with said conduits for controlling the exit of the products of combustion.

35. In a sheet-glass drawing machine, the combination of a receptacle containing a mass of molten glass, means for drawing a sheet of glass therefrom, bodies located in the mass of molten glass adjacent to each edge of said sheet, means for imparting movement to said bodies to hold the width of said sheet uniform, and means to vary the speed of movement of said bodies.

36. In a sheet-glass drawing machine, the combination of a receptacle containing a mass of molten glass, means for drawing a sheet of glass therefrom, bodies located in the mass of molten glass adjacent to each edge of the said sheet, means for imparting movement to said bodies to hold the width of the sheet uniform, and power connections between said last means and the drawing means.

37. In a machine for drawing sheet glass, the combination of a receptacle containing a mass of molten glass, means for drawing a sheet of glass therefrom, and a pair of oppositely disposed hooks one adjacent to each edge of the sheet being drawn and movable in the mass of molten glass and in the plane of the sheet being drawn.

38. In a machine for drawing sheet glass, the combination of a receptacle containing a mass of molten glass, means for drawing a sheet of glass of uniform width therefrom, and a roller over which said sheet is bent as drawn and receiving driving power from the sheet.

867,949. LOOP. CLARK S. COMSTOCK, Bloomfield, N. J. Filed Jan. 17, 1907. Serial No. 352,739.



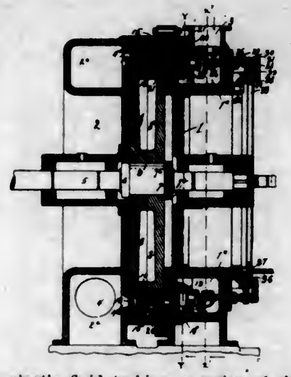
1. A loop of the character described constructed of a single piece of wire and formed with an upper cross bar and two depending converging arms, one of said arms having a free end, the other of said arms being formed into a lower retaining loop and having an eye formed at its end which loosely engages the free end of said first mentioned arm, substantially as described.

2. A loop of the character described constructed of a single piece of wire and formed with an upper cross bar and two depending converging arms, one arm having a free end, the other arm being formed into a retaining loop and having an eye formed at its end which loosely engages the free end of said first mentioned arm, the upper cross bar, the retaining loop and the arms being in the same vertical plane, substantially as described.

867,950. REGULATOR FOR STEAM-TURBINES. EBEN C. CROCKER, Sandusky, Ohio, assignor to The Warren Electric Manufacturing Company, Sandusky, Ohio. Filed Feb. 12, 1906. Serial No. 300,607.

1. In an elastic fluid turbine, a hollow ring, a series of chambers, valved connections between the ring and the chambers, stems for the valves, a rotatable ring having cam-sections adapted to actuate said valve-stems, devices for actuating the rotatable ring, which devices are adapted for connection with a governor, and a series of nozzles, each chamber being connected with one or more of said nozzles.

2. In an elastic fluid turbine, a rotatable ring, a toothed rack on the ring, a pinion engaged with the rack and adapted for connection with a governor, cam-sections on the ring, levers pivoted on the engine and adapted for engagement with the cam-sections, valves which are actuated by the throw of said levers, a series of chambers, a chamber common to said series of chambers, said valves being located between said series of chambers and said common chamber, and a group of nozzles connected with each of said series of chambers.



3. In an elastic fluid turbine, a series of chambers, a chamber common to the series of chambers, one or a group of nozzles connected with each of said chambers of said series, valves which control the passage from the common chamber to the series of chambers, and means for actuating said valves successively comprising a rotatable ring having two concentric series of cam-sections, and devices connected with the valves and adapted for engagement with said cam-sections.

867,951. PAINT-OIL. FRITZ DAHLHAUS, Philadelphia, Pa. Filed Apr. 7, 1906. Serial No. 310,434.

1. The hereinbefore described compound, comprising turpsine, japan drier, and petroleum oil, substantially as set forth.

2. The hereinbefore described compound, comprising turpsine, japan drier, and crude petroleum, substantially as set forth.

3. The hereinbefore described compound, comprising turpsine, japan drier, petroleum oil and varnish, substantially as set forth.

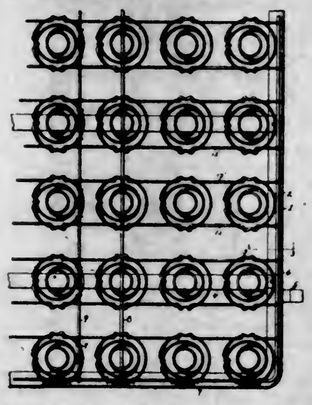
4. The hereinbefore described compound, comprising turpsine, japan drier, petroleum oil, varnish, and citronella oil, substantially as set forth.

5. The hereinbefore described compound, comprising turpsine, 7680 parts; japan drier, 60 parts; petroleum oil, 4 parts; varnish, 120 parts, and citronella oil, 1 part, substantially as set forth.

867,952. SPRING. FRANK P. D'ARCY, Kalamazoo, Mich. Filed Dec. 22, 1906. Serial No. 349,111.

1. In a spring structure, the combination with the frame, comprising angle-iron side and end rails arranged with the angle outward and with the outer legs projecting upwardly, of angle-iron cross-pieces secured to the inwardly projecting horizontal legs of the side pieces arranged with their vertical legs projecting downwardly, said downwardly projecting legs of said cross-pieces having longitudinal slots therein; bed-rail engaging hooks secured to said cross-pieces by bolts arranged through the said slots therein; double helically coiled springs arranged in rows; supporting-wires arranged in parallel pairs beneath the bottom coils of each row of springs and within their peripheries, said supporting-wires having outwardly extending spring engaging hooks formed intermediate their lengths, said hooks being engaged over and clamped upon the bottom coils of each spring, the ends of said supporting-wires being engaged in suitable perforations provided therefor in the horizontal legs of said frame; longitu-

dinal supporting wires secured at their ends to the horizontal legs of the frame, arranged over the cross-pieces thereof and under said spring supporting-wires; tie-wires arranged in parallel pairs corresponding to said pairs of supporting-wires, having outwardly extending hooks formed intermediate their lengths, engaged over and clamped upon the top coils of each row of springs; longitudinal tie-wires arranged over the said cross tie-wires and above a longitudinal row of springs and secured to the top coils thereof by suitable clips; and an outer continuous frame-wire to which the ends of said tie-wires are secured, for the purpose specified.



2. In a spring structure, the combination with the frame, comprising angle-iron side and end rails arranged with the angle outward and with the outer legs projecting upwardly, of cross-pieces secured to the inwardly projecting horizontal legs of the side pieces; double helically coiled springs aranged in rows; supporting-wires arranged in parallel pairs beneath the bottom coils of each row of springs and within their peripheries, said supporting wires having outwardly extending springs engaging hooks formed intermediate their lengths, said hooks being engaged over and clamped upon the bottom coil of said spring, the ends of said supporting-wires being engaged in suitable perforations provided therefor in the horizontal legs of said frame; longitudinal supporting-wires secured at their ends to the horizontal legs of the frame arranged over the cross-pieces thereof and under said spring supporting wires; tie-wires arranged in parallel pairs corresponding to said pairs of supporting-wires, having outwardly extending hooks formed intermediate their lengths, engaged over and clamped upon the top coils of each row of springs; longitudinal tie-wires arranged over the said cross tie-wires and above a longitudinal row of springs and secured to the top coils thereof by suitable clips; and an outer continuous frame-wire to which the ends of said tie-wires are secured, for the purpose specified.

3. In a spring structure, the combination with the frame, comprising angle-iron side and end rails arranged with the angle outward and with the outer legs projecting upwardly, of double helically coiled springs arranged in rows; supporting-wires arranged in parallel pairs beneath the bottom coils of each row of springs and within their peripheries, said supporting-wires having outwardly extending spring engaging hooks formed intermediate their lengths, said hooks being engaged over and clamped upon the bottom coil of each spring, the ends of said supporting-wires being engaged in suitable perforations provided therefor in the horizontal legs of said frame; longitudinal supporting-wires secured at their ends to the horizontal legs of the frame, arranged under said spring supporting-wires; tie-wires arranged in parallel pairs corresponding to said pairs of supporting-wires, having outwardly extending hooks formed intermediate their lengths, engaged over and clamped upon the top coils of each row of springs; longitudinal tie-wires arranged over the said cross tie-wires and above a longitudinal row of springs and secured to the top coils thereof by suitable clips, and an outer continuous frame-wire to which the ends of said tie-wires are secured, for the purpose specified.

4. In a spring structure, the combination with the frame, comprising angle-iron side and end rails arranged with the angle outward and with the outer legs projecting upwardly, of double helically coiled springs arranged in rows; supporting-wires arranged in parallel pairs, beneath the bottom coils of each row of springs and within their peripheries, said supporting-wires having outwardly extending spring engaging hooks formed intermediate their lengths, said hooks being engaged over and clamped upon the bottom coil of said spring, the ends of said supporting-wires being engaged in suitable perforations provided therefor in the horizontal legs of said frame; tie-wires arranged in parallel pairs corresponding to said pairs of supporting-wires, having outwardly extending hooks formed intermediate their lengths, engaged over and clamped upon the top coils of each row of springs; longitudinal tie-wires arranged over the said cross tie-wires and above a longitudinal row of springs and secured to the top coils thereof by suitable clips; and an outer continuous frame-wire to which the ends of said tie-wires are secured, for the purpose specified.

5. In a spring structure, the combination with the frame, comprising angle-iron side and end rails arranged with the angle outward and with the outer legs projecting upwardly, angle-iron cross-pieces secured to the inwardly projecting horizontal legs of the side pieces arranged with their vertical legs projecting downwardly, said downwardly projecting legs of said cross-pieces having longitudinal slots therein; bed-rail engaging hooks secured to said cross-pieces by bolts arranged through the said slots therein; double helically coiled springs arranged in rows; supporting-wires arranged in parallel pairs beneath the bottom coils of each row of springs and within their peripheries, said supporting-wires having outwardly extending spring engaging hooks formed intermediate their lengths, said hooks being engaged over the bottom coil of each spring, the ends of said supporting-wires being engaged in suitable perforations provided therefor in the horizontal legs of the side rails of said frames; longitudinal supporting-wires secured at their ends to the horizontal legs of said frame arranged over the cross-pieces thereof and under said spring supporting-wires; cross and longitudinal tie-wires for the tops of said springs; and an outer continuous frame-wire to which the ends of said tie-wires are secured, for the purpose specified.

6. In a spring structure, the combination with the frame, comprising angle-iron side and end rails arranged with the angle outward and with the outer legs projecting upwardly, of angle-iron cross-pieces secured to the inwardly projecting horizontal legs of the side pieces arranged with their vertical legs projecting downwardly, said downwardly projecting legs of said cross-pieces having longitudinal slots therein; bed-rail engaging hooks secured to said cross-pieces by bolts arranged through the said slots therein; double helically coiled springs arranged in rows; supporting-wires arranged in parallel pairs beneath the bottom coils of each row of springs and within their peripheries, said supporting-wires having outwardly extending spring engaging hooks formed intermediate their lengths, said hooks being engaged over the bottom coil of each spring, the ends of said supporting-wires being engaged in suitable perforations provided therefor in the horizontal legs of the side rails of said frame; and longitudinal supporting-wires secured at their ends to the horizontal legs of said frame, arranged over the cross-pieces thereof and under said spring supporting wires, for the purpose specified.

7. In a spring structure, the combination with the frame, comprising angle-iron side and end rails arranged with the angle outward and with the outer legs projecting upwardly, of cross-pieces secured to the inwardly projecting horizontal legs of the side pieces; double helically coiled springs arranged in rows; supporting-wires arranged in parallel pairs beneath the bottom coils of each row of springs and within their peripheries, said supporting wires having outwardly extending spring engaging hooks formed intermediate their lengths, said hooks being engaged over the bottom coil of each spring, the ends of said supporting-wires being engaged in suitable perforations provided therefor in the horizontal legs of the side rails of said frame; longitudinal supporting-wires secured at their ends to the horizontal legs of said frame arranged over the cross-pieces thereof and under said spring supporting-wires; cross and longitudinal tie-wires for the tops of said springs; and an outer continuous frame wire to which the ends of said tie-wires are secured, for the purpose specified.

8. In a spring structure, the combination with the frame, comprising angle-iron side and end rails arranged with the angle outward and with the outer legs projecting upwardly, of cross-pieces secured to the inwardly projecting horizontal legs of the side pieces; double helically coiled springs arranged in rows; supporting-wires arranged in parallel pairs beneath the bottom coils of each row of springs and within their peripheries, said supporting wires having outwardly extending spring engaging hooks formed intermediate their lengths, said hooks being engaged over the bottom coil of each spring, the ends of said supporting-wires being engaged in suitable perforations provided therefor in the horizontal legs of the side rails of said frame; and longitudinal supporting-wires secured at their ends to the horizontal legs of said frame arranged over the cross-pieces thereof and under said spring supporting-wire, for the purpose specified.

9. In a spring structure, the combination with the frame, of cross-pieces for said frame; double helically coiled springs arranged in rows; supporting-wires arranged in parallel pairs beneath the bottom coils of each row of springs and within their peripheries, said supporting-wires having outwardly extending spring engaging hooks formed intermediate their lengths, said hooks being engaged over and clamped upon the bottom coil of each spring, the ends of said supporting-wires being engaged to said frame; longitudinal supporting-wires secured at their ends to the frame arranged over the cross-pieces thereof and under said spring supporting-wires; tie-wires arranged in parallel pairs corresponding to said pairs of supporting-wires having outwardly extending hooks formed intermediate their lengths, engaged over and clamped upon the top coils of each row of springs; longitudinal tie-wires arranged over the said cross tie-wires and above a longitudinal row of springs and secured to the top coils thereof by suitable clips; and an outer continuous frame-wire to which the ends of said cross and longitudinal tie-wires are secured, for the purpose specified.

10. In a spring structure, the combination with the frame, of double helically coiled springs arranged in rows; supporting-wires arranged in parallel pairs beneath the bottom coils of each row of springs and within their peripheries, said supporting-wires having outwardly extending spring engaging hooks formed intermediate their lengths, said hooks being engaged over and clamped upon the bottom coil of each spring, the ends of said supporting-wires being engaged to said frame; tie-wires arranged in parallel pairs corresponding to said pairs of supporting-wires having outwardly extending hooks formed intermediate their lengths, engaged over and clamped upon the top coils of each row of springs; longitudinal tie-wires arranged over the said cross tie-wires and above a longitudinal row of springs and secured to the top coils thereof by suitable clips; and an outer continuous frame-wire to which the ends of said cross and longitudinal tie-wires are secured, for the purpose specified.

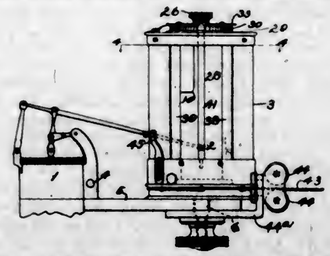
11. In a spring structure, the combiantion with the frame, of cross-pieces for said frame; double helically coiled springs arranged in rows; supporting-wires arranged in parallel pairs beneath the bottom coils of each row of springs and within their peripheries, said supporting-wires having outwardly extending spring engaging hooks formed intermediate their lengths, said hooks being engaged over and clamped upon the bottom coil of each spring, the ends of said supporting wires being engaged to said frame; longitudinal supporting-wires secured at their ends to the frame arranged over the cross-pieces thereof and under said spring supporting-wires; tie-wires for the tops of said springs; and an outer continuous frame-wire to which the ends of said cross and longitudinal tie-wires are secured, for the purpose specified.

12. In a spring structure, the combination with the frame, of double helically coiled springs arranged in rows; supporting-wires arranged in parallel pairs beneath the bottom coils of each row of springs and within their peripheries, said supporting-wires having outwardly extending spring engaging hooks formed intermediate their lengths, said hooks being engaged over and clamped upon the bottom coil of said spring, the ends of said supporting-wires being engaged to said frame; tie-wires for the tops of said springs; and an outer continuous frame-wire to which the ends of said cross and longitudinal tie-wires are secured, for the purpose specified.

13. In a spring structure, the combination with a frame, comprising angle-iron side and end rails arranged with the angle outward and with the outer legs thereof projecting upwardly; angle-iron cross-pieces secured to the inwardly projecting horizontal legs of the side pieces arranged with their vertical legs projecting downwardly, said downwardly projecting legs of said cross-pieces having longitudinal slots therein; bed-rail engaging hooks adjustably secured to the said cross-pieces by bolts arranged through said slots therein; coiled springs arranged in rows; supporting-wires for said springs secured at their ends to the horizontal legs of said frame; cross and longitudinal tie-wires for the tops of said springs; and a continuous frame-wire to which the ends of said tie-wires are secured, for the purpose specified.

14. In a spring structure, the combination with a frame comprising angle-iron side and end rails arranged with the angle outward and with the outer legs thereof projecting upwardly, of angle-iron cross-pieces secured to the inwardly projecting horizontal legs of the side pieces arranged with their vertical legs projecting downwardly, said downwardly projecting legs of said cross-pieces having longitudinal slots therein; bed-rail engaging hooks adjustably secured to the said cross-pieces by bolts arranged through said slots therein; coiled springs arranged in rows; and supporting wires for said springs secured at their ends to the horizontal legs of said frame, for the purpose specified.

867,953. ENGINE-INDICATOR. THEODORE DAVIDSON, Salem, Mass., assignor to Crosby Steam Gage and Valve Company, Boston, Mass., a Corporation of Massachusetts. Filed Dec. 12, 1906. Serial No. 347,470.



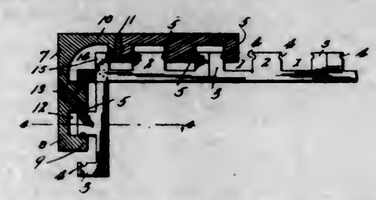
1. In an engine indicator the combination, with the rotary drum suitably mounted, of a reel upon which to wind a ribbon depending in said drum, with adjustable means for intermittently and automatically rotating said reel a predetermined distance, said means comprising a ratchet fixed to said reel, a driving pawl mounted on said drum and a retaining pawl suitably arranged and having a limited rotation; substantially as described.

2. In an engine indicator the combination, with the rotary drum suitably mounted, of a reel upon which to wind a ribbon depending centrally in said drum, with adjustable means for intermittently and automatically rotating said reel a predetermined distance, said means comprising a ratchet fixed to said reel, a driving pawl mounted on said drum and a retaining pawl suitably ar-

ranged and having a limited rotation; substantially as described.

3. In an engine indicator the combination, with the rotary drum suitably mounted, of a reel upon which to wind a ribbon, said reel being mounted in said drum concentrically therewith, with adjustable means for intermittently and automatically rotating said reel a predetermined distance; substantially as described.

867,954. WALL CONSTRUCTION. GEORGE E. DAVIS, Dubuque, Iowa. Filed Dec. 27, 1906. Serial No. 349,607.



1. A building block having a central projection and tongues on the ends thereof, the projection and tongues having plane sides disposed at right angles to the body of the block, the width of the projection and intervening spaces between the tongues, being equal, the end tongues being of half the width of the central projection there being bonding grooves formed in the inner walls of the end tongues and in corresponding positions on the opposite side walls of the central projection these bonding grooves and keys being located near the ends of the lateral projections of the blocks.

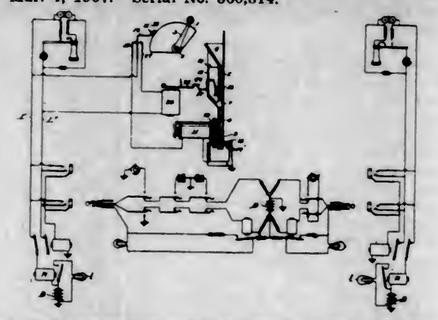
2. A building block having a central projection and tongues on the ends thereof with recessed portions between the central projection and end tongues, the projection and tongues having plane sides disposed at right angles to the body of the block, bonding grooves formed in corresponding positions near the outer edge on the inner walls of the tongues and side walls of the central projection, the width of the central projection and recessed portions being equal, and the end tongues being of half the width of the central projection and intervening recesses.

3. A wall comprising inner and outer courses of interchangeable interlocking units, each unit having a central projection and end tongues spaced therefrom, the units in the opposite series alternating so that the central projection of one block enters between the central projection and end tongue of the opposite block, and the end tongues of two adjoining blocks abut and enter between the projection and end tongue of the block in the opposite series the blocks in the opposite courses meshing only partially so as to leave alternating air spaces throughout the entire breadth of the wall and bonding grooves and keys located near the ends of the lateral projections on the blocks to hold them in spaced relation.

4. A wall comprising inner and outer courses of interchangeable interlocking units, each unit or block having a central projection and end tongues spaced therefrom, the units in the opposite series alternating so that the central projection of one block enters between the central projection and end tongue of the corresponding block in the opposite course, and the end tongues of two adjoining blocks abut and enter between the projection and end tongue of the block in the opposite course, the blocks of the opposite courses only interlapping partially so that air spaces are provided between the interlocking tongues and projections and the inner face of the block in the opposite series, the blocks having bonding grooves formed in the meeting edges thereof and keys entered in the bonding openings formed by said grooves.

5. A corner construction for walls comprising a corner block having a long and an angular short arm, end tongues and a central projection on the block, the block on the inner course having corresponding end tongues and a central projection to mesh with those of the corner block and provide air spaces the corner ends of the blocks in the inner series being each of alternate reduced thickness so as to intermesh and rest one upon the other.

867,955. CIRCUIT FOR COIN-COLLECTORS. AMOS F. DIXON, Chicago, Ill., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 4, 1907. Serial No. 360,314.



1. The combination with a telephone line extending from a subscriber's station to a central office, and provided with electromagnetically-operated line signaling means at the central office, of toll indicating mechanism at the subscriber's station, contacts in the line signaling circuit arranged to be closed by the operation of said toll mechanism in initiating a call for a connection, additional contacts in said line signaling circuit arranged to be automatically opened during the operation of said toll indicating mechanism and to be reclosed only upon the return of the same to its initial position.

2. The combination with a signaling circuit, of a telephone line extending from a subscriber's station to a central office, and provided with electromagnetically-operated signaling means at the central office, of a coin receiving apparatus at the subscriber's station provided with a movable coin carrier, coin-actuated contacts in said signaling circuit adapted to be closed by a coin released from said coin carrier, and additional contacts in said signaling circuit constructed and arranged to be opened by the movement of said coin carrier and to be reclosed only upon the return of said carrier to its initial position.

3. The combination with a telephone line extending from a subscriber's station to a central office and provided with electromagnetically operated line signaling means at the central office, of a combined local and toll mechanism located at the subscriber's station and comprising toll indicating mechanism and line indicating mechanism, contacts in the line signaling circuit arranged to be closed in the manipulation of said mechanisms in initiating a call for a connection, additional contacts in said line signaling circuit arranged to be automatically held open during the operation of said toll indicating mechanism and to be re-closed only when said toll indicating mechanism is in its initial position.

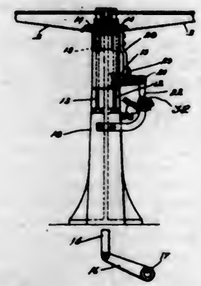
4. The combination with a telephone line extending from a subscriber's station to a central office and provided with electromagnetically-operated line signaling means at the central office, of a coin collector comprising toll indicating mechanism and line signaling mechanism at the subscriber's station, contacts in the line signaling circuit arranged to be closed by a coin in the operation of said mechanisms in initiating a call for a connection, additional contacts in said line signaling circuit arranged to be automatically opened during the operation of said toll indicating mechanism and to be reclosed only when said toll indicating mechanism is in its initial position.

5. The combination with a telephone line extending in two limbs from a subscriber's station to a central office, and provided with an electromagnetically controlled

line signal at the central office, of toll indicating mechanism and coin-actuated line signaling mechanism at the subscriber's station, means associated with said toll indicating mechanism for governing the transfer of a coin to said line signaling mechanism in initiating a call for a connection, an electromagnet in a bridge of the line, a connection switch at the central office controlling the closure of the circuit of said electromagnet, means controlled by said electromagnet for preventing the transfer to the line signaling mechanism of coin deposited in the payment of toll, and a normally-open switch in said bridge arranged to be automatically closed in the operation of said toll indicating mechanism.

6. The combination with a telephone line extending in two limbs from a subscriber's station to a central office, and provided with an electromagnetically controlled line signal at the central office, of toll indicating mechanism and coin-actuated line signaling mechanism at the subscriber's station, means associated with said toll indicating mechanism for governing the transfer of a coin to said line signaling mechanism in initiating a call for a connection, and contacts in said line signaling circuit arranged to be automatically-opened during the operation of said toll indicating mechanism and to be re-closed only when said toll indicating mechanism is in its initial position, an electromagnet in a bridge of the line, a connection switch at the central office controlling the closure of the circuit of said electromagnet, means controlled by said electromagnet for preventing the transfer to the line signaling mechanism of coin deposited in the payment of toll, and a normally-open switch in said bridge arranged to be automatically closed in the operation of said toll indicating mechanism.

867,956. CARTON-MARKING ATTACHMENT FOR CARTON-SETTING-UP MACHINES OR THE LIKE. WILLIAM H. DOBLE, Quincy, Mass., assignor to Pneumatic Scale Corporation Limited, a Corporation of Maine. Filed Apr. 5, 1906. Serial No. 310,025.



1. A device for marking packages comprising a reciprocating member which moves the packages in one direction, marking mechanism and intermediate mechanism between said marking mechanism and said reciprocating member whereby the movement of said reciprocating member in one direction moves the marking mechanism into engagement with the package and the movement of said reciprocating member in the reverse direction returns said marking mechanism to its normal position.

2. A device for marking packages comprising mechanism for moving the packages, a rocking lever having pivoted to its swinging end a rotary marking disk and intermediate mechanism between said rocking lever and said package moving mechanism whereby the package moving mechanism actuates said rocking lever to bring the marking disk into engagement with the moving package and an inking pad having a concave inking surface which is concentric with the axis of the rocking lever and which is engaged by the marking disk at each reciprocating movement.

3. A device for marking packages, comprising a vertically reciprocating member which moves the cartons in one direction, a rack carried by said reciprocating member, a rocking lever carrying at one end a rocking lever fulcrumed at one end and carrying at the other end marking mechanism and intermediate gearing between said rocking lever and said rack whereby the movement of said reciprocating member in the direction which moves the package will turn said rocking lever into the position where the marking mechanism will engage the moving package and the reverse movement of the reciprocating member will return the rocking lever and marking mechanism to their normal position.

4. A device for marking packages, comprising a reciprocating member which moves the packages in one direction, a rocking lever pivoted at one end to a fixed support and having pivoted to its free end a rotary marking disk and intermediate mechanism between said rocking lever and said reciprocating member, whereby the reciprocating member, when it moves in the direction which moves the package, actuates the said rocking lever to turn on its fulcrum and bring the marking disk into engagement with the moving package.

5. A device for marking packages, comprising a reciprocating member which moves the packages in one direction, a rocking lever pivoted at one end to a fixed support and having pivoted to its free end a rotary marking disk and intermediate mechanism between said rocking lever and said reciprocating member, whereby the reciprocating member, when it moves in the direction which moves the package, actuates the said rocking lever to turn on its fulcrum and bring the marking disk into engagement with the moving package, and an inking pad having a concave inking surface which is concentric with the axis of the rocking lever and which is engaged by the marking disk at each reciprocating movement.

6. A device for marking packages, comprising a reciprocating member which moves the packages in one direction, a rocking lever pivoted at one end to a fixed support and having pivoted to its free end a rotary marking disk and intermediate mechanism between said rocking lever and said reciprocating member, whereby the reciprocating member, when it moves in the direction which moves the package, actuates the said rocking lever to turn on its fulcrum and bring the marking disk into engagement with the moving package, and means which engage the marking disk at the end of each return movement whereby the disk at the end of each movement will be left with its printing face in the same position.

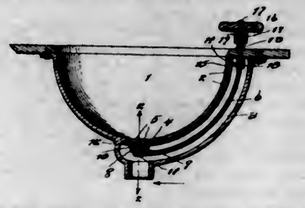
7. In combination with a machine for handling cartons, a rotary member having a plurality of carton holding blocks on which the cartons are held in a squared out form, a reciprocating member having means for engaging each one of said cartons at a certain point in the path of movement of said carton carrying blocks, and removing the cartons from said blocks, and marking mechanism which is actuated by the movement of said reciprocating member and thereby moved into engagement with the carton.

8. In a machine for setting up or gluing cartons having an intermittently rotating head carrying a series of carton holding blocks, mechanism for rotating said head, a reciprocating member having means which engage the carton on the holding block at one of the points in its path of movement, and intermediate mechanism timed with relation to the mechanism which controls the movement of the head to actuate said reciprocating member during the intervals between the movements of the head, and marking mechanism actuated by the reciprocating member when it moves in a direction to strip the carton from the reciprocating member to bring the marking mechanism into engagement with the carton.

9. In a machine for setting up and gluing cartons, a rotary head having a plurality of radiating arms, each provided with a depending holding block, means for intermittently rotating said head, a vertically reciprocating member having means for engaging the carton on the holding block at one of the stages of rest in its rotation, means for actuating said reciprocating member, means for controlling the mechanism which actuates the rotating head whereby the reciprocating member is moved in a di-

rection to strip the carton from the holding block during one of the periods of rest of the rotary head, and marking mechanism actuated by said reciprocating member during its stripping movement to bring the marking mechanism into engagement with the carton.

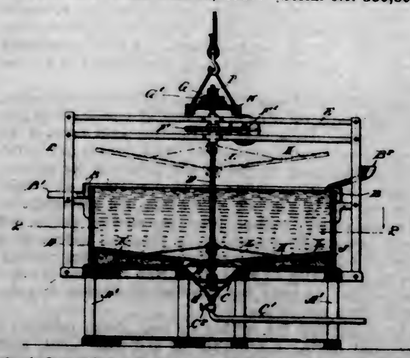
867,957. WASHBOWL. JOHN P. DORAU, Menomonee Falls, Wis. Filed Mar. 10, 1906. Serial No. 305,248.



1. In a wash bowl or basin, an overflow chamber, a discharge orifice, a rod extending through said overflow chamber, a valve carried by said rod and adapted to close said discharge orifice, tubular members, projecting from the upper and lower surfaces of the wash bowl slab, the lower tubular member being provided with a notch, said rod having a lug to coöperate with the notch, a handwheel having a downwardly projecting sleeve carried by the upper end of said rod, said sleeve being designed to fit over the upper tubular member, and a spring surrounding the said rod within said sleeve and between the tubular member and the said wheel.

2. In a wash bowl or basin, an overflow chamber, a discharge orifice, a rod extending through said overflow chamber, a valve carried by the lower end of said rod and adapted to be moved upward and downward and to one side for closing or opening the orifice, tubular members projecting from the upper and lower surfaces of the wash bowl slab, the lower tubular member being provided with a notch, said rod having a lug to coöperate with the notch, a hand wheel having a downwardly projecting sleeve carried by the upper end of said rod adapted to actuate said rod to move the valve, said sleeve designed to fit over the tubular member projecting from the upper surface of the said slab, and a spring aurrounding the said rod within said sleeve and between the tubular member and the hand wheel.

867,958. DECANTING APPARATUS. JOHN V. N. DORR, Lead, S. D. Filed Feb. 26, 1907. Serial No. 359,397.



1. A decanting apparatus comprising a relatively shallow settling or subsidence vessel of large diameter having at the top a launder for receiving the decanting liquid and a discharge opening in the bottom and a scraper mounted to move slowly over the bottom of the vessel and to carry the settled material towards the slimes discharge opening.

2. A decanting apparatus comprising a settling or subsidence vessel having at the top a launder for receiving the decanting liquid and a discharge opening in the bottom and a scraper comprising a radial arm and flights carried thereby disposed in series radially with reference to the discharge opening of the vessel and set at an angle with reference to the arm which carries them.

3. A decanting apparatus comprising a settling or subsidence vessel having at the top a launder for receiving the decanting liquid and a discharge opening in the bottom and a scraper comprising a radial arm and flights carried thereby disposed in a radial upwardly and outwardly inclined direction with reference to the discharge opening of the vessel and set at an angle with reference to the arm which carries them.

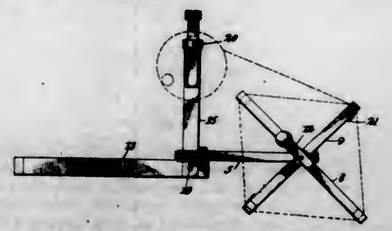
4. The combination of a decanting vessel having a launder at the top for receiving the decanting liquid and a depression in the bottom for the collection of slimes and a series of flights or scrapers revolving across the bottom of the vessel for scraping the material therefrom and moving it towards said depression.

5. The combination of a decanting vessel having a launder at the top for receiving the decanting liquid, a depression for receiving the solid material and a scraper comprising a series of flights moving across the bottom of the vessel and carrying the settled material towards the depression thereof.

6. The combination of a decanting vessel having a substantially flat bottom on which a bed of solid material is deposited and provided with a depression for receiving the settling material and a scraper comprising flights arranged in series radially in an upwardly and outwardly inclined direction and engaging the top of the bed to remove the thickened material therefrom and direct it towards the depression.

7. The combination of a decanting vessel having a substantially horizontal bottom and provided with a central depression for receiving the thickened material, a revolving scraper in said depression and a revolving scraper extending across the bottom of the tank for collecting the thick slime and moving it towards the central depression of the vessel.

867,959. LINE-DRIER. PIERRE V. ERICSON and LARS G. ERICSON, New York, N. Y., assignors of one-fourth to said Pierre V. Ericson, one-fourth to said Lars G. Ericson, one-fourth to Brutus Farner, and one-fourth to Richard H. Days, New York, N. Y. Filed Nov. 20, 1906. Serial No. 344,259.



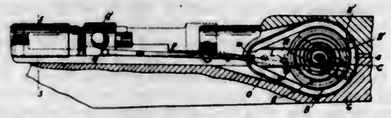
1. A line drying device, comprising a main frame, a drying reel consisting of two frames, one arranged to fold within the other, a frame extended from the main frame, and a reel post intermediate the main frame and the frame extending therefrom.

2. A line drying device, comprising a main frame, a shaft arranged therein, a drying reel consisting of a frame member rigidly attached to the shaft and a frame member mounted to swing on the shaft, means for locking said drying reel frame members in position at right angles to each other, a skeleton frame having swinging connection with the main frame, and a swinging reel post on the skeleton frame and adapted to fold therein.

3. A line drying device, comprising a main frame, a shaft mounted in the main frame, a drying reel consisting of a frame member rigidly attached to the shaft, and a frame member having swinging connection with the shaft and adapted to fold within the first-named reel frame member, one of the side members of the main frame being provided with a notch, a locking bar mounted to swing on the shaft and adapted to engage its end in said notch, a skeleton frame having swinging connection with the main frame, a reel post having swinging connection with the skeleton frame and adapted to fold therein, and means for locking the reel post in upright position.

4. A line dryer, comprising a main frame having a cross bar at one end provided with a notch, a folding drying reel mounted in the main frame, a skeleton frame having swinging connection with said cross bar, a reel post having pivotal connection with the skeleton frame and adapted to engage in said notch of the cross bar when in upright position, and a locking bar mounted to swing on said cross bar for holding the reel post in upright position.

867,960. AUTOMATIC RIFLE. MOUBRAY G. FARQUHAR, Aboyne, Scotland, and ARTHUR H. HILL, Birmingham, England. Filed Mar. 26, 1907. Serial No. 364,709.



1. In an automatic rifle, in combination with the rifle body the sliding barrel and the bolt, a spring for returning the barrel to firing position after recoil, a drum carried by the rifle body, a ribbon spring within said drum, means for winding said spring during the recoil of the barrel, means for locking the drum from rotation during the sliding movement of the barrel, means for disengaging said locking means and so permitting the drum to rotate under the action of the ribbon spring when the barrel has returned to firing position, and connections between said drum and the bolt for opening and closing the breech durjng the rotation of the drum.

2. In an automatic rifle in combination with the rifle body, the sliding barrel and the bolt, a spring for returning the barrel to firing position after recoil, a spindle carried on the rifle body, a drum loosely mounted on the spindle, a toothed wheel mounted on said spindle, a rack on the barrel engaging said toothed wheel, a ribbon spring within the drum having one end connected to the spindle and the other end connected to the drum, a stop for locking the drum from rotation during the movement of the barrel, means for disengaging said stop when the barrel returns to firing position and so permitting the drum to rotate under the action of the ribbon spring, a guide way formed in the rifle body around the drum, a slide moving in the drum, a connecting rod attached to said slide and having a roller entering said guideway, said connecting rod adapted to be secured at its other end to said bolt.

867,961. PACKAGE GRIPPER AND HOLDER. JULIUS P. FELL, Berclair, Tex. Filed Jan. 7, 1907. Serial No. 351,244.

1. In an appliance of the character described, the combination with a handle-bar, a series of spurs projected from one side of the upper end of the bar, and a hand controlled clamping rod mounted on the bar, said rod having a member for engaging the top of the carton or package, as set forth.

2. An implement of the character stated, comprising a bar having a tapered upper end, means fixedly held in one side of the upper end for gripping the side or end of a box or carton, and hand controlled adjustable clamping device mounted on the bar, having a member for engaging and pressing down on the top of the box or carton.

3. The combination with the bar, a series of spurs on the upper end thereof projected therefrom, of progressively increasing length, the uppermost one being the shortest, and hand controlled means mounted on the bar for clamping down on the top of the box or carton, as set forth.

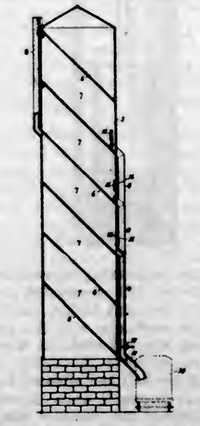
4. The combination with the bar having a spur projected laterally from the upper end thereof, for engaging the side or end of a carton, of the rod B rotatably mounted on the bar, and spring held to its upper or normal position, the lower end of the bar having a thumb engaging projection, the upper end being bent outwardly at right angles and having pendent spur-like fingers, for the purposes described.



5. As a new article, a store service appliance comprising a handle-bar whose upper end is tapered substantially to a sharp edge, a series of spurs projected from one side of the upper end of the said bar, said spurs being of progressively greater length, the shortest one at the top, brackets on the bar, a rod rotatably mounted in the bracket, a spring coöperating with the rod and the brackets for holding the bar at its uppermost or normal position, said bar having its upper end bent at right angles and terminating in pendent spurs, and having at the lower end a thumb engaging piece, all being arranged substantially as shown and for the purposes described.

6. As a new article, a store service appliance comprising a pole or bar whose upper end is shaped to readily slip under the lid of a box or carton, a series of arbitrarily arranged spurs on the upper end thereof for engaging the ends or sides of a carton or box, and an adjustable clamping device mounted on the bar for engaging the top of the box lid or package.

867,962. GRAIN-BIN. WALTER L. FINTON, Appleton, Wis. Filed May 18, 1906. Serial No. 317,416.

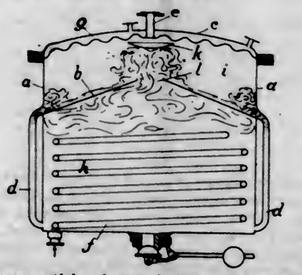


1. A tank for the storage of grain and the like, consisting of an inclosure having a plurality of inclined floors, in

single planes, forming bins each having one point higher and one point lower than any other point thereof, each of said bins having an opening in its side wall at the highest point and another at its lowest point, substantially as described.

2. A tank for the storage of grain and the like, consisting of an inclosure having a plurality of inclined floors, in single planes, forming bins each having one point higher and one point lower than any other point thereof, each of said bins having an opening in its side wall at the highest point and another at its lowest point, separate feeding means leading to the opening located at the highest point of each bin, and separate discharging means leading from the opening located at the lowest point.

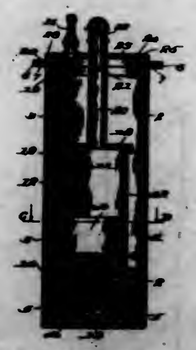
867,963. RESIN SOAP. ERNST FISCHER, Dresden, Germany, assignor to The Arabol Manufacturing Company, New York, N. Y., a Corporation of New York. Filed May 31, 1904. Serial No. 210,532.



1. As a new article of manufacture; a hard and brittle resin size containing an appreciable excess of free resin; and no appreciable amount of uncombined soda.

2. As a new article of manufacture, a hard and brittle resin size containing over 30% of free resin.

867,964. APPARATUS FOR GENERATING OXYGEN. RICHARD VON FORREGGER, New York, N. Y., assignor to The Roessler & Hasslacher Chemical Company, New York, N. Y., a Corporation. Filed Feb. 8, 1906. Serial No. 300,063.



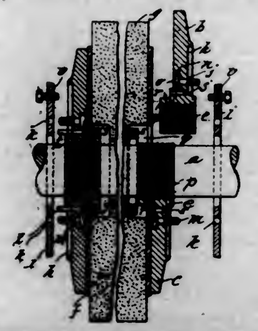
1. A portable gas generating apparatus including a container, an inverted bell suspended therein having openings only at the top and bottom thereof, a port directly connecting the container with the atmosphere and a conduit connecting the bell with the gas discharge, in combination with a cartridge containing gas producing material mounted in the bell and adapted to be perforated top and bottom so as to permit water to contact with the material at the bottom of the cartridge and gas to escape out of the top thereof into the bell and thence through the gas discharge conduit.

2. A portable gas generating apparatus including a container, double walls in said container with a layer of heat insulating material between them, an inverted bell suspended in said container having openings only at the top and bottom thereof, a port directly connecting the container with the atmosphere a conduit connecting the bell with the gas discharge, in combination with a cartridge containing gas producing material mounted in the bell and adapted to be perforated top and bottom so as to permit water to contact with the material at the bottom of the cartridge and gas to escape out of the top thereof into the bell and thence through the gas discharge conduit.

3. A portable gas generating apparatus including a container, an inverted bell suspended therein having openings only at the top and bottom thereof, a port directly connecting the container with the atmosphere and a conduit connecting the bell with the gas discharge and valves for controlling said port and conduit, in combination with a cartridge containing gas producing material mounted in the bell and adapted to be perforated top and bottom so as to permit water to contact with the material at the bottom of the cartridge and gas to escape out of the top thereof into the bell and thence through the gas discharge conduit.

4. A portable gas generating apparatus including a container, an inverted bell suspended therein having openings only at the top and bottom thereof, a port directly connecting the container with the atmosphere and a conduit connecting the bell with the gas discharge, in combination with a plurality of cartridges each containing gas producing material and mounted one above the other in the bell, each being adapted to be perforated top and bottom so as to permit water to contact with the material at the bottom of the cartridge and gas to escape out of the top thereof into the bell and thence through the gas discharge conduit.

867,965. GRINDSTONE-FLANGE. HERBERT J. FRINK, Holyoke, Mass. Filed Feb. 26, 1907. Serial No. 359,518.



1. In an improvement of the class described, a shaft, a two-part clamping flange for engaging said shaft, each part being provided with a recessed portion on its outer face, a continuous ring or disk for engaging said recessed portions, and means for connecting each part of the clamping flange to the ring.

2. In an improvement of the class described, a shaft, a two-part clamping flange for engaging said shaft, each part being provided with a recessed portion on its outer face, a continuous ring or disk for engaging said recessed portions, and means for connecting each part of the clamping flange to the ring, said ring being provided with means for forcing the same out of the recessed portions when the means for connecting each part of the clamping flange to the ring is removed.

3. In an improvement of the class described, a shaft, a two-part clamping flange divided on the diametrical line and provided with a recessed portion on its outer face, a continuous ring element for engaging the recessed portion of each part, means for securing the ring and two-part clamping flange together, said ring being also provided with jack-screws for engaging the bottom of the recessed portion of each flange element whereby when the means for securing the ring and two-part clamping flange together are removed, the ring will be forced outward and the members of the two-part clamping flange may be removed from the shaft, as described.

4. In an improvement of the class described, a shaft, a two part flange for engaging the shaft, and having a hub on its inner side, and means on the hub for holding the two-part flange together.

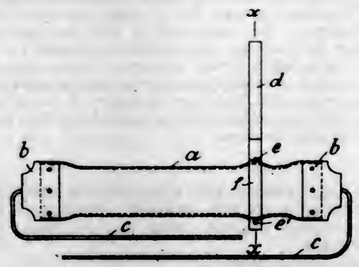
5. In an improvement of the class described, a shaft, a two part flange for engaging the shaft, and having a hub on its inner side, and means on the hub for holding the two-part flange together, and means for removing the means on the hub.

6. In an improvement of the class described, a shaft, a two-part flange engaging the same and provided with a hub on its inner side, an annular shoulder on the hub, a ring for engaging the annular shoulder, and means for disengaging the ring from said shoulder.

7. As an article of manufacture, a two-part flange, each flange element having a recess, a ring for engaging the recess, each flange element also having a hub-portion, and means for engaging the hub portion for clamping the same together.

8. As an article of manufacture, a two-part flange, each flange-element having a recess, a ring for engaging the recess each flange element also having a hub-portion, and an opening extending from the recess to the hub portion, a ring engaging the hub-portion whereby when the ring for engaging the recess is removed, the ring on the hub portion may be removed, as described.

867,966. MARINE LIFE-SAVING APPARATUS. CASPAR FUCHS, Meiringen, Switzerland. Filed June 18, 1906. Serial No. 322,218.

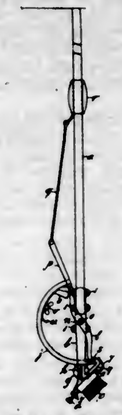


1. Marine life saving apparatus adapted for reception of substances adapted to generate gas on coming into contact, comprising a suitable length of flexible tubing with open ends, a pair of clamps for closing the open ends by compression after insertion of the chemicals, and a readily releasable clamping device adapted to compress said tube intermediate of said ends to divide said tube into separate compartments for the purpose set forth.

2. Marine life saving apparatus comprising an inflatable tube, in combination with a clamping device adapted to divide said tube into two compartments for reception of substances adapted to generate gas on coming into contact, said clamping device comprising a strap inclosing the tube, readily breakable bars exteriorly of said strap and means for clamping said bars together.

867,967. DEVICE FOR CLEANING FLOORS. JAMES E. GEE, London, England. Filed May 31, 1906. Serial No. 319,592.

1. In a device for cleansing floors and the like, the combination of a handle provided with a bracket, a roller mounted on said bracket, and a movable half wheel or segment pivoted in said bracket and provided with means for fastening a mop thereto, a sleeve, and means attached to the sleeve for moving said segment in contact with said roller, thereby squeezing the mop, substantially as described.



2. In a device for cleansing floors and the like, the combination of a handle, a spring controlled bracket thereon carrying a roller, a movable half wheel or segment pivoted in said bracket and provided with means for fastening a mop thereto and a sleeve sliding on said handle and connected to said segment, substantially as described.

3. In a device for cleansing floors and the like, the combination of a handle, a bracket supported thereon, a roller journaled therein, a pivotally supported half-wheel or segment having means for securing a mop thereto, said segment being provided with edge flanges between which said roller is adapted to enter, a sliding sleeve on said handle, and connections between said sleeve and said segment, substantially as described.

4. In a device for cleansing floors and the like, the combination of a handle, a bracket secured to said handle, a squeezing roller loosely journaled in said bracket, a half-wheel or segment pivotally mounted on said bracket and having means for securing a mop thereto, said half-wheel being provided with side flanges or edges between which said roller is adapted to enter, and also with a slot for receiving one edge of the mop, a sleeve adapted to slide on said handle, and pivoted connections between said sleeve and half-wheel, substantially as described.

5. In a device for cleansing floors and the like, the combination of a handle a bracket, a movable half-wheel or segment having means for securing a mop thereto and pivotally supported in said bracket, a second bracket mounted within said first named bracket, a roller having an axle projecting through slots in both of said brackets, and means for operating said half-wheel or segment to squeeze the mop carried thereby, substantially as described.

6. In a device for cleansing floors and the like, the combination of a handle, a bracket carried thereby, a movable half-wheel or segment pivotally mounted on said bracket and having means for securing a mop thereto, a second bracket mounted within said first named bracket, spring supports for said second named bracket, means for adjusting the tension of the spring in said supports, a roller loosely journaled in both of said brackets, and means for operating said half-wheel, substantially as described.

7. In a device for cleansing floors and the like, the combination of a handle, a bracket, a roll a movable half-wheel or segment pivotally mounted on said handle and adapted to carry a mop, said half-wheel being provided with side flanges and also with a slot for receiving the mop, a movable toothed portion adapted to be moved along said half-wheel to engage and hold the mop, means for securing said movable part in any desired position, and means for operating said half-wheel, substantially as described.

8. In a device for cleansing floors and the like, the combination of a handle, a bracket carried thereby, a roller journaled in said bracket, a movable half-wheel or segment pivotally supported on said bracket and provided with side flanges, and a slot through which the mop may be passed, means for securing the mop in said slot, said half-wheel being wider than said roller so that the latter may come in between the flanges of said half-wheel, and means for operating said half-wheel, substantially as described.

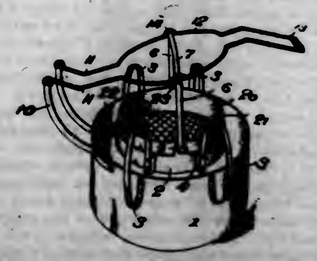
9. In a device for cleansing floors and the like, the combination of a handle, a bracket supported thereon, a half-wheel or segment pivotally mounted on said bracket, said half-wheel being provided with side flanges, a slot to receive the mop, and a raised piece, means carried by said segment for securing a mop in said slot and against said raised piece, a spring supported bracket located within said first named bracket, a roller loosely journaled in both of said brackets, and means for operating said half-wheel, substantially as described.

10. In a device for cleansing floors and the like, the combination of a handle, a bracket supported thereon, and a movable half-wheel or segment pivotally mounted on said bracket and provided with side flanges, a slot, a raised piece, and means for securing a mop to said half-wheel, a second spring supported bracket located within said first named bracket, a roller loosely journaled in both of said brackets and of such a length that it may enter between the side flanges of the said half-wheel, chains each adapted to be supported by said first named bracket at one end, and to be fastened to the mop at the other end, and means for operating said half-wheel to squeeze the mop carried thereby, substantially as described.

11. In a device for cleansing floors and the like, the combination of a handle, a bracket carried thereby, a movable half-wheel or segment pivotally supported by said bracket and provided with means for securing a mop thereto, and with side flanges, a spring supported bracket located within said first named bracket, a roller loosely journaled in both of said brackets of such a length that it will pass between the side flanges of the half-wheel, a sleeve slidably mounted on said handle, and rigid pivoted connections between said sleeve and said half-wheel, substantially as described.

12. The combination in a device for cleansing floors and the like, of a handle having at its lower end a forked bracket to the lower end of which a brush is removably secured, with a swabbing and drying device consisting of an inner forked bracket, a roller turning on a bearing movable in slots in the outer and inner forked brackets, and a half-wheel or segment turning upon a center passing through the outer forked bracket, and a sleeve sliding upon the handle and connected by a rod with an arm upon the half-wheel or segment, a cloth or swab one end of which is attached to the half wheel or segment, while its loose part is compressed between the circumference of the segment and the roller, all substantially as set forth.

867,968. DISH-WASHER. JOEL M. GILBERT, Summit, N. J. Filed Oct. 9, 1906. Serial No. 338,187.



1. In a dish washer the combination with a pan having a supporting frame therein and yielding means to normally support said frame at the upper edge of the pan; of standards pivotally secured to said supporting frame, trunnions on said standards, an operating lever, sockets upon said lever adapted to engage said trunnions and means to prevent casual removal of the trunnions from the sockets.

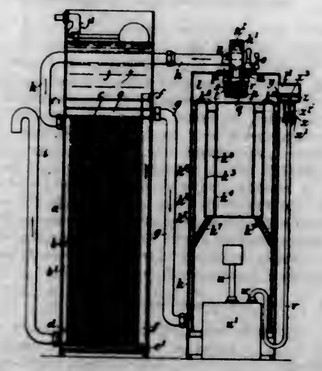
2. In a dish washer the combination with a pan and a frame yieldingly supported within said pan; of standards pivotally secured to said frame, trunnions on said standards and having one portion thereof flattened, an operating lever and sockets upon said operating lever adapted to receive said trunnions, the mouth of said sockets being of less width than the diameter of said trunnions.

3. In a dish-washer the combination with a pan having curved brackets thereon; of a supporting frame, blocks on said frame, springs for said frame one end of said springs being secured to the outer surface of the pan while the opposite ends thereof are secured to said blocks, upwardly extending ears on said frame, standards pivotally secured to said ears, a cross bar connecting the upper ends of said standards and extending beyond said standards to form trunnions, an operating lever formed in sections, the free ends of which are pivotally secured to said brackets, means carried by said sections to engage said trunnions and removably secure the same thereto.

4. In a dish-washer the combination with a pan having brackets thereon; of a supporting frame, means to yieldingly support said frame within the pan, standards pivotally secured to said frame, a cross bar between the upper ends of said standards, said cross bar being extended at each end to form trunnions, each trunnion having a flattened portion, an operating lever pivotally secured to said brackets, sockets carried by said operating lever, the mouths of said sockets being reduced whereby the trunnions will be held in the sockets when the lever is depressed.

5. In a dish washer the combination with a pan and a supporting frame yieldingly mounted therein; of means to depress said supporting frame comprising standards pivotally secured to the frame, trunnions extending at right angles to the upper ends of said standards, said trunnions having their lower surfaces flattened, an operating lever pivotally secured at one end to said pan, hook shaped sockets carried by said lever and adapted to removably secure the trunnions to the lever, the entrance to each of said sockets being of less width than the diameter of said trunnions.

867,969. APPARATUS FOR USE IN PURIFYING WATER AND OTHER LIQUIDS. PATRICK G. GRIFFITH, London, England. Filed Dec. 30, 1905. Serial No. 293,987.



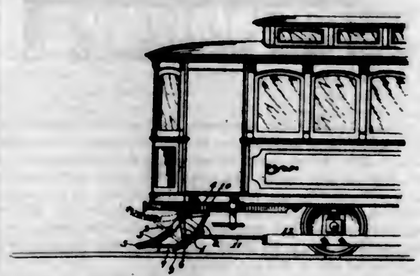
An apparatus for use in purifying water and other liquid having, in combination, a heated liquid chamber, a discharge valve from said chamber which opens to permit outflow of the heated liquid when said liquid reaches a predetermined temperature between sixty-five and eighty-five degrees centigrade, and a closed expansible metallic capsule operatively connected with said valve and containing a liquid which boils at said predetermined temperature and thereby expands the capsule to open said valve, said capsule being located within said chamber and wholly surrounded by the hot liquid therein.

867,970. APPLE-CORING DEVICE. ELLEN C. HEDBORG, Minneapolis, Minn. Filed Sept. 21, 1906. Serial No. 335,580.



In an apple coring device, the combination with a thin metal tube 1 having the longitudinal slots 4 and provided at one end with a hollow hand piece 2 formed with the perforations 3, of an ejecting plunger 5 having a flat ejecting face working loosely within said tube and provided with a diametrically extended operating pin 6 passed diametrically therethrough and working in the slots 4 of said tube and which plunger at its inner end terminates close to said pin 6, whereby when the said plunger is moved toward the open end of said tube water forced into said tube and hand piece through said openings 3 will find ready escape through said slots 4, substantially as described.

867,971. WHEEL-FENDER FOR CARS. JOSEPH HOEFLING, Grand Rapids, Mich. Filed Jan. 29, 1907. Serial No. 354,714.



1. In a fender, the combination of a front fender pivoted at the rear and upwardly movable at the front, levers having forward portions supporting the front of said fender and moved upward thereby, and a downwardly and forwardly movable rear fender supported and moved by the rearward portions of said levers.

2. In a fender, a front fender pivotally supported at the rear, pivoted levers movable upward at their front ends and supporting the front of said fender, and also movable downward at their rear ends, a rear fender pivoted at the rear to the rear ends of the levers and supported thereby, and means for movably supporting the front of the rear fender.

3. In a fender, a horizontally disposed front fender pivotally supported at the rear, an inclined rear fender extending through the rear of the front fender and slidable downward and forward therethrough, pivoted levers supporting the front of the front fender and the rear of the rear fender, and oppositely adjusting the respective fenders.

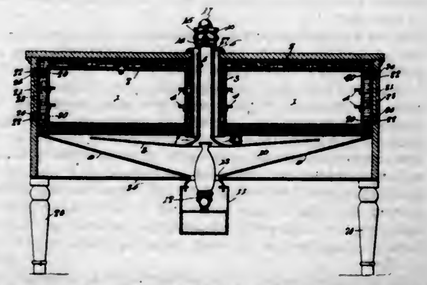
4. In a fender, the combination of downwardly projecting hangers, levers pivoted to the hangers and oppositely projecting therefrom, a horizontally disposed fender slidably connected at the front to the levers and pivoted at the rear to the lower ends of the hangers, an inclined rear fender slidably supported at the front by the hangers and pivotally supported at the rear by the rear ends of the levers.

5. In a fender, the combination of downwardly projecting hangers, levers pivoted to the hangers and oppositely extending therefrom, one portion of each lever projecting forward and downward from the pivot and the other portion of the same projecting rearward from the pivot, a horizontally disposed fender slidably connected to the levers at the front and pivotally supported at the rear by the hangers, an inclined rear fender slidably supported by the hangers at the front and pivotally supported at the rear by the rear portions of the levers.

6. In a fender, downwardly projecting hangers, a rod connecting the lower ends of the hangers, levers pivoted to the hangers near the upper ends thereof and oppositely projecting therefrom, the forward portions of said levers being curved downward and provided with longitudinal slots, a rod slidable in said slots, a front fender attached to said rods, a rear fender arranged inclined and extending through the front fender and also slidably supported at the front on the rod connecting the hangers and pivotally supported at the rear by the rear ends of the levers.

7. In a fender, downwardly projecting hangers, a rod connecting the lower ends of the hangers, levers pivoted to the hangers near the upper part thereof and oppositely extended therefrom, the forward portions of said levers being curved downward and provided with longitudinal slots, a rod slidable in said slots, strips connecting said rods and spaced apart, a rod connecting the rear ends of the levers, a transverse rod beneath the rear of the front fender, side rods connecting the last named rod with the rod connecting the rear ends of the levers, and strips extending between the first named strips and connected to the two last named rods.

867,972. INCUBATOR. JAMES HOMAN, Springfield, Ohio. Filed Nov. 9, 1906. Serial No. 342,667.



1. An incubator comprising a casing having an egg chamber within the same and having a water chamber inclosing the top, bottom, end and rear walls of said egg chamber, a partition extending from the rear wall to the front of said casing and having a water chamber formed therein and in open communication with the water chamber inclosing the top, bottom and rear walls of said egg

chamber, and means for heating the water in said water chamber, substantially as described.

2. An incubator comprising a casing containing an egg chamber and having a water chamber surrounding the top and bottom walls and a plurality of the side walls of said egg chamber, a partition dividing said egg chamber into compartments and having a water chamber formed therein and in open communication with the water chamber of said walls and having air passages extending through the same to connect said compartments, and means for heating the water in said chambers, substantially as described.

3. In an incubator, the combination, with a casing containing an egg chamber and having a water chamber surrounding a plurality of the walls of said egg chamber, of means for applying heat to said water chamber, and means controlled by the temperature of the water in said chamber for regulating the amount of heat applied thereto, substantially as described.

4. In an incubator, the combination, with a casing containing an egg chamber and having a water chamber surrounding a plurality of the sides of said egg chamber, of a source of heat supply, a plurality of passages for said heat, one of said passages being arranged to bring the heat in contact with said water chamber and means regulated by the temperature of the water of said chamber for controlling said heat passages, substantially as described.

5. In an incubator, the combination, with a casing containing an egg chamber and having a water chamber extending on a plurality of sides of said egg chamber, of a source of heat supply, a direct passage for said heat and a circuitous passage therefor, and means controlled by the temperature of the water in said chamber for regulating the circulation of the heat through said passages, substantially as described.

6. In an incubator, the combination, with a casing containing an egg chamber and having a water chamber extending on a plurality of the sides of said egg chamber, and a source of heat supply located beneath said water chamber, of two heat flues extending through said water chamber above said source of heat supply, one of said heat flues allowing the heat to escape directly to the air and the other causing the heat to come into contact with the wall of said water chamber, and means controlled by the temperature of the water in said chamber for regulating the circulation of heat in said passages, substantially as described.

7. In an incubator, the combination, with a casing containing an egg chamber and having a water chamber extending on a plurality of the sides of said egg chamber, a heat flue extending through said water chamber, a second heat flue mounted within the first-mentioned flue and having a flange at the lower end thereof extending beneath the bottom of said water chamber, a source of heat supply located beneath said flues, and means controlled by the temperature of the water in said chamber for causing the heat to pass through either one of said flues, substantially as described.

8. In an incubator, the combination, with a casing containing an egg chamber and having a water chamber surrounding a plurality of the sides of said egg chamber, of a heat flue extending through said water chamber, a second flue mounted within said first-mentioned flue and arranged centrally thereof and having its lower end flared, a flange carried by the flared end of said central heat flue and extending beneath the walls of said water chamber, a lamp located beneath said heat flues and having the chimney thereof extending into the flared portion of said central flue, and means controlled by the temperature of the water in said water chamber for causing the heat to pass through either of said flues, substantially as described.

9. In an incubator, the combination, with a casing containing an egg chamber and having a water chamber extending on a plurality of the sides of said egg chamber, and a heat chamber beneath said water chamber, of a heat flue extending through said water chamber, a second heat flue mounted within said first-mentioned flue and arranged centrally thereof, a flange carried by said central flue and extending into said heat chamber to separate said flues, a source of heat supply located beneath said flues, and means controlled by the temperature of the water within said chamber for regulating the passage of heat through said flues, substantially as described.

10. In an incubator, the combination, with a casing containing an egg chamber and having a water chamber extending on a plurality of the sides of said egg chamber, of downwardly converging walls forming a heat chamber beneath the same, a heat flue extending through said water chamber and connecting said heat chamber with the atmosphere, a second heat flue mounted within said first-mentioned flue and arranged centrally thereof, a flange carried by said central flue and extending into said heat chamber to separate said flues, and means controlled by the temperature of the water in said chamber for regulating the passage of heat through said flues, substantially as described.

11. In an incubator, the combination, with a casing containing an egg chamber and having a water chamber extending on a plurality of the sides of said egg chamber, said water chamber having air passages therethrough, of an outer casing surrounding said water chamber and having air passages through the same out of alinement with the air passages through said water chamber and having passages formed between the same and said water chamber for connecting said air passages, and means for heating the water in said water chamber, substantially as described.

12. In an incubator, the combination, with a casing containing an egg chamber and having a water chamber surrounding a plurality of the sides of said egg chamber, said water chamber having air passages therethrough, of an outer casing inclosing the end walls of said water chamber and having air passages therethrough, said passages being out of alinement with the air passages of said water chamber, a portion of the wall of said water chamber being separated from said outer casing to form an air chamber communicating with the passages in said water chamber and in said outer casing, and means for heating the water in said water chamber, substantially as described.

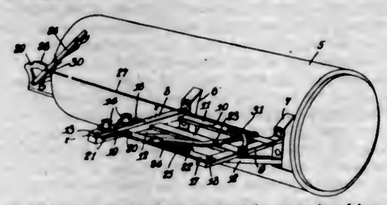
867,973. MUFFLER FOR GAS-ENGINES. JACOB B. HOOVER, Columbus, Ohio. Filed Feb. 16, 1906. Serial No. 301,362.



1. In a muffler for explosive engines, the combination with an exhaust pipe of an explosive engine, of a muffler casing into which said exhaust pipe discharges, a fan mounted in said casing and adapted to have movement imparted thereto by the force of said exhaust, an air conduit which is also in communication with said casing, said casing having openings formed therein for the discharge of the spent gases to the atmosphere, said fan creating a circulation of air in the air conduit.

2. In a muffler for explosive engines, the combination with the exhaust pipe of said engine, of a muffler casing, said exhaust pipe discharging into the end of said muffler casing, a shaft rotatably mounted in said casing and extending longitudinally thereof, fan blades carried by said shaft, a balance wheel mounted upon the shaft upon the exterior of the casing, an air conduit which surrounds the exhaust pipe and which is also in communication with the interior of the casing, and said casing having openings formed in the end thereof opposite the end at which the exhaust pipe is connected.

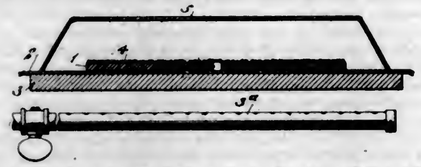
867,974. BELT GUIDE AND SHIFTER. RUDOLF E. HORINEK, Atwood, Kans. Filed Apr. 27, 1907. Serial No. 370,630.



1. A belt-guide and shifter comprising a pair of bracket-arms one of which is recessed and slotted longitudinally, a slide mounted on the slotted arm, and having a guide-pin working in the slot, a lever pivoted at one end to the other bracket-arm and slotted at its opposite end and working in the recess of the slotted arm, a pin carried by the slide and extending into the slot of the lever, means for operating the lever, and belt-guides carried by the slide.

2. A belt-guide and shifter comprising a pair of bracket-arms, a slide mounted on one of the arms, a slotted lever pivoted at one end to the other arm and connected at its opposite end to the slide, a lever, a roller carried thereby working in the slot of the first mentioned lever, means for operating the roller-carrying lever, and belt-guides carried by the slide.

867,975. METHOD OF MAKING MOLDED FLAT SOUND-RECORDS. WILLIAM H. HOYT, Wyoming, N. J. Filed Oct. 17, 1906. Serial No. 339,330.



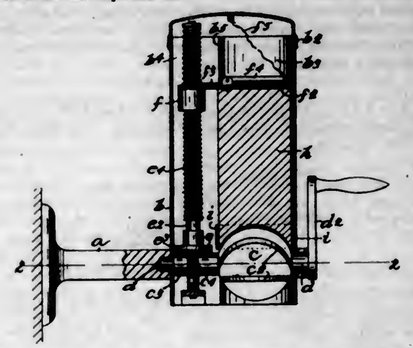
1. The herein described method of making flat molded articles, which consists in applying to the upper surface of a flat foundation which becomes plastic under the influence of heat, a layer of powdered material having like properties, heating the foundation and said layer to cause them to unite, then placing on the other surface of the foundation, near the center, some loose material of the same character, and applying heat and pressure to cause said loose material to expand and expel the air, and the entire article to be molded.

2. The herein described method of making molded articles, which consists in applying to the upper surface of a foundation which becomes plastic under the influence of heat, a layer of powdered material having like properties, exposing both the foundation and the applied powdered layer to heat to cause them to unite, and thereupon transferring the entire article to a mold and subjecting it to pressure therein while hot.

867,976. SOAP-SHAVER. JOSEPH V. IRENIUS, Buffalo, N. Y., assignor to Larkin Company, Buffalo, N. Y., a Corporation of West Virginia. Filed Jan. 11, 1907. Serial No. 351,760.

1. A soap shaving machine embodying a casing, a horizontal shaft in said casing having a screw threaded portion, a vertical shaft in the casing having screw threads thereon, a gear wheel comprised of a plate secured to said vertical shaft and having downwardly facing teeth in engagement with said screw threaded portion of the horizontal shaft, a cutter on said horizontal shaft, and means to bear against the top of the soap cake removably engaged with said screw threads of the vertical shaft and operated by the latter.

2. A soap shaving machine embodying a casing having a short vertical separating wall at its upper end to form a soap cake compartment, a cutter of approximately the same length as the width of said compartment arranged below the lower end of the latter and a guide of substantially the same shape as said compartment arranged at a distance below said wall and above said cutter so that the blades of the latter will project in said guide and lie flush with the top thereof.



3. A soap shaving machine embodying a casing divided into two comparatively short longitudinally extending chambers, a cutter at a distance below the lower end of one of said chambers, and a guide member of band form open at both ends and disposed at a distance from said chamber and arranged so that the blades of said cutter will project thereinto and lie flush with the top thereof.

4. A soap shaving machine embodying a casing, a circular guide having open ends located intermediate the top and bottom of said casing, a cutter in casing comprising a series of blades having arc-shaped cutting edges, the outer most point of said cutting edges lying flush with the top of said guide, and means to feed the soap through said guide, said means being restricted in its downward movement by engagement with said guide.

5. A soap shaving machine embodying a casing, an open ended band-like guide in said casing, a cutter below said guide having blades which have cutting parts lying flush with the top of said guide, a soap feeding plate to engage on top of the soap cake, means to operate said plate, said plate being restricted in its downward movement by engagement with the top of said guide.

6. A soap shaving machine embodying a casing, a support therefor, a horizontal shaft in the lower end of the casing having its inner end projecting through the casing and into an opening provided therefor in said support, a cutter on said shaft, a screw threaded portion on said shaft, a vertical shaft in the casing arranged to one side of the horizontal shaft, a gear wheel on said vertical shaft embodying a horizontal toothed plate which overlies said screw threads of the horizontal shaft, and means operated by said vertical shaft for engagement with the soap cake.

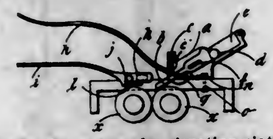
7. A soap shaving machine embodying a casing, a horizontal shaft in said casing having a screw threaded portion, a cutter on said shaft, a vertical shaft spaced from said horizontal shaft, a gear wheel on said vertical shaft embodying a horizontally disposed plate having downwardly facing teeth, the radius of said plate being such as to cause the teeth thereof to overlie and engage said screw threads of the horizontal shaft and means operated by said vertical shaft for feeding the soap cake to said cutter.

8. A soap shaving machine embodying a casing, a short vertical arc-shaped wall at the top of the casing, forming a top guide for the soap, a bottom guide for the soap embodying an open-ended band located at a distance from said top guide and formed with an upwardly extended enlarged mouth, a cutter extending through said band to project in said mouth, and means to feed the soap through each of said guides.

9. A soap shaving machine, embodying a casing, a short open ended top soap guide having an open side, and a lower soap guide having open ends located at a distance from said top soap guide, means to feed the soap operating through said open side of the top guide, and a cutter having blades which extend to the top of said lower guide.

10. A soap shaving machine embodying a horizontal operating shaft carrying a cutter therein, an open ended guide member shaped to receive and engage the soap cake overlying said cutter, means operated by said shaft for forcing the soap cake through said guide member, and an inclosing casing.

867,977. AUTOMATIC PLATE-CARRIER. THOMAS JAMES, Swansea, England. Filed Aug. 20, 1906. Serial No. 331,339.



1. In combination, means for elevating plates, a carrier normally horizontal, a weight on the carrier to hold it in its normal position and means for guiding the plates to the carrier.

2. In combination, means for elevating plates, a depressible carrier, means for limiting the movement of the carrier and means for guiding the plates to the carrier.

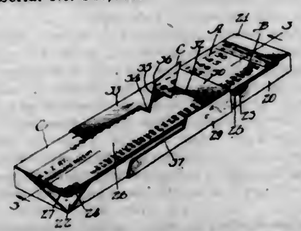
3. In combination, means for elevating plates, a guide, a finger movable therein contacting with the plates and a weight movable in the guide contacting with the finger.

4. In combination, means for elevating plates, a guide having a slot, a finger movable in the guide and a roller mounted in the slots.

5. In combination, means for elevating plates, a guide having a slot, a finger movable in the guide and a roller mounted in the slots, said roller being above the finger.

6. In combination, means for elevating plates, a guide, a finger carried by the guide contacting with the plates and a stud carried by the guide on which the finger rests.

867,978. TICKET-CUTTER. WILLIAM KINKEAD, Clyde, and JAMES T. GILLESPIE, Chicago, Ill. Filed Dec. 14, 1906. Serial No. 347,777.



1. A device of the class described, comprising a body, a portion of which is cut away to form a longitudinal cutting edge and a transverse cutting edge extending beyond said longitudinal edge, the body portion being also cut away at the junction of the two cutting edges, to form an additional cutting edge.

2. A device of the class described, comprising a body, a portion of which is cut away to form a longitudinal cutting edge and a transverse cutting edge extending beyond said longitudinal edge, the body portion being also cut away to form an inclined cutting edge between the first two said edges.

3. A device of the class described, comprising a body, a portion of which is cut away to form a longitudinal and a transverse cutting edge, said transverse edge extending beyond the longitudinal edge, the body being also cut away at the junction of the edges to form an inclined cutting edge between the first two said edges, said inclined edge projecting beyond the longitudinal edge.

4. A device of the class described, comprising a body, a portion of which is cut away to form a longitudinal and a transverse cutting edge, said transverse edge extending beyond the longitudinal edge, the body being also cut away at the junction of the edges to form an inclined cutting edge between the first two said edges, said inclined edge projecting beyond the longitudinal edge, and all of said cutting edges being located in the same plane.

5. A device of the class described, comprising a body, a portion of which is cut away to form two cutting edges arranged at substantially right angles to each other, the body being also cut away at the junction of the edges to form an inclined cutting edge and the edge of the body adjacent the exposed end of the inclined edge being cut away to form a projecting shoulder or stop.

6. A device of the class described, comprising a body, a portion of which is cut away to form two cutting edges, arranged at substantially right angles to each other, the portion of the body at the junction of said edges being cut away to form an inclined cutting edge between the first two edges, said inclined edge extending from a point in rear of one of the first said edges towards the said edge and in a direction away from the other edge, the edge of the body at the junction of the free end of the inclined edge being cut away to form a projecting stop.

7. A device of the class described, comprising a body portion provided with a longitudinal cutting edge, and a laterally projecting cutting edge extending beyond the first said edge, said edges terminating short of each other to form a space therebetween, said lateral cutting edge extending to a point in the rear of the first said edge, to form one side of the space, the portion of the body between the two cutting edges being also formed into a cutting edge.

8. A device of the class described, comprising a body portion provided with a longitudinal cutting edge, and a laterally projecting cutting edge extending beyond the first said edge, said edges terminating short of each other to form a space therebetween, said lateral cutting edge extending to a point in the rear of the first said edge, to form one side of the space, the portion of the body between the two cutting edges being formed into an inclined cutting edge.

9. A device of the class described, comprising a body portion provided with a longitudinal cutting edge, and a laterally projecting cutting edge extending beyond the first said edge, said edges terminating short of each other to form a space therebetween, said lateral cutting edge extending to a point in the rear of the first said edge, to form one side of the space, the portion of the body between the two cutting edges being formed into an inclined cutting edge, said edge terminating short of the lateral cutting edge and constituting another side of the space.

10. A device of the class described, comprising a body portion provided with a longitudinal cutting edge, and a laterally projecting cutting edge extending beyond the first said edge, said edges terminating short of each other to form a space therebetween, said lateral cutting edge extending to a point in the rear of the first said edge, and a stop on the longitudinal cutting edge, the portion of the body between the two cutting edges being inclined from a point adjacent the stop to a point in rear of the first said edge to form an additional cutting edge.

11. In a device of the class described, the combination of an open receptacle, a slide mounted for movement on the receptacle, said slide being provided with a portion extending across the open side of the receptacle, the lower edge of said portion constituting a cutting edge, and a laterally projecting flange extending from one edge of the slide and over the open side of the receptacle, said flange being provided with a plurality of cutting edges coöperating with the first said cutting edge.

12. In a device of the class described, the combination of an open receptacle, a slide mounted for movement on the receptacle, said slide being provided with a portion extending across the open side of the receptacle, the lower edge of said portion constituting a cutting edge, and a laterally projecting flange extending from one edge of the slide and over the open side of the receptacle, said flange being provided with a cutting edge arranged at a substantially right angle to the first said cutting edge, and a cutting edge arranged between and at an angle to both of the said cutting edges.

13. In a device of the class described, the combination of an open receptacle, a slide mounted for movement on the receptacle, said slide being provided with a portion extending across the open side of the receptacle, the lower edge of said portion constituting a cutting edge, and a laterally projecting flange extending from one edge of the slide and over the open side of the receptacle, the edge of said flange adjacent the said cutting edge being inclined to form a coöperating cutting edge, and the body of the flange below the inclined edge being reduced to form a shoulder, and a cutting edge adapted to coöperate with the first said cutting edges.

14. In a device of the class described, the combination of an open receptacle, a sleeve surrounding and mounted for sliding movement upon the receptacle, a portion of the sleeve being cut away to form a plurality of coöperating cutting edges adjacent the open side of the receptacle.

15. In a device of the class described, the combination of an open receptacle, a sleeve surrounding and mounted for sliding movement upon the receptacle, a portion of the sleeve being cut away to form a plurality of coöperating cutting edges arranged at an angle to each other, and adjacent the open side of the receptacle.

16. In a device of the class described, the combination of an open receptacle, a sleeve surrounding and mounted for sliding movement upon the receptacle, a portion of the sleeve being cut away to form two cutting edges arranged at substantially right angles to each other, adjacent the open side of the receptacle, and a cutting edge disposed between and at an angle to the first said cutting edges.

17. In a device of the class described, the combination of an open receptacle, a sleeve surrounding and mounted for sliding movement upon the receptacle, a portion of the sleeve being cut away to form a plurality of coöperating cutting edges adjacent the open side of the receptacle and a shoulder at the junction of two of said edges.

18. In a device of the class described, the combination of an open receptacle, a sleeve surrounding and mounted for sliding movement upon the receptacle, a portion of the sleeve being cut away to form a plurality of coöperating cutting edges located in the same plane adjacent the open side of the receptacle, and a follower within the receptacle.

19. In a device of the class described, the combination of an open receptacle, a follower within the receptacle, a ticket, means for holding the ticket within the receptacle, and a member extending over the ticket and mounted for sliding movement on the receptacle, a portion of said member being cut away to form a plurality of separated active edges for cutting the ticket said edges being located in the same plane.

20. In a device of the class described, the combination of an open receptacle, a follower within the receptacle, a ticket, means for holding the ticket within the receptacle, a portion of the receptacle being cut away to expose one corner of the ticket, and a member extending over the ticket and mounted for sliding movement on the receptacle, a portion of said member being cut away to form a plurality of active edges for cutting the ticket.

21. In a device of the class described, the combination of an open receptacle, adapted to receive a ticket, a member mounted for sliding movement on the receptacle and extending over the ticket, a portion of said member being cut away to form a longitudinal and a coöperating transverse cutting edge, along which edges said ticket is adapted to be cut, and means for limiting the cutting of the ticket along one edge.

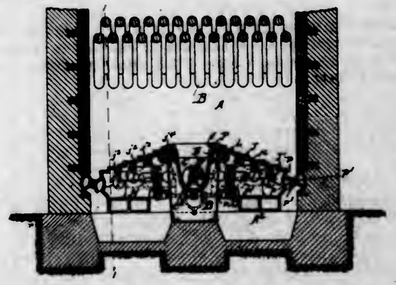
22. In a device of the class described, the combination of an open receptacle adapted to receive a ticket, a member mounted for sliding movement on the receptacle, and extending over the ticket, a portion of said member being cut away to form a longitudinal and a coöperating transverse cutting edge, along which said ticket is adapted to be successively cut, said member being also provided with an inclined cutting edge adapted to coöperate with the transverse cutting edge to sever the ticket after being cut by the longitudinal edge, and means for limiting the cutting of the ticket by the said longitudinal edge.

23. In a device of the class described, the combination of an open receptacle adapted to receive a ticket, a member mounted for sliding movement on the receptacle, and extending over the ticket, a portion of said member being cut away to form a longitudinal and a coöperating transverse cutting edge, along which said ticket is adapted to be successively cut, said member being also provided with an inclined cutting edge adapted to coöperate with the transverse cutting edge to sever the ticket after being cut by the longitudinal edge, and means for limiting the cutting of the ticket by the said longitudinal edge, said transverse edge being adapted to raise the end of the severed portion of the ticket when the member is adjusted.

24. A ticket cutter comprising a body, a portion of which is cut away to form a longitudinal cutting edge and a transverse cutting edge extending beyond said longitudinal edge, and an additional cutting edge formed between the first said edges substantially at the junction of said edges.

25. A ticket cutter comprising a body portion having a cutting edge, a second cutting edge disposed transversely of the first said edge and fixed with relation thereto, and an additional cutting edge disposed between the first said edges substantially at the junction of the said edges.

867,979. STOKER. CHARLES A. KNOWLTON, Erie, Pa., assignor to The American Stoker Company, Erie, Pa., a Corporation of New York. Filed Feb. 11, 1904. Serial No. 193,169.



1. In a stoker the combination of a feeding device for carrying fuel from without the furnace to within and along the interior of the furnace in a longitudinal direction relatively to the furnace; grates arranged at the sides of the feeding device; carriages for supporting the grates; rollers for supporting the carriages laterally with respect to the direction of movement of the fuel in the feeding device; and means for reciprocating the carriages.

2. In a stoker the combination of a feeding device for carrying fuel from without the furnace to within and along the interior of the furnace in a longitudinal direction relatively to the furnace; grates arranged at the sides of said feed device; carriages for supporting said grates, the grate bars being arranged on said carriages in groups said groups comprising alternate grate bars; rollers for supporting the carriages; and means for reciprocating the carriages in opposite directions to move the grate bars of the groups supported thereby in opposite directions.

3. In a stoker, the combination of a feed box arranged to deliver fuel from beneath the fire; a fuel support in the form of a twyer cap for said box; a grate arranged at the side of said twyer cap and adapted to carry fuel from said cap; said grate comprising reciprocating grate bars; a carriage for supporting said reciprocating grate bars; rollers for supporting said carriage; and means for reciprocating said carriage laterally relative to the direction of feed through the feed box.

4. In a stoker, the combination of a feed box arranged

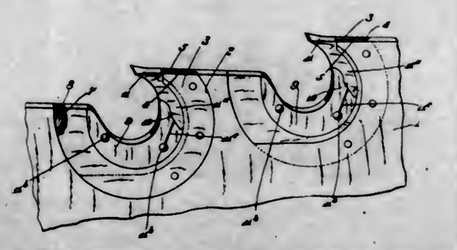
to deliver fuel from without the furnace to within and along the interior of the furnace and from beneath the fire; a fuel support in the form of a twyer cap for said box; a grate comprising grate bars arranged in groups and adapted to move the fuel laterally from said box; a carriage for each group; rollers for supporting said carriages; and means for reciprocating said carriages in opposite directions, the grates being arranged to carry the fuel from the feed box laterally across the furnace.

5. In a stoker the combination of a feed box arranged to feed fuel from beneath the fire; a fuel support in the form of a twyer cap at the side of said feed box adapted to receive the fuel from said box; grate bars arranged at the sides of the twyer cap and adapted to receive fuel therefrom; a carriage for supporting said grate bars and the twyer cap; rollers for supporting said carriage; and means for reciprocating said carriage and with it the grate bar and twyer cap.

6. In a stoker, the combination with the grates extending from front to rear of the stoker, of carriages supporting said grates, a shaft extending from the front of the stoker to the rear of the stoker, operating means arranged on the shaft at the rear of the stoker for moving said carriages, mechanism transmitting the movement of said operating means to the front of the stoker, and means at the front of the stoker connecting said mechanism with the carriages.

7. In a stoker the combination with the grate; of carriages for said grate; the rock shaft O′ having the rock levers O and O² thereon; connections between said rock levers and said carriages for reciproacting said carriages in opposite directions; and means connecting with the rock lever O at the rear of the stoker for actuating the rock shaft O′.

867,980. DETACHABLE-TOOTH SAW. ANDREW KRIEGER, Columbus, Ohio, assignor of one-half to Ambos M. Harris, Columbus, Ohio. Filed June 20, 1907. Serial No. 379,845.

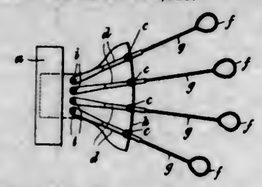


1. In an inserted tooth saw, the combination with the saw-blade provided with a substantially circular seat, of a flexible bridge-piece of substantially circular form and of approximately uniform width, said bridge-piece having its blade-engaging edge of slightly less radius than the seat on the blade, means for securing the bridge-piece at one side to said seat, a clamping member to engage and slide on the inner edge of said bridge-piece and provided with a seat for a saw-tooth, said seat adapted to coöperate with the inner edge of the bridge-piece to clamp and wedge a tooth, whereby the free end of the bridge-piece is flexed towards the seat in the blade when the clamp and tooth are moved to set position of the tooth.

2. In an inserted tooth-saw, the combination with the saw-blade provided with a recess forming a seat for a tooth-retaining bridge-piece, a flexible bridge-piece secured at one side in said recess and normally engaging a portion only of said seat, a tongue-and-groove connection for the bridge-piece and blade at the opposite side of said recess, and a tooth-retaining clamp for coöperation with said bridge-piece to clamp and hold a tooth, said bridge-piece adapted to be pressed towards said seat under pressure of the clamp.

3. In an inserted tooth saw, the combination with the saw-blade provided with a recess forming a substantially circular seat for a tooth-retaining bridge-piece, a substantially circular flexible bridge-piece secured at one side in said recess and normally engaging a portion only of said seat, a tooth-retaining clamp for coöperation with said bridge-piece to clamp and hold a tooth, the free portion of said bridge-piece adapted to be pressed towards said seat under pressure of the clamp.

867,981. APPARATUS FOR HAND GYMNASTIC EXERCISES. ALPHONS KRIZEK, Coburg, Germany. Filed June 3, 1907. Serial No. 377,019.



1. In a device for hand gymnastics, the combination of a plate, means for attaching the plate to the hand, a series of sleeves corresponding with the fingers of the hand pivoted to said plate, a series of arms adapted to engage in and to be clamped to said sleeves, means for holding the fingers to said arms and means for holding said sleeves in the desired positions on said plate, substantially as described.

2. In a device for hand gymnastics, the combination of a plate, means for attaching the plate to the hand, a series of sleeves corresponding with the fingers of the hand pivoted to said plate, a series of arms adapted to engage in and to be clamped to said sleeves, loops arranged at the end of said arms adapted to be passed over the fingers and means for holding said sleeves in the desired positions on said plate, substantially as described.

3. In a device for hand gymnastics, the combination of a plate, means for attaching the plate to the hand, a series of sleeves corresponding with the fingers of the hand pivoted to said plate, a series of arms adapted to engage in and to be clamped to said sleeves, loops arranged at the end of said arms adapted to be passed over the fingers and a bent up serrated edge on said plate adapted to hold the sleeves in any desired position on said plate, substantially as described.

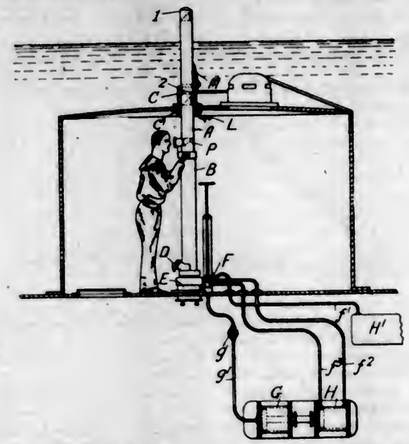
4. In a device for hand gymnastics, the combination of a plate, a strap adapted to buckle the plate to the wrist, a series of sleeves corresponding with the fingers of the hand pivoted to said plate, a series of arms adapted to engage in and to be clamped to said sleeves, loops arranged at the end of said arms adapted to be passed over the fingers and a bent up serrated edge on said plate adapted to hold the sleeves in any desired position on said plate, substantially as described.

867,982. APPARATUS FOR TAKING OBSERVATIONS FROM A SUBMARINE VESSEL. SIMON LAKE, Berlin, Germany. Filed Apr. 27, 1906. Serial No. 313,917.

1. Apparatus for taking observations from a submarine vessel when submerged, comprising a sighting tube, means to project it into the field of vision and to withdraw it wholly therefrom, including a cylinder mounted upon antifriction bearings and capable of being rotated so as to bring the sighting tube in conformity to the course of the vessel with relation to the sighted object.

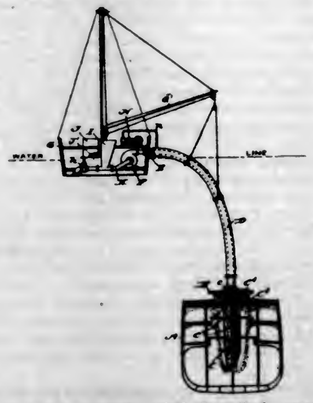
2. Apparatus for taking observations from a submarine vessel when submerged, comprising a sighting tube, means to project it into the field of vision and to withdraw it wholly therefrom, including a cylinder, in which said sighting tube is slidable longitudinally and held against independent rotary movement, said cylinder mounted to move rotatably.

3. Apparatus for taking observations from a submarine vessel when submerged, comprising a sighting tube, hydraulic apparatus to project it into the field of vision and to withdraw it wholly therefrom, including a rotatable cylinder by which the sighting tube is carried and in which it has an independent right line up and down movement, and means to restrain the sighting tube from independent rotation in said cylinder, the rotation of the cylinder serving to turn the sighting tube in the direction of the object sought.



4. A periscope having a power cylinder, a base for said power cylinder in which the cylinder is mounted fluid-tight, an antifriction bearing connecting the cylinder and its base and admitting of the rotation of the cylinder in the base and a sighting tube mounted in the cylinder and retained therein against independent rotary movement.

867,983. MEANS AND APPARATUS FOR RAISING SUNKEN VESSELS. SIMON LAKE, Bridgeport, Conn. Filed Dec. 12, 1906. Serial No. 347,566.



1. An apparatus of the kind described, comprising in combination with a surface vessel and a sunken vessel, a pipe extending from the surface vessel to the sunken vessel, a hopper adapted to contain water and a buoyant material and a pump for forcing the contents of the hopper through the pipe into the sunken vessel.

2. An apparatus of the kind described, comprising in combination with a surface vessel and a sunken vessel, a pipe leading from the surface vessel to the sunken vessel, a hopper adapted to contain a solid buoyant material, a tank containing a liquid buoyant material communicating with the hopper, and means for forcing the contents of the hopper through the pipe into the sunken vessel.

3. An apparatus of the kind described, comprising in combination with a surface vessel and a sunken vessel, a pipe leading from the surface vessel to the sunken vessel, a hopper containing a solid buoyant material, a tank containing a liquid buoyant material connected to the hopper, means for admitting water to the hopper, and a pump for forcing the contents of the hopper through the said pipe into the sunken vessel.

4. In an apparatus of the kind described, the combination with a surface vessel, of a pump, a pipe connected thereto and adapted to extend to the sunken vessel, a suction pipe connected to the pump at one end and having its opposite end connected to a water supply, and a hopper adapted to contain a buoyant material connected to the pump.

5. In an apparatus of the kind described, the combination with a pump, of a pipe connected thereto and adapted to extend to a sunken vessel, a suction pipe connected to the pump at one end and at its opposite end to a water supply, a hopper connected to the suction pipe, said hopper being adapted for holding a buoyant material, and a valve arranged in the pipe between the inlet end and the hopper.

6. In an apparatus of the kind described, the combination with a pump, of a discharge pipe connected thereto, a suction pipe connected to the pump, a hopper communicating with the suction pipe, said hopper being adapted to contain a solid buoyant material, and a tank adapted to contain a liquid buoyant material connected to the hopper.

7. An apparatus of the kind described, comprising a pump, a discharge pipe connected thereto, a suction pipe connected to the pump at one end and having its other end connected to a water supply, and a hopper communicating with the suction pipe, said hopper being adapted for holding a buoyant material and which is discharged from the pump together with the water drawn through the suction pipe.

8. An apparatus of the kind described, comprising a pipe adapted to extend to a sunken vessel, a hopper containing a solid buoyant material, a tank containing a liquid buoyant material communicating with the hopper, and a pump for forcing the contents of the hopper through the pipe into the sunken vessel.

9. An apparatus of the kind described, comprising a force pump, a discharge pipe connected thereto and adapted to extend into a sunken vessel, a pipe surrounding the lower end of the discharge pipe, a tube connected at its lower end to the last mentioned pipe and at its upper end to the discharge pipe, an air pump having a discharge pipe connected to the upper end of the flexible tube, a suction pipe connected to the force pump at one end and to a water supply at its opposite end, a hopper adapted to contain a solid buoyant material and connected to the suction pipe, and a tank containing a liquid buoyant material and communicating with the hopper.

10. An apparatus of the kind described, comprising in combination with a surface vessel and a sunken vessel, a pipe extending from the surface vessel to the sunken vessel, a hatch connected to the lower end of the pipe and arranged over the hatch opening and a pump carried by the surface vessel for forcing water and a buoyant material through the pipe into the sunken vessel.

11. An apparatus of the kind described, comprising in combination with a surface vessel and a sunken vessel a pipe extending from the surface vessel to the sunken vessel, a hatch carried by the lower end of the pipe for closing the hatch opening, said hatch having an opening and a cover for the opening, platforms connected with the pipe below the said hatch, and means for forcing a buoyant material through the pipe into the sunken vessel.

12. An apparatus of the kind described, comprising in combination with a surface vessel and a sunken vessel, a double pipe extending from the surface vessel into the sunken vessel, a force pump connected to the inner section of the double pipe, an air pump connected to the outer surface of the pipe, a suction pipe connected to the force pump, a hopper adapted to contain a solid buoyant material and connected to the suction pipe, and a tank

containing a liquid buoyant material and communicating with the hopper.

13. An apparatus of the kind described, comprising in combination with a surface vessel and a sunken vessel, a double pipe extending from the surface vessel into the sunken vessel, a force pump connected to the inner section of the double pipe, an air pump connected to the outer surface of the pipe, a suction pipe connected to the force pump, a hopper adapted to contain a solid buoyant material and connected to the suction pipe, and a tank containing a liquid buoyant material and communicating with the hopper, and means for heating the material in the tank for the purpose specified.

14. An improved means for raising sunken vessels, consisting of a container supplied with a fluent buoyant material capable of displacing the water in the sunken vessel, a conductor for conveying such material into the sunken vessel, and a force-pump for discharging the material from the container in a fluent stream through the conductor and into the sunken vessel.

15. An improved means for raising sunken vessels, consisting of a container supplied with blocks of cork, a conductor for conveying the cork to the sunken vessel, and a force-pump for discharging the cork from the container in a fluent stream through the conductor and into the sunken vessel.

16. An improved means for raising sunken vessels, consisting of a container supplied with liquefied buoyant substance capable of solidifying in water and adapted to adhere to the vessel and close the openings therein, and a fluid-pressure means to force the said substance into such sunken vessel.

17. An improved means for raising sunken vessels, consisting of a container supplied with a fluent mass composed of cork in blocks and fluid paraffin, and means to force said mass into a sunken vessel wherein it spreads out and adheres to the surfaces of the interior of such vessel.

18. An improved means for raising sunken vessels, comprising a pipe leading from a surface vessel to a sunken vessel, a hopper adapted to hold a solid buoyant material, a tank containing a liquid buoyant, communicating with the hopper, and a pump for forcing the contents of the hopper through the pipe into the sunken vessel.

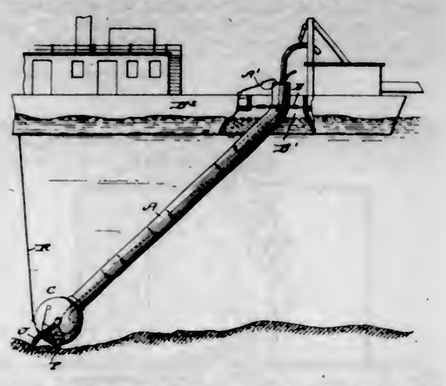
19. An improved means for raising sunken vessels, comprising a pipe leading from a surface vessel to the sunken vessel, a hopper adapted to hold a buoyant material, a tank containing a liquid buoyant material and communicating with the hopper, and having a steam coil for keeping the said material in a liquid state, a water supply pipe connected with the hopper, and a pump for forcing the contents of the hopper through the pipe into the sunken vessel.

20. An improved means for raising sunken vessels, comprising a double pipe leading from a surface vessel to the sunken vessel, a pump connected to one of the pipes, a hopper connected to the pump, a suction pipe connected at one end to the hopper and having its opposite end connected to a water supply, a tank containing a liquid buoyant material and communicating with the hopper, and an air pump connected to the said double pipe, substantially as specified.

21. An improved means for raising sunken vessels, comprising in combination a double pipe leading from a surface vessel to a sunken vessel, a hopper, a tank connected to the hopper and having heating coils therein, a valved pipe adapted to introduce water into the hopper, a force pump connected to the hopper for forcing the material therein through the double pipe, and an air compressing pump for supplying air to the vessel through the annular passage of the said double pipe.

867,984. DREDGING APPARATUS. SIMON LAKE, Bridgeport, Conn. Filed Dec. 21, 1906. Serial No. 348,993.

1. A dredging apparatus, comprising a submergible tube, having a working chamber at its lower end, and a suction apparatus arranged in connection with and operable from the working chamber and adapted for delivering material to the upper end of the tube through said tube.



2. A dredging apparatus, comprising a submergible tube, having a working compartment in its lower end, and means arranged in the said compartment for collecting and delivering material to the upper end of the tube.

3. A dredging apparatus, comprising a submergible tube, having a casing at its lower end containing a working chamber, suction tubes arranged alongside of said casing for collecting and delivering material to the upper end of the tube, and means within said casing and operable within said working chamber for moving the lower end of the tube in lateral directions.

4. A dredging apparatus, comprising a submergible tube, having separating chambers arranged therein, a working compartment at the lower end of the tube, and means arranged in the working compartment for collecting and delivering material to the said separating chambers.

5. A dredging apparatus, comprising a submergible tube, separating chambers arranged therein throughout its length, and means in the lower end of the tube for collecting and delivering material to the said chambers.

6. A dredging apparatus, comprising a submergible tube, a casing arranged at the lower end thereof and containing a working compartment and separating chambers, separating chambers arranged in and throughout the length of the tube, and suction apparatus for collecting and delivering material and forcing it through all of the said chambers.

7. A dredging apparatus, comprising a submergible tube, a casing arranged at its lower end, a working compartment and separating chambers in the tube, suction apparatus controllable from the compartment for delivering material into the chambers and from the chambers to the upper end of the tube, and means for removing the collected material from the said chambers.

8. A dredging apparatus, comprising a submergible tube, having separating chambers arranged in successive order throughout its length, suction apparatus for collecting and forcing material to and through the chambers, and means in the chambers for accelerating the passage of the material.

9. A dredging apparatus, comprising a submergible tube, having its lower end terminating in a casing, a working compartment and separating chambers in the casing, communicating separating chambers formed in the tube, suction apparatus communicating with the chambers in the casing, suction pipes also connected to the chambers, means for raising and lowering the pipes, and delivery pipes connecting the suction apparatus and the lowermost chambers in the tube.

10. A dredging apparatus, comprising a submergible tube, having a series of communicating separating chambers formed therein, a casing at the lower end of the tube, said casing having a working compartment and separating chambers, suction tubes connected to the last mentioned chambers, pumps connected to the said chambers, and a discharge pipe extending from each pump to one of the chambers in the tube.

11. A dredging apparatus, comprising a submergible tube, having a series of separating chambers, screens held in the chambers, a casing connected to the lower end of the tube, separating chambers arranged in the casing and having screens therein, suction pumps and tubes connected to the last mentioned chambers, delivery pipes for conveying material from the pumps to the chambers in the tube, and means for operating the pumps for the purpose specified.

12. A dredging apparatus, comprising a submergible tube, having a passage-way throughout its length, and separating chambers adjacent thereto, a casing at the lower end of the tube, having a working compartment communicating with the passage-way, separating chambers in the casing adjacent to the working compartment, suction tubes and pumps connected to the separating chambers in the casing, and delivery pipes extending from the pumps to the separating chambers in the tube.

13. A dredging apparatus, comprising a submergible tube, having a passage-way throughout its length, and separating chambers adjacent thereto, screens in the chambers, pipes connecting the chambers above the screens, a casing at the lower end of the tube and having a working compartment communicating with the said passage-way, separating chambers adjacent to the compartment, screens in the said chambers, pumps connected with the separating chambers in the casing, delivery pipes connected to the pumps and to one of the chambers in the tube, and suction pipes connected to the separating chambers in the casing.

14. A dredging apparatus, comprising a submergible tube, a casing connected thereto and having a manhole and cover for same, suction pumps arranged in the casing and having tubes which are adapted to operate through the manhole, means for closing communication between the submergible tube and the casing, and a compressed air supply pipe extending into the casing.

15. A dredging apparatus, comprising a submergible tube, a casing at one end thereof, and having a working compartment and separating chambers, suction tubes connected to the chambers, pumps connected to the chambers, and discharge pipes connected to the pumps.

16. A dredging apparatus, comprising a submergible tube having a working compartment at its lower end, communicating separating chambers in the tube, a suction apparatus, suction pipes communicating with the suction apparatus, and delivery pipes connected to the suction apparatus and extending to the lowermost chambers in the tube.

17. A dredging apparatus, comprising a submergible tube having a casing at its lower end, separating chambers arranged in said casing, screens arranged in and dividing the chambers, pipes extending from one chamber to the other, and pumps connected with said casing and adapted to deliver material to and force it through the said chambers.

18. A dredging apparatus, comprising a submergible tube having a compartment at its lower end, separating chambers in the tube, pipes connecting the chambers, propellers revolubly mounted in the pipes, means for operating the propellers, and suction apparatus for collecting and delivering material to the lowermost of the said chambers.

19. A dredging apparatus, comprising a submergible tube having a working compartment at its lower end and chambers throughout its length, screens in the chambers, pipes connecting the chambers above the screens, propellers mounted in the pipes, means for operating the propellers, and suction apparatus for collecting and delivering material to the lowermost of the chambers.

20. A dredging apparatus, comprising a submergible tube having a passage-way throughout its length and a working compartment at its lower end, separating chambers arranged adjacent to the passage-way and communicating therewith, means for opening and closing such communication, pipes connecting the separating chambers, propellers mounted in the pipes, means for operating the propellers, and suction pumps for collecting and delivering material to the lowermost chambers in the tube.

21. A dredging apparatus, comprising a submergible tube, a casing at its lower end and having a manhole and cover for same, division plates in the casing forming a working compartment and separating chambers in said casing, suction pumps connected to the chambers, delivery pipes extending from the pumps, and means for cleaning the lower portions of the chambers.

22. A dredging apparatus, comprising a submergible tube, a casing at its lower end and having a manhole and cover for same, division plates in the casing forming a working compartment and separating chambers in said casing, suction pumps connected to the chambers, delivery pipes extending from the pumps, a trough formed in the lower portion of each chamber, each trough having its outer end terminating in a pipe section which extends into the working compartment, a screw conveyer operating in each trough, a flexible tube connected to one end of the pipe section, a pump connected to the opposite end of the pipe section, and a delivery pipe extending from the pump.

23. A dredging apparatus, comprising a submergible tube, a casing at its lower end and having a working compartment and separating chambers, a screen in each of said chambers, suction pipes connected to the chambers and discharging therein above the screens, pumps arranged for connection with the chambers, delivery pipes extending from the pumps, and means for removing material from the chambers below the screens.

24. A dredging apparatus, comprising a submergible tube having a central passage-way throughout its length and separating chambers adjacent thereto throughout the length of the tube, screens dividing the chambers longitudinally, pipes connecting the chambers, a casing at the lower end of the tube and having a central working compartment which communicates with the said passage-way, separating chambers adjacent to the compartment, a screen in each of the separating chambers in the casing, suction tubes connected to the last mentioned chambers above the screens, pumps connected to the said chambers, and delivery pipes connected to the pumps and discharging into the lowermost chambers in the said submergible tube.

25. A dredging apparatus, comprising a submergible tube having a passage-way throughout its length, communicating separating chambers formed in the tube adjacent to the passage-way, a casing at the lower end of the tube having a working compartment provided with a manhole and a cover for the same, separating chambers in the casing adjacent to the compartment, suction pipes connected to the chambers of the casing, pumps adapted for drawing material into the chambers of the casing through the suction pipes and delivering it from the said chambers to the chambers of the submergible tube, means for opening and closing communication between the said passage-way and the working compartment, and means for removing the collected material from the chambers of the casing.

26. A dredging apparatus, comprising a submergible tube, partition plates arranged longitudinally therein and dividing the tube into a central compartment forming a passage-way through the tube and side compartments on each side of the central compartment, transverse plates arranged in the side compartments and dividing them into a series of chambers, screens arranged in each chamber, the said partition plates having openings leading into the chambers, and plates covering the openings; pipes extending from one chamber to the other, a casing at the lower end of the said tube, and pumps for collecting and delivering material to the said chambers.

27. A dredging apparatus, comprising a submergible tube, a casing at the lower end thereof, separating chambers arranged in the casing, suction tubes connected to the chambers, pumps connecting the chambers, delivery pipes extending from the pumps, and means for shifting the lower end of the tube in lateral directions.

28. A dredging apparatus, comprising a submergible tube, a casing at the lower end thereof, suction pumps, suction tubes affording communication between the casing

and the pumps, a tube extending laterally through the casing, a chain extending through the said tube and having its ends provided with anchors, and means for moving the lower or casing end of the tube along the chain in either direction.

29. A dredging apparatus, comprising a submergible tube having chambers at the lower end thereof, screens in the chambers, suction tubes connected to the chambers and discharging upon the screens, and suction pumps communicating with the chambers.

30. A dredging apparatus, comprising a submergible tube having separate chambers at its lower end, suction tubes connected to the tube and discharging into the chambers, means for adjusting the tube, and pumps communicating with the chambers and having delivery pipes extending therefrom.

31. A dredging apparatus, comprising a tube, one end of which is adapted to be lowered into the water, suction tubes arranged at the lower end of the tube and adapted for collecting and delivering material to the upper end of the tube.

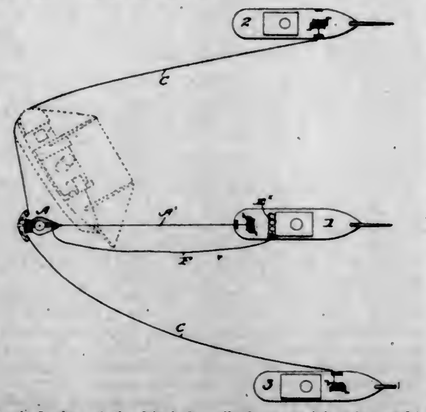
32. A dredging apparatus, comprising a submergible tube having a passage-way throughout its length, suction tubes arranged at the lower end of the submergible tube for collecting and delivering material to the surface, and means controlled from within the submergible tube for moving its lower end in lateral directions.

33. A dredging apparatus, comprising a submergible tube having a passage-way throughout its length and a working chamber communicating with the passage-way, and means controlled from within the said chamber for collecting and delivering material to the surface.

34. A dredging apparatus, comprising a submergible tube closed at its lower end and having a hatch in the said end, a cover for the hatch, means for closing communication to the lower end of the tube to provide an air-tight chamber, means for supplying air under pressure to the chamber, and suction pipes controlled from within the chamber for collecting and delivering material to the upper end of the tube.

35. A dredging apparatus, comprising a tube, one end of which is adapted to be lowered into a body of water and having a passage-way throughout its length, the said lower end having a hatch opening and cover for the same, means for closing communication to the lower end, means controlled from within the tube for collecting and delivering material to the upper end of the tube, and means for closing the passage-way adjacent to the lower end of the tube.

867,985. APPARATUS FOR LOCATING SUBMERGED OBJECTS. SIMON LAKE, Berlin, Germany. Filed Mar. 22, 1907. Serial No. 363,942.



1. A device of the kind described, comprising in combination with a sweep line, an electro-magnetic crab or fender mounted thereon, means carried by the crab for propelling the crab along the line, and means for supplying energy to the said means.

2. A device of the kind described, comprising in combination with a sweep line, an electro-magnetic crab mounted thereon, an electric motor carried by the crab for propelling the crab along the line, and current supplying means.

3. A device of the kind described, comprising in combination with a sweep line, an electro-magnetic self-propelling crab and means for energizing it to cause it to travel automatically along the sweep line.

4. A device of the kind described, comprising in combination with a sweep line, a crab, a drive wheel carried by the crab and around which the said sweep line passes, means for operating the wheel and also means for supplying energy to the operating means.

5. A device of the kind described, comprising in combination with a sweep line, an electro-magnetic crab mounted thereon, means carried by the crab and engaging the sweep line to propel the crab along said sweep line, means for supplying energy to the said propelling means, and current connections.

6. A device of the kind described, comprising in combination with a sweep line, an electro-magnetic crab, a drive pulley carried thereby and engaging the line, means carried by the crab for operating the pulley and means for supplying energy to the operating means and the crab.

7. A device of the kind described, comprising in combination with a sweep line and means for supporting it, an electro-magnetic crab having projecting arms, a pulley carried thereby and engaging the line, means within the crab for operating the pulley to cause the crab to travel along the line, and means for energizing the crab and arms.

8. A device of the kind described, comprising in combination with a sweep line and means for supporting it, a crab movably supported by the line, a pulley carried by the crab and engaging the line, means within the crab for operating the pulley to cause the crab to travel along the line, means for supplying energy to the operating means, electro-magnetic coils carried by the crab, and means for supplying electric energy to the coils.

9. A device of the kind described, comprising in combination with a sweep line and vessels for supporting and towing the line, a crab applied to the sweep line and consisting of a body portion having its own motor and an electro-magnet, arms connected to the crab and extending therefrom in opposite directions, and means for supplying current to the motor and electro-magnet.

10. A device of the kind described, comprising in combination with a sweep line and means for supporting and towing the line, a crab consisting of a body portion having an electro-magnet, arms connected to the crab and extending therefrom in opposite directions, a driving pulley carried by the crab and engaging the sweep line, a motor for operating the pulley and thereby automatically propelling the crab along the sweep line and means for supplying energy to the motor and the electro-magnet.

11. A device of the kind described, comprising in combination with a sweep line and means for supporting and towing the line, a crab, a tow line connected thereto at one end and having its opposite end carried by a towing vessel, a pulley carried by the crab and engaging the sweep line, a motor arranged within the crab for operating the pulley, a cable connected at one end to the crab and having its opposite end carried by the towing vessel, current wires extending through the cable and connected at one end to the motor and adapted to supply electric energy thereto, magnetic coils carried by the crab, means carried by the towing vessel for energizing the coil and having current wires extending therefrom through the said cable to the terminals of the coil.

12. A device of the kind described, comprising in combination with a sweep line, and means for supporting it, a crab supported upon the line, a pulley carried by the crab and engaging the line, means for operating the pulley and thereby automatically propelling the crab along the line, means for supplying energy to the said means, a float connected to the crab, and a towing line connected to the crab.

13. A device of the kind described, comprising in combination with a sweep line, a crab mounted thereon and adapted to travel along the length thereof, means mounted upon and forming part of the crab for drawing it along the length of the line, means for supplying energy to the said means, magnetic coils surrounding a portion of the crab, means for energizing the coil, a float connected to the crab, and a towing line also connected to the crab.

14. A device of the kind described, comprising in combination with a sweep line and means for supporting and towing the line, a crab having arms extending therefrom and carrying guide pulleys which engage the said line, a pulley carried by the crab and around which the line is looped, means within the crab for operating the pulley, means for supplying energy to the said means, and a towing line connected to the crab.

15. A device of the kind described, comprising in combination with a sweep line, a crab mounted upon the line and having arms radiating therefrom, guide pulleys journaled upon the arms and around which the line passes, a pulley carried by the crab and around which the line is looped, a motor for operating the last mentioned pulley, means for supplying energy to the motor, a magnetic coil carried by the crab, and means for supplying electric current to the coils.

16. In a device of the kind described, the combination with a sweep line, and means for supporting and towing the line, of a self-propelling crab mounted upon the line and adapted to travel thereon, a tow line connected at one end to the crab, and a towing vessel at its opposite end, an electro-magnet core formed upon the crab, electro-magnetic coils surrounding the core, and means for supplying energy to the coil.

17. In a device of the kind described, the combination with a sweep line and vessels for supporting and towing the line and which are adapted to travel some distance apart, of a self-propelling crab carried by the tow line and adapted to move along the length thereof, an electro-magnet arranged in the crab, and wires connected to the terminals thereof for supplying electric energy to the magnet.

18. In a device of the kind described, the combination with a towing line, of a crab connected thereto and having an electro-magnet arranged therein, a motor on the crab and wires connecting the terminals of the magnet for supplying current thereto for energizing the crab.

19. The combination with a towing line, of a crab connected thereto and having an electro-magnetic core extending therefrom, and laterally projecting arms or flukes extending from the core, electro-magnetic coils surrounding the core and wires connecting the terminals of the coils for supplying current and a propeller attached to and forming part of the crab.

20. In a device of the kind described, the combination with a sweep line and means for supporting it, of a crab or finder carried by the line, arms or flukes extending from the crab and having guide pulleys engaging the line, a drive pulley mounted upon the crab and around which the line passes, a motor for operating the pulley and having means connected thereto for supplying it with energy, a friction pulley operatively connected with the motor and engaging the line adjacent to the drive pulley, and means carried by the crab for energizing it and converting it into an electro-magnet.

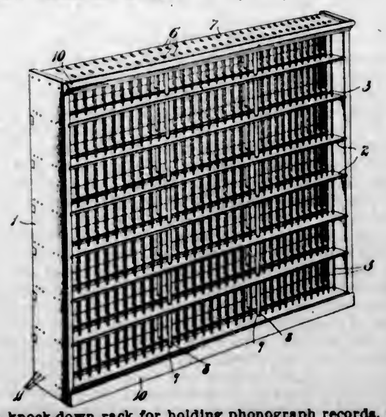
21. In a device of the kind described, the combination with a sweep line and means for supporting it, of a crab or finder carried by the line and having arms or flukes extending therefrom in opposite directions, guide pulleys around which the line passes, a drive pulley carried by the crab and around which the line is looped, a motor for operating the drive pulley, means for supplying energy to the motor, an electro-magnetic core carried by the crab and connected with the arms or flukes, electro-magnetic coils surrounding the core and having wires connected to the terminals thereof for supplying electric energy to the coils, a flanged sleeve surrounding the coils, and a friction pulley operatively connected with the motor and engaging the sweep line adjacent to the drive pulley.

22. A crab or finder of the kind described, comprising a hollow body portion, having an extension, arms or flukes carried by the extension, guide pulleys journaled upon the arms or flukes, an electric motor arranged within the hollow body portion, a pulley mounted upon the body portion and operatively connected to the drive shaft of the motor and adapted for engagement with a sweep line, which also engages the said guide pulleys, a friction pulley journaled upon the crab and operatively connected with the drive shaft of the motor, said friction pulley being arranged adjacent to the first mentioned pulley to contact with the sweep line and cause it to bind tightly against the said first mentioned pulley, and wires connected to the motor for supplying energy thereto.

23. A crab or finder of the kind described, comprising a hollow body portion having an extension, a casting connected to the extension and having arms or flukes projecting in opposite directions and which are formed with step-like flanges, electro-magnetic coils surrounding the extension, a motor having its drive shaft provided with a pinion, a pulley mounted upon the crab and having its inner end provided with a gear, a train of gears carried by the crab and connecting the drive pinion of the motor with the gear of the said pulley, a friction pulley mounted upon the crab, the shaft of which is provided with a gear which is interposed in the train of gears, said pulley being arranged adjacent to the first mentioned pulley and having a frictional contacting ring and collar adjustably held upon its periphery which engages the ring, all for the purpose specified.

24. A crab or finder of the kind described, comprising a hollow body portion pointed at one end, and having a cylindrical extension projecting from its opposite end, electro-magnetic coils surrounding the extension, a casting connected to the extension and comprising a central portion having arms or flukes radiating therefrom, guide pulleys mounted upon the casting, a sleeve having peripheral flanges upon its upper surface surrounding the coil, guide pulleys carried by the sleeve, a drive pulley journaled upon the casing and adapted for engagement with a guide line, the shaft of the pulley extending within the hollow body portion of the casing, a packing arranged in the periphery of the pulley, a frictional pulley journaled upon the crab adjacent to the drive pulley, a packing carried by the frictional pulley, a collar threaded upon the said pulley and adapted to engage the packing to compress and increase the diameter thereof, an electric motor held in the body portion of the casing and having its shaft provided with a gear which is operatively connected with the said drive pulley and frictional pulley through a train of gears, current wires connected to the motor, current wires connected to the terminals of the said coils, and a coupling sleeve connected to the casing and through which the said current wires pass, all as specified.

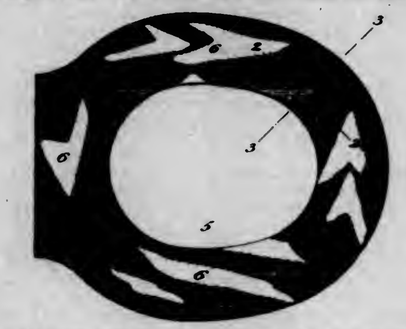
867,986. RACK FOR HOLDING PHONOGRAPH-RECORDS. CLAUDE W. LONG, St. Louis, Mo. Filed May 10, 1907. Serial No. 372,996.



A knock-down rack for holding phonograph records, comprising end pieces and a top piece detachably connected together, the end pieces being provided on their inner sides

with oppositely inclined grooves, horizontally disposed strips arranged in said grooves to form shelves, a plurality of removable continuous rods extending through the shelf-pieces to form vertical partitions, the upper ends of said rods being bent laterally so that they will rest upon the top piece of the rack, and pieces of ornamental molding at the top and bottom of the rack; substantially as described.

867,987. WATER-CLOSET SEAT. JACOB A. LUND, Muskegon, Mich. Filed Nov. 12, 1906. Serial No. 343,025.



1. A closet seat consisting of a plurality of segmental sections having their ends mitered or formed angularly and provided integrally with key or wedge-shaped dove-tailed tongues and key or wedge-shaped dove-tailed grooves in engagement with each other, the said tongues and grooves being so located that their tapered ends will be directed inwardly with respect to the seat.

2. In a closet seat, the combination with two side segmental sections, of two end sections, each of said sections having its ends mitered or formed angularly, the ends of each of the end sections being provided integrally with key or wedge-shaped dove-tailed tongues and the ends of each of the side sections being provided with key or wedge-shaped dove-tailed grooves to receive said tongues.

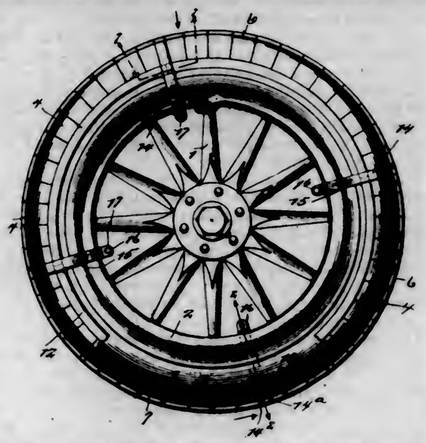
3. A closet seat, consisting of four segmental sections each having its ends mitered or formed angularly, two of said sections located opposite each other and each having in its mitered ends a wedge shaped dove-tailed groove, the other two of said sections located opposite each other between the ends of the first-named sections and having on each of their ends an integral wedge shaped dove-tailed tongue to engage the grooves on the other sections, the said tongues and grooves being so located that their tapered ends will be directed inwardly with respect to the seat.

867,988. ARMOR FOR TIRES. CHARLES P. MAYS, Washington, D. C. Filed July 13, 1906. Serial No. 326,065.

1. An armor for tires, consisting of a series of independent protecting sections, projections formed on the sides of said sections, segmental bands extending completely around the sides of the tire and each provided with a groove in its side for engaging the projections to hold the protecting sections in position, each of said segments being of a length to engage the projections on a plurality of the sections.

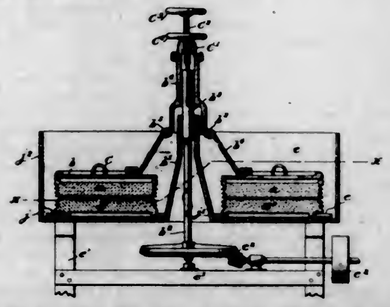
2. An armor for tires, consisting of a plurality of independent protecting sections, each section being formed with a beveled end and an undercut end whereby the sections may overlap and form a smooth tread surface, projections formed on the outer sides of said sections, segmental bands extending completely around the sides of the tire, and each provided with a groove in its side for engaging the projections to hold the protecting sections in position, each of said segments being of a length to engage the projections on a plurality of said sections.

3. An armor for tires, consisting of a series of independent protecting sections, projections formed on the sides of said sections, segmental bands each provided with a groove on one side thereof adapted to engage said projections, said segments extending around the sides of the tire to hold the protecting sections in position, each of said bands being



of a length to engage the projections on a plurality of the sections, and clamps adapted to engage the segments and the protecting sections to secure the armor to a wheel.

867,989. SHOE AND DIE OF GRINDING-PANS. WILLIAM MIDDLETON and HERVIC N. G. COBBE, Kalgoorlie, Western Australia, Australia. Filed Nov. 14, 1905. Serial No. 287,358.

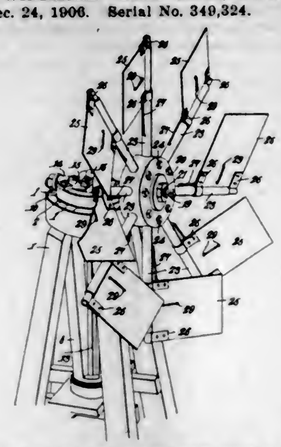


1. The combination with the muller plate having slots therein; of shoes having lugs thereon fitting into said slots, and having peripheral flanges that engage the under face of the muller plate and hold the shoes distanced therefrom, said shoes having spaces between them for the circulation of the material, the spaces between the flanges of adjacent shoes at all times being sufficient for the circulation of material to be ground, independent of the wear of the shoes.

2. The combination with a pan and the muller plate having slots therein; of shoes having lugs thereon taking into the slots and thereby held distanced from one another, spaced means to distance the shoes from the muller plate, the spaces between said means forming a continuation of the space between the shoes and interspaced dies in said pan, and means to distance the dies from the pan, said spaces between the pan and means forming a continuation of the space between the dies, said spaces forming passages for the circulation of the slimes to be ground.

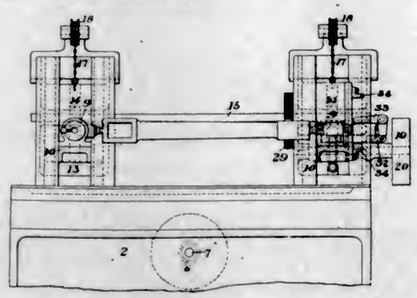
3. The combination with the muller plate, of shoes having means to space them from the muller plate the shoes being secured to said plate to form spaces between adjacent shoes.

867,990. WINDMILL. ISAAC MILES, Bonesteel, S. D. Filed Dec. 24, 1906. Serial No. 349,324.



In a wind mill the combination with posts, a tubular core interposed between the ends thereof, and a ring for binding the posts upon the core; of a metallic socket supported between the posts and below the core, a tapered tubular head revolubly mounted at its upper end within the core, a ferrule upon the lower end of the head and bearing within the socket, a jacket surrounding the head and bearing within the core, a shaft journaled upon the head and revoluble therewith, a wind wheel for rotating the shaft, a pump rod mounted to reciprocate within the head, ferrule and socket, and a link connection between the rod and shaft, said connection being disposed within the head.

867,991. ATTACHMENT FOR GRINDING-MACHINES. JAMES T. MOLTRUP, Beaver Falls, Pa. Filed May 31, 1907. Serial No. 376,490.



1. An attachment for grinding machines, comprising a pair of work-supporting heads, guides in which the heads are movable, gearing for reciprocating the heads in the guides, and means for periodically and automatically reversing the gearing; substantially as described.

2. An attachment for grinding machines, comprising a pair of work-supporting heads, counterweights therefor, guides in which the heads are arranged to reciprocate, gearing for reciprocating the heads, and automatic means for periodically reversing the gearing; substantially as described.

3. In an attachment for grinding machines, a pair of work-carrying heads, guides in which the heads are arranged to reciprocate, rack bars attached to said heads, a shaft having pinions engaging the rack bars, gearing for actuating said shaft, and an automatic clutch device for controlling the operation of the gearing; substantially as described.

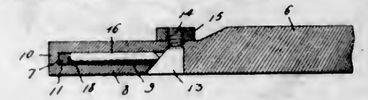
867,992. POLE AND SHAFT FOR ROAD-VEHICLES. JOHN A. MONTGOMERY, Walton, N. Y. Filed Nov. 29, 1904. Serial No. 234,800.



1. A thill, or equivalent, having a transverse division and a metal spring applied to the same and extended along the thill on each side of the division, and a band applied over the division and extended on each of the adjacent portions of the thill, as shown and described.

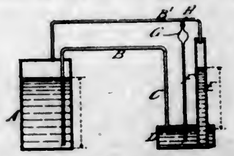
2. A thill, or equivalent, which is divided transversely, thus forming two alined sections, each section being slotted lengthwise, a metal spring arranged and secured in said slot, a metal band applied to the juxtaposed ends of the thill sections, and a trimming applied over the band, as shown and described.

867,993. TOOL-HOLDER. EMIL MUELLER, Chicago, Ill. Filed Dec. 5, 1906. Serial No. 346,418.



A tool holder comprising a bar, having a reduced end which has a longitudinal bore and cross slots at opposite ends of the bore, a blade in one of the slots, a wedge key in the other slot having a threaded stem provided with a nut located on said reduced end within the circumferential line of the bar, and a sliding pin in the bore fitting at one end against the blade and at the other end against the key.

867,994. APPARATUS FOR INDICATING THE DEPTH OF LIQUID IN A VESSEL. LEONARD MURPHY, Dublin, Ireland. Filed Jan. 30, 1907. Serial No. 354,791.



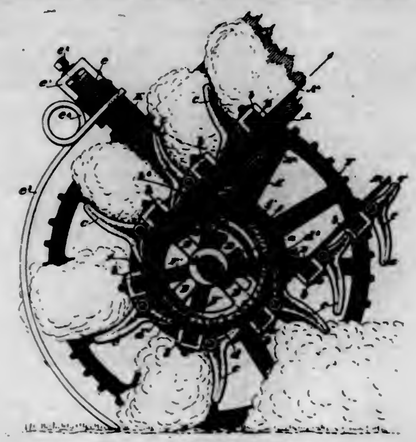
1. An apparatus for indicating the depth of liquid in a vessel, comprising a reservoir partially filled with indicating liquid, a pipe dipping into the vessel to be gaged and connected with the non-liquid space of the said reservoir, a second pipe dipping into a sealing fluid at the same pressure as the reservoir, and means for forcing gaseous fluid through the second pipe into the non-liquid space of the indicating apparatus, substantially as described.

2. An apparatus for indicating the depth of liquid in a tank or the like comprising two vessels communicating at their lower ends and containing indicating liquid, one of the said vessels being closed, a pipe leading from the non-liquid space of the closed vessel to the tank to be gaged and extending downwardly to the bottom thereof, a second pipe opening into the liquid space of the same closed vessel, and means for forcing gaseous fluid through the second pipe, substantially as described.

3. An apparatus for indicating the depth of liquid in a closed tank or the like, comprising two closed vessels communicating at their lower ends and containing indicating fluid, a line pipe leading from the non-liquid space of one of the closed vessels and opening into the tank to be gaged near the bottom thereof, a return pipe leading from the top of the said closed tank to the non-liquid space of the second closed vessel, a third pipe opening into the liquid space of the first closed vessel and connected with the return pipe from the tank, a non-return valve interposed in said connection, and means for forcing gaseous fluid

through the third pipe into the first mentioned closed vessel, substantially as described.

867,995. CONVEYING DEVICE. JOHN D. MUSSER, Easton, Ohio. Filed Sept. 17, 1906. Serial No. 334,985.



1. In conveying mechanisms, a series of hooks, and means for moving them into collective action, in combination with adjustable means for controlling the duration of their individual activity.

2. In conveying mechanisms, a series of hooks, means for continuously moving them in collective action, in combination with other means adapted to differentially control their periods of individual activity.

3. In conveying mechanisms, a series of hooks and means for continuously moving the entire series into collective action, in combination with adjustable means adapted to differentially throw certain of said hooks out of, or into, individual action.

4. In conveying mechanisms, a series of bars, groups of pivoted hooks secured to each bar, means for collectively moving said bars in unison and means in combination for differentially controlling the action of a group of hooks of one bar independently of other groups.

5. In conveying mechanisms, a series of movable hooks, means for continuously presenting them to the work to be done and means adapted to confine the material being handled within desired limits, in combination with adjustable means adapted to differentially control their period of activity.

867,996. LOCKING DISPLAY-STAND. SAMUEL D. MCMILLAN, Lake, N. C., assignor of one-half to Frank F. Cardwell, Ringgold, Va. Filed May 24, 1907. Serial No. 375,513.

1. The combination of two relatively movable members, a plurality of pairs of oppositely disposed hooks on one of the members, and a plurality of keepers on the other member each of which is arranged with its extremities in coöperative relation with a pair of the hooks adjacent thereto.

2. The combination of two relatively movable members oppositely disposed hooks arranged in pairs on one of the members, keepers on the other member having their ends extending in opposite directions therefrom and arranged in coöperative relation with the hooks, an elastic means engaging the keeper carrying member for holding the latter with the keepers thereof out of engagement with the hooks, and a locking device between the two members for holding the keepers in engagement with the hooks.

3. The combination of two relatively movable members arranged one within the other, pairs of diametrically arranged hooks on the outer member, keepers extending in opposite directions from the inner member and arranged in coöperative relation with the hooks, and means for locking the two members together.



4. The combination of a tubular member having groups of openings spaced apart along its length, a second member arranged within the first to move longitudinally thereof, hooks on the outer member disposed at the openings, and a plurality of keepers on the inner member arranged with their extremities extending through the openings and coöperating with the hooks.

5. The combination of a tubular member having groups of openings spaced apart along its length, a second member arranged within the first to move longitudinally thereof, hooks on the outer member disposed at the openings, a plurality of keepers on the inner member arranged with their extremities extending through the openings and coöperating with the hooks, a spring arranged to hold the second member in a raised position, and a locking device for holding the said member in a lowered position.

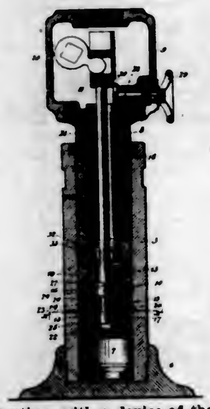
6. The combination of a tubular member having groups of openings spaced apart along its length, a second member movably mounted within the first and having its upper end projecting out of the same, a knob on the projecting end of the second member, hooks on the outer member disposed at the openings, a plurality of keepers on the inner member arranged with their extremities extending through the openings and coöperating with the hooks, a spring arranged to hold the second member in a raised position, and a locking device for holding the said second member in a lowered position.

7. The combination of a tubular member having groups of openings, a base piece on which the said member is arranged in an upright position, a second member arranged within the first with its upper end projecting out of the same, keepers on the inner member whose extremities project through the opening of the outer member, hooks on the outer member which are disposed at the openings in coöperative relation with the keepers, a compression spring abutting at one end the base piece and at the other end the inner member, and a locking device for holding the inner member depressed against the tension of the spring.

867,997. HYDRAULIC JACK. JAMES W. NELSON and WILLIAM H. MATHERS, New York, N. Y.; said Mathers assignor to said Nelson. Filed Oct. 31, 1906. Serial No. 341,395.

1. The combination, with a device of the class described having a ram comprising two members each independently secured to a third and at least one thereof by means which does not in itself determine relative positions, of means independent of the securing means for insuring a predetermined positional relation between said two members irrespective of the position of said third member.

2. The combination, with a device of the class described having a ram comprising three members, two thereof being each independently secured to the other in a manner which does not in itself determine relative positions, of means independent of the securing means for insuring a definite positional relation between said two members irrespective of the position of the member to which they are secured.



3. The combination, with a device of the class described having a ram with a head and a pump each independently secured thereto and at least one thereof in a manner which does not in itself determine relative positions, of means independent of the securing means for establishing a predetermined positional relation between head and pump irrespective of the position of the ram.

4. The combination, with a device of the class described having a ram comprising a head rigidly secured thereto in non-predeterminable positional relation, a pump-block and means for securing said block in said ram by means which does not in itself determine relative positions, of means for establishing a predetermined positional relation between said head and said pump-block when rigidly secured to said ram.

5. The combination, with a device of the class described having a ram comprising a head rigidly secured thereto and a pump-block secured therein, the latter in a manner which does not in itself determine relative positions, of means independent of the securing means for establishing a predetermined positional relation between said head and said block.

6. The combination, with a device of the class described having a ram cylinder, a head screwed thereto containing the pump-operating means, and a pump independently mounted in said cylinder and secured thereto in a manner which in itself does not determine relative positions, said pump having an in-take duct located laterally of the main pump-bore, of means independent of the securing means for insuring location of said duct and said pump-operating means on opposite sides of the axial line of the ram when the parts are assembled.

7. The combination, with a device of the class described having a ram-cylinder, a head secured thereto containing pump-operating means operable from one side of the axial line of said head, and a pump-block mounted within said cylinder and secured thereto in a manner which in itself does not determine positional relation, said pump-block having an in-take duct located laterally of the main pump-bore, and means independent of the securing means for insuring location of said duct and said pump-operating means on opposite sides of said axial line when the parts are assembled.

8. The combination, with a device of the class described having a ram-cylinder, a head rigidly secured thereto in non-predeterminable positional relation, said head containing pump-operating means operable from one side thereof, and a pump-block independently mounted in said cylinder and secured thereto in a manner which in itself does not determine positional relation, said pump-block having an in-take duct located laterally of the main pump-bore, of means independent of the securing means for insuring location of said duct on the side of the axial line of the ram opposite to that from which the pump is operated.

9. The combination, with a device of the class described having a ram-cylinder, a head containing the pump-operating means operable from one side thereof, means for securing said head to said cylinder, a pump having its in-take duct located laterally of the main pump-bore, and means for securing said pump in said cylinder, each of said securing means comprising a connection which in itself does not determine positional relation, of means for insuring location of said duct on a side of the axial line of the ram opposite to that from which the pump is operated.

10. In a device of the class described, the combination of a ram-cylinder, a head screwed thereon, a pump-block fitting into said cylinder, a retaining-member screwed to said cylinder and holding said pump-block rigidly in place, and means for insuring a predetermined positional relation between said pump-block and said head.

11. In a device of the class described, the combination of a cylinder, a head screwed thereon, said head being provided with means controlled from one side thereof to operate the pump, a pump-block fitting into said cylinder, a cap screwed to said cylinder between which and said cylinder said pump-block is rigidly held, and means for establishing a predetermined positional relation between said pump-block and said head.

12. In a device of the class described, the combination of a cylinder, a head screwed thereon, said head being provided with means controlled from one side thereof to operate the pump, a pump-block fitting into said cylinder and provided with an in-take duct located laterally of the main pump-bore, a cap screwed to said cylinder between which and said cylinder said pump-block is rigidly held, and means for insuring location of said in-take duct on a side of the axial line of said cylinder opposite to that from which the pump is operated.

13. In a device of the class described, the combination of a ram-cylinder having a head secured at one end thereof, a pump-block fitting into the other end of said cylinder, a cap, means for connecting cap and cylinder to hold said pump-block firmly and rigidly therebetween, and means for retaining said pump-block and said cylinder in definite positional relation during the operation of securing said cap.

14. In a device of the class described, the combination of a ram-cylinder, a head secured thereto in non-predeterminable positional relation, a pump-block fitting into the other end of said cylinder, a cap, means for connecting cap and cylinder to hold said pump-block firmly and rigidly therebetween, and means for retaining said pump-block and said cylinder in definite positional relation during the operation of assembling the parts.

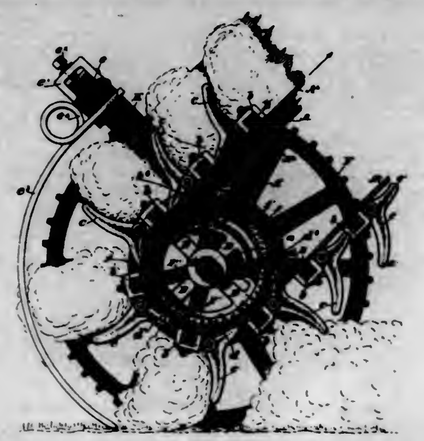
15. In a device of the class described, the combination of a ram-cylinder, a head secured thereto, a pump-block fitting into said cylinder, a screw-cap securing said pump-block in said cylinder, and means for insuring a predetermined positional relation between pump-block and cylinder.

16. In a device of the class described, the combination, with a ram comprising a cylinder, a head mounted thereon and a pump secured therein, said pump being provided with a supply duct located laterally of the main pump bore and provided with suitable valves and said head being provided with valve-operating means, of connecting means between said valves and said operating means effective irrespective of the positional relation of head and pump.

17. In a device of the class described, the combination, with a ram comprising a cylinder, a head secured thereto in non-predeterminable positional relation, and a pump mounted therein, said pump being provided with a valved supply duct located laterally of the main pump bore and said head being provided with permanently positioned

through the third pipe into the first mentioned closed vessel, substantially as described.

867,995. CONVEYING DEVICE. JOHN D. MUSSER, Easton, Ohio. Filed Sept. 17, 1906. Serial No. 334,985.



1. In conveying mechanisms, a series of hooks, and means for moving them into collective action, in combination with adjustable means for controlling the duration of their individual activity.

2. In conveying mechanisms, a series of hooks, means for continuously moving them in collective action, in combination with other means adapted to differentially control their periods of individual activity.

3. In conveying mechanisms, a series of hooks and means for continuously moving the entire series into collective action, in combination with adjustable means adapted to differentially throw certain of said hooks out of, or into, individual action.

4. In conveying mechanisms, a series of bars, groups of pivoted hooks secured to each bar, means for collectively moving said bars in unison and means in combination for differentially controlling the action of a group of hooks of one bar independently of other groups.

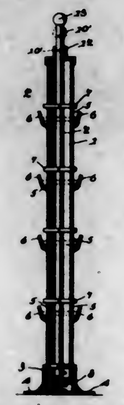
5. In conveying mechanisms, a series of movable hooks, means for continuously presenting them to the work to be done and means adapted to confine the material being handled within desired limits, in combination with adjustable means adapted to differentially control their period of activity.

867,996. LOCKING DISPLAY-STAND. SAMUEL D. MCMILLAN, Lake, N. C., assignor of one-half to Frank F. Cardwell, Ringgold, Va. Filed May 24, 1907. Serial No. 375,513.

1. The combination of two relatively movable members, a plurality of pairs of oppositely disposed hooks on one of the members, and a plurality of keepers on the other member each of which is arranged with its extremities in coöperative relation with a pair of the hooks adjacent thereto.

2. The combination of two relatively movable members oppositely disposed hooks arranged in pairs on one of the members, keepers on the other member having their ends extending in opposite directions therefrom and arranged in coöperative relation with the hooks, an elastic means engaging the keeper carrying member for holding the latter with the keepers thereof out of engagement with the hooks, and a locking device between the two members for holding the keepers in engagement with the hooks.

3. The combination of two relatively movable members arranged one within the other, pairs of diametrically arranged hooks on the outer member, keepers extending in opposite directions from the inner member and arranged in coöperative relation with the hooks, and means for locking the two members together.



4. The combination of a tubular member having groups of openings spaced apart along its length, a second member arranged within the first to move longitudinally thereof, hooks on the outer member disposed at the openings, and a plurality of keepers on the inner member arranged with their extremities extending through the openings and coöperating with the hooks.

5. The combination of a tubular member having groups of openings spaced apart along its length, a second member arranged within the first to move longitudinally thereof, hooks on the outer member disposed at the openings, a plurality of keepers on the inner member arranged with their extremities extending through the openings and coöperating with the hooks, a spring arranged to hold the second member in a raised position, and a locking device for holding the said member in a lowered position.

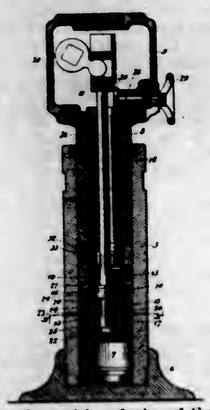
6. The combination of a tubular member having groups of openings spaced apart along its length, a second member movably mounted within the first and having its upper end projecting out of the same, a knob on the projecting end of the second member, hooks on the outer member disposed at the openings, a plurality of keepers on the inner member arranged with their extremities extending through the openings and coöperating with the hooks, a spring arranged to hold the second member in a raised position, and a locking device for holding the said second member in a lowered position.

7. The combination of a tubular member having groups of openings, a base piece on which the said member is arranged in an upright position, a second member arranged within the first with its upper end projecting out of the same, keepers on the inner member whose extremities project through the opening of the outer member, hooks on the outer member which are disposed at the openings in coöperative relation with the keepers, a compression spring abutting at one end the base piece and at the other end the inner member, and a locking device for holding the inner member depressed against the tension of the spring.

867,997. HYDRAULIC JACK. JAMES W. NELSON and WILLIAM H. MATHERS, New York, N. Y.; said Mathers assignor to said Nelson. Filed Oct. 31, 1906. Serial No. 341,895.

1. The combination, with a device of the class described having a ram comprising two members each independently secured to a third and at least one thereof by means which does not in itself determine relative positions, of means independent of the securing means for insuring a predetermined positional relation between said two members irrespective of the position of said third member.

2. The combination, with a device of the class described having a ram comprising three members, two thereof being each independently secured to the other in a manner which does not in itself determine relative positions, of means independent of the securing means for insuring a definite positional relation between said two members irrespective of the position of the member to which they are secured.



3. The combination, with a device of the class described having a ram with a head and a pump each independently secured thereto and at least one thereof in a manner which does not in itself determine relative positions, of means independent of the securing means for establishing a predetermined positional relation between head and pump irrespective of the position of the ram.

4. The combination, with a device of the class described having a ram comprising a head rigidly secured thereto in non-predeterminable positional relation, a pump-block and means for securing said block in said ram by means which does not in itself determine relative positions, of means for establishing a predetermined positional relation between said head and said pump-block when rigidly secured to said ram.

5. The combination, with a device of the class described having a ram comprising a head rigidly secured thereto and a pump-block secured therein, the latter in a manner which does not in itself determine relative positions, of means independent of the securing means for establishing a predetermined positional relation between said head and said block.

6. The combination, with a device of the class described having a ram cylinder, a head screwed thereto containing the pump-operating means, and a pump independently mounted in said cylinder and secured thereto in a manner which in itself does not determine relative positions, said pump having an in-take duct located laterally of the main pump-bore, of means independent of the securing means for insuring location of said duct and said pump-operating means on opposite sides of the axial line of the ram when the parts are assembled.

7. The combination, with a device of the class described having a ram-cylinder, a head secured thereto containing pump-operating means operable from one side of the axial line of said head, and a pump-block mounted within said cylinder and secured thereto in a manner which in itself does not determine positional relation, said pump-block having an in-take duct located laterally of the main pump-bore, and means independent of the securing means for insuring location of said duct and said pump-operating means on opposite sides of said axial line when the parts are assembled.

8. The combination, with a device of the class described having a ram-cylinder, a head rigidly secured thereto in non-predeterminable positional relation, said head containing pump-operating means operable from one side thereof, and a pump-block independently mounted in said cylinder and secured thereto in a manner which in itself does not determine positional relation, said pump-block having an in-take duct located laterally of the main pump-bore, of means independent of the securing means for insuring location of said duct on the side of the axial line of the ram opposite to that from which the pump is operated.

9. The combination, with a device of the class described having a ram-cylinder, a head containing the pump-operating means operable from one side thereof, means for securing said head to said cylinder, a pump having its in-take duct located laterally of the main pump-bore, and means for securing said pump in said cylinder, each of said securing means comprising a connection which in itself does not determine positional relation, of means for insuring location of said duct on a side of the axial line of the ram opposite to that from which the pump is operated.

10. In a device of the class described, the combination of a ram-cylinder, a head screwed thereon, a pump-block fitting into said cylinder, a retaining-member screwed to said cylinder and holding said pump-block rigidly in place, and means for insuring a predetermined positional relation between said pump-block and said head.

11. In a device of the class described, the combination of a cylinder, a head screwed thereon, said head being provided with means controlled from one side thereof to operate the pump, a pump-block fitting into said cylinder, a cap screwed to said cylinder between which and said cylinder said pump-block is rigidly held, and means for establishing a predetermined positional relation between said pump-block and said head.

12. In a device of the class described, the combination of a cylinder, a head screwed thereon, said head being provided with means controlled from one side thereof to operate the pump, a pump-block fitting into said cylinder and provided with an in-take duct located laterally of the main pump-bore, a cap screwed to said cylinder between which and said cylinder said pump-block is rigidly held, and means for insuring location of said in-take duct on a side of the axial line of said cylinder opposite to that from which the pump is operated.

13. In a device of the class described, the combination of a ram-cylinder having a head secured at one end thereof, a pump-block fitting into the other end of said cylinder, a cap, means for connecting cap and cylinder to hold said pump-block firmly and rigidly therebetween, and means for retaining said pump-block and said cylinder in definite positional relation during the operation of securing said cap.

14. In a device of the class described, the combination of a ram-cylinder, a head secured thereto in non-predeterminable positional relation, a pump-block fitting into the other end of said cylinder, a cap, means for connecting cap and cylinder to hold said pump-block firmly and rigidly therebetween, and means for retaining said pump-block and said cylinder in definite positional relation during the operation of assembling the parts.

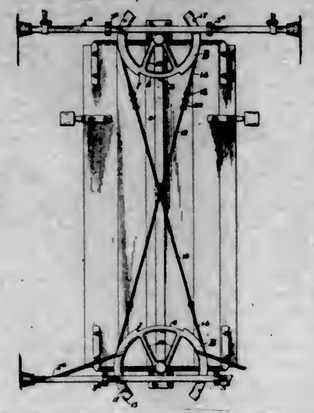
15. In a device of the class described, the combination of a ram-cylinder, a head secured thereto, a pump-block fitting into said cylinder, a screw-cap securing said pump-block in said cylinder, and means for insuring a predetermined positional relation between pump-block and cylinder.

16. In a device of the class described, the combination, with a ram comprising a cylinder, a head mounted thereon and a pump secured therein, said pump being provided with a supply duct located laterally of the main pump bore and provided with suitable valves and said head being provided with valve-operating means, of connecting means between said valves and said operating means effective irrespective of the positional relation of head and pump.

17. In a device of the class described, the combination, with a ram comprising a cylinder, a head secured thereto in non-predeterminable positional relation, and a pump mounted therein, said pump being provided with a valved supply duct located laterally of the main pump bore and said head being provided with permanently positioned

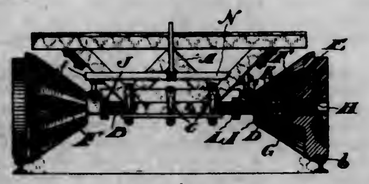
valve-operating means, of connecting means between the valves and said operating means effective irrespective of the positional relation of said head and said pump.

867,998. SHORT-TURNING GEAR FOR VEHICLES. CHARLES T. NASOM, Indianapolis, Ind. Filed Dec. 18, 1906. Serial No. 348,468.



In a short turning gear, the combination with a vehicle, of upper and lower fifth wheels secured thereto, the lower fifth wheel being recessed, and the upper wheel adapted to be received in the recess, said lower fifth wheel being cut away on its outer surface, means engaging the edges of the cut away to limit the movement of the fifth wheel, chains or cables on the outer surface of the lower wheel, and means connecting the chains or cables whereby the fifth wheels are connected together.

867,999. CAR-TRUCK. ARTHUR E. E. NORWICH, Toronto, Ontario, Canada. Filed Mar. 28, 1907. Serial No. 364,995.



1. A car truck provided with stationary axles; wheels journaled on said axles and movable in and out thereon; and stops limiting the movement of the wheels in either direction.

2. A car truck provided with stationary axles; wheels journaled on said axles and movable in and out thereon; stops limiting the movement of the wheels in either direction; and releasable locks for holding the wheels out on said axles.

3. A car truck provided with stationary axles; wheels journaled on said axles, movable in and out thereon, and having their treads offset outwardly beyond the ends of the axles.

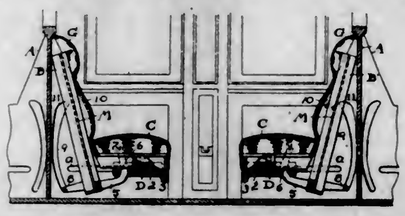
4. A car truck provided with stationary axles; wheels journaled on said axles and movable in and out thereon; stops limiting the movement of the wheels in either direction; and springs tending to move said wheels outwardly on said axles.

5. A car truck provided with stationary axles; wheels journaled on said axles and movable in and out thereon; stops limiting the movement of the wheels in either direction; releasable locks for holding the wheels out on said axles; and springs tending to move said wheels outwardly on said axles.

6. A car truck provided with stationary axles; wheels journaled on said axles, movable in and out thereon, and having their treads offset outwardly beyond the ends of the axles; and springs tending to move said wheels outwardly on said axles.

7. An axle reduced in diameter at its outer end, in combination with a wheel having bearings on both the main part and the end part of the axle; an end stop retaining the wheel on the axle; and a coil spring on the reduced part of the axle tending to force the wheel against the stop.

868,000. COMBINED SEAT AND BED FOR RAILWAY-COACHES. DAVID T. OWEN, Cleveland, Ohio, assignor to The D. T. Owen Company, Cleveland, Ohio, a Corporation of Ohio. Filed July 17, 1905. Serial No. 269,958.



1. The combined couch and bed having an upholstered back and a bed on the rear thereof, and a head supporting part on the front of said back and adapted to overlap the upper edge thereof and to be suspended therefrom when the said back is down.

2. The seats and the back frames and bed mattresses for said back frames, horizontally slidable frames carrying said seat, and rigid angle arms for said back frames pivotally engaged with said sliding frames, and a pivotal engagement between said arms and said back frames whereby when the said back frames are lowered the seats are lowered to a horizontal plane parallel with the back frames.

3. The seats and the back frames finished on their front, and bed mattresses on the rear of said back frames, in combination with means to bring said back frames together at their ends to form a bed consisting of sliding supports and rigid arms on said frames pivotally mounted upon said supports, and vertically slotted frames and riding members for said back frames engaged therein.

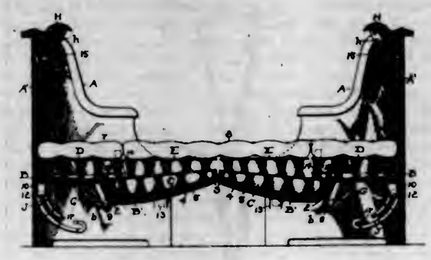
4. The movable seat and back frame, and the stationary frame, in combination with means to operate said movable parts consisting of a slidable support in said stationary frame, rigid arms on said back frame pivoted on said slidable support and pivot connections at the end of said arms with the said seat, means to guide the said back frame in its operations, and said seat having riding engagement with said slidable support at its front.

5. A combined bed and couch comprising separate back and seat frames, and mechanism operatively connecting said parts adapted to lower the seat frame to a horizontal plane and invert and fold the back to a parallel plane over the same.

868,001. COMBINED BED AND SEAT FOR RAILWAY-COACHES. DAVID T. OWEN, Cleveland, Ohio, assignor to The D. T. Owen Company, Cleveland, Ohio, a Corporation of Ohio. Filed Aug. 21, 1905. Serial No. 275,014.

1. In a convertible seat and berth for cars, a pair of frames having seat backs on one end and side and bed portions at their opposite ends and sides, said frames being adapted to be turned down to a horizontal plane to form a bed, and seats adapted to be placed upon the meeting end portions of said frames to complete the bed.

2. In a combined berth and car seat, a pair of frames adapted to be turned down toward each other to a horizontal plane to make a bed and having depressions in their outer portions, in combination with car seats removably supported in said depressions.



3. In a convertible bed and seat, a combined bed and seat-back frame having the upper portion thereof bent forward of the lower portion at the point where said portions meet and inclined from above said initial bend toward the plane of the said lower portion, whereby a swell is formed in said frame for a seat back and a depression for storing purposes.

4. In convertible berths and seats for sleeping cars and the like, the combination of oppositely arranged seats adapted to be bodily removed, with folding bed-frames constructed to receive said seats.

5. The combination of a pair of frames provided with seat backs on one side and a portion of a bed spring bottom on the other side and adapted to fold toward each other to a horizontal position and form a bed, with a pair of seats removably supported upon said frames in an inverted position to complete the bed bottom.

6. A pair of oppositely arranged frames adapted to be turned down to form a bed, and a spring bottom section on one side of said frames and an upholstered seat back on the other side, in combination with a pair of seats adapted to be removably supported in inverted position on said frames and provided with spring bottom sections adapted to complete the bed.

7. In a combined bed and seat, oppositely arranged frames adapted to be turned to a horizontal position and having their outer end portions on a higher plane than their inner end portions, inverted seats adapted to build up said inner end portions and a spring mattress over spreading said parts and forming a bed.

8. In a combined bed and seats, bed frames pivoted to fold toward each other on a horisontal plane and constructed with their middle portions depressed as to the planes of their respective ends, in combination with seats constructed to conform substantially to said depressions in inverted position.

9. In a combined bed and seat, a bed and seat-back frame having a substantially rectangular lower end constructed on its inside to receive a section of a spring mattress, an inverted seat supported on said frame and a spring mattress section thereon on the same plane as the outer section.

10. In a convertible bed and seat, a bed frame having swinging pivot braces at its opposite sides centrally between its ends and rigid projections at its inner and lower ends, and separate supports for said frame comprising an inclined guide for said pivot braces and a curved guide for said projections.

11. In a convertible bed and seat, a support having sides and a transverse partition wall, in combination with a bed frame pivotally supported at said sides and having its upper half spaced apart from said wall a greater distance than the lower half, whereby space is formed to keep bedding, and a removable spring bottom section on the said lower half of said frame, combined with a spring seat adapted to rest on the upper half and make a complete bed bottom.

12. In a convertible bed and seat, a tilting bed frame having a finished couch back and spring mesh support therefor stretched across its bottom and outer portion, in combination with a couch seat adapted to rest within said couch back to provide a bed bottom section, and a spring bed bottom section on the inner portion of said frame adapted to complete the bed bottom.

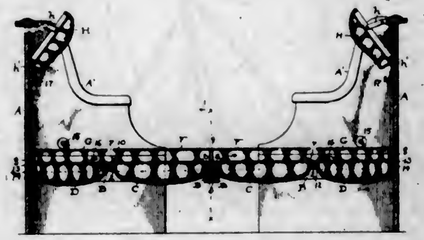
13. In a convertible bed and seat, a suitable support having sockets in its sides, in combination with a seat having legs engaged in said sockets.

14. In a convertible bed and seat, a suitable support having sockets on its inside, in combination with a seat having projections at its bottom engaged in said sockets and means to carry the rear edge of the seat.

15. In a convertible bed and seat, a main frame, a tilting bed frame having a seat back on its upper portion and pivoted braces on its sides and center, inclined guides for said braces, and separate guide and supporting members on said frames, in combination with a removable seat resting upon said braces at its rear and detachably fixed to the main frame at its front to prevent sliding forward.

16. The main frame, the bed frame pivotally supported therein and constructed in its upper half to provide a chamber behind the same for bedding, and a catch to lock the said frame definitely in respect to the main frame.

868,002. COMBINED BERTH AND SEAT FOR PASSENGER-CARRIAGES. DAVID T. OWEN, Cleveland, Ohio, assignor to The D. T. Owen Company, Cleveland, Ohio, a Corporation of Ohio. Filed Aug. 25, 1905. Serial No. 275,764.



1. In combined seats and berths for passenger carriers, the combination of separate invertible seats and invertible seat backs respectively provided on their rear with spring mattress sections, and means to support said seats and backs edge to edge in inverted positions to form a complete bed bottom comprising slidable frames and fixed rests.

2. In combined seats and berths for passenger carriers, the combination of separate invertible seats and seat backs, separate bed mattress sections for said seats and backs, respectively, means to support said seats and backs in angular relation and also edge to edge in inverted position on the same plane with said mattress sections uppermost, and a movable head rest adapted to form a continuation of the back at its top.

3. In combined berths and seats for passenger-carriers, slidable supports having inwardly extending projections, in combination with separate seats and backs constructed at their edges to rest upon said supports in inverted position, and fixed rests for the said backs at their outer edges independent of said slidable supports.

4. In combined berths and seats for passenger carriers, a complete berth comprising two slidable frames adapted to meet edge to edge at the middle of the berth, in combination with inverted seats and backs in said frames, the bottom of said seats and backs constituting the bottom for said berth.

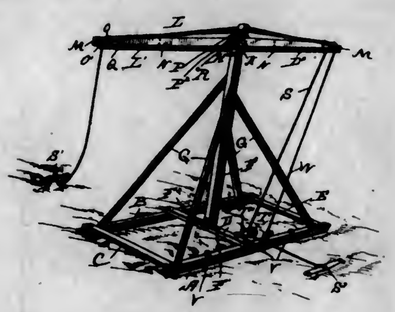
5. In a combined berth and seat for passenger carriers, slidable supports adapted to be drawn toward each other and to meet half way, in combination with invertible seats and seat backs provided with projections at their edges adapted to rest on said slidable supports and to constitute a bed bottom, and a separate mattress section for each seat and back.

6. In a combined berth and seat, stationary supports, and side-bars constructed to carry the seats and the berth slidably engaged in said supports, in combination with inverted backs forming the ends of said berth, inverted seats forming the middle portion thereof, and the said backs adapted to rest in part on said stationary supports.

7. In a combined berth and seat, an invertible seat having a spring mattress section upon its bottom, and a supporting flange at its front and rear, a couch back adapted to be lowered to form a berth with said seat when inverted, and having flanges at its front and rear edges, supports for said back and seat flanges when used both as couch and berth, and a head rest above said couch back.

8. In a combined berth and seat, a couch seat adapted to be shifted for a bed, a couch back provided with a spring mattress upon its back and adapted to be lowered and inverted to combine with said seat to form a berth, a head rest above said couch back and supports for said seat and back.

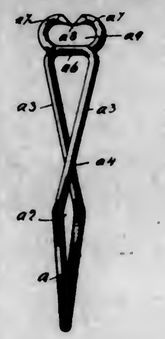
868,003. HAY-LOADER. ANDREW J. PLUMER and WILLIAM S. DORSEY, Hyannis, Nebr. Filed Aug. 8, 1906. Serial No. 329,735.



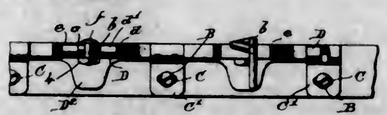
In a device of the character described, the combination with a sled formed of two parallel runners connected by cross bars, of a standard having a reduced upper end mounted on one of said bars, a cap provided with an upwardly projecting pin, mounted on the end of the standard, a walking-beam composed of two side bars connected at their ends by bolts upon which are mounted rollers, pulleys mounted between and adjacent the ends of said side-bars, a sleeve mounted on said pin on said cap, and provided with an enlargement having a transverse bore, a bolt passing through said bore and through the side bars of said walking beam at one side of its longitudinal center, a yoke embracing the sides of the walking-beam, mounted on the extended ends of the said transverse bolt, and provided with a pulley mounted therein, a hoisting cable passing over said pulley and down over the pulleys located at the ends of said walking beam, one end of said cable being attached to a hay-fork, and at the other end to a swingle-tree, a pulley carried by said cable and adapted to be secured in adjusted position to said sled, substantially as described.

868,004. LEATHER OR HIDE SUSPENDING HOOK. EBEN L. POST, Wallingford, Conn. Filed June 30, 1906. Serial No. 324,144.

A leather suspending hook comprising an open spring ring the end members of which at the open side are separated laterally and overlapped, the said end members of the hook at the open side being provided with projecting shanks which cross each other and are bent at the ends to form parallel parts which extend in opposite directions and overlap each other, said ends being also reversely curved to form oppositely disposed hooks which meet at a predetermined distance from said parallel parts.



868,005. THREAD-GUIDE FOR SPINNING-MACHINES. JOHN E. PRESST, Melrose, Mass. Filed Mar. 16, 1907. Serial No. 362,639.



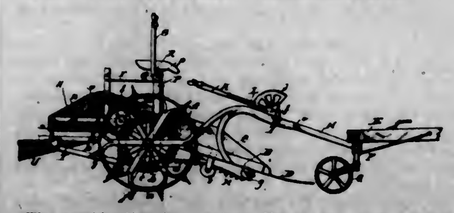
1. In a thread guide, a thread board, a series of independent finger-board holders connected therewith and presenting open journal spaces, combined with a series of finger boards each having fixed journals at its opposite sides near their lower ends, the two journals of each finger board entering the open spaces of two of said independent finger-board holders.

2. In a thread guide, a finger board comprising a body part having fixed journals at opposite edges near its inner end and a downturned foot located between said journals, said foot being adapted to contact with the thread board to constitute a stop to place the finger board in horizontal position.

3. In a thread guide, a series of finger board holders, a thread board to which said holders are connected, and a series of finger boards pivoted directly on said finger-board holders, said finger boards having spaces, a sheet metal cover having flanged edges embracing said finger-boards, a guide eye inserted between said finger boards and sheet metal covers, and means to connect said cover and thread board and to clamp the thread eye in its operative position.

4. In thread guide mechanism, a thread board, a finger board hinged thereto and having a flange or rib extending about its edges to leave a chamber between said ribs, a thread eye, a sheet metal cover plate applied to one side of said finger board and contacting with said eye, and a screw for confining said cover to said finger board.

868,006. POTATO-DIGGER. BURTON H. PUGH, Topeka, Kans. Filed Jan. 25, 1907. Serial No. 354,161.



The combination in a potato digger, of a body, wheels supporting the body, a shovel carried by the body, an endless apron carried by the body and arranged to receive potatoes from the shovel and convey the same upward and rearward, a transverse crank shaft mounted in the body, gearing intermediate one of the supporting wheels and said crank shaft, vertically swinging bell-crank frames pivoted at the apices of their angles to the body and each having a horizontal, rearwardly extending arm and an upwardly extending vertical arm, a cross bar connecting the vertical arms of said frames, a seat support fixed to and rising from the body, a transverse shaft mounted on said seat support and having arms at its ends, links connecting said arms with the vertical arms of the bell-crank frames, means for adjusting and adjustably fixing the said transverse shaft, a shaking discharge device arranged below the bell-crank frames and comprising a horizontal U-shaped frame and tines extending rearward from the forward cross-bar of said frame, swinging hangers connecting the horizontal and vertical arms of the bell-crank frames and the side bars of the frame of the shaking device, and pitmen connecting the said frame and the said crank-shaft.

868,007. MEANS FOR MOLDING PIPES. ERNEST L. RANSOME, New York, N. Y. Filed June 13, 1906, Serial No. 321,569. Renewed Apr. 26, 1907. Serial No. 370,375.



1. An apparatus for forming concrete pipes in trenches, the apparatus having a core and a cap or top mold section with means at one or both sides for supporting it spaced above the core free from the same, and a means adapted to precede said cap or top mold section, to introduce a reinforcing member into the pipe as the same is formed within the unobstructed space between the core and cap or top mold section.

2. An apparatus for forming concrete pipes in trenches, having a cap or top mold section and means for supporting the same against the wall or walls of the trench at one or both sides of the mold section, to permit said mold section to slide on said supporting means horizontally through the trench, as the construction of the pipe advances, whereby an unobstructed space is left under the mold section facilitating the formation of the pipe.

3. An apparatus for forming concrete pipes in trenches, having a cap or top mold section and means for supporting the same against the wall or walls of the trench at one or both sides of the mold section, to permit said mold section to slide on said supporting means horizontally through the trench, as the construction of the pipe advances, whereby an unobstructed space is left under the mold section facilitating the formation of the pipe and a means adapted to precede the mold section and serving to introduce a reinforcing member into the pipe as the same is formed in the said unobstructed space beneath the mold section.

4. An apparatus for forming concrete pipes in trenches, the same having a bottom mold section or shaper, a core, a cap or top mold section with means at one or both of its sides for supporting it against the wall or walls of the trenches leaving the space between the core and top mold section unobstructed and a means for introducing a reinforcing member into said unobstructed space between the core and cap or top mold section.

5. An apparatus for forming concrete pipes in trenches, having a cap or top mold section extending continuously over the core from one side of the trench to the other and having its sides engaged with and supported by the side walls of the trenches, whereby to leave an unobstructed space beneath said mold section.

6. An apparatus for forming concrete pipes in trenches, having a cap or top mold section extending continuously over the core from one side of the trench to the other, said cap or top mold section having at its sides outwardly projecting flanges bearing on horizontal earth benches formed in the walls of the trench, whereby to sustain the mold section wholly from its sides and leave under said mold section an unobstructed space for the formation of the pipes.

7. An apparatus for forming concrete pipes in trenches, having a cap or top mold section extending continuously over the core from one side of the trench to the other, said cap or top mold section having at its sides outwardly projecting flanges bearing on horizontal earth benches formed in the walls of the trench, whereby to sustain the mold section wholly from its sides and leave under said mold section an unobstructed space for the formation of the pipe, the said earth benches extending continuously along the trench to permit the said top mold section to be advanced through the trench by sliding its flanges on said earth benches in unison with the advance in the formation of the pipe.

8. An apparatus for forming concrete pipes in trenches having a cap or top mold section with its sides engaged on earth benches formed at the sides of the trench for the purpose specified and means adapted to precede the cap or top mold section to form the said benches.

9. An apparatus for forming concrete pipes in trenches having a cap or top mold section with outwardly projecting flanges at its sides engaged on earth benches formed at the sides of the trench for the purpose specified and means adapted to precede the cap or top mold section to form the benches.

10. An apparatus for forming concrete pipes in trenches having a cap or top mold section with its sides engaged on earth benches formed at the sides of the trench for the purpose specified, and a bottom mold section or "shaper" adapted to precede the cap or top mold section and having means for forming said benches.

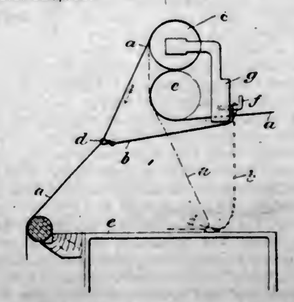
11. An apparatus for forming concrete pipes in trenches having a cap or top mold section with outwardly projecting flanges at its sides engaged on earth benches formed at the sides of the trench for the purpose specified, and a bottom mold section or "shaper" adapted to precede the cap or top mold section and having at its sides outwardly projecting flanges adapted to form said benches.

12. An apparatus for forming concrete pipes in trenches having a cap or top mold section with outwardly projecting flanges at its sides engaged on earth benches formed at the sides of the trench for the purpose specified and vertical walls rising from the outer edges of the flanges to prevent the earth falling in on the flanges.

868,008. PULVERULENT COLORING-MATTER FOR LEATHER. CHRISTOPH REINHOLD, Hanover, Germany. Filed June 10, 1907. Serial No. 378,302.

A composition for coloring leather consisting of a mixture of talc, color and fatty or oily matter, the whole in the form of a pulverulent mass.

868,009. SPINNING AND DOUBLING FRAME. HARRY B. REYNOLDS, Stockport, England. Filed July 19, 1906. Serial No. 326,803.

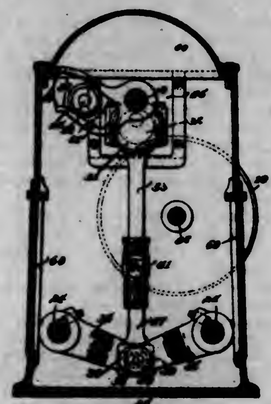


1. As an attachment for ring-spinning and ring and flier doubling frames, a flexible member having means to

support one end of it upon the yarn or thread, and the other from a point near the rear of the delivery rollers and above the roller beam, whereby when the thread breaks the unsupported end of said member falls and draws the broken end below the rollers.

2. As an attachment for ring-spinning and ring and flier doubling frames, a flexible member having means to support one end of it upon the thread or yarn and the other from a point in the rear of the delivery rollers and above the roller beam, and being adapted to fall upon the latter, when the thread breaks, and hold the said broken thread from lashing upon adjacent threads.

868,010. CANDY-WORKING MACHINE. FRANCIS H. RICHARDS, Hartford, Conn. Filed Jan. 7, 1907. Serial No. 351,098.



1. In a machine of the character described, the combination with a number of arms for working a mass of material, of a shaft for actuating said arms, an engaging member, means for revolving the actuator in an orbit eccentric to the axis of said shaft, said shaft having an engaging face obliquely disposed to its radius for said actuator.

2. In a machine of the character described, the combination with means for working a mass of material, of a shaft for actuating said means, an actuator and means for revolving the actuator in an orbit eccentric to the axis of said shaft, said shaft having a face for engagement with said actuator and inclining away from and then toward the direction of rotation of said shaft for actuating said working means alternately at rapid and at slow speeds for working said mass by a series of alternate slow and rapid sequential steps.

3. In a machine of the character described, the combination with a number of arms for working a mass of plastic material comprising a pair of arms for reciprocation toward and from each other and a pair of arms for revolution in an orbital path, a pair of rock shafts carrying said reciprocatory arms and rock arms fast on said rock shafts, a shaft carrying said orbitally movable arms and a crank on said shaft, a pitman articulated to said rock arms and to said crank, an actuator and means for revolving this in an orbit eccentric to said shaft, and a member fast on said shaft provided with bearing faces for said actuator inclining away from and then toward the direction of rotation of said shaft for actuating said arms alternately at rapid and slow speeds for working said plastic mass by a series of alternate slow and rapid sequential steps.

4. In a machine of the character described, the combination with means for engaging a mass of material and embodying a pair of arms reciprocatory in opposite directions and a pair of arms movable in an orbital path, a shaft for actuating said arms, a member fast with said shaft and having a pair of faces inclining rearwardly of the radius of said shaft and then forwardly of the said radius, an actuator roll revoluble in a circular orbit eccentric to the axis of said shaft and in engagement with said faces, means for revolving said roll at a uniform speed, the acceleration and retardation of the rotation of the shaft, due to the variation in length of the radius between the axis of said roll and the axis of said shaft, being respectively augmented by the departure of the line of said faces from the said radius line, for moving said reciprocatory arms rapidly toward each other and slowly away from each other, and for coincidently moving said orbitally movable arms.

5. In a machine of the character described, the combination with a number of arms for working a mass of material embodying a pair of arms for reciprocation toward and from each other, a pair of rock shafts for carrying said arms, a pitman articulated to said rock shafts for rocking the same, a crank shaft carrying said pitman, a pair of arms movable in an orbital path and revoluble by said shaft, a member fast with said shaft and having a pair of faces inclining rearwardly of the radius of said shaft and then forwardly of said radius, an actuator roll revoluble in an orbit eccentric to the axis of said shaft and in engagement with said faces, the acceleration and retardation of the rotation of the shaft due to the variation in length of the radius between the axis of said roll and the axis of said shaft being respectively augmented by the departure of the line of said faces from the said radius line for moving said reciprocatory arms rapidly toward and slowly away from the axis of revolution of said orbitally movable arms and for moving all said arms in coincidence.

6. In a machine of the character described, the combination with a plurality of revoluble arms, a pair of oppositely disposed reciprocatory arms adapted to pass radially through the orbit of revolution of said arms and engage a mass of material carried by such arms and to press the same toward the axis of revolution of said arms during the revolutions thereof and to move away from said axis in opposite directions and at a retarded speed to slowly pull the said material into long drafts, of a shaft upon which the revoluble arms are mounted, means for revolving the shaft, said shaft having a crank, rock shafts carrying the reciprocatory arms, a rock arm upon each of said rock shafts, a pitman articulated to said crank and it having a head, a wrist carried by one of said rock arms and articulated to one side of said head, a slideway upon the said head, a slide mounted therein, and a wrist pin carried by the other of said rock arms and articulated to said slide.

7. In a machine of the character described, the combination with a plurality of arms for working a mass of material, of a framework for carrying the same and embodying a box-like construction having an integral inwardly projecting enlargement affording a bearing for some of the parts and an outer peripheral machined bearing face upon said enlargement, said frame having an opening opposite said enlargement, and a removable cap for said opening and a bearing carried by said cap.

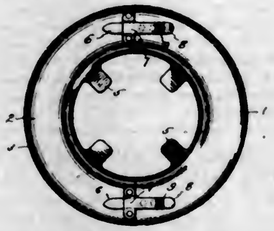
8. In a machine of the character described, the combination with a plurality of arms for working a mass of material, of a framework for carrying the same and embodying a box-like construction having an integral inwardly projecting enlargement having a bearing through it for some of the parts and an outer peripheral machined bearing face upon said enlargement, an opening opposite said enlargement, a removable cap for said opening and a bearing carried by said cap in line with the bearing through said enlargement, a shaft mounted in said bearings and having a crank between them, a pitman connected to said crank for operating some of said arms, other of said arms being carried by said shaft, a ring having gear teeth upon its outer perimeter and mounted eccentrically to said shaft, a driving shaft having a gear in mesh therewith, an engaging face upon the crank shaft, and means of engagement between said ring and engaging face.

9. A candy working machine having a pair of revoluble arms and a pair of reciprocatory arms, and framework for the same embodying a housing, it having upon one side an enlarged inwardly projecting portion and a bearing through such portion, a shaft mounted in said bearing and carring the revoluble arms, said enlarged portion having a machined bearing face upon its outer side eccentric to the said shaft bearing, a removable cap at the opposite side of said housing, said cap having a bearing in alinement with the shaft bearing, said shaft having cranks and a crank pin between such bearings, a pair of rock shafts for carrying said reciprocatory arms, each of said rock shafts provided with a rock arm, a pitman articulated thereto and to said crank pin, a pair of radially extending engaging faces carried by the shaft adjacent to said crank, a ring having gear teeth upon its perimeter mounted upon said external bearing, a roller carried upon said ring and engaging said faces, and a driving shaft and gear in mesh with said ring for driving the same.

10. In a machine of the class described, the combination with a pair of revoluble arms, a shaft upon which the said arms are mounted, means for revolving the shaft, said shaft having a crank, a pair of reciprocatory arms, rock shafts carrying the same, a rock arm upon each of said rock shafts, a pitman articulated to said crank, it having a head, a wrist carried by one of said rock arms and articulated to one side of said head, a slideway upon the other side of said head, a slide mounted therein and a wrist pin carried by the other of said rock arms and articulated to said slide.

11. The combination with a rotary shaft and means for rotating the same, of a crank on said shaft, a pitman articulated to one end of said crank, a rock shaft on each side of the other end of said pitman, an arm fast on each rock shaft and having a sliding connection with said other end of the pitman, and coöperative working arms controlled by said rotary shaft and rock shafts.

868,011. PIPE-COLLAR. CONSTANTIN RIEGGER, New York, N. Y. Filed June 19, 1907. Serial No. 379,687.

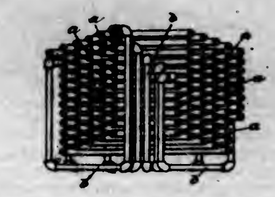


1. A pipe collar formed of separable sections, with loops fastened to the back surface near the meeting edges of one section, said loops having fingers extending outwardly across the meeting edges, and tongues fastened to the back surface near the meeting edges of the opposite section and extending outwardly across the meeting edges, in line with the fingers and through the loops, substantially as specified.

2. A pipe collar formed of two separable sections, with loops fastened to the back surface near the meeting edges of one section, said loops having spring fingers extending outwardly across the meeting edges and provided with catch shoulders, and tongues fastened to the back surface near the meeting edges of the opposite section and extending outwardly across the meeting edges and through the loops, and extending inwardly in line with the spring fingers and adapted to engage the shoulders on said fingers when the parts are together, substantially as specified.

3. A pipe collar formed of two separable sections, with loops fastened to the back surface near the meeting edges of the sections, fingers secured to said loops and extending outwardly, and tongues fastened to the back surface near the meeting edges of the sections, and extending outwardly so as to pass through the loops beneath the fingers when the sections are together, substantially as specified.

868,012. FLASH-BOILER. ANDREW L. RIKER, Bridgeport, Conn., assignor to Stanley Motor Carriage Company, a Corporation of Massachusetts. Filed Jan. 5, 1903. Serial No. 137,785.



1. A boiler comprising a plurality of superposed coils connected in series, successive convolutions of each of said coils rising gradually and continuously from the inlet to the outlet end thereof, the connections between successive coils extending closely adjacent the source of heat.

2. A steam generator comprising a plurality of superposed coils connected in series, each coil presenting a general shape of a truncated cone and connections from a high point of one coil to a low point in a coil below.

3. A steam generator comprising a series of adjacent coils and connections between one end of one coil and the opposite end of a succeeding coil said connections extending in each case towards and around the end of the boiler adjacent its source of heat.

4. A steam generator comprising a plurality of superposed coils connected in series one with another, at least one of said connections dropping below the lowermost coil.

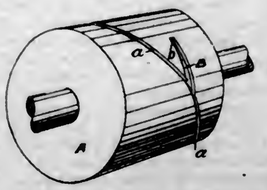
5. A steam generator comprising a series of superposed coils connected one with another, all said connections dropping below the lowermost coil.

6. A steam generator comprising a plurality of superposed coils connected in series, each coil having a general shape of a truncated cone with a central opening or flue, and connections carried through said opening from a high point of one coil to a low point in a coil below.

7. A generator comprising a plurality of superposed coils each presenting a general shape of a truncated cone with a central opening therethrough, and connections between said coils carried through said opening.

8. A generator comprising a plurality of superposed coils each presenting a general shape of a truncated cone with a central opening therethrough, and connections between said coils carried through said opening, said opening constituting a flue to facilitate heating said connections.

868,013. SPLIT DRUM FOR WINDING-FRAMES. FRED RIVETT, Heaton Chapel, and SAMUEL OLDHAM, Heaton Norris, England. Filed June 4, 1906. Serial No. 320,094.



1. A split drum for winding and gassing frames constructed with an auxiliary slit or opening by which to introduce the yarn or thread into the guiding slit of the drum substantially as described.

2. In a split drum for winding or gassing frames the combination with the zig-zag slit *a* of an auxiliary slit B leading into the main slit to guide the yarn or thread into the main slit while the drum continues rotating substantially as described.

868,014. AUTOMOBILE. EDMUND W. ROBERTS, Clyde, Ohio. Filed Mar. 17, 1905. Serial No. 250,503.



1. In an automobile, the combination with running gear comprising a driving wheel, of a combined internal combustion and compressed-fluid multi-cylinder engine in permanent driving connection with such driving wheel, said engine comprising cylinders serving normally as cylinders of an internal combustion engine and provided with valves and valve gear for admitting fluid under pressure to said cylinders to operate the engine as a self-starting compressed-fluid motor, the cylinders and associated parts and valve gear arranged to produce at least three impulses per revolution when operated as a compressed-fluid engine, and means for supplying fluid under pressure to said engine comprising a reservoir, a compressor, an auxiliary internal combustion driving engine therefor, and automatic controlling means operated by rise and fall of pressure in said reservoir and controlling the operation of said compressor engine and comprising automatic starting means therefor.

2. In an automobile, the combination with running gear comprising a driving wheel, of a combined internal combustion and compressed-fluid mutil-cylinder engine in permanent driving connection with such driving wheel, said engine comprising cylinders normally serving as cylinders of an internal combustion engine and provided with valves and valve gear for admitting fluid under pressure to said cylinders to operate the engine as a self-starting compressed-fluid motor, the cylinders and associated parts and valve gear arranged to produce at least three impulses per revolution when operated as a compressed-fluid engine, and means for supplying fluid under pressure to said engine comprising a reservoir, a compressor, an auxiliary internal combustion driving engine therefor, and automatic stopping and starting means for said auxiliary engine operated by rise and fall of pressure in said reservoir.

3. In an automobile, the combination with running gear comprising a driving wheel, of a combined internal combustion and compressed-fluid multi-cylinder engine in permanent driving connection with such driving wheel, said engine comprising cylinders normally serving as cylinders of an internal-combustion engine and provided with valves and valve gear for admiting fluid under pressure to said cylinders to operate the engine as a self-starting compressed-fluid motor, the cylinders and associated parts and valve gear arranged to produce at least three impulses per revolution when operated as a compressed-fluid engine, and means for supplying fluid under pressure to said engine comprising a reservoir, a compressor, an auxiliary driving engine therefor, and automatic means operated by rise and fall of pressure for starting the compressor as a compressed-fluid motor, and through it for starting said auxiliary engine, and for stopping said auxiliary engine.

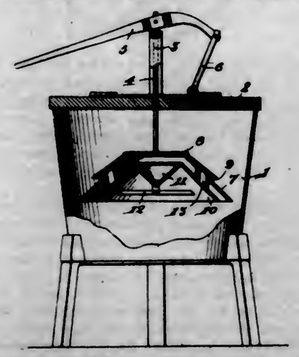
4. In a system of automatic propulsion, the combination with running gear comprising a driving wheel, of a combined internal-combustion and compressed-fluid self-starting and self-reversing engine provided with auxiliary valve gear for starting and reversing the engine under load as a compressed-fluid engine, said engine having a suitable number of cylinders, and the said auxiliary valve gear being suitably arranged, to produce at least three impulses per revolution when said engine is operated as a compressed fluid engine, an auxiliary internal-combustion engine and compressor for supplying air under pressure to said engine, an intermediate air-tank, and automatic controlling means operated by fluctuations in air pressure and comprising means for stopping said auxiliary engine and for admitting air from said tank to said compressor to start same as a motor and through it said auxiliary engine.

5. In a system of automobile propulsion, the combination with running gear comprising a driving wheel, of a combined internal-combustion and compressed-fluid self-starting and self-reversing engine provided with auxiliary valve gear for starting and reversing the engine under load as a compressed-fluid engine, an auxiliary internal-combustion engine and compressor for supplying air under pressure to said engine, said auxiliary engine and compressor being self-starting and having an electric ignition circuit, and automatic pressure-operated means for interrupting said ignition circuit at a predetermined pressure and for starting said compressor as an air motor for the auxiliary engine and completing said ignition circuit at another predetermined pressure.

6. In a system of automobile propulsion, the combination with running gear comprising a driving wheel, a combined internal-combustion and compressed-fluid self-starting engine for driving said wheel, and means for connecting the engine thereto, said engine provided with auxiliary valve gear for starting the engine as a compressed fluid engine, of an auxiliary internal combustion engine and a compressor driven thereby for supplying air under pressure to said engine, and automatic controlling means operated by fluid pressure and comprising means for stopping the operation of the auxiliary engine at a predetermined pressure and for admitting fluid under pressure to said compressor at another predetermined pressure to start said compressor as a compressed fluid motor, and through it the auxiliary engine.

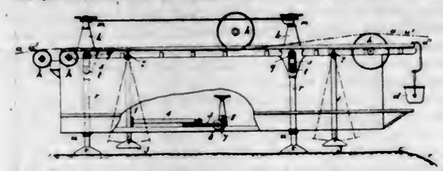
7. In a system of automobile propulsion, the combination with running gear comprising a driving wheel, a combined internal-combustion and compressed-fluid self-starting engine for driving said wheel, and means for connecting the engine thereto, said engine provided with valve gear for starting it as a compressed fluid engine, of an auxiliary internal combustion engine and a compressor driven thereby for supplying air under pressure to said engine, automatic controlling means operated by fluid pressure and comprising means for stopping the operation of the auxiliary engine at a predetermined pressure and for admitting fluid under pressure to said compressor at another predetermined pressure to start said compressor as a compressed fluid motor, said compressor comprising automatic centrifugal governing means and valves operated thereby.

868,015. WASHING-MACHINE. GRAND ROBERTS, Alva, Okla. Filed May 8, 1906. Serial No. 315,794.



A pounder comprising a frusto-conical outer casing having a flat upper face, a frusto-conical inner casing having a flat upper face, said casings forming a continuous air compression compartment therebetween, the open ends of said casings being disposed in the same plane, tubular connections between the casings and constituting the spacing means, said connections forming outlets for liquid trapped within the inner casing, the longitudinal centers of the tubes being arranged along lines extending through the open end of the inner casing, an inverted deflecting cone rigid with and depending from the flat face of the inner casing, cross strips secured across the open end of the inner casing and below the deflector, a cap secured upon the flat portion of the outer casing and extending over the tubular connections, said cap forming an annular compartment, and a plunger rod secured to and extending over the cap.

868,016. MEANS OR APPARATUS FOR THE FORMATION OF SPOIL HEAPS, BANKS, &c. JOHN P. ROE, London, England, assignor to Ropeway's Limited, Finsbury, England. Filed Mar. 12, 1906. Serial No. 305,662.



1. A movable frame suitable for use in the formation of spoil heaps, banks and the like, said frame being designed to rest upon the ground, ropes supported by and passing through said frame, a shunt rail carried by said frame and adapted to receive carriers on detachment from one of said ropes and to support and guide them to a position for attachment to another of said ropes, and appliances for moving said frame with reference to the ground as a base.

2. A movable frame suitable for use in the formation of spoil heaps, banks and the like, said frame being designed to rest upon the ground, ropes supported by and passing through said frame, a shunt rail carried by said frame and adapted to receive carriers from an incoming rope and pass them to an outgoing rope, means carried by said frame for supporting and guiding said ropes, and appliances for moving the said frame with reference to the ground as a base.

3. A movable frame suitable for use in the formation of spoil heaps, banks and the like, said frame being designed to rest upon the ground and having rope guiding and supporting means thereon, a shunt rail for receiving bucket carriers on detachment from an incoming rope and supporting and guiding them to a position for attachment to an outgoing rope, and appliances for lifting the said frame bodily with reference to the ground as a base.

4. A movable frame suitable for use in the formation of spoil heaps, banks and the like, said frame being designed to rest upon the ground and having thereon rope supporting and guiding means, a shunt rail for receiving carriers from an incoming rope and passing them to an outgoing rope, and adjustable appliances adapted to be brought into contact with the ground and to take the whole weight of the frame and whereby the said frame can be moved horizontally with reference to the ground as a base.

5. A movable frame suitable for use in the formation of spoil heaps, banks and the like, said frame being designed to rest upon the ground and having thereon rope supporting and guiding means, a shunt rail for receiving carriers from an incoming portion of rope and passing them to an outgoing portion of rope, and appliances arranged to take the whole weight of the frame and attachments and adapted to move the said frame bodily both vertically and horizontally with reference to the ground as a base.

6. A frame suitable for use in the formation of spoil heaps, banks and the like, and designed to rest upon the ground, ropes passing through said frame and extending onward therefrom, a shunt rail carried by said frame and adapted to receive carriers from one of said ropes and pass them to another of said ropes, and appliances carried by said frame for moving it vertically and horizontally with reference to the ground as a base.

7. A frame suitable for use in the formation of spoil heaps, banks and the like, and designed to rest upon the ground, incoming and outgoing traveling ropes passing through said frame and extending onward therefrom, a shunt rail carried by said frame and adapted to receive carriers from an incoming traveling rope and pass them to an outgoing traveling rope, and appliances carried by said frame for moving it vertically and horizontally with reference to the ground as a base.

8. A frame suitable for use in the formation of spoil heaps, banks and the like, and designed to rest upon the ground, incoming and outgoing traveling ropes passing through said frame and extending onward therefrom, means for supporting, depressing and guiding said traveling ropes, a shunt rail carried by said frame and adapted to receive carriers from an incoming traveling rope and pass them to an outgoing traveling rope, and appliances carried by said frame for moving it vertically and horizontally with reference to the ground as a base.

9. A movable frame suitable for use in the formation of spoil heaps, banks and the like, said frame being designed to rest upon the ground and having thereon rope supporting and guiding means, a shunt rail for receiving carriers from an incoming portion of rope and passing them to an outgoing portion of rope, and jacks adapted to act against the ground as a base and take the whole weight of and lift said frame bodily.

10. A movable frame suitable for use in the formation of spoil heaps, banks and the like, said frame being designed to rest upon the ground and having a shunt rail for receiving carriers from an incoming traveling rope and passing them to an outgoing traveling rope, lifting jacks provided with shoes and adapted to lift said frame, and advancing shoes for enabling said frame to be moved forward, said advancing shoes being adapted to take the weight of the frame.

11. A movable frame suitable for use in the formation of spoil heaps, banks and the like, said frame being designed to rest upon the ground and having a shunt rail for receiving carriers from an incoming traveling rope and passing them to an outgoing traveling rope, lifting jacks provided with shoes for lifting the said frame and advancing shoes adapted to be moved in a backward and forward direction relatively to said frame.

12. A movable frame suitable for use in the formation of spoil heaps, banks and the like, said frame being designed to rest upon the ground and having a shunt rail for receiving carriers from an incoming traveling rope and passing them to an outgoing traveling rope, lifting jacks adapted to lift said frame from the ground, advancing shoes, oscillating legs carrying said advancing shoes, and means for oscillating said legs in longitudinal vertical planes.

13. A movable frame suitable for use in the formation of spoil heaps, banks and the like, said frame being designed to rest upon the ground and having a shunt rail for receiving carriers from an incoming traveling rope and passing them to an outgoing traveling rope, lifting jacks provided with shoes for lifting said frame from said ground, advancing shoes, oscillating legs carrying said advancing shoes and means for oscillating said legs in longitudinal vertical planes.

14. A movable frame suitable for use in the formation of spoil heaps, banks and the like, said frame being designed to rest upon the ground and having a shunt rail for receiving carriers from an incoming traveling rope and passing them to an outgoing traveling rope, appliances for moving said frame with reference to the ground as a base, and means for laterally adjusting said frame on the ground.

15. A movable frame suitable for use in the formation of spoil heaps, banks and the like, said frame being designed to rest upon the ground and having a shunt rail for receiving carriers from an incoming traveling rope and passing them to an outgoing traveling rope, appliances for moving the said frame both vertically and horizontally with reference to the ground as a base, and means for adjusting said frame laterally on the ground.

16. A movable frame suitable for use in the formation

of spoil heaps, banks and the like, said frame being designed to rest upon the ground and having a shunt rail for receiving carriers from an incoming traveling rope and passing them to an outgoing traveling rope, lifting jacks each carrying a leg or support provided at its lower end with a lifting shoe adapted to bear upon the ground, oscillating legs jointed to said frame and provided at their lower ends with advancing shoes adapted to bear upon the ground, each of said oscillating legs being adjustable in a lateral direction relatively to said frame, means for moving said lifting jacks vertically, and means for moving each of said oscillating legs in a longitudinal direction relatively to said frame.

17. A movable frame suitable for use in the formation of spoil heaps, banks and the like, said frame being designed to rest upon the ground and having a shunt rail for receiving carriers from an incoming traveling rope and passing them to an outgoing traveling rope, appliances for moving said frame with reference to the ground as a base, and a conveyer for distributing material received from the buckets.

18. A frame suitable for use in the formation of spoil heaps, banks and the like, and designed to rest upon the ground, ropes passing through said frame and extending onward therefrom, a shunt rail carried by said frame and adapted to receive carriers from one of said ropes and pass them to another of said ropes, appliances carried by said frame for moving it vertically and horizontally with reference to the ground as a base, and a conveyer for distributing material received from the buckets.

19. A movable frame suitable for use in the formation of spoil heaps, banks and the like, said frame being designed to rest upon the ground and having thereon rope supporting and guiding means, a shunt rail for receiving carriers from an incoming portion of rope and passing them to an outgoing portion of rope, means adapted to act upon and positively move said bucket carriers along said shunt rail, and appliances for moving said frame bodily with reference to the ground as a base.

20. A frame suitable for use in the formation of spoil heaps, banks and the like, and designed to rest upon the ground, ropes passing through said frame and extending onward therefrom, a shunt rail carried by said frame and adapted to receive carriers from one of said ropes and pass them to another of said ropes, means for positively moving said carriers along said shunt rail, and appliances carried by said frame for moving it vertically and horizontally with reference to the ground as a base.

21. A frame suitable for use in the formation of spoil heaps, banks and the like, and designed to rest upon the ground, ropes passing through said frame and extending onward therefrom, a shunt rail carried by said frame and adapted to receive carriers from one of said ropes and pass them to another of said ropes, means for positively moving said carriers along said shunt rail, appliances carried by said frame for moving it vertically and horizontally with reference to the ground as a base, and a conveyer for distributing material received from the buckets.

22. A movable frame suitable for use in the formation of spoil heaps, banks and the like, said frame being designed to rest upon the ground and having a shunt rail for receiving carriers from an incoming traveling rope and passing them to an outgoing traveling rope, a device adapted to move in proximity to said shunt rail and engage carriers thereon and move the same along said shunt rail from one rope to the other, and appliances for moving said frame with reference to the ground as a base.

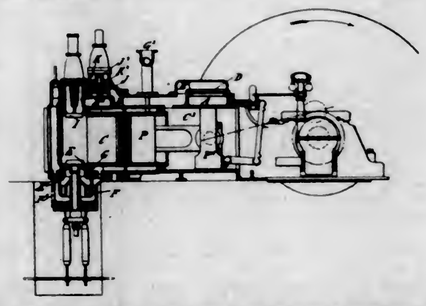
23. A movable frame suitable for use in the formation of spoil heaps, banks and the like, said frame being designed to rest upon the ground and having a shunt rail for receiving carriers from an incoming traveling rope, and passing them to an outgoing traveling rope a support fixed to said frame parallel to said shunt rail, an endless conveyer arranged to move around said support and provided with projecting fingers adapted to engage and move carriers on said rail, said fingers being adapted to be moved into an operative or inoperative position at will, and appliances for moving said frame with reference to the ground as a base.

24. For use in the formation of a spoil heap, bank or the like, a charging station, a terminal station, an endless traveling rope extending between said stations, and a movable frame adapted to bear upon the ground and through which said rope extends in a forward and backward direction, said frame having a shunt rail for receiving carriers from an incoming portion of said rope and passing them onto an outgoing portion of the rope, and appliances whereby it can be moved with reference to the ground as a base.

25. For use in the formation of a spoil heap, bank or the like, a charging station, a terminal station, an endless traveling rope extending between said stations, and a movable frame adapted to bear upon the ground and through which said rope extends in a forward and backward direction, said frame having a shunt rail for receiving carriers from an incoming portion of said rope and passing them onto an outgoing portion of the rope, and means whereby it can be moved vertically and horizontally with reference to the ground as a base.

26. For use in the formation of a spoil heap, bank or the like, a charging station, a terminal station, an endless traveling rope extending between said stations, and a movable frame adapted to bear upon the ground and through which said rope extends in a forward and backward direction, said frame having a shunt rail for receiving carriers from an incoming portion of said rope and passing them onto an outgoing portion of the rope, means for receiving material from said carriers and distributing it over the spoil heap, bank or the like, and means for moving said frame vertically and horizontally with reference to the ground as a base.

868,017. INTERNAL-COMBUSTION ENGINE. ARTHUR ROLLASON, Long Eaton, England, assignor to Robert Mond, London, England. Filed Aug. 28, 1906. Serial No. 332,313.

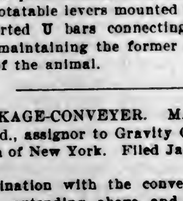


A single cylinder four stroke cycle internal combustion engine having a scavenging piston reciprocated by the piston rod of the engine, an air valve controlling the admission of air to the rear of the scavenging piston, said valve being held open during fully three strokes of the engine cycle and closed to cut off communication with the atmosphere only during the exhaust stroke, a combined gas and air control valve, said air control valve being interposed between the air admission valve and the cylinder inlet valve and being open during the entire cycle except for a portion of the suction stroke, during which the gas valve is open, substantially as described.

868,018. SEALED AND INCASED RECEPTACLE. LUDWIG B. SCHENCK, New York, N. Y. Filed June 17, 1907. Serial No. 379,478.

1. A device of the character indicated, comprising a receptacle having a closure retaining abutment, a closure therefor, an incasing hood for the receptacle, and a closure collar adapted to confine both the closure and the hood to the receptacle.

2. A device of the character indicated, comprising a receptacle having a closure retaining abutment, a closure therefor consisting of a soft metal cap and a plug, a hood or jacket for the receptacle, and a closure collar adapted to confine said closure and also the receptacle hood to said receptacle.



3. A device of the character indicated, comprising a receptacle having a closure retaining abutment, a closure therefor, a hood or jacket for the receptacle and a closure collar having an inwardly projecting flange for confining the closure to the receptacle and having its lower edge crimped under the closure retaining abutment of the receptacle.

4. A device of the character indicated, comprising a receptacle having a closure retaining abutment, a closure therefor, a hood for incasing the receptacle, and a closure collar provided with an inwardly projecting flange for confining the closure to the receptacle and having a lower serrated edge which is crimped under the closure retaining abutment of the receptacle.

868,019. FRAME FOR PACK-SADDLES. JENS T. S. SCHOUBOE, Holte, Denmark. Filed Feb. 23, 1906. Serial No. 302,434.

1. A frame for pack saddles comprising in combination, a middle tree formed of sheet material of U-shaped cross section, said tree being curved upwardly in the direction of its length, said curve being gradual near the center and increasing near the ends, side trees, a plurality of inwardly curved straps connecting said middle and side trees and maintaining said middle tree out of engagement with the back of the animal, and spring actuated fastening means on said middle tree.

2. A frame for pack-saddles comprising a middle-tree, a rotatable lever mounted thereon, adapted to retain the load of said saddle in position.

3. A frame for pack-saddles comprising a middle-tree, a plurality of rotatable levers mounted thereon adapted to hold the load in position, and springs for maintaining said levers in the position to which they are rotated.

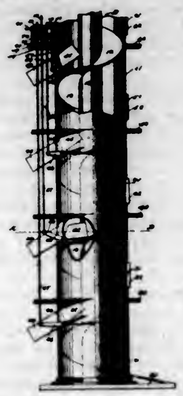
4. A frame for pack saddles comprising in combination, a middle-tree, rotatable levers mounted thereon, side trees, and three inverted U bars connecting said middle and side trees and maintaining the former out of engagement with the back of the animal.

868,020. PACKAGE-CONVEYER. MARTIN C. SCHWAB, Baltimore, Md., assignor to Gravity Conveyor Company, a Corporation of New York. Filed Jan. 23, 1905. Serial No. 242,406.

1. The combination with the conveyer having a conveying surface, extending above and below an opening in the conveyer of movable means for connecting the opening in said conveyer with the conveying surface.

2. The combination with a conveyer having a conveying surface, extending above and below an opening in the conveyer of a device for connecting an opening in said conveyer with the conveying surface and means for applying said connecting-device.

3. The combination with a conveyer having a conveying surface, extending above and below an opening in the conveyer of a bridge for connecting an opening in said conveyer with the conveying surface, and means for applying said bridge.



4. The combination with a gravity conveyer having a conveying surface, extending above and below an opening in the conveyer of a bridge, and means for applying said bridge to connect said conveying surface with an exit opening.

5. The combination with a gravity conveyer provided with a conveying surface, of a pivoted bridge, and means outside of the conveyer for moving said bridge to connect said surface with an exit opening.

6. The combination with a gravity conveyer, of a plurality of bridges, and means outside of the conveyer for moving said bridges to connect the conveyer with exit openings.

7. The combination with a gravity conveyer provided with a conveying surface, extending above and below an opening in the conveyer of a plurality of bridges connected thereto, and means for applying said bridges to connect said surface with exit openings in the conveyer.

8. The combination with a gravity conveyer having a conveying surface, extending above and below an opening in the conveyer of a plurality of bridges pivotally connected to the conveyer, and means for moving said bridges to connect or dis-connect said conveying surface with said openings.

9. The combination with a gravity conveyer having a conveying surface, extending above and below an opening in the conveyer of a pivoted bridge for each of a plurality of exit openings, and individual means for operating the bridges to connect or dis-connect the conveying surface with the openings.

10. The combination with a gravity conveyer having a plurality of exit openings, a pivoted bridge for each exit opening, and individual means connected to said bridges and extending to the outside of the conveyer for moving said bridges.

11. The combination with a gravity conveyer having a conveying surface, of a trough at or near an opening in said conveyer, and movable means for connecting said surface with said trough.

12. The combination with a conveyer having a conveying surface, of a plurality of troughs at different elevations adjacent openings in said conveyer, bridges connected at or near said openings, and individual means for operating said bridges to connect or dis-connect them between said conveying surface and said troughs.

13. The combination with a gravity conveyer provided with a plurality of exit openings, of movable bridges at or near said openings, and individual means extending to a common point for operating said bridges to move the same.

14. The combination with a gravity conveyer having a

conveying surface, of movable bridges, troughs at or near exit openings in said conveyer, and individual devices extending to a common point within reach of the operator for moving said bridges to connect or dis-connect said conveying surface with any one of said troughs.

15. The combination with a conveyer having a conveying surface, of bridges for tangentially connecting said surface with exit openings at different elevations, and independent means extending to a common point for moving said bridges.

16. The combination with a gravity conveyer, of troughs at openings in said conveyer above adjacent edges of said conveying surface, movable bridges, and independent means extending to a common point for moving said bridges to connect or dis-connect the conveying surface with said troughs.

17. The combination with a gravity conveyer having a conveying surface, of a trough at or near an exit opening in said conveyer, a movable bridge, and means for moving the same to connect the upper portion of the surface with the trough.

18. The combination with a gravity conveyer having a spiral surface, of landings, said conveyer being provided with a feed opening and an exit opening at each landing, movable bridges for connecting or dis-connecting said spiral surface with said exit openings, and individual means extending to the top landing for operating at any landing any one of the bridges at a lower landing to connect or dis-connect said spiral surface with an exit opening.

19. The combination with a gravity conveyer having a conveying surface, a plurality of bridges at or near corresponding openings in said conveyer, individual means for connecting or dis-connecting said conveying surface with said openings, and means for preventing the operation of any other bridge upon the operation of one selected bridge.

20. The combination with a gravity conveyer having a conveying surface and openings at different elevations, movable bridges for connecting said surface and openings, individual devices extending to a common point for operating said bridges, and locking mechanism for preventing the operation of other bridges upon the operation of any selected bridge.

21. The combination with a gravity conveyer having a conveying surface, of pivoted bridges for connecting or dis-connecting said surface with openings at different elevations, individual devices extending to a common point for operating said bridges, cams at the ends of said devices, and sliding locking devices co-acting with said cams for permitting the operation of only one of said bridges at a time.

22. The combination with a gravity conveyer having a conveying surface, of pivoted bridges for connecting or dis-connecting said surface with openings at different floors, levers secured to said bridges and pivotally connected to said conveyer, individual rods extending upwardly from said levers, cams on the upper ends of said rods, and sliding rods with conical ends arranged to co-operate with said cams for preventing the operation of other bridges after the operation of one selected bridge.

23. In a device of the class described, the combination with a spiral slideway, of a plurality of discharge-slides at the various floors arranged to be moved into contact with the slideway to deflect material moving on the same, and means at the floors above each of said discharge-slides for controlling the same.

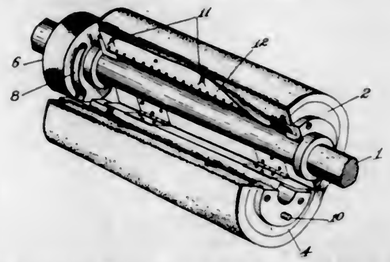
24. In a device of the class described, the combination with a spiral slideway, of a plurality of discharge-slides at the various floors arranged to be moved into contact with the slideway to deflect material moving on the same, means at the floors above each of said slideways for controlling the same, and means for indicating the position of said discharge-slides.

25. In a device of the class described, the combination with a tube and a spiral slideway therein, of pivoted discharge-slides forming doors which close suitable openings of the tube at various floors, said discharge-slides being adapted to be swung down in contact with the slideway to deflect material moving thereon and means capable of being operated from the various floors above each of said discharge-slides to control the same.

26. In a device of the class described, the combination with a spiral chute, of devices for deflecting material therefrom at the various floors above the basement, and means capable of being operated from the various floors above each of said devices for controlling the same.

27. In a spiral gravity conveyer, the combination with an outer shell and an inner core, of an interposed spiral blade, and an inwardly swinging door above the spiral and conforming substantially to the inclination thereof.

868,021. ABRADING DEVICE. JACOB R. SCOTT, North Weymouth, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Feb. 11, 1907. Serial No. 356,920.



1. A movable device for sustaining in working position a cover of abrading material having in combination a plurality of longitudinal sections arranged to receive the ends of the cover between them, and means for holding said ends frictionally from outward movement by engagement with opposite sides of each end of the cover.

2. A movable device for sustaining in working position a cover provided with an abrading surface upon one of its sides, having in combination, a plurality of longitudinal sections arranged to receive between them the ends of the cover, and means for holding said ends frictionally from outward movement by engagement with the rough side of each end of the cover.

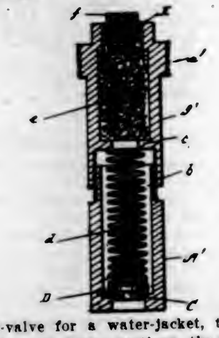
3. A rotary device for sustaining in working position a cover of abrading material having in combination a plurality of relatively movable longitudinal sections constructed to form in their closed position a curved cover-supporting surface and provided with longitudinal clamping surfaces arranged to receive between them the two ends of the cover, means for holding said sections in closed position and an intermediate member interposed between said clamping surfaces and arranged to lie between the ends of the cover, said member being held from outward movement from between the sections.

4. A movable abrading device having in combination a plurality of longitudinal sections arranged for relative movement transverse to the axis of the device, and provided with longitudinal clamping surfaces arranged to receive between them the two ends of a cover and an intermediate member interposed between said clamping faces arranged for free movement in approximately the line of relative movement of said faces and held from outward movement from between the sections.

5. A rotary device for sustaining in working position a cover of abrading material, having in combination, a plurality of relatively movable longitudinal sections provided with longitudinal clamping surfaces arranged to receive between them the two ends of a cover, means for retaining said sections in closed position and an intermediate member of flexible, non-elastic material interposed between the clamping faces of the sections and arranged to lie between the ends of the cover, said member being held from outward movement from between the sections.

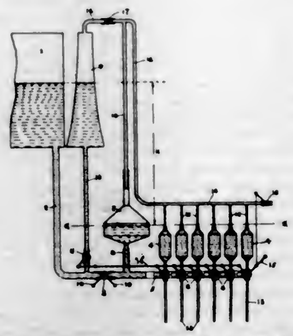
6. A rotary device for sustaining in working position a cover of abrading material, having in combination, a plurality of relatively movable longitudinal sections constructed to form in their closed position a curved supporting surface concentric with the axis of the device and provided with longitudinal clamping surfaces arranged to receive between them the two ends of the cover, means for retaining said sections in closed position and an intermediate member supported independently of said sections between their clamping faces and arranged to lie between the ends of the cover, said member being held from outward movement from between the sections.

868,022. SAFETY-VALVE FOR WATER-JACKETS. OREN H. SHAFER, Petoskey, Mich. Filed Mar. 13, 1907. Serial No. 362,120.



In a relief-valve for a water-jacket, the combination, with a tube formed of two sections, the inner section of the said tube having a valve seat at its inner end, and the outer section of the said tube having a fastening device at its outer end for securing it to a water-jacket and having also an inwardly projecting ring at its inner end portion, a chamber for asbestos fiber being formed between the said ring and the outer end of the said tube; of a perforated plug closing the said chamber, a valve normally bearing on the said valve-seat, and a spring arranged between the said ring and valve.

868,023. LIQUID-MEASURE. FRED SIMPSON, Buenos Ayres, Argentina. Filed Feb. 10, 1906. Serial No. 300,477.



1. In combination; a supply pipe, a regulating vessel communicating with the supply pipe, measuring vessels also communicating with the supply pipe, cocks to control the filling and discharging of the measuring vessels, and air pipes connected to the regulating vessel and the measuring vessels and affording means of communication therebetween; substantially as described.

2. In combination; a supply pipe, a regulating vessel communicating with the supply pipe, measuring vessels also communicating with the supply pipe, cocks to control the filling and discharging of the measuring vessels, a cock in the supply pipe on the supply side of the regulating vessel, and air pipes connected to the regulating vessel and the measuring vessels; substantially as described.

3. In combination; a supply pipe, a regulating vessel communicating with the supply pipe, measuring vessels also communicating with the supply pipe, cocks to control the filling and discharging of the measuring vessels, a cock in the supply pipe on the supply side of the regulating vessel, an air pipe connected to the regulating vessel, and an air pipe connected to each measuring vessel; substantially as described.

4. In combination; a supply pipe, a regulating vessel comunicating with the supply pipe, measuring vessels also communicating with the supply pipe, cocks to control the filling and discharging of the measuring vessels, a cock in the supply pipe on the supply side of the regulating vessel, an air pipe connected to the regulating vessel, an air pipe connected to each measuring vessel, and means for articulating together the cock in the supply pipe and the cocks of the measuring vessels; substantially as described.

5. In combination; a supply pipe, a regulating vessel communicating with the supply pipe, measuring vessels also communicating with the supply pipe, cocks to control the filling and discharging of the measuring vessels, an air pipe connected to the regulating vessel and an air pipe connected to each measuring vessel, all the said air pipes being in communication with the atmosphere and a cock for cutting off said communication; substantially as described.

6. In combination; a supply pipe, a regulating vessel communicating with the supply pipe, measuring vessels also communicating with the supply pipe, cocks to control the filling and discharging of the measuring vessels, an air pipe connected to the regulating vessel and an air pipe connected to each measuring vessel, all the said air pipes being in communication, means for opening or closing said pipes to the atmosphere, and means for articulating together the cocks of the measuring vessels; substantially as described.

7. In combination; a supply pipe, a regulating vessel communicating with the supply pipe, measuring vessels also communicating with the supply pipe, cocks to control the filling and discharging of the measuring vessels, an air pipe connected to the regulating vessel and an air pipe connected to each measuring vessel, all the said air pipes being in communication, and a cock fitted to the air pipe system and opening or closing said system to the atmosphere; substantially as described.

8. In combination; a supply pipe, a regulating vessel communicating with the supply pipe, measuring vessels also communicating with the supply pipe, cocks to control the filling and discharging of the measuring vessels, a cock in the supply pipe on the supply side of the regulating vessel, an air pipe connected to the regulating vessel and an air pipe connected to each measuring vessel, all the said pipes being in communication and means for opening or closing said pipes to the atmosphere; substantially as described.

9. In combination; a supply pipe; a regulating vessel communicating with the supply pipe, measuring vessels also communicating with the supply pipe, cocks to control the filling and discharging of the measuring vessels, a cock in the supply pipe on the supply side of the regulating vessel, an air pipe connected to the regulating vessel and an air pipe connected to each measuring vessel, all the said pipes being in communication and means for opening and closing said air pipes to the atmosphere, and means for articulating together the cock in the supply pipe and the cocks of the measuring vessels; substantially as described.

10. In combination; a supply pipe, a regulating vessel communicating with the supply pipe, measuring vessels also communicating with the supply pipe, cocks to control the filling and discharging of the measuring vessels, a compensating vessel communicating with the supply pipe, a cock to control said communication, and air pipes connected to the regulating vessel, the compensating vessel

and to each measuring vessel, all the said air pipes being in communication and means for opening or closing said air pipes to the atmosphere; substantially as described.

11. In combination; a supply pipe, a regulating vessel communicating with the supply pipe, measuring vessels also communicating with the supply pipe, cocks to control the filling and discharging of the measuring vessels, a compensating vessel communicating with the supply pipe, a cock to control said communication, air pipes connected to the regulating vessel, the compensating vessel and each measuring vessel, all the said air pipes being in communication means for opening or closing said air pipes to the atmosphere, and means for articulating together the compensating vessel cock and the cocks of the measuring vessels; substantially as described.

12. In combination; a supply pipe, a regulating vessel communicating with the supply pipe, measuring vessels also communicating with the supply pipe, cocks to control the filling and discharging of the measuring vessels, a compensating vessel communicating with the supply pipe, a cock to control said communication, a cock in the supply pipe on the supply side of the regulating vessel, air pipes connected to the regulating vessel, the compensating vessel and to each measuring vessel, all the said air pipes being in communication; substantially as described.

13. In combination; a supply pipe, a regulating vessel communicating with the supply pipe, measuring vessels also communicating with the supply pipe, cocks to control the filling and discharging of the measuring vessels, a compensating vessel communicating with the supply pipe, a cock to control said communication, air pipes to the regulating vessel, the compensating vessel and to each measuring vessel, all the said air pipes being in communication, and a cock fitted to the air pipe system and opening to the atmosphere; substantially as described.

14. In combination; a supply pipe, a regulating vessel communicating with the supply pipe, measuring vessels also communicating with the supply pipe, cocks to control the filling and discharging of the measuring vessels, a compensating vessel communicating with the supply pipe, a cock to control said communication, a cock in the supply pipe on the supply side of the regulating vessel, and air pipes to the regulating vessel, the compensating vessel and to each measuring vessel, all the said air pipes being in communication, and a cock fitted to the air pipe system and opening to the atmosphere; substantially as described.

15. In combination; a supply pipe, a regulating vessel communicating with the supply pipe, measuring vessels also communicating with the supply pipe, cocks to control the filling and discharging of the measuring vessels, a compensating vessel communicating with the supply pipe, a cock to control said communication, air pipes to the regulating vessel, the compensating vessel and to each measuring vessel, all the said air pipes being in communication, and a cock in the air pipe system to cut off communication with the compensating vessel; substantially as described.

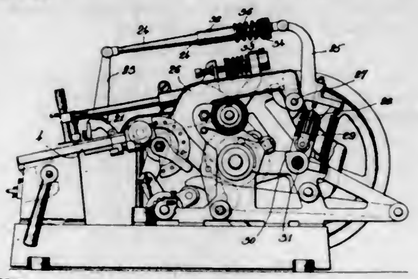
16. In combination; a supply pipe, a regulating vessel communicating with the supply pipe, measuring vessels also communicating with the supply pipe, cocks to control the filling and discharging of the measuring vessels, a compensating vessel communicating with the supply pipe, a cock to control said communication, a cock in the supply pipe on the supply side of the regulating vessel, air pipes connected to the regulating vessel, the compensating vessel and to each measuring vessel, all the said air pipes being in communication means opening and closing said air pipes to the atmosphere, and a cock in the air pipe system to cut off communication with the compensating vessel; substantially as described.

868,024. FOLDING-MACHINE. BENJAMIN A. SLOCUM, Lynn, Mass., assignor to Boston Machine Works Company, Lynn, Mass., a Corporation of Massachusetts. Filed Mar. 5, 1906. Serial No. 304,222.

1. In a folding machine, folding mechanism to fold the edge portion of the work over on to the body thereof, and means to stretch said edge portion of the work prior to the folding operation.

2. In a folding machine, folding mechanism, and means to stretch at one operation an extended part of the edge portion of the material to be folded between the line of fold and the edge thereof whereby said edge is elongated.

3. In a folding machine, folding mechanism, and means to stretch the edge portion of the material to be folded between the line of fold and the edge thereof a varying amount dependent upon the distance from said line and the edge.



4. In a folding machine, folding mechanism, and means to stretch the material to be folded between the line of fold and the edge of the material with a progressively increasing amount from said line to the edge.

5. In a folding machine, folding mechanism, and means to stretch the edge portion of the material to be folded in the direction of said edge, said means comprising two corrugated members, and means to move one member relative to the other.

6. In a folding machine, folding mechanism for folding a concavely curved edge portion of material over on to the body thereof, combined with means to act on and stretch said concaved edge portion prior to the folding operation.

7. In a folding machine, folding mechanism to fold a concavely curved edge portion of material, combined with means to stretch at one operation an extended part of said concavely curved edge portion between the concave edge and the line of fold.

8. In a machine for folding the concavely curved edge portion of sheet material, the combination with means to stretch at one operation such concavely curved edge portion between the concaved edge thereof and the line of the fold with means to fold such stretched edge portion.

9. In a machine for folding the concavely curved edge portion of sheet material, the combination with means to stretch such edge portion between the line of fold and the concaved edge of the material a progressively increasing amount from said line to the edge, of means to fold such stretched edge portion onto the body of the material.

10. In a machine for folding the concavely curved edge portion of sheet material, folding mechanism combined with means to stretch such concavely curved edge portion between the line of fold and the concaved edge with a progressively increasing amount from said line to the edge and prior to the folding operation.

11. In a machine for folding the concavely curved edge portion of sheet material, the combination of means to elongate the concavely curved edge to substantially the length of the curved line occupied by said edge after the fold is made, and means to fold the edge portion of the material having the elongated edge.

12. In a machine of the class described, the combination with means to stretch the concavely curved edge portion of the material thereby to elongate the concavely curved edge to substantially the length of the curved line occupied by said edge after the material is folded, of means to fold such stretched edge portion.

13. A folding machine having in combination folding mechanism to fold the edge portion of the work back onto the body of the work, and means to stretch said edge portion between the line of fold and the edge of the material prior to the folding operation.

14 A folding machine having in combination folding mechanism to fold the edge portion of the material back onto the body of the material, and means to stretch the edge portion thus folded between the line of fold and the edge of material with a progressively increasing amount from said line to the edge and prior to the folding operation.

15. In a folding machine, folding mechanism, and means to stretch the edge portion of the material to be folded, said means comprising two members one having grooves or corrugations of uniform depth, and the other having ribs of varying depth.

16. In a folding machine, folding mechanism, and means to stretch the edge portion of the material to be folded, said means comprising two members one having grooves or corrugations of uniform depth and the other having tapering substantially V-shaped ribs.

17. In a folding machine, folding mechanism and means to stretch the edge portion of the material to be folded, said means comprising two members one having grooves or corrugations of uniform depth, and the other having ribs tapering in the direction of their length.

18. In a folding machine, folding mechanism, and means to stretch the edge portion of the material to be folded, said means comprising two members, one having grooves or corrugations of uniform depth and the other having ribs each varying in depth from one end to the other and tapering in the direction of its length.

19. In a machine of the class described, a folder, a movable stretching member, means for moving the stretcher toward the folder to stretch the edge portion of the work and then away from the folder, and means for moving the folder across the path of the stretcher for folding the work.

20. In a machine of the class described, a folder, a movable stretching element to be moved toward the folder to stretch the work and then to be moved away from the work, and means for moving the folder first in the path of the stretching element and then laterally across said path for folding the work.

21. In a machine of the class described, a work-supporting table, means for holding the work on the table in one position during the entire operation of the machine, means for stretching a concavely curved edge portion of the work, and means for folding subsequently the stretched edge portion of the work onto the body of the work.

22. In a machine of the class described, a work-supporting table, means for holding the work on the table, means for stretching the edge portion of the work, and means for folding the edge portion of the work over said holding means and pressing the folded edge against the work.

23. In a machine of the class described, a work-supporting table, means for clamping the work upon the table, means for stretching an extended portion of the edge of the work, and means for folding said stretched edge over on the body of the work supported on the table.

24. In a folding machine, a table, a folder movable relatively thereto to fold the work, and means mounted on the folder to stretch the edge portion of the work.

25. In a machine of the class described, a work supporting table, a folder movable relatively thereto to make a fold, and means mounted on the folder to stretch the edge portion of the work, said means comprising two normally separated corrugated members, means to move one relative to the other, and means to move one toward the other prior to the folding operation.

26. In a machine of the class described, a folder, means to stretch at one operation an extended part of the edge portion of the work to be folded, said means comprising a movable stretching element, and means to move said stretching element independently of the folder.

27. A folding machine having in combination, a stretcher arranged to stretch the edge of the work, a folder arranged for movement to turn up said edge on both sides of the stretched portion to fold the edge over on the body of the work and to press the fold, and actuating mechanism for said parts.

28. A folding machine having in combination, a work supporting table having an upper face to support the body of the work, means for stretching at one operation an extended portion of the edge of the work, a folder arranged to fold said stretched edge over on the work supported on said upper face of the table, and actuating mechanism for said parts.

29. A folding machine having in combination, a work supporting table, a folder, stretching means, means for actuating the stretching means to stretch the edge portion of the work, and means for actuating the folder to fold at one operation an extended portion of the edge of the work on a line at the edge of the work supporting table and to press the fold against the body of the work supporting table.

30. A folding machine having in combination, a folder, stretching means comprising a movable member, means to move said movable member to stretch the edge portion of the work, means for causing the folder to fold at one operation the entire portion of said edge presented to the machine, and means for supporting the body of the work in one position during such operation.

31. In a folding machine, in combination, folding mechanism including a folder and actuating means therefor, a stretching member carried by the folder, and means for actuating said stretching member, said actuating means being arranged to permit said stretching member to be moved with relation thereto in the operation of the folder.

32. In a folding machine in combination, a movable stretching member and a combined folder and coöperating stretching member having provision for permitting the active face of the movable stretching member to pass below its work supporting face, means for actuating the movable stretching member, and means for moving the folder first perpendicularly to the work and then parallel therewith for folding the work.

33. A folding machine having in combination, a work supporting table, a combined folder, presser and stretching member, and another stretching member which coöperates with said combined folder, presser and stretching member to stretch the edge of the work.

34. A folding machine having in combination, a folder, a movable stretching member which coöperates with said folder to stretch the edge portion of the work, means for moving the stretching member independently of the folder, and means for actuating the folder to fold the edge of the work on both sides of the stretched portion and press the folded edge against the body of the work.

35. A folding machine having in combination, a folder, means to stretch the edge portion of the work before the folder begins to operate, means for causing the folder to fold the stretched edge portion of the work, and means for holding the body of the work in one position during said operations.

36. A folding machine having in combination, a stretching member, a folder provided with an upper face to support the edge of the work during the operation of the stretching member, and means for actuating the folder first to lift the edge of the work and then to fold the edge over on the body of the work.

37. A folding machine having in combination, a former and a table arranged to hold the work between them, means for stretching the edge portion of the work, a folder to fold said edge portion over the former and press the folded edge against the body of the work, and actuating means for said parts.

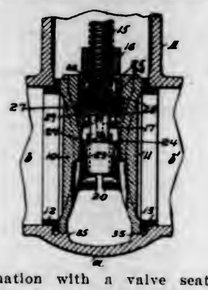
38. A folding machine having in combination, a table for supporting the work, means for stretching the edge portion of the work, a folder arranged to fold at one operation the entire stretched edge portion of the work along a line which lies substantially within the plane of the body of the work, and actuating mechanism for said parts.

39. A folding machine having in combination, a work supporting table, means for holding the body of the work on said table, a folder, a stretching member, means for operating the stretching member to stretch the edge portion of the work before the folder begins to operate, and means for causing the folder to fold the edge of the work on both sides of said stretched portion concurrently.

40. A folding machine having in combination, means for stretching a concavely curved edge portion of the work, a folder arranged to fold at one operation the entire

stretched concavely curved edge portion along a line which lies substantially within the plane of the body of the work, and actuating mechanism for said parts.

868,025. GATE-VALVE. ANTHONY P. SMITH, Newark, N. J. Filed Apr. 18, 1906. Serial No. 312,309.



1. The combination with a valve seat and a gate valve movable edgewise across the seat to open and closing positions and also flatwise toward and from the seat, of a reciprocating member, means for forcing the valve against the seat when in closing position by the movement of said reciprocating member relatively to the valve, a screw threaded operating rod, a screw nut on said rod connected with the valve for causing the valve to be reciprocated by the turning of the operating rod, and a screw nut on said rod connected with said reciprocating member, the first said nut having a collapsible thread to permit of continued turning of the rod after the valve has been moved to its closing position, substantially as described.

2. The combination with a valve seat and a gate valve movable edgewise across the seat to open and closing positions and also flatwise toward and from the seat, of a reciprocating member, means for forcing the valve against the seat when in closing position by the movement of said reciprocating member relatively to the valve, a screw threaded operating rod for reciprocating the valve and the reciprocating member, and means for preventing relative movement between the valve and said reciprocating member during the opening and closing movements of the valve and for permitting such relative movement when the valve is in closing position, such means comprising a collapsible screw thread between the valve and the operating rod, substantially as described.

3. The combination with a valve seat and a gate valve movable edgewise across the seat to open and closing positions and flatwise toward and from the seat, of a reciprocating member, means for forcing the valve against the seat when in closing position by the movement of said reciprocating member relatively to the valve, a screw threaded operating rod for reciprocating the valve and reciprocating member, and means for preventing relative movement between the valve and said reciprocating member during the opening and closing movements of the valve and for permitting such relative movements when the valve is in its closing position, such means comprising a collapsible screw thread between the valve and the operating rod, said collapsible screw thread being mounted between retaining shoulders by which it is prevented from moving longitudinally when expanded by the co-acting thread, substantially as described.

4. As a new article of manufacture, a screw nut having a collapsible thread mounted between shoulders for preventing longitudinal movement of the thread within the shell or casing when expanded by a threaded member screwed therein, substantially as described.

5. As a new article of manufacture, a screw threaded device having a collapsible thread and retaining shoulders for preventing longitudinal movement of the thread when expanded by a co-acting threaded member, substantially as described.

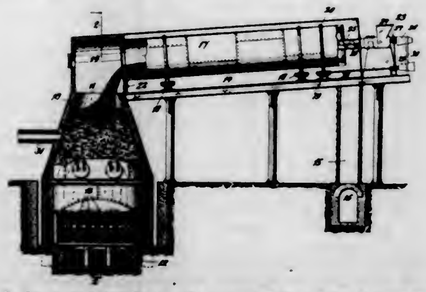
6. The combination with a screw threaded shaft, of two members each having a threaded part for engaging the shaft, the threaded part of one of said members having a collapsible thread for permitting a relative movement between said members when the shaft has been screwed part way out of such threaded part, substantially as described.

7. The combination with a screw threaded shaft, of two members each having a screw threaded part for engaging said shaft, one of the threads which form the connection between the shaft and one of said members being collapsible, whereby when the members have been moved together by the rotation of the shaft to a certain position the member connected to the shaft by means of the collapsible screw thread will remain at rest while the other of said members is moved by further rotation of the shaft, substantially as described.

8. The combination of a reciprocating member, a screw threaded shaft coöperating with a threaded part of said member for reciprocating said member, and a second member having a screw threaded part having a collapsible thread for engaging the screw threaded shaft for causing the said second member to be reciprocated by the rotation of the shaft and for permitting said second member after having been moved to a certain position by the rotation of the shaft to remain stationary during further rotation of the shaft, substantially as described.

9. The combination of two members having co-acting screw threads for causing a relative movement between said members when one of said members is rotated, one of said members having a collapsible screw thread whereby when the members are in a certain relative position the rotary member may rotate without causing a relative longitudinal movement between the members and without the screw threads of the two members running out of engagement, substantially as described.

868,026. GAS-PRODUCER. MARTIN V. B. SMITH, New York, N. Y. Filed Dec. 6, 1905. Serial No. 290,526.



1. In a gas producer, the combination with a furnace chamber, of a substantially horizontal conduit in direct open communication therewith, and a coking chamber revolubly mounted in said conduit, said coking chamber in open communication at its upper end with said conduit and at the lower end with said furnace chamber.

2. In a gas producer, the combination with a furnace chamber, of a substantially horizontal conduit in direct open communication therewith, and an inclined coking chamber revolubly mounted in said conduit, said coking chamber in open communication at its upper end with said conduit and at the lower end with said furnace chamber.

3. In a gas producer, the combination with a furnace chamber, of a conduit in open communication therewith, a cylindrical coking chamber revolubly mounted at a slight angle from the horizontal in said conduit, the upper end of said coking chamber in open communication with the said conduit and the lower end thereof in communication with the said furnace chamber, and means for feeding fresh material to the upper end of said coking chamber.

4. In a gas producer, the combination with a furnace chamber, a conduit in open and direct communication therewith at one end, and a discharge from said conduit at the other end, of a rotatable coking chamber open at both ends into the conduit, revolubly mounted in said conduit, and a supplemental discharge from the furnace chamber communicating therewith at a point below the upper end thereof and below the normal level of the fuel contained therein, said supplemental discharge arranged to deliver gases evolved in the lower part of said furnace chamber substantially free from gases evolved at a point above the level of the fuel.

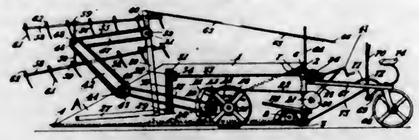
5. In a gas producer, the combination with a furnace chamber, a conduit in open and direct communication therewith at one end, and a discharge from the said conduit at the other end, of a rotatable coking chamber open at both ends into the conduit, revolubly mounted in said conduit.

6. In a gas producer, the combination with a furnace chamber, a conduit in open and direct communication therewith at one end, and a discharge from the said conduit at the other end, of a rotatable coking chamber open at both ends into the conduit, revolubly mounted in said conduit, and means for feeding material into the end of the coking chamber furthest away from the furnace chamber.

7. In a gas producer, the combination with a furnace chamber, and a conduit in open and direct communication therewith, of a revoluble coking chamber mounted in said conduit, feeding means for feeding material into the revoluble coking chamber, and means for operating the feeding means in timed relation with the speed of revolution of the coking chamber.

8. In a gas producer, the combination with a furnace chamber, and a conduit in open and direct communication therewith, of a revoluble coking chamber mounted in said conduit, feeding means for feeding material into the revoluble coking chamber, and means for operating the feed-relationship between the feeding means and the rotation of the coking chamber.

868,027. GRAIN-RAKE. GEORGE W. SMITHSON, Madelia, Minn. Filed May 18, 1906. Serial No. 317,620.



1. In a machine of the character described the combination with a body, and wheels supporting the same; of a holder removably mounted within the body, rollers interposed between the holder and body, and means for directing sheaves upon the holder.

2. In a machine of the character described the combination with a body, supporting wheels adjustably connected thereto for swinging movement, and means for swinging the wheels to raise the body; of mechanism operated by the wheels for directing sheaves upon the body, and connections whereby the raising of the body throws the mechanism out of operative relation to the wheels.

3. In a machine of the character described the combination with a body, and supporting wheels therefor; of prongs carried by the body, mechanism operated by the wheels for imparting elliptical movement to the prongs, and means for adjusting the prongs longitudinally of the machine during the movement of the prongs.

4. In a machine of the character described the combination with a body, and supporting wheels therefor; of prongs carried by the body, mechanism operated by the wheels for imparting elliptical movement to the prongs, and means for adjusting the prongs longitudinally of the machine and vertically during their movement.

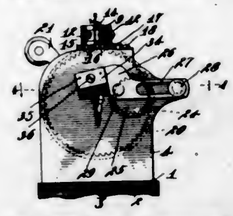
5. In a machine of the character described the combination with a body, and supporting wheels therefor; of prongs carried by the body, mechanism operated by the wheels for imparting elliptical movement to the prongs, and independent manually operated means for adjusting the prongs longitudinally of the machine and vertically during their movement.

6. In a machine of the character described the combination with a body, and supporting wheels; of strips pivoted to the body, means for simultaneously swinging the strips in vertical planes, arms pivoted to the body, supports pivoted to the strips, links connecting the supports and arms, prongs movably mounted between and carried by said arms and supports, means for holding the arms and supports against movement, and mechanism operated by the wheels for actuating the prongs.

7. In a machine of the character described the combination with a body, and wheels supporting the same; of crank shafts, bearings therefor adjustable vertically and toward the front and rear of the machine, bars carried by the cranks, prongs depending therefrom, and mechanism operated by the wheels for rotating the shafts.

8. In a machine of the character described the combination with a body, and wheels supporting the same; of parallel crank shafts, the cranks of the two shafts being of different sizes, bearings for the shafts adjustable vertically and toward the front and rear of the machine, bars carried by the cranks of the two shafts, prongs suspended therefrom, and mechanism operated by the wheels for rotating the shafts in unison.

868,028. PENCIL-SHARPENER. CHARLES C. SPENGLER, Rockford, Ill., assignor to Automatic Pencil Sharpener Company, New York, N. Y., a Corporation of New York. Filed Feb. 13, 1907. Serial No. 357,152.



1. In a pencil sharpener, in combination, a supporting member; an internal spur gear rotatably mounted upon said supporting member; a shaft rotatably mounted in said supporting member; a pinion on one end of said shaft meshing with said spur gear; a crank fixed to the other end of said shaft; and a cutting element moved by said crank.

2. In a pencil sharpener, in combination, a cutting element; a crank arm pivotally connected with said cutting element; and a spring moving with said crank arm and adapted to permit of a lateral yielding movement of said cutting element.

3. In a pencil sharpener, in combination, a cutting element; a crank arm; a crank pin carried by said crank arm for connecting said cutting element and said arm; and a spring engaging said crank pin adapted to permit of a lateral yielding movement of said cutting element.

4. In a pencil sharpener, in combination, a cutting element; a crank arm; a crank pin carried by said crank arm for connecting said cutting element and said arm; and a coiled spring surrounding said crank pin and adapted to permit of a lateral yielding movement of said cutting element.

5. In a pencil sharpener, in combination, a fixed member; a knife arm having an elongated opening therein; a member extending through said elongated opening and fixed to said fixed member; a rotatable crank; a crank pin carried by said crank for connecting said knife arm and said crank; and a spring engaging said crank pin and adapted to permit of a lateral yielding movement of said knife arm.

6. In a pencil sharpener, in combination, a fixed member; a knife arm having an elongated opening therein; a member extending through said elongated opening and

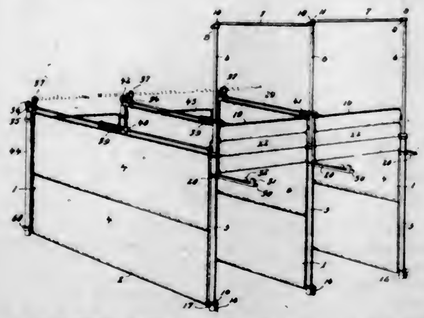
fixed to said fixed member; a rotatable crank; a member pivotally connecting said knife arm and said crank; and a spring tending to hold said knife arm against lateral movement.

7. In a pencil sharpener, in combination, a supporting member having a plane face and adapted to support a pencil; an internal spur gear rotatably mounted upon the rear side of said supporting member; a shaft rotatably mounted in said supporting member; a pinion fixed to one end of said shaft and meshing with said internal spur gear; a crank fixed to the other end of said shaft; a knife bar pivotally connected with said crank; and means for limiting and guiding said knife arm.

8. In a pencil sharpener, in combination, a supporting member; a gear wheel rotatably mounted thereon; means for supporting the pencil comprising a sleeve having a projection thereon; a projection carried by said gear wheel adapted to engage the projection on said sleeve; and a cutting element driven by said gear wheel.

9. In a pencil sharpener, in combination, a rotatable pencil-supporting member having a projection thereon; a cutting element; a gear wheel for driving said cutting element; and a projection on said gear wheel adapted to engage said first mentioned projection for rotating the pencil.

868,029. RACE-STARTING APPARATUS. DAVID STITZER, Lexington, Ky., assignor of one-half to William R. Hutchison, Lexington, Ky. Filed Jan. 30, 1907. Serial No. 354,896.



1. In a device of the class described, a plurality of side walls forming parallel stalls, barriers pivotally mounted upon said walls, and means for simultaneously releasing and opening said barriers.

2. In a device of the class described, a plurality of side walls forming parallel stalls, barriers pivotally mounted upon said walls, means for simultaneously releasing and opening said barriers, and means for retaining said barriers against rebound when in opened position.

3. In a device of the class described, a plurality of independent side walls forming parallel stalls, barriers movably mounted upon said walls, means for simultaneously releasing and opening said barriers, and cross bars extending between the posts of said sides for detachably connecting the same laterally.

4. In a device of the class described, a plurality of side walls forming parallel stalls, barriers movably mounted upon said walls, means for simultaneously releasing and opening said barriers, cross bars extending between the posts of said sides for connecting the same laterally, and means disposed at the lower portion of said posts for releasing the same.

5. In a device of the class described, a plurality of side walls forming parallel stalls, barriers pivotally mounted upon said walls, means for simultaneously releasing and opening said barriers, and rear gates pivotally mounted upon said sides and provided with means for automatically opening said gates.

6. In a device of the class described, a plurality of side walls forming parallel stalls, barriers movably mounted upon said walls, means for simultaneously releasing and opening said barriers, rear gates movably mounted upon said sides and means for releasing and automatically opening said gates.

7. In a device of the class described, side walls provided with front and rear posts, barriers pivotally mounted upon a front post, springs for normally retaining each barrier in open position, means for retaining each barrier in closed position under tension, and means for simultaneously operating the retaining means.

8. In a device of the class described, side walls provided with front and rear posts, barriers pivotally mounted upon a front post, means for holding each barrier in closed position under tension, means for simultaneously operating said holding means, a bracket provided with a stop lug to engage each barrier, and a latch adapted to automatically engage each barrier and hold it in open position.

9. In a device of the class described, side walls provided with front and rear posts, an extension upward from the front post, a bolt slidably mounted in said extension to project from the upper end thereof, a connection extending downward from said bolt, and a cross bar pivoted upon one extension and provided with an apertured free end to engage said bolt.

10. In a device of the class described, side walls provided with posts at opposite ends, a pivotally mounted barrier upon one of said posts, a locking rod disposed to engage and retain said barrier in closed position, a spring adapted to move said rod longitudinally, a pin carried by said rod to engage a fixed bearing, and means for moving said rod to throw the pin out of engagement with its bearing.

11. In a device of the class described, side walls provided with posts at their opposite ends, a pivotally mounted barrier upon one of said posts, a locking rod disposed to engage and retain said barrier in closed position, a spring adapted to move said rod longitudinally, a collar carried by said rod and provided with a pin extending parallel therewith, a fixed end bearing for said rod provided with a projection to normally engage said pin, and an eye carried by said collar by which said pin may be moved out of engagement with said projection to permit longitudinal movement of said rod.

12. In a device of the class described, side walls provided with front and rear posts, a barrier carried by the front post, a gate pivotally mounted upon the rear post and provided with a locking plate, a pivoted lever adapted to engage said plate, a hook to retain said lever in locked position, and an operating device extending from said hook to release the same from said lever.

13. In a device of the class described, side walls provided with front and rear posts, a barrier carried by the front post, a gate pivotally mounted upon the rear post and provided with a locking plate, a pivoted lever adapted to engage said plate, a hook to retain said lever in locked position, a tension spring extending between the rear end of said lever and said hook, and an operating lever pivotally mounted upon the rear post and connected to said hook to release the same from said lever.

14. In a device of the class described, side walls provided with front and rear posts, a barrier carried by the front post, a gate pivotally mounted on the rear post and provided with a locking plate, a spring mounted upon said gate and engaging the post to automatically open the gate, a pivoted lever adapted to engage said plate, a hook to retain said lever in locked position, a tension spring extending between the rear end of said lever and said hook, and an operating lever pivotally mounted upon the rear post and connected to said hook to release the same from said lever.

15. In a device of the class described, side walls, a barrier carried thereby, a pivoting bracket at the lower portion thereof, and a pivoting sleeve at the upper portion adapted to be adjusted upon the supporting member of said barrier.

16. In a device of the class described, side walls provided with front and rear posts, a barrier mounted upon one of the front posts and provided with a retaining loop at its free end, a rod to engage said loop, and means for reciprocating said rod.

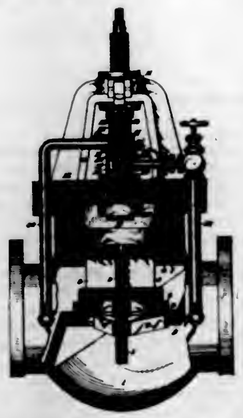
17. In a device of the class described, side walls provided with front and rear posts, a barrier mounted upon one of the front posts and provided with a retaining loop at its free end, a rod to engage said loop, a bearing upon said side wall for said rod, a collar secured to said rod, a spring extending between said bearing and collar, and a retaining device for normally retaining said spring under tension.

18. In a device of the class described, a plurality of side walls forming independent stalls each provided with a pivoted spring controlled barrier thereon adapted to engage an adjacent wall.

19. In a device of the class described, a plurality of independent parallel side walls forming a stall, an automatically opening barrier pivotally mounted upon one wall and extending between the front portions of said walls, means upon the adjacent wall for retaining and releasing said barrier, and means for operating said releasing means from a point removed therefrom.

20. In a device of the class described, a plurality of independent parallel side walls forming a stall, an automatically opening barrier pivotally mounted upon one wall and extending between the front portions of said walls, means upon the adjacent wall for retaining and releasing said barrier, means for operating said releasing means from a point removed therefrom, and an automatically opened end gate pivotally mounted on one of said walls to engage the opposite wall and close the rear of the stall.

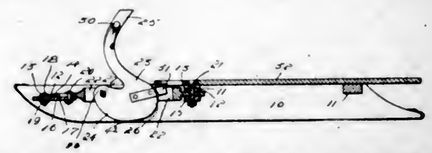
868,030. VALVE. JULIUS R. TANNER, Pittsburg, and GEORGE J. STUART, Bellevue, Pa., assignors to The Pittsburgh Valve, Foundry & Construction Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed June 20, 1906. Serial No. 322,517.



1. A valve separating chambers subjected to different pressures, a piston connected to the valve and having a larger area than said valve, a second valve external to the first valve, and pipes leading to said second valve from the higher pressure, the lower pressure, and one face of the piston, said second valve having a by-pass connecting the higher pressure with the piston when the pressure is not in excess of a predetermined amount and connecting the lower pressure with said piston when the pressure reaches said predetermined amount.

2. A valve casing, a valve therein having its opposite faces subjected to different pressures, a piston secured to said valve and having greater sectional area than said valve, said valve having one face always subjected to the higher pressure, and said valve and said piston having each one face always subjected to the lower pressure, a chamber for the remaining face of said piston, a second casing having therein three chambers, means connecting the first chamber to the higher pressure, means connecting the second chamber to said piston-face chamber, and means connecting the third chamber to the lower pressure, a piston in said second casing, and means whereby the piston connects the higher pressure with the said piston-face chamber when the higher pressure is below a definite limit, but connects said piston-face chamber to the lower pressure when such higher pressure limit is reached.

868,031. COASTING-SLED. CASSIUS M. THOMAS, Camden, Ohio. Filed Dec. 17, 1906. Serial No. 348,227.



1. A coasting-sled and its runners, combined with slotted cross-bars extending between the runners, a slotted and laterally movable reach-bar supported at its ends in said slotted cross-bars, a rudder having its upper portion extended through the slot in the reach-bar, with which reach-bar the rudder is pivotally connected.

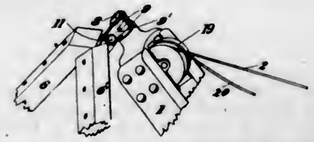
2. A coasting-sled and its runners, combined with slotted cross-bars, a slotted reach-bar pivotally connected at its rear end with one of the cross-bars, and arranged at its forward end to move laterally in the slot of the other cross-bar, a rudder having its upper portion extended through the slot in the reach-bar, and a pin pivotally connecting said rudder with the reach-bar.

3. A coasting sled and its runners, combined with slotted cross-bars, a slotted reach-bar pivotally connected at its rear end with one of the cross-bars, and arranged at its forward end to move laterally in the slot of the other cross-bar, a rudder having its upper portion extended through the slot in the reach-bar, and a pin pivotally connecting said rudder with the reach-bar, the ends of the said pivot-pin extending beyond the sides of the reach-bar, to afford a rest for the rider's feet and a means for governing the rudder.

4. A coasting-sled, its runners, and cross-bars extending between the runners, combined with a laterally movable and slotted reach-bar supported by the cross-bars, a rudder having an upwardly extended nose partially projected through the slot in the reach-bar and pivotally connected with the latter.

5. A coasting-sled, its runners and cross-bars extended between the runners, combined with a laterally movable and slotted reach-bar supported by the cross-bars, a rudder partially projected through the slot in the reach-bar and pivotally connected with the latter.

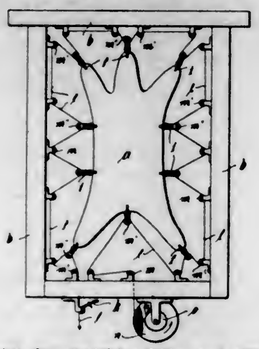
868,032. CRANE. HUGH A. THOMSON, Shawlands, Scotland. Filed June 20, 1906. Serial No. 322,576.



1. A crane comprising in combination a mast, guys attached to the top of said mast, and a turntable to which the foot of said mast is hinged as described.

2. A crane consisting of a mast and sleepers in combination with guys attached to the top of the mast and each pivotally engaging one of said sleepers, and a turntable to which the foot of said mast is hinged as described.

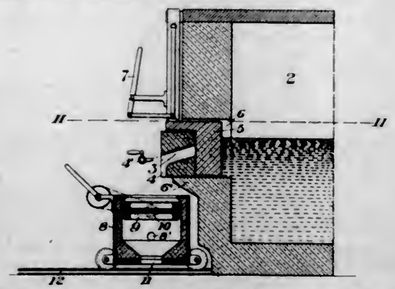
868,033. APPARATUS FOR STRETCHING HIDES AND SKINS. MAX THORER, Leutzsch, near Leipsig, Germany. Filed May 6, 1907. Serial No. 372,049.



1. Apparatus for stretching hides and skins, the combination with a stretching-frame and pulleys m' mounted thereon of grippers f provided with pulleys m'' a single cord passing round said pulleys m' m'', and means of attachment for the ends of said cord.

2. Apparatus for stretching hides and skins, the combination with a stretching-frame and pulleys m' mounted thereon of grippers f provided with pulleys m'' a single cord passing round said pulleys m' m'', and means of attachment for the ends of said cord, said means of attachment comprising a spring barrel for applying a continuous and regulatable tension to the cord.

868,034. GLASS MELTING AND DRAWING APPARATUS. LINCOLN A. THORNBURG, Hartford City, Ind., assignor to Window Glass Machine Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Feb. 2, 1906. Serial No. 299,189.



1. Apparatus for drawing glass, comprising a melting furnace having a discharge outlet, a movable pot adapted to receive molten glass therefrom, and a drawing station; substantially as described.

2. Apparatus for drawing glass, comprising a melting furnace having a discharge outlet, a movable pot adapted to receive molten glass therefrom, a melting-out station, and a drawing station; substantially as described.

3. Apparatus for drawing glass, comprising a melting furnace having a discharge outlet, a movable pot adapted to receive molten glass therefrom, a melting-out station, a drawing station, and a movable kiln by which the pot is carried; substantially as described.

4. Apparatus for drawing glass, comprising a melting furnace having a discharge outlet, a movable pot adapted to receive molten glass therefrom, a melting-out station, a drawing station, and a movable kiln by which the pot is carried, the pot being reversible; substantially as described.

5. Apparatus for melting and discharging molten glass, comprising a furnace provided with a glass outlet, and a horizontally movable stopper for the outlet situated between the outlet and the body of molten glass in the furnace; substantially as described.

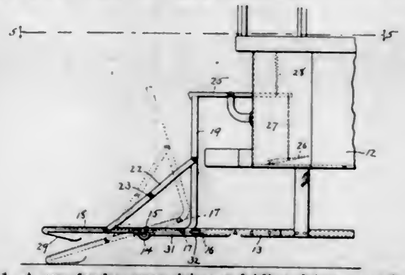
6. Apparatus for melting and discharging molten glass, consisting of a furnace provided with a glass outlet, a horizontally movable stopper for the outlet situated between the outlet and the body of molten glass in the furnace, said stopper having a projecting portion extending through an opening in the furnace wall, and operating means connected to such extension; substantially as described.

7. Apparatus for drawing glass, comprising a melting furnace having a discharge outlet, a movable pot adapted to receive molten glass therefrom, a plurality of drawing stations, and a system of tracks leading from the furnace to the drawing stations and back to the furnace; substantially as described.

8. Apparatus for drawing glass, comprising a melting furnace having a discharge outlet, a movable kiln or furnace having a pot adapted to receive molten glass from the discharge outlet, and a drawing station; substantially as described.

9. Apparatus for melting and discharging molten glass, comprising a furnace provided with a glass outlet, and a horizontally movable stopper-block movable in a flaring space to and from the outlet; substantially as described.

868,035. CAR-FENDER. JAMES T. TIGHE, Boston, Mass. Filed Feb. 14, 1907. Serial No. 357,331.



1. A car fender comprising a folding frame carrying a yielding filling, and composed of a platform member and a back member hinged to the platform member, folding braces connecting said members, frame supporting bars attached to the car and projecting forwardly therefrom at opposite edges of the frame, complemental hinge members on the bars and on the platform member whereby the frame is adapted to swing, said hinge members being separable to permit the removal of the frame from its supports, and a detent controllable by an operator on the car and adapted to engage the back member to hold the frame with its platform member in a substantially horizontal position, the frame being adapted to swing toward the track when released from the detent.

2. A car fender comprising a folding frame carrying a yielding filling, and composed of a platform member and a back member hinged together, folding braces connecting said members, frame supports attached to the car and projecting forwardly therefrom at opposite edges of the frame, open hinge sockets carried by said supports, hinge pintles or trunnions affixed to the platform member and adapted to detachably engage said sockets, and a detent controllable by an operator on the car and adapted to engage the back member.

3. A car fender comprising a folding frame carrying a yielding filling, and composed of a platform member and a back member hinged together, folding braces connecting said members, frame supports attached to the car and projecting forwardly therefrom at opposite edges of the frame, open hinge sockets carried by said supports, frame seats also carried by the supports behind the sockets, the platform member being provided with hinge pintles or trunnions adapted to detachably engage said sockets, and means for securing the platform member to the car to hold the frame in a folded position, the frame being provided with members adapted to engage said seats when the frame is folded.

4. A car fender comprising a folding frame carrying a yielding filling, and composed of a platform member and a back member hinged together, folding braces connecting said members, frame supports attached to the car and projecting forwardly therefrom at opposite edges of the frame, said supports being provided with hinged arms adapted to swing inwardly and carrying open hinge sockets at their outer ends, and with fixed arms carrying frame seats located behind the said sockets, hinge pintles or trunnions on the platform member adapted to detachably engage said sockets, and means for securing the platform member to the car to hold the frame in a folded position, the frame being provided with members adapted to engage said seats when the frame is folded.

5. A car fender comprising supports affixed to the car body, said supports having hinge sockets and seats behind said sockets, a folding frame having folding braces, a yielding filling, and hinge pintles or trunnions adapted to engage said sockets when the frame is extended, the frame being constructed to engage said seats when the frame is folded, and means for holding the frame either in an extended position or a folded position.

6. A car fender comprising a folding frame having a yielding filling, two pairs of frame-supporting members supported by and projecting forward from the car body, the members of one pair being hinge parts adapted to engage complemental hinge parts on the frame when the latter is extended, while the members of the other pair are seats adapted to engage parts of the frame when the latter is folded, and frame-retaining means on the car adapted to hold the frame in its extended position.

7. A car fender comprising a folding frame having a yielding filling, two pairs of frame-supporting members supported by and projecting forward from the car body, the members of one pair being hinge parts adapted to engage complemental hinge parts on the frame when the latter is extended, while the members of the other pair are seats adapted to engage parts of the frame when the latter is folded, and frame-retaining means on the car adapted to hold the frame in its folded position.

8. A car fender comprising a folding frame having a yielding filling, two pairs of frame-supporting members supported by and projecting forward from the car body, the members of one pair being hinge parts adapted to engage complemental hinge parts on the frame when the latter is extended, while the members of the other pair are seats adapted to engage parts of the frame when the latter is folded, and a detent on the car adapted to hold the frame in its extended position, the frame being adapted to swing downwardly toward the track when released by said detent.

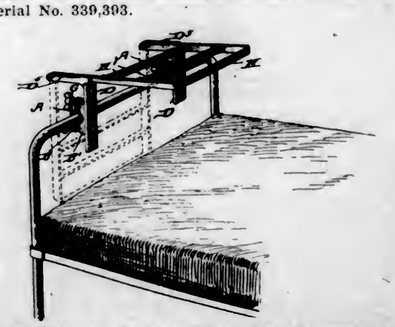
868,036. WINDOW-CATCH. CLYDE TONG, Marion, Ind. Filed Aug. 13, 1906. Serial No. 330,377.

1. The combination, with a pair of slidable window sashes, of a latch receiving member carried by one of said sashes; a bracket carried by the other sash; a vertically disposed arm pivoted intermediate its ends to said bracket and provided at its lower end with a rearwardly extending latch finger, said arm being movable upon its pivot to bring said finger into and out of engagement with said latch receiving member; a forwardly extending thumb-piece carried by said bracket; a spring bearing at opposite ends against said thumb-piece and the latch end of said arm, to normally hold said latch in engagement with the latch receiving member; and a horizontally disposed lever pivoted to said bracket, said lever having a forwardly extending thumb piece, and a depending nose arranged for engagement with the upper end of said arm, when said lever is moved to release the latch end of said arm from engagement with said latch receiving member against the action of said spring, said last-mentioned thumb-piece being disposed directly above said first-mentioned thumb-piece in position to be grasped therewith.

2. The combination, with a pair of slidable window sashes, of a latch receiving member carried by one of said sashes, a bracket carried by the other sash and including a pair of vertical, spaced members; a vertically-disposed arm pivoted intermediate its ends between said members and provided at its lower end with a rearwardly extending latch finger, said arm being movable upon its pivot to bring said finger into and out of engagement with said latch receiving member; a forwardly extending stationary thumb piece carried by said members; a spring disposed between said members and bearing at opposite ends against said thumb-piece and the latch end of said arm, to normally hold said latch in engagement with the latch receiving member; and a horizontally disposed lever pivoted between said members, said lever having a forwardly extending thumb-piece, a lug extending across the upper edge of said arm when said lever is in its normal position, and a depending nose disposed adjacent said lug at right angles thereto, said nose being adapted to engage the upper end of said arm when said lever is moved, to release the latch end of said arm from engagement with said latch receiving member against the action of said spring, said last-mentioned thumb-piece being disposed directly above said first-mentioned thumb-piece in position to be grasped therewith.



868,037. BEDCLOTHES-SUPPORTING DEVICE. ELMER L. TYRRELL, Gloversville, N. Y. Filed Oct. 17, 1906. Serial No. 339,393.



1. In a device of the kind described, the combination with clamping members, of L-shaped brackets, the vertical portion of the L-shaped brackets having a slot, a race-way surrounding the slot, and grooves communicating with the race-way, bolts extending through the clamping members, one set of bolts having a non-circular head, that are adapted to fit the race-way, and the other set of bolts having T-heads, which fit the grooves, and a frame pivotally connected to the horizontal portion of the brackets.

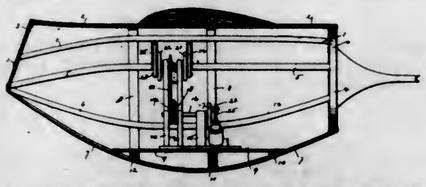
2. In a device of the kind described, the combination with a bed-rail, of clamps having the semi-circular por-

tions to fit the rail, and perforated ends, L-shaped brackets connected to the clamping members, said brackets having their vertical members slotted, the front face provided with a race-way, and grooves communicating with the race-way, bolts for connecting the brackets to the clamping members, and the clamping members to the bed-rail, one set of bolts having non-circular heads to fit the race-way and the other set of bolts having T-heads to fit the grooves, said bolts projecting through the slots of the brackets and the perforations of the clamping members, nuts operating upon the bolts and bearing against the opposite member of each clamp, and a frame pivotally connected to the horizontal portions of the brackets, substantially as specified.

3. In a device of the kind described, the combination with clamping members designed to fit the rail of a bed, of brackets held to the members, said brackets having slots and race-ways adjacent the slots, and grooves communicating with the race-ways, a shoulder formed upon the brackets, bolts engaging the brackets and clamping members, and a frame pivotally connected to the brackets and adapted to rest upon the shoulders of the bracket when in an operative position.

4. In a device of the character described, a tubular supporting frame comprising a horizontal portion, and oppositely disposed perpendicular portions, clamping members for engaging the side rails of a bed, located on the extremities of said perpendicular portions, clamping members having their inner faces recessed and cushioned to fit the horizontal portion of said frame, brackets having centrally disposed longitudinal slots formed therein, said brackets also having recesses formed in their outer faces and surrounding said slots, and transverse grooves communicating with said slots, bolts extending through said clamping members and said brackets, one set of bolts having heads adapted to work in said recesses and the other set of bolts having heads adapted to fit in said transverse grooves and a frame pivotally connected to the bracket, substantially as described.

868,038. MECHANISM FOR WINGED FLYING-MACHINES OR AIR-SHIPS. JULIUS U. DE UHERKÓCZ, Binghamton, N. Y. Filed Apr. 3, 1907. Serial No. 366,103.



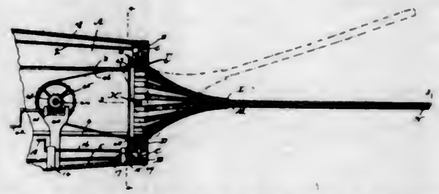
1. An air ship comprising a rounded shell having a flat top and a bulging lower side, motive power therein, crank disks driven by said motive power, and wings journaled on opposite sides of the shell, said wings comprising each a pair of curved supporting levers having slotted inner ends for connection with the crank disks, slats secured to the levers, a frame surrounding the slats, braces between the slats, a covering to a portion of the wings, and flexible blades secured to the slats.

2. An air ship comprising a shell with suitable motive power therein, the shell being of rounded form with an angular pointed front end, a flat top and bulging lower side, steering gear located in the rear end of the shell, crank disks driven by said motive power, and wings journaled on opposite sides of the shell, said wings comprising each a pair of arched supporting levers having slotted inner ends for connection with the crank disks, spaced slats secured to the levers, and flexible blades secured to the slats, said blades having one edge secured to one slat and the opposite edge overlapping the next adjacent slat.

3. A wing for air ships comprising a pair of curved supporting levers having slotted inner ends, slats secured to the levers, a frame surrounding the slats, braces between the slats, a covering to the forward portion of the wing, and flexible blades each having one edge secured to one slat and having the opposite edge overlapping the next adjacent slat.

4. A wing for air ships comprising a pair of curved supporting levers having slotted inner ends, slats secured to the levers, a frame surrounding the slats, braces between the slats, a covering to the forward portion of the wing, flexible blades secured to the slats, power mechanism, and crank pins having driving connection with the slotted ends of the levers to vibrate the wings.

868,039. STEERING-GEAR FOR WINGED FLYING-MACHINES OR AIR-SHIPS. JULIUS U. DE UHERKÓCZ, Binghamton, N. Y. Filed Apr. 3, 1907. Serial No. 366,104.



1. A steering gear for air ships comprising a supporting ring rotatably supported on the ship, a rudder carried by said ring, means for rotating the ring and means for tilting the rudder.

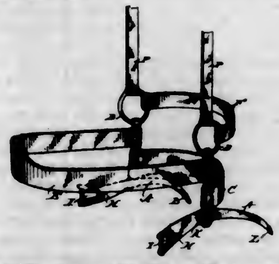
2. A steering gear comprising a supporting ring mounted to rotate, a tilting ring in said rotatable ring, and a rudder carried by said tilting ring.

3. A steering gear for air ships comprising a supporting ring mounted to rotate, a tilting ring in said rotatable ring, a rudder carried by the tilting ring, means for tilting the rudder, and means for rotating the supporting ring.

4. A rudder comprising an outer supporting ring mounted to rotate, an inner ring pivotally mounted in the outer supporting ring, means for tilting the inner ring and means for rotating the outer ring, slats secured to the inner ring and extending in divergent lines in the shape of a fan tail, and a covering to the slats.

5. A rudder comprising a ring, slats having their ends secured to said ring, the slats arranged in diverging relation but converging to a common plane, strengthening strips secured across the slats, brace wires connected between the slats, a covering to the ring or base portion of the rudder, and blades each having their one edge secured to one of the slats and overlapping the next adjacent slat.

868,040. BITLESS BRIDLE. HENRY J. VAN and ELLING ELLINGSEN, West Seattle, Wash. Filed July 31, 1906. Serial No. 328,575.



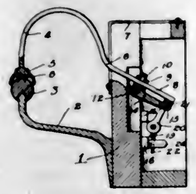
1. In a bridle, the combination with a curved supporting band, bars secured in the ends thereof, a nose band secured to the bars, and curved levers pivotally secured to the lower ends of the bars.

2. In a bridle, the combination with a metallic chin strap bars secured in the ends thereof, a nose band secured to the bars, supporting rings mounted in the upper ends of the bars, and curved levers pivoted to the lower ends of the bars adapted to bear against the jaw of the animal.

3. In a bridle, the combination with a metallic chin strap, bars secured in the ends thereof, a nose band secured to the bars, supporting rings mounted in the upper ends of the bars, a second chin strap secured to the rings, and curved levers pivoted to the lower ends of the bars adapted to bear against the jaw of the animal.

4. A bridle comprising a metallic chin strap, bars secured in the ends thereof, a nose band secured to the bars, supporting rings mounted in the upper ends of the bars, a second chin strap secured to the rings, curved levers pivoted to the lower ends of the bars, said levers being flattened at their forward ends and provided with rein openings, the rear ends of the levers being curved outwardly and downwardly.

868,041. LOCKING HAT AND COAT RACK. HONORÉ VIEL, Lawrence, Mass. Filed Apr. 8, 1907. Serial No. 367,030.

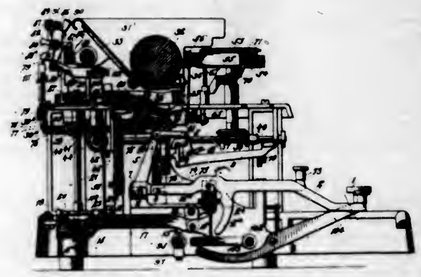


1. A locking rack, comprising a casing, a supporting hook arranged thereon, a curved locking arm adapted to be engaged with said hook, a spring actuated rock shaft arranged on the inner side of said casing, a locking lever adjustably mounted on said shaft and adapted to be engaged with the inner end of said locking arm, a releasing finger adjustably mounted on said rock shaft, and an operating check adapted to be engaged with said releasing finger to rock said shaft and release said locking mechanism, substantially as described.

2. A locking rack comprising a casing, a supporting hook arranged on said casing, a locking arm pivotally mounted in and adapted to work through a slot in said casing, said arm having an angularly projecting inner end, an inwardly projecting operating arm arranged parallel with said angularly bent end of the locking arm, a rock shaft mounted on the inner side of said casing, a spring arranged on said shaft to hold said arm in locking engagement with the parallel arm and the inner end of said locking arm, a releasing finger mounted on said shaft, and a check adapted to be engaged with said releasing finger to operate the same, substantially as described.

3. A locking rack comprising a casing, a hook arranged on the outer end thereof, a stub shaft arranged in said casing, a block pivotally mounted on said shaft, a curved locking arm adapted to be engaged at one end with said hook and adjustably mounted at its opposite end in said block, an inwardly projecting operating arm formed on said block and extending inwardly with the inner end of said locking arm, a lug on the inner end of said operating arm adapted to form a closed space between the end of said locking arm and said operating arm, a rock shaft arranged on the inner side of said casing, a spring adapted to actuate said shaft, a locking arm adjustably mounted thereon, a lug on said locking arm to project into the closed space between the inner end of the locking arm and said operating arm and to engage the lug on the inner end of said operating arm, a releasing finger on said shaft, and releasing means to act on the finger for moving the shaft to releasing position.

868,042. TYPE-WRITING MACHINE. FRANZ X. WAGNER, New York, N. Y., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Nov. 12, 1904. Serial No. 232,413.



1. In a key-operated machine, the combination of the key-levers, the universal bar and means for moving it backwards on depressing a key-lever, the sliding escapement bar carried by said universal bar, the escapement pawl carried by the escapement bar to slide therewith, the stop pawl pivoted to a stationary support and engaged by the escapement bar, the escapement wheel coöperating with said pawls, and a connection from said escapement wheel to the carriage.

2. In a key-operated machine, the combination of the key-levers, a universal bar and means for moving it backwards on depressing a key-lever, a sliding escapement bar carried by said universal bar, an escapement pawl carried by said escapement bar and adapted to slide therewith, a stop pawl pivoted to a stationary support and engaged by the escapement bar, an escapement wheel coöperating with the pawls, and a line lock coöperating with the stop pawl.

3. The key lever having toe 2^a, combined with universal bar 15 loosely hung in pivoted links 16, said bar carrying the rearwardly projecting rod 17, carrying pawl 19, in combination with spring pawl 23, a coöperating projection 22 on rod 17 and escapement wheel 20, and a connection between said escapement wheel and the carriage.

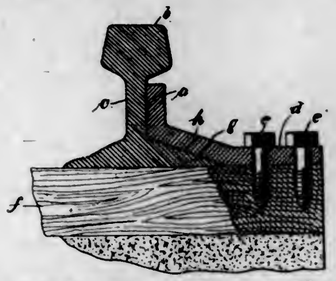
4. In a key-operated machine, an escapement for the carriage comprising an escapement wheel, an escapement or release pawl 19 and a stop pawl 23, a universal frame having projection 22 controlling the movement of said pawls, and a line lock for locking the pawl 23 and thereby preventing the universal bar from moving rearward.

5. In a key-operated machine, an escapement wheel, pawls adapted to coöperate with said escapement wheel, an escapement bar having a projection engaging one of said pawls on one side, and line lock mechanism engaging the said pawl on the side opposite to that engaged by the projection.

6. In a key-operated machine, a universal frame adapted to be operated by the keys, an escapement wheel connected with the carriage propelling spring, and a pawl pivoted on the machine frame and controlling said wheel, said pawl being engaged by a projection 22 on the universal frame, whereby the pressure of the propelling spring, acting on the pawl, will insure a quick return of the universal frame and finger keys, and whereby the pressure of the spring will be exerted through a comparatively long throw of the pawl and universal frame.

7. In a key-operated machine, an escapement shaft, 21, an escapement wheel 20 carried thereby a feed pinion 26 and a ribbon operating wheel 39 both loosely mounted on said shaft, oppositely facing pawls 21^b and 39^a for connecting said pinion and wheel respectively with said shaft, means for operating said escapement wheel, a carriage having a rack engaging said pinion, and ribbon feed mechanism operated by said ribbon operating wheel.

868,043. RAILWAY-BRACE. JACOB H. WALDSCHMIDT, Fond du Lac, Wis. Filed Oct. 25, 1906. Serial No. 340,554.



The combination of a railway tie; a rail supported thereby; and a brace for said rail, said brace being mounted outside said rail and formed with a single tie member consisting of a strap the lower end of which is secured to said tie and the upper end of which is imperforate and abuts against the web of said rail; the portion of said strap between said upper and lower ends fitting snugly upon the base of said rail; and said imperforate upper end permitting vertical sliding movement between itself and the web of said rail.

868,044. HOSE-SUPPORTER. EDWIN WARREN, Chicago, Ill. Filed Mar. 29, 1907. Serial No. 365,314.



1. In a clasp for a hose-supporter, the combination of a button, a yielding covering for the button, and a hook adapted to engage the stem and head of said button, said hook being furnished with a retaining ridge upon one side and a finger hold upon the opposite side.

2. In a clasp for a hose supporter the combination of a base plate, a button attached to said plate, the stem of said button being oval in cross section, and a gripping member in the form of hook provided with a tapering slot adapted to engage the stem of said button, the end of said hook being provided with a projecting tooth, and the opposing margin having a depression corresponding with said tooth.

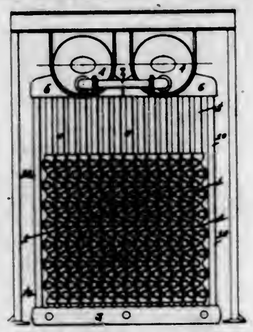
3. In a fastener for a hose-supporter, the combination of a base plate, an oval button attached to said plate by an oval support, an elastic covering for said button, and a gripping member adapted to engage the stem of said button, said gripping member being in the form of a hook, provided with a tooth and a corresponding marginal depression, a retaining ridge upon one side, and a marginal finger hold in the form of a ridge upon the opposite side of said gripping member.

4. In a clasp for a hose supporter, the combination with a base plate provided with a button, of a gripping member provided with an engaging slot having tapering margins, a tooth upon one margin and a corresponding depression upon the opposite margin, a retaining ridge upon one face of said gripping member and a finger hold upon the other.

5. In a clasp for a hose supporter, the combination with a gripping member in the form of a hook, of a coöperating member having a base plate, a button secured to said plate by an oval eyelet, and an elastic covering for the button.

6. In a clasp for a hose supporter, the combination with a gripping member in hook form, of a button comprising a base-plate, an oval stud secured to the plate, and an elastic layer molded upon said stud to form a continuous layer therefor.

868,045. WATER-TUBE BOILER. DANIEL M. WEBSTER, Dayton, Ohio. Filed Apr. 16, 1906. Serial No. 311,825.



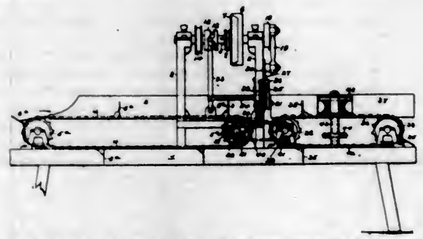
1. In a water tube boiler, the combination with steam drums, cross boxes supporting said drums, a series of sections consisting each of a header and a series of inclined water tubes, a series of vertical circulating tubes connecting the cross boxes with the headers, of a mud drum to which the headers of said sections are connected, a casing having perpendicular pockets into which are projected the ends of the mud drum, and an equalizing pipe within each of said pockets and forming a direct connection between the outer ends of the cross boxes and the ends of the mud drum lying within said pockets, substantially as specified.

2. In a water tube boiler, the combination of steam drums, cross boxes communicating with said drums, a mud drum having its ends in alinement with the outer ends of the cross boxes, a series of headers, vertical circulating tubes connecting the cross boxes and the mud drum through the headers, equalizing pipes connecting the outer ends of the cross boxes with the ends of the mud drum, and a casing having perpendicular pockets into which the ends of the mud drum are projected and in which the outer ends of the cross boxes extend, and in which the equalizing pipes lie, substantially as specified.

3. In a water tube boiler, the combination with steam drums, cross boxes communicating with said steam drums, a series of sections consisting each of a header and a series of inclined water tubes connected therewith by vertical circulating tubes and the intervening cross boxes, of a mud drum having its ends in alinement with the outer ends of the cross boxes and to which the headers of the sections are connected, a casing having perpendicular pockets into which the ends of the mud drum and the outer ends of the cross boxes are projected, and equalizing pipes lying within said pockets and forming a connection between the upper side of the mud drum and the ends of the cross boxes, said equalizing pipes and the ends of the mud drum and cross boxes lying within said pockets in the casing, substantially as specified.

868,046. CORN-HUSKING MACHINE. GEORGE A. WELCH and ARTHUR H. WELCH, Lewiston, Me. Filed June 2, 1906. Serial No. 319,937.

1. In an apparatus of the character described, the combination with means for feeding ears of corn, of a cutter, means for operating the same, a guide to receive the corn, means actuated by said guide for throwing the cutter-operating-means into action to operate the cutters to sever the butt ends of the ears of corn, means for releasing the corn from the guide and means for husking and cleaning the corn.



2. In an apparatus of the character described, the combination with a conveyer, of a cutter disposed over the line of travel of the conveyer, means to be actuated by ears of corn on the conveyer to automatically operate the cutter to sever the ends of the ears, and means in the line of travel of the conveyer operating automatically to husk the ears of corn.

3. In an apparatus of the character described, the combination with a corn conveyer, a shaft, and a continuously turning pulley loose on the shaft, of a cutter to sever the butt ends of the corn, a crank arm on the shaft, a link connecting the crank arm and cutter, a clutch on the shaft, and means operated by the moving ear of corn to throw the clutch and compel the cutter to operate to sever the butt end of the corn.

4. In an apparatus of the character described, the combination with a corn conveyer, a shaft, and a continuously turning drive pulley loose on the shaft, of a clutch to lock the pulley to the shaft, a cutter, a crank arm on the shaft, a link connecting the cutter and crank arm, a movable guide having an opening to receive the butt end of the corn, devices operated when the guide is moved, to throw the clutch and compel the cutter to operate, and means operated by the cutter, to open the guide and release the corn after its butt end has been severed.

5. In an apparatus of the character described, the combination with a corn conveyer, a shaft, and a drive pulley loose on the shaft, of a clutch to lock the pulley to the shaft, a roller mounted to slide on the shaft and having a cam groove, a pivoted arm in the cam groove, a pivoted arm projecting into the grooved hub of the clutch, a link connecting the said pivoted arms, a lever having its end located in the cam groove of the roller, a cutter, a crank arm on the shaft to operate the cutter, and means operated by the corn to move the lever to throw the clutch and compel the operation of the cutter to sever the butt end of the ear of corn.

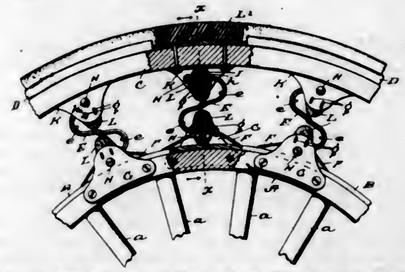
6. In an apparatus of the character described, the combination with a corn conveyer and a cutter to sever the butt ends of the corn, of a guide to receive the corn and compel the operation of the cutter, said guide comprising two pivoted members, arms on said members, and a guide block operated by the cutter to move the block between the arms to open the guide and release the corn therefrom.

7. In an apparatus of the character described, the combination with a corn conveyer, and a cutter to sever the butt ends of the ears of corn, of a shaft to operate the cutter, a drive pulley loose on the shaft, a clutch to lock the pulley and shaft together, a roller on the shaft having a cam groove therein and connected by movable devices to compel the roller and clutch to move together, a lever in the cam groove of the roller, means operated by the corn to move the lever and throw the clutch and compel the cutter to operate, and said clutch thrown back by the cam groove in the roller, a brake wheel on the shaft, a brake band on the wheel, a bell-crank-lever operating the brake band, and said lever moved by the roller to release the brake when the roller moves in a direction to throw the clutch into operation, and apply the brake when the roller is moved back, to prevent the shaft from turning more than a complete revolution.

8. In an apparatus of the character described, the combination with a corn couveyer, of a guide having an opening to receive the butt end of the corn, a cutter to sever the butt end of the corn and brought into operation when the guide is moved by the corn, means for opening the guide to release the corn, and devices returning the said means to normal position after the corn has been cut, and brushes to husk and clean the corn.

9. In an apparatus of the character described, the combination with a tube, a corn conveyer therein having blades to engage and move the corn, of a cutter to sever the butt ends of the corn, means operated by the moving corn to compel the operation of the cutter, another conveyer taking the corn from the point of cutting, and concave revolving brushes between which the last-mentioned conveyer moves the corn to husk and remove the silk from the corn.

868,047. VEHICLE-WHEEL. GEORGE S. WHITELEY, Baltimore, Md. Filed Apr. 18, 1906. Serial No. 312,375.

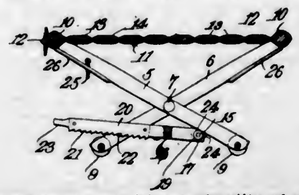


1. In a vehicle wheel the combination of an inner wheel having spokes and an iron rim, an outer wheel having an iron rim and a rubber tire and between said wheels a series of S-shaped springs having on their inner end a spring plate F, secured thereto and a pivot bolt between said spring and spring plate, and side plates receiving the ends of the pivot bolt.

2. In a vehicle wheel the combination of an inner wheel having spokes, an outer wheel having an iron rim and a rubber tire and between said wheels a series of S-shaped springs having on their outer ends a hook-plate I, secured thereto, and a pivot bolt between said spring and the hook-plate and a clip-plate securing the ends of the pivot bolt.

3. In combination with the inner and outer wheels of a vehicle wheel above described and the S-shaped springs uniting them and the side plates G, the rubber bumpers L secured to said plates and resting between the bends of the S-shaped springs.

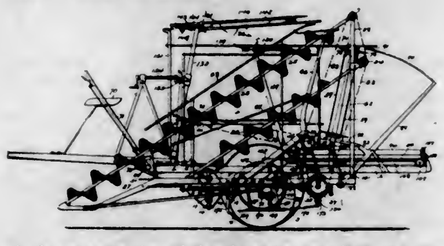
868,048. EXTENSION-COT. HENRY B. WHITLOCK, Denton, Tex. Filed Aug. 17, 1906. Serial No. 331,075.



A collapsible cot comprising a plurality of spaced sets of pivotally united cross legs foldable one upon the other to closed position and connected at their upper ends by longitudinal bars, the inner leg of each set being provided with a transverse perforation disposed above the pivotal axis of said legs, a flexible medium secured to the bars and forming the top of the cot, pins extending laterally from one of the cross legs of each set below the pivotal axis of the latter, a lever pivotally mounted for swinging movement on the perforated leg of each set and also disposed

below the pivotal axis of said legs, said levers having their free ends reduced to form terminal handles, rack bars secured to the levers and adapted to engage the adjacent pins for locking the cot in extended position, diagonal braces connecting the longitudinal bars and adjacent cross legs, and flexible loops extending through the perforations in the legs and adapted to embrace the handles of the levers for supporting the latter in engagement with the cross bars when the cot is folded.

868,049. CORN HARVESTER AND SHOCKER. FRANCIS M. WIDERMAN, Ellicott City, Md. Filed Aug. 19, 1904. Serial No. 221,393.



1. In an apparatus of the character described, the combination of a platform, automatic means for moving the platform forwardly as stalks accumulate thereon, and means for moving the platform laterally to one side of the machine to drop the shock.

2. In an apparatus of the character described, the combination of a platform, automatic means for moving the platform forwardly as stalks accumulate thereon, means for cutting the stalks and conveying them to the platform, and means for moving the platform laterally to one side of the machine to drop the shock.

3. In an apparatus of the character described, the combination with a frame, of a platform on said frame, means for conveying stalks to said platform to form a shock thereon, and hinged tracks on the side of the machine frame, onto which the platform is run to drop the shock at one side of the machine.

4. In an apparatus of the character described, the combination with a machine frame, of a platform on said frame, means for conveying stalks to said platform to form a shock thereon, hinged tracks on the side of the machine frame, means for moving the platform out onto said tracks, and doors forming the support of said platform for the shock, and means for permitting said doors to swing open to drop the shock onto the ground.

5. In an apparatus of the character described, the combination with a frame, and traction wheels supporting the same, of a platform movable on said frame, means for depositing stalks on the platform, a shock forming frame on the platform to receive and support the stalks, a shock forming frame on the main frame into which the stalks are deposited by the platform frame, means for compressing the shock, and means for dropping the same.

6. In an apparatus of the character described, the combination with a platform, of a track extending across the machine, an upright apron conveyer for moving the stalks along the track, means for inclining said apron conveyer to position the stalks according to the incline of the ground, and means for pushing the stalks from the track onto the platform.

7. In an apparatus of the character described, the combination with a platform, of a track extending across the machine and having a hinged front to hold the stalks thereon, a pusher adapted to push the stalks from the track onto the platform, and a cord connecting the hinged front of the track with the pusher to permit the hinged section to fall when the pusher is moved forward.

8. In an apparatus of the character described, the combination with a platform, of a track extending across the machine, means for depositing stalks onto the track, and an apron conveyer to move the stalks along the track, and an intermittently operating pusher to engage the upper and lower ends of the stalks and push them from the track onto the platform.

9. In an apparatus of the character described, the combination with a platform, of a track extending across the machine, an endless apron conveyer to move the stalks along the track, a hinged frame supporting said apron, means for tilting said frame and apron to properly support the stalks according to the incline of the ground, a track on the frame, wheels or rollers on the apron to run on said track and hold the apron in proper position, means for propelling the apron, and means for forcing the stalks from the first-mentioned track onto the platform.

10. In an apparatus of the character described, the combination with a platform, of a track across the machine, a conveyer to move the stalks along the track, means for driving the conveyer, a pusher to force the stalks from the track onto the platform, and means operated by the pusher to stop the conveyer when the pusher is operated.

11. In an apparatus of the character described, the combination with a platform, of a track extending across the machine, means for cutting the stalks and depositing them onto the track, a conveyer to move the stalks along the track, a pusher to force the stalks from the track onto the platform, means for intermittently operating said pusher, and means operated by the pusher to stop the conveyer.

12. In an apparatus of the character described, the combination with a frame, of a platform movably mounted thereon, means for cutting stalks and depositing them onto the platform, means for moving the platform forward as the stalks collect thereon, and means operated by the platform when it reaches its extreme forward position with full supply of stalks thereon, to stop the mechanism for feeding stalks thereto.

13. In an apparatus of the character described, the combination with a stalk receiving platform, means for cutting the stalks, worm conveyers adapted to receive the stalks and support them in an upright position, an inclined apron conveyer to receive the stalks from the cutter and cooperate with the worm conveyers to carry the stalks rearward, a track receiving the stalks from the conveyers, and means for pushing the stalks from the track onto the platform.

14. In an apparatus of the character described, the combination with a cutter plate, of reciprocating bars at opposite sides of the cutter, and pivoted fingers in said bars adapted to hold the stalks up to the cutter.

15. In an apparatus of the character described, the combination with a cutter plate, of reciprocating bars at opposite sides of said plate means for reciprocating the bars in opposite directions, fingers on said bars to hold the stalks up to the cutter and said fingers free to pivot during their outward movement to pass the fingers of the other bar and the stalks, and springs normally holding said fingers at right angles to the bars.

16. In an apparatus of the character described, the combination with a platform, of a track, a cutter, an apron conveyer from the cutter to the track, three worm conveyers, two at one side and the third at the opposite side of the cutter and conveyer to hold the stalks in vertical position while being carried rearward, a conveyer to move the stalks along the track, means for forcing the stalks from the track onto the platform, and the pitch of the upper worm conveyer at one side increased at its rear end to tilt the stalks back against the track conveyer.

17. In an apparatus of the character described, the combination with a frame supported on wheels, of a carrier movable longitudinally of the frame, and a shock receiving platform movable laterally on the carrier to dump the shock at one side of the machine.

18. In an apparatus of the character described, the combination with a frame supported on wheels, of a carrier mounted to move longitudinally of the frame, a platform movable laterally of the carrier, automatic means for moving the carrier forward and hand operated means for moving the platform laterally.

19. In an apparatus of the character described, the combination with a frame supported on wheels, of a wheeled carrier movable longitudinally of the frame and a wheeled shock receiving platform movable laterally on the carrier.

20. In an apparatus of the character described the combination with a frame supported on wheels and having longitudinal tracks thereon, a wheeled carrier mounted to run on said tracks and having lateral tracks thereon, and a shock receiving platform having wheels mounted to run on the lateral tracks of the carrier and convey the shock to one side of the machine to drop the same out of the path of the machine.

21. In an apparatus of the character described, the combination with a frame supported on wheels, of a carrier movable longitudinally of the frame and having lateral tracks thereon, a shock receiving platform, wheels supporting said platform on the tracks, hinged tracks at the side of the machine to aline with the carrier tracks and permit the platform to be run out onto said hinged tracks, and means for dropping the shock from the platform.

22. In an apparatus of the character described, the combination with a machine supported on wheels, of a carrier movable longitudinally of the frame, lateral tracks on the carrier, a platform, wheels thereon mounted to run on said tracks, hinged doors forming the shock support of said platform, and devices under the control of the operator holding said doors in horizontal position and permitting them to fall and drop the shock.

23. In an apparatus of the character described, the combination of a shock receiving platform, comprising a tubular or rod frame, doors hinged thereon, and hinged sections at the edges of said doors, as and for the purpose described.

24. In an apparatus of the characted described, the combination of a shock receiving platform, comprising a tubular or rod frame, doors hinged thereto, hinged sections at the edges of the doors, and means for swinging said hinged sections when the doors are dropped.

25. In an apparatus of the character described, the combination of a shock receiving platform comprising doors hinged on tubes or rods, hinged sections at the inner edges of said doors, and means on said rods or tubes for swinging the hinged sections when the doors drop.

26. In an apparatus of the character described, the combination of a shock receiving platform comprising doors hinged on tubes or rods, hinged sections at the edges of the doors, collars loose on the rods or tubes, fingers on said collars, cords connecting said fingers with the hinged sections, a trip to hold the collars against movement and cause the cord to swing the hinged sections when the doors are dropped, and means on the door hinged to release the trip when the doors are fully opened.

27. In an apparatus of the character described, the combination with a frame supported on wheels, of a stalk receiving frame on the machine frame, a central rod on said stalk receiving frame, a movable stalk receiving platform adapted to convey the stalks to the stalk receiving frame, and an auxiliary stalk supporting frame on said platform.

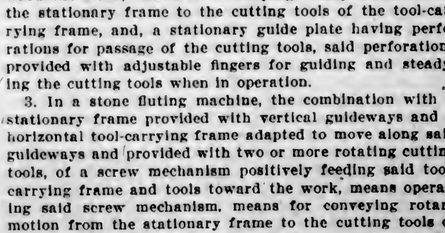
28. In an apparatus of the character described, the combination with a frame supported on wheels, of a carrier movable longitudinally of the frame, a platform movable laterally on said carrier, a rack on said platform, and a pinion on the machine frame meshing with said rack and adapted to force the platform to one side of the machine to drop the shock.

868,050. CUTTING MECHANISM FOR CORN-HARVESTERS. FRANCIS M. WIDERMAN, Harrison, N. J. Original application filed Aug. 10, 1904, Serial No. 221,393. Divided and this application filed Nov. 7, 1905. Serial No. 286,250.

1. The combination with a harvester, of a cutter plate thickened along its central longitudinal portion, said thickened portion having a V-shaped recess and the walls of said recess having teeth.

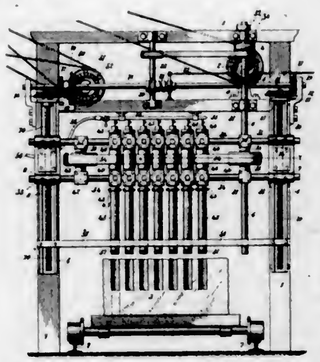
2. The combination with a harvester, of a cutter plate thickened along its central longitudinal portion said thickened portion having a V-shaped recess, and the walls of said recess having forwardly projecting teeth.

3. In a harvester, the combination with a machine frame, of a vertically movable cutter frame, a cutter fixed to said cutter frame, and springs disposed above and below the cutter frame, and between said cutter frame and the machine frame.



4. In an apparatus of the character described, the combination with a machine frame, of a cutter frame a fixed cutter thereon, brackets adjustably secured to the machine frame, rods located in said brackets, ears on the cutter frame mounted on the rods, and springs on the rods above and below the ears.

868,051. STONE-FLUTING MACHINE. GEORGE N. WILLIAMS, Jr., New York, N. Y. Filed Apr. 6, 1906. Serial No. 310,375.



1. In a stone fluting machine the combination of a number of rotating cutting tools supported therein, means for conveying rotary motion to the said cutting tools and a guide plate secured in fixed position relative to the upper surface of the stone to be fluted, said guide plate having perforations for passage of the cutting tools, said perforations provided with adjustable fingers for guiding and steadying the cutting tools when in operation.

2. In a stone fluting machine, the combination with a stationary frame provided with vertical guideways, of a horizontal tool-carrying frame adapted to move along said guideways and provided with two or more rotating cutting tools, means for feeding said tool-carrying frame toward the work, means for conveying rotary motion from the stationary frame to the cutting tools of the tool-carrying frame, and, a stationary guide plate having perforations for passage of the cutting tools, said perforations provided with adjustable fingers for guiding and steadying the cutting tools when in operation.

3. In a stone fluting machine, the combination with a stationary frame provided with vertical guideways and a horizontal tool-carrying frame adapted to move along said guideways and provided with two or more rotating cutting tools, of a screw mechanism positively feeding said tool-carrying frame and tools toward the work, means operating said screw mechanism, means for conveying rotary motion from the stationary frame to the cutting tools of the tool carrying frame, and, means supported upon the stationary frame for steadying the tools of the tool-carrying frame when in operation.

4. In a stone fluting machine, the combination with a

stationary frame provided with two vertical guideways and a horizontal tool-carrying frame adapted to move along said guideways, said tool-carrying frame being composed of two blocks or carriers one adapted to each of said vertical guideways and two horizontal bars each removably attached to said blocks or carriers, of two or more rotating cutting tools carried in bearings by said tool-carrying frame, two or more bearing supports for the bearings of each of said cutting tools, said bearing supports being horizontally movable along the horizontal bars of said tool-carrying frame, means for feeding said tool-carrying frame toward the work and means for conveying rotary motion from the stationary frame to the cutting tools of the tool-carrying frame.

5. In a stone fluting machine, the combination with a stationary frame provided with two vertical guideways and a horizontal tool-carrying frame adapted to move among said guideways, said tool-carrying frame being composed of two blocks or carriers one adapted to each of said vertical guideways and two horizontal bars secured to said blocks or carriers, of two or more rotating cutting tools carried in bearings by said tool-carrying frame, bearing supports for the bearings of each of said cutting tools, said bearing supports being horizontally movable along the horizontal bars of said tool carrying frame, means for feeding said tool-carrying frame toward the work, means for conveying rotary motion from the stationary frame to the cutting tools of the tool-carrying frame, and a stationary guide plate having perforations for the passage of the cutting tools, said perforations provided with adjustable fingers for guiding and steadying the cutting tools when in operation.

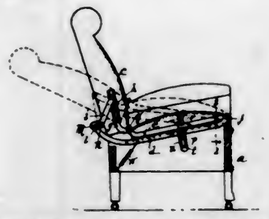
6. In a stone fluting machine, the combination with a stationary frame provided with two vertical guideways, and a horizontal tool carrying frame adapted to move along said guideways, said tool-carrying frame being composed of two blocks or carriers one adapted to each of said vertical guideways and two horizontal bars secured to said blocks or carriers, of two or more rotating cutting tools carried in bearings by said tool-carrying frame, bearing supports for the bearings of each of said rotating cutting tools each of said bearing supports being constructed in one piece horizontally movable along and secured to both of the horizontal bars of said tool-carrying frame, means for feeding said tool-carrying frame toward the work and means for conveying rotary motion from the stationary frame to the cutting tools of the tool-carrying frame.

7. In a stone fluting machine, the combination with a stationary frame provided with two vertical guideways, and a horizontal tool-carrying frame adapted to move along said guideways, said tool-carrying frame being composed of two blocks or carriers one adapted to each of said vertical guideways and two horizontal bars secured to said blocks or carriers, of two or more rotating cutting tools carried in bearings by said tool-carrying frame, bearing supports for the bearings of each of said rotating cutting tools, each of said bearing supports being constructed in one piece horizontally movable along and secured to both of the horizontal bars of said tool-carrying frame, means for feeding said tool-carrying frame toward the work, means for conveying rotary motion from the stationary frame to the cutting tools of the tool-carrying frame and a stationary guide plate having perforations for passage of the cutting tools, said perforations provided with adjustable fingers for guiding and steadying the cutting tools while in operation.

8. In a stone fluting machine, the combination with a stationary frame provided with vertical guideways, and a horizontal tool carrying frame adapted to move along said guideways, said tool-carrying frame being composed of two blocks or carriers one adapted to each of said vertical guideways and two horizontal bars each attached to both of said blocks or carriers, of an active pulley supported in bearings on said tool-carrying frame, an idle pulley supported in bearings adjustably attached to said tool-carrying frame, two or more rotating cutting tools supported in bearings by said tool-carrying frame, pulleys for each of said cutting tools, bearing supports for the bearings of each of said cutting tools each of said bearing supports being horizontally adjustable along said tool carrying frame, means for conveying rotary motion from the stationary frame to the active pulley, the idle pulley and the tools of the tool carrying frame.

9. In a stone fluting machine, the combination with a stationary frame provided with vertical guideways, and a horizontal tool carrying frame adapted to move along said guideways, said tool carrying frame being composed of two blocks or carriers one adapted to each of said vertical guideways and two horizontal bars each attached to both of said blocks or carriers, of an active pulley supported in bearings on said tool carrying frame, an idle pulley supported in bearings adjustably attached to said tool carrying frame, two or more rotating cutting tools supported in bearings by said tool carrying frame, pulleys for each of said cutting tools, bearing supports for the bearings of each of said cutting tools each of said bearing supports being horizontally adjustable along said tool carrying frame, means for feeding said tool carrying frame toward the work, means for conveying rotary motion from the stationary frame to the active pulley, the idle pulley and the tools of the tool carrying frame, and means supported upon the stationary frame for guiding and steadying the tools of the tool carrying frame while in operation.

868,052. ADJUSTABLE RECLINING-CHAIR. JOHN F. WILMOT, Detroit, Mich. Filed Dec. 21, 1905. Serial No. 292,760.



1. An adjustable reclining chair embodying a base provided at each side thereof with straps secured to the chair frame and extending to the rear of the chair frame, a seat frame provided with bars pivotally connected with said straps at the forward ends thereof, arms engaged with the sides of the back frame and having a pivotal engagement at their lower ends with the rear ends of said bars, and links pivotally connected at their upper ends with said arms and at their lower ends with the rear ends of said straps.

2. An adjustable reclining chair embodying a chair frame, straps engaged upon each side of the chair frame and projecting rearward of the chair frame, a seat frame, bars secured upon each side of the seat frame pivotally connected at their forward ends with the forward ends of said straps, a tilting back frame pivotally connected with the rear ends of said bars, and links pivotally connecting the back frame with the rear ends of said straps, said links being at such an angle as will support the weight against the back frame when the back frame is in upright position.

3. An adjustable reclining chair embodying a base provided at each side thereof with metal straps, a seat frame provided at each side thereof with metal bars pivotally connected at their forward ends with said straps, a tilting back frame, arms pivotally connecting the back frame with the rear ends of said bars, and links pivotally connecting said arms with the rear ends of said straps.

4. An adjustable reclining chair embodying a base provided at each side thereof with metal straps, a seat frame provided at each side thereof with metal bars pivotally connected at their forward ends with said straps, a tilting back frame, arms pivotally connecting the back frame with the rear ends of said bars, and links pivotally connecting said arms with the rear ends of said straps, said straps and bars extending continuously from the forward pivotal connection thereof to the rear pivotal connections thereof with said arms and links respectively.

5. An adjustable reclining chair embodying a base provided at each side thereof with metal straps, a seat frame provided at each side thereof with metal bars pivotally connected at their forward ends with said straps, a tilting back frame, arms pivotally connecting the back frame with the rear ends of said bars, links pivotally connecting said arms with the rear ends of said straps, and sheaths engaged upon opposite sides of the back frame, said arms engaged with said sheaths.

6. An adjustable reclining chair embodying a base provided at each side thereof with metal straps a seat frame provided at each side thereof with metal bars pivotally connected with said straps at the forward ends thereof, a tilting back frame, arms pivotally connecting the back frame with the rear ends of said bars, links pivotally connected at their upper ends with said arms, and eccentric disks or links pivotally connecting the lower ends of said first mentioned links with the rear ends of said straps to vary the length of said straps.

7. An adjustable reclining chair embodying a base provided at each side thereof with metal straps, a seat frame provided at each side thereof with metal bars pivotally connected with said straps at the forward ends thereof, a tilting back frame, arms pivotally connecting the back frame with the rear ends of said bars, links pivotally connected at their upper ends with said arms, and eccentric disks or links pivotally connecting the lower ends of said first mentioned links with the rear ends of said straps, said straps provided with stops to hold the eccentric disk or links in given position.

8. An adjustable reclining chair embodying a base provided at each side thereof with metal straps, a seat frame provided at each side thereof with metal bars pivotally connected with said straps at the forward ends thereof, a tilting back frame, arms pivotally connecting the back frame with the rear ends of said bars, links pivotally connected at their upper ends with said arms, and eccentric disks or links pivotally connecting the lower ends of said links with said straps, mechanism to connect the eccentric disks or links upon opposite sides of the chair, and means to actuate said mechanism whereby said disks will be moved simultaneously.

9. An adjustable reclining chair embodying a base provided with metallic straps, a seat frame provided with metallic bars pivotally connected at their forward ends with said straps, a tilting back frame, arms pivotally connecting the back frame with the rear ends of said bars, and links pivotally connecting the upper ends of said arms with the rear ends of said straps, the back frame pivotally connected to the said bars at the rear of the seat frame, and said links pivotally connected to said straps at the rear of said base.

10. An adjustable reclining chair embodying a base provided at each side thereof with metal straps secured to the chair frame and extending to the rear of the chair frame, a seat frame provided with bars pivotally connected with said straps at the forward ends thereof, arms removably engaged with the sides of the back frame and having a pivotal engagement at their lower ends with the rear ends of said bars, and links pivotally connected at their upper ends with said arms and at their lower ends with the rear ends of said straps.

11. An adjustable reclining chair embodying a chair frame, provided at each side thereof with metal straps, a seat frame provided at each side thereof with metal bars pivotally connected at their forward ends with said straps, a tilting back frame, arms pivotally connecting the back frame with the rear ends of said bars, and means pivotally connecting said arms with the rear ends of said straps.

12. An adjustable reclining chair embodying a chair frame provided at each side thereof with straps, a seat frame provided at each side thereof with bars pivotally connected at their forward ends with the forward ends of said straps, and a tilting back frame pivotally connected with the rear ends of said bars, and means pivotally connecting the back frame with the rear ends of said straps.

13. An adjustable reclining chair embodying a chair frame provided at each side thereof with metal straps, a seat frame provided at each side thereof with metal bars pivotally connected at their forward ends with said straps, a tilting back frame, arms pivotally connecting the back frame with the rear ends of said bars, and means pivotally connecting said arms with the rear ends of said straps, said bars and straps being continuous from the point of their pivotal connection at the front ends thereof to the rear end connections with said arms.

14. An adjustable reclining chair embodying a chair frame, straps engaged upon each side of the chair frame and projecting rearward of the chair frame, a seat frame, bars secured upon each side of the seat frame pivotally connected at their forward ends with the forward ends of said straps, a tilting back frame pivotally connected with the rear ends of said bars, and links pivotally connecting the back frame with the rear ends of said straps.

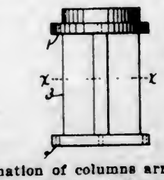
15. An adjustable reclining chair embodying a base provided at each side thereof with metal straps, a seat frame provided at each side thereof with metal bars pivotally connected with said straps at the forward ends thereof, a tilting back frame, arms pivotally connecting the back frame with the rear ends of said bars, links pivotally connected at their upper ends with said bars, eccentric disks or links, a pivot pin connecting the lower end of each of the first mentioned links with the eccentric, said straps provided with stops to hold the eccentric disk or link in given position, and the head of said pivot pin constructed to lap over the adjacent edge of the corresponding strap.

16. An adjustable reclining chair embodying a chair frame, a seat frame, a tilting back frame, metal straps engaged with the sides of the chair frame, metal bars engaged with the sides of the seat frame and pivotally connected with said straps at the forward extremities thereof, metal arms pivotally connecting the back frame with the rear ends of said bars, and metal connections pivotally connecting said arms with the rear ends of said straps, whereby the described metal parts of the chair may be assembled before being secured to the companion parts of the chair.

17. An adjustable reclining chair embodying a chair frame provided at each side thereof with straps, a seat frame provided at each side thereof with bars pivotally connected with said straps at the front of the chair, a tilting back frame, arms pivotally connecting the back frame with said bars at the rear of the chair, and links pivotally connecting said arms with said straps.

18. An adjustable reclining chair embodying a chair frame, a seat frame pivotally connected with the chair frame at the front thereof, a tilting back frame connected with the rear of the seat frame, said chair frame provided with a rear cross rail located toward the seat frame and with portions projecting rearward of said cross rail, and links pivotally connecting the back frame with the rearwardly projecting portions of the chair frame, said links being at such an angle as will support the weight against the back frame when the back frame is in upright position.

868,053. CHAIR-DOWEL FOR BUILDING PURPOSES. WILLIAM H. WILSON, Dallas, Tex. Filed July 11, 1904. Serial No. 216,010.



1. The combination of columns arranged one vertically above another and chair dowels for uniting the top of one column with the bottom of another column, each dowel having a horizontal portion constituting a head and a horizontal portion constituting a base and said horizontal portions being connected by webs which provide seats for the ends of girders and said dowels having upward and downward portions projecting within said columns and said columns

having flanges bolted to said horizontal portions of said dowel.

2. The combination of columns one arranged above the other and each having horizontal flanges, chair dowels each uniting the top of one column with the bottom of another column, and girders with the ends thereof secured in said dowels, said dowels having heads attached to the bottom flanges of the columns and bases attached to the top flanges of the columns and having integral angular webs connecting said heads and bases and providing seats for said girders.

3. The combination of columns one arranged above the other and each having horizontal flanges, chair dowels each uniting the top of one column with the bottom of another column, and girders with the ends thereof secured in said dowels, said dowels having heads attached to the bottom flanges of the columns and bases attached to the top flanges of the columns and having flanges projecting upwards and downwards in said columns and having integral angular webs connecting said heads and bases and providing seats for the ends of said girders.

868,054. CUSHION-HEEL. JULIUS WITKOWSKI, San Diego, Cal. Filed Nov. 12, 1906. Serial No. 343,077.



1. A cushion heel made up of a lift of leather; a layer of rubber secured thereto; a spring plate secured to said lift of leather beneath said layer of rubber; and a wear lift of leather secured detachably to said plate, and free from said rubber.

2. A cushion heel made up of a lift of leather; a spring plate secured to said lift; a layer of rubber interposed between said plate and lift and free from the former but secured to the latter; and a wear lift detachably secured to said plate free from said rubber and formed with an aperture which gives access to the means by which said plate is secured to the first-named lift.

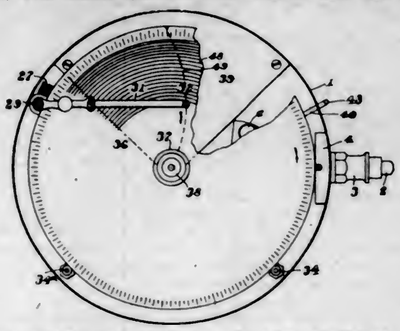
3. A cushion heel made up of a lift of leather provided with a downwardly-extending central projection of leather; a layer of rubber formed with a central aperture into which said projection fits snugly, said layer being secured to said lift; a spring plate secured to said projection beneath said layer of rubber and free from connection with the latter; and a wear lift secured to said plate and free from connection with the other parts of the heel.

4. A cushion heel made up of a lift of leather provided with a downwardly-extending block of leather having at least one straight side; a layer of rubber formed with an aperture into which said block fits snugly and thereby prevents said layer from turning; a spring plate; and a wear lift secured to said plate and free from connection with other parts of the heel; said spring plate being interposed between said layer of rubber and said wear lift.

868,055. RECORDING-COUNTER. FRANK L. WOLFE, Medford, Mass., assignor to Crosby Steam Gage and Valve Company, Boston, Mass., a Corporation of Massachusetts. Filed Dec. 1, 1905. Serial No. 289,877.

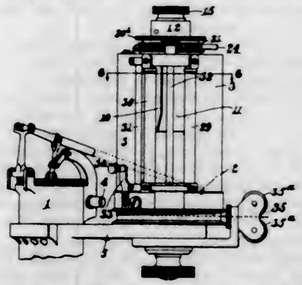
1. A recording counter comprising a case and mounted therein a reciprocating rod, a ratchet wheel driven by said rod, gears driven by said ratchet wheel, a rotary chart support rotated by such gears, a rotary pencil arm rotated by such gears, a pencil mounted in the free end of such pencil arm and in contact with such chart support, said reciprocating rod extending through said case and being operative from without; substantially as described.

2. A recording counter comprising a case and mounted therein a reciprocating rod, a ratchet wheel driven by said rod, gears driven by said ratchet wheel, a rotary chart support rotated by such gears, a rotary pencil arm rotated by such gears, a pencil mounted in the free end of said pencil arm and in contact with said chart support, with means operative from without said case for



actuating said reciprocating rod; substantially as described.

868,056. ENGINE-INDICATOR. FRANK L. WOLFE, Medford, Mass., assignor to Crosby Steam Gage and Valve Company, Boston, Mass., a Corporation of Massachusetts. Filed Jan. 2, 1906. Serial No. 294,333.



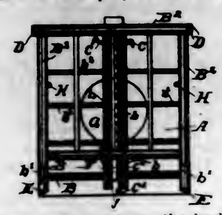
1. In an engine indicator the combination, with the drum suitably mounted, of a spindle mounted in said drum and adapted to hold a roll of paper, a winding reel mounted in said drum concentrically therewith and removable through an opening in the top thereof, and automatic means for winding such paper off said spindle onto said reel consisting of a ratchet fixed to said reel, a driving pawl carried by said drum and a retaining pawl suitably mounted; substantially as described.

2. In an engine indicator the combination, with the drum suitably mounted, of a winding reel adapted to have wound upon it a paper strip, said reel being mounted in said drum concentrically therewith and removable through an opening in the top thereof, with automatic means for winding such paper strip onto said reel consisting of a ratchet fixed to said reel, a driving pawl carried by said drum and a retaining pawl suitably mounted; substantially as described.

3. In an engine indicator the combination, with a drum suitably mounted, of a winding reel adapted to have wound upon it a paper strip, said reel being mounted in said drum concentrically therewith, with automatic means for winding such paper strip onto said reel consisting of a ratchet fixed to said reel, a driving pawl carried by said drum and a retaining pawl suitably mounted; substantially as described.

868,057. NURSERY-SEAT FOR CHILDREN. MARTHA WOLFF, Chicago, Ill., assignor to Aaron R. Wolff, Chicago, Ill. Filed Apr. 13, 1906. Serial No. 311,599.

In a nursery seat for children, the combination of a seat provided with an aperture, a cleat secured transversely across the back of the seat, on the top face thereof, sides and a back pivotally attached to the seat by means of eyes secured to the seat and cleat, respectively and pins secured to the sides and back to extend through the eyes, such sides provided with recesses, projections on the back, two of such projections arranged to fit into



two of the recesses when set up, the back and sides provided with additional projections and corresponding fastenings, arranged to engage and lock such back and sides in a set-up position, and a cross bar pivotally attached at one end to one side and means to attach the other end to the other side when the seat is set up.

868,058. IMPLEMENT FOR CLOSING THE DISCHARGE-OPENINGS OF AUTOMATIC FIRE-EXTINGUISHER SPRINKLERS. WILLIAM P. WOOD and CHARLES E. TEFFT, Pawtucket, R. I. Filed Jan. 11, 1907. Serial No. 351,890.

1. In an implement of the character described, the combination with the water conveying pipe of a sprinkler system, of the hand holding means of the implement, the clasping member adapted to bear against the side of the water conveying pipe, the opposite clasping member provided with the closing stopper, and means for holding the said clasping members in their engaged position with both the sprinkler head and the water conveying pipe embraced between the said clasping members.

2. In an implement of the character described, the combination with the water conveying pipe of a sprinkler system, of the hand holding means of the implement, the clasping member provided with a shoe adapted to bear against the side of the water conveying pipe, the opposite clasping member provided with the projecting horn, and the closing stopper, and means for holding the said clasping members in their engaged position with both the sprinkler head and the water conveying pipe embraced between the said clasping members.

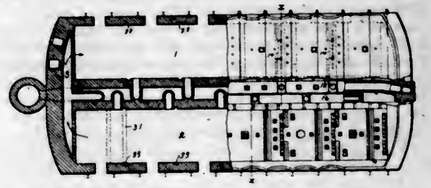
868,059. TUNNEL-KILN. PETER L. YOUNGREN, Milwaukee, Wis. Filed July 18, 1905. Serial No. 270,247.

1. In a kiln a temporary partition wall, composed of green brick arranged in solid courses with an angular pitch in opposite directions on opposite sides of a center line.

2. In a kiln a temporary partition wall composed of brick arranged with a downward and inward pitch toward a vertical plane cutting the wall at an intermediate point.

3. In a kiln a temporary partition wall composed of green brick arranged with an angular pitch longitudinally of the wall.

4. In a kiln a temporary partition wall composed of brick arranged with an angular pitch longitudinally of the wall; together with permanent side walls provided with recesses in which the ends of the partition wall are entered.



5. In a kiln a temporary partition wall composed of green brick arranged with an angular pitch longitudinally of the wall; in combination with a permanent wall formed with a surface lapping the side of the temporary partition wall at one end thereof.

6. In a kiln a temporary partition wall composed of green bricks arranged with an angular pitch longitudinally of the wall; in combination with a top wall having a series of gas inlet flues adapted to deliver combustible gas into the air adjacent to the temporary partition wall, and means for inducing a draft past said flues and over the wall.

7. In a kiln a temporary partition wall composed of green bricks arranged with an angular pitch longitudinally of the wall; in combination with a top wall having a series of gas inlet flues adapted to deliver combustible gas into the air adjacent to the temporary partition wall, and means for inducing a draft past said flues and over the wall, together with a set of auxiliary inlet flues leading downwardly in and along the side walls of the kiln to inlet apertures at the sides thereof.

8. In a kiln a temporary partition wall composed of green bricks arranged with an angular pitch longitudinally of the wall; in combination with a top wall having a series of gas inlet flues adapted to deliver combustible gas into the air adjacent to the temporary partition wall, and means for inducing a draft past said flues and over the wall; together with a set of auxiliary inlet flues leading downwardly in and along the side walls of the kilns to inlet apertures at the sides thereof; together with a second temporary partition wall extending downwardly from the top portion of the kiln in the rear of the first mentioned partition wall, to points near the bottom thereof and supported upon bricks having passages for the air and gases of combustion deflected downwardly by such wall.

9. In a kiln having a gas inlet flue and provided with means for maintaining a draft through the kiln; a shield extending inwardly from the side of the flue first reached by the draft.

10. In a kiln, a gas inlet flue and a shield extending inwardly from one side of the flue; together with means for directing an air current along the edges of the shield.

11. In a kiln provided with means for creating a draft of air therethrough; a partition wall partially subdividing said kiln and over which the air is permitted to pass; a second partition wall arranged with space through which the air may pass near the bottom of the kiln; and means for introducing and distributing combustible gas into the air currents before their passage over the first mentioned wall.

12. In a kiln provided with means for creating a draft of air therethrough; a partition wall partially subdividing said kiln and over which the air is permitted to pass; a second partition wall arranged with space through which the air may pass near the bottom of the kiln; and means for introducing and distributing combustible gas into the air currents before their passage over the first mentioned wall; together with a series of lateral gas inlets adapted for the admission of gas at the sides of the kiln below the top of the first mentioned wall.

13. In a kiln provided with means for creating a draft of air therethrough; a partition wall partially subdividing

said kiln and over which the air is permitted to pass; a second partition wall arranged with space through which the air may pass near the bottom of the kiln; and means for introducing and distributing combustible gas into the air currents before their passage over the first mentioned wall; together with gas spreading devices arranged to distribute the gas as it enters the kiln.

14. In a kiln provided with means for creating a draft of air therethrough; a partition wall partially subdividing the kiln, and over which the air is permitted to pass; means for introducing combustible gas into the air above the top of the wall and before its passage over the wall; and means for introducing combustible gas into the air at the sides of the kiln and below the top of the wall.

15. In a kiln provided with means for creating a draft of air therethrough; a partition wall partially subdividing the kiln and over which the air is permitted to pass; and means for introducing combustible gas into the air adjacent to the top of the wall and on the side of air approach.

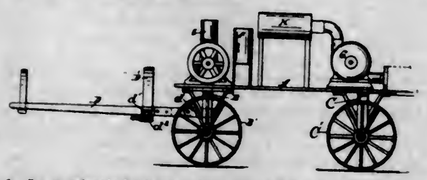
16. In a kiln provided with means for creating a draft of air therethrough; a partition wall partially subdividing the kiln and over which the air is permitted to pass; and means for introducing combustible gas into the air adjacent to the top of the wall; together with means for distributing said gas comprising a transverse series of gas inlet flues and deflecting plates arranged along the top of the kiln on the side of said partition wall from which the air approaches.

868,060. SHEARS. GEORGE C. ZELLER, Tiffin, Ohio. Filed Apr. 20, 1906. Serial No. 312,855.



In a pair of shears, a pair of blades provided with registering holes, a pivot comprising two hollow sections telescoped together, each being provided on its outer end with an annular shoulder, one of said pivot forming sections provided with longitudinal slots and the other with laterally projecting lugs which occupy a portion of the longitudinal slots in the second section, and a screw-bolt passing through both hollow sections of the pivot and adapted to hold said sections together.

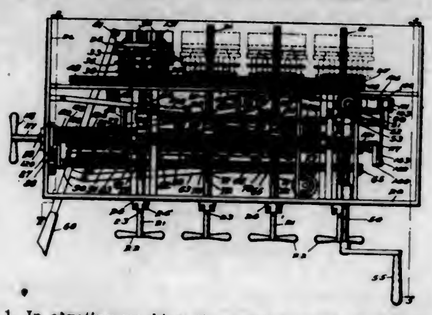
868,061. COTTON-HARVESTING MACHINE. GEORGE H. ZEMPTER, Greenville, Miss., assignor of one-half to Cohn, Witney & Goldfarb, Greenville, Miss. Filed Mar. 12, 1907. Serial No. 362,065.



1. In a wheeled carrier for cotton harvesters, the combination with the support A, and arched front and rear axles, together with carrying wheels, of poles at each side having thill connections with the front axle contiguous to its carrying wheels, an arched draft-bar connecting said poles and having the top of its arch extending to the horizontal plane of the support A, while the lower laterally extending ends of said draft bar connected with the poles project beyond the same, and team connecting provision on said projecting ends.

2. In a cotton harvester, the combination with the support A, and arched front and rear axles, together with carrying wheels, of poles at each side having thill connections with the front axle, an arched draft bar connecting said poles and having its ends projecting beyond said poles, and trees connected to said projecting ends.

868,062. VOTING-MACHINE. GEORGE C. ALE, Grayford, Ind. Filed Mar. 25, 1907. Serial No. 364,248.



1. In a voting machine, the combination, of a plurality of rotatable shafts, each accessible by the voter and each capable of axial movement by the voter, a counter carrier mounted on each of said shafts, a plurality of counters carried by each of said heads, and means for actuating the counter of each head which has been brought, by movement of the shaft, to actuating position.

2. In a voting machine, the combination, of a plurality of counter heads, a plurality of counters carried by each of said heads, an immediate operating gear for each of said counters, a master operating gear for each head, and means operable by the voter for bringing any one of said immediate gears into operative connection with its master operating gear and for simultaneously actuating said master operating gears to operate the particular counters connected therewith.

3. In a voting machine, the combination, of a plurality of rotary and axially movable shafts each accessible by the voter, of a head carried by each of said shafts within the machine, a plurality of counters carried by each of said heads, a plurality of immediate operating gears one for each counter, a master operating gear for each set of immediate operating gears, and means operable by the voter for connecting any immediate operating gear with its master operating gear and for operating said master operating gear to cause an actuation of one of the counters related thereto.

4. In a voting machine, the combination, of a plurality of rotary and axially movable shafts each accessible by the voter, of a head carried by each of said shafts within the machine, a plurality of counters carried by each of said heads, a plurality of immediate operating gears one for each counter, a master operating gear for each set of immediate operating gears, means operable by the voter for connecting any immediate operating gear with its master operating gear and for operating said master operating gear to cause an actuation of one of the counters related thereto, and means for normally holding the immediate operating gears of each head against operation.

5. In a voting machine, a voting unit comprising a rotary and axially movable shaft accessible by the voter, a head carried by said shaft, a plurality of counters carried by said head and each provided with an immediate operating gear, a master gear for said head, means controlled by the movement of the shaft for connecting and disconnecting the immediate actuating gears with the master gear, and means for operating the master gear to produce actuation of the counter connected therewith through its immediate operating gear.

6. In a voting machine, a voting unit comprising a rotary and axially movable shaft accessible by the voter, a head carried by said shaft, a plurality of counters carried by said head and each provided with an immediate operating gear, a master gear for said head, means controlled by axial movement of the shaft, for shifting any immediate gear into and out of mesh with the master gear, and means for rotating the master gear.

7. In a voting machine, a voting unit comprising a rotary and axially movable shaft accessible by the voter, a head carried by said shaft, a plurality of counters carried by said head and each provided with an immediate operating gear, a master gear for said head carried by the shaft, means controlled by axial movement of the shaft, for shifting any immediate gear into and out of mesh with the master gear, and means for rotating the master gear.

8. In a voting machine, a voting unit comprising a rotary and axially movable shaft accessible by the voter, a head carried by said shaft, a plurality of counters carried by said head and each provided with an immediate operating gear, a master gear for said head, means controlled by axial movement of the shaft for shifting any immediate gear into and out of mesh with the master gear, means for rotating the master gear, and a locking member arranged in position to engage the immediate operating gears not in connection with the master gear.

9. In a voting machine, a voting unit comprising a rotary and axially movable shaft accessible by the voter, a head carried by said shaft, a plurality of counters carried by said head and each provided with an immediate operating gear, a master gear for said head carried by the shaft, means controlled by axial movement of the shaft for shifting any immediate gear into and out of mesh with the master gear, means for rotating the master gear, and a locking member arranged in position to engage the immediate operating gears not in connection with the master gear.

10. In a voting machine, a voting unit comprising a rotary and axially movable shaft, a plurality of counters carried by said shaft, an operating gear for each of said shafts shiftable relative to the carrying shaft and each of said operating gears provided with a member by means of which it may be engaged to accomplish such relative movement, and a member arranged in the path of movement of said last mentioned members around the shaft and adapted to engage any one of said last mentioned members, a master gear for operating said operating gears, and means for operating said master gear.

11. In a voting machine, a voting unit comprising a rotary and axially movable shaft, a plurality of counters carried by said shaft, an operating gear for each of said shafts shiftable relative to the carrying shaft and each of said operating gears provided with a member by means of which it may be engaged to accomplish such relative movement, and a member arranged in the path of movement of said last mentioned members around the shaft and adapted to engage any one of said last mentioned members, a master gear for operating said operating gears, means for operating said master gear, and means for locking said gears against movement.

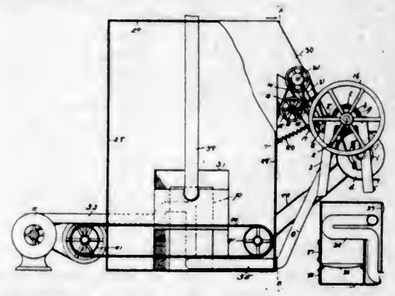
12. In a voting machine, a voting unit comprising a rotary and axially movable shaft, a plurality of counters carried by said shaft, an operating gear for each of said shafts shiftable relative to the carrying shaft and each of said operating gears provided with a member by means of which it may be engaged to accomplish such relative movement, and a member arranged in the path of movement of said last mentioned members around the shaft and adapted to engage any one of said last mentioned members, a master gear for operating said operating gears, means for operating said master gear, and means for normally holding said operating gears against rotation.

13. In a voting machine, the combination, with a plurality of shafts, each controlling counting mechanism, of a pair of gears journaled on each shaft, interengaging members between each of said gears and the shaft for acting in one direction only, and each acting in a direction opposite to the other, of a pair of rack bars each connecting the corresponding gears of the several shafts, and a withdrawable connection between said two rack bars.

14. In a voting machine, the combination, of a plurality of rotatable and axially movable shafts, a plurality of counters carried by each of said shafts, means controlled by the movement of each shaft for determining the actuation of the counters carried thereby, a straight ticket lever, and intermediate connections between said lever and the several shafts whereby said levers may simultaneously actuate the several shafts, and the said shafts may be individually actuated.

15. In a voting machine, the combination, with a plurality of shafts, each controlling counting mechanism, of a pair of gears journaled on each shaft, interengaging members between each of said gears and the shaft for acting in one direction only, and each acting in a direction opposite to the other, of a pair of rack bars each connecting the corresponding gears of the several shafts, a withdrawable connection between said two rack bars, a straight ticket lever, and intermediate connections between said straight ticket lever and one of the rack bars whereby said lever may operate the shafts.

868,063. PULP-FLAKER. WILLIAM ANGUS, Montreal, Quebec, Canada. Filed May 26, 1902. Serial No. 109,103.



1. A flaker comprising a carrier for the material to be flaked; a take-up roll for lifting said material from its carrier; a roll having an isolated row of resilient metallic teeth in the form of a comb upon and extending axially of the perimeter thereof; means for rotating said comb-roll, and means for drying said flakes, substantially as described and for the purpose set forth.

2. A flaker comprising a carrier for the material to be flaked; a take-up roll for lifting said material from its carrier; a roll parallel to the take up roll and a pair of comb-like devices carried by the last mentioned roll at diametrically opposite sides thereof and extending axially along the face of the said roll, each comb-like device consisting of an isolated row of resilient flat metallic teeth, and means for rotating the comb-roll, substantially as described and for the purpose set forth.

3. A flaker comprising a carrier for the material to be flaked; a take-up roll for lifting said material from its carrier; a device adapted to flick the material in flakes from said take-up roll; and means for causing a blast to act upon said flakes as they are detached by said device, substantially as described and for the purpose set forth.

4. A flaker comprising a carrier for the material to be flaked; a take-up roll for lifting said material from its carrier; a roll having a comb upon and extending axially of the perimeter thereof; means for intermittently moving said comb-roll towards said take-up roll; means for rotating said comb-roll to, when adjacent to said take-up roll, break the material thereon into flakes; and means for drying said flakes, substantially as described and for the purpose set forth.

5. The combination with the felt roll of a pulp making wet-machine, of a take-up roll bearing upon the felt upon said felt roll; means for driving said rolls in opposite directions; a swinging carrier adapted to swing in an arc intersecting the perimeter of said take-up roll; a roll mounted in the end of said swinging carrier; a pair of combs mounted upon and extending axially of said last mentioned roll one at each side thereof and with the teeth of one in circumferential line with the spaces between the teeth of the other; a counter-shaft; means for supporting said counter-shaft adjacent to said swinging carrier; a cam upon said counter-shaft; a retractile helical spring yieldingly retaining said swinging carrier in contact with said cam; a band connecting the take-up roll to said counter-shaft; a

shaft mounted in the line at which said swinging carrier is pivoted; a pulley upon said shaft; a band connecting said counter-shaft to said last mentioned shaft; a band connecting said last mentioned shaft to the comb-roll; and means for causing a blast to project across the point at which the teeth of said combs are located when adjacent to the take-up roll; and means for heating said blast, substantially as described and for the purpose set forth.

6. A flaker comprising a roll carrying the material to be flaked; a device for removing the material intact from said roll; and means for causing a blast to impinge upon the material thus removed, for the purpose set forth.

7. A flaker comprising a roll carrying the material to be flaked; a doctor extending longitudinally of said roll in contact with the perimeter thereof for removing the material intact therefrom; and means for causing a blast to impinge upon the material thus removed, substantially as described and for the purpose set forth.

8. A drier comprising, in combination with a roll, a device for removing the material to be flaked from said roll; a blast pipe, the blast from said pipe impinging upon the material thus removed; a drying chamber; a duct leading from a point in line with said blast to the upper end of said drying chamber; a heater communicating with said drying chamber; a blower; a pipe leading from said blower to said heater; a flue extending through said heater and communicating at one end with said pipe; and a second pipe leading from the opposite end of said flue to said blast pipe, substantially as described and for the purpose set forth.

868,064. CAR-JOURNAL FILER OR SMOOTHER. MOSES F. BAGLEY, Evansville, Ind., assignor of one-half to John C. Martin, Evansville, Ind. Filed May 25, 1906. Serial No. 318,701.



1. In a journal filer or smoother, the combination with a rotary frame adapted to fit around the journal, of means for guiding or centering said frame so that it will rotate true in relation to the journal, filing or smoothing devices pivotally mounted on the frame to bear yieldingly on the journal being smoothed, and springs coacting with the frame and the respective filing devices.

2. In a journal filer or smoother, the combination with a rotary frame adapted to fit around the journal, of means for guiding said frame or centering it so that it will rotate true in relation to the journal, and filing or smoothing devices pivotally mounted on the frame and having spring-actuating means and pawl and ratchet locking means for holding the filing or smoothing devices retracted.

868,065. CONCRETE REINFORCEMENT. JOHN S. BARNES, Detroit, Mich. Filed June 28, 1906. Serial No. 323,827.



1. A reinforcement for concrete construction consisting of a supporting bar including a base and also a web portion, the web portion having a series of pairs of fingers along its upper edge, said fingers being bendable in the longitudinal plane of the web, and a continuous binding wire secured at intervals to the web between said pairs of fingers, the wire projecting upon opposite sides of the web beyond the outer opposite edges of the base portion of the bar.

2. A reinforcement for concrete construction consisting of supporting bars each including a base and also a web portion having a series of pairs of fingers along its upper edge, the bars being arranged in parallelism and the fingers of each web being bendable in the longitudinal plane of the web, a continuous binding wire secured to the web of each bar between the corresponding fingers, each wire projecting upon opposite sides of the web beyond the outer opposite longitudinal edges of the base of the corresponding bar, the wire of one bar overlapping the wire of the other bar, and means for connecting the overlapping portions of the wires together.

3. A reinforcement for concrete construction consisting of a beam including a base, supporting bars arranged in alinement upon opposite sides of the beam with the inner ends of the bars resting upon the base, the ends of the bars adjacent the beam having eyes therein, means passed through the eyes of the bars and bridging the beam to secure the beam and bars together, and binding wires secured to each bar, the binding wires of adjacent bars upon each side of the beam overlapping it at intervals, and means for connecting the overlapping parts of the binding wires together.

4. A reinforcement for concrete construction consisting of a beam including a base, supporting bars arranged in alinement upon opposite sides of the beam with the inner ends of the bars resting upon the base, the ends of the bars adjacent the beam having eyes therein, means passed through the eyes of the bars and bridging the beam to secure the beam and bars together, each bar including a base and also a web portion having a series of fingers in its upper edge bendable longitudinally of the web, and a continuous binding wire secured to the web of each bar between the corresponding fingers, each wire projecting upon opposite sides of the web beyond the outer opposite longitudinal edges of the corresponding bar, the wire of one bar overlapping at intervals the wire of the adjacent bar upon corresponding sides of said beam, and means for connecting the overlapping parts of the wires together.

868,066. TOOTH FOR EXCAVATING-DIPPERS. HARRY J. BARNHART, Marion, Ohio, assignor to The Marion Steam Shovel Company, Marion, Ohio, a Corporation of Ohio. Filed Mar. 19, 1907. Serial No. 363,262.



1. A tooth of the character described comprising a body portion having a projection on one side thereof, and a cutting point adapted to be secured to said body portion and having a recess adapted to receive said projection.

2. A tooth of the character described comprising a body portion having a projection on one side thereof and having its forward end reduced, a cutting point having a recess adapted to receive the forward end of said body portion and provided with projections extending on either side of said reduced portion, and having a second recess adapted to receive the projection on said body portion.

868,067. REMOVABLE COVER. MARK H. BERRY, New York, N. Y. Filed Sept. 4, 1906. Serial No. 333,137.



1. A stud having a head, a body portion of less diameter than said head, a flange formed integrally on said body portion, a threaded extension beyond said body portion of less diameter, and a washer between said flange and said head.

2. A stud having a head, a body portion of less diameter than said head, a flange formed upon said body portion of greater diameter, and an extension of said body portion beyond said flange having a less diameter, than said body portion, and a washer between said flange and said head.

3. A binding post or stud having a head, a body portion adjacent to and of less diameter than said head, a flange on said body portion, an extension of less diameter than said body portion and a washer between said head and said flange.

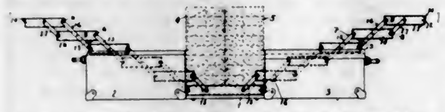
4. A stud having a head, a body portion of less diameter than said head, a flange upon said body portion and an extension of less diameter than said body portion.

5. A binding post for removable covers having a head, a body portion adjacent to the head, an extension of less diameter than said body portion and a flange formed upon said body portion by forcing over it a die of less diameter than said body portion.

6. The art of securing a washer to a binding post which consists in forcing a die of less diameter than the body portion of the binding post over said body portion against said washer, thereby producing a flange or projection upon said body portion adjacent to said washer.

7. The art of forming a retaining flange upon a stud or binding post having a body portion and an extension of less diameter than said body portion, which consists in forcing a die, having an opening of less diameter than said body portion adapted to receive said extension, over said extension upon said body portion.

868,068. SAMPLE-CASE. CHARLES BILLBURG, Chicago, Ill. Filed Apr. 23, 1907. Serial No. 369,788.



1. In a sample case the combination of a base, an inclosing casing in two halves or sections hinged to opposite sides of said base, two extensible frames of jointed bars or links secured to the said base, and trays or compartments removably contained within the said extensible frames.

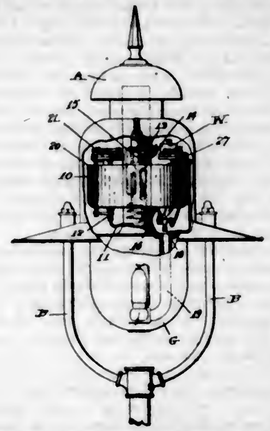
2. In a sample case the combination of a base, an inclosing casing in two halves or sections hinged to the opposite sides of said base, two extensible frames of jointed bars or links secured to the said base, ties or braces connecting the opposite sides of said frames, and trays or compartments removably within the said extensible frames.

3. In a sample case the combination of a base, an inclosing casing in two halves or sections hinged to opposite sides of said base, two extensible frames of jointed bars or links secured to the said base, trays or compartments removably contained within the said extensible frames, and flanges or back stops to prevent the said compartments from sliding backward out of the said frames.

4. In a sample case the combination of a base, an inclosing casing in two halves or sections hinged to opposite sides of said base, two extensible frames of jointed bars or links secured to the said base, ties or braces connecting the opposite sides of said frames, trays or compartments removably contained within the said extensible frames, and flanges or back stops to prevent the said compartments from sliding backward out of the said frames.

868,069. HYDROCARBON-LAMP. THOMAS H. BLAIR, Northboro, Mass., assignor, by mesne assignments, to Blair Light Company, Northboro, Mass., a Corporation of Massachusetts. Filed Apr. 20, 1903. Serial No. 153,434.

1. In a hydro-carbon lamp, the combination of an oil tank, a vaporizer connected to receive oil therefrom, a mixing tube for mixing the vaporized oil with air, a burner arranged to be fed by the mixed vapor and heating said vaporizer, a turn-plug regulating valve controlling the flow of oil from the tank into the vaporizer, and regulating mechanism for said valve controlled by the varying pressure in the vaporizer for turning said plug to increase the flow as the pressure falls and to diminish the flow as the pressure increases, the turn-plug and the regulating mechanism being located exterior to the oil tank.



2. In a hydro-carbon lamp, the combination of a vaporizer, a mixing tube, a swinging nipple normally directing a supply of vapor from the vaporizer into the mixing tube, and connections for automatically swinging the nipple out of line with the vaporizer to extinguish the lamp.

3. In a hydro-carbon lamp, the combination of a vaporizer, a mixing tube, a swinging nipple normally directing its supply of vapor from the vaporizer into the mixing tube, and means controlled by vaporizer pressure for automatically swinging said nipple out of line with the mixing tube to extinguish the lamp when the vaporizer pressure rises above a desired limit.

4. In a hydro-carbon lamp, the combination of an oil tank, a vaporizer connected to receive oil therefrom, a mixing tube, a swinging nipple directing its supply of vapor from the vaporizer into the mixing tube, a burner supplied from the mixing tube and arranged to heat the vaporizer, and a diaphragm acted upon by pressure in the oil tank and connected to turn the nipple out of line with the mixing tube when the oil tank pressure exceeds a desired limit.

5. In a hydro-carbon lamp, the combination of an oil tank, a vaporizer supplied therefrom, a mixing tube, a nipple directing its supply of vapor into the mixing tube, a burner connected with the mixing tube and arranged to heat the vaporizer, a diaphragm acted upon by oil tank pressure, and a flexible connection between the diaphragm and nipple for turning the nipple out of line with the mixing tube to extinguish the lamp when the vaporizer pressure exceeds a desired amount, and also permitting the nipple to be turned or swung to one side by hand for inspection or renewal.

6. In a hydro-carbon lamp, the combination of an oil tank, a vaporizer supplied therefrom, a mixing tube, a swinging nipple normally directing its supply of vapor into the mixing tube, a diaphragm connected to operate the swinging nipple, and a spring detent for said diaphragm for holding the parts in normal position until the vaporizer pressure exceeds a desired limit.

7. In a hydro-carbon lamp, the combination of an oil tank, a vaporizer, a mixing tube, a nipple normally directing its supply of vapor into the mixing tube, a diaphragm casing connected with the oil tank, a diaphragm mounted therein, a lever to be operated by said diaphragm, a flexible connection between the lever and the swinging nipple, and a spring detent engaging the lever to hold the dia-

phragm inoperative until the vaporizer pressure exceeds a desired limit.

8. In a hydro-carbon lamp, the combination of an oil tank, a vaporizer supplied therefrom, a burner fed from the vaporizer and arranged to heat the vaporizer, a filling tube for the oil tank, a removable cap for the filling tube provided with a nipple, a perforated thimble having a socket, a perforated cap removably attached to the nipple and adapted to clamp the socket of the thimble over the end of the nipple, and a frangible diaphragm held between the thimble and the nipple, and of sufficient thickness to cause the socket of the thimble to fit tightly on the nipple.

9. In a hydro-carbon lamp, the combination of an oil tank, a filling tube therefor, a nipple for the filling tube, a perforated thimble having a socket adapted to set over end of the nipple, and a frangible diaphragm held between tached to the nipple adapted to clamp the thimble on the nipple, and a frangible diaphragm held in place between the thimble and nipple, said diaphragm extending between the socket of the thimble and the outside of the nipple, whereby said thimble may be forced over the diaphragm and nipple and held in place by friction.

10. The combination in a lamp, of a supply tank, a vaporizer, a burner, a valve under control of the pressure in the tank for regulating the flow of liquid therefrom to the vaporizer, and a supplementary quick-acting valve independent of the first, but also under control of the pressure in the tank, for controlling the flow of gas or vapor from the vaporizer to the burner.

11. The combination in a lamp, of a pressure tank, a burner, a vaporizer subjected to the heat of the burner, a valve under control of the pressure in the tank, for controlling the flow of liquid from the tank to the vaporizer, and a supplementary quick-acting valve independent of the first, but also under the control of the pressure in the tank, for controlling the flow of gas or vapor from the vaporizer to the burner upon the attainment of an abnormal degree of pressure.

12. In a hydro-carbon lamp, the combination of an oil tank, a vaporizer fed therefrom, a mixing tube, a nipple connected with the vaporizer normally directing its supply of vapor into the mixing tube, a shutter, and clock-controlled connections for interposing the shutter between the nipple and the mixing tube.

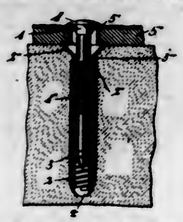
13. In a hydro-carbon lamp, the combination of an oil tank, a vaporizer, a mixing tube, a nipple connected with the vaporizer and normally directing its supply of vapor into the mixing tube, a spring-actuated shutter, a notched disk in operative connection with the shutter, and a clock mechanism to turn said disk, and to cause the shutter to be interposed between the nipple and the mixing tube at any desired time.

14. The combination in a lamp, of a supply tank, a vaporizer, a burner, a valve under control of the pressure in the tank for regulating the flow of fluid therefrom to the vaporizer, and a supplementary valve independent of the first, but also under control of the pressure in the tank, for controlling the flow of gas or vapor from the vaporizer to the burner.

15. The combination in a lamp, of a pressure tank, a burner, a vaporizer subjected to the heat of the burner, a valve under control of the pressure in the tank, for controlling the flow of fluid from the tank to the vaporizer, and a supplementary valve independent of the first, but also under the control of the pressure in the tank, for controlling the flow of gas or vapor from the vaporizer to the burner.

868,070. SEPARABLE CARPET-FASTENER. WARREN H. BOLES, New York, N. Y., assignor, by mesne assignments, to Boles Friction Fastener Company, Newark, N. J., a Corporation of New Jersey. Filed Nov. 23, 1904. Serial No. 233,939.

1. A carpet fastener of the class described, comprising in combination a tubular shell, a spiral spring therein, comprising a plurality of complete convolutions all of substantially the same diameter, and a pin adapted to fit axially within said spring, the diameter of said pin not less than the internal diameter of said spring when relaxed and substantially uniform throughout the portion of its length intended to be engaged by said spring.



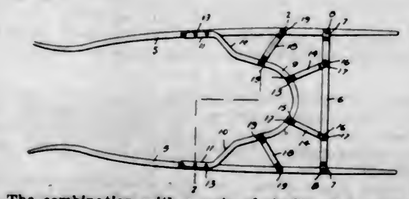
2. In a carpet fastener, a shell for pin and socket fasteners comprising in combination a tubular socket shell and a spiral spring therein comprising a plurality of complete convolutions all of substantially the same diameter, and adapted to receive and frictionally hold a pin of substantially uniform diameter and not less in diameter than the internal diameter of said spring when relaxed.

868,071. UMBRELLA. ALBERT C. BOSEL, Henderson, Minn. Filed Feb. 16, 1907. Serial No. 357,615.



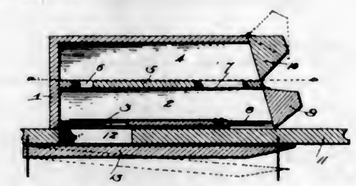
In a folding umbrella the combination with the collapsible central rod, of the two part hinged ribs extending therefrom, a main runner mounted on said central rod and provided with a circular tapering recess, a supplemental runner mounted on said rod above said main runner and provided with a tapering lower end adapted to fit within said recess, rods extending from said supplemental runner and connected to said ribs at the hinge thereof, and stretcher rods extending from said main runner and connected to the outer portion of said rib adjacent the inner hinged ends thereof substantially as described.

868,072. BREECHING DEVICE. THOMAS B. BRADFORD, New Middleton, Tenn. Filed Mar. 4, 1907. Serial No. 360,411.



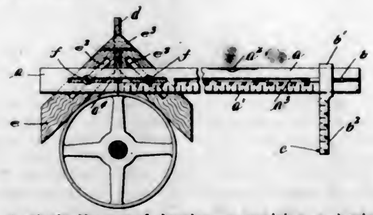
The combination with a pair of shafts, of a cross bar having its ends of yoke formation and partly embracing the shafts, bolts engaged through the spaced portions of the yoke ends of the bars and through the shafts, a breech iron comprising a bar bent to form a yoke, the spaced portions of which at their forward ends are turned laterally and forwardly and thence directly forwardly, the last named forwardly directed portions of the portions of the spaced members of the yoke being channeled in their outer edges to partly receive portions of the inner edges of the shafts, bolts engaged through the channeled portions of the breech iron and through the shafts, brace bars having ends of yoke formation to partly embrace the cross bar at opposite sides of its middle and the breech iron also at opposite sides of its middle, and brace bars having ends of yoke formation to partly embrace the breech iron and also to partly embrace the shafts.

868,073. REED-BOARD. FRANK L. CAULKINS and FRED WIENAND, Elgin, Ill. Filed Oct. 22, 1906. Serial No. 340,081.



A reed board provided with two series of cells, one above the other, the partition between the series being provided with two openings for each pair of cells, one above the tip and the other above the heel of the reed, the opening over the heel being larger than the one over the tip and elongated in the direction of the length of the reed, the openings over the tips of the reeds being of the same size throughout the length of the board and the larger openings increasing in length toward the lower or bass end of the board, and a mute for each series of cells.

868,074. SHAFT LINER AND LEVELER. ERNEST E. CLARK, Killingly, Conn. Filed Apr. 13, 1906. Serial No. 311,436.



1. A shaft liner and leveler, comprising a horizontal blade provided with a scale, a centering frame adjustable vertically on the blade, the zero point of the scale being located in a vertical plane bisecting said centering frame, and a second blade adjustable along said horizontal blade.

2. A shaft liner and leveler comprising a blade having a scale and a level, means mounted on said blade for locating the center of a circular object when the longitudinal edge of the blade is in contact with the circumference thereof, and a second scale at right-angles to the first scale and adjustable along the blade.

3. A shaft lining and leveling device comprising a blade, a frame, and means for guiding said frame to move at right-angles to the blade, said frame comprising two arms located at equal angles with the direction of motion of the frame a portion of the edge of said blade being located between the arms in all positions of the frame.

4. A shaft liner and leveler comprising a blade having a longitudinal slot, a guide perpendicular to said slot, a frame having two straight-edges located at equal angles from the guide and movable along said guide, said frame having two slots each located parallel to one of said straight-edges, and a pair of rollers each roller passing through the slot in the blade and one of the slots in the frame, said rollers being adapted to assist in holding the frame and blade together.

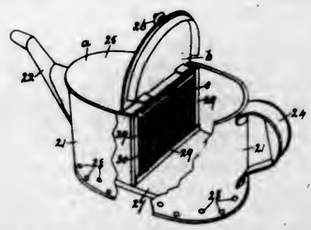
5. A shaft liner and leveler comprising a blade, a guide perpendicular thereto, a frame having two straight edges located at equal angles from the guide and movable along the guide, said frame having two slots each parallel with one of said straight edges, and means mounted on the blade for engaging said slots to hold the frame and blade together.

6. A shaft liner and leveler, comprising a blade, a guide perpendicular to said blade, a frame having two bars located at equal angles from the guide, said straight edge being movable along the guide, said frame having two slots, one in each of said bars, said blade having a slot, and means passing through said slots in the frame and said slot in the blade for holding the frame and blade together.

7. A shaft liner and leveler comprising a circle centering frame, a straight edge having a scale adjustably mounted thereon, said scale and straight edge being adapted to rest directly on the surface of an article having a circular cross section while the same is being centered and in a plane at right angles to the axis of the article, whereby the distance of the center from a plane including any point on the scale and perpendicular to the straight edge may be ascertained, and means for guiding said frame to move in a straight line.

8. A liner and leveler device comprising a circle centering frame, a horizontal straight edge having a scale freely and vertically adjustable on the centering frame and adapted to rest directly on the top surface of an article having a circular cross-section while being centered and in a plane at right angles to the axis of the article, whereby the horizontal distance of a vertical plane including the center or axis from any point on the scale may be ascertained, and means for guiding the frame to move vertically with respect to said horizontal straight edge.

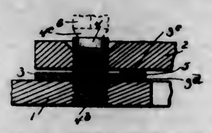
868,075. OIL-CAN. JOHN F. CODY, London, Ontario, Canada. Filed June 23, 1906. Serial No. 323,156.



1. In an oil can, a can body, grooved flanges provided in the interior of said can body on the side walls and bottom thereof, a frame fitting with the grooves of said flanges, a strainer carried by said frame and dividing the chamber of the can body into compartments, the frame and strainer being removable from the grooved flanges, a stationary cover for one of said compartments, and a hinged cover for the other of said compartments.

2. In an oil can, a can body, grooved flanges provided in the interior of the can body of the side walls thereof, a frame fitting at its ends in the side grooved flanges, a strainer carried by said frame and dividing the chamber of the can body into two substantially equal compartments, the frame and strainer being removable from the grooved flanges, a stationary lid or cover for one of the compartments, and a hinged lid or cover for the other of said compartments.

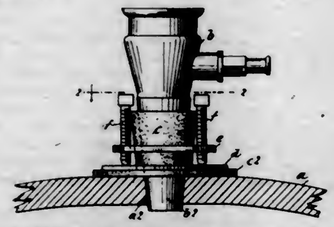
868,076. MEANS FOR JOINING PLATES. WILLIAM CROSS, Winnipeg, Manitoba, Canada. Filed Oct. 8, 1906. Serial No. 337,915.



1. A liner for boiler plates of the character described, comprising a soft metal member having an edge folded back upon itself to form a calk and a wire strip loosely held within the folded over portion of the soft metal member adjacent the fold edge, the folded over portion of the metal strip being of less area than the remaining portion thereof, substantially as shown and described.

2. A device of the character described comprising in combination with a pair of plates, a soft metal liner interposed between said plates and having an edge folded back upon itself the folded back portion being of less width than the remaining portion of the liner, a soft wire strip loosely held within the fold of the liner adjacent the fold edge, and means for securing the two plates and the liner together, substantially as shown and described.

868,077. BARREL-TAPPING DEVICE. ABRAHAM W. DOREMUS, Brooklyn, N. Y. Filed Mar. 26, 1906. Serial No. 307,955.



1. A packing for barrel tapping devices, comprising a sleeve of compressible material provided at its lower end with a flange, a plate placed on said flange, an annular member placed on said sleeve above said plate, and screws passed downwardly through said member and adapted to bear on said plate.

2. The combination with the tapered portion of a tapping device, of a packing comprising a flexible sleeve provided at its lower end with a flange, a plate placed on said flange, a collar placed on said sleeve above said plate, and screws passed downwardly through said collar and adapted to bear on said plate.

868,078. ENAMELED WARE. WILLIAM A. DUNLAP, Pittsburg, Pa. Filed Aug. 20, 1906. Serial No. 331,335.

1. A vessel having in combination body and bottom portions secured together with the joint between said parts opening upwardly, the portions of the body above and adjacent to the plane of connection being bent to form an angle to the axis of the body, greater than the angle of the body to said axes, whereby the flow of enamel is retarded and permitted to fill the joint.

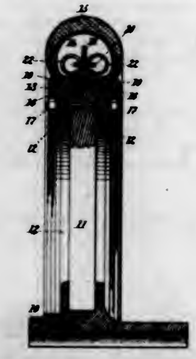
2. A vessel having in combination body and bottom portions secured together, the portion of the body above and adjacent to the plane of connection bent to form an angle to the axis of the body greater than the angle of the body to said axis whereby the flow of enamel is retarded at the point of junction of the body and bottom portions so as to completely cover the joint between said parts.

3. A vessel having in combination body and bottom portions seamed together, the portion of the body above and adjacent to the seam being bent to form a horizontal or approximately horizontal ledge whereby the flow of enamel is retarded and permitted to fill the seam connecting the body and bottom portions.



4. A vessel having in combination a body and a bottom provided with a flange, seamed to the body, the body having an inwardly projecting bead overhanging the seam.

868,079. TIRE FOR WHEELS. HERBERT B. EWBANK, Jr., New York, N. Y., assignor to Harry A. Taylor, New York, N. Y. Filed July 25, 1906. Serial No. 327,615.



1. A wheel having on its periphery a central vertical annular flange having concave seats at its opposite sides, a series of outwardly bowed transverse plate springs arranged around the wheel with their adjoining ends coiled and disposed at opposite sides of said flange in sliding engagement with said seats, means retaining said springs and guiding them in their sliding movements against said seats, and an exterior rubber tire inclosing said springs and secured to the wheel; substantially as set forth.

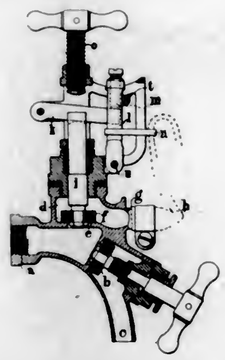
2. A wheel having on its periphery a central vertical annular flange, a series of outwardly bowed transverse plate springs arranged around the wheel with their adjoining ends coiled and disposed at opposite sides of said flange, means on said flange for retaining and guiding the ends of said springs in their sliding movements, and an exterior rubber tire inclosing said springs and secured to the wheel; substantially as set forth.

3. A wheel having on its periphery a central vertical annular flange provided with studs extending laterally from its sides, a series of outwardly bowed transverse plate springs arranged around the wheel with their adjoining ends coiled and disposed at opposite sides of and in sliding engagement with said flange and slotted to pass upon said studs, and an exterior rubber tire inclosing said springs and secured to the wheel, said slots being elongated to permit the ends of said springs to have a sliding movement on said flange and to guide them in such movement; substantially as set forth.

4. A wheel having on its felly a close-fitting metal band equipped with a central vertical annular flange, a series of outwardly bowed transverse plate springs arranged around the wheel with their adjoining ends coiled and disposed at opposite sides of said flange, means on said flange for retaining and guiding the ends of said springs in their sliding movements, an exterior rubber tire inclosing said springs, and flanges secured to said felly and clamping the edges of said tire; substantially as set forth.

5. A wheel having on its felly a close-fitting metal band equipped with a central vertical annular flange provided with studs extending laterally from its sides, a series of outwardly bowed transverse plate springs arranged around the wheel with their adjoining ends coiled and disposed at opposite sides of and in sliding engagement with said flange and slotted to pass upon said studs, an exterior rubber tire inclosing said springs, and flanges secured to said felly and clamping the edges of said tire, the slots in the ends of said springs being elongated to permit said ends to have a sliding movement on said flange and to guide them in such movement; substantially as set forth.

868,080. FIRE-HYDRANT. WILLIAM H. FEATHERSTONE, Chatham, England. Filed Nov. 5, 1906. Serial No. 342,129.



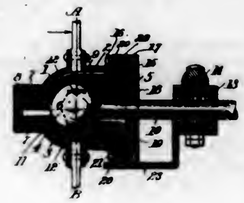
In combination a bib-cock, an auxiliary branch thereon, a valve in said branch, a lever for engaging the end of the valve spindle, a link for retaining the lever in a down position, a loop adapted to connect a hose to said link, a stationary jaw, a movable jaw adapted to hold the hose nozzle, a spring attached to an extension of the movable jaw, and a locking bar directly connected to the movable jaw.

868,081. CONTROLLER FOR MOTOR-VEHICLES. CLARK E. FREAR, Lake Winola, Pa. Filed Jan. 2, 1907. Serial No. 350,458.

1. A controller for motor vehicles, having a pivotally mounted wheel whose hub has an external circumferential groove upon its inner end, a controller-plate movably mounted upon and engaging the axle of said vehicle and provided with an inwardly projecting flange engaging said groove, and means for shifting said plate.

2. A controller for motor vehicles, having a pivotally mounted wheel whose hub has an external circumferential groove upon its inner end, a controller-plate having a horizontal slot adapted to receive and engage the axle of the vehicle and an inwardly projecting flange engaging the groove in the hub, and means for shifting the said controller-plate.

3. A controller for motor vehicles, having a pivotally mounted wheel whose hub has an external circumferential groove upon its inner end, a controller-plate having a horizontal slot adapted to receive and engage the axle of the vehicle and to permit horizontal movement of said controller-plate and also serving as a support for the wheel against vertical tilting movement, an inwardly projecting flange on said controller-plate in engagement with the groove in the hub to permit rotation of the wheel, and means for shifting said controller-plate.



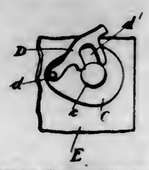
4. A controller for motor vehicles, comprising a pivotally mounted wheel whose hub has a circumferential groove upon its inner end, a controller-plate having a horizontal slot adapted to receive and engage the axle of the vehicle and to permit horizontal movement of said controller-plate and also serving as a support for the wheel against vertical tilting movement, a flange on said controller-plate in engagement with the groove in the hub and permitting rotation of the wheel, a supporting-plate for said controller-plate rigidly secured to the frame of the vehicle, and means for shifting said controller-plate.

5. In a motor vehicle, a wheel having a hub, a horizontally divided axle-box secured in said hub and provided with an interior spherical cavity and a circular flaring opening, longitudinal slots in said spherical cavity, an axle provided with a ball upon its end adapted to fit in the spherical cavity of the axle-box and having pins or lugs upon its surface adapted to enter the grooves in said cavity to lock the axle and wheel together, a sleeve or collar fitted upon the inner end of said axle-box to lock the parts thereof together and provided with an external circumferential groove, combined with a controller-plate having a horizontal slot adapted to fit upon and engage the axle of the vehicle and having an inwardly projecting flange loosely engaging the groove in said collar or sleeve, and means for shifting the said controller-plate for turning the wheel in either direction.

6. In a motor vehicle, front and rear axles, wheels universally mounted upon said axles and rotatably connected therewith, means for driving both of said axles, the hubs of said wheels having circumferential grooves upon their inner ends, controller-plates having horizontal slots adapted to fit upon and engage the axles, flanges on said controller-plates loosely engaging the grooves in said hubs, supporting-plates for said controller-plates rigidly secured to the vehicle frame, steering levers connected with said controller plates, and means for operating said steering levers, whereby the front and rear wheels may be turned right-oblique and left-oblique, respectively, or vice versa.

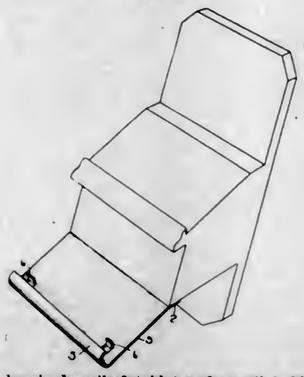
7. In a motor vehicle, front and rear axles, wheels universally mounted upon said axles and rotatably connected therewith, means for driving both of said axles, the hubs of said wheels having circumferential grooves upon their inner ends, controller-plates having horizontal slots adapted to fit upon and engage the axles, flanges on said controller-plates loosely engaging the grooves in said hubs, anti-friction devices arranged between said controller-plates and said hubs, supporting-plates for said controller-plates rigidly secured to the vehicle frame, steering levers connected with said controller-plates, and means for operating said steering levers, whereby the front and rear wheels may be turned right-oblique and left-oblique, respectively, or vice versa.

868,082. CURTAIN-FASTENER. ALFRED FRESCHL, Chicago, Ill., assignor to The F. A. Neider Co., Augusta, Ky., a Corporation of Kentucky. Filed May 4, 1907. Serial No. 371,793.



In a curtain fastener the combination of a post having in it a series of grooves, an eyelet to pass over the post, and a key pivoted upon the eyelet to engage any one of the grooves in the post.

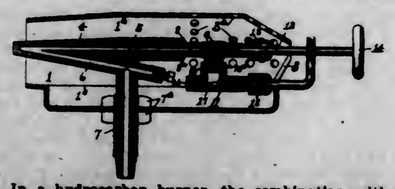
868,083. TABLET AND PENCIL HOLDER. ADELBERT D. GEORGE and AUSTIN B. GEORGE, Dixon, Ill. Filed Feb. 7, 1907. Serial No. 356,199.



1. The herein-described tablet and pencil holder for attachment to and use in connection with a wall telephone, said holder being a metal sheet bent at its upper end to form a ledge to bear under and be secured to the bottom of the telephone casing, the inclined body portion extending outwardly and downwardly from the said ledge and being adapted to support and hold a tablet, and an upwardly and inwardly bent roll at the lower end of the said body portion adapted to support a pencil, substantially as described.

2. The herein-described tablet and pencil holder comprising a sheet metal body having a main inclined position forming a support for a tablet of paper, formed at its lower end with an upturned roll to support a pencil, and provided at a suitable distance from its lower end with upturned lugs to bear against the lower edge of the tablet.

868,084. HYDROCARBON-BURNER. JACOB GOGEL, Toledo, Ohio. Filed Aug. 28, 1905. Serial No. 275,990.

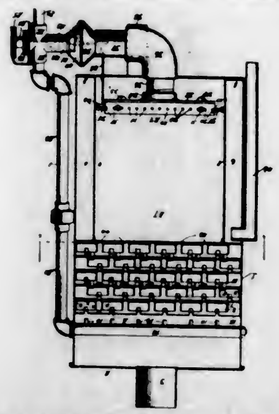


1. In a hydrocarbon burner, the combination with the burner proper and the generator, of a shell encircling the generator and comprising a fixed and a movable part, the line of separation of which extends longitudinally of its axis, said fixed part being formed on its lower side in parallelism with its axis with a depressed or stepped portion which is integral with its wall and forms a starting-pan.

2. A hydrocarbon burner comprising an horizontal generator, a part having valve-controlled jet-orifices therein, and an horizontal shell surrounding said generator and part and consisting of an upper hinged part and a lower fixed part, the lower fixed part having a starting pan formed integral with its bottom and extending substantially the entire length thereof and directly under the generator and orifice part, substantially as described.

3. A hydrocarbon burner comprising a generator, a burner part tapped into one end of the generator and having a main channel in direct communication with the generator and formed with laterally disposed bosses having jet-orifices in communication with said main channel, a valve for closing the main channel in advance of its communication with said jets, a pilot-light part carried by said burner part and having a jet-orifice in valve-controlled communication with the main channel in advance of the valve in said main channel, and a shell encircling the generator and said burner parts and having its forward end open and its rear end closed except for air admission perforations, said shell consisting of a lower fixed part and an upper hinged part the line of separation of which extends longitudinally thereof.

868,085. HOT-WATER HEATER. HARRY C. GOODRICH, Oak Park, Ill. Filed June 10, 1907. Serial No. 378,095.



1. In a hot water heater, an outer shell and an inner shell both of a rectangular form in cross section with a hot water receiving chamber between the two shells, and both shells made of thin heat transmitting material, a tier of rows of water troughs above the inner shell and within the outer shell, each row consisting of a plurality of troughs with a separating space between the single troughs, and means for supplying water to descend through the row of troughs and discharge into the hot water receiving chamber, substantially as described.

2. In a hot water heater, an outer shell and an inner shell both of a rectangular form in cross section with a hot water receiving chamber between the two shells, and both shells made of thin heat transmitting material, a tier of rows of water troughs above the inner shell and within the outer shell, each row consisting of a plurality of troughs with a separating space between the single troughs, means for supplying water to descend through the row of troughs and discharge into the hot water receiving chamber, a rectangular burner within the bottom of the inner casing and having perforated side walls, and means for supplying gas to the burner, substantially as described.

3. In a hot water heater, an outer shell and an inner shell both of a rectangular form in cross section with a hot water receiving chamber between the two shells, and both shells made of thin heat transmitting material, a tier of rows of water troughs above the inner shell and within the outer shell, each row consisting of a plurality of troughs spaced apart, a connecting strip for each end of each row of troughs, a discharge tube at one end of each trough, with the discharge tube of adjacent rows of troughs located at opposite ends of the troughs giving a sinuous travel to the water in descending, and a rectangular burner at the bottom of and within the inner shell, substantially as described.

4. In a hot water heater, an outer shell and an inner shell both of a rectangular form in cross section with a hot water receiving chamber between the two shells and both shells made of thin heat transmitting material, a tier of rows of water troughs above the inner shell and within the outer shell, each row consisting of a plurality of troughs spaced apart, a connecting strip for each end of each row of troughs, a discharge tube at one end of each trough, with the discharge tube of adjacent rows of troughs located at opposite ends of the troughs giving a sinuous travel to the water in descending, and a rectangular burner at the bottom of and within the inner shell, substantially as described.

5. In a hot water heater, an outer shell and an inner shell both of a rectangular form in cross section with a hot water receiving chamber between the two shells and both shells made of thin heat transmitting material, a tier of rows of water troughs above the inner shell and within the outer shell, each row consisting of a plurality of troughs spaced apart, a connecting strip for each end of each row of troughs, a discharge tube at one end of each trough, with the discharge tube of adjacent rows of troughs located at opposite ends of the troughs giving a sinuous travel to the water in descending, each tube having a dam around its upper end within the trough, and a rectangular burner at the bottom of and within the inner shell, substantially as described.

6. In a water heater, the combination of an outer shell, an inner shell of less height than the outer shell and forming with the outer shell a hot water chamber closed at the bottom and open at the top, a tier of rows of water carrying troughs above the inner shell and within the outer shell, each row consisting of a plurality of troughs spaced apart and each trough at one end having a discharge surrounded by a dam within the trough, a burner at the bottom of and within the inner shell, substantially as described.

7. In a water heater, the combination of an outer shell, an inner shell of less height than the outer shell and forming with the outer shell a hot water chamber closed at the bottom and open at the top, a tier of rows of water carrying troughs above the inner shell and within the outer shell, each row consisting of a plurality of troughs spaced apart and each trough at one end having a discharge surrounded by a dam within the trough, a burner at the bottom of and within the inner shell, means for supplying water to the troughs, and means for supplying gas to the burner, substantially as described.

8. In a water heater, the combination of an outer shell, an inner shell of less height than the outer shell and forming with the outer shell a hot water chamber closed at the bottom and open at the top, a tier of rows of water carrying troughs above the inner shell and within the outer shell, each row consisting of a plurality of troughs spaced apart and each trough at one end having a discharge surrounded by a dam within the trough, a burner at the bottom of and within the inner shell, means for supplying water to the troughs, means for supplying gas to the burner, and means for discharging hot water from the receiving chamber, substantially as described.

9. In a water heater, the combination of an outer shell, an inner shell of less height than the outer shell and forming with the outer shell a hot water chamber closed at the bottom and open at the top, a tier of rows of water carrying troughs above the inner shell and within the outer shell, each row consisting of a plurality of troughs spaced apart and each trough at one end having a discharge surrounded by a dam within the trough, a burner at the bottom of and within the inner shell, means for supplying water to the troughs, means for supplying gas to the burner, means for discharging hot water from the receiving chamber, and a controlling valve for the water and gas supplies, substantially as described.

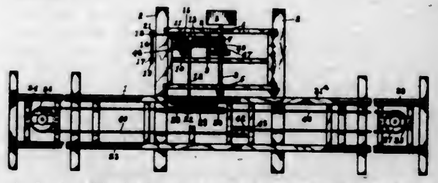
868,086. ADJUSTABLE CAM. BENGT M. W. HANSON and JOHN H. MONTSTREAM, Hartford, Conn., assignors to Pratt & Whitney Company, Hartford, Conn., a Corporation of New Jersey. Filed Feb. 28, 1906. Serial No. 303,557.



1. The combination, with a disk having sets of concentric holes, of a piece having a slotted tongue and a cam-face; a binder passing through the slot of the tongue, and adapted to enter any hole of one series; and a second binder passing through said piece, and adapted to enter any hole of the other series.

2. The combination, with a disk having a series of concentrically-disposed holes at one point thereof; and a second series of concentrically-disposed holes at another point thereof; of a cam-proper having a curved and slotted tongue; a screw entering the cam-proper and threaded into a hole of one series; and a second screw passing through the slotted tongue, and threaded into the hole of the other series.

868,087. CABLE-FEED MECHANISM FOR SAWMILLS. AMOS HARROLD, Mansfield, Ohio, assignor to The Aultman & Taylor Machinery Company, Mansfield, Ohio, a Corporation of Ohio. Filed Nov. 5, 1906. Serial No. 342,031.



1. In a cable feed mechanism for sawmills, two sheave pulleys journaled to each end of the frame, a supporting bracket, sheave gear wheels mounted on said bracket meshing with each other, a shaft journaled to the frame, a pinion secured to one end of said shaft meshing with one of the sheave gear wheels, a carriage, a cable attached to the carriage and adapted to travel around said sheave pulleys and sheave gear wheels, suitable mechanism to impart reverse and direct movement to the shaft carrying said pinion.

2. In a cable feed mechanism for saw-mills a frame, a carriage mounted on said frame, two sheave pulleys secured to opposite ends of the frame, a bracket secured to the frame, gear sheave wheels rotatably journaled to said bracket meshing with each other with the grooves formed in the center of the periphery, a cable secured to the carriage passing around the sheave pulleys and grooves in the gear wheels, means to impart a rotary motion to said shaft in opposite directions whereby the carriage is made to travel in opposite directions according to the rotation of said shaft.

3. In a feed mechanism for saw-mills, the combination of a reciprocating carriage, of a driving shaft, a driven shaft

secured to the frame parallel therewith, a pinion secured to one end of said shaft, means to impart motion to the driven shaft, a frame, two sheave pulleys secured to the opposite ends of said frame, a table adapted to travel over said sheave pulleys a bracket mounted on the frame, sheave gear wheels rotatably secured to said bracket meshing with each other and one of said gear wheels meshing with the pinion on the shaft, means to rotate the driven shaft in opposite directions.

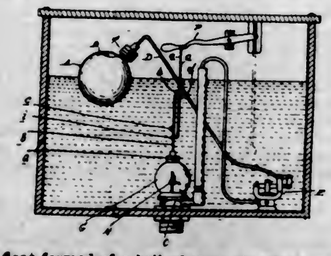
4. In a cable feed mechanism for saw mills, a frame, a reciprocating carriage mounted thereon, sheave guide pulleys secured to opposite ends of the frame, a plate having lugs depending therefrom attached to the carriage, a cable, means to attach the ends of the cable to said plate, a bracket, sheave gear wheels rotatably mounted on said bracket having grooves formed in the periphery to receive the cable, a shaft secured to the frame, a pinion fitted to one end of said shaft, means to rotate said shaft in opposite directions.

5. In a feed mechanism for saw-mills, a frame, a carriage mounted on said frame, a driving shaft, a driven shaft secured to the frame parallel with the driving shaft, a pinion secured to the end of the driven shaft, sheave guide pulleys attached to each end of the frame, a plate having lugs depending therefrom, attached to the carriage, a bracket secured to the frame, sheave gear wheels mounted on said bracket meshing with each other with one of said gear wheels meshing with said pinion, a cable having its ends secured to the plate and passing around said sheave pulleys and gear wheels, means to rotate the driven shaft in opposite directions.

6. In a feed mechanism for saw-mills, the combination with a reciprocating carriage, of two sheave pulleys rotatably secured to each end of the frame, a bracket, a series of gear wheels rotatably mounted upon said bracket, a driving shaft, a driven shaft, a pinion secured to the end of the driven shaft meshing with the sheave gear wheels, a cable attached to the carriage and passing around the sheave pulleys and over and under the sheave gears, means to rotate the driven shaft in opposite directions.

7. In a cable feed mechanism for saw-mills, the combination with a reciprocating carriage, a bracket secured thereto, sheave gear wheels mounted on said bracket meshing with each other, sheave pulleys secured to each end of the frame, a plate secured to the carriage, a cable passing around said sheave pulleys and sheave gear wheels, with its ends attached to the plate, a driving shaft, a driven shaft, a pinion mounted on the end of said driven shaft, means to impart motion to the driven shaft in opposite directions.

868,088. FLOAT FOR FLUSHING-TANKS. WILLIAM HEAP, Muskegon, Mich. Filed Feb. 21, 1906. Serial No. 302,160.



1. A float formed of a bell of glass closed at one end and open at the other, an externally threaded nipple on the upper portion and integral therewith, an operating connection and an internally threaded cap carried thereby for engagement with said nipple.

2. In a float valve, a float formed of a bell of glass, fashioned to have a closed nipple at one end and threaded at its opposite end and a guide cap engaging said threaded end.

3. In a float valve, a float formed of a bell of glass, having an open neck at its lower end of reduced diameter, an annular valve face of greater diameter above said reduced portion and a cap engaging said reduced portion provided with a guide sleeve.

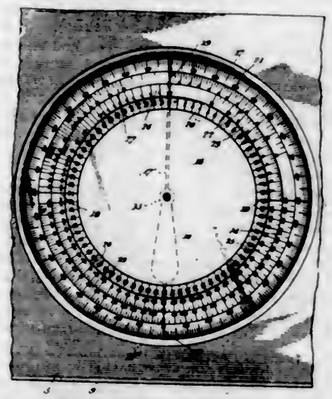
4. In a float valve, a valve seat having a guide pin projecting upward centrally thereabove, a float valve closed at its upper end and having a guide sleeve at its lower end fitting about said guide pin, a lever for lifting said float, a two-part link connecting said lever to said float, one section thereof provided with an eye or loop surrounding the other section and said other section having an enlarged circular loop surrounding the first-named section, whereby a limited universal movement is permitted.

5. A float valve comprising a hollow glass body having a hollow neck or nipple integral therewith and externally threaded, and a cap correspondingly threaded and engaging said nipple.

6. A float valve comprising a hollow glass body having an open ended neck or nipple and a cap externally engaging said neck or nipple.

7. A float valve comprising a hollow glass body having integral therewith a hollow closed ended nipple at one end and a hollow open nipple at the opposite end, and caps engaging said nipples.

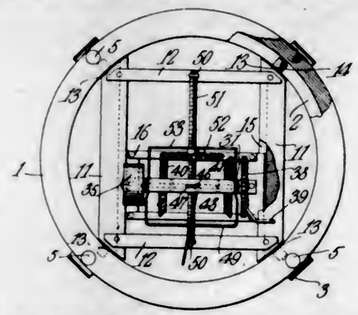
868,089. LEVEL. EDWARD HELB, Railroad, Pa. Filed June 17, 1905. Serial No. 265,780.



In a measuring instrument, a dial comprising inner and outer concentric scales divided by radial lines into quadrants, some of the quadrants of the scales being graduated to indicate measurements in inches and diametrically opposite quadrants graduated to indicate the same measurements in inches and decimals thereof for a pre-determined number of degrees, a degree circle arranged concentric with the outer scale and surrounding the latter, the radial lines of the concentric scales intersecting the degree circle and dividing the latter into quadrants corresponding to the quadrants of said concentric scales, an inmost scale graduated to represent inches on the circumference of a circle, and a single double ended pointer having one end thereof weighted and movable over the face of the dial for indicating simultaneously a given measurement in inches on one of the quadrants and the same measurement in inches and decimals thereof on the opposite quadrant for any particular marking on the degree circle.

868,090. MILLSTONE-DRESSING MACHINE. ROBERT C. HELMS, Dothan, Ala., assignor of one-half to Henry A. Pearce, Dothan, Ala. Filed Apr. 4, 1907. Serial No. 366,362.

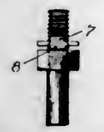
1. A mill-stone dressing machine comprising a suitable support, a frame therein rotatable in a horizontal plane on a vertical axis, another frame movable radially across said first-named frame with relation to its axis of rotation, a power shaft carried by said last-named frame, a bit or dressing tool carried by said last-named frame, connections between the bit or dressing tool and the power shaft for reciprocating the tool, and feeding means between the power shaft and the rotatable frame for causing the progressive feeding of the second frame across the rotatable frame during the reciprocation of the bit or dressing tool.



2. A mill-stone dressing machine comprising a support provided with a circular track, a frame supported by said track and rotatable in a horizontal plane about a vertical axis, another frame supported by the rotatable frame and movable across the latter in a line radial to the axis of the rotatable frame, a milling tool or bit and actuating means therefor carried by the radially movable frame, and feeding means for the radially movable frame comprising a fixed screw carried by the rotatable frame, a bevel gear on said screw, a shaft carried by the radially movable frame, bevel gear wheels mounted on said shaft, means for moving either but not both of said gear wheels into mesh with the gear wheel on the screw, and connections between the tool-actuating means and the shaft carrying the bevel gear.

3. A mill-stone dressing machine comprising a frame, adjustable legs or supports for the same, another frame rotatably supported by the first frame, a third frame movable in said second frame in a line radial to the axis thereof, a reciprocating holder for a stone-dressing tool or bit carried by the sliding frame, actuating means for the tool holder carried by the sliding frame, a feeding means for the sliding frame carried by the rotatable frame, and gearing carried by the sliding frame connected to the tool-actuating means and connectible to the feeding means to feed the frame in either direction.

868,091. NUT-LOCK. THOMAS HEMP, Middlebrook, Va., assignor of one-half to J. H. Swortzel, Middlebrook, Va. Filed Mar. 20, 1907. Serial No. 363,478.



In combination, a screw bolt, a nut threaded to engage the same and having a substantially plane upper face, and a locking member also threaded to engage the bolt and having a transverse rib of less width than the width of the bolt located centrally of its outer face, the inner face of the locking member on one side of the bolt and in line with the rib being projected whereby upon screwing the locking member down upon the nut the projected portion impinging upon the face of the nut will cause the threaded portion of the rib or flange to be forced into strong frictional engagement with the threads of the bolt, substantially as described.

868,092. SYSTEM OF CONSTRUCTION FOR FOUNDATIONS, DAMS, SEA-WALLS, AND THE LIKE. FRANÇOIS HENNEBIQUE, Paris, France. Filed May 1, 1907. Serial No. 371,219.



1. A caisson construction for foundations, dams, sea-walls, and the like, comprising a plurality of vertically disposed cells some of which are enlarged and open and others contracted and closed at their lower ends.

2. A construction for foundations, dams, sea-walls, and the like, comprising a monolithic caisson of reinforced concrete having outer walls and inner walls or partitions which divide it into a plurality of vertically disposed open-top cells some with closed and others with open bottoms, the open-bottom cells being enlarged and the closed-bottom cells contracted at their lower ends.

3. A caisson construction for foundations, dams, sea-walls, and the like, comprising a plurality of vertically disposed cells some of which are open and others closed at their lower ends and having at an end one or more half or open-sided cells.

4. A construction for foundations, dams, sea-walls, and the like, comprising a caisson made up of a plurality of vertically disposed cells some of which are closed at the bottom and are charged with ballast sufficient to sink the caisson into position while others are open at the bottom and are charged with material capable of filling up irregularities in the surface of the ground underneath and of spreading out under the closed bottom cells.

5. A method of constructing foundations, dams, sea-walls, and the like, which consists in building and launching a caisson composed of a plurality of vertically disposed cells some of which are closed and others open at the bottom, sinking the caisson into place by suitably loading the closed-bottom cells with ballast, and then loading the open-bottom cells with loose material.

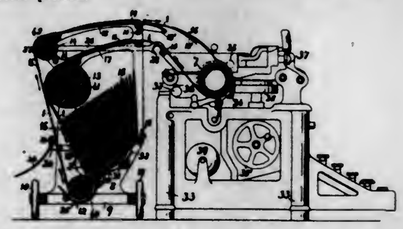
6. A method of constructing foundations, dams, sea-walls, and the like, which consists in building a caisson of suitable shape and size and divided by walls and partitions into a plurality of vertically disposed cells some of which are closed and others open at the bottom, sinking said caisson into place by loading the closed-bottom cells with ballast, then charging the open-bottom cells with loose material, and finally replacing the temporary ballast in the closed-bottom cells with other suitable material.

7. A method of constructing foundations, dams, sea-walls, and the like, which consists in building caisson sections composed of a plurality of vertically disposed cells some of which are closed and others open at the bottom, sinking said caisson sections into place end to end by suitably loading their closed-bottom cells with ballast, loading the open-bottom cells with suitable material, and uniting together said caisson sections by filling with suitable material the cells formed by half-cells left at the abutting ends of two adjoining sections.

868,093. APPARATUS FOR FEEDING ENVELOPS. FREDERICK C. JENKINS, Goldington, near Bedford, England, assignor to Laura Lucretia Jenkins, Goldington, near Bedford, England. Filed Jan. 12, 1907. Serial No. 352,006.

1. An apparatus for feeding envelops to typewriters comprising a frame work between the opposite sides of

which are disposed superposed runways, a band of flexible material having cross slots at intervals, gussets of flexible material secured upon said band with one edge overlapping each of said slots, said gussets forming pouches wherein to secure the flaps of envelops, guide means in said frame for the band, said band having its going and return portions supported by said runways, means for causing the band to travel to an adjacent typewriter carrying with it the envelops, and means for diverting said envelops from said band after passage around the typewriter platen.



2. An organized apparatus of the character described having in combination a typewriter having a platen, a band of flexible material having pouches formed thereon, said pouches being closed at the sides and open at the forward end, means for causing said band to travel around the platen of the typewriter and sidewise in conformity with the longitudinal movements of said platen, and means for feeding envelops by means of their flaps to said traveling band.

3. The combination with a typewriter having a movable carriage and a platen, of an attachment for said typewriter said attachment comprising a wheeled frame positioned relative to the typewriter and adapted to move coördinately with said carriage, guide rollers and superposed runways mounted in said frame, and a band having its going and return portions operable over said runways, said band having means for engaging, picking up and conveying envelops around said rollers and over said runways, and also passing around the platen of the typewriter.

4. An apparatus for feeding envelops to typewriting machines, comprising an attachment to the typewriting machine, said attachment being movable in conformity with the intermittent movements of the typewriter carriage, said attachment having end frames between which are mounted guide rollers and superposed runways, an endless band of flexible material having pouches to engage and convey envelops by means of their flaps, said band passing over said guide rollers, runways and the platen of the typewriting machine.

5. An apparatus for feeding envelops to typewriters, comprising an attachment to the typewriter movable both longitudinally and transversely with the carriage of the typewriter, said attachment having end frames mounted on a base, said base fitted at each of its corners with wheels, superposed runways and guide rollers arranged between said end frames and an endless band having pouches formed thereon to engage and lift envelops by their flaps, said band passing over said rollers and the platen of the typewriter.

6. An envelop addressing machine having in combination a typewriting machine with a traveling carriage and platen, an attachment positioned proximate to the typewriting machine and movable in conformity with said carriage, runways mounted upon said attachment and leading to and from said carriage, a band of flexible material passing over said runways, a holder for envelops arranged adjacent to said band said envelops being stacked with their flaps to face said band, and means carried by said band for engaging said flaps and carrying along said envelops.

7. An apparatus for feeding envelops to typewriters, comprising an attachment to the typewriter, said attachment being mounted on a base provided with wheel-carrying axles at each of its ends and being linked by means of pivoted connections to the carriage of the typewriting machine, end frames to said attachment, guide rollers and superposed runways arranged between said end frames and an endless band having cross slots and gussets overlapping said slots, said band being adapted to pick up and convey envelops by means of their flaps over said rollers and runways to and from the platen of the typewriter.

8. An apparatus for feeding envelops to typewriting machines, comprising an attachment to the typewriting machine, said attachment being movable in conformity with the intermittent movements of the typewriter carriage, said attachment having end frames between which are mounted guide rollers and runways, an endless band of flexible material having pouches to engage and convey envelops by means of their flaps, said band passing over said guide rollers, runways and the platen of the typewriting machine, said band passing in front of a hopper containing a stack of envelops, said hopper having means for adjusting its width to correspond with the width of envelops employed.

9. An apparatus for feeding envelops to typewriting machines, comprising an attachment to the typewriting machine, said attachment being movable in conformity with the intermittent movements of the typewriter carriage, said attachment having end frames between which are mounted guide rollers and an upper runway, a second runway arranged below the upper runway, said second runway being also between the end frames but being shorter in length than the upper runway an endless band of flexible material having pouches to engage and convey envelops by means of their flaps, said band passing over said guide rollers, runways and the platen of the typewriting machine.

10. An apparatus for feeding envelops to typewriting machines, comprising an attachment to the typewriting machine, said attachment being movable in conformity with the intermittent movements of the typewriter carriage, said attachment having end frames between which are mounted guide rollers and an upper and a lower runway, an endless band of flexible material having curved slots transversely of its length at intervals, gussets overlapping said slots and forming pouches on said band, a hopper for envelops adjacent to said band, said hopper being of adjustable width to suit variously sized stacks of envelops, said band passing over said guide rollers and runways and to and from the platen of the typewriting machine.

11. An apparatus for feeding envelops to typewriting machines, comprising an attachment to the typewriting machine, said attachment being movable in conformity with the intermittent movements of the typewriter carriage, said attachment having end frames between which are mounted guide rollers and an upper and a lower runway, an endless band of flexible material provided at intervals in its length with pouches, a hopper containing a stack of envelops arranged adjacent to said band with the flap of the foremost envelop adapted to be engaged by the pouch, said hopper having adjustable guides whereby its width may be varied to suit envelops of different sizes, said band passing over said guide rollers and said runways and to and from the platen of the typewriting machine.

12. An apparatus for feeding envelops to typewriting machines, comprising an attachment to the typewriting machine, said attachment being movable in conformity with the intermittent movements of the typewriter carriage, said attachment having end frames between which are mounted guide rollers and superposed turtlebacks, an endless band of flexible material provided with pouches, a hopper for envelops adjacent to said band, adjustable slides in said hopper to suit various sizes of envelops, said band being adapted to engage and convey said envelops from the hopper over the guide rollers to the lower turtleback, thence around the platen and over the upper turtleback.

13. An apparatus for feeding envelops to typewriting machines, comprising an attachment to the typewriting machine, said attachment being movable in conformity with the intermittent movements of the typewriter carriage, said attachment having end frames between which

are mounted guide rollers and a curved runway extending the full width between the end frames, a second similar curved runway of lesser length than the first, an endless band of flexible material having pouches to engage and convey envelops by means of their flaps, said band passing over said guide rollers, runways and the platen of the typewriting machine.

14. An apparatus for feeding envelops to typewriting machines, comprising an attachment to the typewriting machine, said attachment being movable in conformity with the intermittent movements of the typewriter carriage, said attachment having end frames between which are mounted ruhways extending the width of the frames and curved longitudinally, a guide roller revolubly arranged between said frames immediately in front of the lower runway, a second guide roller revolubly arranged between said frames immediately after the upper runway, and a third guide roller revolubly mounted between said frames below the other guide rollers, a hopper containing stacked envelops inclined to said third roller so that the flaps of said envelops are above said roller, and an endless band passing over said rollers and around the platen of the typewriter having means for picking up and translating said envelops in succession.

15. In an apparatus for feeding envelops to typewriting machines, the combination of a typewriting machine having a traveling carriage and platen, an envelop feeding attachment proximate to the typewriting machine and movable coördinately with the carriage thereof, said attachment having a carrier for feeding envelops to said platen, and having upper and lower runways with end frames between which said runways are arranged, one of said runways having a dropped extremity facing the typewriter, and guide rollers adjacent to one extremity of said runways, said runways being approximately tangential to said rollers.

16. In an apparatus for feeding envelops to typewriting machines, the combination of an attachment having end frames and a wheeled base, an upper turtleback between said end frames, a lower turtleback also between said end frames said upper turtleback having a dropped extremity facing the typewriting machine; with means for causing envelops to be picked up by an endless band and carried over said turtlebacks to and from the typewriting machine.

17. The combination with a typewriting machine having a traveling carriage provided with a platen, of a wheeled attachment to the machine so as to be movable with the carriage thereof, said attachment having end frames between which are mounted guide roller and upper and lower runways, a hopper for envelops, said hopper being so inclined as to present the foremost envelop against a contiguous portion of the band, an endless band having means for picking up said envelops and carrying them over said guide roller and runways to and from the platen of the machine and a deflector plate mounted on the attachment and extending away therefrom.

18. In an apparatus for feeding envelops to typewriting machines, the combination of an endless band of flexible material having cross slots and gusset pieces forming flexible pouches to engage the foremost of a stack of envelops, with a typewriter platen, and runways over which said band is wound, said rollers and runways being mounted in a frame connected to the typewriting machine so as to move in conformity therewith.

19. In an apparatus for feeding envelops to typewriting machines, the combination of a band of flexible material provided with pouches at intervals in its length, a frame having a wheeled base and connected by pivoted links to the carriage of the typewriting machine so as to be movable both longitudinally and laterally with the platen of the typewriting machine, guide rollers and runways mounted in said frame, and a hopper for stacked envelops having means for adjusting its width, said band being arranged to pass over said guide rolls, and runways to and from the said platen, and automatically conveying envelops from said hopper to and around said platen.

20. The combination with a typewriting machine having a traveling carriage, a platen, and a shift-key, of envelop feeding means for said machine said means comprising an attachment having a wheeled base and a holder for a stack of envelops, an endless band passing from said attachment to and around the platen of said typewriter, and returning to said attachment, said band having means for picking up and carrying along said envelops, and pivoted links between said attachment and the carriage of said typewriter, so that said carriage may be displaced to allow the shift key to be employed.

21. In an apparatus for feeding envelops to typewriting machines, the combination of a band of flexible material provided with pouches at intervals in its length a frame having a wheeled base and connected by pivoted links to the carriage of the typewriting machine so as to be movable both longitudinally and laterally with the platen of the typewriting machine, guide rollers and runways mounted in said frame, and a hopper for stacked envelops having means for adjusting its width, said band being arranged to pass over said guide rolls, and runways to and from the said platen, and automatically conveying envelops from said hopper to and around said platen, and a deflector plate upon the outer side of the frame adjacent to said band to deflect said envelops as they fall from said pouches.

22. An apparatus for feeding envelops to typewriters comprising a wheeled attachment connected to the carriage of the typewriter, a band of flexible material passing out from said attachment to and around the platen of the typewriter, means for guiding said band, said means being carried by the attachment, a holder for stacked envelops arranged adjacent to the band, said holder having adjustable guides at its side to allow its width to be adapted to different widths of envelops.

23. In an apparatus for feeding envelops to typewriters, an attachment comprising a wheeled base having mounted thereon end frames between which are mounted upper and lower turtlebacks, a guide roller adjacent to each of said turtlebacks, and a third guide roller arranged adjacent to the wheeled base and having a curved guard plate extending about its under portion and secured to the attachment.

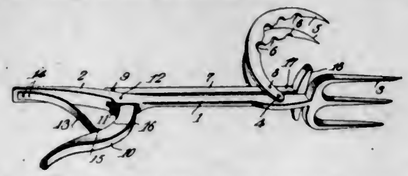
24. An apparatus for feeding envelops to envelop-addressing machines, comprising an attachment to a typewriting machine having a wheeled base and hinged connections to the carriage of said typewriter so as to move therewith, said attachment having end frames wherein rollers are mounted, an endless band passing over said rollers and around the platen of the typewriter, said band being caused to travel by the revolution of the platen, a hopper wherein envelops are stacked so as to face the band and so set that the front envelop falls against the band, means carried by said band for engaging said envelops successively and conveying them around the platen of the typewriter, a lower turtleback and an upper turtleback both arranged in the said attachment and over which the band passes on its way to and from the platen.

25. An apparatus for feeding envelops to envelop-addressing machines, comprising an attachment to a typewriting machine having a wheeled base and hinged connections to the carriage of said typewriter so as to move therewith, said attachment having end frames wherein rollers are mounted, an endless band passing over said rollers and around the platen of the typewriter, said band being caused to travel by the revolution of the platen, a hopper wherein envelops are stacked so as to face the band and so set that the front envelop falls against the band, means carried by said band for engaging said envelops successively and conveying them around the platen of the typewriter, a lower turtleback and an upper turtleback both arranged in the said attachment and over which the band passes on its way to and from the platen.

868,094. FORK. WILLIAM J. JERKINS, Moultrie, Ga. Filed Sept. 15, 1906. Serial No. 334,726.

1. A utensil of the class described, having a supporting element adapted to be arranged beneath a vessel to be supported, a notched element carried by the supporting element and movable transversely toward and from the

plane of the supporting element, and a bearing element also carried by the supporting element and movable parallel with the plane of the latter and connected to and coacting with the notched element for grasping a vessel resting on said supporting element.



2. A utensil of the class described having a supporting element adapted to be arranged beneath a vessel to be supported, a notched element carried by the supporting element and movable transversely toward and from the plane of the supporting element and having its notches provided with abrupt outer walls forming shoulders to engage the edge of the wall of the vessel arranged upon the supporting element, and a bearing element also carried by the supporting element and movable parallel with the plane of the latter and connected to the notched element to coact therewith for grasping a vessel resting on said supporting element.

3. A utensil of the class described having a supporting element adapted for arrangement beneath a vessel to be supported, a clamping element carried by the supporting element and movable transversely toward and from the plane of the supporting element, a bearing element also carried by the supporting element in operative relation to the clamping element and movable parallel with the plane of the supporting element for contact with the side walls of a vessel arranged on the supporting element, and connections between the supporting element and the bearing and transversely-movable elements whereby the said bearing and transversely-movable elements may be simultaneously operated.

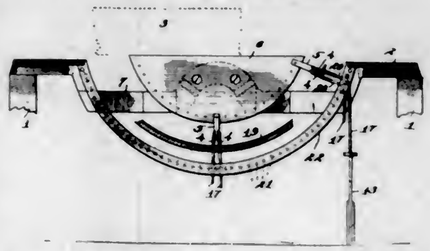
4. A utensil of the class described having a supporting element for arrangement beneath a vessel to be supported, an engaging element connected to the supporting element for movement transversely toward and from the plane of the supporting element, a bearing element connected to the supporting element in operative relation to the engaging element and movable parallel with the plane of the supporting element for contact with the walls of a vessel respectively supported and engaged by the previously-named elements, a pivotal connection between the bearing element and the transversely-movable element, and means carried by the supporting element for imparting longitudinal movement to the bearing element.

5. A device of the character described having an engaging end, a claw pivotally connected with said engaging end, a handle lever pivotally connected with said device, and a link connecting said handle lever with said claw, said link having one of its ends extended beyond said claw and provided with a cross-piece, for substantially the purposes set forth.

6. A device of the character described, comprising a body portion having an engaging end, a claw movably mounted on said body portion in position to coöperate with said engaging end to clasp an object, a rod attached to said claw for operating the same, and a cross piece on said rod and disposed between said claw and said engaging end of the body portion.

7. A device of the character described comprising a shank having an engaging end and a handle end, a pair of curved claws pivotally connected with said shank adjacent the engaging end thereof, said claws having notches in their inner edges, a link rod pivotally connected with said curved claws and having one of its ends extended beyond said claws and provided with a cross-piece located between said claws and said engaging end, a handle lever pivotally connected with said shank and said link rod, and a spring interposed between said handle lever and the handle portion of said shank.

868,095. TYPE-BAR ACTION FOR TYPE-WRITING MACHINES. JAMES W. KENNEDY, Chicago, Ill., assignor, by mesne assignments, to The Kennedy Typewriter Company of Manhattan, New York, N. Y., a Corporation of New York. Filed Dec. 30, 1903, Serial No. 187,109. Renewed Mar. 4, 1907. Serial No. 360,499.



1. In a typewriting machine, the combination of a hanger support, a plurality of type-bar hangers supported thereon and detachably secured thereto, type-bars pivotally mounted on said hangers, webs or extensions on said hangers, lever arms pivoted upon said webs or extensions on said hangers, links which connect said lever arms with said type-bars, operating levers and connections between said operating levers and said lever arms, substantially as described.

2. In a typewriting machine, the combination of a hanger support, a plurality of type-bar hangers supported thereon and detachably secured thereto, type-bars pivotally mounted on said hangers, webs or extensions on said hangers, lever arms pivoted upon said webs or extensions on said hangers, connection between said lever arms and said type-bars, operating levers, rigid bent rods which connect said operating levers with said lever arms and guides for the sections of said bent rods adjacent to said lever arms, substantially as described.

3. In a typewriting machine, the combination of a segmental hanger support, a plurality of type-bar hangers supported thereon and detachably secured thereto, type-bars pivotally mounted on said hangers, webs or extensions on said hangers, lever arms pivoted upon said webs or extensions on said hangers, connection between said lever arms and said type-bars, operating levers, rigid bent rods which connect said operating levers with said lever arms, a frame supported outside of said hanger support comprising guide pins for the oblique upper ends of said bent rods, substantially as described.

4. In a typewriting machine, the combination of a hanger support, a plurality of type-bar hangers supported thereon and detachably secured thereto, type-bars pivotally mounted on both sides of said hangers, webs or extensions on said hangers, lever arms pivoted to both sides of said webs or extensions on said hangers, connections between said lever arms and the type-bars respectively mounted on the same sides of the same type-bar hangers therewith, operating levers and connection between said operating levers and said lever arms, substantially as described.

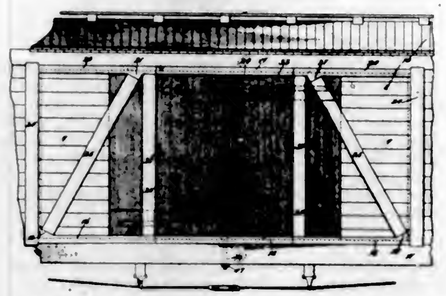
5. In a typewriting machine, the combination of a hanger support, a plurality of type-bar hangers supported thereon and detachably secured thereto, type-bars pivotally mounted on both sides of said hangers, webs or extensions on said hangers, lever arms pivoted to both sides of said webs or extensions on said hangers, connection between each lever arm and the type bar mounted on the same side of the same hanger therewith, operating levers, rigid bent rods which connect said operating levers with said lever arms and guides for the oblique sections of said bent rods adjacent to said lever arms, substantially as described.

6. In a typewriting machine, the combination of a segmetal hanger support, a plurality of type-bar hangers supported thereon and detachably secured thereto, type-bars pivoted on both sides of said hangers, webs or extensions on said hangers, lever arms pivoted to both sides of said webs or extensions on said hangers, connection between each lever arm and the type-bar mounted on the same side of the same hanger therewith, operating levers, rigid bent rods which connect said operating levers with said lever arms, a frame supported outside of said hanger support comprising guide pins for the oblique upper ends of said bent rods, substantially as described.

7. A bearing for a pivoted member of a typewriting machine comprising an adjusting screw and a piece of lead or the like inserted between said screw and the end of the hole to which said screw is threaded, substantially as described.

8. A bearing for a pivoted member of a typewriting machine comprising an adjusting screw and a pellet of lead or the like inserted between said screw and the end of the hole to which said screw is threaded, substantially as described.

868,096. RAILWAY-CAR CONSTRUCTION. MARTIN KENNEDY, Chicago, Ill., assignor of one-half to William F. Renshaw, Chicago, Ill. Filed Jan. 31, 1907. Serial No. 354,956.



1. In a car, the combination with a body and frame, of outer doors and inner doors, of grooved thresholds, of channel bars at either end thereof and abutting thereto, and a series of uprights and struts therebetween, said uprights and struts forming a portion of the car frame adjacent to said door openings.

2. In a car, the combination with a body and frame, of outer and inner doors, of grooved thresholds, of channel bars at either end thereof and abutting thereto, a series of upper grooved members corresponding thereto, and a series of uprights and struts therebetween, said members being provided with thrust bearings against which the ends of said struts are adapted to rest, said uprights and struts forming a portion of the car frame adjacent to the door openings.

3. In a car, the combination with a body and frame, of outer and inner doors, of grooved thresholds, of channel bars at either end thereof and abutting thereto, a series of upper grooved members corresponding thereto, and a double series of uprights and struts therebetween spaced apart, said uprights and struts forming a portion of the car frame adjacent to the door openings.

4. In a car, the combination with a body and frame, of outer and inner doors, of grooved thresholds, of channel bars at either end thereof and abutting thereto, a series of upper grooved members corresponding thereto, and a double series of uprights and struts therebetween spaced apart, said members being provided with thrust bearings against which the ends of said struts are adapted to rest, said uprights and struts forming a portion of the car frame adjacent to the door openings.

5. In a car, the combination with a body and frame, of outer and inner doors, of grooved thresholds, of channel bars at either end thereof and abutting thereto, a series of upper grooved members corresponding thereto, and a double series of uprights and struts therebetween spaced apart, said members being provided with thrust bearings against which the ends of said struts are adapted to rest, said uprights and struts forming a portion of the car frame adjacent to the door openings, said inner doors fitting within said grooves and adapted to slide in the passages between said uprights and struts.

6. In a car, the combination with a body and frame, of outer and inner doors, of grooved thresholds, of channel bars at either end thereof and abutting thereto, a series of upper grooved members corresponding thereto, and a double series of uprights and struts therebetween spaced apart, said members being provided with thrust bearings against which the ends of said struts are adapted to rest, said uprights and struts forming a portion of the car frame adjacent to the door openings, said inner doors being apertured and fitting within said grooves and adapted to slide in the passages between said uprights and struts.

7. In a car, the combination with a body and frame, of outer and inner doors, of grooved thresholds, of channel bars at either end thereof and abutting thereto, a series of upper grooved members corresponding thereto, and a double series of uprights and struts therebetween spaced apart, said members being provided with thrust bearings against which the ends of said struts are adapted to rest, said uprights and struts forming a portion of the car frame adjacent to the door openings, said inner doors being apertured and fitting within said grooves and adapted to slide in the passages between said uprights and struts, and sliding members covering said apertures.

8. In a car, the combination with a body and frame, of outer and inner doors, of grooved thresholds, of channel bars at either end thereof and abutting thereto, and a double series of uprights and struts therebetween spaced apart, said members being provided with thrust bearings against which the ends of said struts are adapted to rest, said uprights and struts forming a portion of the car frame adjacent to the door openings, said inner doors being apertured and fitting within said grooves and adapted to slide in the passages between said uprights and struts, sliding members covering said apertures, and means for securing said doors together.

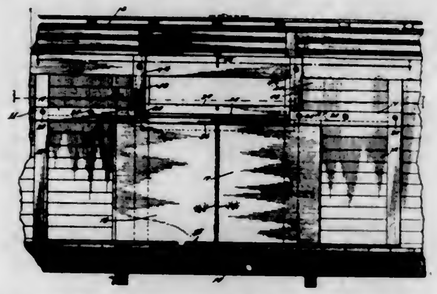
9. In a car, the combination with a body and frame, of outer and inner doors, of grooved thresholds, of channel bars at either end thereof and abutting thereto, a series of upper grooved members corresponding thereto, and a double series of uprights and struts therebetween spaced apart, said members being provided with thrust bearings against which the upper ends of said struts are adapted to rest, said uprights and struts forming a portion of the car frame adjacent to the door openings, said inner doors being apertured and fitting within said grooves and adapted to slide in the passages between said uprights and struts, sliding members covering said apertures, and means for securing said doors together, said means comprising pins or bosses secured to one door and adapted to fit in corresponding openings in the other door.

10. In a car, the combination with a body and frame, of hatches in the top thereof, of outer and inner doors, of grooved thresholds, of channel bars on either end thereof and abutting thereto, a series of upper grooved members corresponding thereto, and a double series of uprights and struts therebetween spaced apart, said members being provided with thrust bearings against which the ends of said struts are adapted to rest, said uprights and struts forming a portion of the car frame adjacent to the door openings, said inner doors being apertured and fitting within said grooves and adapted to slide in the passages between said uprights and struts, sliding members covering said apertures, and means for securing said doors together, said means comprising pins or bosses secured to one door and adapted to fit in corresponding openings in the other.

11. In a car, the combination with a body and frame, of outer doors, inner metal doors, of grooved thresholds, of channel bars on either end thereof and abutting thereto, a series of upper grooved members corresponding thereto, and a double series of uprights and struts therebetween spaced apart, said members being provided with thrust bearings against which the ends of said struts are adapted to rest, said uprights and struts forming a portion of the car frame adjacent to said door openings, said inner doors being apertured and fitting within said grooves and adapted to slide in the passages between said uprights and struts, sliding members covering said apertures, and

means for securing said doors together, said means comprising pins or bosses secured to one door and adapted to fit in corresponding openings in the other door.

868,097. GRAIN-DOOR. MARTIN KENNEDY, Chicago, Ill., asignor of one-half to William F. Renshaw, Chicago, Ill. Filed Apr. 15, 1907. Serial No. 368,216.



1. In a car, the combination of horizontally sliding doors with a vertically sliding brace, adapted to fit over said doors and to secure them against internal or external pressure.

2. In a car, the combination of lower, inner, horizontally sliding flanged metal doors, a grooved threshold, grooves within which the upper edges of said doors slide, vertical flanged strips on either side of the doorway above the lower doors, and a sliding metallic brace adapted to slide within channels formed by said strip and to engage the top of said lower doors to secure them against internal pressure.

3. In a car, the combination of lower, inner, horizontally sliding, flanged metal doors, a grooved threshold, grooves within which the upper edges of said doors slide, vertical flanged strips on either side of the doorway above the lower doors and a sliding metallic brace adapted to slide within channels formed by said strip and to engage the top of said lower doors to secure them against internal pressure, said brace being provided with a stiffening strip at right angles thereto.

4. In a car, the combination of lower, inner, horizontally sliding flanged metal doors, a grooved threshold, grooves within which the upper edges of said doors slide, vertical flanged strips on either side of the doorway above the lower doors, and a sliding metallic brace adapted to slide within channels formed by said strip and to engage the top of said lower doors to secure them against internal pressure, said brace being provided with a stiffening strip widest at the center and tapering towards the ends and located at right angles to said brace.

868,098. APPARATUS FOR EXPANDING OR STRETCHING TEXTILE FABRICS. PATRICK W. KIERNAN, Lowell, Mass. Filed Feb. 11, 1907. Serial No. 356,682.

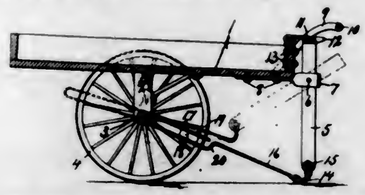


1. An apparatus for expanding or stretching textile fabrics, having, in combination, an expander consisting of a curved rod provided with cylindrical expander sections provided with a bearing rotatably mounted thereon and washers located between the expander sections and covering the bearings, substantially as described.

2. An apparatus for expanding or stretching textile fabrics, having, in combination, an expander consisting of a curved rod provided with cylindrical expander sections provided with bearings rotatably mounted thereon and elastic washers located between the expander sections and covering the bearings, substantially as described.

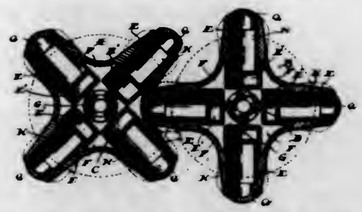
3. An apparatus for expanding or stretching textile fabrics, having, in combination, an expander consisting of a curved rod provided with cylindrical expander sections provided with bearings rotatably mounted thereon and felt washers located between the expander sections and covering the bearings, substantially as described.

868,099. PUSH-CART. JOSEPH T. KOEN, Oneida, N. Y. Filed Apr. 29, 1907. Serial No. 370,921.



A push cart comprising a body, axle and wheels in combination with a bracket projecting rearwardly from the rear end of the body, a leg pivoted to said bracket and extending upwardly and downwardly therefrom, a catch on the rear end of the body for engaging the upper portion of the leg above the pivot and holding said leg in an upright position, and a strap pivotally connected to the lower end of the leg and having sliding interlocking connection with the axle.

868,100. ROTARY ENGINE. JOHN KREHBIEL, Cleveland, Ohio. Filed Jan. 7, 1907. Serial No. 351,042.



1. In an engine the combination of a pair of coöperating revoluble members formed with piston chambers, pistons carried by said members, adapted to engage the opposing member to actuate said members.

2. In an engine the combination of a pair of interlocking revoluble members formed with radial piston chambers, pistons in said chambers, each adapted to alternately act against its opposing member to actuate said members.

3. In an engine the combination, of a pair of interlocking revoluble members each formed with a series of radial piston chambers, pistons in said chambers each adapted to actuate the opposing member and means for supplying the motive agent to said chamber.

4. In a rotary engine the combination of revoluble members formed with cogs or arms meshing with each other and pistons carried by said members adapted to act against the opposing member.

5. In a rotary engine the combination with the shafts of a pair of revoluble members having cogs or arms meshing with each other and radial pistons carried by said arms adapted to act against the opposing member.

6. In a rotary engine, the combination of the revoluble members having radial arms meshing with each other, radially movable pistons carried by said arms, each adapted to engage and actuate the opposing member and means for supplying the motive agent to said pistons.

7. In a rotary engine, the combination with the shafts, of a pair of revoluble engine members mounted thereon having radial arms meshing with each other, radially moving pistons mounted in recesses formed in said arms and adapted to alternately act against the arms of the opposing members.

8. In a rotary engine, the combination of the revoluble members formed with radial arms meshing with each other, piston chambers formed in said arms and pistons in said chambers adapted to engage and impart an impulse to the next adjacent arm of the opposing member to actuate the same.

9. In a rotary engine the combination with the shafts, of a pair of revoluble members formed with radial arms meshing with each other mounted on said shafts, piston chambers in said arms, and pistons in said chambers.

10. In a rotary engine a revoluble member formed with radial arms forming piston chambers and pistons therein said pistons and arms having a convex outer end portion and concave portions intermediate said arms, said concave and convex portions being united by a line tangential thereto.

11. In a rotary engine the combination with the shafts and gears thereon, of a pair of revoluble members formed with radial arms meshing with each other mounted on said shafts, radial piston chambers in said arms intermittently communicating with the motive agent and radial pistons in said chambers, adapted to alternately act against the arms of the opposing member when at substantially right angles thereto.

12. In a rotary engine, the combination with a pair of shafts and gears thereon, of a pair of revoluble members mounted on said shafts and formed with radial arms meshing with each other, piston chambers in said arms, pistons in said chambers, disks formed with inlet and exhaust ports sleeved on said shafts and ports in the piston chambers alternately communicating with said ports.

13. In a rotary engine the combination with the shafts and gears thereon, of two pair of revoluble members mounted on opposite sides of said gears and formed with radial arms meshing with each other, piston chambers formed in said arms and pistons therein, disks sleeved on said shafts adjacent to said members and formed with inlet and exhaust ports and ports in said chambers communicating with the inlet and exhaust ports.

14. In a rotary engine, the combination with the shafts, of the revoluble members formed with arms meshing with each other, radial piston chambers formed in said arms, pistons in said chambers, a disk sleeved on said shafts, adjacent to said members and formed with elongated concentric inlet and exhaust ports and ports in said piston chambers communicating alternately with said inlet and exhaust ports.

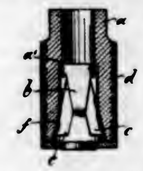
15. In a rotary engine the combination of a pair of revoluble members formed with radial piston chambers, pistons in said chambers formed with trunnions projecting through radial apertures in the walls of said chambers and disks formed with cam grooves in which said trunnions are adapted to travel for the purposes described.

16. In a rotary engine the combination of a pair of revoluble members formed with radial piston chambers, pistons in said chambers formed with trunnions projecting through the walls of said chambers and disks formed with inlet and exhaust ports communicating with said chambers and formed with cam grooves in which said trunnions are adapted to travel for the purpose described.

17. In a rotary engine, the combination, of a pair of engine members formed with radial piston chambers, pistons in said chambers, a disk formed with inlet and exhaust ports alternately communicating with said chambers and with the source of supply and an ignition device intermediate said inlet and exhaust ports for the purpose specified.

18. In a rotary engine the combination, of a pair of revoluble members formed with radial piston chambers and pistons therein formed with trunnions projecting through radial slots in the walls of said chambers, a disk formed with inlet and exhaust ports alternately communicating with said chambers and formed with cam grooves in which said trunnions are adapted to travel and an ignition device for the purpose described.

868,101. DRILL-CHUCK. MAX KUHS, Oderberg, Mark, and GUSTAV PETIG, Brandenburg-on-the-Havel, Germany. Filed Jan. 25, 1907. Serial No. 354,105.

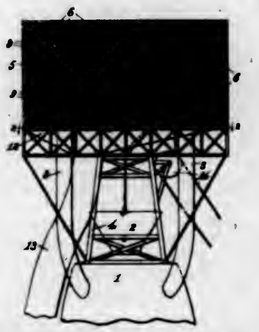


1. In a drill chuck, the combination of a holder having a conical opening at one end with a series of tapering gripping members of oval cross section seated therein and means for clamping the same between the inner conical surface of the holder and the drill stem.

2. In a drill chuck the combination of a holder having a conical opening at one end with a series of tapering gripping members of oval form seated therein, a cage for the members and means for moving the cage to bring the members against the conical surface of the holder to force the members inwardly so that they will grip the drill stem.

3. In a drill chuck the combination of a holder having a conical opening at one end with a series of tapering gripping members having oval cross section seated therein, a cage-like holder having lateral orifices to receive the said members, an external screw thread on the said holder and a sleeve to undergrip the said cage-like holder and clamp the said members against the drill stem substantially as described.

868,102. DEVICE FOR ARRESTING THE EXPLOSION DISCHARGE FROM BLAST-FURNACES. LARS LARSSON, Chicago, Ill. Filed June 12, 1907. Serial No. 378,607.

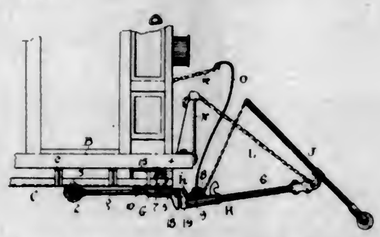


1. In a device of the class described, a furnace having the usual explosion pipes, in combination with a cage arranged above said furnace and into which said explosion pipes discharge and a discharge pipe extending from said cage, substantially as described.

2. In a device of the class described, a furnace having the usual explosion pipes, in combination with a cage arranged above said furnace, and into which said explosion pipes discharge, a funnel shaped bottom for said cage, and a discharge pipe leading from said cage, substantially as described.

3. In a device of the class described, a blast furnace, having the usual explosion pipes, in combination with a cage arranged above said furnace and into which said pipes discharge the sides, and top of said cage being divided into a plurality of panels, a coarse mesh grating closing each of said panels, and a reinforcing device for said grating, a funnel shaped bottom for said cage, and a discharge pipe leading therefrom, substantially as described.

868,103. CAR-FENDER. BENJAMIN LEV, Cleveland, Ohio, assignor to The Eclipse Railway Supply Company, Cleveland, Ohio, a Corporation. Filed Jan. 23, 1907. Serial No. 353,614.



1. In car fenders, a fender mechanism comprising a spring fender adapted to stand vertically, a tilting carrier and a hinged support for said parts, and a frame having said hinged support engaged with its front and adapted to slide beneath the car body, said spring fender and carrier being foldable.

2. In car fenders, a car with tracks at its bottom and fender mechanism comprising a fender support and a carrier pivotally supported thereon, and a frame adapted to travel on said tracks having said fender support hinged to fold thereon.

3. A car body and tracks lengthwise on the bottom thereof, fender mechanism comprising a foldable fender carrying frame and a support therefor adapted to run on said tracks and convey said frame beneath the body of the car folded on said support.

4. A car body and tracks lengthwise beneath the same, in combination with fender mechanism adapted to be supported at the front of the car comprising a tilting carrier and an upright fender behind the same, and a supporting frame for said mechanism engaged on said tracks.

5. A car body having tracks on the bottom thereof, a supporting frame having rollers running on said tracks and fender mechanism hinged to the front of said frame adapted to fold and to be retired beneath said tracks, said supporting frame having a roller at its center and rear engaging beneath one of said rails.

6. A car body and central and side tracks lengthwise on the bottom thereof, in combination with a fender supporting frame on said tracks having rollers upon the top of the side tracks and a roller engaging the bottom of the middle track.

7. A car body having side tracks and a central track on its bottom, in combination with a fender supporting frame having a substantially V shaped portion at its rear operatively engaged from beneath with said central track and rollers running on top of said side tracks, and a folding fender mechanism hinged to the front of said supporting frame and carried in a substantially horizontal position thereby.

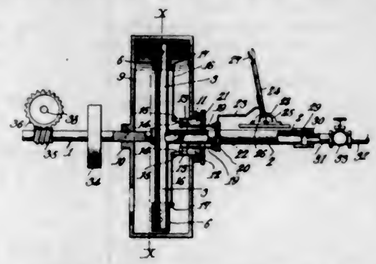
8. A car body and a central and side track on the bottom thereof, a supporting frame for a car fender adapted to run on said tracks, a fender carrying frame hinged to said supporting frame, a tilting carrier and a fender adapted to fold upon said carrying frame.

9. A car having tracks lengthwise on its bottom, a fender supporting frame adapted to travel on said tracks and having rollers, and means to lock said frame in working position comprising stops adapted to swing laterally behind said rollers, and an operating connection uniting said stops.

10. A car body and tracks on the bottom thereof, in combination with a supporting frame having rollers traveling on said tracks, and stop mechanism for said frame adapted to prevent the thrusting of the frame to the rearward when an obstruction is encountered, said mechanism comprising stops for said rollers and a rod connecting said stops, and fender mechanism supported upon the front of said frame.

11. In car fenders, the combination of a carrier, with a spring fender mounted at the rear thereof and means to hold said spring fender under tension at its free end.

868,104. ROTARY ENGINE. LUTE L. LEWIS, Tulsa, Ind. Ter. Filed Jan. 29, 1907. Serial No. 354,721.



1. A rotary engine of the reaction type having a rotor composed of radial hollow arms for receiving fluid under pressure, and provided with opposite ports arranged at right angles to the radial plane of the arms and in the plane of rotation thereof, and means for opening either of said ports and for closing both of the same.

2. A rotary engine of the reaction type comprising hollow radial arms mounted upon a suitable axis for rotation and provided with ports arranged at right angles to the plane of the radial arms and in the plane of rotation thereof, and sleeves carried by the outer ends of said arms and movable longitudinally thereon and also provided with ports arranged to be moved with the sleeves into and out of communication with the ports on the radial arms.

3. A rotary engine of the reaction type comprising hollow radial arms mounted upon a suitable axis and provided with ports on opposite sides at right angles to the plane of the radial arms and in the plane of rotation, and sleeves carried by said arms coincident with said ports and having other ports located in the plane of rotation but displaced in radial direction, the said sleeves being movable radially to bring one or the other of these ports into coincidence with the respective port in the arm.

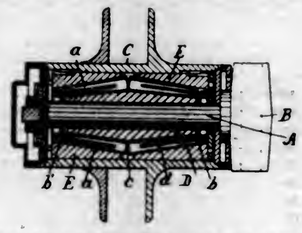
4. A rotary engine of the reaction type comprising a shaft having a solid member and a hollow member, which latter is constructed to conduct fluid under pressure, radial rotatable hollow arms carried by said shaft coincident with the junction of the hollow and solid members thereof and in communication with the hollow member, said arms being closed at their outer ends and provided with ports on opposite sides in the plane of rotation, and means for opening one or the other of said ports to cause the rotation of the arms in one direction or the other.

5. A rotary engine of the reaction type comprising a rotor composed of hollow radial arms having ports on opposite sides in the plane of rotation, sleeves carried by the ported ends of said arms and having radially-displaced ports in the plane of rotation of the arms, and a connected operating link system for moving the sleeves simultaneously in a radial direction.

6. A rotary engine of the reaction type comprising a supporting shaft composed of a hollow member and a solid member coupled together, radial hollow rotatable arms connected to said hollow member of the shaft at the point of junction with the solid member and provided with ports arranged near the outer ends of said arms and on each side thereof in the plane of rotation, slidable sleeves on the outer ends of said arms having ports in the plane of rotation but radially displaced, a connected link mechanism for moving said sleeves to uncover one or the other of the ports on the two sides of the arms, and power-transmission gear carried by the solid member of the shaft.

868,105. CAGE FOR ROLLS IN ROLLER-BEARINGS. CHARLES S. LOCKWOOD, Newark, N. J., assignor to Hyatt Roller Bearing Company, Harrison, N. J., a Corporation of New Jersey. Filed Oct. 25, 1906. Serial No. 340,434.

1. A sheet-metal cage, for hollow bearing-rolls, having annular heads *b*, *b'*, at the ends, integral guide-bars *c* connecting such heads and integral flexible prongs projected from at least one of the heads between the guide-bars to penetrate the rolls and hold them in place.



2. A cage for hollow bearing rolls, the cage having annular divided heads at the ends, guide-bars connecting the heads, intermediate flexible prongs projected from the heads to penetrate the rolls and hold them in place, and means for clamping the halves of the divided heads together.

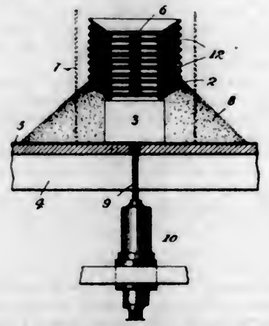
3. A cage for hollow bearing rolls, the cage having annular divided heads at the ends, guide-bars connecting the heads, intermediate flexible prongs projected from the heads to penetrate the rolls and hold them in place, and grooved collars fitted to the divided heads to clamp the halves together.

4. A cage for hollow bearing rolls, the cage being made in sections of sheet-metal and having annular heads at the ends, guide-bars connecting the heads, and intermediate flexible prongs projected from the heads to penetrate the rolls and hold them in place.

5. The combination, with a set of hollow rolls, of a combined cage and roller-guide having heads at opposite ends, guide-bars connecting the heads intermediate to the rolls to guide the same, and flexible prongs projected from the heads within the rolls to hold them in place.

6. The combination, with a set of hollow rolls, of a combined cage and roller-guide having divided heads at opposite ends, guide-bars connecting the heads intermediate to the rolls to guide the same, flexible prongs projected from the heads within the rolls to hold them in place, and collars fitted to the divided heads to clamp the halves together.

868,106. BEDDING CERAMIC WARE FOR FIRING. ERNEST MAYER, Beaver Falls, Pa., assignor of one-half to Joseph Mayer, Beaver Falls, Pa. Filed Jan. 4, 1907. Serial No. 350,811.



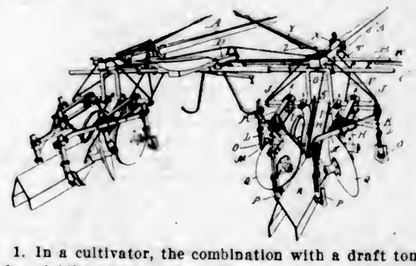
1. The process of bedding ware for firing, consisting in confining a body of suitable bedding material about and between the articles of ware, and then agitating the articles and bedding to effect even distribution of the bedding, and removing the bedding material which is outside of the said articles.

2. The process of bedding ware for firing, consisting in confining a body of suitable bedding material about and between the articles of ware, then agitating the articles and bedding to effect even distribution of the bedding, and then removing the surplus material and burning the ware in the kiln.

3. The process of bedding ware for firing, consisting in confining a body of suitable bedding material about and between the articles of ware, then agitating the articles and bedding to effect even distribution of the bedding, and then removing the surplus material and burning the ware within a suitable vessel in the kiln.

4. The process of bedding ware for firing, consisting in confining a body of suitable bedding material within a shell and about and between the articles of ware, then agitating the articles and bedding to effect even distribution of the bedding, then removing the shell and surplus bedding material, and burning the ware within a saggar in the kiln.

868,107. LISTER-CULTIVATOR. CHARLES H. MELVIN, Moline, Ill., assignor to Deere & Company, Moline, Ill., a Corporation of Illinois. Filed Dec. 27, 1905. Serial No. 293,544.



1. In a cultivator, the combination with a draft tongue, of a rigidly attached depending arch or yoke adapted to straddle a row and have its lower portions provided with outwardly-projecting arms, sleeves mounted on said arms and capable of turning thereon, supporting wheels whose standards are rigidly secured to said sleeves, and trailing cultivator-rigs whose carrying-members are secured to said sleeves.

2. In a cultivator, the combination with a seat-frame or main frame of the implement, of a depending supporting arch or yoke therefor adapted to straddle a row and having outwardly-projecting arms, sleeves mounted on said arms and capable of turning thereon, supporting wheels and standards therefor rigidly and adjustably attached to said sleeves, and trailing cultivator-rigs and carrying-members therefor rigidly and adjustably attached to said sleeves, said standards and carrying-members being independently attached.

3. In a cultivator, the combination of a frame including a supporting yoke therefor, said yoke adapted to straddle a row and having its lower portions bent outwardly to provide spindles, sleeves rotatably-fitted on said spindles, wheel-carrying standards having their upper ends rigidly-clamped to said sleeves, trailing cultivator-rigs comprising interchanegable oppositely-inclined beams carrying cultivating-devices, and rig-frames or members having their forward ends rigidly clamped on said sleeves.

4. In a cultivator, the combination of a wheel-supported frame having lateral arms, sleeves rotatably fitted on said arms, trailing rig-frames having at their front ends suitable clamps rigidly-attached on said sleeves, said rig-frames carrying at their rear ends blocks with oppositely inclined lateral faces, and interchangeable shovel-beams bolted to said blocks on the said inclined faces thereof, said shovel beams carrying cultivating devices respectively adapted for working opposite sides of a row.

5. In a cultivator, the combination with the cultivator-frame of a pair of interchangeable cultivator-rigs arranged for working opposite sides of a row and comprising oppositely inclined beams or bars adapted to be transposed and respectively equipped with front and rear cultivator-blades or shovels and an intermediate disk, said disk facing the direction of forward inclination of the beam.

6. In a cultivator, the combination of a wheel-supported frame, a draft-tongue, a draft or hitch device pivotally-

connected to said tongue, a trailing cultivator-rig pivotally-attached to the frame to permit up and down motion of the cultivating devices, and link connections between said rig and hitch device whereby the pull of the team forces the cultivating devices down into the soil, and a lever connected to said hitch-device for actuating the same reversely to the direction of said pull.

7. In a cultivator, the combination of a wheel-supported frame, draft-tongue therefor, trailing cultivator-devices whose carrying-frame is pivotally-attached to said wheel-supported frame, and a hitch-device intermediately pivoted to said tongue and connected to the cultivator carrying-frame, in such manner that the pull of the team in drawing the implement forward also forces down the cultivating devices into the ground, and a lever connected to said hitch device for actuating the same reversely to the direction of said pull.

8. In a cultivator, the combination of a wheel-supported arched frame or yoke having lateral arms, sleeves turnable on said arms, standards depending rigidly from said sleeves having the wheels attached thereto, cultivator-rigs whose carrying-members are rigidly attached to said sleeves, a draft-tongue, means for independently adjusting said standards and carrying-members on said sleeves a movable hitch-device pivotally-attached to said tongue, and connections between said device and the wheel-standards adapted to be pulled forward by the pull of the team.

9. In a cultivator, the combination of a wheel-supported arched frame or yoke having lateral arms, sleeves turnable on said arms, standards depending rigidly from said sleeves having the wheels attached thereto, cultivator-rigs whose carrying-members are rigidly attached to said sleeves, a draft-tongue, a forked or bi-branched lever straddling the tongue and pivotally-attached thereto, the lower arms of said lever adapted for hitching the team thereto, and draft-rods connecting said lower arms to the wheel-standards, a lever fulcrumed on the tongue, and a rod connecting said lever to the upper arm of said forked lever.

10. In a cultivator, the combination of a wheel-supported frame, a trailing set of cultivator-rigs pivotally-attached to said frame, a draft-tongue, a hitch-device movably connected thereto, link connection between said device and said cultivating-rig, and a lifting lever fulcrumed on the frame and connected to said hitch-device.

11. In a cultivator, the combination of two flexibly-connected tongues, a seat-frame comprising two parallel cross-bars and an intermediate seat-bar attached to and connecting them, both tongues being slidably and pivotally connected to both cross-bars, and two sets of cultivating devices whose carrying frames are rigidly attached to the respective tongues.

12. In a cultivator, the combination of a transverse seat-frame, a pair of flexibly-connected tongues, depending yokes rigidly attached to said tongues, wheels supporting said yokes, each pair of wheels arranged to straddle a row, the depending legs of said yokes having outwardly-projecting spindles, sleeves journaled on said spindles, and two sets of cultivating devices each arranged to operate on opposite sides of the respective row, each set comprising interchangeable trailing rigs attached to the sleeves at the opposite sides of the respective yoke.

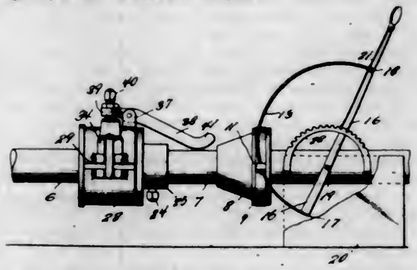
13. In a cultivator, the combination of a wheel-supported frame, wheel-carrying standards and trailing cultivator-rigs, said wheel-standards together with the cultivator-rigs adapted to be moved backward relative to the frame for elevating the cultivating devices, a draft-tongue, a forked lever straddling said tongue, a hitch-device connected to the legs of said lever below the tongue, links connecting said legs of the forked lever with the wheel-standards, a manipulating lever mounted on the frame, and a rod connecting said lever and the forked lever above the tongue.

14. In a cultivator, the combination of wheel-carrying standards, a frame mounted thereon and to which said standards are pivotally-attached in such manner as to permit the supporting-wheels to be swung backward relative to the frame, trailing cultivator rigs rigid with said standards, a relatively-movable hitch-device, link-connections between said hitch-device and wheel-standards whereby the implement is held in balance and the cultivating devices in the soil by the pull of the team, and a lever connected with said link-connections for moving back the wheel-standards and thereby lifting the cultivating-devices.

15. In a cultivator, the combination of a tongue, a depending yoke on which said tongue is mounted, the legs of said yoke having lower lateral extensions, sleeves on said extensions, depending wheel-standards and trailing cultivator-rigs attached rigidly on said sleeves, the arrangement being such that the wheel-standards together with the cultivator-rigs can be swung backward thereby elevating the cultivating devices, means holding the implement in balance by the pull of the team, and a lever mounted on the implement connected with the wheel-standards for moving them backward.

16. In an implement of the character described, the interchangeable cultivator-rigs comprising the trailing frames K, each consisting of a pair of straps or bars whose front ends are equipped with clamp-members for attachment to the cultivator-frame, the blocks L bolted between the rear ends of said bars, and the oppositely-oblique shovel-beams M and N equipped with cultivating devices for working opposite sides of a row and respectively attached to the blocks L.

868,108. SHIPPING DEVICE FOR FRICTION-CLUTCHES. CHARLES J. MOORE, Lebanon, Ill. Filed Apr. 5, 1906. Serial No. 310,119.



1. The combination, with the clutch members, of a clutch shipping member movable independently of the clutch members and provided with diametrically opposite perforated extensions, and a lever having a rod bowed in the direction of the clutch members and secured at opposite ends thereto for actuating said movable member, said rod including oppositely facing upper and lower yoke portions, the arms of which are slidably engaged in said perforated extensions.

2. The combination, with the clutch members, of a clutch shipping cone longitudinally movable independently of the clutch members and provided with an annular groove, a ring fitting in said groove and provided with diametrically opposite perforated ears, and a lever having a rod bowed in the direction of the clutch members and secured at opposite ends thereto for actuating said cone, said rod including oppositely facing upper and lower yoke portions, the arms of which are slidably engaged in said perforated ears.

868,109. METHOD OR PROCESS OF MAKING ARTIFICIAL TEETH. JOSEPH MORRIS, North Wales, Pa., assignor to The Dental Protective Supply Company of the United States, Chicago, Ill., a Corporation of Illinois. Filed Sept. 15, 1905. Serial No. 278,610.

1. The method of manufacturing artificial teeth which consists in molding with the porcelain body of a tooth a backing of composition material containing a metal oxid constituting an anchorage for the usual fastening pins, and then integrating said parts by heat, substantially as described.

2. The method of manufacturing artificial teeth which consists in subjecting a metal oxid to a high temperature, subsequently mixing said oxid with powdered porcelain, and then fusing said mixture with the body of a porcelain tooth and around the usual anchoring pins thereof, substantially as described.

3. The method of manufacturing artificial teeth which consists in charging the cavity of a mold-member with a plastic porcelain, erecting in the cavity of a companion mold-member one or more fastening pins, partially charging said last-named cavity around said fastening pins with an anchoring material of superior strength to the porcelain and fusible with the latter, filling the rest of said cavity with plastic porcelain, uniting the mold-members with said cavities in registration, and fusing said parts of the tooth together, substantially as described.

4. The method of manufacturing artificial teeth which consists in charging the cavity of a mold-member with plastic porcelain, erecting in the cavity of a companion mold-member one or more fastening pins, charging one end of said last-named cavity with plastic porcelain to form in part the backing of the tooth, further partially charging said last-named cavity around said fastening pins with an anchoring material of mixed porcelain and metal oxid, charging the rest of said cavity with body porcelain, uniting the mold-members with said cavities in registration, subjecting the mold to a baking heat, then removing and trimming the tooth, and finally subjecting it to a heat sufficient to fuse and integrate the parts, substantially as described.

5. The method of manufacturing artificial teeth which consists in subjecting a metal oxid to a high temperature, mixing said oxid with powdered porcelain in a plastic state to form an anchoring composition, charging the cavity of a mold-member with plastic porcelain, erecting in the cavity of a companion mold-member one or more fastening pins, charging one end of said last-named cavity with plastic porcelain to form the backing of the lower end of the tooth, further partially charging said last-named cavity around said fastening pins with said composition anchoring material, charging the rest of said cavity with body porcelain, uniting the mold-members with said cavities in registration, subjecting the mold to a baking heat, then removing and trimming the tooth, and finally subjecting it to a heat sufficient to fuse and integrate said parts, substantially as described.

868,110. ELECTRIC LAMP. ALEXANDER P. MCARTHUR, Orange, N. J. Filed Oct. 9, 1905. Serial No. 281,911.

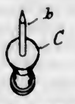


1. In an electric lamp, the combination of a bulb or inclosing transparent shade, a refracting body having opposed prism and smooth surfaces within the bulb, and a light-giving filament device arranged adjacent the smooth surface of the reflecting body and in proximity thereto, substantially as described.

2. In an electric lamp, the combination of a bulb or inclosing transparent shade, a refracting body having opposed prism and smooth surfaces within the bulb, the prism surface being formed of staggered prisms having their ends terminating at different radial distances from the center of the refractor, and a light-giving filament arranged adjacent to the smooth surface of the reflecting body, substantially as described.

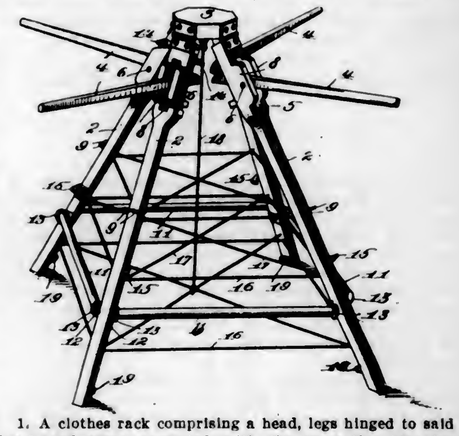
3. An incandescent lamp, comprising a bulb, a stem for the leading in wires, and a reflector inside of the bulb, said reflector being provided with an opening to receive the stem.

868,111. CARRIAGE-CURTAIN KNOB. FRED A. NEIDER, Augusta, Ky. Filed Aug. 30, 1905. Serial No. 276,365.



A carriage curtain knob comprising two metal blanks secured together, one blank consisting of a head and neck having a seat or opening and the other blank consisting of a shank having one end flattened and spread, the said end being embedded in the seat and snugly fitting the walls thereof.

868,112. CLOTHES-RACK. JAMES A. NEWMAN, Columbus, Ohio. Filed June 23, 1906. Serial No. 323,084.



1. A clothes rack comprising a head, legs hinged to said head, and arms connected with the respective legs for longitudinal and swinging motion relative thereto, and means on the legs for holding the arms in their operative positions.

2. A clothes rack involving a leg, having a longitudinal slot, a pin extending across said slot, an arm, said pin constituting a pivot for the arm, and the arm being mounted for endwise motion with respect to the pivot, whereby the arm can be laid against the leg or can assume an angular position with respect thereto, and a second pin crossing said slot to overlie the inner portion of the arm when the latter is in said angular position.

3. A clothes rack involving a leg, having a longitudinal slot, a pin extending across said slot, an arm, said pin constituting a pivot for the arm, and the arm being mounted for endwise motion with respect to the pivot, whereby the arm can be laid against the leg or can assume an angular position with respect thereto, a second pin crossing said slot to overlie the inner portion of the arm when the latter is in said angular position, strips at opposite sides of said slot, and pins on the leg below the slot, the arm being adapted to fit between said pins and strips when folded against the leg.

868,113. COUPLING DEVICE FOR GAS-FITTINGS. RICHARD N. OAKMAN, Brooklyn, N. Y. Filed Aug. 10, 1906. Serial No. 330,059.

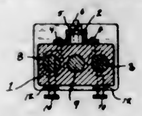


1. A union or coupling joint for gas fittings, consisting of a tubular part having a larger and a smaller longi-

tudinal opening providing an interior shoulder, the larger opening being screw threaded, a tube having the end spread and bearing at the outer face of such spread end on the shoulder, a compressible packing of rubber tubing on the tube, a tubular nut having a male screw-threaded portion also on the tube, for engaging the parts and making a tight joint, substantially as described.

2. A union or coupling joint consisting of a part having larger longitudinal openings in its ends and a transverse partition having a smaller opening connecting them, providing interior shoulders integral with said part, the larger openings being screw threaded, tubes having their ends spread and bearing on said shoulders, compressible packing rings on both tubes and tubular nuts having male screw threaded portions and heads, also on the tubes, for engaging the parts, connecting the tubes and making tight joints, substantially as described.

868,114. MARKING-GAGE. OTTO OBERMEYER, Milwaukee, Wis. Filed May 17, 1907. Serial No. 374,164.

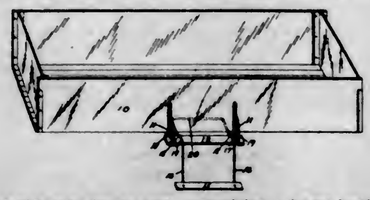


1. In a marking gage the combination of a slide retaining block provided with a plurality of longitudinal slide retaining apertures centrally located between its upper and lower surfaces, a plurality of slides located in said apertures, a metallic marking blade affixed to the protruding ends of said slides, a slide receiving chamber centrally secured to one of the surfaces of said block, a slide located in said chamber provided with a protruding marking point and means for moving and locking all of said slides at any desired point of adjustment in their inclosing bearings.

2. In a marking gage, the combination of a slide retaining block provided with a plurality of longitudinal slide retaining apertures centrally located between its upper and lower surfaces, a plurality of slides located in said apertures, a revoluble marking wheel affixed to the protruding ends of said slides provided with counter-sunk bearings formed for their reception in the respective ends of said blocks around said slide retaining apertures, means for moving and locking said slides at any desired point of adjustment.

3. In a marking gage the combination of a slide retaining block provided with three longitudinal slide receiving apertures centrally located between its upper and lower surfaces, two slides having protruding ends at one end of said block and a third slide centrally located between said two first mentioned slides protruding from the opposite end of said block, an annular cutting blade revolubly secured to the protruding ends of all of said slides, and means for moving and locking said slides at any desired point of adjustment in their supporting bearings, all substantially as and for the purpose specified.

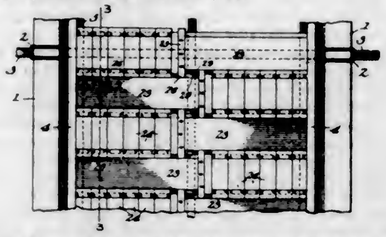
868,115. SIDE STEP FOR WAGONS. JOHN C. OLIVA. Marengo, Iowa. Filed Dec. 3, 1906. Serial No. 346,053



1. A side step for wagons, comprising a frame having its upper portion shaped to fit over and rest upon a cleat on the wagon box, and having shoulders projecting downwardly to engage the inner edge of said cleat to prevent the frame from slipping outwardly, and also having a portion to project under the wagon box, and a step portion fixed to the lower end of the frame.

2. The combination with a wagon box having brackets at its sides and a cleat secured to the said brackets to extend longitudinally of the wagon box, spaced apart therefrom, and having notches on its inner edge, and a frame having its upper portion shaped to fit over the cleat and having a downwardly projecting portion to enter the notches, and a part to project under the wagon box, the lower portion of said frame extended downwardly and outwardly, and a side step fixed thereto.

868,116. CENTERING FOR FIREPROOF CONSTRUCTION. CHARLES D. OLIVER, New York, N. Y. Filed Jan. 4, 1907. Serial No. 350,755.



1. In fireproof floor and ceiling construction, a centering comprising a plurality of parallel sections, each section consisting of a relatively long member and a plurality of removable and interchangeable shorter members, and means for supporting the sections.

2. In fireproof floor and ceiling construction, a centering comprising a plurality of parallel sections, each section consisting of a relatively long member and a plurality of removable and interchangeable shorter members, the long member of one section being located alongside the shorter members of an adjacent section.

3. In fireproof floor and ceiling construction, a centering comprising a plurality of parallel sections, each section consisting of a relatively long member and a plurality of removable shorter members, the longer members of the different sections alternating with the shorter members.

4. In fireproof floor and ceiling construction, a centering comprising a plurality of parallel sections, each section consisting of a relatively long member and a plurality of removable shorter members, the longer members of the different sections alternating with the shorter members, and vertically adjustable supporting means for the said sections.

5. In fireproof floor and ceiling construction, a centering comprising a plurality of parallel sections, each section consisting of a relatively long member and a plurality of removable shorter members, the shorter members of one section being supported by the long members of adjacent sections.

6. In fireproof floor and ceiling construction, a centering comprising a plurality of parallel sections, each section consisting of a relatively long member and a plurality of removable shorter members, and interconnecting means between the shorter members of one section and the long members of adjacent sections.

7. In fireproof floor and ceiling construction, a centering comprising a plurality of parallel sections, each section consisting of a relatively long member and a plurality of removable shorter members, and plates attached to the opposite ends of the shorter members and adapted to overhang the edges of the longer members of adjacent sections.

8. In fireproof floor and ceiling construction, a centering comprising a plurality of parallel sections, each section consisting of a relatively long member and a plurality of shorter members, the longer members of the different sections alternating with the shorter members, haunch-boards at the ends of said sections and upon which the latter rest, and means for adjustably supporting the haunch-boards.

9. In fireproof floor and ceiling construction, a centering comprising a plurality of parallel sections, each section consisting of a relatively long member, and a removable filling-in member or members, and means for supporting the sections.

10. In fireproof floor and ceiling construction, a centering comprising a plurality of parallel sections, each section consisting of a relatively long member and filling-in member or members, the longer members of the different sections alternating with the filling-in members, and means for supporting the sections.

11. In fireproof floor and ceiling construction, a centering comprising a plurality of parallel sections, each section consisting of a relatively long member and a filling-in member or members, the latter named member or members of one section being supported by the long members of adjacent sections.

12. In fireproof floor and ceiling construction, a haunch-board and supporting means therefor, comprising a transverse joist, a vertically adjustable perpendicular member 9, pivotally connected to said joist and against which the haunch-board rests, and a member 13, pivotally connected at one end to said perpendicular member and adjustably connected at another point to said joist.

13. In fireproof floor and ceiling construction, a haunch-board and supporting means therefor, comprising a transverse joist, a vertically adjustable perpendicular angle-iron 9, pivotally connected to said joist and against which the haunch-board rests, and an inclined angle-iron 13, pivotally connected at one end to the upper end of the said perpendicular angle-iron and adjustably connected at another point to said joist.

14. In fireproof floor and ceiling construction, a centering comprising a temporary flooring and haunch-boards having longitudinal cleats and supporting means for the haunch-boards consisting of a transverse joist having a plate attached thereto and provided with a plurality of perforations, a cleat-engaging plate adjustably connected to the first named plate, and a connecting plate attached at one end to the cleat-engaging plate and adjustably connected at another point to the first named plate.

15. In a fireproof door and ceiling construction, a centering comprising a temporary flooring and haunch-boards having longitudinal cleats, and supporting means for the haunch-boards consisting of a transverse joist, a cleat-engaging plate adjustably connected to said joist, and a connecting plate attached at one end to the cleat-engaging plate and at another point adjustably connected to the joist.

16. In fireproof floor and ceiling construction, a centering comprising a temporary flooring and haunch-boards, a transverse joist, and adjustable supports for the haunch-boards, each consisting of an angle-iron 6, attached to the joist, a perpendicular member 9, pivotally connected to said angle-iron and against which the haunch-board rests, and an inclined member 13, pivotally connected at one end to said perpendicular member and at another point adjustably connected to the said angle-iron.

17. In fireproof floor and ceiling construction, a centering comprising a plurality of parallel sections, each section consisting of a relatively long member and a plurality of removable shorter members, the longer members of the different sections alternating with the shorter members, and a transverse plate attached to each long member, the opposite ends of the plate on one long member overhanging the edges of two adjacent long members.

18. In fireproof floor and ceiling construction, a centering comprising a temporary flooring and haunch-boards, easel-like frames for adjustably supporting said haunch-boards, and a centrally arranged vertically adjustable truss, a longitudinal joist on said truss for supporting the said flooring, and a transverse joist to which the said frames and truss are connected.

19. In fireproof floor and ceiling construction, a centering comprising a plurality of parallel sections, each section consisting of a relatively long member having its longitudinal edges rabbeted and a plurality of removable shorter members, the opposite ends of the shorter members of one section resting in the rabbeted edges of the longer members of adjacent sections.

20. In fireproof floor and ceiling construction, a centering comprising haunch-boards and a plurality of parallel sections, each section consisting of a long member and a plurality of removably supported shorter members, and a centrally arranged joist, the longer members of each section being supported at their opposite ends by one of the haunch-boards and the said joist, and the shorter members of each section being supported by the longer members of adjacent sections.

21. In fireproof floor and ceiling construction, a centering comprising haunch-boards and a temporary flooring supported thereby, a transverse joist, vertically adjustable means carried by the said joist for supporting the haunch-boards, a longitudinal joist for supporting the flooring intermediate its ends, and a vertically adjustable truss carried by the transverse joist and upon which the longitudinal joist rests.

868,117. MOVABLE FIRE-ESCAPE FOR BUILDINGS. ALONZO S. OLNEY, Berkeley, Cal. Filed Nov. 6, 1906. Serial No. 342,186.



1. In a fire escape, the combination of a fixed rail provided with a rack on the front of a building, flanged upright guides suspended from said rail, a vertical shaft protected by the flanges of said guides, gearing interposed between the upper end of the shaft and the rack on the fixed rail, a cage movable up and down in said guides, a set of counterweights for the cage, means for connecting the weights with the cage, and means for turning the vertical shaft to move the guides and cage along said fixed rail.

2. In a fire escape for a building a vertical runway comprising flanged guides suspended from the top of the building and capable of being moved transversely across the face of the building to occupy different positions thereon, a movable cage confined by and adapted to move up and down in said guides, and means for supporting and operating said cage, including counterweights confined and movable on said guides, a set of sheaves at the top of the guides, a set of sheaves at the bottom, a rope separately connecting each counterweight with the cage and secured to the top of the cage, the said ropes being carried from the top of the cage upward to the top sheaves, thence downward to and around the sheaves at the bottom and finally upward to the top sheaves and across the runway to connect with the counterweights on opposite sides thereof, and a brake device adapted to control the speed of the cage.

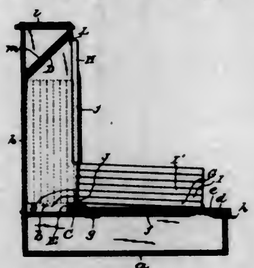
3. In a movable fire-escape for a building, a horizontal rail fixed to a building a vertical runway for a cage suspended from the said fixed rail and capable of being adjusted as to position transversely of the building, a cage movable up and down in said runway, means for operating

the cage comprising counterweights movable in opposite directions to the cage and normally overbalancing it when empty, ropes connecting the cage with the weight, a platform located above the ground fixed to said runway and movable therewith, means for applying power to the ropes for raising the cage when loaded and for drawing it down when empty, and means for transversely moving the runway, cage and platform located on said platform.

4. The combination of fixed guides, a cage movable up and down therein, sheaves at the top of the guides on opposite sides thereof, a set of sheaves at the bottom on each side, a counterweight confined on and adapted to travel on each guide, a rope separately connecting each counterweight with the cage, the said ropes being carried from the cage upward to the top sheaves, thence downward to and around the sheaves at the bottom, and finally upward to the top sheaves and across the guides to connect with the counterweights on opposite sides thereof, and a means for applying power to the ropes to operate the cage.

5. In a fire escape, the combination of a pair of uprights, each comprising an I-beam, adapted to form guides or slideways, means for suspending the uprights from the upper portion of a building, a cage slidable on the inner flanges of the I-beams, and counterweights slidable on the outer flanges of the I-beams.

868,118. CREDIT-ACCOUNTING APPLIANCE. ROLLIN D. PARDEE, Garrettsville, Ohio, assignor to The McCaskey Register Company, Alliance, Ohio, a Corporation of Ohio. Filed Aug. 11, 1906. Serial No. 330,187.



1. Credit-accounting appliances including a plurality of hinged bill-holding frames each comprising a bottom plate, partitions on the bottom plate to form pockets, and guards attached to the tops of the partitions and extending partially over the pockets, each pocket having two guards, one at either side thereof, and each guard extending partially over an end of the pocket.

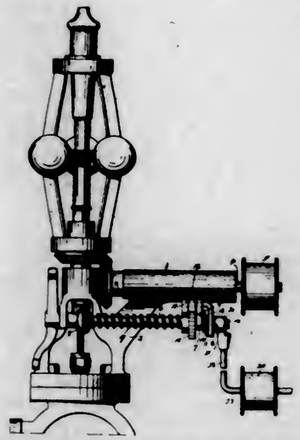
2. Credit-accounting appliances including a portable group of bill-holding frames hinged together and comprising each a bottom plate and strips secured to the bottom plate to form pockets, there being a plurality of pockets on each frame with closed bottoms, each pocket having a guard extending partially over one side thereof and a relatively shorter guard extending partially over the opposite sides thereof, said guards extending to one end of the pocket, each guard being secured to two of said strips, each one of said pockets being unobstructed at the front of one end thereof.

3. Credit-accounting appliances including a case, a pair of bearing plates in the case having each a stem extending vertically from the top thereof, each stem having a horizontal hinge-pin formed thereon, and a bill-holding leaf provided with a pair of bearing pieces that are angular in shape and extend against two faces of the leaf, the bearing pieces having each a slot in the angle thereof to clear the stem of the hinge-pin, and another slot extending horizontally therefrom in the part of the bearing piece that extends under the bottom of the leaf to clear the hinge-pin, said bearing pieces normally resting upon said bearing plates.

4. Credit-accounting apparatus including a case, an inclined guide fixed in the case, a pair of pivotal supports mounted on the bottom of the case, a plurality of bill-holding leaves hinged one to another, the foremost one of said leaves being pivotally mounted on said pivotal supports and normally supporting the other leaves in upright positions, and the rearmost one of said leaves normally resting against said inclined guide.

5. Credit-accounting apparatus including a case, an inclined guide fixed in the case, pivotal supports mounted on the bottom of the case, a plurality of bill-holding leaves hinged one to another, the foremost one of said leaves being pivotally mounted on said supports, and a contact-piece secured to the rearmost one of said leaves to engage said guide.

868,119. GOVERNOR. RICHARD H. PASCALL, Portland, Conn., assignor to The Pickering Governor Co., Portland, Conn., a Corporation. Filed Mar. 18, 1907. Serial No. 362,926.



1. In a governor, the combination with the speeder shaft, of a ratchet wheel mounted thereon, a rock shaft, a pawl mounted thereon and engaging with said ratchet, said rock shaft formed with a lever arm, a cam mounted adjacent thereto, a socket piece interlocked with said cam, and an idler carried by said socket piece, substantially as described.

2. In a governor, the combination with the speeder shaft, of a ratchet wheel mounted thereon, a rock shaft, a pawl mounted thereon and engaging with said ratchet, said rock shaft formed with a lever arm, a cam mounted adjacent thereto, a socket piece adjustably engaged with said cam and positively interlocked therewith, and an idler carried by said socket piece, substantially as described.

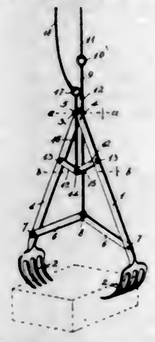
3. In a governor, the combination with the speeder shaft, of a ratchet wheel mounted thereon, a rock shaft, a pawl mounted thereon and engaging with said ratchet, said rock shaft formed with a lever arm, a cam arranged adjacent thereto and having an irregular surface, a socket piece having a corresponding irregular surface to engage therewith, and an idler mounted in said socket piece, substantially as described.

4. In a governor, the combination with the speeder shaft, of a ratchet wheel mounted thereon, a rock shaft, a pawl mounted thereon and engaging with said ratchet, said rock shaft formed with a lever arm, a cam arranged adjacent thereto and having an irregular surface, said cam formed in its outer face with a series of outwardly projecting teeth, a socket piece having corresponding teeth to engage therewith, and an idler mounted in said socket piece, substantially as described.

5. In a governor, comprising a driving shaft bearing arm, a bracket arm depending therefrom, a speeder shaft, a ratchet wheel mounted thereon, a rock shaft mounted in said bracket arm and having a lever arm extending therefrom, a pawl on said shaft and engaging with said ratchet, a stud mounted in said bracket arm, a cam mounted on said stud and adapted to engage with said lever arm, a socket piece also mounted on said stud and adjustably but positively interlocked with said cam, and an idler pulley supported by said socket piece, substantially as described.

6. In a governor comprising a driving shaft bearing arm, a bracket arm depending therefrom, a speeder shaft, a ratchet wheel mounted thereon, a rock shaft mounted in said bracket arm and having a lever arm extending therefrom, a pawl on said shaft and engaging with said ratchet, a stud mounted in said bracket arm, a cam mounted on said stud and adapted to engage with said lever arm, a socket piece also mounted on said stud and adjustably connected with said cam, an idler pulley carried by said socket piece, and a spring arranged on said stud and connected with the cam and with the bracket, substantially as described.

868,120. GRAPPLING-HOOK. JACOB C. PETERSON, Bessemer, Ala. Filed Feb. 18, 1907. Serial No. 358,054.



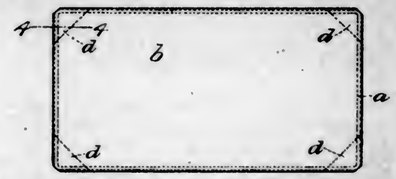
1. A grappling hook comprising a pair of jaws pivotally connected together at their upper ends, a pair of jaw closing and hoisting toggle links, having their inner ends pivotally connected together and their outer ends pivotally connected to said jaws, hoisting means attached to said links, a pair of lowering and jaw opening toggle links above the first-mentioned links, having their inner ends pivotally connected together and their outer ends pivotally connected to the jaws, and lowering means attached to the said lowering and jaw opening toggle links.

2. A grappling hook, comprising a pair of grappling jaws, a bolt pivotally connecting them together at their upper ends, and having guide eyes at their opposite ends, a pair of hoisting and jaw-closing toggle links connecting said jaws, a rod connected to said links and operating in one of the eyes of said bolt, said rod having a stop device to limit the downward movement thereof and of said links, a pair of lowering and jaw-opening toggle links connecting said jaws, a bolt pivotally connecting said last mentioned links together and having an eye through which the said rod operates, and a lowering and jaw-opening rod pivotally connected to the last-mentioned links and operating in the other eye of the first mentioned bolt, substantially as described.

868,121. BAKING-PAN. CHARLES E. PIERCE, Cambridge, Mass. Filed Oct. 20, 1904. Serial No. 229,254.

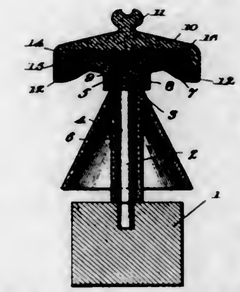
1. A baking pan comprising a frame, a top piece consisting of a single sheet of metal having its edges secured to the frame by being rolled about the same, and independent corner stay pieces, each being a separate triangular piece of sheet metal laid against the top piece at a corner thereof between the top piece and the frame, and having its outer edges rolled about the convergent adjacent members of the frame within the rolled edges of the top piece.

2. A baking pan comprising a frame, a top piece consisting of a single sheet of metal having its edges secured to the frame by being rolled about the same, and independent corner stay pieces, each being a separate triangular piece of sheet metal thicker than the top piece laid against the latter at a corner thereof between the top piece and the frame, and having its outer edges rolled about the convergent adjacent members of the frame within the rolled edges of the top piece.



3. A baking pan provided with a top piece consisting of a single sheet of metal having its edges rolled, and independent corner stay pieces each formed of a separate triangular piece of sheet metal laid against the top piece at a corner thereof beneath the same, and having its outer edges rolled within the convergent rolled edges of said top piece.

868,122. ELECTRIC INSULATOR. FRANCIS J. POINAN, Rochester, N. Y. Filed July 30, 1906. Serial No. 328,439.



1. In an insulator, the combination of a support, a pin thereon, and an insulating portion having a lower section comprising a flaring glass petticoat having an internal longitudinal sleeve formed integral therewith within which sleeve said pin fits, said glass portion entirely surrounding said pin except where it fits into said support, and an upper composite insulating section of different material from said lower section, substantially as described.

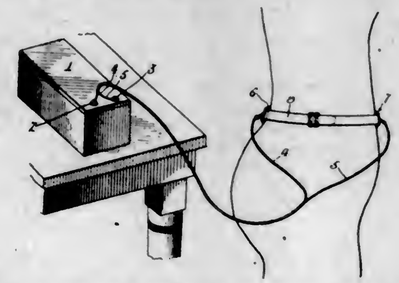
2. In an insulator, the combination with a support and a pin carried thereby made of non-conducting material, and an insulating material mounted thereon having a lower section made of glass comprising a petticoat, and a sleeve longitudinally disposed within said petticoat and terminating in a solid head, said sleeve and head fitting over said pin, and an upper section comprising a composite cap having a recessed base adapted to receive the head of said lower section, said upper section being made of a different kind of insulating material, substantially as described.

3. In an insulator, the combination with a support, a pin thereon and a composite member the lower section of which is made of glass and comprises a petticoat and glass sleeve terminating in a solid head, said sleeve being adapted to fit over said pin, and a two-part upper section the lower part having a recessed base to fit over said head and forming a cap, and a lower member and an intermediate member of a different kind of insulating material, the whole upper section being cemented together, substantially as described.

4. In an insulator, the combination of a pin with a base member comprising a conical glass petticoat and an internal sleeve adapted to fit over said pin, said sleeve ter-

minating in a solid head, and an upper section comprising a lower recessed member adapted to receive said head and cemented thereto, a cap member having a curved flange forming projecting side lips and recessed to form a space between said cap member and said lower member, and an intermediate member disposed within said recess, all of said members being cemented together, substantially as described.

868,123. CATAPHORIC APPARATUS. THOMAS J. RANDALL, Los Angeles, Cal., assignor to Sunset Hospital, Los Angeles, Cal., a Corporation of California. Filed Nov. 30, 1906. Serial No. 345,849.



1. In a cataphoric apparatus, an electric circuit, two electrodes connected thereto, one of the electrodes being a medicine receiver comprising a plurality of plates spaced apart to receive the medicament, and means for adjusting said plates to various rigid forms and for maintaining the plates rigidly in the form set.

2. In a cataphoric apparatus, an electrode comprising a medicine receiver consisting of a plurality of flexible plates, one of which is provided with series of slots, and clamping screws passing through the slotted plate and engaging the other plate, another electrode, and an electric circuit connected to both electrodes.

3. In a cataphoric apparatus, an electrode comprising a medicine receiver consisting of a plurality of flexible plates, one of which is provided with series of slots, clamping screws passing through the slotted plate and engaging the other plate, said clamping screws having elongated slotted heads which bear against the slotted plate, and a belt passing through said slotted heads, another electrode, and an electric circuit connected to both electrodes.

4. In a cataphoric apparatus, an electrode comprising a medicine receiver consisting of a plurality of flexible plates, one of which is provided with series of slots, clamping screws passing through the slotted plate and engaging the other plate, said clamping screws having elongated slotted heads which bear against the slotted plate, a belt passing through said slotted heads, and spacing sleeves around the respective screws between the two plates, another electrode, and an electric circuit connected to both electrodes.

5. In a cataphoric apparatus, an electrode comprising a medicine receiver consisting of a plurality of flexible plates, one of which is provided with series of slots, clamping screws passing through the slotted plate and engaging the other plate, said clamping screws having elongated slotted heads which bear against the slotted plate, a belt passing through said slotted heads, spacing sleeves around the respective screws between the two plates, one of the plates having orifices for the passage of medicament, a screen over said orifices, and a bag between said plates for holding the medicament, another electrode, and an electric circuit connected to both electrodes.

868,124. EGG-BEATER. GEORGE L. RAYMOND, Binghamton, N. Y. Filed Jan. 18, 1906. Serial No. 296,648.

The combination of three wires to form the wings, pivot and spiral of an egg beater, and the inclosing of the spiral portion of said wires when so formed within a handle, the upper part of which handle contains a spiral spring, and the lower part of which is capped by a trifurcated ferrule.



868,125. ANTIKICKING DEVICE FOR COWS. HENRY J. O. REED, Minneapolis, Minn., and JAMES T. REED, Auburn, Wash. Filed Aug. 29, 1906. Serial No. 332,462.



1. An anti-kicking device for cows comprising a leg bar engageable with the front of the leg, above and below the hock joint, and having a pair of clamping arms adapted to surround the leg, and provided at their free ends with pads for clamping the hollow rear portion of the leg above the hock joint, substantially as described.

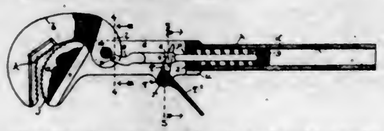
2. An anti-kicking device for cows comprising a leg bar having saddle portions engageable with the front portion of the cow's leg, both above and below the hock joint, a pair of arms pivotally connected to the intermediate portion of said bar and provided with means for detachably connecting their free ends, and hard pads applied to said arms near their free ends and adapted to engage the hollow rear portion of the cow's leg above the hock joint, substantially as described.

3. In an anti-kicking device for cows, the combination with a leg bar, of a pair of clamping arms applied to the intermediate portion of said bar, and provided at their free ends with means for detachably connecting them, and a pair of opposing hard pads adjustably connected to said arms near their free ends, substantially as described.

4. The combination with a leg bar 2 having, at its ends, saddle portions 3, of spring arms 5 and 6 pivotally connected to the intermediate portion of said bar 2, a hinge 11 having one leaf secured to the free end of said arm 5, the said arm 6 having an extension 12 terminating in the hook portion

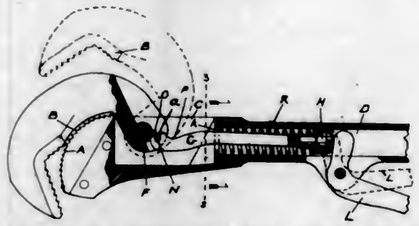
13 that is engageable with the hub of said hinge, and pads 8 adjustably secured to said arms 5 and 6 near their free ends, substantially as described.

868,126. PIPE-WRENCH. JOSEPH E. RICHARDS, Melrose, and CHARLES W. WALKER, Boston, Mass., assignors to Ireland Pipe-Wrench Company, Portland, Me. Filed Oct. 5, 1905. Serial No. 281,370.



A pipe-wrench constructed of a tubular-handle; a chambered-shank in continuation of and in one piece with said handle; a pipe gripping-jaw fixed at the outer end of said shank; a pipe-gripping jaw fulcrumed on said shank; a rod at one end-portion pivoted on said fulcrumed-jaw and at its other end-portion entered into said tubular-handle; a head rigidly fastened to said rod within and loosely fitting the bore of said handle; a coiled-spring confined end to end between said head and a shoulder at one end of the tubular-handle, and a lever fulcrumed on the chambered-shank and at one end-portion straddling the said rod lying therewithin, and arranged for a bearing at its opposite sides on shoulders of said rod, all as particularly described and for operation as specified.

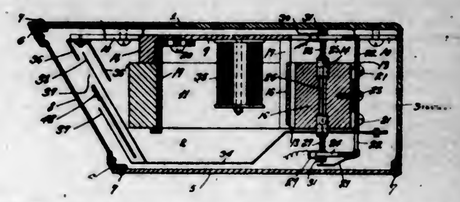
868,127. PIPE-WRENCH. JOSEPH E. RICHARDS, Melrose, Mass., assignor to Iriand Pipe Wrench Company, a Corporation of Maine. Filed Feb. 28, 1907. Serial No. 359,921.



A pipe-wrench comprising a tubular-handle, a longitudinally slotted shank in continuation of said handle, a fixed gripping-jaw at one end of said shank, a swinging gripping-jaw fulcrumed on a pin crossing and lying in part within said slotted-shank, a fixed pivot-pin on said swinging-jaw and at one side of said fulcrum-pin and crossing a vertical slotted-way of said swinging-jaw, a rod having at one end a bearing-hole by which to hang it on the exposed portion of said pivot-pin within said slotted-way, and which bearing-hole has a way opening at and leading from the upper edge of said rod to said bearing-hole, a head within, and loosely fitting the bore of said handle and having rigidly attached to it the end of said rod opposite to its said end hung on said pivot-pin, a coiled spring confined, end to end, within and between a shoulder of said handle and said head, and a lever fulcrumed and otherwise suitably arranged as when properly operated to move said rod against the tension of said spring, and when released to permit said rod to be moved by the tension of said spring, all substantially as described, and for the several purposes specified.

868,128. ELECTRICAL MEASURING INSTRUMENT. FRANK W. ROLLER, New York, N. Y. Filed Apr. 25, 1906. Serial No. 313,613.

1. In an electrical measuring instrument, the combination with the movable element, of springs tending to hold said element in a definite position axially and from rotation, and a guiding element passing freely through said movable element and about which said movable element may rotate.



2. In an electrical measuring instrument, the combination of a magnet, a movable coil, springs tending to hold said coil in a definite position axially and from rotation, and a thread of suitable material passing freely through said coil and about which said coil may rotate.

3. In an electrical measuring instrument, the combination with the movable element, of springs tending to hold said element in a definite position axially and from rotation, and a thread of suitable material which passes freely through the center of said element and about which said element may rotate.

4. In an electrical measuring instrument, the combination of a magnet, a movable coil subjected to the magnetic field of said magnet and adapted to have a rotatable movement so as to change the direction of the plane of the windings of said coil, means comprising springs tending to hold said coil from rotation and from axial movement, and pivotal means upon which said coil is freely movable axially.

5. In an electrical measuring instrument, the combination of a magnet, a movable coil subjected to the magnetic field of said magnet and adapted to have a rotatable movement so as to change the direction of the plane of the windings of said coil, springs tending to hold said coil from axial movement and from rotation, and pivotal means upon which said coil is freely movable axially.

6. In an electrical measuring instrument, the combination of a magnet, a movable coil subjected to the magnetic field of said magnet and adapted to have a rotatable movement so as to change the direction of the plane of the windings of said coil, springs tending to hold said coil from axial movement and from rotation, and pivotal means upon which said coil may freely rotate and freely move axially.

7. In an electrical measuring instrument, the combination of a magnet, a movable coil subjected to the magnetic field of said magnet, springs tending to hold said coil from axial movement and from rotation, a thread passing freely through said coil and about which said coil may rotate and move axially, and means for maintaining said thread taut.

8. In an electrical measuring instrument, the combination of a magnet, a movable coil subjected to the magnetic field of said magnet and adapted to have a rotatable movement so as to change the direction of the plane of the windings of said coil, resilient means tending to hold said coil from axial movement, and pivotal means upon which said coil is freely movable during rotation and axial movement.

9. In an electrical measuring instrument, the combination of a magnet, a movable coil subjected to the magnetic field of said magnet, and adapted to have a rotatable movement so as to change the direction of the plane of the windings of said coil, resilient means comprising an element which element tends both to hold said coil from axial movement and also from rotation, and centering means about which said coil may freely rotate and move freely axially.

10. In an electrical measuring instrument, a movable element, a plurality of pointers carried by said element, and a scale, the indicating portions of said pointers and the scale each being located at different distances from a point of observation in a plane perpendicular to the scale at the true reading of the instrument.

11. In an electrical measuring instrument, a movable element, indicating means carried by said element, and a scale, said means comprising two pointers one in front and one behind said scale to give too high and too low a reading when read in a plane other than a plane normal to the scale at the true reading of the instrument.

12. In an electrical measuring instrument, a movable element, an indicating needle carried by said element, and a scale, said needle having two pointers one in front and one behind said scale to give too high and too low a reading when read in a plane other than a plane normal to the scale at the true reading of the needle.

13. The combination of a plurality of electrical measuring instruments, each having an inclined scale, and means for supporting said instruments to bring the surfaces of the scales successively forward with reference to another so that said surfaces are substantially an extension one of the other.

14. The combination of a plurality of electrical measuring instruments, each having a scale inclined forwardly from a vertical line, and means for supporting said instruments successively above and with the surfaces of the scales successively forward with reference to another so that said surfaces are substantially an extension one of the other.

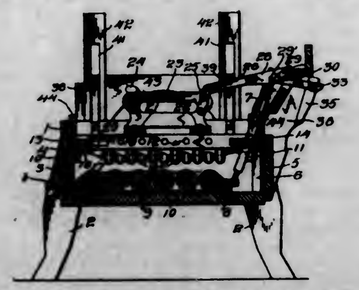
15. An electrical measuring instrument comprising a movable element, resilient means comprising an element which element tends both to hold said first named element from axial movement and from rotation, and a thread passing freely through said movable element.

16. An electrical measuring instrument comprising a movable element, resilient means tending to hold said element from axial movement, and a thread passing freely through said movable element.

17. In an electrical measuring instrument, the combination with the movable element, of means tending to hold said element in a definite position axially and from rotation, said means comprising a spring, and a guiding element passing freely through said movable element and about which said movable element may rotate.

18. In an electrical measuring instrument, the combination with the movable element, of resilient means tending to hold said element from rotation and from axial movement, and means passing freely through said element about which said movable element may rotate but which does not prevent axial movement of said element.

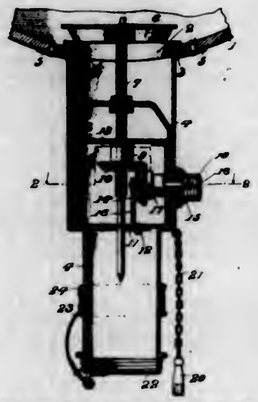
868,129. WASHING-MACHINE. DENTLER ROWLAND, Louisville, Ill. Filed Nov. 6, 1905. Serial No. 286,107.



1. In a washing machine, the combination with a box, of an arm pivoted in the box for movement in a vertical plane, a sliding frame located within the box, connections between said frame and the arm for movement of the frame when the arm is rocked, vertically slotted uprights secured to the box, members slidably engaged in the uprights and extending into the box, a frame connected with said members, said members being movable in the uprights to permit of movement of the second named frame to extend vertically against the uprights, bars slidably mounted in the second frame, detachable connections between the sliding bars of the second frame and the upper end of the arm for reciprocation of the bars when the arm is rocked, and means for rocking the arm.

2. In a washing machine, the combination with a box, of a frame removably engaged in the box, vertically slotted uprights secured to the box, and brackets engaged in the slots and extending downwardly into the box and secured to the frame, said brackets being movable vertically in the slots to bring the frame out of the box and being movable through the slots to bring the frame into vertical position against the uprights.

868,130. DISCHARGE FOR TANK-CARS. WILLIAM D. RUSSELL, Houston, Tex. Filed Sept. 18, 1906. Serial No. 335,163.



1. In a discharge for tank or reservoir cars, or the like, the combination of a discharge pipe, a valve, a valve stem connected with the valve and extending into the discharge pipe, supporting means in the discharge pipe for said valve stem, and a shaft journaled in the supporting means for the valve stem and extending laterally through a side portion of the discharge pipe, and gearing connecting the valve stem and the shaft.

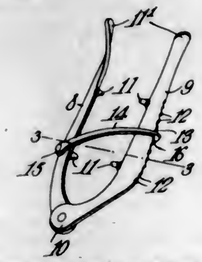
2. In a discharge for tank or reservoir cars, or the like, the combination of a discharge pipe, a valve, a valve stem connected with said valve and extending into the discharge pipe, a support for said valve stem, and an operating member for the valve stem arranged to connect or attach the support thereof to the discharge pipe.

3. In a discharge for tank or reservoir cars, or the like, the combination of a discharge pipe, a valve, a valve stem therefor, a frame arranged in the discharge pipe and removable therefrom, and a shaft horizontally arranged on the discharge pipe and operatively connected with the valve stem for actuation thereof, said shaft being connected with the supporting frame of the valve stem to secure said frame to the discharge pipe in a detachable manner.

4. In a discharge for tank or reservoir cars, or the like, the combination of a discharge pipe, a valve, a valve stem arranged vertically in the discharge pipe and threaded in its length, a frame mounted in the discharge pipe and supporting said valve stem, a threaded sleeve mounted on the valve stem and having a bevel pinion applied thereto, a shaft, a bevel pinion on said shaft in mesh with the bevel pinion on the valve stem, and means for securing the bevel pinion on the shaft thereto to prevent displacement of the shaft from the pipe.

5. In a discharge for tank or reservoir cars, or the like, the combination of a discharge pipe, a valve, a valve stem arranged vertically in the discharge pipe and threaded in its length, a frame mounted in the discharge pipe and supporting said valve stem, a threaded sleeve mounted on the valve stem and having a bevel pinion applied thereto, a shaft having a bevel pinion in mesh with the bevel pinion on the valve stem, detachable means for securing the shaft and its bevel pinion together whereby the shaft may be removed to permit of displacement of the frame aforesaid, and means connecting the valve stem detachably to the frame before mentioned.

868,131. ADJUSTABLE LACER. DAVID A. RYAN and HENRY J. WERTZ, Harrisburg, Pa. Filed Mar. 18, 1907. Serial No. 363,098.



1. A lacing device for shoes including pivotally united members adapted to bear against the upper of the shoe on each side of the fly thereof, means extending laterally from the inner longitudinal edges of the members for engagement with the eye-lets of the shoe, and means mounted on one of the members and adapted to engage the opposite member for exerting an inward pressure on the free ends of the members thereby to draw the eye-lets together.

2. A lacing device for shoes including pivotally united members adapted to bear against the shoe upper one on each side of the fly thereof, lugs extending inwardly from the inner longitudinal edges of the members and having their free ends deflected laterally for engagement with the adjacent eye-lets of the shoe, and means for exerting an inward pressure on the free ends of the members thereby to close the fly.

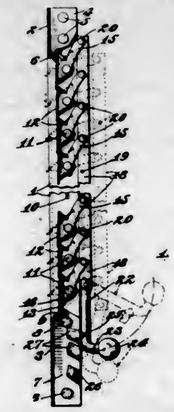
3. A lacing device for shoes including pivotally united members adapted to bear against the shoe upper one on each side of the fly thereof, lugs projecting inwardly and downwardly from the inner longitudinal edges of the members for engagement with the eye-lets of the shoe, said members having their free ends bent laterally to form terminal finger pieces, and means for exerting an inward pressure on the free ends of the members, thereby to close the fly.

4. A lacing device for shoes including pivotally united members having their intermediate portions inclined in opposite directions and their free ends provided with terminal finger pieces, lugs extending laterally from the inner longitudinal edges of the clamping members and adapted to engage the adjacent eye-lets of the shoes, and means for drawing the members together thereby to close the fly of the shoe.

5. A lacing device for shoes including pivotally united members having their intermediate portions inclined in opposite directions and their free ends provided with terminal finger pieces, one of said members having its outer longitudinal edge formed with spaced locking notches, lugs extending laterally from the inner longitudinal edges of the members and adapted to engage the adjacent eye-lets of the shoe, and a locking member pivotally mounted on one of the members and provided with a hooked terminal adapted to engage the locking recesses in the adjacent member thereby to draw the eye-lets together.

868,132. SHUTTER. GEORGE J. SCHEUERMANN, St. Louis, county, Mo., assignor of one-half to Anthony Barhorst, St. Louis, Mo. Filed Feb. 9, 1907. Serial No. 356,568.

1. A shutter comprising a frame, slats pivotally mounted in said frame and arranged to form openings of various sizes, and also arranged to close said openings, a manipulating device for said pivoted slats, and a locking device for said manipulating device comprising a pivotal member, a catch on said pivotal member arranged to engage a catch provided therefor on the shutter frame, and a weighted extension on said pivotal member in the direction opposite to the first mentioned catch, whereby, the locking device will normally swing toward said catch on said frame by its own weight.



2. A shutter comprising a frame, slats pivotally mounted in said frame and arranged to form openings of various sizes, and also arranged to close said openings, said slats being provided with lever-extensions, a manipulating bar pivotally attached to each of said lever-extensions, and a locking device for said manipulating bar, said locking device being arranged to hold said manipulating bar in its adjusted position.

3. A shutter comprising a frame, slats pivotally mounted in said frame and arranged to form openings of various sizes, and also arranged to close said openings, said slats being made with bent ears at each end, and said ears being perforated for attachment to pivot studs, a lever-extension on the ear at one end of each of said slats, a manipulating bar pivotally attached to each of said lever extensions, and a locking device for said manipulating bar.

4. A shutter comprising a frame, slats pivotally mounted in said frame and arranged to form openings of various sizes, and also arranged to close said openings, said slats being made with bent ears at each end, and said ears being perforated for the reception of pivot studs, a lever-extension piece for each of said slats, said lever extension pieces being perforated for the reception of said pivot studs, and arranged in fixed relation to the respective slats, a manipulating bar pivotally attached to each of said lever-extension pieces, and a locking device for said manipulating bar.

5. A metallic slat for shutters comprising a body portion having bent angular portions at each end, said bent angular portions being perforated in axial alinement, and a lever extension on said body portion, substantially as and for the purpose set forth.

6. A metallic slat for shutters comprising a body portion having bent angular ears at each end, said bent angular ears being perforated in axial alinement, and a separate lever-extension arranged to be mounted in fixed relation to said slat.

7. A metallic slat for shutters comprising a body portion having bent angular ears at each end, said bent angular ears being perforated in axial alinement, and a separate lever-extension having a perforation therein, said lever-extension being arranged to be mounted in fixed relation to said slat adjacent to one of its ears with all of said perforations in axial alinement.

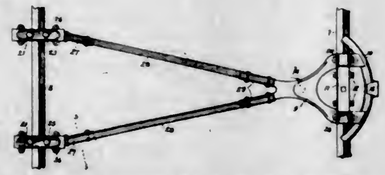
8. A frame for shutters and the like, comprising angle side members, a top connecting member attached to said angle side members, said top connecting member being provided with a stiffening rib, and a bottom connecting mem-

ber attached to said angle side members, said bottom connecting member being provided with a stiffening rib.

9. A frame for shutters and the like, comprising angle side members, a top connecting member having bent angular end portions attached to said angle side members, and having its lower edge bent to form a stiffening flange, and a bottom connecting member having bent angular end portions attached to said angle side members, and having its upper edge bent to form an inclined stiffening flange.

10. A frame for shutters and the like, comprising angle side members, a top connecting member, and a bottom connecting member having bent angular end portions attached to said angle side members, the bent angle portion at one end of said bottom connecting member being formed with an offset portion arranged to coöperate with the adjacent angle side member to constitute a pocket.

868,133. RUNNING-GEAR FOR VEHICLES. FREDERICK SCHMIDT, West Bend, Wis. Filed Nov. 16, 1905, Serial No. 287,618. Renewed Dec. 31, 1906. Serial No. 350,181.



1. In a vehicle running gear, a rear axle square in cross section arranged with the diagonals of its transverse section vertical and horizontal, and a block mounted on the rear axle and having a V-shaped socket in its under part fitting upon the upper surface of the rear axle, a reach coupling having a V-shaped socket fitting against the under surface of the rear axle beneath the block, and clamping bolts passing through the block and the reach coupling and clamping the rear axle therebetween.

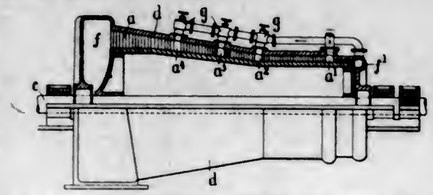
2. In a vehicle running gear, a front axle square in cross section arranged with the diagonals of its transverse section vertical and horizontal, a fifth wheel having a yoked member with V-shaped sockets formed in the under part of its yoke arms and fitting upon the upper surface of the front axle, axle clips having V-shaped sockets fitting against the under surface of the front axle beneath said yoke arms, clamping bolts clamping the clips and yoke arms upon the front axle, a rear axle square in cross section arranged with the diagonals of its transverse section vertical and horizontal, a pair of spring blocks mounted on the rear axle and having V-shaped sockets in their under parts fitting upon the upper surface of the rear axle, reach couplings having V-shaped sockets fitting against the under surface of the rear axle beneath the spring blocks, clamping bolts passing through the spring blocks and the reach couplings and clamping the rear axle therebetween, arms triangular in cross section formed on the reach couplings, a fifth wheel member pivotally mounted on the yoked member of the fifth wheel and provided with rearwardly extending diverging arms, and reach members of angle iron construction connecting the arms of the fifth wheel member and the arms of the reach couplings.

868,134. STEAM-TURBINE. RICHARD SCHULS, Berlin, Germany. Filed Nov. 27, 1905. Serial No. 289,270.

1. The combination with a high pressure parallel flow turbine of means to dynamically balance the axial thrust of the turbine, said means supplied by high pressure steam and means to utilize the steam therefrom at an intermediate stage in the turbine.

2. The combination with a high pressure parallel flow turbine of a device to dynamically balance the axial thrust of the turbine, said means supplied by high pressure steam and means for augmenting the supply of steam at an intermediate stage by the exhaust steam from said means.

3. The combination with a high pressure parallel flow steam turbine of means to dynamically balance the axial thrust of the turbine, a steam admission common to both the turbine and balancing means, and means to return the exhaust from the balancing means to an intermediate stage of the turbine.



4. In a turbine, means to supply high pressure motive fluid to the turbine, means to supply motive fluid of a pressure lower than the initial pressure to any one of a plurality of lower pressure stages and means to control the passage of lower pressure motive fluid to the desired stage.

5. The combination with a high pressure turbine, of means to dynamically balance the axial thrust thereof, a steam supply common to both and means to admit exhaust steam from the balancing means to any one or several intermediate stages of the turbine.

6. The combination with a high pressure parallel flow turbine of means to dynamically balance the axial thrust of the turbine said means using high pressure steam and included between the high pressure stage and an intermediate pressure stage.

7. The combination with a high pressure turbine, of means to dynamically balance the axial thrust thereof, a steam inlet common to the turbine and thrust relieving device and means to conduct the exhaust steam from the balancing means to an intermediate stage of the turbine.

8. In a steam turbine, means to supply steam thereto, means to continually supply steam of a pressure lower than the initial pressure to an intermediate stage of the turbine and augment the normal supply of steam at that stage, and means to control the supply of the lower pressure steam.

9. In a turbine, a plurality of high pressure stages through which steam flows simultaneously and a lower pressure stage into which said high pressure stages simultaneously discharge.

10. In a turbine, a plurality of high pressure stages through which the steam simultaneously flows in different parallel directions, and a lower pressure stage into which said high pressure stages discharge.

11. In a parallel flow turbine, a plurality of high pressure stages through which the steam simultaneously flows in different parallel directions, a plurality of lower pressure stages in the same turbine into which said high pressure stages discharge, one or more of said low pressure stages utilizing the combined quantities of steam.

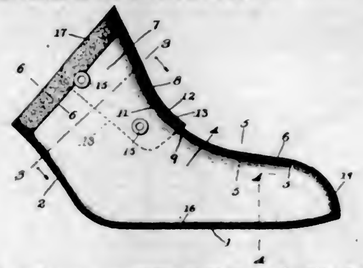
12. In a turbine, two high pressure parallel flow stages through which steam passes simultaneously in opposite parallel directions, and a lower pressure stage into which both of the high pressure stages simultaneously discharge.

13. A dummyless marine turbine of the aforesaid class comprising at one end two oppositely bladed parts adapted to receive steam in opposite directions immediately from the steam inlet of the turbine and another bladed part adapted to receive steam from the aforesaid parts for the purpose set forth.

14. A dummyless marine turbine of the aforesaid class comprising two oppositely bladed parts adapted to receive steam in opposite directions immediately from the steam inlet of the turbine and another bladed part adapted to receive steam from the aforesaid parts, the drum at one part of the self-balance being of larger diameter than at the other part for the purpose set forth.

865,135. OVERSHOE. SOLOMON SCHWARZSCHILD, Rochester, N. Y. Filed Dec. 1, 1906. Serial No. 345,871.

1. A foot-hold comprising a vamp and sole, a shank formed by a continuation of said vamp and sole and adapted to completely envelop the instep, the said shank being divided substantially down the center over the instep, a flap attached permanently to said shank on one side of said division, means to detachably secure the free end of said flap to said shank on the other side of said division, the flap when so fastened drawing the adjacent divided portions of said shank substantially together, and a band around and fast to the interior of the foot entrance of said shank having an adhesive exterior surface adapted to engage the shank of the shoe of the wearer.



2. A foot-hold comprising a vamp and sole, a shank formed by a continuation of said vamp and sole and adapted to completely envelop the instep, the said shank being divided substantially down the center over the instep, a flap attached permanently to said shank on one side of said division, means to detachably secure the free end of said flap to said shank on the other side of said division, the flap when so fastened drawing the adjacent divided portions of said shank substantially together, a band around and fast to the interior of the foot entrance of said shank having an adhesive exterior surface adapted to engage the shank of the shoe of the wearer, and an insole having an adhesive upper surface adapted to contact with the shoe sole of the wearer.

868,136. PACKING. JAMES W. SHIELDS, Hubbell, Mich. Filed Mar. 12, 1907. Serial No. 362,030.



1. A packing comprising an elastic core, and a body portion enveloping the core and consisting of interwoven fibrous and metallic strands.

2. A packing comprising a tubular elastic core, and a body portion enveloping the core and consisting of interwoven fibrous and metallic strands.

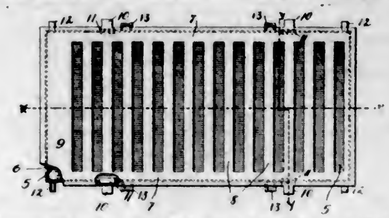
3. A packing comprising a plurality of tubular elastic cores arranged in parallel relation to each other, and a body portion enveloping the cores and consisting of interwoven fibrous and metallic strands.

868,137. SURGEON'S OPERATING-PAN. CHARLES S. SHRIVER, Columbus, Ohio. Filed Oct. 27, 1906. Serial No. 340,806.

1. In a surgeon's operating pan, the combination with a pan having its end walls partially cut out, of a bowed grid which conforms to the curvature of said end walls and is adapted to receive and support a human body.

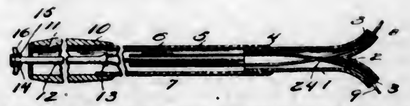
2. In a surgeon's operating pan, the combination with a pan having its end walls partially cut out, of a bowed grid which conforms to the curvature of said end walls, and fastening devices adapted to hold said grid upon said pan, said grid being adapted to receive and support a human body.

3. In a surgeon's operating pan, the combination with a shallow rectangular pan, the end walls of which are partially cut out, of a bowed grid which conforms to the curvature of said end walls, and fastening devices carried by the underside of the grid and adapted to hold said



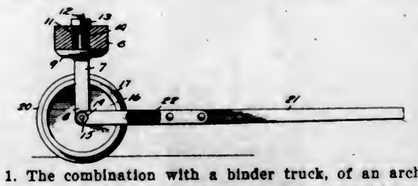
grid upon said pan, said grid being adapted to receive and support a human body.

868,138. VETERINARY OBSTETRICAL INSTRUMENT. MICHAEL G. SISLER, Bellevue, Iowa. Filed June 21, 1905. Serial No. 266,317.



An instrument of the class described comprising a hollow head having divergent tubular openings at one end, a tubular member connected at one end to said head, a handle connected to the tubular member at its opposite end, a tube slidably engaged through the handle, an extracting wire bent upon itself at its middle to form a bight portion and spaced portions, said spaced portions being engaged through the tubular openings in the head and extending through the tubular member in crossed relation with respect to each other and secured at their ends in the said slidable tube, and a brace connecting the said tubular member and the bight portion of the extracting wire.

868,139. BINDER-TRUCK. HERMAN O. STEINHAUER, Bricelyn, Minn. Filed Apr. 13, 1907. Serial No. 368,040.



1. The combination with a binder truck, of an arched bolster mounted for turning movement beneath the truck, a shaft supported by the bolster, a wheel journaled upon the shaft and in the arch of the bolster, said wheel being provided with a peripheral flange, a tongue, and hounds carried by the tongue and connected with the shaft.

2. The combination with a binder truck, of an arched bolster provided with a bearing head upon which a portion of the truck rests, a stud projecting upwardly and centrally from the head and through a bearing in the said portion of the truck, the upper end of the stud being threaded, a nut engaged upon the threaded end of the stud and adapted to hold the bolster against disengagement from the truck, a shaft engaged through the ends of the legs of the arch of the bolster, a wheel journaled upon the shaft and provided upon its rim with a peripheral flange, a tongue, hounds carried by the tongue and extending therefrom, the hounds being connected at their rear ends with the shaft outwardly of the lower ends of the legs of the arch of the bolster, one end of the shaft being headed and the opposite end being threaded, and a nut engaged upon the threaded end of the shaft, the rear end of one hound being confined between the head upon the

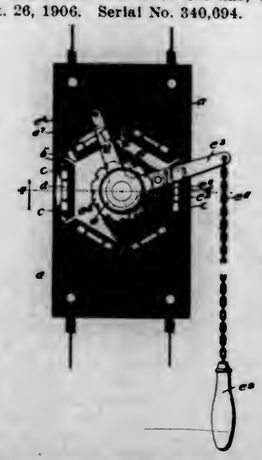
shaft and the corresponding leg of the bolster, and the rear end of the other hound being confined between the nut upon the shaft and the other leg of the bolster.

868,140. CREAM-SEPARATOR. AMANDUS S. STENBORG, Guelph, Ontario, Canada. Filed Mar. 21, 1907. Serial No. 363,717.



The combination with a centrifugal separator bowl having a tapered cap suitably secured thereon, of a skimming shield having a tapered lower portion and a cylindrical upper portion and having the bottom rim resting on the upper edge of the bowl, and provided with notches for the escape of the skimmed milk and a horizontal rim and a conical extending portion extending upwardly therefrom whereby a space is left between the cap and the skimming shield, and an annular rim and bosses formed in the shield on the interior thereof, and passage-ways extending outside of the shield through the rim and bosses to a point above the top of the cap and a hole extending through a flange in the interior of the cylindrical portion of the skimming shield as and for the purpose specified.

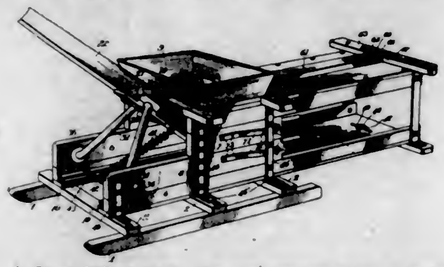
868,141. FUSE-BOX. JOHN O. STIVERS, Denver, Colo. Filed Oct. 26, 1906. Serial No. 340,694.



1. A fuse box, comprising a base plate having apertures therein, spring pressed contacts in said apertures, a fuse carrier pivotally mounted on said base plate, a plurality of fuses mounted on said carrier, said fuse carrier being provided with contact plates connected to the terminals of said fuses, and a pawl and ratchet for rotating said fuse carrier step by step, whereby said fuse carrier may be positioned to connect said spring pressed contacts through any of the fuses.

2. A fuse box, comprising a base plate having apertures therein, spring pressed contacts in said apertures, a spring pressed detent projecting from said base plate, a fuse carrier pivotally mounted on said base plate and a plurality of fuses mounted on said carrier, said fuse carrier being provided with a plurality of depressions in its under side and with contact plates connected to the terminals of said fuses, and a pawl and ratchet for rotating said fuse carrier step by step whereby said fuse carrier may be positioned to connect said spring pressed contacts through any of the fuses or whereby the fuses may be positioned out of operative relation to said spring pressed contacts.

868,142. BALING-PRESS. JOHN J. STOPPLE, Dallas, Tex. Filed Apr. 25, 1907. Serial No. 370,233.



1. In a baling press, the combination with a frame provided with a compression chamber, of horizontal guides, substantially U-shaped in cross-section, carried by said frame and extending into said compression chamber, a slidable plunger-head in said chamber and provided with means extending into said guides, and means for moving said plunger-head longitudinally of said compression chamber.

2. In a baling press, the combination with a frame provided with a compression chamber, of longitudinally-extending guides carried by said frame and extending into said compression chamber, each guide provided with a groove, a plunger-head slidably mounted in said compression chamber, spurs secured to said plunger-head and extending into the grooves of said guide and means for moving said plunger-head longitudinally of said guides.

3. In a baling press, the combination with a frame provided with a compression chamber, of a pair of spaced, horizontal guides extending longitudinally of said compression chamber, each guide provided with a groove open at its ends, a plunger-head positioned within said compression chamber, said plunger-head provided with means extending into the grooves of said guides, and means for moving the plunger-head longitudinally of said compression chamber and guides.

4. In a baling press, the combination with a frame provided with a compression chamber, of a plunger-head slidably mounted in said compression chamber, guiding means for said plunger-head, said guiding means positioned between the sides of said compression chamber and entirely within the sides and top and bottom of said compression chamber, and means for moving said plunger-head longitudinally of said compression chamber.

5. In a baling press, the combination of a frame provided with longitudinally-extending, horizontal strips and with vertical side pieces, said frame provided with a compression chamber, horizontal guides or channel-irons positioned above and resting upon said longitudinally-extending strips, and positioned between the side pieces and the sides of the compression chamber, each guide open at its ends, a plunger-head provided with horizontal strips, positioned in said compression chamber, transverse guide strips secured to said plunger-head and said horizontal strips, the ends of each guide strip positioned in the guides, and means for moving said plunger-head within said compression chamber.

6. In a baling press, the combination with a frame provided with a compression chamber, of a plunger-head provided with rearwardly-extending, horizontal strips, said plunger-head and strips provided with outwardly-extending spurs, guiding means positioned entirely within the compression chamber and engaging said spurs, and means for moving said plunger-head within said compression chamber.

7. In a baling press, the combination with a frame provided with a compression chamber, of a plunger-head slidably mounted in said compression chamber, said plunger-head comprising vertical uprights and horizontal strips extending rearwardly from said uprights, a face-plate secured to said vertical uprights, bracing means secured to said uprights and horizontal strips, guiding means formed upon opposite sides of and entirely within said compression chamber, a transverse guide strip secured contiguous to the lower end of said face strip and having its ends extending into said guiding means, an auxiliary, transverse guide strip secured to the horizontal strips near their outer ends and extending into said guiding means, and means for moving said plunger-head within said compression chamber.

8. In a baling press, the combination with a frame provided with a compression chamber, said frame provided with rearwardly-extending side-pieces, of guiding means positioned within said compression chamber, a transverse, horizontal, reinforcing rod positioned contiguous to said guiding means and connecting said side pieces, a plunger-head provided with rearwardly-extending horizontal pieces, positioned within said compression chamber, means extending from said plunger-head and engaging said guiding means, said reinforcing rod positioned in the path of movement of said plunger-head and adapted to be engaged by the horizontal pieces thereof for limiting rearward movement of said plunger-head, and means for moving said plunger-head within said compression chamber.

9. In a baling press, the combination with a frame provided with a compression chamber, of a horizontal reinforcing rod, constituting a stop, extending transversely of and connecting the sides of said frame, a plunger-head slidably mounted in said compression chamber, said rod positioned in the path of movement of said plunger-head and adapted to limit its rearward movement, and means for moving said plunger-head in said compression chamber.

10. In a baling press, the combination with a frame provided with a compression chamber, of a plunger-head slidably mounted in said compression chamber, a lever pivotally connected to said plunger-head, a transverse, horizontal, reinforcing rod, constituting a stop, connecting the sides of said frame and positioned in the path of movement of said plunger-head, said rod adapted to be engaged by said plunger-head and limit its rearward movement, an eye-bolt secured to and extending from the lower edge of said lever, a substantially U-shaped hook provided at its ends with hooks, the hooks engaging said rod, and a spring connected at one end to said eye-bolt and at its opposite end to said hook.

11. In a baling press, the combination with a frame provided with a compression chamber, a plunger-head slidably mounted in said compression chamber, a lever pivotally connected near its lower end to said plunger-head, of a rod secured to and extending transversely of said frame, an eye-bolt secured to the lever near its lower end, a spring-attaching hook provided with ends extending around said rod, and a spring connected at one end to said eye-bolt and at its opposite end to said hook.

12. In a baling press, the combination with a frame provided with a compression chamber, of a plunger-head slidably mounted in said compression chamber, said plunger-head provided with vertical standards, a bearing secured to each standard, reinforcing pins secured to the standards and positioned contiguous to the outer faces of said bearings, and lever means pivotally connected to said bearings.

13. In a baling press, the combination with a frame provided with a compression chamber, a plunger-head slidably mounted in said compression chamber, of a lever pivotally mounted upon said frame and pivotally connected near its lower end to said plunger-head, said lever provided at its lower end with reinforcing plates fixedly secured thereto, and a reinforcing member extending through the body of the lever between said plates.

14. In a baling press, the combination with a frame provided with a compression chamber, a plunger-head movably mounted in said compression-chamber, a lever pivotally connected to said plunger-head, of a single-piece fulcrum-member provided with integral short shafts near its lower end, said shafts journaled in the sides of said frame, and means connecting the upper end of said fulcrum member to said lever.

15. In a baling press, the combination with a frame provided with a compression chamber, a plunger-head movably mounted in said compression chamber, a lever pivotally connected to said plunger-head, of sleeves positioned in the sides of said frame, a single-piece fulcrum member positioned between said sides, a sectional bearing surrounding the upper end of said fulcrum member and secured to the lower side of said lever, and said fulcrum member provided with diverging sides terminating at their lower ends in integral short shafts, the short shafts being journaled in said sleeves secured in the sides of the frame.

16. In a baling press, the combination with a frame provided with a compression chamber, a plunger-head movably mounted in said compression chamber, a lever pivotally connected near its lower end to said plunger-head, of an auxiliary bearing block countersunk in said lever, a primary bearing block provided with oppositely-extending extensions partly countersunk in said lever, means securing the extensions of said primary bearing block to said lever, and a fulcrum-member pivotally mounted between said block and pivotally connected to said frame.

17. In a baling press, the combination with a frame provided with a compression chamber, a plunger-head movably mounted in said compression chamber, of a lever pivotally connected to said plunger-head, bearing-sleeves supported upon said frame, each sleeve comprising a tubular body portion provided at one end with a disk-like end, and a fulcrum-member journaled in said sleeve-bearings and pivotally connected to said lever.

18. In a baling press, the combination with a frame provided with a compression chamber, of a plunger-head movably mounted in said compression chamber, means for moving said plunger-head within said compression chamber, a division-block positioned in said compression chamber, stops for limiting movement of said division-block, said division-block comprising a body provided with pairs of lugs at its upper and lower end, a transverse member secured to the inner face of and connecting the lugs of each pair and a recess formed between each two lugs, whereby the stops, when engaged by said division-block, are positioned between the lugs and in engagement with said transverse members.

19. In a baling press, the combination with a frame provided with a compression chamber and a floor, a plunger-head movably mounted in said compression chamber, means for moving said plunger-head within said compression chamber, of a shaft provided with bent ends extending through a portion of said floor, said floor provided with an aperture contiguous to said shaft, the outer ends of said shaft parallel with said floor, a roller journaled upon said shaft and positioned within said aperture of the floor, a division-block positioned within said compression chamber and adapted to engage said roller, and a movable latch carried by said frame and adapted to engage said division-block.

20. In baling press, the combination with a frame provided with a floor and a compression chamber, a plunger-head movably mounted in said compression chamber, means for moving said plunger-head within said compression chamber, of a shaft countersunk in said floor contiguous to its front end, said floor provided with an aperture contiguous to said shaft, a roller journaled upon said shaft and positioned within said aperture of the floor, a division-block positioned within said compression chamber and adapted to engage said roller, said roller limiting movement of said division-block.

21. In a baling press, the combination with a frame provided with a floor and a compression chamber, a plunger-head movably mounted in said compression chamber, means for moving said plunger-head within said compression chamber, of a shaft extending transversely of and po-

sitioned contiguous to said floor, a roller journaled upon said shaft and positioned within said floor, a division-block positioned within said compression chamber and adapted to engage said roller, said roller limiting movement of said division-block.

22. In a baling press, the combination with a frame provided with a compression chamber, a plunger movably mounted in said compression chamber, means for operating said plunger, of a pivotally mounted latch provided with a depending, bifurcated portion, carried by said frame, the bifurcated portion extending into said compression chamber, a roller positioned between the sides of and journaled upon the bifurcated portion, and a division-block positioned within said compression chamber and adapted to engage said roller.

23. In a baling press, the combination with a frame provided with a compression chamber, a plunger-head movably mounted within said compression chamber, means for moving said plunger-head within said compression chamber, of a bifurcated latch pivotally mounted upon said frame, a roller journaled upon the bifurcated portion of said latch and extending into said compression chamber, means for locking said latch in a fixed position, and a division-block positioned within said compression chamber and adapted to engage said roller, whereby its sliding movement will be limited.

24. In a baling press, the combination with a frame provided with a compression chamber, a plunger-head movably mounted within said compression chamber, means for moving said plunger-head within said compression chamber, of a latch pivotally mounted upon said frame, a roller journaled upon said latch and normally extending into said compression chamber, said latch provided with a handle, a pivotally-mounted locking member carried by said frame and normally engaging said handle for securing said latch in a fixed position, and a division-block positioned within said compression chamber and adapted to engage said roller.

25. In a baling press, the combination with a frame provided with a compression chamber, a plunger-head movably mounted within said compression chamber, means for moving said plunger-head within said compression chamber, of a latch pivotally mounted upon said frame, means constituting a stop, carried by said latch extending into said compression chamber, movably mounted locking means carried by said frame and adapted to engage said latch for securing the same in a fixed position, and a division-block positioned within said compression chamber and adapted to engage said stop.

26. In a baling press, the combination with a frame provided with a compression chamber, a plunger-head movably mounted within said compression chamber, means for moving said plunger-head within said compression chamber, of a latch provided with a rotatable stop, carried by said frame, said stop extending into said compression chamber, said latch provided with a handle, a pivotally-mounted locking member carried by said frame and provided with an extension projecting over the handle of said latch, and a division-block positioned within said compression chamber and adapted to engage said rotatable stop.

27. In a baling press, the combination with a frame provided with a floor and a compression chamber, of a movable plunger-head positioned within said compression chamber, means for moving said plunger-head, a roller carried by said floor contiguous to the front end thereof and extending into said compression chamber, a vertically-movable roller carried by said frame above the roller carried by the floor, means for securing said movable roller in a fixed position within said compression chamber, and a division-block adapted to engage said rollers.

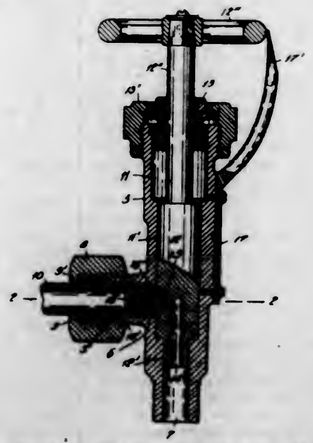
28. In a baling press, the combination with a frame provided with a compression chamber, a plunger-head movably mounted within said compression chamber, of a dog pivotally mounted at one end upon said frame, said dog provided with an outwardly-extending ear, a vertical pin extending through said ear near its outer end, the pin normally engaging the side of said frame, an auxiliary ear formed upon said dog intermediate its ends and contiguous to its pivot, means normally engaging said auxiliary ear and exerting an inward pressure upon said dog, and means for moving said plunger-head within said compression chamber.

29. In a baling press, the combination with a frame provided with a compression chamber, a plunger-head movably mounted within said compression chamber, means for moving said plunger-head within said compression chamber, of a dog pivotally mounted at one end upon said frame, said dog provided with a laterally-extending ear intermediate its ends, and means engaging said ear for normally exerting an inward pressure upon said dog.

30. In a baling press, the combination with a frame provided with a compression chamber, a plunger-head movably mounted within said compression chamber, means for moving said plunger-head within said compression chamber, of a dog pivotally mounted at one end upon said frame and provided at its opposite end with an inwardly-extending nose, an ear formed upon said dog intermediate its ends, and a spring secured at one end to said frame and having its opposite end bearing against the outer end of said ear.

31. In a baling press, the combination with a frame provided with a compression chamber, a plunger-head movably mounted in said compression chamber, means for moving said plunger-head within said compression chamber, of a dog pivoted at one end upon said frame and provided with a plurality of outwardly-extending, parallel ears intermediate its ends, means carried by one of said ears for limiting inward pivotal movement of said dog, and means carried by said frame and engaging the outer end of the other ear for normally exerting an inward pressure upon said dog.

868,143. AMMONIA EXPANSION-VALVE. CHARLES F. STRANG, Seattle, Wash. Filed Jan. 21, 1907. Serial No. 353,264.



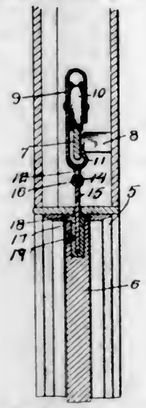
1. In a device of the character described, the combination with the valve casing provided with a screw-threaded chambered branch, a cylindrical valve provided with a radially arranged induction passage, a supply pipe, a collar adjustably connected to the pipe, and a nut adapted to be screwed upon said branch and engaging with said collar, of an apertured plug positioned within said branch and between the end of said pipe and the valve, said plug being formed with a concave face to oppose the peripheral surface of the valve.

2. In combination with a valve casing having a threaded chambered branch, a valve in said casing, a supply pipe leading into said branch, an apertured plug formed to engage said valve at one end and being engaged at its opposite end by the end of said supply pipe, a projection on said pipe, and a nut engaging said projection and said threads on said branch.

3. In combination with a valve casing having a chambered branch, a valve in said casing, a supply pipe leading into said branch, an apertured plug in said branch engaged at one end by said pipe and at its opposite end being shaped to engage said valve, and means whereby said supply pipe may be moved inwardly to alter the position of said plug.

4. In combination with a valve casing having a chambered exteriorly threaded branch, a valve in said casing having a radial port, a supply pipe leading into said branch, a perforated plug engaging between said valve and the inner end of said supply pipe, adjusting means for said pipe engaging said branch, and means on said pipe to engage said adjusting means whereby said pipe will be advanced by said adjusting means.

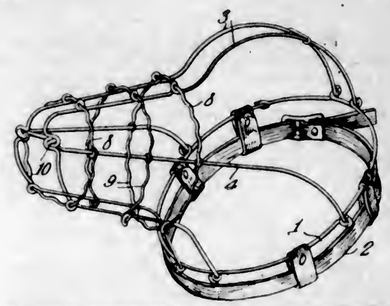
868,144. DOOR-HANGER. HENRY C. SWAFFORD, East Jordan, Mich. Filed Feb. 28, 1906. Serial No. 303,448.



The combination with a door and its casing, and a track supported within the casing, of a hanger for the door, a pulley journaled in the hanger and adapted to travel upon the track, the said hanger including a downwardly directed extension bifurcated to form spaced leaf portions, the track, the said hanger including a downwardly directed door supporting arm comprising a plate, a tongue formed integral with the upper edge of the plate and bent to form a pintle eye which is received between the spaced pintle eyes formed upon the downwardly directed extension of the hanger, a pintle engaged through all of the eyes, the door being recessed in its upper edge, a socketed body seated snugly and entirely within the recess and having an attaching plate formed integral with its upper end and extending beyond the ends thereof, said attaching plate being countersunk in the upper edge of the door and being secured thereto, the plate portion of the door supporting arm having its lower end portion frictionally seated in the socket in the body of the socket member, the said door being provided through one face with an opening, and the body of the socket being provided through the corresponding face with a correspondingly threaded opening, the two openings being in registration, and a set screw engaged through the said wall of the socket and bearing against the plate portion of the door supporting arm, said set screw having its head extending through the opening in the face of the door.

868,145. DOG-MUZZLE. ALBERT W. SWENDER, Carroll, Iowa. Filed Feb. 7, 1907. Serial No. 356,175.

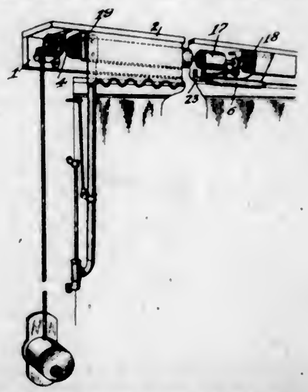
1. A mussle comprising a neck ring, longitudinally disposed wires secured at the ends to said ring, two of said wires extending over the top of the head and under the lower jaw while a third wire extends along the side of the head and across the nose, said wires being interlocked at their points of intersection and means for securing the muzzle.



2. A muzzle comprising a neck ring, longitudinally disposed wires connected at their ends to said ring, two of said wires extending over the top of the head and under the lower jaw and a third of said wires extending along the side of the head and across the nose, said wires being interlocked at their points of intersection, laterally disposed wires passing around and connecting with said longitudinally disposed wires and means for securing the muzzle.

3. A muzzle comprising a neck ring, longitudinally disposed wires secured at their ends to said ring, two of said wires passing over the top of the head and under the jaw and a third of said wires passing along the side of the head and across the nose, said wires being interlocked at their points of intersection, transversely disposed wires passing around the longitudinally disposed wires and being looped into engagement with the same, some of said transversely disposed wires being continuous while others terminate at the lower portions of the longitudinally disposed wires which pass under the jaw and means for securing the muzzle.

868,146. AWNING. FRIEDERICH THOMS, San Francisco, Cal. Filed Jan. 29, 1907. Serial No. 354,783.

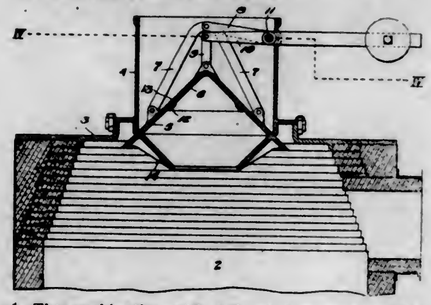


1. In an awning, a main shaft extending the whole length of the structure, main awning sections thereon having their adjacent edges in proximity, a relatively short shaft near any two of such adjacent edges, a covering strip, short relatively to the awning sections, and adapted to be wound upon said short shaft, and gearing between the awning shaft and each short shaft.

2. In an awning, an awning shaft, a plurality of awning sections thereon having adjacent edges in proximity, a relatively short shaft, gearing on the awning shaft, between the approximate edges of the awning sections and connected to said short shaft, and a covering-strip, narrow

relatively to the awning sections and adapted to be wound upon said short shaft.

868,147. FEEDING MECHANISM FOR GAS-PRODUCERS, FURNACES, &c. JOHN A. WALDBURGER, McKeesport, Pa., assignor to Forter Miller Engineering Co., Pittsburg, Pa., a Corporation of Pennsylvania. Filed Nov. 12, 1906. Serial No. 343,082.



1. The combination with a furnace or producer and a superposed hopper opening thereinto, of an outer bell section adapted to seat underneath said hopper and provided with a central opening and an inwardly extending apron, a relatively movable inner bell section adapted for adjustment independent of said outer bell section, a rock shaft journaled in the side of the hopper, operating levers for the outer bell section secured to said shaft, and an operating lever for the inner bell section journaled upon said shaft, substantially as set forth.

2. The combination with a furnace or producer and a superposed hopper opening thereinto, of an outer bell section adapted to seat underneath said hopper and provided with a central opening and an inwardly extending apron, a relatively movable inner bell section adapted for adjustment independent of said outer bell section and provided with a depressed periphery adapting its upper surface to form a flush continuation with the upper surface of the outer bell, a rock shaft journaled in the side of the hopper, operating levers for the outer bell section secured to said shaft, and an operating lever for the inner bell section journaled upon said shaft, substantially as set forth.

868,148. HOE. JAMES S. WILLIAMS, Wool Market, Miss. Filed June 7, 1907. Serial No. 377,808.



1. A hoe, comprising a blade provided upon its upper portion with a wedge-shaped rib, said rib provided with a vertical threaded aperture, an eye provided with a depending threaded stem and with a longitudinally extending, threaded aperture, the stem threaded into the aperture of said rib, and a handle threaded into the aperture of said eye.

2. A hoe, comprising a blade provided with a rib, said rib provided with a threaded aperture, an eye provided with a threaded stem, the stem threaded into the aperture of said rib, and a handle positioned in said eye.

3. A hoe, comprising a blade provided near its central upper portion with a vertical rib of greater width at its upper end and converging towards and of the same thickness as the blade at its lower end, the blade of substantially the same thickness throughout its entire dimension, an eye provided with a longitudinally-extending, threaded aperture and with a depending threaded stem, the stem converging towards its lower end, said eye provided with a flat lower face, said rib provided with a vertical threaded aperture, the aperture converging towards its lower end, and the rib of substantially the same thickness upon opposite outer sides of the vertical aperture throughout the entire depth thereof, the stem threaded into said aperture and having the flat face of the eye overlapping portions of the upper face of the rib around the stem, and a detachable handle threaded at its lower end into the aperture of said eye.

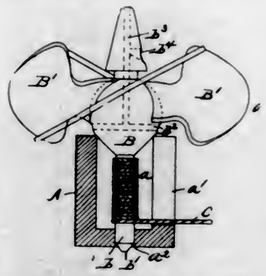
868,149. BOILER COMPOUND. JOSEPH WILLIAMS, Jr., Pittsburg, Pa. Filed May 21, 1906. Serial No. 317,928.

1. The method of manufacturing boiler cleansing compound consisting in the following steps. First mixing sodium carbonate in the form of fine dry powder with sulfur and heating the same; adding sufficient water to dissolve; adding sodium hydrate and water and thoroughly mixing the ingredients together, substantially in the manner described.

2. The herein described boiler cleansing compound consisting of a mixture of sodium carbonate, sulfur, sodium hydrate, and water.

3. The herein described boiler cleansing compound consisting of a mixture of sodium carbonate, sulfur, sodium hydrate, and water, in substantially the proportions given.

868,150. TOY. HERMANN P. WYSARD, Erie, Pa. Filed July 19, 1906. Serial No. 326,870.



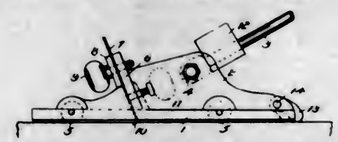
1. In a toy the combination of a top body having a cord winding stem extending therefrom; a socket A larger than the stem but of a size to contact the walls of the body and having a perforation a^2 into which the stem extends: and a slot a' through which the cord may be drawn.

2. In a toy the combination of a top body having a cord winding stem extending therefrom; a socket A larger than the stem but of a size to contact the walls of the body and having a perforation a^2 into which the stem extends and a slot a' extending the length of the winding portion of the stem of the toy whereby the top may be put in motion without moving the same axially.

3. In a top the combination of a top body having a cord winding stem extending therefrom; a socket A larger than the stem but of a size to contact the walls of the body and having a perforation a^2 into which the stem extends, and a slot a' through which the cord may be drawn; and inclined blades on the top body.

4. In a top the combination of a top body having a cord winding stem extending therefrom; a socket A larger than the stem but of a size to contact the walls of the body and having a perforation a^2 into which the stem extends, and a slot a' extending the length of the winding portion of the stem of the top whereby the top may be put in motion without moving the same axially, and inclined blades on the top body.

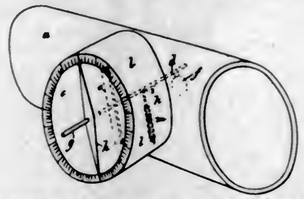
868,151. FLOOR-PLANE. JOHN W. ARNOLD, Atlanta, Ga. Filed Mar. 1, 1907. Serial No. 359,966.



1. A floor scraper comprising a truck having a base-plate bifurcated at its rear end, a cam foot pivoted at said end between the bifurcations, a forwardly inclined scraper-blade support, located intermediate the ends of the base-plate, a scraper-blade and means for adjustably connecting the same to said support, a roller journaled in rear of the blade, and forward of the cam-foot, another roller journaled in front of the blade, and an operating handle connected to the truck.

2. In a floor scraper the combination of a carriage, an operating handle journaled thereto, removable weights threaded upon said handle, an integral and forwardly inclined upright having a scraper blade secured thereto, the cutting edge of said blade being turned outwardly, means for vertically adjusting said blade, and separate means for adjusting the cutting depth of said outwardly turned edge, and a cam foot journaled to the rear end of the carriage and projecting beyond said carriage, said cam foot adapted to tilt the carriage during its inoperative movement.

868,152. APPARATUS FOR MEASURING THE FLOW OF FLUIDS. LLEWELYN B. ATKINSON, London, England. Filed June 15, 1906. Serial No. 321,942.

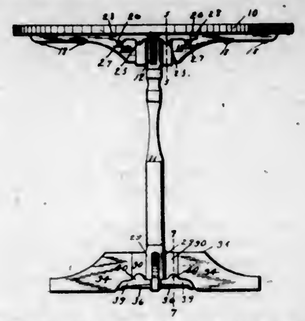


1. Apparatus for indicating the rate of flow of a fluid consisting of a pipe, a vane of small area relative to the sectional area of the said pipe pivotally mounted within and adapted to be directly deflected by the flow of fluid through the said pipe, a yielding resistance adapted to act on said vane in opposition to the force of the flow, a magnet carried by said vane within said pipe and a magnetic indicator moving in magnetic relation thereto, disposed external to the pipe, substantially as described.

2. In apparatus for indicating the rate of flow of a fluid consisting in combination a pipe, a vane of small area relative to the sectional area of the said pipe adapted to be moved by the fluid, a yielding resistance device consisting of a lever adapted to move in an arc of a circle to which is attached a spring disposed so that at the zero position little or no initial tension is exerted by the spring on the said lever but that from zero position the action of the spring on the vane increases in greater proportion than the movement of the vane and magnetic means for indicating the movement of the vane within the pipe on the exterior thereof, substantially as described.

3. An apparatus for indicating the rate of flow of a fluid consisting of a pipe, a vane of small area relative to the sectional area of the said pipe pivotally mounted within and adapted to be directly deflected by the flow of fluid through the said pipe, a yielding resistance adapted to act on said vane in opposition to the force of the flow, a magnet carried by said vane within said pipe, a magnetic indicator moving in magnetic relation thereto disposed external to the pipe and elastic means of connection between the vane and the magnetic element, substantially as described.

868,153. TABLE. ALBERT AUCHLY, Montgomery City, Mo. Filed Jan. 14, 1907. Serial No. 352,233.



1. In a table, the combination of a table top, a central standard, a socket-piece secured to the standard and provided with radial table top brace receptacles, table top braces fixed in said receptacles, and a bracket fixed to the table top and to each of the braces.

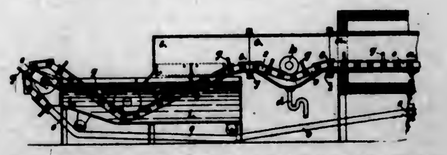
2. In a table, the combination of a table top, a central standard, a socket-piece secured to the standard and provided with radial table top brace receptacles, table top braces fixed in said receptacles, and a bracket fixed to the table top and to each of the braces, said bracket formed with a flange to overlap the upper portion of the socket-piece and said brace receptacles.

3. In a table, the combination of a table top, a central standard, a metallic socket-piece fitted to the standard, and formed with radial brace receptacles, each having two side walls and a bottom, said side walls having vertical ribs on their inner faces and said bottom having an upwardly projecting pin, braces fitted in said receptacles and screwed to the table top and a bracket shaped to cover the socket-piece and brace receptacles, provided with screw openings to admit screws into both the table top and the braces and also provided with flanges for overlapping the sides of the socket-piece and receptacles.

4. In a table, a central standard, a socket-piece fitted to its lower end and formed with radial foot brace receptacles, foot braces fitted therein, each having its inner end portion arched and a bracket fitted to the bottom of the socket piece and brace receptacles, and curved to conform to the arched braces, and a screw passed through the bracket into the standard.

5. In a table, a standard, a metallic socket-piece fitted to the standard, and formed with four radial foot brace receptacles, each having two sides and a top, the sides having vertical ribs on their inner faces and the tops each having a downwardly projecting pin, foot braces fitted in said receptacles, screws passed through the walls of the receptacles and through the braces, and a bracket comprising a central disk, four radial arms, said disk and arms provided with screw openings and flanges on the disk to receive the bottom of the socket-piece and flanges on the arms to receive the lower edges of the braces, said arms each having a pin on its upper face to enter the brace.

868,154. ANNEALING OR HEATING OF METALS. DARWIN BATES and GEORGE W. PEARD, Huyton, England. Filed Mar. 9, 1907. Serial No. 361,588.



1. In apparatus for annealing or heating metal articles, a heating or annealing chamber; a liquid containing ves-

sel at the entrance to the said chamber; a conveyer; and means between the said water containing vessel and the heating chamber, adapted to cause said conveyer to take a course out of the normal plane in which said conveyer lies and moves; substantially as set forth.

2. In apparatus for annealing or heating metal articles, a heating or annealing chamber; a liquid containing vessel at the entrance to the said chamber; a conveyer; means between said water containing vessel and the heating chamber, adapted to cause said conveyer to take a course out of the normal plane in which it lies and moves; and a case for containing the articles to be annealed or heated adapted to be carried on the conveyer with its axis transversely across same; substantially as set forth.

3. In apparatus for annealing or heating metal articles, a heating or annealing chamber; a liquid containing vessel at the entrance to the said chamber; a conveyer; and means between said water containing vessel and the heating chamber adapted to cause the conveyer to take a downward and then upward course; substantially as and for the purposes described.

4. In apparatus for annealing or heating metal articles, a heating or annealing chamber; a liquid containing vessel at the entrance to the said chamber; a conveyer; means between said water containing vessel and the heating chamber adapted to cause the said conveyer to take a course out of the normal plane in which said conveyer lies and moves; a case containing the articles to be annealed or heated having its axis adapted to be carried on the conveyer; and projections, as *g*, on said conveyer, spaced apart a distance greater than the width of the cases containing the articles, and between which said cases are adapted to be capable of moving; substantially as set forth.

5. In apparatus for annealing or heating metal articles, a conveyer; a round case containing the articles to be annealed or heated having its axis adapted to lie transversely across the conveyer, and be carried and roll thereon; and projections, as *g* on the conveyer spaced apart a distance greater than the diameter of the case; substantially as set forth.

6. Apparatus for annealing or heating hollow metal articles, an annealing chamber; a liquid trapped inlet; an endless conveyer arranged and adapted to pass into the apparatus and down and up through the liquid trapped inlet; a chambered part between the said inlet having at its bottom a depressed part lying below the level of the inlet bottom, and liquid drawing off means in said depressed part; substantially as set forth.

868,155. TRUCK-BOLSTER. CARL E. BAUER, Hammond, Ind., assignor to Simplex Railway Appliance Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 7, 1905. Serial No. 244,671.



1. A truck bolster comprising in combination, a compression member, a tension member having one end folded around the same, and a bearing member therefor having its center substantially in line with the fold of said tension member.

2. A truck bolster comprising in combination a flanged compression member, a flat tension member having one end folded around the same, and a bearing member therefor having its center substantially in line with the fold of said tension member.

3. A truck bolster comprising in combination a compression member provided with a slot spaced from the end, a tension member passing through said slot and folded back upon the compression member and a bearing member therefor having its center substantially in line with the fold of said tension member.

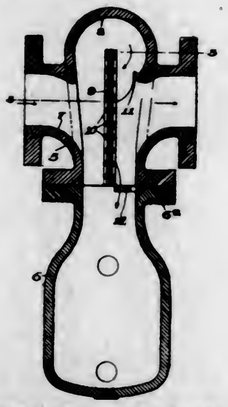
4. A truck bolster comprising in combination a compression member provided with a slot, a tension member passing through said slot and folded back upon the compression member, together with a bearing member embracing the end of the compression member and having its center substantially in line with the fold of the tension member.

5. A truck bolster comprising in combination a flanged compression member provided with a slot in its web portion, a tension member lapped in said slot and a bearing member having its center substantially in line with said lapped portion and provided with a flange embracing the end of the compression member outside its flanges.

6. A truck bolster comprising in combination a compression member provided with a slot, a cross plate fitted in said slot, a tension member extending through the slot around the cross plate and a bearing member provided with a flange embracing both compression and tension members.

7. A truck bolster comprising in combination, a compression member, a tension member attached thereto and a bearing block, the center of said bearing block being in line with the joint of the compression and tension members.

868,156. STEAM-SEPARATOR. JOHN B. BERRYMAN, Chicago, Ill., assignor to Crane Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 7, 1905. Serial No. 244,616.



1. A steam separator comprising a baffle plate, a dome shaped casing forming an open space above the baffle plate and provided with downwardly directed inlet and outlet passages together with a ledge, 11, thereon, to drain the dome.

2. The combination with a double faced corrugated baffle plate, of a casing formed to direct steam above and on both sides of the same and having downwardly directed inlet and outlet passages.

3. The combination of a baffle plate having two sets of diagonal ribs thereon and a casing having downwardly directed inlet and outlet passages and adapted to direct steam on both sides of said baffle plate together with a drainage ledge on the casing adapted to carry off the water out of contact with the current of steam.

4. The combination with a two faced corrugated baffle plate, of a casing having a down-turned inlet and a passage above the baffle plate and adapted to direct steam on both sides of the plate, and means to drain water off to the sides on both the plate and the casing.

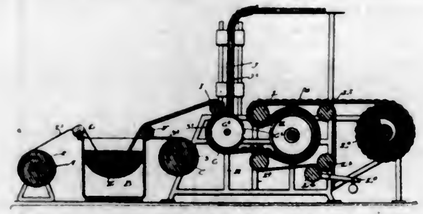
5. In a steam separator a baffle plate and a casing having a dome over the baffle plate and downwardly directed inlet and outlet passages, substantially as described.

6. A steam separator comprising in combination a casing provided with a downwardly directed inlet and an outlet passage, a baffle plate therein provided with corrugations upon the side adjacent the inlet passage, means for draining said casing, together with a receiver therefor and means located between said casing and receiver to prevent the escape of fluid from the receiver into the outlet opening of the casing.

7. A steam separator comprising in combination, an upright baffle plate, and a casing having a dome over the baffle plate and a downwardly directed inlet passage, substantially as described.

8. A steam separator comprising in combination, an upright baffle plate, and a casing formed to direct steam above and on both sides of the baffle plate, and having a downwardly directed inlet passage, said baffle plate being corrugated upon the side adjacent the inlet passage.

868,157. METHOD OF PRODUCING COVERINGS. GEORGE F. BISHOPRIC, Toronto, Ontario, Canada. Filed Dec. 31, 1906. Serial No. 350,264.



1. The method herein described consisting in passing a layer of paper through a body of asphalt mastic or other composition having asphalt as a base in a heated state, whereby the paper is coated, then applying under pressure to such coated paper during the period that the asphalt mastic is setting, a series of slats distanced apart to leave intervening exposed parts of the coated paper, whereby the slats are embedded by the mastic flowing up against the edges of the slat as and for the purpose specified.

2. The method herein described consisting in passing a layer of paper through a body of asphalt mastic or other composition having asphalt as a base, in a heated state, whereby the paper is coated, then applying under pressure to such coated paper during the period that the asphalt mastic is setting a series of slats distanced apart to leave intervening exposed parts of the coated paper, whereby the slats are embedded by the mastic flowing up first against one edge of the slat when uppermost and then as the slats pass along against the other edge of the slat when uppermost as specified.

868,158. SMOKELESS POWDER. JAMES L. BROWN, Indianhead, Md., and DAVID P. MOORE, Washington, D. C., assignors to Manuel Antonio Gomez Himalaya, Arcos-De-Val-De-Vez, Portugal. Filed Aug. 10, 1903. Serial No. 169,030.

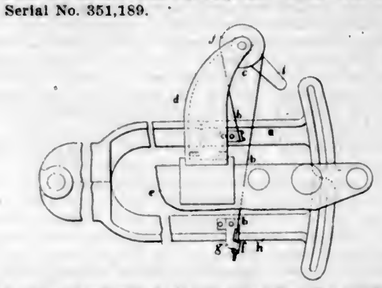
1. A smokeless powder comprising a powdered chlorate having its particles individually covered and sealed by a layer of siccative oil in admixture with a substantially pure carbohydrate, substantially free from proteid and hygroscopic matter, said powder being free-running, non-hygroscopic, non-fermenting and keeping unchanged.

2. A smokeless powder comprising a powdered chlorate having its particles individually covered and sealed by a layer of linseed oil in admixture with a substantially pure carbohydrate, substantially free from proteid and hygroscopic matter, said powder being free-running, non-hygroscopic, non-fermenting and keeping unchanged.

3. A smokeless powder comprising a powdered chlorate of potassium having its particles individually covered and sealed by a layer of linseed oil in admixture with substantially pure starch, substantially free from proteid and hygroscopic matter, said powder being free-running, non-hygroscopic, non-fermenting and keeping unchanged.

4. A smokeless powder comprising a powdered chlorate having its particles individually covered and sealed by a cushioning and water-proofing layer of a soft, skin-forming combustible material in admixture with a substantially pure carbohydrate, substantially free from proteid and hygroscopic matter, said powder being free-running, non-hygroscopic, non-fermenting and keeping unchanged.

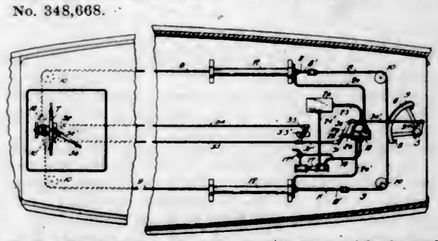
868,159. BEVEL-WHEEL-SHAPING MACHINE. THEODORE COVENTRY, Salford, England. Filed Jan. 7, 1907. Serial No. 351,189.



1. In a bevel wheel shaping machine, the combination with a pair of tool guiding arms freely mounted on a common pivot, of the means for the mutual balancing of the said arms and for imparting a uniform motion thereto in opposite directions about the said pivot, the said means consisting of the flexible connection *b*, pulley *c*, and operating lever *i*, substantially as described.

2. In bevel wheel shaping machines, the combination consisting of the tool guiding arms *a*, *h* freely mounted on a common pivot, a pulley c mounted on the support *d* for sustaining the weight of the said arms not borne by the pivot, a flexible band *b* passing over the said pulley having one end rigidly connected to the arm *a* and its opposite end adjustably anchored to the arm *h*, hand lever *i* attached to said pulley c, and peg *j* fixed to the periphery of *c* and engaging the said band *b*, substantially as described.

868,160. HYDRAULIC STEERING APPARATUS. HART S. DE PUY, Seattle, Wash. Filed Dec. 20, 1906. Serial No. 348,668.



1. In steering apparatus, the combination with the rudder post and a tiller line, of a power cylinder, a piston within the cylinder, devices upon the said line whereby the line is operatively engaged by the piston when the latter is actuated by a power medium to move in one direction and to engage the piston and move the same when the tiller line is moved in the opposite direction, and means to control the admission or escape of said power medium.

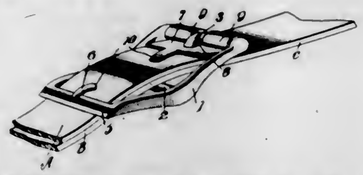
2. In steering apparatus, the combination with the steering wheel, a rudder stock, and two tiller lines making connection between the wheel and the stock, of a power cylinder for each said line, a piston in each cylinder, a tubular piston rod for each piston and extending through one head only of the respective cylinders and inclosing a portion of the respective tiller lines, devices carried by the latter which are adapted to be engaged by the respective pistons when the same are moved in one direction by a power medium, a pump, communicative connections between the pump and one end of each of said cylinders, a valve adapted to admit said medium to either of said cylinders, manually actuated devices for controlling the action of said valve, and devices actuated by the movement of the rudder stock

whereby the action of the valve is affected to restrain the action of the power medium within said cylinders.

3. In a steering apparatus, the combination with the steering wheel, the tiller lines, and connections between the latter and the rudder stock, of two power cylinders each provided with a piston having a tubular piston-rod protruding through one head of the respective cylinders, said pistons, said rods, a rod forming part of said lines extending through each of said piston-rods and adapted to be engaged by the respective pistons when the latter are moved in a single direction only, a pump, communicative connections between the pump and one end of each said cylinders, a valve interposed within said connections, and means for actuating said valve whereby the power medium may be predeterminately admitted through the proper of said connections into either cylinder.

4. In steering apparatus, the combination with a rudder stock operatively connected to two tiller lines, and said tiller lines, of two power cylinders, a piston in each of said cylinders, means to introduce a power medium into said cylinders upon one side only of their respective piston, a valve, a steering handle-bar, operative connections between said valve and handle-bar, connections between the above named connections and said rudder stock whereby the valve and the handle-bar are affected by the movements of the rudder stock, means whereby either of said tiller lines are engaged by the respective pistons when acted upon by the power medium, and means for predeterminately controlling the supply of said medium to either of said cylinders.
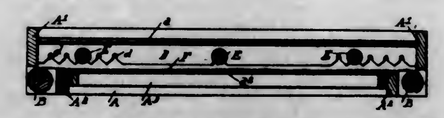
868,161. CROSS-LINE BUCKLE. FREDERICK W. DILL and JOHN R. HILL, Lincoln, Kans. Filed Apr. 2, 1907. Serial No. 365,944.



1. As an improved article of manufacture, the herein described buckle, comprising a frame embodying end bars, an intermediate cross bar, a main tongue pivotally connected to said intermediate cross bar, and an auxiliary tongue pivotally connected to one of the end cross bars and adapted for locking engagement with the main tongue.

2. As an improved article of manufacture, the herein-described harness buckle, comprising a frame embodying end cross bars and an intermediate cross bar, a main tongue attached to said last named bar and adapted to engage one of the end cross bars with its free end, an auxiliary tongue pivotally connected to said end cross bar and provided with an opening through which the outer end of the main tongue is adapted to project, and an auxiliary tongue adapted for locking the main tongue in operative position.

868,162. EGG-TURNER FOR INCUBATORS. FRANK T. DIRKSEN, Springfield, Ill. Filed Jan. 21, 1907. Serial No. 353,255.



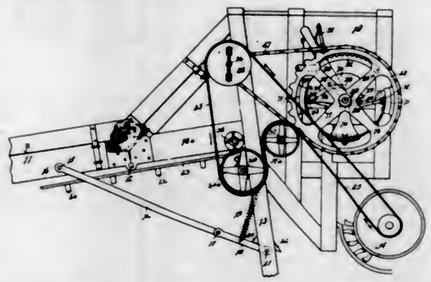
1. The combination of a drawer, rollers revoluble within the drawer, means for supporting the rollers at different heights within the drawer and a movable egg-turning device coöperating with the rollers.

2. A drawer having longitudinal channels in the sides of the drawer and saw-cuts in the ends of the drawer adjacent to the ends of said channels, notched plates fitting in the saw-cuts of the drawer and rollers within the drawer having spindles adapted to turn in the notches of the plates and the channels of the drawer.

3. The combination of a drawer having side pieces having longitudinal channels and end pieces having saw-cuts adjacent to the ends of the channels in the side pieces, a screen mounted within the drawer, notched plates fitting in the saw-cuts of the drawer, rollers turning in the notches of the plates and the channels of the drawer and a fabric movable between said rollers and the screen.

4. The combination of a drawer equipped with mountings adapted to support parallel rollers at different distances apart within said drawer; rollers supported on said mountings and revoluble within said drawer and adjustable relative to each other to fit eggs of different sizes; and a movable apron supporting and adapted to turn eggs situated between said rollers.

868,163. BAND-CUTTER AND FEEDER. WILLIAM E. DONNER, Doniphan, Nebr. Filed July 30, 1906. Serial No. 328,377.



1. In a band cutter and feeder, a main operating shaft, a main gear adapted to be driven therefrom, clutch members between said shaft and said gear, a conveyer driven from said gear, a pivoted element actuated by the grain passes through the device for disengaging said clutch members from said gear, said element being adapted to return by gravity to normal position, a cam for positively engaging said clutch members to move the same out of engagement with said gear, and mechanism actuated by said movable element for tripping said cam to disengage said clutch members from said gear, said clutch members being provided with a spring for restoring the same to engagement with said gear.

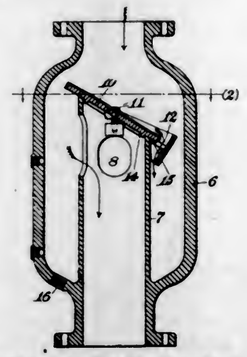
2. In a band cutter and feeder, a main operating shaft, a power transmitter, a centrifugal speed clutch interposed between said power transmitter and said shaft, a driving gear, clutch members between said shaft and said driving gear, a conveyer driven from said shaft, a pivoted supporting bracket, rotary retarding arms carried thereby operated from said driving gear, means for setting said bracket at a selected point in its pivotal movement, and means actuated by said bracket in its movement under the pressure of grain for disengaging said clutch members from said driving gear.

3. In a band cutter and feeder, a main operating shaft, a power transmitter therefor, a centrifugal speed clutch between said shaft and said transmitter, a main gear, clutch members between said shaft and said main gear, a conveyer driven from said main gear, a pivoted bracket, rotary retarders carried thereby and driven from said main gear, band cutters driven from said main gear, means for setting said bracket at any selected point with relation to its pivot comprising a stationary quadrant and a toothed lever carried by said bracket and engaging said quadrant, a spring for engaging said clutch members with said main gear, flexible connections between said clutch members, a cam for engaging said flexible connections to disengage said clutch members from said main gear, and an element carried by said bracket for engaging the said cam to trip the same.

4. In a band cutter and feeder, a main operating shaft, a power transmitter therefor, a centrifugal speed clutch interposed between said transmitter and said shaft, a main gear, spring held clutch members between said shaft and said gear, a band cutter, driven from said gear, a conveyer driven from said gear, a supporting bracket, rotary retarders carried thereby and driven from said gear, a secondary band cutter driven from said transmitter, a threshing cylinder driven from said power transmitter, and means carried by said bracket and actuated therefrom upon movement of said bracket under pressure of the grain for disengaging said clutch members from said main gear and for stopping the operation of the mechanism driven from said main gear, without stopping the operation of said power transmitter and the mechanism driven therefrom.

5. In a band cutter and feeder, a main operating shaft, a main gear adapted to be driven therefrom, clutch members carried by said shaft for engagement with said gear, a spring interposed between said clutch members, a conveyer driven from said gear, a supporting bracket, rotary retarders carried thereby and driven from said gear, flexible connections between said clutch members, a cam for engagement with said flexible connections, to disengage said clutch members from said main gear against the pressure of said spring, a lever fulcrumed intermediate its ends and having its free end designed to engage said gear and loose pivotal connections between the opposite end of said lever and said supporting bracket, whereby movement of the former under pressure of the grain actuates said lever to trip said cam.

868,164. STEAM-SEPARATOR. WILLIAM W. DOOLITTLE, Chicago, Ill., assignor to Crane Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 7, 1905. Serial No. 244,644.



1. In combination, a vertical closed casing having an inlet opening at its upper end and an outlet pipe extending inwardly from its lower end, an independent baffle plate immediately below the inlet opening, and means below and accessible from such inlet opening for detachably securing the baffle plate to the upper end of the outlet pipe.

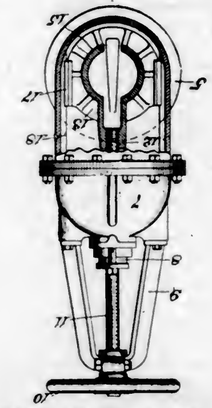
2. In combination, a vertical closed casing having an inlet opening at its upper end, and an outlet pipe extending inwardly from the opposite end, an independent baffle plate immediately below the inlet opening and provided with a projecting means on its under side for engaging the pipe whereby the plate is positioned on the end of the outlet pipe, and additional means for securing the plate to the outlet pipe.

3. In a steam separator the combination of a casing having an integral outlet pipe adapted to support the baffle plate and a sectional baffle plate attached on said pipe.

4. In a steam separator the combination of a casing having an inlet and an inwardly projecting integral steam outlet pipe, a removable baffle plate on said pipe and a drainage ledge 12 on the baffle plate with a flange to intercept currents of steam on the surface of the condensed water thereon.

5. A separator comprising in combination a closed casing having an inlet opening and an inwardly projecting outlet pipe with a side perforation, together with an inclined baffle plate supported upon the end of said outlet pipe, said baffle plate being provided upon one edge, adjacent the closed side of the outlet pipe with a drainage flange.

868,165. GATE-VALVE. WILLIAM W. DOOLITTLE, Chicago, Ill., assignor to Crane Company, Chicago, Ill., a Corporation of Illinois. Filed June 17, 1905. Serial No. 265,730.



1. In a gate valve, the combination with a casing having oppositely disposed seats and a fluid passage, of a stem and a reciprocating gate for closing such passage comprising opposing seating members, one of which is provided with radially directed stiffening ribs and the other of which has yielding edges constituting a seating face and is connected to the rigid member inside its yielding edges by means of a cylindrical rib.

2. In a gate valve, the combination with a suitable casing and converging seats therein, of a valve stem and a gate having one side connected rigidly with the stem and braced by ribs, and having a substantially cylindrical web, and a second seating disk attached to said web and having overhung edges whereby it has a resilient seat upon the casing, substantially as described.

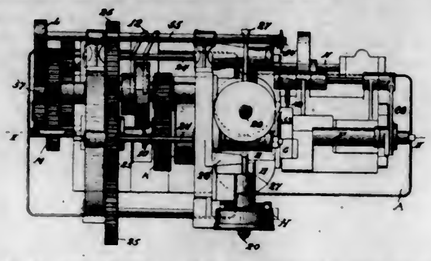
3. In a gate valve, the combination with a suitable casing and converging valve seats therein, of a wedge valve having one side rigidly braced with ribs and rigidly connected to the valve stem, a second valve seating disk and a connection between the rigid side and the second disk comprising an annular rim of less diameter than the seating face of the valve, whereby the said second seating disk has an overhung rim and is resilient on all sides, substantially as described.

4. In a gate valve, the combination with a casing having a straight passage and inclined valve seats, of a valve stem and means to reciprocate it, a gate valve having a projecting neck fixed to the stem and integral with one side of the valve, a cylindrical web on the valve and radial stiffening webs and a second overhung seating disk on the said cylindrical web having resilient edges to engage the casing.

868,166. NIPPLE-MAKING MACHINE. WILLIAM W. DOOLITTLE, Evanston, Ill., assignor to Crane Company, Chicago, Ill., a Corporation of Illinois. Filed Aug. 9, 1906. Serial No. 329,888.

1. In combination, a hollow rotatable pipe holder provided with a chuck for gripping the pipe, means for feed-

ing the pipe step by step through the chuck, a tool support, and a threading tool pivoted thereto and adapted to swing in a plane parallel to the axis of the pipe holder, and means for feeding the tool through its arc.



2. In combination, a relatively rotatable pipe holder and supporting means, means for feeding the pipe longitudinally fixed distances step by step, a threading tool mounted on the said supporting means to swing in an arc in a plane parallel to the axis of the pipe holder, and means adjacent to the line of feed and following the threading tool for cutting the stock midway between successive points of greatest diameter on the stock.

3. In combination, a relatively rotatable pipe holder and supporting means, means for feeding the pipe longitudinally fixed distances step by step, and a threading tool mounted on the said supporting means to swing in an arc in a plane parallel to the axis of the pipe holder.

4. In combination, a relatively rotatable pipe holder and supporting means, means for feeding the pipe longitudinally fixed distances step by step, a plurality of disks pivotally mounted on the supporting means about the pipe axis and lying in planes substantially parallel to the axis of the pipe holder, and provided with threading dies, and means for feeding the disks rotatively.

5. In combination, a relatively rotatable pipe holder adapted to permit of the step-by-step movement of a pipe therethrough and supporting means, a disk pivotally mounted on the supporting means and lying in a plane parallel to the axis of the pipe holder and provided with a plurality of threaded dies spaced about its periphery and means for feeding the disk rotatively.

6. In combination, a relatively rotatable pipe holder and supporting means, a disk pivotally mounted on the supporting means and lying in a plane parallel to the axis of the pipe holder and provided with a plurality of threading dies spaced about its periphery, means for feeding the disks rotatively, and means for advancing the pipe the length of a nipple after the disengagement of one die and before the engagement of another.

7. In combination, means for rotating a pipe, means for giving the pipe a step by step movement longitudinally, a threading die mounted to swing in an arc longitudinally of the axis of the pipe, and means for feeding the die through its arc.

8. In combination, means for rotating a pipe, means for feeding the pipe longitudinally step by step, threading means in the line of feed comprising a plurality of disks spaced about the axis of the pipe in planes parallel thereto and each provided with a plurality of spaced threading dies, and means for feeding the disks rotatively.

9. In combination, a threading disk provided upon its periphery with a plurality of threading dies spaced apart, each of which comprises a plurality of cutting teeth extending transversely of the face of the disk and means for adjusting the dies transversely of the disk.

10. In combination, a threading disk provided upon its periphery with a transverse dovetailed groove with a recess at the side thereof, a block fitting the groove, means for holding the block in place, a cutting die mounted upon the block, a wedge engaging the edge of said recess on one side and the die on the other, and means for securing the wedge to the disk.

11. In combination, means for holding and rotating a pipe, cutting means adjacent the end of such first means, and supporting means for the outer end of the pipe comprising a sleeve provided with connections for rotating it in the same direction that the pipe is rotated.

12. In combination, rotatable clamping means, adapted to receive a pipe, means for intermittently operating such clamping means, yieldingly pressed means tending to feed the pipe through the clamping means, intermittently operating cutting means adjacent the clamping means, a stop rod on the other side of the cutting means for engaging the end of the pipe and positioning it when the clamps are opened, and automatic means for producing a backward movement of the rod a predetermined distance when the clamp is opened.

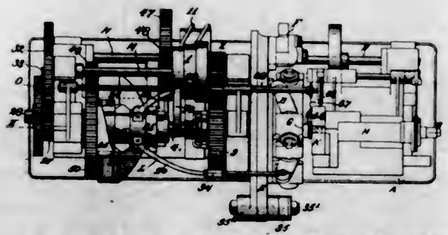
13. In combination, a stop mechanism comprising a stop sleeve having engaging means spaced along its length at different angular positions, a stop rod passing therethrough and provided with means for engaging the engaging means on the sleeve and means whereby the sleeve may be rotated to bring the various engaging means on the sleeve in position to engage the engaging means on the rod.

14. In combination, a stop mechanism comprising a stop sleeve having engaging means spaced along its length at different angular positions, a stop rod passing therethrough and provided with means for engaging the engaging means on the sleeve and a pawl and ratchet whereby the sleeve may be rotated to bring the various engaging means on the sleeve in position to engage the engaging means on the rod.

15. In combination, a stop mechanism comprising a stop sleeve having engaging means spaced along its length at different angular positions, a stop rod passing therethrough and provided with means for engaging the engaging means on the sleeve, a ratchet secured to the sleeve and having a portion of its surface blank, and an intermittently operated pawl engaging the ratchet whereby the sleeve may be rotated to bring the various engaging means on the sleeve in position to engage the engaging means on the rod and then cease to operate the sleeve when the blank space on the ratchet is reached.

16. In combination with a stock feeding, threading, and cutting off mechanism, of a supporting sleeve intermediate the threading and cutting off means, and means for rotating such sleeve in the direction of rotation of the stock.

868,167. NIPPLE-MAKING MACHINE. WILLIAM W. DOOLITTLE, Evanston, Ill., assignor to Crane Company, Chicago, Ill., a Corporation of Illinois. Filed Aug. 9, 1906. Serial No. 329,889.



1. In combination, a relatively rotatable pipe holder and threading means, said threading means comprising a support, a threading tool mounted thereon to oscillate in an arc longitudinal of the pipe holder, and means for feeding the threading tool forward and swinging it reversely to starting position.

2. In combination, a relatively rotatable pipe holder and threading means, said threading means comprising a support, a threading tool mounted thereon to oscillate in an arc longitudinal of the pipe holder, means for feeding the threading tool forward and returning it, and means whereby the support may be moved radially.

3. In combination, a relatively rotatable pipe holder and supporting means, means for feeding a pipe through the holder step by step, a threading tool mounted on the said support for oscillation in an arc longitudinal of the pipe holder, means for feeding the threading tool forward and returning it, and means whereby the said supporting means may be moved radially to permit the threading tool to clear the pipe during its return stroke.

4. In combination, a relatively rotatable pipe holder and supporting means, a plurality of threading tools mounted on the support about the axis of the pipe holder for oscillatory movement in arcs longitudinal of the axis of the pipe holder, and means for feeding the tools forward and swinging them in a reverse direction to their starting positions.

5. In combination, a relatively rotatable pipe holder and sectional supporting means, threading tools mounted on the supporting means for oscillation in arcs longitudinal of the pipe holder, means for feeding the threading tools forward and returning them, and means for moving the parts of the sectional supporting means outwardly to permit of such return.

6. In combination, a rotatable pipe holder, radially movable supporting means on opposite sides of the axis of the pipe, oscillatory arms lying in planes substantially parallel to the axis of the pipe holder and mounted upon such supporting means, threading dies on such arms, means for moving the supporting means in and out, and means for moving the oscillatory arms back and forth.

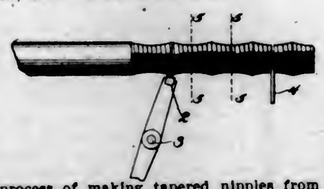
7. In combination, a pair of pivoted supporting members, means for rotating a pipe between the members, means for periodically opening and closing the supporting members, threading members pivoted on each of the supporting members to oscillate in arcs longitudinal of the pipe, and means for feeding the threading members forward and returning them.

8. In combination, a pair of pivoted supporting members, means for rotating a pipe between the members, yielding means normally holding the supporting members in open position, means for periodically closing the supporting members, threading members pivoted on each of the supporting members to oscillate in arcs longitudinal of the pipe, and means for feeding the threading members forward and returning them.

9. In combination, a pair of pivoted supporting members, means for rotating a pipe between the members, means for periodically opening and closing the supporting members, threading members pivoted on each of the supporting members to oscillate in arcs longitudinal of the pipe, means for feeding the threading members forward and returning them, and means for feeding the pipe forward the length of a nipple during the return movement of the threading members.

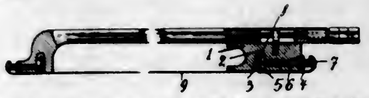
10. In combination in a threading machine, a pair of die supporting members pivoted at one end to the frame, means at the other ends for operating the supporting means, and balancing means comprising a lever pivoted intermediate its ends to the frame and pivoted at one end to the lower supporting member, and a link extending between the upper supporting member and the other end of the said lever.

868,168. PROCESS OF MAKING PIPE-NIPPLES. WILLIAM W. DOOLITTLE, Evanston, Ill., assignor to Crane Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 15, 1907. Serial No. 368,307.



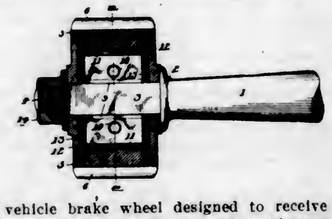
The process of making tapered nipples from extended pipe blanks, which consists in giving a blank and a threading tool relative rotative movement about the axis of the blank and in moving the threading tool successively longitudinally of the blank in a series of arcs thereby giving cuts deepest at the centers of the arcs and gradually decreasing in depth to the ends thereof, and subsequently cutting the threaded blank into sections at the points of least diameter.

868,169. VIOLIN-BOW. JAKOB DOSTER, Mülheim-on-the-Ruhr, Germany. Filed Feb. 18, 1907. Serial No. 358,081.



A device of the character described, comprising in combination with the crinite strings (9) and the knotted ends (8) of the latter and with the frog (1) of the violin bow provided with a cavity (2); a clamping plate (3) fixed in said cavity (2) and shaped at its inner end like a comb so as to receive said knotted ends (8) of said strings (9), a projection (5) arranged on said clamping plate, and provided with a recess (5^a) a nut (7) fixed to said frog, a fixing screw (6) adapted to screw through said nut and to fix said clamping plate (3) in said cavity (2) by engaging said recess (5^a) in said projection (5), and a safety strap (4) hinged to said clamping plate (3) and designed to be placed over the head of said fixing screw (6) and thus to prevent the latter from shifting, substantially as described and shown.

868,170. VEHICLE-BRAKE. JOHN G. EBKEN, Pittsburg, Pa. Filed Apr. 30, 1907. Serial No. 371,201.



1. A vehicle brake wheel designed to receive and revolve around a friction block held stationary on the brake beam, said friction block being in two independent halves and kept in close engagement with said wheel by a tension means seated between said two halves.

2. A vehicle brake wheel having a central cored out portion designed to receive and revolve around a friction block held stationary on the brake beam, said friction block being in two independent halves, each having lateral movement on said beam, and having tension means seated there between in order to keep said two halves in close engagement with said wheel.

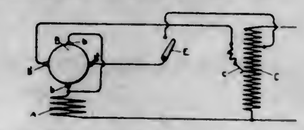
3. A vehicle brake wheel having a central cored out portion designed to receive and revolve around a friction block held stationary on the brake-beam, said friction block being in two independent halves, each having lateral movement on said beam; a wearing sleeve seated between said wheel and the friction block; and tension means seated between the two halves of said friction block.

4. A vehicle brake wheel having a central cored out portion designed to receive and revolve around a friction block held stationary on the brake-beam, said friction block being in two independent halves each having lateral movement on said beam; a wearing sleeve seated between said wheel and the friction block; tension means seated between the two halves of said friction block, and suitable washers mounted over said beam and engaging the sides of the brake wheel.

868,171. CONTROL OF ALTERNATING-CURRENT MOTORS. FRIEDRICH EICHBERG, Berlin, Germany, assignor to General Electric Company, a Corporation of New York. Filed Jan. 26, 1907. Serial No. 354,228.

1. The method of controlling an alternating-current motor having a commutator and brushes short-circuiting

the rotor on the line of magnetization of the stator winding, which consists in starting it as a series motor by connecting rotor and stator in series to the source using the short-circuited brushes as one rotor terminal, and impressing a shunt excitation on the rotor when up to speed at an angle to the line of the rotor short-circuit.



2. The method of controlling an alternating-current motor having a commutator and brushes short-circuiting the rotor on the line of magnetization of the stator winding, which consists in connecting the stator in series with half the rotor winding at starting by using the short-circuited brushes as one rotor terminal, and impressing a shunt excitation on the whole rotor winding when the motor is up to speed.

3. In an alternating-current motor, a stator winding, a rotor winding provided with a commutator and brushes short-circuiting the rotor on the line of magnetization of the stator winding, a connection between said brushes and one terminal of the stator winding, a commutator brush displaced substantially ninety electrical degrees from the short-circuited brushes, connections from said brush and from the other stator terminal to a source of current, and means for establishing another connection from the rotor to the source when the motor is up to speed.

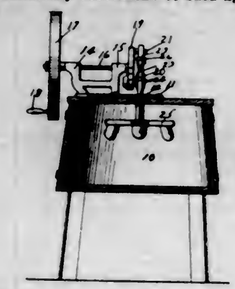
4. In an alternating-current motor, a stator winding, a rotor winding provided with a commutator and brushes short-circuiting the rotor on the line of magnetization of the stator winding, a connection between said brushes and one terminal of the stator winding, commutator brushes on a line at right-angles to the line of the short-circuited brushes, connections from one of the last-mentioned brushes and from the other stator terminal to a source of current, and a switch arranged to connect the other of the last-mentioned brushes to the source when the motor is up to speed.

5. In an alternating-current motor, a stator winding, a rotor winding provided with a commutator and brushes short-circuiting the rotor on the line of magnetization of the stator winding, a connection between said brushes and one terminal of the stator winding, a commutator brush displaced substantially ninety electrical degrees from the short-circuited brushes, connections from said brush and from the other stator terminal to a source of current, means for varying the voltage impressed by said source on said connections, and means for establishing another connection from the rotor to the source when the motor is up to speed.

6. In an alternating-current motor, a stator winding, a rotor winding provided with a commutator and brushes short-circuiting the rotor on the line of magnetization of the stator winding, a connection between said brushes and one terminal of the stator winding, commutator brushes on a line at right-angles to the line of the short-circuited brushes, connections from one of the last mentioned brushes and from the other stator terminal to a source of current, means for varying the voltage impressed by said source on said connections, and a switch arranged to connect the other of the last-mentioned brushes to the source when the motor is up to speed.

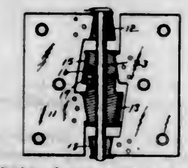
868,172. WASHING-MACHINE. AUGUST EHLER, Carroll, Iowa. Filed June 18, 1906. Serial No. 322,637.

1. The combination with the cover of a washing machine having an opening therein provided with lateral slots or extensions, of an agitator shaft extended through said opening and provided with spiral ribs engaging said slots or extensions, and a crank shaft for reciprocating said agitator shaft, the opening in said cover and said lateral extensions being of sufficient size to permit lateral movement of said agitator shaft, whereby said ribs in engaging said slots will cause said crank shaft to impart a combined rotary and oscillatory movement to said agitator shaft.



2. The combination with the cover of a washing machine having a tapered opening therein provided with lateral slots, of an agitator shaft extended through said opening and provided with spiral ribs engaging said slots, a crank shaft, a member connected thereto, and a swiveled connection between said member and said crank shaft, said opening and lateral slots being of sufficient size to permit lateral movement of said agitator shaft, whereby said ribs in engaging said lateral slots will cause said crank shaft to impart a combined oscillatory and rotating movement to said agitator shaft.

868,173. HINGE. AUGUST ERLER, Carroll, Iowa. Filed June 18, 1906. Serial No. 322,638.



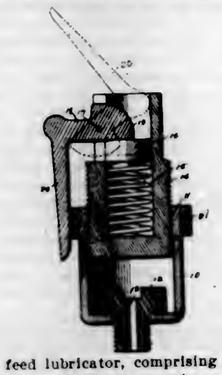
1. A device of the character described comprising two leaves each provided with separated projecting portions bent over to form sockets and knuckles, an independent filling secured within each of said sockets and knuckles to form pintle receiving sockets and knuckles, respectively, one of said knuckles being provided with a cam face, the other knuckle having a chamber formed in the periphery thereof, a roller located in said chamber and resting on said cam face, and a pintle passed through coincident bores formed in said knuckles and sockets.

2. A device of the character described comprising two leaves each having projections bent over to form sockets and knuckles, an independent filling secured within each of said sockets and knuckles and forming pintle receiving sockets and knuckles, respectively, one of said knuckles being provided with a cam face, a roller carried by the other knuckle and bearing on said cam face, and a pintle passed through coincident bores formed in said knuckles and said pintle receiving sockets.

868,174. FORCE-FEED LUBRICATOR. ABRAM FINCH, Boone, Iowa, assignor of one-half to A. W. Morgan, Perry, Iowa. Filed Dec. 18, 1905. Serial No. 292,251.

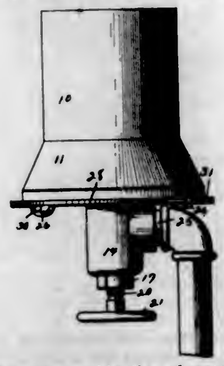
1. In a force feed lubricator, the combination of a cup having a discharge opening, a ratchet rim extending around the top of the cup, a screw plug in the cup, a pawl pivoted to the screw plug and capable in one position of engaging the ratchet rim and in another position of standing upwardly above the plug, there being a cam-shaped extension on the pawl and a yielding pressure device carried by the plug to engage the cam-shaped extension and to yieldingly hold the pawl in engagement with the ratchet rim when the pawl is in one position and also to yieldingly hold the pawl in its upwardly extended position when placed therein.

2. A force feed lubricator, comprising a cup, a ratchet rim on the exterior thereof at its upper end, a feed plug screwed into the cup, there being an angular extension at the top of the plug, said plug and extension formed with an opening from its top extending downwardly into the plug, an extensible spring in the opening, a block at the top of the spring, a pawl fulcrumed in the top of the extension of the plug and having on one end a cam-shaped extension to engage the block and on its other end a right-angled extension or handle, said spring and block co-acting with the cam-shaped extension to yieldingly hold the handle portion in engagement with the ratchet rim when it is extending downwardly and also to yieldingly hold it in an upwardly inclined position after it is placed in such position.



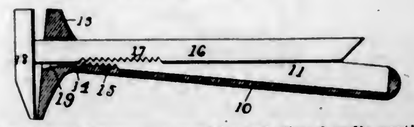
3. A force feed lubricator, comprising a cup to receive oil formed with a discharge opening at its bottom, a ratchet rim around the exterior of its top and a screw-threaded portion around the interior of its upper end, a plug screwed into the top of the cup and formed with an angular extension at its top, said extension slotted at one side, a lever fulcrumed in the slot and formed with a downwardly projecting pawl or handle to engage the ratchet rim and also formed with an inwardly extending cam-shaped portion, said lever capable of swinging to a substantially upright position and a yielding pressure device contained within the plug to yieldingly hold the lever against the ratchet when it is extended downwardly and to also yieldingly hold the lever in an elevated position when it is extended upwardly.

868,175. OIL-BURNER. HERSCHEL C. FINLEY, Cherryvale, Kans. Filed June 7, 1906. Serial No. 321,042.



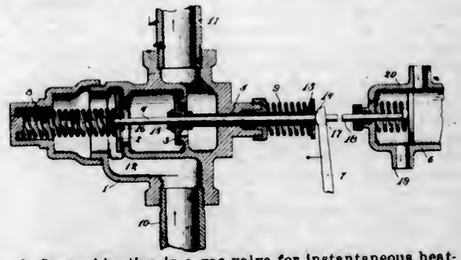
In an oil burner, the combination of a combustion chamber open at its lower and upper ends, a burner comprising an oil chamber extending upward in the combustion chamber and below the lower end thereof and having an outlet at its upper end, and a screw valve bearing in the oil chamber and having a handle disposed below said chamber, supports carrying the oil chamber of the burner and fixed to the lower end of the combustion chamber, two horizontal slides arranged and movable immediately below the said supports and having recesses in their inner edges conforming in shape to and arranged to receive the burner and also having slots between the said recesses and their outer edges, and screws extending through said slots and connected with the combustion chamber at opposite points.

868,176. WRENCH. HENRY FISHER, Everly, Iowa. Filed Oct. 17, 1904. Serial No. 228,698.



An improved wrench comprising a hollow handle portion closed at its bottom, sides and rear end and open at its top, a jaw portion formed on the forward end of the handle portion and having a longitudinal opening through it in line with the hollow handle, a number of teeth formed in the handle portion projecting upwardly into the interior thereof, adjacent to the opening in the jaw portion, and a second member comprising a jaw and a shank, said shank projecting through the opening in the first mentioned jaw portion and capable of lying wholly within the hollow handle when the jaws are together, said shank portion formed with teeth to co-act with the teeth on the said handle portion, the said slot in the opening in the first mentioned jaw portion having its side adjacent to the teeth curved to permit the said shank portion to tilt within said opening to thereby permit the co-acting teeth to disengage.

868,177. COMBINATION-VALVE. REYNOLDS C. FRAMPTON, Swissvale, Pa., assignor to Pittsburg Water Heater Company, Allegheny, Pa., a Corporation of New Jersey. Filed Feb. 11, 1907. Serial No. 356,680.



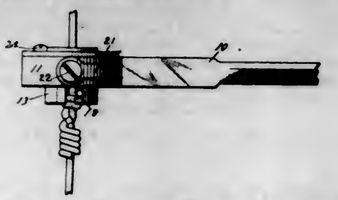
1. In combination in a gas valve for instantaneous heaters, a casing provided with a passage, two valves in substantial alinement in the passage and independent telescoping members for controlling the valves, the one adapted to be operated by a thermostat and the other by a water valve.

2. In combination in a gas valve for instantaneous heaters, a casing provided with a passage, two valves in substantial alinement in the passage, a tube connected to one valve and adapted to be moved by an operating means, and a rod passing through the tube to the other valve and adapted to be operated by another operating means.

868,178. WIRE-SPLICER. GEORGE H. GOUGHNOUR, Stuart, Iowa. Filed Sept. 5, 1906. Serial No. 333,727.

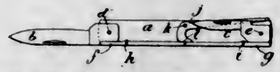
1. A wire splicer compising a handle provided with a head, and a cylindrical wire twisting sleeve formed of a single integral piece and rotatably mounted in said head, said sleeve having one wall cut out throughout its length to form a radial slot extending from the center to the

periphery thereof, a transverse groove being formed in one wall of said slot, said slot adjacent one end of the sleeve being enlarged to form a cylindrical chamber to receive the convolutions of a twisted wire.



2. A wire splicer comprising a handle provided with a head, and a wire twisting sleeve rotatably mounted in said head, said sleeve having a diametrical slot extending to the periphery thereof, a transverse groove being formed in one wall of said slot, one end of said sleeve being provided with an annular chamber to receive the convolutions of a twisted wire, the other end of said sleeve having an annular groove, and a plate secured to said head and entering said groove.

868,179. CLASP-KNIFE. JOHN C. GRISWOLD, New York, N. Y. Filed Jan. 25, 1907. Serial No. 353,932.



1. A knife comprising a handle, a blade pivoted in the handle, a substantially unyielding locking lever pivoted in the handle and arranged to engage and lock the blade when secured in locking position and to be moved away from said position by movement of the balde when not so secured, and means for securing the locking lever in locking position, said means being movable manually to release the locking lever and the blade.

2. A knife comprising a handle, a blade pivoted in the handle, a substantially unyielding locking lever pivoted in the handle and having a short arm arranged to engage and lock the blade and a longer arm, and means for engaging the longer arm to secure the locking lever in locking position, said means being movable manually to release the locking lever and the blade.

3. A knife comprising a handle, a blade pivoted in the handle, a locking lever engageable at one of its ends by the blade and adapted to be moved on its fulcrum by such engagement with the blade, and a cam-lever engageable with the other end of the locking lever to lock the locking lever against such movement, the locking lever being slightly yieldable to the cam-lever and substantially unyieldable to the blade, the cam-lever being adapted to be retained at the locking position by the resiliency of the locking lever.

4. A knife comprising a handle, a blade having a heel portion pivoted in the handle, a blade-locking lever pivoted in the handle, the locking lever having a shorter arm and a longer arm, the shorter arm being engageable with the heel of the blade to lock the blade against pivotal movement, and a cam-lever engageable with the longer arm of the locking lever to lock the locking lever aginst pivotal movement.

5. A knife comprising a handle, a blade having a heel portion pivoted in the handle, a blade-locking lever pivoted in the handle, the locking lever having a shorter arm and a longer resilient arm, the shorter arm being engageable with the heel of the blade to lock the blade against pivotal movement, and a cam-lever engageable with the longer arm of the locking lever to lock the locking lever against pivotal movement, the cam-lever being adapted to be retained at the locking position by the resiliency of the locking lever.

6. A knife comprising a handle, blades pivoted respectively at opposite ends of the handle, levers respectively engageable by the blades to be moved on their respective fulcrums by such engagement, and a single manually operable device engageable with the levers for locking the levers against movement, whereby the blades are locked against pivotal movement relatively to the handle.

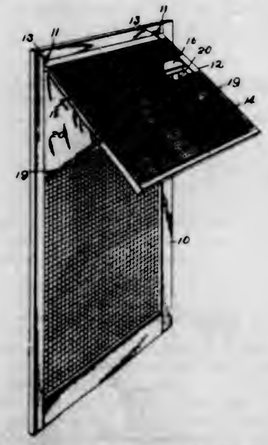
7. A knife comprising a handle, a blade pivoted at one end of the handle, a blade pivoted at the other end of the handle, a lever engageable by the first-named blade and adapted to be moved on its fulcrum thereby, another lever engageable by the last-named blade and adapted to be moved on its fulcrum thereby, and a device in common for locking the two first-named levers against pivotal movement, whereby the blades will be locked against pivotal movement relatively to the handle.

8. A knife comprising a handle, a blade pivoted at one end of the handle, a blade pivoted at the other end of the handle, a lever engageable by the first-named blade and adapted to be moved on its fulcrum thereby, another lever engageable by the last-named blade and adapted to be moved on its fulcrum thereby, and a cam-lever in common for locking the two first-named levers against pivotal movement, whereby the blades will be locked against pivotal movement relatively to the handle.

9. A knife comprising a handle, a blade pivoted at one end of the handle, a blade-locking lever pivoted in the handle and having an arm engageable with the heel of the blade, a blade pivoted at the other end of the handle, another blade-locking lever having an arm engageable with the heel of the last-named blade, the blade-locking levers having other arms extending in juxtaposition to each other, and a cam-lever engageable with the juxtaposed ends of the blade-locking levers to lock such levers against pivotal movement, whereby the blades are locked against pivotal movement relatively to the handle.

10. In a knife, the combination of a handle, a blade pivoted to the handle and provided with a squared heel, a locking lever pivoted between the sides of the handle at a point close to the heel of the blade and having a short arm engaging the squared part of the heel and a long arm extending in the opposite direction, and a cam lever pivoted between the sides of the handle and having a cam arm engaging the long arm of the locking lever and a manually-operable arm extending at an angle thereto so as to lie longitudinally of the handle when the blade is locked.

868,180. INSECT-TRAP. MARTIN C. HARLAN, South Pasadena, Cal. Filed Feb. 13, 1907. Serial No. 357,130.



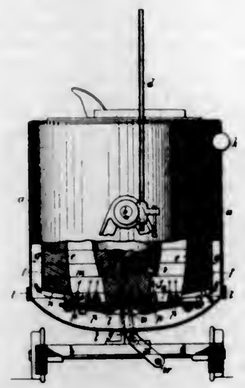
1. In an insect trap, the combination of a frame, a screen covering one side of the frame, a screen on the opposite side of the frame extended across the top thereof and forming a chamber between the screens and a pivoted partition in said chamber in one position capable of lying flat against one of the screens and in another position having one edge close to the other screen and a handle projected beyond the frame for controlling the pivoted partition.

2. In an insect trap, the combination of a frame, a screen for covering one side of the frame, a screen covering a part of the opposite side of the frame and forming with the first screen a chamber between the screens said frame having an opening leading from the said chamber, a screen covered frame detachably connected with the main frame and communicating with the compartment in the main frame, and a pivoted partition between the screens of the main frame.

3. In an insect trap, the combination of a frame, a screen covering the frame, a covered frame hinged to the side of the main frame and capable of standing in line with the main frame and also capable of swinging over on top of the main frame and an insect containing compartment communicating with the space between the frames when they are arranged one above the other.

4. An insect trap, comprising a rectangular frame, a screen covering one side of the frame, a screen across the opposite side of the frame near one end thereof, said end of the frame formed with an opening, a detachable screen covered frame connected with said end of the main frame and communicating therewith through said opening, a pivoted partition in the compartment between the screens on the main frame and an auxiliary frame hinged to the side of the main frame and having inner its edges beveled and a cover for said frame, substantially as set forth.

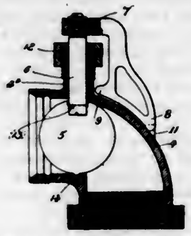
868,181. PORTABLE CRUCIBLE-FURNACE. MATTHEW HARVEY, Walsall, England. Filed May 18, 1907. Serial No. 374,461.



1. A portable or self-contained crucible furnace containing a combined crusible chamber and air pre-heating chamber formed by an outer shell mounted on side trunnions and provided with an annular bottom plate carrying the lining of the furnace proper said bottom plate having projections forming V-shaped blast passages which are closed by a hinged bottom plate which when the furnace is up ended on its trunnions can be turned up to enable the blast passages to be cleaned out, substantially as set forth.

2. The combination with a portable or self-contained crucible furnace of the kind described of a dished bottom for the furnace said bottom being guided for vertical movement and provided with levers and connections for moving it up or down so that when this dished bottom is moved up it engages with the shell of the furnace and prevents the same from turning but when the dished bottom is moved down the furnace is free to be turned about its trunnions for pouring or to up-end it for examination of the blast passages.

868,182. RADIATOR-VALVE. GEORGE W. HAYDEN, Chicago, Ill., assignor to Crane Company, Chicago, Ill., a Corporation of Illinois. Filed June 17, 1905. Serial No. 265,722.



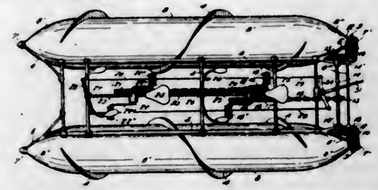
1. A radiator valve comprising in combination a casing with a passage therethrough, a valve stem, and a butterfly valve in the passage connected with such stem by a loose spliced joint adapted to permit of lateral play by the valve in its own plane.

2. A radiator valve comprising in combination a casing with a passage therethrough, a valve stem, a butter-fly valve in the passage connected with such stem by a loose spliced joint adapted to permit of lateral play by the valve in its own plane, and having a projection 14 opposite said spliced joint, and a recess in said casing receiving said projection.

3. A radiator valve comprising in combination a casing with a passage therethrough, a valve stem having a slot in its end, and a butter fly valve in the passage having a slot in its edge, the stem and valve interfitting into each other loosely at the said slots in the respective parts to permit of lateral play of the valve in its own plane.

4. In a radiator valve, the combination of a valve casing with a passage therethrough, a valve stem, a butterfly valve in the passage connected with such stem by a loose spliced joint adapted to permit of lateral play by the valve in its own plane, a long handle connected to the valve stem and a stop on the center line of the casing in position to engage the end of the handle.

868,183. WATER-BICYCLE. JOHN HEGGEN, Seattle, Wash. Filed Mar. 16, 1907. Serial No. 362,620.



1. A water bicycle embodying two buoyant members provided with blades, a frame comprising two longitudinally disposed members having extensions at their outer ends curved downwardly and outwardly, transverse members at intervals along the length of said longitudinal members connecting the latter, a gear wheel secured to the rear end of each of said buoyant members, a pinion meshing with each of said gear wheels and supported from said frame, a bevel gear mounted for rotation with each of said pinions, a transverse shaft carrying a bevel gear at each of its ends meshing with each of said first named bevel gears, and means for driving said shaft.

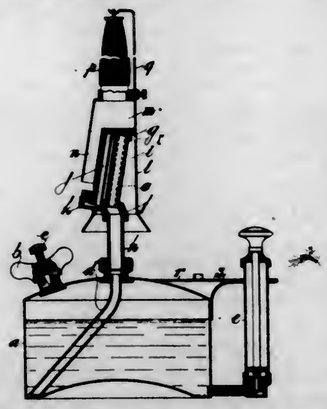
2. A water bicycle embodying two buoyant members, a frame comprising connected longitudinal members at their rear ends being forked and turned downwardly and then uniting and at their united portions forming supports for the rear ends of said buoyant members, a transverse connecting rod secured to said forked extensions, and driving means for said buoyant members.

3. A water bicycle embodying a pair of buoyant mem-

bers, a frame comprising longitudinal and transverse members, said longitudinal members at their front and rear ends being turned downwardly and outwardly, and at their rear being forked and connected one with the other, driving gears on the rear ends of said buoyant members, a shaft supported from said forked rear ends of said frame, said shaft carrying driving gears, and means operated by said shaft driving gears to actuate said gears of said buoyant members.

4. A water bicycle embodying buoyant members, a frame comprising two longitudinal members having extensions at their outer ends curved downwardly and outwardly, transverse members connected to said longitudinal members, a saddle supported from said frame, a handle bar supported from the frame a driving shaft secured to the rear extensions of the frame, means for operating said shaft, bevel pinions on each end of the shaft, a bevel pinion meshing with each of said first named pinions, a gear rotated by each of said second named pinions, and second gears meshing with the first named gears and secured to said buoyant members.

868,184. OIL-VAPOR LAMP. JOHN HENDY and HENRY J. S. STOBART, West Smethwick, England. Filed Aug. 28, 1906. Serial No. 332,352.



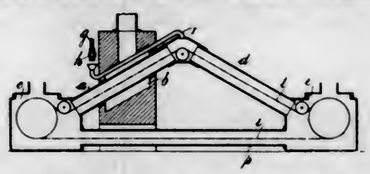
1. In oil vapor lamps, the combination consisting of vaporizer base and cap pieces, straight tubes fitted between the said base and cap pieces and forming a circuitous path for the flow of the vapor, a cover tube surrounding said base and cap pieces and the tubes and provided with an internal mixing and superheating chamber, subsidiary burner tubes closed at their lower ends and opening at their upper ends into the said mixing and superheating chamber, said burner tubes being placed along side the straight tubes and an outlet fitting on the said vaporizer base piece.

2. In oil vapor lamps, the combination consisting of vaporizer base and cap pieces, straight tubes fitted between the said base and cap pieces and forming a circuitous path for the flow of the vapor, a cover and burner tube surrounding said base and cap pieces and the tubes and provided with an internal mixing and superheating chamber, subsidiary burner tubes closed at their lower ends and opening at their upper ends into the said mixing and superheating chamber, said burner tubes being placed along side the straight tubes an outlet fitting on the said vaporizer base piece, and a mantle mounted on the cover and burner tube, as set forth.

3. In oil vapor lamps, the combination consisting of vaporizer base and cap pieces, straight tubes fitted between the said base and cap pieces and forming a circuitous path for the flow of the vapor, a cover and burner tube surrounding said base and cap pieces and the tubes and provided with an internal mixing and superheating chamber, subsidiary burner tubes closed at their lower ends and opening at their upper ends into the said mixing and superheating chamber, said burner tubes being placed along side the straight tubes an outlet fitting on the said vaporizer base piece, a mantle mounted on the cover and burner tube, a reservoir base, and a connecting tube between the said reservoir base and the vaporizer base fitting, as set forth.

4. In oil vapor lamps, the combination consisting of vaporizer base and cap pieces, straight tubes fitted between the said base and cap pieces and forming a circuitous path for the flow of the vapor, a cover and burner tube surrounding said base and cap pieces and the tubes and provided with an internal mixing and superheating chamber, subsidiary burner tubes closed at their lower ends and opening at their upper ends into the said mixing and superheating chamber, said burner tubes being placed along side the straight tubes and outlet fitting on the said vaporizer base piece, a mantle mounted on the cover and burner tube, a reservoir base, a connecting tube between the said reservoir base and the vaporizer base fitting, and an air pump serving as a handle for the complete lamp, as set forth.

868,185. APPARATUS FOR THE HEAT TREATMENT OF METALS. THEOPHILUS V. HUGHES, Birmingham, England. Filed Mar. 19, 1907. Serial No. 363,303.



1. In the heat treatment of metals, the combination consisting of an inclined thermal treatment chamber charged with non-oxidizing gas, a furnace for heating such chamber and its inclosed gas, and a gas supply tube connected to the upper end of the chamber and arranged in part within the said furnace, substantially as described.

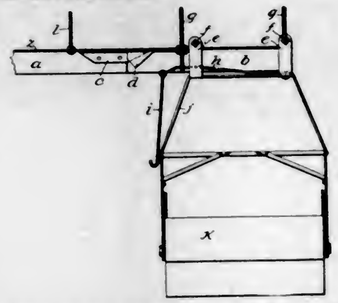
2. In the heat treatment of metals, the combination consisting of an inclined thermal treatment chamber charged with non-oxidizing gas, a furnace for heating such chamber and its inclosed gas, a gas supply tube connected to the upper end of the chamber and arranged in part within the said furnace, and means for conveying articles to be treated along the said thermal treatment chamber, substantially as described.

3. In the heat treatment of metals, the combination consisting of an inclined thermal treatment chamber charged with non-oxidizing gas, a furnace for heating such chamber and its contained gas, a closed chamber at the outer end of the said thermal treatment chamber, a gas supply tube connected to the upper end of the thermal treatment chamber and arranged in part within the said furnace, and means for conveying articles to be treated along the said thermal treatment chamber, substantially as described.

4. In the heat treatment of metals, the combination consisting of an inclined thermal treatment chamber, an oppositely inclined cooling chamber secured to the said thermal treatment chamber, both chambers being charged with nonoxidizing gas, a furnace for heating said thermal treatment chamber and its contained gas, closed chambers at the respective outer ends of the thermal treatment and cooling chambers, a connecting tube between the said closed chambers, means for conveying articles to be treated through all the chambers and a gas supply tube connected to the upper end of the thermal treatment chamber and arranged in part within the furnace, substantially as described.

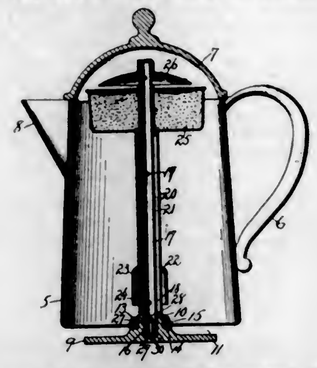
868,186. ELEVATED CARRIER. PETER H. IBLINGS, Parkersburg, and HERMAN E. IBLINGS, Waterloo, Iowa. Filed Aug. 30, 1906. Serial No. 332,653.

1. A device of the character described, comprising in combination a fixed suspended rail having a pointed delivery end, a movable rail section having at one end a shoe adapted to engage the pointed end of the fixed rail, a trolley-carriage adapted to move over and upon said rails, a tiltable receptacle suspended from said carriage, a crane, and detachable means for removably securing said carriage to said movable rail section.



2. A device of the character described, comprising in combination a fixed suspended rail having a pointed delivery end, a movable rail section having at one end a shoe adapted to receive the pointed end of said fixed rail, a trolley-carriage adapted to move over and upon said rails, a tiltable receptacle suspended from said carriage, a swing-crane, detachable means for removably securing said carriage to said movable rail section, and detachable means for securing said crane in one position to hold said fixed rail point and movable rail shoe in engagement.

868,187. PERCOLATOR. JOHN F. IVES, New Britain, Conn. Filed Jan. 22, 1907. Serial No. 353,468.



1. A receptacle, a tube extending upward therein, a basket located on said tube near its upper end, said tube having openings through its wall above and below said basket, a jacket surrounding said tube and having an opening through its wall near the lower end thereof, and a conductor for conveying heat to liquid within said tube.

2. A receptacle, a tube extending upward therein, a basket located on the tube near its upper end, said tube having openings through its wall above and below said basket, a jacket surrounding said tube and having an opening through its wall, a hood surrounding the opening in the jacket, and a conductor for conveying heat to liquid within said tube.

3. A receptacle, a tube projecting upward therein, a basket located on the tube near its upper end, said tube having openings through its wall above and below said basket, a jacket extending from a point near the bottom of the tube to a point near said basket and closed at its ends and having an opening through its wall near the lower end, and a conductor for conveying heat to liquid within said tube.

4. A receptacle, a tube extending upward therein, a basket located on the tube near its upper end, said tube having openings through its wall above and below the basket, a jacket extending from a point near the lower end of the tube upward to a point near said basket and closed at both ends and having an opening near its lower end but above the lower opening in said tube, a hood secured to the jacket and surrounding the opening therein, and a conductor for conveying heat to liquid within the tube.

5. A receptacle, a heating plate secured to the bottom of the receptacle and having a chamber therein, a tube secured to the heating plate and projecting from said chamber upward within the receptacle, a basket located on the tube near its upper end, said tube having openings through its wall above and below said basket, and a jacket surrounding said tube and having an opening through its wall.

6. A receptacle, a heating plate secured to the bottom of the receptacle and having a chamber therein, a tube projecting from said chamber upward within the receptacle, a basket located on the tube near its upper end, said tube having openings above and below said basket, a jacket surrounding said tube and having an opening through its wall, and a hood surrounding said opening.

7. A receptacle, a heating plate removably secured to the bottom of the receptacle and having a chamber, a tube projecting upward from said heating plate and within the receptacle, n basket located on the tube near its upper end, said tube having openings above and below said basket, and a jacket surrounding said tube and having an opening through its wall.

8. A receptacle, a heating plate removably secured to the bottom thereof and having a chamber, a tube projecting upward from said chamber within the receptacle and removably secured to said plate, a basket located near the upper end of the tube, said tube having openings through its wall above and below said basket, and a jacket surrounding said tube and having an opening through its wall.

9. A receptacle, a tube extending upward within the receptacle and reduced in size at its upper end, a basket located on the tube near its upper end, said tube having openings through its wall above and below said basket, a jacket surrounding said tube and having an opening through its wall, and a conductor for conveying heat to liquid within said tube.

10. A receptacle, a tube extending upward therein and contracted at its upper end, a basket located on the tube near its upper end, said tube having openings through its wall above and below said basket, a jacket contracted at its upper end and surrounding said tube and having an opening through its wall, and a conductor for conveying heat to liquid within the tube.

11. A receptacle, a tube extending upward therein, a basket located on the tube near its upper end, said tube having an outlet opening above and an inlet opening underneath said basket, a jacket surrounding said tube and having an opening through its wall into the chamber between the two tubes, and a conductor for conveying heat to liquid within the tube.

12. A receptacle, a tube extending upward therein and having an inlet opening and an outlet opening, a jacket surrounding said tube and having an opening through its wall into the chamber between the two tubes, a conductor for conveying heat to liquid within one of said tubes, and a basket located near the upper end of said tubes.

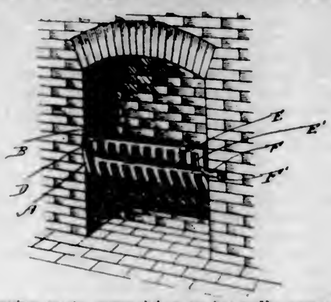
13. A receptacle, a tube extending upward therein and having an inlet and an outlet opening, a conductor for conveying heat to liquid within said tube, a basket located on the tube near its upper end, and a mixer consisting of a part loosely resting at the bottom of the tube.

14. A receptacle, a tube extending upward within the receptacle and having an inlet and an outlet opening, a conductor for conveying heat to liquid within said tube, a basket located on the tube near its upper end, and a mixer consisting of a tubular part loosely resting at the bottom of the tube.

15. A receptacle, a tube extending upward therein and having an inlet and an outlet opening, a conductor for conveying heat to liquid within the tube, a basket located

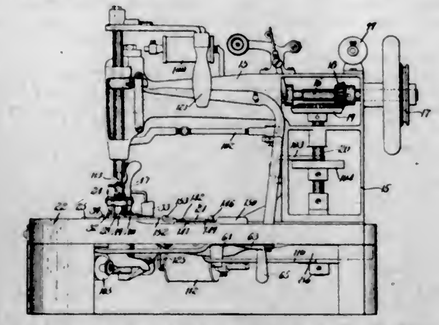
near the upper end of the tube, and a mixer consisting of a tubular part loosely resting at the bottom of the tube and having grooves in its bottom for the entrance of liquid.

868,188. BASKET-GRATE. WALTER W. JONES, Columbus, Ga. Filed Aug. 27, 1906. Serial No. 332,237.



A hanging grate, comprising an inwardly curved reticulated frame provided with rearwardly projecting hooks at each side, and adjacent the upper end thereof, and forwardly projecting guide-lugs at its top and bottom edges, pins secured to the side walls of a fire-place, said hooks being adapted to fit over said pins and support said grate, a complemental reticulated sliding frame working in the guide lugs of the first mentioned frame, and means for reciprocating the outer frame without disturbing the coal or ashes in the inner frame.

868,189. CLAMP-ACTUATING MECHANISM FOR BUTTONHOLE-SEWING MACHINES. JOHN KIEWICZ, Hyde Park, Mass., assignor to Wheeler Manufacturing Company, a Corporation of Maine. Filed Jan. 17, 1906. Serial No. 296,458.



1. In a button hole sewing machine, a fabric clamp, a clamp actuating cam therefor provided with a concentric groove and a cam groove in one face thereof, a friction block in said concentric groove, an arm fast to said block, a link engaging said arm, a roll journaled upon said link, a cam lever provided with a slot into which said roll projects, a cam to operate said cam lever, and another cam lever pivotally connected to said link and engaging said clamp-actuating cam groove, whereby the position of said roll in said slot may be varied for the purpose specified.

2. In a button hole sewing machine, a fabric clamp, a clamp actuating cam provided with a concentric groove and a cam groove in one face thereof, a friction block in said concentric groove, an arm fast to said block, a link engaging said arm, a roll journaled upon said link, a cam lever provided with a slot into which said roll projects, a cam to operate said lever, a plate adjustably fastened to said lever and forming one side of said slot, and another cam lever pivotally connected to said link and engaging said clamp-actuating cam groove, whereby the position of said roll in said slot may be varied for the purpose specified.

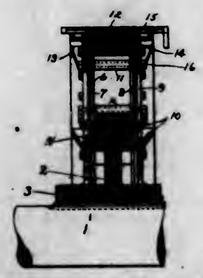
3. In a button hole sewing machine, a fabric clamp actuating cam provided with a groove in one face thereof, a work-plate provided with a slot extending therethrough, a clamp slidable upon said work-plate, a pin fast to said clamp, projecting through said slot and into said cam groove, a lever provided with a series of holes therein, a stop slidably mounted on said lever, and a spring-actuated pin mounted on said stop adapted to engage said holes, said stop adapted to engsge said cam and stop its rotation at a predetermined point.

4. In a button hole sewing machine, a fabric clamp actuating cam provided with a groove in one face thereof, a work-plate provided with a slot extending therethrough, a clamp slidable upon said work-plate, a pin fast to said clamp, projecting through said slot and into said cam groove, a lever having a curved arm concentric with said cam when in operative position and having a series of holes therein also concentric with said cam, a stop slidably mounted on said arm, and a spring actuated pin mounted on said stop adapted to engage said holes, said stop adapted to engage said cam and stop its rotation at a predetermined point.

5. In a button hole sewing machine, a fabric clamp actuating cam provided with a groove in one face thereof, a work-plate provided with a slot extending therethrough, a clamp slidable upon said work-plate, a pin fast to said clamp, projecting through said slot and into said cam groove, a lever having an arm adjacent to said cam and outside of said work-plate, and a stop adjustably fastened to said lever adapted to engage said cam and stop its rotation at a predetermined point.

6. In a button hole sewing machine, a bed-plate, a fabric clamp actuating cam journaled to rotate on said bed-plate and provided with a groove in one face thereof, a work-plate provided with a slot extending therethrough fast to said bed-plate and extending over said cam, a clamp slidable upon said work-plate, a pin fast to said clamp projecting through said slot and into said cam groove, a lever pivoted to said bed-plate, one arm of said lever located on the upper face of said bed-plate adjacent to said cam and outside said work-plate, and a stop adjustably fastened to said lever adapted to engage said cam and stop its rotation at a predetermined point.

868,190. DYNAMO-ELECTRIC MACHINE. CHARLES D. KNIGHT, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 11, 1907. Serial No. 356,690.



1. A rotor core structure consisting of a laminated core ring, a spider concentric with said core ring and having a diameter less than the interior diameter of the core ring, and a pair of parallel annular plates secured at opposite sides to the spider and carrying the core ring at their outer edges.

2. A rotor core structure consisting of a spider, a pair of parallel annular plates secured one on each side of the spider and extending radially beyond the spider, a laminated core ring surrounding said plates, and means for securing said ring to said plates.

3. A rotor core structure consisting of a spider, a pair of parallel annular plates secured one on each side of the spider and extending radially beyond the spider, space blocks between the outer portions of said plates for maintaining said plates parallel with each other, a laminated core ring surrounding said plates, and means for securing said ring to said plates.

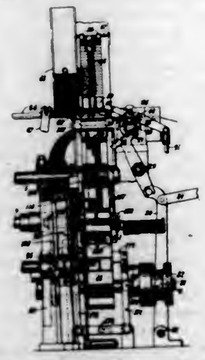
4. A rotor core structure consisting of a spider, having a thickened portion near its periphery, a pair of parallel annular plates secured one on each side of said thickened portion and extending radially beyond the spider, a laminated core ring resting upon the outer edges of the plates, and members lying beside said core ring and said plates and each secured to said ring and one of the plates.

5. A rotor core structure consisting of a spider, a pair of parallel annular plates secured one on each side of the spider and extending radially beyond the spider, a core ring surrounding said plates, a pair of clamping rings arranged one on each side of the core ring and overlapping the plates, and means for securing said clamping rings both to the core ring and to the annular plates.

6. A rotor core structure consisting of a spider, a pair of parallel annular plates secured one on each side of the spider and extending radially beyond the spider, a laminated core ring resting upon the outer edges of said plates, flanges projecting outwardly from said plates so as to overlap the core ring, and bolts passing through said flanges and through said core ring so as to clamp the laminæ of the core ring together and fasten the core ring to the plates.

7. A rotor core structure consisting of a spider, a pair of parallel annular plates secured one on each side of the spider and extending radially beyond the spider, space blocks between the outer portions of said plates to maintain them in parallelism with each other, a laminated core ring resting upon the outer edges of the plates, flanges projecting outwardly from said plates so as to overlap the core ring, and bolts passing through said flanges and through said core ring so as to clamp the laminæ of the core ring together and fasten the core ring to the plates.

868,191. PACKING AND LABELING MACHINE. WILLIAM R. LANDFEAR, New York, N. Y., assignor to Richard H. Wright, Durham, N. C. Filed Mar. 8, 1902. Serial No. 97,291.



1. In wrapping machines, three coöperating mold wheels mounted to intermittently rotate in the same plane, each wheel being provided with molds to register with the molds of the other two wheels and means to shift articles into and out of the molds of each of said wheels simultaneously.

2. In wrapping machines, three coöperating mold wheels mounted to intermittently rotate in the same plane, each wheel being provided with molds to register with the molds of the other two wheels, movable mold bottoms mounted in said molds, means to simultaneously move the bottom of a discharging mold outward and that of a receiving mold inward to shift an article from the mold of one wheel to the registering mold of another and means to hold the movable mold bottoms in position into which they are moved.

3. In wrapping machines, three coöperating mold wheels mounted to intermittently rotate in the same plane, each wheel being provided with molds to register with the molds of the other two wheels, means to rotate said wheels intermittently, means to partially wrap an article in a mold of the first wheel, means for shifting said partially wrapped article into a mold of the second wheel, means for forming the end folds around said article while it is in said second wheel, means for feeding a label between the registering molds of the second and third wheel, means for forcing the wrapped article in the said second wheel and said label into a mold of the third wheel, means for forcing said wrapped article and said label from said third wheel into said first wheel and means for completely folding said label around said wrapped article.

4. In wrapping machines, three coöperating mold wheels mounted to intermittently rotate in the same plane, each wheel being provided with molds to register with the molds of the other two wheels, means to force an article and a wrapper into a mold of the first wheel, means to transfer said article and wrapper to a mold of the said second wheel, movable end folders and stationary end folders on either side of said second mold wheel to form the end folds in said wrapper, means to feed a label between the molds of the second and third wheels, means to force the article and the said folded wrapper in the mold of said second wheel and said label into a mold of the third wheel, means to transfer said article, said folded wrapper and said label from said third wheel into said first wheel and movable and stationary end folders to coöperate with said first wheel to form end folds in said label.

5. In wrapping machines, means for separating a series of cigarettes, means for inclosing said cigarettes in a wrapper and folding the ends of said wrapper upon said cigarettes, means for applying an inclosing label to said wrapped cigarettes and means for folding and sealing the ends of said label over the ends of said wrapper.

6. In wrapping machines, a mold, movable platforms adjacent said mold, a plunger above said platforms, a card receptacle above said platforms and on one side of the same, a curved card guide above said platforms opposite said card receptacle, means to feed a wrapper to said mold, means to feed a series of cigarettes to said platforms and to operate said plunger to force said cigarettes and said wrapper into said mold, a pusher to force a card from said card receptacle into engagement with said card guide and upon said platforms, means to feed a second series of cigarettes to said platforms and means to operate said plunger to force said series of cigarettes and said card into said mold.

7. In wrapping machines, a mold, movable platforms adjacent said mold, a card receptacle adjacent said mold, a plunger coöperating with said mold, means to feed a wrapper to said mold, means to feed a series of cigarettes to said platforms, means to operate said plunger to force said cigarettes and said wrapper into said mold, means to feed a card and a second series of cigarettes to said platforms and means to operate said plunger to force said card and said cigarettes into said mold.

8. In wrapping machines, a movable mold, movable platforms adjacent said mold, means to feed a wrapper to said mold, means to feed a series of cigarettes to said platforms, means to force said cigarettes and said wrapper into said mold, means to feed a card and a second series of cigarettes to said platforms and means to force said card and said cigarettes into said mold.

9. In wrapping machines, a movable mold, movable supports adjacent said mold, means to feed a series of cigarettes to said supports and force the same into said mold, means to feed a card and a second series of cigarettes to said supports and to force the same into said mold upon said first series of cigarettes.

10. In wrapping machines, a movable mold, means to feed a wrapper to said mold, means to force a series of cigarettes and said wrapper into said mold, means to simultaneously force a card and a second series of cigarettes

into said mold upon said first series of cigarettes and means to fold said wrapper around said card and said cigarettes.

11. In wrapping machines, a movable mold, means for feeding a wrapper to said mold, supports adjacent said mold, means for feeding a series of cigarettes and a card to said supports and for forcing them into said mold, and means for folding said wrapper around said card and said cigarettes.

12. In wrapping machines, a mold wheel provided with molds, means for forcing a wrapper and a series of cigarettes into one of said molds, means for forming the longitudinal fold of said wrapper, a receiving wheel provided with molds, means to transfer said cigarettes and said wrapper from said mold wheel into said receiving wheel, means for forming end folds in said wrapper while it is being moved in said receiving wheel and means for intermittently rotating said wheels to cause the molds therein to register.

13. In wrapping machines, a movable mold, means for feeding a wrapper to said mold, supports adjacent said mold and means for feeding a series of cigarettes and a card to said supports and for forcing them into said mold.

14. In wrapping machines, means to fold a wrapper around an article to form unsealed end folds, means to supply a pasted label to said article, means to hold said end folds of said wrapper in position and to simultaneously form and seal the superimposed end folds of said label.

15. In wrapping machines, means for folding a wrapper around an article to form unsealed end folds, means for applying a pasted label to said wrapped article, means to hold the end folds of said wrapper in place and means to form and seal the end folds of said label upon the end folds of said wrapper.

16. In wrapping machines, a mold, means to force an article inclosed in a folded wrapper and a label into said mold, means to form the longitudinal fold in said label, fold holders, means to move said fold holders to engage and retain the end folds of said wrapper and means for forming an end fold in said label while said fold holders engage said wrapper.

17. In wrapping machines, a mold, means to force an article inclosed in a wrapper and a label into said mold, a fold holder comprising a spring tip and a foot, means to move said fold holder into contact with the end folds of said wrapper to bring said spring tip into engagement with the lower end fold to depress and hold the same and to subsequently bring said foot into engagement with the outer end fold to depress and hold the same firmly against said inner fold and means to form an end fold in said label upon said wrapper.

18. In wrapping machines, a mold, means to supply an article inclosed in a wrapper and a label to said mold, a fold holder comprising a spring tip and a foot and means to bring said fold holder into engagement with the end folds in said wrapper to successively depress and retain the same.

19. In wrapping machines, a mold, means to supply an article inclosed in a folded wrapper to said mold, a fold holder comprising a yielding tip and a foot, means to move said fold holder against said wrapped article, said tip engaging a lower end fold to depress and hold the same and said foot engaging an outer end fold to depress and hold the same against said lower end fold and means to permanently hold said end folds in position.

20. In wrapping machines, a folder holder comprising a yielding tip and a foot and means to move said fold holder into contact with a wrapped article, said tip engaging a lower fold to depress and hold the same and said foot subsequently engaging an outer fold to depress and hold the same upon said lower fold.

21. In wrapping machines, a label bed, a paste roll adjacent said label bed, a lever, a spring-pressed arm pivoted to said lever, a longitudinally yieldable rod mounted on said arm, paste fingers secured to said rod, paste fingers secured to said arm, yielding stripper pins adjacent said paste fingers and secured to said arm, a stop in the path of said rod to force said rod and the paste fingers secured thereto into alinement with the paste fingers secured to said arm and to force said paste fingers into contact with said paste roll and an adjustable stop to engage said arm to force said paste fingers into contact with said label bed.

22. In wrapping machines, a movable arm carrying paste fingers, a yieldable rod mounted on said arm and carrying paste fingers, a stop in the path of said rod and means to move said arm to bring said paste fingers into alinement and means to apply paste to said fingers.

23. In wrapping machines, a movable arm carrying paste fingers, a spring-pressed rod mounted on said arm and carrying paste fingers, a stop in the path of said rod, and means to actuate said arm to move said paste fingers and to simultaneously cause a relative movement between them.

24. In wrapping machines, a paste roll, a plurality of paste fingers and means to move said paste fingers into alinement and simultaneously into contact with said paste roll and means to move said paste fingers to separate them and to apply paste to an article.

25. In wrapping machines, registering molds, means to transfer an article from one mold to the other, means to feed a label between said molds and a movable regulator to engage said label and to bring it into proper alinement with respect to said molds.

26. In wrapping machines, a mold wheel provided with molds, a mold coöperating with said mold wheel, movable bottoms in the molds of said mold wheels, means to feed a label provided with lines of paste to said mold wheel, means to force an article in a mold of said mold wheel and said label into said coöperating mold, the bottoms of said molds in said mold wheel being provided with recesses to coöperate with said lines of paste and to prevent smearing.

27. In wrapping machines, mold wheels provided with molds, means to supply labels having lines of paste thereon to said mold wheels, bottoms operating in said molds, said bottoms and the peripheries of said mold wheels being provided with recesses to coöperate with said lines of paste to prevent smearing.

28. In wrapping machines, a mold wheel provided with molds, means to force an article and a wrapper having lines of paste into said mold wheel, a support coöperating with said mold wheel, means to force said article and wrapper out of said mold wheel into said support, the periphery of said mold wheel adjacent the molds therein being formed with depressions to accommodate lines of paste on said wrapper to prevent smearing.

29. In wrapping machines, a mold wheel provided with molds, means to form lines of paste on a wrapper and to feed it adjacent said mold wheel, means to force an article and said wrapper into said mold wheel, a folder adjacent said mold wheel to fold said wrapper around said article, a coöperating receiving wheel provided with molds adjacent said mold wheel and means to transfer said wrapper and article from said mold wheel to the said receiving wheel, the periphery of said mold wheel being formed with depressions adjacent the molds therein to accommodate the lines of paste on said wrapper to prevent smearing.

30. In wrapping machines, an intermittently rotating mold wheel provided with molds, means for forcing a wrapper and an article into a mold of said mold wheel, an intermittently rotating receiving wheel provided with registering molds, means to transfer said article and wrapper to a mold of said receiving wheel, movable folders mounted to oscillate concentrically with respect to said receiving wheel to engage the rear edge folds of said wrapper to fold the same and stationary folders mounted concentrically with respect to said receiving wheel to engage the projecting ends of said wrapper and to form the forward edge folds and the top and bottom folds therein.

31. In wrapping machines, an intermittently rotating mold wheel provided with molds, an intermittently rotating receiving wheel provided with registering molds, means to transfer a wrapper and article from a mold in said mold wheel to the registering mold in said receiving wheel and stationary folders arranged on each side of said receiving wheel to fold the ends of said wrapper as the wheel passes said folders.

32. In wrapping machines, a mold wheel provided with a mold, means to force a wrapper and article into said mold, movable folders mounted to oscillate concentrically with respect to said mold wheel and to engage the rear edge folds of said wrapper to fold the same, and stationary folders arranged in series in the path of the projecting ends of said wrapper, said movable folders engaging said wrapper when it moves into engagement with the first stationary folders, said stationary folders being formed with retaining fingers projecting under the succeeding folders of the series.

33. In wrapping machines, a mold wheel provided with a mold, means to force an article and a wrapper into said mold and to form the longitudinal fold in said wrapper, a movable folder to engage a rear edge of said wrapper and to fold the same against said article, and a series of stationary folders in the path of said wrapper comprising a folder to engage the front edge of said wrapper while said movable folder is in engagement with said wrapper to form the front edge fold upon said rear edge fold, a bottom folder to subsequently form the bottom fold in said wrapper end, a retaining finger of gradually decreasing width to hold said bottom fold in place and gradually release the same and a final top folder to engage the wrapper end and to form the top fold therein against said held bottom fold.

34. In wrapping machines, a mold wheel provided with a mold, means to force an article and a wrapper into said mold and to form the longitudinal fold in said wrapper, a movable folder mounted to oscillate concentrically with respect to said mold wheel to form the rear edge fold in the end of said wrapper and a stationary folder in the path of the end of said wrapper to simultaneously engage the forward edge of said wrapper and to form the front edge fold therein against the held rear edge fold of the same.

35. In wrapping machines, a mold wheel provided with a mold, means to force an article and a wrapper into said mold and to form a longitudinal fold in the same, concentric oscillating fingers mounted on either side of said mold wheel to form an end fold in each end of said wrapper and a series of stationary concentric folders on each side of said mold wheels to engage the projecting ends of said wrapper and to form other end folds therein as said mold wheel moves past said folders.

36. In wrapping machines, a mold wheel provided with a mold, means to force an article and a wrapper into said mold and to form the longitudinal fold in said wrapper and stationary folders mounted in series adjacent said mold wheel, said folders being provided with retaining fingers extending beneath the succeeding folders of the series.

37. In wrapping machines, stationary end folders mounted in series to engage a wrapper, said end folders being provided with retaining fingers of gradually decreasing width projecting under the succeeding folders.

38. In wrapping machines, a mold wheel provided with molds, stationary folders adjacent said wheel to form end folds in wrappers carried in said molds and a stationary fold holding section adjacent said wheel, a receiving wheel provided with molds registering with the molds of said mold wheel, means to feed labels between the registering molds of said wheels and means to transfer articles from said mold wheel to said receiving wheel.

39. In wrapping machines, a pair of oscillating folders mounted upon arms to form end folds in a wrapper, a second pair of oscillating folders mounted upon arms to form end folds in another wrapper and means to connect both pairs of said oscillating folders to operate them simultaneously.

40. In wrapping machines, a pair of oscillating folders mounted upon arms to form the end folds in a wrapper, a second pair of oscillating folders mounted upon arms to form end folds in another wrapper and means to adjustably connect said arms to regulate the relative movement of said folders and to actuate them simultaneously.

41. In a device for filling a box with two layers of cigarettes or similar articles, the combination of means for feeding a layer or set of cigarettes or similar articles into the box, devices for feeding a card or strip of suitable material over said layer, and means for feeding a second layer or set of cigarettes or similar articles upon said card or strip, whereby two layers of cigarettes or similar articles can be packed in a box, one over the other.

42. In wrapping machines, a mold, means for feeding a series of cigarettes or similar articles to said mold, means for feeding a card to said mold and means for feeding a second series of cigarettes or similar articles to said mold.

43. In wrapping machines, a mold, means for feeding two series of cigarettes or similar articles to said mold and means for feeding a card to said mold between said series of cigarettes or similar articles.

44. In wrapping machines, means to support a wrapper, means for feeding a series of articles to said wrapper, means for feeding a card to said wrapper and accurately positioning the same with respect to said series of articles and folding means to inclose said articles and said card in said wrapper.

45. In wrapping machines, a mold, means for feeding a series of articles to said mold, and means for feeding a card and accurately positioning the same in said mold with respect to said articles.

46. In wrapping machines, means to support a wrapper, means for feeding two series of cigarettes or similar articles to said wrapper and means for feeding a card to said wrapper between said series of cigarettes or similar articles.

47. In wrapping machines, means to support a wrapper, means for feeding a series of articles to said wrapper and means for feeding a card to said wrapper and accurately positioning the same with respect to said series of articles.

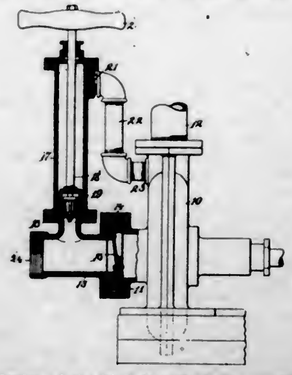
48. In wrapping machines, means for folding a wrapper around an article to form unsealed end folds, means for applying a label to said wrapped article, means to hold the end folds of said wrapper in place and means to form and seal the end folds of said label upon the end folds of said wrapper.

49. In wrapping machines, a mold, means for feeding a quantity of material to said mold and means for feeding a card and accurately positioning the same in said mold with respect to said material.

50. In wrapping machines, means to support a wrapper, means for feeding a quantity of material to said wrapper and means for feeding a card to said wrapper and accurately positioning the same with respect to said material.

51. In wrapping machines, means to support a wrapper, means for feeding a quantity of material to said wrapper, means for feeding a card to said wrapper and accurately positioning the same with respect to said material and folding means to fold said wrapper about said material and said card.

868,192. PRIMER FOR PUMPS. JOHN LA VERGNE, Newark, N. J. Filed Aug. 1, 1906. Serial No. 328,669.

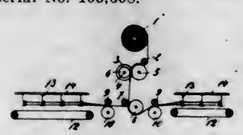


1. In a device of the kind described, the combination of a pump having an inlet pipe leading thereto, and having

a check valve therein, with a lift pump arranged transversely on the inlet pipe beyond the check valve, means for manually operating the lift pump, and an outlet pipe leading from the lift pump to the upper part of the pump for charging the same whereby the priming is done by a pipe other than the inlet pipe.

2. A primer for pumps comprising a pump having an inlet pipe and an outlet pipe, a check valve in the inlet pipe, a lift pump having its inlet on the inlet pipe of the main pump beyond the check valve, means for manually operating the lift pump, and a second pipe connecting the lift pump with the first pump near the top thereof to prime the first pump, whereby the check valve is kept closed until the main pump is operated.

868,193. PROCESS OF PREPARING FROM CELLULOSE, PAPER-PULP, WOOD-PULP, OR SIMILAR MATERIAL, STRIPS CAPABLE OF BEING SPUN. ALFRED LEINVEBER, Hilbersdorf, Germany. Filed May 2, 1902. Serial No. 105,608.



1. A process of preparing from cellulose, paper pulp, wood pulp and similar material, threads capable of being spun, which process consists in floating the short fibers in liquid, uniting the fibers into a band upon a paper machine to the full width of the latter, dividing the paper band to form strips, and moistening and condensing said strips to form round threads without twisting them, substantially as described.

2. A process of preparing from cellulose, paper pulp, wood pulp and similar material, threads capable of being spun, which consists in floating the short fibers in liquid, uniting the fibers into a band upon a paper machine to the full width of the latter, dividing the paper band to form strips, leading the strips over tables and diverting them from this straight course at an angle to the cutting plane, and moistening and condensing the strips to form round threads without twisting them, substantially as described.

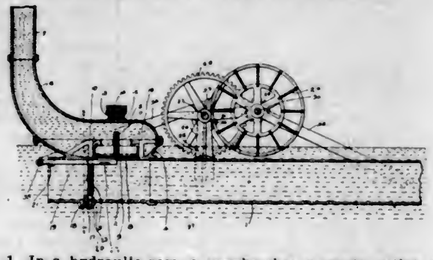
3. A process of preparing from cellulose, paper pulp, wood pulp and similar material, threads capable of being spun, which process consists in floating the short fibers in liquid, uniting the fibers into a band upon a paper machine to the full width of the latter, dividing the paper band to form strips, leading said strips into suitable receptacles, and subjecting the said strips to any desired degree of moisture while therein preparatory to spinning the same, substantially as described.

4. A process of preparing from cellulose, paper pulp, wood pulp and similar material, threads capable of being spun, which consists in floating the short fibers in liquid, uniting the fibers into a band upon a paper machine, dividing the paper band to form strips, and moistening and condensing said strips to form round threads without twisting them, substantially as described.

5. A process of preparing from cellulose, paper pulp, wood pulp and similar material, threads capable of being spun, which process consists in floating the short fibers in liquid, uniting the fibers into a band upon a paper machine, dividing the paper band to form strips, leading said strips into suitable receptacles, and subjecting the said strips to any desired degree of moisture while therein preparatory to spinning the same, substantially as described.

6. A process of preparing from cellulose, paper pulp, wood pulp and similar material, threads capable of being spun, which process consists in floating the short fibers in liquid, uniting the fibers into a band upon a paper machine, dividing the paper band to form strips, moistening and condensing said strips to form round threads without twisting them, leading said strips into suitable receptacles, and subjecting the said strips to any desired degree of moisture while therein preparatory to spinning the same, substantially as described.

868,194. HYDRAULIC RAM. JOHN E. LESTER, Beatrice, Nebr. Filed Apr. 9, 1906. Serial No. 310,842.



1. In a hydraulic ram, a supply pipe, a waste outlet, a pivotally hung gate adapted to close said outlet, said gate when released being openable toward the outlet by pressure of water from the supply pipe, and motor-controlled mechanism for releasing the gate and for returning the same to a position such that it may be closed by movement toward the outlet.

2. In a hydraulic ram, a supply pipe, a waste outlet, a pivotally hung gate adapted to close said outlet, a releasable stop limiting movement of the gate toward the outlet, said gate when released being openable toward the outlet by pressure of water from the supply pipe, a discharge pipe, a valved connection between the same and the supply pipe, and motor-controlled means for releasing the gate stop and for returning the gate to a position such that it may close by swinging against the stop and toward the outlet.

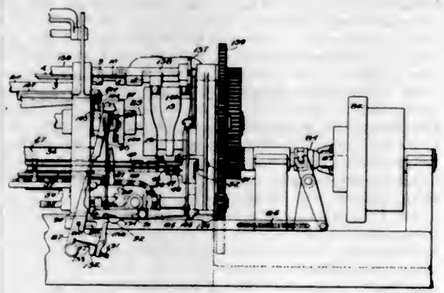
3. In a hydraulic ram, a substantially horizontal supply pipe, a chamber connected therewith and having an outlet in horizontal alinement with the same, a gate for closing said outlet, said gate having grooves in the sides thereof, pins entering said grooves and forming pivots on which the gate may turn and slide, a reciprocal stop for engaging the lower part of the gate to limit movement thereof toward the outlet, and mechanism for turning the gate to horizontal position, sliding the same away from the outlet, releasing the same to permit it to swing against the stop and releasing the stop to permit the gate to swing past the same toward the outlet.

4. In a hydraulic ram, a substantially horizontal supply pipe, a chamber connected therewith and having an outlet in horizontal alinement with the same, a gate pivotally hung within the chamber and adapted to close the outlet thereto, a vertically reciprocal stop for limiting the swing of the gate toward the outlet, a horizontally reciprocal latch bar for turning the gate to open position and sliding the same to a position such that a current of water through the chamber will tend to close the gate, and mechanism for synchronously operating the gate stop and latch bar.

5. A hydraulic ram comprising a supply pipe submerged in a running stream of water substantially parallel with the general direction of the current therein, a discharge pipe, a valved connection between the same and the supply pipe, a waste outlet, a gate arranged adjacent said outlet, said gate being hung to permit a longitudinal sliding motion in one direction and a swinging motion in the opposite direction, and a releasable stop for interrupting the swinging motion at such position that the gate will close the said outlet.

6. In a hydraulic ram, a supply pipe, a waste outlet, a chamber adjacent said outlet, a gate disposed within said chamber, said gate being hung to permit a swinging motion thereof from the supply pipe toward the waste outlet, the gate during said swinging motion passing a position at which it closes the outlet, a releasable stop for interrupting the swing of the gate at such closed position, and means for returning the gate to its initial position by a longitudinal sliding motion.

868,195. SIGNATURE-GATHERING MACHINE. WILLARD I. LEWIS, Walpole, Mass., assignor to Herbert M. Plimpton, Norwood, Mass. Filed May 12, 1906. Serial No. 316,437.



1. A signature gathering machine having in combination, collecting devices for advancing the signatures, yieldingly mounted supports along the under surface of which the collected signatures are carried, and means for delivering signatures onto said supports and in the path of the collecting devices, substantially as described.

2. A signature gathering machine having in combination, collecting devices for advancing the signature, strips supported for vertical movement and extending in the line of movement of the signatures under which the collected signatures are carried, and means for delivering signatures onto said strips and in the path of the signature advancing devices, substantially as described.

3. A signature gathering machine having in combination, a collecting table, a series of traveling fingers projecting through the table, a series of transfer devices for delivering signatures in front of the fingers, and yielding supporting strips on which the signatures are delivered and by which they are supported in the path of the fingers, substantially as described.

4. A signature gathering machine having in combination, a collecting table, traveling fingers projecting through the table, a series of transfer devices for delivering signatures in front of the fingers, and yielding supporting strips 54 registering with each transfer device upon which the signatures delivered by the transfer devices are supported in the path of the traveling fingers, substantially as described.

5. A signature gathering machine having in combination, a collecting table, traveling fingers projecting through said table, a series of transfer devices for delivering signatures in front of the fingers, and strips 54 supported for vertical movement upon which the signatures are delivered by the transfer devices and by which they are supported in the path of the fingers, substantially as described.

6. A signature gathering machine having in combination, a laterally inclined collecting table, a series of traveling fingers projecting through the table, a series of transfer devices for delivering signatures in front of the fingers, and yielding supports upon which the signatures are delivered by the transfer devices and which support the signatures in the path of the fingers, substantially as described.

7. A signature gathering machine having in combination, a laterally inclined collecting table, traveling fingers projecting through the table, a series of transfer devices for delivering signatures in front of the fingers, and strips 54 supported for vertical movement upon which the signatures are delivered by the transfer devices, substantially as described.

8. A signature gathering machine having in combination, a laterally inclined collecting table, a series of traveling fingers projecting through the table, a guard plate at the lower edge of the table, a series of transfer devices for delivering signatures in front of the fingers, and supporting strips 54 provided with inclined surfaces 57 upon which strips signatures are delivered by the transfer devices and by which they are supported in the path of the fingers, substantially as described.

9. A signature gathering machine having in combination, a collecting table, a series of traveling fingers projecting through the table, a series of transfer devices for delivering signatures in front of the fingers, transverse bars 55, and strips 54 loosely hung on the bars and resting upon the table in position to receive the signatures from the transfer devices, substantially as described.

10. A signature gathering machine having in combination, a laterally inclined collecting table, devices for advancing signatures thereon, a horizontal delivery table, a longitudinally inclined support between the collecting and delivery tables the surface of which gradually changes from the plane of the delivery table, and devices for carrying the collected signatures up the support, substantially as described.

11. A signature gathering machine having in combination, a laterally inclined collecting table, a horizontal delivery table, a support leading from the collecting table to the delivery table the surface of which gradually changes from the plane of the collecting table to the plane of the delivery table, and devices for advancing the collected signatures over said support, substantially as described.

12. A signature gathering machine having in combination, a laterally inclined collecting table, a horizontal delivery table, a support leading from the collecting table to the delivery table the surface of which gradually changes from the plane of the collecting table to the plane of the delivery table, a series of traveling fingers projecting through the collecting table, a series of transfer devices for delivering signatures in front of the fingers, a carrier arranged above the support, feeding fingers pivotally mounted on the carrier, and means for maintaining the fingers in uniform relation to the surface of the support as they feed the collected signatures over said support, substantially as described.

13. A signature gathering machine having in combination, a laterally inclined collecting table, a horizontal delivery table, a support leading from the collecting table to the delivery table the surface of which gradually changes from the plane of the collecting table to the plane of the delivery table, a carrier 29 provided with fingers 27 extending through the slots in the collecting table, a carrier 63 arranged to travel above the support, fingers 72 pivotally supported upon the carrier 63, and devices for controlling the position of the fingers, substantially as described.

14. A signature gathering machine having in combination, a laterally inclined collecting table, a horizontal delivery table, a support leading from the collecting table to the delivery table the surface of which gradually changes from the plane of the collecting table to the plane of the delivery table, a chain 63 arranged above the support, wheels 64 over which the chain passes arranged above opposite ends of the support, feeding fingers 72 connected with the carrier 63, and feeding fingers 27 mounted to travel along the collecting table and to deliver the collected signatures to the fingers 72, substantially as described.

15. A signature gathering machine having in combination, a laterally inclined collecting table, a horizontal delivery table, a support leading from the collecting table to the delivery table the surface of which gradually changes from the plane of the collecting table to the plane of the delivery table, a carrier chain 63 mounted to travel above the support, fingers 72 pivotally mounted upon the carrier, a wheel 64 over which the chain passes, controlling plates 76 carried by said wheel, and controlling guides 62 arranged over the support, substantially as described.

16. A signature gathering machine having in combination, a mechanism for throwing the machine out of operation and means for controlling the same from the collected signatures, substantially as described.

17. A signature gathering machine having in combination, a mechanism for throwing the machine out of operation and means for rendering the same active when the thickness of the collected pile of signatures exceeds a predetermined amount, substantially as described.

18. A signature gathering machine having in combina-

tion, a mechanism for throwing the machine out of operation and devices operated by the pile of collected signatures for rendering the throw out mechanism active, substantially as described.

19. A signature gathering machine having in combination, a mechanism for throwing the machine out of operation, a reciprocating part the arrest of which renders the throw out mechanism active, and a device operated by the collected signatures for arresting said part, substantially as described.

20. A signature gathering machine having in combination, a mechanism for throwing the machine out of operation, a collecting mechanism, one or more controlling fingers under which the collected signatures are carried, and devices for controlling the throw out mechanism from said fingers, substantially as described.

21. A signature gathering machine having in combination, a mechanism for throwing the machine out of operation, a signature collecting mechanism, controlling fingers under which the collected signatures are carried, a reciprocating part the arrest of which renders the throw out mechanism active, and a device connected to the controlling fingers for arresting the movement of said part, substantially as described.

22. A signature gathering machine having in combination, a mechanism for throwing the machine out of operation, a signature collecting mechanism, a reciprocating part the arrest of which renders the throw out mechanism active, a controlling finger under which the collected signatures are carried, an arm connected with the controlling finger and arranged to be moved by the movement of said finger into the path of the reciprocating part, substantially as described.

23. A signature gathering machine having in combination, a mechanism for throwing the machine out of operation, a collecting table along which the collected signatures are advanced, a transverse shaft 109 arranged over the collecting table, one or more fingers 110 adjustably secured to said shaft, and arranged to overlie the signatures fed along the table and devices operated by the shaft for rendering the throw out mechanism active, substantially as described.

24. A signature gathering machine having in combination, a mechanism for throwing the machine out of operation, a collecting table along which the collected signatures are advanced, a transverse shaft 109 arranged over the collecting table, one or more fingers 110 secured to said shaft, an arm 111 mounted on said shaft and adapted to be engaged by an arm secured to said shaft, means for yieldingly holding the arm 111 in position on the shaft, a reciprocating part the arrest of which renders the throw out mechanism active into the path of which the arm 111 is moved by the rocking of the shaft 109, substantially as described.

25. A signature gathering machine having in combination mechanism for throwing the machine out of operation, a collecting mechanism, and means for controlling the throw-out mechanism from the pile of signatures advanced by the collecting mechanism, substantially as described.

26. A signature gathering machine having in combination mechanism for throwing the machine out of operation, a plate against which the edges of the signatures are delivered, and means for rendering the throw-out mechanism active upon a movement of the plate by the signatures, substantially as described.

27. A signature gathering machine having in combination mechanism for throwing the machine out of operation, a gathering table, signature-delivering devices, means for advancing the signatures along the table, a guard plate at one edge of the table, and devices for rendering the throw-out mechanism active upon a movement of the guard plate by the signatures, substantially as described.

28. A signature gathering machine having in combination, a mechanism for throwing the machine out of operation, means controlled by the signatures for automatically rendering the throw-out mechanism active, and an additional device for determining the time when the machine is thrown out of operation, substantially as described.

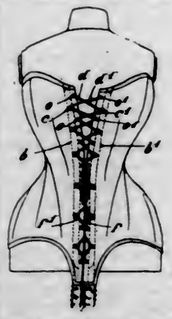
29. A signature gathering machine having in combination, a driving mechanism, a mechanism for throwing the machine out of operation, means controlled by the signatures for automatically rendering the throw out mechanism active, and a timing latch for determining the time when the driving mechanism is thrown out of operation, substantially as described.

30. A signature gathering machine having in combination, a driving mechanism, a mechanism for throwing the machine out of operation, means controlled by the signatures for automatically rendering the throw out mechanism active, a timing latch for preventing the action of the throw-out mechanism, and a timing cam for operating the latch, substantially as described.

31. A signature gathering machine having in combination, a driving mechanism, a mechanism for throwing the machine out of operation, means controlled by the signatures for automatically rendering the throw out mechanism active, means for manually rendering the throw out mechanism active, and a timing mechanism for determining the time when the driving mechanism is thrown out of operation, substantially as described.

32. A signature gathering machine having in combination, a driving mechanism, a mechanism for throwing the machine out of operation including a shifting bar, a lever for operating said bar to throw the driving mechanism into operation, a locking arm for retaining said bar in position, means controlled by the signatures for automatically operating the locking arm, and a trip arm mounted on the lever for manually operating the locking arm, substantially as described.

868,196. CORSET. JULES LINDAUER, Paris, France. Filed May 7, 1907. Serial No. 372,393.



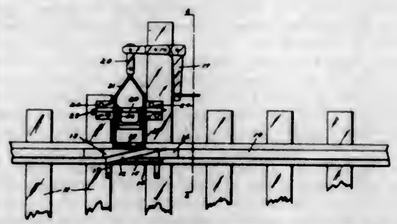
1. A buskless corset comprising a soft edge at the front of each part of the corset, a series of eyelets provided at intervals on said soft edge, a stiffening plate arranged immediately next to the soft part, a series of hooks provided at intervals on said stiffening plate and arranged respectively opposite the middle of the intervals existing between the eyelets, and a lace adapted to pass in a serpentine manner through the successive eyelets of the same part of the corset, substantially as described and for the purpose set forth.

2. A buskless corset comprising a soft edge at the front of each part of the corset, a series of eyelets provided at intervals on said soft edge, a stiffening plate arranged immediately next to the soft part, a series of hooks provided at intervals on said stiffening plate and arranged respectively opposite the middle of the intervals existing between the eyelets, and two laces adapted to be passed in a serpentine manner through the successive eyelets of the same part of the corset but only from the waist to the top and from the waist to the bottom respectively, substantially as described and for the purpose set forth.

3. A buskless corset comprising the soft edge at the front of each part of the corset, a series of eyelets provided at intervals on said soft edge the two middle ones at the waist line being nearer to each other than the other ones, a stiffening plate arranged immediately next to the soft part, a series of hooks provided at intervals on said stiffening plate and arranged respectively opposite the middle of the intervals existing between the eyelets excepting the two eyelets next to the waist, and two laces adapted to be passed in a serpentine manner through the successive eyelets of the same part of the corset but only from the waist to the top and from the waist to the bottom respectively, substantially as described and for the purpose set forth.

4. A buskless corset comprising a soft edge at the front of each part of the corset, a series of eyelets provided at intervals on said soft edge the two middle ones at the waist line being nearer one to each other than the other ones, a stiffening plate arranged immediately next to the soft part, a series of hooks with narrow entrance provided at intervals on said stiffening plate and arranged respectively opposite the middle of the intervals existing between the eyelets but no hook being provided between the two eyelets next to the waist, two laces adapted to be passed in a serpentine manner through the successive eyelets of the same part of the corset but only from the waist to the top and from the waist to the bottom respectively, a stiffening auxiliary arranged about the two eyelets next to the waist, and a small waist belt arranged inside the corset and adapted to maintain it during the lacing, substantially as described and for the purpose set forth.

868,197. DERAILING-SWITCH. LEROY J. LINDSAY and JOSEPH H. CARROLL, Seymour, Iowa. Filed Mar. 18, 1907. Serial No. 362,966.



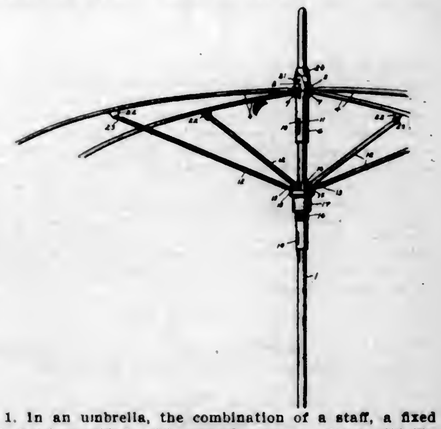
1. In a derailing switch, the combination of a derailing plate designed to rest on top of a rail, and provided with a diagonally arranged groove to engage a wheel flange, and cause the wheel to move over the rail to the outer side thereof, a supporting frame fixed to the plate, and extended outwardly therefrom, means attached to the outer end of the supporting frame for moving it toward and from the rail, and a lever fulcrumed to a stationary support between the rail and the outer end of the frame, and pivotally connected with the said frame between its ends, said levers so shaped and proportioned that when the supporting frame is moved away from a rail, the derailing plate will first be elevated and then moved to a position spaced apart from the rail.

2. In a device of the class described, a derailing plate designed to rest on top of a railway rail and having flanges at its sides to project downwardly along the sides of the rail and having in its top a diagonal groove to receive the flange of the rail, a raised rib having a beveled end to receive the tread portion of a wheel and cause it to move from the top of the rail upwardly across the derailing plate to the outer edge of the rail, and a rib on the other side of the groove, said rib provided with a groove designed to direct a wheel flange upwardly over the rib and into the said diagonal groove to prevent said wheel from becoming derailed.

3. In a device of the class described, a derailing plate designed to rest on top of a railway rail and having a diagonal groove therein, a rib at one side of said groove having a beveled portion projecting beyond the groove to the top of a rail and also having a rib at the other side of the groove projecting beyond the groove and extending to the top of the rail, said latter rib having a groove therein inclined from the bottom of the plate to the top of the rib adjacent to the said diagonal groove, the diagonal groove and the first-mentioned rib shaped to derail a wheel passing over the plate in one direction and the other rib and groove designed to carry a wheel over the derailing plate without derailing it.

4. In a device of the class described, the combination of a derailing plate having flanges projecting below the stationary supports to receive the inner flange when the plate is resting on a rail, a supporting frame fixed to the plate and extended outwardly therefrom, a link pivoted to the outer end of the supporting frame, a bell-crank lever connected with said link and a lever fulcrumed to a stationary support and pivotally connected with the supporting frame, said lever so shaped and proportioned that when the supporting frame is moved away from a rail the derailing plate will first be elevated so that its flanges clear the rail.

868,198. UMBRELLA. DAVID LIPPY, Mansfield, Ohio. Filed July 8, 1907. Serial No. 382,651.



1. In an umbrella, the combination of a staff, a fixed rib head provided with curved arms, a sleeve slidably mounted upon the staff, said sleeve provided with a slot and flanges, a pin secured to the staff, said pin adapted to guide the sleeve and ribs provided with elongated slots and the curved arms located through the elongated slots, substantially as and for the purpose specified.

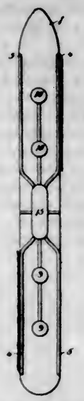
2. In an umbrella, a combination of a staff and a runner located thereon, said runner provided with curved arms, a collar located upon the runner, rib braces provided with elongated slots and the curved arms adapted to connect the rib braces to the runner and the collar adapted to hold the rib braces upon the arms, substantially as and for the purpose specified.

3. In an umbrella the combination of a staff, a rib head secured to the staff, said rib head provided with curved arms, ribs pivotally connected to the arms and means for holding the ribs upon the arms, flanges connected to the ribs intermediate their ends, rib braces provided with hooked outer ends, a runner provided with curved arms and the rib braces detachably connected to the runner, substantially as and for the purpose specified.

868,199. PROPULSION OF BOATS OR VESSELS. JOHN H. LORIMER, Philadelphia, Pa. Filed Sept. 26, 1906. Serial No. 336,265.

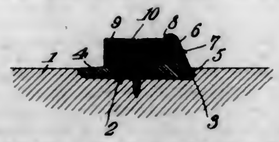
1. The means for propelling vessels by discharging under great pressure a large number of continuous fluid streams through narrow orifices arranged in series extending longitudinally of the vessel the orifices in one series being in staggered relation to the orifices in the adjacent series, each stream discharging independently and

without interference with the other streams or the fluid of flotation under such other streams affected thereby, so as to utilize substantially all the velocity of the streams at the edges of the orifices.



2. In a vessel, the combination of a plurality of longitudinally arranged conduits built into the body of the vessel and supplied with outlet passages spaced apart along the length of the vessel and of relatively very narrow width and opening in a direction opposite to the direction of desired propulsion, the outlet passages in one conduit being in staggered relation to the outlet passages in the adjacent conduits, and suitable pumping and supply mechanism for maintaining a high continuous pressure in the discharge conduits for ejecting the propelling fluid continuously in thin streams at a high velocity and utilizing substantially all the velocity of the streams at the edges of the outlet passages.

868,200. DOOR-STOP. OLIVER T. LUCAS, Neodesha, Kans. Filed Aug. 20, 1906. Serial No. 331,366.



The combination of a door or window frame formed with a recess having a groove in its rear wall, a stop comprising a base plate having a rib along its rear edge to engage said groove, an integral backing strip extending outwardly from the rear edge of the base plate and having an inclined back and a forwardly extending flange at its outer end, and a resilient member resting against said base plate and backing strip and fitting under said flange, and fastening means passing through said resilient member and base plate into the door or window frame.

868,201. CASE OF DETONATING FOG-SIGNALS FOR RAILWAYS. FREDERICK A. LUDLOW, Birmingham, England. Filed Mar. 27, 1907. Serial No. 364,931.



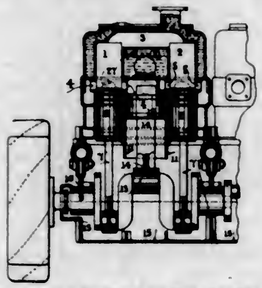
1. A sheet metal detonator case for railway fog signals having a filling hole and a transparent cover for said hole, substantially as described.

2. A sheet metal detonator case for railway fog signals having a filling hole and a celluloid cover for said hole.

3. The combination of a sheet metal detonating railway fog signal case made with a filling hole of smaller diameter and a removable cover fitting in said hole and provided with a flange which bears upon said case, substantially as set forth.

4. In a detonating railway fog signal case the combination of a flattened dome shape top part made with a filling hole, a bottom disk like part fixed thereto by the periphery of the one being closed over the periphery of the other, and a removable cover fitted in said filling hole said cover being formed of a disk of transparent substance mounted in a bezel which fits in the hole in the case and is provided with a flange to fit on to said case, substantially as set forth.

868,202. INTERNAL-COMBUSTION ENGINE. NORMAN MACBETH, St. Annes-on-the-Sea, England. Filed Mar. 6, 1907. Serial No. 360,961.



1. An internal combustion engine having parallel explosion cylinders, admission ports in one cylinder, exhaust ports in the other cylinder, a common combustion space, a centrally disposed air and fuel charging pump located nearer the crank shaft, pistons in said explosion cylinders and working parts connected therewith, a charging pump piston and working parts, said explosion cylinder cranks pistons and working parts being set at opposite angles to and balancing the charging pump crank piston and working parts for the purposes and as set forth.

2. An internal combustion balanced engine of the indicated kind having two parallel explosion cylinders admission ports in one cylinder, exhaust ports in the other cylinder, a common combustion space, pistons in said cylinders, an air reservoir, an air inlet, a fuel chamber and fuel supply devices connected therewith, and a centrally disposed single acting air and fuel charging pump connected to both fuel chamber and air reservoir comprising a pump barrel located towards the crank shaft and a plunger moving therein substantially as described.

3. An internal combustion balanced engine having parallel explosion cylinders, admission ports in one cylinder exhaust ports in the other cylinder, a common combustion space, a fuel inlet, an air reservoir, an air inlet to said air reservoir, a single acting centrally disposed charging pump, a pump barrel, a pump plunger, explosion pistons in said explosion cylinders, the pistons cranks and working parts balancing each other and being set at opposite angles, for the purposes and substantially as described.

4. A two stroke cycle balanced engine of the indicated type having a fuel chamber, and a separate air reservoir, connected together by a narrow channel past the fuel inlet ports, an inlet to said fuel chamber, fuel supply means in connection with said fuel chamber, and an air inlet device to said air reservoir, and one single acting centrally disposed charging pump, all in combination, and whereby the fuel and a portion of the air can be forced back on the return stroke of the pump piston into said fuel chamber so that air first enters the explosion cylinders to scavenge out the exhaust gases substantially as described.

5. A two stroke cycle balanced engine of the indicated type having parallel explosion cylinders, inlet ports in one cylinder, exhaust ports in the other cylinder, a fuel inlet chamber and a separate air reservoir with its air inlet, a partition about the center of the inlet ports of said explosion cylinders and intermediate of said fuel chamber and air reservoir, a constant channel of communication in connection with the inlet ports and a centrally located single acting air and fuel charging pump, for the purposes and substantially as described.

6. A two stroke cycle balanced engine in one or more units each unit having parallel explosion cylinders 1, 2, inlet ports in cylinder 1, outlet ports in cylinder 2, a common combustion space 3 explosion pistons 6, 6 in said cylinders, cranks and connecting rods and a single acting centrally located charging pump and supporting bearings adjacent to the explosion piston cranks, and a casing 15 all in combination and as shown in Figs. 1 and 3 of the drawings.

7. A two stroke cycle balanced engine in one or more units each unit having parallel explosion cylinders 1, 2, inlet ports in cylinder 1 outlet ports in cylinder 2, a common combustion space 3, explosion cylinder pistons 6, 6, in said cylinders, cranks and connecting rods, a fuel chamber 18 with fuel inlet, and an air reservoir 24, the fuel chamber and air reservoir being connected by a narrow channel past the fuel inlet ports of the explosion cylinders, and a pump barrel 11, a ring of air holes 21 therein, a single acting air and fuel pump, a pump plunger, supporting bearings adjacent to the explosion piston cranks and an inclosing casing 15 substantially as described with reference to Figs. 1ª and 3 of the drawings.

8. A two stroke cycle balanced engine in one or more units each unit having parallel explosion cylinders 1, 2, inlet ports in cylinder 1 outlet ports in cylinder 2, a common combustion space 3 explosion cylinder pistons 6, 6 in said cylinders, cranks and connecting rods, a fuel chamber 18 with fuel inlet and an air reservoir 24 an air inlet 28 to said reservoir and a pump barrel 11, a single acting air and fuel pump plunger, supporting bearings adjacent to the explosion piston cranks and an inclosing casing substantially as described with reference to Figs. 1ª and 3 of the drawings.

9. A two stroke cycle balanced engine in one or more units each unit having parallel explosion cylinders 1, 2, inlet ports in cylinder 1 outlet ports in cylinder 2 a common combustion space 3, explosion cylinder pistons 6, 6 in said cylinders, cranks and connecting rods, a fuel chamber 18 with fuel inlet and an air reservoir 24, an air inlet 28 in said reservoir, and a pump barrel 11, a ring of air holes 21 therein, a single acting air and fuel pump, a pump plunger, supporting bearings adjacent to the explosion piston cranks, and an inclosing casing 15, substantially as described and shown in Figs. 1ª and 3 of the drawings.

10. A two stroke cycle balanced engine in one or more units each unit having parallel explosion cylinders 1, 2 inlet ports in cylinder 1 outlet ports in cylinder 2 a common combustion space 3 explosion pistons 6, 6 in said cylinders, cranks and connecting rods, a fuel chamber a fuel inlet thereto an air reservoir, an air inlet thereto, a partition 47ª intermediate of said fuel chamber and air reservoir and a single acting centrally located air and fuel pump, a pump plunger and supporting bearings, all the parts being in combination and as shown in Figs. 4, 5 and 6.

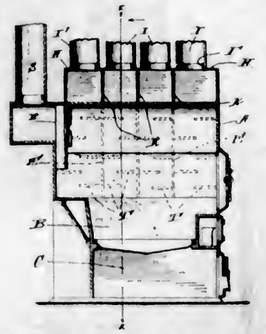
11. A two stroke cycle balanced engine in one or more units each unit having parallel explosion cylinders 1, 2 inlet ports in cylinder 1 outlet ports in cylinder 2, a common combustion space 3 explosion pistons 6, 6 in said cylinders, cranks, and connecting rods, a fuel chamber, a fuel inlet thereto, an air reservoir, an air inlet thereto, a partition 47 intermediate of said fuel chamber and air reservoir, with connecting channels through inlet ports of explosion cylinders, an 8 shaped pump barrel intermediate of said explosion cylinders, and an 8 shaped piston in said barrel a crank and connecting rod for said pump piston and supporting bearings, all substantially as described and shown in Figs. 7, 8 and 9.

12. A two stroke cycle balanced engine in one or more units each unit having parallel explosion cylinders 1, 2 inlet ports in cylinder 1 outlet ports in cylinder 2 a common combustion space 3 explosion pistons 6, 6, in said cylinders, cranks and connecting rods, a fuel chamber, a fuel inlet thereto, an air reservoir 24 an air inlet 28 thereto, a partition intermediate of said fuel chamber and air reservoir and a single acting centrally located air and fuel pump, a pump plunger therein and supporting bearings, all the parts being in combination and as shown.

13. A two stroke cycle balanced engine in one or more units each unit having parallel explosion cylinders 1, 2 inlet ports in cylinder 1 outlet ports in cylinder 2, a common combustion space 3 explosion pistons 6 6 in said cylinders, cranks and connecting rods, a fuel chamber, a fuel inlet thereto an air reservoir, a partition intermediate of said fuel chamber and air reservoir and a single acting centrally located air and fuel pump comprising a pump barrel, a ring of air holes 21 therein and a pump plunger, and supporting bearings for the crank shaft all in combination and substantially as described.

14. A two stroke cycle balanced engine in one or more units each unit having parallel explosion cylinders 1, 2 inlet ports in cylinder 1 outlet ports in cylinder 2, a common combustion space 3 explosion pistons 6 6 in said cylinders, cranks and connecting rods, a fuel chamber, a fuel inlet thereto, an air reservoir 24 an air inlet 28 thereto, a partition intermediate of said fuel chamber and air reservoir, and a single acting centrally located air and fuel pump comprising a pump barrel a ring of air holes 21 therein and a pump plunger, all in combination and substantially as described.

868,203. HOT-AIR FURNACE. EDWARD T. MARSTERS, Albany, N. Y. Filed Jan. 24, 1907. Serial No. 353,887.



1. A hot air furnace having a series of upright partitions forming hot air flues leading from a space below the upper line of the fire-box, the upper portion of each partition having an opening therein, a hinged damper mounted in each of said openings and normally in alinement with the partition in which the opening is formed, the roof of the furnace provided with a series of openings, each adapted to communicate only with the space intermediate a set of dampers and each opening into the roof adapted to be closed as a damper is swung to a horizontal position, as set forth.

2. A hot air furnace having a series of upright partitions forming hot air flues leading from a space below the upper line of the fire-box, a longitudinal partition dividing the upper portion of the furnace into two air compartments, dampers hinged in the outer wall of the casing and said longitudinal partition, and each normally closing an aperture in the vertical partition and positioned in alinement with the latter, the roof of the furnace provided with series of openings, each adapted to communicate only with a space intermediate a set of dampers and each opening in the roof adapted to be closed as the damper is swung to a horizontal position, as set forth.

3. A hot air furnace having a series of upright angular partitions forming hot air flues leading from a space below the upper line of the fire-box, series of deflecting plates mounted in each of said flues, a roof to said furnace, a vertical partition centrally disposed and extending between the roof and the ridge of the roof of the fire chamber, the upper portion of each of said upright angular partitions being cut away forming series of registering openings, a

series of hinged dampers pivotally mounted in said central longitudinal partition and in the outer wall of the furnace and normally in alinement with said angular partitions, said roof having openings, each adapted to communicate normally only with the space intermediate a set of dampers, as set forth.

868,204. THIOSINAMIN COMPOUND. FELIX MENDEL, Essen-on-the-Rhur, Germany. Filed Dec. 9, 1905. Serial No. 291,075.

1. A compound containing thiosinamin and a salicylate.

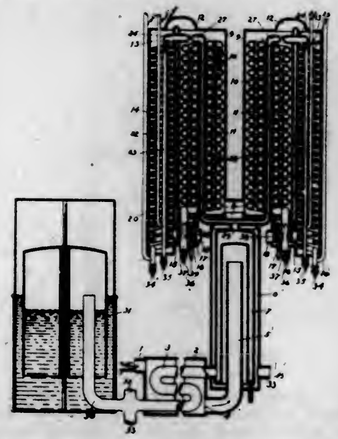
2. As an article of manufacture a solution of thiosinamin in a solution of a salicylate.

3. As an article of manufacture, a solution of thiosinamin in a solution of sodium salicylate.

4. As an article of manufacture, a solution of thiosinamin in an aqueous solution of sodium salicylate.

5. As an article of manufacture, a solution of one molecule of thiosinamin in an aqueous solution of at least one half molecule of sodium salicylate.

868,205. GAS-GENERATOR. PHILIP MEYER, Santa Rosa, Cal. Filed Feb. 23, 1906. Serial No. 302,337.



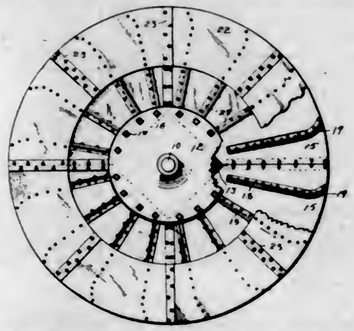
1. An apparatus of the character described comprising an oil conduit, a water conduit, a heating chamber around said conduits, a second heating chamber, a coil therein for the commingled vapors of the oil and water, a third heating chamber, a conduit therein for said heated commingled vapors, a gas holder connected with said latter conduit, said chambers being connected in series and having an inlet at the end opposite to that at which oil and water are admitted, and an outlet at the end adjacent thereto, substantially as described.

2. An apparatus of the character described comprising an oil conduit, a water conduit, a heating chamber around said conduits, a second heating chamber, a coil therein for the commingled vapors of the oil and water, a downward extension from the coil in the second chamber and a seal therefor, a third heating chamber, a conduit therein for said heated commingled vapors, a gas holder connected with said latter conduit, said chambers being connected in series and having an inlet at the end opposite to that at which oil and water are admitted, and an outlet at the end adjacent thereto, substantially as described.

3. In combination, oil and water supply pipes, a heating coil for the oil, a heating chamber surrounding said coil and the water pipe, a second heating chamber, a coil therein of larger diameter of pipe with which both the water pipe and the first coil connect, a third heating chamber, a conduit in said chamber connected with said coil and having a still larger passage area, and a gas holder connected with said latter conduit, the series of heating chambers being provided with an inlet adjacent to the gas holder end of the series of conduits, and with an outlet at the opposite end, substantially as described.

4. In an apparatus of the character described, the combination of a water pipe, a coil, an oil pipe leading to said coil, a heating chamber around the coil and water pipe, a second heating chamber, inner and outer coils therein connected together at the bottom, a downward extension from the junction of the two coils, a seal into which said extension discharges, one of said coils being connected at the top with the first coil and the water pipe, a conduit leading from the top of the other coil in said chamber, a third chamber, a conduit for the heated oil and water vapors, and a gas holder connected with the conduit for said vapors, substantially as described.

868,206. FAN-VENTILATOR. JAMES W. MILLER, Gillespie, Ill. Filed Jan. 16, 1905. Serial No. 241,207.

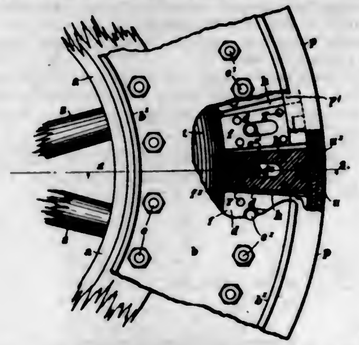


The combination in a fan for the purpose described, of two cone-shaped hub sections arranged with their large portions inward and adjacent to each other, an annular central disk fixed between and extending radially from the inner large portions of the hub sections, annular side rims, angle bars fixed to opposite sides of the central disk and having inner straight portions disposed radially to the center of the fan and also having outer portions curved outward and rearward, with reference to the direction in which the fan is rotated, correspondingly arranged and shaped angle bars fixed to the inner sides of the side rims, and radial blade sections located at opposite sides of the central disk and fixed to the angle bars on the disk and side rims and having their outer end portions curved rearward, with reference to the direction in which the fan is rotated.

868,207. RESILIENT-TIRED WHEEL FOR AUTOMOBILES AND OTHER VEHICLES. ABRAM C. MONFORT, Providence, R. I. Filed May 25, 1906. Serial No.

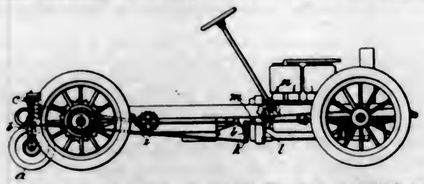
1. In a resilient-tired wheel for automobiles and other self-propelled vehicles, the combination with a suitably mounted rim, a pair of oppositely disposed annular plates rigidly secured to and extending radially beyond the rim, and an annular pneumatic or inflatable tire located between said plates and seated in the outer periphery of said rim, of a plurality of radially arranged independently movable and laterally separated inelastic sections having their inner or lower sides bearing against and being supported by said tire, means for limiting the movements of said sections, the ends of the latter transversely of the wheel being constructed so as to form narrow spaces between them and the adjacent inner faces of said plates, an annular flexible and compressible traction-tire member in direct contact with the outer periphery of said sections provided with integral side flanges extending downwardly into the said narrow spaces, and means for maintaining the traction-tire in position upon said sections.

2. In a wheel of the character described, the combination with the rim, an inflatable tire seated in the rim, and comparatively wide annular plates of metal secured to the rim and extending radially beyond said tire member and terminating in inwardly facing flanges, of a series of independently movable hollow metallic sections supported by said tire and extending beyond said flanges, a traction-



tire of rubber having its inner side bearing against the outer periphery of the sections and at the same time extending downwardly between said plate flanges and the adjacent ends of the sections, and means for holding the tire in position circumferentially with respect to the sections, substantially as described.

868,208. DEVICE FOR PREVENTING SLIPPING OF MOTOR-DRIVEN VEHICLES. ALBAN S. MOORE, London, England. Filed Aug. 17, 1906. Serial No. 331,080.



1. Apparatus for preventing side slipping or skidding of motor-driven road vehicles, wherein an additional rearward wheel, driven from a motor, is coupled to and operated by, the steering mechanism, so that it will be caused to change to any required extent, the direction of its motion and gripping power on the road surface, simultaneously with, and approximately corresponding to the direction of travel of the steering wheel, or wheels, of the car.

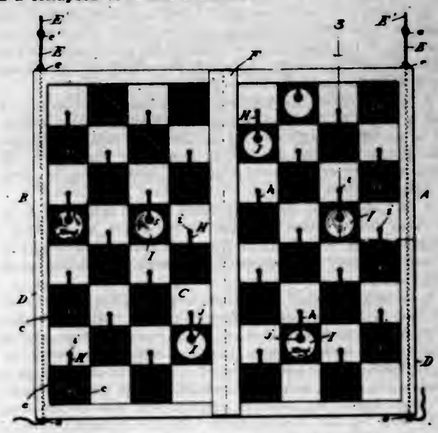
2. In combination with a vehicle and its driving motor and steering device, of an additional wheel, means for driving the same, a support for the wheel, and means for connecting said support with the steering device so that said support and wheel will be moved simultaneously with and traveling approximately in the same direction as the steering wheels.

868,209. GAME APPARATUS. GEORGE M. MÜLLER, New York, N. Y. Filed Sept. 6, 1906. Serial No. 333,435.

1. A foldable game board comprising sections hinged together, each section having hollow edge portions which are reinforced by folding the material upon itself, and suspending means attached to the respective sections and partially housed within the hollow side edges thereof.

2. In a device of the class described, a game board provided with a plurality of hollow reinforced edges, and suspension devices incased partially in said hollow edges and secured to said game board.

3. In a device of the class described, a foldable game board, and suspension devices attached thereto, said suspension devices being adapted to confine the game board in a collapsed or folded condition.



4. In a device of the class described, a game board having a backing, a lining, and checker-suspending devices housed partially between the backing and the lining.

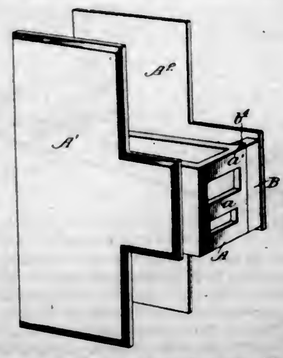
5. In a device of the class described, a game board having an opening, and a suspending hook provided with a shank, a part of said hook passing through said opening, and the hook and shank engaging one with the other for holding the hook against displacement on the board.

6. In a device of the class described, a perforated game board, and a suspending device passing through said perforations, each device having a shank and a hook which engage one with the other.

7. In a device of the class described, a perforated game board, and a suspending device passing through perforations in said board, said device having a hook and a shank, the latter having an eye or loop adapted to receive a part of the hook.

8. In a device of the class described, a backing, a lining, means for spacing the lining relative to the backing, and suspending devices each provided with a shank which is secured between the backing and the lining.

868,210. LOCK-CASING. LEVIN H. MULLIKIN, Trappe, Md., assignor to P. & F. Corbin and Russell & Erwin Manufacturing Company, New Britain, Conn., Corporations of Connecticut. Filed Nov. 27, 1906, Serial No. 345,380. Renewed July 23, 1907. Serial No. 385,139.



1. A lock case or frame, provided at one side with an adjustable face plate and a filling piece secured removably to one side of the case flush with its front plate and against which the adjacent side of the said adjustable face plate

bears; whereby said filling piece may be removed and another of a different width applied.

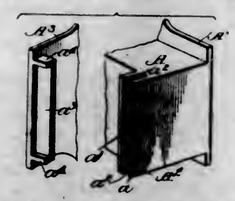
2. A lock case or frame, provided at one side with an adjustable face plate, a filling piece secured removably to one side of the case flush with its front plate, and tongue and groove connections between the edges of the filling piece and the casing and face plate.

3. A lock casing having relatively adjustable face plates and a plurality of filling pieces of different widths adapted to be individually secured between the side of the lock case proper and the adjustable face plate flush with the front plate of the case to adapt the lock casing to doors of different thicknesses.

4. A lock case or frame provided at one side with a removable filling piece forming an extension of its front plate, a screw securing the filling piece to the casing, and a tongue and groove connection between said filling piece and casing.

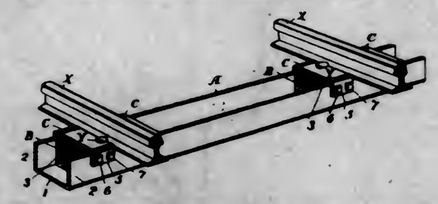
5. A lock casing or frame, having a vertical tongue on its side just in rear of the front plate, an adjustable side plate having a groove in its inner face adapted to receive said tongue and a filling piece to form an extension of said front plate and having a groove to receive said tongue and a tongue to enter said face plate groove, whereby when the filling piece is removed the side of the face plate may be adjusted up flush with the adjacent side of the lock case or frame.

868,211. LOCK-CASING. LEVIN H. MULLIKIN, Trappe, Md., assignor to P. & F. Corbin and Russell & Erwin Manufacturing Company, New Britain, Conn., Corporations of Connecticut. Filed Oct. 12, 1906, Serial No. 338,573. Renewed July 23, 1907. Serial No. 385,140.



A lock casing, provided at one side of its front edge with a pair of parallel vertical spaced plates or ribs and an adjustable face plate having a vertical plate or rib near its front edge sliding in the groove formed between the said first two plates or ribs, and horizontal members extending forwardly from the ends of said sliding plate or rib and overlying the ends of the front one of the said pair of plates or ribs.

868,212. RAILROAD-TIE. WILLIAM MCCLOY, Cressona, Pa. Filed May 14, 1907. Serial No. 373,534.



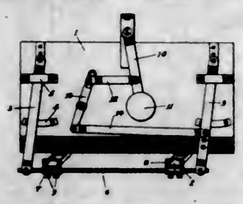
1. The combination in a rail tie of a continuous plate having side flanges 2, 2, separated clamps C, C, adapted to receive the rail between them and provided with openings for the passage of transverse bolts, a block B lying between the flanges 2, 2, extending beneath the clamps C, C, and secured by the bolts thereto, and plates 3 affording extended bearings for the rails and resting upon the faces of the blocks.

2. The combination with a flanged tie A, of separated blocks, each fitting between the said flanges and extending to the tops thereof, a plate bearing upon the face of each block and narrower than the latter, and supported clamp plates C, C, adapted to receive the rail between them, and each bearing upon the said plate, and means for connecting the clamp plates and blocks together.

3. The combination of the flanged tie A and blocks B. B, of plates resting upon the blocks and having openings x and separated flanged clamps C, bolts connecting the said clamps to the tie plate and block, and recesses y in the clamps coinciding with the recesses in the plates 3, for the purpose set forth.

4. The combination with the flanged tie A, its blocks and plates 3, of separated clamp plates, the outer clamp plates provided with lips 9, for the purpose set forth.

868,213. AUTOMATIC FEED-REGULATOR FOR SEEDERS. JAMES R. MCHENRY, Montpellier, Cal. Filed Apr. 30, 1907. Serial No. 371,126.



1. In a device of the character described a seeder box, feed troughs arranged thereon, and means for regulating the movement of said troughs, as set forth.

2. In a device of the character described a seeder, feed troughs arranged thereon, and means for automatically regulating the position of said troughs, as specified.

3. In a device of the character described a seeder, feed troughs pivoted thereto and means for automatically regulating the position of such troughs by the position of the seeder, as set forth.

4. In a device of the character described a seeder, feed troughs pivoted thereto, a lever pivotally mounted on said seeder, a weight on the lower end of said lever, and link connections from said lever to said troughs, as set forth.

5. In a device of the kind described a seeder, feed troughs pivoted thereto, a lever pivoted to said seeder, a weight on the lower end of said lever, and means for regulating the position of said troughs according to the position of said weights, as set forth.

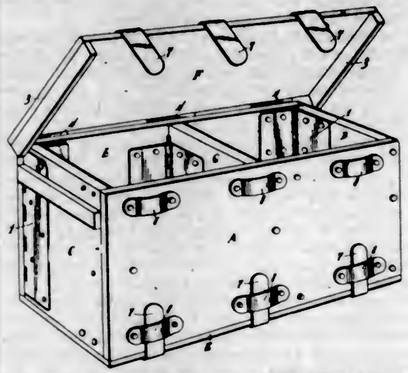
6. In a device of the character described a seeder, feed troughs pivoted thereto, a lever pivoted on each end of one side of said seeder, a cross rod pivotally connecting the lower ends of said levers, sleeves slidably mounted on said cross rods, means for setting said sleeves at any desired point on said cross rod, cages extending upward from said sleeves and incasing said troughs, and a lever weight mechanism pivotally connected with said levers as set forth.

7. In a device of the character described a seeder, feed troughs pivotally secured thereto, a lever pivotally mounted at each end to the side of said seeder, a lever pivotally mounted on said seeder intermediate said first named levers, a weight on the lower end of said last named lever a lever pivotally mounted at the side of said last named lever and connected thereto by a link, a link connecting said last named lever with one of said first named levers, and means connecting said troughs with said first named levers, as set forth.

868,214. COLLAPSIBLE CRATE OR CASE. JOHN S. MCKIBBIN, Atlanta, Nebr. Filed July 3, 1906. Serial No. 324,668.

1. A collapsible egg case comprising sides and ends hinged together and a top and bottom hinged to opposite edges of one of the sides, one of said parts by means of a compound or three-part hinge which admits of that part being folded over the other at the opposite edge of the said side when the case is collapsed.

2. A collapsible egg case comprising sides, ends and partitions hinged together whereby they may be folded flat and a bottom hinged at one edge to one edge of one of the sides and provided with reinforces which form fillers to brace and make the case rigid when set up with the bottom closed, and means for fastening the bottom in this closed position.



3. A collapsible egg case comprising sides and ends hinged together and collapsible and a top and bottom hinged to opposite edges of one of the sides and constructed and adapted to overlap each other and lie against the side when the case is collapsed.

4. A collapsible egg case comprising sides and ends hinged together and collapsible and a top and bottom hinged to opposite edges of one of the sides and constructed and adapted to overlap each other and lie against the side when the case is collapsed and means for fastening the parts either in the set up or knocked down position.

868,215. HOLLOW STEEL TIE. HARRY E. MCMULLEN, Hutchinson, Kans. Filed Feb. 12, 1907. Serial No. 357,030.



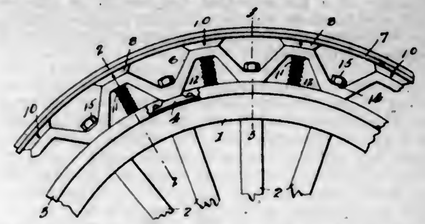
1. A hollow metallic tie having rectangularly disposed sides, the top side of which is provided with depressed rail-bearing surfaces and the vertical and bottom sides having thickened portions located under the said rail-bearing surfaces.

2. A hollow metallic tie having rectangularly disposed sides, the vertical side having portions which increase in thickness from the top to the bottom side and the bottom side having thickened portions which merge at their end with the thickened portions upon the vertical sides.

3. A hollow metallic tie having rectangularly disposed sides, the top side of which is provided with depressed rail bearing surfaces, the vertical sides having portions which increase in thickness from the top to the bottom side and the bottom side having thickened portions which merge at their ends with the thickened portions upon the vertical sides, said thickened portions being located under said rail bearing surfaces.

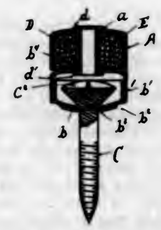
868,216. CUSHION-TIRE. WILLIAM D. MCNAULL, Toledo, Ohio. Filed Sept. 1, 1906. Serial No. 333,012.

1. In a wheel, the combination of an inner rim, an outer rim, a strip of flexible material between the rims, secured to the inner and outer rims at alternate points, blocks on the inner rim against which the strip rests, bolts passing through the strip and engaging the blocks on the inner rim, studs passing through the strip and engaging sockets in the blocks on the outer rim, and pins passing through the blocks and holding the studs in position.



2. In a wheel, the combination of an inner rim, an outer rim, a strip of flexible material between the rims, secured to the inner and outer rims at alternate points, blocks on the inner rim against which the strip rests, bolts passing through the strip and engaging the blocks on the inner rim, studs passing through the strip and engaging sockets in blocks on the outer rim, pins passing through the blocks and holding the studs in position, spring seats formed on the studs, spring seats formed on the inner rim, and helical springs interposed between the rims and held in place by the spring seats.

868,217. VEHICLE-CURTAIN FASTENER. FRED A. NEIDER, Augusta, Ky. Filed Sept. 26, 1906. Serial No. 336,223.



1. A curtain fastener consisting of a base, of a button pivoted upon the base, and a shank, the base consisting of an elongated shell with a perforated bottom, and the shank having an elongated head seated in the base and a neck projecting through the perforation in the base.

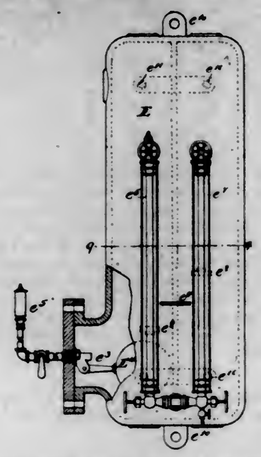
2. A curtain fastener consisting of a base, a button pivoted upon the base, and a shank, the base consisting of two elongated cups telescoping into each other the lower one having a perforation in its bottom and the shank having an elongated head seated in the base and with its neck projecting through the perforation.

3. A curtain fastener consisting of a base, a button, a pivot connecting the base and the button and a shank, the button consisting of an elongated inverted cup, the base consisting of two elongated cups telescoping into each other, the pivot consisting of a tube headed at one end extending through the button and the top of the base and flanged upon the under side of the top of the base and the shank having an elongated head seated within the base and a neck projecting through the bottom of the base.

868,218. APPARATUS FOR THE USE OF CARBON DIOXID FOR THE EXTINGUISHMENT OF FIRES. EUGENE F. OSBORNE, Chicago, Ill., assignor to The Osborne Steam Engineering Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 16, 1893. Serial No. 488,255.

1. In an apparatus for the extinguishment of fire by the use of carbon dioxid, the combination with a source of carbon dioxid supply under high pressure, of a tank or vessel containing liquid of greater specific gravity than the dioxid and containing a gas space above the surface of said liquid, a pipe leading from the gas space of said tank, an automatic discharger applied to said tank and provided

with means whereby the same will be opened to give discharge to the gas, such means being adapted to open the discharger at a predetermined temperature of the surrounding atmosphere, and an automatic pressure reducing valve controlling the admission of carbon dioxid which is submerged in the liquid.



2. In combination with a source of carbon dioxid supply under high pressure, a tank connected with such source of supply by means of an automatic pressure reducing valve and containing a liquid in which said valve is submerged and also containing a gas space above the surface of said liquid and a delivery pipe leading from the gas space of the tank, said liquid within the tank containing an admixture of odorizing material whereby the gas is odorized in its passage through the liquid in the tank.

3. In apparatus for the automatic use of carbon dioxid for the extinguishment of fires, the combination with a source of carbon dioxid supply under high pressure, of an automatic pressure reducing valve in the passage leading from such source of supply and controlled by the pressure of the gas discharged from said valve, means for applying heat to the shell of said valve, embracing a liquid supply, which is caused to circulate in contact with the valve a pipe or passage communicating with the outlet of said valve and a discharger applied to said pipe or passage, said discharge being provided with means for automatically opening the same adapted to so open the discharger at a predetermined temperature of the surrounding atmosphere.

4. In apparatus for the extinguishment of fires by the use of carbon dioxid, the combination, with a source of carbon dioxid supply under high pressure, of a tank or vessel containing liquid of greater specific gravity than the dioxid and containing a gas space above the surface of said liquid, a pipe leading from the gas space of said tank, an automatic discharger applied to said pipe and provided with means whereby the same will be opened to give discharge to the gas, such means being adapted to open the discharger at a predetermined temperature of the surrounding atmosphere, and an automatic pressure reducing valve controlling the admission of carbon dioxid to the tank, which is submerged in the liquid within said tank and has its discharge opening arranged below the surface of said liquid.

5. The combination with a gas-supply fire extinguishing apparatus, of the discharger described having a valve which is operated to open and close by means affected by changes in temperature and also having a soldered connection around the main inlet passage adapted to remain intact in air of a temperature which affects the opening of the valve, and to separate at a higher temperature.

6. In combination with a source of carbon dioxid supply under high pressure, a tank connected with such source of supply by means of an automatic pressure reducing valve and containing a liquid in which said valve is submerged, and also containing a gas space above the surface of said liquid, means for withdrawing the gas from said tank and a pipe leading from the discharge of said valve and having its outlet directed toward the valve case beneath the surface of the liquid, whereby a current of such liquid is directed into contact with the said valve case during the period in which the valve is opened.

7. In combination with the liquid tank and the valve F, therein, of means for circulating the liquid around said valve comprising a pipe leading from the valve chamber and provided with the gas nozzle F^7 and the projector nozzle F^8, the latter being open at both ends to the liquid in which the valve and said nozzle is submerged.

8. In an automatic apparatus for the use of carbon-dioxid for the extinguishment of fires, the combination with a source of carbon-dioxid supply under high pressure, a relatively large space or chamber connected with said source of supply through an automatic pressure reducing valve, a pipe or passage leading from said space or chamber to an automatic, normally closed, discharging device, an indicator connected with said pipe or passage constructed to visually indicate the leakage of small quantities of gas from the system and an audible signaling device connected with said passage, so constructed and coöperating with the visual indicator as to indicate leakage of gas from said passage only upon substantial leakage of gas from said passage.

9. In apparatus for the automatic extinguishment of fires by the use of carbon dioxid, a leak detector consisting of a chamber having a depending partition dividing said chamber into two compartments connected with each other at their lower ends, which compartments are partially filled with a liquid and are severally connected at their upper ends with inlet and outlet pipes, the inlet compartment being provided with an outlet leading to a signaling device and controlled by a float.

10. In apparatus for automatically extinguishing fires by the use of carbon dioxid, a leak detector consisting of a chamber containing a depending partition which divides the chamber into two compartments said compartments being connected at their lower ends and severally connected with inlet and outlet pipes, and each of said compartments being provided with a water glass adapted to indicate the level of a liquid therein.

11. In apparatus of the general character described, the combination with the tank A, the leak detector E containing two compartments which communicate with each other at their lower ends, said compartments being provided with water glasses and severally connected with an inlet and outlet pipe, and a valved pipe *e* leading from the liquid space of the tank A to the liquid space of the detector chamber E.

12. In apparatus essentially as described, the combination, with the tank A and gas delivery pipes C and C^2 of a detector E having its several compartments in communication with the pipe C and the valve c^9 arranged in the pipe C between the connections of the detector with said pipe C.

13. In apparatus for the extinguishment of fires by the use of carbon dioxid, the combination, with a source of carbon dioxid supply under high pressure, a tank and a pressure reducing valve submerged in said tank and discharging into a liquid in order that the latter may gove its heat to the dioxid in the act of expansion, of an auxiliary heating device for heating the duct which delivers to said valve.

14. The combination with a source supplying a liquefiable gas under pressure, a gas space, connections between said gas space and the source of supply embracing an expansion valve, a normally closed discharge device, a passage connecting said discharge device and gas space and including a chamber containing a shiftable body of liquid, and a device associated with said chamber constructed to indicate the displacement of said liquid upon the escape of gas from the system beyond said device.

15. In an apparatus for the extinguishment of fires by the use of carbon dioxid, a source of carbon-dioxid under suitable pressure, a space connected with said source through an automatic pressure regulating valve, and normally under a considerably lower pressure than said source, and provided with discharge outlets, whereby, when said discharge outlets, or either of them, are open, said carbon-dioxid under the full pressure of said source passes through said space and from said outlet or outlets, and heating means preventing the freezing of the expanding gas at said valve.

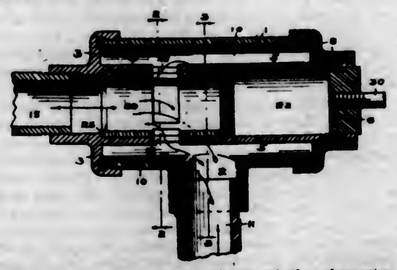
16. In an apparatus for the extinguishment of fires by the use of carbon-dioxid, a source of carbon-dioxid under suitable pressure, a space connected with said source through an automatic pressure regulating valve, and normally under a considerably lower pressure than said source, and provided with discharge outlets, whereby, when said discharge outlets, or either of them, are open, said carbon-dioxid under the full pressure of said source passes through said space and from said outlet or outlets, and heating means at said valve within said space.

17. The combination with a source supplying a liquefiable gas under pressure, a gas space, connections between said gas space and source of supply embracing an expansion valve, a normally closed discharge device, a passage connecting said discharge device and gas space and including a chamber containing a shiftable body of liquid, an audible alarm device connected with said chamber, and a float mechanism located in said chamber and constructed to actuate said alarm device upon the leakage of gas from the system beyond said device.

18. In an apparatus for the extinguishment of fire by the use of carbon dioxid the combination with a source of carbon dioxid under suitable pressure, of a discharging device, a passage leading from said source to the discharging device, an automatic pressure regulating valve in said passage constructed to maintain a pressure on that part of the passage between the valve and the discharging device, when the latter is closed, less than the pressure of said source of supply and to permit the gas, under the pressure of said source, to escape through said passage when the discharging device is open and a body of relatively warm liquid enveloping said passage at the valve to prevent clogging of said passage by freezing of the expanding gas at the valve.

19. The combination with a source of carbon dioxid under suitable pressure, of a tank containing a body of liquid and containing a gas space above said liquid which communicates with a discharge passage, and a passage leading from said source to said tank and discharging carbon dioxid into the tank below the level of the liquid therein.

868,219. WATER-PRESSURE REGULATOR. JOHN M. PIETZUCH and WILLIAM E. BROWN, Indianapolis, Ind., assignors of one-third to Charles E. Freeman, Indianapolis, Ind. Filed Dec. 26, 1906. Serial No. 349,454.

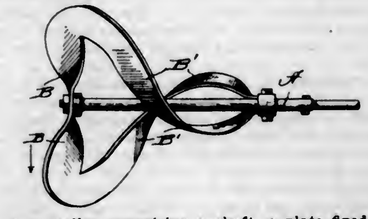


1. In a water pressure regulator of the character described, a hollow casing or shell having its ends sealed to form a chamber and provided with inlet and outlet apertures, a hollow sleeve extending through said chamber and provided with port-holes said sleeve being of a length to permit the valve to move entirely past said port-holes, and a valve slidingly fitting the internal diameter of the hollow sleeve, and provided with port-holes that register with the port-holes in the sleeve when the valve stands in normal position, and exterior longitudinally extending ribs on the valve to prevent movement of the valve in a circumferential direction.

2. In a water pressure regulator of the character described, a hollow casing or shell having its ends sealed to form a chamber and provided with inlet and outlet apertures, a hollow sleeve extending through said chamber and provided both with port-holes and internal longitudinally extending grooves, a valve slidingly fitting the internal diameter of said hollow sleeve and provided with port-holes which register with the port-holes in the sleeve when said valve stands in normal position, and ribs on said valve to engage the grooves in the sleeve to prevent the turning of the valve in a circumferential direction.

3. In a water pressure regulator comprising a hollow shell or casing provided with an inlet and an outlet aperture, closing means for closing one end of said shell, a hollow tube on said closing means and extending through the chamber formed by said shell and provided with internal longitudinally extending grooves, said tube provided with port-holes, a second closing means closing the other end of the shell, cut-off means provided with port-holes lying within the tube for regulating the volume of water passing through the port-holes, and ribs on the valve to engage the grooves in the hollow tube and adapted to prevent the turning of the valve in a circumferential direction.

868,220. PROPELLER. JULIAN PORTELLI and JOSEPH D. CHAPMAN, Los Angeles, Cal. Filed Apr. 4, 1907. Serial No. 366,420.



1. A propeller comprising a shaft, a plate fixed at its longitudinal center to said shaft, said plate being bent laterally in opposite directions and having forwardly extending spiral wings, the ends of which are fastened to said shaft, as set forth.

2. A propeller comprising a shaft, a plate fixed at its longitudinal center to one end of the shaft and having oppositely extending curved portions with tapering and spiral wings curved in opposite directions and fastened at their forward ends to said shaft, as set forth.

3. A propeller comprising a shaft, a single plate provided with an aperture to receive said shaft, a shoulder upon the latter, a nut adapted to hold the plate at its longitudinal center against said shoulder, said plate having laterally projecting curved portions with tapering spiral wings, and a collar fixed to the shaft and engaging the forward ends of said wings, as set forth.

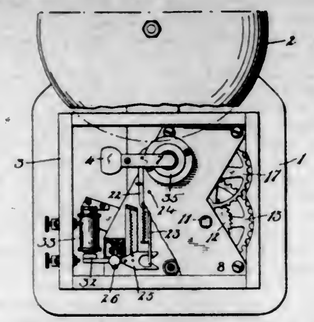
868,221. MECHANISM FOR GONGS, &c. HENRY E. REEVE, New York, N. Y. Filed Oct. 29, 1906. Serial No. 341,033.

1. An apparatus of the character described, comprising a gong, a hammer, a shaft therefor, having its axis inclined relatively to a perpendicular to the plane of the gong, and a cam for supporting said hammer, the supporting face of said cam having a gradual inclination through substantially its entire periphery.

2. An apparatus of the character described, comprising a gong, a hammer, a shaft therefor having its axis inclined relative to a perpendicular to the plane of the gong, driving mechanism therefor, a stop lever for said mechanism and a yielding stop carried by said lever for bringing the hammer to rest.

3. An apparatus of the character described, comprising

a gong, a hammer, a shaft therefor having its axis inclined relative to a perpendicular to the plane of the gong, striking mechanism, a stop lever therefor, a yielding stop carried by said lever, and an abutment for preventing excessive movement of said stop.



4. An apparatus of the character described, comprising striking mechanism, including a gong, a hammer, a shaft therefor having its axis inclined relative to a perpendicular to the plane of the gong, a pivoted lever, a yielding stop carried thereby, a pivoted latch for said lever, and an electro magnet for operating said latch.

5. An apparatus of the character described, comprising striking mechanism, including a hammer and shaft therefor, a hub on said shaft, a stop lever, a latch therefor, a cam on said hub, and a spring-pressed plunger carried by said hub, said cam and plunger coöperating with said lever.

6. An apparatus of the character described, comprising striking mechanism including a hammer and shaft therefor, a hub on said shaft, a stop lever, a latch therefor, a tail on said stop lever coöperating with said hub, said hub being adapted to hold said lever in engagement with said latch throughout a portion of the hub's rotation.

7. An apparatus of the character described, including a hammer shaft, a hub thereon, a plunger carried therein, a stop lever engaging said plunger, and means for releasing said stop lever.

8. An apparatus of the character described, including a rotatable hub, a cam thereon, a lever, a tail on said lever coacting with said cam and a stop yieldingly carried by said lever, and adapted to be engaged by said hub.

9. An apparatus of the character described, including a rotatable hub, a shoulder thereon, a lever having a yielding stop, adapted to be engaged by said shoulder on the hub, a spring-pressed plunger carried by said hub normally pressing against said lever and means for returning said lever to the engaged position.

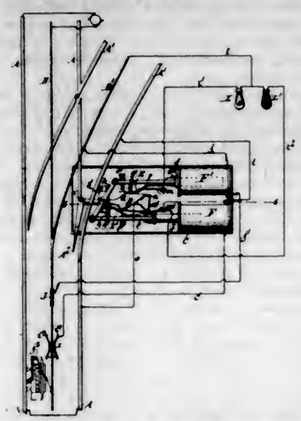
10. An apparatus of the character described, comprising a gong, a pivoted hammer, a shaft therefor having its axis inclined relative to the axis of the gong, said hammer shaft being adapted to rotate upon its axis to cause the hammer to strike the gong.

868,222. ELECTRIC-RAILWAY SWITCH AND SIGNAL. ALICE A. ROTH, Buffalo, N. Y. Filed May 14, 1907. Serial No. 373,696.

1. In an electric railway switch, the combination of the switch point having an operating member, cams acting against opposite sides of said member for vibrating the switch-point, and electro-magnets for moving said cams, substantially as set forth.

2. In an electric railway switch, the combination of the switch point having an operating member, yielding cams acting against opposite sides of said member for vibrating the switch-point, and electro-magnets for actuating said cams, substantially as set forth.

3. In an electric railway switch, the combination of the switch point having an operating arm provided on opposite sides with cam faces, cams arranged on opposite sides of said arm and coöperating with its cam-faces, and a pair of solenoids having their cores connected respectively with said cams, substantially as set forth.



4. In an electric railway switch, the combination of the switch point having an operating member, a pair of solenoids arranged on opposite sides of said member substantially parallel therewith, cams connected with the cores of the solenoids and operating to move said member in opposite directions, and a connection between said cores operating to withdraw one core from its coil when the other is attracted, substantially as set forth.

5. In an electric railway switch, the combination of the switch point having an operating member, a pair of solenoids arranged on opposite sides of said member substantially parallel therewith, cams connected with the cores of the solenoids and operating to move said member in opposite directions, and a two-armed rock lever connecting said cores, substantially as set forth.

6. In an electric railway switch, the combination of the switch point having an operating arm, solenoids arranged on opposite sides of said arm, and cams connected respectively with the cores of said solenoids and acting against opposite sides of said arm, each of said cams consisting of a spring secured at one end to the corresponding solenoid core and arranged to bear at its opposite end against said arm, substantially as set forth.

7. In an electric railway switch, the combination of the switch point having an operating arm, solenoids arranged on opposite sides of said arm, cam springs secured at one end to the respective solenoid cores and arranged to engage said arm at their free ends, and spiral springs backing the free ends of the cam springs, substantially as set forth.

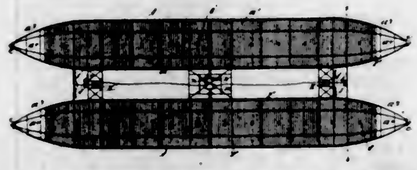
8. In an electric railway switch, the combination with a switch point, the main or power circuit including the trolley wire and an electric car having a trolley-wheel, of a pair of branch circuits supplied with current by said main circuit, electro magnets for throwing the switch point respectively included in said branch circuits, one of said branch circuits having a terminal contact comprising a pair of arches mounted transversely on the trolley-wire, and a pair of longitudinal contact-springs arranged on opposite sides of the trolley wire in the path of the trolley wheel and carried by said arches, said springs being secured at one end to one of said arches and capable of sliding lengthwise on the other arch at their opposite ends, substantially as set forth.

9. In an electric railway switch, the combination with a switch point, the main or power circuit including the trolley wire and an electric car having a trolley-wheel, of a pair of branch circuits supplied with current by said main circuit, electro-magnets for throwing the switch point respectively included in said branch circuits, one of said branch circuits having a terminal contact comprising a pair of arches mounted transversely on the trolley wire, one of the arches having guide-loops, and a pair of inwardly-bowed contact springs arranged on opposite sides of the trolley-wire and having free ends guided in said looped arch and secured at their opposite ends to the other arch, substantially as set forth.

10. In an electric railway switch, the combination with the main or power circuit, of a switch-point, means for operating the same, a double signal circuit whose branches contain suitably-distinguished signals and are provided with terminal-contacts, and an electric switch-member rigidly connected to said switch-point and arranged to alternately engage said terminal contacts, said switch-member being connected with said main circuit, substantially as set forth.

11. In an electric railway switch, the combination with a main or power circuit, of a switch point, a switch arm connected with said main circuit and having a rigid connection with the switch-point to positively move therewith, and a double signal-circuit whose branches have terminal-contacts arranged on opposite sides of said switch-arm and coöperating therewith, substantially as set forth.

868,223. AIR-SHIP. MARIO SCHIAVONE, Ferrandina, Italy. Filed July 30, 1906. Serial No. 328,376.



1. In an aerostatic device of the character designated, an elongated float formed with a central compartment containing a gas lighter than the atmosphere, and with end compartments separated from the central compartment by hermetically sealed flexible diaphragms, said hermetically sealed flexible diaphragms, and means for introducing compressed air into and releasing it from each of said end compartments independent of the others, for the purpose described.

2. In an aerostatic device of the character designated, an elongated hermetically sealed float formed of thin sheet metal with a central compartment containing a gas lighter than the atmosphere, and with end compartments separated from the central compartment by hermetically sealed flexible diaphragms, said hermetically sealed flexible diaphragms and means for introducing compressed air into and releasing it from each of said end compartments independent of the others, for the purpose described.

3. In an aerostatic device of the character designated, an elongated hermetically sealed float formed of thin sheet aluminium with a central compartment containing a gas lighter than the atmosphere and with end compartments separated from the central compartment by hermetically sealed flexible diaphragms, said hermetically sealed flexible diaphragms, and means for introducing compressed air into and releasing it from each of said end compartments independent of the others, for the purpose described.

4. An aerostatic chamber divided into three compartments by two hermetically sealed flexible diaphragms, the central chamber containing a gas lighter than the atmosphere, and means for independently introducing compressed air into and releasing it from each of the other two compartments, for the purpose described.

5. An aerostatic chamber divided into three compartments by two hermetically sealed flexible diaphragms, the central compartment containing a gas lighter than the atmosphere, and means for introducing compressed air into or releasing it from the end compartments either simultaneously or independently, for the purpose described.

6. An aerostatic chamber consisting of a cylindrical body formed with convergent ends, hermetically sealed flexible diaphragms dividing said chamber into a central compartment and two end compartments, the central compartment containing a gas lighter than the atmosphere, and means for independently introducing compressed air into or releasing it from each of the said end compartments, for the purpose described.

7. In aerostatic apparatus substantially such as designated, the combination of two hermetically sealed and rigidly connected elongated floats, each consisting of a rigid shell of sheet metal having a central compartment containing a gas lighter than the atmosphere, and end compartments separated from said central compartment by hermetically sealed flexible diaphragms, said hermetically sealed flexible diaphragms, and means for independently introducing compressed air into and releasing it from each of said end compartments, for the purpose described.

8. In aerostatic apparatus substantially such as designated, the combination of two hermetically sealed and rigidly connected elongated floats, each consisting of a rigid shell of sheet aluminium, having a central compartment containing a gas lighter than the atmosphere, and end compartments separated from said central compartment by hermetically sealed flexible diaphragms, said hermetically sealed flexible diaphragms, and means for independently introducing compressed air into and releasing it from each of said end compartments, for the purpose described.

9. In aerostatic apparatus substantially such as designated, the combination of a plurality of hermetically sealed and rigidly connected elongated metallic shells, each formed with a central compartment containing a gas lighter than the atmosphere and with end compartments separated from the central compartment by hermetically sealed flexible diaphragms, said hermetically sealed flexible diaphragms, and means for independently introducing compressed air into and releasing it from each of said end compartments, for the purpose described.

10. In aerostatic apparatus substantially such as designated, the combination of a plurality of hermetically sealed and rigidly connected elongated shells formed of sheet aluminium, each with a central compartment containing a gas lighter than the atmosphere, and with end compartments separated from the central compartment by hermetically sealed flexible diaphragms, said hermetically sealed flexible diaphragms, and means for independently introducing compressed air into and releasing it from each of said end compartments, for the purpose described.

11. In aerostatic apparatus substantially such as designated, the combination of two hermetically sealed elongated floats each consisting of a shell of sheet metal having a central compartment containing a gas lighter than the atmosphere, and end compartments separated from said central compartment by flexible diaphragms, said flexible diaphragms, means for introducing compressed air into and releasing it from said end compartments, and a rigid metallic skeleton frame uniting said floats, for the purpose described.

12. In aerostatic apparatus substantially such as designated, the combination of two hermetically sealed elongated floats, each consisting of a shell of sheet metal having a central compartment containing a gas lighter than the atmosphere, and the end compartments separated from said central compartment by flexible diaphragms, said flexible diaphragms, means for introducing compressed air into and releasing it from said end compartments, a rigid metallic skeleton frame uniting said floats, and propellers mounted on said skeleton frame with their axes between and below the longitudinal axis of said float, for the purpose described.

13. In aerostatic apparatus substantially such as designated, the combination of two hermetically sealed elongated floats, each consisting of a shell of sheet aluminium having a central compartment containing a gas lighter than the atmosphere, and end compartments separated from said central compartment by flexible diaphragms, said flexible diaphragms means for introducing compressed air into and releasing it from said compartments, and a rigid skeleton frame uniting said floats, and made of sections of aluminium tubing joined by couplings made of aluminium, for the purpose described.

14. In aerostatic apparatus substantially such as desig-

nated, the combination of two hermetically sealed elongated floats consisting of a shell of sheet aluminium having a central compartment containing a gas lighter than the atmosphere, and end compartments separated from the central compartment by flexible diaphragms, said flexible diaphragms, means for introducing compressed air into and releasing it from said end compartments, and a rigid skeleton frame uniting said floats, and consisting of transverse hoops of aluminium tubing on each float connected with longitudinal sections of aluminium tubing by aluminium couplings and aluminium ties and stay rods between the floats rigidly connecting the hoops and longitudinal tubes on one float with those on the other, for the purpose described.

15. In aerostatic apparatus substantially such as designated, the combination of two hermetically sealed elongated floats each consisting of a shell of sheet metal having a central compartment containing a gas lighter than the atmosphere, and end compartments separated from the said central compartment by flexible diaphragms, said flexible diaphragms, means for introducing compressed air into and releasing it from said end compartments, a rigid metallic skeleton frame uniting said floats, and propellers mounted on said skeleton frame with their axes substantially in coincidence with the longitudinal axis of resistance of the apparatus as a whole, for the purpose described.

16. In aerostatic apparatus substantially such as designated, the combination of two hermetically sealed elongated floats each consisting of a shell of sheet aluminium having a central compartment containing a gas lighter than the atmosphere, and end compartments separated from the said central compartment by flexible diaphragms, said flexible diaphragms, means for introducing compressed air into and releasing it from said end compartments, a rigid frame of aluminium tubing uniting said floats, and propellers mounted on said aluminium frame with their axes substantially in coincidence with the longitudinal axis of resistance of the apparatus, for the purpose described.

17. In aerostatic apparatus substantially such as designated, the combination of two hermetically sealed elongated floats, each consisting of a shell of sheet metal having a central compartment containing a gas lighter than the atmosphere, and end compartments separated from the said central compartment by flexible diaphragms, said flexible diaphragms, means for introducing compressed air and releasing it from said end compartments, a rigid metallic skeleton frame uniting said floats and end pieces at the extremities of each float to which the extremities of the tubular members of the frame are secured, for the purpose described.

18. In aerostatic apparatus substantially such as designated, the combination of two hermetically sealed elongated floats, each consisting of a shell of sheet metal having a central compartment containing a gas lighter than the atmosphere, and end compartments separated from the said central compartment by flexible diaphragms, said flexible diaphragms, means for introducing compressed air into and releasing it from said end compartments, a rigid metallic skeleton frame uniting said floats, end pieces at the extremities of each float to which the extremities of the longitudinal members of the frame are secured, and metallic caps secured to each of said end pieces, for the purpose described.

19. In aerostatic apparatus substantially such as designated, the combination of two hermetically sealed elongated floats each consisting of a shell of sheet metal having a central compartment containing a gas lighter than the atmosphere, and end compartments separated from the said central compartment by flexible diaphragms, said flexible diaphragms, means for introducing compressed air into and releasing it from said end compartments, a rigid metallic skeleton frame uniting said floats, end pieces at the extremities of each float, each end piece being formed with a passage for the introduction of compressed air into that particular end of the shell, and a compressed air pipe connected with each of said end pieces, for the purpose described.

20. In aerostatic apparatus substantially such as designated, the combination of two hermetically sealed elongated floats each consisting of a shell of sheet metal having a central compartment containing a gas lighter than the atmosphere, and end compartments separated from the said central compartment by flexible diaphragms, said flexible diaphragms, means for introducing compressed air into and releasing it from said end compartments, a rigid metallic skeleton frame uniting said floats and consisting of transverse hoops of aluminium tubing on each float connected with longitudinal sections of aluminium tubing by means of aluminium couplings, end pieces at the extremities of each float to which the extremities of the longitudinal members of its frame are secured, each end piece being formed with a passage for the introduction of compressed air into that particular end of the shell, a compressed air pipe connected with each of said end pieces, and a metallic cap secured to each of said end pieces for the purpose described.

21. An aerostatic vessel consisting of a shell of aluminium having its central cylindrical portion formed with convergent ends, hermetically sealed flexible diaphragms dividing said shell into a central compartment and two end compartments, the central compartment containing a gas lighter than the atmosphere, and means for independently introducing compressed air into or releasing it from each of the end compartments, for the purpose described.

22. In aerostatic apparatus substantially such as designated, the combination of two rigidly connected aluminium shells, each having a central cylindrical portion formed with convergent ends, hermetically sealed flexible diaphragms dividing each of said aluminium shells into a central compartment and two end compartments, the central compartment containing a gas lighter than the atmosphere, and means for independently introducing compressed air into and releasing it from each of the said end compartments, for the purpose described.

23. In aerostatic apparatus substantially such as designated, the combination of two hermetically sealed and rigidly connected elongated floats each consisting of a shell of sheet metal having a central compartment containing a gas lighter than the atmosphere and end compartments each separated from said central compartment by a hermetically sealed flexible diaphragm, said flexible diaphragms, and means for introducing compressed air into and releasing it from all four of said end compartments either simultaneously or independently, for the purpose described.

24. In aerostatic apparatus substantially such as designated, an elongated float formed with a cylindrical body composed of a series of transverse sections each consisting of a single annular piece of sheet metal formed with inturned flanges by which the adjoining transverse sections are united for the purpose described.

25. In aerostatic apparatus substantially such as designated, an elongated float formed with convergent ends and a cylindrical body composed of a series of transverse sections each consisting of a single annular piece of sheet metal formed with inturned flanges by which the adjoining transverse sections are united, for the purpose described.

26. In aerostatic apparatus substantially such as designated, an elongated float formed with a cylindrical body composed of a series of transverse sections each consisting of a single annular piece of sheet metal which is concavo-convex in cross section, each of said annular transverse sections being also formed with inturned flanges by which the adjoining sections are united, for the purpose described.

27. In aerostatic apparatus substantially such as designated, an elongated float formed with convergent ends and a cylindrical body composed of a series of transverse sections each consisting of a single annular piece of sheet metal which is concavo-convex in cross section, each of said annular transverse sections being also formed with inturned flanges by which the adjoining sections are united, for the purpose described.

28. In aerostatic apparatus substantially such as designated, an elongated float formed with a cylindrical body composed of a series of annular sections of sheet aluminium which are convex externally in cross section with inturned flanges by which adjoining sections are united, for the purpose described.

29. In aerostatic apparatus substantially such as designated, an elongated float formed with a cylindrical body composed of a series of annular sections of sheet aluminium having inturned flanges by which the adjoining sections are united, and with convergent ends attached to said body for the purpose described.

30. In aerostatic apparatus substantially such as designated, an elongated float of sheet metal formed with a cylindrical body having convergent ends each having an apex-section which is removable, for the purpose described.

31. In aerostatic apparatus substantially such as designated, an elongated float of sheet aluminium formed with a cylindrical body having ogival ends, each having an apex-section which is removable, for the purpose described.

32. An aerostatic apparatus of the character designated, consisting of twin-floats united by a skeleton frame and having the weight of the parts supported by them distributed longitudinally between them, with the axis of propulsion below their longitudinal axes and coinciding with the longitudinal axis of resistance to the atmosphere, and with the center of gravity below said common axis of propulsion and resistance, each of said floats having a central compartment containing a gas lighter than the atmosphere, and end compartments separated from the central compartment by flexible diaphragms, and means for introducing compressed air into said compartments, for the purpose described.

33. An aeronautic apparatus of the character designated consisting of two floats formed of sheet aluminium united by a skeleton frame of aluminium, and having the weight of the parts supported by them distributed longitudinally between them, with the axes of propulsion below their longitudinal axes and coinciding with the longitudinal axis of resistance to the atmosphere, and with the center of gravity below said common axis of propulsion and resistance, each of said floats having a central compartment containing a gas lighter than the atmosphere, and end compartments separated from the central compartment by flexible diaphragms, and means for introducing compressed air into said compartments, for the purpose described.

34. In aerostatic apparatus substantially such as designated, the combination with a sheet metal float formed with a detachable section, and with means for allowing the escape of air from said float, of a lining bag of collapsible flexible material of substantially the same shape as the interior surface of the float, and means for inflating said lining within the float, for the purpose described.

35. In aerostatic apparatus substantially such as designated, a sheet metal float formed with detachable end sections, flexible diaphragms near each extremity of said float, means for allowing the escape of air from said float, means for introducing and withdrawing a collapsible lining bag through one of said diaphragms, said flexible lining bag adapted to fit the inner surface of the float, means for inflating said lining with compressed air, means for sealing the float against atmosphere, and means for introducing into the float a gas lighter than the atmosphere to replace the air displaced by the inflation of the said removable lining, for the purpose described.

36. In aerostatic apparatus substantially such as designated, a sheet metal float consisting of a cylindrical body having convergent ends with detachable apex-sections, flexible diaphragms near each extremity of the float fitting within and conforming to said convergent ends when the diaphragms are collapsed, means for allowing the escape of air from said float, means for introducing and withdrawing a collapsible flexible lining bag through one of said diaphragms, said flexible lining bag adapted to fit the inner surface of the float, means for inflating said lining with compressed air, means for sealing the float against the atmosphere, and means for introducing into the float a gas lighter than the atmosphere to replace the air displaced by the inflation of the removable lining, for the purpose described.

37. In aerostatic apparatus substantially such as designated, a sheet metal float consisting of a cylindrical body having convergent ends with detachable apex-sections, flexible diaphragms near each extremity of the float fitting within and conforming to said convergent ends when the diaphragms are collapsed, one of said diaphragms being truncated and formed with a detachable end section, a collapsible flexible lining adapted to fit the inner surface of the float and to be introduced or withdrawn through said truncated diaphragm, means for inflating said lining with compressed air, means for allowing the escape of air from said float, means for sealing the float against the atmosphere, and means for introducing into the float a gas lighter than the atmosphere to replace the air displaced by the inflation of the removable lining, for the purpose described.

38. In aerostatic apparatus substantially such as designated, a sheet metal float consisting of a cylindrical body having convergent ends with detachable apex-sections, flexible diaphragms near each extremity of the float fitting within and conforming to said convergent ends when the diaphragms are collapsed, the diaphragm at one end of the float being truncated and formed with a detachable end section, a collapsible flexible lining bag adapted to fit the inner surface of the float and to be introduced and withdrawn through said truncated diaphragm, means for inflating said lining with compressed air, means for allowing the escape of air from said float, means for sealing the float against the atmosphere, and means for introducing into the float through the diaphragm at the other end thereof a gas lighter than the atmosphere to replace the air displaced by the inflation of the removable lining, for the purpose described.

39. In aerostatic apparatus substantially such as designated, a sheet metal float consisting of a cylindrical body having convergent ends with detachable apex-sections, flexible diaphragms near each extremity of the float fitting within and conforming to said convergent ends when the diaphragms are collapsed, one of the diaphragms being truncated and formed with a detachable end section, a collapsible flexible lining bag adapted to fit the inner surface of the float and to be introduced and withdrawn through said truncated diaphragm, means for inflating said lining bag with compressed air, a series of hatches arranged longitudinally on the float through which air may be expelled from the float, means for sealing said hatches and means for introducing a gas lighter than the atmosphere into the float to replace the air displaced by the inflation of the removable lining, for the purpose described.

40. In aerostatic apparatus substantially such as designated, a sheet metal float consisting of a cylindrical body having convergent ends with detachable apex-sections, flexible diaphragms near each extremity of the float fitting within and conforming to said convergent ends when the diaphragms are collapsed, the diaphragm at one end of the float being truncated and formed with a detachable end section, a collapsible flexible lining bag adapted to fit the inner surface of the float and to be introduced and withdrawn through said truncated diaphragm, means for inflating said lining bag with compressed air, a series of hatches arranged longitudinally on the float through which air may be expelled from the float, a cable adapted to be passed through certain of said hatches and to rest upon the flexible lining to render its inflation with compressed air even and uniform, means for securing the hatches after said cable has been withdrawn, and means for introducing into the float through the diaphragm at the other end of the float a gas lighter than the atmosphere to replace the air displaced by the inflation of the said removable lining, for the purpose described.

41. In aerostatic apparatus substantially such as designated, a sheet metal float consisting of a cylindrical body having convergent ends with detachable apex-sections, flexible diaphragms near each extremity of the float fitting within and conforming to said convergent ends when the diaphragms are collapsed, the diaphragm at one end of the float being truncated and formed with a detachable end section, a collapsible flexible lining formed with a truncated end for attachment to the truncated diaphragm and adapted to be introduced and withdrawn through said

truncated diaphragm and to fit the interior surface of the float, a closing disk for the truncated ends of the lining and diaphragm formed with a central portion which may be slit open, means for inflating said lining with compressed air, means for allowing the escape of air from said float, means for sealing the float against the atmosphere, and means for introducing into the float a gas lighter than the atmosphere to replace the air displaced by the inflation of the removable lining, for the purpose described.

42. In aerostatic apparatus substantially such as designated, a sheet metal float consisting of a cylindrical body having convergent ends with detachable apex-sections, flexible diaphragms near each extremity of the float fitting within and conforming to said convergent ends when the diaphragms are collapsed, the diaphragm at one end of the float being truncated and formed with a detachable end section, a collapsible flexible lining formed with a truncated end for attachment to the truncated diaphragm and adapted to be introduced and withdrawn through said truncated diaphragm and to fit the interior surface of the float, a withdrawing cable attached to the inner side of the closed end of the lining, a closing disk for the truncated ends of the lining and diaphragm formed with a central portion which may be slit open, means for inflating said lining with compressed air, means for allowing the escape of air from said float, means for sealing the float against the atmosphere, and means for introducing into the float a gas lighter than the atmosphere to replace the air displaced by the inflation of the removable lining, for the purpose described.

43. In aerostatic apparatus substantially such as designated, the combination with a sheet metal float formed with detachable ends, with a series of hatches and means for sealing the same, and with a mouth or nipple and cap for closing the same, of a flexible collapsible lining bag formed with a flexible neck adapted to be drawn through the mouth or nipple, for the purpose described.

44. In aerostatic apparatus substantially such as designated, a sheet metal float consisting of a cylindrical body having convergent ends with detachable apex-sections, flexible diaphragms near each extremity of the float fitting within and conforming to said convergent ends when the diaphragms are collapsed, one of the diaphragms being truncated and formed with a detachable end section and being also provided with a cord by which it may be throttled and closed between its truncated edge and the edge by which it is secured permanently and hermetically to the shell of the float, a collapsible flexible lining bag adapted to fit the inner surface of the float and to be introduced and withdrawn through said truncated diaphragm, means for inflating said lining bag with compressed air, means for allowing the escape of air from said float, means for sealing the float against the atmosphere and means for introducing into the float a gas lighter than the atmosphere to replace the air displaced by the inflation of the removable lining, for the purpose described.

45. In aerostatic apparatus substantially such as designated, a rigid cylindrical sheet metal float formed with a compartment containing a gas lighter than the atmosphere, and with an auxiliary compartment, a flexible hermetically sealed diaphragm forming the partition between said compartments, means for taking and compressing air direct from the atmosphere, and means for introducing said compressed air into and releasing it from said auxiliary compartment, whereby the lighter gas in the first named compartment may be expanded or contracted in volume, for the purpose described.

46. In aerostatic apparatus substantially such as designated, an elongated sheet metal float formed with a central compartment containing a gas lighter than the atmosphere, and with end compartments separated therefrom by hermetically sealed flexible diaphragms, means for taking and compressing air directly from the atmosphere, and means for independently introducing said compressed air into and releasing it from each of said end compartments, for the purpose described.

47. In aerostatic apparatus substantially such as designated, two elongated sheet metal floats coupled rigidly together with their longitudinal axes parallel to each other, each float formed with a central compartment containing a gas lighter than the atmosphere, and with auxiliary end compartments, means for taking and compressing air directly from the atmosphere, and means for independently introducing said compressed air into and releasing it from each of said four end compartments, for the purpose of varying and regulating the specific gravity of the several ends of the floats substantially as described.

48. In aerostatic apparatus substantially such as designated, two elongated sheet metal floats coupled rigidly together with their longitudinal axes parallel to each other, each float being formed with a central compartment containing a gas lighter than the atmosphere, and with auxiliary end compartments, each separated from said central compartment by a hermetically sealed flexible diaphragm, and means for independently introducing compressed air into and releasing it from each of said end compartment, for the purpose described.

49. In aerostatic apparatus substantially such as designated, two elongated sheet metal floats coupled rigidly together with their longitudinal axes parallel to each other, each float being formed with a central compartment containing a gas lighter than the atmosphere, and with auxiliary end compartments each separated from said central compartment by a hermetically sealed flexible diaphragm, means for taking and compressing air directly from the atmosphere, means for storing said compressed air and means for introducing said compressed air independently into and releasing it from each of said end compartments, for the purpose described.

50. In aerostatic apparatus substantially such as designated, a sheet metal float consisting of a cylindrical body having convergent ends with detachable apex-sections, flexible diaphragms near each extremity of the float fitting within and conforming to said convergent ends when the diaphragms are collapsed, the diaphragm at one end of the float being truncated and formed with a detachable end section, a collapsible flexible lining bag adapted to fit the inner surface of the float and to be introduced and withdrawn through said truncated diaphragm, said lining bag being formed with a series of external loops arranged centrally and longitudinally upon its upper side, means for inflating said lining bag with compressed air, means for admitting of the expulsion of the atmosphere from the float, a cable adapted to be passed through said series of loops on the top of the lining bag for the purpose of rendering its inflation uniform, means for sealing the float, and means for introducing a gas lighter than the atmosphere into the float to replace the air displaced by the inflation of the said removable lining bag, for the purpose described.

51. In aerostatic apparatus substantially such as designated, a sheet metal float consisting of a cylindrical body having convergent ends with detachable apex-sections, a collapsible flexible lining bag adapted to fit the inner surface of the float, said lining bag formed with a series of external loops arranged centrally and longitudinally upon its upper side, a cable adapted to be passed through said series of loops on the top of the lining bag, means for inflating said lining bag, means for admitting of the expulsion of the atmosphere from the float, means for removing said cable, and means for sealing the float, for the purpose described.

52. In aerostatic apparatus substantially such as designated, a sheet metal float consisting of a cylindrical body having convergent ends with detachable apex-sections, a collapsible flexible lining bag adapted to fit the inner surface of the float, means for inflating said lining bag with compressed air, means for admitting of the expulsion of the atmosphere from the float, means for sealing the float against the atmosphere, means for admitting a gas lighter than the atmosphere into the float to replace the air displaced therefrom, and means for withdrawing the said collapsible lining bag from the float without admitting the atmosphere thereto, for the purpose described.

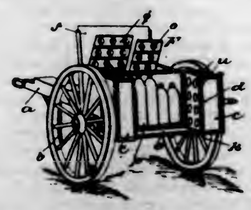
53. In aerostatic apparatus substantially such as designated, the combination of two sheet metal floats formed with cylindrical bodies and convergent ends with detachable apex-sections, each float being formed with a central compartment containing a gas lighter than the atmosphere and separated from the end compartments by flexible diaphragms which fit the convergent ends of said floats when the diaphragms are collapsed, a skeleton frame consisting of transverse and longitudinal tubular members united at their juncture by coupling plates common to both the transverse and the longitudinal members, the extremities of said longitudinal members being also secured to the convergent ends of the floats, straps securing both the transverse and the longitudinal members of the frame to the body of the float, propellers supported on said skeleton frame near each end of the apparatus, motors for operating the same, air compressing mechanism on said central platform, and means for introducing the air compressed thereby into either or all of the end compartments in the floats, for the purpose described.

54. In aerostatic apparatus substantially such as designated, the combination of two floats of sheet aluminium formed with corrugated cylindrical bodies and ogival shaped ends having detachable apex-sections, each float being formed with a central compartment containing a gas lighter than the atmosphere and separated from said compartment by flexible diaphragms which fit the ogival shaped ends of the floats when the diaphragms are collapsed, a skeleton frame consisting of transversely and longitudinally arranged tubular aluminium members united at their juncture by aluminium coupling plates common to both the transverse and the longitudinal members, the extremities of said longitudinal members being also secured to the ogival ends of the float, straps of aluminium securing both the transverse and the longitudinal members of the frame to the body of the float, the parts thus embracing the floats being united by tubular cross ties of aluminium reinforced by aluminium stay rods, propellers supported on said skeleton frame near each end of the apparatus, motors for operating the same, a central platform on said skeleton frame, air compressing mechanism on said central platform, a compressed air reservoir thereon, and means for introducing the compressed air into either or all of the end compartments in the float, for the purpose described.

55. In aerostatic apparatus substantially such as designated, a sheet metal float having a cylindrical body formed with transverse annular externally convex corrugations, for the purpose described.

56. In aerostatic apparatus substantially such as designated, a sheet metal float having convergent ends united by a cylindrical body which is formed with transverse annular externally convex corrugations, for the purpose described.

868,224. AMMUNITION WAGON OR CAISSON. CHAS. P. E. SCHNEIDER, Le Creusot, and EMILE RIMAILHO, Neuilly-sur-Seine, France. Filed Aug. 18, 1906. Serial No. 381,209.



1. In an ammunition carriage, an ammunition chest having a removable top closure, a rear end double door provided with chambers for holding powder charges, the said top closure and leaves of said door when in open position constituting shields, a projectile-retaining plate having one end movably supported by the front wall of the chest, means for locking said plate in position to retain the projectiles from displacement, an end or tail plate which may be swung into vertical position within the said chest, into a horizontal serving position and into a shield position, and means for retaining the said plate in its serving position.

2. In an ammunition carriage, an ammunition chest having movable top and end closures, said closures acting as shields when the carriage is in serving position, an adjustable projectile-retaining plate revolubly supported on one wall of said chest, and locking means holding said plate in position to retain the projectiles in place when said chest is closed.

3. In an ammunition carriage, an ammunition chest having movable top and end closures, said closures acting as shields when the carriage is in serving position, a projectile-retaining plate revolubly supported on one wall of said chest, and an end or tail plate revolubly supported on the bottom of the chest and engaging said retaining plate to lock the same in a fixed position to retain the projectiles when the chest is closed.

4. In an ammunition carriage, an ammunition chest having movable top and end closures, the end closure being provided with chambers for holding powder charges, and both closures serving as shields when the carriage is in serving position, and an adjustable projectile-retaining plate revolubly supported on one wall of said chest for retaining projectiles in place when said chest is closed, and locking means for said plate.

5. In an ammunition carriage, an ammunition chest having top and end closures, said closures acting as shields when the carriage is in serving position, a plurality of plates revolubly supported in different planes, for retaining projectiles of different lengths in place, and means for locking said plates in a fixed position.

868,225. BOTTLE CLOSURE AND SEAL. CARL SCHÖNERT and ROBERT SCHWEITZER, Newark, N. J. Filed Sept. 22, 1906. Serial No. 335,794.



1. A bottle cap provided at the lower edge of its flange with locking tongues and having perforations therein to secure greater flexibility of the tongues.

2. A bottle cap having a depending flange provided with a scalloped lower edge forming inwardly bendable locking tongues and provided with a row of openings partially projecting into said tongues, whereby the metal is weakened for greater flexibility of the tongues.

3. A bottle cap having a depending flange provided with a scalloped lower edge forming tongues and upper and lower rows of openings, the upper row of openings being arranged adjacent to the upper edge of the flange and the lower row of openings projecting partially into the tongues to weaken the same, substantially as described.

4. As a new article of manufacture, a metallic bottle cap having its flange provided with annular rows of openings, said rows being respectively arranged adjacent the lower edge of the flange and adjacent its point of juncture with the top of the cap.

5. As a new article of manufacture, a metallic bottle cap having its flange provided with annular rows of openings, said rows being respectively arranged near the lower edge of the flange and near its point of juncture with the top of the cap, the openings of one row alternating in arrangement with the openings of another row.

6. A bottle seal comprising a cap having weakening openings in the flange thereof, and a flexible seal lining the whole of the interior of the cap, said seal having its flange corrugated to be bent inwardly with the weakened flange of the cap into interlocking engagement with the shoulder of the bottle.

868,226. PRODUCTION OF MAGNESIUM. GEORGE O. SEWARD and FRANZ VON KÜGELGEN, Holcombs Rock, Va. Filed Oct. 25, 1905, Serial No. 284,303. Renewed Aug. 22, 1907. Serial No. 389,723.

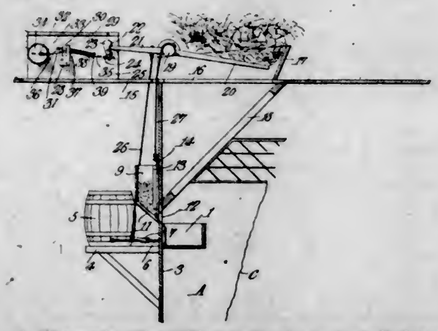
1. In producing magnesium electrolytically, the process which consists in the addition to the electrolyte of so much of a fluorid of a metal more electro-positive than magnesium that the electrolyte becomes heavier than the separated magnesium.

2. In the electrolytic production of magnesium, the process which consists in the addition to the electrolyte of so much of an alkali-earth-fluorid that the electrolyte becomes heavier than the separated magnesium.

3. The process of producing magnesium, which consists in forming a molten mixture of magnesium chlorid and alkali chlorid, and so much of a fluorid of a metal more electro-positive than magnesium that the electrolyte becomes heavier than magnesium, and separating the magnesium by electrolysis.

4. The process of producing magnesium, which consists in forming a molten mixture of magnesium chlorid, an alkali chlorid, and about 6 per cent. of fluorspar, whereby the electrolyte becomes heavier than magnesium, and separating the magnesium by electrolysis.

868,227. TIME-CONTROLLED STOCK-FEEDING APPARATUS. WHITEFIELD R. TARTE and JAMES W. TARTE, Bellingham, Wash. Filed Feb. 23, 1907. Serial No. 358,920.

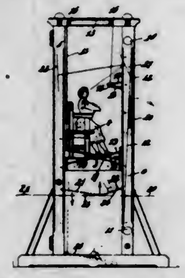


1. The combination with a rack; of a rock shaft, fingers extending therefrom and constituting feed supports, an arm extending from the shaft, a holding lever fulcrumed adjacent and disposed to engage the arm to hold the shaft against movement, stationary guide fingers, a spring pressed rod movably mounted between the guide fingers and connected to the lever, holding fingers normally engaged by the rod and disposed to hold the rod against the tension of its spring, a tripping lever disposed to lift the rod out of engagement with the holding fingers to release the spring to actuate the holding lever, means for automatically actuating the tripping lever at a predetermined time.

2. The combination with a rack; of a rock shaft, fingers extending therefrom and constituting feed supports an arm extending from the shaft, a holding lever fulcrumed adjacent and disposed to engage the arm to hold the shaft against movement, stationary guide fingers, a spring pressed rod movably mounted between the guide fingers and connected to the lever, holding fingers normally engaged by the rod and disposed to hold the rod against the tension of its spring, a tripping lever disposed to lift the rod out of engagement with the holding fingers to release the spring to actuate the holding lever, means for automatically actuating the tripping lever at a predetermined time, a trough, a water receptacle communicating therewith, a valve for closing communication between the receptacle and trough, and a flexible connection between the valve and the arm of the rock shaft.

3. The combination with a rack; of a rock shaft, fingers extending therefrom and constituting feed supports, an arm extending from the shaft, a holding lever fulcrumed adjacent and disposed to engage the arm to hold the shaft against movement, stationary guide fingers, a spring pressed rod movably mounted between the guide fingers and connected to the lever, holding fingers normally engaged by the rod and disposed to hold the rod against the tension of its spring, a tripping lever disposed to lift the rod out of engagement with the holding fingers to release the spring to actuate the holding lever, means for automatically actuating the tripping lever at a predetermined time, bins, troughs disposed to receive material therefrom, slidable closures for shutting off communication between the bins and troughs, and flexible connections between said closures and the shaft, said connections being disposed to wind upon the shaft to raise the closures.

868,228. LOOM. ARMAND A. F. THIÉRY, Louvain, Belgium. Filed Feb. 16, 1907. Serial No. 357,760.



1. In a vertical warp loom the combination with a frame of beams mounted in the latter, a platform vertically adjustable in said frame, means for fixing said platform in the positions in which it is adjusted, heddles, and means for operating said heddles from said platform, substantially as described and for the purpose set forth.

2. In a vertical warp loom the combination with a frame forming a cage of beams mounted in said frame, a platform vertically adjustable in the cage formed by said frame, means for fixing said platform in the positions in which it is adjusted, heddles, and means for operating said heddles from said platform, substantially as described and for the purpose set forth.

3. In a vertical warp loom the combination with a frame forming a cage of a beam mounted in the upper part of said frame, a beam mounted in the lower part of said frame, a platform vertically adjustable in the cage formed by said frame, means for fixing said platform in the positions in which it is adjusted, heddles so located that they are faced by the reverse side of fabric woven in the loom, and means for operating said heddles from said platform, substantially as described and for the purpose set forth.

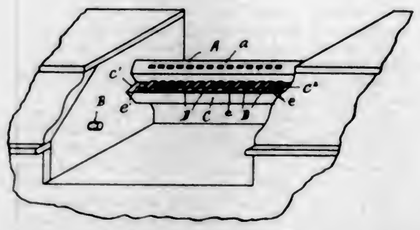
4. In a vertical warp loom the combination with a frame forming a cage of a beam mounted in the upper part of said frame, a beam mounted in the lower part of said frame, a platform vertically adjustable in the cage formed by said frame, means for fixing said platform in the positions in which it is adjusted, heddles so located that they are faced by the reverse side of the fabric produced in the loom, cords for actuating said heddles, rollers which guide said cords to the rear of the loom, and treadles supported by the platform and adapted to actuate said cords substantially as described and for the purpose set forth.

5. In a vertical warp loom the combination with a frame of beams mounted in said frame, a platform vertically adjustable in the latter, means for fixing said platform in the positions in which it is adjusted, heddles so located that they are faced by the reverse side of fabric woven in said loom, cords adapted to actuate said heddles, treadles supported by said platform and adapted to actuate said cords, a pattern frame so located that it is faced by the right side of the fabric woven in said loom, and means for removing said pattern frame from said fabric, substantially as described and for the purpose set forth.

6. In a vertical warp loom the combination with a frame of beams mounted in said frame, a platform vertically adjustable in said frame, means for fixing said platform in the positions in which it is adjusted, heddles so located that they are faced by the reverse side of fabric woven in said loom, means for actuating said heddles from said platform, a pattern frame so located that it is faced by the right side of the fabric, means for removing said pattern frame from the fabric, a pattern card arranged at the rear of frame, and an adjustable mirror adapted to reflect an image of said pattern card towards said platform, substantially as described and for the purpose set forth.

7. In a vertical warp loom the combination with a frame forming a cage of a beam mounted in the upper part of said frame, a beam mounted in the lower part of said frame, a platform vertically adjustable in the cage formed by said frame, means for fixing said platform in the positions in which it is adjusted, heddles so located that they are faced by the reverse side of fabric woven in the loom, cords adapted to actuate said heddles, rollers adapted to guide said cords to the rear of the looms, treadles supported by the platform and adapted to actuate said cords, a pattern frame faced by the right side of the fabric, means for removing said pattern frame from the fabric, a pattern card arranged at the rear of the cage, and an adjustable mirror arranged at the front of the cage and adapted to reflect towards the platform an image of said pattern card, substantially as described and for the purpose set forth.

868,229. AIR-CONTROLLER FOR PIANO-PLAYERS. CORDULA M. THOMAS, Middletown, Ohio. Filed May 31, 1906. Serial No. 319,476.



1. In a piano-player, the combination of a tracker-board, a means for feeding a record over the tracker-board, and a means for closing all the ducts of the tracker-board against the passage of air without interfering with the passage of the record thereover.

2. In a piano-player, the combination of a tracker-board having a series of air channels therein, means for feeding a record over the tracker-board, bars for regulating the opening and closing of all the channels, and an independent sliding operating-rod having connections for actuating the bars to project them across the channels or to draw them clear of the same, whereby the channels may be opened or closed without interfering with the passage of the records over the tracker-board.

3. In a piano-player the combination of a tracker board having a series of air channels therein, a series of transverse channels across the air channels, a series of bars mounted in the transverse channels, a guide strip secured to the tracker-board, an operating bar guided upon the guide strip and means for connecting the operating bar to the bars in the transverse channels so that the longitudinal movement of the operating bar actuates the channel bars to project them across the air channels or to draw them clear of the same.

868,230. ELECTROMAGNETIC DEVICE FOR USE IN CONNECTION WITH RAILWAY APPLIANCES. LOUIS H. THULLEN, Edgewood Park, Pa., assignor to The Union Switch & Signal Company, Swissvale, Pa., a Corporation of Pennsylvania. Filed Mar. 18, 1905. Serial No. 250,759.

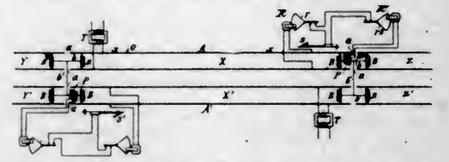


1. An indicating mechanism for a lever of an interlocking machine, comprising a core, a coil designed to be traversed by an alternating current, a movable member inclosing a portion of said core and a stem connected with said movable member.

2. An electro-magnetic device for railway appliances comprising a core, a coil for said core designed to be traversed by an alternating current to produce an alternating flux in said core, a closed magnetic circuit mounted to be cut by the flux of said core and to have one position relatively to said core when said coil is deënergized and a different relative position when the coil is energized, and a part connected with said closed circuit and adapted to be moved upon a movement of said closed circuit.

3. An electro-magnetic device for railway appliances comprising a core, an energizing coil therefor designed to be traversed by an alternating current, a closed conductor pivotally mounted with respect to said core and adapted to have induced in it an alternating current by the alternating flux produced in the core by the coil, and a stem connected with said closed conductor.

868,231. SIGNALING SYSTEM FOR ELECTRIC RAILWAYS. LOUIS H. THULLEN, Edgewood Park, Pa., assignor to The Union Switch & Signal Company, Swissvale, Pa., a Corporation of Pennsylvania. Filed Apr. 30, 1907. Serial No. 371,161.



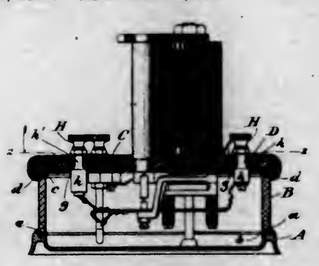
1. The combination with two parallel tracks of an electric railway the rails of each trackway being divided to form block sections and are used to conduct car propulsion current to the generator thereof, of reactance bonds placed across the rails of each trackway, a conductor connecting adjacent bonds in the same trackway, cross bonds between such conductors, a block signaling system for each track way employing an alternating signaling current in the track circuits of the signaling system, means adjacent the said conductors in which a current is induced by a stray alternating signaling current flowing over such conductor, and means affected by said induced current for opening a signal circuit.

2. The combination with two parallel tracks of an electric railway the rails of each trackway being divided to form block sections and are used to conduct car propulsion current to the generator thereof, of reactance bonds placed across the rails of each trackway, a conductor connecting adjacent bonds in the same trackway, cross bonds between such conductors, a block signaling system for each track way employing an alternating signaling current in the track circuits of the signaling system, means adjacent the said conductors in which a current is induced by a stray alternating signaling current flowing over such conductor,

and a relay affected by said induced current for opening a signal circuit.

3. The combination with two parallel tracks of an electric railway the rails of each trackway being divided to form block sections and are used to conduct car propulsion current to the generator thereof, of reactance bonds placed across the rails of each trackway, a conductor connecting adjacent bonds in the same trackway, cross bonds between such conductors, a block signaling system for each track way employing an alternating signaling current in the track circuits of the signaling system, a transformer adjacent the said conductors in which a current is induced by a stray alternating signaling current flowing over such conductor, and a relay affected by said induced current for opening a signal circuit.

868,232. RELAY. LOUIS H. THULLEN, Edgewood Park, Pa., assignor to The Union Switch & Signal Company, Swissvale, Pa., a Corporation of Pennsylvania. Filed Apr. 30, 1907. Serial No. 371,162.

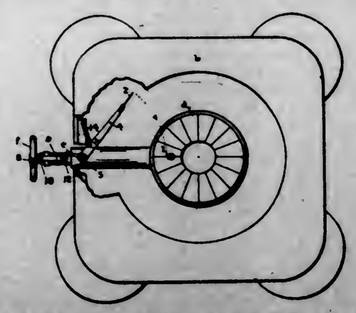


1. An insulating top for relays consisting of a metal plate having openings therein, and insulating material entirely inclosing said plate and filling said openings, and said insulating material having recesses formed in one surface opposite said openings.

2. An insulating top for relays consisting of a metal plate having angular openings therein, and insulating material entirely inclosing said plate and filling said openings, and said insulating material having recesses formed in one surface opposite said openings, said recesses being similar in outline to said openings but of smaller dimensions.

3. An insulating top for relays consisting of a metal plate having openings therein, and insulating material entirely inclosing the metal plate and filling said openings, and said top having a peripheral flange also of insulating material.

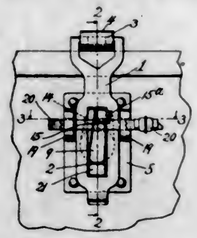
868,233. ELECTRIC IGNITER FOR GAS-STOVES. ALFRED M. TURKINGTON, Berkeley, Cal. Filed Sept. 25, 1906. Serial No. 336,195.



1. In an electric igniter for a gas stove, the combination with the burner and inlet valve, of a stationary electrode, a movable electrode, an arm fixed to said inlet valve and movable therewith and a pivoted arm carried by the said fixed arm, arranged to engage with and operate the movable electrode when the inlet valve is turned in one direction, but to swing on its pivot when moved in the opposite direction, and means for holding the pivoted arm in normal position relative to the fixed arm, substantially as set forth.

2. In an electric igniter for a gas burner, the combination with a burner and an inlet valve, of a stationary electrode, a movable electrode, an arm movable with the inlet valve, an arm pivoted to the movable arm, a stop to limit the movement of the pivoted arm in one direction only, whereby it will engage with and operate the movable electrode when the inlet valve is turned in one direction, but will swing on its pivot when moved in the opposite direction, and a spring for holding the pivoted arm in normal position, substantially as set forth.

868,234. HASP-LATCH. EMIL TYDEN, Hastings, Mich. Filed Nov. 1, 1905. Serial No. 285,389.



1. The combination with a hasp, of a latch therefor comprising a latch plate, an oscillatory keeper for the hasp having a spindle journaled in said plate, a keeper-throwing spring encircling said spindle, a casing on said plate in which the spindle and spring are received; a projection on said spindle and a retainer plate fixed in said casing with which said projection engages for retaining the spindle against longitudinal withdrawal.

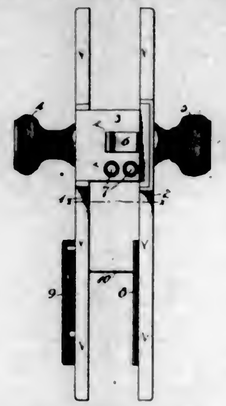
2. The combination with a hasp, of a latch therefor comprising a latch plate, an oscillatory keeper for the hasp having a spindle journaled in said plate, a keeper-throwing spring encircling said spindle, a casing on said plate in which the spindle and spring are received, a retainer on said spindle, and a retainer plate in said casing with which said retainer engages, said plate having the spring connected therewith and being adapted to be adjusted for imparting the requisite tension to the spring.

3. In a hasp latch, in combination with the hasp, a spring-actuated keeper having a catch lip for engaging the hasp and movable to carry said lip laterally for such engagement, a guard between which and the keeper a portion of the hasp is received and toward which the keeper swings for engaging the hasp by its catch lip, said guard being projected to the full extent of the catch lip to guard the latter from disengaging blows.

868,235. LOCK. HENRY G. VOIGHT, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed July 16, 1907. Serial No. 384,032.

1. In a lock of the character described, an escutcheon plate having a passage therethrough, a latch-bolt, a latch-operating means, a protecting flap for said passage through the escutcheon plate, a dogging mechanism between said flap and said latch-operating mechanism, and means for operating said dogging mechanism to dead-lock the latch mechanism when said flap is opened.

2. In a lock, an escutcheon plate having a passage therethrough, a protecting flap therefor, a latch-bolt, a latch-operating mechanism, and means for preventing the operation of the latch-bolt when said protecting flap is opened.



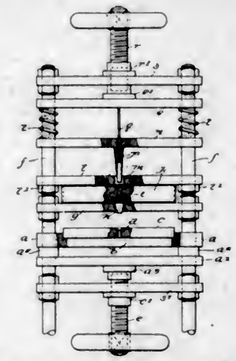
868,236. COMBINED BLIND HINGE AND FASTENER. JOHN N. WATROUS, Thomaston, Conn. Filed July 7, 1906. Serial No. 325,105.



In a hinge of the character described, the combination of a pintle member formed with an outstanding segmental plate provided with notches in the periphery thereof, a hinge plate formed with an opening to receive the pintle and also at the lower edge thereof with a guide loop, a plate extending transversely across the hinge plate and spaced therefrom, the ends of the plate being extended inwardly into engagement with the hinge plate and fastened to the swinging member, and a catch pivoted at an intermediate point between the hinge plate and the second mentioned plate, one end of the catch being formed with a nose which is guided in its movement by the before mentioned guide loop and engages the notches in the segmental plate to lock the swinging member in a predetermined position, the said nose having a cam formation preventing looseness in the members, the opposite end of the catch constituting a finger piece.

868,237. APPARATUS FOR MANUFACTURING BRUSHES. HANS WEIHERMÜLLER, Nuremberg, Germany. Filed Jan. 10, 1907. Serial No. 351,721.

1. An apparatus of the class described comprising in combination, a fixed bristle support provided with a tapering bristle guide projecting downwardly therefrom, means for holding said bristles endwise on said support, a stock support maintaining an apertured stock in a position to aline its aperture with said guide tube, means for adjusting said stock support toward and from said bristle support, a cover for said bristles provided with a selector aperture alining with said guide and stock aperture, a bristle selector tube adapted to be projected into said apertures, a movably mounted support for said selector tube, a projector rod operating in said selector tube, a movably mounted support for said projector rod, springs interposed between said selector and projector supports, and means associated with the latter for selecting and projecting the bristles from said bristle holding means into said stock.



2. An apparatus of the class described comprising in combination, a fixed bristle support provided with a tapering bristle guide projecting downwardly therefrom, means for holding said bristles endwise on said support, a stock support maintaining an apertured stock in a position to aline its aperture with said guide, means for adjusting said stock toward and from said bristle support, a bristle selector tube alining with said guide and aperture, a movably mounted support for said selector tube, a projector rod operating in said tube, a movably mounted support for said projector rod, springs interposed between said selector and projector supports, and means associated with the latter for progressively operating said selector and projector to effect insertion of the bristles into said stock.

3. An apparatus of the class described comprising in combination, a bristle support provided with a bristle guide, means for holding the bristles endwise on said support, a stock support, adapted to receive a brush stock provided with an aperture, means for adjusting said support, a bristle selector, a movably mounted support therefor, a bristle projector, a movably mounted support therefor, springs interposed between said selector and projector supports, and means associated with the latter for progressively operating said selector and projector to effect insertion of the bristles into said stock.

4. An apparatus of the class described comprising in combination, a bristle support provided with a bristle guide, means for holding the bristles endwise on said support, a stock support adapted to receive a brush stock provided with an aperture, means for adjusting said support, a bristle selector, a movably mounted support therefor, a bristle projector, a movably mounted support therefor, yieldingly acting means interposed between said selector and projector supports, and means for operating said supports to progressively operate said selector and projector to effect insertion of said bristles into said stock.

5. An apparatus of the class described comprising in combination, a bristle support provided with a bristle guide, means for holding said bristles endwise on said support, a bristle selector, a movably mounted support therefor, a bristle projector, a movably mounted support therefor, and means for progressively operating said selector

and projector supports and the parts thereof to effect insertion of the bristles into a brush stock.

6. An apparatus of the class described comprising in combination, a bristle support provided with a bristle guide, means for holding said bristles endwise on said support, a bristle selector, a bristle projector, and means for progressively operating said selector and projector to effect insertion of the bristles into a brush stock.

7. An apparatus of the class described comprising in combination, a bristle support provided with a bristle guide, means for holding said bristles endwise on said support, a bristle selector, a bristle projector, and means for operating said selector and projector to effect insertion of the bristles into a brush stock.

8. An apparatus of the class described comprising in combination, a bristle support, a bristle selector, a bristle projector, and means for progressively operating said selector and projector to engage the bristles in said support and effect insertion thereof into a brush stock.

9. An apparatus of the class described comprising in combination, a bristle support, a bristle selector, a bristle projector, and means for operating said selector and projector to engage the bristles in said support and effect insertion thereof into a brush stock.

10. An apparatus of the class described comprising in combination, a bristle support, coöperating selecting and projecting devices, and means for progressively operating said devices to engage the bristles in said support and effect insertion thereof into a brush stock.

868,238. TAMPING-BAR. ERNEST W. WHEELER, Bay City, Mich. Filed Dec. 6, 1906. Serial No. 346,630.



1. A reversible tamping bar comprising a pair of members movable relative to each other, a foot carried by one of the members and a tamping head carried by the remaining member.

2. A tamper comprising a hollow member, a foot secured to one end thereof, a rod member received within the hollow member, the rod member adapted to project out of the hollow member, a tamping head on the projecting end of the rod member, the tamper being reversible to permit either member to reciprocate relative to the remaining member.

3. A tamping bar comprising a hollow member closed at one end, a rod receivable within the member and a tamping head carried by the rod.

4. A tamping bar comprising a hollow member closed at one end, a rod loosely received in the opposite end of the hollow member and a tamping head carried by the rod.

5. A tamping bar comprising a hollow member closed at one end, a rod, one end of which is loosely receivable in the opposite end of the hollow member, a tamping head carried by the outer end of the rod, and a cushioning device located between the closed end of the hollow member and the inner end of the rod.

6. A tamping bar comprising a hollow member, a foot having a socket formed therein, one end of the hollow member received in the socket so that the socket communicates with the bore of the hollow member, a cushioning element supported on the foot and in alinement with the bore of the hollow member, and a rod received in the hollow member, the other end of the rod adapted to impinge against the cushioning member.

7. A reversible tamping bar comprising a hollow member, a rod receivable therein, the member and rod being movable relative to each other, a tamping foot on the member, a tamping head on the rod and means for preventing the accidental disengagement of the rod and member.

8. A tamping bar comprising a hollow member, a telescopic member receivable in the hollow member, one member adapted to reciprocate relative to the remaining member, a headed end on the telescopic member reciprocating within the hollow member, and a perforated cap carried by the hollow member and engaged by the headed end to prevent the accidental disengagement of the members relative to each other.

9. A tamping bar comprising a hollow member, a telescopic member receivable in one end of the hollow member, one of the members movable relative to the other member, a compacting element carried by the stationary member, and means for releasably locking the two members together at any point in their adjustment.

10. A tamping bar comprising a hollow member, a telescopic member receivable in one end of the hollow member, one of the members movable relative to the other member, a compacting element carried by the stationary member, a locking sleeve seated in one end of the hollow member, and a cap adjustable on the hollow member and adapted to engage the locking sleeve to releasably lock the members together at any point in their adjustment.

11. A tamping bar comprising a hollow member closed at one end, a telescopic member receivable in the opposite end of the hollow member, a compacting element carried by one of the members, a head on the inner end of the telescopic member, a locking sleeve seated in the open end of the hollow member, and a perforated cap receivable on the open end of the hollow member, the cap adapted to retain the members in engagement with each other and to coöperate with the sleeve to lock the members together.

12. A tamper comprising a hollow member, a tamping foot located at one end thereof, a perforated cap located at the opposite end thereof, and having its perforation of less diameter than the bore of the hollow member so as to overhang the bore, a rod passing through the perforation and received within the hollow member, and an enlargement on the inner end of the rod of greater size than the diameter of the perforation in the cap.

13. A tamper comprising a member, a tamping foot carried thereby, a rod adjustable relative to the member, and means for releasably securing the rod and member together at any point in their adjustment.

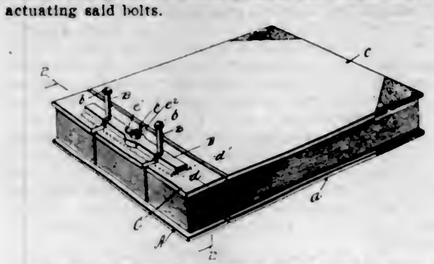
14. A reversible tamper comprising a member, a tamping foot carried thereby, a rod adjustable relative to the member, a tamping head carried by the rod, and means for releasably securing the rod and member together at any point in their adjustment.

868,239. LOOSE-LEAF-BINDER. RALPH B. WILSON, Chicago, Ill. Filed Apr. 4, 1907. Serial No. 366,449.

1. In a loose leaf ledger a binding plate, impaling posts engaged thereto, a clamping plate and resilient bolts carried thereon to engage said posts said resilient bolts having the outer ends directed upwardly to engage the posts.

2. In a device of the class described the combination with a binding and clamping plate, of impaling posts carried by one plate and resilient bolts carried on the other plate to lock said plates in operative relation and comprising a bar provided with a plurality of vertical folds intermediate its ends.

3. In a device of the class the combination with a binding plate and a clamping plate, of impaling posts, a resilient bolt engaged to the clamping plate and adapted to impinge upwardly against the impaling post to lock the same and adapted to yield upwardly permitting adjustment of the plates in locked position and toggle arms for actuating said bolts.



4. A lock for loose leaf ledgers comprising a casing, oppositely movable resilient bolts therein, toggle arms adapted to actuate said bolts having mutually interfitting faces to automatically lock against longitudinal pressure.

5. A lock for loose leaf ledgers comprising a clamping plate resilient bolts thereon, having slotted extremities to receive impaling posts, and means having cam faces adapted to abut one against the other and to positively actuate the bolts and to lock said clamping plate and impaling posts from relative movement in one direction.

6. In a device of the class described the combination with an elongated casing of oppositely movable bolts therein, each provided with vertical folds affording resiliency and having the outer ends directed upwardly to engage the posts, an arm pivoted to each, a link pivotally connecting the inner ends of said arms, a shaft extending upwardly from said link through the casing and means for actuating said shaft.

7. A lock comprising resilient locking bars having a plurality of vertical folds adapted to permit adjustment in one direction when in locking position and positively preventing movement in the opposite direction and oscillating means for extending and retracting said bars.

8. The combination with a binding plate of impaling posts secured thereto, a clamping plate, a casing or housing secured thereto, said clamping plate and casing slotted to receive the impaling posts, oppositely movable bolts in said casing having the ends directed to contact the posts at an angle to the horizontal, means actuating the bolts adapted to positively extend and retract the same and to prevent movement of the bolts when longitudinal pressure is exerted at the ends thereof.

9. A lock of the class described comprising simultaneously and oppositely movable resilient bolts adapted to contact and engage impaling posts at an angle with the horizontal and means actuating said bolts.

10. The combination with a binding and a clamping plate of impaling posts engaged to one of said plates, oppositely movable resilient bolts, adapted to yield horizontally and to yield vertically in one direction when in locking position, toggle arms for actuating said bolts and means pivotally engaged to the toggle arms for manual actuation.

11. A locking device comprising a housing, resilient locking bolts therein each adapted to contact an impaling post at an angle to the horizontal, toggle levers, one pivoted to each bolt having cam faces adapted to lock the same when extended against longitudinal pressure on the bolts and means for actuating the toggle levers to extend and retract the bolts.

12. A locking device for binders comprising a casing having slots extending from approximately centrally thereof to the margins adapted to receive impaling posts therein, locking bolts in the housing, levers pivoted at one end of the same, a link having pivotal connection with the locking bolts, an integral threaded shaft extending upwardly therefrom through the top of the casing, a wing nut threaded thereon for manual actuation and a pin extending through said nut and shaft rigidly but removably securing the same in position.

13. A lock for the purposes specified comprising locking bolts having an attaching end and a notched end for engaging impaling posts, said bolts having folds directed at an angle with the horizontal intermediate the ends affording resiliency and means for extending the bolts to contact the posts and to retract the same.

14. A lock for the purpose specified comprising a casing slotted from approximately its center to one margin to receive the impaling posts, locking bolts therein adapted to lock against impaling posts, each having folds therein directed at an angle with the horizontal a link in the casing, a shaft secured thereto and extending upwardly therefrom through an aperture in said casing, means connecting the locking bolts and the link provided with interfitting locking-faces and removable means rigidly secured on the shaft outside the casing for actuating the locking bolts.

15. A locking device for the purpose specified embracing locking bars having folds or bends therein directed at an angle with the horizontal, toggle arms engaged to the bolts and means secured to said arms for actuating the same.

868,240. SIGHT FOR FIREARMS. JAMES WINDRIDGE, Middlefield, Conn., assignor to The Lyman Gun Sight Corporation, Middlefield, Conn., a Corporation of Connecticut. Filed July 3, 1907. Serial No. 382,008.



1. In arbor locking mechanism the combination of an arbor, a locking detent carried by the arbor, an arbor supporting base or frame provided with detent arresting means, a movable locking key mounted on the arbor for locking the detent in engagement with the detent arresting mechanism, and an elastic toothed locking plate carried on the arbor and adapted to engage and lock the key in place.

2. In arbor locking mechanism the combination of an arbor, a locking detent carried by the arbor, an arbor supporting base or frame provided with a detent notch, a rotary locking key mounted on the arbor for locking the detent in engagement with the detent notch and an elastic toothed locking plate carried on the arbor and adapted to engage and lock the locking key in place.

3. In arbor locking mechanism the combination of an arbor, a radially movable locking detent carried upon the arbor, a toothed spring plate carried upon and movable with the arbor, an arbor supporting base or frame provided with a detent engaging notch, and a locking key movably mounted on the arbor provided with an eccentric abutment for locking the detent in engagement with the detent engaging notch, and toothed to engage the spring plate in the detent locking position.

4. In arbor locking mechanism the combination of a base and an arbor respectively provided with coacting locking devices one of which is movable with relation to and engageable with the other, a locking key movable with relation to the movable locking device, and yieldingly engageable coacting toothed devices respectively carried by the locking key and the part whereon the movable locking device is mounted, to secure the key in position.

5. In folding sights for firearms the combination of a base and a sight carrying pivotal member respectively provided with coacting locking devices one of which is movable with relation to and engageable with the other, a locking key movable with relation to the movable locking device, and yieldingly engageable coacting toothed devices respectively carried by the locking key and the part whereon the movable locking device is mounted, by engagement of which the locking key may be secured in position.

6. In folding sights for firearms the combination of a base and a sight carrying pivotal member respectively provided with coacting locking devices one of which is

movable with relation to and engageable with the other, a locking key movable with relation to the movable locking device and provided with locking teeth, and a toothed locking device carried by the part whereon the movable locking device is mounted, yieldingly engageable with the locking teeth of the locking key to lock the key in position.

7. In folding sights for firearms, the combination of a base, a sight carrying pivotal member mounted on the base, a locking detent carried on said pivotal member, locking shoulders provided on the base adapted to be engaged by the detent, a movable abutment mounted on the pivotal member in engageable relation with the detent and provided with locking teeth, and an elastic locking plate carried on the pivotal member and provided with locking teeth for yieldingly engaging those of the abutment to lock the same in position.

8. In folding sights for firearms the combination of a base provided with a journal bearing or ear having a detent notch, a sight member having a head or trunnion journaled in the bearing, and provided with a smaller hub or journal overhanging the base, a detent guided in the head or trunnion engageable with the notch of the base, and provided with a step or shoulder overhanging the base in the plane of the hub, a rotary key mounted on the hub and provided with an abutment engageable with the overhanging step of the detent to lock the detent in the notch, and a spring plate mounted upon the hub and step to swing with the sight member, in juxtaposition to the key, said plate and the key being provided with interengaging teeth and notches to yieldingly lock the parts together by the tension of the plate.

9. In folding sights for firearms the combination of a base provided with a pair of journal bearings or ears, in one of which a detent notch or step shoulder is formed, a sight carrying part provided with a hinge bolt journaled in said bearings, and having a hub or journal projection axially overhanging the base, a spring pressed detent seated and radially guided in the hinge bolt and adapted to engage the notch of the base, and provided with a step or shoulder projecting longitudinally from the bolt in the plane of the hub, a lever hinged upon said hub or journal having an abutment adapted in the throw of the lever to engage and press upon the detent step to lock the detent in the detent notch, a spring arm mounted upon the hub and engaged with and carried by the detent step in the folding movement of the sight carrying part, said lever and spring arm being provided with coacting engaging points for locking the parts together subject to disengagement through the yielding action of the spring plate, and means for securing the lever and spring upon the hinge bolt, substantially as and for the purpose specified.

10. The combination of a pivoted sight carrying member, a locking means for locking said member consisting of a detent and a notch, a locking key movable into and out of locking engagement with said detent, and a locking device for said key.

11. The combination of a pivoted sight-carrying member, a means for locking said member consisting of a detent and a notch, a locking key movable to lock and release said detent, and means for locking said key.

12. The combination of a pivoted sight-carrying member, a means for locking said member consisting of a detent and a notch, a rotatable locking key movable to lock and release said detent, and means for locking said key.

13. The combination of a pivoted sight-carrying member, a means for locking said member consisting of a detent and a notch, a locking key movable to lock and release said detent, and means for locking said key in each of several positions.

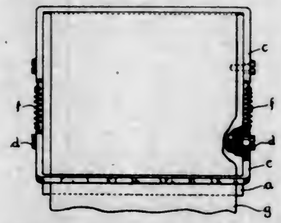
14. The combination of a pivoted, sight-carrying member, movable to and fro to place it in positions for and out of use, a locking means for said member, consisting of a detent and a notch, a locking key movable to and fro to move it into and out of locking engagement with the detent, and a locking device for said key.

15. The combination of a pivoted sight-carrying member, movable to and fro to place it in positions for and out of use, a locking means for said member, consisting of a detent and a notch, a locking key movable to and fro to move it into and out of locking engagement with the detent, and a locking device for said key connected to and moving with the sight-carrying member.

16. The combination of a base having a detent-engaging notch, a sight-carrying member pivoted thereto, a detent, connected to and moving with the member, a locking key movable to lock and release said detent, and a locking device for said key connected to and movable with said sight-carrying member.

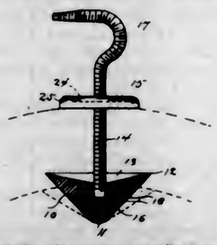
17. The combination of a base having a detent-engaging notch, a sight-carrying member pivoted thereto, a detent for said member connected to and moving with the same, a pivoted key to lock and release said detent, and means for locking said key consisting of a plate having a slot that engages said detent to connect the plate to the sight-carrying member.

868,241. TYMPAN-BALE. JOHN C. A. ANDERSON, Chicago, Ill. Filed Jan. 14, 1907. Serial No. 352,321.



In a printing press a platen consisting of a table for supporting cushioning paper, a rotatable band automatically adjustable longitudinally of said table for holding various thicknesses of said paper, slots provided in said band to permit of said adjustment, and a spring for causing the automatic adjustment of said band.

868,242. PUNCTURE-CLOSER. DAVID APSTEIN, Bridgeport, Conn. Filed Feb. 11, 1907. Serial No. 356,704.



1. A device of the character described comprising a flexible closer, a threaded shank to which the closer is secured and a nut on the shank whose operative face and edge are molded into a block of rubber.

2. A device of the character described comprising a cone-shaped flexible closer, a threaded shank having a head, textile patches on opposite sides of the head, said head and said patches being molded into the closer, and a nut on the shank to engage the outer face of a tire.

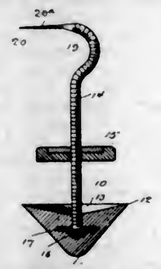
3. A device of the character described comprising a threaded shank having a head, textile patches on opposite sides of the head, a cone-shaped flexible closer at whose apex the head and patches are molded, and a textile cover 19 on the outer face of the plug.

4. A device of the character described comprising a threaded shank having a head, textile patches on opposite sides of the head, a cone-shaped flexible closer at whose apex the head and patches are molded, a textile cover 19 on the outer face of the closer and a textile covering 20 on the base of the closer.

5. The combination with a flexible closer and a threaded shank to which the closer is secured, of a nut comprising a metal plate engaging the shank and a block of rubber into which the operative face and edge of the plate are molded, so that in use the walls of a tire are gripped between flexible surfaces.

6. The combination with a cone-shaped flexible closer, a threaded shank having a head and textile patches on opposite sides of the head, said head and patches being molded into the closer, of a padded nut comprising a metal plate engaging the shank and a block of rubber into which the operative face and the edge of the plate are molded.

868,243. PUNCTURE-CLOSER. DAVID APSTEIN, Bridgeport, Conn. Filed Mar. 11, 1907. Serial No. 361,844.

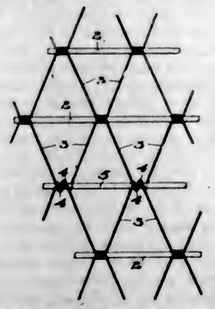


1. A combined puncture closer and operating tool comprising a threaded shank, a flexible closer carried thereby, a nut for retaining the closer in place, a hand piece on the shank for rotating the shank in setting the closer to place and a cutter on the end of the shank formed by flattening the end of the hand piece horizontally and forming thereon a horizontal spear point, substantially as described, for the purpose specified.

2. A combined puncture closer and operating tool comprising a threaded shank having a head formed thereon, a metal cap loosely engaging the head, textile patches on opposite sides of the cap, a flexible closer molded about said cap and patches, a nut for retaining the closer in place, a hand piece on the shank for rotating the shank in setting the closer to place and a cutter on the end of the shank for enlarging a puncture in a tire to permit the insertion of the closer.

3. A combined puncture closer and operating tool comprising a threaded shank, a flexible closer carried thereby, a nut for retaining the closer in place, a hand piece formed laterally and re-curved upward and over past the line of the shank, for the purpose set forth, and a cutter on the end of the shank for enlarging a puncture.

868,244. WIRE FABRIC. AXEL F. BACKLIN, Worcester, Mass., assignor to American Steel & Wire Company, Worcester, Mass., a Corporation of New Jersey. Filed Oct. 11, 1906. Serial No. 338,342.

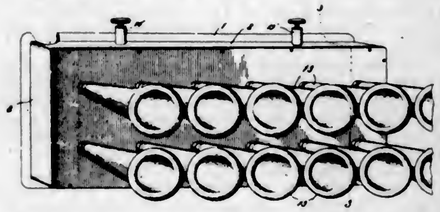


1. As a new article of manufacture, a strip of woven wire fabric made in continuous length and adapted to be cut into appropriate sizes having strand wires and web or mesh wires connecting the strand wires, the web or mesh wires at at least one edge of the strip being extended beyond the last strand wire at that edge in the form of free loops; substantially as described.

2. As a new article of manufacture, a strip of woven wire fabric made in continuous length and adapted to be cut into appropriate sizes having strand wires and web or mesh wires coiled about and connecting the strand wires, the web or mesh wires at at least one edge of the strip being extended beyond the last strand wire in the form of V-shaped loops having bends or hooks at their apices; substantially as described.

3. As a new article of manufacture, a woven wire fabric, composed of a plurality of narrower sections of woven fabric placed edge to edge, each of said sections being cut from a continuous strip and having strand wires and mesh wires, the mesh wires at each meeting edge being extended beyond the last strand wire of that section in the form of loops whose ends are formed with integral coils or bends alined with but separable from the coils or bends of the adjacent section, and a coupling rod or wire passed through the alined eyes or coils and connecting the sections; substantially as described.

868,245. AUDIPHONE. JOHN A. BAKER, Seguin, Tex. Filed Aug. 1, 1904. Serial No. 219,045.



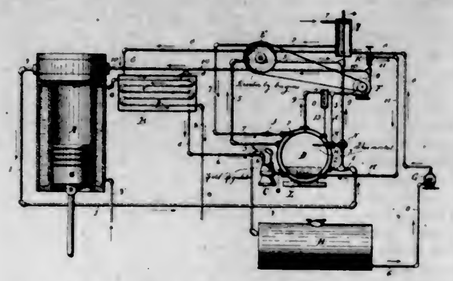
An audiphone comprising a case provided with a regular surface, a plurality of cup shaped permanent magnets fixed to said regular surface within said case, an equal number of rings threaded severally upon said magnets adjacent to the edge thereof, said rings having annular shoulders, an equal number of vibrating diaphragms interposed between the edges of said magnets and the annular shoulders of said rings, all of said diaphragms being parallel to said regular surface, an equal number of electro-magnets fixed severally within said permanent magnets axially thereof and perpendicular to and capable of exerting magnetic influence upon the respective diaphragms adjacent thereto, a single conductor electrically connecting all of said electro-magnets and capable of producing therein, by variations of potential, similar and simultaneous magnetic impulses, a covering member abutting the outer edges of said rings and spaced away thereby from said diaphragms, said covering member being provided with openings equal in number to and adapted to register concentrically with the center of the diaphragms, said openings being of reduced diameter, and an equal number of amplifying cones secured within said openings and extending outwardly from the covering member.

868,246. GENERATING OIL-GAS FOR EXPLOSIVE-ENGINES. FRANK H. BATES, Ross Station, Cal. Filed Nov. 5, 1904. Serial No. 231,507.

1. In an apparatus for generating oil gas for explosive engines, the combination of a gas generator and means for withdrawing the gas therefrom at a constant rate, comprising a blower driven at a fixed speed, regardless of the engine load.

2. In an apparatus for generating oil gas for explosive engines, the combination of a gas generator and means for delivering the gas therefrom to the engine at a constant pressure, comprising a pressure regulator and a

blower driven at a fixed speed, regardless of the engine load.



3. In an apparatus for generating oil gas for explosive engines, the combination of a gas generator, means for withdrawing the gas therefrom at a constant rate comprising a blower driven at a fixed speed regardless of the engine load, and means for delivering said gas to the engine at a constant pressure comprising a pressure regulator disposed between the blower and the engine.

4. In an apparatus for generating oil gas for explosive engines, the combination of a gas generator, means for withdrawing the gas therefrom at a constant rate comprising a blower driven at a fixed speed regardless of the engine load, and means for returning the excess of gas not used at the engine to the generator.

5. In an apparatus for generating oil gas for explosive engines, the combination of a gas generator, means for delivering the gas therefrom to the engine at a constant pressure comprising a pressure regulator and a blower driven at a fixed speed regardless of the engine load, and means for returning the excess of gas not used at the engine to the generator.

6. In an apparatus for generating oil gas for explosive engines, the combination of a gas generator, means for withdrawing the gas therefrom at a constant rate comprising a blower driven at a fixed speed regardless of the engine load, means for delivering said gas to the engine at a constant pressure comprising a pressure regulator disposed between the blower and the engine, and means for returning the excess of gas not used at the engine to the generator.

7. In an apparatus for generating oil gas for explosive engines, the combination of a gas generator adapted to contain a body of oil from which the gas is generated, means for withdrawing the gas from the generator at a constant rate, and means for returning the excess of gas not used at the engine into the body of oil with an agitating action to said oil.

8. In an apparatus for generating oil gas for explosive engines, the combination of a gas generator adapted to contain a body of oil from which the gas is generated, means for delivering said gas to the engine at a constant pressure, and means for returning the excess of gas not used at the engine into the body of oil with an agitating action to said oil.

9. In an apparatus for generating oil gas for explosive engines, the combination of a gas generator, means for withdrawing the gas therefrom at a constant rate comprising a blower driven at a fixed speed regardless of the engine load, means for delivering said gas to the engine at a constant pressure comprising a pressure regulator disposed between the blower and the engine, and means for returning the excess of gas not used at the engine into the body of oil with an agitating action to said oil.

10. In an apparatus for generating oil gas for explosive engines, the combination of a gas generator, means for withdrawing the gas therefrom at a constant rate comprising a blower driven at a fixed speed regardless of the engine load, and means for separating from said gas during its passage from the generator to the engine any entrained oil and condensed vapor.

11. In an apparatus for generating oil gas for explosive engines, the combination of a gas generator, means for delivering the gas to the engine at a constant pressure comprising a pressure regulator and a blower driven at a fixed speed regardless of the engine load, and means for separating from said gas during its passage from the generator to the engine any entrained oil and condensed vapor.

12. In an apparatus for generating oil gas for explosive engines, the combination of a gas generator, means for withdrawing the gas therefrom at a constant rate comprising a blower driven at a fixed speed regardless of the engine load, means for delivering said gas to the engine at a constant pressure comprising a pressure regulator disposed between the blower and the engine and means for separating from said gas during its passage from the generator to the engine any entrained oil and condensed vapor.

13. In an apparatus for generating oil gas for explosive engines, an explosive-engine-generator-system including a gas generator and a gas engine, in combination with means for preheating air by a heating medium expended from said system, means for mixing said pre-heated air with the oil gas in the generator, and means for withdrawing said mixture from the generator at a constant rate, comprising a blower driven at a fixed speed regardless of the engine load.

14. In an apparatus for generating oil gas for explosive engines, an explosive-engine-generator-system including a gas generator and a gas engine, in combination with means for preheating air by a heating medium expended from said system, means for mixing said pre-heated air with the oil gas in the generator, and means for delivering said mixture to the engine at a constant pressure, comprising a pressure regulator and a blower driven at a fixed speed regardless of the engine load.

15. In an apparatus for generating oil gas for explosive engines, an explosive-engine-generator-system including a gas generator and a gas engine, in combination with means for preheating air by a heating medium expended from said system, means for mixing said preheated air with the oil gas in the generator, means for withdrawing said mixture from the generator at a constant rate comprising a blower driven at a fixed speed regardless of the engine load, and means for delivering it to the engine at a constant pressure comprising a pressure regulator disposed between the blower and the engine.

16. In an apparatus for generating oil gas for explosive engines, an explosive-engine-generator-system including a gas generator and a gas engine, in combination with means for preheating the liquid hydrocarbon from which the gas is generated by a heating medium expended from said system, means for delivering said pre-heated liquid hydrocarbon to the generator wherein it is vaporized, and means for withdrawing said vapor from the generator at a constant rate, comprising a blower driven at a fixed speed regardless of the engine load.

17. In an apparatus for generating oil gas for explosive engines, an explosive-engine-generator-system including a gas generator and a gas engine, in combination with means for preheating the liquid hydrocarbon from which the gas is generated by a heating medium expended from said system, means for delivering said pre-heated liquid hydrocarbon to the generator wherein it is vaporized, and means for delivering said vapor to the engine at a constant pressure, comprising a pressure regulator and a blower driven at a fixed speed regardless of the engine load.

18. In an apparatus for generating oil gas for explosive engines, an explosive-engine-generator-system including a gas generator and a gas engine, in combination with means for preheating the liquid hydrocarbon from which the gas is generated, by a heating medium expended from said system, means for delivering said pre-heated liquid hydrocarbon to the generator wherein it is vaporized, means for withdrawing said vapor from the generator at a constant rate comprising a blower driven at a fixed speed regardless of the engine load, and means for delivering it to the engine at a constant pressure comprising a pressure regulator disposed between the blower and the engine.

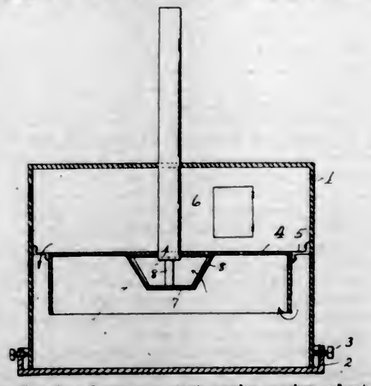
19. In an apparatus for generating oil gas for explosive engines, an explosive-engine-generator-system including a gas generator and a gas engine, in combination with means for preheating the liquid hydrocarbon delivered to the generator by a heating medium expended from said system, means for pre-heating the air by a heating medium expended from said system, means for delivering said pre-heated hydrocarbon and pre-heated air separately to the generator, and means for withdrawing the mixture of gas and air from the generator at a constant rate, comprising a blower driven at a fixed speed regardless of the engine load.

20. In an apparatus for generating oil gas for explosive engines, an explosive-engine-generator-system including a gas generator and a gas engine, in combination with means for preheating the liquid hydrocarbon delivered to the generator by a heating medium expended from said system, means for pre-heating the air by a heating medium expended from said system, means for delivering said pre-heated hydrocarbon and pre-heated air separately to the generator, and means for delivering the mixture of gas and air from the generator to the engine at a constant pressure, comprising a pressure regulator and a blower driven at a fixed speed regardless of the engine load.

21. In an apparatus for generating oil gas for explosive engines, an explosive-engine-generator-system including a gas generator and a gas engine, in combination with means for preheating the liquid hydrocarbon delivered to the generator, by a heating medium expended from said system, means for pre-heating the air, by a heating medium expended from said system, means for delivering said pre-heated hydrocarbon and pre-heated air separately to the generator, means for withdrawing the gas and air from the generator at a constant rate comprising a blower driven at a fixed speed regardless of the engine load, and means for delivering them to the engine at a constant pressure, comprising a pressure regulator disposed between the blower and the engine.

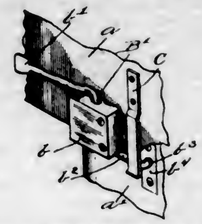
22. In an apparatus for generating oil gas for explosive engines, an explosive-engine-generator-system including a gas generator and a gas engine, in combination with means for passing the requisite quantity of exhaust gases from the engine to supply the heat for the generator, means for automatically by-passing any excess of said exhaust gases, not needed by the generator, a blower driven at a fixed speed regardless of the engine load, and a pressure regulator, whereby the gas is withdrawn from the generator at a constant rate, and delivered to the engine at a constant pressure.

868,247. THAWING-FURNACE. THOMAS D. BAUSHER, Reading, Pa. Filed July 25, 1907. Serial No. 385,469.



In a thawing furnace a rectangular casing adapted to rest on the ground, a closure adapted to be removably secured to the bottom thereof, a fuel support suspended inside said casing above the lower edge thereof, a stack passing through said casing and fuel support, a deflector plate suspended from said support below said stack and arms securing said plate to said support.

868,248. LOCK FOR PORTABLE ORGANS. PETER P. BILHORN, Chicago, Ill. Filed Feb. 19, 1906. Serial No. 301,807.



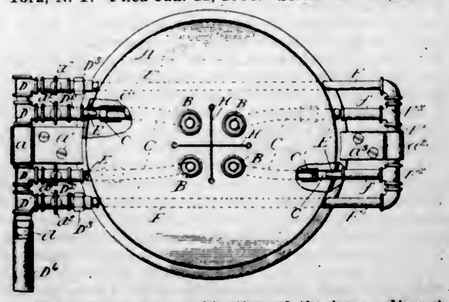
1. In a device of the class described the combination with an apertured block of a locking bolt rotatively engaged therein and having its ends bent oppositely from each other and at approximately right angles to the central portion of the bolt, an apertured plate adjacent said block and a spring acting normally to hold one end of said bolt engaged in the aperture of said plate.

2. In a device of the class described the combination with an apertured block of a locking bolt journaled therein and provided with a handle and a locking arm on opposite sides thereof, an apertured plate supported adjacent said block and adapted to receive said arm and resilient means adapted to hold said arm in locking position.

3. In a device of the class described the combination with a block of a locking bar comprising a rod flattened at one end to form a handle and turned at approximately a right angle intermediate its ends to engage said block and its opposite end directed substantially parallel with the handle having its extremity turned at an angle therewith to form a lock, an apertured locking plate adapted to engage said end of the bar and means bearing upon the locking end of the rod normally holding the end of said rod in position to engage said apertured plate.

4. In a device of the class described the combination with an apertured block of a locking bar comprising a rod shaped at one end to afford a handle, and turned at an angle to rotatably engage in said aperture, said bar having its end opposite the handle on a lower plane and its extremity directed outwardly at an angle therewith to afford a catch, an apertured plate adapted to receive said catch and a spring bearing against the locking end of the bar to normally hold the same to engage the locking plate.

868,249. GAS-BURNER. VIRGIL W. BLANCHARD, New York, N. Y. Filed Jan. 22, 1906. Serial No. 297,239.

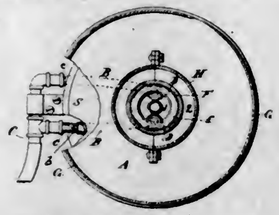


1. In a burner, the combination of the base, adjacent burner tubes thereon, oppositely extending primary mixing tubes respectively connected with the said burner-tubes, a pipe section attached to the base adjacent the end of one set of primary mixing tubes, jet-heads connected with said pipe and entering the adjacent mixing tubes, a second pipe section attached to the opposite side of the base and provided with jet-heads entering the primary mixing tubes at that side of the base, and pipes connecting said pipe sections.

2. In a burner, the combination of a base, primary mixing tubes attached thereto and thereunder, means for admitting gas to the outer ends of each of said tubes, and means for regulating the supply of air to said tubes, burner tubes above the base and connected to the inner end of the primary mixing tubes and having adjacent air inlet ports, and means for regulating the amount of air admitted to said burner tubes, and a baffle on the base interposed between the air inlet ports of the adjacent burner tubes.

3. In a burner, the combination of a base, longitudinally disposed mixing tubes attached thereunder, means for admitting gas to the outer ends of each of said tubes, and valves for regulating the supply of air to each tube, vertically disposed burners arranged on and above the base and connected to the inner ends of said tubes, each burner having an air inlet near its receiving end, a sleeve on each burner for regulating the amount of air admitted thereto, and a baffle exterior to the burners and interposed between the air inlets of each adjacent pair of burners to prevent cross firing at such points.

868,250. GAS-BURNING APPARATUS. VIRGIL W. BLANCHARD, New York, N. Y. Filed Jan. 22, 1906. Serial No. 297,243.



1. The combination of a tubular burner provided with a series of perforations in its walls for the admission of air, and with internal constrictions adapted to cause the alternate expansion and contraction of the current of burning gases; with an air duct or pipe disposed axially in the burner and provided with numerous perforations to admit air in jets into the surrounding current of gases.

2. In combination, a burner provided with a series of internal constrictions adapted to cause the alternate expansion and contraction of the current of burning gases; with an air heating and supply pipe arranged axially of the burner and provided with numerous perforations to admit air in jets to the center of the column of burning gases in the burner.

3. In combination, a burner provided with a series of internal constructions adapted to cause the alternate expansion and contraction of the current of gases therethrough and with perforations in its walls for admission of air into the combusting gases passing therethrough; with an air heating and supply pipe arranged axially of the burner and perforated to supply air in jets to the center of the burning current of gases.

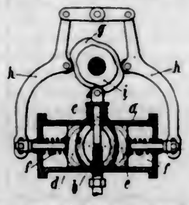
4. The combination of a tubular burner provided with perforations in its walls for the admission of air circumferentially around the current of burning gases and with internal projections to arrest the flow of gases and cause their alternate expansion and contraction in flowing therethrough; with an air heating chamber surrounding the burner to supply air to the perforations, and an air heating and supply pipe arranged axially of the burner and perforated to admit air into the surrounding gases, and means for supplying combustible mixtures of gas and air to the burner.

5. The combination of a tubular tapered burner provided with a series of internal constrictions adapted to cause the alternate expansion and contraction of the burning gases, and with numerous perforations in its walls intermediate the constrictions for the admission of air circumferentially around the current of burning gases, and an air heating chamber surrounding the burner to supply air to the perforations; with a perforated air heating and supplying pipe arranged axially of the burner, and means for supplying combustible mixtures of gas and air to the burner.

6. The combination of the casing, a tubular burner suspended therein having annular constrictions in its throat adapted to cause the alternate expansion and contraction of the burning gases passing therethrough and perforations in its walls to admit air thereto, a hood on the lower end of said burner, and a perforated air supply pipe arranged axially of said burner and hood.

7. The combination of a casing, a tubular burner therein having a series of annular constrictions in its throat adapted to cause the alternate expansion and contraction of the burning gases passing therethrough and also having air inlet perforations in its walls and gradually enlarging from bottom to top, a hood on the lower end of said burner, an air heating jacket surrounding said burner, secondary mixing tubes arranged to discharge into said hood, an air heating pipe extended axially into said burner and perforated for the escape of air thereinto, and means for supplying gas and air to said mixing tubes.

868,251. CARBURETER. LEON BOLLÉE, Le Mans, France. Filed Apr. 4, 1904. Serial No. 201,549.



1. A carbureter comprising a variable sized mixing chamber constituted by two movable walls therein, a fuel outlet pipe extending into said variable sized chamber, and means for simultaneously and proportionately regulating the size of the mixing chamber and the opening of the fuel outlet, substantially as set forth.

2. A carbureter comprising a variable sized mixing chamber constituted by two movable walls therein, springs acting on said walls, a fuel outlet pipe extending into said variable sized chamber, and means for simultaneously and proportionately regulating the size of the mixing chamber and the opening of the outlet, substantially as set forth.

3. A carbureter comprising a variable sized mixing chamber constituted by two movable walls therein, a fuel supply pipe extending into said variable sized chamber, a valve for regulating the fuel outlet, and means outside the chamber for simultaneously and proportionately regulating the size of the mixing chamber and the opening of the fuel outlet valve, substantially as set forth.

4. A carbureter comprising a variable sized mixing chamber constituted by oppositely arranged and recessed movable walls within said chamber, a fuel supply pipe extending into said chamber between the movable walls, a valve for regulating the fuel nozzle opening, and means outside the chamber for simultaneously operating the movable walls and valve substantially as set forth.

5. A carbureter comprising a casing, a fuel supply pipe therein, an adjustable valve therefor, rotary cylinders on either side of said pipe and valve, tapering circumferential grooves in said cylinders and means outside the casing for simultaneously adjusting the fuel supply valve and the cylinders, substantially as set forth.

6. A carbureter comprising an air supply conduit, a variable sized chamber in said conduit constituted by two spring-controlled movable walls therein, means for moving said walls from the outside and a fuel supply pipe extending into said variable sized chamber substantially as set forth.

7. A carbureter comprising an air supply conduit, a variable sized chamber in said conduit constituted by oppositely arranged and recessed movable walls within said chamber, a fuel supply pipe extending into said chamber between the movable walls, a valve therefor, and means outside the chamber for operating the movable walls and valve substantially as set forth.

868,252. ALCOHOL AND PROCESS OF OBTAINING THE SAME FROM CARBOXYLIC COMPOUNDS. LOUIS BOUVEAULT and GUSTAVE BLANC, Paris, France. Filed Jan. 23, 1904. Serial No. 190,347.

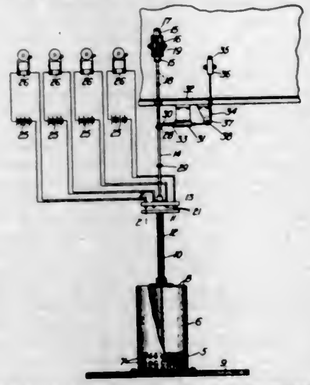
1. The process of transforming a carboxylic group into an alcoholic group, consisting in subjecting a herein described ether derivative of said carboxylic group to the simultaneous action of an alkali metal and absolute alcohol.

2. As an article of manufacture, the alcohol 3.7 dimethyl octanol, being a colorless liquid at ordinary temperatures, and having a boiling point of 115 to 120 degrees C. at 15 millimeters pressure, having a specific gravity of 0.852 at 18 degrees C., having a refraction index of 1.4401 for the D line, and forming a pyruvic ester boiling at 145 to 150 degrees C. at 15 to 16 millimeters pressure, and forming a semi-carbazone melting at 124 degrees C.

868,253. MANUFACTURE OF LITHOPONES BY ELECTROLYSIS. JEAN B. CANDAU and AUGUSTE CANDAU, Eaux-Bonnes, France. Filed Apr. 3, 1905. Serial No. 253,725.

The herein described process in the manufacture of lithopones which consists in producing a solution of sulfate of zinc and a solution of caustic soda electrolytically from sulfate of soda and metallic zinc and then precipitating the sulfate of zinc by sulfid of barium to produce the lithopone.

868,254. WATER-ALARM APPARATUS FOR VESSELS. FRANCIS DANIEL, West Somerville, Mass. Filed June 10, 1907. Serial No. 378,079.



1. In an apparatus of the character described, a vertically movable float, a casing surrounding said float, said casing provided with openings, a tube extending upwardly from said casing and fast thereto, a member having a vertical rod located in said tube and fast to said float, a source of electrical current, an electric alarm device in circuit with said source of current, a circuit closer constructed to close said circuit, said circuit closer being located above said member, and a second vertically movable member on which said circuit closer is supported.

2. In an apparatus of the character described, a vertically movable float, a casing surrounding said float, said casing provided with openings, a tube extending upwardly from said casing and fast thereto, a member having a vertical rod located in said tube and fast to said float, a source of electrical current, an electric alarm device in circuit with said source of current, a circuit closer constructed to close said circuit, said circuit closer being located above said member, a second vertically movable member on which said circuit closer is supported, means to normally engage and hold said second member against upward movement, and means to withdraw said first means from engagement with said second member.

3. In an apparatus of the character described, a vertically movable float, a casing surrounding said float, said casing provided with openings, a tube extending upwardly from said casing and fast thereto, a member having a vertical rod located in said tube and fast to said float, a source of electrical current, an electric alarm device in circuit with said source of current, a circuit closer constructed to close said circuit, said circuit closer being located above said member, a second vertically movable member on which said circuit closer is supported, means to normally engage and hold said second member against upward movement, and means to withdraw said first means from engagement with said second member.

4. In an appaartus of the character described, a vertically movable float, a member having a vertical rod fast to said float, a source of electrical current, an electric alarm device in circuit with said source of current, a circuit closer constructed to close said circuit, said circuit closer being located above said member, a second vertically movable member on which said circuit closer is supported, and means to normally hold said second member against upward movement.

5. In an apparatus of the character described, a vertically movable float, a member having a vertical rod fast to said float, a source of electrical current, an electric alarm device in circuit with said source of current, a circuit closer constructed to close said circuit, said circuit closer being located above said member, a second vertically movable member on which said circuit closer is supported, means to normally hold said second member against upward movement, and means to withdraw said first means from engagement with said second member.

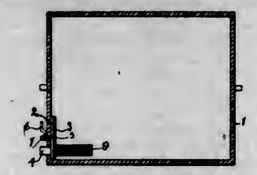
6. In an apparatus of the character described, a vertically movable float, a member having a vertical rod fast to said float, a source of electrical current, an electric alarm device in circuit with said source of current, a circuit closer constructed to close said circuit; said circuit closer being located above said member, a second vertically movable member on which said circuit closer is supported, said second member being provided with a scale thereon, and an indicator hand located adjacent to said scale.

7. In an apparatus of the character described, a vertically movable float, a member having a vertical rod fast to said float, a source of electrical current, an electric alarm device in circuit with said source of current, a circuit closer constructed to close said circuit, said circuit closer being located above said member, a second vertically movable member on which said circuit closer is supported, a collar on said second member, a locking slide normally located above said collar, and means to withdraw said slide out of the path of movement of said collar.

8. In an apparatus of the character described, a vertically movable float, a member having a vertical rod fast to said float, a source of electrical current, an electric alarm device in circuit with said source of current, a circuit closer constructed to close said circuit, said circuit closer being located above said member and normally separated therefrom by a space, a second vertically movable member on which said circuit closer is supported, means to normally support said second member and normally hold said device out of contact with said first member, and means to normally hold said second member against upward movement.

9. In an apparatus of the character described, a vertically movable float, a member having a vertical rod fast to said float, a source of electrical current, an electric alarm device in circuit with said source of current, a circuit closer constructed to close said circuit, said circuit closer being located above said member and normally separated therefrom by a space, a second vertically movable member on which said circuit closer is supported, a collar on said second member, a locking slide normally located above said collar, and means to move said slide out of the path of movement of said collar.

868,255. COMBINED FAUCET AND STRAINER. RUBEN B. DISBROW, Owatonna, Minn. Filed Mar. 29, 1907. Serial No. 365,228.



1. In a combination faucet and strainer, the combination with a non-rotary plate having a discharge passage, of a rotary plate having a strainer and an unobstructed passage arranged to be brought, at will, into registration with the discharge passage of said non-rotary plate, substantially as described.

2. In a combination faucet and strainer, the combination with a non-rotary plate having a projecting discharge tube, of a rotary plate having a lever-equipped trunnion projecting axially through the said non-rotary plate, and having an unobstructed discharge passage and a strainer located eccentric to said trunnion and movable, at will, into alinement with the discharge tube of said non-rotary plate, and which rotary plate is adapted to be set in an intermediate position to entirely close said discharge tube, substantially as described.

3. The combination with a receptacle, such as the drum of a combined churn and butter worker, of a combined faucet and strainer comprising a non-rotary plate applied to one head of said receptacle or drum, and provided with a discharge tube projecting through said head, a rotary plate having a trunnion projecting through said non-rotary plate, and drum head, and provided at its outer end with an operating lever, and which rotary plate is also provided with an unobstructed discharge opening and with a tubular strainer arranged to be brought into registration, at will, with said discharge tube, substantially as described.

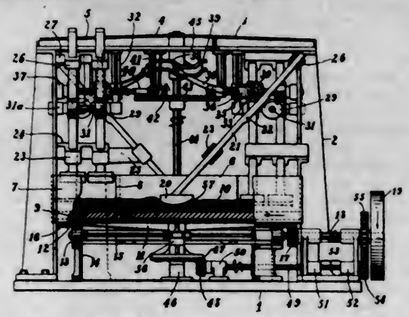
4. In a combined faucet and strainer, the combination with a non-rotary plate 2 having a projecting discharge tube 4, of a rotary plate 3 having an eccentric passage 8 and provided with a trunnion 5 projecting centrally through said plate 2, and provided at its outer end with an operating lever 6, a strainer supporting sleeve 9 eccentrically applied to said rotary plate 3 and provided with lateral end openings 10 and 11, and a perforated strainer cap 12 covering the openings of said sleeve 9, and which strainer 12 and passage 8 are adapted to be turned into registration with said discharge tube 4, at will, substantially as described.

868,256. MACHINE FOR REDUCING PEAT TURF INTO HALF-STUFF. CLIFFORD E. DUNN, New York, N. Y., assignor to Edward P. Metcalf, Providence, R. I., Adolph Loewenthal, New York, N. Y., and Clifford E. Dunn, Brooklyn, N. Y., trustees. Filed Mar. 28, 1907. Serial No. 365,139.

1. In a peat-turf stamping machine, a carrier, a reciprocating stamper arranged in operative relation thereto, and means for reciprocating said stamper in a plane inclined relative to the surface of the carrier, and means for causing the stamper to engage different portions of the surface of the peat turf, substantially as described.

2. In a peat turf stamping machine a traveling carrier, a reciprocating stamper, and means for reciprocating said stamper in a plane inclined relative to the horisontal plane of the carrier, means for moving the carrier, and means for reciprocating the stamper, substantially as described.

3. In a peat-turf stamping machine a carrier, a plurality of stampers and means for reciprocating said stampers in substantially parallel planes inclined relative to the plane of the peat-receiving surface of said carrier and means for causing the stampers to engage different portions of the surface of the peat turf, whereby the entire body of the peat turf will be subjected to the action of the stampers, substantially as described.



4. In a peat-turf stamping machine a traveling carrier, a plurality of reciprocating stampers and means for reciprocating said stampers in a plane inclined relative to the plane of the peat-receiving surface of said carrier, means for moving the carrier and means for reciprocating the stamper, whereby the entire surface of the peat turf will be subjected to the action of the stampers, substantially as described.

5. In a peat-turf stamping machine a carrier, a reciprocating stamper arranged in operative relation thereto, and means for reciprocating said stamper in a plane inclined relative to the plane of the peat receiving surface of the carrier, means for permitting the stamper to dwell upon the peat turf between reciprocations, whereby a rubbing or massaging effect is produced, and means for causing the stamper to engage different portions of the surface of the peat turf, substantially as described.

6. In a peat-turf stamping machine a traveling carrier, a plurality of reciprocating stampers and means for reciprocating said stampers in a plane inclined relative to the plane of the peat-receiving surface of said carrier, means for moving the carrier and means for reciprocating the stamper, whereby the entire surface of the peat turf will be subjected to the action of the stampers, means for permitting the stampers to dwell upon the peat turf between reciprocations, whereby a rubbing or massaging effect is produced, substantially as described.

7. In a peat-turf stamping machine, a revolving carrier, a series of stampers uniformly disposed in operative relation thereto, a shaft for each stamper inclined relative thereto, a plurality of bearings for each shaft situated in different vertical planes, and means for raising said shafts and suddenly releasing same, substantially as described.

8. In a peat-turf stamping machine, a revolving carrier, a series of stampers disposed in radial pairs, each pair covering substantially the entire width of the carrier, a shaft for each stamper inclined relative thereto, a plurality of bearings for each shaft situated in different vertical planes, and means for raising said shafts and suddenly releasing same, substantially as described.

9. In a peat-turf stamping machine a revolving carrier, a series of stampers uniformly disposed in operative relation thereto, a shaft for each stamper inclined relative thereto, a plurality of bearings for each shaft situated in different vertical planes, the said shaft and bearings rectangular in cross-section, and means for raising said shafts and suddenly releasing same, substantially as described.

10. In a peat-turf stamping machine, a revolving carrier, a series of stampers uniformly disposed in operative relation thereto, a shaft for each stamper, bearings for said shaft, rollers on each side of said shaft, means for revolving one of said rollers, and means for causing said roller to approach and recede from said shaft, whereby, as the roller engages said shaft, it will cause the stamper to be lifted, substantially as described.

11. In a peat turf stamping machine, a revolving carrier, a series of stampers uniformly disposed in operative relation thereto, a shaft for each stamper inclined relative thereto, a plurality of bearings for each shaft for each stamper, bearings for said shaft, rollers on each side of said shaft, means for revolving one of said rollers, and means for causing said roller to approach and recede from said shaft, whereby as the roller engages said shaft it will cause the stamper to be lifted, and means for permitting said stampers to dwell a substantial interval upon the surface of the peat turf, substantially as described.

12. In a peat-turf stamping machine a revolving carrier, a series of stampers uniformly disposed in operative relation thereto, a shaft for each stamper, bearings for said shaft, rollers on each side of said shaft, means for revolving one of said rollers, and means for causing said roller to approach and recede from said shaft, whereby as the roller engages said shaft it will cause the stamper to be lifted, and means for permitting said stampers to dwell a substantial interval upon the surface of the peat turf, substantially as described.

13. In a peat-turf stamping machine a revolving carrier, a series of stampers uniformly disposed in operative relation thereto, a shaft for each stamper, bearings for said shaft, a thickened part of said shaft, rollers on each side of said shaft adjacent to said thickened part, means for revolving one of said rollers, and means for causing said roller to approach and recede from said shaft, whereby, as the roller engages said shaft, it will cause the stamper to be lifted, substantially as described.

14. In a peat-turf stamping machine, a carrier, a stamper disposed in operative relation thereto, a stamper shaft, bearings therefor, a pair of rollers disposed on opposite sides thereof, a fixed shaft for one of said rollers, a rocking shaft for the other roller, a cam-actuated lever for rocking said shaft, a main shaft, a cam thereon, a flexible shaft attached to said rocking shaft, a pinion thereon, and a gear on the main shaft meshing therewith, substantially as described.

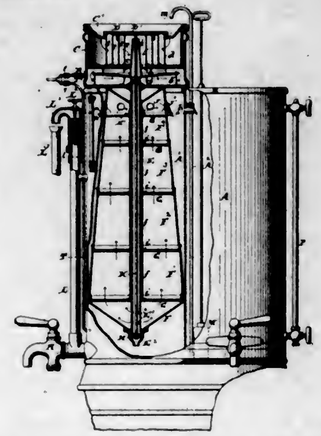
15. In a peat-turf stamping machine, a carrier, a stamper disposed in operative relation thereto, a stamper shaft, bearings therefor, a pair of rollers disposed on opposite sides thereof, a fixed shaft for one of said rollers, a rocking shaft for the other roller, a cam-actuated lever for rocking said shaft, a main shaft, a cam thereon so constructed as to permit said stamper to remain a substantial time in contact with said peat turf, a flexible shaft attached to said rocking shaft, a pinion thereon, a gear on the main shaft meshing therewith, and a gear and pinion for revolving said carrier, substantially as described.

16. In a peat-turf stamping machine a revolving carrier, a bed-plate therein, a track therefor, a gear and pinion for revolving same, a plurality of reciprocating stampers, shafts therefor, disposed at such an angle that the stampers are dropped in the direction of movement of the carrier, bearings for said shafts, rollers for said reciprocating shafts, a fixed shaft for one of said rollers, a rocking shaft for the other, a cam-actuated lever for rocking said shaft, a main shaft, a cam wheel thereon for actuating said lever, a flexible shaft for driving said rocking shaft, a driving pinion on said flexible shaft, a gear on the main shaft for driving same, substantially as described.

17. In a peat-turf stamping machine, a revolving carrier, a bed-plate therein, a plurality of reciprocating stampers disposed in radial pairs over said carrier, shafts therefor, disposed at an angle whereby the stampers are dropped toward the direction of movement of the carrier, bearings for said shafts, said shafts and bearings rectangular in cross-section, rollers for reciprocating said shafts, a fixed bearing for one of said rollers, a rocking shaft for the other, a rocking lever for rocking said shaft, a vertical main shaft, a wheel thereon having a peripheral cam groove for operating said rocking cam, adapted to permit a dwell of said stamper on the peat turf, a flexible shaft for driving said rocking shaft, a gear and pinion for driving said flexible shaft from the main shaft, substantially as described.

868,257. OIL-FILTER. WILLIAM C. FAHY, Philadelphia, Pa. Filed May 15, 1906. Serial No. 316,973.

1. An oil filter having a filtering chamber to contain water through which the oil is required to rise, combined with a steam pipe for treating the impure oil with live steam before it reaches the filtering chamber to thin the oil and separate its grosser impurities, and continuously acting means for admitting into the body of water within the tank a continually flowing minute jet of steam during the purifying of the oil and to keep the oil at a low gravity during filtration.



2. An oil filter having a receiver for receiving impure oil and water, combined with filtering apparatus for purifying the oil, and a steam jet for admitting steam to the filter to heat the receiver during the purification of the oil whereby the oil therein may be heated and its gravity lowered so as to separate from its impurities and flow more readily through the filtering apparatus.

3. In a filter, a filtering tank to contain water provided with an oil outlet near its top, combined with a water overflow nozzle having its discharge opening vertically adjustable so as to enable the level of the water in the filtering tank to be varied relatively to the oil outlet, said overflow consisting of a pipe opening from the filtering tank, a vertically adjustable nozzle sleeved upon the pipe, and a screw to raise or lower the nozzle on the pipe.

4. In an oil filter a water chamber having a water overflow pipe and an oil outlet at the normal level of the water, combined with a central pipe extending down to near the bottom of the water chamber, a supply pan above the water chamber from which the central pipe depends, a series of superimposed closed filtering pans surrounding the central pipe the lowermost of said pans receiving oil from the central pipe and the uppermost pan delivering the purified oil upon the top of the water, and means consisting of vertical screens and horizontal water receptacles in the supply pan for giving to the impure oil a preliminary screening and washing before passing into the central pipe.

5. In an oil filter a water chamber having a water overflow pipe and an oil outlet at the normal level of the water, combined with a central pipe extending down to near the bottom of the water chamber, a supply pan above the water chamber from which the central pipe depends and having its bottom below the top of the central pipe and forming a shallow unobstructed chamber containing a layer of water, a series of superimposed closed filtering pans surrounding the central pipe the lowermost of said pans receiving oil from the central pipe and the uppermost pan delivering the purified oil upon the top of the water, and means in the supply pan for giving to the impure oil a preliminary cleansing before passing into the central pipe said means consisting of the dished plate b and one or more annular screens b' below it depending into the water in the bottom of the supply pan and through which the oil is required to pass.

6. In an oil filter a water chamber having a water overflow pipe and an oil outlet at the normal level of the water,

combined with a central pipe extending down to near the bottom of the water chamber, a supply pan above the water chamber from which the central pipe depends, a series of superimposed closed filtering pans surrounding the central pipe the lowermost of said pans receiving oil form the central pipe and the uppermost pan delivering the purified oil upon the top of the water, and means in the supply pan for giving to the impure oil a preliminary cleansing before passing into the central pipe and a receiver C fitting into the supply pan and having screens *e* and central opening *c*.

7. A filter combined with a receiver consisting of a pan C having a central opening *c* and upright concentric screens *e e*, and one or more cover plates having downward cylindrical screens concentric with the screens *e e*.

8. A filter combined with a receiver pan having a dish shaped plate *b* over which the oil and water flows and concentric screens *b'* below the plate, means for sustaining a body of water on the bottom of the pan and above the lower parts of the screens, a central pipe below the plate for receiving the oil and water, and means above the plate *b* for delivering the oil and water to it near its center.

9. A filter combined with a receiver pan having a dish shaped plate *b* over which the oil and water flows and concentric screens *b'* below the plate, means for sustaining a body of water on the bottom of the pan and above the lower parts of the screens, a central pipe below the plate for receiving the oil and water, and means above the plate *b* for delivering the oil and water to it near its center consisting of a receiver C having the concentric screens *e e* and one or more cover plates provided with downwardly extending screens concentric with the screens *e*.

10. In an oil filter a tank to contain water combined with a central pipe for leading oil and water to a distance below the water level, purifying filter pans below the water receiving the oil from the bottom of the central pipe, a supply tank secured to the top of the central pipe, a dish shaped plate *b* above the central pipe and within the supply tank and also having an upwardly extending vent pipe *k*, and a receiver within the supply tank and having a central opening *c* surrounding the vent pipe *k*.

11. In an oil filter a tank to contain water, combined with a central pipe for leading oil and water to a distance below the water level, purifying filter pans below the water receiving the oil from the bottom of the central pipe, a supply tank secured to the top of the central pipe, a dish shaped plate *b* above the central pipe and within the supply tank and also having an upwardly extending vent pipe *k*, a valve to control the flow of the contents of the purifying filter pans into the water tank, and a rod for operating the valve extending upward through the central pipe and vent pipe, and a receiver within the supply tank and having a central opening *c* surrounding the vent pipe *k*.

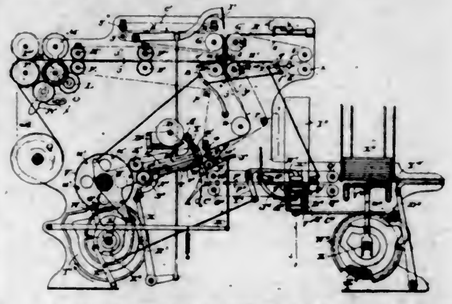
12. In an oil filter, a water tank, a receiving tank having a depending central pipe having two outlets at the bottom, a series of filtering pans arranged one above the other and sleeved upon the central pipe and receiving oil and water from one of the outlets of the central pipe a valve to close the other outlet from the central pipe to the water tank and a rod extending upward through the central pipe to the valve for putting the two outlets into communication whereby the contents of the filtering pans may be drained through the outlets of the central pipe into the water tank.

13. In an oil filter, a water tank, a series of filtering pans therein, a supply pan above the water tank, a depending pipe through which oil and water is supplied to the lowermost filtering pan, a valve for putting said lowermost filtering pan into communication with the pipe or with the water tank, and a rod for operating the valve extending up through the depending pipe.

14. In an oil filter, a water tank, a series of filtering pans therein, a supply pan above the water tank, a depending pipe through which oil and water is supplied to the lowermost filtering pan, a valve for putting said lowermost filtering pan into communication with the pipe or with the water tank, a rod for operating the valve extending up through the depending pipe and a removable screen cap arranged within the supply tank for screening the oil before passing to the depending pipe arranged over the upper end of the valve rod to insure its being normally in position when filtering is occurring.

15. In an oil filter, the water tank having an overflow and an oil outlet, a depending pipe E for oil, surrounding filtering pans F F' F² and F³ to the lowermost of which the pipe E delivers the oil and water, an upper filtering pan F⁴ having outlets J and a hood J' the lower edge of which dips into the water in the tank.

868,258. WRAPPING AND ADDRESSING MACHINE. SCHUYLER E. FARNHAM, Racine, Wis., assignor, by mesne assignments, to National Mfg. & Mailing Co., Racine, Wis., a Corporation of Wisconsin. Filed Jan. 19, 1906. Serial No. 296,772.



1. A machine comprising means for feeding paper from a roll of same and separating it into wrappers while in travel, means for arresting travel of the wrappers in successive order, means by which a publication is fed to an arrested wrapper, a timed rocker carrier normally in position to receive the publication and its wrapper, the latter being folded on the former; a pasting-mechanism, a device between which and the pasting-mechanism a flap of the wrapper is engaged when the carrier has a rocking movement out of position aforesaid, means for clearing the carrier of the partially enveloped publication, and means for causing adhesion of the pasted flap upon the remainder of the wrapper coincident with ejectment from the carrier of the package of which said publication and wrapper are components.

2. A machine comprising means for feeding paper from a roll of same and separating it into wrappers while in travel, means for arresting travel of the wrappers in successive order, means by which a publication is fed to an arrested wrapper, a timed rocker carrier normally in position to receive the publication and its wrapper, the latter being folded on the former; a pasting mechanism in connection with the carrier, a device between which and the pasting mechanism a flap of the wrapper is engaged when the carrier has a rocking movement out of the position aforesaid, means for clearing the carrier of the partially enveloped publication, and means for causing adhesion of the pasted flap upon the remainder of the wrapper coincident with ejectment from the carrier of the package of which said publication and wrapper are components.

3. A machine comprising means for feeding paper from a roll of same and separating it into wrappers while in travel, means for arresting travel of the wrappers in successive order, means by which a publication is fed to an arrested wrapper, and therewith traveled for a time at different speeds, whereby said publication is caused to draw the wrapper tight thereon, a timed rocker carrier normally in position to receive the publication and its wrapper, the latter being folded on the former; a pasting mechanism, a device between which and the pasting-mechanism a flap of the wrapper is engaged when the carrier has a rocking movement out of the position aforesaid, means for clearing the carrier of the partially enveloped publication, and means for causing adhesion of the pasted flap upon the remainder of the wrapper coincident with ejectment from the carrier of the package of which said publication and wrapper are components.

4. A machine comprising means for feeding paper from a roll of same and separating it into wrappers while in travel, means for arresting travel of the wrappers in successive order and arresting the same singly parallel to a wrapper, driven rollers in pairs arranged to be under the arrested publication and wrapper respectively, a folder timed to double the publication between the underlying rollers, whereby it is fed by the same to the wrapper and caught therein between the succeeding pair of rollers; a timed rocker carrier normally in position to receive the publication and its wrapper, the latter being folded on the former; a pasting-mechanism, a device between which and the pasting-mechanism a flap of the wrapper is engaged when the carrier has a rocking movement out of the position aforesaid, means for clearing the carrier of the partially enveloped publication, and means for causing adhesion of the pasted flap upon the remainder of the wrapper coincident with ejectment from the carrier of the package of which said publication and wrapper are components.

5. A machine comprising means for feeding paper from a roll of same and separating it into wrappers while in travel, means for arresting travel of the wrappers in successive order, means by which a publication is fed to an arrested wrapper, a timed rocker carrier normally in position to receive the publication and its wrapper, the latter being folded on the former; a pasting-mechanism, a device between which and the pasting-mechanism a flap of the wrapper is engaged when the carrier has a rocking movement out of the position aforesaid, means for clearing the carrier of the partially enveloped publication, and a pair of driven rollers between which the package composed of the publication and wrapper has travel to cause adhesion of the pasted flap to the remainder of said wrapper.

6. A machine comprising driven perforating rollers, a paper-feed comprising rollers forward of those aforesaid and run at a higher speed, a publication-feed, a folder timed to double an arrested publication between underlying rollers by which it is fed to an arrested wrapper and caught therein between succeeding rollers, a timed rocker carrier normally in position to receive the publication and its wrapper, the latter being folded on the former; a pasting-mechanism, means by which the flap of the wrapper is put into contact with the pasting-mechanism when the carrier has a rocking movement out of normal position, means for clearing the carrier of the partially enveloped publication, and means for causing adhesion of the pasted flap upon the remainder of the wrapper coincident with the ejectment from the carrier of the package of which said publication and wrapper are components.

7. A machine comprising means for feeding paper from a roll of same and separating it into wrappers, means for arresting travel of the wrappers in successive order, means for engaging a publication and an arrested wrapper, a timed carrier comprising endless movable tapes and normally in position to receive a publication and wrapper fed thereto, timed ejector-mechanism in connection with the carrier, a pair of driven rollers between which the package composed of the publication and wrapper is ejected from the carrier, a pasting-mechanism, and a device between which and the pasting-mechanism a flap of the wrapper is engaged when said carrier has movement to aline with the rollers aforesaid.

8. A machine comprising means for feeding a publication to a wrapper, a timed rocker carrier normally in position to receive the publication and its wrapper, said wrapper being folded on said publication; a pasting-mechanism, a device between which and the pasting-mechanism a flap of the wrapper is engaged when said carrier is rocked out of normal position, means for clearing the carrier of the partly enveloped publication, and means for causing adhesion of the pasted flap to the remainder of the wrapper coincident with ejectment from said carrier of the package of which said publication and wrapper are components.

9. A machine comprising means for feeding a publication to a wrapper and causing a fold and draw of the wrapper on the publication, a timed carrier normally in position to receive the partially enveloped publication, a pasting-mechanism, a device between which and the pasting-mechanism a flap of the wrapper is engaged when the carrier is moved out of normal position, means for clearing the carrier of the partially enveloped publication, and means for causing adhesion of the pasted flap to the remainder of the wrapper coincident with ejectment from said carrier of the package of which said publication and wrapper are components.

10. A machine comprising means for feeding a publication to a wrapper and simultaneously causing initial draw of the wrapper thereon, means for effecting a final positive back draw of the wrapper on the publication and simultaneously applying paste to a flap of said wrapper, and means for causing adhesion of the pasted flap to the remainder of the aforesaid wrapper.

11. A machine for enveloping a publication in a wrapper and which comprises rollers between which a flap of the wrapper is finally gripped preliminary to securing the same to the remainder of said wrapper.

12. A machine for enveloping a publication in a wrapper and which comprises rollers between which a flap of the wrapper is gripped preliminary to securing the same to the remainder of said wrapper, and means for imparting rotary motion to one of said rollers reverse to the travel of said flap.

13. A machine for enveloping a publication in a wrapper, comprising rollers between which a flap of the wrapper is gripped preliminary to securing the same to the remainder of said wrapper, and adjustable means for imparting rotary motion to one of said rollers reverse to the travel of said flap.

14. A machine for enveloping a publication in a wrapper and which comprises a wrapper and publication carrier, a pasting-roller in connection with the carrier, another roller arranged to be at a predetermined time in opposition to the pasting-roller against an interposed flap of the wrapper, and means for imparting rotary motion to one of said rollers reverse to the travel of said flap.

15. A machine for enveloping a publication in a wrapper and which comprises rollers between which a flap of the wrapper is gripped preliminary to securing the same to the remainder of said wrapper, a pawl-and-ratchet mechanism for imparting rotary motion to one roller reverse to the travel of said flap, and a timed mechanism controlling the operation of the former mechanism.

16. A machine for enveloping a publication in a wrapper and which comprises rollers over which wrappers are successively fed and arrested, a gate operative to bridge said rollers under a wrapper moving into position over the same, and means for actuating the gate.

17. A machine comprising a variable feed-mechanism for a web of paper from a roll of same, means for separating the fed paper into wrappers of uniform size and feeding the same, means for enveloping a publication in each wrapper, means for tightening the wrapper on the publication and for simultaneously applying paste to a flap of said wrapper, and means for ejecting the package of which the wrapper and publication are components, adhesion of said flap to the remainder of the wrapper being coincident with the ejectment of said package from the machine.

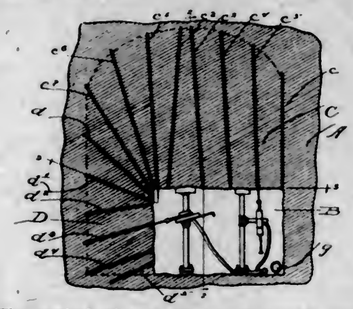
18. A machine comprising means for enveloping a publication in a wrapper, a feed upon which the package consisting of the publication and its wrapper is discharged, means for temporarily arresting the package, means controlled by the feed of said package for feeding an address-stencil to a support opposite the same, a platen, means for exerting pressure of the platen on said package, and means for inking through the stencil.

19. A machine for completely enveloping a publication in a wrapper, a continuously traveling feed upon which the package consisting of the publication and its wrapper is discharged, a vertically reciprocative table onto which the package is delivered, an inclosure above the table, and a horizontally reciprocative support that is alternately below and above said table, the latter being provided with clearance space for the support.

20. A machine comprising means for feeding a publication to a wrapper, means causing the wrapper to fold and

draw tight on the publication, means having the double function of applying paste to a flap of the wrapper and causing a final positive back draw of said wrapper, and means for ejecting the package of which the wrapper and publication are components, adhesion of said flap to the remainder of the wrapper being coincident with the ejectment of said package from the machine.

868,259. METHOD OF EXCAVATING ROCK TUNNELS. PATRICK FORD, Chicago, Ill. Filed Nov. 12, 1906. Serial No. 343,140.



1. The method of excavating rock tunnels comprising first constructing an under heading for the length of the tunnel and then arranging the air and the pipe lines close to the wall of the heading then throwing down the material from the roof of said tunnel into said heading and operating at either or both ends of the tunnel.

2. The method of excavating rock tunnels comprising first constructing an under heading for the length of the tunnel and leaving at points supporting ribs of rock and then throwing down the material from the roof of said tunnel and said supporting ribs into said heading and operating at either or both ends of the tunnel.

3. The method of constructing rock tunnels embracing first constructing a heading of the length of the proposed tunnel and of less width and of a height convenient for the operation of the workmen, then casting down the material from the top of the heading to the roof line and from the remaining rib and removing the same by means of power shovels.

4. The method of constructing rock tunnels embracing first constructing an under heading of a length to reach an air connection and of less width than the proposed tunnel and of a height convenient for the operation of the workmen, then casting down the material to the roof line and to complete the width at the bottom and removing the same by means of power shovels.

5. The method of constructing rock tunnels, embracing first constructing an under heading for a length to communicate with an air connection and of a width sufficient for convenience of the muckers then throwing down the superposed rock and that at the side of the heading by successive shots to complete the full width of the tunnel and utilising the muck pile thus formed as a guard for the muck men thereby enabling them to work continuously and independent of the operation of drilling and blasting crews.

6. The method of constructing rock tunnels, embracing first constructing a bottom heading of a convenient width for operation and in length extending to any air supply, then drilling and casting the superposed material downwardly and forwardly and the material at the side of the heading inwardly and forwardly then blasting to throw the material forwardly and downwardly forming a muck pile thus affording a shield for the muck men whereby the drillers at all times are unimpeded by the accumulation of muck.

7. The method of constructing rock tunnels embracing constructing an under heading along one side the proposed tunnel, then drilling upwardly from the heading to provide forwardly inclined holes and inwardly converging holes at each side the center, then blasting to throw the material forwardly and downwardly forming a muck pile thus affording a shield for the muck men, whereby the drillers at all times are unimpeded by the accumulation of muck.

8. The method of constructing rock tunnels consisting in first constructing an under heading along one wall and inwardly to air and wherein successive shots are arranged to throw the material forwardly affording a clean or true rib wall and roof, next beginning at the outer end of said heading and drilling the superposed rock to provide holes inclining forwardly along the rib and the central holes converging at their inner ends and blasting and removing the material above the heading.

9. The method of constructing rock tunnels comprising first constructing an under heading inwardly to air and along one rib of the proposed tunnel, then throwing down the roof and later the wall to the other rib thereby forming a muck pile and utilizing the muck pile as a shield to protect the mucking crew and utilizing power shovels to remove the muck.

10. The method of constructing rock tunnels by first constructing a bottom heading and inwardly to air and along one rib of the tunnel then drilling the roof to afford central inclined converging holes and intermediate rib holes and blasting down the roof in one or more operations or charges then blasting the remaining material from heading to rib.

11. The method of constructing rock tunnels comprising first constructing an under heading along one rib for a part of the width of the tunnel and inwardly to air, then drilling the roof from the heading to slightly above the tunnel roof line, to afford central converging holes, intermediate holes of less convergence extending above the roof and non-converting rib holes, all of said holes inclining forwardly at their tops and a distance from the front of the mass dependent on the nature of the rock and drilling the side of the heading inwardly to the remaining rib, then shooting said holes in the order before named, and removing the muck by means of power shovels.

12. The method of constructing tunnels comprising constructing an under heading of less width than the tunnel and inwardly to air and along one rib wall drilling a plurality of forwardly and inwardly inclined holes in the remaining wall of the other rib and in the superposed material and shooting the charge in said holes thereby throwing the material downwardly inwardly and centrally to form a muck pile to act as a shield for the muckers.

13. The method of tunneling comprising first constructing an under heading inwardly to air, then establishing protected means along one rib of the heading to conduct compressed air inwardly, drilling the side rib and to the roof above the heading then throwing down the muck at the rear of the drillers and permitting the drillers and blasters to work on one side the muck pile, and the muckers on the other simultaneously.

14. The method of constructing rock tunnels comprising first constructing an under heading to air, drilling inclined holes to or slightly below grade, to the wall and to the roof line in the remaining material to be excavated and blasting and throwing the material between the drillers and muckers thus drilling, blasting and mucking simultaneously.

15. The method of constructing tunnels by first constructing an under heading the entire length of the tunnel or inwardly to air, establishing a metal air line for the drillers on the floor, drilling forwardly inclined holes in the material above and at the side of the heading to or slightly beyond the roof and rib and some of the holes converging, blasting closely behind the drillers and throwing the muck rearwardly to protect the muckers and mechanically removing the muck by any suitable mechanism operated from the air line.

16. The method of constructing rock tunnels by first constructing an under heading to air, establishing a metal air pipe along one rib of the heading from the outer end of the tunnel to supply pressure for the tools and for mucking, drilling and throwing the material from above and the side of the heading rearwardly from succeeding

blasts and continuously removing the muck behind the blasters by mechanism operated by pressure from the air line.

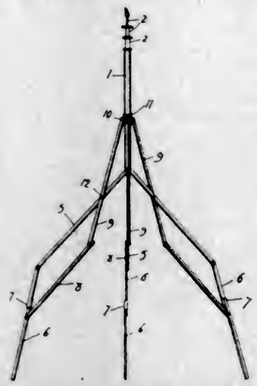
17. The method of constructing tunnels by first constructing an under heading inwardly to air, providing a strong metal air pipe line to supply power, piping from either or both ends of the tunnel inwardly for the removal of water, then drilling and casting down and mucking the material.

18. The method of constructing rock tunnels by first constructing an under heading for the entire length of the tunnel, laying metallic pressure supply pipes and a metallic water pipe along one rib of the heading, drilling holes inclined toward each end of the tunnel in the wall above and to the side of the heading and operating from both ends and intermediate the ends, blasting and throwing the muck toward each end of the tunnel away from the unblasted part and removing the muck from both ends of the tunnel by shovels operated from the pressure pipe.

19. The method of constructing rock tunnels comprising first constructing an under heading inwardly to air and of less width than the proposed tunnel, establishing a metallic pressure pipe above the floor, drilling forwardly inclined holes in both the material above and at the side of the heading, throwing down the material utilizing gravity and forming a muck pile and affording a shield behind which the muckers work uninterruptedly and unimpeded and utilizing the pressure pipe to afford power for drillers and muckers.

20. The method of constructing rock tunnels by first constructing an under heading, then providing means to conduct pressure to the drills the length of the heading and which is unaffected by the blasting, providing means to draw the water from the tunnel regardless of the muck pile, then drilling and throwing the muck from the roof downwardly and outwardly from subsequent blasts and removing the muck by shovels operated from said pressure line.

868,260. TRIPOD FOR MUSIC-STANDS AND THE LIKE. CLINTON H. FRENCH, San Francisco, Cal. Filed Apr. 25, 1907. Serial No. 370,197.



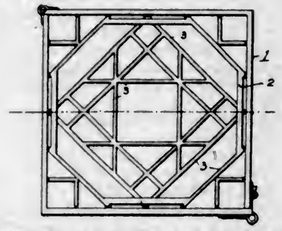
1. A tripod for music stands and the like, comprising a stem, ribs pivoted on its lower portion, a collar sliding on its upper portion, arms pivoted on said collar and also pivoted to said ribs, legs pivoted to the ribs and links pivoted to the arms, said legs and links being pivoted to each other, substantially as described.

2. A tripod for music stands and the like, comprising a stem, ribs pivoted on its lower portion, a collar sliding on its upper portion, arms pivoted on said collar, and also pivoted to said ribs, legs pivoted to the ribs and links pivoted to the arms, said legs and links being pivoted to each other, the ribs and links being parallel and the arms and legs being parallel, substantially as described.

3. A tripod for music stands and the like, comprising a stem, ribs pivoted on its lower portion, a collar sliding on its upper portion, arms pivoted on said collar, and also pivoted to said ribs, legs pivoted to the ribs and links pivoted to the arms, said legs and links being pivoted to each other, the lower portion of each leg being offset from the upper portion, said links being pivoted to the lower portion, substantially as described.

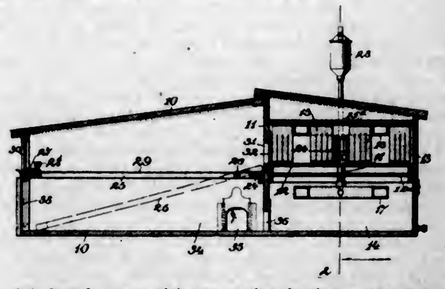
4. A tripod for music stands and the like, comprising a stem, ribs pivoted on its lower portion, a collar sliding on its upper portion, arms pivoted on said collar, and also pivoted to said ribs, legs pivoted to the ribs and links pivoted to the arms, said legs and links being pivoted to each other, a hook carried by the collar, and a locking device formed on the stem and adapted to be engaged by said hook to retain the collar in position, substantially as described.

868,261. PROCESS OF MAKING TILES. CONSTANTINOS H. GEANAKOPULOS, Reading, Pa. Filed May 4, 1907. Serial No. 371,893.



The process of making tile sections of varied colors, consisting of placing a removable form comprising a series of joined partitions in a mold, partially filling the spaces between said partitions with a mixture of high grade colored cement and sand, removing the form from the mold filling the mold with a mixture of sand and cement of inferior quality, subjecting the whole to severe pressure, applying to the face of said section a coating of specially prepared dressing composed of beeswax, linseed oil and alcohol and drying by air.

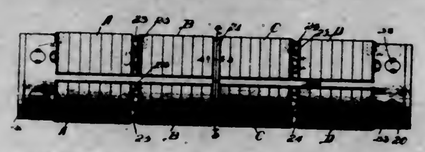
868,262. BROODER. JOHN GOETZE, Carlstadt, N. J. Filed Oct. 27, 1906. Serial No. 340,805.



1. A brooder comprising a casing having a transverse partition, a horizontal floor on one side of the partition to form an upper and a lower compartment, a rectangular heater in each compartment, connection between the heaters, means for heating the heaters, flexible strips suspended in the upper compartment, the partition having openings from each compartment, a tilting platform arranged on the other side of the partition, the casing having openings therein below the tilting platform.

2. A brooder comprising a casing having a transverse partition, a horizontal floor on one side of the partition to form an aupper and a lower compartment, the floor being formed of two platforms forming a hollow space, the partition having openings leading from the hollow space.

868,263. FORM-CYLINDER FOR PRINTING-PRESSES. SAMUEL G. GOSS, Chicago, Ill., assignor to Goss Printing Press Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 23, 1904. Serial No. 194,974.



1. The combination of a form cylinder, a support carried thereby near the periphery thereof, rocking clamping means carried by said support and so mounted that the same may be actuated to be projected beyond the surface of the cylinder to engage the edge of a form and to be retracted below the surface thereof, and means for moving said clamping means into and out of operative position.

2. The combination of a form-cylinder, a supporting block fitted in said cylinder, clamping means pivotally mounted in said block and so mounted that the same may be actuated to be swung down below the surface of the cylinder and up above said surface to engage the edge of a form, and means for moving said clamping means into and out of operative position.

3. The combination of a cylinder, a stationary block fitted in a recess in the periphery of said cylinder, clamping means carried by said block and so mounted that the same may be actuated to be projected beyond the surface of the cylinder to engage the edge of a form and to be retracted below the surface of the cylinder, and means for moving said clamping means into and out of operative position.

4. The combination of a form cylinder, a stationary block fitted therein, a worm-wheel mounted in said block, one or more rocking clamping fingers connected with said worm-wheel so as to rotate coaxially therewith, and a worm for rotating said worm-wheel.

5. The combination of a form-cylinder, a pair of forms thereon adjacent to each other, a block fitted in said cylinder and under one or both of the adjacent edges of said forms, clamping means carried by said block and so mounted that the same may be actuated to be projected beyond the surface of the cylinder to engage the edge of one of said forms and to be retracted below the surface of the cylinder, and means for moving said clamping means into and out of operative position.

6. The combination of a form cylinder, a form carried thereby, clamping means pivotally mounted in said cylinder under one of the edges of said form and so mounted that the same may be actuated to be projected beyond the surface of the cylinder to engage said edge of the form and to be retracted below the surface of the cylinder, and means for moving said clamping means into and out of operative position.

7. A clamp for form cylinders, comprising a suitable support adapted to be fitted to the cylinder so that the surface of said support is flush with the surface of the cylinder, clamping means carried by said support and so mounted that the same may be actuated to move out beyond the surface of the cylinder and inward below the surface thereof, and means carried by said support for moving said clamping means into and out of operative position.

8. A clamp for form cylinders, comprising a suitable support, clamping means mounted in said support and so mounted that the same may be actuated to be projected beyond the surface thereof and to be retracted below the surface thereof, and means for moving said clamping means into and out of operative position.

9. A clamp for form cylinders, comprising a suitable support, clamping means pivotally mounted in said support and so mounted that the same may be actuated to be projected beyond the surface thereof and to be retracted below the surface thereof, and means for moving said clamping means into and out of operative position.

10. A clamp for form cylinders, comprising a suitable support, clamping means pivotally mounted in said support and so mounted that the same may be actuated to project beyond the surface thereof and to be retracted below the surface thereof, and a worm and worm-wheel carried by said support for actuating said clamp.

11. A clamp for form cylinders, comprising a suitable support, a worm wheel carried thereby, clamping means pivotally mounted coaxially with said worm wheel and rotating therewith, said clamping means being so mounted that the same may be actuated to be projected beyond the surface of said support and to be retracted below the surface thereof, and a worm for rotating said worm wheel.

868,264. COMPENSATION DEVICE FOR TORSIONAL PENDULUMS. CHARLES E. GUILLAUME, Sèvres, France. Filed Nov. 1, 1905. Serial No. 285,492.



1. A torsion pendulum comprising a weight and means for supporting said weight, a portion of said supporting means having a modulus of torsion the value of which increases corresponding to the temperature to compensate for the expansion of said entire supporting means and said weight, substantially as described.

2. A torsion pendulum comprising a weight and means for supporting said weight, a portion of said supporting means being constructed of an alloy of iron and nickel and having a modulus of torsion the value of which increases corresponding to the temperature to compensate for the expansion of said entire supporting means and said weight, substantially as described.

3. In a torsion pendulum, a pendulum rod, comprising two relatively adjustable rods fastened one to the other, and a weight carried by the end of the lower rod, one of said rods having a modulus of torsion the value of which increases corresponding to the temperature to compensate for the expansion of said weight and both of said rods, substantially as described.

4. A torsion pendulum comprising a weight and means for supporting said weight, a portion of said supporting means having a modulus of torsion the value of which increases corresponding to the temperature to compensate for the expansion of said entire supporting means and said weight, and being constructed of an alloy of 72 to 64 parts of iron, 28 to 31 parts of nickel, and 5 parts of a rare earth, substantially as described.

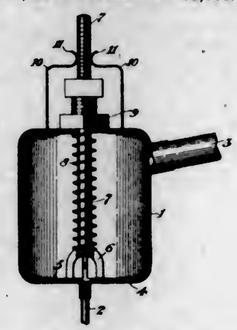
5. A torsion pendulum comprising a weight and means for supporting said weight, a portion of said supporting means having a modulus of torsion the value of which increases corresponding to the temperature to compensate for the expansion of said entire supporting means and said weight, and being constructed of an alloy of 72 to 69 parts of iron and 28 to 31 parts of nickel, substantially as described.

6. In a torsion pendulum, a pendulum rod consisting of two bands fastened one to the other, and one of which has a modulus of torsion, the value of which increases corresponding to the temperature.

7. In a torsion pendulum, a pendulum rod consisting of two bands fastened one to the other, and one of which has a modulus of torsion, the value of which increases corresponding to the temperature, said rod being made of an alloy containing 72 to 50 parts of iron, 28 to 50 parts of nickel and 5 parts of a rare earth.

8. In a torsion pendulum, a pendulum rod consisting of two relatively adjustable bands fastened one to the other, and one of which has a modulus of torsion, the value of which increases corresponding to the temperature.

868,265. CARBURETER FOR INTERNAL-COMBUSTION ENGINES. EDWARD V. HARTFORD, New York, N. Y. Filed Aug. 25, 1905. Serial No. 275,738.



1. A carbureter having a valve and automatic and frictional means for regulating the action of the valve.

2. A carbureter having an automatically-acting valve and frictional means for retarding the action of the valve.

3. In a carbureter, a mixing chamber, an air inlet, a hydro-carbon vapor inlet, a fuel outlet and automatic and frictional means for regulating the supply of said air, substantially as described.

4. In a carbureter, a mixing chamber, an air inlet, a hydro-carbon vapor inlet, a fuel outlet and automatic means for regulating the supply of air, and frictional means for retarding said regulating means, substantially as described.

5. In a carbureter, a mixing device regulated by the speed of the engine, whereby, as the speed of the engine increases a greater proportion of air is supplied to the fuel, and a frictional device for retarding the action of the mixing device, substantially as described.

6. In a carbureter, a mixing device regulated by the speed of the engine whereby, as the speed of the engine increases, a greater proportion of air is supplied to the fuel, and frictional means for retarding the same, substantially as described.

7. In a carbureter, an air inlet, a valve for closing the same a frictional device for retarding the action of the valve, and spring means for holding said valve in a normally closed position, substantially as described.

8. In a carbureter, an air inlet, a valve for closing the same and spring means for holding said valve in a normally closed position, and frictional devices for retarding the movements of said valve, substantially as described.

9. In a carbureter, an air inlet, a valve for closing the same, a stem for said valve, a spring surrounding said stem and operating to hold said valve in a normally closed position, and frictional means for retarding the action of the valve, substantially as described.

10. In a carbureter, an air inlet, a valve for closing the same, a stem for said valve, a spring surrounding said stem and operating to hold said valve in a normally closed position and a friction device in contact with said stem for retarding the movements of said valve, substantially as described.

11. In a carbureter, a mixing chamber containing a fuel outlet, an inlet for the liquid fuel, an air inlet, a valve for said air inlet and a stem attached to said valve and passing outside of said mixing chamber, a spring surrounding said stem in said mixing chamber and operating to normally close said air inlet, spring fingers contacting with said stem outside of said mixing chamber and operating to retard the vibrations thereof, substantially as described.

12. In a carbureter, a mixing chamber containing a fuel outlet, an inlet for the liquid fuel, an air inlet, a valve for said air inlet and a stem attached to said valve and passing outside of said mixing chamber, a spring surrounding said stem in said mixing chamber and operating to normally close said air inlet, spring fingers contacting with said stem outside of said mixing chamber and operating to retard the vibrations thereof, means on said stem for preventing the escape of fuel from the mixing chamber, substantially as described.

13. In a carbureter, a mixing chamber containing a fuel outlet, an inlet for the liquid fuel, an air inlet, a valve for said air inlet and a stem attached to said valve and passing outside of said mixing chamber, a spring surrounding said stem in said mixing chamber and operating to normally close said air inlet, spring means outside of said mixing chamber operating to retard the vibrations of said stem and adjustable means to regulate the retarding effect of said spring means, substantially as described.

14. In a carbureter, a mixing chamber containing a fuel outlet, an inlet for the liquid fuel, an air inlet, a valve for said air inlet and a stem attached to said valve and passing outside of said mixing chamber, a spring surrounding said stem in said mixing chamber and operating to normally close said air inlet, a cone-shaped sleeve fixed upon said stem, outside of said mixing chamber, spring fingers attached to said mixing chamber and adapted to bear upon said cone-shaped sleeve, whereby as the upward motion of said stem is increased, the retarding effect of said valve upon said spring fingers will be correspondingly increased, substantially as described.

15. In a carbureter, a mixing chamber, equipped with a fuel outlet and an inlet for the hydro-carbon, an air inlet consisting of a plurality of openings disposed around said hydro-carbon inlet, an annular valve adapted to close said air inlet, a stem attached to said valve, a spring surrounding said stem and normally operating to close said air inlet and a plurality of frictional devices for retarding the action of said valve, substantially as described.

16. In a carbureter, a mixing chamber equipped with a fuel outlet and an inlet for the hydro-carbon, an air inlet consisting of a plurality of openings disposed around said hydro-carbon inlet, an annular valve adapted to close said air inlet, a stem attached to said valve, a spring surrounding said stem and normally operating to close said air inlet and frictional means for retarding the vibrations of said stem, substantially as described.

17. In a carbureter, a mixing chamber equipped with a fuel outlet and an inlet for the hydro-carbon, an air inlet consisting of a plurality of openings disposed around said hydro-carbon inlet, an annular valve adapted to close said air inlet, a stem attached to said valve and projecting outside of said mixing chamber, a spring surrounding said stem and normally operating to close said air inlet, and spring fingers adapted to contact with the projecting portion of said stem and retard the vibrations thereof, substantially as described.

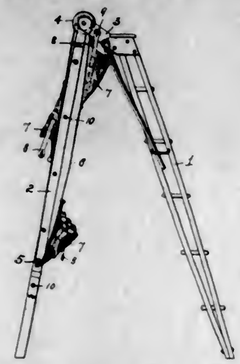
18. In a carbureter, a mixing chamber equipped with a fuel outlet and an inlet for the hydro-carbon, an air inlet consisting of a plurality of openings disposed around said hydro-carbon inlet, an annular valve adapted to close said air inlet, a stem attached to said valve and projecting outside of said mixing chamber, a spring surrounding said stem and normally operating to close said air inlet, spring fingers adapted to contact with the projecting portions of said stem and retard the vibrating thereof and adjustable means for regulating the pressure of said spring fingers upon said stem, substantially as described.

868,266. FRUIT-PICKER'S LADDER. EDWARD HAYCOX, Toledo, Ohio. Filed July 22, 1907. Serial No. 384,997.

1. A step-ladder having its support equipped with an endless apron carrying a bag or pocket into which fruit may be placed at a predetermined elevation and lowered from such elevation.

2. The combination with a ladder having its ladder part provided at its top with rearwardly extending arms and its support hinged to said arms in spaced relation to the ladder part, of an endless apron operating around a

part of the support and carrying fruit-receiving pockets, substantially as described.

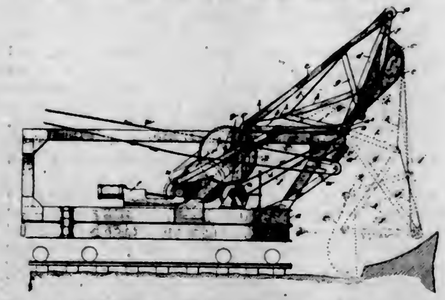


3. In combination a step-ladder having its support hinged in spaced relation to its ladder part and provided at its top and near its bottom with rollers, an endless belt operating around said rollers and having a plurality of fruit-receiving pockets.

4. In association with a step-ladder, an endless belt movable around a part of the same and carrying fruit-receiving pockets, and means carried by the pockets and adapted to coöperate with the ladder frame to hold the belt against movement.

5. In combination a ladder having its ladder part provided at its top with rearwardly extending arms and its support hinged to said arms in spaced relation to the ladder part, an endless belt movable around a part of the support and carrying fruit-receiving pockets, pins projecting from the arms, and straps carried by the pockets adapted to engage the pins to hold the belt stationary.

868,267. EXCAVATOR. OLAF HETLESAETER, Milwaukee, Wis. Filed Dec. 10, 1906. Serial No. 347,121.



1. In an excavator, the combination of a main supporting member pivotally supported upon a horizontal axis, means for rotating it about its axis, a bucket, links for suspending said bucket from the main supporting member, a thrust bar for controlling the position of the bucket relatively to said main supporting member an arc bar pivoted at one end to said thrust bar and at the other end to the axis of the main supporting member and means for operating said thrust bar.

2. In an excavator, the combination of a main supporting member pivotally supported upon a horizontal axis, means for rotating it about its axis, a bucket, links for suspending said bucket from the main supporting member, a thrust bar for controlling the position of the bucket relatively to said main supporting member an arc bar pivoted at one end to said thrust bar and at the other end to the axis of the main supporting member, and cables for moving said thrust bar relatively to the main supporting member.

3. In an excavator, the combination of a main supporting member pivotally supported upon a horizontal axis, means for rotating it about its axis, a bucket, links for suspending said bucket from the main supporting member, said links being pivotally attached at one end to said bucket and at the other end to said main supporting member, a thrust bar independent of said main supporting member for controlling the position of the bucket relatively to said main supporting member an arc bar pivoted at one end to said thrust bar and at the other end to the axis of the main supporting member, and means for operating said thrust bar.

4. In an excavator, the combination of a main supporting member pivotally supported upon a horizontal axis, means for rotating it about its axis, a bucket, links for suspending said bucket from the main supporting member, said links being pivotally attached at one end to said bucket and at the other end to said main supporting member, a thrust bar independent of said main supporting member for controlling the position of the bucket relatively to said main supporting member an arc bar pivoted at one end to said thrust bar and at the other end to the axis of the main supporting member, and cables for moving said thrust bar relatively to the main supporting member.

5. In an excavator, the combination of a horizontal shaft; a main supporting member pivoted thereon; means for rotating said supporting member about its shaft; a bucket; a pair of links pivoted at one end to said bucket and at the other said main supporting member; a second pair of links one of which is connected to the said shaft and the other to the bucket, said last mentioned links being also pivotally connected together; and cables for moving said second pair of links relatively to the main supporting member.

6. In an excavator, the combination of a bucket; a main supporting member and an arc bar having coincident horizontal axes of rotation; and three links all pivotally connected to said bucket, one of said links being pivoted to said arc bar and the remaining two of said links being pivoted to said main supporting member.

7. In an excavator, the combination of a bucket; a main supporting member and an arc bar having coincident horizontal axes of rotation; three links all pivotally connected to said bucket, one of said links being pivoted to said arc bar and the remaining two of said links being pivoted to said main supporting member and a mechanically driven connecting rod attached to said main supporting member for rotating the same about its axis.

8. In an excavator, the combination of a bucket; a main supporting member and an arc bar having a coincident horizontal axes of rotation; three links all pivotally connected to said bucket, one of said links being pivoted to said arc bar and the remaining two of said links being pivoted to said main supporting member; a connecting rod attached to said main supporting member for rotating the same about its axis, a crank for operating said connecting rod, a power device, and a reduction gear interposed between said power device and said connecting rod, substantially as described.

9. In an excavator, the combination of a main supporting member pivotally mounted upon a fixed support; a bucket; a pair of links for supporting said bucket upon said main supporting member; said links being articulately fastened to different parts of said main supporting member, and to different parts of said bucket; a thrust bar connected at one end to said bucket for thrusting and retracting the same; means for controlling the path of motion of the other end of said thrust bar and a cable also connected to said thrust bar for operating it.

10. In an excavator the combination of a main supporting member pivotally mounted upon a fixed support; a bucket; an articulately closed link-work for suspending said bucket from the main supporting member; a thrust bar connected at one end to said bucket for thrusting and retracting the same; an arc bar for controlling the path of motion of the other end of said thrust bar, said arc bar having a pivotal point fixed with reference to said main supporting member; and means for operating said thrust bar.

11. In an excavator the combination of a pivotally supported main supporting member; a bucket, and two distinct sets of articulating links, one set for suspending the bucket from said main supporting member, and the other set for moving the bucket relatively to said main supporting member; and means for operating said second set of links.

12. In an excavator the combination of a pivotally supported main supporting member; a bucket; and two distinct sets of articulating links, one set for suspending the bucket from said main supporting member, and the other set for moving the bucket relatively to said main supporting member; a power device and a cable for operating said second set of links, said cables leading from said power device to said second set of links by way of the forward extremity of said main supporting member, and said cable also leading from said power device to said second set of links by way of the rear extremity of said power device for the purpose described.

13. In an excavator the combination of a main supporting member rotatable about a fixed horizontal axis; means for rotating it about its axis; a bucket; open back and front for digging at one edge and discharging over the other; articulating links for suspending said bucket from said main supporting member; and means for moving said bucket forward and backward upon its links relatively to said main supporting member, whereby when the bucket is lowered by the rotation of the main supporting member and thrust forward relatively thereto said bucket will dig at its forward edge, and when the bucket is raised by the rotation of said main supporting member and retracted relatively thereto said bucket will by gravity discharge over its rear edge.

14. In a multiplex excavator having a plurality of buckets each suspended separately the combination with a stationary support, and a power device thereon, of a plurality of main bucket-supporting members mounted on said stationary support and rotatable about a horizontal axis; a bucket for each of said bucket-supporting members; means for movably suspending said buckets from their supporting members; and means for moving said buckets relatively to their supporting members, said main bucket-supporting members being connected to and rotated by said power device, and differing from each other in phrase, substantially as described.

15. In an excavator, the combination with the stationary support of plurality of main members pivotally supported thereon; a bucket for each of said members; links for articulately suspending a bucket from each of said main members; means for moving the buckets relatively to their main supporting members; a power device having cranks set at different angles; and a connecting rod from each crank to a main member for rotating the latter about their pivots, substantially as described.

16. In an excavator, the combination with the stationary support of a plurality of main members pivotally supported thereon; a bucket for each of said members; links for articulately suspending the bucket from each of said main members; other links for moving the buckets relatively to their main supporting members; means for operating the last mentioned links; a power device; cranks thereon and connecting rods from said cranks to said main members, said cranks being set at different angles, substantially as described.

17. In an excavator, a bucket oscillatory about a fixed axis, and means for rotating said bucket about its axis through an arc less than a complete circumference and automatically reversing the direction of rotation of said bucket.

18. In an excavator, a bucket oscillatory about a fixed axis, and a continuously operating power device for rotating said bucket about its axis through an arc less than a complete circumference and automatically reversing the direction of rotation of said bucket.

19. In an excavator, the combination of an axle, a main supporting member pivoted thereon, a bucket on said main supporting member and means for continuously and automatically reciprocating said main supporting member back and forth for raising and lowering the bucket whereby the bucket remains always upon the same side of said axis both in raising and lowering instead of completing a circle about said axle.

20. In an excavator, a pivoted main supporting member, a bucket mounted thereon and movable relatively thereto, a crank and connections between said crank and main supporting member whereby the continuous rotation of said crank in the same direction produces a forward and back movement of said main supporting member.

21. In an excavator, the combination of a link-suspended bucket, a main supporting member and a mechanically driven connecting rod attached to said main supporting member for swinging the same about its axis.

22. In an excavator the combination of a link-suspended bucket, a main supporting member, a thrust bar independent of said main supporting member, and a crank-operated connecting rod attached to said main supporting member for swinging the same about its axis.

23. In an excavator, the combination of a main supporting member, pivoted upon a fixed horizontal axis; a bucket open back and front for digging at one edge and discharging over the other edge and connected to said supporting member; and means for vibrating said supporting member continuously back and forth about said axis through an arc of less than 360°.

24. In an excavator, the combination of a main supporting member pivoted upon a fixed axis; a bucket open back and front for digging at one edge and discharging over the other edge and articulately connected to said supporting member; and continuously operating means for swinging said supporting member back and forth through an arc less than 360°.

25. In an excavator, the combination of a main supporting member pivoted upon a horizontal fixed axis, means for swinging the same continuously forward and back about its axis through the same arc of a circle; the arc being less than 360°; a bucket open back and front for digging at one edge and discharging over the other, articulating links for suspending said bucket from said main supporting member; and means for moving said bucket forward and backward upon its links relatively to said main supporting member, whereby when the bucket is lowered by the movement of the main supporting member and thrust forward relatively thereto said bucket will dig at its forward edge, and when the bucket is raised by the return movement of said main supporting member and retracted relatively thereto said bucket will be gravity discharged over its rear edge.

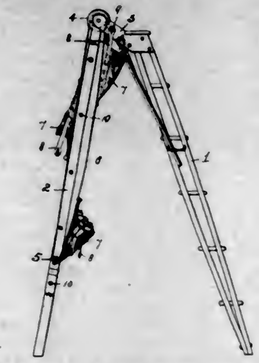
26. In an excavator, the combination of a main supporting member, pivoted upon a fixed axis; a bucket adjustably mounted thereon, and means for vibrating said supporting member continuously back and forth through the same arc of a circle which arc is less than 360°.

27. In an excavator, the combination of a main supporting member oscillatory about a fixed axis; a bucket adjustably mounted thereon; means for oscillating said supporting member back and forth through the same portion of a revolution and automatically reversing the direction of motion of said main supporting member.

868,268. TAPE-WINDER FOR TAPE-LOOMS. ELBRIDGE R. HOLMES and LAWRENCE B. JENCKES, Worcester, Mass., assignors to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed Mar. 28, 1907. Serial No. 364,997.

1. In a tape winder, the combination with a rotatable tape roll, a cam disk connected thereto to rotate therewith, and a rotatable cam, of a ratchet gear connected with said rotatable cam, a yoke shaped pawl for rotating said ratchet gear, a reciprocating arm carrying said pawl, and having engaging surfaces operated by said cam disk, a pivotally mounted tape guide, and a connection from said guide to said rotatable cam, to cause said guide to have a traverse or oscillating movement to guide the tape on to the roll.

part of the support and carrying fruit-receiving pockets, substantially as described.

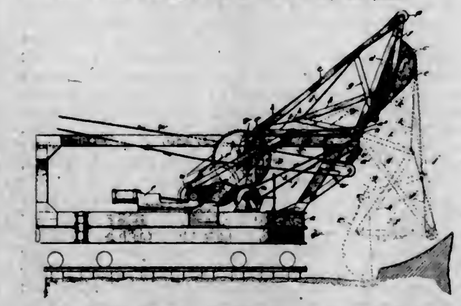


3. In combination a step-ladder having its support hinged in spaced relation to its ladder part and provided at its top and near its bottom with rollers, an endless belt operating around said rollers and having a plurality of fruit-receiving pockets.

4. In association with a step-ladder, an endless belt movable around a part of the same and carrying fruit-receiving pockets, and means carried by the pockets and adapted to coöperate with the ladder frame to hold the belt against movement.

5. In combination a ladder having its ladder part provided at its top with rearwardly extending arms and its support hinged to said arms in spaced relation to the ladder part, an endless belt movable around a part of the support and carrying fruit-receiving pockets, pins projecting from the arms, and straps carried by the pockets adapted to engage the pins to hold the belt stationary.

868,267. EXCAVATOR. OLAF HETLESAETER, Milwaukee, Wis. Filed Dec. 10, 1906. Serial No. 347,121.



1. In an excavator, the combination of a main supporting member pivotally supported upon a horizontal axis, means for rotating it about its axis, a bucket, links for suspending said bucket from the main supporting member, a thrust bar for controlling the position of the bucket relatively to said main supporting member an arc bar pivoted at one end to said thrust bar and at the other end to the axis of the main supporting member and means for operating said thrust bar.

2. In an excavator, the combination of a main supporting member pivotally supported upon a horizontal axis, means for rotating it about its axis, a bucket, links for suspending said bucket from the main supporting member, a thrust bar for controlling the position of the bucket relatively to said main supporting member an arc bar pivoted at one end to said thrust bar and at the other end to the axis of the main supporting member, and cables for moving said thrust bar relatively to the main supporting member.

3. In an excavator, the combination of a main supporting member pivotally supported upon a horizontal axis, means for rotating it about its axis, a bucket links for suspending said bucket from the main supporting member, said links being pivotally attached at one end to said bucket and at the other end to said main supporting member, a thrust bar independent of said main supporting member for controlling the position of the bucket relatively to said main supporting member an arc bar pivoted at one end to said thrust bar and at the other end to the axis of the main supporting member, and means for operating said thrust bar.

4. In an excavator, the combination of a main supporting member pivotally supported upon a horizontal axis, means for rotating it about its axis, a bucket, links for suspending said bucket from the main supporting member, said links being pivotally attached at one end to said bucket and at the other end to said main supporting member, a thrust bar independent of said main supporting member for controlling the position of the bucket relatively to said main supporting member an arc bar pivoted at one end to said thrust bar and at the other end to the axis of the main supporting member, and cables for moving said thrust bar relatively to the main supporting member.

5. In an excavator, the combination of a horizontal shaft; a main supporting member pivoted thereon; means for rotating said supporting member about its shaft; a bucket; a pair of links pivoted at one end to said bucket and at the other said main supporting member; a second pair of links one of which is connected to the said shaft and the other to the bucket, said last mentioned links being also pivotally connected together; and cables for moving said second pair of links relatively to the main supporting member.

6. In an excavator, the combination of a bucket; a main supporting member and an arc bar having coincident horizontal axes of rotation; and three links all pivotally connected to said bucket, one of said links being pivoted to said arc bar and the remaining two of said links being pivoted to said main supporting member.

7. In an excavator, the combination of a bucket; a main supporting member and an arc bar having coincident horizontal axes of rotation; three links all pivotally connected to said bucket, one of said links being pivoted to said arc bar and the remaining two of said links being pivoted to said main supporting member and a mechanically driven connecting rod attached to said main supporting member for rotating the same about its axis.

8. In an excavator, the combination of a bucket; a main supporting member and an arc bar having a coincident horizontal axes of rotation; three links all pivotally connected to said bucket, one of said links being pivoted to said arc bar and the remaining two of said links being pivoted to said main supporting member; a connecting rod attached to said main supporting member for rotating the same about its axis, a crank for operating said connecting rod, a power device, and a reduction gear interposed between said power device and said connecting rod, substantially as described.

9. In an excavator, the combination of a main supporting member pivotally mounted upon a fixed support; a bucket; a pair of links for supporting said bucket upon said main supporting member; said links being articulately fastened to different parts of said main supporting member, and to different parts of said bucket; a thrust bar connected at one end to said bucket for thrusting and retracting the same; means for controlling the path of motion of the other end of said thrust bar and a cable also connected to said thrust bar for operating it.

10. In an excavator the combination of a main supporting member pivotally mounted upon a fixed support; a bucket; an articulately closed link-work for suspending said bucket from the main supporting member; a thrust bar connected at one end to said bucket for thrusting and retracting the same; an arc bar for controlling the path of motion of the other end of said thrust bar, said arc bar having a pivotal point fixed with reference to said main supporting member; and means for operating said thrust bar.

11. In an excavator the combination of a pivotally supported main supporting member; a bucket, and two distinct sets of articulating links, one set for suspending the bucket from said main supporting member, and the other set for moving the bucket relatively to said main supporting member; and means for operating said second set of links.

12. In an excavator the combination of a pivotally supported main supporting member; a bucket; and two distinct sets of articulating links, one set for suspending the bucket from said main supporting member, and the other set for moving the bucket relatively to said main supporting member; a power device and a cable for operating said second set of links, said cables leading from said power device to said second set of links by way of the forward extremity of said main supporting member, and said cable also leading from said power device to said second set of links by way of the rear extremity of said power device for the purpose described.

13. In an excavator the combination of a main supporting member rotatable about a fixed horizontal axis; means for rotating it about its axis; a bucket; open back and front for digging at one edge and discharging over the other; articulating links for suspending said bucket from said main supporting member; and means for moving said bucket forward and backward upon its links relatively to said main supporting member, whereby when the bucket is lowered by the rotation of the main supporting member and thrust forward relatively thereto said bucket will dig at its forward edge, and when the bucket is raised by the rotation of said main supporting member and retracted relatively thereto said bucket will by gravity discharge over its rear edge.

14. In a multiplex excavator having a plurality of buckets each suspended separately the combination with a stationary support, and a power device thereon, of a plurality of main bucket-supporting members mounted on said stationary support and rotatable about a horizontal axis; a bucket for each of said bucket-supporting members; means for movably suspending said buckets from their supporting members; and means for moving said buckets relatively to their supporting members, said main bucket-supporting members being connected to and rotated by said power device, and differing from each other in phrase, substantially as described.

15. In an excavator, the combination with the stationary support of plurality of main members pivotally supported thereon; a bucket for each of said members; links for articulately suspending a bucket from each of said main members; means for moving the buckets relatively to their main supporting members; a power device having cranks set at different angles; and a connecting rod from each crank to a main member for rotating the latter about their pivots, substantially as described.

16. In an excavator, the combination with the stationary support of a plurality of main members pivotally supported thereon; a bucket for each of said members; links for articulately suspending the bucket from each of said main members; other links for moving the buckets relatively to their main supporting members; means for operating the last mentioned links; a power device; cranks thereon and connecting rods from said cranks to said main members, said cranks being set at different angles, substantially as described.

17. In an excavator, a bucket oscillatory about a fixed axis, and means for rotating said bucket about its axis through an arc less than a complete circumference and automatically reversing the direction of rotation of said bucket.

18. In an excavator, a bucket oscillatory about a fixed axis, and a continuously operating power device for rotating said bucket about its axis through an arc less than a complete circumference and automatically reversing the direction of rotation of said bucket.

19. In an excavator, the combination of an axle, a main supporting member pivoted thereon, a bucket on said main supporting member and means for continuously and automatically reciprocating said main supporting member back and forth for raising and lowering the bucket whereby the bucket remains always upon the same side of said axis both in raising and lowering instead of completing a circle about said axle.

20. In an excavator, a pivoted main supporting member, a bucket mounted thereon and movable relatively thereto, a crank and connections between said crank and main supporting member whereby the continuous rotation of said crank in the same direction produces a forward and back movement of said main supporting member.

21. In an excavator, the combination of a link-suspended bucket, a main supporting member and a mechanically driven connecting rod attached to said main supporting member for swinging the same about its axis.

22. In an excavator the combination of a link-suspended bucket, a main supporting member, a thrust bar independent of said main supporting member, and a crank-operated connecting rod attached to said main supporting member for swinging the same about its axis.

23. In an excavator, the combination of a main supporting member, pivoted upon a fixed horizontal axis; a bucket open back and front for digging at one edge and discharging over the other edge and connected to said supporting member; and means for vibrating said supporting member continuously back and forth about said axis through an arc of less than 360°.

24. In an excavator, the combination of a main supporting member pivoted upon a fixed axis; a bucket open back and front for digging at one edge and discharging over the other edge and articulately connected to said supporting member; and continuously operating means for swinging said supporting member back and forth through an arc less than 360°.

25. In an excavator, the combination of a main supporting member pivoted upon a horizontal fixed axis, means for swinging the same continuously forward and back about its axis through the same arc of a circle; the arc being less than 360°; a bucket open back and front for digging at one edge and discharging over the other, articulating links for suspending said bucket from said main supporting member; and means for moving said bucket forward and backward upon its links relatively to said main supporting member, whereby when the bucket is lowered by the movement of the main supporting member and thrust forward relatively thereto said bucket will dig at its forward edge, and when the bucket is raised by the return movement of said main supporting member and retracted relatively thereto said bucket will be gravity discharged over its rear edge.

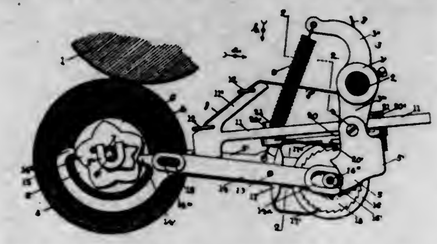
26. In an excavator, the combination of a main supporting member, pivoted upon a fixed axis; a bucket adjustably mounted thereon, and means for vibrating said supporting member continuously back and forth through the same arc of a circle which arc is less than 360°.

27. In an excavator, the combination of a main supporting member oscillatory about a fixed axis; a bucket adjustably mounted thereon; means for oscillating said supporting member back and forth through the same portion of a revolution and automatically reversing the direction of motion of said main supporting member.

868,268. TAPE-WINDER FOR TAPE-LOOMS. ELBRIDGE R. HOLMES and LAWRENCE B. JENCKES, Worcester, Mass., assignors to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed Mar. 28, 1907. Serial No. 364,097.

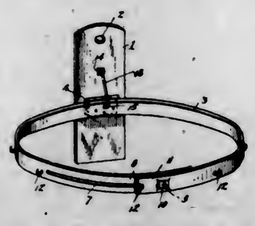
1. In a tape winder, the combination with a rotatable tape roll, a cam disk connected thereto to rotate therewith, and a rotatable cam, of a ratchet gear connected with said rotatable cam, a yoke shaped pawl for rotating said ratchet gear, a reciprocating arm carrying said pawl, and having engaging surfaces operated by said cam disk, a pivotally mounted tape guide, and a connection from said guide to said rotatable cam, to cause said guide to have a traverse or oscillating movement to guide the tape on to the roll.

2. In a tape winding mechanism, the combination with a tape or winding up roll, and a tape guide to guide the tape onto the roll, of mechanism intermediate said tape roll and said tape guide, said mechanism comprising a cam disk, a reciprocating arm operated by said cam disk, a



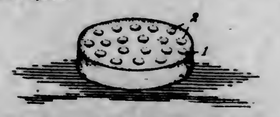
pawl carried on said arm, a ratchet gear operated by said pawl and connected with a cam to rotate said cam, and said cam, to communicate a traverse or oscillating movement to said tape guide.

868,269. BAG-HOLDER. JAMES HULBERT, Ashtabula, Ohio. Filed Apr. 9, 1907. Serial No. 367,141.



The herein described bag holder comprising a flat supporting and attaching plate formed adjacent to its top with an aperture to receive a suspending element, a bag supporting band or ring formed of resilient metal and having at one end a longitudinally extending slot and at its other end an integral enlargement formed with a threaded aperture, a clamping screw having a head engaged with the inner face of the slotted end of said band, the threaded end of said screw being passed through said slot and engaged with the threaded aperture in the other end of the band, bag supporting hooks projecting from the outer face of said band, a leaf hinge connecting said band to said plate, apertured ears upon said plate above the hinge, and a supporting hook pivoted between said ears and having its bent lower end adapted to engage the bottom edge of said band to support the latter in an elevated or vertical position, substantially as described.

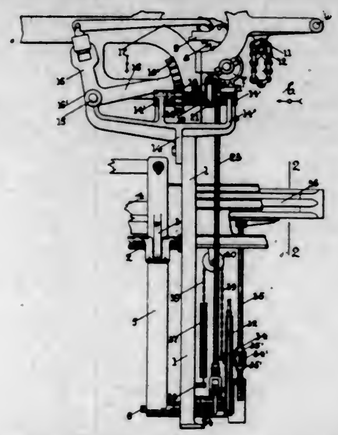
868,270. ORE-TESTING TABLET. JOHN E. HUNSINGER, Saginaw, Mich., assignor to Earl A. Cheney and Frank Cheney, Saginaw, East Side, Mich. Filed Mar. 5, 1906. Serial No. 304,204.



1. An ore testing tablet, comprising powdered, hardwood charcoal fifteen (15) parts, chlorate of potash eight (8) parts, sodium carbonate six (6) parts, said ingredients being bound together by a suitable adhesive.

2. An ore testing tablet, comprising a fuel, an agent rich in oxygen to enhance combustion and a combustion retarding agent and flux.

868,271. SHUTTLE-BOX MOTION OF LOOMS. GEORGE F. HUTCHINS, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed Mar. 24, 1905. Serial No. 251,721.



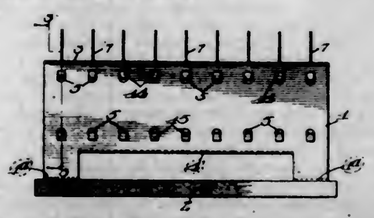
1. In a shuttle box motion of a loom, a pivotally mounted box lever, connections therefrom to a crank, and said crank, a gear connected with and operating said crank, a pivoted lever having thereon teeth or a gear segment operating said gear, a connection from said lever to a second crank, and said second crank forming a part of the pattern mechanism.

2. In a shuttle box motion of a loom, the combination with a pivotally mounted box lever, and a vibrator lever, of intermediate connections, comprising therein a pivoted lever, having thereon teeth meshing with a gear, and said gear connected with and operating a crank, and said crank, and connections therefrom to the box lever.

3. In a shuttle box motion of a loom, a pivoted lever, having on one side thereof teeth adapted to mesh with and operate a gear and move a crank connected with said gear through an arc of substantially one hundred and eighty degrees and said gear and crank.

4. In a shuttle box motion of a loom, a stand bolted to the loom frame, a lever pivotally mounted on said stand, and having teeth thereon, and connected with the pattern indicating mechanism, and said pattern indicating mechanism, and a shaft mounted on said stand, a gear on said shaft in mesh with the teeth on said lever, a crank on said shaft operated by said gear, and connections from said crank to the box lever, and said box lever.

868,272. SUPPORT FOR ELECTRICAL RESISTANCES. FREDERICK JOHANNSMEYER, Milwaukee, Wis., assignor to The Cutler-Hammer Manufacturing Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed Feb. 21, 1907. Serial No. 358,567.



1. In a support for a resistance unit, a supporting member and a bracket, one of which has an aperture and the other a lug passing through said aperture and bent over

to secure the parts together, said bracket being adapted to support the resistance unit.

2. In a support for a resistance unit, a supporting member and a bracket, one of which has an aperture and the other a lug passing through said aperture, and bent over to secure the parts together, said bracket having parallel sides for engaging the resistance unit and preventing lateral displacement thereof and said bracket having means for preventing vertical displacement.

3. In a support for a resistance unit, a supporting member and a bracket, one of which has an aperture and the other a lug passing through said aperture and bent over to secure the parts together, said bracket having parallel sides for engaging the resistance unit and preventing lateral displacement thereof, and parts formed integral with said bracket and bent over to prevent vertical displacement.

4. In a support for a resistance unit, a supporting member and a bracket, one of which has an aperture and the other a lug passing through said aperture and bent over to secure the parts together, said bracket consisting of a piece of sheet metal bent in such manner as to form two side walls, a top portion and a bottom portion.

5. In a support for a resistance unit, a supporting member and a bracket, one of which has an aperture and the other a lug passing through said aperture and bent over to secure the parts together, said bracket consisting of a piece of sheet metal bent in such manner as to form two side walls, a top portion and a bottom portion, the bottom portion being formed by being bent inwardly from one of said side walls.

6. In a support for a resistance unit, a supporting member and a bracket, one of which has an aperture and the other a lug passing through said aperture and bent over to secure the parts together, said bracket consisting of a piece of sheet metal bent in such manner as to form two side walls, a top portion and a bottom portion, the top portion being formed by being bent inwardly from one of said side walls.

7. In a support for resistance units, a supporting member having apertures therein, and a bracket adapted to support a resistance unit, said bracket having lugs passing through said apertures and bent over to secure the parts together.

8. In a support for a resistance unit, two parallel supporting members, and brackets for supporting a resistance unit, said brackets having lugs thereon and said supporting members having apertures for receiving said lugs and said lugs being bent over on the outside of said supporting members for holding the parts in position.

9. In a support for a resistance unit, two parallel supporting members consisting of sheet metal and having an integral flange formed at one edge thereof for stiffening the same, said support being apertured, and brackets adapted to support resistance units, said brackets having lugs passing through the apertures in said supporting members and bent over for securing the parts together.

10. In a support for a resistance unit, two parallel supporting members consisting of sheet metal and having an integral flange formed at one edge thereof for stiffening the same, said support being apertured, a base whereon said supports are mounted, and brackets adapted to support resistance units, said brackets having lugs passing through the apertures in said supporting members and bent over for securing the parts together.

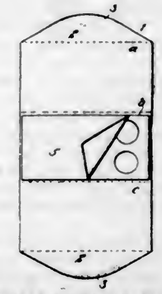
11. As an article of manufacture, a support for resistance units comprising parallel upright supporting members made of stamped metal, said supporting members having flanges on their upper and lower edges for stiffening them and having apertures punched therein; a base whereon said supporting members are mounted; and brackets formed of sheet metal and adapted to hold the ends of the resistance units, said brackets having lugs formed thereon passing through the said apertures in said supporting members and bent over to hold the parts together.

12. As an article of manufacture, the combination of a plurality of resistance units having bases which are rectangular at their ends, brackets adapted to hold the ends of said bases and prevent both lateral and vertical displacement thereof; and supporting members whereon said brackets are mounted, said supporting members and brackets being made of sheet metal and being secured together by means of lugs on one part passing through apertures in the other part and the lugs being bent over for engagement with the part to which it is to be secured.

13. The combination with a resistance unit having a suitable base, of a bracket adapted to receive the end of said base, said bracket being made of sheet metal which is stamped to form side pieces, and also top and bottom pieces, and a supporting member having said bracket attached thereto by means of lugs formed upon one of said parts and passing through suitable apertures in the other of said parts.

14. In combination with a resistance unit having a suitable supporting base of a bracket adapted to receive the end of said base and made of sheet metal stamped in a suitable form, said bracket being provided with side walls, each wall having a top and bottom piece, and a supporting member having said bracket fastened thereto by means of lugs formed upon said bracket and passing through apertures in said member.

868,273. RETURN-ENVELOP. WILLIAM T. JOHNSON, New York, N. Y. Filed Nov. 30, 1906. Serial No. 345,770.



1. A device of the character herein specified in which is comprised an oblong, straight-sided, un-cut body of paper, having at each extremity a sealing flap, said body being arranged to fold and seal in such a manner as to provide a surface for addressing, leaving the inner face of the body free for written or printed matter, and adapted to be folded in the opposite direction, inclosing the original address and exposing a return address surface, in combination with an inclosing receptacle fixed to the body of the envelop and adapted to be inclosed therein, substantially as shown and described.

2. A return envelop in which is comprised an oblong body of paper, having the sides straight and un-cut; a sealing flap at one extremity arranged to seal at one edge only, and a sealing flap at the other extremity arranged to seal on three sides, substantially as shown and described.

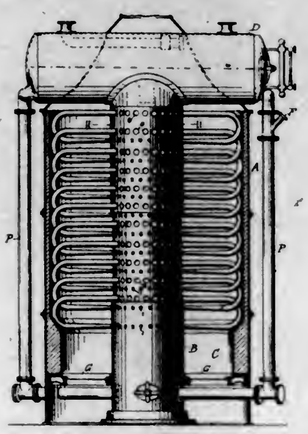
3. A return envelop in which is comprised an oblong body of paper, having the sides straight and un-cut; a sealing flap at one extremity arranged to seal at one edge only; a sealing flap at the other extremity arranged to seal on three of its sides, and an inclosing receptacle fixed to the body of the envelop substantially as shown and described.

868,274. STEAM-BOILER. ALFRED E. JONES, New York, N. Y. Filed Jan. 14, 1905. Serial No. 240,979.

1. In a water-tube boiler the combination of a cylindrical shell and yoke-shaped tubes each tapered at one end, the small ends of the tubes alternating with the large ends along longitudinal elements of the shell, substantially as described.

2. In a water-tube boiler, the combination of a vertical cylindrical portion, a fire-chamber surrounding the vertical cylindrical portion and having its inner wall formed there-

by, a cross-drum surmounting and forming a substantially unitary chamber with the vertical cylindrical portion, and circulating pipes isolated from all sources of heat, the upper ends of which connect the ends of the cross-drum with the lower end of the vertical cylindrical portion below the grate, substantially as described.



3. In a water-tube boiler, the combination of a vertical cylindrical portion, a fire-chamber surrounding the vertical cylindrical portion and having its inner wall formed thereby, a cross-drum surmounting and forming a substantially unitary chamber with the vertical cylindrical portion, and circulating pipes isolated from all sources of heat which connect the ends of the cross-drum with the lower end of the vertical cylindrical portion, substantially as described.

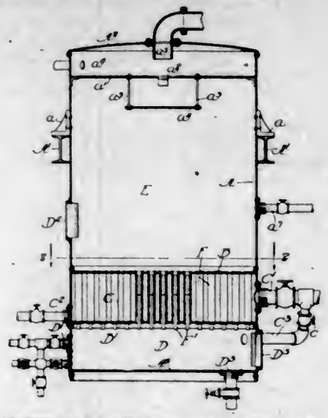
4. In a water-tube boiler, the combination of a vertical cylindrical portion, a fire-chamber surrounding the vertical cylindrical portion and having its inner wall formed thereby, yoke-shaped tubes arranged in the fire-chamber about the periphery of the cylindrical portion and each having both ends secured in the cylindrical portion, a cross-drum surmounting and forming a substantially unitary chamber with the vertical cylindrical portion, and circulating pipes isolated from all sources of heat which connect the ends of the cross-drum with the lower end of the vertical cylindrical portion, substantially as described.

5. In a water-tube boiler, the combination of a vertical cylindrical portion, a fire-chamber consisting of a fire-box surrounding the lower part of the vertical cylindrical portion, and a combustion space directly over the fire-box, water-tubes arranged in the combustion space, a cross-drum surmounting and forming a substantially unitary chamber with the vertical cylindrical portion, and circulating pipes isolated from the fire-chamber which connect the ends of the cross-drum with the lower end of the vertical cylindrical portion, substantially as described.

6. In a water-tube boiler, the combination of a vertical cylindrical portion, a fire-chamber surrounding the vertical cylindrical portion and having its inner wall formed thereby, a cross-drum surmounting and forming a substantially unitary chamber with the vertical cylindrical portion, circulating pipes isolated from all sources of heat which connect the ends of the cross-drum with the lower end of the vertical cylindrical portion, and feed connections with a circulating pipe, substantially as described.

7. In a water-tube boiler, the combination of a vertical cylindrical portion, a fire-chamber surrounding the vertical cylindrical portion, a cross-drum surmounting and forming a single unitary chamber with the vertical cylindrical portion, and water circulating pipes, the flow through which is downwardly, isolated from all sources of heat, the upper ends of which connect the ends of the cross-drum below the water level therein with the lower end of the vertical cylindrical portion below the grate.

868,275. VACUUM-PAN. PAUL G. KAISER, Chicago, Ill. Filed Jan. 31, 1907. Serial No. 355,104.



1. A vacuum pad having an upper and a lower compartment and an intermediate steam-chest, a plurality of circulating tubes passing through said steam-chest, said tubes affording communication between said upper and lower compartments, and smaller auxiliary tubes located concentrically within each of said circulating tubes and communicating at their lower ends with said lower compartment, said tubes having their upper ends not higher than the level of the upper ends of said circulating tubes.

2. A vacuum pan having an upper and a lower compartment, and an intermediate steam-chest, a plurality of circulating tubes passing through the said steam-chest, said tubes affording communication between said upper and lower compartments, and auxiliary tubes located concentrically within said circulating tubes, said auxiliary tubes having their upper ends below the upper ends of said circulating tubes and communicating at their lower ends with said lower compartment.

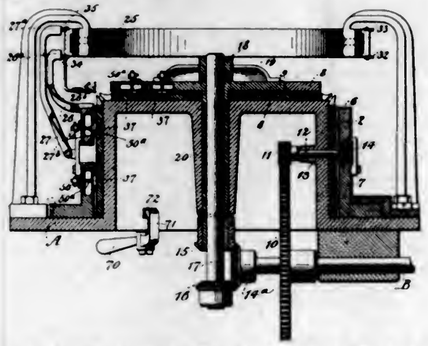
3. A vacuum pan having an upper and a lower compartment and an intermediate steam-chest, a plurality of circulating tubes passing through said steam-chest, said tubes affording communication between said upper and lower compartments, and auxiliary tubes located within said circulating tubes, the upper ends of said auxiliary tubes being below the upper ends of the large circulating tubes, and the lower ends of said auxiliary tubes depending below the lower ends of said circulating tubes and opening into said lower compartment.

4. A vacuum pan having an upper and a lower compartment and an intermediate steam-chest, a plurality of circulating tubes passing through the said steam-chest, said tubes affording communication between said upper and lower compartments, auxiliary tubes located within each of said circulating tubes, and means for supporting the auxiliary tubes in said circulating tubes embracing hangers having hooked upper ends engaging the upper margins of said circulating tubes.

5. A vacuum pan having an upper and a lower compartment and an intermediate steam-chest, a plurality of circulating tubes passing through the said steam-chest, said tubes affording communication between said upper and lower compartments, and auxiliary tubes located centrally within each of said circulating tubes, said auxiliary tubes being each provided with a plurality of radially extending centering pins projecting beyond the periphery thereof and contacting with the inner face of the circulating tube surrounding it.

868,276. CIRCULAR-KNITTING MACHINE. HERMANN A. KLEMM, New York, N. Y., assignor of one-half to James D. Leye, New York, N. Y. Filed Sept. 12, 1906. Serial No. 334,218.

1. A circular knitting machine comprising two groups of needles oppositely arranged with circumferential spaces between their adjacent ends; rotary cam carriers having needle operating cams common to the needles of each group; means for rotating said carriers in opposite directions, whereby their respective cams alternately actuate needles of each group; and yarn carriers reciprocating respectively in one arc to deliver yarn to one group of needles, and in another arc to deliver yarn to the other group of needles.



2. A circular knitting machine comprising two groups of needles oppositely arranged with circumferential spaces between their adjacent ends; rotary cam carriers having needle operating cams common to the needles of each group; said cams moving during their entire rotation through the same circular paths; means for rotating said carriers in opposite directions, whereby their respective cams alternately actuate needles of each group; and yarn carriers reciprocating respectively in one arc to deliver yarn to one group of needles, and in another arc to deliver yarn to the other group of needles.

3. A circular knitting machine comprising two groups of needles oppositely arranged with circumferential spaces between their adjacent ends, each group comprising two sets of needles; rotary cam carriers having needle operating cams common to the needles of each of the sets of needles of each group; and means for rotating said carriers of the sets of corresponding needles in opposite directions, whereby their respective cams alternately actuate needles of corresponding sets of each group.

4. A circular knitting machine comprising two groups of needles oppositely arranged with circumferential spaces between their adjacent ends, each group comprising two sets of needles; rotary cam carriers having needle operating cams common to the needles of each of the sets of needles of each group, said cams moving during their entire rotation through the same circular paths; and means for rotating said carriers of the sets of corresponding needles in opposite directions, whereby their respective cams alternately actuate needles of corresponding sets of each group.

5. A circular knitting machine comprising two groups of needles oppositely arranged with circumferential spaces between their adjacent ends; each having two sets of needles rotary cam carriers having needle operating cams common to the needles of each group; and means for rotating said carriers in opposite directions, whereby their respective cams alternately actuate needles of each group; and means for shifting the needle bed for causing racking effects of the needles.

6. A circular knitting machine comprising two groups of needles oppositely arranged with circumferential spaces between their adjacent ends; oppositely moved rotary cam carriers having needle operating cams common to the needles of each group; a yarn carrier for each of the groups of needles fitted on a circular slide way and located, when at rest, over one of the spaces between the groups of needles; means for connecting the yarn carriers alternately with the oppositely moving cam carriers, to cause each yarn carrier to be reciprocated over its respective group of needles; and means for rotating said carriers in opposite directions, whereby their respective cams alternately actuate needles of each group.

7. A circular knitting machine comprising two groups of needles oppositely arranged oppositely moved rotary cam carriers having needle operating cams common to the needles of each group, said cams moving during their entire rotation through the same circular paths; a yarn carrier for each of the group of needles fitted on a circular slide way and located, when at rest, over one of the spaces between the groups of needles; means for connecting the yarn carriers alternately with the oppositely moving cam carriers, to cause each yarn carrier to be reciprocated over its respective group of needles; and means for rotating said carriers in opposite directions, whereby their respective cams alternately actuate needles of each group.

8. A circular knitting machine comprising two groups of needles oppositely arranged with spaces between their adjacent ends, each group comprising two sets of needles; oppositely moved rotary cam carriers having needle operating cams common to the needles of each of the sets of needles of each group; yarn carriers for each of the groups of needles fitted on a circular slide way and located, when at rest, over one of the spaces between the groups of needles; means for connecting the yarn carriers alternately with the oppositely moving cam carriers, to cause the yarn carriers to be reciprocated over their respective groups of needles; and means for rotating said carriers of the sets of corresponding needles in opposite directions, whereby their respective cams alternately actuate needles of corresponding sets of each group.

9. In a circular knitting machine, the combination of two groups of needles oppositely arranged with circumferential space between their adjacent ends, each group consisting of a vertical set of needles and a horizontal set of needles; a pair of rotary cam carriers for the vertical needles and a pair of rotary cam carriers for the horizontal needles, the cam carriers of each pair being adapted to rotate in the opposite direction; an operating cam on each of the cam carriers common to the two sets of similarly arranged needles upon which they act; and means for rotating the cam carriers of each of the pairs in opposite directions, whereby their respective cams actuate alternately the needles of each group.

10. In a circular knitting machine, the combination of two groups of needles oppositely arranged with circumferential spaces between their adjacent ends, each group consisting of a vertical set of needles and a horizontal set of needles; a pair of rotary cam carriers for the vertical needles and a pair of rotary cam carriers for the horizontal needles, the cam carriers of each pair being adapted to rotate in opposite directions and, respectively during their entire rotation through the same circular paths; and operating cams on each of the cam carriers common to the two sets of needles upon which they act; and means for rotating the cam carriers of each of the pairs, in opposite directions, whereby their respective cams actuate alternately the needles of each group.

868,277. PROCESS OF MAKING FILTERS. GEORGE M. KNEUPER, New York, N. Y., assignor of one-third to George Kneuper and one-third to Kate Kneuper. Original application filed Aug. 12, 1904, Serial No. 220,450. Divided and this application filed May 16, 1905. Serial No. 260,677.

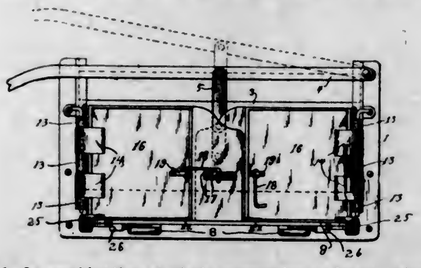
1. The herein described process for making articles from substances suspended in liquids, which consists in placing a perforated wall in contact with a liquid having such substances suspended therein, then quickly forcing an impervious surface toward said perforated wall to expel the liquid through said wall and cause the suspended substance to form a compressed lining on said wall, and utilizing the expelled liquid to produce an increasing counterpressure on the side of said wall opposite to that on which the said impervious surface is located.

2. The herein described process for making articles from substances suspended in liquids, which consists in placing a perforated wall in contact with a liquid having such substances suspended therein, then quickly forcing

an impervious surface toward said perforated wall to expel the liquid through said wall and cause the suspended substance to form a compressed lining on said wall, and exerting a gradually increasing counterpressure on the side of said wall opposite to that on which the said impervious surface is located.

3. The herein described process for making articles from substances suspended in liquids, which consists in placing a perforated wall in contact with a liquid having such substances suspended therein, then quickly forcing an impervious surface toward said perforated wall to expel the liquid through said wall and cause the suspended substance to form a compressed lining on said wall, and exerting a counterpressure on the side of said wall opposite to that on which the said impervious surface is located.

868,278. CHUTE-WAGON. FRANK M. KRASMER, Baltimore, Md. Filed June 13, 1907. Serial No. 378,816.



1. In combination, a chute comprising a frame, wings removably engaging the frame, and means for securing the wings one to the other.

2. In combination, a chute comprising a frame, wings removably secured thereto, said wings overlapping, and means for securing the overlapping portions of the wings one to the other.

3. In combination, a chute comprising a frame, wings hinged to the frame, the pintles of the hinges being removable, and means for securing the wings one to the other.

4. In combination, a chute comprising a frame having a base, wings removably engaging the frame, means for securing the wings one to the other and means for holding the wings against movement angular to the base of the frame.

5. In combination, a chute comprising a frame having a base, wings hingedly engaging the frame, means for securing the wings one to the other, and means for limiting the movement of the wings.

868,279. METHOD OF PREVENTING THE COLLECTION OF SNOW AND SLEET UPON CAR-WINDOWS. GEORGE M. LITTLE, Pittsburg, Pa. Filed Feb. 4, 1907. Serial No. 355,633.

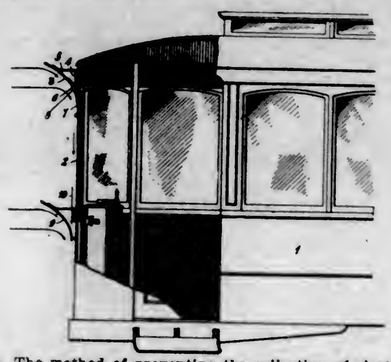
1. The method of preventing the collection of sleet and snow upon the window of a vehicle which consists in creating drafts of air adjacent and substantially parallel to the outer face of the window.

2. The method of preventing the collection of sleet and snow upon the window of a vehicle which consists in deflecting air that impacts upon the vehicle parallel to and over the outer face of the window.

3. The method of preventing the collection of sleet and snow upon the window of a vehicle which consists in directing over and substantially parallel to the outer face of the window drafts of air drawn from a warm location.

4. The method of preventing the collection of sleet and snow upon the window of a vehicle which consists in directing drafts of warm air over and substantially parallel to the outer face of the window.

5. The method of preventing the collection of sleet and snow upon the window of a vehicle which consists in causing the currents of air that impact upon the vehicle to draw warm air from the interior of the vehicle and direct the same over the outer face of the window.



6. The method of preventing the collection of sleet and snow upon the window of a vehicle which consists in causing the currents of air that impact upon the vehicle to direct drafts of warm air over the outer face of the window.

7. The method of preventing the collection of sleet and snow upon the window of a vehicle which consists in causing the currents of air that impact upon the vehicle to create drafts of air from a warm location and to direct the same over the outer face of the window.

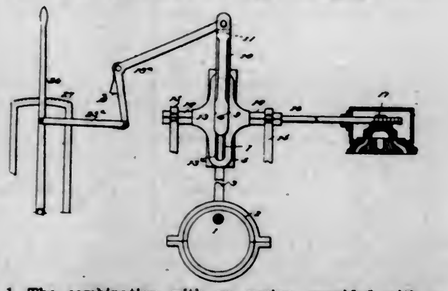
8. The method of preventing the collection of sleet and snow upon the window of a vehicle which consists in causing the motion of the vehicle to create drafts of air over and substantially parallel to the outer face of the window.

9. The method of preventing the collection of sleet and snow upon the window of a vehicle which consists in maintaining a layer of warm air adjacent to the outer face of the window.

10. The method of preventing the collection of sleet and snow upon the window of a vehicle which consists in causing the currents of air that impact upon the vehicle to direct other currents over the outer face of the window.

11. The method of preventing the collection of sleet and snow upon the window of a vehicle which consists in maintaining a layer of air that is substantially free of snow and sleet adjacent to the outer face of the window.

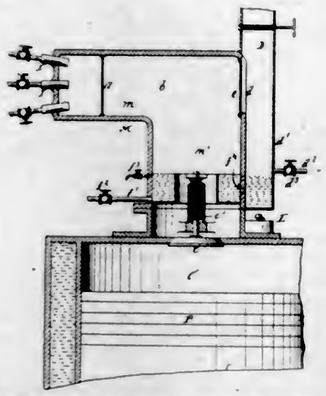
868,280. VALVE-GEAR. SAMUEL W. LONG, Clarence, Mo. Filed Feb. 19, 1907. Serial No. 358,264.



1. The combination with an engine, provided with a valve, a reciprocating valve rod for said valve, and an eccentric, of a rod secured to the collar of said eccentric, a yoke operatively connected to said valve-rod, and movable therewith, and provided with a slot perpendicular to the line of movement, an oscillating block, a support therefor, the axis of said block extending in line with the center of said slot, and at right angles to the line of movement of the yoke, said block being provided with a longitudinally extending guide way, a coupling pin slidingly mounted in said guide way, and extending into the slot of the yoke, a stirrup embodying two arms embracing said yoke and carrying at one end an antifriction block working in said slot and encircling said coupling pin, a bell crank fulcrumed at its elbow and having one arm connected to said stirrup, the other arm of said bell crank being provided with a wrist pin, a lever fulcrumed intermediate of its ends and provided at one end with a slot accommodating said wrist pin, supports for the bell crank and said lever, and a hand lever, operatively connected to said first named lever.

2. The combination with an engine, provided with a steam chest valve and valve rod and eccentric, said valve rod being mounted to have a reciprocating motion, of a slotted yoke connected to said valve rod, and movable therewith, a rod connected to the strap of the eccentric, an oscillating block, a support therefor, said block being provided with a bore through which the rod extends and by which it is oscillated, a stirrup having an adjustable engagement with said slotted yoke and with said oscillating block, and means for holding said stirrup at different points along the slot of the yoke and the said block.

868,281. HYDROCARBON-MOTOR. ABBOT A. LOW, Horseshoe, N. Y. Filed June 2, 1906. Serial No. 319,811.
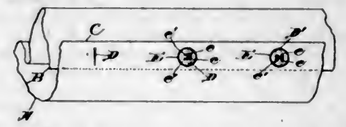


1. In a hydrocarbon motor of the character designated, the combination of a mixing chamber, a conduit for admitting air to said mixing chamber, a screen interposed between said air conduit and said mixing chamber, means for injecting hydrocarbon into said mixing chamber and against said screen, a drip collecting receptacle below and forming a continuation of said air conduit, and external means for heating the drip in said collecting chamber, whereby the drip is vaporized and returned to the mixing chamber with the air supplied thereto, for the purpose described.

2. In a hydrocarbon motor of the character designated, the combination of a mixing chamber, a conduit for admitting air to said mixing chamber, a screen interposed between said air conduit and said mixing chamber, means for injecting hydrocarbon into said mixing chamber and against said screen, a drip-collecting receptacle below and forming a continuation of said air conduit, means for introducing a preliminary supply of hydrocarbon to said drip collecting chamber for use in effecting the preliminary starting of the motor, and external means for heating the hydro-carbon in said drip-collecting chamber whereby the said hydrocarbon is vaporized and caused to enter the mixing chamber with the air supplied thereto, for the purpose described.

3. In a hydrocarbon motor of the character designated, the combination of a mixing chamber, a conduit for admitting air to said mixing chamber, a screen interposed between said air conduit and said mixing chamber, means for injecting hydrocarbon into said mixing chamber and against said screen, a drip-collecting receptacle below and forming a continuation of said air conduit, a drip collecting receptacle in the mixing chamber below the said screen and communicating with the aforesaid drip collecting receptacle forming a continuation of the air conduit, and external means for heating the hydrocarbon in said latter drip receptacle, whereby the drip is vaporized and returned to the mixing chamber with the air supplied thereto, for the purpose described.

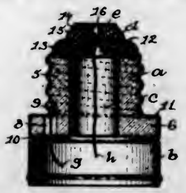
868,282. METHOD OF SEWING ON BUTTONS. ROBERT L. LYONS, Waltham, Mass. Filed Sept. 4, 1906. Serial No. 333,055.



1. The method of sewing on buttons to an underlying fabric by stitches passing through button holes in a superposed fabric, which consists in first attaching the button to said underlying fabric by stitches passing through an unexpanded button hole in the superposed fabric, holding said superposed fabric, then moving the button with relation to the button hole by the drawing action of said stitches, and finally finishing the attachment of the button to the underlying fabric by stitches passing through said button, at a distance from the first mentioned stitches and through the expanded button hole substantially as described.

2. That method of sewing four hole buttons to an underlying fabric having button holes by stitches passing through a superposed fabric, which consists in first partially attaching the button by stitches passing through two of its holes and through the button hole, holding the superposed fabric from movement, then moving the button laterally to bring the second pair of holes therein in position over the button hole and finally passing stitches through said pair of holes, through the button hole and through the underlying fabric.

868,283. ELECTRIC-INCANDESCENT-LAMP BASE. FREDERIC H. MANCHESTER, Providence, R. I., assignor to Providence Gas Burner Company, Providence, R. I. Filed Jan. 31, 1907. Serial No. 355,058.



1. An incandescent lamp base embodying a porcelain sleeve formed with an enlarged annular flange at its base which projects outwardly from said sleeve, a glass cap formed with an enlarged annular flange at its base seating on the top of said sleeve, a contact shell secured to said sleeve and having its lower end terminating at the juncture of the sleeve and said flange thereof the upper end of said shell being turned inwardly to inclose said flange of the cap and to have its end extremities abut the sides of said cap, and a skirt having an annular beading in engagement with the under face of the sleeve flange and having its upper end turned inwardly to lie on the upper face of said sleeve flange at points remote from the lower end of said contact shell.

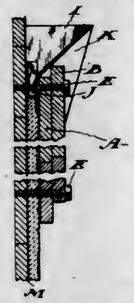
2. An incandescent lamp base embodying a porcelain sleeve having an enlarged base, a glass cap having a crown and an enlarged base seating on the top of said sleeve, a

contact shell secured to said sleeve and having its upper end bent inwardly to engage over said flange of the cap, and a skirt having its upper end bent into engagement with the exterior of said enlarged base of the sleeve.

3. An incandescent lamp base embodying a sleeve having an enlarged flange at its base, a cap seating on the top of said sleeve, a contact shell secured to said sleeve and having its upper end bent to engage the exterior of said cap and sustain the same in relative position to the sleeve, and a skirt having its upper end bent to engage the periphery and the top of said flange, said bent portion of the skirt terminating at points away from the sleeve.

4. An incandescent lamp base embodying a sleeve, a cap seating on the top, of said sleeve, a contact shell secured to said sleeve and having its upper end extending thereabove to be bent to engage the exterior of said cap to secure the same to said sleeve, and a skirt having its upper end bent into engagement with said sleeve at the base thereof at points exterior of the lower termination of said contact shell.

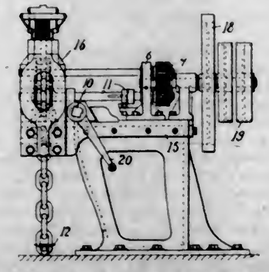
868,284. MOLD FOR VENEERING WALLS WITH CEMENT. JAMES G. MILLS, Toronto, Ontario, Canada. Filed Mar. 2, 1906. Serial No. 303,925.



1. A mold for veneering walls with concrete comprising two mold walls; means for connecting the mold walls in alinement with either uppermost; and a V-shaped metal packing strip fitted into the joint between the two mold walls, substantially as described.

2. A hopper for molds for veneering walls with concrete comprising a hopper V-shaped in cross section and open at its inner side; legs depending from the hopper; and hooks at the upper ends of the legs facing towards the inner side of the hopper, substantially as described.

868,285. MACHINE FOR CHAIN-MAKING. RUDOLF MÜLLER, Göteborg, Sweden. Filed Mar. 29, 1907. Serial No. 365,410.

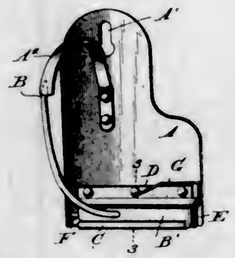


1. The combination in a machine for manufacturing chains, of a welding ring having a semi-circular groove, a series of pressure rollers arranged thereabout and between which and said welding ring the material is worked, each of said pressure rollers having a groove of uniform width with, and varying depth from, the other of said rollers and said welding ring, and means for rotating said pressure rollers, substantially as described.

2. The combination in a machine for manufacturing chains, of a welding ring comprising separate parts and having a semi-circular groove, a series of pressure rollers arranged thereabout and between which and said welding ring the material is worked, each of said pressure rollers having a groove of uniform width with, and varying depth from, the other of said rollers and said welding ring, and means for rotating said pressure rollers, substantially as described.

3. The combination in a machine for manufacturing chains, of a welding ring having a semi-circular groove, a series of pressure rollers arranged thereabout and between which and said welding ring the material is worked, each of said pressure rollers having a groove of uniform width with, and varying depth from, the other of said rollers and said welding ring, a bending hammer and a roller former arranged between pairs of said pressure rollers to be pressed against the material, and means for rotating said pressure rollers, substantially as described.

868,286. LOCKING-HANGER FOR PAPER BAGS. ROBERT MUNDAY, Fulton, Ark. Filed Mar. 14, 1907. Serial No. 362,422.



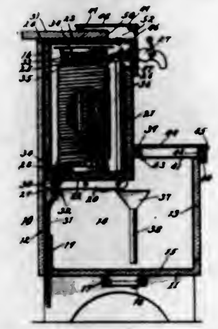
1. A paper bag holder comprising a base plate, a keeper, a horizontal guide-way formed on the base plate, a block sliding in said guide-way, a prong carried by the block, and in engagement with the keeper when the block is in its normal position, and a spring locking said block normally in the guide-way.

2. A paper bag holder of the kind described comprising a curved keeper, a horizontal guide-way, a block sliding in the guide-way, an upwardly and curved prong adapted to engage the free end of the keeper, a flange on one end of the block, and a spring normally engaging a flanged end of the block and holding it in the guide-way.

3. A device of the kind described comprising a base plate having its lower edge curved outwardly and upwardly, an angled plate arranged upon said base parallel to the up-turned edge, a block sliding in the guide-way formed by said up-turned edge and the said angled plate, a spring adapted to lock the block in the guide-way, at one end of the same, a stop engaged by the block at the other end of said guide-way, a prong carried by the block and a keeper carried by the base plate in position to be engaged by the prong when the block is in the guide-way.

868,287. COOLER. EDWARD NEELY, Chicago, Ill. Filed Sept. 6, 1904. Serial No. 223,333.

1. In a device of the class described, the combination with the chest having the narrow top-portion and the wider bottom portion, the narrow top portion being over the rear of the bottom portion, of the cooling chamber forming the front of the top of the chest and filling the narrow top portion above the rear of the bottom portion, a coil in the cooling chamber, a faucet supported in the front of the chamber and connected to one end of the coil, a supply pipe extending adjacent the chamber where the other end of the coil emerges therefrom, and detachable connections between the pipe and the end of the coil, the elements being so constructed and arranged that when the connections are detached the cooling chamber with its coil and faucet in place can be removed bodily from the chest.



2. In a device of the class described, the combination with the chest having the narrow top-portion and the wider bottom portion, the narrow top-portion being over the rear of the bottom portion, of the cooling chamber forming the front of the top of the chest and filling the narrow top portion above the rear of the bottom portion, a coil in the cooling chamber, a faucet supported in the front of the chamber and connected to one end of the coil, a supply pipe extending adjacent the chamber where the other end of the coil emerges therefrom, detachable connections between the pipe and the end of the coil, and means for removably securing the chamber in place, the elements being so constructed and arranged that when the connections are detached and the securing means released, the cooling chamber with its coil and faucet in place can be removed bodily from the chest.

3. In a device of the class described, the combination with the chest having the narrow top-portion and the wider bottom portion, the narrow top portion being over the rear of the bottom portion, of the cooling chamber forming the front of the top of the chest and filling the narrow top portion above the rear of the bottom portion, a coil in the cooling chamber, a faucet supported in the front of the chamber and connected to one end of the coil, a supply-pipe extending adjacent the chamber where the other end of the coil emerges therefrom, detachable connections between the pipe and the end of the coil, and a drip-pan adapted to fit between the cooling chamber and the front of the top of the bottom portion of the chest to secure the cooling chamber in place, the elements being so constructed and arranged that when the connections are detached and the drip-pan removed the cooling chamber with its coil and faucet in place can be removed bodily from the chest.

4. In a device of the class described, the combination with the chest having the narrow top-portion and the wider bottom portion, the narrow top-portion being over the rear of the bottom portion, of the cooling chamber forming the front of the top of the chest and filling the narrow top-portion above the rear of the bottom-portion and supported by inwardly projecting horizontal flanges, a coil in the cooling chamber, a faucet supported in front of the chamber and connected to one end of the coil, a supply pipe extending adjacent to the chamber where the other end of the coil emerges therefrom, and detachable connections between the pipe and the end of the coil, the elements being so constructed and arranged that when the connections are detached the cooling chamber with its coil and faucet in place can be slid forward on the flanges and removed bodily from the chest.

5. In a device of the class described, the combination with the chest having the narrow top-portion and the wider bottom-portion, the narrow top-portion being over the rear of the bottom-portion and adapted to extend partly beneath a bar, of the cooling chamber forming the front of the top of the chest and filling the narrow top-portion above the rear of the bottom-portion, the drain-plate pan resting on the top of the portion of the chest not extending beneath the bar, a coil in the cooling chamber, a faucet supported in the front of the chamber and connected to one end of the coil, a supply pipe extending adjacent to the chamber where the other end of the coil emerges therefrom, and detachable connections between the pipe and the end of the coil, the elements being so constructed and arranged that when the connections are detached the cooling chamber with its coil and faucet in place can be removed bodily from the chest.

6. In a device of the class described, the combination with the chest having the narrow top-portion and the wider bottom-portion, the narrow top-portion being over the rear of the bottom-portion and adapted to extend partly beneath a bar, of the cooling chamber forming the front of the top of the chest and filling the narrow top-portion above the rear of the bottom portion, the drain-plate pan resting on the top of the portion of the chest not extending beneath the bar, a drip pan adapted to fit between the cooling chamber and the front of the top of the bottom portion of the chest to secure the cooling chamber in place, a coil in the cooling chamber, a faucet supported in the front of the chamber over the drip-pan and connected to one end of the coil, a supply pipe extending adjacent the chamber where the other end of the coil emerges therefrom, and detachable connections between the pipe and the end of the coil, the elements being so constructed and arranged that when the connections are detached and the drip-pan removed, the cooling-chamber with its coil and faucet in place can be removed bodily from the chest.

7. In a cooler, in combination, a chest providing a cold storage chamber and having an upper extension at its rear portion, a cooling chamber located in the extension and comprising a unit consisting of a tank the front wall of which forms a front for the extension, a circulating coil in the tank, and a draw off faucet carried by the front of the tank and to which one end of the coil is connected, the other end of the coil passing through the bottom of the tank, a supply pipe passing into the chest and to which the latter end of the coil is detachably connected, and a removable drip pan under the faucet forming the top of the front portion of the chest and engaging the tank, whereby when the drip pan is removed and the tube disconnected from the supply pipe the cooling chamber in its entirety may be removed from the chest.

8. In a cooler, the combination with a chest, of a removable cooling chamber carried by the chest and provided with a coil, a faucet on the cooling chamber and connected to the coil, and a removable drip pan mounted on the chest under the faucet and which when in position prevents removal of the cooling chamber.

9. In a cooler, the combination with a chest, a drip tube in the chest, a removable cooling chamber carried by the chest and having an overflow pipe discharging into the drip tube, a coil in the cooling chamber provided with a faucet, and a removable drip pan located under the faucet and securing the cooling chamber in position and having an outlet also discharging into the drip tube.

10. In a cooler, the combination with a storage chest, of a removable cooling chamber carried by the chest and provided with a plurality of coils, supply pipes passing into the chest and detachably connected to the coils, a discharge faucet for each coil mounted on the front wall of the cooling chamber, and a removable drip pan mounted on the chest under the faucets and engaging the cooling chamber to secure it in place and providing a closure for the chest, whereby when the drip pan is removed and the coils disconnected from the supply pipes the cooling chamber may be removed from the chest.

11. The combination with the bar, and a supporting member disposed beneath and rearwardly of the same, and parallel guide rails carried by said supporting member, of a cooling and dispensing member slidably mounted on said guide rails and adapted to extend partly underneath said bar when at one limit of its movement, and draining means carried by said members.

12. The combination with the bar, and a supporting member disposed beneath and rearwardly of the same, and parallel guide rails carried by said supporting member, of a cooling and dispensiong member slidably mounted on said guide rails and adapted to extend partly underneath said bar when at one limit of its movement, draining means carried by said members, and a drip pan removably mounted in said supporting member, which when in position coöperates with the cooling and dispensing member to secure it at said limit of movement.

13. The combination with the bar, and a supporting member disposed beneath and rearwardly of the same, and bearings carried by said supporting member, of a cooling and dispensing member movably mounted on said bearings and adapted to extend partly underneath said bar when at one limit of its movement and to have its top moved entirely from underneath said bar when at the other limit of its movement, and draining means carried by said members.

14. In a device of the class described, the combination with the cabinet having the top portion and the bottom portion, of the cooling chamber occupying the top portion of the cabinet, a member removable from the top of the cooling chamber to give access thereto for icing it, a coil in the cooling chamber, a faucet supported in the front of the cooling chamber and connected to one end of the coil, a supply pipe extending adjacent to the chamber where the other end of the coil emerges therefrom, and detachable connections between the pipe and the end of the coil, the elements being so constructed and arranged that when the connections are detached, the cooling chamber, with its coil and faucet in place, can be moved on the bottom portion of the cabinet.

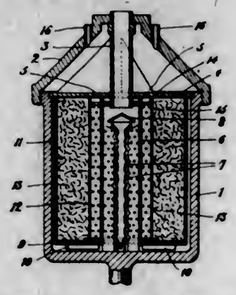
15. In a device of the class described, the combination with the cabinet having the top portion and the bottom portion, of the cooling chamber occupying the top portion of the cabinet, a member removable from the top of the top portion of the cabinet, a removable drain plate above the top of the top portion of the cabinet, a cover on the top of the cooling chamber beneath the drain plate removable to give access to the cooling chamber for icing it, a coil in the cooling chamber, a faucet supported in the front of the chamber and connected to one end of the coil, a supply pipe extending adjacent to the chamber where the other end of the coil emerges therefrom, detachable connections between the pipe and the end of the coil, and a drip pan adapted to fit between the cooling chamber and the front of the top of the bottom portion of the cabinet beneath the faucet to secure the cooling chamber in place, the elements being so constructed and arranged that when the connections are detached and the drip pan removed, the cooling chamber with its coil and faucet in place can be moved on the bottom portion of the cabinet.

16. In a device of the class described, the combination with the cabinet having the top and bottom portions, the bottom portion being wider than and extending beyond the top portion, of the cooling chamber in the top portion of the cabinet and supported thereby and having the strip 39 elements being so constructed and arranged that when the ed to be supported on the strip 39 and the tops of the walls moved to the bottom portion of the cabinet.

17. In a device of the class described, the combination with the cabinet having the drain pipe in the bottom portion thereof, of the cooling chamber in the top portion of the cabinet, having the overflow pipe therein discharging into the drain pipe, and the drain plate on the top of the top portion of the cabinet over the cooling chamber, having an aperture in the bottom thereof discharging into the overflow pipe.

18. In a device of the class described, the combination with the cabinet having the drain pipe in the bottom portion thereof, of the cooling chamber in the top portion of the cabinet having the overflow pipe therein discharging into the drain pipe, the drain plate on the top of the top portion of the cabinet over the cooling chamber, having an aperture in the bottom thereof discharging into the overflow pipe, and a drip pan carried by the cabinet adjacent the cooling chamber, and having an aperture discharging into the drain pipe.

868,288. CENTRIFUGAL FILTER. FRANS O. NILSSON and JOHAN A. JONSON, Stockholm, Sweden, assignors to Aktiebolaget Vincentrifugen, Stockholm, Sweden. Filed Apr. 20, 1906. Serial No. 312,836.



1. In a centrifugal apparatus for improving liquids the combination of a bowl, a centrally arranged liner having perforated wings at the inside thereof, and a filter surrounding the said liner, said filter communicating with the said liner in such a manner that the liquid entering the apparatus is caused to first run through the liner, in the longitudinal direction thereof, and then through the said filter, substantially as and for the purpose set forth.

2. In a centrifugal apparatus for improving liquids the combination of a bowl, a cylinder arranged centrally within the said bowl, perforated wings attached to the inside of the said cylinder, and a filter surrounding the said cylinder, at a distance therefrom, said cylinder communicating, at its lower end, with the outer side of the said filter, substantially as and for the purpose set forth.

3. In a centrifugal apparatus for improving liquids the combination of a bowl, an inlet-pipe in the same, a central cylinder below the said inlet-pipe, perforated wings in the said central cylinder, two perforated cylinders forming between them an annular space, and a filtering material in the said annular space, substantially as and for the purpose set forth.

4. In a centrifugal apparatus for improving liquids the combination of a bowl, a cover on the same, a central inlet-pipe, an inner perforated cover, a central cylinder below the said inlet-pipe and communicating therewith, perforated wings in the said central cylinder, an intermediate bottom in the bowl, flanges on the underside of the said bottom, a perforated cylinder surrounding the said central cylinder and forming together with the latter an annular space, another perforated cylinder forming together with the firstmentioned perforated cylinder an annular space, and a filtering material in the lastmentioned annular space, substantially as described.

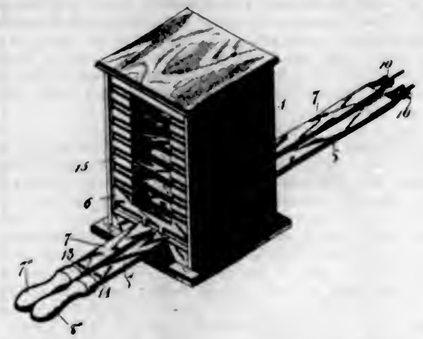
868,289. INTERLOCKING DEVICE FOR TRAIN-ORDER SIGNALS. EDWIN E. OVERHOLT, Washington, D. C. Filed Sept. 20, 1901. Serial No. 76,000.

1. In interlocking devices for train order signals, a cabinet having compartments; a definite kind of tablets in each compartment; and means coöperating with said tablets to permit them to be entered only in their proper compartments in said cabinet.

2. In interlocking devices for train order signals, a cabinet carrying a series of tablets; and having stops, whereby said tablets are prevented from entering any but the proper compartments of said cabinet.

3. In interlocking devices for train order signals, a cabinet having compartments each carrying tablets for trains running in a given direction or directions; and means designed to prevent the indiscriminate entering of said tablets within said compartments.

4. In interlocking devices for train order signals, a cabinet having a compartment for east bound order blanks and another for west bound order blanks; said blanks being made different from each other for purposes of discrimination; each of said compartments being designed to receive and house only the form of tablet designed therefor.



5. In interlocking devices for train order signals, a cabinet having separate compartments designed for east bound orders, west bound orders, and "double" orders respectively; each compartment being formed to receive and house only the kind of orders intended therefor.

6. In interlocking devices for train order signals, a cabinet having a compartment for east bound train order tablets and another for west bound order tablets; each of said kinds of tablets differing from the other, and each of said compartments designed to receive only the special kind of tablets intended therefor.

7. In interlocking devices for train order signals, a cabinet having a compartment for east bound train order blanks, another for west bound order blanks, and another for "double" order blanks; each of said kinds of blanks being different from the other, and each of said compartments designed to receive only the special kind of blanks intended therefor.

8. In interlocking devices for train order signals, a cabinet having train order tablets normally housed therein; signal actuating connections; and interlocking devices coöperating with said mechanism, whereby the device is rendered inoperative, with the signals locked at "danger," whenever it is attempted to enter one of the tablets in a wrong compartment.

9. In interlocking devices for train order signals, a cabinet carrying tablets for east bound orders, west bound orders, and "double" orders; and signal actuating mechanism in coöperative relation to said tablets, whereby each east bound tablet controls the east bound signal; each west bound tablet controls the west bound signal; and the "double" order tablet controls both signals.

10. In interlocking devices for train order signals, a cabinet carrying east bound orders, west bound orders, and "double" orders; and signal actuating mechanism in coöperative relation to said tablets, whereby the withdrawal from the cabinet of an east bound order, will lock the east bound signal at "danger;" the withdrawal of a west bound tablet will lock the west bound signal at "danger;" and the withdrawal of a "double" order tablet, will lock both signals at "danger."

11. In interlocking devices for train order signals, a cabinet having a series of tablets normally housed therein; signal actuating connections, and a series of locks in operative relation thereto, controlled by the tablets; and means independent of the tablets for unlocking the signal connections.

12. In interlocking devices for train order signals, a cabinet having a series of tablets normally housed therein; signal actuating connections, and a series of tablet locks in coöperative relation thereto, the signaling mechanism unlocked and locked by the insertion or withdrawal respectively, of a tablet; and independent means for unlocking said signaling mechanism while a tablet is withdrawn from the cabinet.

13. In interlocking devices for train order signals, a cabinet having a series of tablets normally housed therein; signal actuating mechanism; tablet locks for locking and unlocking the same; means independent of the tablets for unlocking the signaling mechanism to give a "clear" signal; and means for compelling the release of the tablet locks from the control of said independent means, and the bringing of them again into operative relation to the signaling mechanism, every time the signal is "cleared" by said independent means.

14. In interlocking devices for train order signals, a cabinet having a series of tablets normally housed therein; signal actuating connections; a series of tablet locks in operative relation thereto, locked and unlocked by the tablets, and converted into gravity locks by the removal of their tablets from the cabinet; means independent of the tablets for unlocking the signaling mechanism; and further means carried by said signaling mechanism and designed to be engaged by said locks as the signal returns to "danger" after having been set to "clear" by said independent mechanism, whereby a signal having been set to "clear" and only partially returned to "danger" will nevertheless be locked in whatever position it assumes, if there be undelivered train orders on hand.

15. In interlocking devices for train order signals, a cabinet for train order blanks; stops within said cabinet; and train order tablets having cut-away portions to prevent them from contacting with said stops.

16. In interlocking devices for train order signals, the combination with signals for trains running in opposite directions, of a cabinet having blank train order tablets for trains running in each of said directions; actuating connections between each of the signals and the cabinet; said connections between either signal and the cabinet being controlled by the tablets intended for trains controlled by that signal.

17. A cabinet having separate compartments designed to respectively receive tablets of train order blanks for trains running in different directions, each of said compartments being formed to receive and house only the kind of tablets for which it is designed.

18. A cabinet having separate compartments designed to respectively receive tablets of train order blanks for trains running in different directions; and locks for each compartment, to lock and unlock the signal controlling trains running in the direction for which the tablets to be carried in that compartment are designed; the locks of each compartment being adapted to be controlled only by the tablets designed for that compartment.

19. A cabinet having separate compartments for containing respectively, tablets of train order blanks for trains running in different directions; and means connected with each compartment of the cabinet for locking the signal controlling the trains to which the tablets to be carried in that compartment relate; said means, in each compartment, being adapted to be operated only by the individual tablets designed for that compartment.

20. In interlocking devices for train order signals, a cabinet having separate compartments designed for east bound orders, west bound orders, and "double" orders, respectively; tablets of train order blanks for each of said compartments, said tablets being formed to fit only the compartments for which they are respectively designed.

21. In interlocking devices for train order signals, the combination with signal actuating mechanism, of an automatic lock therefor; means for moving the lock into inoperative position, to permit a partial operation of said mechanism; and additional means requiring the restoration of the lock to its normal automatic condition, in order to permit the completion of said operation.

22. The combination with signal actuating mechanism of a lock therefor; coöperating means between said lock and said actuating mechanism for necessitating the movement of the lock to different positions to permit a complete operation of said actuating mechanism; and means for imparting to the lock the necessary movements.

23. The combination with signal actuating mechanism of an automatic lock therefor; coöperating means between said lock and said actuating mechanism, for necessitating the movement of the lock to different positions to permit a complete operation of said actuating mechanism; means

for imparting to the lock the necessary movements with the final movement of the lock leaving it in position to automatically engage said actuating mechanism when the same is moved to locking position.

24. The combination with signal actuating mechanism, of a lock therefor; a tablet coöperating with said lock and adapted when in one position to render the lock inoperative, and in another position to render it automatic in its action; independent means for controlling the lock when in its automatic condition, to permit a partial operation of the actuating mechanism; and additional means compelling the restoration of the lock to its automatic condition during the latter part of each operation of the actuating mechanism, in order to complete said operation.

25. The combination with signal actuating mechanism, of a lock therefor; means for moving the lock into inoperative position to permit the operation of said mechanism, said lock when in inoperative position having a part connected therewith disposed in the path of a part of the signal actuating mechanism, and adapted to arrest the movement of said mechanism before a complete operation of the same has been effected thereby, said lock being movable to a different position to permit the completion of the operation of said actuating mechanism.

26. The combination with signal operating mechanism, and a coöperating automatic lock, of means for compelling the bringing of the lock and said signal operating mechanism, into normal operative relation to each other during the movement of said mechanism necessary to set the signal clear.

27. The combination with a tablet and a support therefor, of signal-operating mechanism: a signal lock coöperating with said mechanism and said tablet and rendered automatic by the removal of the tablet from its support: and independent means for operating said lock when said tablet is removed from its normal position.

28. The combination with a tablet support and a tablet: of signal operating mechanism: a lock controlled by the tablet and coöperating with said mechanism to lock the signal at "danger" and adapted to be rendered automatic by the removal of the tablet from its normal position: independent means for operating the lock to permit changing the signal to "safety" while the tablet is thus removed: and additional means compelling the restoration of said lock and said operating mechanism into normal operative relation to each other before the completion of the movement of said mechanism necessary to set the signal clear.

29. The combination with a tablet support and a tablet: of signal operating mechanism: a lock controlled by the tablet and coöperating with said mechanism and adapted to be rendered automatic by the removal of the tablet from its normal position: independent means for operating the lock: and a stop preventing the complete movement of said mechanism necessary to clear the signal, when said lock is held in inoperative position by said independent means.

30. In interlocking devices for train order signals, a cabinet having a compartment for train order tablets for trains running in a given direction and another compartment for tablets for trains running in a different direction; and operative connections between each compartment and the signal controlling the trains to which the tablets in that compartment relate.

31. In interlocking devices for train order signals, a cabinet adapted to carry train order tablets for trains running in different directions; said cabinet having actuating connections adapted to operate the signals controlling trains running in said directions, the actuating connections between either signal and the cabinet being controlled by the tablets intended for trains controlled by that signal.

32. The combination with signal-operating mechanism of a lock adapted to automatically lock the signal at "danger"; means for manually operating the lock to release the signal when it is desired to set the same at "safety"; and means compelling the freeing of the lock from manual control and the restoration thereof to its automatic condition as a prerequisite to the complete operation of said mechanism necessary to set the signal at "safety".

33. The combination with a lock adapted to automatically lock a signal at "danger", of independent means for releasing the signal when it is desired to set the same at "safety"; and means compelling the restoration of the signal and lock to their normal relation to each other in order to complete the operation of changing the signal from "danger" to "safety".

34. A cabinet having separate compartments for containing respectively, tablets of train order blanks for trains running in different directions; and means connected with each compartment of the cabinet for locking the signal controlling the trains to which the tablets to be carried in that compartment relate; the locks controlled from each compartment of the cabinet being independent of those controlled from any other compartment thereof.

35. In a device of the character described, a lock for each signal to be controlled, each lock having a cut-away and an uncut-away portion, the cutaway portion of each lock being opposite the uncutaway portion of the other.

36. In a device of the characted described, a lock for each signal to be controlled, each lock having a cutaway and an uncutaway portion, the cutaway portion of each lock being opposite the uncutaway portion of the other; and each lock also having a second cutaway portion, the two latter cutaway portions being opposite each other.

37. In locking devices for signals on double track roads, a lock for each signal to be controlled, each lock having a cutaway and an uncutaway portion, the cutaway portion of each lock being opposite the uncutaway portion of the other and provided with means adapted to be engaged for operating the lock.

38. In locking devices for signals on double track roads, locks for each signal to be controlled, each lock having a cutaway and an uncutaway portion, the cutaway portion of the locks for each signal being opposite the uncutaway portion of the locks for the other signal; and each lock also having a second cutaway portion, the latter cutaway portions being opposite each other, one of the cutaway portions of each lock being provided with means adapted to be engaged for operating the lock.

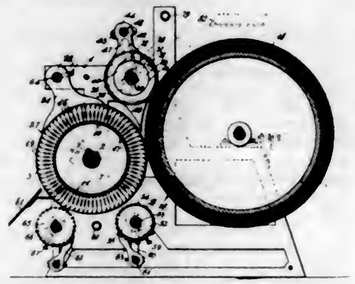
39. In locking devices for signals on double track roads, locks for each signal to be controlled, each lock having a cutaway and an uncutaway portion, the cutaway portion of the locks for each signal being opposite the uncutaway portion of the locks for the other signal, and each lock also having a second cutaway portion, the latter cutaway portions being opposite each other, each lock being provided at one of its cutaway portions with means adapted to be engaged for operating the lock, the lock operating means in the latter cutaway portions being opposite each other.

40. In signal controlling mechanism, a cabinet having compartments designed to receive tablets of train order blanks for trains controlled by different signals; a lock for each signal, said lock being adapted to be engaged and operated by a tablet relating to that signal, each lock extending across the different compartments of the cabinet and being cutaway where it is adapted to be engaged and operated by a tablet, and uncutaway where it is not intended to be thus engaged and operated.

41. In interlocking devices for signals, a cabinet having compartments designed to receive tablets of train order blanks for trains running in different directions and controlled by different signals; a group of locks for each signal to be controlled, the group relating to any given signal being adapted to be engaged and operated by the tablets relating to that signal, each group of locks extending across the different compartments of the cabinet and being cutaway where they are adapted to be engaged and operated.

868,290. MACHINE FOR SEEDING RAISINS AND OTHER FRUITS. BASIL H. PAUL, Fresno, Cal. Filed Jan. 3, 1907. Serial No. 350,676.

1. In combination with the pressing and seeding rollers of a raisin seeding machine, a feeding and preparing roller opposed to the pressing roller, having peripheral teeth to press the raisin seeds toward said pressing roller and to flatten and spread the raisins before the latter pass between the pressing and seeding rollers, and means in the path of travel of the raisins between the feeding and preparing roller and pressing and seeding rollers to draw the flattened raisins from the teeth of the former roller and direct them between the latter rollers.



2. In combination with the pressing and seeding rollers of a raisin seeding machine, a feeding and preparing roller opposed to the pressing roller, having peripheral teeth to press the raisin seeds toward said pressing roller and to flatten and spread the raisins before the latter pass between the pressing and seeding rollers, and means opposed to the pressing roller between the preparing and feeding roller and the seeding roller to form downwardly-widening passages, through which the prepared raisins are carried by the action of the pressing roller to the seeding roller.

3. In combination with the pressing and seeding rollers of a raisin seeding machine, a feeding and preparing roller opposed to the pressing roller, having peripheral teeth to press the raisin seeds toward said pressing roller and to flatten and spread the raisins before the latter pass between the pressing and seeding rollers, and means opposed to the pressing roller between the preparing and feeding roller and the seeding roller to form passages, through which the prepared raisins are carried by the action of the pressing roller to the seeding roller, said means comprising relatively-fixed plates having arms opposed to the pressing roller and extending toward the seeding roller.

4. In combination with the pressing and seeding rollers of a raisin seeding machine, a feeding and preparing roller opposed to the pressing roller having peripheral teeth to press the raisin seeds toward said pressing roller and to flatten and spread the raisins before the latter pass between the pressing and seeding rollers, and means opposed to the pressing roller between the preparing and feeding roller and the seeding roller to form passages, through which the prepared raisins are carried by the action of the pressing roller to the seeding roller, said means comprising relatively-fixed adjustable plates having arms opposed to the pressing roller and extending toward the seeding roller.

5. In combination with the pressing and seeding rollers of a raisin seeding machine, preparing and feeding means comprising a revoluble roller having spaced peripheral toothed-disks, and plates between said disks having arms opposed to the pressing roller and extending toward the seeding roller.

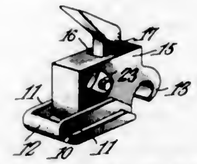
6. In combination with the pressing and seeding rollers of a raisin seeding machine, a preparing and feeding roller adjustable toward and from a pressing roller and comprising spaced peripherally-toothed disks, and plates disposed between the disks of the latter and having arms opposed to the pressing roller and extending toward the seeding roller.

7. In combination with the seeding roller of a raisin seeding machine and means to impale raisins on the teeth of said roller, a primarily-acting seed stripping roller opposed to and spaced from the seeding roller, and a second seed stripping roller in rear of the first-mentioned seed stripping roller and disposed more closely with relation to the seeding roller than said primarily-acting stripping roller.

8. In combination with the seeding roller of a raisin seeding machine, and means to impale raisins on the teeth thereof, a primarily-acting seed stripping roller opposed to the seeding roller, revolved in the reverse direction to that of the seeding roller, and at a higher rate of speed, and a second seed stripping roller in rear of the first-mentioned seed stripping roller opposed to the seeding roller and revolved at a lower rate of speed and in the same direction as that of the seeding roller.

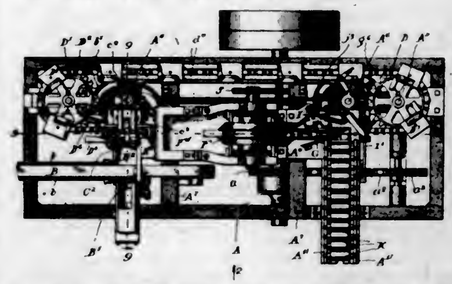
9. A raisin seeding machine having a seeding roller provided with disks or plates, each having an annular groove in one side forming an annular tongue without said groove at the periphery of said disk or plate, said tongue provided with seats and detachable teeth having portions to fit in said seats.

868,291. MINING-MACHINE CHAIN. HORACE E. RAWLINS, Derwent, Ohio. Filed Feb. 21, 1907. Serial No. 358,671.



A link of the class described having means at its opposite ends for engagement with the adjacent links of a chain, said link having a solid body portion provided with an integral block having one face recessed for the reception of a sprocket wheel tooth, the opposite face of said block being recessed for the reception of the shank of a cutter bit, the inner and rear wall of said recess forming a solid backing to resist the cutting strain on the tool, there being a transversely disposed opening partly intersecting the front wall of the recess, the rear wall of said opening being inclined, a cotter extending through the opening and having its forward edge concaved to form a pair of biting edges that are disposed transversely of the length of the forward edge of the shank and are arranged to bite thereinto to prevent endwise movement of said shank, and means for locking the cotter in place.

868,292. MACHINE FOR CLOSING AND SEALING THE TOP FLAPS OF CARTONS. CHARLIE REDD, Chicago, Ill. Filed July 17, 1905. Serial No. 269,940.



1. The combination with mechanism for advancing cartons through a portion of their course with a step-by-step movement, of a pair of knockers arranged to engage the end flaps of a carton, mechanism for operating the knockers, while the cartons are standing still between forward movements, and mechanism for folding the end flaps at a subsequent stage of their movement.

2. The combination with carton-advancing mechanism, of a pair of knockers, of less width than the end flaps of a carton and in position to engage them toward their

upper ends, and mechanism for operating the knockers to arrange the end flaps inside the side flaps preparatory to further folding.

3. The combination with mechanism for advancing a carton step-by-step through a portion of its movement, of a pair of knockers arranged in a position beneath which the cartons are stationary in such movement, and mechanism for operating the knockers.

4. The combination with mechanism for advancing a carton step-by-step through a portion of its movement, of a pair of knockers arranged in a position beneath which the cartons are stationary in such movement, mechanism for operating the knockers, and means for folding the front and rear flaps after the operation of the knockers.

5. The combination with mechanism for advancing cartons step-by-step through a portion of their movement, of a pair of knockers in a position beneath which the carton comes to rest in such movement, the knockers being adapted to engage with the end flaps of the carton to move them within the side flaps, mechanism for operating the knockers while the cartons are at rest, and means for subsequently folding the front and rear flaps.

6. The combination with mechanism for advancing cartons step-by-step through a portion of their movement, of a pair of knockers in a position beneath which the carton comes to rest in such movement, the knockers being adapted to engage with the end flaps of the carton to move them within the side flaps, mechanism for operating the knockers while the cartons are at rest, said knockers being of less width than the end flaps and being constructed and arranged to strike them near their free ends, and means for subsequently folding the front and rear flaps.

7. The combination with carton-conveying mechanism, and mechanism for folding the front and rear flaps, of knockers having ends spreading toward their extremities, and curved away from each other, said knockers being constructed and arranged to strike the end flaps toward the tops with their narrow curved portions to push the same inside the side flaps.

8. The combination with a step-by-step conveying mechanism moving the cartons through a portion of their course, and mechanism for folding the end flaps while the cartons are stationary in one position, of knockers arranged over the resting place of the cartons in a preceding position, means for operating the folding mechanism, and means of connection between the knockers and the folding mechanism, whereby the knockers are operated synchronously with the folding mechanism.

9. The combination with a plurality of continuously-moving carton propelling bodies, of a single device operating successively on the cartons carried thereby to shift the cartons from the path of said bodies.

10. The combination with a plurality of continuously-moving carton propelling paddles, traveling in a predetermined path, of a single device operating upon the successive cartons to move them from the path of said paddles.

11. The combination with a plurality of continuously-moving carton propelling bodies, of a single device operating successively upon the cartons carried by said bodies, to shift them at right angles to the course of said bodies.

12. The combination with a plurality of continuously-moving carton propelling paddles arranged to push cartons through a folding machine, of a single device operating successively upon the cartons to shift them at right angles to the course of the paddles.

13. The combination with a plurality of carton propelling bodies arranged to move cartons through a folding machine, of an ejection plunger reciprocating transversely to the course of said bodies and means for releasing the cartons from the bodies when they reach the path of the ejection plunger.

14. The combination with a plurality of carton propelling bodies arranged to move cartons through a folding machine, of an ejection plunger reciprocating transversely to the course of said bodies, means for releasing the cartons from the bodies when they reach the path of the ejection plunger, and for simultaneously moving the carton propelling bodies from the path of the ejection plunger.

15. The combination with a continuously-moving, flexible, power-transmission device, of a plurality of paddles pivotally secured thereto, means for holding the paddles at right angles to the power-transmission device during a portion of their movement to propel cartons, and an ejection plunger, said holding means being constructed and arranged to release the paddles to permit them to swing into a position parallel with the flexible power-transmission device when the cartons reach the path of the ejection plunger.

16. The combination with a continuously-moving, flexible, power-transmission device, of a plurality of paddles pivotally secured thereto, devices for holding the paddles at right angles to the power-transmission device during a portion of its movement to propel cartons, means for releasing the paddles and permitting them to swing back into a position parallel with the transmission device at a predetermined point in their movement, and an ejection plunger reciprocating transversely to the course of said paddles in position to engage cartons when the paddles are released.

17. The combination with a continuously moving flexible, power-transmission device, of supports secured at intervals thereto, paddles pivotally mounted on said supports, arms extending backwards at right angles to the paddles, a rail against which said arms bear during a portion of their movement, whereby the paddles are held at right angles to the flexible power-transmission device, and an ejection plunger reciprocating across the path of the paddles at a point beyond the end of said rail, whereby the paddles are enabled to be swung out of the path of the ejection plunger, to permit its operation.

18. The combination with a conveyer, of a side flap-folder adapted to operate successively upon the cartons carried by different parts of said conveyer and mechanism for shifting the folder longitudinally with the conveyer, and at the same speed thereof and simultaneously moving the folder horizontally across the path of the conveyer.

19. The combination with a conveyer, of a side flap-folder, adapted to operate successively upon the cartons carried by different parts of said conveyer mechanism for moving the same in a horizontal plane, longitudinally with and at the same speed as the conveyer and laterally over the path of the conveyer.

20. The combination with a conveyer, of a side flap-folder, and mechanism for moving the side flap-folder in a horizontal plane first in a diagonal line with the conveyer, and at the speed thereof, and across its path, subsequently retracting the conveyer laterally and subsequently returning the folder in a line parallel to the path of the conveyer.

21. The combination with a conveyer, of a roller whose axis is parallel with the path of the conveyer, and mechanism for moving the roller simultaneously with the conveyer and at the speed thereof and also across the path of the conveyer to fold a side flap.

22. The combination with a conveyer, of a slide and means for moving the slide longitudinally with and at the speed of the conveyer, a roller guided to move transversely in the slide, a swinging guide engaging with the roller and mechanism for swinging said guide to determine the transverse movement of the roller.

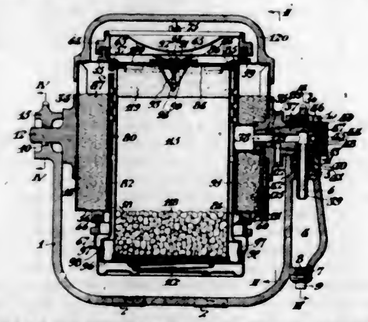
23. The combination with a conveyer, of a transversely moving folder for the first side flap, a roller, means for shifting the carton transversely under said folder to fold the second side flap, and a guard arranged to prevent the inner faces of the second side flap from contacting with the first side flap folder.

24. In a device of the class described, the combination with a plurality of continuously moving carton-propelling bodies, each of which lies behind a carton to convey the same forward, of a single device arranged to operate upon the successive cartons to shift them laterally from the path of said bodies.

25. In a device of the class decribed, the combination with a plurality of continuously moving carton-propelling bodies, each of which lies behind a carton to convey the same forward, of a single device capable of moving only at right angles to the direction of movement of said carton-propelling bodies and adapted to intersect in its movement the imaginary solid generated by the movement of said body to shift the cartons laterally from the path thereof.

26. In a device of the class described, the combination with a continuously moving conveying body adapted to lie behind a carton to move it longitudinally, the carton during such movement lying partially in the imaginary solid described by the movement of such conveying body, of a single relatively immovable device adapted to cross the imaginary solid described by the movement of said conveying body and shift the cartons propelled thereby laterally from such imaginary solid.

868,293. ACETYLENE-GAS GENERATOR. EDWIN M. ROSENBLUTH, Philadelphia, Pa. Filed Mar. 9, 1907. Serial No. 361,562.



1. In an acetylene gas generator, the combination with a valve casing having a port and forming a trunnion for said generator; of a plug in said casing having a port complementary to the port in said casing; and means arranged to maintain said plug stationary in said casing, substantially as set forth.

2. In an acetylene gas generator, the combination with a valve casing forming a trunnion for said generator; of a plug, in said casing, having a port arranged to register with a complementary port in said casing leading to the atmosphere; and means arranged to maintain said plug stationary, substantially as set forth.

3. In an ecetylene gas generator, the combination with a valve casing, forming a trunnion for said generator, and having a gas escape port, and an air inlet port; of a plug in said casing comprising a gas discharge passageway leading therethrough, and having a gas escape port leading to said passageway; and an air port independent of said passageway, arranged to respectively register with their complementary ports in said casing, substantially as set forth.

4. In an acetylene gas generator, the combination with a valve casing forming a trunnion for said generator, and having a gas escape port, and an air inlet port; of a plug in said casing comprising a gas discharge passageway leading therethrough, and having a gas escape port leading to said passageway, and an air inlet port independent of said passageway, arranged to respectively register with their complementary ports in said casing; and means arranged to maintain said plug stationary, substantially as set forth.

5. In an acetylene gas generator, the combination with a valve casing forming a trunnion for said generator; of a plug in said casing comprising ports arranged to be controlled by the rotation of said generator; and means arranged to maintain said plug stationary, substantially as set forth.

6. In an acetylene gas generator, the combination with a valve casing forming a trunnion for said generator, and having a gas escape port, and an air inlet port; of a plug in said casing comprising a gas discharge passageway extending concentrically therethrough, and having a gas escape port leading to said passageway and an air inlet port independent of said passageway, arranged to respectively register with their complementary ports in said casing to open said gas escape port to the atmosphere when the generator is turned to its inoperative position, and to open said air inlet port to the atmosphere when the generator is turned to its operative position, substantially as set forth.

7. An acetylene gas generator, comprising a water chamber, and having an air inlet extending into said water chamber; and means arranged to automatically control said inlet by the rotary movement of said generator, substantially as set forth.

8. An acetylene gas generator, comprising axially alined trunnions, arranged to be clamped in suitable bearings, the frictional surface of one of said trunnions being less than the other; and means arranged to frictionally clamp each of said trunnions independently substantially as set forth.

9. An acetylene gas generator, comprising a trunnion having a passageway extending therethrough; a bearing for said trunnion, comprising the inlet of a gas chamber which is local to said bearing and distinct from said trunnion, said inlet being arranged to register with said passageway; and means whereby the rotary movement of said generator controls the flow of gas through said passageway, substantially as set forth.

10. An acetylne gas generator, comprising a trunnion having a passageway extending therethrough; a bearing for said trunnion, comprising the inlet of a gas chamber which is local to said bearing and distinct from said trunnion, the walls of said gas chamber being integral with said bearing; and, means whereby the rotary movement of said generator controls the flow of gas through said passageway, substantially as set forth.

11. In an acetylene gas generator, the combination with a trunnion; of a valve in said trunnion; an outlet nozzle for said valve, arranged to discharge gas into a gas chamber which is distinct from the generator; a gasket arranged to automatically seal the joint between said nozzle and said chamber; and means whereby the rotation of said generator controls the flow of gas through said passageway, substantially as set forth.

12. In an acetylene gas generator, the combination with a trunnion; of a valve in said trunnion; an outlet nozzle for said valve, arranged to discharge gas into a gas chamber which is distinct from the generator; a gasket arranged to automatically seal the joint between said nozzle and said chamber; and means whereby the rotary movement of said generator controls the flow of gas through said valve, substantially as set forth.

13. In an acetylene gas generator, the combination with a trunnion; of a valve in said trunnion; an outlet nozzle for said valve, arranged to discharge gas into a gas chamber which is distinct from the generator; a gasket, carried by said nozzle, arranged to seal the joint between said nozzle and said chamber; and, means whereby the rotary movement of said generator controls the flow of gas through said valve, substantially as set forth.

14. In an acetylene gas generator, the combination with a trunnion; of a valve in said trunnion; an outlet nozzle for said valve, arranged to discharge gas into a gas chamber which is distinct from the generator; a gasket arranged to automatically seal the joint between said nozzle and said chamber; means arranged to adjust said gasket relatively to said nozzle; and, means whereby the rotation of said generator controls the flow of gas through said valve, substantially as set forth.

15. In an acetylene gas generator, the combination with a generator casing having apertures in its opposite walls; of a cup whose open end seals one of said apertures and whose closed end extends adjacent to the other aperture, substantially as set forth.

16. In an acetylene gas generator, the combination with a generator casing, arranged to contain water and having apertures in its opposite walls; of a cup shaped casing whose open end seals one of said apertures, and whose closed end comprises a water inlet passage, and extends above the water level in said casing when in idle position, but is submerged when in operative position, substantially as set forth.

17. In an acetylene gas generator, the combination with a generator casing, arranged to contain water and having apertures in its opposite walls; of a cup shaped casing whose open end seals one of said apertures, and whose closed end comprises a water inlet passage, and extends above the water level in said casing when in idle position, but is submerged when in operative position; and a perforated rim securing said closed end of the cup to said generator casing, substantially as set forth.

18. In an acetylene gas generator, the combination with a generator casing, arranged to contain water and having apertures in its opposite walls; of a cup shaped casing whose open end seals one of said apertures, and whose closed end comprises a water inlet passage, and extends above the water level in said casing when in idle position, but is submerged when in operative position; a lid arranged to inclose the aperture at the open end of said cup shaped casing; and, a lid arranged to inclose the other aperture, substantially as set forth.

19. In an acetylene gas generator, the combination with a generator casing, arranged to contain water and having apertures in its opposite walls; of a cup shaped casing whose open end seals one of said apertures, and whose closed end comprises a water inlet passage and extends above the water level in said casing when in idle position, but is submerged when in operative position; a lid arranged to inclose the aperture at the open end of said cup shaped casing; a lid arranged to inclose the other aperture; and swing bolts connecting said lids, substantially as set forth.

20. In an acetylene gas generator, the combination with a generator casing comprising apertures in its opposite walls; of lids arranged to inclose said apertures; swing bolts pivoted to one of said lids and arranged to engage the other lid; and means on said casing arranged to guide said swing bolts into parallel position, substantially as set forth.

21. In an acetylene gas generator, the combination with a casing; of an air inlet tube terminating close to the wall of said generator; means arranged to control said inlet by the rotary movement of said generator; said casing having an orifice local to the end of said tube; and means arranged to normally close said orifice, substantially as set forth.

22. In an acetylene gas generator, the combination with a valve casing having a port, and forming a trunnion for said generator; of a plug in said casing having a port complementary to the port in said casing; a bearing for said trunnion; means in said bearing arranged to maintain said plug stationary in said casing; and, means pivoted on said bearing arranged to clamp said casing in frictional engagement with its bearing, substantially as set forth.

23. In an acetylene gas generator, the combination with a valve casing having a port and forming a trunnion for said generator; of a plug in said casing having a port complementary to the port in said casing; a bearing for said trunnion; means in said bearing arranged to maintain said plug stationary in said casing; a yoke arranged to frictionally engage said casing with its bearings; and, a swing bolt comprising a winged nut arranged to engage said bearing to vary said frictional engagement, substantially as set forth.

24. In an acetylene gas generator, the combination with a generator casing arranged to contain water and having apertures in its opposite walls; of a cup shaped casing whose open end seals one of said apertures and whose closed end comprises a water inlet passage; the combination with a carbid receptacle comprising removable end caps; one of which is perforated and provided with grooves connecting said perforations and arranged to cooperate with the closed end wall of said cup shaped casing, to direct water through said openings to the carbid contained therein, substantially as set forth.

25. In an acetylene gas generator, comprising a water receptacle, the combination with a cup shaped gas receptacle having one end larger than the other; of a carbid receptacle snugly fitted to said gas receptacle and comprising one enlarged end preventing its improper insertion, and having removable caps, and arranged to receive a canister containing carbid; the cap on the smaller end of said receptacle comprising radial slots and circumferential openings, and having grooves connecting said slots, arranged to direct water through said openings to the carbid by the coöperation of said lid and the closed end wall of said cup shaped casing, substantially as set forth.

868,294. PROCESS OF PRODUCING PHENYLGLYCIN AND ITS HOMOLOGUES. ROBERT SCHMIDLIN, Höchst-on-the-Main, Germany, assignor to Farbwerke vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany, a Corporation of Germany. Filed May 23, 1906. Serial No. 318,297.

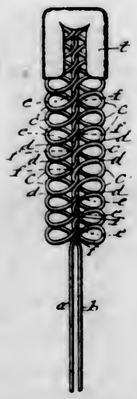
The herein described process of making phenylglycin and its homologues, which consists in causing primary anilin bases to interact in the heat with chloracetic acid in presence of ferrous hydrate and a saturated indifferent alkali salt solution.

868,295. VAT-DYE AND PROCESS OF MAKING SAME. ALBRECHT SCHMIDT, Höchst-on-the-Main, Germany, assignor to Farbwerke vorm. Meister Lucius & Brüning, Höchst-on-the-Main, Germany, a Corporation of Germany. Filed Jan. 22, 1907. Serial No. 353,527.

1. The process herein described of making vat dyestuffs, which consists in heating under pressure arylthioglycollic-ortho-carboxylic acids with bisulfites.

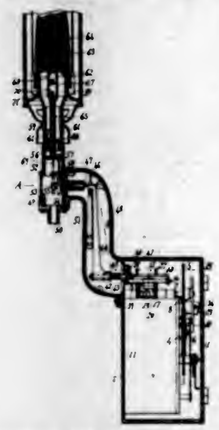
2. As a new product, the dyestuff having the formula $C_{16}H_6O_2S_2(CH_3)_2$—1:3 from tolylthioglycollic-ortho-carboxylic acid (S—CH_3—COOH : CH_3 : COOH)—1:3:6 being a red powder, soluble in concentrated sulfuric acid with a darkish yellow-green and in hot nitrobenzene with a violet-red color, showing on the porcelain a cherry-red metallic touch.

868,296. GARMENT-STAY. DAVID SCHULER, Meadville, Pa., assignor to The Spirella Company, Meadville, Pa., a Corporation of Pennsylvania. Filed Nov. 30, 1906. Serial No. 345,648.



The improved garment stay consisting of two spring wires, each formed into a row of flat loops partly lapping on each other in proximity to the edge of the stay, the portions between the loops being intertwined with the corresponding portions of the other wire by passing around one side thereof, and isolated from the interiors of the loops, the loops of the two wires bearing on the outer sides of the intertwined portions and holding the same in tightly embracing positions as set forth and shown.

868,297. AUTOMATIC GAS LIGHTING AND EXTINGUISHING APPARATUS. AI B. SHAW, Medford, Mass. Filed Apr. 16, 1906. Serial No. 311,897.



1. In an automatic gas lighting and extinguishing device, a time mechanism, a rotary shaft operated by the time mechanism, disks carried by and rotated with said shaft, crank pins carried by said disks, a weighted lever engaged by said crank pins during their rotations to intermittingly raise said lever and allow it to drop, gas controlling means operated by the movements of said lever, and an equation device operated by the rotations of said rotary shaft to automatically and intermittingly vary the time of the engagements of the crank pins and weighted lever, said equation device consisting of a frame carried by the rotary shaft, intermediate the disks which carry the crank pins, a rotary shaft mounted in said frame, a star wheel on said latter shaft, adjustable stop projections to be brought into engagement on the opposite sides of the star wheel to rotate the star wheel in opposite directions, and intermediate mechanisms between the rotary shaft in the frame and the disks which carry the crank pins to vary the positions of the crank pins relative to each other intermittingly at each rotation of said shaft, whereby the times of engagement and disengagement of the crank pins with the weighted lever is automatically varied to compensate for changes in the lengths of the days and nights.

2. In an automatic gas lighting and extinguishing device, a time mechanism, a weighted lever, intermediate mechanism between the time mechanism and weighted lever, whereby the lever is raised and allowed to fall at predetermined times, a rotary shaft, a ratchet on said shaft, a pawl operated by the weighted lever and operating upon the ratchet to intermittingly and partially rotate said shaft, a main and a pilot burner, valves controlling the supply of gas to said burners, controlled by the partial rotations of the rotary shaft, whereby gas will be supplied to the main burner and be lighted by the pilot burner and vice versa.

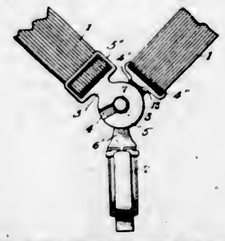
3. In an automatic gas lighting and extinguishing device, a time mechanism, a weighted lever, intermediate mechanism operated by the time mechanism to automatically and intermittingly raise said weighted lever and allow it to drop, a rotary shaft, intermediate mechanism operated by the movement of the weighted lever to intermittingly and partially rotate said shaft, a gas burner, a valve controlling the supply of gas to the burner, and a cam on the rotary shaft engaging said valve to automatically open the valve or allow it to close.

4. In an automatic gas lighting and extinguishing device, a time mechanism, a weighted lever, intermediate mechanism operated by the time mechanism to automatically and intermittingly raise said weighted lever and allow it to drop, a rotary shaft, intermediate mechanism operated by the movements of the weighted lever to intermittingly and partially rotate said shaft, a main and a pilot burner, valves controlling the supply of gas to said burners, and cams on the rotary shaft engaging said valves opening each valve alternately and allowing it to close, whereby gas will be burning at one or the other of said burners while the device is in operation.

5. In an automatic gas lighting and extinguishing device, a time mechanism, a weighted lever, intermediate mechanism operated by the time mechanism to automatically and intermittingly raise said weighted lever and allow it to drop, a rotary shaft intermediate mechanism operated by the movements of the weighted lever to intermittingly and partially rotate said shaft, a tube in open communication with a supply of gas contracted at its open upper end, a rod within said tube, headed at its upper end forming a valve when seated on the end of said tube and controlling the flow of gas through said tube but reduced immediately below the headed portion to increase the freedom of the flow of gas through the tube while the reduced portion of the rod is passing the contracted portion of the tube, a burner supplied with gas through said tube, and a cam on the rotary shaft engaging the lower end of said rod to open said valve and allow it to flow.

6. In an automatic gas lighting and extinguishing device, a time mechanism, a weighted lever, intermediate mechanism operated by the time mechanism to automatically and intermittingly raise said weighted lever and allow it to drop, a rotary shaft intermediate mechanism operated by the movements of the weighted lever to intermittingly and partially rotate said shaft, a tube in open communication with a supply of gas, a rod within said tube headed at its upper end forming a valve when seated on the end of the tube and controlling the flow of gas through the tube, an enlarged extension tube forming a chamber at the upper end of the first tube above the valve thereon, a burner on the extension tube, and means operated by the rotations of the rotary shaft to operate said rod to open the valve and allow it to close.

868,298. SEPARABLE FASTENER FOR GARTERS. JOHN M. SINER, New York, N. Y., assignor to Venus Manufacturing Company, a Corporation of New York. Filed Mar. 2, 1907. Serial No. 360,126.



1. In a clasp of the class described, a main plate having a ledge or shoulder, a stud extending from said plate, and a hook plate having an orifice and slot opening inward from the circumference of the hook plate to coöperate with said stud and angularly movable thereon to a position where said stud is freely removable through said slot, said hook plate being locked against disengagement by said ledge or shoulder in normal use.

2. In a clasp of the class described, a main plate having a ledge or shoulder, a stud extending from said plate, and a hook plate having an orifice with a slot extending outwardly therefrom to the circumference of the hook plate and angularly movable on said stud to a position where said stud is freely removable through said slot, said hook plate having a circular contour to coöperate with said shoulder in its swiveling movement on the stud.

3. In a clasp of the class described, a main plate having a swivel plate permanently swiveled thereto, a stud extending from said plate, and a hook plate having a central

orifice and a slot extending outwardly therefrom and adapted to be received on said stud so as to have a free pivotal movement with respect to the main plate and to the swivel plate.

4. In a clasp of the class described, a swivel plate having a rivet or stud fixed thereto, a main plate permanently assembled on said rivet and capable of swinging movement thereon, and a hook plate having a slot and a central orifice adapted to be placed loosely over said rivet or stud.

5. In a clasp of the class described, a swivel plate having a rivet or stud fixed thereto, a main plate permanently associated on the stud and loosely surrounding said rivet, said rivet having an enlarged portion against which the main plate bears to prevent lateral displacement, and a hook plate having an orifice adapted to be loosely placed over said enlarged portion of the rivet or stud.

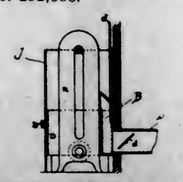
6. In a clasp of the class described, a stud or rivet having a head, an enlarged portion and a reduced portion, a swivel plate riveted to the reduced portion, a main plate loosely surrounding the portion between the enlarged and reduced portions, and a hook plate adapted to be removably received on the enlarged portion.

7. In a clasp of the class described, a stud or rivet having a head an enlarged portion and a reduced portion, a swivel plate riveted to the reduced portion, a main plate loosely surrounding the portion between the enlarged and reduced portions, and a hook plate adapted to be removably received on the enlarged portion, said main plate having a ledge or shoulder coöperating with the hook plate to prevent removal thereof except when said parts are moved into a predetermined relation.

8. In a clasp of the class described, a main plate having a rivet or stud projecting therefrom and having a ledge or shoulder and a hook plate having a circular contour and having a slot opening inward from the circumference of the hook plate and received over the rivet or stud and extending away from said ledge or shoulder in normal use, said hook plate being angularly movable on said rivet to a position where said rivet is freely removable through said slot.

9. In a clasp of the class described, a main plate having a rivet and a ledge thereon, and a hook plate adapted to engage said ledge and having a central orifice and a slot extending from its central portion, said slot opening into the circumference of the hook plate and being offset from a radial path with respect to said orifice so as to produce a shoulder or protuberance coöperating with the rivet, said hook plate being angularly movable thereon to a position where said rivet is freely removable through said slot.

868,299. HEATING AND VENTILATING SYSTEM. CHARLES H. SMITH, Minneapolis, Minn. Filed Dec. 20, 1905. Serial No. 292,638.



1. In a heating and ventilating system, the combination with a heating means; of an open ended jacket surrounding the heating means; a cold air box arranged between the heating means and the jacket, the upper end of the box having an opening and an inclined portion above the opening to deflect air from the box toward the heating means, and a cold air intake communicating with said box.

2. In a heating and ventilating system, the combination with a radiator; of an open ended jacket surrounding the radiator; a cold air box arranged between the radiator and the jacket, the lower end of the box being closed and having an opening in its wall adjacent the radiator and an inclined portion to deflect air from the box toward the radiator, and a cold air intake pipe communicating with said box.

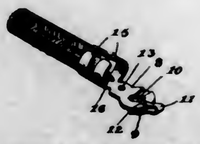
3. In a heating and ventilating system, a heating means surrounded by an air heating chamber which is open at its opposite ends, whereby a continuous circulation of air of the room in which the heating means is located is produced and maintained inwardly through one end of the chamber and outwardly through the other end thereof, a cold air box arranged within the air heating chamber having a closed lower end to exclude the air of the room, and a cold air intake pipe communicating with the cold air box, the latter being constructed to permit the cold air to intermingle with the room air in its passage through the air heating chamber.

4. In a heating and ventilating system, a heating means; an unrestricted open ended jacket surrounding the heating means, whereby a continuous circulation of the air in the structure in which the heating means is located is maintained inwardly through one end of the jacket and outwardly through the opposite end thereof, a cold air deflecting means arranged between the heating means and the jacket; and a cold air intake communicating with the deflecting means, the latter being constructed to exclude the air of the room and to permit of intermingling of the air of the room and the external air in its passage through the jacket.

5. In a heating and ventilating system, the combination with a heating means; of an upright unrestricted open ended jacket surrounding the heating means to provide an air heating chamber; a cold air intake communicating with the air heating chamber, and a deflector arranged within the air heating chamber in line with the intake pipe to direct the air from an external source into intermingling relation with the air of the room in which the heating means is located.

6. In a heating and ventilating system, the combination with a heating means; of an upright unrestricted open ended jacket surrounding the heating means to provide an air heating chamber, the lower end of the jacket receiving the air of the room in which the heating means is located, a cold air intake pipe communicating with the air heating chamber; and means arranged within the latter adapted to exclude the air of the room therefrom and to permit of an intermingling of the internal and external air in their passage through the air heating chamber.

868,300. TERMINAL OR CONNECTING-CLIP FOR ELECTRIC WIRES. HARRY E. SOHNER and WILLIAM H. BENJAMIN, Montclair, N. J. Filed Apr. 13, 1906. Serial No. 311,584.

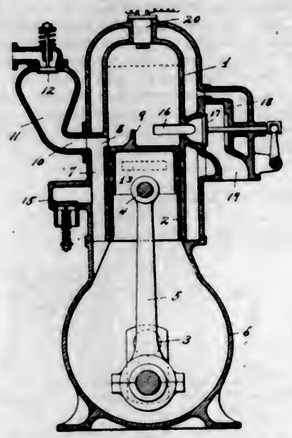


1. A terminal comprising relatively stationary and movable clamping members one of which is formed with a depression and the other with an over-hanging spring hook adapted to enter the depression for locking said members in engagement with each other.

2. A terminal comprising relatively stationary and movable clamping members one of which is formed with a depression and the other with an over-hanging hook adapted to engage the depression for locking said members in engagement with each other, one of said members being provided with means for supporting a conductor.

3. A terminal comprising relatively stationary and movable clamping members provided with sockets adapted to register with each other when the movable member is moved to closed position, one of said members being provided with a depression and the other with an over-hanging hook the bill of which is adapted to enter the depression for locking said members in engagement with each other.

868,301. EXPLOSION-ENGINE. HEINRICH SÖHNLEIN, Wiesbaden, Germany. Filed Sept. 29, 1904. Serial No. 226,549.



1. In an explosion engine, the combination with a power cylinder, its piston, inlet and outlet ports; of a pump chamber at one end of the piston, a passage connecting said pump chamber with the inlet port of the cylinder, a reservoir adapted to receive the combustible part of the charge and having an open connection with said passage, an inlet valve for fuel in said reservoir and a cut-off valve to control the exhaust independent of the control of the exhaust port by the piston, substantially as described.

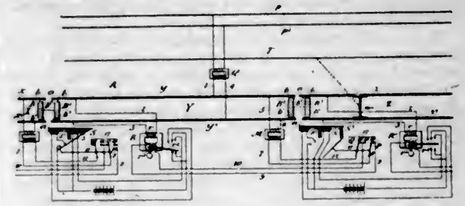
2. In a two-stroke explosion engine, the combination with a cylinder, a piston therein dividing it into an explosion chamber and a pump chamber, and inlet and outlet ports controlled by the piston, of a reservoir for the reception of gaseous fuel, the position of which is dependent upon the gravity of the fuel used, an inlet valve in said reservoir operable by the piston and a valve controlling the exhaust opened and closed before the inlet port is opened by the piston and a recess to receive said valve, said valve when opened adapted to seat in the recess, thereby removing the rear face of the valve from contact with the exhaust gases.

3. In an explosion engine, the combination with a cylinder, having inlet and exhaust ports, a piston in the cylinder to divide it into a power chamber and a pump chamber and controlling said ports, a reservoir to receive a quantity of the combustible sufficient for a charge, a passage connecting the pump chamber with the inlet port and reservoir, said reservoir filled by the suction of the piston and the charge therein compressed by air from the pump chamber, the outlet of said reservoir in alinement with the inlet port and in communication with said passage, whereby an air cushion will be formed in front of the charge contained in the reservoir, substantially as described.

868,302. SIGNALING SYSTEM FOR RAILWAYS. LOUIS H. THULLEN, Edgewood Park, Pa., assignors to The Union Switch & Signal Company, Swissvale, Pa., a Corporation of Pennsylvania. Filed May 28, 1906. Serial No. 319,009.

1. In a railway signaling system, the combination of a series of block sections, a home and distant semaphore and operating mechanism located at the entrance end of each block section, and a signaling circuit for each block section including a source of alternating signaling current located at about the middle of the signaling circuit and a relay which comprises a field coil and an armature coil, the armature of said relay controlling the positions of the home and distant signals of its block section.

2. In a railway signaling system, the combination of a series of block sections, a home and distant semaphore and operating mechanism located at the entrance end of each block section, a signaling circuit for each block section including a source of alternating signaling current located at about the middle point of the signaling circuit and a relay which controls the positions of said semaphores, said relay comprising a field coil and an armature coil, and means operated by the movement of a home semaphore to reverse the direction of flow of current in one of the coils of the relay.



3. In a railway signaling system, the combination of a series of block sections, a home and distant semaphore and operating mechanism located at the entrance end of each block section, a signaling circuit for each block section including a source of signaling current located at about the middle of the block section and a relay which controls the positions of said semaphores, said relay comprising a field coil and an armature coil both of which coils are energized from the current in the signaling circuit for controlling the positions of the home and distant semaphores of its block section, and means for reversing the direction of flow of current in one of the coils.

4. In a railway signaling system, the combination of a series of block sections, a home and distant semaphore and operating mechanism located at the entrance end of each block section, a signaling circuit for each block section including a source of alternating signaling current located at about the middle point of the signaling circuit, and a relay which controls the positions of said semaphores, said relay comprising a field coil and an armature coil, said coils being energized from the current in the signaling circuit, and means operated from a home semaphore for controlling the direction of flow through one of the coils of the relay.

5. In combination with a railway the rails of which are employed as a return for the propulsion current for the motor cars traveling along the railway, a signaling system for said railway having in combination a series of block sections, a home and distant semaphore and operating mechanism located at the entrance end of each block section and a signaling circuit for each block section, including a source of alternating signaling current located at about the middle point of the signaling circuit, and a relay comprising a field coil and an armature coil, said relay controlling the positions of the home and distant signals of its block section.

6. In combination with a railway the rails of which are employed as a return for the propulsion current for the motor cars traveling along the railway, a signaling system for said railway having in combination a series of block sections, a home and distant semaphore and operating mechanism located at the entrance end of each block section, a signaling circuit for each block section including a source of alternating signaling current located at about the middle point of the signaling circuit, and a relay which controls the positions of said semaphores, said relay comprising a field coil and an armature coil, said coils being energized from the current in the signaling circuit, and means operated from a home semaphore for controlling the direction of flow through one of the coils of the relay.

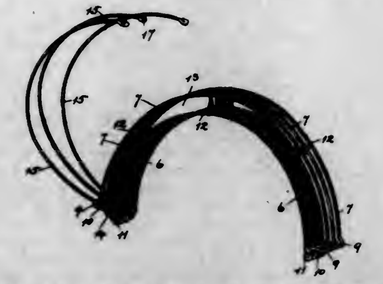
7. In combination with a railway the rails of which are employed as a return for the propulsion current for the motor cars traveling along the railway, a signaling system for said railway having in combination a series of

block sections, a home and distant semaphore and operating mechanism located at the entrance end of each block section, a signaling circuit for each block section including a source of alternating signaling current located at about the middle point of the signaling circuit, and a relay which controls the positions of said semaphores, said relay comprising a field coil and an armature coil, said coils being energized from the current in the signaling circuit, and means operated from a home semaphore for controlling the direction of flow through one of the coils of the relay by reversing the current taken from one end of the signaling circuit.

8. In combination with a railway, the rails of which are employed as a return for the propulsion current for the motor car traveling along the railway, a signaling system for said railway having in combination a series of block sections, a home and distant semaphore and operating mechanism located at the entrance of each block section, a signal circuit for each block including a source of alternating current located about the middle point of the signaling circuit, and a relay operated by energy taken from both ends of the block section and a means for utilizing the wires traversed by the current that traverses one member of the relay to operate the distant signal.

9. In combination with a railway, the rails of which are employed aa a return for the propulsion current for the motor car traveling along the railway, a signaling system for said railway having in combination a series of block sections, a home and distant semaphore and operating mechanism located at the entrance of each block section, a signal circuit for each block including a source of alternating current located about the middle point of the signaling circuit, and a relay operated by energy taken from both ends of the block section and a means for utilizing the wires traversed by the current that traverses one member of the relay to operate the distant signal, by reversing the direction of flow through said wires.

868,303. DEVICE FOR WAVING HAIR. EVELYN TIMANUS, Baltimore, Md. Filed Apr. 3, 1907. Serial No. 366,112.



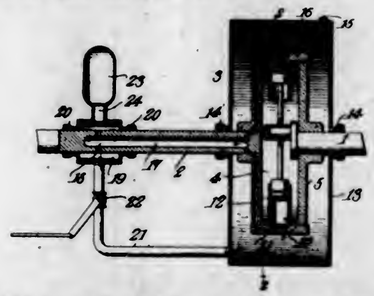
1. In a hair waving device the combination with an arched frame, of a plurality of arched bars extending in a direction concentric with but spaced from the frame and sustained over the latter; a plurality of independent bars pivotally connected to the base of the arch at one side of the frame, and means at the other side of the arch for engaging the free ends of the pivoted bars.

2. In a hair waving device the combination with an arched frame, of a plurality of rigid bars spaced from each other and also spaced from the frame and extending from the base of the arch at one side, to the base of the arch at the opposite side of the frame; independent bars pivotally connected to the frame so as to swing between the rigid bars, and means for engaging the free ends of the pivoted independent bars to hold the latter between the rigid bars.

3. In a hair waving device the combination with an arched frame, of a plurality of rigid arched bars spaced from each other and also from the frame; a plurality of independent clamping bars connected at one side of the arch so as to yield longitudinally and said bars being movable into the spaces between the rigid arched bars, and means at the opposite side of the arch for securing the free ends of the yielding clamping bars.

4. In a hair waving device the combination with an arched frame, of a plurality of arched bars spaced from and rigidly sustained over the arched frame,—said bars being provided at their ends with outwardly projecting ridges; clamping bars each having one end pivotally connected to the frame so as to swing between the arched bars, and clips on the frame for engaging the free ends of the clamping bars.

868,304. HYDRAULIC CLUTCH AND TRANSMISSION DEVICE. CLARENCE H. TINGLEY, Unionville, Mo. Filed Nov. 30, 1906. Serial No. 345,745.



1. The combination in a clutch, of a stationary fluid reservoir, two relatively rotatable members having contiguous ends inclosed in said reservoir, pump pistons carried by one member in eccentric relation thereto, pump cylinders carried by the other member and equi-distantly located with relation to its axis, fluid inlet ducts from the reservoir to the pump cylinders, outlet ducts from the pump cylinders to the reservoir, and means for constricting the outlet ducts to regulate the degree of clutching action.

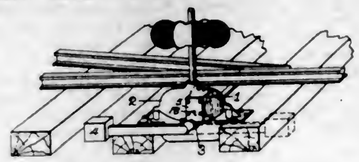
2. The combination in a clutch, of a stationary fluid reservoir, two relatively rotatable members having contiguous ends inclosed in said reservoir, pump pistons carried by one member in eccentric relation thereto, pump cylinders carried by the other member and equi-distantly located with relation to its axis, fluid inlet ducts from the reservoir to the pump cylinders, outlet ducts from the pump cylinders to the reservoir, means for constricting the outlet ducts to regulate the degree of clutching action, and an air cushion common to all the pumps.

3. In a device of the class described, the combination of a driving and a driven shaft, a stationary reservoir into which the adjacent ends of the shafts extend, a drum in the reservoir rigidly secured to one of the shafts, cylinders on the drum, pistons in the cylinders connected to the shaft other than the one having the drum, valve controlled inlets between the cylinders and reservoir, and a valve controlled by-pass between the cylinders and reservoir for controlling the discharge of liquid from the cylinders.

4. In a device of the class described, the combination of a driving and a driven shaft, a reservoir into which the adjacent ends of the shafts extend, packings around the shafts, a plurality of cylinders supported on and rotating with one of the shafts, pistons in the cylinders connected with the other shaft, valve controlled inlets between the cylinders and reservoir, a discharge conduit formed in the shaft carrying the cylinders, a receiving chamber on the said shaft into which the discharge conduit enters, packings around the shaft at the receiving chamber, and a valve controlled by-pass between the receiving chamber and reservoir.

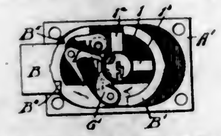
5. In a device of the class described, the combination of a driving and a driven shaft, a reservoir into which the adjacent ends of the shafts extend, packings around the shafts, a hydraulic clutch between the shafts and inclosed in the reservoir and including a pump, a conduit in one of the shafts through which the pump discharges, a stationary receiving chamber mounted on the shaft having the conduit for receiving the discharge of the pump therefrom, packings around the shaft at the receiving chamber, an air containing dome communicating with the receiving chamber, and a valve controlled by-pasa between the receiving chamber and reservoir.

868,305. RAILROAD-SWITCH LOCK. JOSEPH W. TORPEY and GEORGE W. LANDER, Louisville, Ky. Filed July 8, 1907. Serial No. 382,652.



A lock for switch-stands comprising a stationary box, a bolt, the shaft of the switch-stand provided with keepers, said bolt normally shot into engagement with one of said keepers, a separate key adapted to be inserted in the lock for withdrawing said bolt from said keeper, a tumbler for holding said bolt in the withdrawn position, and a second tumbler for holding the first-named tumbler in position and having its free end lying in the path of the key so that it may be tripped thereby and adapted to fall in behind said key to prevent its return motion.

868,306. SAFE-DEPOSIT LOCK. HARRY P. TOWNSEND, New Britain, Conn., assignor to Corbin Cabinet Lock Company, New Britain, Conn., a Corporation of Connecticut. Filed Jan. 31, 1907. Serial No. 354,974.



1. In a lock, a case, a bolt, a hollow frame carrying said bolt, lock operating mechanism arranged within the hollow portion of said bolt frame, a roll-back adapted to engage said frame and a dogging device also arranged within said bolt frame, a shoulder on the frame adapted to be engaged thereby when the bolt is retracted, said roll-back lifting said dogging device out of engagement therewith before extending the bolt.

2. In a safe deposit lock comprising a case, a bolt and bolt frame guided therein, a key-operated device, a roll-back, shoulders on said bolt frame adapted to be engaged by the roll-back to extend and withdraw said bolt, said shoulders arranged to permit a limited movement of the roll-back before engaging either, a spring-pressed dog pivoted to the case, a shoulder upon the bolt frame adapted to be engaged thereby when the bolt is extended, said roll-back lifting said dog out of engagement therewith before withdrawing the bolt and another spring-pressed dog pivoted to the case, a shoulder on the bolt frame adapted to be engaged thereby when the bolt is withdrawn, and an extension on said dog adapted to be engaged by said roll-back to lift the dog out of engagement before the bolt is extended.

3. In a lock, a case, a bolt, a key-operated step-by-step mechanism arranged to extend and retract the bolt after the second step, a separate key to operate each step of the mechanism, a stop against counter rotation for one key and means for throwing off said stop by the operation of the bolt.

4. In a lock, a case, a bolt, a key-operated step-by-step mechanism arranged to extend and retract the bolt after the second step, a separate key to operate each step of the mechanism, a retainer for one key preventing the withdrawal thereof and means for throwing off said retainer by the operation of the bolt.

5. In a safe deposit lock comprising a case, a bolt frame and a bolt carried thereby guided therein, a lock casing carried by said case, a hub in said casing provided with a roll-back to operate the bolt, said casing provided with two independent means to lock the hub in two different positions, a key-way in said hub, a tangential groove on each side of said key-way, means to rotate the hub and a spring-pressed hook pivoted to the case plate adapted to enter the grooves in the hub at the second position and prevent the entire reverse rotation of the hub until the bolt has been fully retracted and again extended.

6. In a safe deposit lock comprising a case, a bolt frame and a bolt carried thereby guided therein, a lock casing carried by the case, a hub in said casing provided with a roll-back to operate the bolt, said casing provided with two independent means to lock the hub in two different positions, a key-way in said hub, a tangential groove on each side of said key-way, means adapted to be inserted in the key-way to rotate the hub, a spring-pressed hook pivoted to the case adapted to enter the grooves in the hub at the second position and prevent the entire reverse rotation of the hub until the bolt has been fully retracted and again extended, and a projection secured to said hook adapted to be engaged by a lug on the bolt frame when the bolt is retracted to withdraw said hook.

7. In a safe deposit lock mechanism, a bolt frame provided with a bolt, a lock casing, a hub rotatable therein provided with a roll-back, said casing provided with two independent means to lock the hub in two different positions, means to release and rotate said hub from the first to the second position, and independent means to release and rotate the hub from the second position, said roll-back adapted to be moved from the first to second position without engaging the bolt frame, a key-way in said hub, a transverse notch intersecting the key-way, a correspanding slot on one side of the casing and a spring-pressed pivoted dog adapted to enter said notch and engage the second releasing means to prevent its removal from the hub until the bolt has been retracted and again extended.

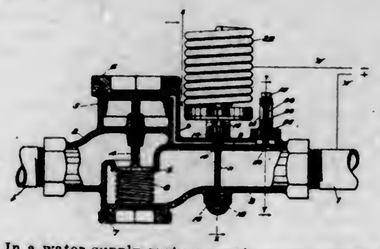
8. A safe deposit lock mechanism, comprising a case, a bolt frame, a bolt carried thereby, a lock casing, a hub rotatable therein provided with a roll-back adapted to engage the bolt frame to operate the bolt having a limited movement before each operation, said casing provided with two independent means to lock the hub in two different positions, a key to release the hub from the first position and rotate it to the second position, a second key to release and rotate the hub from the second position to operate the bolt, and means carried by the case engaging the second key to prevent reverse rotation of the hub beyond the second position until the bolt has been retracted and again extended.

9. A safe deposit lock mechanism, comprising a case, a bolt frame, a bolt carried thereby, a lock casing, a hub rotatable therein provided with a roll-back adapted to engage the bolt frame to operate the bolt having a limited movement before each operation, said casing provided with two independent means to lock the hub in two different positions, a key to release the hub from the first position and rotate the hub, a second key to release and rotate the hub from the second position to operate the bolt, and means carried by the case engaging the second key to prevent its withdrawal from the hub until the bolt has been retracted and again extended.

10. A safe deposit lock mechanism, comprising a case, a bolt frame, a bolt carried thereby, a lock casing, a hub rotatable therein provided with a roll-back adapted to engage the bolt frame to operate the bolt having a limited movement before each operation, said casing provided with two independent means to lock the hub in two different positions, a key to release the hub from the first position and rotate it to the second position, a second key to release and rotate the hub from the second position to operate the bolt, a transverse elongated notch in the hub, a corresponding slot in the casing, a spring-pressed dog pivoted to the casing adapted to project through said slot and engage in the notch in said hub, said dog engaged by

the first key and in moving the hub from the first to the second position is retracted from engagement therewith, a shoulder on said dog, a spring-pressed lever adapted to engage the said shoulder on the dog in its retracted position, a shoulder on the bolt co-acting with said lever to release the dog when the bolt is retracted, and a notch in the second key adapted to be engaged by said dog to prevent the withdrawal of said key until the bolt has been retracted and again extended.

868,307. THERMOSTATIC APPLIANCE. GEORGE W. WACKER, Yonkers, N. Y. Filed Apr. 2, 1906. Serial No 309,364.



1. In a water supply system a main operating valve and two supplemental control valves, each controlled by a thermostatic device and adapted to independently effect the operation of the main valve, one for a predetermined temperature and the other for a relatively much higher temperature, substantially as described.

2. In a water supply system a main operating valve normally closed and operatively connected with two supplemental control valves each controlled by a thermostat, one of which actuates its valve for a predetermined temperature and the other for a relatively much higher temperature, substantially as described.

3. In a water supply system a service pipe; a main operating valve seated therein and operatively connected with a piston included in a by-path to the service pipe; two independent supplemental control valves normally seated, so as to close the by-path, one being provided with means as a spring for holding it seated, and each with a thermostatic device, one of which at a predetermined temperature, actuates the spring seated valve to temporarily unseat it and open the by-path, and the other at relatively much higher temperature opens the by-path, substantially as described.

4. A water supply system embracing a main operating valve and a supplemental control valve adapted to effect the operation of the main valve; in combination with a thermostatic device operatively connected to actuate the control valve and an alarm actuated by the thermostat for a predetermined temperature; the arrangement being such that the alarm is sounded for a time before the main valve is opened, substantially as described.

5. In a safety system for the protection of buildings from fire, a water service pipe, a normally closed main operating valve; a supplemental control valve; in combination with a thermostat connected to the control valve; together with an electrical alarm, a circuit and circuit connections with adjustable parts of the thermostat, whereby for an abnormal temperature an alarm is first sounded and after a definite time the main operating valve is opened and water released, and when the temperature is lowered beyond the predetermined operating temperature the main valve is closed and the alarm ultimately discontinued, substantially as described.

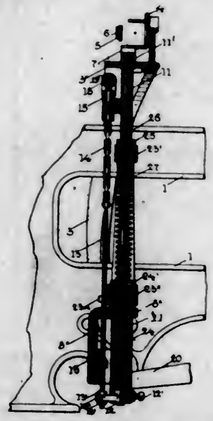
6. In a safety system a thermostat operatively connected with a seated valve; in combination with an adjustable contacting part and a circuit and circuit connections to an alarm, all so adjusted and arranged that the alarm may be actuated for a definite time before the valve is actuated, substantially as described.

7. In a safety system a liquid thermostat having an expansible diaphragm of conducting material; a spring seated valve with its valve stem located in front of said diaphragm, and a yielding electrical contact located between said diaphragm and the end of the valve stem; in combination with electrical conductors connected to the diaphragm and the contact and including an electrical alarm, substantially as described.

8. A thermostatic safety device embodying an expansible chamber; a spring seated valve and valve stem, and a yielding contact adapted to make contact with the diaphragm before said diaphragm touches the end of the valve stem; in combination with an electrical alarm, substantially as described.

9. A system for utilizing a source of liquid supply, under pressure, embracing a main operating valve and a control valve located in a by-path to the pipe or tube in which the main valve is seated; in combination with a thermostat adapted to actuate the control valve and means located at a relatively distant point for manually effecting the operation of the main valve, substantially as described.

868,308. LOOM SHUTTLE-BOX MECHANISM. WILLIAM M. WATTIE, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed Dec. 9, 1905. Serial No. 291,048.



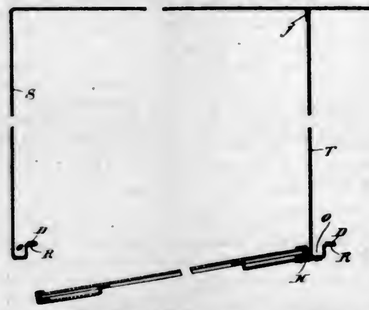
1. In a shifting shuttle box mechanism, the combination with a vertically moving shuttle box lifter rod, of connections to the shuttle box lever, said connections comprising therein a spring encircling said rod, a sleeve loosely mounted on said rod and loosely inclosing and forming a bearing for one end of said spring, and a second sleeve loosely mounted on said rod and forming a bearing for the other end of said spring, and a vertically moving slide having hubs thereon through which said sleeves loosely extend, and said hubs, adapted to be engaged by annular flanges or projections on said sleeves.

2. In a shifting shuttle box mechanism, the combination with a vertically moving shuttle box lifter rod, of connections therefrom to the shuttle box lever, said connections comprising therein a spring encircling said rod, a sleeve loosely mounted on said rod and loosely inclosing and forming a bearing for one end of said spring, and a second sleeve loosely mounted on said rod and forming a bearing for the other end of said spring, and a vertically moving slide having hubs thereon through which said sleeves loosely extend, and said hubs, adapted to be engaged by annular flanges or projections on said sleeves, said annular projections being held in engagement with said hubs by the expansion of said spring in the normal operation of the loom, and either one of said annular projections allowed to move out of engagement with its hub, by the contraction of said spring.

3. A give-way spring attachment for a vertically moving shuttle box lifter rod, consisting of a helically coiled expansion spring loosely encircling said rod, and extending at one end within and having a bearing in a sleeve, and said sleeve loosely mounted on said rod, and bearing at its other end against a sleeve, and said sleeve loosely mounted on said rod, and a vertically moving slide having two hub portions thereon, one for each sleeve, to loosely receive the same, and adapted to be engaged by a flange or projection on each sleeve, and connections from said slide to a box lever.

4. A give-way spring attachment for a vertically moving shuttle box lifter rod, consisting of a helically coiled expansion spring loosely encircling said rod, and extending at one end within and having a bearing in a sleeve, and said sleeve loosely mounted on said rod, and bearing at its other end against a sleeve, and said sleeve loosely mounted on said rod, and a vertically moving slide having two hub portions thereon, one for each sleeve, and adapted to be engaged by a flange or projection on each sleeve, and the upper hub having a tubular bushing screwed therein, to loosely receive the upper sleeve, and connections from said slide to a box lever.

868,309. LOCKER CONSTRUCTION. PETER M. WEGE, Youngstown, Ohio, assignor to The General Fireproofing Company, Youngstown, Ohio, a Corporation of Ohio. Filed Apr. 4, 1906. Serial No. 309,741.



1. In a sheet metal frame construction for lockers, cupboards and the like, the combination of the side continued in one plane to the front of the frame and having the front edge of the side bent inwardly at a right angle, then rearwardly at a right angle to the first bend, then again inwardly parallel to the first inward bend, thereby forming a countersunk door stop wholly within the plane of the side, and a door hinged at the other side of the frame and adapted to seat against said door stop.

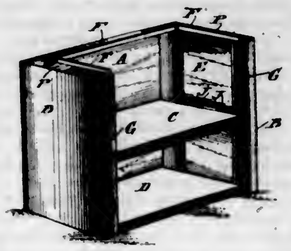
2. In a sheet metal construction for lockers, cupboards and the like, the combination of L-shaped frame elements each comprising a back and one integral side, adapted to be placed side by side to form compartments, the front edges of the sides being bent first inwardly, then rearwardly, and then again inwardly to form combination door stops and hinge supports, and doors hinged to the first inward bends of the door stops.

868,310. METALLIC CASE AND LIKE DEVICE. ALEXANDER P. WHITE, Caldwell, N. J., and PETER M. WEGE, Youngstown, Ohio, assignors to The General Fireproofing Company, Youngstown, Ohio, a Corporation of Ohio. Filed June 13, 1907. Serial No. 378,701.

1. In a metallic case or like device, the combination of a rod, and a side and shelf locked together by means of said rod, said rod passing through apertures in interfitting parts of the side and shelf.

2. A metallic case or like device, having a side and end fastened by means of interfitting parts, a shelf, and a rod passing through the side, end and shelf to hold them in position.

3. A metallic case or like device, having interfitting sides and back, a shelf supported on the sides, a top and bottom arranged within the sides and vertical rods passing through the top, the bottom and the shelf to bind the parts together.



4. In a metallic case or like device, the combination of sides with bent edges containing slots adapted to receive the edge of a top, a top containing an aperture in its edge adapted to receive a rod, and a rod passing through said aperture, thus holding the top and sides together.

5. In a metallic case or like device, the combination of sides with bent edges containing slots adapted to receive the edge of a bottom, a bottom containing an aperture in its edge adapted to receive a rod, and a rod passing through the said aperture, thus holding the sides and bottom together.

6. In a metallic case or like device, the combination of sides with bent edges containing slots adapted to receive the edge of a shelf, a shelf containing an aperture adapted to receive a rod, and a rod passing through said aperture, thus holding the sides and shelf together.

7. In a metallic case or like device, a side provided with an edge bent to receive a rod, said side having a slot in the bent portion thereof to receive the edge of the shelf, a shelf with an aperture in its edge and a rod passing through said aperture, thus fastening the shelf and side together.

8. A metallic case or like device, having the sides and back provided with interfitting flanges, a shelf and bottom and top all interfitting with the sides, and rods for binding the parts together by passing through apertures in the top and bottom.

9. A metallic case or like device formed of sheet metal, having at least one of its vertical sides bent horizontally, and having an aperture in the portion so bent, a shelf containing an aperture and a rod passing through both of said apertures to bind the parts together.

10. A metallic case or like device, having its opposite parallel interior sides bent outwardly at the top to form horizontal flanges provided with apertures, the said sides having slots to receive a shelf, the edge of the shelf having apertures and rods passing through said apertures binding the parts together.

11. In a metallic case or like device, a corner formed at the junction of two sides, by bending the edges to make a mutual bearing, a shelf with an aperture, and a rod engaging the sides and passing through the said aperture in the shelf, the shelf having an edge fitted into a slot in the bent portion of at least one of the sides.

12. A metallic case or like device, having its opposite interior walls made up of panels with top and bottom edges bent to form flanges provided with apertures, opposite exterior sides with vertical marginal flanges having slots in the flanged portions of the sides to receive a shelf, a shelf with apertures to receive rods and rods passing through the apertures in the shelf to bind the parts together.

13. A metallic case or like device, having a back and sides provided with interfitting flanges, interior panels for the sides, a shelf interfitting with said panels and rods engaging said shelf inside of the panels for binding the parts together.

14. A metallic case or like device formed of sheet metal, having at least one of its vertical sides bent horizontally, and provided with an aperture in the portion so bent, a panel with an edge bent to form a flange with an aperture

in the bent edge portion, and a rod passing through the said apertures to bind the parts together.

15. A metallic case or like device, having a back and sides of marginally flanged interfitted metallic sheets, interior panels for the sides, a shelf supported in slots in said interior panels and rods passing through apertures in said shelves for binding the parts together.

16. A metallic case or like device, having a back and sides of marginally flanged interfitted metallic sheets, interior panels for the sides, a shelf supported in slots in said panels, and rods passing through apertures in the sides and in the shelves for binding the parts together.

17. A metallic case or like device formed of metallic sheets and having an interior panel provided with a flange containing an aperture to receive a rod, a top containing an aperture and fitting with a side containing a suitably flanged edge having an aperture therein, a rod passing through the aperture in the top and through the aperture in the flanged edge of the side and through the panel, for binding the parts together.

18. A metallic case or like device, having opposite interior walls made of panels with top and bottom edges bent to form flanges provided with apertures, the body of the panels having slots to receive the edges of a shelf, a shelf with apertures and rods passing through the apertures in the shelf and the apertures in the flanges of the panels to bind the parts together.

19. A metallic case or like device having at least one interior wall bent at one end to form a flange having an aperture, a panel, having a slot to receive a shelf, a shelf with an aperture and a rod passing through the aperture in the bent flange of the wall and through the aperture in the shelf to bind the parts together.

20. A metallic case or like device, having its opposite parallel exterior sides bent inwardly at the top to form a horizontal flange provided with apertures to receive rods, interior panels in the sides, a shelf fitted into slots in said interior panels, said shelf having apertures to receive the rods, and rods passing through the apertures in the bent portion of the top and through the apertures in the shelf, thus binding the parts together.

21. In a metallic case or like device formed of metallic sheets, the combination of the sides having interior panels, a shelf interfitting with said panels and rods engaging the said shelf for binding the parts together.

22. A metallic case having at least one interior wall made with a single panel with top and bottom edges bent to form flanges provided with apertures, the body of the panel having a slot to receive a shelf, a shelf with an aperture and rods passing through the apertures in the flanged portion of the panel and through the aperture in the shelf to bind the parts together.

23. A metallic case or like device having a side and a back provided with interfitting flanges, interior panels for the side, a shelf supported between said panels and rods engaging the shelf for binding the parts together.

24. In a metallic case or like device formed of metallic sheets, the combination of sides, and interior panels for at least one side, a shelf supported between said panels and rods engaging the shelf for binding the parts together.

25. A metallic case or like device formed of metallic sheets, having interfitted flanged corners and interior panels for at least one side, a shelf supported in slots in the flanged corners of the case and rods engaging the shelf for binding the parts together.

26. A metallic case or like device, having exterior sides formed of sheets of metal, with its opposite interior walls made of a plurality of panels with top and bottom edges bent to form flanges provided with apertures, a shelf between said panels, the shelf having apertures and rods passing through said apertures to bind the parts together.

27. A metallic case or like device having a side with a flanged edge provided with an aperture to engage a rod, a top fitted to the side and having an aperture to engage a rod, a tongue attached to the side and having an aperture therein to engage a rod and a rod passing through all said apertures.

28. A metallic case or like device having a side with a flanged edge provided with an aperture to engage a rod, a bottom fitted to the side and having an aperture to engage a rod, a tongue attached to the side having an aperture therein, and a rod passing through all said apertures.

868,311. HOSE-COUPLING. CHARLES T. WHITE, Niles, Mich. Filed Nov. 1, 1905. Serial No. 285,444.



1. In a hose coupling, a male member having a flange provided with notches, a female member having a socket to receive the flange and inwardly projecting lugs to pass through the notches and traverse the flange, a retaining member on the male member and slidable thereon, lugs on the retaining member adapted to enter the notches in the flange, a spring engaging the retaining member, and a ring adjustable on the male member and engaging the spring, said ring also adapted to engage the retaining member and lock the same with the lugs thereon within the notches of the flange.

2. In a hose coupling, a male member having an outwardly projecting flange, provided with peripheral notches, and also having a conical end projecting beyond the flange, a packing having a conical opening to receive said end and a circumferential groove, a female member having an enlarged chamber opposite said packing and an inwardly projecting flange within said groove, and also having a socket to receive the flange of the male member and inwardly projecting lugs to pass through the notches and traverse the flange, and a retaining member having lugs adapted to enter and fill the said notches and together with the flange present a continuous retaining surface traversed by the lugs.

868,312. BAKE-PAN. MARGARET A. WILCOX, Chicago, Ill. Filed Oct. 19, 1905. Serial No. 283,362.



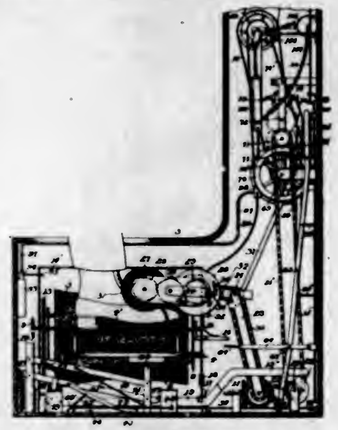
In a bake pan, the combination of a pan having perforations and raised surfaces in the bottom thereof, an outwardly flaring rim, a circumferential shoulder, a vertical rim extending from the outer edge of said shoulder, with a removable circular perforated rim having a shoulder adapted to rest upon the aforesaid shoulder in the bake pan, said rim flaring in a direction opposite to the outwardly flaring rim in the bake pan, the two rims forming a closure around the outer edge of the pan, substantially as described.

868,313. SHOE-POLISHING MACHINE. JOSEPH M. WOLKOSKY, FRANK MAGIDSON, SAMUEL PAINTZ, and ABRAHAM WOLKOSKY, Irwin, Pa., assignors to Westmoreland Automatic Machine Company, Irwin, Pa., a Corporation of Pennsylvania. Filed Dec. 22, 1906. Serial No. 349,128.

1. In a shoe polishing machine, a carrier movable toward and away from a shoe, a support rotatably mounted on the carrier, a latch device for holding the support immovable on the carrier, a plurality of individually moving brushes carried by the support, brush moving mechanism, and means actuated by the brush moving mechanism when the support is away from the shoe for releasing said latch device and permitting the brush support to shift.

2. In a shoe polishing machine, a carrier movable toward and way from a shoe, a support rotatably mounted on the carrier, a latch device for holding the support immovable on the carrier, a group of individually rotating

brushes on the support, brush rotating mechanism, and means actuated by the brush rotating mechanism when the support is away from the shoe for releasing said latch device and permitting the brush support to shift.



3. In a shoe-polishing machine, a rotatable support, a driving gear rotatable concentrically with the support, a plurality of rotatable brushes rotatable on the support, each of said brushes being geared to the driving gear, and automatically acting means for causing the support to rotate intermittently for placing the brushes successively in operative position.

4. In a shoe-polishing machine, two groups of brushes movable toward and from each other, and automatic means for shifting the brushes of each group so as to place them successively in operative position.

5. In a shoe-polishing machine, two groups of brushes movable toward and from each other for operating on opposite portions of a shoe, and means operating when the groups are moved apart for automatically shifting the brushes of each group and placing them successively in operative position.

6. In a shoe-polishing machine, brushes movable toward and from each other for operating on opposite sides of a shoe, a carrier movable toward and from the front of the shoe, a plurality of brushes on the carrier, and means operating when the carrier is away from the shoe for placing the brushes carried thereby in operative position successively.

7. In a shoe-polishing machine, the combination of a carrier movable toward and from the front of a shoe, a support rotatably mounted in the carrier, a plurality of rotating brushes carried by the support, means operating when the carrier is away from the front of the shoe for causing the brushes to move successively into operative position, and opposite side brushes movable toward and away from opposite sides of the shoe.

8. In a shoe-polishing machine, two groups of side brushes movable toward and from each other for operating on opposite sides of a shoe, means operating automatically when the brushes are away from the shoe for shifting the brushes of each group and placing them successively in operative position, a group of front brushes movable toward and from the shoe, and means for automatically shifting the front brushes for placing them successively in operative position.

9. In a shoe-polishing machine, groups of side brushes movable toward and from each other, automatic means operative when the groups are away from the shoe for shifting the brushes of each group and placing them successively in operative position, a group of front brushes movable toward and away from the shoe alternately with the movement of the side groups, and automatic means operating to shift the brushes of the front group when the latter is away from the shoe for placing the brushes thereof successively in operative position.

10. In a shoe-polishing machine, opposite groups of individually rotating brushes, each group being rotatably mounted for placing the brushes successively in operative position, a locking mechanism for each group for holding the same normally against rotation, a pair of levers—one for releasing each of the lock mechanisms, and lever operating mechanism.

11. In a shoe-polishing machine, opposite groups of individually rotating brushes, each group being rotatably mounted for placing the brushes thereof successively in operative position, locking mechanism for each group for holding the same normally against group rotation, levers for releasing said locking mechanisms, a rock shaft having a pair of arms—one for engaging and operating each of the said levers, a third arm projecting from the rock shaft, and a rotating member having a plurality of projections adapted successively to engage said third arm and oscillate the rock shaft.

12. In a shoe-polishing machine, two side groups of individually rotating brushes for operating on opposite portions of a shoe, each group being rotatably mounted, lock mechanism for each group for holding the same against group rotation, a front group of individually rotating brushes, said front group being rotatably mounted, lock mechanism for holding the same against group rotation, a rotating shaft, two series of projections on said shaft, mechanism actuated by the projections of one of the series for releasing the lock mechanisms of the side groups, and mechanism operated by the projections of the other series for releasing the lock mechanism of the front group.

13. In a shoe-polishing machine, a carrier movable toward and from the front of a shoe, a frame journaled at its center on a horizontal axis in the carrier, rotary brushes at opposite ends of the frame, gearing for rotating the brushes, a stop carried by each end of the frame, a spring-held catch on the carrier normally in the path of, and adapted to be engaged by, one or the other of said stops for preventing rotation of the brush-holder, and automatically acting means for so moving the catch as to permit the brush-holder to rotate.

14. In a shoe-polishing machine, the combination with the rotatable brush-holder having a stop at each end, and rotatable brushes at opposite ends of the holder, of the pivoted spring held latch having two stop-engaging surfaces—one in advance of the other, and means for so operating the catch as to cause it to present first one and then the other of said surfaces to each of said stops as they approach the same.

15. In a shoe polishing machine, the combination of a shoe support, a carrier movable toward and from a shoe resting on the support, the carrier being movable in the direction of the length of the shoe and in front of the said support, a shifting brush holder mounted in the carrier, and a plurality of brushes on the holder.

16. In a shoe polishing machine, the combination of a shoe support, a carrier mounted to oscillate on a horizontal axis and to move toward and from a shoe resting on the support, said movement being in the direction of the length of the shoe, a shifting brush holder mounted in the carrier, and a plurality of brushes carried by the holder.

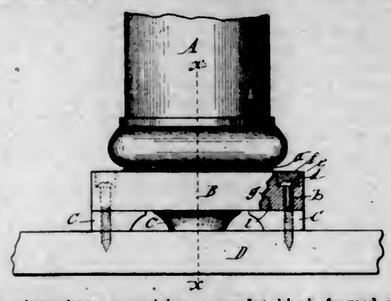
17. In a shoe polishing machine, the combination of a shoe support, uprights adapted to oscillate toward and from the front of a shoe resting on the support, a vertically movable carrier extending from the uprights toward the shoe support, a shifting brush holder mounted in and movable vertically with the carrier, and a plurality of brushes carried by the holder.

18. In a shoe polishing machine, the combination of a shoe support, an oscillating carrier at each side of the support, the axes of the carriers extending longitudinally of the support, means for oscillating the carriers, a plurality of rotatable brushes mounted on each of the carriers with their axes parallel with the carrier axes, and brush rotating means.

19. In a shoe polishing machine, a series of groups of brushes, each group being operative on a given portion of

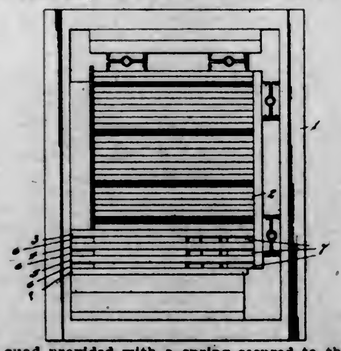
a shoe, means for moving each group toward and from the shoe, means for shifting the brushes of each group when away from the shoe, brush operating means, and polish spraying mechanism operative intermittently and only when the brushes are away from the shoe.

868,314. BASE FOR COLUMNS, &c. CHARLES E. ZIMMERMANN, Syracuse, N. Y. Filed Jan. 27, 1905. Serial No. 242,884.



A column-base comprising a wooden block formed separate from the column and provided near its edge with vertical apertures and counter-bores thereat in its upper face, metallic supporting-feet provided with coinciding apertures, and formed with pointed studs or lugs embedded in the block, screws passing through the apertures and entering the floor and having their heads disposed in the counter-bores, and fillers in said counter-bores as set forth.

868,315. PRINTING DEVICE. REED ADAMS, Lapeer, Mich. Filed Aug. 31, 1906. Serial No. 332,740.



1. A quad provided with a spring secured to the front thereof, inclined from the front to the rear with a divergence from the body of said quad greater at the rear than at the front, whereby a linotype body may engage thereagainst and be rocked thereon, substantially as described.

2. A spring quad, having in combination a quad body, a spring secured to the face thereof and extending from the face toward the back thereof but inclined with respect to said quad body, and with a greater divergence therefrom at the rear than at the front, substantially as described.

3. In combination with a printing form, composed of type blocks and quads arranged to form a slot, a spring quad located at one end of said slot and having the spring of said quad extending into said slot on an incline and diverging from said quad body toward the back of said slot, whereby a linotype inserted in said slot may bear against the inclined face of said spring and be rocked thereon, substantially as described.

4. In combination, a printing form provided with a slot for the reception of a linotype, a yielding quad provided with an inclined yielding face projecting into said slot, and a linotype adapted to be inserted in said slot or withdrawn therefrom by pressing the said linotype endwise and rocking it on said spring surface, substantially as described.

868,316. MECHANICAL MOVEMENT. HARRIS B. ADLER, St. Joseph, Mo., assignor of one-half to Nancy Adelina Gardner, St. Joseph, Mo. Filed June 19, 1905. Serial No. 265,911.



1. In a mechanical movement; the combination with an inclined ball chute and balls therein of a sprocket wheel having its sprocket teeth passing into said chute and between and engaging said balls; a worm elevator for receiving, elevating and discharging said balls, a suitable train of gears for conveying movement from said sprocket wheel to the worm of said worm elevator, a shaft for said sprocket wheel and a drive pulley upon said shaft.

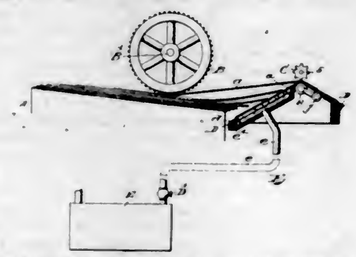
2. In a mechanical movement a sprocket wheel, there being teeth upon the periphery of said wheel, a shaft for said sprocket wheel, a drive pulley on said shaft, an inclined spiral ball chute, there being a slot in said chute to admit the teeth of said sprocket wheel; balls within said chute, a worm for elevating said balls said balls extending in a continuous chain from and into said worm and in engagement with the teeth of said sprocket wheel, as shown, and suitable means for conveying motion from said sprocket wheel to the worm of said worm elevator.

3. In a mechanical movement, a wheel, having sprocket teeth thereon; an inclined ball chute, balls within and extending continuously through said chute, to and in engagement with the teeth of said wheel; a worm sleeve, having a ball conduit formed longitudinally therein; a worm within said sleeve, for elevating said balls; cone seat bearings for the extremities of said worm the upper one of said bearings having means for admission of lubricants into said bearings and on said worm; suitable power transmitting means, for transmitting power from said toothed wheel to said worm including a shaft for said toothed wheel, and a drive pulley on said shaft.

4. In a mechanical movement, an electric circuit closer, a toothed wheel, the teeth of which are arranged to electrically contact with and move from said circuit closer; an inclined ball chute, balls within said chute and in engagement with the teeth of said toothed wheel, a worm elevator for receiving, elevating and discharging said balls as described, a worm in said worm elevator, suitable means for conveying power from said toothed wheel to said worm of said worm elevator, a shaft for said toothed wheel and a drive pulley on said shaft.

868,317. PAPER-FEEDING MECHANISM. ARTHUR S. ALLEN, Brookline, Mass. Filed Dec. 30, 1904. Serial No. 238,885.

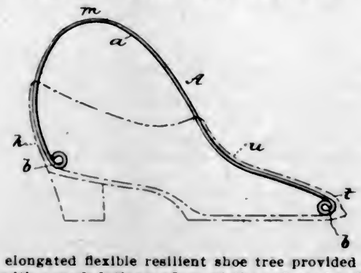
1. In paper-feeding mechanism, means to sustain a pile of sheets, a ridge having an inclined side provided with a series of separate interstices, means to shove the top sheets of the pile toward said ridge, means to force air through said interstices against the under side of the leading end of a sheet of paper leaving said pile and while being moved up said incline, and means located within the ridge and exterior to the apex thereof for engaging the leading ends of the sheets being removed separately from the pile.



2. In paper-feeding mechanism, means to sustain a pile of sheets, a ridge having an inclined side provided with a series of interstices, means to shove the top sheets of the pile toward said ridge, and means to force air through said interstices against the under side of the leading end of a sheet of paper leaving said pile, and while being moved up said incline.

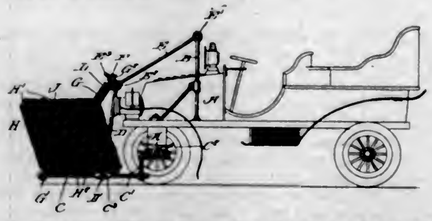
3. In paper-feeding mechanism, means to sustain a pile of sheets, a ridge having an inclined side provided with a series of interstices, feeding means at the top of said incline to engage the leading end of the uppermost sheet of a pile of paper, a combing device acting on the uppermost sheet of said pile to project it and others below it beyond the end of the pile, and means to force air against the under sides of the leading ends of the sheets of paper leaving said pile and being moved up said incline, the top sheet of the pile to be engaged by the feeding means.

868,318. SHOE-TREE. CHARLES E. BAILEY, Providence, R. I. Filed July 11, 1906. Serial No. 325,646.



An elongated flexible resilient shoe tree provided at its ends with rounded tips and consisting of a plurality of wires arranged parallel in the same plane and united throughout their length with solder, said tree in use presenting a single continuous arch extending from the base of the heel to the toe of the shoe.

868,319. REVERSIBLE AUTOMOBILE-FENDER. LUTHER P. BARRETT, St. Louis, Mo. Filed Mar. 4, 1907. Serial No. 360,509.



1. An automobile fender having the shape of a double cone and rotatably mounted upon suitable bearings.

2. An automobile fender consisting of an upwardly and rearwardly inclined axle, and a double cone of spring metal hoops rotatably mounted upon said axle.

3. An automobile fender consisting of an upwardly and rearwardly extending axle, means for supporting said axle in advance of an automobile and a rotatable fender carried by said axle.

4. A fender for vehicles comprising a substantially triangular frame arranged in advance of the vehicle, a V-tions of the triangular and V-shaped frames, and a rotashaped frame carried by the first mentioned frame, means for supporting the upper end of the V-shaped frame, a shaft connected to an apex portion of the two frames and a rotatable fender mounted upon said shaft.

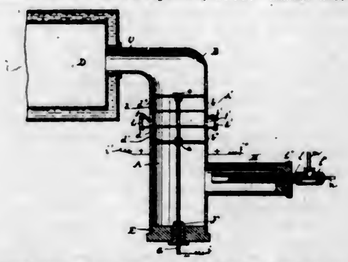
5. A fender consisting of a supporting frame, said frame comprising a substantially horizontal triangular frame and an upright V-shaped frame, an axle connected to the apex portions of said frame, and a double cone shaped fender detachably mounted upon said axle, and reversible in case of damage to either of the cone portions.

6. A fender of the kind described consisting of a plurality of spring metal hoops arranged in sets at right angles to each other, forming a double cone, a wire mesh inclosing said double cone, an axle upon which said fender is mounted, the fender being rotatable upon the axle, and a frame for supporting said axle and fender.

7. The combination with the vehicle, a U-shaped frame mounted thereon, a triangular frame suspended from the vehicle axle, a V-shaped frame mounted vertically upon the triangular frame, a rod connected to the bow portion of the U-shaped frame, an axle carried by the apex portions of the triangular and V-shaped frames, and a rotatable hollow fender carried by the axle.

8. The combination with a frame suspended in advance of a vehicle, of a rearwardly and upwardly inclined axle carried by said frame, a reversible fender loosely mounted upon said axle, said fender being formed of oppositely disposed steel bands and having the shape of a double cone, and a coil spring arranged between the upper apex of the fender and the upper end of the axle.

868,320. PROCESS OF MAKING ALDEHYDES AND SOLUTIONS THEREOF. HENRY S. BLACKMORE, Mount Vernon, N. Y. Filed Apr. 20, 1903. Serial No. 153,424.



1. The process of making aldehydes which consists in oxidizing alkyl compounds in the presence of an aldehyde-absorbing fluid while maintaining the temperature below the dissociating point of the aldehyde desired by abstracting the heat liberated during oxidation.

2. The process of making aldehydes which consists in oxidizing substitution products of hydrocarbon in the presence of an aldehyde-absorbing fluid while maintaining the temperature below the dissociating point of the aldehyde desired by abstracting the heat liberated during oxidation.

3. The process of making aldehydes which consists in oxidizing hydroxyl substitution products of hydrocarbon in the presence of an aldehyde-absorbing fluid while maintaining the temperature below the dissociating point of the aldehyde desired by abstracting the heat liberated during oxidation.

4. The process of making formic aldehyde which consists in oxidizing methyl alcohol in the presence of an aldehyde-absorbing fluid while maintaining the tempera-

ture below the dissociating point of the aldehyde desired by abstracting the heat liberated during oxidation.

5. The process of making formic aldehyde which consists in oxidizing methyl alcohol in the presence of an aldehyde-absorbing fluid while maintaining the temperature below the dissociating point of formic aldehyde by refrigeration.

6. The process of making formic aldehyde which consists in oxidizing vaporized methyl hydroxid in the presence of an aldehyde-absorbing fluid and abstracting the heat liberated, by refrigeration, thereby maintaining the temperature below the dissociating point of the aldehyde desired.

7. The process of making formic aldehyde which consists in exposing the vapor of methyl hydroxid to the action of oxygen in the presence of an aldehyde-absorbing fluid at a reacting temperature and maintaining the temperature below the decomposing point of formic aldehyde by abstracting the heat liberated by the said reaction.

8. The process of making aldehyde solutions which consists in oxidizing alkyl compounds in the presence of a fluid capable of association with the aldehyde produced while maintaining the temperature below the dissociating point of the aldehyde desired by abstracting the heat liberated during oxidation and finally recovering the aldehyde solution in liquid form by condensation.

9. The process of making aldehyde solution which consists in oxidizing alkyl compounds in the presence of a gaseous body capable of association with the aldehyde produced while maintaining the temperature below the dissociating point of the aldehyde desired by abstracting the heat liberated during oxidation and finally recovering the aldehyde solution by condensing the said gaseous body together with the formic aldehyde.

10. The process of making aldehyde solutions which consists in oxidizing alkyl hydroxids in the presence of a fluid capable of association with the formic aldehyde while maintaining the temperature below the dissociating point of the aldehyde desired by abstracting the heat liberated during oxidation and finally recovering the formic aldehyde and associating fluid in liquid form.

11. The process of making aldehyde which consists in oxidizing an alcohol in the presence of an aldehyde-absorbing fluid capable of association with the aldehyde produced, and maintaining the temperature of the transforming ingredients below the point at which the aldehyde is dissociated by the action of heat, by the refrigerative action of heat-absorbing fluid.

12. The process of making formic aldehyde which consists in oxidizing methyl alcohol in the presence of a solvent fluid capable of associating with formic aldehyde while maintaining the temperature below the point at which formic aldehyde is dissociated by the action of heat by abstracting the heat liberated during oxidation.

13. The process of making formic aldehyde which consists in oxidizing methyl alcohol in the presence of a formic aldehyde-absorbing fluid while maintaining the temperature below the dissociating point of formic aldehyde by refrigeration.

14. The process of making formic aldehyde which consists in oxidizing vaporized methyl alcohol while in the presence of a formic aldehyde-absorbing fluid and abstracting the heat liberated thereby by refrigeration, thereby maintaining the temperature below the dissociating point of said formic aldehyde.

15. The process of making formic aldehyde which consists in exposing the vapor of methyl hydroxid to the action of oxygen at a reacting temperature in the presence of a formic aldehyde-absorbing fluid and maintaining the temperature below the dissociating point of formic aldehyde by abstracting the heat liberated during oxidation.

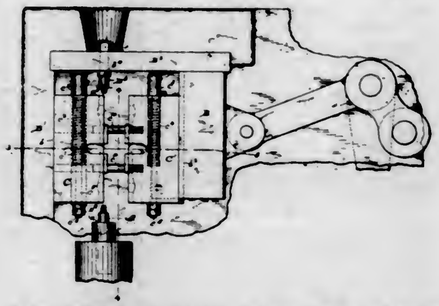
16. The process of making formic aldehyde which consists in oxidizing methyl hydroxid in the presence of steam and maintaining the temperature below the dissociating point of formic aldehyde by abstracting the heat liberated by the said reaction.

17. The process of making formic aldehyde which consists in oxidizing methyl hydroxid in the presence of steam while maintaining the temperature below the dissociating point of formic aldehyde by the abstraction of heat and condensing the formic aldehyde thus generated together with the steam thereby producing an aqueous solution of the same.

18. The process of making formic aldehyde which consists in oxidizing methyl hydroxid and maintaining the temperature below the dissociating point of formic aldehyde by the action of steam and finally condensing the formic aldehyde and steam thereby producing an aqueous solution of formic aldehyde, substantially as described.

19. The process of making aldehydes which consists in establishing a sphere of reaction between alkyl compounds and oxidizing agents within a body of heat-absorbing aldehyde solvent fluid and maintaining the reaction therein by supplying reacting ingredients thereto while maintaining the temperature within the said sphere at a reacting point and below the temperature at which the aldehyde dissociates by the action of heat.

868,321. FORGING-MACHINE. JOHN R. BLAKESLEE, Jr., Cleveland, Ohio. Filed Feb. 23, 1905. Serial No. 246,835.



1. In upsetting mechanism, the combination of a die-part fixed in one and movable in another direction; a complementary die-part movable in both said directions, means normally positioning said die-parts in their common direction of movement; a heading-tool movable in such common direction and adapted to coöperate with said die-parts; and a fixed heading tool also adapted to coöperate therewith.

2. In upsetting mechanism, the combination of a fixed abutment; a die-part movable transversely of said abutment; another and complementary die-part movable both transversely of and parallel with said abutment; resilient means normally positioning said die-parts in their common direction of movement; a heading-tool movable in such common direction and adapted to coöperate with said die-parts; and a fixed heading-tool mounted in said abutment and likewise adapted to coöperate with said die-parts.

3. In upsetting mechanism, the combination of one die-part fixed in one and movable in another direction; a complementary die-part movable in both said directions; a movable heading-tool and a fixed heading tool both coöperating with said die-parts; spring-actuated means normally projecting from said die-parts and mounted so as to be capable of yielding; and a fixed abutment with which said means contact.

4. In upsetting mechanism, the combination of two slideways angularly related to one another; a die-part mounted in one of said ways; a die-slide mounted in the other of said ways; a second die-part mounted upon said slide and movable in the direction of movement of said first-named die-part; and a reciprocable heading-tool and a fixed heading-tool coöperating with said die-parts.

5. In upsetting mechanism, the combination of a reciprocable member including a heading-tool, a second heading-tool fixedly mounted, a two-part die coöperating with said tools, and movable toward and from said second tool, one of the parts of said die being movable in a direction transverse relatively to the direction of movement of said member, mechanism for so moving said part, said member arranged to move said die toward said fixed tool, and means for retracting such die upon the withdrawal of said member.

6. In upsetting mechanism, the combination of a fixed abutment; a die-part movable transversely of said abutment; another and complementary die-part movable both transversely of and parallel with said abutment; spring-actuated plungers borne by said die-parts respectively and adapted to coöperate with said abutment to normally position said die-parts in their common direction of movement; a heading-tool movable in such common direction and adapted to coöperate with said die-parts; and a fixed heading-tool mounted in said abutment and likewise adapted to coöperate with said die-parts.

7. In upsetting mechanism, the combination of a reciprocable member including a heading-tool; a die-slide reciprocable in a direction transverse relatively to the direction of movement of said member; a die-part slidable in the direction of reciprocation of said tool; a complementary die-part mounted upon said slide and slidable in the direction of movement of said member; a fixed abutment; a second heading-tool mounted upon the latter, said die-parts coöperating with said heading-tools, said reciprocable member arranged to effect movement of said die-parts toward said abutment; and retracting means connected with said die-parts and arranged to normally hold the same a given distance from said abutment.

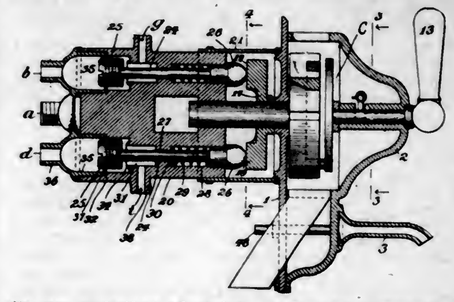
8. In upsetting mechanism, the combination of a reciprocable member including a heading-tool; a die-slide reciprocable in a direction transverse relatively to the direction of movement of said member; a die-part slidable in the direction of reciprocation of said tool; a complementary die-part mounted upon said slide and slidable in the direction of movement of said member; a fixed abutment; a second heading tool mounted upon said abutment, said die-parts being adapted to coöperate with said heading-tools and said reciprocable member being adapted to effect movement of said die-parts towards said abutment; and spring-actuated plungers borne by said die-parts and adapted to normally hold the same a given distance from said abutment.

9. In upsetting mechanism, the combination of a fixed abutment; a die-part movable transversely of said abutment; another die-part movable both transversely of and parallel with said abutment; means slidably joining said die-parts in the individual direction of movement of said second die-part; means normally positioning said die-parts in their common direction of movement; and a heading-tool movable in such common direction and adapted to coöperate with said die-parts.

10. In upsetting mechanism, the combination of a fixed abutment; a die-part movable transversely of said abutment; another die-part movable both transversely of and parallel with said abutment; guide-rods mounted in one of said die-parts and slidably engaging the other thereof, said guide-rods being disposed parallel with said abutment; spring-actuated plungers borne by said die-parts respectively and adapted to coöperate with said abutment to normally position said die-parts in their common direction of movement; a heading-tool movable in such common direction and adapted to coöperate with said die-parts; and a fixed heading-tool mounted in said abutment and likewise adapted to coöperate with said die-parts.

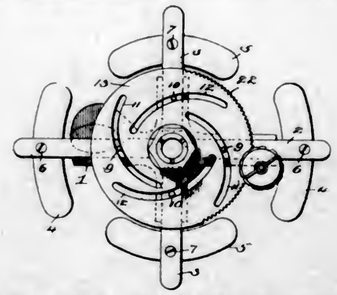
868,322. AUTOMATIC-DISPENSING SODA-WATER APPARATUS. HENRY BLUM, New York, N. Y. Original application filed July 7, 1906, Serial No. 325,108. Divided and this application filed Nov. 16, 1906. Serial No. 343,742.

In a liquid dispensing apparatus, the combination of a pair of liquid receptacles, a valve block removed from said receptacles and provided with four valve chambers arranged substantially in quadrature about a common center, connection between the inlets of two adjacent valve chambers and a source of supply, connection between the outlets of these chambers and the inlets of said receptacles, connection between the outlets of said receptacles and the inlets of the other two valve chambers, and connection between the outlets of these chambers and a dispensing discharge, reciprocating valves within said chambers, a rotatable operating plate having a pair of diametrically oppo-



site cam projections adapted for every quarter revolution to unseat a pair of diametrically opposite valves, and springs for automatically seating the valves when not actuated by said projections.

868,323. APPARATUS FOR CLEANING AND POLISHING HATS. PAUL BOSSO, Scranton, Pa. Filed Apr. 1, 1907. Serial No. 365,776.



1. A device of the character described, comprising an expansible hat holder, means formed with a rack for expanding the same, and a gear meshing with said rack for operating said means.

2. A device of the character described, comprising an expansible hat holder, a plate formed with cam slots therein and a rack on the periphery thereof, and a gear wheel meshing with said rack for rotating said cam plate.

3. A device of the character described, comprising reciprocating members, a cam plate formed with a rack on the periphery thereof, said cam plate being adapted to operate said reciprocating members when said plate is rotated, a gear wheel meshing with said rack for rotating said plate, and a hand wheel for rotating said gear wheel.

4. A device of the character described, comprising an expansible hat holder, a plate for expanding said hat holder, a rack positioned on said plate, and a gear wheel meshing with said rack for rotating said plate.

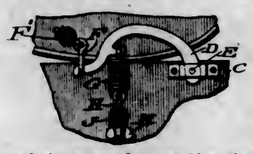
5. A device of the character described, comprising an expansible hat holder, means for operating the same, an expansible stem secured to said holder, said stem being formed with threads on the periphery thereof, and a nut formed with a conical shaped aperture engaging said threads for contracting said expansible members.

6. A device of the character described comprising an expansible hat holder, means for expanding the same, and a conical-shaped spring for holding the crown of the hat placed upon the holder in proper position.

7. A device of the character described comprising a hat holder, means for adjusting the position thereof, and a spring for contacting with the crown of the hat positioned

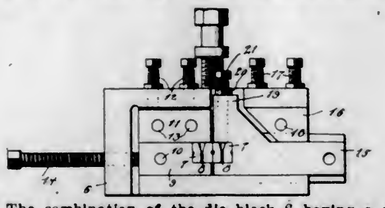
thereon for holding said crown in proper shape during the operation of the holder.

868,324. ROCKING-CHAIR. BENJAMIN J. BUCKMAN, Newfield, N. J. Filed Apr. 23, 1906. Serial No. 313,125.



In a rocking chair, a round connecting the opposite side rockers thereof, a base, on which said rockers are mounted, a lever pivotally connected at one end with said base, a link connected with the other end of said lever and with said round, a round connecting the opposite side members of said base, a spring attached at one end to said lever intermediate of the ends thereof, a threaded link secured to the other end of said spring and adapted to movably engage the round of the base, and a device engaging the threads of said link adapted to bear against and tighten upon the last named round to secure said link and adjust the tension of said spring.

868,325. DIE AND DIE-BLOCK. MARTIN S. CARNEGIE, Donora, Pa. Filed Aug. 17, 1906. Serial No. 330,981.



1. The combination of the die block 6 having a main recess in the face thereof, and a branch recess 20 extending laterally from said recess, a pair of relatively fixed and movable die holders 9 and 15 held in the main recess, the movable die holder 15 having a projecting part 19 extending into said recess 20, and a screw 21 extending through said projecting part and arranged to clamp a die in the holder, said screw being movable with the holder and projecting in the recess 20.

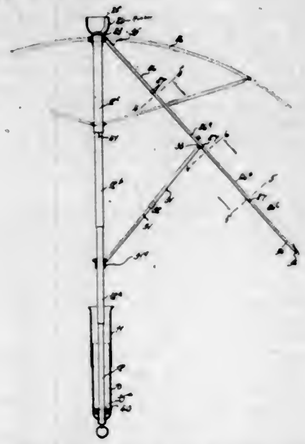
2. The combination of the die block having a main recess in the face thereof and a branch recess extending from one side of said recess through the adjacent side of the block, a fixed die holder secured in one end of said recess, a movable die holder slidable in the other end of the recess, dies removably held in the adjacent ends of the holders, and a screw extending through said branch recess into the movable holder, and bearing at its foot against the die therein.

3. The combination of a die block having a main recess in the face thereof, and a branch recess extending laterally from said recess through a side of the block, a fixed die in the main recess, a movable die holder in the main recess, a die in said holder, and a clamping screw extending into the holder and bearing at its foot against the die therein, and operating through said branch recess.

868,326. FOLDING UMBRELLA. JOSEPH CASALE, New York, N. Y. Filed Dec. 22, 1906. Serial No. 349,017.

1. An umbrella of the kind described, comprising a hollow handle made of telescoping sections, a rod made of telescoping sections, and telescoping ribs and braces secured to the rod, the said ribs, braces and rod being all adapted to enter entirely within the handle when collapsed.

2. An umbrella comprising a hollow handle made of telescoping sections, a rod extending from the handle and made of telescoping sections, and ribs and braces carried by the rod and adapted to collapse with the rod and enter entirely within the handle.



3. An umbrella comprising a hollow handle made of telescoping sections, a telescoping rod extending from the handle, collapsible ribs and braces carried by the rod and adapted to enter entirely within the handle with the telescoping rod, and a casing on the end of the rod adapted to extend over a part of the handle.

4. An umbrella comprising a hollow handle made of telescoping sections, a telescoping rod held within the handle, and collapsible ribs and braces carried by the rod, and adapted also to enter entirely within the handle.

5. In an umbrella, the combination with the hollow handle formed of telescoping sections, of the telescoping rod sections, catches to hold the rod sections extended, and means carried by each section for releasing the catches by pushing endwise on the rod.

6. In an umbrella, the combination with the telescoping rod sections, of the outwardly pressed catches carried by the sections, the toggle arms connecting the catches, a rod within the telescoping sections adapted to strike the toggle arms of one of the catches, and of means carried by the catches to strike with the toggles of the succeeding catches.

7. The combination with the telescoping rod sections, of the internal springs carried by the sections provided with catches to hold the sections extended, toggle arms connecting the catches, an inner rod to strike the lower toggle arms and release the catches, and bosses carried by succeeding springs to engage the other toggle arms.

8. An umbrella comprising a hollow handle made of telescoping sections, a telescoping rod held within the handle, collapsible ribs and braces carried by the rod and adapted to enter the handle and catches carried by the ribs, a sleeve on the inner section of the rod near the base thereof, said sleeve being engaged by the catches of the ribs when the ribs and braces are folded within the handle.

9. An umbrella comprising a hollow handle made of telescoping sections, a telescoping rod held within the handle, collapsible ribs and braces carried by the rod and adapted to enter the handle and means carried by the ribs engaging the inner section of the rod when the ribs and braces are folded within the handle.

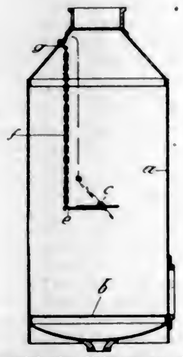
868,327. ALLOYED STEEL. JAMES CHURCHWARD, New York, N. Y. Filed Apr. 12, 1907. Serial No. 367,807.

1. An alloy composed of steel combined with small proportions of nickel, chromium, vanadium and manganese.

2. An alloyed steel composed of the following alloying metals in about the proportions given, namely: steel, containing .60% carbon, 95.10 parts, nickel 3.00 parts, chromium 1.50 parts, vanadium .15 parts, and manganese .25 parts.

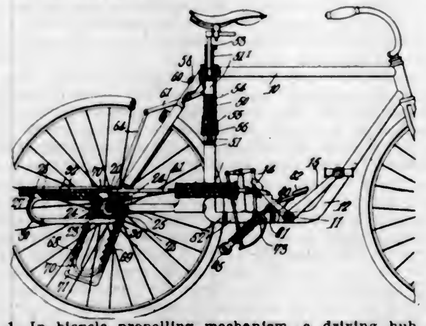
3. An alloyed steel containing the following alloying metals in about the proportions given, namely: steel, containing .20% to 1.25% carbon, from 91.50 to 98.30 parts; nickel, from 1.00 to 3.50 parts, chromium, from .50 to 2.50 parts; vanadium, from .05 to 1.50 parts, and manganese, from .15 to 1.00 parts.

868,328. DIFFUSION APPARATUS. FRIEDRICH CLOSS, Stuttgart, Germany. Filed Feb. 23, 1907. Serial No. 358,980.



In combination, with the diffuser, an obstructor disposed in the space thereof in spaced relation to the lower or discharge portion of said diffuser, said obstructor acting to prevent downward packing of the material above it on that below it, and chains suspended in the diffuser, said obstructor being carried by said chains, substantially as described.

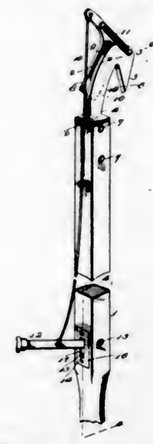
868,329. BICYCLE PROPELLING MECHANISM. HERBER S. CORBITT, Ayden, N. C. Filed Mar. 27, 1907. Serial No. 364,894.



1. In bicycle propelling mechanism, a driving hub, a spring barrel mounted loosely thereon, a spiral spring having one end secured to the barrel and the other end secured to the hub, a pawl and ratchet connection between the barrel and hub, a ratchet wheel carried by the barrel, a pair of loop shaped frames encircling the ratchet wheel, a plurality of ratchet wheel engaging pawls carried by one of the frames, loose pivotal connections between the tails of the pawls and the other frame, a vertically movable seat post, and means for operatively connecting the seat post to the pawl tail carrying frame.

2. In bicycle propelling mechanism, a driving hub, a spring barrel mounted thereon, a spiral spring arranged in the barrel and having one end connected thereto, and the opposite end to the hub, a pawl and ratchet connection between the barrel and hub, a ratchet wheel carried by the barrel, a pair of U-shaped frames encircling the ratchet wheel, a pair of sets of pawls facing in opposite directions, respectively, both sets of pawls being arranged to engage the ratchet wheel, pivotal connections between the pawls and one of the frames, loose pivotal connections between the tails of the pawls and the second frame, a vertically movable saddle post, an adjustable spring supporting the same, a pivotally mounted frame supported link, a lever carrying the link, one end of the lever being pivotally connected to the saddle post, and a link connecting the opposite end of said lever to said second frame.

868,330. PRUNING IMPLEMENT. CHARLES E. CROMBIE, Manchester, N. H. Filed May 6, 1907. Serial No. 372,230.

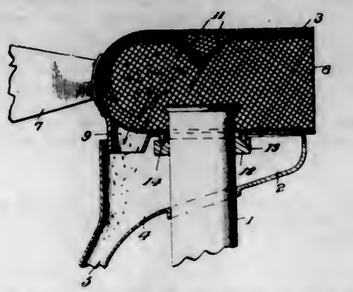


1. A pruning implement, comprising a staff, a hooked portion mounted at one end of the staff, said hooked portion comprising a nose, and a shank portion, a cutting edge formed on the edge of the nose adjacent to the shank portion, the cutting edge extending substantially parallel to the staff, an arm pivoted to the hooked member said arm having a cutting edge on one side of the pivot with the portion of the arm on the other side of the pivot adapted to extend substantially in line with the staff when in normal position, a spring connected to the hooked member and the arm to hold the arm in its normal position, an actuating lever pivoted on the staff and a connection between the lever and the arm.

2. A pruning implement, comprising a staff, a hooked portion mounted at one end of the staff, said hooked portion comprising a nose and a shank portion, a cutting edge formed on the edge of the nose adjacent to the shank portion, an arm pivoted to the hooked member, said arm having a cutting edge on one side of the pivot with the portion of the arm on the other side of the pivot adapted to extend substantially in line with the staff when in normal position, a spring connected to the hooked member and the arm to hold the arm in its normal position, an actuating lever pivoted on the staff, and a connection between the lever and the arm.

3. A pruning implement, comprising a staff, a hooked portion mounted at one end of the staff, said hook portion comprising a nose, and a shank portion, a cutting edge formed on the edge of the nose adjacent to the shank portion, the cutting edge extending substantially parallel to the staff, an arm pivoted to the hooked member, said arm having a cutting edge on one side of the pivot which is adapted to stand behind the edge of the shank when the parts are in their normal position, a spring connected to the hooked member and the arm to hold the arm in its normal position, an actuating lever pivoted on the staff and a connection between the lever and the arm.

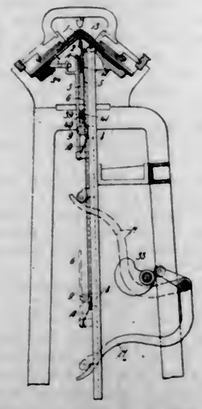
868,331. SPARK-ARRESTER. JOHN DOLAN, Herington, Kans. Filed Apr. 16, 1906. Serial No. 312,029.



1. In a spark arrester, the combination of a receptacle comprising inclosing sides and a bottom formed with a discharge pipe leading from one side thereof, a smoke stack passing centrally through the receptacle, a ring surrounding the stack at the mouth of the receptacle, and formed with an annular groove, a rotatable hood inclosing the opening of the stack and formed with an annulus received loosely within the before mentioned annular groove in the ring, said hood being open at one end and closed at the opposite end, and a discharge spout pendent from the hood and designed to discharge into the receptacle at all positions of the said hood.

2. In a spark arrester, the combination of a receptacle comprising inclosing sides and an inclined bottom, a discharge pipe leading from the lower portion of the inclined bottom, a smoke stack passing centrally through the receptacle, a ring surrounding the stack at the mouth of the receptacle and formed with an annular groove, a rotatable hood inclosing the opening of the stack and formed with an annulus received loosely within the before mentioned annular groove in the ring, said hood being formed of foraminous material and being open at one end and closed at the opposite end, and a pendent spout projecting from the hood into the mouth of the receptacle and designed to discharge into the latter at all positions of the rotatable hood.

868,332. TAKE-UP DEVICE FOR KNITTING-MACHINES. HERMANN DONNER, Chemnitz, Germany. Filed June 11, 1906. Serial No. 321,230.



1. In a take-up mechanism for Lamb and similar knitting machines, the combination of the machine frame, a slide movable up and down therein, a lever carried by the slide, a finger carried by said lever, said lever being movable to bring the finger into substantial parallelism with the knitting plane, means whereby to shift the lever to bring said finger into said position, and means for causing the slide to move downwardly, substantially as described.

2. In a take-up mechanism for Lamb and similar knitting machines, the combination of the machine frame, a slide movable up and down therein, a lever carried by said slide, a finger carried by said lever, said lever being actuated to hold the finger in substantial parallelism with the knitting plane, and means for retaining said lever against assuming said position, substantially as described.

3. In a take-up mechanism for Lamb and similar knitting machines, the combination of the machine frame, a slide movable up and down therein, a lever carried by said slide, a finger carried by said lever, said lever being actuated to hold the finger in substantial parallelism with the knitting plane, and means for retaining said lever against assuming said position and for causing the slide to move downwardly, substantially as described.

4. In a take-up mechanism for Lamb and similar knitting machines, the combination of the machine frame, a slide movable up and down therein, a lever carried by said slide, a finger carried by said lever, said lever being actuated to hold the finger in substantial parallelism with the knitting plane, another slide movable up and down in said frame and normally maintaining said first-named slide elevated, a lever connected to said last-named slide and acting to normally retain said first-named lever against assuming said position, and means for supporting said lever and the slide, substantially as described.

5. In a take-up mechanism for Lamb and similar knitting machines, the combination of the machine frame, a slide movable up and down therein, a lever carried by said slide, a finger carried by said lever, said lever being actuated to hold the finger in substantial parallelism with the knitting plane, another slide movable up and down in said frame and normally maintaining said first-named slide elevated, a lever connected to said last-named slide and acting to normally retain said first-named lever against assuming said position, means for supporting said lever and the slide, and means for first moving said last named lever to cause it to release the other lever and for subsequently further moving said lever to cause it to be released from said supporting means, substantially as described.

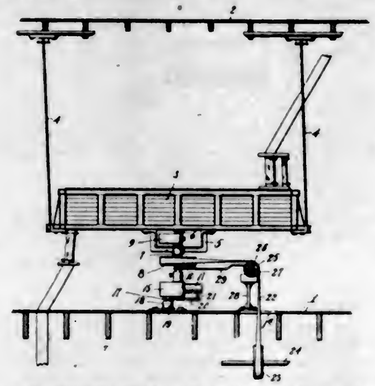
6. In combination, with the machine frame and the carriage, a pulling-off finger, a movable support therefor, and means, actuated from the carriage, for actuating said support, substantially as described.

7. In combination, with the machine frame and the carriage, a pulling-off finger, a movable support therefor, means, actuated from the carriage, for causing the movement of said support, and means for rendering said last-named means actuated from said carriage at predetermined intervals, substantially as described.

8. In a take-up mechanism for Lamb and similar knitting machines, the combination of the machine frame, a slide movable up and down therein, a lever carried by the slide, a finger carried by the lever, said lever being movable to bring the finger into substantial parallelism with the knitting plane, another slide adapted to support said first-named slide, another lever connected to said last-named slide, a support for said last-named lever movable in said frame to disengage itself from said lever, and means for moving said support, substantially as described.

9. In a take-up mechanism for Lamb and similar knitting machines, the combination of the machine frame, a slide movable up and down therein, a lever carried by the slide, a finger carried by the lever, said lever being movable to bring the finger into substantial parallelism with the knitting plane, another slide adapted to support said first-named slide, another lever connected to said last-named slide, a support for said last-named lever movable in said frame to disengage itself from said lever, means, actuative from the carriage, for moving said support, and means for rendering said last-named means actuative from said carriage at predetermined intervals, substantially as described.

868,333. MEANS FOR IMPARTING GYRATORY MOTION TO SIEVE-BOXES AND OTHER BODIES. EMIL R. DRAVER, Richmond, Ind. Filed June 9, 1906. Serial No. 321,004.



1. The combination with a body mounted for gyratory motion, of a power driven shaft carried by said body and provided with an unbalanced weight, and a variable throw crank having its body secured to said shaft and having its crank pin or adjustable part journaled to a fixed bearing, substantially as described.

2. The combination with a body mounted for gyratory motion, of a vertical shaft journaled in bearings carried by said body and provided with an unbalanced weight, means for rotating said shaft, and a variable throw crank having its body portion secured to and carried by said shaft and having its crank pin or adjustable part journaled to a fixed bearing, and means for retarding the throw varying movements of said crank, substantially as described.

3. The combination with a body mounted for gyratory motion, of a power driven shaft carried by said body and provided with an unbalanced weight, a variable throw crank having its body secured to said shaft and having its crank pin or adjustable part journaled to a fixed bearing, and a cylinder and piston retarding device connecting the body and adjustable part of said crank, substantially as described.

4. The combination with a body mounted for gyratory motion, of a rotatable shaft carried thereby and provided with an unbalanced weight, means for rotating said shaft from a distant point, a variable throw crank having its body secured to said shaft and having its crank pin journaled in a fixed bearing, a spring tending to move said crank pin and said crank shaft into axial alinement, and a cylinder and piston retarding device connecting said crank pin to the body of said crank, substantially as described.

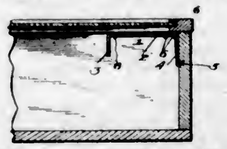
5. The combination with a body mounted for vibratory motion, of a rotary shaft carried by said body and provided with a driven pulley, a driving shaft supported independently of said vibratory body and provided with a driving pulley, a link supported at one end from said vibratory body, intermediate guide pulleys mounted for vibratory movements with the outer end of said link, a support for said intermediate pulleys and the outer end of said link independent of the said vibratory body, and a driving belt running over said driving pulley, over said driven pulley, and over said intermediate guide pulleys, substantially as described.

6. The combination with a body mounted for vibratory motion, of a rotary shaft carried by said body and provided with a driven pulley, a driving shaft supported independently of said vibratory body and provided with a driving pulley, a link having one end swiveled on the shaft which is carried by the vibratory body, intermediate guide pulleys mounted for vibratory movements with the outer end of said link, a support for said intermediate pulley and the outer end of said link independent of said vibratory body, and a driving belt running over said driving pulley, over said driven pulley, and over said intermediate guide pulleys, substantially as described.

7. The combination with a body mounted for gyratory motion in a horizontal plane, of a vertical shaft carried by said body and provided with an unbalanced weight, a driven pulley on said shaft, an approximately horizontal driving shaft provided with a driving pulley, a driving belt running over said driving and driven pulleys, a link supported at one end from said vibratory body, a pair of guide pulleys mounted for vibratory movements with the outer end of said link and arranged to guide said belt approximately in the planes of said driving and driven pulleys, and a support for said guide pulleys and the outer end of said link independent of said vibratory body, substantially as described.

8. The combination with a body mounted for gyratory motion, of a power driven shaft carried by said body and provided with an unbalanced weight, and a variable throw crank having one member secured to and rotatable with said crank shaft and having its other member journaled to a fixed bearing or support, substantially as described.

868,334. BOX-LID FASTENING. JOHN W. EVANS, Bernie, Mo. Filed Jan. 29, 1907. Serial No. 354,739.



1. A box lid fastener comprising a wire bent to lie on the inner side of a lid near a corner thereof, and having one end bent to form a guide pin to bear against the inner face of one side of a box and the other end bent to form a spring arm to bear against the inner face of the contiguous side of the box and having a point to engage the same.

2. A fastening device of the character described constructed of a single wire rod bent at one end to form a right angularly-shaped fastening arm, an inwardly-projecting guide pin on one end of said fastening arm and an inwardly-projecting spring lid securing arm formed on the opposite end of the wire to engage the inner wall of a box or receptacle to hold the lid thereon, substantially as described.

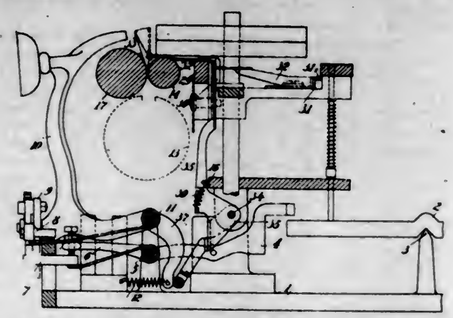
3. A fastening device for lids constructed of a single wire bent at one end to from a right angularly-shaped fastening arm, an inwardly-projecting guide pin on the lower end of said arm, an inwardly-projecting spring lid securing arm formed on the opposite ends of said rod, and an oblique outwardly-projecting barb or prong formed on the inner end of said spring arm to engage the inner wall of a receptacle, substantially as described.

868,335. TYPE-WRITING MACHINE. JOSEF F. FORKARTH, Innsbruck, Austria-Hungary, assignor to Ferdinand Schrey, Berlin, Germany. Filed Sept. 26, 1906. Serial No. 336,342.

1. In a type-writing machine, the combination of a transversely movable carriage having a paper-feed roller thereon; an impression hammer and a type carrier in operative relation thereto; a paper-moving plate intermediate said hammer and type-carrier; spring-pressed means for moving said plate in one direction and hammer-operated means for moving said plate in the opposite direction.

2. In a type-writing machine, the combination of a transversely movable carriage having a paper-feed roller thereon; an impression hammer and a type-carrier in operative relation thereto; a paper-moving plate normally held by the said hammer in position to press back the paper from its printing position, and plate-moving means released by the said hammer for moving said plate towards

the type-carrier when the said hammer moves into striking position.



3. In a type-writing machine, the combination of a transversely movable carriage having a paper roller thereon; an impression hammer, and a type-carrier in operative relation thereto; a paper-moving plate intermediate said hammer and type-carrier; a spring-actuated lever for moving said plate in one direction said lever engaging said hammer to move said plate in the opposite direction.

4. In a type-writing machine, the combination of a transversely movable carriage having a paper-feed roller thereon; an impression hammer and a type-carrier in operative relation thereto; a paper-moving plate having a hammer-receiving recess therein, a slide supporting said plate, a spring-actuated lever engaging said slide for moving said plate in one direction, said lever having a roller engagement with said hammer to move the plate in the opposite direction.

5. In combination with a typewriter having printing mechanism, means for normally pressing the paper away from its normal position opposite the type, said means being wholly located at the front of and acting upon the front face of the paper.

6. In combination in a typewriter, the type shuttle, feed rolls for directing the paper vertically in rear thereof, and means for pressing the paper rearwardly from the shuttle to expose the matter last printed to view, said means being wholly located at the front of and acting upon the front face of the paper.

7. In combination in a typewriter having a type shuttle, means for directing the paper vertically in rear thereof, a sliding presser or pressers having movement from front to rear for pressing the paper away from the shuttle to allow sight of the matter last printed, and means for operating the said presser or pressers.

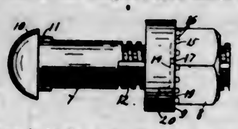
8. In combination, the shuttle, means for directing the paper vertically in rear of the shuttle, a presser on each side of the printing point for pressing the paper rearwardly normally, and means for withdrawing the pressers from the paper for the printing action.

9. In combination with the shuttle, means for holding the paper vertically in relation thereto, a sliding rod or rods for pressing the paper rearwardly, and means for operating the said rod or rods.

10. In combination, the shuttle, the paper roll, and a presser moving substantially in a horizontal plane having its rear end to engage the front face of the paper, and means connected with its forward portion for operating it.
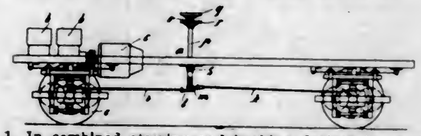
868,336. NUT-LOCK. AXEL E. FORSELL, Duluth, Minn., assignor of one-third to Otto L. Bard, Duluth, Minn. Filed July 23, 1906. Serial No. 327,325.

The combination with a bolt and washer guided thereon against turning and having a plane face with a segmental groove in it between the bolt hole and the periphery, and a notch extending from one end of the groove to the periphery of the washer, a spring tongue held in the groove and having its point normally curved beyond the face of the washer close by said notch, of a nut having a plane face going against the washer and in said face, on a circle between the bolt hole and the periphery of the nut, a series of indentures or cavities adapted to engage the end of the tongue; said notch in the washer



serving as a key hole for inserting and keeping therein a nail or similar object to keep the tongue disengaged from the nut in unscrewing the latter.

868,337. COMBINED STEERING AND BRAKING DEVICE FOR MOTOR-CARS. ERNST H. GEIST, Cologne, Germany. Filed Feb. 26, 1907. Serial No. 359,438.



1. In combined steering and braking devices for motor cars, wheels, each being revolubly secured in individual frames connected to the chassis by vertical pivots, means to turn the wheels with their frames at will in parallel positions at an angle to the line of motion of the car and into convergent positions substantially as described.

2. In combined steering and braking devices for motor cars wheels, each being revolubly secured in individual frames connected to the chassis by vertical pivots, an arm projecting from each frame, two bell crank levers being fulcrumed on a vertical line one above the other, rods connecting the ends of said bell crank levers with the arms projecting from the frames, two vertical steering shafts, one being solid and carrying the lower bell crank lever, the other being tube shaped, surrounding the solid shaft, and carrying the upper bell crankiever, hand-wheels in close proximity secured to the upper ends of said shafts, and a guiding sleeve for the shafts pivotally secured to the platform of the car substantially as described and for the purpose set forth.

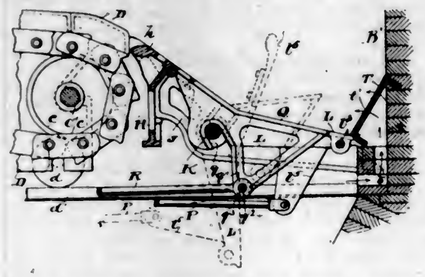
3. In combined steering and braking devices for motor cars wheels, each being revolubly secured in individual frames connected to the chassis by vertical pivots, an arm projecting from each frame, balance springs connecting the arm with rigid parts of the car, two bell crank levers being fulcrumed on a vertical line one above the other, rods connecting the ends of said bell crank levers with the arms projecting from the frame, two vertical steering shafts, one being solid and carrying the lower bell crank lever, the other being tube shaped, surrounding the solid shaft, and carrying the upper bell crank lever, hand-wheels in close proximity secured to the upper ends of said shafts, and a guiding sleeve for the shafts pivotally secured to the platform of the car substantially as described and for the purpose set forth.

868,338. GRATE. FREDERICK GIRTANNER, Cleveland, Ohio, assignor, by mesne assignments, to The American Stoker Company, a Corporation. Filed July 31, 1905. Serial No. 271,950.

1. The combination in a grate, of a cross beam having projecting fingers, a cross shaft, dumping bars mounted on the shaft and extending between said fingers, means detachably connecting said bars together near their rear ends, and means for operating the bars.

2. The combination of a cross beam having projecting fingers at its upper edge, pivoted dumping bars extending between said fingers, and pivoted clinker breaking bars opposite the ends of said fingers and between the dumping bars and swinging on the same axis as the dumping bars.

3. In a grate, the combination of a series of pivotally supported and individually removable dumping bars detachably connected together near their rear ends, and independently operated clinker breakers pivotally supported between the bars in front of said rear ends.



4. In a grate, the combination of a series of pivotally supported and individually removable dumping bars having laterally extended rear ends whereby recesses are provided between the bars in front of said rear ends, pivotally supported clinker breakers, occupying said recesses said dumping bars and clinker breakers being arranged to swing on the same axis, and means for swinging the dumping bars and clinker breakers independently.

5. In a grate, the combination of a series of pivotally supported and individually removable dumping bars detachably connected together near their rear ends and to the rear of their pivots, pivotally supported clinker breakers between said bars, means connecting said clinker breakers together, and means for operating the dumping bars and the clinker breakers.

6. In a grate, the combination of a series of pivotally supported and individually removable dumping bars having laterally extended rear ends, whereby recesses are provided between the bars in front of said rear ends and to the rear of their pivots, and pivotally supported clinker breakers, occupying said recesses, a cross bar connecting said clinker breakers together, a cross bar detachably connecting said dumping bars together, and levers and links for independently operating the dumping bars and the clinker breakers.

7. In a grate, the combination of means for supporting and feeding fuel, a cross beam at the rear of said means having projecting fingers, bars fitting into the spaces between the fingers and resting on the beam and forming with the fingers when placed on the beam a substantially continuous smooth surface, and a pivotal support on which the bars are mounted and oscillated to and from the beam.

8. In a grate, the combination of means for supporting and feeding fuel, a cross beam at the rear of said means having projecting fingers, bars having removable ends fitting into the spaces between the fingers and resting on the beam and forming with the fingers when placed on the beam a substantially continuous smooth surface, and a pivotal support on which the bars are mounted and oscillated to and from the beam.

9. In a grate, the combination of a series of individually removable bars, pivotal supports for said bars, means independent of the pivot and arranged near the ends of the bars for detachably locking the bars together, a second series of bars pivotally mounted on the same axis and arranged to swing independently of the first series of bars, and means for locking the second series together.

10. In a grate, the combination of a series of individually removable bars, pivotal supports for said bars, means independent of the pivot for locking the bars together a second series of bars pivotally mounted on the same axis and arranged to swing independently of the first series of bars, and means independent of the pivotal support for locking the second series of bars together.

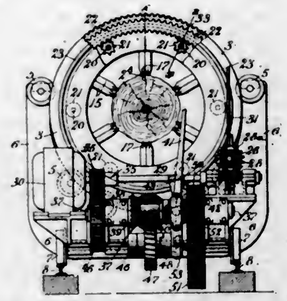
11. In a grate, the combination of two sets of bars, the bars of each set being removable and provided with slotted openings extending downwardly, such slots forming bearings for the bars, a pivotal support for said bars arranged in the slots and means independently of the support for detachably locking the bars of each set together.

12. In a grate, the combination of two sets of bars, the bars of each set being removable and provided with slotted openings extending downwardly, such slots forming bearings for the bars, a pivotal support for said bars arranged in the slots and means arranged away from the pivot for said bars for detachably locking said bars of each set together.

13. In a grate, the combination of a series of pivotally mounted dumping bars having lateral offsets at their ends, a rod passing through the part of the bar having the offsets for detachably locking the bars together and a series of clinker breakers pivotally mounted between the bars.

14. In a grate, the combination of means for supporting and feeding the fuel, dumping bars arranged at the rear thereof, clinker breakers alternating with said dumping bars, the bars and clinker breakers being pivotally mounted and arranged to be independently oscillated to feed the fuel in a rearward direction from the feeding and supporting means, both of said series of bars being mounted on a stationary pivot.

868,339. MACHINE FOR IMPARTING SPIRAL MOVEMENT TO PILES. EDWARD GOLD, Vancouver, British Columbia, Canada. Filed Aug. 20, 1906. Serial No. 331,368.



1. In a device of the class described, the combination with a carriage endwise movable, of a cylindrical driving head rotatable in the carriage, means secured to the carriage for rotating the cylindrical head and for simultaneously traveling the carriage, and means for stopping the rotation of the head while permitting the carriage to continue traveling, substantially as shown and described.

2. In a device of the class described, the combination with a carriage endwise movable on wheels, of a cylindrical driving head rotatable on rollers in the carriage, radially operative means for centering and securing a pile within the head, means for rotating the cylindrical head and means for endwise traveling the carriage.

3. In a device of the class described, the combination with a carriage endwise movable on wheels, of a cylindrical driving head rotatable on rollers in the carriage, a flared mouth ring endwise movable within the cylindrical head, a series of link levers pivotally connected round the inner side of the cylindrical head, a corresponding series of levers pivotally connected to the adjacent side of the mouth ring said opposed levers on head and mouth ring being pivotally connected in pairs to one another at about their mid length, means for radially operating the free ends of the linked levers by endwise movement of the mouth ring within the cylindrical head, means for rotating the head, and means for simultaneously traveling the carriage endwise whereby a spiral movement is imparted to a pile secured in the head.

4. In a device of the class described the combination with a carriage mounted on wheels so as to be endwise movable on a track, of a cylindrical head rotatable on rollers in the carriage frame, a mouth ring endwise slidable within this cylindrical head, a series of levers having

flattened and sharpened ends pivotally connected to the head around its inner side, similar levers pivotally connected to the adjacent side of the mouth ring, the opposite levers being pivotally connected together in pairs at approximately their mid length, means for endwise moving the mouth ring within the cylindrical head such means comprising a series of screws rotatable in the back end of the cylindrical head and threaded into the mouth ring, means for rotating such screws such means comprising, pinions secured to the back end of each screw, a gear ring rotatable on the back end of the cylindrical head said gear ring having internal teeth adapted to mesh with the teeth of the several pinions secured to the screws and external teeth, a pinion the teeth of which mesh with the external teeth of the gear ring, and means for rotating the pinion through a friction clutch from a motor on the carriage.

5. In a device of the class described, a wheeled carriage having a cylindrical head rotatable on rollers in the carriage frame, means for centrally securing or releasing a pile within the cylindrical head, said means being operative from a motor on the carriage, means for disconnecting such operative means from the motor, means for simultaneously rotating the head and traveling the carriage by the motor, means for disconnecting such rotating and traveling mechanism, and means for alone traveling the carriage at a higher rate of speed.

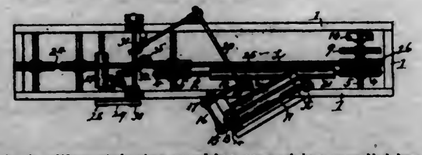
6. In a device of the class described, a wheeled carriage endwise movable on tracks, said carriage having a cylindrical head rotatable in the carriage and having means for centrally securing one end of a pile therein, means for supporting the other end of the pile, such means comprising a wheeled carriage having rollers on which the end of the pile may rest, means for preventing endwise movement of the pile on the rollers, and means for elevating and depressing the rollers and for simultaneously lessening and increasing the distance of the rollers apart.

7. In a device of the class described the combination with an endwise movable carriage, wheels upon which said carriage is mounted, of a cylindrical driving head, rollers mounted on the carriage upon which said driving head is rotatable, means secured to the carriage for rotating the cylindrical head and for simultaneously traveling the carriage, and means for stopping the rotation of the head at times while permitting the carriage to continue traveling substantially as shown and described.

8. As a means for imparting a spiral movement to a pile or article of similar form, the combination with a carriage endwise movable on a track, of a cylindrical driving head rotatably mounted in the frame of the carriage, a plurality of radially arranged levers for centering and securing the pile within the head, substantially as shown and described.

9. As a means for imparting a spiral movement to a pile or article of similar form, the combination with a carriage endwise movable on a track, of a cylindrical driving head rotatably mounted in the frame of the carriage, a plurality of radially arranged levers for centering and securing the pile within the head and means for simultaneously operating all of said levers, substantially as shown and described.

868,340. WILLOW-STRIPPER. GEORGE S. HERRICK and WILLIAM H. MEANEY, Syracuse, N. Y., assignors of one-third to Charles J. Herrick, Syracuse, N. Y. Filed Mar. 23, 1907. Serial No. 364,191.



1. A willow-stripping machine comprising parallel longitudinally traveling belts disposed to receive the willow transversely between them, means for pressing said belts into pinching contact with said willow, and means for withdrawing the willow endwise from the belts at the pinching position thereof.

2. A willow-stripping machine comprising carriers disposed to receive the willow transversely between them, means for sustaining said carriers in pinching contact with the willow, and means disposed at the side of said carriers for withdrawing the willow endwise from between said carriers.

3. A willow-stripping machine comprising parallel belts disposed to receive the willow transversely between them, means for sustaining said belts in pinching contact with the willow, means for propelling said belts in corresponding directions, and means for drawing said willow longitudinally from between the belts.

4. A willow-stripping machine comprising parallel belts shaped round in cross-section and disposed one directly over the other to receive the willow transversely between them, concave bars bearing longitudinally on said belts and sustaining them in pinching contact with the willow, rollers disposed in proximity to the belts to receive the willow therefrom, and means for rotating said rollers to draw the willow longitudinally from the belts.

5. The combination of parallel belts disposed to receive a willow transversely between them, bars bearing longitudinally on said belts and sustaining them in pinching contact with the willow, elongated parallel rollers extending at acute angles from one side of the belts and adapted to receive between them the willow, and means for rotating said rollers to draw the willow from between the belts.

6. A willow-stripping machine comprising parallel stripping belts disposed to receive a willow transversely between them, bars bearing longitudinally on said belts and sustaining them in pinching contact with the willow, and means for cracking and loosening the bark on the willow preliminary to its passage to the aforesaid stripping belts.

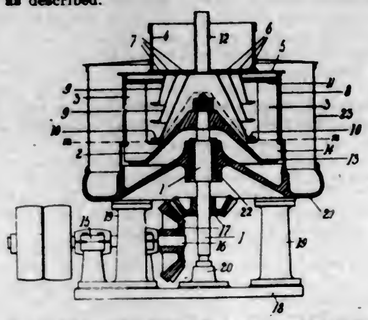
7. The combination, with mechanisms for stripping the bark from the willow, of means for loosening the bark on one end of the willow preliminary to its passage to the stripping mechanism, brushes interposed between the aforesaid loosening means and stripping mechanisms and brushing the loosened portion of the bark from the willow.

8. The combination with mechanism for stripping the bark from the willow, of rollers disposed one directly over the other to receive one end of the willow between them and loosen the bark on the introduced end of the willow, brushes disposed one over the other and obliquely across the path of the willow to the stripping mechanism, and means for revolving the brushes in opposite directions from each other as and for the purpose set forth.

9. A willow-stripping machine consisting of parallel endless main belts disposed in the same plane and directly one over the other to receive the willow transversely between the adjacent portions of said belts, bars bearing longitudinally on said adjacent portions of the belts, means for propelling said belts in unison, feed-belts at one side of the endless belts and parallel therewith, and extending beyond the same, rotary rollers receiving between them the extension of the feed-belt and adapted to loosen the bark on the end of the willow introduced between said rollers, brushes receiving the feed-belt between them and disposed obliquely across the same, means for revolving said brushes in reversed directions, parallel rollers extending obliquely from the side of the main belts and adapted to receive between them the willow from said belts, and means for rotating said rollers as set forth and shown.

868,341. CENTRIFUGAL SEPARATOR FOR WOOD-PULP AND SIMILAR MATERIALS. ANDREAS H. HOLDEN, Länged, Sweden. Filed Mar. 22, 1907. Serial No. 363,835.

1. In a centrifugal separator, the combination of a hopper, provided with openings at the bottom thereof, a rotating element provided with radially disposed curved blades or vanes extending upwardly therefrom, and provided with widened lower portions, means for guiding the material from said hopper onto and between the upper portions of said vanes, a perforated cylinder or casing arranged about the upper portions of said vanes, and a second perforated casing of increased diameter arranged about the lower widened portions of said vanes, substantially as described.



2. In a centrifugal separator, the combination of a hopper provided with openings at the bottom thereof, a rotating element provided with radially disposed curved blades or vanes extending upwardly therefrom, and provided with widened lower portions, a plurality of conical plates arranged beneath said hopper to convey the material at different heights onto and between the upper portions of said blades or vanes, a perforated casing arranged about said upper portions of said vanes, and a second perforated cylinder of increased diameter arranged about the lower widened portions of said vanes, substantially as described.

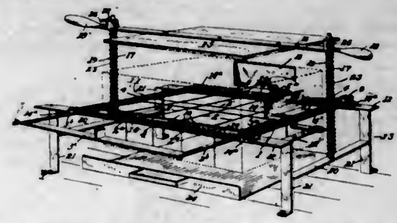
3. In a centrifugal separator, the combination of a hopper provided with openings at the bottom thereof, a rotating element provided with radially disposed curved blades or vanes extending upwardly therefrom and connected together at their upper ends and provided with widened lower portions, a plurality of conical plates arranged beneath said hopper to convey the material at different heights onto and between the upper portions of said blades or vanes, said plates being provided with lower horizontal edges, a perforated casing arranged about the upper portions of said vanes, and a second perforated casing of increased diameter arranged about the lower widened portions of said vanes, substantially as described.

4. In a centrifugal separator, the combination of a hopper provided with openings at the bottom thereof, a rotating beating wheel comprising a base-plate and a plurality of radially disposed curved blades or vanes extending upwardly therefrom and connected together at their upper ends and provided with widened lower portions, a plurality of conical plates arranged beneath said hopper and adapted to convey between themselves the material from said hopper and to deliver the same at different heights onto and between the upper portions of said blades or vanes, a perforated casing arranged about said upper portions of said vanes, and a second perforated casing of increased diameter arranged about the lower widened portions of said vanes, substantially as described.

868,342. BUTTER-CUTTER. ARTHUR C. HUMMER, Seattle, Wash. Filed Apr. 22, 1907. Serial No. 369,710.

1. A device of the type set forth comprising a cutter frame provided with a plurality of cutters, means to support said cutter frame, a tray beneath said cutter frame, and means for forcing said body of butter through said cutter frame supported thereabove for sliding movement toward and from the same.

2. A device of the type set forth comprising a cutter frame, a plurality of cutters secured thereto, a follower arranged above said cutter frame, means on which said follower is supported for sliding movement toward and from said cutter frame, releasable means for stopping and holding said follower against further movement when it has forced a body of butter a predetermined distance through said cutter frame, and a second cutter means movable across the path of movement of the body of butter, for the purpose specified.



3. A device of the type set forth comprising a cutter frame, a plurality of cutters secured thereto, a follower arranged above said cutter frame, uprights on which said follower is slidably supported for movement toward and from said cutter frame, said uprights being provided with shoulders at a point above said cutter frame, spring pressed dogs on said follower for engagement with the shoulders on said uprights, and a second cutter movable across the path of movement of the body of butter.

4. A device of the type set forth comprising a stand, an open cutter frame removably supported on the top of said stand, cutter means on said cutter frame, a second cutter frame slidably mounted on said first named cutter frame for movement thereacross, a cutter means on said last named cutter frame, and a follower for forcing a body of butter through said first named cutter frame, for the purpose specified.

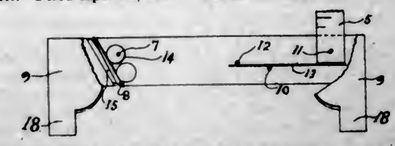
5. A device of the type set forth comprising a stand, an open frame removably supported thereon, cutters secured to and extending across said frame, a second frame slidably supported on said first named frame for movement across the path of movement of the body of butter and being provided with cutter means, and a follower slidably supported above said cutter frames for movement toward and from the same, for the purpose specified.

6. A device of the type set forth comprising a supporting stand, an open frame removably supported on said stand and provided with a plurality of cutters, lugs on said stand preventing displacement of said frame, and means slidably supported above said frame for forcing a body of butter therethrough, for the purpose specified.

7. A device of the type set forth comprising a supporting stand, a cutter frame composed of spaced side and end bars removably supported on said stand, there being angular lugs on said stand with which the corners of said frame are engaged, cutters extending across said frame, and a follower slidably supported for forcing a body of butter through said cutter frame, for the purpose specified.

8. A device of the type set forth comprising a supporting stand, an open cutter frame provided with cutter and having side bars formed with flanges, a second cutter frame slidably supported on the flanges of said first named cutter frame and provided with a cutter arranged to produce a cut extending at an angle to the cuts produced by the cutters on said first named cutter frame, and a follower for forcing a body of butter through said first named cutter frame.

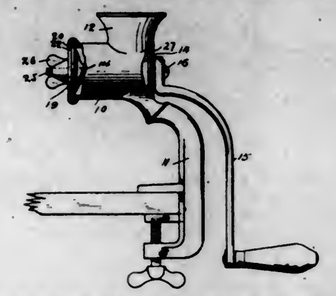
868,343. COMBINATION-TOOL. MARK HUNT, Rockford, Ill. Filed Apr. 22, 1907. Serial No. 369,646.



In a tool of the character described, the combination with the body part of the tool carrying a plane bit engaging with a wedge and a tumbler, of a marker plate having teeth and at each end of the marker plate a leg, said legs

and teeth extending below the lower surface of the body portion of the tool thereby forming a guide for the plane.

868,344. FOOD-CHOPPER. JOHN A. HURLEY, Bridgeport, Conn. Filed Sept. 26, 1906. Serial No. 336,249.



1. A rotary food chopper comprising in its construction a body having a cylindrical interior space of substantially uniform diameter from end to end, two removable perforated disks at one end of the body, and a feeder located in said body, the disks being removable at one end of the body and the feeder being removable through the other end, whereby the interior of the body may be cleaned by a cloth or brush projected through it when the feeder and disks are removed.

2. A rotary feed chopper comprising in its construction a body having a cylindrical interior space of substantially uniform diameter from end to end, the said body having an annular recess at its exit end and formed with short grooves, two removable perforated disks in said recess, the inner disk having lugs entering said short grooves, a feeder, means for securing the outer disk to the feeder to rotate therewith, the described shape of the interior of the body permitting the feeder to be removed through one end of the body when the disks have been separated from the feeder.

3. A rotary food chopper comprising in its construction a body having an annular recess at its exit end and formed with diametrically opposite short grooves, a removable perforated disk having lugs engaging said grooves and forme dwith a circular central opening forming a bearing, a feeder having its outer end supported in said bearing, and an outer disk removably secured to the end of the feeder to rotate therewith, the interior space of the body being of substantially uniform diameter from end to end, whereby the feeder may be removed through one end of the body after the disks have been disconnected at the other end.

868,345. PROCESS OF TREATING FERRUGINOUS BLENDE. WOOLSEY M. JOHNSON, Iola, Kans. Filed Jan. 11, 1904. Serial No. 188,545.

1. The herein described method of producing zinc, which consists in passing an electric current through a charge containing a compound of zinc and metallic iron, thereby heating the charge and reducing the compound of zinc.

2. The herein described method of producing zinc, which consists in passing an electric current through a charge containing a compound of zinc, metallic iron and carbon, thereby heating the charge and reducing the compound of zinc.

3. The herein described method of producing zinc, which consists in passing an electric current through a charge containing a compound of zinc and sponge iron, thereby heating the charge and reducing the compound of zinc.

4. The herein described method of producing zinc, which consists in passing an electric current through a charge containing a compound of zinc, sponge iron, and carbon, thereby heating the charge and reducing the compound of zinc.

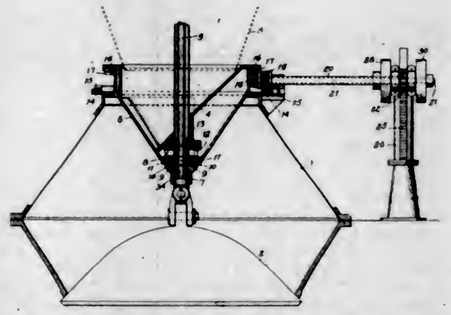
5. The herein described method of treating ores containing two or more metals, which consists in first effecting reduction of one of said metals, then passing an electric current through the charge containing such reduced metal, thereby increasing the temperature and causing the reduced metal to react to separate another metal.

6. The herein described method of treating ores containing two or more metals, which consists in first effecting reduction of one of said metals in the form of particles disseminated through the charge, then passing an electric current through the charge containing such disseminated particles, thereby increasing the temperature and causing the reduced metal to react to separate another metal.

7. The herein described method of treating ores containing iron and zinc, which consists in first effecting reduction of iron, then passing an electric current through the reduced iron, thereby increasing the temperature and causing the iron to react to separate zinc.

8. The herein described method of treating ores containing iron and zinc, which consists in first effecting reduction of iron in the form of particles disseminated through the charge, then passing an electric current through the charge containing the disseminated iron, thereby increasing the temperature and causing the iron to react to separate zinc.

868,346. CHARGE-DISTRIBUTING APPARATUS FOR BLAST-FURNACES. WALTER KENNEDY, Allegheny, Pa. Filed May 4, 1904, Serial No. 206,397. Renewed July 6, 1905. Serial No. 268,558.



1. In an apparatus for charging blast furnaces the combination of a main or charging hopper, a distributing hopper, means for rotating the distributing hopper relative to the main or charging hopper whereby material contained therein may be discharged at different points in the main hopper, a shutter controlling the flow of material from the distributing hopper and means for shifting the shutter, substantially as set forth.

2. In an apparatus for charging blast furnaces, the combination of a main or charging hopper, a distributing hopper, means for rotating the distributing hopper relative to the main or charging hopper whereby material contained therein may be discharged at different points in the main hopper, a shutter and means for shifting the shutter independently of the distributing hopper, substantially as set forth.

3. In an apparatus for charging blast furnaces, the combination of a main or charging hopper, a distributing hopper having a discharge opening, means for rotating the distributing hopper relative to the main or charging hopper, whereby material contained therein may be discharged at different points in the main hopper, a shutter and means for shifting the shutter into alinement with the opening in the distributing hopper, substantially as set forth.

4. In an apparatus for charging blast furnaces, the combination of a main or charging hopper, a distributing hop per, means for rotating the distributing hopper relative to the main or charging hopper, whereby material contained therein may be discharged at different points in the main hopper a shutter, and means for shifting the shutter to operative position with relation to the distributing hopper, substantially as set forth.

5. In an apparatus for charging blast furnaces, the combination of a main or charging hopper, a bell controlling the flow of material from said hopper, a bell supporting rod, a distributing hopper and a shutter therefor rotatably mounted on said rod, and means for shifting the distributing hopper and shutter independently of each other, substantially as set forth.

6. In an apparatus for charging blast furnaces, the combination of a main or charging hopper, a distributing hopper, a shutter, a reciprocating mechanism and connections from the mechanism to the hopper and shutter, whereby said parts are shifted alternately in the same direction, substantially as set forth.

7. In an apparatus for charging blast furnaces the combination of a main or charging hopper, a distributing hopper, means for rotating the distributing hopper relative to the charging hopper whereby material contained in the distributing hopper may be discharged at different points in the main hopper, a shutter having the portion controlling the discharge from the distributing hopper inclined to the path of movement of the shutter and means for shifting the shutter independent of the hopper, substantially as set forth.

8. In combination with a furnace provided with a receiving chamber communicating with its interior, a closure for the bottom of said chamber, said closure being movable relatively to the chamber to open and closed positions, respectively, and adapted when open to direct the contents of the chamber to the side and means for shifting said closure relatively to the chamber on a vertical axis to vary the point of discharge.

9. The combination of a stationary main hopper, a bell for closing said hopper, a distributing hopper located above the main hopper, means for controlling the discharge from the distributing hopper into the main hopper and means for rotating the distributing hopper.

10. In a blast furnace charging apparatus, the combination of a main hopper and bell, a distributing hopper provided with means intermediate of the receiving and discharging points constructed to permit the passage of material beyond it at one point, means for varying the position of such point and means for controlling the discharge of material from the distributing hopper.

11. In a blast furnace charging apparatus, the combination of a main hopper and bell, a receiving hopper, charge-distributing means, movable horizontally relative to the receiving hopper and adapted to direct the material received from the receiving hopper to different points in the main hopper.

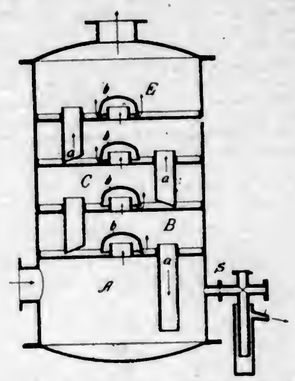
12. In a blast furnace charging apparatus, the combination of a main hopper and bell, a receiving hopper, means movable relative to the receiving hopper and adapted to direct the material in its passage from the receiving hopper, and mechanism for shifting such distributing means around the axis of the receiving hopper, whereby any desired distribution of the material in the main hopper may be effected.

13. In an apparatus for charging blast furnaces, the combination of a main hopper, a receiving hopper, having a discharge opening, and means interposed between said hoppers for controlling the flow of material from the receiving hopper and directing it to any point in the main hopper, whereby a substantially even distribution of the material in the main hopper may be had, substantially as set forth.

14. In an apparatus for charging blast furnaces the combination of a main hopper, a receiving hopper, a distributing hopper arranged between the main and receiving hoppers and having an eccentric discharge opening, means for regulating the discharge of material from the distributing hopper and means for so shifting the point of such discharge that the material may be deposited at several points successively into the main hopper, substantially as set forth.

15. In an apparatus for charging blast furnaces, the combination of a main hopper, a receiving hopper, a distributing hopper arranged between the main and receiving hoppers and having an eccentric discharge opening, a shutter controlling the movement of material from the distributing hopper and means for moving the shutter horisontally independently of the distributing hopper, substantially as set forth.

868,347. METHOD OF ELIMINATING TAR FROM GASEOUS PRODUCTS OF DRY DISTILLATION FOR THE PURPOSE OF PRODUCING ACETATE SOLUTIONS. MAX KLAR, Hanover, Germany. Filed Sept. 16, 1905. Serial No. 278,774.

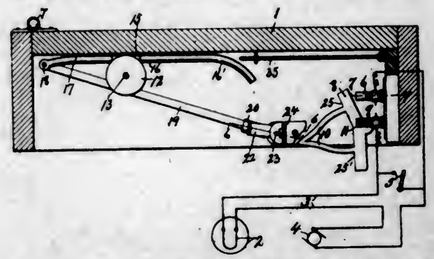


1. The method of separating tar from distillation gases which consists in passing the distillation gases still rich in tar through the distillate thereof.

2. The method of separating tar from distillation gases which consists in passing the distillation gases still rich in tar through a series of distillates thereof at progressively lower temperatures.

3. The method of directly separating tar from pyroligneous acid which is still rich in tar through a series of chambers containing distillates thereof, the temperature of each corresponding to the composition of the distillate therein.

868,348. DOOR-OPERATED ELECTRIC SWITCH FOR ELECTRIC-LIGHT CIRCUITS. JOHN KRAMER, Syracuse, N. Y. Filed Sept. 12, 1906. Serial No. 334,805.

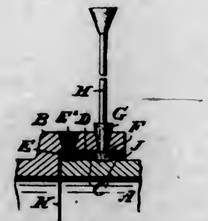


1. In combination with a self-closing door and its actuating means, an electric lighting circuit and an electric switch electrically connected therein, a reciprocatory switch-actuating bar and a swinging support therefor, means on the bar for rocking the swinging support to shift the position of the bar at each successive movement of the latter in the same direction, a lever actuated by the closing of the door to move the bar in such direction, and means for actuating the lever when the door is opened to move the bar in the opposite direction, alternate movements of the bar by the lever when the door is opened operating to alternately open and close the switch.

2. In combination with an automatically closing door and its actuating means, a lever rocked in one direction by the closing of the door, separate means for rocking the lever in the opposite direction when the door is opened, an electric lighting circuit including therein an electric switch, a reciprocatory switch-operating bar actuated by the lever in one direction independently of the switch when the door is closed, means actuated by the bar to move the switch to one position when the door is opened, additional means to shift the position of the bar when the door is closed to throw the switch shifting means into position to move the switch into another position at the next succeeding opening of the door.

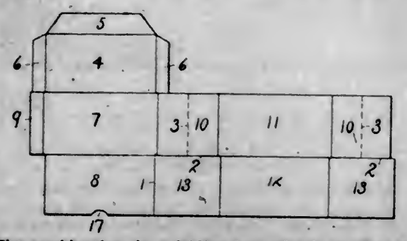
3. In combination with a self-closing door and its actuating means, an electric lighting circuit including therein an electric switch, a lever actuated in one direction by the closing of the door, separate means for rocking the lever in the opposite direction upon the opening of the door, a reciprocatory bar actuated by said lever independently of the switch when the door is closed, said bar operating to alternately close the switch at each successive operation of the lever by its own actuating means as the door is opened and means to shift the position of said bar at each operation of the lever by its own actuating means during such opening of the door.

868,349. METHOD OF MAKING A JOINT BETWEEN SPIGOT AND SOCKET PIPES. CHARLES J. LOMAX, Manchester, England. Filed July 21, 1906. Serial No. 327,132.



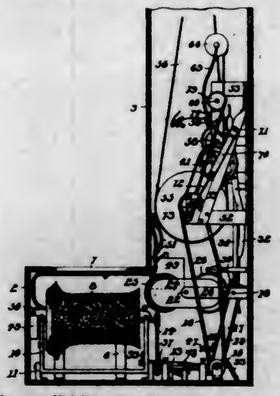
The method of making a joint between spigot and socket pipes which consists in running cement into the form of an annular ring in such joint, testing the tightness of such cement ring by means of fluid under pressure in a continuous annular recess adjacent thereto, and finally running cement into said recess which was used for testing.

868,350. FOLDING LUNCH-BOX. JOHN F. LYONS, Springfield, Mass. Filed Oct. 8, 1906. Serial No. 337,863.



The combination, in a folding box, of a back piece 7, a cover 4 and a bottom piece 8 connected with the longitudinal edges of and adapted to fold against opposite sides of said back piece, such bottom piece having a thumb or finger indentation therein, a front piece 11, an outer bottom piece 12 connected with one of the longitudinal edges of said front piece, inner end pieces 13 connected with the transverse edges of said outer bottom piece 12 and adapted to fold onto said piece 12 and with the latter to be folded against the inside of said front piece, an outer end piece 10 connecting adjacent transverse edges of the front and back pieces, a second outer end piece 10 and a joint flap 9 connected with the opposite transverse edges of the front and back pieces and with each other, said outer end pieces having central vertical creases therein and being adapted to be folded inward between the front and back pieces, end flaps 6 on the cover adapted to enter the box and a front flap 5 on the cover adapted to remain outside of the box, such flaps being for the purpose of closing the crevice between the cover and front and end walls of the box, and straps fastened to said inner end pieces and adapted to emerge from the box outside of the cover flaps 6 and to be connected over the top of the box to serve in the double capacity of a securing means and a handle, substantially as shown and described.

868,351. SHOE-POLISHING MACHINE. FRANK MADISON, Irwin, Pa., assignor to Westmoreland Automatic Machine Company, Irwin, Pa., a Corporation of Pennsylvania. Filed Apr. 22, 1907. Serial No. 369,451.



1. In a shoe polishing machine, the combination of a side brush movable toward and from a shoe, a front brush, a support for the front brush movable toward and from a shoe, means for causing the side brush to engage the shoe alternately with the front brush, means actuated by the front brush support for moving the side brush away from the shoe as the front brush approaches the same, a lock device for holding the side brush in position away from the shoe, and actuating means for the lock device carried by the front brush support.

2. In a shoe polishing machine, the combination of a side brush movable toward and from a shoe, a front brush, a support for the front brush movable toward and from the shoe, means for causing the side brush to engage the shoe alternately with the front brush, and mechanism actuated by the front brush support for holding the side brush disengaged from the shoe.

3. In a shoe polishing machine, the combination of a side brush movable toward and from a shoe, a front brush, a support for the front brush movable toward and from the shoe, means to actuate said support means for causing the side brush to engage the shoe alternately with the front brush, lock mechanism for holding the side brush in disengaged position, a rotary lock-actuating member, and a device carried by the front brush support for turning said actuating member.

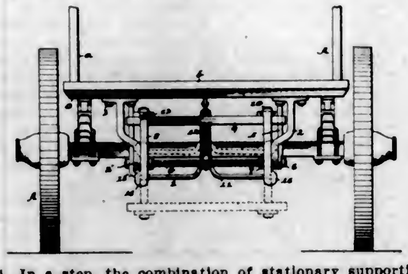
4. In a shoe polishing machine, the combination of a front brush, a support therefor movable toward and from a shoe, a toothed wheel, means engaging the teeth thereof to rotate said wheel a side brush movable toward and from the shoe, means for causing the side brushes to engage the shoe alternately with the front brush, and lock mechanism actuated by the toothed wheel for holding the side brush disengaged at the same time the front brush is disengaged.

5. In a shoe polishing machine, the combination of opposite side brushes movable toward and from a shoe, a spring for holding them normally in shoe-engaging position, levers for moving the brushes away from the shoe, latches for locking the levers with the brushes disengaged, a latch-actuating lever, a toothed rotary member for oscillating the latch-actuating lever, a front brush, a support therefor movable toward and from the shoe, and an arm carried by the support for actuating said rotary member.

6. In a shoe polishing machine, the combination of side brushes movable toward and from a shoe, a front brush, a support for the front brush movable toward and from the shoe, lock mechanism operatively connected to the front brush support for holding the side brushes away from the shoe at the same time the front brush is held therefrom, polish spraying mechanism, and means operative when all the brushes are being held away from the shoe for actuating the spraying mechanism.

7. In a shoe polishing machine, the combination of opposite side brush carriers mounted to oscillate on fixed bearings, carrier oscillating means, brushes rotatable in the carriers, shafts separate from the carriers but in line with the bearings upon which the latter oscillate, drive chains connecting the shafts with the brushes, and shaft rotating means.

868,352. STEP FOR VEHICLES, &c. LEWIS C. MARR, Wall Rose, Pa. Filed Feb. 16, 1907. Serial No. 357,675.



1. In a step, the combination of stationary supporting brackets, swinging arms carrying the step pivotally mounted on and between said brackets through slotted connections, and lugs on said arms engaging with said brackets to lock the step in the lowered position and prevent the same from rotating.

2. In a step, the combination of stationary supporting brackets, swinging arms carrying the step pivotally mounted on and between said brackets through slotted connections, and lugs on said arms and engaging with a stationary projection for locking the arms and step in the folded position.

3. In a step, the combination of stationary supporting brackets, and a spring controlled swinging step pivotally mounted on and between said brackets through slotted connections.

4. In a step, the combination of stationary supporting brackets, and spring controlled swinging arms carrying the step pivotally mounted on and between said brackets through slotted connections.

5. In a step, the combination of stationary supporting brackets, and spring controlled swinging arms carrying the step pivotally mounted on and between the said brackets through slots in said arms.

6. In a step, the combination of stationary supporting brackets having a bar between the same, and spring controlled swinging arms carrying the step pivotally mounted on the said bar and between said brackets through slots in said arms.

7. In a step, the combination of stationary supporting brackets, and spring controlled swinging arms carrying the step pivotally mounted on and between said brackets through slotted connections, and means on said arms for holding the step in the lowered position and preventing the same from rotating.

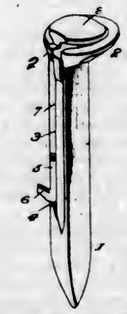
8. In a step, the combination of stationary supporting brackets, spring controlled swinging arms carrying the step pivotally mounted on and between said brackets through slotted connections, and means on said arms and engaging with said brackets to lock the step in the lowered position and prevent the same from rotating.

9. In a step, the combination of stationary supporting brackets, spring controlled swinging arms carrying the step pivotally mounted on and between said brackets through slotted connections, and lugs on said arms engaging with said brackets to lock the step in the lowered position and prevent the same from rotating.

10. In a step, the combination of stationary supporting brackets, spring controlled swinging arms carrying the step pivotally mounted on and between said brackets through slotted connections, and means on said arms for locking the arms and step in the folded position.

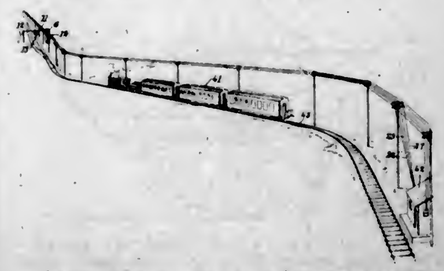
11. In a step, the combination of stationary supporting brackets, spring controlled swinging arms carrying the step pivotally mounted on and between said brackets through slotted connections, and lugs on said arms and engaging with a stationary projection for locking the arms and step in the folded position.

868,353. RAILROAD-SPIKE. RICHARD A. MARTIN, Jr., West Warren, Mass. Filed Jan. 7, 1907. Serial No. 351,232.



A railroad spike provided with a longitudinal groove and a recess leading outwardly through one wall of the groove, a dog pivotally suspended from its upper end in said recess and adapted to be retracted into the groove, said dog being provided with a beveled nose, and a key adapted to be driven down into said groove so as to engage the dog and force its nose outwardly.

868,354. SIGNAL SYSTEM. BERNARD F. MERKEL, Salida, Colo., assignor of one-half to George G. Griswold and Wade H. Green, Salida, Colo. Filed May 1, 1907. Serial No. 371,290.



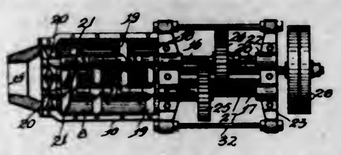
1. The combination of a cable, a target mounted thereupon and movable relatively thereto, electric lamps carried by said target, wires connected with said electric

lamps, and means controllable at will from a distance for energising said electric lamps.

2. The combination of a cable, a target provided with rotating members engaging said cable whereby said target may move automatically, by force of gravity, along the same, electric lamps mounted on opposite sides of said target, electric connections to said lamps, a magnet-controlled member for locking said target in a predetermined position, and electric connections, controllable at will, from a distance, for operating said magnet-controlled member and said lamps.

3. The combination of a tower provided with a slot, a target movable relatively to said tower and provided with a shield for partially closing said slot, illuminating bodies mounted upon said target, and means, controllable at will from a distance, for releasing said target from it's normal position in said tower.

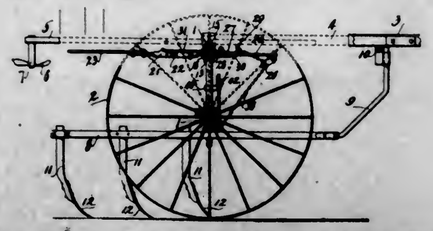
868,355. BRICK-MACHINE. FRIEDRICH MUELLER, St. Louis, Mo. Filed Jan. 22, 1906. Serial No. 297,330.



1. A brick machine comprising a casing, a pair of shafts revolubly mounted within said casing, a plurality of agitators mounted upon the shafts, a pair of conveyers located upon each of said shafts, the forward conveyer contacting with the end of the casing to convey the plastic clay through a die opening, a pair of gear wheels mounted upon said shafts, a drive shaft provided with gear pinions which mesh with and operate the gear wheels in opposite direction, and a hopper located upon the top of the casing for the admission of the plastic clay, substantially as specified.

2. A brick machine comprising a casing, a die at the forward end of the casing, a pair of shafts extending into the casing, a double conveyer located on the end of each shaft and contacting with the die to press the plastic clay into and through the die, a second single conveyer located upon each shaft at the rear of the forward conveyer to assist in the feeding of the plastic clay, and a plurality of agitators located upon the shaft to the rear of the last mentioned conveyer for agitating the clay, a gear wheel located upon each of said shafts, a drive shaft, a counter-shaft, a pair of gear pinions located upon the drive shaft, and a gear pinion located upon the counter-shaft, said gear pinions meshing with and operating the gear wheels to revolve the conveyers and agitators in opposite direction, substantially as specified.

868,356. CULTIVATOR. THOMAS MULALLY, Princeville, Ill. Filed Nov. 2, 1905. Serial No. 285,511.



1. In a cultivator, the combination with the shovel beams, a lever pivoted for horizontal movement, attachments having a swiveled connection with said beams, members vertically movable on said attachments and connections between said members and said lever.

2. In a cultivator, the combination with the shovel-beams, of a lever, flexible connections between the forward end of said lever and with the said beams, the oscillation of the lever imparting a movement to the beams corresponding to the direction of movement of the handle of the said lever.

3. In a cultivator, the combination with the shovel-beams, a lever having a folding handle section, attachments connected with the beams, sheave wheels adjustable on the said attachments, and chains connected with the lever and with the said wheels.

4. In a cultivator, the combination with the shovel-beams, a lever having a folding handle section, a plate slidable on the forward section of said lever, connections between the plate and handle section, and connections between the plate of the lever and said beams.

5. In a cultivator, the combination with the shovel-beams, a lever having a pivoted section adapted to be swung forwardly, a plate slidable on the forward lever section, connections between the plate and pivoted lever section, adjustable attachments on the beams and connections between the plate of said lever and beam attachments.

6. In a cultivator, the combination with the shovel-beams, a lever having a folding handle section, a plate slidable on the forward section of said lever, connections between the plate and handle section, guide rollers connected with the forward end of the lever, chains connected with the sliding plate of the lever and beams, and passing over the guide rollers of the lever.

7. In a cultivator, the combination with the shovel beams, chains suitably connected to the said beams, a lever and connections between the said lever and beams, and means on the lever for producing slack in the said chains.

8. In a cultivator, the combination with the shovel-beams, a lever, a slidable plate on the said lever, chains connected to the said plate and beams, guide rollers on the end of the lever over which the chains are carried, and means for sliding said plate and thereby producing slack in the said chains.

9. In a cultivator, the combination with the shovel-beams, a bracket supported by the axle, a lever pivotally connected to the said bracket, swiveled attachments connected to the beams, and chains connected at one end to said attachments and having their opposite ends secured to the lever.

10. In a cultivator, the combination with the shovel-beams, a bracket supported by the axle, a lever pivotally connected to the said bracket, swiveled attachments connected to the beams, sheave wheels adjustable on said attachments, chains connected to the lever and to said wheels, and guides for the said chains.

11. In a cultivator, an attachments for the axle, consisting of a bracket-arm having a series of perforations and provided with a hook at its lower end, a bracket having engagement with the axle and with which the upper end of the bracket-arm may be adjustably connected, and a second bracket connected to the axle with which the bracket-arm may be pivotally connected.

12. In a cultivator, the combination with the shovel-beams, a pair of brackets suitably engaging the vertical portions of the axle one above the other, bracket arms pivotally connected with the lower brackets of the axle and adjustably connected at their upper ends with the upper brackets, a lever, chains connected with the lever and with the beams, and guide wheels for the chains supported by the lower ends of the bracket-arms.

13. In a cultivator, the combination with the shovel-beams, a pair of brackets suitably engaging the vertical portions of the axle one above the other, bracket arms pivotally connected with the lower brackets of the axle and adjustably connected at their upper ends with the upper brackets, a lever, swiveled attachments connected with the beams, chains connected with the lever and with the said attachments, and guide wheels for the chains supported by the lower ends of the bracket-arms.

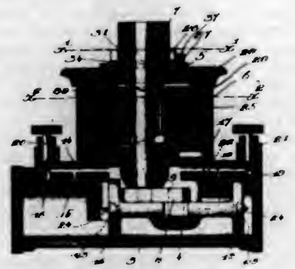
14. In a cultivator, the combination with the shovel-beams, a pair of brackets suitably engaging the vertical portions of the axle one above the other, bracket-arms pivotally connected with the lower brackets of the axle and adjustably connected at their upper ends with the upper brackets, a lever, a sliding plate on the lever, chains attached to the plate of the lever and the beams, guide wheels for the chains on the end of the lever and guide wheels for the chains supported by the lower ends of the bracket-arms.

15. In a cultivator, the combination with the shovel beams, a lever, chains connecting one end of said lever with said beams, said lever adapted to be swung into a position for the purpose of producing slack in the chains.

16. In a cultivator, the combination with the shovel beams, a lever having a jointed section connected therewith, chains connected with said beams, and suitably connected with the jointed section of said lever, whereby when said jointed section is oscillated, slack may be produced in the said chains.

17. In a cultivator, the combination with the shovel beams, a lever, chains suitably connected to said lever and also to said beams, guiding means on one end of the lever over which said chains are carried, said lever adapted to be swung into a position for the purpose of producing slack in the chains.

868,357. DOOR-CHECK. LEWIS C. NORTON, Newton, Mass., assignor to Norton Door Check Co., Boston, Mass., a Corporation of Massachusetts. Filed Mar. 13, 1906. Serial No. 305,759.



1. In a door check, the combination with an operating shaft and a spring opposing the turning movement thereof, of a cylinder, a piston therein connected to the shaft, and means to retard the movement of the piston in both directions.

2. In a checking device, the combination with an operating shaft and a spring opposing the turning movement of the shaft in one direction, of a liquid-containing cylinder, a piston therein connected to the shaft, and valve devices to check the movement of the piston in both directions.

3. In a door check, the combination with an operating shaft and a spring opposing the turning movement of the shaft in one direction, of a cylinder to contain a liquid, a piston therein having two rigidly-connected heads, and a valve in each head, one valve acting when the piston moves in one direction, and the other valve acting when the piston moves in the opposite direction.

4. In a door check, the combination with an operating shaft, of a cylinder, a piston therein having two rigidly-connected heads each provided with a valve, and ports at each end of the cylinder, whereby the piston is checked in its movement in both directions.

5. In a door-check, an operating shaft, a spring which is wound up by the turning movement of the shaft in one direction, a cylinder to contain a liquid, a piston therein connected to the shaft, said cylinder having a plurality of ports through which the liquid is forced as the piston moves in the cylinder, and a plurality of valves controlling said ports whereby the speed of the piston may be regulated throughout the entire extent of its movement.

6. In a door-check, an operating shaft, a spring which is wound up by the turning movement of the shaft in one direction, a cylinder, a piston therein, and means to control the speed of the piston throughout the entire extent of its movement during the closing movement of the door.

7. In a checking device, in combination, an operating shaft, a spring opposing the turning movement of the shaft in one direction, a cylinder to contain liquid, a piston therein connected to the operating shaft, said cylinder having a duct one end of which opens into the cylinder behind the piston and the other end of which communicates with the cylinder through two ports, one of which is so situated that the piston head during its movement passes across the same and valves for separately controlling said duct and one of said ports.

8. In a checking device, in combination, an operating shaft, a spring opposing the turning movement of the shaft in one direction, a cylinder to contain liquid, a piston therein connected to the operating shaft, said cylinder having a duct one end of which opens into the cylinder near its middle part and the other end of which communicates with the end of the cylinder through two separated ports, one of the ports being so situated that the piston head during its movement passes across the same, a valve controlling the other port, and another valve controlling the duct.

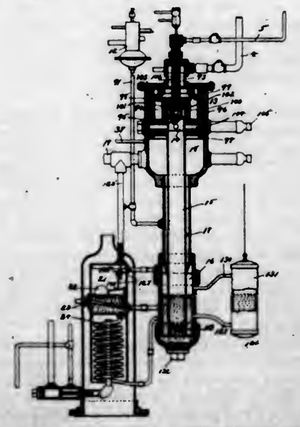
9. In a check, an operating shaft, a cylinder to contain liquid, a double-headed piston in the cylinder, means to move the piston by the turning movement of the shaft, and regulatable means to retard the movement of the piston in both directions.

10. In a check, a cylinder to contain liquid, a double ended piston therein, said cylinder having at its end ports through which the liquid is forced as the piston moved from one end to the other of the cylinder, and an operating shaft connected to the piston.

11. In a check, a cylinder to contain liquid, a piston therein, said cylinder having two ducts each communicating at its inner end with the central portion of the cylinder and having at its outer end two ports, one port of each duct being situated so that the piston head during its movement passes across the same, and an operating shaft operatively connected to the piston.

12. In a check, a cylinder to contain liquid, a piston therein, said cylinder having two ducts each communicating at its inner end with the central portion of the cylinder and having at its outer end two ports, one port of each duct being situated so that the piston head during its movement passes across the same, valves controlling said ports, and an operating shaft operatively connected to the piston.

868,358. CONTROLLING APPARATUS FOR HEAT-ENGINES. EDWARD P. NOYES, Winchester, Mass. Filed Nov. 11, 1899. Serial No. 736,588.



1. In power-apparatus, the combination of an engine, a compressor driven by and supplying the engine, a fuel-

burner connected with the compressed-fluid line for heating the engine-driving fluid, a reservoir in branch connection with the fluid-line for storing the fluid to lessen the load on the engine, and means for opening and closing the branch-connection.

2. In power-apparatus, the combination of an engine, a compressor driven by and supplying the engine, a fuel-burner connected with the compressed-fluid line for heating the engine-driving fluid, a plurality of reservoirs located between the compressor and engine for storing the compressed-fluid and supplying the engine, and means for connecting individual reservoirs respectively with the compressor and with the engine whereby one reservoir may be receiving compressor output while another is supplying the engine.

3. In power-generating apparatus, the combination of a fluid-compressor, a combustion-chamber connected therewith, a series of storage reservoirs, and means for automatically bringing said reservoirs in succession into communication with said compressor.

4. In power apparatus, the combination of a compressor, an engine to use the compressed fluid, a reservoir to store excess fluid during the operation of the engine, and automatic mechanism controlling the communication between said compressor and reservoir for admitting the fluid to said reservoir upon the attainment of a predetermined fluid pressure.

5. In power apparatus, the combination of a combustion-fluid compressor, a burner supplied thereby, a reservoir and automatic inlet mechanism therefor for storing excess quantities of the fluid during the operation of the burner, upon attainment of a predetermined fluid pressure, and automatic outlet mechanism for returning the stored fluid to the fluid-line between the compressor and burner when the pressure in said line falls below the reservoir-pressure.

6. In power apparatus, the combination of a compressor, an engine, a compressed-fluid-line connecting the two, a reservoir having inlet and outlet branch connections from said line, an automatic loaded entrance-valve in the inlet connection, and an automatic check-valve in the outlet connection opening toward said line.

7. In power apparatus, the combination of a compressor, internal-combustion power-developing means supplied thereby, a reservoir adapted to store the compressed fluid, and automatic mechanism controlled by the pressure in the fluid-line between the compressor and the power-developing means for controlling the inlet of fluid from said line to the reservoir and the exit thereof from the reservoir to said line.

8. In power-generating apparatus, the combination of a fluid-compressor, a combustion chamber connected therewith, a storage reservoir in branch connection with said compressor and with said combustion-chamber, and an automatic valve-device controlling the connection with the compressor and controlled by the pressure antecedent to said reservoir, said device constructed to open and close uniformly according to the amount of said antecedent pressure.

9. In power-generating apparatus, the combination of a combustion-chamber, a compressor for the combustion-fluid, a storage-reservoir for said fluid, a valve controlling admission to said reservoir, means exerting a constant valve-closing pressure, and a movable partition subject to the pressure antecedent to the reservoir for opening the valve.

10. In power apparatus, a main power-line including in series a compressor, a combustion-chamber, a loop branch leading from said power-line and returning thereto, and a pressure-reducing mechanism in said branch controlled differentially by the pressures initial and terminal to itself, whereby pressures may be graded in said branch in a predetermined relation.

11. In power-generating apparatus, the combination of a fluid-compressor, a combustion-chamber connected therewith, a series of reservoirs for storing the fluid, and means for automatically opening said reservoirs in succession without reducing the pressure in the preceding reservoir.

12. In power-generating apparatus, the combination of a fluid-compressor, a combustion-chamber connected therewith, a series of storage-reservoirs, means for automatically bringing said reservoirs in succession in communication with the compressor during rising pressures, and means for automatically maintaining them in communication with the combustion-chamber during falling pressures.

13. In continuous-combustion power-generating apparatus, the combination of a fluid-compressor, a combustion-chamber, a conduit connecting the two, a series of storage-reservoirs in branch connection with the conduit, passages connecting the reservoirs and provided with valves which open at different predetermined pressures, whereby the reservoirs are brought successively into communication with the conduit during rising pressures, and other passages connecting the reservoirs and provided with check-valves opening toward the conduit, whereby the reservoirs are maintained in communication with the conduit during falling pressures.

14. In power-generating apparatus, the combination of a fluid-compressor, a combustion-chamber, a conduit connecting the two, a storage-reservoir in branch connection with the conduit, a second storage-reservoir in branch connection with the conduit, means for independently discharging said second reservoir, and pressure-controlled means for automatically throwing said second reservoir into connection with the first reservoir.

15. In power-generating apparatus, the combination of a fluid-compressor, a combustion-chamber, an engine connected to drive said compressor and operated by the output of the combustion-chamber, a conduit connecting the compressor and combustion-chamber, a storage-reservoir in branch connection with the conduit, a second storage reservoir, means for independently discharging said second reservoir, and pressure-controlled means for automatically throwing said second reservoir into connection with the first reservoir.

16. In power apparatus, an internal-combustion generator having a main burner, a motor supplied by said generator, pressure fuel and air conduits supplying the burner and having automatic check-valves opening toward said burner, and an auxiliary steam-boiler connected with said motor and having an independent burner for heating it.

17. In continuous-combustion power-generating apparatus, the combination of a combustion-chamber, means to supply combustion-fluids thereto under pressure, an outlet from said chamber for the products of combustion, a by-pass connected with said outlet and adapted to divert one of said fluids around the combustion-chamber, a valve controlling said by-pass, and a device controlled differentially by the pressures of the fluids for operating said valve.

18. In power apparatus, the combination of a compressor, a combustion-chamber for using the compressed fluid, and means located between said compressor and said combustion-chamber and controlled differentially by the pressures initial and terminal to itself for reducing the pressure of the compressed fluid by a predetermined amount independent of the absolute pressure.

19. In power apparatus, the combination of a combustion-fluid compressor, a burner supplied thereby, and a pressure-reducing means in the supply-line controlling the velocity of fluid at the burner and controlled differentially by the pressures initial and terminal to itself.

20. In a constant-combustion power-system, the combination of a combustion-chamber having a pilot burner, a pressure line to supply combustion fluid to said chamber, a regulator in said line, controlled differentially by the pressures initial and terminal to itself, and a conduit leading from the pressure line on the initial side of said regulator for supplying the pilot burner.

21. In continuous-combustion power-generating apparatus, the combination of a combustion-chamber, means to supply combustion fluids continuously thereto under pressure, two connected valves controlling the respective fluids and controlled differentially by the pressures initial and terminal to one of them, and means for varying the relative openings of said valves.

22. In power apparatus, the combination of air and gas compressors, an internal-combustion burner supplied thereby, and pressure-reducing valve-mechanism in the compressed air and gas lines controlling the velocity of said fluids at the burner, and controlled differentially by the pressures of one of the fluids initial and terminal to said mechanism.

23. In continuous-combustion power-generating apparatus, the combination of a combustion-chamber, two sources for supplying combustion-fluids to said chamber under pressure, means for automatically maintaining the pressures of said fluids in a predetermined relation, and two automatic pressure-reducing valves interposed between said sources and the combustion-chamber and connected to operate in unison, said valves being controlled differentially by the pressure in the combustion-chamber and the pressure from one of said sources.

24. In power apparatus, the combination of an internal-combustion burner, means for supplying compressed air and gas thereto in a predetermined pressure-relationship, resistance-valves in the air and gas lines having orifices in a relationship corresponding to the desired ratio for the quantities of air and gas participating in combustion, and means controlled by the pressure of the system for so varying the opening of said valves in common as to afford a substantially constant resistance for each fluid.

25. In continuous-combustion power-generating apparatus, the combination of a combustion-chamber, means for supplying air and gas continuously thereto under pressure, and valves in the supply-conduit controlled differentially by the pressures initial and terminal to said valves and located far enough in advance of the mixing-point of the fluids to provide cushioning chambers between said valves and the combustion-chamber.

26. In continuous-combustion power-generating apparatus, the combination of a combustion-chamber, means for supplying combustion fluids continuously thereto under pressure, means controlled by the pressure of the system for automatically varying in common the orifices for passage of the said fluids, means for relatively varying said orifices, and automatic means controlled differentially by the pressures of the fluids back of the orifices for releasing said fluids from the conduits.

27. An internal-combustion steam-and-gas generator, means for superheating the steam in the output of said generator, means for supplying a pool of water in said generator whose level determines the amount of superheat, an automatic level-controller for said pool, and means controlled by the temperature of the generator output for varying the level established by the controller.

28. An internal-combustion steam-and-gas generator having a combustion-tube, means for establishing a pool of water immersing the outlet of said tube, means for carrying the steam and products of combustion in superheating relation with the outer surface of the combustion-tube, and means controlled by the temperature of the steam-and-gas mixture for varying the water-level in said generator.

29. In continuous-combustion power-generating apparatus, the combination of a pressure combustion-chamber, conduits antecedent and terminal thereto, means for establishing resistance to the flow through said conduits and chamber at points antecedent and terminal to the point of combustion, and controlling devices for said resistances dependent the one upon the other.

30. In continuous-combustion power-generating apparatus the combination of a combustion-chamber, a cooling-chamber having water-supplying means, means to supply combustion-fluid to said combustion-chamber, means to automatically impose a pressure-drop upon said fluid, and means controlled by the water-level in the cooling chamber for varying the amount of said pressure-drop.

31. In continuous-combustion power-generating apparatus the combination of a combustion-chamber, a cooling chamber appurtenant thereto and having water-supplying means, a valve controlling admission of combustion-fluid to the combustion chamber and differentially controlled by the pressures initial and terminal to itself, and means controlled by the water-level in said cooling-chamber and exerting a yielding mechanical pressure on said valve in aid of the terminal pressure.

32. In continuous-combustion power-generating apparatus, the combination of a source of fluid-pressure, a combustion-chamber connected therewith, a cooling-chamber containing a body of water to cool the products of combustion from said combustion-chamber, a re-heating surface of variable area controlled by the level of the water and by which said products are re-heated, an automatic pressure-regulating valve mechanism interposed between the source of pressure and the combustion-chamber, and a device forming a part of said valve mechanism for controlling the relation between its initial and terminal pressures and controlled by the level of the water in the cooling-chamber.

33. In continuous-combustion power-generating apparatus, the combination of a combustion-chamber having an atmospheric vent, means to supply combustion-fluid to said chamber, and a valve controlling the fluid and controlled differentially by the pressures initial and terminal to said valve.

34. In continuous-combustion power apparatus, the combination of a burner, means to supply pressure combustion-fluids thereto, a combustion-chamber, a cooling-chamber in the path of the products of combustion for vaporizing water, a main outlet from said cooling chamber for conducting the steam and gases to an engine, an atmospheric vent-outlet from said cooling-chamber, a vent-valve, a valve controlling the main flow of fluid through the combustion-chamber, and a connection between said valves whereby the opening and closing movements are respectively opposite in the two valves.

35. In internal-combustion power-generating apparatus, the combination of a combustion-chamber, a water-supplied cooling device subject to the heat of said combustion-chamber, an engine, a conduit structure for conducting the products of combustion and steam from said chamber and said cooling device to the engine to operate the latter, and a throttle and vent valve-mechanism located between the cooling device and the engine and having means for closing the passage to the engine and opening a vent from the combustion-chamber by a single operation.

36. In continuous-combustion power-generating apparatus, the combination of a combustion-chamber, a cooling-chamber communicating therewith, a superheating passage leading from said cooling-chamber and heated by the main combustion, and means controlled by the temperature of the output from said chamber for controlling the proportion of the heat of combustion imparted to the steam after its generation in said cooling-chamber.

37. In continuous-combustion power-generating apparatus, the combination of a combustion-chamber, a cooling-chamber containing a body of water adapted to cool the products of combustion from said chamber, a re-heating surface for re-heating the cooled products and variable by differences in the water level, an outlet for the re-heated products of combustion, and a thermostat controlled by the temperature of the products passing through said outlet and controlling the water level.

38. In constant-pressure power apparatus, the combination of a continuous internal-combustion burner, means to supply combustion-fluids thereto under pressure, a combustion-chamber, and an igniter movable into and out of the region of the flame from said burner.

39. In continuous-combustion power-generating apparatus, the combination of a combustion-chamber, means for supplying combustion fluids thereto continuously under pressure, an externally-open blind igniter-tube in said chamber, burner-tubes in ejector-relation entering said igniter-tube, means to supply a blast of air through the air-tube, and means for supplying gas at a lower pressure to the gas-tube for entrainment by the air-blast.

40. In continuous-combustion power-generating apparatus, the combination of a combustion-chamber, means to supply combustion fluids continuously thereto under pressure, and an externally-heated hot-tube igniter adapted to be located as a baffle in the path of a combustible current entering said chamber, and having an adjustment for preventing the impingement of the main combustion flame during normal operation.

41. In continuous-combustion power-generating apparatus, the combination of a combustion-chamber, an engine connected therewith, means driven by the engine for supplying a combustible mixture of air and fuel under pres-

sure to said chamber, an incandescence igniter in the path of one or more of the combustion fluids, and manually-controllable means for temporarily diverting the mixture from the combustion chamber to prevent chilling of the igniter thereby in effecting a start.

42. In continuous-combustion power-generating apparatus, the combination of a combustion-chamber, an engine connected therewith, means driven by the engine for supplying primary and secondary streams of combustible mixture to the combustion chamber, an incandescence igniter in the path of the main stream, and manually-controllable means for temporarily diverting the supply for the main stream in starting.

43. In continuous-combustion power-generating apparatus the combination of a combustion-chamber having a burner, means for supplying combustion fluids under pressure thereto, a surrounding wall with an intervening space between said wall and chamber, and a bridging portion between said chamber and said wall, formed with the chamber and perforated with a through passage from the exterior of the wall to the interior of the chamber opposite the region of the root of the flame.

44. In continuous-combustion power-generating apparatus, the combination of a pressure combustion-chamber having an inlet for combustion-fluids, and a lateral opening through its wall beyond said inlet, a combustion-tube forming a joint with the walls of the combustion-chamber beyond said opening, a cooling-chamber embracing the outlet from the combustion-chamber, and a passage from said cooling-chamber jacketing the combustion-tube and separated from the combustion chamber by said joint.

45. In continuous-combustion power-generating apparatus the combination of a pressure combustion-chamber having an inlet for combustion fluids, a cooling chamber having means for vaporizing water by contact of the hot gases from said combustion-chamber, and a passage for the steam and burnt-gas mixture leading from said cooling-chamber and jacketing the combustion chamber to a point back of the said inlet.

46. In continuous-combustion power-generating apparatus, the combination of a pressure combustion-chamber having a burner, a visual passage for viewing the interior thereof, a combustion-tube supported from a point on the opposite side of said passage from the burner and an outward passage for the products of combustion jacketing the burner at a point back of the visual passage.

47. In continuous-combustion power-generating apparatus, the combination of a combustion-chamber, a cooling-chamber adapted to contain a body of water for cooling the products of combustion from said chamber, a conduit for supplying combustion-fluid to said combustion-chamber, a passage for the cooled products of combustion, leading from said cooling-chamber and jacketing said combustion-chamber, whereby the cooled products are re-heated, and a passage leading from the first said passage and jacketing said conduit, whereby said re-heated products pre-heat the combustion-fluid.

48. In power-apparatus the combination of a closed internal-combustion generator having a burner, means for supplying air and fuel under pressure to said burner, a passage in the wall of said generator for viewing the interior thereof, provided with a visual pane, and an automatic check-valve opening toward the interior of the generator and normally lying aside from the line of vision through said passage for closing the passage in the event of breakage of the pane.

49. In continuous-combustion power-generating apparatus, the combination of a combustion-chamber having a primary burner and an igniting burner, means for supplying combustible to said burners, and means for automatically maintaining the supply for the igniting burner at a pressure higher than the pressure for the main burner by a substantially constant amount.

50. In power-generating apparatus, the combination of an internal-combustion burner-apparatus, a reciprocating engine of the steam-engine type supplied thereby and adapted to operate as a compressor on negative load, and a reservoir and connections for storing the fluid compressed by said engine and using it again in said engine.

51. In continuous-combustion power-generating apparatus, the combination of a constant-pressure combustion chamber, an engine supplied thereby and adapted to operate as a compressor on negative load, means to supply combustion fluids continuously under pressure to said chamber, a reservoir and connections for storing the fluid compressed by said engine, and an igniter operative in the combustion-chamber on the cessation of the main combustion for restoring the latter on resumption of positive load.

52. In power-generating apparatus, the combination of a combustion-chamber, means for supplying air and fuel thereto under pressure, an air-reservoir connected with the air-supply, an engine arranged to be driven by the products of combustion from said combustion-chamber and adapted to act as an air-compressor when subjected to negative load, and means for automatically shutting off the fuel connection to the combustion-chamber and for maintaining an air connection from the engine to the air-reservoir to store the air compressed in the engine when the latter acts as an air-compressor.

53. In power-generating apparatus, the combination of a combustion-chamber, compressors adapted to supply combustion-fluids to said chamber, and means controlled differentially by the pressure of said fluids for varying the output of one of said compressors.

54. In power-generating apparatus, the combination of a combustion-chamber, two compressors adapted to supply combustion-fluids to said chamber, and means controlled differentially by the pressures of said fluids for varying the cylinder clearance of one of said compressors.

55. In power-generating apparatus, the combination of a combustion-chamber, a compressor adapted to supply combustion-fluid thereto under pressure, means to automatically release a portion of said fluid when not required in the combustion-chamber, and means controlled by the pressure of said released fluid for varying the output of said compressor.

56. In power-generating apparatus, the combination of a combustion-chamber, a compressor adapted to supply combustion-fluid thereto under pressure, means to automatically release a portion of said fluid when not required in the combustion-chamber, and means controlled by the pressure of said released fluid for varying the cylinder-clearance of said compressor.

57. In power-generating apparatus, the combination of a combustion-chamber, a compressor adapted to supply combustion-fluid thereto under pressure, means controlled by the pressure of said fluid for releasing a portion thereof, and means controlled by the released pressure for varying the output of the compressor.

58. In power-generating apparatus, the combination of a combustion-chamber, a compressor adapted to supply combustion-fluid thereto under pressure, means controlled by the pressure of said fluid for releasing a portion thereof, and means controlled by the released pressure for varying the cylinder-clearance of the compressor and thereby varying its output.

59. In power-generating apparatus, the combination of a combustion-chamber, two compressors adapted to supply combustion-fluids to said chamber, means controlled differentially by the pressures of said fluids for releasing excess pressure of one of the fluids, and means controlled by the released fluid-pressure for diminishing the output of the compressor supplying the released fluid.

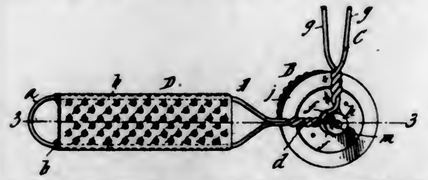
60. In power-generating apparatus, the combination of a combustion-chamber, two compressors adapted to supply combustion-fluids to said chamber, means controlled differentially by the pressures of said fluids for releasing excess pressure of one of the fluids, and means controlled by the released fluid-pressure for increasing the cylinder-clearance of the compressor furnishing the released fluid and thereby diminishing its output.

61. In continuous-combustion power-generating apparatus, the combination of a combustion-chamber, two compressors adapted to supply combustion-fluids to said chamber, an outlet from said chamber for the products of combustion, and means controlled differentially by the pressures of the two fluids for by-passing one of the fluids around the combustion-chamber into said outlet.

62. In continuous-combustion power-generating apparatus, the combination of a combustion-chamber, an engine supplied thereby two fluid-compressors adapted to supply combustion-fluids to said chamber, fluid-passages connecting the compressors with said combustion-chamber, and pressure-controlled means for automatically proportioning the total cross-sectional passage-areas for the respective engine-bound fluids to the relative outputs of the compressors during changes in the ratio of said outputs.

63. In continuous-combustion power-generating apparatus, the combination of a combustion-chamber, means to supply combustion-fluids thereto under pressure, an outlet from said chamber for the products of combustion, a by-pass connected with said outlet and adapted to divert one of said fluids around the combustion-chamber, a valve controlling said by-pass, and a device controlled differentially by the pressures of the fluids for operating said valve.

868,359. KITCHEN UTENSIL. JOSEPH S. O'BRIEN, Westfield, Mass. Filed Dec. 14, 1906. Serial No. 347,847.



1. A kitchen utensil consisting of a wire formed handle, forward portions of the wire being approached and formed into a loop, a journal stud encircled and supported by said loop, and a wheel, having a corrugated edge, axially supported by said stud.

2. A kitchen utensil consisting of a wire formed handle, forward portions of the wire being approached and formed into a loop, and further endwise portions of the wire being separated and extended beyond the looped portion to constitute a fork, and a wheel, having corrugated edge, journal supported in said loop.

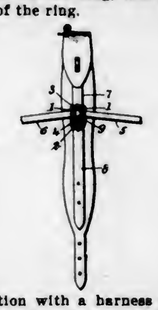
3. A kitchen utensil consisting of a length of wire, an intermediate portion of which is return bent, constituting a handle, portions of said wire being twisted on each other, further portions being bent to form a loop, a block embraced and held by said loop, a stud supported by, and projecting beyond the side of said block, and a wheel, having a corrugated edge and a circular trimming flange at one side, axially rotatably supported by said stud.

4. A kitchen utensil consisting of a length of wire, an intermediate portion of which is return bent, with separated and oppositely ranging members constituting a handle, portions of said wire forward of the handle being twisted on each other, further portions of the wire being bent to form a loop, while the end portions of said wire are extended in separated relations beyond the looped portion to constitute a fork, a circular edgewise grooved block embraced and held by said loop, a wheel having a corrugated edge and a circular trimming flange at one side, a stud on which said wheel is supported carried by said block, and a grater plate having the opposite edges thereof crimped around and supported by the opposite members of the handle.

868,360. SADDLE HARNESS RING. JAMES J. O'KANE, New York, N. Y. Filed July 14, 1905. Serial No. 269,618.

1. A harness saddle ring having parallel side members terminating at the lower end in a loop member, a top cross bar, and a cross bar between the ends of the side members and located nearer the lower than the upper end of the ring, the cross bars being adapted to be secured to the saddle and extending inward of the plane of the side members an equal distance, whereby when the ring is in position on the saddle a space is formed between the side members and the surface of the saddle, as and for the purpose set forth.

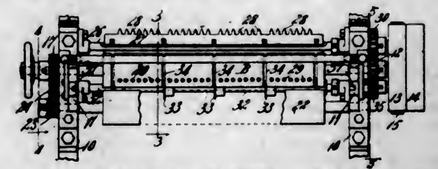
2. The combination with a harness saddle, of a harness saddle ring having parallel side members terminating at their lower end in a loop member, a top cross bar, a cross bar between the ends of the side members, the said cross bars extending inward of the plane of the side members, a strap engaging the said top cross bar and rigidly secured to the saddle, a strap engaging the other cross bar and also rigidly secured to the saddle, the said straps holding the ring rigidly in place on the saddle and preventing lateral swinging movement of the ring, and a strap secured to said loop member of the ring.



3. The combination with a harness saddle, of a saddle ring comprising side members turned inward at their upper ends and connected by a loop member at their lower ends, a strap engaging with said loop member, a cross bar between the upper and lower ends of the side members, a strap passing over said cross bar and rigidly secured to the saddle, a cross bar connecting the upper ends of the side members, a strap secured to the saddle and connected with the upper cross bar, the said cross bars extending inward of the plane of the side members and forming when the ring is in position on the saddle a space between the side members and the surface of the saddle, a thimble strap connected to the front side member between the cross bars, and a trace connected to the rear side member between the said cross bars.

4. The combination with a harness saddle, of a harness saddle ring having substantially parallel side members, a top cross bar, a cross bar between the ends of the side members, the said cross bars being inward of the plane of the side members, a strap engaging the top cross bar and attached to the saddle and a strap passing over the other cross bar and rigidly secured to the saddle, whereby the ring is held from lateral swinging movement.

868,361. CUTTING, PERFORATING, AND ROLL-FORMING MECHANISM. CHARLES E. POPE, Holyoke, Mass., assignor to C. Elmer Pope Paper Company, Holyoke, Mass., a Corporation of Massachusetts. Filed Oct. 18, 1906. Serial No. 338,861.



1. The combination with a recessed rotary bed roll, having circular shoulders, of a revoluble toothed blade coacting with the recessed portion of the roll, and means for rotating it, and a rotary shaft having slitter disks coacting with the shouldered portion of the roll, and means for rotating the disk shaft.

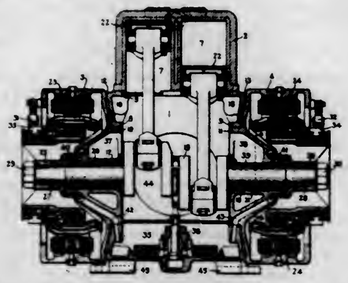
2. In a mechanism of the character described, the combination with the bed-roll having a driving pulley at one end, and having a spur gear wheel at each end thereof, of a slitter disk shaft and an incision blade shaft, below, axially parallel with, and respectively forward and to the rear of the axis of the bed roll, and having gear wheels at one end of each, both in mesh with the gear wheel at the

corresponding end of the bed-roll, and a speed roll, axially parallel with, adjacent and forward of the bed roll, having thereon a gear wheel smaller than the gear wheel at the other end of the bed roll, and an intermediate gear wheel in mesh with the latter bed roll gear and the speed roll gear, for the purposes set forth.

3. The combination with an axially horizontal bed-roll and another roll located adjacent and at about the level of the bed roll, and a pulley having a driving connection with said rolls, and having a driving belt therefor, of a slidable belt-shafter, engaging said belt, a spring for forcing the latter in one direction and a rock shaft having a latch arm engaging the belt shifter, and having another member extended over said rolls, and adapted to be engaged and swung by a roll of paper when wound to a required size.

4. The combination with an axially horizontal bed-roll, a speed roll located adjacent and at about the level of the bed roll, and a pulley fixed to the bed-roll, and a loose pulley alongside the fixed pulley, a shiftable belt to run around either of said pulleys, a slidable shifter for said belt, having a spring for forcing it in one direction, and gear wheel connections between the bed and speed rolls, for driving the speed roll faster than the bed roll, of a rock shaft having a latch arm engaging the belt shifter, and having another arm radially projected at a location above said rolls and provided with a vertically adjustable bar, for the purposes set forth.

868,362. MOTOR-DRIVEN PUMP. EDWARD D. PRIEST, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 15, 1905. Serial No. 245,649.



1. In a motor-driven pump, a main frame, supplementary frames attached to and supported by opposite sides of said main frame, a crank shaft extending through said main frame, bearings in said supplementary frames for supporting said shaft, field magnets supported by said supplementary frames, and motor armatures mounted on opposite ends of said pump shaft in operative relation to the field magnets.

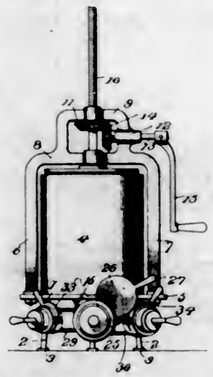
2. In a motor-driven pump, a main frame, a cylinder frame supported thereby, supplementary frames attached to and supported by opposite sides of said main frame, bearings in said supplementary frame, a crank shaft supported in said bearings, field magnets supported by said supplementary frames, and motor armatures mounted on each end of said shaft in operative relation to said field magnets.

3. In a motor pump, a pump frame having an oil chamber, a motor frame seated in a bearing in said pump frame, a bearing in said motor frame, a pump shaft seated in said latter bearing, an armature on said shaft, and a deflecting plate between said latter bearing and the armatures for deflecting oil from the bearing to a passage leading to said oil chamber.

4. In a motor-driven pump, a pump frame having seats in opposed sides thereof, field magnets secured in said seats, a bearing associated with each of said field magnets, a pump shaft seated in and having its ends projecting beyond said bearings, and motor armatures mounted upon the ends of said shaft and partially surrounding said bearings.

5. In a motor-driven pump, a frame comprising a main portion and a cylinder portion secured thereto and supplementary frames secured to and supported by opposite sides of said main portion, a bearing in each of said supplementary frames, a crank shaft supported in said bearings, field magnets supported by each of said supplementary frames, and motor armatures supported on the ends of said shaft beyond said bearings in operative relation to said field magnets.

868,363. MEASURING DEVICE. ZEPHIRE RABIE, Duluth, Minn., assignor of fifty-five one-hundredths to Victor La Mont, Duluth, Minn. Filed Aug. 16, 1906. Serial No. 330,889.



1. A device of the character described, comprising a receptacle, molds in communication with the receptacle, and a separate knife operating between each mold and the receptacle, and closing the communications between the same.

2. A device of the character described, comprising a receptacle, molds in communication with the receptacle, and a separate pivoted knife independently operating between each mold and the receptacle, and closing the communication between the same.

3. A device of the character described, comprising a receptacle, removable molds in communication with the receptacle, and pivoted knives operating between the molds and the receptacle and adapted to close said openings between the molds and receptacle.

4. A device of the character described, comprising a receptacle, a passage-way in communication therewith, three passages of different diameter in communication with said passage-way, a separate mold detachably carried by the end of each passage and forming a continuation thereof, and a separate knife operating between each passage and the mold and adapted to close the communication between the molds and passages.

5. A device of the character described, comprising a receptacle, a three-way passage-way of different diameters in communication with the receptacle, molds removably secured to the outer end of each passage and forming a continuation thereof, and knives carried by the passage-ways and operating between the molds and the end of the passage-way, and adapted to close the communication between the same.

6. A device of the character described, comprising a receptacle, several passage-ways in communication therewith and of different diameters, molds removably secured to the outer ends of each passage-way having a small space between the same, knives pivoted to the end of the passage-way and swinging within the space between the molds and passage-way, and adapted to close the communication between the same.

7. A device of the character described, comprising a receptacle, a passage-way in communication therewith, the outer end of said passage way having an enlarged opening therein, a mold locked within said opening, and said passage-way having a slot in an alinement with the inner end of the mold, and a knife pivoted to the outer face of the passage-way and adapted to enter said slot and close the passage-way at a juncture of the mold with the inner end of the openings.

8. A device of the character described, comprising a receptacle, a passage-way in communication therewith, the outer end of said passage-way having an enlarged opening therein, inwardly-extending pins carried by the inner face of said opening, a mold adapted to enter said opening and having bayonet slots to receive said pins, said passage-way having a slot in an alinement with the inner end of the mold, a round knife having an extended ear pivoted to the outer face of the passage-way and adapted to enter said slot and close the passage-way at a juncture of the mold with the inner end of the openings, and a handle carried by the knife for operating the same.

868,364. HORSE-TAIL HOLDER. ORRIN B. READ, Troy, N. Y. Filed May 18, 1907. Serial No. 374,478.



A horse-tail holder comprising in combination a metallic spring-band having near one end tongues formed by outward displacement of integral portions of the band, leaving openings therein, and having near its other end means for interengaging with said tongues; and a strip of yielding flexible material secured to the inner side of said band and covering the apertures formed by displacement of said tongues.

868,365. COMBINED LEVELING AND STADIA ROD. JAMES H. ROBERTSON, Wily, Va. Filed May 20, 1907. Serial No. 374,571.



1. A stadia rod having a face divided transversely into a plurality of sections of equal length and of different colors alternating with each other, each section representing the greatest division of the rod and itself divided into three or more graduated columns, the length of the subdivisions of each column, in passing from a column of smaller to larger subdivisions, being a constant multiple of the next succeeding column.

2. A stadia rod having a face divided longitudinally into three or more graduated columns, the length of the subdivisions of each column being a multiple of the length of the subdivisions of the adjacent column, and successively increasing or decreasing in passing from one side of the rod to the other and reëntrant angles at one edge of the rod bisecting the smallest subdivisions.

3. A stadia rod having a face divided longitudinally into a plurality of graduated columns, the length of the subdivisions of each column being a multiple of the length of the subdivisions of the adjacent column, and successively increasing or decreasing in passing from one side of the rod to the other and reëntrant angles at one edge of the rod bisecting the smallest subdivisions.

4. A stadia rod having a face divided longitudinally into three or more graduated columns, the length of the subdivisions of each column, in passing from a column of smaller to larger subdivisions, being a constant multiple of the next succeeding column, and reëntrant angles arranged at one edge of the rod bisecting the smallest subdivisions.

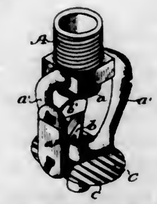
5. A stadia and leveling rod having a face divided longitudinally into a plurality of graduated columns, the length of the subdivisions of one column being a multiple of the subdivisions of the next adjacent column, said columns being transversely divided into equidistant sections alternating in color, with the smallest and largest subdivisions in the columns of a number of sections being arranged at reverse sides of the rod from that occupied by the corresponding subdivisions in the columns of or like number of succeeding sections.

6. A stadia and leveling rod having a face divided longitudinally into a plurality of graduated columns, the length of the subdivisions of one column being a multiple of the length of the subdivisions of the next adjacent column, said columns being transversely divided into equidistant sections of different colors alternating with each other, with the smallest and largest subdivisions in the columns of alternate pairs of sections being arranged at opposite sides of the rod from the corresponding subdivisions in the next succeeding pairs of sections.

7. A stadia and leveling rod having a face divided longitudinally into a plurality of graduated columns, the length of the subdivisions of one column being a multiple of the length of the subdivisions of the next adjacent column, and successively increasing or decreasing in passing from one side of the rod to the other each subdivision of the column having the shortest subdivisions being bisected by a reëntrant angle, and a figure located on each short subdivision operating, in connection with the reëntrant angle, to divide said subdivision into four parts.

8. A stadia and leveling rod having a face longitudinally divided into three graduated columns, the length of the subdivisions of each column in passing from a column of smaller to larger subdivisions, being a multiple of the next succeeding column, reëntrant angles formed at one edge of the rod bisecting the subdivisions of one of said columns, said last-named subdivisions each having a rectangular figure thereon operating in connection with its respective reëntrant angle to divide the subdivision into four parts, and a diamond-shaped figure bisecting each subdivision of the intermediate column.

868,366. DEFLECTOR FOR AUTOMATIC SPRINKLER-HEADS. JOHN C. SCOTT, Philadelphia, Pa., assignor to International Sprinkler Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Sept. 4, 1906. Serial No. 333,146.



1. A sprinkler head having an outlet for water, and a substantially flat stationary deflector lying in a plane at right angles to the line of said outlet, said head including

means for limiting the area or areas over which the water may be delivered, substantially as described.

2. A sprinkler head having a yoke and a tubular portion for attachment to a sprinkler system, with a deflector placed to direct water from the tubular portion in a direction transverse to the plane of said yoke, said deflector being provided with a series of parallel grooves or corrugations, substantially as described.

3. A sprinkler head having a tubular portion designed for connection to a source of supply of water, and a substantially flat stationary deflector supported opposite to the opening of said tubular portion, said deflector being placed to direct water from the tubular portion to a definite area, and there being a portion of the sprinkler head placed to shield another area or areas from such water, substantially as described.

4. A sprinkler head having a tubular portion designed for connection to a source of supply of water, a yoke, and a substantially flat two-part deflector integral with said yoke supported opposite the opening of the tubular portion, the parts of said deflector respectively projecting on both sides of the plane of the yoke, substantially as described.

5. A sprinkler head having a deflector for directing water over a predetermined limited area or areas, said deflector having a series of substantially parallel grooves or corrugations and being stationary upon the sprinkler head, substantially as described.

6. A sprinkler head consisting of a tubular portion, a yoke, a substantially flat elliptical deflector formed integral therewith and provided with a set of substantially parallel grooves in each side of a median plane, a valve closing the end of the tubular portion, and temperature responsive means for normally retaining said valve in its closed position, substantially as described.

7. An automatic sprinkler head consisting of a part for attachment to a source of supply of water, a yoke, and a deflector consisting of two parts respectively projecting horizontally on each side of the plane of the yoke, the portions of the yoke adjacent to the deflector being flared so as to assist in directing outwardly the water delivered from the source of supply, substantially as described.

8. An automatic sprinkler head including a portion for attachment to a source of supply of liquid, temperature responsive means normally closing said part, and a substantially flat deflector projecting from and permanently connected to the yoke substantially opposite the part for connection to the water supply, said deflector being provided with substantially parallel grooves of increasing width as they depart from the plane of the yoke, substantially as described.

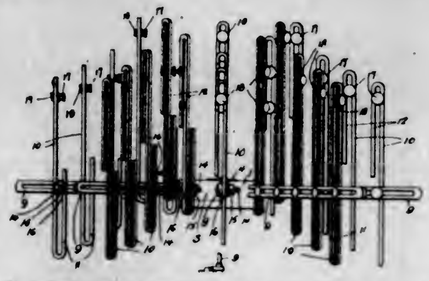
9. A sprinkler head having a deflector constructed to direct water over a definite area or areas to the exclusion of another area or areas, said deflector having on each side a series of substantially parallel grooves of varying width, substantially as described.

10. A sprinkler head having a tubular portion designed for connection to a source of supply of water, with a substantially flat stationary deflector at a point opposite the opening of said tubular portion, said deflector being placed to direct water from the tubular portion over two areas on opposite sides of the sprinkler head, there being parts of the head on each side of the deflector placed to shield other areas from water, substantially as described.

11. A sprinkler head having an outlet for water and a substantially flat stationary deflector lying in a plane at right angles to the line of said outlet, said deflector having on each side a series of substantially parallel grooves of varying width, substantially as described.

868,367. DEVICE FOR FORMING WIRE HAT-FRAMES. DILWYN M. STANLEY, Pittsburg, Pa. Filed June 29, 1907. Serial No. 381,519.

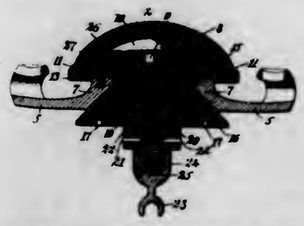
1. In a device of the class described, a revoluble head, a hinged section carried thereby and adapted to be locked in engagement therewith, a plurality of radially disposed slotted arms carried by said head and said section, a plurality of uprights adjustably connected to each slotted arm, said uprights having U-shaped lower ends and inverted U-shaped upper ends disposed in planes at right angles to the lower ends of said uprights, and set screws carried by the upper ends of said uprights for holding the wire.



2. A device of the class described, embodying a revoluble head, a movable section carried thereby, radially disposed slotted arms carried by said head and by said section, uprights adjustably connected to said arms, the upper ends of said uprights lying in planes at right angles to the lower ends thereof, and set screws adjustably connected to the upper ends of said uprights.

3. A device of the class described, embodying a head, a plurality of radially disposed arms supported from said head, a plurality of uprights carried by each arm, said uprights having their upper ends disposed in planes at right angles to their lower ends, and set screws adjustably carried by said uprights.

868,368. WIRE-SUPPORT. LOUIS STEINBERGER, New York, N. Y. Filed Oct. 5, 1906. Serial No. 337,645.



1. A wire support, comprising a yoke, a cap supported thereby and provided with a central threaded stem, a threaded block mounted upon said stem and revoluble in relation thereto for the purpose of locking said cap relatively to said yoke, said block being provided with an aperture, a locking member encircling said threaded stem and provided with a portion projecting into said aperture, and means for securing a clip upon said threaded stem.

2. A wire support, comprising a yoke, a cap mounted thereupon and provided with a threaded stem, a collar of metal encircling said cap and embedded partially therein, said collar being provided with facets to be engaged by a wrench, a revoluble block threaded internally for engaging said stem, and means for supporting a clip upon said stem.

3. A wire support, comprising a yoke, a cap mounted thereupon and provided centrally with a stem and with an aperture concentric to said stem, a block of insulating material threaded upon said stem and provided with a portion fitting into said aperture, a washer mounted within said aperture and engaged by said block, and means for supporting a clip upon said stem.

4. A wire support comprising a yoke, a cap provided with facets to be engaged by a wrench, and further provided with a stem, and a revoluble threaded member connected with said stem, for holding said cap in a predetermined position relatively to said yoke.

5. A wire support comprising a yoke, a cap supported thereby and provided with a threaded stem, a threaded member encircling said threaded stem and adapted to be forced against said yoke for the purpose of securing said cap relatively thereto, and means for supporting a wire upon said threaded stem.

6. A wire support comprising a yoke, a cap mounted thereupon and provided with a stem, a cone encircling said stem and provided with means for holding it thereupon independently of a locking member, and a locking member engaging said cone and said stem, for preventing movement between said cone and said stem.

7. The combination of a cone threaded internally, a wrenching cap provided with a stem threaded externally to engage said cone, and a metallic collar mounted upon said cap and encircling the same for enabling it to be readily turned.

8. The combination of a clip, and a cap revoluble in relation to said clip for the purpose of engaging and disengaging the same, said cap being provided upon its outer peripheral edge with a metallic ring to be engaged by a wrench.

9. The combination of a cap provided with a threaded stem, a cone supported by said stem, and a clip provided with a threaded socket for receiving said stem, said cap having upon its outer peripheral edge a ring of metal.

868,369. AMUSEMENT DEVICE. OMERT M. STEWART and JOSEPH A. GREER, Wilkinsburg, Pa. Filed Feb. 28, 1907. Serial No. 359,857.



1. An amusement device consisting of a base or foundation, a center pole carried thereby, two hemispherical stationary sections supported by said base and center pole, revoluble out-riggers arranged between said sections and having roller bearings traveling upon one of said sections, a shell surrounding the other of said sections, and having openings formed therein, a plurality of carriages or chariots carried by said out-riggers and adapted to encircle said sections, an endless apron movably mounted in one of said sections, means for revolving said outriggers, means actuated by said out-riggers to move said apron, and means whereby easy access can be had to said carriages or chariots.

2. An amusement device consisting of a spherical structure having two stationary sections, horizontal revoluble out-riggers arranged between said sections, a shell carried by said out-riggers, carriages or chariots carried by said outriggers, an endless apron arranged in one of said sections and adapted to be viewed from said carriages or chariots, means to revolve said carriages or chariots, means carried by said out-riggers to move said apron, and means whereby easy access can be had to said carriages or chariots.

3. An amusement device consisting of a spherical structure having openings formed therein, a shell revolubly mounted upon the upper part of said structure, carriages or chariots supported from within said structure and adapted to encircle said structure, an endless apron arranged within said structure, means to move said carriages or chariots, means actuated by the first named means for moving said apron, and means whereby easy access can be had to said carriages or chariots.

4. An amusement device consisting of a spherical structure, a shell revolubly mounted upon the upper part of said structure, a plurality of carriages or chariots movably supported from the interior of said structure and adapted to encircle the exterior of said structure, an endless apron arranged within said structure and adapted to be viewed from said carriages or chariots, means to move said carriages or chariots, and means actuated by the first named means to move said apron.

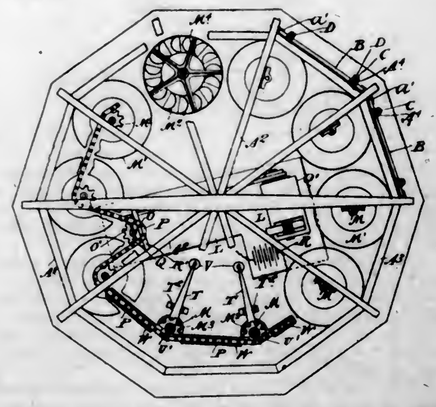
5. In an amusement device, a stationary spherical body, a hemispherical shell surrounding the upper part of the spherical body and revoluble around the same, a plurality of carriages supported to revolve with said hemispherical shell around the stationary spherical body, means for revolving said hemispherical shell and carriages, an endless scenic-apron arranged within the upper part of the spherical body, and means for imparting intermittent movement to said scenic-apron while the shell and carriages are revolving.

6. In an amusement device, a substantially spherical body comprising an upper and a lower section both stationary, a circular track carried by the lower section, a hemispherical shell revoluble around the upper section of said spherical body, a plurality of outriggers suitably supported to revolve with said shell and having rollers traveling on the track carried by said lower section of the body, carriages supported on the outer ends of said outriggers, means for revolving said shell and outriggers, a scenic-apron arranged to be exposed to view through said shell as the latter is revolved, and means for moving said apron as the shell and outriggers are revolved.

7. In an amusement device, a spherical body comprising an upper and a lower section, a shell mounted to be revolved around the upper section, a plurality of carriages suitably supported to be carried around with said shell as the latter is revolved, means for revolving said shell, an endless scenic-apron mounted within the upper section of said spherical body, and means for intermittently operating said scenic-apron as the shell is revolved.

8. In an amusement device, a spherical body comprising an upper and a lower section, a circular track carried by the lower section, a shell arranged to revolve around said spherical body, a plurality of outriggers suitably-supported and arranged to be revolved with said shell, having rollers traveling on the circular track of the lower section of said spherical body, carriages carried on said outriggers outside the shell, and means for revolving said shell and outriggers.

868,370. WIND-POWER APPARATUS. ROCCO STOLA, New York, N. Y. Filed Mar. 6, 1905. Serial No. 248,786.



1. A circular series of wind wheels mounted on vertical shafts each equipped with a sprocket wheel, in combination with an endless pitch chain extending around horizontally connecting the whole, and with a movable wheel and con-

nections carried on a carriage L, moving radially arranged to perform the double functions of taking up the slack of such chain and communicating power for useful work, all substantially as herein specified.

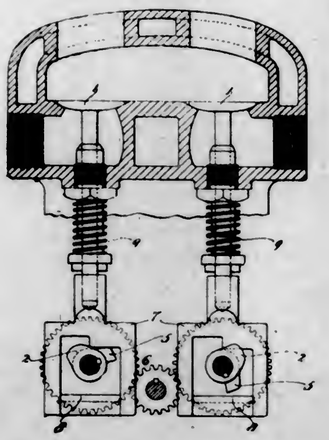
2. A continuous series of wind wheels, each equipped with a sprocket wheel in combination with an endless pitch chain connecting the whole and with provisions by a friction coupling for disconnecting a wheel when required all substantially as herein specified.

3. A continuous series of wind wheels, each equipped with a sprocket wheel in combination with an endless pitch chain connecting the whole provisions by a friction coupling for disconnecting a wheel when required and with movable screens and means as shown for practically balancing the latter by weights adapted to regulate the force all substantially as herein specified.

4. A series of wind wheels in combination with a dynamo, a storage battery for receiving and storing the force, provisions by a friction coupling for disconnecting a wheel, when required, movable screens balanced, and an endless pitch chain connecting the train all arranged for joint operation substantially as herein specified.

5. A continuous series of wind wheels, each equipped with a sprocket wheel in combination with an endless pitch chain connecting the whole and with ways W arranged to support the chains between the several sprocket wheels and to be raised and lowered with the latter all substantially as herein specified.

868,371. VALVE-GEAR FOR EXPLOSIVE-ENGINES. HARRIS TABOR, Elizabeth, N. J. Filed Mar. 6, 1905. Serial No. 248,371.

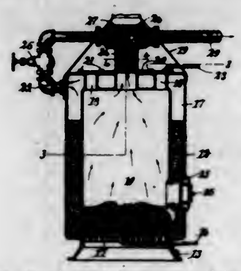


1. The combination of the valve of an internal explosion engine, and return cam mechanism which intermittently acts upon the valve only at the beginning of its return stroke and from which the valve is free during the remainder of the stroke, substantially as described.

2. The combination with the valve of an internal explosion engine of a spring against which the valve always operates, and return mechanism including a cam movement which intermittently acts upon the valve when in open position to start its closing movement and from which the valve is free during the remainder of its stroke, substantially as described.

3. The combination of the valve of an internal explosion engine, a spring against which the valve always operates, and mechanism including a cam movement which intermittently acts upon the valve only when in open position for starting it to close, and devices for starting the opening motion of the valve, substantially as described.

868,372. MOTIVE-AGENT GENERATOR. JOHN L. TATE, Jersey City, N. J. Filed May 11, 1907. Serial No. 373,039.

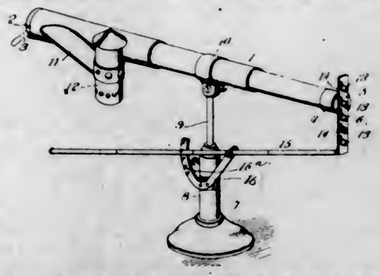


1. A motive agent generator, comprising a heater, a boiler, an ejector casing, an ejector nozzle within said casing, a plurality of conduits connecting said casing and said heater, a steam conduit leading from said boiler and terminating at said nozzle adjacent the outer ends of said conduits, whereby the escape of steam through said nozzle draws the products of combustion through said conduit, and a conduit delivering feed water in engagement with said first mentioned conduits and into the boiler.

2. A motive agent generator, comprising a heater, a boiler, a conduit for the products of combustion from said heater, an ejector casing within said conduit, a second conduit for the products of combustion leading from said heater to said ejector casing, an ejector nozzle within said casing, a conduit from said boiler to said nozzle, and means for controlling the escape of the products of combustion through the first mentioned conduit.

3. A motive agent generator, comprising a heater, a water jacket surrounding the same and constituting a boiler, an ejector casing, an ejecting nozzle within said casing, a plurality of conduits connecting said casing and said heater a steam conduit leading from said jacket and terminating adjacent the outer ends of said conduits, whereby the escape of steam through said nozzle draws the products of combustion through said conduits, a common exhaust conduit for the products of combustion and steam, and a conduit delivering feed water in engagement with said first mentioned conduits and into the boiler.

868,373. RETINOSCOPE. STEWART C. THOMSON, Arrowsmith, Ill. Filed Oct. 20, 1906. Serial No. 339,847.



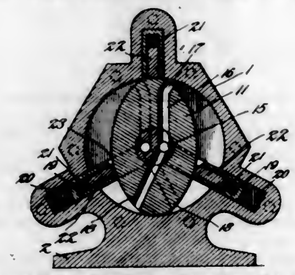
1. In a retinoscope, a tube adapted to have light directed therethrough from an illuminator by means of a lens, a cap fitted to said tube and provided with guides, a lens holder adjustable in the guides of said cap, a jointed rod connected with said lens holder, and a notched bar cooperating with the rod for holding it and the lens holder in an adjusted position.

2. In an instrument of the character specified, the combination of a main tube adapted to receive a retinoscope at one end and lenses at the opposite end, and an adjustable holder for said lenses, a stand for supporting said tube and adjustable to admit of regulating the elevation of the instrument, a rod extended from the adjustable lens holder and a notched bar projected from the stand and coöperating with the rod to hold it and the lens holder in an adjusted position.

3. An instrument of the character described, comprising a tube adapted to receive a retinoscope at one end and provided with guides at the opposite end, a lens holder vertically adjustable within said guides and provided with a series of openings at intervals and lens supports contiguous to the respective openings, a stand upon which said tube is supported and adjustably mounted so as to be held at different elevations, and a supporting device secured to the lens holder and adjustably mounted upon the stand.

4. An instrument of the character specified, comprising a main tube adapted to receive a retinoscope at one end, a lens holder adapted to be applied to the opposite end of the tube and arranged to support a series of test lenses, a stand on which said tube is mounted, a forked bar secured to said stand, one member of said bar being provided with a series of notches, and a rod connected to the lens holder and to one member of the fork and adapted to take under any one of the notches of the other member, as and for the purpose set forth.

868,374. ROTARY ENGINE. ARTHUR THOMURE, Granite City, Ill. Filed June 14, 1907. Serial No. 378,982.

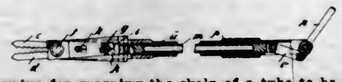


1. In a rotary engine, the combination of a cylinder, an oval piston therein, sliding abutments connected to said piston, springs mounted in said abutments, said springs bearing against sliding blocks, a shaft having steam passageways, and a valve gearing.

2. In a rotary engine, the combination of a cylinder, an oval piston therein, said piston having an oval groove therein, sliding abutments connected to said piston by means of a pin connected to said abutments and engaging said groove, springs mounted in said abutments, sliding blocks against which said springs bear, a shaft provided with steam passage ways, and a valve gearing.

3. In a rotary engine, the combination of a cylinder, an oval piston mounted in said cylinder, said piston having inlet and exhaust ports, a shaft to which said piston is connected, said shaft having steam passage ways, valves for controlling the admission and exhaust of steam, abutments connected to said piston, springs mounted in said abutments, and sliding blocks against which said springs bear.

868,375. APPARATUS FOR GRASPING THE SKELP OF A TUBE TO BE WELDED. ALBERT TWER, Nassau, Germany. Filed Oct. 18, 1905. Serial No. 283,278.



Apparatus for grasping the skelp of a tube to be welded, comprising a hollow carrier *a*, having a longitudinal slot at one end, cross-pins *g* and *k* traversing the slot and riveted in the carrier, a lever fulcrumed at the opposite end, a pair of tongues lodged in the slot having inclined apertures in their shanks to engage said cross-pins, and offsets at the extreme ends in the rear, a sliding bar *m* guided in the hollow space of the carrier with a T-shaped head at the front end to engage said offsets and a link *o* at the rear end connecting said bar with the lever, substantially as described and for the purpose set forth.

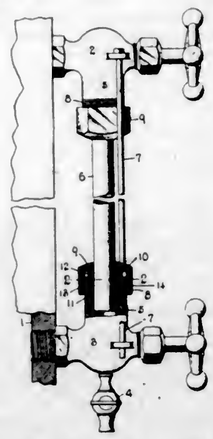
868,376. RAIL-BOND. DARWIN ULKE, Chicago, Ill., assignor to General Electric Company, a Corporation of New York. Filed July 28, 1906. Serial No. 328,153.



1. An electric rail bond having a terminal with an extended contact surface and an attaching stud integral with the terminal and projecting from the inner end of the contact surface.

2. An electric rail bond consisting of two terminal plates each having an extended contact surface fitted for soldering to a rail, a flexible conductor connecting the terminals, and a rivet stud, projecting from each terminal at its junction with the flexible conductor and integral with the terminal.

868,377. PACKING DEVICE FOR WATER-GAGES. JOHN C. WANDS, St. Louis, Mo. Filed Feb. 7, 1907. Serial No. 356,221.

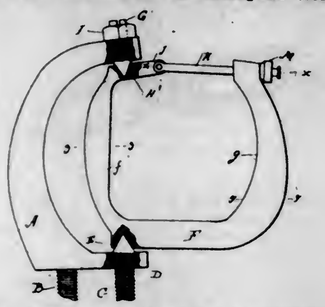


A water gage comprising a valve casing provided with an opening to receive a glass tube, said opening communicating with a circular chamber of greater diameter than the tube, packing in the lower portion of said chamber and completely filling the space between the tube and the side wall of the chamber, a groove on the interior of the side wall of said chamber and terminating above the packing, a gland having a tubular-shaped portion which fills the space between the tube and the ungrooved portion of the wall of said chamber for bearing upon the packing to compress it and thus force it into snug engagement with the tube and the inner faces of the side wall and the bottom of the chamber, a guiding lug on the upper end of said gland that projects into the groove in the side wall of the chamber, said lug being located entirely above the tubular-shaped portion of the gland, and a nut for forcing the gland down upon the packing; substantially as described.

868,378. OAR-LOCK. ELLIS F. WARD, Philadelphia, Pa. Filed Jan. 23, 1907. Serial No. 353,608.

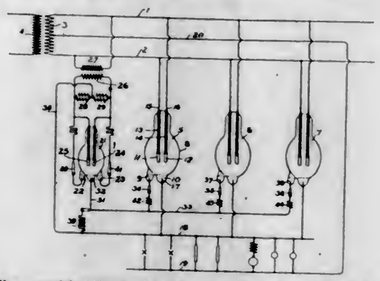
In an oar lock, a bracket adapted to be secured to the outrigging of a boat, two bolts threaded through said

bracket said bolts having conical ends, a lock having corresponding sockets into which said conical ends fit whereby the lock will be pivoted, an extension formed with the lock, a rod pivoted to the extension at one end and its opposite end shaped to a rectangular form and adapted to fit an open mouthed slot of rectangular cross-section



formed in the opposite end of the lock a thumb nut formed of a conical block and adapted to clamp the rectangular end of the rod and coöperating with a conical seat formed in the adjacent end of the walls composing the rectangular slot.

868,379. SYSTEM OF ELECTRICAL DISTRIBUTION. EZECHIEL WEINTRAUB, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 23, 1903, Serial No. 166,656. Renewed Oct. 30, 1905. Serial No. 285,005.



1. The combination of one or more vapor electric devices of that type requiring a supply of current from a separate source to keep it or them in operation, and a rectifier for supplying the said current.

2. The combination of a single-phase alternating current system provided with a neutral conductor, a rectifier having two electrodes connected to mains of said system, and a third electrode connected to said neutral conductor, and an auxiliary rectifier supplied from said system and arranged to furnish current for maintaining an arc or discharge in the main rectifier.

3. The combination of a single-phase vapor rectifier provided with main electrodes and an additional electrode, and an auxiliary rectifier for maintaining an arc or discharge between said additional electrode and one of said main electrodes.

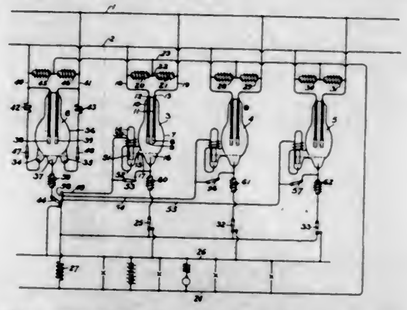
4. The combination of an alternating current supply system provided with a neutral conductor, one or more vapor rectifiers each having electrodes connected to the mains of said system and to said neutral conductor, and an auxiliary vapor rectifier for constantly exciting the first mentioned rectifier or rectifiers.

5. The combination of a vapor electric apparatus for utilizing alternating current, which apparatus is provided with main electrodes and an additional electrode, and a self operating vapor rectifier for maintaining an arc or current flow between said additional electrode and one of said main electrodes.

6. The combination of an alternating current system, a vapor electric device connected thereto, and means for producing a continuous auxiliary or supplemental arc in said device consisting of an auxiliary rectifier supplied with current inductively from said alternating current system.

7. The combination of a source of alternating current, a vapor electric apparatus comprising an exhausted envelop provided with electrodes, and a rectifying device connected to said source and arranged to produce a supplemental or auxiliary arc in said apparatus.

868,380. SYSTEM OF ELECTRICAL DISTRIBUTION. EZECHIEL WEINTRAUB, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 23, 1903, Serial No. 166,657. Renewed July 9, 1907. Serial No. 382,931.



1. The combination of a plurality of vapor rectifiers, and means for causing current from one of the rectifiers to produce a starting arc in one or more of the other rectifiers.

2. The combination of a plurality of vapor rectifiers, means for causing current from one of the rectifiers to pass through a body of mercury in another of said rectifiers, and electromagnetic means operated by said current for separating said body of mercury and thus springing an arc.

3. The combination with a source of alternating current, of a vapor rectifier connected thereto, and a starting rectifier for supplying starting current for the first-mentioned rectifier.

4. The combination of a vapor rectifier having a plurality of electrodes, a plurality of which during normal operation are positive and one of which is negative, and an additional rectifier connected to said negative electrode so as to cause a starting arc to spring therefrom.

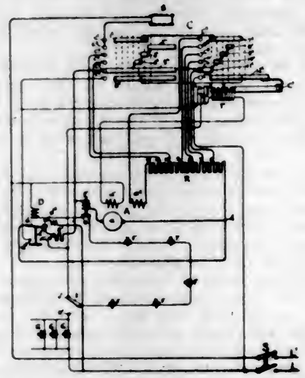
5. The combination of a plurality of vapor conductors, a source of alternating current for supplying said vapor conductors, a source of uni-directional starting current, and means for connecting the source of starting current to any one of said vapor conductors.

6. The combination of a vapor conductor, a source of alternating current supply, means for producing a direct current starting arc for said vapor conductor, and means for short-circuiting said arc.

868,381. MOTOR-CONTROL SYSTEM. HAROLD E. WHITE, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 27, 1906. Serial No. 303,218.

1. In a system of control, a motor, a controller for said motor, a switch in the motor circuit, electromagnetic-controlling means for said switch, a control circuit extending from said controller, a second control circuit provided with one or more normally-open switches, and means for connecting said electromagnetic-controlling means in either of said control circuits and disconnecting it from the other control circuit.

2. In a system of control, a motor, a controller for said motor, a switch in the motor circuit, an electromagnet controlling said switch, one or more normally-closed switches in series with said electromagnet, a control circuit extending from said controller, a second control circuit provided with one or more normally-open switches, and means for connecting said electromagnet and said normally-closed switches in either of said control circuits and disconnecting them from the other control circuit.



3. In a system of control, a motor, a controller for said motor, a normally-open switch in the motor circuit, an electromagnet adapted to close said switch when energized, one or more normally-closed switches in series with said electromagnet, a control circuit governed by said controller, a second control circuit having a plurality of normally-open switches arranged therein in parallel with each other, and a switch arranged to connect said electromagnet and said normally-closed switches in either of said control circuits and disconnect them from the other control circuit.

4. In a system of control, a motor, a controller, a two-position switch in the motor circuit and coöperating with the controller to connect the motor to a source of current supply in one of its positions and to short-circuit the motor armature in its other position, electromagnetic actuating means for said switch, a control circuit governed by said controller, a second control circuit provided with a plurality of switches, and means for connecting said actuating means in either control circuit and disconnecting it from the other control circuit.

5. In a system of control, a motor, a controller having "off" and running positions, a switch in the motor circuit, electromagnetic-controlling means for said switch, a control circuit for energizing said controlling means, contacts in the controller adapted to complete said control circuit in turning the controller from the "off" position to the first running position, means associated with said switch controlling-means for completing a maintaining circuit for itself independent of the controller contacts, and one or more normally-closed switches in said maintaining circuit for deënergizing said controlling means.

6. In a system of control, a motor, a controller having "off" and running positions, a switch in the motor circuit, electromagnetic-actuating means for said switch, one or more switches for deënergizing said actuating means, a control circuit and contacts therein adapted to be closed in moving the controller from the "off" position to the first running position, means associated with said actuating means for completing a maintaining circuit independent of said circuits, a second control circuit provided with one or more switches, and means for connecting said actuating means in either control circuit and disconnecting it from the other control circuit.

7. In combination, a source of current supply, a motor having an armature and a shunt field winding, a main resistance, a field resistance, and means for connecting said main resistance to the source of supply with the motor armature in shunt to variable portions thereof and then connecting the armature directly to said source of supply and inserting resistance in the shunt field.

8. In combination, a source of current supply, a motor having a series field winding and a shunt field winding, a resistance, and means for connecting said series field winding to said source of supply in series with said resistance with the motor armature in shunt to variable portions of said resistance and then cutting out the resistance and series field and connecting the armature directly to the source of supply.

9. In combination, a source of current supply, a motor having a series field winding and a shunt field winding, a resistance, and means for connecting said series field winding to said source of supply in series with said resistance and with the motor armature in shunt to variable portions of said resistance and then cutting out the resistance and series field, connecting the armature directly to said source of supply and varying the strength of the shunt field.

868,382. WAINSCOTING. SAMUEL F. WILLIAMSON, Philadelphia, Pa. Filed June 12, 1907. Serial No. 378,658.



1. In combination with a wainscoting of wood or the like, a tiled washboard or base portion extending along the lower part of the wainscoting and carried permanently by the wainscoting to be handled as one body, substantially as described.

2. In combination with a wainscoting of wood or the like, tiling at the lower edge thereof extending beneath the edge thereof and also vertically at the front, substantially as described.

3. In combination with the wainscoting, tiling attached directly thereto at the lower portion thereof and a bead or molding extending along and overhanging the upper edge of the tiling, and secured to the wainscoting substantially as described.

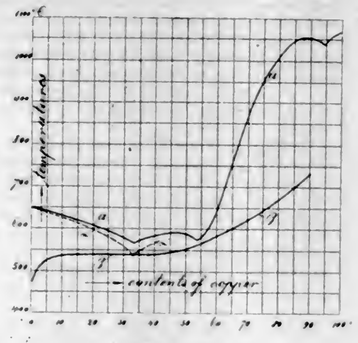
4. In combination with the wainscoting, tiling extending along the lower portion thereof and having a tongue and groove connection therewith extending substantially parallel with the lower edge of the wainscoting, substantially as described.

5. In combination with the wainscoting a tongue extending along the same substantially parallel with its lower edge, grooved tiling engaging the said tongue and a bead secured to the wainscoting, and overhanging the upper edge of the tiling, substantially as described.

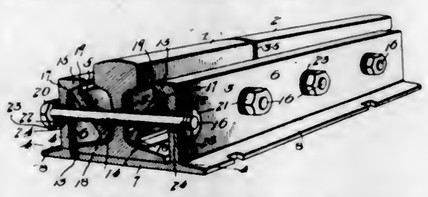
868,383. PROCESS FOR IMPROVING ALUMINIUM ALLOYS BY HEATING AND CHILLING. FERDINAND G. A. WILM, Drewitz, Germany. Filed Oct. 17, 1905. Serial No. 283,197.

The herein described method of refining aluminium alloys which consists in heating said alloy to a point immediately under its fusing temperature, and then chilling such alloy at a temperature lying between the fusing temperature of that alloy and a temperature lying not over 30° below the

point of recalescence of that alloy substantially as described.



868,384. INSULATED RAIL-JOINT. BENJAMIN WOLHAUPTER, New York, N. Y., assignor to The Rail Joint Company, New York, N. Y., a Corporation of New York. Filed Jan. 26, 1907. Serial No. 354,284.



1. In an insulated rail joint, the rails, and side joint plates each carrying a base section affording a support for one rail end only and provided with a reinforcing flange, and insulating means.

2. In an insulated rail joint, the rails, and side joint plates each carrying a base plate section provided with a reinforced inner end edge, and insulation between the rail ends.

3. In an insulated rail joint, the rails, and side joint plates each carrying a base plate section provided at its inner end with a diagonal reinforcing flange, and insulation between the rail ends.

4. In an insulated rail joint, the rails, and side joint plates each carrying a base plate section provided at its inner end with a diagonal triangular reinforcing flange, and insulation between the rail ends.

5. In an insulated rail joint, the rails, and side joint plates each carrying a base plate section affording a support for one rail end and having a diagonally arranged inner end crossing the joint between the rail ends, and insulation between the rail ends.

6. In an insulated rail joint, the rails, and side joint plates each carrying a base plate section affording a support for one rail end and having a diagonally arranged reinforced end edge crossing the plane of the joint between the rail ends, and insulation between the rail ends.

7. In an insulated rail joint, the rails, and side joint plates each carrying a base plate section for one rail end and each having a clearence portion for the rail supported by the other base plate section, and insulation between the rail ends.

8. In an insulated rail joint, the rails, and side joint plates, each of said plates carrying a base section for one rail end and having a diagonal flanged inner end crossing the plane of the joint between the ends of the rails, and each base section also having a clearance portion for the rail end supported by the other base section, and insulation between the rail ends.

9. In an insulated rail joint, the rails, side joint plates each carrying a base plate section provided with a bent down corner forming a reinforcing girder, and insulation between the rail ends.

10. In an insulated rail joint, the rails, and side joint plates each carrying a base plate section provided at its inner end portion with a bent down corner forming a pendent diagonal reinforcing girder, and insulation between the rail ends.

11. In an insulated rail joint, the rails, side joint plates each carrying a base plate section for one rail end, and insulation interposed between the separate base plate sections and held upon one section by the rail end supported on the other section.

12. In an insulated rail joint, the rails, side joint plates each carrying a base plate section for one rail end, and insulation interposed between the inner ends of the separate base plate sections and having a holding member held upon one section by the rail end supported on the other section.

13. In an insulated rail joint, the rails, and side joint plates each carrying a base plate section for one rail end and provided with a clearance depression underlying the rail end supported on the other base plate section, and an insulating web interposed between the base plate sections and held in said clearance depression.

14. In an insulated rail joint, the rails, opposite complemental joint shoes each carrying an individual base plate for one rail end, and clamp elements interposed between the joint shoes and the rails and coöperating therewith to provide means for forcing the rails downward when the joint parts are drawn together, and insulation between the rail ends.

15. In an insulated rail joint, the rails, opposite complemental joint shoes each carrying an individual base plate section for one rail end, each joint shoe having a head at the top of its upright member, and clamp elements interposed between the heads of the shoes and the rail bases and coöperating therewith to exert a downward thrust upon the rails when the joint parts are drawn together, and insulation between the rail ends.

868,385. OXID OF IRON. CARL WÜLFFING, Hönningen, Germany. Filed June 18, 1906. Serial No. 322,299.

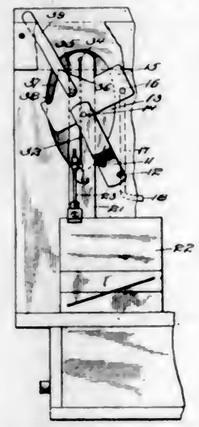
1. The process for obtaining permanent blue-black oxid of iron from ferrous liquors, which consists in neutralizing the acid liquors with scrap iron, then partly saturating them with ammonia, causing oxidation, then completely saturating with ammonia, heating under pressure in a closed receptacle, and finally conducting air into the product, substantially as described.

2. The herein described process for obtaining permanent blue-black oxid of iron from ferrous chlorid liquors, which consists in neutralizing the acid liquor with scrap-iron, then partly saturating it with ammonia, conducting air into the same for oxidation, then completely saturating with ammonia, heating under pressure in a closed receptacle, again conducting air into the liquid and separating the precipitate.

868,386. AUTOMATIC VALVE MECHANISM. EDWIN D. ACKERMAN, New York, and CHARLES E. CLINTON and ROBERT N. ELTOM, Corona, N. Y., assignors, by direct and mesne assignments, to The Pianora Company, a Corporation of New York. Filed Feb. 9, 1906. Serial No. 300,341.

1. In a mechanical player for musical instruments, a valve controlling device provided with a port and comprising a duct terminating at the port, a reciprocating bar, a resilient arm carried by the bar and provided with a lug, a pivoted closure for the port provided with means for engagement with and to be alternately opened and closed by the lug, and means for reciprocating the bar.

2. In a mechanical player for musical instruments, a valve controlling device provided with a port and comprising a duct terminating at the port, a reciprocating bar, a resilient arm carried by the bar and provided with a lug, a pneumatic adapted to reciprocate the bar, means to exhaust air from the pneumatic, and a closure for the port embodying means for engagement with and to be alternately opened and closed by the lug.



3. In a mechanical player for musical instruments, a valve controlling device provided with a port and comprising a duct terminating at the port, a reciprocating bar, a resilient arm carried by the bar and provided with a lug, a pneumatic arranged to reciprocate the bar, a tracker bar provided with an opening in communication with the pneumatic, means to move a perforated music sheet across the tracker bar to a position for the perforations to register with the opening, and a pivoted closure for the port embodying means for engagement with and to be alternately opened and closed by the lug.

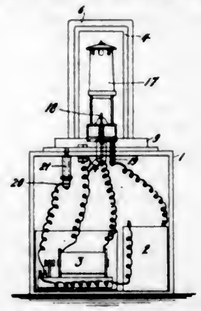
4. In a mechanical player for musical instruments, a valve-controlling device provided with a port and comprising a duct terminating at the port, a closure for the port comprising a plate pivoted intermediate its ends and positioned with one end normally closing the port and having reversely inclined cam faces, a bar mounted to reciprocate, a resilient member carried by the bar, and means carried by the resilient member for alternately engaging opposite inclined cam faces at alternate reciprocations.

5. In a mechanical player for musical instruments, a valve-controlling device provided with a port and comprising a duct terminating at the port, a plate pivoted intermediate its ends and with one end positioned to normally close the port, reversely inclined guides formed upon opposite sides of the plate and terminating substantially in a point, a resilient member mounted to reciprocate, means carried by the resilient member for alternately engaging opposite inclined guides at alternate reciprocations, and means to actuate the reciprocating member.

6. In a mechanical player for musical instruments, a valve-controlling device provided with a duct terminating in a port, a pivoted closure for the port, a resilient member mounted to reciprocate adjacent the closure, means carried by the resilient member for engaging the closing member alternately upon opposite sides of the pivot, means to actuate the resilient member, and means carried by the closure to facilitate manual operation of the closure.

868,387. APPARATUS FOR INCLOSING AND ELECTRICALLY CONNECTING MINERS' SAFETY-LAMPS TO EFFECT ELECTRIC IGNITION. WILLIAM ACKROYD, Leeds, and WILLIAM BEST, ALBERT E. BEST, and ROBERT O. BEST, Morley, near Leeds, England. Filed July 9, 1907. Serial No. 382,829.

1. In apparatus for inclosing and effecting the ignition of a miners' safety lamp fitted with an electric ignition device; the combination with a closed base box, an electric battery and an induction coil in said box, and a vertical stationary hollow cylinder fixed upon the top of said box and having a side aperture to permit said lamp being placed in said cylinder; of a revoluble cylindrical cover surrounding and closely fitting over said stationary cylinder and having a side aperture corresponding with the side aperture of said stationary cylinder, means for retaining said cylindrical cover in position on said stationary cylinder during its revolution, a spring-pressed plunger carried by the cylindrical cover and acting on the top of the base box, a switch located in the box and calculated to be closed by said spring-pressed plunger when the cylindrical cover is in a position to close the stationary cylinder containing the lamp, and electric connections whereby the secondary circuit of the coil is closed through the lamp to be lighted when in position, and the primary circuit is closed also through the base of the lamp and through said switch when the latter is acted upon by said plunger.



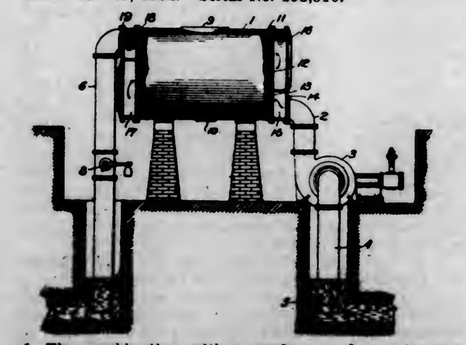
2. In apparatus for inclosing and effecting the ignition of a miners' safety lamp fitted with an electric ignition device; the combination with a closed base box, an electric battery and an induction coil in said box, and a vertical stationary hollow cylinder fixed upon the top of said box and having a side aperture to permit said lamp being placed in said cylinder; of a revoluble cylindrical cover surrounding and closely fitting over said stationary cylinder and having a side aperture corresponding with the side aperture of said stationary cylinder and having a sight aperture opposite said side aperture and an eye-glass in said sight aperture, means for revolving the cylindrical cover through the necessary angle to close said cylinder, and means for retaining said cylindrical cover in position on said cylinder during its revolution, a seating for the lamp in the base of the stationary cylinder, electrical conducting pins passing from the interior of the base box to the lamp seating in the stationary cylinder, and insulating sleeves around said pins to insulate the latter from the surrounding parts, a spring-pressed plunger carried by the cylindrical cover and acting on the top of the base box, a switch located in the box and calculated to be closed by said spring-pressed plunger when the cylindrical cover is in its closed position, and electrical connections whereby the secondary circuit of the coil is completed through the usual insulated conducting rod of the lamp contacting with one of the insulated pins entering the stationary cylinder, and the primary circuit is closed through the base of the lamp and through the switch operated by the spring-pressed plunger substantially as set forth.

3. In apparatus for inclosing and effecting the ignition of a miners' safety lamp fitted with an electric ignition device; the combination with a closed base box, an electric battery and an induction coil in said box, and a vertical stationary hollow cylinder fixed upon the top of said box and having a side aperture to permit said lamp being placed in said cylinder; of a revoluble cylindrical cover surrounding and closely fitting over said stationary cylinder and having a side aperture corresponding with the side aperture of said stationary cylinder, an external flange at the base of said cylindrical cover having a vertical boring opening on its under surface, a flanged ring on the top of the base box to hold said cover flange in position, a ball in said boring and a spring above said ball to press the latter normally onto the surface of the base box, a cylindrical

sleeve in the base box opening onto the surface thereof, a spring-upheld metal plunger in said sleeve, a ball above the head of said plunger calculated to contact with the spring-pressed ball in the boring of the revoluble cover when the latter is in its closed position to depress said plunger, and an insulated contact screw with which the plunger contacts when depressed, and electrical connections whereby the secondary circuit of the coil is closed through the usual conducting rod of the lamp to be lighted when in position, and the primary circuit is closed also through the base of the lamp and through the plunger switch when the latter is acted upon by the spring-pressed ball carried by the revoluble cover substantially as set forth.

4. In apparatus for inclosing and effecting the ignition of a miners' safety lamp fitted with an electric ignition device, the combination with a closed base box, an electric battery and an induction coil in said box, and a vertical stationary hollow cylinder fixed upon the top of said box and having a side aperture to permit said lamp being placed in said cylinder; of a revoluble cylindrical cover surrounding and closely fitting over said stationary cylinder and having a side aperture corresponding with the side aperture of said stationary cylinder, an external flange at the base of said cylindrical cover, a flanged ring on the top of the base box to hold said cylindrical cover flange in position, two insulated electrically conducting pins passing from the interior of said base box to the interior of the stationary cylinder, the first to contact with the usual insulated rod of the lamp and the second to contact with the base of said lamp when placed therein, and electric conductors connecting the first pin with one end of the secondary circuit of the coil, and the second pin with one end of the primary circuit of the coil, and an electric conductor connecting the other end of the secondary circuit of said coil to the base of the said stationary cylinder, a switch fixed on the underside of the top of said base box, an electric conductor connecting said switch with the other end of the primary circuit a spring-pressed plunger carried in the flange of the revoluble cover to act upon said switch and close said primary circuit through the lamp base when said revoluble cover arrives at its closed position, and means for limiting and fixing the position of said revoluble cover substantially as set forth.

868,388. SURFACE CONDENSER. LOUIS R. ALBERGER, New York, N. Y., assignor to Alberger Condenser Company, New York, N. Y., a Corporation of New York. Filed Feb. 15, 1904. Serial No. 193,510.



1. The combination with a surface condenser located above the level of the water supply, of a pump circulating cooling water through a balanced water system comprising essentially the condenser, means containing a column of cold water ascending to the condenser, and means containing a column of heated water flowing away from the condenser, the ascending column being taken by the pump from the water supply and the descending column delivering into a discharge body of water, both said supply and discharge water being on substantially the same level, which level is subject to fluctuation, and the said means containing the column of heated water being provided with a resistance to the flow.

2. The combination with a surface condenser located above the level of the supply water and discharge water, which levels are practically the same and subject to practically the same fluctuation, of a pump operating under a load, which is unchanged by fluctuation in the water level, said pump circulating cooling water through a balanced water system comprising essentially the condenser, means containing a column of cold water taken by the pump from the supply, and means containing a column of heated water flowing away from the condenser and delivering into a discharge body of water, said latter means containing the column of heated water being provided with a resistance to the flow, and both the supply and discharge bodies of water being on substantially the same level, which level is subject to fluctuation.

3. The combination with a surface condenser located above the levels of the water supply and the discharge, which levels are practically the same and subject to practically the same fluctuation, of a balanced water system comprising essentially the condenser, means containing an ascending column of cold water flowing to the condenser and means containing a descending column of heated water from the condenser, said latter means being provided with a resistance to the flow, and a centrifugal or turbine pump operating under a load which is unchanged by the fluctuation in the water level and circulating cooling water through the system.

4. The combination with a surface condenser located above the levels of the supply water and discharge water, both levels being practically the same and subject to the same fluctuation, of a centrifugal pump circulating water through an equilibrated system comprising essentially the condenser, means containing an ascending column of cold water to the condenser, means containing a descending column of heated water from the condenser, said means containing the descending column being provided with a resistance to the flow consisting of means reducing the vacuum in the latter.

5. The combination with a surface condenser located above the levels of the supply water and discharge water, both of said levels being practically the same and subject to the same fluctuation, of a centrifugal pump circulating water through a balanced system comprising essentially the condenser, means containing an ascending column of cool water to the condenser, means containing a descending column of heated water from the condenser, said latter means containing the descending column being provided with a resistence to the flow consisting of a valve.

6. The combination with a surface condenser located above the level of the water supply, of a balanced water system comprising essentially the condenser, means containing a column of cool water ascending to the condenser, means containing a column of heated water descending from the condenser, hot and cold wells on substantially the same level which is subject to fluctuation, a centrifugal pump operating under a load which is unchanged by the fluctuations in the water level for circulating the cooling water from the supply through the system, and resistance means for preventing vaporization in the descending column of water.

7. The combination with a surface condenser located above the level of the water supply, consisting essentially of a shell containing a plurality of nests or groups of tubes for the cooling water, of a balanced water system consisting essentially of the condenser tubes, means containing a column of cold water flowing upward to the condenser, and means containing a column of heated water descending from the condenser, a centrifugal pump operating under a constant load and circulating water through the system, and a resistance in the flow of the descending column to prevent vaporization.

8. The combination with a surface condenser located above the level of the water supply, of an equilibrated water system consisting of the condenser, means containing an ascending column of water flowing thereto, means containing a descending column of water flowing therefrom, forcing means for circulating the cooling water through the system, a water supply from which the ascending column rises, a discharge body of water into which the descending column falls, both supply and discharge being on substantially the same level which is subject to fluctuation, and means in the length of the descending column to prevent vaporization.

9. The combination with a surface condenser located above the levels of the supply water and the discharge water, which levels are practically the same and subject to practically the same fluctuation, of an equilibrated water system consisting essentially of the condenser, means containing a column of cool water flowing from the water supply, means containing a column of heated water flowing to discharge water, a circulating pump for the cooling water which operates under a constant load, that is unaffected by the fluctuations in the water level, and means for preventing vaporization in the descending column of water.

10. The combination with a surface condenser located above the levels of the water supply and the discharge, both levels being practically the same and subject to the same fluctuation, of a centrifugal or turbine pump circulating cooling water through the condenser, means containing an ascending column of cool water to the condenser, means containing a descending column of heated water from the condenser, and resistance means for preventing vaporization in the descending column of water.

11. The combination with a surface condenser employing circulating water so warm as to preclude the use of an ordinary balanced system under the existing conditions of height, of means for obtaining the benefit of an equilibrated system, consisting of supply and discharge bodies on virtually the same level which is a fluctuating one and below the surface condenser, a circulating pump operating under a load, unchanged by the fluctuation of level, means containing an ascending column of cool water, means containing a descending column of heated water, said latter means containing the descending column being provided with a resistance to the flow.

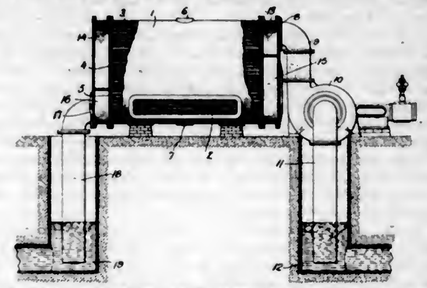
12. The combination with a surface condenser employing circulating water so warm as to preclude the use of a balanced system under the existing conditions of height, of means for obtaining the benefit of an equilibrated system, consisting of a centrifugal or turbine pump operating under a constant load for circulating the cooling water, means containing a column of cool water, a water supply from which it flows, means containing a column of heated water, a discharge into which it discharges, the two columns statically balancing each other, a resistance to the flow of the water in the heated column, and said supply and discharge bodies of water having substantially the same level below the condenser and subject to the same fluctuation.

13. The combination with a surface condenser located above the level of the water supply, of an equilibrated water system consisting essentially of a condenser, means containing an ascending column of water to the bottom of the condenser, means containing a descending column of water from the top of the condenser, a pump for the circulation of the water, a cold well from which the ascending column rises, a hot well into which the descending column flows, and means in the length of the descending column to prevent vaporization.

14. The combination with a surface condenser located above the level of the water supply, of a pump circulating cooling water through a balanced water system comprising essentially the condenser, means containing a column of cold water to the bottom of the condenser, means containing a column of heated water from the top of the condenser, said latter means being provided with a resistance to the flow, supply and discharge wells having the same water level which is subject to the same fluctuation.

15. The combination with a surface condenser located above the level of the water supply, of a centrifugal or turbine pump circulating cooling water therein, a balanced water system comprising essentially the condenser, means containing an ascending column of cold water to the lower part of the condenser, means containing a descending column of heated water from the upper part of the condenser, said means containing the descending column having a flow resistance, and supply and discharge bodies of water on virtually the same level which is subject to the same fluctuation.

868,389. SURFACE CONDENSER. LOUIS R. ALBERGER, New York, N. Y., assignor to Alberger Condenser Company, New York, N. Y., a Corporation of New York. Filed Feb. 15, 1904. Serial No. 193,511.



1. The combination with a surface condenser located above the level of the water supply, of a pump circulating cooling water through a balanced water system comprising essentially means containing an ascending column to the top of the condenser and means containing a descending column from the bottom of the condenser, the ascending column being drawn by the pump from the supply, and the descending column delivering into a discharge body of water, both the supply and discharge body being on substantially the same level.

2. The combination with a surface condenser located above the level of the water supply, of a balanced water system comprising essentially means containing an ascending column of cool water to the top of the condenser and means containing a descending column of heated water from the bottom of the condenser, these columns statically balancing each other, and a pump taking water from the supply and circulating it through the system and delivering it into the discharge body of water, both supply and discharge body being on substantially the same level.

3. The combination with a surface condenser located above the level of the water supply, of a balanced water system comprising essentially the condenser, means containing an ascending column of cool water to the top of the condenser, means containing a descending column of heated water from the bottom of the condenser, these columns statically balancing each other, and a pump circulating water through the system, said pump being located between the supply from which the water is taken and the discharge body into which it is delivered, and the load upon said pump being unchanged by fluctuations in the water level.

4. The combination with a surface condenser located above the level of the water supply, of an equilibrated water system comprising essentially the condenser, means containing an ascending column of water to the top of the condenser and means containing a descending column of water from the bottom of the condenser, these columns statically balancing each other, and a centrifugal or turbine pump circulating water through the system from the supply to the discharge, both the supply and the discharge body of water being on substantially the same level.

5. The combination with a surface condenser located above the level of the water supply, of an equilibrated water system comprising essentially the condenser, means containing an ascending column to the top of the condenser and means containing a descending column from the bottom of the condenser, these columns statically balancing each other, and a centrifugal or turbine pump located between the supply from which it takes the water and the discharge body into which it delivers the water, both supply and discharge body being on substantially the same level which is below the condenser.

6. The combination with a surface condenser located above the level of the water supply, of an equilibrated water system comprising essentially the condenser, means containing a column of cool water passing upward to the top of the condenser, and means containing a column of heated water passing downward from the bottom of the condenser, these columns statically balancing each other, the descending column being the shorter of the two, and a pump circulating cooling water through the system, the load on the pump being unaffected by changes of level in the water supply.

7. The combination with a surface condenser of a pump circulating cooling water through a balanced column system comprising essentially the condenser, means containing a column of cool water passing upward to the top of the condenser, and means containing a column of heated water passing downward from the bottom of the condenser, these columns statically balancing each other, and the heated column being the shorter of the two, and the hot and cold wells both on the same level which is below that of the condenser, the water being drawn from the cold well and discharged into the hot well.

8. The combination with a surface condenser located above the level of the water supply, in which condenser the exhaust steam enters at or near the bottom, of a balanced water system comprising essentially the condenser, means containing an ascending column to the top of the condenser and means containing a descending column from the bottom of the condenser, the descending column being shorter than the ascending column, and a pump circulating water through the system.

9. The combination with a surface condenser located above the level of the water supply, in which condenser the exhaust steam enters at or near the bottom, of a centrifugal or turbine pump circulating water through an equilibrated water system comprising essentially the condenser, means containing an ascending column to the top of the condenser and means containing a descending column from the bottom of the condenser, the descending column being the shorter of the two, the ascending column being lifted from the supply and the descending column delivered into the discharge, both the supply and discharge being on substantially the same level.

10. The combination with a surface condenser into which steam is admitted from below, of a centrifugal or turbine pump circulating water from the cold well through an equilibrated water system comprising essentially means containing an ascending column of cool water to the top of the condenser and means containing a descending column of heated water from the bottom of the condenser, the descending column being the shorter of the two, and both the supply and discharge body of water being on substantially the same level which is below the condenser.

11. The combination with a surface condenser, in which the exhaust steam enters at or near the bottom, and the air leaves at or near the top, of a pump circulating water through a balanced column system, consisting essentially of means containing a column of cool water, and means containing a column of heated water, the latter leaving the condenser below the entrance of the former and being the shorter of the two, said pump being located between the supply and discharge of the system.

12. The combination of a surface condenser in which inlet for the exhaust steam is below the outlet for the air, of a centrifugal or turbine pump circulating water from a supply through a balanced column system having the exit of the heated column of water below the inlet of the cool column of water, the heated column being shorter than the cool column, and means containing the columns of water.

13. The combination of a surface condenser located above the level of the water supply and in which the inlet for the exhaust steam is below the outlet for the air, and a centrifugal or turbine pump circulating water from the supply through a balanced column system having the outflow of the heated column of water below the inflow of the cool column of water, the heated column being shorter than the cool column, together with means containing the columns of water.

14. The combination with a surface condenser, of a centrifugal or turbine pump circulating water through an equilibrated water system of which the condenser forms a part, said pump being located between the supply and the discharge of the system, means containing a column of cool water flowing to the top of the condenser, and means containing a column of heated water flowing from the bottom of the condenser, the heated column being the shorter of the two.

15. The combination with a surface condenser, in which the exhaust steam enters at or near the bottom, of a centrifugal or turbine pump circulating water from a supply through a balanced column system, the latter including means containing an ascending column of cool water and means containing a descending column of heated water, the heated column being the shorter.

16. The combination with a surface condenser in which exhaust steam enters at or near the bottom of the condenser and the air leaves at or near the top of the condenser, of a centrifugal or turbine pump circulating water from a supply through a balanced column system, the latter comprising essentially means containing a column of cool water and means containing a column of heated water, the latter leaving the condenser below the entrance of the former, the heated column being the shorter.

17. The combination with a surface condenser in which the exhaust steam enters at or near the bottom and the air leaves at or near the top, of a centrifugal or turbine pump circulating water through a balanced column system, means for carrying the cool water to the top of the condenser, means for carrying the warm water from the bottom of the condenser, the column of warm water being shorter than the column of cool water.

18. The combination with a surface condenser in which the inlet for the exhaust steam is below the outlet for the air, of a cold well and a hot well, both wells being on substantially the same level and both located below the condenser, and a pump intermediate of the wells and circulating water through a balanced column system of which the condenser forms a part, said system comprising essentially means containing a column of cool water and means containing a column of heated water, the latter leaving the condenser below the entrance of the former, the heated column being shorter than the cool column.

19. The combination with a surface condenser in which the inlet for the exhaust steam is below the outlet for the air, of a cold well and a hot well, both located below the condenser, and a pump intermediate of the wells and circulating water through a balanced column system of which the condenser forms a part, said system comprising essentially means containing a column of cool water and means containing a column of heated water, the heated column being shorter than the cool column.

20. The combination with a surface condenser consisting essentially of a shell containing a plurality of nests or groups of tubes for the cooling water, and in which the exhaust steam comes first in contact with the lowest nest of tubes containing the warmest water, of a pump circulating water from a suitable supply through a balanced column system consisting essentially of means containing ascending and descending columns, the former communicating with the uppermost nests of tubes and the latter communicating with the lowermost nest of tubes, the descending column being shorter than the ascending column.

21. The combination with a surface condenser consisting essentially of a shell containing a plurality of nests of tubes for the cooling water and in which the exhaust steam comes first into contact with the lowermost nests containing the warmest water, of an inlet above for the cooling water to enter the tubes, an outlet below for it to leave them, a centrifugal or turbine pump circulating water through a balanced column system which includes the condenser, means for carrying an ascending column of water to the upper inlet, and means for conveying the descending column of water from the lower outlet, the descending column being shorter than the ascending column.

22. The combination with a surface condenser in which the exhaust steam comes first into contact with the tubes below the point at which the air leaves them, of a pump circulating cooling water through an equilibrated water system, consisting essentially of the condenser, means containing an upwardly moving stream of water and means containing a downwardly moving stream of water, the latter being shorter than the former.

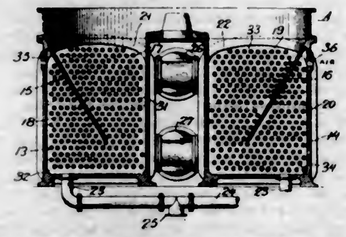
23. The combination with a surface condenser situated above the level of the water supply in which the exhaust steam enters at or near the bottom, and the cooling water enters at or near the top, of a balanced column system consisting of the condenser, means containing an ascending column of water to the top thereof, means containing a descending column of water from the bottom thereof, a cold well from which the ascending column rises, a hot well into which the descending column flows, and circulating means for establishing and maintaining the flow, both wells being on substantially the same level which is below that of the condenser.

24. The combination with a surface condenser in which the exhaust steam enters at or near the bottom and the cooling water enters at or near the top, of a balanced column system including the condenser, means containing a column of water flowing from the bottom thereof, said column being shorter than the column of cool water entering at the top, means carrying the latter column, and a centrifugal or turbine pump included within the system for establishing and maintaining the flow, said pump being located between the supply and discharge of the system.

25. The combination with a surface condenser comprising a shell containing nests or groups of tubes and in which the exhaust steam comes first into contact with the tubes containing the warmest water, and the air comes last into contact with the tubes containing the coolest water, of a centrifugal or turbine pump circulating water through a balanced column system consisting of means containing an ascending column, the tubes of the condenser, means containing a descending column, the latter column being shorter than the ascending column.

26. The combination with a surface condenser containing nests or groups of tubes for the cooling water, through which tubes the water flows from the top of the condenser to the bottom so that the warmest tubes are at the bottom and the coolest at the top, and in which the exhaust steam first comes into contact with the warmest tubes and the air last in contact with the coolest tubes, of a pump to remove the air, and water-circulating means to circulate water through a balanced column system whose descending column is shorter than the ascending column, and means containing the water columns.

868,390. SURFACE CONDENSER. LOUIS R. ALBERGER, New York, N. Y., assignor to Alberger Condenser Company, New York, N. Y., a Corporation of New York. Filed July 28, 1904. Serial No. 218,444.



1. In a surface condenser for the condensation of exhaust steam and the production of a vacuum, the combination of a chamber having an inlet at or near the top for the admission of exhaust steam, in which chamber the exhaust steam, the air commingled therewith and the water of condensation all travel in a downward direction, a chamber having an inlet at or near the bottom for the admission of exhaust steam in which chamber the exhaust steam and the air commingled therewith both travel in a reverse direction to that of the water of condensation, and condensing surfaces in the chambers, some of the surfaces being colder than the others and means for introducing the cooling water first into the upper part of the condenser, all arranged so that the air may be brought into contact with the coldest surfaces in the second chamber before removal and the water of condensation into contact with the hottest surfaces and with the exhaust steam before removal.

2. In a surface condenser for the condensation of exhaust steam and the production of a vacuum, said condenser having horizontal tubes containing cooling water, said tubes arranged in groups or nests some of which are colder than the others and those nearest the top receiving the cooling water first, the combination of a chamber having an inlet above for the exhaust steam, in which chamber the exhaust steam, the air commingled therewith and the water of condensation all travel together in the same direction, with a chamber having an inlet for the exhaust steam below, in which chamber the exhaust steam and the air commingled therewith both travel in a reverse direction to that of the water of condensation, the coldest tubes in the second chamber being contiguous to the point where the air is removed, so as to bring the air into contact with said coldest tubes before removal and the water of condensation into contact with the exhaust steam before removal.

3. In a surface condenser, the combination with a steam motor, of a base therefor comprising condensing apparatus consisting essentially of divisions or chambers having horizontal tubes containing cooling water, one of said chambers being a top-steam-inlet chamber and another being a bottom-steam-inlet chamber, means for dividing these chambers from each other so that the exhaust steam may pass readily from one to the other, said means directing the steam away from the outlet for the air, means for causing a water circulation through the tubes, and means for withdrawing the air from the condenser in such a manner that the air may be brought into contact with the coldest surfaces before removal and the water of condensation may be brought into contact with the hottest surfaces and with the exhaust steam before removal.

4. In a surface condenser, the combination with a steam motor, of a base therefor comprising condensing apparatus consisting essentially of a chamber having an inlet above for the exhaust steam, in which chamber the exhaust steam, the air commingling therewith and the water of condensation all travel together in the same direction, and a second chamber which receives the exhaust steam below from the first chamber, in which second chamber the exhaust steam and the air commingled therewith both travel in a direction the reverse of that in the first chamber, condensing surfaces in the two chambers varying as to coldness, means for dividing the chambers from each other, said means directing the steam away from the outlet for the air, all being arranged so that the air may be brought into contact with the coldest surfaces before removal and the water of condensation into contact with the exhaust steam before removal.

5. In a surface condenser, the combination of an upper-steam-inlet chamber in which the exhaust steam, the air commingled therewith and the water of condensation travel in the same direction, a lower-steam-inlet chamber in which the exhaust steam and the air commingled therewith travel in one direction and the water of condensation in another direction, horizontal tubes in said chambers arranged in nests or groups, some colder than the others and the coldest first receiving the circulating water, together with means for introducing the circulating water first into the upper part of the condenser, all arranged so that the air is brought into contact with the coldest surfaces before removal, and the water of condensation with the exhaust steam before removal.

6. In a surface condenser having horizontal tubes containing cooling water of a section in which the exhaust steam enters above, in combination with another section in which the exhaust steam enters below after leaving the first section, while the circulating water enters above,

and the air separated from the exhaust steam is removed above, so as to bring the air in contact with the coldest tubes before removal while the water of condensation is brought in contact with the hottest tubes.

7. In a surface condenser for the condensation of exhaust steam and the production of a vacuum, a condensing chamber containing tubes for the cooling water and provided at or near the top with an exhaust inlet, in combination with a second condensing chamber containing cooling tubes for the cooling water and provided with an exhaust inlet at the bottom through which steam is transferred from the first chamber, and provided also with an air outlet at or near the top, and means for first introducing the circulating water into the upper part of the condenser, so that some of the coldest tubes may be in the second chamber adjacent to the air outlet, in order that the air may be brought into contact with said cold tubes before removal.

8. In a surface condenser for the condensation of exhaust steam and the production of a vacuum, a condensing chamber containing a water-cooled surface, in which chamber the exhaust steam and water of condensation travel in the same direction, and the inlet for the exhaust is above, in combination with a second condensing chamber also containing a water-cooled surface and receiving steam from the first chamber, in which second chamber the exhaust steam enters below and travels in a reverse direction, and in the upper part of which is an air outlet, a water inlet for the circulating water in the upper part of the condenser, said water-cooled surfaces being colder in some parts of the condenser than in others, accordingly as they are related to the water inlet, and the air outlet being contiguous to the coldest of said surfaces.

9. In a surface condenser, the combination of a top-steam-inlet chamber, a bottom-steam-inlet chamber, means for dividing the chambers from each other so that the exhaust steam may pass readily from one to the other, said means directing the steam away from the outlet for the air, horizontal water-cooled tubes and means for causing a water circulation through said tubes, and means for withdrawing the air from the condenser at or near the point where the cooling water first enters the tubes.

10. In a surface condenser, a shell having a steam inlet at or near the top and an air exit at or near the top separate from the steam inlet, in combination with a partition directing the steam away from the air exit and dividing the shell into two communicating chambers, and tubes arranged in nests in said chambers, in one of which chambers the steam, the commingled air and the water of condensation travel together in the same direction, and in the other of which the steam and the commingled air travel in a direction opposite to that of the travel of the water of condensation.

11. In a surface condenser, a shell having a steam inlet, an air outlet, and a water outlet, in combination with means for dividing the shell into two chambers, said means directing the steam away from the air outlet, one of which chambers receives steam from above and in which the steam, the commingled air and the water of condensation travel in the same direction, and the other of which chambers receives steam from below and in which the steam and the commingled air travel in reverse direction, tubes arranged in groups or nests in said chambers, the coldest group being adjacent to the air outlet, a dry vacuum pump for removing the air from the air outlet, and a hot well pump to remove the water of condensation.

12. In a surface condenser, a shell having a steam inlet at or near the top and an air exit at or near the top separate from the steam inlet, in combination with a partition directing the steam away from the air exit and dividing the shell into two chambers, and tubes arranged in nests in said chambers, in one of which chambers the steam, the commingled air and the water of condensation travel in the same direction, and in the other of which the steam and the commingled air travel in a reverse direction, a circulating pump for causing the cooling water to flow through the tubes, a vacuum pump for removing the air, and a hot well pump to remove the water of condensation.

13. In a surface condenser for the condensation of exhaust steam and the production of a vacuum, a shell having a steam inlet at or near the top, in combination with a division plate or wall directing the steam away from the air exit and sending it first downward and then upward, a hot well pump to remove the water of condensation, and a condensing surface which is coldest where the circulating water first enters it, the entrance being first from above, and an air outlet adjacent to the coldest part of the cooling surface, so that the air may be brought into contact therewith before removal.

14. In a surface condenser for the condensation of exhaust steam and the production of a vacuum, a shell having a steam inlet at or near the top, in combination with a division plate or wall directing the steam first downward and then upward, said plate dividing the shell into two chambers, in one of which the steam passes downward and in the other of which it passes upward, and the nests of tubes in said chambers whereby the cooling water makes the requisite number of passes through the condenser, the nest into which the circulating water is first introduced being at the top and the coldest and being located contiguous to the point where the air is removed from the condenser.

15. In a surface condenser for the condensation of exhaust steam, a shell having a steam inlet at or near the top, and an air exit at or near the top separate from the steam inlet, a division plate or wall directing the steam away from the air exit and first downward and then upward, condensing surfaces the coldest of which is at or near the top near the air exit, a hot well pump to remove the water of condensation, and a dry vacuum pump to remove the air.

16. In a surface condenser, a shell having a steam inlet at or near the top, an air exit at or near the top and a water outlet at the bottom, in combination with a division plate or wall directing the steam away from the exit of the air and causing it to flow first downward and then upward, nests of water-cooled tubes situated at both sides of the division plate, a hot well pump to remove the water of condensation, a dry vacuum pump to remove the air, and a circulating pump to cause the cooling water to flow through the tubes.

17. The combination with a surface condenser having an exhaust steam inlet at or near the top, an air exit at or near the top separate from the steam inlet, and a water outlet, of a partition or wall deflecting the steam first away from the opening for the exit of the air, a condensing surface having its coldest part nearest to the air exit, a dry vacuum pump to remove the air, and a hot well pump to remove the water of condensation, and means for introducing the cooling water first into the upper part of the condenser.

18. In a surface condenser, the combination of a chamber admitting exhaust steam above, a second chamber admitting exhaust steam below, means for dividing the chambers from each other so that the exhaust steam may pass readily from one to another, groups or nests of water-cooled tubes arranged longitudinally in said chambers and parallel thereto, means for introducing the circulating water into the tubes first at or near the top and causing it to circulate through the different nests, and an air exit situated in the shell of the condenser contiguous to some of the coldest tubes.

19. In a surface condenser, a shell having a steam inlet at or near the top and an air exit at or near the top separate from the steam inlet, in combination with a partition directing the steam away from the air exit and dividing the shell into two communicating chambers, and tubes arranged in nests in said chambers, said tubes being placed longitudinal of the chambers and parallel to the partition, together with means for introducing and circulating the cooling water through the tubes, said air exit being contiguous to the coolest group of tubes.

20. In a surface condenser, a shell having a steam inlet at or near the top and an air exit at or near the top separate from the steam inlet, in combination with a partition directing the steam away from the air exit and dividing the shell into communicating chambers, nests of tubes in said chambers, which tubes are parallel to the partition, means for causing circulating water to enter the tubes above, so that the air may be brought into contact with the coldest tubes before removal and the water of condensation with the hottest tubes and with the exhaust steam before removal.

21. In a surface condenser, a shell having a steam inlet and an air exit separate from the steam inlet, in combination with a partition directing the steam away from the air exit and dividing the shell into two communicating chambers, and tubes arranged in nests in said chambers, said tubes being longitudinal in the chambers and parallel to the partition, together with means for introducing and circulating the cooling water through the tubes the entrance for the cooling water being first into the upper part of the condenser, said air exit being contiguous to the coolest group of tubes.

22. In a surface condenser, the combination with a steam motor, of a base comprising condensing apparatus consisting essentially of a chamber having an inlet above for the exhaust steam, in which chamber the exhaust steam, the air commingled therewith and the water of condensation all travel together in the same direction, and a second chamber which receives the exhaust steam below from the first chamber, in which second chamber the exhaust steam and the air commingled therewith both travel in a direction the reverse of that in the first chamber, and condensing surfaces in the two chambers varying as to coldness, some of the coldest being in the upper portion of the second chamber, so that the air may be brought into contact with said coldest surfaces before removal and means for introducing the cooling water first into the upper part of the condenser.

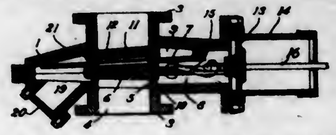
23. In a surface condenser, the combination of an upper-steam-inlet chamber in which the exhaust steam, the air commingled therewith and the water of condensation travel in the same direction, a lower-steam-inlet chamber in which the exhaust steam and the air commingled therewith travel in one direction and the water of condensation in another direction, horizontal tubes in said chambers arranged in nests or groups, some colder than the others and the coldest first receiving the circulating water from above, all arranged so that the air is brought into contact with the coldest surfaces before removal.

24. In a surface condenser, the combination with a steam motor, of a base comprising condensing apparatus consisting essentially of divisions or chambers having horizontal tubes containing cooling water, said divisions or chambers primarily receiving the exhaust steam and air commingled therewith at or near the top of the condenser and which provide an exit for the air separate from the steam at or near the top of the condenser, while the removal of the water of condensation is below, and means for introducing the cooling water first to the upper part of the condenser.

25. In a surface condenser, the combination with a steam motor, of a base comprising condensing apparatus for the condensation of exhaust steam and the production of a vacuum, consisting essentially of a chamber having an inlet above for the exhaust steam, in which chamber the exhaust steam, the air commingled therewith and the water of condensation all travel together in the same direction, and a second chamber which receives the exhaust steam below from the first chamber, in which second chamber the exhaust steam and the air commingled therewith both travel in a direction the reverse of that in the first chamber, condensing surfaces in the two chambers varying as to coldness, means for dividing the chambers from each other so that the exhaust steam may pass readily from one to the other, said means directing the steam away from the outlet for the air, and means for introducing the cooling water first to the upper part of the condenser.

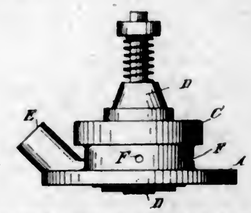
868,391. VALVE. PHILIP ALLEN, Providence, R. I., assignor to General Fire Extinguisher Company, New York, N. Y., a Corporation of New York. Filed July 10, 1903. Serial No. 164,988.

1. In a dry-pipe valve, the combination of a valve, a fixed seat for said valve, a movable seat for said valve, between which seats the valve is clamped by the pressure in the system as long as the requisite pressure is maintained, means for withdrawing said valve from between said seats, and means independent of the pressure in the system for holding the movable seat against the valve in resetting the valve and while the pressure in the system is being raised to the requisite point, substantially as described.



2. In a dry-pipe valve, the combination of a valve, a fixed seat for said valve, a movable seat for said valve, between which seats the valve is clamped by the pressure in the system as long as the requisite pressure is maintained, means for withdrawing said valve from between said seats, and a spring for holding the movable seat against the valve in resetting the valve and while the pressure in the system is being raised to the required point, substantially as described.

868,392. PETROLEUM-ENGINE. ROBERT O. ALLSOP, London, England. Filed Nov. 5, 1906. Serial No. 342,070.



1. In an internal combustion engine, a fuel valve comprising a valve box part having a valve seat portion, another valve box part provided with the other seat portion, co-acting junction faces between the valve box parts, grooves in one of such faces leading to the valve seat, a channel communicating with said grooves, and a fuel supply passage connected with the channel.

2. In an internal combustion engine, a fuel valve comprising a valve box part having a valve seat portion, another valve box part provided with the other seat portion, co-acting junction faces between the valve box parts said junction surfaces extending to the valve seating at right angles thereto, an annular groove formed in one junction face and a number of notches formed in either junction face communicating with the valve seating and the annular groove and a passage for the supply of fuel to the latter.

3. In an internal combustion engine, a fuel valve comprising a valve box part having a valve seat portion, another valve box part provided with the other seat portion, co-acting junction faces between the valve box parts, said junction faces extending to the valve seating at right angles thereto, an annular channel formed in one junction face and a number of notches formed in either junction face communicating with the valve seating and the annular groove, a passage leading from the channel to the fuel supply and means for securing the two portions of the valve box together.

4. In an internal combustion engine, a fuel valve comprising a valve box part having a valve seat portion, another valve box part provided with the other seat portion, co-acting junction faces between the valve box parts, said junction faces extending to the seating at right angles thereto, a union nut for drawing said parts into close contact and means whereby fuel can be introduced through the valve seat uniformly therearound.

5. In an internal combustion engine, a fuel valve comprising a valve box part having a valve seat portion, a ground face at right angles to the seat portion, an annular

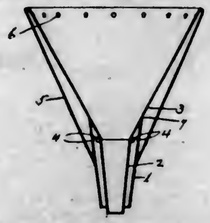
channel in said face, passages radiating from such channel and extending through the valve seat portion and a passage leading from the channel to the fuel supply, a valve box part fitting within the first named part, a ground face and valve seat portion co-acting with the face and valve seat portion aforesaid, a union nut for maintaining such faces in contact, a valve seated on both seat portions and ports for supplying air to one side of the valve.

868,393. PENCIL HOLDER, SHARPENER, AND INK-ERASER. ADELBERT AMES, Lowell, Mass. Filed Jan. 14, 1907. Serial No. 352,287.



The improved pencil attachment comprising a tubular case adapted for holding a pencil at one end, a knife diametrically attached to said case at the other end and a sheath slidably attached to said case.

868,394. FUNNEL. WILLIAM H. ASH, Bay Shore, N. Y. Filed Oct. 26, 1906. Serial No. 340,757.



1. A funnel having an air vent surrounding its spout and cup, said vent being provided with intake and outlet openings, and a perforated obstruction within said vent intermediate its ends.

2. A funnel having an air vent surrounding its spout and cup, said vent being provided with intake and outlet openings, and a perforated plate within said vent intermediate its ends.

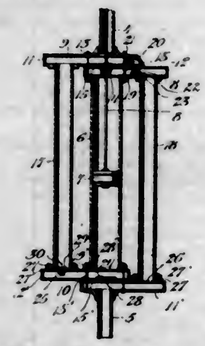
3. A funnel having an air vent surrounding its spout and cup and a solid annular joint between the lower portion of such vent and the cup of the funnel, the wall of said lower portion being perforated to establish communication between the upper and lower portions of said vent.

4. A funnel having an air vent surrounding its spout and cup and opening into the cup of the funnel, a solid annular joint between the lower portion of such vent and the cup of the funnel, the wall of said lower portion being perforated to establish communication between the upper and lower portions of said vent.

5. A funnel having an air vent surrounding its spout and cup and opening through perforations into said cup, a solid annular joint between the lower portion of said vent and the cup of the funnel, the wall of said lower portion being perforated to establish communication between the upper and lower portions of said vent.

868,395. PUMP. ANDREW W. BAIRD, Marne, Iowa. Filed Oct. 17, 1905. Serial No. 283,171.

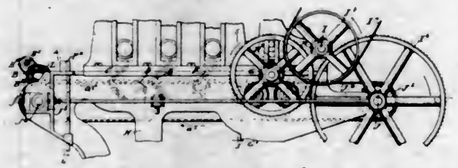
1. A double-acting pump comprising suction and discharge pipes, a cylinder interposed between said pipes and in alinement therewith, flow pipes arranged on opposite sides of the cylinder, a lower head connecting the suction pipe with the lower ends of the cylinder and flow pipes, said head comprising two independent detachably coupled sections arranged in lapping relation and forming suction and discharge chambers, respectively communicating with one of the flow pipes and the cylinder and other flow pipe, an upper head connecting the discharge pipe with the upper ends of the cylinder and flow pipes and comprising two independent sections overlapping and detachably coupled at their inner ends and forming suction and discharge chambers communicating respectively with one of the flow pipes and the cylinder and the other flow pipe and discharge pipe, said chambers also having a communicating check valved port, suitable check valves controlling the flow of water between the pipes and heads, whereby water will be alternately discharged through the flow pipes upon the suction and force strokes of the piston, the construction described permitting of the ready connection and disconnection of the sections of the head, a piston operating in the cylinder, a rod connected with the piston and extending upwardly through the upper head and discharge pipe, and operating means connected with said rod, substantially as described.



2. A single-cylinder double-acting suction and force pump, comprising suction and discharge pipes, a cylinder interposed between said pipes and in alinement therewith, flow pipes arranged on opposite sides of the cylinder, a lower head comprising top and bottom chambers provided with an intercommunicating check-valved port below the cylinder and above the suction pipe, the lower chamber being in communication at its outer end with one of the flow pipes and at its inner end with the suction pipe and the upper chamber in communication at its inner end with the cylinder and at its outer end through a port with the other flow pipe, said port being controlled by an upwardly opening check-valve, an upper head comprising top and bottom chambers having a communicating port, said chambers being in communication at their outer ends with the flow pipes respectively connecting with the top and bottom chambers of the lower head and at their inner ends with the discharge pipe and cylinder, ported partitions arranged respectively in the bottom and top chambers of the said upper head on lines between their intercommunicating ports, the flow pipe connected with the bottom chamber and the discharge pipe connected with the top chamber, upwardly-opening check-valves controlling the ports in said partitions, the check-valve in the bottom chamber being adapted when open to close the said intercommunicating port, a piston operating in the cylinder, a rod connected with the piston and extending upwardly through the upper head and discharge pipe, and operating means connected with said rod, substantially as described.

3. In a pump of the character described, a cylinder, suction and discharge pipes, flow pipes arranged on opposite sides of the cylinder, a bottom head having chambers, one connecting with the suction pipe and one of the flow pipes and the other directly with the cylinder and having check valved communication with the first-named chamber and the other flow pipe, and a top head having bottom and top chambers, the top chamber communicating directly with the latter-named flow pipe and the discharge pipe and the bottom chamber with the cylinder and other flow pipe, said chambers being in communication through a discharge passage, a ported partition in the bottom chamber between the cylinder and flow pipe and having a valve adapted to open upwardly under pressure from the latter into the port between the chambers, a second ported partition in the upper chamber between said port and the discharge pipe, and a check valve controlling the port in said partition.

868,396. MACHINE FOR SEPARATING FIBERS FROM THE PULP AND OTHER EXTRANEOUS MATTER OF PLANTS AND TREES. EUGENE BEHRENDT, Manila, Philippine Islands, assignor to Behrendt & Co., New York, N. Y., a Corporation of New York. Filed Apr. 17, 1906. Serial No. 312,169.



1. A machine for separating fibers from the extraneous matter of plant or tree material, comprising means for separating the fibers from the extraneous matter, an endless carrier, and a draw head comprising a fixed member secured to the carrier, and a movable member having vertical sliding movement on the fixed member, and means carried by one member and engaging the other to move the members toward and from each other.

2. A machine for separating the fibers from the extraneous matter of plant or tree material, comprising means for separating the fibers and the extraneous matter, a draw head engaging one end of the material, an endless carrier on which the said draw head is fixed to move the draw head forward and thereby draw the material initially through the said separating means and to return the draw head to a starting position, and a drawing mechanism for engaging the fibers and relieving the said draw head of its function and allowing its return to starting position.

3. A machine for separating the fibers from the extraneous matter of plant or tree material, comprising means for separating the fibers and the extraneous matter, a draw head engaging one end of the material, an endless carrier on which the said draw head is fixed to move the draw head forward and thereby draw the material through the said separating means and to return the draw head to a starting position, and means for automatically throwing the said endless carrier out of gear by the said draw head.

4. A machine for separating the fibers from the extraneous matter of plant or tree material, comprising means for separating the fibers and the extraneous matter, a draw head engaging one end of the material, an endless carrier on which the said draw head is fixed to move the draw head forward and thereby draw the material through the said separating means and to return the draw head to a starting position, and means for automatically throwing the said endless carrier out of gear by the said draw head at the time the draw head reaches a starting position.

5. A machine for separating the fibers from the extraneous matter of plant or tree material, comprising means for separating the fibers and the extraneous matter, a draw head engaging one end of the material, an endless carrier on which the said draw head is fixed to move the draw head forward and thereby draw the material through the said separating means and to return the draw head to a starting position, means for automatically throwing the said endless carrier out of gear by the said draw head, and a drawing mechanism for engaging the fibers and relieving the said draw head of its function and allowing its return to starting position.

6. A machine for separating the fibers from the extraneous matter of plant or tree material, comprising means for separating the fibers and the extraneous matter, a draw head engaging one end of the material, an endless carrier on which the said draw head is fixed to move the draw head forward and thereby draw the material initially through the said separating means and to return the draw head to a starting position, and a drawing mechanism for engaging the fibers and relieving the said draw head of its function and allowing its return to starting position, the said drawing mechanism comprising a plurality of driven rollers and brushes engaging the peripheral surfaces of the said rollers.

7. A machine for separating fibers from the extraneous matter of plant or tree material, comprising means for separating the fibers and extraneous matter, an endless carrier, and a draw head comprising a fixed member secured to the carrier, a movable member having vertical sliding and guided movement on the fixed member, and means carried by the movable member and engaging the fixed member to move the movable member towards and from the fixed member.

8. A machine for separating the fibers from the extraneous matter of plant or tree material, comprising means for separating the fibers and the extraneous matter, a draw head engaging one end of the material, an endless carrier on which the said draw head is fixed to move the draw head forward and thereby draw the material through the said separating means and to return the draw head to a starting position, means for automatically throwing the said endless carrier out of gear by the said draw head, and comprising a clutch member mounted to slide on and to rotate with the carrier shaft, a driven wheel loose on the said carrier shaft, having a clutch member adapted to be engaged by the said slidable clutch member, a shifting lever for the said slidable clutch member, and a slidable cam engaging the said shifting lever and adapted to be actuated by the said draw head.

9. A machine for separating the fibers from the extraneous matter of plant or tree material, comprising means for separating the fibers and the extraneous matter, a draw head engaging one end of the material, an endless carrier on which the said draw head is fixed to move the draw head forward and thereby draw the material through the said separating means and to return the draw head to a starting position, means for automatically throwing the said endless carrier out of gear by the said draw head, and comprising a clutch member mounted to slide on and to rotate with the carrier shaft, a driven wheel loose on the said carrier shaft, having a clutch member adapted to be engaged by the said slidable clutch member, a shifting lever for the said slidable clutch member, a slidable cam engaging the said shifting lever and adapted to be actuated by the said draw head, and means for holding the cam in either of two positions.

10. A machine for separating fibers from the woody portion of plants and trees, provided with a draw head comprising a fixed jaw, a movable jaw adapted to move toward and from the said fixed jaw, and a shaft journaled in one of the jaws and having eccentric trunnions journaled in the other jaw.

11. A machine for separating fibers from the woody portions of plants and trees, provided with a draw head comprising a fixed jaw, a movable jaw adapted to move toward and from the said fixed jaw, a shaft journaled in one of the jaws and having eccentric trunnions journaled in the other jaw, and guiding means for guiding the movable jaw toward and from the fixed jaw.

12. In a machine for separating fibers from extraneous matter of plant or tree material, means for separating the fibers and extraneous matter, a draw head for engaging the material, an endless carrier to which the draw head is secured, and means for automatically stopping the carrier when the draw head reaches the front of the machine.

13. In a machine for separating fibers and extraneous matter of plant or tree material, means for separating the fibers and extraneous matter, an endless carrier, a draw head for engaging the material carried by the carrier, means for operating the carrier, a clutch mechanism for

controlling the operating means, and means for operating the clutch mechanism from the draw head at the time the draw head is at the front of the machine.

14. In a machine for separating fibers and extraneous matter of plant or tree material, means for separating the fibers and extraneous matter, an endless carrier, a draw head for engaging the material, carried by the carrier, means for operating the carrier, a clutch mechanism for controlling the operating means, and a cam operating the clutch mechanism and operated by the draw head at the time the said draw head is at the front of the machine.

15. In a machine for separating fibers and extraneous matter of plant or tree material, means for separating the fibers and the extraneous matter, an endless carrier, a draw head for engaging the material, carried by the carrier, means for operating the carrier, a clutch for controlling the operating means, a lever for operating the clutch, and a sliding cam operated by the draw head and provided with an angular slot into which one end of the clutch operating lever projects.

868,397. TRANSFORMING-NOZZLE FOR OBTAINING KINETIC ENERGY FROM FLOWING GASES AND VAPORS. RUDOLF BERGMANS, Breslau, Germany. Filed Nov. 4, 1905. Serial No. 285,950.

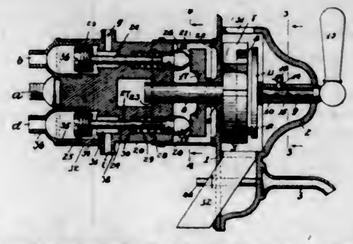


1. In an apparatus for obtaining mechanical work from flowing gases or vapors of high temperature and slight tension, a collecting chamber, a transforming nozzle having a diminishing cross-section, means for cooling the nozzle whereby heat is withdrawn, under a tension that remains approximately constant, from the engaging gases or vapors to which a high speed is thus imparted, and of a gradually widening annular passage canal through which the gases or vapors reach the collecting chamber, whereby the motion of the gases or vapors is retarded and their kinetic energy transformed into tension energy.

2. In an apparatus for obtaining mechanical work from flowing gases or vapors of high temperature and slight tension, a collecting chamber, a transforming nozzle having a diminishing annular space, means for cooling the inner and outer wall of the annular space whereby heat is withdrawn, under a tension that remains approximately constant, from the engaging gases or vapors to which a high speed is thus imparted, and of a gradually widening annular passage canal through which the gases or vapors reach the collecting chamber, whereby the motion of the gases or vapors is retarded and their kinetic energy transformed into tension energy.

868,398. COIN-CONTROLLED MECHANISM. HENRY BLUM, New York, N. Y. Filed July 7, 1906. Serial No. 325,108.

1. In coin controlled mechanism, a shaft, a solid wheel fast thereon, said wheel having a radial transverse coin receiving slot extending part way in from its periphery, and a concentric groove in its side whose path includes said coin slot; together with a rock-member journaled in axial alinement with said shaft, a fixed stud carried by said rock-member in manner to travel in said concentric groove, and means for actuating said rock-member whereby said stud meets a coin halted in said receiving slot, and by continued movement with said coin turns said wheel and shaft.



2. In coin controlled mechanism, a shaft, a solid wheel fast thereon, said wheel having four radial transverse equidistant coin receiving slots extending part way in from its periphery, and a concentric groove in its side whose path includes said coin slots; together with a rock-member journaled in axial alinement with said shaft, a fixed stud carried by said rock-member in manner to travel in said concentric groove, means for actuating said rock-member, whereby said stud meets a coin halted in a receiving slot to communicate movement to the wheel and shaft, means limiting such movement to a quarter turn, and tensional means to retract said rock-member.

868,399. ANTHRACENE DYE AND PROCESS OF MAKING SAME. RENÉ BOHN, Mannheim, Germany, assignor to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany, a Corporation. Filed June 18, 1907. Serial No. 379,660.

1. The process of producing coloring matters of the anthracene series by treating a hydroxyanthraquinone body with formaldehyde and with a salt of sulfurous acid in the presence of alkali.

2. The process of producing coloring matters of the anthracene series by treating hexahydroxyanthraquinone with formaldehyde and with a salt of sulfurous acid in the presence of alkali.

3. As new articles of manufacture the coloring matters which can be obtained by treating a hydroxyanthraquinone body with formaldehyde and with a salt of sulfurous acid in the presence of alkali, which coloring matters yield bluish red to yellowish brown solutions in water, violet-blue to red-brown solutions in dilute caustic soda, orange-red to violet solutions in concentrated sulfuric acid, red to yellowish green solutions in dilute sulfuric acid and which dye cotton mordanted with chromium compounds yielding from violet-blue to red-brown shades.

4. As a new article of manufacture the coloring matter obtainable by treating hexahydroxyanthraquinone with formaldehyde and with a salt of sulfurous acid in the presence of alkali, which coloring matter yields bluish red solutions in water, blue solutions in dilute caustic soda, violet solutions in concentrated sulfuric acid and red solutions in dilute sulfuric acid, and which dye cotton mordanted with chromium compounds yielding blue shades.

868,400. RAIL-CLAMP. PAUL A. BONIS, New York, N. Y., assignor of one-third to Stathis Lampro, New York, N. Y. Filed Apr. 29, 1907. Serial No. 370,830.

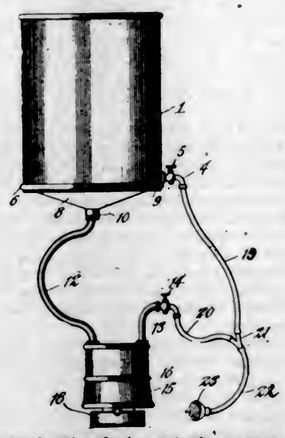
1. A rail clamp comprising a base plate, an abutment, and a yoke hinged to the base plate and adapted to bear against the base flange of a rail, and means for locking said yoke in position.

2. A rail clamp comprising a bed-plate having an abutment, a head secured to said base-plate and provided with a threaded stud, a yoke pivoted to said head, a bearing plate extending transversely of said yoke and engaging said stud, and means for clamping said yoke on the base flange of a rail.



3. A rail clamp comprising a base plate having an abutment connected therewith, a head having a stud fixedly secured to said base plate, and a threaded stud extending vertically from said head, a yoke pivoted to said head and provided with recesses on its upper portion, a bearing plate seated in said recesses provided with an aperture engaging said threaded stud, and a nut secured to said threaded stud.

868,401. WATER-HEATER. JOHN H. BOYES, Alba, Mich. Filed Feb. 5, 1907. Serial No. 355,860.

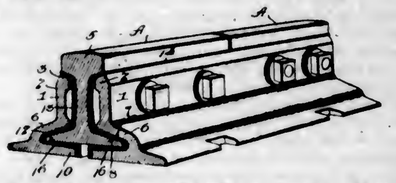


1. In a water heating device, a tank or reservoir having a bottom comprising an annulus beaded upon the lower edge of the body of the tank and extending inward beneath the latter, and a funnel shaped bottom member having at its upper edge an outward extending annular flange secured upon the underside of said annulus, said funnel shaped bottom member being provided with a centrally disposed downward extending discharge pipe.

2. In a water heater, a tank supported at an elevation and having a valved discharge spout near its lower end and a bottom including a funnel shaped member provided with a downward extending discharge spout, a boiler consisting of a closed vessel having a downward extending annular flange and provided with a valved goose neck extending from the top thereof, a duct connecting the top of the boiler with the discharge spout at the bottom of the tank, and a Y having flexible members connected with the valved discharge spouts of the tank and the boiler, respectively, the third branch of the Y having a flexible member terminating in a rose or spraying member.

868,402. RAIL-JOINT. BANCROFT G. BRAINE, New York, N. Y., assignor to The Rail Joint Company, New York, N. Y., a Corporation of New York. Filed Aug. 11, 1906. Serial No. 330,255.

1. In a rail joint, the rails, opposite separated horizontally-movable independent joint members, each having a bearing face disposed at a greater angle than the corresponding rail face, and a plate element pinned between said opposing faces.



2. In a rail joint, the rail having a plurality of bearing faces, and a rail joint member likewise having a plurality of bearing faces disposed at a different angle from those of the rail, and plate elements pinned between said faces.

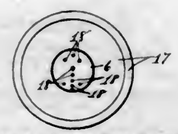
3. In a rail joint, a rail having a plurality of bearing faces, a rail joint member likewise having a plurality of bearing faces arranged on a greater angle than said rail faces, and plate elements pinned between the opposing faces.

4. In a rail joint, the rails, opposite separated horizontally-movable independent joint plates provided at their top edges with inclined bearing faces arranged on a greater angle than the corresponding bearing face at the under side of the rail head, and a plate element pinned between said two faces.

5. In a rail joint, the rail, a joint member having at its upper and lower edges inclined bearing faces arranged on a greater angle than the corresponding rail faces, and a plate element pinned between said opposing faces.

6. In a rail joint, the rail, the continuous joint member provided at its head and foot with inclined bearing faces arranged on a greater angle than the corresponding rail faces and also having a bottom base flange extension provided on its upper surface with a bearing face arranged on a greater angle than the bottom face of the rail, and a plate element pinned between each pair of said opposing faces.

868,403. BOILER-FLUE CLEANER. WILLIAM J. BRADLEY, Troy, N. Y. Filed June 18, 1907. Serial No. 379,601.



1. In an apparatus of the class described, the combination with the boiler-head; flues opening therethrough; and a furnace-wall opposite said flue-openings; of a pair of separate bushings individually mounted in the opposite ends of an aperture in said wall with a free air-space between said bushings; a nozzle rotatively mounted in said bushings and provided in its inner end with an outlet aperture arranged at an angle to the axis of the nozzle; means for supplying steam to said nozzle; and means whereby said nozzle can be rotated.

2. In an apparatus of the class described, the combination with the boiler-head; flues opening therethrough; and a furnace-wall opposite said flue-openings; of a nozzle rotatively mounted in an aperture in said wall and provided in its inner end with an aperture inclined to the axis of the nozzle, said nozzle having interior inclined surfaces whereby an oblique passageway is formed near its inner end leading to said inclined outlet aperture; means for supplying steam to said nozzle; and means whereby said nozzle can be rotated.

3. In an apparatus of the class described, the combination with the boiler-head; and flues opening therethrough; of a furnace-wall provided with an aperture; a nozzle rotatively mounted at its inner and outer ends in said aperture with its inner end opposite said boiler-head, and having its intermediate portion surrounded by a free air-

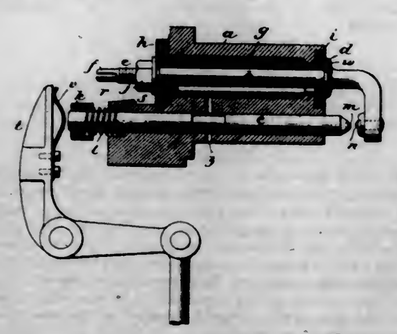
space within said wall; means for supplying steam to said nozzle; and means whereby the nozzle can be rotated.

4. In a device of the class described, the combination with the boiler-head; and flues opening therethrough; of a furnace-wall provided with an aperture opening toward said boiler-head; an externally flanged bushing for said aperture built into said wall, and provided with an annular seat surrounding the opening through said bushing; a nozzle rotatively mounted within said bushing and aperture, and having an external flange adapted to occupy said seat in said bushing; means for holding said nozzle-flange in said seat; means whereby said nozzle can be rotated; and means for supplying steam to said nozzle.

5. In an apparatus of the class described, the combination with the boiler-head; flues opening therethrough; and a furnace-wall opposite said flue-openings; of a nozzle rotatively mounted in an aperture in said wall and provided in its inner end with an outlet aperture at one side of the axis of the nozzle, said nozzle having interior inclined surfaces whereby an oblique passageway is formed near its end leading to said outlet aperture; means for supplying steam to said nozzle; and means whereby said nozzle can be rotated.

6. In an apparatus of the class described, the combination with the boiler-head; flues opening therethrough; a furnace-wall opposite said flue-openings; and the top arch of the combustion-chamber; of a nozzle rotatively mounted in an aperture in said wall and provided in its inner end with an aperture inclined to the axis of the nozzle; a bushing for the inner end of the nozzle having a funnel-shaped end open to the combustion-chamber opposite said flue-openings, and having the upper portion of said funnel-shaped end formed with a curved deflecting surface whereby an upwardly directed jet from the nozzle will be deflected away from the top arch; means for supplying steam to said nozzle; and means whereby said nozzle can be rotated.

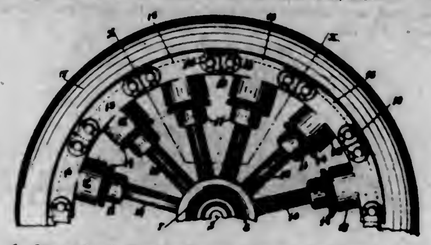
868,404. SPARK-PLUG FOR EXPLOSIVE-ENGINES. FRANCIS W. BRADY, Englewood, N. J. Filed May 11, 1906. Serial No. 316,322.



1. A spark-plug for explosive engines, provided with a stationary electrode, the stem of the stationary electrode being supported in insulating bearings and being surrounded intermediate of said bearings with an air-insulation space communicating with draining passages; substantially as described.

2. A spark-plug for explosive engines, provided with a stationary electrode and a movable electrode, the stem of the stationary electrode being supported in insulating bearings and being surrounded intermediate of said bearings with an air-insulation space communicating with draining passages, and the stem of the movable electrode being of reduced diameter for a portion of its length, said reduced portion being interposed in the path of the draining passages; substantially as described.

868,405. WHEEL. GEORGE F. BRANDENBURGH, Irvington, N. J. Filed Apr. 6, 1906. Serial No. 310,248.



1. In a wheel, the combination of a hub having a closed annular chamber, hollow spokes opening at their inner ends into said chamber, hollow felly sections independent of one another and each providing at its inner side a slideway adapted to receive the end of a spoke as a plunger, and a tire around said felly sections.

2. In a wheel, the combination of a hub providing an annular chamber and means for supplying compressed air thereto, hollow spokes each inserted at one end into the said hub in communication with the chamber thereof and being enlarged at its outer end, and hollow felly sections, one for each spoke and each provided with an arc-shaped chamber communicating with a tubular mouth having at its inner side a slideway for the enlarged end of its spoke.

3. In a wheel, the combination of a hub having an annular chamber, hollow spokes mounted in said hub in communication with said chamber and providing at their outer ends plungers, hollow felly sections independent of one another and each provided with an arc-shaped chamber communicating with a tubular mouth providing at its inner side a slideway for one of said plungers, and suitable packing means on said slideways.

4. In a wheel, the combination of a hub having a closed annular chamber, hollow spokes opening at their inner ends into said chamber, hollow felly sections independent of one another and each providing at its inner side a slideway adapted to receive the end of a spoke as a plunger and having longitudinal lateral flanges at its outer side, and a tire around the felly sections seated between said flanges.

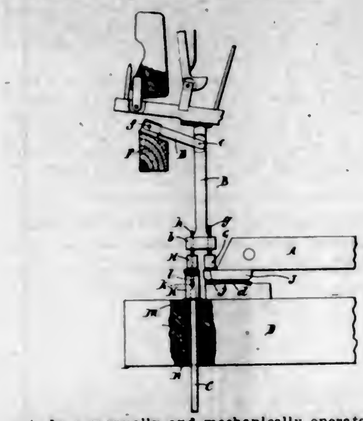
5. In a wheel, the combination of a hub having a closed annular chamber, hollow spokes opening at their inner ends into said chamber, hollow felly sections independent of one another and each providing at its inner side a slideway adapted to receive the end of a spoke as a plunger, and links at the sides of said felly sections loosely connecting adjacent ends of the same.

868,406. COMBINED PIANOFORTE AND AUTOMATICALLY-ACTUATED MECHANISM THEREFOR. JOHN BRINSMEAD, London, England, assignor to John Brinsmead & Sons Limited, London, England. Filed Apr. 9, 1906. Serial No. 310,695.

1. In a manually and mechanically operated pianoforte the combination of prolonges, front and rear adjustable buttons attached to the lower ends of the prolonges, key levers, extensions on the key-levers carrying the front buttons, mechanically operated mechanism, piston rods connected to the mechanism and vertically movable blocks carrying the rear buttons and connected to the piston rods, substantially as specified.

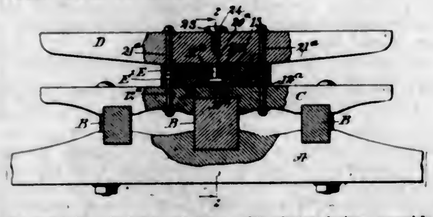
2. In a manually and mechanically operated pianoforte the combination of key-levers, extensions on the rear of the key-levers, a prolonge for each of the key-levers, radius arms attached to the upper end of the prolonges, front and rear adjustable buttons attached to the lower end of each of the prolonges, mechanically operated mechanism, piston rods connected to the mechanism and vertically movable blocks connected with the piston rods, the front and rear buttons respectively bearing on the extensions of the key levers and vertically movable blocks, substantially as specified.

3. In a manually and mechanically operated pianoforte the combination of key levers, extensions on the rear of the key-levers, prolonges, radius arms pivoted to the upper end of the prolonges, front and rear buttons, screws for adjustably connecting the buttons to the lower end of the prolonges, mechanically operated mechanism, piston rods connected to the mechanism and vertically-movable blocks connected to the piston rods, the front and rear buttons respectively being adjustable relatively to and bearing on the extensions of the key-levers and vertically movable blocks, substantially as specified.



4. In a manually and mechanically operated pianoforte the combination of key levers, extensions on the rear of the key-levers, prolonges, radius arms pivotally attached to the frame of the pianoforte and the upper ends of the prolonges, front and rear adjustable buttons attached to the enlarged lower ends of the prolonges, mechanically operated mechanism, piston rods connected to the mechanism, vertically movable blocks connected to the piston rods, each block being provided with a vertical guide hole, and stems projecting from the rear buttons and extending into the holes of the blocks to maintain in conjunction with the radius arms, the position of the buttons relatively to the key levers and the mechanically operated mechanism, substantially as specified.

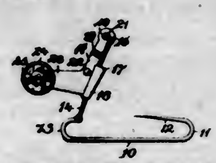
868,407. BOLSTER-PLATE FOR VEHICLES. ISAAC BROADHEAD, East Branch, N. Y., assignor to himself and William W. Baxter, East Branch, N. Y. Filed Apr. 25, 1906. Serial No. 313,594.



In vehicles, bolster plates, said plates being provided with annular grooves and tongues or ribs, the tongues or ribs of one plate being adapted to enter the grooves in the opposing plate, and a connecting pivot pin loose in the said plates but cast therein.

868,408. LOCK-PIN. MARY C. CARLUCCI, Newark, N. J. Filed Apr. 22, 1907. Serial No. 369,426.

1. A pin comprising a wire forming a straight strand and formed into a pointed portion or end, a swinging member arranged on the other end of the strand, and a sleeve arranged to slide on the swinging member and adapted to envelop the swinging member and the pointed end, when the pin is closed.



2. A pin comprising a wire forming an approximately straight strand and formed into a pointed portion or end, a swinging member arranged on the other end of the strand, a sleeve arranged to slide on the swinging member, and means on the swinging member to limit the sliding of the sleeve.

3. A pin comprising a strand of wire and formed into a pointed portion or end and having a swinging member on the other end, a sleeve arranged to slide on the swinging member and adapted to envelop both the swinging member and the pointed end, when the pin is closed, and means for locking the sleeve in its closed position.

4. A pin comprising a straight portion and formed into pointed portion or end, a swinging member on the other end, the swinging member arranged to be swung adjacent to the pointed portion, a sleeve arranged to slide on the swinging member and being widened out at one end to receive the pointed portion in one end of the sleeve, means to limit the movement of the sleeve on the swinging member, and means for locking the sleeve in its closed position when the pin is shut.

5. A pin comprising a straight portion made of wire and formed into a pointed portion or end, and having on its other end a loop, a swinging member attached to the end of the loop, a sleeve arranged to slide on the swinging member, the swinging member having a stop to limit the movement of the sleeve, a latch on the sleeve to engage the stop to lock the sleeve in its closed position.

6. A pin comprising a wire portion forming a straight strand and formed into a pointed portion or end, and having a loop on the other end, a swinging member arranged on the loop, a stop on the end of the swinging member, a sleeve arranged to slide on the swinging member and adapted to embrace the swinging member and the pointed portion when the pin is closed, and a latch secured to the sleeve and arranged to be locked around the stop piece when the sleeve engages the stop piece.

7. A pin comprising a wire portion forming a straight strand and formed into a pointed portion or end, a swinging member on the other end of the straight strand adapted to be swung adjacent to the pointed portion, a sleeve adapted to slide on the swinging member, a stop piece on the swinging member, and means on the sleeve for engaging the stop piece and locking the sleeve thereto.

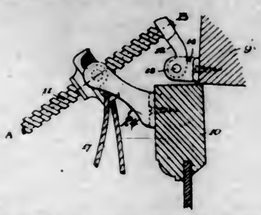
8. A pin comprising a wire portion forming a straight strand and formed into a pointed portion or end, and having a loop on the other end, a swinging member pivoted to the end of the loop, a sleeve arranged to slide on the swinging member, a stop piece on the end of the swinging member, a plate on the sleeve, a latch hinged to the end of the plate, the latch having a perforation therein, and a stud on the plate adapted to be placed in engagement with the perforation of the latch to lock said latch around the stop piece.

9. A pin comprising a wire portion forming a straight strand and a pointed portion on one end, a swinging member on the other end of the straight strand, a sleeve sliding on the swinging member, a plate projecting up from the sleeve, a stud on the plate, and a button on the end of the stud.

10. A pin comprising a wire portion formed with an approximately straight strand and formed into a pointed portion or end, a swinging member arranged on the other end of the pin, a sleeve sliding on the swinging member, a stop on the swinging member, a latch pivoted to the sleeve and arranged to be swung around the stop piece to be locked thereby when the sleeve is at its outward

limit of movement, the latch when swung open being parallel with the stop piece to prevent its being swung to its closed position by engaging the swinging member, unless the sleeve is in a position to be locked.

868,409. WINDOW-OPENER. JOHN H. CARTLAND and JOSEPH LILLY, Birmingham, England. Filed Dec. 27, 1906. Serial No. 349,704.

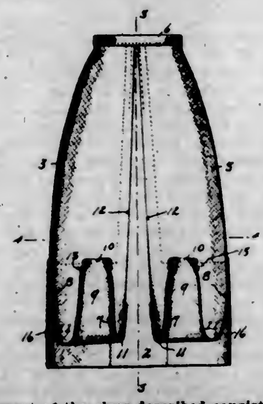


1. Mechanism of the class described, involving a feed screw member having a crank part fixed thereto and pivotally connected to a window frame, a pulley rotatable on said feed screw and movable throughout the longitudinal extent thereof, means for pivotally supporting the pulley and fixed to a window sash, and means for actuating the pulley for moving the same longitudinally on the feed screw member.

2. Mechanism of the class described, involving a fixed bracket carried by a window frame, a crank part connected with the bracket, a screw threaded rod fixed to said crank part, a pulley rotatable on the rod and movable throughout the longitudinal extent of the same, means for rotatably supporting the pulley, a bracket for the said means fixed to a window sash, and means for actuating the pulley.

3. In a window frame and sash, a bracket fixed to said frame, an arm pivotally connected with said bracket, a rod carried by the arm, a pulley longitudinally movable on the rod, a bracket fixed to the sash, a box for rotatably supporting the pulley and swiveled to the latter bracket, and flexible means associated with the pulley for rotating the same on the rod.

868,410. SKIRT-PROTECTING GARMENT. FLORENCE N. CARTWRIGHT, Payne, Ohio. Filed Mar. 8, 1907. Serial No. 361,254.



1. A garment of the class described consisting of a skirt having front and back pieces and side pieces the latter pieces being longer than the other pieces and each side piece being provided with portions formed into pantalets the lower portions of which are provided with upturned legging extensions.

2. A garment of the class described consisting of a skirt having side pieces longer than the other pieces of the skirt and each of which side pieces is sewed together and folded at its lower end to form a pantalet and an upturned legging extension within the pantalet.

3. A garment of the class described consisting of a skirt having body pieces arranged to form within the skirt body pantalets having longitudinal inner side openings for the legs and at their lower ends turned upwardly to form inside legging extensions.

4. A garment of the class described consisting of a skirt comprising front and back pieces, and side gore sections interposed between such pieces, each side gore section being of greater length than the front and back pieces and formed at its lower end, within the garment body, into a pantalet having an upturned inside legging extension provided with a terminal holding band.

5. A garment of the class described consisting of a skirt having side gore sections longer than the other portions of the skirt and each provided with inner surplus edges and at their lower ends formed into pantalets, each of the latter having upturned inside legging extensions provided at their upper ends with fast terminal holding bands.

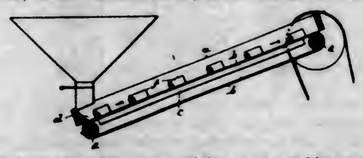
868,411. BUILDING-BLOCK. JOHN CILEK, Los Angeles, Cal., assignor to Rose Cleck, Philadelphia, Pa. Filed Nov. 11, 1905. Serial No. 286,876.



1. A building block comprising a molded body having marginal flanges extending from the rear side, channel irons embedded in the body and flanges and extending beyond the latter, the projecting portions of the said irons serving to space the building block from the inner portion of the wall of the building and to receive connecting means for securing the block to the said inner portion of the wall.

2. A building block comprising a molded body having marginal rearwardly extending flanges, channel irons embedded in the flanges and extending therefrom, an open-work reinforce embedded in the body of the block, and metal sleeves extending through the flanges and webs of the channel irons.

868,412. GRAIN-SEPARATOR. WALTER CLEMENT, Adrian, Mich. Filed Dec. 24, 1906. Serial No. 349,260.



1. A grain separator comprising a rotatable apron, a support under the working surface of the apron, tongued bars extending lengthwise of the travel of the apron formed with openings at the lower edge of the bars, the tongues of two adjacent bars being turned in opposite directions.

2. A grain separator comprising a rotatable apron, a support under the working surface of the apron, tongued bars extending lengthwise of the travel of the apron, said bars arranged in pairs forming channels and having the tongues of each pair turned outward in opposite directions, and additional channels between each pair of bars into which the tongues of the adjacent bars project.

3. A grain separator comprising a rotatable apron, a support under the working surface of the apron, tongued bars extending lengthwise of the travel of the apron, said bars arranged in pairs forming unobstructed channels and having the tongues of each pair turned outward in opposite directions, additional channels between each pair of bars into which the tongues of the adjacent bars project, and a transverse bar at the foot of the apron, said transverse bar formed with openings registering with the unobstructed channels between the bars of each pair.

4. A grain separator comprising a rotatable apron, a support under the working surface of the apron, bars extending lengthwise of the travel of the apron having tongues turned away from the body of the bar at the lower edge thereof and forming openings at the lower edge of the bar, said bars arranged in pairs forming an unobstructed channel between the bars of each pair and adjacent unobstructed channels into which the tongues of said bars project, the obstructed channel and the obstructed channels communicating through the openings in said bars.

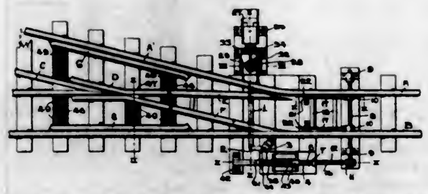
868,413. DRIP-TROUGH. JUDSON M. CRAMER, Gardner, Kans. Filed May 26, 1906. Serial No. 318,983.



1. A drip trough comprising a flexible body provided on its outer surface with an outwardly and upwardly curved lip providing the trough proper and in its inner surface with vacuum chambers by means of which the trough is adapted to be secured in applied position.

2. A drip trough comprising a flexible body provided on its outer surface with an outwardly and upwardly curved lip providing the trough proper and in its inner surface with vacuum chambers by means of which the trough is adapted to be secured in applied position, and a pipe section carried by said lip and communicating with the trough proper, said pipe section projecting below the lip.

868,414. AUTOMATIC RAILWAY-SWITCH. CORBIN E. DAVIS, St. Louis, Mo. Filed May 20, 1907. Serial No. 374,634.



1. In a safety railway switch, the combination with movable switch rails, of a switch bar having connection with said rails, a trip member adapted to be actuated by a wheel of the car, comprising a transverse rock shaft having an arm fixed thereto, a longitudinal trip bar having its forward end seated upon the arm of the rock shaft, and a roller upon which the rear end of the trip bar is adapted to ride, and mechanism connecting said trip member to said switch bar, substantially as set forth.

2. In a safety railway switch, the combination with a pair of main track rails and a pair of movable switch rails, of a switch bar having connection with said switch rails, a trip member comprising a transverse rock shaft having arms fixed thereto, a pair of trip bars provided with transverse connecting bars and located adjacent to said track rails, and having their forward ends seated upon the arms of the rock shaft, and rollers upon which the rear ends of the trip bars are adapted to ride and mechanism connecting said trip bars to said switch bar, substantially as set forth.

3. In a safety railway switch, the combination with a pair of main track rails and a pair of movable switch rails, of a switch bar having connection with said switch rails, a trip member comprising a transverse rock shaft having arms fixed thereto, a pair of trip bars provided with transverse connecting bars and located adjacent to said track rails, and having their forward ends seated upon the arms of the rock shaft, and rollers upon which the rear ends of the trip bars are adapted to ride and mechanism connecting said trip bars to said switch bar; said mechanism including a spring controlled member, substantially as set forth.

4. In a safety railway switch, the combination of a pair of main track rails, a pair of movable switch rails, a switch bar having connection with said switch rails, a rock shaft having an arm fixed thereto and extending transversely of said track rails, a movable trip bar having its forward end in engagement with the arm of said rock shaft, and mechanism actuated by said rock shaft, a roller upon which the rear end of the trip bar is adapted to ride, a confining pin for the trip bar for moving said switch bar, substantially as set forth.

5. In a safety railway switch, the combination of a pair of main track rails, a pair of movable switch rails, a switch bar having connection with said switch rails, a rock shaft having an arm fixed thereto and extending transversely of said track rails, a movable trip bar having its forward end in engagement with the arm of said rock shaft, a roller upon which the rear end of the trip bar is adapted to ride, and mechanism actuated by said rock shaft for moving said switch bar; said mechanism including a spring controlled member, substantially as set forth.

6. In a safety railway switch, the combination of a pair of main track rails, a pair of movable switch rails, a switch bar having connection with said switch rails, a rock shaft extending transversely of said track rails, a trip bar located adjacent to one of said track rails and having engagement with said rock shaft, a throw bar having connection with said switch bar, and a pusher rod connected to said rock shaft and operable in said throw bar, substantially as set forth.

7. In a safety railway switch, the combination of a pair of main track rails, a pair of movable switch rails, a switch bar having connection with said switch rails, a rock shaft extending transversely of said track rails, a trip bar located adjacent to one of said track rails and having engagement with said rock shaft, a throw bar having connection with said switch bar, and a spring controlled pusher rod connection to said rock shaft and operable in said throw bar, substantially as set forth.

8. In a safety railway switch, the combination of a pair of main track rails, a pair of movable switch rails, a switch bar having connection with said switch rails, a rock shaft extending transversely of said track rails, a trip bar located adjacent to one of said track rails and having engagement with said rock shaft, a throw bar having connection with said switch bar, a pusher rod connected to said rock shaft and slidably fitted to said throw bar, and a spring surrounding said pusher rod and bearing against said throw bar, substantially as set forth.

9. In a safety railway switch, the combination of a pair of main track rails, a pair of movable switch rails, a switch bar having connection with said switch rails, a rock shaft extending transversely of said track rails, a trip member located adjacent to one of said track rails and having engagement with said rock shaft, means of connection between said rock shaft and said switch bar including a spring controlled member, and means for actuating said connection means independent of said trip member, substantially as set forth.

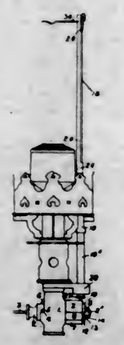
10. In a safety railway switch, the combination of a pair of main track rails, a pair of movable switch rails, a switch bar having connection with said switch rails, a rock shaft extending transversely of said track rails, a trip member located adjacent to one of said track rails

and having engagement with said rock shaft, a throw bar connected to said switch bar, a spring controlled pusher rod connected to said rock shaft and movably fitted to said throw bar, and means for operating said throw bar to move said switch bar independent of the movement of said trip member, substantially as set forth.

11. In a safety railway switch, the combination of a pair of main track rails, a pair of movable switch rails, a switch bar having connection with said switch rails, a rock shaft extending transversely of said track rails, a trip member located adjacent to one of said track rails and having engagement with said rock shaft, a throw bar connected to said switch bar, a spring controlled pusher rod connected to said rock shaft and movably fitted to said throw bar, and means for operating said throw bar to move said switch bar independent of the movement of said trip member; said last named means comprising a lever having engagement with said throw bar, substantially as set forth.

12. In a safety railway switch, the combination of a pair of main track rails, a pair of movable switch rails, a switch bar having connection with said switch rails, a rock shaft extending transversely of said track rails, a trip member located adjacent to one of said track rails and having engagement with said rock shaft, a throw bar connected to said switch bar, a spring controlled pusher rod connected to said rock shaft and movably fitted to said throw bar, and means for operating said throw bar to move said switch bar independent of the movement of said trip member; said last named means comprising a lever fitted to said throw bar and a lift lever for moving said first named lever, substantially as set forth.

868,415. SELF-CLOSING GAS TAP OR VALVE. CLAUDE DE ALBERTIS, Liverpool, England. Filed Sept. 25, 1906. Serial No. 336,135.



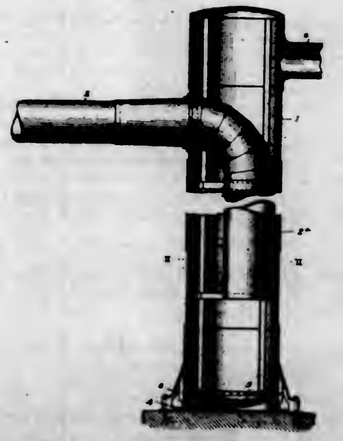
1. In combination, a thermostat comprising a rod and an expansion strip partially surrounding said rod, a gas mantle supporting arm connected with said strip, a rod holder, a block to which said expansion is connected, a slot in said rod holder in which said block is adapted to fit, a rod adustable in relation to said block, a self closing gas cock, and a spring adapted to expedite the engagement of the thermostat with said gas cock.

2. In combination, a gas cock, a barrel adapted to fit loosely on the plug of said cock, stops on said barrel, a pin rigidly connected with said plug, and adapted to engage with the cock body and the other end with said barrel, a thermostat comprising a rod and an expansion strip partially surrounding said rod, a gas mantle supporting arm connected with said strip, a rod holder, a block to which said expansion strip is connected, a slot in said holder in which said block is adapted to fit, a rod adjustable in relation to said block and the barrel of said gas cock, and a spring adapted to expedite the engagement of the end of said rod with said cock barrel.

3. In combination, a gas cock, a barrel adapted to fit loosely on the plug of said cock, stops on said barrel, a pin rigidly connected with said plug and adapted to engage with said stops, a helical spring, one end of which is connected with the cock body and the other end with said barrel, a thermostat comprising a rod and an expansion strip partially surrounding said rod, a gas mantle supporting arm connected with said strip, a rod holder, a rectangular block to which said expansion strip is connected, a rectangular slot in said rod holder in which said block is adapted to fit, a rod screwed into said block, a casing within said casing between a plug at the upper part and a head or enlargement on said rod, means by which said rod may be rotated, and a bracket secured to the "burner" and upon which the thermostatic devices as a whole are supported.

4. In combination, a gas cock, a barrel adapted to fit loosely on the plug of said cock, stops on said barrel a pin rigidly connected with said plug and adapted to engage with said stops, a spring, one end of which is connected with the cock body and the other end to said barrel, a thermostat comprising a horizontally disposed ring of fire resisting material and an expansion strip of German silver, a metal supporting ring, means whereby one end of said expansion strip connected with said metal ring, a lever connected with the other end of said expansion strip, and a rod adapted to be moved vertically through the expansion and contraction of said strip, the lower end of said rod being adapted to engage with and lock said cock barrel.

868,416. BLAST CONNECTION FOR FURNACES. JAMES W. DEETRICK, Youngstown, Ohio. Filed Feb. 18, 1907. Serial No. 358,027.



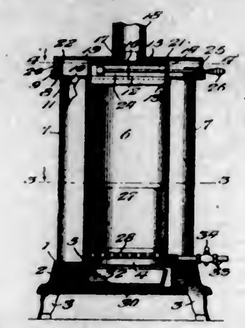
1. A blast furnace plant having in combination a line of pipe for conducting air under pressure from the blowing engine to the furnace, and a wall or abutment arranged transversely of the line of flow and adapted to receive the impact of the stream of air without interrupting its flow.

2. In a blast furnace plant the combination of a chamber provided with an inlet and having a firmly supported portion or shock absorbing abutment, a connection from the blowing engine adapted to direct air under pressure against the solidly supported portion, and an outlet to the furnace extending from the chamber at an angle to the inlet.

3. In a blast furnace plant the combination of a chamber, a pipe extending from the blowing engine connected to the chamber, means within the chamber for changing the direction of the flow of air, and an outlet connected with the blast furnace.

4. In a blast furnace plant, the combination of a vertically arranged chamber having a solidly supported abutment for absorbing the impact of the air, a pipe extending from the blowing engine to the chamber and having the portion within the chamber arranged to direct the inflowing air against said abutment and an outlet connected to the blast furnace.

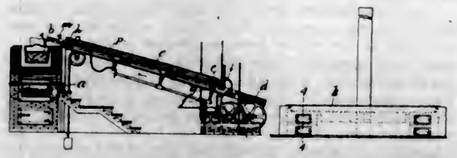
868,417. STOVE. LEWIS B. DORCAS and TAZWELL W. RYAN, Hendricks, W. Va. Filed Apr. 12, 1907. Serial No. 362,027.



1. A stove having a central fuel receiving cylinder, a plurality of burner tubes arranged beyond the cylinder, a head plate supported upon the upper ends of the cylinder and tubes, a cover plate forming an inclosed space with the head plate, a wall dividing said space into a central chamber in communication with the cylinder and an annular chamber in communication with the burner tubes, a valved opening in said wall, and an escape flue having communication with the central chamber.

2. A stove having a central fuel receiving cylinder, a plurality of burner tubes arranged beyond the cylinder and in concentric relation therewith, a burner in each tube, a fire pot supported within the cylinder, a head plate supported upon the upper ends of the cylinder and tubes, a cover plate forming an inclosed space with the head plate, and a wall dividing said space into a central chamber in communication with the cylinder and an annular chamber in communication with the burner tubes, an escape flue, said central chamber being in communication with the escape flue, and means for controlling communication between the annular chamber and central chamber.

868,418. METHOD OF MAKING COMPOSITE PIPE. THOMAS E. DWYER, Wakefield, Mass. Filed June 16, 1905. Serial No. 265,513.



1. That improvement in the art of making composite non-corrodible pipe which consists in heating and coating a primary tube of corrodible refractory material by immersing the same in a bath of molten material, pouring into the tube while it is still hot a quantity of molten non-corrodible metal having a lower melting point than that of the pipe, and forming the molten metal around a mandrel into a lining for the tube.

2. The method of making composite non-corrodible pipe which consists in uniting a non-corrodible metallic lining to a primary tube of relatively-refractory corrodible material by coating and heating the primary tube in a bath of molten material, placing the primary tube over a mandrel, pouring molten non-corrodible metal having a lower melting point than that of the metal from which the primary tube is made into the space between the mandrel and tube while the primary tube is still hot, and cooling the tube.

3. The method of making composite non-corrodible pipe which consists in uniting a non-corrodible metallic lining to a primary tube of relatively-refractory corrodible material by coating and heating the primary tube in a bath of molten material, placing the primary tube over a mandrel, pouring molten non-corrodible metal into the space between the mandrel and walls of the tube before the tube has become cool, removing the mandrel and cooling the tube.

4. The method of making composite non-corrodible pipe which consists in uniting a non-corrodible metallic lining to a primary tube of relatively-refractory corrodible material by coating and heating the primary tube in a bath of molten material, placing the primary tube over a mandrel, pouring molten non-corrodible metal having a melting point lower than that of the material of which the primary tube is made into the tube while the latter retains a considerable portion of the heat imparted by the bath, maintaining by extraneous means the temperature of the tube at a point higher than the melting point of said non-corrodible metal, producing a relative longitudinal motion between the mandrel and tube to separate them, and cooling the portion of the tube adjacent the end of the mandrel.

5. The improvement in the method of making lead-lined iron or steel pipe which consists in simultaneously coating and heating to a high temperature a primary tube of iron or steel by immersing the tube in a bath of molten material, pouring melted lead into the tube before the latter has cooled to any considerable extent, forming the lead into a tubular lining, and cooling the tube.

6. The improvement in the method of making lead-lined iron or steel pipe which consists in simultaneously coating and heating to a high temperature, a primary tube of iron or steel by immersing the tube in a bath of molten material, placing a mandrel in the tube and pouring melted lead into the space surrounding the mandrel before the tube has cooled to any considerable extent, removing the mandrel by producing relative longitudinal movement between it and the tube, and cooling the portion of the tube adjacent the end of the mandrel.

7. The improvement in the art of lining corrodible pipe with an incorrodible metal, consisting in dipping the pipe in a bath of molten metal, which will adhere to the pipe, and thereby at the same time heating the pipe, inserting a mandrel into the pipe, further heating the pipe by an external heater before the first coating has become appreciably cooled, pouring molten non-corrodible metal into the space between the mandrel and inner walls of the pipe, and chilling the pipe and lining.

8. The improvement in the art of lining corrodible pipe with an incorrodible metal, consisting in simultaneously heating and coating the pipe with molten metal, maintaining the pipe at a sufficiently high temperature to prevent solidifying of the coating, pouring molten non-corrodible metal into the pipe to form a lining, and chilling the pipe and lining.

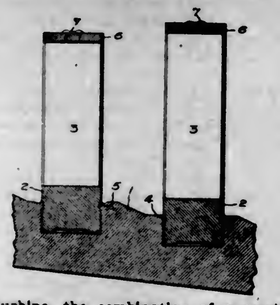
868,419. TURBINE-BUCKET. WILLIAM L. R. EMMET, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed May 18, 1905. Serial No. 260,961.

1. In a turbine, the combination of a carrier having one or more, grooves therein, a bucket-supporting base or element mounted therein, a retaining shoulder between the base and carrier elements, and a lip or body of metal for securing the buckets in place, which is made by forcing an integral part of one of the elements into engagement with the shoulder after the base is mounted in place.

2. In a turbine, the combination of a carrier, one or more grooves therein, a bucket-supporting base mounted in a groove, a shoulder formed on the side of the base, and a lip or body of metal for securing the buckets and their bases in place, which is made by forcing an integral part of the carrier over the shoulder after the base is mounted in place.

3. In a turbine, the combination of a carrier, one or more grooves therein, a plurality of buckets, a segmental base united to the buckets and located in a groove, retain-

ing shoulders formed on opposite sides of the base, and lips or bodies of metal for securing the buckets which are made by forcing integral parts of the carrier over the shoulders after the base is mounted in place.



4. In a turbine, the combination of a carrier, one or more grooves therein, a segmental supporting base united with the buckets and located in a groove, one or more shoulders formed on the base, a segmental cover for the buckets, tenons for securing the cover in place, and one or more lips or bodies of metal which are made by forcing integral parts of the carrier over the shoulders for securing the buckets after the base is mounted in place.

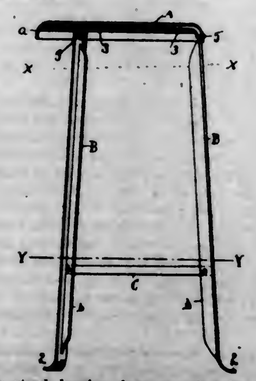
5. In a turbine, the combination of a carrier, one or more grooves therein, bucket-supporting bases united with the buckets and located in a groove, a shoulder on the base, a lip or body forming a part of the carrier which is forced over the shoulder after the base is mounted on the carrier, and a groove formed between the base and the carrier to receive a tool when it is desired to remove the buckets.

6. An article of manufacture comprising a plurality of turbine buckets which are united to a common base, with one or more shoulders formed on the base at a point between the roots of the buckets and the bottom of the base.

7. As an article of manufacture, a cover section for turbine buckets, comprising a rectangular strip of metal having smooth sides and ends, and a plurality of openings between the ends adapted to register with the buckets.

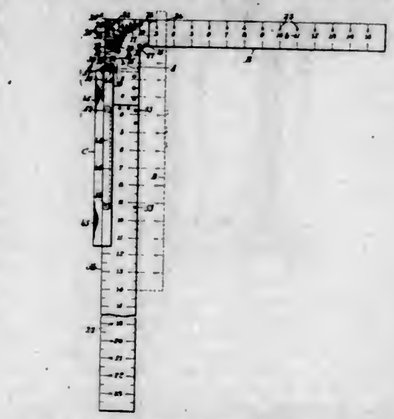
8. In a turbine, the combination of a carrier having one or more grooves therein with buckets mounted in the groove or grooves and a shoulder between the buckets and carrier, the said buckets being held in place by changing the relative distribution of the metal of the carrier and the buckets.

868,420. METALLIC STOOL. CHARLES H. ERICKSON, Cleveland, Ohio, assignor to The Cleveland Wire Spring Co., Cleveland, Ohio, a Corporation. Filed Apr. 20, 1907. Serial No. 369,335.



A metallic stool having legs angular in cross section between their ends and the ends thereof flat and bent at substantially right angles in opposite directions, and a top having a down flange about its outside and the upper flat ends of said legs extending in beneath the said top and said legs riveted to the said flange, and braces riveted to the central ribs of said legs.

868,421. CARPENTER'S SQUARE. JOHN G. FEIL, New York, N. Y. Filed May 1, 1907. Serial No. 371,214.



1. A carpenter's square, having a short limb pivotally connected with the main or long limb, a toothed segment extending below the pivot portion of the short limb, a rocking member carried by the main limb, a worm mounted to turn in said member and adapted for engagement with the teeth of said segment, which worm is exposed at both sides of the said main limb, and exteriorly operated means for locking the limb in adjusted position.

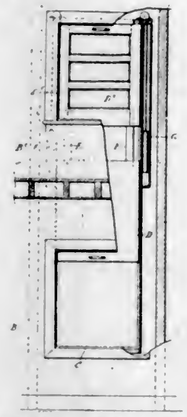
2. A carpenter's square, having a short limb pivotally connected with the main or long limb, a toothed segment extending below the pivot portion of the short limb, a rocking member carried by the main limb, a worm mounted to turn in said member and adapted for engagement with the teeth of said segment, which worm is exposed at both sides of the said main limb, exteriorly operated means for locking the limb in adjusted position, the said limb of the square being provided with apertures for the reception of a stylus, and independent apertures for the attachment of a level.

3. In a carpenter's square, a main limb having a socket section at its upper end, and also a series of apertures produced at the corner portions of said socket section, a short limb pivotally connected with the socket section of the long limb, the short and the long limbs being provided with longitudinally arranged openings, a worm adapted for meshing engagement with the introduced end of the short limb, an adjustable carrier for the worm, and a pin adapted to be passed through any one of the said corner apertures whereby upon placing the pencil through any one of the openings in the limbs a circle may be struck.

4. In a carpenter's square, the combination with the long or main limb thereof having a socket section at its upper end, a segmental slot in said socket section, and a scale representing the degrees of the circle at said slot, of a short limb the inner end of which enters the socket section of the long limb and is provided with a downwardly extending segmental toothed section, the pivotal connection between the two limbs being the center of the radius on which the said circular opening is formed, a pointer carried by the toothed extension of the short limb that extends out through the said slot, a worm exteriorly accessible and carried by the long limb in position for engagement with the teeth of the extension from the short limb, a lever arm carrying said worm movable to and from the extension from the short limb, and exteriorly operated means for controlling the movement of said lever arm.

5. In a carpenter's square, the combination with a long or main limb provided with a series of apertures adjacent its longitudinal edge, the said limb being provided with a socket section formed at its upper end and apertures at the angle portion of the said socket extending through the limb, together with a segmental slot that extends through the upper face of the limb, a worm mounted to turn within the said socket adjacent the said segmental slot, the said socket section of the main limb being provided with a scale indicating the degrees of a circle, the scale being located adjacent the said segmental slot, of a short limb, the inner end of which enters the socket section of the main limb, a segmental section extending down from the entering end of the short limb, which section is provided with teeth at its convexed surface for engagement with the said worm, the pivotal connection between the two limbs being the center of the arc on which the segmental slot is drawn, a pointer extending from the segmental extension of the short limb out through the said segmental slot, a guide for the said segmental extension from the short limb, likewise extending out through the said slot, a lever arm carrying said worm and pivoted in the socket section of the main limb, means for operating the lever arm to carry the worm to and from the toothed edge of the segmental extension from the shorter limb, and a pin adapted to be passed through the corner apertures in the main limb of the square.

868,422. WELL-DOOR FOR DUMB-WAITERS. ADAM E. FISCHER, New York, N. Y. Filed May 8, 1907. Serial No. 372,600.



1. The combination with the shaft provided with openings for the upper and lower floors, said openings being above the level of the respective floors, of doors for closing said openings, said doors being connected so that when one door is moved to open the corresponding floor opening, the other door is moved to close the opening corresponding to said last-named door.

2. The combination with the shaft provided with openings for the upper and lower floors, said openings being above the level of the respective floors, of doors for the respective openings, bars rigidly connecting said doors, and means for movably supporting the doors, said doors being so arranged that when one door is moved to open the corresponding floor opening, the other door is moved to close the opening corresponding to the said last-named door.

868,423. EXTENSION-TABLE. EMORY A. FULLER, Mason, Mich. Filed July 19, 1906. Serial No. 326,880.

1. An extension table, comprising a fixed central portion having a top, side boards attached thereto, strips fixed parallel with and equidistant from the upper and lower edges of each side board, and longitudinal projections extending inwardly along the upper and lower edges of the side boards; movable end frames each having upper and lower strips fixed thereto on both sides, sliding connections between the strips on the end frames and the strips and projections on the central portion, the top strips of each end frame lying vertically opposite the bottom strips of the opposite end frame, and extension top sections supported on the end frames.



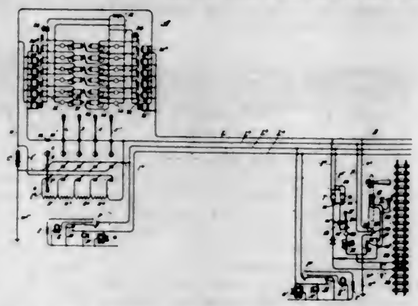
2. An extension table, comprising a fixed central portion having a top, side boards attached thereto, strips fixed parallel with and equidistant from the upper and lower edges of each side board, and longitudinal projections extending inwardly along the upper and lower edges of the side boards; movable end frames each having upper and lower strips fixed thereto on both sides, sliding connections between the strips on the end frames and the strips and projections on the central portion, the top strips of each end frame lying vertically opposite the bottom strips of the opposite end frame, tracks or guides attached to said end frames, said tracks having curved ends and lower portions lying in different horizontal planes and between the planes of said strips and projections, whereby they may move one above the other and between the upper and lower sets of strips and projections as the end frames are closed against the central portion, and extension top sections slidably attached to said tracks.

3. An extension table comprising a fixed central portion having a top, side boards attached thereto, strips fixed parallel with and equidistant from the upper and lower edges of each side board, longitudinal projections extending inwardly along the upper and lower edges of the side boards, and an inwardly projecting longitudinal flange or strip on each of said side boards between said projections; movable end frames each having a strip fixed thereto at each side, sliding connections between the strips on the end frames and the strips and projections on the central portion, the strips of one end frame lying vertically opposite the strips of the other end frame, tracks or guides attached to said end frames on each side thereof, said tracks having curved ends and lower portions lying in different horizontal planes and between the planes of said strips and projections, flanges on said tracks below and parallel with said lower horizontal portions, said flanges on the tracks of one end portion being positioned and adapted to slide along said flanges on the side boards, and the flanges on the tracks of the opposite end portion being positioned and adapted to slide along the said lower projections of the side boards, and extension top sections having their edges slidably engaged with and supported by said tracks.

4. An extension table, comprising a fixed central portion having a top, a movable end frame slidably connected thereto, tracks mounted opposite each other near each side of the movable end frame, said tracks having similarly curved upper ends and lower portions extending therefrom adapted to be moved beneath the top of the central portion when the end frame is closed in, in combination with a flexible extension top section composed of a series of slats wedge shaped in cross section and of a length approximately equal to the width of the central top portion, said slats being each mounted on the tracks to slide thereon in a direction transverse to its length and with its wide face at the base of the wedge directed outward from the center of curvature of the tracks, said slats having longitudinal grooves of segmental cross-section along the converging faces thereof, and transverse alined openings therethrough, and tubular cylindrical hinge members, having diametrically opposite apertures, rotatably mounted in the adjacent grooves of consecutive slats of the series, with their apertnres in alinement with the openings of the slats, and a flexible connection having one end secured to the

fixed central portion, extending through said openings and apertures, and secured at the other end to the terminal slat of the series.

868,424. SIGNAL SYSTEM. JULIAN A. GEHRUNG, New York, N. Y. Filed Feb. 15, 1907. Serial No. 357,514.



1. In a signal system, a despatcher's station and a plurality of semaphore stations, means for respectively displaying any selected signal at the semaphore stations, and two entirely separate sets of recording apparatus at the despatcher's station for separately indicating the safety and danger positions of each semaphore signal at all times.

2. In a signal system, a despatcher's station and a plurality of semaphore stations, means for selectively displaying any selected signals at the semaphore stations, and two sets of indicating means at the despatcher's station each with a separate line wire connection for continuously showing the position of every semaphore signal on the line, said indicating means being automatically operated by the movement of the semaphore signals.

3. In a signal system, a despatcher's station and a plurality of semaphore stations, means at the semaphore stations for displaying signals selectively operated by currents of varying intensity from the despatcher's station, means whereby currents of predetermined strength are caused to flow in the despatcher's station by the operation of any particular semaphore, and means whereby a continuous record of the condition of all of the semaphores of the line is constantly displayed at the despatcher's station.

4. In a signal system, a despatcher's station and a plurality of semaphore stations, means for selectively displaying signals at any selected semaphore stations, means whereby currents flow from the semaphore stations to the despatcher's station when any semaphore signal moves to danger or safety position, the currents traversing separate wires in the two cases, and recording devices at the despatcher's station actuated by said currents for producing a continuous display at the despatcher's station of the condition of all the semaphore signals.

5. In a signal system, a despatcher's station and a plurality of semaphore stations, three line wires, means for transmitting currents of varying intensity over one of said line wires from the despatchers' station, means at the semaphore stations selectively operated by said signals, means for transmitting currents of varying intensity over another of said line wires when any semaphore moves to danger, and means for transmitting currents over the third of said line wires when any semaphore moves to safety, and recording devices at the despatcher's station operated by the currents in said second and third line wires to produce a continuous display of the condition of all the semaphore signals.

6. In a signal system, a despatcher's station and a plurality of semaphore stations, means for transmitting currents of varying strength from the despatcher's station, semaphore stations to selectively operate any desired semaphore signal, and means for re-transmitting currents of varying strength from the semaphore signal operated to produce a continuous record or display at the despatcher's station of the condition of all the semaphore signals.

7. In a signal system, a despatcher's station and a plurality of semaphore stations, recording signals at the despatcher's station, and means actuated by currents of varying intensity from the semaphore stations for operating said recording signals to produce a continuous display of the condition of all the semaphore signals.

8. In a signal system, a despatcher's station and a plurality of semaphore stations, a plurality of pivoted armatures at the despatcher's station, each armature having two magnets acting thereon, the different armatures corresponding to different semaphore signals, and means whereby one of the magnets acting on an armature is energized when a semaphore signal moves to danger and the other of said magnets energized when the semaphore signal moves to safety position.

9. In a signal system, a despatcher's station and a plurality of semaphore stations, a plurality of pivoted armatures at the despatcher's station, each armature having two magnets acting thereon, the different armatures corresponding to different semaphore signals, and means whereby one of the magnets acting on an armature is temporarily energized when a semaphore signal moves to danger and the other of said magnets temporarily energized when the semaphore signal moves to safety position.

10. In a signal system, a despatcher's station and a plurality of semaphore stations, means for selectively displaying signals at any selected semaphore stations, said means including a plurality of switch levers, and a circuit closed when said switch levers are all in their normal position for producing a repeat or checking signal at the despatcher's station of the operation of any semaphore signal.

11. In a signal system, a despatcher's station and a plurality of semaphore stations, two line wires over which the signals are transmitted for connecting said stations, one of said wires carrying signals from the despatcher's station to the semaphore stations, and the other carrying signals from the semaphore stations to the despatcher's station, a separate line wire, and means for transmitting telephonic and telegraphic messages over said last wire and one of the signal line wires.

12. In a signal system, a despatcher's station and a plurality of semaphore stations, means for selectively displaying signals at any selected semaphore stations, and manually operated means at the semaphore stations for restoring said signals to safety, said manually operated means producing a signal at the despatcher's station showing that the semaphore has been moved to safety.

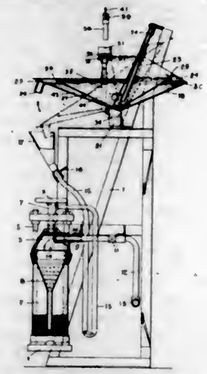
13. In a signal system, a despatcher's station and a plurality of semaphore stations, means for selectively setting a train stop at any selected semaphore station, and manually operated means at the semaphore station for producing a signal at the despatcher's station showing that the train has been properly stopped.

14. In a signal system, a despatcher's station and a plurality of semaphore stations, means for selectively operating a train stop at any desired station, and means for causing a repeat or checking signal at the despatcher's station.

868,425. ACETYLENE-GAS GENERATOR. JOSEPH E. GOFFIN, Oudenbosch, Netherlands. Filed Dec. 26, 1906. Serial No. 349,532.

1. In an acetylene gas generator, the combination of a plurality of gas-generating vessels, a plurality of pivotally mounted hopper-shaped tipping tanks, each of which is divided into three compartments, namely an inlet bucket, the tank proper and an overbalancing space, a water supply pipe, means for controlling the flow of water in this pipe, a plurality of branch pipes each leading from the water supply pipe to a tipping tank, and openings in the walls of the compartments of each tank through which the water can pass from the inlet bucket to the tank proper, from the tank proper to the overbalancing space and thence into the corresponding gas-generating vessel, as set forth.

2. In an acetylene gas generator, the combination of a plurality of gas generating vessels, a plurality of pivotally mounted hopper-shaped tipping tanks, each of which is divided into three compartments, namely an inlet bucket, having an open top, the tank proper having a closed top, and an overbalancing space also closed at the top, a water supply pipe, means for controlling the flow of water in this pipe, a plurality of branch pipes each leading from the water supply pipe to a tipping tank, and openings in the walls of the compartments of each tank through which the water can pass from the inlet bucket to the tank proper, from the tank proper to the overbalancing space and thence into the corresponding gas-generating vessel, as set forth.



3. In an acetylene gas generator, the combination of a plurality of gas-generating vessels, a plurality of pivotally mounted hopper-shaped tipping tanks, each of which is divided into three compartments, namely an inlet bucket, having an open top, the tank proper having rectangular and triangular walls the opposite walls being of equal dimensions and having a closed top, and an overbalancing space also closed at the top, a water supply pipe, means for controlling the flow of water in this pipe, a plurality of branch pipes each leading from the water supply pipe to a tipping tank, and openings in the walls of the compartments of each tank through which the water can pass from the inlet bucket to the tank proper, from the tank proper to the overbalancing space and thence into the corresponding gas-generating vessel, as set forth.

4. In an acetylene gas generator, the combination of a plurality of gas-generating vessels, a plurality of pivotally mounted hopper-shaped tipping tanks, each of which is divided into three compartments, namely an inlet bucket, the tank proper and an overbalancing space, a water supply pipe, means for controlling the flow of water in this pipe, a main distributing pipe in communication with the supply pipe, a plurality of siphons each leading from the distributing portion of the supply pipe to the inlet bucket of a tipping tank, and openings in the walls of compartments of each tank through which the water can pass from the inlet bucket to the tank proper, from the tank proper to the overbalancing space and thence into the corresponding gas-generating vessel, as set forth.

5. In an acetylene gas generator the combination of a plurality of gas-generating vessels, a plurality of pivotally mounted hopper-shaped tipping tanks, each of which is divided into three compartments, namely an inlet bucket, having an open top, the tank proper having rectangular and triangular walls the opposite walls being of equal dimensions and a closed top, and an over-balancing space also closed at the top, a water supply pipe, means for controlling the flow of water in this pipe, a main distributing pipe in communication with the supply pipe, a plurality of siphons each leading from the distributing portion of the supply pipe to the inlet bucket of a tipping tank, and openings in the walls of the compartments of each tank through which the water can pass from the inlet bucket to the tank proper, from the tank proper to the overbalancing space and thence into the corresponding gas-generating vessel, as set forth.

6. In an acetylene gas generator, the combination of a plurality of gas-generating vessels, a plurality of pivotally mounted hopper-shaped tipping tanks, each of which is divided into three compartments, namely an inlet bucket, the tank proper and an over-balancing space, a water supply pipe comprising a fixed distributing portion and a movable portion, the fixed portion having an open end into which water is delivered from the open end of the movable portion, a plurality of siphons leading from the water supply pipe to a tipping tank, and openings in the walls, of the compartments of each tank through which the water can pass from the inlet bucket to the tank proper, from the tank proper to the overbalancing space and thence into the corresponding gas-generating vessel, as set forth.

7. In an acetylene gas generator, the combination of a plurality of gas-generating vessels, a plurality of pivotally mounted hopper-shaped tipping tanks each of which is divided into three compartments, namely an inlet bucket, the tank proper and an overbalancing space, a water supply pipe comprising a fixed distributing portion and a movable portion, the fixed portion having an open end into which water is delivered from the open end of the movable portion, a plurality of siphons each leading from the fixed portion of the water supply pipe to a tipping tank, and openings in the walls of the compartments of each tank through which the water can pass from the inlet bucket to the tank proper, from the tank proper to the overbalancing space and thence into the corresponding gas-generating vessel, the opening in the wall of the inlet bucket being so positioned that when the tank is tipped the said opening is on a level with the open end of the main distributing pipe, as set forth.

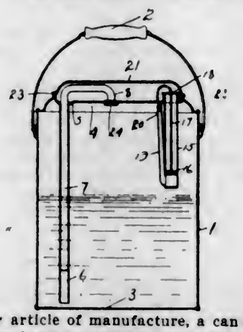
8. In an acetylene gas generator, the combination of a plurality of gas-generating vessels, a plurality of pivotally mounted hopper-shaped tipping tanks each of which is divided into three compartments, namely an inlet bucket, having an open top, the tank proper having a closed top, and an overbalancing space also closed at the top, a water supply pipe comprising a fixed distributing portion and a movable portion, the fixed portion having an open end into which water is delivered from the open end of the movable portion, a plurality of siphons each leading from the fixed portion of the water supply pipe to a tipping tank, and openings in the walls of the compartments of each tank through which the water can pass from the inlet bucket to the tank proper, from the tank proper to the overbalancing space and thence to the corresponding gas-generating vessel, as set forth.

9. In an acetylene gas generator, the combination of a plurality of gas-generating vessels, a plurality of pivotally mounted hopper-shaped tipping tanks each of which is divided into three compartments, namely an inlet bucket, having an open top, the tank proper having a closed top, and an overhanging space also closed at the top, a water supply pipe comprising a fixed distributing portion and a movable portion, the fixed portion having an open end into which water is delivered from the open end of the movable portion, a plurality of siphons each leading from the fixed portion of the water supply pipe to a tipping tank, and openings in the walls of the compartment of each tank through which the water can pass from the inlet bucket to the tank proper, from the tank proper to the overbalancing space and thence to the corresponding gas-generating vessel, the opening in the wall of the inlet bucket being so positioned that when the tank is tipped the said opening is on a level with the open end of the main distributing pipe, as set forth.

10. In an acetylene gas generator, the combination of a plurality of gas-generating vessels, a plurality of pivotally mounted hopper-shaped tipping tanks each of which is divided into three compartments, namely an inlet bucket having an open top, the tank proper having rectangular and triangular walls the opposite walls being of equal dimensions and a closed top, and an overbalancing space also closed at the top, a water supply pipe comprising a fixed

distributing portion and a movable portion, the fixed portion having an open end into which water is delivered from the open end of the movable portion, a plurality of siphons each leading from the fixed portion of the water supply pipe to a tipping tank, and openings in the walls of the compartments of each tank through which the water can pass from the inlet bucket to the tank proper, from the tank proper to the overbalancing space and thence into the open end of a pipe communicating with the corresponding gas-generator, the opening in the wall of the inlet bucket being so positioned that when the tank is tipped the said opening is on a level with the open end of the main distributing pipe, as set forth.

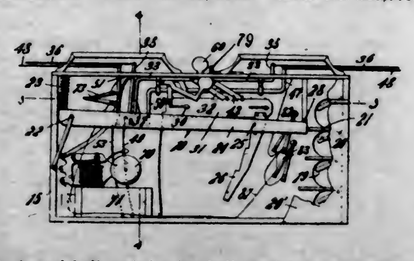
868,426. DISPENSING-CAN. CLARK GOODCHILD, Providence, R. I. Filed Mar. 4, 1907. Serial No. 360,316.



1. As a new article of manufacture, a can comprising a body portion, a head to said can, an air pump, a filling opening, an air valve and a discharge pipe in said head, a depending pipe fixed to said head and extending down into said can nearly to the bottom thereof, an extendible discharge pipe having a downwardly turned end, said pipe being adapted to slide endwise in said fixed pipe, a piece of flexible material fixed to said head against which said discharge end may rest and be closed when the pipe is in its extreme down position, and a cover to close over the operating parts.

2. In a device of the character described, a can comprising a body portion having a recessed head, an air pump, a filling opening and a discharge pipe all arranged around the outer edge of said recessed portion leaving a plain or unobstructed space about the center, a pipe fixed to the head and extending down into the can nearly to the bottom thereof, an extendible discharge pipe adapted to slide endwise in said fixed pipe, a downwardly turned discharge end on said discharge pipe, a piece of flexible material fixed to said head against which said discharge end may rest and be closed when the pipe is in its extreme down position, and a cover to close over the operating parts.

868,427. POOL-BALL RACK. GEORGE F. GOSS, Wallaceton, Pa. Filed Nov. 12, 1906. Serial No. 343,073.



1. A pool ball rack having ball receiving compartments, and a single ball guiding member adjustable to direct balls into all of said compartments.

2. A pool ball rack having ball receiving compartments, a ball guiding member movable by the weight of a ball to direct the latter into any compartment, and an adjusting means for limiting the movement of the guiding member.

3. A pool ball rack having ball receiving compartments, a pivotally mounted ball guiding member for directing balls into any of the compartments, and means for determining the extent of movement of said guiding member.

4. A pool ball rack having ball receiving compartments, a pivotally mounted guiding member for directing balls into any of said compartments, said guiding device being movable by the weight of a ball, and an adjustable means for determining the extent of movement of said guiding device.

5. A pool ball rack having ball receiving compartments, a pivotally mounted ball guide for directing the balls into any of said compartments, said guide being movable under the weight of a ball, and a manually adjustable means for determining the extent of movement of said guide.

6. A pool ball rack having ball receiving compartments, a pivotally mounted guide for directing the balls into said compartments, said guide being movable under the weight of a ball, and means for restoring the guide to initial elevated position after the delivery of each ball.

7. A pool ball rack having ball receiving compartments, a pivotally mounted ball guide movable under the weight of a ball and arranged to deliver balls into any compartment.

8. A pool ball rack having ball receiving compartments, a pivoted guide for directing the balls into any of the compartments, a pin or lug projecting from the guide, a toothed stop arm with which said pin may engage, and means for effecting a step by step movement of said arm.

9. A pool ball rack having compartments for the reception of the balls, a guide for directing the balls into such compartments, said guide being movable under the weight of a ball, means for restoring the guide to initial elevated position after the passage of each ball, a pin or lug projecting from the guide, a toothed stop arm with which said pin or lug may engage, and means for effecting a step by step movement of said stop arm.

10. A pool ball rack having ball receiving compartments, a pivoted guide adjustable to direct balls into any compartment, said guide being arranged to move downward under the weight of a ball, a toothed stop arm, a rack bar carrying the same, a manually operable pawl engaging said rack bar, and means on the guide for engaging said toothed arm.

11. A pool ball rack having ball receiving compartments, a pivoted guide for directing the balls into any of said compartments, a pin or lug projecting from the guide, a toothed stop arm with which said pin or lug may engage, a rack bar carrying the arm, a pawl engaging the arm, a pawl carrying rack bar, a carrying bar for the pawl, arms extending from the bar, and an operating means engaging the arms.

12. A pool ball rack having ball receiving compartments, a pivoted guide for directing balls into said compartments, a pin or lug projecting from said guide, a toothed stop arm with which said pin or lug engages when the guide is depressed, a slidable rack bar carrying said arm, a pawl for effecting step by step movement of the rack bar in one direction, means for operating the pawl, a spring engaging the rack bar and tending to resist movement of the pawl, and means for moving the pawl from engagement with the rack bar to permit the return of said rack bar and arm to initial position.

13. A pool ball rack having ball receiving compartments, a pivoted guide for directing the balls into said compartments, said guide being depressible by the weight of the ball, a pin or lug projecting from the guide, a toothed stop arm with which said pin or lug engages, a slidable rack bar carrying the arm, a pawl for actuating said rack bar, a carrying bar for the pawl, a locking pawl engaging the rack bar, a slidable bar having a projection for engaging both pawls, and flexible connections for operating both bars.

14. A pool ball rack having ball receiving compartments, a movable ball guide for directing the balls into said compartments, a flexible means arranged to extend around the table and controlling the adjustment of the guide.

15. In apparatus of the class described, a pool ball rack having ball receiving compartments, an adjusting means for guiding the balls into any of the compartments, and means for controlling such adjustment, said means being arranged to extend around the pool table.

16. A pool ball rack having ball receiving compartments, an adjustable guide for directing the balls into such compartments, and means for indicating the operative position of the guide.

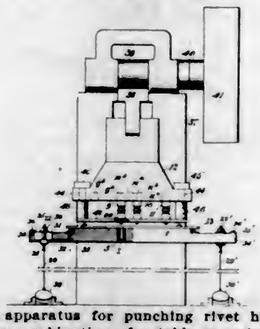
17. A pool ball rack having ball receiving compartments, an adjustable guide for directing the balls into said compartments, a manually operable means controlling the adjustment, and means for indicating the operative position of said guide.

18. A pool ball rack having ball receiving compartments, an adjustable guide for directing the balls into said compartments, a toothed stop arm for controlling the extent of movement of the guide, a rack bar carrying said arm, means for effecting a step by step movement of the bar, a plurality of indicating disks, pivoted arms carrying said disks, said arms having cams, and the cams being disposed in successive order, and means on the rack bar for engaging said cams and moving the successive disks to display position.

19. A pool ball rack having ball receiving compartments, an adjustable guide for directing the balls into such compartments, and an electrical alarm having ball closed contacts arranged at the entrance end of the guide.

20. A pool ball rack having ball receiving compartments, a pivoted guide for directing the balls into such compartments, an electrical alarm, a source of energy, circuits connecting the source of energy and the alarm, a controlling switch for rendering one or other of the circuits operative, ball actuated contacts arranged in two of the contacts and connected in one of the circuits, and ball actuated contacts arranged in the other circuit and disposed at the entrance end of the guide.

868,428. MACHINE FOR PUNCHING STAIR-STRINGERS. MARTIN GROSSMAN, New York, N. Y. Filed Mar. 8, 1907. Serial No. 361,265.



1. In an apparatus for punching rivet holes in stair stringers, the combination of a table, a reciprocating carrier and a set of punches carried thereby, the said punches being adjustable in differently arranged groups, whereby the apparatus is adapted to punch rivet holes in opposite stringers of a pair, and adjustable positioning means arranged at opposite ends of said table, respectively, adapted to enter a previously punched hole in the stringer.

2. In an apparatus for punching rivet holes in stair stringers, the combination of a table, a reciprocating carrier provided with different groups of holders or sockets for the punches, the said holders or sockets of each group being in triangular relation, whereby when the punches are carried by one group of triangularly disposed holders or sockets they are adapted to punch the rivet holes for one stringer of a pair and when carried by the other group of sockets or holders they are adapted to punch rivet holes for the other stringer of said pair, and adjustable positioning means arranged at opposite ends of said table, respectively, adapted to enter a previously punched hole in the stringer.

3. In an apparatus for punching rivet holes in stair stringers, the combination of a table, means for forming groups of rivet holes for the risers and treads, and means for relatively changing the relation of said hole forming means relative to a longitudinal edge of the stringer, whereby the apparatus is adapted to punch for differently proportioned risers and treads, and adjustable positioning means adapted to enter a previously punched hole in the stringer and having capacity of adjustment in an arc.

4. In an apparatus for punching rivet holes in stair stringers, the combination of a table, means for forming groups of rivet holes for the risers and treads, and means for relatively changing the relation of said hole forming means relative to a longitudinal edge of the stringer, whereby the apparatus is adapted to punch for differently proportioned risers and treads, and adjustable positioning means adapted to enter a previously punched hole in the stringer and having capacity of adjustment in an arc and also radially in respect to said arc.

5. In an apparatus for punching rivet holes in stair stringers, the combination of a table, means for forming groups of rivet holes for the risers and treads, and means for relatively changing the relation of said hole forming means relative to a longitudinal edge of the stringer, whereby the apparatus is adapted to punch for differently proportioned risers and treads, and adjustable positioning means adapted to enter a previously punched hole in the stringer and such means comprising an adjustable disk or member provided with a slot or way and having a positioning pin adjustably mounted therein.

6. In an apparatus for punching rivet holes in stair stringers, the combination of a table, means for forming groups of rivet holes for the risers and treads, and means for relatively changing the relation of said hole forming means relative to a longitudinal edge of the stringer, whereby the apparatus is adapted to punch for differently proportioned risers and treads, and adjustable positioning means adapted to enter a previously punched hole in the stringer and such means comprising a circular member or disk adjustable angularly on its center and provided with a radial slot or way, and a positioning pin adjustable along the length of said slot.

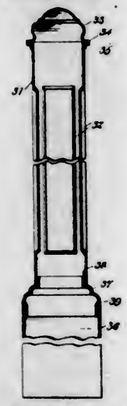
7. In an apparatus for punching rivet holes in stair stringers, the combination of a table, means for forming groups of rivet holes for the risers and treads, and means for relatively changing the relation of said hole forming means relative to a longitudinal edge of the stringer, whereby the apparatus is adapted to punch for differently proportioned risers and treads, an adjustable positioning pin projecting above the surface of the table to enter a previously punched hole in the stringer, said pin being spring mounted and adapted to be retracted to withdraw it from a punched hole, and means for retracting it.

8. In an apparatus for punching rivet holes in stair stringers, the combination of a table, means for forming groups of rivet holes for the risers and treads, and means for relatively changing the relation of said hole forming means relative to a longitudinal edge of the stringer, whereby the apparatus is adapted to punch for differently proportioned risers and treads, an adjustable positioning pin projecting above the surface of the table to enter a previously punched hole in the stringer, said pin being spring mounted and adapted to be retracted to withdraw it from a punched hole, means for retracting it and means for locking it in retracted position.

9. In an apparatus for punching rivet holes in stair stringers, the combination of a table, a reciprocating carrier and a set of punches carried thereby, the said punches being adjustable in differently arranged groups, whereby the apparatus is adapted to punch rivet holes in opposite stringers of a pair, and adjustable positioning mechanisms adapted to enter a previously punched hole in the stringer to position it for the punching of the next set of holes, one such positioning mechanism being adapted for one stringer of a pair and the other mechanism for the other stringer.

10. In an apparatus for punching rivet holes in stair stringers, the combination of a table, a reciprocating carrier and a set of punches carrier thereby, the same punches being adjustable in differently arranged groups, whereby the apparatus is adapted to punch rivet holes in opposite stringers of a pair, and adjustable positioning pins adapted to enter a previously punched hole in the stringer to position it for punching the next set of holes, one of said pins being adapted for positioning one stringer of a pair and the other pin the other stringer.

868,429. METAL COLUMN, POST, AND THE LIKE. SAMUEL GROSSMAN, New York, N. Y. Filed Nov. 19, 1906. Serial No. 343,987.

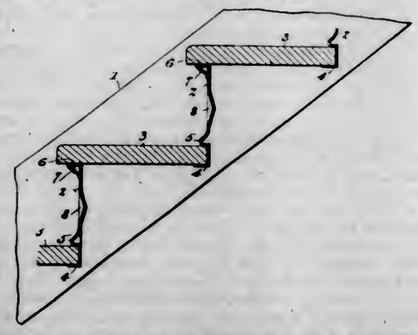


1. A column or post having a reduced and an enlarged part made of sheet-metal formed into a hollow body, and a metallic casting located between and connecting the said reduced and enlarged parts and forming an external shoulder between the two parts.

2. A column or post comprising an upper part made of hollow sheet-metal and a lower part also made of hollow sheet-metal and the two parts being of different diameters, and a metallic casting having its respective ends made of different sizes to fit the said respective parts and to unite the same.

3. A newel post comprising a hollow sheet-metal body or column, and sheet metal caps secured upon the respective ends of said hollow column or body.

868,430. STAIR. SAMUEL GROSSMAN, New York, N. Y. Filed Mar. 8, 1907. Serial No. 361,253.

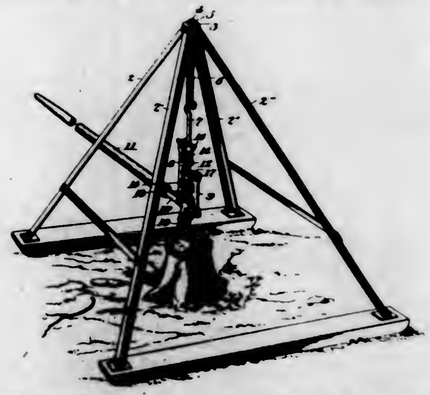


1. Stairs comprising the combination of suitably supported metal risers each formed at its lower end with a forwardly extending flange and a forwardly projecting corrugation formed in the body of said metal and extending substantially parallel with said flange, and projecting forwardly of the main part of said riser and treads each having its rear edge inserted between the flange and the corrugation of the next riser above same.

2. Stairs comprising the combination of suitably supported metal risers each formed at its lower end with a forwardly extending flange and a forwardly projecting corrugation in the body of said metal and extending substantially parallel with said flange, treads each having its rear edge inserted between the flange and the corrugation of the next riser above same and the upper end of each riser being bent over upon itself to form a strengthening and supporting edge for the treads.

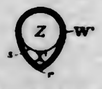
3. Stairs comprising the combination of suitably supported metal risers each formed at its lower end with a forwardly extending flange and a forwardly projecting corrugation in the body of said metal and extending substantially parallel with said flange, treads each having its rear edge inserted between the flange and the corrugation of the next riser above same, and the body of said riser being formed above said corrugation with a series of indentations or corrugations for strengthening the same.

868,431. STUMP-PULLER. BERNHARD L. GROTH, St. Louis, Mo. Filed Dec. 8, 1906. Serial No. 348,777.



The combination, in a stump puller, of a frame the members of which are bolted to skids, and are inclined to the center, and are provided with a metal cap 3 from which is suspended a guide rod 7 upon which friction gripping rings 16 and 17 are adapted to raise alternately by means of auxiliary levers pivoted to a main lever; the said lever carrying a sleeve 18 designed to draw upon the chain 19, substantially as set forth.

868,432. SPRINKLER FOR EXTINGUISHING FIRES. GEORGE F. HALL, Providence, R. I. Filed May 1, 1906. Serial No. 314,685.



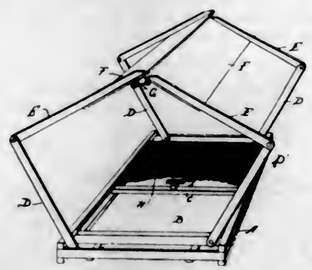
1. The improved sprinkler device herein described, consisting of a water supply pipe, a metal tube having perforations along one side thereof, and a screen dividing said tube into two distinct separate longitudinal chambers or spaces and having perforations, each of said last named perforations being less in area than each of the first named perforations, which screen is located between the discharging portion of said pipe and the first named perforations, the total area of the second named perforations exceeding the total area of the first named perforations.

2. In a sprinkler device, the combination of a sprinkler tube having perforations, a perforated screen within said tube and extending longitudinally thereof and dividing it into upper and lower compartments, a water supply pipe entering said tube in the upper compartment thereof, a valve in said water supply pipe adapted normally to allow water to flow from said last named pipe, and fusible means arranged normally to hold said valve in a closed position but automatically separable or detachable when subjected to a sufficient heat and adapted to allow when so separated or detached the flow of water through said supply pipe into and through the sprinkler tube.

3. In a sprinkler device, the combination of a valve case having a notched seat, a valve mounted in said case and having a valve stem, a lever mounted at one end upon the valve stem and provided with a notch near its outer end, two metallic strips soldered together by an easily fusible solder, one of which has a shoulder and is engaged in said valve seat and the other of which is engaged at one end with said shoulder and with the notch of the valve stem at the opposite end, a water supply pipe entering the valve case at one end thereof, and a sprinkler pipe opening from the valve case at the opposite end thereof and provided with discharging apertures.

4. The combination of a sprinkler terminal having a plurality of apertures spaced longitudinally along one side thereof and adapted to discharge a fluid outwardly in a plurality of separately directed streams, means for conveying said fluid into the interior of said device, and a perforated screen longitudinally placed within the device so that all fluid entering said device must pass through the screen on its way to the discharging apertures, each of the perforations in the screen being less in area than any one of said discharging apertures and the total area of all said screen apertures exceeding the total area of all said discharging apertures.

868,433. RACK FOR GRAIN-SHOCKS AND THE LIKE. ELMER HARRISON, Philadelphia, Pa. Filed July 12, 1907. Serial No. 383,403.

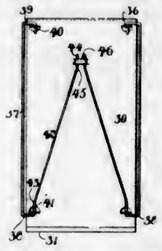


1. In a shocking rack the combination of a base, a screen secured to said base, arms pivoted to the base, a second set of arms pivoted to the first named arms and roofing boards carried by the second set of arms, as and for the purpose set forth.

2. A grain shocking apparatus consisting of a base, side rails secured to said base, a screen also secured to the base, a series of pivoted arms, roofing boards secured to said arms, means for holding said roofing boards in their open position and means for holding said boards in their folded position, as specified.

3. The herein described combination of a base, cross rails secured to said base, a screen also secured to the base, two series of arms D and D' pivoted to the base, cross rails, a second series of arms E and E' pivoted to the first named arms, roofing boards secured to the arms E and E', hooks for holding the roofing boards in their open position and a turn bolt for holding the movable parts in their folded position, as specified.

868,434. SORTING-DESK. SAMUEL A. HARRISON, New York, N. Y. Filed July 3, 1906. Serial No. 324,562.



1. In a sorting desk, the combination with a number of vertically disposed rack bars having downwardly directed oblique faces and upwardly directed stop faces, shelves between said rack bars, wires comprising detents and slides carried by said shelves beyond the sides thereof for engaging said rack bars, and passing over the oblique faces in an upward movement and across the stop faces in an in-and-out sliding movement, and torsion springs for holding said wires extended beyond the sides of the shelves and in engagement with said rack bars.

2. The improved tray comprising a body portion, lugs struck up from the corners thereof and provided with bearing openings, and spring retaining means on the said body portion, wires having transverse bends and pintles bent from such transverse bends and entering said bearing openings and each wire continued from one pintle engaging said spring retaining means and forming a spring for pressing said wire outwardly.

3. The improved tray comprising a flat sheet metal body portion, lugs struck up from the corners of said body portion and having their flat faces facing toward the respective ends thereof, said lugs being provided with bearing holes, wires each having a portion parallel with the side of the tray and having transversely bent portions and pintle ends bent therefrom and traversing said holes, each pintle at the forward end continuing into a torsion spring offset from said pintle and extending toward the center and rear of the tray and having an offset near the end, and a strap engaging the ends beyond said offset.

4. A tray comprising a sheet metal body portion, lugs struck up from the corners thereof and having their flat faces directed toward the respective ends of the tray and provided with openings, wire detents each comprising a wire portion extending parallel with the adjacent edge of the tray and extending beyond said lugs and bent transversely and also having pintle portions bent from such transverse portions and entering the holes in said lugs, the transverse portion at each end passing between the lug and the adjacent end of the tray and the pintle at the forward end extended into a torsion spring, and means for holding the end of the torsion spring.

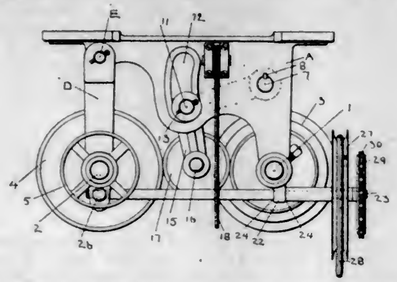
868,435. APPARATUS FOR TRANSMITTING POWER. JAMES N. HEALD, Worcester, Mass., assignor to The Heald Machine Company, Worcester, Mass., a Corporation of Massachusetts. Filed Jan. 13, 1904. Serial No. 188,838.

1. In an apparatus for transmitting power, the combination of two stepped pulleys, an intermediate pulley, means for separating said stepped pulleys and means for raising, lowering and imparting a lateral movement to said intermediate pulley, substantially as described.

2. In an apparatus for transmitting power, the combination of two stepped pulleys, an intermediate pulley, means for separating said stepped pulleys and means whereby said intermediate pulley may be engaged and disengaged with the various pairs of steps of the stepped pulleys, substantially as described.

3. In an apparatus for transmitting power, the combination of two stepped pulleys, an intermediate pulley, swinging arms in which said intermediate pulley is jour-

nailed, a rod supporting said swinging arms, means for raising said rod, and for moving said swinging arms laterally.



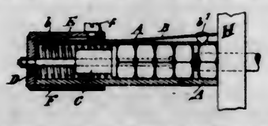
4. In an apparatus for transmitting power, the combination of two stepped pulleys, an intermediate pulley, a frame for supporting said stepped pulleys, swinging arms in which said intermediate pulley is journaled, a fixed rod and supporting said swinging arms at their free ends; a pivoted rod connecting the ends of said swinging and said rocking arms and having its ends inclosed in slots in said frame, means for rocking said last rocking arms to raise the intermediate pulley, and means for laterally moving said rocking arms upon said fixed rod, substantially as described.

5. In an apparatus for transmitting power, the combination of two stepped pulleys, an intermediate pulley, a frame for supporting said stepped pulleys, a shaft journaled in hangers pivotally connected with said frame supporting one of said stepped pulleys and a shaft journaled in said frame supporting the other of said stepped pulleys, adjusting shafts journaled in said frame and held from longitudinal movement therein and fastened by a screw threaded connection with said pivotally connected hangers, and means for rotating said adjusting shafts simultaneously, whereby the distance between said stepped pulleys may be increased or diminished.

6. In an apparatus for transmitting power, the combination of two stepped pulleys, an intermediate pulley capable of being raised and lowered and of a lateral movement whereby said intermediate pulley may be brought into engagement with different steps of said stepped pulleys, means for varying the distance between said stepped pulleys, substantially as described.

7. In an apparatus for transmitting power, the combination with two stepped pulleys, of an intermediate pulley, swinging arms in which said intermediate pulley is journaled, means for supporting said swinging arms, and means for raising said swinging arms and moving them laterally.

868,436. WRENCH. LUCIEN HERMAND, Montmorency, France. Filed July 6, 1907. Serial No. 382,541.



1. An instrument for screwing and unscrewing nuts onto and from screws, the said instrument comprising an ordinary brace carrying a casing adapted to receive the nuts in line and with an end adapted to engage such nuts, a central stem coaxial therewith, a pusher guided on said stem and spring for moving the nuts forward in the casing and allowing them to move inwards and means for normally holding the nuts in the casing, which means are capable of yielding to allow of the passage of the nuts in screwing on and screwing off.

2. In instruments for screwing and unscrewing nuts onto and from screws, the combination of a casing in transverse section of a size and shape corresponding to the nuts to be dealt with, openings near the forward end of the said casing, oblique faced spring actuated projections protruding through the said openings, a central stem co-axial with the casing, a pusher mounted on the said stem and a spring acting to move the said pusher forward and allow it to move backward.

3. In instruments for screwing and unscrewing nuts onto and from screws, the combination with a brace of a perforated casing for containing and guiding the nuts to be dealt with, yieldable oblique faced projections passing through said perforations for retaining and allowing of the passage of nuts in screwing on and screwing off, a guided pusher and spring for pressing the nuts forward and allowing them to move backward in the casing and a socket piece for receiving the rear end of the said casing and provided with means for connecting the instrument to the brace.

4. A nut wrench comprising a tube adapted to receive a plurality of nuts and formed at one end to fit a nut and closed at the other, a central stem coaxial with said tube and a spring actuated pusher guided on said stem and opposing the entrance of the nuts into the tube.

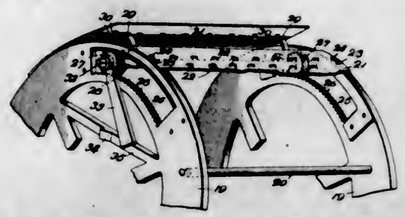
5. A nut wrench comprising a tube adapted to receive a plurality of nuts and formed at one end to fit a nut, independent means for closing the other end of said tube and spring means carried thereby to oppose the entrance of a nut therein and yielding means to prevent its escape after entrance.

6. A nut wrench comprising a tube adapted to receive a plurality of nuts and formed at one end to fit a nut, independent means for closing the other end of said tube and spring means to oppose the entrance of a nut therein in combination with yielding means to oppose the passage of the nut in either direction through the tube.

7. A nut wrench comprising a perforated tube closed at one end, adapted to receive a plurality of nuts and formed at its open end to fit a nut, yielding angled projections passing through said perforations and spring means within the tube to oppose the entrance of a nut therein.

8. A nut wrench comprising a tube closed at one end, adapted to receive a plurality of nuts and formed at its open end to fit a nut and spring means within the tube to oppose the entrance of a nut therein, in combination with a boss adapted to receive the shank of a bit.

868,437. VEGETABLE-DISINTEGRATOR. CHARLES HOOVER, Seattle, Wash. Filed Aug. 21, 1906. Serial No. 331,498.



1. In a device of the character described, the combination of a support, a drum mounted upon the support and having segmental slots formed in the ends thereof, said slots being provided with racks along one of their sides, a shaft passing through the slots, pinions carried by the shaft and engaging the racks, a disintegrating sheet wrapped around the drum and having one edge connected to the drum and the opposite edge to the shaft, means for rotating the shaft to produce the required tension in the disintegrating sheet and means to lock the shaft against backward movement.

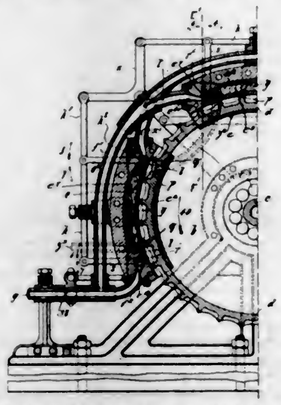
2. In a device of the class described, a rotating drum comprising spaced disks having registering segmental slots formed therein, a disintegrating sheet embracing said drum circumferentially and having one end removably secured thereto, a rack formed along the inner segmental

curve of the slot, pinions mounted within the slots and engaging the segmental rack, a shaft extending longitudinally of the drum and rigidly connected with the pinions, straps carried by the disintegrating sheet arranged to engage the shaft, means for rotating the shaft and gears and to move the gears and shaft circumferentially relative to the drum within the segmental slots, and means to retain the gears and shaft from retroactive movement.

3. In a device of the class described, a rotating drum comprising spaced disks having registering segmental openings formed adjacent their peripheries, racks formed along the inner segmental curves of the openings, a disintegrating sheet circumferentially embracing the drum and removably secured at one end thereto, pinions disposed within the segmental openings and in engagement with the segmental rack, a shaft rigidly connecting the pinions and extended longitudinally of the drum, straps carried by the disintegrating sheet and arranged to engage the shaft, means to rotate the gear and shaft to move the gear and shaft circumferentially of the drum, means carried by the shaft to retain the shaft and gears against retroactive movement, a hopper disposed above the drum and having an open lower end in communication therewith, and provided with vertically disposed slots, a follower disposed within the hopper, a lever rigidly secured to the follower and extending without the hopper through the slots, a rack disposed vertically adjacent and without the hopper, and a bail carried by the lever arranged to engage the rack.

4. In a device of the character described, the combination of a support, a drum rotatably mounted upon the support and having openings formed in the ends thereof, a shaft passing through the openings and movable circumferentially of the drum, a disintegrating sheet wrapped around the drum and having one end connected to the drum and the opposite end to the shaft, means for moving the shaft circumferentially of the drum to produce the required tension in the disintegrating sheet and means to lock the shaft against backward movement.

868,438. TURBINE. JOHN HUTCHINGS, London, England. Filed Jan. 30, 1905. Serial No. 243,360.



1. An elastic fluid turbine comprising a driving disk having its periphery formed with a circumferentially-extending series of vanes with each of the faces thereof of epicycloidal curvature, thereby forming a continuous direct abutment for the motive fluid.

2. An elastic fluid turbine comprising a driving disk having its periphery formed with a circumferentially-extending series of vanes with each of the faces thereof of epicycloidal curvature, thereby forming a continuous direct abutment for the motive fluid, and a plurality of independent expansion chambers communicating with a motive fluid supply and through which said vanes travel to receive the impact of the motive fluid, said expansion chambers opening into the atmosphere and suitably spaced from each other.

3. An elastic fluid turbine comprising a driving disk having its periphery formed with a circumferentially-extending series of vanes with each of the faces thereof of epicycloidal curvature, thereby forming a continuous direct abutment for the motive fluid, a plurality of independent expansion chambers communicating with a motive fluid supply and through which said vanes travel to receive the impact of the motive fluid, said expansion chambers opening into the atmosphere and suitably spaced from each other, and means for adjustably supporting said chambers.

4. An elastic fluid turbine comprising a driving disk having its periphery formed with a circumferentially-extending series of vanes with each of the faces thereof of epicycloidal curvature thereby forming a continuous direct abutment for the motive fluid, and a plurality of jacketed expansion chambers arranged independent of each other, communicating with a motive fluid supply and through which said vanes travel to receive the impact of the incoming motive fluid, said expansion chambers opening into the atmosphere and suitably spaced from each other.

5. An elastic fluid turbine comprising a driving disk having its periphery formed with a circumferentially-extending series of vanes with each of the faces thereof of epicycloidal curvature thereby forming a continuous direct abutment for the motive fluid, a plurality of jacketed expansion chambers arranged independent of each other, communicating with a motive fluid supply and through which said vanes travel to receive the impact of the incoming motive fluid, said expansion chambers opening into the atmosphere and suitably spaced from each other, and means for adjustably supporting said chambers.

6. An elastic fluid turbine comprising a driving disk having its periphery formed with a circumferentially-extending series of vanes with each of the faces thereof of epicycloidal curvature thereby forming a continuous direct abutment for the motive fluid, a plurality of independent expansion chambers through which said vanes travel for receiving the impact of the motive fluid, said chambers opening into the atmosphere and suitably spaced from each other, each of said chambers provided at each end with an inlet port, cut-offs arranged in each of said ports, the cut-offs in the ports at one end for each of said chambers alternately operating with respect to the cut-offs in the ports for the other end of said chambers, and means for operating the cut-offs.

7. An elastic fluid turbine comprising a driving disk having its periphery formed with a circumferentially-extending series of vanes with each of the faces thereof of epicycloidal curvature thereby forming a continuous direct abutment for the motive fluid, a plurality of independent expansion chambers through which said vanes travel for receiving the impact of the motive fluid, said chambers opening into the atmosphere and suitably spaced from each other, each of said chambers provided at each end with an inlet port, cut-offs arranged in each of said ports, the cut-offs in the ports at one end for each of said chambers alternately operating with respect to the cut-offs in the ports for the other end of said chambers, means for operating the cut-offs, and means for adjustably supporting the expansion chambers.

8. An elastic fluid turbine comprising a driving disk having its periphery formed with a circumferentially-extending series of vanes with each of the faces thereof of epicycloidal curvature thereby forming a continuous direct abutment for the motive fluid, a pair of segment-shaped plates each having the lower portion curved, means for adjustably supporting said plates, a casting provided with a pair of ports, said casting interposed between said plates and forming, in connection with the curvilinear portion of said plates, an expansion chamber through which said vanes are adapted to pass to receive an impact from

the incoming motive fluid, a nipple opening into each of said ports and communicating with a motive fluid supply, and means for alternately closing said ports to reverse the operation of the driving disk.

9. An elastic fluid turbine comprising a driving disk having its periphery formed with a circumferentially-extending series of vanes with each of the faces thereof of epicycloidal curvature thereby forming a continuous direct abutment for the motive fluid, a pair of segment-shaped plates each having the lower portion curved, means for adjustably supporting said plates, a casting provided with a pair of ports, said casting interposed between said plates and forming, in connection with the curvilinear portion of said plates, an expansion chamber through which said vanes are adapted to pass to receive an impact from the incoming motive fluid, a nipple opening into each of said ports and communicating with a motive fluid supply, and means for alternately closing said ports to reverse the operation of the driving disk, said casting further provided with a chamber constituting a jacket for the expansion chamber.

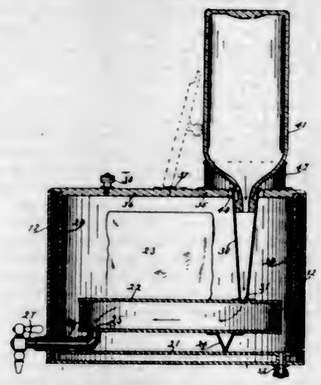
10. An elastic fluid turbine comprising a driving disk having its periphery provided with a circumferentially-extending series of vanes, a plurality of pairs of segment-shaped plates inclosing portions of the rim of said disk, a casting interposed between each of said plates and in connection with the lower portion of said plates constituting an expansion chamber through which the vanes travel to receive an impact of motive fluid each of said castings provided at each end with a port opening into the expansion chamber, a pair of motive fluid supply pipes, a motive fluid conducting pipes communicating with each of the supply pipes, a coupling attached to each of said motive fluid conducting pipes and having a pair of branches, a nipple projecting over a branch of each of said couplings and communicating with a port at each end of one of said castings, a motive fluid conducting pipe projecting from the other branch of one of the couplings and terminating in a nipple communicating with a port of another of said castings, one of said motive fluid supply pipes terminating at its inner end with a nipple which communicates with the other port of the last-mentioned casting, a motive fluid conducting pipe projecting from the other branch of the other of said couplings and terminating in a nipple which communicates with the port of the other of said castings, the other of said motive fluid supply pipes terminating in a nipple which communicates with a port of the last-mentioned casting, and means for controlling the supply of motive fluid to said castings.

11. An elastic fluid turbine comprising a driving disk having its periphery provided with a circumferentially-extending series of vanes, a plurality of pairs of segment-shaped plates inclosing portions of the rim of said disk, a casting interposed between each of said plates and in connection with the lower portion of said plates constituting an expansion chamber through which the vanes travel to receive an impact of motive fluid each of said castings provided at each end with a port opening into the expansion chamber, a pair of motive fluid supply pipes, a motive fluid conducting pipe communicating with each of the supply pipes, a coupling attached to each of said motive fluid conducting pipes and having a pair of branches, a nipple projecting over a branch of each of said couplings and communicating with a port at each end of one of said castings, a motive fluid conducting pipe projecting from the other branch of one of the couplings and terminating in a nipple communicating with a port of another of said castings, one of said motive fluid supply pipes terminating at its inner end with a nipple which communicates with the other port of the last-mentioned casting, a motive fluid conducting pipe projecting from the other branch of the other of said couplings and terminating in a nipple which communicates with the port of the other of said castings, the other of said motive fluid supply pipes terminating in a nipple which communicates with a port of the last-mentioned casting, cut-offs mounted in the ports of each of said castings, and means for alternately opening and closing the cut-offs in each casting.

12. An elastic fluid turbine comprising a driving disk having its periphery provided with a circumferentially-extending series of vanes, a plurality of pairs of segment-shaped plates inclosing portions of the rim of said disk, a casting interposed between each of said plates and in connection with the lower portion of said plates constituting an expansion chamber through which the vanes travel to receive an impact of motive fluid each of said castings provided at each end with a port opening into the expansion chamber, a pair of motive fluid supply pipes, a motive fluid conducting pipe communicating with each of the supply pipes, a coupling attached to each of said motive fluid conducting pipes and having a pair of branches, a nipple projecting over a branch of each of said couplings and communicating with a port at each end of one of said castings, a motive fluid conducting pipe projecting from the other branch of one of the couplings and terminating in a nipple communicating with a port of another of said castings, one of said motive fluid supply pipes terminating at its inner end with a nipple which communicates with the other port of the last-mentioned casting, a motive fluid conducting pipe projecting from the other branch of the other of said couplings and terminating in a nipple which communicates with the port of the other of said castings, the other of said motive fluid supply pipes terminating in a nipple which communicates with a port of the last mentioned casting, cut-offs mounted in the ports of each of said castings, means for alternately opening and closing the cut-offs in each casting, and means for adjustably supporting said segment-shaped plates, and means for controlling the supply of motive fluid to the said supply pipes.

868,439. WATER-COOLING APPARATUS. WILLIAM A. HYND, Indianapolis, Ind., assignor to Superior Sheet Metal Works Company, Indianapolis, Ind., a Corporation of Indiana. Filed Apr. 5, 1906. Serial No. 310,137.

In a water-cooling apparatus, an ice-box forming a refrigerating chamber with a top having an opening therein, a water tank within said chamber and having a closed conduit leading from said water tank to a point outside the ice-box, a funnel upon said water tank that leads into the same, the upper end of said funnel registering with the opening in the top of the ice-box, a cylindrical support secured on the top of the ice-box around said opening, and an inverted bottle-shaped water vessel mounted upon said support with its mouth wedging into the upper part of said funnel, the arrangement being such as to form a chamber above said ice-box around the lower part of said



water vessel and a passageway from said upper chamber to the refrigerating chamber in the ice-box.

868,440. FOLDING CRATE. WALTER JAMES, Brushton, Pa. Filed Aug. 31, 1906. Serial No. 332,770.

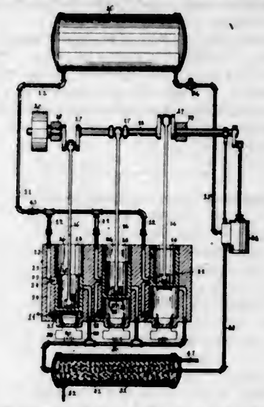


In a crate, the combination with a floor or bottom, of ends hinged thereto, and adapted to fold down upon the upper surface of said floor, front and rear sides also hinged to the floor and adapted to be folded upon said ends, a top comprising a rectangular frame and parallel transverse bars, and means for securing said top and bottom consisting of oppositely disposed inclined straps pivotally secured at their lower ends to the bottom and formed at their upper ends with elongated slots to receive securing devices projecting from the top, and locking cleats hinged to the ends of the top and recessed on their under surfaces to adapt them to engage the hinged ends of the plate when the latter is in its unfolded position, and to rest flush with the upper surface of the top of the crate when the latter is folded.

868,441. COMPRESSED-AIR MOTOR. CHARLES D. JENKINS, Boston, Mass. Filed May 6, 1907. Serial No. 372,117.

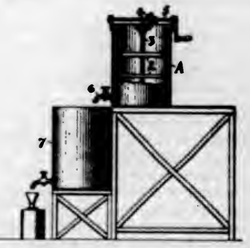
1. The combination with a source of air under pressure, of an air engine comprising a cylinder and a piston reciprocating in said cylinder and coöperating therewith to form a substantially small chamber when the piston is at the end of its stroke in one direction, means to admit compressed-air into said chamber, an electric conductor located in said chamber when the piston is at the end of the stroke on which said chamber is formed and capable of being highly heated, an electric circuit in which said conductor is included when the piston is at the end of its chamber-forming stroke, and a circuit controller for said circuit operated to close the same and highly heat the conductor when the piston is at or near the end of its chamber-forming stroke to thereby expand the compresed-air and propel the piston, substantially as described.

2. The combination with a cylinder and a piston reciprocating therein to form a substantially small chamber when the piston is at the end of its stroke in one direction, an electric conductor movable with said piston, an electric circuit having terminals extended within said cylinder and coöperating with said electric conductor to include the latter in a closed circuit and thereby highly heat the



conductor when the piston is at the end of its stroke in one direction, substantially as described.

868,442. PAINT OR COATING COMPOSITION. JOSEPH C. JEPSON, San Francisco, Cal., assignor of one-half to Edward K. Taylor, Alameda, Cal. Filed Sept. 14, 1905. Serial No. 278,391.



A paint or coating composition consisting of the separated fluid constituents obtained from a mixture of calcined and pulverized cement and whey first intimately mixed and then allowed to settle to separate the fluid from the heavier inert matter.

868,443. PROCESS OF OBTAINING MILK-SUGAR. JOHN A. JUST, Syracuse, N. Y. Filed Nov. 21, 1906. Serial No. 344,353.

1. In the manufacture of milk sugar preparations, the process which comprises mixing a crude milk sugar solution with a mineral absorbent to form a magma, drying the magma to expel water and render impurities insoluble, and leaching the dried material to form a purer milk sugar solution.

2. The process of preparing pure milk sugar which consists in mixing a crude milk sugar solution with a mineral absorbent to form a magma, drying the magma to expel water and render impurities insoluble, leaching the dried material to form a purer milk sugar solution and recovering the milk sugar from this solution.

3. The process of preparing pure milk sugar which consists in mixing a crude milk sugar solution with a mineral absorbent to form a magma, drying the magma to expel water and render impurities insoluble, leaching the dried material to form a purer milk sugar solution and recovering the milk sugar from this solution by concentration and crystallization.

4. The process of preparing pure milk sugar which consists in mixing a crude milk sugar solution with infusorial

earth to form a magma, quickly drying this magma to expel water and render impurities insoluble, leaching the dried material to form a purer milk sugar solution and recovering the milk sugar from this solution.

5. The process of preparing pure milk sugar which consists in mixing a crude milk sugar solution with a mineral absorbent to form a magma, converting this magma into a film and quickly drying to expel water and render impurities insoluble, leaching the dried material to form a purer milk sugar solution and recovering the milk sugar from this solution.

868,444. PROCESS OF MAKING LACTIC ACID. JOHN A. JUST, Syracuse, N. Y. Filed Nov. 21, 1906. Serial No. 344,354.

1. The process of making lactic acid from impure milk sugar solutions, which consists in mixing an impure milk sugar solution with a mineral absorbent to form a magma, drying the magma to expel water and render impurities insoluble, leaching the dried material to obtain a purified milk sugar solution and adding a lactic ferment to the solution.

2. The process of making lactic acid from impure milk sugar solutions, which consists in mixing an impure milk sugar solution with a mineral absorbent to form a magma, drying the magma to expel water and render impurities insoluble, leaching the dried material to obtain a purified milk sugar solution, adding a lactic ferment and a neutralizing body to the solution and recovering the lactic acid formed.

3. The process of making lactic acid from impure milk sugar solutions which consists in mixing an impure milk sugar solution with a mineral absorbent to form a magma, drying the magma to expel water and render impurities insoluble, leaching the dried material to obtain a purified milk sugar solution, adding a lactic ferment to the solution and recovering the lactic acid formed.

4. The process of making lactic acid from impure milk sugar solutions which consists in mixing an impure milk sugar solution with infusorial earth to form a magma, forming the magma into a film and rapidly drying to expel water and render impurities insoluble, leaching the dried material to obtain a purified milk sugar solution, adding a lactic ferment and a calcareous neutralizing body to the solution and recovering the lactic acid formed by decomposing the lime salt so produced by decomposition with an acid forming an insoluble calcium salt.

5. The process of making lactic acid from impure milk sugar solutions which consists in mixing an impure milk sugar solution with a mineral absorbent to form a magma, drying the magma to expel water and render impurities insoluble, leaching the dried material to obtain a purified milk sugar solution, adding a rennet preparation containing lactic ferments to the solution and recovering the lactic acid formed.

868,445. PROCESS OF PREPARING CASEIN SOLUBLE TO A NEUTRAL SOLUTION. JOHN A. JUST, Syracuse, N. Y. Filed Nov. 21, 1906. Serial No. 344,356.

1. The process substantially as herein described of preparing milk casein soluble to a neutral solution, which consists in treating separated milk with a small proportion of acetic acid, sufficient to precipitate casein slowly heating the mixture, recovering the casein so precipitated, mixing the casein with a sufficient quantity of alkali or alkaline salt to form a neutral soluble compound, and drying the mixture to form a neutral casein suitable for commercial purposes.

2. The process substantially as herein described of preparing milk casein soluble to a neutral solution, which consists in mixing separated milk with only sufficient acetic acid to precipitate casein slowly, warming the mixture, allowing the casein to settle, recovering the casein and mixing the casein with a sufficient quantity of alkali or alkaline salt to form a neutral soluble compound.

3. The process substantially as herein described of preparing milk casein soluble to a neutral solution, which consists in diluting the separated milk, mixing the diluted milk with only sufficient acetic acid to precipitate casein slowly, gently heating the mixture to about 90 to 100 degrees F., to hasten precipitation and recovering the casein formed, mixing the casein with a sufficient quantity of alkali or alkaline salt to form a neutral soluble compound and drying the mixture to form a neutral casein suitable for commercial purposes.

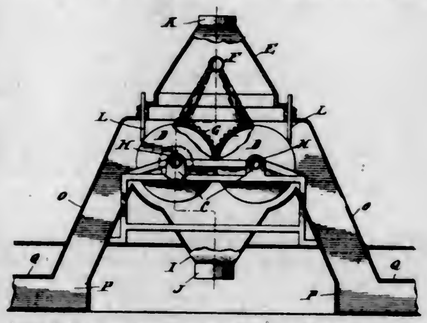
4. The process substantially as herein described of preparing milk casein soluble to a neutral solution, which consists in treating separated milk with about one-tenth percent of acetic acid, heating the mixture to not exceed 140 degrees F., recovering the casein so formed, washing and drying the casein and adding a sufficient quantity of dry alkali or alkaline salt to form a neutral soluble compound.

5. In the process of preparing milk casein adapted to be dissolved to a neutral solution, the process which consists in treating separated milk with about one-tenth percent of acetic acid, heating the mixture not to exceed 140 degrees F, recovering the casein so formed, and washing and draining the casein.

6. In the process of preparing milk casein adapted to be dissolved to a neutral solution, the process which consists in diluting the separated milk from two to four times its volume, adding about one-tenth percent of acetic acid and thoroughly mixing, warming and allowing the separated casein to settle, separating the liquid, washing the casein from adhering liquid, removing the casein thus produced and draining it.

7. In the process of preparing milk casein adapted to be dissolved to a neutral solution, the process which consists in diluting the separated milk from two to four times its volume, adding about one-tenth percent of acetic acid and thoroughly mixing, heating the mixture to not exceed 140 degrees F, and allowing the separated casein to settle, separating the liquid, washing the casein from adhering liquid, removing the casein thus produced and draining it.

868,446. DRYING APPARATUS. JOHN A. JUST, Syracuse, N. Y. Filed Nov. 24, 1906. Serial No. 344,895.



1. A drying apparatus comprising a rotatable drum having a foraminous surface, means communicating with the interior of said drum for forcing air outwardly through said foraminous surface and means for distributing liquid to be dried upon such foraminous surface.

2. A drying apparatus comprising a rotatable drum of perforated sheet metal, means communicating with the interior of said drum for supplying air under pressure and means for distributing liquid to be dried upon the exterior of the drum.

3. A drying apparatus comprising a pair of rotatable drums placed to rotate in close proximity, one or both having a foraminous surface, means for forcing air outwardly through said foraminous surface and through liquid thereupon and means for distributing liquid to be dried upon such foraminous surface.

4. A drying apparatus comprising a pair of rotatable drums placed to rotate in close proximity, one or both said drums being of perforated sheet metal and means communicating with the interior of a drum for supplying air under pressure to and through liquid on the exterior of such drum and means for distributing liquid to be dried upon the exterior of said drum.

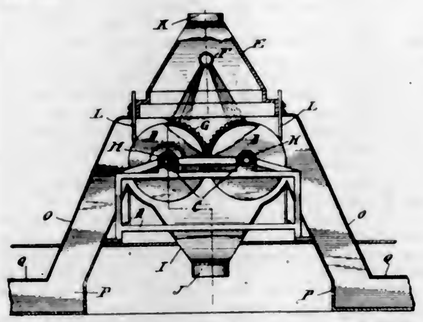
5. A drying apparatus comprising a rotatable drum having a foraminous surface, means for heating and drying air, means for forcing such air into the interior of said drum and outwardly through said foraminous surface and means for distributing liquid to be dried upon such foraminous surface.

6. A drying apparatus comprising a rotatable drum of perforated sheet metal, means for heating and drying air, means communicating with the interior of said drum for supplying such air under pressure to and through liquid upon the exterior of the drum and means for distributing liquid to be dried upon the exterior of the drum.

7. A drying apparatus comprising a pair of rotatable drums placed to rotate in close proximity, one or both having a foraminous surface, means for heating and drying air, means communicating with the interior of said drums for forcing such air outwardly through said foraminous surface, and means for distributing liquid to be dried upon such foraminous surface.

8. A drying apparatus comprising a pair of rotatable drums placed to rotate in close proximity, one or both of said drums being of perforated sheet metal, means for heating and drying air, means communicating with the interior of a drum for supplying such air under pressure outwardly through its perforated surface and means for distributing liquid to be dried upon the exterior of said drum.

868,447. EVAPORATING PROCESS. JOHN A. JUST, Syracuse, N. Y. Filed Nov. 24, 1906. Serial No. 344,869.



1. The process of drying liquid material which comprises passing air under pressure through a traveling perforated carrier and through a layer of liquid material to be dried adhering thereto, continuously supplying liquid material to be dried to an anterior portion of said traveling surface as an adhering layer and removing the porous dried material from a posterior portion.

2. The process of drying milk which comprises passing air under pressure through a traveling perforated carrier and through a layer of milk to be dried adhering thereto, continuously supplying milk to be dried to an anterior portion of said traveling surface as an adhering layer and removing the porous dried milk from a posterior portion.

3. The process of drying liquid material which comprises passing air under pressure through a traveling perforated carrier and through a layer of liquid material to be dried adhering thereto, continuously supplying liquid material to be dried to an anterior portion of said traveling surface as an adhering layer and pressing it into a film on said surface after partial evaporation, and removing the porous dried material from a posterior portion.

4. The process of drying milk which comprises passing air under pressure through a traveling perforated carrier and through a layer of milk to be dried adhering thereto, continuously supplying milk to be dried to an anterior portion of said traveling surface as an adhering layer and pressing it into a film on said surface after partial evaporation, and removing the porous dried milk from a posterior portion.

5. The process of drying liquid materials which comprises supplying air under pressure to the interior of a rotating perforated drum and through a layer of material adhering to the exterior thereof, continuously supplying liquid material to the surface of said perforated drum and removing dried material at a point posterior to the point of supply of liquid material.

6. The process of drying milk which comprises supplying air under pressure to the interior of a rotating perforated drum and through a layer of milk adhering to the exterior thereof, continuously supplying milk to the surface of said perforated drum and removing dried milk at a point posterior to the point of supply of milk.

7. The process of drying liquid material which comprises supplying air under pressure to the interior of a rotating perforated drum and through a layer of material adhering to the exterior thereof, continuously supplying liquid material to the surface of said perforated drum and pressing the material into a layer after partial evaporation thereon and removing the dried material at a point posterior to the point of supply of liquid material.

8. The process of drying milk which comprises supplying air under pressure to the interior of a rotating perforated drum and through a layer of milk adhering to the exterior thereof, continuously supplying milk to the surface of said perforated drum and pressing the milk into a layer after partial evaporation thereon and removing the dried milk at a point posterior to the point of supply of milk.

9. The process of desiccating milk into a filamentous product which comprises continuously supplying milk to an anterior portion of a traveling perforated carrier having heated and dried air passing outward through the perforations thereof, after a period of travel with said surface and partial desiccation thereon pressing down the partially evaporated milk into a layer, in subsequent travel disintegrating the layer and completing the desiccation by outward passing air and finally removing the filamentous or tufted product formed from a posterior portion of such traveling surface.

10. The process of desiccating milk into a filamentous product which comprises continuously supplying milk to anterior portions of a pair of rotating perforated drums interiorly supplied with heated and dried air under pressure and rotating in close proximity, after a period of travel with said rotating drums pressing the partially evaporated milk into a layer between the drums, in subsequent travel disintegrating the layer and completing the desiccation by outward passing air, and finally removing the filamentous or tufted product formed from posterior portions of such rotating drums.

11. The process of desiccating milk into a filamentous product which comprises continuously supplying neutralized milk to an anterior portion of a traveling perforated carrier having heated and dried air passing outward through the perforations thereof, after a period of travel with said surface and partial desiccation thereon pressing down the partially evaporated milk into a layer, in subsequent travel disintegrating the layer and completing the desiccation by outward passing air and finally removing the filamentous or tufted product formed from a posterior portion of such traveling surface.

12. The process of desiccating milk into a filamentous product which comprises continuously supplying neutralized milk to anterior portions of a pair of rotating perforated drums interiorly supplied with heated and dried air under pressure and rotating in close proximity, after a period of travel with said rotating drums pressing the partially evaporated milk into a layer between the drums, in subsequent travel disintegrating the layer and completing the desiccation by outward passing air, and finally removing the filamentous or tufted product formed from posterior portions of such rotating drums.

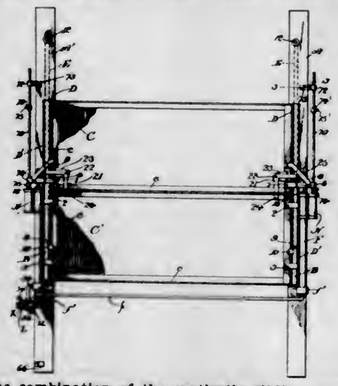
868,448. SELF-OILING LATHE-CENTER. ERNST KEIL, Granville, Ohio. Filed May 17, 1907. Serial No. 374,126.



1. The combination with a lathe-center body provided with a lubricant chamber, and with an outlet leading from said chamber, through the pointed end of the center; of a valve adapted to close said outlet; a work-engaging valve-operating stem projecting beyond the point of the center; and yielding means for forcing the lubricant toward the valve-closed outlet.

2. The combination with a lathe-center body provided with a lubricant chamber, and an outlet leading from said chamber, through the point of the center; of a valve adapted to close said outlet; a work-engaging valve-operating stem projecting through said outlet beyond the point of the center; a piston fitting and movable within the lubricant chamber; and a spring engageable with the outer side of said piston.

868,449. DOOR MECHANISM FOR ELEVATOR-SHAFTS. CHARLES W. KIRSCH, Chicago, Ill., assignor to Elevator Supply & Repair Company, a Corporation of Illinois. Filed Mar. 15, 1905. Serial No. 250,234.



1. The combination of the vertically sliding, upper and lower doors, guides above the ends of said doors, flexible connections between said doors extending over said guides, a lock for holding said doors in closed position, a motor, means operated by said motor for releasing said lock and shifting said doors, and control means for said motor governed by the travel of the elevator car.

2. The combination of the vertically sliding, upper and lower doors, guide pulleys above said doors, flexible connections between the ends of said doors extending over said guide pulleys, means for locking said doors in closed position, and a shifter connected to one of said doors arranged to release said locking means.

3. The combination of the vertical sliding, upper and lower doors, a stationary guide on each side of said doors, and a pair of guide bars engaging the opposite edges of each of said guides, connected respectively to said upper and lower doors.

4. The combination of the vertical sliding, upper and lower doors, a stationary guide on each side of said doors, a pair of guide bars engaging the opposite edges of each of said stationary guides connected respectively to said upper and lower doors, flexible connections between the ends of said doors, guide rollers above said doors over which said connections extend, and a shifter connected to one of said doors, substantially as described.

5. The combination of the stationary guides, pairs of sliding guide-bars engaging respectively the inner and outer edges of said stationary guides, the upper and lower doors connected respectively to the upper and to the lower ends of said guide bars, connections between said doors and operating shift mechanism therefor.

6. The combination of the vertically sliding, upper and lower doors, flexible connections between the ends of said doors, guides above said doors over which said connections extend, shifters connected to the opposite ends of one of said doors, motors for operating said shifters and common control mechanism for said motors.

7. The combination of the vertically sliding, upper and lower doors, flexible connections between the ends of said doors, guides above said doors over which said connections extend, a vertically reciprocating shifter-rod connected to one of said doors, a vertically disposed cylinder, and piston therein for operating said shifter-rod, and a controllable valve governing the admission to, and exhaust from, said cylinder.

8. The combination of the pair of vertically sliding doors connected for balanced shift in opposite directions, a pair of vertically reciprocating shifter-rods connected to the ends of one of said doors, vertically disposed motor cylinders for actuating said shifter-rods and control mechanism therefor governed by the travel of the elevator car.

9. The combination of the pair of vertically sliding doors connected for balanced shift in opposite directions, vertically reciprocating shifter-rods connected directly to the ends of one of said doors, pistons on said rods, cylinders for said pistons and controllable valve mechanism governing the admission to, and exhaust from said cylinders.

10. The combination of a vertically sliding elevator door, a reciprocating shifter-rod mounted on the wall of the elevator shaft and for operating said door arranged to engage the same after a slight initial movement, a latch mounted on said door, released by the initial movement of said shifter-rod, and actuating means for said shifter rod controlled by the travel of the car.

11. The combination with a vertically sliding elevator door, of a reciprocating shifter-rod, a lug on said door with which said rod engages after a slight initial movement, a latch pivoted on said door, engaged by said rod and released by the initial shift thereof, a piston on said rod, a cylinder for said piston and a controllable valve governing the admission to and exhaust from said cylinder.

12. The combination with a pair of oppositely and vertically sliding doors, of locking means for said doors and shifter mechanism therefor mounted on the wall of the elevator shaft and arranged by initial shift to release said locking means.

13. The combination with a pair of vertically sliding doors connected for simultaneous shift in opposite directions, of a latch connecting said doors in closed position, and a shifter mounted on the wall of the elevator shaft, having a lost motion connection with one of said doors and arranged by preliminary shift to release said latch.

14. The combination of a pair of vertically sliding doors connected to shift in opposite directions, a reciprocating shifter-rod mounted on the wall of the elevator shaft and having a lost motion connection with one of said doors, and a latch on the latter door arranged to engage the other in closed position and released by initial shift of said rod.

15. The combination with a pair of vertically sliding doors connected for simultaneous shift in opposite directions, of a latch connecting said doors in closed position, shifter mechanism mounted on the wall of the elevator shaft and having a lost motion connection with one of said doors, and means on the car for controlling the operation of said shifter mechanism, said shifter mechanism being arranged by preliminary shift to release said latch, substantially as described.

16. The combination of the pair of vertical sliding elevator doors connected for balanced shift in opposite directions, an abutment on one of said doors and a latch thereon arranged to engage the other door in closed position, a vertically reciprocating shifter-rod having a lost motion connection with said abutment and arranged to release said latch by initial movement, and means for actuating said shifter-rod.

17. The combination of the pair of vertical sliding elevator doors connected for balanced shift in opposite directions, abutments on the ends of one of said doors, latches pivoted thereon arranged to engage the other of said doors in closed position, vertically reciprocating shifter-rods having lost motion connection with said abutments and arranged to release said latches by initial shift, pistons on said rods, cylinders for said pistons and valve mechanism controlling the admission to and exhaust from said cylinders.

18. The combination with an elevator door and operating means therefor, of a controlling trip carried by the car, means for setting said trip in operative position and means mounted on the wall of the elevator shaft for returning the trip to normal position.

19. The combination with an elevator door and its operating means, of a shiftable controlling trip carried by the car, a latch for locking said trip in operative position and lugs upon the wall of the elevator shaft for releasing said latch to restore said trip to normal position.

20. The combination with an elevator door, of a shifter therefor, a motor for operating said shifter, controlling mechanism for said motor, a shiftable trip carried by the car to actuate said controlling mechanism, means for setting said trip in operative position and means on the wall of the elevator shaft for returning said trip to normal position.

21. The combination with an elevator door, of a reciprocating shifter therefor, a cylinder and piston for operating said motor, valve mechanism controlling the admission to and exhaust from said cylinder, a trip for said valve mechanism carried by the car, a latch for holding said trip in operative position and lugs in the elevator shaft for releasing said trip.

22. The combination with an elevator door and its operating mechanism, of a spring-held trip for controlling said mechanism carried by the car, a spring-held latch for holding said trip in operative position and lugs in the elevator shaft arranged to engage and release said trip.

23. The combination with an elevator door, a shifter therefor, and a cylinder and piston for operating said shifter, of a valve casing communicating with said cylinder having normally open admission and normally closed exhaust ports, valves controlling said ports and a trip carried by the car for successively shifting said valves, to first close said exhaust port and subsequently open said inlet port.

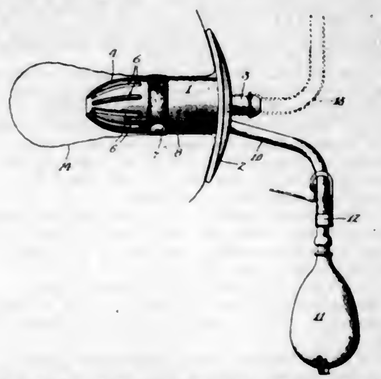
24. The combination with an elevator door, a shifter therefor, and a cylinder and piston for operating said shifter, of a valve casing communicating with said cylinder having normally open admission and normally closed exhaust ports, reciprocating exhaust and inlet valves held in normal position by the fluid pressure, a shifter for successively actuating said valves and a trip carried by the car for actuating said shifter.

25. The combination with an elevator door, a shifter therefor, and a cylinder and piston for operating said shifter, of a valve casing communicating with said cylinder having admission and exhaust ports, a normally closed reciprocating admission valve, a normally open reciprocating exhaust valve having a lost motion connection with said inlet valve and arranged to close said exhaust port by initial movement, a shifter connected to said exhaust valve and a trip carried by the car for operating said shifter.

868,450. NOZZLE FOR VAGINAL SYRINGES. SAMUEL L. KISTLER, Los Angeles, Cal. Filed Nov. 15, 1906. Serial No. 343,629.

1. A syringe nozzle comprising a body portion the tip of which has a series of long radial slots, the body portion having a canal extending completely through it with which canal the slots communicate, the body portion having an external annular groove, and an inflatable tubular ring in the groove.

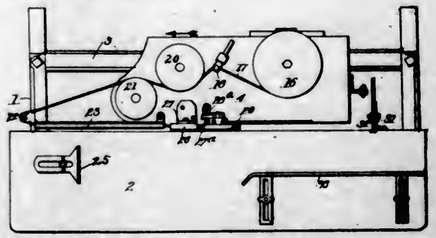
2. A syringe nozzle comprising a body portion consisting of a single piece of material the tip of which has a series of radial slots, the body portion having a canal of even diameter throughout extending completely through it with which the slots communicate, the body portion having an external annular groove, an inflatable tubular ring in the groove, a tube extending from the outer end of the body portion to the tubular ring, and means for forcing fluid through the tube to the ring to inflate the same.



3. A syringe nozzle comprising a body portion the tip of which has a series of radial slots, the body portion having a canal extending through it with which canal the slots communicate, the body portion having an external annular groove, an inflatable annular ring in the groove, a tube extending from the outer end of the body portion to the tubular ring, means for forcing fluid through the tube to the ring to inflate the same, a shield on the outer end of the body portion, and means on the shield for the attachment of a syringe tube or bulb in communication with the canal.

4. A syringe nozzle comprising a body portion the tip of which has a series of radial slots, the body portion having a canal extending through it with which canal the slots communicate, the body portion having an external annular groove, an inflatable annular ring in the groove, a tube extending from the outer end of the body portion to the tubular ring, means for forcing fluid through the tube to the ring to inflate the same, a shield on the outer end of the body portion, means on the shield for the attachment of a syringe bulb or fountain syringe tube in communication with the canal, and a clamp on said first tube for closing the tube to prevent deflation of the ring.

868,451. BACKING-MACHINE FOR BOOKS, TABLETS, &c. JOHN G. KLINK, South Bend, Ind. Filed Nov. 17, 1906. Serial No. 343,886.



1. In a backing machine, the combination of a stationary table for supporting the books, and a reciprocatory carriage provided with tape applying means.

2. In a backing machine, the combination of a stationary table for supporting the books, a reciprocatory carriage, and means carried by the carriage for applying tape to the books and for feeding the books on the table.

3. In a backing machine, the combination of a station-

ary table for supporting the books, a reciprocatory carriage provided with tape applying means, and a cutting mechanism controlled by the carriage.

4. In a backing machine, the combination of a stationary table for supporting the books, a reciprocatory carriage provided with tape applying means, and means for varying the lengths of the reciprocations of the carriage.

5. In a backing machine, the combination of a stationary member and a reciprocating member, one of said members carrying the tape applying means, and the other being adapted to support the books.

6. In a backing machine, a reciprocatory carriage carrying means for applying backing tape to books, and means for feeding the books relatively to said carriage.

7. In a backing machine, the combination of a reciprocatory carriage, means for varying the length of the reciprocations of said carriage, means for applying the tape to books, carried by said carriage, and means for moving the books relatively to said carriage.

8. In a backing machine, the combination of a reciprocatory carriage, means for applying the tape to books, carried by said carriage, and means for moving the books relatively to said carriage.

9. The combination with the stationary table, of a reciprocating carriage, tape applying means on the carriage, and means on the carriage for moving the books on the table.

10. The combination with the stationary table, of a reciprocating carriage, tape applying means on the carriage, means on the carriage for moving the books on the table, and tape cutting mechanism on the table operated by the carriage.

11. The combination with the book supporting means, of a reciprocating carriage, a tape spindle supported thereon, means for causing the feeding of the tape when the carriage is moved in one direction, and for causing the movement of the book when the carriage is moved in the other direction.

12. The combination with a book supporting means, of a reciprocating carriage having a slotted tape guide, means preventing the movement of the book when the carriage is moved in one direction, and means moving the book when the carriage is moved in the other direction.

13. The combination of a stationary book table, having a stop thereon, and a reciprocating carriage provided with tape applying means, and carrying a pair of rollers arranged to press the tape on a book held by the stop when the carriage moves in one direction and to move the same book away from the stop when the carriage moves in the other direction.

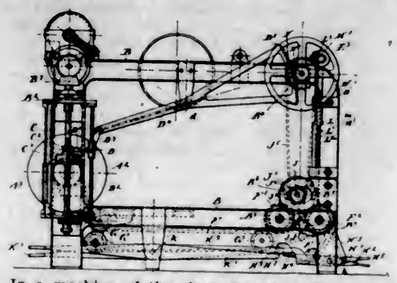
14. The combination of a tape spindle, a movable supporting means therefor, means for moistening the tape, and means for holding a book against movement with the tape spindle supporting means to cause a feeding of the tape on the supporting means when a moistened portion of the tape has been applied to a book.

15. The combination of a tape-spindle, a movable supporting means therefor, means for moistening the tape, means for holding a book against movement with the tape spindle supporting means to cause a feeding of the tape on the supporting means when a moistened portion of the tape has been applied to a book, and means for moving the book after the tape has been fed.

16. The combination with a book supporting means, of a reciprocating carriage provided with tape applying means, a cutting means supported independently of the carriage, and a weighted and pivoted dog constructed to move past the cutting means without operating said cutting means when the carriage moves in one direction and to operate the cutting mechanism when the carriage moves in the other direction.

868,452. WARPING-MACHINE. CHARLES H. KNAPP, Paterson, N. J. Filed Aug. 17, 1906. Serial No. 330,950.

1. In a machine of the character set forth, a shaft, a friction-disk thereon, a friction-wheel rotated by said disk and movable radially thereof, a lever connected to said friction-wheel and having gear-teeth thereon, a pinion in mesh with said teeth, and means constructed to be operated by the foot for rotating said pinion in either direction to vary the speed of said friction-wheel.



2. In a machine of the character set forth, a shaft, a friction-disk thereon, a friction-wheel rotated by said disk and movable radially thereof, a lever connected to said friction-wheel and having gear-teeth thereon, a pinion in mesh with said teeth, a swinging friction-wheel, oppositely revolving friction-drums adjacent to said swinging friction-wheel, means operated by the foot for causing said swinging friction-wheel to engage either of said friction-drums, and means for communicating the rotary movement of said swinging friction-wheel to said pinion.

3. In a machine of the character set forth, a shaft, a friction-disk thereon, a friction-wheel rotated by said disk and movable radially thereof, a lever connected to said friction-wheel and having gear-teeth thereon, a pinion in mesh with said gear-teeth, a sprocket-wheel revolving with said pinion, a swinging friction-wheel below said pinion, a sprocket-wheel revolving with said swinging friction-wheel, a sprocket-chain running on said sprocket-wheels, oppositely revolving friction-drums adjacent to said swinging friction-wheel, and a foot-lever arranged to move said swinging friction-wheel into or out of engagement with either of said friction-drums.

4. In a machine of the character set forth, a shaft, a friction-disk thereon, a friction-wheel rotated by said friction-disk and movable radially thereof, a lever connected to said friction-wheel and having gear-teeth thereon, a pinion in mesh with said gear-teeth, a sprocket-wheel revolving with said pinion, a swinging friction-wheel below said pinion, a sprocket-wheel revolving with said swinging friction-wheel, a sprocket-chain running on said sprocket-wheels, a rocking-lever in which said swinging friction-wheel is mounted, oppositely revolving friction-drums adjacent to said swinging friction-wheel, and foot-levers connected to said rocking-lever for moving said swinging friction-wheel into and out of engagement with either of said friction-drums.

5. In a machine of the character set forth, a shaft arranged to be moved axially, a friction-disk thereon, a friction-wheel rotated by said disk and movable radially thereof, a lever connected to said friction-wheel and having gear-teeth thereon, a pinion in mesh with said gear-teeth, a sleeve carrying said pinion, an arm on said sleeve, a slide arranged to be engaged by said arm, and connections from said slide to said shaft for moving said disk axially into and out of frictional contact with said friction-wheel.

6. In a machine of the character set forth, a shaft arranged to be moved axially, a friction-disk thereon, a friction-wheel rotated by said disk and movable radially thereof, a lever connected to said friction-wheel and having gear-teeth thereon, a pinion in mesh with said gear-teeth, an arm moving with said pinion, a slide arranged to be engaged by said arm, a rock-shaft oscillated by said slide, and a yielding connection from said rock-shaft to said friction-disk for moving the latter yieldingly into and out of frictional contact with said friction-wheel.

7. In a machine of the character set forth, a shaft arranged to be moved axially, a friction-disk thereon, a friction-wheel rotated by contact with said disk and movable radially thereof, means for inducing such radial movement, a slide and connections therefrom for inducing such axial movements of said shaft and disk, and an arm actuated by said means and arranged to engage said slide and move said disk into or out of frictional engagement with said friction-wheel when the latter is at the extreme of its inward radial movement and means on said slide and arm respectively for holding and releasing the slide.

8. In a machine of the character set forth, a shaft arranged to be moved axially, a friction-disk thereon, a friction-wheel rotated by contact with said disk and movable radially thereof, a lever connected to said friction-wheel and having gear-teeth thereon, a pinion in mesh with said gear-teeth, an arm moving with said pinion, a slide arranged to be moved by said arm, connections from said slide to said shaft for inducing axial movements thereof, a latch carried by said slide for holding the latter when at one extreme of its motion, and a pin carried by said arm for moving said latch and thereby releasing said slide.

9. In a machine of the character set forth, a shaft arranged to be moved axially, a friction-disk thereon, a friction-wheel rotated by contact with said disk and movable radially thereof, a lever connected to said friction-wheel and having gear-teeth thereon, a pinion in mesh with said gear-teeth, a sprocket-wheel revolving with said pinion, a swinging friction-wheel below said pinion, a sprocket-wheel revolving with said swinging friction-wheel, a sprocket-chain running on said sprocket-wheels, spur-links on said sprocket-chain, and lugs arranged to be struck by said spur-links and thereby shift the position of said swinging-friction-wheel.

868,453. HAIR-CUTTING DEVICE. FRITZ KOBER, Suhl, Germany. Filed Mar. 22, 1907. Serial No. 363,918.



1. A hair cutting device comprising, in combination, a movible top plate, a handle therefor, a movable bottom plate said bottom plate being pivotally secured on said handle and means for pressing the bottom plate against the top plate.

2. A hair cutting device, comprising, in combination, a movable top plate, a handle therefor, a movable bottom plate said bottom plate having a groove therein for adjustably securing it to said handle and means for pressing the bottom plate against the top plate.

3. A hair cutting device comprising, in combination, a movable top plate, a handle therefor, a movable bottom plate having a groove therein, a screw in the handle having a head engaging with said groove and means for adjustably securing the movable bottom plate on the head of the screw so it may be tipped over the latter.

4. A hair cutting device comprising, in combination, a casing, a movable top plate carried in a bearing fitted in the casing, a screw secured in the bearing, a movable and grooved bottom plate adjustably fitted to the head of said screw and an adjusting screw for pressing the bottom plate against the top plate.

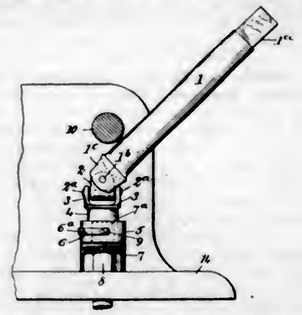
5. A hair cutting device comprising, in combination, a casing, projections thereon, a movable top plate, a movable bottom plate said bottom plate having grooves for adjustably securing it to said projections so it may be tipped over the latter and a screw in the casing for pressing the bottom plate against the top plate.

6. A hair cutting device comprising, in combination a casing, a pivot thereon, projections thereon, a movable top plate, a bottom plate movably fitted on said pivot, said bottom plate having grooves for adjustably securing it to the said projections so it may be tipped over the latter and a screw for varying the pressure of the bottom plate against the top plate.

7. A hair cutting device comprising, in combination, a casing, pins on the casing, a movable grooved bottom plate having recesses into which the ends of the pins fit, a solid pivot on the casing to which the bottom plate is adjustably secured so it may be tipped over the latter, a top plate, and means for pressing the top plate against the bottom plate.

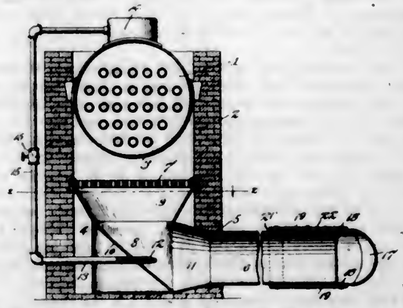
8. In a hair cutting device, the combination of a casing, a movable top plate, a movable handle, a movable bottom plate suspended on the turning pivot of said handle, and means constructed to tilt forward the bottom plate and press it against the top plate to allow the top plate to accommodate itself to the inclination of the bottom plate.

868,454. UNIVERSAL WRENCH. MAX KORTH, Seattle, Wash. Filed July 27, 1906. Serial No. 328,071.



A universal wrench comprising an operating bar, a stub head provided with a socket, a universal joint between said head and bar, a pin movable transversely in said head, a spring secured at one end to said head having its opposite free end engaging the outer end of said pin, and a socket member detachably connected with said head and adapted to be engaged by said pin.

868,455. STEAM ASH-REMOVER FOR BOILERS. JONAS A. KRETZER, Mound City, Mo. Filed Mar. 26, 1907. Serial No. 364,680.



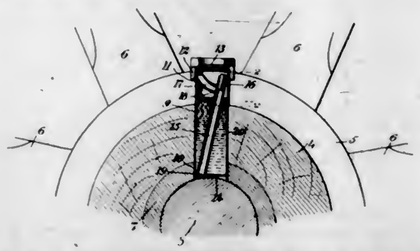
1. In an apparatus of the class described, the combination of a firebox including a grate, a collecting chamber below the grate, a hopper between the chamber and grate, a duct leading from the chamber, an inclined plate for directing the ashes and cinders into the duct, a steam discharging pipe extending through and supported on the inclined plate and arranged in axial alinement with the duct, and a deflecting device at the outer end of the duct.

2. In an apparatus of the class described, the combination of a furnace having an opening in one wall communicating with the ash pit, a grate, an inclined plate in the ash pit arranged to direct the ashes from the grate to the opening, a steam discharging pipe passing horizontally through and supported on the wall opposite from that having the opening and arranged with its discharge end extending through the inclined plate and located centrally in

line with the opening, a horizontal duct secured in the opening for receiving the ashes ejected by the jet of steam discharged from the pipe, and a deflecting device mounted on the outer end of the duct to be turned thereon and including an adjustable hood for deflecting the material to one side or the other.

3. In an apparatus of the class described, the combination of a furnace, a duct leading from the ash box thereof, means for ejecting the ashes through the duct, and a deflecting device on the outer end of the duct, said device comprising a split ring adjustably clamped to the duct, a pair of oppositely disposed bars hingedly connected with the ring, a hood pivotally mounted on the outer ends of the bars, and a member connected with the bars at a point intermediate the ring and hood for engagement with the outside of the duct to hold the deflecting device in proper relation to the duct.

868,456. OILER. JOSEPH W. LADD, Bristol, N. H. Filed Dec. 12, 1906. Serial No. 347,406.



1. In an oiler, the combination of a revoluble oil cup, an oil tube mounted therein, means for varying the rate of flow of oil through said oil tube, and means for causing the oil to seal said tube when the latter occupies certain predetermined positions.

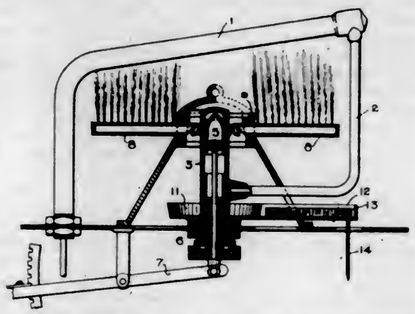
2. The combination of a revoluble member, an oil cup of substantially cylindrical form connected therewith and provided with a closed end, an oil tube disposed within said oil cup and extending through said closed end, said oil tube being provided with a laterally extending tubular portion for admitting small quantities of oil, and means controllable at will, for varying the flow of oil through said oil tube.

3. As an article of manufacture, an oil cup of substantially cylindrical form provided with a closed bottom, an oil tube mounted within said oil cup and connected with said bottom but communicating with the open air through said bottom, a laterally extending portion connected with said oil tube and having a substantially tubular form, and a screw plug for varying the flow of oil as between said laterally extended portion and said oil tube.

4. An oil cup of substantially cylindrical form, provided with a closed bottom, an oil tube mounted therein and disposed obliquely to the axis of the said tube, the end of said cylindrical oil cup being closed around the end of the said tube, a laterally extending portion connecting with the said tube and adapted to admit the oil thereto, this tube and laterally extending portion being so set in the hub that at every revolution of the hub it will dip up the oil and guide it into the feed tube.

868,457. HYDROCARBON-BURNER. HERMANN LEMP, Lynn, Mass., assignor, by mesne assignments, to General Electric Company, a Corporation of New York. Filed Apr. 12, 1902. Serial No. 102,493.

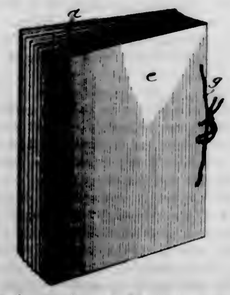
1. A hydro-carbon burner comprising a nozzle having a plurality of vapor-discharging openings, a radially extending mixing tube opposite each opening having a closed outer end and an open inner end to receive a stream of vapor from the opening and also air induced by the stream, a longitudinally movable tubular valve arranged within the nozzle at a point intermediate the inlet end thereof and the discharging openings and so shaped as to open or close successively a portion of said openings only, means for actuating the valve, and a vaporizer for the liquid fuel comprising a tube that first rises vertically and then extends over the mixing tubes and is heated by the flame therefrom.



2. A hydro-carbon burner comprising a nozzle having a plurality of vapor-discharging openings, a radially extending mixing tube opposite each opening which receives a stream of vapor therefrom and also air induced by the stream, a longitudinally movable tubular valve within the nozzle so shaped as to be capable of successively opening or closing all the discharging openings except two which supply vapor to their respective mixing tubes continuously, and a vaporizer common to all of the mixing tubes and comprising a tube that first rises vertically and then extends across the burner from side to side and is arranged to convey liquid fuel through the flames of the mixing tubes which are in continuous operation to vaporize the fuel and deliver it to the nozzle.

3. A hydro-carbon burner comprising an upright nozzle having a plurality of vapor-discharging openings, mixing tubes radiating from the nozzle which receive vapor from the openings and air induced thereby, one or more of the tubes receiving vapor continuously, a tubular valve longitudinally movable in the nozzle which is adapted to successively open or close the vapor-discharging openings except the one supplying the continuously operating mixing tube, a vaporizer for liquid fuel having one portion extending upwardly at one side of the nozzle and tubes and over the same from one side to the other at a slight inclination and another portion extending downwardly and connecting with the nozzle, and a starting burner arranged to receive fuel from the nozzle and to heat the downwardly extending portion of the vaporizer.

868,458. CARD-ALBUM. HORACE DE Y. LENTZ, Mauch Chunk, Pa. Filed Jan. 2, 1907. Serial No. 350,481.



1. An album for cards and the like, comprising a series of leaves formed of folded sheets, and fastening means for securing the sheets together along the free edges in book form, whereby the double edge is presented as the outer edge of the leaf, substantially as described.

2. An album for cards and the like, comprising a series of leaves formed of folded sheets, cover sheets inclosing said folded sheets and fastening means for securing the sheets together along the free edges in book form, whereby the doubled edge is presented as the outer edge of the leaf, substantially as described.

3. An album for cards and the like, comprising a series of leaves formed of folded sheets having cuts or incisions at their corners to receive and secure the cards in position, and fastening means for securing the sheets together along the free edges in book form, whereby the cards are kept free from interference and the doubled edge is presented as the outer edge of the leaf, substantially as described.

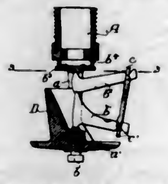
4. An album for cards and the like, comprising a series of leaves having cuts or incisions at their corners to receive and secure the cards in position, an intermediate uncut leaf between each pair of incised leaves and fastening means for securing the sheets together along one edge in book form, whereby interference of cards on the separate leaves is prevented, substantially as described.

5. An album for cards and the like, comprising a series of folded sheets, each sheet containing two folds to form three leaves, the outer leaves having cuts or incisions at their corners to receive and secure the cards in position, and the third leaf being folded between the outer leaves, and fastening means for securing the sheets together along one edge in book form, whereby the interference of cards on opposite sides of a sheet is prevented, substantially as described.

6. An album for cards and the like comprising a series of leaves formed of folded sheets, having cuts or incisions at their corners to receive and secure the cards in position, an intermediate uncut leaf between the parts of each folded sheet, and fastening means for securing the sheets together along the free edges in book form, whereby the folded edge is presented as the outer edge of the leaf, and the interference of cards on opposite sides of a sheet is prevented, substantially as described.

7. As a receiving and reference means for cards and the like, an album comprising a series of leaves provided with card retaining devices and secured together in book like form, and a container for said album made in simulation of a bound volume and adapted to bear a suitable legend indicative of its contents, substantially as described.

868,459. SPRINKLER-HEAD. ARTHUR M. LEWIS, Philadelphia, Pa., assignor to International Sprinkler Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 20, 1907. Serial No. 358,457.



1. As a new unitary article of manufacture, a sprinkler head constructed to direct water over a definite area on one side only of a plane parallel to the line of the outlet of said head including means for changing the direction of the water flow through an angle of 90°, substantially as described.

2. As a new unitary article of manufacture a sprinkler head having an outlet, and provided with a deflector on one side of said outlet formed to gradually change the direction of the water flow therefrom through an angle of 90°, so as to direct it to the side of said head opposite the deflector, substantially as described.

3. A sprinkler head having a tubular base, arms forming a yoke extending from said base, a valve normally closing the outlet of the base, a temperature responsive device for maintaining the valve in position, with a web extending between the arms and formed to direct water to one side of the sprinkler head, substantially as described.

4. A sprinkler head consisting of a base constructed for attachment to a water supply system and having a valved outlet, temperature responsive means normally preventing flow from said outlet, a deflector plate opposite the outlet lying in a plane substantially at right angles to the line thereof, and a guide piece placed to direct water from the outlet toward one side of the deflector plate, substantially as described.

5. The combination of a sprinkler head consisting of a tubular structure designed for attachment to a fluid supply system, deflecting means for the sprinkler head consisting of a concave web placed to deflect liquid from the outlet to one side of the line thereof, with a deflector plate forming a continuation of the web and constructed to spread the water in a sheet substantially at right angles to the line of the outlet, substantially as described.

6. As a new unitary article of manufacture a sprinkler head having an outlet, and a deflector on one side of outlet consisting of a concave plate curved through an angle of 90° to direct water from said outlet to one side only of the head, substantially as described.

7. A sprinkler head having an outlet, and a deflector therefor having a portion on one side of said outlet, and curved to bring another portion opposite the outlet so as to cause the entire flow from the head to be directed to one side only thereof, substantially as described.

8. The combination of a sprinkler head consisting of a tubular base, a yoke projecting therefrom, a concave deflector projecting on one side of the plane of the yoke and formed to direct the water from the outlet toward the opposite side of said plane, a cap for the outlet, levers interposed between the cap and the yoke and projecting on that side of said yoke opposite the deflector, and temperature responsive means for normally holding the levers in position to maintain the cap over the outlet, substantially as described.

868,460. COUPLING FOR ELECTRIC CABLES. GUSTAVE L'HOEST, Brussels, and HENRI PIEPER, Liege, Belgium. Filed Aug. 10, 1905. Serial No. 273,692.

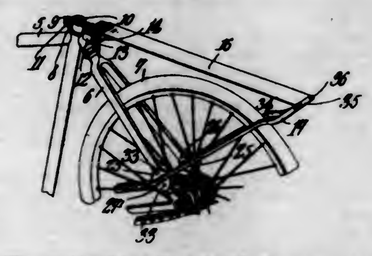


A separable coupling for electric conductors, comprising detachable electrical coupling parts separable under a longitudinal strain, and a protecting sheath for said parts breakable under a predetermined strain greater than that required to separate the electrical coupling parts and inclosing the electrical coupling parts.

868,461. GUARD FOR BICYCLES. JAMES B. LOCKWOOD, Riverside, Cal. Filed June 4, 1907. Serial No. 377,168.

1. The combination with a bicycle frame, of a spring actuated drum mounted for rotation on the frame, plates

secured to the opposite sides of the fork of the frame, a yoke having spaced legs pivotally mounted for swinging movement on the adjacent plates and movable laterally to operative and inoperative position, a shield forming a connection between the drum and the free end of the yoke, and means carried by the legs of the yoke and adapted to engage the plates for locking the supporting member in operative and inoperative position.



2. The combination with a bicycle frame, of a spring actuated roller mounted for rotation on the frame, plates secured to the opposite sides of the fork of the frame and provided with locking recesses, a supporting member pivotally mounted for swinging movement on the plates and movable laterally to operative and inoperative position, a flexible shield connecting the drum and supporting member, and locking lugs extending laterally from the supporting member and adapted to engage the locking recesses for supporting said member in operative and inoperative position.

3. The combination with a bicycle frame, of a spring actuated drum mounted for rotation on the frame, plates secured to the opposite sides of the fork of the frame, pins secured to the plate and engaging corresponding recesses in the fork, a supporting member pivotally mounted for swinging movement on the plates, a shield forming a connection between the drum and free end of the supporting member, and means carried by the supporting member and adapted to engage the plates for locking the supporting member in operative and inoperative position.

4. The combination with a bicycle frame, of a bracket secured to the frame, a spring actuated roller mounted for rotation in the bracket, plates secured to the opposite sides of the fork of the frame and provided with spaced locking recesses, a yoke pivotally mounted for swinging movement on the plates, a flexible connection between the drum and free end of the yoke and constituting a shield, and lugs disposed on each side of the pivotal axis of the yoke and adapted to enter the recesses for locking the yoke in operative and inoperative position.

5. The combination with a bicycle frame, of a bracket secured to the frame and provided with spaced arms, a stationary shaft connecting the arms, a split drum mounted for rotation on the shaft, a yoke pivotally mounted for swinging movement on the fork of the frame, a flexible shield one end of which is inserted in the split portion of the drum and the opposite end thereof secured to the free end of the yoke, and clamping collars engaging the exterior walls of the drum at the opposite ends thereof for clamping the adjacent longitudinal edges of said drum in engagement with the shield.

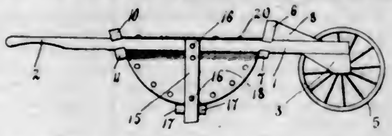
6. The combination with a bicycle frame, of a bracket secured to the frame and provided with spaced arms, a shaft connecting the arms, an expansible drum mounted for rotation on the shaft and having its opposite ends spaced apart to form a longitudinally disposed slot, cone bearings engaging the opposite ends of the drum, a yoke pivotally mounted on the rear fork of the frame, a flexible shield one end of which is seated in the slot in the drum and the opposite end thereof connected to the free end of the yoke, caps engaging the exterior walls of the drum for clamping the latter in engagement with the shield, and a spring surrounding the shaft and secured to the drum.

7. The combination with a bicycle frame, of a bracket secured to the frame and provided with spaced arms, a shaft connecting said arms, an expansible drum mounted for rotation on the shaft and provided with a longitudinal slot, cone bearings engaging the opposite ends of the drum and having recesses formed therein, a yoke pivotally mounted on the fork of the bicycle, a flexible shield one end of which is seated in the slot in the drum and the opposite end thereof attached to the free end of the yoke, clamping collars engaging the exterior walls of the drum for clamping the latter in engagement with the shield and provided with lateral extensions seated in the recesses in the cone bearings, and a spring secured to the shaft and engaging the drum.

8. The combination with a bicycle frame, of a spring actuated roller mounted for rotation on the frame, plates secured to the opposite sides of the fork of the bicycle and provided with laterally extending pins engaging corresponding openings formed in said fork, a yoke pivotally mounted for swinging movement on the plates and having its upper end off-set, a flexible ribbon having one end thereof secured to the drum and its opposite end fastened to the off-set portion of the yoke, and means for locking the yoke in operative and inoperative position.

9. The combination with a bicycle frame, of a spring actuated drum mounted for rotation on the frame, disks secured to the opposite sides of the fork of the bicycle and having openings formed therein, a yoke pivotally mounted for swinging movement on the disks and having its closed end provided with threaded openings, a flexible shield one end of which is secured to the drum and the opposite end thereof to the closed end of the yoke, a plate extending transversely across one end of the shield, screws extending through the plate and engaging the threaded openings in the yoke, and locking lugs formed on the yoke and adapted to engage the recesses in the disks for locking the yoke in operative and inoperative position.

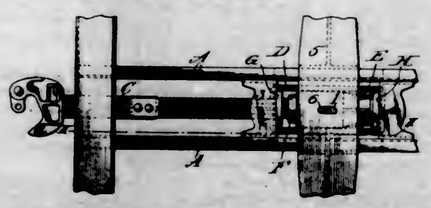
868,462. WHEELBARROW. LOUIS F. LORENZI, Beaver Falls, Pa. Filed Mar. 23, 1907. Serial No. 364,099.



1. A wheelbarrow comprising side bars, depending brackets secured to the side bars, a wheel journaled in said brackets, cross bars connecting the side bars, legs secured to the side bars, a curved box secured to the cross bars, the ends of said box being secured to the legs and at their upper edges to the side bars, said side bars being extended to form handles for the barrow.

2. In a wheelbarrow, a box consisting of a curved longitudinal box member and side members, said side members being secured to the legs of the barrow, and cross bars, one at each side of the legs, said curved member being secured to said cross bars, substantially as described.

868,463. COMBINED CAR-BOLSTER AND DRAFT-RIGGING. WILLIAM D. LOWRY, St. Louis, Mo. Filed Jan. 31, 1907. Serial No. 355,126.



1. In a combined bolster and draft rigging, the combination with center sills provided with abutments, of a bolster recessed centrally and fitted to said sills, a compression member detachably connected to said bolster and closing the recess therein, and a draft rigging mounted in said recess and having engagement with the center sill abutments and said compression member, substantially as set forth.

2. In a combined bolster and draft rigging, the combination with center sills provided with abutments, of a bolster recessed centrally and fitted to said sills, and a draft rigging located in said bolster and comprising spring controlled members located within said bolster and follower plates associated with said spring controlled members and bearing against said abutments, substantially as set forth.

3. In a combined bolster and draft rigging, the combination with center sills provided with abutments, of a bolster recessed centrally and fitted to said sills, and a draft rigging located in said bolster and comprising spring controlled members located within said bolster and follower plates associated with said spring controlled members and bearing against said abutments; said bolster being provided with a detachable compression member, substantially as set forth.

4. In a combined bolster and draft rigging, the combination with center sills provided with abutments, of a bolster recessed centrally and fitted to said sills, and a draft rigging located in said bolster and comprising spring controlled members located within said bolster and follower plates associated with said spring controlled members and bearing against said abutments; said bolster being provided with a slot in which a part of one of the spring controlled members of said draft rigging operates, substantially as set forth.

5. In a combined bolster and draft rigging, the combination with center sills provided with abutments, of a bolster recessed centrally and fitted to said sills, and a draft rigging located in said bolster and comprising spring controlled members located within said bolster and follower plates associated with said spring controlled members and bearing against said abutments; said bolster being provided with a detachable compression member against which said follower blocks rest, substantially as set forth.

6. In a combined bolster and draft rigging, the combination with center sills provided with abutments, of a bolster recessed centrally and fitted to said sills, and a draft rigging located in said bolster and comprising spring controlled members located within said bolster and follower plates associated with said spring controlled members and bearing against said abutments; said bolster being provided with a slot in the top thereof and having a slotted compression member detachably fitted to the lower side thereof, substantially as set forth.

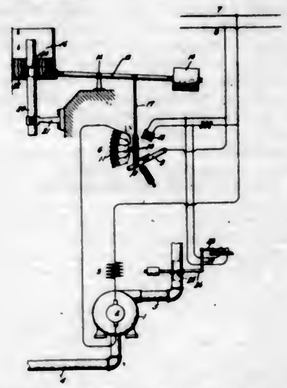
7. In a combined bolster and draft rigging, the combination with center sills provided with abutments, of a bolster recessed centrally and fitted to said sills, a detachable compression member fitted to said bolster and having abutments at its upper side, and a draft rigging located in the recess in said bolster and comprising follower blocks resting against the abutments of said sills and the abutments of said compression member, and spring controlled members located between said follower blocks; one of said spring controlled members being provided with studs adapted to operate in the top of said bolster and its compression member, substantially as set forth.

868,464. CONTROL SYSTEM. ARTHUR S. MANN, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Dec. 18, 1905. Serial No. 292,130.

1. In combination, a motor, a source of current supply, a switch for completing a circuit from said source of supply through said motor, means for closing said switch at predetermined intervals, and means controlled by the load on the motor for maintaining said switch closed.

2. In combination, a motor, a starting rheostat therefor, means for automatically operating said rheostat at predetermined intervals, and means controlled by the load on the motor for maintaining the rheostat in its operated position.

3. In combination, a motor, a normally open starting rheostat therefor, means for operating said rheostat at predetermined intervals to close the motor circuit and vary the resistance in said circuit, and means controlled by the load on the motor for maintaining said rheostat in its operated position.



4. In combination, a motor, a source of current supply, a switch for completing a circuit from said source of current supply through said motor, means for automatically operating said switch and holding it momentarily in its operated position at predetermined intervals of time to complete the motor circuit, and means controlled by the load on the motor for maintaining said switch in its operated position.

5. In combination, a motor, a source of current supply, a switch for completing a circuit from said source of supply through said motor, means for automatically operating said switch and holding it momentarily in its operated position at predetermined intervals to complete the motor circuit, and means for maintaining said switch in its operated position when the load on the motor exceeds a predetermined value.

6. In combination, a motor, a source of current supply, a normally open starting rheostat for completing a circuit through said motor from said source of supply and varying the resistance in the motor circuit, means for automatically operating said rheostat and holding it momentarily in its operated position at predetermined intervals, means for maintaining said rheostat in its operated position, and means controlled by the load on the motor for rendering the aforesaid means inoperative to maintain the rheostat in its operative position when the load on the motor is less than a predetermined value.

7. In combination, a motor, a source of current supply, a normally open starting switch for completing a circuit through said motor from said source of supply, means for automatically operating said starting switch and holding it momentarily in its operated position at predetermined intervals, an electromagnet for maintaining said starting switch in its operated position, and a switch controlled by the load on the motor for deënergizing said electromagnet when the load on the motor is less than a predetermined value.

8. In combination, a motor-driven pump, a source of current supply, a starting switch for completing a circuit from said source of supply through the pump motor, means for automatically operating said switch at predetermined intervals, and means controlled by the discharge from said pump to maintain said switch in its operative position.

9. In combination, a motor-driven pump, a source of current supply, a starting switch for completing a circuit from said source of supply through the pump motor, means for automatically operating said starting switch and holding it momentarily in its operative position at predetermined intervals of time, and means controlled by the discharge from said pump for maintaining said switch in its operative position.

10. In combination, a motor-driven pump, a source of current supply, a starting switch for completing a circuit from said source of supply through the pump motor, means for automatically operating said starting switch at predetermined intervals of time, maintaining means for said starting switch, and means controlled by the discharge from said pump for controlling said maintaining means.

11. In combination, a motor-driven pump, a source of current supply, a starting switch for completing a circuit from said source of current supply through the pump motor, maintaining means for said starting switch, and means controlled by the discharge from said pump for rendering said maintaining means inoperative when said discharge is below a predetermined value.

12. In combination, a motor-driven pump, a normally open switch for completing the circuit of the pump motor, means for closing said switch at predetermined intervals of time, an electromagnet for maintaining said switch closed, and a switch controlled by the discharge from said pump for controlling said electromagnet.

13. In combination, a motor-driven pump, a normally open switch for completing a circuit through the pump motor, means for closing said switch at predetermined intervals, an electromagnet for maintaining said switch closed, a switch for deënergizing said electromagnet, and means controlled by the discharge from said pump to operate said latter switch to deëenergize said electromagnet when the discharge from said pump is below a given value.

14. In combination, a motor-driven pump, a source of current supply, a starting switch for completing a circuit from said source of current supply through the pump motor, means for automatically operating said switch at predetermined intervals, a member responsive to the discharge from said pump, and means controlled by said member for maintaining said switch in its operative position.

15. In combination, a motor-driven pump, a switch for completing a circuit through the pump motor, means for operating said switch at predetermined intervals of time, maintaining means for said switch, a valve on the discharge side of said pump, and means associated with said valve for controlling said maintaining means.

16. In combination, a motor-driven pump, a starting switch for completing a circuit through the pump motor, means for operating said switch at predetermined intervals of time, electromagnetic maintaining means for said starting switch, a check valve on the discharge side of said pump, and a switch operatively connected to said check valve and arranged to render said maintaining means inoperative when the check valve is closed a predetermined amount.

17. In combination, a motor-driven pump, a source of current supply, a normally open starting rheostat adapted to complete a circuit through the pump motor and vary the amount of resistance in the motor circuit, means for operating said rheostat at predetermined intervals of time, electromagnetic maintaining means for said rheostat, a check valve on the discharge side of said pump, and a switch operatively connected to said check valve for deënergizing said maintaining means when the opening of the check valve drops below a predetermined amount.

18. In combination, a pump, driving mechanism for said pump, means for setting said driving mechanism in operation at predetermined intervals of time, and means controlled by the rate of discharge of said pump for stopping the operation of said driving mechanism.

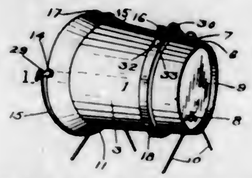
19. In combination, a pump, driving mechanism for said pump, means for setting said driving mechanism in operation at predetermined intervals of time, and means for automatically stopping said driving mechanism when the rate of discharge from said pump falls below a given value.

20. In combination, a pump, a driving mechanism for said pump, means for automatically setting said driving mechanism in operation at predetermined intervals of time, a device actuated by a flow of fluid on the discharge side of the pump, and means controlled by said device for stopping said driving mechanism.

21. In combination, a motor-driven pump, a source of current supply, a starting switch for completing a circuit from said source of current supply through the pump motor, and means controlled by the discharge from said pump for causing said starting switch to open when said discharge is below a predetermined value.

22. In combination, a motor-driven pump, a source of current supply, a switch for completing a circuit from said source of current supply to the pump motor, a check-valve on the discharge side of the pump, and means controlled by said check-valve for causing said switch to open.

868,465. COMBINED BUCKET AND COOKER. MARCELLUS M. MAUCK, Atlanta, Ga. Filed July 5, 1906. Serial No. 324,836.



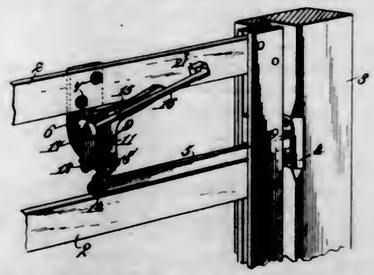
1. A combined bucket and cooker comprising an outer casing open at one end, an inner casing open at one end and disposed in said outer casing, said inner casing having a flared outer end and tapering toward its bottom, and wire nettings arranged adjacent to the inner wall of said outer casing and the outer wall of said inner casing and extended laterally to form a transverse partition between said casings.

2. In a cooker, the combination of a vessel open at one end and provided with means for supporting it in a horizontal position, ears arranged at said open end and upon one side thereof, the ears arranged on the side of said vessel being hook-shaped, independent receptacles removably supported on said hook-shaped ears, and bails pivotally connected with said ears.

3. In a cooker, the combination of a vessel open at one end and provided with means for supporting it in a horizontal position, a hook-like support attached to the outer face of said vessel, and a hollow annular receptacle encircling said vessel and engaged with said support, said receptacle having an opening provided with a removable closure.

4. In a cooker, the combination of a vessel open at one end and provided with means for supporting it in a horizontal position, a hook-like support attached to the outer face of said vessel, and a hollow annular receptacle encircling said vessel and engaged with said support, said receptacle having a filling opening provided with a removable closure and a discharge spout.

868,466. GATE-LATCH. CLARENCE F. MAYO, Clifton Hill, Mo. Filed July 11, 1907. Serial No. 383,215.



1. The combination of a latch, a lever for retracting the latch, provided with a finger-piece for facilitating the operation thereof, and a stationary guard mounted beside the finger-piece.

2. The combination of a latch, a lever for operating the latch, said lever being provided with an angular extension constituting a finger-piece, and a stationary guard located at one side of the said angular extension and extending the complete length of the same.

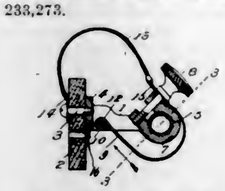
3. The combination of a latch, a lever for retracting the latch, a supporting bracket provided with a pivot for the lever, the lever having a hub, and a spring surrounding the hub and acting against the bracket and lever respectively.

4. The combination of a latch, a supporting bracket provided with a pivot, a lever supported for swinging movement by the pivot, and provided with a hub, and a coiled spring surrounding the hub, having hooked terminals, the supporting bracket and lever being provided with lugs engaged by said hooked terminals.

5. The combination of a gate, a latch carried by said gate, a supporting bracket connected with the gate, a lever pivoted to the latch and pivotally supported by said bracket, said lever having an angular extension, and a bar connected with the bracket and gate respectively and disposed in parallelism with and extending along one side of said angular extension, said bar constituting a guard for said angular extension.

6. The combination of a gate, a latch carried by said gate, a supporting bracket connected with the gate and having a stud, a lever supported for swinging movement by said stud and having a hub, said lever being connected at its lower end with the latch and having an angular extension at its upper end, a spring surrounding said hub, the bracket and lever having lugs, and the terminals of the springs being of hooked form to engage said lugs, a bar having an enlargement at one end, provided with a threaded extension projecting through a perforation in said supporting bracket, a nut to engage said threaded extension, the bar having a threaded extension at its opposite end, extending through a perforation in the gate, and nuts on the last mentioned threaded extension, said bar being at one side of, extending along said angular extension, and constituting a guard therefor.

868,467. BRUSH-HOLDER. FRED P. MCBERTY, Warren, Ohio, assignor to The Peerless Electric Company, Warren, Ohio, a Corporation of Ohio. Filed Nov. 18, 1904. Serial No. 233,273.

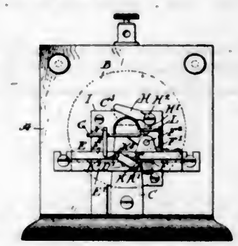


1. In a brush holder, the combination of a conducting support, a swinging holding arm composed of two spaced-apart sides having each opposite curved portions for hugging said support and capable of being made to conform thereto, a brush secured to the arm, a clamp mounted on said support between the sides of the arm, a spring rigidly attached at one end to said clamp, a cross pin between said sides with which the other end of said spring engages, and means for insulating the spring from the cross pin.

2. The combination with the conducting support, the swinging arm having spaced-apart sides, and adjustable curved portions for engaging said support, a split binding band, a holding screw for connecting the ends thereof, a cross pin supported by said sides, a flat spring secured at one end by said holding screw and at its other end engaging said cross pin, insulating material between the latter and said cross pin, the brush, and the electrical conductor secured to said brush and to said holding screw.

868,468. ELECTROMAGNETIC APPARATUS. JOHN MCINTYRE, Jersey City, N. J. Filed May 16, 1906. Serial No. 317,109.

1. An electro-magnetic apparatus of the class described, provided with a locking device for the contact points and capable of holding the armature contact point against movement while the other contact point is unlocked and free to move and vice versa.



2. An electro-magnetic apparatus of the class described, provided with separate locking and unlocking mechanisms for the contact points, and a manually controlled lever common to both mechanisms and arranged to move one mechanism into locking position and move the other mechanism into an unlocking position and vice versa.

3. An electro-magnetic apparatus of the class described, having a locking lever for the armature, a clamping device for the normally fixed contact point, and a hand lever controlling the said locking lever and the said clamping device.

4. An electro-magnetic apparatus of the class described, having a locking lever for the armature, a clamping device for the normally fixed contact point, a hand lever controlling the said locking lever and the said clamping device, and means on the said clamping device for self-adjustment of the said normally fixed contact point on unclamping the latter in the said clamping device.

5. An electro-magnetic apparatus of the class described, having a locking lever for the armature, a clamping device for the normally fixed contact point, a hand lever controlling the said locking lever and the said clamping device, and a guide pin for the said locking lever.

6. An electro-magnetic apparatus of the class described, having a locking lever wedge-shape in cross section and adapted to engage a groove in the armature, a clamping device for the normally fixed contact point, means for self-adjustment of the said normally fixed contact point on unclamping the latter in the said clamping device, and a hand lever controlling the said locking lever and the said clamping device.

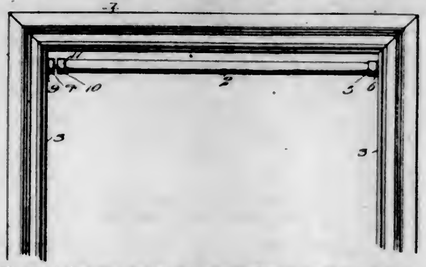
7. An electro-magnetic apparatus of the class described, having a locking lever for the armature, a clamping device for the normally fixed contact point, a hand lever controlling the said locking lever and the said clamping device, means on the said clamping device for self-adjustment of the said normally fixed contact point on unclamping the latter in the said clamping device, and means for holding the said normally fixed contact against turning on opening the said clamping device.

8. An electro-magnetic apparatus provided with an armature contact, a self-adjusting contact provided with a lug, and a support for the said self adjusting contact and having a slot for engagement by the said lug to hold the said self-adjusting contact against turning.

868,469. CURTAIN-POLE. WALTER C. NEAL, Pittsfield, Mass. Filed June 16, 1906. Serial No. 322,032.

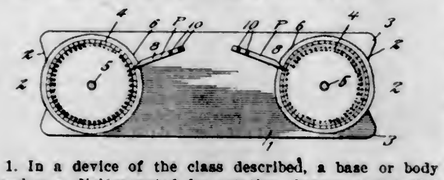
A curtain pole and supporting means therefor, said supporting means comprising three cup-like members, each comprising a solid base wall and a concentric edge flange projecting therefrom, the flange of the first member being adapted to frictionally embrace one end of the curtain pole with the base wall contacting with the end wall of the pole, the second member being adapted to similarly engage the opposite end of the pole, the third member being adapted to be arranged between the second member and the pole supporting frame with the base wall adjacent the base wall of the second member and the free edge of the flange bearing against the frame, a yielding friction disk se-

cured to the outer surface of the base wall of the first member, a screw stud projecting from the base wall of the second member and engaging a threaded opening in the base wall of the third member, and a yieldable friction



disk overlying the free edge of the flange of the third member, whereby said first and third members will frictionally engage the frame with the third member exerting pressure thereagainst only at the flange edge.

868,470. BOOK-MARK. JOHN F. OBGAIN, Orgainsville, Va. Filed Mar. 22, 1907. Serial No. 363,860.



1. In a device of the class described, a base or body member, a dial mounted for rotation thereon, and a dial engaging member secured upon the base in a position approximately radial to the dial, said engaging member comprising a lower leaf reduced to form a dial engaging spring and an upper leaf constituting a pointer and frictionally engaging the upper side or face of the dial.

2. In a device of the class described, a base or body member, a dial mounted for rotation thereon and having a serrated edge, a spring supported with its free end in engagement with the serrated edge of the dial, and a pointer overlying the spring with its free end in engagement with the upper side or face of the dial.

3. In a device of the class described, a base or body, a disk or dial supported for rotation thereon and having a serrated edge, and an engaging member secured upon the base adjacent to the dial, said engaging member consisting of a strip doubled upon itself to present leaves of unequal length; one of said leaves being reduced to form a spring terminally engaging the serrateld edge of the dial, and the other leaf constituting a pointer overlying the spring and frictionally engaging the upper side or face of the dial.

4. In a device of the class described, a base or body having recesses or indentations, dials supported for rotation upon said base and having serrated edges overhanging the recesses or indentations, and engaging members secured upon the base adjacent to the disks; said engaging members comprising lower leaves forming springs terminally engaging the serrated edges of the dials, and upper leaves forming pointers overlying the springs and frictionally engaging the upper sides or faces of the dials.

868,471. CHUCK. WILLIAM A. OUBRIDGE, Coventry, England. Filed Dec. 26, 1906. Serial No. 349,557.

1. In a chuck, in combination, a cylindrical shaped socket member having journal slots longitudinally arranged in its inner wall, clutch members journaled in said slots and swinging towards the center, and a cover placed over the open end of said socket member and inclosing said clutch members and having a central opening, radial slots from said opening in its inner face and a flange from its outer edge extending over and encircling the periphery of said socket member, substantially as described.



2. In a chuck, the combination with a cylindrical casing having an open end and a cover plate on said open end having suitable grooves therein, of a plurality of clutch members having pin projections therefrom extending into said grooves and forming the means of swinging the gripping faces of said clutch members to and from the center, springs retaining said clutch members in their central position, and a ring encircling said cylindrical casing and by rotation thereon governing the position of said pin projections from the clutch members, substantially as described.

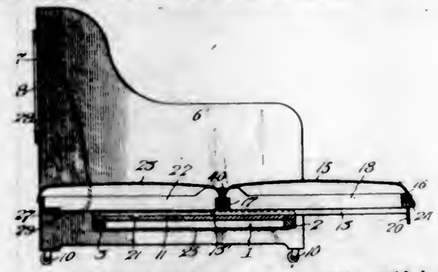
3. A chuck, comprising a cylindrical socket member having a reduced outer end and an annular groove in the periphery thereof and recessed from the under side, said recess having journal slots longitudinally arranged in the inner wall thereof, a plurality of clutch members segmental in cross section and having journals turning in said journal slots and arc-shaped faces eccentric to said journal bearings, pin projections from the outer end faces of said clutch members, a pair of spiral springs encircling said annular groove at diametrically opposite sides and suitably stopped in said groove, a ring encircling said reduced outer end and having projections extending into said groove, said projections engaging the ends of said springs, and a cover plate having a central orifice therethrough closing in said recess, rigid with said rotatable ring and engaging said pins from the clutch members, substantially as described.

4. In a device of the class described, in combination, a cylindrical socket member having a reduced outer end and a recess from the under side and longitudinally arranged journal slots in the walls of said recess and an annular groove encircling said reduced outer portion, a plurality of clutch members segmental in cross section and having journals rigid therewith turning in said journal slots and the faces thereof eccentric to the journaling, pins projecting from the outer ends, a pair of stops in said groove diametrically opposite one to the other, a pair of spiral springs in said groove engaging said stops respectively, a pair of blocks corresponding to and sliding in said annular groove having threaded orifices therethrough and engaging the other ends of said springs, a cover plate having a central orifice therethrough and radial slots extending from said central orifice registering with said pins, said cover plate having a ring extending inwardly therefrom over said reduced portion of said socket member and holes through said ring registering with the holes in said blocks, and screws joining said ring to said blocks, substantially as described.

868,472. DAVENPORT. ARTHUR M. PADMORE, Chicago, Ill. Filed Apr. 6, 1907. Serial No. 366,771.

1. In a davenport-sofa-bed, the combination of a main frame having longitudinal and vertical guideways, the vertical guideways being provided with horizontal rear extensions at their lower ends, a seat having runners to travel in the longitudinal guideways, and a back hinged to the seat at its normally lower end and provided at its normally upper end with guides to travel in the vertical guideways and their horizontal extensions.

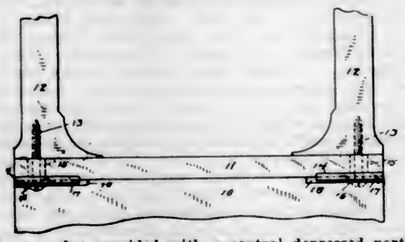
2. In a davenport-sofa-bed, the combination of a main frame having longitudinal and vertical guideways, the vertical guideways being provided with horizontal rear extensions at their lower end, a seat having runners to travel in the longitudinal guideways, a back provided at its normally upper end with guides to travel in the vertical guideways and their horizontal extensions, and hinge connections between the normally lower end of the seat and rear end of the back, including spring means for maintaining the parts in a prescribed relation.



3. In a davenport-sofa-bed, a main frame provided at the sides thereof with main and auxiliary guide grooves, and having side arms provided at the rear thereof with vertical guide grooves having horizontal rear extensions at their lower ends, a sliding seat having runners engaging the main guide grooves, and a back hinged at its normally lower end to the rear end of the seat and provided with guides to engage the auxiliary grooves and having at its normally upper end guides to travel in the said vertical grooves and their horizontal extensions.

4. In a davenport-sofa-bed, a main frame provided at the sides thereof with main grooves having seat recesses and parallel auxiliary grooves, said frame also being provided with side arms provided at the rear with vertical grooves having horizontal rear extensions at their lower ends, a sliding seat provided with runners engaging the main groove and having rear extensions to coöperate with the seat recesses, and a back hinged at its normally lower end to the rear end of the seat and provided with guides to engage the auxiliary grooves and having at its normally upper end guides to travel in the said vertical grooves and their horizontal extensions.

868,473. STANDARD-FASTENER. HARRY A. PALMER, Meriden, Conn., assignor to Foster, Merriam and Company, Meriden, Conn., a Corporation of Connecticut. Filed Apr. 24, 1907. Serial No. 369,962.

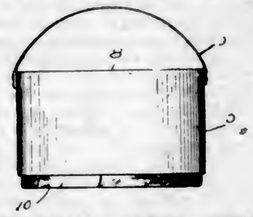


1. A wedge provided with a central depressed portion having a hole formed near one end and a slot leading from said hole, inclines on opposite sides of said slot rising from the hole toward the end of the slot, and a guiding flange carried by one edge of said wedge.

2. The wedge 14 having a guiding flange at one edge, a hole near one end, a slot leading from the hole obliquely away from the flange, and inclines on opposite sides of the slot rising from the hole toward the end of the slot, substantially as described, for the purpose specified.

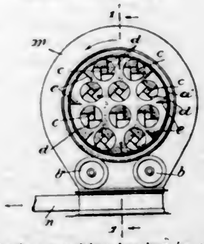
3. A wedge provided with thickened edge portions and a central depressed portion, said central depressed portion being provided with a hole adjacent to one end and an oblique slot extending from said hole, inclines at each side of said oblique slot, and a guide flange carried by one of the edges of said wedge.

868,474. WAX-HOLDER. MOLLIE E. PARKER, Lake Charles, La. Filed Aug. 8, 1906. Serial No. 329,746.



A wax holder of the type set forth comprising a hollow retaining member spanned at its upper end by an imperforate web of material, a handle secured thereto, two open ended members, one of which is telescopically received within the other and held by friction and a sheet of foraminous material having its edges clamped between said open ended members and spanning the lower ends thereof, the outermost of said open ended members being telescoped into said first named member and frictionally held therein.

868,475. ROTARY DRYING-MACHINE. RENÉ G. PONCET, Paris, France, assignor to Société d'Etudes Speciales et d'Installations Industrielles, Paris, France. Filed Feb. 16, 1907. Serial No. 357,601.



1. A rotary drying machine having in combination with a revolving cylinder at one end of which the material to be dried is introduced and into which a current of air is passed; a group of drying elements provided with longitudinal wings, fastened at the inside of this cylinder, revolving with the same, and arranged in such a manner as to discharge the material to be treated from one element to the other as the cylinder revolves, substantially as described.

2. In a drying machine of the kind set forth in combination with a horizontal cylinder, means for revolving said cylinder, means for introducing the material at one end of the cylinder and means for passing a current of air into the same; a group of drying elements fastened at the inside of the cylinder and revolving with the same, each element having its facets prolonged in the same direction towards the outside so as to form longitudinal wings on the same, substantially as described.

3. In a drying machine of the kind set forth, in combination with a horizontal cylinder, means for revolving this cylinder, means for introducing the material at one end of the cylinder and means for passing a current of air into said cylinder; a group of drying elements fastened at the inside of the cylinder and revolving with the same, each element having its facets prolonged in the same direction towards the outside so as to form longitudinal wings on the said element, and flat blades arranged longitudinally on the inside of the horizontal cylinder for the purpose of raising the product to be dried as the cylinder revolves, substantially as described.

4. In a drying machine of the kind described, in combination with a horizontal cylinder, means for revolving the cylinder, means for introducing the material at one end of the cylinder and means for passing a current of air into said cylinder, a group of drying elements, provided with

facets and fastened to the inside of the cylinder and revolving with the same, each element having its facets prolonged in the same direction towards the outside so as to form longitudinal wings on the same, inclined angle irons fastened at intervals in the faces of each element and arranged so as to direct the material obliquely and cause its advance towards the other end of the drying machine, and flat blades arranged longitudinally on the inside of the horizontal cylinder in order to raise the material to be dried as the cylinder revolves, substantially as described.

5. In a drying machine of the kind set forth, in combination with a horizontal cylinder, means for revolving this cylinder, means for introducing the material at one end of the cylinder and means for passing a current of air into said cylinder, a group of drying elements each of which consists of a prismatic element provided with a number of longitudinal wings extending from the said element and also provided with means for advancing the material to be dried along said axis, substantially as described and for the purposes set forth.

6. In a drying machine of the kind set forth, in combination with a horizontal cylinder, means for revolving the cylinder, means for introducing the material at one end of the cylinder and means for passing a current of air into said cylinder, a group of drying elements, each of which consists of a prism provided with a number of longitudinal wings extending from the body of the element, and also provided with means for advancing the material to be dried along said axis and having the effect of a spiral, and flat blades arranged longitudinally inside of the horizontal cylinder in order to raise the material to be dried as the cylinder revolves, substantially as described.

7. In a drying machine of the kind set forth, in combination with a horizontal cylinder, means for revolving the cylinder, means for introducing the material at one end of the cylinder, means for passing a current of air into said cylinder, a group of drying elements each of which consists of a prism provided with a number of longitudinal wings extending from the body of the element, inclined angle irons fastened at intervals on each of said wings and so arranged as to direct the material obliquely and thus have the effect of a spiral and cause it to advance to the other end of the drying machine, and flat blades arranged longitudinally inside the horizontal cylinder, adapted to raise the material to be dried as the cylinder rotates, substantially as described.

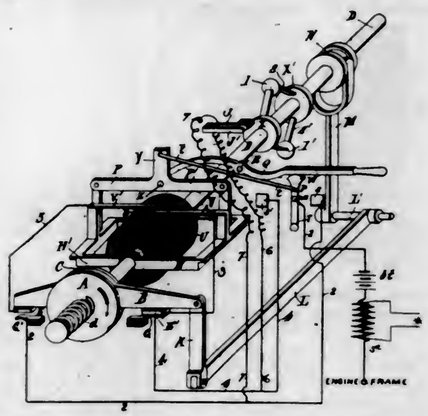
8. In a drying machine of the kind set forth, in combination with a cylinder, means for revolving said cylinder around its longitudinal axis, means for introducing the material at one end of the cylinder and means for passing a current of air into said cylinder, a group of rectilinear drying elements revolving with the cylinder arranged longitudinally inside the cylinder and adapted to discharge the material to be dried on one another as the cylinder revolves, and means on said elements for directing the material obliquely and thereby have the effect of a spiral transporting the material from one end of the cylinder to the other, substantially as described.

868,476. GAS-ENGINE-REVERSING SWITCH. ELEUTHERE P. DU PONT, Montchanin, Del. Filed Jan. 3, 1907. Serial No. 350,593.

1. A gas engine reversing switch, comprising a rotary shaft bearing a rotary circuit controlling contact, two independently movable brush holders with brushes, means for adjusting the brush holders to change the timing of the contact and means for shifting the controlling contact from the plane of one brush to the plane of the other brush.

2. A gas engine reversing switch, comprising a rotary shaft bearing a rotary circuit-controlling contact, two independently movable brush holders hung upon opposite sides of the shaft and bearing brushes, means for adjusting the brush holders to change the timing of contact, and means for shifting the controlling contact from the plane of one brush holder to the plane of the other brush holder.

3. A gas engine reversing switch comprising a rotary shaft having a rotary circuit controlling contact, two independently movable brush holders with brushes, means for moving both brush holders in opposite directions, and means for moving both brush holders in the same direction.



4. A gas engine reversing switch, comprising a rotary shaft made longitudinally adjustable and having a rotary circuit-controlling contact, two independently movable brush holders with brushes, means for timing the contact of the brushes with the rotary contact, a shifting device controlled by the direction of revolution of the shaft, and means for translating the movement of this device into a longitudinal adjustment of the shaft in one direction or the other according to the direction of revolution of the shaft.

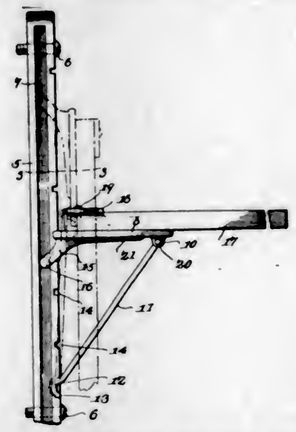
5. A gas engine reversing switch, comprising a rotary shaft having a rotary circuit controlling contact, two independently movable brush holders with brushes, means for adjusting the brush holders to change the timing of the contact, a shifting device controlled by the direction of the revolution of the shaft and two pairs of circuit closing contacts connecting with the shifting device whereby one is opened when the other is closed, and circuit wires connecting these contacts respectively with the two brushes.

6. A gas engine reversing switch, comprising a rotary shaft bearing a rotary circuit controlling contact, two independently movable brush holders with brushes, means for adjusting the brush holders to change the timing of the contact, an electric circuit with branches running to each brush, and an automatic governor switch consisting of a centrifugal governor on the shaft, and a pair of terminal contacts arranged to be closed by the slowing down of the governor to shift the circuit from one circuit controlling brush to the other.

7. A gas engine reversing switch, comprising a rotary shaft bearing a rotary circuit controlling contact, two independently movable brush holders hung upon opposite sides of the shaft and bearing brushes, and a double acting brush holder adjusting device consisting of a double bell crank whose opposite arms are attached respectively to the two brush holders, a main lever pivoted at its inner end to the middle of the double bell crank, a reversing electrical switch lever, and a rod connecting the same to the double bell crank for giving a secondary movement to the latter, simultaneously with the shifting of the switch lever.

8. A gas engine reversing switch, comprising a rotary shaft bearing a rotary circuit controlling contact, two independently movable brush holders hung upon opposite sides of the shaft and having brushes, and a double acting brush holder adjusting device consisting of a double bell crank whose opposite arms are attached respectively to the two brush holders, a main lever pivoted at its inner end to the middle of the double bell-crank, a reversing electrical switch lever, a rod connecting the same to the double bell-crank for giving a secondary movement to the latter and a coupling device connecting the switch lever and main lever for establishing a definite relation between the two.

868,477. CLOTHES-RACK. GILES C. POTTER, Pittsfield, Mass. Filed Feb. 12, 1906. Serial No. 300,744.



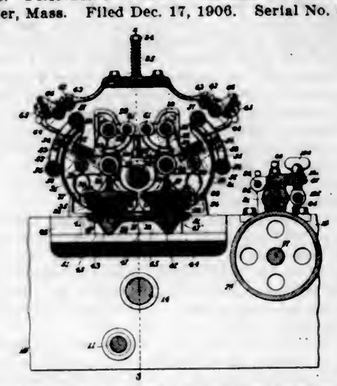
1. In a device of the class described, a standard provided with oppositely disposed guiding grooves and a series of spaced transverse recesses, a bracket slidably mounted in said grooves and adapted to enter one of the transverse recesses, garment supporting members carried by the bracket, and a ball pivoted to the bracket and having its closed end adapted to enter the adjacent transverse recess for locking the bracket in adjusted position.

2. In a device of the class described, a standard provided with oppositely disposed guiding grooves and a series of spaced transverse recesses, a bracket slidably mounted on the standard and adapted to enter one of the recesses, garment supporting members carried by the bracket, and a ball pivoted to the bracket and having its closed end adapted to enter the adjacent transverse recess and its spaced arms bent laterally for engagement with the longitudinal edges of the standard.

3. In a device of the class described, a standard having its opposite longitudinal edges provided with guiding grooves and its exposed face formed with a series of transverse recesses, a bracket slidably mounted on the standard and adapted to enter one of the recesses, garment supporting members carried by the bracket, depending arms secured to the bracket and provided with inwardly projecting trunnions adapted to engage the walls of the guiding grooves, and a ball pivoted to the bottom of the bracket and having its free end adapted to enter the adjacent transverse recess and its spaced arms bent laterally for engagement with the longitudinal edges of the standard.

4. In a device of the class described, a standard having its opposite longitudinal edges provided with continuous guiding grooves and one face thereof formed with a series of spaced transverse recesses, a bracket pivotally mounted for sliding movement on the standard and adapted to enter one of the transverse recesses, reinforcing arms secured to the bottom of the bracket and having their free ends extended downwardly and provided with inwardly projecting trunnions adapted to engage the walls of the guiding grooves, garment supporting arms pivotally mounted for lateral movement on the bracket, perforated lugs depending from the bottom of said bracket, and a ball pivotally mounted in said lugs and having its free end adapted to enter the adjacent transverse recess and its spaced arms bent to form lateral offsets for engagement with the longitudinal edges of the standard.

868,478. PRINTING-PRESS. GEORGE W. PROUTY, Dorchester, Mass. Filed Dec. 17, 1906. Serial No. 348,136.



1. In a printing press, the combination of a reciprocating bed; a platen; an ink plate reciprocating with said bed; a lever on the pivot of said bed provided with a segment of gear teeth; an inking roller secured to said lever; and a gear segment meshing with said lever teeth pivoted to an arm of said bed radial to said pivot and to a fixed portion of the frame.

2. In a printing press, the combination of a reciprocating frame; a type bed movable therewith; an ink plate carried thereby; an inking roller therefor; a stationary ink supply; an ink distributing roller; and means operable by the reciprocation of said frame for moving said ink distributing roller over the surface of said plate and the inking roller over a portion of said plate and the form carried by said bed.

3. In a printing press, the combination of a reciprocating frame; a type bed movable therewith; a platen normally positioned in alinement with said bed but movable from the path thereof; an ink plate carried by the frame; an inking roller therefor; a spring-pressed bolt for locking said platen in operating position; and means operable by the reciprocation of said frame for moving said roller over the surface of said plate and the form carried by said bed.

4. In a printing press, the combination of a reciprocating frame; a type bed pivoted thereto and movable therewith; an ink plate movable with said type bed about its pivot at each reciprocation of said frame; an inking roller therefor; and means operable by the reciprocation of said frame for moving said roller over the surface of said plate and the form carried by said bed.

5. In a printing press, the combination of a reciprocating frame; a type bed pivoted thereto and movable therewith; a curved ink plate movable with said type bed about its pivot at each reciprocation of said frame; an inking roller therefor; a pivoted lever for carrying said roller; and means operable by the reciprocation of said frame for moving said roller over the surface of said plate and the form carried by said bed.

6. In a printing press, the combination of a reciprocating pivoted bed; a platen; an ink plate movable with said bed; a lever pivoted to said bed; an inking roller carried thereby; and means interposed between said lever and bed to effect a movement of said roller over said plate and a movement of said plate about its pivot by the reciprocation of said bed.

7. In a printing press, the combination of a pair of reciprocating members; a bed pivoted thereto and movable about said pivot at each reciprocation of said members; a platen; an ink plate movable with said bed; a lever pivoted to said bed; an inking roller carried thereby; an ink fountain composed in part of an ink supply roller;

means pivoted to the main frame and operable by one of said reciprocating members for moving said ink supply roller about its axis; and means interposed between said lever and bed to effect a movement of the inking roller over said plate by the reciprocation of said bed.

8. In a printing press, the combination of a pair of reciprocating members; a bed pivoted thereto and movable about said pivot at each reciprocation of said members; a platen; an ink plate movable with said bed; a lever pivoted to said bed; an inking roller carried thereby; an ink fountain composed in part of an ink supply roller; a ratchet on said ink supply roller; a lever pivoted to the main frame and operable by one of said reciprocating members; a pawl on said lever engaging said ratchet; and means interposed between said lever and bed to effect a movement of the inking roller over said plate by the reciprocation of said bed.

9. In a printing press, the combination of a reciprocating pivoted bed; a platen; an ink plate reciprocating with said bed and movable at each reciprocation of said bed about its pivot; a lever pivoted to said bed provided with an inking roller and an ink distributing roller; and means operable by the reciprocation of said bed for moving said rollers over the surface of said ink plate.

10. In a printing press, the combination of a reciprocating bed; a platen; a curved ink plate reciprocating with said bed; a lever pivoted to said bed provided with an inking roller and an ink distributing roller; and means operable by the reciprocation of said bed for moving said rollers over the surface of said ink plate and the ink roller over a portion only of said bed and over the form carried by said bed.

11. In a printing press, the combination of a reciprocating pivoted bed; a platen; an ink plate reciprocating with said bed and movable about said pivot at each reciprocation; a lever pivoted to said bed provided with an inking roller and an ink distributing roller; an ink fountain; an ink supply roller coöperating therewith; means for causing said ink plate to contact with the ink supply roller at one end of the reciprocation of said bed and means operable by the reciprocation of said bed for moving said rollers over the surface of said plate and the inking roller over the form carried by said bed.

12. In a printing press, the combination of a reciprocating bed; a platen; an ink plate mounted upon said bed and movable transversely thereon; a lever pivoted to said bed; an inking roller carried thereby; means operable by the reciprocation of said bed for moving said roller over said ink plate; and means for causing a transverse reciprocation of said plate during the vertical reciprocation of said bed.

13. In a printing press, the combination of a reciprocating bed; a platen; an ink plate mounted upon said bed and movable transversely thereon; a projection thereon; a lever pivoted to said bed; an inking roller carried thereby; means operable by the reciprocation of said bed for moving said roller over said ink plate; and a cam coöperating with said projection for causing a transverse reciprocation of said ink plate during the vertical reciprocation of said bed.

14. In a printing press, the combination of a reciprocating bed; a platen; an ink plate mounted upon said bed and movable transversely thereon; two projections thereon; a lever pivoted to said bed; an inking roller carried thereby; means operable by the reciprocation of said bed for moving said roller over said ink plate; and an inclined oscillating plate interposed between said projections for causing a transverse reciprocation of said ink plate during the vertical reciprocation of said bed.

15. In a printing press, the combination of a pair of reciprocating frames; a connecting member between said frames; a bed mounted thereon provided with upwardly extending arms; an ink plate mounted upon said connector; levers pivotally mounted upon said connector and provided with gear teeth; inking rollers carried by said levers; a rocker shaft mounted in said bed arms; gear segments mounted thereon meshing with the teeth on the ink roller levers; and a pivotal connection between said gear segments and the frame of the machine.

16. In a printing press, the combination of a pair of reciprocating frames; a connecting member between said frames; a bed mounted thereon provided with upwardly extending arms; an ink plate mounted upon said connector; levers pivotally mounted upon said connector and provided with gear teeth; inking rollers carried by said levers; a rocker shaft mounted in said bed arms; gear segments mounted thereon meshing with the teeth on the ink roller levers; a pivotal connection between said gear segments and the frame of the machine; a cam secured to said rocker arm and movable therewith; and mechanism upon said ink plate coöperating with said cam to cause a transverse reciprocation thereof.

17. In a printing press, the combination of a reciprocating frame provided with two alined type carrying beds independently secured to said reciprocating frame; an independent inking device for each type bed; means for inking the type forms during the reciprocation of said beds; a platen for each bed; and means for printing an impression from each form simultaneously.

18. In a printing press, the combination of a reciprocating frame provided with two alined type carrying beds independently secured to said reciprocating frame; an independent inking device for each type bed; means for inking the type forms during the reciprocation of said beds; a platen for each bed; means for printing an impression from each form simultaneously; and means for feeding material between said platens and forms.

19. In a printing press, the combination of a reciprocating frame provided with two alined type carrying beds independently secured to said reciprocating frame; an independent inking device for each type bed; means for inking the type forms during the reciprocation of said beds; a platen for each bed; means for printing an impression from each form simultaneously; and automatic means for intermittently feeding material between said platens and forms.

20. In a printing press, the combination of a reciprocating frame provided with two alined type carrying beds independently secured to said reciprocating frame; an independent inking device for each type bed; means for inking the type forms during the reciprocation of said beds; a platen for each bed; means for printing an impression from each form simultaneously, the impression from one form being the complement of the other; and automatic means for intermittently feeding material between said platens and forms.

21. In a printing press, the combination of a reciprocating frame provided with two alined type carrying beds independently secured to said reciprocating frame; an independent inking device for each type bed; means for inking the type forms during the reciprocation of said beds; a platen for each bed; means for printing an impression from each form simultaneously, the impression from one form being upon that portion of the material printed upon by the other form at the last impression; and automatic means for intermittently feeding material between said platens and forms.

22. In a printing press, the combination of a reciprocating bed; a platen; an ink plate reciprocating with said bed; a lever pivoted to said bed; a roller carried thereby over said ink plate; and means operable by the reciprocation of said bed for moving said roller and ink plate simultaneously in opposite directions.

23. In a printing press, the combination of a reciprocating bed; a platen; crank mechanism; connectors between said crank mechanism and said reciprocating bed; a rod attached to each connector extending through an ear on the frame of the machine and provided with a suitable head; and a spring between said head and ear.

24. In a printing press, the combination of a reciprocating frame provided with two pivots; a type-carrying bed mounted on each pivot; an independent inking device for each type bed; means for inking the type forms during the reciprocation of said beds; a platen for each bed; and means operable by the reciprocation of said frame for moving said beds about their pivots.

25. In a printing press, the combination of a reciprocating frame provided with two alined type carrying beds independently pivoted to said reciprocating frame; means operable by the reciprocation of said frame for moving said type carrying beds about their pivots; an independent inking device for each type bed; means for inking the type forms during the reciprocation of said beds; a platen for each bed; and means for printing an impression from each form simultaneously.

26. In a printing press, the combination of a reciprocating frame provided with two alined type carrying beds independently pivoted to said reciprocating frame; means operable by the reciprocation of said frame for moving said type carrying beds about their pivots; an independent inking device for each type bed; means for inking the type forms during the reciprocation of said beds; a platen for each bed; means for printing an impression from each form simultaneously; and means for feeding material between said platens and forms.

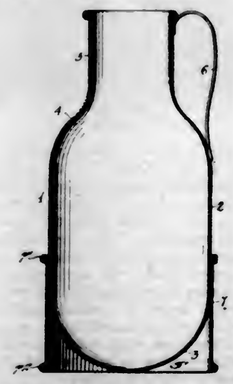
27. In a printing press, the combination of a reciprocating frame provided with two alined type carrying beds independently pivoted to said reciprocating frame; means operable by the reciprocation of said frame for moving said type carrying beds about their pivots; an independent inking device for each type bed; means for inking the type forms during the reciprocation of said beds; a platen for each bed; means for printing an impression from each form simultaneously; and automatic means for intermittently feeding material between said platens and forms.

28. In a printing press, the combination of a revoluble crank shaft; a type bed; a link between said bed and crank shaft whereby said bed is positively reciprocated; and mechanism secured to said bed reciprocating mechanism for balancing said bed and insuring an even movement of said crank shaft in its revolution.

29. In a printing press, the combination of a revoluble crank shaft; a type bed; a link between said bed and crank shaft whereby said bed is positively reciprocated; a rod secured to said bed reciprocating mechanism extending through an ear on the frame of the machine and provided with a suitable head; and a spring interposed between said head and ear.

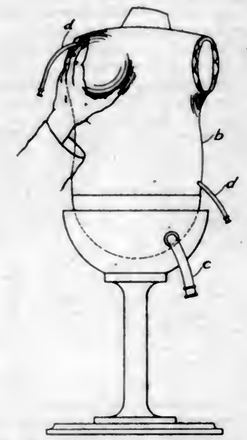
30. In a printing press, the combination of a revoluble crank shaft; a type bed; a shaft extending through said bed; reciprocating bearings mounted upon either end of said last named shaft; a link between each end of said bed shaft and said crank shaft whereby said bed is positively reciprocated; a member mounted upon each end of said bed shaft; a rod therein extending through an ear on the frame of the machine and provided with a suitable head; and a spring interposed between said head and ear.

868,479. MILK-CAN. JOHN W. RAILEY, Lewiston, Me. Filed Aug. 9, 1906. Serial No. 329,930.



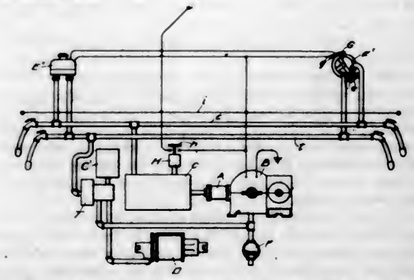
A milk can comprising a cylindrical body with a semi-spherical bottom, a tubular cover secured part way of its length to the body above the said bottom, said cover having reinforcing beads on its upper and lower edges, the lower one of which serves as a support for the can to prevent wear on the semi-spherical bottom thereof, substantially as specified.

868,480. TAILOR'S DUMMY. JACOB RAMB, Berlin, Germany. Filed Feb. 16, 1906. Serial No. 301,526.



In a device of the character described, an inflatable normal dummy, comprising an inflatable hollow rubber body, and an inflation tube communicating with the interior thereof, combined with an inflatable casing surrounding the normal dummy, and secured thereto at its ends near the ends of the normal dummy, said inflatable casing provided throughout its length with vertical folds, and an inflation tube for the inflatable casing independent of the inflation tube of the normal dummy.

868,481. AIR-BRAKE SYSTEM. HENRY N. RANSOM, Albany, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 1, 1906. Serial No. 319,762.



1. In an air-brake system, an air-compressor, a brake-cylinder, pipe connections from brake-cylinder to the intake of the compressor, an engineer's valve controlling the application of the brakes, and means actuated by said engineer's valve for starting and stopping said compressor.

2. In an air-brake system, an air-compressor, a reservoir supplied thereby, a brake-cylinder, pipe connections from brake-cylinder to reservoir and to the intake of the compressor, an engineer's valve controlling the flow of air from reservoir to brake-cylinder, and means actuated by said engineer's valve for starting and stopping said compressor.

3. In an air-brake system, an air-compressor, a brake-cylinder, pipe connections from brake-cylinder to the in-

take of the compressor, an engineer's valve for controlling the application of the brakes, means actuated by said engineer's valve for starting and stopping the compressor, and an inwardly-opening check-valve connecting the intake of said compressor to atmosphere.

4. In an air-brake system, an air-compressor, a reservoir supplied thereby, a brake-cylinder, pipe connections from brake-cylinder to reservoir and to the intake of the compressor, an engineer's valve controlling the flow of air from reservoir to brake-cylinder, means actuated by the engineer's valve for starting and stopping the compressor, and means controlled by the pressure in the reservoir for starting and stopping said compressor.

5. In an air-brake system, an air-compressor, an electric driving motor therefor, a brake-cylinder, pipe connections between brake-cylinder and the intake of the compressor, and a manually-operated controlling switch for said motor.

6. In an air-brake system, an air-compressor, an electric driving motor therefor, a reservoir supplied thereby, a brake-cylinder, pipe connections from brake-cylinder to reservoir and to the intake of the compressor, a manually-operated valve controlling the flow of air from reservoir to brake-cylinder, and switch contacts on said valve controlling said motor.

7. In an air-brake system, an air-compressor, an electric driving motor therefor, a brake-cylinder, pipe connections between brake-cylinder and the intake of the compressor, a manually-operated controlling switch for said motor, and an inwardly-opening check-valve connecting the intake of said compressor to atmosphere.

8. In an air-brake system, an air-compressor, a brake-cylinder, pipe connections from brake-cylinder to the intake of the compressor, manually-controlled means for starting said compressor to withdraw air from the cylinder, and means for automatically shifting said manually-controlled means when released to stop the compressor.

9. In an air-brake system, an air-compressor, an electric driving motor therefor, a brake-cylinder, pipe connections between brake-cylinder and the intake of the compressor, a manually-controlled switch contact controlling said motor, and a spring for automatically returning said contact to open-position when manually released.

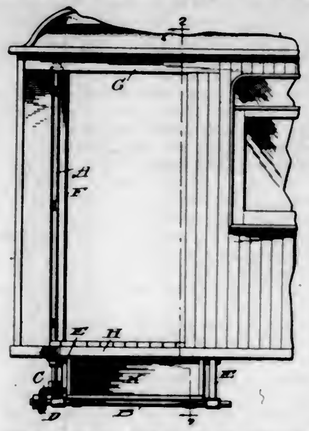
10. In an air-brake system, an air-compressor, an electric driving motor therefor, a reservoir supplied thereby, a brake-cylinder, pipe connections from brake-cylinder to reservoir and to the intake of the compressor, a manually-operated valve controlling the flow of air from reservoir to brake-cylinder, switch contacts on said valve controlling said motor, and a spring for automatically shifting said valve when said valve is moved into position to close said contacts and manually released.

11. In an air-brake system, an air-compressor, an electric driving motor therefor, pipe connections from brake-cylinder to the intake of the compressor, an engineer's valve controlling the application and release of the brakes and having two release positions, switch contacts controlled by said valve and arranged in one release position of said valve to close the circuit of said motor, and means for automatically shifting said valve to the second release position when moved to the first release position and manually released.

12. In a "straight" air-brake system, an air-compressor, an electric driving motor therefor, a reservoir supplied thereby, an engineer's valve arranged in three different positions to connect brake-cylinder to reservoir, to atmosphere, and to the intake of the compressor, respectively, switch contacts controlled by said valve arranged to close the circuit of said motor when said valve is in the third of said positions, and means for automatically shifting said valve from the third to the second of said positions when said valve is manually released.

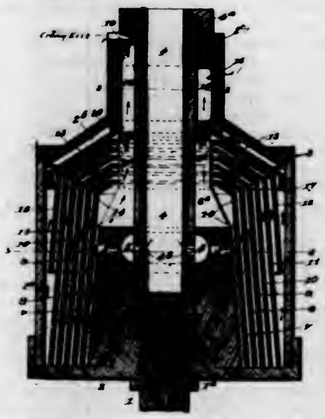
868,482. FOLDING CAR-STEP. NELSON L. REEVES and JAMES B. SHANE, Chicago, Ill. Filed Mar. 14, 1907. Serial No. 362,256.

1. The combination of a swinging car door having a pivot extending below the platform, a turning step thereunder, and gearing between the lower end of the pivot and the step, whereby the step is turned into or out of position for use when the door is opened or closed.



2. The combination of a car door, an upright shaft at the side of the door way, on which shaft the door is hung, a turning step under the doorway, a horizontal shaft on which the step is mounted, and gearing between said shafts, whereby when the door is opened the step is turned down to useful position, or vice versa.

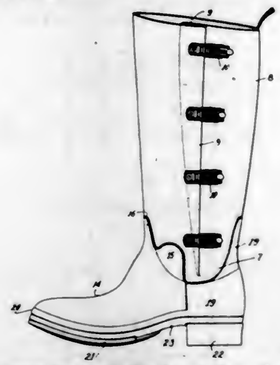
868,483. CENTRIFUGAL LIQUID-SEPARATOR. FREDDIE H. REID, Sioux City, Iowa. Filed Nov. 8, 1906. Serial No. 342,461.



1. In a separator of the class indicated, the combination, with the vertical shaft 1, the bowl 2, 2^a, seated thereon, a series of bowl-shape perforated skimming plates contained within the bowl proper, the milk tube 4 having lateral openings and screwed upon the end of said shaft projecting above the base of the bowl, of the distributing core 6, arranged concentrically with the milk tube, and having an annular chamber 5, and lateral orifices 5^a in register with the discharge openings of the milk tube, the core having also a series of vertical blades 6^a projecting from its top portion and spaced apart, their inner edges abutting the milk tube, and thus forming a series of vertical passages between said tube and the inner skimming plate, as shown and described.

2. In a separator of the class indicated, the combination with the vertical shaft 1, the bowl seated thereon, the milk-conducting tube 4 having lateral discharge openings, the distributing core 6 surrounding the tube and having lateral openings, and a series of spaced projections 6^a extending upward, their inner edges being in contact with the milk tube, a series of inverted bowl-shape skimming plates held on said projections of the core, and a dividing plate 13 fixed on the tube 4 and extending over the tops of the said projections and part-way down over the outer skimming plate, and having the vertical cream-conductor 18, which extends upward from the top of the said dividing plate and connecting with an exit opening in the top of the bowl, a continuous cream passage being thus formed by and between the vertical projections of the core and the said conductor 18, as shown and described.

868,484. COMPOSITE BOOT AND SHOE. HENRY C. RICHARDSON, Haverhill, Mass. Filed May 3, 1906. Serial No. 314,959.



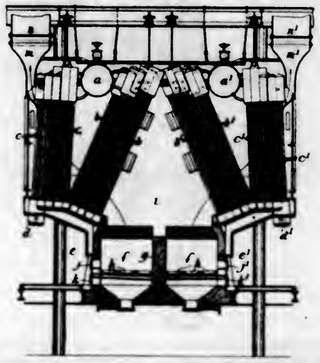
1. In a composite boot, the foundation or inner body comprising a shaped foot and leg portion formed entire of a felted fabric, the foot portion being cement-coated and reinforced on the front upper with two distinct textile layers extending from the sole up over the instep, portions of the outer layer extending beyond the inner layer, towards the ankle, in combination with a compound rubber sole and upright heel portion, the parts being vulcanized together, substantially as set forth.

2. In a composite boot, the foundation or inner body comprising a shaped foot and an adjustable leg portion formed entire of a felted fabric, the leg portion having on one side a seamless vertical fold or overlap formed integral with the leg and foot, and extending from the top downwardly nearly to the ankle and provided with suitable fastenings, and the foot portion being cement-coated and reinforced on the front upper with two distinct textile layers extending from the sole up over the instep, the upper edge of the outer layer having a narrow binding and portions of such outer material extending beyond the inner layer, towards the ankle, in combination with a compounded rubber sole and upright heel portion and a marginal foxing, the parts being vulcanized together, substantially as set forth.

868,485. WATER-TUBE BOILER AND STEAM-GENERATOR. DAVID ROBERTS, Grantham, England. Filed July 14, 1904. Serial No. 216,563.

1. In a steam generator, the combination with a plurality of units arranged on opposite sides of a center, of a common furnace located between said units, having a central fire wall dividing it into two sections and furnace doors on two opposite sides parallel to said fire wall for feeding fuel to said sections of the furnace independently, said furnace being provided with two independent smoke outlets, one for each of said sections arranged adjacent to opposite sides of the generator, and a damper in each of said smoke outlets, substantially as described.

2. In a steam generator, the combination with a plurality of units arranged on opposite sides of a center, of a common furnace located between said units, having a central fire wall dividing it into two sections and furnace doors on two opposite sides parallel to said fire wall for feeding fuel to said sections of the furnace independently, said furnace being provided with two independent smoke outlets, an ashpit beneath each of said furnace sections, partitions in each of said ashpits dividing the same into separate compartments and independent means for admitting air to each of said compartments, substantially as described.



3. In a steam generator, the combination with a plurality of units arranged on opposite sides of a center, of a common furnace located between said units, having a central fire wall dividing it into two sections and furnace doors on two opposite sides parallel to said fire wall for feeding fuel to said sections of the furnace independently, said furnace being provided with two independent smoke outlets, one for each of said sections, a damper for controlling each of said smoke outlets, an ashpit beneath each of said furnace sections, partitions in said ashpits perpendicularly disposed to said fire wall and dividing said ashpits into separate compartments and independent means for admitting air to each of said compartments, substantially as described.

4. In a steam generator, the combination with a plurality of units arranged on opposite sides of a center, of a common furnace located between said units provided with a central fire wall dividing it into two sections, a separate ashpit under each of said sections of the furnace, partitions in said ashpit dividing the same into separate compartments and independent means for admitting air to each of said compartments, substantially as described.

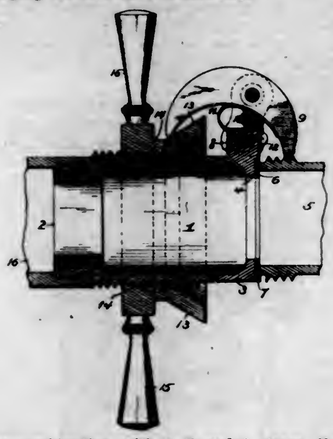
5. In a steam generator, the combination with a plurality of units arranged on opposite sides of a center, of a common furnace located between said units provided with a central fire wall dividing it into two sections, furnace doors arranged on two opposite sides of the furnace parallel with said fire wall for feeding fuel to said sections of the furnace independently, a separate ashpit under each section of the furnace, partitions in said ashpits disposed perpendicularly to said fire wall and dividing said ashpits into separate compartments and independent means for admitting air to each of said compartments, substantially as described.

868,486. COUPLING. JAMES J. ROLLINS, Jersey Shore, Pa. Filed Apr. 25, 1907. Serial No. 370,273.

1. In a coupling the combination with a threaded sleeve, and dogs pivoted thereto and projecting at one end beyond the sleeve, of a ring cone threaded internally and mounted on the sleeve, the said cone engaging the rear ends of the dogs for turning same on the pivots.

2. In a coupling the combination with a threaded sleeve, dogs pivoted thereto and projecting at one end beyond the sleeve, and springs tending to separate the dogs, of a ring cone threaded internally and mounted on the sleeve, the said cone engaging the rear ends of the dogs and adapted to force their front ends toward each other.

3. In a coupling the combination with a threaded sleeve, links pivoted to the sleeve and dogs pivoted to the links and projecting at their forward ends beyond the sleeve, of a ring cone threaded internally and mounted on the sleeve and engaging the rear ends of said dogs.



4. The combination with a threaded sleeve, links pivoted thereto, dogs pivoted to the links and projecting at their forward ends beyond the sleeve, and springs tending to normally hold the front ends of the dogs apart, of a ring cone threaded internally and engaging the rear ends of the dogs.

5. In a coupling the combination with a sleeve threaded internally, links pivoted to the sleeve and dogs pivoted to the links, of a ring cone threaded internally and mounted on the sleeve the convex face of the cone engaging the inner rear faces of the ends of the dogs.

6. In a coupling the combination with a sleeve having a wide bearing face at one end, a yielding gasket on said bearing face, links pivoted to the sleeve, dogs pivoted to the link and projecting in advance of the sleeve, and springs tending to normally force the free ends of the dogs apart, of a cone ring resting with its convex face against the inner faces of the rear ends of the dogs and means for turning said ring.

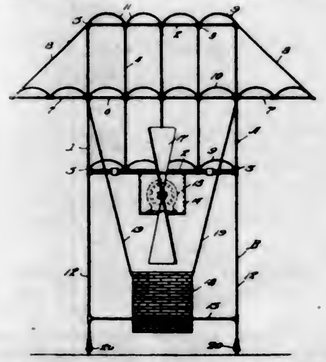
868,487. WATER-ELEVATING APPARATUS. GEORGE W. ROSENGARTEN, Home Heights, Mo. Filed Mar. 21, 1907. Serial No. 363,729.



1. In a water elevating apparatus, the combination of a water tank, a main compressed air reservoir, means for conducting air from said main reservoir to said tank, and an auxiliary compressed air reservoir arranged for communication with said water tank to receive the compressed air from the tank and deliver it back in a compressed state and without recompression to said tank for reuse, substantially as set forth.

2. In a water-elevating apparatus, the combination of a water tank, a main compressed air reservoir, an auxiliary compressed air reservoir, means of communication independent of each other between each of said reservoirs and said water tank, a valve for controlling said means of communication, and means for moving said valve whereby communication is established first between said main reservoir and said water tank and then between said auxiliary reservoir and said water tank, substantially as set forth.

868,488. FLYING-MACHINE. JOHN W. ROSHON, Harrisburg, Pa. Filed Mar. 26, 1907. Serial No. 364,663.



1. In a machine of the class described, the combination of a framework, a propelling mechanism mounted thereon, and a plurality of superimposed sustaining members having rearwardly inclined concaved under surfaces arranged close together.

2. In a machine of the class described, the combination of a framework, a propelling mechanism mounted thereon, and a plurality of spaced horizontal sustaining members arranged in superimposed relation and each having concaved under surfaces, the concavity of each surface being maximum at the front and diminishing gradually to the rear.

3. In a machine of the class described, the combination of a framework, and a plurality of horizontal sustaining members arranged in superimposed relation with the members of smaller area at the top and bottom, each member having a plurality of concaved under surfaces arranged side by side and inclining downwardly toward the rear.

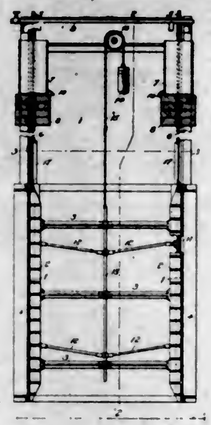
4. In a machine of the class described, the combination of a framework composed of superimposed sections, a propelling mechanism arranged within the lower section and comprising front and rear propellers, and a motor for rotating them, a plurality of approximately horizontal suspending members varying as to length and arranged spaced apart on the upper section, and a basket flexibly suspended from the upper section disposed within the lower section.

868,489. GATE FOR WATERWAYS. DOUGLAS W. ROSS, Boise, Idaho. Filed Jan. 12, 1907. Serial No. 351,967.

1. A gate for waterways, in combination with means for counterbalancing all external forces tending to cause or resist its movement, substantially as described.

2. A gate for waterways, in combination with means for counteracting all friction due to water pressure, and means for counterbalancing the weight of the gate, substantially as described.

3. In a gate for waterways, the combination with individual gate members of equal area counterbalanced as against the water pressure, of struts for rigidly connecting said members back to back, substantially as described.



4. In a slide gate for waterways, the combination with individual gate members rigidly connected back to back, and means for counterbalancing said gate, substantially as described.

5. In a slide gate for waterways, the combination with oppositely arranged and rigidly connected gate members, of a variable counterbalance for said gate, substantially as described.

6. In a slide gate for waterways, the combination with oppositely arranged and rigidly connected gate members, of a counterbalancing tank for lifting said gate, substantially as described.

7. In a slide gate for waterways, the combination with a counterbalancing tank for lifting said gate, of a supply pipe for said tank, an outlet of less area than the supply, and means for sustaining the gate in any predetermined position, substantially as described.

8. In a balanced slide gate for waterways, the combination with its supporting frame, of outwardly pressed packing strips carried by said gate, for automatically sealing the gate against leakage, substantially as described.

9. In a balanced slide gate for waterways, the combination with its supporting frame, of side packing strips interposed between said gate and frame, and means for continuously projecting said strips in opposite directions, substantially as described.

10. In a double gate for waterways, the combination with its supporting frame, of individual gate members, oppositely arranged packing strips interposed between said members and the frame, and a toggle lever for continuously projecting said strips to seal the structure against leakage, substantially as described.

11. In a double gate for waterways, the combination with its supporting frame, of means for automatically sealing the individual gate members against leakage comprising yielding packing strips, carried by said members, toggle levers interposed between said strips, and a weight for maintaining tension upon said levers, substantially as described.

12. In a double gate for waterways, the combination with packing strips yieldingly mounted in each gate member, toggle levers interposed between opposing packing strips, and a counterweight for maintaining tension upon said levers to project their respective packing strips in opposite directions, substantially as described.

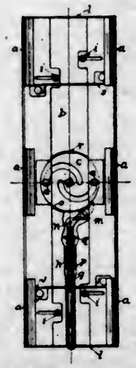
868,490. UMBRELLA-FASTENER. CARL L. SCHMIDT, Oberstein, Germany. Filed Apr. 6, 1906. Serial No. 310,344.

1. An attachment for umbrellas consisting of a casing having means for attachment to the stick of an umbrella, a resilient arm connected at one end within said casing, a flexible element adapted to pass around the ribs of an umbrella, connecting means between one end of said flexible element and the free end of said resilient arm, and means carried by said casing for adjustably supporting said flexible element after passing around the ribs of an umbrella.



2. The combination with an umbrella including the stick and the ribs, of a casing, a resilient arm supported at one end in said casing, a split ring adapted to yieldably engage said stick and connected to said casing, a yieldable element adapted to pass around said umbrella ribs, connecting means between one end of said resilient element and the free end of said resilient arm, and a catch device upon said casing with which said flexible element is adapted to be adjustably connected after passing around said umbrella ribs.

868,491. LOOSE-LEAF BINDER. HENRY SCHNELLER, Pear River, N. Y., and FREDERICK J. HENKE, West Hoboken, N. J.; said Schneller assignor to said Henke. Filed Mar. 7, 1906. Serial No. 304,805.



1. The combination with a wood back or base, of two clamps slotted near their ends, and each having three jaws with their clamping edges presented beyond the inner face thereof, a double eccentric wheel located in a groove in the center of wood back, and connected with the clamps by a pivot through and from each clamp, a key made separate from the eccentric wheel, and a bar riveted to the end jaw of each clamp, tapering towards the center in concave form to shape the contents and bring pressure of clamping jaws directly to the center of same when closing, substantially as herein described.

2. The combination with a wood back or base, of the clamps slotted near their ends, moving on wood back and

each having three jaws, and a double eccentric wheel located in a groove in the center of wood back, and connected with the clamps by a pivot through each clamp, and a bar riveted to the end jaw of each clamp to shape the contents in concave form, bringing pressure of clamps to the center of same, and a regulating bar "*g*" located in wood back, parallel with the clamps, a pawl "*f*" made separate from the regulating bar and connected with the same by a pin "*n*", and fastened to the wood back by screw "*m*" to hold the eccentric wheel in check, after it draws the clamps together operated by the key, substantially as herein described.

3. The combination with a wood back or case "*b*", having guard plates "*l*" at each end, of the clamps with jaws "*a*" having bars "*j*" riveted thereto, and a double eccentric wheel "*o*", with ratchet teeth traversing part of its outer edge, located in the center of wood back, and connected with clamps by a pivot through and from each clamp, a steel strip "*r*" protecting side of groove in wood back from the ratchet on wheel, the screws "*i*" connected with the back and passing through slots at ends of each clamp, a regulating bar "*g*" located in wood back, a pawl "*f*" made separate from the regulating bar and connected therto by a pin "*n*" and fastened to the wood back by screw "*m*", a staple holding the regulating bar in place, a resisting spring attached to the regulating bar by a pin "*p*", and a key made separate to connect with the eccentric wheel when opening and closing the clamps, substantially as herein described.

868,492. SWIMMING-PADDLE. JOHN E. SCHNOPP, Brooklyn, N. Y. Filed Mar. 22, 1907. Serial No. 363,850.



1. A swimming paddle comprising a blade provided with a reduced integral handle, said blade and handle being provided with openings, and a looped flexible element adapted to be secured to the handle through the medium of an opening therein.

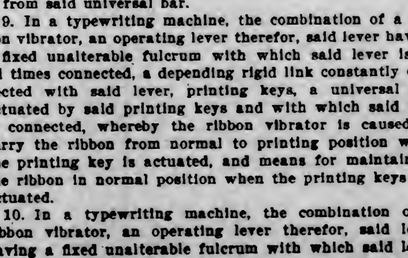
2. A swimming paddle comprising a flat blade provided with a reduced handle arranged in the plane thereof, said blade being provided with an opening located at a point adjacent its rear end, and a looped flexible element adapted to be secured to the handle through the medium of an opening therein.

868,493. TYPE-WRITING MACHINE. GEORGE A. SEIB, Syracuse, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed May 9, 1906. Serial No. 316,027.

1. In a typewriting machine, the combination of a ribbon vibrator, an operating lever therefor, a key operated universal bar, a link connected directly with both said universal bar and said operating lever, and means for wholly disconnecting said link from said universal bar.

2. In a typewriting machine, the combination of a ribbon vibrator, an operating lever therefor, a key operated universal bar, a link connecting said universal bar and said operating lever, means for varying the point of connection between said link and said lever, and means for disconnecting said link from said universal bar.

3. In a typewriting machine, the combination of a ribbon vibrator, a slotted lever connected therewith, a link adapted to move back and forth in the slot of said lever and to operate on said lever, an eccentric for controlling the back and forth movements of said link, a universal bar to which said link is connected, printing key levers operative on said universal bar, and means for disconnecting said link from said universal bar.



4. In a typewriting machine, the combination of a ribbon vibrator, a lever connected therewith, a link having a pin and slot connection with said lever and provided with a strap, a driving shaft, an eccentric thereon cooperating with said strap, a universal bar to which said link is connected, printing key levers operative on said bar, and means for disconnecting said link from said universal bar.

5. In a typewriting machine, the combination of a ribbon vibrator, a lever for operating the same, a key operated universal bar, a link connected at one end with said lever and at the other end to said universal bar, and a hand operated member adapted to disconnect said link from said universal bar.

6. In a typewriting machine, the combination of a ribbon vibrator, a slotted lever connected therewith, a link adapted to move back and forth in the slot of said lever and to operate on said lever, an eccentric for controlling the back and forth movements of said link, a universal bar to which said link is detachably connected, and a hand operated member adapted to disconnect said link from said universal bar.

7. In a typewriting machine, the combination of a ribbon vibrator, an operating lever therefor, a key actuated universal bar, a depending rigid link connecting said universal bar and said operating lever, and a slide rod slidably connected with said link and having a finger piece whereby said rod may be operated to connect said link to or disconnect it from said universal bar.

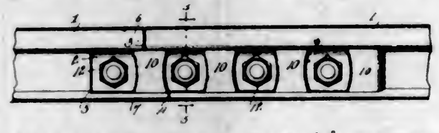
8. In a typewriting machine, the combination of a ribbon vibrator, a slotted lever connected therewith, a link adapted to move back and forth in the slot of said lever and to operate on said lever, an eccentric for controlling the back and forth movements of said link, a universal bar to which said link is detachably connected, and a slide rod slidably connected with said link at one end and having a finger piece at the other end, whereby said rod may be operated to connect said link to or disconnect it from said universal bar.

9. In a typewriting machine, the combination of a ribbon vibrator, an operating lever therefor, said lever having a fixed unalterable fulcrum with which said lever is at all times connected, a depending rigid link constantly connected with said lever, printing keys, a universal bar actuated by said printing keys and with which said link is connected, whereby the ribbon vibrator is caused to carry the ribbon from normal to printing position when the printing key is actuated, and means for maintaining the ribbon in normal position when the printing keys are actuated.

10. In a typewriting machine, the combination of a ribbon vibrator, an operating lever therefor, said lever having a fixed unalterable fulcrum with which said lever is at all times connected, means for varying the power arm of said lever, a link constantly connected with said lever, printing keys, a universal bar actuated by said printing keys and with which said link is connected, whereby the ribbon vibrator is caused to carry the ribbon from normal to printing position when the printing key is actuated, and means for maintaining the ribbon in normal position when the printing keys are actuated.

11. In a typewriting machine, the combination of a ribbon vibrator, printing instrumentalities, printing keys therefor, a universal bar controlled by said keys, intermediate actuating devices between said universal bar and ribbon vibrator, said actuating devices including a depending rigid link movable by said universal bar, and hand actuated means operable at will to effect a connection or disconnection between said link and the universal bar.

868,494. RAIL-JOINT. VERNON H. SHAW, Grangeville, Idaho. Filed Mar. 21, 1907. Serial No. 363,610.

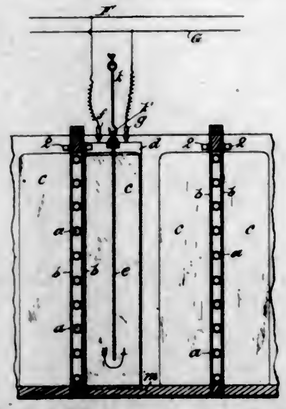


1. A rail joint comprising rail ends cut away upon a median line vertically and provided with a projecting tongue at the outer end, a recess between the extended tread portion and the base flange, enlargements at intervals and bolt apertures between the enlargements, and bolts passing through said apertures, substantially as described.

2. A rail joint comprising rail ends cut away upon a median line through the tread portion, the web, and the base flange, and provided each with a projecting tongue, a recess and overhanging tread portion and a base flange shoulder, bolt apertures extending through the rail ends and enlargements between the bolt apertures, and bolts passing through said apertures.

3. A rail joint comprising rails having their ends cut away, projecting tongues on the rail end sections, and a recess in each rail end, enlargements upon the outer side of the cut away portions and bolt apertures between the enlarged portions.

868,495. ICE MACHINERY. THOMAS SHIPLEY, York, Pa. Filed May 10, 1907. Serial No. 372,883.



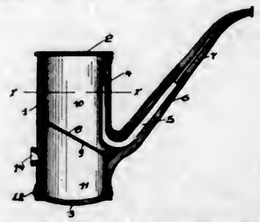
1. In ice machinery the combination with the tank and the freezing plate on which the ice is formed, of an upright dividing plate of relatively low electrical conductivity, set edgewise in proximity to, but insulated from, said freezing plate, and adapted to be embedded and frozen into the cake of ice as it forms, and electrical connections whereby said dividing plate may be connected up in circuit at will with a source of electrical supply, substantially as and for the purpose hereinbefore set forth.

2. In ice machinery the combination with the tank and the freezing plate on which the ice is formed, of an upright dividing plate and a horizontal bottom dividing plate of relatively low conductivity electrically connected together, set edgewise and in proximity to, but electrically insulated from, the freezing plate, and electrical connections whereby said dividing plates may be connected up in circuit at will with a source of electrical supply, substantially as and for the purposes hereinbefore set forth.

3. In ice machinery the combination with the tank and the freezing plate on which the ice is formed, of two substantially upright dividing plates and an intermediate bottom dividing plate electrically connected together and of relatively low conductivity, set edgewise and in proximity to, but electrically insulated from, the freezing plate, and electrical connections whereby said dividing plates may be connected up in circuit with a source of electrical supply substantially as and for the purposes hereinbefore set forth.

4. In ice machinery, the combination with the tank and the freezing plate on which the ice is formed, of a plurality of sets of dividing plates of low electrical conductivity placed tandem along side of, but out of electrical contact with, said freezing plate, each set consisting of two upwardly diverging, upright plates and a bottom plate extending between and mechanically and electrically connecting their lower ends, electric connections between contiguous plates of adjoining sets, and electrical connections whereby the several sets may at will be connected up in circuit with a source of electrical supply, substantially as and for the purposes set forth.

868,496. SMOKING-PIPE. ELMER SHONER, Carnegie, Pa. Filed Mar. 15, 1907. Serial No. 362,441.



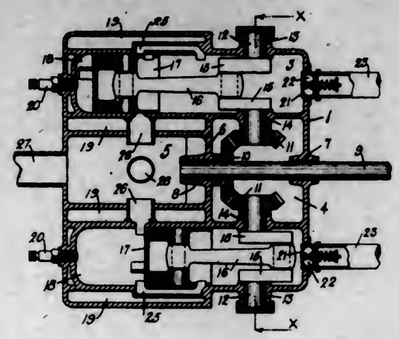
1. A smoking pipe comprising a bowl having a hinged lid on each end and provided in the front wall near the lower end with an air-opening, a perforated partition arranged within the bowl at an incline and dividing said bowl into an upper and a lower chamber, and a stem carried by said bowl with the bore thereof communicating with the upper chamber of the bowl through a vertical by-path formed in the wall of the bowl.

2. In a smoking pipe, a bowl having two superposed chambers separated by an inclined partition having openings, one of said chambers having an air inlet, the other chamber having communication with the smoke-bore, whereby the accumulation of tobacco residue on the partition in a manner to prevent the passage of air therethrough is prevented.

868,497. MOTOR. CHARLES E. SMITH, Pawtucket, R. I. Filed Jan. 8, 1907. Serial No. 351,330.

1. A motor comprising a casing, an exhaust chamber arranged in the longitudinal center of the casing and having a discharge pipe, a longitudinal-central shaft journaled in and extending from the casing, a plurality of crank-chambers grouped about the shaft and having means for supplying fuel, a plurality of shafts journaled in the casing and grouped about the longitudinal-central shaft and having cranks disposed in the crank chambers, gearing intermediate said crank shafts and the longitudinal-central shaft for driving the latter by the former, piston cylinders arranged in the casing and grouped about the exhaust chamber and having inwardly extending exhaust ports leading to said chamber, pistons movable in said cylinders and connected with the crank-shafts, and ports for conducting fuel from the crank chambers to the

chambers in the piston cylinders at the opposite sides of the pistons, with reference to the crank-chambers, and arranged to be overrun by the pistons.



2. A motor comprising a casing, an exhaust chamber arranged in the longitudinal center of the casing and having a discharge pipe extending from one end of the casing, a longitudinal shaft journaled in the casing and extending from the opposite end thereof, with reference to the exhaust pipe, a gear chamber arranged in front of the exhaust chamber and surrounding the shaft, a miter gear fixed on said shaft and disposed in the gear chamber, a plurality of crank-chambers grouped about the gear chamber, fuel supply pipes extending from the ends of the crank-chambers and having non-return valves, a plurality of shafts journaled in the casing and grouped about the longitudinal-central shaft and having cranks disposed in the crank chambers and miter gears disposed in the gear chamber and intermeshed with the miter gear on the longitudinal-central shaft, piston cylinders arranged in the casing and grouped about the exhaust chamber and having inwardly extending exhaust ports leading to said chamber, pistons movable in said cylinders and connected with the crank-shafts, and ports for conducting fuel from the crank chambers to the chambers in the piston cylinders at the opposite sides of the pistons, with reference to the crank chambers, and arranged to be overrun by the pistons.

868,498. JOINTING OF CABLES, PIPES, RODS, AND THE LIKE AND IN A FLUX THEREFOR. SIDNEY L. SMITH, Bunhill Row, and THOMAS HARDEN, Fulham, England. Filed Aug. 31, 1906. Serial No. 332,871.

1. A flux composed of stearin, vaseline, and methylated spirit, with tinfoil.

2. An article of manufacture comprising a plurality of layers of tinfoil inclosing between them a composition of matter comprising stearin, vaseline, and methylated spirit.

868,499. SPINDLE. HARRY SPENCE, Lawrence, Mass., assignor of one-third to James Speed, Lawrence, Mass., and one-third to Harry Stephenson, Boston, Mass. Filed Dec. 7, 1906. Serial No. 346,761.

1. The combination with a stationary spindle support of a tubular spindle surrounding said support and having a step bearing thereon at its upper end, and a flier carried by the upper end of the spindle.

2. A stationary spindle-support, a tubular spindle surrounding the same and guided thereby, a flier at the upper end of the spindle, and a whirl at the lower end thereof.

3. A stationary spindle-support, a tubular spindle surrounding the same and having a step bearing on the spindle-support at the upper end thereof, and a centering bearing on said spindle-support at the lower end thereof.

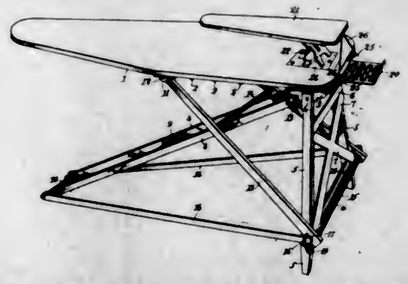
4. A stationary spindle-support, a tubular spindle fitted thereon, a flier at the upper end of the spindle, and a whirl at the lower end thereof, said spindle having a step bearing on the spindle-support at its upper end, and a centering bearing thereon at its lower end.



5. A bolster, a split bushing therein, a spindle-support screw-threaded into the bushing, and a tubular spindle surrounding the spindle-support and rotatable thereabout.

6. A bolster, a split bushing therein, a spindle-support screw-threaded into the bushing, and a tubular spindle surrounding the spindle-support and rotatable thereabout, said spindle having a step bearing on the spindle-support at its upper end and a centering bearing thereon at its lower end.

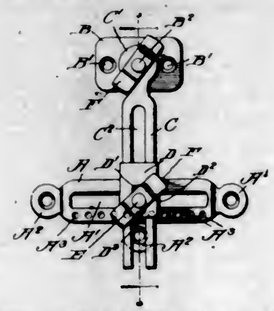
868,500. FOLDING IRONING-TABLE. AARON M. SPRINGER, Salem, Oreg. Filed Dec. 11, 1906. Serial No. 347,257.



1. A folding table, comprising a top, substantially vertical legs pivotally connected to the under side thereof adjacent one end, inclined legs pivotally connected to said top adjacent the same end and adapted to rest on the floor at a point beneath the opposite end, a brace pivotally connected to the top at a point intermediate its ends and detachably connected to the substantially vertical legs at a point adjacent their lower ends, and means carried by said brace and adapted to engage with said inclined legs intermediate their ends for holding the parts in the desired position.

2. A folding table, comprising a top, a pair of legs pivotally connected to the under side thereof, a second pair of legs pivotally connected adjacent the pivotal connections of the first mentioned legs, longitudinal members carried by the lower ends of one pair of said legs and detachably connected to the lower ends of the other pair of legs, and a brace pivotally connected to the under side of the top and detachably connected to the lower ends of one pair of legs and in engagement with the other pair of legs intermediate their ends.

868,501. ADJUSTABLE FURNITURE-STANDARD FASTENER. WILLIAM S. STANLEY, Dalton, Ga., assignor of one-half to J. J. Duane, Dalton, Ga. Filed Feb. 18, 1907. Serial No. 357,983.



1. A fastener of the kind described comprising a plate longitudinally slotted, the slot being wedge-shaped in cross-section, of a plate having a threaded bolt rigid therewith, of a longitudinally slotted bar, said bar having an eye formed at one end to engage the bolt, a bolt having a wedge-shaped head, said bolt extending through the slot of the first mentioned plate and also through the slot of the bar and nuts fitting said bolts.

2. A device of the kind described comprising a longitudinally slotted plate adapted to be secured at the back of a dresser, a bolt having a head sliding in said slot, a plate adapted to be secured to the back of a standard, a threaded bolt carried by said plate, a bar adapted to engage both of said bolts, and nuts working upon the bolts and clamping the bar.

3. A fastener of the kind described comprising a plate having a bolt rigid therewith, a slotted plate, a bolt having a head loosely held in said slot and slidable along the slot, a bar having an eye portion fitting over the rigid bolt, and a slotted portion to engage the movable bolt, a slotted plate slidable upon the bar and also fitting over the movable bolt, and winged nuts engaging said bolts.

4. A device of the kind described comprising a plate having a rigid bolt, a plate carrying a slidable bolt, a bar having an eye at one end to engage one of the bolts and slotted to engage the other bolt, a clamping plate slotted to aline with the slot of the bar, said plate sliding upon the bar, and locking nuts working upon the bolts and clamping the bar.

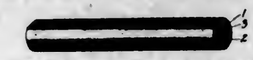
5. A device of the kind described comprising a plate, a projecting bolt rigid with the plate, a slotted plate a bolt having a head loosely held in said slot and slidable along the slot, a bar having an eye at one end to engage one of said bolts and slotted to engage the other bolt, a locking plate also slotted, said locking plate having depending side lugs resting upon opposite sides of the slotted bar and winged nuts working upon the bolts.

6. A fastener of the kind described comprising a plate, a bolt rigid with the plate, a bar longitudinally slotted, said slot being wedge-shaped in cross-section, a bolt having a wedge-shaped head working in said slot, a slotted bar having an eye portion at one end to engage the rigid bolt, the movable bolt passing through the slot of the bar a plate slidably resting upon the bar, said plate having side lugs engaging the sides of the bar and a tongue working in the slot of the bar, the movable bolt passing also through the last mentioned plates and nuts fitting upon the bolts.

868,502. ARC-LAMP ELECTRODE. CHARLES P. STEINMETZ, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Dec. 7, 1904, Serial No. 235,788. Renewed July 20, 1907. Serial No. 384,764.

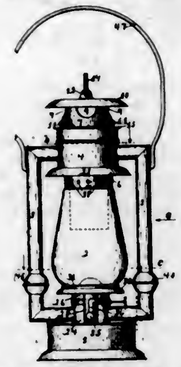
1. An arc light electrode consisting of a mixture of a powder with granules of a more refractory material than the powder.

2. An arc light electrode, the body of which is formed of material which melts locally where the arc springs therefrom, and granules of relatively more refractory material mixed with said body of material, whereby, when the electrode is in operation, they project above the liquid pool formed by the melted portion of the body of the electrode.



3. An arc light electrode formed of a number of interspersed constituents, one of which is more refractory than the rest and remains unfused in the melted pool formed on the electrode during operation whereby it steadies the arc.

868,503. LANTERN. JOHN M. STOKOE, Cleveland, Ohio. Filed Apr. 25, 1907. Serial No. 370,223.



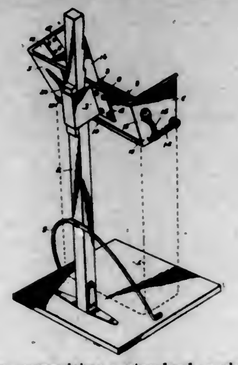
1. A lantern having a globe, an inclosing band above the globe formed with inwardly-extended flanges at its ends, a perforated cylindrical flue section in the inclosing band controlled by said flanges and engaging the globe, an inclosure below the globe, air passages communicating between the inclosing band and the inclosure beneath the globe, means embodying an air retarder located beneath the globe for regulating the flow of air upwardly for controlling and modifying the inflow of such air, and a double base portion having upper and lower perforations upon opposite sides of said retarder and an inner flange rising from the base for directing the inflowing air upward between the upper perforations and the burner.

2. A lantern having an oil reservoir and a globe base made with a chamber having therein a perforated air retarder, a vertical inclosing casing upon the reservoir, a pair of vertical thimbles upon the reservoir at opposite sides of the casing beneath the globe base, one having a vertical slot, a finger on the globe base projecting downwardly into one thimble, a vertically movable piston body in the other thimble bearing against the under side of said base to press the globe base and a knob rigid with the piston body and projecting horizontally outward through the said vertical slot.

3. A lantern having a globe and globe base, a reservoir and hollow casing thereon inclosing the wick tube, the globe base having lower and upper plates with air passages through them leading into the interior of the globe, a perforated air retarder between said plates and a circular flange projecting upward from the upper plate of the globe base between the perforations of said plate and the wick tube.

4. A lantern having a reservoir and hollow casing thereon, a globe base over the casing having a lower and an upper circular plate, a concentric perforated standing ring between said lower and upper plates, and a concentric ring projecting upwardly from the upper plate, said lower and upper plates being perforated the perforations of the lower plate being without the standing ring and the perforations of the upper plate being within the standing ring.

868,504. BAG-HOLDER. EDWIN TAYLOR, Edwardsville, Kans. Filed Mar. 13, 1906. Serial No. 305,887.



A bag holder, comprising a standard, a sleeve vertically adjustable thereon, a hopper supported by the sleeve, one side of which hopper is open, a series of spurs arranged on the lower edge and rear side of the hopper, a rock shaft journaled to the hopper and extending across the front and lower edge thereof, spurs integral with said rock shaft, a lever fixed on one end of the rock shaft, and a spring catch arranged on one end of the hopper for engaging the free end of the lever.

868,505. RAIL-CHAIR. JOSEPH W. TROTTER, Dora, Ala. Filed Jan. 19, 1907. Serial No. 353,164.



The herein described rail chair constructed to fit the base flanges, and webs of abutting rails, bolts passed through openings in the chair and in the web portions of the rails, yielding washers fitted to said bolts, nuts upon said bolts, cotter pins for holding said nuts in position, and countersunk bolts passing through the base portion of the chair, said bolts designed to pass through a tie, and nuts fitted on the ends of said bolts under said tie, substantially as described.

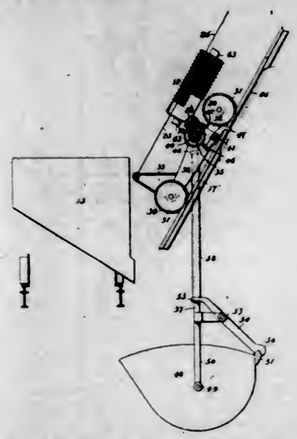
868,506. BLAST-FURNACE-CHARGING DEVICE. CHARLES P. TURNER, Harrisburg, and JOHN W. DOUGHERTY, Steelton, Pa. Filed Feb. 14, 1907. Serial No. 357,428.

1. In a furnace charging device, the combination with a buggy of a bucket, a rigid suspension for the bucket, means to mount the suspension in the buggy to swing and devices to selectively rotate the bucket about a vertical axis.

2. In a furnace charging device, the combination with a buggy; of a bucket, a rigid suspension for the bucket, a mount for said suspension, trunnions on said mount having bearing in the buggy and means to permit the selective rotation of the suspension and bucket about a vertical axis.

3. In a furnace charging device, the combination with a buggy; of a mount having bearing in the buggy, a rigid suspension rod rotatively mounted in the mount, a bucket at the lower end of the suspension rod.

4. In a furnace charging device, the combination with a buggy having an opening formed in its body; of a block having trunnions mounted in the buggy proximate the opening, a bucket suspending rod passing through said opening rotatably mounted in the block to permit the revolution thereof about a vertical axis, also to swing with the block about the trunnions.



5. In a furnace charging device the combination with a buggy; of a bucket suspended therefrom, and means to rotate the bucket to any desired angle and means to lock the bucket in its rotated dumping direction.

6. In a furnace charging device the combination with a buggy; of a bucket, a rigid suspension therefor mounted in the buggy and free to swing, means carried by the buggy and operated by the movement thereof to rotate the bucket and its suspension and means on the buggy to lock the suspension in its rotated position.

7. In a furnace charging device, the combination with a way to the furnace top of a buggy to travel thereon, a bucket carried by the buggy and means on the way to control the dumping of the bucket in any direction.

8. In a furnace charging device, the combination with a way to the top of the furnace; of a buggy to travel thereon, a bucket carried by the buggy and means at the loading end of the way to control the dumping direction of the bucket as the buggy travels toward the furnace and to rotate the bucket back into loading position as the buggy returns.

9. In a furnace charging device, the combination with a way ascending to the furnace top; of a buggy to travel on said way, a bucket suspended from the buggy, means on the way to position the bucket in its dumping direction during the movement of the buggy and mechanism to operate said means to change the dumping direction.

10. In a furnace charging device, the combination with a way, of a buggy to travel thereon, a suspension swingingly mounted on the buggy, a bucket carried by the suspension, gearing on the buggy to rotate the suspension and bucket, adjustable means on the way to actuate the gearing as the buggy moves to orient the bucket and means on the buggy to lock said gearing and thereby lock the bucket in its oriented position.

11. In a furnace charging device, the combination with a way; of a buggy to travel thereon, a rigid suspension mounted to swing in the buggy, a bucket on said suspension, means to hold the bucket in its righted position, gearing to rotate the suspension, a rack on the way to orient the suspension and bucket, a pawl to lock the gearing after orienting, and a bucket releasing device to actuate said means and actuated by the movement of the buggy into its dumping position.

12. The combination with a buggy, of a bucket carried thereby, means to mount the bucket to rotate about a vertical axis and means to rotate the bucket into dumping position and return the bucket to normal position after each dumping operation.

13. The combination with a buggy, of a bucket carried thereby, means to mount the bucket in the buggy to rotate about a vertical axis, and means to selectively rotate the bucket.

14. The combination with a buggy, of a bucket carried thereby, means to mount the bucket in the buggy to rotate, and means to selectively rotate the bucket and return it to normal position after each dumping operation.

15. The combination with a way; of a buggy to travel thereon, a bucket mounted to rotate in the buggy, and means on the way at a distance from the dumping position of the buggy and bucket on the way, to rotate the bucket and means to dump the bucket.

16. The combination with a way; of a buggy to travel thereon, a bucket mounted to rotate with respect to the buggy and means on the way at a distance from the dumping place to rotate the bucket and return the bucket to normal position after each dumping operation.

17. In a furnace charging device, the combination with a way; of a bucket orienting device comprising series of rack teeth and means to operatively position any one of said series of teeth.

18. In a furnace charging device, the combination with a way; of a bucket orienting device comprising a prismatic member, a series of rack teeth on each face thereof, the number of teeth in each series differing from those in the others, and means to rotate said member to bring any one of the series into operative position.

19. In a furnace charging device, the combination with a way, of a hexagonal prism, a shaft on which said prism is mounted, bearings on the way for said shaft, rack teeth on the faces of the prism, the number of teeth on each face of the prism being different, a ratchet wheel on the shaft and a ratchet lever to operate the wheel, substantially as described.

20. In a furnace charging device, the combination with a way, of a regular prism, a shaft on which the prism is mounted, bearings on the way for said shaft, a detent wheel on the shaft, a spring urged detent to engage the detent wheel, a ratchet wheel on the shaft, a fluid pressure actuated ratchet lever to engage the ratchet wheel to rotate the prism, and rack teeth on each face of the prism, the number of teeth differing on the several faces.

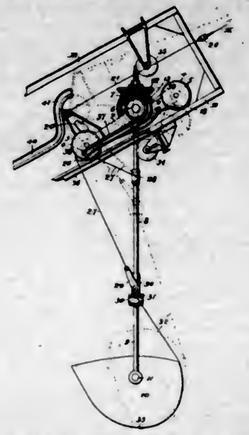
21. In a furnace charging device the combination with a buggy of a block having trunnions mounted in the buggy, a bucket suspending rod rotatively mounted in the block, a bucket mounted on trunnions at the end of the rod, means to lock the bucket in righted position and supported by the rod, a sleeve on the rod, a forked lever on the buggy engaging the end of the sleeve, and means to operate the lever to depress the sleeve and unlock the bucket.

22. In a furnace charging device the combination with a buggy having an opening through its body, of a block having trunnions mounted on the buggy and proximate the opening, a bucket suspending rod rotatively mounted in the block and passing through the opening, a bevel gear wheel secured to the upper end of the rod, a bevel gear wheel mounted loose on one of the trunnions and meshing with the first mentioned gear, a spur wheel connected to the second bevel gear, a detent pawl to engage the spur wheel, a self-dumping bucket on the lower end of the rod, a detent lever to hold the bucket in righted position and supported from the rod, a sleeve on the rod whose lower end engages the detent lever, a shaft mounted in the buggy on which the detent pawl is loosely mounted, a forked lever secured to the shaft and engaging the upper end of the sleeve and a lever fixed on the shaft whereby said shaft may be rotated.

868,507. BLAST-FURNACE-CHARGING DEVICE. CHARLES P. TURNER, Harrisburg, and JOHN W. DOUGHERTY and JAMES E. LITTLE, Steelton, Pa. Filed Feb. 14, 1907. Serial No. 357,429.

1. In a furnace charging device, the combination with a buggy, of a bucket suspension, a bucket mounted in trunnions in said suspension, flexible means connecting the bucket and buggy whereby the bucket will be rotated on its trunnions by the tipping of the buggy.

2. In a furnace charging device, the combination with a buggy; of a bucket hung in trunnions from said buggy, means to tip the buggy and devices operated by the tipping of the buggy to rotate the bucket on its trunnions.



3. The combination with a buggy and means to haul the same; of a bucket suspension swingingly mounted in the buggy, a bucket on said suspension, means to stop the travel of the buggy and cause it to tip by a continued pull on the hauling means, means to prevent the swing of the suspension during the tipping of the buggy and mechanism operated by the tipping movement of the buggy to discharge the bucket.

4. The combination with a buggy and means to haul the same; of a rigid bucket suspension swingingly suspended from the buggy, a bucket carried by said suspension, means to stop the travel of the buggy and cause it to tip by a continued pull in the hauling means, means to limit the tilting of the buggy, means to prevent the swinging of the suspension and bucket during the tilting of the buggy, and means actuated by the tilting of the buggy to discharge the buggy.

5. In combination, a buggy, a hauling horn thereon, a bucket supporting rod swingingly mounted in the buggy, a bucket carried by the end of the rod, means to stop the buggy in its end position and cause the buggy to tip by a continued pull on the horn, means to hold the rod substantially vertical during the tipping of the buggy and means operated by the tipping of the buggy to discharge the bucket.

6. In combination, a buggy, a bucket hung therefrom, means to orient the bucket, means to tip the buggy and devices actuated by the tipping of the buggy to discharge the bucket.

7. In combination, a buggy, a bucket hung therefrom, means to orient the bucket actuated by the movement of the buggy, means to lock the bucket in oriented position, means to tip the buggy, and devices actuated by the tipping of the buggy to discharge the bucket while being held in its oriented position.

8. In combination, a buggy, suspension rod mounted to swing with relation to the buggy, a bucket rotatively mounted on the rod, means to tip the buggy and means operated by the tipping of the buggy to rotate the bucket to discharge the same.

9. In combination, a buggy, a suspension rod mounted in trunnions a bucket at the end of said rod, means to tip the buggy, means slidable on the rod and actuated by the tipping of the buggy to rotate the bucket on its trunnions to discharge the same.

10. In combination, a buggy, a suspending rod passing through the buggy and mounted on trunnions therein, a tilting bucket on the end of said rod, means to tilt the buggy, a slidable member on the rod, means to connect the member with the bucket, a pulley on the buggy a flexi-

ble member connected at one end to the rod passing over the pulley and connected at its other end to said sliding member and means to prevent the rod from swinging during the tilting of the buggy.

11. In combination, a buggy, a hauling horn on the rear thereof, a rod swingingly and revolubly mounted in the buggy, a bucket carried by the rod, rails to stop the buggy and cause it to tilt and limit rails above the buggy to limit the tilting of the buggy, said hauling horn capable of passing between the limit rails.

12. In combination, a buggy, a bucket carried by the buggy, means to tip the buggy and flexible means connected to the bucket and engaged by the buggy to dump the bucket when the buggy is tipped.

13. In combination, a buggy, a bucket carried thereby and mounted to rotate in two planes, means to lock the bucket in its rotated position in one of its planes, means to tilt the buggy and means operated by the tilting of the buggy to rotate the bucket in the other of its planes of rotation.

14. In combination, a buggy, a bucket-suspending rod, a block having trunnions mounted in the buggy, said rod revoluble in the block, a bucket carried by the rod, means independent of the buggy to cause it to tilt about the trunnions as a center and means operated by the tilting of the buggy to discharge the bucket.

15. The combination with a way having main track rails, tilting and limit rails above the track of a buggy, a block having trunnions mounted in the buggy, wheels on said trunnions to engage the tilting rails, a bucket on the rod, means operated by the tilting of the buggy to discharge the bucket, and stop wheels on the way to engage the rod during the tilting of the buggy to prevent said rod from swinging.

16. The combination with a way, a buggy to travel thereon, and a bucket mounted to swing and rotate about substantially a vertical axis of an orienting device comprising a rack on way to rotate the bucket about the vertical axis, and means to selectively control the number of teeth of said rack that are in operative position in relation to the buggy.

17. In a furnace charging device a bucket orienting mechanism comprising a rack having movable teeth and mechanism to selectively move them into and out of operative position in the rack.

18. In a furnace charging device, a bucket orienting device comprising a rack having teeth movable with respect to the rack and fluid pressure actuated mechanism to selectively control the number of teeth in operative position in the rack.

19. In a furnace charging device, a bucket orienting device comprising a rack, movable teeth therein, levers to which the movable teeth are connected, fluid pressure mechanisms actuating the levers, and controlling mechanism to control the operation of the fluid pressure mechanism and levers.

20. In a furnace charging device, a bucket orienting device comprising a frame, slides carrying rack teeth mounted therein, stops to limit the movement of the slides into operative position, a pivoted lever connected to each slide, means to normally hold the levers and slides to position the teeth in operative position and fluid pressure means to actuate the levers to move the teeth out of operative position.

21. In a furnace charging device, a bucket orienting device comprising a rack, movable teeth therein, means to normally hold the teeth in operative position, fluid pressure mechanism to move the teeth out of operative position and a perforated band controlling the selections.

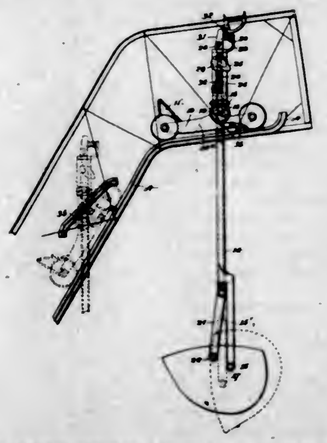
22. In a bucket orienting device, a frame, slides in said frame, rack teeth carried by the slides, a pneumatic piston and cylinder for actuating each slide, a chamber supplied with motive fluid and having a row of holes therein, a manifold adjacent the chamber, also having a row of holes therein and registering with those in the chamber, a band having perforations therein passing between the manifold and chamber to control the passage of motive fluid from the chamber to the manifold, and pipes connecting each hole in the manifold with a pneumatic cylinder.

23. In a bucket orienting device, a frame, slides mounted therein, one or more rack teeth on each slide, a stop to limit the movement of the slide into the frame, a pivoted lever connected to each slide, a counter-weight on each lever to normally hold the slides in operative position, a pneumatic cylinder and single acting piston to actuate each lever, said cylinder vented to the atmosphere, a compressed air chamber having a row of holes in its bottom corresponding in number to the number of cylinders, a manifold having a like number of holes registering with those in the chamber, a pipe connecting each hole in the manifold with a cylinder, and a perforated belt between the chamber and manifold to control the passage of air from the chamber through the manifold to the cylinders and thereby control the sequence of actuation of the slides, as well as the number of slides to be simultaneously operated.

24. In combination, a buggy, a bucket suspended below the same to tip, a flexible connection between the bucket and buggy and means operated by the tilting of the buggy to exert a pull on said flexible connection to tip the bucket.

25. In combination, a buggy, a bucket suspending rod mounted to swing and to rotate in said buggy, mechanism to rotate the rod, devices to prevent the swinging of the rod at the end of the travel of the buggy, means to tip the buggy, a bucket mounted on the rod and a flexible wire connected to the bucket and pulled by the buggy during the tipping thereof.

868,508. BLAST-FURNACE-CHARGING DEVICE. CHARLES P. TURNER, Harrisburg, and JOHN W. DOUGHERTY, Steelton, Pa. Filed Feb. 14, 1907. Serial No. 357,430.



1. In a furnace charging device a buggy, a bucket suspended from the buggy, means to normally hold the bucket in righted position and operated by the movement of the buggy to rotate and dump the bucket and devices to actuate said means to right the bucket.

2. In a furnace charging device a buggy, a bucket hung from said buggy, means operated by the movement of the buggy in one direction to rotate the bucket to dump the same and devices to actuate said means to right the bucket by the movement of the buggy in an opposite direction.

3. In a furnace charging device, a buggy, a bucket, a suspension for the bucket rotatably mounted in the buggy, means to rotate the suspension operated by the movement of the buggy, means operated by the movement of the buggy in one direction to dump the bucket and means operated by the movement of the buggy in the opposite direction to right the bucket.

4. In a furnace charging device a buggy, a bucket, a hollow suspension for the bucket rotatively mounted in the buggy, a bucket actuating rod slidable within the suspension and also mounted to rotate, means carried by the buggy to hold the rod elevated, means to release the rod to dump the bucket and means to raise the rod to right the bucket and means to rotate the suspension.

5. In a furnace charging device a buggy, a bucket, a hollow suspension for the bucket mounted in the buggy to swing and also to rotate about its axis, a bucket actuating rod slidable within the hollow suspension mounted to partake of the swinging and rotating movements of the suspension, means to hold the rod elevated, means to release the rod to dump the bucket, and means to raise the rod into engagement with its holding means.

6. In a furnace charging device a buggy, a bucket, a block a bevel gear wheel on the suspension having trunnions mounted in the buggy, a tubular bucket suspension rotatably mounted in the block, a bevel gear wheel meshing with the aforementioned one mounted on one of the trunnions of the block, a spur wheel secured to the latter bevel gear wheel, a yoke, a cross head slidable therein, a bucket operating rod rotatably secured in the yoke, means to hold the cross head normally at the end of the yoke, means to release the cross head holding means to dump the bucket and means to move the cross head into engagement with its holding means to right the bucket.

7. The combination with a way having a stop thereon and righting rails inclined to the way, of a buggy, a block having trunnions mounted to swing in the buggy, a tubular bucket suspension rotatably mounted in the block, a bucket mounted on trunnions at the end of the suspension, a bevel gear wheel secured to the suspension above the block, a bevel gear wheel mounted on one of the trunnions and meshing with the first mentioned wheel, a spur wheel connected to the latter bevel gear wheel, a yoke extending above the buggy, and having slotted sides, a cross head slidable in the yoke and having pins extending therefrom, a roller mounted on each pin, hooks to engage the pins, a rod rotatably mounted in the cross head and slidable within the tubular suspension, a link connecting the lower end of said rod and bucket, and a locking pawl engaging the spur wheel.

8. The combination with a way, a buggy to travel thereon, and a bucket rotatively mounted in the buggy, of an orienting device to rotate said bucket comprising a rack having movable teeth, solenoids to move the teeth, circuits for the solenoids, normally open and selector mechanism to selectively close said circuits and thereby selectively energize the solenoids.

9. The combination with a way, a buggy to travel thereon, and a bucket rotatively suspended from the buggy, of an orienting device to rotate the bucket comprising a rack having movable teeth, solenoids to move the teeth out of operating position, means to normally hold the teeth in their operating position, circuits for the several solenoids connected in parallel to a suitable source of electricity and rotating mechanism to selectively close said circuits and thereby selectively energize the solenoids.

10. In a furnace charging device the combination with a buggy; of a bucket carried thereby, trunnions supporting the bucket eccentrically, means on the buggy to normally hold the bucket in righted position and operated by the movement of the buggy to cause the bucket to rotate on its trunnions to dump the same, and devices to actuate said means by the movement of the buggy to reversely rotate the bucket to right the same.

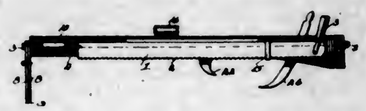
11. In a furnace charging device the combination with a buggy, of a bucket suspended below the same in unstable equilibrium, means on the buggy and connected to the bucket to hold the bucket normally righted and released by the movement of the buggy to drop and dump the bucket, and devices to raise said means and right the bucket by the movement of the buggy.

12. In a furnace charging device, means to orient the bucket comprising movable rack teeth, solenoids for moving the teeth, a selector drum, and means on the drum to selectively close the electric circuits through the solenoids to selectively operate the rack teeth.

13. In a furnace charging device, means to orient the bucket comprising counterweighted rack teeth, solenoids to move the teeth against the action of their counterweights, and means to selectively energize the solenoids.

14. In a furnace charging device, means to orient the bucket comprising a rack formed of movable teeth and means to selectively move the teeth, to alter the number of teeth in operative position in the rack.

868,509. SAW. ALFRED J. VELANDER, Knoxville, Ill. Filed July 18, 1906. Serial No. 326,787.

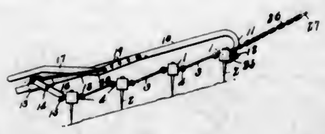


1. In a device of the class described, the combination of a casing forming a support, a saw slidably mounted thereon, a spring housed in the casing, a guide pulley at one end of the casing, a flexible element passing around the pulley and extending into the casing and having its ends connected with a saw and the spring, clamps secured to the casing for gripping a log, and legs at the opposite end of the casing, and a handle for operating the saw connected with the end thereof adjacent the clamping means.

2. In a device of the class described, the combination of a hollow casing forming the body of the device and having a lateral opening adjacent one end, a helical spring mounted in the casing and secured at one end, a flexible element extending longitudinally into the casing and attached to the free end of the spring, means at the said opening around which the flexible element moves back and forth, a saw disposed parallel with the body and shorter than the latter, the outer end of the said element being connected with the saw, and a handle on the saw at the end thereof opposite from that connected with the element, the saw being free to move longitudinally and laterally in a plane parallel to the axis of the casing.

3. In a device of the class described, the combination of a hollow member, lugs at one end thereof, gripping jaws at the opposite end, a helical spring, an adjustable means for varying the number of active coils of the spring, a pulley mounted on the member, a saw disposed along one side of the member and guided thereon, and a flexible element passing over the pulley and connected at its end with a saw and spring.

868,510. HARROW. HARRY U. WAKEFIELD, Cornersville, Tenn. Filed Feb. 27, 1906, Serial No. 303,235. Renewed Apr. 17, 1907. Serial No. 368,727.



1. A harrow composed of a plurality of toothed bars linked together, a relatively stationary stretching bar having a downturned hook member connected with the front harrow bar, a detachable sleeve open on one side and slidable upon the stretching bar an arm forming a closure for the open end of the slide and provided with a hook connected with the adjacent harrow bar, and pivotally connected members pivoted respectively upon the stretching bar and upon the sleeve, one of said members being extended to form a handle.

2. A harrow composed of a plurality of toothed bars linked together, in combination with a rigid stretching bar having a downturned hook connected with the front harrow bar, a sleeve slidable upon the stretching bar and having a hook member connected with the rear harrow bar, a lever pivoted upon the stretching bar and having a knee and provided with a plurality of perforations between said knee and its fulcrum, and a link connecting one of said perforations with the slidable sleeve.

868,511. CABLE-HANGER. THOMAS A. WALSH, Yonkers, N. Y. Filed July 23, 1907. Serial No. 385,161.



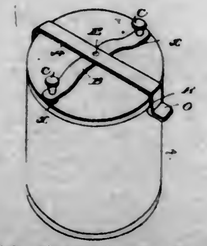
1. In a cable hanger, the combination with a strap, of a head formed with an overlapping reinforcement and having a slot, and a reinforced end with wings to enter the slot and engage its sides.

2. In a cable hanger, the combination with a strap, of a head with beveled corners, a supplemental head adapted to be folded over same and have its corners clamped over the beveled corners, a reinforced end adapted to enter a slot in the head, and lateral wings to engage the sides of the slot.

3. In a cable hanger, the combination with a sheet metal strap, of an enlarged end folded back upon itself and clamped and having a slot of a narrow and wider section, an end reinforced by being folded back upon itself, and projections adapted to enter the wider part of the slot and be retained by the narrow part.

4. In a cable hanger, the combination with a sheet metal strap with perforations in the portion where it supports the cable, of an enlarged reinforced end with slot, and wings at the other end to engage the sides of the slot when said end is inserted in the slot.

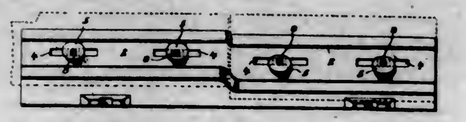
868,512. MILK-CAN OPENER AND SEAL. EMERY D. WATERBURY, Sawtelle, Cal. Filed Aug. 9, 1906. Serial No. 329,916.



1. As an article of manufacture, the herein described can-punching device comprising a bar of spring metal hooked at its opposite ends, a second bar pivotally secured to the first mentioned bar, spurs carried by said second bar at the ends thereof, and gaskets between said spurs and said second member.

2. As an article of manufacture, the herein described can-punching device comprising a member of thin metal having its ends bent downwardly and formed with notches to engage a can-top at the opposite points thereof, one of said downwardly bent portions having a lateral flange, a second member also of spring metal pivotally secured to the first mentioned member, knobs mounted on the ends of said second member, and spurs beneath said knobs for forming openings in the can-top.

868,513. RAIL-JOINT PATTERN. CHARLES A. WEEKS, Philadelphia, Pa., assignor to The Rail Joint Company, New York, N. Y., a Corporation of New York. Filed Nov. 20, 1906. Serial No. 344,326.



1. A rail joint pattern having a bolt plate member, and individual adjustable core prints mounted on said member.

2. A rail joint pattern having a bolt plate member, and core prints having a detachable adjustable connection with said member.

3. A rail joint pattern having a bolt plate member, and core prints having an adjustable connection with said member and shiftable longitudinally thereof.

4. A rail joint pattern having a bolt plate member, and core prints mounted on said member and shiftable vertically of the latter.

5. A rail joint pattern having a bolt plate member, and core prints mounted on said member and shiftable longitudinally and vertically thereof.

6. A rail joint pattern having a bolt plate member, and pairs of opposite core prints mounted on said member, the prints of each pair being adjustable longitudinally of the bolt plate member.

7. A rail joint pattern having a bolt plate member, and pairs of opposite core prints mounted on said member, the prints of each pair being adjustable longitudinally and also vertically of the bolt plate member.

8. A rail joint pattern having a bolt plate member, and pairs of opposite core prints mounted on said member, the prints of each pair having common fastening means.

9. A rail joint pattern having a bolt plate member, and pairs of opposite core prints mounted on said member, the prints of each pair having common longitudinally shiftable fastening means.

10. A rail joint pattern having a series of adjustment slots and adjustable core print members associated with each slot.

11. A rail joint pattern having a series of longitudinal adjustment slots and adjustable core prints associated with each slot.

12. A rail joint pattern having a series of longitudinal adjustment slots, and a vertically shiftable core print associated with each slot.

13. A rail joint pattern having a slot and a core print having an eccentrically disposed offset, shiftable in said slot.

14. A rail joint pattern having a longitudinal adjustment slot and a core print having an eccentrically disposed offset shiftable and reversible in said slot.

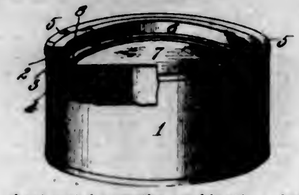
15. A rail joint pattern having a slot, and a core print having an eccentrically disposed offset, shiftable and reversible in said slot.

16. A rail joint pattern having a series of longitudinal adjustment slots and a pair of oppositely arranged core prints associated with each slot, and each having a guide tenon engaging in the slot and a fastening device connecting the opposite core prints.

17. A rail joint pattern having a longitudinal adjustment slot, a pair of oppositely arranged core prints each having an offset eccentrically disposed tenon shiftable and reversible in the slot, and fastening connection between the opposite prints.

868,514. SHEET-METAL CAN. FREDERICK WESTERBECK, St. Louis, Mo. Filed June 30, 1905. Serial No. 267,796.

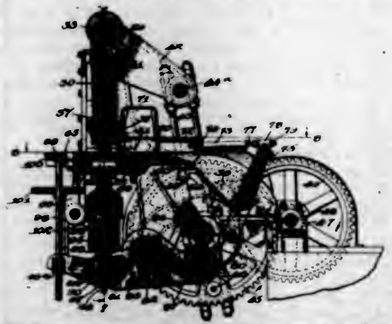
1. In a sheet metal can, the combination of a body provided at its upper end with a rim having a depending flange and a flaring flange extending upwardly from said depending flange, and a stopper having a vertical annular wall and a depressed central portion; said stopper being provided with an annular horizontal groove located at the bottom of its vertical wall and adapted to receive said flaring flange, substantially as set forth.



2. In a sheet metal can, the combination of a body provided at its upper end with a rim having a depending flange and a flaring flange extending upwardly from said depending flange, and a stopper having an annular horizontal groove therein adapted to receive said flaring flange; said stopper having a rim portion, a depressed central portion, a vertical annular wall, and the said groove being located at the base of said annular wall, substantially as set forth.

3. In a sheet metal can, the combination of a body provided at its upper end with a rim having an interior flange; and a stopper comprising a top portion, an annular wall extending downwardly from said top portion, an annular inturned bead at the bottom of said wall containing a groove for the reception of the flange of said body rim, and a circular central portion at the bottom of said bead.

868,515. BRICK-MACHINE. BRUCE C. WHITE, Chicago, Ill. Filed Feb. 23, 1906. Serial No. 302,614.



1. In a press, the combination of two opposed plungers, a toggle connected with said plungers, the connection between one member of the toggle and one of the plungers consisting of vertically-sliding side-bars, a lever attached to the middle joint of said toggle, a fulcrum for said lever mounted in fixed bearings in said sliding connection, and means for flexing said toggle by moving said lever, substantially as described.

2. In a press, the combination of a toggle, an operating lever forming one member of the toggle, a sliding bar having a connection with one member of said toggle, a fulcrum mounted in fixed bearings on said sliding bar for said lever, and means for moving said lever to operate said toggle, substantially as described.

3. In a press, the combination of a toggle, an operating lever forming one member of the toggle, a sliding bar connected by a pin to the lever-member of said toggle, said pin constituting a movable fulcrum for said lever, means for moving said lever to operate said toggle, a lifting lever adapted to move said sliding bar, and means for moving said last-named lever, substantially as described.

4. In a press, the combination of a toggle, an operating lever connected with said toggle at its joint, a vertically sliding bar connected by a pin to one member of said toggle, said pin passing through said operating lever and constituting a movable fulcrum therefor, a downwardly-extending rod connected with said lever, crank mechanism for moving said rod, a lifting lever, connecting means between the lower end of said sliding bar and the forward end of said lifting lever, and a cam adapted to depress the inner or rear end of said lifting lever, substantially as described.

5. In a press, the combination of a toggle, an operating lever connected with the middle joint of the toggle, a vertically sliding bar connected by a pin to one member of the toggle, said pin passing through said operating lever and constituting the moving fulcrum therefor, a downwardly extending rod connected with said lever, crank mechanism for moving said rod, a lifting lever, a lifting bar stepped in said lifting lever, a cross support carried by said sliding bar and bearing upon the upper end of said lifting bar, and a cam adapted to depress the inner or rear end of said lifting lever, substantially as described.

6. In a press, the combination of a toggle, a plunger carried by one of the members of the toggle, a second plunger, vertically sliding bars connecting said second plunger to the other member of the toggle, a bell crank lever attached at the middle joint of the toggle and fulcrumed to the sliding bars, a downwardly extending rod attached to said bell crank lever, crank mechanism for moving said rod, and means independent of the toggle for moving said plungers, substantially as described.

7. In a press, the combination of an upper and lower plunger, a toggle, with the two members of which said plungers are respectively connected, a machine-frame comprising two side portions, two gear wheels located in recesses in said sides of the frame, a shaft on which said gear wheels are mounted, a lifting lever adapted at its forward end to exert an upward pressure on said lower plunger, a cam on the central portion of said shaft adapted to bear on the rear end of said lifting lever, cranks on said gear wheels, and devices operated by said cranks for flexing and straightening said toggle, substantially as described.

8. In a press, the combination of an upper and lower plunger, a toggle, with the two members of which said plungers are respectively connected, a machine-frame comprising two side portions, two gear wheels located in recesses in said sides of the frame, a shaft on which said gear wheels are mounted, a lifting lever adapted at its forward end to exert an upward pressure on said lower plunger, a cam on the central portion of said shaft adapted to bear on the rear end of said lifting lever, cranks on said gear wheels, connecting rods attached to said cranks, a bell crank lever connected to the said rods, said bell crank lever being connected to the joint of said toggles, and a movable fulcrum for said bell crank lever, substantially as described.

9. In a press, the combination with a mold, of a plunger entering said mold from below, a lifting lever, means connected with said lever for providing beneath the plunger a yielding support for the plunger, means for moving said lever, and other means carried by said lever for sustaining the plunger above its said yielding support, substantially as described.

10. In a press, the combination with a mold, of a plunger entering said mold from below, a lifting lever, means connected with said lever for providing a pivoted yielding support for the plunger, means for moving said lever, and other means carried by said lever for sustaining the plunger above its said pivoted yielding support, substantially as described.

11. In a press, the combination with a mold, of a plunger entering said mold from below, a lifting-lever, a second lever pivotally connected to the lifting lever, a yielding support carried by said second lever adapted to sustain the plunger when the lifting-lever is depressed at its acting end and to be turned into an inclined position and out of supporting position when the acting end of the lifting-lever is raised, and means for moving said lifting-lever, substantially as described.

12. In a press, the combination with a mold, of a plunger

entering said mold from below, a main lifting lever fulcrumed in the frame of the machine and adapted to raise said plunger, an auxiliary lever pivoted at one of its ends to the main lifting-lever and adjustably supported at its other end, a yielding support between the ends of said auxiliary lever for sustaining the said plunger in certain positions of said two levers, and means for operating said lifting-lever, said auxiliary lever being brought into and out of operative position through its change in angular position, substantially as described.

13. In a press, the combination with a mold, of a plunger, a slotted cross-head carrying said plunger, a pin passing through the slot in the cross-head, a lifting lever, a rigid support for said pin connected with said lever, a yielding support for the cross-head connected with said lifting lever, and means for moving said lever to lift the cross-head off of said yielding support and force the plunger up into the mold, substantially as described.

14. In a press, the combination with a mold, of a plunger, a slotted cross-head carrying said plunger, a pin passing through the slot in the cross-head, a lifting lever, a rigid support for said pin connected with said lever, a second lever pivoted to said lifting lever, a spring-support carried by said second lever and adapted to support the cross-head, and means for moving said lifting lever to transfer the weight of the cross-head to said pin, substantially as described.

15. In a press, the combination with upper and lower cross-heads and means for moving them toward and away from each other, of means for giving an independent vertical adjustment to the lower cross-head, comprising a lever pivoted at its rear end, a rocking block supported by said lever, a bolt passing through said block and having a head adapted to come in contact with the cross-head, a spring interposed between said block and head, and means for adjustably supporting the outer end of said lever, substantially as described.

16. In a press, the combination with upper and lower cross-heads, and means for moving them toward and away from each other, of means for giving an independent vertical adjustment to the lower cross-head, comprising a lever, a pivot passing through its end and through a suitable support, a block having trunnions carried by said lever, a bolt passing through said block and having a head adapted to come in contact with the cross-head, a spring interposed between said block and head, a second rocking block upon which the forward end of said lever is adapted to bear, a screw-threaded rod engaging said second-named block, and means for holding said rod, substantially as described.

17. In a press, the combination with upper and lower cross-heads carrying plungers adapted to enter a mold, of a toggle adapted to move said cross-heads, the lower cross-head being slotted, a pin in said slot, sliding bars connected at their lower ends to said pin and at their upper ends to the upper member of the toggle, means for operating said toggle, a lifting lever, means carried by said lifting lever for engaging the pin that passes through the slot in the lower cross-head, and means for actuating said lifting lever to raise the cross-head, substantially as described.

18. In a press, the combination with upper and lower cross-heads carrying plungers adapted to enter a mold, of a toggle adapted to move said cross-heads, the lower cross-head being slotted, a pin in said slot, sliding bars connected at their lower ends to said pin and at their upper ends to the upper member of the toggle, means for operating said toggle, a lifting lever, a lifting-bar stepped in the forward end of said lifting lever, and supporting at its upper end the pin that passes through the slot in the lower cross-head, and means for actuating said lifting lever, substantially as described.

19. In a press, the combination with upper and lower cross-heads carrying plungers adapted to enter a mold, of a toggle adapted to move said cross-heads, the lower cross-head being slotted, a pin in said slot, sliding bars connected at their lower ends to said pin and at their upper ends to the upper member of the toggle, means for operating said toggle, a lifting lever, means carried by said lifting lever for engaging the pin that passes through the slot in the lower cross-head, means for actuating said lifting lever to raise the lower cross-head, a second lever pivoted to the said lifting lever, and yielding devices carried by said second lever for regulating the position at which said cross-head shall come to rest, substantially as described.

20. In a press, the combination of a supporting frame comprising two side portions, a table pivotally supported in said frame, and means for adjusting the level of said table by turning it on its pivot, substantially as described.

21. In a press, the combination of a supporting frame and a mold table secured thereto, said mold table having a hinged front portion, substantially as described.

22. In a press, the combination of a frame, a mold box therein, horizontal guides for the said mold box to move upon, and a swinging table section adapted to be turned up in front of said mold box, substantially as described.

23. In a press, the combination with a table consisting of a fixed and a movable portion, of a removable mold box clamped between said table portions, said mold box comprising a frame and removable liners supported therein, substantially as described.

24. In a press, the combination of a mold table having a fixed rear part and a front hinged part, a mold interposed between said parts, and means for locking the said two parts of the table together, substantially as described.

25. In a press, the combination of a mold table having a fixed rear part and a front hinged part, a mold interposed between said parts, means for interlocking the two parts of the table with the mold, and means for securing the hinged part of the table in position, substantially as described.

26. In a press, the combination of a mold table having a fixed rear part and a front hinged part, a mold interposed between said parts, each of said table parts interlocking with said mold, and tie-rods carried by said fixed part of the table and projecting through the hinged part, substantially as described.

27. In a press, the combination of a frame, a mold-box therein, horizontal guides for said mold-box to move upon, said guides having their outer ends screw-threaded, a swinging table section adapted to be turned into position in front of said mold-box and having openings through which pass said screw-threaded ends of the guides, and nuts screwed upon said guide ends to clamp the swinging table section against the mold-box, substantially as described.

28. In a press, the combination of a frame, a rear table section supported thereby, a pin for attaching said table section to the frame, tie-rods connected to said pin and extending forward therefrom, a front hinged table section, and means for securing said tie-rods to said hinged table section to hold it in position, substantially as described.

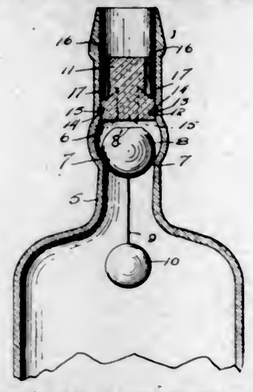
29. In a press, the combination of a frame, a rear table section supported thereby, tie-rods extending forward from said rear table section and adapted to serve as horizontal guides, a mold box movable upon said guides, a swinging table section through which said tie-rods pass, and means carried by said tie-rods for clamping said swinging table section in place, substantially as described.

30. In a press, the combination with a table, of a feed box adapted to be reciprocated thereon, a rigid frame pivotally connected therewith, two bars extending rearwardly from said rigid frame, a pivoted operating lever having a cross-head at its upper end connected to said two rearwardly extending bars, and a cam for engaging the lower end of said lever, substantially as described.

31. In a press, the combination of two opposed plungers, a toggle connected with said plungers, the connection between one member of the toggle and one of the plungers being a sliding connection, a lever attached to the middle joint of said toggle and fulcrumed on said sliding connection, said lever being provided with a short projection beyond its fulcrum, means for moving said lever, and a fixed stop adapted to be engaged by the said projection when the normal operation of the plungers is interfered with, substantially as described.

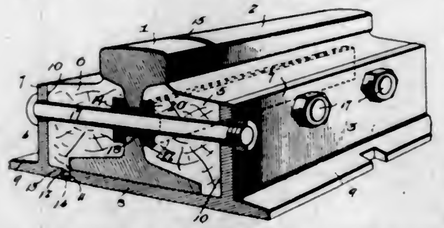
32. In a press, the combination of two opposed plungers, a toggle connected with said plungers, the connection between one member of the toggle and one of the plungers being a sliding connection, a lever attached to the middle joint of said toggle and fulcrumed on said sliding connection, said lever being provided with a short projection beyond its fulcrum, means for moving said lever, and a stop adapted to be engaged by the said projection when the plunger carried by said sliding connection is accidentally caught and held in its raised position, substantially as described.

868,516. BOTTLE. CLARENCE B. WILTSE, Mount Kisco, N. Y. Filed July 7, 1906. Serial No. 325,098.



The combination with a bottle having a valve seat in its neck, and an enlarged portion above the seat, of a ball shaped valve on said seat and of less diameter than said enlarged portion, said valve having a depending portion carrying a weight, and a guard arranged at the upper end of said enlarged portion, and having passages cut into the sides thereof, said guard having a flat underneath surface, said valve having a flattened upper surface designed to engage said underneath surface wholly or with its edge portion.

868,517. INSULATED RAIL-JOINT. BENJAMIN WOLHAUPTER, New York, N. Y., assignor to The Rail Joint Company, New York, N. Y., a Corporation of New York. Filed Nov. 8, 1906. Serial No. 342,523.



1. In an insulated rail joint, the service rails, opposite one-piece shoes, each provided with an integrated full length side plate and a short length base plate, the latter supporting one rail end only, and means for insulating one rail from the other.

2. In an insulated rail joint, the service rails, opposite one-piece shoes, each provided with a full length side plate reinforced along its bottom edge throughout, and a short length base plate integrated with the bottom edge of the side plate and affording a support for one rail end only, and means for insulating one rail from the other.

3. In an insulated rail joint, the service rails, and opposite shoes each provided with a full length side plate reinforced at its bottom edge throughout along the outer and inner sides thereof, each shoe also having a short length base plate for supporting one rail end only and formed integral with the side plate, and means for insulating one rail from the other.

4. In an insulated rail joint, the service rails, opposite shoes each having a full length side plate and a short length base plate for one rail end only, and transverse insulation between the base plates.

5. In an insulated rail joint, the service rails, side joint plates each provided with a short length base plate for one rail end, and with a girder flange continued from and narrower than the base plate and projecting inwardly from the side plate, and means for insulating one rail from the other.

6. In an insulated rail joint, the service rails, side joint plates each provided with a base plate for one rail end and with a narrow girder flange continued from the inner end of the base plate, along the inner side of the joint plate, to one end of the latter, and means for insulating one rail from the other.

7. In an insulated rail joint, the service rails, side joint plates each provided with a base plate for one rail end, and with a narrow girder flange continued from the base plate and projecting inwardly from the bottom edge of the side plate, each base plate lying opposite the said girder flange of the opposite joint plate, and means for insulating one rail from the other.

8. In an insulated rail joint, the service rails, opposite complemental joint shoes each having an individual base plate of shorter length than the shoe, and a narrow girder flange continued from one end of the base plate and projecting inwardly from the bottom edge of the upright member of the shoe, the base plates of the two shoes being arranged in the same horizontal plane in matching relation, and each base plate lying opposite and spaced from the girder flange of the opposite shoe and means for insulating one rail from the other.

9. In an insulated rail joint, the service rails, opposite joint shoes each provided with an integral base plate for one rail end only, the separate base plates being arranged in the same horizontal plane in spaced and matching relation, transverse insulation between the individual base plates, and between each base plate and the opposite shoe, and insulation between the shoes and the rail sides.

10. In an insulated rail joint, the service rails, opposite joint shoes each having an individual base plate for one rail end only, transverse insulation between the separate base plates, and a filler block interposed between each shoe and the rail sides.

11. In an insulated rail joint, the service rails, opposite shoe angles each having an individual base plate for one rail end, wooden filler blocks interposed between the upright members of the shoe angles and the rail sides, insulation interposed between each base plate and the opposite shoe angle, joint bolts passing through the upright members of the shoe angles, the filler blocks, and the rail webs, and insulating elements interposed between the heads and nuts of the bolts and the upright members of the shoe angles.

12. In an insulated rail joint, the service rails, opposite joint shoes each having an integral individual base plate for one rail end only, means for exerting a lifting force upon the shoes by the drawing together of the joint parts, and means for insulating one rail from the other.

13. In an insulated rail joint, the service rails, opposite joint shoes each having an integral individual base plate for one rail end only, and an inclined upright member, filler blocks arranged between the shoe uprights and the rail sides and having inclined bearing faces engaged by said shoe uprights, and means for insulating one rail from the other.

14. In an insulated rail joint, the service rails, side joint plates each carrying a rail supporting base for one rail end only, and an insulating end post for the rail ends arranged to insulate the separate base plates.

15. In an insulated rail joint, the service rails, side joint plates each carrying a rail supporting base for one rail end only, and an insulating end post for the rail ends arranged to insulate the adjacent ends of the separate base plates.

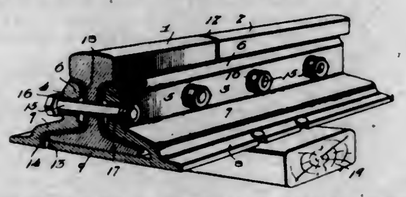
16. In an insulated rail joint, the service rails, side

joint plates each carrying a rail supporting base for one rail end only, and an insulating end post for said rail ends, said insulating end post projecting below the rail bases.

17. In an insulated rail joint, the service rails, side joint plates each carrying a rail supporting base for one rail end only, and an insulating end post for the rail ends, said insulating end post projecting below the rail bases into the gap between the adjacent ends of the separate base plates.

18. In an insulated rail joint, the service rails, a separate rail supporting base for each rail end, and an insulating end post for said rail ends, said insulating end post projecting below the rail bases and between said separate supporting bases.

868,518. INSULATED RAIL-JOINT. BENJAMIN WOLHAUPTER, New York, N. Y., assignor to The Rail Joint Company, New York, N. Y., a Corporation of New York. Filed Nov. 8, 1906. Serial No. 342,524.



1. In an insulated rail joint, the service rails, side angle bars engaging beneath the rail heads and each provided at its bottom edge with a short length base plate for supporting one rail end only, and means for insulating one rail from the other.

2. In an insulated rail joint, the service rails, side angle bars, each angle bar being provided with inner and outer reinforcements along its bottom edge and also with an integral base plate for one rail end, and means for insulating one rail from the other.

3. In an insulated rail joint, the service rails, side angle bars engaging beneath the rail heads and each of which is provided at its bottom edge with an integral short length base plate for one rail end, and means for insulating one rail from the other including an insulating piece between the separate base plates.

4. In an insulated rail joint, the service rails, side angle bars engaging beneath the rail heads and each of which is provided with a short length base plate for one rail end, and insulation between each rail end and one end portion of one angle bar.

5. In an insulated rail joint, the service rails, side angle bars engaging beneath the rail heads and each of which is provided with a short length integral base plate for one rail end, and a one-end insulation for each angle bar, the insulation for one angle bar being diagonally opposite that for the other.

6. In an insulated rail joint, the service rails, side angle bars engaging beneath the rail heads and each of which is provided with an integral short length base plate for one rail end, insulation between the rail ends and the angle bars, and transverse insulation between the inner ends of the base plates.

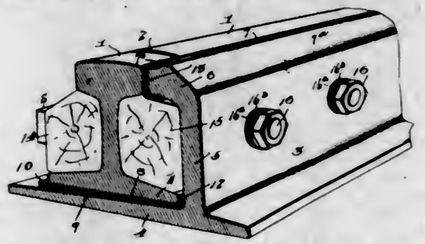
7. In an insulated rail joint, the combination with the rails and a single track tie, of side bars engaging beneath the rail heads and each provided with a short length base plate for one rail end, and both of said plates being arranged for support on said single tie, and means for insulating one rail from the other.

8. In an insulated rail joint, the combination with the rails and a single track tie, of continuous side angle bars engaging beneath the rail heads and each provided with a short length base plate for one rail end, both of which plates are adapted to be carried on said tie, insulation between the angle bars and the rail sides and an insulating piece between the separate base plates.

9. In an insulated rail joint, the service rails, side angle bars engaging beneath the rail heads and each of which is provided with a short length integral base plate for one rail end, and a one-end insulation for that part of each angle bar not provided with a base plate.

10. In an insulated rail joint, the rails, continuous side angle bars engaging beneath the rail heads and each of which is provided with a short length integral base plate for one rail end, each base plate being adapted to afford one rail end a support on both sides of the meeting point of the rail ends, and means for insulating one rail from the other.

868,519. INSULATED RAIL-JOINT. BENJAMIN WOLHAUPTER, New York, N. Y., assignor to The Rail Joint Company, New York, N. Y., a Corporation of New York. Filed Dec. 3, 1906. Serial No. 346,151.



1. In an insulated rail joint, the service rails, an auxiliary side rail bridging the joint, means beneath the rail bases for relatively adjusting the height of the auxiliary rail and service rails, and insulating means.

2. In an insulated rail joint, the service rails, a rail joint section comprising a rail supporting base and an auxiliary side rail, means, located between the said supporting base and service rail bases, for adjusting the height of the auxiliary rail relative to the service rails, means for maintaining said relative adjustment, and insulating means.

3. In an insulated rail joint, the service rails, a rail joint section having a base plate and an auxiliary side rail integral with said plate, means for adjusting the height of the auxiliary rail relative to the service rails, and insulating means.

4. In an insulated rail joint, the service rails, a joint shoe comprising a metallic base plate and an upstanding auxiliary rail integral with said plate, adjusting means between the base plate and the rail bases for adjusting the height of the auxiliary rail relative to the service rails, and insulating means.

5. In an insulated rail joint, the service rails, a joint shoe comprising a metallic base plate and an upstanding auxiliary side rail integral with said plate, and insulation between the shoe and the service rails.

6. In an insulated rail joint, the service rails, a joint shoe comprising a base plate and an upstanding auxiliary side rail integral with said base plate and provided at its upper end with an inwardly and laterally deflected carrying head bridging the joint and arranged to carry the wheels thereover, and insulation between the service rails and the shoe.

7. In an insulated rail joint, the service rails, a joint chair having a base plate and a rigid upstanding auxiliary side rail bridging the joint, wedge adjusting means for adjusting the relative height of the auxiliary rail and means for insulating one rail from the other.

8. In an insulated rail joint, the service rails, a joint chair having a base plate and a rigid upstanding auxiliary side rail, wedge adjusting means for adjusting the relative height of the side rail, fastening means for said wedge adjusting means and means for insulating one rail from the other.

9. In an insulated rail joint, the service rails, a joint shoe having a base plate and an upstanding auxiliary side rail, an adjustment wedge located between said base plate and the service rails and means for insulating one rail from the other.

10. In an insulated rail joint, the service rails, a joint shoe having a base plate and an upstanding auxiliary side rail, and an adjustment wedge located between said base plate and the service rails, fastening means for said adjustment wedge and means for insulating one rail from the other.

11. In an insulated rail joint, the service rails, a joint shoe having a base plate and an upstanding auxiliary side rail, said base plate being provided at its upper side with an inclined bearing face, wedge adjusting means coöperating with said inclined bearing face and means for insulating one rail from the other.

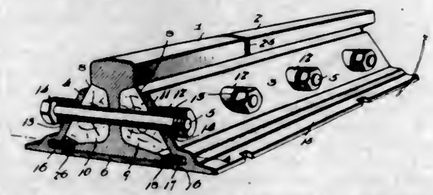
12. In an insulated rail joint, the service rails, a joint shoe having a base plate and an upstanding auxiliary side rail, said base plate being provided at its upper side with an inclined bearing face, wedge adjusting means coöperating with said inclined bearing face, fastening means for said wedge adjusting means and means for insulating one rail from the other.

13. In an insulated joint, the service rails, a joint shoe having a metallic base plate, and an upstanding auxiliary side rail, said base plate being provided at its upper side with an inclined bearing face, an adjusting wedge adjustably fitted upon said bearing face, fastening means for securing said wedge in its adjusted position, and insulation interposed between the wedge and the rail base.

14. In an insulated rail joint, the service rails, an auxiliary side rail having a continuous clearance face for worn car wheels, and insulating means.

15. In an insulated rail joint, the combination of the service rails, an auxiliary side rail, and insulation interposed between the heads of said service and side rails, said side rails having a carrying head constructed at one side with a top edge portion arranged at one side of, and spaced from, the adjacent insulation to accommodate the spread or flow of the auxiliary rail head.

868,520. INSULATED RAIL-JOINT. BENJAMIN WOLHAUPTER, New York, N. Y., assignor to The Rail Joint Company, New York, N. Y., a Corporation of New York. Filed Dec. 6, 1906. Serial No. 346,643.



1. In an insulated rail joint, the rails, the side girders, a sectional base plate supported by the two girders and each section of which supports thereon one rail end only, and insulating means.

2. In an insulated rail joint, the rails, the side girders, a sectional base plate each section of which receives thereon one rail end only and which is connected directly with one girder but supported from both girders, and insulating means.

3. In an insulated rail joint, the combination with the rails and ties, of the side girders supporting two sections of base plate, each section affording one rail end only the support of the ties on both sides of the meeting points of the rails without contact with the other base section, and insulating means.

4. In an insulated rail joint, the combination with the rails and ties, of the side girders each of which supports a base plate section receiving thereon one rail end only and affording such rail end the support of both girders and of the ties without contact with the other base section, and insulating means.

5. In an insulated rail joint, the rails, side girders each carrying a base plate section separable therefrom, each base section receiving thereon one rail end only and affording such rail end a support from both girders on both sides of the meeting point of the rails without contact with the corresponding base section, and insulating means.

6. In an insulated rail joint, the rails, side girders each supporting a base plate section separable therefrom and arranged to receive thereon one rail end only, each base section being supported from the opposite girder through its companion section, and insulating means.

7. In an insulated rail joint, the rails, the side girders, a sectional base plate supported by and separable from the girders, each section of base plate receiving thereon one rail end only, and insulating means.

8. In an insulated rail joint, the rails, the side girders, a sectional base plate consisting of coupled sections having a supporting engagement respectively with the opposite girders and each section receiving thereon one rail end only, and insulating means.

9. In an insulated rail joint, the rails, side girders each supporting a detachable base plate section receiving thereon one rail end only, and insulating means.

10. In an insulated rail joint, the rails, side girders each supporting a detachable section of base plate receiving thereon one rail end only, and insulation interposed between said sections of base plate.

11. In an insulated rail joint, the rails, side girders each supporting a section of base plate separable therefrom, and each of said base sections receiving thereon one rail end only, insulation between the girders and rails, and means for insulating said base sections.

12. In an insulated rail joint, the rails, side girders, a base plate comprising two sections, means for securing such sections together mechanically, and means for insulating such sections electrically with the supporting girders.

13. In an insulated rail joint, the rails, and the joint proper having a base plate comprising two sections, means for securing such sections together mechanically, and means for insulating such sections electrically.

14. In an insulated rail joint, the rails, and the joint proper having a base plate comprising two sections, each of which receives thereon one rail end only, means for securing such sections together mechanically, and means for insulating such sections electrically.

15. In an insulated rail joint, the rails, the supporting girders, a base plate comprising two sections each of which receives thereon one rail end only, means for securing such sections together mechanically, and means for insulating such sections electrically with the supporting girders.

16. In an insulated rail joint, the rails, side girders each supporting a section of base plate separable therefrom and receiving for support thereon one rail end only, and a one end insulation between each girder and the opposing base plate section.

17. In an insulated rail joint, the rails, the side girders, a sectional base plate, each section of which base plate receives thereon one rail end only, and diagonally opposite one end insulation between the base plate sections and the girders.

18. In an insulated rail joint, the rails, the girders having base supporting flanges and a sectional base plate consisting of separate sections, each of which receives thereon one rail end only and has a supporting engagement with the flange of one girder, a fastening connection between the separate base sections, and insulating means.

19. In an insulated rail joint, the rails, side girders each having a supporting flange, a sectional base plate consisting of separate sections, each of which is supported at one edge upon the flange of one girder, a coupling connection between the base plate sections, and insulation supported upon the flange of one girder and interposed between the latter and the adjacent edge of the opposing section of base plate.

20. In an insulated rail joint, the rails, the side girders, and a sectional base plate having a support from both girders, and each section of which base plate receives thereon one rail end only, and an insulated coupling connection between the separate base plate sections.

21. In an insulated rail joint, the rails, the side girders, and a sectional base plate supported from both girders and consisting of separate sections each of which receives thereon one rail end only and is provided at its inner end with a terminal flange, and an insulated coupling connection between the terminal flanges of the separate sections.

22. In an insulated rail joint, the rails, side girders, a sectional base plate supported from both girders and comprising separate coupled base plate sections, insulating means for the base plate sections and for the side girders, insulating means for the girders and rails, and an insulating end post arranged to have its base interposed between the base plate sections.

23. In an insulated rail joint, the rails, inclined side girders, a sectional base plate carried by the girders and each section of which plate receives thereon one rail end only, filler blocks having inclined faces opposing the girders, the joint bolts, and insulating means.

868,521. TURFING-MACHINE. JAMES J. BAIRD, Los Angeles, Cal. Filed Nov. 23, 1906. Serial No. 344,689.



1. The combination of a hollow needle bar having a hollow handle on the upper end thereof; a needle socket secured to the lower end of said bar; a hollow needle having a head, said needle being adapted to pass downwardly through said socket until the same contacts therewith; a spring catch secured to said socket and having a head adapted to pass over the head of the needle and hold the same in the socket and to be sprung away from the needle head to permit the needle to be removed; a presser foot having the bottom thereof brought to an edge surrounding said needle; a shank secured to said presser foot and extending upwardly within and through the needle bar; a collar secured to said shank within the needle bar; a spiral spring surrounding said shank within the needle bar; a nut on the top of said shank; a sliding sleeve having a plurality of arms secured thereto slidably mounted on said needle bar; a stepper foot secured to the lower ends of said arms; a bearing secured to the upper end of said sleeve; a crank pivotally mounted in said bearing, one of the ends of said crank being extended to form an operating handle; a bearing secured to said needle bar adjacent to the handle; and a U-shaped link bar mounted in said bearing and pivotally connected with said crank.

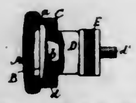
2. In a turfing machine, the combination of a needle bar with a stepper foot slidably mounted thereon; a crank secured to said stepper foot; and a U-shaped link secured to said bar, said crank and link being pivotally secured together.

3. In a turfing machine, the combination of a hollow needle bar; a stepper foot slidably mounted thereon; means to reciprocate said stepper foot on said needle bar; a presser foot having the lower portion thereof brought to a blunt edge; a shank secured to said presser foot and extending upwardly within and through said needle bar; a spring surrounding said shank within said needle bar; and a hollow needle removably secured to said needle bar, said needle being adapted to pass through the stepper foot.

4. In a turfing machine, the combination of a hollow needle bar having a hollow handle secured to the upper end thereof; a hollow needle removably secured to the lower end thereof; a presser foot having the lower edge thereof brought to a blunt edge and surrounding said needle; a shank secured to said presser foot extending through said needle bar; and a regulating screw in the top of said handle adapted to regulate the length of movement of the presser foot shank in the needle bar and handle.

5. In a turfing machine, a hollow needle bar having a hollow handle secured to the top thereof; a spring pressed presser foot having a shank passing through said needle bar; and means adjustably secured in the handle to limit the longitudinal movement of said shank.

868,522. MASSAGE IMPLEMENT. ALFRED BARKER, Philadelphia, Pa. Filed May 12, 1906. Serial No. 316,526.



1. The combination of an applicator, and a block of rubber secured thereto and to be attached to a vibrator so that the motion of the vibrator will be imparted to the applicator through the rubber block, substantially as specified.

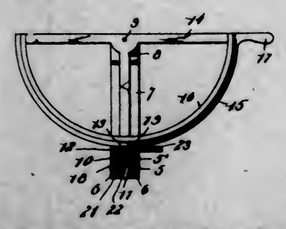
2. The combination of a massage implement having a threaded hub, with an elastic block having an enlarged head and a flanged cap whereby said block is secured to the hub, substantially as specified.

3. The combination of a massage implement having a threaded hub, an elastic block having an enlarged head, a flanged cap whereby said hub is secured to the massage implement, and an inelastic washer interposed between said block and a seat in the hub, substantially as specified.

4. The combination of a massage implement having a threaded hub, an elastic block having an enlarged head, a flanged cap whereby said hub is secured to the massage implement, and an inelastic washer interposed between said block and a seat in the hub, said washer having a projecting boss seated in a recess in the elastic block, substantially as specified.

5. A massage implement having an elastic block constituting a support therefor, a threaded hub and cap whereby said block is secured to the implement, said hub being locked against rotation independently of said implement, substantially as specified.

868,523. LAMP-PLUG. FLOYD B. PARKER and WILLIAM D. JONES, Clarksburg, Ohio. Filed July 12, 1906. Serial No. 325,978.



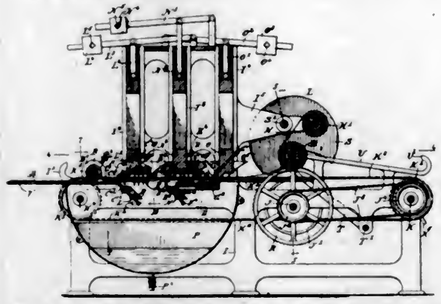
A plug for lamps provided with a threaded sleeve adapted for engagement in the oil opening of a lamp reservoir, said sleeve having the upper portion of its passage enlarged, a closure having a portion engaged in the enlarged portion of the passage to close the latter, and having an upper portion extending over the sleeve beyond the passage, said closure having a groove in its upper surface, upwardly extending arms carried by the sleeve, a cam member pivoted between the arms for movement into and out of the groove of the closure to hold the latter in position, said member having flanges arranged to engage the surface of the closure at opposite sides of the groove when the cam member is in the groove, said closure having an air passage therethrough, and a valve for the passage.

868,524. CULVERT. JOHN S. BAYER, Warren, Pa. Filed June 20, 1907. Serial No. 379,985.



In a culvert, the combination of a plurality of corrugated sections, said sections having an open bell at one end adapted to receive the end of the adjoining section, the ring or corrugation on the section received within the bell, and the rim of the bell bent down around the ring or corrugation.

868,525. MACHINE FOR SEPARATING FIBERS FROM THE PULP AND EXTRANEOUS MATTER OF PLANTS AND TREES. EUGENE BEHRENDT, Manila, Philippine Islands, assignor to Behrendt & Co., New York, N. Y., a Corporation of New York. Filed Nov. 13, 1905. Serial No. 287,065.



1. A machine for separating the fibers from the pulp, coating and other extraneous matter of plant or tree material, comprising means for removing the pulp and coating from opposite sides of the fibers to leave a band of connected fibers, means for dividing the band of fibers into narrow strips of connected fibers, means for separating the individual fibers in each strip, means for cleaning and polishing the individual fibers, means for drying the fibers, and means for winding up the separate, cleaned and dried fibers together with an apron.

2. A machine for separating fibers from the pulp of plant or tree material, provided with means for separating the fibers and pulp, a draw-head for drawing the material through the said separating means and for winding up the fibers, and an apron winding with the fibers on the draw-head to separate the fiber layers and keep the same from curling up and entangling.

3. A machine for separating fibers from the pulp of plant or tree material, provided with a draw-head for winding up the fibers, and means for keeping the fiber layers separate on the draw-head.

4. A machine for separating fibers from a band like material, comprising means for simultaneously removing the pulp and the outer coating of the material, means for dividing the material into narrow strips, means for loosening the fibers of the strips, means for cleaning, polishing and straightening the fibers, and means for winding up the separated fibers.

5. A machine for separating fibers from the pulp of plant or tree material, provided with a stripping device having a pair of inclined stripping knives, the cutting edges of which are spaced apart and arranged opposite each other, a plurality of combs adjacent to each other and in the rear of the said pair of stripping knives, and means for drawing the material between the said cutting edges and through the said combs.

6. A machine for separating fibers from the pulp of plant and tree material, provided with a plate transverse to the direction of movement of the material, a notched bar opposite the said plate, and means for drawing the material between the plate and the notched bar to force the fibers into the notches of said bar.

7. A machine for separating fibers from the pulp of plant or tree material, provided with a series of plates transverse to the direction of movement of the material, a series of notched bars opposite the said plates, the said notched bars having notches of different size, and means for drawing the material between the plates and bars.

8. A machine for separating fibers from the pulp of plant or tree material, provided with a series of plates transverse to the direction of movement of the material, a series of notched bars opposite the said plates, the said notched bars having notches of different size, a notched bar having a larger notch being in front of a notched bar having a notch of less size, and means for drawing the material between the knives and plates.

9. A machine for separating the fibers from the pulp of plant or tree material, provided with a fiber cleaning and polishing device through which the material is drawn, comprising a plate transverse to the direction of the movement of the material, a notched bar opposite the stripping edge of the plate, and means for drawing the material between the plate and notched bar.

10. A machine for separating the fibers from the pulp of plant or tree material, provided with a fiber cleaning and polishing device through which the material is drawn, comprising a series of spaced plates, a series of notched bars opposite the stripping edges of the said plates, and means for drawing the material between the plates and notched bars.

11. A machine for separating the fibers from the pulp of plant and tree material, provided with a fiber cleaning and polishing device through which the material is drawn, comprising a series of spaced plates, a series of notched bars opposite the stripping edges of the said plates, the notches of the notched bars being graduated, and means for drawing the material between the plates and notched bars.

12. A machine for separating the fibers from the pulp of plant or tree material, provided with a fiber cleaning and polishing device through which the material is drawn, comprising a series of spaced plates, a series of notched bars opposite the stripping edges of the said plates, the notches of the notched bars being graduated, each notched bar having notches of less size than the bar immediately in front, and means for drawing the material between the plates and notched bars.

13. A machine for separating the fibers from the pulp of plant or tree material, provided with a fiber cleaning and polishing device through which the material is drawn, comprising a series of spaced plates, a series of notched bars opposite the stripping edges of the said plates, means for drawing the material between the plates and notched bars, and means for adjusting the said notched bars relative to the said plate.

14. A machine for separating the fibers from the pulp of plant or tree material, comprising in combination spaced stripping devices, a combing device intermediate the said stripping devices, a cleaning and polishing device in the rear of the second stripping device, and means for drawing the material through the said devices.

15. A machine for separating the fibers from the pulp of plant or tree material, comprising in combination spaced

stripping devices, a combing device intermediate the said stripping devices, a cleaning and polishing device in the rear of the second stripping device, a fiber-drying device in the rear of the said cleaning and polishing device, and means for drawing the material through the said devices.

16. A machine for separating the fibers from the pulp of plant or tree material, comprising in combination spaced stripping devices, a combing device intermediate the said stripping devices, a cleaning and polishing device in the rear of the second stripping device formed of plates and graduated notched bars, and means for drawing the material through the said devices.

17. A machine for separating the fibers from the pulp of plant or tree material, comprising in combination spaced stripping devices, a combing device intermediate the said stripping devices, a cleaning and polishing device in the rear of the second stripping device, a fiber-drying device in the rear of the said cleaning and polishing device consisting of a yielding block and a stripping knife operating in conjunction with the block, and means for drawing the material through the said devices.

18. A machine for separating the fibers from the pulp of plant or tree material, comprising in combination spaced stripping devices, a combing device intermediate the said stripping devices and having a series of graduated combs one in front of the other, a cleaning and polishing device in the rear of the second stripping device, and means for drawing the material through the said devices.

19. A machine for separating the fibers from the pulp of plant or tree material, comprising separating devices for separating the fibers from the pulp, an endless carrier chain having arms mounted to travel lengthwise of the machine, a draw-head having means for clamping one end of the material in place, the said draw-head being adapted to be engaged by the said arms for moving the draw-head bodily along to draw the material through the said separating devices, the said draw-head being in the form of a roller, and means for disengaging the said draw-head from the arms of the carrier chain after the draw-head has passed the said separating devices.

20. A machine for separating the fibers from the pulp of plant or tree material, comprising separating devices for separating the fibers from the pulp, an endless carrier chain having arms and mounted to travel lengthwise of the machine, a draw-head having means for clamping one end of the material in place, the said draw-head being adapted to be engaged by the said arms for moving the draw-head bodily along to draw the material through the said separating devices, the said draw-head being in the form of a roller, means for disengaging the said draw-head from the arms of the carrier chain after the draw-head has passed the said separating devices, and means for rotating the draw-head after it is disengaged from the said carrier.

21. A machine for separating the fibers from the pulp of plant or tree material, comprising separating devices for separating the fibers from the pulp, an endless carrier chain having arms and mounted to travel lengthwise of the machine, and a draw-head in the form of a roller having trunnions adapted to be engaged by the said carrier arms, the roller having means for clamping one end of the material in place.

22. A machine for separating the fibers from the pulp of plant or tree material, comprising separating devices for separating the fibers from the pulp, an endless carrier chain having arms and mounted to travel lengthwise of the machine, a draw-head in the form of a roller having trunnions adapted to be engaged by the said carrier arms, the roller having means for clamping one end of the material in place, pinions on the said trunnions, and driven gear wheels in the rear of the said separating devices adapted to be engaged by the said pinions.

23. A machine for separating the fibers from the pulp of plant or tree material, comprising separating devices for separating the fibers from the pulp, an endless carrier chain having arms and mounted to travel lengthwise of the machine, a draw-head in the form of a roller having trunnions adapted to be engaged by the said carrier arms, the roller having means for clamping one end of the material in place, pinions on the said trunnions, and driven gear wheels in the rear of the said separating devices adapted to be engaged by the said pinions, the said gear wheels extending above the top of the said carrier chain to lift the draw-head out of engagement with the carrier chain and to rotate the drawing roller.

24. A machine for separating the fibers from the pulp of plant or tree material, comprising separating devices for separating the fibers from the pulp, an endless carrier chain having arms and mounted to travel lengthwise of the machine, a draw-head in the form of a roller having trunnions adapted to be engaged by the said carrier arms, the roller having means for clamping one end of the material in place, pinions on the said trunnions, driven gear wheels in the rear of the said separating devices adapted to be engaged by the said pinions, the said gear wheels extending above the top of the said carrier chain to lift the draw-head out of engagement with the carrier chain and to rotate the drawing roller, and revoluble cams having bearings engaged by the said trunnions to allow rotation of the draw-head by the gear wheels and pinion in mesh with each other.

25. A machine for separating the fibers from the pulp of plant or tree material, comprising separating devices for separating the fibers from the pulp, an endless carrier chain having arms and mounted to travel lengthwise of the machine, a draw-head in the form of a roller having trunnions adapted to be engaged by the said carrier arms, the roller having means for clamping one end of the material in place, pinions on the said trunnions, driven gear wheels in the rear of the said separating devices adapted to be engaged by the said pinions, the said gear wheels extending above the top of the said carrier chain to lift the draw-head out of engagement with the carrier chain and to rotate the drawing roller, revoluble cams having bearings engaged by the said trunnions to allow rotation of the draw-head by the gear wheels and pinion in mesh with each other, and manually controlled means for temporarily holding the said bearing cams against rotation.

26. A machine for separating the fibers from the pulp of plant or tree material, comprising separating devices for separating the fibers from the pulp, an endless carrier chain having arms and mounted to travel lengthwise of the machine, a draw-head in the form of a roller having trunnions adapted to be engaged by the said carrier arms, the roller having means for clamping one end of the material in place, pinions on the said trunnions, driven gear wheels in the rear of the said separating devices adapted to be engaged by the said pinions, the said gear wheels extending above the top of the said carrier chain to lift the draw-head out of engagement with the carrier chain and to rotate the drawing roller, revoluble cams having bearings engaged by the said trunnions to allow rotation of the draw-head by the gear wheels and pinion in mesh with each other, and a skid onto which the draw-head is delivered by the said cams.

27. A machine for separating the fibers from the pulp of plant or tree material, comprising separating devices for separating the fibers from the pulp, an endless carrier chain having arms and mounted to travel lengthwise of the machine, a draw-head in the form of a roller having trunnions adapted to be engaged by the said carrier arms, the roller having means for clamping one end of the material in place, pinions on the said trunnions, driven gear wheels in the rear of the said separating devices adapted to be engaged by the said pinions, the said gear wheels extending above the top of the said carrier chain to lift the draw-head out of engagement with the carrier chain and to rotate the drawing roller, revoluble cams having bearings engaged by the said trunnions to allow rotation of the draw-head by the gear wheels and pinion in mesh with each other, manually controlled means for temporarily holding the said bearing cams against rotation and for turning the cams to lift the draw-head, and a skid onto which the said lifted draw-head is discharged by the said cams.

28. A machine for separating the fibers from the pulp of plant or tree material, provided with a stripping and combing device, comprising a fixed stripping knife, a movable stripping knife opposite the fixed stripping knife, a comb, a cross head mounted to slide and carrying the said movable knife and the said comb, a cam on the cross head, a draw-head having means for engaging the said cam to lift the cross head for the passage of the draw-head underneath the knife and comb held on the cross head, and means for moving the draw-head bodily forward.

29. A machine for separating the fibers from the pulp of plant or tree material, provided with separating devices having fixed and movable members, a draw-head for drawing the material through the said separating devices, means for moving the draw-head along, means on the draw-head and the said movable members for raising the latter, to allow the passage of the draw-head between the fixed and movable members, and spring supports for the said movable members.

30. A machine for separating the fibers from the pulp of plant or tree material, provided with a stripping device having a fixed knife, a movable knife, and a spring support for the movable knife.

31. A machine for separating the fibers from the pulp of plant or tree material, provided with a fiber separating device having a fixed member and a member mounted to slide toward and from the said fixed member, and a spring support for the said movable member.

32. In a machine for separating fibers from the pulp of plant or tree material, the combination with means for separating and cleaning the fibers from the pulp, of a roller carrier for the material, means for operating the carrier to move it through the machine, and means for disengaging the roller from its operating means.

33. In a machine for separating fibers from the pulp of plant or tree material, the combination with means for separating and cleaning the fibers from the pulp, of a roller carrier, means for operating the carrier to move it through the machine, means for disengaging the roller from its operating means, means for supporting the roller thus disengaged, and means for rotating said roller to wind the fibers thereon.

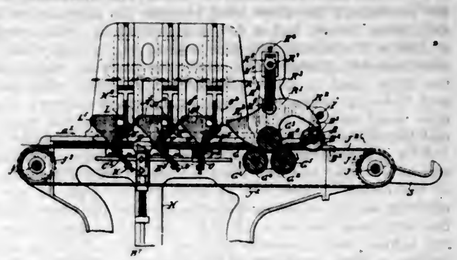
34. In a machine for separating fibers from the pulp of plant or tree material, the combination with devices for separating and cleaning the fibers, of a roller carrier having gear wheels at its ends, means for moving the roller carrier through the machine, gear wheels with which the gear wheels of the roller carrier engages when it has been moved through the machine whereby the roller carrier will be disengaged from its operating means and rotated, and means for engaging the journals of the roller carrier when elevated to support and permit it to be rotated.

35. In a machine for separating fibers from the pulp of a plant or tree material, the combination with devices for separating and cleaning the fibers, of a roller carrier for the material provided with gear wheels at its ends, an endless carrier chain with which the carrier roller is held in detachable engagement to be moved thereby, a notched cam to receive the trunnions of the roller carrier, means for operating the said cam, and gear wheels for engaging the gear wheels of the roller carrier to disengage it from the endless chain and rotate it while held in the notch of the cam.

36. In a machine for separating fibers from the pulp of plant and tree material, a pair of oppositely arranged knives for removing the pulp and outer coating from the material, a sliding support for one of the knives, combs carried by the support, a carrier for the material, means for operating the carrier, and means for operating the support from the carrier.

37. A machine for separating fibers from the pulp of plant and tree material, comprising oppositely arranged knives for removing the pulp and outer coating from the material, a vertically movable support for one of the knives, combs carried by the support, a second set of oppositely arranged knives, a vertically movable support for one of the knives, plates carried by the support, notched bars opposite the plates, a vertically movable support, a scraper carried by the support, a block with which the scraper coacts, a carrier, means for operating the carrier for the material, and means for operating the supports from the carrier.

868,526. MACHINE FOR SEPARATING FIBERS FROM THE PULP OF PLANTS AND TREES. EUGENE BEHRENDT, Manila, Philippine Islands, assignor to Behrendt & Co., New York, N. Y., a Corporation of New York. Filed Jan. 17, 1906. Serial No. 296,498.



1. A machine for separating the fibers from the extraneous matter of plant or tree material, comprising means for separating the fibers and the extraneous matter, a draw head for initially drawing the material through the said separating means, and a drawing mechanism for engaging the fibers and relieving the said draw head of its drawing function.

2. A machine for separating the fibers from extraneous matter of plant or tree material, comprising separating means for separating the fibers and the extraneous matter, a traveling draw head passing between the members of the said separating means and drawing the material between the said members, and a drawing mechanism in the rear of the said separating means and between the members of which passes the said draw head, the said drawing mechanism after the passage of the draw head engaging the fibers to draw the material through the said separating means.

3. A machine for separating the fibers from extraneous matter of plant or tree material, comprising separating means having fixed and movable members, a traveling draw head to which one end of the material is fastened, the draw head being arranged for moving the said movable member to allow passage of the draw head between the members and to pass the material between the said members, and a drawing mechanism in the rear of the said separating means and having a member capable of being moved bodily by the said draw head to allow passage of the draw head, the said drawing mechanism engaging the fibers to draw the same through the said separating means.

4. A machine for separating the fibers from extraneous matter of plant and tree material, comprising a plurality of separating devices, one in front of the other for successively acting on the material to separate the fibers from the extraneous matter, each of the separating devices having a fixed and a movable member capable of rising and falling, a traveling draw head in which one end of the material is fastened, the draw head having means for bodily moving the movable members of the said separating devices to allow the draw head to pass between the fixed and movable members and to allow the movable member to engage the material after the passage of the draw head between the members of a separating device, and a drawing mechanism in the rear of the said separating devices and having a bodily movable member adapted to be moved by the said means on the draw head to allow passage of the draw head, the said drawing mechanism engaging the fibers between the draw head and the separating devices to draw the material through the separating devices.

5. A machine for separating the fibers from extraneous matter of plant and tree material, comprising a plurality of separating devices, one in front of the other for successively acting on the material to separate the fibers from the extraneous matter, each of the separating devices having a fixed and a movable member capable of rising and falling, a comb arranged between adjacent separating devices for slitting the material into strips, a traveling draw

head in which one end of the material is fastened, the draw head having means for bodily moving the movable members of the said separating devices to allow the draw head to pass between the fixed and movable members, and to allow the movable member to engage the material after the passage of the draw head between the members of a separating device, and a drawing mechanism in the rear of the said separating devices and having a bodily movable member adapted to be moved by the said means on the draw head to allow passage of the draw head, the said drawing mechanism engaging the fibers between the draw head and the separating devices to draw the material through the separating devices and the said comb.

6. A machine for separating the fibers from extraneous matter of plant and tree material, comprising a plurality of separating devices, one in front of the other for successively acting on the material to separate the fibers from the extraneous matter, each of the separating devices having a fixed and a movable member capable of rising and falling, a comb arranged between adjacent separating devices for slitting the material into strips, the comb being spring-pressed and mounted to slide, a traveling draw head in which one end of the material is fastened, the draw head having means for bodily moving the movable members of the said separating devices to allow the draw head to pass between the fixed and movable members and to allow the movable member to engage the material after the passage of the draw head between the members of a separating device, the said means on the draw head engaging and moving the said comb bodily for the passage of the draw head, and a drawing mechanism in the rear of the said separating devices and having a bodily movable member adapted to be moved by the said means on the draw head to allow passage of the draw head, the said drawing mechanism engaging the fibers between the draw head and the separating devices to draw the material through the separating devices and the said comb.

7. A machine for separating the fibers from extraneous matter of plant and tree material, provided with separating means for separating the fibers from the extraneous matter, a drawing mechanism in the rear of the said separating means for engaging the fibers and drawing the material through the said separating means, the said drawing mechanism consisting of a pair of driven rollers and a pressing roller adapted to press the fibers down onto the said driven rollers, and a suspended link frame in which the said pressing roller is journaled.

8. A machine for separating the fibers from extraneous matter of plant and tree material, provided with separating means for separating the fibers from the extraneous matter, a traveling draw head for initially drawing the material through the said separating means, and a drawing mechanism having a pair of driven rollers, a pressing roller for pressing the fibers in contact with the driven rollers, and a suspended link frame in which the pressing roller is journaled, the link frame being adapted to be swung out of an active position by the said draw head to allow passage thereof between the said driven rollers and the said pressing rollers.

9. A machine for separating the fibers from extraneous matter of plant and tree material, provided with separating means for separating the fibers from the extraneous matter, a traveling draw head for initially drawing the material through the said separating means, and a drawing mechanism having a pair of driven rollers, a pressing roller for pressing the fibers in contact with the driven rollers, and a suspended link frame in which the pressing roller is journaled, the said link frame having cams, and the said draw head having means for engaging the said cams to swing the link frame into an inactive position for the passage of the draw head between the driven rollers and the pressing roller.

10. A machine for separating the fibers from extraneous matter of plant and tree material, provided with separating means for separating the fibers from the extraneous matter, a traveling draw head for initially drawing the material through the said separating means, and a drawing mechanism having a pair of driven rollers, a pressing roller for pressing the fibers in contact with the driven rollers, and a suspended link frame in which the pressing roller is journaled, the said link frame having cams, and the said draw head having means for engaging the said cams to swing the link frame into an inactive position for the passage of the draw head between the driven rollers and the pressing roller, the said cams having rearward extensions for engagement by the said draw head means for returning the link frame and its pressing roller to active position.

11. A machine for separating the fibers from extraneous matter of plant and tree material, provided with separating means for separating the fibers from the extraneous matter, a traveling draw head for initially drawing the material through the said separating means, a drawing mechanism having a pair of driven rollers, a pressing roller for pressing the fibers in contact with the driven rollers, and a suspended link frame in which the pressing roller is journaled, the said link frame having cams, and the said draw head having means for engaging the said cams to swing the link frame into an inactive position for the passage of the draw head between the driven rollers and the pressing roller, the said cams having rearward extensions for engagement by the said draw head means for returning the link frame and its pressing roller to active position, means for driving the said driven rollers, and means for imparting a traveling motion to the said draw head for the latter to travel at less speed than that given to the fibers by the said driven rollers and pressing roller.

12. A machine for separating the fibers from extraneous matter of plant and tree material, provided with a separating device having a fixed stripping knife, a movable stripping knife operating in conjunction with the said fixed stripping knife, a weighted slide carrying the said movable knife, a cam on the said slide, a traveling draw head having friction rollers for engaging the said cam to raise the slide and its knife for the passage of the draw head between the said knives, and adjustable stops for limiting the return movement of the said slide.

13. A machine for separting the fibers from extraneous matter of plant and tree material, provided with a comb having a frame mounted to slide up and down, and springs for yieldingly supporting the said frame.

14. A machine for separating the fibers from extraneous matter of plant and tree material, provided with a comb having a frame mounted to slide up and down, springs for yieldingly supporting the said frame, cams on the said frame, and a traveling draw head having friction rollers for engaging the said cams to move the comb out of the path of the draw head.

15. A machine for separating the fibers from extraneous matter of plant and tree material, provided with a comb comprising a frame, teeth sections held on the frame and each having plates, spacing blocks between the plates, and means for securing the blocks and plates together for each section.

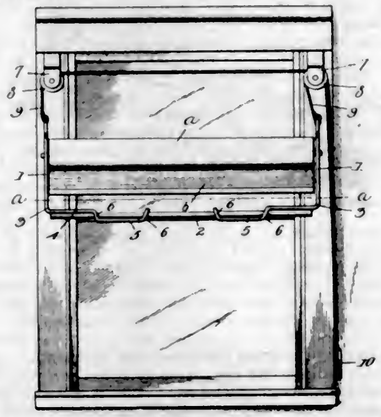
16. A machine for separating the fibers from extraneous matter of plant and tree material, provided with endless traveling chains, sprocket wheels over which pass the chains, and a draw head having hooks adapted to hook into links of the chains and adapted to be disengaged therefrom by teeth on the said sprocket wheels.

17. A machine for separating fibers from the extraneous matter of plants and tree material, provided with separating means for separating the fibers from the extraneous matter, and a drawing mechanism in rear of the separating means and comprising a pair of driven rollers, a frame, a pressing roller mounted in the frame, and adjustably supported links pivotally connected with the said frame.

18. A machine for separating fibers from the extraneous matter of plants and tree material, provided with separating means for separating the fibers from the extraneous matter, and a drawing mechanism in rear of the separating means, said drawing mechanism comprising a pair of driven rollers, a cam frame, a pressing roller mounted in the cam frame, an adjustably supported rod, links carried by the rod, and a pivot rod connecting the links with the said frame.

19. In a machine for separating fibers from the extraneous matter of plant and tree material, a supporting frame having vertical guideways, a fixed stripping knife, a movable stripping knife, a weighted slide carrying the movable knife, said slide having rollers and lugs at its ends working in the guideways and V-shaped cams, screws projecting into the guideways to be engaged by said lugs, and a traveling draw head having rollers at its ends for engaging the cams of the slide.

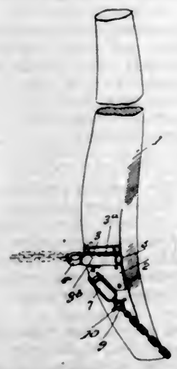
868,527. WINDOW-SHADE HANGER. WILLIAM F. BROWN, Goldthwaite, Tex. Filed May 9, 1907. Serial No. 372,792.



1. A shade hanger of the class described comprising side members, each having a vertical arm and a lower, inwardly-extending, horizontal arm, said horizontal arms having offset portions providing shoulders and said shoulders having openings extending therethrough, and a connecting rod passed through the said openings of the shoulders and adjustably connecting said side members together, substantially as described.

2. A shade hanger of the class described comprising side members each having a vertical arm and a lower inwardly extending horizontal arm, said horizontal arms being provided with laterally extending members having alining openings formed therein and a connecting rod passed through said openings and adjustably connecting said members.

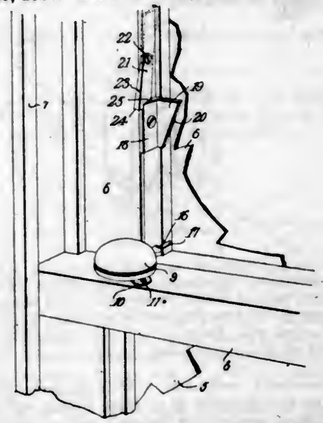
868,528. HAME. JOHN H. B. BUTTS, Pickard, Ga. Filed Aug. 27, 1906. Serial No. 332,227.



1. In a device of the character described, the combination of a housing, a hook having the shank thereof slidably mounted within the housing, and a rod carried by the shank of the hook and extending along the exterior of the housing, said rod normally closing the mouth of the hook.

2. In a device of the character described, the combination of a housing having a slot formed therein, a hook having the shank thereof slidably mounted within the housing, and a rod carried by the hook and extending along the exterior of the housing, one end of the rod operating within the slot in the housing and serving to limit the movement of the hook while the opposite end normally closes the mouth of the hook.

868,529. COMBINED BURGLAR-ALARM AND SASH-LOCK. JOHN W. CARPENTER, Bridgewater, Va. Filed June 29, 1906. Serial No. 324,067.



1. The combination with a pair of sliding sashes, of an actuating member secured to one of said sashes and provided with an inclined face, an alarm secured to the adjacent sash and provided with an operating lever, and a trip pivotally mounted on said lever and adapted to engage the inclined face of the actuating member thereby to sound the alarm, said trip being locked against tilting movement in one direction and free to tilt in the opposite direction.

2. The combination with a pair of sliding sashes, of an actuating member secured to one of the sashes and provided with an inclined face, an alarm secured to the adjacent sash and provided with an operating lever the free end of which is bifurcated to form a pair of depending ears, and a trip pivotally mounted between said ears and adapted to engage the inclined face of the actuating member for sounding the alarm, said trip being free to move in one direction and locked against movement in the opposite direction.

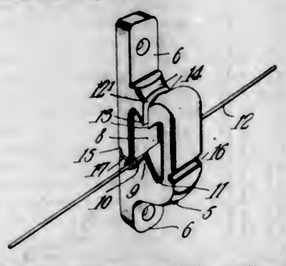
3. The combination with a pair of sliding sashes, of an actuating member secured to one of said sashes and provided with an inclined face, an alarm secured to the adjacent sash and provided with a pivoted operating lever the free end of which is bifurcated to form a pair of spaced depending ears, and a trip pivotally mounted between said ears and having its short end normally bearing against the lever for locking the trip against movement in one direction, the free end said trip being extended in the path of movement of the actuating member thereby to operate the lever and sound the alarm.

4. The combination with a pair of sliding sashes, of an actuating member secured to one of said sashes and provided with an inclined face, of an alarm secured to the adjacent sash and provided with a pivoted trip adapted to engage the inclined face of the actuating member for sounding the alarm, said trip being free to tilt in one direction and locked against tilting movement in the opposite direction, and a locking member pivotally mounted on one of the sashes and movable to operative position in the path of movement of the adjacent sash.

5. The combination with a pair of sliding sashes, of an

actuating member secured to one of the sashes and provided with an inclined face, an alarm carried by the adjacent sash and provided with a pivoted trip adapted to engage the inclined face of the actuating member for sounding the alarm, said trip being free to tilt in one direction and locked against tilting movement in the opposite direction, and a locking member pivotally mounted on one of said sashes and provided with a lip extending in the path of movement of the lower sash and defining a shoulder adapted to bear against the actuating member.

868,530. TELEGRAPH AND TELEPHONE INSULATOR. JOHN A. COOPER, Mercury, Tex. Filed June 18, 1907. Serial No. 379,576.



1. An insulator comprising a body portion having an opening one wall of which is provided with a projection defining oppositely disposed seating grooves for the reception of the line wire, there being a slot formed in the opposite wall of the opening and communicating with said opening.

2. An insulator comprising a body portion having an opening one wall of which is provided with a vertical projection defining oppositely disposed seating grooves for the reception of the line wire, there being a slot formed in the opposite wall of the opening and communicating with the seating grooves.

3. An insulator comprising a body portion having an opening one wall of which is provided with a V shaped projection defining oppositely disposed seating grooves for the reception of the line wire, there being a slot formed in the opposite wall of the opening and communicating with the seating grooves, and binding wires carried by the insulator and engaging the line wire for locking the latter in the adjacent seating groove.

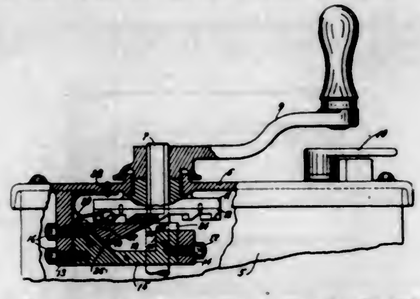
4. An insulator comprising a body portion having a concaved portion and provided with an opening one wall of which is formed with a substantially V shaped projection defining oppositely disposed seating grooves for the reception of the line wire, there being a slot formed in the concaved portion of the insulator and communicating with the opening.

5. An insulator comprising a body portion having oppositely disposed attaching ears and provided with an opening one wall of which is formed with a substantially V shaped projection defining oppositely disposed seating grooves for the reception of the line wire, said body portion being provided with a vertically disposed slot communicating with the opening and having its walls at said slot inclined towards the mouth thereof.

6. An insulator comprising a body portion having oppositely disposed tie grooves and provided with an opening, the lower wall of which is formed with a substantially V shaped projection defining oppositely disposed seating grooves for the reception of the line wire, there being a slot formed in the opposite wall of the opening and communicating with the seating grooves, and tie wires seated in the tie grooves and engaging the adjacent line wire for locking the line wire in said grooves.

7. An insulator comprising a body portion having an opening the lower wall of which is provided with a substantially V shaped projection defining oppositely disposed seating grooves for the reception of the line wire, said body portion being provided with a vertically disposed slot and having its walls at both ends of the slot inclined in the direction of the projection.

868,531. CONTROLLER-OPERATING MECHANISM. CLARENCE T. CROCKER, Norwood, Ohio, assignor to The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed Nov. 29, 1905. Serial No. 289,554.



1. In combination, a controller shaft, a handle and a notched member carried thereby, a pawl adapted to engage the notches of said member, and means for causing said pawl to engage one of said notches when the handle is moved forward, and to escape and move beyond said notch when the handle is moved slightly backward.

2. In combination, a controller shaft, a handle mounted on said shaft, a notched member also on said shaft, a pawl adapted to engage the notches on said member, the parts being so constructed that as the handle is moved slightly backward the pawl will move out of engagement with one of the notches into position to be engaged by another of said notches when the handle is moved forward.

3. In combination, a controller casing, a shaft extending therethrough, a handle on said shaft without said casing, a ratchet disk carried by said shaft within the casing, a ratchet finger adapted to engage said ratchet teeth, the finger being so mounted and the parts being so constructed that when the handle is moved slightly backward, the finger will move out of engagement with one tooth into position to be engaged by the next adjacent tooth when the handle is moved forward.

4. In combination, a controller casing, a shaft extending therethrough and having at its outer end a controller handle, a ratchet plate on said shaft within the casing, a pawl supported adjacent thereto for engaging the teeth of the ratchet plate, and means for moving said finger out of the path of one tooth into position to be engaged by another tooth when the handle is moved slightly backward.

5. In combination, a controller casing, a shaft extending therethrough and having a controller handle on its outer end, a notched plate mounted on said shaft within the casing, a ratchet finger or pawl movably mounted and adapted in one position to engage a tooth of the ratchet plate, and means, when the handle is moved slightly in one direction, for moving said pawl away from one tooth to a position for engaging the next adjacent tooth when the handle is moved in the opposite direction.

6. In combination, a controller casing, a shaft extending therethrough and carrying at its outer end a controller handle and within the casing a notched plate, and a pawl adapted to engage the notches of said plate, said pawl being supported from the cover or cap of the casing, and the parts being so constructed and arranged that when the handle is moved backward a slight distance, the pawl will move out of engagement with one tooth to a position to engage the next adjacent tooth when the handle is moved forward.

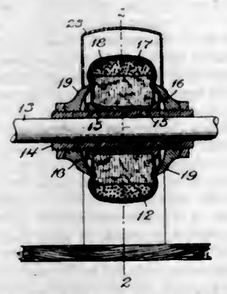
7. In combination, a controller casing, a shaft extending therethrough and carrying at its outer end a controller handle and within the casing a ratchet plate, a pawl located adjacent said plate and adapted to engage the teeth thereof, and a spring bearing on said pawl and adapted, when the handle is moved slightly backward, to move the pawl from one tooth to a position to engage the next adjacent tooth when the handle is moved forward.

8. In combination, a controller casing, a shaft extending therethrough, a controller handle mounted on the outer end thereof, a ratchet plate mounted on said shaft within the casing, a pawl supported from the cover of the casing adjacent the ratchet plate and adapted to engage the teeth thereof to permit a step-by-step movement, and a spring mounted on the under side of the cap or cover and adapted to move the pawl out of the path of one tooth to a position to be engaged by the adjacent tooth on forward rotation of the handle.

9. In a controller for electric motors, the combination of a rotatable shaft, an operating handle therefor, a disk fixed on said shaft and having its lower face notched to form ratchet teeth, a stationary support, and an unattached pawl resting on said support and normally projecting upward into the path of the teeth of said disk.

10. In a controller for electric motors, the combination of a rotatable shaft, an operating handle therefor, a disk fixed on said shaft and having its lower face notched to form ratchet teeth, a stationary support, an unattached pawl resting on said support and normally projecting upward into the path of the teeth of said disk, and means for permitting the pawl to be moved out of the path of said teeth.

868,532. ROTARY OPERATING MEMBER FOR BOOT AND SHOE FINISHING MACHINES. WILLIAM W. CROOKER, Lynn, Mass. Filed Sept. 13, 1906. Serial No. 334,436.



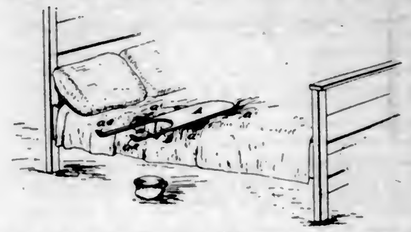
1. In a machine of the character described, a rotary wheel comprising a hub and an elastic cushion on the periphery thereof, an elastic retaining band the diameter of which is normally less than that of the cushion, said band being sprung to place on the cushion so that its edges automatically form flanges which engage the edges of the hub and cover the ends of the cushion, and a flexible working cover bearing on the band and backed by the band and cushion.

2. In a machine of the character stated, a rotary wheel comprising a circular hub or body, an annular cushion of sponge rubber surrounding the periphery of the same, an air-proof elastic band or clamp removably securing the cushion to the body and covering the face and both edges of the cushion, and a flexible working cover bearing on said band and backed by the band and cushion.

868,533. SANITARY DOUCHE-BOARD. HARRIET C. CROPLEY, Washington, D. C. Filed Jan. 11, 1906. Serial No. 295,659.

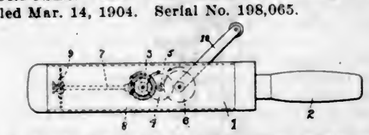
1. A sanitary apparatus consisting of a supporting board having secured to its under side a pair of cross-bars whose ends project beyond the edges of the board and provided with a pair of extensions at its forward end, these extensions each carrying a foot-rest at its forward end, and a detachable spout carried at the forward end of the board centrally between the extensions.

2. A sanitary apparatus consisting of a supporting board having projecting from each of its side edges a pair of supporting members and provided at its forward end with a pair of extensions, one at each side of the board, and each extension carrying a foot-rest at its forward end, and a depending spout carried at the forward end of the



board underneath the same and centrally between the extensions.

868,534. VIBRATING MACHINE FOR MASSAGING PURPOSES. JAY V. T. DANIELS, London, England. Filed Mar. 14, 1904. Serial No. 198,065.



1. In a machine of the class described, a disk mounted upon a revoluble shaft the center of gravity of which is non-incident to the axis of the shaft, a second disk mounted upon the same shaft of like character, means for varying the positions of the center of gravity of the two disks relative to one another and for rigidly securing the two disks to the shaft in any desired position, substantially as shown and described.

2. In a machine of the class described, a frame, a revoluble shaft mounted in the frame, a disk of solid metal having a large hole on one side between the axis and the periphery to alter the center of gravity thereof, a like disk mounted upon the shaft with the flat face thereof abutting against the face of the first disk, and means for securing the two disks rigidly together and to the shaft in any desired position so as to vary the position of the two holes thereof, substantially as shown and described.

868,535. COMBINED COLLAR-BUTTON AND NECK-TIE-HOLDER. FERDINAND D'AVERSA and JOHN CAMPANELLO, New York, N. Y. Filed Dec. 1, 1906. Serial No. 345,876.



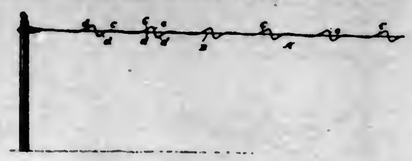
1. A combined collar button and necktie holder comprising a pair of separable button members, and a tie holder connected to one of said members and provided with a tie engaging hook having a convex tie receiving base.

2. A combined collar button and necktie holder comprising a pair of separable button members and a tie holder attached to one of said members, said holder comprising a normally curved plate, the terminals of said plate having hooks to engage the tie, the bases of the tie engaging hooks being convex.

868,536. CLOTHES-LINE. JOHN R. DAVIDSON, Monticello, Ga., assignor of one-half to Olinions O. Banks, Shady Dale, Ga. Filed May 11, 1907. Serial No. 373,091.

1. A pinless clothes line consisting of a straight supporting wire, and a clamping wire secured thereto and formed at intervals into pairs of loops, the loops of each pair being disposed on opposite sides of the supporting wire with their connecting portion crossing the supporting wire and arranged wholly on one side thereof.

2. A pinless clothes line consisting of a straight supporting wire, and a clamping wire loosely coiled thereon at intervals and formed between said coiled portions into



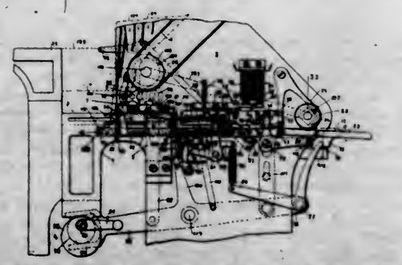
pairs of oppositely disposed loops, with the connecting portion of each pair of loops crossing the supporting wire and arranged wholly on one side thereof.

868,537. WRENCH. DAVID J. DAWSON and JOSEPH R. STROHBACH, Freedom, Pa. Filed July 30, 1907. Serial No. 386,212.



In a wrench, a shank having a handle on one end and a fixed jaw on the other end, said shank provided on the rear edge thereof with teeth, a movable jaw slidable on the shank open along its rear edge throughout the length of the jaw and having two pins therethrough in proximity to the shank, one pin acting as a pivot pin and the other as a guard for the jaw, and a toothed locking member mounted on said pivot pin being cut away on its inner face to clear the guard pin and one end extended beyond the jaw to form a finger grip.

868,538. LINOTYPE OR COMPOSING-MACHINE. HEINRICH DREWELL, Charlottenburg, Germany. Filed Apr. 19, 1907. Serial No. 369,100.



1. In combination, in an automatic composing machine, an assembling block, means for assembling matrices in a line in said block, another assembling block, means for assembling matrices in a line in the latter assembling block, and means for transferring the line of matrices from the latter assembling block into the former assembling block as set forth.

2. In combination, in an automatic composing machine, an assembling block, means for assembling matrices in a line in one direction in said block, another assembling block, means for assembling matrices in a line in the opposite direction in the latter assembling block, and means for transferring the line of matrices from the latter assembling block into the former assembling block as set forth.

3. In combination, in an automatic composing machine, an assembling block, mechanism for alining matrices in said block, a source of power, another assembling block, mechanism driven from said source of power for alining matrices in the latter block, mechanism driven from said source of power for transferring a line of matrices from the latter block into the former block, and reversing means for connecting the former alining mechanism with the source of power and simultaneously disconnecting the latter alining and transferring mechanisms from said source of power as set forth.

4. In combination, in an automatic composing machine, an assembling block, mechanism for alining matrices in said block, a source of power, another assembling block, mechanism driven from said source of power for alining matrices in the latter block, mechanism driven from said source of power for transferring a line of matrices from the latter block into the former block, and reversing means for connecting said alining mechanisms alternately with said source of power, as set forth.

5. In combination, in an automatic composing machine, an assembling block, mechanism for alining matrices in said block, a source of power, another assembling block, mechanism driven from said source of power for alining matrices in the latter block, mechanism driven from said source of power for transferring a line of matrices from the latter block into the former block, means adapted to connect said alining mechanisms with said source of power and reversing means for alternately preventing said alining mechanisms being operated by said means connecting them with the source of power as set forth.

6. In combination, in an automatic composing machine, an assembling block, detent means in the same, mechanism for assembling matrices in a line in said block, a source of power, driving means adapted to be driven from said source of power for driving the latter mechanism, a second assembling block, a bar having detent means, a holder for matrices in said first block on said bar, a holder for matrices in said second block movable on said bar, reciprocating mechanism operated from said source of power adapted to engage said bar for alining matrices against said holder, a catch device in said second assembling block for said matrices against said holder, a controlling member for controlling the latter device and provided with driving members, means tending to operate said controlling member, means for detaining said controlling member in its inoperative position, means for withdrawing the latter detaining means, whereby said controlling member operates, said bar is disengaged from said reciprocating mechanism and said catch device is released from said matrices by said driving members, conveying mechanism adapted to be operated by said controlling member and driven from said source of power for driving said bar and transferring said second holder into the first assembling block, and reversing means for connecting said driving means for said first assembling-block mechanism with the source of power, for disconnecting said reciprocating mechanism from said bar and for preventing said conveying mechanism being set in operation by said controlling member as set forth.

7. In combination, in an automatic composing machine, an assembling block, detent means in the same, mechanism for assembling matrices in a line in said block, a source of power, driving means adapted to be driven from said source of power for driving the latter mechanism, a second assembling block, a bar having teeth, a holder for matrices in said second block movable on said bar, reciprocating mechanism comprising a shaft, carrying a quadrilateral disk, driven from said source of power, and a two-armed lever, carrying on one arm a wheel running on said disk, and a pawl pivoted to the other arm engaging said teeth, a catch device in said second assembling block for said matrices against said holder, a controlling member for controlling the latter device and provided with driving members, means tending to operate said controlling member, means for detaining said controlling member in its inoperative position, means for withdrawing the latter detaining means, whereby said controlling member operates, said pawl is disengaged from said teeth and said catch device is released from said matrices by said driving members, conveying mechanism adapted to be operated by said controlling member and driven from said source of power for driving said bar and transferring said holder into the first assembling block, and reversing means for connecting said driving means for said first assembling-block mechanism with the source of power, for disconnecting said reciprocating mechanism from said bar and for preventing said conveying mechanism being set in operation by said controlling member as set forth.

8. In combination, in an automatic composing machine, an assembling block, detent means in the same, mechanism for assembling matrices in a line in said block, a source of power, driving means adapted to be driven from said source of power for driving the latter mechanism, a second assembling block, a bar having detent means, a spring-pressed cheek for matrices in said first block pivoted on said bar, a holder for matrices in said second block movable on said bar, reciprocating mechanism operated from said source of power adapted to engage said bar for alining matrices against said holder, a catch device in said second assembling block for said matrices against said holder, a controlling member for controlling the latter device and provided with driving members, means tending to operate said controlling member, means for detaining said controlling member in its inoperative position, means for withdrawing the latter detaining means, whereby said controlling member operates, said bar is disengaged from said reciprocating mechanism and said catch device is released from said matrices by said driving member, conveying mechanism adapted to be operated by said controlling member and driven from said source of power for driving said bar and transferring said second holder into the first assembling block, and reversing means for connecting said driving means for said first assembling-block mechanism with the source of power, for disconnecting said reciprocating mechanism from said bar and for preventing said conveying mechanism being set in operation by said controlling member as set forth.

9. In combination, in an automatic composing machine, an assembling block, detent means in the same, mechanism for assembling matrices in a line in said block, a source of power, driving means adapted to be driven from said source of power for driving the latter mechanism, a second assembling block, a bar having detent means and a pin, a holder for matrices in said first block on said bar, a spring-controlled slide, provided with a holder, movable on said pin on said bar for supporting matrices in said second block, reciprocating mechanism operated from said source of power adapted to engage said bar for alining matrices against said holder, a catch device in said second assembling block for said matrices against said holder, a controlling member for controlling the latter device and provided with driving members, means tending to operate said controlling member, means for detaining said controlling member in its inoperative position, means for withdrawing the latter detaining means, whereby said controlling member operates, said bar is disengaged from said reciprocating mechanism and said catch device is released from said matrices by said driving members, conveying mechanism adapted to be operated by said controlling member and driven from said source of power for driving said bar and transferring said second holder into the first assembling block, and reversing means for connecting said driving means for said first assembling-block mechanism with the source of power, for disconnecting said reciprocating mechanism from said bar and for preventing said conveying mechanism being set in operation by said controlling member as set forth.

10. In combination, in an automatic composing machine, an assembling block, detent means in the same, mechanism for assembling matrices in a line in said block, a source of power, driving means adapted to be driven from said source of power for driving the latter mechanism, a second assembling block, a bar having detent means, a holder for matrices in said first block on said bar, a holder for matrices in said second block movable on said bar, reciprocating mechanism operated from said source of power adapted to engage said bar for alining matrices against said holder, a catch device in said second assembling block for said matrices against said holder, a spring-pulled controlling plate having a nose and provided with driving members, means for engaging said nose and detaining said controlling member in its inoperative position, means for withdrawing the latter detaining means, whereby said controlling member operates, said bar is disengaged from said reciprocating mechanism and said catch device is released from said matrices by said driving members, conveying mechanism adapted to be operated by said controlling member and driven from said source of power for driving said bar and transferring said second holder into the first assembling block, and reversing means for connecting said driving means for said first assembling-block mechanism with the source of power, for disconnecting said reciprocating mechanism from said bar and for preventing said conveying mechanism being set in operation by said controlling member as set forth.

11. In combination, in an automatic composing machine, an assembling block, detent means in the same, mechanism for assembling matrices in a line in said block, a source of power, driving means adapted to be driven from said source of power for driving the latter mechanism, a second assembling block, a bar having detent means, a holder for matrices in said first block on said bar, a holder for matrices in said second block movable on said bar, reciprocating mechanism operated from said source of power adapted to engage said bar for alining matrices against said holder, a catch device in said second assembling block for said matrices against said holder, a controlling member for controlling the latter device and provided with driving members, means tending to operate said controlling member, means for detaining said controlling member in its inoperative position, electrical means for withdrawing the latter detaining means, whereby said controlling member operates, said bar is disengaged from said reciprocating mechanism and said catch device is released from said matrices by said driving member, conveying mechanism adapted to be operated by said controlling member and driven from said source of power for driving said bar and transferring said second holder into the first assembling block, and reversing means for connecting said driving means for said first assembling-block mechanism with the source of power, for disconnecting said reciprocating mechanism from said bar and for preventing said conveying mechanism being set in operation by said controlling member as set forth.

12. In combination, in an automatic composing machine, an assembling block, detent means in the same, mechanism for assembling matrices in a line in said block, a source of power, driving means adapted to be driven from said source of power for driving the latter mechanism, a second assembling block, a bar having detent means, a holder for matrices in said first block on said bar, a holder for matrices in said second block movable on said bar, reciprocating mechanism operated from said source of power adapted to engage said bar for alining matrices against said latter holder, a catch device in said second assembling block for said matrices against said holder, a spring-pulled controlling plate having a nose and provided with driving members, a lever pivoted to engage said nose, an electromagnet for disengaging said lever, whereby said controlling member operates, said bar is disengaged from said reciprocating mechanism and said catch device is released from said matrices by said driving members, conveying mechanism adapted to be operated by said controlling member and driven from said source of power for driving said bar and transferring said second holder into the first assembling block, and reversing means for connecting said driving means for said first assembling-block mechanism with the source of power, for disconnecting said reciprocating mechanism from said bar and for pre-

venting said conveying mechanism being set in operation by said controlling member as set forth.

13. In combination, in an automatic composing machine, an assembling block, detent means in the same, mechanism for assembling matrices in a line in said block, a source of power, driving means adapted to be driven from said source of power for driving the latter mechanism, a second assembling block, a bar having teeth, a holder for matrices in said second block movable on said bar, reciprocating mechanism comprising a shaft, carrying a quadrilateral disk, driven from said source of power, and a two-armed lever, carrying on one arm a wheel running on said disk, and a pawl pivoted to the other arm engaging said teeth, a catch device in said second assembling block for said matrices against said holder, a spring-pulled controlling plate having a nose and provided with driving members, a lever pivoted to engage said nose, an electromagnet for disengaging said lever, whereby said controlling member operates, said pawl is disengaged from said teeth and said catch device is released from said matrices by said driving members, conveying mechanism adapted to be operated by said controlling member and driven from said source of power for driving said bar and transferring said holder into the first assembling block, and reversing means for connecting said driving means for said first assembling-block mechanism with the source of power, for disconnecting said reciprocating mechanism from said bar and for preventing said conveying mechanism being set in operation by said controlling member as set forth.

14. In combination, in an automatic composing machine, an assembling block, detent means in the same, mechanism for assembling matrices in a line in said block, a source of power, driving means adapted to be driven from said source of power for driving the latter mechanism, a second assembling block, a bar having detent means, a holder for matrices in said first block on said bar, a holder for matrices in said second block movable on said bar, reciprocating mechanism operated from said source of power adapted to engage said bar for alining matrices against said latter holder, a catch device in said second assembling block for said matrices against said holder, a controlling member for controlling the latter device and provided with driving members, means tending to operate said controlling member, means for detaining said controlling member in its inoperative position, means for withdrawing the latter detaining means, whereby said controlling member operates, said bar is disengaged from said reciprocating mechanism and said catch device is released from said matrices by said driving member, a shaft, carrying a wheel, driven from said source of power, a member adapted to engage said wheel pivoted on said bar, a two-armed lever adapted to bring the latter member into engagement with said wheel with one arm, and adapted to be driven by said controlling member with the other arm, and reversing means for connecting said driving means for said first assembling-block mechanism with said source of power, for disconnecting said reciprocating mechanism from said bar and for preventing said two-armed lever being driven by said controlling member as set forth.

15. In combination, in an automatic composing machine, an assembling block, detent means in the same, mechanism for assembling matrices in a line in said block, a source of power, driving means adapted to be driven from said source of power for driving the latter mechanism, a second assembling block, a bar having detent means, a holder for matrices in said first block on said bar, a holder for matrices in said second block movable on said bar, reciprocating mechanism operated from said source of power adapted to engage said bar for alining matrices against said latter holder, a catch device in said second assembling block for said matrices against said holder, a controlling member for controlling the latter device and provided with driving members, means tending to operate said controlling member, means for detaining said controlling member in its inoperative position, means for withdrawing the latter detaining means, whereby said controlling member operates, said bar is disengaged from said reciprocating mechanism and said catch device is released from said matrices by said driving members, conveying mechanism adapted to be operated by said controlling member and driven from said source of power for driving said bar to its discharge position and transferring said second holder into the first assembling block, means adapted to be released by said bar for detaining said controlling member in its inoperative position, means adapted to be released by said first assembling block when the same is raised for holding said bar in its discharge position, a reversing member, means connected with said reversing member and adapted to be operated by said bar for returning said controlling member to its inoperative position, whereby said reciprocating mechanism engages said bar and returns it to its normal operative position, means connected with said reversing member connecting said assembling mechanism for the first block with the source of power, means adapted to be operated by said reversing member for preventing said second holder entering said first assembling block when said assembling mechanism of said first assembling block operates, means connecting said reversing member with said means for detaining said controlling member in its inoperative position, and means for raising said first assembling block and reversing said reversing member, as set forth.

16. In combination, in an automatic composing machine, an assembling block, detent means in the same, mechanism for assembling matrices in a line in said block, a source of power, driving means adapted to be driven from said source of power for driving the latter mechanism, a second assembling block, a bar having detent means and a driving member, a holder for matrices in said first block on said bar, a holder for matrices in said second block movable on said bar, reciprocating mechanism operated from said source of power adapted to engage said bar for alining matrices against said latter holder, a catch device in said second assembling block for said matrices against said holder, a spring-pulled controlling plate having a nose and provided with driving members, a lever engaging said spring, means for engaging said nose and detaining said controlling member in its inoperative position, means for withdrawing the latter detaining means, whereby said controlling member operates, said bar is disengaged from said reciprocating mechanism and said catch device is released from said matrices by said driving members, conveying mechanism adapted to be operated by said controlling member and driven from said source of power for driving said bar to its discharge position and transferring said second holder into the first assembling block, means adapted to be released by said bar for detaining said controlling member in its inoperative position, means adapted to be released by said first assembling block when the same is raised for holding said bar in its discharge position, a reversing member, a two-armed lever revoluble on said reversing member adapted to be operated by said driving member on said bar, a spring engaging said levers for returning said controlling member to its inoperative position, whereby said reciprocating mechanism engages said bar and returns it to its normal operative position, means connected with said reversing member connecting said assembling mechanism for the first block with the source of power, means adapted to be operated by said reversing member for preventing said second holder entering said first assembling block when said assembling mechanism of said first assembling block operates, means connecting said reversing member with said means for detaining said controlling member in its inoperative position, and means for raising said first assembling block and reversing said reversing member, as set forth.

17. In combination, in an automatic composing machine, an assembling block, detent means in the same, mechanism for assembling matrices in a line in said block, a source of power, driving means adapted to be driven from said source of power for driving the latter mechanism, a second assembling block, a bar having detent means, a holder for matrices in said first block on said bar, a holder for matrices in said second block movable on said bar, reciprocating mechanism operated from said source of power adapted to engage said bar for alining matrices against said latter holder, a catch device in said second assembling block for said matrices against said holder, a controlling member for controlling the latter device and provided with driving members, means tending to operate said controlling member, means for detaining said controlling member in its inoperative position, means for withdrawing the latter detaining means, whereby said controlling member operates, said bar is disengaged from said reciprocating mechanism and said catch device is released from said matrices by said driving members, conveying mechanism adapted to be operated by said controlling member and driven from said source of power for driving said bar to its discharge position and transferring said second holder into the first assembling block, means adapted to be released by said bar for detaining said controlling member in its inoperative position, means adapted to be released by said first assembling block when the same is raised for holding said bar in its discharge position, a reversing member, means connected with said reversing member and adapted to be operated by said bar for returning said controlling member to its inoperative position, whereby said reciprocating mechanism engages said bar and returns it to its normal operative position, a bar on said reversing member, a wheel on said latter bar, said wheel being adapted to connect said assembling mechanism for the first block with the source of power, means adapted to be operated by said reversing member for preventing said second holder entering said first assembling block when said assembling mechanism of said first assembling block operates, means connecting said reversing member with said means for detaining said controlling member in its inoperative position, and means for raising said first assembling block and reversing said reversing member, as set forth.

18. In combination, in an automatic composing machine, an assembling block, detent means in the same, mechanism for assembling matrices in a line in said block, a source of power, driving means adapted to be driven from said source of power for driving the latter mechanism, a second assembling block, a bar having detent means and a pin, a holder for matrices in said first block on said bar, a spring-controlled slide, having a nose, and provided with a holder, movable on said pin on said bar for supporting matrices in said second block, reciprocating mechanism operated from said source of power adapted to engage said bar for alining matrices against said latter holder, a catch device in said second assembling block for said matrices against said holder, a controlling member for controlling the latter device and provided with driving members, means tending to operate said controlling member, means for detaining said controlling member in its inoperative position, means for withdrawing the latter detaining means, whereby said controlling member operates, said bar is disengaged from said reciprocating mechanism and said catch device is released from said matrices by said driving members, conveying mechanism adapted to be operated by said controlling member and driven from said source of power for driving said bar to its discharge position and transferring said second holder into the first assembling block, means adapted to be released by said bar for detaining said controlling member in its inoperative position, means adapted to be released by said first assembling block when the same is raised for holding said bar in its discharge position, a reversing member, means connected with said reversing member and adapted to be operated by said bar for returning said controlling member to its inoperative position, whereby said reciprocating mechanism engages said bar and returns it to its normal operative position, a bar on said reversing member, a wheel on said latter bar, said wheel being adapted to connect said assembling mechanism for the first block with the source of power, means adapted to be operated by said reversing member for preventing said second holder entering said first assembling block when said assembling mechanism of said first assembling block operates, means connecting said reversing member with said means for detaining said controlling member in its inoperative position, and means for raising said first assembling block and reversing said reversing member, as set forth.

19. In combination, in an automatic composing machine, an assembling block, detent means in the same, mechanism for assembling matrices in a line in said block, a source of power, driving means adapted to be driven from said source of power for driving the latter mechanism, a second assembling block, a bar having detent means, a holder for matrices in said first block on said bar, a holder for matrices in said second block movable on said bar, reciprocating mechanism operated from said source of power adapted to engage said bar for alining matrices against said latter holder, a catch device in said second assembling block for said matrices against said holder, a spring-pulled controlling plate having a nose and provided with driving members, a pivoted lever for engaging said nose and detaining said controlling member in its inoperative position, means for withdrawing the latter detaining means, whereby said controlling member operates, said bar is disengaged from said reciprocating mechanism and said catch device is released from said matrices by said driving members, conveying mechanism adapted to be operated by said controlling member and driven from said source of power for driving said bar to its discharge position and transferring said second holder into the first assembling block, means adapted to be released by said bar for detaining said controlling member in its inoperative position, means adapted to be released by said first assembling block when the same is raised for holding said bar in its discharge position, a reversing member, means connected with said reversing member and adapted to be operated by said bar for returning said controlling member to its inoperative position, whereby said reciprocating mechanism engages said bar and returns it to its normal operative position, means connected with said reversing member connecting said assembling mechanism for the first block with the source of power, means adapted to be operated by said reversing member for preventing said second holder entering said first assembling block when said assembling mechanism of said first assembling block operates, a rod attached to said reversing member and to said lever for engaging said nose on said controlling plate for detaining said plate in its inoperative position, and means for raising said first assembling block and reversing said reversing member, as set forth.

20. In combination, in an automatic composing machine, an assembling block, detent means in the same, mechanism for assembling matrices in a line in said block, a source of power, driving means adapted to be driven from said source of power for driving the latter mechanism, a second assembling block, a bar having detent means, a holder for matrices in said first block on said bar, a holder for matrices in said second block movable on said bar, reciprocating mechanism operated from said source of power adapted to engage said bar for alining matrices against said latter holder, a catch device in said second assembling block for said matrices against said holder, a controlling member for controlling the latter device and provided with driving members, means tending to operate said controlling member, means for detaining said controlling member in its inoperative position, means for withdrawing the latter detaining means, whereby said controlling member operates, said bar is disengaged from said reciprocating mechanism and said catch device is released from said matrices by said driving members, conveying mechanism adapted to be operated by said controlling member and driven from said source of power for driving said bar to its discharge position and transferring said second holder into the first assembling block, means adapted to be released by said bar for detaining said controlling member in its inoperative position, means adapted to be released by said first assembling block when the same is raised for holding said bar in its discharge position, a reversing member provided with a fork, means connected with said reversing member and adapted to be operated by said bar for returning said controlling member to its inoperative position, whereby said reciprocating mechanism engages said bar and returns it to its normal operative position, means connected with said reversing member connecting said assembling mechanism for the first block with the source of power, means adapted to be operated by said reversing member for preventing said second holder entering said first assembling block when said assembling mechanism of said first assembling block operates, means connecting said reversing member with said means for detaining said controlling member in

its inoperative position, a shaft, an eccentric on said shaft embraced by said fork, another eccentric on said shaft carrying said first assembling block, and means for rotating said shaft, as set forth.

21. In combination, in an automatic composing machine, a bar (12) having teeth and provided with a shoulder (14), a cheek (10) having a shoulder (13) pivoted on said bar, a spring (15) between said shoulders, and reciprocating mechanism detachably engaging said teeth, as set forth for the purpose specified.

22. In combination, in an automatic composing machine, a bar (12) having a pin and teeth and provided with a shoulder (14), a cheek (10) having a shoulder (13) pivoted on said bar, a spring (15) between said shoulders, a slide (16) carrying a holder (11) and provided with a groove movable on said pin on said bar, a spring engaging said pin and said bar, and reciprocating mechanism detachably engaging said teeth, as set forth for the purpose specified.

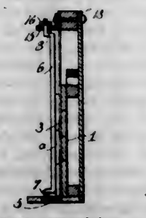
23. In combination, in an automatic composing machine, a frame (3), a shaft (102) mounted thereon, carrying a pulley (101), a tongue (9) pivoted on said frame, a cam (8) adapted to swing said tongue, a reversing member on said frame and a wheel (97) connected with said reversing member adapted to engage said pulley (101) and to drive said cam (8) as set forth.

24. In combination, in an automatic composing machine, a frame (3), a shaft (102) mounted thereon, carrying a pulley (101), a tongue (9) pivoted on said frame, a cam (8) adapted to swing said tongue, a support (108) for matrices, having a pin (105), movable on said frame under said cam and said tongue, a reversing member on said frame, a bar, provided with a slanting slot adapted to engage said pin (105), on said reversing member, and a wheel (97) on said bar adapted to engage said pulley (101) and to drive said cam (8), whereby when said wheel (97) operates, said bar holds said support under said tongue, as set forth.

25. In combination, in an automatic composing machine, a frame (3), an assembling block (2) having slanting faces within the same on said frame, rods (55, 56) extending into said block, beveled detents or latches (20,.21) for normally engaging matrices on said rods, means for pushing said rods and thereby said latches against said slanting faces, whereby said latches are withdrawn from their normal position and release the matrices as set forth.

26. In combination, in an automatic composing machine, a frame (3), an assembling block (2) having slanting faces within the same on said frame, rods (55, 56) extending into said block, beveled detents or latches (20, 21) for normally engaging matrices on said rods, a plate (57) having a hole carrying said rods, a controlling member (28), provided with a pin extending through said hole, and means for reciprocating said member (28) whereby said latches are operated as set forth.

868,539. GRAIN-CAR-DOOR FASTENER. RALPH P. EVANS and WALTER P. FLYNN, Ulysses, Nebr. Filed Jan. 23, 1907. Serial No. 353,702.



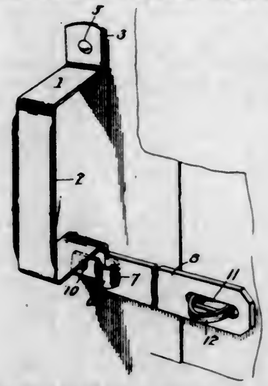
1. A car door fastener comprising a pair of clamping rods each being pivotally mounted at its lower end, and its upper end connected to a pivoted bracket, said bracket being provided with a keyhole therein, a key on the clamping rod adapted to engage said keyhole, a ratchet wheel on said clamping rod, and a squared portion for a wrench, and a keeper for holding said clamping rods in position out of use.

2. A car door fastener comprising metal plates secured to the upright posts upon opposite sides of the door opening of a car, clamping rods pivotally mounted at their lower ends in bearing plates secured to the car floor, pivoted brackets through which the upper ends of said clamping rods are passed, ratchet wheels mounted upon said clamping rods, pawls for engaging said ratchet wheels, and a squared portion upon said clamping rod for turning the same, and means for sustaining said clamping rods in position when not required for use.

3. A car door fastener comprising clamping rods pivotally mounted at their lower ends said rods being removable from the bearing plates at their lower ends and connected at their upper ends to pivotally mounted brackets, means for rotating said clamping rods, and means for sustaining said clamping rods in inoperative positions.

4. In a car door fastener, clamping rods pivotally mounted at their lower ends at opposite sides of the door opening, said rods being removable from the bearing plates at their lower ends, pivoted brackets through which the upper ends of said clamping rods are passed, means for holding said clamping rods in adjusted position for clamping the door, and means for holding said clamping rods in a horizontal position when not required for use.

868,540. HASP AND HANDLE. WILLIAM D. FERRIS, Sterling, Ill. Filed Nov. 22, 1906. Serial No. 344,635.



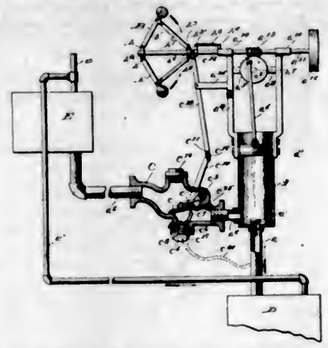
1. A handle provided with a laterally disposed extension bent to form a loop, said extension having at its free end a securing aperture, and a hasp removably mounted upon said loop and retained thereon when the free end of said extension is secured.

2. A handle provided at one end with an apertured attaching portion having an extension therefrom provided at its free end with an aperture adapted to be alined with that of the attaching portion, said alined apertures being adapted to receive an attaching device, and a hasp mounted upon said extension.

3. A handle provided at one end with an apertured attaching portion and a laterial extension therefrom provided at its free end with an aperture adapted to be alined with that of the attaching portion, and a hasp provided with a transverse rectangular slot therein for pivotally mounting said hasp upon said extension and retaining said hasp in a substantially horizontal plane.

868,541. PUMP-DRAIN. GUSTAV G. FORESTER, Bagley, Iowa. Filed Jan. 19, 1907. Serial No. 353,069.

1. In a device of the class described, the combination with the pump and the cylinder head, and the discharge pipe leading from the pump to the cylinder head, of a governor for the pump, a casing interposed in the pipe and having a transverse opening in the bottom thereof, a check valve in the casing, an arm pivoted to the casing and to whose free end the check valve is connected, a plug having a drainage opening therethrough, said plug being rotatable in the opening and normally closing the same, an arm on the plug for lifting the check valve when the plug is rotated to move the drainage opening into register with the opening of the casing, a lever connected with the plug, and a connection between the lever and the governor, whereby said governor will rotate the plug.



2. In a device of the class described, the combination with the pump and the cylinder head and the discharge pipe leading from the pump to the cylinder head, of a governor for the pump, a check valve in the pipe, said pipe having an opening adjacent to the check valve, a plug having a drainage opening therethrough rotatable in the opening and normally closing the same, an arm on the plug for lifting the check valve when the plug is rotated to move the drainage opening into register with the opening of the pipe, a lever connected with the plug, and a connection between the lever and the governor whereby said governor will control the movement of the plug.

3. In a device of the class described, the combination with the pump and the cylinder head and the discharge pipe leading from the pump to the cylinder head, of a check valve in the pipe, said pipe having an opening adjacent to the check valve, a drainage valve rotatable in the opening and normally closing the same, an arm on the valve for opening the check valve when said drainage valve is moved to open position, a lever connected with the drainage valve, and a connection between the lever and the pump whereby the stoppage of the pump will move the drainage valve to open position and whereby the starting of the pump will move said drainage valve to closed position.

4. In a device of the class described, the combination with the pump and the cylinder head, and a discharge pipe leading from the pump to the cylinder head, of a check valve in the discharge pipe, a drainage valve for the pipe adjacent to the check valve, a connection between the drainage valve and the pump whereby the movement of the pump will open and close the drainage valve, and means whereby the opening of the drainage valve will open the check valve.

5. In a device of the class described, the combination with the pump and the cylinder head, and the discharge pipe leading from the pump to the cylinder head, of a check valve in the pipe, a drainage valve adjacent to the check valve, a governor in connection with the pump, means whereby the movement of the governor will open and close the drainage valve, and means whereby the opening of the drainage valve will open the check valve.

6. In a device of the class described, the combination with the pump and the discharge pipe leading therefrom, of a check valve in the discharge pipe, a drainage valve adjacent to the check valve, a governor connected with the pump, a connection between the governor and the drainage valve whereby the movement of the governor will close said drainage valve, and means whereby the closing of the drainage valve will close the check valve.

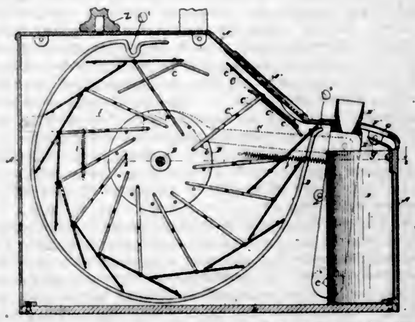
7. In a device of the class described, the combination with the pump and the discharge pipe leading therefrom, of a check valve in the discharge pipe, a drainage valve adjacent to the check valve, a connection between the pump and the drainage valve whereby movement of the pump will close said drainage valve, and means whereby the closing of the drainage valve will close the check valve.

8. In a device of the class described, the combination with the pump and the discharge pipe, of a check valve in the discharge pipe, a drainage valve adjacent to the check valve, means whereby the stoppage of the pump will open the drainage valve and means whereby the opening of the drainage valve will open the check valve.

9. In a device of the class described, the combination with the pump and the discharge pipe, of a check valve in the discharge pipe, and means whereby the stoppage of the pump will open the check valve.

10. In a device of the class described, the combination with the pump and the discharge pipe, of a check valve in the discharge pipe, a drainage valve in the discharge pipe, means whereby the movement of the pump will operate the drainage valve, and means whereby the drainage valve will operate the check valve.

868,542. ADVERTISING DEVICE. HERBERT W. GARDNER, Detroit, Mich., assignor to National Device Co., Kalamazoo, Mich. Filed Feb. 23, 1905. Serial No. 246,958.



1. The combination, with a suitable casing A having a cover A' with a window A'' therethrough, of a reel consisting of a shaft B, with heads B' B', supported in suitable bearings within the casing; bails pivotally supported between the heads of said reel, with stops at each side to permit of a movement of the bails as the reel rotates; frames for advertisements supported on the reels and adapted to revolve on the outer portions thereof and provided with laterally-projecting pins toward each side of one end, the bail being offset to permit of the rotation of the frames; a main guiding rib D extending downwardly from the front of the window and encircling the reel to a point around towards the top of the frame, where a downward projection D' is formed therein, the front portion D'' projecting outside a circle embracing the frames; a curved guiding rib c' within the outer rib D at D', at its upper end, and a guiding rib c'' below and in front of the window to serve as a guide to support the frames in proper position in front of the window, there being a gap between these ribs c' c'' to permit of the reversal of the frames; a lever structure in the front of the casing; a spring for holding the lever in its normal position; a pawl H connected to the lever to engage projecting pins on the end of the reel; and a spring detent pawl to engage the pins and locate the reel in the proper position for displaying the advertisements successively, all co-acting substantially as described and for the purpose specified.

2. The combination with a suitable casing A with a window A'' therethrough of a reel supported in suitable bearings within the casing; bails pivotally supported on

the said reel with stops at each side to permit of a movement of the balls as the reel rotates; frames for advertisements supported on the reels and adapted to revolve on the outer portions thereof and provided with laterally projecting pins toward each side of one end, the ball being offset to permit of the rotation of the frames; a main guiding rib D extending downwardly from the front of the window and encircling the reel to a point around towards the top of the frame, where a downward projection D′ is formed therein, the front portion D″ projecting outside a circle embracing the frames; a curved guiding rib c' within the outer rib D at D′, at its upper end, and a guiding rib c'' below and in front of the window to serve as a guide to support the frames in proper position in front of the window, there being a gap between these ribs c' c'' to permit of the reversal of the frames; a lever structure in the front of the casing; a spring for holding the lever in its normal position; a pawl H connected to the lever to engage a ratchet wheel to actuate the reel; and a spring detent pawl, all co-acting substantially as described and for the purpose specified.

3. The combination with a suitable casing A with a window A″ therethrough of a reel supported in suitable bearings within the casing; balls pivotally supported on the said reel with stops at each side to permit of a suitable movement of the balls as the reel rotates; frames for advertisements supported on the reels and adapted to revolve on the outer portions thereof, and provided with laterally-projecting pins toward each side of one end, the ball being offset to permit of the rotation of the frames; a main guiding rib D extending downwardly from the front of the window and encircling the reel to a point around towards the top of the frame, where a downward projection D′ is formed therein, the front portion D″ projecting outside a circle embracing the frames; a curved guiding rib c' within the outer rib D at D′, at its upper end, and a guiding rib c'' below and in front of the window to serve as a guide to support the frames in proper position in front of the window, there being a gap between these ribs c' c'' to permit of the reversal of the frames; actuating means comprising a pawl; and a detent pawl for actuating the reel, all coacting substantially as described and for the purpose specified.

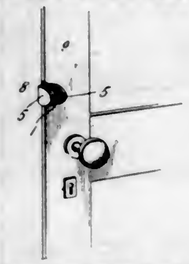
4. The combination of a suitable casing with a window therethrough; a reel supported within the casing; balls pivotally supported on said reel with stops at each side of said reel to limit the movement of the balls as the reel rotates; advertising supports pivoted to the said balls and arranged to overlap each other transversely to the balls, guiding means to retain the said advertising supports in the transverse relation, with devices for separating the balls to permit the complete exposure of an advertisement at the window during the actuation of the reel; and guiding means for reversing said advertising supports, and ratchet means for actuating said reel step by step; for the purpose specified.

5. The combination of a suitable casing with a window therethrough; a reel supported within the casing; balls pivotally supported on said reel with stops at each side of said reel to permit of a movement of the balls as the reel rotates; advertising supports pivoted to the said balls and arranged to overlap each other, and to rotate thereon; stops on such advertisement supports arranged at each side of the pivot; a main guiding rib with its front end projecting beyond the circle described by the balls and its rear portion slightly depressed for holding the advertisement supports into a compact space, and guiding the same; ribs opposite the window and within the circle of the main guiding rib, separated from each other to engage the said stops; and means for actuating the reel step by step, for the purpose specified.

6. In an advertising device, the combination of a casing; a suitable window; a reel within the casing; balls pivoted to the reel; advertising supports pivoted to the balls and arranged to overlap each other transversely to the balls, the same being arranged to be separated and expose the advertisements at the window successively; guiding means to retain the said advertisement supports in the transverse relation; and guiding means for reversing said advertisement supports; and ratchet means for actuating said reel step by step, as specified.

7. In an advertising device, the combination of a casing; a suitable window; a reel within the casing; balls pivoted to the reel; advertisement supports pivoted to the balls and arranged to overlap each other transversely to the balls; guiding means to retain the said advertisement supports in the transverse relation; the same being arranged to be separated and expose the advertisements at the window successively; and guiding means for reversing said advertisement supports, as specified.

868,543. BURGLAR-ALARM. HANS K. GEIGER, Munich, Germany. Filed Dec. 12, 1906. Serial No. 347,544.



1. A burglar alarm comprising a longitudinally expansible bellows tube, heads closing the ends of the tube, an audible alarm supported by one of the heads, means for normally holding the tube in expanded condition, and holders arranged to bear upon the heads to maintain the tube in a collapsed condition.

2. A burglar alarm comprising a longitudinally expansible tube, heads closing the ends of the tube, an audible alarm supported by one of the heads, an expansion spring arranged within the tube and bearing against the heads, and a holder comprising members adapted to bear against the heads to maintain the tube normally in a collapsed condition against the pressure of the spring.

3. A burglar alarm comprising a longitudinally expansible tube, heads closing the ends of the tube, an audible alarm supported by one of the heads, means for normally extending the tube, and a holder comprising jaws arranged to bear against the heads and provided with supporting portions adapted to contact, said devices being adapted to releasably maintain the tube in a collapsed condition.

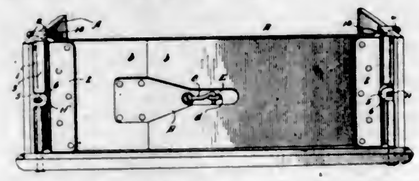
868,544. TELEPHONE ATTACHMENT. JOSEPH A. GORDON, Shawnee, Okla. Filed Feb. 1, 1907. Serial No. 355,253.



1. An auxiliary mouth-piece for telephones comprising a disk formed with a central opening and with a marginal flange, an inclined flange projecting from the disk in alinement with the wall of the opening, a screen covering for the inner edge of said inclined flange, and locking levers carried by the marginal flange.

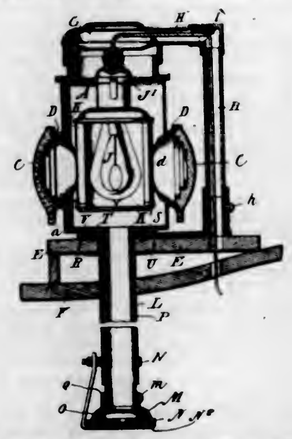
2. An auxiliary mouth-piece for telephones comprising a disk formed with a central opening and with a marginal flange, an inclined flange projecting from the disk in alinement with the wall of the opening, a screen covering for the inner edge of said inclined flange, and locking levers carried by the marginal flange, said levers being formed with inclined clamping ends, and being terminally projected beyond the marginal flange to provide push pins.

868,545. WAGON END-GATE. WILSON L. GRAHAM, Ashland, Ill. Filed Dec. 26, 1906. Serial No. 349,581.



The combination with a wagon-body having castings detachably secured to the sides thereof, said castings being formed with spaced parallel flanges extending longitudinally thereof at right angles to the sides of the wagon, an ear parallel to said flanges having a transverse recess therein, and horizontal ears extending laterally beyond the sides of the wagon, of an end-gate adapted to be associated with said wagon-body and having castings on the ends thereof interlocking with said wagon-body castings, said end gate castings comprising flat members attached thereto, and a shoulder offset therefrom and extending on a plane with said end-gate, said shoulder being adapted to engage within the space between said flanges, and having a lug projecting at right angles therefrom, designed for reception within said recessed ear, substantially as described.

868,546. SIGNAL DEVICE. PETER GRAY, Cambridge, Mass. Filed Nov. 21, 1901. Serial No. 83,039.



1. In a signal device, the combination with an open-topped lantern body, and means for supporting the same; of a source of light within the body and removable through such open top, and a bracket supporting said source, being independent of the supporting means for the body and mounted at one side of the body and extending above the latter.

2. In a signal device, the combination with an open-topped lantern body, and means for supporting the same; of a cap covering such open top, a source of light carried by said cap within the body, and a support for the cap and source separate from the supporting means for the body and mounted exterior to and independently of the body, the cap and source being together removable from the open top of the body.

3. In a signal device, the combination with an open-topped lantern body, and means for supporting the same; of an upright bracket distinct from said supporting means removably mounted at one side of the lantern body and having a laterally projecting arm, a cap secured to said arm and removably covering the open top of the body, and a source of light within said body carried by said cap and removable therewith from the body.

4. In a signal device, the combination with a lantern body having an open top, and with means for supporting the body; of a removable cap provided with a depending flange loosely inclosing the open top of the lantern body, a source of light within the body carried by said cap and removable therewith from the body, and a support separate from the supporting means for the body secured to said cap and mounted exterior to and independently of the body.

5. In a signal device, the combination with an open-topped lantern body provided with a plurality of signal regions constructed to permit the passage of light rays from within; of a removable cap covering the open top of the lantern body, a screen carried by said cap and movably arranged relatively to the body to temporarily obstruct the view of light rays from certain of the signal regions, and light supporting means also carried by the cap and arranged to support a source of light within the lantern body, said cap, screen and supporting means being removable as one member from the body.

6. In a signal device, the combination with an open-topped lantern body provided with a plurality of signal regions constructed to permit the passage of light rays from within; of a cap arranged to give access to the interior of the body, a screen carried by said cap and movably arranged relatively to the body to temporarily obstruct the view of light rays from certain of the signal regions, and light supporting means also carried by the cap and arranged to support a source of light within the lantern body, said cap screen and supporting means being movable as one member with reference to the body.

7. In a signal device, the combination with a source of light, a rotatable lantern body inclosing said source and provided with a plurality of differentiated signal regions, and a support upon which the body rotates; of a stationary screen suspended within the lantern body and removable through the top thereof, and a support for said screen extending above the body, said support being independent of the body and distinct from the support therefor.

8. In a signal device, the combination with a lantern body provided with a plurality of differentiated signal regions, and means for rotatably supporting said body; of a stationary screen suspended within the lantern body, a source of light carried thereby, and a support for said screen and source extending above the body, said support being independent of the lantern body and distinct from the support therefor, and the screen and source being together removable through the top of the body.

9. In a signal device, the combination with a lantern body provided with a plurality of differentiated signal regions, and means for rotatably supporting said body; of a cap covering the top of the body, a stationary screen suspended from said cap within the body, and a source of light also carried within the body by the cap, said cap, screen and source being removable as one member from the top of the lantern body; and of a support for said member independent from the body and distinct from the supporting means therefor.

10. In a signal device, the combination, with a source of light, a rotatable lantern body inclosing said source and provided with a plurality of differentiated signal regions, a support upon which the body rotates, and means for rotating the body secured to the lower portion thereof; of a stationary screen suspended within the lantern body and removable through the top thereof, and a bracket supporting said screen, being distinct from the support for said body and mounted at one side of the body and extending above the latter.

11. In a signal device, the combination with a rotatable lantern body adapted to receive a source of light, a stationary base beneath said body, and a device constructed

to lock the body to said base at any one of a plurality of points and arranged to maintain the body in an elevated position during rotation; of a stationary cap covering the top of the body and spaced therefrom so as to permit the elevation and rotation of the lantern body, and means for supporting said cap independently of the body.

12. In a signal device, the combination with a base, and a sleeve depending therefrom and having its lower end formed in a downwardly facing bearing surface; of a lantern body rotatable on the base, means for locking said body to the base constructed to maintain the body in an elevated position during rotation, an operating stem depending from the body within said sleeve and serving as a pivot, and a stop encircling said stem arranged to engage with the bearing surface on the lower end of the sleeve to limit the elevation of the lantern body.

13. In a signal device, the combination of a light-obstructing body provided with a plurality of differentiated regions for permitting the passage of light rays from a source of light, such regions constituting signals, means for temporarily obscuring the view of light rays from certain of the regions and permitting such view from other of the regions, an indicator having signals corresponding to those of the body, and means for suppressing only those signals of the indicator corresponding to the signals obscured simultaneously in the body and for exhibiting the remainder of the indicator signals.

14. In a signal device, the combination of a light-inclosing body provided with a plurality of differentiated regions for permitting the passage of light rays from within, such regions constituting signals, means for temporarily obscuring the view of light rays from certain of the regions and permitting such view from other of the regions, an indicator having signals corresponding to those of the body, and means for suppressing only those signals of the indicator corresponding to the regions obscured simultaneously in the body and for exhibiting the remainder of the indicator signals.

15. In a signal device, the combination of a light-inclosing body provided with a plurality of differentiated regions for permitting the passage of light rays from within, such regions constituting signals, a screen, the body and screen being relatively movable for temporarily obscuring the view of light rays from certain of the regions and permitting such view from other of the regions, an indicator having signals corresponding to those of the body, and means for suppressing only those signals of the indicator corresponding to the signals obscured simultaneously in the body and for exhibiting the remainder of the indicator signals.

16. In a signal device, the combination of a light-inclosing body provided with a plurality of differentiated regions for permitting the passage of light rays from within, such regions constituting signals, means for temporarily obscuring the view of light rays from certain of the regions and permitting such view from other of the regions, an indicator having signals corresponding to those of the body, and an opaque masking-plate constructed and arranged relatively to the body to screen those signals of the indicator corresponding to those signals obscured simultaneously in the body and for exhibiting the remainder of the indicator signals.

17. In a signal device, the combination of a light-inclosing body provided with a plurality of differentiated regions for permitting the passage of light rays from within, such regions constituting signals, means for temporarily obscuring the view of light rays from certain of the regions and permitting such view from other of the regions, an indicator having luminiferable signals corresponding to those of the body, and means for suppressing those signals of the indicator corresponding to the signals obscured simultaneously in the body and for exhibiting the remainder of the indicator signals.

18. In a signal device, the combination of a light-inclosing body provided with a plurality of signals, an indicator provided with corresponding signals, a common source of light constructed and arranged to illuminate said several signals, and means constructed simultaneously to screen similar signals of said light-inclosing body and indicator.

19. In a signal device, the combination of a revoluble light-inclosing body provided with a plurality of signals, an indicator provided with corresponding signals, a common source of light constructed and arranged to illuminate said several signals, and means constructed upon revolution of the light-inclosing body simultaneously to screen similar signals of said light-inclosing body and indicator.

20. In a signal device, the combination with a light-inclosing body provided with a plurality of differentiated regions for permitting the passage of light rays from within, such regions constituting signals, and a screen constructed and movably arranged relatively to the body to obscure the view of light rays temporarily from other than a given region; of an indicator illuminated by light rays from within the body and provided with corresponding signals; and means constructed to screen only the indicator signals similar to those screened simultaneously in the body.

21. In a signal device, the combination with a light-inclosing body provided with a plurality of differentiated regions for permitting the passage of light rays from within, such regions constituting signals, and a screen constructed and movably arranged relatively to the body to temporarily obscure the view of light rays from certain regions and permit such view from other of the regions; of an indicator illuminated from within the body and carrying the same signals, and means for masking only the same signals of the indicator as those screened simultaneously in the body.

22. In a signal device, the combination with a light-inclosing body provided with a plurality of differentiated regions for permitting the passage of light rays from within, such regions constituting signals, and a screen constructed and movably arranged relatively to the body to temporarily obscure the view of light rays from certain of the regions and permit such view from other of the regions; of a tube communicating with the light-inclosing body and arranged to be in line with the source of light therein, and carrying the same signals as the body, and means for masking only the same indicating signals as those screened simultaneously in the body.

23. In a signal device, the combination with a light-inclosing body provided with a plurality of differentiated regions constructed to permit the passage of light rays from within, such regions constituting signals, and a screen constructed and movably arranged relatively to the body to temporarily obscure the view of light rays from certain of the regions and permit such view from other of the regions; of a tube communicating with the light-inclosing body and arranged to be in line with a source of light therein, and carrying indicating signals corresponding to those of the body, and a masking plate supported to cut off light rays only from the indicating signals corresponding to those being screened in the body.

24. In a signal device, the combination with a rotatable light-inclosing body provided with a plurality of differentiated regions for permitting the passage of light rays from within, such regions constituting signals, and a hollow open-bottomed screen stationarily supported within the body and provided with an aperture constructed to register with any one of the signal regions; of a source of light within the screen, a tube communicating with the interior of the body, an indicator carried by the tube in position to be illuminated by the source of light and provided with light-transmitting signals corresponding to those of the body, and means constructed to screen only the indicator signals corresponding to those being screened in the body.

25. In a signal device, the combination with a light-inclosing body provided with a plurality of differentiated regions for permitting the passage of light rays from within, such regions constituting signals, and a screen constructed and movably arranged relatively to the body to temporarily obscure the view of light rays from certain of the regions and permit such view from other of the regions; of a tube communicating with the light-inclosing body and arranged to be in line with a source of light therein, said tube carrying on its end indicating signals corresponding to those of the body, and a masking plate supported adjacent said end of the tube and arranged to mask only the indicating signals corresponding to those being screened in the body.

26. In a signal device, the combination with a rotatable light-inclosing body provided with a plurality of differentiated regions constructed to permit the passage of light rays from within, such regions constituting signals, a hollow open-bottomed screen stationarily supported within the body and provided with an aperture positioned to register with any one of the signal regions, and a source of light supported within the screen; of a tube communicating with the interior of the body, an indicator carried by the tube in position to be illuminated by said source and provided with signals corresponding to those of the body, means constructed to screen only the indicator signals corresponding to those screened in the body, and means constructed to lock the body in position with any one of its several signal regions in registry with the aperture in the screen.

27. In a signal device, the combination with a tubular rotatable body having a plurality of differentiated signal regions disposed around its sides; of an indicator having signals corresponding to those of the body, and means for suppressing certain of the indicator signals and exhibiting the remainder thereof, said indicator signals otherwise being simultaneously visible from one view point.

28. In a signal device, the combination with a tubular rotatable body having a plurality of differentiated signal regions disposed around its sides; of an indicator having signals corresponding to those of the body, and a device operating during the rotation of the body to suppress different groups of the indicator signals, said indicator signals being otherwise simultaneously visible from one view point.

29. In a signal device, the combination with a tubular rotatable body having a plurality of differentiated signal regions disposed around its sides; of an indicator rotatable with the body and having signals corresponding to those of the body, and a stationary device operating during the rotation of the body to suppress different groups of the indicator signals, said indicator signals otherwise being simultaneously visible from one view point.

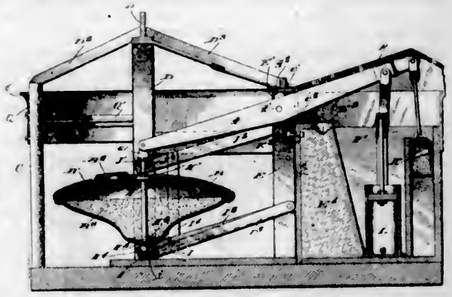
30. In a signal device, the combination with a tubular rotatable light inclosing body having disposed around its sides a plurality of differentiated regions for permitting the passage of light rays from within, such regions constituting signals; of an indicator having signals corresponding to those of the body, and a device operating during the rotation of the body to suppress different groups of the indicator signals, said indicator signals otherwise being simultaneously visible from one view point.

31. In a signal device, the combination with a rotatable body having a plurality of differentiated signal regions disposed around its sides, of an indicator depending from below said rotatable body and having signals corresponding to those of the body, and means, separate one from the other, for suppressing certain of the signals carried, respectively, by said rotatable body and indicator, and exhibiting the remainder thereof, said indicator signals otherwise being simultaneously visible from one viewpoint.

32. In a signal device, the combination with a tubular rotatable body having a plurality of differentiated signal regions disposed around its sides, of an indicator depending from below said rotatable body and having signals corresponding to those of the body, and means, separate one from the other, for suppressing certain of the signals carried, respectively, by said rotatable body and indicator, and exhibiting the remainder thereof, said indicator signals otherwise being simultaneously visible from one viewpoint, and means for rotating said rotatable body to bring its differentiated signal regions into register with those of the indicator.

868,547. WAVE-MOTOR. DAVID N. GREEN, Sunbury, Ohio. Filed Feb. 11, 1907. Serial No. 356,744.

1. A wave motor comprising a housing frame having side posts, a front post, connections between the upper ends of said post and a fender extending around the outer side of the housing frame near its upper end, an intermediate frame to which said fender is secured, a top beam extending between the upper ends of the side posts, bars connecting said top beam with the intermediate frame, a pump chamber in rear of the intermediate frame, a beam pivoted midway between its ends to the intermediate frame and having its front arm extending in the housing frame, a float circular in plan and tapering toward its lower end and provided with upper and lower shaft extensions or trunnions, a stirrup connecting the upper trunnion with the beam and swiveled to the said trunnion, a top cross bar extending below the stirrup and having an opening receiving the upper shaft extension, side bars secured at one end to the said top bar and pivoted at their other ends to the intermediate frame, the said lower shaft extension having a ball, a lower cross bar having a socket receiving said ball, side and intermediate bars secured at one end to the lower cross bar and pivoted at their other ends to the intermediate frame, antifriction devices on the outer sides of the upper and lower side bars and adapted to operate against the inner faces of the side posts of the housing frame, a counterbalancing weight connected with the rear arm of the beam and a pump and devices for operating the pump from the rear arm of the beam, substantially as and for the purposes set forth.



2. A wave motor comprising a pivoted beam, a float circular in cross section, devices connecting the float with the beam, whereby the float may turn freely on a vertical axis, and means for guiding and bracing the float in its ascending and descending movements, substantially as set forth.

3. The combination in a wave motor, of a rocking beam, a float suspended therefrom and a swinging frame having bars above and below the float for bracing and guiding the same in its ascending and descending movements, substantially as set forth.

4. The combination in a wave motor, of a rocking beam, a float suspended therefrom and a swinging frame inclosing said float and having cross bars above and below the same and swinging side bars connected with said cross bars substantially as set forth.

5. A wave motor comprising a float adapted to turn freely on a vertical axis, means connected with said float for operation thereby, and guiding and bracing devices extending above and below the float, substantially as set forth.

6. A wave motor having a housing frame for a float, a pump chamber in rear of said frame and an intermediate frame between the housing frame and the pump chamber, a beam pivoted to the intermediate frame and having its front arm extending within the housing frame and its rear arm extending within the pump chamber, a float within the housing frame and connected with the front arm of the beam, a swinging frame having upper and lower portions extending above and below the float, and means within the pump chamber for operation by the beam, substantially as set forth.

7. The combination in a wave motor, of a float, shaft extensions or trunnions above and below the float, a cross bar extending below the float and having a ball and socket connection with the lower shaft extension, a cross bar

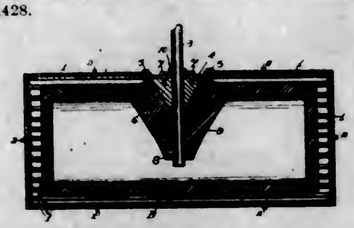
above the float and having an opening through which the upper shaft extension passes, devices above the said cross bar and connected with the upper shaft extension for operation by the float and swinging side bars connected with said upper and lower cross bars, substantially as set forth.

8. The combination in a wave motor, of a float, upright posts on opposite sides of the float, swinging side bars pivoted at one end and extending at their other ends above and below the float and operating at their outer faces adjacent to the inner faces of the upright posts, antifriction devices between said swinging side bars and the posts, cross bars connected with the side bars and extending above and below the float and devices for operation by the said float, substantially as set forth.

9. A wave motor comprising a float, a housing frame inclosing the float, a pump chamber, an intermediate frame between the pump chamber and the housing frame and provided with an opening for a rocking beam, a beam pivoted to the intermediate frame and having a front arm connected with the float and a rear arm extending into the pump chamber and a pump in said chamber and connected with the beam, substantially as set forth.

10. A wave motor comprising a beam pivoted between its ends, a float operating upon one end of the beam and a counterbalancing weight operating directly upon the other end of the beam, and means connected with the beam for operation thereby, substantially as set forth.

868,548. COMPRESSED-AIR TANK. WILLIAM J. GRIFFIN, Morley, Mich. Filed July 2, 1906. Serial No. 324,428.



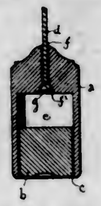
1. The combination with an outer tank having a corrugated interior and vents therein, of an elastic bag or envelop within the tank, a portion of the bag or envelop being thickened and having an opening there through, a threaded pipe extending through the opening and a cap-shaped nut and a cone to which the pipe is screwed and between which the thickened portion of the bag or envelop is held.

2. The combination with an outer tank having a corrugated interior and vents therein, of an elastic bag or envelop within the tank, a portion of the bag or envelop being thickened and having an opening there through, a threaded pipe extending through the opening and a cap-shaped nut and a cone to which the pipe is screwed and between which the thickened portion of the bag or envelop is held, a plate to which the cone is secured, said plate secured to the outer tank and a nut located outside of the plate and adapted to screw upon the pipe whereby to clamp the thickened portion of the bag or envelop between the cone and cap-shaped nut.

3. The combination with a tank having a corrugated interior and vents to the outside, of an elastic bag adapted to be expanded into the corrugations, of a pipe extending into the bag, a plate, a cone, the pipe screwed into the cone and a nut into which the end of the pipe screws.

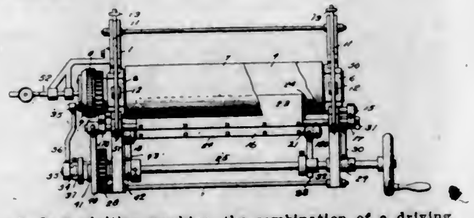
868,549. CHALKING DEVICE FOR BILLIARD-CUES. ROY E. GUNSOLUS, San Jose, Cal. Filed Apr. 25, 1907. Serial No. 370,325.

1. A chalk holder for use in playing billiards consisting of a cylindri-form body having a central cylindrical cavity of the same dimensions throughout and consisting of an outer chalk seat portion and an inner clearance chamber, the side walls of such body being of thin elastic character having the same thickness throughout.



2. A chalk holder for use in playing billiards consisting of a cylindri-form body having a central cylindrical cavity, of the same dimensions throughout and consisting of an outer chalk seat portion and an inner clearance chamber, the side walls of such holder being of thin elastic character having the same thickness throughout, said body having an end wall provided with a central perforation having a tapered enlargement at its inner end leading into such clearance chamber, and an attachment cord extending through such perforation and having a knot and its stop end located within such tapered enlargement.

868,550. PLAITING-MACHINE. THOMAS F. HAGERTY, New York, N. Y. Filed May 22, 1905. Serial No. 261,559.



1. In a plaiting machine, the combination of a driving shaft, a pair of press-rolls, connection between the driving shaft and rolls for effecting intermittent movement of the latter, a pair of parallel shafts, a pair of upstanding arms carried by each shaft, a knife carried by each pair of arms one above the other and in coöperative relation with the press-rolls, independent reciprocating adjustable connections between the driving shaft and the knives arranged to effect alternating oscillation thereof toward and away from the bite of the rolls, cams on the driving shaft, and extensions on the knives coöperating with said cams, whereby the upper knife is depressed during advancement and elevated during retraction and the reverse operation is effected with respect to the lower knife.

2. In a plaiting machine, the combination with a pair of press-rolls, of a single driving shaft, a pair of parallel shafts, a pair of upstanding oscillating arms carried by each of said parallel shafts, a shaft carried by the upper ends of each pair of arms, a knife mounted on each shaft for oscillation about the axis thereof, one knife being disposed above the other and the two being in coöperative relation to the press-rolls, independent reciprocating connections between the driving shaft and the knives secured to the supporting arms thereof, levers rigid with the knives and extending adjacent the driving shaft, and cams mounted on the driving shaft in coöperative relation to said levers.

868,551. PROCESS OF EXTRACTING GOLD AND SILVER FROM ORES. BENJAMIN HALL, Nevada City, Cal. Filed Mar. 22, 1907. Serial No. 363,834.

1. The process of recovering gold and silver from their ores, said process consisting in mixing the ore with a cyanid solution, then loosening up the mass and admitting air thereto.

2. The process of recovering gold and silver from their ores, consisting in pulverizing the ore, mixing a cyanid solution therewith, subjecting the mass to a suction or vacuum to remove excess of the solution, and loosening the mass to allow air to permeate there-through.

3. The process of recovering gold and silver from their ores, consisting in pulverizing the ore, mixing a cyanid solution therewith, subjecting the mass to a suction or vacuum to remove excess of the solution, loosening the mass to allow air to permeate there-through, and finally leaching the mass and subjecting the dissolved metals to the action of metallic zinc.

4. The process of recovering gold and silver from their ores, said process consisting in mixing the pulverized ore with a cyanid solution, then expelling the excess of solution to form a moist pulverulent mass, loosening said mass, and exposing it to the circulation of air there-through.

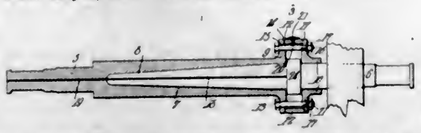
868,552. PENHOLDER. JOHN F. HALL, Columbus, Ohio. Filed May 28, 1907. Serial No. 376,172.



1. A penholder comprising an outer and an inner tube, the inner tube fitting closely within the outer tube and extended at its outer end slightly beyond the outer tube, the inner tube being provided with longitudinally indented shallow grooves at spaced intervals to receive the edges of the shank of a penpoint.

2. A penholder comprising an outer and an inner tube, the inner tube fitting closely within the outer tube and extended at its outer end slightly beyond the outer tube, the inner tube being provided with longitudinally indented shallow grooves at spaced intervals to receive the edges of the shank of a penpoint, the inner tube being adapted to be rotated in the outer tube, and the latter having a U-shaped recess on its under side, the edge of the recess toward which the shank of the penpoint is adapted to move being bent down to closely hug the circumference of the outer tube.

868,553. CAR-AXLE. LANGLEY HALL, Astoria, Oreg. Filed May 4, 1907. Serial No. 371,868.



1. An axle including telescopic sections one of which is provided with an annular flange and having a vent opening formed in one end thereof, a collar loosely mounted on the adjacent section and provided with a similar flange, a band interposed between the flanges and forming an oil chamber, fastening devices extending through said flanges, and a collar secured to the inner section and disposed between said flanges, there being a longitudinal groove formed in the inner axle and communicating with the air vent.

2. An axle including telescopic sections one of which is provided with an annular flange, a collar loosely mounted on the adjacent section and provided with a similar flange, there being seating recesses formed in said flanges, a band engaging the seating recesses and forming an oil chamber between the same, clamping devices extending through the flanges for locking the band in the seating recesses, and a collar rigidly secured to the inner section and extending between the walls of the oil chamber at said flanges.

3. An axle including telescopic sections one of which is provided with an annular flange, a collar loosely mounted on the opposite section and provided with a similar flange spaced from the adjacent flange to form an intermediate oil chamber, a band interposed between said flanges, and having a feed opening formed therein, clamping devices extending through the flanges for locking the band in position, and a closure for the feed opening, there being an air-vent formed in one end of the outer member and a longitudinal lubricating groove formed in the inner member and communicating with the air-vent and lubricating chamber, respectively.

868,554. LAWN-TRIMMER. WILLIAM H. HAMILTON, De Kalb, Ill., assignor of one-half to H. B. Hoyt, De Kalb, Ill. Filed Apr. 18, 1907. Serial No. 368,840.

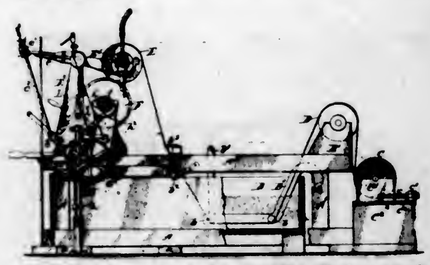


1. A lawn trimmer, consisting of a body having a cutting side, a strip extending laterally therefrom and made with a bottom piece and a horizontal piece, the latter forming a rest, and a brace connected to the cutting side and the horizontal piece and having a handle socket.

2. A lawn trimmer, consisting of the body having the cutting side with the oblique cutting edge, the rest, the connection between the rest and the cutting side, the brace extending from the rest to the cutting side and connecting the two and the handle socket.

3. A lawn trimmer, consisting of the body 1 having the cutting side 2, the strip 7 extending laterally from the side 2 and consisting of the bottom piece 9, the vertical piece 10 and the horizontal piece 11, and the brace 13 secured to the horizontal piece 11 and the side 2, and having the handle socket 16.

868,555. MACHINE FOR MAKING VULCANIZED-FIBER TUBES. THORVALD HANSEN, Everett, Mass., assignor, by mesne assignments, to Standard Fibre Company, Somerville, Mass. Filed July 22, 1904. Serial No. 217,604.



1. In a machine of the character described, a mandrel, a journal on either end thereof, bearings for said journals, one of said bearings movable as a whole in a plane transverse to the axis of the journal supported thereon, whereby the mandrel may be supported by one journal.

2. In a machine of the character described, a mandrel, a journal on either end thereof, bearings for said journals, one of said bearings movable radially downward in a plane transverse to the axis of the journal supported thereon, whereby the mandrel may be supported by one journal.

3. In a machine of the kind described, a mandrel, a pivoted lever having thereon an entire bearing for said mandrel, another lever pivoted to said bearing lever for controlling the position thereof, and means for actuating said controlling lever.

4. In a machine of the kind described, a mandrel, permanent means supporting it at one end, a lever having in one end a journal bearing for supporting the other end of said

mandrel, and means engaging the other end of said lever and moving it positively towards and from its bearing position comprising a rocker arm, means for operating it and means carried thereby to engage said lever arm, as described.

5. In a machine of the kind described, a mandrel, and a roll adapted to run thereon, and means for moving said roll into and out of contact with said mandrel, comprising a lever carrying journal boxes in which said roll turns, in combination with a rock shaft and a connecting rod operated by said rock shaft and connecting said rock shaft with said lever, as described.

6. In a machine of the kind described, a mandrel supported in a fixed bearing at one end and in a movable bearing at the other end, a roll adapted to run in surface engagement with said mandrel and be moved out of engagement therewith, and means for simultaneously removing said movable bearing and said roll from engagement with said mandrel, as described.

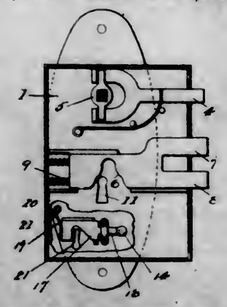
7. In a machine of the kind described, a mandrel carrying a cam surface, a lever actuated by said cam surface, a rack carrying a stop, means connecting said lever and said rack whereby said rack will be actuated by said lever, and a belt shipper and connections whereby the movement of said rack beyond a predetermined point will operate said belt shipper, as described.

8. In a machine of the kind described, in combination with a mandrel and a stop actuated thereby, a belt shipper comprising a spring controlled rod and a latch located to be engaged by said stop when said stop has been actuated beyond a predetermined point, as described.

9. A mandrel comprising a segment of a cylinder, and having a closure adapted to complete the cylindrical surface of said mandrel, and means operated by turning the mandrel shaft to move said closure towards and from its closed position.

10. In a machine of the kind described, a mandrel comprising a segment of a cylinder, and having a closure adapted to complete the cylindrical surface of said mandrel, and means whereby said closure may be moved towards and from its closed position, comprising a shaft forming the axis of said mandrel, a plurality of eccentrics mounted on said shaft, a corresponding number of eccentric straps carried by said eccentrics, and links connecting said straps with said closure, as described.

868,556. LOCK. ADOLPHUS H. HARRIS, Birmingham, Ala. Filed July 30, 1906. Serial No. 328,381.



In a lock, the combination of a casing, a main lock operated by a removable key, an outer pivoted cover-plate controlling access to the keyhole of said main lock, and another lock operated by a different, removable key, for retaining the plate in closed position.

868,557. SUPPORT FOR PUNCHING-BAGS. ROBERT A. HART, West Liberty borough, Pa. Filed Feb. 16, 1907. Serial No. 357,738.

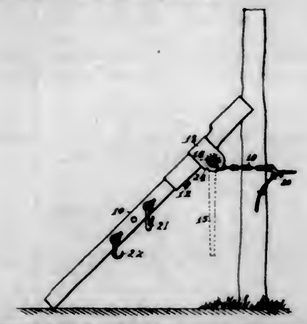
1. In a support for punching bags, the combination with a punching-bag and the suspension cord or rope thereof, of a base plate, a sleeve threaded in said plate, said sleeve having a bore formed therein terminating in a socket, said sleeve having a slot formed therein adjacent to said socket, and a ball bearing adjustably connected to said suspension cord or rope and seating in said socket.



2. In a support for punching-bags, the combination with a punching-bag and the suspension cord or rope thereof, of a sleeve, said sleeve having a bore formed therein terminating in a socket, a ball bearing adjustably connected to said suspension cord or rope, and seating in said socket, means to adjust said ball bearing, and means to support said plate.

3. A punching bag support consisting of a base plate having a depending central enlargement, a sleeve threaded into said enlargement having a socket in its upper end and provided in its side with a slot communicating with said socket, a ball mounted in said socket and provided with a central opening, a suspension cord for a punching bag passed through said central opening in the ball, and means accessible through the slot in said sleeve for adjustably securing said cord to said ball.

868,558. COMBINED POST-HOLE DIGGER AND WIRE-STRETCHER. JAMES H. HAYNES, De Leon, Tex. Filed July 27, 1906. Serial No. 328,023.

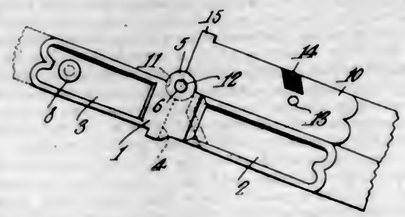


A compound tool for the purpose specified consisting of handle members detachably and pivotally connected together, one of said members being provided with a scoop and with perforated ears, a slitted pivot for the purpose specified journaled in the perforations of said ears and provided with polygonal ends, one thereof being for the reception of a crank, a ratchet wheel removably mounted upon the other polygonal end, and a pawl mounted on one of said ears for engagement with the ratchet wheel, substantially as and for the purpose specified.

868,559. HINGE FOR STACKER-SECTIONS AND THE LIKE. SAMUEL J. HEITZENRATER, Covode, Pa. Filed Mar. 6, 1907. Serial No. 360,879.

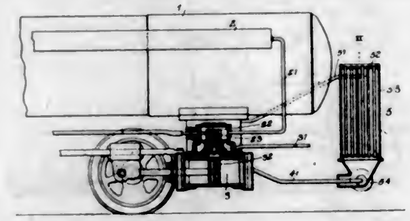
1. A hinge comprising a member having end portions lying in parallel planes with the end of one portion forming a shoulder lying adjacent the other portion, a member pivoted to the first said member and having an end adapted to abut against said shoulder and a means attached to the first said member for engagement with the second said member to positively hold the members in longitudinal alinement.

2. A hinge comprising a member having end portions which lie in parallel planes, the end of one portion forming a shoulder which lies adjacent the other portion, a second member pivoted to the first said member and having an end adapted to abut against said shoulder when the second said member is in longitudinal alinement with the first said member and laterally opposite one of the ends thereof.



3. A hinge comprising a member having end portions lying in parallel planes, the end of one portion forming a shoulder which lies adjacent the other portion, a member pivoted to the first said member and having an end adapted to abut against said shoulder when the said members are in longitudinal alinement, and a spring-actuated pin attached to the first said member and adapted to engage a perforation in the second said member for positively holding the said members in longitudinal alinement with each other.

868,560. INTERHEATER FOR COMPOUND COMPRESSED-AIR ENGINES. CHARLES B. HODGES, Pittsburg, Pa. Filed Oct. 10, 1904. Serial No. 227,862.



1. In a compound compressed-air engine in combination with the high-pressure and low-pressure cylinders and their inlets and exhausts, of a receptacle for compressed air connected with the exhaust from the high-pressure cylinder and with the inlet to the low-pressure cylinder, and means for causing a current of air to flow over the surface of the said receptacle operative on the exhaust of air from the low-pressure cylinder, substantially as described.

2. In a compound compressed-air engine, in combination with the high-pressure and low-pressure cylinders and their inlets and exhausts, of a receptacle for compressed air connected with the exhaust from the high-pressure cylinder and with the inlet to the low-pressure cylinder, and a passage for atmospheric air through said receptacle, the exhaust from the low-pressure cylinder being so arranged at the discharge end of said air passage as to draw atmospheric air therethrough, substantially as described.

3. In a compound compressed air engine in combination with the high-pressure and low-pressure cylinders and their inlets and exhausts, of a receptacle for compressed air connected with the exhaust from the high-pressure cylinder and with the inlet to the low-pressure cylinder, passages for atmospheric air through said receptacles, the exhaust from said low-pressure cylinder being arranged to cause a flow of atmospheric air at normal temperature through the passages, substantially as described.

4. In a compound compressed-air engine, the combination with the high-pressure and low-pressure cylinders and their inlets and exhausts, of a casing arranged to permit the passage of a current of atmospheric air therethrough and provided with a flaring outlet, a receptacle for compressed air arranged within said casing and connected with the exhaust from the high-pressure cylinder and with the inlet to the low-pressure cylinder, the exhaust from the low-pressure cylinder being arranged to discharge into the flaring outlet of said casing, substantially as described.

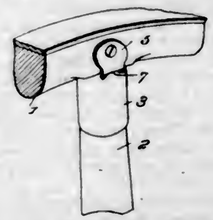
5. An interheater for a compound compressed-air engine which consists of a receptacle receiving air from the high-pressure cylinder and delivering air to the low-pressure cylinder, said receptacle being provided with a surrounding fluid envelop, such fluid-enveloped surface being of relatively great extent and arranged and adapted to absorb heat from the atmosphere, substantially as described.

868,561. COFFEE POT AND STEEPER. CARL HOFFMAN, Detroit, Mich. Filed Nov. 21, 1906. Serial No. 344,371.



The combination in a boiling and steeping apparatus, of a vessel constructed with a closed bottom and an open top, the vessel being provided with an opening in its side, near the closed bottom thereof, means for closing said opening, an encircling flange extending outwardly from the vessel, with its upper surface arranged flush with the edge of said top opening, providing unobstructed drain or flow into the vessel, a seat at the open end of the vessel, the seat being provided therearound with a contracted upper portion, and a filter disk adapted to be arranged in said seat and retained therein by the contracted upper portion of the seat.

868,562. SPOKE-SOCKET. WILLIAM E. HOLT, Butte, Nebr., assignor of one-third to Elmer Hamaker, Butte, Nebr. Filed Feb. 21, 1907. Serial No. 358,701.



1. In a spoke socket, the combination of a sleeve having edge portions thereof cut away upon opposite sides, a base closing one end of the sleeve, and integral ears projecting from the base adjacent to the cut away edges of the sleeve whereby when the ears are bent at angles to the base the outer faces thereof lie flush with the sides of the sleeve.

2. In a spoke socket, the combination of a sleeve having edge portions thereof cut away at opposite points, a base closing one end of the sleeve, and integral ears projecting from the base at points adjacent to the cut away edge portions of the sleeve whereby when the said ears are bent at angles to the base the outer faces thereof lie flush with the sides of the sleeve, the end portions of the ears being enlarged and provided with openings.

868,563. FISHING-ROD GUIDE. ERNEST HOLZMANN, Brooklyn, N. Y. Original application filed Mar. 16, 1906, Serial No. 306,358. Divided and this application filed Feb. 25, 1907. Serial No. 359,220.

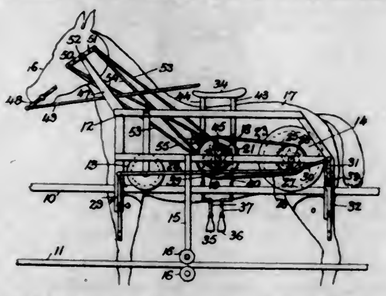


1. A guide for fishing rods, in combination with a guard therefor, substantially as described.

2. A guide for fishing rods provided with a clamp adjustable circumferentially and lengthwise of the rod, in combination with a guard therefor, substantially as described.

3. A guide for fishing rods having means for holding the running rings at a distance from the pole, in combination with a guard therefor, substantially as described.

868,564. MECHANICAL ANIMAL. JOSEPH HÜBSCH, New York, N. Y. Filed May 9, 1906. Serial No. 315,900.



1. In a mechanical animal a frame mounted on rollers including a traction roller, a saddle and stirrups, link belts connecting the saddle with the stirrups, and shaft carrying pulleys supporting the link belts, clutch means connecting the pulleys with the shaft, and means for transmitting motion from the shaft to the traction roller.

2. In a mechanical animal a frame having supporting rollers including a traction roller, a vertically movable saddle having depending rods, vertically movable stirrup carrying rods, a shaft, pulleys upon said shaft, clutch means connecting the pulley with the shaft, link belts guided over the pulleys and connecting the stirrup carrying rods with the rods depending from the saddle, and means for imparting continuous motion in one direction from the shaft to the traction roller.

3. In a mechanical toy of the class described, the combination of a frame having supporting rollers including a traction roller, a driving shaft, a pivoted head, means for transmitting motion from the pivoted head to the driving shaft, means for transmitting motion from the latter to the traction roller, and means to be actuated by the rider for working the pivoted head.

4. In a mechanical animal, a frame having supporting rollers including a traction roller, a driving shaft, means for transmitting motion from the driving shaft to the traction roller, a rocking member constituting the head of the animal, means for transmitting motion from the rocking member to the driving shaft, and a bridle member connected with the rocking member at a point distant from its fulcrum for actuating the same.

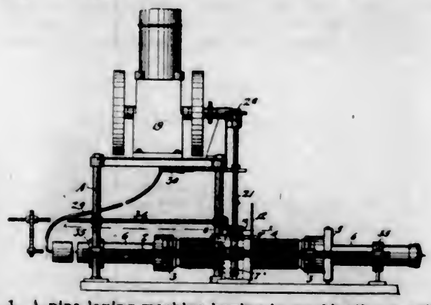
5. In a mechanical animal, a frame having supporting rollers including a traction roller, a driving shaft, means for transmitting motion from the driving shaft to the traction roller, a rocking head member having radial arms, pulleys mounted upon the driving shaft, clutch members connecting said pulleys with the driving shaft, a chain engaging one of said pulleys, links connecting the ends of said chain with the radial arms of the rocking head member, a chain engaging the other pulley, and crossed links connecting the ends of said chain with the radial arms of the rocking head member.

6. In a mechanical animal, a frame mounted upon rollers including a traction roller, a driving shaft, means for transmitting motion from the driving shaft to the traction roller, a rocking head member, means for transmitting motion from the rocking head member to the driving shaft and a rigid bridle member connected with the rocking head for actuating the latter by the hands of the operator.

7. In a mechanical animal, a frame mounted upon rollers including a traction roller, a driving shaft, means for transmitting motion from the driving shaft to the traction roller, and means for actuating the driving shaft including a vertically movable saddle and stirrups and a rocking head adapted to be actuated conjointly by the feet and the hands of the operator while seated upon the saddle.

8. In a mechanical animal, a track, a frame mounted upon rollers engaging said track, including a traction roller, a driving shaft, means for transmitting motion from the driving shaft to the traction roller, and means for actuating the driving shaft by the conjoint movement of the body, feet and hands of the operator, said means including a vertically movable saddle and stirrups, a rocking head, a rigid bridle member pivotally connected with the head at a distance from its pivotal point, and means for transmitting motion to the driving shaft from the saddle, the stirrups and the rocking head.

868,565. PIPE-LAYING MACHINE. CHARLES A. HUFFMASTER, San Leandro, Cal. Filed Sept. 15, 1904. Serial No. 224,552.



1. A pipe laying machine having in combination a suitable support, a carriage adapted to reciprocate thereon, a hollow, longitudinally-grooved screw rotatably mounted on the carriage, gripping elements carried by the front end of the screw, a drill rod supported concentrically within the screw, said elements adapted to grip said rod whereby the rod and screw are turnable in unison, and means to rotate the screw, said means including a rotatable member provided with a fixed key engaging the groove in the screw whereby the latter may have a free longitudinal movement relative to said rotatable member.

2. A pipe laying machine comprising in combination a suitable support, a carriage reciprocal on said support, a hollow screw rotatably mounted on said carriage, a drill rod supported concentrically within the screw, means on the latter to grip the drill rod, means to rotate the screw, said screw having a peripheral slot, a key carried by the rotative means engaging said slot and movable clamp members carried by the support engageable with the threads of the screw.

3. In a pipe laying machine, the combination of a suitable support, a carriage reciprocal thereon, a hollow, longitudinally-slidable, rotatively-mounted screw, a chuck concentric with the screw, said chuck having jaws slidably mounted in guides therein at right angles to the axis of the screw and adapted to engage the threads of the latter, and a gripping device fixed to the front end of the screw and having jaws to grip the drill rod.

4. In a pipe laying machine, the combination with a pipe to be laid of a hollow longitudinally grooved screw for advancing the pipe, guides arranged parallel with the screw and said screw slidably supported on said guides, a gripping device carried by the screw and operable to grip the pipe when the latter is inserted into the screw, a rotary drive member encircling the screw and having a key to engage the longitudinal groove in the screw, said drive member mounted on a support which is stationary with relation to the screw, means to revolve said drive member, and means engageable and disengageable with the threads on the screw to cause the screw to advance on the rotation of the drive member.

5. In a pipe laying machine, the combination with a pipe to be laid of a hollow longitudinally grooved screw for advancing the pipe, guides arranged parallel with the screw and said screw slidably supported on said guides, a gripping device carried by the screw and operable to grip the pipe when the latter is inserted into the screw, a rotary drive member encircling the screw and having a key to engage the longitudinal groove in the screw, said drive member mounted on a support which is stationary with relation to the screw, and sliding plates movable into and out of engagement with the threads on the screw to cause the latter to move lengthwise in unison with the rotative movement of said drive-member, or to permit said screw to be moved lengthwise independent of said drive-member.

868,566. FOOD-PRESERVATIVE COMPOUND. WILLOW W. HUGHES, Los Angeles, Cal. Filed May 21, 1907. Serial No. 374,882.

1. A food preservative compound comprising the phosphate of lime, iron, potash, soda and magnesia the chlorids of potash and soda, the sulfates of lime, soda and potash, fluorid of lime, and silica mixed together in the proportions found in animal tissues, with a base of sugar of milk.

2. A food preservative compound comprising the phosphates of lime, iron, potash, soda and magnesia, the chlorids of potash and soda, the sulfates of lime, soda and potash, fluorid of lime, and silica mixed in about the proportion specified.

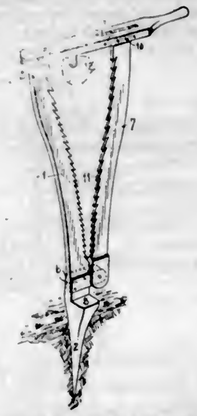
868,567. HOLDER FOR OVERSHOES. NIELS P. JENSEN, Ephraim, Utah. Filed May 5, 1906. Serial No. 315,384.



A holder for overshoes comprising a clasp member, a chain having one end permanently secured to said member, and a hook member embodying a strip of metal bent to form two oppositely disposed hooks, the tongue of one hook being relatively longer than the other, the base of the smaller hook being narrowed and adapted to receive the free end of the chain.

868,568. ANIMAL-TRAP. ISAAC W. JONES, Gap, Tex. Filed July 15, 1907. Serial No. 383,853.

1. In a trap of the character described, the combination with a side bar having a pin at one end and teeth on one edge, of a second side bar having teeth on one edge, pivoted to one end of said first mentioned side bar, and means for adjustably connecting the free end of said pivoted bar with the adjacent end of the other bar, substantially as described.



2. In a trap of the character described, the combination with a stationary side member having a plurality of downwardly inclined teeth of gradually diminishing length, of a second side member having teeth to correspond with said stationary side member, pivotally connected thereto, and means for adjustably connecting the free end of the pivoted member with the adjacent end of the stationary side member, substantially as described.

3. In a trap of the character described, the combination with a stationary side member having downwardly inclined teeth on one edge, of a horizontally disposed connecting bar pivotally connected to the outer end of the side member, said bar having a longitudinal slot near its free end, and a second side member having teeth to correspond with teeth of the stationary member pivotally connected thereto in position to have its free end received by the slot of the connecting bar, substantially as described.

4. A trap of the character described comprising two vertically disposed side members having downwardly inclined teeth on their inner edges, one of the members being pivotally connected to the other, and a connecting bar disposed at right angles to the plane of the side members for adjustably connecting the free end of the pivoted member to the other member, substantially as described.

868,569. ELASTIC-FLUID TURBINE. OSCAR JUNGGREN, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed May 26, 1904. Serial No. 209,887.

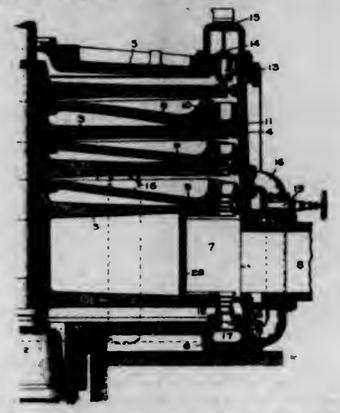
1. In an elastic-fluid turbine, the combination of a high-pressure wheel whose active bucket area is a fraction of the total, a wheel of lower pressure whose entire bucket area is substantially active, wheels of similar but lower pressure whose entire bucket areas are substantially active, means for conducting fluid to the several wheels, a casing for the wheels, and diaphragms dividing the casing into wheel compartments.

2. In an elastic-fluid turbine, the combination of a high-pressure wheel whose active bucket area is a fraction of the total, a wheel of lower pressure whose total bucket area is active, a pair of wheels of still lower pressure whose total bucket areas are active, stationary means arranged in multiple for supplying the pair of wheels of lowest pressure from the same source, and a casing that is common to the wheels.

3. In a multi-stage elastic-fluid turbine, the combination of a casing, a bucket wheel, a means for discharging fluid to a portion of the wheel, a number of additional bucket wheels, a diaphragm between the first and last mentioned wheels, and fluid-discharging devices which discharge fluid simultaneously and in multiple to substantially the entire area of the last-mentioned wheels.

4. In a multi-stage elastic-fluid turbine, the combination of a casing, a bucket wheel, a means for discharging fluid

to a portion of the wheel, a number of additional bucket wheels operating in separate compartments, and stationary fluid-discharging devices receiving fluid in multiple which are arranged in sets, each set surrounding a bucket wheel and discharging fluid against it.



5. In a multi-stage turbine, the combination of a number of wheels, each arranged in a separate stage or compartment, nozzles which discharge motive fluid to a portion only of one wheel and to the whole of another, an auxiliary wheel, and stationary nozzles which discharge fluid in multiple to the whole of said wheel.

6. In a multi-stage turbine, the combination of a number of wheels, nozzles which discharge fluid to a portion of the high-pressure wheel, stationary nozzles in the low-pressure stage, which discharge fluid so that it will act on all of the buckets of that stage, and an additional low-pressure wheel in multiple with the first, all of the buckets of which are acted upon by the motive fluid.

7. An elastic-fluid turbine comprising a bucket wheel, a casing, and a condenser chamber, in combination with a pair of bucket wheels located in said chamber and discharging into it, and stationary discharge devices delivering fluid to said wheels.

8. An elastic-fluid turbine comprising a bucket wheel, a casing, and a condenser chamber, in combination with a pair of bucket wheels located in said chamber and discharging toward each other, and fluid-discharging means located on opposite sides of the wheels for discharging fluid against the buckets.

9. An elastic-fluid turbine comprising bucket wheels, some of which are partially active and the remainder fully active, in combination with a condenser chamber located between adjacent wheels which are fully active, and means for conveying fluid discharged from a wheel around a given wheel and discharging it against another.

10. An elastic-fluid turbine comprising a casing, bucket wheels mounted therein, means discharging motive fluid against the buckets, diaphragms for dividing the casing into compartments, stage nozzles in said diaphragms, a conduit for carrying the motive fluid around a diaphragm, and a nozzle or nozzles which communicates with and receives motive fluid from the conduit and discharges against a wheel.

11. An elastic-fluid turbine comprising a casing, bucket wheels mounted therein, means for discharging motive fluid against the buckets, diaphragms for dividing the casing into compartments, stage nozzles in said diaphragms, a conduit for carrying the motive fluid around a diaphragm, a supply chamber into which the conduit discharges, and nozzle passages which receive their supply of motive fluid from the chamber and discharge it against a wheel.

12. An elastic-fluid turbine comprising a casing, diaphragms forming wheel compartments within the casing, and wheels located in the compartments, in combination with a condenser chamber, wheels within the chamber, one located at one end, the other at the opposite end, and nozzles which surround the wheels and discharge fluid against the buckets.

13. An elastic-fluid turbine comprising a casing having a side wall and heads for closing the ends thereof, in combination with diaphragms dividing the casing into compartments located between them, wheels for the compartments, a wheel situated beyond the diaphragm adjacent to the exhaust, a wheel situated adjacent to the low-pressure head, and a means supported by said head for discharging fluid against the last-mentioned wheel.

14. An elastic-fluid turbine comprising a casing which is divided into wheel compartments by diaphragms, and wheels in the compartments, in combination with nozzles in said diaphragms, a conduit which conveys fluid around a diaphragm to supply a bucket wheel of lower pressure, and a valve in said conduit.

15. In an elastic-fluid turbine of the jet or impact type, the combination of a low-pressure stage containing two or more wheels whose entire bucket area is active, a preceding stage of higher pressure containing a single wheel whose entire bucket area is also active, a stage of still higher pressure containing a wheel whose bucket area is only partially active, nozzles for supplying motive fluid to the turbine, and other nozzles which are stationary for conveying fluid from one stage to the next, and whose discharge orifices gradually increase in area from the high- to the low-pressure stage.

16. In an elastic-fluid turbine, the combination of a casing, a diaphragm or wall for dividing the casing into stages or wheel compartments, a number of chambers delivering fluid to the same wheel, and conduits for supplying the chambers from a stage or compartment of higher pressure.

17. In an elastic-fluid turbine, the combination of a casing, a diaphragm or wall for dividing the casing into stages or wheel compartments, a number of chambers delivering fluid to the same wheel, conduits for supplying the chambers from a stage or compartment of higher pressure, and successively operating valves controlling the passage of fluid through the conduits.

18. In an elastic-fluid turbine, the combination of a casing, a diaphragm or wall for dividing the casing into stages or wheel compartments, a number of chambers of different capacity receiving fluid from a common source and discharging it against the same wheel, and means located between said source and the chambers for controlling the passage of fluid.

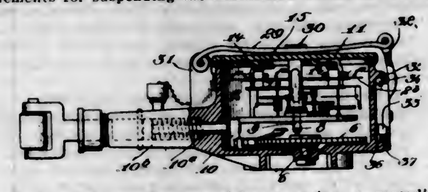
19. In an elastic-fluid turbine, the combination of bucket-carrying elements, nozzles or devices for discharging fluid against them in such manner that one side of each element is hotter than the other, and a cylindrical wall located near the buckets for connecting the elements so that their tendency to distortion is neutralized.

20. In an elastic-fluid turbine, the combination of a bucket wheel of large diameter, an inclosing casing, a second wheel also of large diameter and located within the casing, a cylindrical wall located between the wheels and at a point near their peripheries, and nozzles for discharging fluid to the opposite sides respectively of said bucket wheels.

21. In a multi-stage turbine, the combination of a casing, diaphragms dividing the casing into compartments, internal shoulders to support the diaphragms, high-pressure wheels, nozzles which discharge motive fluid to a portion of each of said wheels, the latter being arranged to receive motive fluid in series, low-pressure wheels arranged to receive motive fluid from the high-pressure wheels, all of the buckets of which are active, and stationary nozzles arranged to direct the motive fluid against the buckets of the low-pressure wheels.

868,570. SPEED-RECORDER. CASCIOUS H. D'LA MONTE, Philadelphia, Pa., assignor, by mesne assignments, to International Speed Register Co., Philadelphia, Pa., a Corporation of New York. Filed Nov. 22, 1906. Serial No. 344,628.

1. A speed recorder comprising a casing, a cover therefor, a recording mechanism, a plurality of cushioned elements connected to said mechanism and each having an angular portion at one end, and means carried by the cover and detachably engaging the angular ends of said elements for suspending the mechanism within the casing.



2. A speed recorder comprising a casing, a recording mechanism, a plurality of hanger arms connected to said recording mechanism and each provided with a resilient strip adapted to engage the inner face of the casing and further provided with an offset portion terminating in an angular end, a cover for the casing, and means carried by the cover and engaging the angular end of said arms for suspending the recording mechanism within the casing.

3. In a speed recorder for vehicles, the combination of a recording mechanism, of means for preventing the transmission of vibrations caused by the vehicle to said mechanism, said means comprising a plurality of hanger arms resiliently connected at the lower end to said mechanism.

4. In a speed recorder for vehicles, the combination of a recording mechanism, of means for preventing the transmission of vibrations caused by the vehicle to said mechanism, said means comprising a plurality of hanger arms each resiliently connected at the lower end to said mechanism and having an angular upper end combined with a casing for said mechanism and to the cover of which the upper end of said arms are adapted to be detachably connected.

5. In a speed recorder for vehicles, the combination of a recording mechanism, of means for preventing the transmission of vibrations caused by the vehicle to said mechanism, said means comprising a plurality of hanger arms resiliently connected at the lower end to said mechanism and carrying resilient strips which project laterally from the outer side of the arms.

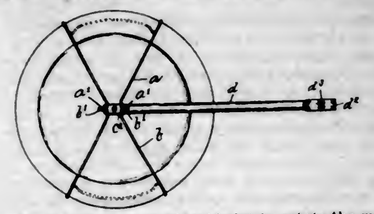
6. In a speed recorder for vehicles, the combination of a recording mechanism, means for preventing the transmission of vibrations caused by the vehicle to said mechanism, said means comprising a plurality of hanger arms resiliently connected at one end to said mechanism and carrying resilient strips which project laterally from one side of the arms, combined with a casing for said mechanism and with which the said strips engage and with which the said arms are adapted to detachably engage.

7. A speed recorder comprising a casing, a cover therefor, means for clamping the cover in position, a recording mechanism, studs connected thereto, resilient washers surrounding the studs, hanger arms having one end surrounding the washers, resilient washers mounted against the two faces of said end, laterally projecting resilient strips carried by said arms, coupling members carried by the cover and engaging the other end of said arms for suspending the recording mechanism within the casing, and holdfast devices engaging the studs.

8. A speed recorder comprising a casing, a cover therefor, a recording mechanism, studs connected thereto, resilient washers surrounding the studs, hanger arms having one end surrounding the washers, resilient washers mounted against the two faces of said end, laterally projecting resilient strips carried by said arms, coupling members carried by the cover and engaging the other end of said arms for suspending the recording mechanism within the casing, and holdfast devices engaging the studs.

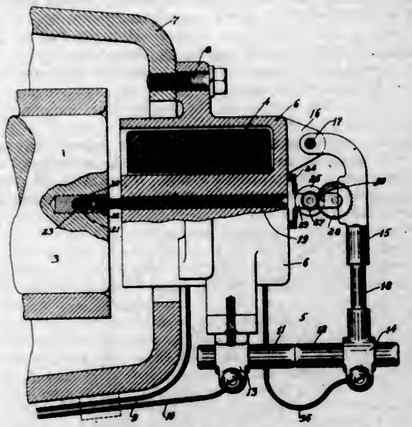
868,571. COMBINED PIE TURNER AND LIFTER. WARREN E. LOCKE, Somerville, Mass., assignor to Ida M. Moulton, Somerville, Mass. Filed Dec. 7, 1905. Serial No. 290,687.

A pie turner and carrier consisting of a manually compressible hand-piece composed of a pair of spring arms adapted to be grasped by the hand and compressed, a rotatable member connected at its upper end by a pivot pin to the uppermost arm, having a spiral portion which passes through a slot in the lowermost arm, which is



adapted to be driven through said slot to rotate the member by compressing the hand piece and a pair of pie-engaging hooks pivotally connected to the lower end of said member, substantially as described.

868,572. SHAFT-OSCILLATOR. CHARLES E. LORD, Norwood, Ohio, assignor to The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed Jan. 25, 1905, Serial No. 242,698. Renewed Dec. 17, 1906. Serial No. 348,253.



1. The combination of a shaft, a magnetically actuated shaft oscillator, means operated by said shaft for energizing and deënergizing said oscillator, and means for adjusting said means to vary the period of oscillation of said shaft.

2. The combination of a shaft, a coil in inductive relation to the end of said shaft, a source of electric energy, means for intermittently connecting said coil to said source of energy, and adjustable means driven by said shaft for operating said connecting means at any desired rate without changing the speed of rotation of the shaft.

3. The combination of a shaft, a coil in inductive relation to the end of said shaft, a switch in circuit with said coil, means driven from said shaft for intermittently operating said switch to open the circuit through said coil, and means for varying the time interval between the successive openings of said switch without changing the speed of rotation of the shaft.

4. The combination of a shaft, a coil in inductive relation to the end of said shaft, a switch in circuit with said coil, a plate connected to said shaft and rotating therewith, a disk having its periphery engaging said plate, means controlled by the rotary movement of said disk for intermittently operating said switch to open the circuit through said coil, and means for adjusting the position of said disk upon said plate to vary the time interval between the successive openings of said switch.

5. The combination of a shaft, a coil in inductive relation to the shaft, a switch in circuit with said coil, and means comprising a rotary disk driven by said shaft for opening said switch, the position of said disk being adjustable.

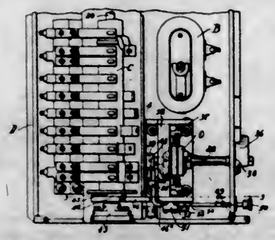
6. The combination of a shaft, a coil in inductive relation to the end of the shaft, a switch in circuit with said coil, means comprising a pair of rotary members driven by said shaft for operating the switch at intervals, the position of one of said members being adjustable laterally of the axis of the shaft.

7. The combination of a shaft, a coil in inductive relation to the end of the shaft, a switch in circuit with said coil, a rotary disk driven by said shaft, a rotary member driven by said disk, said rotary member having means for opening said switch, and means for altering the speed of said rotary member without altering the speed of the shaft.

8. The combination of a shaft having a recess in the end thereof, a coil inductively related to the end of the shaft, a switch in circuit with said coil, a spindle having one end located in the recess and rotating with the shaft, a resilient member in the recess between the spindle and shaft, and means operated by said spindle for opening said switch at intervals.

9. The combination of a rotary shaft capable of an axial movement, a spindle rotating with the shaft and arranged in line with the axis of the shaft, a spring between the spindle and shaft, a disk on the outer free end of the spindle, a coil inductively related with the end of the shaft, a make-and-break device in circuit with the coil, and means driven by the disk for operating the make-and-break device at intervals.

868,573. CONTROLLER. CHARLES E. LORD, Norwood, Ohio, assignor to The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed Aug. 30, 1905, Serial No. 276,347. Renewed May 20, 1907. Serial No. 374,724.



1. In combination, a switch for regulating two or more electric motors in series and then changing them to parallel relationship, means for controlling said regulating switch, a switch for cutting out each of the motors, means for controlling the cut-out switch, interlocking mechanism between the cut-out switch and the regulating switch, and independent controlling means for said interlocking mechanism.

2. In combination, a switch for connecting two motors either in series or in parallel, a cut-out switch for cutting out one motor and for connecting one terminal of the other motor to the opposite line, a stop for the series-parallel switch, and means independent of the cut-out switch for controlling the operation of said stop.

3. In combination, a controller casing containing a series-parallel switch, a cut-out switch, and a stop for the series-parallel switch, and independent controlling means accessible from the exterior of said casing for the cut-out switch and the stop respectively.

4. In combination, a main switch for regulating two electric motors in series and then changing them to parallel, a cut-out switch for cutting out either of the two motors, a stop for arresting the main switch in a predetermined position, and independent means for controlling said stop.

5. In combination, a main switch for regulating two electric motors in series and then changing them to parallel, a cut-out switch for cutting out either of the two motors, a stop for arresting the main switch in a predetermined position, means independent of the cut-out switch for controlling said stop, and means connected with the stop controlling means for locking the cut-out switch against movement when the stop is in an inoperative position.

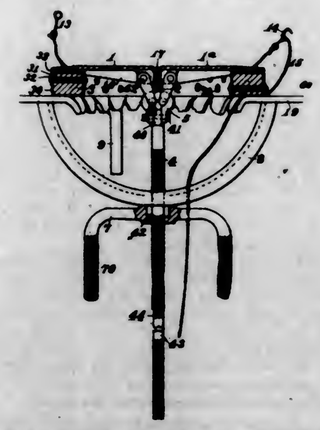
6. In combination, a main switch for regulating two electric motors by means of a resistance and then changing them from series to parallel, a cut-out switch for cutting out either of the two motors, a stop limiting the movement of the main switch to those points at which the regulation by means of the resistance is effected, and independent means for controlling the operation of said stop.

7. In combination, a main switch for regulating two or more electric motors in series and then changing them to parallel, means for cutting out either of the motors, a stop for arresting the main switch in a predetermined position when the cut-out means is in a position to cut out one of the motors, independent means for controlling the operation of the stop, and means carried by the stop controlling means for preventing a movement of said cut-out means from its inoperative position until the stop has been moved into its operative position.

8. In combination, a pair of motors, a main switch for regulating said motors in series and then changing them to parallel, a cut-out switch for cutting out either of said motors, a stop for arresting the main switch in a predetermined position, means independent of the cut-out switch for operating said stop, and an interlock between the cut-out switch and said stop which renders it necessary for the stop to be thrown into its operative position before the cut-out switch can be moved to cut out a motor.

9. In combination, a main switch for regulating two or more electric motors, means for cutting out either of the motors, a stop for arresting the main switch in a predetermined position when the cut-out means is in a position to cut out one of the motors, independent means for operating the stop, and means for locking the stop operating means in position when the cut-out means is in a position to cut out a motor.

868,574. LEAK-STOPPER. FRANK MAIHAMA, U. S. Navy. Filed Sept. 4, 1906. Serial No. 333,255.



1. A leak-stopper comprising two semi-circular plates of rigid material and a packing ring in halves secured to the inner surfaces of said plates, the hinge for said plates being located in a plane approximating that of the inner surface of said packing ring, a securing bolt having a compound hinged connection with said plates permitting the plates to hinge together and the bolt to swing between the plates, a bridging yoke and means for engaging said bolt and yoke.

2. A leak-stopper comprising a disk composed of two parts hinged together, a packing ring similarly divided into two parts and secured to the inner surface of said disk, a rod carried by each plate disposed substantially parallel with the hinge and within the end of the packing ring carried by its plate and adapted when the plates are opened to tightly engage the end of that part of the packing ring carried by the other plate, and means for securing said plate in position over the hole.

3. A leak-stopper comprising a disk composed of two plates having their connected edges flanged inward and hinged, a packing ring upon the inner surfaces of said plates, a packing strip between the hinge flanges, a securing bolt hingedly connected with said plates and adapted to fold down parallel with the plate hinge, and a bridging yoke adapted to be engaged by said bolt.

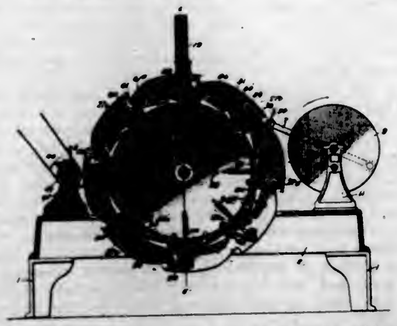
4. A leak-stopper comprising two plates flanged on their meeting edges and hinged by said flanges, a packing strip between said flanges, a packing ring divided into two parts and secured to the inner faces of said plates about their edges, means for forcing the abutting ends of said packing rings together when the plates are opened out, a releasable catch for holding said plates folded for passing through the hole, and means for securing said plates against the outer surface of the ship from within.

5. A leak-stopper comprising two plates inwardly flanged on their meeting edges and hinged together by said flanges, a packing ring secured to the inner surface of said plates, a securing bolt hinged to said plates, and a bridging yoke adapted to be engaged by said bolt.

6. A leak-stopper comprising two plates inwardly flanged on their meeting edges, and hinged together by said flanges, a packing ring in two semi-circular halves secured to the inner surface of the plates, means carried by one said plate adapted to engage the opposed end of the packing ring upon the other plate to secure a tight joint when the device is opened out, a securing bolt pivoted to both plates to fold down towards their pivot, and a yoke adapted to be engaged by said bolt.

7. A leak-stopper comprising two hinged plates adapted to be folded together for passage through the hole, a stirrup hinged to each of said plates, a clevis connected with each stirrup, a securing bolt pivoted to said clevis, and a bridge bar or yoke adapted to be engaged by said bolt.

868,575. INSULATOR-PIN-MAKING MACHINE. CHARLES M. MALLORY and JAMES M. SLAUGHTER, Chattanooga, Tenn., assignors of one-half to The Nixon Mining Drill Company Inc., Chattanooga, Tenn. Filed Apr. 30, 1906. Serial No. 314,585.



1. In an automatic turning machine, the combination with a rotary carrier, a series of rotary spindle heads for holding the pin blanks mounted thereon, a shaping means and devices for feeding the pin blanks in position to be engaged by the spindle heads; of a drive shaft, means actuated by the drive shaft for imparting a step by step movement to the carrier, a train of gears constantly driven by the drive shaft and including a shiftable gear member actuated by the drive shaft at predetermined times for engaging with and transmitting rotary motion to the spindle heads.

2. In a machine for the purposes stated, the combination with a means for externally shaping the pin blanks; of a rotary carrier, a series of opposing chuck heads, one of its sets having a turning gear, a magazine whose discharging end is in the path of the movement of said chuck heads and has its opposite ends facing said heads, open to expose the ends of the pin blanks, automatic means for causing the chucks to grip the pin blanks as they register with the open portions of the magazine, a drive shaft, a train of gears continuously actuated from the drive shaft and including a member, shiftable at predetermined times by the drive shaft whereby to engage with the turning gears on the chuck heads as the said chuck heads oppose the shaping devices.

3. In a machine of the character described, the following elements in combination; a rotary carrier, a plurality of equi-distantly spaced pin blank gripping devices mounted thereon, a thread cutting mechanism for each set of gripping devices, also mounted on the carrier, and a single actuating means for successively shifting all of the thread cutting mechanisms laterally during the operation of cutting the threads in the shaped pins, and means for throwing the several thread cutting mechanisms out of operation when they complete the cutting of the threads in the pins, as set forth.

4. In an insulator pin making machine, in combination with a rotary carrier, a series of opposing gripping spindles mounted thereon, one of each set of opposing spindles having longitudinal movement, an automatically actuating hammer device for coöperating with the longitudinally movable spindles, and means on the carrier for actuating the hammer intermittently for the purposes described.

5. An insulator pin making machine, which comprises in combination with a suitable supporting frame, and cutter devices for externally shaping the pin blanks; of a rotary carrier, means for holding the blanks in bulk, independent of the carrier, a series of sets of coöperating devices mounted on the carrier, embodying automatic means for successively taking up the blanks singly, and conveying them to the shaping cutter devices, a thread cutting means, another means for discharging the finished pin, and a mechanism common to all of the gear cutting mechanism for moving the same laterally as they make the thread, and means for successively tripping the thread cutters and throwing them out of gear, as set forth.

6. In a machine for the purpose stated, the combination with a frame, a rotary carrier mounted thereon, a series of pin gripping means mounted on the carriage, a means for feeding the pin blanks to the gripping means, a thread cutting mechanism coöperating with each gripping means, and a single mechanism for engaging with all the thread cutting mechanisms, and including devices for successively causing the thread cutting mechanisms to traverse the shaped pins to cut the thread thereon, means for rotating the shaped heads and another means for throwing the thread cutting mechanism into engagement with the said shaped pins when rotated.

7. In a machine as described, a carrier, a plurality of chucks or gripper spindles carried thereby, means for imparting intermittent rotary motion to the carrier, a plurality of thread cutting devices, one for each set of chucks or spindles, mounted on the carrier, means for automatically feeding the pin blanks to the chucks, a shaping cutter to which the blanks are first fed, drive mechanism for imparting rotary motion to the chucks when the pin blank engages the shaping cutter, a single mechanism common to all the thread cutters, adapted to successively throw the said thread cutters into and out of operative contact with the pin blank after they are shaped and a means for imparting rotary motion to the chucks as the shaped pins are being engaged by the thread cutting devices, as set forth.

8. In a machine of the character described, the combination with a rotary carrier, a series of chucks or spindle

heads and a similar series of thread cutting tools mounted on the said carrier, and a sticker head for externally shaping the pin blanks, of a gear mechanism for imparting an intermittent rotary motion to the carrier, said mechanism including a supplemental gear adapted to engage with and transmit rotary motion to the chucks when they bring the blanks into engagement with the sticker head, another gear mechanism arranged to be engaged by and transmit rotary motion to the chucks and the shaped pins, and a means cooperating with the several thread cutting devices, for moving them into engagement with the rotating pins and for effecting the traversing or lateral adjustment of the thread cutter, as set forth.

9. In a pin making machine of the character described, the combination with the fixedly held sticker head mechanism; of the rotary carrier, a series of chucks or spindles for taking up the pin blanks and mounted thereon, a series of thread cutting means mounted on the carrier, one for each set of chucks and coöperating with the chucks, each set of chucks having combined therewith a pair of drive gears 70 and 75, a train of gearing operated from the drive shaft, with which the drive gears 70 of the chuck engage as they convey the pin blank in position to be engaged by the sticker mechanism, and the fixedly held segmental rack 55, arranged to be engaged by the gears 75 on the chuck devices after the pin blank has been shaped and the thread cutter mechanism is thrown into operation and automatic means for actuating the thread cutting mechanisms at predetermined times, as set forth.

10. In a machine of the character described, the combination with the sticker head mechanism, the intermittently movable rotary carrier, means for endwise gripping the pin blanks mounted on the carrier, automatic means for rotating the gripping devices when engaged by the sticker mechanism, a thread cutter adapted to engage the externally formed pins, means for rotating the externally formed pins when engaged by the thread cutters, and another means for shifting said thread cutter laterally in the longitudinal direction of the pin, the said last named means including the stationary disk 5 having the cam way 5^a and the studs on the shiftable cutter heads that engage the said cam way, substantially as shown and described.

11. In a machine of the character described, in combination with the magazine and the sticker head or rotary cutter mechanism; of a carrier comprising two opposing members movable together, a series of rotary spindle heads heads mounted in one disk member, a series of opposing longitudinally movable spindle heads in the other carrier member, the opposing faces of said spindle heads having spurs, and automatic means for forcing the slidable spindle heads inward against the lowermost one of the pin blanks in the magazine when the said spindle heads are moved into register therewith, said means comprising a pivoted and weighted hammer and devices on the carrier for tripping the hammer at predetermined times.

12. In a machine of the character stated, the combination with the magazine open at the bottom for the withdrawal of the lowermost pin blank, a rotary carrier comprising two joined disk members, a series of rotary spindle heads mounted in one disk member, a series of opposing longitudinally movable spindle heads mounted in the other disk member, said spindle heads having spur ends, automatic impacting devices actuated by the moving of the carrier for hammering the slidable spindle heads against the pin blanks whereby to lock said blanks between the opposing spindle heads, automatic mechanism for imparting movement to the rotary spindle heads and the blanks at predetermined times, and trip mechanism for withdrawing the endwise movable spindle head from the blanks when finished up into a pin shape.

13. In a machine of the character described, in combination with a supporting frame, a drive shaft mounted on one end thereof and a sticker head mechanism mounted on the other end thereof, and a magazine for the pin blanks located transversely over the frame midway its ends; of a rotary carrier journaled on the frame under the magazine consisting of a pair of separated disks movable together and having a series of registering equidistantly spaced peripheral notches, a series of automatic means, one for each notch in the carrier, for gripping the pin blanks from the magazine as they pass thereunder, a single gear mechanism actuated from the drive shaft at predetermined times and for intermittently engaging with pin blank gripping means and rotating said means with the gripped blanks as the rotary carrier is stationary, and then moving the rotator forward one step, as set forth.

14. In a machine as described, a rotary carrier, means for imparting a step by step movement thereto, pin blank holders mounted on the carrier, a thread cutting means for each set of pin holders, also mounted on the carrier, automatic means for setting the thread cutter in engagement with the pin and holding it to such engagement during the step by step movement of the rotary carrier, a single automatic means for imparting lateral movement to the thread cutter means, successively and another automatic means for rotating the pin as it is being engaged by the thread cutter, as set forth.

15. In combination with the sticker head mechanism, the drive shaft, a train of gearing continuously actuated by the drive shaft, the rotary carrier and means for imparting an intermittent step by step movement to the carrier; of a series of circumferentially arranged rotary spindle heads mounted on the carrier, each having a gear, and a shiftable gear actuated from the drive shaft, always in mesh with the aforesaid train of gears and adapted to be moved in mesh with the gear on the rotary spindle when it comes in line with the sticker head mechanism.

16. In a machine of the character described, the combination with the supporting frame, the sticker head mechanism at one end thereof, the drive shaft at the other end, a train of gearing constantly driven by the drive shaft and a fixedly held segmental gear on the frame; of the rotary carrier, a series of rotary spindle heads for holding the pin blanks, said spindle heads having a pair of gears on one end, a shiftable gear always in mesh with the train of gears actuated from the drive shaft to move into engagement with one of the gears in the rotary spindle head when said head opposes the sticker head mechanism and to become disengaged therefrom when the rotary carrier moves forward, the other gear on the spindle head being arranged to engage the segmental gear, and a thread cutting mechanism in the rotary carrier that automatically engages and cuts the threads in the pin during its rotation through the medium of the segmental gear.

17. In a machine of the character described, the combination with a rotary carrier, spindle heads on said carrier for gripping the pin blanks and means for rotating pin blanks at predetermined times; of a thread cutting mechanism mounted upon and movable with the carrier comprising a cutting tool, automatic means for setting such tool and holding it in contact with the pin blank as it is rotated, an endwise movable supporting shaft for the cutting tool head, said head having a pendent member, a stationary cam mounted on the rotary carrier shaft that engages the pendent member on the cutter head and moves the said head laterally with the shaft, and automatic means for throwing the thread cutter out of gear at predetermined times.

18. The combination with the turning spindle or head and the rotary carrier on which the said head is mounted; of a thread cutting means mounted on the carrier and carried therewith that coacts with the turning or spindle head, comprising an endwise movable transverse shaft, a head block rockably movable on said shaft, said head block having a rearwardly extended bifurcated portion and a forwardly projected cutting tool, and having a pendent lug, a stationary cam engaging said lug whereby to shift the shaft and the head laterally, a crank shaft whose crank portion is movable in the bifurcated extension of the head block, and trip devices for automatically shifting the rock shaft at predetermined times for the purposes described.

19. A machine for shaping insulator pins comprising means for cutting the external shape, a feed device for conveying the pin blanks to the said cutting means, automatic mechanism that cuts the threads in the externally shaped pins, and mechanism that discharges the finished pins, said mechanism comprising the curved guard 30 and the throw off spring member 31 secured on the lower end of the guard 30 the several operations being controlled from a continuously moving drive shaft, as set forth.

20. In combination with a sticker head or pin shaping means; a rotary carrier having a plurality of equi-distantly spaced pin blank gripping devices, a thread cutting mechanism for each gripping device mounted on the rotary carrier, a single means common to all of the thread cutting mechanisms for shifting the said mechanism laterally during the operation of cutting the threads on the shanks of the shaped pins and means for tripping the thread cutters to throw them out of operative position at the end of their cutting operation, as set forh.

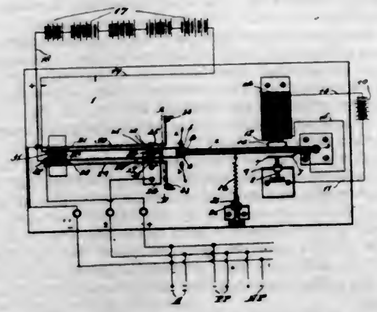
21. In combination with a pin shaping mechanism; a rotary carrier, a plurality of spaced pin blank gripping devices and a thread cutting means for each gripping device mounted on the carrier, a means exterior of the carrier for throwing the thread cutting mechanisms into engagement with the shaped pins, another means for imparting a rotary movement to the pins while being engaged by the thread cutting devices, a single means common to all the thread cutting mechanisms for shifting the said mechanism laterally during the operation of cutting the threads, as set forth.

22. In a machine of the character described, in combination with a rotary carrier, a series of pairs of opposing chucks or grippers, one of each set being held for longitudinal movement; of an automatically actuated hammer device for engaging the movable chuck member and means on the rotary carrier for tripping said hammer devices at predetermined times, as set forth.

23. In an insulator pin making machine of the character described, the combination with the rotary carrier, the endwise movable spindle heads mounted thereon; of automatic means for locking them to the innermost shifted position, said means comprising the wedge member 27 movable through a slot in the spindle, the spring for pulling the wedge member into engagement with a beveled edge in the spindle slot, and a cam device for lifting said member 27, as set forth.

24. The combination with the rotary carrier and the spindle 25 endwise movable therein, said spindle having an elongated slot s formed with a beveled edge s'; of the latch member 27 having a beveled head 27^b movable in the slot s and held for engaging a beveled edge s' in said slot, a fixedly held guide 28 for shifting the latch to release the spindle at predetermined times, and automatic means for shifting the spindles back when the latch is moved to a released position, as set forth.

868,576. POLE-CHANGER. EWING MCLEAN, Greencastle, Ind. Filed Mar. 14, 1906. Serial No. 306,076.

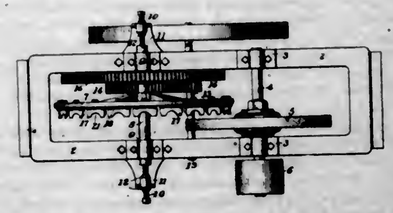


1. In a pole changer for transferring direct constant currents into alternating and pulsating currents of positive and negative polarity, the combination with a source of direct electric current, a pair of horizontally extending retractive spring arms, a retractive arm supporting post whereto one end of each of said spring arms is fixedly secured, and a contact post situated between the free ends of said retractive spring arms to be in contact with each of said retractive spring arms alternately to relieve alternate positive and negative currents of electricity, of a horizontally extending vibratory arm having a vibrating end of an insulating material, said arm oppositely disposed relatively to said retractive arms and having its insulated vibrating end situated between the vibrating ends of said retractive spring arms, opposing contact points on each side of said post and on said retractive arms and independently electrically operated means for vibrating said vibratory arm.

2. In a pole changer for transferring direct constant currents of electricity into alternating and pulsating currents of positive and negative quality, the combination with a regular source of direct electric current, a pair of intermediate resilient retractive longitudinally extending spring arms, a pair of outer resilient retractive spring arms situated in parallel relation to said intermediate retractive spring arms, a supporting post whereto said retractive spring arms are fixedly secured, each at one of its ends, and suitable insulating liners situated between each of said retractive spring arms and said post whereby each of said arms and said post are insulated, of a contact post situated between the free ends of said intermediate retractive spring arms in position to be in contact with each of said intermediate retractive spring arms alternately to receive alternate positive and negative currents, means for connecting said retractive spring arms to the poles of the source of electricity and means for connecting said outer retractive spring arms with the service lines.

3. In a pole changer for transferring direct constant currents into alternating and pulsating currents of positive and negative quality, the combination with a source of direct electric current, a pair of intermediate resilient retractive horizontally extending spring arms, a pair of outer resilient retractive spring arms situated in parallel relation to said intermediate retractive spring arms, outwardly extending stop arms or bends on the vibrating ends of said outer retractive spring arms and outer retractive spring arm stops, a supporting post whereto said retractive spring arms are secured, each at one of its ends, and suitable insulating liners situated between each of said retractive spring arms and said supporting post, of a contact post situated between said intermediate retractive spring arms in position to be in contact with each of said intermediate retractive spring arms alternately to receive alternate positive and negative currents, means for connecting said retractive spring arms to the poles of the source of electricity and means for connecting said outer retractive spring arms with the service lines.

868,577. MACHINE FOR GRINDING AND FINISHING TILES AND OTHER ARTICLES. WILLIAM T. NICHOLLS, Wellsburg, W. Va., assignor to The Monarch Tile Company, Weston, W. Va., a Corporation of West Virginia. Filed Oct. 20, 1905. Serial No. 283,620.



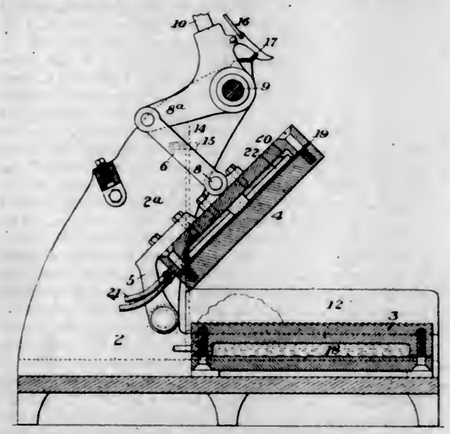
1. In a grinding machine for the purpose described, the combination with a grinding wheel or disk, of a relatively slow-moving carrier having upon one face a plurality of spring clips or holders secured thereto and composed of resilient clamping members, having an edge stop for the articles held therein; substantially as described.

2. In a grinding machine for the purpose described, a

carrier having a spring clip or holder secured thereto and consisting of two oppositely arranged spring clamping pieces or plates, and an edge stop projecting between the said members; substantially as described.

3. In a grinding machine, a rotary carrier for the articles to be ground, having a plurality of clips or holders secured thereto in two concentric circles, said clips or holders having each a resilient member and an edge stop; substantially as described.

868,578. METHOD AND APPARATUS FOR MAKING GLASS SHEETS. WILLIAM T. NICHOLLS, Wellsburg, W. Va., assignor to The Monarch Tile Company, Weston, W. Va., a Corporation of West Virginia. Filed Oct. 13, 1906. Serial No. 338,737.



1. In the manufacture of glass sheets having undercut projections, the method which consists in placing a batch of molten glass upon a forming surface having transverse undercuts opening toward one end, applying from said end an oblique flushing pressure and gradually changing the direction of pressure to more nearly a perpendicular, to force the glass downwardly and forwardly into the undercut recesses; substantially as described.

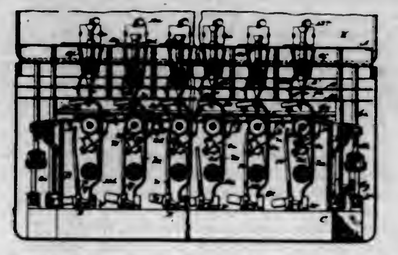
2. In the manufacture of glass sheets having undercut projections or recesses, the method which consists in placing a batch of molten glass between forming surfaces extending at an angle to each other and moving at least one of said surfaces toward the other while changing its angle to more nearly a parallel position therewith, and forcing the glass forwardly and downwardly into undercut projections or recesses opening toward the direction of movement; substantially as described.

3. In the manufacture of glass sheets, the method which consists in placing a batch of molten glass upon a forming surface having transverse undercut recesses, applying an oblique flushing pressure thereto from one end, and gradually changing the direction of the pressure toward a perpendicular to the forming surface; substantially as described.

4. Apparatus for the manufacture of glass sheets or tiles having undercut projections, comprising a relatively stationary forming surface or table having undercut recesses extending transversely of the table and opening toward one end of the table, and a flushing platen pivotally mounted at the end of the table toward which the recesses open, and arranged to swing back and forth longitudinally of the table; substantially as described.

5. In apparatus for the manufacture of glass sheets, a pivoted platen having a water chamber therein, and circulating pipes communicating with said chamber, one of said pipes extending to a point in said chamber near the end opposite the pivoted end; substantially as described.

868,579. VOTING-MACHINE. WILLIAM B. NORTON, Detroit, Mich., assignor, by mesne assignments, to U. S. Standard Voting Machine Co., Rochester, N. Y., a Corporation of New York. Filed Feb. 27, 1907. Serial No. 625,335.



1. In a voting machine the combination of a case having a lid, a key board provided with a plurality of keys, each of which is adapted to be moved from its normal position and set in an abnormal position, a plurality of recording ribbons held in a frame which is adapted to be actuated toward and away from the keys by the lid in opening and closing, substantially as described.

2. In a voting machine the combination of a case having a lid, a key board provided with a plurality of keys each of which is adapted to be moved from its normal position and set in an abnormal position, means for releasing any single key from its abnormal position, a plurality of recording ribbons held in a frame which is adapted to be actuated by the lid in opening and closing, and which upon the closing of the lid are brought into recording contact with the keys, substantially as described.

3. In a voting machine the combination of a plurality of keys, means adapted to set each key independently out of its normal position, a plurality of registering ribbons, one for each key, a frame supporting the keys and a frame supporting the ribbons, means adapted to actuate one of said frames with respect to the other and thereby produce a simultaneous registration from each abnormally set key on the ribbon pertaining to it, substantially as described.

4. In a voting machine the combination of a plurality of keys arranged in rows, one way to indicate a party and in rows another way to indicate individual candidates for an office, any one of said keys being adapted to be moved from its normal position and latched in an abnormal position, means whereby only one key of a row can be latched in said abnormal position at a time, and means for releasing the key without its registering or disturbing other keys, substantially as described.

5. In a voting machine the combination of a plurality of keys arranged in rows both ways, and a frame-work adapted to hold and guide them, means adapted to catch and hold any one of said keys in an abnormal position, releasing links one for each cross row adapted to release any key so caught and held, a vibrating rod free from but adapted to engage all the releasing links, means for actuating the vibrating rod whereby all keys of the machine may be released simultaneously, substantially as described.

6. In a voting machine, the combination of a plurality of keys, a guide plate having holes through which the key stems project, a sliding stop plate also provided with holes through which the key stems always project, conical collars on the key stems whereby any key stem which pushes into the hole is adapted to shift the sliding stop plate, and narrow all the passages for keys except the one through which the actuating stem projects, a catch for each key, and means for releasing the catch, substantially as described.

7. In a voting machine the combination of a plurality of keys arranged in a row, a guide plate having holes through which the key stems project, a stop plate having holes through which the key stems project, the sliding stop plate being spaced from center to center of said holes different from the spaces from center to center of the holes in the guide plate, the stems of the keys being each provided with a conical collar, whereby as a key is pushed longitudinally through the holes, the stop plate is shifted and the holes through which other key stems project are so narrowed that a second key cannot be actuated and set until the first has been released, substantially as described.

8. As a means for actuating the register ribbon of a voting machine, a key employed to indicate a candidate, and adapted to be set in a position other than normal, storage and receiving spools and an intermediate ribbon actuating drum provided with a ratchet, a pawl adapted to actuate the ratchet, a rod adapted to engage the pawl and the key when the latter is in its abnormal position, and means adapted to cause an actuating movement of the rod on the pawl, substantially as described.

9. As a means for the quick and easy removal and replacement of the ribbon spools of a voting machine, the combination with an arbor having a bayonet catch notch at its end and with pins 16^e adapted to engage the spacing sleeves, the split spacing sleeves 16^a, and the end sleeve 16^f, provided with a collar and with a catch 16^g, substantially as described.

10. In a voting machine the combination with a feeding drum mounted in a reciprocating frame, and a key adapted to be set to contact a movable part carried by said reciprocating frame, a pawl adapted to actuate the drum, a lever adapted to actuate through the medium of an interposed spring the said pawl and itself adapted to be actuated by the motion of the reciprocating frame and the set key, substantially as described.

11. In a voting machine in combination with the case means for holding, actuating and making record upon a record ribbon, a cutting means and a lever extending through the case whereby the cutter can be actuated from without the machine, substantially as described.

12. In a voting machine in combination with means for holding, actuating and making record upon a record ribbon, a cutting means, a lever for actuating the same provided with a hasp and a plurality of catches adapted to engage with a plurality of locks, substantially as described.

13. In combination with the casing ribbon carrying and actuating means of a voting machine, a means for severing the ribbons at a definite predetermined distance from the last register mark on the ribbon and a lever extending through the casing for actuating the severing means, substantially as described.

14. In a voting machine the combination of a case having a lid, a vote recording mechanism contained in said case, an alarm bell and means whereby the alarm bell is sounded with two alarms, distinguishable the one from the other, means for producing one alarm at the opening and the other at the closing of the lid, substantially as described.

15. In combination with a frame adapted to support a key board and the keys thereof, a second frame adapted to reciprocate with respect to the first frame, and means for producing such reciprocation, a third frame removable from the second and upon which are mounted the record ribbons the said last mentioned frame being adapted to facilitate the placing and removal of register ribbons, substantially as described.

16. In a voting machine, in combination with an outer casing, a removable key board provided with guard flanges extending inside the casing adapted to prevent improper tampering with the mechanism contained in the case, substantially as described.

17. In a voting machine in combination with a base, a bar provided with a row of tipples or pawls, each of which is adapted to actuate the record ribbon, said bar and the tipple or pawls carried thereon being removable from the base, substantially as described.

18. In a voting machine in combination with a base, a reciprocating frame provided with record ribbons, means adapted to actuate the ribbons, a covering frame guarding the reciprocating frame, and provided with keys adapted to produce a record on said ribbons—said covering frame being arranged so that it may be removed from the reciprocating frame and thereby expose the record without otherwise disconnecting the parts of the machine, substantially as described.

19. In a voting machine, the combination of a plurality of registering devices secured to a supporting frame, a parallel plate supporting independently movable indicating mechanism forming part of the permanent structure, in combination with means for imparting a relative movement between the supporting frame and the parallel plate whereby a registry of votes is produced on the registering device, substantially as described.

20. In a voting machine, a reciprocating frame having registering devices secured thereto in rank and file, a parallel plate provided with independently adjustable keys forming part of the permanent structure, means for holding adjusted keys in position to produce a registration, and means for imparting a relative movement between the frame and the parallel plate whereby the adjusted keys produce an impression on the registering device, substantially as described.

21. In a voting mechanism, the combination of a frame and separately operable recording devices carried thereby, a parallel frame and corresponding separately operable record making devices carried thereby and forming part of the permanent structure, means for producing a relative movement between the frames whereby the record making devices produce a record on the recording device, substantially as described.

22. In a voting machine, in combination with a frame and recording devices carried thereby, a parallel frame with record making devices carried thereby, normally held in the position to produce no record when the two frames are brought together, means for independently setting the record making devices to a record making position, and means for producing a relative movement of the two frames toward and away from each other, whereby a record is produced, substantially as described.

23. In a voting machine, the combination of a series of voting keys, a series of corresponding registering devices, mechanism for actuating each registering device, an operative connection between each voting key and the corresponding mechanism for the registering devices, whereby the action of the key shifts said mechanism without operating the registering device by means thereof, and means for simultaneously actuating each such mechanism which has been so shifted to operate the corresponding registering device.

24. In a voting machine, the combination with a series of registers, of a series of ballot indicators forming part of the permanent structure, one for each register, movable into and out of coöperative relation with their corresponding registers, interlocking devices for preventing the operation of more than a predetermined number of indicators, and means for causing the simultaneous operation of all the registers whose indicators are in operative position.

25. In a voting machine, the combination with a series of register actuators forming a part of the permanent structure and a corresponding series of registers wholly and positively operated by the actuators after the latter have been moved, of a limiting mechanism controlling the operation of the actuators and operable wholly and positively by the latter, and means for causing the simultaneous operation of the actuators upon their registers.

26. In a voting machine, the combination with a series of registers, a corresponding series of register actuators forming a part of the permanent structure movable into coöperative relation with their registers, and serving to operate the registers, and a limiting mechanism operable only by the movement of the actuators, of a closure for preventing access to the actuators, and connections between the parts permitting the operation of the actuators to set position and of the limiting mechanism when the closure is open only, and permitting the actuation of the registers when access to the said parts is prevented.

27. In a voting machine, the combination of a plurality of registers each having an actuator, said registers being positively operable by said actuators upon the relative movement of the registers and actuator in one direction, and said actuators being independent of the register when

the parts are moved in the opposite direction, and means for imparting motion to the parts for positively and automatically operating a plurality of said actuators and registers relatively to operate said registers.

28. In a voting machine, the combination of a plurality of registers each capable only of a complete registering movement, with a limiting mechanism for preventing the operation of some only of said registers, and means for first accomplishing a positive complete movement of said limiting mechanism and afterwards accomplishing a complete movement of said register.

29. In a voting machine, the combination of a plurality of registers, a single limiting mechanism common thereto, means for causing the operation of said limiting mechanism and means for causing the positive and complete operation of at least one of said registers subsequently to the full operation of the limiting mechanism.

30. In a voting machine, the combination of two or more actuators with a limiting mechanism having a part in engagement with each of said actuators and operated by the voter's movement of either of said actuators, registers coöperating with said actuators, and means for simultaneously permitting the return of the actuators with respect to said limiting device and accomplishing complete movements of the said registers.

31. In a voting machine, the combination with a plurality of registers, a plurality of manually operated actuators forming parts of the permanent structure by the movement of which the machine is set for operation, and interlocking devices between the actuators, of positively actuated means independent of the manual operation of the actuators, for advancing the registers one full number after the same are set.

32. In a voting machine, the combination with two or more independent registers secured in fixed relation with each other, two or more register actuators forming part of the permanent structure and two or more keys for separately moving said actuators into coöperative relation with their registers, of means operating upon all the registers and actuators for moving them relatively to cause registration or those registers whose indicators are in voted position.

33. In a voting machine, the combination with a plurality of independent registers, a corresponding plurality of actuators forming part of the permanent structure and a limiting device, of means for preventing the operation of a register until the limiting device has received its full movement, and means for subsequently operating the registers.

34. In a voting-machine, the combination with a plurality of registers, one for each candidate, and a key for each candidate, each key being operable in both directions without operating the register, and a separate means dependent upon the operation of each key for operating its register.

35. In a voting machine, the combination with a plurality of registers, of a corresponding plurality of keys and interlocking devices between the keys, independent register operating means one for each register controlled but not operated by said keys to move the registers, and means for actuating said operating means to move the register and afterwards to positively return the operating means.

36. In a voting machine, the combination with a plurality of registers, of a corresponding plurality of keys and interlocking devices between the keys, independent operating means controlled but not operated by said keys to move the registers, actuators for the registers, means for operating said actuators and registers relatively to move the registers and afterwards to positively return the parts to normal position, said means for operating the actuators and registers relatively being stationary during the time that the key is operative by a voter.

37. In a voting machine, the combination of a register mechanism, an actuator which the voter may set or place for operation on the register, but may not operate to move the register, said actuator and register having two relative movements independent of the voter's movement thereof, one to operate the register and the other to positively return the parts to normal position.

38. In a voting machine, the combination with a register and register-operating means forming a part of the permanent structure adapted to be set by a voter for operation, a cover or barrier for preventing access to the voting devices, and means to accomplish the complete movement of the said register through the action of said barrier in a complete cycle of operation of the machine.

39. A voting-machine, having a register for each candidate and a key for each candidate, said keys being operable in both directions without operating their registers, and independently movable means dependent upon the operation of each key for operating its register and releasing said key but not directly moving it.

40. A voting-machine having a register for each candidate and a key for each candidate, said keys being adapted for reciprocation and an actuator forming part of the permanent structure movable with each key and adapted to be positioned for operation upon the associated register by the movement of said key, and means positively operated through the medium of the actuators that are set, to operate the registers thereof.

41. In a voting machine, the combination with a plurality of registers secured to a supporting frame in fixed relation to each other, of a support, a plurality of independently movable ballot indicators thereon, one for each register, corresponding in relative position with the register, each indicator being movable into a position to coöperate with its register when the frame and support are moved relatively, means for moving the frame and support relatively, and interlocking devices between the indicators for permitting the operation of a predetermined number to the operative position.

42. In a voting machine, the combination with a plurality of registers secured to a supporting frame in fixed relation to each other, of a support, a plurality of ballot indicating devices thereon, one for each register, and each independently movable to a position for coöperation with its register, interlocking devices between the indicators to permit the movement of a predetermined number to operative position, and means for causing the relative movements of the register frame and support to cause the cooperation of the actuated indicators and their registers.

43. In a voting machine, the combination with a plurality of registers secured to a supporting frame in fixed relation to each other, and each having an actuating member, of a support, a plurality of ballot indicators thereon corresponding with the registers and each having a part for coöperation with the actuating member of its register, when moved to operative position, interlocking devices for permitting the operation of a predetermined number of indicators only, and means for causing the relative movement of the frame snd support so as to cause the operation of the registers whose indicators are operated.

44. In a voting machine, the combination with a plurality of registers secured to a supporting frame in fixed relation to each other, of a support, a plurality of ballot indicators thereon corresponding with the registers and each adapted to be moved into operative relation with its register, interlocking devices for permitting the operation of a predetermined number of indicators only, means for causing the positive relative movement of the frame and support and resetting devices for the indicators.

45. In a voting machine, the combination with a plurality of registers secured to a supporting frame in fixed relation to each other, of a support, a plurality of ballot indicators thereon corresponding with the registers and each movable into and out of a position to coöperate with its register, interlocking devices between the indicators for permitting the movement of a predetermined number of them to coöperative position, and means for moving the frame and support relatively to cause the actuated indicators to coöperate with their registers.

46. In a voting machine, the combination with a plurality of registers mounted on a frame in fixed relation to each other, of a plurality of independently adjustable ballot indicators corresponding with the registers and adapted to be actuated into operative relation with the registers, a barrier for preventing access to the indicators, operating devices for causing the relative movements of the register frame and the indicators to cause the latter to coöperate with the registers, and connections between said barrier and the operative devices for causing their simultaneous operation.

47. In a voting machine, the combination with a ballot board or support containing a ticket to be voted, a plurality of separate ballot indicators corresponding to the ticket, movable by the voter into and out of coöperative relation with their registers, interlocking devices to prevent the operation of more than a predetermined number of indicators to operative position, a plurality of registering devices corresponding to the indicators, resetting devices for the indicators and operating devices for causing the relative movements of all the registers and indicators to register the ballots indicated, of a barrier or cover for the ballot board, and connections between it and the said operating devices and the resetting devices whereby the indicated ballots will be registered, the indicators reset to normal position, and the barrier removed at a single cycle of operation.

48. In a voting machine, the combination with a plurality of series of registers, of a plurality of series of ballot indicators forming part of the permanent structure, one for each register, and each capable of movement into and out of coöperative relation with its register without operating the same, interlocking devices between the indicators in the same series for preventing the movement of more than a predetermined number into coöperative relation with their registers, and means for causing the operation of the registers whose indicators have been operated and left in coöperative relation therewith.

49. In a voting machine, the combination with a series of movable voting keys or indicators, and means for automatically returning them to normal position, a series of corresponding registers, means for holding the keys when operated, a manually-operable device for releasing the indicators, interlocking devices for preventing the operation of more than a predetermined number of indicators in the series, and means for simultaneously operating the registers whose indicators are left in voted position.

50. In a voting-machine, the combination with a series of spring-retracted voting keys or indicators, registers with which they are adapted to coöperate, retainers for holding the operated indicators, means for releasing the retainers, and means for subsequently causing the operation of the registers whose indicators are retained in voted position.

51. In a voting machine, the combination with a series of spring-retracted voting indicators, registering devices with which they are adapted to coöperate, retainers for the indicators, and means for releasing the indicators and permitting their return before operating upon the registers.

52. In a voting-machine, the combination with a series of spring-retracted voting indicators, interlocking devices between them, registers with which the indicators are adapted to coöperate, separate retainers for the indicators, and means for subsequently causing the operation of the registers whose indicators are retained in voted position, of devices for operating the retainers to release the indicators.

53. In a voting machine, the combination with a spring-retracted voting key or indicator, and a register with which it is adapted to coöperate, of a retainer for holding the indicator when operated, and a device for releasing the key before the operation of the register.

54. In a voting machine, the combination with a series of voting keys or indicators, retainers therefor, and a series of registers corresponding to the indicators, of means for actuating the registers whose indicators are retained, means for releasing the retainers after the operation of the registers, and a movable part operable by the voter to release the retainers before the actuation of the registers.

55. In a voting machine, the combination with a plurality of ballot indicators automatically operable in one direction, registers with which they coöperate to indicate a vote, and retainers for holding the keys when operated, of means for causing the operation of the registers whose indicators are retained, and a movable member for releasing all the retainers before the actuation of the registers when desired.

56. In a voting machine, the combination with a plurality of ballot indicators automatically operable in one direction, a plurality of registers with which they coöperate to indicate a vote, and retainers for holding the keys when operated, of means for causing the operation of the registers whose indicators are retained, a movable member for releasing the retainers operable by the operating means after the registers are actuated, and a device under the control of the voter and operating upon said member for releasing the retainers before the operation of the registers when desired.

57. In a voting machine, the combination with a plurality of ballot indicators, a corresponding plurality of registers, and retainers for holding the indicators in coöperative relation with their registers, of means for actuating the registers whose indicators are retained, a releasing member coöperating with the retainers and operated upon by the register actuating means after the actuation of the registers, and a device operable by a voter to release the retainers prior to the actuation of the registers when desired.

58. In a voting machine, the combination with a plurality of registers, each having an actuator, of a corresponding series of indicators movable into and out of cooperative relation each with an actuator, in combination with means for producing a relative movement between the registers and actuntors whose indicators remain in cooperative relation thereto.

59. In a voting machine, the combination with a series of registers, of a corresponding series of keys or indicators, means for retaining the keys when operated, means for releasing the keys from coöperative relation with the registers without having caused the operation of the latter.

60. In a voting machine the combination with a movable ballot indicator, a catch for retaining the indicator of a counter, a counter actuator normally out of operative connection with the counter and adapted to be placed into coöperative relation therewith by the movement of the indicator but incapable of being directly moved to operate the counter manually operable releasing device for the indicator catch and means for operating the counter only one number and also releasing the catch to permit the return of the indicator to original position during a complete cycle of operation of the machine.

61. In a voting machine the combination with a counter of an actuator therefor forming a part of the permanent structure adapted to be operated by a voter into cooperative relation with the counter but incapable of direct actuation by the voter to move the counter, and means controlling access to the actuator operating device and adapted to cause the relative movements of the actuator and counter to operate the counter one number and return the parts to original position during a complete cycle of operation of the machine.

62. In a voting machine the combination with a movable ballot indicator, of a counter, a counter actuator capable of being moved into coöperative relation with the counter by the movement of the indicator but incapable of movement by the indicator to operate the counter, a catch for retaining the indicator and means for operating the counter and actuator relatively to cause the movement of the former one number only and for releasing the catch during the complete cycle of movement of the machine.

63. In a voting machine, the combination with a plurality of ballot indicators of an equal number of counters, counter actuators capable of movement by the indicators into coöperative relation with the counters but incapable of movement by the indicators to advance the counters and means for causing the operation of the counters whose indicators have been moved to voted position and returning the indicators and actuators to original position during a complete cycle of operation of the machine.

64. In a voting machine the combination with a plurality of ballot indicators, and interlocking devices to prevent the operation of more than a predetermined number, of an equal number of counters, counter actuators therefor capable of being set in coöperative relation with the

counters by the movement of the indicators but incapable of movement by the indicators to actuate the counters and means for effecting the simultaneous operation of the actuators and the return of the indicators to original position.

65. The combination in a voting machine, of counters, actuators therefor forming part of the permanent structure of the machine, said actuators being adapted to be operated to voted position without operating the counter, means for limiting the actuators operated to a predetermined number and positively actuated means operated by the machine for simultaneously advancing all said counters one number whose actuators have been placed in voted position.

66. The combination in a voting machine, of a plurality of counters, an actuator for each forming part of the permanent structure of the machine, said actuators being adapted to be operated to voted position by a voter without operating their counters and positively actuated means operated by the machine for simultaneously advancing all of said counters one number whose actuators have been placed in voted position.

67. A voting machine having a counter for each candidate and a key for each candidate, said keys being adapted for reciprocation or operation by a voter, an actuator moved when each key is operated and adapted to be positioned for operation upon the associated counter by the movement of said key and means for independently operating said actuators and counters relatively simultaneously whether the same have been operated upon by the keys or not.

68. The combination with a counter, of a voting key, a holding device therefor, an actuator movable when said key is operated in one direction and in turn operable upon said counter, positively actuated means for thus operating said actuator, said key alone controlling the relation between said actuator and counter for registering votes, said actuator being concealed and at all times prevented from direct operation by the voter and said counter being concealed from view and a manually operable device for releasing the key holding device.

69. The combination in a voting machine, of a plurality of counters with a key for each, an independent counter operating means for each key controlled but not operated thereby and means for actuating said operating means to move the counter one step and allow the return of the operating means and a suitable limiting mechanism operable by said keys.

70. The combination in a voting machine, of a plurality of counters with a key for each, an independent counter actuating means for each key controlled but not operated thereby and means for operating said actuating means to move the counter one step and independent means operating thereafter to return the keys and allow the actuators to return to their initial positions therewith, and a suitable limiting mechanism controlling the operation of the keys.

71. In a voting machine the combination with a plurality of ballot indicators forming a part of the permanent structure and interlocking mechanism between them, of a separate counter for each indicator, a counter actuator for each indicator also forming a part of the permanent structure, connections between the indicators and their actuators for placing the latter in operative connection with the counters when the indicators are operated, but without operating the counters, and means for positively and simultaneously operating the counter actuators and counters relatively to cause the complete operation of the counters.

72. The combination in the mechanism of a voting machine, of two or more counters each provided with a toothed wheel, interlocking mechanism arranged between the counters, operating mechanism forming part of the permanent structure adapted to operate the toothed wheels and a reciprocating key or indicator for each counter arranged when operated to place the operating mechanism into coöperative relation with the wheel of the selected counter before the operation of said operating mechanism so that the counter is operated wholly by the latter.

73. In a voting machine the combination with a counter, of an actuator therefor forming part of the permanent structure adapted to be operated by a voter into coöperative relation with the counter but incapable of direct actuation by the voter to move the counter and means controlling access to the actuator operating device and adapted to cause relative movements of the actuators and counter to operate the counter one number and return the parts to original position during a complete cycle of operation of the machine.

74. In a voting machine, the combination with registering mechanism for each candidate, a voting key for each candidate, controlling but not operating the registers, movable connections embodying register actuators forming part of the permanent structure arranged between the keys and registers and independently controlled in position with relation to the registering mechanism by the movement of the keys and interlocking mechanism for preventing the operation of some of said keys, of means for simultaneously moving all the registers and actuators in the same direction relative to each other.

75. In a voting machine, a registering mechanism, a movable pawl, a key for controlling the movement of said pawl to a position to actuate the registering mechanism, independent means for actuating said pawl and registering mechanism relatively when in such position and means actuated by said key for preventing the actuation of the other registering mechanisms.

76. In a voting machine, a suitable registering mechanism, a pawl for actuating the same, a voting key independent of the pawl for controlling its movement to actuate the register, and means forming part of the permanent structure actuated by the key for preventing the actuation of other registering mechanisms.

77. In a voting machine, the combination with a movable ballot indicator forming part of the permanent structure, of a counter, a counter actuator also forming part of the permanent structure, connections between the indicator and actuator for placing the latter in operative connection with the counter when the indicator is operated but without operating the counter, and means controlling access to the indicator for positively operating the counter and its actuator relatively to cause the complete operation of the counter.

78. In a voting machine, the combination with a series of movable ballot indicators forming part of the permanent structure and interlocking devices between said indicators to prevent the operation of more than a predetermined number, of a series of counters one for each indicator, a series of counter actuators also forming a part of the permanent structure, connections between the indicators and actuators for placing the latter in operative connection with their counters when the indicators are operated but without operating them to actuate the counters and means for positively moving the counters and all of the operated actuators relatively and simultaneously, to cause the movement of the counters controlled thereby.

79. In a voting machine, the combination with a movable ballot indicator forming part of the permanent structure and a retainer therefor, of a counter, a counter actuator normally out of connection with the counter, connections between the indicator and actuator for placing the latter in operative connection with the counter when the indicator is operated, and devices for moving the counter and actuator relatively to operate the counter and release the indicator.

80. In a voting machine, the combination with a movable ballot key forming part of the permanent structure, of a counter, a counter actuator normally out of operative connection with the counter, a key retainer, connections between the key and actuator for connecting the latter with the counter, devices for moving the actuator and counter relatively and releasing the key and a barrier controlling access to the key and operating the releasing device.

81. In a voting machine, the combination with a chamber and a barrier, a plurality of series of ballot indicators forming a part of the permanent structure and interlocking devices between the indicators of each series to prevent the operation of more than a predetermined number, of a series of counters, one for each indicator, a series of counter actuators forming a part of the permanent structure normally out of operative contact with their counters, operating devices controlled by the ballot indicators for operatively connecting the actuators with their counters, and connections between the barrier and the counters and actuators for moving all of the counters and actuators relatively and simultaneously in a direction to actuate the counters whose indicators are in voted position.

82. In a voting machine, the combination with a booth or chamber, a plurality of series of ballot indicators forming a part of the permanent structure and interlocking devices between the indicators of each series to prevent the operation of more than a predetermined number, of a series of counters one for each indicator, a series of counter actuators forming a part of the permanent structure normally out of contact with their counters, operating devices controlled by the ballot indicators for operatively connecting the actuators with their counters, and connections between all of the counters and actuators for causing the simultaneous and relative operation of the counters and actuators in a direction to actuate the counters whose indicators are in voted position.

83. A vote registering mechanism comprising independent registering mechanism furnished with operating devices respectively, a detachable member having separately adjustable devices thereon to coöperate with the registering mechanism operating devices, means for causing the relative movements of the detachable member and the registering mechanisms and means for displacing the separately adjustable devices from operative position.

84. In a voting machine, the combination of a series of registers, a detachable ballot board, a series of ballot indicators forming a part of the ballot board one for each register movable into and out of voted position, interlocking devices for preventing the operation to voted position of more than a predetermined number of indicators and means for causing the simultaneous operation of all the registers whose indicators are in voted position.

85. In a voting machine, the combination with a casing and a series of registers therein, of a removable ballot board having ballot indicators thereon and means for causing the relative movement of the registers and ballot board to cause the actuation of the registers whose indicators have been operated.

86. The combination with a casing and registers therein, of a removable ballot board, ballot indicators thereon and interlocking devices between said indicators, and means in the casing for causing the relative movements of the ballot board and registers to cause the actuation of the registers whose indicators are in voted position.

87. The combination with a casing and registers therein, of a removable ballot board, ballot indicators thereon, interlocking devices between said indicators, means within the casing for causing the relative movement of the ballot board and registers to cause the actuation of the registers whose indicators are in voted position and means for resetting the ballot indicators to normal position after the operation of the registers.

88. In voting apparatus, a ballot board comprising a support and movable members thereon, separate and independent registers and a case containing said registers and constructed to admit parts on the ballot board to the registers to control the operation of the same.

89. In a vote registering machine, the combination of a registering mechanism, a ballot member furnished with a movable part for controlling the operation of the registering mechanism, means for producing a relative movement between the ballot member and the registering mechanism to cause said mechanism to be operated by the part and operative means for resetting the said part.

90. A detachable ballot board comprising a body portion, a plurality of register actuating parts movable upon said body portion into and out of operative position and means carried by said body portion adapted to limit the number of register actuating parts that can be moved to operative position.

91. In a voting machine, the combination with a series of registers, of a series of ballot indicators forming part of the permanent structure, one for each register freely movable into and out of coöperative relation with their corresponding registers, interlocking devices for preventing the operation of more than a predetermined number of indicators, and means for causing the simultaneous operation of all the registers whose indicators are in operative position.

92. A voting machine comprising a casing, voting devices therein embodying a plurality of registers and a corresponding plurality of indicating devices all forming part of the permanent structure, resetting mechanism embodying an oscillatory part and connections for wholly operating the registers when said part is moved in one direction and resetting the machine when moved in the opposite direction.

93. A voting machine comprising a plurality of registers, a corresponding plurality of indicating devices all forming part of the permanent structure, an oscillatory part or member and connections between it and the registering and indicating mechanisms causing the complete operation of the registers when said member is moved in one direction and the restoration of all the mechanism to normal position when it is moved in the opposite direction.

94. In a voting machine, the combination with a plurality of registers and actuators therefor, of a corresponding plurality of indicators movable into and out of coöperative relation with their actuators without actuating the registers, interlocking devices embodying wedges or enlargements connected to the indicators and operable by the latter in a direction substantially parallel with that of the movement of the register actuators and means for causing the simultaneous operation of the registers whose indicators are left in voted position.

95. A voting machine comprising, a plurality of registers, a corresponding plurality of actuators therefor forming part of the permanent structure and capable of being rendered operative at the will of the voter, an operating member movable in two directions and connections between said member and the registers and actuators for causing the relative movements of the designated registers and actuators to wholly operate the latter when it is operated in one direction and restore the parts to normal position when operated in the opposite direction.

96. A voting machine comprising a plurality of registers, a corresponding plurality of actuators therefor, forming part of the permanent structure, indicators for rendering operative a predetermined number of said actuators, an oscillatory rock shaft and connections between said shaft, the registers, actuators and indicators for causing the complete actuation of the registers whose indicators have been left in operated position when the shaft is oscillated in one direction, and causing the restoration of the parts to normal position when said shaft is operated in the opposite direction.

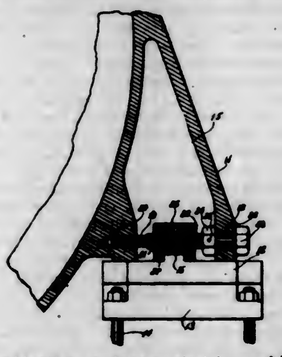
97. In a voting machine, the combination with a board or support, a plurality of ballot indicators mounted thereon, interlocking devices for preventing more than a predetermined number of indicators occupying voted position at one time, of a plurality of registers corresponding to the indicators and a frame arranged parallel with said indicator support and upon the movement of which the actuation of the registers is dependent.

98. In a voting machine, the combination with a board or support, a plurality of ballot indicators mounted thereon, interlocking devices for preventing more than a predetermined number of indicators occupying voted position at one time, of a plurality of register actuators corresponding to the indicators and a frame extending parallel to the support and movable toward and from it, the actuation of the registers whose indicators are left in voted position being dependent upon the movement of said frame.

99. In a voting machine, the combination with a plurality of movable ballot indicators movable into and out of voted position, and interlocking devices to prevent more than a predetermined number from simultaneously occupying voted position, a corresponding plurality of registers and means, as a barrier, for operating the registers whose indicators are left in voted position and restoring the parts to normal position.

100. In a voting machine, the combination with a plurality of ballot indicators, and interlocking devices to prevent the operation of more than a predetermined number, of an equal number of counters, counter actuators therefor capable of automatic movement into coöperative relation with the counters upon the movement of the indicators but incapable of movement by the indicators to actuate the counters and means for effecting the simultaneous operation of the actuators and the return of the indicators to original position.

868,580. DYNAMO-ELECTRIC MACHINE. WILLIAM D. POMEROY, Norwood, Ohio, assignor to The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed Jan. 2, 1906. Serial No. 294,087.



1. In combination, a dynamo-electric machine yoke, a base or support on which said yoke is directly mounted, a member operatively related to said base and yoke, means operative to permit motion longitudinally and preclude motion transversely between said member and the base, and means coöperating with the yoke and said member for adjusting the position of said yoke transversely.

2. In combination, a dynamo-electric machine yoke having hollow or recessed supporting feet, a base or support on which said yoke is mounted, a member resting on the base within one of the hollow supporting feet and movable relative to said base, means for constraining said member to follow a predetermined path in its movement relative to said base, and means engaging the yoke and said member for adjusting the position of the yoke in a direction transverse to said path.

3. In combination, a dynamo-electric machine yoke having hollow or recessed supporting feet, supports on which said feet rest, movable members on said supports within the hollow supporting feet, means operative to permit motion longitudinally and preclude motion transversely between said members and said supports, and bolts mounted in the walls of said yoke and engaging said members for adjusting the position of the yoke transversely of the axis of the machine.

4. In combination, a dynamo-electric machine yoke having a supporting foot or lug on each side thereof, each of said supporting feet having a recess or opening in its lower face, a pair of sole plates upon which said yoke feet rest, a member mounted on each sole plate within the recess in such a manner that it may be moved longitudinally of said sole plate, and a bolt rotatably mounted in the walls of said recess, said bolt having a threaded portion engaging said member, and means whereby said bolt may be rotated to adjust the position of the yoke.

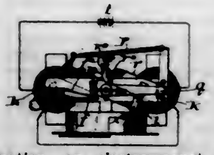
5. In combination, a dynamo-electric machine yoke having a supporting foot or lug at each side thereof, each of said supporting feet having an opening or recess in its lower face, a pair of sole plates upon which said yoke feet rest, a block mounted on each of said sole plates and movable only longitudinally thereof, a horizontal bolt mounted in the walls of each of said feet and passing through a threaded opening in the block, whereby, by turning the said bolts, the position of the yoke can be adjusted relatively to the sole plates.

6. In combination, a dynamo-electric machine yoke having supporting feet at opposite sides thereof, each of said supporting feet having an opening or recess in its lower face, a pair of sole plates upon which said yoke feet rest, a spline on each of said sole plates extending longitudinally thereof, a block having a groove corresponding in shape to that of the spline, and movable thereon and having also a threaded opening arranged at right angles to said groove, and means for adjusting the position of the yoke transversely of the sole plates comprising horizontal bolts mounted in the walls of said feet, each of which bolts having a threaded portion which engages the threaded opening in one of said blocks.

7. In combination, a dynamo-electric machine yoke having supporting feet at opposite sides thereof, each of said supporting feet having a recess in its lower face, a pair of stationary lower sole plates, foundation bolts extending therethrough, an upper sole plate mounted on each of said lower sole plates, each of said upper sole plates having a block movable longitudinally thereof, each of said yoke feet resting on one of said upper sole plates and having a recess or opening in which the block is located, and means for adjusting the yoke comprising bolts mounted in the walls of the supporting feet said bolts having threaded portions which engage threaded openings in the blocks.

8. In combination, a dynamo-electric machine yoke having supporting feet at opposite sides thereof, each of said supporting feet having a recess in its lower face, a pair of stationary lower sole plates, foundation bolts extending therethrough, an upper sole plate mounted on each of said lower sole plates, each of said upper sole plates having a block movable longitudinally thereof, said yoke feet resting on said upper sole plates and having recesses or openings in which the blocks are located, means for adjusting the yoke comprising bolts mounted in the walls of the supporting feet and having threaded portions which engage threaded openings in the blocks, and bolts passing through the feet on the yoke and both of said sole plates, whereby the yoke will be held in position after adjustment.

868,581. SELF-WINDING CLOCK. ARTHUR F. POOLE, Santa Barbara, Cal. Filed Feb. 10, 1904. Serial No. 192,938.



1. In combination, an electromagnet, an oscillating armature therefor, a circuit closing device independent of the armature, and an elastic member carried by said armature and adapted to engage said circuit closing device and to move it into alternative positions, substantially as described.

2. In combination, an electromagnet, an oscillating armature therefor, a circuit closing device mounted independently of the armature, a freely movable intermediate element loosely mounted on the armature shaft for operating the circuit closing device, and means carried by the armature for actuating said movable element, substantially as described.

3. In combination, an electromagnet, an oscillating armature therefor, a circuit closing device mounted independently of the armature, a freely oscillating intermediate element loosely mounted on the armature shaft for operating the circuit closing device, and means carried by the armature for actuating said movable element, substantially as described.

4. The combination with an electric motor, of switching mechanism governing its circuit, an element of said switching mechanism being rotatably mounted, means for effecting rotation of said element, and means for effecting a bodily movement of the aforesaid means in a direction opposite to that which the aforesaid means thereupon causes the said element to move, substantially as described.

5. The combination with an electric motor including an oscillating armature, of switching mechanism governing the circuit of the electric motor, said switching mechanism including an actuating element u, a spring provided with a kinked or cam portion and carried by an actuated element of the electric motor to effect an operation of the said block u to close the circuit of the motor, and a spring in opposition to which the armature is rotated when circuit through the motor is closed, substantially as described.

6. The combination with an electric motor including an oscillating armature, of switching mechanism governing the circuit of the electric motor, said switching mechanism including the actuating element u provided with a cam u' having meeting sloping surfaces, and a spring r provided with a kinked or cam portion and carried by an actuated element of the motor, one side of the kink or cam of the spring serving to engage one slope of the cam and the other side of said kink serving to engage the other slope of the cam as said spring is moved by the motor, substantially as described.

7. The combination with an electric motor including an oscillating armature, of switching mechanism governing the circuit of the electric motor, said switching mechanism including the actuating element u provided with a cam u' having meeting sloping surfaces, a spring r provided with a kinked or cam portion and carried by an actuated element of the motor, one side of the kink or cam of the spring serving to engage one slope of the cam and the other side of said kink serving to engage the other slope of the cam as said spring is moved by the motor, and a spring in opposition to which the armature of the motor rotates when circuit through the motor is closed, substantially as described.

8. The combination with an electric motor including an oscillating armature, of switching mechanism governing the circuit of the electric motor, said switching mechanism including an actuating element u, a spring provided with a kinked or cam portion and carried by an actuated element of the electric motor to effect an operation of the said block u to close the circuit of the motor, a spring in opposition to which the armature is rotated when circuit through the motor is closed, and clock mechanism including a train operated by said spring, substantially as described.

9. The combination with an electric motor including an oscillating armature, of switching mechanism governing the circuit of the electric motor, said switching mechanism including the actuating element u provided with a cam u' having meeting sloping surfaces, a spring r provided with a kinked or cam portion and carried by an actuated element of the motor, one side of said kink serving to engage one slope of the cam and the other side of said kink serving to engage the other slope of the cam as said spring is moved by the motor, and clock mechanism including a train operated by said spring, substantially as described.

10. The combination with an electric motor including an oscillating armature, of switching mechanism governing the circuit of the electric motor, said switching mechanism including the actuating element u provided with a cam u' having meeting sloping surfaces, a spring r provided with a kinked or cam portion and carried by an actuated element of the motor, one side of the kink serving to engage one slope of the cam and the other side of the kink serving to engage the other slope of the cam as said spring is moved by the motor, a spring in opposition to which the armature of the motor rotates when circuit through the motor is closed, and clock mechanism including a train operated by said spring, substantially as described.

11. The combination with an electric motor including an oscillating armature, of a spring in opposition to which said armature is rotated when the motor circuit is closed, switching mechanism governing its circuit, an element of said switching mechanism being rotatably mounted, means for effecting rotation of said element, means for effecting a bodily movement of the aforesaid means in a direction opposite to that which the aforesaid means thereupon causes the said element to move, and a clock whose train is driven by said spring, substantially as described.

12. The combination with an electric motor including an oscillating armature, of a spring in opposition to which said armature is rotated when the motor circuit is closed, switching mechanism governing its circuit, means for effecting movement of said element, means for effecting a bodily movement of the aforesaid means in a direction opposite to that which the aforesaid means thereupon causes the said element to move, and a clock whose train is driven by said spring, substantially as described.

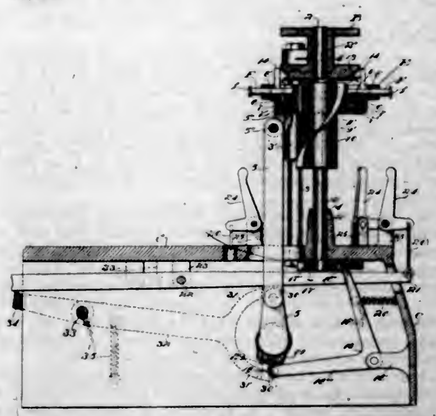
13. The combination with an electric motor including an oscillating armature, of a spring in opposition to which said armature is rotated when the motor circuit is closed, switching mechanism governing its circuit, an element of said switching mechanism being rotatably mounted, means for effecting rotation of said element, and means for effecting a bodily movement of the aforesaid means in a direction opposite to that which the aforesaid means thereupon causes the said element to move, substantially as described.

14. The combination with an electric motor including an oscillating armature, of switching mechanism governing the circuit of the electric motor, and an actuating element operating independently of the motor and carried by an element driven by the motor and adapted to engage and thereafter escape an operating element of the switching mechanism, substantially as described.

15. The combination with an electric motor including an oscillating armature, of switching mechanism governing the circuit of the electric motor, and an actuating element carried by an element driven by the motor and adapted to engage and thereafter escape an operating element of the switching mechanism, substantially as described.

16. In combination, an electromagnet, an oscillating armature therefor, circuit terminals connected with a source of electricity, a circuit-closing element adapted to engage one of said terminals and permanently insulated from the circuit, and means actuated by the armature for momentarily closing the circuit through said circuit-closing element.

868,582. MECHANICAL MOVEMENT. FRANCIS H. RICHARDS, Hartford, Conn., assignor, by mesne assignments, to American Typographic Corporation, a Corporation of New Jersey. Filed July 30, 1901. Serial No. 70,215.



1. A mechanical movement embodying in combination with an adjustable member, a shiftable carrier; a plurality of settable devices mounted on the carrier and respectively adapted when set to be brought by the moving carrier into coöperative relation with said adjustable mem-

ber; means for selectively setting said settable devices when the carrier is in a predetermined position; and power actuated means for shifting the carrier.

2. A mechanical movement embodying in combination with an adjustable member, a reciprocative carrier; a plurality of settable devices mounted on the carrier and respectively adapted when set to be brought by the moving carrier into coöperative relation with said adjustable member; means for selectively setting said settable devices when the carrier is at one end of its reciprocative movement; and power actuated means for shifting the carrier.

3. A mechanical movement embodying in combination with an adjustable member, a shiftable carrier; a plurality of settable devices mounted on the carrier and respectively adapted when set to be brought by the moving carrier into coöperative relation with said adjustable member; means for selectively setting said settable device when the carrier is in a predetermined position; and a normally restrained actuator released by the operation of setting one of said settable devices for shifting the carrier.

4. A mechanical movement embodying in combination with an adjustable member, a shiftable carrier; a plurality of settable devices mounted on the carrier and respectively adapted when set to be brought by the moving carrier into coöperative relation with said adjustable member; means for selectively setting said settable devices when the carrier is in a predetermined position; means for shifting the carrier; and mechanism for automatically returning a set device to its normal unset position after cooperation with said adjustable member.

5. A mechanical movement embodying in combination with an adjustable member, a reciprocative carrier; a plurality of settable devices mounted on the carrier and respectively adapted when set to be brought by the moving carrier into coöperative relation with said adjustable member; means for selectively setting said settable devices when the carrier is at one end of its reciprocative movement; means for shifting the carrier; and mechanism for returning a set device to its normal unset position when the carrier is adjacent to the opposite end of its reciprocative movement.

6. A mechanical movement embodying in combination with an adjustable member, a shiftable carrier; a plurality of settable devices mounted on the carrier and respectively adapted when set to be brought by the moving carrier into coöperative relation with said adjustable member; means for selectively setting said settable devices when the carrier is in a predetermined position; a normally restrained actuator released by the operation of setting one of said settable devices for shifting the carrier; and mechanism for automatically returning a set device to its normal unset position after coöperation with the adjustable member.

7. A mechanical movement embodying in combination with an adjustable member having a helical cam face, a shiftable carrier; a plurality of settable devices mounted on the carrier and respectively adapted when set to be brought by the moving carrier into coöperative relation with said helical cam face; means for selectively setting said settable devices when the carrier is in a predetermined position; and power actuated means for shifting the carrier.

8. A mechanical movement embodying in combination with an adjustable member having a helical cam face, a reciprocative carrier; a plurality of settable devices mounted on the carrier and respectively adapted when set to be brought by the moving carrier into coöperative relation with said helical cam face; means for selectively setting said settable devices when the carrier is at one end of its reciprocative movement; and means independent of said device setting means for shifting the carrier.

9. A mechanical movement embodying in combination with an adjustable member having a helical cam face, a reciprocative carrier; a plurality of settable devices mounted on the carrier and respectively adapted when set to be brought by the moving carrier into coöperative relation with said helical cam face; means for setting said settable device when the carrier is at one end of its reciprocative movement; a normally restrained actuator released by the operation of setting a settable device for reciprocating the carrier; and means for automatically returning a set device to its normal unset position adjacent to the opposite end of the reciprocative movement of the carrier and after coöperation with the said helical cam face.

10. A mechanical movement, embodying in combination with an adjustable member, a shiftable carrier; a plurality of settable devices mounted on the carrier and respectively adapted when set to be brought by the moving carrier into coöperative relation with said adjustable member; means for selectively setting said settable devices when the carrier is in a predetermined position; means for shifting the carrier; and a locking device for temporarily maintaining said adjustable member in position to which it is adjusted by the coöperation of the set device on the reciprocating carrier with the adjustable member.

11. A mechanical movement embodying, in combination, an adjustable member provided with a pair of oppositely inclined helical cam faces; a carrier; a plurality of settable devices mounted on the carrier and each adapted when set to coöperate with a cam face on the adjustable member; a key mechanism for setting a determinate one of the settable devices on the carrier; and means for actuating the carrier and thereby causing the coöperation of a set device thereon with a helical cam face on the adjustable member.

12. A mechanical movement embodying in combination, a rotatably adjustable member provided with a pair of oppositely inclined helical cam faces; a carrier reciprocative longitudinally of the axis of rotation of the adjustable member; a plurality of settable devices mounted on the carrier and each adapted when set to coöperate with a cam face on the adjustable member; a key mechanism for setting a determinate one of the settable devices on the carrier; means for actuating the carrier and thereby causing the coöperation of a set device thereon with a helical cam face on the carrier; and means for automatically returning a set device to its normal unset position.

13. A mechanical movement embodying in combination, a rotatably adjustable member provided with a pair of oppositely inclined helical cam faces; a carrier reciprocative longitudinally of the axis of rotation of the adjustable member; a plurality of settable devices mounted on the carrier and each adapted when set to coöperate with a cam face on the adjustable member; a key mechanism for setting a determinate one of the settable devices on the carrier; a driver adapted to reciprocate said carrier; means for normally restraining the driver from so actuating the carrier, said means embodying a clutch; and means interposed between the key mechanism and the clutch for releasing the restrained driver upon the selection and setting of a settable device and thereby permit the driver to reciprocate the carrier.

14. A mechanical movement embodying in combination, a rotatably adjustable member provided with a pair of oppositely inclined helical cam faces forming at one end a synchronizing recess; a carrier reciprocative longitudinally of the axis of rotation of the said adjustable member; a plurality of settable devices on and shiftable radially of the carrier; a detent for each of said settable devices for maintaining it in different radial positions; a projection on each settable device; a coöperative member with which the said projection of a set device is adapted to cooperate adjacent to one extremity of travel of the carrier and thereby return the set device to its unset position; key mechanism; transmitting mechanism interposed between the levers of said key mechanism and said settable devices for transmitting motion from an actuated key lever to its corresponding settable device when said carrier is at the opposite extremity of its travel; a driving shaft connected with said carrier; a clutch for normally preventing the actuation of said carrier from said driving shaft; means operable upon the actuation of the key mechanism for coöperating with said clutch to thereby release said driving shaft; and a cam actuated locking detent for temporarily holding the adjustable member in its adjusted position.

15. A mechanical movement embodying in combination, a movable member, a power driven carrier; a plurality of settable devices on the carrier for shifting the movable member to various predetermined positions; key mechanism for setting the settable devices; a power driven element; and means actuated upon the operation of the key mechanism for releasing said power driven element and thereby permitting such element to actuate said carrier.

16. A mechanical movement embodying in combination a rotatable member; shiftable carrier; a series of settable devices mounted on the carrier and each coöperative with said rotatable member when set; means for setting the settable devices; and a locking mechanism for maintaining the rotatable member in the rotary position to which it may be adjusted.

17. A mechanical movement embodying a pair of pivotally mounted oppositely disposed helical ribs in combination with a series of settable devices shiftable as a series, and means to shift the series of settable devices relative to the helical ribs.

18. A mechanical movement embodying a pair of pivotally mounted oppositely disposed helical ribs in conjunction with a series of settable devices shiftable as a series, means for selectively setting the settable devices and means for shifting the series of devices and operating the helical ribs from the selected device.

19. A mechanical movement embodying an angularly adjustable member provided with a pair of oppositely inclined helical cam faces, a series of actuators respectively for engaging when set said cam faces and for adjusting when moved transversely of said cam face said member to different angular positions, means for shifting a set actuator transversely of one of said cams, and means controlled by the selector means for releasing the actuator shifting means.

20. A mechanical movement embodying an angularly adjustable member provided with a pair of oppositely inclined helical cam faces, a series of actuators respectively for engaging when set said cam faces and for adjusting when moved transversely of said cam faces said member to different angular positions, means for selectively setting said actuators, means for shifting a set actuator transversely of one of said cams, means controlled by the selector means for releasing the actuator shifting means, and means for returning the set actuator to idle position.

21. A mechanical movement embodying an angularly adjustable member provided with a pair of oppositely inclined helical cam faces, a series of actuators respectively for engaging when set said cam faces and adjusting said member to different angular positions, means for selectively setting said actuators, means for shifting said series of actuators including a set actuator transversely of one of said cams, and means controlled by the selector means for releasing the actuator shifting means.

22. A mechanical movement embodying an angularly adjustable member provided with a pair of oppositely inclined helical cam faces, a series of actuators respectively for engaging when set said cam faces and for adjusting when moved transversely of said cam faces said member to different angular positions, means for selectively setting said actuators, means for shifting said series of actuators including a set actuator transversely of one of said cams, means controlled by the selector means for releasing the actuator shifting means, means for returning the set actuator to idle position, and means for then returning the series of actuators to their initial idle position.

23. A series of settable devices, a rotatable member provided with a cam face coöperative with a transversely moving set actuator for angularly shifting said member into a predetermined relative position to the position occupied by said device at the completion of its movement, means for selectively setting the said devices, means for shifting the set device, and means controlled by the selector means for controlling the settable device shifting means.

24. A mechanical movement embodying an angularly adjustable member provided with a pair of oppositely inclined helical cam faces, a series of actuators respectively for engaging when set said cam faces and for adjusting when moved transversely of said cam faces said member to different angular positions, means for selectively setting said actuators, means for shifting said series of actuators including a set actuator transversely of one of said cams, means controlled by the selector means for releasing the actuator shifting means, means for returning the set actuator to idle position, and means for then returning the series of actuators to their initial idle position.

25. The combination with a rotary member, of a series of settable devices for imparting a series of angular movements to said rotatable member, actuators for setting said devices, means for shifting said series away from the actuators, and the set device to its work, and means actuated by the actuators for controlling the shifting means.

26. A mechanical movement embodying an angularly adjustable member provided with a pair of oppositely inclined helical cam faces, a series of settable devices, each for engaging when set and shifted transversely of said cam faces one of these for engaging the cam and angularly shifting the member from any position into a selected position, and means for shifting the series of settable devices and causing the set device to perform its work.

27. A mechanical movement embodying an angularly adjustable member provided with a cam face for bringing said member from any position into a particular position, a series of settable devices each coöperative with said cam face, actuators for setting the settable devices, means for shifting said series away from the actuators and the set device to its work and for returning the series to the actuators, means controlled by the several actuators for releasing the shifting means, and means for returning the settable devices to idle position.

28. A mechanical movement embodying an angularly adjustable member provided with a pair of oppositely inclined helical cam faces these leading into a straight channel, a series of settable devices each capable when set and moved transversely of said cams for engaging either of these and angularly adjusting said member and traversing the straight channel between the cam faces and thereby bringing said member from any position into a particular position relative to the set device, a series of actuators for setting the settable devices, means for shifting the said series of settable devices away from the actuators and the set device to its work, means controlled by the actuators for operating the shifting means, means for engaging the set device and returning this to idle position and for so engaging while the set device is traversing the straight channel between the cams and while said set device is positively holding the angularly adjustable member from movement in either direction, the series of settable devices being returned to idle position before the said series is returned to the working position of the actuators.

29. In a mechanical movement, the combination with a rotary shaft, of a cylinder mounted thereon, cam wings carried by said cylinder and disposed in oppositely directed helical lines, said wings being jointed together at one end of the cylinder and at the other approaching each other and then deflected, thereby forming a narrow vertical channel, ways disposed parallel with said shaft, a carrier guided upon said ways, means for reciprocating said carrier, a series of pins mounted upon said carrier and radially disposed relative to said cylinder, means for holding said pins in retracted positions, and in forward positions wherein they will engage the cams when the carrier is reciprocated and traverse one or the other of these until it traverses said narrow channel, means for selectively setting the several pins, means controlled by the setting means for releasing the carrier shifting device, means for returning the pins to idle position during the time the pin is in said narrow channel.

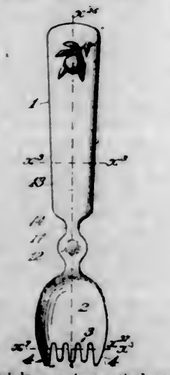
30. In a mechanical movement, the combination with a shaft and cam faces carried thereby, of a member fast on the shaft, guide-rods disposed parallel with said shaft, a carrier shiftable upon said guide-rods, settable devices carried by said carrier and adapted when set to engage one or the other of said cam faces, a series of actuators for said settable devices and adapted for actuating the same when the carrier is at one limit of its path of movement, power driven means for shifting said carrier, a detent for restraining said means, selectors for said actuators, and

means operable by an actuated selector for releasing said detent.

31. In a mechanical movement, the combination with a rotary shaft having cam faces disposed in oppositely directed helical lines, said faces meeting at a point and converging from and then toward each other and then being deflected thereby forming a channel parallel with said shaft, ways parallel with said shaft, a carrier guided thereon, power driven means for reciprocating the said carrier, a series of settable devices disposed upon said carrier for radial movement, means for detaining the carrier, reciprocating means for holding the carrier at one limit of its stroke, actuators for engaging said settable devices while the carrier is in its normal position, selector means for controlling said actuators, and means controlled by the selectors for releasing the detent.

32. In a mechanical movement, the combination with a rotary shaft having cam faces disposed in oppositely directed helical lines, said faces meeting at a point and converging from and then toward each other and then being deflected, thereby forming a channel parallel with said shaft, ways parallel with said shaft, a carrier guided thereon, power driven means for reciprocating the said carrier, a detent therefor for holding said carrier at its normal position of rest, a series of pins radially reciprocable upon said carrier and each adapted when moved inward and the carrier shifted for engaging one or the other of said cam faces, angularly adjusting the shaft and traversing said channel between the cam faces, an abutment carried by each of said pins, and a cam face at the extreme limit of working movement for engaging said abutments and returning the set pin to idle position, a series of bell crank levers for actuating said pins and disposed for engaging the same when the carrier is in its normal position of rest, key levers for rocking said bell crank levers, means for releasing the detent and controlled by said key levers, and means controlled by the power driven means for locking the shaft in its adjusted position before the return of the pin to idle position.

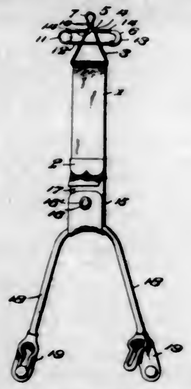
868,583. CORN AND FRUIT SPOON. DANIEL SCHUYLER, San Diego, Cal., assignor to Progressive Business Co., San Diego, Cal., a Corporation of California. Filed Aug. 24, 1905. Serial No. 275,529.



1. A spoon comprising a truncated concave bowl, the body portion and rear end of which form a single concavity, said bowl being truncated at the front end; a handle on the rear concave portion of said bowl, guides or guards which are at a level and form forward extensions of the rim of the bowl; and a food-detaching edge portion forming, together with said guides or guards, the forward end of said truncated bowl, said food-detaching edge portion being between said guides and below the level of said rim and the tops of said guides for the purpose of detaching such edible portions of fruit or vegetables as may, on a forward movement of the spoon, be brought between the guards or guides, thereby to cause such edible portions to be gathered into the bowl of the spoon and conveyed to the mouth without liability of spilling.

2. A spoon comprising a handle, a bowl thereon open at the front end and terminating in a plurality of teeth or tines, the outer ones of which project forward beyond the intermediate ones.

868,584. HOSE-SUPPORTER. FRANK E. SHARP, Corning, N. Y., assignor of one-half to G. Edwin Thomas, Corning, N. Y. Filed Feb. 26, 1907. Serial No. 359,414.



1. In a supporter, the combination with a body portion and means to secure the same to hosiery; of a clevis at the upper end of said body, a securing pin carried by said clevis comprising parallel bars, a loop at the central portion of one of said bars, curved portions in the bar containing the loop whereby the outward movement of the clevis is limited, one of said bars being pointed at its end and forming a pin, a keeper for the pointed end of said pin, and a coil spring connecting said pin and bar.

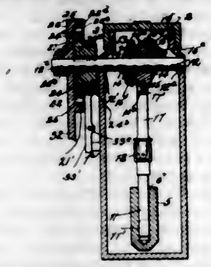
2. In a supporter of the class described the combination with a body portion formed of non-elastic material; of a buckle fixed to one end of said body adapted to engage the opposite end thereof, a strap fixed to said buckle, an auxiliary strap secured to the buckle, means to removably secure said straps together, an elastic cord engaged by the first mentioned strap, clasps at the free ends of said elastic cord adapted to secure the body to hosiery, a clevis engaged by said body, the arms of said clevis being directed inwardly and means carried by said clevis to secure said body to a garment.

3. The herein described means for securing a supporter to a garment comprising a securing pin formed of a continuous section of material and having parallel sections, one section having a loop at its central portion while the opposite section is pointed to form a pin, a coil spring interposed between and connecting said sections, and a keeper at the opposite end of said sections, a clevis having eyes to engage the section having the loop, the arms of said clevis being inwardly directed and curved portions in said section to keep the eyes in engagement with the base of the loop.

868,585. FORCE-FEED LUBRICATOR. ALBERT A. STELTING, Madison, Wis., assignor to The Madison Kipp Lubricator Company, Madison, Wis., a Corporation. Filed Sept. 26, 1905. Serial No. 280,148.

1. The combination with a rotary driving shaft and a plunger adapted to be reciprocated thereby, of an eccentric mechanism mounted on said driving shaft and comprising independent elements mounted on said shaft and eccentrically thereto and adapted to be adjusted relatively to each other to vary the eccentricity of said eccentric mechanism relatively to the axis of said driving shaft, and power transmitting devices interposed between said eccentric mechanism and the said plunger.

2. In a lubricator, the combination with a lubricant cylinder, a plunger therein, and a drive shaft, of means for imparting to the plunger combined reciprocatory and oscillatory movements comprising an eccentric mechanism on the said drive shaft, and means for varying the throw of the said eccentric mechanism, substantially as set forth.



3. In a lubricator, the combination with a lubricant cylinder, a plunger therein, and a driving shaft, of an eccentric mechanism mounted on said driving shaft and capable of adjustment to vary its eccentricity to the axis of said driving shaft, an eccentric strap closely fitted to the periphery of the said eccentric mechanism, and means connecting said eccentric strap with the said plunger.

4. In a lubricator, the combination with a lubricant cylinder, a plunger therein and a drive shaft, of an eccentric mechanism comprising an inner eccentric adapted to be secured to said shaft, and an eccentric mounted on said inner eccentric, and power transmitting means interposed between said last described eccentric and said plunger.

5. In a lubricator, the combination with a lubricant cylinder, a plunger therein, and a driving shaft, of a two part eccentric mechanism mounted on said driving shaft and adapted to have its parts adjusted relatively to each other to vary its eccentricity to the axis of said driving shaft, an eccentric strap on said eccentric mechanism, and means connecting said eccentric strap with said plunger.

6. In a lubricator, the combination with the lubricant cylinder, a plunger therein and a drive shaft, of an eccentric mechanism comprising an inner eccentric mounted on said drive shaft with its axis diagonal to the axis of said shaft, and an outer eccentric mounted on said inner eccentric, and power transmitting means interposed between said outer eccentric and said plunger.

7. In a lubricator, the combination with the lubricant cylinder, a plunger therein and a drive shaft, of an eccentric mechanism comprising an inner eccentric mounted on said drive shaft with its axis diagonal to the axis of said shaft, and an outer eccentric mounted on said inner eccentric and having its axis parallel to the axis of said inner eccentric, and power transmitting means interposed between said outer eccentric and said plunger.

8. In a lubricator, the combination with a lubricant receptacle and means for feeding the lubricant therefrom, of a driving mechanism for said feeding mechanism, comprising a rotary driving shaft connected with and operating said feeding means, and means for rotating the said driving shaft, comprising a rod arranged to be oscillated, and a ratchet and pawl mechanism interposed between said rod and said driving shaft having a casing loosely mounted on said drive shaft and connected to said rod, a ratchet plate arranged within said casing and rigidly secured to said driving shaft, pawls arranged between said casing and said ratchet plate, and the retarding brake for the ratchet plate.

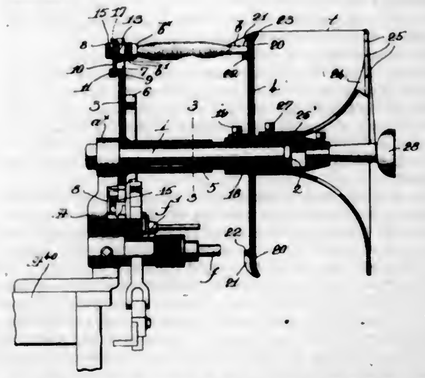
9. The combination with a forward and backward moving element on a mechanism to be lubricated, of an oil reservoir rigidly secured to said element, an oil cylinder carried by said reservoir, a duct leading from said reservoir to said oil cylinder, a plunger in said oil cylinder, a rotary driving shaft carried by said oil reservoir, a pendulum-like mechanism loosely mounted on said driving shaft, a ratchet and pawl mechanism interposed between said pendulum-like mechanism and said driving shaft, and a retarding brake for the ratchet and pawl mechanism carried by said oil reservoir.

10. The combination of the lubricant receptacle, a pump having a reciprocating plunger, and an eccentric adapted to have its center adjusted toward and from the axis of its shaft, substantially as set forth.

11. The combination of the receptacle, a pump having a reciprocating plunger, a driving shaft and the two-part eccentric having one part secured to the driving shaft, and the second part adjustably secured to the first, substantially as set forth.

12. The combination of the receptacle, a pump having a reciprocating plunger, the driving shaft and the two-part eccentric having an inner part eccentrically secured to the driving shaft, and an outer part eccentrically secured to the inner part, substantially as set forth.

868,586. FILLING-FEEDER FOR FILLING-REPLENISHING LOOMS. EDWARD S. STIMPSON, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Mar. 30, 1907. Serial No. 365,439.



1. A filling-feeder comprising two connected plates, one of them having circularly-arranged seats to sustain the tips of a series of filling-carriers, a series of radially-disposed butt-holders, mounted on the other plate, opposite the series of seats, individual springs for said holders, each spring being located directly back of the butt of a filling-carrier when operatively positioned in the feeder, whereby the flat end of a filling-carrier contacts squarely with the holder and unseats it from the plate against the spring, preventing rotative movement of the filling-carrier, and means connecting the butt-holders and the plate while permitting movement of the holders upon their springs.

2. A rotatable filling-feeder having means to sustain the tips of a circularly-arranged series of filling-carriers, and a series of spring-controlled butt-holders mounted on the feeder and independently movable thereon, to engage and sustain the butts of the filling-carriers and press their tips against the tip-sustaining means, the butt-holders being seated wholly upon the flat ends of the filling-carriers when the latter are positioned in the feeder.

3. A filling-feeder comprising two connected plates one of which has a continuous, circular periphery over which the filling-end is led, means on said plate to sustain the tips of a circularly-arranged series of filling-carriers, a series of butt-holders movably mounted on the other plate, to engage and sustain the butts of the filling-carriers, individual springs for the butt-holders, to retain them seated on the plate when empty and to permit unseating when engaged by the butt of a filling-carrier, a holder so engaged seating wholly upon the flat end of its filling-carrier and compressing the corresponding spring, and a filling-end holder adjacent the tip-supporting plate.

4. A filling-feeder having means to fixedly sustain the tips of a series of filling-carriers, and an oppositely ar-

ranged series of spring-controlled butt-holders to engage and sustain the butts of the filling-carriers.

5. A filling-feeder having means to fixedly sustain the tips of a series of filling-carriers, an oppositely arranged series of butt-holders to engage and sustain the butts of the filling-carriers, and an independent controlling spring for each butt-holder, acting thereupon directly in alinement with the longitudinal axis of a filling-carrier when engaged by a butt-holder.

6. A filling-feeder having means to fixedly sustain the tips of a series of filling-carriers, oppositely arranged butt-holders having pockets to receive and sustain the butts of the filling-carriers, springs acting upon the holders directly back of the pockets, to cause a firm-frictional contact between the end of a filling-carrier and its butt-holder and prevent rotation of the carrier, and means to limit movement of a butt-holder against its spring.

7. A filling-feeder, having means to sustain the tips of a series of filling-carriers, a series of butt-holders opposite the tip-sustaining means, a combined support and guide for and on which the butt-holders are mounted, a spring to press each holder inward and seat it on the support unless engaged by a filling-carrier, the latter at such time unseating the holder and supporting it against the pressure of its spring, and means to limit movement of a holder relative to the combined support and guide.

8. A rotatable filling-feeder having means to fixedly sustain the tips of a circularly-arranged series of filling-carriers, oppositely arranged butt-holders, to engage and sustain the butts of the filling-carriers, and a coiled spring coöperating with each butt-holder to press the same toward the tip-sustaining means and acting upon the holder concentric with the longitudinal axis of a filling-carrier held thereby.

9. A filling-feeder comprising a plate having a continuous, circular edge, and adapted to sustain the tips of a series of filling-carriers, a connected plate having oppositely arranged radial openings, butt-holders movably mounted on the plate within said openings, to receive and sustain the butts of the filling-carriers, springs to engage said holders directly back of the butt-engaging portions thereof and press the holders inward, and a filling-end-holder on the feeder adjacent the tip-sustaining plate, the filling-ends being led over the continuous edge of the said plate to the end-holder.

10. A filling-feeder comprising a plate having a continuous circular edge and provided on its inner face with a circularly-arranged series of cup-like tip-sustaining sockets, a connected plate, a series of butt-holders movably mounted thereon opposite the sockets, to engage and sustain the butts of the filling-carriers, each holder having an open ended pocket, a controlling spring for and engaging each holder directly behind its pocket, means to limit in and out movement of the butt-holders relatively to their supporting plate, and means on the outer end of the feeder to hold the filling-ends led over the continuous edge of the tip-sustaining plate.

11. A filling-feeder comprising two rigidly connected plates, means on one plate and fixed with relation thereto to sustain the tips of a series of filling-carriers, and spring-controlled holders on the other plate to engage and sustain the butt-ends of the filling-carriers, each controlling spring acting upon its holder directly in the line of the axis of a filling-carrier.

12. A filling-feeder for looms, having means to sustain the tips of a series of filling-carriers, a series of butt-holders movably mounted on the feeder and each having a flat-bottomed pocket, to receive and sustain the butts of the filling carriers, and controlling springs acting on the holders directly back of the pockets, whereby when a filling-carrier is positioned the flat end thereof will rest squarely upon the pocket bottom, the holder at such time seating only on the filling-carrier and compressing the corresponding controlling spring.

13. A filling-feeder for looms, comprising two opposite plates one of which has an elongated, sleeve-like hub on which the other plate is adjustably mounted and beyond which said hub extends, means on said plates to engage and sustain the tips and butts of a series of circularly-arranged filling-carriers, a stand, a headed stud extended through the sleeve-like hub and fixedly secured to the stand, the feeder rotating on the stud, and a filling-end holder adjustably mounted on the outer projecting end of the sleeve-like hub.

14. A filling-feeder for looms, comprising a circular, tip-sustaining plate having a continuous periphery, a second plate having an elongated hub extended through and beyond the tip-sustaining plate, means to hold the latter plate in adjusted position on the hub, means on the second plate to engage and sustain the butts of a series of filling-carriers, a stand, a headed stud extended through the elongated hub and fixedly secured to the stand, and a filling-end holder having a hub adjustably mounted on the projecting outer end of the elongated hub, the head of the stud acting against the outer end of the hub and limiting outward movement of the feeder.

15. In a filling-feeder for looms, a plate having a series of radial slots, a spring-seat crossing each slot on the outer face of the plate, a butt-holder mounted in each slot between the plate and the spring-seat, to move in and out bodily relatively to the plate, each butt-holder having on its inner face an open-ended pocket with a flat bottom, to receive the butt of a filling-carrier with its end resting squarely upon the bottom of the pocket, and a spring interposed between each spring-seat and the adjacent holder and acting upon the latter directly back of the bottom of the pocket.

16. In a loom, a rotatable filling-feeder adapted to contain a circularly-arranged series of filling-carriers, an abutment against which rests the leading filling-carrier of the series, and a yielding support for and upon which the abutment can tip or move bodily as a filling-carrier is removed from the feeder, the yielding support engaging the abutment between its ends.

17. In a loom, a rotatable filling-feeder adapted to contain a circularly-arranged series of filling-carriers, an upright abutment and guide to coöperate with the butt of the leading filling-carrier, a fixed seat for said abutment, and a spring coöperating with the latter to normally maintain it seated yet permitting the abutment to move relatively to its seat when a filling-carrier is removed from the feeder.

18. In a loom, a rotatable filling-feeder adapted to contain a circularly-arranged series of filling-carriers, an abutment against which rests the leading filling-carrier of the series, a spring upon which the abutment can move to accommodate itself to the filling-carrier as it is removed from the feeder, and a fixed seat to coöperate with the abutment and normally position the same under the stress of the spring.

19. In a loom, a rotatable filling-feeder adapted to contain a circularly-arranged series of filling-carriers, an abutment against which rests the leading filling-carrier of the series, the abutment having on its face a diagonal guide to coöperate with rings on the butt of the filling-carrier and accurately position the same as it leaves the feeder, and a yielding support for the abutment.

20. In a loom, a rotatable filling-feeder adapted to contain a circularly-arranged series of filling-carriers, having rings on their butts, a yielding abutment to engage the butt of the leading filling-carrier of the series, and a diagonal guide on the face of the abutment, to coöperate with the rings and properly position the butt of the filling-carrier as it is removed from the feeder.

21. In a loom, a rotatable filling-feeder adapted to contain a circularly-arranged series of filling-carriers, an abutment for the leading filling-carrier, said abutment having forwardly extended hooks on its upper and lower ends, a fixed seat having lips to be detachably engaged by said hooks, and a spring interposed between the abutment and the seat and maintaining the abutment seated while permitting limited rocking or bodily movement thereof with relation to its seat.

22. In a loom, a rotatable filling-feeder adapted to contain a circularly-arranged series of filling-carriers, an abutment for the leading filling-carrier, a seat for the abutment, and a spring interposed between the seat and abutment to maintain them detachably connected while permitting movement of the abutment relative to the seat.

23. In a loom, a rotatable filling-feeder adapted to contain a circularly-arranged series of filling-carriers, an abutment for the leading filling-carrier, the abutment having a narrow forward extension at its upper end terminating in a hook, a fixed seat having a loop through which the extension passes, the hook engaging the top of the loop, a sliding connection between the lower end of the abutment and the seat, and a spring acting upon the abutment to maintain it yieldingly in its operative position.

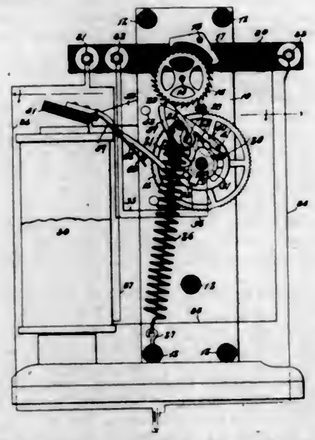
24. A filling-feeder comprising a plate having a continuous circular edge and provided on its inner face with a circularly-arranged series of cup-like tip-sustaining sockets, a connected plate, a series of butt-holders movably mounted thereon opposite the sockets to engage and sustain the butts of the filling-carriers, a controlling spring for and engaging each holder, and means on the outer end of the feeder to hold the filling-ends when led over the continuous edge of the tip-sustaining plate.

25. A rotatable filling-feeder having means to fixedly sustain the tips of a circularly-arranged series of filling-carriers, and an oppositely arranged series of spring-controlled butt-holders to engage and sustain the butts of the filling-carriers.

26. In a loom, a rotatable filling-feeder adapted to contain a circularly-arranged series of filling-carriers, and an abutment against which rests the leading filling-carrier of the series, said abutment having on its face a diagonal guide to coöperate with means on the butt of the filling-carrier and accurately position the same as it leaves the feeder.

27. A filling-feeder having means to sustain the tip end of a filling-carrier, and means for sustaining the butt end of a filling-carrier, including an end-holder, its seat and a spring for the holder acting thereupon in alinement with the longitudinal axis of the filling-carrier, to cause the end-holder to engage squarely with the flat end of the butt.

868,587. SELF-WINDING ELECTRIC CLOCK. CLEAVER W. WAGNER, Danville, Pa., assignor to Automatic Clock Company, Danville, Pa. Filed Mar. 13, 1906. Serial No. 305,873.



1. In a self-winding clock, a clock train, a propelling spring therefor, an electro-magnet and connections between the same and the propelling spring for putting the latter under stress, a pair of adjacent contacts insulated from each other and carried by and movable with a movable part of the clock train, electric conductors directly connected to said adjacent contacts whereby they form the terminals of a charged electric circuit, and a bridging conducting member mounted on one of the contacts and having movement independent of said contact to complete the circuit to the other contact.

2. In a self-winding clock, a clock train, propelling means for the same, electro-magnetically actuated means operating on said propelling means at intervals, a pair of adjacent contacts insulated from each other and forming the terminals of an electric circuit and carried by and movable with a movable part of the clock train, and a bridging conducting member carried by one of said contacts and movable by gravity to a position to be impelled to close the circuit between the contacts prior to the action of the electric means on the clock train propelling means.

3. In a self winding clock, a clock train, a spring impelled arm through which movement is imparted to the train, an electro-magnet, an armature disposed within the field of force of the electro-magnet, a lever carrying said armature and arranged to engage the spring impelled arm at intervals to place the spring under stress, an electric circuit including the electro-magnet and a source of energy, and a pivotally mounted contact carried by the arm and arranged to engage the armature lever for moving to circuit closing position in advance of the operation of said armature lever.

4. In a self winding clock, a clock train, a spring impelled arm for imparting movement to the clock train, an electro-magnet, an armature disposed within the field of force of the electro-magnet, a lever carrying said armature and arranged to engage with the spring impelled arm at intervals, an electric circuit including the electro-magnet and a source of energy, and a contact carried by the arm and provided with a pair of arms for successive engagement with the armature lever to effect successive making and breaking of the circuit.

5. In a self winding clock, a clock train, a spring impelled arm for imparting movement to the train, an electro-magnet, an armature disposed within the field of force of the electro-magnet, a lever carrying said armature and arranged to engage the spring impelled arm at intervals, an electric circuit including the electro-magnet and a source of energy, pivoted contacts mounted on said arm and connected in the circuit, said contact being provided with a pair of projecting arms arranged to be successively engaged by the armature lever for effecting first the make, and then the break of the electric circuit.

6. In a self winding clock, a clock train including an arbor, a ratchet wheel on said arbor, a collar free to oscillate on the arbor, an arm secured to the collar, a pawl carried by the arm and engaging the teeth of the ratchet wheel, a tension spring extending between the arm and a fixed point, an electro-magnet, an armature disposed within the field of force of the electro-magnet, a lever carrying the armature and disposed under said arm, the adjacent faces of the arm and lever being rounded to permit rolling engagement between them, an electric circuit including the electro-magnet and a source of energy, a contact member also carried by the sleeve, a second contact member pivoted to the spring actuated arm and provided with a pair of spaced arms for successive engagement with the armature lever, whereby said pivoted contact may be positively moved toward and from the collar carried contact.

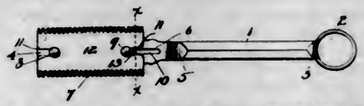
7. In a self winding clock, a clock train, means for propelling the same, an electro-magnet for winding the propelling means, an electric circuit including the electro-magnet and a source of energy, a pair of clock train carried contact forming the terminals of the circuit and arranged in close relation, means independent of the propelling means for moving one of said contacts with relation to the other to complete the circuit, and means for insulating said contacts from the frame and arbors.

868,588. SAFETY-RAZOR. WILLIAM N. WARD, Chicago, Ill., assignor to Yale Safety Razor Co., Chicago, Ill., a Corporation of Arizona. Filed July 5, 1907. Serial No. 382,265.

1. In a safety razor, a blade holder, a headed pin rigidly secured to the holder, a headed pin adjustably mounted on the holder, a blade formed to engage said holder and pins and means to rigidly secure said adjustable pin in an adjusted position, substantially as shown and described.

2. In a safety razor, a blade holder, a headed pin rigidly

secured thereto, a pin adjustably mounted on said holder, a blade having apertures to receive said pins in securing the blade in position and means to rigidly secure said adjustable pin in an adjusted position, substantially as shown and described.



3. In a safety razor, a blade holder having a slot therein, a headed pin slidably mounted in the slot having a threaded shank, a thumb-nut engaging said threaded shank, a headed pin secured to said holder, and a blade formed to engage said pins, substantially as shown and described.

4. In a safety razor, a blade holder, a headed pin secured thereto, a headed pin slidably mounted on said holder, a blade having recesses centrally of its ends to receive said pins and means to rigidly secure said slidable pin in an adjusted position, substantially as shown and described.

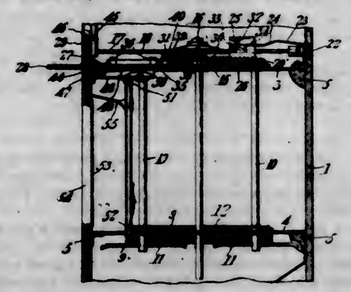
5. In a safety razor, a blade holder having a longitudinal slot therein, a blade having recesses formed centrally of its ends, means to engage one end of the blade, and a headed pin slidably mounted in the slot in the holder to engage the other end of the blade, substantially as shown and described.

6. In a safety razor, a blade holder having a longitudinal slot therein, a blade formed with recesses centrally of its ends, a headed pin secured to the blade holder and adapted to engage the recess at one end of the blade, and a headed pin slidably mounted in the slot aforesaid to engage the recess at the other end of the blade, substantially as shown and described.

7. In a safety razor, a blade holder having a longitudinal slot therein, a blade having recesses in its ends and centrally thereof, a headed pin secured to the blade holder and adapted to engage the recess at one end of the blade, a headed pin slidably mounted in the slot aforesaid to engage the recess in the other end of the blade and having a screw-threaded shank, and a thumb nut secured on said threaded shank, substantially as shown and described.

8. A safety razor comprising a blade holder having a handle formed integral therewith and extending from one end thereof, said blade holder and handle formed with a slot, the blade formed of a thin metal plate having recesses in its ends formed centrally thereof, a headed pin secured adjacent to the outer end of the blade holder to engage the recess in one end of the blade, a headed pin slidably mounted in the slot aforesaid to engage the recess in the other end of the blade, said slidable pin having a threaded shank, and a thumb nut secured on said threaded shank, substantially as shown and described.

868,589. VENDING-MACHINE. RICHARD WEITLICH and ADOLPH W. MILLER, Sturgeon Bay, Wis., assignors to Slug Proof Vending Machine Co., Inc., Sturgeon Bay, Wis. Filed May 7, 1907. Serial No. 372,399.



1. In a vending machine, a number of substantially vertical shafts arranged to receive between them a number of articles stacked alternately at approximately right angles one to the other, supporting and delivering rods extending through the lower portions of the shafts and at equal distances on each side thereof, and means for rotating said shafts synchronously to angles sufficient to release the lowermost article or articles and simultaneously engage the next succeeding article or articles at right angles to the released article or articles.

2. In a vending machine, a number of substantially vertical shafts, article-supporting rods at the lower ends of the shafts, pinions at the upper ends of the shafts, a common gear wheel for the pinions, and means for rotating the gear wheel step-by-step to cause the rotation of the shafts to an extent sufficient to release an article or articles and engage the next succeeding article or articles.

3. In a vending machine, a number of substantially vertical shafts, each provided with a through rod near its lower end extending to each side of the shaft, pinions at the other ends of the shafts, a common gear wheel for rotating said shafts synchronously through the pinions, and means for imparting a step-by-step movement to the gear wheel to rotate the shafts a sufficient distance at each step movement to release an article or articles and engage the next succeeding article or articles.

4. In a vending machine, a number of substantially vertical shafts, article-receiving rods extending through the shafts near their lower ends and to each side thereof, pinions on the upper ends of said shafts, a common gear wheel for the pinions, a toothed member movable with said gear wheel, and means for engaging the teeth on the toothed member to impart a step-by-step movement to the toothed member.

5. In a vending machine, a number of substantially vertical, rotative shafts, through rods carried by said shafts near their lower ends, pinions on the upper ends of said shafts, a common gear wheel for all of said pinions, a toothed member secured to said gear wheel, a pawl normally out of engagement with the teeth of said toothed member, a slide, means carried by said slide for engaging said pawl and timed to move the same into the path of one of the teeth on the toothed member when the slide reaches the limit of its movement in one direction, another pawl arranged to engage one of the teeth on the toothed member, and means for coupling the slide and last-named pawl for causing the rotation of the toothed member when the slide is moved in the proper direction.

6. In a vending machine, a number of substantially vertical shafts, through rods near the lower ends of said shafts, pinions on the upper ends of said shafts, a common gear wheel for all the pinions, a toothed member movable with said gear wheel, a back-stop for said toothed member, a spring pawl normally out of the path of said toothed member and movable into the path of the teeth on said toothed member, a reciprocating slide, means on said slide for moving the spring pawl into the path of the toothed member, an actuating pawl for the toothed member normally inoperative with relation to the slide, and means for coupling the slide and last-named pawl for coactive operation.

7. In a vending machine, a number of substantially vertical shafts, through rods near the lower ends thereof, pinions at the upper ends of said shafts, a common gear wheel for all the pinions, a toothed disk movable with said gear wheel, a back-stop for the toothed disk, a spring pawl normally out of operative relation to the teeth on the disk, a reciprocating slide, means on said slide for moving the pawl into the path of the teeth on the disk when the slide reaches one limit of its movement, a supplemental slide on the main slide, a pawl movable to engage the teeth of the toothed disk, means on the supplemental slide for engaging said last-named pawl, and means for causing cooperative movement of the two slides to actuate the pawl engaged by the supplemental slide to move the toothed disk.

8. In a vending machine, a number of substantially vertical shafts, through rods near the lower ends thereof, pinions near the upper ends of said shafts, a common gear wheel for all the pinions, a toothed disk movable with said gear wheel, an elastic pawl for actuating said toothed disk, and means for moving said pawl in one direction to actuate said disk and permitting the said pawl to yield and ride under the teeth of the disk on its return movement.

9. In a vending machine, a number of equidistant, vertical shafts; article-supporting means at the lower ends of the shafts, and a follower plate through which the shafts pass, said follower plate spacing and supporting said shafts and providing space for the display of instructions.

868,590. MAIL-BOX. GEORGE A. WIRT, Greensburg, Ind. Original application filed Sept. 17, 1906, Serial No. 334,832. Divided and this application filed Jan. 31, 1907. Serial No. 355,097.

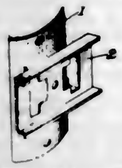


1. The combination, in a mail box, of a main receptacle, a movable cover inclosing said receptacle, a pivoted counterbalanced tray suspended from the roof of said receptacle, the receiving portion of said tray being in front of its suspending pivot and its weight-extension extending to the rear of said pivot in position to be pushed upon by the hand of the operator simultaneously with placing said hand in position to receive the contents of the tray.

2. A mail box having a main receptacle and a counterbalanced tray pivotally secured therein beneath the upper part of the box so that its mouth normally bears against and is closed by that part.

3. A mail box having a main receptacle and a counterbalanced tray pivotally secured therein beneath the upper part of the box so that its mouth normally bears against and is closed by that part, the counterbalance of the tray being extended downwardly lower than the base of the tray and accessible from the receiving opening of the receptacle.

868,591. SUPPORT FOR CROSS-ARMS. ERNEST E. YANLEY, Chicago, Ill., assignor to Steel Gain Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed June 4, 1906. Serial No. 320,171.



1. In a support for cross-arms the combination of a cross arm member, a pole member, extended portions on said pole member with means for attaching the same to the pole, and throughbolts for clamping together said members and the cross-arm and pole, substantially as described.

2. In a support for cross-arms, the combination of a plurality of cross-arm plates, a common pole plate adapted to engage and receive all of said cross-arm plates, and means for holding said cross-arm plates in transverse alinement to said pole plate when assembled, substantially as described.

3. In a support for cross-arms, the combination of a plurality of cross-arm plates, a common pole plate adapted to coöperate with all of said cross arm plates, means for securing said pole plate to the pole, and means for holding said cross-arm plates in transverse alinement to said pole plate when assembled, substantially as described.

4. In a support for cross-arms, a cross-arm plate, a pole plate, a pair of braces, said pole plate having an extended portion with a hole adapted to register upon the surface of the pole with the holes in the pole ends of said pair of braces when assembled, and means passing through said holes for securing the pole plate to the pole and the braces to the pole plate, substantially as described.

5. In a support for cross arms, a plurality of cross-arm plates, a pole plate adapted to coöperate with said cross-arm plates, and a plurality of pairs of cross-arm braces said pole plate having holes adapted to receive lag screws, some of the holes in said pole plate being adapted to register with the holes in the pole ends of the pairs of braces when assembled, substantially as described.

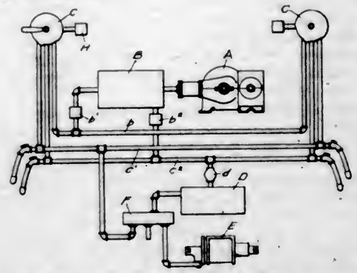
6. In a support for cross arms, a cross-arm plate, a pole plate, means for permitting access of air to the surface of the pole nominally covered by said pole plate, and means for securing said pole plate to the pole, substantially as described.

7. In a support for cross-arms, the combination of a cross-arm plate, a pole plate, and a through bolt adapted to hold said plate against the pole, said pole plate having a curved surface adapting it to maintain its position upon the pole, and having holes with lag screws fitted thereto adapted to sustain it in its position upon the pole when the through bolt is removed, substantially as described.

8. In a support for cross arms, the combination of a cross-arm plate, a pole plate, a throughbolt adapted to hold said pole plate against the pole, lag screws for maintaining said pole plate in its original position upon the pole, and means for permitting access of air to the surface of the pole nominally covered by the pole plate, substantially as described.

9. In a support for cross arms, a cross arm plate, a pole plate means for securing the pole plate to the pole and separate means for clamping together the cross arm plate, the pole plate and the pole.

868,592. AIR-BRAKE SYSTEM. CHARLES E. BARRY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed May 14, 1906. Serial No. 316,721.



1. In an air-brake system, a train-pipe, reservoirs on the several cars, automatic valves controlled by difference in pressure in train-pipe and reservoirs and controlling the flow of air into and out of the brake cylinders, and a manually-operated valve and pipe connections for connecting said train-pipe to atmosphere, to the reservoirs, or to a source of higher pressure.

2. In an air-brake system, a train-pipe, reservoirs on the several cars, automatic valves controlled by difference in pressure in train-pipe and reservoirs and controlling the flow of air into and out of the brake cylinders, a second train pipe connected to said reservoirs through check-valves, and means for connecting the first train-pipe to atmosphere, to a source of pressure, or to the second train-pipe.

3. In an air-brake system, a train pipe, reservoirs on the several cars, automatic valves controlled by difference in pressure in train-pipe and reservoirs and adapted to connect the brake cylinders to said reservoirs or to atmosphere. a second train-pipe connected to said reservoirs

through check-valves, and means for connecting the first train-pipe to atmosphere, to a source of pressure, or to the second pipe.

4. In an air-brake system, two train-pipes, valves on the several cars controlling the flow of air into and out of the brake cylinders, pistons for operating said valves exposed on opposite sides to pressures supplied from the two train-pipes respectively, and means for producing at will a relatively greater pressure in either of said train-pipes and for equalizing the pressures in the two train-pipes.

5. In an air-brake system, two train-pipes, valves on the several cars controlling the flow of air into and out of the brake-cylinders, pistons for operating said valves exposed on opposite sides to pressure supplied from the two train pipes respectively, and means for producing at will a relatively greater preasure in either of said two train-pipes.

6. In an air-brake system, a brake-controlling valve, a piston for reciprocating said valve, means for varying the relative pressures on opposite sides of said piston, and yielding stops on opposite sides of said valve so spaced that said valve is in engagement with only one of said stops at a time, said valve being arranged to be in lap-position when in engagement with one stop and in release position when in engagement with the other.

7. In an air-brake system, two yielding stops, a brake-controlling valve adapted to be reciprocated between said stops and arranged to be in lap-position when in engagement with one stop and in release-position when in engagement with the other stop, a piston operatively connected to said valve and adapted to move said valve from lap-position to application-position against the pressure of one of said stops and from release to a second lap-position against the pressure of the other stop, and means under the control of the engineer for varying at will the relative pressures on opposite sides of said piston.

8. In an air-brake system, two yielding stops, a brake-controlling valve adapted to be reciprocated between said stops and arranged to be in lap-position when in engagement with one stop and in release-position when in engagement with the other stop, a piston operatively connected to said valve and adapted to move said valve from lap-position to application-position against the pressure of one of said stops and from release to a second lap-position against the pressure of the other stop, two train-pipes for supplying pressure to opposite sides of said piston, and means for varying at will the pressure in one of said train-pipes and for equalizing the pressures in the two train-pipes.

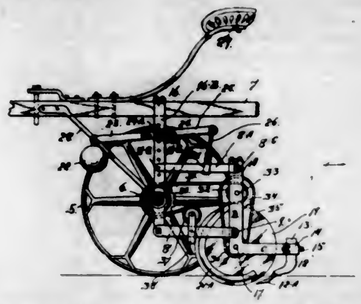
9. In an air-brake system, two yielding stops, a brake-controlling valve adapted to be reciprocated between said stops and arranged to be in lap-position when in engagement with one stop and in release-position when in engagement with the other stop, a piston operatively connected to said valve and adapted to move said valve from lap-position to application-position against the pressure of one of said stops and from release to a second lap-position against the pressure of the other stop, two train-pipes for supplying pressure to opposite sides of said piston, the connection from one of said pipes to said piston including a check-valve, and means for varying at will the relative pressures in said train-pipes.

10. In an air-brake system, two train-pipes, valves on the several cars controlling the flow of air into and out of the brake cylinders, pistons for operating said valves exposed on opposite sides to pressures supplied from the two train-pipes respectively, a check valve in the supply connection from one of said train pipes, and means for producing at will a relatively greater pressure in either of said two train-pipes.

11. In an air-brake system, two train-pipes, one carrying air at a determined pressure, means for varying the pressure in the other pipe above and below the pressure in the first, and valves on the several cars controlled by the difference in the pressures in said pipes and controlling the flow of air into and out of the brake cylinders.

12. In an air-brake system, two train-pipes, one carrying air at a determined pressure, means for connecting the second train-pipe to a source of higher pressure, to atmosphere or to the first train-pipe and valves on the several cars controlled by the difference in the pressures in said pipes and controlling the flow of air into and out of the brake cylinders.

868,593. BEET-TOPPER. DAVID T. BLEVINS, Windsor, and SQUIRE R. GIDDINGS, Timnath, Colo., assignors, by direct and mesne assignments, to The Yankee Beet Topper Company, Timnath, Colo. Filed Aug. 27, 1906. Serial No. 332,139.



1. The combination with a main frame and ground wheels, of an auxiliary frame connected with the main frame to permit vertical movement, a lever-like device fulcrumed on the main frame and provided with counter-balance weight, the lever-like device being connected with the auxiliary frame on the opposite side of the fulcrum from the said weight, a topping knife mounted on the auxiliary frame, and a gage also mounted on the auxiliary frame for regulating the plane of cut of the topping knife.

2. The combination with a main frame and ground wheels, of an auxiliary frame, a link connection between the main frame and the auxiliary frame, a lever-like device fulcrumed on the main frame and connected to regulate the vertical movement of the auxiliary frame, the said device being provided with a counter-balance weight, a topping knife mounted on the auxiliary frame, and means also mounted on the auxiliary frame for regulating the plane of cut of the topping knife.

3. The combination with a main frame and ground wheels, of an auxiliary frame connected with the ground wheels to permit independent vertical movement, a cutting disk revolubly mounted on the auxiliary frame, and gage bars also mounted on the auxiliary frame on opposite sides of the cutting disk for regulating the depth to which the cutting disk enters the beets to be topped, and a topping knife mounted on the auxiliary frame in the rear of the cutting disk.

4. The combination with an axle, ground wheels with which the axle rotates, and a main frame, of an auxiliary frame connected with the main frame to permit independent vertical movement, a shaft journaled in the auxiliary frame, a cutting disk fast on the said shaft and adapted to rotate therewith, a counter-shaft also journaled in the auxiliary frame, means for imparting rotary movement from the axle to the counter-shaft, and means for operating the disk shaft from the counter-shaft.

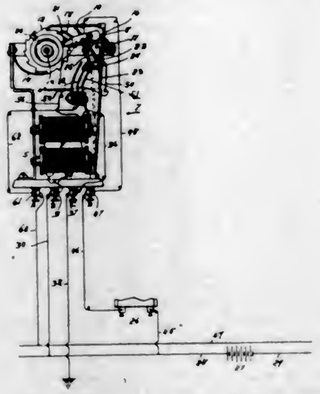
5. The combination of a main frame and ground wheels, of an auxiliary frame, two pairs of links connecting the auxiliary frame with the main frame, there being one pair of links on each side, the individual links of each pair being arranged one above another, a lever-like device fulcrumed on the main frame and connected with the upper pair of links for regulating the vertical movement of the auxiliary frame, the said device being provided with a counter-balance weight, a topping knife carried by the auxiliary frame, and means also carried by the auxiliary frame for regulating the plane of cut of the topping knife.

6. The combination with a main frame and ground wheels, of an auxiliary frame connected with the ground wheels to permit independent vertical movement, a cutting disk revolubly mounted on the auxiliary frame, and a gearing connection between the ground wheels and the said disk for imparting rotary movement to the latter, gage bars also mounted on the auxiliary frame on opposite sides of the cutting disk for regulating the depth to which the cutting disk enters the beets to be topped, and a topping knife mounted on the auxiliary frame in the rear of the cutting disk.

7. The combination with ground wheels and an axle rotating therewith, of a yoke mounted thereon, a frame member connected with the yoke to permit a vertical movement, a lever like device fulcrumed on the yoke and provided with a counter-balance weight, the lever-like device being connected with the frame on the opposite side of the fulcrum from the said weight, a cutting disk revolubly mounted on the frame member and centrally located between the ground wheels, a topping knife also mounted on the frame member in the rear of the rotary disk, and means for imparting rotary movement to the disk from the axle, substantially as described.

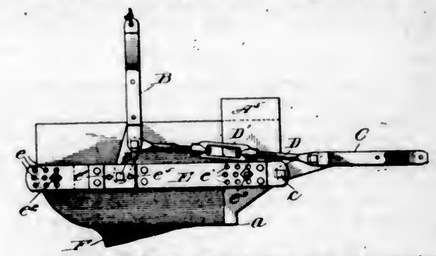
8. The combination with ground wheels and an axle rotating therewith, of a yoke mounted thereon, a frame member connected with the yoke to permit a vertical movement, a lever-like device fulcrumed on the yoke and provided with a counterbalance weight, the lever-like device being connected with the frame on the opposite side of the fulcrum from the said weight, a cutting disk revolubly mounted on the frame member and centrally located between the ground wheels, a topping knife also mounted on the frame member in the rear of the rotary disk, and means for imparting rotary movement to the disk from the axle, and adapted to impart movement to the disk at a greater speed than the travel of the ground wheels.

868,594. ATTACHMENT FOR PARTY-LINE TELEPHONES. JAMES H. BLYTHE, Denver, Colo. Filed May 21, 1906. Serial No. 317,902.



In a telephone attachment for party lines, a combination with telephones and the circuit in which they are located, of means controllable from the central office for cutting all the telephones out of the circuit and then closing the circuit through a single telephone only, said means comprising a rotatable circuit make-and-break wheel for each telephone provided with a main contact pin, a brush in the circuit and normally engaged by said pin, an electro-magnetic means for simultaneously rotating the make-and-break wheel of the telephones, each of said make-and-break wheels being provided with an auxiliary contact pin occupying a different position with reference to the main contact from the auxiliary pin of any other make-and-break wheel whereby if the make-and-break wheels of all the telephones are actuated and the circuit broken through all the telephones, the circuit may be closed through any telephone by continuing the movement of all the make-and-break wheels until the auxiliary contact pin of any wheel is in the circuit-closing position, and electro-magnetic means for restoring the main pins on the make-and-break wheels to their normal position comprising an armature provided with a ratchet pawl and a locking pawl, the locking pawl having a downwardly projecting arm which is operated by any suitable means adapted to be attached to the armature, substantially as described.

868,595. EXCAVATING-BUCKET. HENRY CHANNON, Chicago, Ill. Filed May 4, 1907. Serial No. 371,887.



1. In a device of the character described, the combination with an excavating bucket, of a supporting member pivoted to said bucket at the rear of its center of gravity, means for varying the point of connection between the bucket and the supporting member, and holding mechanism secured to said supporting member and connected to the bucket in front of its center of gravity.

2. In a device of the character described, the combination with an excavating bucket, of a supporting member pivoted to said bucket at the rear of its center of gravity, holding mechanism secured to said supporting member and connected to the bucket in front of the center of gravity, and means for varying the point of connection between said holding mechanism and the bucket.

3. In a device of the character described, the combination with a bucket, of a supporting bail between the arms of which the bucket is situated, means for pivotally supporting the bucket from said bail at any one of a series of points in the rear of the center of gravity of the bucket, and pulling mechanism secured to the portions of said bail on opposite sides of the bucket, said mechanism being connected to each side of the bucket in front of its center of gravity.

4. In a device of the character described, the combination with a bucket, of a supporting bail, means for pivotally supporting the bucket upon the supporting bail at any one of a number of points at the rear of the center of gravity of the bucket, a second bail, and means for pivotally connecting said bails together.

5. In a device of the character described, the combination with an excavating bucket, a pair of side members adjustably secured to the side walls of the bucket, a supporting bail for said bucket pivotally connected at its ends to said side members, and pulling mechanism secured to the front ends of said side members and connected to said bail.

6. In a device of the character described, the combination with a bucket, a pair of side members secured to the side walls of the bucket, means for adjusting the position of said members in two directions at right angles to each other, a supporting member for the bucket pivoted to said side members in the rear of the center of gravity of the bucket, a pulling member secured to the front ends of said side members, and a connection between the supporting member and the pulling member.

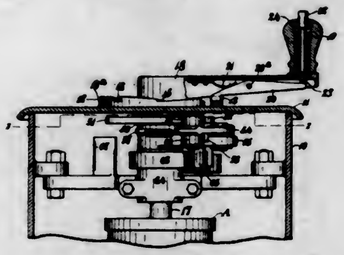
7. In a device of the character described, the combination with a bucket, a pair of side members adjustably mounted on the side of the bucket, a supporting bail for said bucket, means for pivotally connecting said supporting bail to said side members at any one of a plurality of points, a pulling member secured to the front ends of said

side members, and a connection between the supporting bail and the pulling member.

8. In a device of the character described, the combination with a bucket, of a supporting member pivoted to said bucket, means for varying the point of connection between said member and the bucket, pulling mechanism engaging said supporting member and connected to the bucket, and means for adjusting the pulling mechanism to vary the inclination of the bucket.

9. In a device of the character described, the combination with an excavating bucket, of a supporting member connected to said bucket at the rear of the center of gravity, a pulling member connected to said bucket in front of the center of gravity, means for adjusting the point of the pulling member above or below the center of gravity of the bucket.

868,596. POTENTIAL-STARTER ATTACHMENT. HERBERT W. CHENEY, Norwood, Ohio, assignor to Allis Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed Nov. 23, 1906. Serial No. 344,685.



1. A controller biased toward "off" position when in "starting" position, and means for unbiasing said controller whenever it is moved to "running" position.

2. A controller for electric motors, comprising fixed and movable contacts, said movable contacts being biased toward "off" position when the controller is in "starting" position, and means for unbiasing said movable contacts whenever the controller is moved into "running" position.

3. In a controller, contact fingers, a drum coöperating therewith, said drum having "off", "starting" and "running" positions, a spring which tends to move said drum to "off" position when it is in a "starting" position, and means for releasing said drum from said spring whenever it is moved to "running" position.

4. In a controller, a rotatable drum, fixed contacts with which said drum coöperates, means whereby said drum is biased toward "off" position when in certain operative positions, and means for freeing said drum from said bias when it is moved into certain other operative positions.

5. A controller for electric motors, comprising a rotatable drum coöperating with fixed contacts, said drum being biased toward "off" position when in "starting" position, and means for unbiasing said drum whenever it is moved to "running" position.

6. A controller for electric motors comprising a rotatable drum, contact fingers coöperating therewith, means for preventing backward movement of said drum from the "off" or the "running" position, a spring-returned member which is engaged by the drum as the latter is moved to "starting" position, and means for disengaging said drum from said member as the drum is moved into "running" position.

7. A controller for electric motors comprising a rotatable drum, contact fingers coöperating therewith, means for preventing backward movement of said drum from the "off" or the "running" position, a spring-returned member which is engaged by the drum as the latter is moved away from "off" position, and means for disengaging said drum from said member as the drum is moved into "running" position.

8. A controller for electric motors comprising a rotatable drum, contact fingers coöperating therewith, means for preventing backward movement of the controller from certain positions, a spring which tends to move the drum to "off" position when it is in any position from which it may be moved backward, and means for releasing the drum from said spring when it is moved to any other position.

9. A controller for electric motors, comprising a rotatable drum, contact fingers coöperating therewith, a collar movable with said drum, a projection from said collar, a spring pressed lever in the path of said projection and arranged to engage it when the controller is in a "starting" position whereby the controller is returned to "off" position if then released, and means for disengaging said lever and said projection when the controller is moved to "running" position.

10. A controller for electric motors, comprising a rotatable drum, contact fingers coöperating therewith, a collar movable with said drum, projections from said collar, a spring pressed lever in the path of said projections, and arranged to be engaged by one of them when the controller is in "starting" position, and means for releasing said lever from engagement with said projection when the controller is moved into "running" position, whereby the drum while in "starting" position is biased toward "off" position.

11. A controller for electric motors, comprising a rotatable drum normally movable always in the same direction, means for preventing backward movement of said controller from "off" or "running" position, means tending to move said controller backward to "off" position when it is in other than "off" or "running" positions, and means for releasing the controller from said backward tending means when it is moved into a "running" position.

12. In a controller, a rotatable drum, an operating shaft therefor, a handle on said shaft, a manually released latch on said handle coöperating with a stationary notched plate, some of the notches of said notch plate being formed to lock the handle against backward movement and others to allow a free backward movement, and means tending to move said drum backward when it is in a position in which the notch-plate allows backward movement.

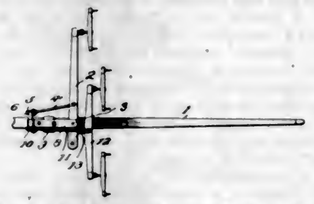
13. In a controller, a shaft, a handle therefor, and a fixed notched plate coöperating with a manually releasable latch in the handle, the notches of said plate being so formed that some of them prevent backward movement of the handle and others offer no hindrance to such backward movement while all of them necessitate a manual release of the latch in order to move the handle forward.

14. In a controller, a shaft, a handle therefor, a fixed notched plate coöperating with a manually releasable latch in the handle, the notches of said plate being so formed that some of them prevent backward movement of the handle and others offer no hindrance to such backward movement while all of them necessitate a manual release of the latch in order to move the handle forward, and a spring tending to move said handle backward.

15. In a controller, a shaft, a handle therefor, a fixed notched plate coöperating with a manually releasable latch in the handle, the notches of said plate being so formed that some of them prevent backward movement of the handle and others offer no hindrance to such backward movement while all of them necessitate a manual release of the latch in order to move the handle forward, and a spring tending to move said handle backward when it is in a position from which backward movement is not prevented.

868,597. DRAFT-EQUALIZER. WILLIAM L. CHRYSLER and JOSEPH W. KAYS, Eugene, Oreg. Filed Dec. 8, 1906. Serial No. 346,947.

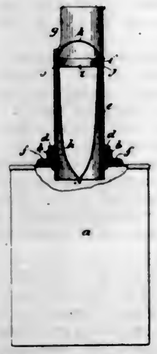
1. In a draft equalizer, the combination of a tongue, a lever fulcrumed upon the tongue to provide a long arm and a short arm, means for connecting a draft animal to the long arm of the lever, a whiffle tree, a link loosely connecting the whiffle tree to the short arm of the lever, a shaft journaled upon the tongue transversely thereof and provided at its opposite ends with oppositely disposed crank-arms, a rod connecting one of the crank levers to the long arm of the lever, and a second rod connecting the opposite crank arm to the before mentioned whiffle tree.



2. In a draft equalizer, the combination of a tongue, a pair of plates secured to the tongue, the forward ends of the plates being spaced from each other and from the tongue, a lever fulcrumed at an intermediate point between the spaced ends of the plates to provide a long arm and a short arm, means for connecting a draft animal to the long arm, a whiffle tree, a link loosely connecting the whiffle tree to the short arm, a shaft journaled between the before mentioned plates and provided at its opposite ends with crank arms, a rod connecting one of the crank arms to the long arm of the lever, and a second rod connecting the opposite crank arm to the before mentioned whiffle tree.

3. In a draft equalizer, the combination of a pole, or tongue, an iron secured to said pole and having its front portion spaced therefrom, a second iron placed upon the lower iron and secured thereto and to the pole, and having its front portion spaced from the front portion of the lower iron, a shaft journaled between the two irons and having oppositely disposed crank arms of unequal length, a lever fulcrumed between the front ends of said irons to provide arms of unequal length, a rod connecting the long arm of the lever with the short crank arm of said shaft, a whiffletree, a bell crank connecting the whiffletree with the short arm of said lever and a rod connecting the whiffletree with the long crank arm of the aforementioned shaft.

868,598. FILLING-TAP FOR LIQUID-RECEIVING VESSELS. CLYDE J. COLEMAN, New York, N. Y., assignor to Conrad Hubert, New York, N. Y. Filed Jan. 24, 1906. Serial No. 297,564.



1. A filling tap for a liquid-receiving vessel comprising a pouring guide fitted in the liquid-receiving opening of the vessel so as to be movable inwardly and outwardly, and a clamping device for holding such pouring guide in outer position.

2. A filling tap for a liquid-receiving vessel comprising a nipple at the liquid-receiving opening of the vessel, a pouring guide tube fitted therein so as to be movable inwardly and outwardly, and an annular wedge-clamp between the nipple and the tube for holding the tube in outer position.

3. A filling tap for a liquid-receiving vessel comprising a pouring guide fitted in the liquid-receiving opening of the vessel so as to be movable inwardly and outwardly, the pouring guide having a lateral spout-receiving opening extending to the top of the guide and providing a spout-support located at a substantial distance from the liquid-receiving vessel when the pouring guide is in outer position, and means for supporting the pouring guide from the vessel to maintain the pouring guide in outer position.

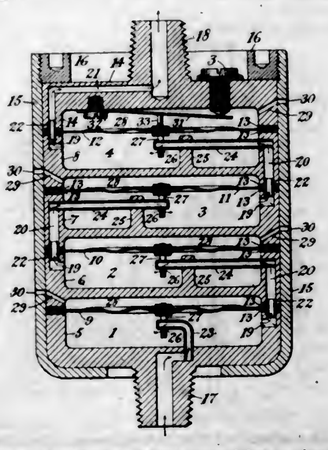
4. A filling tap for a liquid-receiving vessel comprising a pouring guide having a lateral spout-receiving opening and fitted in the liquid-receiving opening of the vessel so as to be movable inwardly and outwardly, the pouring guide being provided at the spout-receiving opening with a spout-support located at a substantial distance from the liquid-receiving vessel when the pouring guide is in outer position, and a clamping device for holding the pouring guide in outer position.

5. A filling tap for a liquid-receiving vessel comprising a pouring tube fitted in the liquid-receiving opening of the vessel so as to be movable inwardly and outwardly, and a strainer carried by the pouring guide and freely removable through the outer end thereof.

6. A filling tap for a liquid-receiving vessel comprising a pouring guide tube fitted in the liquid-receiving opening of the vessel so as to be movable inwardly and outwardly, the pouring tube having a lateral spout-receiving opening, and a strainer carried by the tube and freely removable through the outer end thereof.

7. A filling tap for a liquid-receiving vessel comprising a nipple at the liquid-receiving opening of the vessel, a pouring guide tube fitted therein so as to be movable inwardly and outwardly, the tube having a lateral spout-receiving opening, a strainer carried by the tube and removably supported therein, an annular wedge-clamp between the nipple and the tube, and a sealing cap coöperative with the nipple, substantially as set forth.

868,599. PRESSURE-REDUCING VALVE. CLYDE J. COLEMAN, New York, N. Y., assignor to Conrad Hubert, New York, N. Y. Filed Jan. 12, 1907. Serial No. 352,023.



1. A pressure reducing device comprising a plurality of pressure chambers belonging to successive stages of pressure reduction, with valve-openings forming communications between adjacent chambers and an initial valve-opening for the first chamber in the succession, a valve in control of each valve-opening, such valves constituting inlet valves for the successive chambers, and a diaphragm for each chamber and controlled by the pressure in the chamber for actuating the inlet valve for that chamber, such diaphragm being exposed on one side to the pressure within the chamber and exposed on its other side to the pressure of the atmosphere.

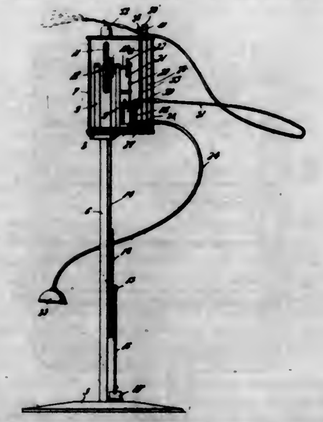
2. In a pressure reducing valve, the combination of a plurality of cup-shaped sections and interposed diaphragms means for binding the sections and diaphragms together to form chambers, the sections being provided with passages connecting adjacent chambers and the outer sections each being provided with a passage leading to the outside and constituting respectively inlet and outlet passages, and a valve for each chamber controlled by the corresponding diaphragm and controlling the inlet passage for such chamber.

3. In a pressure-reducing valve, the combination of a casing, a plurality of cup-shaped sections secured in the casing and comprising each a transverse partition, a cylindrical pressure-chamber wall projecting in one direction from the partition and an atmospheric-chamber wall projecting in the opposite direction, diaphragms interposed between said sections and dividing the spaces between them into pressure chambers and atmospheric chambers, passages connecting the pressure chambers, and valves connected with the diaphragms and controlling said passages.

4. In a pressure-reducing valve, the combination of a casing, a plurality of cup-shaped sections secured in the casing, diaphragms interposed between said sections and forming pressure chambers therewith, passages connecting the pressure chambers and formed by registering openings in contiguous portions of the cup-shaped sections, and valves connected with the diaphragms and controlling said passages.

5. In a pressure-reducing valve, the combination of a plurality of pressure chambers connected together in series by passages, valves controlling the passages, a diaphragm connected with and controlled by the pressure in each chamber, and valves connected with the diaphragms and controlling said passages, the diaphragms being all of substantially the same diameter but of successively decreasing thicknesses in proportion to the different pressures in the successive chambers.

868,600. MASSAGE-MACHINE. WALTER D. DAVENPORT, Kaufman, Tex., assignor of one-half to Joe Pate, Kaufman, Tex. Filed July 5, 1906. Serial No. 324,909.



1. In a massage machine, an air pump, a vacuum cup, a main pipe connecting the same, a valve in the main pipe, a branch pipe connecting the pump and main pipe, and a valve in said branch pipe.

2. In a massage machine, an air pump, a vacuum cup, a main pipe forming a source of communication between the pump and vacuum cup, a branch pipe connecting the main pipe and pump, respectively, and valves operating within said pipes.

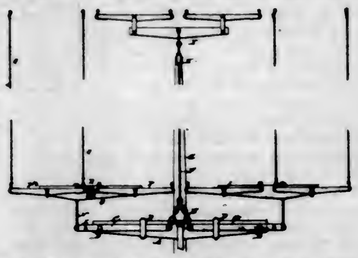
3. In a massage machine, an air pump, a vacuum cup, a main pipe forming a source of communication between the pump and vacuum cup, a branch pipe connecting the pump and main pipe, valves for controlling the fluid in said pipes, a waste-pipe communicating with the pump and a valve operating within the waste-pipe.

4. In massage apparatus, an air pump, a vacuum cup, a main pipe connecting the two, a suction inlet valve between the pipe and the pump, a manually operable valve in the pipe, a branch pipe connecting the main pipe to the pump, and a controlling valve in the branch pipe.

5. In a massage machine, a housing, a pump disposed within the housing, a vacuum cup, a main pipe forming a source of communication between the pump and vacuum cup, valves for controlling the fluid within the supply pipe and each provided with a rod extending through the walls of the housing and provided with an operating handle, and means for operating the pump.

6. In a massage machine, a housing, a pump disposed within the housing, a vacuum cup, a main pipe forming a source of communication between the pump and vacuum cup, a branch pipe connecting the pump and the main pipe, valves for controlling the fluid in said pipe and provided with operating handles extending through the walls of the housing, and means for operating the pump.

868,601. DRAFT-EQUALIZER. EGBERT O. DOAK, Cedar Rapids, Iowa, assignor to William T. Jones, Cedar Rapids, Iowa. Filed June 27, 1906. Serial No. 323,710.



1. In draft apparatus, the combination of an evener-bar, a pair of levers pivoted thereto, limiting stirrups therefor, a central draft rod connecting with the longer, inner arms of the levers, a pair of three-horse eveners connecting with the outer arms of the levers, a swingletree attached to the longer arm of each three-horse evener, and a pair of swingletrees to the shorter arm of each, and extension tugs to reach from said swingletrees to the harness tugs of the lead horses.

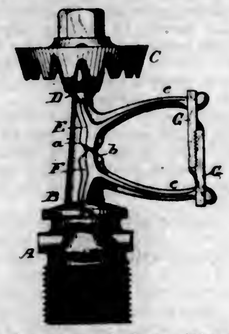
2. In draft apparatus, the combination with a vehicle tongue, of an evener, a pair of levers pivoted thereto, three-horse whiffletrees attached to the shorter arms of said levers, a central draft-rod flexibly connected with the longer arms of said levers, and a sheave and stirrup to serve as a guide for said rod.

3. In draft apparatus, the combination of a central draft-rod, an evener, a pair of levers pivoted to said evener, and provided with auxiliary bars to take the opposite sides of the evener, links connecting with the short arms of said levers, and three-horse whiffletrees connecting with said links.

868,602. AUTOMATIC SPRINKLER FOR STATIONARY FIRE-EXTINGUISHING APPARATUS AND FUSIBLE LINK EMPLOYED THEREWITH. WILLIAM ESTY, Laconia, N. H., assignor to Esty Sprinkler Company, Laconia, N. H., a Corporation of New Hampshire. Filed Dec. 14, 1905. Serial No. 291,777.

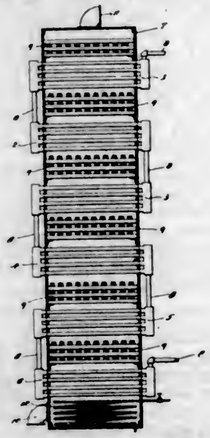
1. A fusible link composed of two plates and two locking levers soldered together, each plate having a longitudinal groove on one of its faces and an aperture, and each locking lever having a shank fitting in the longitudinal groove of one plate and entering the aperture of the other.

2. A fusible link composed of two plates and two locking levers soldered together; each plate having an attaching hole, serrations on one face, a longitudinal groove on its other face, and an aperture, the serrated faces of the two plates being adjacent each other; and each locking lever having a shank fitting in the longitudinal groove of one plate and entering the aperture of the other.



3. A fusible link composed of two plates and two locking levers soldered together; each plate having serrations on one face, a longitudinal groove on its other face, and an aperture, the serrated faces of the two plates being adjacent each other; and each locking lever having a shank fitting in the longitudinal groove of one plate and entering the aperture of the other.

868,603. PROCESS OF PREPARING ILLUMINATING-GAS. WILLIAM H. GARTLEY, Philadelphia, Pa., assignor to The United Gas Improvement Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Oct. 17, 1906. Serial No. 339,284.



1. The process of preparing illuminating gas for distribution mains which consists in subjecting the gas to temperatures progressively ranging from the temperature at which relatively higher tension vapors cannot remain in liquid form to a temperature corresponding with that of the mains, and passing the condensation from the coolest to the hottest temperature in contact with the gas thereby restoring to the gas substantially all the higher tension vapors temporarily extracted by the condensation, substantially as described.

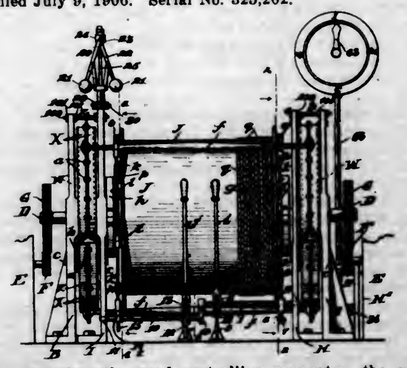
2. The process of preparing illuminating gas for distribution mains which consists in creating zones of progressively decreasing temperature and of which the last corresponds substantially with the temperature of the mains, condensing vapors from said gas by introducing it at the hottest zone and passing it through the intermediate zones and taking it off at the coolest zone, recovering substantially all the higher tension vapors temporarily extracted by the condensation and restoring the same to the gas by subjecting the condensation from each zone to the oncoming gas, and removing from the hottest zone relatively low tension hydrocarbons such as would condense in the mains, substantially as described.

3. The process of preparing illuminating gas for distribution mains which consists in creating zones of progressively decreasing temperature and of which the last corresponds substantially with the temperature of the mains, condensing vapors from said gas by introducing it at the hottest zone and passing it through the intermediate zones and taking it off at the coolest zone, recovering substantially all the relatively high tension vapors temporarily extracted by the condensation and restoring the same to the gas by subjecting the condensation from each zone to the oncoming gas, removing from the hottest zone relatively low tension hydrocarbons such as would condense in the mains, and superheating the last mentioned zone to vaporize the last traces of relatively high tension hydrocarbons, substantially as described.

4. The process of preparing illuminating gas for distribution mains which consists in gradually cooling the ascending gas and permitting the condensation products of the hydrocarbon vapors to drop through cooler to hotter zones and continuously returning the high tension vapors to the gas while progressively cooling the gas to a temperature corresponding to the temperature of the mains, substantially as described.

5. The process of preparing illuminating gas for distribution mains which consists in gradually cooling the ascending gas and permitting the condensation products of the hydrocarbon vapors to drop through cooler to hotter zones, fractionally distilling these condensation products and continuously returning the high tension vapors therefrom to the gas while progressively cooling the gas to a temperature appropriate for the temperature of the main, substantially as described.

868,604. SPEED-REGULATOR. CHARLES E. GLESSNER, Ouray, Colo., assignor of one-half to Cooper Anderson, Telluride, Colo. Original application filed Dec. 30, 1905, Serial No. 293,922. Divided and this application filed July 9, 1906. Serial No. 325,202.



1. In automatic speed controlling apparatus, the combination of a part, the speed of which is to be controlled, a governor connected thereto, a frictionally controlled transmission gearing connected to be operated by said governor, means controlled by said transmission gear for regulating the speed of the part to be controlled, and safety means coöperating with said gearing for automatically stopping the movement of said part at the desired limits of its travel.

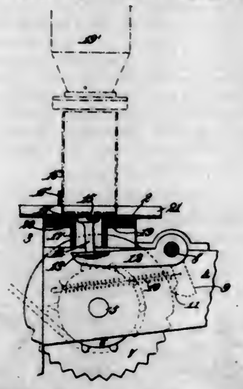
2. In automatic speed controlling apparatus, the combination of a part, the speed of which is to be controlled, a governor connected thereto, a frictionally controlled transmission gearing adapted to be thrown into operation by said governor, means controlled by said gearing for

regulating the speed of the part to be controlled, and stop mechanism with said gearing for limiting the movement of said part at the desired points in its travel.

3. In automatic speed controlling apparatus, the combination of a part, the speed of which is to be controlled, a governor connected thereto, a frictionally controlled transmission gearing, means operated by the governor for applying frictional pressure to said gearing, automatic means for applying additional frictional pressure to said gearing, and operative connections from said gearing for regulating and stopping the movements of the part to be controlled.

4. In automatic speed controlling apparatus, the combination of a part, the speed of which is to be controlled, a frictionally controlled variable speed transmission gearing, brakes therefor, a governor connected to the part to be controlled and connected to apply one of said brakes, means connected to said gearing for regulating the speed of the part to be controlled, and automatic means for applying the other brake to the transmission gearing to limit the movement of the part to be controlled at the ends of its travel.

868,605. CAN-TAPPING APPARATUS. FREDERICK J. HEYBACH, Savannah, Ga., assignor of one-half to Morehouse Manufacturing Co., Savannah, Ga., a Corporation of Georgia. Filed Sept. 11, 1906. Serial No. 334,181.



1. A can tapping apparatus having a plurality of can tapping members, mechanism for positively operating one of said tapping members, and the tapping member thus positively operated serving to operate another tapping member.

2. A can tapping apparatus having a plurality of tapping members, one to operate against the substantially central portion of the bottom of a can, and another having an annular working portion to operate against the marginal portion of said bottom, and means for causing the operation of said tapping members.

3. A can tapping apparatus having a plurality of can tapping members, the working portion of one tapping member surrounding the working portion of another tapping member, and means for causing the operation of said tapping members.

4. A can tapping apparatus having a plurality of tapping members, one to operate against the substantially central portion of the bottom of a can and the other having an annular working portion to operate against the marginal portion of said bottom, and means for causing the operation of said tapping members in succession.

5. A can tapping apparatus having a plurality of tapping members, one adapted to work through another.

6. A can tapping apparatus involving a plurality of can tapping members, one of which is tubular and another of which works through said tubular tapping member.

7. In a can tapping apparatus, the combination of a support, a can tapping member resting on said support, and means for imparting a working stroke to said can tapping member during which the latter is carried from its support.

8. In a can tapping apparatus, the combination of a can tapping member, a support for said can tapping member, a second can tapping member for imparting a working movement to the first tapping member during which the same is carried from its support, and means for positively operating the second tapping member.

9. In a can tapping apparatus, the combination of a can tapping member, spring operated in one direction, and a toothed member for operating the can tapping member in opposition to the spring thereof, and a second can tapping member operable by the power of the first mentioned can tapping member.

10. In a can tapping apparatus, the combination of a can tapping member, spring operated in one direction, means for positively operating the can tapping member in opposition to the spring, and a can tapping member operable by the first mentioned can tapping member.

11. In a can tapping apparatus, the combination of a can tapping member, a second can tapping member having a head to operate against the can and a second head to operate the first mentioned can tapping member, and means for positively operating the second can tapping member.

12. In a can tapping apparatus, the combination of a substantially tubular can tapping member, a second can tapping member having a head to operate the first can tapping member and a stem projecting from the head and terminating in a head to tap the can, and means for positively operating the second can tapping member.

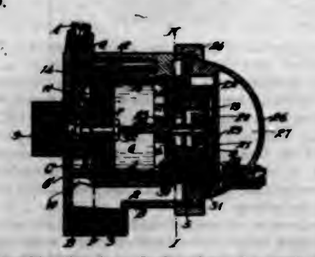
13. In a can tapping apparatus, the combination of a support having an opening, the wall of which is provided with pins, a can tapping member resting on said pins, and means for operating said can tapping member.

14. In a can tapping apparatus, the combination of a support having an opening, a can tapping member situated in said opening, the wall of the latter being provided with means upon which said can tapping member is supported, and means for operating the can tapping member.

15. In a can tapping apparatus, a support having an opening, a tubular can tapping member disposed in said opening, the wall of the latter having pins on which the can tapping member rests, and means for operating said can tapping member.

16. In a can tapping apparatus, the combination of a support having an opening, a tubular can tapping member disposed in said opening and provided with a shoulder, the wall of the opening having pins on which said shoulder rests, a second can tapping member extending through the tubular tapping member, and means for causing the operation of the can tapping members.

868,606. AUTOMATIC FLUSH-VALVE. PETER W. LANDELL, San Francisco, Cal., assignor of one-third to Monroe N. Callender and one-third to J. B. Williams, San Francisco, Cal. Filed Jan. 11, 1907. Serial No. 351,790.



1. The combination in a flush valve, of a casing having ingress and egress passages in communication through a piston chamber in the casing, a piston operable in said chamber and carrying a valve normally shutting off communication between said ingress and egress passage, a by-pass leading from said ingress passage around said piston and entering said chamber behind said piston, said chamber having a valved-outlet which latter is in communication with the aforesaid egress passage, a valve in said outlet, and means operable through the medium of a compressible fluid for automatically controlling the action of said last-named valve.

2. The combination in a flush valve, of a casing having ingress and egress passages in communication through a piston chamber in the casing, a piston operable in said chamber and carrying a valve normally shutting off communication between said ingress and egress passages, means operable through the medium of a compressible fluid for automatically controlling the action of said piston, and means embodied in the same structure for manually controlling the action of said piston.

3. The combination in a flush valve, of a casing comprising outer and inner cylinders, said inner cylinder inclosing a piston chamber, a piston in said chamber, said chamber on one side of said piston being in communication with the main ingress passage and with a principal discharge passage, a valve on said piston operative to shut off communication between said passages, a passage-way between said cylinders communicating with a main discharge and also communicating through a valved-port with said space in said piston chamber, said casing inclosing an air-pressure-chamber, the latter having communication with the piston chamber behind the piston, and means operable on the equalizing of pressures in said air chamber and said piston chamber to operate the piston.

4. The combination in a flush valve, of a casing having ingress and egress passages in communication through a piston chamber in the casing, a piston operable in said chamber and carrying a valve normally shutting off communication between said ingress and egress passages, means operable through the medium of a compressible fluid for automatically controlling the action of said piston, means for varying the length of the flushing period, and means for varying the frequency of the flushing operations.

5. The combination in a flush valve, of a casing having ingress and egress passages in communication through a piston chamber in the casing, a piston operable in said chamber and carrying a valve and normally shutting off communication between said ingress and egress passages, means for operating said piston automatically, means embodied in the same structure for manually controlling the action of said piston, means for varying the length of the flushing period, and means for varying the frequency of the flushing operations.

6. The combination in a flush valve, of a casing having ingress and egress passages in communication through a piston chamber in the casing, a piston operable in said chamber and carrying a valve normally shutting off communication between said ingress and egress passages, the space behind said piston being in communication with the ingress passage, an air-pressure-chamber, said space having two outlets, one outlet communicating with said air-pressure chamber, the other outlet communicating with said egress passage, and means operable on the equalizing of pressure in said air chamber and in said space behind the piston to operate the latter automatically, and a valve in the passage which connects said air-chamber with the space behind the piston for controlling the frequency of operation.

7. The combination in a flush valve, of a casing having ingress and egress passages in communication through a piston chamber in the casing, a piston operable in said chamber and carrying a valve normally shutting off communication between said ingress and egress passages, the space behind said piston being in communication with the ingress passage, an air-pressure-chamber, said space having two outlets, one outlet communicating with said air-pressure-chamber, the other outlet communicating with said egress passage, means operable on the equalizing of pressure in said air chamber and in said space behind the piston to operate the latter automatically, and means whereby the action of the piston may be manually controlled.

8. The combination in a flush valve, of a casing having ingress and egress passages in communication through a piston chamber in the casing, a piston operable in said chamber and carrying a valve normally shutting off communication between said ingress and egress passages, the space behind said piston being in communication with the ingress-passage, an air-pressure-chamber, said space having two outlets, one outlet communicating with said air-pressure-chamber, the other outlet communicating with said egress-passage, and a valve engageable by the piston and normally closing said outlet which is in communication with said egress passage, said valve having a stem, and a second valve on said stem of greater exposed area, exposed to the pressure in said air chamber.

9. The combination in a flush valve, of a casing having ingress and egress passages in communication through a piston chamber in the casing, a piston operable in said chamber and carrying a valve normally shutting off communication between said ingress and egress passages, the space behind said piston being in communication with the ingress-passage, an air-pressure-chamber, said space having two outlets, one outlet communicating with said air-pressure-chamber, the other outlet communicating with said egress passage, means operable on the equalizing of pressure in said air chamber and in said space behind the piston to operate the latter automatically, and a valve in the passage which connects said air-chamber with the space behind the piston for controlling the frequency of operation.

10. The combination of a flush valve, of a casing having ingress and egress passages in communication through a piston chamber in the casing, a piston operable in said chamber and carrying a valve normally shutting off communication between said ingress and egress passages, the space behind said piston being in communication with the ingress passage, an air-pressure-chamber, said space having two outlets, one outlet communicating with said air-pressure-chamber, the other outlet communicating with said egress passage, means operable on the equalizing of pressure in said air chamber and in said space behind the piston to operate the latter automatically, said means including two valves of unequal area mounted on the same stem, one of said valves exposed to the pressure in the space behind the piston, and the other to the pressure in the air chamber.

11. The combination of a flush valve, of a casing having ingress and egress passages in communication through a piston chamber in the casing, a piston operable in said chamber and carrying a valve normally shutting off communication between said ingress and egress passages, the space behind said piston being in communication with the ingress passage, an air pressure chamber, said space having two outlets, one outlet communicating with said air pressure chamber, the other outlet communicating with said egress passage, means operable on the equalizing of pressure in said air chamber and in said space behind the piston to operate the latter automatically, said means including two valves of unequal area mounted on the same stem, one of said valves exposed to the pressure in the space behind the piston and the other to the pressure in the air-chamber, and a spindle on said piston telescoping said hollow stem and maintaining the alinement of said movable parts.

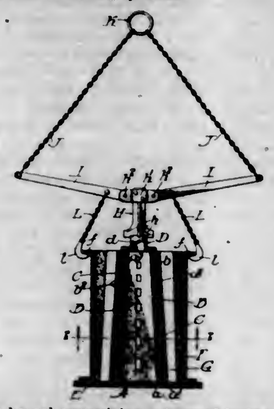
868,607. MOLDING APPARATUS. FRANK X. LEUTHNER, Buffalo, N. Y., assignor of one-half to Frank Tickner, Hamburg, N. Y. Filed Jan. 12, 1907. Serial No. 351,909.

1. A core-barrel comprising a tapered body and a plurality of plates surrounding and adapted for endwise movement relative to said body said plates being perforated and adapted to receive and hold a coating of sand.

2. A core-barrel comprising a tapered, tubular body and a plurality of plates surrounding said body and adapted for endwise movement relative thereto, said plates being supported at a distance from the outer face of said body so as to leave air spaces between the walls of said body and the plates.

3. A core barrel comprising a tapered body provided at its larger end with an outwardly extending flange, and a plurality of perforated plates surrounding said body and bearing at their ends against said flange, said plates being

adapted for endwise movement relative to the body in a direction away from said flange, and being adapted to receive and hold a coating of sand.



4. A core barrel comprising a tapered body and a plurality of perforated plates surrounding and adapted for endwise movement relative to said body, said plates being of such width that when applied to the body, longitudinal spaces will be left between their lateral adjacent edges, permitting movement of the plates toward each other when the tapered body is removed from within the same, and being adapted to receive and hold a coating of sand.

5. A core-barrel comprising a tapered body and a plurality of plates surrounding and adapted to slide endwise on said body, said plates being provided upon their inner faces with longitudinal, inwardly extending ribs, and said body being provided with longitudinal, outwardly extending ribs forming bearing surfaces for the ribs on the plates.

6. A core barrel comprising a tapered body provided at its larger end with an outwardly extending flange and a plurality of perforated plates surrounding said body with longitudinal spaces between their side margins and bearing at their ends against said flange, and a band surrounding the plates to hold them in place on the body, said plates being adapted for endwise movement relative to said body in a direction away from said flange, and being adapted to receive and hold a coating of sand.

7. A core-barrel comprising a tapered body provided with a flange at its larger end, an annular frame adapted to surround the body in contact with said flange, and a plurality of plates which surround said body and are hinged to said annular frame.

8. A core barrel comprising a tapered body provided at its larger end with an outwardly extending flange and a plurality of perforated plates surrounding said body and bearing at their ends against said flange, said plates being adapted for endwise movement relative to the body in a direction away from said flange and being of substantially the same length as the body and said body having at its smaller end a neck which extends beyond the adjacent ends of said plates when the opposite ends thereof are in contact with said flange.

9. The combination with a collapsible core-barrel adapted to be collapsed by downward pressure on its upper end, and a flask adapted to surround said core-barrel, of an extractor comprising a head adapted to rest upon the top of the core-barrel and means connected with the head and adapted for attachment to said flask, for exerting simultaneously an upward pull on the flask and a downward pressure on the core-barrel.

10. The combination with a collapsible core-barrel, embracing a tapered body and a plurality of plates surrounding and adapted for endwise movement relatively to said body, said barrel being adapted to be collapsed by downward pressure on the said body, of a flask adapted to surround said core-barrel and an extractor embracing a head adapted to engage the top of the body, and means connected with said head and adapted for attachment to the flask, said means being constructed to exert simultaneously an upward pull on the flask and a downward pressure on the said head.

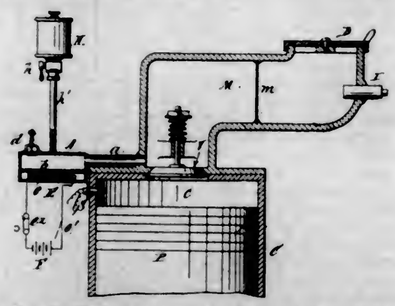
11. The combination with a collapsible core-barrel adapted to be collapsed by downward pressure on its upper end and a flask adapted to surround said core-barrel, of an extractor comprising a head, levers pivoted to said head and extending outwardly therefrom, lifting members attached to the outer ends of said levers and depending members connected with said levers near their inner ends, and adapted for attachment to said flask.

12. The combination with a collapsible core-barrel, embracing a tapered body and a plurality of plates surrounding and adapted for endwise movement relative to said body; said barrel being adapted to be collapsed by downward pressure on said body, of a flask adapted to surround said core-barrel and an extractor embracing a head adapted to engage the top of said body, levers pivoted to the said head and extending outwardly therefrom, lifting members connected with the outer ends of said levers, and depending members connected with said levers near their inner ends and adapted for connection with said flask.

13. The combination with a collapsible core-barrel, embracing a tapered body having an endwise extending neck at its smaller end, and a plurality of plates surrounding and adapted for endwise movement relative to said body, of a flask adapted to surround said core-barrel and an extractor comprising a head provided with a recess on its bottom surface to receive the top of said neck, and means connected with said head and adapted for attachment to the flask for exerting simultaneously an upward pull on the flask and a downward pressure on the head.

14. The combination with a collapsible core-barrel embracing a tapered body having an endwise extending neck at its smaller end and a plurality of plates surrounding and adapted for endwise movement relative to said body, of a flask adapted to surround said core-barrel, and an extractor comprising a head adapted to engage said neck and having outwardly extending wings adapted to engage the adjacent ends of the plates, and means connected with said head and adapted for attachment to the flask, for exerting simultaneously an upward pull on the flask and a downward pressure on the head.

868,608. HYDROCARBON-MOTOR. ABBOT A. LOW, Horseshoe, and AUGUST WASSMANN, Astoria, N. Y.; said Wassmann assignor to said Low. Filed Feb. 8, 1907. Serial No. 356,306.



1. In a hydro-carbon motor of the character designated the combination with the combustion chamber and main mixing chamber, and with the induction valve interposed between said combustion chamber and said main mixing chamber, of an auxiliary mixing chamber communicating with the lower part of the main mixing chamber adjacent to said induction valve, a vaporizing plate in said auxiliary mixing chamber, an electrical device for heating said vaporizing plate, means for introducing liquid hydro-carbon into said auxiliary mixing chamber and against said vaporizing plate, and means for admitting air automatically to said auxiliary mixing chamber, for the purpose described.

2. In a hydro-carbon motor of the character designated, the combination with the combustion chamber and main mixing chamber, and with the induction valve interposed between said mixing chamber communicating with the lower part of the main mixing chamber adjacent to said induction valve, a vaporizing plate in said auxiliary mixing chamber, an electrical device for heating said vaporizing plate, means for introducing liquid hydro-carbon into said auxiliary mixing chamber and against said vaporizing plate, means for regulating the supply of liquid hydro-carbon thus introduced into the auxiliary mixing chamber, and means for admitting air to said auxiliary mixing chamber, for the purpose described.

3. In a hydro-carbon motor of the character designated the combination with the combustion chamber and main mixing chamber, and with the induction valve interposed between said combustion chamber and said main mixing chamber, of an auxiliary mixing chamber, a conduit connecting said auxiliary mixing chamber with the main mixing chamber immediately adjacent to the said induction valve, a vaporizing plate in said auxiliary mixing chamber and an electrical device for heating said vaporizing plate interposed in an electrical circuit controlled by a suitable switch, an oil cup or holder for liquid hydro-carbon, a conduit between said reservoir and said auxiliary mixing chamber, a valve in said conduit for regulating the supply of liquid hydro-carbon, and an automatic valve for admitting air to said auxiliary mixing chamber, for the purpose set forth.

868,609. ENVELOP AND STAMP MOISTENER. THOMAS F. MARTIN, Morgantown, W. Va., assignor of one-half to James W. Martin, Morgantown, W. Va. Filed Jan. 23, 1907. Serial No. 353,628.

1. A device of the character described comprising a hollow body forming a reservoir and having a discharge, an absorbent material to receive the liquid passing from said discharge, a self-closing valve arranged in said discharge and having a slotted stem projecting into said absorbent material whereby the valve will be opened when said material is compressed, and a cross pin projecting through the slot in said valve stem for limiting the opening movement of the valve.

2. A device of the character described comprising a hollow body forming a reservoir and having a discharge formed with a cone shaped valve seat, an absorbent material to receive the liquid passing from said discharge, a cone shaped valve arranged in said discharge for engagement with said seat, said valve having a stem formed with a longitudinal slot and a cross pin projecting through the slot in the valve stem for limiting its movement.

3. A device of the character described comprising a tubular body having a solid end formed with a cavity and a discharge passage affording communication between said cavity and the chamber in said body, an absorbent material arranged in said cavity, a valve arranged in said discharge for controlling the passage of liquid from the chamber in the body to the absorbent material, said valve having a stem formed with a longitudinal slot, and a cross pin passing through the slot in the valve stem, the absorbent material and the walls in said cavity for limiting the movement of the valve and retaining the absorbent material in said cavity.

868,610. PROCESS OF PURIFYING IRON. JOSEPH MISKO, Buffalo, N. Y., assignor of one-half to E. N. Dickerson, Stovall, N. C. Filed Jan. 5, 1907. Serial No. 350,941.

The process of purifying iron, which consists in adding thereto ferro-calcium-carbid and fusing the same therein, substantially as described.

868,611. VEHICLE-WHEEL. WINFIELD J. MITCHELL, Pittsfield, N. H., and JAMES R. MITCHELL, Templeton, Mass., assignors to Mitchell-Punctureless Pneumatic Tire Company, Swampscott, Mass., a Corporation of Massachusetts. Filed Nov. 14, 1906. Serial No. 343,446.



1. A vehicle wheel comprising a chambered rigid body having an inner seat, a pneumatic cushion bearing thereon, two outer seats, an annular spacing member formed independently of the outer seats, and rigidly attached thereto, said spacing member having leg-receiving openings between the outer seats, an elastic tire U shaped in cross section, and having base portions permanently bearing on the outer seats, and leg sections bearing on the pneumatic cushion and on the elastic tire, and movable in said openings.

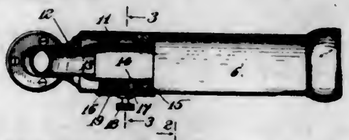
2. A vehicle wheel comprising a chambered rigid body having an inner seat, a pneumatic cushion bearing thereon, two sheet metal outer seats, an annular sheet metal spacing member formed independently of the outer seats, and riveted thereto, said spacing member having leg-receiving openings, an elastic tire U shaped in cross section, and having base portions permanently bearing on the outer seats, and a series of leg sections bearing on the pneumatic cushion and on the elastic tire, and movable in said openings.

3. A vehicle wheel comprising a rigid felly, a hollow sheet metal inner seat bearing on said felly, and having a concave outer face, a pneumatic cushion bearing on said seat, side plates or flanges secured to the felly at opposite sides of the cushion, two sheet metal outer seats, an annular sheet metal spacing member affixed to the outer seats, and having leg-receiving openings, an elastic tire U shaped in cross section, and having base portions permanently bearing on the outer seats, and a series of leg sections bearings on the pneumatic cushion and on the elastic tire, and movable in said openings.

4. A vehicle wheel comprising a rigid felly having an inner seat, a pneumatic cushion bearing on said seat, side plates or flanges secured to the felly at opposite sides of the seat, two outer seats separated by a leg-receiving space, and affixed rigidly to the outer portions of the side plates, said seats having hooked flanges which overhang the seats, an elastic tire U shaped in cross section, and having base portions bearing on the outer seats, and engaged with the hooked flanges thereon, the outer sides of said base portions having shoulders, annular confining

rings interposed between the outer sides of the said base portions and the side plates, and engaged with the said shoulders, and leg sections bearing on the said pneumatic cushion and tire, and movable in said space.

868,612. SOUND-CONVEYING DEVICE. EDWIN H. MOBLEY, Ardsley, Pa., assignor of one-half to Hawthorne & Sheble Manufacturing Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Jan. 8, 1907. Serial No. 351,344.



1. A sound-conveying device comprising a tube having two sections therein, one of greater size than the other and a tubular sound-modifier located within said tube with its walls lying close to the walls thereof and movable to increase or decrease the effective length of one of said sections, substantially as described.

2. A sound-conveying device comprising a tube having two cylindrical sections therein, one of greater diameter than the other and an annular sound-modifier located within said tube and movable to increase or decrease the effective length of one of said sections, substantially as described.

3. A sound-conveying device comprising a tube having two sections therein, one of greater size than the other, and a sound-modifier movable within said larger section adjacent to the end of the smaller, substantially as described.

4. A sound-conveying device comprising a tube having two sections therein, one of greater size than the other, and a sound-modifier located within said larger section and movable therein adjacent to the end of the smaller section to increase or decrease the effective length of the smaller section, substantially as described.

5. A sound-conveying device comprising a tube having two over-lapping sections therein one of greater size than the other and an annular sound-modifier movable within said larger section and adapted to have the end of said smaller section telescope therewith, substantially as described.

6. A sound-conveying device comprising a tube having two sections therein one of greater size than the other, a sound-modifier located within said tube, and means operated from outside the tube for moving said device to increase and decrease the effective length of one of said sections, substantially as described.

7. A sound-conveying device comprising a tube having two cylindrical sections therein one of greater diameter than the other, an annular sound-modifier located within said larger section and a set-screw extending through a slot in the wall of said larger section and into said modifier, substantially as described.

8. A sound-conveying device comprising a tube having two overlapping sections therein one of larger diameter than the other, an annular sound-modifier movable within said larger section adjacent to the end of the smaller section and adapted to telescope with the end of the smaller section, and a set-screw extending through a slot in the wall of the larger section and into said modifier, substantially as described.

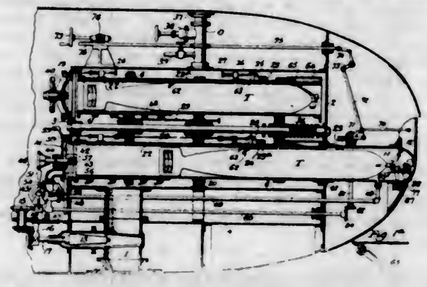
9. A sound-conveying device comprising a tube, a tubular member located wholly within the walls of the tube and having an imperforate wall, said member being of substantially uniform, internal and external, effective diameter, and means for moving said member axially of said tube from outside the tube, substantially as described.

10. A sound-conveying device comprising a tube, a tubular member of substantially uniform, internal and external, effective diameter located wholly within the walls of the tube, its walls lying close to the walls of the tube, and means outside the tube for moving said member axially of the tube, substantially as described.

11. In a talking machine, a tone-arm, a sound-box secured to one end thereof, a tubular member fitting snugly within the tone-arm, and means for moving the member axially thereof from outside the tone-arm, substantially as described.

12. In a talking machine, a tone-arm having two portions, one of greater size than the other, a sound-box secured to the end of the smaller portion, and an annular member movable axially within the larger portion, substantially as described.

868,613. MEANS FOR CARRYING AND HANDLING TORPEDOES ON VESSELS. THOMAS J. MORIARTY, Newport, R. I. Filed May 5, 1905. Serial No. 259,057.



1. A vessel, having means for expelling a torpedo, a torpedo magazine open normally to the water of flotation, and a rotating carrier for torpedoes in said magazine, said carrier being so disposed with respect to the expelling means that the torpedoes in the carrier may be brought successively into alinement for expulsion.

2. A vessel, having means for expelling a torpedo, a torpedo magazine open normally to the water of flotation, a rier having rotatable tubes to receive the torpedoes, means rotatable carrier for torpedoes in said magazine, said carfor maintaining the tubes in proper upright position when the carrier rotates, and means for rotating the carrier to bring the torpedoes successively into expelling position.

3. A vessel, having a fixed magazine, an expulsion tube connected therewith, a rotating carrier in said magazine provided with torpedo tubes adapted to be brought successively into alinement with said expulsion tube to form an inboard extension thereof, means for moving the alined torpedo tube endwise before the torpedo is advanced, and means for compelling the accurate alinement of said torpedo tube with the expulsion tube.

4. A vessel, having a fixed magazine open normally to the water of flotation, a fixed expulsion tube connected at its inboard end with said magazine, a rotating carrier in said magazine, a plurality of torpedo tubes mounted rotatably in said carrier and disposed symmetrically about its axis, said carrier being so disposed with respect to the expulsion tube that the tubes of the carrier may be brought successively into alinement therewith, an air-chamber alined with the expulsion tube, and means for introducing compressed air to said chamber for moving forward the torpedo therein.

5. A vessel, having a torpedo magazine open normally to the water of flotation, an expulsion tube connecting said magazine with the water of flotation, a cap closing the outboard end of said tube, a rotating carrier in the magazine, a plurality of torpedo tubes in said carrier and disposed symmetrically about its axis, the said expulsion tube and carrier being relatively disposed in such a manner that the torpedo tubes are brought successively into alinement with the expulsion outlet by rotation of the carrier, means for preventing endwise movement of the torpedoes in their tubes, and means for releasing the torpedo when it is to be moved forward.

6. A vessel, having a torpedo magazine open normally to the water of flotation and having an outlet in its forward end for the expulsion of a torpedo, a rotatively mounted carrier in said magazine, means for rotating said carrier from the interior of the vessel, torpedo tubes mounted in said carrier and disposed symmetrically about the axis of the same, said carrier being so disposed with respect to the expulsion outlet that each torpedo tube may be brought in succession into alinement with said outlet, and automatic means for maintaining said tubes in upright position when the carrier is rotated.

7. A vessel, having a fixed torpedo magazine open normally to the water of flotation and having in its forward end an expulsion outlet, a relatively short expulsion tube connecting said outlet with the water of flotation, a rotating carrier in said magazine, a plurality of torpedo tubes mounted slidably and rotatively in said carrier and adapted to be brought in succession into alinement with the said expulsion outlet, means for moving the alined tube into close relation with the expulsion tube to form an inboard extension thereof, an air-chamber at the inboard end of the magazine and alined with the expulsion outlet, means for closing the space between said chamber and the inboard end of the alined torpedo tube, and means for admitting air to said chamber for moving the torpedo forward in the tube.

8. A vessel, having a torpedo magazine open normally to the water of flotation and provided with an expulsion outlet, a rotating carrier in said magazine, a plurality of torpedo tubes mounted rotatively in said carrier and disposed symmetrically about its axis, each of said tubes being provided with a guiding channel 22, and automatic means for maintaining said channel at the upper side of the tube during the rotation of the carrier.

9. A vessel, having a torpedo magazine open normally to the water of flotation and provided with an expulsion outlet, a rotating carrier mounted in said magazine, and a plurality of torpedo tubes rotatively mounted in said carrier and disposed symmetrically about the axis thereof, each of said tubes being provided with a controller 65 to engage the propeller on the war-nose of the torpedo.

10. A vessel, having a fixed torpedo magazine open normally to the water of flotation, and provided with an expulsion outlet, a rotating carrier in said magazine, a plurality of torpedo tubes mounted in said carrier and slidable endwise, a spring tending to press said tubes inboard, an air-chamber c, a slidable flanged ring 42 at said chamber and adapted to be moved into contact with an alined tube in said carrier, and the screw 43 for operating said ring.

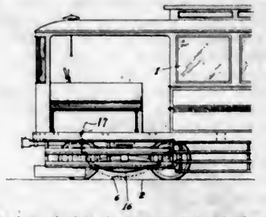
11. The combination with the magazine and the rotating carrier therein, of the torpedo tubes rotatively mounted in said carrier, the fixed guide-ring 18, and the segments 19 in the groove of the guide-ring, said tubes being pivotally connected to the respective segments.

12. In a submarine torpedo boat, the combination with a torpedo launching tube opening outwards through the hull of the boat, of a rotary magazine drum provided with a plurality of torpedo chambers adapted to register with said launching tube, hand operated means for rotating said drum, and hand operated means for releasing said torpedoes from said chambers when desired, substantially as described.

13. In a submarine torpedo boat, the combination with a fixed torpedo launching tube opening outward through the hull of the boat, of a rotary magazine drum provided with a plurality of torpedo tubes or chambers adapted to register *seriatim* with said launching tube, worm gearing for rotating said magazine drum, and a hand rod adjacent to each chamber provided with an arm for releasing the torpedo from said magazine chambers, substantially as described.

14. In a torpedo boat, the combination with a torpedo launching tube opening outward through the hull of the boat, of a rotary magazine drum provided with a plurality of torpedo tubes or chambers adapted to register *seriatim* with said launching tube, means for rotating said magazine drum, means for clamping torpedoes in said chambers and means operated by hand for releasing the torpedoes from said chambers, when desired.

868,614. AUTOMATIC SWITCH FOR RAILWAYS. LEWIS C. MCADAMS, Sacramento, Cal., assignor of one-half to Charles Camenzind, Sacramento, Cal. Filed July 1, 1907. Serial No. 381,592.



1. In a device of the character described, a railway, a car mounted thereon, a switch in said railway, spring bands secured beneath said car, and means whereby said switch may be operated by said bands, as set forth.

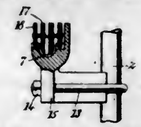
2. In a device of the character described, a railway, a car thereon, a switch in said railway, spring metal bands secured to the under sides of said car at each end thereof, said band extending through the floor of the car, foot pieces on the ends projecting through said floor, and means for operating said switch with said bands, as set forth.

3. In a device of the character described, a railway, a car thereon, a switch in said railway, two drums disposed vertically between the rails of said railway at a distance from the approach to said switch, a cable mechanism connecting said drums with said switch, and means on said car for engaging with said drums whereby said switch will be operated by said cable mechanism, as set forth.

4. In a device of the character described, a railway, a car thereon, a switch in said railway, two drums pivotally disposed vertically intermediate the rails of said railway at a distance from the approach to said switch, a drum pivotally disposed horizontally beneath said switch, cables connecting said vertical drums to said horizontal drum, means connecting said horizontal drum to said switch, and means on said car adapted to be engaged with said vertical drums, as set forth.

5. In a device of the character described, a railway, a car thereon, a switch in said railway, two pivoted drums vertically disposed between the rails of said railway at points a distance from the approach to said switch, a drum horizontally journaled beneath the said switch, cables connecting said vertical drums with said horizontal drum, an arm pivotally mounted on said horizontal drum, a pin upward from said arm and engaging with said switch, and means on said car to be engaged with said vertical drums, as set forth.

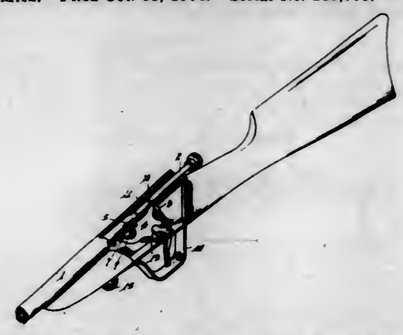
868,615. SPROCKET WHEEL AND CHAIN. ROBERT S. MCINTYRE, Riverside, Cal. Original application filed Feb. 23, 1905, Serial No. 246,891. Divided and this application filed Feb. 9, 1907. Serial No. 356,569.



1. A sprocket wheel having separated rows of teeth with a circumferential groove formed therebetween, in combination with a chain having links with teeth engaging said first teeth, and guide plates disposed between said links and projecting into said groove to prevent the dislocation of said chain.

2. A sprocket wheel having a pair of rows of sprocket teeth and a circumferential groove disposed therebetween, in combination with a chain having links with teeth on the edges thereof engaging said first teeth, pivot pins connecting said links, and guide plates carried by said pivot pins and projecting into said groove to prevent the dislocation of said chain.

868,616. FIREARM. WILLIAM J. MCKEE, Detroit, Mich., assignor of one-half to Albert N. Ericsson, Detroit, Mich. Filed Oct. 31, 1904. Serial No. 230,705.



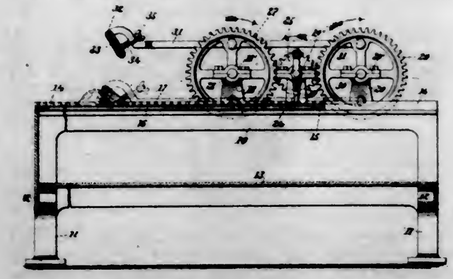
1. The combination of a sear, a support therefor, said sear being pivoted to said support, a recess in said sear, a groove in said support, a sear spring bent to fit into said recess and extend into said groove, for the purpose described.

2. The combination of a sear, a support therefor, said sear being pivoted to said support, a recess in said sear having a curved reëntrant wall, a sear spring bent to fit within said recess and to press against the reëntrant portion of said wall, a groove in said support, said sear spring extending into said groove, for the purpose described.

3. A sear having a recess therein, with a curved reentrant wall, a horn 9 adjacent to said recess, a spring bent to fit within said recess and to press against the reentrant portions of said wall and to pass over said horn, and a support for said sear having a groove therein, said sear being pivoted to said support, said spring being adapted to extend into said groove, for the purpose described.

4. The combination of a sear, a support therefor having a groove therein, said sear being pivoted to said support, a horn 9 on said sear beneath said groove, and a sear spring bent to fit over said horn and extending up into said groove, said spring being adapted by its resilience to press against the bottom of said groove and against said horn.

868,617. MACHINE FOR GRANULATING MAGNESIA. MICHAEL SCOZZARI, New York, N. Y. Filed Apr. 16, 1907. Serial No. 368,570.



1. A machine of the character described, comprising a frame, a perforated support for the material arranged upon said frame, means for moving said support longitudinally upon said frame, and means for acting upon said material to force the same therethrough during the movement of said support through the machine, substantially as specified.

2. A machine of the character described, comprising a frame, a perforated support for the material mounted to move upon said frame, means for intermittently advancing said support, and means for acting upon said material while said support is at rest, substantially as specified.

3. A machine of the character described comprising a frame, a perforated support for the material mounted to move longitudinally upon said frame, means for advancing said support with a step-by-step movement, a spreading device for pressing the material through said support, and means for actuating said spreading device, substantially as specified.

4. A machine of the character described, comprising a frame, a perforated support for the material mounted to move longitudinally upon said frame, means for advancing said support with a step-by-step movement, a spreading device for pressing the material through said support, and means for actuating said spreading device to press said material through said support while at rest, substantially as specified.

5. A machine of the character described, comprising a frame, a horizontal perforated support for the material, means for advancing said support with a step-by-step movement, a spreading device arranged above said support, means for actuating said spreading device to force a part of the material through said support while forcing a part of said material forward upon said support, substantially as specified.

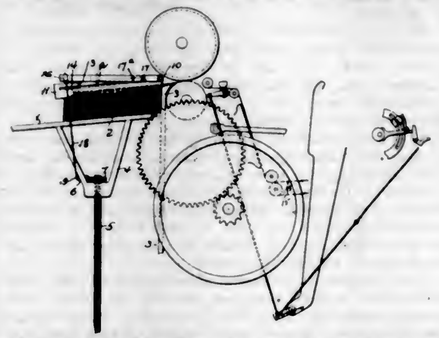
6. A machine of the character described comprising a frame, a horizontal perforated support for the material arranged to work in said frame, a drive shaft in said frame, means for rotating said drive shaft, means on said drive shaft adapted to engage said perforated support to advance the same during each revolution of said drive shaft, gears on said drive shaft, a plurality of shafts mounted in said frame, gears on said shafts in mesh with the gears on the drive shaft, rods pivotally secured to the gears on the shafts last named, and a blade yieldingly secured to the free ends of said rods, substantially as specified.

7. In a machine of the character described comprising a frame, guides arranged upon said frame, a screen arranged to work in said guides, racks arranged upon said screen along its longitudinal edges, a drive shaft mounted in said frame above said support, means for actuating said shaft, projections fixed upon said shaft adapted to engage the racks on said screen, gears fixed upon the ends of said drive shaft, a pair of gears mounted upon the frame at each side of the gears fixed upon said drive shaft and meshing therewith, a pair of rods each pivotally secured at one end to each of said pair of gears, and a spreading blade pivotally secured at its upper edge to the free ends of said rods, substantially as specified.

8. A machine of the character described comprising a frame, longitudinal guides arranged upon said frame, a screen arranged to work in said guides, racks secured upon said screen along its longitudinal edges, bearings projecting upwardly from said frame, a drive shaft supported in said bearings transversely of the machine, means for rotating said shaft projections fixed upon said drive shaft and adapted to engage the racks on said screen, gears fixed upon the outer ends of said drive shaft, bearings projecting upward from the frame at each side thereof, shafts mounted in said bearings, gears fixed upon said shafts and meshing with the gears on the drive shaft, rods pivotally secured at their ends to the gears arranged at one side of the drive shaft, and pivotally secured intermediate their ends to the gears arranged at the other side of the drive shaft, a blade pivotally supported at its upper edge in the free ends of said rods transversely of the machine, and having its lower edge yieldingly secured to said rods adjacent to their free ends, substantially as specified.

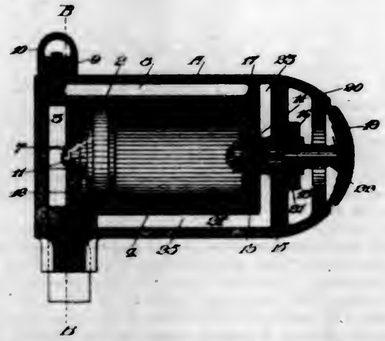
868,618. PAPER-SHEET-FEEDING MECHANISM FOR PRINTING-PRESSES. JUNIUS E. TUCKER, Memphis, Tenn., assignor of one-half to William S. Brian, Memphis, Tenn. Original application filed Dec. 14, 1905, Serial No. 291,745. Divided and this application filed June 19, 1906. Serial No. 322,425.

1. In an apparatus of the character described, the combination with a platform or support for a pile of paper sheets, of a screw to feed the platform upward as sheets are removed from the top of the pile, a ratchet wheel on the screw, a dog for operating the ratchet wheel to turn the screw, a lever hinged between its ends, a catch connected to one end of the lever and adapted when depressed to engage the dog and prevent said dog from operating the ratchet wheel, and means supported on the pile of paper sheets and adapted to force the lever to bend at its hinge and the catch to hold the dog out of operative relation to the ratchet wheel, when the pile is elevated too rapidly.



2. In an apparatus of the character described, the combination with a platform or support for a pile of paper sheets and means for feeding the platform upward as sheets are removed from the top, of a cross rod above the pile of sheets, guide plates pivotally supported at one end on the rod, located beside the pile of sheets and having beveled inner faces to guide the upper sheets into proper position, a rod or shaft supported in slots in the guide plates, a roller on said rod or shaft resting on the top sheet of the pile, and means operated by said guide plates to stop the upward feed of the pile when said feed is too rapid.

868,619. AUTOMATIC FLUSH-VALVE. JOHN B. WILLIAMS and PETER W. LANDELL, San Francisco, Cal., assignors of one-third to Monroe N. Callender, San Francisco, Cal. Filed Dec. 19, 1905. Serial No. 292,423.



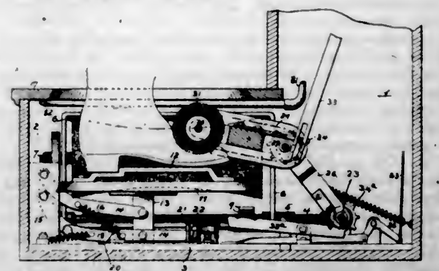
1. A flush valve comprising outer and inner concentric cylinders separated by an annular water space, a piston in the inner cylinder, said cylinders connected at one end, at which end there are two water compartments, one an inlet compartment and the other a discharge compartment, said compartments separated from the interior of the piston cylinder by a partition, said partition having two ports, one connecting the adjacent end of the piston chamber with the discharge compartment and the other connecting the same end of the piston chamber with the inlet compartment, said piston having a valve to close the last named port, the opposite end of the piston chamber having an outlet port connected with said discharge chamber, a normally closed valve for said last named outlet port, and means to operate said valve.

2. A flush valve comprising outer and inner concentric cylinders separated by an annular water space, a piston in the inner cylinder, said cylinders connected at one end, at which end there are two water compartments, one an inlet compartment and the other a discharge compartment, said compartments separated from the interior of the piston cylinder by a partition, said partition having two ports, one connecting the adjacent end if the piston chamber with the discharge compartment and the other connecting the same end of the piston chamber with the inlet compartment, said piston having a valve to close the last named port, the opposite end of the piston chamber having an outlet port connected with said discharge chamber, a normally closed valve for said last named outlet port, means to operate said valve, a by-pass connecting said inlet compartment with the end of the piston chamber adjacent to said normally closed valve, and a regulating valve in said by-pass operating to close in a direction contrary to the flow of the water through the by-pass whereby the tendency of the curreut through the by-pass is to cleanse the valve seat and prevent clogging.

3. A flush valve comprising outer and inner cylinders connected at one end to inclose separate inlet and discharge compartments, said cylinders separated by a water space having communication with said discharge compartment, a piston in the inner cylinder, said compartment separated from the space at the adjacent end of the piston cylinder by a partition, said partition having a port opening into each compartment, a valve on the piston to close one of said ports, a screw plug fitting the opposite end of the piston cylinder, open fluid connections between said end of the piston cylinder and said inlet compartment, said plug having a central reduced extension, a guard plate fitting said extension and removably held thereto, ports in said plug opening into the piston chamber, and a valve controlling flow through said ports.

4. A flush valve comprising a piston chamber having an inlet and outlet port at one end, a piston in the chamber having a valve arranged to seat on said inlet port, the opposite end of said chamber closed by a screw plug, a by-pass connecting the space in said chamber between the piston and said plug with the source of fluid pressure supply, said screw plug having a reduced central extension, said plug having ports providing an outlet for said chamber, a valve closing said ports and closable by said piston, said valve having a stem slidable in said central extension on the plug, a push button for operating the valve, and a guard for said push button, said guard removably held on said central extension and inclosing a drip compartment.

868,620. SHOE CLEANING AND SHINING MACHINE. JOSEPH M. WOLKOSKY, FRANK MAGIDSON, SAMUEL PRINTZ, and ABRAHAM WOLKOSKY, Irwin, Pa., assignors to Westmoreland Automatic Machine Company, Irwin, Pa., a Corporation of Pennsylvania. Filed June 16, 1906. Serial No. 322,012.



1. The combination of a foot rest, movable brushes at opposite sides of the rest, means for moving said brushes

laterally with relation to the rest, a movable front brush, and means for moving the front brush toward the rest when the side brushes are away from the rest.

2. The combination of brushes, a shoe support movable toward and away from the brushes, springs for opposing the movement of the support toward the brushes and for holding it normally away from the brushes, means for holding the support in position adjacent to the brushes, and means operative at a predetermined time for releasing the support from said holding means.

3. The combination of brushes, a depressible foot rest normally raised above the brushes, a catch adapted to hold the rest depressed, catch releasing mechanism, and means to operate the releasing mechanism at a predetermined time after the rest becomes held by the catch.

4. The combination of a foot rest, opposite side brushes, means for moving said brushes simultaneously toward and from the rest, a front brush movable in the direction of the length of the rest, and means for moving the front brush toward the rest as the side brushes move outward therefrom.

5. The combination of a foot rest, brushes at opposite sides of the rest and movable in unison toward the foot rest and from the same, a front brush movable toward and from the rest into the paths of movement of the side brushes, and brush moving mechanisms adapted to cause the side and front brushes to approach the rest alternately.

6. The combination of a foot rest, rotatable brushes at opposite sides of the rest and movable in unison toward and from the same, a rotatable front brush movable toward and from the rest into the paths of movement of the side brushes, brush rotating mechanism, and brush moving mechanisms adapted to move the side brushes toward the rest simultaneously with moving the front brush away from the rest and vice versa.

7. The combination of a foot rest, an upright frame in front of the rest and mounted to swing in the direction of the length of the rest, a brush mounting adapted to swing vertically on the frame and extending therefrom toward the foot rest, and a brush in the mounting.

8. The combination of a foot rest, a brush mounting hinged to swing vertically, stop means for limiting the downward movement of the mounting, means for moving the mounting toward and from the front of the rest in the direction of the length of the latter, and a brush carried by the mounting.

9. The combination of a foot rest, a power shaft, an upright frame hinged on the shaft to swing toward and from the rest, a shaft in the free end of the frame, a brush mounting hinged to swing vertically on said shaft, a brush rotatable in the mounting, and gearing connecting said shafts and the brush.

10. The combination of a foot rest, a brush carrier movable toward and from the rest, a brush, an upright lever at its lower end engaging the carrier, mechanism for oscillating the lever to move the carrier toward the rest, and a spring for retracting the carrier.

11. The combination of a foot rest, parallel horisontal power shafts at opposite sides of the rest, an upright frame mounted to swing concentrically with relation to each shaft, a brush rotatably mounted in each frame, gearing connecting the shaft and brush of each frame, and frame swinging means.

12. The combination of a foot rest, frames at opposite sides of the rest adapted to swing toward and from each other, a brush carried by each frame, and means for causing the frames normally to move toward each other, intermittently operating mechanism for moving the frames apart, mechanism for holding the frames apart, and intermittently operating frame releasing mechanism.

13. The combination of a foot rest, upright frames at opposite sides thereof adapted to swing toward and from each other, a brush carried by each frame, transverse overlapping bars secured to the frames, means for causing the frames to normally swing toward each other and depress the overlapping portions of the bars, a lever adapted to raise the overlapping portions of the bars, and means for intermittently operating the lever.

14. The combination of a fixed upright, a foot rest, links pivoted to swing vertically on the upright and also pivoted to the rest whereby the latter is maintained in horizontal position, a spring for resisting depression of the rest, and brushes to which the rest is adapted to be lowered.

15. The combination of a fixed upright, a foot rest, links pivoted to swing vertically on the upright and also pivoted to the rest, a spring for resisting depression of the rest, a downwardly swinging finger pivoted to one of the links, a stop adapted to be engaged by the finger for locking the rest in elevated position, means for disengaging the finger from the stop, and brushes to which the rest is adapted to be lowered.

16. The combination of a casing having a top opening, a depressible spring-raised foot rest normally closing the opening, lock mechanism for securing the rest in raised position, lock releasing mechanism; and brushes operative within the casing and to which the rest is adapted to be depressed when unlocked.

17. In a shoe cleaning and shining machine, the combination with a casing and shoe cleaning and shining mechanism therein, of a shoe support in the upper portion of the casing, locking means for preventing the downward movement of the shoe support and mechanism for releasing said locking means to permit the shoe support to lower to operative position and compel the operation of the shoe cleaning and shining mechanism.

18. In a shoe cleaning and shining machine, the combination with a casing and shoe cleaning and shining mechanism therein, of a shoe support normally closing an opening in the upper portion of the casing, locking mechanism holding the shoe support elevated, mechanism for releasing the locking mechanism and setting the shoe cleaning and shining mechanism in operation, and automatic means for applying liquid polish to a shoe on the support when the latter is moved down into operative position.

19. In a shoe cleaning and shining machine, the combination with rotary brushes, and a motor to drive the same, of a shoe support, locking devices normally holding the shoe support elevated out of contact with the brushes, mechanism to release the locking mechanism to permit the shoe support to be forced down to operative position and also start the motor, and automatic mechanism for stopping the machine after a predetermined time.

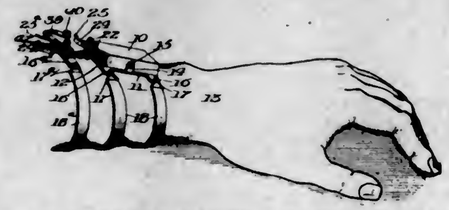
20. In a shoe cleaning and shining machine, the combination with rotary shoe brushes, a motor to revolve the brushes, a liquid polish containing tank, and a pipe for conveying said liquid to a point to be deposited on a shoe between the brushes, of a time wheel driven by the motor, an arm on the time wheel, a spring closed cock in the said pipe, a trip arm on said cock in the path of the arm on the time wheel, trip mechanism operated by the arm on the time wheel to stop the motor and operating mechanism, and mechanism for starting the motor.

21. In a shoe polishing machine, the combination of a side brush movable toward and from a shoe, a front brush, a support for the front brush movable toward and from the shoe, means for causing the side brush to engage the shoe alternately with the front brush, and means actuated by the front brush support as the front brush is being moved toward the shoe for moving the side brush away from the shoe.

22. In a shoe polishing machine, the combination of opposite side brushes movable toward and from each other, a support for the front brush movable toward and from the side brushes, a spring for moving the side brushes toward each other, and mechanism actuated by the front brush support and operated by the latter as the front brush approaches the side brushes to move the side brushes away from each other.

868,621. TELEGRAPHIC INSTRUMENT. JEROME P. ZELENKA, Chicago, Ill. Filed Feb. 4, 1907. Serial No. 355,556.

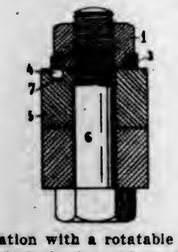
1. In a telegraphic instrument, the combination with a holder or casing, of an electro-magnet carried thereby, a spring secured at one of its ends to the casing or holder and having at its other end an adjustable screw adapted to project through an opening in the holder or casing and to contact with the human body, an armature transversely secured on the spring near its free end, substantially as described.



2. In a telegraphic instrument, the combination with a casing, of means to secure it to a portion of the body of the operator, an electro-magnet located in the casing, a spring secured at one of its ends to the casing and having at its other end an adjustable screw adapted to project through an opening in the casing so as to contact with the body of the operator, and an armature transversely mounted on the spring near its free end, substantially as described.

3. In a telegraphic instrument, the combination with a box-like casing, of a removable plate located on its lower portion and having an opening therein, said plate having a hook at each of its corners, straps having loops at their ends to engage said hooks, an electro-magnet located in the casing, a spring secured at one of its ends to the casing and having at its other end an adjustable screw adapted to operate in the opening of the bottom plate, and an armature transversely secured on the spring near its free end, substantially as described.

868,622. LOCKING ARRANGEMENT FOR NUTS, SCREWS, &c. CHARLES A. ARBEY, Besançon, France, assignor to La Continentale Fixator, Paris, France. Filed Mar. 16, 1907. Serial No. 362,651.



1. The combination with a rotatable nut having a substantially cylindrical shank portion, of a locking device for said nut, said device comprising an elastic helix having one end adapted to be anchored on a fixed body, the other end of said helix being free and said helix constringing the shank on said rotatable nut.

2. The combination with a rotatable nut having a shank portion made substantially cylindrical, of a locking device comprising an elastic helix surrounding said shank portion, said helix having one end free and having the opposite end cranked, said cranked end adapted to engage with a fixed body to which the rotatable nut is applied, said helix constringing the shank of the rotatable nut, substantially as herein described.

3. The combination with a rotatable nut having a shank portion of substantially cylindrical form, of a locking device for said nut, said device comprising an elastic helix surrounding said shank portion, said helix having a free end and a cranked end, and a fixed body having a cavity into which said cranked end enters, said helix constringing the shank portions of the rotatable nut.

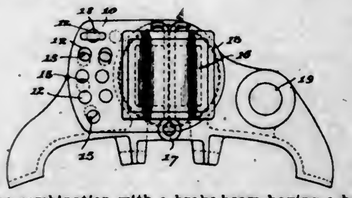
4. The combination with a rotatable nut having a cylindrical shank portion, of a locking device for said nut said device comprising an elastic helix adapted to surround and constringe the shank of said nut and having one end anchored to a fixed body and the other end free, said anchored and free ends being so located that the path of the helix from the anchored to the free end represents the direction in which the rotatable nut is not allowed to rotate.

5. The combination with a fixed member and a rotatable nut, of a locking device intermediate of said member and nut, said device comprising an elastic helix and said rotatable nut having a shank portion embraced by the helix and adapted to be constringed by the latter, said helix having a free end and a cranked end, said cranked end being engaged with said fixed member, and the free and cranked ends of the helix being so located that the path of said helix from the cranked to the free end represents the direction in which the rotatable nut is not allowed to rotate.

6. The combination with a rotatable nut having a shank portion of an elastic helix, said helix constringing the shank on said nut and having one end adapted to be anchored to a fixed body and the other end free, said anchored and free ends being so located that the path of the helix from the anchored to the free end represents the direction in which the rotatable nut is not allowed by the constringent helix to rotate, the constringent effect of the helix adapted to be released by a key when it is desired to rotate the rotatable nut in said direction.

7. The combination with a rotatable nut having a shank portion, of a locking device for said nut, said device comprising an elastic helix constringing the shank of said nut, said helix having one end adapted to be anchored to a fixed body and one end free, said free end being disposed tangentially to said helix, and said anchored and free ends being so located that the path of the helix from the anchored to the free end represents the direction in which said body is not allowed by the constringent helix to rotate, the tangential end of the helix being adapted for engagement with a key when it is desired to rotate the nut in a direction in which said member is not allowed by the constringent helix to rotate.

868,623. ADJUSTABLE BRAKE-HEAD. CARL E. BAUER and FRANK L. SUSEMIHL, Hammond, Ind., assignors to American Steel Foundries, New York, N. Y., a Corporation of New Jersey. Filed Feb. 4, 1907. Serial No. 355,634.



1. The combination with a brake-beam having a bearing on its end, of a brake-head rotatably mounted on said bearing, adjacent laterally projecting wings carried by said brake-beam and brake-head, respectively, and means for rigidly uniting said wings at various positions of relative angular adjustment, substantially as described.

2. The combination with a brake-beam having a bearing on its end, of a brake-head rotatably mounted on said bearing, adjacent laterally projecting wings carried by said brake-beam and brake-head, respectively, said wings being provided with differently grouped series of holes, and a pin adapted to be passed through registering holes in said wings at various positions of relative angular adjustment of the latter, substantially as described.

3. The combination with a brake-beam having a bearing on its end, of a brake-head rotatably mounted on said bearing, said brake-head having a pair of rigid, laterally projecting apertured wings substantially in the planes of the sides of the head, and a coöperating pair of laterally projecting wings rigid with said brake-beam and lying alongside said wings of the head, said brake-beam wings having registering apertures differently arranged relatively

laterally with relation to the rest, a movable front brush, and means for moving the front brush toward the rest when the side brushes are away from the rest.

2. The combination of brushes, a shoe support movable toward and away from the brushes, springs for opposing the movement of the support toward the brushes and for holding it normally away from the brushes, means for holding the support in position adjacent to the brushes, and means operative at a predetermined time for releasing the support from said holding means.

3. The combination of brushes, a depressible foot rest normally raised above the brushes, a catch adapted to hold the rest depressed, catch releasing mechanism, and means to operate the releasing mechanism at a predetermined time after the rest becomes held by the catch.

4. The combination of a foot rest, opposite side brushes, means for moving said brushes simultaneously toward and from the rest, a front brush movable in the direction of the length of the rest, and means for moving the front brush toward the rest as the side brushes move outward therefrom.

5. The combination of a foot rest, brushes at opposite sides of the rest and movable in unison toward the foot rest and from the same, a front brush movable toward and from the rest into the paths of movement of the side brushes, and brush moving mechanisms adapted to cause the side and front brushes to approach the rest alternately.

6. The combination of a foot rest, rotatable brushes at opposite sides of the rest and movable in unison toward and from the same, a rotatable front brush movable toward and from the rest into the paths of movement of the side brushes, brush rotating mechanism, and brush moving mechanisms adapted to move the side brushes toward the rest simultaneously with moving the front brush away from the rest and vice versa.

7. The combination of a foot rest, an upright frame in front of the rest and mounted to swing in the direction of the length of the rest, a brush mounting adapted to swing vertically on the frame and extending therefrom toward the foot rest, and a brush in the mounting.

8. The combination of a foot rest, a brush mounting hinged to swing vertically, stop means for limiting the downward movement of the mounting, means for moving the mounting toward and from the front of the rest in the direction of the length of the latter, and a brush carried by the mounting.

9. The combination of a foot rest, a power shaft, an upright frame hinged on the shaft to swing toward and from the rest, a shaft in the free end of the frame, a brush mounting hinged to swing vertically on said shaft, a brush rotatable in the mounting, and gearing connecting said shafts and the brush.

10. The combination of a foot rest, a brush carrier movable toward and from the rest, a brush, an upright lever at its lower end engaging the carrier, mechanism for oscillating the lever to move the carrier toward the rest, and a spring for retracting the carrier.

11. The combination of a foot rest, parallel horizontal power shafts at opposite sides of the rest, an upright frame mounted to swing concentrically with relation to each shaft, a brush rotatably mounted in each frame, gearing connecting the shaft and brush of each frame, and frame swinging means.

12. The combination of a foot rest, frames at opposite sides of the rest adapted to swing toward and from each other, a brush carried by each frame, and means for causing the frames normally to move toward each other, intermittently operating mechanism for moving the frames apart, mechanism for holding the frames apart, and intermittently operating frame releasing mechanism.

13. The combination of a foot rest, upright frames at opposite sides thereof adapted to swing toward and from each other, a brush carried by each frame, transverse overlapping bars secured to the frames, means for causing the frames to normally swing toward each other and depress the overlapping portions of the bars, a lever adapted to raise the overlapping portions of the bars, and means for intermittently operating the lever.

14. The combination of a fixed upright, a foot rest, links pivoted to swing vertically on the upright and also pivoted to the rest whereby the latter is maintained in horizontal position, a spring for resisting depression of the rest, and brushes to which the rest is adapted to be lowered.

15. The combination of a fixed upright, a foot rest, links pivoted to swing vertically on the upright and also pivoted to the rest, a spring for resisting depression of the rest, a downwardly swinging finger pivoted to one of the links, a stop adapted to be engaged by the finger for locking the rest in elevated position, means for disengaging the finger from the stop, and brushes to which the rest is adapted to be lowered.

16. The combination of a casing having a top opening, a depressible spring-raised foot rest normally closing the opening, lock mechanism for securing the rest in raised position, lock releasing mechanism, and brushes operative within the casing and to which the rest is adapted to be depressed when unlocked.

17. In a shoe cleaning and shining machine, the combination with a casing and shoe cleaning and shining mechanism therein, of a shoe support in the upper portion of the casing, locking means for preventing the downward movement of the shoe support and mechanism for releasing said locking means to permit the shoe support to lower to operative position and compel the operation of the shoe cleaning and shining mechanism.

18. In a shoe cleaning and shining machine, the combination with a casing and shoe cleaning and shining mechanism therein, of a shoe support normally closing an opening in the upper portion of the casing, locking mechanism holding the shoe support elevated, mechanism for releasing the locking mechanism and setting the shoe cleaning and shining mechanism in operation, and automatic means for applying liquid polish to a shoe on the support when the latter is moved down into operative position.

19. In a shoe cleaning and shining machine, the combination with rotary brushes, and a motor to drive the same, of a shoe support, locking devices normally holding the shoe support elevated out of contact with the brushes, mechanism to release the locking mechanism to permit the shoe support to be forced down to operative position and also start the motor, and automatic mechanism for stopping the machine after a predetermined time.

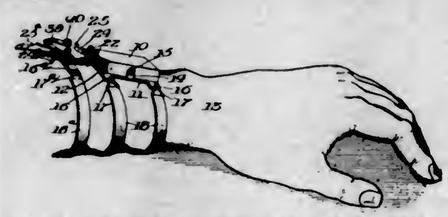
20. In a shoe cleaning and shining machine, the combination with rotary shoe brushes, a motor to revolve the brushes, a liquid polish containing tank, and a pipe for conveying said liquid to a point to be deposited on a shoe between the brushes, of a time wheel driven by the motor, an arm on the time wheel, a spring closed cock in the said pipe, a trip arm on said cock in the path of the arm on the time wheel, trip mechanism operated by the arm on the time wheel to stop the motor and operating mechanism, and mechanism for starting the motor.

21. In a shoe polishing machine, the combination of a side brush movable toward and from a shoe, a front brush, a support for the front brush movable toward and from the shoe, means for causing the side brush to engage the shoe alternately with the front brush, and means actuated by the front brush support as the front brush is being moved toward the shoe for moving the side brush away from the shoe.

22. In a shoe polishing machine, the combination of opposite side brushes movable toward and from each other, a support for the front brush movable toward and from the side brushes, a spring for moving the side brushes toward each other, and mechanism actuated by the front brush support and operated by the latter as the front brush approaches the side brushes to move the side brushes away from each other.

868,621. TELEGRAPHIC INSTRUMENT. JEROME P. ZELENKA, Chicago, Ill. Filed Feb. 4, 1907. Serial No. 355,556.

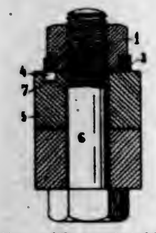
1. In a telegraphic instrument, the combination with a holder or casing, of an electro-magnet carried thereby, a spring secured at one of its ends to the casing or holder and having at its other end an adjustable screw adapted to project through an opening in the holder or casing and to contact with the human body, an armature transversely secured on the spring near its free end, substantially as described.



2. In a telegraphic instrument, the combination with a casing, of means to secure it to a portion of the body of the operator, an electro-magnet located in the casing, a spring secured at one of its ends to the casing and having at its other end an adjustable screw adapted to project through an opening in the casing so as to contact with the body of the operator, and an armature transversely mounted on the spring near its free end, substantially as described.

3. In a telegraphic instrument, the combination with a box-like casing, of a removable plate located on its lower portion and having an opening therein, said plate having a hook at each of its corners, straps having loops at their ends to engage said hooks, an electro-magnet located in the casing, a sprag secured at one of its ends to the casing and having at its other end an adjustable screw adapted to operate in the opening of the bottom plate, and an armature transversely secured on the spring near its free end, substantially as described.

868,622. LOCKING ARRANGEMENT FOR NUTS, SCREWS, &c. CHARLES A. ARBEY, Besançon, France, assignor to La Continentale Fixator, Paris, France. Filed Mar. 16, 1907. Serial No. 362,651.



1. The combination with a rotatable nut having a substantially cylindrical shank portion, of a locking device for said nut, said device comprising an elastic helix having one end adapted to be anchored on a fixed body, the other end of said helix being free and said helix constringing the shank on said rotatable nut.

2. The combination with a rotatable nut having a shank portion made substantially cylindrical, of a locking device comprising an elastic helix surrounding said shank portion, said helix having one end free and having the opposite end cranked, said cranked end adapted to engage with a fixed body to which the rotatable nut is applied, said helix constringing the shank of the rotatable nut, substantially as herein described.

3. The combination with a rotatable nut having a shank portion of substantially cylindrical form, of a locking device for said nut, said device comprising an elastic helix surrounding said shank portion, said helix having a free end and a cranked end, and a fixed body having a cavity into which said cranked end enters, said helix constringing the shank portions of the rotatable nut.

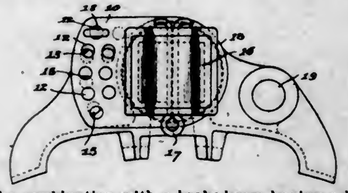
4. The combination with a rotatable nut having a cylindrical shank portion, of a locking device for said nut said device comprising an elastic helix adapted to surround and constringe the shank of said nut and having one end anchored to a fixed body and the other end free, said anchored and free ends being so located that the path of the helix from the anchored to the free end represents the direction in which the rotatable nut is not allowed to rotate.

5. The combination with a fixed member and a rotatable nut, of a locking device intermediate of said member and nut, said device comprising an elastic helix and said rotatable nut having a shank portion embraced by the helix and adapted to be constringed by the latter, said helix having a free end and a cranked end, said cranked end being engaged with said fixed member, and the free and cranked ends of the helix being so located that the path of said helix from the cranked to the free end represents the direction in which the rotatable nut is not allowed to rotate.

6. The combination with a rotatable nut having a shank portion of an elastic helix, said helix constringing the shank on said nut and having one end adapted to be anchored to a fixed body and the other end free, said anchored and free ends being so located that the path of the helix from the anchored to the free end represents the direction in which the rotatable nut is not allowed by the constringent helix to rotate, the constringent effect of the helix adapted to be released by a key when it is desired to rotate the rotatable nut in said direction.

7. The combination with a rotatable nut having a shank portion, of a locking device for said nut, said device comprising an elastic helix constringing the shank of said nut, said helix having one end adapted to be anchored to a fixed body and one end free, said free end being disposed tangentially to said helix, and said anchored and free ends being so located that the path of the helix from the anchored to the free end represents the direction in which said body is not allowed by the constringent helix to rotate, the tangential end of the helix being adapted for engagement with a key when it is desired to rotate the nut in a direction in which said member is not allowed by the constringent helix to rotate.

868,623. ADJUSTABLE BRAKE-HEAD. CARL E. BAUER and FRANK L. SUSEMIHL, Hammond, Ind., assignors to American Steel Foundries, New York, N. Y., a Corporation of New Jersey. Filed Feb. 4, 1907. Serial No. 355,634.



1. The combination with a brake-beam having a bearing on its end, of a brake-head rotatably mounted on said bearing, adjacent laterally projecting wings carried by said brake-beam and brake-head, respectively, and means for rigidly uniting said wings at various positions of relative angular adjustment, substantially as described.

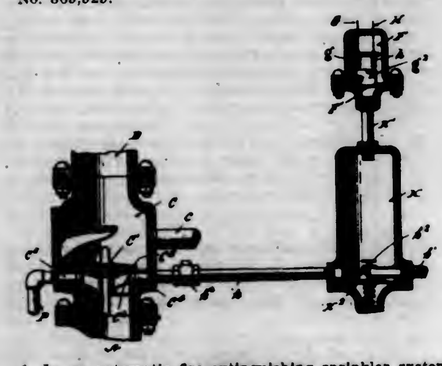
2. The combination with a brake-beam having a bearing on its end, of a brake-head rotatably mounted on said bearing, adjacent laterally projecting wings carried by said brake-beam and brake-head, respectively, said wings being provided with differently grouped series of holes, and a pin adapted to be passed through registering holes in said wings at various positions of relative angular adjustment of the latter, substantially as described.

3. The combination with a brake-beam having a bearing on its end, of a brake-head rotatably mounted on said bearing, said brake-head having a pair of rigid, laterally projecting apertured wings substantially in the planes of the sides of the head, and a coöperating pair of laterally projecting wings rigid with said brake-beam and lying alongside said wings of the head, said brake-beam wings having registering apertures differently arranged relatively

to the apertures of the wings of the head, and a pin adapted to be passed through registering holes in said pairs of wings at various positions of angular adjustment of the head, substantially as described.

4. The combination with a brake-beam, of a collar fast thereon, a bearing member secured on the end of the beam and having a laterally projecting wing abutting against said collar, a brake-head rotatably mounted on said bearing member and having one or more laterally projecting wings, and a wing detachably secured to the projecting end of said bearing member opposite the end of the brake-beam, all of said wings lying side by side and the wings of said bearing member and head having differently grouped series of holes, respectively, and a pin adapted to be passed through registering holes in all of said wings whereby the head may be secured at various angularly adjusted positions on the brake-beam, substantially as described.

868,624. AUTOMATIC SPRINKLER SYSTEM. WILLIAM BAUER, Louisville, Ky., assignor of one-seventh to Minor C. Peter, one-seventh to Warren H. Richardson, one-seventh to Albert Ruetlinger, one-seventh to Edward J. Miller, and one-seventh to Orlando C. Richardson, Louisville, Ky., and one-seventh to Benjamin C. Neat, New Albany, Ind. Filed Apr. 24, 1907. Serial No. 369,929.



1. In an automatic fire extinguishing sprinkler system, the combination of a water suppy pipe, a distributing pipe, a main pressure controlled valve interposed between the supply pipe and distributing pipe, a channel in the valve seat communicating with the said distributing pipe and normally closed by said valve, an outlet from said channel, a signal communicating with the outlet, and a valved pipe connecting the main water supply pipe to the said channel whereby the water may be passed through said channel while the valve is closed.

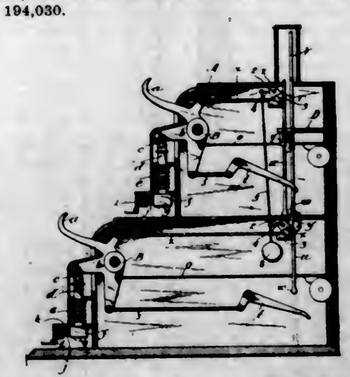
2. In an automatic fire extinguishing sprinkler system, the combination of a water supply pipe, a distributing pipe, a main pressure controlled valve interposed between the supply pipe and distributing pipe, a channel in the valve seat communicating with said distributing pipe and normally closed by said valve, an outlet from said channel, and a valved pipe connecting the main water supply pipe to the said channel whereby the water may be passed through said channel while the valve is closed; with an electrical alarm system, a hydraulically controlled switch for closing the electric circuit through said system, and connections between said switch and the outlet of said channel whereby the switch is operated when water is admitted into the channel.

3. In an automatic fire extinguishing system, the combination of a water supply pipe, a distributing pipe, an electric alarm system, a switch for closing the electric alarm, a drip-cylinder and connections for operating said switch, whereby the circuit is closed when water is admitted into the cylinder; with a main pressure-controlled valve interposed between the supply pipe and distributing pipe, a channel in the valve seat communicating with said distributing pipe and normally closed by said valve, connections between said channel and the said drip-cylinder, and a valved pipe connecting the main water supply pipe to the said channel, whereby water may be passed through said channel to the drip-cylinder to test the alarm system while the main pressure-controlled valve is closed.

4. In an automatic sprinkling apparatus for extinguishing fires, the combination of distributing pipes, a water supply pipe, a pressure controlled valve interposed between the supply and distributing pipes and normally closed, a channel in the seat of said valve having its upper side communicating with said distributing pipe and normally closed by the valve, a drip-cylinder, and a pipe connecting the said channel with said cylinder; with an electric alarm system, a switch for said system connected with said drip-cylinder whereby the switch is closed when water is admitted into the said cylinder, and a valved pipe connecting with the supply pipe below the main pressure controlled valve, and with the channel in the valve seat whereby water may be passed through said channel to the said cylinder to test the alarm system without disturbing the main pressure controlled valve.

5. In an automatic fire extinguishing sprinkler system, the combination of a main water supply pipe, distributing pipes, a pressure controlled valve between said pipes having an annular channel in its seat communicating with said distributing pipes and normally closed by said valve, sprinkler heads connected with said distributing pipes, an electric alarm circuit, a hydraulic switch for closing the circuit, a drip-cylinder connected with said switch, and a pipe connecting said drip-cylinder with the channel in the pressure controlled valve seat; with a valved pipe connecting the water supply pipe with the said annular channel and adapted to admit water to said channel and through the latter to said drip-cylinder independently of the pressure valve or distributing pipe system, whereby the connections between the valve seat and the drip cylinder and the operativeness of the electrical circuit can be tested without disturbing the distributing system.

868,625. CHECKING, REGISTERING, AND RECORDING MECHANISM. AUGUST BOOS, New York, N. Y., assignor, by mesne assignments, of one-tenth to Ernest Lutzer, New York, N. Y. Filed Feb. 17, 1904. Serial No. 194,030.



1. In a checking, registering and recording mechanism, the combination of a handle; a first angle-lever which is operatable by means of the first angle-lever; a numeral-stamp which is operatable by means of the stamp-body; a rotatable stamp which is mounted on the stamp-body and has a plurality of character faces; a spur-pinion which is attached to the rotatable stamp; a reciprocatable toothed-rack which is meshable with the spur-pinion; and manually-operatable reciprocating means connected to the toothed-rack.

2. In a checking, registering and recording mechanism,

the combination of a handle; a first angle-lever which is operatable by means of the handle; a stamp-body which is operatable by means of the first angle-lever; a numeral-stamp which is operatable by means of the stamp-body; a rotatable stamp which is mounted on the stamp-body and has a plurality of character faces; a spur-pinion which is attached to the rotatable stamp; a reciprocatable toothed-rack which is meshable with the spur-pinion; manually-operatable reciprocating means connected to the toothed-rack; a pointer which is operatable by the manually-operatable means; and an indicating dial which is arranged concentrically of the pointer and comprises characters which are similar to and arranged in relatively the same sequence as those on the rotatable stamp.

3. In a checking, registering and recording mechanism, the combination of a handle; a first angle-lever which is operatable by means of the handle; a stamp-body which is operatable by means of the first angle-lever; a numeral-stamp which is operatable by means of the stamp-body; a rotatable stamp which is mounted on the stamp-body and has a plurality of character faces; a spur-pinion which is attached to the rotatable-stamp; a reciprocatable toothed-rack which is meshable with the spur-pinion; manually-operatable reciprocating means connected to the toothed-rack; and an inking pad which is operatable by the stamp-body to ink the several stamps.

4. In a checking, registering and recording mechanism, the combination of a handle; a first angle-lever which is operatable by means of the handle; a stamp-body which is operatable by means of the first angle-lever; a numeral-stamp which is operatable by means of the stamp-body; a rotatable stamp which is mounted on the stamp-body and has a plurality of character faces; a spur-pinion which is attached to the rotatable stamp; a reciprocatable toothed-rack which is meshable with the spur-pinion; manually-operatable reciprocating means connected to the toothed-rack; and a counting-register which is connected to and is operatable by the first angle-lever and is so arranged that any additional amount registered at an operation thereof will be equal to that which is impressible by the numeral-stamp which is operated by the first angle-lever.

5. In a checking, registering and recording mechanism, the combination of a handle; a first angle-lever which is operatable by means of the handle; a stamp-body which is operatable by means of the first angle-lever; a numeral-stamp which is operatable by means of the stamp-body; a rotatable stamp which is mounted on the stamp-body and has a plurality of character faces; a spur-pinion which is attached to the rotatable stamp; a reciprocatable toothed-rack which is meshable with the spur-pinion; manually-operatable reciprocating means connected to the toothed-rack; a link which is pivotally attached at one end thereof to the first angle-lever and at the other end thereof to a second angle-lever; said second angle-lever which is engageable with a bifurcated rod and is operatable to raise said rod; said bifurcated rod; and a sign which is attached to the bifurcated rod and bears on the face thereof a numeral which corresponds with the numeral which is impressible by the numeral-stamp.

6. In a checking, registering and recording mechanism, the combination of a handle; a first angle-lever which is operatable by means of the handle; a stamp-body which is operatable by means of the first angle-lever; a numeral-stamp which is operatable by means of the stamp-body; a rotatable stamp which is mounted on the stamp-body and has a plurality of character faces; a spur-pinion which is attached to the rotatable stamp; a reciprocatable toothed-rack which is meshable with the spur-pinion; manually-operatable reciprocating means connected to the toothed-rack; a link which is pivotally attached at one end thereof to the first angle-lever and at the other end thereof to a second angle-lever; said second angle-lever which is engageable with a bifurcated rod and is operatable to raise said rod; said bifurcated rod; a sign which is attached to the bifurcated rod and bears on the face thereof a numeral which corresponds with the numeral which is impressible by the numeral-stamp; a first spring-pressed pawl which is mounted in the bifurcated rod and is engageable with an oscillatable detent; and said oscillatable detent which is so engageable by the first spring-pressed pawl as to retain a bifurcated rod and its connected sign in positions to which they may have been moved by the second angle-lever and in which the numeral on the sign is visible.

7. In a checking, registering and recording mechanism, the combination of a handle; a first angle-lever which is operatable by means of the handle; a stamp-body which is operatable by means of the first angle-lever; a numeral-stamp which is operatable by means of the stamp-body; a rotatable stamp which is mounted on the stamp-body and has a plurality of character faces; a spur-pinion which is attached to the rotatable stamp; a reciprocatable toothed-rack which is meshable with the spur-pinion; manually-operatable reciprocating means connected to the toothed rack; a link which is pivotally attached at one end thereof to the first angle-lever and at the other end thereof to a second angle-lever; said second angle-lever which is engageable with a bifurcated rod and is operatable to raise said rod; said bifurcated rod; a sign which is attached to the bifurcated rod and bears on the face thereof a numeral which corresponds with the numeral which is impressible by the numeral-stamp; a first spring-pressed pawl which is mounted in the bifurcated rod and is engageable with an oscillatable detent; said oscillatable detent which is so engageable by the first spring-pressed pawl as to retain a bifurcated rod and its connected sign in positions to which they may have been moved by the second angle-lever and in which the numeral on the sign is visible; a second spring-pressed pawl which is so engageable with the detent as to retain the latter in the position in which said detent retains the sign in the position in which the numeral on said sign is visible; and a link which connects the second spring-pressed pawl to the first angle-lever.

8. In a checking, registering and recording mechanism, the combination of a plurality of first angle-levers each of which is operatable by means of a handle; a plurality of links which respectively connect a first angle-lever to a second angle-lever; a plurality of said second angle-levers which are respectively engageable with and operatable to raise a bifurcated rod; a plurality of said bifurcated rods; a plurality of signs which are respectively attached to bifurcated rods and which bear on their respective faces numerals which correspond with the numerals which are impressible by the numeral-stamps; a plurality of first spring-pressed pawls which are respectively mounted in bifurcated rods and are respectively engageable with an oscillatable detent; an oscillatable detent which is so engageable by any one of a plurality of first spring-pressed pawls as to retain a bifurcated rod and a sign in positions to which they may have been moved by a second angle-lever in which the numeral on the sign is visible; a plurality of second spring-pressed pawls which are pivotally mounted and are respectively so engageable with a detent as to retain the latter in the position in which the detent retains a sign in the position in which the numeral on said sign is visible; a plurality of links which connect first spring-pressed pawls to first angle-levers; and a plurality of links which connect second spring-pressed pawls to first angle-levers.

9. In a checking, registering and recording mechanism, the combination of a plurality of first angle-levers each of which is operatable by means of a handle; a plurality of links which respectively connect a first angle-lever to a second angle-lever; a plurality of said second angle-levers which are respectively engageable with and operatable to raise a bifurcated rod; a plurality of said bifurcated rods; a plurality of signs which are respectively attached to bifurcated rods and which bear on their respective faces numerals which correspond with the numerals which are impressible by the numeral-stamps; a plurality of first spring-pressed pawls which are respectively mounted in bifurcated rods and are respectively engageable with an oscillatable detent; a plurality of groups of first spring-pressed pawls which are mounted in the bifurcated rods, each group being engageable with one of several oscillatable detents; a plurality of oscillatable detents which are respectively so engageable by any one of a plurality

of first spring-pressed pawls as to retain bifurcated rods and signs in positions to which they may have been moved by a second angle-lever and in which the numeral on the sign is visible; a plurality of second spring-pressed pawls which are pivotally mounted and are respectively so engageable with a detent as to retain the latter in the position in which the detent retains the sign in the position in which the numeral on said sign is visible; a plurality of links which connect first spring-pressed pawls to first angle-levers; and a plurality of links which connect second spring-pressed pawls to first angle-levers.

10. In a checking, registering and recording mechanism, the combination of a plurality of first angle-levers each of which is operatable by means of a handle; a plurality of links which respectively connect a first angle-lever to a second angle-lever; a plurality of said second angle-levers which are respectively engageable with and operatable to raise a bifurcated rod; a plurality of said bifurcated rods; a plurality of signs which are respectively attached to bifurcated rods and which bear on their respective faces numerals which correspond with the numerals which are impressible by numeral-stamps; a plurality of first spring-pressed pawls which are respectively mounted in bifurcated rods and are respectively engageable with an oscillatable detent; an oscillatable detent which is so engageable by any one of a plurality of first spring-pressed pawls as to retain a bifurcated rod and a sign in positions to which they may have been moved by a second angle-lever in which the numeral on the sign is visible; a plurality of second spring-pressed pawls which are pivotally mounted and are respectively so engageable with a detent as to retain the latter in the position in which the detent retains a sign in the position in which the numeral on said sign is visible; a plurality of links which connect first spring-pressed pawls to first angle-levers; a plurality of links which connect second spring-pressed pawls to first angle-levers; and a plurality of counting registers which are respectively connected to and are operatable by the several first angle-levers.

11. In a checking, registering and recording mechanism, the combination of a plurality of first angle-levers each of which is operatable by means of a handle; a plurality of links which respectively connect a first angle-lever to a second angle-lever; a plurality of said second angle-levers which are respectively engageable with and operatable to raise a bifurcated rod; a plurality of said bifurcated rods; a plurality of signs which are respectively attached to bifurcated rods and which bear on their respective faces numerals which correspond with the numerals which are impressible by numeral-stamps; a plurality of first spring-pressed pawls which are respectively mounted in bifurcated rods and are respectively engageable with an oscillatable detent; a plurality of groups of first spring-pressed pawls which are mounted in the bifurcated rods, each group being engageable with one of several oscillatable detents; a plurality of oscillatable detents which are respectively so engageable by any one of a plurality of first spring-pressed pawls as to retain bifurcated rods and signs in positions to which they may have been moved by a second angle-lever and in which the numeral on the sign is visible; a plurality of second spring-pressed pawls which are pivotally mounted and are respectively so engageable with a detent as to retain the latter in the position in which the detent retains the sign in the position in which the numeral on said sign is visible; a plurality of links which connect first spring-pressed pawls to first angle-levers; a plurality of links which connect second spring-pressed pawls to first angle-levers; and a plurality of counting-registers which are respectively connected to and are operatable by the several first angle-levers.

12. In a checking, registering and recording mechanism, the combination of a handle; a first angle-lever which is operatable by means of the handle; a stamp-body which is operatable by means of the first angle-lever; a numeral-stamp which is operatable by means of the stamp-body; a rotatable stamp which is mounted on the stamp-body and has a plurality of character faces; a spur-pinion which is attached to the rotatable stamp; a reciprocatable toothed-rack which is meshable with the spur-pinion; manually-operatable reciprocating means connected to the toothed-rack; a second spring-pressed pawl which is so engageable with the detent as to retain the latter in the position in which said detent retains the sign in the position in which the numeral on said sign is visible; a link which connects the second spring-pressed pawl to the first angle-lever; and resilient means which are arranged to urge a first angle-lever and its connected mechanism to their respective prime positions.

13. In a checking, registering and recording mechanism, the combination of a plurality of first angle-levers each of which is operatable by means of a handle; a plurality of links which respectively connect a first angle-lever to a second angle-lever; a plurality of said second angle-levers which are respectively engageable with and operatable to raise a bifurcated rod; a plurality of said bifurcated rods; a plurality of signs which are respectively attached to bifurcated rods and which bear on their respective faces numerals which correspond with the numerals which are impressible by numeral-stamps; a plurality of first spring-pressed pawls which are respectively mounted in bifurcated rods and are respectively engageable with an oscillatable detent; an oscillatable detent which is so engageable by any one of a plurality of first spring-pressed pawls as to retain a bifurcated rod and a sign in positions to which they may have been moved by a second angle-lever in which the numeral on the sign is visible; a plurality of second spring-pressed pawls which are pivotally mounted and are respectively so engageable with a detent as to retain the latter in the position in which the detent retains a sign in the position in which the numeral on said sign is visible; a plurality of links which connect first spring-pressed pawls to first angle-levers; a plurality of links which connect second spring-pressed pawls to first angle-levers; and a plurality of resilient means which are arranged to urge the first angle-levers and their connected mechanisms to their respective prime positions.

14. In mechanism of the character described, the combination with a casing comprising a front containing a slot and a check bearing portion in juxtaposition to said slot, said casing having a numerical designation contiguous to said slot, a movable stamp head normally out of relation with said bearing portion and provided with a character corresponding with the numerical designation, a rotatable stamp on said stamp head and having a plurality of differing characters, means for rotating said stamp, and means for moving said stamp head and stamp into stamping relation.

15. In mechanism of the character described, the combination with a plurality of movable stamp heads, provided with numerical characters of different valuations respectively, a rotatable stamp on each head and having a plurality of differing characters, means for simultaneously rotating the rotatable stamps, and means for independently actuating each stamp head and rotatable stamp carried thereby.

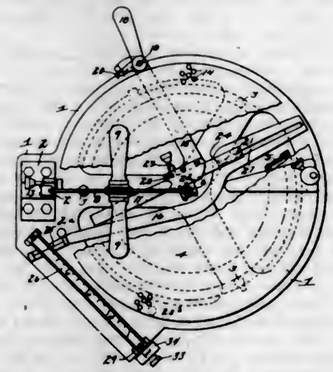
16. In mechanism of the character described, the combination with indicating and registering means, of a movable stamp head normally out of stamping relation and provided with a numerical character, a rotatable stamp on said head and having a plurality of differing characters, means for rotating said head, and means for simultaneously actuating the stamp head and rotatable stamp, and likewise, the indicating and registering means.

17. In a checking, registering and recording mechanism, the combination of a plurality of rotatable stamps; a reciprocatable toothed-rack; a plurality of spur-pinions which are meshable with the toothed-rack and each of which is attached to a rotatable stamp; manually-operatable reciprocating means connected to the toothed-rack; a pointer which is operatable by the manually-operatable means; and an indicating dial which is arranged concentrically of the pointer and comprises characters which are similar to and arranged in relatively the same sequence as those on the rotatable stamp.

18. In a checking, registering and recording mechanism, the combination of a plurality of reciprocatable stamp bodies having suitable type or characters thereon, a rotatable stamp mounted on each of the stamp-bodies, each provided with suitable recording characters, means for simultaneously rotating the stamps to present any selected combination of characters thereon in impressing alinement with the characters on the stamp-bodies, and means for reciprocating the latter.

19. I a device of the character described, the combination of a plurality of recording mechanisms arranged in two tiers, each of said recording mechanisms having a plurality of recording characters, means for presenting a selected character on one of said mechanisms with a selected character on another of said mechanisms in position to print simultaneously, and means for actuating said mechanisms to effect a printed record.

868,626. CHEESE-CUTTER. WALTER G. DOTY, Dayton, Ohio, assignor to The Heinz Manufacturing Co., Dayton, Ohio, a Corporation of Ohio. Filed Nov. 26, 1906. Serial No. 345,018.



1. In a cheese cutter, an operating lever, an index lever, and longitudinally adjustable means interposed between said operating lever and index lever for varying the throw of the operating lever.

2. In a cheese cutter, an operating lever, an index lever, a graduated arm or member movable with the operating lever, said graduated arm or member having means for varying its connection with the index lever to vary the throw of the operating lever.

3. In a cheese cutter, an operating lever, a graduated arm or member carried thereon, an index lever, and means for varying the connection between the graduated arm or member and the index lever whereby the throw of the operating lever is controlled.

4. In a cheese cutter, an operating lever, means thereon for clamping a cheese board to be rotated thereby, an arm or member having a numerical scale thereon and adjustably supported on the operating lever, and an index lever connected with said scale arm or member, said index lever and said operating lever having fixed fulcrums, and the scale arm or member being adapted to different connections with the index lever to vary the throw of the operating lever.

5. In a cheese cutter, a cheese board, an operating lever for rotating said cheese board, said operating lever having a permanent fulcrum, an index lever, a scale arm or member supported upon the operating lever and through which movement is imparted to the index lever, and means for varying the connection between the scale arm or member and the index lever to vary the throw or movement of the cheese board through the operating lever.

6. In a cheese cutter, a rotatable cheese board, an operating lever adapted to intermittently rotate said cheese board and having its fulcrum at the axis of the cheese board, an index lever, and an arm or member interposed between the operating lever and said index lever and having longitudinal adjustment, with means for varying the connection between said interposed arm or member and the index lever and whereby the movement of the operating lever may be varied.

7. In a cheese cutter, an operating lever having a permanent fulcrum, an index lever having a permanent fulcrum, an arm or member interposed between the operating lever and the index lever, means for varying the connection of said interposed arm or member with the index lever, and whereby movement is imparted from the operating lever to the index lever and the movement of the operating lever may be varied.

8. In a cheese cutter, an operating lever having a fixed fulcrum, an index lever having a fixed fulcrum, and a graduated arm or member movable on the fulcrum of the operating lever, and lying at right angles to said operating lever and parallel with the index lever, and means for varying the connection between the index lever and said graduated arm or member whereby the extent of movement of the operating lever is determined.

9. In a cheese cutter, a weight indicator, an index lever movable to points on said weight indicator, an operating lever, an arm or member interposed between said operating lever and said index lever and through which movement is imparted from the operating lever to the index lever and the movement of the operating lever is regulated, said interposed arm or member having a numerical scale thereon, and means for varying the point of connection between the index lever and said interposed arm or member whereby the movement of the operating lever may be regulated.

10. In a cheese cutter, a rotatable cheese board, an operating lever engaging said cheese board to rotate the same, an indicator to indicate the weights of quantities of cheese dispensed, an index lever movable to the points on said indicator simultaneously with the movements imparted to the cheese board through the operating lever, an arm or member interposed between the operating lever and the index lever by which movement is imparted to said index lever, and means for varying the point of connection between said index lever and said interposed arm or member whereby the movement of the operating lever is determined.

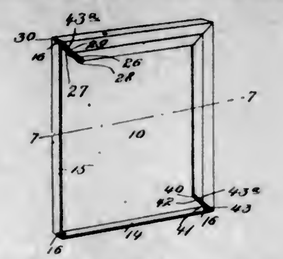
11. In a cheese cutter, a permanent indicator to indicate the specific quantities of cheese dispensed, an index lever, means for stopping the throw of the index lever to indicate the quantity of cheese dispensed by the weight thereof or the money value thereof, a rotatable support for said cheese, an operating lever adapted to move said rotatable support, and a changeable connection between said operating lever and the index lever whereby the throw of the operating lever is controlled.

12. In a cheese cutter, a permanent indicator to indicate the weight of specific quantities of cheese dispensed, a rotatable member adjacent to said permanent indicator, weight indications and stop devices on said rotatable member to limit the movement of the index lever, a visible index by which the movement of the rotatable member is determined, and an operating handle with intervening mechanism by which the index lever is operated.

13. In a cheese cutter, an index lever, a cheese board, an operating lever for simultaneously moving the cheese board and the index lever, an adjustable arm or member forming a connection between the operating lever and the index lever and whereby the movement of the cheese board may be regulated, a permanent indicator to indicate the weight of specific quantities of cheese dispensed, and an auxiliary indicator to indicate money values of specific quantities of cheese dispensed, said auxiliary indicator having means thereon to stop the index lever at the desired points.

14. In a cheese cutter, an index lever, a permanent indicator denoting the weight or specific quantities of cheese dispensed, a rotatable bar parallel to said indicator, means on said bar to arrest the movements of the index lever at various points throughout the length of said bar, indications on said bar showing the various prices per pound of the cheese to be dispensed, and an index wheel movable with said bar and by which the position of the bar is determined.

868,627. PICTURE-FRAME. ELMER E. FAIRCHILD, Rochester, N. Y., assignor of one-third to Edward C. Gutland and one-third to Henry O. Alderman, Rochester, N. Y. Filed July 19, 1906. Serial No. 326,932.



1. A picture frame comprising a body portion having the margin thereof bent outwardly to form side and end walls, and reinforced side and end frame sections having inwardly extending portions secured to the outer face of the side and end walls to reinforce them.

2. A picture frame comprising a body portion having the margin thereof out-turned, a pair of end frame sections each having a portion thereof bent upon itself and each further provided with an inturned portion abutting against and secured to the marginal out-turned portions of the body portion, and a pair of side frame sections each having a portion thereof bent upon itself and further having an inturned portion associating with the out-turned marginal portions of the body portion, said end and side frame sections being positioned against the outer face of the body portion.

3. A picture frame comprising a body portion having the margin thereof out-turned, a pair of end frame sections each having beveled edges and a portion thereof bent upon itself and further provided with an inturned portion abutting against and secured to the marginal out-turned portions of the body portion, and a pair of side frame sections each having beveled edges and a portion thereof bent upon itself and further having an inturned portion associating with the out-turned marginal portions of the body portion, said end and side frame sections being positioned against the outer face of the body portion, the beveled edges of the end frame sections abutting against the beveled edges of the side frame sections when the said frame sections are positioned at the front of the body portion.

4. A picture frame comprising a body portion having the margin thereof out-turned, a pair of end frame sections each having beveled edges and a portion thereof bent upon itself and further provided with an inturned portion abutting against and secured to the marginal out-turned portions of the body portion, and a pair of side frame sections each having beveled edges and a portion thereof bent upon itself and further having an inturned portion associating with the out-turned marginal portions of the body portion, said end and side frame sections being positioned against the outer face of the body portion, the beveled edges of the end frame sections abutting against the beveled edges of the side frame sections when the said frame sections are positioned at the front of the body portion, and a cover for each of the said frame sections.

868,628. DENTAL REGULATOR AND SPACER. EBEN M. FLAGG, New York, N. Y. Filed Oct. 5, 1906. Serial No. 337,636.



1. In dentistry, a grooved or channeled body bar for application to the dental arch, a tensioning member carried by the bar and received by its groove for application to a tooth, and means for attaching said member to the tooth to be rectified.

2. In dentistry, a grooved body bar adapted for application to a dental arch, a tensioning member carried by the bar and adjustable in its groove, device for attaching the tensioning member to a tooth, and means for adjusting said tensioning member.

3. In dentistry, a grooved body bar adapted to a dental arch and a rectifying medium for a tooth adjustable upon said bar, an anchoring device for the bar, and means for adjusting said bar in said anchoring position.

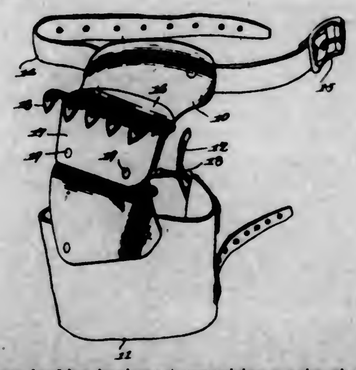
4. In dentistry, a grooved body bar adapted to the dental arch, a rectifying medium for a tooth adjustable on said bar, which medium is in the form of a bola wire, locking devices for the wire, and means for adjusting said bar relatively to the dental arch.

5. In dentistry, a body bar adapted to the dental arch, a band having a socket and adapted to a tooth, a wire having an enlargement at each end, one end of said wire being passed into the socket of said band, the other end of said wire being led along said body bar, a slide mounted on the bar, which receives that end of the wire located at the bar, and a nut adjustable on the bar, in engagement with the said slide to move the slide to or from the end of the body bar, or the center thereof.

6. In dentistry, a body bar adapted to a dental arch, a band having a socket and adapted to a tooth, a wire having an enlargement at each end, one end of said wire being passed into the socket of said band and the other end of the wire being laid along the said body bar, a slide mounted on the said body bar, which receives that end of the wire located at said body, a nut adjustable on the body bar in engagement with said slide to move the slide to and from an end of the body bar, or the center thereof, an anchoring band, a clamp sleeve carried by said band, through which an end of the said body bar is passed, and a nut mounted on said body bar for engagement with the forward end portion of the said clamp sleeve.

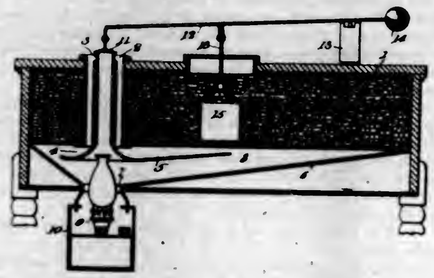
7. In dentistry, the combination with a body bar adapted to a dental arch, which bar comprises a central substantially loop-shaped member and a threaded bar member at each side of the loop-shaped member, anchoring bands each adapted for attachment to a tooth, and a rectifying band adapted for attachment to a tooth to be operated upon, of a flexible rectifier in the form of a wire having an enlargement at each end, means for attaching one end of the rectifier to said rectifying band, a slide mounted upon one of the bar members of the body bar, having means for retaining the opposite end of the rectifier, an adjusting nut also carried by the said bar member and adapted for engagement with the said slide, and an adjustable connection between the bar members of said body bar and the said anchoring bands.

868,629. HUSKING IMPLEMENT. FRED SCHUTTERLE, Marengo, Iowa. Filed Mar. 16, 1906. Serial No. 306,443.



A corn husking implement comprising a palm plate having attaching means, an arched brace mounted upon said plate and bearing at its ends only against the same, a plate mounted upon said brace and having a free edge provided with teeth, the last said plate and the brace having syncline portions.

868,630. THERMOSTAT. JAMES HOMAN, Springfield, Ohio. Filed Nov. 9, 1906. Serial No. 342,668.



1. The combination, with a water chamber, means for applying heat thereto and means for regulating the application of said heat to said chamber, of an expansible float immersed in the water in said water chamber and connected to said heat regulating means whereby the variation of the heat in said chamber controls the position of the float therein and regulates said heat-controlling means, substantially as described.

2. The combination, with a water chamber, means for applying heat thereto and means for regulating the application of such heat to said water chamber, of an expansible float immersed in the water in said water chamber and connected to said heat regulating means and containing an expansible fluid whereby the variation of the temperature of said water will vary the amount of water displaced by said float and cause said float to vary its position in said chamber, thereby operating said heat regulating means, substantially as described.

3. The combination, with a vessel containing water and means for heating said water, of a thermostatic float immersed in the water in said vessel and comprising a receptacle containing a fluid adapted to expand under the influence of heat, whereby the expansion of the fluid within said receptacle will cause said float to rise and fall in said vessel, and means actuated by the rise and fall of said float for controlling said heating means, substantially as described.

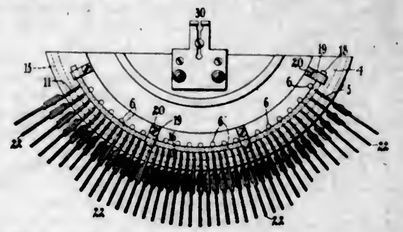
4. The combination, with a vessel containing water and means for heating said water, of a thermostatic float comprising a receptacle having expansible walls and a fluid contained within said receptacle and adapted to expand under the influence of heat, whereby the expansion of said fluid will expand the walls of said receptacle and cause the same to rise and fall in said vessel, and means actuated by the rise and fall of said float for controlling said heating means, substantially as described.

5. The combination, with a vessel containing water and means for heating said water, of a thermostatic float supported within said vessel and comprising a hermetically sealed receptacle having expansible walls, and an expansible fluid contained within said receptacle, the expansion whereof will cause said float to rise and fall in said vessel, and means actuated by the rise and fall of said float for controlling the heating means, substantially as described.

6. The combination, with a vessel containing water and means for heating said water, of a thermostatic float supported within said vessel and comprising a receptacle having flexible walls filled with an expansible fluid at a fixed temperature and hermetically sealed, whereby the expansion of said fluid within said flexible walls will cause said float to rise and fall in said vessel, and means actuated by the rise and fall of said float for controlling said heating means, substantially as described.

REISSUES.

12,702. TYPE-WRITER. CHARLES GIBBS, New York, N. Y., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed June 29, 1907. Serial No. 381,579. Original No. 854,484, dated May 21, 1907, Serial No. 361,233.



1. In a machine of the class described, in combination, a segment having sockets in the edge thereof, a plurality of hangers sliding respectively into said sockets interlocking therewith and projecting beyond the edge of said segment, and type bars pivotally attached to the projecting parts of said hangers beyond said edge.

2. In a machine of the class described, in combination, a vertically disposed segment having radially disposed slots in the edge thereof, a plurality of hangers sliding horizontally into said slots, an interlocking connection between said hangers and said slots preventing a radial movement thereof in said slots, said hangers projecting beyond the edge of said segment, and type bars pivotally attached to said hangers on the projecting parts thereof.

3. In a machine of the class described, in combination, a fixed member having a plurality of slots, said slots having grooves therein, a plurality of hangers received in said slots and having tongues adapted to slide into said grooves, and a plurality of type bars respectively pivoted on said hangers.

4. In a machine of the class described, in combination, a segment having a plurality of slots with grooves therein, a plurality of hangers received respectively in said slots and having tongues received in said grooves, a curved lock bar removably attached to said segment adjacent to said hangers and locking the same against withdrawal, and a plurality of type bars pivotally mounted respectively on said hangers.

5. The combination of a segment having sockets in its outer or circumferential edge, hangers removably fitted in said sockets, and fanning outwardly from said edge, a bar attached to the segment and locking the hangers to the sockets, and type bars pivoted to portions of the hangers which project from the sockets, the segment lying between the type-bar pivots and the printing point.

6. The combination of a segment having sockets in its outer or circumferential edge, hangers fitted in said sockets and having portions fanning radially outward from said curved edge of the segment, and type bars pivoted to said projecting portions of the hangers, the segment lying between the type-bar pivots and the printing point.

7. The combination of a segment having radial slots at its edge, said slots cut completely through the segment, hangers in the form of thin plates fitted in said slots, seats upon the segment for said hangers, means pressing said hangers against the seats, and type bars pivoted to portions of the hangers which project from the slots.

8. The combination of a segment having radial slots at its edge, said slots cut completely through the segment, hangers in the form of thin plates fitted in said slots, seats for said hangers upon the rear side of said segment, releasable means upon the front of the segment pressing said hangers against the seats, and type bars pivoted to portions of the hangers which project from the slots.

9. The combination of a segment having radial slots, hangers in the form of thin plates fitted in said slots, seats provided within said slots, said hangers being

notched to fit said seats, means to press the hangers against the seats, and type bars pivoted upon said plates outside of said slots.

10. The combination of a type bar and a hanger pivoted thereto, the hanger being in the form of a thin plate to fit in a radial slot in a segment, and having an enlarged bead or tongue to fit in a groove in the segment, to interlock the hanger with the segment.

11. A type-bar hanger in the form of a thin flat plate to fit in a radial slot of a segment and notched to fit a hanger seat and having a pivot portion to project from said slot, and also having a projecting handle.

12. A type-bar segment having along its outer or curved edge radial slots which extend completely through the segment, each slot having a groove to interlock with a plate hanger to be inserted in the slot, and provided with seats for the hangers, and also provided with means to press the hangers releasably against the seats.

13. A type-bar segment having along its outer or curved edge radial slots, each slot having a groove to interlock with a plate hanger to be inserted in the segment.

14. A type-bar segment having along its outer or curved edge radial slots, each slot having a groove to interlock with a plate hanger to be inserted in the segment, and provided with seats for the hangers.

15. A type-bar hanger in the form of a thin flat plate to fit in a radial slot of a segment and having an enlarged bead or tongue to fit in a groove in the slot, and also having a pivot portion to project from said slot.

16. A segment having radially disposed slots in its outer or curved edge, said slots extending completely through the segment and being alternately long and short, each slot having an enlargement or groove at its inner end.

17. A segment having radially disposed slots in its outer or curved edge, said slots extending completely through the segment and being alternately long and short, each slot having an enlargement or groove at its inner end, in combination with hangers in the form of thin plates fitted in said slots and having beads to fit in said grooves; and type-bars pivoted to portions of said hangers projecting from said slots.

18. The combination of a segment having radially disposed slots in its outer or curved edge, said slots extending completely through the segment and being alternately long and short, each slot having an enlargement or groove at its inner end, and type bar hangers in the form of thin plates fitted in said slots and having beads to fit in said grooves; said hangers being alternately long and short to correspond with the lengths of the slots, and type bars pivoted to portions of said hangers projecting from said slots.

19. The combination of a segment having radially disposed slots in its outer or curved edge, said slots extending completely through the segment and being alternately long and short, each slot having an enlargement or groove at its inner end, and hangers in the form of thin plates fitted in said slots and having beads to fit in said grooves; said hangers being alternately long and short to correspond with the lengths of the slots, and type bars pivoted in a single arc to projecting portions of said hangers.

20. The combination of a segment provided with radial slots having enlargements or grooves, hangers in the form of thin plates having at their upper or inner edges enlarged beads or tongues to interlock with said grooves, and type bars pivoted to portions of said hangers which project from said slots.

21. The combination of a segment provided with radial slots having enlargements or grooves, hangers in the form of thin plates having at their upper or inner edges enlarged beads or tongues to interlock with said grooves, and type bars pivoted to portions of said hangers which project from said slots; said segment being formed on its rear face with a groove in which is retained a curved bar which closes the slots and forms a seat for the hangers, said hangers being provided with notches to fit upon said seat bar.

22. The combination of a segment provided with radial slots having enlargements or grooves, hangers in the form of thin plates having at their upper or inner edges enlarged beads or tongues to interlock with said grooves, and type bars pivoted to portions of said hangers which project from said slots; said segment being formed on its rear face with a groove in which is retained a curved bar which closes the slots and forms a seat for the hangers, said hangers being provided with notches to fit upon said seat bar, the upper portions of the hangers being cut away so that they are about in alinement with the forward face of the segment, the bodies of the hangers projecting beyond the forward face of the segment to enable them to be seized when they are to be removed, and a curved locking bar held against the edges of the hangers by means of clamps.

23. The combination of a segment provided with radial slots, hangers in the form of thin plates fitted in said grooves, and type bars pivoted to portions of said hangers which project from said slots; said segment being formed on its rear face with a groove in which is retained a curved seat bar which closes the bottoms of the slots and forms a seat for the hangers.

24. The combination of a segment provided with radial slots, hangers in the form of thin plates fitted in said grooves, and type bars pivoted to portions of said hangers which project from said slots; said segment being formed on its rear face with a groove in which is retained a curved seat bar which closes the bottoms of the slots and forms a seat for the hangers, the upper portions of the hangers being cut away so that they are about in alinement with the forward face of the segment, and the bodies of the hangers projecting beyond the forward face of the segment to enable them to be seized when they are to be removed.

DESIGNS.

38,857. SPOOL FOR TYPE-WRITER RIBBONS AND TENSION-BANDS. JESSE ALEXANDER, Brooklyn, N. Y. Filed Aug. 3, 1905. Serial No. 272,615. Term of patent 14 years.



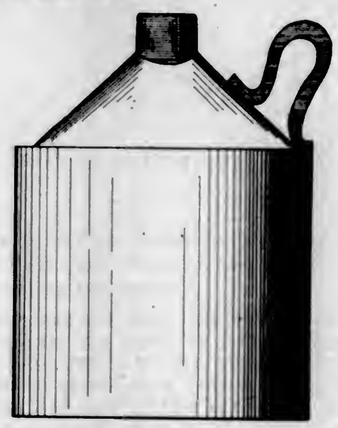
The ornamental design for a spool for typewriter ribbons and tension bands as shown.

38,858. POTTERY-JAR. EDWARD S. SMITHSON, Monmouth, Ill. Filed Aug. 23, 1907. Serial No. 389,915. Term of patent 3½ years.



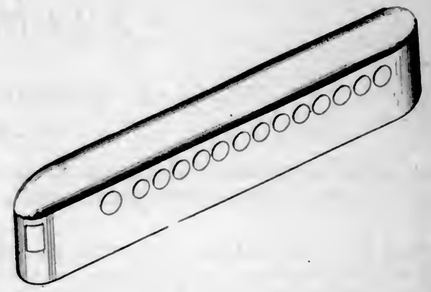
The ornamental design for a pottery jar, as shown.

38,859. POTTERY-JAR. EDWARD S. SMITHSON, Monmouth, Ill. Filed Aug. 23, 1907. Serial No. 389,916. Term of patent 3½ years.



The ornamental design for a pottery jar, as shown.

38,860. CAR-BODY. WILLIAM R. MCKEEN, Jr., Omaha, Nebr. Filed Jan. 17, 1907. Serial No. 352,836. Term of patent 14 years.



The ornamental design for a car body as shown.

TRADE-MARKS

PUBLISHED OCTOBER 15, 1907.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 4,836. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) SHANNON & MOTT COMPANY, Des Moines, Iowa. Filed May 9, 1905.



Particular description of goods.—Rye-Flour, Rye Graham Flour, Wheat-Flour, Whole-Wheat Flour, Graham Flour, Gluten-Flour, Self-Rising Pankake-Flour, Self-Rising Biscuit-Flour, Pure Wheat Pastry-Flour, and Cereal Breakfast Food.

Ser. No. 8,567. (CLASS 19. BOATS AND ROAD-VEHICLES.) THE COLUMBIA CARRIAGE CO., Hamilton, Ohio. Filed June 19, 1905. Used ten years.



Particular description of goods.—Barouches, Buckboards, Buggies, Cabs, Cabriolets, Carriages, Coaches, Coupés, Daytons, Dog-Carts, Hacks, Hansoms, Phaetons, Runabouts, Stanhopes, Sulkies, Surreys, Traps, and Victorias.

Ser. No. 11,318. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) TROPON GESELLSCHAFT MIT BESCHRÄNKTER HAFTUNG, Mülheim-on-the-Rhine, Germany. Filed Aug. 7, 1905.



Particular description of goods.—Nutritive Compounds in Solid, Liquid, or Semiliquid Form Made from or Containing Albumen.

Ser. No. 11,319. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) TROPON GESELLSCHAFT MIT BESCHRÄNKTER HAFTUNG, Mülheim-on-the-Rhine, Germany. Filed Aug. 7, 1905.

Tropon

Particular description of goods.—Nutritive Compounds in Solid, Liquid, or Semiliquid Form Made from or Containing Albumen.

Ser. No. 11,740. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) W. T. OWBRIDGE LTD., Hull, England. Filed Aug. 17, 1905.

OWBRIDGE'S
LUNG
TONIC.

Particular description of goods.—A Lung-Tonic.

Ser. No. 13,650. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) FISCHER CHEMICAL IMPORTING CO., New York, N. Y. Filed Oct. 16, 1905.



Particular description of goods.—Cod-Liver-Oil Emulsion, Beef, Iron, and Wine Tonic, and Cough-Syrup.

Ser. No. 15,377. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) RUBENS & MARBLE, Chicago, Ill. Filed Dec. 13, 1905. Used ten years.



Particular description of goods.—Knit Undershirts.

Ser. No. 18,737. (CLASS 61. JEWELRY AND SOLID AND PLATED PRECIOUS-METAL WARE.) BATES & BACON, Attleboro, Mass. Filed Apr. 12, 1906.



Particular description of goods.—Chains.

Ser. No. 19,970. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) WASHBURN CROSBY COMPANY, Minneapolis, Minn. Filed May 31, 1906. Used ten years.

Crocker's
BEST

Particular description of goods.—Wheat-Flour.

Ser. No. 20,117. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JULES BENGUÉ, Paris, France. Filed June 7, 1906.

Dr Bengué

Particular description of goods.—Balsams, Purgatives, Pastils, and Anesthetics.

Ser. No. 21,218. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) MOCH, BERMAN & CO., Cincinnati, Ohio. Filed July 27, 1906. Used ten years.

WELLWORTH

Particular description of goods.—Overcoats, Dress-Coats, Outer Coats, Vests, and Trousers.

Ser. No. 22,609. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) RUDOLF KRON, Golzern, near Grimma, Germany. Filed Oct. 9, 1906.

Silvalin

Particular description of goods.—Machines and Looms for the Production and Working of Strips, Bands, and Magazine-Rolls of Short-Fiber Materials, as Paper, Cellulose, Straw, Bamboo, Esparto, and Similar Fibers Vegetably Derived and Suitable for Paper-Making.

Ser. No. 22,675. (CLASS 64. MEDICAL AND SURGICAL APPARATUS, APPLIANCES, AND INSTRUMENTS.) THE B. F. GOODRICH COMPANY, Akron, Ohio. Filed Oct. 13, 1906.



Particular description of goods.—Abdominal Coils, Abdominal Operating-Sheet, Air-Pressure Suits, Anastomosis Sheets, Artificial Amniotic Sacks, Atomizers, Bandages, Bed-Pans, Breast-Protectors, Breast-Pumps, Bulbs for Syringes, Catheters, Catheter-Couplings, Circumcision-Aprons, Colostomy-Pads, Colostomy-Plugs, Cupping-Cups, Dilators, Dilator-Covers, Drainage-Tubes, Drainage-Tube Retainers, Drainage-Gauze Covers, Eye-Pads, Eye-Pads for Water or Ice, Feeding-Tubes, Fountain-Bags, Finger-Elongators, Genital Shields, Genital Bags, Head-Coils, Hot-Water Bags, Hot-Water Bottles, Hot-Water Operating-Beds, Ice-Bags, Ice-Caps, Intragastric Bags, Irrigator Spout-Caps, Irrigator-Tubes, Kidney Air-Cushions, Laparotomy-Blankets, Mastoid Ice-Bags, Mastoid Water-Bags, Medicine-Droppers, Nipple-Shields, Obstetrical Pans, Operating Head-Caps, Operating-Pans, Pus-Basins, Perineal Cushions, Pessaries, Rectal Shields, Rectal Bougies, Rubber Urinals, Stomach-Pumps, Syringes, Syringe-Nozzles, Teething-Rings, Tourniquets, Surgical Tube-Retainers, Umbilical Belts, Water-Beds, Water-Caps, Water-Jackets, Water-Pressure Suits, Made Wholly or Partly of Rubber or Having Rubber Incorporated Therewith and Especially Adapted for Medical or Surgical Purposes.

Ser. No. 22,790. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) FREDERICK ALBERT STEELE, New Rochelle, N. Y. Filed Oct. 19, 1906.

Sanifac
THE PAD THAT CLEANS

Particular description of goods.—Medicated and Antiseptic Pads for External Treatment of the Anus.

Ser. No. 23,139. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) HERMANN MELZER, Meiningen, Germany. Filed Nov. 6, 1906.

Catheterpurin

Particular description of goods.—A Lubricant Having Antiseptic, Disinfecting, and Healing Properties for Use in Surgery.

Ser. No. 23,426. (CLASS 51. MALT PREPARATIONS NOT OTHERWISE CLASSIFIED.) THE GEORGE WIEDEMANN BREWING CO., Newport, Ky. Filed Nov. 16, 1906.



Particular description of goods.—Beer.

Ser. No. 23,641. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE BARTON VINEYARD COMPANY, LIMITED, Fresno, Cal. Filed Nov. 28, 1906. Used ten years.

BARTON

Particular description of goods.—Brandy.

Ser. No. 23,642. (CLASS 55. WINES.) THE BARTON VINEYARD COMPANY, LIMITED, Fresno, Cal. Filed Nov. 28, 1906. Used ten years.

BARTON

Particular description of goods.—Port-Wine, Sherry-Wine, Tokay Wine, Angelica Wine, Muscat Wine, Malaga Wine, and Madeira Wine.

Ser. No. 23,702. (CLASS 55. WINES.) THE BARTON VINEYARD COMPANY, LIMITED, Fresno, Cal. Filed Dec. 1, 1906.

ESTABLISHED 1880
Purity Guaranteed Prudens Futuri

Particular description of goods.—Port-Wine, Sherry-Wine, Tokay Wine, Angelica Wine, Muscat Wine, Malaga Wine, and Madeira Wine.

Ser. No. 23,703. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE BARTON VINEYARD COMPANY, LIMITED, Fresno, Cal. Filed Dec. 1, 1906.

ESTABLISHED 1880
Purity Guaranteed Prudens Futuri

Particular description of goods.—Brandy.

Ser. No. 24,288. (CLASS 19. BOATS AND ROAD-VEHICLES.) SOCIÉTÉ ANONYME ARIÈS, Villeneuve la Garenne, France. Filed Dec. 26, 1906.



Particular description of goods.—Automobiles.

Ser. No. 24,289. (CLASS 19. BOATS AND ROAD-VEHICLES.) SOCIÉTÉ ANONYME ARIÈS, Villeneuve la Garenne, France. Filed Dec. 26, 1906.

"ARIES"

Particular description of goods.—Automobiles.

Ser. No. 25,684. (CLASS 19. BOATS AND ROAD-VEHICLES.) THE DE LUXE MOTOR CAR COMPANY, Detroit, Mich. Filed Mar. 1, 1907.

THE DELUXE MOTOR CAR CO. The Car De Luxe DETROIT, MICH. U.S.A.

Particular description of goods.—Automobiles.

Ser. No. 25,766. (CLASS 47. CONFECTIONERY.) ADAMS ARGOOD CHOCOLATE CO., Philadelphia, Pa. Filed Mar. 5, 1907.

"Parisian Dinnerettes"

Particular description of goods.—Candies.

Ser. No. 26,146. (CLASS 47. CONFECTIONERY.) ADAMS ARGOOD CHOCOLATE CO., Philadelphia, Pa. Filed Mar. 22, 1907.



Particular description of goods.—Candies.

Ser. No. 26,277. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) F. BLUMENTHAL & COMPANY, New York, N. Y. Filed Mar. 27, 1907.

No. 21

Particular description of goods.—Leather.

Ser. No. 26,459. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) THE HARTFORD RUBBER WORKS COMPANY, Hartford, Conn., and New York, N. Y. Filed Apr. 4, 1907.

No. 50

Particular description of goods.—Rubber Wheel-Tires.

Ser. No. 26,460. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) THE HARTFORD RUBBER WORKS COMPANY, Hartford, Conn., and New York, N. Y. Filed Apr. 4, 1907.

No. 50-T.T.

Particular description of goods.—Rubber Wheel-Tires.

Ser. No. 26,461. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) THE HARTFORD RUBBER WORKS COMPANY, Hartford, Conn., and New York, N. Y. Filed Apr. 4, 1907.

No. 70

Particular description of goods.—Rubber Wheel-Tires.

Ser. No. 26,462. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) THE HARTFORD RUBBER WORKS COMPANY, Hartford, Conn., and New York, N. Y. Filed Apr. 4, 1907.

No. 75

Particular description of goods.—Rubber Wheel-Tires.

Ser. No. 26,464. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) THE HARTFORD RUBBER WORKS COMPANY, Hartford, Conn., and New York, N. Y. Filed Apr. 4, 1907.

No. 77-H

Particular description of goods.—Rubber Wheel-Tires.

Ser. No. 26,465. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) THE HARTFORD RUBBER WORKS COMPANY, Hartford, Conn., and New York, N. Y. Filed Apr. 4, 1907.

No. 77-E-H

Particular description of goods.—Rubber Wheel-Tires.

Ser. No. 26,466. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) THE HARTFORD RUBBER WORKS COMPANY, Hartford, Conn., and New York, N. Y. Filed Apr. 4, 1907.

No. 80

Particular description of goods.—Rubber Wheel-Tires.

Ser. No. 26,468. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) THE HARTFORD RUBBER WORKS COMPANY, Hartford, Conn., and New York, N. Y. Filed Apr. 4, 1907.

No. 80-E-H

Particular description of goods.—Rubber Wheel-Tires.

Ser. No. 26,470. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) THE HARTFORD RUBBER WORKS COMPANY, Hartford, Conn., and New York, N. Y. Filed Apr. 4, 1907.

THORN

Particular description of goods.—Rubber Wheel-Tires.

Ser. No. 26,472. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) THE HARTFORD RUBBER WORKS COMPANY, Hartford, Conn., and New York, N. Y. Filed Apr. 4, 1907.



Particular description of goods.—Rubber Wheel-Tires.

Ser. No. 26,667. (CLASS 32. FURNITURE AND UPHOLSTERY NOT OTHERWISE CLASSIFIED.) THE TAYLOR CHAIR COMPANY, Bedford, Ohio. Filed Apr. 12, 1907.

Taylor's Comfortable Rockers

ROCKER SPECIALISTS

Particular description of goods.—Chairs, Rockers, Settees, and Sofas.

Ser. No. 26,927. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE SPIRINE EXTRACTING CO., Chicago, Ill. Filed Apr. 25, 1907.

SPIRINE

Particular description of goods.—Laxative and Digestive Medicines.

Ser. No. 26,954. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) THE PORTLAND FLOURING MILLS CO., Portland, Oreg. Filed Apr. 27, 1907.

OLYMPIC Wheatlets

Particular description of goods.—Wheat Breakfast Foods.

Ser. No. 27,079. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) DR. W. TOWNS MEDICAL COMPANY, Fond du Lac, Wis. Filed May 2, 1907.



Particular description of goods.—A Remedy for Epilepsy.

Ser. No. 27,320. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) THE H. O. CANFIELD COMPANY, Bridgeport, Conn. Filed May 13, 1907. Used ten years.

CANFIELD

Particular description of goods.—Rubber Valve-Balls, Rubber Bulbs, Rubber Furniture-Bumpers, Rubber Elbows for Plumbing Connections, Rubber Force-Cups for Water-Closet and Sink Bowls, Rubber Horseshoe-Pads, Rubber Stoppers, and Rubber Pump-Valves.

Ser. No. 27,426. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) UTICA DROP FORGE AND TOOL CO., Utica, N. Y. Filed May 16, 1907.

STORM KING

Particular description of goods.—Nippers and Pliers Provided with a Cutting Edge.

Ser. No. 27,444. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GRAHAM PAPER CO., St. Louis, Mo. Filed May 17, 1907.



Oriole Linen

Particular description of goods.—Printing and Writing Paper Commonly Employed for Printing and Writing Purposes.

Ser. No. 27,450. (CLASS 70. STATIONERY NOT OTHERWISE CLASSIFIED.) GRAHAM PAPER CO., St. Louis, Mo. Filed May 17, 1907. Used ten years.

DALTON LINEN LEDGER

Particular description of goods.—Printing and Writing Paper Commonly Employed in Manufacturing Blank Books.

Ser. No. 27,458. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GRAHAM PAPER CO., St. Louis, Mo. Filed May 17, 1907.

Waterleaf

Particular description of goods.—Printing and Writing Paper Commonly Employed for Printing and Writing Purposes.

Ser. No. 27,650. (CLASS 51. MALT PREPARATIONS NOT OTHERWISE CLASSIFIED.) HOUSTON ICE & BREWING CO., Houston, Tex. Filed May 25, 1907.

Hiawatha

Particular description of goods.—A Non-Intoxicating Tonic Malt Liquor.

Ser. No. 27,668. (CLASS 55. WINES.) CHAS. A. ZAHN CO., Chicago, Ill. Filed May 27, 1907.

VALLEY PEARL

Particular description of goods.—Red Wine, Burgundy Type.

Ser. No. 27,669. (CLASS 55. WINES.) CHAS. A. ZAHN CO., Chicago, Ill. Filed May 27, 1907.

MOUNTAIN PEARL

Particular description of goods.—White Wine, Rhine-Wine Type.

Ser. No. 28,236. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) THE KONOMAX ROCK DRILL SYNDICATE LIMITED, Johannesburg, Transvaal. Filed June 18, 1907.

KONOMAX

Particular description of goods.—Rock-Drilling Machines.

Ser. No. 28,286. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) J. H. RICE & FRIEDMANN CO., Milwaukee, Wis. Filed June 21, 1907.

RF C

Particular description of goods.—Dress and Negligée Shirts Made of Woven Cloth.

Ser. No. 28,414. (CLASS 52. PACKING-HOUSE PRODUCTS.) KINGAN AND COMPANY, LIMITED, Belfast, Ireland, and Indianapolis, Ind. Filed June 27, 1907.

"BEVERLY"

Particular description of goods.—Cured and Salted Meats.

Ser. No. 28,416. (CLASS 52. PACKING-HOUSE PRODUCTS.) KINGAN AND COMPANY, LIMITED, Belfast, Ireland, and Indianapolis, Ind. Filed June 27, 1907.

SILVER SHIELD

Particular description of goods.—Cured, Salted, and Canned Meats and Sausage.

Ser. No. 28,530. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) GLOBE MILLING CO., Lockport, N. Y. Filed July 1, 1907.

SPHINX

Particular description of goods.—Wheat-Flours.

Ser. No. 28,531. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) GLOBE MILLING CO., Lockport, N. Y. Filed July 1, 1907.

SWASTIKA

Particular description of goods.—Wheat-Flours.

Ser. No. 28,600. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) HELENA STOVE AND RANGE CO., Louisville, Ky. Filed July 5, 1907.

HELENA STOVE & RANGE CO. LOUISVILLE, KY.

Particular description of goods.—Stoves and Ranges.

Ser. No. 28,683. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) ROYAL WORCESTER CORSET CO., Worcester, Mass. Filed July 9, 1907. Used ten years.

All Right

Particular description of goods.—Corsets.

Ser. No. 28,761. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) AURELIO M. PEREYRA, San Francisco, Cal. Filed July 12, 1907.



Particular description of goods.—Cereal Breakfast Foods.

Ser. No. 28,797. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) CRESCENT MILLING COMPANY, Minneapolis, Minn. Filed July 13, 1907.

CRESCENT MILLING CO. MINNEAPOLIS. GOLDEN CREAM FLOUR

The body of the crescent is orange and the under border green.

Particular description of goods.—Wheat-Flour.

Ser. No. 28,828. (CLASS 48. DAIRY PRODUCTS.) SOCIÉTÉ ANONYME DES CAVES ET DES PRODUCTEURS RÉUNIS DE ROQUEFORT (AVEYRON), Roquefort, (Aveyron,) France. Filed July 16, 1907.

ROQUEFORT-GANIN SOCIÉTÉ SOCIÉTÉ & SOCIÉTÉ

Particular description of goods.—Roquefort Cheese.

Ser. No. 28,870. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) GARRETT-WILLIAMS COMPANY, Baltimore, Md. Filed July 18, 1907.

JUBILEE

Particular description of goods.—Whisky.

Ser. No. 28,909. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JOHN HAMPDEN HOWARTH, New Haven, Conn. Filed July 19, 1907.

ÆGOPODIUM

Particular description of goods.—A Remedy for Rheumatism and Gout.

Ser. No. 28,921. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) ALFRED DECKER & COHN, Chicago, Ill. Filed July 20, 1907.

Society Brand DRESS FOR YOUNG MEN CHICAGO

Particular description of goods.—Coats, Vests, Trousers, and Overcoats.

Ser. No. 29,043. (CLASS 72. MERCHANDISE NOT OTHERWISE CLASSIFIED.) LOUIS N. PORTER, Ponca, Nebr. Filed July 25, 1907.

THE X-RAY

Particular description of goods.—Incubators and Brooders.

Ser. No. 29,077. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) MICHIGAN KNITTING CO., Lansing, Mich. Filed July 27, 1907.

MICHIGAN KNIT THAT'S IT

Particular description of goods.—Knitted Gloves, Knitted Mittens, Knitted Toques, Knitted Sweaters, Knitted Coats, Knitted Vests, Knitted Jackets, Knitted Leggings, Knitted Mufflers, Knitted Skirts, Knitted Scarfs, and Knitted Shawls.

Ser. No. 29,176. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) THE GRAVES & MEADE CO., Dayton, Ohio. Filed Aug. 2, 1907. Used ten years.

SMART CLOTHES

Particular description of goods.—Trousers, Vests, Coats, and Overcoats.

Ser. No. 29,203. (CLASS 68. PUBLICATIONS.) THE INTERNATIONAL SUNSHINE SOCIETY, New York, N. Y. Filed Aug. 3, 1907.

SUNSHINE BULLETIN

Particular description of goods.—A Magazine.

Ser. No. 29,267. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE C. S. MOREY MERCANTILE COMPANY, Denver, Colo. Filed Aug. 7, 1907.

CABINET

Particular description of goods.—Spices.

Ser. No. 29,276. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JAMES S. RAMAGE, Chicago, Ill. Filed Aug. 7, 1907. Used ten years.

STRONG'S ARNICA JELLY

Particular description of goods.—A Preparation for the Skin and Remedies for Diseases of the Skin, Sunburn, Tan, and Bites and Stings of Insects.

Ser. No. 29,336. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) H. K. MULFORD COMPANY, Philadelphia, Pa. Filed Aug. 10, 1907.

Casca-Laxative

Particular description of goods.—A Medical Preparation for Use as a Cathartic and Laxative.

Ser. No. 29,411. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE UNION BAG & PAPER COMPANY, New York, N. Y. Filed Aug. 15, 1907.



Particular description of goods.—Paper Bags.

Ser. No. 29,419. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) ZANE & GILL, Swedesboro, N. J. Filed Aug. 16, 1907.

THISTLE

Particular description of goods.—Fresh Tomatoes, Cantaloups, Apples, Irish and Sweet Potatoes.

Ser. No. 29,427. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) BOURN RUBBER CO., Providence, R. I. Filed Aug. 16, 1907.



Particular description of goods.—Rubber Boots and Shoes.

Ser. No. 29,438. (CLASS 72. MERCHANDISE NOT OTHERWISE CLASSIFIED.) CHAS. W. HOUSE & SONS, New York, N. Y. Filed Aug. 17, 1907.



Kemnitz

Particular description of goods.—Felts in the Piece.

Ser. No. 29,440. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) CHICAGO FOLDING BOX CO., Chicago, Ill. Filed Aug. 17, 1907.

IMPERIAL

Particular description of goods.—Paper Oyster-Pails.

Ser. No. 29,490. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) CHARLES BOUCHER, Paris, France. Filed Aug. 20, 1907.



Particular description of goods.—Toilet Powder.

Ser. No. 29,498. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) S. W. MILLER PIANO CO., Sheboygan, Wis. Filed Aug. 21, 1907.

Eureka

Particular description of goods.—Pianos and Interior Mechanically-Operated Pianos.

Ser. No. 29,545. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) BIDTEL CHEMICAL WORKS, Jersey City, N. J. Filed Aug. 23, 1907.



Particular description of goods.—Chemical Preparation Intended for Use in Disinfecting and Cleansing Substances and for Preventing Fermentation in Liquids.

Ser. No. 29,551. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HENRY SOLOMON WELLCOME, London, England. Filed Aug. 23, 1907.

ALAXA

Particular description of goods.—An Aromatic Liquid Preparation of Cascara Sagrada.

Ser. No. 29,560. (CLASS 5. ADHESIVES.) CÆMENTIUM (PARENT) CO., LTD., London, England. Filed Aug. 24, 1907.

CÆMENTIUM

Particular description of goods.—Cements for Fastening Articles Together, Glues, and Adhesives.

Ser. No. 29,567. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) MEYER, PITTS & Co., Baltimore, Md. Filed Aug. 24, 1907.

CECIL CLUB



Particular description of goods.—Whisky.

Ser. No. 29,576. (CLASS 43. THREAD AND YARN.) CARSON PIRIE SCOTT & Co., Chicago, Ill. Filed Aug. 26, 1907.



Particular description of goods.—Embroidery-Cotton.

Ser. No. 29,578. (CLASS 31. FILTERS AND REFRIGERATORS.) SNOW FLAKE MANUFACTURING COMPANY, New York, N. Y. Filed Aug. 26, 1907.

Particular description of goods.—Ice-Cream Freezers.

Ser. No. 29,625. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE TRACY SHOE CO., Portsmouth, Ohio. Filed Aug. 27, 1907.



Particular description of goods.—Boots and Shoes Made of Leather.

Ser. No. 29,626. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WESSEL BROS. CANDY CO., St. Paul, Minn. Filed Aug. 27, 1907.



Particular description of goods.—Cough-Drops.

Ser. No. 29,650. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) ADOLPH NAHASS, Boston, Mass. Filed Aug. 28, 1907.



Particular description of goods.—Belts.

Ser. No. 29,671. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE CLEVELAND-AKRON BAG CO., Cleveland, Ohio. Filed Aug. 29, 1907.

Buckeye

Particular description of goods.—Paper Bags.

Ser. No. 29,674. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) ARTHUR J. FALL, Anamosa, Iowa. Filed Aug. 30, 1907.

SO-DIF-RENT

Particular description of goods.—Card Games.

Ser. No. 29,675. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) CHEMISCHE FABRIK FLÖRSHEIM, DR. H. NOERDLINGER, Flörsheim-on-the-Main, Germany. Filed Aug. 30, 1907.

Improl

Particular description of goods.—Impregnating Agents for Preserving and Coating Wood.

Ser. No. 29,710. (CLASS 10. FERTILIZERS.) F. W. TUNNELL & Co., Philadelphia, Pa. Filed Aug. 31, 1907.



The mark being printed in red.
Particular description of goods.—Fertilizers.

Ser. No. 29,737. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) THE MONA MANUFACTURING COMPANY, Boston, Mass. Filed Sept. 3, 1907.

MONA

Particular description of goods.—Dress-Shields.

Ser. No. 29,745. (CLASS 29. BROOMS, BRUSHES, AND DUSTERS.) R. HUDNUT'S PHARMACY, New York, N. Y. Filed Sept. 4, 1907.

DENTALUXE

Particular description of goods.—Tooth-Brushes.

Ser. No. 29,747. (CLASS 63. MEASURING AND SCIENTIFIC APPARATUS, APPLIANCES, AND INSTRUMENTS.) STANLEY RULE & LEVEL COMPANY, New Britain, Conn. Filed Sept. 4, 1907. Used ten years.

STANLEY

Particular description of goods.—Squares, Rules, Plumbs, and Levels, Woodworking-Gages, and Trammel-Points.

Ser. No. 29,753. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) GEO. BORGFELDT & CO., New York, N. Y. Filed Sept. 5, 1907.

Fluffy Ruffles.

Particular description of goods.—Dolls.

Ser. No. 29,763. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) OGDEN AND SHIMER, Middletown, N. Y. Filed Sept. 5, 1907.

MEKKO

Particular description of goods.—A Cough Mixture.

Ser. No. 29,775. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) TOM BAILEY LATHEM, Brownwood, Tex. Filed Sept. 6, 1907.



Particular description of goods.—Hair Tonics and Renewers.

Ser. No. 29,778. (CLASS 12. MASONRY MATERIALS.) GENUINE BANGOR SLATE CO., Easton, Pa. Filed Sept. 6, 1907.



Particular description of goods.—Roofing-Slate.

Ser. No. 29,802. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) MANCHESTER FURNITURE CO., Manchester, Va. Filed Sept. 9, 1907.

LUCKY STRIKE

Particular description of goods.—Washboards.

Ser. No. 29,803. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) MANCHESTER FURNITURE CO., Manchester, Va. Filed Sept. 9, 1907.

STEEL KING

Particular description of goods.—Washboards.

Ser. No. 29,867. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) MONARCH SUSPENDER CO., New York, N. Y. Filed Sept. 11, 1907.

Monarch

Particular description of goods.—Suspenders and Belts.

Ser. No. 29,868. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) RICHARD HALDENWANG, Jr., Brooklyn, N. Y. Filed Sept. 11, 1907.



Particular description of goods.—A Puzzle.

TRADE-MARKS

REGISTERED OCTOBER 15, 1907.

65,617. PRESERVATIVES FOR BEER AND WINE. A. BOAKE ROBERTS AND COMPANY LIMITED, Stratford, London, England.
Filed July 6, 1905. Serial No. 9,826. PUBLISHED AUGUST 13, 1907.

65,618. DENTAL RUBBER. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,503. PUBLISHED AUGUST 13, 1907.

65,619. DENTAL DAM. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,507. PUBLISHED AUGUST 13, 1907.

65,620. CERTAIN CLOTHING. BLUM COMPANY, New York, N. Y.
Filed June 27, 1907. Serial No. 28,429. PUBLISHED AUGUST 13, 1907.

65,621. CERTAIN WORK-CLOTHING. THE BURNHAM-MUNGER MFG. CO., Kansas City, Mo.
Filed July 6, 1907. Serial No. 28,629. PUBLISHED AUGUST 13, 1907.

65,622. DRESS, NEGLIGÉE, AND FLANNEL SHIRTS. THE BURNHAM-MUNGER MFG. CO., Kansas City, Mo.
Filed July 6, 1907. Serial No. 28,630. PUBLISHED AUGUST 13, 1907.

65,623. MEDICINAL POWDERS FOR LIVE STOCK. LEWIS CHAMBERS, Bloomington, Ill.
Filed June 17, 1907. Serial No. 28,205. PUBLISHED AUGUST 13, 1907.

65,624. ANTISEPTIC AND DISINFECTANT SUBSTANCE. CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), Berlin, Germany.
Filed August 24, 1905. Serial No. 11,973. PUBLISHED AUGUST 13, 1907.

65,625. PRODUCT OF FORMALDEHYDE. CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), Berlin, Germany.
Filed August 24, 1905. Serial No. 11,974. PUBLISHED AUGUST 13, 1907.

65,626. ANTISEPTICS, DEODORANTS, AND DISINFECTANTS. CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), Berlin, Germany.
Filed July 1, 1907. Serial No. 28,528. PUBLISHED AUGUST 13, 1907.

65,627. BAKING-POWDER. THE CREAMERY BAKING POWDER COMPANY, Indianapolis, Ind.
Filed April 2, 1907. Serial No. 26,403. PUBLISHED AUGUST 13, 1907.

65,628. CERTAIN MEDICINES. FREDERICK STEARNS & CO., Detroit, Mich.
Filed June 24, 1907. Serial No. 28,360. PUBLISHED AUGUST 13, 1907.

65,629. BAKING-POWDER. THE GEIGER-TINNEY COMPANY, Indianapolis, Ind.
Filed July 3, 1907. Serial No. 28,584. PUBLISHED AUGUST 13, 1907.

65,630. PERFUMES. JOHN LIPSCOMB GROSSMITH, London, England.
Filed July 6, 1907. Serial No. 28,618. PUBLISHED AUGUST 13, 1907.

65,631. DENTIFRICES. HENRY J. S. HALL, WM. HENRY HALL, MARTHA M. HALL, and IRAD HAWLEY, New York, N. Y., executors of the estate of William Henry Hall, deceased.
Filed February 15, 1906. Serial No. 17,051. PUBLISHED AUGUST 13, 1907.

65,632. CERTAIN MEDICINES. JOHN E. HASSON, Bath, N. Y.
Filed July 3, 1907. Serial No. 28,587. PUBLISHED AUGUST 13, 1907.

65,633. LAUNDRY STARCH. ALBERT F. HOGUE, Lowell, Mass.
Filed March 18, 1907. Serial No. 26,039. PUBLISHED AUGUST 13, 1907.

65,634. CERTAIN LIQUID MEDICINE. JOHN WYETH AND BROTHER, INCORPORATED, Philadelphia, Pa.
Filed July 1, 1907. Serial No. 28,527. PUBLISHED AUGUST 13, 1907.

65,635. HAIR-TONIC AND EYE-WATER. FITZHUGH L. KEA, Adrian, Ga.
Filed July 6, 1907. Serial No. 28,621. PUBLISHED AUGUST 13, 1907.

65,636. INSECT-PASTE. SYLVANUS H. KELLOGG, Los Angeles, Cal.
Filed May 29, 1907. Serial No. 27,766. PUBLISHED AUGUST 13, 1907.

65,637. DUST-PREVENTIVE. JOHN S. LAMSON, Jr., Summit, N. J.
Filed June 17, 1907. Serial No. 28,227. PUBLISHED AUGUST 13, 1907.

65,638. CERTAIN REMEDY. THE LE COMPTE & GAYLE COMPANY, Frankfort, Ky.
Filed July 2, 1907. Serial No. 28,565. PUBLISHED AUGUST 13, 1907.

65,639. CERTAIN MEDICINES. RICHARD B. H. LEIGHTON, Chattanooga, Tenn.
Filed May 24, 1907. Serial No. 27,627. PUBLISHED AUGUST 13, 1907.

65,640. SILK UNDERSKIRTS. SAMUEL N. MAGILL, Philadelphia, Pa.
Filed June 26, 1907. Serial No. 28,397. PUBLISHED AUGUST 13, 1907.

65,641. CERTAIN MEDICINES. JOHN JULIUS MCALLISTER, Milton, Oreg.
Filed July 8, 1907. Serial No 28,670. PUBLISHED AUGUST 13, 1907.

65,642. NERVE TONIC. BLANCHE E. THOMAS, New York, N. Y.
Filed July 8, 1907. Serial No. 28,676. PUBLISHED AUGUST 13, 1907.

65,643. POMADE. JOSEPH P. WARD, Fort Worth, Tex.
Filed June 19, 1907. Serial No. 28,258. PUBLISHED AUGUST 13, 1907.

65,644. TABLE-SALT. WORCESTER SALT COMPANY, Silver Springs and New York, N. Y.
Filed March 9, 1907. Serial No. 25,882. PUBLISHED AUGUST 13, 1907.

65,645. FERTILIZERS. AMERICAN FERTILIZING COMPANY, Norfolk, Va.
Filed March 22, 1906. Serial No. 18,134. PUBLISHED AUGUST 13, 1907.

65,646. COAL. DERING COAL COMPANY, Chicago, Ill.
Filed July 16, 1907. Serial No. 28,827. PUBLISHED AUGUST 13, 1907.

65,647. HIGH EXPLOSIVES. THE EASTERN DYNAMITE COMPANY, Kenvil, N. J.
Filed July 19, 1907. Serial No. 28,885. PUBLISHED AUGUST 13, 1907.

65,648. HIGH EXPLOSIVES. THE EASTERN DYNAMITE COMPANY, Kenvil, N. J.
Filed July 19, 1907. Serial No. 28,886. PUBLISHED AUGUST 13, 1907.

65,649. HIGH EXPLOSIVES. THE EASTERN DYNAMITE COMPANY, Kenvil, N. J.
Filed July 19, 1907. Serial No. 28,887. PUBLISHED AUGUST 13, 1907.

65,650. PORTLAND CEMENT. HAMMER PORTLAND CEMENT WORKS, Tournai, Belgium.
Filed December 31, 1906. Serial No. 24,369. PUBLISHED AUGUST 13, 1907.

65,651. PORTLAND CEMENT. HAWKEYE PORTLAND CEMENT CO., Harvey, Iowa.
Filed June 14, 1907. Serial No. 28,132. PUBLISHED AUGUST 13, 1907.

65,652. PORTLAND CEMENT. KANSAS CITY PORTLAND CEMENT CO., Kansas City, Mo.
Filed June 14, 1907. Serial No. 28,133. PUBLISHED AUGUST 13, 1907.

65,653. WRITING TABLETS AND PADS AND WRITING-PAPER. KARL KNIEP, Newark, N. J.
Filed June 20, 1907. Serial No. 28,266. PUBLISHED AUGUST 13, 1907.

65,654. BROOMS. LEE BROOM & DUSTER COMPANY, Lincoln, Nebr.
Filed July 8, 1907. Serial No. 28,668. PUBLISHED AUGUST 13, 1907.

65,655. CERTAIN WOODEN BOARDS. JOHN LONKE, New York, N. Y.
Filed July 11, 1907. Serial No. 28,722. PUBLISHED AUGUST 13, 1907.

65,656. CARTRIDGES, LOADED SHELLS, CAPS, PRIMERS, AND POWDER. THE PETERS CARTRIDGE COMPANY, Cincinnati, Ohio.
Filed March 15, 1906. Serial No. 17,865. PUBLISHED AUGUST 13, 1907.

65,657. RUBBER CEMENT. FRANK W. WHITCHER, Boston, Mass.
Filed May 29, 1907. Serial No. 27,771. PUBLISHED AUGUST 13, 1907.

65,658. BEER. GALVESTON BREWING COMPANY, Galveston, Tex.
Filed July 16, 1907. Serial No. 28,826. PUBLISHED AUGUST 13, 1907.

65,659. OIL-BURNING LANTERNS. R. E. DIETZ COMPANY, New York, N. Y.
Filed July 8, 1907. Serial No. 28,636. PUBLISHED AUGUST 13, 1907.

65,660. BENZIN, NAPHTHA, AND GASOLENE. STANDARD OIL CO. OF NEW YORK, New York, N. Y.
Filed July 15, 1907. Serial No. 28,801. PUBLISHED AUGUST 13, 1907.

65,661. LEATHER BOOTS, SHOES, AND FOOTWEAR. TREADWELL SHOE COMPANY, Superior, Wis.
Filed July 11, 1907. Serial No. 28,729. PUBLISHED AUGUST 13, 1907.

65,662. HOSIERY. A. B. ANDREWS COMPANY, New York, N. Y.
Filed May 6, 1907. Serial No. 27,153. PUBLISHED AUGUST 13, 1907.

65,663. CHEWING AND SMOKING TOBACCO. THE AMERICAN TOBACCO COMPANY, New York, N. Y.
Filed July 12, 1907. Serial No. 28,740. PUBLISHED AUGUST 13, 1907.

65,664. PAINTS. THE AQUALITE FIRE PROOFING PAINT CO. OF NEW YORK, New York, N. Y.
Filed December 21, 1906. Serial No. 24,188. PUBLISHED AUGUST 13, 1907.

65,665. INFANT-PACIFIERS. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,506. PUBLISHED AUGUST 13, 1907.

65,666. RUBBER WATER-BOTTLES. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,508. PUBLISHED AUGUST 13, 1907.

65,667. RUBBER WATER-BOTTLES. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,509. PUBLISHED AUGUST 13, 1907.

65,668. GOLF-BALLS. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 29, 1907. Serial No. 28,516. PUBLISHED AUGUST 13, 1907.

65,669. TALKING-MACHINES AND PARTS THEREOF. CIE. GLE. DE PHONOGRAPHES CINÉMATOGRAPHES ET APP. DE PRÉCISION, Paris, France.
Filed October 2, 1906. Serial No. 22,434. PUBLISHED AUGUST 13, 1907.

65,670. TALKING-MACHINES AND PARTS THEREOF. CIE. GLE. DE PHONOGRAPHES CINÉMATOGRAPHES ET APP. DE PRÉCISION, Paris, France.
Filed October 2, 1906. Serial No. 22,435. PUBLISHED AUGUST 13, 1907.

65,671. CERTAIN CARBONATED BEVERAGES. CONSERVENFABRIK LENZBURG VORM. HENCKELL & ROTH A. G., Lenzburg, Switzerland.
Filed March 31, 1906. Serial No. 18,403. PUBLISHED MARCH 5, 1907.

65,672. CERTAIN CLOTHING. F. A. PATRICK & Co., Duluth, Minn.
Filed April 10, 1907. Serial No. 26,604. PUBLISHED AUGUST 13, 1907.

65,673. CIGARS. R. FERNANDEZ & Co., Habana, Cuba, and New York, N. Y.
Filed July 18, 1907. Serial No. 28,862. PUBLISHED AUGUST 13, 1907.

65,674. LEATHER BOOTS AND SHOES. GEO. G. SNOW CO., Brockton, Mass.
Filed August 17, 1906. Serial No. 21,636. PUBLISHED AUGUST 13, 1907.

65,675. SNUFF. HERMAN GROYA, Chicago, Ill.
Filed December 13, 1906. Serial No. 23,998. PUBLISHED AUGUST 13, 1907.

65,676. TOY RAILWAYS. THE IVES MANUFACTURING CORPORATION, Bridgeport, Conn.
Filed June 5, 1907. Serial No. 27,890. PUBLISHED AUGUST 13, 1907.

65,677. CERTAIN JEWELRY. JONAS KOCH, New York, N. Y.
Filed May 22, 1907. Serial No. 27,581. PUBLISHED AUGUST 13, 1907.

65,678. CERTAIN WOOD-FINISH. LILLY VARNISH COMPANY, Indianapolis, Ind.
Filed June 29, 1907. Serial No. 28,475. PUBLISHED AUGUST 13, 1907.

65,679. EXTRACT OF MALT AND HOPS. MALTHOPINE MANUFACTURING COMPANY, Brooklyn, N. Y.
Filed March 5, 1906. Serial No. 17,538. PUBLISHED AUGUST 13, 1907.

65,680. CIGARETTES, CIGARS, SMOKING AND CHEWING TOBACCO. MASPERO FRÈRES, LIMITED, London, England, assignor to African Cigarette Company Limited, London, England.
Filed July 8, 1905. Serial No. 9,914. PUBLISHED AUGUST 13, 1907.

65,681. HOSIERY. LAWRENCE NEEBE, Boston, Mass., and New York, N. Y.
Filed July 10, 1907. Serial No. 28,701. PUBLISHED AUGUST 13, 1907.

65,682. CIGARETTES AND SMOKING-TOBACCO. ORIENTALISCHE TABAK UND CIGARETTENFABRIK-YENIDZE, INHABER HUGO ZIETZ, Dresden, Germany.
Filed January 10, 1906. Serial No. 16,160. PUBLISHED AUGUST 13, 1907.

65,683. CIDER. PADUCAH VINEGAR WORKS, Paducah, Ky.
Filed June 21, 1907. Serial No. 28,280. PUBLISHED AUGUST 13, 1907.

65,684. MOSAIC GAMES. FRIEDRICH ADOLF RICHTER, Rudolstadt, Germany, and New York, N. Y.
Filed July 1, 1907. Serial No. 28,526. PUBLISHED AUGUST 13, 1907.

65,685. OIL-BURNING LANTERNS. R. E. DIETZ COMPANY, New York, N. Y.
Filed July 8, 1907. Serial No. 28,635. PUBLISHED AUGUST 13, 1907.

65,686. COMBINATION GAME-BLOCKS. CHARLES H. RIETH, St. Louis, Mo.
Filed June 24, 1907. Serial No. 28,359. PUBLISHED AUGUST 13, 1907.

65,687. BAR-SOAP. DIETRICH RUMSFELD, Kansas City, Mo.
Filed October 18, 1905. Serial No. 13,720. PUBLISHED AUGUST 13, 1907.

65,688. STEEL PENS. EDWARD G. SOLTMANN, New York, N. Y.
Filed October 5, 1906. Serial No. 22,499. PUBLISHED AUGUST 13, 1907.

65,689. TRACING-CLOTH. EDWARD G. SOLTMANN, New York, N. Y.
Filed October 5, 1906. Serial No. 22,504. PUBLISHED AUGUST 13, 1907.

65,690. HAND-BATTERIES FOR LOCAL APPLICATION. CHARLES W. TAYLOR, Detroit, Mich.
Filed November 20, 1905. Serial No. 14,838. PUBLISHED AUGUST 13, 1907.

65,691. INSULATING-PAINT. TOCH BROTHERS, New York, N. Y.
Filed July 17, 1907. Serial No. 28,848. PUBLISHED AUGUST 13, 1907.

65,692. WATCHCASES. WALTHAM WATCH COMPANY, Waltham, Mass.
Filed July 10, 1907. Serial No. 28,703. PUBLISHED AUGUST 13, 1907.

65,693. WHISKY. FERDINAND WESTHEIMER & SONS, St. Joseph, Mo., and Cincinnati, Ohio.
Filed May 2, 1905. Serial No. 4,034. PUBLISHED FEBRUARY 26, 1907.

65,694. CIGARS. Y. PENDAS & ALVAREZ, New York, N. Y.
Filed July 6, 1907. Serial No. 28,626. PUBLISHED AUGUST 13, 1907.

65,695. WHEAT-FLOUR. CLIMAX MILLING CO., Hopkinsville, Ky.
Filed June 19, 1907. Serial No. 28,253. PUBLISHED AUGUST 13, 1907.

65,696. TAPIOCA AND SAGO. GRIGGS, COOPER & COMPANY, St. Paul, Minn.
Filed March 24, 1906. Serial No. 18,214. PUBLISHED AUGUST 13, 1907.

65,697. CANNED FRUITS AND VEGETABLES. H. F. HEMINGWAY & Co., Baltimore, Md.
Filed May 28, 1907. Serial No. 27,720. PUBLISHED AUGUST 13, 1907.

65,698. OLIVE-OIL. HERMAN KIENZLER COMPANY, New York, N. Y.
Filed June 21, 1907. Serial No. 28,288. PUBLISHED AUGUST 13, 1907.

65,699. BUTTERIN AND OLEOMARGARIN. JOHN F. JELKE COMPANY, Chicago, Ill.
Filed July 8, 1907. Serial No. 28,678. PUBLISHED AUGUST 13, 1907.

65,700. SMOKED AND SALT MEATS. KINGAN & COMPANY, LTD., Belfast, Ireland; Indianapolis, Ind., and Richmond, Va.
Filed June 19, 1907. Serial No. 28,252. PUBLISHED AUGUST 13, 1907.

65,701. CERTAIN TEXTILES. RICHARD MÜLLER, Winnipauk, Conn.
Filed June 27, 1907. Serial No. 28,436. PUBLISHED AUGUST 13, 1907.

65,702. CANDIES AND CANDIED POPCORN. NATIONAL CANDY COMPANY, Jersey City, N. J., and St. Louis, Mo.
Filed May 15, 1907. Serial No. 27,381. PUBLISHED AUGUST 13, 1907.

65,703. LARD. NATIONAL PACKING COMPANY, Chicago, Ill.
Filed July 1, 1907. Serial No. 28,524. PUBLISHED AUGUST 13, 1907.

65,704. BOOT AND SHOE TREES, SHOE-FORMS, LASTS, AND FOLLOWERS. O. A. MILLER TREEING MACHINE COMPANY, Portland, Me., and Boston, Mass.
Filed June 21, 1907. Serial No. 28,279. PUBLISHED AUGUST 6, 1907.

65,705. LAUNDRY SOAP. THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La.
Filed July 27, 1905. Serial No. 10,906. PUBLISHED AUGUST 6, 1907.

65,706. WRITING-INKS. HENRY CHARLES STEPHENS, London, England.
Filed October 11, 1906. Serial No. 22,654. PUBLISHED AUGUST 13, 1907.

65,707. SILK AND SILK-MIXED PIECE GOODS. SUSQUEHANNA SILK MILLS, New York, N. Y.
Filed May 31, 1907. Serial No. 27,784. PUBLISHED AUGUST 13, 1907.

65,708. TEA. SWAIN, EARLE & Co., Boston, Mass.
Filed December 16, 1905. Serial No. 15,466. PUBLISHED AUGUST 13, 1907.

65,709. COFFEE. W. F. MCLAUGHLIN & COMPANY, Chicago, Ill.
Filed July 1, 1907. Serial No. 28,533. PUBLISHED AUGUST 13, 1907.

65,710. COFFEE. W. F. MCLAUGHLIN & COMPANY, Chicago, Ill.
Filed July 1, 1907. Serial No. 28,534. PUBLISHED AUGUST 13, 1907.

65,711. HACKSAW-BLADES. THE WEST HAVEN MFG. CO., West Haven, Conn.
Filed March 25, 1907. Serial No. 26,242. PUBLISHED AUGUST 6, 1907.

LABELS

REGISTERED OCTOBER 15, 1907.

13,830.—*Title:* "PENNSY SELECT BEER." (For Beer.) MUTUAL UNION BREWING COMPANY, Pittsburg and Aliquippa, Pa. Filed April 23, 1907.

13,831.—*Title:* "ALIQUIPPA EXPORT BEER." (For Beer.) MUTUAL UNION BREWING COMPANY, Pittsburg and Aliquippa, Pa. Filed April 23, 1907.

13,832.—*Title:* "ENBÄRSÖL." (For a Tonic Beverage.) GODFREY T. LOVEGRAN, Rockford, Ill. Filed August 1, 1906.

13,833.—*Title:* "CRESCENT." (For Carbonated Non-Alcoholic Beverages.) SCALES, WILSON COMPANY, Greenville, S. C. Filed August 23, 1907.

13,834.—*Title:* "TEDDY BEAR SELECTED DATES." (For Dates.) THE HILLS BROTHERS COMPANY, New York, N. Y. Filed September 14, 1907.

13,835.—*Title:* "KAFFIR BLOOD AND NERVE TABLETS." (For Medicine.) ROBERT H. SHEPHERD, Chicago, Ill. Filed September 11, 1907.

PRINTS

REGISTERED OCTOBER 15, 1907.

2,135.—*Title:* "'OUR SCHOOLMASTER' SERIES—NO. 1." (For Men's and Boys' Coats, Vests, and Trousers.) ED. V. PRICE & Co., Chicago, Ill. Filed September 11, 1907.

2,136.—*Title:* "'OUR SCHOOLMASTER' SERIES—NO. 2." (For Men's and Boys' Coats, Vests, and Trousers.) ED. V. PRICE & Co., Chicago, Ill. Filed September 11, 1907.

2,137.—*Title:* "'OUR SCHOOLMASTER' SERIES—NO. 3." (For Men's and Boys' Coats, Vests, and Trousers.) ED. V. PRICE & Co., Chicago, Ill. Filed September 11, 1907.

2,138.—*Title:* "'OUR SCHOOLMASTER' SERIES—NO. 4." (For Men's and Boys' Coats, Vests, and Trousers.) ED. V. PRICE & Co., Chicago, Ill. Filed September 11, 1907.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

GORDON *v.* WENTWORTH.

Decided March 22, 1907.

1. INTERFERENCE—PRIORITY—REDUCTION TO PRACTICE—TEST.
   As a general rule, before a machine can be considered as a reduction to practice it must be subjected to a test, and the test must demonstrate the fitness of the machine for a useful purpose.
2. SAME—SAME—SAME—EVIDENCE OF SUCCESSFUL TEST.
   The mere general statements of witnesses that a device operated successfully, unsupported by the production of the articles upon which the machine operated at the time, must be regarded as meager evidence of a successful test.
3. SAME—SAME—SAME—SAME—SUCCESSFUL OPERATION OF DEVICE AT TRIAL.
   If a machine may be successfully operated at the time testimony is taken, this fact, taken in connection with statements of witnesses that it operated successfully when first constructed, may be considered sufficient evidence of a successful test where it appears that the device has not been changed in the meantime.
4. SAME—SAME—SAME—EVIDENCE THAT DEVICE WAS UNSUCCESSFUL.
   Where after an alleged successful test a device is thrown aside and apparently forgotten until knowledge is gained of a rival's successful invention, notwithstanding an apparent demand for such a device, *Held* that such conduct carries a strong presumption that the device was regarded only as an unsuccessful experiment.

APPEAL from Examiners-in-Chief.

HEEL-SEAT-FORMING MACHINE.

Messrs. Phillips, Van Everen & Fish for Gordon.

Messrs. Wood & Wood for Wentworth.

MOORE, *Assistant Commissioner, now Commissioner:*

This is an appeal by Gordon from a decision of the Examiners-in-Chief affirming the decision of the Examiner of Interferences awarding priority of invention to Wentworth.

The issue is as follows:

1. A machine for beating out shoe-uppers, having, in combination, two series of rotating beaters arranged to act simultaneously upon the lower edge of a shoe-upper at opposite sides of the shoe and beat out the lower edge of the upper upon the insole, and means for actuating said beaters, substantially as described.
2. A machine for beating out shoe-uppers, having, in combination, two series of rotating beaters acting simultaneously to beat out the lower edge of a shoe-upper upon the insole at opposite sides of the shoe and to draw the upper over the edge of the insole toward the medial line of the insole, and means for actuating said beaters.
3. A machine for beating out shoe-uppers, having, in combination, two series of rotating beaters acting simultaneously to beat out the lower edge of a shoe-upper upon the insole at opposite sides of the shoe and arranged to exert a wiping action on the upper from the edge of the sole toward the medial line of the sole, and means for actuating said beaters.

The invention relates to the manufacture of shoes, and more especially to a machine for pressing down or beating out the lower edge of the upper about the heel in order to fold this portion of the upper over the inner sole before the outer sole and heel are applied. The purpose is to make the upper conform to the last and to furnish a smooth seat upon which the heel portion of the sole may rest.

Wentworth's application was filed December 8, 1904. Gordon's application was filed March 23, 1905.

Gordon claims to have reduced the invention to practice in 1902, while Wentworth does not claim to have conceived the invention prior to 1904. The lower tribunals found that Gordon built a machine in 1902 which appears to contain the elements of the issue; but they held that it did not constitute a reduction to practice, because the proofs failed to show that it was a successful machine. I am of the opinion that the conclusions reached below were correct.

It is clear that Gordon was the first to conceive the invention. It is equally clear that he was not exercising diligence when Wentworth entered the field. Hence the only question which need be considered is whether the Gordon machine of 1902 constituted a reduction to practice.

The evidence shows that this machine, which is in evidence and known as "Gordon's Exhibit, Gordon Machine," was made prior to August, 1902, and tried on twenty-four pairs of dummy-shoes at the Albany-street factory, Boston, of the United Shoe Machinery Company. It was then sent, in August, 1902, to Snow's shoe factory, at Brockton, Mass., where it was operated for half a day. Shortly after this it was returned to the Albany-street factory, where it remained unused until May, 1903, when, at the instance of the inventor, it was sent to a training-school at Lynn, Mass., maintained by the United Shoe Machinery Company, where men were taught the use of the lasting-machines of the company for the purpose of taking positions with shoe manufacturers as operators on lasting-machines. It appears that the machine remained here for above five or six weeks, during which time it was operated more or less, after which it was returned to the Albany-street factory, where it remained until the filing of Gordon's application. This, briefly stated, is a history of this exhibit machine which is now claimed as a reduction to practice.

As a general rule, before a machine can be considered as a reduction to practice it must be subjected to a test, and the test must demonstrate the fitness of the machine for a useful purpose. The evidence

seems to show clearly that the "Gordon Exhibit, Gordon Machine" was operated at Snow's factory, Brockton, Mass., in August, 1902, and at the Lynn school about May, 1903, and the question to be determined is the measure of success which attended these trials. The evidence to be considered on this point consists of the testimony of the witnesses as to the character of the work done by the machine at the time the test took place, the character of the work done by the machine at the time the testimony was taken, and the presumptions arising from the conduct of the inventor and his assignee.

There is no direct evidence tending to show the character of the work done by the machine in 1902 and 1903 except the conclusions of the witnesses that it operated successfully and performed the functions for which it was designed. In the absence of more specific testimony or the production of some of the articles on which the machine operated at that time these conclusions of the witnesses must be regarded as meager evidence of a successful test. During the taking of the testimony the exhibit machine was operated in the presence of counsel of both parties and the results of such operation are shown in a number of exhibit shoes introduced into evidence by both parties. If these exhibits show that the machine may be successfully operated now, it would seem a sufficient confirmation of the opinions of the witnesses who saw the original test, and who state that it was successful, it appearing that the machine has not been changed in the meantime.

A mere inspection of these exhibits is not sufficient to enable a determination to be made as to the successful operation of the machine. Whether a given heel-seat is a good heel-seat or a heel-seat which will satisfy the requirements of the trade is a technical matter which can be properly passed upon only by those skilled in the manufacture of shoes, and for this reason I shall be guided by the expert testimony introduced on this point. The testimony is quite contradictory and unsatisfactory. Certain exhibits were made with the "Gordon Exhibit, Gordon Machine" by one of appellant's witnesses. Two other exhibits were made by one of appellee's witnesses. Appellant claims that the operator for appellee tried to get as poor results as possible, while appellee claims that appellant's operator did not operate the machine the way it was designed to be operated. Appellant's witnesses state that the exhibits produced are as good as the average work done in factories to-day, while appellee's witnesses state that a machine which would not produce better work would be absolutely useless. Under those circumstances seemingly unimportant details brought out by the witnesses must be given greater weight than would be the case were the testimony more in harmony.

The allegation of appellee that the machine was not operated in the way it was intended to be operated is supported by the testimony. The two rotating hammers which operate to beat out the upper are designed first to operate on the center portion of the upper at the back, at which time the hammers lie side by side, after which by pushing the heel of the shoe farther into the machine the hammers spread apart and simultaneously operate on opposite sides of the heel portion. In connection with Gordon's Exhibit Shoes Nos. 1, 2, 3, and 4, which Gordon's witness Gifford subjected to the Gordon Exhibit, Gordon Machine, and which exhibits are relied upon to show that the machine will make a satisfactory heel-seat, Gifford was asked:

X-Q. 20. When this exhibit is thus first presented to the Gordon machine, you first present one of these upstanding edges upon one side of the center tack to the hammers, and then present the upstanding edge on the other side to the hammers, do you not, or, at least, you did so yesterday?
A. Yes, sir; this is the way I operated the machine yesterday.

It is not clear that a machine operated in the way which this witness operated it would be a satisfactory machine, and these tests do not satisfactorily prove that the machine would produce a satisfactory product when operated in the way it was designed to operate.

Moreover, even if these exhibit shoes had been produced by the machine when operated in the way it was designed to operate it would not avail appellant, because the testimony of his own witnesses leaves in doubt the question whether the results produced are satisfactory. Of the experts called by Gordon, Tarr states that Exhibits Nos. 1 and 2 are very fair heel-seats, that No. 3 is a good heel-seat, and that No. 4 is an excellent heel-seat. (Record, p. 246.) Arnold states on direct examination (Record, p. 251) that Exhibit No. 1 is a "good" heel-seat, that No. 2 is a "pretty good" heel-seat, that No. 3 is a "good average" heel-seat, and that No. 4 is an "extra good heel-seat, as good, if not better, than the average run in the common factory to-day." If an "extra good" heel-seat is only as good as the average heel-seat used by manufacturers, it would seem that heel-seats which are denominated "good," "pretty good," and a "good average heel-seat" were not as good as average heel-seats, and for this reason would not be satisfactory.

It appears, further, from the testimony that the machine will not operate on the larger sizes of shoes made in the ordinary factory. This objection is met by appellant by the argument that it could be made to operate on all sizes and shapes of shoes by making the device larger and that in any event if the machine operated successfully on certain sizes of shoes that is sufficient to constitute a reduction to practice. It is not clear that a machine which could operate only on certain sizes and shapes of shoes would be entitled to be considered as a reduction to practice. In this connection it is important to note the testimony of Fredericks, who was the foreman of the Lynn school, where Gordon's machine was operated to a greater extent than anywhere else. In testifying for Gordon on his direct examination he states:

Q. 11. Did you experiment with the machine in 1903 upon the regular work of that school, and, if so, what was the result of the experiments?
A. We could run it satisfactorily on the small sizes of shoes, and do the work even better than we were doing it by hand, and our cases run from 6 to 11 generally and the machine would not take a shoe and do a satisfactory job on it of a larger size than an 8, and in doing that we couldn't run the machine to advantage, for the reason that in carrying the shoes back and forth, part of the case by machine and part doing by hand, it confused the help and the cases were mixed up continually all the time.

Nor is it clear that by the mere enlargement of the parts of the machine it could be made to operate on all sizes or shapes of lasts, because the hammers are mounted to move about a fixed axis. For this reason it would seem that if the hammers were so made as to

be in proper position to operate with a wide last they would not sustain precisely the same relation to the shoe when operating in connection with a narrow last. In these cases the hammers sustain different relations to the articles operated upon, and it is a question of doubt whether the results would be the same, and this doubt could only be removed by building a machine with the proposed changes, which was not done.

There is another circumstance which throws doubt on the question of the success of the Gordon machine. Gordon testified that his purpose was to provide a mechanism which would do the work that had theretofore been done by hand. It appears from the testimony of expert Arnold, testifying in behalf of Gordon, (Record, p. 253, X-Q. 25,) that in the hand operation the operator hammers the sides of the last adjacent the sole as well as the turned-over edge of the counter and upper. The Gordon machine operates only on the turned-over edge. It therefore appears that the machine performs only a part of the hand operation to take the place of which it was designed. The testimony tends to indicate that this is one of the features which causes the product to fall short of commercial requirements and renders the machine impractical. This circumstance is not of itself sufficient to show that the machine was not a success; but it is one of the circumstances which tends to show that it did not accomplish what it was intended to accomplish or any other result which tended to materially improve the art.

But the conduct of the inventor and the assignee furnishes the strongest evidence that the utility of the machine was not made apparent by the trial at Snow's factory in August, 1902, as is now claimed, or by the later trials at the Lynn school in 1903. After the test at Snow's factory the machine was returned to the Albany-street factory of the assignee company, the United Shoe Machinery Company. Here it remained unused for months, until at the inventor's solicitation it was sent to the Lynn school for further trial. While it is now claimed that the trials at Snow's factory fully demonstrated the success of the machine, the inventor was not satisfied to go ahead and make the changes which he thought were necessary without a further trial, and it was for this purpose, the inventor states, (Record, pp. 38, 39, X-Q. 104,) that he asked to have the machine sent to the Lynn school. But the contemplated changes were never made, and the inventor lost sight of the machine entirely from the spring of 1903 to the time this proceeding was instituted. It appears that the United Shoe Machinery Company lost their interest in this machine immediately after the trial at Snow's factory in August, 1902, and it was only revived by knowledge obtained about two years later through their Cincinnati representative that Wentworth had in operation a successful machine for accomplishing similar results. The testimony shows that a machine which would accomplish the results which it is now claimed the Gordon machine did and will accomplish was urgently demanded by the trade. The inactivity of the inventor's assignee in the face of this demand tends strongly to show that the Gordon machine was not a reduction to practice, but only an abandoned experiment. On behalf of appellant it is claimed that this conduct is satisfactorily explained by the testimony showing that about the time Gordon completed his machine another inventor employed by the United Shoe Machinery Company was working on a machine designed to accomplish the same purpose and something in addition thereto and that it was customary where they had two or more machines for accomplishing the same purpose to withhold them all until it could be determined whether one or all should be adopted for use on the market. The other machine is referred to in the record as the McFeeley machine. A number of the McFeeley machines were made and put in the hands of manufacturers, and it is claimed that this machine was still in the experimental stage when they heard of Wentworth's device and that it was in the experimental stage as late as the taking of testimony in this case in January, 1906. It is rather remarkable that the utility of the Gordon machine was demonstrated after a half-day's use, while to show the utility of a similar device it required the building of several machines and their trial for more than a year. Moreover, it seems improbable that a machine whose successful operation had been satisfactorily demonstrated should be thrown aside for about three years in order to experiment with a machine designed to accomplish substantially the same results when all the time a machine of that character was urgently in demand. The explanation given for the delay in placing appellant's device on the market or in filing an application is regarded as of no substantial merit. The conduct of the inventor and his assignee is alone sufficient to warrant the conclusion that the Gordon machine was only an abandoned experiment. But aside from this consideration it is believed that the testimony fails to overcome the burden imposed upon appellant of proving that the Gordon machine constituted in law a reduction to practice.

The decision of the Examiners-in-Chief awarding priority of invention to Wentworth is affirmed.

PARKER *v.* CORKHILL.

PATENT INTERFERENCE.

Decided September 26, 1907.

1. INTERFERENCE—REOPENING.

A motion to reopen a case for the purpose of allowing a party to print testimony taken by his opponent will be denied where such motion was brought after the decision of the Examiner of Interferences was rendered and no satisfactory reason for such delay is given.

2. SAME—SAME—PIECEMEAL CONDUCT OF CASE.

A piecemeal conduct of a case cannot be allowed. Where a contestant elects to stand upon the record as presented at final hearing, he is bound by the decision rendered thereon.

APPEAL on motion.

BOX-MAKING MACHINE.

Messrs. Hazard & Harpham and *Mr. Wallace Greene* for Parker.

Mr. David A. Gourick for Corkhill.

MOORE, *Commissioner:*

This is an appeal by Parker from the decision of the Examiner of Interferences denying his motion that the case be reopened and that he be permitted to print the testimony filed in behalf of his opponent Corkhill.

The record shows that final hearing in the case was had before the Examiner of Interferences on March 20, 1907, and his decision was rendered April 9, 1907. Parker's motion that the interference be reopened and that he be permitted to print the testimony filed by Corkhill was not made until May 21, 1907, which is over a month after the decision of the Examiner of Interferences was rendered. Parker was aware at the time of the final hearing that Corkhill's testimony had not been printed; but no steps were taken by him to have the same printed in order that it might be considered until after the adverse decision as to his rights had been rendered by the Examiner of Interferences.

No satisfactory account for the delay in presenting this motion has been made. A party cannot be permitted to try his case piecemeal. Having elected to stand upon the record as presented, Parker is bound by the decision in the interference upon the facts presented at the final hearing in the case.

The decision of the Examiner of Interferences is affirmed.

EX PARTE F. BLUMENTHAL & CO.

APPLICATION FOR REGISTRATION OF TRADE-MARK.

Decided August 7, 1907.

1. TRADE-MARKS—"GOLDEN BROWN COLOR" DESCRIPTIVE.
   The words "Golden Brown Color No. 21" refused registration as a trade-mark for leather, since the words "Golden Brown Color" are descriptive of the character or quality of the goods.
2. SAME—DESCRIPTIVE WORDS ASSOCIATED WITH ARBITRARY SYMBOLS.
   Descriptive words are no less so because associated with some arbitrary symbol.
3. SAME—DESCRIPTIVE WORDS ARRANGED IN AN ARBITRARY MANNER.
   Combining descriptive words in an arbitrary manner does not render a mark registrable.

ON APPEAL.

TRADE-MARK FOR LEATHER.

Messrs. Bartlett, Brownell & Mitchell for the applicant.

BILLINGS, *Assistant Commissioner:*

This is an appeal from a decision of the Examiner of Trade-Marks refusing to register as a trade-mark for leather "Golden Brown Color No. 21."

The ground upon which the registration was refused is that the words "Golden Brown Color" indicate the color of the goods and are therefore descriptive of the character or quality of the goods.

Applicant, while admitting that these words are descriptive, contends that they are not "merely" descriptive, since they are connected with the term "No. 21."

This contention is thought to be not well taken. As pointed out in *ex parte Jewell and Vinson*, (106 O. G., 1242,) where registration of the words "Ox Blood" combined with a pictorial representation of the horns of an ox as a trade-mark for paints was refused, descriptive words are no less descriptive because associated with some arbitrary symbol.

The words are combined in a peculiar way; but this does not confer registrability on the mark. The Trade-Mark Act provides that the name of an individual may be registered as a trade-mark if written, printed, impressed, or woven in a particular or distinctive manner; but no such provision is made with respect to descriptive words or devices.

The decision of the Examiner of Trade-Marks is affirmed.

DECISIONS OF THE U. S. COURTS.

Court of Appeals of the District of Columbia.

BLUTHENTHAL AND BICKART v. BIGBIE BROTHERS & COMPANY.

Decided June 4, 1907.

TRADE-MARKS—OWNERSHIP BY PARTNERS—RIGHTS UPON DISSOLUTION.

Whatever interest in a trade-mark a retiring partner of a firm may have had ceases upon his withdrawal from the firm and remains with the surviving partner.

Mr. Joseph L. Atkins for the appellant.

Mr. E. T. Fenwick and *Mr. Smeltzer V. Kemp* for the appellee.

SHEPARD, *J.:*

This is an interference proceeding involving the right to the registration of the words "Old Velvet" as a trade-mark used in the manufacture and sale of whisky. Appellants filed April 4, and appellees April 19, 1905. J. and G. Butler Company was also a party, but took no appeal from the final decision of the Commissioner.

The Examiner of Interferences decided in favor of Bigbie Brothers and Company, as against the other contestants, and his decision was affirmed by the Commissioner. There is no occasion to review the evidence, as that has been done with care, and at length, in both of the decisions referred to. Upon examination of the entire evidence, we are convinced of the soundness of the Commissioner's conclusions. As the appellees, being the last to make application, had the burden of showing prior adoption and use of the trade-mark, we deem it important only to make a brief statement of the facts which we think their evidence clearly establishes. It appears that one Joseph Lawson was engaged in the sale of liquor in Lynchburg, Virginia, prior to 1861, and that he resumed said business in 1865 or 1866. During the time between then and February 19, 1887, the exact date of which is unimportant, he made or compounded an article of rye whisky which he labeled and sold as "Old Velvet." He went into partnership with one Kinnear, under the firm-name of Lawson and Kinnear. Kinnear retired and was succeeded by the son of Lawson, and the firm-name became Joseph Lawson and Son. The son retired or died before February 19, 1887. The several partnerships sold Old Velvet whisky at retail and wholesale, and the brand seems to have been well known. They used a stencil with which the brand was placed on the heads of barrels and kegs. On February 19, 1887, Joseph Lawson as surviving partner sold the entire stock of liquors to Bigbie Brothers and Company, and leased the premises, which belonged to him alone, to them. He transferred the good-will and turned over to them, not only the stock on hand, but also the stencils, including Old Velvet, and the formula for making it. The purchasers continued the business, as successors to Joseph Lawson and Son. They used the stencil on barrels and kegs, and also procured a large number of labels, containing the words Old Velvet, which they applied to bottles containing whisky made after the formula therefor. Whisky, in barrels and bottles so branded and labeled, was sold continuously thereafter, and shipped to purchasers in Virginia and other States. Old Velvet was intended to be used as a trade-mark, and the brand was well known to customers. The earliest date of adoption and use claimed by appellants is February 8, 1888. Whether a date so early is established by the evidence it is immaterial to consider, as the one claimed is later than that established by the appellee.

The testimony rather indicates that the trade-mark was the separate property of Lawson. But if the first retiring partner had an interest in it also, through its use during his membership of the firm, it ceased upon his withdrawal and remained with Lawson who continued to conduct the business at the same place and in the same way. (*Giles Remedy Co.* v. *Giles*, 26 App. D. C., 375, 382.) At any rate, the retiring partner does not appear to have asserted any interest thereafter. Assuming also that Joseph Lawson's son acquired an interest in the use of the trade-mark upon his accession to the partnership, whatever interest he may have taken passed by the sale and transfer made by the surviving partner to the appellees.

In our opinion the decision was right, and it will, therefore, be affirmed. This decision will be certified to the Commissioner of Patents as required by the law. Affirmed.

Court of Appeals of the District of Columbia.

MCKNIGHT v. POHLE.

Decided June 4, 1907.

INTERFERENCE—PRIORITY—FAILURE OF SENIOR PARTY TO DISCLOSE INVENTION.

Evidence considered and held to show that the application on which the patent involved in interference was granted did not, as originally filed, disclose the invention in issue, and priority therefore awarded to the junior party.

Mr. W. C. Pusey and *Mr. Joshua Pusey* for the appellant.

Mr. Augustus B. Stoughton for the appellee.

MCCOMAS, *J.:*

In this case the three tribunals have substantially determined the issue against McKnight, appellant, and in favor of Pohle, appellee. The following two counts disclose the issue:

1. The art of treating refractory ores containing precious metals and a refractory metalloid, which consists in pulverizing the ore, mixing with the pulverized ore a quantity of haloid salt of an alkaline metal, the relative proportions of the materials being substantially those quantitatively requisite to produce when heated in the presence of oxygen, a haloid salt of the precious metal, and an oxygen salt of the alkaline metal and the refractory metalloid, roasting the mixture with free access of air and agitation at a temperature sufficient to effect the reaction mentioned, but substantially shut off from the products of combustion, until the reactions above mentioned are accomplished, and volatilizing and recovering the precious-metal values as haloids or oxyhaloids; substantially as described:
2. The art of treating refractory ores containing precious metals and a refractory metalloid, which consists in pulverizing the ore, mixing with the pulverized ore chlorid of sodium, the relative proportions of the materials being substantially those quantitatively requisite to produce when heated in the presence of oxygen, a chlorid of the precious metal and an oxygen salt of the sodium and the refractory metalloid, roasting the mixture with free access of air, but shut off from the products of combustion, and until a chlorid of the precious metal and an oxysalt of the refractory metalloid and the sodium is produced, and containing the heating until the said chlorid is volatilized and carrying off and collecting the same separate and apart from the fumes of combustion of the furnace; substantially as described.

The operation described in Pohle's specification shows that the refractory ore is pulverized and mixed with common salt and sulfur and the mixture is heated and stirred in a current of air. Chlorids or oxychlorids of the valuable metals formed are carried off as vapors and these vapors condensing constitute the product of this process.

McKnight, having taken no testimony, the filing date of his application stands for his date of conception and constructive reduction to practice. McKnight's patent issued October 29, 1901, while Pohle did not file his application until February 26, 1902, and bears the burden of proving his case beyond reasonable doubt. The Examiner of Interferences found that Pohle conceived the invention in 1887 and that McKnight's application contained no basis for the claims in issue while the proof shows that McKnight derived portions of this process from Pohle and was not its inventor and that the invention was inserted in the McKnight application by amendments embodying Pohle's information. Without considering the question of actual reduction to practice by Pohle, the Examiner of Interferences awarded him priority.

The Examiners-in-Chief taking McKnight's application as affording proof of conception and as a constructive reduction to practice felt constrained by the doctrine of *res adjudicata* as applied to interference proceedings and concluded that since McKnight had a right to make these claims in his application and was entitled to a patent thereon, that his patent was a bar to the allowance of Pohle's application. This tribunal, however, called the Commissioner's attention to their opinion that McKnight had never filed an application which can be regarded as one which is allowable to cover the counts of the issue or held to be a constructive reduction to practice thereof and that he had never obtained a patent valid to sustain the claims which are the counts of this issue; that lacking any constructive reduction to practice of those counts, and being without other evidence, he had no evidence of any reduction to practice of the issue of the application and that because of such failure to prove a reduction to practice, Pohle, who has proof of constructive reduction to practice, is the prior inventor of this issue. The Examiners-in-Chief concluded that the interference should be dissolved and the application of Pohle should be sent to patent. They agreed that the record of the application of McKnight's patent discloses that McKnight had no right to make in his application or in his patent the claims which are the issues of this interference. Hence *res adjudicata* does not apply.

The Commissioner concluded that Pohle failed to establish facts which would entitle him to prevail over McKnight if it be assumed that the latter's patent is grounded in his application as filed. The Commissioner then proceeds to review the testimony as the other tribunals had done. We, therefore, need not again summarize it. In *McKnight* v. *Pohle* (105 O. G., 977; 22 App. D. C., 219) many of the facts important here were involved and this court affirmed the Commissioner in sustaining a patent obtained by

Pohle and Crosdale as joint inventors, which contains claims differing from the claims involved here only in the omission of the limitation to exclusion of products of combustion from the substances treated.

All of the tribunals observed that each count of the issue includes as part of the process which it defines, "roasting * * * with free access of air." McKnight's application for a patent, when filed, contained no suggestion of this step, while his drawing showed a closed vessel for heating the mixture of ground ore and salt. Pohle's caveat filed years before, showed an open-ended chamber. Not until April 16, 1901, did McKnight amend his case to include roasting the mixture with free access of air. The Commissioner and the other tribunals conclude from the testimony that McKnight and Collet, his attorney, before this amendment was filed, saw the specification and claims of an application of Pohle and Crosdale for the quite similar process to that in issue, to which we have referred, which included "roasting * * * with free access of air." We will not review the testimony which convinces us also that McKnight's amendments were obtained from Pohle in the way described by the witnesses, whose testimony is considered by all the Patent Office tribunals.

In *McKnight* v. *Pohle* (*supra*) in which McKnight was the junior party, this court referred to the omission of McKnight to mention the use of air in the application when filed for his patent here involved, and in that case affirmed the decision adverse to McKnight, which decision was based in part upon the conclusion that McKnight's application, when filed, did not include this feature of the invention. The opinion of Mr. Justice Shepard in that case is most pertinent here, especially so this conclusion:

> In view of these circumstances, the testimony presented in behalf of McKnight as to his invention before January, 1900, is to be carefully scrutinized. It is significant, to say the least, that he did not disclose the invention in his application of January, 1900, if he was then in possession of the same. This omission, coupled with the fact that he failed to disclose the same until it was admittedly disclosed to him by agents of another inventor, is almost sufficient of itself to warrant the conclusion that McKnight never independently invented the invention of the issue.

The Commissioner repeats his conclusion, therefore, that McKnight's original application did not disclose the invention now in issue and was not a proper foundation for the amendments by which it was made to include this invention, and further concludes that the patent granted upon this application is not to be accepted as proof of the invention of the issue at the date of the application and since the amendments were unwarranted the patent is not to be deemed evidence of this invention by McKnight at any time. We concur in this conclusion and in the decision that Pohle was entitled to a patent upon his application which fully disclosed the invention in issue. We see no reason to discuss here the other questions considered by the Commissioner of Patents. The conclusion that McKnight's patent does not support the invention in issue determines adversely his claim of priority of this invention.

The decision of the Commissioner of Patents is affirmed and this opinion and decision will be certified to the Commissioner of Patents in accordance with law.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 1, 1907.

McCulloch & Company, their assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of Alart & McGuire, of 66 Madison street, borough of Manhattan, New York, N. Y., for registration of a trade-mark and a trade-mark registered to McCulloch & Company, of 88 Water street, New York, N. Y., and the notice of said declaration mailed by the Patent Office in the usual manner to the said McCulloch & Company having been returned undelivered, notice is hereby given to the said McCulloch & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents in order that the notices of declaration heretofore sent by and returned to the Office may be forwarded to them.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

E. B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 7, 1907.

J. Meyer & Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of P. Raguet Fils & R. Vignes, of Troyes, France, for registration of a trade-mark and a trade-mark registered to J. Meyer & Company, of New York, N. Y., and it appears from the record of the case that the registrant, J. Meyer & Company, cannot be located.

Notice is therefore hereby given to said J. Meyer & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will proceed as in case of default.

E. B. MOORE, *Commissioner.*

THE OFFICIAL GAZETTE OF THE United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 130—No. 8. TUESDAY, OCTOBER 22, 1907. PRICE—$5 per year.

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Trade-Marks	138	No. 65,712 to No. 65,849, inclusive.
Labels	6	No. 13,836 to No. 13,841, inclusive.
Prints	2	No. 2,139 to No. 2,140, inclusive.
Reissues	5	No. 12,703 to No. 12,707, inclusive.
Total	747	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	2	.....	New Hampshire	.....	.....
Arizona Territory	.....	.....	New Jersey	24	8
Arkansas	1	2	New Mexico Ter't'y	1	.....
California	21	4	New York	83	18
Colorado	4	3	North Carolina	.....	.....
Connecticut	11	.....	North Dakota	2	.....
Delaware	1	.....	Ohio	46	16
District of Columbia	6	1	Oklahoma Ter't'y	2	1
Florida	.....	.....	Oregon	4	1
Georgia	6	.....	Panama	.....	.....
Hawaii Territory	.....	.....	Pennsylvania	63	6
Idaho	1	.....	Philippine Islands	.....	.....
Illinois	61	14	Rhode Island	5	1
Indian Territory	3	.....	South Carolina	1	.....
Indiana	16	4	South Dakota	1	.....
Iowa	11	2	Tennessee	4	3
Kansas	12	1	Texas	7	2
Kentucky	3	1	Utah	2	1
Louisiana	5	.....	Vermont	2	5
Maine	4	1	Virginia	2	1
Maryland	8	3	Washington	14	.....
Massachusetts	34	22	West Virginia	3	2
Michigan	11	1	Wisconsin	9	1
Minnesota	11	3	Wyoming	.....	.....
Mississippi	1	.....	U. S. Army	.....	.....
Missouri	13	4	U. S. Navy	.....	.....
Montana	4	.....			
Nebraska	6	1	Total to citizens of the United States	522	133
Nevada	1	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina	.....	.....	Netherlands	2	.....
Austria-Hungary	5	.....	Newfoundland	.....	.....
Belgium	1	.....	New South Wales	1	.....
Brazil	.....	.....	New Zealand	1	.....
British West Indies	.....	.....	Norway	.....	.....
Canada	10	.....	Portugal	1	.....
Cape Colony	.....	.....	Queensland	.....	.....
Chile	.....	.....	Roumania	.....	.....
China	.....	.....	Russia	1	.....
Costa Rica	.....	.....	Scotland	1	.....
Cuba	.....	.....	South Australia	1	.....
Denmark	.....	.....	Spain	.....	.....
Ecuador	.....	.....	Sweden	.....	.....
England	13	9	Switzerland	2	.....
France	8	.....	Tasmania	1	.....
Germany	16	4	Transvaal, South Africa	.....	.....
Haiti	.....	.....	Victoria	.....	.....
Ireland	.....	.....	Western Australia	.....	.....
Italy	.....	.....			
Japan	.....	.....			
Java	.....	.....			
Mexico	.....	.....	Total to citizens of foreign countries	64	13

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 16, 1907.

John A. Uhland, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of the Anti-Cori-Zine Chemical Company, of St. Louis, Mo., for registration of a trade-mark and a trade-mark registered to John A. Uhland, of Denver, Colo., and it appears from the record of the case that the registrant, John A. Uhland, cannot be located.

Notice is therefore hereby given to said John A. Uhland, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 12, 1907.

Reade Manufacturing Company, its assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of The Hewitt Brothers Soap Company, of Dayton, Ohio, for registration of a trade-mark and a trade-mark registered to the Reade Manufacturing Company, of Chicago, Ill., and it appears from the record of the case that the registrant, Reade Manufacturing Company, or its attorneys of record cannot be located.

Notice is therefore hereby given to said Reade Manufacturing Company, its assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business October 15, 1907.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
303	XVII. Clutches, Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Oct. 1	Sept. 16	184
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Sept. 25	Aug. 22	226
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Sept. 23	Sept. 13	200
232	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Iron Structures, Loading and Unloading, and Towers.	Sept. 19	Sept. 14	259
244	XXXV. Baths and Closets, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Garment-Supporters, Toilet, Signals.	Sept. 19	Aug. 5	600
147	XXIX. Coopering, Fire-Escapes, Ladders, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools, Woodworking.	Sept. 12	Aug. 28	301
264	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Sept. 9	Sept. 6	358
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery.	Sept. 9	Sept. 3	360
247	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Sept. 6	Aug. 24	214
313	I. Tillage, etc., Fences	Sept. 5	Aug. 23	314
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Sept. 5	Aug. 22	287
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Sept. 5	Aug. 20	298
136	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	Sept. 5	July 1	488
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Time-Controlling Mechanism.	Sept. 4	Aug. 2	339
332	X. Carriages and Wagons	Sept. 4	July 31	540
312	VII. Games and Toys, Mechanical Motors, Optics, Paper Manufactures, Velocipedes.	Sept. 3	Aug. 23	388
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Educational Appliances, Fishing and Trapping, Stationery, Stone-Working.	Sept. 3	Aug. 19	464
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	Sept. 3	Aug. 8	356
278	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Refrigeration.	Sept. 3	June 20	511
184	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufactures, Nailing and Stapling, Whips and Whip Apparatus.	Aug. 30	Aug. 13	325
238	XIX. Heating and Cooking Stoves, Liquid and Gaseous Fuel, Stoves and Furnaces, and Furnaces.	Aug. 28	July 27	517
172	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	Aug. 23	Aug. 23	219
167	V. Bookbinding, Harvesters, Jewelry, and Music.	Aug. 23	July 25	383
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Aug. 22	Aug. 17	290

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	Aug. 19	Sept. 3	315
327	XVIII. Steam-Engineering, etc.	Aug. 19	July 22	364
382	XXVIII. Miscellaneous Heat-Engines, Internal-Combustion Engines.	Aug. 17	Aug. 1	644
128	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Pneumatics, Presses, Store-Service, Tobacco, etc.	Aug. 15	Aug. 5	319
142	IX. Air and Gas Pumps, Fire-Extinguishers, Hydraulic Motors, Pumps, and Sewerage.	Aug. 14	Aug. 15	275
322	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Aug. 14	Aug. 3	665
307	XIV. Compound Tools, Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Sheet-Metal Ware, Making, Tools, Wire-Working.	Aug. 14	July 8	271
329	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making, etc.	Aug. 13	Aug. 7	437
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	Aug. 13	July 3	492
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	Aug. 1	July 5	430
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	Aug. 1	June 21	647
175	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	July 24	June 25	579
280	XL. Baggage, Check-Controlled Apparatus, Cloth, Leather, and Rubber Receptacles, Deposit and Collection Receptacles, Fine Arts, Lighting-Fixtures, Package and Article Carriers, Paper Receptacles, Special Receptacles and Packages, Wooden Receptacles.	July 20	June 11	1055
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving and Plastics, Photography.	July 12	June 25	645
109	XVI. Telegraphy and Telephony	July 8	June 4	600
321	XXXIX. Water Distribution	July 5	June 6	767
352	XLI. Railway Draft Appliances, Railway-Rails and Joints, Railway-Ties and Fasteners, Resilient Tires and Wheels.	June 15	May 3	1220

Total number of applications awaiting action 18,146

159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Trade-Marks	Oct. 11	Sept. 21	416
	Designs	Oct. 5	Sept. 11	95
	Labels and Prints			

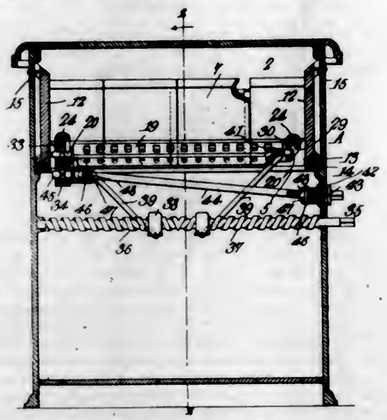
The Official Gazette.

The OFFICIAL GAZETTE is published every Tuesday, simultaneously with the weekly issue of patents. From January 1, 1872, (the commencement of its publication,) to June 30, 1883, it was published and bound in semi-annual volumes; from July 1, 1883, to December 31, 1902, in quarterly volumes; since January 1, 1903 in bimonthly volumes. Terms: Annual subscriptions, $5. For postage upon foreign subscriptions, except those from Canada and Mexico, $5 or more, as required. Moneys received from foreign subscribers in excess of the subscription price of $5 will be deposited to the credit of the subscriber and applied to postage upon the subscription as incurred. Single copies, 10 cents; if mailed to foreign countries, excepting Canada and Mexico, 20 cents additional for postage. *Payment in advance required. No club rates. No discount to newsdealers. No sample copies.* All subscriptions must commence with the beginning of a volume. None taken for less than an entire volume. All orders should be addressed to "The Commissioner of Patents, Washington, D. C."

PATENTS

GRANTED OCTOBER 22, 1907.

868,631. STOVE-GRATE. ROBERT E. ADAMS, Fort Wayne, Ind., and CHRIST HOFFMAN, Farmington, Minn. Filed Feb. 15, 1907. Serial No. 357,594.



1. In a stove, the combination of a fire box, a grate frame therein carrying rocking bars, a mechanism for raising and lowering the grate frame, and means for rocking the grate bars at any elevation, said means comprising a flexibly connected rotatable element movable with the grate, and a rotatable device for operating the said element.

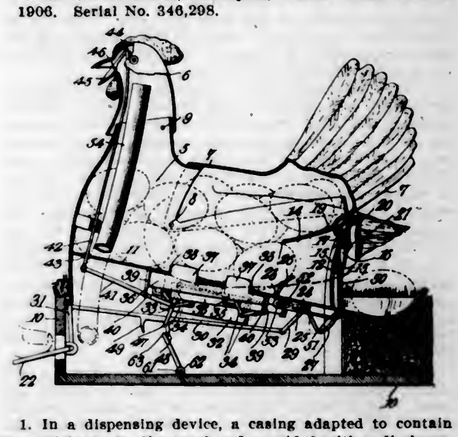
2. In a stove, the combination of a fire box, a grate frame vertically movable therein rocking grate bars pivotally carried by said frame, an oppositely threaded screw supported in fixed position, nuts movable along the screw, U-shaped arms hingedly connected with the nuts and grate frame, and means for rocking said grate bars adapted to lengthen and shorten as the grate frame is raised or lowered.

3. In a stove, the combination of a fire box, a grate frame mounted therein, means for raising and lowering the grate frame, movable grate bars mounted on the frame and movable therewith, a motion transmitting device on the frame for actuating the grate bars, a rocking crank shaft, and a rod flexibly connected with the crank shaft and adapted to operate the motion transmitting device, at any elevation of the grate frame.

4. In a stove, the combination of a fire box, a vertically movable grate frame mounted therein, rocking grate bars on the frame, gearing on the frame causing the grate bars to rock simultaneously, a pinion meshing with one member of the gearing, a rocking crank shaft, a rod flexibly connected with the crank shaft and said pinion, and a mechanism for raising and lowering the grate frame.

5. In a stove, the combination of a fire box, a grate frame mounted therein for vertical adjustment, bearings on the frame, rocking grate bars having journals mounted in the said bearings, meshing gears on the journals of the grate bars, a short socketed shaft on the grate frame, a pinion on the shaft meshing with one of the gears, a socketed rock shaft, a rod extending at its ends into the sockets of the said shafts, and slot and pin connection between each shaft and rod.

868,632. MECHANISM FOR DISPENSING EGGS AND OTHER COMMODITIES. GUSTAF A. ALMSTROM and PETER CHRISTENSON, Northport, Wash. Filed Dec. 4, 1906. Serial No. 346,298.



1. In a dispensing device, a casing adapted to contain the articles to be dispensed and provided with a discharge opening, delivering mechanism for successively presenting the articles at the discharge opening, feeding mechanism coöperating with the delivering mechanism, an actuating member common to both the feeding and delivering mechanism, and a sounding device operable by the actuating member when the articles are presented to the discharge opening.

2. In a dispensing device, a casing adapted to contain the articles to be dispensed and provided with a discharge opening, delivering mechanism for successively presenting the articles at said opening, feeding mechanism, an actuating rod common to both, a movable closure operatively connected with the actuating rod, a sounding device, and means carried by the actuating rod for operating the sounding device when the articles are presented at the discharge opening.

3. In a dispensing device, a casing adapted to contain the articles to be dispensed and provided with a discharge opening, an inclined diaphragm arranged within the casing, delivering mechanism extending through the diaphragm for successively presenting the articles at the discharge opening, feeding mechanism, an actuating rod common both to the delivery and feed mechanism, and means for actuating the rod.

4. In a dispensing device, a casing adapted to contain the articles to be dispensed and provided with a discharge opening, pivoted doors normally closing said opening and movable laterally in opposite directions to open position, a diaphragm arranged within the casing and provided with spaced recesses, delivering mechanism extended through the diaphragm for successively presenting the articles at the discharge opening, feeding mechanism operable within the recesses in the diaphragm, an actuating rod operatively connected with the pivoted doors and common to the feeding and delivering mechanism, and means for operating the rod.

5. In a dispensing device, a casing adapted to contain the articles to be dispensed and provided with a discharge

opening, a diaphragm disposed within the casing, delivering mechanism extending through the diaphragm for successively presenting the articles to the discharge opening, feeding mechanism movable through the diaphragm, an actuating rod operatively connected with the delivering mechanism, a loop forming a part of the feeding mechanism, and a tappet carried by the actuating rod and adapted to engage the loop for simultaneously operating the feeding and delivering mechanism.

6. In a dispensing device, a casing adapted to contain the articles to be dispensed and having a discharge opening, a diaphragm arranged within the casing, delivering mechanism including oppositely disposed stop fingers extending through the diaphragm for successively presenting the articles at the discharge opening, feeding mechanism, an actuating rod operatively connected with the delivering mechanism, a loop forming a part of the feeding mechanism, and a tappet carried by the actuating rod and adapted to engage the loop for simultaneously operating the feeding and delivering mechanism.

7. In a dispensing device, a casing adapted to contain the articles to be dispensed and provided with a discharge opening, delivering mechanism for successively presenting the articles at the discharge opening, feeding mechanism, an actuating rod operatively connected with the delivering mechanism and provided with a tappet adapted to engage and actuate the feeding mechanism, and an audible signal, a trip arm extending laterally from the signal and arranged in the path of movement of the tappet thereby to sound the signal when the rod is actuated.

8. In a dispensing device, a casing including pivotally united sections and provided with a discharge opening, delivering mechanism for successively presenting an article at the discharge opening, a sounding device, and means for actuating the delivering and sounding mechanism and simultaneously tilting the casing sections.

9. In a dispensing apparatus, a casing having a discharge opening and provided with pivotally united sections, a sounding device, means for successively presenting an article at the discharge opening, and means for simultaneously actuating the delivering mechanism and sounding device and tilting the pivoted sections of the casing when the articles are presented at the discharge opening.

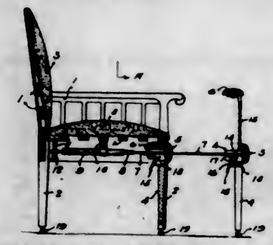
10. In a dispensing device, casing having a discharge opening and provided with pivoted sections, doors for normally closing the discharge opening, delivering mechanism for successively presenting an article to the discharge opening when the doors are in open position, means for actuating the delivering mechanism and simultaneously tilting the sections of the casing, and a sounding device operable by engagement with the delivery actuating means.

11. In a dispensing device, a casing having a discharge opening and provided with pivoted sections, an inclined diaphragm arranged within the casing, delivering mechanism extending through the diaphragm for successively presenting an article at the discharge opening, feeding mechanism disposed beneath the diaphragm and operable within the casing, a sounding device, an actuating rod common to the feeding and delivering mechanism and operatively connected with the pivoted sections for tilting the latter when the delivering mechanism is operated, and a tappet carried by the actuating rod and adapted to engage the sounding device.

12. In a dispensing device, a casing having a discharge orifice and provided with pivoted sections, a hood disposed at the discharge opening, delivering mechanism disposed beneath the hood for successively presenting an article at the discharge opening, closures operatively connected with the delivering mechanism, a sounding device, and an actuating rod for operating the sounding device and delivering mechanism and simultaneously tilting the sections of the casing.

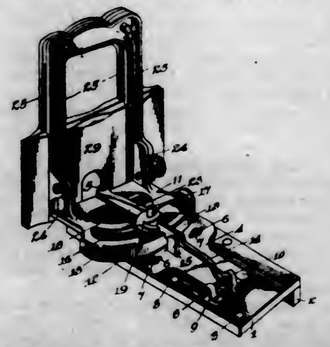
13. In a dispensing device, a casing having a discharge opening and provided with pivotal sections, delivering mechanism for successively presenting an article at the discharge opening, a vertically movable yoke operatively connected with the delivering mechanism, doors mounted for swinging movement on the yoke and forming a closure for the discharge opening, said yoke being operatively connected with one of the movable sections of the casing, feeding mechanism, arms carried by the feeding mechanism, a rod forming a connection between the arms and an adjacent pivoted section of the casing, a sounding device, an actuating rod operatively connected with the delivering mechanism and extending in the path of the feeding mechanism for operating the same, and a tappet carried by the actuating rod and adapted to operate the sounding device.

868,633. CHAIR WITH EXTENSIBLE FOOT-REST. WILLIAM J. ARMSTRONG, Paterson, N. J. Filed Sept. 15, 1906. Serial No. 334,719.



In a chair having an extensible foot-rest, the combination with the frame having four fixed legs, of a pair of movable legs united so as to fit in between the front fixed legs when foot rest is not in use, racks which are vertically movable in said movable legs, a foot rest supported by said racks, pawl-levers secured to the movable legs and adapted to engage said racks to hold the foot rest at the elevation desired, a rod an inner and an outer sleeve forming a sliding connection between the chair proper and the movable foot-rest portion, a pivotal hanger supporting said rod and sleeves beneath the chair and a spring to adjust the plane in which the rod and sleeves lie, substantially as set forth.

868,634. MITER-BOX. LEDRU R. BENDER, Elizabethville, Pa. Filed Mar. 25, 1907. Serial No. 364,456.

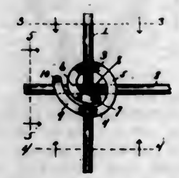


1. In a miter box, the combination of an adjustably mounted base plate, a swinging frame mounted thereon and having a curved slot therein, a saw frame foldably mounted on said frame, an upstanding stud arranged through said slot, a cam nut rotatively mounted on said stud, and a vertically stationary element carried by said stud and arranged to receive said cam thereagainst to force said nut downward and lock said frame, substantially as described.

2. In a miter box, the combination of an adjustably mounted base plate, a swinging frame mounted thereon having a curved slot therein and provided with a notched segment, a locking tongue adapted to engage within said notches to lock said frame, a saw frame foldably mounted on said frame, an upstanding stud arranged through said slot, a double cammed nut rotatively mounted on said stud, a vertically stationary element carried by said stud arranged to receive one of said cams thereagainst to force said nut downward and lock said frame, the other of said cams being arranged to move beneath said locking tongue to remove the same from said segment.

3. In a miter box, the combination of an adjustably mounted base plate, a swinging frame mounted thereon and provided with upstanding ears, a saw frame pivotally mounted in the extremities of said ears, a clamping plate mounted on said pivot and extending along one of said ears, and a clamping screw arranged through said plate and said ear to clamp said saw frame in a selected degree of adjustment, substantially as described.

868,635. FENCE-TIE. EDWARD J. BOWERFIND, Adrian, Mich., assignor to Lion Fence Co., Adrian, Mich., a Corporation of Michigan. Filed Feb. 24, 1906. Serial No. 302,692.



In a tie for wire fencing, the combination of the crossed strand and stay wires, of a tie in the form of a staple having its loop lying upon and crossing the strand wire at one side of the stay, legs passing in the rear of the stay, the end portion of one leg crossing the strand wire obliquely, and having an extreme terminal portion which crosses the stay wire below and in contact with the strand wire, the end portion of the other leg crossing the strand wire in the arc of a circle beyond the end portion of the first-mentioned leg, and having a hooked terminal which engages obliquely over and terminates at said strand wire.

868,636. NITRO-STARCH EXPLOSIVE. JESSE B. BRAUNSTEIN, Allentown, Pa. Filed Nov. 19, 1906. Serial No. 344,067.

1. An explosive consisting of a mixture of nitro-starch and a borate the latter being added in such proportion as to stabilize the nitro-starch in substantially the manner described.

2. An explosive consisting of a mixture of nitro-starch and borax the latter being added in such proportion as to stabilize the nitro-starch in substantially the manner described.

3. An explosive consisting of a mixture of nitro-starch with 3 to 5% of borax.

868,637. EXPLOSIVE. JESSE B. BRAUNSTEIN, Allentown, Pa. Filed May 27, 1907. Serial No. 376,003.

1. An explosive composition consisting of an intimate mixture of substantially from 30 per cent. to 70 per cent. of nitro-starch, and from 70 to 30 per cent. of finely divided iron.

2. An explosive composition consisting of an intimate mixture of substantially from 30 per cent. to 70 per cent. of nitro-starch, and from 70 to 30 per cent. of iron fillings.

868,638. NITRO-STARCH EXPLOSIVE. JESSE B. BRAUNSTEIN, Allentown, Pa. Filed July 18, 1907. Serial No. 384,807.

1. An explosive base consisting of a mixture of nitro-starch and lime, the latter being added in such proportion as to stabilize the nitro-starch in substantially the manner described.

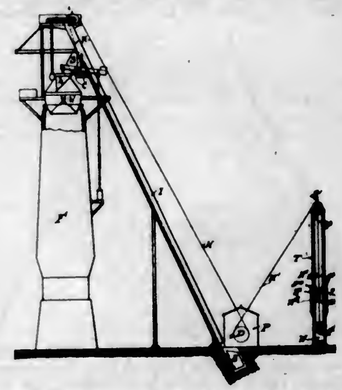
2. An explosive base consisting substantially of a mixture of 95 parts nitro-starch and 5 parts lime.

3. An explosive base consisting of a mixture of nitro-starch and lime, the proportion of lime in said mixture being approximately from 2 to 10%.

4. An explosive consisting of an intimate mixture of from 30 to 70% of nitro-starch and substantially 70 to 30% of an added material consisting of finely divided metallic iron and lime, the proportion of lime being approximately 5% by weight of nitro-starch and lime.

5. An explosive consisting of an intimate mixture of from 30 to 70% of nitro-starch and substantially 70 to 30% of an added material consisting of finely divided metallic iron and lime, the proportion of lime being approximately 2 to 10% by weight of nitro-starch and lime.

868,639. MEANS FOR VARYING THE FORCE OF COUNTERWEIGHTS FOR HOISTING SKIP-CARS. ALEXANDER E. BROWN, Cleveland, Ohio, assignor to The Brown Hoisting Machinery Company, Cleveland, Ohio. Filed Feb. 23, 1907. Serial No. 358,911.



1. A means for varying the force of counterweights for hoisting skip-cars, consisting of one or more pulley and weight systems, suitably located, in the path of said counterweight, to become in engagement with and resist the same, while said car is undergoing its dumping movements, substantially as shown and described.

2. A means for varying the force of counterweights for hoisting skip-cars, consisting of one or more pulley and weight systems, suitably located in the path of said counterweight to be in opposite engagement with the same while said car is resuming its normal position on the incline after dumping, substantially as shown and described.

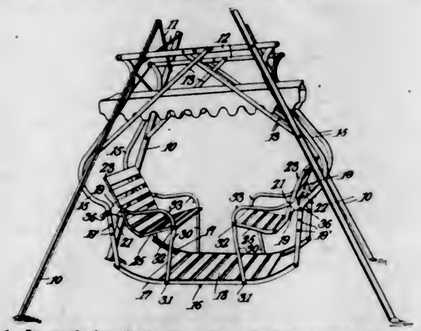
3. A means for varying the force of counterweights for hoisting skip-cars, consisting of the combination, with said skip-car, of a furnace incline carrying a track for the rear wheels of said car that extends above the furnace top, and an intermediate track for the front wheels thereof that curves inwardly toward said top, suitable power mechanism for hoisting said car on said incline, with a suitable counterweight system to supplement said power mechanism in hoisting said car upwardly on said track, together with a secondary counterweight system, as described to gradually resist the hoisting force of said first-named system, and reduce the same to a predetermined minimum when said car is brought to its position for dumping, substantially as shown and described.

4. The combination with an incline, provided with a track for the rear wheels of a skip-car, and an intermediate track for the front wheels thereof that curves inwardly from the incline to the furnace top, of a skip-car and a suitable counterweight arrangement for hoisting the same, together with a secondary system of pulleys and counterweights arranged at a point in the travel of said hoisting counterweight to become and be in engagement therewith

while said front wheels are on said intermediate track for and after the operation of dumping, substantially as shown and described.

5. The combination with an incline, provided with a track for the rear wheels of a skip-car and an intermediate track for the front wheels thereof, that curves inwardly from said incline toward the furnace top, of a skip-car, and suitable power mechanism for hoisting the same on said tracks, and a counterweight, suitably related to said power mechanism to supplement its hoisting force, the said counterweight being operatively located in a supporting tower or frame-work provided with a system of sheaves or pulleys and weights with the ropes thereof extending in tension between oppositely arranged sheave members of said system across the path of travel of said hoisting counterweight in position to become and be engaged and resisted thereby, when, in the operation of hoisting and dumping said skip-car, its front wheels are on said curve, substantially as shown and described.

868,640. CHAIR. ROYER S. BUCH, Elizabethtown, Pa. Filed Dec. 14, 1906. Serial No. 347,807.



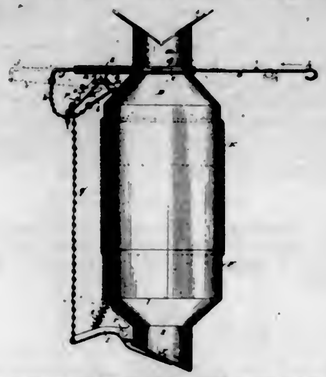
1. In a chair of the type described, suspension rods, a foot frame pivoted thereto, links having their lower ends pivoted to the frame at points in advance of the rod connections, pivotally connected seat and back members, the seat being pivoted to the upper ends of the links and the back being pivoted to the rods, and side arms or rods forming an adjustable connection between the seat and back to permit alteration of the angular relation of said seat and back.

2. In a chair of the class described, the combination with suspension rods, of a foot frame pivoted thereto, a pair of links having their lower ends pivoted to the frame, a seat member, the forward edge of which is pivoted to the upper ends of the links, catch plates secured to the back and pivotally connected to the suspension rods, and side arm members pivoted at the forward edge of the seat and having means for interlocking with said catch plate.

3. In apparatus of the class described, a pair of suspension rods, a foot frame pivotally connected thereto, a pair of links, the lower ends of which are pivoted to the frame at points in advance of the rods, pivotally connected seat and back members, the forward edge of the seat member being connected to the links, and the back member being pivotally connected to the suspension rods, and a pair of side arms forming an adjustable connection between the links and bars to permit variation in the distance between them and likewise serving to alter the angular position of the seat and back with relation to each other.

4. In a chair of the class described, the combination with a pair of suspension rods, of a foot frame carrying said rods, a pair of links, the lower ends of which are pivotally connected to the frame, a seat, the forward edge of which is pivoted to the upper ends of the links, a back member pivoted to the rear edge of the seat, catch plates, the inner ends of which are split to form a plurality of lugs, means for securing the lugs to the back member, and side arms arranged to extend through the plate and provided with notches for the reception of the upper edge of one of the lugs.

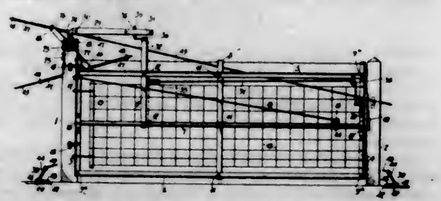
868,641. MEASURING DEVICE. LOUIS B. CLARK, Oktaha, Ind. Ter. Filed June 3, 1907. Serial No. 376,937.



1. In a measuring device, a slidable cut-off valve at the upper end of the measuring device to supply and cut off the product thereof, and a valve at the lower end of the measuring device to enable the contents to be discharged, and means connecting said valve with the cut-off valve comprising a pivoted bell-crank lever, a flexible connection between the lever and the cut-off valve, and a flexible connection between the lever and the valve at the lower end of the measuring device, said flexible connection being adjustable upon the lever, substantially as and for the purpose described.

2. In a measuring device, a body composed of a stationary section and adjustable sections, a conduit communicating with the stationary section, flat guide-plates located between the stationary section and the conduit, a flat slidable spring actuated cut-off valve engaging the guide-plates, a valve at the lower end of the lower adjustable section, means connecting said valve with the cut off valve whereby the same is automatically operated, depending guide-rods upon the stationary section and the upper movable section, and guide-nuts on the movable sections with which the rods engage, and set screws to hold the movable sections in their adjusted position, substantially as and for the purpose set forth.

868,642. SWING-GATE. JAMES A. CLEMENTS, Abingdon, Ill., assignor of one-fourth to James W. Hunter, one-fourth to Charles W. Robertson, and one-fourth to Albert R. Clements, Abingdon, Ill. Filed Oct. 22, 1906. Serial No. 340,002.



1. A swinging gate having a latch, in combination with gate operating mechanism mounted on the gate support and having a pair of intermeshing gears, one provided with means whereby it may be turned, and the other having a vertical shaft provided with an operating arm projecting radially therefrom and substantially in line with the gate, and connections between said operating arm and the gate and the latch thereof to cause said arm to operate said latch and swing said gate, substantially as described.

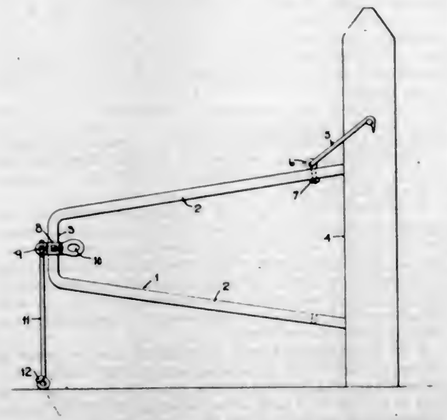
2. In combination with a swinging gate and the supporting element therefor, a pair of intermeshing gears mounted on said supporting element, one having means whereby it may be turned, and the other having a vertical shaft and an operating arm projecting radially therefrom and extending over the inner portion of the gate and substantially in line therewith, a vertically-mounted shaft carried by the gate and having a crank-arm pivotally and slidably connected to the operating arm, a latch for the gate, and connections between said latch and said crank-shaft to operate said latch when the crank-shaft is turned by said operating arm, the latter and the crank-shaft also coacting to swing the gate in either direction, substantially as described.

3. In combination with a gate post and a swinging gate hung thereon, a frame on said post, a pair of beveled intermeshing gears mounted in said frame, one having means whereby it may be turned, and the other having a vertical shaft and a radially-disposed operating arm projecting from said shaft over the inner end of the gate, said arm having a longitudinal slot, a vertically-disposed rock-shaft mounted on and carried by the gate and having a crank provided with a wrist pivotally and slidably engaging the slot of the operating arm, a latch also carried by the gate, and an operating connection between said latch and said rock-shaft, for the purpose set forth.

4. In combination with a swinging gate and operating means therefor, including a pair of intermeshing gears, one having an operating bar, gate operating devices at points on opposite sides of the gate, rods operated by said gate operating devices and slidably connected to the operating bar at points near the ends thereof, and cushioning springs connecting said rods and said bar, for the purpose set forth.

5. In combination with a swinging gate and intermeshing operating gears therefor, one having an operating bar, rock-shafts mounted at points at opposite sides of the gate and having cranks for operation by the wheels of a vehicle, rods operated by said rock-shafts and slidably connected to said operating bar, and cushioning springs between said rods and said operating bar, for the purpose set forth.

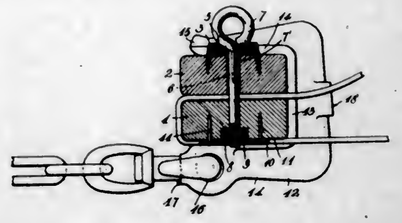
868,643. ANCHORING DEVICE FOR WIRE-STRETCHERS. JAMES A. CLEMENTS, Abingdon, Ill., assignor of one-fourth to James W. Hunter, one-fourth to Charles W. Robertson, and one-fourth to Albert R. Clements, Abingdon, Ill. Filed Dec. 31, 1906. Serial No. 350,164.



1. In an anchoring device for wire stretchers, an anchoring post provided with a keeper, a substantially U-shaped frame arranged to extend horizontally beyond the post and having its inner ends disposed to bear against one face of the latter, a supporting hook detachably engaged with one of the side portions of the frame and formed for engagement with the keeper to support the inner end of the frame, a bracket attached to the end portion of the frame and provided at its rear end with an eye to be engaged by the stretcher, and at its forward end with a second eye, an anchor rod having its upper end formed for engagement with said second eye, and means for fixing the lower end of the rod to the ground.

2. In an anchoring device for wire stretchers, an anchoring post provided with a keeper, a horizontal U-shaped frame arranged to project beyond the post and having the ends of its side portions seated against the post, said portions being perforated at points adjacent their rear ends, an eye bolt removably engaged through one of the perforations, a supporting hook pivotally engaged with the eye bolt and formed for engagement with the keeper to support the rear end of the frame, a horizontal bracket removably engaged with the forward end portion of the frame and having its rear end formed for engagement with the stretcher, a vertical anchor rod engaged at its upper end with the bracket and provided at its lower end with an eye, and a stake pin entered through said eye into engagement with the ground for fixing the lower end of the rod.

868,644. CLAMPING DEVICE FOR WIRE FENCES. JAMES A. CLEMENTS, Abingdon, Ill., assignor of one-fourth to James W. Hunter, one-fourth to Charles W. Robertson, and one-fourth to Albert R. Clements, Abingdon, Ill. Filed Jan. 29, 1907. Serial No. 353,313.

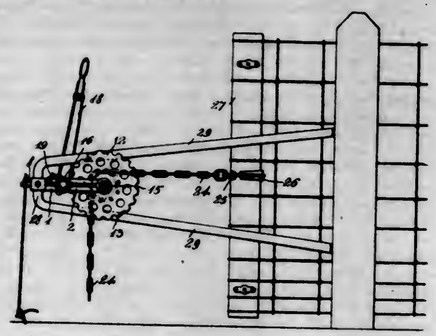


1. In a clamping device, the combination of two parallel clamping bars; means for securely clamping the free ends of the horizontal wires of a fence between said clamping bars, and a hitch, comprising a transverse body having a poll and horizontal arms, terminating in polls and one arm having draft engaging means, substantially as shown and described.

2. In a clamping device of the character described, the combination of two corresponding clamping bars; washers having longitudinal slots and tapering bearing surfaces secured to the outer face of one of said bars; horizontal plates, having nuts on their inner faces, secured to the outer face of the other bar, immediately opposite said washers; eye bolts passing through the slots in said washers and screwing in the nuts of said plates, corresponding perforations in said clamping bars, and a clevis having a body and horizontal arms adapted to engage said clamping bars, substantially as described.

3. In a clamping device of the type described, a clamping bar having transverse perforations, nuts attached to the outer face of the bar in line respectively with said perforations, eye bolts extended through the perforations and having terminally threaded engagement with the nuts, a second clamping bar having longitudinal slots arranged in alinement with the perforations in the first named bar, washers applied to the outer face of the second bar and having slots in register with the slots in the latter, said washers being provided with curved bearing surfaces adapted to coöperate with the heads of the eye bolts for drawing the bars to clamping position, and a hitching member designed for detachable engagement with the bars.

868,645. WIRE-STRETCHER. JAMES A. CLEMENTS, Abingdon, Ill., assignor of one-fourth to James W. Hunter, one-fourth to Charles W. Robertson, and one-fourth to Albert R. Clements, Abingdon, Ill. Filed Jan. 29, 1907. Serial No. 354,723.

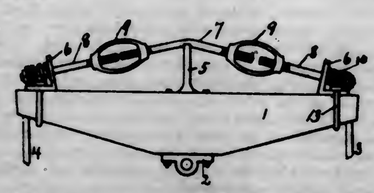


1. The combination in a wire stretcher, of a frame comprising two side arms, terminating at the outer ends in inwardly-curved jaws having recesses in the inner faces, one of said arms terminating at its inner end in an inwardly curved finger having a guard extension; a cog wheel journaled to said frame; a chain wheel secured to the inner face of said cog wheel; a pinion journaled to said frame in position to mesh with said cog wheel; means for rotating said pinion, with means for preventing reverse rotation of said pinion, substantially as described.

2. The combination, in a wire stretcher of a frame comprising two side arms, terminating at their outer ends in inwardly-curved recessed jaws and having inwardly-extending flanges on their inner faces near their inner ends; a chain wheel journaled between said frame bars; a tightening chain adapted to be engaged by said chain wheel; means for rotating said chain wheel with means for preventing reverse rotation of said chain wheel, substantially as described.

3. The combination in a wire stretcher, of a frame terminating at its outer end in recessed jaws and having inwardly-extending flanges near its outer end; a chain wheel journaled to said frame; means for rotating said chain wheel, and a chain adapted to be engaged by said chain wheel, substantially as described.

868,646. WALKING-BEAM TRUSS ROD. ELMER W. COKELY, Coalinga, Cal. Filed Apr. 5, 1907. Serial No. 366,484.



1. The combination of a walking beam, a truss rod above and extending substantially from end to end of the beam a shaft box carried by the beam and having a nut on each end thereof, brackets carried by the beam and secured thereto near each end thereof, and springs interposed between the brackets and the nut carried by each end of the rod, substantially as set forth.

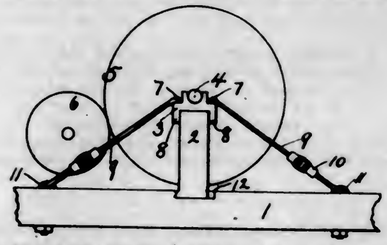
2. The combination of a walking beam, a truss rod above and extending substantially from end to end of the beam a shaft box carried by the beam and having a nut on each end thereof, brackets carried by the beam and secured thereto near each end thereof, securing means passing entirely around the end of the beam, and springs interposed between the brackets and the nut on each end of the rod, substantially as described.

3. The combination of a walking beam, a truss rod above and extending substantially from end to end thereof and having a nut at each end, a shaft box carried by the beam, brackets near each end of the beam, yokes carried by the brackets and passing entirely around the beam, and springs interposed between the brackets and the nut on each end of the truss rod, substantially as described.

4. The combination with a walking beam of a truss rod therefor, means to support the rod at a distance above the beam near the center thereof, nuts to tighten the rod on each side of the support, brackets carried by the beam at each end thereof and through which the ends of the rod pass, springs interposed between the brackets and the nut on each end of the truss rod, and a shaft box carried by the beam below the same substantially as described.

5. The combination of a walking beam, a truss rod therefor means to support the rod at a distance above the beam near the center thereof, nuts to tighten the rod on each side of the support, brackets carried by the beam at the ends thereof and through which the ends of the truss rod pass, U shaped yokes passing entirely around the ends of the beam and securing the brackets thereto, springs interposed between the brackets and the nut on each end of the truss rod, and a shaft box carried by the beam substantially as described.

868,647. OIL-RIG SHAFT-BOX. ELMER W. COKELY, Coalinga, Cal. Filed May 6, 1907. Serial No. 372,253.



1. In a shaft box, the combination of a bearing box carrying flanges depending from the same in planes parallel to the shaft axis and having upstanding lugs near each end of the box.

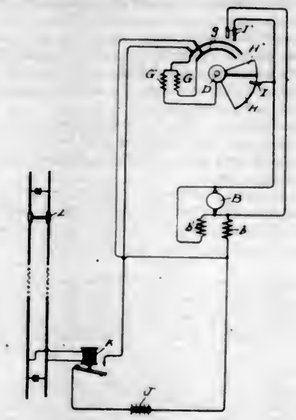
2. In an oil rig box, the combination of a sill, a post carried thereby, a box carried directly on the top of the post and having flanges depending on either side of the post and upstanding lugs at each end of the box, and a pair of stay bolts for said box secured at one of their ends to the sill and passing around the lugs of the box at their other ends.

868,648. SEMAPHORE-SIGNAL. FRED B. COREY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Mar. 27, 1907. Serial No. 364,796.

1. In a semaphore signal, a semaphore-arm arranged to return automatically to danger position, an electric motor for driving said arm toward clear position, a source of current in circuit with said motor, contacts controlled by the movement of said arm adapted to open the motor circuit and to connect said motor as a braking generator to stop the movement of said arm, and means for preventing backward rotation of said motor.

2. In a semaphore signal, a semaphore-arm arranged to return automatically to danger position, an electric motor for driving said arm toward clear position, a source of current in circuit with said motor, contacts controlled by the movement of said arm adapted to open the motor circuit and to short-circuit the motor-armature to cause it to act as a brake for said arm, and means for preventing backward rotation of said motor.

3. In a semaphore signal, a semaphore-arm arranged to return automatically to danger position, an electric motor having series and shunt field windings for driving said arm toward clear position, a source of current in circuit with said motor, and contacts adapted to open the motor circuit and to short-circuit the motor-armature to cause it to act as a brake for said arm, and means for preventing backward rotation of the motor.



4. In a semaphore signal, a semaphore-arm arranged to return automatically to danger position, an electric motor for driving said arm toward clear position, having a main series field winding and an auxiliary shunt winding permanently connected across the armature terminals, a source of current in circuit with said motor, contacts adapted to open the motor circuit and to short-circuit the motor-armature to cause it to act as a brake for said arm, and means for preventing backward rotation of the motor.

5. In a semaphore signal, a semaphore-arm arranged to return automatically to danger position, an electric motor, a source of current in circuit with said motor, a track relay having its armature included in said circuit, a slot mechanism for clutching the motor to the semaphore-arm including a magnet winding connected directly across said source in series with the relay armature, contacts included in the motor circuit controlled by the movement of said arm and adapted to open the motor circuit and to connect the motor as a braking generator, and means for preventing backward rotation of the motor.

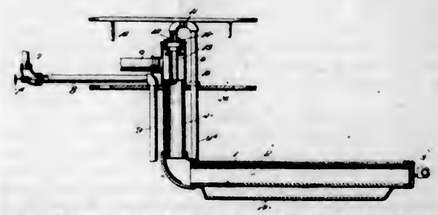
6. In a semaphore signal, a semaphore-arm arranged to return automatically to danger position, an electric motor, a source of current in circuit with said motor, a track relay having its armature included in said circuit, a slot mechanism for clutching the motor to the semaphore-arm including a magnet winding connected directly across said source in series with the relay armature, contacts included in the motor circuit controlled by the movement of said arm and adapted to open the motor circuit and to short-circuit the motor armature, and means for preventing backward rotation of the motor.

7. In a semaphore signal, a semaphore-arm adapted to return automatically to danger position, an electric motor for driving said arm toward clear position, gearing between the motor and said arm adapted to transmit torque from either to the other, a slot mechanism for clutching said motor to said arm, and means for preventing backward rotation of said motor comprising two members having respectively external and internal bearing surfaces eccentric to each other, one stationary and the other carried by the motor armature, and a rolling member disposed between said bearing surfaces.

8. In a semaphore signal, a semaphore-arm arranged to return automatically to danger position, an electric motor for driving said arm toward clear position, gearing between said motor and said arm, adapted to transmit torque from either to the other, a source of current in circuit with said motor, contacts controlled by the movement of said arm adapted to open the motor circuit and to connect said motor as a braking generator to stop the movement of said arm, and means for preventing the backward rotation of said motor.

9. In a semaphore signal, a semaphore-arm arranged to return automatically to danger position, an electric motor for driving said arm toward clear position, gearing between said motor and said arm adapted to transmit torque from either to the other, a source of current in circuit with said motor, contacts controlled by the movement of said arm adapted to open the motor circuit and to short-circuit the motor armature to cause it to act as a brake for said arm, and means for preventing the backward rotation of said motor.

868,649. BURNER ATTACHMENT FOR STOVES. HARVEY N. CROSSLEY, Madison, Okla. Filed Mar. 19, 1907. Serial No. 363,225.



An oil burner attachment for stoves, consisting of a support embodying a base plate and an upper plate spaced therefrom and connected thereto, the base plate being adapted to fit the lid opening of a stove top, a T-coupling mounted between said plates, an air inlet pipe connected to said T-coupling, a mixing tube extending upwardly through said base plate and connected to the T-coupling and suspended therefrom and from said base plate, a burner tube connected to said mixing tube and provided with outlet orifices for gas, a generator coil embracing said mixing tube, the base of the coil extending upwardly from said base plate and being supported thereby, an oil inlet pipe extending over the upper face of said base plate and connected to said generator coil, and a gas nozzle connected to the other end of said generator coil and extending downwardly within the said T-coupling.

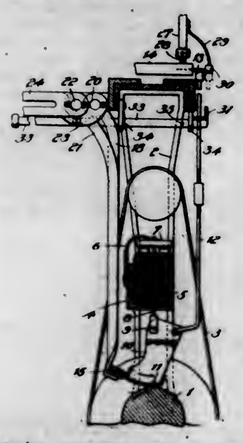
868,650. EXPRESSION MECHANISM FOR SELF-PLAYING MUSICAL INSTRUMENTS. GEORGE H. DAVIS, West Orange, N. J. Filed Apr. 18, 1905. Serial No. 256,224.

1. In expression mechanism for self-playing musical instruments, the combination with the sound-producing devices, of a plurality of actuating elements therefor, means for actuating said elements, and manually operable means under the control of the performer when in playing position at the instrument for shifting the position of said elements relatively to said actuating means whereby to increase or diminish the extent of movement of the said actuating elements and thereby of the sound-producing devices.

2. In expression mechanism for self-playing musical instruments, the combination with the sound-producing devices, of a plurality of friction shoes, means operable by said shoes for actuating the sound-producing devices, a rotary shaft for operating the shoes, and manually operable means under the control of the performer when in playing position at the instrument for shifting the position of the shoes relatively to the shaft whereby to increase or diminish the extent of movement thereof and thereby of the sound-producing devices.

3. In expression mechanism for self-playing musical instruments, the combination with the sound producing devices, of a plurality of friction shoes, means operable by said shoes for actuating the sound-producing devices, a ro-

tary shaft for operating the shoes, and manually operable means under the control of the performer when in playing position at the instrument for shifting at will the position of the shoes relatively to the shaft whereby to increase or diminish the extent of movement thereof and thereby of the sound-producing devices.



4. In expression mechanism for musical instruments, the combination with the sound-producing devices, of a plurality of friction shoes, striker rods operable by the shoes for actuating the sound-producing devices, a rotary shaft for operating the shoes, and manually operable means under the control of the performer when in playing position at the instrument for shifting at will the position of the shoes relative to the shaft whereby to increase or diminish the extent of movement thereof and thereby of the sound-producing devices.

5. In expression mechanism for musical instruments, the combination with the sound-producing devices, of a plurality of actuating elements therefor, means for actuating said elements, and manually operable means under the control of the performer when in playing position at the instrument for shifting the position of some of said elements, independent of others, relatively to said actuating means, whereby to increase or diminish the extent of movement of the said actuating elements and thereby of the sound-producing devices.

6. In expression mechanism for musical instruments, the combination with the sound-producing devices, of a plurality of actuating elements therefor, means for actuating said elements, and manually operable means under the control of the performer when in playing position at the instrument for shifting the position of some of said elements, independent of others, relatively to the said actuating means, whereby to shorten the extent of movement of the actuating elements and thereby of the sound producing devices.

7. In expression mechanism for musical instruments, the combination with the sound-producing devices, of a plurality of friction shoes for actuating said devices, a rotary shaft for actuating the shoes, a freely movable rest-rail for said shoes, and manually operable means under the control of the performer when in playing position at the instrument for moving the rest-rail at will to change the position of the shoes relatively to the shaft.

8. In expression mechanism for musical instruments, the combination with the sound-producing devices, of a plurality of friction shoes for actuating said devices, a rotary shaft for actuating the shoes, a freely movable rest-rail for said shoes, said rest-rail being made in sections and manually operable means under the control of the performer when in playing position at the instrument for moving the said rest-rail sections.

9. In expression mechanism for musical instruments, the combination with the sound-producing devices, of a plurality of friction shoes for actuating said devices, a rotary shaft for actuating the shoes, a movable rest-rail for the shoes composed of separate independently movable sections, and means for independently operating either section of the rest-rail.

10. In expression mechanism for musical instruments, the combination with the sound-producing devices, of a plurality of friction shoes for actuating said devices, a rotary drum for actuating the shoes, a movable rest-rail for said shoes, said rest rail being composed of flexibly connected sections, and manually operable means under the control of the performer for flexing the rest-rail intermediate its ends whereby to cause the middle range of shoes to lie on converging lines.

11. In combination with the sound-producing devices and the manual keys for operating said devices, means for actuating said devices through the medium of the keys or independently thereof.

12. In combination with the sound-producing devices and the manual keys therefor, means for actuating said devices, and shiftable means for causing sai dactuating means to act directly upon the keys or upon the said devices.

13. In combination with the sound-producing devices, and the manual keys therefor, an extension on each separate sound producing device, means for actuating said devices, and shiftable means for causing said actuating means to act upon the rear end of the manual keys or upon the said extensions.

14. In combination with the sound-producing devices and the manual keys therefor, an extension on each sound producing device, striker rods, and means for shifting said rods to cause them to engage the keys direct or the said extensions.

15. In combination with the sound-producing devices and the manual keys therefor, an extension on each sound-producing device, striker rods, a bar having apertures through which the striker rods pass, and means for shifting the position of the bar to cause the striker rods to act either upon the keys or upon the said extensions.

16. In combination with the sound-producing devices and the manual keys therefor, striker rods, a bar having apertures through which the striker rods pass, and means for shifting the position of said bar to cause the striker rods to act either upon the keys or upon the said sound producing devices direct.

17. In combination with the sound producing devices of a piano, a playing attachment comprising a rotary shaft and a plurality of friction shoes coöperating therewith for actuating said devices, a rest-rail coöperating with said shoes, and manually operable levers under the control of the performer for shifting at will the position of said rest-rail and shoes relatively to the shaft whereby to increase or decrease the extent of movement thereof and thereby of the sound producing devices.

18. A piano having a playing attachment comprising a rotary shaft and a plurality of friction shoes, means actuated by the shoes for operating the piano hammers, and manually operable means under the control of the performer when in playing position at the piano for shifting the position of said shoes relatively to the shaft whereby to increase or diminish the extent of movement thereof and thereby of the piano hammers relatively to the piano strings.

19. A piano having a playing attachment comprising a rotary shaft and a plurality of friction shoes, means actuated by the shoes for operating the piano hammers, a rest-rail for the shoes, a movable support for said rest-rail, and manually operable means under the control of the performer for actuating said movable support for the purpose specified.

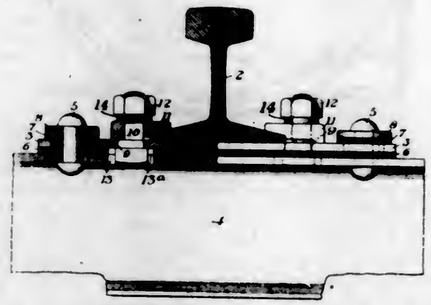
20. A piano having a playing attachment comprising a rotary shaft and a plurality of friction shoes, means actuated by the shoes for operating the piano hammers, a sectional rest-rail for the shoes, a movable support for said rest-rail, and manually operable means under the control of the performer for actuating either section of the rest-rail independent of the other for the purpose specified.

21. In mechanism of the class described, the combination with the piano hammers, of a plurality of friction shoes for impelling the hammers against their strings, means for actuating the friction shoes, and means for flexing the line of friction shoes intermediate the ends of the line for the purpose specified.

22. In mechanism of the class described, the combination with the piano hammers, of a plurality of friction shoes arranged in a right line for impelling the hammers against their strings, means for actuating the friction shoes, and means for canting a portion of the said line of shoes relatively to the actuating means and without affecting the position of the remainder of the line, for the purpose specified.

23. A piano having a playing attachment comprising a rotary shaft and a plurality of friction shoes, means actuated by the shoes for impelling the piano hammers against their strings, means coöperating with the friction shoes for shifting their normal position of rest relatively to the said shaft and thereby the position of the piano hammers relatively to their strings, and manually operable means under the control of the performer when in playing position at the piano for operating said shoe-shifting means at will.

868,651. INSULATED METAL CROSS-TIE. ALVA C. DINKEY, Pittsburg, Pa. Filed Dec. 31, 1906. Serial No. 350,247.



1. A metallic cross tie having an insulating plate on its top, a metallic bearing plate resting on the insulating plate and secured to the tie, a rail clip and a removable clip fastening extending below the level of the insulating plate; substantially as described.

2. A metallic cross tie having a recess or slot in its top portion and having an insulating plate thereon, a metallic bearing plate lying on the insulating plate, a fastening for securing the bearing plate and insulating plate to the tie, a rail clip and a removable clip fastening extending below the insulating plate and lying in the recess or slot in the top portion of the tie; substantially as described.

3. A metallic cross tie having a recess or slot in its top portion and having an insulating plate thereon, a metallic plate on the insulating plate, a rail clip and a removable clip fastening for the rail lying within holes or recesses in the tie and the insulating plate; substantially as described.

4. A metallic cross tie having an insulating plate thereon, holes or recesses in the tie and insulating plate a metallic plate on the insulating plate, a rail clip and a removable clip fastening lying within holes or recesses in the tie and the insulating plate, the bearing plate and insulating plate being separately secured to the tie; substantially as described.

5. A metallic cross tie having an insulating plate thereon, bearing plate on the insulating plate, a permanent fastening securing the plates to the tie and a separate independent removable clip fastening for the rail; substantially as described.

6. A metallic cross tie having an insulating plate thereon, a bearing plate lying on the insulating plate, a fastening for securing said parts to the tie and a clip fastening having a removable bolt with its head lying wholly below the level of the bearing plates; substantially as described.

7. A cross tie having an insulating plate thereon, a bearing plate seated on the insulating plate, a permanent fastening for securing the plates to the tie and an independent detachable clip fastening for securing the rails to the tie, the upper portion of the tie being slotted to receive the fastening for the clip; substantially as described.

8. A metallic rail tie of I-beam form and having its upper flanges formed with slots to receive the heads of detachable rail securing bolts and an insulating plate permanently secured to the upper flanges of the tie and having openings for the rail-securing bolts; substantially as described.

9. A cross tie having an insulating plate thereon, a bearing plate seated on the insulated plate, a permanent fastening for securing the plates to the tie, said fastening being insulated from the bearing plate, a rail clip and an independent removable fastening for the clip; substantially as described.

10. A cross tie having an insulating plate thereon, a bearing plate seated on the insulating plate, a permanent fastening for securing the plates to the tie, said fastening being insulated from the bearing plate, a bearing washer to protect the insulation for said fastening, a rail clip and an independent bolt securing the rail clip; substantially as described.

11. A metallic cross tie having an insulating plate, a bearing plate on the insulating plate, a fastening for securing the plates to the tie, a rail clip and a separate independently removable clip fastening arranged to be removed without disturbing the fastening for the plates; substantially as described.

12. A metallic cross tie having a rail bearing plate insulated from the tie, a permanent fastening securing the plates to the tie, a rail clip and a separate independently removable clip fastening for securing the rail clip to the insulated bearing plate; substantially as described.

868,652. WRENCH. CALVIN V. FRIEND, Porterville, Cal., assignor of one-half to George D. Avery, Porterville, Cal. Filed May 20, 1907. Serial No. 374,655.

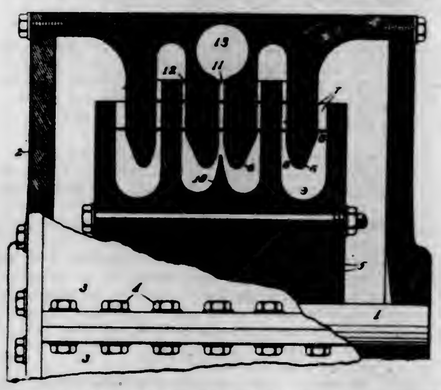


1. A wrench comprising a handle head having a transverse bore, a jaw head that includes an adjustable jaw member, said head having a hub for fitting on the bore in the handle, said hub having a series of straight radial notches in its peripheral edge, the jaw head having a recess, a latch or pawl slidably mounted on one side of the handle to engage the jaw head recess, a pawl rotatably mounted on the other side of the handle, said pawl having a single beveled locking edge, means for automatically holding said edge in contact with the recessed end of the jaw hub, and means for holding the jaw head hub in the bearing of the handle, all being arranged substantially as shown and described.

2. The herein described improved wrench, which com-

prises a handle having a head portion formed with a transverse bore, a jaw head formed with a hub rotatably mounted in the said bore, a cap secured to the outer end of the hub and to the bored head, a movable jaw slidably mounted on the other jaw, the said other jaw having a locking notch, and member slidably mounted on the front side of the handle for interlocking with the rotatable head, the outer end of the hub having circumferential straight notches, a pawl rockably mounted on the rear face of the handle, said pawl having a single beveled ratchet edge adapted to be moved into position to be engaged by the said notch, the said pawl including a turning portion and a spring for holding the said pawl to its turning positions all being arranged as shown and described.

868,653. TURBINE. RICHARD H. GOLDSBOROUGH, Washington, D. C. Filed Mar. 28, 1906. Serial No. 308,594.



1. In a turbine, the combination of a rotor, a stator, and clearance members mounted for free axial movement in one of said parts and in frictional engagement with the other of said parts, substantially as described.

2. In a turbine, the combination of a rotor and stator provided with coöperating channels, and clearance members mounted for free axial movement in said coöperating channels, substantially as described.

3. In a turbine, the combination of a rotor and stator, and split rings of resilient material mounted for free axial movement on one of said parts in frictional engagement with the other of said parts, substantially as described.

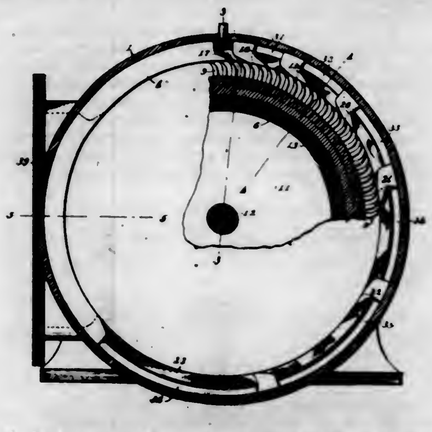
4. In a turbine, the combination of a rotor and stator, and split rings of resilient material engaging said rotor and mounted for free axial movement, substantially as described.

5. In a turbine, the combination of a stator, a rotor provided with channels, and split rings of resilient material engaging the stator and extending within said channels in the rotor, said rings formed of less axial thickness than the channels and provided with grooves in their side faces, substantially as described.

868,654. TURBINE. RICHARD H. GOLDSBOROUGH, Washington, D. C. Filed Jan. 29, 1907. Serial No. 354,675.

1. In a compound turbine, the combination of a rotor, an annular series of substantially U-shaped reversing vanes carried thereby, said vanes comprising admission legs and discharge legs extending to the periphery of said rotor and a connection of increased width between the inner ends of said legs, and means surrounding the outer periphery of the annular series of admission legs for repeatedly directing an actuating medium thereto in a successive series of jets of progressively decreased velocity, substantially as described.

2. In a compound turbine, the combination of a rotor, an annular series of substantially U-shaped reversing vanes carried thereby, said vanes comprising admission legs and discharge legs extending to the periphery of said rotor and a connection of increased width between the inner ends of said legs, a series of exhaust ports extending substantially continuously along the periphery of said annular series of discharge legs, a corresponding series of admission ports spaced along the periphery of said annular series of admission legs, and chambers connecting the outer ends of the several exhaust ports with the outer ends of the next succeeding admission ports, substantially as described.



3. In a compound turbine, the combination of a rotor, an annular series of substantially U-shaped reversing vanes carried thereby, said vanes provided with admission legs and discharge legs extending to the periphery of said rotor, a port ring provided with recesses extending perpendicularly across its outer periphery and with a series of admission ports and exhaust ports on its respective sides extending forwardly from said recesses, substantially as described.

4. In a compound turbine, the combination of a rotor, an annular series of substantially U-shaped reversing vanes carried thereby, said vanes provided with admission legs and discharge legs extending to the periphery of said rotor, a port ring surrounding the outer periphery of said rotor and provided with a series of admission and discharge ports on its respective sides, and with recesses extending perpendicularly across its outer periphery for connecting the outer ends of the several exhaust ports with the outer ends of the next succeeding admission ports, substantially as described.

5. In a compound turbine, the combination of a rotor, an annular series of substantially U-shaped reversing vanes carried thereby, said vanes provided with admission legs and discharge legs extending to the periphery of said rotor, a port ring surrounding the outer periphery of said rotor, a series of exhaust ports on one side of said ring, arranged with their inner ends extending substantially continuously along the periphery of said annular series of discharge legs, a corresponding series of admission ports on the other side of said ring with their inner ends uniformly spaced along the periphery of said annular series of admission legs, and chambers connecting the outer ends of the several exhaust ports with the outer ends of the next succeeding admission ports, substantially as described.

6. In a compound turbine, the combination of a rotor, an annular series of substantially U-shaped reversing vanes carried thereby, said vanes provided with admission legs and discharge legs extending to the periphery of said rotor, a port ring surrounding the outer periphery of said rotor and provided with recesses in its respective sides to constitute a series of admission ports and exhaust ports, and laterally arranged closure plates for closing the sides of said port recesses, substantially as described.

868,655. TURBINE. RICHARD H. GOLDSBOROUGH, Washington, D. C. Filed Jan. 29, 1907. Serial No. 354,676.



1. In a compound turbine, the combination of a rotor, an annular series of vanes carried thereby, means for conducting an actuating medium in a helical path and for directing said medium with progressively increased velocity through said vanes at successive points along its path, substantially as described.

2. In a compound turbine, the combination of a rotor, an annular series of vanes carried thereby, and means for repeatedly directing an actuating medium against the outer periphery of said annular series of vanes in a successive series of jets of progressively increased velocity, substantially as described.

3. In a compound turbine, the combination of a rotor, an annular series of rotor vanes provided with admission and exhaust edges in the periphery of said rotor, a series of admission ports uniformly spaced about the periphery of the admission edges of said annular series of vanes, and a series of exhaust ports uniformly spaced about the periphery of the exhaust edges of said vanes, the successive ports of said series being formed with progressively increased peripheral dimensions and the successive exhaust ports arranged at a progressively decreased angle in advance of the next preceding admission ports, substantially as described.

4. In a turbine, a rotor comprising disks, annular blocks provided with coöperating recesses corresponding to the contour of the rotor vanes, an annular series of rotor vanes positioned in said coöperating recesses, and a common means for clamping together said disks, annular blocks, and vanes, substantially as described.

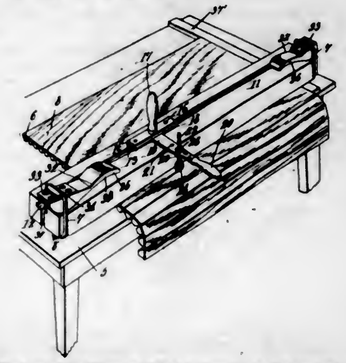
5. In a turbine, a rotor comprising disks, annular blocks provided with coöperating recesses, seats of relatively soft material in said coöperating recesses, an annular series of rotor vanes positioned on said seats, and means for clamping together said disks, annular blocks and vanes, and impressing said vanes in their relatively soft seats, substantially as described.

6. In a turbine, a rotor comprising disks, annular blocks provided with coöperating recesses corresponding to the contour of the rotor vanes, seats of relatively soft metal deposited on the surfaces of said recesses, an annular series of rotor vanes positioned in said coöperating recesses, and means for clamping together said disks, annular blocks and vanes, and impressing said vanes in their relatively soft seats, substantially as described.

7. In a turbine, a rotor comprising disks, a spacing member carried by said disks, recessed annular blocks seated on said spacing member, a series of vanes positioned in the recess of said annular blocks, and means engaging said disks for clamping therebetween said spacing member, annular blocks and vanes, substantially as described.

8. In a turbine, a rotor comprising disks, an annular spacing member carried by said disks, recessed annular blocks seated on the outer periphery of said spacing member, a series of vanes positioned in the recess of said annular blocks, and means engaging said disks for clamping therebetween said spacing member, annular blocks and vanes, substantially as described.

868,656. MACHINE FOR CUTTING FLEXIBLE ROLL-CURTAINS. JOHN GRAMELSPACHER, Jasper, Ind., assignor to Jasper Furniture Company, Jasper, Ind. Filed Mar. 11, 1907. Serial No. 361,809.



1. The combination with a support, a clamping member mounted for vertical movement on the support and adapted to engage the stock, said clamping member being provided with a longitudinal guide groove, a block slidably mounted in said groove, an arm extending laterally from the block and provided with spaced perforations, a vertically adjustable tool-holder having a threaded shank extending through one of the perforations in the arm, a cutting tool mounted in the holder, clamping nuts engaging the threads above and below the arm and bearing against the latter, and handles carried by the block and arm, respectively, for moving the cutting tool transversely across the face of the stock.

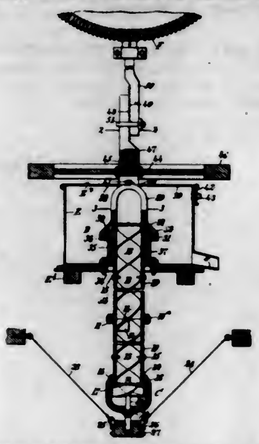
2. The combination with a support, spaced yokes mounted on the support and provided with threaded shanks projecting through the support, clamping nuts engaging the threads on the shanks and bearing against the adjacent face of the support, a clamping bar mounted for vertical movement in the yokes and provided with a longitudinal guiding groove, cam levers pivotally mounted on the yokes and adapted to engage the clamping bar for clamping the latter in engagement with the stock, plates secured to the cam levers and provided with transverse depressions for the reception of the yokes, a block slidably mounted in the guide groove, an arm secured to and extended laterally from the block, and a cutting tool depending from the arm and movable transversely across the face of the stock.

3. The combination with a support, yokes secured to the support, a clamping member mounted for vertical movement between the yokes and adapted to engage the stock, said clamping member being provided with an under cut groove forming a guide, a block slidably mounted in the groove, a bar secured to the block and provided with an operating handle, a plate interposed between the bar and block and having a laterally extending perforated arm terminating in a handle, a threaded rod engaging one of the openings in the bar and having its lower end bifurcated, a circular file mounted in the bifurcated end of the rod and movable transversely across the face of the stock, and clamping nuts threaded on the rod and bearing against the opposite faces of the bar.

868,657. WATER-ELEVATOR. ALBERT HAAS, New York, N. Y. Filed Aug. 23, 1906. Serial No. 331,730.

1. In a water elevator, a suspended bearing, a tubular body, a terminal for the upper end of the body mounted

to rotate, a bearing terminal for the lower end of the body, the said bearing terminal terminating in a bearing pin, fitting loosely in a socket in said suspended bearing, and a water elevating device held in said tubular body.



2. In a water elevator, a tubular body, a double spiral elevating device held within said body, a terminal for the upper end of the body mounted to rotate, and a bearing terminal for the lower end thereof, said spiral elevating device terminating at its lower end in scoops located in said bearing terminal.

3. In a water elevator, a tubular body, a double spiral water elevating device extending the length of said body, a terminal member for the upper end of said body, a support on which said terminal member is mounted to rotate, a bearing terminal for the lower end of the body, a post secured to the lower end portion of the said bearing terminal, said post being mounted to turn in a lower bearing, and opposing oppositely-facing scoops constituting the lower terminal for the water elevating device, which scoops are located within said bearing terminal for the lower end of the body.

4. In a water elevator, a tank, a tubular body, extending through and mounted to turn in said tank, a support on which the upper end of the tubular body is mounted to turn, a bearing terminal for the lower end of the said body, a double spiral water elevating device extending the length of the said tubular body, said water elevating device terminating at its lower end in opposing oppositely-faced scoops located in said bearing terminal, and means for holding the double spiral water elevating device from turning in said tubular body and from sliding therefrom.

5. In a water elevator, a tank, a tubular body extending through and mounted to turn in said tank, a support on which the upper part of the tubular body is mounted to turn, a bearing terminal for the lower end of the said body, a double spiral water elevating device extending the length of the said tubular body, said water elevating device terminating at its lower end in opposing oppositely-faced scoops located in said bearing terminal, means for holding the double spiral water elevating device from turning in said tubular body and from sliding therefrom, a suspended device in which the bearing terminal is pivoted, a shaft extending from the upper part of the body, and means for connecting said shaft with a mechanism driven by a wind mill.

6. In a water elevator, a tank, a suspended bearing below the tank, a tubular body extending through and mounted to turn in the tank, a bearing terminal for the said body, mounted to revolve in the said suspended bearing, the bearing terminal being provided with open side surfaces, an upper terminal for the said body, mounted to revolve in the said tank, roller bearings for said upper terminal of the body, a double spiral extending the length of the said body, which spiral at its lower end terminates in opposing oppositely-facing scoops located within the said bearing terminal, means for holding the said double spiral against turning in and slipping from said tubular body, and means for rotating the upper terminal for said body.

7. In a water elevator, the combination with a tank having an opening therein, a tubular bearing around said opening having a ball race in its upper surface, a tubular body constructed in connected sections, an open terminal for the upper end of said body, mounted to turn on said tubular bearing in engagement with the rollers carried thereby, a shaft connected with said upper terminal, constructed in adjustable sections, means for turning said shaft, a double spiral water elevating device constructed in sections of equal length to the sections of the body and extending from end to end of the body, a bearing terminal for the lower end of the body, open at opposite sides, a suspended bearing in which said bearing terminal is pivoted, scoop terminals for the lower end of the double spiral water elevating device, which scoops face in opposite directions, a pivotal support for the lower end of said water elevating device, and means for holding the said device against turning in or slipping from the said tubular body.

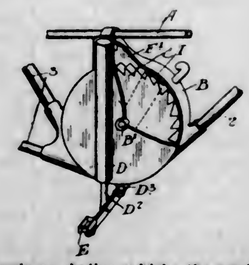
8. In a water elevator, a tubular body, a terminal for the upper end of the body mounted to rotate, a bearing terminal for the lower end of said body, a double spiral water elevating device in said tubular body, said water elevating device terminating at its lower end in scoops located in said bearing terminal, and means for holding the water elevating device from turning in said tubular body.

9. In a water elevator, a tubular body, a double spiral water elevating device extending the length of said body, a terminal member for the upper end of said body, a support on which said terminal member is mounted to rotate, a bearing terminal for the lower end of the body and a pivot pin secured to the lower end portion of the water elevating device, and engaging a socket in said bearing terminal, the said water elevating device being provided with scoops located in said bearing terminal.

10. In a water elevator, a tubular body, a support on which the upper part of said body is mounted to rotate, a bearing terminal for the lower end of the body having open sides and provided at its end with a bearing pin, a suspended block having a socket engaged by said bearing pin, and a spiral water elevating device held in said tubular body and provided at its lower end with a pivot pin engaging a socket in said bearing terminal.

11. In a water elevator, a suspended bearing, a tubular body, means for supporting the said tubular body from its upper portion, the said body being mounted to rotate on said supporting means and provided at its lower end with a terminal having open sides, the said terminal engaging at its lower end the said suspended bearing to prevent extreme oscillation of said tubular body, and a spiral water elevating device held in said tubular body and provided at its lower end with scoop terminals located in said terminal of the tubular body.

868,658. BICYCLE. GIDEON J. HAMACHER, New Dundee, Ontario, Canada. Filed Mar. 26, 1907. Serial No. 364,701.

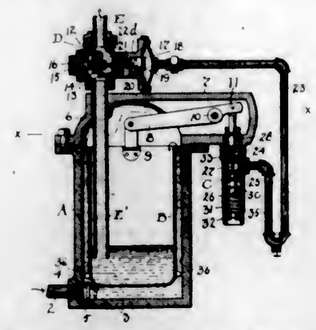


1. In a bicycle or similar vehicle, the combination with the main frame and the driving axle provided with vanes,

of a casing secured to the main frame and surrounding the vanes on the axle and having a suitable exhaust outlet, pump cylinders secured to the casing and communicating with the interior thereof, pistons and piston rods for the said cylinders and treadles secured to the piston rods as and for the purpose specified.

2. In a bicycle or similar vehicle, the combination with the main frame and the driving axle provided with vanes, of a casing surrounding the vanes and having a suitable exhaust outlet, pump cylinders secured to each side of the casing and communicating with the casing by means of openings provided with suitable valves, pistons and piston rods for the pumps, a lever centrally pivoted beneath the casing and to the piston rods at each end and treadles secured to the ends of the lever as and for the purpose specified.

868,659. STEAM-TRAP. FRANK P. HAMILTON, Cleveland, Ohio. Filed Dec. 18, 1905. Serial No. 292,172.



1. In a steam trap, a receptacle and float member therein, a discharge pipe and valve therefor, a device adapted to open said valve by the pressure from within said receptacle, a pressure controlling valve having operative connections with said float member, and an atmospheric relief valve for said device having a separable connection with said pressure valve and a spring adapted to close said relief valve when said pressure valve is opened.

2. In a steam trap, a water receptacle having a removable cover, a discharge pipe and a valve therefor mounted on said cover, a device adapted to open said valve, steam pressure connections between said device and said receptacle, a bucket within said receptacle and lever connections therefor pivotally mounted upon said cover, a pressure valve operatively connected with said lever adapted to regulate the flow of pressure to said device and connections, and a relief valve for said device adapted to be opened upon the closing of said pressure valve.

3. In a steam trap, a water receptacle and a bucket therein, a discharge pipe and valve therefor, a device adapted to open said valve by the pressure from within said receptacle, steam passages leading from said receptacle to said device, and a set of valves having operating connections with said bucket adapted to open and close said passages and comprising a pressure valve, and a relief valve open to the atmosphere, and separable connections for said pressure and relief valves.

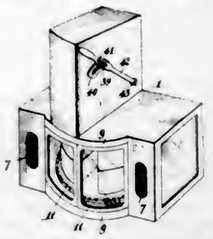
4. A steam trap and means controlled by the pressure from within the trap adapted to regulate the flow of water from said trap, and pressure and relief valves for said means comprising axially alined and opposed valve tips and supporting members therefor, and a separating connection between said tips.

5. A steam trap and means controlled by the pressure from within the trap adapted to regulate the flow of water from said trap, and a pressure and relief valve device for said means comprising a body with a central passage and a side steam passage, valve seats and a valve members within said body, a removable connecting pin for said valve members, and a spring adapted to seat the relief valve member.

6. A steam trap comprising a water receptacle having a removable cover, a depending discharge pipe mounted upon said cover, a valve for said pipe, a pressure controlled opening device for said valve, pipe connection having a trap portion between said device and said receptacle, a valve body in the line of said connection, a pressure valve and a relief valve within said body, and a lever and bucket float supported on said cover having operative connections with said pressure and relief valves.

7. In a steam trap, a pressure receptacle having a discharge pipe and valve therefor, a pressure controlled device for said valve, pressure conveying pipes between said device and receptacle having a U shaped trap portion in the line thereof, a relief connection for said pipes and devices, and a pair of connected valves and float operated means therefor adapted to close one of said valves in opening the other and whereby the pressure from within the receptacle is prevented from escaping when acting upon the pressure device.

868,660. CHEESE-CUTTER. CHARLES M. HANSEN, Buffalo, N. Y. Filed Aug. 8, 1906. Serial No. 329,729.



1. In a cheese-cutter, the combination of a rotatable cheese-support, means for rotating said support, a series of hoops, any one of which may be held to said support and each having equal divisions designated thereon differing from the divisions of the other hoops of the series, actuating means for engagement with the hoop held to said support, and a cutting-knife supported to cut the cheese into segments corresponding in size to a division of the hoop held to the support or any multiple of such division.

2. In a cheese-cutter, the combination of a rotatable cheese-support, means for rotating said support to any desired extent, a series of hoops adapted for coöperation with the cheese-support, each hoop having a series of notches spaced equidistantly around the same, the notches of each hoop being spaced differently from those of the other hoops, a detent adapted for co-action with the notches of the hoop coöperating with the cheese-support, and a cutting-knife positioned to cut the cheese from the center to the outer edge.

3. In a cheese-cutter, the combination with a casing, a cheese-support rotatable in the casing, mechanism to rotate the support and govern the extent of rotation into equal divisions or to multiples of one of such divisions, a vertically movable knife-carrier having a cutting-knife secured thereto and provided with a gear-rack, a segment-gear meshing with said gear-rack, an operating-handle pivotally affixed to the casing and having a slot between its ends, and a stud secured to said segment-gear and entering said slot.

4. In a cheese-cutter, the combination with a casing, a cheese-support rotatable in the casing, mechanism to rotate the support and govern the extent of rotation into equal divisions or to multiples of one of such divisions, a vertically movable knife-carrier within the casing having a cutting-knife secured thereto and provided with a gear-rack, a segment-gear also within the casing meshing with said gear-rack, a lever outside the casing pivotally secured at one end and having a slot between its ends and a stud projecting from the segment-gear and extending through

the wall of the casing, said stud entering the slot in said lever.

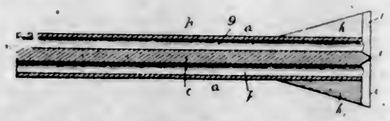
5. The combination with the casing having a curved slot, a cheese-support within said casing, means for revolving said support, a vertically reciprocating knife-carrier within the casing having a knife secured thereto and provided with a gear-rack, a segment-gear also within the casing and in mesh with said gear-rack, an operating-lever outside of the casing and pivotally attached thereto, said lever having a longitudinal slot between its ends, a stud projecting from the segment-gear and passing through the curved slot in the casing, said stud entering the slot in the operating-lever, and a movable closure within the casing serving to keep the curved slot therein closed.

6. The combination with the casing having a curved slot, a cheese-support within said casing, means for revolving said support, a vertically reciprocating knife-carrier within the casing having a knife secured thereto and provided with a gear-rack, a segment-gear also within the casing and in mesh with said gear-rack, an operating-lever outside of the casing and pivotally attached thereto, said lever having a longitudinal slot between its ends, a stud projecting from the segment-gear and passing through the curved slot in the casing, said stud entering the slot in the operating-lever, and an oscillating segmental closure having its axis coincident with the axis of the segmental-gear and the stud of the latter passing therethrough.

7. In a cheese-cutter, the combination with the casing having a cheese-compartment, and a knife-compartment and hoop-compartment above the cheese-compartment, a rotatable cheese-support in the cheese-compartment, a series of detachable notched hoops, one of which is applied to the cheese-support, means for revolving said support, means engaging any one of the notches of the hoop applied to said support and a vertically movable knife in the knife-compartment adapted to be lowered into the cheese-compartment to cut the cheese into slices by radial cuts.

8. In a cheese-cutter, the combination with the casing, of a rotatable cheese-support having notches at its periphery, rollers secured to the bottom of the casing on which said support rides, a ratchet-rim, a lever having a pawl engaging said ratchet-rim, a slotted guide-segment through which said lever extends, a detent-pawl adapted to engage any one of the peripheral notches of the support, and a cutting-knife above the support and having its inner edge coincident with the axis of said support, said knife being positioned to cut the cheese by radial cuts.

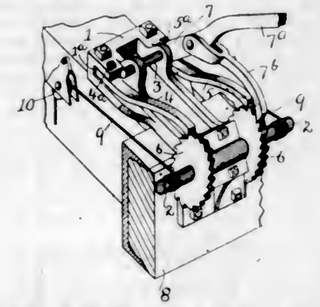
868,661. PNEUMATIC AND OTHER DRILL. MARTIN HARDSOCG, Ottumwa, Iowa. Filed Feb. 20, 1906. Serial No. 302,049.



1. A shank for a pneumatic tool formed of two wings and a solid center, each wing having an exterior with a curved face and two opposite flat faces furnishing end faces to produce four bits or blades, each with a cutting edge, and each wing having a longitudinal passage extending through its body, one passage for admitting a cooling medium to the acting end of the tool and the other passage for withdrawing dust and fine particles from around the acting end of the tool, substantially as described.

2. A shank for a pneumatic tool formed of two wings and a solid center, each wing having an exterior with a curved face and two opposite flat faces, furnishing end faces to produce four bits or blades, each with a cutting edge, and each wing having a longitudinal passage extending through its body, each passage opening between two adjoining cutters, one passage for admitting a cooling medium to the acting end of the tool and the other passage for withdrawing dust and fine particles from around the acting end of the tool, substantially as described.

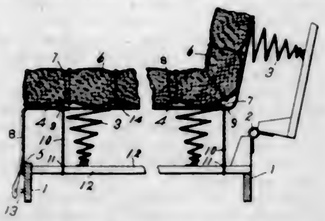
868,662. DOOR-CLOSING MEANS FOR SCOWS OR BINS. FRANK HAYES, Superior, Wis. Filed Aug. 6, 1906. Serial No. 329,337.



1. In door closing mechanism for scows or bins, the combination with suitable support, of a windlass mounted thereon, a windlass journaled on said support, a ratchet wheel keyed to the windlass for rotating the same, flexible means secured to said windlass, a lever pivotally mounted on said support and adapted to rock on an axis eccentric to the axis of rotation of said windlass and parallel thereto, a pawl pivotally mounted on said lever and adapted to engage said ratchet wheel to rotate the same, a dog pivotally mounted on said support and adapted to engage said ratchet wheel to prevent counter rotation thereof, said pawl being adapted to swing sidewise with relation to said ratchet wheel to disengage from the same, and said lever being adapted to be pivotally lowered into protective position with relation to said pawl at that side of the pawl on which the pawl-disengaging force is applied, whereby said pawl is protected from accidental disengagement.

2. In door closing mechanism for scows or bins, the combination with suitable support, of a windlass mounted thereon and comprising a shaft, a ratchet wheel secured to said shaft and adapted to rotate the same, and flexible means secured to said shaft and adapted to be in part wound up on the same; a lever adapted to rock on an axis parallel with and separate from the axis of said shaft and adapted to be separated from its own support, a pawl adapted to be operated by said lever and to engage said ratchet wheel to rotate the same, and a dog adapted to engage said ratchet wheel to prevent accidental counter rotation of the same.

868,663. CUSHION-FASTENER. JOHN L. HEFFNER, Peoria, Ill. Filed June 4, 1906. Serial No. 320,026.



1. The combination with the cushion support and the loose cushion thereon, of a fastening member on one of said parts, a flexible fastening member on the other of said parts engaging the first mentioned fastening member, and

extending therefrom intermediate of the cushion and cushion support, and means for securing the free end of the flexible fastening member at a distance from the place of inter-engagement of the fastening members.

2. The combination with the cushion support and the loose cushion thereon, of a loop or ring on one of said parts, a strap or cord on the other of said parts engaging the said loop or ring and extending therefrom intermediate of the cushion and cushion support and means for securing the free end of the strap or cord at a distance from the place of inter-engagement of the said strap or cord with the loop or ring.

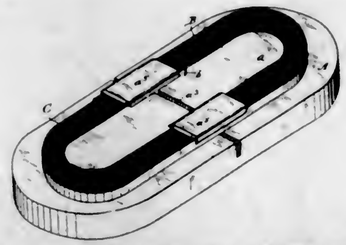
3. In an article of furniture, the combination of a frame, a loose cushion supported thereon, a loop or ring on the supporting surface of the frame, a strap or cord on the under surface of the cushion, said strap or cord adapted to be passed through said loop or ring and extend beneath said cushion some distance from the said buckle ring, and means for holding the end of the strap or cord and holding it taut, substantially as described.

4. In an article of furniture, the combination of a base, having springs thereon, a loose cushion supported on the springs, loops or rings on the said springs and straps or cords on the under surface of the cushion, the said strap or cords being adapted to be passed through the said loops or rings and the ends thereof fastened for securing the cushion onto the springs.

5. The combination with the folding frame and the loose cushion supported on said frame and adapted to conform to the fold in the frame, of a plurality of fastening members on one of said parts arranged at intervals along the line of fold, a plurality of correspondingly arranged flexible fastening members on the other of said parts engaging the first mentioned fastening members and extending therefrom intermediate of the cushion and the surface of the supporting frame, and means for securing the free ends of the flexible fastening members at a distance from the place of their engagement with their corresponding fastening members on the other part.

6. The combination with the base provided with a spring surface thereon and the loose cushion supported on the spring surface of a fastening member loosely mounted on the spring surface, a cord extending through an opening in the spring surface, and connecting the said fastening member on the spring surface to the base whereon the spring surface is supported and a fastening member on the under surface of the cushion adapted to engage the said fastening member on the spring surface.

868,664. PROCESS OF MAKING RAIL-BONDS. ALBERT B. HERRICK, Ridgewood, N. J., assignor to The Electric Railway Improvement Company, Cleveland, Ohio, a Corporation of Ohio. Filed May 5, 1904. Serial No. 206,497.



1. In a process of manufacturing rail-bonds, the steps which consist, in forming the bond strands into the desired shape upon a suitable pattern, and then fitting solder strips to said structure over the portions of the same that are to be utilized for the terminals of the bond.

2. In a process of manufacturing rail-bonds, the steps which consist, in forming the bond strands into the desired shape upon a suitable pattern, and then fitting cold solder strips by pressure to said structure over the portions of the same that are to be utilized for the terminals of the bond.

3. In a process of manufacturing rail-bonds, the steps which consist, in forming the bond strands into the desired shape upon a suitable pattern, covering the portions of said structure to be utilized for the terminals of the bonds with a non-corrosive flux, and then fitting solder strips over such flux.

4. In a process of manufacturing rail-bonds, the steps which consist, in forming the bond strands into the desired shape upon a suitable pattern, covering the portions of said structure to be utilized for the terminals of the bonds with a non-corrosive flux, and then fitting cold solder strips by pressure over such flux.

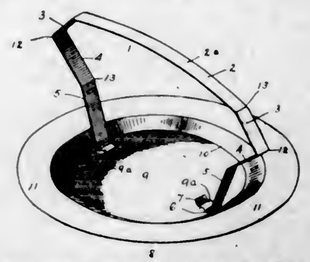
5. In a process of manufacturing rail-bonds, the steps which consist, in winding upon a suitable pattern a strand of conducting material, each successive convolution of such strand around such pattern being wound upon the previous convolution, covering portions of the structure thus formed with a non-corrosive flux, fitting solder strips over such flux, and then cutting through such strips and flux and adjacent portions of the strands to form a plurality of bonds.

6. The process of manufacturing rail-bonds, which consists, in winding upon a suitable pattern a strand of conducting material to form a spiral structure, covering two diametrically opposite portions of said structure with a non-corrosive flux, fitting cold solder strips by pressure around such portions and over such flux, and then cutting through such strips and flux and portions to form two identical bonds.

7. A process for manufacturing rail-bonds, which consists in first winding bond strands about a suitable pattern to form a continuous bond structure or loop, applying and securing soldering material to said structure at diametrically opposite points thereon, and then cutting through said soldering material and structure at both said points.

8. The process of manufacturing rail-bonds, which consists in winding upon a pattern of substantially elliptical outline a strand of conducting material, each successive convolution of such strand being wound upon the previous convolution, covering diametrically opposite portions of the structure thus formed with a non-corrosive flux, fitting solder strips over such flux, and then cutting through such strips and flux and adjacent portions of the strands to form two similar bonds.

868,665. FLUE-STOP. GEORGE A. HIGGINS, Galesburg, Ill. Filed Aug. 27, 1906. Serial No. 332,181.

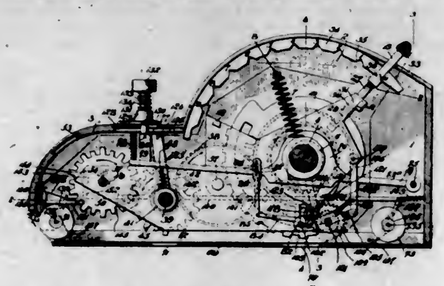


A flue stop consisting of a plate, and a flue-attaching bow of greater width than the flue and formed of spring metal having its ends spaced and secured to the plate, the basal portions of the legs of said bow extending in a general rearward direction from the plate and the portions of the legs adjacent the transverse portion of the bow being sharply offset and angled outward from said basal portions and again angled to present flue-engaging points.

868,666. ADDING-MACHINE. BENJAMIN HOSKINS, Seattle, Wash. Filed Aug. 31, 1906. Serial No. 332,733.

1. In a machine of the class described, in combination, a depressible frame, a plurality of item printing wheels

mounted upon said frame, a plurality of total printing wheels mounted upon said frame, and means for depressing said frame so that impressions may be taken from said item printing wheels or said total printing wheels.



2. In a machine of the class described, in combination, a frame, means for resiliently supporting said frame near each end thereof, a plurality of item printing wheels carried by said frame near one end, a plurality of total printing wheels carried by said frame near the other end, and means for depressing either end of said frame whereby impressions may be taken from said printing wheels.

3. In a machine of the class described, in combination, a case, a frame mounted therein, means for guiding said frame so that it may be depressed within said case, means for normally holding said frame in an elevated position, item printing wheels carried by said frame, total printing wheels carried by said frame, and means for depressing said frame at said item printing wheels or at said total printing wheels whereby impressions may be taken from said printing wheels.

4. In a machine of the class described, in combination, a case, a depressible frame mounted therein, a shaft passing through said frame, springs supporting said shaft upon said case, a plurality of item printing wheels carried upon said shaft, a second shaft passing through said frame, a plurality of total printing wheels carried by said second shaft, springs supporting said second shaft from said case, and means for depressing said frame at said item printing wheels or at said total printing wheels.

5. In a machine of the class described, in combination, a case, a depressible frame mounted therein, a shaft passing through said frame having projecting extremities therebeyond, said case having slots formed therein receiving the ends of said shaft and constituting guides therefor, a plurality of item printing wheels carried on said shaft, a second shaft passing through said frame, means for guiding said second shaft within said case, springs normally maintaining said shafts in an elevated position, a plurality of total printing wheels mounted on said second shaft, a transfer ribbon, means for guiding the same near the faces of said printing wheels, and means for depressing said frame whereby impressions of said item printing wheels and said total printing wheels may be taken through said transfer ribbon.

6. In a machine of the class described, in combination, a case, a depressible frame mounted therein, a plurality of item printing wheels mounted in said frame, a plurality of total printing wheels carried by said frame, means for guiding a transfer ribbon near the faces of said wheels, a push button, means actuated by said push button for depressing said item printing wheels, and means actuated by said push button for depressing said total printing wheels.

7. In a machine of the class described, in combination, a frame, a plurality of item printing wheels mounted therein, a plurality of total printing wheels mounted upon said frame, a member affording means for depressing said item printing wheels in order to take an impression therefrom, a second member affording means for depressing said total printing wheels to take an impression therefrom, and a movable push button coöperating with said first or said second member.

8. In a machine of the class described, in combination, a case, a depressible frame mounted therein, a plurality of item printing wheels mounted in said frame, a plurality of total printing wheels mounted in said frame, a slidable push button mounted on said case, a member adapted to be engaged by said push button in one position, affording means for depressing a portion of said frame carrying said item printing wheels, and a second member adapted to be engaged by said push button in another position thereof and affording means for depressing the portion of said frame adjacent to said total printing wheels.

9. In a machine of the class described, in combination, a depressible frame, a plurality of printing wheels carried thereby, a shaft passing through said frame and supporting said printing wheels, springs supporting said shaft in an elevated position, a depressing frame independently movable with respect to said first frame and adapted to depress said first frame to print from said printing wheels, and means for depressing said depressing frame.

10. In a machine of the class described, in combination, a case, a depressible frame mounted therein, a shaft mounted in said frame, a plurality of printing wheels mounted on said shaft, springs normally holding said shaft in an elevated position, a depressing frame pivotally mounted in said case having yokes surrounding said shaft affording means for depressing the same, and means for holding a transfer ribbon near said printing wheels to take an impression therefrom.

11. In a machine of the class described, in combination, a case, a depressible frame mounted therein, a transverse shaft mounted in said frame, a plurality of printing wheels mounted on said shaft, a second shaft passing through said frame, a plurality of printing wheels mounted on said second shaft, means whereby one set of said printing wheels may print items, means whereby the other set of printing wheels may print totals, a depressing frame pivotally attached to said case engaging one of said shafts to depress the same, means for depressing said depressing frame to depress one of said shafts, and means for depressing the other of said shafts whereby impressions may be taken from said printing wheels.

12. In a machine of the class described, in combination, a case, a depressible frame mounted therein, a shaft passing through said depressible frame, a plurality of item printing wheels mounted on said shaft, a second shaft passing through said frame, a plurality of total printing wheels mounted on said second shaft, means for actuating the ends of said shafts in said case, collars mounted on said shafts, springs attached to said collars normally supporting said shafts in an elevated position, and means for depressing said frame adjacent to said item printing wheels and adjacent to said total printing wheels whereby impressions may be taken from said wheels.

13. In a machine of the class described, in combination, a case, a depressible frame mounted therein, a shaft passing through said frame, a plurality of item printing wheels mounted on said shaft, a second shaft passing through said frame, a plurality of total printing wheels mounted on said second shaft, collars mounted on said shafts, springs attached to said collars and normally supporting said shafts from said case in an elevated position, a depressing frame pivotally attached to said case and having yokes received over said first shaft, means for actuating said depressing frame to depress said first shaft, and means for depressing said second shaft whereby impressions may be taken from said wheels.

14. In a machine of the class described, in combination, a shaft, a plurality of item printing wheels mounted on said shaft having finger levers adapted to set said printing wheels, a member for locking said printing wheels simultaneously against rotation on said shaft, and means for depressing said printing wheels to print therefrom.

15. In a machine of the class described, in combination, a shaft, a plurality of item printing wheels loosely mounted thereupon, finger levers attached to said printing wheels and affording means for setting the same, said printing wheels having a plurality of printing faces for numerals corresponding to the numbers which may be added by the movement of said finger levers, said finger levers having

means for presenting said printing faces to print therefrom, a member engaging said printing wheels for simultaneously locking said printing wheels against rotation on said shaft, and means for depressing said shaft to print from said printing wheels.

16. In a machine of the class described, in combination, a shaft, means for normally supporting said shaft in an elevated position, a plurality of printing wheels mounted on said shaft, finger levers for advancing said printing wheels, adding mechanism adapted to be advanced by the movement of said printing wheels, said printing wheels having printing faces adapted to aline to indicate an item added by the movement of said levers, a member engaging all of said printing wheels and affording means for simultaneously locking said printing wheels against rotation upon said shaft, and means for depressing said shaft to take the impression of said printing wheels.

17. In a machine of the class described, in combination, a shaft, means for normally holding said shaft in an elevated position, a plurality of item printing wheels rotatably mounted on said shaft, finger levers carried by said printing wheels and affording means for setting the same, means for locking said printing wheels individually in the positions in which they are set, means for locking said printing wheels collectively in the positions in which they have been set, and means for depressing said shaft to take the impression from the printing wheels.

18. In a machine of the class described, in combination, a shaft, means for normally holding said shaft in an elevated position, a plurality of item printing wheels rotatably mounted on said shaft, finger levers carried by said printing wheels and affording means for setting the same, means for locking said printing wheels individually in the position in which they are set, means for locking said printing wheels collectively in the positions in which they have been set, means for depressing said shaft to take the impression from said printing wheels, and adding mechanism advanced by the movement of said printing wheels.

19. In a machine of the class described, in combination, a shaft, means for normally holding said shaft in an elevated position, a plurality of item printing wheels rotatably mounted upon said shaft, finger levers carried respectively by said printing wheels, means for individually locking said printing wheels in their set positions, means whereby said printing wheels may be disengaged from said last named means by the depression of said shaft, said printing wheels having printing faces adapted to aline to print the item set thereupon, means for locking said printing wheels collectively against rotation upon said shaft, and means for depressing said shaft to take an impression from said printing wheels.

20. In a machine of the class described, in combination, a shaft, a plurality of item printing wheels mounted upon said shaft, finger levers carried respectively by said printing wheels, quadrants coöperating with said finger levers to set said printing wheels and adapted to become disengaged from said finger levers by the depression of said shaft, a member for locking said printing wheels simultaneously against rotation on said shaft, and means for depressing said shaft to take an impression from said printing wheels.

21. In a machine of the class described, in combination, a shaft, a plurality of item printing wheels rotatably mounted upon said shaft, a plurality of finger levers carried respectively by said printing wheels, quadrants cooperating respectively with said finger levers to lock said printing wheels in set positions, said quadrants being disposed above said shaft whereby the depression of said shaft disengages the finger levers from the said quadrants, a member for locking said printing wheels simultaneously against rotation upon said shaft, and means for depressing said shaft to take an impression from said printing wheels.

22. In a machine of the class described, in combination, a shaft, a plurality of item printing wheels rotatably mounted upon said shaft, a plurality of finger levers carried respectively by said printing wheels, quadrants cooperating respectively with said finger levers to lock said printing wheels in set positions, said quadrants being disposed above said shaft whereby the depression of said shaft disengages the finger levers from the said quadrants, a member for locking said printing wheels simultaneously against rotation upon said shaft, means for depressing said shaft to take an impression from said printing wheels, and adding mechanism adapted to be advanced by an advance movement of said printing wheels.

23. In a machine of the class described, in combination, a shaft, means for normally holding said shaft in an elevated position, a plurality of printing wheels rotatably mounted upon said shaft, finger levers adapted to advance said printing wheels to their set positions, said printing wheels having a plurality of printing faces adapted to aline to indicate the item added, said printing wheels presenting a plurality of notches adapted to aline when said printing wheels are set, a locking bar, means for advancing said locking bar into said notches to lock said printing wheels collectively against rotation, and means for depressing said shaft to print from said wheels.

24. In a machine of the class described, in combination, a shaft, means for normally holding said shaft in an elevated position, a plurality of printing wheels rotatably mounted upon said shaft and having a plurality of printing faces, means for setting said printing wheels with said printing faces in alinement, said printing wheels having circumferential slots therein presenting an edge with notches adapted to aline, a locking bar passing through said slots, means for advancing said locking bar into said notches to lock said printing wheels collectively against rotation on said shaft, and means for depressing said shaft to print from said wheels.

25. In a machine of the class described, in combination, a shaft, means for normally holding the same in an elevated position, a plurality of printing wheels rotatably mounted upon said shaft and having a plurality of printing faces adapted to aline when said wheels are set to indicate the items added by the movement thereof, said wheels presenting a plurality of circumferentially disposed notches adapted to aline when said wheels are set, a locking bar, a lever adapted to depress said shaft, and mechanism connecting said lever with said locking bar and actuated by the initial movement of said lever, said mechanism affording means for advancing said locking bar into said notches to lock said printing wheels collectively against rotation, the latter part of the movement of said lever affording means for depressing said shaft.

26. In a machine of the class described, in combination, a shaft, a plurality of printing wheels rotatably mounted thereupon and presenting printing faces adapted to aline to indicate an item added by said machine, a lever affording means for depressing said shaft, means actuated by the first movement of said lever for collectively locking said printing wheels against rotation of said shaft, and means whereby the latter part of the movement of said lever may depress said shaft.

27. In a machine of the class described, in combination, a shaft, a plurality of printing wheels mounted thereupon and having printing faces adapted to aline to indicate an item added by said machine, said printing wheels presenting an edge with circumferentially disposed notches adapted to aline, a locking bar, a depressing frame adapted to engage said shaft by a full movement thereof, and mechanism connecting said depressing frame with said locking bar actuated by the initial movement of said depressing frame and affording means for locking said printing wheels collectively against rotation upon said shaft.

28. In a machine of the class described, in combination, a shaft, a plurality of printing wheels mounted thereupon and having printing faces adapted to aline to indicate an item added upon said machine, means for setting said printing wheels individually, a locking bar adapted to engage the edges of said printing wheels to lock the same collectively against rotation upon said shaft, a depressing frame having side bars with yokes received over said shaft, said yokes being normally out of engagement with said shaft whereby the latter part of the movement of said depressing frame will depress said shaft, and mechanism connecting said depressing frame with said locking bar whereby the initial movement of said depressing frame

may advance said locking bar into engagement with said printing wheels.

29. In a machine of the class described, in combination, a frame, a shaft passing therethrough, a plurality of item printing wheels rotatably mounted upon said shaft, means for setting said printing wheels, said printing wheels having printing faces adapted to aline to indicate an item added upon said machine, a depressing frame having side bars with yokes received over said shaft adapted to engage said shaft to depress the same, said yokes being normally out of engagement with said shaft, whereby the latter part of the movement of said depressing frame will depress said shaft, a locking bar adapted to engage said printing wheels to lock the same collectively against rotation upon said shaft, levers supporting said locking bar, and links respectively connecting said depressing frame with said levers and affording means for actuating said locking bar by the initial movement of said depressing frame.

30. In a machine of the class described, in combination a shaft, a plurality of printing wheels rotatably mounted thereupon and having printing faces adapted to aline to indicate the items added upon said machine, pawls carried by said printing wheels, ratchet gear wheels mounted over said shaft and presenting ratchet teeth coöperating with said pawls whereby an advance movement of said printing wheels may advance said ratchet gears, said ratchet gear wheels having external gear teeth, adding mechanism adapted to be driven from said teeth, and means for depressing said shaft to take the impressions of said printing faces.

31. In a machine of the class described, in combination, a shaft, a plurality of printing wheels rotatably mounted thereupon, ratchet gear wheels surrounding said shaft, a ratchet and pawl connection between said gear wheels and said printing wheels whereby an advance movement only of said printing wheels may advance said gear wheels, adding mechanism adapted to be advanced by said gear wheels, finger levers affording means for advancing said printing wheels, means for connecting said finger levers affording means for moving said gear wheels back, said printing wheels having printing faces adapted to aline to indicate the item added upon said machine, and means for taking an impression from said printing faces.

32. In a machine of the class described, in combination, a shaft, a plurality of printing wheels rotatably mounted thereupon, pawls carried by said printing wheels, ratchet gear wheels surrounding said shaft having ratchet teeth coöperating with said pawls whereby an advance movement of said printing wheels may advance said ratchet gear wheels, said ratchet gear wheels having gear teeth, adding mechanism adapted to be advanced by said ratchet gear wheels, finger levers slidably mounted in said printing wheels and having projecting pins respectively, which may advance into engagement with said gear teeth to lock said printing wheels to said ratchet gear wheels, said printing wheels having a plurality of printing faces adapted to aline to indicate an item added on said machine, and means for taking an impression from said printing faces.

33. In a machine of the class described, in combination, a shaft, a plurality of item printing wheels rotatably mounted upon said shaft, ratchet gear wheels surrounding said shaft, a ratchet and pawl connection between said gear wheels and said printing wheels whereby an advance movement only of said printing wheels may advance said gear wheels, adding mechanism adapted to be advanced by said gear wheels, finger levers slidably mounted in said printing wheels respectively, quadrants adapted to lock said finger levers in a plurality of positions, means in connection with said finger levers for locking the same to said quadrants whereby a slight depression of said finger levers may disengage the same from said quadrants, and means carried by said finger levers whereby a complete depression of said finger levers may lock said finger levers to said gear wheels.

34. In a machine of the class described, in combination, a shaft, a plurality of printing wheels rotatably mounted thereupon, a plurality of gear wheels surrounding said shaft, a ratchet and pawl connection between said gear wheels and said printing wheels whereby an advance movement of said printing wheels may advance said gear wheels, adding mechanism adapted to be advanced by said gear wheels, finger levers slidably mounted in said printing wheels having shoulders respectively near the upper extremities thereof, quadrants having notches coöperating with said shoulders to lock said finger levers in set positions, springs tending to force said finger levers in a direction to lock the same on said quadrants, said finger levers being adapted to be disconnected from said quadrants by a partial depression of said finger levers, and pins carried respectively by said finger levers and adapted to engage said gear wheels to lock said finger levers thereto actuated by a complete depression of said finger levers.

35. In a machine of the class described, in combination, a shaft, a plurality of printing wheels rotatably mounted thereupon and having printing faces adapted to aline to indicate an item added by said machine, means for individually locking said printing wheels in their set positions and adapted to be disengaged by the depression of said shaft, means for depressing said shaft to take an impression from said printing wheels, means for locking said printing wheels collectively against rotation upon said shaft when said shaft is depressed, and a return bar affording means for returning said printing wheels to their normal position.

36. In a machine of the class described, in combination, a shaft, a plurality of printing wheels rotatably mounted upon said shaft and having printing faces adapted to aline when said printing wheels are set to indicate the item added upon said machine, means for locking said printing wheels individually in their set positions and adapted to be disengaged by the depression of said shaft, means for locking said printing wheels collectively against rotation upon said shaft, adding mechanism adapted to be advanced by the advance movement of said printing wheels, means for depressing said shaft to take an impression from said printing faces, means for temporarily locking said shaft in a depressed position, and a return bar engaging said printing wheels and affording means to return the same to a zero position when said shaft is locked in its depressed position.

37. In a machine of the class described, in combination, a depressible frame, a shaft mounted thereon, a plurality of printing wheels rotatably mounted on said shaft and having printing faces adapted to aline to indicate an item added by said machine, adding mechanism adapted to be advanced by the advance movement of said printing wheels, finger levers carried respectively by said printing wheels, quadrants coöperating with said finger levers to lock the same in their set positions and adapted to become disengaged from said finger levers when said arm is depressed, means for collectively locking said printing wheels against rotation on said shaft, means for depressing said frame to take an impression from said printing wheels, and means for returning said printing wheels collectively to their zero position.

38. In a machine of the class described, in combination, a table, a case, adding mechanism mounted in said case, feed wheels within said case and adapted to engage said table to advance said case therenpon, a plurality of printing wheels mounted in said case and having printing faces adapted to aline to indicate a number added upon said machine, means for depressing said printing wheels to take an impression from said printing faces, a return bar engaging said printing wheels affording means for returning the same to their zero position, means for locking said printing wheels temporarily against rising when depressed, means for normally holding said printing wheels in an elevated position, a frame carrying said printing wheels and adapted to be depressed therewith, and means actuated by the return of said frame for advancing said feed wheels.

39. In a machine of the class described, in combination, a case, a depressible frame therein, a plurality of printing wheels mounted on said frame having printing faces to aline to indicate a number added upon said machine, a table, feed wheels mounted in said case engaging said table and affording means for advancing said case thereupon, pawls tending to engage said feed wheels to lock the same against rotation, a return bar affording means for returning said printing wheels to their normal zero position and normally affording means for keeping said pawls out of engagement with said feed wheels, pawl arms mounted adjacent to said ratchet wheels carrying pawls in engagement therewith connecting said pawl arms with said frame, whereby the rising of said frame may tend to rotate said ratchet wheels and said feed wheels, and means for normally holding said frame in an elevated position.

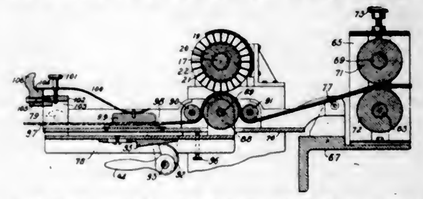
40. In a machine of the class described, in combination, a case, adding mechanism mounted therein, a depressible frame mounted therein, a plurality of printing wheels carried by said frame, a ribbon guided adjacent to said printing wheels and coöperating therewith, spools receiving the ends of said ribbon, shafts passing through said spools, pawl levers having longitudinally disposed slots received over said shafts, ratchet wheels rigid with said spools, pawls carried respectively by said pawl levers and adapted to engage said ratchet wheels, a shifter bar slidably mounted in said case and pivotally attached to the outer ends of said pawl levers, said shifter bar being pivotally supported between said spools whereby one of said pawls may be held in engagement with its corresponding ratchet wheel while the other of said pawls is maintained out of engagement with its corresponding ratchet wheel, and means actuated by the depression of said frame for moving said shifter bar to actuate either of said pawl levers.

41. In a machine of the class described, in combination, a case, adding mechanism mounted therein, a depressible frame mounted therein, a plurality of printing wheels carried by said frame, a ribbon guided adjacent to said printing wheels and coöperating therewith, spools receiving the ends of said ribbon, shafts passing through said spools, pawl levers having longitudinally disposed slots received over said shafts, ratchet wheels rigid with said spools, pawls carried respectively by said pawl levers and adapted to engage said ratchet wheels, a shifter bar slidably mounted in said case and pivotally attached to the outer ends of said pawl levers, said shifter bar being pivotally supported between said spools whereby one of said pawls may be held in engagement with its corresponding ratchet wheel while the other of said pawls is maintained out of engagement with its corresponding ratchet wheel, means actuated by the depression of said frame for moving said shifter bar to actuate either of said pawl levers, and means normally holding said shifter bar in an extreme position.

42. In a machine of the class described, in combination, a case, a depressible frame mounted therein, adding mechanism, printing wheels carried by said depressible frame and adapted to print the items added on said machine, a ribbon coöperating with said printing wheels, spools receiving the ends of said ribbon having ratchet wheels rigid therewith, shafts passing through said spools, pawl levers having longitudinal slots received over said shafts and having pawls adapted to engage said ratchet wheels, a shifter bar extending longitudinally of said ribbon and attached to said pawl levers, a spring attached to said shifter bar and normally holding the same in an extreme position, said shifter bar being pivotally supported between said spools whereby either of said pawls may be thrown into engagement with its corresponding ratchet wheel while the other of said pawls is disengaged, a rock shaft having an arm, a link connecting said arm with said shifter bar, a second arm rigid with said rock shaft, and a link connecting said second arm to said frame affording means for actuating said rock shaft to shift said shifter bar.

43. In a machine of the class described, in combination, a table having rails laid thereupon, a case having feed wheels engaging said rails to advance said case, adding mechanism carried by said case, a depressible frame, printing wheels carried by said frame, ratchet wheels rigid with said feed wheels, pawl arms having pawls coöperating with said ratchet wheels to advance said feed wheels, links attached to said pawl arms and connected with said frame, shackle links attached to said last links and supporting said pawls out of engagement with said ratchet wheels when said frame is elevated and permitting the engagement of said ratchet wheels by said pawls when said frame is depressed, and means for depressing said frame to print from said wheels.

868,667. MACHINE FOR BUFFING STRIPS OF LEATHER. ROBERT K. JOHNSTONE, Salem, Mass., assignor to A. C. Lawrence Leather Company, a Corporation of Maine. Filed Mar. 16, 1907. Serial No. 362,591.



1. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, means for guiding said strip in a curvilinear path tangent to the periphery of said cutter, whereby a convex surface of said strip is presented to the action of said cutter, and frictional tension means acting on said strip, said cutter being located between said feeding means and said tension means.

2. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, means for guiding said strip in a curvilinear path tangent to the periphery of said cutter, whereby a convex surface of said strip is presented to the action of said cutter, said guiding means movable toward and away from said cutter, and frictional tension means acting on said strip, said cutter being located between said feeding means and said tension means.

3. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, means for guiding said strip in a curvilinear path tangent to the periphery of said cutter, whereby a convex surface of said strip is presented to the action of said cutter, means for adjusting said guiding means toward said cutter, and frictional tension means acting on said strip, said cutter being located between said feeding means and said tension means.

4. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter means for feeding a strip of sheet material transversely of said cutter, means for guiding said strip in a curvilinear path tangent to the periphery of said cutter, whereby a convex surface of said strip is presented to the action of said cutter, and a pivoted table which supports said guiding means, the pivotal axis of said table arranged parallel to the axis of said cutter.

5. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, means for guiding said strip in a curvilinear path tangent to the periphery of said cutter, whereby a convex surface of said strip is presented to the action of said cutter, a pivoted table which supports said guiding means, the pivotal axis of said table arranged parallel to the axis of said cutter, and means for moving said table toward said cutter.

6. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, a guide roll which said strip passes part way around, whereby a convex surface of said strip is presented to the action of said cutter, and frictional tension means acting on said strip, said cutter being located between said feeding means and said tension means.

7. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, a guide roll which said strip passes part way around, whereby a convex surface of said strip is presented to the action of said cutter, two other rolls arranged on opposite sides of said guide roll and parallel therewith, and frictional tension means acting on said strip, said cutter being located between said feeding means and said tension means.

8. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, two feed rolls adapted to feed a strip of sheet material transversely of said cutter, means for guiding said strip in a curvilinear path tangent to the periphery of said cutter, whereby a convex surface of said strip is presented to the action of said cutter, a table on which said guiding means are supported, said table being movable toward said cutter, and frictional tension means acting on said strip, said cutter being located between said feed rolls and said tension means.

9. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for feeding a strip of sheet material transversely of said cutter, means for guiding said strip in a curvilinear path tangent to the periphery of said cutter, whereby a convex surface of said strip is presented to the action of said cutter, an abrasive wheel arranged in contact with the periphery of said cutter, with its axis parallel to the axis of said cutter, a second frame pivoted to said first frame with its axis parallel to the axis of said cutter, said abrasive wheel supported on said second frame, mechanism adapted to impart a rotary movement to said abrasive wheel, and mechanism adapted to impart a reciprocatory movement to said abrasive wheel longitudinally of said cutter.

10. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, means for guiding said strip in a curvilinear path tangent to the periphery of said cutter, whereby a convex surface of said strip is presented to the action of said cutter, an abrasive wheel arranged in contact with the periphery of said cutter, a second frame pivoted to said first frame with its axis parallel to the axis of said cutter, said abrasive wheel supported on said second frame, and means for rotating said abrasive wheel.

11. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, means for guiding said strip in a curvilinear path tangent to the periphery of said cutter, whereby a convex surface of said strip is presented to the action of said cutter, an abrasive wheel arranged in contact with the periphery of said cutter, a second frame pivoted to said first frame with its axis parallel to the axis of said cutter, said abrasive wheel supported on said second frame, means for rotating said abrasive wheel, and mechanism adapted to impart a reciprocatory movement to said abrasive wheel longitudinally of said cutter.

12. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for imparting a rotary movement to said cutter, means for feeding a strip of sheet material transversely of said cutter and in contact therewith, an abrasive wheel arranged in contact with the periphery of said cutter, a shaft to which said wheel is fast, said shaft arranged substantially parallel to the axis of said cutter, a slide on which said shaft is journaled, a second frame pivoted to said first frame with its axis parallel to the axis of said cutter, said slide mounted on said second frame to move longitudinally of said cutter, a pulley fast to said shaft, a second shaft journaled on said first frame concentric with the pivotal axis of said second frame, a pulley fast to said second shaft, a belt operatively connecting said first named pulley to said second named pulley, and mechanism adapted to impart a reciprocatory movement to said slide.

13. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, means for guiding said strip in a curvilinear path tangent to the periphery of said cutter, whereby a convex surface of said strip is presented to the action of said cutter, an abrasive wheel arranged in contact with the periphery of said cutter, a shaft to which said wheel is fast, said shaft arranged substantially parallel to the axis of said cutter, a slide on which said shaft is journaled, a second frame pivoted to said first frame with its axis parallel to the axis of said cutter, said slide mounted on said second frame to move longitudinally of said cutter, mechanism adapted to impart a rotary movement to said shaft, and mechanism adapted to impart a reciprocatory movement to said slide.

14. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, means for guiding said strip in a curvilinear path tangent to the periphery of said cutter, whereby a convex surface of said strip is presented to the action of said cutter, an abrasive wheel arranged in contact with the periphery of said cutter, a shaft to which said wheel is fast, said shaft arranged substantially parallel to the axis of said cutter, a slide on which said shaft is journaled, a second frame pivoted to said first frame with its axis parallel to the axis of said cutter, said slide mounted on said second frame to move longitudinally of said cutter, a pulley fast to said shaft, a second shaft journaled on said first frame concentric with the pivotal axis of said second frame, a pulley fast to said second shaft, a belt operatively connecting said first named pulley to said second named pulley, and mechanism adapted to impart a reciprocatory movement to said slide.

15. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter and in contact therewith, an abrasive wheel arranged in contact with the periphery of said cutter, a shaft to which said wheel is fast, said shaft arranged substantially parallel to the axis of said cutter, a slide on which said shaft is journaled, said slide adapted to move longitudinally of said cutter, a pulley fast to said shaft, a second shaft journaled on said frame, a pulley fast to said second shaft, a belt operatively connecting said first named pulley to said second named pulley, a worm fast to said second shaft, a worm gear meshing into said worm, a cam adapted to be rotated by said worm gear, an arm pivotally mounted on said frame, said arm operatively connected to said slide, and a cam-roll journaled on said arm in operative engagement with said cam.

16. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter and in contact therewith, an abrasive wheel arranged in contact with the periphery of said cutter, a shaft to which said wheel is fast, said shaft arranged substantially parallel to the axis of said cutter, a slide on which said shaft is journaled, said slide adapted to move longitudinally of said cutter, a second shaft journaled on said frame, said second shaft operatively connected to said first named shaft, a worm fast to said second shaft, a worm gear meshing into said worm, a cam adapted to be rotated by said worm gear, an arm pivotally mounted on said frame, said arm operatively connected to said slide, and a cam-roll journaled on said arm in operative engagement with said cam.

17. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, means for guiding said strip in a curvilinear path tangent to the periphery of said cutter, whereby a convex surface of said strip is presented to the action of said cutter, a cutter rotatably mounted on said frame, means for rotating said cutter, a shaft to which said wheel is fast, said shaft arranged substantially parallel to the axis of said cutter, a slide on which said shaft is journaled, said slide adapted to move longitudinally of said cutter, a second frame pivoted to said first frame with its axis parallel to the axis of said cutter, said slide mounted on said second frame to move longitudinally of said cutter, mechanism adapted to impart a rotary movement to said shaft, and mechanism adapted to impart a reciprocatory movement to said slide.

18. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, means for guiding said strip in a curvilinear path tangent to the periphery of said cutter, whereby a convex surface of said strip is presented to the action of said cutter, an abrasive wheel arranged in contact with the periphery of said cutter, a shaft to which said wheel is fast, said shaft arranged substantially parallel to the axis of said cutter, a slide on which said shaft is journaled, said slide adapted to move longitudinally of said cutter, a pulley fast to said shaft, a second shaft journaled on said frame, a pulley fast to said second shaft, a belt operatively connecting said first named pulley to said second named pulley, a worm fast to said second shaft, a worm gear meshing into said worm, a cam adapted to be rotated by said worm gear, an arm pivotally mounted on said frame, said arm operatively connected to said slide, and a cam-roll journaled on said arm in operative engagement with said cam.

19. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for feeding a strip of sheet material transversely of said cutter, an abrasive wheel arranged in contact with the periphery of said cutter with its axis parallel to the axis of said cutter, a second frame pivoted to said first frame with its axis parallel to the axis of said cutter, said abrasive wheel supported on said second frame, means to rotate said abrasive wheel, and mechanism adapted to impart a reciprocatory movement to said abrasive wheel longitudinally of said cutter.

20. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, an abrasive wheel arranged in contact with the periphery of said cutter, a second frame pivoted to said first frame with its axis parallel to the axis of said cutter, said abrasive wheel supported on said second frame, and means for rotating said abrasive wheel.

21. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, an abrasive wheel arranged in contact with the periphery of said cutter, a second frame pivoted to said first frame with its axis parallel to the axis of said cutter, said abrasive wheel supported on said second frame, means for rotating said abrasive wheel, and mechanism adapted to impart a reciprocatory movement to said abrasive wheel longitudinally of said cutter.

22. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, an abrasive wheel arranged in contact with the periphery of said cutter, a shaft to which said wheel is fast, said shaft arranged substantially parallel to the axis of said cutter, a slide on which said shaft is journaled, a second frame pivoted to said first frame with its axis parallel to the axis of said cutter, said slide mounted on said second frame to move longitudinally of said cutter, mechanism adapted to impart a rotary movement to said shaft, and mechanism adapted to impart a reciprocatory movement to said slide.

23. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, an abrasive wheel arranged in contact with the periphery of said cutter, a shaft to which said wheel is fast, said shaft arranged substantially parallel to the axis of said cutter, a slide on which said shaft is journaled, a second frame pivoted to said first frame with its axis parallel to the axis of said cutter, said slide mounted on said second frame to move longitudinally of said cutter, a pulley fast to said shaft, a second shaft journaled on said first frame concentric with the pivotal axis of said second frame, a pulley fast to said second shaft, a belt operatively connecting said first-named pulley to said second-named pulley, and mechanism adapted to impart a reciprocatory movement to said slide.

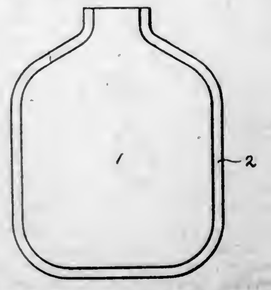
24. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, a guide roll which said strip passes part way around, whereby a convex surface of said strip is presented to the action of said cutter, two other rolls arranged on opposite sides of said guide roll and parallel therewith, a pivoted table which supports said guide roll, and a pivoted frame which supports said two other rolls.

25. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, a guide roll which said strip passes part way around, whereby a convex surface of said strip is presented to the action of said cutter, two other rolls arranged on opposite sides of said guide roll and parallel therewith, a pivoted table which supports said guide roll, a pivoted frame which supports said two other rolls, means for rocking said pivoted table on its pivot, and means for rocking said pivoted frame on its pivot.

26. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, a guide roll which said strip passes part way around, whereby a convex surface of said strip is presented to the action of said cutter, two other rolls arranged on opposite sides of said guide roll and parallel therewith, a pivoted frame on which said two other rolls are journaled, and a table on which said guide roll is journaled, said table being pivotally mounted on said pivoted frame.

27. In a machine of the character described, a frame, a cutter rotatably mounted on said frame, means for rotating said cutter, means for feeding a strip of sheet material transversely of said cutter, a guide roll which said strip passes part way around, whereby a convex surface of said strip is presented to the action of said cutter, two other rolls arranged on opposite sides of said guide roll and parallel therewith, a pivoted frame on which said two other rolls are journaled, a table on which said guide roll is journaled, said table being pivotally mounted on said pivoted frame, means for rocking said pivoted frame on its pivot, and means for rocking said table on its pivot.

868,668. PROCESS OF MAKING HOLLOW RUBBER ARTICLES HAVING SEAMS. IRWIN F. KEPLER, Akron, Ohio, assignor to The B. F. Goodrich Company, Akron, Ohio, a Corporation of Ohio. Filed Aug. 4, 1905. Serial No. 272,726.



1. The process of making hollow rubber articles having seams, consisting in cutting from uncured rubber sheets, two similar blanks of unequal size, edge-joining the blanks by causing the inner edge of the outer blank to adhere to the outer edge of the inner blank and vulcanising the article so formed.

2. The process of manufacturing hollow rubber articles which consists in cutting blanks from uncured rubber sheets, one blank of slightly greater area than the other, superposing the smaller on the larger, turning over the projecting margin upon the smaller, and vulcanising the whole.

3. The process of manufacturing hollow rubber articles which consists in cutting, from uncured rubber, blanks of slightly unequal area, centrally superposing the smaller upon the larger, coating with adhesive material the projecting margin of the larger blank, turning said margin over upon the smaller blank, and vulcanising the whole.

4. The process of manufacturing rubber bag-bodies which consists in die-cutting two blanks from uncured rubber sheets similar in form but of slightly unequal area, superposing the smaller upon the larger, coating the margins of the blanks with adhesive material, overlaying the projecting margin upon the smaller blank, and vulcanizing the whole.

5. The process of manufacturing rubber bag-bodies which consists in forming with cutting and embossing dies sides or walls of uncured rubber similar in form but slightly unequal area, superposing the smaller upon the larger, folding the projecting margin over the edge of the smaller side, interposing a coating of adhesive material, and vulcanizing the whole.

6. The process of manufacturing rubber bag-bodies which consists in cutting from uncured rubber two sides or walls with parallel edges but with slightly unequal areas, centrally superposing the smaller upon the larger, coating with adhesive material the projecting margin of the larger side, folding said margin over the edge of the smaller side, uniting the edge-joint by pressure, and vulcanising the whole.

7. The process of manufacturing rubber bag-bodies which consists in cutting from uncured rubber two sides or walls with parallel edges but slightly unequal in area, superposing the smaller upon the larger, coating with adhesive material the projecting margin of the larger side, folding said margin over the edge of the smaller side, applying a binding strip of rubber overlapping the joint edges, uniting the strip and edge-joint, and vulcanizing the whole.

8. The process of manufacturing rubber bag-bodies which consists in cutting from uncured rubber two sides or walls having parallel edges but slightly unequal in area, superposing the smaller upon the larger, inserting a reinforcing strip between the adjacent sides, coating with adhesive material the projecting margin of the larger side, folding said margin over the edge of the smaller side, uniting the edge-joint, and vulcanizing the whole.

868,669. SUPPORT FOR HANDLES. IRVIN J. KNAPP, South Bend, Ind. Filed June 27, 1906. Serial No. 323,615.



As a new article of manufacture, a support for handles, of culinary utensils consisting of a single piece of spring wire coiled one or more times at its center, the projecting portions extending upwardly and crossed, the end portion thereof being bent downwardly and inwardly one toward the other, then given a return parallel bend, and again curved downwardly and inwardly, forming gripping members adapted to engage the handle to be supported, said support when in operative position being substantially at right angles to said handle.

868,670. ELECTROLYSIS OF FUSED ALKALINE CHLORIDS. FRANZ VON KÜGELGEN and GEORGE O. SEWARD, Holcombs Rock, Va. Filed June 13, 1905. Serial No. 265,025.

1. The process which consists in electrolyzing a mixture of an alkaline chlorid with a fluorid of higher decomposition voltage.

2. The process which consists in electrolyzing a mixture of sodium chlorid with a fluorid or fluorids of higher decomposition voltage.

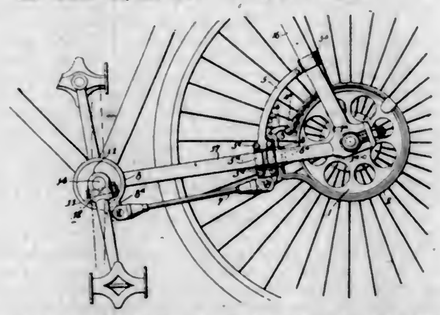
3. The process which consists in electrolyzing a mixture of an alkaline chlorid with an alkaline fluorid and an alkali-earth fluorid.

4. The process which consists in electrolyzing a mixture of an alkaline chlorid with an alkali-earth fluorid.

5. The process which consists in electrolyzing a mixture of an alkaline chlorid with sodium fluorid and calcium fluorid.

6. The process which consists in electrolyzing a mixture of sodium chlorid with sodium fluorid and calcium fluorid.

868,671. BICYCLE-BRAKE. GEORGE KUKOVAC, Chicago, Ill. Filed May 22, 1907. Serial No. 375,149.



In a bicycle brake, the combination of a brake drum fixed to the wheel of the bicycle, an arm 5 clamped at its opposite ends to the rear forks of the frame, an angular block 6 one flange of which is fixed to the arm, a band extending around the drum, one end thereof being fixed to the other flange of the block, a lever fulcrumed on the block and connected to the other end of the band, and means to operate the lever.

868,672. RECEIVING-HEAD FOR CATCH-BASINS. AUGUST W. KURZ, Cleveland, Ohio. Filed Apr. 20, 1903. Serial No. 153,364.



1. In a receiving head for catch basins, a horizontal metallic base-plate, having a manhole opening therein, a vertical manhole ring surrounding said opening, a metallic reinforcing fender-plate upwardly inclined from the base-plate, and an artificial body of concrete, cement, or the like, conjoined with said base-plate and fender-plate and surrounding the manhole ring aforenamed, the said fender plate being exposed at its upper edge beyond the said artificial body, substantially as described.

2. In a receiving head for catch basins, a metallic base-plate having a manhole opening therein, and an upwardly inclined metallic fender-plate made integral therewith, a manhole ring fitting in said opening, and provided with a bearing flange, and an artificial body of concrete, cement, or the like, said body surrounding the said ring, bearing on the base-plate and fender-plate and conjoined therewith, and the upper edge of the said fender plate being exposed beyond the said artificial body, substantially as described.

3. In a receiving head for catch basins, having a manhole opening and an intake opening, a metallic base-plate, a manhole ring surrounding said manhole, an upwardly inclined, reinforcing-plate made integral with said base plate, an artificial body of concrete, cement, or the like, conjoined with said base-plate and inclosing said inclined reinforcing-plate, and means for interlocking the artificial body with said base-plate and reinforcing-plate, the latter projecting above said intake for strengthening said body thereat, substantially as described.

4. A receiving head for catch basins comprising a horizontal metallic base plate having a manhole opening therein, a vertical manhole ring surrounding said opening, a metallic reinforcing fender plate upwardly inclined from the base plate, and an artificial body of concrete, cement, or the like conjoined with said base plate and fender plate and surrounding the manhole ring, an intake opening being formed through said body of concrete below the fender plate, and a reinforcing plate embedded in the concrete below said intake opening.

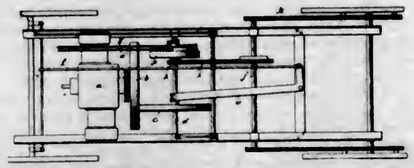
5. A receiving head comprising a manhole opening and an intake opening, a metallic base plate, a manhole ring surrounding said manhole, an upwardly inclined reinforcing plate connected rigidly with the base plate and extending upward substantially parallel with the upper wall of the intake opening, a body of concrete, cement or the like, surrounding said base plate, manhole ring and reinforcing plate, and a reinforcing plate embedded in the concrete below the lower wall of the intake opening, said plate being substantially parallel with said lower wall, and means for interlocking the artificial body with said base plate and said reinforcing plate.

6. A receiving head for catch basins comprising a base plate formed with a manhole opening therein, an upwardly extending fender plate rigidly connected to the base plate, a reinforcing plate below said fender plate and separated therefrom a suitable distance, and a body of concrete surrounding said base plate, manhole ring, and fender plate, an intake opening being formed through said concrete between the fender plate and the reinforcing plate.

7. A composite receiving head for catch basins comprising a metallic frame and a body of concrete surrounding said frame, an intake opening being formed through the concrete or cement and the manhole opening being formed through the frame.

8. A composite receiving head for catch basins comprising a base plate, a body of concrete formed with an intake opening and a manhole opening, and metallic means supporting the concrete around the manhole opening and intake opening.

868,673. AUTOMOBILE TRANSMISSION-GEARING. JOHN W. LAMBERT, Anderson, Ind. Filed Mar. 27, 1905. Serial No. 252,332.



1. A gearing of the type set forth, comprising a driving disk, a driven disk adapted to be brought into frictional engagement with the driving disk, a driven shaft carrying the driven disk, means for shifting the driven disk on its shaft, a supplemental two-speed reducing gearing mounted wholly on said driven shaft and embodying a sprocket wheel loosely supported on said shaft, a train of gears permanently in mesh, one of said gears being connected to the sprocket wheel and one being rigidly secured to the driven shaft, means for locking the sprocket wheel and attached gear against independent rotation to drive the sprocket wheel directly at the same speed as the driven shaft, and means for locking some of said gears against rotation around the driven shaft, whereby the sprocket will be driven through the train of gears and at a slower speed than the driven shaft.

2. A gearing of the type set forth, comprising a driving disk, a driven disk adapted to be brought into frictional engagement with the driving disk, a driven shaft carrying the driven disk, means for shifting the driven disk on its shaft, and a supplemental two-speed reducing gearing mounted wholly on said shaft and embodying a sprocket wheel loosely mounted on said shaft, a gear wheel rigidly connected to said sprocket wheel, a gear wheel rigidly secured to the driven shaft, a disk loosely mounted on said shaft, gears carried by said disk and meshing with the gear connected to the sprocket wheel and with the gear connected to the shaft, and means for locking the sprocket wheel against independent rotation, and means for locking the disk carrying the gears against independent rotation on the shaft.

3. A gearing of the type set forth comprising a driving disk, a driven disk, a driven shaft carrying the driven disk, means for shifting the driven disk on its shaft, a speed reducing gearing mounted on the driven shaft and embodying a sprocket wheel loosely supported on said shaft, a train of gears permanently in mesh, one of said gears being rigidly connected to the sprocket wheel and one being rigidly secured to the driven shaft.

868,674. ELECTRIC SIGN. CARL O. LINDSTROM, Chicago, Ill. Filed Apr. 7, 1906. Serial No. 310,451.

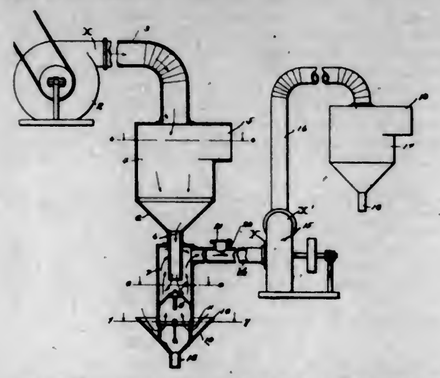


1. In an electric sign of the type herein described, the combination of a sign casing, lamp, a local circuit, and an attaching plug comprising a cylindrical body carrying a spirally threaded outer contact sleeve, a central contact stem in insulated relation to said sleeve, a revoluble sleeve attached to said body, a stationary sleeve attached to the sign casing and forming a bearing for the revoluble sleeve, a cylindrical body carried by the stationary sleeve, radial contact plates on opposite faces of said body in insulated relation, a connection between one of said contact plates and the central contact stem, a connection between the other of said contact plates and the spirally threaded contact sleeve aforesaid, and a lamp socket connected to one of said contact plates, substantially as set forth.

2. In an electric sign of the type herein described, the combination of a sign casing, a lamp, a local circuit, and an attaching plug comprising a cylindrical body carrying a spirally threaded outer contact sleeve, a central contact stem in insulated relation to said sleeve, a revoluble sleeve attached to said body, a stationary sleeve attached to the sign casing and forming a bearing for the revoluble sleeve, a cylindrical body carried by the stationary sleeve, radial contact plates on opposite faces of said body in insulated relation, a connection between one of said contact plates and the central contact stem, a central spiral con-

nection between the other of said contact plates and the spirally threaded contact sleeve aforesaid, and a lamp socket connected to one of said contact plates, substantially as set forth.

868,675. SCREENING COLLECTOR AND SEPARATOR. LEE LOCKWOOD, Des Moines, Iowa. Filed Mar. 18, 1901. Serial No. 51,659.



1. A dust or refuse collecting and separating apparatus, comprising primary and secondary settling chambers, each of said settling chambers being provided with an inlet and two outlets, said inlet being adapted in each case to admit dust-laden air, one of said outlets in each case being adapted to permit the escape of the purified, or comparatively purified, air, the other outlet in each case being adapted to permit the escape of matter separted from the air, and suitable conducting and draft producing means, said draft producing means being adapted to blow dust-laden air through said inlets into both of said settling chambers said conducting means comprising a series of chambers, said draft producing means including a fan or blower having its intake connected to produce an inflow of air in opposition to the matter allowed to escape through the outlet from said primary settling chamber, whereby the heavier portions of such matter are permitted to discharge from the apparatus while the lighter portions are sucked through said fan or blower, and the said conducting means including a suitable passage communicating between the offtake of said fan or blower and the inlet of the secondary settling chamber, whereby the relatively light portions of the dust or refuse first blown into the primary settling chamber are ultimately blown into the secondary settling chamber, and an adjustable controlling valve controlling a lateral opening in the passage leading to the intake of said fan or blower.

2. A dust and refuse collecting and separating apparatus, comprising primary and secondary settling chambers, each of said settling chambers being provided with an inlet and two outlets, the inlet in each case being adapted to permit the admission of dust-laden air, one of said outlets in each case being adapted to permit the escape of purified, or comparatively purified, air, the other of said outlets in each case being adapted to permit the escape of matter separated from the air, and suitable conducting and draft producing means, said draft producing means being adapted to blow dust-laden air through said inlets into both of said settling chambers, said conducting means including a separating chamber associated with said primary settling chamber, and the said draft producing means including a fan or blower having its intake suitably connected with said separating chamber, whereby a draft of air is produced in the separating chamber in opposition to the matter escaping from the primary settling chamber, so as to permit the heavier portions of such matter to discharge from the apparatus while the lighter portions are sucked through said fan or blower, and said conducting means including also a suitable passage communicating between the offtake of said fan or blower and the inlet of said secondary setting chamber, whereby the relatively light portions of the dust or refuse first blown into the primary settling chamber are ultimately blown into the secondary settling chamber, and an adjustable valve controlling a lateral opening in the passage leading to the intake of said fan or blower.

3. A dust or refuse collecting and separating apparatus, comprising primary and secondary settling chambers, each of said settling chambers being provided with an inlet and two outlets, said inlet being adapted in each case to admit dust-laden air, one of said outlets in each case being adapted to permit the escape of the purified, or comparatively purified, air, the other outlet in each case being adapted to permit the escape of matter separated from the air, and suitable conducting and draft producing means, said draft producing means being adapted to blow dust-laden air through said inlets into both of said settling chambers, said conducting means including a separating chamber associated with said primary settling chamber, and the said draft producing means including a fan or blower having its intake suitably connected with said separating chamber, whereby a draft of air is produced in the separating chamber in opposition to the matter escaping from the primary settling chamber, so as to permit the heavier portions of such matter to discharge from the apparatus while the lighter portions are sucked through said fan or blower. and said conducting means including also a suitable passage communicating between the offtake of said fan or blower and the inlet of said secondary setting chamber, whereby the relatively light portions of the dust or refuse first blown into the primary settling chamber are ultimately blown into the secondary settling chamber, and an adjustable valve controlling a lateral air intake opening leading through the side of the passage leading to the intake of said fan or blower, together with a cone-shaped spreader arranged in said separating chamber at a point somewhat below the point where the latter communicates with the intake of said fan or blower.

5. A dust or refuse collecting and separating apparatus, comprising primary and secondary settling chambers, each of said settling chambers being provided with an inlet and two outlets, said inlet being adapted in each case to admit dust-laden air, one of said outlets in each case being adapted to permit the escape of the purified, or comparatively purified, air, the other outlet in each case being adapted to permit the escape of matter separated from the air, and suitable conducting and draft producing means, said draft producing means being adapted to blow dust-laden air through said inlets into both of said settling chambers, said draft producing means including a fan or blower having its intake connected to produce an inflow of air in opposition to the matter allowed to escape through the outlet from said primary settling chamber, whereby the heavier portions of such matter are permitted to discharge from the apparatus while the lighter portions are sucked through said fan or blower, and the said conducting means including a suitable passage communicating between the offtake of said fan or blower and the inlet of the secondary settling chamber, whereby the relatively light portions of the dust or refuse first blown into the primary settling chamber are ultimately blown into the secondary settling chamber.

3. A dust or refuse collecting and separating apparatus, comprising primary and secondary settling chambers, each of said settling chambers being provided with an inlet and two outlets, said inlet being adapted in each case to admit dust-laden air, one of said outlets in each case being adapted to permit the escape of the purified, or comparatively purified, air, the other outlet in each case being adapted to permit the escape of matter separated from the air, and suitable conducting and draft producing means, said draft producing means being adapted to blow dust-laden air through said inlets into both of said settling chambers, said conducting means including a separating chamber associated with said primary settling chamber, and the said draft producing means including a fan or blower having its intake connected to produce an inflow of air in opposition to the matter allowed to escape through the outlet from said primary settling chamber, whereby the heavier portions of such matter are permitted to discharge from the apparatus while the lighter portions are sucked through said fan or blower, and the said conducting means including a suitable passage communicating between the offtake of said fan or blower and the inlet of the secondary settling chamber, whereby the relatively light portions of the dust or refuse first blown into the primary settling chamber are ultimately blown into the secondary settling chamber, the said primary settling chamber being provided with a discharge spout extending downwardly to a point somewhat below the opening of the passage leading to the intake of said fan or blower, and the said draft producing means including also a second fan or blower adapted to primarily receive the dust-laden air and having its off-take connected with the inlet of said primary settling chamber.

6. A dust or refuse collecting and separating apparatus, comprising primary and secondary settling chambers, each of said settling chambers being provided with an inlet and two outlets, said inlet being adapted in each case to admit dust-laden air, one of said outlets in each case being adapted to permit the escape of the purified, or comparatively purified, air, the other outlet in each case being adapted to permit the escape of matter separated from the air, and suitable conducting and draft producing means, said draft producing means being adapted to blow dust-laden air through said inlets into both of said settling chambers, said draft producing means including a fan or blower having its intake connected to produce an inflow of air in opposition to the matter allowed to escape through the outlet from said primary settling chamber, whereby the heavier portions of such matter are permitted to discharge from the apparatus while the lighter portions are sucked through said fan or blower, and the said conducting means including a suitable passage communicating between the offtake of said fan or blower and the inlet of the secondary settling chamber, whereby the relatively light portions of the dust or refuse first blown into the primary settling chamber are ultimately blown into the secondary settling chamber, the said primary settling chamber being provided with a discharge spout extending downwardly to a point somewhat below the opening of the passage leading to the intake of said fan or blower, and the said draft producing means including also a second fan or blower adapted to primarily receive the dust-laden air and having its off-take connected with the inlet of said primary settling chamber.

7. The combination of the fan or blower 2, the primary settling chamber 4 provided with a discharge spout 6, the separating chamber 7 enclosing the said discharge spout and provided with a conical spreader, the funnel-shaped receiving device 10 secured to the lower end of said separating chamber, the fan or blower 15 having its intake connected by a pipe 14 with the upper end of said separating chamber, the adjustable valve 21 for controlling a lateral opening in the side of said pipe 14, and the secondary settling chamber 17 connected with the offtake of the fan or blower 15, substantially as shown and described.

8. In a device of the class described, a settling chamber, a separating chamber open at its lower end, a discharge pipe leading from the settling chamber into the separating chamber having its outlet some distance below the upper portion of the separating chamber, an off-take pipe leading from the upper end of the separating chamber and above the outlet of the discharge pipe, a fan or blower for sucking air through the separating chamber and the off-take pipe in opposition to the material to be discharged from the separating chamber through the discharge pipe, means in the upper portion of the off-take pipe for controlling the velocity of the upward current of air through the separating chamber to establish the weight of the material to be discharged at the lower end of the separating chamber.

9. A setting chamber, an air and dust outlet opening in its upper portion, means for collecting material and blowing it into the settling chamber, a separating chamber to discharge the heavier particles of material and to admit air, an off-take opening in the upper portion of the separating chamber, a discharge pipe leading from the lower end of the settling chamber into the separating chamber, having its lower or discharge end some distance below the opening into the off-take pipe, a fan or blower for creating a suction to cause an upward current of air through the separating chamber and the off-take pipe and to increase the ease and speed of discharge through the discharge of the settling chamber.

10. A settling chamber, an air and dust outlet opening in its upper portion, means for collecting material and blowing it into the settling chamber, a separating chamber to discharge the heavier particles of material and to admit air, an off-take opening in the upper portion of the separating chamber, a discharge pipe leading from the lower end of the settling chamber into the separating chamber, having its lower or discharge end some distance below the opening into the off-take pipe, a fan or blower for creating a suction to cause an upward current of air through the separating chamber and the off-take pipe and to increase the ease and speed of discharge through the discharge of the settling chamber and a regulator in the off-take pipe for controlling the velocity of the upward current of air through the separating chamber and the amount of downward draft through the discharge of the settling chamber.

868,676. PRINTER'S COMPOSING-STICK. MORRIS J. LYNCH, Ottawa, Kans. Filed Dec. 5, 1906. Serial No. 346,456.

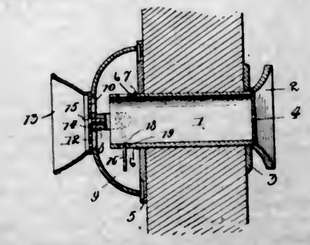


1. A printers' composing stick comprising a body having assembling walls coextensive in length and width and arranged at right angles to each other, said walls being provided with pica and nonpareil scales, and a handle having a butt portion fitting over upon and secured to the walls at one end of the body and forming an abutment at that end.

2. A reversible printer's composing stick comprising an elongated sheet-metal strip bent into L-form to provide assembling walls coextensive in length and width, said walls being provided with graduations on corresponding lines forming pica and nonpareil scales, and a handle disposed at one end of the body and having a butt portion fitted over upon and secured to the adjacent walls, said handle having sides parallel to and bearing snugly against said walls.

3. A reversible printer's composing stick comprising an elongated sheet-metal strip bent into L-form to provide assembling walls coextensive in length and width, said walls being provided with graduations on corresponding lines forming pica and nonpareil scales, a wooden handle disposed at one end of the body and having a butt portion fitted over upon and secured to the adjacent walls, said handle having sides parallel to and bearing snugly against said walls, and an abutment plate covering and secured to the butt of the handle and bearing against said walls.

868,677. COMBINED CALL-BELL AND SPEAKING-TUBE. ROBERT W. LYON, New York, N. Y. Filed Apr. 30, 1906. Serial No. 314,527.



1. A combined call bell and speaking tube comprising a revolubly mounted speaking tube having on one end an integral mouth piece, a bell arranged over the opposite

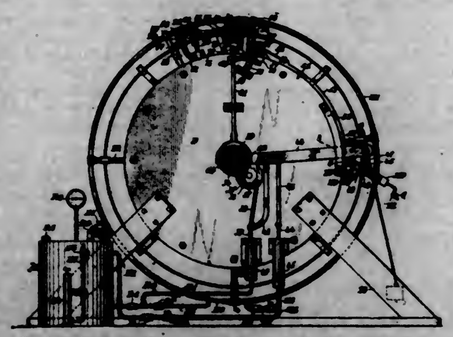
end of said speaking tube, said bell having formed therein an opening, a mouth piece arranged over said opening, and means actuated by the turning of said speaking tube to ring said bell.

2. A combined call bell and speaking tube comprising a revolubly mounted speaking tube, a mouth piece arranged on one end of said tube, a perforated plate arranged in said mouth piece, a bell arranged over the opposite end of said mouth piece, said bell having formed therein an opening, a mouth piece arranged over said opening, said mouth piece having an apertured inner wall or plate, a bell clapper supporting arm, and means whereby said arm is vibrated to cause the clapper thereon to strike and ring said bell, substantialy as described.

3. A combined call bell and speaking tube comprising a revolubly mounted speaking tube, a mouth piece arranged on one end of said tube, said mouth piece having a milled edge, a supporting bracket arranged adjacent to the opposite end of said tube, a bell secured to said bracket, said bell having an opening, a mouth piece arranged over the opening in said bell, a spring, bell clapper arm secured to said bracket, a lug formed on said arm and projecting into the path of movement of a series of trip apertures formed in the adjacent end of said speaking tube, whereby when the latter is turned the clapper arm will be vibrated to engage the clapper carried thereby with said bell, substantially as described.

4. A combined call bell and speaking tube comprising a speaking tube adapted to be revolubly mounted in a door or wall, a mouth piece and a guard plate arranged on one end of said tube, a retaining plate arranged on the opposite end of said tube and secured to the adjacent side of said door or wall, an annular groove formed in said end of the speaking tube, a spring retaining ring adapted to be engaged with said groove to revolubly hold said speaking tube in place, a supporting bracket secured to said retaining plate, an apertured bell secured on said bracket, a mouth piece arranged over the aperture in said bell, a spring clapper supporting rod secured to said bracket, a trip lug formed in said rod and projecting into the path of movement of an annular series of trip holes formed in the adjacent end of the speaking tube, and a clapper arranged on the outer end of said rod to engage said bell when the rod is vibrated by the turning of the tube, substantially as described.

868,678. ROTARY ENGINE. PETER M. MACKASKIE, Goldfield, Nev. Filed Feb. 14, 1906. Serial No. 300,997.



1. A rotary engine comprising a cylinder, a piston operating therein, a valve for controlling the inlet of motive agent, a valve for controlling the exhaust, a ring-like valve rod arranged to have a rotary movement circumferentially of the cylinder, and means actuated by the engine for moving the said rod in one direction.

2. A rotary engine comprising a cylinder, a piston operating therein, a valve for controlling inlet of motive agent to the cylinder, a valve for controlling exhaust, a ring-like valve rod having connection with said valves, the said valve rod having a rotary movement circumferentially of the cylinder, means actuated by the engine for causing the movement of said rod in one direction, and means for adjusting the degree of such movement.

3. An engine comprising a cylinder, a piston for operating therein, a nipple forming a combustion chamber and having communication with the cylinder, a gasolene supply pipe leading into said nipple, an air supply pipe leading into said nipple, an exhaust pipe, admission-controlling valves, an exhaust-controlling valve, means actuated by the engine for moving said rod in one direction, a spring for moving the rod in the opposite direction, and a sparking device for igniting the motive agent.

4. A rotary engine comprising a cylinder having a circular or ring-like piston chamber, piston blocks movable in said chamber, a disk to which said blocks are attached, an abutment device mounted to rotate in said chamber, and having an opening through which said blocks may pass, valve-controlled gasolene inlet pipes at opposite sides of the abutment, valve-controlled air supply pipes at opposite sides of the abutment, the said pipes communicating with said chamber, valve-controlled exhaust pipes at opposite sides of the abutment, a ring-like piston rod for engaging with the valves of the gasolene and air pipes, at one side of the abutment, and also for actuating the valve of the exhaust pipe at the opposite side of the abutment, a ring-like piston rod for operating the valves in the other gasolene and air pipes, and also operating to control the valve at the opposite side of the abutment from that of the last-named gasolene and air-pipes, and means actuated by the engine for operating either one of said rods while the other rod remains idle.

5. A rotary engine comprising a cylinder, a piston for operating therein, an abutment in the cylinder mounted to rotate to permit movement of the piston therethrough, firing or combustion chambers at opposite sides of the abutment, gasolene supply pipes leading into said chambers, air supply pipes leading into said chambers, the said supply pipes being extended around the cylinder, valves for controlling the discharge of motive agent from said pipes, exhaust pipes at opposite sides of the abutment, valves in said exhaust pipes, a ring-like rod for operating the valves in one pair of supply pipes, and for controlling the valve in the exhaust pipe at the opposite side of the abutment, a ring-like rod for controlling the valves of the supply pipes at said opposite side of the abutment and controlling the valve in the exhaust at the first-named side, the said ring-like rods being operated in one direction by movements of the engine springs for moving the same in the opposite direction, and means for regulating the movements of said rods.

6. A rotary engine comprising a cylinder, a piston for operating therein, a rotary abutment in the cylinder having an opening through which the piston may pass, means actuated from the engine-shaft for imparting rotary or rocking motion to said abutment, firing or combustion chambers communicating with the interior of the cylinder at opposite sides of the abutment, gasolene and air pipes having communication with said firing or combustion chambers, valves in said communications, exhaust pipes at opposite sides of the abutment and having valves, ring-like valve rods, and means for operating the same for automatically closing the supply pipes at one side of the abutment and opening the valve of the exhaust at the opposite side of the abutment.

7. A rotary engine comprising a cylinder, a piston mounted to rotate therein, a rotary abutment extended into the cylinder and having an opening through which the piston may pass, combustion chambers at opposite sides of the abutment, means for conducting gasolene and air to the chambers at opposite sides of the abutment, means for automatically controlling the entrance of the motive agent to the combustion chambers, a driving-shaft extended through the piston, a gear-wheel on an outer end of said shaft, a pinion with which said gear wheel meshes, an arm carried by said pinion, a sliding plate having a cam with which said arm engages, a crank on the shaft of the abutment, and a connection between said crank and said sliding plate.

8. A rotary engine comprising a cylinder, a piston mounted to rotate therein, a rotary abutment in the cylinder and having an opening through which the piston may pass, a crank on the outer end of the abutment-shaft, a sliding plate having engagement at its upper end with said crank, a cam-plate carried by said sliding plate and having an elliptical inner wall, the major axis of which extends transversely of the engine, the ends of said elliptical wall being provided with slots, a gear-wheel on the engine-shaft, a pinion engaged by said gear-wheel, an arm carried by the pinion, a finger on said arm for engaging alternately in said slots, and means for directing the motive agent to the interior of the cylinder at opposite sides of the abutment.

9. A rotary engine comprising a cylinder consisting of two sections secured together, each of said sections having a circular recess in its inner surface, the said recess being semi-circular in cross section, whereby a circular chamber is formed when the two parts of the cylinder are secured together, the said sections being spaced apart inward of said chamber, a shaft, a disk attached to said shaft in said spaced portion, piston blocks mounted on said disk and movable in said chamber, a rotary abutment having an opening through which said blocks may pass when the abutment is in one position, a sliding plate provided with a cam, means actuated from the shaft for engaging said cam to move the sliding plate, a connection between the sliding plate and the abutment for moving the latter, means for admitting motive agent to said chamber at opposite sides of the abutment, and exhaust pipes at opposite sides of the chamber.

10. A rotary engine comprising a cylinder, a driving shaft mounted to rotate therein, a piston mounted on said shaft, a rotary abutment in the cylinder and having an opening through which the piston may pass, a crank arm on the outer end of the abutment shaft, means controlled from the driving shaft and connected with said crank arm for moving said abutment, firing chambers communicating with the interior of the cylinder at opposite sides of the abutment, a pipe for directing gasolene to the firing chambers, a pipe for conducting air to said chambers, means for controlling the entrance of motive agent to the said chambers, and means for forcing air and gasolene to the chambers under substantially equal pressure.

11. In a rotary engine comprising a cylinder, a driving shaft mounted to rotate therein, a piston mounted on said shaft and comprising piston blocks, a rotary abutment in the cylinder and having an opening through which said blocks may pass, a crank arm on the outer end of the abutment shaft, means controlled from the driving shaft and connected with said crank arm for moving said abutment, firing or combustion chambers communicating with the cylinder at opposite sides of the abutment, air supply pipes communicating with such chambers, gasolene pipes extended into the chambers and having discharge perforations at the side, exhaust pipes at opposite sides of the abutment, valves in said exhaust pipes, means actuated by the engine for opening the supply controlling-valves at one side of the abutment, and closing the valve in the exhaust at the opposite side of the abutment, means for controlling the entrance of motive agent at the said opposite side of the abutment, the said means also actuating the valve in the exhaust pipe at the first-mentioned side of the abutment, and automatically-actuated sparking devices leading into the combustion chambers.

12. A rotary engine comprising a cylinder, a piston mounted to rotate therein, a rotary abutment in the cylinder, means for operating the admission of motive agent to the cylinder, at opposite sides of the abutment, means for controlling said admission at one side of the abutment, means for controlling the admission of motive agent at the opposite side of the abutment, the said controlling means comprising ring-like valve rods, a rock-shaft device for actuating the rock-shaft from the engine-shaft, an arm and devices carried by the arm for actuating either one of said controlling devices while the other remains stationary.

13. A rotary engine comprising a cylinder, a piston mounted to rotate therein, an abutment in the cylinder, firing chambers communicating with the cylinder at opposite sides of the abutment, gasolene supply pipes leading into said chambers, valves in said pipes, exhaust pipes at opposite sides of the abutment, valves in said exhaust pipes, a rod having connection with the valve stems of the gasolene and air pipes at one side of the abutment, and having connection with the exhaust valve at the opposite side of the abutment, a ring-shaped rod having connection with the said bar, the said rod having a rotative movement, a gasolene supply pipe leading into the chamber at the opposite side of the abutment, an air supply pipe leading into said chamber, valves in said last-named pipes, an exhaust pipe at the opposite side of the abutment from said last-named pipes, an actuating bar having connection with the valves in said last-named pipes and with the valve in said last-named exhaust pipe, a ring-like valve rod having connection with the stems of said last-named valves, a rock-shaft, means actuated from the engine-shaft to impart movement to said rock-shaft, an arm carried by the rock-shaft and longitudinally slotted, a reversing block movable in said slot, lugs extended upward from said block in opposite directions, and from opposite ends, a screw rod for adjusting the block and tappets on said ring-like valve rods, the top of one of said valve rods being arranged for engagement with one of said lugs, and a tappet on the other rod adapted for engagement with the other of said lugs.

14. A rotary engine comprising a cylinder, a piston mounted to rotate therein, an abutment mounted to rotate in the cylinder and having an opening through which the piston may pass, valve controlled inlets for a motive agent leading into the cylinder, valve controlled exhausts, a ring-like rod having a rotative motion and adapted to actuate the inlet valves at one side of the abutment, and the exhaust valve at the opposite side of the abutment, a ring-like rod for operating the valves controlling the admission of motive agent at said opposite side of the abutment and controlling the exhaust at the first-named side, springs for moving the said rods in one direction, a rock-shaft, an arm carried by said rock-shaft, means carried by the arm for moving one of said rods to open the inlet-controlling valves at one side of the abutment and controlling the exhaust-valve at the opposite side of the abutment, the said arm also having means for actuating the other of said ring-like valves to control the valves connecting therewith, and a governor actuated by the engine for controlling the degree of movement of said rock-shaft.

15. A rotary engine comprising a cylinder, a piston mounted to rotate therein, a gasolene inlet for the cylinder, an air inlet for the cylinder, an exhaust pipe, a valve in each of said pipes, a ring-shaped valve rod having connection with the stems of several valves, a rock-shaft for imparting motion to said rod in one direction, a spring for moving the rod in the opposite direction, an arm extended from the rock-shaft, a lug thereon, a spring-pressed latch for engaging the said lug, a lever actuated by the engine, and to which said latch is pivoted, and an adjustable stop-plate for releasing the latch from said lug.

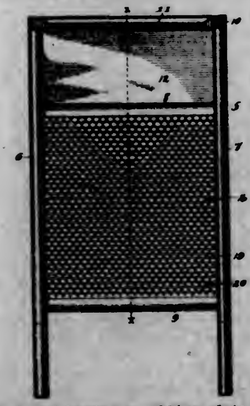
16. A rotary engine comprising a cylinder, an abutment in the cylinder, valve-controlled gasolene inlet pipes at one side of the abutment, valve-controlled air inlet pipes at said side of the abutment, valve-controlled gasolene and air pipes at the opposite side of the abutment, a circular rod for controlling the first-named valves, a circular rod for controlling the second-named valves, a rock shaft carrying means for actuating either one of said rods in a circumferential direction, a rocking or latching device for the rock shaft, a swinging lever carrying said locking or latching device, a gasolene pump having its piston operated from the shaft, the said piston having connection with said lever, an air pump, the piston of which is operated by movements of said lever, a gasolene and air-pressure tank in which said pumps have pipe connection, a ring-shaped gasolene pipe surrounding the cylinder, and a ring-shaped air pipe surrounding the cylinder and having valve-controlled communication with the pipe leading from the air pump to the pressure tank.

17. A rotary engine comprising a cylinder, valve-controlled gasolene inlet pipes for the cylinder, valve-controlled air inlet pipes for the cylinder, a ring-shaped rod for controlling the valves in one pair of gasolene and air pipes, a ring-shaped rod for controlling the valves in the other pair of pipes, a rock-shaft, a pipe carried by the

rock-shaft, for moving either one of said rods while the other remains stationary, an arm extended from one end of the rock-shaft, a lug on said arm, a spring-pressed latching device having a hook portion for engaging the said lug, an abutment-plate for releasing said latch from said lug, a rotary sleeve with which said abutment-plate connects, an arm extended from said sleeve, a governor rod engaging with said arm, and a governor on the engine shaft for moving the said arm.

18. A rotary engine comprising a cylinder, valve-controlled pipes for conducting gasolene into the cylinder, valve-controlled pipes for conducting air into the cylinder, a circular main supply pipe for the gasolene pipes leading into the cylinder, a circular main supply pipe communicating with the air pipes leading into the cylinder, a pressure tank having a chamber at its upper portion for containing air, and a gasolene chamber in its lower portion, a branch pipe leading from the gasolene chamber into the main circular supply pipe, a pump actuated by the engine and having a valve-controlled pipe leading therefrom to connection with said branch pipe, the said branch pipe being provided at opposite sides of said connection with check valves, an air pump, a pipe leading therefrom into the air chamber, the said pipe having a hand-valve and a check valve, a branch leading from said pipe into the circular air pipe, a valve in said branch, and a valve-controlled pipe leading from said air chamber into said circular air pipe.

868,679. WASHBOARD. FREDERICK MARTIN, Columbus, Ohio. Filed Mar. 10, 1906. Serial No. 305,221.



1. A wash board having a rubbing plate which is composed of a plurality of superimposed scalloped ledges, the upper faces of said scallops being convex and the scallops of each of said ledges being staggered with relation to the scallops of adjacent ledges.

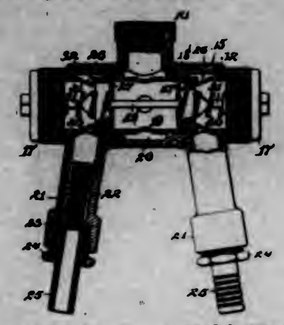
2. A wash board having a rubbing plate which is composed of a plurality of superimposed scalloped ledges, said scallops having convex and beveled rubbing edges, the scallops of each of said ledges being staggered with relation to the scallops of adjacent ledges.

3. A wash board having a rubbing plate which is composed of a plurality of superimposed scalloped ledges, said scallops having rounded convex and beveled rubbing edges, the scallops of each of said ledges being staggered with relation to the scallops of adjacent ledges.

In testimony whereof I affix my signature in presence of two witnesses.

868,680. VALVE FOR SUCTION-PUMPS. JOSEPH E. MARTIN, East Orange, N. J. Filed July 25, 1906. Serial No. 327,606.

1. A valve to be placed between a suction pump and a pair of inlet pipes, the valve operating to close the inlet pipe having the least hydrostatic head and being operated by the flow of liquid passing to the pump.



2. A valve adapted to be arranged between a suction pump and a pair of inlet pipes, this valve being operated by the fluid from the inlet having the greater hydrostatic head to close the inlet with the lesser head the flow of liquid alone operating the valve.

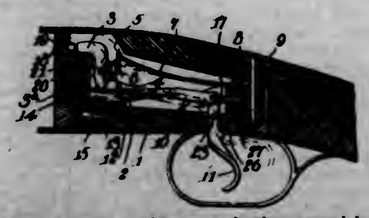
3. A valve to be arranged between a suction pump and a pair of inlet pipes comprising a casing having an inlet pipe attached to each end, a centrally arranged outlet leading to the pump, and a pair of connecting sliding perforated pistons in the casing to be operated by the fluid in the inlet pipe having the greater hydrostatic head.

4. A valve to be arranged between a suction pump and a pair of inlet pipes comprising a cylindrical casing having an inlet pipe attached to each end, a centrally arranged outlet leading to the pump, a pair of pistons one between the outlet and each inlet and working in unison, these pistons having perforations, and springs between the end of the casing and the pistons to normally hold the pistons equi-distant from the center.

5. A valve of the kind described, comprising a casing having an outlet pipe centrally located, an inlet pipe near each end, plugs in the ends of the casings, a pair of perforated pistons, a piston rod connecting the pistons, and springs on either side of the pistons and bearing on the plugs to hold the pistons equi-distant from the center.

6. A valve of the kind described, comprising a casing having a centrally arranged outlet pipe, and an inlet pipe near each end, a sleeve in the casing, the casing having an annular chamber to connect with the outlet pipe, and an annular chamber for each inlet pipe, a sleeve within the casing, the sleeve having perforations to connect with each of the annular chambers, a perforated piston on each side of the outlet pipe and working in the sleeve, a piston rod to connect the pistons, and springs arranged between the pistons and the plugs to normally maintain the pistons away from the inlet ports.

868,681. GUN-LOCK. WILLIAM J. MOLLOY, Chicago, Ill. Filed June 7, 1907. Serial No. 377,811.



1. The combination with a gun having several barrels, of a lock movable from one barrel to the other.

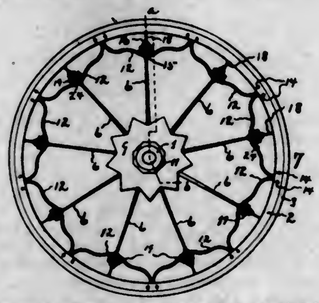
2. The combination with a double-barreled gun, of a lock pivoted at its rear end, behind the barrels, and means to swing the same from one barrel to the other.

3. The combination with a double-barreled gun, and a firing pin for each barrel, of a lock movable behind the barrels, from one to the other, to register its hammer with either firing pin.

4. The combination with a double-barreled gun, of a lock movable from one to the other, a spring for moving the lock to one barrel, and a push button for moving the same to the other.

5. In a gun lock, the combination of a hammer having a toe, a stirrup pivoted thereto and connected to the main spring and having an extension projecting downward behind the toe, and a spring-supported lifter connected to the trigger and projecting under said extension and against the toe and arranged to be pressed down by said extension and disengaged from the toe when the trigger is pulled.

868,682. VEHICLE-WHEEL. SILAS C. MOORE and CHARLES C. FREEMAN, Omaha, Nebr. Filed Mar. 1, 1907. Serial No. 360,115.



1. A vehicle wheel comprising a hub; a tire having an annular groove formed within its inner wall; a series of radially-disposed spokes secured upon the hub and extending a part of the distance between the hub and tire; a series of bow-shaped springs secured end-to-end within said annular groove of the tire and extended within the plane of the wheel to a seating upon said radially-disposed spokes.

2. A vehicle wheel comprising a hub; a tire having an annular groove formed within its inner wall; a series of resiliently-formed radially-disposed spokes secured upon the hub and extending a part of the distance between the hub and tire; a series of bow-shaped springs secured end-to-end within said annular groove of the tire and extended within the plane of the wheel to a seating upon said resiliently-formed, radially-disposed spokes.

3. In combination, a vehicle wheel as described, comprising a hub; a tire having an annular groove formed in its inner wall; radially-disposed spokes secured upon the hub, each of said radially-disposed spokes formed outwardly tapering and having a terminal end between the hub and tire; bow-shaped springs having their ends secured in the annular groove of the tire and extended within the plane of the wheel to a seating upon the terminal ends of said radially-disposed spokes; guides secured centrally upon said bow-shaped springs; radially-disposed alining-rods secured upon the tire and extended within the plane of the wheel to a contact with said guides upon said bow-shaped springs, and passing beyond the terminal ends of said radially-disposed spokes.

868,683. LOOSE-LEAF BINDER. LUCENA M. MORDEN, Waterbury, Conn. Filed Jan. 3, 1906. Serial No. 294,481.

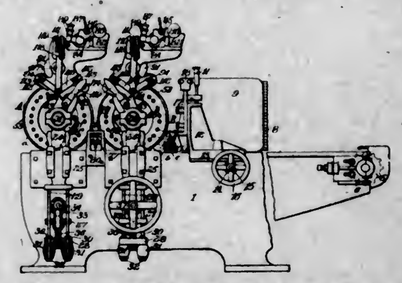
1. In a loose leaf binder, the combination, with the base-plate *a*, back-plate *h* and means for spacing the plates apart, of rings each divided into the two parts *b* and *b'*, the part *b* having its lower extremity connected rigidly to the base-plate *a*, and the opposite part *b'* having shank *i* extended through the base-plate to the back-plate *h*, crank-arms attached to such shanks, such arms fitting snugly between the plates *a* and *h* and having flat circular heads *d*, and a flat sheet-metal connecting link *e* provided with the circular notches *f* in its edge fitted movably to the edges of such heads, for turning all the parts *b'* simultaneously.



2. In a loose leaf file, the combination, with the base-plate *a*, back-plate *h* and means for spacing the plates apart, of rings each divided into two parts, the part *b* having its lower extremity connected rigidly to the base-plate *a*, and the opposite part *b'* having shank *i* extended through the base-plate to the back-plate *h*, crank-arms upon the pivoted parts *b'*, such arms having circular heads, a connecting link with circular notches fitted to such heads, and a spring arranged and operated upon one of the crank-arms to hold all of the divided rings open or closed.

3. In a loose leaf file, the combination, with a suitable base-plate, of a series of divided rings, one part of each fixed rigidly to the base-plate, and the other part pivoted thereon, crank-arms upon such pivoted parts beneath the base-plate and having circular heads, a connecting link with circular notches, fitted to such heads, inclined shoulders upon the crank-arms forming stops in contact with the connecting link, and oppositely inclined seats upon the heel of one of the crank-arms with a spring operating to hold the crank-arm in opposite positions, as and for the purpose set forth.

868,684. MACHINE FOR PRINTING ON BOARDS. HENRY W. MORGAN, Rochester, N. Y. Filed Jan. 8, 1903. Serial No. 138,200.



1. In a printing machine, the combination with a frame having a bed thereon, adjustable supplemental frames and cylinders mounted on the latter having gears thereon, brackets on the frame and pinions journaled therein and meshing with the gears, of shafts mounted on the main frame, movable driving connections between the shafts and pinions, pressing rolls beneath the cylinders and driving connections between said rolls and shafts.

2. In a printing machine, the combination with a main frame, a supplemental frame mounted in guides thereon and a plate, of means for adjusting the plate, a tie rod attached to the supplemental frame provided with a shoulder engaging the plate to limit the movement of the frame in one direction and yielding connections between the rod and plate operating when the shoulder on the former is disengaged from the latter.

3. In a printing machine, the combination with a main frame, a supplemental frame movably mounted thereon, a cylinder on the supplemental frame and a plate, of tie rods connecting the plate and frame and devices located between said rods for adjusting the plate to move the cylinder relatively to the main frame.

4. In a printing machine, the combination with a main frame, a supplemental frame movably mounted thereon, a

cylinder on the supplemental frame and a plate, of a tie rod attached to said frame and extending through the plate and provided with a shoulder engaging one side thereof, a spring arranged between the opposite side of the plate and the rod and means on the rod for adjusting the tension of the spring.

5. In a printing machine, the combination with a main frame, a supplemental frame movably mounted thereon, a plate, and an adjoining screw supported on the main frame and engaging the plate, of tie rods attached to the supplemental frame and extending through the plate at opposite sides of the screw, shoulders on the rods engaging one side of the plate to limit the movement of the frame in one direction and springs arranged between the plate and the rods to allow the frame to yield in the opposite direction.

6. In a printing machine, the combination with a frame having a bed and a printing cylinder coöperating therewith, of movable brackets guided on the edges of the bed and projecting upwardly therefrom, a fence extending between the brackets and means for adjusting said brackets in a longitudinal direction on the bed to move the fence relatively to the cylinder.

7. In a machine for printing on boards, the combination with a frame having a bed and a printing cylinder coöperating therewith, of a fence arranged above the bed and a brush attached thereto and adjustable relatively to the bed to engage the surface of the board with which the printing cylinder coöperates.

8. In a printing machine, the combination with a frame and a feeding device thereon, of a driven shaft, a printing cylinder revoluble thereon having an index coöperating with the feeding device and means for locking the cylinder to the shaft operable only when the index is in its adjusted position relative to said feeding device.

9. In a printing machine, the combination with a frame, a feeding device thereon and a driven shaft, of a printing cylinder freely revoluble on the shaft and provided with an index coöperating with the feeding device, and interlocking devices adjustably mounted on the cylinder and engaging the shaft to lock the cylinder thereon.

10. In a printing machine, the combination with a frame, a feeding device and a driven shaft, of a cylinder revolubly mounted thereon having an index coöperating with the feeding device, interlocking devices between the cylinder and shaft normally operating to cause said index to register with the feeding device and means for adjusting the cylinder independently of said shaft.

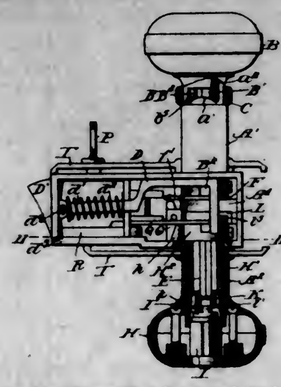
11. In a printing machine, the combination with a bed, feeding devices thereon, and a plurality of printing cylinders arranged above the bed, of yielding arms movable relatively to the bed and arranged between the cylinders and adapted to engage the face of a work piece to hold it in engagement with the bed as it moves between the cylinders.

868,685. COMBINED LOCK AND LATCH. LEVIN H. MULLIKIN, Trappe, Md., assignor to P. & F. Corbin and Russell & Erwin Manufacturing Company, New Britain, Conn., Corporations of Connecticut. Filed May 22, 1906. Serial No. 318,151.

1. The combination with a latch and its knob actuated retractive devices, of a locking device for the outside knob, a rod extending from knob to knob independent of both knobs and provided with means to actuate said locking device, a key controlled connection between the outside knob and said rod and a ring concentric with the inside knob shank and connected with said rod for rotating it.

2. The combination with a latch and its knob actuated retracting devices, of a locking lever to engage and lock the outside knob mechanism, a rotary cam device engaging said lever to operate it, a rod extending between the two knob mechanisms independent of both knob mechanisms and adapted to rotate said cam, a rotary ring concentric with the inner knob spindle and connected to said rod, and a key actuated barrel in the outside knob and operatively connected with the said rod.

3. The combination with a latch and its knob actuated retracting devices, of a locking lever for the outside knob shank, a rod extending between the knobs and provided between its ends with a collar having a flange provided with a cam slot engaging said locking lever, a key actuated means in the outside knob for the rod, and an actuating ring concentric with the inside knob shank for rotating said rod.



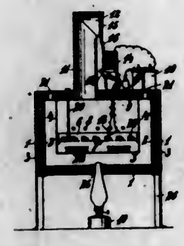
4. The combination with a latch and its knob actuated retracting devices, a locking device for the outside knob shank, a two part rotary and sliding rod between the two knob shanks, an operating means for said locking device on the inner end of the inner rod section, means at the inner knob for rotating the inner rod section, a key actuated means in the outer knob for rotating and sliding the outer rod section, a locking bolt, connections between the inner end of the outer rod section and the said locking bolt for actuating it from said key actuated means, and means at the inner side of the lock for actuating the locking bolt from the inside of a room whereby on first turning the key the bolt will be retracted and then on pushing in the key actuated means the outer rod section will engage with said operating means for the locking device which may then be actuated by turning the key to rotate said outer rod section.

5. The combination with a latch and its knob actuated retracting means, a locking device for the outside knob shank, a two part rotary and sliding rod between the two knob shanks, an operating collar at the inner end of the inner rod section operatively connected with said locking device, an operating ring concentric with the inner knob shank and connected with said rod section, a second collar on the adjacent end of the outer rod section, a key actuated barrel in the outer knob operatively connected with the outer end of the outer rod section to rotate it and slide it past its collar into engagement with the collar at the inner end of the inner rod section, a bolt, a connecting rod connecting the bolt with the said second collar and means at the inner side of the lock and connected with the said bolt for operating it from within the room.

6. The combination with a latch and its knob actuated retracting means, a locking device for the outside knob shank, two rotary collars supported in a bearing between the two knob shanks and having squared apertures, a two part rod having squared inner ends mounted in said apertures; the outer rod section being movable inwardly to engage the aperture in the inner collar and the inner rod section having a spring pressing it against the outer rod section, a rotary and sliding key operated device engaging the outer end of the outer rod section to rotate it and its bolt operating collar or move it into engagement with the other collar to rotate the latter, a locking bolt operatively connected with the outer collar, a locking lever for the outer knob shank and operatively connected with the inner collar, and means at the inner knob shank for rotating the inner rod section.

7. A lock and latch comprising a suitable casing, a bolt and a latch mounted therein, tubular hubs on opposite sides of the casing, knobs having tubular shanks in said hubs and provided at their inner ends with rockers for operating the latch, rotary collars mounted in a bearing intermediate the two knob shanks and having registering squared openings, a longitudinally slotted tube in the inner knob shank, a spring pressed plunger in said tube provided with a pin extending out through slots in the shank and hub, a ring on the hub having a transverse internal slot receiving the end of said pin, a sliding and rotating rod section in said slotted tube and having a pin projecting into said slot and a squared end entering the inner one of said rotary collars, a locking lever operated by said collar to lock the outside knob shank rocker, a sliding and rotating rod section in the outer knob shank with its inner squared end normally engaging the outer one of said rotary collars but adapted when pushed in to engage the other collar and rotate it, a key barrel sliding and turning in the outer knob, a collar on the outer end of said rod section, the adjacent ends of said collar and key barrel having projections, a connecting rod connecting the outer one of said rotary collars with the locking bolt, and means for operating the bolt from the inside of a room.

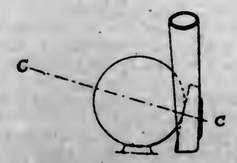
868,686. INCUBATOR. ALFONS MUSIOL, Tabor, Austria-Hungary. Filed May 10, 1907. Serial No. 372,985.



1. An incubator comprising a casing having double walls having heat insulating material therebetween, a metallic box supported in said casing so as to leave a space between two of its sides and its bottom and said casing, means for heating the air in said space, said casing having openings in its top and bottom, means for regulating the temperature automatically and mechanically and means for supplying moisture to the box.

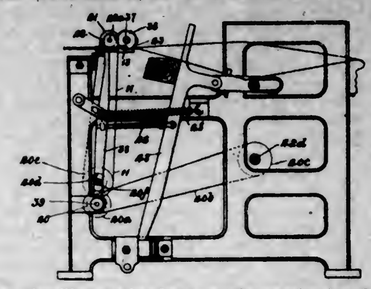
2. An incubator comprising a casing, a metallic hatching box supported in said casing so as to leave a space between two of its sides and its bottom and the casing, means for heating said space, said box having an opening leading to the atmosphere, a chimney connected with the box, a valve normally closing said chimney, an electric circuit, an electro-magnet therein, a steel band carrying the valve and acting as the armature for the electro-magnet and a thermostat in said box and forming part of the electric circuit.

868,687. GOLF-CLUB. DAVID MYLES, Dundee, Scotland. Filed Mar. 6, 1906. Serial No. 304,570.



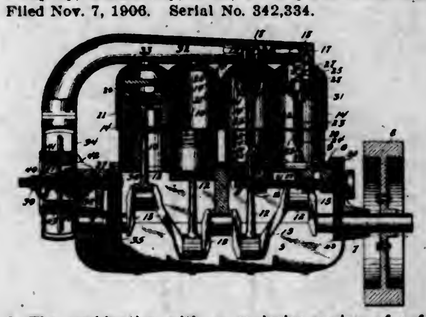
A driving club for golf with a shaft socket angled to suit the driving position having a metal head of approximately even width of face, balanced by an enlargement on its rear face, the length of the club being twice its width.

868,688. LOOM FOR WEAVING CHENILLE. THOMAS F. NAYLOR and ARTHUR NAYLOR, Kidderminster, England. Filed Jan. 27, 1906. Serial No. 298,226.



In a chenille weaving loom, cutting mechanism for cutting the web while being woven into strips of chenille said mechanism consisting of revolving cutters, a shaft carrying the cutters and constantly driven while the loom is running, oscillating standards carrying the shaft and which are moved by and with the movement of the lathe, and stationary projecting blades for supporting the wefts, while being cut by the forward movement of the revolving cutters all substantially as and for the purposes herein described.

868,689. EXPLOSIVE-ENGINE. HARRY M. NEER, Columbus, Ohio, assignor to The Neer Air Cooled Engine Company, Plain City, Ohio, a Corporation of Ohio. Filed Nov. 7, 1906. Serial No. 342,334.



1. The combination with an explosive engine, of a fan shaft, connections between said engine and said fan shaft, a fan mounted upon the fan shaft, and a yielding connection between said fan and the shaft upon which it is mounted.

2. A fan shaft, a fan mounted upon said shaft and having a cup-like hub, a member having radial arms fast upon said shaft and lying within said cup-like hub, and springs forming a yielding connection between said radial arms and the cup-like hub.

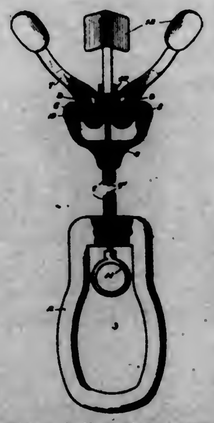
3. The combination with an explosive engine, of a fan shaft, connections between said engine and said fan shaft, a fan mounted upon said shaft and having a cup-like hub, a member having radial arms which is fast upon the fan shaft and which lies within said cup-like hub, members carried by the cup-like hub which lies between said radial arms, and springs disposed between said members and said radial arms to thereby form a yielding connection between the hub of the fan and the shaft upon which said fan is mounted.

4. In a hydrocarbon engine, the combination with a cylinder, of a jacket which partially incloses said cylinder, an air conduit which communicates with said jacket at the top of the cylinder, said air jacket being closed with the exception of a few small openings at the bottom thereof, and a valve casing also surrounded by said air jacket, said air jacket having a number of openings formed in the wall thereof adjacent said valve casing.

5. In a gas engine, the combination with a plurality of cylinders, and air jackets partially inclosing each of said cylinders, a fan, a conduit leading from said fan and extending along the tops of all of said cylinders, said conduits being in communication with each of the air jackets at the top thereof, valve casings also inclosed by said air jackets, said air jackets having a number of openings formed in the walls thereof adjacent said valve casings, and said air jackets being closed at their bottoms with the exception of a few small openings to thereby cause the major portion of the air from the conduit to pass out around the valve casings.

6. In a gas engine, the combination with a plurality of cylinders, of air jackets partially inclosing each of said cylinders, a fan, a conduit leading from said fan and extending along the tops of all of said cylinders, said conduits being in communication with each of the air jackets at the top thereof, valve casings also inclosed by said air jackets, said air jackets having a number of openings formed in the walls thereof adjacent said valve casings, said air jackets being closed at their bottoms with the exception of a few small openings to thereby cause the major portion of the air from the conduit to pass around the valve casings, and a plurality of pins which extend between the cylinder and the air jacket.

868,690. WINDOW-DRESSING DEVICE. EDWARD T. O'KANE, Delaware, Ohio. Filed Feb. 19, 1907. Serial No. 358,245.

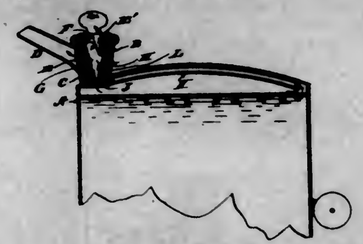


1. In combination a hollow stem a cup carried thereby, said cup being provided with an interior annular groove, a rod extending through the hollow stem and projecting within the cup, a head on the rod within the cup and a plurality of gripping arms, each arm having an enlarged end portion within the cup, said enlarged portion being provided with a notch to receive a head and having a lug extending within the cup.

2. In combination a hollow stem, a cup carried thereby, said cup being provided with an interior annular groove, a rod extending through the hollow stem and projecting within the cup, a head on the rod within the cup and plurality of gripping arms, each arm having an enlarged end portion within the cup, said enlarged portion being provided with a notch to receive a head and having a lug extending within the cup, and fingers carried by the head adjacent the end of each finger for holding the finger against undue lateral movement.

868,691. OIL-CAN. WILLIAM R. OXTON, Farmington, Ill. Filed July 2, 1906. Serial No. 324,949.

1. A device of the class described comprising a fluid receptacle, a fixed member at the top thereof provided with a bore and having a spout connected therewith there being a fluid passage through the wall of said member outside the receptacle communicating with the said spout, there being also an air passage in the wall outside the receptacle and at the opposite side of the member and having a second air passage through said wall inside of and communicating with the interior of the receptacle, a movable stopper adapted to seat fluid tight in the bore of the member and having a central recess for fluid, there being a fluid passage in the stopper for connecting the recess with the spout, there being a groove in the outer surface of the stopper, one end terminating at the outer air passage in the member outside the receptacle, its other end terminating at the remaining air passage within the receptacle, thereby connecting both apertures substantially in the manner shown and for the purposes set forth, and means for holding the stopper in position within the bore but for at will permitting its removal therefrom.



2. A device of the class described comprising a fluid receptacle, a member secured in the top thereof and provided with a conical bore, there being a fluid passage through its wall outside the receptacle, there being an aperture through said wall also outside the receptacle for the passage of air, there being a second air passage through said wall inside of and communicating with the interior of said receptacle, a tube inside the receptacle and communicating at one end with the interior air aperture, its other end terminating in the top of the receptacle, a conical stopper adapted to seat fluid tight in the member and having a fluid passage therethrough connecting the interior of the receptacle with the fluid passage in the member outside the receptacle and having also a groove in its surface, the ends of the groove terminating one inside and the other outside the receptacle, and connecting the separate air apertures in the member substantially as shown, and a member normally positioned upon the stopper for holding it in place but shiftable to permit the removal of said stopper.

868,692. MILK-PAIL HOLDER. IVAN OTIS, Marshall, Minn. Filed Aug. 5, 1907. Serial No. 387,163.



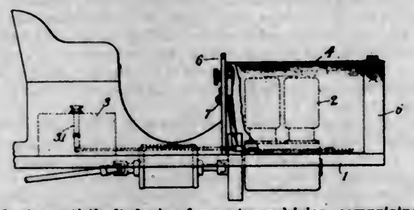
1. In a milk pail holder, the combination with a supporting bar, of a rest bracket adjustably supported therefrom, means for connecting said supporting bar to the leg of a person, and a pail clamp carried by said supporting bar, substantially as described.

2. In a milk pail holder, the combination with a supporting bar, of a rest bracket adjustably supported therefrom, a leg strap attached to said supporting bar for connecting the same to the leg of a person, and a pail clamp carried by said supporting bar, substantially as described.

3. In a milk pail holder, the combination with a supporting bar, of a rest bracket mounted for sliding movement thereon and adapted to be held by friction in different positions, leg sockets through which said supporting bars are adapted to slide, leg straps secured to said leg sockets for connecting the same to the leg of a person, and a pail clamp carried by one of said leg sockets, substantially as described.

4. In a milk pail holder, the combination with a supporting bar, of a rest bracket mounted for sliding movement thereon and adapted to be held by friction in different set positions, leg sockets through which said supporting bars are adapted to slide, leg straps secured to said leg sockets for connecting the same to the leg of a person, and a pail clamp carried by the upper leg socket, substantially as described.

868,693. DEVICE TO PREVENT TAMPERING WITH OR THEFT OF MOTOR-VEHICLES. LEON OTTINGER, New York, N. Y. Filed Dec. 18, 1905. Serial No. 292,247.



1. An anti-theft device for motor vehicles, comprising a latch mechanism for the bonnet or hood, an electric switch for the motor circuit, and a lock for controlling both said switch and said latch mechanism.

2. An anti-theft device for motor vehicles, comprising a latch for the bonnet or hood and a lock on the dashboard coöperating with said latch to secure the latch in operative position.

3. An anti-theft device for motor vehicles comprising a latch mechanism for the bonnet or hood, and a lock mounted on the dashboard of the motor vehicle and having a bolt engaging with said latch mechanism to secure it in operative position.

4. In apparatus of the character specified, the combination with a latch mechanism for the bonnet or hood of a motor vehicle, of means mounted on the dashboard of the vehicle for operating the latch mechanism.

5. In apparatus of the character described, the combination with a fixed contact of a movable contact member in the form of a bolt, a latch mechanism for the bonnet or hood of a motor vehicle, said latch mechanism being adapted to be locked in operative position by means of said movable contact member when said movable contact member is not in electrical contact with the fixed contact member.

6. In apparatus of the character described, the combination with a latch mechanism for the bonnet or hood of a motor vehicle of an electric switch comprising a movable bolt adapted to engage said latch mechanism to secure it in operative position, and a lock operatively connected with said switch, whereby said bolt may be thrown into and out of engagement with said latch mechanism.

7. In apparatus of the character described, the combination with a latch mechanism for the bonnet or hood of a motor vehicle, of a closure for the fuel tank of the vehicle, and connections between said latch mechanism and said closure whereby the movement of the latch mechanism into operative position will throw the closure into operative position.

8. In apparatus of the character described, a supplemental closure for the fuel tank of a motor vehicle, and mechanism mounted on the dashboard of the vehicle to throw said closure into and out of operative position.

9. A latch mechanism for the bonnet or hood of a motor vehicle, comprising a latching member having an inclined or wedging face whereby the bonnet or hood is simultaneously latched and pressed into firm engagement with the structure upon which it is supported.

868,694. PIPE-HANGER. HOWARD M. PARKS, Fitchburg, Mass. Filed May 11, 1907. Serial No. 373,064.

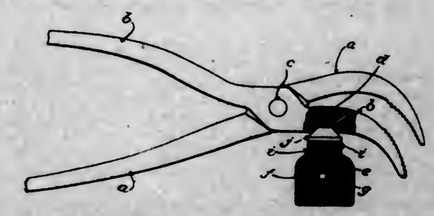


1. A pipe hanger construction comprising two complementary sheet metal strips, the upper edges of said strips being provided with a series of curved pipe holding notches; a semi-tubular transverse corrugation struck out from each strip on each side of a pipe holding notch; and means securing said strips one to the other with said corrugations and notches in juxtaposition, so that juxtaposed corrugations form tubular receptacles for suspension rods.

2. A pipe hanger construction, comprising two complementary sheet metal strips, the upper edges of said strips being provided with a series of curved pipe holding notches; a semi-tubular transverse corrugation struck out from each strip between adjacent notches; and rivets adjacent said corrugations securing said strips together with the notches and corrugations in juxtaposition, so that said corrugations form tubular receptacles for suspension rods.

3. A pipe hanger comprising two complementary sheet metal strips, the upper edges of said strips being provided with a series of pipe holding notches; transverse tubular portions for said strips and alternating with said pipe holding notches; and a plurality of suspension rods extending through said tubular portions to support said hanger and to hold the same in substantially a vertical plane.

868,695. LASTING-PINCERS. CHARLES S. PARSONS, Beverly, N. J., assignor to Frank W. Whitcher, Boston, Mass. Filed Dec. 4, 1903. Serial No. 183,717.



1. In lasting pincers, the combination of a jaw, a detachable hammer head, an independent detachable shank screwed into said jaw and connecting the said jaw and hammer-head, said shank having thereon an annular projection arranged between said jaw and hammer-head, and having a conical face bearing solidly against a countersunk face of said jaw, for the purposes and substantially as set forth.

2. In lasting pincers, the combination of a jaw, a detachable hammer head, an independent detachable shank screwed into said jaw and connecting the said jaw and hammer head, said shank having thereon an integral annular projection arranged between said jaw and hammer head for the purposes and substantially as set forth.

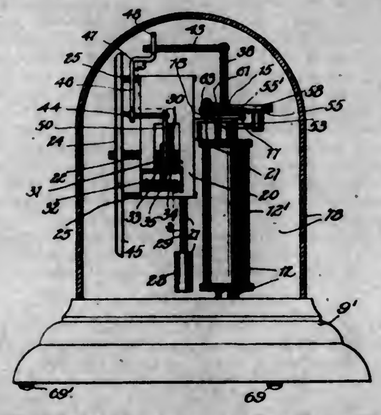
3. In lasting pincers, the combination of a jaw, a detachable hammer head, an independent detachable shank, having an annular projection thereon, said projection having a conical face bearing solidly against a countersunk face of said jaw, and reinforces around said shank interposed and rigidly clamped between the said annular projection and the said hammer head, substantially as described.

4. In lasting pincers, the combination of a jaw, a detachable hammer head, an independent detachable shank

connecting said jaw and hammer head, a reinforce around and integral with said shank, said reinforce being clamped rigidly between and bearing solidly against said jaw and hammer-head and having a conical upper face fitting in a countersink in the jaw, and a flat lower face, said reinforce thus serving to separate said hammer-head and jaw and support the shank, substantially as described.

5. In lasting pincers, the combination of a jaw, a detachable hammer head, an independent detachable shank connecting said jaw and hammer-head, a reinforce around and integral with said shank, said reinofrce having a conical upper face fitting into a countersink in the jaw, and a flat lower face, and one or more additional reinforces around said shank and rigidly clamped between said conical reinforce and said hammer-head, so as to support said shank, substantially as described.

868,696. SELF-WINDING ELECTRIC CLOCK. ARTHUR F. POOLE, Wheeling, W. Va. Filed Jan. 24, 1906. Serial No. 297,552.



1. In a device of the class described, the combination with a clock train, of a weight for driving said clock train, ratchet mechanism interposed mechanically between said weight and said clock train, an electromagnet, a movable armature therefor, mechanism for transmitting the motion of the armature to the weight and from the weight to the armature, a switch controlling the circuit of the electromagnet, a switch actuating lever, a link pivoted on said lever, a cam roller carried on said link, a cam controlled by the armature and adapted to move forward and back under said cam roller, there being a projection on the cam surface, stops independent of the rotation of the cam to limit the movement of the cam roller, and a spring acting to maintain said cam roller on the surface of the cam and tending to move the cam roller away from the projection on the cam in that direction from the projection of the cam in which the cam roller may lie.

2. In a device of the class described, the combination with an electromagnet, of a movable armature therefor, a cam having a movement corresponding with that of the armature, a cam roller adapted to occupy two alternate positions, a projection on the surface of the cam over which the cam roller must ride in passing from one alternate position to the other, a spring coöperating with the cam surface upon the cam roller and producing a tendency for the cam roller to move from the projection of the cam in either direction, a switch controlling the circuit of the electromagnet, and means whereby the cam roller may actuate said switch.

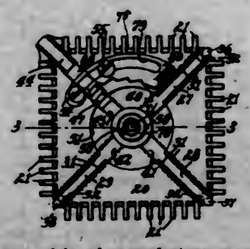
3. In a device of the class described, the combination with an electromagnet, of a movable armature therefor, a cam having a projection on its cam surface and the movement of which is controlled by the movement of the armature, a cam roller riding on the surface of said cam, stops independent of the movement of the cam to limit the movement of the cam roller, a spring acting to maintain said cam roller on the surface of the cam and tending also to move the cam roller away from the projection on the cam surface, a switch controlling the circuit of the electromagnet, and means whereby the operation of said switch is controlled by the cam roller.

4. In a device of the class described, the combination with a clock train, of a weight for driving said clock train, ratchet mechanism interposed mechanically between said weight and said clock train, an electromagnet, a movable armature therefor, mechanism for transmitting the motion of the armature to the weight and from the weight to the armature, a switch controlling the circuit of the electromagnet, a switch actuating lever, a link pivoted on said lever, a cam roller carried on said link, a cam constructed integrally with the armature and having a surface concentric with the pivot of said armature and adapted to move forward and backward under said cam roller there being a projection on the cam surface, stops independent of the rotation of the cam to limit the movement of the cam roller, and a spring acting to maintain said cam roller on the surface of the cam and tending to move the cam weight from the projection on the cam in that direction from the projection of the cam in which the cam roller may lie.

5. In a device of the class described, the combination with an electromagnet, of a pivoted armature therefor, a cam having a surface concentric with the pivot of said armature and having a movement corresponding with that of the armature, a cam roller adapted to occupy two alternate positions, a projection on the surface of the cam over which the cam roller must ride in passing from one alternate position to another, a spring coöperating with the cam surface upon the cam roller and producing a tendency for the cam roller to move from the projection of the cam in either direction, a switch controlling the circuit of the electromagnet, and means whereby the cam roller may actuate said switch.

6. In a device of the class described, the combination with an electromagnet, of a movable armature therefor, a cam having a projection on its cam surfaces and the movement of which is controlled by the armature, a cam roller riding on the surface of said cam, stops independent of the movement of the cam to limit the movement of the cam roller, a spring acting to maintain said cam roller on the surface of the cam and tending also to move the cam roller away from the projection on the cam surface, a switch controlling the circuit of the electromagnet, and means whereby the operation of said switch is controlled by the cam roller.

868,697. RAZOR. RICHARD H. REED, New York, N. Y., and HENRY WILCOX, Newark, N. J., assignors to The Patent Ownership Company, New York, N. Y., a Corporation of New York. Filed July 27, 1906. Serial No. 327,994.



1. As a new article of manufacture, a comparatively thin razor blade having cutting edges on a plurality of sides, the blade having a stiffening plate permanently secured to one or both sides thereof, with the cutting edges of the blade projecting beyond the stiffening plate or plates.

2. As a new article of manufacture, a comparatively thin razor blade having cutting edges on two opposite sides, the blade having a stiffening plate permanently secured to one or both sides thereof with the cutting edges of the blade projecting beyond the plate or plates.

3. As a new article of manufacture, a comparatively thin razor blade of polygonal shape having cutting edges on all of its sides, and a stiffening plate permanently secured to each side of the blade with the cutting edges of the blade projecting beyond the plates.

4. As a new article of manufacture, a comparatively thin razor blade of polygonal shape, having a stiffening plate permanently secured to one or both sides, the blade projecting beyond the plates except at the corner portions.

5. As a new article of manufacture, a comparatively thin razor blade having cutting edges on opposite sides and provided with recesses at the end portions of the cutting edges, the blade having a stiffening plate permanently secured to one or both sides thereof with the cutting edges of the blade projecting beyond the plate, or plates.

6. As a new article of manufacture, a comparatively thin razor blade of quadrangular shape having cutting edges on all of its four sides, and a stiffening plate permanently secured to each side of the blade with the cutting edges of the blade projecting beyond the plates.

7. As a new article of manufacture, a comparatively thin razor blade of quadrangular shape having recesses at its corner portions, the blade having a stiffening plate permanently secured to each side with the cutting edges of the blade projecting beyond the plates.

8. In a razor, the combination of a frame member, a blade, springs on the frame member arranged to press the blade away from the frame member, a series of slides movable on the frame member and being organized to limit the outward movement of the blade by the springs, and means for simultaneously operating the slides.

9. In a razor, the combination of a frame member, a blade, springs on the frame member arranged to press the blade away from the frame member, a series of slides movable on the frame member and having inclined portions organized to engage the blade and limit the outward movement of the blade by the springs, and means for simultaneously operating the slides.

10. In a razor, the combination of a frame member provided with springs, a blade shaped to engage the frame member on one face, a series of slides movable on the frame member and provided with inclined portions arranged to engage the blade and limit its movement by the springs, teeth portions on the slides, and a rotary member on the frame member provided with a spiral rib on one face engaging the teeth of the slides whereby the slides are simultaneously operated.

11. In a razor, the combination of a frame member having guard portions along each of its sides, a polygonal blade having cutting edges on its sides shaped to coöperate with the guards when connected with the frame member, springs carried by the frame member and organized to move the blade outward from the frame member, lugs on the springs, the blade having recesses and disposed to fit between the lugs on the springs, and means organized to limit the outward movement of the blade by the springs.

12. In a razor, the combination of a polygonal frame member, a razor blade of similar shape, springs on the frame member organized to move the blade away from the frame member, lugs on the springs, the blade having recesses at the corners and disposed to fit between the lugs on the springs, a series of slides radially movable on the frame member having inclined portions arranged to engage the blade and limit its outward movement, and means for simultaneously operating the slides.

13. In a razor, the combination of a frame member, a blade, springs carried by the frame member organized to press the blade away from the plate, lugs on the springs, the balde having recess portions at its corners arranged to fit the springs adjacent the lugs, a series of radially movable slides carried by the frame member opposite the spring portions, the slides being provided with hook portions having the inner face inclined and disposed opposite said lugs, whereby the inward movement of the slides will variably limit the outward movement of the blade by the springs, the slides having teeth portions, and a nut member having a spiral thread on one face engaging the teeth of the slides whereby the latter are operated.

14. In a razor, the combination of a frame member, a blade, the frame member being provided with springs arranged to press the blade away from the plate, lugs on the springs, the plate having recess portions at its corners arranged to fit the springs adjacent the lugs, a series of radially movable slides carried by the frame member opposite the spring portions, the slides being provided with hook portions having the inner face inclined and located opposite said lug portions, the hook portions having slots engaging the lugs, whereby the movement of the slides will variably limit the outward movement of the blade by the springs, the slides having teeth portions, and a nut member having a spiral thread on one face engaging the teeth of the slides whereby the latter are operated.

15. In a razor, the combination of a frame member, a blade, springs located on the frame member arranged to press the blade outward from the frame member, a series of slides radially movable on the frame member and having inclined portions arranged to engage the blade, means for simultaneously operating the slides to variably limit the outward movement of the blade by the springs, and adjustable means for limiting the movement of the slides.

16. In a razor, the combination of a frame member, a blade, springs on the frame member to press the blade off therefrom, slides radially movable on the frame member to variably limit the outward movement of the blade by the springs, means for simultaneously operating the slides, a plate having stepped portions and shiftable on the frame member across one of the slides, the latter slide having a shoulder portion arranged to engage the step portion of the plate to adjustably limit the movement of the slides in one direction.

17. In a razor, the combination of a polygonal plate having guard portions at its sides, a polygonal blade having cutting edges at each of its sides arranged to coöperate with the guards when secured to the plate, the guard plate having radially extending slots on one face with the opposite sides under-cut, slides having beveled side portions and movable in the slot portions of the plate, the slides having hooked portions extending around the corners of the guard plate to the opposite face, the inner faces of the extensions being inclined, spring portions on the guard plate at the bottom wall of the slot portions forming springs that extend normally outward away from the slotted side of the plate, lugs on the end of the spring portions lying beneath the inclined extensions, the blade having recesses at its corners to fit between the lugs of the springs and be engaged by the inclined portions of the slides, a post on the slotted side of the guard plate, a nut member rotatable on said post and having a spiral thread on one face, the slides having thread portions engaging the threads on the nut member whereby the slides are simultaneously operated.

18. In a razor, the combination of a polygonal plate having guard portions at its sides, a polygonal blade having cutting edges at each of its sides arranged to coöperate with the guards when secured to the plate, the guard plate having radially extending slots on one face with the opposite sides under-cut, slides having beveled side portions and movable in the slot portions of the plate, the slides having hooked portions extending around the corners of the guard plate to the opposite face, the inner faces of the extensions being inclined, integral spring portions in the guard plate at the bottom wall of the slot portions forming springs that extend normally outward away from the slotted side of the plate, lugs on the end of the spring portions lying beneath the inclined extensions, the blade having recesses at its corners to fit between the lugs of the springs and be engaged by the inclined portions of the slides, a post on the slotted side of the guard plate, a nut member rotatable on said post and having a spiral thread on one face, the slides having thread portions engaging the threads of the nut member whereby the slides are simultaneously operated, and a handle detachably secured to said post and organized to extend at different angles therefrom.

19. In a razor, the combination of a frame member provided with oppositely disposed guard portions, a blade member having cutting edges disposed to coöperate with said guard portions, resilient means carried by the frame member arranged to engage the blade, means connected with the frame member arranged to coöperate with the resilient means to support the blade offset from the frame member with the cutting edges of the blade in proximity to the guard portions of the frame, a handle having a polygonal tongue, the frame member being provided with a socket fitting such tongue, and means for removably securing the tongue in the socket portion.

20. In a razor, the combination of a frame member provided with oppositely disposed guard portions, a blade member having cutting edges disposed to coöperate with said guard portions, resilient means carried by the frame member arranged to engage the blade, adjustable means connected with the frame member arranged to coöperate with the resilient means to support the blade offset from the frame member with the cutting edges of the blade in proximity to the guard portions of the frame, a handle member, and means for detachably securing the handle member to the frame member in different predetermined positions.

21. In a razor, the combination of a polygonal frame member having guard portions along its sides, a polygonal blade having cutting edges on opposite sides arranged to coöperate with the guard portions when connected with the frame member, yieldable means adjustably connected with the frame member and organized to support the blade offset from the frame member with the cutting edges of the blade at varying distances from the guard portions, a handle member, and means for detachably securing the handle member to the frame in different positions in each one of which the handle extends inclined relative to one of the sides of the frame at the same predetermined angle.

22. In a razor, the combination of a polygonal frame member having guard portions along its sides, a polygonal blade having cutting edges on opposite sides arranged to coöperate with the guard portions when connected with the frame member, yieldable means adjustably connected with the frame member and organised to support the blade offset from the frame member with the cutting edges of the blade at varying distances from the guard portions, a handle having a polygonal tongue, the frame member being provided with a socket fitting such tongue whereby the handle can be fitted to the frame in different positions in each one of which the handle extends inclined to one side of the frame at the same predetermined angle.

23. In a razor, the combination of a frame member having fixed guard portions along opposite sides, a blade having cutting edges on opposite sides arranged to coöperate with the guard portions, and adjustable resilient means carried by the frame member and organised to support the blade with the cutting edges at different distances from the guard portions whereby the blade as a whole is bodily shifted to and from the guard portions in a path transverse to the plane of the blade edges.

24. In a razor, the combination of a frame member provided with a plurality of guard portions, a blade member having cutting edges disposed to coöperate with the guard portions, resilient means carried by the frame member and engaging the blade to press it away from the guard portions in a direction transverse to the plane of the blade edges, and adjustable means connected with the frame member and arranged to coöperate with the resilient means to support the blade offset from the guard portions.

25. In a razor, the combination of a frame member of substantially polygonal outline having guard portions along its sides, and adjustable resilient means mounted on the frame member and organized to engage the blade at its corner portions only adjacent the cutting edges whereby the blade is supported offset from the guard portionsbe at variable distances.

26. In a razor, the combination of a frame member of substantially polygonal outline having guard portions along its sides, and adjustable resilient means mounted on the frame member and organised to engage the blade at its corner portions only adjacent the cutting edges whereby the blade is supported offset from the guard portions at variable distances, the blade being movable to and from the guard portions in a path transverse to the plane of the blade.

27. In a razor, the combination of a frame member of polygonal outline having guard portions along its sides, a blade of similar polygonal outline having portions removed at its corners, and adjustable resilient means arranged to engage the blade at its corner portions only.

28. In a razor, the combination of a frame member of polygonal outline having guard portions along its sides, a blade of similar polygonal outline having portions removed at its corners, and adjustable resilient means arranged to engage the blade at its corner portions only with the edges of the blade removed at different distances from the guard portions.

29. In a razor, the combination of a frame member provided with a guard portion, a blade, and means on the frame member arranged to engage the blade at its corner portions only, said means being slidable to engage some of said corners and movable toward and from other of said corner supporting portions to clamp and release the blade.

30. In a razor, the combination of a frame member provided with a guard portion, a blade having cutting edges on the opposite sides, and shiftable means on the frame member arranged to engage the blade at its corner portions only, whereby the blade is clamped with one of its cutting edges in proximity to the guard portion.

31. In a razor, the combination of a frame member having a guard portion, a blade, means on the frame member for engaging the blade at its corner portions only to clamp the blade with its edge in proximity to the guard portion, two of said blade engaging means being located at opposite ends of the guard portion and being movable relative to other said blade supporting means in a path parallel with the plane of the blade to clamp and release the blade.

32. In a razor, the combination of a frame member provided with a guard portion, a blade, means carried by the frame member and arranged to engage the blade at its corner portions only, some of said means being movable in a path parallel with the plane of the blade to removably secure the blade with its cutting edge in proximity to the guard portion.

33. In a razor, the combination of a frame member provided with a plurality of guard portions, a polygonal blade having cutting edges on all of its sides, means carried by the frame member and arranged to engage the blade at its corner portions only, some of said means being movable in a path parallel with the plane of the blade to removably secure the blade with its cutting edges in proximity to the guard portions.

34. In a razor, the combination of a polygonal frame member provided with a plurality of guard portions, a polygonal blade having cutting edges on all of its sides, and means on the frame member arranged to engage the blade at its corner portions only, said means being slidable to engage some of said corners and movable toward and from other of said corner supporting portions to clamp and to release the blade.

35. In a razor, the combination of a frame member having a plurality of guard portions, a polygonal blade having cutting edges on all of its sides, means on the frame member for engaging the blade at its corner portions only to clamp the blade with its edge in proximity to the guard portions, two of said blade engaging means being located at opposite ends of a guard portion, and movable relative to other of said blade supporting means in a path parallel with the plane of the razor to clamp and release the blade.

36. In a razor, the combination of a frame member having a guard portion, a polygonal blade having cutting edges on all of its sides, and means carried by the frame member and organised to engage the blade at its corner portions only to support the blade offset from the frame member at all other portions, the cutting edges of the blade being located in proximity to the guard portion.

37. In a razor, the combination of a polygonal frame member having guard portions, a blade of polygonal outline having cutting edges on all of its sides and having portions removed at its corners, and means carried by the frame member organised to engage the blade at the margins of the said corner portions on opposite faces of the blade whereby the blade is secured to the frame member free and offset from the frame member at all other portions.

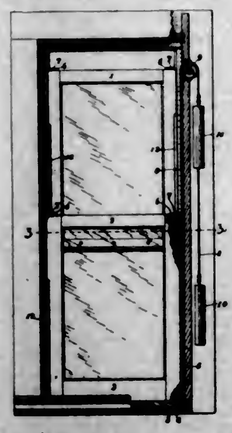
38. In a razor, the combination of a frame member having guard portions, a blade having two or more cutting edges with a recess at the ends of the cutting edges, and securing means carried by the frame member arranged to engage the blade on opposite faces at the recessed corner portions with the blade at all other portions offset from the frame member.

39. In a razor, the combination of a frame member of substantially polygonal outline provided with guard portions, a blade of similar polygonal outline having cutting edges on all of its sides and having portions removed at its corners, and supporting means carried by the frame member and engaging the blade on opposite faces at said corner portions with the blade offset from the frame member at all other portions.

40. In a razor, the combination of a frame member having guard portions, a blade, means on the frame member arranged to engage the lower face of the blade at its corner portions only to support the blade offset from the frame member, and means carried by the frame member for engaging the upper face of the blade at its corner portions only to coöperate with said means to secure the blade to the frame member.

41. In a razor, the combination of a frame member having guard portions, a blade, shiftable means on the frame member arranged to engage the lower face of the blade at its corner portions only to support the blade offset from the frame member, and adjustable means carried by the frame member for engaging the upper face of the blade at its corner portions to coöperate with said means to secure the blade to the frame member at different distances removed therefrom.

868,698. WINDOW. HARRISON RICH, Grand Rapids, Mich. Filed Sept. 24, 1906. Serial No. 335,915.



1. In a window, the combination of a casing, channel strips fixed in the casing, slides having one edge slidable in the channel strips and a groove in the other edge, a sash, weather strips on the sash and engaging the grooves in the slides, and means for detachably connecting the sash and slides.

2. In a window, the combination of a casing, strips of sheet metal folded to form a channel and attached to the casing, sheet metal slides each having one edge slidable in one of the channel strips, and the other edge folded to form a groove, a sash, weather strips attached to the sash and engaging the grooves in the slides, and means for detachably connecting the sash and slides.

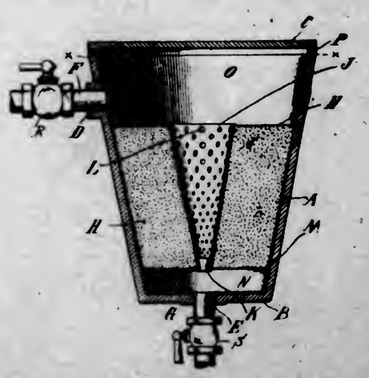
3. In a window, the combination of a casing, sheet metal strips folded to form channels and fixed in the casing, slides each having one edge slidable in one of said channels and the other edge folded to form a groove, pins in the lower ends of said slides, a sash having recesses to receive the pins, spring stops in the sash and engaging openings in the upper ends of the slides, weather strips attached to the sash and engaging the grooves in the slides, and means for counterbalancing the slides and sash.

4. In a window, the combination of a casing, slides vertically movable in the casing and having shoulders, spring hooks in the casing and engaging the shoulders, a sash, means for detachably connecting the sash and slides, lugs on the sash to engage the spring hooks and disengage them from the shoulders, and counterbalance cords and weights attached to the slides.

5. In a window, the combination of a casing, sheet metal slides in the casing and having folded edges forming grooves, and also having shoulders in the folded edges, spring hooks in the casing and engaging the shoulders, a sash, means for detachably connecting the sash and slides, weather strips, attached to the sash and engaging the grooves in the slides, lugs on the weather strips to engage and release the hooks, and counterbalance mechanism connected to the slides.

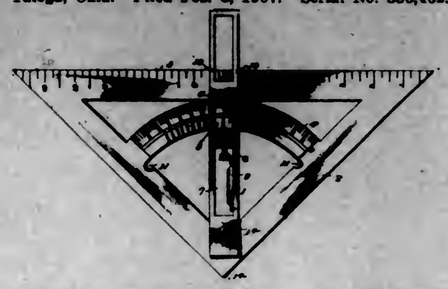
6. In a window, the combination of a casing, channel strips fixed in the casing, sheet metal slides each having one edge in one of said strips and the other edge folded to form a groove, a pin in each slide, an inwardly projecting member at the top of each slide and having an opening, a cord and counterbalance weights attached to each slide, a sash having recesses to receive the pins, spring stops in the sash to engage the springs in the slide, spring hooks engaging shoulders in the slides, weather strips on the sash and inserted in the grooves of the slides, and lugs on the weather strips to engage the hooks.

868,699. APPARATUS FOR DYEING YARN-COPS. JOHN F. ROBERTS, New Bedford, Mass., assignor of seventy one-hundredths to Joseph C. Nowell, New Bedford, Mass. Filed Oct. 29, 1906. Serial No. 341,175.



An apparatus for dyeing yarn cops, consisting of an inclosed conical vessel; regulated fluid supply inlet at its upper portion; a regulated discharge at its bottom; the vessel being of such form that a conical cop may be located in said conical vessel resting against its taper walls beneath the fluid supply opening and above the fluid discharge opening; a chamber being formed between said conical cop and said discharge; a perforated inverted cone located within the central portion of said yarn cop and closed at its base; whereby dye fluid is caused to flow through the yarn cop downwardly and radially when placed in the apparatus, substantially as specified.

868,700. COMBINATION-SQUARE. WARNER ROBERTS, Taloga, Okla. Filed Feb. 2, 1907. Serial No. 356,462.



1. As a new article of manufacture, a right angle triangle frame having its hypotenuse side provided with graduations, a 90 degree segment secured within the frame, a stock pivotally connected to the frame at the vertex of the right angle thereof, and means for holding said stock at different angles with respect to the frame, the stock being provided in its side edges and at the points where said side edges intersect the hypotenuse side of the frame when the stock and said side are at right angles with respect to each other, with notches for the purpose specified, and the sides of the frame being also provided at the ends of the segment with similar notches.

2. A device of the character described, comprising a right angle triangle frame provided with linear graduations, a ninety degree segment mounted within the frame, a stock pivotally connected at one end to said frame at the vertex of the right angle thereof, said stock being provided with an opening 5 registering with the segment and with a distinct opening 7 between the opening 5 and the pivot point, and a clamping screw working through the stock from the opening 7 and adapted to impinge against the inner side of the segment whereby to clamp the stock in different positions with respect to the frame.

868,701. PORTABLE SECTIONAL ROOF. THOMAS ROE, Merriam, Kans. Filed June 10, 1907. Serial No. 378,195.



1. A portable sectional roof comprising a plurality of sections disposed in two rows, each section comprising a sub-frame having securing bolts provided with upwardly projecting eyes, plates mounted on the sub-frame and having slots through which the eyes of the securing bolts extend, and key pins releasably mounted in the eyes of said securing bolts above said plates, and a cap releasably secured to and overlapping the two rows of sections.

2. In a portable sectional roof, the combination with two frames comprising each crossed bars, and eye bolts securing the crossed bars to each other at their points of intersection and having upwardly projecting eyes, of plates mounted on the crossed bars of each section and overlapping each other at their adjoining edges, said plates having slots through which the eyes of said bolts extend, key pins removably mounted in the eyes of said bolts above said plates, and means for releasably securing the frames to each other.

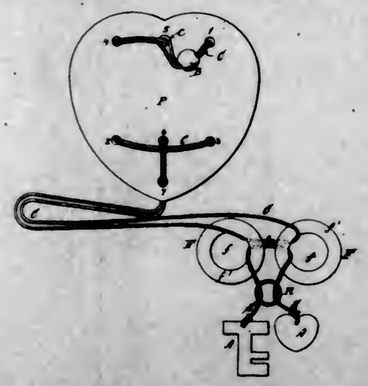
3. In a portable sectional roof, the combination with two sub-frames comprising each crossed bars and bolts securing said bars to each other at their points of intersection, said bolts having upwardly projecting eyes, of one or more members secured to one of the frames and having slots through which extend the eyes of bolts of the adjacent frame, a plurality of plates mounted on said frames and having overlapping edges and provided with slots through which the eye bolts of the frame respectively extend, and key pins removably mounted in the eyes of said bolts above said plates.

4. A section of a portable roof comprising a sub-frame consisting of crossed bars, bolts joining said bars together at their points of intersection, said bolts having upwardly projecting eyes, one or more plates mounted upon said frame and having slots through which the eyes of said bolts extend, and removable key pins mounted in the eyes of said bolts and bearing upon the upper sides of said plates.

5. A section of a portable roof comprising crossed bars, bolts connecting said bars at their points of intersection, said bolts having upwardly projecting eyes, a plurality of plates mounted on said bars and having their adjacent edges overlapping each other, said plates in the portions which overlap having slots through which extend the eyes of said bolts, and removable locking members mounted in the eyes of said bolts and bearing upon the upper sides of said plates.

6. A section of a portable roof comprising crossed bars, bolts extending through and connecting said bars where they intersect each other, said bolts having upwardly projecting eyes, a plurality of corrugated plates mounted on said bars and having each the corrugations adjacent opposite edges interfitting the adjacent corrugations of contiguous plates, the interfitting portions of said plates having slots through which extend the eyes of said bolts, and removable keys mounted in the eyes of said bolts upon the sides of said plates opposite said crossed bars.

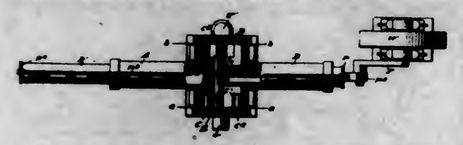
868,702. PUZZLE. RHODA M. ROESSNER, New York, N. Y. Filed Oct. 29, 1906. Serial No. 341,032.



1. In a puzzle of the character designated, the combination with a flexible object formed with a relatively large aperture and narrow continuous rim, of a flexible cord or equivalent passing through said flexible object and through a ring of relatively small diameter, said ring, and rigid objects attached to said flexible cord, of greater width than the internal diameter of said ring, for the purpose described.

2. In a puzzle of the character designated, the combination of a flexible object formed with a relatively large aperture and narrow continuous rim, a flexible cord or equivalent passing through said flexible object and through a ring of relatively small diameter, said ring, rigid objects attached to said flexible cord of greater width than the internal diameter of said ring, an endless cord passing through a loop formed in itself and through said flexible object and laced through a series of holes in a plate, said perforated plate, and a bead or equivalent object strung upon the loop in the endless cord, for the purpose described.

868,703. PUMP. ANDREW J. ROSS and MARSHALL J. MORTON, Pioneer, Cal.; said Morton assignor to said Ross. Filed Mar. 3, 1906. Serial No. 304,120.



1. In combination, a pair of pump cylinders connected together at their inner ends by a chamber and open at their outer ends, this chamber having lateral supporting parts and provided with a central imperforate partition extending across the chamber, thereby dividing the chamber into two parts and also separating the pump cylinders from each other, ports leading into the chamber at opposite sides of the pump and opposite sides of the partition, means for supporting these lateral parts, this supporting means being provided with ports adapted to alternately register with the ports aforesaid, a plunger working in each cylinder, means connecting the plungers, and power driven means for actuating the plungers and oscillating the pump barrel.

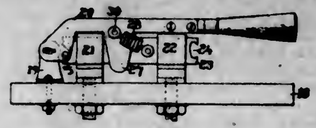
2. In combination, a pair of pump cylinders connected together at their inner ends by a chamber, this chamber having lateral cylindrical hollow trunnions whose outer ends are closed and whose under sides are each provided with a pair of ports, a vertical imperforate partition extending across the chamber between said ports, thereby dividing the chamber into two parts and also separating the pump cylinders from each other a stationary cup-like cylindrical bearing adapted to embrace and cover the end of each trunnion, the under side of this bearing being provided with ports, inlet and outlet chambers connected with these latter ports, connected plungers working in the cylinders, and suitable operating means.

3. In combination, a pair of pump cylinders connected together at their inner ends by a chamber, this chamber having lateral cylindrical hollow trunnions whose outer ends are closed and whose under sides are each provided with a pair of ports, a vertical imperforate partition extending across the chamber between said ports, thereby dividing the chamber into two parts and also separating the two pump cylinders from each other a stationary cylindrical cup-like bearing adapted to embrace and cover the end of each trunnion, the under side of this bearing being provided with ports, a series of rollers between the upper side of each trunnion and the top of the cylindrical bearing, and means for exerting a pressure downward on these rollers, inlet and outlet chambers connected with these latter ports, connected plungers working in the cylinders, and suitable operating means.

4. In a pump of the type set forth, a pair of pump cylinders connected together at their inner ends and having lateral hollow trunnions, connected pistons working in the cylinders and means for simultaneously operating these pistons in opposite directions and oscillating the cylinders on said hollow trunnions, inlet and exhaust ports in the under sides of said hollow trunnions, an imperforate partition extending across the hollow trunnions between the ports, stationary cylindrical bearings embracing said hollow trunnions and provided with ports adapted to register with the ports in the trunnions, and adjustable antifriction pressure devices between the upper sides of the trunnions and the upper sides of the inclosing bearings, whereby the trunnions are adjustably held down to their seats in the lower sides of the stationary bearings, for the purposes set forth.

868,704. ELECTRIC KNIFE-SWITCH. OTTO ROTHENSTEIN, Pittsburg, Pa. Filed Sept. 4, 1902. Serial No. 122,146.

1. In a knife blade switch, an operating lever, a separate knife, said knife having both its end portions symmetrically shaped and arranged relative to its central transverse axis, and connections between the operating lever and the end portion of the knife arranged to allow the knife to be reversed end for end; substantially as described.



2. In a knife blade switch, an operating lever, a double edge knife having its end portion shaped and arranged symmetrically on both sides of the longitudinal axis of the knife, and positive lost motion connections between the knife and the lever arranged to allow the knife to be reversed edge for edge; substantially as described.

3. In a knife blade switch, an operating lever, a double edge knife having its end portions shaped and symmetrically arranged relative to its central transverse axis, the end portions being symmetrically shaped on both sides of the longitudinal axis of the knife, and connections between the knife and the lever arranged to allow the knife to be reversed end for end and edge for edge; substantially as described.

4. In a knife switch, the combination with the operating lever provided with a guide for the knife and a pin forming a loose connection between the knife and lever, of the knife provided at each end with an opening for said pin, and a spring connecting the knife to the lever, substantially as set forth.

5. In a knife blade switch, a pivoted operating lever, a knife blade movable independently of the lever and having an elongated opening, means on the lever engaging the opening and a spring arranged to hold the knife blade against said means; substantially as described.

6. In a knife switch, the combination with the operating lever provided with a pin by which a loose connection with the knife is formed, of a triangular collar on said pin, the knife provided with a triangular opening larger than said collar to receive said pin and said collar, and a spring connection between said lever and said knife.

7. In a knife switch, the combination with the operating lever, formed of two plates spaced apart and provided with a handle, of a reversible knife having the ends shaped alike and mounted between and guided by said plates, jaws arranged to receive the knife and a spring connection between the lever and knife, substantially as and for the purpose set forth.

8. In a knife switch, the combination of an operating lever formed of plates spaced apart and provided with a handle, a reversible knife located between and guided by the plates and having its ends shaped alike and provided with triangular openings, a pivot pin extending through one of the triangular openings and supported upon the plates, a triangular block mounted upon the pin and received within the triangular opening, jaws arranged to receive the knife, and a spring connection between the lever and the knife.

868,705. HAND-TRUCK. CHARLES F. SCHELL, Buffalo, N. Y., assignor of one-half to George Schell, Buffalo, N. Y. Filed Oct. 23, 1905. Serial No. 283,986.

1. The combination with a truck having an axle and traction-wheels on said axle, of a brake-device having connected longitudinal arms bent between their ends to lie suspended on said axle, said arms having brake-shoes at one of their ends, and means to swing the brake-device on the axle to set said brake-shoes against the traction-wheels.

2. The combination with a truck having an axle and traction-wheels mounted thereon, of brake-mechanism comprising brake-arms having direct pivotal connection with the axle and having brake-shoes at their outer ends, said brake-shoes being normally out of contact with the traction-wheels and the floor, and an operating-lever having also direct pivotal connection with the axle and in operative connection with said brake-arms, said operating-lever adapted to swing the rear ends thereof toward the floor

to bring the brake-shoes in contact with the traction-wheels and the floor.



3. The combination with a truck having an axle and traction-wheels, of brake-mechanism comprising two longitudinal bars lying on the axle at points between their ends and having corresponding ends connected, a brake-shoe carried at each of the other ends, means to hold said bars to the axle, and means to force the longitudinal bars down against the floor to bring the brake-shoes in contact with both the floor and the traction-wheels.

4. The combination with a truck having an axle and traction-wheels, of brake-mechanism comprising two longitudinal bars bent to direct opposite ends toward the floor, a brake-shoe at the rear end of each bar, a connection between the front ends of said bars, and a foot-lever fulcrumed on the axle and engaging the brake-mechanism to cause the brake-shoes to be swung against the traction-wheels and the floor.

5. The combination with a truck having an axle and traction-wheels, of brake-mechanism comprising two longitudinal bars bent between their ends and having loops at the bent portion to loosely surround the axle, brake-shoes at one of the ends of said bars, a bar connecting the other ends of said bars and having a loop, and an operating-lever pivotally connected to the axle and having its front end entering the last mentioned loop.

6. The combination with a truck having an axle and traction-wheels, of a brake-device having flat brake-shoes arranged to bear with their side edges against the traction-wheels and floor, respectively, when the brake-device is set.

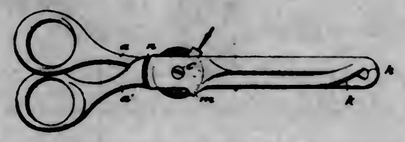
7. The combination with a truck having an axle and traction-wheels, of a brake-device loosely suspended on the axle and comprising two longitudinal bars having brake-shoes at one of their ends and a rigid connection between their other ends, means secured to the truck to maintain said brake-device in normal position, and an operating-lever connected with the brake-device and adapted to swing the latter into its braking position.

8. The combination with a truck having an axle and traction-wheels, of a brake-device loosely suspended on the axle and comprising two longitudinal bars having brake-shoes at one of their ends and a cross-bar connecting their other ends, an operating-lever pivotally attached to the axle and having its front end connected to said cross-bar, a stop-bar extending from the truck and having its free end in proximity to the rear end of one of the longitudinal bars, and a spring-bar secured to the truck and having its free end in proximity to the said cross-bar, said spring-bar being engaged and deflected on swinging the brake-device into its braking position.

868,706. SHEARS. FREDERICK W. SCHERMAN and JAMES M. THAMER, Evansville, Ind., assignors of one-third to John Herman Dersch, Evansville, Ind. Filed July 21, 1905. Serial No. 270,670.

1. Scissors or shears having one of the blades thereof provided with a recess in its inner face at its pivotal part, and a single screw-pivot directly connecting the said recessed part of the blade with the other blade and constituting the sole means for fastening the blades together.

2. Scissors or shears having opposing recesses in their inner faces at their pivotal part, and a single screw-pivot directly connecting the recessed parts of the blades together and constituting the sole means for fastening the blades together.



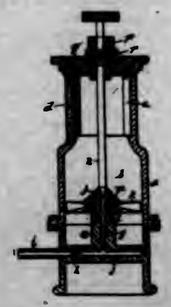
3. Scissors or shears having blades, one of which is provided at its tip with a blunt projection located beyond and separated from the termination of the cutting edges of the blades.

4. Scissors or shears having blades which are provided at their tips with blunt projections adapted to abut each other and located beyond and separated from the termination of the cutting edges of the blades.

5. Scissors or shears having blades which are provided at their tips with blunt projections having faces located in the line of the cutting edges of the blades beyond the termination of said cutting edges and adapted to abut each other.

6. Scissors or shears having a projection or extension on the edge of a blade thereof in front of the pivotal part thereof and in the same general plane of the blades, said projection extending beyond the outer edges of both blades when closed.

868,707. CARBURETER. WALTER C. SCHNEIDER, Detroit, Mich. Filed Feb. 25, 1907. Serial No. 359,282.



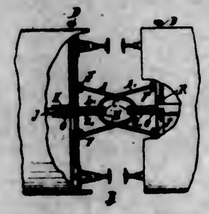
1. A carbureter comprising a carbureting chamber, a channeled hub within said chamber, a feed inlet passage opening leading into the channel of the hub, a manually operated valve to control said channel, and a rotatable fan supported upon said hub below the valve.

2. A carbureter, comprising a carbureting chamber provided with a feed inlet and a discharge outlet, a channeled hub within the said chamber communicating with the feed inlet and forming a valve seat at the upper end thereof, a manually operated valve to seat upon said valve seat, and a rotatable fan supported upon said hub below the valve seat, substantially as described.

3. A carbureter, comprising a carbureting chamber, a feed inlet passage opening into said chamber, a channeled hub within said chamber, a valve to control the channel of the hub, a rotatable fan supported upon the hub below said valve, and a deflecting cone above the fan.

4. A carbureter, comprising a carbureting chamber, a feed inlet passage opening into said chamber, a discharge passage leading therefrom, a channeled hub within said chamber, a valve to control the channel of the hub, a rotatable fan supported upon the hub below said valve, a valve to control the outlet passage, and a lever to simultaneously actuate both of said valves.

868,708. CAR-COUPLING. WILHELM SCHURR, Cannstatt, near Stuttgart, Germany. Filed Feb. 2, 1907. Serial No. 355,475.



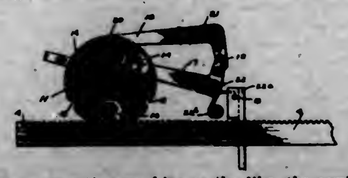
1. In a car coupling, the combination with a locking member comprising a body portion and hinged arms connected to the body portion and normally held in a distended position, of a tripping mechanism mounted within said locking member and pivotally connected to said hinged arms, and means for actuating said tripping mechanism to draw said hinged arms toward one another, substantially as described.

2. In a car coupling, the combination with a locking member comprising a hollow body portion mounted on the draw bar, hinged arms extending from said body portion and normally held in a distended position, of a trip bar mounted in the hollow of said body portion, pivotal connections arranged between said bar and said hinged arms whereby, when said trip bar is pushed inward, said hinged arms will be drawn together, one of said hinged arms being provided with a transverse bar and a locking bar carried by the other of said arms and adapted to lay behind said transverse bar when in the locked position, substantially as described.

3. In a car coupling, the combination with a locking member comprising a hollow body portion, hinged arms extending from said body portion and normally held in a distended position, of a trip bar mounted in the hollow of said body portion, trip arms connecting said bar to said hinged arms, said bar being adapted to be pressed inward to draw said hinged arms together and being provided with a recess therein, and a latch mechanism mounted through the wall of said body portion and adapted to engage within said recess when said trip bar is pushed inward, substantially as described.

4. In a car coupling, the combination with a locking member comprising a hollow body portion, hinged arms extending from said body portion and normally held in a distended position, of a trip bar mounted in the hollow of said body portion, trip arms connecting said bar to said hinged arms, said bar being adapted to be pressed inward to draw said hinged arms together, and being provided with a recess therein, a spring pressed latch mounted through the wall of said hollow body portion and adapted to engage within said recess when said trip bar is pulled inward, and means whereby said latch may be released from the side of the car, substantially as described.

868,709. TABULATING ATTACHMENT FOR COMPUTING-MACHINES AND THE LIKE. DANIEL W. SHIRK, Chicago, Ill. Filed Mar. 1, 1905. Serial No. 247,847.



1. In a computing machine or the like, the combination with the carriage thereof, of tabulating mechanism arranged to temporarily check the movement of said carriage and yieldingly maintain the same in position for alinement of columns of figures.

2. In a computing machine and the like, the combination with the carriage thereof of tabulating mechanism comprising a series of variable retaining devices, a rack movable relatively to the tabulating mechanism and serving to measure the travel and stop the carriage in fixed position when engaged with said tabulating mechanism, and means whereby any one of said retaining devices may be engaged with the rack to aline columns of figures, substantially as described.

3. In a computing machine and the like, the combination with the carriage thereof, of tabulating mechanism comprising a rotatable disk and a series of toothed wheels having variable delay surfaces pivoted thereto, a rack movable relatively to said tabulating mechanism, and means for rotating the disk to bring the delay surface of any given wheel upon the teeth of the rack to retain it and aline columns of figures, substantially as described.

4. In a computing machine and the like, the combination with the carriage thereof, of tabulating mechanism comprising a rotatable peripherally notched disk with spacing and retaining members corresponding in number to the notches, pivoted thereto and having variable delay surfaces, a latch engaging with the notches of the disk, a rack moving relatively to said tabulating mechanism, means for rotating the disk to bring either of the spacing members into engagement with the rack to hold the carriage and aline columns of figures and regulate the position of figures in each entry in said columns, substantially as described.

5. In a computing machine and the like, the combination with the carriage thereof, of tabulating mechanism comprising a rotatable peripherally notched disk with spacing and retaining members corresponding in numbers to the notches, pivoted thereto and having variable delay surfaces, a latch engaging with the notches of the disk, a frame for sustaining said disk and latch, a rack moving relatively to said tabulating mechanism, means for pressing said frame resiliently towards the work, means for rotating the disk to bring either of the spacing members into engagement with the rack to hold the carriage and aline columns of figures and regulate the position of figures in each entry in said columns.

6. In a computing machine and the like, the combination with the carriage thereof, of tabulating mechanism comprising a rotatable peripherally notched disk, a latch engaging with the notches of said disk, a series of toothed wheels pivoted thereto and having delay surfaces of varying extent and means for bringing either of the toothed wheels into engagement with the rack, for the purpose set forth.

7. The combination in the tabulating mechanism of the rotatable notched disk, the variable toothed wheels pivoted thereto, means for rotating said disk, the fixed disk having a finger piece, the elbow lever having a thumb piece coöperating with said finger piece and the elbow latch lever pressed into engagement with the notches of the rotatable disk by a spring and thrown out by the action of the first named lever, substantially as described.

8. In a computing machine or the like, tabulating mechanism comprising a rotatable spacing member, in combination with a coöperating rack bar therefor the two being yieldingly engaged, one of said parts being permanently secured to the frame of the machine and the other longitudinally movable in relation thereto, whereby the stepping member may be engaged with the rack at any point in its length and operate to regularly space in either direction therefrom.

9. In a device of the kind described, rotatable retaining mechanism provided with delay surfaces, and a rack bar adapted to coöperate with said mechanism, one of said parts being permanently secured to the frame of the machine and the other longitudinally movable in relation thereto.

10. In a device of the kind described, the combination with a carriage, of tabulating mechanism, a rack movable relatively to said tabulating mechanism, means to engage the tabulating mechanism with said rack to check the movement of said carriage in either direction at certain points and means for changing the position of said points.

11. In a device of the kind described, the combination

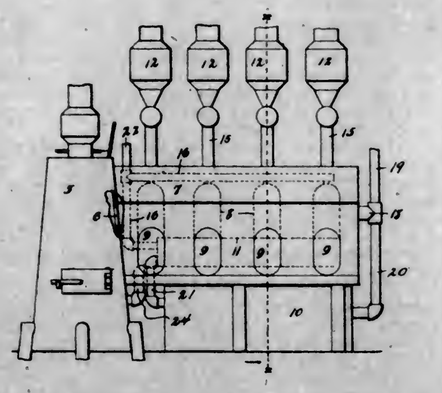
with a carriage of tabulating mechanism, a rack relatively movable to said tabulating mechanism, means to engage said tabulating mechanism with said rack to check the movement of said carriage in either direction at certain points, and means for changing the position and distance between said points.

12. In a device of the kind described, a rack bar, a tabulating mechanism comprising a plurality of mutilated gears, any one of which may be brought into engagement with said rack bar, the normal portion of each gear being of different length and provided with teeth adapted to mesh with the teeth upon said rack bar.

13. In a device of the kind described, a rack bar, a tabulating mechanism comprising a plurality of mutilated gears, any one of which may be brought into engagement with said rack bar, the normal portion of each gear being of different length and provided with teeth arranged to engage the teeth of said rack bar in any position of said gear.

14. In a device of the kind described, a rack bar, a mutilated gear, means for bringing said gear into engagement with said rack bar, the normal portion of said gear having teeth adapted to mesh with the teeth upon said rack bar and arranged to engage the same in any position of the gear.

868,710. PROCESS OF MAKING GAS. DAVID A. SHORT, Cincinnati, Ohio, assignor of one-third to Eugene F. Spencer, Dayton, Ky., and one-third to Alexander Reid, College Hill, Ohio. Filed May 2, 1907. Serial No. 371,371.

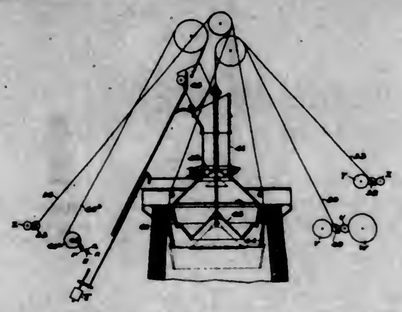


1. A process of making gas which consists in making producer gas conducting said producer gas to retorts containing coal and distilling said coal by the heat of said producer gas and then passing said producer gas through a steam generator and then mixing said producer gas with the distilled gas to form a fixed gas of the whole.

2. A process of making gas which consists in making producer gas passing said gas about retorts containing coal and distilling said coal by the heat of said producer gas, then passing said producer gas through the flues of a steam generator without igniting said gas and then mixing said producer gas with the distilled gas to form a fixed gas of the whole.

3. A process of making gas which consists in making producer gas passing said gas about retorts containing coal and distilling said coal by the heat of said producer gas, then passing said producer gas through the flues of a steam generator without igniting said gas, then mixing said producer gas with the distilled gas to form a fixed gas of the whole, and then utilizing the coke from said retorts in the producer gas generator.

868,711. MEANS FOR CONTROLLING THE OPERATIONS OF BLAST-FURNACE-CHARGING DEVICES. BARTON R. SHOVER, Youngstown, Ohio. Filed Jan. 12, 1906. Serial No. 295,685.



1. Blast furnace charging apparatus having a plurality of separately movable parts, motive devices for actuating said parts, and controlling means for governing the operation of the motive devices whereby said parts cannot be operated except in a certain predetermined cycle; substantially as described.

2. The combination with two or more blast furnace charging mechanisms, and separate driving means for actuating the same, of means controlled by the movement of said mechanisms whereby they can be operated only in a predetermined cycle; substantially as described.

3. The combination with blast furnace charging parts and motors for actuating the same, of means controlled by the operation of said parts, whereby said motors are inoperative except in a predetermined order or sequence in a definite cycle; substantially as described.

4. The combination with two or more blast furnace charging parts, and separate actuating devices therefor, of automatic means for preventing the operation of the actuating devices, and charging parts, except in a predetermined order or sequence in a definite cycle; substantially as described.

5. Blast furnace charging apparatus having a plurality of separately movable charging parts, motive devices for operating the same, and a plurality of interrelated controllers for the motive devices operated by the movements of the charging parts to prevent the operation of the motive devices, except in a definite cycle.

6. The combination with a number of movable blast furnace charging parts, separate means for actuating the same, and electro-magnetic switches controlling the operation of the actuating means, and themselves controlled by the operation of the movable charging parts, and arranged to compel the operation of such parts in a predetermined cycle.

7. The combination with two or more movable furnace charging parts including a skip or hoist, and separate means for actuating such parts, of electro-magnetic switches controlling the circuits of the actuating means, the several switches having interdependent connections, and means controlled by the movement of the charging parts and skip for controlling the action of the switches; substantially as described.

8. The combination with two or more movable furnace charging parts including a skip or hoist, and motive devices for actuating the same, of electro-magnetic switches controlling the circuits of the devices, interdependent circuits for the said switches, and movable contact devices actuated by the moving furnace charging parts and by the skip or hoist for automatically controlling the electro-magnetic switches; substantially as described.

9. The combination with two or more movable furnace charging mechanisms including a skip or hoist, and motors for actuating the same, of controllers for the motors, electro-magnetic switches controlling the circuits of the controllers, said switches having interdependent circuits, and movable contact devices actuated by the charging mechanisms and skip for automatically controlling the switches and circuits; substantially as described.

10. The combination with a plurality of furnace-charging mechanisms having related operations, of normally inoperative motors for actuating such mechanisms, and electro-magnetic means controlled by the movements of the mechanisms for controlling the operations of the motors whereby the said motors are rendered operative only in a certain predetermined cycle; substantially as described.

11. The combination with two or more furnace charging mechanisms, having a related operation, of motors for actuating such mechanisms, electro-magnetic switches controlling the operations of the motors, movable contact devices operated by the mechanisms for controlling the action of the switches to close the circuits of the motors in a certain predetermined cycle, and automatic signals for indicating the proper time of operation of each mechanism; substantially as described.

12. The combination with a plurality of blast furnace charging mechanisms, and motors for actuating such mechanisms, of electro-magnetic switches for controlling the operations of the motors, inter-related circuits for the switches, means actuated by the mechanisms for controlling such circuits, and switches whereby the operations of the said mechanisms must occur in a predetermined sequence and cycle, together with means for indicating to the operator the proper time for the operation of each of the mechanisms; substantially as described.

13. The combination with two or more movable furnace charging mechanisms, and motors for actuating the same, of controllers for the motors, electro-magnetic switches controlling the circuits of the controllers, said switches having interdependent circuits, and movable contact devices actuated by the charging mechanisms for automatically controlling the switches and circuits, together with normally open pilot switches in the circuits of the motors and controlled by the motor controllers; substantially as described.

14. The combination with two or more movable furnace charging mechanisms, and motors for actuating the same, of controllers for the motors, electro-magnetic switches controlling the circuits of the controllers, said switches having interdependent circuits, and movable contact devices actuated by the charging mechanisms for automatically controlling the switches and circuits, pilot switches in the motor circuits, and make and break switches operated by the pilot switches and inserted each in the circuit of another controller; substantially as described.

15. The combination of charging mechanism at the top of a furnace, a skip or hoist for delivering stock thereto, and motors for operating said charging mechanism and whose operation is controlled by the movements of the skip or hoist and thereby rendered inoperative except upon the completion of certain predetermined operations of the skip or hoist; substantially as described.

16. The combination with charging mechanism at the top of a furnace, a skip or hoist for delivering stock thereto, motors for operating the charging mechanism and the skip or hoist, and controlling devices for the said motors having interdependent circuits, and means operated by the said mechanism and the skip or hoist, whereby the operation of the motor or motors for the charging mechanism is controlled by the movement of the skip or hoist, and the operation of the skip or hoist is controlled by the operation of the charging mechanism; substantially as described.

17. The combination with charging mechanism at the top of a furnace, a skip or hoist for delivering stock thereto, motors for operating the charging mechanism and the skip or hoist, and controlling devices for the said motors having interdependent circuits, and means operated by the said mechanism and the skip or hoist, whereby the operation of the motor or motors for the charging mechanism is controlled by the movement of the skip or hoist, and the operation of the skip or hoist is controlled by the operation of the charging mechanism, together with circuit controlling means whereby the different moving parts of the charging mechanism can be actuated only in a predetermined order or sequence; substantially as described.

18. In blast furnace charging mechanism, a small bell, a skip or hoist, motive devices for the bell and the skip or hoist, and interrelated controlling mechanism for said motive devices arranged to prevent the operation of the skip or hoist except when the small bell is closed; substantially as described.

19. In blast furnace charging mechanism, a small bell, a skip or hoist, motive devices for the bell and the skip or hoist, and interrelated controlling mechanism for said motive devices arranged to prevent the operation of the skip or hoist except when the small bell is closed, and also to prevent the operation of the small bell until after the skip or hoist has discharged its load; substantially as described.

20. In blast furnace charging mechanism, a small bell, a large bell, motive devicese for said bells, and interrelated controlling mechanism for said motive devices, whereby the large bell cannot be operated until after the small bell has discharged a predetermined number of loads; substantially as described.

21. In blast furnace charging mechanism, a small bell, a rotary hopper, motive devices for said bell and hopper, and interrelated controlling mechanism for said motive devices arranged to compel the operation of the bell and hopper in a certain predetermined manner; substantially as described.

22. In blast furnace charging mechanism, a rotary hopper, a small bell, a large bell, motive devices for the hopper and bells, and interrelated controlling mechanism for the motive devices arranged to prevent the operation of said devices except in a predetermined order; substantially as described.

23. In blast furnace charging mechanism, a small bell, a large bell, a distributer, motive devices for the bell and distributer, and interrelated controlling mechanism for the motive devices arranged to prevent the operation thereof except in a predetermined cycle; substantially as described.

24. In blast furnace charging mechanism, a small bell, a large bell, a rotary hopper, a distributer, motive devices for the bells, hopper and distributer, and interrelated controlling mechanism for said motive devices arranged to prevent the operation thereof except in a predetermined cycle; substantially as described.

25. In blast furnace charging mechanism, a main bell and a distributer, movable within the furnace below the main bell motive devices for the bell and distributer, and interrelated controlling mechanism for the motive devices whereby the distributer cannot be operated until after a certain predetermined number of operations of the bell; substantially as described.

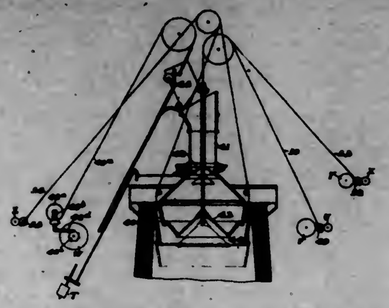
26. In blast furnace charging mechanism, a blast furnace charging part, a motor for operating the part, a controller for the motor, a pilot switch in the motor and controller circuit, and means whereby the pilot switch cannot be closed except under predetermined conditions; substantially as described.

868,712. MEANS FOR CONTROLLING THE OPERATIONS OF BLAST-FURNACE-CHARGING DEVICES. BARTON R. SHOVER, Youngstown, Ohio. Filed July 17, 1906. Serial No. 326,573.

1. In means for controlling the operation of blast furnace charging parts, motive devices for operating the parts at the top of the furnace, a motive device for operating the skip or hoist, and a controlling device operated by the last named motive device, and controlling the power supply of the other motive devices whereby they cannot be operated except in a predetermined cycle; substantially as described.

2. In means for controlling the operation of blast furnace charging parts, having a skip or hoist and a motive device for operating the same, a controlling switch for each of the parts to be operated, said switches having inter-related circuits, and a controller operated by the skip

or hoist movement and controlling said circuits; substantially as described.



3. Means for compelling the operation of blast furnace charging parts in a certain predetermined order or sequence, consisting of motive devices for the charging parts at the top of the furnace, a motive device for the skip or hoist, controlling switches for the motive devices, said controlling switches having inter-dependent and inter-related circuits, whereby each motive device can not be operated except in a certain order, and a circuit controlling device operated by the skip or hoist movement and controlling the operation of all the other motive devices; substantially as described.

4. In means for controlling the operation of blast furnace charging parts, the combination with a small bell, and a large bell, motive devices for said bells, of a skip or hoist, a motive device therefor, and a circuit controller operated by said skip or hoist and arranged to close the circuit of the small bell motive device at each operation of the skip and to close the circuit of the large bell motive device only after a certain number of operations of the small bell; substantially as described.

5. In means for controlling the operation of blast furnace charging parts, the combination with a small bell, a large bell, and motive devices for said bells, of a skip or hoist, a motive device therefor, and a circuit controller operated by said skip or hoist and arranged to close the circuit of the small bell motive device at each operation of the skip, and to close the circuit of the large bell motive device only after a certain number of operations of the small bell, together with circuit controlling means for preventing simultaneous operation of the two bells; substantially as described.

6. In means for controlling the operation of blast furnace charging parts, a skip or hoist, a hopper, a motor for operating the hopper, a circuit for the motor, and a contact device operated by the movement of the skip or hoist, and having contacts which control the circuit of the hopper motive device; substantially as described.

7. In means for controlling the operation of blast furnace charging parts, a skip or hoist, a small bell, a motor for operating the bell, and a contact device operated by the movement of the skip or hoist, and having contacts which control the operation of the small bell motive device; substantially as described.

8. In means for controlling the operation of blast furnace charging parts, a skip or hoist, a large bell, a motive device therefor, and a contact device operated by the movement of the skip or hoist, and having contacts which control the operation of the large bell motive device; substantially as described.

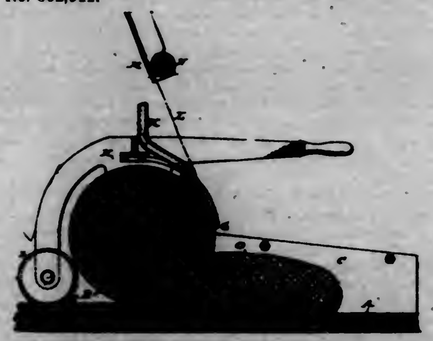
9. In means for controlling the operation of blast furnace charging parts, a skip or hoist, a small bell, a motive device for the bell, a hopper, a motive device for the hopper, and a contact device operated by the movement of the skip or hoist, and having contacts which control the operation of the hopper motive device and also the small bell motive device; substantially as described.

10. In means for controlling the operation of blast furnace charging parts, a skip or hoist, a hopper, a motive device therefor, a small bell, a motive device therefor, a large bell, a motive device therefor, and a contact device operated by the movement of the skip or hoist, and having contacts which control the operation of the hopper motive device and also the small bell motive device and other contacts which control the operation of the large bell motive device; substantially as described.

11. In means for controlling the operation of blast furnace charging parts, the combination with a skip or hoist, a hopper, a small bell, a large bell, a distributer, and motive devices for operating the skip or hoist, the hopper, the small bell, the large bell, and the distributer, and controlling switches for said motive devices having inter-related and inter-dependent circuits, of a circuit controlling device operated by the skip or hoist, and having contacts which directly control the operations of the hopper and the two bells; substantially as described.

12. In means for controlling the operation of blast furnace charging parts, motive devices for operating each of the parts at the top of the furnace, a controller for each motive device, a skip or hoist, and a controller operated by the skip or hoist movement and having connections which control the operation of the other controllers; substantially as described.

868,713. METHOD AND MACHINE FOR MAKING WIRE-GLASS. ARNO SHUMAN, Connellsville, Pa., assignor to The Continuous Glass Press Company, a Corporation of New Jersey. Filed Feb. 26, 1906. Serial No. 302,911.



1. The method of making wire glass, which consists in rolling down a mass of molten glass into a sheet and during said operation feeding into the upper surface of the glass close to the roller a wire netting and supporting said wire netting away from the roller at a point close to or in contact with the glass where the netting enters it, and gradually lowering said support for the wire netting as the mass of molten glass becomes reduced and at the same time advancing the support forward in a horizontal direction with a speed equal to that of the roller, whereby the molten glass is caused to flow through the meshes of the netting adjacent to its support and under the advancing pressure due to the roller and netting support.

2. In a machine for making wire glass, the combination of the table and flattening roller, with a hollow guide arranged in front of and close to the roller and having a guide face upon its side most distant from the roller and over which the wire netting is guided into the glass while being mechanically held away from the roller, and means for supplying the hollow guide with a cooling medium.

3. In a machine for making wire glass, the combination of the table and flattening roller, with a hollow guide arranged in front of and close to the roller and over which the wire netting is guided into the glass, means for adjusting the said hollow guide concentrically downward about the forward surface of the roller during the rolling operation, and means for supplying the hollow guide with a cooling medium.

4. In a machine for making wire glass, the combination of the table and flattening roller, with a hollow guide arranged in front of and close to the roller and over which the wire netting is guided into the glass, and means for adjusting the said hollow guide concentrically downward about the forward surface of the roller during the rolling operation.

5. In a machine for rolling wire glass, the table and flattening roller, in combination with a frame pivoted concentrically to the flattening roller, and a hollow water cooled guide plate carried by the frame so as to guide the wire netting and have capacity for vertical adjustment.

6. In a machine for rolling wire glass, the table and flattening roller, in combination with a frame pivoted concentrically to the flattening roller, a hollow water cooled guide plate carried by the frame so as to guide the wire netting and have capacity for vertical adjustment, and means for guiding the netting to the guide consisting of a hopper M and tension roller N.

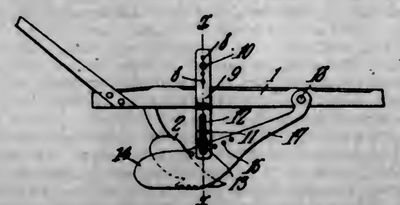
7. In a machine for rolling wire glass, the table and flattening roller, in combination with a frame pivoted concentrically to the flattening roller and having rear guide rollers I I to prevent backward rotation, and a hollow water cooled guide plate carried by the frame so as to guide the wire netting and have capacity for vertical adjustment.

8. In a machine for rolling wire glass, the table and flattening roller, in combination with a frame pivoted concentrically with respect to the roller and movable forward with it, and a wire netting guide carried by the frame adjacent to the front and upper surface of the roller and adjustable vertically whereby it may be maintained in contact with or very close to the upper surface of the molten glass close to the roller during the rolling operation.

9. In a machine for rolling wire glass, the table and flattening roller, in combination with a frame pivoted concentrically with respect to the roller and movable forward with it and having means to limit its movement in one direction only, and a water cooled wire netting guide carried by the frame adjacent to the front and upper surface of the roller and adjustable vertically whereby it may be maintained in contact with or very close to the upper surface of the molten glass close to the roller during the rolling operation.

10. In a machine for rolling wire glass, the table and flattening roller, combined with a hollow guide plate for the wire netting having its lower guide edge arranged close to the front surface of the flattening roller and by which the wire netting is fed into the glass in advance of the roller, means for adjusting the hollow guide plate downward during the rolling operation whereby it may be kept in contact with or very close to the upper surface of the gradually receding glass close to the roller, and means for circulating a cooling medium through the hollow guide plate.

868,714. PLOW-FENDER. JOHN C. SKIDMORE, Grapeland, Tex. Filed June 12, 1907. Serial No. 378,586.



1. The combination with a supporting bracket; of a hanger pivotally connected thereto, a pivotally supported fender blade slidably mounted within the hanger, a spring pressed saddle within the hanger and upon the blade, and an adjustable connection between the blade and hanger.

2. The combination with a supporting bracket; of a hanger pivotally connected thereto, a spring pressed saddle slidably mounted within the hanger, a pivotally supported fender blade engaged by the saddle and slidable within the hanger, and means adjustably engaging the fender blade for guiding the blade within the hanger.

3. The combination with a supporting member and a fender blade pivotally connected thereto; of a bracket upon said member, a slotted hanger pivotally and adjustably connected to the bracket, a spring pressed saddle slidably mounted within the hanger and bearing upon the blade, and means adjustably connected to the blade and movable within the slots for guiding the blade within the hanger.

868,715. NOZZLE. CHARLES W. SKINNER, Troy, Ohio. Filed Dec. 28, 1906. Serial No. 349,770.



A nozzle comprising a cylindrical body having a triangular notch cut across its outer end and having a counterbored shank at its inner end and having a jet hole leading axially from the counterbore into the notch, and a tube secured in the outer end of the counterbore and projecting therefrom and having a plurality of inlet apertures, combined substantially as set forth.

868,716. COLLAR-BUTTON. FRANK D. SMALL, West Paris, Me. Filed Oct. 19, 1905. Serial No. 283,491.



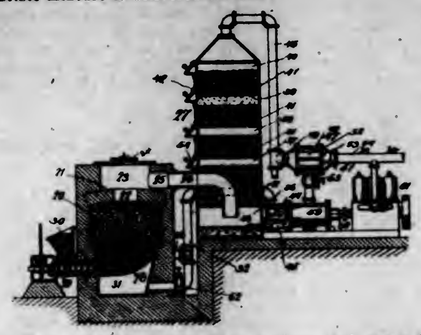
In a collar button, the combination with a shoe having a central opening provided with an upwardly extending tubular shank having oppositely disposed wings, of an inwardly projecting annular flange formed in said shank adjacent the lower end on a plane above the shoe, said flange having oppositely arranged raised portions provided with central grooves and beveled sides on its under side, two of said groves being parallel with the wings of the shank, an elongated head provided with a shoulder having a solid shank adapted to fit in said tubular shank, a pin secured in the ends of said shank adapted to fit in the grooves of the flange said pin being parallel with the elongated head and a coiled spring arranged on said shank between the shoulder of the head and the flange of the tubular shank, for the purpose described.

868,717. MEANS FOR PRODUCING AND DISTRIBUTING COMBUSTIBLE GASES. MARTIN V. B. SMITH, New York, N. Y. Filed Nov. 30, 1906. Serial No. 345,583.

1. Means for producing and distributing combustible gases comprising a gas producer, a cooler, a main distributing conduit, a mixer between the delivery from the gas cooler and the said main distributing conduit, and means for delivering air to the producer and a proportionate quantity of air to the said mixer for mixing with the gas passing therethrough.

2. The combination with a gas producer, of means for supplying air thereto and for mixing a directly proportionate quantity of air with the gas evolved therein after it has passed away from the producer, a distributing con-

duit for distributing the combustible mixture of gas and air to various points for commercial purposes, and safety screens in proximity to each point at which the said combustible mixture is delivered for use.



3. The combination with a gas producer and means for supplying air thereto, of means, in connection with the first said means, for mixing air with the gas evolved in the producer after the gas has left same and for distributing the combustible mixture of gas and air so produced to various points for commercial purposes.

4. The combination with a gas producer and means for supplying air thereto, of means for mixing air with the gas evolved in the producer after it has been discharged therefrom, and means for regulating the amount of air supplied to the producer proportionately to the amount of air later supplied for mixing purposes.

5. The combination with a gas producer, cooling means for cooling the gas so produced, and a blower for supplying air under pressure to the producer, of a mixer for receiving cooled gas, and a blower for supplying air under pressure to the mixer.

6. The combination with a gas producer, cooling means for cooling the gas so produced, and means for supplying air under pressure to the producer, of a mixer for receiving cooled gas, means for supplying air under pressure to the mixer, and means for regulating the amount of air supplied to the producer proportionately to the amount of air supplied to the mixer.

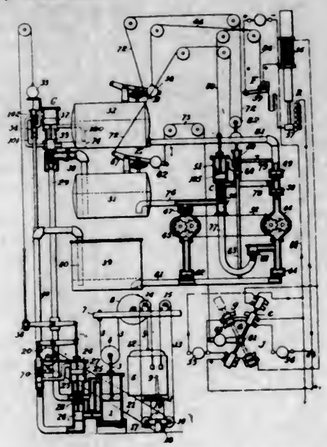
7. The combination with a gas producer comprising a furnace chamber, and automatic fuel feeding means, the latter including a wind box, of means for receiving and cooling the gas evolved in the producer, a mixer for receiving the gas from the cooling means, and means for supplying air under pressure to the wind box and to the mixer in predetermined proportions.

8. The combination with a gas producer comprising a furnace chamber, and automatic fuel feeding means, the latter including a wind box, of means for receiving and cooling the gas evolved in the producer, a mixer for receiving the gas from the cooling means, means for supplying air under pressure to the wind box, and means for regulating the supply of air delivered to the said wind box proportionately to the supply of air delivered to the mixer.

868,716. MEANS FOR OPERATING HYDRAULIC-ELEVATOR PLANTS. RUDOLPH C. SMITH, Yonkers, N. Y., assignor to Otis Elevator Company, Jersey City, N. J., a Corporation of New Jersey. Filed July 28, 1900. Serial No. 25,173.

1. The combination with a hydraulic lifting engine, of receivers containing water at different pressures, a plurality of pumps whereby water may be supplied to the receivers, and devices controlled by the pressures in the receivers whereby to direct the flow from the pumps in series or parallel hydraulically to the different receivers, substantially as set forth.

2. The combination with a hydraulic lifting engine, of receivers containing water at different pressures, a plurality of pumps whereby water may be supplied to the receivers, and devices controlled by the pressures in the receivers whereby to direct the flow from the pumps in parallel hydraulically to the low pressure receiver or in series hydraulically to the high pressure receiver, substantially as set forth.



3. The combination with a hydraulic lifting engine, of receivers containing water at different pressures, a plurality of pumps whereby water may be supplied to the receivers, devices controlled by the pressures in the receivers whereby to direct the flow from the pumps in series or parallel hydraulically to the different receivers, and means whereby the pressure from either receiver may be utilized in the engine at the will of the operator, substantially as set forth.

4. The combination with a hydraulic lifting engine, of receivers containing water at different pressures, a plurality of pumps whereby water may be supplied to the receivers, devices controlled by the pressures in the receivers whereby to direct the flow from the pumps in parallel hydraulically to the low pressure receiver or in series hydraulically to the high pressure receiver, and means whereby the pressure from either receiver may be utilized in the engine, at the will of the operator, substantially as set forth.

5. The combination with a hydraulic lifting engine, of a plurality of receivers containing water at different pressures, a plurality of pumps for supplying water to said receivers, means whereby to connect the said pumps hydraulically in series or parallel, an electric motor for operating each pump, and means for including said motors in circuit in series or parallel, substantially as set forth.

6. The combination with a hydraulic lifting engine, of a plurality of receivers containing water at different pressures, a plurality of pumps for supplying water to said receivers, means whereby to connect the said pumps hydraulically in series or parallel, an electric motor for operating each pump, and means regulated by receiver pressure for including said motors in circuit in series or parallel, substantially as set forth.

7. The combination in a hydraulic apparatus, of a plurality of receivers and a plurality of pumps, regulators operating under the pressure in the receivers, and devices operated from said regulators to direct the flow from the pumps to the receivers in series or parallel, substantially as set forth.

8. The combination of high and low pressure water receivers, lifting engine, discharge tank, electrically driven pumps, connections and valves between the said receivers and pumps, regulators controlling a change valve 50 by the variation of the pressure in the receivers, and said change valve arranged to change the connections between the pumps and pressure receivers, to deliver water discharged from both pumps to the low pressure receiver, or to deliver water to the high pressure receiver, and one pump arranged to receive the delivery of the other, to pump the same into the high pressure receiver, substantially as described.

9. The combination in an elevator apparatus of a hydraulic lifting engine, a main reversing valve, sources of high and low pressure, a supply pipe communicating therewith, an automatic valve to admit the water from the high pressure receiver, means of connection to start the automatic valve at the completion of the stroke of the main valve, and a check valve to prevent the passage of the water from the high pressure to the low pressure receiver.

10. The combination in an elevator apparatus of a hydraulic lifting engine, a main reversing valve, sources of high and low pressure, a supply pipe communicating therewith, an automatic valve to admit the water from the high pressure receiver, means of connection to start the automatic valve at the completion of the stroke of the main valve, an injector receiving the water from the low pressure receiver, and a check valve to prevent the return of the high pressure water to the low pressure receiver.

11. The combination of high and low pressure water receivers, lifting engine, discharge tank, electrically driven pumps, connections and valves between the said receivers and pumps, regulators controlling a change valve, by the variation of the pressure in the receivers, said change valve which changes connections between the pumps and the pressure receivers, to deliver water discharged from both pumps to the low pressure receiver, or to deliver water to the high pressure receiver, one pump receiving the delivery of the other, and pumping the same into the high pressure receiver, said pressure regulators controlling electrical switches by the variation of the pressure in the receivers, and an electrical transfer switch by which the electric connections are changed with the hydraulic connections, substantially as described.

12. The combination of high and low pressure receivers, a water reservoir, electrically driven pumps, connections and valves between the said receivers and pumps, an automatic change valve for changing connections between the pumps and receivers, automatic regulators controlling said change valve to deliver water from the reservoir to the low pressure receiver, or to deliver water to the high pressure receiver, one pump receiving the delivery of the other, and pumping the same into the high pressure receiver, said pressure regulators controlling electrical switches by the vibration of the pressure in the receivers and an electrical transfer switch by which the electric connections are changed, substantially as described.

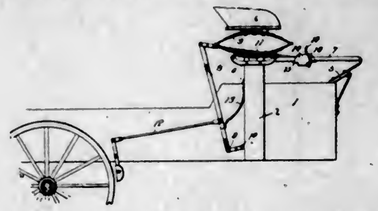
13. The combination in a hydraulic apparatus having a hydraulic motor, and tanks containing pressure fluid under different pressures, of a single supply pipe extending between the tanks and the said motor, valve devices controlling the flow of fluid from the tanks through the said supply pipe, a hand controlled device, and connections between the latter and the said valve devices whereby to control the flow of fluid from the tanks independently to and from said pipe.

14. In a hydraulic apparatus, the combination of a cage, a hydraulic power device for operating the cage, a discharge tank into which the water from the hydraulic power device discharges, a low pressure receiver, a high pressure receiver, means under the control of the operator on the elevator for supplying the hydraulic power device with water from either the low or high pressure receiver, a plurality of pumps for pumping water from the tank into the receivers, pipes for withdrawing water from the low pressure receiver and delivering it into the high pressure receiver and automatic valve devices for closing the discharge to the low pressure receiver and opening the suction from the low pressure receiver when pumping into the high pressure receiver.

15. In hydraulic apparatus, the combination of a cage, a hydraulic engine for operating the cage, a discharge tank and into which the water from the hydraulic power device discharges, a low pressure receiver, a high pressure receiver, means under the control of the operator on the elevator for supplying the engine with water from either the low or high pressure receiver at will, a plurality of pumps for pumping water from the primary tank into the receivers, pipes for withdrawing water from the low pressure receiver and delivering it into the high pressure receiver automatic valve mechanism for closing the discharge from the high pressure pump to the low pressure receiver when pumping into the high pressure receiver, power devices for operating the pumps, and automatic controlling mechanism for regulating the energy supplied to the power devices, said mechanism operated by the pressure in the low pressure receiver, whereby the power devices are automatically regulated, substantially as set forth.

16. The combination in a hydraulic apparatus, of a plurality of receivers, a plurality of pumps, electric motors for operating the pumps, regulators actuated by the pressure in the receivers, and means whereby to put the motors electrically in parallel or in series and the pumps hydraulically in parallel or in series according to the pressure in the receivers, substantially as set forth.

868,719. WAGON-BRAKE. THOMAS J. STEPHENS, Julietta, Idaho. Filed Sept. 26, 1906. Serial No. 336,330.

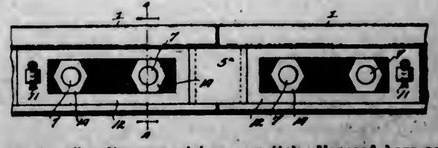


1. In brake mechanism, the combination of a fixed rack bar, a slide mounted thereon and comprising similar side pieces each having an end portion bent inward to engage with an edge of the rack bar, a filling piece interposed between said plates to engage with the opposite edge of the rack bar, a dog fitted to the said slide to engage with the teeth of the rack bar and hold the slide in an adjusted position, and connecting means between said slide and a brake element.

2. In brake mechanism, the combination of a fixed rack bar, a slide movable upon the rack bar and comprising similar side pieces having opposite end extensions inwardly projected to engage an edge portion of the rack bar, a filling piece interposed between the said side pieces to engage with the opposite edge of the rack bar, a dog pivoted to the slide and arranged between the aforesaid opposite inwardly projected extensions thereof, and connecting means between the slide and a brake element.

3. In brake mechanism, the combination of a fixed rack bar, a slide mounted thereon and comprising similar side pieces, each having an extension, the extension of one side piece being at the front and the other at the rear and said extensions having portions extended inward to engage with the rack bar and limit movement of the slide in one direction, means applied to the slide to make positive engagement with the rack bar and hold the slide in an adjusted position, and connecting means between the slide and brake member.

868,720. SPLICE-BAR AND NUT-LOCK. ALFRED A. ST. JOHN, New Bedford, Mass. Filed Feb. 5, 1907. Serial No. 355,889.



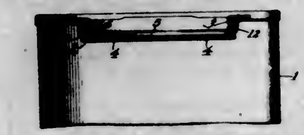
1. A rail splice comprising oppositely disposed bars secured at the sides of the rail webs and provided with con-

tral enlargements, one of said bars having oppositely disposed vertical flanges and undercut grooves, nut locks provided with tongues to fit said grooves and apertures to fit the nuts on the bolts, and means for holding said nut lock in place, substantially as described.

2. A splice for railway rails comprising bars secured at opposite sides of the webs of the rails, one of said bars having oppositely disposed grooves, and nut locks provided with tongues to fit said grooves and means to prevent the turning of the nuts on the bolts, substantially as described.

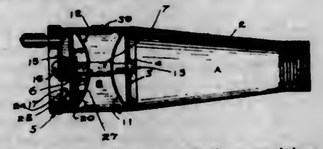
3. A splice bar for rails provided with oppositely disposed grooves, in combination with nut locks fitted to said grooves and provided with means for preventing turning of the nuts, said splice bar having outwardly projecting lugs which extend through openings in the nut lock, and cotter pins fastened to the lugs for holding the nut lock in place, substantially as described.

868,721. RECEPTACLE. WILLIAM T. SUMMERS, Omaha, Nebr., assignor to Gibson Soap Co., Omaha, Nebr. Filed May 15, 1906. Serial No. 316,995.



The combination with a receptacle having an opening surrounded by a depending smooth flange, of a depressed plug closure adapted to be fitted in said opening and provided with perforations in its bottom and an annular inturned bead on its periphery to receive the ends of the depending flange, and a disk fitted in the depressed portion over the perforations and held by the inturned bead.

868,722. REEL. LOUIS E. TANNER, Dolgeville, N. Y., assignor of one-half to Charles A. Tanner, Utica, N. Y. Filed Mar. 9, 1907. Serial No. 361,491.



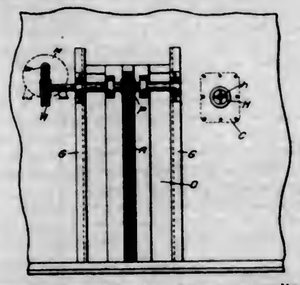
1. A device of the class described, comprising a hollow casing divided into two compartments, one compartment adapted to receive the butt of a fish rod, the second compartment adapted to receive and to conceal a reel, a recessed screw-cap closing the outer end of said second compartment, a reel having one end journaled in said screw-cap, a crank for operating said reel disposed in the recess of said screw-cap, a click mechanism disposed between said screw-cap and said reel, a shift button for operating the click disposed in said recess; and a drag or brake carried by said cap, substantially as described.

2. A device of the class described, comprising a hollow casing interiorly divided to form two compartments, one of the said compartments fitted with a threaded socket adapted to receive the butt of a rod or pole, a screw-cap to close the outer end of said second compartment, the outer face of said cap having a recess, the inner face being flat, a reel disposed in said second compartment pivotally connected with said screw-cap, a crank to operate said reel disposed in said recess, a click member operable with said reel, a shiftable click member carried by said screw-cap, and a drag or brake adjustably mounted on the inner face of said screw-cap, substantially as described.

3. In a device of the class described, the combination with a hollow tubular casing interiorly divided to form an inner and an outer compartment, and a pole or rod connected with the said inner compartment, of a reel disposed in said outer compartment, a screw-cap having a hollow outer face fitting one end of said outer compartment adapted to form a bearing for the outer end of said reel, a crank for operating said reel disposed in the outer face of said screw-cap, a click mechanism carried by said cap, a shift button for operating said click disposed in the outer face of said cap, and a drag mechanism mounted on the inner face of said cap, adapted to be thrown into or out of engagement with said reel, substantially as described.

4. A device of the class described, comprising a tubular casing having an inner and an outer chamber, a rod connecting with the inner chamber, a reel operably disposed in the outer chamber, a hollow faced cap closing the outer end of said casing and supporting one end of said reel, a crank for operating said reel disposed in the outer face of said cap, a click mechanism carried by said cap and said reel, and a drag or brake mounted on the inner face of said cap, substantially as described.

868,723. CONTROL OF MOTOR-OPERATED DOORS. DAVID W. TAYLOR, Washington, D. C., assignor to General Electric Company, a Corporation of New York. Filed May 14, 1906. Serial No. 316,606.



1. In combination with a motor, a manually-operated controlling switch therefor having a plurality of operative positions, means tending to move said switch to an operative position, means normally holding said switch in off position, and means controllable from a distance for disengaging said switch from said holding means.

2. In combination with a motor, a manually-operated controlling switch therefor having a plurality of operative positions, means tending to move said switch to an operative position, a spring normally holding said switch in off position, and means controllable from a distance for disengaging said switch from said spring.

3. In combination with a motor, a manually-operated controlling switch therefor having a plurality of operative positions, a spring tending to move said switch to an operative position, a second spring normally balancing the first and holding said switch in off position, and a magnet adapted when energized to disengage said switch from said second spring.

4. In combination with a motor, a manually-operated controlling switch therefor, opposing springs arranged to hold said switch yieldingly in off position, and means controllable from a distance for disengaging said switch from one of said springs.

5. In combination with a motor, a manually-operated controlling switch therefor, opposing springs arranged to hold said switch yieldingly in off position, a tripping magnet adapted to disengage said switch from one of said springs, and means at a distance for controlling the circuit of said magnet.

6. In combination, a system of doors, a motor for operating each door, a manually-operated controlling switch for each motor, opposing springs arranged to hold each switch yieldingly in off position, a tripping magnet for each switch adapted to disengage it from one of said springs, and means at a distant point for simultaneously energising the tripping magnets of all the switches.

7. In combination, a system of doors, a motor for operating each door, a manually-operated controlling switch for each motor, a spring tending to move each switch to an operative position, a second spring normally balancing the first and holding the switch normally at off position, an electro-magnet for each switch adapted when energized to disengage it from its second spring, and means at a distant point for simultaneously energising the several magnets.

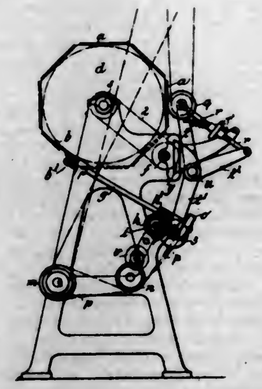
8. In a controlling switch for electric motors, an operating shaft, a contact member mounted thereon, a spring tending to move said contact member to an operative position, a member loosely journaled on said shaft and adapted to engage said contact member, a spring acting upon said second member and balancing the first spring, and a tripping magnet adapted to disengage said contact member from said second member.

9. In a controlling switch for electric motors, an operating shaft, a contact member mounted thereon, a spiral spring surrounding the shaft and tending to move said contact member to an operative position, a second member loosely journaled on the shaft, a second spiral spring acting on said second member to hold it normally in engagement with said contact member and balancing the first spring, and a tripping magnet adapted to disengage said contact member from said second member.

10. In a controlling switch for electric motors, an operating shaft, a contact member mounted thereon, a spring tending to move said member to an operative position, a magnet winding concentric with said shaft, a core therefor journaled on said shaft and axially movable thereon, and a spring arranged to hold said core normally in engagement with said contact member and to balance the first spring.

11. In combination with a motor, a manually-operated controlling switch therefor having a plurality of operative positions, means tending to move said switch to an operative position, means normally holding said switch in off position, and means controllable from a distance for rendering said holding means inoperative.

868,724. MACHINE FOR SHAPING THE BACKS AND BELLIES OF VIOLINS. WILLIAM THAU, Klingenthal, Germany. Filed Aug. 31, 1905. Serial No. 276,535.



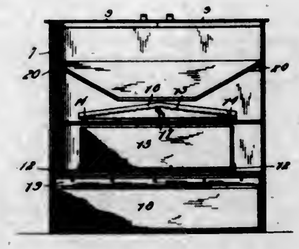
1. The combination of a supporting frame, a drum rotatably mounted thereon and having its shaft extended at opposite ends thereof and provided respectively with a worm-wheel and pulley, a short shaft mounted on said frame and having a worm-wheel at its outer end and provided with a clutch disk, a worm mounted to engage both of said worm wheels, a screw spindle mounted adjacent said drum and having a pulley at one end, a belt connecting the pulleys on said driving shaft and screw spindle, a slide mounted to travel on said screw spindle, a work shaper carried by said slide, a rotatable pattern piece arranged adjacent said short shaft and provided with a disk having a recess, a tappet carried by said clutch disk and adapted to engage said recessed disk and a lever connected with said shaper and having a roller bearing on the pattern piece.

2. A drum having a work-holder thereon comprising a fixed support disposed at one end of the drum, a longitudinally movable support at its other end, said supports having engaging spurs, spaced plates pivoted adjacent to said movable support, and having spurs at their free ends.

3. A drum having a work-holder thereon comprising a fixed support disposed at one end of the drum, a longitudinally movable support at the other end of said drum, said supports having engaging spurs, spaced plates pivoted adjacent to said movable support and having spurs at their free ends, and springs disposed between said plates and movable support to hold their free ends extended, and means for moving said plates to cause their free ends to engage the sides of the work to be held.

4. A drum having a work-holder thereon comprising a fixed support disposed at one end of the drum, a longitudinally movable support at its other end, said supports having spurs, spaced plates pivoted adjacent to said movable support, springs disposed between said plates and movable support, a screw rod extending through said movable support and having a member engaging said plates, and a nut on said screw rod for drawing the parts together to lock the work on all sides.

868,725. ASH-SIFTER. NIC THEISEN and PETER T. BECKER, Port Washington, Wis. Filed Aug. 10, 1906. Serial No. 330,038.

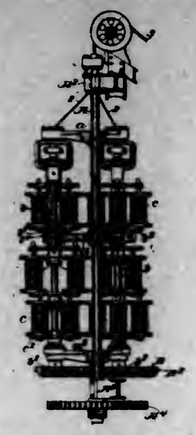


A sifter comprising in combination, a hollow body portion; an open-ended hopper disposed within said body portion towards the top thereof; a pair of superposed drawers located in the bottom of said body portion, the upper drawer having its side walls terminating short of the side walls of the body portion for the passage of matter therebetween into the lower drawer; a reciprocatory screen triangular in cross-section disposed between said hopper and upper drawer, said screen having its apex portion arranged directly beneath the open lower end of the hopper, for the passage of matter therethrough into the upper drawer, and for the passage of matter therefrom between the side walls of the upper drawer and the body portion into the lower drawer; and an operating handle connected to said screen.

868,726. MACHINE FOR MAKING ROPE. WILLIAM L. TOBEY, Winthrop, Mass. Filed Dec. 21, 1906. Serial No. 348,899.

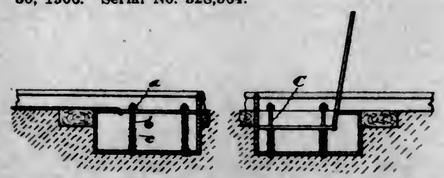
In a rope laying and forming machine, the combination with a main rotating shaft carrying the laying head, of oppositely rotating strand forming fliers and shafts therefor revoluble around the axis of said main shaft, end bearings for said flier shafts carried by said main shaft, and supplemental bearings for said flier shafts revoluble around the axis of and carried by said main shaft and located be-

tween and in alinement with said end bearings, the male members of said supplemental bearings being provided



with openings for the bobbin threads, substantially as described.

868,727. RAILWAY CATTLE-GUARD. FRANCIS S. TOOMBS, Sault Ste. Marie, Ontario, Canada. Filed July 30, 1906. Serial No. 328,564.



1. In a cattle guard the combination of a spring supported vertically movable platform, a series of pickets independently pivoted at the front of said platform; and a stationary cross bar in front of said platform on which said pickets normally loosely rest whereby as the platform is depressed the pickets are raised towards the vertical.

2. In a cattle guard the combination of a spring supported vertically movable platform, a series of pickets independently pivoted at the front of said platform; and a stationary cross bar in front of said platform on which said pickets normally rest, whereby as the platform is depressed the pickets are raised towards the vertical, the cross bar being notched at its edge adjacent to each picket to form guards and laterai supports for the pickets.

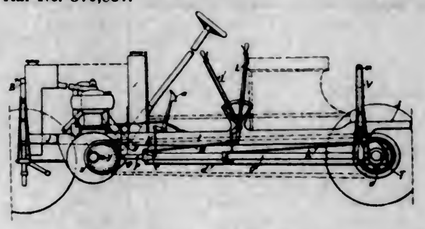
3. In a cattle guard the combination of a spring supported vertically movable platform, a series of pickets independently pivoted at the front of said platform; and a stationary cross bar in front of said platform on which said pickets normally loosely rest, whereby as the platform is depressed the pickets are raised towards the vertical; the springs serving as stops to limit the downward movement of the platform.

4. In a cattle guard the combination of a spring supported vertically movable platform, a series of pickets independently pivoted at the front of said platform; and a stationary cross bar in front of said platform on which said pickets normally rest, whereby as the platform is depressed the pickets are raised towards the vertical, the cross bar being notched at its edge adjacent to each picket to form guards and lateral supports for the pickets; and the springs serving as stops to limit the downward movement of the platform.

5. In a cattle guard, the combination of an open boxing, a spring supported, vertically movable platform operating within the said boxing, a stationary cross-bar at the forward part thereof and pickets independently pivoted at the forward end of said platform and normally resting on said stationary cross-bar, whereby as the platform is depressed, the pickets are raised towards the vertical.

6. In a cattle guard, the combination of an open boxing with its top flush with the road bed, a spring supported, vertically movable platform resting within the open top of said boxing, a stationary cross-bar at the forward end of said boxing, and pickets independently pivoted at the forward end of said platform and normally resting on the stationary cross-bar, whereby as the platform is depressed the pickets are raised toward the vertical, the cross-bar being notched at its edge adjacent to each picket to form guards and lateral supports for the pickets.

868,728. AUTOMOBILE VEHICLE. JULES M. M. TRUFFAULT, Paris, France, assignor to Société des Automobiles Truffault, Paris, France. Filed Apr. 29, 1907. Serial No. 370,857.



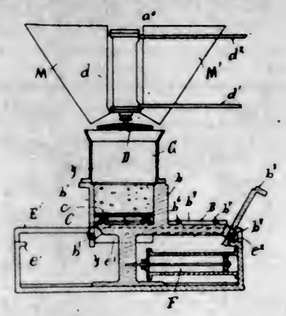
1. An automobile vehicle comprising in combination two small grooved pulleys S S' keyed on the driven shaft, two large grooved pulleys T T' solid with the driving wheels and independent of one another, two belts t t' connecting each a small pulley to the large pulley situated on the same side, lateral sliding members O connected by one of their ends to the rear train which carries the two large pulleys solid with the wheels, lateral rods P pivoted on a fixed part of the chassis and inclosed in the lateral members O, operating rods M connected by one end to the lateral members, an operating lever L connected to the operating rods M, a vertical ball and socket suspension A, B, V, *m*, V' situated between the chassis and the rear train, and a friction abutment *g i* inserted at each side between the chassis and the rear suspension, substantially as described and for the purpose set forth.

2. An automobile vehicle comprising in combination two small grooved pulleys S S' keyed on the driven shaft, two large grooved pulleys T T' solid with the driving wheels and independent of one another, two belts t t' connecting each a small pulley to the large pulley situated on the same side, lateral sliding members O connected by one of their ends to the rear train which carries the two large pulleys solid with the wheels, lateral rods P pivoted on a fixed part of the chassis and inclosed in the lateral members O, operating rods M connected by one end to the lateral members, an operating lever L connected to the operating rods M, a vertical ball and socket suspension A, B, V, *m*, V', situated between the chassis and the rear train, a friction abutment *g i* inserted at each side between the chassis and the rear suspension, a brake angle-lever *o* pivoted on the sliding member O, a brake rod *d* pivoted to one of the arms of the angle-lever, an adjustable connecting rod *b* pivoted to the second arm of the angle-lever, and a pedal or hand lever adapted to actuate the connecting rod *b*, substantially as described and for the purpose set forth.

868,729. BATH FOR OBTAINING ELECTROLYTIC METALLIC DEPOSITS. LEOPOLD TRUNKHAHN, Vienna, Austria-Hungary. Filed June 4, 1906. Serial No. 320,165.

A bath for producing electrolytic metallic deposits comprising one or more sugars and a ferment, substantially as described.

868,730. MACHINE FOR MAKING CONCRETE BLOCKS. WILLIAM F. TUBBSING, Cincinnati, Ohio. Filed May 20, 1907. Serial No. 374,541.



1. In a block molding machine the combination of vertical longitudinal sides fixed at a distance apart, a carriage mounted to reciprocate between said sides, transverse plates secured to the carriage for alternately forming one end of the mold and a transverse partition fixed upon the carriage between the plates for forming the other end of the mold, a plate upon the carriage forming the bottom of the mold, a means for feeding loose material into the molds, a tamper and a means for reciprocating the carriage.

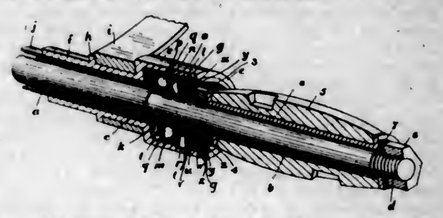
2. In a block molding machine the combination of vertical longitudinal sides fixed at a distance apart, a carriage mounted to reciprocate between said sides, transverse plates hinged to the carriage for alternately forming one end of the mold and a transverse partition fixed upon the carriage between the hinged plates for forming the other end of the mold, a plate upon the carriage forming the bottom of the mold, a means for automatically moving the swinging plates to release a block and to resume their operative position, a means for feeding the loose material into the molds, a tamper and a means for reciprocating the carriage.

3. In a block molding machine the combination of vertical longitudinal sides fixed at a distance apart, a carriage mounted to reciprocate between said sides, transverse plates secured to the carriage for alternately forming one end of the mold and a transverse partition fixed upon the carriage between the plates for forming the other end of the mold, a plate upon the carriage forming the bottom of the mold, twin hoppers for feeding loose material into the molds, a tamper and a means for reciprocating the carriage.

4. In a block molding machine the combination of two vertical sides at a distance apart and parallel to each other, a carriage mounted to reciprocate between said sides, the floor of the said carriage being made slanting, plates hinged to the carriage for alternately forming one end of the mold and a partition upon the carriage between the hinged plates for forming the other end of the mold, tracks upon the carriage upon each side of the partition, cars mounted upon the tracks for forming the bottoms of the molds, unloading stations at the ends of the travel of the carriage, a means for automatically moving the swinging plates to release the cars to allow them to move upon the unloading stations, a means for feeding the loose material into the mold, a tamper, and a means for reciprocating the carriage.

5. In a block molding machine the combination of two vertical sides at a distance apart and parallel to each other, a carriage mounted to reciprocate between said sides, the floor of said carriage being made slanting and being perforated, plates hinged to the carriage for alternately forming one end of the mold and a partition upon the carriage between the hinged plates for forming the other end of the mold, tracks upon the carriage upon each side of the partition, cars mounted upon the tracks for forming the bottoms of the molds, unloading stations at the ends of the travel of the carriage, a means for automatically moving the swinging plates to release the cars to allow them to move upon the unloading stations, a means for feeding the loose material into the mold, a tamper, cores to engage the perforations in the bottom of the carriage, means for holding the cores upward while the carriage is reciprocating, and means for automatically lowering the cores at the ends of the travel of the carriage to release the cars.

868,731. RUNNING-GEAR FOR VEHICLES. THOMAS F. VAN LUVEN, Collins Bay, Ontario, Canada, assignor of one-half to Albert Wesley Benjamin, Yarker, Canada. Filed Apr. 12, 1906. Serial No. 311,346.



1. In a running gear for vehicles, the combination with the vehicle body support, of a rotating axle, a housing rigidly secured to said body support, a ball cup contained within said housing and adapted to tilt in relation to the movement of said axle, a journal formed on said axle, balls introduced into said cup and bearing on said journal, means for accommodating the tilt in said ball cup, and wheels loosely turning on the ends of said axle, substantially as described.

2. In a running gear for vehicles, the combination with the vehicle body support, of a rotating axle, a collar encircling said axle in proximity to each end thereof and secured thereto having a cone shaped bearing surface, cylindrical casings surrounding said axle forming housings and inclosing said collars and supported from said vehicle body support, a sleeve surrounding said axle and fixedly secured to said housings, a ball cup surrounding said axle within said housings, balls bearing on said ball cup and said cone shaped bearing surface, a tiltable ring within said housing abutting said ball cup, a ring rigidly secured in the outer end of said housings and abutting the aforesaid ring, means for retaining said ring in a fixed position, wheels mounted on the ends of said axle, and means for retaining said wheels on said axle, as and for the purpose specified.

3. In a running gear for vehicles, the combination with the vehicle body support, of a rotating axle having reduced outer ends, a collar encircling each of said reduced ends and secured thereto having an enlarged inner end and a cone shaped bearing surface at said enlarged end, a cylindrical casing surrounding said axle having the ends thereof forming housings and inclosing said collars and supported from said vehicle body support, an angularly shaped ring in said housings having the interior walls thereof forming an opposing bearing surface to said cone shaped bearing surface, balls bearing on said bearing surfaces, a ring encircling said collar to the outside of said ring having a pair of projections diametrically arranged on one side thereof and bearing against said ring and a pair of projections diametrically arranged on the other face thereof preferably at right angles in relation to the other pair, a ring rigidly secured in said housings and abutting the outer pair of projections on said ring, means for retaining said ring in a fixed position, wheels mounted on the outer ends of said axle, and means for retaining said wheels on said axle, as and for the purpose specified.

4. In a running gear for vehicles, the combination with the vehicle body support, of a rotating axle having reduced outer ends forming shoulders, a collar encircling each of said reduced ends for a portion of their length and abutting said shoulders and secured thereto having an enlarged inner end and a cone shaped bearing surface at said enlarged end, a cylindrical casing surrounding said

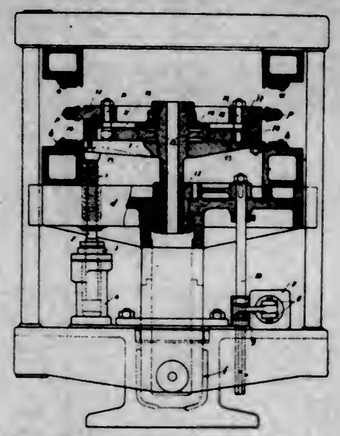
axle having the ends thereof forming housings and inclosing said collars and screw threaded at the outer end thereof and supported from said vehicle body support, an angularly shaped ring in said housings having the interior walls thereof forming an opposing bearing surface to said cone shaped bearing surface, balls bearing on said bearing surfacese, a ring encircling said collar to the outside of said ring having a pair of projections diametrically arranged on one side thereof and bearing against said ring and a pair of projections diametrically arranged on the other face thereof preferably at right angles in relation to the other pair, an angularly shaped ring having one of the sections thereof screw threaded and engaging the threaded portion of said housings and the vertical section thereof abutting the projections on the outer face of said ring, means for retaining said ring in a fixed position, wheels rotatably mounted on the outer reduced ends of said axle, and means for retaining said wheels on said axle, as and for the purpose specified.

5. In a running gear for vehicles, the combination with the vehicle body support, of a rotating axle having reduced outer ends forming shoulders intermediate of its length, a collar encircling each of said reduced outer ends for a portion of their length and having the inner end thereof abutting said shoulder and rising at an incline to form a cone shaped bearing surface, a cylindrical casing surrounding said axle for a portion of its length having the outer ends thereof enlarged and forming housings screw threaded on the interior surface at the outer end thereof and inclosing said collars and holes through said housings near the outer edge thereof, said cylindrical casing being suitably supported from said vehicle body support, an angularly shaped ring within said housings surrounding said collar having the interior walls thereof forming an opposing bearing surface to said cone shaped bearing surface on said collar, said ring forming a ball cup or socket in each of said housings, a ring encircling said collar to the outside of the vertical section of the aforesaid ring having a pair of bosses diametrically arranged on one side thereof and abutting the aforesaid ring and a pair of bosses diametrically arranged on the other side of said ring at right angles in relation to the other pair of bosses, an angularly shaped ring having the vertical section thereof abutting the bosses on the outer face of said ring and the other section screw threaded and engaging the threaded portion of said housing and having a groove on the interior surface thereof and notches from the outer edge of said groove, a spring ring inserted in said groove having a projection therefrom extending through one of said notches and engaging the holes in the end of said housing, a felt washer encircling said collar at the outer end thereof and abutting the outer face of the vertical section of the outer angularly shaped ring, a washer encircling the reduced end of said axle and abutting the outer end of said collar and said felt washer, a pair of wheels having a hub and a suitable bushing in said hub and mounted on said axle at the ends thereof and means for retaining said wheels on said axle, as and for the purpose specified.

868,732. PRESS FOR VULCANIZING PNEUMATIC TIRES. AMÉDÉE E. VINCENT, Noisy-le-Sec, France. Filed June 12, 1907. Serial No. 378,563.

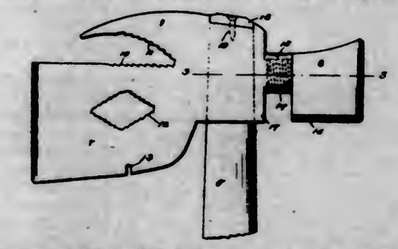
1. A press for vulcanising pneumatic tires comprising, an upper half-shell *a* securely fixed in position, a lower half-shell *b*, the main cylinder *f* of the press and its piston, a movable platen *d* borne by the piston of the cylinder *f* to which the lower half-shell *b* is secured, a core N on which the pneumatic tire to be vulcanized is applied, hydraulic jacks 3 whose cylinders are securely fixed in position and which bear the core N, springs 5 which join the movable platen *d* of the hydraulic press with the core N, substantially as described and for the purpose set forth.

2. A press for vulcanising pneumatic tires comprising, a core N formed of segments, studs 16 coöperating with segments of the core N, a non rotatable cylindrical casing 14, elongated apertures 18 of said casing in which studs 16 slide radially, a rotating plate 13, spiral grooves 19 in said plate which holds studs 16, a toothed sector 12 which bears a sliding-key device, another toothed sector 11, a hydraulic jack 7, a hood 8 and a lever 9 with a sliding key-device, an upper half-shell *a* securely fixed in position, a lower half-shell *b*, the main cylinder *f* of the press and its piston, a movable platen *d* borne by the piston of the



cylinder *f* to which the lower half-shell *b* is secured, hydraulic jacks 3 whose cylinders are securely fixed in position and which bear the core N, springs 5 which join the movable platen *d* of the hydraulic-press with the core N, substantially as described and for the purpose set forth.

868,733. COMPOUND TOOL. GEORGE F. WALKER, Arroyo, Pa. Filed Jan. 21, 1907. Serial No. 353,297.



A compound tool of the hammer type, having a neck projecting from the body thereof and shoulders on each side of the neck, and a poll having a screw connection to the neck, and a laterally projecting portion having a face parallel to the shoulders, the poll being rotatable to bring the said face of the projection opposite either shoulder, to form a wrench therewith.

868,734. JOINT FOR BRACELETS. NILS C. WALLENTHIN, Attleboro, Mass. Filed June 21, 1907. Serial No. 380,047.



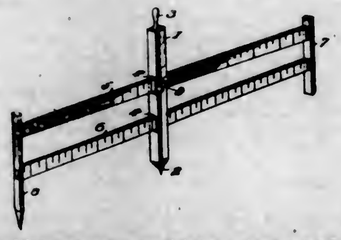
1. In a bracelet, a joint formed of two members hinged together, one of said members being provided with a reduced portion having an elongated slot forming a pair of outwardly extending fingers, a bridge across the outer ends of said fingers to tie the same together, the extending portion of the opposite hinged member being adapted to slide on said fingers, and a retaining stud for holding the members together.

2. In a bracelet, a joint formed of two members hinged together, one of said members being provided with a reduced portion having an elongated slot forming a pair of outwardly extending fingers, a bridge across the outer ends of said fingers to tie the same together, said fingers being formed on both their upper and under faces longitudinally on the arc of a circle, the extending portion of the opposite tongue member being curved to fit and slide on said fingers, and a retaining stud for holding the members together.

3. In a bracelet, a joint formed of two members hinged together, one of said members being provided with a reduced portion having an elongated slot forming a pair of outwardly extending fingers, a bridge across the outer ends of said fingers to tie the same together, said fingers being formed on both their upper and under faces longitudinally on the arc of a circle, the extending portion of the tongue member being curved to fit and slide on said fingers, and a retaining stud fixed in the tongue member and adapted to pass through said slot, said stud being provided with a head adapted to engage and slide on the outer curved portion of said fingers.

4. In a bracelet, a joint formed of two members hinged together, one of said members being provided with a reduced portion having an elongated slot forming a pair of outwardly extending fingers, a bridge across the outer ends of said fingers to tie the same together, said fingers being formed on both their upper and under faces longitudinally on the arc of a circle, the extending portion of the tongue member being curved to fit and slide on said fingers, and a stud adapted to pass through said slot and be riveted in said tongue member, said stud being provided with a head adapted to cross said slot and engage the outer curved surface of both fingers, said stud being also adapted to engage the bridge and form a stop to limit the opening motion of the bracelet.

868,735. DRIFTING COMPASSES. JOHN D. WARD, Tulsa, Ind. Ter. Filed Jan. 20, 1907. Serial No. 354,688.



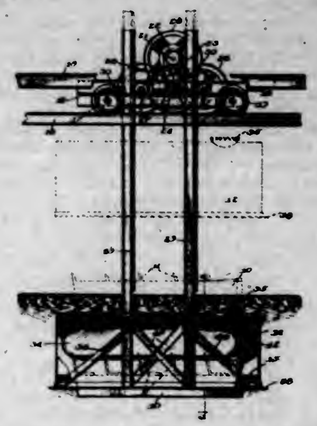
A drafting compass comprising a pair of spaced supporting bars, a leg mounted upon the said bars at one end and holding such ends in spaced relation to each other, a stop connecting the other ends of the bars, the leg being adapted to hold a pen or pencil, and a post provided with upper and lower openings through which the said bars extend, the openings in the post being of greater length than the height of the bars and providing a free open space between the upper and lower walls of the openings and the upper and lower edges of the bars, thereby permitting a canting or tilting movement of the post on the bars, as and for the purpose set forth.

868,736. SUBMARINE AMUSEMENT DEVICE. DIXON E. WASHINGTON, Chicago, Ill., assignor of one-half to John F. Tippett, Chicago, Ill. Filed Mar. 25, 1907. Serial No. 364,310.

1. An amusement device comprising a submarine craft, means for submerging the craft, and a support for said means independent of the craft.

2. An amusement device comprising a submarine craft, means for submerging the craft, a support for said means independent of the craft, and means for advancing the craft while submerged.

3. In an amusement device, the combination of a water craft, and means independent of the craft for submerging the latter, said craft being adapted to be advanced while submerged.



4. In an amusement device, the combination of a water craft, and means for lowering the water level adjacent the craft, and for submerging the latter, said craft being adapted to be advanced while submerged.

5. In an amusement device, the combination of a water craft, means for lowering the water level adjacent the craft and for submerging the latter, and means for retaining the craft submerged, said craft being adapted to be advanced while submerged.

6. In an amusement device, the combination of a water craft, a bell adapted to be placed over the craft to inclose the same, and means for submerging the bell whereby the craft will also be submerged.

7. In an amusement device, the combination of a water craft, a bell having an open bottom, and means for submerging the bell whereby the water level adjacent the craft will be lowered to submerge the latter.

8. In an amusement device, the combination of a water craft, a bell having an open bottom, means for submerging the bell whereby the water level adjacent the craft will be lowered to submerge the latter, and means for retaining the bell submerged, said bell being adapted to be advanced while submerged.

9. In an amusement device, the combination of a water craft, a bell having an open bottom, means for supporting the bell, means for placing the bell over the craft with its open bottom adjacent the water and for lowering the bell into the water whereby the bell will be closed by the water and the craft will be submerged by and float within the bell.

10. In an amusement device, the combination of a water craft, a bell having an open bottom, means for placing the bell over the craft so as to be closed by the water to confine the air therein, said bell being adapted to be submerged, the confined air being compressed by the submerging of the bell whereby the craft will also be submerged and float within the bell.

11. In an amusement device, the combination of a water craft, and a bell having an open bottom, said bell being adapted to be placed over the craft, and submerged, whereby the craft will float within the bell and be submerged thereby, said bell being provided with outlook openings.

12. In an amusement device, the combination of a water craft, a bell having an open bottom, means for supporting and transporting said bell, means for placing the bell over the craft and lowering the same to submerge the craft, said bell and craft being adapted to be advanced while submerged, and means for retaining the bell submerged.

13. In an amusement device, the combination of a water craft, a bell having an open bottom, means for supporting and transporting said bell, means for placing the bell over the craft and lowering the same to submerge the craft, said bell and craft being adapted to be advanced while sub-

merged, means for retaining the bell submerged, and means for preventing displacement of the said supporting and transporting means.

14. In an amusement device, the combination of a water craft, an overhead truck, a bell having an open bottom supported by the truck, means on the truck for lowering the bell over the craft to submerge the latter, means for holding the craft submerged, and means for preventing displacement of the truck.

15. In an amusement device, the combination of a water craft, an overhead track, a truck movable on the track, a bell supported by the truck, said bell having an open bottom and adapted to be positioned over the craft, means for submerging the bell whereby the craft will be submerged to float within the bell, means for retaining the craft and bell submerged, and an additional track coöperating with the first said track to prevent displacement of the truck.

16. In an amusement device, the combination of a water craft, a track, a truck movable upon the track, a bell having an open bottom and adapted to be placed over the craft, a rack operatively related to the bell, a pinion mounted on the truck and meshing with the rack for supporting the bell and for raising and lowering the latter, means for operating the pinion to lower the bell over the craft and submerge the same whereby the craft will also be submerged, and means for retaining the bell and craft submerged, said bell and craft being adapted to be advanced while submerged.

17. In an amusement device, the combination of a water craft, a track, a truck movable upon the track, a bell having an open bottom and adapted to be placed over the craft, a rack operatively related to the bell, a pinion mounted on the truck and meshing with the rack for supporting the bell and for raising and lowering the latter, means for operating the pinion to lower the bell over the craft and submerge the same whereby the craft will also be submerged, means for retaining the bell and craft submerged, said bell and craft being adapted to be advanced while submerged, a second track located above and coöperating with the first track and adapted to be engaged by the wheels of the truck when the bell is submerged to prevent displacement of the truck.

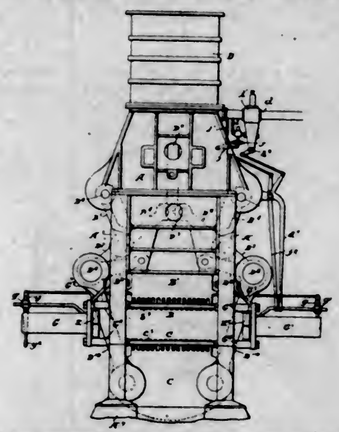
868,737. SPARK-PLUG. FRANK J. WATT, Detroit, Mich., assignor of one-half to Roy E. Hardy, New York, N. Y. Filed Mar. 28, 1904. Serial No. 200,323.



1. In a spark plug, the combination of an externally screw-threaded bushing provided with a central bore reduced in diameter near its upper end to form a shoulder, an insulating plug of a diameter to pass partially through the reduced portion of the bore and formed with a shoulder intermediate its ends to oppose the shoulder on the bushing and with an axial bore of uniform diameter throughout its length, a packing ring interposed between the shoulders on the plug and bushing, a binding bolt forming an electrode extending axially throughout the bore of the plug, a head on the inner end of said bolt to engage the inner end of the plug, a sparking point secured to said head and extending laterally therefrom toward and within the inner face of the wall of the bushing, a nut on the bolt engaging the opposite end of the plug, an insulating cap having an opening for the passage of the bolt inclosing the outer end of the plug and seated upon the end of the bushing, a packing ring interposed between the cap and bushing, a washer bent to form a spring sleeved on the bolt in engagement with the cap, and a nut and binding nut to engage said washer and clamp the parts together.

2. In a spark plug, the combination with an externally screw-threaded metal bushing forming an electrode and provided with an axial internal bore formed with a shoulder, a porcelain insulating plug formed with an annular shoulder intermediate its ends to oppose the shoulder on the bushing and having an axial bore of uniform diameter, an asbestos packing ring interposed between said shoulders, a porcelain insulating cap inclosing the outer end of the plug and engaging the outer end of the bushing, an elastic non-conducting packing ring interposed between said cap and bushing, a binding bolt forming the other electrode and extending axially through the plug and cap, a head on the lower end of said bolt engaging the lower end of said plug, a sparking point secured to said head and extending laterally therefrom within the bushing, a nut on the bolt engaging the opposite end of the plug, a second nut on the outer end of said bolt, a spring washer interposed between said nut and cap to allow for the unequal expansion of the parts and a lock and a binding nut on said bolt.

868,738. MEANS FOR CHANGING THE SHAPES OF AND COMPRESSING BALES. SAMUEL J. WEBB, Minden, La. Filed Nov. 28, 1900. Serial No. 38,023.



1. In a compress, the combination with platens, each having two opposing compressing faces at an angle to each other and adapted to receive a bale between them with its edges meeting said faces, of means for operating one of said platens to bring it toward the other to form new sides for the bale and to compress said sides, substantially as described.

2. In a compress, the combination with platens, each having two opposing compressing faces at an angle to each other and adapted to receive a bale between them with its edges meeting said faces, of means for moving one platen toward the other to compress the bale on its edges to form new sides, and means whereby the bale may be banded while under compression on four sides, substantially as described.

3. In a compress, the combination with platens, each having two opposing compressing faces at substantially a right angle to each other and adapted to receive a bale placed between the platens with its edges meeting said faces, of means for moving the platens toward each other, to compress the bale on its edges to change the form of the bale and to form a bale having a practically square cross-section, substantially as described.

4. In a compress, the combination with platens, each having two opposing compressing faces at an angle to each other and adapted to receive and compress a bale, of pressing heads arranged to compress the bale longitudinally while confined between said platens, substantially as described.

5. In a compress, the combination with platens, each having two opposing compressing faces at an angle to each other and adapted to receive and compress a bale, of pressing heads having expansible faces arranged to compress the bale longitudinally while confined between said platens, substantially as described.

6. In a compress, the combination with platens, each having two opposing compressing faces at an angle to each other and adapted to receive and compress a bale, of pressing heads arranged to compress the bale longitudinally while confined between said platens, and means for operating the platens and heads, substantially as described.

7. In a compress, the combination with platens, of a cylinder for operating said platens to compress a bale, an exhaust valve connected to said cylinder, and means connected to said exhaust valve for automatically controlling the pressure in the cylinder and upon the platen, substantially as described.

8. In a compress, the combination with platens, of a cylinder for operating them to compress a bale, an exhaust valve connected to said cylinder, a pressure regulator connected to said exhaust valve for automatically controlling the pressure in the cylinder and upon the platen, substantially as described.

9. In a compress for bales, the combination with platens provided with grooves, movable filling pieces to fit the grooves, and longitudinal pressing heads, substantially as described.

10. In a compress for bales, the combination with the platens, each platen having two compressing surfaces at an angle to each other and provided with grooves, of movable filling pieces to fit the grooves, and longitudinal compressing heads, substantially as described.

11. In a compress for bales, the combination with the platens, each platen having two compressing surfaces at an angle to each other and provided with grooves, of movable filling pieces to fit the grooves, and adjustable longitudinal compressing heads, substantially as described.

12. In a press having pressing surfaces to inclose the four sides of a bale, a pressing head adapted to work between the said surfaces and means for operating the pressing head, substantially as described.

13. In a press, platens having faces at an angle to each other, means for moving one toward the other, and pressing heads or platens arranged to press the bale longitudinally, substantially as described.

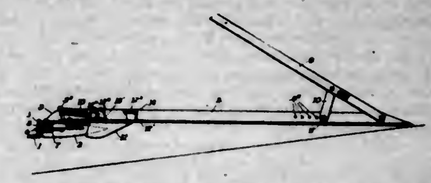
14. In a press, platens having faces at an angle to each other, means for moving one toward the other, pressing heads or platens arranged to press the bale longitudinally, means for operating one of the platens, and means for operating one or both of the pressing heads, substantially as described.

15. In a press with pressing surfaces at an angle to each other for pressing the bale, of means for operating them and means for automatically controlling the pressure on the bale, substantially as described.

16. In a press with pressing surfaces at an angle to each other for pressing the bale, of means for operating them and means for automatically controlling the pressure on the bale, and a pressing head or heads, substantially as described.

868,739. GRAIN-LIFTING DEVICE FOR HARVESTERS. WILLIAM WEBBER, Chicago, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed Apr. 27, 1907. Serial No. 370,570.

1. In a grain lifting device for harvesting machines, in combination, a supporting block adapted to be secured to the finger bar of a grain harvester, a forwardly projecting arm pivotally mounted thereon, a rearwardly and upwardly extending lifting finger fixed to the forward end of said arm, means engaging the point of the harvester guard and pivotally connecting with the forwardly projecting arm for deflecting the material beneath the guard, and a spring operating to hold the forward end of the arm down in its working position.



2. In a grain lifting device for harvesting machines, in combination, a supporting block adapted to be secured to the finger bar of a grain harvester, a forwardly projecting grain lifter pivotally mounted thereon, a thimble pivotally mounted on said lifter and arranged to engage the point of a guard on the finger bar, and a spring operating both to hold the grain lifter down in its normal working position and the thimble in engagement with the point of the guard.

3. In a grain lifting device for harvesting machines, in combination, a supporting block adapted to be secured to the finger bar of a grain harvester, a forwardly projecting grain lifter pivotally mounted thereon, a longitudinally movable thimble pivotally mounted on said arm and adapted to engage the point of a guard on the finger bar, and a spring operating both to hold the grain lifter down in its normal working position and the thimble in engagement with the point of the guard.

4. In a grain lifting device for harvesting machines, in combination, a supporting block adapted to be secured to the finger bar of a grain harvester, a forwardly projecting grain lifter pivotally mounted thereon and detachable therefrom when in an approximately vertical position, a thimble pivotally mounted on said lifter and arranged to engage the point of a guard on the finger bar, and a spring operating both to hold the grain lifter down in its normal working position and the thimble in engagement with the point of the guard.

5. In a grain lifting device for harvesting machines, in combination, a supporting block adapted to be secured to the finger bar of a grain harvester, a forwardly projecting arm pivotally mounted thereon, a rearwardly and upwardly extending lifting finger fixed to the forward end of said arm, a thimble provided at its forward end with a longitudinally extending slot which engages a pin or bolt on the said arm, the rear end of said thimble being arranged to engage the point of a guard on the finger bar, and a spring operating to hold the arm down in its working position and the thimble in engagement with the point of the guard.

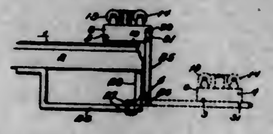
6. In a grain lifting device for harvesting machines, in combination, a supporting block adapted to be secured to the finger bar of a grain harvester, a forwardly projecting, vertically movable grain lifter pivotally mounted thereon, a thimble pivotally mounted on said lifter and designed to engage the point of a guard on the finger bar, a stop in connection with said thimble for limiting the vertical movement upwardly of said grain lifter, and a spring reacting between the thimble and lifter for holding same in proper working relation.

7. In a grain lifting device for harvesting machines, in combination, a supporting block adapted to be secured to the finger bar of a grain harvester, a forwardly projecting, vertically movable grain lifter pivotally mounted thereon, a longitudinally movable thimble pivotally mounted on said lifter and designed to engage the point of a guard on the finger bar, stops in connection with said thimble for limiting both the horizontal and vertical movement of said lifter, and a spring reacting between the thimble and lifter for holding same in proper working relation.

8. In a grain lifting device for harvesting machines, in combination, a supporting block adapted to be secured to the finger bar of a grain harvester, a yoke detachably secured to said block, a vertically movable, forwardly projecting angle bar provided with a slot and fixed to said

yoke, a rearwardly and upwardly extending grain lifting finger adjustably mounted on the forward end thereof, a guard engaging thimble pivotally mounted in the slot of said angle bar and longitudinally movable therein, stops formed on said thimble to limit its longitudinal movement and the vertical movement of said angle bar, and a spring interposed between the yoke and thimble, said spring operating to hold the thimble into engagement with the guard and the grain lifting finger yieldingly downward in working position.

868,740. ELECTRICAL PIANO-PLAYING ATTACHMENT. JOSEPH WEBER, Brooklyn, N. Y. Original application filed Jan. 16, 1904, Serial No. 189,366. Divided and this application filed Sept. 14, 1905. Serial No. 278,405.



1. The combination with a suitable means of support; of an automatic playing attachment and a hinged and slidable connection between the attachment and the means of support whereby the attachment is movable into and out of operative position by combined swinging and sliding movement.

2. The combination with a supporting means fixed to a piano beneath its key bed; of a slide mounted on the supporting means, and an automatic playing attachment hinged to the slide and movable therewith.

3. The combination with a piano; of an automatic playing attachment having supporting means permitting it to slide beneath the key-board and a hinged connection between said supporting means and the piano.

4. The combination with a piano and a slide mounted under the key bed thereof, of an automatic playing attachment hinged to the slide.

5. The combination with a supporting bracket adapted to be connected to the key bed of a piano, of a slide mounted upon the bracket, and an automatic playing attachment hinged to the slide.

6. The combination with the key-board, of a supporting bracket, a slide movable on the bracket and elongated in the direction of its movement, an automatic playing attachment and means mounted upon and movable into alinement with the slide for supporting the attachment above the key-board.

7. The combination with a supporting means adapted to be connected to a piano; of an automatic playing attachment and a horisontally slidable connection between said attachment and supporting means, said connection being formed in sections and hinged together.

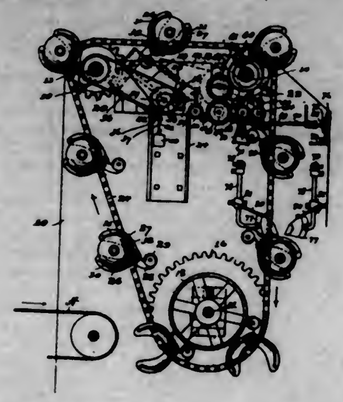
8. The combination with a piano, of supporting means secured to the key bed thereof, a slide mounted upon the supporting means and below the key bed, and means connecting the attachment and slide for supporting said attachment above the keys of the piano.

9. The combination with a supporting means, of a slide mounted thereon, a standard pivoted to the slide, an automatic playing attachment adjustably connected to the standard, and means connected to the slide for supporting the standard and attachment in raised position.

868,741. BOTTLE-LABELING MACHINE. JOHN H. WENDT, Chicago, Ill. Filed Mar. 26, 1906. Serial No. 308,119.

1. In a bottle-labeling machine, the combination with an endless carrier provided with a bottle-clamping device, of a yieldable support for a pasted label disposed across the path of travel of the bottle, substantially as described.

2. In a bottle-labeling machine, the combination with an endless carrier provided with a bottle-clamping device, of a yieldable support for a pasted label disposed across the path of travel of the bottle, and a wiping mechanism for smoothing and pressing the label on the bottle also disposed across the path of travel of the bottle, substantially as described.



3. In a bottle-labeling machine, the combination with an endless carrier provided with a bottle-clamping device, of a yieldable support for a pasted label disposed across the path of travel of the bottle, a wiping mechanism for smoothing and pressing the label on the bottle also disposed across the path of travel of the bottle, and means for automatically releasing the bottle from the clamping device, substantially as described.

4. In a bottle-labeling machine, the combination with a carrier comprising a pair of parallel endless chains, of two series of bottle-clamping devices mounted opposite each other on said chains, respectively, one of said series serving to clamp the bottles at their bases and the other series clamping the bottles at their necks, substantially as described.

5. In a bottle-labeling machine, the combination with an endless carrier having a series of bottle-clamping devices, of a yieldable support for a pasted label disposed across the path of travel of the bottle, a label hopper, mechanism for transferring the labels successively from said hopper to said support, and means for applying paste to said labels in transit, substantially as described.

6. In a bottle-labeling machine, the combination with an endless carrier having a series of bottle-clamping devices, of a yieldable support for a pasted label comprising a pair of pivoted yieldable shutters disposed opposite each other across the path of travel of a bottle, and means normally tending to maintain said shutters in a common horizontal plane, substantially as described.

7. In a bottle-labeling machine, the combination with an endless carrier having a series of bottle-clamping devices, and means for presenting a pasted label across the path of the bottles on said carrier, of a pair of oppositely facing pivoted shoes disposed across the path of the bottles, said shoes having wiping surfaces shaped to the contour of the bottles and adapted to smooth down the labels thereon, and springs normally holding said shoes in bottle-receiving position, but permitting them to rock on their pivots as the bottle passes therethrough, substantially as described.

868,742. TIE-HOLDER. FRANK E. WICKING, Pueblo, Colo. Filed Apr. 27, 1906. Serial No. 314,003.

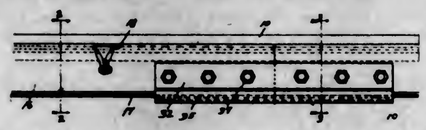
1. A clasp consisting of wire bent to form four symmetrically arranged independently yieldable tongues providing an intermediate socket, the side portions of the opposing tongues diverging outwardly to afford ready entrance to the socket from either side of the clasp.

2. A clasp consisting of wire bent to form four symmetrically arranged loops or tongues, the inner side pieces of each pair of tongues prolonged to form securing fingers, and the outer side portions of the tongues connected by cross pieces adapted to rest on the article to which the clasp is attached.



3. A clasp having four symmetrically arranged independently yieldable tongues, the outer portions of the opposing tongues at each side being curved outwardly to afford a ready entrance for the shank of a stud and the inner portions of all the tongues at the top diverging to form a socket for said shank.

868,743. RAILROAD-RAIL. RALPH WILLITS, Indianapolis, Ind. Filed Dec. 3, 1906. Serial No. 346,179.



1. In a railroad rail, the combination with a chair member having a continuous longitudinal groove in its upper face and symmetrical with relation to a longitudinal vertical plane, of a tread member having a longitudinal rib on its lower side adapted to fit the groove in a chair member, said tread member being symmetrical relative to a vertical longitudinal plane, said rib of the tread member having formed therein a longitudinal groove, and a fastening member having one end adapted to enter the groove of the tread member and the other end adapted to enter the chair member at a lower point.

2. In a railroad rail, the combination with a chair member having a continuous longitudinal groove in its upper face, of a tread member having a longitudinal rib on its lower side adapted to fit the groove in a chair member, said rib of the tread member having formed therein a continuous longitudinal groove, and a fastening member having one end adapted to enter the groove of the tread member and the other end adapted to enter the chair member at a lower point.

3. In a railroad rail, the combination with a chair member having a continuous longitudinal groove in its upper face and symmetrical with relation to a longitudinal vertical plane, of a tread member having a longitudinal rib on its lower side adapted to fit the groove in a chair member, said tread member being symmetrical relative to a vertical longitudinal plane, said rib of the tread member having formed therein a continuous longitudinal groove, and a fastening member having one end adapted to enter the groove of the tread member and the other end adapted to enter the chair member at a lower point.

4. In a railroad rail, the combination with a chair member having a longitudial groove in its upper face, of a tread member having a rib on its lower side adapted to enter the groove in the chair member, said tread member having a longitudinal groove formed in the side of its rib and the chair member having a notch in the wall of its groove, of a fastening member provided with a finger adapted to enter the notch in the chair member and the groove of the tread member, lateral extensions on said finger adapted to enter the groove of the tread member inside the wall of the groove of the chair member, and means for securing the opposite end of said fastening member to the chair member.

5. In a railroad rail, the combination with a chair member having a longitudinal groove in its upper face, of a tread member having a rib on its lower side adapted to enter the groove in the chair member, said tread member having a longitudinal groove formed in the side of its rib and the chair member having a notch in the wall of its groove, of a fastening member provided with a finger adapted to enter the notch in the chair member and the groove of the tread member, lateral extensions on said finger adapted to enter the groove of the tread member inside the wall of the groove of the chair member, a stud carried by the inner face of the opposite end of the fastening member and adapted to enter an opening formed in the chair member, said opening having a downwardly inclined wall adapted to be engaged by said stud, a finger carried by said stud and adapted to be projected behind the inner face of a portion of the chair member, and a flexible finger carried by the fastening member and adapted to be projected into the opening in the chair member to prevent removement of the fastening member.

6. A chair member for railroad rails comprising a main substantially horizontal web, upwardly extending flanges extending longitudinally along the sides of said web, downwardly extending longitudinal flanges extending along the sides of said web and having openings at intervals for the reception of the lower end of the fastening member, and foot flanges at the lower edges of said downwardly extending flanges, all of said members being integral and the said pairs of flanges being sufficiently transversely separated to be producible by rolling.

7. A chair member for railroad rails comprising a main substantially horizontal web, upwardly extending flanges extending longitudinally along the sides of said web, downwardly extending longitudinal flanges extending along the sides of said web, foot flanges at the lower edges of said downwardly extending flanges, all of said members being integral and the said pairs of flanges being sufficiently transversely separated to be producible by rolling, vertical notches being formed in the upper edges of the upwardly projecting flanges and corresponding perforations formed through the downwardly projecting flanges.

8. A chair member for railroad rails comprising a main substantially horizontal web, upwardly extending flanges extending longitudinally along the sides of said web, downwardly extending longitudinal flanges extending along the sides of said web, foot flanges at the lower edges of said downwardly extending flanges, all of said members being integral and the said pairs of flanges being sufficiently transversely separated to be producible by rolling, vertical notches being formed in the upper edges of the upwardly projecting flanges, and corresponding perforations having a downwardly inclined upper wall formed through the downwardly projecting flanges.

9. A fastening for railway rail members comprising a main body having a transversely projecting finger at one end provided at its tip with lateral projections, and means at its opposite end for attachment to the rail support.

10. A fastening for railway rail members comprising a main body having a transversely projecting finger at one end provided at its tip with lateral projections, and having at its other end a stud projecting in the same general direction as the said finger, and lateral oppositely projecting fingers lying in different planes.

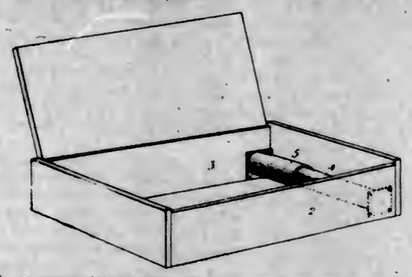
11. A railroad rail comprising a chair member having a longitudinal groove in its upper face and a receiving opening at a lower point for one end of the fastening member, a tread member having a longitudinal rib adapted to fit said longitudinal groove, said rib having in its sides means for receiving one end of a fastening member, and the said fastening member having one end adapted to engage the tread member and the other end adapted to engage the chair member at a lower point, and means for preventing accidental displacement of said fastening member relative to the chair and tread.

12. A railroad rail comprising a chair member having a longitudinal groove in its upper face, a tread member having a longitudinal rib adapted to fit said longitudinal groove, said rib having in its sides longitudinal grooves, and a fastening member having one end adapted to lie in the groove of the tread member and to engage the chair member to prevent transverse displacement of the fastening member, and said fastening member also having a portion adapted to be secured to the chair member at a point below its engagement with the tread member.

13. A railroad rail comprising a chair member having a

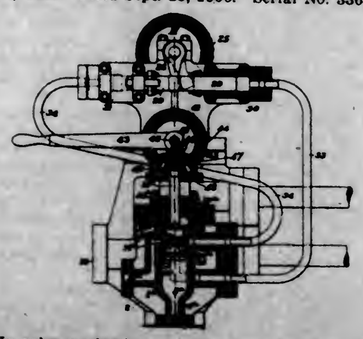
longitudinal groove in its upper face, a tread member having a longitudinal rib adapted to fit said longitudinal groove, said rib having in its sides longitudinal grooves, and a fastening member having one end adapted to lie in the groove of the tread member and to engage the chair member to prevent transverse displacement, said fastening member also having a spud adapted to enter the chair member at a lower point, a lip 25 to engage the chair member to prevent transverse displacement, and a lip 26 to engage the chair member to prevent longitudinal displacement.

868,744. NON-REFILLABLE BOX. ALFRED E. WILSON, Victoria, British Columbia, Canada. Filed June 19, 1907. Serial No. 379,748.



As a non-refillable box, the combination with a box of ordinary construction, of a receptacle adapted to hold a portion of the contents of the box one portion of such receptacle being secured to one side of the box and the other portion to the other side of the box the two portions so secured to be telescopically slidable in relation to one another.

868,745. VALVE MECHANISM. HARRY WOODS, Steubenville, Ohio. Filed Sept. 28, 1906. Serial No. 336,594.



1. In valve mechanism, a main valve, gearing for actuating the same, a controller for actuating the gearing, said controller having actuating plungers, and a pilot valve for controlling the operation of the plungers; substantially as described.

2. In valve mechanism of the character described, a main or controlling valve, gearing for actuating the valve, a controller for actuating the gearing, and cylinders and plungers for operating the controller, and a pilot valve for controlling the operation of said cylinders and plungers and for locking the control valve in its several positions; substantially as described.

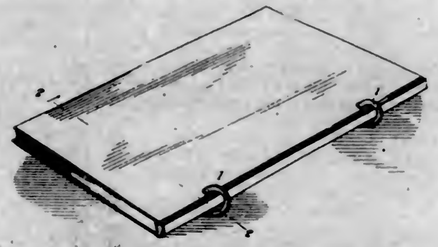
3. In valve mechanism of the character described, a main or controlling valve, gearing for actuating the same, a controller for actuating the gearing, said controller having a tappet arm, opposed plungers arranged to act against opposite sides of the said arm, and a pilot valve for controlling the operation of the plungers; substantially as described.

4. In valve mechanism, a valve, and a controller therefor consisting of a shaft having valve actuating gear thereon, and a tappet arm secured thereto, a pair of cylinders having plungers arranged to act upon opposite sides of said arm, and means for controlling the action of the cylinders and plungers; substantially as described.

5. In valve mechanism, a controlling device having a shaft, a tappet arm on the shaft, and opposing plungers arranged to operate upon opposite sides of said tappet arm and having a differential leverage thereon; substantially as described.

6. In valve mechanism, a valve casing having an inlet port, an exhaust port, and two circulating ports, of a valve body rotatably seated in the casing, and having a chamber therein communicating with the inlet port of the casing, an outlet port from said chamber arranged to connect said chamber with the respective circulating ports in different positions of the valve, and an exhaust port extending diametrically through the valve body and arranged to connect the circulating ports with the exhaust port, said valve body also having two additional ports leading outwardly from its chamber and arranged to connect the said chamber with both circulating ports in an intermediate position of the valve; substantially as described.

868,746. BOOKBINDER. DON H. YORK, New York, N. Y. Filed Apr. 22, 1907. Serial No. 369,638.



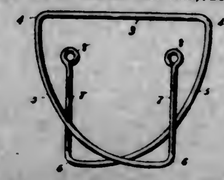
1. A binder for leaves comprising a ring of flexible material passed through openings in the leaves, the said ring being formed of a strip of flexible material having the ends thereof scarfed and connected by an adhesive.

2. A binder for leaves comprising a tubular ring of flexible material passed through openings in the leaves, the said ring being formed of a tubular strip of flexible material having the ends thereof scarfed and connected by an adhesive.

3. A binder for leaves comprising a ring of flexible and elastic material passed through openings in the leaves, the said ring being formed of an elastic strip having the ends thereof scarfed and connected by an adhesive.

4. A binder for leaves comprising a ring of flexible and elastic material passed through the openings in the leaves and formed of a strip having the ends thereof connected to each other.

868,747. PAPER-CLIP. JOHN H. ALTER, Conneaut, Ohio. Filed Feb. 28, 1907. Serial No. 359,725.



1. A paper clip composed of a single piece of wire bent to form a median straight portion, the branches upon each side of said median portion extending towards each other and curved to form duplicate intersecting arcs, and each distal portion being bent towards the median portion and lying parallel to each other and intersecting the curved branches.

2. A paper clip composed of a wire bent to form a median straight portion, the branches upon each side of said median portion extending towards each other and curved to form duplicate intersecting arcs, and each distal portion being bent towards the median portion and lying parallel to each other, and intersecting the curved branches, and terminating in eyes.

3. A clip composed of a wire bent to form a straight median portion, and curvilinear members and terminating in straight members at right angles to the median portion, said last named members terminating in eyes located within the area of the median portion and the curvilinear members.

868,748. MOP. JOHN F. ANTONI, Kansas City, Mo. Filed July 15, 1907. Serial No. 383,811.



1. A binder for the inner strands of the fibrous material having separate sliding fiber clamping parts, and a fiber clamping band for the outer fiber integral with each other.

2. In a mop binder for the fibrous mop material having extended parts, and a ferrule having separate parts detachably connected with the extended parts of the binder.

3. A mop, a handle and a ferrule having separate parts embracing the handle and extensions upon the lower portion of each part of the ferrule connected with the mop.

4. A binder for the mop material having hooks a handle, a ferrule having separate parts embracing the handle and perforate extensions of said parts engaging with the hooks on said binder.

5. A binder for the mop material, comprising separate wires having inwardly bent portions of the inner ends of said wires and coils upon said portions extending around the respective wires.

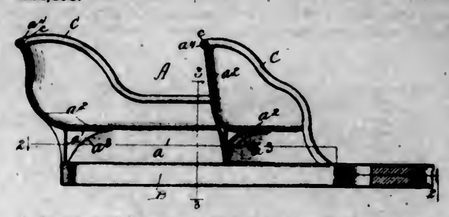
6. A binder for the mop material comprising separate wires having inwardly bent portions of the inner ends of the respective wires, coils upon said bent portions through which the outer ends of the separate wires are passed and hooks upon said bent portions of the wires.

7. A binder for the mop material comprising separate wires having inwardly bent material clamping portions of the inner ends of said wires, coils upon said bent portions through which the outer ends of the separate wires are passed, and hooks upon the said outer ends of said wires and the bent portions having said coils.

8. A mop comprising the fibrous mop material in combination with a binder and hooks upon the binder and a ferrule having separate parts and perforate extensions or lugs upon said parts, engaging with the hooks and a handle and securing devices for the separate parts of the ferrule upon the handle.

9. A mop comprising the fibrous material and binding wires, extending around the said material and provided with hooks in combination with a handle, a ferrule having separate parts embracing the handle and securing devices for the said parts upon the handle and perforate extensions upon the said parts of the ferrule engaging with the said hooks.

868,749. VEHICLE BODY AND FRAME. VINCENT G. APPLE, Dayton, Ohio. Filed Sept. 12, 1904. Serial No. 224,195.



1 As an article or manufacture, a cast aluminium vehicle body having edges reinforced of a harder metal inseparably connected therewith in casting.

2. As an article of manufacture, a cast aluminium vehicle body having its edges clad with hollow reinforcing members of a harder metal inseparably connected with the aluminium during the casting operation.

3. As an article of manufacture, a passenger vehicle structure comprising a frame of hard metal for supporting a vehicle body, and a body composed of metal, cast in inseparable relation with and in superposed relation on the preëxistent frame, to form therewith a unit.

4. As an article of manufacture, a structure comprising a steel frame for supporting a vehicle body, and an aluminium body, cast in inseparable association with and in superposed relation on the frame, to form therewith a unit.

5. As an article of manufacture, a unitary vehicle body and frame, consisting of a hollow frame member having an opening therein and an aluminium body integrally cast with a base portion filling the frame and bonding with the upper portion of the body through the opening in the frame.

6. As an article of manufacture, a vehicle structure comprising a hollow metal frame having an opening along its upper side and body of aluminium cast under pressure filling said hollow frame and projecting from said opening, the projecting portion of the aluminium being shaped to constitute a vehicle body.

7. As an article of manufacture, a vehicle structure comprising two hollow reinforcing members shaped to conform with the opposite edges of a vehicle body, said reinforcing members having openings along their confronting sides, and a body of aluminium cast under pressure filling said hollow reinforcing members and projecting through the opening to integrally bond with the uncovered portion of the body.

8. As an article of manufacture, a vehicle structure comprising a hollow reinforcing member shaped to conform with one edge of an automobile body and having an opening therein, and a metal body integrally cast with a portion filling the reinforcing member and bonding with the remaining portion of the body through the opening therein.

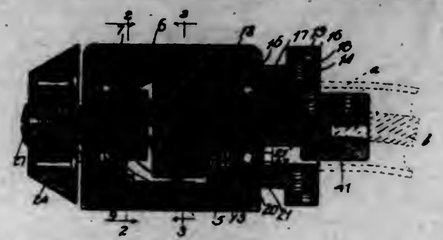
9. As an article of manufacture, a vehicle structure comprising reinforcing parts of hard metal shaped to conform with the opposite edges of a vehicle body and having apertures therein, and a body of aluminium cast in permanent inseparable association with the reinforcing parts and bonding therewith through the apertures therein.

10. As an article of manufacture, a vehicle body comprising a reinforcing structure, shaped to conform with one edge of the body and having an opening therein, and a metal body cast with a portion extending through the opening in the reinforcing structure to effect a permanent union between said body and the reinforcing structure.

868,750. CENTRIFUGAL GOVERNOR. VINCENT G. APPLE, Dayton, Ohio, assignor to Dayton Electrical Manufacturing Co., a Corporation of Ohio. Filed Apr. 20, 1907. Serial No. 369,207.

1. In a governing appliance, a frame or casing, a shaft supported thereby for axial movement, separated axially-

stationary parts mounted for rotation with the shaft, a weight carried by the shaft, arranged when moved by centrifugal action to act upon one axially-stationary part to move the shaft axially, and a spring opposing the action of said weight bearing on the other axially-stationary part.



2. In a governing appliance, a frame or casing, a shaft, opposing end bearings for the shaft, comprising parts rotatable with the shaft, parts positioned by the casing, and interposed anti-friction parts, and a centrifugal governor carried by said shaft between said bearings, comprising parts arranged to exert a cam action upon a part of one of said bearings rotatable with the shaft, and a spring opposing said cam action, exerting its thrust upon that member of the opposite bearing rotatable with the shaft.

3. In a governing appliance, a containing casing providing opposite end bearings, one of which is adjustable axially of the casing, a shaft mounted in said bearings, a governor carried by said shaft between said bearings, and comprising an adjustable spring, coacting with one of said bearings for adjustment as to tension by axial adjustment of said bearing.

4. In a governing appliance, a frame or casing, a shaft supported thereby for axial movement, separated parts positioned axially by the frame and rotatable with the shaft, one of said parts being adjustable in the frame with respect to the other, and a governor on the shaft between said parts, comprising a weight arranged when moved by centrifugal action to exert a cam action on one said part to move the shaft axially, and a spring opposing the action of said weight bearing on the other said part.

5. In a governing appliance, a casing providing a central chamber, anti-friction bearings closing opposite ends of said chamber, one of said bearings being axially adjustable, a main shaft member extending through the casing finding bearing at opposite ends in said anti-friction bearings, an extension shaft member telescoping with the said main shaft, and a governor carried by the main shaft arranged to impart axial movements to said main shaft.

6. In a governor appliance, a casing providing a central chamber, anti-friction bearings at opposite ends, each comprising a central part for rotation with the shaft, a main shaft engaging said rotatable bearing parts, and a governor carried by the said shaft between said bearings, comprising weights arranged to exert a cam action upon the rotatable part of one bearing to axially move the shaft, and a spring arranged to exert its thrust against the rotatable part of the opposite bearing, for resisting the action of the governor weights, and means accessible from the exterior of the casing for axially adjusting the last said bearing.

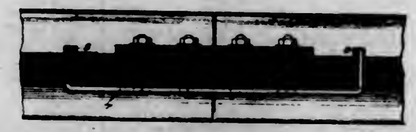
7. In a governor appliance, a casing provided at its front end with a bearing, and at its rear end with screw-threaded apertures, an adjusting head closing said end of the aperture provided with a central bearing, a shaft passing through said front and rear bearings, a governor carried by the shaft between said bearings and arranged when in rotation to exert a tendency to move said shaft rearward axially of the casing, said governor comprising a spring for resisting such movement of the shaft, at its rear end abutting against a part carried by and adjustable with said adjusting head.

8. In a governor of the character described, a casing provided with anti-friction bearings at opposite ends, an adjusting head carrying the rear bearing, having an enlarged central aperture in rear of said bearing, a main shaft section mounted in said bearings, a pulley on the front end of said shaft, an extension shaft section telescoping therein and rotatable therewith, and a governor comprising semi-annular weights 32 and cam arms 33, mounted for rotation with the main shaft section, to tend to move said shaft rearwardly under the influence of centrifugal action, and comprising also a spring 36 interposed between a part connected with the main shaft section and said adjusting head.

9. In a governing appliance, a frame, a main shaft member axially movable therein, a governor connected with said shaft member to axially move it, and an extension shaft member telescoping with said main shaft member and longitudinally movable independently of the governor.

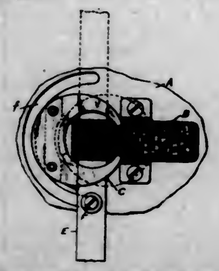
10. In a governing appliance, a frame, a main shaft member axially movable therein, a friction gear device carried by said shaft member, a governor connected with said shaft member for axially moving it, an axially-stationary transmission part, and an extensible connection between the last said part and said shaft-member uniting them for rotation.

868,751. ELECTRICAL CONNECTOR. FREDERICK H. AYER, Chicago Heights, Ill. Filed Feb. 23, 1907. Serial No. 358,782.



A bond wire or rod having the cross-sectional shape of a three-sided figure, each side of which is formed on an arc described from the intersection of the other two sides.

868,752. VARIABLE REACTIVE COIL. RALPH E. BARKER, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Jan. 23, 1907. Serial No. 353,027.



1. A variable reactive coil comprising a core forming a closed magnetic circuit of varying cross-section and a winding on said core, the core and winding being relatively adjustable.

2. A variable reactive coil comprising a laminated circular core with a central opening eccentric with respect to the periphery of the core, and a winding interlinked with said core, the core and winding being relatively adjustable.

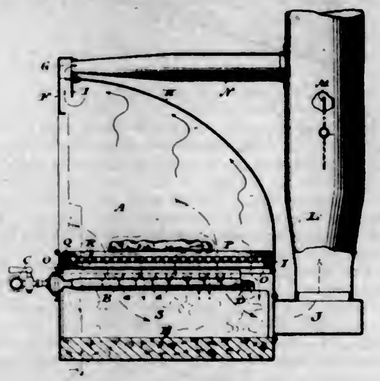
3. A variable reactive coil comprising a stationary winding and a laminated core interlinked therewith, said core forming a closed magnetic circuit of varying cross-section and being adjustable relatively to said winding.

4. A variable reactive coil comprising a stationary winding and a laminated circular core having a central opening surrounding said winding eccentric with respect to the periphery of the core, said core being pivotally mounted on an axis concentric with said central opening.

5. A variable reactive coil comprising a core forming a closed magnetic circuit of varying cross-section and a winding on said core, the core and winding being relatively adjustable, and means for clamping the core and winding in fixed relative positions.

6. A variable reactive coil comprising a stationary winding and a laminated circular core having a central opening surrounding said winding eccentric with respect to the periphery of the core, said core being pivotally mounted on an axis concentric with said central opening, and clamping means for said core.

868,753. GAS-BROILER. JAMES A. BARRETT, Milwaukee, Wis. Filed May 31, 1906. Serial No. 319,455.



1. A gas-broiler having a box-like base or chamber, a grid-top for the chamber, gas-burners in the chamber beneath the grid-top, and a draft-flue in connection with said chamber below the burners, whereby down-draft is had through said grid-top.

2. A gas-broiler comprising a box-like base or chamber, a fire-brick bottom in the chamber, tubular gas-burners located in said chamber, fire-brick partition-walls between the burners, a draft-flue in connection with the aforesaid chamber below the burners, in combination with a gridiron-top for the chamber having parallel spaced bars in series alternately crossed, whereby baffled air-spaces are formed with respect to each other.

3. A gas-broiler having a box-like base or chamber, a grid-top for the chamber comprising two or more tiers of parallel bars alternately crossed, the bars being triangular in cross-section and presenting flat faces to the chamber; gas-burners below the grid-top, and a draft-flue in the chamber below said grid-top, whereby a down-draft is maintained.

868,754. PRINTER'S BRASS-RULE CORNER. HENRY O. BARTH, GEORGE H. RIEHL, and WERNER HONEGGER, Cincinnati, Ohio, assignors to The American Type Founder's Company, Cincinnati, Ohio, a Corporation of New Jersey. Filed Sept. 22, 1905. Serial No. 279,742.

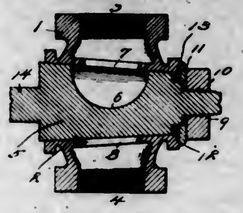


A printer's corner the body of which consists of two wings of equal width meeting each other at right angles and the face of which consists of a quadrant of a circle the ends of which register with the ends of the wings and in the face of which are cut a series of concentric grooves.

868,755. PROCESS OF MAKING INDIGO, &c. HANS BELART, Huddersfield, England. Filed Sept. 18, 1906. Serial No. 334,418.

The process of making indoxyl and its derivatives, consisting in heating phenylglycin in presence of arylamins with aryl-sodium.

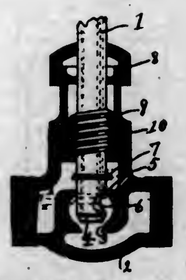
868,756. STOP-COCK. JOHN B. BELL, Taylorstown, Pa. Filed Jan. 25, 1906. Serial No. 297,851.



1. A stop cock comprising a shell provided with a tapering bore, and having inlet and outlet openings communicating with the bore, and a tapering plug fitted in the bore and provided with a cavity for alinement interchangeably with the inlet and outlet openings, the upper end of the plug above the shell being reduced to form an angular head off to one side of the top of the plug.

2. A valve comprising a casing, a plug rotatably mounted in the casing, and a head formed integral with one end of the plug and eccentrically thereon.

868,757. OIL-REGULATING VALVE. GEORGE S. BENNETT, San Francisco, Cal. Filed Oct. 1, 1906. Serial No. 336,834.



1. In a regulating valve, the combination of a valve body having a seat therein, a valve stem having a seat at its end and means to regulate the flow of fluid when the valve is full open at the valve seat, and a flange on the valve body above the valve seat within which the valve stem slides, substantially as described.

2. In a regulating valve, the combination of a valve body having a seat therein, a flange projecting from the interior of the body and closely surrounding the valve stem, a valve stem having a seat at its end and a regulating cut of variable cross area at such a height above the end of the stem as to completely open only when the valve is full open at the valve seat, and means to press the stem against the seat, substantially as described.

3. In a regulating valve, the combination of a valve body having a valve seat within the same, a flange projecting from the interior of the valve body and closely surrounding the valve stem, a valve stem having a seat at its end and a regulating cut at such a height above the end of the valve stem as to open communication between the valve ports only when the valve is wide open at the valve seat, means to press the valve against the valve seat and means to prevent the stem from being raised too high, substantially as described.

4. In a regulating valve, the combination of a valve body having a valve seat within the same, a flange projecting from the interior of the valve body and closely

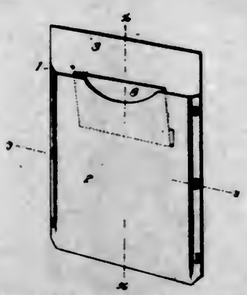
surrounding the valve stem, a valve stem having a seat at its end and a regulating cut at such a height above the end of the valve stem as to begin to open only when the opening at the valve seat is wide open, and means to press the valve stem against the valve body, substantially as described.

5. In a regulating valve, the combination of a valve body having a seat therein, a valve stem having a seat at its end and a cut near the seat end of the valve stem, a diaphragm within the valve body and within which the valve stem slides freely, and a ring on the valve stem to prevent it from being raised too high, substantially as described.

6. In a regulating valve, the combination of a valve body having a valve seat therein, a valve stem having a seat at its end adapted to be pressed against the valve seat and being cut away above the end thereof the cut extending longitudinally of the valve stem and being of less cross sectional area at its top than at points lower down, a ring surrounding the valve stem and means to prevent the stem from being raised too high, substantially as described.

7. In a regulating valve, the combination of a valve body having a seat therein; a valve stem having a seat on its end to match the body seat and a regulating cut in its side above the stem seat; a flange extending from the valve body and closely surrounding the valve stem, the valve being of greater cross sectional opening between the seat and the flange than the valve stem, substantially as described.

868,758. TRANSPARENT-FACED FILING-CARD. JOHN A. BEXELL, Logan, Utah. Filed May 21, 1906. Serial No. 318,048.



1. A filing card having a pocket upon one side and having a wall of said pocket open or made transparent to admit of the contents being observed, and strands or filaments extended across the open or transparent side of the pocket to strengthen and protect the same.

2. A filing card having a pocket upon one side and having a wall of said pocket open or made transparent to admit of the contents being observed, and crossed strands or filaments extended across the open or transparent side of the pocket to strengthen and protect the same.

3. A filing card having a pocket upon one side and a flap springing from the card at some distance from the open end of the pocket and normally springing away from the back of the card and exerting a pressure against the front thereof, the upper portion of the flap projecting a short distance beyond the top edge of said front.

4. A filing card comprising a pocket and a transparent front, a flap having connection with the back a distance below the upper edge of the front and normally springing away from said back and exerting a pressure against the front and having a portion extended above the upper edge thereof.

868,759. CURTAIN-FIXTURE. DOUGLAS H. BONNER, Chicago, Ill. Filed Jan. 23, 1906. Serial No. 297,472.

1. The combination, of a window frame with a curtain roller arranged thereon, a curtain fabric wound on said roller, a metallic clamp having semi-circular jaws coextensive with the lower edge of said fabric and secured thereto, and a fixture in length, equaling the length of said clamp, parallel with and depending from said clamp and adapted to secure the lower edge of the curtain at different heights in said window; substantially as described.



2. The combination, of a window frame with a curtain roller therein, a curtain fabric wound on said roller, a metallic clamp comprising two parts between which the lower edge of said fabric is held and each coextensive therewith, a fixture holding barrel formed integral with and depending from said clamp and a suitable fixture provided in said barrel to engage said window frame and secure the curtain at different heights, substantially as described.

3. The combination, of a window frame with a curtain roller therein, a curtain fabric wound on said roller, a metallic clamp comprising two parts each coextensive with the lower edge of said fabric and one provided with a projecting straight-edge portion and curtain securing means attached to said clamp and engaged with said window frame, substantially as described.

4. The combination, of a window frame with a curtain roller therein, a curtain fabric of greater length than the window opening and wound on said roller, a metallic clamp having jaws coextensive with the lower edge of said fabric, jaw fasteners for binding said jaws upon the fabric, said fasteners being arranged beneath the lower edge of the fabric and a curtain securing fixture attached to said clamp, substantially as described.

5. A fixture for the curtains of the class described, comprising a metallic tube provided with a metallic clamp, comprising two curtain rod holding jaws coextensive with the tube and jaw fasteners provided between said jaws and the tube, substantially as described.

6. A fixture for curtains of the class described, composed of metal and comprising a tube portion, in combination with clamping portions of substantially the same length as the tube and provided with jaws and clamping means arranged between said jaws and the tube portion for clamping the jaws upon the edge of a curtain, substantially as described.

7. A fixture for curtains of the class described, formed of sheet metal and comprising a tube portion, in combination with clamping portions provided with jaws of substantially the same length as the tube portion, a bar containing a plurality of threaded openings and a plurality of screws extending through said clamping portions into the openings of said bar, substantially as described.

8. A fixture for curtains of the class described, comprising a metallic tube, upright parts thereon and curtain rod holding jaws formed upon said parts, said jaws being of substantially the same length as said tube and clamping screws intermediately located in said parts, substantially as described.

9. A fixture for curtains of the class described, formed of sheet metal and comprising a tube portion, in combination with clamping portions of substantially the length of said tube portion, said clamping portions having jaws of unequal height and means for clamping said jaws upon a curtain, substantially as described.

10. A fixture for curtains of the class described, comprising a metallic tube, in combination with two jaws of unequal height extending from end to end of the tube and clamping screws arranged between the jaws and the tube, substantially as described.

11. A fixture for curtains of the class described, comprising a sheet metal tube provided with an integral two-part clamp of equal length therewith; and having curtain-edge holding jaws, in combination with clamp applying means for closing said jaws and curtain securing means extending from the ends of said tube; substantially as described.

12. In a fixture for curtains of the class described, the combination of a metallic tube and a curtain clamp of sheet metal and coextensive with the lower edge of a curtain, in combination with a rod within said clamp, and means for binding the clamp upon the curtain, and curtain securing means mounted within said tube for securing the curtain at different heights; substantially as described.

13. A fixture for curtains of the class described comprising a metallic tube provided with pinch-handle openings in combination with curtain securing means mounted within the tube, pinch-handles extending through said openings and adapted to operate said curtain securing means, and a two-part metallic clamp on the top of said tube, said clamp being co-extensive with the lower edge of a curtain to receive and hold the curtain, substantially as described.

14. A fixture for curtains of the class described, comprising a tubular portion, having pinch handle openings, and integral clamping portions, each coextensive with said tubular portion and formed into a curtain clamping jaw, and one of said jaws being higher than the other and forming a straight edge, substantially as and for the purpose specified.

15. A fixture for curtains of the class described, comprising a tubular portion adapted to contain a spring fixture, a depending web portion and two clamping portions rising from the tubular portion and having curved jaws adapted to receive the lower edge of a curtain, substantially as described.

16. A fixture for curtains of the class described, formed of sheet metal and comprising a tubular portion adapted to contain a spring fixture, two clamping portions having their upper edges provided with curved jaws, in combination with clamping screws arranged in said clamping portions, substantially as described.

17. A curtain fixture of the class described, formed of sheet metal and comprising a tubular portion, provided with pinch handle openings, and two integral clamping portions, provided with screw openings, and having their upper edges formed into curtain holding jaws, substantially as described.

18. A curtain fixture of the class described, formed of sheet metal and comprising a tubular portion, provided with pinch handle openings, and two clamping portions provided with screw openings and having their upper edges formed into curtain holding jaws, one of which jaws is provided with a straight edge extension, substantially as and for the purpose specified.

19. A curtain fixture of the class described, formed of sheet metal and comprising a tubular portion, a depending web portion, perforated clamping portions and jaws of unequal height, formed on said clamping portions, substantially as described.

20. A curtain fixture of the class described, comprising the tubular portion 5, curved jaw portions, straight intermediate portions, the latter having a plurality of perforations, in combination with a plurality of screws, and a clamping bar coacting therewith to clamp said jaws together, substantially as described.

21. A curtain fixture of the class described, composed of a single piece of sheet metal and comprising a tubular portion, having pinch handle openings, jaw portions, straight, perforated, intermediate portions and a projecting straight edge portion, substantially as described.

22. A curtain fixture of the class described, comprising a tubular portion 5, clamping portions 11, and jaw portions 8, 8, in combination with means for clamping said jaw portions upon a curtain, substantially as described.

23. A curtain fixture of the class described, formed of sheet metal and comprising a tubular portion 5, containing pinch handle openings, perforated portions 11, curved jaw portions 8, 8, and a projecting straight edge portion 10, substantially as described.

24. In a device of the class described, a rod 9, in combination with a curtain having its lower edge wrapped upon said rod, a curtain fixture casing comprising a tubular portion and two conforming jaw portions each of the same length as said rod 9 and means for binding said jaw portions upon said rod, substantially as described.

25. A metallic curtain fixture of the class described, comprising an upper tubular portion, a larger tubular portion, to contain a spring fixture, a connecting web portion, jaw portions integral with the upper tubular portion, all of substantially the same length, and means for clamping said jaw portions upon a curtain, substantially as described.

26. A curtain fixture comprising a clamp substantially coextensive with the lower edge of the curtain and containing a spring casing, said clamp having a pair of jaws between which the lower edge of the curtain is fastened in combination with a curtain holding fastener in said casing to engage a window frame, substantially as described.

27. The combination of a window frame with a curtain roller therein, a curtain fabric wound on said roller, a metallic clamp having jaws co-extensive with the lower edge of said fabric, a rod whereon the fabric is wrapped within said jaws, jaw fasteners for binding the jaws upon the fabric, and a curtain securing fixture depending from said clamp, substantially as described.

28. A fixture for curtains of the class described formed of sheet metal and comprising a tube portion in combination with clamping portions provided with jaws of substantially the same length as the tube portion, a bar containing a plurality of openings and a plurality of screws extending through said clamping portion into the openings of said bar, substantially as described.

29. A fixture for curtains of the class described comprising an internally cylindrical tubular portion adapted to contain a spring mechanism for fastening the fixture at different heights in a window, and two clamping portions extending upwardly from said tubular portion parallel therewith and having curved jaws adapted to receive the lower edge of a curtain, substantially as described.

30. The combination of a curtain roller, a curtain fabric wound thereon, a lower fixture comprising a metallic clamp having a pair of semitubular jaws, a fixture holding barrel formed integral with said clamp, said barrel having a pinch-handle opening, and a rod between said jaws, and means for tightening the clamp upon said fabric, the latter being looped around said rod, substantially as described.

31. The combination of a curtain, a pair of clamping jaws and a rod surrounded thereby, the curtain having its lower edge wrapped upon said rod, the clamping jaws being of unequal height and extending substantially the entire width of said curtain, substantially as and for the purpose described.

32. The combination of a curtain, a pair of clamping jaws and a rod surrounded thereby, the curtain having its lower edge wrapped upon said rod, one of the clamping jaws being provided with a raised straight edge the said clamping jaws and straight edge extending substantially the entire width of said curtain, substantially as and for the purpose specified.

33. The combination of a curtain, a pair of clamping jaws and a rod surrounded thereby, said clamping jaws and rod extending substantially the entire width of said curtain the curtain having its lower edge wrapped upon said rod, and adjustable fastening means located below the lower edge of the curtain for binding said jaws upon the fabric, substantially as and for the purpose described.

34. The combination of a curtain, a pair of clamping jaws and a rod surrounded thereby, the curtain having its lower edge wrapped upon said rod, the clamping jaws being of unequal height, and fastening means located below the lower edge of the curtain for binding said jaws upon the curtain, substantially as and for the purpose described.

35. The combination of a curtain, a pair of clamping jaws and a rod surrounded thereby, the curtain having its

lower edge wrapped upon said rod, one of the clamping jaws being provided with a raised straight edge, and fastening means located below the lower edge of the curtain for binding said jaws upon the curtain, substantially as and for the purposes described.

36. The combination of a curtain, a pair of clamping jaws each member of which is provided with a depending web portion, a bar, and screw threaded means passing through the web portions for firmly binding the bar to the web portions and also for clamping the jaws upon the curtain, substantially as and for the purpose described.

37. A fixture for curtains comprising a split tube adapted to contain a device for securing the lower edge of a window shade at different heights in a window frame, a pair of jaws adapted to hold the lower edge of a curtain, and clamping means between the tube and the jaws and beneath the lower edge of the curtain, for simultaneously binding the jaw upon the curtain and closing the tube upon the shade securing means, substantially as and for the purpose described.

38. A fixture for curtains comprising a split tube adapted to contain a device for securing the lower edge of a window shade at different heights on a window frame, a pair of jaws adapted to hold the lower edge of a curtain, each jaw being integrally united with the edge of the split tube by a depending web portion, and fastening means, extending through said web portions, for simultaneously binding the jaws upon the curtain and closing the tube upon the shade securing means, substantially as and for the purpose described.

39. A fixture for curtains comprising, jaw portions 8, depending web portions 11, and a casing 4, all integrally united and made of one piece of sheet metal, substantially as described.

868,760. NITRO-STARCH EXPLOSIVE. JESSE B. BRAUNSTEIN, Allentown, Pa. Filed Feb. 18, 1907. Serial No. 358,017.

1. The described process of stabilizing nitro-starch consisting in treating it with a borate solution, and washing.

2. The described process of stabilizing nitro-starch consisting in treating it with a borax solution, and washing.

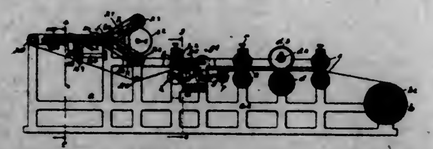
3. The described process of stabilizing nitro-starch consisting in treating it with a concentrate solution of borax, and washing.

4. The described process of stabilizing nitro-starch consisting in treating it with five times its weight of concentrate borax solution, and washing.

5. The described process of stabilizing nitro-starch consisting in treating it with a 10% solution of borax, and washing.

6. The described process of stabilizing nitro-starch consisting in treating it with a borax solution, agitating, washing and drying.

868,761. CLOTH SPLITTING AND REWINDING MACHINE. SAMUEL B. COHEN, New York, N. Y. Filed Jan. 9, 1907. Serial No. 351,433.



1. In a machine of the class described, means for splitting a web of fabric into separate webs of less width, and means for splitting one of said webs into ribbons and for folding the edges of said ribbons and for winding said ribbons into rolls.

2. In a machine of the class described, means for splitting a web of fabric into a web of less width and the remainder of said web into ribbons, means for folding and pressing the edges of said ribbons, and means for rewinding said ribbons onto spools.

3. In a machine of the class described, a frame and means for splitting a web of fabric into strips or ribbons, means for folding the edges of said strips or ribbons, and means for winding said strips or ribbons onto spools.

4. In a machine of the class described, a main splitter or cutter for splitting a bolt of fabric into different widths, means for splitting one of said widths into ribbons, means for folding the edges of said ribbons, and means for winding the separate ribbons thus formed onto spools.

5. In a machine of the class described, means for splitting a fabric into separate parts, means for splitting one of said parts into strips or ribbons, means for folding the edges of said strips or ribbons, means for pressing the folded edges of said strips or ribbons, and means for winding the separate strips or ribbons onto spools.

6. In a machine of the class described, means for splitting a fabric into separate widths, means for splitting one of said widths into strips or ribbons, means for folding the edges of said strips or ribbons, and means for winding the separate strips or ribbons onto spools.

7. In a machine of the class described, means for splitting a fabric into strips or ribbons, means for folding the edges of said strips or ribbons, means for pressing the folded edges of said strips or ribbons, and means for winding the separate strips or ribbons onto spools.

8. In a machine of the class described, a support for a roll of cloth, guide rollers arranged rearwardly of said support, cutting devices arranged rearwardly of the guide rollers and adapted to split the cloth into different widths, devices arranged rearwardly of said cutting devices for splitting one width of the cloth into strips or ribbons, means arranged rearwardly of said last named devices for folding the edges of said strips or ribbons, means for pressing the folded edges of said strips or ribbons, and devices arranged rearwardly of the last named means for winding the separate strips or ribbons onto spools.

9. In a machine of the class described, means for splitting a fabric into strips or ribbons, means for folding and pressing the edges of said strips or ribbons, and means for forming the said strips or ribbons into spools consisting of a roller over which they are passed, a shaft arranged in front of said roller and provided with movable arms carrying spool holders, and another shaft mounted between said arms and provided with disks or wheels in connection with which the spools on said holders work, said strips or ribbons being adapted to be connected with the spools on said holders.

10. In a machine of the class described, a frame, a support for a roll of fabric, guide rollers mounted rearwardly of said support and between which the fabric is passed, a main cutter device mounted rearwardly of the guide rollers and adapted to split the fabric into separate parts, means for forming one of said parts into a roll, means for splitting the other part into strips or ribbons, means for folding the edges of said strips or ribbons, and means for forming the separate strips or ribbons into rolls.

11. In a machine of the class described means for splitting a web of fabric into ribbons, and for folding and pressing the edges of said ribbons.

12. In a machine of the class described, means for splitting a web of fabric into ribbons, means for folding and pressing the edges of said ribbons, and means for measuring the amount of fabric split into ribbons.

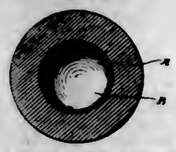
13. In a machine of the class described, means for splitting a web of fabric into ribbons, and for folding and pressing the edges of said ribbons, and means for measuring the amount of fabric split into ribbons, and means for winding the same into rolls.

14. In a machine of the class described, means for splitting a web of fabric into webs of less width, means for splitting one of said webs into ribbons, means for folding and pressing the edges of said ribbons, means for measuring said ribbons, and means for winding said ribbons into rolls.

15. In a machine of the class described, means for splitting a fabric into ribbons, means for folding the edges of said ribbons, means for measuring the amount of fabric split into ribbons, and means for winding said ribbons into rolls.

16. In a machine of the class described, means for splitting a web of fabric to form a web of less width than the original web, means for winding the web of less width into a roll, means for splitting the remainder of the original web into ribbons, means for folding and pressing the edges of said ribbons, means for winding said ribbons into rolls, and means for measuring the amount of fabric split.

868,762. PROCESS OF MANUFACTURING CONCRETE. WILLIAM D. CROW, East Orange, N. J. Filed Feb. 26, 1907. Serial No. 359,508.



1. In an artificial stone, the combination of a matrix, and an aggregate, said aggregate consisting of refractory material of substantially spherical forms.

2. In an artificial stone, the combination of a matrix, an aggregate, said aggregate consisting of refractory material of substantially spherical forms containing an internal hollow, substantially as described.

3. In an artificial stone, the combination of a matrix and an aggregate embedded in said matrix, said aggregate consisting of a plurality of substantially spherical forms of refractory material, substantially as described.

4. In an artificial stone, the combination of a matrix, and an aggregate embedded in said matrix, said aggregate consisting of a plurality of hollow spherical forms of refractory material, substantially as described.

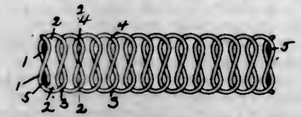
5. In an artificial stone, the combination of a matrix, and an aggregate, said aggregate consisting of burnt clay of substantially spherical forms.

6. In an artificial stone, the combination of a matrix, an aggregate, said aggregate consisting of burnt clay of substantially spherical forms containing an internal hollow, substantially as described.

7. In an artificial stone, the combination of a matrix, and an aggregate embedded in said matrix, said aggregate consisting of a plurality of substantially spherical forms of burnt clay, substantially as described.

8. In an artificial stone, the combination of a matrix, and an aggregate embedded in said matrix, said aggregate consisting of a plurality of hollow spherical forms of burnt clay, substantially as described.

868,763. CORSET-STAY. JOHN R. DEAN, Wesleyville, Pa. Filed July 8, 1907. Serial No. 382,622.



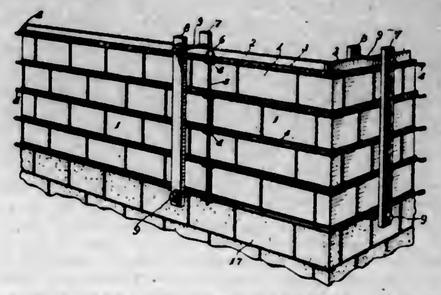
1. A stay for corsets and similar articles comprising a flat wire spring formed of oppositely disposed loops, the loops being inter-woven along one edge and loosely disposed along the opposite edge.

2. A stay for corsets and similar articles comprising a flat wire spring formed of oppositely disposed loops, the loops being inter-woven along one edge and over-lapped along the opposite edge.

3. A stay for corsets and similar articles comprising a flat wire spring formed of oppositely disposed loops with a plurality of wires, the loops being inter-woven along one edge and loosely disposed along the opposite edge.

4. A stay for corsets and similar articles comprising a flat wire spring formed of oppositely disposed pear shaped loops with a plurality of wires, the loops being inter-woven along one edge and over-lapped along the opposite edge.

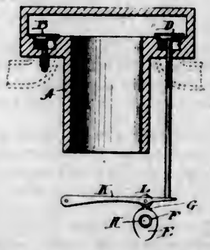
868,764. MOLD FOR CONCRETE WALLS. MILON J. DEMORRET, Belding, Mich. Filed Mar. 11, 1907. Serial No. 361,792.



1. In a mold for concrete walls, a mold wall comprising a series of sections consisting of stamped sheet metal and angle bars attached thereto the corner sections being bent in angular form, and the sections secured to each other by rods extending vertically through the overlapped ends of all of the angle bars, an inner mold-wall, vertically disposed supporting bars engaging the angle bars, and bolts connecting the said bars and the inner wall, and also extending above and below said mold-walls.

2. In a mold for hollow concrete walls, a core comprising two corrugated sheet metal plates, a bar to which said plates are attached one of said plates being movable toward and from the other plate at the lower edge, supporting bars attached to the respective plates near the lower edges, a rod journaled in the upper bar and in one of the lower bars, a crank member on the rod and engaging the other lower bar to space the plates apart at their lower edges, and means for manually rotating the rod.

868,765. INTERNAL-COMBUSTION ENGINE. HERMAN DOCK, Wyncote, Pa., assignor to The Dock Gas Engine Company, New York, N. Y., a Corporation of New Jersey. Filed Nov. 19, 1906. Serial No. 343,940.



1. In an internal combustion engine an exhaust valve controlling means including a cam shaft a main cam, an oppositely arranged secondary cam carried thereby and in alinement therewith and means for projecting and retracting said cam to move it into or out of an operative position said means including a longitudinally movable inner shaft passing through said secondary cam.

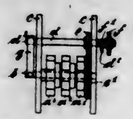
2. In an internal combustion engine an exhaust valve controlling means including a cam shaft a main cam, an oppositely arranged secondary cam carried thereby and in alinement therewith and means for projecting and retracting said cam to move it into or out of an operative position and for holding the same at an intermediate position said means including a longitudinally movable inner shaft passing through said secondary cam.

3. In an internal combustion engine an exhaust valve controlling means, including a cam shaft a main cam, an oppositely arranged secondary cam carried thereby and in alinement therewith and means for projecting and retracting said cam to move it into or out of an operative

position and for holding the same at any intermediate position said means including a longitudinally movable inner shaft passing through said secondary cam to project the same, and a spring to retract the same.

4. In an internal combustion engine an exhaust valve controlling means including a main shaft a main cam, an oppositely arranged secondary cam carried thereby and in alinement therewith and means for projecting and retracting said cam to move it into or out of an operative position, said means including a longitudinally moving inner shaft concentric with the cam shaft and operatively connected with the supplemental cam said inner shaft having a longitudinal inclined groove in its face, said secondary cam having a projection extending into said groove and bearing on the incline thereof.

868,766. TRANSMISSION-GEAR FOR FARE-INDICATORS. HEINRICH DÜNHÖLTER, Berlin, Germany. Filed Apr. 26, 1907. Serial No. 370,395.



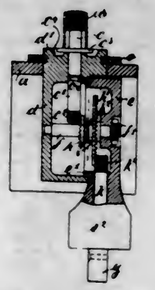
1. A transmission-gear for fare-indicators, comprising; a driving-device such as (*f*) continuously operated in a single direction, a shaft operated by the driving device and capable of describing alternately a continuous and an intermittent movement, a spring coöperating with said shaft, which spring is tensioned by the shaft during its continuous movement and produces the intermittent motion of the shaft, indicator-wheels, disks or the like to be intermittently operated, and means for transmitting the intermittent movement of the said shaft to the numeral wheels or disks.

2. A transmission-gear for fare-indicators, comprising: a feeding mechanism comprising a driving device, such as (*f*) continuously operated in a single direction, a shaft operated by the driving device and having a flattened part or recess at its one end, numeral disks or wheels which are to be operated intermittently, a second shaft upon which the said numeral wheels are loosely mounted, a spring fixedly attached with its one end to the second shaft and bearing with its other end against the said recess of the shaft (*d*), and means for transmitting the intermittent motion of the latter shaft to the numeral wheels or disks.

3. A transmission-gear for fare-indicators, comprising: a feeding mechanism comprising: a driving device, such as (*f*) continuously operated in a single direction, a shaft (*e*) operated by the driving device and having a flattened part or recess at its one end, numeral disks or wheels which are to be operated intermittently, a second shaft upon which the said numeral wheels are loosely mounted, a spring fixedly attached with its one end to the second shaft and bearing with its other end against the said recess of the shaft (*d*), a toothed wheel (*e*) having one tooth and fixedly mounted on the shaft (*d*,) and a toothed rim (*e'*) attached to one of the said numeral wheels for the purpose of being intermittently fed.

4. A transmission-gear for fare-indicators, comprising: a feeding mechanism comprising: a toothed wheel (*f*) provided with a lateral pin (*f'*) and continuously operated in a single direction, a shaft (*d*) being provided with a cross pin adapted to interfere with the said lateral pin (*f'*), a shaft (*d*) having a flattened part or recess at its one end, numeral disks or wheels which are to be operated intermittently, a second shaft upon which the said numeral wheels are loosely mounted, a spring fixedly attached with its one end to the second shaft and bearing with its other end to the said recess of the shaft (*d*), a toothed wheel (*e*) having one tooth and fixedly mounted on the shaft (*d*), and a toothed rim (*e'*) attached to the one end of the said numeral wheels.

868,767. FARE-INDICATOR. HEINRICH DÜNHÖLTER, Berlin, Germany. Filed Apr. 26, 1907. Serial No. 370,396.



1. A universal joint-connection for fare-indicators for vehicles, cabs and the like, comprising a casing adapted to be rotated around a vertical axis and a part adapted to be rotated around a horizontal axis and carried by the said casing, a shaft operated by the vehicle provided with the fare indicator, and means for transmitting the movement of the said shaft for the purpose as described.

2. A universal joint-connection for fare-indicators for vehicles, cabs and the like, comprising: a base plate (*a*) provided with an opening and carried by the vehicle a casing (*d*) open at its one side and mounted in the said opening of the base plate, a cover (*e*) provided with an annular rim and mounted therewith in the opening of the casing (*d*), a flexible shaft operated by the vehicle and means for transmitting the movement of the said shaft, for the purpose as described.

3. In the hereindescribed universal-joint for fare indicators for vehicles, cabs and the like, in combination with a flexible shaft operated by the vehicle, a base plate provided with a circular hole, a casing having a cylindrical part or pivot (*d'*) arranged in said hole, a divided ring (*o*) for insuring the position of the casing (*d*) in the base plate (*a*) and a clutch part for the purpose of transmitting the motion of the said flexible shaft, for the purpose as described.

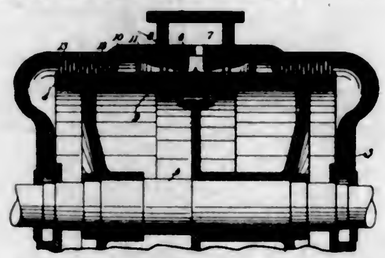
4. In the hereindescribed universal joint for fare-indicators for vehicles, cabs and the like, in combination with a flexible shaft operated by the vehicle, a casing (*d*) having a circular opening at its one side, a cover (*e*) having an annular rim adapted to close the said circular opening, and a cross shaft (*f*) for the purpose of connecting the cover (*e*) to the casing (*d*), and means for transmitting the motion of the said flexible shaft.

5. A universal joint-connection for fare-indicators for vehicles, cabs and the like, comprising: a base plate (*a*) having a circular hole, a casing (*d*) open at its one side and provided with a cylindrical part or pivot, mounted with the latter in the said circular opening, a divided ring (*o*) engaging with the said pivot for holding the casing in its position, a clutch part (*c*, c^3) intended to engage with the fare indicator and pivotally carried by the said casing, a vertical shaft (*c'*) connected with the said clutch part and journaled in the casing, a spur wheel (c^2) carried by the shaft (*c'*), a cover (*e*) having an annular rim pivotally mounted therewith in the opening of the casing (*d*), a transverse shaft (*f*) carried by the casing (*d*) and the cover (*e*) and serving for their connection, crown wheels (*h h'*) carried by the transverse shaft, a spur-wheel (*k'*) meshing with the crown-wheel (*h'*), the crown-wheel (*h*) being in engagement with the spur-wheel (c^2), and a shaft (*k*) journaled in the cover (*e*) and carrying the spur-wheel (*k'*).

6. In a universal joint-connection for fare-indicators, and in combination with the hereindescribed casing (*d*) and cover (*e*), a clutch part consisting of two legs or projections (*o o*) and bearing plate (o^3) connected with the said legs and pivotally carried by the casing (*d*) a vertical shaft (*o'*) attached to the plate (o^3) and journaled in the casing (*d*), a transverse shaft (*f*) carried by the casing

and the cover, a spur wheel (c^2) and a crown wheel (*h*) engaging with each other and carried by the shaft (*c'*) and (*f*) respectively, a vertical shaft (*k*) journaled in the cover (*e*), a crown wheel (*h'*) and a spur wheel (*k'*) meshing with each other and mounted on the shafts (*f* and *k*) respectively, means for connecting the crown wheels (*h* and *h'*) operatively with each other, a spiral spring (*i*) for holding the last mentioned wheels in their proper position, and a connecting part (*g*) attached to the shaft (*k*).

868,768. ELASTIC-FLUID TURBINE. RAYMOND N. EHRHART, Pittsburg, Pa., assignor to The Westinghouse Machine Company, a Corporation of Pennsylvania. Filed Apr. 12, 1905. Serial No. 255,114.



1. In an elastic fluid turbine, agents whereby the thermal energy of the working fluid is converted into kinetic energy in the form of velocity and a portion only of the energy due thereto is absorbed, means for converting the remaining velocity energy into pressure and instrumentalities whereby the fluid issuing from said means is fractionally expanded.

2. In an elastic fluid turbine, a supply passage, a fluid-discharge nozzle communicating therewith arranged to convert the thermal energy of the working fluid into kinetic energy in the form of velocity, moving blades communicating with said nozzle arranged to abstract a portion of said kinetic energy, a reconverting chamber communicating with said blades for converting the remaining portion of the velocity energy into pressure energy, and means for expanding the fluid issuing from said chamber and abstracting the available energy by reaction.

3. In an elastic fluid turbine, a fluid-supply passage, fluid discharge nozzles communicating therewith adapted to convert the thermal energy of the working fluid into kinetic energy in the form of velocity, moving blades adapted to abstract a portion of said kinetic energy, a reconverting chamber provided with guide vanes communicating with said blades, alternate rows of stationary vanes and moving blades communicating with said chamber whereby the fluid issuing from said chamber is fractionally expanded and the available energy abstracted by impact and reaction.

4. In an elastic fluid turbine, agents whereby the thermal energy of the working fluid is converted into kinetic energy in the form of velocity and a portion only of said energy due thereto is absorbed, means for converting the remaining velocity energy into pressure energy and instrumentalities whereby the pressure energy of the fluid issuing from said means is abstracted by reaction.

5. In an elastic fluid turbine, agents whereby the thermal energy of the working fluid is converted into kinetic energy in the form of velocity and a portion only of said energy due thereto is absorbed, means for converting the remaining velocity energy into pressure energy and alternate rows of stationary vanes and moving blades communicating with said means whereby the fluid issuing therefrom is fractionally expanded and the available energy abstracted by impact and reaction.

6. In an elastic fluid turbine, a fluid-supply passage, fluid-discharge nozzles communicating therewith and arranged to convert the thermal energy of the working fluid into kinetic energy in the form of velocity, moving blades communicating with said nozzles arranged to abstract a portion of said kinetic energy, means for converting the remaining kinetic energy into pressure energy and instrumentalities whereby the fluid issuing from said means is fractionally expanded.

7. In an elastic fluid turbine, agents whereby the thermal energy of the working fluid is converted into kinetic energy in the form of velocity and a portion only of said energy due thereto is absorbed, means for converting the remaining velocity energy into pressure energy and instrumentalities whereby the thermal energy of the fluid issuing from said means is fractionally expanded and the available energy abstracted by reaction.

8. In an elastic fluid turbine, agents whereby the thermal energy of the working fluid is converted into kinetic energy in the form of velocity and a portion only of the energy due thereto is abstracted, means for converting the remaining velocity energy into pressure energy and instrumentalities whereby the pressure energy of the fluid issuing from said means is fractionally expanded and the available energy abstracted by impact and reaction.

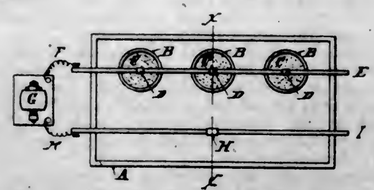
9. In an elastic fluid turbine, agents whereby the thermal energy of the working fluid is converted into kinetic energy in the form of velocity and a portion only of the energy due thereto is abstracted, means for converting the remaining velocity energy into pressure energy and instrumentalities whereby the thermal energy of the fluid issuing from said means is abstracted by impact and reaction.

10. In an elastic fluid turbine, a fluid supply passage, fluid discharge nozzles communicating therewith adapted to convert the thermal energy of the working fluid into kinetic energy in the form of velocity, moving blades adapted to abstract a portion of said kinetic energy, a reconverting chamber communicating with said blades, alternate rows of stationary vanes and moving blades communicating with said chamber whereby the fluid issuing therefrom is fractionally expanded and the available energy abstracted by impact and reaction.

11. In an elastic fluid turbine, a fluid supply passage, fluid discharge nozzles communicating therewith adapted to convert the thermal energy of the working fluid into kinetic energy in the form of velocity, moving blades adapted to abstract a portion of said kinetic energy, a reconverting chamber communicating with said blades, alternate rows of stationary vanes and moving blades communicating with said chamber whereby the fluid issuing therefrom is expanded and the available energy abstracted by impact and reaction.

12. In an elastic fluid turbine, a supply passage, fluid discharge nozzles communicating therewith adapted to convert the thermal energy of the working fluid into kinetic energy in the form of velocity, alternate rows of stationary directing vanes and moving blades communicating therewith and adapted to abstract a portion of the kinetic energy, a reconverting chamber communicating with said blades and vanes for converting the remainder of the velocity energy into pressure energy and alternate rows of stationary vanes and moving blades communicating with said chamber whereby the fluid issuing therefrom is fractionally expanded and the available energy abstracted by impact and reaction.

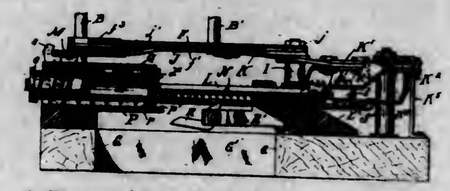
868,769. PROCESS FOR THE RECOVERY OF NICKEL FROM ORE. CHARLES H. EHRENFELD and JACOB R. GROVE, York, Pa. Filed Jan. 27, 1906. Serial No. 298,107.



1. The process for the recovery of nickel from ore which consists in placing nickel ore within a jar of suitable

named valve and the radiating system and arranged, when in one operative position, to direct a flow of fluid through the radiating system, and, when in another operative position, to direct said flow directly to the thermostatic means.

868,773. VENDING-MACHINE. WILLIAM H. H. GORHAM and CHARLES R. GORHAM, Cleveland, Ohio, assignors to The Gorham Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed Oct. 26, 1906. Serial No. 340,614.



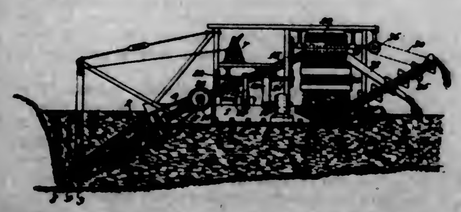
1. The combination of a plate for supporting envelops, a plunger-plate beneath the same, guideways for the edges of said plunger-plate, means for moving the plunger-plate forward into the space between the body of the envelop and the flap, and a stationary plate toward which said guideways bend and against which the plunger-plate may bind the flap.

2. The combination of a support for envelops having a space in front thereof which the flap of the lowermost envelop or envelops may occupy, a plunger plate beneath the support and normally behind such space, and means for moving said plate forward and downward into coöperation with another member to grasp the lowermost envelop or envelops and cause their ejection.

3. The combination of a horizontal supporting plate, an ejecting plate suitably guided on the underside of the supporting plate, spring fingers on the forward edge of the ejecting plate, openings in the supporting plate which such fingers occupy, a clamping plate, and means for moving the ejecting plate forward to cause the fingers to enter between the flap and body of the bottom envelop, and means for guiding said ejecting plate to give it a diagonally downward and forward movement after such engagement to cause it to clamp the engaged envelop.

4. The combination of a horizontal supporting plate, vertical guides, an ejecting plate suitably guided on the underside of the supporting plate, fingers on the forward edge of the ejecting plate, openings in the supporting plate which such fingers occupy, a clamping plate, and means for moving the ejecting plate forward to cause the fingers to enter between the flap and body of the bottom envelop, and means for guiding said ejecting plate to give it a diagonally downward and forward movement after such engagement to cause it to clamp the engaged envelop, and an ejection guard having an opening below the top surface of the supporting plate.

868,774. DREDGING APPARATUS. THOMAS R. GOTH, San Francisco, Cal. Filed Feb. 5, 1906. Serial No. 299,599.



1. In a dredger, a rotary snail-shell shaped digger or excavator.

2. In a dredger, a rotary snail-shell shaped digger or excavator having a single projecting cutting edge, and a single inlet opening.

3. In a dredger, a rotary snail-shell shaped digger in combination with a rotary pipe to which said digger is rigidly secured.

4. In a dredger, a rotary snail-shell shaped digger having a single inlet opening in combination with a rotary pipe to which said digger is rigidly secured.

5. In a dredger, a submerged or partially submerged pipe, and a rotary snail-shell shaped digger at the extremity of said pipe, said digger having a single cutting edge and a single inlet opening in its periphery.

6. In a dredger, a submerged or partially submerged rotary pipe having at its extremity a snail-shaped rotary digger.

7. In a dredger, a submerged or partially submerged rotary pipe having at its extremity a snail-shaped rotary digger, said digger having a single projecting cutting edge, and a single inlet opening.

8. In a dredger, a substantially T shaped hydraulic connection, means for receiving spoil through the stem of the T, and a discharge passage for such spoil in one arm of the T.

9. In a dredger, a substantially hinged T-shaped hydraulic connection, means for receiving spoil through the stem of the T, and a discharge passage for such spoil in one arm of the T.

10. In a dredger, a substantially T shaped hydraulic connection, a rotary digger at the extremity of the stem thereof, and a discharge passage through one arm of the T.

11. In a dredger a substantially T-shaped hydraulic connection comprising a rotary stem, arms connected thereto and hinged so as to permit the vertical adjustment of the stem, and a rotary digger rigidly secured to the extremity of said rotary stem.

12. In a dredger, a substantially T-shaped hydraulic connection, the stem wherof has means for receiving spoil, a discharge passage in one arm of the T for the discharge of said spoil and a hydraulic giant in the other arm of the T.

13. In a dredger, a substantially T-shaped hinged hydraulic connection, the stem whereof has means for receiving spoil, a discharge passage in one arm of the T for the discharge of said spoil and a hydraulic giant in the other arm of the T.

14. In a dredger, a substantially T-shaped hydraulic connection comprising a rotary stem, and two hinged arms connected thereto, a rotary digger at the extremity of said rotary stem, and a hydraulic giant in one arm of the T, whereby material excavated is drawn through said rotary stem and is forced through the other arm of the T.

15. In a dredger a substantially T-shaped hydraulic connection having hinge or trunnion bearings for its arms, a gear loose upon one of said arms, driving and transmitting gears in engagement with said loose gear, power connections to the driving gear, a stem for the T adapted to rotate, and means operated by the transmitting gear for rotating said stem; the construction and arrangement being such that the whole T connection can swing upon its hinge or trunnion bearings without deranging or affecting the operation of said gearing.

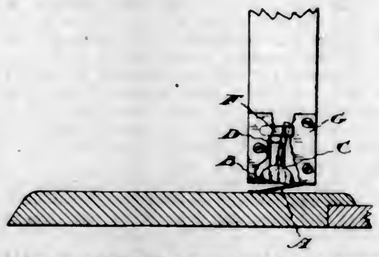
16. In a dredger means for separating the boulders and large matter from the finer matter and for discharging the boulders by gravity to the bottom of the water hole, a settling sump at the stern of the dredger and below the level of said discharge, means for supplying tailings to said sump, and a chain of buckets or other suitable means for elevating tailings from said sump above said discharge; whereby said tailings are deposited in the water hole above the boulders.

17. In a dredger having means for separating coarse from fine material a settling sump adapted to receive the fine tailings and a chain of buckets, or other suitable means for elevating said tailings from the sump and discharging them from a higher elevation than that at which the coarse waste material is discharged.

18. In a dredger in which material is drawn and forced through and beyond an intake pipe by the action of a hydraulic giant, means for freeing the intake pipe comprising a valve located beyond the giant and adapted to close the discharge passage; whereby the stream from the giant is forced backwardly through the intake pipe.

19. In a dredger, a rotary excavator, a substantially T-shaped hydraulic connection whose hollow stem carries said excavator, a hydraulic giant forming a trunnion bearing for one arm of the T, and a discharge pipe forming a trunnion bearing for the other arm of the T, whereby the whole T-shaped connection can swing upon said bearings without affecting the action of the said giant or the discharge of material through the other arm of the T and said discharge pipe.

868,775. WEATHER-STRIP FOR DOORS. ROBERT F. GREEN, Toronto, Ontario, Canada. Filed Dec. 29, 1906. Serial No. 349,970.



1. A door provided with a spring metal strip secured by one edge along the bottom of the door; and means engaging the strip adjacent to said edge and adapted to be operated by contact with the door jamb for springing down said metal strip into contact with the threshold of the door, substantially as described.

2. A door provided with a spring metal strip secured by one edge along the bottom of the door, which has a groove formed therein over the strip; and means located in said groove engaging the strip adjacent to said edge and adapted to be operated by contact with the door jamb for springing down said metal strip into contact with the threshold of the door, substantially as described.

3. A door provided with a spring metal strip secured by one edge along the bottom of the door, which has a half round groove formed therein over the strip; a half round bar located in said groove; and means adapted to be operated by contact with the door jamb for rocking the bar to spring down the said metal strip into contact with the threshold of the door, substantially as described.

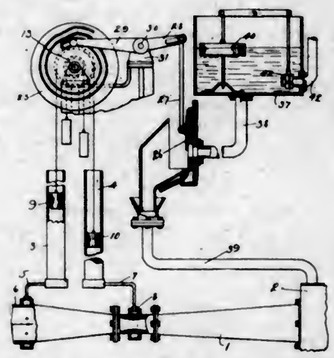
4. A door provided with a spring metal strip secured by one edge along the bottom of the door; a half round groove in the bottom over the strip; a half round bar located in said groove; an arm secured to one end of the bar; and a wedge adapted to engage the door and the arm as the door is closed to rock the arm and spring down said metal strip into contact with the threshold of the door, substantially as described.

5. A door provided with a spring metal strip secured by one edge along the bottom of the door; a half round groove in the bottom over the strip; a half round bar located in said groove; an arm secured to one end of the bar; and a wedge slidable in a recess in the door and adapted to engage the arm and the door jamb as the door is closed to rock the arm and spring down said metal strip into contact with the threshold of the door, substantially as described.

6. A door provided with a spring metal strip secured by one edge along the bottom of the door; a half round groove in the bottom over the strip; a half round bar located in said groove; an arm secured to one end of the bar; a wedge slidable in a recess in the door and adapted to engage the arm; and an adjusting screw in the door jamb with which the end of the wedge engages as the door is closed thereby rocking the arm to spring down said metal strip into contact with the threshold of the door, substantially as described.

7. A door provided with a spring metal strip secured by one edge along the bottom of the door; a half round groove in the bottom over the strip; a half round bar located in said groove; an arm secured to one end of the bar; a wedge slidable in a recess in the door and adapted to engage the arm and the door jamb as the door is closed to rock the arm and spring down said metal strip into contact with the threshold of the door; and a spring tending to move the wedge from engagement with the arm, substantially as described.

868,776. AUTOMATIC FLOW-REGULATOR FOR LIQUIDS AND GASES. JOHN H. GREGORY and WALTER W. JACKSON, Columbus, Ohio, and FREDERICK N. CONNET, Providence, R. I., assignors to Builders Iron Foundry, Providence, R. I., a Corporation. Filed Dec. 17, 1906. Serial No. 348,147.



1. In a device for supplying liquids or gases, a main supply pipe, an auxiliary supply vessel and means operated by the difference between the pressures at two points in the main pipe to control the flow from the said auxiliary supply so that the quantity drawn from the auxiliary supply will always be in a predetermined ratio to the quantity passing through said main pipe.

2. In a device for supplying liquids or gases, a main supply pipe having a neck or contracted portion, an auxiliary supply vessel, and means including two floats operated by a variation in the flow through said main pipe and its contracted portion to control the flow from said auxiliary pipe.

3. In a device for supplying liquids or gases, a main supply pipe, an auxiliary supply vessel and means including floats operated by a variation in the flow in the main pipe to operate gates and automatically regulate the flow from the said auxiliary supply so that the quantity drawn from the latter will always be in a given proportion to the quantity passing through said main pipe.

4. In a device for supplying liquids or gases, a main supply pipe having a neck or contracted portion, an auxiliary supply vessel, means including two floats operated by the different pressures in said main pipe and its contracted portion to automatically control the flow from said auxiliary supply so that the quantity drawn from the auxiliary supply will always be proportioned to the quantity passing through said main pipe.

5. In a device for supplying liquid and gases, a main supply pipe, an auxiliary supply vessel, said pipe having a body portion and a contracted neck the pressure of the flowing substance in said body portion being greater than that in the neck, and means operated by these two pressures to automatically control the flow of said auxiliary supply.

6. In a device for supplying liquids or gases, a main supply pipe, auxiliary supply pipes, said main pipe having a body portion and a contracted neck whereby when the liquid is flowing two different pressures are obtained, and floats actuated by these pressures to operate gates through

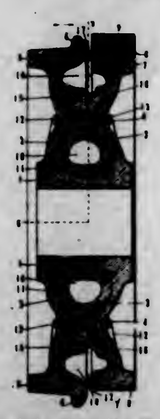
their difference in height, and automatically regulate the flow through the auxiliary pipes.

7. In a device for supplying liquid or gases, a main supply pipe, auxiliary supply pipes, said main supply pipe having a body portion and a contracted neck whereby two different pressures are obtained when the liquid is flowing, and means whereby the difference in these pressures serve to control the flow from said auxiliary supply pipes so that the quantity drawn from the latter will be in a given ratio to some function of the difference in said pressures.

8. In a device for supplying liquid or gases, a main supply pipe, auxiliary supply pipes, said main supply pipe having a body portion and a contracted neck whereby two different pressures are obtained when the liquid is flowing, two tubes, one connected to the high and one to the low pressure portions of said tubes, floats in said tube, and means actuated by said floats to operate gates and automatically regulate the flow from said auxiliary pipes.

9. In a device for supplying liquid or gases, a main supply pipe, auxiliary supply pipes, said main supply pipe having a body portion and a contracted neck whereby two different pressures are obtained when the liquid is flowing, two tubes each open at one end and having their opposite ends connected to the main pipe, one to the high pressure, and one to the low pressure portion of the same, floats in said tubes, and means whereby the action of said floats operate a rotatable cam to open and close gates and automatically regulate the flow from said auxiliary supply.

868,777. BRAKING APPARATUS. PATRICK H. GRIFFIN, Buffalo, N. Y., assignor to Henry F. Griffin and William A. Griffin, Buffalo, N. Y. Filed Jan. 28, 1907. Serial No. 354,365.



1. In apparatus of the class described, a car wheel having springing therefrom a plate and a braking ring mounted upon said plate.

2. In apparatus of the class described, a car wheel having springing therefrom an integral plate, and a braking ring mounted upon said plate.

3. In apparatus of the class described, a car wheel having a plate upon which the wheel rim is mounted, means connected with and spaced from said plate, and a braking ring mounted upon said means, said means being integral with the wheel body.

4. In apparatus of the class described, a car wheel having a plate upon which the wheel rim is mounted, means connected with and spaced from said plate, and a braking ring mounted upon said means, said means being integral with said braking ring.

5. In apparatus of the class described, a car wheel having a plate upon which the wheel rim is mounted, means connected with and spaced from said plate, and a braking ring mounted upon said means, said means being integral with the wheel body and with the braking ring.

6. In apparatus of the class described, in combination, a hub, a pair of plates springing therefrom, means connecting said plates one with another, means springing from said point of connection and having mounted thereon a wheel rim, and means springing from said point of connection and having mounted thereon a braking ring.

7. In apparatus of the class described, in combination, a hub, inner and outer plates integral therewith, an integral connection between said plates, integral means springing from said connection and having mounted thereon a wheel rim, and integral means springing from said connection and having mounted thereon a braking ring.

8. In apparatus of the class described, in combination, a hub, inner and outer plates springing therefrom, a connection between said inner and outer plates, and inwardly curved means springing from said connection and having mounted thereon a braking ring.

9. In apparatus of the class described, in combination, a hub, inner and outer plates springing therefrom, a connection between said inner and outer plates, and an inwardly curved plate springing from said connection and having mounted thereon a braking ring.

10. In apparatus of the class described, in combination, a hub, inner and outer plates springing therefrom, means connecting said inner and outer plates, means springing from said connection and having mounted thereon a wheel rim, and a plate springing from said connection and having mounted thereon a braking ring.

11. In apparatus of the class described, in combination, a hub, inner and outer plates springing therefrom, means connecting said inner and outer plates, means springing from said connection and having mounted thereon a wheel rim, and a plate springing from said connection and having mounted thereon a braking ring, said plate being integral with said ring and with the wheel body.

12. In apparatus of the class described, in combination, a hub, inner and other plates springing therefrom, means connecting said inner and outer plates, a rim mounted upon said connecting means, and a relatively expansible braking member mounted upon said connecting means.

13. In apparatus of the class described, a car wheel having springing therefrom a plate, and a braking ring mounted upon said plate, the surface of said braking ring being chilled.

14. In apparatus of the class described, a car wheel having springing therefrom a plate, and a braking ring mounted upon said plate, said braking ring being spaced from the wheel rim.

15. In apparatus of the class described, in combination, a hub, a pair of plates springing therefrom, means connecting said plates one with another, means springing from said point of connection and having mounted thereon a wheel rim, and means springing from said point of connection and having mounted thereon a braking ring, said braking ring being spaced from said wheel rim.

16. In apparatus of the class described, in combination, a hub, inner and outer plates springing therefrom, means connecting said inner and outer plates, a rim mounted upon said connecting means, and a relatively expansible braking member mounted upon said connecting means, said braking member being spaced from said rim.

17. In apparatus of the class described, in combination, a hub, inner and outer plates springing from said hub, means connecting said inner and outer plates, a plurality of brackets extending about the space comprised within said hub, plates and connecting means, means extending from one of said plates and supporting a wheel rim, and means extending from the other of said plates and supporting a braking ring.

18. In apparatus of the class described, in combination, a wheel having mounted thereon a rim and a braking ring offset with respect thereto, and continuous brackets extending from said ring to said rim.

19. In apparatus of the class described, in combination, a wheel having a plate integral therewith, a braking ring mounted upon said plate, and curved brackets formed upon the surface of said plate.

20. In apparatus of the class described, in combination, a hub, inner and outer plates springing therefrom, means connecting said plates, said plates being extended beyond said connecting means, a wheel rim mounted upon one of said plates, a braking ring mounted upon the other of said plates, and curved brackets formed upon each of said plates.

21. In apparatus of the class described, in combination, a hub, inner and outer plates springing therefrom, means connecting said plates, said plates being extended beyond said connecting means, a wheel rim mounted upon one of said plates, a braking ring mounted upon the other of said plates, curved brackets formed upon each of said plates, and a plurality of brackets extending about the space comprised within said hub, plates and connecting means.

868,778. INSECT-TRAP. MAX E. GROPP, Nashville, Tenn. Filed Oct. 13, 1906. Serial No. 338,881.



An insect trap comprising a support and a receptacle slidable on said support adapted to distribute a fly-catching material over the support, from both ends thereof, and having means carried by the receptacle and movable therewith to clamp the support, and to prevent the discharge of the fly catching material.

868,779. ART OF MAKING PHOSPHORESCENT COLORS. WILLIAM J. HAMMER, New York, N. Y. Filed May 15, 1907. Serial No. 373,722.

1. The new art of obtaining varying colors in phosphorescent materials, which consists in mixing a material which is phosphorescent under stimulation with a vehicle rendered fluorescent.

2. The new art of obtaining various shades of different colors in phosphorescent materials, which consists in mixing material capable of phosphorescence under stimulation with liquids containing various amounts of fluorescent coloring matters.

3. The art of producing brilliant phosphorescent colors in the red end of the spectrum, which consists in combining a phosphorescent sulfid with rhodamin, dissolved or mixed with a suitable liquid, such as alcohol or ammonia, and stimulating the resultant combination.

4. The art of producing brilliant phosphorescent colors in the red end of the spectrum, which consists in combining a phosphorescent sulfid with rhodamin, dissolved or mixed with a suitable liquid, such as alcohol or ammonia, adding a viscous preservative, such as a varnish gum, and stimulating the resultant combination.

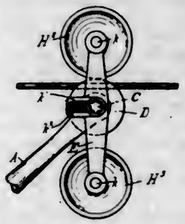
5. The new art of obtaining various colors in phosphorescent materials, which consists in mixing a material which is phosphorescent under stimulation, with a fluorescent color dissolved in alcohol, and adding a viscous preservative.

6. The new art of obtaining various shades of colors in phosphorescent materials, which consists in mixing material capable of phosphorescence under stimulation with liquids containing fluorescent coloring matter and adding a viscous preservative, such as a varnish gum.

7. The art of producing brilliant phosphorescent colors in the red end of the spectrum, which consists in combining calcium sulfid with rhodamin dissolved in alcohol, adding a viscous preservative, such as varnish gum, and stimulating the resultant combination.

8. The art of producing phosphorescent colors, which consists of compounding with phosphorescent material two or more liquids containing fluorescent substances which respond in different wave-lengths to stimulation.

868,780. TROLLEY-WHEEL GUARD. CHARLES HARKNESS, Providence, R. I., assignor, by mesne assignments, to The Harkness Trolley System Company, a Corporation of Rhode Island. Filed Feb. 16, 1905. Serial No. 245,854.



1. The combination with a trolley-wheel and the spindle on which said wheel is mounted, of a pair of guard plates loosely mounted upon the spindle and rotary disk shaped heads having convex inner faces mounted upon both ends of said plates.

2. The combination with a trolley-wheel and the spindle on which said wheel is mounted, of a pair of guard plates loosely mounted upon the spindle, heads loosely mounted upon both ends of the plates, and spring means in the plates adjacent the spindle bearings for permitting the plates to yield vertically.

3. The combination with a trolley-wheel and the spindle on which said wheel is mounted, of a pair of guard plates provided intermediate their length with openings pivotally mounted upon the spindle, and spiral springs mounted in said openings and bearing against the spindle.

4. The combination with the trolley wheel and spindle on which the trolley wheel is mounted, of a pair of disconnected guard plates pivotally mounted off their centers upon the spindle, and bearing means upon both ends of the guard plates.

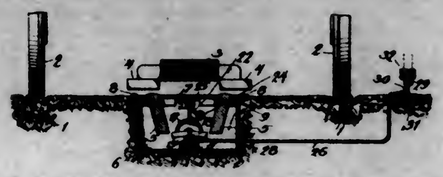
5. The combination with the trolley wheel and spindle on which the trolley wheel is mounted, of a pair of disconnected guard plates pivotally mounted upon the spindle, and rotary disk shaped heads having convex inner faces bearing means upon the ends of the guard plates.

6. The combination with the trolley wheel and spindle upon which the trolley wheel is mounted, of guard plates provided intermediate their length and off center with openings pivotally mounted on the spindle, and yielding means mounted in said openings and bearing against the spindle.

868,781. ELECTRIC SWITCH. CHESTER S. HILL, Williamsport, Pa., assignor of one-half to George L. Campbell, Williamsport, Pa. Filed July 16, 1906. Serial No. 326,368.

1. In surface contacts or sectional third rail systems, a control box, extension pole pieces within the same, a horizontal conductor shaft insulated from the control box, two or more armatures mounted upon the conductor shaft, means for insulating the armatures from each other but not from the shaft, rigid curved contact members carried by the armatures, flexible U-shaped contact strips in electrical contact with the source of current and having their free ends extending down into the path of the rigid curved contact members carried by the armatures and a

sectional third rail in electrical contact with the conductor shaft.



2. In an electrical apparatus, a feed wire, a supply wire, a conductor bar in electrical connection with the feed wire, one or more pliant or supple contacting members carried by the conductor bar, electrical contacting devices in connection with the supply wire and means for causing said electrical contacting devices to pinch the pliant or supple contacting member carried by the conductor bar.

3. In electrical apparatus, a feed wire, a supply wire, a rigid conductor bar in electrical contact with the feed wire, a pliant or supple contacting member suspended from the conductor bar, electrical contacting devices in electrical connection with the supply wire and adapted to pinch the free end of the pliant or flexible contacting members carried by the conductor bar and means for causing such electrical connection.

4. In electrical apparatus, a feed wire, a supply wire, a rigid conductor bar in electrical contact with the feed wire, one or more substantially U-shaped pliant or flexible contacting members supported by the conductor bar and electrical contacting devices in electrical connection with the supply wire and adapted to pinch the free ends of the U-shaped members or strips and means for causing such electrical connection.

5. In contact surfaces or sectional third rail systems, a control box, extension pole pieces mounted within the same, a conductor bar and a feed wire connected to the same, one or more flexible conducting strips extending from the bar, one or more armatures, one or more contacts carried by the armatures adapted to pinch the free ends of the strips, a conductor shaft upon which the armatures are mounted, a sectional insulated third rail, a supply wire in electrical contact with the conductor shaft, the shaft and conducting bar being insulated from the control box.

6. In surface contacts or sectional third rail systems, a control box, two extension pole pieces in the same, a plurality of armatures, a conductor shaft upon which they are pivotally mounted, said shaft being insulated from the control box, rods mounted upon the armatures, and adapted to pinch the free ends of a strip, a source of current, flexible contact strips in electrical contact with a source of current and adapted to coact with the rods carried by the armatures and a sectional third rail in electrical contact with the conductor shaft.

7. In an electrical apparatus, a feed wire, a supply wire, one or more pliant or supple contact members mounted on a support and in electrical contact with the feed wire, means to make a rigid electrical contact between the supply wire and a portion of said pliant or supple contact members leaving a portion of said pliant or supple contact members, between the support and rigid contact, to yield or give under vibrations without affecting the electric contact between the members and the supporting wire.

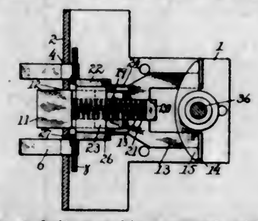
8. In an electrical apparatus, a feed wire, a supply wire, one or more pliant or supple contact members mounted on a support and in electrical contact with the feed wire, means in electrical connection with the supply wire, to pinch the free ends of said contact members, leaving the intermediate portion of said pliant or supple contact members to yield or bend under vibrations of the parts without affecting the electrical contact at its free end.

9. In surface contacts or sectional third rail systems, a control box, extension pole pieces within the same, a horizontal conductor shaft insulated from the control box, two or more armatures mounted upon the conductor shaft, means for insulating the armatures from each other but not from the shaft, curved contact members mounted on and carried by the armatures and adapted to pinch the free ends of the flexible contact strips, flexible contact strips in electrical contact with the source of current and adapted to form an electrical contact between the curved contact members carried by the armatures and a source of current, and a sectional contacting surface in electrical contact with the conductor shaft.

10. In an electrical apparatus, a supply wire, a feed wire, a fixed conductor bar, flexible contact strips bent upon themselves to form substantially U-shaped members and supported from the conductor bar and contact devices adapted to pinch the free ends of the strips to make an electrical connection and means to automatically control the making of the electrical contact.

11. In surface contacts or sectional third rail systems, a control box, a rigid conductor bar, a feed wire connected with said conductor bar and one or more substantially U-shaped pliant or flexible contacting strips supported by said conductor bar and electrical contacting devices in connection with the supply wire adapted to pinch the free ends of said strips and means for causing such electrical connection.

868,782. LOCK AND LATCH. JOHN HILTPOLD, New Britain, Conn. Filed May 8, 1906. Serial No. 315,788.



1. A case, a bolt movably mounted within the case, means for retracting the bolt, a bolt operating cam, and connections between said bolt and cam arranged to disconnect the parts in the backward movement of the bolt.

2. A case, a bolt movably mounted within the case, means for retracting the bolt, a bolt operating cam, a trip located on the bolt, and connections between said cam and trip arranged to be disconnected in the backward movement of the bolt.

3. A case, a bolt movable within the case, a trip mounted on the bolt, a bolt operating cam, and connections between said trip and cam arranged to disconnect the parts in the backward movement of the bolt but to allow movement of the cam independently of the bolt.

4. A case, a bolt movably mounted within the case, means for retracting the bolt, a cam lever projecting to engage a strike plate, and connections between said lever and bolt to move the latter, said connections being broken at times.

5. A case, a bolt movably mounted in the case, means actuated by the movement of a part bearing the case for actuating the bolt, and connections between the bolt and operating means arranged for operative connection and disconnection.

6. A case, a bolt movably mounted within the case, means for retracting the bolt, a cam lever movably mounted within the case, a trip mounted on the bolt in the path of movement of the cam lever, and means for disengaging the trip from said cam lever.

7. A casing, a bolt movable within the casing, means for retracting the bolt, a cam levef movably mounted within the casing and having a pin projecting from the side thereof, a trip movably mounted on the bolt, and a cam located on said trip to act upon said pin in one movement of the lever, but to move and allow the pin to pass in the opposite movement of the lever.

8. A casing, a bolt movably mounted within the casing, a cam lever movably mounted within the casing, means for retracting the bolt, a trip pivoted to the bolt at opposite sides and with a part overlying the bolt, a spring interposed between the bolt and said trip, a cam located on the side of the strip in the path of movement of the lever, said cam having a cam face by means of which the trip is operated to allow movement of the lever independently of the bolt.

9. A sectional knob spindle, means for actuating said spindle, one section of said spindle being movable to engage the opposite section, a pawl to hold the spindle sections in engagement, and self-actuating means for releasing said pawl.

10. A sectional knob spindle, knobs secured to said spindle, one of the spindle sections projecting through the knob and movable with respect thereto, interengaging means on the two spindle sections, a pawl for holding the spindle sections in engagement, and self-actuating means for disengaging said pawl.

11. A case, a bolt movably mounted in the case, means for retracting the bolt, and a bolt operating cam connected with the bolt to retract it but arranged to be operatively disengaged therefrom.

12. A sectional knob spindle, knobs secured to said spindle, one of the knobs having a recess in the outer face thereof, one of said spindle sections projecting through the knob with the recess, a pawl to hold the knob spindles in engagement, interengaging means on the meeting ends of the spindles, and self-actuating means to disengage said pawl.

13. A sectional knob spindle having interengaging means on the spindle sections, knobs secured to said spindle, one of the spindle sections projecting through a knob, a spring in engagement with the movable section of the spindle to retract it, a pawl to hold the spindle sections in engagement, and self-actuating means for disengaging the pawl.

14. A sectional knob spindle, interengaging means on the ends of the spindle, means for operating the spindles, a pawl to hold the spindles in engagement, and self actuating means for releasing the pawl.

15. A sectional knob spindle, interengaging means on the adjacent ends of the spindles, means for operating the spindles, a pawl mounted to rotate with said spindles, a member having grooves to receive said pawl to hold the movable spindle sections against lengthwise movement, and a groove uniting said holding grooves.

16. A sectional knob spindle, interengaging means on the adjacent ends of the spindles, a knob secured to one end of the spindle, the movable section of the spindle projecting through said knob, a pawl mounted to rotate with the spindle, a part having holding grooves for the reception of said pawl, and a releasing groove connecting the holding grooves, and a spring to retract the movable spindle.

17. In a latch mechanism, a sleeve, a roll-back secured to said sleeve, a sectional spindle having its movable section mounted within said sleeve and projecting through a knob, the knob secured to the sleeve, a pawl secured to the spindle and projecting through said sleeve, and a part having locking grooves for the reception of the pawl, and a releasing groove uniting the locking grooves.

18. A case, a bolt mounted within the casing, means for retracting the bolt, a bolt actuating cam, and a trip connection between said bolt and cam.

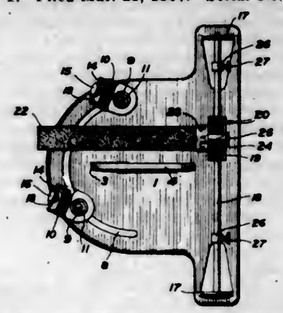
19. A case, a bolt movably mounted within the case, means for moving the bolt in one direction, and connections between the moving means and bolt normally allowing movement of the latter in the opposite direction independently of its moving means.

20. A case, a bolt movably mounted within the case, manually operated means for moving the bolt, means for mechanically actuating the bolt, and connections between the mechanically actuating means and bolt to allow movement of the latter independently of the former.

21. A case, a bolt movable within the case, a trip mounted to move the bolt in one direction but to allow independent movement thereof in the opposite direction, a bolt operating cam, and connections between said trip and cam arranged for mechanical engagement and disengagement in the backward movement of the bolt.

22. A case, a bolt movably mounted within the case, self-actuating means for moving the bolt in one direction, and connections between said moving means and the bolt normally allowing movement of the latter in the opposite direction independently of its moving means.

868,783. SHARPENING DEVICE. JOHN S. HOOG, Rochester, N. Y. Filed Mar. 23, 1907. Serial No. 364,181.



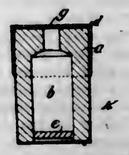
1. In a sharpening device, the combination of a suitable base; a horizontal guide rod supported upon said base; clamping means at one side of said guide rod, for supporting the blade that is to be operated upon; a block adapted both to slide and to rotate upon said guide rod; a grinding stick adapted for attachment at one end to said block and to overhang the blade in its support.

2. In a sharpening device, the combination of a suitable base, having an arc shaped slot; a horizontal guide rod supported upon said base and subtending said slot; clamping means movable in said slot and thereby adjustable with reference to said guide rod; and a grinder slidably supported by said guide rod and adapted to overhang said clamping means.

3. In a sharpening device, the combination of a suitable base; a horizontal guide rod supported upon said base; clamping means at one side of said guide rod, for supporting the blade that is to be operated upon; a block adapted both to slide and to rotate upon said guide rod, and having a transverse slot therein; and a grinding stick adapted to overhang said clamping means and having a pin that protrudes from one end, parallel to and at one side of its axis, adapted to lie rotatively within said slot in said block.

4. In a sharpening device, the combination of a suitable base; a horizontal guide rod supported upon said base; clamping means at one side of said guide rod, for supporting the blade that is to be operated upon; a block adapted both to slide and to rotate upon said guide rod, and having a transverse slot therein; and a grinding stick adapted to overhang said clamping means, rectangular in cross section, having a pin that protrudes from one end, parallel to and at one side of the axis, adapted to lie rotatively within said slot in said block.

868,784. BOTTLE-STOPPER. GEORGE HOOKHAM, Birmingham, England. Filed Mar. 7, 1906. Serial No. 304,756.



1. A bottle stopper having a body part of crushed wood in which the lateral cellular structure has been broken down, and water-proofing means on one side of said body, substantially as described.

2. A bottle stopper having a body part of crushed wood in which the lateral cellular structure has been broken down, and water proofing means on the outside of said body, substantially as described.

3. A bottle stopper having a body part of crushed wood in which the lateral cellular structure has been broken down, and a capsule on one end of said body, substantially as described.

4. A bottle stopper having a body part of crushed wood in which the lateral cellular structure has been broken down, and a capsule on the outer end of said body, substantially as described.

5. A bottle stopper having a hollow part made of wood in which the lateral cellular structure has been broken down, and water-proofing means on said body part.

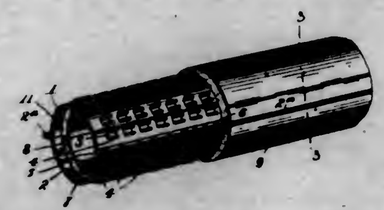
6. A bottle stopper having a hollow body part made of wood in which the lateral cellular structure has been broken down, a capsule on the outer part, and a capsule on the inner part, substantially as described.

7. A bottle stopper having in combination, a hollow body part made of crushed wood, a plug closing the inner end of said hollow body part, and a capsule over the outer end, substantially as described.

8. A bottle stopper having in combination, a hollow body part made of crushed wood, a plug closing the inner end of said hollow body part, and capsules over both ends.

9. A bottle stopper having a body part of crushed wood in which the lateral cellular structure has been broken down, and inner and outer capsules on said body, said inner capsule being milled and grooved on its surface, substantially as and for the purposes described.

868,785. COMPOSITE PIPE. EUGENE M. JOHNSON, Allston, Mass. Filed Nov. 13, 1905. Serial No. 287,199.

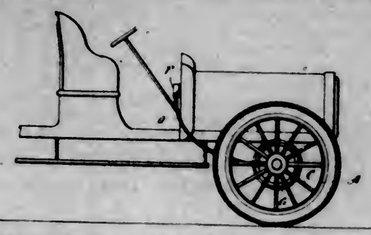


A sheet metal pipe-forming frame comprising hemispherical sections each formed with outwardly-projecting edge ears which are fastened together to hold said sections pipe-wise; the pipe sections being formed with parallel rows of perforations at each of two opposite sides of which there is an outwardly projecting, integral ear; combined with an interior lining and an exterior covering, both of plastic material, which is united together through said perforations; said lining having length-wise edges jointed together opposite the edge ears of said frame, and the side edges of the covering of each member being supported on said edge ears and by said projecting ears at opposite sides of the perforations.

868,786. DRIVING APPLIANCE FOR SPEED-METERS. RAGNOR JOHNSON, Worcester, Mass. Filed Nov. 9, 1906. Serial No. 342,751.

1. In a driving appliance for speed meters, the combination with the toothed crown wheel, of an outer flange applied in connection therewith, an encircling band, an inner flange applied in connection with the crown wheel and perforated, screws passing through said inner flange and into the spokes of the vehicle wheel, and bearing blocks through which the screws pass, said blocks being interposed between the flange of the crown wheel and the spokes, substantially as shown.

2. In a driving appliance for speed meters, the combination with the crown wheel having an outer flange, of a band applied upon said flange, a journal box for the pinion shaft, and an arm for sustaining said journal box rigidly with respect to said band, substantially as and for the purposes set forth.

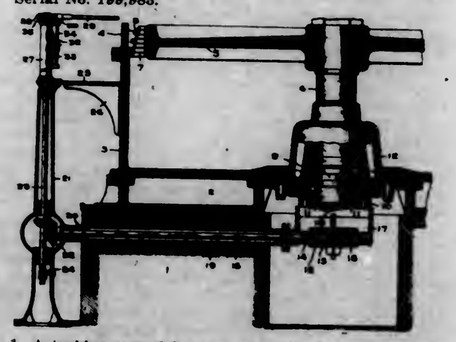


3. The combination of the crown wheel, the band encircling said wheel, the sustaining arm, and the journal box, the said box, the said arm and a portion of the said band being rigid with respect to each other, for the objects set forth.

4. The combination with the crown wheel and the pinion, of the band encircling the crown wheel, an arm and journal box, a bracket connected with the arm, a yoke slotted as explained, and a projection on the bracket entering the slotted portion of the yoke, substantially as and for the purposes set forth.

5. The herein described driving appliance for speed meters, comprising a crown wheel having outer and inner flanges, means for securing the same in connection with a wheel, an outer band encircling the crown wheel, a journal box sustained upon the band, the pinion, pinion shaft and flexible connection leading to the shaft of a speed meter, a yoke having a slot and a bracket having a projection for entering said slot, the parts being constructed, combined and arranged, substantially as set forth.

868,787. ELASTIC-FLUID TURBINE. OSCAR JUNGGREN, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Mar. 25, 1904. Serial No. 199,983.



1. A turbine comprising sets of relatively rotating buckets, a main shaft which carries one set of buckets, a support for the shaft, a means for adjusting the support, an indicating device for indicating the extent of movement of the support and one set of buckets, and a driving connection separated from and driven by the said adjusting means for actuating the indicating device.

2. A turbine comprising sets of relatively rotating buckets, a main shaft which carries one set of buckets, a support for the shaft, a means for adjusting the support, and a feeler which is movable into or out of engagement with a wheel for ascertaining the position of the wheel buckets.

3. A turbine comprising sets of relatively rotating buckets, a main shaft which carries one set of buckets, a support for the shaft, a screw for adjusting the support, a vertical column situated at one side of the turbine, a shaft therein, gearing connecting the shaft and the screw, and means for imparting movement to the shaft.

4. A turbine comprising sets of relatively rotating buckets, a main shaft which carries one set of buckets, a support for the shaft, a screw for adjusting the support, a vertical column situated at one side of the turbine, a shaft therein, gearing connecting the shaft and the screw, a means for imparting movement to the shaft, and an indicating device that is moved by the shaft for indicating the position of the support.

5. A turbine comprising sets of relatively rotating buckets, a main shaft which carries one set of buckets, a support for the shaft, a screw carried by the support for adjusting the shaft, a horizontal shaft, gearing between the shaft and the screw, and a means for driving the shaft.

6. A turbine comprising sets of relatively movable buckets, a main shaft which carries one set of buckets, an adjustable support for the shaft, and means for moving the support, comprising a horizontal shaft, a vertical shaft, gearing between the shafts, and a device for imparting movement to the vertical shaft.

7. A turbine comprising sets of relatively movable buckets, a main shaft which carries one set of buckets, an adjustable bearing for supporting the weight of the shaft, a device for raising and lowering the bearing, a column located at one side of the turbine, a shaft mounted therein, means for imparting motion from the shaft to the device, and a lever for moving the shaft.

8. A turbine comprising sets of relatively movable buckets, a main shaft which carries one set of buckets, a means for adjusting the shaft longitudinally, an indicator for showing the position of one set of buckets, and a second indicator which is located adjacent to the first for showing the position of the second set of buckets.

9. A turbine comprising sets of relatively movable buckets, a main shaft which carries one set of buckets, an adjustable bearing for the shaft, a means for raising and lowering the bearing, an indicator moved by said means for showing the position of the bearing, and a second indicating device for showing the relation between the relatively movable buckets.

10. A turbine comprising sets of relatively moving buckets, a main shaft which carries one set of buckets, an adjustable bearing for the shaft, a means for raising and lowering the bearing, and an indicator for showing the position of the bearing, comprising a pointer and dial with gearing between the means and the pointer.

11. A turbine comprising sets of relatively movable buckets, a main shaft which carries one set of buckets, an adjustable bearing for the shaft, connected shafts located at an angle to each other for raising and lowering the bearing, and a double-acting ratchet for imparting movement to the shaft.

12. A turbine comprising sets of relatively movable buckets, a main shaft which carries one set of buckets, an adjustable bearing for the shaft, a horizontal shaft for raising and lowering the bearing, a vertical shaft connected to the horizontal shaft for moving it, a column which surrounds the vertical shaft, a ratchet for moving the vertical shaft, and a platform situated adjacent to the ratchet and column.

13. A turbine comprising sets of relatively movable buckets, a main shaft which carries one set of buckets, an adjustable bearing for the shaft, a screw for moving the bearing, a head for supporting the screw, a worm-wheel on the screw, a worm meshing with the wheel, a support for the worm attached to the head, and a shaft for actuating the worm.

14. A turbine comprising sets of relatively moving buckets, a main shaft which carries one set of buckets, means for adjusting the shaft longitudinally, an indicator moved by the means for showing the extent of movement of the shaft and its buckets, and a feeler for showing the position of the wheel.

15. A multi-stage turbine comprising sets of relatively movable buckets, a main shaft which carries sets of buckets, means for adjusting the shaft longitudinally, an indicator moved by the means for showing the extent of movement of the shaft and its buckets, and feelers for showing the position of the several wheels.

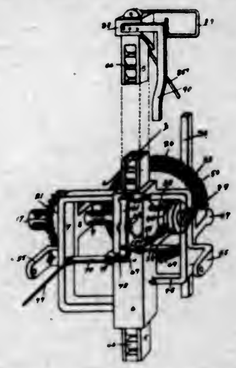
16. A multi-stage turbine comprising wheel and intermediate buckets mounted in separate compartments, in combination with feelers for the separate wheels, and dials for the feelers, which are located in close proximity.

17. A multi-stage turbine comprising wheel and intermediate buckets mounted in separate compartments, in combination with feelers for the separate wheels, pointers attached to the feelers, which extend toward each other, and dials or scales over which the pointers travel.

18. A multi-stage turbine comprising wheel and intermediate buckets mounted in separate compartments, in combination with feelers for the separate wheels, pointers attached to the feelers, which extend toward each other, dials or scales over which the pointers travel, and a support which is common to the dials or scales.

19. In a turbine comprising relatively movable parts and a shaft for supporting one of said parts, the combination of a bearing for supporting the shaft, a casing for the bearing, a head secured to the casing, a screw for supporting the shaft, that extends through the head, a cylindrical support that is attached to the head, a worm wheel attached to the screw, a worm meshing with the wheel and carried by the cylindrical support, and a shaft for driving the worm.

868,788. OPERATING MECHANISM FOR BINDER SAILS OR FANS. THOMAS LAIT, Medicine Hat, Alberta, Canada. Filed Dec. 29, 1906. Serial No. 349,958.



1. In a harvesting machine, the combination with the platform; a standard hinged at the inner end of same, and a bracket supported by said standard; of the reel-shaft having a bearing at one end in said bracket; a standard at the other end of said platform comprising a lower horizontal portion the forward end of which is suitably hinged to said platform; a lower upright intermediate portion; an upper horizontal intermediate portion, and an upper vertically-extending portion provided with a rack; a bearing piece movable on said upper vertically-extending portion and in which the outer end of said reel-shaft has its bearing; a toothed pinion secured to said reel-shaft and meshing in the rack of said upper vertically-extending portion of said standard; the reel loosely mounted on said reel-shaft; means for rotating said reel; means for raising and lowering same by rotating said reel-shaft; means for locking said standard hinged at the inner end of said platform; means for locking said standard hinged at the outer end of said platform, and means for simultaneously unlocking said standards so as to permit of their forward and backward movements.

2. In a harvesting machine, the combination with the platform; a standard hinged at the inner end of same, and a bracket supported by said standard; of the reel-shaft having a bearing at one end in said bracket; a standard at the outer end of said platform comprising a lower horizontal portion the forward end of which is suitably hinged to said platform; a lower upright intermediate portion provided with teeth; an upper horizontal intermediate portion, and an upper vertically-extending portion provided with a rack; a bearing piece movable on

said upper vertically-extending portion and in which the outer end of said reel-shaft has its bearing; a toothed pinion secured to said reel-shaft and meshing in the rack of said upper vertically-extending portion of said standard; the reel loosely mounted on said reel-shaft; means for rotating said reel; means for raising and lowering same by rotating said reel-shaft; means for locking said standard hinged at the inner end of said platform; a standard supported from said platform; means supported by said standard and designed to support said standard hinged at the outer end of said platform by coöperating with the lower tooth-provided intermediate portion thereof; a dog hinged to said standard and coöperating with the teeth of said tooth-provided intermediate portion of said standard; a lever connected to the means for locking and unlocking said standard hinged at the inner end of said platform, and means connecting said lever to said dog, and connections whereby the operation of said lever simultaneously unlocks said standards so as to permit of their forward and backward movements.

3. In a havesting machine, the combination with the platform, a standard hinged at the inner end of same; a bearing piece supported by said standard; the reel supported at one end in said bracket, and means for operating said reel, of a standard at the other end of said platform and comprising a lower horizontal portion the forward end of which is suitably hinged at said platform; a lower upright intermediate portion; an upper horizontal intermediate portion, and an upper vertically-extending portion; means carried by said upper vertically-extending portion whereby the outer end of said reel is supported by said standard in such a manner as to keep the reel parallel to said platform; means for locking said standard hinged at the inner end of said platform; means for locking said standard hinged at the outer end of said platform, and means for simultaneously unlocking the locking means for said standards so that said standards may be moved forward or backward on their hinged points.

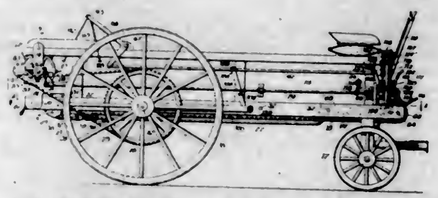
4. In a harvesting machine, the combination with the platform, a standard hinged at the inner end of same; a bearing piece supported by said standard; the reel supported at one end in said bracket, and means for operating said reel, of a standard at the other end of said platform and comprising a lower horizontal portion the forward end of which is suitably hinged at said platform; a lower upright intermediate portion provided with teeth; an upper horizontal intermediate portion, and an upper vertically-extending portion; means carried by said upper vertically-extending portion whereby the outer end of said reel is supported by said standards in such a manner as to keep the reel parallel to said platform; means for locking said standard hinged at the inner end of said platform; means for locking said standard hinged at the outer end of said platform coöperating with the tooth-provided intermediate portion of said standard, and means for simultaneously unlocking the locking means for said standards so that said standards may be moved forward or backward on their hinged points.

5. In a harvesting machine, the combination with the platform, of a standard at the outer end of said platform comprising a lower portion the forward end of which is suitably hinged on said platform; said lower portion normally occupying a substantially horizontal position; a lower upright intermediate portion constructed concentric to the hinged point of said standard; an upper intermediate portion normally occupying substantially a horizontal position, and an upper vertically-extending portion; a standard supported from said platform and designed to give additional support to said first-named standard, and means supported by said second-mentioned standard so as to lock said first-mentioned standard in the desired position.

6. In a harvesting machine, the combination with the platform, of a standard at the outer end of said platform comprising a lower portion, the forward end of which is suitably hinged on said platform; said lower portion normally occupying a substantially horizontal position; a lower upright intermediate portion constructed concentric to the hinged point of said standard; an upper intermediate portion normally occupying substantially a horizontal position; an upper vertically-extending portion; a standard supported from said platform and designed to give additional support to said first-named standard; means supported by said second-mentioned standard so as to lock said first-mentioned standard in the desired position, and a spring so placed as to assist the movements of said first-mentioned standard around its pivotal point.

7. In a harvesting machine, the combination with the platform, of a standard at the outer end of said platform comprising a lower portion, the forward end of which is suitably hinged on said platform; said lower portion normally occupying a substantially horizontal position; a lower upright intermediate portion provided with teeth constructed concentric to the hinged point of said standard; an upper intermediate portion normally occupying substantially a horizontal position, and an upper vertically-extending portion; another standard supported from said platform; a bearing-piece secured to said standard and through which passes the lower tooth-provided intermediate portion of said first-mentioned standard so as to support same; a dog hinged to said second-mentioned standard and coöperating with the teeth in said lower upright intermediate portion so that said first-mentioned standard may be locked in the desired position.

868,789. FERTILIZER-SPREADER. JOHN O. LINDEN, Chicago, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed Nov. 15, 1906. Serial No. 343,480.



1. A fertilizer spreader comprising a body, a rear axle fixed to the under side of the body, wheels loosely mounted on said axle, an apron provided with a sprocket chain and movable in the bottom of the body, an apron shaft, a sprocket wheel on said shaft for engaging with the sprocket chain on said apron, a sleeve loosely mounted on the apron shaft, a clutch mechanism adapted to be operated from the front of the body for placing said sleeve in operative connection with the apron shaft, a ratchet wheel on said sleeve, arms mounted to swing on the sleeve, a pawl carried by said arms for engaging with the ratchet wheel, an eccentric sleeve rotatably fixed but longitudinally movable on the axle, the said sleeve being provided with a spiral rib, an eccentric having a channel at its inner side for receiving said spiral rib, a rod connection between the eccentric and the said pawl, and means under the control of the operator for effecting the endwise movement of said eccentric sleeve and thereby regulate the throw of said eccentric.

2. A fertilizer spreader comprising a body, a rear axle fixed to the under side of the body, wheels loosely mounted on said axle, an apron provided with a sprocket chain and movable in the bottom of the body, an apron shaft, a sprocket wheel on said shaft for engaging with the sprocket chain on said apron, a sleeve loosely mounted on the apron shaft, a clutch mechanism adapted to be operated from the front of the body for placing said sleeve in operative connection with the apron shaft, two ratchet wheels secured to said sleeve, arms mounted on said sleeve adjacent to said wheels, pawls carried by said arms for engaging with the ratchet wheels, a double eccentric sleeve rotatively fixed but longitudinally movable on the axle, the two portions of said eccentric sleeve being oppositely disposed with respect to their eccentricity, oppositely inclined spiral ribs on the two portions of said eccentric sleeve, eccentrics mounted on said sleeve and provided with channels for receiving said spiral ribs, connecting rods extending between the eccentrics and said pawls, and means under the control of the operator for effecting the endwise movement of said eccentric sleeve and thereby regulating the throw of said eccentrics, said means comprising a spring-held sleeve-engaging arm, a V-shaped cam and a rod and lever for operating said cam.

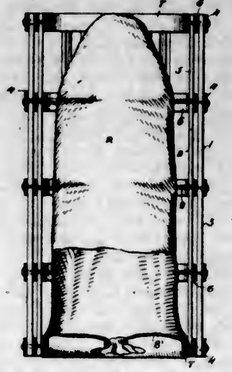
3. A fertilizer spreader comprising a wheel-mounted body, an apron mounted to move back and forth therein and forming the bottom thereof, a distributing cylinder mounted at the rear end of the body, a driving sprocket wheel mounted loosely on the rear axle of the vehicle, a sprocket wheel on the shaft of the distributing cylinder, a sprocket wheel adjustably mounted on the spreader frame in the rear of the sprocket wheel on the distributing cylinder shaft, a sprocket chain engaging the under side of the sprocket wheel on the distributing cylinder shaft and connecting the said driving sprocket wheel and the adjustably mounted sprocket wheel, a clutch mechanism in connection with the sprocket wheel on the distributing cylinder, a clutch mechanism in connection with the driving sprocket wheel on the axle, and means for moving the two clutch mechanisms in to and out of engagement.

4. A fertilizer spreader comprising a wheel-mounted body, an apron arranged to move back and forth therein and in the bottom thereof, a distributing cylinder mounted at the rear end of the body, a sprocket wheel on the shaft of said cylinder, a driving sprocket wheel having a clutch connection with one of the supporting wheels of the spreader, a plate secured to the side of the spreader body in which the sprocket bearing end of the cylinder shaft journals, the said plate being provided with an arcuate slot and a transversely extending slot leading therefrom, an adjustable slotted arm having a pin at its lower end which engages in the transversely extending slot, a stud extending through the slot of the arm and engaging the arcuate slot in the plate, a sprocket wheel mounted on the upper end of said arm, and a sprocket chain adapted to engage the said driving sprocket wheel, the sprocket wheel on the adjustable arm and the under side of the sprocket wheel on the distributing cylinder shaft.

5. A fertilizer spreader comprising a wheel-mounted body, an apron movable therein and forming the bottom thereof, a rear axle, a rear wheel loosely mounted on the axle and carrying a clutch member, a sprocket wheel provided with a coöperating clutch member slidable on said axle, a distributing cylinder driven from said sprocket wheel, a shifting lever connecting with the slidable sprocket on the axle, the said lever having an inclined cam at its forward end, a vertically disposed lever mounted to swing on the body and adapted to engage at its lower end the said cam and move the sprocket wheel and clutch member thereon, a rake mounted to swing vertically to and from a position in front of the distributing cylinder, a lever and rock shaft located at the forward end of the body, and an operative connecting means interposed between said rock shaft and rake, said connecting means engaging the upper end of the vertically disposed lever whereby both the clutch member on the axle and said rake are controlled by the said lever.

868,790. BANANA-CRATE. AUGUST LOMBARDO, Washington, Iowa. Filed Jan. 16, 1907. Serial No. 352,637.

A banana crate, comprising an outer, cylindrical and an inner cylindrical section, each section comprising longitudinal panels and intermediate and end-hoops positioned thereon, inner hoops positioned within and at the ends of the inner section and parallel with the end hoops of the inner and outer sections, means fixedly securing the end-hoops of the inner and outer sections and the inner hoops together, means fixedly securing the intermediate hoops of the outer section only to the panels of said outer section, means fixedly securing the intermediate hoops of the inner section only to the panels of the inner section, a bag positioned within the inner section, one of the inner hoops positioned within said bag, whereby a portion of the bag is positioned between an inner hoop and the panels of the inner section, each intermediate hoop of the inner section provided with a pair of apertures contiguous to each panel, and loops secured to the bag and threaded through



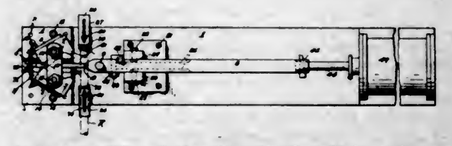
the apertures of the intermediate hoops and positioned behind the intermediate hoops of the outer section.

868,791. FASTENING-BUTTON. PETER MACGREGOR, Ottawa, Ontario, Canada. Filed Jan. 29, 1906. Serial No. 298,552.



In a fastening of the cord and button type, the combination with a base, of a thin metal disk having an annular groove extended downward into proximity with the base with its outer wall inclined upward and outward therefrom, and a central cupped portion inclosed by said groove and having a central aperture, and an eyelet received within said aperture and clamping said cupped portion against the base, said disk having an open slot extending inward from its periphery across the groove and terminating at a point on the bottom of the cupped portion outside of the aperture therein.

868,792. ROD-BENDING MACHINE. ROBERT L. MAUZY, Plattsmouth, Nebr. Filed Jan. 26, 1907. Serial No. 354,251.



1. In a machine of the character described, a plunger having one of its ends beveled to provide a V-shaped wedge, having one of its ends beveld to provide a V-shaped wedge, a die projecting from one face of said plunger in rear of said wedge shaped end, a pair of pivoted blocks having cam portions adapted to be engaged by the wedge shaped end of the plunger, means for actuating said blocks to swing their cam portions normally into the path of the plunger and dies arranged upon said cam blocks and adapted to bend a blank around the die upon said plunger.

2. In a machine of the character described, a plunger having one of its ends beveled to provide a V-shaped wedge, a die projecting from one face of said plunger in rear of said wedge shaped end, a support, pivots projecting therefrom, cam blocks arranged upon said pivots and adapted to be engaged and actuated by the wedge end of the plunger, means for swinging said blocks normally into the path of

said plunger, means for limiting the swinging movement of said blocks, dies carried by said blocks and adapted to bend a blank around the die upon said plunger and a cross bar connecting the projecting portions of said pivots.

3. In a machine of the character described, a plunger having one of its ends beveled to provide a V-shaped wedge, a die projecting from one face of said plunger in rear of said wedge shaped end, a support, pivot studs projecting therefrom, blocks arranged upon said pivot studs and having cam portions and shoulders, means for actuating said blocks in one direction to cause their cam portions to swing into the path of the wedge shaped end of the plunger, dies apertured to receive said pivot studs and adapted to engage the shoulders upon said cam blocks, said dies being adapted to co-act with the one upon the plunger and a cross bar or brace connecting the projecting ends of the pivot studs, and adapted to retain said dies upon the cam block, substantially as described.

4. In a machine of the character described, a plunger, a movable die carried thereby, cams actuated by the plunger when moved in one direction, dies carried by said cams and adapted to co-act with the movable die upon said plunger, an inclined track and a carriage mounted upon said track and connected to said movable die in the plunger whereby said movable die is retracted from the article when the plunger is moved in the opposite direction.

5. In a machine of the character described, a plunger, a movable die carried thereby, self opening dies actuated to their closed position by the movement of the plunger in one direction and adapted to co-act with the movable die upon said plunger, an inclined track and a carriage to travel on said track and connected to said movable die in the plunger for the purpose set forth.

6. In a machine of the character described, a plunger, a movable die carried thereby, cams, dies carried by said cams, a spring for actuating said cams in one direction, a wedge carried by the plunger to actuate said cams in the opposite direction, stops to limit the swinging movement of said cams, and means for retracting said movable die in the plunger when the latter is moved in one direction.

7. In a machine of the character described, a plunger, a movable die carried thereby, cams, dies carried by said cams, a spring for actuating said cams in one direction, a wedge carried by the plunger to actuate said cams in the opposite direction, stops to limit the swinging movement of said cams, an inclined track, a carriage to travel upon the latter and connected to said movable die in the plunger, means for supporting a work blank and a gage to limit the bending of the work blank.

8. In a machine of the character described, a plunger having one of its ends beveled to provide a V-shaped wedge, a die projecting from one face of said plunger in rear of said wedge shaped end, a support, pivot studs projecting therefrom, blocks arranged upon said pivot studs and having cam portions and shoulders, a coil spring connecting said cam blocks for actuating them in one direction, stops for limiting the swinging movement of said blocks, dies apertured to receive said pivot studs and adapted to engage the shoulders upon said blocks, said dies being adapted to co-act with the one upon the plunger and a cross bar or brace connecting said pivot studs and adapted to retain said dies upon said blocks, substantially as described.

9. In a machine of the character described, a plunger, a movable die carried thereby, a movable die carrying element arranged in the path of the plunger and adapted to be engaged and actuated by it when the plunger is moved in one direction to cause the die upon said element to co-act with the one upon said plunger, a guide, and means connected to said movable die on the plunger and engaged with said guide for retracting said movable die when the plunger is moved in the opposite direction.

10. In a machine of the character described, a plunger, a movable die carried thereby, a movable die carrying element arranged in the path of the plunger and adapted to be engaged and actuated by it when the plunger is moved in one direction to cause the die upon said element to co-act with the one upon said plunger, an inclined track and means connected to said movable die in the plunger and adapted to travel upon said track whereby the movable die in the plunger will be retracted when the latter is moved in the opposite direction.

11. In a machine of the character described, a plunger, a pin transversely slidable therein, opposing pivoted elements, a wedge upon said plunger to enter between and actuate said elements, dies carried by said elements for bending a blank around said pin, means for actuating said elements to retract their dies, a stop carried by the plunger to limit the bending of the work blank and means for retracting said pin when the plunger is retracted.

12. In a machine of the character described, a plunger, a pin transversely slidable therein, opposing pivoted elements, a wedge upon said plunger to enter between and actuate said elements, means for actuating said elements to retract their dies, means for supporting a work blank between said pin and said die, an inclined guide and means to travel on said guide and connected to said pin for retracting the same.

13. In a machine of the character described, a plunger carrying a die, a movable die to co-act with the one upon the plunger, and the gage bolt 43 passed through the plunger and having its end 42 forming a stop to limit the bending of the work blank, substantially as set forth.

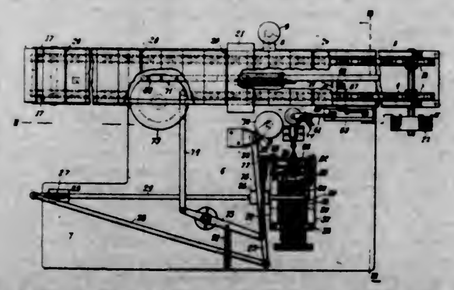
14. In a machine of the character described, a support, a plunger carrying a die, a movable die to co-act with the one upon the plunger and a stop screw carried by the plunger and adapted to engage said support and limit the movement of the plunger in one direction.

15. In a machine of the character described, a plunger carrying a die and having recesses in its opposite faces, a movable die to co-act with the one on the plunger, a guide support for the plunger and anti-friction rollers carried by said guide support and adapted to enter the grooves in the plunger.

16. In a machine of the character described, a bed plate, a guide thereon, a plunger slidable in said guide and carrying a die, said plunger being formed with a projection having a threaded aperture, a stop screw arranged in said threaded aperture and adapted to engage said guide to limit the movement of the plunger in one direction, and means mounted upon said bed plate and connected to one end of said plunger for actuating the same.

17. In a machine of the character described, a plunger carrying a die, a support, parallel pivots projecting therefrom, opposing cam blocks arranged upon said pivots and adapted to be engaged and actuated by the plunger, said blocks having ledges upon their upper surfaces, dies arranged upon the upper surfaces of said blocks and engaged with said ledges, said dies being apertured to receive said pivots, and means upon said pivots for retaining the dies upon said cam blocks.

868,793. TILE-GAGING MACHINE. MAX A. METZNER, perth Amboy, N. J., assignor of one-half to The C. Pardee Works, Perth Amboy, N. J., a Corporation of New Jersey. Filed Jan. 29, 1906. Serial No. 298,319.



1. In a machine for measuring tiles, the combination of a swinging roller, a roller fixed in position, means for carrying the tiles between said rollers, whereby the swinging roller will be shifted more or less, according to the size of the tile engaging the same, and means under the control of the swinging roller for printing measurement designations on the tiles, as set forth.

2. In a machine for measuring tiles, the combination of a swinging roller, a roller fixed in position, a conveyer arranged to carry tiles between said rollers, and means under the control of the swinging roller for printing measurement designations on the tiles, as set forth.

3. In a machine for measuring tiles, the combination of a swinging roller, a roller fixed in position, means for carrying tiles between the rollers, a printing wheel adjustable relatively to the path of the tiles and bearing measurement-designating characters, and means operatively connected with the swinging roller for determining the position of the printing wheel as set forth.

4. In a machine for measuring tiles, the combination of means for gaging the tiles, means for delivering the tiles thereto, a printing wheel adjustable relatively to the path of the tiles and bearing measurement-designating characters, means for shifting said wheel to its farthest position, and means under the control of the gaging means for limiting the return of the wheel according to the size of the tile being measured, as set forth.

5. In a machine for measuring tiles, the combination of means for gaging the tiles, means for delivering the tiles thereto, a printing wheel adjustable relative to the path of the tiles and bearing measurement-designating characters, means for shifting the wheel to its farthest position, and a plurality of stops under the control of the gaging means for projecting the stops singly in the path of the wheel to limit the return movement of the latter, as set forth.

6. In a machine for measuring tiles, the combination of means for gaging the tiles, a horizontally moving conveyer for delivering the tiles to the gaging means, a vertically adjustable printing wheel, means actuated by the conveyer for lifting said wheel to its uppermost position, a series of stops adapted to be projected into the return path of the wheel, and mechanism under the control of the gaging means for projecting said stops singly according fo the dimensions of the tiles, as set forth.

7. In a machine for measuring tiles, the combination of means for gaging the tiles, a horizontally moving conveyer for delivering the tiles to the gaging means, a vertically adjustable printing wheel, means actuated by the conveyer for lifting the wheel to its uppermost position, a plurality of stops adapted to be projected into the return path of the wheel, a series of levers connected with said stops, a tappet movable relatively to said levers under the control of the gaging means, and mechanism actuated by the conveyer for actuating the tappet to depress the lever selected by the gaging means, as set forth.

8. In a machine for measuring tiles, the combination of gaging means for the tiles, a longitudinally adjustable printing wheel, a plurality of stops adapted to be projected into the path of the wheel, a series of levers connected with the stops to project the same, and a tappet to actuate the levers singly, adjustable under control of the gaging means relative to the levers to select a lever according to the size of the tile being measured, as set forth.

9. In a machine for measuring tiles, the combination of gaging means for the tiles a longitudinally adjustable printing wheel, a plurality of stops adapted to be projected into the path of the wheel, a series of levers connected with the stops to project the same, said levers being arranged parallel with each other on a common fulcrum, a tappet adjustable under control of the gaging means transversely across one end of the said series of levers, and means for actuating the tappet to actuate a selected lever, as set forth.

10. In a machine for measuring tiles, the combination of means for gaging the tiles, a conveyer for delivering tiles to the gaging means, an adjustable printing wheel adjacent to the path of the tiles, lazy tongs supporting the wheel, means actuated by the conveyer for extending the lazy tongs, and means under the control of the gaging means for determining the position of the printing wheel when lifted by the lazy tongs, as set forth.

11. In a machine for gaging tiles, the combination of means for gaging the length or breadth of a tile said means comprising spaced elements adapted to engage the opposite edges of the tile, and a rectilinearly movable feeding device moving between said elements to convey tiles to and from the gage and supporting the tiles while being gaged.

12. In a machine for measuring tiles, the combination of means for gaging the tiles, means for feeding tiles thereto, means for marking designations of measurements on the tiles, and means under joint control of the gaging and feeding means for operating said marking means.

13. In a machine for measuring tiles, the combination of means for gaging the tiles, means for feeding tiles thereto, marking means capable of marking different designations of measurements on the tiles, means operated by the feeding means to move the marking means relatively to the marking point, and mechanism under the control of the gaging means for selecting the designation to be marked upon the tiles.

14. In a machine for measuring tiles, the combination of means for gaging the tiles, means for feeding tiles thereto, marking means capable of marking different designations of measurements on the tiles, means for moving the marking means relatively to the marking point, devices for positioning the marking means to determine the designation to be marked on the tiles, a selector movable under control of the gaging means to a position for actuating any one of said devices, and means to throw the selector into engagement with the device determined by the gaging means.

15. In a machine for gaging tiles, the combination of means for gaging the tiles, means for feeding tiles thereto, marking means capable of marking different designations of measurements on the tiles, means for moving the marking means relatively to the marking point, stops for limiting the movement of said marking means to determine the designation to be marked on a tile, a selector movable under control of the gaging means to a position for actuating any one of said stops, and means to throw the selector into engagement with the stop determined by the gaging means.

16. In a machine for measuring tiles, the combination of means for gaging the tiles, means for feeding tiles thereto, marking means capable of marking different designations of measurements on the tiles, means for moving the marking means relatively to the marking point, devices for positioning the marking means to determine the designation to be marked on the tiles, a selector movable under control of the gaging means to a position for actuating any one of said devices, and means operated by the feeding means to throw the selector into engagement with the device determined by the gaging means.

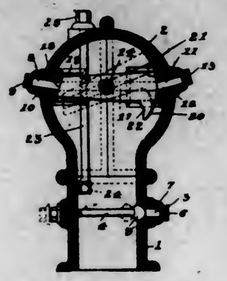
17. In a machine for measuring tiles, the combination of means for gaging the tiles, means for feeding tiles thereto, marking means capable of marking different designations of measurements on the tiles, an actuating element movable in one direction by the feeding means, connections between the element and marking means whereby the latter is moved relatively to the marking point, devices for positioning the marking means to determine the designation to be marked on the tiles, a selector movable under control of the gaging means to a position for actuating any one of said devices, and means also operated by the actuating element to throw the selector into engagement with the device determined by the gaging means.

18. In a tile measuring machine, the combination of means for gaging the tiles, marking means for the tiles capable of marking different designations of measurements on the tiles, a plurality of determining devices under control of the gaging means for determining the mark to be made on the tiles, and a visual indicator connected to each of said devices and operated thereby to indicate to the operator the mark made upon the tiles.

868,794. HYDRANT. FRANKLIN G. MIDGETT, Dallas, Tex.; Lillie S. Midgett administratrix of said Franklin G. Midgett, deceased. Filed May 14, 1906. Serial No. 316,748.

1. A device of the character described comprising a casing having a water inlet, a suction outlet, means for closing said outlet, a pressure inlet and a pressure outlet, a

valve within the casing and normally preventing the escape of water from the casing and into the pressure inlet and outlet, said valve having a passage normally connecting the pressure inlet and outlet, and means for turning the valve to permit the flow of water under normal pressure from the interior of the casing to the pressure outlet, said valve being disposed to constantly close the pressure inlet against the escape of water therethrough from the interior of the casing.



2. A device of the character described comprising a casing having a water inlet, a normally closed suction outlet, said casing having a pressure inlet and a pressure outlet oppositely disposed, a valve within the casing and normally in position to prevent the escape of water from the interior of the casing through the pressure outlet and pressure inlet, said valve having a passage therethrough through which the pressure inlet and outlet normally communicate, means for moving the valve to permit the escape of water from the casing through the pressure outlet, and means upon said valve for closing the pressure inlet while the pressure outlet is open to receive water from the interior of the casing.

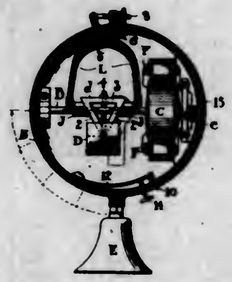
3. A device of the character described comprising a casing having a water inlet and a suction outlet, a valve for closing said outlet, said casing also having oppositely disposed pressure inlets and a pressure outlet, a valve within the casing and normally closing the pressure inlets and outlets to prevent the escape of water therethrough from the casing, said valve having passages therein through which the pressure inlets normally communicate with the pressure outlets, means for moving the valve to open the pressure outlets to receive water directly from the interior of the casing, and means movable with the valve for maintaining the pressure inlets closed while the pressure outlets are open.

4. A device of the character described comprising a casing having a water inlet, a normally closed suction outlet, said casing having a pressure inlet and a pressure outlet oppositely disposed, a valve within the casing and normally in position to prevent the escape of water from the interior of the casing through the pressure outlet and pressure inlet, said valve having a passage therethrough through which the pressure inlet and outlet normally communicate, means for moving the valve to permit the escape of water from the casing through the pressure outlet, means upon said valve for closing the pressure inlet while the pressure outlet is open to receive water from the interior of the casing, and means for limiting the movement of the valve in one direction when the passage therein registers with the pressure inlet and outlet.

5. A device of the character described comprising a stand pipe having a suction outlet, a valve normally closing said outlet, a dome upon the stand pipe and adapted to receive water therefrom, said dome having a pressure inlet and a pressure outlet, a valve mounted within the dome and normally closing communication between the interior of the dome and the pressure inlet and outlet, said valve having a passage therethrough through which the pressure inlet and outlet normally communicate, and means for moving the valve to place the pressure outlet in communication with the interior of the dome, said valve being disposed to maintain the pressure inlet constantly out of communication with the interior of the dome.

6. A device of the character described comprising a standpipe having a suction outlet, a valve normally closing said outlet, a dome upon the stand pipe and adapted to receive water therefrom, said dome having a pressure inlet and a pressure outlet, a valve mounted within the dome and normally closing communication between the interior of the dome and the pressure inlet and outlet, said valve having a passage therethrough through which the pressure inlet and outlet normally communicate, and means for moving the valve to place the pressure outlet in communication with the interior of the dome, and means movable with the valve for maintaining the pressure inlet out of communication with the interior of the dome when the pressure outlet is in communication with the interior of the dome.

868,795. ELECTRICALLY-OPERATED VIBRATOR. WILLIS I. MILLER, Cleveland, Ohio. Filed Mar. 7, 1907. Serial No. 361,178.



1. In electrically actuated vibrators, a spherical casing, a shaft mounted centrally in said casing, an electric motor upon said shaft within the casing and a weight eccentrically mounted on said shaft between the ends thereof in said casing and a handle mounted on said casing.

2. A vibrator having a spherical casing and a handle thereon, a shaft and a motor mounted on the shaft in said casing, and a weight mounted eccentrically upon said shaft and adjustable toward and from the shaft.

3. In a vibrator a vibrator comprising a spherical casing formed in two parts, a shaft and a motor thereon mounted in said casing, an eccentrically mounted counterweight on said shaft and adapted to rotate therewith, and means for adjusting said counterweight to and from said shaft comprising a substantially triangular support for the weight on the shaft.

4. In a vibrator a spherical casing and the motor and shaft therein, in combination with a weight eccentrically mounted upon said shaft and having a triangular frame slidingly engaged with said shaft, and means to move said weight to increase or decrease the throw thereof.

5. In a vibrator the spherical casing and the motor and shaft therein, the weight having a double sided triangular support astride said shaft and a central member engaging said support and passing through said shaft into said weight, whereby the weight is rotatably engaged with the shaft.

6. In a vibrator the combination of the shell and the shaft and the motor thereon, with the weight eccentrically mounted on said shaft, said mounting comprising a triangular double sided support for the weight, a central member passing from said weight through the shaft, and beveled sleeves engaging the side edges of the support.

7. In a vibrator the spherical casing and the shaft and the motor therein, in combination with an eccentrically mounted weight and a triangular support for the weight embracing both sides of the shaft, a central member engaging the weight with the shaft, beveled sleeves on the shaft engaging the sides of said support, and pivotally connected arms adapted to press against the upper portion of said sleeves and govern the position of the weight in respect to the shaft.

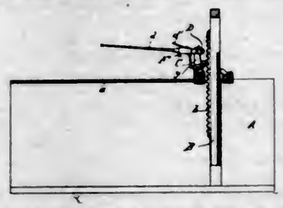
8. In a vibrator the spherical casing and the mechanism therein to cause vibrations, in combination with a band centrally about said casing and adjustable thereon, and an applicator secured to said band.

9. In a vibrator the combination of the spherical casing and mechanism therein to cause vibrations, an adjustable band belting said casing centrally in the axis of said shaft, and an applicator fixed to said band.

10. In a vibrator a spherical casing and means therein to cause vibrations, a band about said casing adjustable rotarily thereon, an applicator secured to said band and means to lock said band in adjustment, whereby the applicator may be brought nearer to or farther from the immediate axis of said shaft.

11. In a vibrator a spherical casing and means therein to cause vibrations, a band about said casing and an applicator thereon, said band adjustable rotarily, and means to engage and lock said band consisting of a bolt and a spring inside of the casing to press the bolt into locking position on the band, and means to release said bolt engaged with said spring from without the casing.

868,796. DEVICE FOR HOISTING AND DROPPING DAM-GATES. WILLIAM MORIARTY, Bangor, Me., assignor of two-thirds to George J. Maher, Millinocket, Me., and one-third to Guy S. Baker, Long A. township, Me. Filed Feb. 2, 1906. Serial No. 299,197.



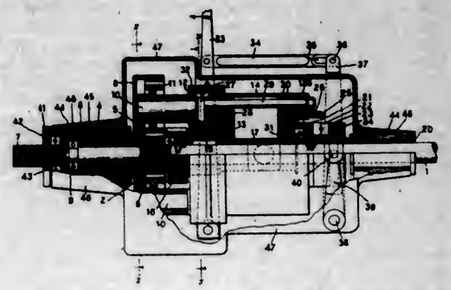
1. In a device for hoisting and dropping the gates of dams, the combination of the dam; the sluice; the gate; a rack set perpendicularly upon the gate-frame; a standard upon the sluice-deck; a hoisting lever journaled in said standard and having a pawl adapted to engage said rack; a holding-pawl also journaled in said standard adapted automatically to engage said rack and having a shoulder at its rear end; and a rigid, removable arm between said shoulder and the hoisting lever.

2. In a device for hoisting and dropping the gates of dams, the combination of the dam; the sluice; the gate; a rack set perpendicularly upon the gate-frame; a standard upon the sluice-deck; a detachable, invertible hoisting lever journaled in said standard and having a pawl adapted to engage said rack; a holding-pawl also journaled in said standard adapted automatically to engage said rack and having a shoulder at its rear end; and a rigid, removable arm between said shoulder and the hoisting lever.

868,797. TRANSMISSION MECHANISM. GEORGE D. MUNSING, New York, N. Y. Filed Apr. 23, 1907. Serial No. 369,787.

1. The combination with two shafts and a gear wheel on each of them, of planet gearing between the gear wheels, a clutch member movable in unison with the planet gearing, a coöperating clutch member and means to frictionally lock the parts of the mechanism against relative rotation.

2. In a mechanism such as described, a driving shaft and a driven shaft, planet gearing between the driving and driven shafts, an internal gear wheel on the driven shaft, and means on the driving shaft to drive the planet gearing; a clutch member rotatable in unison with the revolution of the planet gearing, a clutch member movable axially of the driving shaft to coöperate therewith, friction plates mounted in the axially movable member and friction plates through which the driving shaft passes cooperating with the friction plates in the clutch member, and means controlled by the last named plates to lock the parts of the mechanism against relative rotation.



3. In a mechanism such as described, a driving shaft and a driven shaft, an internal gear wheel on the driven shaft, planet gearing between the driving and driven shafts and means on the driving shaft to drive the planet gearing; a clutch member on which the planet gearing is mounted and which rotates in unison with the revolution of the planet gearing about the driving shaft, an axially slidable clutch drum having a clutch face coöperating therewith, friction plates loosely connected to the drum and loose alternating friction plates through which the driving shaft passes, gearing between the internal gear wheel and last named plates and means to move the drum axially and also compress or crowd the plates together.

4. In a mechanism such as described, a driving shaft, a pinion thereon, a driven shaft, an internally toothed rim on the driven shaft, a pinion loose on the driving shaft, planet gearing free to revolve about the driving shaft and in gear with said rim and pinions, and a clutch member free to rotate about the driving shaft in unison with the revolution of the planet gearing, a drum having a clutch face coöperating with the aforesaid clutch member, friction mechanism to lock the drum to the loose pinion, and a friction brake band to retard the clutch member.

5. In mechanism such as described, two shafts, a pinion on one shaft and an internal gear on the other shaft, planet gearing between the internal gear wheel and pinion, a brake wheel having a clutch face and on which the planet gearing is mounted, a gear wheel adjacent the pinion and loose on the shaft thereof and having a boss on which the brake wheel is mounted, a drum having a clutch face and movable to and from the clutch face on the brake wheel, friction plates loosely mounted in the drum to move axially thereof, friction plates alternating with the aforementioned ones mounted on the loose gear wheel, planet gearing between the loose gear wheel and internal gear wheel and means to frictionally retard the brake wheel.

6. In mechanism such as described, a driving shaft and a driven shaft, an internal gear wheel on one of the shafts and a pinion fixed on the other shaft planet gearing between them, a brake wheel on which the planet gearing is mounted, and having a clutch face, a gear wheel loose on the driving shaft, planet gearing between the loose gear wheel and driven shaft, a clutch member coöperating with the clutch face on the brake wheel, friction means between the clutch member and loose gear wheel and a brake band to engage the brake wheel.

7. The combination with two shafts and a gear wheel on each of them, of planet gearing between the gear wheels, a drum capable of rotating in unison with the revolving planet gearing, friction plates in the drum, friction plates coöperating therewith and gearing between the coöperating friction plates and one of the gear wheels.

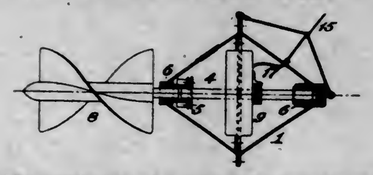
8. The combination with two shafts, a gear wheel on one of them and an internal gear wheel on the other; of planet gearing between the two gear wheels, friction plates revoluble in unison with the planet gearing, a loose gear wheel having an elongated hub, friction plates

mounted on the hub, and planet wheels between the loose gear wheel and internal gear wheel.

9. The combination with two shafts, a gear wheel on one of them and an internal gear wheel on the other, of planet gearing between the two gear wheels, a gear wheel loose on one of the shafts, planet gear wheels between the internal gear wheel and loose gear wheel and friction mechanism between the loose gear wheel and planet gearing.

10. The combination with a pair of alined shafts, a brake wheel on one of them, and means to hold the wheel from rotation of gearing for transmitting motion between the two shafts and including a loose gear wheel on one of the shafts, friction plates mounted to slide axially on said gear wheel, a drum surrounding the gear wheel, friction plates mounted in the drum and coöperating with the aforesaid ones and clutch mechanism between the drum and brake wheel.

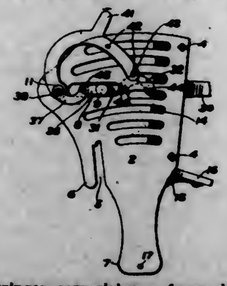
868,798. MEANS FOR OBTAINING POWER FROM FLOWING WATER. ROBERT MCLAUGHLIN, Baltimore, Md. Filed Feb. 20, 1905. Serial No. 246,439.



1. The combination of a water tight floatable vessel, a driving shaft extending longitudinally of said vessel, a screw propeller fixed on the driving shaft exterior to the vessel, a dynamo having its revolving elements fixed upon and rotating with the driving shaft, and electric conductors leading from the dynamo through a water tight fitting to a desired point of utilization of current.

2. The combination of a water tight floatable vessel having tapering or conical ends, a driving shaft extending longitudinally of said vessel, a screw propeller fixed on the driving shaft exterior to the vessel, a plurality of dynamos each having its revolving elements fixed upon and rotating with the driving shaft, and electric conductors leading from the several dynamos through a water tight fitting to a desired point of utilization of current.

868,799. MOP-WRINGER. LUTHER C. MCNEAL, Rochester, N. Y. Filed July 9, 1906. Serial No. 325,203.



1. A mop wringer comprising a frame having parallel side pieces provided with transverse slots, a stationary presser member fixedly secured between said side pieces, a movable presser member supported between said side pieces, an operating rock shaft turning in and movable along said slots and provided with oppositely disposed cranks, links pivotally connecting the cranks with the movable presser member and with a relatively fixed bearing respectively, and means for rocking said shaft.

2. A mop wringer comprising a frame having parallel side pieces provided with transverse slots, a stationary presser member fixedly secured between said side pieces, a movable presser member pivotally supported at its lower portion between said side pieces, an operating rock shaft turning in and movable along said slots and provided with oppositely disposed cranks, links pivotally connecting the cranks with the movable presser member and with a relatively fixed bearing respectively, means for adjusting said relatively fixed bearing to change the throw of the operating rock shaft and its links.

3. A mop wringer, comprising a frame having parallel side pieces, provided with transverse slots, a fixed presser member fixedly secured between said side pieces, a movable presser member pivotally supported at its lower end between said side pieces, a rotary adjusting shaft journaled in said side pieces at a distance from said presser member, an operating rock shaft rocking in and movable along said transverse slots in said side pieces, parallel with said adjusting rock shaft, and between it and said movable presser member, and having oppositely disposed cranks, a link connecting said movable presser member and one of said cranks, a second link connected at one end eccentrically to said rotary adjusting shaft and at its other end to the opposite crank, means for imparting rotary adjustment to said last mentioned shaft, and means for rocking the operating shaft.

4. In a mop wringer, a frame comprising parallel side pieces having transverse slots, a stationary presser member held in fixed position between said parallel side pieces, a movable presser member pivotally supported at its lower end between said side pieces, a rotary adjusting shaft journaled in said side pieces at a distance from said presser members and provided with an eccentric pin, an operating rock shaft movable in the transverse slot in said side pieces, parallel with said rock shaft, and between it and said movable presser member, and having opposite disposed cranks, a link connecting said movable presser member and one of said cranks, a second link connected at one end to the eccentric pin on said rotary shaft and at its other end to the opposite crank, means for rocking the operating shaft, a lever for rotating the adjusting shaft, and means for locking said lever.

5. A mop wringer comprising a frame, a stationary presser member held in fixed position between side pieces; a movable presser member pivotally supported at its lower end between said side pieces; an upper, supplemental part carried by said movable presser member, and pivotally supported at its lower end; a yielding, spring support for the upper end of said supplemental part, adapted normally to thrust it forward; and means for compressing said movable presser member upon said stationary member.

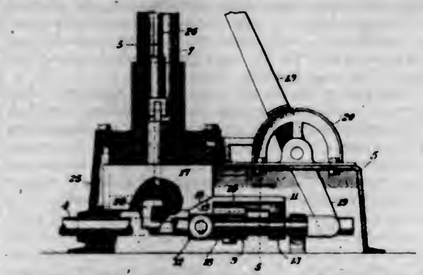
6. A mop wringer comprising a frame, a stationary presser member held in fixed position between side pieces; a frame for a movoble presser member, pivoted at its lower end between said side pieces; a movable presser member attached to said frame; a supplemental presser member pivoted in said frame above said movable presser member and having its lower edge so disposed with reference thereto as to limit the forward movement of said supplemental part; a yielding spring support for the upper end of said supplemental part, adapted normally to thrust it forward; and means for compressing said movable presser member upon said stationary member.

868,800. SAFETY SWITCH AND SIGNAL. CLIFFORD E. NOWLIN, Battle Creek, Mich. Filed June 25, 1907. Serial No. 380,776.

1. The combination of a switch, a switch operating rod, a slide having a limited movement therewith and formed with a cam surface, a switch locking block movable at right angles to said slide and provided with a coöperating cam surface, and a signal controlled by the locking block.

2. The combination of a switch, a switch operating rod, a slide loosely mounted on said rod and provided with a cam surface, and means for causing the slide to move certain distances with the rod; with a vertically movable switch locking block formed with a coöperating cam surface and adapted to be operated by said slide.

3. The combination of a switch, a switch operating rod, a slide having a limited movement therewith and provided with a cam surface, a vertically movable locking block formed with a coöperating cam surface, and a signal controlled by the locking block.



4. The combination of a switch, a switch operating rod, a locking lip carried by the said operating rod, a movable locking block designed to rest upon the lip at a predetermined position of the switch, and means carried by the operating rod for elevating the locking block.

5. The combination of a switch, a switch operating rod, a locking lip carried by the said rod, a movable locking block designed to rest upon the lip at a predetermined position of the switch, and a signal controlled by the locking block.

6. The combination of a switch, a switch operating rod, a locking lip carried by the said rod, a movable locking block designed to rest upon the lip at a predetermined position of the switch, and a slide mounted upon the operating rod and serving to lift the locking block previous to moving the operating rod.

7. The combination of a switch, a switch operating rod, a sleeve rigid with the rod and carrying a locking lip, a slide mounted upon the rod and limited in its movements by the sleeve, and a movable locking block designed to rest upon the locking lip when the switch is open and to be elevated by the slide previous to opening the switch.

8. The combination of a switch, a switch operating rod, a sleeve rigid with the said rod and carrying a locking lip, a slide mounted upon the operating rod and limited in its movements by the sleeve, a movable locking block designed to rest upon the locking lip when the switch is open and to be elevated by the slide previous to opening the switch, and a signal controlled by the locking block.

9. The combination of a switch, a switch operating rod, a member rigid with the said rod and carrying a locking lip, a slide mounted upon the rod and limited in its movements by the said member and formed with a cam surface, a vertically movable locking block formed with a coöperating cam surface whereby it is elevated previous to throwing the switch, the said locking block being designed to rest upon the lip when the switch is open.

10. The combination of a switch, a switch operating rod, a member rigid with the said rod and carrying a locking lip, a slide mounted upon the rod and limited in its movements by the said member and formed with a cam surface, a vertically movable locking block formed with a coöperating cam surface whereby it is elevated previous to throwing the switch, the said locking block being designed to rest upon the lip when the switch is open, and a signal controlled by the locking block.

11. The combination of a switch, a switch operating rod, a member rigid with the said rod and carrying a locking lip, a slide mounted upon the rod and limited in its movements by the said member and carrying a cam surface, a vertically movable locking block formed with a coöperating cam surface and designed to rest upon the lip when the switch is open, and a lever having an operative connection with the slide.

12. The combination of a switch, a casing, a switch operating rod slidably mounted upon the casing, a switch operating mechanism mounted within the casing, a vertically movable locking block coöperating with the switch operating mechanism, a standard projecting from the casing, a crank shaft mounted upon the standard, a semaphore applied to the said shaft, and a semaphore operating rod connecting the crank shaft and the locking block.

13. The combination of a switch, a switch operating mechanism, a locking block coöperating therewith, a safety block applied to the locking block, and means for severing the said safety block therefrom when the switch is forcibly opened.

14. The combination of a switch, a switch operating mechanism, a locking block coöperating therewith, a safety block applied to the locking block, means for severing the safety block therefrom when the switch is forcibly opened, a signal, and means for operating the signal when the safety block is severed.

15. The combination of a switch, a switch operating mechanism, a signal, a rod for operating the signal, a locking block coöperating with the switch operating mechanism, a safety block applied to the locking block and having a detachable connection with the signal operating rod, and means for severing the safety block from the locking block and disconnecting it from the signal operating rod when the switch is forcibly opened.

16. The combination of a switch, a switch operating rod, a locking lip carried by the operating rod, a movable locking block, a safety block applied to the locking block and normally in the path of the lip so as to be severed from the locking block when the switch is forcibly opened, and means for moving the locking block previous to throwing the switch.

17. The combination of a switch, a switch operating rod, a member rigid with the said rod and carrying a locking lip, a slide mounted upon the rod and limited in its movements by the said member, a vertically movable locking block designed to be lifted by the slide previous to throwing the switch and to rest upon the locking lip after the switch has been thrown, and a safety block applied to the locking block and normally disposed in the path of the locking lip so as to be severed from the locking block should the switch be forcibly opened.

18. The combination of a switch, a switch operating rod, a member rigid with the said rod and carrying a locking lip, a slide mounted upon the rod and limited in its movements by the said member, a vertically movable locking block designed to be lifted by the slide previous to throwing the switch and to rest upon the lip after the switch has been thrown, a signal, a signal operating rod, and a safety block applied to the locking block and having a hooked connection with the signal operating rod, the said safety block being normally disposed in the path of the locking lip so as to be severed from the locking block and become disconnected from the signal operating rod should the switch be forcibly opened.

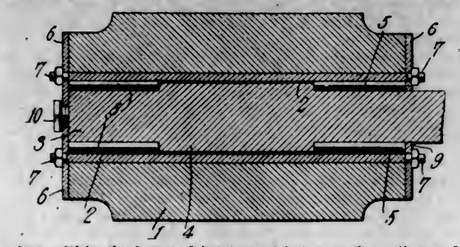
19. The combination of a switch, a switch operating rod, a member rigid with the said rod and carrying a locking lip, a slide mounted upon the rod and limited in its movements by the said member and formed with a cam surface, a vertically movable locking block provided with a coöperating cam surface whereby the locking block is elevated previous to throwing the switch, the locking block being designed to rest upon the locking lip when the switch is thrown, a signal, a signal operating rod, and a safety block applied to the locking block and having a detachable connection with the signal operating rod, the said safety block being normally disposed in the path of the locking lip so as to be severed from the locking block and become disconnected from the signal operating rod should the switch be forcibly opened.

868,801. WHEEL-HUB. WILLIAM S. OSWALD, Direct, Tex. Filed Mar. 28, 1907. Serial No. 365,043.

1. The combination with a hub; of a box therein, bolts integral with and extending from the ends of the box, a spindle mounted to rotate within the box and having an annular collar, retaining plates secured upon the bolts, one of said plates surrounding the spindle and anti-friction devices within the box and interposed between the collar and the retaining plates, said anti-friction devices, collar and plates constituting means to prevent longitudinal movement of the hub upon the spindle.

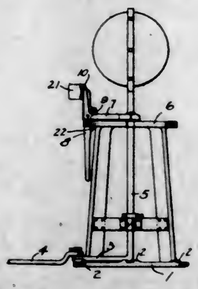
2. The combination with a hub, a box therein, and bolts

extending from and integral with the ends of the box; of retaining plates secured upon the bolts and bearing against the ends of the hub, a spindle revolubly mounted within the box and having a collar thereon, and anti-friction de-



vices within the box and interposed between the collar and retaining plates to hold the hub and spindle against independent longitudinal movement.

868,802. SWITCH-STAND LOCK. HANS PAULSON, Orting, Wash. Filed June 1, 1906. Serial No. 319,745.



1. In a switch stand lock, the combination with a switch stand having recesses formed in its base and a table above its base, of an operating arm journaled in said switch stand and having vertical and rotary motion therein and adapted to enter the recesses formed in said base, a casting connected to the vertical portion of said arm above the table of said stand, a lever pivoted to the casting on a horizontal axis and adapted to raise it and the operating arm out of engagement with the recesses on the base of the switch stand, a lug formed on said lever and adapted to engage the lower edge of the table when the lever is in its vertical position, and a lock secured to said casting and engaging the lever to prevent it from being turned on its pivot.

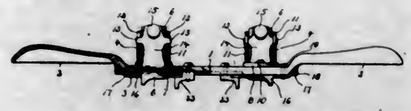
2. In a switch stand lock, the combination with a switch stand having recesses formed in its base and a table above its base, of an operating arm journaled in said switch stand and having vertical and rotary motion therein and adapted to enter the recesses formed in said base, a casting connected to the vertical portion of said arm above the table of said stand, a lever pivoted to the casting on a horizontal axis, and a roller mounted on the lower side of the lever and adapted to engage and roll on the upper surface of the table and acting as a fulcrum for said lever whereby when said lever is brought into horizontal position the said casting and the operating arm are raised and are free to operate the switch.

3. In a switch stand lock, the combination of a lever adapted to operate the switch and having a latch extension adapted to enter the lock, of a lock frame mounted on the switch stand, a tumbler pivoted within said lock frame and adapted to engage said latch extension to prevent its withdrawal from the lock frame, and a key adapted to push by its vertical longitudinal movement the tumbler away from the latch extension.

4. In a switch stand lock, the combination of a lever adapted to operate the switch and having a latch extension adapted to enter the lock, a lock frame mounted on the switch stand, a tumbler pivoted within said lock frame and adapted to engage said latch extension to prevent its withdrawal from the lock frame, a toothed wheel mounted in said lock frame and blocking the key-passage with its teeth, and a key having indentures therein adapted to engage the teeth and turn the wheel as it passes it and adapted to push by its vertical longitudinal movement the tumbler away from the latch extension.

5. In a switch stand lock, the combination of a lever adapted to operate the switch and having a latch extension adapted to enter the lock, a lock frame mounted on the switch stand, a tumbler pivoted within said lock frame and adapted to engage said latch extension to prevent its withdrawal from the lock frame, a toothed wheel having two complementarily arranged sets of teeth one on one side and the other on the other side and blocking the key passage with both sets of teeth, and a key having two complementarily arranged sets of indentures in its two edges corresponding with and fitting the teeth of said wheel and adapted to turn the wheel as it passes it and to push by its vertical longitudinal movement the tumbler away from the latch extension.

868,803. BEADING OR MOLDING TOOL. ALPHONSE PELLRIN, Detroit, Mich. Filed Jan. 28, 1905. Serial No. 243,162.



1. A routing tool comprising a stock adapted to be moved laterally across the work, a pair of bit holders each secured near one end of the stock, rotatable on an axis vertical to the plane of the stock, and each provided with a bit throat, a bit bed, a bit clamping plate and a bit having a cutting edge whose outer end projects beyond the body of the edge, so disposed that limited relative adjustment of the said end of the bits longitudinally of the stock is obtained by the rotation of the bit holders, a guide slot between the bit holders in their axial plane, a gage plate for each bit holder adjustably secured in the slot, and a sole plate for each bit detachably interlocked with the stock outside of each bit holder, extending over and in register with the throat of the holder.

2. A routing tool comprising a narrow, substantially rectangular stock, adapted to be laterally moved across the work, handles on each end of the stock, integral therewith, a pair of bit holders, each consisting of a cylindrical base rotatably secured near one end of the stock vertically to the face of the stock, with its lower face flush with the stock face, means for clamping the holders in any desired angular relation to the stock, comprising a peripheral flange on the base, bearing on the upper side of the stock, a segmental slot in the flange, and a stud screw clamping the flange to the stock, passing through said slot, oblique means for securing a bit in each holder consisting of a bit bed extending obliquely up from the base, marginal, longitudinal flanges on the bed, longitudinally disposed grooves in the upper end portions of the flanges, a bit clamping plate provided with integral, alined lateral lugs between its ends, rocking and sliding in said grooves, and a thumb screw in the upper part of the clamping plate above the lugs, substantially perpendicular to the bed, means for centering the bit holders in relation to a neutral zone, consisting of a longitudinal slot in the stock between the bit holders in axial alinement therewith, whose margins in the stock bed are rabbeted to form a guide, gage plates for the bit holders, each provided with a longitudinal rib engaging the guide, adapted to center the bits in relation to a neutral surface between them, means for shielding bits in the holder comprising soles for each bit holder, each comprising a plate having an opening whose margins register substantially with the working edge of a bit, detachably held in alinement with a bit holder by a rib integrally formed

on the underside of the adjacent handle shank, adapted to dovetail with a lug integral with the plate, and a screw clamping the plate to the stock face over the bit holder.

3. A routing tool comprising a stock having a rectangular plane bed, handles integrally formed at each end thereof, a pair of bit holders in parallel spaced relation, each comprising a cylinder whose axis is perpendicular to the stock bed, each rotatably secured in an aperture in the bed near one end thereof, with their lower end faces flush with the bed, an annular flange on the upper end of each cylinder bearing on the upper side of the stock, a segmental slot in each flange, a screw passing through the slot, secured in the bed, a diametrically disposed throat opening in each cylinder, a lug extending obliquely from each cylinder, whose upper face is longitudinally grooved for a bit bed, a bit clamping plate, tiltably secured over each bed by integral, lateral lugs between the ends of the plate, sliding and rocking in parallel, longitudinal grooves in the side faces of the bed groove, a clamping thumb screw for each plate engaging a screw-threaded aperture in the upper end beyond the lugs, longitudinal, alined, undercut ribs on the under sides of the handle shanks, a shoe for each bit holder, provided with a lug adapted to detachably engage the adjacent undercut rib, and a countersunk screw engaging the stock, a longitudinal, rabbeted slot between the holders in their axial plane, an angle gage plate for each bit holder engaging said rabbeted slot, and a screw clamping each gage plate.

4. A routing tool comprising a stock, draw handles integrally formed at each end thereof, a bit holder rotatably secured at its lower end in the stock, axially perpendicular thereto, whose lower face is flush with the face of the stock, and is diametrically slotted to form a throat, a bit bed extending obliquely upward from the throat, parallel, longitudinal flanges on the sides of the bed integral with the holder, parallel slots in the upper parts of the flanges, a bit clamping plate provided with lateral alined lugs between its ends adapted to slide and rock in said grooves, a thumb-screw in the upper end of the plate transverse to the bed, a sole plate adapted to shield the projecting portion of the bit below the stock, a lug integral with the sole, detachably dovetailed to a rib integral with one of the handle-shanks beyond the end of the bed, a longitudinal guide slot in the bed between the bit holder and the other handle, and an adjustable gage for the bit longitudinally movable in said guide slot.

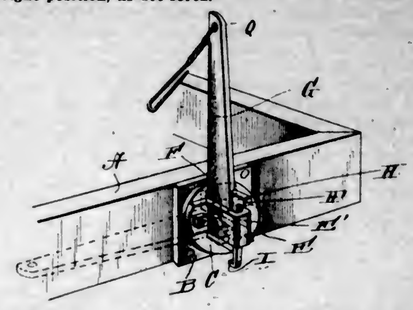
868,804. POST-CARD ENVELOP. JOHN G. PEPPLER, Weehawken, N. J. Filed Feb. 11, 1907. Serial No. 356,847.



An envelop for the transmission of souvenir postal-cards, comprising flexible transparent material, having a part cut away at the upper right hand corner on the superscription side, and to the left of said corner, exposing in naked condition the face of the stamp on the card and a portion of the latter to the left of it whereby the stamp cancelling can be effected directly on the stamp and card, and the latter may be protected in transmission.

868,805. STANDARD FOR CARS. EMMETT L. PETERSON, Willacoochee, Ga. Filed May 15, 1906, Serial No. 316,979. Renewed Mar. 26, 1907. Serial No. 364,646.

1. In combination with a car, a plate secured thereto, a disk swiveled to said plate, a pivotal standard mounted upon said disk, and means for holding the standard in an upright position, as set forth.

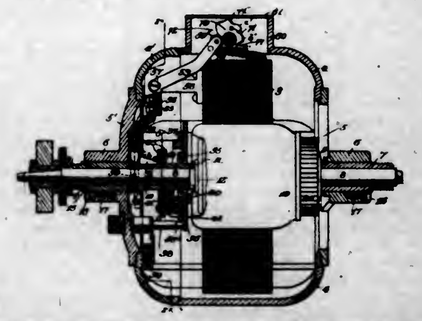


2. In combination with a car, a plate secured thereto, a disk swiveled to said plate, a pivotal standard mounted upon said disk, and a spring-pressed pin carried by the plate and adapted to engage an aperture in the disk to hold the standard in an upright position, as set forth.

3. In combination with a car, a plate secured thereto, a disk swiveled to said plate, a trap secured to said disk, a standard pivotally mounted in a slot formed by said strap, and a key interposed between the edge of the standard and the end of the slot, as set forth.

4. In combination with a car, a plate secured thereto, a disk swiveled to said plate, a strap secured to said disk, a standard pivotally mounted in a slot formed by said strap, and a key interposed between the edge of the standard and end of the slot in which the latter is pivoted, the shank portion of said key being inclined and its lower end angled, as set forth.

868,806. ELECTRIC MOTOR. OSCAR H. PIEPER and ALPHONSE F. PIEPER, Rochester, N. Y. Filed Nov. 25, 1905. Serial No. 289,140.



1. In a controlling device for an electric motor, the combination with an armature shaft and contact plates mounted thereon, of a movable contact member normally connecting said plates, a tension device attached to said member and movable in a direction transversely of the armature shaft, and a member movable longitudinally of the shaft and coöperating with the tension device, means for operating it and a motor circuit leading to the contact plates.

2. In a controlling device for an electric motor, the combination with an armature shaft and contact plates mounted thereon, of a movable contact member normally connecting said plates, an adjusting member movable longitudinally of the shaft and an extensible tension member operated thereby and connected to the movable contact member, means for operating the adjusting member and a motor circuit leading to the contact plates.

3. In a controlling device for an electric motor, the com-

bination with an armature shaft and contact plates mounted thereon, of a movable contact member normally connecting said plates, an extensible tension device connected to the movable contact member and an adjusting member provided with a plurality of graduated steps coöperating with the tension device, means for operating the member and a motor circuit leading to the contact plates.

4. In a controlling device for an electric motor, the combination with an armature shaft and contact plates mounted thereon, of a movable contact member normally connecting said plates, an extensible tension device connected to the movable member and comprising a bar arranged transversely of the armaure shaft and an adjusting member operating said bar relatively to the shaft, means for operating the member and a motor circuit leading to the contact plates.

5. In a controlling device for an electric motor, the combination with an armature shaft, a sleeve thereon provided with a transversely extending guide, insulated contact plates and a contact member normally connecting them, of a tension device connected to said member and lying in the guide on the sleeve, an adjusting member supported on the latter and coöperating with the tension device, means for moving said member and a motor circuit leading to the contact plates.

6. In an electric motor controller, the combination with an armature shaft, insulated contact plates thereon and a movable member normally connecting them, a tension device connected to the member and a regulating member cooperating with the tension device and provided with a plurality of steps, of adjusting mechanism comprising a cam having shoulders corresponding to the steps on the regulating member, operating connections between the latter and the cam and a motor circuit leading to the contact plates.

7. In an electric motor controller, the combination with an armature shaft, contact plates located thereon and a movable contact member normally connecting them, of a tension device connected to said member, a regulating member coöperating therewith and adapted to be moved into different positions to adjust the tension device, mechanism for adjusting the regulator comprising a revoluble cam having a plurality of operating projections and provided with recesses in rear thereof and a motor circuit leading to the contact plates.

8. In an electric motor controller, the combination with an armature shaft, contact plates located thereon and a movable contact member normally connecting them, a tension device connected to said member and a stepped regulating member coöperating therewith and supported on the armature shaft, of a ring mounted on the latter and engaging the controlling member, an arm coöperating with the ring and a cam engaging the arm having projections corresponding to the steps on the controlling member, means for holding the arm in engagement with the cam and a motor circuit leading to the contact plates.

9. In an electric motor controller, the combination with a field, an armature and an armature shaft, of a sleeve removably supported on the shaft, contact plates on the sleeve and a movable member normally connecting them, an extensible tension device connected to the member and a ring mounted on the sleeve, a regulating member carried on the ring and coöperating with the tension device, means for adjusting the ring and a motor circuit leading to the contact plates.

10. In an electric motor controller, the combination with a field, an armature and an armature shaft having a projection thereon, a sleeve on the shaft interlocking with said projection and contact plates supported on the sleeve, of a movable member normally connecting them arranged at one side of the sleeve, a tension device connected to the member and extending over the other side of the sleeve, and a regulating member carried on the sleeve and coöperating with the tension device, means for adjusting said member and a motor circuit leading to the contact plates.

11. In an electric motor controller, the combination with a field, an armature and an armature shaft, a sleeve removably supported on the shaft and contact plates supported on the sleeve, of a contact member normally connecting them, a guide on the sleeve and a tension device connected to the contact member having an adjustable part supported in said guide, a ring on the sleeve and regulating member on the ring coöperating with the adjustable part and extending at opposite sides of the guide, means for adjusting the ring and a motor circuit leading to the contact plates.

868,807. PROCESS FOR THE MANUFACTURE OF CHROME-YELLOW. PAUL D. POTTER, Madison, Wis. Filed Dec. 29, 1906. Serial No. 350,079.

1. The process of manufacturing chrome yellow which consists in combining a chromium compound and lead corbonate in the presence of heat and under oxidizing conditions.

2. The process of manufacturing chrome yellow which consists in combining a chromium compound and lead carbonate in the presence of heat and under oxidising conditions, digesting the product in a solvent solution, precipitating the same and separating the liquid therefrom.

3. The process of manufacturing chrome yellow which consists in subjecting chrome iron ore and native lead carbonate to the action of an oxidizing flame and then separating the chrome yellow from the gangue.

4. The process of manufacturing chrome yellow which consists in combing a chromium compound and lead carbonate in the presence of heat and under oxidising conditions and agitating the mass under treatment.

5. The process of manufacturing chrome yellow which consists in subjecting chrome iron ore and native lead carbonate to the action of an oxidising flame, agitating the mass and subsequently separating the chrome yellow from the gangue.

6. The process of manufacturing chrome yellow which consists in subjecting chrome iron ore and lead carbonate to the action of an oxidising flame, agitating the mass being treated and subsequently dissolving the chrome yellow in a solvent liquid, precipitating the same and separating the liquid therefrom.

7. The process of manufacturing chrome yellow, which consists in subjecting chrome iron ore and lead carbonate to the action of an oxidising flame, agitating the mass being treated, and subsequently crushing the mass, dissolving the chrome yellow in a caustic soda solution, separating the liquid from the gangue and precipitating the chrome yellow by adding a neutralising agent to the liquid.

8. The process of manufacturing chrome yellow which consists in subjecting chrome iron ore and lead carbonate and a flux to the action of heat under oxidising conditions and then separating the chrome yellow from the gangue.

9. The process of manufacturing sulfated chrome yellow which consists in subjecting chrome iron ore and lead carbonate to the action of heat under oxidising conditions, dissolving the chrome yellow in a solvent liquid and subsequently precipitating both lead chromate and lead sulfate by the addition of neutralizing agents to the liquid.

868,808. FURNACE. EDGAR F. PRICE, Niagara Falls, N. Y. Filed Feb. 1, 1907. Serial No. 355,338.

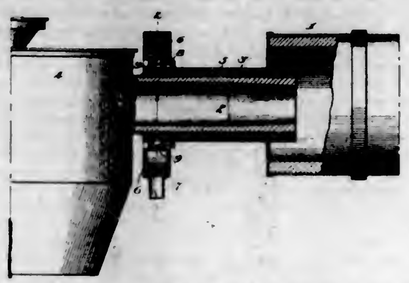
1. A furnace, comprising a heating chamber, concentric fuel and air flues opening into said chamber, and independently-valved supply ports opening into the outer flue at different points circumferentially.

2. A furnace, comprising a heating chamber, concentric fuel and air flues opening into said chamber, longitudinal partitions in the outer flue, and independently-valved supply ports severally opening into the outer flue at points circumferentially between the partitions.

3. A furnace, comprising a revoluble cylindrical heating chamber, concentric fuel and air flues opening into said chamber, and independently-valved supply ports opening into the outer flue at different points circumferentially.

4. A furnace, comprising a revoluble cylindrical heating chamber, concentric fuel and air flues opening into said

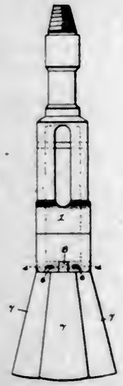
chamber, longitudinal partitions in the outer flue, and valved supply ports severally opening into the outer flue at points circumferentially between the partitions.



5. A furnace, comprising a heating chamber, a gas producer, a gas flue connecting said producer and chamber, air flues arranged around said gas flue, and means for separately controlling each air flue.

6. A furnace, comprising a revoluble cylindrical heating chamber, a gas producer, a gas flue connecting said producer and chamber, air flues arranged around said gas flue, and means for separately controlling each air flue.

868,809. ATTACHMENT FOR FISHING-TOOLS. DAVID H. RATHBONE, Dexter, N. Mex. Filed Apr. 4, 1907. Serial No. 366,445.



1. The combination with a fishing tool socket, of a plurality of overlapping expansible wings arranged at the lower end thereof, and means for expanding said wings, substantially as described.

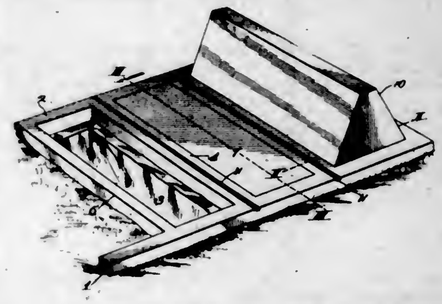
2. The combination with a fishing tool socket, of a plurality of overlapping expansible wings hinged adjacent the lower end thereof, and springs arranged to expand said wings, substantially as described.

3. The combination with a fishing tool socket, of a collar arranged at its lower end, a plurality of overlapping expansible wings connected to said collar and means for expanding said wings, substantially as described.

4. The combination with a fishing tool socket, of a collar arranged thereon at its lower end and provided with recesses therein, a plurality of expansible wings pivotally mounted in said recesses, and means for expanding said wings, substantially as described.

5. The combination with a fishing tool socket, of a collar arranged thereon at its lower end, said collar being provided with recesses in its lower edge and with slots extending therethrough and intersecting said recesses, a plurality of overlapping expansible wings arranged beneath said collar and having apertured tongues extending within said recesses, a locking pin adapted to be projected through said slots and said apertured tongue, and springs for expanding said wings, substantially as described.

868,810. GRAVE MARKER AND PROTECTOR. JOHN B. REESE, Reno township, Leavenworth county, and PHILLIP C. STRAHL and MORTON M. ADAMS, Lawrence, Kans. Filed Apr. 2, 1907. Serial No. 366,053.



1. A grave marker and protector, comprising a curbing set into and projecting above the ground around the mouth of the grave, a slab united to the curbing with a water-tight relation and bridging the grave, and a capstone upon and permanently united to the slab and bearing a water-tight relation thereto.

2. A grave marker and protector, comprising a curbing surrounding the grave and projecting above the ground and of greater width and length than the grave, a slab fitting within and against and bearing a water tight relation to the curbing and having its upper side flush with the corresponding surface of the latter and provided with depending walls resting upon the ground around the grave within the curbing and terminating at a point below the natural plane or level of the earth, and a cap stone superposed with respect to said slab.

3. A grave marker and protector comprising a curbing surrounding the grave and projecting above the ground and of greater width and length than the grave and provided in its upper side with gutters to conduct surface water to the outer side of the curbing, a slab fitting within and against and bearing a water tight relation to the curbing and having its upper side flush with the corresponding surface of the latter and provided with depending walls resting upon the ground around the grave and within the curbing and terminating at a point below the natural plane or level of the earth, and a cap stone superposed with respect to said slab.

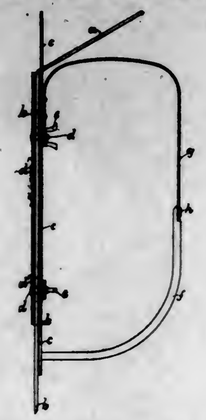
868,811. BILL-FILE. REUBEN RUBENS, Liverpool, England. Filed Oct. 19, 1906. Serial No. 339,598.

1. A bill file comprising a backboard, a plate removably overlying said backboard, screws and thumb-nuts securing said plate to said backboard, a bent bill-receiving rod and coöperating bent spring secured to said plate, and means at the top of the backboard and plate for suspending the file in an upright position.

2. A bill file comprising a backboard adapted to be supported in an upright position, a plate overlying said backboard, means for removably securing said plate to said backboard, a bent bill-receiving rod and coöperating bent spring guard secured to said plate, and an apron hinged to the top of said backboard and arranged to hang down over the face of said backboard and plate.

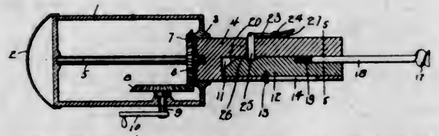
3. A bill file comprising a backboard adapted to be supported in an upright position, a plate removably overlying said backboard, screws passing through said backboard and having heads overlapping the edges of said plate,

thumb-nuts adapted to screw on the other ends of said screws and to bear against the reverse side of the back-



board, and a bent bill-receiving rod and coöperating bent spring secured to said plate.

868,812. BIT-HOLDER. LOUIS RUEGG, Lewistown, Mont. Filed Apr. 11, 1907. Serial No. 367,668.



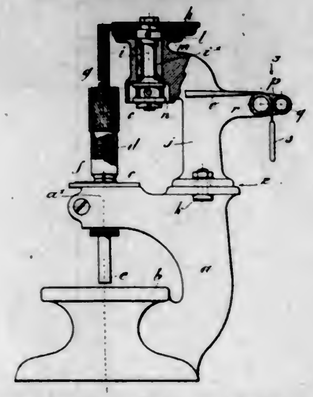
The combination with a casing, of a rotatable drill socket having a flat sided axial recess extending to the front edge thereof, a bit holder conformable to said recess and slidably interfitting therein, said bit holder having an enlarged flat sided recess and a constricted groove leading therefrom and a pawl pivoted upon said drill socket and having its working portion projected therethrough, said bit holder being formed with a notch in one of the faces thereof and adapted to receive said pawl, and with a curved end beyond said notch.

868,813. MEASURING INSTRUMENT. CHARLES SCHEIBENSTOCK, Flis, La Chaux de Fonds, Switzerland. Filed Oct. 17, 1906. Serial No. 339,384.

1. A measuring device comprising in combination, a gaging spindle provided on its upper end with relatively long longitudinally disposed gear teeth, a support for said spindle with which the same has screw connection, a table for supporting the article to be measured, a pinion with which said gear teeth are adapted to slidably mesh, a spring associated with said pinion for normally displacing said spindle toward said table, and manually operable means associated with said pinion for displacing said spindle away from said table.

2. A measuring device comprising in combination, a gaging spindle provided on its upper end with relatively long longitudinally disposed gear teeth, a support for said spindle with which the same has screw connections, a table for supporting the article to be measured, an operating pinion with which said gear teeth are adapted to slidably mesh, an operating spindle carrying said pinion, a spring associated with said operating spindle for automatically displacing said gaging spindle toward said table, a spool for said operating spindle, and a ribbon for said spool whereby said gaging spindle may be displaced away from said table.

3. A measuring instrument comprising in combination, a threaded gaging spindle, a support with which said spindle has threaded connection, a table or support for the article to be measured, yieldingly acting means for displacing said spindle toward said table, and a device acting through said means whereby said spindle may be displaced away from said table, said device placing said means under tension in the performance of its function.



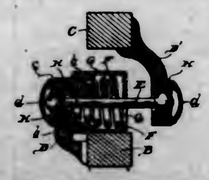
4. A measuring instrument comprising in combination, a threaded gaging spindle, a support with which said spindle has threaded connection, a table or support for the article to be measured, automatic means slidably and operably engaging said spindle for displacing the same toward said table, and means associated with said spindle whereby displacement of the same may be effected away from said table.

5. A measuring instrument comprising in combination, a gaging spindle, supporting mechanism engaging said spindle and effecting longitudinal movement thereof when said spindle is rotated, means slidably engaging said spindle to rotate the same and to effect longitudinal displacement thereof in one direction, and a manually operable device acting through said means whereby displacement of said spindle may be effected in an opposite direction.

6. A measuring instrument comprising in combination, a threaded gaging spindle, a support with which said spindle has threaded connection, a table or support for the article to be measured, and means including gear elements having a sliding mesh engagement for displacing the spindle toward said table.

7. A measuring instrument comprising in combination, a gaging spindle, a support in which said spindle is movably mounted, a table for the article to be measured, and automatic means including gears having a sliding mesh engagement for displacing said spindle toward said table.

868,814. SPRING-WHEEL. JOSEPH J. SCHERMACK, Detroit, Mich. Filed Feb. 25, 1907. Serial No. 359,320.



1. The combination with an internal rim connected to the hub of the wheel, of an external rim spaced therefrom said internal and external rim each circumferentially provided with projections alternately extending from opposite sides of each rim and opposite to each other in the two rims, connecting bars transversely connecting the opposite

projections and forming universal connections therewith said connections being made with the projections of one of the rims through members movably supported in said projections, and springs transversely interposed under compression between said movable members and the rim of the wheel carrying the same, said rim provided with fixed abutments for said springs.

2. The combination with an internal rim connected to the hub of the wheel, of an external rim spaced therefrom, said internal and external rims circumferentially provided with projections alternately on opposite sides of each rim and opposite to each other in the two rims, connecting bars transversely connecting the opposite projections and forming universal connections therewith, the projections of one of the rims provided with connecting members for said bars movably guided in said projections, spiral springs upon said connecting bars and housings secured to the projections carrying said movable members and inclosing the springs under compression between the movable members and the housings.

3. The combination with an internal rim connected to the hub of the wheel, of an external rim spaced therefrom, said internal and external rims circumferentially provided with brackets alternately arranged on opposite sides of each rim and projecting into the space between the rims opposite to each other in the two rims, connecting bars transversely connecting the opposite projections and forming universal connections therewith, the projections of one of the rims provided with connecting members for said bars, movably guided in said projections, spiral springs upon said connecting bars, and housings secured to the projections carrying said movable members and inclosing the springs, the springs being transversely interposed in said housing under compression between the movable members and the ends of the housings, said housings provided with enlarged openings in said ends for the passage of the connecting bars.

4. The combination with an internal rim connected to the hub of the wheel, of an external rim spaced therefrom, said internal and external rims circumferentially provided with brackets alternately arranged on opposite sides of each rim and projecting into the space between the rims opposite to each other on the two rims, connecting bars transversely connecting the opposite projections and forming ball and socket connections therewith, the socket members forming said connections with the projections of one of said rims being movably guided in the projections, spiral springs upon said movable socket members and housings inclosing the springs, the springs being transversely interposed in said housings under compression between the movable socket members and the ends of the housings said ends formed with enlarged openings.

5. The combination with an internal rim connected to the hub of the wheel, of an external rim spaced therefrom, said rims circumferentially provided with projections alternately arranged on opposite sides of each rim opposite to each other on the two rims, connecting bars extending transversely between the opposite projections and formed with balls at the ends, socket members carried by the projections and engaging with the balls and forming ball and socket connections therewith, the socket members carried in the projections of the external rim being fixed and those carried by the projections of the internal rim being movably guided therein, and springs transversely interposed under compression between said movable socket members and the inner rim.

6. The combination with an internal rim connected to the hub of the wheel, of an external rim spaced therefrom, said rims circumferentially provided with projections extending oppositely to each other alternately on opposite sides of the two rims into the space between the same, connecting bars extending transversely between said projections and having ball and socket connections therewith, those with the projections of the internal rim being made with socket members movably guided in the projections, and spiral springs upon the connecting bars transversely interposed under compression between said movable socket members and the inner rim.

7. The combination with an internal rim connected to the hub of the wheel, of an external rim spaced therefrom, each of said rims provided with a circumferential series of brackets secured alternately on opposite sides thereof, the brackets of one rim being opposite to those on the other rim, connecting bars extending transversely between said projections and having ball and socket connection therewith, those with the projections of the internal rim having ball socket members movably guided in said projections, helical springs upon said connecting bars and housings secured to the internal rims and inclosing said springs under compression between the movable ball members and the opposite ends of the housings.

868,815. HOSIERY AND THE MANUFACTURE OF THE SAME. ROBERT W. SCOTT, Leeds Point, N. J., assignor of one-half to Louis N. D. Williams, Ogontz, Pa. Filed Sept. 20, 1905. Serial No. 279,306.



1. A stocking having bordering wales extending under the bottom and up the back of the heel, and widening wales introduced between said bordering wales and the standing wales on each side of the heel, the bordering wales at the back of the heel being seamed diagonally across so as to contract said heel from the corner to the top, substantially as specified.

2. A stocking having a heel shaped by means of widening wales at each side of the same introduced between the standing wales and bordering wales at the bottom of the heel, substantially as specified.

3. A stocking having a heel with widening wales on each side of the same introduced between the standing wales and bordering wales at the bottom and rear of the heel, the bordering wales at the rear of the heel being connected by a seam extending diagonally across said wales, substantially as specified.

4. A stocking having a heel provided on each side with widening wales introduced between the standing wales and bordering wales at the bottom and rear of the heel, said bordering wales, at the bottom of the heel, being connected by a seam substantially parallel with the bordering wales, and at the rear of the heel being connected by a seam extending diagonally across the same, substantially as specified.

5. A stocking having widening wales introduced inside of sets of bordering wales to shape the toe, the rear of the heel being shaped by a seam extending diagonally across said bordering wales; substantially as specified.

6. A stocking having widening wales introduced inside of sets of bordering wales to shape the calf, the rear of the heel being shaped by a seam extending diagonally across the bordering wales located at that point, substantially as specified.

7. A stocking having widening wales introduced inside of sets of bordering wales to shape the toe and the bottom of the heel, the rear of the heel being shaped by a seam ex-

tending diagonally across said bordering wales, substantially as specified.

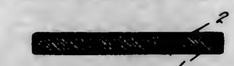
8. A stocking having bordering wales extending along the bottom of the toe, foot, and heel, and up the back of the heel, ankle and calf, and a single seam connecting said bordering wales, said seam being substantially parallel with the bordering wales in all portions except the back of the heel, at which point it extends diagonally across said wales, substantially as specified.

9. A stocking having bordering wales extending along the bottom of the toe, foot, and heel, and up the back of the heel, ankle, calf and leg, and a single seam connecting said bordering wales, said seam being parallel with the bordering wales in all portions of the stocking except in the rear of the heel, at which point it passes diagonally across said wales, substantially as specified.

10. The mode herein described of knitting foot, heel and ankle portions of a stocking web, said mode consisting in knitting round-and-round upon the needles of a machine to form a web of the proper width for the foot, then, while continuing the round-and-round knitting, gradually widening said web and knitting a length of said widened fabric to form the heel web, then casting the stitches from a number of end needles so as to reduce the width of the web, and then knitting round-and-round upon said reduced number of needles to form the ankle web, substantially as specified.

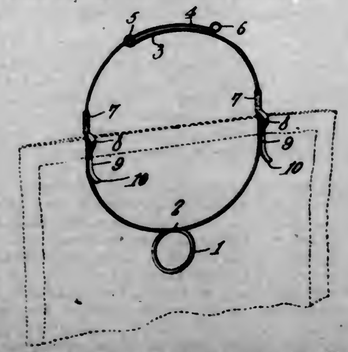
11. The mode herein described of knitting a web for the foot, heel and ankle portions of a stocking, said mode consisting in knitting round-and-round upon standing wale needles and bordering wale needles to form a foot web, continuing said round-and-round knitting and introducing standing wale needles inside of said bordering wale needles to widen said web and continue the production of said widened web throughout a number of courses, then casting the stitches from the outermost standing wale needles and racking in the bordering wale needles and continuing round-and-round knitting upon the reduced number of needles to form the ankle web, substantially as specified.

868,816. LUBRICATING-PAD. OTIS W. SEVERNS, Centralia, Ill. Filed Dec. 31, 1906. Serial No. 350,242.



A lubricating pad comprising a solidified lubricating material of wax and fine kiln-dried hickory dust having comminuted cleaning particles of emery dust embedded therein and an inclosing wrapper of porous textile material, substantially as described.

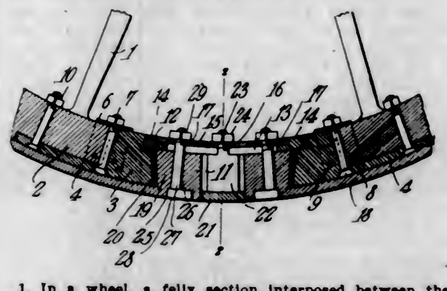
868,817. NAPKIN-HOLDER. CHARLES D. SMITH, Paris, Ill. Filed Feb. 26, 1907. Serial No. 359,400.



1. A napkin holder composed of a strip of resilient material having its middle portion coiled to form a single convolution, the ends of the coil crossing one another and thence bowing outwardly and finally approaching one another to form a loop having substantially rigid sides, the free ends of the loop providing neck-engaging portions, and a pair of napkin attaching devices composed of flat resilient material arranged on the holder at points between the intermediate convolution and the ends of the holder, both devices being arranged on the same side of the holder and operating in planes transverse to the plane thereof.

2. A napkin holder composed of a strip of resilient wire having its middle portion formed into a coil and its ends curved inwardly to form neck engaging portions, and a pair of napkin attaching devices arranged on the holder at points intermediate the said coil and the ends thereof, each composed of flat resilient material having one end rolled about and rigidly secured to the holder, both attaching devices extending laterally from the same side of the holder and opening toward the said coil, the free ends of the said devices being turned outwardly from the holder to form a guide for facilitating the insertion of the napkin.

868,818. TIRE-TIGHTENER. THOMAS T. SMITH, Lee, Iowa. Filed Apr. 20, 1907. Serial No. 369,367.

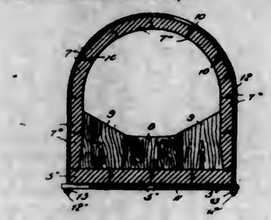


1. In a wheel, a felly section interposed between the ends of the felly thereof and having an elongated opening, a non-continuous tire having at its ends blocks which enter the opening of the felly section, a cradle located upon the felly section and having an opening registering with the elongated opening thereof, a cap resting upon the cradle, bolts passing through the ends of the tire and through the cradle and cap, nuts screw threaded upon said bolts and a splice piece interposed between the ends of the tire and having a shank provided with a threaded extremity which passes through the cap and a nut engaging said extremity.

2. In a wheel, a felly section interposed between the ends of the felly thereof and having an elongated opening, a non-continuous tire having at its ends blocks which enter the opening in the felly section, the tire ends having non-circular openings and the blocks having perforations which register with said openings, a cradle also interposed between the ends of the felly and resting upon the felly section and having an elongated opening which registers with the opening in the felly section, said cradle having elevated ends, a cap resting upon the cradle between the elevated ends thereof, bolts having non-circular heads which lie in the openings in the tire ends, said bolts passing through said blocks, the cradle, and the cap and having suitable securing means and a splice piece carried by the felly section and interposed between the ends of the tire.

3. In a wheel, a felly section interposed between the ends of the felly thereof and having ledges which overlap the ends of the felly, the felly being provided with extremities which overlap the ends of the felly section, bands overlapping the intermediate portion of the joints between the felly section and felly, a non-continuous tire resting upon the felly, means for securing the ends of the tire to the felly section and a splice piece carried by the felly section and interposed between the ends of the tire.

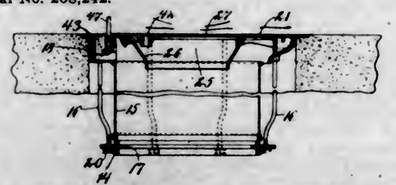
868,819. PIPE. JAMES A. SNODDY, Seattle, Wash. Filed Feb. 21, 1907. Serial No. 358,577.



1. The combination with a pipe having a curved upper portion and a flat bottom and with the sides inclined outwardly and downwardly whereby the lower portion of the pipe is wider than the upper portion, of a lining for the pipe composed of three rows of blocks bearing upon said flat bottom with the outer sides of the outer rows of blocks conforming to and bearing against the inclined sides of the pipe, with the central row of blocks inclined outwardly at its side edges and corresponding to and bearing against the correspondingly inclined adjacent faces of the outer rows of blocks, the upper face of the outer rows of blocks inclined upwardly and outwardly to produce a trough-like configuration to said lining.

2. The combination with a pipe having a curved top and a flat bottom and with the lower portions of the side walls inclined outwardly and downwardly, clamp bars extending transversely beneath the pipe and with their ends extending beyond the pipe, inverted U-shaped clamp rods bearing over the curved side of the pipe and with their ends projecting through the extended ends of the clamp bars, fastening means operating to secure said rods to said clamp bars, of a lining for the pipe composed of three rows of blocks bearing upon said flat bottom with the outer sides of the outer rows of blocks conforming to and bearing against the inclined inner faces of the pipe with the central row of blocks inclined outwardly and downwardly at its side edges and corresponding to and bearing against the correspondingly inclined adjacent faces of the outer rows of blocks, the upper face of the outer rows of blocks inclined upwardly and outwardly to produce a trough-like configuration to said lining.

868,820. GARBAGE-RECEPTACLE CONTAINER. CHAS. H. STEPHENSON, Lynn, Mass. Filed July 3, 1905. Serial No. 268,242.



1. A container of the character stated, having a cover-seat, ears projecting from the body of the container, webs connecting said ears, said ears and web constituting recesses at one side of the container, a cover having ears entering the recesses, and hinge-pintles connecting the ears of the container and cover, and located substantially in or somewhat above the plane of the cover-seat, the upper edges of the ears being flush with each other and with the top of the cover.

2. A container of the character stated, having a cover-seat, ears projecting outwardly from the body of the container, a cover having ears coinciding with the ears on the container, the tops of the cover and ears being flush with each other, hinge-pintles connecting said ears and located in or above the plane of the cover-seat, the cover having also an opening and a recess communicating therewith, and a secondary cover fitting the opening and having a hinge member located in said recess and connected with the sides thereof by a pintle, the tops of the main cover and the secondary cover being flush.

3. A container having a primary cover hinged at one side of the container and provided with an opening surrounded by a downwardly projecting chute, said opening having a recess at the side opposite the primary cover-hinge, and a secondary cover for said opening, having a hinge member projecting into said recess and pivoted to the sides thereof, said hinge member being formed to abut against the chute and limit the opening of the secondary cover.

4. A container of the character stated, having a hinged cover, a flexible stop member attached to the cover, and a rigid stop member attached to the container and formed as a guide for the flexible member, the latter having an enlargement to engage the guide, and a weight to cause the flexible member to move by gravitation through the guide.

5. A container having a mouth, a chute surrounding the mouth, and a cover for said mouth having wings at its ends which form extensions of the chute when the cover is raised.

6. A container having a mouth, and a cover for said mouth provided with a pivoted foothold adapted to be engaged by the operator's foot to hold the cover open, said pivoted foothold being carried by a portion of the cover which lies below said mouth when closed.

7. A container having a mouth, and a movable cover provided with end wings movable in said mouth, one of said wings having a pivoted foothold or dog adapted to be held on the top of the container by the operator's foot to hold the secondary cover open.

8. A container having a hinged primary cover provided with an opening which is curved or arc-shaped at one edge, a chute below said opening, a secondary cover hinged to the primary cover and formed to fill the opening, and provided with wings at opposite ends of the arc-shaped edge of the opening, the said arc-shaped edge facilitating the entrance of sweepings into the opening between the wings.

9. A container having a hinged primary cover provided with an opening, and a secondary cover for said opening hinged to the primary cover at a point opposite the hinge of the primary cover, the secondary cover having a socket adjacent to its hinged edge for engaging an operating-rod, the arrangement of the hinges and socket being such that the operating-rod can be used to open the two covers simultaneously, or the secondary cover alone.

10. A container comprising top and bottom members, a sheet metal body engaged with the said members, and rods connecting the end members and located outside the material composing the body, whereby the interior of the body is left unobstructed for the reception of a garbage-receptacle.

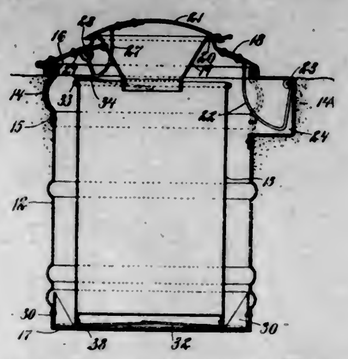
11. A container comprising a top member having a hinged cover, a bottom member having an inwardly projecting seat to support a garbage-receptacle, and rods connecting the top and bottom members, the lower portions of the rods being offset inwardly to form centering guides for the garbage-receptacle.

868,821. GARBAGE-RECEPTACLE CONTAINER. CHAS. H. STEPHENSON, Lynn, Mass. Filed July 3, 1905. Serial No. 268,243.

1. In a container of the character stated, a receptacle-containing body having an opening, a cover for said opening and a hinge connecting said body and cover and comprising an elbow-shaped arm affixed to the cover, and a hinge pintle supported by the body and engaging one end of the arm, said hinge and pintle being located entirely within the walls of the body and cover, means being provided for preventing fouling of the arm of the hinge by the contents of the container.

2. In a container of the character stated, a body having an opening or mouth, and a covered off-set chamber or recess, a cover for said opening and a hinge comprising an elbow-shaped arm affixed to the cover and extending into the recess, and a pintle supported by the walls of the recess and engaging one end of the arm, means being pro-

vided for preventing fouling of the arm by the contents of the container.



3. A container comprising a body, an annular primary cover hinged thereto and having a chute constituting the inner portion of the annulus, the outer and inner portions of the annulus meeting to form a raised hollow annular seat, and a secondary cover hinged to the primary cover and formed to bear on said seat, the hinge members of the covers being located entirely within the walls of the container and covers.

4. A container comprising a sheet metal body having an off-set chamber or recess at one side of its mouth, reinforcing pieces secured to opposite sides of the recess and projecting therefrom into the body, a body cover, and a hinge connecting the cover with the body and comprising an elbow-shaped arm affixed to the cover and a hinge pintle engaged with the reinforcing piece within the recess.

5. A garbage holder comprising a sheet metal body extended below the bottom of the holder and having an inwardly-rolled wire-reinforced edge located under the bottom, said edge being free from external projecting portions and providing a continuous or annular inwardly projecting bead forming a tipping handle, and enabling the exterior of the holder to be left free from protuberances.

6. A container of the character stated having a sheet metal body, and centering brackets having inclined guiding edges and attached to the lower portion of the said body, said brackets having means at the bottom of said edges for supporting a receptacle independently of said guiding edges.

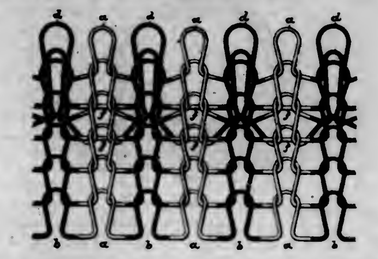
7. A container of the character stated having a sheet metal body with an inwardly-turned flange or seat at its lower end, and centering brackets above said flange, said brackets having projections resting on said flange adapted to extend under the bottom of a receptacle.

8. A container of the character stated having an inwardly-projecting seat and centering brackets provided with inclined guiding edges, and having means for supporting a receptacle independently of said guiding edges, and a receptacle supporting spider resting on said seat.

9. In a container of the character described, a sheet metal body having its upper portion, at a point below the upper end of the body, curved in cross-section to form an annular bulge; and a reinforcing band formed to fit the outer surface of said bulged portion, said band being of a width to extend below said bulged portion and over the upper edge of the container, the band being secured to the body by being riveted thereto below said bulged portion and bent over the upper edge of the body.

868,822. KNITTED FABRIC AND MODE OF MAKING SAME. HARRY SWINGLEHURST, Philadelphia, Pa., assignor to Robert W. Scott, Leeds Point, N. J., and Louis N. D. Williams, Ogonts, Pa. Filed Sept. 11, 1905. Serial No. 277,897.

1. A machine knit fabric, partly ribbed and partly plain, having standing wales contained in both webs, loose-ended and discontinued wales of one web replaced by wales of the other web, and means for preventing running back of the loose ends of the discontinued wales.



2. A machine knit fabric, partly ribbed and partly plain, having discontinued wales in one web, and standing wales contained in both the ribbed and plain webs, and having a plurality of yarns in a course corresponding to a course in terminal portions of the discontinued wales.

3. A machine knit fabric, partly ribbed and partly plain, having standing wales contained in both the ribbed and plain webs, and discontinued wales of one web alternating with standing wales of said web and connected by sinker wales.

4. A machine knit fabric, partly ribbed and partly plain, having standing wales contained in both the ribbed and plain webs, and discontinued wales of one web alternating with standing wales of said web and having in their terminal portions a plurality of courses of stitches connected by sinker wales.

5. A machine knit fabric partly ribbed and partly plain, having standing wales contained in both the ribbed and plain webs, loose-ended and discontinued wales of one web replaced by wales of the other web, and means for preventing running back of the loose ends of said discontinued wales.

6. A machine knit fabric, partly ribbed and partly plain, having standing wales contained in both the ribbed and plain webs, and discontinued wales of one web replaced by wales of the other web, the number of courses of stitches in the terminal portions of the discontinued wales and in the initial portions of the wales which supplant the same being together in excess of the number of courses of stitches in the corresponding portions of the standing wales.

7. A machine knit fabric, partly ribbed and partly plain, having discontinued wales of one web replaced by wales of the other web and standing wales contained in both the ribbed and plain webs and having a plurality of yarns in a course corresponding to a course in terminal portions of the discontinued wales.

8. A machine knit fabric, partly ribbed and partly plain, having standing wales contained in both the ribbed and plain webs, and discontinued wales of one web replaced by wales of the other web and connected by sinker wales.

9. A machine knit fabric, partly ribbed and partly plain, having standing wales contained in both the ribbed and plain webs, and discontinued wales of one web replaced by wales of the other web, a plurality of courses of the terminal portions of the discontinued wales being connected by sinker wales.

10. A machine knit fabric, partly ribbed and partly plain, having standing wales contained in both the ribbed and plain webs, discontinued wales of plain web replaced by wales of ribbed web, and means for preventing running-back of the discontinued wales of plain web.

11. A machine knit fabric partly ribbed and partly plain, having standing wales contained in both the ribbed and plain webs and discontinued wales of plain web replaced by wales of ribbed web, the number of courses of stitches in the terminal portions of the discontinued plain web wales and in the initial portions of the ribbed wales which supplant the same being, together, in excess of the number of courses of stitches in the corresponding portions of the standing wales.

12. A machine knit fabric, partly ribbed and partly plain, having discontinued wales of plain web replaced by wales of ribbed web, and standing wales contained in both the ribbed and plain webs, said standing wales having a plurality of yarns in a course corresponding to a course in terminal portions of the discontinued plain web wales.

13. A machine knit fabric, partly ribbed and partly plain, having standing wales contained in both the ribbed and plain webs, and discontinued wales of plain web replaced by wales of ribbed web and connected by sinker wales.

14. A machine knit fabric, partly ribbed and partly plain, having standing wales contained in both the ribbed and plain webs, and discontinued wales of plain web replaced by wales of ribbed web, a plurality of courses in the terminal portions of the discontinued wales being connected by sinker wales.

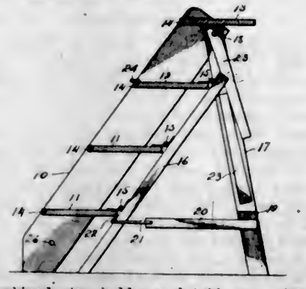
15. A machine knit fabric, partly ribbed and partly plain, having standing wales contained in both the ribbed web and the plain web, discontinued wales of plain web replaced by rib wales, means for preventing running back of said discontinued wales of plain web, and a welt formed at the beginning of the ribbed web.

16. A machine knit fabric, partly ribbed and partly plain, having standing wales contained in both the ribbed web and the plain web, discontinued wales of plain web replaced by rib wales, means for preventing running back of said discontinued wales of plain web, a short section of plain web interposed between the two webs, and a welt formed at the beginning of the ribbed web.

17. The mode herein described of producing a knitted fabric, said mode consisting in first knitting upon one set of needles to produce a plain web, arresting for one or more courses the production of stitches upon certain of the needles of said set but permitting said needles to retain the stitches already upon them, continuing the formation of stitches upon the other needles of the said set, then casting the stitches from the latter needles and retiring them from action, then bringing into action needles which were before put out of action and also needles of another set alternating therewith, and drawing stitches in a different direction therefrom, and continuing the knitting with the inclusion of both sets of needles.

18. The mode herein described of producing a knitted fabric, said mode consisting in knitting upon one set of needles to produce a plain web, arresting for one or more courses the production of stitches upon certain of the needles of said set but permitting said needles to retain the stitches already upon them, continuing the formation of stitches upon the other needles of said set and feeding the fresh yarn also to the retired needles of the set, then casting the stitches from the needles which were not before retired and retiring them from action, then bringing into action the previously retired needles along with needles of another set alternating therewith, and drawing stitches in a different direction therefrom, and continuing the knitting with the inclusion of both sets of needles.

868,823. COMBINED STEP-LADDER AND TABLE. JOSEPHINE B. THURMOND, Kansas City, Mo. Filed Mar. 11, 1907. Serial No. 361,710.



1. A combined step ladder and table comprising sides, leaves pivoted thereto, a central supporting member pivotally connected to said leaves, prop members pivoted to said sides, legs carried by said prop members, and a stay member pivoted to said prop members and engaging said supporting member.

2. A combined step ladder and table comprising sides, a plurality of leaves pivoted to said sides, one of said leaves being provided with a lip, a central supporting member pivotally connected to said leaves, an additional leaf pivoted to said sides and adapted to engage said lip, prop members pivoted to said sides and supporting said additional leaf, and a stay member pivoted to said prop members and engaging said central supporting member.

3. A combined step ladder and table comprising sides, leaves pivoted thereto, a central supporting member pivoted to said leaves and provided with a lug, prop members pivoted to said sides, and a stay member pivoted to said prop members and having a link engaging said lug.

4. A combined step ladder and table comprising sides, leaves pivoted thereto, a central supporting member pivotally connected to said leaves and provided with a lug, a lip formed on one of said leaves, prop members secured to said sides, an additional leaf pivoted to said sides and adapted to rest on said prop members, the free edge of said leaf being adapted to engage said lip, legs secured to said prop members, and a stay member pivoted to said prop members and having a link engaging said lug.

5. A combined step ladder and table comprising sides, leaves pivoted thereto, a supporting member pivoted to said leaves, prop members pivoted to said sides, the leaves, supporting member and prop members being movable to a position in which the parts form a step ladder, the leaves forming steps, and the leaves, supporting member and prop members being movable to positions in which the leaves, supporting member and prop members are horizontally disposed, the leaves forming the leaves of a table, and a removable rod for engaging the sides and supporting the supporting member in the horizontal position.

868,824. BOTTLE ATTACHMENT. GUNDER T. THROMALD, Portland, Oreg. Filed May 31, 1907. Serial No. 376,544.

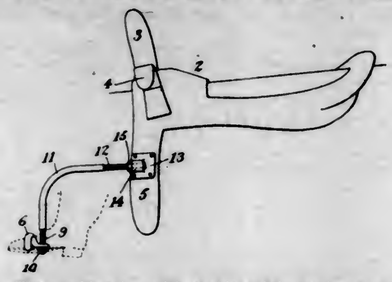


1. A containing vessel having a closure provided with a kerf, and an elastic element having one end thereof secured to the vessel and the opposite end thereof seated in the kerf.

2. A containing vessel having a closure provided with a transverse kerf, a retaining strip secured to the walls of the vessel, and elastic strap one end of which is interposed between the retaining strip and the adjacent wall of the vessel and the opposite end thereof seated in the kerf.

3. A containing vessel having a closure formed of a yieldable material and provided with a transverse kerf, and an elastic strap having one end thereof secured to the exterior walls of the vessel and its opposite end seated in said kerf.

868,825. SIDESADDLE. MABEL M. VAN VECHTEN, New York, N. Y. Filed Dec. 26, 1906. Serial No. 349,433.



1. The combination with a side-saddle having a stirrup for the left foot, of a toe-piece secured to the saddle and located when in use at the near side thereof above and in advance of said stirrup and in position to be engaged by the right toe of the rider and resist upward movement thereof.

2. The combination with a side-saddle having a stirrup for the left foot, of an adjustable toe-piece secured to the saddle and located when in use at the near side thereof above and in advance of said stirrup and in position to be engaged by the right toe of the rider and resist upward movement thereof.

3. The combination with a side-saddle having a stirrup for the left foot, of a vertically-adjustable toe-piece secured to the saddle and located when in use at the near side thereof above and in advance of said stirrup and in position to be engaged by the right toe of the rider and resist upward movement thereof.

4. The combination with a side-saddle having a stirrup for the left foot, of a toe-piece secured to the saddle and adjustable vertically and also lengthwise thereof and located when in use at the near side of the saddle above and in advance of said stirrup and in position to be engaged by the right toe of the rider and resist upward movement thereof.

5. The combination with a side-saddle having a stirrup for the left foot and also having an off crutch and a leaping-head, of a toe-piece secured to the saddle and located when in use at the near side thereof between and in advance of the leaping-head and said stirrup and in position to be engaged by the right toe of the rider and resist upward movement thereof.

6. The combination with a side-saddle having a stirrup for the left foot, of a toe-piece secured to the near point of the saddle-tree and located above and in advance of said stirrup and in position to be engaged by the right toe of the rider and resist upward movement thereof.

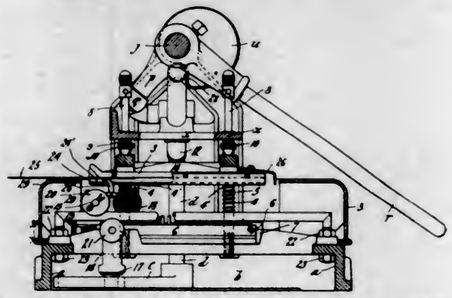
7. The combination with a side-saddle having a stirrup for the left foot, of a toe-piece secured to the near point of the saddle-tree and located above and in advance of said stirrup and adjustable in position with respect to said point and in position to be engaged by the right toe of the rider and resist upward movement thereof.

8. The combination with a side-saddle having a stirrup for the left foot, of a toe-piece secured to the near point of the saddle-tree and located above and in advance of said stirrup and adjustable relatively to said point both vertically and lengthwise of the saddle-tree and in position to be engaged by the right toe of the rider and resist upward movement thereof.

9. The combination with a side-saddle having a stirrup for the left foot, of a support attached to the near point of the saddle-tree and adjustable relatively thereto lengthwise of said saddle-tree, and a toe-piece secured to the free end of said support and located above and in advance of said stirrup and in position to be engaged by the right toe of the rider and resist upward movement thereof.

10. The combination with a side-saddle having a stirrup for the left foot, of a support attached to the near point of the saddle-tree and adjustable relatively thereto lengthwise of said saddle-tree, and a toe-piece secured to the free end of said support and located above and in advance of said stirrup and adjustable thereon vertically of the saddle-tree and in position to be engaged by the right toe of the rider and resist upward movement thereof.

868,826. HAND PRINTING-PRESS. THEODORE F. WALES, Bridgeport, Conn. Filed June 28, 1907. Serial No. 381,376.



1. A printing press of the class described in combination with the base-piece thereof, uprights secured thereto, a rotatable shaft mounted in the uprights and provided with a depending arm, a vertically arranged shaft having at its upper end a forked member for receiving the depending arm, a slotted arm secured at the lower end of the vertically arranged shaft, an inking carriage connected to the slotted arm whereby when the rotatable shaft is operated the inking carriage is given a reciprocating movement, as described.

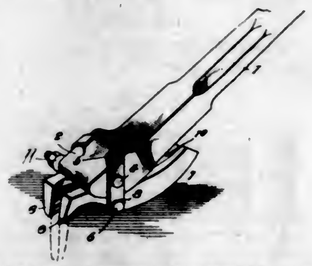
2. A printing press of the class described in combination with the base-piece thereof, uprights secured thereto, a rotatable shaft mounted in the uprights and provided with a depending arm, a vertically arranged shaft having at its upper end a forked member for receiving the depending arm, a slotted arm secured at the lower end of the vertically arranged shaft, an inking carriage connected to the slotted arm, a cam carried by the rotatable shaft, a platen adapted for vertical movement between the uprights, a plunger extending between the cam and the platen whereby when the rotatable shaft is operated the inking carriage is given a reciprocating movement and during further movement of the rotatable shaft the platen will be given a reciprocating vertical movement, as described.

3. In a machine of the class described, a reciprocating inking carriage, means for reciprocating the same, an adjustable rail for supporting the carriage, a platen, means for reciprocating the same, elastic fingers supported by the carriage, the fingers being adapted during the movement of the inking carriage to draw a card into the machine and in contact with the lower surface of the platen and to eject the card from the machine at the end of the reverse movement of the carriage, as described.

868,827. SPIKE-PULLER. JAMES A. WEBB, Iola, Tex. Filed Apr. 2, 1907. Serial No. 365,958.

1. In a device of the character described, the combination of an operating lever, a pair of gripping fingers, lateral arms loosely connected at their upper portions to the said lever, while their lower ends are pivotally connected to the gripping fingers at points between the ends of the latter, the forward ends of the gripping fingers being formed with jaws, while the rear ends are designed to engage the lever, and a wedge carried by the lever and designed to be forced between the rear ends of the gripping fingers to move the jaws together.

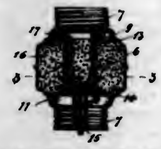
2. In a device of the character described, the combination of an operating lever, a pair of gripping fingers, lateral arms having their upper extremities loosely connected to the operating lever and extending laterally over the top of the said lever, the lower ends of the arms having the gripping fingers pivotally connected thereto at points between their ends, and means carried by the operating lever for forcing the gripping fingers into an operative position.



3. In a device of the character described, the combination of an operating lever, gripping fingers carried by the operating lever and pivotally mounted at an intermediate point, downwardly extending spurs at the forward end of the gripping fingers, said spurs constituting jaws and being designed to be driven into the material in which the spike is embedded, and a wedge carried by the lever and coöperating with the gripping fingers to force the jaws together.

4. In a device of the character described, the combination of an operating lever, spaced arms carried by the operating lever, a bolt connecting the projected portions of the spaced arms, gripping fingers pivotally mounted upon the bolt and formed with jaws, and a wedge carried by the lever and coöperating with the gripping fingers to force the jaws toward each other, the before mentioned bolt being designed to be tightened before the wedge is thrown int operative position.

868,828. WATER-FILTER. JAMES E. YOUNG, Chicago, Ill. Filed July 1, 1907. Serial No. 381,693.



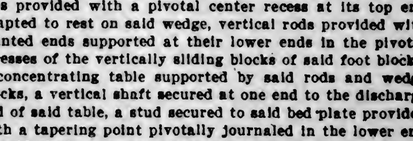
1. A filter comprising a casing having upper and lower annular partitions the lower of which is perforated, a cylinder supported by and extending between said partitions and having a valve at the bottom, the cylinder being perforated between said partitions, and a body of filtering material extending around the cylinder, in the space between said partitions.

2. A faucet filter comprising a casing having upper and lower partitions with holes therein, a cylinder fitting in said holes and having a flange at the top resting on the upper partition, said cylinder and lower partition having fine perforations, a body of filtering material in the space around the cylinder, between said partitions, and a gasket on the said flange, against which the end of the faucet presses, when the device is applied thereto.

868,829. CURTAIN-POLE ATTACHMENT. WILLIAM J. ADENHART, Percy, Pa. Filed Jan. 14, 1907. Serial No. 352,218.

1. The combination, with a curtain pole and a roller shade, of a pair of supporting brackets therefor, each bracket being provided at its upper end with a tubular extension adapted to receive the adjacent end of the pole and at its lower end with a sleeve having a socket adapted to receive the adjacent end of the shade roller, said sleeve and extension being disposed on opposite sides of each bracket.

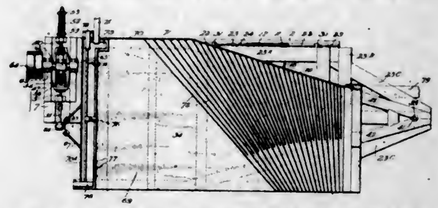
2. The combination, with a curtain pole and a roller shade, of a pair of supporting brackets adapted to be secured to opposite sides of a window frame, each bracket being provided at its upper end with a laterally projecting tubular extension adapted to receive the adjacent end of the pole, and at its lower end with a laterally projecting sleeve having a socket adapted to receive the adjacent end of the shade roller, said sleeve and extension being disposed on opposite sides of each bracket.



3. The combination, with a curtain pole and a roller shade, of a pair of supporting brackets adapted to be secured to opposite sides of a window frame, each bracket being provided at its upper end with a laterally projecting tubular extension adapted to receive the adjacent end of the pole, and at its lower end with a laterally projecting pin, and a sleeve carried by each pin and having a socketed end adapted to receive the adjacent end of the shade roller.

4. The combination, with a curtain pole and a roller shade, of a pair of supporting brackets adapted to be secured to opposite sides of a window frame, each bracket being provided at its upper end with a laterally projecting tubular extension adapted to receive the adjacent end of the pole, and at its lower end with a laterally projecting pin, and a sleeve carried by each pin and longitudinally adjustable thereon, each sleeve having a socketed end adapted to receive the adjacent end of the shade roller.

868,830. ORE-CONCENTRATOR. JOSEPH ALGERT, Denver, Colo. Filed Mar. 4, 1907. Serial No. 360,564.



1. In a concentrator, the combination with a bed plate, a frame mounted on said bed plate, boxes secured at predetermined parts of said frame, said boxes being provided with a wedge receiving recess extending transversely through them, and with a vertical recess intersecting said wedge recess, a wedge in said recess provided with a threaded stem at its small end adapted to extend through the wedge recess of said foot box, a clamping nut threaded to the stem of said wedge and arranged to bear against said foot box, a vertical sliding block on said vertical recess provided with a pivotal center recess at its top end adapted to rest on said wedge, vertical rods provided with pointed ends supported at their lower ends in the pivotal recesses of the vertically sliding blocks of said foot blocks, a concentrating table supported by said rods and wedge blocks, a vertical shaft secured at one end to the discharge end of said table, a stud secured to said bed plate provided with a tapering point pivotally journaled in the lower end of said shaft, a socket plate secured to the under side of said table's supporting frame and provided with a pivotal recess adapted to journal the opposite or upper end of said table's vertical shaft, and means for oscillating said table on said vertical rods and said vertically journaled shaft.

2. A concentrator, comprising a table provided with an unriffled ore treating surface at one end, and a riffled surface at its opposite end, said riffles being positioned on the surface of the table at short distances apart and arranged to extend in radiating lines from a common central point

outside of the surface of the table, said riffles being arranged to extend transversely across the discharge end of the table and extending towards the head end of the table at equal distances apart in progressively increasing oblique planes to the transverse plane and also to the longitudinal plane of the table, each alternate riffle being arranged to extend across said table, and each intermediate riffle being arranged to extend across the greater portion of the width of said table.

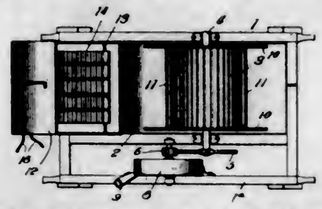
3. In a concentrator, the combination of a table having a bed plate, tracks secured to the top of said bed plate, wedges mounted on said tracks, having their top edges formed into guideways, a concentrating table supporting frame pivotally journaled at one end to said bed frame, brackets on said table supporting frame having slideways adapted to fit on the guideways of said wedges, means including a rack and pinion for moving said wedges to raise or lower the free end of said table supporting frame, a concentrating table pivotally mounted on said table supporting frame, a journal box or sleeve secured at the tailings end of said table, a vertical shaft journaled in said sleeve and secured to the supporting frame of said table, a pivotal stud pin secured to the adjacent end of said frame, a plate secured to the under side of said table supporting frame provided with a centering recess adapted to fit pivotally on said stud pin and permit said table to oscillate in a transverse horizontal plane, and an operative differential reciprocating means attached to the opposite end portion of said table from its pivotal journal adapted to impart a transverse oscillating movement to said table.

4. In a concentrator, the combination with the base plate, provided at one end with a vertically arranged pivotally pointed stud-pin, of a concentrating table having an extension beyond its tailings discharge end, a shaft secured in a vertical position in said extension, having a centering recess in its lower end fitting on the pivotal point stud-pin of said base block, and arranged to pivotally journal the tailings discharge end of said table on said base frame in such a manner as to permit said table to be oscillated transversely to its length, means for adjustably inclining said concentrator from its feed end downwardly to its tailings discharging end, said concentrating table being provided with an unriffled surface at its head end and a plurality of riffles at its central and discharge end portions, said riffles being arranged to extend in radially converging lines across said table from its feed side towards a common central point outside of said table, and a suitable operative reciprocative quick return movement power driving mechanism operatively attached to the free end of said table and arranged and adapted to reciprocally oscillate said table on its vertical pivotal bearing in a horizontal plane.

5. In a concentrator, the combination of a table having a square and rectangular head end portion, a straight ore pulp feed side and head end portion for a short distance of its length, an inclined converging feed side for the remainder of its length to its discharge end, a concentrates discharge side parallel to the head end feed side of said table and a tailings discharge end parallel with the head end of said table, with an ore pulp feeding hopper at the head end portion of said table, means for flowing a supply of clear water onto said table, an unriffled portion at and adjacent to the head end portion of said table, and a riffled portion at and adjacent to the tailings discharge end of said table, comprising a plurality of radially converging riffles arranged obliquely across said table, different reciprocating means for imparting oscillating movement to said table, and means for adjustably inclining said table from its head or feed end downward to its tailings discharge end.

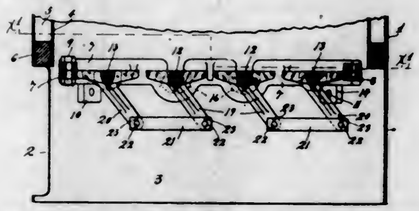
6. A concentrator comprising a table provided with an unriffled surface at its feed end portion, and a riffled surface at its discharge end portion, said riffles radiating from central point to one side of the discharge end of the table, and extending in radial lines in progressive order from transversely across said table at its discharge end in slightly increasingly oblique lines towards the head end of said table, to the opposite side of the table, each alternate riffle terminating short of the discharge edge of the table, and said terminal ends collectively forming a concentrating curve relative to the center point from which said riffles radiate, and means including pivotal supports and a differential reciprocal driving mechanism for imparting a transverse horizontal oscillating movement to said table.

868,831. WASHING-MACHINE. IRVING L. ANDERSON, Edmonds, Wash. Filed Feb. 18, 1907. Serial No. 358,070.



A washing machine, comprising a trough, a drum mounted to rotate in said trough, means for rotating said drum, a lid for the trough, two series of rubbers pivotally mounted in the lid, the rubbers of each series extending towards the rubbers of the other series and the rubbers of each series being arranged side by side, each rubber being provided at its free end with a loop, and independent cords, one of which is passed through the loops of one series of rubbers and the other passed through the loops of the other series of rubbers, as and for the purpose set forth.

868,832. ROCKING GRATE. GEORGE C. ANDREWS, Minneapolis, Minn. Filed Mar. 22, 1906. Serial No. 307,374.



1. The combination with a boiler having an approximately cylindrical fire box, of a sectional circumferentially expansible grate supporting ring, legs or spacing projections connecting the sections of said ring to the said boiler, of a plurality of toothed grate bars mounted on and supported by said supporting ring, substantially as described.

2. The combination with a cylindrical boiler, of a sectional grate supporting ring 7 having supporting feet 10 and overlapped ends formed with slots 8, nutted bolts working through said slots 8 for clamping the overlapped ends of said grate sections together, and a plurality of toothed grate sections 12 and 13 detachably mounted on and supported by said supporting ring 7, substantially as described.

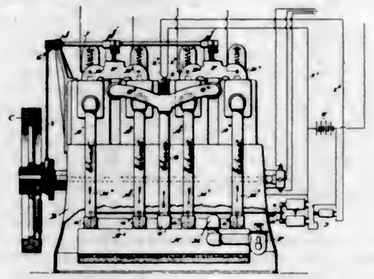
868,833. YIELDING CHECKREIN DEVICE. WILLIAM J. ARMSTRONG, Paterson, N. J. Filed July 19, 1907. Serial No. 384,571.

In a checking device for horses, the combination of a frame having a rectangular opening therein, a split winding-axle mounted in the sides of said frame, provided with a slot in the head or closed end thereof, a transverse opening through the other end thereof to receive a securing screw-pin for locking said axle against rotation, with a spring-actuated drum mounted to turn on said winding-axle within the rectangular opening in the frame, a removable cover for said drum, a spring inclosed in said drum and coiled about said winding-axle, the inner end of the spring constructed to enter and engage the split axle, the outer end of the spring being hooked over the slotted portion of the drum, and a strap and hook secured



to the outer end of said spring within the drum, substantially as set forth.

868,834. EXPLOSIVE-ENGINE. WILLIAM K. BASSFORD, Perth Amboy, N. J., assignor to Vapor Gas Engine Manufacturing Company, Perth Amboy, N. J., a Corporation of New Jersey. Filed Jan. 22, 1906. Serial No. 297,339.



1. In a gas engine, the combination with a cylinder, a supply and exhaust, of means for heating the supply by the exhaust, and automatic means controlled by the temperature of the supply adjacent the point of its admission to the engine for governing the heat of the supply.

2. In a gas engine, the combination with a cylinder a supply and exhaust, of means for heating the supply by the exhaust, and electrical means controlled by the temperature of the supply adjacent the point of its admission to the engine for governing the heat of the supply.

3. In a gas engine, the combination with a cylinder supply and exhaust pipes leading therefrom, a mixing chamber with which said supply pipe communicates, a heating passage for said mixing chamber communicating with said exhaust pipe, and automatic means controlled by the temperature of the supply adjacent the point of its admission to the engine for shunting the exhaust from the heating passage of the mixing chamber.

4. In a gas engine the combination with a plurality of sets of cylinders, a mixing chamber, a heating passage therefor communicating with the exhausts of said cylinders, a supply pipe common to all the cylinders extending from said mixing chamber, and branches of relatively uniform length extending from said supply pipe to each cylinder, and means controlled by the temperature of the supply in said common supply pipe for shunting the exhaust from the heating passage of the mixing chamber.

5. In a gas engine, the combination with the cylinders of a mixing chamber having a passage therein communicating with the exhaust of the cylinders, a passage within said first mentioned passage communicating with the supply of the cylinders, a series of valves governing the exhaust and means for regulating the valves controlled by the temperature of the supply intermediate the mixing chamber and cylinder.

6. In a gas engine, the combination with the cylinders of a mixing chamber having a passage therein communicating with the exhaust of the cylinders, a passage within said first mentioned passage communicating with the supply of the cylinders, a series of valves governing the exhaust of the cylinders, and means for regulating said valves including a thermostat governed by the temperature of the supply intermediate the mixing chamber and cylinder.

7. In a gas engine the combination with the cylinder, a supply and exhaust, of a mixing chamber having separated passages into which the supply and the exhaust lead respectively, and means governed by the temperature of the supply intermediate the mixing chamber and cylinder for controlling the temperature of the mixing chamber.

8. In a gas engine, the combination with the engine and its supply and exhaust, of a rectangular box-like structure provided with a plurality of partition plates therein extending from the top to the bottom thereof and dividing the same into a plurality of tortuous contiguous passages respectively for the gas and heated exhaust, the gas passages being bounded on two sides by the exhaust passages.

9. In a gas engine, the combination with a cylinder, a supply pipe leading thereto, and an exhaust pipe leading therefrom, a mixing chamber, a passage in said mixing chamber communicating with the supply pipe, and independent passages at each side of said first mentioned passage communicating with the exhaust pipe, and means for shunting the exhaust from the mixing chamber.

10. In a gas engine, the combination with a cylinder, a supply pipe leading therefrom, a mixing chamber, a passage in said mixing chamber communicating with the supply pipe, independent passages at each side of said first mentioned passage communicating with the exhaust pipe, and means for automatically shunting the exhaust from the mixing chamber.

11. In a gas engine, the combination with a cylinder, a supply pipe, a mixing chamber, a passage for the supply therein communicating with the engine supply pipe, independent exhaust passages within the mixing chamber on each side of said supply passage, and an exhaust pipe provided with two pairs of ports communicating at different points with said exhaust passages.

12. In a gas engine, the combination with a cylinder, a supply pipe, a mixing chamber, a passage for the supply therein communicating with the engine supply pipe, independent exhaust passages within the mixing chamber on each side of said supply passage, an exhaust pipe provided with two pairs of ports communicating at different points with said exhaust passages, a valve in said exhaust pipe between said pairs of ports, and means for automatically actuating said valve to shunt the exhaust from the mixing chamber.

13. In a gas engine, the combination with a cylinder, a supply pipe, a mixing chamber, a passage for the supply therein communicating with the engine supply pipe, independent exhaust passages within the mixing chamber on each side of said supply passage, an exhaust pipe provided with two pairs of ports communicating at different points with said exhaust passage, a valve in said exhaust pipe between said pairs of ports, and means for automatically actuating said valve to shunt the exhaust from the mixing chamber.

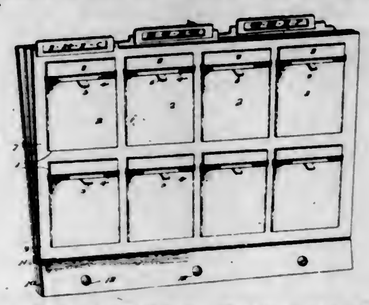
14. In a multiple cylinder gas engine, the combination with the cylinders, a supply pipe therefor, a mixing chamber, a passage for the supply in the mixing chamber communicating with the engine supply pipe, an exhaust passage within the mixing chamber contiguous to said supply passage, branch exhaust pipes leading from the engine cylinders and terminating in a common exhaust pipe, said branch exhaust pipes and said common exhaust pipe being provided with ports establishing communication with opposite portions of the exhaust passages in the mixing chamber, and valves in the branch exhaust pipes beyond the ports therein.

868,835. FILING SYSTEM. JOHN A. BEXELL, Logan, Utah. Filed May 7, 1907. Serial No. 372,349.

1. A device of the character described, consisting of a sheet or leaf, and a filing card or pocket, embodying face and back portions secured together, at their edges, the back portion adhering to the said sheet at its middle portion only, the side portions of said back being free from adjustment to the sheet.

2. A device of the character described, consisting of a

sheet, and a filing pocket, said filing pocket embodying a transparent face portion and a resilient back portion secured together along their edges, the back portion being secured, throughout its length at its middle portion only to the sheet, the side portions of the back being free from adjustment to the sheet, whereby the pocket may be opened by springing the side portions forward without flexing the sheet.



3. A device of the character described, consisting of a filing card, embodying a transparent face portion and a back portion secured together at their edges, and a reinforce strip extending across the upper edge of the transparent face, said strip being formed with a tab, as and for the purpose set forth.

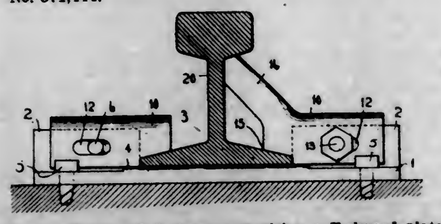
4. A filing card of the character described, consisting of front and back portions, secured together at their edges, a sheet to which the back portion is secured at its middle only and a transversely extending spring member secured to said back and tending to restore the same to a flat condition.

5. A device of the character described, consisting of a sheet and a series of filing pockets on said sheet, each filing pocket embodying a transparent face portion, and a resilient back portion, the face portions of two adjacent pockets overlapping.

6. A device of the character described, consisting of a sheet and a series of filing pockets mounted therein, said filing pockets embodying transparent face portions secured to the sheet, the face portion of two adjacent pockets overlapping at their bottom and top edges, respectively, and the resilient back portion being common to the transparent face portions of both pockets.

7. A device of the character described, consisting of a series of transparent face filing pockets, and a series of leaves in book form to which said pockets are secured, said leaves being provided at one edge with inner and outer binding strips and with corner reinforces and interposed between the inner and outer binding strips, and fastening devices inserted through the binding strips and reinforces.

868,836. RAILWAY-RAIL FASTENER. GEORGE E. BLAINE, Indianapolis, Ind. Filed May 2, 1907. Serial No. 371,444.



1. A railway rail fastener comprising a T-shaped plate having the upwardly-extending stem thereof cut out to form a rail-receiving recess, and laterally movable means carried by said stem for engaging the rail and locking it to the plate.

2. A railway rail fastener comprising a T-shaped plate having the upwardly-projecting stem thereof cut out to form a rail-receiving recess, and a laterally-movable member for engaging the rail, and means for locking said member to the plate.

3. A railway rail fastener comprising a T-shaped plate having the upwardly-projecting stem thereof cut out to form a rail-receiving recess, a laterally-movable, rail-engaging member mounted to slide on said stem, and means for locking said member to said stem.

4. A railway rail fastener comprising a T-shaped plate adapted to be secured to the ties and having the upwardly projecting stem thereof cut out to form a rail-receiving recess and provided with corrugations extending transversely thereof between the spaced members of the stem on opposite sides thereof, and means connected with said plate for securing a rail thereto.

5. A railway rail fastener comprising a T-shaped plate having the upwardly-projecting stem thereof cut out to form a rail-receiving recess, a laterally-slidable hood mounted on said stem and having means for engaging a rail, and means for moving said hood inwardly.

6. A railway rail fastener comprising a T-shaped plate having the upwardly-projecting stem thereof cut out to form a rail-receiving recess and an approximately U-shaped hood sliding on said stem, and means for moving said hood inward and locking it in adjusted position.

7. A railway rail fastener comprising a T-shaped plate having the upwardly-projecting stem thereof cut out to form a rail-receiving recess and an approximately U-shaped hood sliding on said stem, means for moving said hood inward and locking it in adjusted position, and an upwardly-inclined arm extending from the inner end of said hood and adapted to engage a rail and form a brace therefor.

868,837. NITRO-STARCH EXPLOSIVE. JESSE B. BRAUNSTEIN, Allentown, Pa. Filed July 18, 1907. Serial No. 384,305.

1. An explosive consisting of an intimate mixture of substantially from 30 to 70 per cent. of nitro-starch, and substantially 70 to 30 per cent. of an added material comprising finely divided iron and a solid inorganic nitrate, said nitrate constituting by weight substantially from 5 to 20 per cent. of the added material.

2. An explosive consisting of an intimate mixture of substantially from 30 to 70 per cent. of nitro-starch, and substantially 70 to 30 per cent. of an added material comprising iron filings and a solid inorganic nitrate, said nitrate constituting by weight substantially 5 to 20 per cent. of the added material.

3. An explosive consisting of an intimate mixture of substantially from 30 to 70 per cent. of nitro-starch, and substantially 70 to 30 per cent. of an added material, comprising finely divided iron, and ammonium nitrate, said ammonium nitrate constituting by weight substantially from 5 to 20 per cent. of the added material.

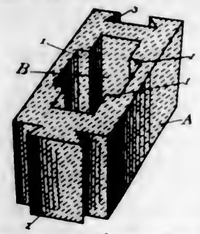
4. An explosive consisting of an intimate mixture of substantially from 30 to 70 per cent. of nitro-starch, and substantially 70 to 30 per cent. of an added material comprising iron filings, and ammonium nitrate, said ammonium nitrate constituting by weight substantially 5 to 20 per cent. of the added material.

868,838. CONCRETE BUILDING-BLOCK. HENRY S. BREWINGTON, Baltimore, Md. Filed Dec. 28, 1906. Serial No. 349,797.

1. The combination of a hollow concrete building block, comprising a Maltese cross-arm shaped extension on one end thereof and a similar shaped groove in the opposite end, of transverse cross bars on the bottom side of the said block near each respective end portion, and adapted to fit into the hollow portions of two adjacent blocks when placed on top thereof, thereby relieving the strain on the locking device on the ends of the two said under blocks, substantially as described.

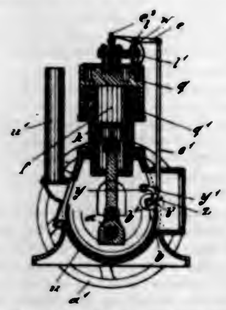
2. The combination of a hollow concrete building block comprising a Maltese cross-arm shaped extension on one

end thereof, and a similar shaped groove in the opposite end, of four abutting corner walls formed within the hollow portion, transverse cross bars molded on the bottom side of the said block near each respective end portion thereof, and adapted to fit into the hollow portions of two adjacent blocks flush against the abutting walls formed within each of the two said blocks when one block is placed on top of the two said blocks, thereby relieving the strain on the locking device on the ends of the under blocks, substantially as described.



3. The combination of a hollow concrete building block comprising a Maltese cross-arm shaped extension on one end thereof, and a similar groove formed in the opposite end, of four abutting corner walls formed within the hollow portion, transverse cross bars molded on the bottom side of the said block near the respective end portions thereof, the said transverse cross bars of one block adapted to fit into the hollow portions of two similar blocks flush against the abutting walls thereof when one block is fitted on top of two adjacent blocks, the ends of which having been secured together by the said extension and groove on the respective ends thereof, thereby relieving the strain on the locking device on the said ends, the abutting walls forming an air chamber sufficient to afford circulation, substantially as described.

868,839. HYDROCARBON-ENGINE. JAN BRONS and NANNO TIMMER, near Delfzyl, Netherlands. Filed July 1, 1904. Serial No. 214,927.



1. In a four stroke cycle hydrocarbon-engine, the combination with a spring-pressed inlet-valve for liquid combustible, of a shallow box beneath and surrounding said spring-pressed inlet-valve within the cylinder and provided along its periphery with a plurality of holes at a small height above its bottom, it being adapted to contain up to its holes the quantity of liquid combustible required for a cycle.

2. In a four stroke cycle hydrocarbon-engine, the combination with a spring-pressed inlet-valve for liquid combustible, of a space above said spring-pressed inlet-valve, a channel adapted to conduct the liquid combustible to said space, means controlled from the crank shaft for periodically opening said spring-pressed inlet-valve, and a shallow box beneath and surrounding said spring-pressed inlet-valve within the cylinder and provided along its periphery with a plurality of holes at a small height above its bottom, it being adapted to contain up to its holes the quantity of liquid combustible required for a cycle.

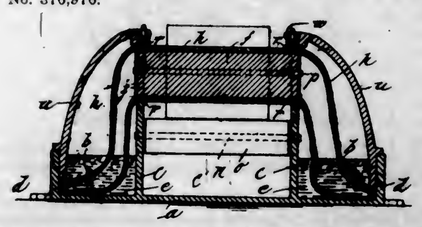
3. In a four stroke cycle hydrocarbon-engine, the combination with a cylinder, of an inlet-valve adapted to admit air into said cylinder, a spring-pressed inlet-valve adapted to admit liquid combustible to said cylinder, an outlet-valve adapted for allowing the spent gases to escape from said cylinder, means for periodically opening said inlet-valve, said spring-pressed inlet-valve and said outlet-valve, a shallow box beneath and surrounding said spring-pressed inlet-valve within said cylinder and provided along its periphery with a plurality of holes at a small height above its bottom, said shallow box being adapted to contain up to its holes the quantity of liquid combustible required for a cycle.

4. In a four stroke cycle hydrocarbon-engine, the combination with a cylinder, of a spring-pressed inlet-valve for liquid combustible, and a shallow box beneath and surrounding said spring-pressed inlet-valve within said cylinder and provided along its periphery with a plurality of holes at a small height above its bottom, said shallow box being adapted to contain up to its holes the quantity of liquid combustible required for a cycle.

5. In a four stroke cycle hydrocarbon-engine, the combination with a cylinder, of a spring-pressed inlet-valve for liquid combustible, a space above said spring-pressed inlet-valve, a channel adapted to conduct the liquid combustible to said space, means controlled from the crank shaft for periodically opening said spring-pressed inlet-valve, and a shallow box beneath and surrounding said spring-pressed inlet-valve within said cylinder and provided along its periphery with a plurality of holes at a small height above its bottom, said shallow box being adapted to contain up to its holes the quantity of liquid combustible required for a cycle.

6. In a four stroke cycle hydrocarbon-engine, the combination with a cylinder, of an inlet-valve adapted to admit air into said cylinder, a spring-pressed inlet-valve adapted to admit liquid combustible to said cylinder, an outlet-valve adapted for allowing the spent gases to escape from said cylinder, means for periodically opening said inlet-valve, said spring-pressed inlet-valve and said outlet-valve, a shallow box beneath and surrounding said spring-pressed inlet-valve within said cylinder and provided along its periphery with a plurality of holes at a small height above its bottom, said shallow box being adapted to contain up to its holes the quantity of liquid combustible required for a cycle.

868,840. STRIP-MOISTENING DEVICE. MICHAEL C. BROWNE, Holyoke, Mass. Filed June 3, 1907. Serial No. 376,970.



1. A gummed strip moistening device having in combination a base-piece, liquid containing receptacles mounted thereon, rollers, absorbent material incasing the rollers and having pendent ends submerged in the liquid contained in said receptacle, whereby when a strip is passed under one roller and over the other it will be moistened on its opposite faces.

2. In a strip moistening device, in combination, a base-piece, liquid-containing receptacles spaced from each other, rollers spanning the space, moisture absorbent materials carried by the rollers and having a portion thereof immersed in the liquid whereby a strip may be simultaneously moistened on its opposite sides.

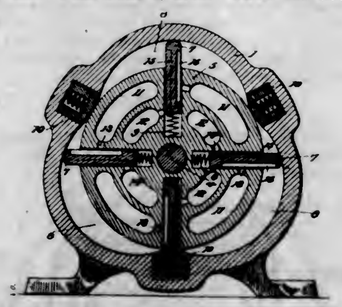
3. A strip-moistening device having in combination a pair of rollers, a moisture absorbent material incasing the same and having pendent ends entering the moistening fluid, means for rotatably supporting the rollers, the rollers being arranged in parallelism, means for adjustably supporting a coiled strip of material gummed on both sides, the strip being passed under one roller and over the other roller and in contact with the absorbent material, whereby both sides of the strip are simultaneously moistened, as described.

4. A gummed strip moistening device having in combination a base-piece, liquid receptacles located at opposite ends of the same, one of the sides of the receptacles having openings at their upper ends, rollers mounted in the openings, absorbent material incasing the rollers and having pendent ends entering the liquid, means for rotatably supporting a continuous strip, whereby when the strip is drawn through the device the same is moistened on opposite faces, as described.

5. A gummed strip moistening device having in combination a base-piece, liquid receptacles located at opposite ends of the same, one of the sides of the receptacles having openings at their upper ends, rollers mounted in the openings, absorbent material incasing the rollers and having pendent ends entering the liquid, means for rotatably supporting a continuous strip whereby when the strip is drawn through the device the same is moistened on opposite faces, and means for varying the angular position of the strip with relation to one of the rollers, as described.

6. A gummed strip moistening device having in combination a base-piece, liquid receptacles located at opposite ends of the same, one of the sides of the receptacles having openings at their upper ends, rollers mounted in the openings, absorbent material incasing the rollers and having pendent ends submerged in liquid, means for rotatably supporting a continuous strip whereby when the strip is drawn through the device, the same is moistened on opposite faces, and means for locking the rollers against rotation, as described.

868,841. ROTARY ENGINE. HOMER H. CALKINS, Bloomfield, Ind. Filed June 3, 1907. Serial No. 377,021.



1. A rotary engine comprising a sliding piston serving as a means for delivering the live steam and exhausting the dead steam.

2. A rotary engine comprising a sliding piston provided with passages for delivering the live steam and exhausting the dead steam.

3. A rotary engine comprising a shell, a drum mounted within the shell and provided with inlet and exhaust recesses, a movable piston carried by the drum and provided with passages communicating respectively with the said recesses.

4. A rotary engine comprising a shell, a drum mounted within the shell, a plurality of sliding pistons carried by the drum, the said drum being provided intermediate of each pair of adjacent pistons with an exhaust recess and an inlet recess and the pistons being provided upon opposite sides with passages one of which communicates with the exhaust recess upon one side thereof while the opposite passage communicates with the inlet recess upon the opposite side, and means for regulating the delivery of steam to the engine.

5. A rotary engine comprising a shell having a plurality of chambers formed in the periphery thereof, a drum rotatably mounted within the shell, spring pressed partitions carried by the shell intermediate of the chambers, sliding pistons mounted upon the drum, the said drum being provided with a set of inlet recesses and a set of exhaust recesses and the pistons being provided upon one side with a passage designed to communicate with the inlet recess, and means for regulating the delivery of steam to the engine.

6. A rotary engine comprising a shell, a drum mounted within the shell and provided with recesses spaced radially from each other, a reversible valve for delivering live steam to one of the recesses and carrying away exhaust from the opposite recess, movable pistons carried by the drum, and means for utilizing live steam from either of the recesses in connection with the pistons and delivering the dead steam to the opposite recess.

7. A rotary engine comprising a shell, a drum mounted within the shell, pistons carried by the drum, a valve casing applied to the shell, the drum being provided with recesses spaced radially from each other and the valve casing being provided with corresponding openings, a valve mounted within the casing for throwing either set of openings into communication with the exhaust and the opposite set of openings into communication with the steam inlet, and means for utilizing the live steam within either of the recesses in connection with the pistons.

8. A rotary engine comprising a shell, a rotary drum mounted within the shell, pistons carried by the drum, a valve casing applied to the shell, the said drum being formed with two sets of recesses and the valve casing with two sets of corresponding openings, a rotary valve member mounted within the valve casing and provided with means for throwing either set of openings into communication with the exhaust and the opposite set into communication with the steam inlet, and means for utilizing the steam within either set of recesses in the drum in connection with the pistons.

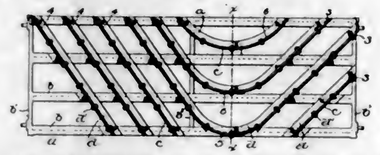
9. A rotary engine comprising a shell, a drum rotatably mounted within the shell, pistons carried by the drum, a valve casing applied to the shell, the said drum being provided with two sets of recesses and the valve casing with two sets of corresponding openings, means for utilizing the steam from either set of recesses in connection with the pistons, and a rotary valve member mounted within the valve casing and provided with openings communicating with the steam inlet and depressions communicating with the exhaust, the said valve member being designed to be moved to throw the openings therein into registry with either set of the before mentioned openings in the valve casing and the remaining set into registry with the depressions.

10. A rotary engine comprising a revoluble drum provided with an inlet recess and an exhaust recess, a sliding piston mounted upon the drum and provided upon opposite sides with passages communicating respectively with the inlet recess and the exhaust recess, and means for regulating the delivery of steam to the inlet recess and the exhaust of the steam from the exhaust recess.

11. A rotary engine comprising a shell, a drum mounted within the shell, a valve casing applied to the shell and formed in two sections, one of the sections being formed with two sets of openings and also with an exhaust chamber provided with a slot for each set of openings, means for utilizing live steam from either set of openings to drive the drum, and a rotary valve member mounted within the valve casing and provided with openings and depressions operating to throw either set of openings in the valve casing into communication with the steam inlet and the opposite set into communication with the before mentioned exhaust chamber.

12. A rotary engine comprising a shell, a drum mounted within the shell, a valve casing applied to the shell and formed in two sections, one of said sections being provided with two sets of openings and also with an exhaust chamber provided with a slot for each set of openings, and a rotary valve member mounted within the valve casing and provided with alternate openings and depressions, the said depressions being designed to establish communication between either set of openings and the exhaust chamber and the openings in the valve member communicating with the opposite set of openings in the valve casing.

868,842. LEATHER-WORKING MACHINE. ELMER E. CHAIN, Winthrop, Mass., assignor to The Turner Tanning Machinery Company, South Boston, Mass., a Corporation of Maine. Filed Dec. 12, 1904. Serial No. 236,429.

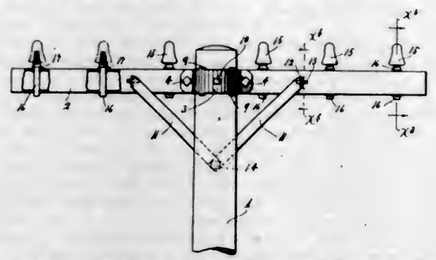


1. The hereindescribed instrumentality for leather-working machines comprising a substantially flat support, blades thereon in V-formation, the blades on one end of the support being at a more acute angle to a line perpendicular to the median line of said support than the blades on the other end thereof.

2. The hereindescribed instrumentality for leather-working machines comprising a substantially flat support, V-formation with their apexes in a line nearer one end of the support than the other, the blades on one side of said line being at an acute angle to said line greater than an angle formed by the other blades.

3. The hereindescribed instrumentality for leather-working machines comprising a substantially rigid flat support, blades rigidly secured to said support in V-formation, some of the blades on one end of the said support being connected to corresponding blades on the other by curved portions integral therewith, and others being straight substantially as set forth.

868,843. METALLIC CROSS-ARM FOR TELEGRAPH OR TELEPHONE POLES. WELLINGTON S. CLAY, Hutchinson, Minn. Filed Sept. 7, 1906. Serial No. 333,602.



1. The combination with a metallic cross arm for a telegraph or telephone pole, of means for detachably securing said cross arm to the pole, and bracing arms having parts that interlock with said cross arm at their upper ends by angular movement, and securable to the pole at their lower ends, substantially as described.

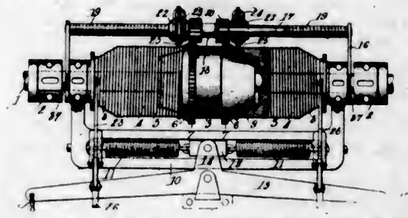
2. The combination with a channel shaped metallic cross arm for a telegraph or telephone pole, of a clamping yoke extending half way around said pole and having approximately parallel end extensions with out turned extremities, and nutted clamping bolts passed through the out turned extremities of said clamping yoke and through the vertical web of said cross arm, substantially as described.

3. The combination with a channel shaped metallic cross arm for a telegraph or telephone pole, the same having slots 13 in its vertical web, of a clamping yoke, nutted bolts passed through the ends of said clamping yoke and through the vertical web of said cross arm, and bracing arms 11, having at their upper ends laterally projecting heads 12, arranged to be interlocked with said slots 13 by angular movements of said arms 11, substantially as described.

4. The combination with a channel shaped metallic cross arm for a telegraph or telephone pole, the same having a barb projecting from the back of its web and engageable with the pole, a clamping yoke having barbs engageable with the pole, and nutted bolts passed through the ends of said clamping yoke and through the vertical web of said cross arm, substantially as described.

5. A channel shaped metallic cross arm for a telegraph or telephone pole, provided with vertically alined pin seats 17, formed with inwardly projecting barbs for engaging and holding the pins, substantially as described.

868,844. HOIST. CHARLES O. CONNER, Heppner, Oreg. Filed Mar. 5, 1907. Serial No. 360,630.



1. A hoist comprising a continuously rotating shaft having a clutch member fixed thereto, a drum mounted upon the shaft and adapted to move longitudinally to engage said clutch member, means for moving said drum, a catch mechanism for holding the drum in contact with the clutch, a tackle winding upon the drum and a catch releasing mechanism carried by the drum and operated by the tackle.

2. A hoist comprising a continuously rotating shaft, a clutch member fixed thereto, a drum journaled upon the shaft and adapted to engage said clutch member, means for moving the drum longitudinally, a catch mechanism for holding the drum in engagement with the clutch member, a tackle winding upon the drum, a tackle guide moving longitudinally of the drum and operated by the same, a latch releasing means carried by the drum and adapted to be operated by the tackle.

3. A hoist comprising a continuously rotating shaft, a clutch member fixed thereto, a drum journaled upon the shaft and adapted to move longitudinally thereof, means for moving said drum into engagement with the clutch member, said drum having its periphery provided with a spiral groove, a catch mechanism for holding the drum in contact with the clutch member, means carried by the drum for releasing said catch mechanism, a tackle arranged to wind upon the drum, a tackle guide arranged to move longitudinally of the drum and operated by the same, said tackle operating said catch releasing mechanism.

4. A hoist comprising a continuously rotating shaft, a clutch member located thereon, a drum journaled upon the shaft adapted to move longitudinally thereon, means for moving said drum into engagement with the clutch member, a catch mechanism for holding the drum in engagement with the clutch member, a catch releasing mechanism carried by the drum, a tackle arranged to wind upon the drum and operate the catch releasing mechanism, a sleeve journaled for rotation adjacent the drum and being externally threaded, a collar threaded upon said sleeve, a pulley journaled upon said collar, said tackle passing over said pulley, said sleeve being operatively connected with the drum.

5. A hoist comprising a continuously rotating shaft, a clutch member located thereon, a drum journaled upon the

shaft and adapted to move longitudinally thereof, means for moving said drum longitudinally, a catch mechanism for holding said drum in engagement with the clutch member, a catch releasing means carried by the drum, said drum having a flange provided with gear teeth, a rod mounted adjacent the drum, a sleeve journaled upon said rod, a pinion fixed to said sleeve and meshing with the gear teeth of the flange, said sleeve having an external thread, a collar internally threaded and mounted upon said sleeve, a pulley journaled upon the collar and a tackle arranged to wind upon the drum and passing over said pulley and adapted to operate the catch releasing means.

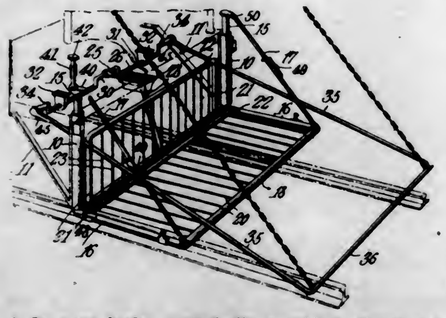
6. A hoist comprising a continuously rotating shaft, a clutch member located thereon, a drum journaled thereon and adapted to move longitudinally thereof, a tackle arranged to wind upon the drum, a frame engaging the shaft at the end of the drum, coil springs attached to said frame, a block connected to the inner ends of said coil springs and a lever for shifting said block.

7. A hoist comprising a continuously rotating shaft, a clutch member located thereon, a drum journaled upon the shaft and adapted to move longitudinally thereof, a tackle arranged to wind upon the drum, a frame attached to the shaft at the end of the drum, coil springs attached to said frame, a block connecting the ends of said springs together, a lever for shifting said block and a catch mechanism adapted to engage the lever.

8. A hoist comprising a continuously rotating shaft, a clutch member located thereon, a drum journaled thereon and adapted to move longitudinally thereof, a tackle arranged to wind upon the drum, a frame attached to the shaft at the end of the drum, springs connected to said frame, a block connecting the ends of said springs together, a lever for operating the block, a catch mechanism for retaining the lever and a catch releasing means carried by the drum and adapted to be operated by the tackle.

9. A hoist comprising a continuously rotating shaft, a clutch member located thereon, a drum journaled thereon and adapted to move longitudinally thereof, a tackle arranged to wind upon the drum, means for moving the drum laterally, a catch mechanism for retaining the drum, a tackle guide supported by the tackle and being operatively connected with the catch mechanism and adapted to operate the same when the tackle becomes slack.

868,845. STREET-CAR FENDER. CHARLES O. CONNER, Heppner, Oreg. Filed Mar. 13, 1907. Serial No. 362,199.

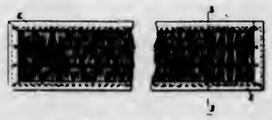


1. In a car fender, a vertically movable receiving cage or basket, vertically disposed guides therefor, said basket including a frame formed of hingedly connected members, and a pair of hinged braces to permit folding to a position flat against the front of the car, a latch bar serving as a support for the fender, a rock shaft connected to the latch bar, and a releasing bar connected to the rock shaft and extended forward of the fender for preliminary engagement with an object on the track.

2. In a car fender, a receiving cage or basket having vertically arranged side bars, tubular guides supported by the car and arranged to receive said side bars, side bar braces having enlarged heads serving by engagement with the tops of the tubes to limit downward movement of the cage or basket, a latch bar normally holding the cage or basket in elevated position, a cranked rock shaft journaled under the car and connected to the latch bar, and a U-shaped releasing bar extending forward of the fender and having its side arms connected to said rock shaft.

3. In a car fender, a pair of tubular guides arranged in front of the car platform, a basket having vertical side bars connected to said tubular guides, bracing bars connected to the side bars and having enlarged heads forming stops for limiting downward movement of the basket, a rock shaft journaled under the car and provided with cranks, a latch bar connected to one of the cranks and serving to maintain the basket in elevated position, a U-shaped releasing bar extending forward of the basket and having its side arms connected to the rock shaft, a rocker arm extending from said shaft, and a treadle bar connected to the rocker arm and extending through a guiding opening in the car platform.

868,846. LADY'S COLLAR AND CUFF. GEORGE S. COX, Fitzwatertown, Pa., assignor to said George S. Cox and Walter S. Cox, trading as George S. Cox and Brother. Filed July 6, 1906. Serial No. 324,921.



1. A collar or cuff base comprising a strip of horse hair fabric composed of strands of horse hair and yarn intersecting and interwoven with the hair strands and arranged in sets spaced apart, and a binding strip applied to the edge of the horse hair fabric.

2. A collar or cuff base comprising a strip of horse hair fabric composed of transversely extending strands of horse hair and longitudinally extending yarn intersecting and interwoven with the hair strands, and arranged in sets spaced apart, and a binding strip applied to the edge of the horse-hair fabric.

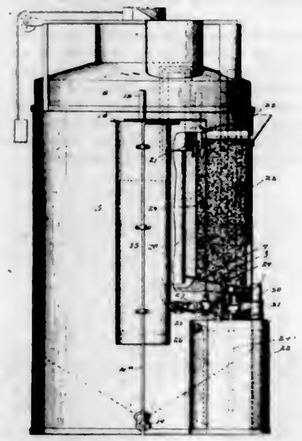
3. A collar or cuff base comprising a strip of horse hair fabric composed of transversely extending strands of horse hair and longitudinally extending yarn intersecting and interwoven with the hair strands, and arranged in sets spaced apart, and a binding strip cemented to the face and the back of the horse hair fabric along the edge thereof and overlying the two outside sets only of yarn.

4. A collar or cuff base comprising a strip of horse hair fabric composed of strands of yarn arranged in sets spaced apart and intersecting strands of horse hair arranged in sets, each set of hair strands being interlaced with sets of yarn strands so as to lie close together in one yarn set and be substantially separated in the adjacent set, and a binding strip applied to the edge of the horse hair fabric.

5. A collar or cuff base comprising a strip of horse hair fabric composed of longitudinally extending strands of yarn arranged in sets spaced apart and intersecting transversely extending strands of horse hair arranged in sets, each set of hair strands being interlaced with sets of yarn strands so as to lie close together in one yarn set and be substantially separated in the adjacent set, and a binding strip cemented to the face and back of the horse hair fabric along the edge thereof and overlying the two outside sets only of yarn strands.

868,847. GAS-GENERATOR. AUGUSTINE DAVIS, Chicago, Ill., and JAMES H. BIRCH, Elkhart, Ind. Filed June 3, 1905. Serial No. 263,617.

1. In an acetylene gas generator, the combination with a generation chamber and means for supplying water thereto, of a drainage chamber, and a combined vent and overflow pipe connecting said generation and drainage chambers, the lower end of said pipe terminating above the water level in the drainage chamber, substantially as described.



2. In an acetylene gas generator, the combination with a generation chamber and means for supplying water thereto, of a drainage chamber located exteriorly of said generation chamber, and a combined vent and overflow pipe connecting the upper portions of said generation and drainage chambers, the lower end of said pipe terminating above the water level in the drainage chamber, substantially as described.

3. In an acetylene gas generator, the combination with a generation chamber and means for supplying water thereto, of a closed drainage chamber located exteriorly of said generation chamber and provided with a water-sealed discharge pipe, a combined vent and overflow pipe connecting the upper portions of said generation and drainage chambers, and a blow-off pipe communicating with the upper portion of said drainage chamber, substantially as described.

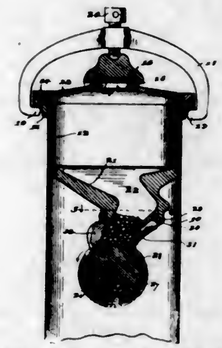
4. In an acetylene gas generator, the combination with a generation chamber having a filling tube provided with a cover, of a drainage chamber located adjacent to said generation chamber, a combined vent and overflow pipe connecting said generation and drainage chambers, and a valve in said pipe having an actuating connection to the cover of said filling tube whereby when the latter is opened said valve is opened, substantially as described.

5. In an acetylene gas generator, the combination with a generation chamber having a water-sealed filling tube provided with a cover, of a closed drainage chamber located exteriorly of said generation chamber, a water-sealed discharge pipe in said drainage chamber, a combined vent and overflow pipe connecting the upper portions of said generation and drainage chambers, a valve in said pipe having an actuating connection to the cover of said filling tube, and a blow-off pipe tapping the upper end of said drainage chamber, substantially as described.

868,848. CARBID-FEEDING DEVICE FOR ACETYLENE-GAS GENERATORS. AUGUSTINE DAVIS, Chicago, Ill., assignor to Davis Acetylene Company, Elkhart, Ind., a Corporation of South Dakota. Filed June 4, 1906. Serial No. 320,059.

1. In a device of the character described, the combination of a feeding hopper for the carbid of an acetylene gas generator, a feeding wheel co-acting with said hopper, a U-shaped connector forming an extension of said hopper pivoted to the latter and adapted to ride on the periphery of said feeding wheel, a pivoted valve disposed between the sides of said connector, and means to turn said feeding wheel, substantially as described.

2. In a device of the character described, the combination of a feeding hopper for the carbid of an acetylene gas generator, a feeding wheel having a concave periphery coacting with said hopper, a pivoted valve having its free edge shaped to conform to the concavity of said wheel, and a pivoted hopper extension to conform to the concavity of said wheel and adapted to ride thereon, substantially as described.



3. In a device of the character described, the combination of a feeding hopper for the carbid of an acetylene gas generator, a feeding wheel having a concave periphery, a U-shaped connector forming an extension of said hopper pivoted to the latter and having its lower edge conforming to the surface of said feeding wheel and adapted to ride thereon, a pivoted valve disposed between the sides of said connector having its lower edge shaped to conform to the concavity of said wheel and adapted to ride on the periphery thereof, and means to turn said feeding wheel, substantially as described.

4. In a device of the character described, the combination of a feeding hopper, and a feeding wheel the periphery whereof is formed with an intermediate concave surface and, on either side thereof, with concave surfaces of a less degree of curvature than said intermediate surface, substantially as described.

5. In a device of the character described, the combination of a feeding hopper, and a feeding wheel the periphery whereof is formed with an intermediate concave surface and, on either side thereof, with concave surfaces of a less degree of curvature than said intermediate surface, said intermediate surface being corrugated or roughened, and the outer surfaces being smooth, substantially as described.

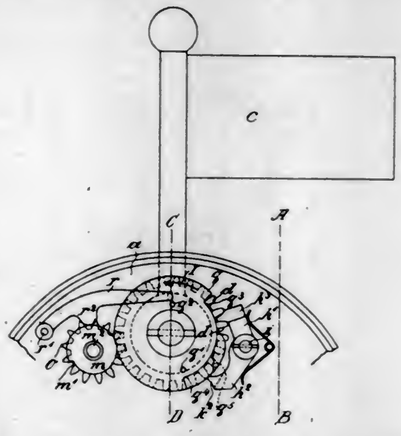
868,849. FARE-INDICATOR. HEINRICH DÜNHÖLTER, Berlin, Germany. Filed Apr. 26, 1907. Serial No. 370,398.

1. In a fare-indicator, the combination with a casing provided with a hole, of two telescoped shafts, passing through said hole in the casing, a signal carried by the one shaft and means for rendering the movement of the one shaft dependent on the movement of the second shaft, and means for operating the second shaft.

2. In a fare-indicator, the combination with a casing, of a hollow shaft or sleeve passing through an opening in the casing, a solid shaft telescopically arranged in the said sleeve, and adapted to be rotated, an indicating flag fixedly mounted on the sleeve and adapted to be turned therewith, a handle fixedly connected with the solid shaft, a ratchet wheel fixedly mounted on the sleeve, a cam-plate keyed on the solid shaft, a detent device for controlling the movement of the ratchet wheel and the indicating flag respectively, and a detent device for controlling the movement of the cam-plate.

3. In the hereindescribed combination with a casing and two telescoped shafts (*b* and *e*), a detent device for controlling the movement of the shaft (*b*), consisting of a ratchet wheel fixedly mounted on the telescopic shaft (*b*), a cam plate (*g*) keyed on the shaft (*e*) and having a de-

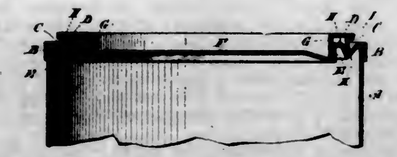
pression (g^3), a curved tongue (g^4) attached to the cam plate, a spring-pressed ratchet pawl (h') (h') having an enlarged detent tooth riding therewith, on the ratchet wheel and the cam-plate, and a spring-pressed ratchet pawl, both pawls being pivoted to the casing and the latter having two peaks or teeth riding on the cam plate and the ratchet wheel respectively.



4. In the hereindescribed combination with a casing and two telescoped shafts (b and e), a detent device for controlling the movement of the shaft (e), consisting of a cam plate (g) having a depression (g^3) and fixedly mounted on the shaft (e), two stops (g', g^2) attached to the cam plate, a curved tongue (g^4) attached to the cam plate, a detent lever (r) pivoted to the casing and cooperating with its free end with the said stops, a cam disk and a toothed wheel connected with each other and turnably carried by the casing, the cam-disk supporting the said detent lever, and a handle fixedly connected with the shaft (c).

5. In a fare indicator, the combination with a casing, of two telescoped shafts (b and e), an indicating flag (c) and a handle being secured to the shafts (b and e) respectively, a ratchet wheel and a cam plate having a depression and two stops, fixedly carried by the shafts (b and e) respectively, a curved tongue attached to the cam plate, a ratchet pawl pivoted to the casing and riding with its enlarged detent tooth on the cam plate and the ratchet wheel, a ratchet pawl pivoted to the casing and riding with its two peaks or detent teeth on the ratchet wheel and the curved tongue respectively, a detent lever pivoted to the casing and coöperating with its free end with the said stops, a cam disk and a toothed wheel fixed to each other and turnably carried by the casing, the toothed wheel engaging with the said ratchet wheel, the cam disk supporting operatively the detent lever.

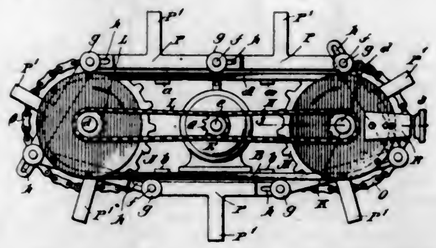
868,850. CAN-CLOSURE. EDMUND ECKART, New Rochelle, N. Y. Filed Jan. 18, 1906. Serial No. 296,600.



1. A can closure comprising a lid, a cross-section of the edge of which is shaped like an inverted U, at the outer arm of which is located a springy flange, the said U-shaped part being adapted to fit over an annular rim on the top of the can having a similar cross-section, producing thus a double annular seal with the edge only of the outer springy flange of the lid fitting against a rigid flange of the rim on the top of the can, substantially as described.

2. A can closure comprising a lid a cross-section of the edge of which is shaped like an inverted U, at the outer arm of which is located a springy flange, the said U-shaped part being adapted to fit over a similar annular rim on the top of the can so that the edge only of the springy flange of the can fits against a rigid flange on the can and the rigid flange of the cover fits against the innermost free flange of the can, substantially as described.

868,851. MACHINE FOR PROPELLING PLOWS OR OTHER AGRICULTURAL IMPLEMENTS. EMIL ERIXON, New York, N. Y. Filed Nov. 19, 1906. Serial No. 344,168.



1. A machine of the character described comprising a frame, a motor, a chain operated by said motor and provided with rollers arranged to bear upon said frame, and a plurality of foot pieces carried by said chain, said foot pieces being connected to said chain in such manner as to permit independent movement of said pieces relative to the chain.

2. A machine of the character described comprising a frame, an endless chain mounted thereon, rollers mounted on suitable axles carried by said chain, a plurality of foot pieces secured to said axles in such manner as to permit independent movement of said foot pieces relative to said chain, and means for imparting movement to said chain.

3. In a machine for propelling plows, an endless chain, and a plurality of foot pieces secured to said chain and free to move independently of the latter.

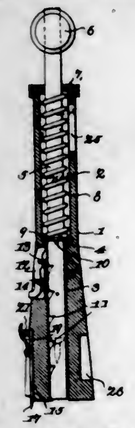
4. In a machine of the character herein set forth, the combination with the frame and a continuous traveling chain, of rollers connected with said chain, and foot pieces connected with the axles of the rollers, said foot pieces being slotted at one end to avoid cramping, substantially as and for the purposes set forth.

5. In a machine for propelling plows and other agricultural implements, the combination of a motor, a frame, a continuous chain arranged to travel around said frame, a series of foot pieces connected with said chain and means for moving the same, side plates at the ends of the frame and a yoke, said yoke being arranged to be secured to the side plates and to the implement to be propelled, substantially as and for the purposes set forth.

868,852. COMBINED CARPET-STRETCHER AND TACK-HAMMER. DARNEY L. ERVIN, Columbus, Miss. Filed Apr. 30, 1906. Serial No. 314,563.

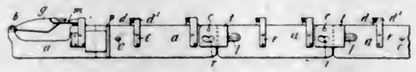
1. A tack hammer comprising a stock having spaced sockets, a longitudinally adjustable hammer bar slidably mounted within the stock, a handle projected laterally from the stock and seated in said sockets, means for forcibly projecting the bar beyond one end of the stock, and means to hold the bar at different retracted positions.

2. A tack hammer comprising a stock, a spring pressed hammer bar adjustable longitudinally of the stock, a laterally projected arched handle provided with terminal spring clips detachably embracing the stock, means to forcibly



project the bar beyond one end of the stock, and means to hold the bar at different retracted positions.

868,853. APPARATUS FOR CHARGING AND DISCHARGING GAS-RETORTS. WALTER W. FIDDES, Bristol, and JAMES G. W. ALDRIDGE, London, England. Filed Mar. 2, 1907. Serial No. 360,298.



1. In a discharging charger the combination of means for cleaning out a retort and leveling the charge therein, comprising an articulated supporting frame composed of side members having depending push plates pivotally mounted above the top of said side members, and means on said frame for engaging said plates to hold them rigid during the forward movement of the frame and permitting them to swing forward on its return movement.

2. In a discharging charger the combination of means for leveling the charge comprising a traveling supporting frame having spaced arched members extending across the top thereof, push plates hinged at their upper ends to said arched members, and means for holding said plates rigid during the forward movement of the frame and permitting them to swing forward on the backward movement thereof.

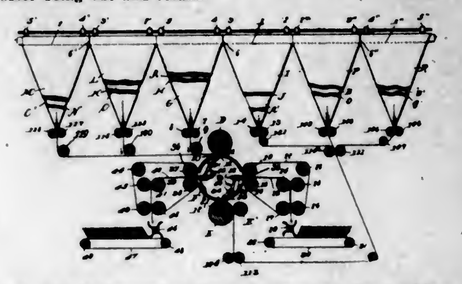
3. In a discharging charger, the combination of a supporting frame, butt-jointed projections carried thereby, push plates mounted on said frame, and means for evenly distributing the charge in the retort.

4. In a discharging charger, the combination with means for cleaning out the retort, of means for leveling the charge therein comprising an articulated supporting frame having depending push plates hinged at the upper ends thereof above the normal level of the coal, means on said frame for engaging said plates and holding them rigid during the forward movement of the frame and permitting them to swing forward on its return movement, and a reverse plow fixed on the front push plate to evenly distribute the coal.

868,854. ASSOCIATING, FOLDING, AND DELIVERING MECHANISM FOR PRINTING-MACHINES. JOSEPH L. FIRM, Berwyn, Ill., assignor to The Goss Printing Press Company, Chicago, Ill. Filed Jan. 25, 1907. Serial No. 354,101.

1. In a mechanism of the kind described, the combination with a rotary carrier, and double cutting and folding mechanisms coöperating therewith and located respectively

on opposite sides thereof and arranged to act on different webs at each half rotation of the carrier, of means to simultaneously supply webs to the carrier at opposite sides thereof, and means to deliver the product therefrom after being cut and folded.



2. In a mechanism of the kind described, the combination with a rotary carrier, and a plurality of cutting and folding mechanisms carried thereby and coöperating therewith, of means to simultaneously supply webs separately to the several cutting mechanisms, and means to deliver said webs separately as the product, after being cut and folded, from opposite sides of the carrier.

3. In a mechanism of the kind described, the combination with a rotary carrier, of means to supply a plurality of webs thereto, means on the carrier to cut said webs separately, and means to separately fold and deliver the webs so cut.

4. In a mechanism of the kind described, the combination with a rotary carrier, of means to supply a plurality of sets of associated webs thereto, and means to cut, fold and deliver each set separately the cutting and folding means being carried by the carrier.

5. The combination of a rotary carrier having a plurality of web-engaging and cutting and transverse folding mechanisms coöperating therewith, means to separately supply webs to said mechanisms respectively, and means to separately deliver the product therefrom.

6. In a mechanism of the kind described, the combination of a plurality of longitudinal folders, means to associate the webs therefrom into two sets, a rotary carrier having cutting, transverse folding and delivery mechanisms on opposite sides thereof operating simultaneously, and means to supply the sets of webs to said carrier and mechanisms respectively.

7. In a mechanism of the kind described, the combination of a plurality of longitudinal folders, a rotary carrier having cutting, transverse folding and delivery mechanisms respectively on opposite sides thereof operating simultaneously, and means to supply a web from a folder to each of said cutting, folding and delivery mechanisms.

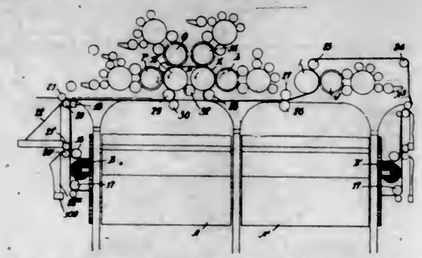
8. The combination of a rotary carrier, cylinders at opposite sides thereof, the carrier and cylinders having cooperating knives and matrices, transverse folding blades carried by the carrier, on opposite sides thereof, and delivery rollers located at both sides of the carrier and cooperating with the folding blades.

9. The combination of a rotary carrier having web-engaging and cutting devices on opposite sides thereof, transverse-folding blades carried by the carrier on opposite sides thereof and substantially midway of the circumference of the carrier between said devices, paper feeding devices at opposite sides of the carrier, and delivery devices on opposite sides of the carrier, coöperating simultaneously with said blades.

868,855. PRINTING-MACHINE. JOSEPH L. FIRM, Berwyn, Ill., assignor to The Goss Printing Press Company, Chicago, Ill. Filed Mar. 29, 1907. Serial No. 365,229.

1. In a printing machine, the combination of a web perfecting cylinder printing mechanism having a longitudinal folder opposite the ends of the cylinders, and a supplemental web perfecting cylinder printing mechanism

mounted above said mechanism, the cylinders of the respective mechanisms being at a right angle to each other, and means to associate the webs from the respective mechanisms and pass the same to the folder.



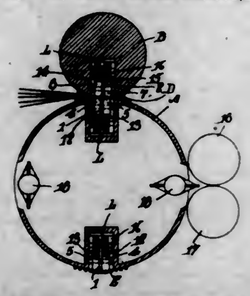
2. In a printing machine, the combination of a web perfecting cylinder printing mechanism, and a supplemental web perfecting cylinder printing mechanism mounted above said mechanism, the cylinders of the respective mechanisms being at an angle to each other, and means to associate, fold and deliver the webs from the respective mechanisms.

3. In a printing machine, the combination of a plural-web-perfecting cylinder printing mechanism, and a supplemental web-perfecting cylinder printing mechanism mounted above said mechanism, the cylinders of the respective mechanisms being at a right angle to each other, and means to associate, fold and deliver the several webs.

4. In a printing machine, the combination of a plural-web-perfecting cylinder printing mechanism, upper and lower longitudinal folders beside said mechanism, a carrier beside said folders, having transverse cutting, folding and delivering devices on opposite sides thereof, and means to optionally associate the webs from said folders and to pass the same to one side of the carrier or to pass disassociated webs to both sides of the said carrier.

5. In a printing machine, the combination of upper and lower longitudinal folders, means to optionally supply printed webs to one or both of said folders, a carrier beside said folders having double sets of transverse cutting, folding and delivery devices coöperating therewith, and means to optionally pass the webs from the said folders to one or both of said sets.

868,856. CUTTING AND FOLDING DEVICE FOR PRINTING-PRESSES. JOSEPH L. FIRM, Berwyn, Ill., assignor to The Goss Printing Press Company, Chicago, Ill. Filed Apr. 30, 1907. Serial No. 371,124.



1. The combination of coöperating rotary cylinders, knives carried by the cylinders, the cutting edges of the knives being serrated and presented toward each other when cutting, with the teeth of one knife between the teeth of the other and coacting to cut webs or sheets passed between the cylinders, and gripping blocks extending along beside the knives and having matrices therefor.

2. The combination of a rotary carrier cylinder, a cutter cylinder, coöperating therewith, each cylinder having a knife carried thereby, and a yielding gripping block opposite the knife of the other cylinder, the cutting edges of the knives being serrated and arranged to come together and slightly lap each other with the teeth of one knife between the teeth of the other as the cylinders are rotated, and to coact on webs or sheets passed between the cylinders.

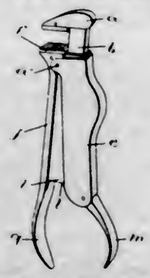
3. The combination of coöperating rotary cylinders, opposite coacting knives carried respectively by the cylinders, to cut webs or sheets passed therebetween, and yielding gripping blocks extending along beside the knives, the blocks of the opposite cylinders each having a matrix extending along beside the knife therein to receive the edge of the opposite knife.

868,857. SPECTACLES. ISAAC T. GARNER, Calera, Ala. Filed Apr. 23, 1907. Serial No. 369,745.



A device of the character described comprising a supporting bar, a nose piece arranged centrally upon said bar, bows attached to the ends of said bar, bearing lugs projecting from said bar between its ends and the nose piece and formed with alined bearing openings, one of said lugs being formed at one end with right angularly arranged grooves opening into the bearing opening in said lug, an operating rod rotatably and slidably mounted in the bearing openings in said lugs and provided with a finger piece, a locking pin projecting radially from said rod and adapted to enter either of said grooves, lenses, lens hangers fixed to said lenses and to said rod, the lens hangers for each lens being spaced apart and adapted to receive one of the bearing lugs between them and a coil spring arranged upon said rod and confined between one of said hangers and the bearing lug containing said grooves, substantially as and for the purpose set forth.

868,858. WRENCH. CHARLES L. HENDERSON, Woodstock, Ontario, Canada. Filed Dec. 5, 1906. Serial No. 346,476.



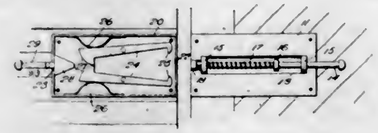
1. A wrench comprising a body bar having a slideway lengthwise therein, with an aperture in one of its walls communicating with the slideway, a stationary jaw at one end of the body bar, a hand grip at the opposite end, a resisting piece at the junction of the hand grip and body bar having a smooth inclined surface, a movable jaw, a shank for the movable jaw movable lengthwise in the slideway, detent teeth for the shank, an articulating member fulcrumed to the body bar, a detent dog carried by the articulating member and movable through the aperture in the body bar having detent teeth to engage with the detent teeth of the shank, and a hand lever fulcrumed to the free end of the articulating member, and slidably engaging with the inclined surface of the resisting piece.

2. A wrench comprising a body bar having a slideway lengthwise therein, with an aperture in one of its walls communicating with the slideway, a stationary jaw at one end of the body bar, a hand grip at the opposite end a resisting piece at the junction of the hand grip and body bar having a smooth inclined surface, a movable jaw, a shank for the movable jaw movable lengthwise in the slideway, detent teeth for the shank, an articulating member fulcrumed to the body bar, a detent dog having a series of detent teeth to engage with the detent teeth of the shank, an arm pivoted to the articulating member, and to the detent dog, and a hand lever fulcrumed to the free end of the articulating member slidably engaging with the inclined surface of the resisting piece.

3. A wrench comprising a body bar, having a slideway lengthwise therein, with an aperture in one of its walls communicating with the slideway, a stationary jaw at one end of the body bar, a hand grip at the opposite end, a resisting piece at the junction of the hand grip and body bar having a smooth inclined surface, a movable jaw a shank for the movable jaw, movable lengthwise in the slideway, detent teeth for the shank, an articulating member fulcrumed to the body bar, a detent dog, an arm pivotally connecting the detent dog with the articulating member, a spring to restore the articulating member and detent dog to their normal position when relieved of the actuating power, and a hand lever fulcrumed to the free end of the articulating member slidably engaging with the inclined surface of the resisting piece.

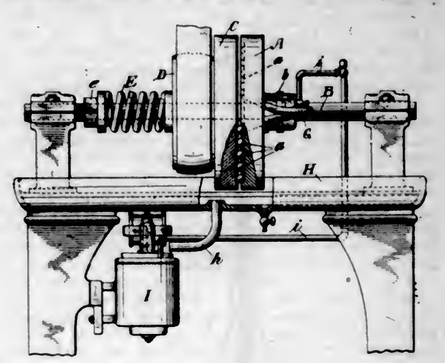
4. A wrench comprising a body bar, having a slideway lengthwise therein, with an aperture in one of its walls communicating with the slideway, a stationary jaw at one end of the body bar, a hand grip at the opposite end, a resisting piece at the junction of the hand grip and body bar having an inclined surface, a movable jaw, a shank for the movable jaw movable lengthwise in the slideway, detent teeth for the shank, an articulating member fulcrumed to the body bar, a detent dog having a series of detent teeth to engage with the detent teeth of the shank, an arm pivoted to the articulating member, and to the detent dog, a spring engaging the detent dog, and the articulating member to hold the detent dog positioned to engage with the detent teeth of the shank, a spring to restore the articulating member and detent dog to their normal position when relieved of the actuating power, and a lever fulcrumed to the articulating member and slidably engaging with the inclined surface of the resisting piece.

868,859. SLIDING-CAR-DOOR LOCK. FOYDICE C. HODGDON, Denver, Colo. Filed Jan. 9, 1907. Serial No. 351,519.



In a lock of the class described, the combination with a bolt casing, and a displaceable sliding bolt therein, having an enlarged head, of a keeper casing, pivoted levers in said keeper casing formed at one end with hooks for engagement with said enlarged head and at their other ends with cam heads, a manually operated sliding stem having a wedge-shaped head for engagement with said cam heads to spread the same apart, and a spring pressed manually displaceable pin carrying an enlarged head straddling said stem and formed to hold the same against lateral and axial displacement.

868,860. GRINDING BALLS. ERNST G. HOFFMANN, New Rochelle, N. Y. Filed May 6, 1907. Serial No. 372,078.

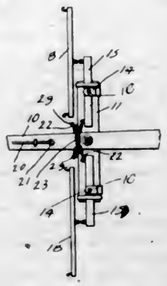


1. The improvement in the method of grinding balls which consists in grinding them between relatively rotating disks, while they travel in a path concentric with the axis of rotation one of said disks being formed of abrasive material.

2. The improvement in the method of grinding balls which consists in grinding them between relatively rotating disks, while they travel in a path concentric with the axis of rotation, one of said disks being formed of abrasive material, and in immediately removing the loose particles of abrasive material.

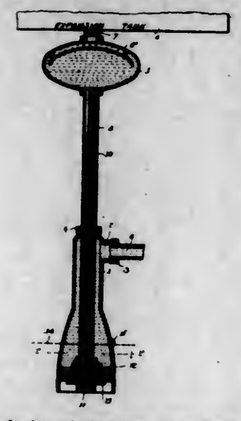
3. The improvement in the method of grinding balls which consists in grinding them between relatively rotating disks, while they travel in a series of paths each concentric with the axis of rotation one of said disks being formed of abrasive material, and in constantly washing out the loose abrasive material by means of a suitable liquid.

868,861. DRAFT-EQUALIZER. OLE HOLM, Madison, Minn. Filed Mar. 25, 1907. Serial No. 364,447.



The combination with a vehicle pole, of an equalizer beam pivoted upon the pole, equalizer bars pivoted beneath the equalizer beam, draft elements connected with the equalizer bars at their outer ends, a rod slidably mounted upon the under side of the pole, said rod being provided at its rear end with an eye, chains connected with the inner ends of the equalizer bars, hooks carried at the free ends of the chains and engageable with the eye at the end of the rod, a chain connected to the forward end of the rod, a draft element connected with the chain, and eye members secured upon the forward edge of the equalizer beam with which the hooks carried by the first mentioned chains may be engaged.

868,862. EXPANSION DEVICE FOR HOT-WATER HEATING SYSTEMS. MARK C. HONEYWELL, Wabash, Ind. Filed Feb. 21, 1906. Serial No. 302,288.



1. A relief device of the class described, comprising a mercury bath with means for admitting fluid pressure to the top of the bath, and a pair of tubes communicating at a point materially above the bath and each having an inlet at its lower end immersed in said bath but at different levels and so arranged that the fluid above the mercury will, upon depression of the mercury bath by such fluid, first enter the tube having the higher inlet, for the purpose set forth.

2. A relief device of the class described, comprising a mercury bath with means for admitting fluid pressure to the top of the bath, a pair of tubes each having an inlet at its lower end immersed in said bath but at different levels and so arranged that, upon depression of the mercury bath by such fluid, the fluid above the mercury will first enter the tube having the higher inlet, and a separating chamber forming a communication between the two tubes at a point materially above the mercury bath and adapted to receive fluid pressure.

3. A relief device of the class described, comprising a mercury bath with means for admitting fluid-pressure to the top of the bath, and a pair of tubes one within the other and having independent inlets at their lower ends immersed in said bath, one of said inlets being at a higher level than the other.

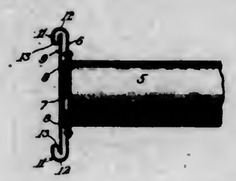
4. A relief device of the class described, comprising a mercury bath with means for admitting fluid-pressure to the top of the bath, and a pair of tubes having independent inlets at their lower ends, one higher than the other, said inlets immersed in said bath.

5. A relief device of the class described, comprising a mercury bath with means for admitting fluid-pressure to the top of the bath, and a pair of tubes having independent inlets at their lower ends one higher than the other, said inlets immersed in said bath, and a separating chamber receiving the upper ends of said tubes and forming a communication therebetween.

6. A relief device of the class described, comprising a mercury bath with means for admitting fluid-pressure to the top of the bath, a pair of tubes one within the other and having independent inlets at their lower ends immersed in said bath and one at a higher level than the other, and a separating chamber receiving the upper ends of said tubes and forming a communication therebetween.

868,863. FLUME-GATE. FRED M. HUNTOON, Riverside, Cal., assignor of three-fourths to Harry H. Hinde, Riverside, Cal. Filed May 13, 1907. Serial No. 373,237.

1. A flume gate, comprising a body portion having an aperture therein with raised edges of said body portion adapted to form a gate seat, a gate slide adapted to bear against said seat, and resilient means to hold said slide against said seat.

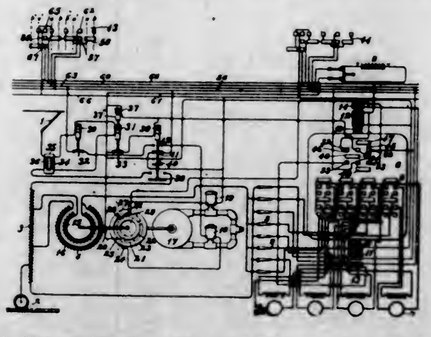


2. A flume gate, comprising a sheet metal body portion adapted to be secured to a flume end and having an aperture therein with raised edges of said body portion adapted to form a gate seat, the edges of said body portion being turned to form springs adapted to press against a gate slide, and a gate slide adapted to be pressed against said seat around said aperture by said springs.

3. A device of the class described, comprising a slide holder adapted for placement on an end of a flume, said slide holder provided with an aperture having outwardly turned edges adapted to form a seat for a slide, of a slide adapted to bear against said seat, and a plurality of springs formed on said holder adapted to hold said slide in yielding engagement with said seat.

4. A flume gate, comprising a slide holder adapted for placement on an end of a flume, said slide holder provided with an aperture having out turned edges adapted to form a seat for a slide, of a slide adapted to bear against said seat, and a plurality of retaining springs formed on said holder having flattened bearing edges adapted to retain said slide in frictional engagement with said seat.

868,864. ELECTRIC CONTROLLING SYSTEM. RAY P. JACKSON, Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Nov. 23, 1904. Serial No. 234,034.



1. The combination with a translating device and an electro-magnetic voltage regulator, of means for adjusting one of the members of the voltage regulator to provide the desired voltage and means for preventing further adjustment thereof when the current supplied to the translating device exceeds a predetermined limiting value.

2. The combination with a translating device and a voltage regulator comprising primary and secondary windings the inductive relations of which are adjustable, of means for adjusting the relations of said windings, and means for preventing further adjustment thereof when the current supplied to the translating device exceeds a predetermined limiting value.

3. The combination with a translating device and a voltage regulator, of means for adjusting the voltage regulator, means for preventing further adjustment thereof when the current supplied to the translating device exceeds a predetermined limiting value, and means for interrupting the supply of energy to the translating device when the current delivered thereto exceeds another and higher predetermined limiting value.

4. The combination with a translating device and a voltage regulator comprising primary and secondary windings the inductive relations of which are adjustable, of means for adjusting the relations of said windings, means for preventing further adjustment thereof when the current supplied to the translating device exceeds a predetermined limiting value, and means for interrupting the supply of energy to the translating device when the current delivered thereto exceeds another and higher predetermined limiting value.

5. The combination with a translating device and a voltage regulator, of means for adjusting the voltage regulator, means for preventing further adjustment thereof when the current supplied to the translating device exceeds a predetermined limiting value, means for interrupting the supply of energy to the translating device when the current delivered thereto exceeds another and higher predetermined limiting value, and means for causing the voltage regulator to reverse its direction of adjustment.

6. The combination with a translating device and a voltage regulator comprising primary and secondary windings the inductive regulations of which are adjustable, of means for adjusting the relations of said windings, means for preventing further adjustment thereof when the current supplied to the translating device exceeds a predetermined limiting value, means for interrupting the supply of energy to the translating device when the current delivered thereto exceeds another and higher predetermined limiting value, and means for causing the voltage regulator to reverse its direction of adjustment.

7. The combination with a translating device, a reversing switch and a circuit breaker, of a relay switch for causing the circuit breaker to open when more than a predetermined amount of current is supplied to the translating device, and means for retaining the relay switch in its open position until the reversing switch is moved to its "off" position.

8. The combination with a translating device, a reversing switch and an over-load circuit breaker, of a magnet winding for normally maintaining the circuit breaker in closed position, and a relay switch that is operated, when the current supplied to the translating device exceeds a predetermined limiting value, to interrupt the circuit of the said magnet winding, and a coil for holding the relay switch open until the reversing switch is moved to its "off" position.

9. The combination with a translating device, an electro-magnetically-controlled reversing switch and a circuit-breaker, of a magnet winding for normally maintaining the circuit-breaker in closed position, a relay switch in the circuit thereof, means for opening the relay switch when the current supplied to the translating device exceeds a predetermined limiting value, and a coil for holding the relay switch open until the reversing switch occupies its "off" position.

10. The combination with a translating device, a reversing switch and a circuit breaker, of a magnet winding for normally maintaining the circuit-breaker in closed position, a relay switch in the circuit thereof, means for opening the relay switch when the current supplied to the translating device exceeds a predetermined limiting value, and electro-magnetic means for preventing closure of the relay switch until the reversing switch is moved to its "off" position.

11. The combination with a translating device, an electro-magnetically-operated reversing switch and a circuit-breaker, of a magnet winding for normally maintaining the circuit-breaker in closed position, a relay switch in the circuit thereof, and an operating magnet winding therefor which is sufficiently energised to open the relay switch only when the current supplied to the translating device exceeds a predetermined limiting value, and means for electrically interlocking the relay switch and the circuit-breaker.

12. The combination with a translating device, a reversing switch and a circuit-breaker, of a magnet winding for normally maintaining the circuit-breaker in closed position, a relay switch in the circuit thereof, an operating magnet winding therefor which is sufficiently energised to open the relay switch only when the current supplied to the translating device exceeds a predetermined limiting value, and a retaining magnet winding for the relay switch which prevents closure thereof until the reversing switch has moved to its "off" position.

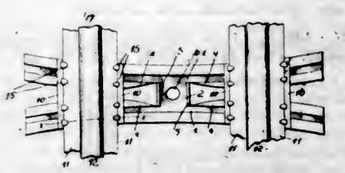
13. The combination with a source of electrical energy, a translating device, a circuit-breaker, a voltage regulator, and means for operating the same, of a relay switch which governs the operation of the circuit-breaker, and a second relay switch which prevents further adjustment of the voltage regulator when the current supplied to the translating device exceeds a predetermined limiting value, and operating magnet windings for said relay switches which are connected in series and are energized from a circuit that is derived from the main circuit.

14. The combination with a translating device, an electro-magnetically-controlled reversing switch, and a voltage regulator, of electrical interlocking means for preventing movement of the reversing switch unless the regulator occupies a predetermined position.

15. The combination with a translating device, an electro-magnetically-controlled reversing switch, and a voltage regulator, of electrical interlocking means for preventing movement of the reversing switch unless the regulator occupies its "off" position.

16. The combination with a translating device, a voltage regulator, and a reversing switch, of operating magnet windings for the reversing switch and means for preventing energizing of the said windings unless the regulator occupies a predetermined position.

868,865. RAILROAD-TIE. WILLIAM R. KAUFMAN, McKees Rocks, Pa. Filed June 8, 1906. Serial No. 320,825.



1. A metallic tie consisting of two curved channel-shaped members, a flanged web joining said members intermediate their ends, said web having an opening formed therein, said members having alining seats adjacent to their ends, flanged plates supported within said seats and adapted to support rails, and means engaging said seats to hold said plates and said rails upon said tie, substantially as described.

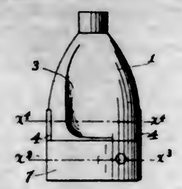
2. A metallic tie consisting of two curved channel-shaped members, a flanged web connecting said members, said members having seats adjacent to their ends, rail plates mounted in said seats and adapted to support rails, and means engaging in said seats to lock said plates and said rails upon said tie, substantially as described.

3. A metallic tie comprising two integral channel-shaped members having seats adjacent to their ends, rail plates mounted in said seats and adapted to support rails, and means to secure said plates and said rails to said tie, substantially as described.

4. A metallic tie comprising a bar slotted at its ends to form substantially two integral channel-like bars, flanges at the inner ends of the slots, said bars having seats in the upper face thereof, and rail-plates in said seats, having side-flanges, substantially as described.

5. A metallic railway tie having duplex rail supports at each end and integrally connected at the center.

868,866. PLUNGER FOR TILE-MACHINES. GEORGE F. KNIL, Sherburn, Minn., assignor of one-half to Christian F. Mickelson, Sherburn, Minn. Filed Apr. 29, 1907. Serial No. 370,950.

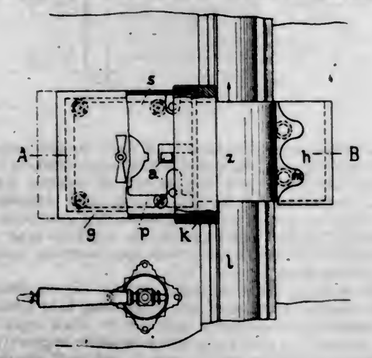


1. A plunger or presser head of the kind described, having a detachable and adjustable follower ring applied to the lower end portion thereof and having one or more cavities above said packing ring that join the exterior surface of said plunger or head by gradually curved lines in one direction, substantially as described.

2. The combination with a plunger or presser head 1 having the cavities 3 in its sides, of a hard metal follower ring detachably and adjustably applied around the lower end portion of said plunger or head, and detachable hard metal wearing plates set into said plunger or head above said follower ring and at points where the curved lower portions of said pockets 3 join the external surface of said plunger or head, and at which points the greatest wear takes place, substantially as described.

3. The combination with a hollow plunger head 1 having the pockets 3, of the detachable hard metal wearing plates 4 set into said plunger or head at points where the lower portions of said pockets 3 join the external surface of said plunger or head, and at which points the greatest wear takes place, the hard metal follower ring 7 detachably and adjustably applied around the lower end portion of said plunger or head 1, said ring being cut at 8, and nutted bolts adjustably securing said follower ring to said plunger, substantially as described.

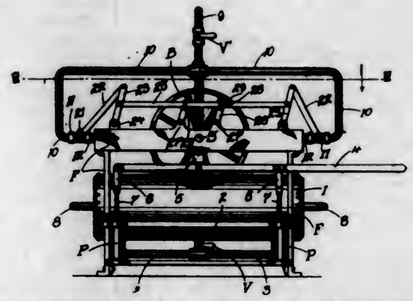
868,867. LOCK. JEAN KESSLER, Frankfort-on-the-Main, Germany. Filed Jan. 2, 1906. Serial No. 294,287.



The improved door-lock, comprising in combination, a locking-bolt carried on one part of the door, a tumbler for securing said locking bolt, a holder attached to the other part of the door, and a movable keeper adapted to engage the locking-bolt and having a tongue portion adapted to be slid into the holder and to cover the lock fastenings, as and for the purpose set forth.

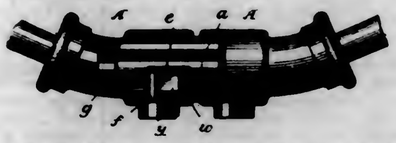
868,868. AIR-MOTOR. PETER KIEWER, St. Louis, Mo. Filed Apr. 5, 1907. Serial No. 366,525.

1. In a motor, a vacuum tank, a pair of cylinders, a transversely-disposed drive-shaft between the cylinders, pistons in said cylinders, intermediate connections between the shaft and pistons, pipes for establishing communication between the tank and the adjacent ends of the cylinders, valve-casings interposed between the cylinders and said pipes, rock-valves in said casings, and intermediate connections between the valves and pistons for actuating the valves with the successive reciprocations of the pistons, the adjacent ends of the cylinders being open to expose the pistons to atmospheric pressure, one valve establishing communication between its cylinder and tank and the opposite valve establishing communication between the cylinder and the atmosphere, whereby one piston is always actuated by atmospheric pressure, substantially as set forth.



2. In a motor, a vacuum tank, a pair of open ended cylinders having their inner ends in communication with the tank, a central transversely disposed drive-shaft, pistons in the cylinders, a double crank arm on the shaft, connecting rod, cross-head and piston-rod connections between the shaft and pistons, rock-valves interposed between the cylinders and tank, tappet-levers pivoted on either side of the shaft, a connecting rod for the outer ends of the levers, links connecting the connecting rod with the axes of the rock-valves, said connections being ninety degrees apart, the valves and their casings having ports disposed so as to permit intercommunication between one cylinder and the tank for one stroke of the piston, and between the atmosphere and the cylinder for the opposite or exhaust stroke of the piston, whereby one piston is always exposed to atmospheric pressure on one side and a vacuum on the opposite side, the parts operating substantially as, and for the purpose set forth.

868,869. PIPE-COUPLING. WALTER W. KILPATRICK, Atlanta, Ga., assignor to Air Brake and Steam Heat Connection Company, Atlanta, Ga., a Corporation of Georgia. Filed Jan. 3, 1907. Serial No. 350,670.



1. The combination in a pipe coupling of two duplicate heads, each having a bracket with an undercut lip arranged to overlap the other head and an undercut shoulder adapted to be engaged by the lip of the other bracket, a bolt sliding in each bracket parallel to the axis of the head, and a socket carried by each head adapted to receive the bolt carried by the other bracket.

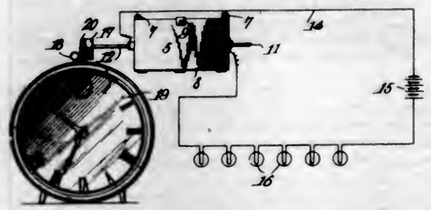
2. The combination in a pipe coupling, of two duplicate heads, means for interlocking said heads against separation lengthwise, the said means including a bracket on each head extending beyond the pipe section, a locking bolt in each bracket parallel to the axis of the head, and a lug upon each head provided with a socket to receive the end of the locking bolt.

3. The combination in a pipe coupling, of two duplicate heads each having upon one side a bracket extending beyond the pipe section and upon the other side a bearing shoulder, the bracket of each adapted to engage the bearing shoulder of the other and thereby lock the parts against endwise separation, a bolt mounted in each bracket parallel to the axis of the head, a lug upon each head beyond the bearing shoulder adjacent the end of the bracket carried by the other head and having a socket adapted to receive the end of said bolt.

4. The combination in a pipe coupling for the flexible pipes of railway trains, of two duplicate heads each having upon one side a bracket and upon the other side a bearing shoulder, the bracket of each engaging the bearing shoulder of the other, a bolt mounted in each bracket parallel to the axis of the head, a lug upon each head adjacent the bracket of the other when the parts are interlocked, the said lug being provided with a socket for receiving the end of the bolt whereby the parts are locked together.

5. A coupling head for pipes, comprising a main head section having upon one side a bracket extending beyond the main head section and provided with a locking shoulder, a locking bolt mounted in said bracket parallel to the axis of the head and adapted to project beyond the end thereof, a bearing shoulder on the opposite side of the head, and a lug on said head on the same side as the bearing shoulder and a distance from the end of the head approximately equal to the distance that the bracket extends beyond the head, the said lug being provided with a socket adapted to receive the end of a locking bolt.

868,870. AUTOMATIC LIGHT-SWITCH. HENRY E. KING, Bunkie, La. Filed Feb. 23, 1907. Serial No. 358,839.



1. An electrical switch including co-acting contacts one of which is provided with a terminal head having a cushioning member secured thereto, an energized circuit the terminals of which are secured to the contacts, an insulating block bearing against and forming a support for the adjacent end of one of the contacts, and an alarm clock having a vibrating hammer adapted to engage a head of the adjacent contact for moving the latter to circuit closing position.

2. An electrical switch including a casing, relatively stationary and movable contacts extending through the walls of the casing, one of said contacts being provided with a terminal head, an insulating block disposed within the casing and engaging one of said contacts, an energized circuit connected with the contacts, and an alarm clock the hammer of which is adapted to engage the head of the adjacent contact for moving the latter to circuit closing position.

3. An electrical switch including a casing having a pivoted closure, relatively stationary and movable contacts extending through the walls of the casing, an insulating block secured to the closure and bearing against the stationary contact, an energized circuit connected with the contacts, and an alarm clock having a vibrating hammer adapted to engage the movable contact for moving the same to circuit closing position.

4. An electrical switch including a casing, relatively stationary and movable contacts extending through the walls of the casing, one of said contacts being provided with a curved terminal and the adjacent contact with a laterally extending lip, an insulating block having a convex face adapted to bear against the curved terminal of the stationary contact, a head secured to the movable contact, an energized circuit, the terminals of which are connected with said contacts, and an alarm clock having a vibrating hammer adapted to engage the head for moving the adjacent contact to circuit closing position.

5. An electrical switch including a casing, relatively stationary and movable contacts extending through the walls of the casing, an insulating block bearing against the stationary contact, a head eccentrically mounted on the end of the movable contact, an energized circuit the terminals of which are connected with said contacts, and an alarm clock having a vibrating hammer adapted to engage the head for moving the latter to circuit closing position.

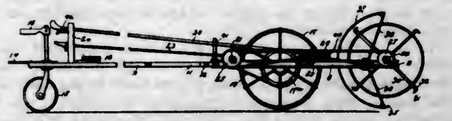
6. An electrical switch including a casing, relatively stationary and movable contacts extending through the walls of the casing, a pocket arranged within the casing, a removable insulating block seated within the pocket and having a convex face adapted to bear against the stationary contact, an energized circuit connected with the contacts, and an alarm including a vibrating hammer adapted to engage the movable contact for actuating the latter to close the circuit.

7. An electrical switch including a casing having a pivoted closure, a metal strip secured to the closure and provided with a laterally extending flange forming a pocket, relatively stationary and movable contacts extending through the walls of the casing, an insulating block seated in the pocket and having a convex face adapted to bear against the stationary contact, an energized circuit connected with the contacts, and an alarm including a vibrating hammer adapted to engage the movable contact for actuating the latter to close the circuit.

8. An electrical switch including a casing provided with a pivoted closure and having its end walls formed with alined openings, bearing sleeves seated in said openings, insulating bushings interposed between the sleeves and the walls of the openings, an insulating block secured to the pivoted closure and having a convex face, relatively stationary and movable contacts extending through the sleeves, one of said contacts being bent to conform to the convex face of the insulating block and the adjacent contact being provided with a laterally extending lip adapted to engage the curved end of the stationary contact, an energized circuit connected with the contacts, and an alarm including a vibrating hammer adapted to engage the movable contact for actuating the latter to close the circuit.

9. An electrical switch including a casing having a pivoted closure, a pocket secured to the closure, an insulating block seated in the pocket and having a convex face, relatively stationary and movable contacts extending through the walls of the casing, one of said contacts being bent to conform to the convex face of the insulating block and the adjacent contact being provided with a laterally extending lip adapted to engage the stationary contact, an enlarged head secured to one end of the movable contact, an energized circuit connected with the contacts, and an alarm including a vibrating hammer adapted to engage the movable contact for actuating the latter to close the circuit.

868,871. STALK-CUTTER. GEORGE W. KLOCK, Chillicothe, Tex. Filed Dec. 28, 1906. Serial No. 349,808.



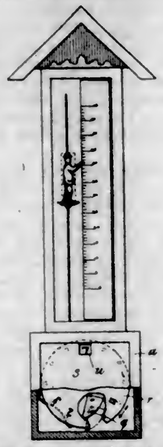
1. A stalk cutter comprising a wheeled tilting frame, a cutter at the front thereof, a tongue pivoted at its front end to the rear of the frame and provided at its rear end with a steering and supporting wheel and a platform, and a lever connected to the frame and extending rearwardly to the platform and adapted to tilt the frame.

2. A stalk cutter comprising a wheeled tilting frame, a cutter at the front thereof, a tongue pivoted to the rear of the frame and provided with steering and supporting means, and means to adjustably tilt the frame, to raise or lower the cutter.

3. A stalk cutter comprising a frame, a driving wheel located toward the middle of the frame, to sustain the

main part of the weight thereof, an outer supplemental supporting wheel, a rotary cutter journaled in bearings on the front of the frame and having driving connections to the driving wheel, and draft means at the rear of the frame.

868,872. MOTION-WORK FOR CLOCKS AND THE LIKE. HARRY V. KNIGHT, Mitcheldean, England. Filed May 1, 1905. Serial No. 258,371.



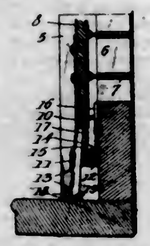
1. The improved clock, consisting of a vertical scale graduated to indicate the minutes, a pointer adapted to be traversed over the scale, a drum or wheel loosely mounted on an arbor driven by a clock train so as to rotate through a single revolution per hour, means for coupling the drum or wheel to the arbor and automatically releasing it at the completion of each revolution, a cord passing over pulleys and connecting the drum or wheel with the pointer in such manner that it is traversed by the drum from one end of the scale to the other, returning to the starting point under the influence of gravity when the drum is released, and means for indicating the hours.

2. The improved clock, consisting of a vertical scale graduated to indicate the minutes, a pointer adapted to be traversed over the scale, a drum or wheel loosely mounted on an arbor driven so as to rotate through a single revolution per hour, means for coupling the drum or wheel to the arbor and automatically releasing it at the completion of each revolution, a cord passing over pulleys and connecting the drum or wheel with the pointer in such manner that it is traversed by the drum from one end of the scale to the other, returning to the starting point under the influence of gravity when the drum is released, a disk or rotary dial for indicating the hours, and means for actuating the hour disk through one twelfth of a revolution at each return movement of the minute pointer, substantially as described.

3. In a clock as described, the combination with the drum or wheel and pointer of means for actuating the hour disk consisting of a series of pins fixed in the back of the disk, a lever fulcrumed behind the hour disk, a pawl mounted on one end of the lever and coöperating with the pins on the hour disk, a spring connected with the lever and tending to raise the pawl, a cord attached to the other end of the lever and a wheel fixed to the pointer-actuating drum or wheel and arranged to wind up the cord as the pointer descends thereby actuating the pawl and hour disk, the pawl being adapted to lock the disk during a portion of the interval between each hour.

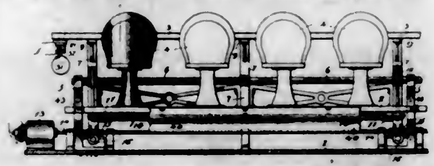
868,873. BLIND-STOP. CHARLES L. KOSNIC, San Antonio, Tex., assignor of one-third to Arthur B. Calvert, San Antonio, Tex. Filed May 15, 1907. Serial No. 373,808.

1. A blind-stop comprising a stem secured to the blind-rod, a loop on the blind in which the stem works, a hinged leaf on the blind engageable with the stem for binding it in the loop, and means for holding the leaf in operative position.



2. A blind-stop comprising a stem secured to the blind-rod, a loop on the blind in which the stem works, a hinged leaf on the blind engageable with the stem for binding it in the loop, and a pivoted finger carried by the blind and engageable with the leaf for holding it in operative position.

868,874. ELECTRICALLY-OPERATED SELF-LEVELING MARINE TABLE. CLARENCE W. LASKAY, New York, N. Y. Filed Oct. 9, 1905. Serial No. 281,905.



1. A self-leveling marine table comprising a supplementary deck, a table carried thereby, a rotary motor, positive means connecting the motor to said supplementary deck and an automatically operating motor controlling device carried by the supplementary deck and adapted to start, stop and reverse the motor.

2. A self-leveling apparatus for steamships comprising a supplementary deck, means for pivotally supporting said deck, a rotary motor, positive mechanical means connecting said motor to said deck whereby said deck may be maintained level by said motor, and automatically operating motor controlling device acting in response to changes in inclination in said supplementary deck to start, stop and reverse the motor.

3. A self-leveling apparatus for steamships comprising a main deck, a supplementary deck supported upon the main deck, a rotary electric motor, positive mechanical means connecting said motor to the supplementary deck to maintain said deck level, and an automatic motor controlling electric switch acting to start the motor when the main deck is inclined and to stop the motor when the supplementary deck is level.

4. A self-leveling apparatus for steamships comprising a supplementary deck pivotally mounted, a main deck, a rotary electric motor, positive mechanical means connecting said motor to said supplementary deck and an automatically operating electric controlling device carried by the supplementary deck and adapted to start the motor when the supplementary deck is inclined in one direction and to stop the motor when the supplementary deck is level.

5. A self-leveling apparatus for steamships comprising a supplementary deck, a main deck, means for pivotally supporting the supplementary deck above the main deck, a rotary electric motor, positive mechanical means connecting said motor to the supplementary deck to maintain said deck level and an automatically operating electric motor control carried by the supplementary deck and adapted to start, stop or reverse the motor according to the position of the supplementary deck to maintain said deck level during the varying inclination of the main deck.

6. A self-leveling apparatus for steamships comprising a main deck, a supporting means adapted to be maintained level, a rotary electric motor connected to said supporting means by positive mechanical means, an electric controlling device connected to said motor and adapted to start, stop and reverse the motor to maintain said supporting means level.

7. A self-leveling apparatus for steamships comprising a rotatably mounted supplementary deck, a rotary motor, positive mechanical means connecting the motor to the supplementary deck to swing said supplementary deck on its support, said means positively locking the supplementary deck against a free rotary movement, whereby said deck must be rotated through the motor.

8. A self-leveling apparatus for steamships, the combination of a support, a supplementary deck rotatably supported in said support, transverse worm shafts mounted below the supplementary deck, a leveling head mounted on each of said worm shafts, means connecting said leveling heads to the supplementary deck at the longitudinal center thereof, a main operating shaft, a motor for rotating it, means connecting the main shaft to the transverse worm shafts and means for controlling the motor.

9. A self-leveling apparatus for steamships comprising a main deck, standards thereon, a supplementary deck rotatably supported on said standards and above the main deck, transverse worm shafts mounted on the main deck below the supplementary deck, a leveling head mounted on each of said worm shafts, means connecting said leveling heads to the supplementary deck at the longitudinal center thereof, a main operating shaft, a motor for rotating it, means connecting the main shaft to the transverse worm shaft, and means for controlling the motor.

10. A self-leveling apparatus for steamships comprising a support, a supporting bar mounted in said support, independent suspending standards rotatably mounted on said bar, supplementary deck carried by said standards near their lower end, a transverse worm shaft, a leveling head mounted on said worm shaft, means connecting said leveling head to the supplementary deck at the longitudinal center thereof, a motor, a main driving shaft adapted to be rotated by said motor, means connecting the main driving shaft to the transverse worm shaft, and an automatically operating motor-controlling device carried by the supplementary deck and adapted to start, stop and reverse the motor according to the varying inclination of the supplementary deck.

11. A self-leveling apparatus for steamships comprising a main deck, standards carried thereby, a horizontal supporting bar carried by said standards, depending sustaining standards rotatably mounted on said bar, a supplementary deck carried by said standards near their lower ends and above the main deck, a motor, means for connecting said motor to the supplementary deck, means for automatically controlling the operation of the motor according to the varying inclination of the supplementary deck, a platform surrounding the supplementary deck, and guards adapted to be supported by the supplementary deck when said deck is inclined with respect to the main deck to close the opening between the said supplementary deck and the surrounding platform.

12. A self-leveling apparatus for steamships comprising a supplementary deck rotatably supported, means automatically controlled by the varying inclination of the supplementary deck to return said deck to its normal level position, and automatically detachable guards carried by said supplementary deck to close the opening between said supplementary deck and the surrounding structure and adapted to be detached from the supplemental deck when the edge thereof is depressed below its normal level.

13. A self-leveling apparatus for steamships comprising a main deck, standards thereon, a supporting bar carried by said standards, suspending standards rotatably mounted on said bar, a supplementary deck carried by said suspending standards near their lower ends and above the main deck, said standards extending above the supporting bar, a table mounted on the upper ends of said standards, chairs carried by said supplementary deck, a transverse worm shaft carried by the main deck below the supplementary deck, a leveling head mounted on said worm shaft, means connecting said leveling head to the supplementary deck at the longitudinal center thereof, a main driving shaft, a motor connected to said shaft, and means carried by the table for automatically starting, stopping and reversing the motor according to the variations in the inclination of the main deck with respect to the supplementary deck.

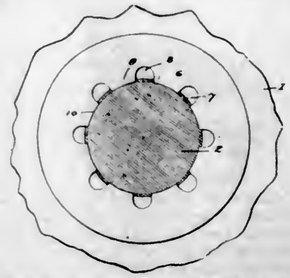
14. A self-leveling apparatus for steamships comprising a main deck, standards thereon, a supporting bar carried by said standards, suspending standards rotatably mounted on said bar, a supplementary deck carried by said suspending standards near their lower ends and above the main deck, said standards extending above the supporting bar, a table mounted on the upper ends of said standards, chairs carried by said supplementary deck, a transverse worm shaft carried by the main deck below the supplementary deck, a pair of leveling heads mounted on said worm shaft, links connecting said heads to the supplementary deck at the longitudinal center thereof, a main driving shaft, a motor connected to said shaft, and means carried by the table for automatically starting, stopping and reversing the motor according to the variations in the inclination of the main deck with respect to the supplementary deck.

15. A self-leveling apparatus for steam-ships comprising a main deck, a supplementary deck mounted to swing on its supports, a motor, a motor-controlling device operated by the varying inclination of the main deck, positive mechanical means connecting the motor to the supplementary deck whereby the motor may swing said supplementary deck on its support, said means serving to positively lock said deck against independent rotary movement, whereby said deck will be locked except as it may be moved by the motor.

16. A self-leveling apparatus for steam-ships comprising a main deck, a supporting means adapted to be maintained level, a motor, rotary unyielding means connecting said motor to said supporting means, means responding to variations in inclination of the supporting means to stop, start, and reverse the motor to maintain said supporting means level during the varying inclination of the main deck, the means connecting the motor to the supporting means serving as a lock to hold said supporting means against movement except as it may be moved by the motor.

17. A self-leveling apparatus for steamships comprising a main deck, a supporting means pivotally mounted and adapted to be maintained level, a rotary electric motor, positive mechanical means flexibly connecting said motor to said deck, whereby said motor will be at all times directly and positively connected to said deck, and automatically operating electric controlling devices connected to said motor to control the flow of current thereto, to start, stop and reverse the motor in response to changes in the inclination of the supplementary deck and to operate said motor to maintain said deck level.

868,875. CAR-WHEEL AND THE METHOD OF ATTACHING SAME TO AXLES. JOHN W. LATCHER, Edinburg, N. Y. Filed Mar. 12, 1907. Serial No. 362,038.



1. The method of assembling car wheels and axles, consisting in providing the car-wheel body with longitudinal cutting edges, and pressing the wheel upon the axle whereby grooves corresponding to the cutters are formed in the axle surrounded by the wheel.

2. The method of assembling car wheels and axles, con-

sisting in providing longitudinal corrugations in the central opening of the wheel body, and pressing the wheel body upon the axle, so that the corrugations engaging the surface of the axle, plow their seats longitudinally upon the axle.

3. The method of assembling car wheels and axles, consisting in providing longitudinal corrugations in the central opening of the wheel body, and pressing the wheel body upon the axle so that the corrugations engaging the surface of the axle plow their seats longitudinally upon the axle and provide longitudinal openings between the channels of the corrugations and the axle.

4. The combination with an axle, of a wheel having a cutting opening therein adapted to form longitudinally parallel seats in the axle during the operation of assembling the wheel and axle, for the purpose set forth.

5. The combination with a car axle having a roughened wheel-receiving surface, of a wheel adapted to provide a series of circumferentially parallel seats in said roughened surface during the assembling operation.

6. The combination with a car axle having a roughened wheel-receiving surface, of a wheel having a ridged central opening, adapted to engage said roughened surface of the axle, the ridges of the opening forming seats for the wheel in the roughened surface of the axle.

7. The combination with a car axle having a roughened wheel-receiving surface, of a wheel having a ridged central opening, adapted to engage said roughened surface of the axle, the ridges of the openings cutting corresponding seating grooves in the roughened surface of the axle during the assembling operation.

8. A car wheel provided with a plurality of integral self-seating means, as set forth.

9. A car wheel provided with a central axle-receiving opening having a plurality of integral self-seating means, as set forth.

10. A car wheel having a central axle-receiving opening having a plurality of self-seating cutting means to engage the axle.

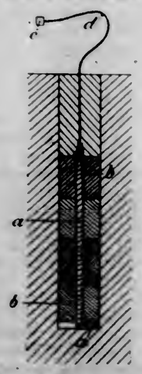
11. A car wheel having a central axle-receiving opening provided with longitudinal cutters, for the purpose set forth.

12. A car wheel having a central axle-receiving opening provided with a plurality of longitudinal cutters.

13. A car wheel having a corrugated or fluted central opening, the ridges of which are self-seating cutters.

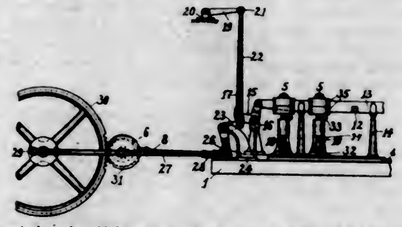
14. A car wheel having a corrugated or fluted central opening, the ridges of which are adapted during the assembling of the wheel and axle to cut their seats in the axle.

868,876. PRIMING OF EXPLOSIVES. LOUIS LHEURE, Paris, France. Filed Jan. 27, 1905. Serial No. 242,944.



An improved primer consisting of a detonating fuse of small diameter embedded in the entire length of the charge and a separate detonator of suitable composition connected with the top end of the fuse by a fuse of smaller diameter, substantially as described and shown and for the purpose set forth.

868,877. BEVEL-POLISHING MACHINE. HEINRICH LOHMANN, Aix-la-Chapelle, Germany. Filed July 25, 1906. Serial No. 327,763.



1. A bevel-polishing machine comprising polishing-tools capable of executing reciprocating and oscillating motions simultaneously in a true plane, means for causing the reciprocating motions of said polishing-tools, and means for oscillating said polishing-tools around their respective centers independent of the means causing said reciprocating motions of said polishing-tools.

2. A bevel-polishing machine comprising polishing-tools capable of executing linear and oscillating motions simultaneously, a slide supporting said polishing-tools, means for moving said slide back and forth, arms carried by said polishing-tools, a bar slidingly arranged upon said slide and straddling said arms, and means for moving said bar independent of the slide carrying it.

3. In a bevel-polishing machine of the kind described the combination with a table of a slide-way, a slide arranged on said slide-way, means for imparting linear motion to said slide, brackets on said slide, polishing-tools carried by said brackets, means on said brackets for lifting said polishing-tools off the work-piece, arms on said polishing-tools, forked posts on said slide, a bar slidingly held in the forked ends of said posts and straddling the free ends of said arms, and means for imparting a linear motion to said bar independent of the linear motion of the slide carrying it to oscillate said polishing tools once during the same unit of time they are executing a series of linear motions.

868,878. CALENDAR. HENRY A. MARSHMAN, Albany, N. Y. Filed Dec. 17, 1906. Serial No. 348,312.



In a calendar; a series of wire frames; a series of rings supported by said frames, respectively; a series of cards mounted on said rings, respectively; each of said cards adapted to be rotated on one of said frames from front to rear of said calendar; said series of cards placed one above the other when the calendar is in operative position, substantially as described.

868,879. TIMBER-ROOF STRUCTURE. EDMOND MOLLOY, Philadelphia, Pa. Filed Sept. 7, 1906. Serial No. 333,605.

1. In a timber roof structure, a supporting wall, a roof truss, a saddle coöperating with the wall and the truss for distributing the weight of the latter on the wall, and diagonal struts coöperating with said truss and said saddle.

2. In a timber roof structure, a device of the class described, a roof truss, a supporting wall, a weight distributing saddle in the corner formed by the truss and the wall, and diagonal struts overlapping the truss and said saddle.

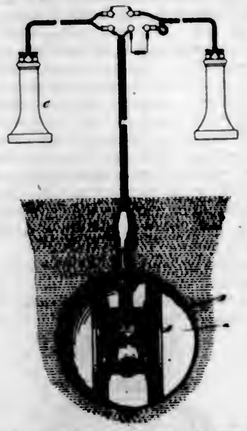


3. In a device of the class described, a roof truss, a supporting wall, a weight-distributing saddle having members engaging respectively with said wall and the truss, and means extending across the union between the truss and the saddle and coöperating with both said truss and said saddle for bracing the same.

4. In a device of the class described, a roof truss, a wall, and a saddle having members at an angle to one another, and diagonal struts connecting said members.

5. In a device of the class described, a roof truss, a wall, a saddle in the angle or corner formed by the wall and the truss, and struts overlapping the truss and said saddle.

868,880. SOUND TRANSMITTER AND RECEIVER. ARTHUR J. MUNDY, Boston, Mass., assignor to Submarine Signal Company, Waterville, Me., a Corporation of Maine. Filed Apr. 23, 1902. Serial No. 104,296.



1. An electric sound transmitter, a sound focuser arranged in relation to the diaphragm of the transmitter to focus sound vibrations thereon, and an interposed, compressible, sound-carrying medium in contact with said focuser.

2. An electric sound transmitter, a sound focuser arranged in relation to the diaphragm of the transmitter to focus sound vibrations thereon and to act as an inclosing shield therefor, and an interposed, compressible, sound-carrying medium.

3. An electric sound transmitter having two or more receiving diaphragms, a sound focuser for each diaphragm, arranged to focus sound vibrations thereon, and an interposed, compressible, sound-carrying medium in contact with said focusers.

4. An electric sound transmitter, a means for focusing sound vibrations upon any part thereof, and an interposed, compressible, sound-carrying medium.

5. An electrical sound transmitter, means for focusing sound vibrations upon each side thereof, a compressible sound-carrying means located between said focusing means and said transmitter and in contact with both sides of said transmitter, as set forth.

6. An electric sound transmitter, means for focusing sound vibrations upon the transmitter at substantially all angles thereto, and an interposed, compressible, sound-carrying medium.

7. An electric sound transmitter, a sound focuser arranged to focus sound vibrations upon a part of the transmitter other than its diaphragms, and an interposed, compressible, sound-carrying medium.

8. An electric sound transmitter, a shell inclosing the same, parts of which act as a sound focuser, and an interposed, compressible, sound-carrying medium.

9. A submerged electric sound transmitter, the same comprising a case or shell adapted to receive, focus and transmit sound vibrations and provided with means whereby it may be suspended or held in the water, and an electric transmitter contained in the chamber of the shell and having a compressible, sound-carrying medium interposed between it and the shell.

10. A submerged electric sound transmitter, the same comprising a case or shell adapted to receive, focus and transmit sound vibrations and provided with means whereby it may be suspended or held in the water, and an electric transmitter contained in the chamber of the shell and having a sound-carrying medium varying from water interposed between it and the shell.

11. A transmitter in an elastic medium in combination with an embracing wave-focusing means beyond said medium.

12. A transmitter in an elastic medium in combination with focusing means for sealing said transmitter and medium.

13. A wave receiving and transmitting means comprising in combination with an inclosed, elastic medium, a transmitter and wave-focusing means inclosing said medium.

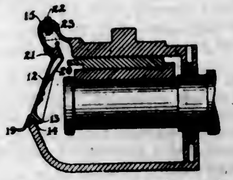
14. A wave receiving and transmitting means comprising in combination with an interposed, elastic medium a transmitter and a shell to focus impinging waves upon various parts of the transmitter.

15. In combination an electrical sound transmitter, means for focusing sound vibrations upon both sides thereof, and means surrounding said transmitter and isolated from the medium in which said focusing means and parts connected therewith are suspended and differing from said medium, as described.

16. In combination an electrical sound transmitter, means for focusing sound vibrations thereupon, and means surrounding said transmitter and isolated from the medium in which said focusing means and parts connected therewith are suspended and differing from said medium, as described.

17. In combination a casing, an electrical sound transmitter located within said casing, and inclosing means for focusing sound vibrations thereupon, as described.

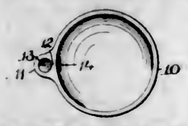
868,881. CAR-AXLE BOX. HARRY C. MCCARTY, Williamsport, Pa. Filed Nov. 13, 1906. Serial No. 348,256.



1. A car wheel axle box having an opening in one end, and a lid pivotally mounted to swing to and from the opening in the box, the lid having its lower edge beveled or inclined from its outer face inwardly and arranged to engage the bottom edge of the frame by said inclined edge when the lid is closed, the lid also having a rib projecting inwardly and downwardly from the said inclined lower face of the lid, the lower face of the rib making an angle with the adjacent inner face of the frame member and being entirely free from contact therewith.

2. A car wheel axle box having an opening in one end, and a lid pivotally mounted to swing to and from such opening in the box, the bottom edge of the opening in the box frame being inclined to the plane of the lid in the closed position, the lid having its lower edge beveled inward and upward from its outer face to engage said inclined bottom edge of the opening, the lid having a rib at its lower portion projecting inwardly and downwardly and having its lower face free from the inner adjacent face of the box and making an angle therewith.

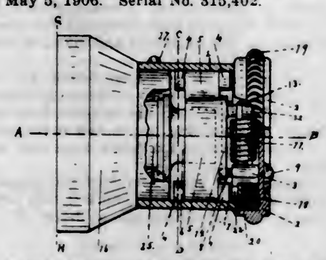
868,882. MOLDER'S LADLE. GEORGE E. NEUBERTH, Newark, N. J. Filed Apr. 12, 1907. Serial No. 367,783.



1. The hereindescribed method consisting in forming a ladle with a spout portion extending from the top for a major portion of its length toward the bottom, inserting a rod in the spout, lining the ladle and the spout to inclose the rod, then removing the rod, and then forming an opening from the bottom of the passage left by the rod into the body portion of the ladle.

2. The hereindescribed method consisting in forming a ladle with a spout portion extending from the top toward the bottom, lining the spout portion with heat resisting material, inserting a rod in the spout portion, lining the ladle to inclose the rod, then uncovering the end of the rod at the bottom of the spout portion on the side toward the body portion of the ladle, and then removing the rod.

868,883. HUB-WRENCH. EDMOND G. O'DONNELL, Somerville, Mass., assignor of one-half to John Joseph O'Donnell, Somerville, Mass.; John Joseph O'Donnell administrator of said Edmond G. O'Donnell, deceased. Filed May 5, 1906. Serial No. 315,402.



1. In a hub wrench, the combination with a band, for the outer end of a vehicle hub, having an inwardly projecting flange at its outer end, of two pairs of lugs projecting vertically inward from the inner surface of the band and forming a part of it, and a pair of pawl shaped jaws fulcrumed on pins between said lugs, as shown and described.

2. In a hub wrench, the combination with a band, having two pairs of lugs projecting vertically inward, a flange at the outer end of said band projecting vertically inward, of a cap having a horizontal flange fitting loosely over the end of said band, and a knurled rib encircling said cap as shown and described.

3. In a hub wrench, the combination with a band, having lugs projecting vertically inward, a flange projecting vertically inward, a cap having a horizontal flange and a knurled encircling rib, of a means to attach said cap to the band, in a rotary movable position. Said means consisting of—a ring revoluble between the two pairs of lugs and the flange at the outer end of the band, and having horizontally projecting lugs, to which the cap is secured by two screws, as shown and described.

4. In a hub wrench, the combination with a band, having two pairs of lugs projecting vertically inward, a flange projecting vertically inward, a cap attached to a revoluble ring, of a separating felt washer, interposed between the said cap, and the vertical flange, of said band, as shown and described.

5. In a hub wrench, the combination with a band, having two pairs of lugs projecting vertically inward, of a pair of pawl shaped jaws, movable between the lugs, and swinging on two pins which pass through the lugs and ends of the jaws, as shown and described.

6. In a hub wrench, the combination with a band having two pairs of lugs projecting vertically inward, a pair of pawl shaped jaws, of a cam edged flange on each jaw as shown and described.

7. In a hub wrench, the combination with a band, having two pairs of lugs projecting vertically inward, a flange projecting vertically inward, and a pair of pawl shaped jaws, with cam edged flanges, of a close coiled spring, with looped ends, looped over studs horizontally projecting outward from each jaw, to hold them in operative position, as shown and described.

8. In a hub wrench, the combination with a band, having two pairs of lugs, projecting vertically inward, a flange projecting vertically inward, a pair of pawl shaped jaws, with cam edged flanges, a close coil spring looped over studs horizontally projecting outward from each jaw, of a nut screwed on the end of an axle, and tightly held by said jaws, as shown and described.

9. In a hub wrench, the combination with the outer band of a vehicle wheel hub, having two pairs of lugs, projecting vertically inward, a flange projecting vertically inward, and a pair of swinging pawl shaped jaws, with cam edged flanges, held tightly in operative position, on a nut, screwed on the end of an axle, by a close coiled spring, looped over projecting studs, on each jaw; a cap with a knurled rib, encircling it and a flange extending horizontally inward, over the outer end of the said band, and said cap attached by two screws to two horizontal, outwardly extending lugs on a revoluble ring, revoluble between the said two pairs of lugs and the said flange of the said band; two pins projecting horizontally inward, from said ring and in contact with the cam edged flanges of said jaws, to spread the jaws apart by a partial revolution of the ring and attached cap, and with a felt washer interposed between the cap and the vertical flange of said band, as shown and described.

868,884. BLUE-PRINTING MACHINE. LEONARD M. RASH, Los Angeles, Cal. Filed Aug. 7, 1906. Serial No. 329,630.



1. In a device of the character herein described, a frame; bearings mounted in said frame; spiders revolubly mounted on said bearings; a rotative translucent cylinder; and yielding means secured upon the periphery of said cylinder at each end thereof in engagement with said spiders whereby the cylinder is yieldingly secured in the machine.

2. In a device of the character herein described, a frame; bearings mounted in said frame; spiders having annular rims revolubly mounted on said bearings; a rotative translucent cylinder; a plurality of inwardly projecting lugs secured to the rims of said spiders; and yielding engaging means secured to the periphery of said cylinder adapted to slidingly engage the lugs on said spiders whereby the cylinder is yieldingly secured in the machine.

3. In a device of the character herein described, a frame; bearings mounted in said frame; spiders having annular rims revolubly mounted on said bearings; a plurality of inwardly projecting lugs secured to the rims of said spiders; a rotative translucent cylinder; bands surrounding said cylinder having the ends thereof held by spring pressure; a plurality of loops secured to said bands adapted to register with and engage the lugs on said spiders; and elastic cushions interposed between said bands and cylinder.

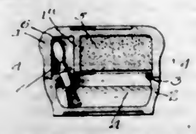
4. In a device of the character herein described, a frame; bearings mounted in said frame; spiders having annular rims revolubly mounted on said bearings; a plurality of inwardly projecting flexible fingers secured to the rims of said spiders; a rotative translucent cylinder; adjustable metallic bands surrounding said cylinder at each end thereof; coiled springs uniting the ends of said bands; a plurality of loops secured to said bands adapted to register with and engage the flexible fingers on said spiders; and elastic cushions interposed between said bands and cylinder.

5. A machine of the class described, comprising a frame; hollow bearings mounted in said frame; radially extending arms secured to said bearing; and a plurality of reflectors each having an artificial light attached thereto, said reflectors being detachably secured to the outer ends of said radial arms.

6. A machine of the class described, comprising a frame; hollow bearings secured to said frame; radially extending arms secured to said bearings, said arms having a series of segmental flanges; and a plurality of segmental reflectors each having an artificial light secured thereto, said reflectors being detachably secured to the segmental flanges of said radial arms.

7. A machine of the class described, comprising a frame; hollow bearings secured to said frame; radially extending arms secured to said bearings, said arms having a series of inwardly turned segmental flanges with a plurality of notched lugs on their upper surfaces; a plurality of segmental reflectors having longitudinal ribs on their upper surfaces, said ribs extending over the ends thereof and having lugs transversely secured to their outer ends adapted to enter the notches in the lugs on the segmental flanges; and an artificial light secured to each of said reflectors.

868,885. VESSEL FOR ADHESIVE MATERIAL. WILLIAM H. REDINGTON, Chicago, Ill. Filed Feb. 9, 1907. Serial No. 356,554.



1. In a vessel for adhesive material a receptacle for water at the lower portion, and a receptacle for the adhesive substance above the water chamber and communicable at or near its lower portion with such water chamber.

2. In a vessel for adhesive material a receptacle for water at the lower portion, and a receptacle for the adhesive material above the water chamber and having proximate communication therewith.

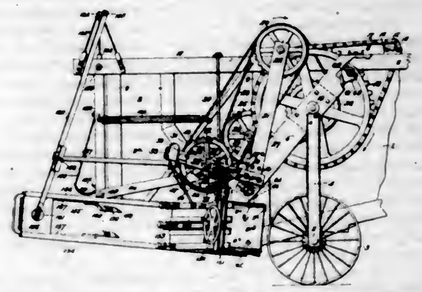
3. In a vessel for adhesive material, a water receptacle, and a receptacle for the adhesive material, the latter arranged above the former and having its bottom or lower portion opening directly into the water receptacle.

4. In a vessel for adhesive material, a water receptacle and a receptacle for the adhesive material arranged above the former and in practically unobstructed communication therewith.

5. In a vessel for adhesive material, a receptacle for water and a receptacle for the adhesive material, the latter arranged above the former and the cup containing it reversed so as to permit unobstructed and direct communication between the water chamber and the adhesive substance.

6. In a vessel for adhesive material, a water receptacle and a receptacle for the adhesive material arranged above the water and in direct proximate communication therewith and means within the vessel for retaining the brush.

868,886. BALING ATTACHMENT FOR THRESHING-MACHINES. ROBERT C. REDPATH, Johnson county, Kans. Filed Nov. 21, 1905. Serial No. 288,385.



1. In a machine of the character described, a casing, a baling case therein, a plunger in said case, a rotating arm, a flexible connection between the same and the plunger, a second rotating arm, a flexible connection between the same and the plunger, and means whereby the second arm shall be caused to move at varying speeds during its revolution.

2. In a machine of the character described, a casing, a baling case therein, a plunger in the case, a rotating arm, a flexible connection between the same and the plunger, a rotating plate having lugs, an arm journaled coincidently with said plate and disposed between its lugs, means movable with said plate and pressing said arm toward the lug which is forward with respect to the direction of rotation of the plate, and a flexible connection between said journaled arm and the plunger.

3. In a machine of the character described, a casing, a baling case therein, a plunger in the case, a rotating arm, a flexible connection between the same and the plunger, a rotating plate having lugs, an arm journaled coincidently with said plate and disposed between its lugs, a spring movable with said plate and pressing the journaled arm toward the forward lug, and a flexible connection between said journaled arm and the plunger.

4. In a machine of the character described, a casing, a baling case therein, a plunger in the case, a rotating arm, a flexible connection between the same and the plunger, a rotating plate having lugs, an arm journaled coincidently with said plate and disposed between its lugs, a spring movable with said plate and pressing the journaled arm toward the forward lug, a second spring movable with the plate and tending to press the journaled arm rearward with respect to its direction of rotation, and a flexible connection between the journaled arm and the plunger.

5. In a machine of the character described, a casing, a baling case therein, a plunger in the case, a driven shaft, an arm mounted thereon, a cable suitably guided and forming a connection between the plunger and said arm to transmit movement from the latter to the former in one direction, a shaft driven from the first-named shaft, a plate rigid with the second shaft and provided with lugs, an arm journaled on said second shaft and capable of movement between said lugs, a cable suitably guided and forming a connection between the said journaled arm and the plunger to impart movement to the latter opposite to that imparted to it by the first-named arm, and springs carried by the said plate and exerting pressure in opposite directions on said journaled arm, one of said springs being weaker than the other.

6. In a machine of the character described, a casing, a transversely extending slotted baling case therein, a plunger in the case, an arm carrying the plunger and projecting through the slot of said case, a rotating arm at one side

of the casing, a cable suitably guided and forming a connection between said arm and the plunger arm, a rotating plate at the opposite side of the casing from the said rotating arm, an arm rotatable with said plate and having oscillatory movement independent thereof, yielding means tending to hold said arm at the forward extremity of its oscillatory movement during the first quarter of the rotatable movement of said plate and at the rearward extremity of such oscillatory movement during the third quarter of such movement, and a cable suitably guided and forming a connection between said oscillatory arm and the plunger arm.

7. In a machine of the character described, a casing, a baling case therein, a feed plunger therefor and adapted when advanced to form a wall of said case, a swing-frame attached to the plunger, a swing-arm connected to withdraw the plunger from its advanced position, and rotatable means for imparting retrograde movement to said arm.

8. In a machine of the character described, a casing, a baling case therein, a feed plunger therefor and adapted when advanced to form a wall of said case, a swing-frame attached to the plunger, a swing-arm connected to withdraw the plunger from its advanced position, and a rotating arm to impart retrograde movement to said swing-arm and provided with a tread portion to hold said arm withdrawn for a time.

9. In a machine of the character described, a casing, a baling case therein, a feed plunger therefor and adapted when advanced to form a wall of said case, a swing-frame attached to the plunger, a swing-arm connected to withdraw the plunger from its advanced position, a rotating arm to impart retrograde movement to said swing-arm and provided with a tread portion to hold said arm withdrawn for a time, and means to advance the plunger when said tread portion has released said arm.

10. In a machine of the character described, a casing, a baling case therein, a feed plunger therefor and adapted when advanced to form a wall of said case, a swing-frame attached to the plunger, a swing-arm connected to withdraw the plunger from its advanced position, means to support the free end of said swing-arm in a certain position, and means to trip said swing arm from the supporting means and force it rearwardly.

11. In a machine of the character described, a casing, a baling case therein, a feed plunger therefor and adapted when advanced to form a wall of said case, a swing-frame attached to the plunger, a swing-arm connected to withdraw the plunger from its advanced position, means to support the free end of said swing-arm in a certain position, means to trip said swing-arm from the supporting means and force it rearwardly, and guiding means for holding the swing arm in the path of the means which forces it rearward, until the limit of rearward movement of the plunger has been reached.

12. In a machine of the character described, a casing, a baling case therein, a feed plunger therefor and adapted when advanced to form a wall of said case, a swing-frame attached to the plunger, a swing-arm connected to withdraw the plunger from its advanced position, means to support the free end of said swing-arm in a certain position, means to trip said swing-arm from the supporting means and force it rearwardly, guiding means for holding the swing arm in the path of the means which forces it rearward until the limit of rearward movement of the plunger has been reached, and means to readvance the plunger and cause its swing arm to become engaged by the means for holding it in a certain position.

13. In a machine of the character described, a casing, a baling case therein, a feed plunger therefor and adapted when advanced to form a wall of said case, a swing-frame attached to the plunger, a swing-arm connected to withdraw the plunger from its advanced position, an oscillatory arm on the casing and pivoted to said swing-arm, means to hold the swing arm in a certain position when advanced, and rotating means to trip said holding means from said swing arm and then force the latter rearward.

14. In a machine of the character described, a casing, a baling case therein, a feed plunger therefor and adapted when advanced to form a wall of said case, a swing-frame attached to the plunger, a swing-arm connected to withdraw the plunger from its advanced position, an oscillatory arm on the casing and pivoted to said swing-arm, means to hold the swingarm in a certain position when advanced, and rotating means to trip said holding means from said swing-arm and then force the latter rearward, and provided with means to hold said arm at its limit of rearward movement for a time.

15. In a machine of the character described, a casing a baling case therein, a feed plunger therefor and adapted when advanced to form a wall of said case, a swing-frame attached to the plunger, a swing-arm connected to withdraw the plunger from its advanced position, an oscillatory arm on the casing and pivoted to said swing-arm, means to hold the swing-arm in a certain position when advanced, rotating means to trip said holding means from said swing-arm and then force the latter rearward, and means to advance the plunger and said arm when the latter has been released by said holding means.

16. In a machine of the character described, a casing, a baling case, a feed-plunger therefor, a swing-arm connected to impart retrograde movement to the plunger, means for supporting the front portion of said arm to permit it to swing in the arc of a circle, a catch in the path of said arm to support its front end in a certain position, and rotating means to trip said catch and force said arm rearward until its limit of such movement has been attained.

17. In a machine of the character described, a casing, a baling case, a feed plunger therefor, a swing-arm connected to impart retrograde movement to the plunger, means for supporting the front portion of said arm to permit it to swing in the arc of a circle, a catch in the path of said arm to support its front end in a certain position, rotating means to trip said catch and force said arm rearward until its limit of such movement has been attained, and means to restore said catch to its original position after said arm has been moved rearward a sufficient distance.

18. In a machine of the character described, a casing, a baling case, a feed plunger therefor, a swing-arm connected to impart retrograde movement to the plunger, means for supporting the front portion of said arm to permit it to swing in the arc of a circle, a catch in the path of said arm to support its front end in a certain position, rotating means to trip said catch and force said arm rearward until its limit of such movement has been attained, means to restore said catch to its original position after said arm has been moved rearward a sufficient distance, and means to return said arm to its original position and cause it to reëngage said catch.

19. In a machine of the character described, a casing, a baling case therein, a feed-plunger for the case, a cut-off, means for holding the cut-off normally over the baling case, means to withdraw the feed plunger from the baling case, means actuated by the plunger when partly withdrawn to trip the said holding means, spring-actuated means to move the cut-off rearwardly of the baling case when the said holding means is tripped, and means whereby the continued withdrawal of the plunger continues the withdrawal movement of the cut-off.

20. In a machine of the character described, a casing, a baling case therein, a cut-off rearward of the said case, means for holding the cut-off yieldingly in such position, a feed-plunger, means for advancing the plunger and the cut-off, means for automatically locking the cut-off in its advanced position, means for withdrawing the plunger, and means actuated by the withdrawing plunger for tripping the cut-off locking means.

21. In a machine of the character described, a casing, a baling case therein, a cut-off rearward of the said case, means for holding the cut-off yieldingly in such position, a feed-plunger, means for advancing the plunger and the cut-off, a gravity catch for locking the cut-off in its advanced position, and means actuated by the withdrawal action of the plunger for tripping the gravity catch to release the cut-off.

22. In a machine of the character described, a casing, a baling case therein, a plunger movable toward and from the said case, a cut-off, springs to withdraw the cut-off, flexible connections between the springs and cut-off, a catch mechanism holding the cut-off in its advanced position and the springs repressed, and means whereby the withdrawal action of the plunger trips said catch to permit said springs to move the cut-off rearwardly.

23. In a machine of the character described, a casing, a baling case therein, a plunger movable toward and from said case, a cut-off, springs to withdraw the cut-off, flexible connections between the springs and cut-off, a catch mechanism holding the cut-off in its advanced position and the springs repressed, means whereby the withdrawal action of the plunger trips said catch to permit said springs to move the cut-off rearwardly, and means movable with the feed-plunger to engage the springs and continue the rearward movement of the cut-off.

24. In a machine of the character described, a casing, a baling case therein, a cut-off having rearwardly projecting arms, a cross-bar connecting said arms, a rock-shaft having catch arms engaging said bar to hold the cut-off advanced and over the baling case and also having a crank arm, a feed-plunger for the baling case, means to move the same rearward against said crank-arm to rock the shaft and trip the catch-arms from engagement with said bar, means to move the cut-off rearwardly when thus released, and means movable with the plunger for continuing the rearward movement of the cut-off with the continued rearward movement of the plunger.

25. In a machine of the character described, a casing, a baling case therein, a cut-off having rearwardly projecting arms, a cross-bar connecting said arms, a rock-shaft having catch arms engaging said bar to hold the cut-off advanced and over the baling case and also having a crank arm, a feed-plunger for the baling case, means to move the same rearward against said crank-arm to rock the shaft and trip the catch-arms from engagement with said bar, means to move the cut-off rearwardly when thus released, means movable with the plunger for continuing the rearward movement of the cut-off with the continued rearward movement of the plunger, and means for advancing the plunger and cut-off to their original positions.

26. In a machine of the character described, a casing, a baling case carried thereby, a wire carrying reel, a guide for the wire to hold it near one side of the baling case, a reciprocatory needle-carrying frame to pass the needle transversely through the case past the wire, and means engaging and adapted to yield with the wire when the latter is pushed aside by the pressure of the advancing needle and to press the wire into the path of the backward movement of said needle.

27. In a machine of the character described, a casing, a baling case carried thereby, a wire-carrying reel, a guide for holding the wire contiguous to one side of the case, a needle-guide frame at the opposite side of the case and approximately in line with said wire-guide, a reciprocating needle carried by said frame and of forwardly tapering form and horizontally bifurcated and provided with a grooved roller journaled in said bifurcation, and a pivoted bar holding the wire in the horizontal plane of said roller and provided with an arm in the plane of the needle and adapted to be pushed upward by said needle after the latter has passed the wire to cause said bar to press the wire in the plane and rearward of said roller and hold it in such position until the latter in the back reciprocation of the needle has engaged said wire.

28. In a machine of the character described, a casing a baling case carried thereby, a reciprocating plunger in the baling case, a rigid frame, an intermittently rotatable shaft therein, a driven wheel journaled on the shaft, a bar rigid with said shaft, a pivoted spring-actuated catch mounted on said bar, a pivoted stop mounted on said frame and normally engaged by said catch, means actuated by the movement of the baling material in the case for tripping said stop from said catch to permit the latter to move, a lug on the driven wheel to engage the catch in its new position and impart movement to the bar carrying the same and the shaft to which said bar is secured, and means to redispose said stop in the path of rotary movement of said catch after the latter has started on its travel.

29. In a machine of the character described, a casing, a baling case carried thereby, a reciprocating plunger in the baling case, a rigid frame, an intermittently rotatable shaft therein, a driven wheel journaled on the shaft, a bar rigid with said shaft, a pivoted spring-actuated catch mounted on said bar, a pivoted stop mounted on said frame and normally engaged by said catch, means actuated by the movement of the baling material in the case for tripping said stop from said catch to permit the latter to move, a lug mounted on the driven wheel to engage the catch in its new position and impart movement to the bar carrying the same and the shaft to which said bar is secured, and means to redispose said stop in the path of rotary movement of said catch after the latter has started on its travel, and means to prevent back rotation of said shaft as it completes each revolution.

30. In a machine of the character described, a casing, a baling case carried thereby, a reciprocating plunger in the baling case, a rigid frame, an intermittently rotatable shaft therein, a driven wheel journaled on the shaft, a bar rigid with said shaft, a pivoted spring-actuated catch mounted on said bar, a pivoted stop mounted on said frame and normally engaged by said catch, means actuated by the movement of the baling material in the case for tripping said stop from said catch to permit the latter to move, a lug on the driven wheel to engage the catch in its new position and impart movement to the bar carrying the same and the shaft to which said bar is secured, means to redispose said stop in the path of rotary movement of said catch after the latter has started on its travel, and means to prevent back rotation of said shaft as it completes each revolution.

31. In a machine of the character described, a casing, a baling case carried thereby, a reciprocating plunger in the baling case, a rigid frame, an intermittently rotatable shaft therein, a driven wheel journaled on the shaft, a bar rigid with said shaft a pivoted spring-actuated catch mounted on said bar, a pivoted stop mounted on said frame and normally engaged by said catch, means actuated by the movement of the baling material in the case for tripping said stop from said catch to permit the latter to move, a lug on the driven wheel to engage the catch in its new position and impart movement to the bar carrying the same and the shaft to which said bar is secured, means to redispose the stop in the path of rotary movement of said catch after the latter has started on its travel, and a spring catch to engage said bar after it has completed a revolution to prevent back movement thereof.

32. In a machine of the character described, a casing, a baling case carried thereby, a reciprocating plunger in the baling case, a rigid frame, an intermittently rotatable shaft therein, a driven wheel journaled on the shaft, a bar rigid with said shaft, a pivoted spring-actuated catch mounted on said bar, a pivoted stop mounted on said frame and normally held yieldingly in the path of said catch, a lever in the path of said stop, means actuated by the movement of the baling material in the case to move said lever away from the stop and then release said lever, and a spring resisting the movement of said lever away from said stop and for causing said lever to spring back in its original position and strike and trip said stop off said notch.

33. In a machine of the character described, a casing, a baling case carried thereby, a reciprocating plunger in the baling case, a rigid frame, an intermittently rotatable shaft therein, a driven wheel journaled on the shaft, a bar rigid with said shaft, a pivoted spring-actuated catch mounted on said bar, a pivoted stop mounted on said frame and normally held yieldingly in the path of said catch, a lever in the path of said stop, a wheel engaging the baling material in the case and rotated intermittently by the movement imparted to said material by the plunger, means whereby said wheel once in each revolution shall operate said lever, and move it away from said stop, and a spring resisting said lever movement and adapted when the latter is released by said wheel to swing the lever back and cause it to trip said stop from the path of said catch.

34. In a machine of the character described, a suitable casing, a baling case therein, a wire carrying reel, from which the wire extends to the front end of the baling material in the case, a plunger for forcing such material through the case, a reciprocatory needle to pass transversely through the case back of the baling material

therein and adapted to engage the wire, a rigid frame, a shaft journaled therein, means whereby the rotation of said shaft imparts reciprocatory movement to the needle, a driven wheel journaled on said shaft and provided with a lug, a bar rigid with said shaft, a pivoted catch carried by said bar, a movable stop carried by the frame and engaged by the catch, means actuated by the movement of the baling material for tripping said stop from the path of the catch, and means for disposing the catch in the path of said lug after the stop has been tripped.

35. In a machine of the character described, a suitable casing a baling case therein, a wire-carrying reel, from which the wire extends to the front end of the baling material in the case, a plunger for forcing such material through the case, a reciprocatory needle to pass transversely through the case back of the baling material therein and adapted to engage the wire, a rigid frame a shaft journaled therein, means whereby the rotation of said shaft imparts reciprocatory movement to the needle, a driven wheel journaled on said shaft and provided with a lug, a bar rigid with said shaft, a pivoted catch carried by said bar, a movable stop carried by the frame and engaged by the catch, means actuated by the movement of the baling material for tripping said stop off the catch, means for disposing the catch in the path of said lug after the stop has been tripped, and means to restore the catch to its original position before the rotary movement of the bar carrying the catch has been completed.

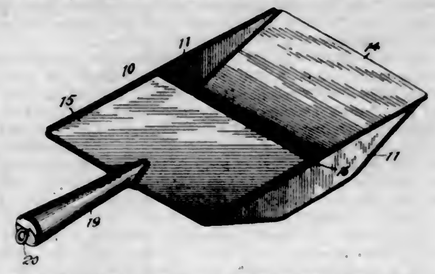
36. In a machine of the character described, a suitable casing, a baling case therein, a wire carrying reel from which the wire extends to the front end of the baling material in the case, a plunger for forcing such material through the case, a reciprocatory needle to pass transversely through the case back of the baling material therein and adapted to engage the wire, a reciprocatory block carrying the needle, a lever suitably mounted to impart movement to said block, a rigid frame, a shaft journaled therein and provided with a crank arm, a link pivotally connecting said crank arm and lever, a driven wheel journaled on said shaft and provided with a lug, a bar rigid with said shaft, a pivoted catch carried by said bar, a movable stop carried by the frame and engaged by the catch, means actuated by the movement of the baling material for tripping said stop from the path of the catch, and means for disposing the catch in the path of said lug after the stop has been tripped.

37. In a machine of the character described, the combination of a casing, a baling case carried thereby, a wire carrying reel, a brake yieldingly engaging said reel, a lever connected to release the brake, a frame, a shaft journaled in the frame, a cam on said shaft, a lever engaging said cam, a cable suitably guided and connecting said levers, a needle to engage said wire and connected to the shaft to be reciprocated by each revolution thereof, a plunger for forcing baling material through the case and means actuated periodically by the movement of said baling material to permit said shaft to operate the needle and cause said cam to operate its lever and thereby effect the release of the brake.

38. In a machine of the character described, a suitable frame, reels carried thereby, levers carried by said frame, brake-shoes carried by said levers and held yieldingly in engagement with the reels, a lever and flexible connections suitably guided between the last-named lever and the brake-shoe carrying levers, and means for actuating the lever to withdraw the shoes from engagement with the reels.

39. In a machine of the character described, a substantially U-shaped frame, reels journaled at the upper and lower sides of the same, cross bars carried by said U-frame at one end, standards connecting the cross bars, U-shaped levers pivoted to said standards and provided with brake shoes to engage the reels, a pair of guide sheaves journaled on the U-frame, a lever having a pivotal point fixed with relation to said U-frame, cables engaging said guide sheaves and attached at their opposite ends to said last-named lever and the levers provided with the brake shoes, and means for yieldingly holding the brake shoes out of engagement with the reels.

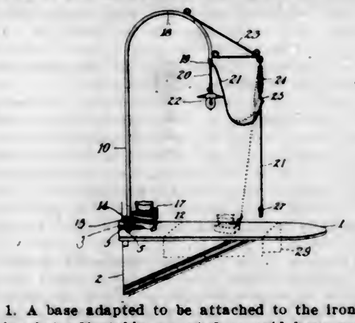
868,887. DUST-PAN. WALTER R. RICH, New York, N. Y. Filed Mar. 8, 1907. Serial No. 361,351.



1. A dustpan comprising a substantially rectangular receptacle provided with inclined ends to adapt it to be used at either end, a rectangular cover pivoted between the sides of the receptacle and adapted to be shifted to either end of said receptacle, and a handle connected to the cover and movable therewith.

2. A dustpan comprising a receptacle provided with inclined ends to adapt it to be used at either end, a cover pivoted to the sides of the receptacle and adapted to be shifted to either end of the receptacle, and a handle connected to the cover and movable therewith.

868,888. SUSPENSION-BRACKET. EARL H. RICHARDSON, Ontario, Cal., assignor to Pacific Electric Heating Company, Los Angeles, Cal., a Corporation of California. Filed Sept. 27, 1906. Serial No. 336,516.



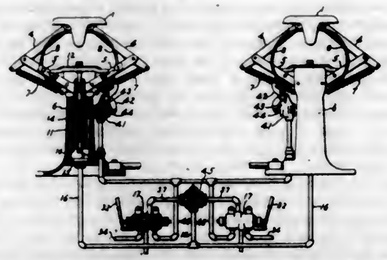
1. A base adapted to be attached to the ironing board, a bracket adjustably mounted on said base, an auxiliary bracket on the first bracket, a coil spring hung from the auxiliary bracket, a fixture on one of said brackets, and a heating cord extending from the fixture to the lower end of the spring and hanging from the spring with its lower end adapted to be connected to the laundry iron.

2. A base adapted to be attached to the ironing board, a bracket adjustably mounted on said base, a laundry iron rest adjustable on said first bracket, an auxiliary bracket on the first bracket, a coil spring hung from the auxiliary bracket, a fixture on one of said brackets, and a heating cord extending from the fixture to the lower end of the spring and hanging from the spring with its lower end adapted to be connected to the laundry iron.

3. A base adapted to be attached to the ironing board or other support, a socket on the base, a bracket with its leg revolubly mounted in said socket, means for clamping said leg in the socket, a rest comprising a sleeve with a projecting shelf having a retaining flange for supporting the laundry iron, the sleeve being revolubly mounted on said leg, means for clamping the sleeve on the leg, an auxiliary bracket on the first bracket, a coil spring connected to the auxiliary bracket, a heating cord extending through the bracket, a thong forming a noose which receives the heating cord and connected to the spring, the heating cord having a detachable connection with the laundry iron.

4. A base adapted to be attached to the ironing board or other support, a socket on the base, a bracket with its leg revolubly mounted in said socket, means for clamping said leg in the socket, a rest comprising a sleeve with a projecting shelf having a retaining flange for supporting the laundry iron, the sleeve being revolubly mounted on said leg, means for clamping the sleeve on the leg, an auxiliary bracket on the first bracket, a coil spring connected to the auxiliary bracket, a heating cord extending through the bracket, means whereby the heating cord may be attached at any desired point to the end of said spring, the heating cord having a detachable connection with the laundry iron.

868,889. TROLLEY-OPERATING VALVE. ROBERT H. ROGERS, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Nov. 17, 1905. Serial No. 287,818.



1. In current collecting apparatus for an electric railway vehicle, an engineer's valve comprising a casing, a rod arranged lengthwise thereof and provided with hand operating means, a piston secured to said rod and having a leakage port, and a slide valve engaged by said rod, said casing having supply and delivery ports and an exhaust port on one side of said piston, and an operating port on the other side thereof.

2. In current collecting apparatus for an electric railway vehicle, an engineer's valve comprising a casing, a bushing therefor, having a longitudinal groove, a rod running lengthwise of said casing and provided outside thereof with hand operating means, a piston secured to said rod and having a leakage port, and a slide valve engaged by said rod, said casing having an exhaust port and a delivery port controlled by said valve, a supply port opening into the valve chamber, and an operating port opening into the piston chamber.

3. In current collecting apparatus for an electric railway vehicle, an engineer's valve comprising a casing, a piston therein dividing it into chambers and provided with hand operating means, a slide valve in one of said chambers, a source of fluid pressure in constant communication with said chamber, a delivery port normally opening into said chamber, an exhaust port opening under the valve and adapted to be connected thereby with the delivery port, a leakage port in the piston for connecting the two chambers, and a control port opening out of the second chamber.

4. In current collecting apparatus for an electric railway vehicle, an engineer's valve comprising a casing, a slide valve therein having upwardly extending wings, a spring secured between said wings and bearing against the wall of the casing, a rod passing between said wings to the outside of said casing and provided with hand operating means, a collar on said rod engaging one end of said valve, and a piston on said rod engaging the other end of said valve.

5. In current collecting apparatus for an electric vehicle, the combination with an engineer's valve comprising a slide valve provided with hand operating means, and a piston connected therewith and subjected to balanced fluid pressures, of means for unbalancing said pressures by an abnormal movement of the trolley.

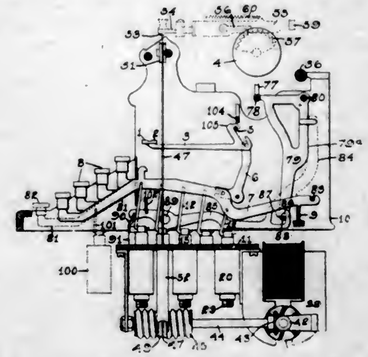
6. In current collecting apparatus for an electric vehicle, the combination with an engineer's valve comprising a slide valve and a piston connected therewith and subjected to balanced fluid pressures, of hand operating means connected to said valve pneumatic means controlled by said slide valve for retracting the trolley, pneumatic means for unbalancing the pressures on said piston, and means for operating said unbalancing means by an abnormal movement of the trolley.

7. In current collecting apparatus for an electric railway vehicle, the combination with two trolleys, of two engineer's valves, each comprising a piston subjected to balanced fluid pressures, and a slide valve connected with said piston, a double check valve connected with both valve casings, pneumatic trolley-retracting mechanism connected with said check valve, and means operated by each trolley for bleeding the fluid-pressure from one side of the pistons.

8. In current collecting apparatus for an electric railway, an engineer's valve comprising a casing having a stuffing-box at each end, a rod sliding through said stuffing-boxes, a piston on said rod inside the casing and having a leakage port, a slide valve in the casing engaged by said rod, a handle attached to one end of said rod, supply, delivery and exhaust ports on one side of said piston, and an operating port on the other side thereof.

9. In current collecting apparatus for an electric vehicle, the combination with pneumatically actuated means for retracting the collector, of a valve mechanism therefor comprising a slide valve, means for actuating said valve manually, means for actuating it pneumatically, and devices controlled by the movement of the collector for operating said pneumatic valve actuating means.

868,890. TYPE-WRITING MACHINE. JOSEPH A. RONCHETTI, New York, N. Y., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Mar. 23, 1906. Serial No. 307,632.



1. The combination with a typewriting machine including a set of type-actions having finger-keys, of a system of solenoids mechanically connected to said type-actions, a second typewriting machine provided with a key-board having a similarly arranged system of keys and also having type-actions mechanically operated by its keys, and a set of electrical connections for enabling the keys of the second typewriter to operate said solenoids.

2. The combination of a metallic frame, a set of key levers pivoted thereon, a bar of insulating material extending transversely beneath the levers, a set of yielding contact fingers beneath the keys and extending alternately forwardly and backwardly from the middle portion of said bar, and each continuing down and bent beneath said bar and secured thereto, a typewriting mechanism including a set of type actions, and electrical connections between said contact fingers and said type-actions.

3. The combination with a typewriting machine having a system of type-bar operating levers, of a system of

solenoids mounted in a single bank beneath said levers, links attached to the levers and to the cores of the solenoids, a second typewriting machine having a set of keys, and also having type-actions mechanically operated by its keys, and electrical connections from the keys of the second typewriting machine to the solenoids.

4. The combination with a typewriting machine including a series of type-bar operating levers, of a series of solenoids, links extending from the levers to the cores of the solenoids, a second typewriting machine having a set of keys, and also having type-actions mechanically operated by its keys, and electrical connections from said keys to said solenoids; each solenoid having an iron plug in the end opposite to the core.

5. The combination with a series of type bar operating levers, of a series of solenoids, mechanical connections from the levers to the cores of the solenoids, a set of keys, and electrical connections from the keys to the solenoids, each solenoid having an iron plug in the end opposite to the core; means being provided for adjusting said plug in and out of the solenoid.

6. The combination with a series of type bar operating levers, of a series of solenoids, mechanical connections from the levers to the cores of the solenoids, a set of keys, and electrical connections from the keys to the solenoids, each solenoid having an iron plug in the end opposite to the core; the type-actions, cores and plugs being so mounted that each core, nearly but not quite, contacts with its plug when its associated type strikes the paper.

7. The combination of a set of type-actions provided with keys, a second set of keys, and adjustable means for enabling each of the second set of keys to transmit a moderate amount of power to its type-action at the beginning of its printing stroke, and a relatively great amount of power at the final portion of such stroke, according to the adjustment.

8. The combination with a set of solenoids, and a set of keys having electrical connections to said solenoids, of a set of type-actions, and mechanical connections from the type-actions to the cores of the solenoids; adjustable means being provided for regulating the strokes of the cores.

9. The combination of a system of solenoids arranged in a single bank, and a set of keys electrically connected thereto, of links extending from the cores of the solenoids, and type operating levers to which said links are attached.

10. In combination, a plate having threaded perforations, a set of solenoids having central brass tubes, which are screwed into said perforations, a set of type operating levers above said plate, the cores of the solenoids extending up through said perforations and connected to said levers, and a set of keys electrically connected to said solenoids.

11. The combination with a system of type-bar operating levers, of a system of solenoids whose cores are connected mechanically to the levers at various distances from the fulcrums of the latter, so that the strokes of the cores vary in length, a system of keys, and electrical connections from the keys to the solenoids; each solenoid having an iron plug in the end opposite to the core, and the cores and plugs being so mounted that each core nearly but not quite contacts with its plug when its associated type strikes the paper, whereby the shortest-stroke cores, being always near the plugs, exert a strong pull throughout the type-bar strokes, so that the effect upon the type-bars is about the same as with the longest-stroke cores.

12. The combination with a system of type-bar operating levers, of a system of solenoids having cores and assembled closely in a bank, connections extending from the cores to act upon the levers at various distances from the fulcrums of the latter, so that the strokes of the cores vary in length, a system of keys and electrical connections from the keys to the solenoids; each solenoid being constructed to exert a varying pull upon its core according to the position of the core, and the cores having positions in the solenoids corresponding respectively with the lengths of the core-strokes, the cores having the shortest strokes being mounted in positions to be most powerfully affected by the solenoids, and the other cores being mounted to be less powerfully affected, substantially in proportion as their connections are distant from the fulcrums of said levers.

13. The combination with a system of solenoids, and a system of typewriter keys having electrical connections to said solenoids, of a system of type-actions and mechanical connections from the type-actions to the solenoids; each solenoid being provided with individual adjustable means to vary its pull.

14. The combination with a system of solenoids having cores, and a system of typewriter keys having electrical connections to said solenoids, of a system of type-actions and mechanical connections from the type-actions to the cores; each solenoid being provided with a member to cooperate mechanically with the core, to operate its connected type-action, and means being provided for effecting adjustment of said coöperating member relatively to the core.

15. The combination of a typewriting machine including a system of type-bar operating levers, solenoids mounted side by side and having cores directly connected by links to certain of said levers and other solenoids having cores similarly connected to the remaining levers, the solenoids being disposed close together and one behind another and forming a bank extending across the lever system, a second typewriting machine having a system of keys and also having type-actions mechanically operated by said keys, and electrical connections from the keys to the solenoids.

16. The combination with a typewriting machine including a series of type-bar operating levers, of a series of solenoids, mechanical connections from the levers to the cores of the solenoids, a second typewriting machine having a set of keys, type-actions mechanically operated by said keys, and electrical connections from the keys to the solenoids, each solenoid having an iron plug in the end opposite to the core, to coöperate with the core, to operate its connected lever and exert increasing force upon the lever during the printing stroke.

17. The combination with a series of type-bar operating levers, of a series of solenoids, mechanical connections from the levers to the cores of the solenoids, a set of keys, and electrical connections from the keys to the solenoids, each solenoid having an iron plug in the end opposite to the core, to coöperate with the core to operate its connected lever and exert increasing force upon the lever during the printing stroke; the cores being connected to the levers at various distances from the fulcrums of the latter and normally standing at corresponding distances from the plugs, to cause differences in the pull of the solenoids upon the cores, sufficient to compensate for the differences in the purchase of the cores upon the levers.

18. The combination with a system of type-bar operating levers, of a system of solenoids each comprising a brass tube, windings of wire around the same, a soft iron tube closed at one end and inclosing said windings, a soft iron washer fitting around said brass tube and filling the other end of said iron tube, a soft iron screw-plug threaded into one end of said tube and projecting therefrom, cores fitting in said tubes, means connecting said cores to said levers, a set of keys, and electrical connections from the keys to the solenoids.

19. In combination, a system of type-operating levers, a plate beneath said system, a system of solenoids, each extending down from said plate and supported thereby, cores in said solenoids and extending up through said plate and connected to said levers, adjustable means at the lower ends of each solenoid to vary its pull upon its associated lever, and a system of keys electrically connected to said solenoids.

20. The combination with a system of type-operating levers, of a fixed plate beneath said levers, solenoids attached to said plate, hooks depending from the levers and detachably inserted in eyes provided in nipples formed upon the upper ends of cores within said solenoids, each core extending through said plate, and each solenoid comprising a non-magnetic metal tube containing one of said cores and having its upper end screwed into said plate, windings upon said tube, and a tubular iron jacket or case inclosing said windings, and closed at its lower end by an integral head, and also closed at its upper end by an iron plug or washer fitting between said tube and said case, an iron screw-plug closing the lower end of said tube, and a system of controlling keys electrically connected to said solenoids.

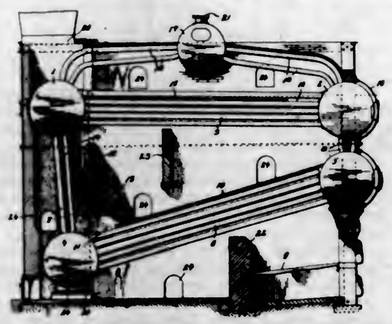
21. The combination with a system of type-operating levers, of solenoids beneath said levers, hooks depending from the levers and detachably attached to cores within said solenoids, each solenoid comprising a non-magnetic tube containing one of said cores, windings upon said tube and a tubular iron jacket or case inclosing said windings and closed at its lower end by an integral head, and also closed at its upper end by an iron plug or washer fitting between said tube and said case, an adjustable iron plug closing the lower end of said tube, and a system of controlling keys electrically connected to said solenoids.

22. The combination with a system of type-operating levers, of solenoids having cores connected to said levers, each solenoid comprising a non-magnetic tube containing one of said cores, windings upon said tube, and a tubular iron jacket or case inclosing said windings, and closed at its lower end by an iron head, and also closed at its upper end by an iron plug, an iron plug closing the lower end of said tube, and a system of controlling keys electrically connected to said solenoids.

23. The combination with a system of type-operating levers, of solenoids having cores connected to said levers, each solenoid comprising a non-magnetic tube containing one of said cores, windings upon said tube, and a tubular iron jacket or case inclosing said windings, and closed at its lower end by an iron head, and also closed at its upper end by an iron plug, an iron plug extending into the lower end of said tube for about one fourth of the length of the solenoid, and a system of controlling keys electrically connected to said solenoids; each core being about equal to the solenoid in length.

24. The combination with a system of type-operating levers, of solenoids having cores connected to said levers, and each solenoid comprising a non-magnetic tube containing one of said cores, windings upon said tube, and a tubular iron jacket or case inclosing said windings, and an iron plug closing the lower end of said tube, and a system of controlling keys electrically connected to said solenoids.

868,891. WATER-TUBE BOILER. EDWIN G. RUST, Elk Rapids, Mich. Filed Feb. 26, 1906. Serial No. 302,855.



1. In a water-tube boiler, a pair of front horizontal drums at different levels, water-circulators connecting the same, a pair of rear horizontal drums at different levels, water-circulators connecting the same, a bank of tubes connecting the upper drums, a bank of tubes connecting the lower drums, and a baffle arranged to direct the gases from the front of the boiler rearwardly along the lower bank of tubes, a baffle arranged to direct the gases from the rear end of the boiler upwardly among the rear set of water circulators, means preventing the gases passing thence rearwardly around the rear upper drum, a baffle arranged to direct the gases forwardly from the rear of the boiler along the upper bank of tubes.

2. In a water-tube boiler, a pair of front horizontal drums at different levels, water-circulators connecting the same, a pair of rear horizontal drums at different levels, water circulators connecting the same, a bank of tubes connecting the upper drums, the rear upper drum being at a higher level than the front upper drum, a bank of tubes connecting the lower drums, and a baffle arranged to direct the gases from the front of the boiler rearwardly along the lower bank of tubes, a baffle arranged to direct the gases from the rear end of the boiler upwardly among the rear set of water circulators, means preventing the gases passing thence rearwardly around the rear upper drum, a baffle arranged to direct the gases forwardly from the rear of the boiler along the upper bank of tubes.

3. In a water-tube boiler, a pair of front horizontal steam and water drums at different levels, water-circulators connecting the same, a pair of rear horizontal drums at different levels, water circulators connecting the same, a bank of tubes connecting the upper drums, a bank of tubes connecting the lower drums, the rear lower drum being at a lower level than the front lower drum, and a baffle arranged to direct the gases from the front of the boiler rearwardly along the lower bank of tubes, a baffle arranged to direct the gases from the rear end of the boiler upwardly among the rear set of water circulators, means preventing the gases passing thence rearwardly around the rear upper drum, a baffle arranged to direct the gases forwardly from the rear of the boiler along the upper bank of tubes.

4. In a water-tube boiler, a pair of front horizontal steam and water drums at different levels, water circulators connecting the same, a pair of rear horizontal drums at different levels, water circulators connecting the same, a bank of tubes connecting the upper drums, the rear upper drum being at a higher level than the front upper drum, a bank of tubes connecting the lower drums, the rear lower drum being at a lower level than the front lower drum, and a baffle arranged to direct the gases from the front of the boiler rearwardly along the lower bank of tubes, a baffle arranged to direct the gases from the rear end of the boiler upwardly among the rear set of water circulators, means preventing the gases passing thence rearwardly around the rear upper drum, a baffle arranged to direct the gases forwardly from the rear of the boiler along the upper bank of tubes.

5. In a water-tube boiler of the horizontal type, front and rear upper drums and front and rear lower drums, water circulators connecting the front drums, circulators connecting the rear drums, a bank of tubes connecting the upper drums, a bank of tubes connecting the lower drums, baffles arranged to cause the gases to traverse serially the lower and upper banks of tubes, a baffle arranged between the rows of rear water-circulators, a baffle arranged to cause the gases to pass from the lower bank of tubes along the water-circulators on one side of the said baffle between the circulators.

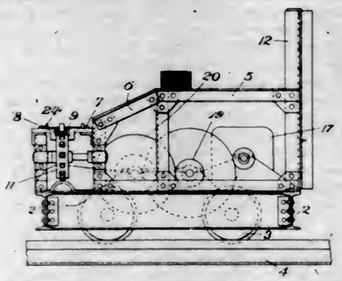
6. In a water-tube boiler, a pair of front and rear lower drums, the front being at a higher elevation than the rear drum, a bank of inclined tubes connecting said drums, a fire-box beneath the higher ends of said tubes, a baffle to direct the gases downwardly among said tubes, a pair of front and rear upper drums, a bank of tubes connecting the same, water circulators connecting the front drums, water-circulators connecting the rear drums, and baffling arranged to direct the gases along the rear water-circulators and forwardly among the tubes of the upper bank.

7. In a water-tube boiler, three horizontal gas-passes, a pair of drums and connecting water-tubes in each of the two lower passes, water-circulators connecting each upper with a lower drum, and a steam collector and superheater in the upper pass, connected with the drums of the middle pass.

8. In a water-tube boiler, two horizontal gas-passes, a pair of drums, and connecting tubes in each pass, water-circulators between each upper drum and lower drum, baffling arranged to direct the gases upwardly along one bank of water-circulators, and a bridge in the upper pass

in front of the said baffling to direct and confine the gases therein so as to cause them to travel among the tubes in said pass.

868,892. SKELP-CHARGER. WILLIAM E. SANDFORD, Zanesville, Ohio. Filed Aug. 20, 1906. Serial No. 331,223.



1. In a skelp charger, a movable truck or platform arranged to travel across the front of the furnace hearth, and having a support in which skelp may be piled and provided with a pusher arranged to move the skelp one by one over said platform and then place it under tension causing the skelp to pass beyond the pusher and into the furnace; substantially as described.

2. A skelp charger comprising a movable frame or frames having a guide trough for the skelp, a chain movable therein, and means for starting and stopping the chain, said chain being provided with a pusher to engage the skelp and move it through the trough and then place it under tension causing it to spring beyond the same into the furnace; substantially as described.

3. A skelp charger having a traveling platform provided with side guides for the skelp, a chain movable therein, and having a pusher arranged to force the skelp along the platform and then place it under tension, whereby as the pusher leaves the skelp the latter is forcibly thrown into the furnace.

4. A skelp charger having a storage support and inclines leading therefrom to the charging device proper, a guide trough for the skelp having therein a central guide-way, a chain movable therein, said chain carrying a pusher arranged to move the skelp through said trough and then place it under tension, whereby the skelp is forced into the furnace as the pusher leaves the same; substantially as described.

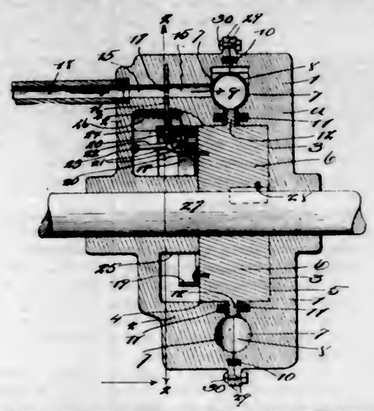
5. A skelp charger having a platform at one side, downwardly-inclined ways leading from said platform to a lower support or table having a guide-trough for the skelp, and a chain arranged to push the skelp along said lower support and to place the same under tension, whereby as the chain is disengaged the skelp is forced into the furnace; substantially as described.

6. A skelp charger having a suitable platform or support, and a reciprocable pusher arranged to force the skelp along the platform and then place it under tension causing the skelp to spring beyond the pusher as the latter is disengaged therefrom.

868,893. ROTARY ENGINE. WILLIAM SEIBERT, Erie, Kans. Filed Mar. 27, 1907. Serial No. 364,759.

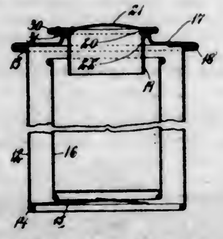
1. In a device of the character described; a casing having a steam chamber; a head rotatable within said casing; said head having a piston designed to travel within said steam chamber; an inlet; an exhaust for the engine; said inlet having a sliding valve; said casing having a hollow portion; an oscillatory lever having anti-frictional rollers pivoted in said hollow portion; said lever having pitman connection with said sliding valve; said head having a cam track for operating said lever for controlling the sliding valve.

2. In a device of the character described; a casing comprising two sections; the adjacent faces of which are provided with two concentric recesses forming chambers; a rotatable head having a piston to rotate in one of said chambers while the piston carried by the head rotates in the other chamber; an inlet; an exhaust for the engine; said inlet having a sliding valve; one of said sections of



the casing having a hollow portion; an oscillatory lever having anti-frictional rollers pivoted in said hollow portion; said lever having pitman connection with said sliding valve; said head having a cam track for operating said lever for controlling the sliding valve.

868,894. GARBAGE-RECEPTACLE CONTAINER. CHARLES H. STEPHENSON, Lynn, Mass. Filed July 3, 1905. Serial No. 268,244.



1. A sheet-metal container having a reinforcing-ring forming an uninterrupted circle at its upper end, and a cover having a hinge engaged with the ring, the hinge being located entirely within the margin of the cover.

2. A sheet-metal container having a hinge-pintle member at its upper end, and a cover having a wire hinge comprising arms affixed to the cover, and spaced eyes engaged with the pintle member, the hinge being located entirely within the margin of the cover.

3. A sheet-metal container having a reinforcing-ring forming an uninterrupted circle at its upper end, and a cover having a wire hinge comprising arms affixed to the cover, and eyes engaged with the ring.

4. A sheet-metal primary cover having a central opening, a chute surrounding said opening and extending below the plane of the cover, a hollow ridge or raised seat surrounding the chute, and a secondary cover formed to bear on said seat.

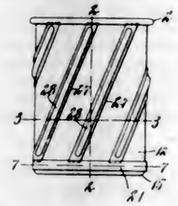
5. A sheet-metal primary cover having a central opening, a chute surrounding the opening, a ridge or raised seat surrounding the chute and having a reinforcing ring, and a secondary cover having a hinge engaged with said ring.

6. A sheet-metal container-cover having a reinforced margin forming a downwardly projecting lip or flange, a hollow ridge or raised seat surrounding a central opening,

and a sheet-metal secondary cover having a reinforced margin formed to surround and project below said seat.

7. A sheet metal receptacle having a primary cover formed with an opening and having a vertical cylindrical chute extending downward from said opening, the cover seat being formed at the upper portion of said chute, and a secondary cover hinged to the primary cover and adapted to close said opening, said secondary cover having its margin surrounding and projecting below the plane of said seat.

868,895. SHEET-METAL RECEPTACLE. CHARLES H. STEPHENSON, Lynn, Mass. Filed July 3, 1905. Serial No. 268,245.



1. A sheet metal receptacle comprising a cylindrical body having an inwardly and upwardly turned flange at its lower end forming a rounded bearing foot, a bottom having a downwardly turned marginal flange interlocked with the said body flange, and an external reinforcing band secured to the body and covering the exterior of the body the securing means being located above the plane of the bottom, said band projecting above and below the bottom, the lower edge of the band being positioned in a plane above the bottom of said foot portion.

2. A sheet metal receptacle comprising a cylindrical body having an inwardly and upwardly turned and rolled flange at its lower end forming a rounded bearing foot, the outer face of the body portion being free from annular depressions, a bottom having a downwardly turned marginal flange terminating in a rolled portion within the roll of the body flange, and a core located within the roll of the bottom flange, the flange of the cylindrical body extending over the upper side of the flange of the bottom and the core, whereby movement of the core and the flange of the bottom is prevented by said body flange.

3. A sheet metal receptacle comprising a cylindrical body having at its upper end a rolled flange forming an external enlargement, and a series of ribbed longitudinally extending reinforcing strips secured to the body, said flange overlapping and covering the upper ends of said strips.

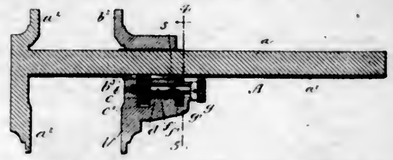
4. In a sheet metal receptacle a cylindrical body having a series of longitudinally extending sheet metal strengthening ribs, closed at their ends, the end-closures being formed integral with the remaining portion of the ribs, said body having means at its upper and lower portions and common to all of the ribs, for securing the ends of the ribs to the body.

5. In a sheet metal receptacle a cylindrical body having a series of external strengthening ribs inclined relatively to the axis of the body, said body having means at its upper and lower portions and common to all of the ribs, for securing the ends of the ribs to the body portion.

6. A sheet metal receptacle comprising a cylindrical body, and a series of longitudinally extending ribbed reinforcing strips having flanges secured to the body and means, common to all of the ribs, for securing the ends of the rib-flanges in position on the body-portion, said strips being inclined relatively to the axis of the body.

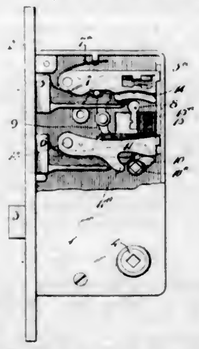
868,896. CALIPERS. AUGUST THOMSEN, Glendale, N. Y. Filed May 22, 1906. Serial No. 318,121.

1. A caliper or gage micrometer comprising a flat bar having graduations on one or both of its sides and threads along one edge thereof and having also a longitudinal groove, a movable jaw having a projection adapted to slide in said groove in the bar and a graduation thereon to register with the graduations on the bar, a worm gear carried by said movable jaw, and an eccentric for throwing said worm into and out of engagement with the threads on the bar—to permit of gradual or rapid adjustment of the movable jaw.



2. A caliper or gage micrometer comprising a bar having graduations on one or both of its sides and threads along one edge thereof and having also a longitudinal groove, a movable jaw having a spline adapted to slide in said groove in the bar and a graduation thereon to register with the graduations on the bar, a worm gear carried by said movable jaw, an eccentric for throwing said worm into and out of engagement with the threads on the bar, and a spring for keeping the eccentric in position, whereby the worm is normally held out of engagement with the teeth on the bar.

868,897. LOCK. HENRY G. VOIGHT and CHARLES J. CALEY, New Britain, Conn., assignors to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation. Filed Feb. 16, 1907. Serial No. 357,696.



1. In a lock, a case, a key passage therein, a movable member arranged when in one position to alter the outline of the side of said key passage without substantially shortening said key passage.

2. In a lock, a key hole, a movable member adapted when in one position to alter the outline of both sides of the key passage without shortening said key passage.

3. In a lock in combination, a case having a key-hole, a movable member located inside said case and having a supplemental key-hole arranged to register with the first at certain times to alter the outline thereof, and arranged at other times out of line of said first mentioned key-hole.

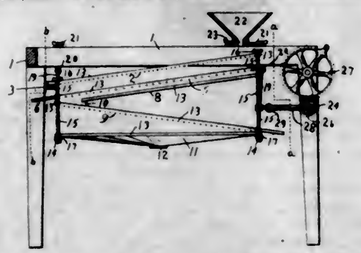
4. In a lock, a bolt, a key-hole at the outer side thereof, lock work coöperating with said bolt and controlled by a key to operate said bolt, separate means at the inner side of the lock to operate said bolt independently of the key and means coöperating therewith to alter the outline of the outer key-hole when the bolt is projected.

5. In a lock, a bolt, a key-hole at the outer side thereof, lock work coöperating with said bolt and controlled by a key to operate said bolt, separate means at the inner side of the lock to operate said bolt independently of the first named means and means coöperating therewith to alter

the outline of the outer key-hole when the bolt is rejected, said means being carried by said bolt.

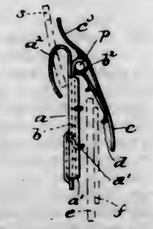
6. In a lock, bolt mechanism, means for operating said bolt mechanism from the outer side of the lock, separate means for operating said bolt mechanism from the inner side of the lock and including a roll-back arranged to engage and dog said bolt, a cast-off for said roll-back, said cast-off being actuated by the introduction and turning of a proper key from the outer side of said lock.

868,898. CORN-SEPARATOR. WILLIAM A. WERCKLE, Peoria, Ill. Filed Mar. 27, 1905. Serial No. 252,222.



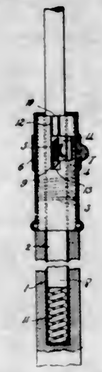
The combination, in a corn separator, of an inclined, transversely slotted riddle terminating in a side discharging gutter, a second riddle, with round perforations, directly underneath and parallel with the said slotted riddle and terminating in a spout, a conveyer surface directly underneath and parallel with the said second riddle and extending to within a short distance of the upper end of the third riddle, upon which it deposits, the said third riddle inclined in the opposite direction to the second riddle, terminating in a spout and having smaller perforations than the said second riddle, a bridge on the third riddle to support the discharge end of the aforesaid conveyer, a flattened hopper shaped bottom directly underneath the said third riddle, rods connecting the said riddles, conveyer, and bottom, sections of tubing on the rods between the said riddles, conveyer, and bottom, telescoping the said rods, hangers depending from a supporting frame and secured to the lower portion of the complete riddle frame, a hopper depositing on the upper end of the first riddle, and a revoluble double crank connected with the riddle frame, substantially as and for the purposes specified.

868,899. GARMENT-SUPPORTER. SANFORD E. WEST, Pawtucket, R. I. Filed Mar. 25, 1907. Serial No. 364,542.



A garment-supporting device comprising in combination a hook-member having oppositely disposed guide-ways; a prong-gripping-member slidably mounted in the guide-ways of the first said member and having two laterally disposed circular bent portions; a pin secured through the bent portions of said gripping-member; a second prong-gripping-member having a central strip formed by slitting the metal, the strip being provided with a lateral depression for said pin to rest upon in securing both gripping-members together, and the last mentioned gripping member having a tongue which coming in contact with the hook-member causes the gripping-members to be held in a firmly closed condition.

868,900. INTERCHANGEABLE UMBRELLA-HANDLE. HARRY A. WIDMER, London, England. Filed Dec. 10, 1906. Serial No. 347,096.



1. In an interchangeable fastening for the handles and shafts of umbrellas, sunshades, sticks and like articles, the combination of a handle having a receiving socket, a shaft adapted to be inserted in said receiving socket, suitably shaped guiding and locking wards mounted near the end of said shaft and adapted to move in slots formed in the sides of the receiving socket while preventing the lateral movement of the shaft, a locking ring mounted on said handle provided with a projection adapted to be turned to engage said wards and lock said shaft to said handle.

2. In an interchangeable fastening for the handles and shafts of umbrellas, sunshades, sticks and like articles, the combination of a handle having a receiving socket, a shaft provided with combined guiding and locking wards adapted to be inserted in slots formed in said receiving socket, a locking ring mounted on said handle engaging the locking wards and adapted to have a circumferential movement thereon, locking projections on said ring, a spring controlling said locking ring.

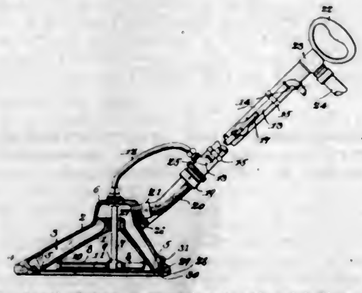
3. In an interchangeable fastening for the handles and shafts of umbrellas, sunshades, sticks and like articles, the combination of a handle having a receiving socket, a shaft provided with combined guiding and locking means adapted to be inserted in slots in said receiving socket, a locking ring mounted on said handle engaging the locking means and adapted to have a circumferential movement thereon, a spring controlling said locking ring, a suitably shaped projection mounted on said ring adapted to be pressed back by said shaft while being pushed into said receiving socket and to fall back into a position locking said shaft when said shaft has been pressed home in said receiving socket.

4. In an interchangeable fastening for the handles and shafts of umbrellas, sunshades, sticks and the like articles, the combination of a handle having a receiving socket, a shaft provided with combined guiding and locking wards adapted to be inserted in said receiving socket, a locking ring mounted on said handle adapted to have a circumferential movement thereon, a spring controlling said locking ring, a suitably shaped projection mounted on said ring adapted to be pressed back by and to engage with the locking wards on said shaft when said shaft has been pressed into the desired position in the receiving socket on said handle.

5. In an interchangeable fastening for the handles and shafts of umbrellas, sunshades, sticks and the like articles, the combination of a handle having a receiving socket, a shaft adapted to be inserted in said receiving socket, combined guiding and locking wards mounted near the end of said shaft, slots formed in the sides of said receiving socket adapted to receive said guiding and locking wards and to guide said shaft into a locking position in said socket, a locking ring mounted on said handle engaging the locking wards and adapted to have a circumferential movement thereon, and a spiral spring controlling said locking ring.

6. In an interchangeable fastening for the handles and shafts of umbrellas, sunshades, sticks and the like articles, the combination of a handle having a receiving socket, a shaft adapted to be inserted in said receiving socket, a spiral spring arranged at the inner end of the receiving socket adapted to expel the shaft when said shaft is unlocked, combined guiding and locking wards mounted near the end of said shaft, slots formed in the sides of said receiving socket, adapted to receive said guiding and locking wards and to guide said shaft into a locking position in said socket, a locking ring mounted on said handle adapted to have a circumferential movement thereon, a spiral spring controlling said locking ring, a suitably shaped projection mounted on said ring adapted to be pressed back by and to engage with the locking ward on said shaft when said shaft has been pressed into the desired position into the receiving socket on said handle.

868,901. CARPET-CLEANER. EDWARD T. WILLIAMS, New York, N. Y. Filed Dec. 28, 1905. Serial No. 293,643.



1. A carpet cleaner comprising a pair of hollow members placed one within the other and spaced apart to provide a suction chamber but with their lower edges in close proximity to form an inlet slit, a suction conduit communicating with said suction chamber, and an adjustable shutter on the outer member to regulate the partial vacuum within the chamber.

2. A carpet cleaner comprising a pair of hollow nested pyramidal members connected together but separated by spacing webs to produce a suction chamber, the peripheral edges of said members being in close proximity and forming a continuous inlet slot, and a suction conduit communicating with said suction chamber.

3. A carpet cleaner comprising a pair of hollow members having open bases and arranged one over the other with a chamber between them which communicates with the hollow of the inner member, a suction conduit communicating with the upper end of the said chamber to produce a suction therethrough, a conduit extending through the members and terminating adjacent the base of the inner member, a plurality of tubular arms communicating with the said tube and having downwardly discharging perforations, and an air supply pipe connected with the said second conduit.

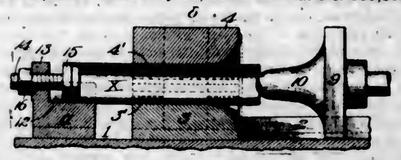
4. A carpet cleaner comprising a pair of nested members spaced apart, a suction conduit communicating with the space between the members, and a controllable means for admitting atmospheric air to the said space, the same comprising a plurality of inwardly extending conduits arranged on the bottom surface of one of the members along one side thereof, an adjustable shutter for the said conduits for controlling the supply of air thereto, and devices at the ends of the shutter for raising and lowering the same.

5. A carpet cleaner comprising a suction chamber consisting of a pair of nested triangular members spaced apart, one face of the outer member being provided with slots having open sides presented to the surface to be cleaned, an adjustable shutter intersecting the slots, and suction mechanism communicating with the space between the members.

6. A carpet cleaner comprising a pair of hollow pyramidal triangular members arranged to form a space between them, a suction conduit connected with the said space, a blast mechanism housed within the hollow of the inner member, and means for controlling the blast, there being communication at the apex of the inner member between the hollow of the inner member and the space between the members.

7. In a carpet cleaner, a structure comprising two hollow pyramidal members connected together and nested with a space between them to provide a suction chamber and slightly separated at their lower edges to form a suction inlet, the edge of the outer member extending below the edge of the inner member, a suction pipe connected to said outer member and communicating with the suction chamber, and an adjustable gate applied to the bottom of said outer member to regulate the inflow of air into said chamber.

868,902. FORMING-DIE. HERMAN S. ALBRECHT, St. Louis, Mo. Filed July 27, 1907. Serial No. 385,899.



1. In a forming die, a female die portion, a male die member adapted to enter said female die portion and a resistance member adjacent to said female die portion adapted to be engaged by an object placed in said female die portion to be operated upon by said male die member, substantially as set forth.

2. In a forming die, a female die portion, a male die member adapted to enter said female die portion and an adjustable resistance member adjacent to said female die portion adapted to be engaged by an object placed in said female die portion to be operated upon by said male die member, substantially as set forth.

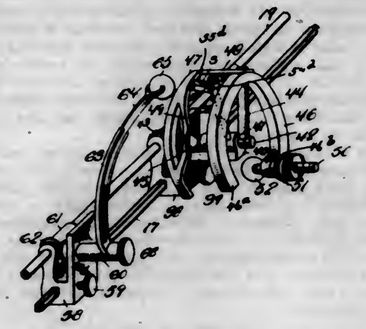
3. In a forming die, a female die portion, a male die member adapted to enter said female die portion, a resistance block located adjacent to the end of said female die portion opposite to that opposing said male die member, and a screw rod mounted in said resistance block and provided with a head adapted to receive an object placed in said female die portion to be operated upon by said male die member, substantially as set forth.

868,903. BOOK OR MUSIC LEAF TURNER. HENRY ALRICH, El Paso, Tex., assignor of one-half to John Stockmeyer, El Paso county, Tex. Filed Aug. 3, 1906. Serial No. 329,078.

1. In a device of the class described, a frame having guide bars, a cross piece adjustably secured upon said guide bars, cross pieces mounted to slide upon the latter, a rock-shaft supported in the sliding cross pieces and having a leaf holding arm, a lever supported to engage one of the sliding cross pieces, a spring interposed between the other sliding cross piece and the stationary cross piece, a rack connected with one of the sliding cross pieces and guided through the stationary cross piece, and a rock-shaft supported in the frame and having a pinion engaged by the rack, a leaf starting device adapted to be operated through the medium of the last named rock shaft.

2. In a device of the class described, a frame, members slidably connected therewith, a rock-shaft supported in the slidable members for longitudinal movement, a leaf holding arm upon the rock-shaft, a rock-shaft supported in

the frame at an angle to the movable rock-shaft, means connected with the slidable rock-shaft supporting members for imparting oscillatory movement to the rock-shaft supported in the frame, and leaf-starting and leaf-turning members actuated by the latter last-named rock-shaft.



3. In a device of the class described, a pivoted member supported for oscillatory movement, a screw-threaded rod extending through one end of said member, clamping nuts upon said rod, and a frictional leaf engaging member carried by the latter.

4. In a device of the class described, a hook support, a bracket adjustable thereon, a rock-shaft supported in bearings in said bracket and having spokes, an arm pivoted upon one of the spokes and having a leaf engaging member, an arm secured upon the other spoke and having a cam-track, and a spreader connected with the bearing of the rock-shaft and extending between the pivoted and stationary arms.

5. In a device of the class described, a book support, a bracket adjustable thereon, a rock-shaft supported in bearings in said bracket and having spokes, an arm pivoted upon one of the spokes and having a leaf engaging member, an arm secured upon the other spoke and having a cam-track, an arm extending from the bearing of the rock-shaft, and a spreader pivoted upon said arm and including two hingedly connected members and a spring normally holding said members in open relation.

6. In a device of the class described, a leaf starting device including a pair of arms supported for oscillation, one of said arms being pivoted and provided with a leaf engaging member and the other arm having a cam-track, and a pivoted spreader supported between the arms and adapted to be actuated by the cam-track of one arm to turn the other arm upon its pivot.

7. In a device of the class described, a frame, an adjustable bracket, a rock-shaft supported by the bracket, a leaf turning arm adjustably connected with the rock-shaft and having an extension slide, and a leaf engaging member connected with the latter for rotation.

8. A device of the class described, including a book support, a longitudinally movable rock-shaft having a leaf-holding arm, a longitudinally movable rack operatively connected with the rock-shaft, lever means for moving the rock-shaft and the rack in one direction, spring means for restoring the rock-shaft and the rack to initial position, a rock-shaft having a pinion engaging the rack, adjustably supported brackets affording auxiliary bearings for the latter rock-shaft, a leaf starting device supported by one of the brackets, a leaf turning arm supported by the other bracket, and means for actuating the leaf starting and turning devices by the oscillation of the rock-shafts.

9. In a leaf turning device, an oscillatory starting device, having a pair of arms, one of said arms being pivoted and provided with a leaf-engaging member, and the other arm having a cam, and a movable spreader disposed between the arms and adapted to be actuated by the cam to turn the other arm upon its pivot.

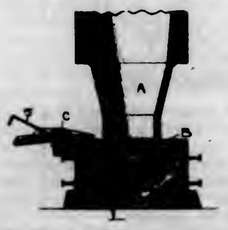
10. In a leaf turning device, a leaf starting device supported for oscillation and provided with a leaf engaging member and an actuating cam track, and a pivoted spreader disposed for coöperation with the leaf engaging member and the cam track.

11. In a leaf turning device, a pair of parallel shafts a bracket adjustable thereon, a rock shaft projecting at right angles thereto, a bearing therefor, a pair of radiating members movable with the shaft, one of the members having a cam, while the other is provided with a leaf-engaging member, a member radiating from the bearing of the shaft, and a spreader carried thereby.

12. In a leaf turning device, a leaf starting device supported for oscillation and provided with a leaf engaging member and an actuating cam track, and a pivoted spreader disposed for coöperation with the leaf engaging member and the cam track, and means for operating said leaf starting device.

13. In a device of the class described, a frame having guide bars, a cross piece adjustably secured upon said guide bars, cross pieces mounted to slide upon the said guide bars, a rock-shaft supported in the sliding cross pieces and having a leaf holding arm, a lever supported to engage one of the sliding cross pieces, a spring interposed between the other sliding cross piece and the adjustable cross piece, a rack connected with one of the sliding cross pieces and guided through the stationary cross piece, a rock-shaft supported on the frame and having a pinion engaged by the rack, a leaf starting device adapted to be operated through the medium of said rock shaft, said leaf starting device being supported for oscillation and provided with a leaf engaging member and an actuating cam track, and a pivoted spreader disposed for coöperation with the leaf engaging member and the cam track.

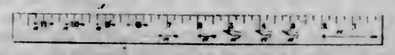
868,904. BOMB FOR USE IN METALLURGICAL OPERATIONS. JOHN O. BARDILL, Herculaneum, Mo. Filed June 22, 1907. Serial No. 380,249.



1. A bomb of the character described, comprising a cylindrical shell, an explosive agent in said shell, and a lining intermediate of said explosive agent and said shell, and a long rigid hand rod whereby the bomb is introduced lengthwise through the outlet well into the basin of a crucible furnace; said lining being a slow conductor of heat, substantially as set forth.

2. A bomb comprising a cylindrical shell, having externally screw-threaded ends, an internally screw-threaded cap at the inner end of the shell, an internally screw-threaded cap at the outer end of the shell, having an internally screw-threaded neck, a lining within the shell, an explosive agent within the lining and a long rigid hand rod secured in the neck, whereby the bomb is introduced lengthwise through the outlet well into the basin of a crucible furnace.

868,905. MEASURING-RULE. IRVIN BESSE, Newburyport, Mass. Filed Jan. 29, 1904. Serial No. 191,095.



1. A measuring rule having along the same a series of symbols, each symbol being in itself indicative of direction, all of which symbols are without variation in their indication of direction and any one of which is adapted to suggest by its indication of direction the end of the rule from which a measurement is taken in measuring from a given point, substantially as and for the purposes set forth.

2. A measuring rule having a scale consisting of a series of progressive characters and a series of symbols associated therewith, each symbol being in itself indicative of direction, all of which symbols are without variation in their indication of direction and any one of which is adapted to suggest by its indication of direction the end of the rule from which a measurement is taken in measuring from a given point, substantially as and for the purposes set forth.

868,906. COURSE-PROTRACTOR. JOHN F. COLE, Somerville, Mass. Filed June 21, 1907. Serial No. 380,060.



1. In a course protractor, the combination with a compass member, of a course-indicating member pivoted independently of the compass member, and means to indicate on the compass member the direction of the course-indicating member in any position thereof.

2. In a course protractor, the combination with a compass member, of an indicator or pointer coöperating therewith, a course-indicating member, and operative connections between said course-indicating member and the pointer whereby said pointer moves in unison with the course-indicating member.

3. In a course protractor, the combination with a compass member, of a radius arm extending therefrom, a pointer coöperating with said compass member, a course-indicating member pivotally carried by said arm, and operative connections between said course-indicating member and said pointer to cause them to move in unison.

4. In a course protractor, the combination with a compass member, of a pivoted pointer coöperating therewith, an independently-pivoted course-indicating member, and operative connections between said course-indicating member and said pointer whereby said member and pointer move in unison.

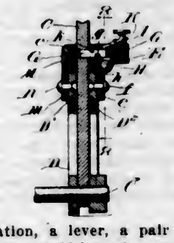
5. In a course protractor, the combination with a compass member, of an indicator or pointer coöperating therewith, a course-indicating member, said pointer and course-indicating member being pivoted to turn about different centers, and operative connections between said pointer and course-indicating member to cause them to turn in unison.

6. In a course protractor, the combination with an arm, of a compass member rotatably carried by one end thereof, a pointer coöperating with said compass member, a course-indicating member pivotally carried by the other end of said arm, and operative connections between said course-indicating member and said pointer to cause them to turn in unison.

868,907. AUTOMOBILE-LOCKING MECHANISM. JOHN F. COLTMAN, Chicago, Ill. Filed Sept. 22, 1906. Serial No. 335,709.

1. The combination, with a lever, a lever guide, a lock casing secured to the guide so as to have its face flush with the side of the guide, a spring actuated bolt mounted in said casing and arranged to move transversely of the plane of movement of the lever, said lever having an opening therethrough to receive the bolt and a plate arranged opposite the lock and at a distance therefrom equal to the thickness of the lever.

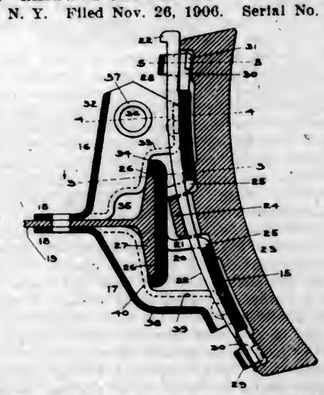
2. In combination, a lever, a lever guide, a lock casing, secured to the guide so as to have its face flush with the side of the guide, a spring actuated bolt mounted in said casing and arranged to move transversely of the plane of movement of the lever, said lever having an opening therethrough to receive the bolt and a plate arranged opposite the lock and at a distance therefrom equal to the thickness of the lever, and a catch extending through the wall of the casing and having on its inner end a hook to hold the bolt retracted and having a push button at its outer end.



3. In combination, a lever, a pair of parallel curved guides between which said lever is permanently mounted, a lock-casing mounted on one of the guides with its face flush with the side thereof, a plate mounted on the other guide with its face flush with the side thereof, a locking bolt mounted in said casing, a spring for moving said bolt transversely across the space between the guides and into proximity to the said plate, and said lever having a transverse opening therethrough to receive the bolt.

4. In combination a lever, a curved guide engaging one side of the lever, a lock casing secured to the guide so as have its face flush with the side thereof, a locking bolt mounted in said casing and arranged to be moved through an opening in the lever, and a member mounted so as to engage with the other side of the lever at a point opposite the locking bolt.

868,908. RAILWAY-CAR BRAKE. SETH A. CRONE, New York, N. Y. Filed Nov. 26, 1906. Serial No. 345,093.



1. A brake-shoe head comprising a back wherein is formed a key-way, and a forged metal face-plate having a box-loop entered in between the end portions of said back and slotted in line with said key-way, said plate in the formation of said slots being slit to form lips which are pressed outwardly to leave said slots and coöperate with said box-loop in forming a bearing for the brake-beam; substantially as set forth.

2. A brake-shoe head comprising a back wherein is formed a key-way, and a forged metal face-plate having a box-loop entered in between the end portions of said back and slotted in line with said key-way, said plate in the formation of said slots being slit to form lips which are pressed outwardly to leave said slots and coöperate with said box-loop in forming a bearing for the brake-beam, and the outer ends of said lips being turned outwardly to lap upon the upper and lower edges of the adjacent part of said beam; substantially as set forth.

3. A brake-shoe head comprising a back wherein is formed a key-way, and a metal face-plate having a box-

loop entered in between the end portions of said back and slotted in line with said key-way, said plate at its ends being formed with vertical recesses and integral box-loops spanning said recesses and affording housings for the key; substantially as set forth.

4. A brake-shoe head comprising a back having a recess to receive a part of the body-beam and in which back is formed a key-way, and a metal face-plate adapted to said back and to receive the brake-shoe and its securing means and having integral lips extended therefrom to engage said beam; substantially as set forth.

5. A brake-shoe head comprising a back having a recess to receive a part of the body-beam and in which back is formed a key-way, and a metal face-plate adapted to said back and to receive the brake-shoe and its securing means and having an integral part extended therefrom to lap upon the edge of and engage said beam; substantially as set forth.

6. A brake-shoe head comprising a forged metal back wherein is formed a key-way, and a face-plate carried thereby and adapted to receive the brake-shoe and its securing key, said back in its upper portion having opposite walls wherein is formed corresponding holes to constitute the eye for the brake-hanger; substantially as set forth.

7. A brake-shoe head comprising a forged metal back wherein is formed a key-way, and a face-plate carried thereby and adapted to receive the brake-shoe and its securing key, said back in its upper portion having opposite walls wherein is formed corresponding holes to constitute the eye for the brake-hanger, and the metal at said holes being displaced laterally to afford increased bearing surfaces and strength; substantially as set forth.

8. A brake-shoe head comprising a forged metal back wherein is formed a key-way, and a face-plate carried thereby and adapted to receive the brake-shoe and its securing key, said back in its upper portion having opposite walls separated from each other wherein is formed corresponding holes to constitute the eye for the brake-hanger; substantially as set forth.

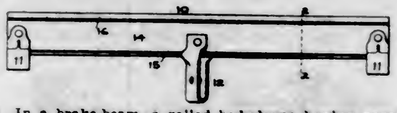
9. A brake-shoe head comprising a forged metal back wherein is fomed a key-way, and a face-plate carried thereby and adapted to receive the brake-shoe and its securing key, said back in its upper portion having opposite walls separated from each other wherein is formed corresponding holes to constitute the eye for the brake-hanger, and the metal at said holes being displaced laterally and forming in the finished article flanges extending toward each other to afford increased bearing surfaces and strength; substantially as set forth.

10. A brake-shoe head comprising a forged metal back wherein is formed a key-way, and a separate metal face-plate secured thereto and having a box-loop entered in between the end portions of said back and slotted in line with said key-way, said back being formed in its upper part with an eye to receive the brake-hanger and below said eye and in line with said box-loop forming a brake-hanger eye or loop; substantially as set forth.

11. A brake-shoe head comprising a forged metal back wherein is formed a key-way, and a separate metal face-plate secured thereto and having a box-loop entered in between the end portions of said back and slotted in line with said key-way, the upper part of said back having a central box-like portion and laterally extending flanges engaging in their upper portion said face-plate and thence extending outwardly therefrom to afford a space for the body-beam and thence curving outwardly and downwardly to form an eye or loop for the hanger and thence merging into the securing flange for connection with said beam; substantially as set forth.

12. A brake-shoe head comprising a forged metal back wherein is formed a key-way, and a separate metal face-plate secured thereto and having a box-loop entered in between the end portions of said back and slotted in line with said key-way, the upper section of said back having a central box-like portion and laterally extending flanges engaging at their upper portion said face-plate and thence extending outwardly and downwardly therefrom to afford a space for and to engage the body beam and thence merging into the upper securing flange for connection with said beam, and the lower section of said back having a central box-like portion and laterally extending flanges engaging at their lower portion said face-plate and thence extending outwardly and upwardly therefrom to afford a space for and to engage said beam and thence merging into the lower securing flange for connection with said beam; substantially as set forth.

868,909. BRAKE-BEAM FOR RAILWAY-CARS. SETH A. CRONE, New York, N. Y. Filed Mar. 9, 1907. Serial No. 361,481.



1. In a brake-beam, a rolled body-beam having parallel integral flanges on its edges, one of said flanges constituting a compression member and the other a tension member, brake-heads on the ends of said beam, and a fulcrum secured to said beam, said flange constituting the compression member being thicker and containing sufficiently more metal than the flange constituting the tension member to locate the neutral axis of the beam section nearer said compression than the tension member and to impart to said compression member approximately the same strength in compression as the tension member has in tension; substantially as set forth.

2. In a brake-beam, a rolled body-beam having parallel integral flanges on its edges, one of said flanges constituting a compression member and the other a tension member, brake-heads applied to the ends of said beam, and a fulcrum riveted to said beam, said flange which constitutes the compression member containing sufficiently more metal than the flange constituting the tension member to locate the neutral axis of the beam section nearer said compression than the tension member and to impart to said compression member approximately the same strength in compression as the tension member has in tension; substantially as set forth.

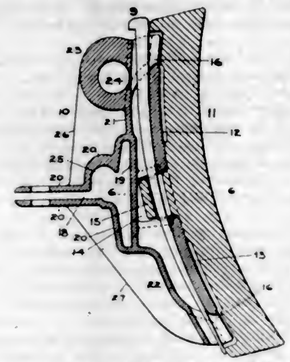
3. In a brake-beam, a rolled body-beam, brake-heads on the ends thereof and a fulcrum secured to said body-beam, said body-beam being of I-form in cross-section and having its neutral axis nearer the compression than the tension member to attain in the compression member approximately the same strength in compression as the tension member has in tension; substantially as set forth.

4. In a brake-beam, a rolled body-beam, brake-heads on the ends thereof and a fulcrum secured to said body-beam, said body-beam being of I-form in cross-section and having sufficient metal applied in the compression member to locate the neutral axis of the beam section nearer said compression than the tension member and attain in the compression member approximately the same strength in compression as the tension member has in tension; substantially as set forth.

868,910. RAILWAY-CAR BRAKE. SETH A. CRONE, New York, N. Y. Filed July 24, 1907. Serial No. 385,346.

1. An integral cast brake-shoe head having means to engage the beam and formed with inner face-sections extending substantially throughout the length and width of the head, a recess to receive the apertured shoe-lug and a passage at the inner side of said face-sections for the securing key, said passage extending the full length of said head and being closed except at the upper and lower ends of the head, whereby said face-sections substantially throughout their length present their inner sides to the key; substantially as set forth.

2. An integral cast brake-shoe head having means to engage the beam and formed with inner face-sections extending substantially throughout the length and width of the head, a recess to receive the shoe-lug and a passage at the inner side of said face-sections for the securing key, said sections at the upper and lower ends of the head having vertical openings 16; substantially as set forth.



3. An integral cast brake-shoe head having means to engage the beam and formed with inner face-sections extending substantially throughout the length and width of the head, a recess to receive the shoe-lug and a passage at the inner side of said face-sections for the securing key, the upper and lower walls of said recess being connected together at the side of the latter by an integral section of the head; substantially as set forth.

4. An integral cast brake-shoe head having means to engage the beam and formed with inner face-sections extending substantially throughout the length and width of the head, a recess to receive the shoe-lug and a passage at the inner side of said face-sections for the securing key, the upper and lower walls of said recess being connected together at both sides of the recess by integral sections of the head; substantially as set forth.

5. An integral cast brake-shoe head having means to engage the beam and formed with inner face-sections extending substantially the length and width of the head, a recess to receive the apertured shoe-lug, and integral box-like portions at the outer side of said face-sections and above and below said recess to receive the securing key; substantially as set forth.

6. An integral cast brake-shoe head having means to engage the beam and formed with inner face-sections extending substantially the length and width of the head, a recess to receive the apertured shoe-lug, integral box-like portions at the outer side of said face-sections and above and below said recess to receive the securing key, and vertical webs extending lengthwise of said box-like portions; substantially as set forth.

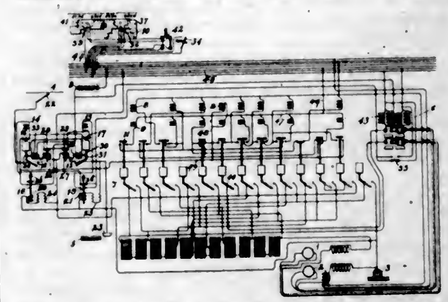
7. An integral cast brake-shoe head having means to engage the beam, a recess on its inner side to receive the apertured lug of a brake-shoe, inner face-sections extending substantially uniformly from the outer edges of said recess to the ends of said head, and a passage for the securing key, said passage and the inner portion of the head being closed at the sides of the latter above and below said recess; substantially as set forth.

8. An integral cast brake-shoe head having means to engage the beam, a recess on its inner side to receive the apertured lug of a brake-shoe, inner face-sections extending substantially uniformly from the outer edges of said recess to the ends of said head, and integral box-like portions at the outer side of said face-sections and above and below said recess to receive the securing key, the passage of said key and the inner portion of the head being closed at the sides of the latter above and below said recess; substantially as set forth.

9. An integral cast brake-shoe head having a vertical section 19 and flanges 20 defining a recess to receive a brake-beam, a recess on its inner side to receive the apertured lug of a brake shoe, inner face-sections extending substantially uniformly from the outer edges of said recess to the ends of said head, integral box-like portions at the outer side of said face-sections above and below said recess and forming a passage for a shoe-securing key, and webs connecting said box-like portions with said flanges, said box-like portions being integral with and connecting said section 19 and said face-sections; substantially as set forth.

10. An integral cast brake-shoe head having a vertical section 19 and flanges 20 defining a recess to receive a brake-beam and at the upper side thereof a cavity 25 for a hanger, a recess on its inner side to receive the apertured lug of a brake shoe, inner face-sections extending substantially uniformly from the outer edges of said recess to the ends of said head, integral box-like portions at the outer side of said face-sections above and below said recess and forming a passage for a shoe-securing key, and webs connecting said box-like portions with said flanges, said box-like portions being integral with and connecting said section 19 and said face-sections; substantially as set forth.

868,911. ELECTRIC-RAILWAY SYSTEM. JOHN L. CROUSE, New York, N. Y., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Dec. 29, 1904. Serial No. 238,840.



1. The combination with an electrical translating device and two independent supply conductors from which said device may derive energy, of automatic circuit-breakers in said circuits, and relay and interlocking switches for preventing simultaneous closure of said circuit-breakers.

2. The combination with an electrical translating device and two separate circuits from which said device may derive energy, of automatic circuit-breakers in said circuits, and magnets and relay switches for effecting automatic closure of the one or the other circuit-breaker in accordance with the operating connection of the translating device to the one or the other circuit.

3. The combination with an electrical translating device and two circuits from which said device may derive energy, of automatic circuit-breakers in said circuits, magnets and relay switches for effecting closure of the circuit-breaker in the circuit which is being utilized, and means for preventing simultaneous closure of the other circuit-breaker.

4. The combination with one or more electrical translating devices and two circuits from which said devices derive energy, of circuit-breakers in said circuits, automatic means for effecting closure of the circuit-breaker in the circuit which is being utilized, means for preventing simultaneous closure of the other circuit-breaker, and means for causing said circuit-breakers to open when more than a predetermined amount of current traverses the corresponding circuits.

5. In an electric railway system, the combination with trolley and third rail circuits, of an automatic circuit-breaker in each of said circuits, and means for preventing simultaneous closure of both of said circuit-breakers.

6. In an electric railway system, the combination with motors and trolley and third rail circuits therefor, of circuit-breakers in said circuits and relay switches which control the operation of the circuit-breakers.

7. In an electric railway system, the combination with

motors and trolley and third rail circuits therefor, of circuit-breakers in said circuits, operating magnet windings therefor, and relay switches which control the circuits of the operating magnet windings.

8. In an electric railway system, the combination with motors and trolley and third rail circuits therefor, of circuit-breakers in said circuits, operating magnet windings therefor, relay switches which control the circuits of the operating magnet windings, and interlocking switches operated by the relay switches for preventing simultaneous closure of the circuit-breakers.

9. In an electric railway system, the combination with motors and trolley and third rail circuits therefor, of circuit-breakers in said circuits, operating magnet windings therefor, relay switches governing the circuits thereof, and operating magnet windings for said switches which are connected between the conductors of the respective circuits.

10. In an electric railway system, the combination with motors and trolley and third rail circuits therefor, of circuit-breakers in said circuits, operating magnet windings therefor, relay switches governing the circuits thereof, operating magnet windings for said switches which are connected between the conductors of the respective circuits, and interlocking switches operated by the relay switches for preventing simultaneous closure of the circuit-breakers.

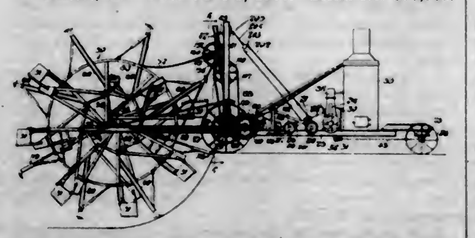
11. In an electric railway system, the combination with an electrically propelled vehicle, a track, trolley and third rail conductors, a trolley and a third rail shoe to engage respectively therewith, of a trolley switch and a third rail switch and automatically operating means for effecting closure of the respective switches according as the trolley or the third rail shoe engages its corresponding conductor.

12. In an electric railway system, the combination with an electrically propelled vehicle, a track, and trolley and third rail conductors, of automatically operating means for preventing both of said conductors from supplying energy to said vehicle simultaneously.

13. In an electric railway system, the combination with an electrically propelled vehicle, a track, and trolley and third rail conductors, of an automatic circuit-breaker corresponding to each of said conductors and means for causing closure of the circuit-breaker corresponding to the conductor which is in service.

14. In an electric railway system, the combination with an electrically propelled vehicle, a track, and trolley and third rail conductors, of an automatic circuit-breaker corresponding to each of said conductors, means for causing closure of the circuit-breaker corresponding to the conductor which is in service, and means for preventing simultaneous closure of said circuit-breakers.

868,912. EXCAVATING-MACHINE. RICHARD DALTON, Wilmette, Ill. Filed June 8, 1907. Serial No. 377,973.



1. An excavating machine embracing a rotative wheel, scoop bearing arms hinged to the wheel and having lateral movement relatively thereto, scoops carried by said arms, locking devices for locking the scoops inwardly against the wheel to hold them from backward movement relatively to the direction of rotation of the wheel, and means for releasing the locking devices, each comprising a chain attached at one end of the locking device and at its other end to a stationary part of the wheel, and a chain attached at one end to an intermediate part of the first chain and at its other end to the arm of the scoop in advance of the scoop with which said locking device is associated.

2. An excavating machine embracing a rotative wheel, scoop bearing arms hinged to the wheel and having lateral movement relatively thereto, scoops carried by said arms, and locking devices for locking the scoops inwardly against the wheel, each comprising a loop on the scoop arm, a radially swinging latch pivoted to the wheel rim and provided with a hooked end adapted to engage said loop, and means for automatically engaging said hooked end of the latch with the said loop when the scoop arm is swung inwardly.

3. An excavating machine embracing a rotative wheel, scoop bearing arms hinged to the wheel and having lateral movement relatively thereto, scoops carried by said arms, and locking devices for locking the scoops inwardly against the wheel, said locking devices each embracing a loop on the scoop arm, a radially swinging latch pivoted to the wheel rim and provided with a hook adapted to engage said loop, and a device for normally holding the hooked end of the latch out of the path of the loop constructed to be moved inwardly towards the wheel rim when said arm is swung inwardly to permit the hooked end of the latch to swing into engagement with said loop.

4. An excavating machine embracing a rotative wheel, scoop bearing arms hinged to the wheel and having lateral movement relatively thereto, scoops carried by said arms, and locking devices for locking the scoops inwardly against the wheel, said locking devices each embracing a loop on the scoop arm, a radially swinging latch pivoted to the wheel rim and provided with a hook adapted to engage said loop, a lever pivoted to said rim to swing in a plane transverse to the plane of movement of the latch and provided with an arm which normally holds the hook of said latch out of the path of said loop, said loop engaging the arm to shift the same inwardly out of the path of the hooked end of the latch to permit the said hooked end of the latch to swing into engagement with said loop.

5. An excavating machine embracing a rotative wheel, scoop bearing arms hinged to the wheel and having lateral movement relatively thereto, scoops carried by said arms, and locking devices for locking the scoops inwardly against the wheel, each comprising a loop on the scoop arm, a radially swinging latch pivoted to the wheel rim and provided with a hooked end adapted to engage said loop, means automatically engaging said hooked end of the latch with the loop when the arm is swung inwardly, and means operated by the movement of each scoop arm to release the latch belonging to another scoop arm.

6. An excavating machine comprising a rotative wheel and a chain for driving the wheel, scoops carried by the wheel, plow bearing arms, one or more of which are hinged to the wheel to swing laterally toward and from the plane of the wheel and plows carried by said arms.

7. An excavating machine comprising a rotative wheel, a chain for driving said wheel, scoops carried by the wheel, plow bearing arms, one or more of which is hinged to the wheel to swing laterally toward and from the plane of the wheel, plows carried by the said arms, and means for normally holding the hinged plow bearing arms in their retracted position toward the rim of the wheel.

8. An excavating machine comprising a rotative wheel, a driving chain for rotating said wheel, scoops carried by the wheel and movable laterally toward and from the plane of the wheel, plow bearing arms, one or more of which are pivoted to the wheel to swing toward and from the plane of the wheel, plows carried by said arms, and means operated by the outward movement of a scoop for swinging a plow bearing arm laterally away from the plane of the wheel to clear the plow thereof from said driving chain.

9. An excavating machine embracing a rotative wheel, a chain for driving the same, scoops carried by the wheel, plow bearing arms, one or more of which is pivoted to the wheel to swing laterally therefrom, and means for swinging a movable plow bearing arm laterally away from the plane of the wheel, comprising a bell-crank lever pivoted to the wheel to swing laterally therefrom, and means for swinging said bell crank levers on their pivots.

10. An excavating machine embracing a rotative wheel, a driving chain for rotating said wheel, scoop bearing arms hinged to the wheel and having lateral movement relative thereto, scoops carried by said arms, plow bearing arms, one or more of which is hinged to the wheel to swing laterally toward and from the plane of the wheel, plows carried by the latter arms, and means for swinging a plow bearing arm laterally from the plane of the wheel on the rising side of the wheel to clear the plow carried thereby from said wheel driving chain, comprising a bell crank lever pivoted to the wheel and adapted to be swung laterally from the plane thereof, a co-acting part on said plow bearing arm engaged by said bell-crank lever, and means coöperating with said bell crank lever for normally holding the plow bearing arm inwardly against said wheel.

11. An excavating machine embracing a rotative wheel, scoops carried by the wheel, and side cutters also carried by said wheel to slant the side walls of the excavation from the bottom thereof outwardly, for the purpose set forth.

12. An excavating machine embracing a rotative wheel, scoops carried by the wheel, side cutters extending radially from and pivoted to the wheel to swing laterally, and means for operating said side cutters, for the purpose set forth.

13. An excavating machine embracing a rotative wheel, scoops carried by the wheel, and side cutters extending radially from the wheel and hinged to swing laterally therefrom, said side cutters being provided with inwardly turned ends.

14. An excavating machine embracing a rotative wheel, scoops carried by the wheel, side cutters extending radially from the wheel and hinged to swing laterally therefrom, and an eccentric for actuating said side cutters.

15. An excavating machine embracing a rotative wheel, scoops carried by the wheel, side cutters extending radially from the wheels and hinged to swing laterally therefrom, and means for actuating said cutters comprising a stationary eccentric arranged axially of the wheel, and operative connections between said eccentric and said side cutters.

16. An excavating machine embracing a rotative wheel, scoops carried by said wheel, side cutters extending radially from said wheel, bell crank levers pivoted to the wheel rim to swing laterally from the plane of the wheel, a stationary eccentric located axially of the wheel, an eccentric strap surrounding said eccentric and bars connected at their inner ends with said strap and operatively connected at their outer ends with said bell crank levers.

17. An excavating machine embracing a rotative wheel, scoop bearing arms carried thereby, scoops hinged to the outer ends of said arms, and means rigidly connecting the scoops with said arms, constructed to permit the scoops to yield relatively to said arms when undue stress is placed thereon, for the purpose set forth.

18. An excavating machine embracing a rotative wheel, scoop bearing arms carried thereby, scoops hinged to the outer ends of said arms, and breaking bars interposed between said arms and scoops, for the purpose set forth.

19. An excavating machine embracing a rotative wheel, scoop bearing arms carried thereby, scoops hinged at their forward or cutting margins to said arms, and breaking bars interposed between said arms and said scoops near the rear ends of the latter, for the purpose set forth.

20. An excavating machine embracing a rotative wheel, scoop bearing arms carried thereby, scoops hinged to said arms, breaking bars interposed between said arms and said scoops, and chains connecting said scoops with the arms, for the purpose set forth.

21. An excavating machine embracing a rotative wheel, scoop bearing arms hinged to said wheel to swing laterally towards and from the plane of the wheel, and devices for limiting the outward swing of said arms, each embracing a bar hinged to the wheel and a chain or cable attached at one end to said bar and at its other end to a scoop bearing arm, as and for the purpose set forth.

22. An excavating machine embracing a rotative wheel, scoop bearing arms hinged to said wheel to swing laterally towards and from the plane of the wheel, and devices for limiting the outward swing of said arms, each comprising a bar hinged to the wheel rim and a chain attached at one end to the outer end of said bar and at its other end to a scoop bearing arm, said bar, when the arm is in its retracted position, being transversely disposed relatively to the rim of said wheel.

23. An excavating machine embracing a rotative wheel, scoop bearing arms hinged to said wheel to swing laterally towards and from the plane of the wheel, devices for limiting the outward swing of said arms, each comprising a bar hinged to the wheel rim, a chain attached at one end to the outer end of said bar and at its other end to a scoop bearing arm, said bar, when the arm is in its retracted position, being disposed transversely relatively to the rim of said wheel, and a spring for holding said bar in its retracted position.

24. An excavating machine embracing a frame, traction and steering wheels therefor, an excavating wheel carried by said frame, a motor on the frame for rotating the excavating wheel, and driving connections between said motor and traction wheels arranged to effect a step-by-step rotation of said traction wheels.

25. An excavating machine embracing a frame, traction and steering wheels therefor, an excavating wheel carried by said frame, a motor on the frame for rotating the excavating wheel, and driving connections between the motor and traction wheels embracing a ratchet wheel, a detent for holding the ratchet wheel from retractive rotation, an oscillatory pawl engaging said ratchet wheel to advance the same step-by-step and operative connections between said ratchet wheel and traction wheels.

26. An excavating machine embracing a frame, traction and steering wheels therefor, an excavating wheel carried by said frame, a motor on the frame for rotating the excavating wheel, driving connections between said motor and traction wheels arranged to effect a step-by-step rotation of said traction wheels, and a direct driving connection between said motor and traction wheels designed for operative connection with said traction wheels alternately with said step-by-step driving connections, for the purpose set forth.

27. An excavating machine embracing a frame, traction and steering wheels therefor, an excavating wheel carried by said frame, a motor on the frame for rotating the excavating wheel, and driving connections between said motor and traction wheels embracing a gear on the traction wheels, a rotative shaft geared to said traction wheel gears, a ratchet wheel on said shaft, means driven by the motor for advancing said ratchet wheel step-by-step, a detent for holding the ratchet wheel from backward rotation, a gear normally loose on said shaft and adapted to be non-rotatively fixed thereto at will and means for driving said latter gear from the motor.

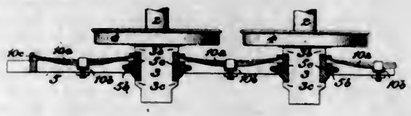
28. In an excavating machine, the combination with a wheeled frame, means for advancing the frame and an excavating wheel carried by the frame provided with excavating scoops, and a chain for driving the excavating wheel, of means operating when one of the scoops strikes an obstruction to exert an upward pull as well as a forward pull on the obstruction, for the purpose set forth.

29. An excavating machine embracing a wheeled frame, a wheel carrying frame pivoted thereto, an excavating wheel mounted on the latter frame, means for advancing the wheeled frame and for rotating the wheel, the latter driving connections embracing a driving belt trained about said excavating wheel, and means operated by stress on said drive belt, when the excavating wheel is retarded by an obstruction in its path, and independent of the tractive force exerted on the wheeled frame to raise said wheel, for the purpose set forth.

30. An excavating machine embracing a wheeled frame, a wheel carrying frame pivoted thereto, an excavating wheel mounted on the latter frame, means for advancing said wheel frame and for rotating said wheel, the latter embracing a driving belt trained about said excavating wheel and a wheel rotated by the driving means, an aux-

iliary frame on which said latter wheel is mounted, said frame having sliding connection with the excavating wheel carrying frame, and a tension cable fixed to the wheeled frame and connected through the wheel carrying frame with said auxiliary frame, for the purposes set forth.

868,913. CUSHIONING APPLIANCE FOR LOCOMOTIVES. WILLIAM DALTON, Schenectady, N. Y., assignor to American Locomotive Company, New York, N. Y., a Corporation of New York. Filed July 22, 1907. Serial No. 385,019.



1. The combination of a locomotive axle, axle boxes in which said axle is journaled, side frame members in which the axle boxes are fitted and which, with the axle, are capable of lateral movement relatively to the side frame members, pedestal shoes engaging and movable laterally with the axle boxes, and cushioning springs disposed exteriorly to the pedestal shoes and bearing thereon and on the side frame members.

2. The combination of a locomotive axle, axle boxes in which said axle is journaled, side frame member pedestal jaws located on opposite sides of the axle boxes, shoes fitting in lateral recesses on the axle boxes and having lateral flanges extending on opposite sides of the pedestal jaws and providing space or clearance for lateral movement, and cushioning springs disposed exteriorly to the shoes and compressible between said shoes and the side frame members, in and by lateral traverse of the axle boxes.

3. The combination of a locomotive axle, axle boxes in which said axle is journaled, side frame members in which the axle boxes are fitted and which, with the axle, are capable of lateral movement relatively to the side frame members, pedestal shoes engaging and movable laterally with the axle boxes, and cushioning springs disposed exteriorly to the pedestal shoes and bearing thereon and on the side frame members.

4. The combination of a locomotive axle, axle boxes in which said axle is journaled, side frame member pedestal jaws located on opposite sides of the axle boxes, shoes fitting in lateral recesses in the axle boxes and having lateral flanges extending on opposite sides of the pedestal jaws and providing space or clearance for lateral movement of the axle, and plate springs extending longitudinally between bearings on the side frame members and on the shoes.

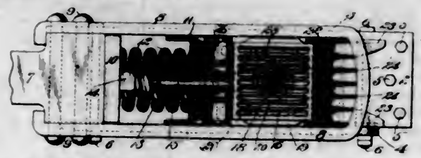
868,914. CORK FOR STOPPERING BOTTLES OR THE LIKE. HERBERT W. DAWSON, Portalegre, Portugal. Filed May 25, 1907. Serial No. 375,641.



1. A bottle stopper formed of elastic material and provided with a permanently screwthreaded portion, and having also a part normally without any screwthread which has a screwthread pressed into it by contact with the screwthreaded neck of the bottle when inserted therein.

2. A bottle stopper formed of elastic material and provided with a permanently screwthreaded portion, and having also two parts arranged one at each end of the said screwthreaded portion which are normally without any screwthreads and which have screwthreads pressed into them by contact with the screwthreaded neck of the bottle when inserted therein.

868,915. DRAFT-RIGGING. WILLIAM L. DE REMER, Chicago, Ill., assignor to Republic Railway Appliance Company, St. Louis, Mo., a Corporation. Filed Oct. 22, 1906. Serial No. 339,953.



1. A draft rigging comprising V-shaped front and rear friction blocks having stop lugs upon their inner faces, and V-shaped transverse friction blocks having flat shoulders upon their sides; the front and rear friction blocks being adapted to slide upon the transverse friction blocks until the stop lugs come in contact with the flat shoulders to arrest the movement of the blocks.

2. A V-shaped rear friction block for draft rigging provided at its rear end with inwardly extending lugs and a series of strengthening ribs between the inwardly extending lugs.

3. A V-shaped transverse friction block for draft rigging formed with a series of channels or grooves providing a series of strengthening ribs upon its inner face.

868,916. METHOD OF CLOSING CANS. JOHN DIECKMANN, Hoboken, N. J. Filed Nov. 18, 1902. Serial No. 131,816.



1. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying varnish resin in a plastic state to one of the inside surfaces of such joint prior to the joint-forming operation, and then completing the joint while the applied varnish resin is plastic and consequently adapted hermetically to close said joint, substantially as described.

2. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying varnish resin made plastic by volatile solvent to one of the inside surfaces of such joint prior to the joint-forming operation, and then completing the joint while the applied varnish resin is plastic and consequently adapted hermetically to close said joint, substantially as described.

3. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying shellac in a plastic state to one of the inside surfaces of such joint prior to the joint-forming operation, and then completing the joint while the applied shellac is plastic and consequently adapted hermetically to close said joint, substantially as described.

4. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying shellac made plastic by volatile solvent to one of the inside surfaces of such joint prior to the joint-forming operation, and then completing the joint while the applied shellac is plastic and consequently adapted hermetically to close said joint, substantially as described.

5. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying varnish resin in the form of a volatile alcoholic solution to one of the inside surfaces of such joint prior to the joint-forming operation, and then completing the joint while the applied varnish resin is plastic and consequently adapted hermetically to close said joint, substantially as described.

6. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying shellac in the form of a volatile alcoholic solution to one of the inside surfaces of such joint prior to the joint-forming operation, and then completing the joint while the applied shellac is plastic and consequently adapted hermetically to close said joint, substantially as described.

7. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying varnish resin artificially colored and in a plastic state to one of the inside surfaces of such joint prior to the joint-forming operation, and then completing the joint while the applied varnish resin is plastic and consequently adapted hermetically to close said joint, substantially as described.

8. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying shellac artificially colored and in a plastic state to one of the inside surfaces of such joint prior to the joint-forming operation, and then completing the joint while the applied shellac is plastic and consequently adapted hermetically to close said joint, substantially as described.

9. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying a mixture of varnish resin and coloring matter in a plastic state to one of the inside surfaces of such joint prior to the joint-forming operation, and then completing the joint while the applied mixture is plastic and consequently adapted hermetically to close said joint, substantially as described.

10. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying a mixture of shellac and coloring matter in a plastic state to one of the inside surfaces of such joint prior to the joint-forming operation, and then completing the joint while the applied mixture is plastic and consequently adapted hermetically to close said joint, substantially as described.

11. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying a mixture of a solution of varnish resin in a volatile liquid and coloring matter to one of the inside surfaces of such joint prior to the joint-forming operation, and then completing the joint while the applied mixture is plastic and consequently adapted hermetically to close said joint, substantially as described.

12. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying a mixture of a solution of shellac in a volatile alcoholic liquid and coloring matter to one of the inside surfaces of such joint prior to the joint-forming operation, and then completing the joint while the applied mixture is plastic and consequently adapted hermetically to close said joint, substantially as described.

13. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying a plastic filler in the form of a volatile alcoholic solution to one of the inside surfaces of such joint prior to the joint-forming operation, and then completing the joint while the applied filler is plastic and consequently adapted hermetically to close said joint, substantially as described.

14. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying an artificially colored plastic filler to one of the inside surfaces of such joint prior to the joint-forming operation, and then completing the joint while the applied filler is plastic and consequently adapted hermetically to close said joint, substantially as described.

15. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying a plastic filler mixed with coloring matter to one of the inside surfaces of such joint prior to the joint-forming operation, and then completing the joint while the applied filler is plastic and consequently adapted hermetically to close said joint, substantially as described.

16. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying a plastic filler in the form of an artificially colored solution in a volatile alcoholic liquid to one of the inside surfaces of such joint prior to the joint-forming operation, and then completing the joint while the applied filler is plastic and consequently adapted hermetically to close said joint, substantially as described.

17. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying a plastic filler in the form of a solution in a volatile alcoholic liquid mixed with coloring matter to one of the inside surfaces of such joint prior to the joint-forming operation, and then completing the joint while the applied filler is plastic and consequently adapted hermetically to close said joint, substantially as described.

18. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying varnish resin while fluid enough to be brushed on to one of the inside surfaces of such joint prior to the joint-forming operation, subjecting the so applied resin to the wiping operation of a flexible device, and then completing the joint while the applied varnish resin is plastic and consequently adapted hermetically to close said joint, substantially as described.

19. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying varnish resin in the form of a solution in volatile liquid fluid enough to be brushed on to one of the inside surfaces of such joint prior to the joint-forming operation, subjecting the so applied resin to the wiping operation of a flexible device, and then completing the joint while the applied varnish resin is plastic and consequently adapted hermetically to close said joint, substantially as described.

20. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying shellac while fluid enough to be brushed on to one of the inside surfaces of such joint prior to the joint-forming operation, subjecting the so applied shellac to the wiping operation of a flexible device, and then completing the joint while the applied shellac is plastic and consequently adapted hermetically to close said joint, substantially as described.

21. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying a solution of shellac in a volatile liquid fluid enough to be brushed on to one of the inside surfaces of such joint prior to the joint-forming operation, subjecting the so applied shellac to the wiping operation of a flexible device, and then completing the joint while the applied shellac is plastic and consequently adapted hermetically to close said joint, substantially as described.

22. The method of closing a can by the aid of an interlocked joint between the cover and the can, consisting in applying a solution of shellac in a volatile alcoholic liquid artificially colored by admixture of coloring matter therewith and fluid enough to be brushed on to one of the inside surfaces of such joint prior to the joint-forming operation, subjecting the so applied shellac to the wiping operation of a flexible device, and then completing the joint while the applied shellac is plastic and consequently adapted hermetically to close said joint, substantially as described.

23. A can whereof the cover is united to the can body by means of an interlocked joint closed hermetically by a filler of varnish resin between the inside surfaces of said joint, substantially as described.

24. A can whereof the cover is united to the can body by means of an interlocked joint closed hermetically by a filler of varnish resin in the form of the residue left by evaporation of the volatile solvent from a solution of the varnish resin therein, said filler being between the inside surfaces of said joint, substantially as described.

25. A can whereof the cover is united to the can body by means of an interlocked joint closed hermetically by a filler of shellac between the inside surfaces of said joint, substantially as described.

26. A can whereof the cover is united to the can body by means of an interlocked joint closed hermetically by a filler of shellac in the form of the residue left by evaporation of the volatile solvent from a solution of the shellac therein, said filler being between the inside surfaces of said joint, substantially as described.

27. A can whereof the cover is united to the can body by means of an interlocked joint closed hermetically by a filler of varnish resin in the form of the residue left by evaporation of the volatile alcoholic solvent from a solution of the varnish resin therein, said filler being between the inside surfaces of said joint, substantially as described.

28. A can whereof the cover is united to the can body by means of an interlocked joint closed hermetically by a filler of shellac in the form of the residue left by evaporation of the volatile alcoholic solvent from a solution of the shellac therein, said filler being between the inside surfaces of said joint, substantially as described.

29. A can whereof the cover is united to the can body by means of an interlocked joint closed hermetically by a filler of artificially colored varnish resin between the inside surfaces of said joint, substantially as described.

30. A can whereof the cover is united to the can body by means of an interlocked joint closed hermetically by a filler of artificially colored shellac between the inside surfaces of said joint, substantially as described.

31. A can whereof the cover is united to the can body by means of an interlocked joint closed hermetically by a filler of varnish resin mixed with coloring matter between the inside surfaces of said joint, substantially as described.

32. A can whereof the cover is united to the can body by means of an interlocked joint closed hermetically by a filler of shellac mixed with coloring matter between the inside surfaces of said joint, substantially as described.

33. A can whereof the cover is united to the can body by means of an interlocked joint closed hermetically by a filler of varnish resin mixed with coloring matter and in the form of the residue left by evaporation of the volatile solvent from a solution of the varnish resin therein, said filler being between the inside surfaces of said joint, substantially as described.

34. A can whereof the cover is united to the can body by means of an interlocked joint closed hermetically by a filler of shellac mixed with coloring matter and in the form of the residue left by evaporation of the volatile alcoholic solvent from a solution of the shellac therein, said filler being between the inside surfaces of said joint, substantially as described.

35. A can whereof the cover is united to the can body by means of an interlocked joint closed hermetically by a filler in the form of the residue left by evaporation of the volatile alcoholic solvent from a solution of the filling material therein, said filler being between the inside surfaces of said joint, substantially as described.

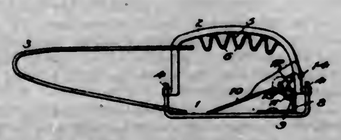
36. A can whereof the cover is united to the can body by means of an interlocked joint closed hermetically by a filler of artificially colored material, said filler being between the inside surfaces of said joint, substantially as described.

37. A can whereof the cover is united to the can body by means of an interlocked joint closed hermetically by a filler of material mixed with coloring matter, said filler being between the inside surfaces of said joint, substantially as described.

38. A can whereof the cover is united to the can body by means of an interlocked joint closed hermetically by a filler artificially colored and in the form of the residue left by evaporation of the volatile alcoholic solvent from a solution of the filling material therein, said filler being between the inside surfaces of said joint, substantially as described.

39. A can whereof the cover is united to the can body by means of an interlocked joint closed hermetically by a filler of material mixed with coloring matter and being in the form of the residue left by evaporation of the volatile alcoholic solvent from a solution of said material therein, said filler being between the inside surfaces of said joint, substantially as described.

868,917. ANIMAL-TRAP. THOMAS H. DONLON, Syracuse, N. Y. Filed Jan. 28, 1907. Serial No. 354,446.



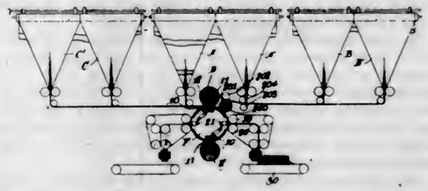
1. In an animal-trap, the combination with a suitable base-plate and spring-actuated jaws, of an angle-plate, a rockable-bar journaled in said angle-plate and provided with jaw-engaging hooks, and a pivoted bait-pan.

2. In an animal-trap, the combination with a suitable base-plate and spring-actuated jaws provided with guard-fingers, of an angle-plate, a rockable-bar journaled in said angle-plate and provided with jaw-engaging hooks, and a pivoted bait-pan.

3. In an animal-trap, the combination with a suitable base-plate and spring-actuated jaws, of an angle-plate, a rockable-bar journaled in said angle-plate, said rockable-bar being provided with hooks adapted to engage the spring-actuated jaws, a vertical catch, and a bait-pan having its forward end adapted to engage said catch, so that when the bait-pan is set, the pressure exerted by the jaws will cause the rockable-bar to hold said bait-pan in its set position.

4. In an animal-trap, the combination with a base-plate having an upturned end, and spring-actuated jaws provided with guard-fingers, of an angle-plate, a rockable-bar journaled in the angle-plate, and a bait-pan pivoted to the rockable-bar, said rockable-bar being provided with hooks adapted to engage the spring-actuated jaws, and the bait-pan provided with an end adapted to engage the upturned end of the base-plate, so that when the bait-pan is set, the pressure exerted by the jaws will cause the rockable-bar to hold said bait-pan in its set position.

868,918. ASSOCIATOR AND FOLDER FOR PRINTING-MACHINES. JOSEPH L. FIRM, Berwyn, Ill., assignor to The Goss Printing Press Company, Chicago, Ill. Filed June 19, 1907. Serial No. 379,726.



1. The combination with a rotary carrier, of primary and secondary cylinders beside the same, and arranged to superpose webs thereon, said carrier and cylinders having coöperating cutters and matrices, and delivery devices for the superposed webs, beyond said cylinders.

2. The combination with a rotary carrier, of a pair of cylinders on opposite sides of said carrier, and a supplemental cylinder between said cylinders, adjacent the surface of the carrier, said carrier and cylinders having cooperating cutters and matrices.

3. The combination of a rotary carrier having web-cutters on opposite sides thereof, transverse-folding blades carried on opposite sides of the carrier, midway between said cutters, primary and secondary cylinders located adjacent each other on the same side of the carrier and each having a matrix coöperating with the said cutters, and delivery devices on one side of the carrier, beyond said cylinders.

4. The combination with a rotary carrier, of a plurality of cylinders adjacent each other on one side of the carrier, said carrier and cylinders having coöperating cutters and matrices, means to feed webs separately between each of the said cylinders and the carrier and thereby superpose said webs on the carrier, and delivery devices for the superposed webs, beyond said cylinders.

868,919. SEMISMOKELESS POWDER. GEORGE W. GENTIEU, Peoria, Ill. Filed Mar. 8, 1906. Serial No. 305,001.

An explosive composition consisting of ammonium picrate 25%, potassium nitrate 52%, sulfur 10%, charcoal 3%, and starch 10%.

868,920. PAINT-REMOVER AND PROCESS OF MAKING THE SAME. FRANCIS X. GOVERS, Owego, N. Y. Filed Aug. 16, 1907. Serial No. 388,926.

1. The process of producing a paint and varnish remover which comprises mixing a phenol with one of the lower alcohols and with an aromatic hydrocarbon and in then dissolving casein in the mixture with the aid of a small amount of acetic acid.

2. The process of producing a paint and varnish remover which comprises mixing cresylic acid with an aromatic hydrocarbon and with one of the lower alcohols, and in then dissolving casein in the mixture with the aid of a small amount of acetic acid.

3. The process of producing a paint and varnish remover which comprises mixing cresylic acid with benzol and methyl alcohol, and in then dissolving casein in the mixture with the aid of a small amount of acetic acid.

4. The process of producing a paint and varnish remover which comprises mixing a phenol with an aromatic hydrocarbon and a lower alcohol, mixing casein with the mixture, acidulating said mixture with a small amount of acetic acid to cause a solution of the casein, and dissolving the casein.

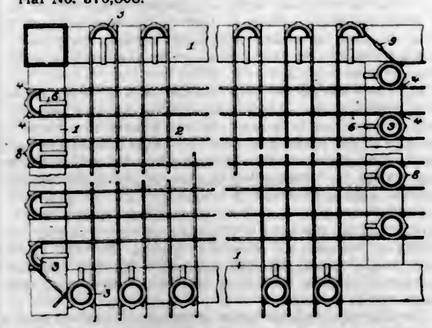
5. As a paint and varnish remover, a thick mixture of a phenol, an aromatic hydrocarbon and one of the lower alcohols in about equal proportions, said remover containing about 10 per cent. of dissolved casein as a colloiding agent and a little acetic acid.

6. As a paint and varnish remover, a thick mixture of cresylic acid, an aromatic hydrocarbon and one of the lower alcohols in about equal proportions, said remover containing about 10 per cent. of dissolved casein as a colloiding agent and a little acetic acid.

7. As a paint and varnish remover, a thick mixture of cresylic acid, benzol and one of the lower alcohols in about equal proportions, said remover containing about 10 per cent. of dissolved casein as a colloiding agent and a little acetic acid.

8. As a paint and varnish remover, a thick mixture of cresylic acid, benzol and methyl alcohol in about equal proportions, said remover containing about 10 per cent. of dissolved casein as a colloiding agent and a little acetic acid.

868,921. REINFORCED CONCRETE STRUCTURE. GEORGE M. GRAHAM, Chicago, Ill., assignor to C. A. Edward Kohler, Chicago, Ill. Filed June 1, 1907. Serial No. 376,808.



1. In a reinforced concrete structure, a marginal frame, a series of runner brackets fixedly attached thereto, and a wire center formed of a single length of wire rove around said runner brackets, the runner portion of said brackets having a diameter approximating the spacing of the strands of wire comprising the wire center, substantially as set forth.

2. In a reinforced concrete structure, a marginal frame, a series of runner brackets fixedly attached thereto by integrally formed clips, and a wire center formed of a single length of wire rove around said runner brackets, the runner portion of said brackets having a semi-circular form and a diameter approximating the spacing of the strands of wire comprising the wire center, substantially as set forth.

3. In a reinforced concrete structure, a marginal frame, a series of runner brackets fixedly attached thereto, and a wire center formed of a single length of wire rove around said runner brackets, the runner portion of said brackets having a semi-circular form and a diameter approximating the spacing of the strands of wire comprising the wire center, substantially as set forth.

4. In a reinforced concrete structure, a marginal frame, a series of runner brackets fixedly attached thereto by integrally formed clips and a wire center formed of a single length of wire rove around said runner brackets, the runner portion of said brackets having a semi-circular form and a diameter approximating the spacing of the strands of wire comprising the wire center, substantially as set forth.

5. In a reinforced concrete structure, a marginal frame, a series of runner brackets fixedly attached thereto by oppositely arranged and integrally formed clips, and a wire center formed of a single length of wire rove around said runner brackets, the runner portion of said brackets having a diameter approximating the spacing of the strands of wire comprising the wire center, substantially as set forth.

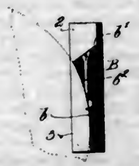
6. In a reinforced concrete structure, a marginal frame, a series of runner brackets fixedly attached thereto by oppositely arranged and integrally formed clips, and a wire center formed of a single length of wire rove around said runner brackets, the runner portion of said brackets having a semi-circular form and a diameter approximating the spacing of the strands of wire comprising the wire center, substantially as set forth.

7. In reinforced concrete structure, a marginal frame, a series of runner brackets the body portions of which are formed with peripheral grooves rectangular in cross section and with oppositely arranged and integrally formed attaching clips, and a wire center formed of a single length of wire rove around said runner brackets, the runner portions of said brackets having a diameter approximating the spacing of the strands of wire comprising the wire center, substantially as set forth.

8. In reinforced concrete structure, a marginal frame, a series of runner brackets the body portions of which are formed with peripheral grooves rectangular in cross section and with oppositely arranged and integrally formed attaching clips, and a wire center formed of a single length of wire rove around said runner brackets, the runner portions of said brackets having a semi-circular form and a diameter approximating the spacing of the strands of wire comprising the wire center, substantially as set forth.

868,922. WITHDRAWN.

868,923. APPARATUS FOR APPLYING WAX TO BOOTS AND SHOES AND THE LIKE. GEORGE H. HARLOW, Hudson, Mass., assignor to Harlow Shoe Finishing Machinery Company, Boston, Mass., a Corporation of Massachusetts. Filed Aug. 7, 1905, Serial No. 273,066. Renewed June 25, 1907. Serial No. 380,752.



1. In apparatus of the class described, a rotatable member, combined with a distributer in engagement with said rotatable member and provided with ducts leading to the upper end of said distributer.

2. In apparatus of the class described, a rotatable member, combined with a distributer concaved at its face

and provided with ducts leading to the upper end of said distributer.

3. In apparatus of the class described, a rotatable member having a non-metallic covering, combined with a distributer concaved at its face and provided with ducts leading to the upper end of said distributer.

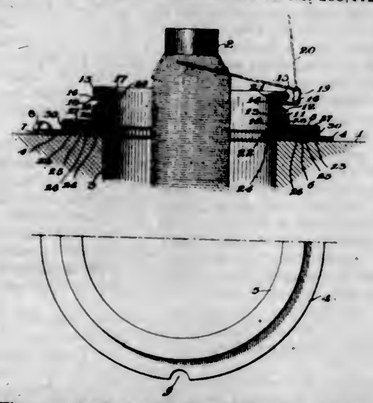
4. In apparatus of the class described, a rotatable member, combined with a distributer having its upper end inclined toward the center of rotation of said member and concaved at its face and provided with a series of ducts leading to the upper end of said distributer.

5. In apparatus of the class described, a rotatable member, combined with a distributer concaved at its face and provided with ducts leading to the upper end of said distributer, and means to regulate the pressure of said distributer against said rotatable member.

6. A wax distributer comprising a metal block concaved at its face and having an inclined top provided with walls, the face of said block being provided with ducts leading from said face upwardly to the top of the block through which heated wax may be forced to the top of the block.

7. In apparatus of the class described, a metallic distributer, a rotatable member, means to hold said rotatable member pressed against said distributer, and means to rotate said member, the friction generated by the contact of the member with the distributer heating the distributer and member and melting the wax that the rotatable member may apply the same to the surface to be waxed.

868,924. SPINNING-RING. DAVID HARRINGTON, Worcester, Mass., assignor, by mesne assignments, to Harrington Ring & Traveller Company, a Corporation of Massachusetts. Filed Dec. 16, 1902. Serial No. 135,442.



1. The combination with a spinning ring, of a ring holder inclosing a portion of the spinning ring and arranged to permit a limited lateral movement of said ring, whereby the latter is capable of movement in a plane at right angles with its axis, and yielding means for retarding the rotation of said ring.

2. The combination with a spinning ring having a flanged base adapted to rest upon the rail of a spinning frame, of a ring holder consisting of an annular plate provided with a flange overlapping the flanged base of the ring, with an intervening annular space between said base and said ring holder, whereby the spinning ring is capable of movement within its ring holder in a plane parallel with its axis, and means for retarding the rotation of said ring.

3. The combination with a spinning ring, of a ring holder consisting of an annular plate arranged to inclose loosely a portion of the spinning ring, means for attaching said holder to the rail of a spinning frame and concentrically with a rotatable bobbin, with an annular space between the holder and the ring, whereby the latter is capable of movement in a plane at right angles with its axis, and yielding means for retarding the rotation of said ring.

4. The combination of a spinning ring having a peripheral groove or track for a traveler and an annular traveler rotatable in said track, and having means on one side for engaging a yarn strand, of a holder for confining said ring to the rail of a spinning frame, said ring capable of movement in said holder in a plane at right angles to its axis and yielding means for retarding the rotation of said ring.

5. The combination with a spinning ring having a flanged base adapted to rest on the rail of a spinning frame and a peripheral groove forming a track for a traveler, of an annular traveler adapted to rotate in said groove and having means on one side for engaging the yarn strand, a ring holder adapted to rest on the rail and overlapping the flanged base of the spinning ring, with an intervening space whereby said ring is capable of being moved in a plane at right angles with its axis and an elastic washer bearing on the flanged base of the spinning ring.

6. The combination with a spinning ring, of an annular ring holder, means for attaching said holder to the rail of a spinning frame concentrically with a rotatable bobbin, a flange on said ring adapted to rest on the rail, said flange being inclosed by the ring holder, with an intervening space between said flange and said holder and a traveler provided with means for engaging a yarn strand, whereby the tension upon the yarn strand is free to move the spinning ring in a plane at right angles with its axis, said movement being limited by the ring holder, and an elastic washer bearing on the flanged base of the spinning ring.

7. The combination with a spinning ring having a flange forming the base of the ring and adapted to rest on the rail of a spinning frame, of a ring holder overlapping said base with an intervening space between said holder and said base and an elastic washer arranged to bear against the opposing surfaces of the ring and holder to impart a frictional resistance to the rotation of the ring in the holder.

8. The combination with a spinning ring holder adapted to retain a spinning ring on the rail of a spinning frame, said holder having an annular space to receive the base of a spinning ring, of a spinning ring provided with a base inclosed within said ring holder and capable of movement therein, and means for imparting a pressure to said base in a line parallel with the axis of said ring, said means interposed between said base and said ring holder.

9. The combination with a spinning ring holder and a spinning ring retained in said holder and adapted to move therein, of means interposed between said holder and said ring to impart a pressure to said ring in a line parallel with its axis.

10. The combination with the rail of a spinning frame, of a spinning ring holder consisting of an annular plate held on said rail by screws concentric with the center of the hole in the frame and with the heads overlapping said plate, said plate provided with a notch in its periphery larger than the overlapping portion of one of the screws, whereby said holder may be removed from the frame.

11. The combination with a spinning ring having a flange forming the base of the ring, of a ring holder consisting of an annular plate overlapping the base of the ring, and a detachable cap supported by said ring and projecting radially therefrom over said ring holder, substantially as described.

12. The combination with a spinning ring having a flange forming the base of the ring, and an annular ring holder overlapping said base, of a detachable cap consisting of an annular plate overlapping said ring holder and having a downwardly turned flange at its outer edge to prevent the admission of dirt and lint beneath the cap, substantially as described.

13. The combination with a spinning ring and ring holder, of a detachable cap carried by said ring and consisting of an annular plate extending over said ring and having at its outer edge a downwardly turned flange with a space between the flange and the holder to allow a lateral movement of said ring, substantially as described.

14. The combination in a spinning ring, of a vertical annular metallic plate, an exterior flange at the lower edge of said plate to form the base of the spinning ring, and adapted to rest on the rail of a spinning frame, a nonmetallic sleeve held on said plate and forming the lower wall of a peripheral groove or track for a traveler, a nonmetallic ring having an exterior flange at its upper edge forming the upper wall of the traveler track, a metallic lining for said nonmetallic ring, said lining overlapping said vertical annular plate and forming a telescopic connection therewith, substantially as described.

15. In a spinning ring, the combination of a vertical annular plate having an exterior horizontal flange forming a base for the ring, a nonmetallic sleeve surrounding said plate and resting on said base, and a nonmetallic ring supported on the top of said plate and having an exterior flange opposing the end of said sleeve and with said sleeve inclosing a peripheral groove forming a track for a traveler, substantially as described.

16. The combination of plate 10 having a base 6, sleeve 11 with its upper edge beveled, a ring 14 provided with a beveled periphery 17 and a flange having a triangular rib opposing the beveled end of said sleeve and a lining for said ring overlapping said plate 10 and frictionally held therein, substantially as described.

17. The combination of a plate 10 having a base 6, a sleeve 11, resting on said base and provided with an interior shoulder 13, a ring 14 resting on said plate 10 and overlapping said shoulder and a lining for said ring having a telescopic connection with said plate 10.

18. The combination in a spinning ring, of a vertical annular plate 10, having a base 6, a non metallic sleeve on said plate 10, an annular ring holder overlapping said base, a detachable metallic cap carried by said sleeve and overlapping the ring holder, substantially as described.

19. The combination, in a spinning ring, of a vertical annular plate 10 having a base 6, a ring holder overlapping said base, a sleeve held on said plate 10 and provided with an exterior shoulder 29, of a cap carried by said sleeve beneath said shoulder, said cap overlapping said holder, substantially as described.

20. The combination in a spinning ring, of the metallic telescopic members consisting of the annular plate 10 and lining 21, and the nonmetallic members, consisting of the sleeve 11 and ring 14, provided with a peripheral groove forming a track for a traveler and means for retaining the metallic plate 10 upon the rail of a spinning frame, substantially as described.

21. The combination of a spinning ring having a base adapted to rest on the rail of a spinning frame, of a ring holder provided with a flange overlapping the base of the ring with a space between the upper side of said base and the under side of said flange, whereby the ring is allowed a slight vertical movement within the holder and a spring adapted to apply a slight pressure to press the base against the rail of the spinning frame, substantially as described.

22. The combination with a spinning ring having a peripheral track for a traveler, and having a base adapted to rest upon the rail of a spinning frame, of a ring holder overlapping the base of the spinning ring with an intervening space to allow a vertical movement to the ring within the holder, a spring having its tension applied to press the base of the ring against the rail, and an annular traveler adapted to be rotated in the track of the ring and having means for engaging a yarn strand whereby the tension of the yarn will exert an upward strain against the tension of said spring, substantially as described.

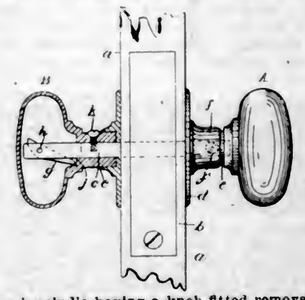
23. The combination with a spinning ring and a ring holder, said ring being capable of a slight vertical movement within said holder, of a traveler adapted to engage the yarn strand and exert an upward pull on the ring during the operation of spinning, and an annular blade spring having its tension applied parallel to the axis of said ring to counteract said upward pull of the yarn, whereby the tension of the yarn strand is made to level automatically the spinning ring as the traveler is rotated, substantially as described.

24. The combination with a ring holder and a rotary spinning ring loosely retained by said ring holder and capable of movement therein, of means for imparting a resistance to the movement of the ring in the ring holder by a pressure parallel to the axis of the ring, said means being interposed between the ring and ring holder.

25. The combination with a rotary spinning ring and a ring holder inclosing a portion of the ring, said ring being capable of a lateral movement in said holder in a plane at right angles with its axis, and means for imparting a resistance to the movement of the ring by a pressure parallel to the axis of the ring, said means being interposed between the ring and ring holder.

26. The combination with a spinning ring having a base adapted to rest on the rail of a spinning frame, of a ring holder overlapping said base, with a clear space between the opposing surfaces of said ring and said ring holder to obviate the accumulation of dirt or lint, and means for applying a yielding pressure to said ring parallel to its axis, said means being interposed between said ring and said ring holder.

868,925. LOCK FOR DOOR-KNOBS. EDWARD A. HINE, Newark, N. J. Filed May 3, 1907. Serial No. 371,730.



1. A knob spindle having a knob fitted removably thereon, means to hold the knob in an adjusted position on the spindle, and a pawl upon the spindle constructed and arranged to fit within the knob and permanently lock the same to the spindle while in its operative horizontal position.

2. A knob spindle having a knob fitted removably thereon means to hold the knob in an adjusted position on the spindle, and a pawl pivoted upon the spindle and movable by gravity and constructed and arranged to engage and retain engagement with the knob to prevent the removal of the knob while the spindle is in its operative horizontal position, and arranged and operated to release the knob by the gravity movement of the pawl when the spindle is turned to a vertical position.

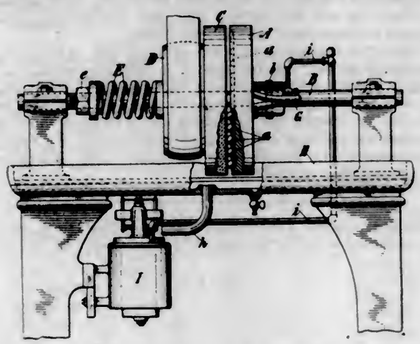
3. The combination, with a knob spindle having upon one end a knob with a shank and a knob-screw adapted to secure the knob at any point upon the spindle to adjust it to the door, of a "rose" adapted to cover said knob-screw to prevent the abstraction of the knob, the opposite end of the spindle having a knob with an internal shoulder, and such opposite end of the spindle having a pawl constructed and arranged to fall by gravity into engagement with the shoulder in the knob to positively prevent the removal of such knob while the spindle is in its operative horizontal position.

4. A door provided with a lock having a knob-spindle, a recessed knob having a shank fitted upon the spindle and provided with a shoulder at the inner end of the shank, said spindle having a pawl adapted to pass through the hole in the knob-shank and movable by gravity into contact with the shoulder upon the shank to prevent the removal of the knob while the door is in an operative position, the construction permitting the pawl to fall into line with the spindle to withdraw the knob when the door is unhinged and turned into a different position and means to hold the knob in an adjusted position on the spindle.

5. The combination, with a knob-spindle having door-knobs upon opposite ends and means for separately se-

curing them in their working relation to the door, of an additional means applied to the spindle within at least one of the knobs for positively preventing its removal from the spindle.

868,926. GRINDING BALLS. ERNST G. HOFFMANN, New Rochelle, N. Y. Filed June 5, 1907. Serial No. 377,316.



1. A machine for grinding balls comprising two relatively rotating disks having parallel working faces with concentric grooves therein adapted to receive the balls between them, one of said disks being formed of abrasive material.

2. A machine for grinding balls comprising two relatively rotating disks mounted upon a horizontal axis and having parallel working faces with concentric grooves therein adapted to receive the balls between them, one of said disks being formed of abrasive material.

3. A machine for grinding balls comprising a metal disk having concentric grooves adapted to receive the balls and a disk of abrasive material, also having concentric grooves in its working face adapted to receiving the balls therein, one of said disks being rotated with respect to the other.

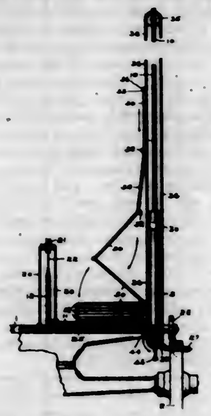
4. A machine for grinding balls comprising two relatively rotating disks having parallel working faces with concentric grooves therein adapted to receive the balls between them, one of said disks being formed of abrasive material, and means to remove immediately the loosened abrasive material.

5. A machine for grinding balls comprising two relatively rotating disks having parallel working faces with concentric grooves therein adapted to receive the balls between them, one of said disks being formed of abrasive material, and means to discharge a stream of liquid between the disks throughout the operation to wash out the loosened particles of abrasive material.

6. A machine for grinding balls comprising two relatively rotated disks having parallel working faces with concentric grooves therein adapted to receive the balls between them, one of said disks being formed of abrasive material, a pump, connections to discharge liquid from the pump upon the working faces of the disks to wash out the loosened particles of abrasive material, a tank to receive the liquid from the disks, and connections to return the liquid from the tank to the pump.

868,927. FIRE-SHIELD. JOHN W. HULL, Sr., Zion City, Ill., assignor to Zion City Manufacturing Co., Zion City, Ill. Filed Aug. 3, 1906. Serial No. 329,130.

1. A fire shield comprising a platform, a plurality of masts movably mounted on said platform and having right-angle bent base portions which terminate in arms, a mast elevating revoluble means extending transversely of the platform, a sheave, a cable extending from the mast elevating means over said sheave to the arms, fire shields, shield elevating means rotatably mounted on the platform and extending parallel with the fire shields, sheaves secured to the tops of the masts, and means extending from the shield elevating means to the sheaves on the masts' tops.

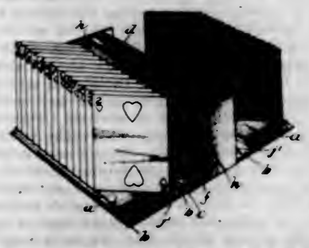


2. A fire shield comprising a platform, a plurality of masts movably mounted on said platform and having right-angle bent base portions which terminate in arms, mast elevating means extending transversely of the platform, a sheave, a cable extending from the mast elevating means over said sheave to the arms, stop devices to limit the upward movement of the masts and means to hold the masts in an elevated position.

3. A fire shield comprising a platform, a plurality of masts movably mounted on said platform and having right-angle bent base portions which terminate in arms, mast elevating means extending transversely of the platform, a sheave, a cable extending from the mast elevating means over said sheave to the arms, stop devices to limit the upward movement of the masts, means to hold the masts in an elevated position, fire shields, shield elevating means revolubly mounted on said platform and adapted to extend parallel with the fire shields, sheaves secured to the upper ends of the masts, and means extending from the shield elevating means to said sheaves.

4. A fire shield comprising a platform, a plurality of masts movably mounted on said platform having right angle bends and arms formed on the bent portions opposite the masts, revoluble means extended transversely of the masts, a sheave, a cable extending from the revoluble means over said sheave to said arms, and a stop device to hold the revoluble means in a given position.

868,928. BRIDGE-WHIST APPARATUS. FRANK B. HURD, New York, N. Y. Filed Apr. 19, 1906. Serial No. 312,580.



1. As a new article of manufacture, a bridge whist apparatus comprising a central section, side wings, hinged to, and adapted to be folded against, said central section, and a card rack carried by each of said wings comprising a block having a plurality of parallel slots therein cut at an angle to the edge of the block, said blocks being of a thickness to be contained by said central section when said wings are folded relative to said central section.

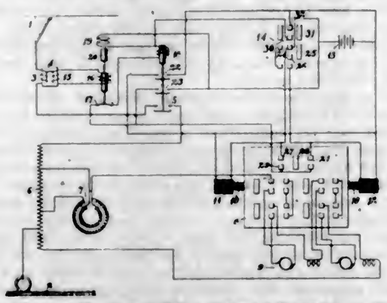
2. As a new article of manufacture, a bridge whist apparatus comprising a central section, side wings hinged thereto, end pieces, a card rack carried by each said wings, comprising a plurality of parallel card receivers pitched at an angle relative to the front of each of said wings and means adapted to secure said parts in a closed position when said wings are folded against said end pieces.

3. As a new article of manufacture, a bridge whist apparatus comprising a central section, side wings hinged thereto, end pieces, a partition on said central section connecting said end pieces, a card rack carried by each of said wings, and a cover adapted to inclose the top edges of said side wings and said end pieces.

4. As a new article of manufacture, a bridge whist apparatus comprising a central section, side wings hinged thereto, end pieces, a partition on said central section connecting said end pieces, a card rack carried by each said wing comprising a block support having a plurality of parallel slots therein cut at an angle of substantially 45 degrees to the front of said block, and a cover adapted to inclose the top edges of said side wings and said end pieces.

5. As a new article of manufacture, a bridge whist apparatus comprising a central section, side wings hinged thereto, end pieces, a partition on said central section connecting said end pieces, a plurality of straps forming pockets on opposite sides of said partition adapted to receive score cards and playing cards, loops adapted to receive a pencil on each said wing, a card rack carried by each said wing comprising a block support having a plurality of parallel slots therein cut at an angle of substantially 45 degrees to the front of said block, and a cover adapted to inclose the top edges of said side wings and said end pieces.

868,929. ELECTRIC CONTROL SYSTEM. RAY P. JACKSON, Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Apr. 3, 1905. Serial No. 253,639.



1. The combination with a source of energy, a translating device, a circuit-breaker to connect the translating device to said source, a reversing switch and operating magnet windings therefor, of means for causing the said windings to retain the reversing switch in closed circuit position until the circuit-breaker has opened.

2. The combination with a source of energy, a translating device, a circuit-breaker to connect the translating device to said source, a reversing switch and operating magnet windings therefor, of switches which maintain a closed circuit through the one or the other of said windings until the circuit-breaker has opened.

3. The combination with a translating device, a circuit-breaker, a reversing switch and operating magnet windings therefor, of switches operated by the circuit-breaker for connecting the one or the other of said windings in an energising circuit while the circuit-breaker is closed.

4. The combination with a translating device, a circuit-breaker, a reversing switch and operating magnets therefor, of an interlocking switch operated by the reversing switch to insure retention of the reversing switch in closed position until after the circuit-breaker opens.

5. The combination with a translating device, a circuit-breaker, a reversing switch and operating magnets therefor, of two interlocking switches that are respectively operated by the reversing switch and by the circuit-breaker to insure retention of the reversing switch in its closed position until after the circuit-breaker opens.

6. The combination with a translating device, a circuit-breaker, a reversing switch and operating magnets therefor, of two interlocking switches one of which is opened and closed directly by the circuit-breaker and the other of which is opened and closed directly by the reversing switch.

7. The combination with a source of energy, a translating device, a circuit-breaker to connect the translating device to said source, a reversing switch and operating magnets therefor, of an auxiliary source of current, a master switch and means for maintaining the reversing switch in closed position until after the circuit-breaker opens.

8. The combination with a translating device and means for supplying variable voltage energy thereto, of a circuit-breaker, a reversing switch provided with operating magnets, an auxiliary source of energy and two interlocking switches that are respectively operated by the circuit-breaker and the reversing switch.

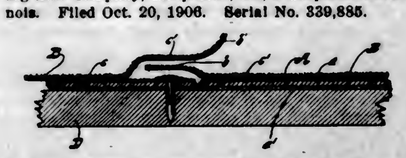
9. The combination with a translating device and means for supplying variable voltage energy thereto, of a circuit-breaker, a reversing switch provided with operating magnets, a master switch for making and breaking the circuit of either of said magnets, and interlocking switches for maintaining the circuit of the energized magnet until after the circuit-breaker opens.

10. The combination with a translating device and means for supplying energy thereto, of a circuit-breaker, a reversing switch provided with operating magnets, a master switch for closing the circuit of either of said magnets and opening that of the other, and means for maintaining the circuit of the energized magnet until after the circuit-breaker opens.

11. The combination with a source of energy, a translating device, a circuit-breaker to connect the translating device to said source, a reversing switch and operating means therefor, of means for preventing movement of the reversing switch to open-circuit position until after the circuit-breaker opens.

12. The combination with a translating device, of a circuit-breaker to connect the translating device to said source, a reversing switch, means for operating said reversing switch, and means for preventing movement of the reversing switch to open-circuit position until after the circuit-breaker opens.

868,930. ROOFING. ALBERT E. KIRK, Rensselaer, Ind., assignor of one-half to Putnam Lumber, Coal & Planing Mill Company, Hoopeston, Ill., a Corporation of Illinois. Filed Oct. 20, 1906. Serial No. 339,885.



1. As an article of manufacture, a sheet of roofing comprising a body layer and a covering layer, said covering layer extending beyond said body layer along both sides and being cemented thereon save for a strip along one side.

2. As an article of manufacture, a sheet of roofing comprising a body layer of roofing felt or similar material and a covering layer of waterproofed textile material, said covering layer extending beyond said body layer along both sides and being cemented thereon save for a strip along one side.

3. As an article of manufacture, a sheet of roofing comprising a body layer of roofing felt or similar material, a covering layer of water-proof textile material, said covering layer extending beyond said body layer along both sides and being cemented thereon save for a strip along one side, and anti-adhesive material interposed between said body layer and overlapping portion of said covering layer.

4. As an article of manufacture, a sheet of roofing comprising a body layer of roofing felt or similar material, a covering layer of water-proofed textile material, said covering layer extending beyond said body layer along both sides and being cemented thereon save for a strip along one side, and powdered graphite interposed between said body layer and overlapping portions of said covering layer.

5. As an article of manufacture, a sheet of roofing comprising a body layer of roofing felt or similar material, a sheathing of paper on the under side thereof, and a covering layer of closely woven textile material cemented upon said body layer by means of an elastic waterproof paint, wherewith said layers are also saturated and said covering layer coated, said covering layer extending beyond said body layer along both sides and being freed from the latter for a strip along one side of a width equal to that of the extending portion on the other side.

6. As an article of manufacture, a sheet of roofing comprising a body layer of roofing felt or similar material and a covering layer of closely woven textile material cemented upon said body layer by means of an elastic waterproof paint, wherewith said layers are also saturated and subsequently hardened by the application of heat, whereby said sheet is rendered stiff and inflexible said covering layer overlapping said body layer on both sides and being freed from the latter for a strip along one side of a width equal to that of the overlapping portion on the other side.

7. As an article of manufacture, a sheet of roofing comprising a body layer of roofing felt or similar material and a covering layer of closely woven textile material cemented upon said body layer by means of an elastic waterproof paint, wherewith said layers are also saturated and subsequently hardened by the application of heat, whereby said sheet is rendered stiff and inflexible said covering layer overlapping said body layer on all sides and being freed from the latter for a strip along two adjoining sides of a width equal to that of the overlapping portions on the other sides.

8. Roofing consisting of a plurality of adjacent strips, each comprising a body layer and a covering layer, said covering layer overlapping said body layer laterally so as to form flaps, and being cemented thereon save for a strip along one side, the joint between adjacent strips of the roofing being formed by inserting the attached flap of the one between the body layer and such freed flap of the other.

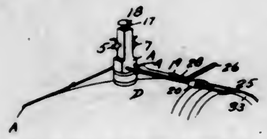
9. Roofing consisting of a plurality of adjacent strips, each comprising a body layer of roofing felt or similar material and a covering layer of waterproofed textile material, said covering layer overlapping said body layer laterally, so as to form flaps, and being cemented thereon save for a strip along one side, the joint between adjacent strips of the roofing being formed by inserting the attached flap of the one between the body layer and such freed flap of the other, said flaps and strip of body layer being firmly cemented together.

10. Roofing consisting of a plurality of adjacent strips, each comprising a body layer of roofing felt or similar material, a sheathing of paper on the under side thereof, and a covering layer of canvas cemented upon said body layer by means of an elastic waterproofed paint wherewith said layers are also saturated and said covering layer coated, said covering layer overlapping said body layer laterally, so as to form flaps, and being cemented thereon save for a strip along one side, the joint between adjacent strips of the roofing being formed by inserting the attached flap of the one between the body layer and such freed flap of the other, said flaps and strip of body layer being firmly cemented together.

11. Roofing consisting of a plurality of adjacent strips, each comprising a body layer of roofing felt or similar material and a covering layer of waterproofed textile material, said covering layer overlapping said body layer laterally, so as to form flaps, and being cemented thereon save for a strip along one side, the joint between adjacent strips of the roofing being formed by inserting the attached flap of the one between the body layer and such freed flap of the other, said flaps and strip of body layer being firmly cemented together, and a relatively narrow open space being left between the adjacent edges of the body layers of successive sheets.

12. Roofing consisting of a plurality of adjacent strips, each comprising a body layer of roofing felt or similar material, a sheathing of paper on the under side thereof, and a covering layer of canvas cemented upon said body layer by means of an elastic waterproof paint wherewith said layers are also saturated and said covering layer coated, said covering layer overlapping said body layer laterally, so as to form flaps, and being cemented thereon save for a strip along one side, the joint between adjacent strips of the roofing being formed by inserting the attached flap of the one between the body layer and such freed flap of the other, said flaps and strip of body layer being firmly cemented together, and a relatively narrow open space being left between the adjacent edges of the body layers of successive sheets.

868,931. DEVICE FOR FILLING AND CHARGING LIQUIDS UNDER PRESSURE. WILLIAM F. KUSZMAUL, Jr., Baltimore, Md. Filed Sept. 25, 1906. Serial No. 336,173.

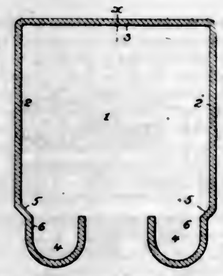


1. In a device of the character described, the combination of an elongated filling head constructed to be positioned over the bunghole of a barrel and having a longitudinal plug-receiving opening formed completely through it, and having also laterally projecting spigots communicating with said opening, said head being further provided with a pair of transverse openings, one at each side of said longitudinal opening, and an elongated clamp constructed to clasp the ends of the barrel and comprising a pair of parallel elongated members which pass through said transverse openings.

2. In a device of the character described, the combination of an elongated filling head constructed to be positioned over the bunghole of a barrel and having a longitudinal plug-receiving opening formed completely through it, and having also laterally projecting spigots communicating with said opening, said head being provided also with a transverse opening, and an elongated clamp passing through said transverse opening and having terminal hooks for engaging the ends of the barrel, said clamp having an extension slidable longitudinally on the body of the clamp and bearing one of said terminal hooks, a collar embracing said extension and body, a bolt passing transversely through said collar, extension and body, standing within a slot in one of the last two members, and a nut for engagement with said bolt.

3. In a device of the character described, the combination of an elongated filling head constructed to be positioned over the bunghole of a barrel and having a longitudinal plug-receiving opening formed completely through it, and having also laterally projecting spigots communicating with said opening, said head being further provided with a pair of transverse openings, one at each side of said longitudinal opening, and an elongated clamp comprising an oblong loop portion whose side members pass through said transverse openings, means in the form of a hook at one end of said loop for engaging with an end of the barrel, an extensible hook-bearing member at the other end of the loop, a lever pivoted to the inner end of said member to be swung toward and from the same, said member and lever being constructed and arranged to receive the end of the loop between them, and means for securing the lever against said hook-bearing member.

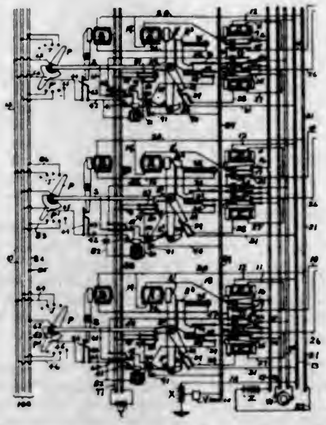
868,932. OVERHEAD TROLLEY-TRACK. JOHN H. LAWRENCE, Sterling, Ill., assignor of one-half to Edwin F. Lawrence, Sterling, Ill. Filed July 16, 1907. Serial No. 384,094.



1. An overhead trolley track provided with counterpart upturned lower portions to form trough shaped runways which are separated by a longitudinal gap, and formed with longitudinal offsets intermediate of said runways and the side walls of the track, substantially as set forth.

2. An overhead trolley track provided with counterpart upturned lower portions to form trough shaped runways which are separated by a longitudinal gap, and formed with inwardly and downwardly extending longitudinal offsets intermediate of said runways and the vertical side walls of the track, substantially as set forth.

868,933. TELEPHONE-EXCHANGE. FRANK A. LUNDQUIST, Chicago, Ill. Filed May 20, 1904. Serial No. 208,893.



1. In an automatic telephone exchange, a plurality of lines leading to a central office, a switching mechanism for each line and operable from a station on the line, a magnet associated with each switching mechanism by the operation of which magnet the associated switching mechanism is prevented from making interfering connections with other lines, a source of electricity, a circuit for each magnet connected to said source and normally having sufficient resistance to prevent the operation of its magnet, and means by which upon moving any switching mechanism to an interfering connection the resistance in the circuit for its associated magnet will be automatically reduced sufficiently to permit the operation of said magnet.

2. The combination with the lines and switching devices of an automatic telephone exchange, of a non-interference magnet associated with each switching mechanism and operable by a reduction of the resistance in its circuit, a source of electricity provided with circuit connections for each magnet, and means controlled by the movement of each switching mechanism through interfering connections made by it for varying the resistance in the circuit of the associated magnet so as to break such interfering connections.

3. The combination with the lines and switching mechanisms of an automatic telephone exchange, of a non-interference magnet associated with each switching mechanism and operable by a reduction of the resistance in its circuit, a source of electricity provided with a circuit for each magnet, means by which upon any switching mechanism being moved to connection with a line other than its own, it will establish an incomplete branch circuit, and means by which upon any other switching mechanism being moved to the connection established by the first moving switching mechanism, the said branch circuit will be connected to the magnet of the second moving switching mechanism so as to reduce the resistance in the circuit of the magnet thereof.

4. The combination with an automatic telephone exchange consisting of a series of electrically operated switches, operating magnets and an operating line for each switching mechanism by means of which it is advanced from and returned to normal position, and two relays for each switching mechanism for controlling its movements, of a magnet for each switching mechanism for preventing its switching mechanism from making an interfering connection and so arranged that it will be operated when the resistance in the circuit therefor is reduced so as to be less than its normal amount, means by which upon the first forward movement of any switching mechanism its relays will be bridged across the operating line so as to furnish an electrical path which will reduce the resistance in the circuit of the non-interference magnet of any other switching mechanism which moves to an interfering connection with the first moving switching mechanism, and means by which such bridge will be broken upon the return of the switching mechanism to its normal position.

5. The combination with a series of switching mechanisms and a line from each by which it may be operated to select some other, of a non-interference magnet and a circuit therefor for each switching mechanism and so arranged that impulses will operate it if the resistance of its circuit is reduced below its normal but will not operate it if the resistance is not so reduced, relays for each switching mechanism, and means by which upon moving one switching mechanism to select another switching mechanism the relays for the selecting switching mechanism will be bridged on its operating line so as to furnish an electrical path which will reduce the resistance in the circuit for the non-interference magnet of any switching mechanism which moves to interfering connection with the selecting switching mechanism.

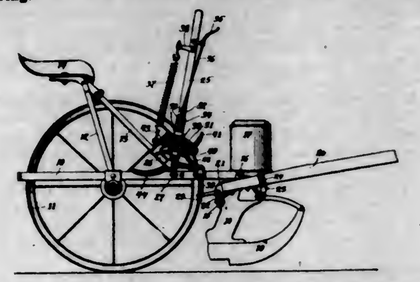
868,934. SHIFT MECHANISM FOR AGRICULTURAL IMPLEMENTS. PIERRE MEAGHER, Racine, Wis., assignor to J. I. Case Plow Works, Racine, Wis., a Corporation. Filed Jan. 2, 1904. Serial No. 187,480.

1. In shift mechanism for agricultural implements, the combination with a ground tool, a shift-lever therefor, a latch and rack for holding said lever, of a trip for said latch pivoted to said shift-lever and provided with a foot-treadle and a stop for limiting the relative movement of said trip upon said lever.

2. In shift mechanism for agricultural implements, the combination with a ground tool and a shift-lever therefor, of a rack-bar on the machine frame, a spring-actuated, sliding latch mounted on said lever on one side of said rack-bar and arranged to engage the same, a releasing trip for said latch pivoted to said lever upon the other side of said rack-bar and a foot-treadle mounted on said trip.

3. In shift mechanism for agricultural implements, the

combination with a ground tool, a lift-spring and a shifter therefor and a latch for said shifter, of a foot-treadle for tripping said latch and connected to said shifter for moving said tool to the ground against the tension of said lift-spring.



4. In shift mechanism for agricultural implements, the combination with a ground tool, a lift-spring and pivoted shift-lever therefor, of a rack on the frame, a latch for engaging said rack mounted on said lever, a trip for releasing said latch mounted on said lever and provided with a stop for limiting its movement thereon and with a foot-treadle arranged to actuate said trip and move the tool to the ground against the tension of said lift-spring.

5. In shift mechanism for agricultural implements, the combination with a ground tool, a shifter therefor and a latch for said shifter, of a pair of foot-treadles connected to said shifter for raising and lowering said ground tool, one of said treadles being arranged to control said latch.

6. In shift mechanism for agricultural implements, the combination with a ground tool, a shift-lever therefor, a latch and rack for holding said lever, of a pair of foot-treadles connected to said lever for shifting the same in opposite directions.

7. In shift mechanism for agricultural implements, the combination with a ground tool, a shift-lever therefor, a latch and rack for holding said lever, of a pair of foot-treadles connected to said lever for shifting the same in opposite directions, one of said treadles being movably mounted upon said lever and arranged to release said latch.

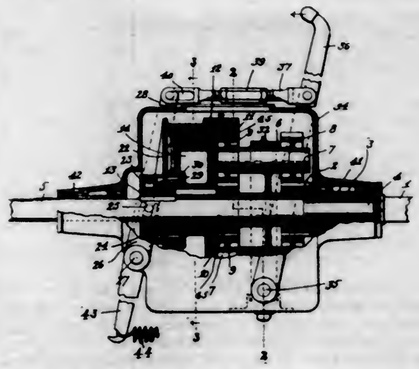
8. In shift mechanism for agricultural implements, the combination with a ground tool, of a shift-lever therefor, a cushion spring connection between said lever and said tool, a lift-spring connected to said lever and a latch and coöperating rack for holding said lever in adjusted position.

9. In shift mechanism for agricultural implements, the combination with a ground tool, of a shift-lever therefor, a cushion spring connection between said lever and said tool, a lift-spring connected to said lever, a latch and coöperating rack for holding said lever, a pair of foot-treadles connected to said lever for shifting the same in opposite directions, one of said treadles being movably mounted on said lever and arranged to trip said latch.

10. In an agricultural implement, the combination with the frame, rider's seat and ground tool mounted to shift to and from working position, of shift mechanism comprising a lifting foot-lever pivotally mounted on the frame and extending rearwardly toward the rider's seat, connection between said foot-lever and the ground tool, a latch for said shift mechanism connected to said foot-lever, and a forwardly extending, depressing foot-lever pivotally connected to said lifting foot-lever and having a slight shift independent thereof to release said latch, substantially as described.

11. In an agricultural implement, the combination with the frame, rider's seat and ground tool mounted to shift to and from working position, of shift mechanism comprising a lifting foot-lever pivotally mounted on the frame and extending rearwardly toward the rider's seat, an arm connected to said foot-lever, a link connecting said arm and the ground tool, a latch for said shift mechanism connected to said foot-lever and a forwardly extending, depressing foot-lever pivotally connected to said lifting foot-lever and having a slight shift independent thereof to release said latch, substantially as described.

868,935. SPEED-CHANGING MECHANISM. GEORGE D. MUNSING, New York, N. Y. Filed May 23, 1907. Serial No. 375,324.



1. In a speed changing mechanism, the combination with driving and driven shafts; of gearing between the two shafts, a cylinder, and a rotary piston therein to control the rotation of the gearing.

2. In a speed changing mechanism, the combination with driving and driven shafts; of planet gearing between the two shafts, a rotary cylinder and a rotary piston therein both driven by the planet gearing.

3. In a speed changing mechanism, the combination with the driving and driven shafts; of gearing between the two shafts, a casing for containing a fluid and for said gearing and shafts, a rotary cylinder and a rotary piston therein to control the rotation of the gearing and means to vent fluid from the cylinder into the casing and vice versa.

4. In a speed changing mechanism, the combination with the driving and driven shafts; of planet gearing between the two shafts, a casing for containing fluid and for said planet gearing, fluid pressure mechanism to control the rotation of the planet gearing, means to vent fluid from the fluid pressure mechanism into the casing and vice versa, and means to positively lock the planet gearing against rotation and thereby cause the driving and driven shafts to rotate in unison.

5. In a speed changing mechanism, the combination with the driving and driven shafts; of gearing between the two shafts, a casing for said gearing for containing fluid, fluid pressure mechanism to control the rotation of the planet gearing, a valve to control the passage of fluid to and from the fluid pressure mechanism, and a clutch mechanism controlled by the movement of the valve to lock the gearing against rotation.

6. In a speed changing mechanism, the combination with driving and driven shafts; of gearing between the two shafts, fluid-pressure mechanism to control the gearing, a fluid container, a valve to control the passage of fluid between the container and said mechanism, and a clutch on the valve to lock the fluid pressure mechanism and thereby lock the gearing to cause the two shafts to rotate in unison.

7. In a speed changing mechanism, the combination with driving and driven shafts; of a gear wheel secured to one of the shafts and an internal gear wheel secured to the other shaft and planet gearing connecting the two, a cylinder and a rotary piston therein, both contained within the internal gear wheel to control the planet gearing.

8. In a speed changing mechanism, the combination with driving and driven shafts; of a gear wheel secured to one of the shafts and an internal gear wheel secured to the other shaft, a brake member free to rotate with respect to the shafts, planet wheels mounted on the brake member and gearing with the afore-mentioned gear wheels, fluid pressure mechanism to control the planet wheels, a valve to control the passage of fluid to and from the mechanism, a brake band on the brake member and a single lever to operate the brake band and control the valve.

9. In a speed changing mechanism, the combination with the planet gearing and the internal gear wheel meshing therewith; of a cylinder rotatable in unison with the internal gear wheel, a rotary piston therein geared to the planet gearing and a valve slidable on the cylinder to control the passage of finid to and from the cylinder.

10. In a speed changing mechanism, the combination with the planet gearing and the internal gear wheel meshing therewith; of a cylinder rotatable in unison with the internal gear wheel, a rotary piston therein geared to the planet gearing, a valve slidable on the cylinder, and a clutch on the valve to lock the piston and internal gear wheel together.

11. In a speed changing mechanism, the combination with the planet gearing and the internal gear wheel meshing therewith; of a cylinder contained in the internal gear wheel, a piston having clutch recesses, in said cylinder free to revolve with respect to the shafts, a gear wheel connected to the piston and meshing with the planet gearing, a valve to control the passage of fluid to and from the cylinder and clutch pins on the valve passing through the cylinder to engage the recesses in the piston.

12. In a speed changing mechanism, the combination with driving and driven shafts, an internal gear wheel secured on the driven shaft, a brake wheel loose on the driven shaft, planet gearing mounted in the brake wheel and driven by the gear wheel on the driving shaft, and engaging the internal gear wheel, a cylinder rotatable in unison with the internal gear wheel and having an eccentric portion on its internal surface, a main piston substantially tangent to said eccentric portion an auxiliary piston in the main piston, a movable packing member in the cylinder means to admit fluid behind the packing member and auxiliary piston, a valve axially slidable on the cylinder having inlet and outlet ports and auxiliary vents, means to urge the valve in open position, a lever to move the valve, a brake band and lever to operate the same, a slotted link connecting the two levers and a casing surrounding the whole device to control fluid for the cylinder.

13. In a speed changing mechanism, the combination with a driving and driven shaft; of means to control the relative speed of the driven shaft comprising a cylinder rotating in unison with one of the shafts, and a rotary piston therein, gearing connecting the piston and the other shafts, and means to control the passage of a non-compressible fluid between the piston and cylinder.

14. In a speed changing mechanism, the combination with two alined shafts; of a cylinder on one of said shafts, a rotary piston therein, gearing connecting the piston and other shaft, a valve to control the admission of fluid to the cylinder, and means to lock the piston and cylinder to rotate in unison.

15. In a speed changing mechanism the combination with two shafts; of a cylinder on one of the shafts having inlet and outlet ports, a valve to control said ports, a rotary piston in the cylinder, gearing connecting the piston to the other shaft and a fluid containing casing surrounding the cylinder and gearing.

16. In a speed changing mechanism the combination with two shafts; of a cylinder on one of the shafts having inlet and outlet ports, a single valve to control the inlet and outlet ports, a piston in the cylinder, gearing connecting the piston to the other shaft, clutch devices on the valve to positively lock the piston and cylinder together and a fluid containing casing surrounding the cylinder and gearing.

17. In a speed changing mechanism, the combination with two shafts; of a cylinder on one of them having inlet and exhaust ports and means to control said ports, a piston in said cylinder, gearing connecting the piston to one of the shafts and an internal gear wheel secured to the other shaft, a brake member free to rotate with respect to the shafts, planet wheels mounted on the brake member and gearing with the afore-mentioned gear wheels, fluid pressure mechanism to control the planet wheels, a valve to control the passage of fluid to and from the mechanism, a brake band on the brake member and a single lever to operate the brake band and control the valve.

9. In a speed changing mechanism, the combination with the planet gearing and the internal gear wheel meshing therewith; of a cylinder rotatable in unison with the internal gear wheel, a rotary piston therein geared to the planet gearing and a valve slidable on the cylinder to control the passage of finid to and from the cylinder.

10. In a speed changing mechanism, the combination with the planet gearing and the internal gear wheel meshing therewith; of a cylinder rotatable in unison with the internal gear wheel, a rotary piston therein geared to the planet gearing, a valve slidable on the cylinder, and a clutch on the valve to lock the piston and internal gear wheel together.

11. In a speed changing mechanism, the combination with the planet gearing and the internal gear wheel meshing therewith; of a cylinder contained in the internal gear wheel, a piston having clutch recesses, in said cylinder free to revolve with respect to the shafts, a gear wheel connected to the piston and meshing with the planet gearing, a valve to control the passage of fluid to and from the cylinder and clutch pins on the valve passing through the cylinder to engage the recesses in the piston.

12. In a speed changing mechanism, the combination with driving and driven shafts, an internal gear wheel secured on the driven shaft, a brake wheel loose on the driven shaft, planet gearing mounted in the brake wheel and driven by the gear wheel on the driving shaft, and engaging the internal gear wheel, a cylinder rotatable in unison with the internal gear wheel and having an eccentric portion on its internal surface, a main piston substantially tangent to said eccentric portion an auxiliary piston in the main piston, a movable packing member in the cylinder means to admit fluid behind the packing member and auxiliary piston, a valve axially slidable on the cylinder having inlet and outlet ports and auxiliary vents, means to urge the valve in open position, a lever to move the valve, a brake band and lever to operate the same, a slotted link connecting the two levers and a casing surrounding the whole device to control fluid for the cylinder.

13. In a speed changing mechanism, the combination with a driving and driven shaft; of means to control the relative speed of the driven shaft comprising a cylinder rotating in unison with one of the shafts, and a rotary piston therein, gearing connecting the piston and the other shafts, and means to control the passage of a non-compressible fluid between the piston and cylinder.

14. In a speed changing mechanism, the combination with two alined shafts; of a cylinder on one of said shafts, a rotary piston therein, gearing connecting the piston and other shaft, a valve to control the admission of fluid to the cylinder, and means to lock the piston and cylinder to rotate in unison.

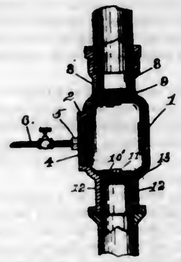
15. In a speed changing mechanism the combination with two shafts; of a cylinder on one of the shafts having inlet and outlet ports, a valve to control said ports, a rotary piston in the cylinder, gearing connecting the piston to the other shaft and a fluid containing casing surrounding the cylinder and gearing.

16. In a speed changing mechanism the combination with two shafts; of a cylinder on one of the shafts having inlet and outlet ports, a single valve to control the inlet and outlet ports, a piston in the cylinder, gearing connecting the piston to the other shaft, clutch devices on the valve to positively lock the piston and cylinder together and a fluid containing casing surrounding the cylinder and gearing.

17. In a speed changing mechanism, the combination with two shafts; of a cylinder on one of them having inlet and exhaust ports and means to control said ports, a piston in said cylinder, gearing connecting the piston

to one of the shafts and an internal gear wheel secured to the other shaft and means coöperating with the gearing to reverse the direction of rotation of the piston.

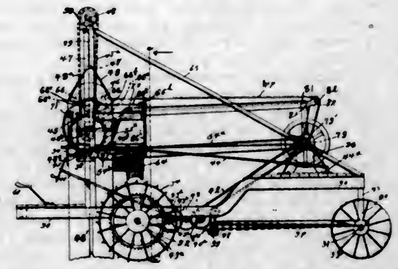
868,936. TESTING-FITTING AND CLEAN-OUT. PATRICK J. MCGINN, New York, N. Y. Filed June 2, 1906. Serial No. 319,883.



1. A device of the character as described, consisting of an intermediate barrel portion, nipples located at the upper and lower ends of said barrel portion, means for closing either of said nipples, said barrel portion having a port, a means for closing said port, and a pipe adapted to be applied to the port closing means and a pipe adapted to be applied to the closing means of the upper nipple.

2. A device of the character as described, consisting of an intermediate barrel portion, nipples located at the upper and lower ends of said barrel portion and each being provided with an internal screw thread, a plug and a bushing adapted to engage said threads, said barrel portion having a lateral port which is internally threaded, a plug and a bushing adapted to engage the port thread, said bushings adapted to receive the end of a water supply pipe.

868,937. TILE-DITCHING MACHINE. MICAJAH L. POULTER, and MARION J. MUNSON, Stockport, Iowa. Filed Oct. 8, 1906. Serial No. 337,877.



1. In a ditching machine, the combination with a framework, an endless-carrier supported upon said framework, of a scoop secured to said carrier, stationary means for cleaning the entire inside of said scoop, and means for driving said carrier.

2. In a ditching machine, the combination with a framework, a carrier positioned upon said framework, of a scoop secured to said carrier, a scraper secured to said framework and adapted to pass through said scoop for cleaning the inside of the same, and means for driving said carrier.

3. In a ditching machine, the combination with a framework, a carrier supported upon said framework, of a scoop secured to said carrier, said scoop provided with a slot formed in its side and extending its entire length and said slot open at both ends, and means carried by said framework and adapted to be positioned within the slot of said scoop for cleaning the inside thereof, and means for driving said carrier.

4. In a ditching machine, the combination with a framework, a carrier supported thereby, of a scoop secured to said carrier, said scoop provided with open ends and a slotted side, a scraper secured to said framework and adapted to extend through the slot of said side and into said scoop, means for closing one end of said scoop, and means for driving said carrier.

5. In a ditching machine, the combination with a framework, a carrier supported upon said framework, of a scoop provided with an elongated opening upon one side, secured to said carrier, means working in said opening for cleaning the inside of said scoop, and means for imparting motion to said carrier.

6. In a ditching machine, the combination with a framework, a carrier supported upon said framework, of a scoop secured to said carrier, a sectional scraper secured to said framework and adapted to be positioned in said scoop as the same passes said scraper, and means for imparting motion to said carrier.

7. In a ditching machine, the combination with a framework, a carrier supported upon said framework, of a scoop secured to said carrier, a scraper comprising sections, each section secured at one end to said framework and having its outer end left free, said scraper adapted to be positioned within said scoop for cleaning the same as said scoop in its travel passes the scraper, and means for imparting motion to said carrier.

8. In a ditching machine, the combination with a framework, a carrier supported upon said framework, of a scoop secured to said carrier, a scraper secured to said framework in the path of movement of said scoop and adapted to be positioned in the scoop and scrape its entire length for cleaning the same, and means for driving said carrier.

9. In a ditching machine, the combination with a framework, a carrier supported upon said framework, of a bucket-like scoop provided with an opening upon one side, secured to said carrier, a substantially annular scraper secured to the framework in the path of movement of said scoop, said scraper adapted to extend through the opening of and into said scoop, as the scoop in its travel passes said scraper, and means for imparting motion to said carrier.

10. In a ditching machine, the combination with a framework, a carrier supported upon said framework, of a scoop provided with a movable bottom, secured to said carrier, lever and link means connected to said bottom, means for driving said carrier, and means for actuating said lever and link means during a portion of the travel of the carrier for holding the bottom in a closed position.

11. In a ditching machine, the combination with a framework, a carrier supported upon said framework, of an open-ended scoop secured to said carrier, a movable cover or bottom for closing one end of said scoop, lever and link means coöperating with said bottom for holding the same in a closed position during a portion of the travel of the scoop, and means for imparting movement to said carrier.

12. In a ditching machine, the combination with a framework, an endless carrier supported upon said framework, of a scoop secured to said carrier, said scoop provided with a hinged bottom, a lever pivotally mounted upon said carrier, means connecting said lever to said bottom, a track, means connected to said lever and passing over said track for holding said bottom in a closed position, and means for driving said carrier.

13. In a ditching machine, the combination with a framework, a carrier supported upon said framework, of a scoop provided with a movable bottom and secured to said carrier, of a bell-crank lever secured to said carrier, means connecting said lever to said bottom, and means for moving said lever for actuating said bottom.

14. In a ditching machine, the combination with a framework, a carrier supported upon said framework, of a scoop provided with a hinged bottom secured to said carrier, a bell-crank lever connected to said carrier, a link, means connecting said link to said lever and bottom, means for moving said lever and link for closing said bottom and holding it in said position, and means for driving said carrier.

15. In a ditching machine, the combination with a framework, a carrier supported upon said framework, of a scoop secured to said carrier, said scoop provided with a hinged bottom, a bell-crank lever pivotally mounted upon said carrier, means connecting said lever to said bottom, a stub-shaft secured to said lever, a wheel journaled upon said stub-shaft, a track, said wheel adapted to pass over said track for holding said bottom in a closed position, and means for driving said carrier.

16. In a ditching machine, the combination with a framework, of an endless-carrier positioned upon said framework, an open-ended scoop secured to said carrier, said scoop provided with a hinged bottom for closing one end thereof, a bell-crank lever pivotally mounted upon said carrier, a wheel journaled upon said lever, means connecting one end of said lever to said bottom, a track, said wheel adapted to pass over said track for swinging and retaining said bottom in a closed position during a portion only of the travel of said scoop, and means for driving said carrier.

17. In a ditching machine, the combination with a framework, of an excavating-device carried by said framework, said excavating-device comprising a framework consisting of sides provided with endless grooves, a carrier working between said sides, said carrier comprising links, wheels journaled upon some of said links and traveling in the grooves of the sides of the framework, a scoop secured to said carrier, and means for driving said carrier.

18. In a ditching machine, the combination with a framework, of a vertically-adjustable excavating-device carried by said framework, said excavating-device comprising a framework consisting of sides provided with endless grooves, a carrier working between said sides, said carrier comprising links, wheels journaled upon the opposite sides of some of said links and traveling in the grooves of the sides of the framework, a scoop secured to said carrier, and means for driving said carrier.

19. In a ditching machine, the combination with a framework, of a vertical, endless-carrier supported upon said framework, a scoop secured to said carrier, a horizontal conveyer positioned contiguous to and in the path of movement of said scoop, said conveyer provided with an opening through which said scoop is adapted to pass in its travel, and means for driving said carrier and conveyer in timed relation.

20. In a ditching machine, the combination with a framework, of an excavating-device provided with a scoop, carried by said framework, a conveyer in the path of movement of said scoop, said conveyer provided with an opening through which the scoop is adapted to pass in its upward travel, and means for actuating said conveyer and carrier in timed relation.

21. In a ditching machine, the combination with a framework, of a carrier, a conveyer coöperating therewith, said carrier provided with a scoop adapted to pass through said conveyer, and means for actuating said carrier and conveyer in timed relation.

22. In a ditching machine, the combination of a carrier, a conveyer coöperating therewith, a scoop secured to said carrier and adapted to pass through said conveyer, said scoop provided with a hinged bottom, means holding said bottom in a closed position upon said scoop as the same passes through said conveyer and adapted to release the bottom for permitting a load in the scoop to be deposited upon said conveyer when the scoop is above the same, and means for imparting motion to said carrier and conveyer.

23. In a ditching machine, the combination of a carrier and a conveyer, a scoop secured to said carrier and adapted in its travel to be positioned above said conveyer, said scoop provided with a movable bottom, means for closing the bottom during a portion of the travel of the carrier and holding the bottom in said closed position until the scoop is positioned above said conveyer, and means for imparting movement to said carrier and conveyer.

24. In a ditching machine, the combination with a framework, of a vertical carrier supported by said framework, a horizontal conveyer supported by said framework, said conveyer positioned contiguous to said carrier, load-receiving and supporting means attached to said carrier and adapted to pass through said conveyer and deposit a load upon the upper run of the same, and means for actuating said conveyer and carrier in timed relation.

25. In a ditching machine, the combination with a framework, of a carrier supported upon said framework, a conveyer supported by said framework and contiguous to said carrier, load-receiving and supporting means attached to said carrier and adapted to pass through said conveyer and deposit a load upon the same, and means for actuating said conveyer and carrier in timed relation.

26. In a ditching machine, the combination with a framework, of standards secured to said framework, a rotatable drum or shaft journaled upon said standards, an adjustable excavating-device positioned between said standards, cables secured upon opposite sides of said excavating-device and connected to and adapted to be wound upon said drum for adjusting said device, and means for imparting rotary movement to said drum.

27. In a ditching machine, the combination with a framework, of a drum carried by said framework, an excavating device, pairs of cables positioned upon opposite sides and secured to said excavating-device, said cables connected to and adapted to be wound upon said drum for adjusting said excavating-device, and means for rotating said drum.

28. In a ditching machine, the combination of standards, a vertically-adjustable excavating-device positioned between said standards, a winch connected to said standards and to the upper end of said excavating-device for adjusting said device, and means for actuating said winch for adjusting said excavating-device.

29. In a ditching machine, the combination of standards, a vertically-adjustable excavating-device positioned between said standards, a winch connected to said standards and to said excavating-device for adjusting said device, a clutch-device, means connecting said clutch-device to said winch, and means for actuating said clutch-device for controlling movement of said winch and the vertical adjustment of said excavating-device.

30. In a ditching machine, the combination with a framework, of a vertically-adjustable excavating-device carried by said framework, a level-device connected to said excavating-device, said level-device comprising a bracket, a pivotally-mounted vertical arm carried by said bracket, a pivotally-mounted horizontal arm carried by said bracket, and means connecting said horizontal and vertical arms.

31. In a ditching machine, the combination with an excavating-device, of a level-device secured to said excavating-device, said level-device comprising a bracket, a pivotally-mounted, weighted arm carried by said bracket, a pivotally-mounted horizontal arm carried by said bracket, and a link connecting said arms.

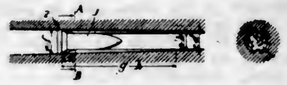
32. In a ditching machine, the combination with a framework, of a level-device supported upon said framework, said level-device comprising a bracket provided with a horizontal extension, a weighted, vertical arm pivotally mounted upon said extension, a horizontal arm provided with a vertical extension, pivotally mounted upon said bracket, means connecting the extension of the horizontal arm and the upper end of said weighted arm, and a stake, said stake provided with an adjustable extension coöperating with the horizontal arm of said level-device.

33. In a ditching machine, the combination with a framework, of a level-device carried thereby, said device comprising a horizontal pivotally-mounted arm, a weighted-member, means connecting said weighted member to said arm, whereby said arm is normally retained in a horizontal position.

34. In a ditching machine, the combination with front and rear axles, wheels journaled upon said axles, of a framework, means pivotally connecting the front axle to said framework, a shaft carried by said framework, a flexible member wound around said shaft intermediate its ends and having its outer ends fixedly secured to the front axle, a worm-device coöperating with said shaft for rotating the same and thereby adjusting the front axle, and means for actuating the worm-device.

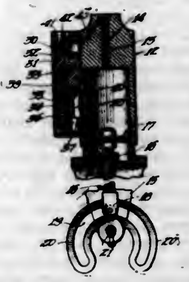
35. In a ditching machine, the combination with a framework, of a vertically adjustable excavating-device carried by said framework, a gear-wheel journaled upon said framework, means connecting said gear-wheel to said excavating-device, whereby when said wheel is rotated, vertical movement will be imparted to said excavating-device, a worm meshing with said gear-wheel, means for reversing the direction of rotation of said worm and thereby the vertical adjustment of said excavating-device.

868,938. BARREL FOR PORTABLE FIREARMS AND CANNON WITH DEEPENED GROOVES. CARL PUFF, Spandau, Germany. Filed July 25, 1907. Serial No. 385,560.



A barrel for portable firearms and guns adapted to fire projectiles provided with enlarged driving disks, having rifling grooves of greater than normal depth at the rear and shallowing to normal depth and finally disappearing at the muzzle, and having also a lateral opening adjacent the muzzle for the discharge of the driving disk.

868,939. PNEUMATIC PUMP. HADLEY C. REAMES, Los Angeles, Cal., assignor of one-half to George H. Reames, Los Angeles, Cal. Filed Sept. 20, 1906. Serial No. 335,340.



1. A pneumatic pumping mechanism for a vehicle tire, comprising a cylinder rigidly secured to the rim of the vehicle wheel; an air inlet valve operatively mounted in the outer end of said cylinder and in communication with the tire on said wheel; a piston in said cylinder provided with a piston rod; means attached to the frame of said vehicle adapted to reciprocate said piston rod upon the rotation of the vehicle wheel; an auxiliary cylinder secured to said first named cylinder having an open port in communication with the tire on said wheel; a spring pressed piston in said auxiliary cylinder adapted to be moved inwardly against the spring pressure by the air pressure in said tire; and a spring catch mounted in said auxiliary cylinder adapted to be pressed into the first named cylinder by the inward movement of the piston in said auxiliary cylinder.

2. In a device of the class described, a pneumatically tired vehicle wheel operatively mounted on a vehicle, in combination with a cylinder rigidly secured to the rim of said wheel; an air inlet valve operatively mounted in the outer end of said cylinder and in communication with the tire on said wheel; a piston in said cylinder; a bifurcated piston rod having a roller in its furcations connected to said piston; a bifurcated frame secured to said cylinder; a cam rigidly secured to a shaft revolubly mounted in said frame adapted to engage the roller rotatively mounted on the piston rod; an operating arm secured to said shaft; means for returning the operating

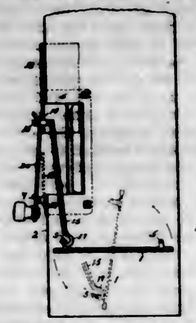
arm to its normal position; and an adjustable roller contact attached to an arm rigidly secured to the vehicle, said operating arm adapted to engage the said roller contact on the movement of the wheel.

8. A pneumatic pumping mechanism, comprising a pneumatically tired vehicle wheel operatively mounted on a vehicle, in combination with a cylinder rigidly secured to the rim of said wheel; an air inlet valve operatively mounted in the outer end of said cylinder and in communication with the tire on said wheel; a piston in said cylinder; a bifurcated piston rod having a roller in its furcations secured to said piston; a bifurcated frame secured to said cylinder; a cam rigidly secured to a shaft revolubly mounted in said frame and adapted to engage the roller revolubly mounted on the piston rod; an operating arm rigidly secured to said shaft; means secured to the shaft and to the frame for returning the operating arm to its normal position; an adjustable roller contact attached to an arm rigidly secured to the vehicle, said operating arm adapted to engage with and be operated by said roller contact on the movement of the wheel; an auxiliary cylinder secured to said first named cylinder having a port in communication with the tire on said wheel; a spring supported pneumatically operated piston mounted in said auxiliary cylinder; and a spring catch mounted in said auxiliary cylinder adapted to project into the first named cylinder on the inward movement of the spring supported piston, said catch adapted to automatically lock and hold the piston in the first named cylinder in an inoperative position when the vehicle tire is fully inflated.

4. A pneumatic pumping mechanism, comprising a pneumatically tired vehicle wheel operatively mounted on a vehicle, in combination with a cylinder rigidly secured to the rim of said wheel; an air inlet valve operatively mounted in the outer end of said cylinder and in communication with the tire on said wheel; a piston in said cylinder; a bifurcated piston rod having a roller in its furcations secured to said piston; a bifurcated frame secured to said cylinder; a cam rigidly secured to a shaft revolubly mounted in said frame and adapted to engage the roller revolubly mounted on the piston rod; an operating arm rigidly secured to said shaft; means secured to the shaft and to the frame for returning the operating arm to its normal position; an adjustable roller contact attached to an arm rigidly secured to the vehicle, said operating arm adapted to engage with and be operated by said roller contact on the movement of the wheel; an auxiliary cylinder secured to said first named cylinder having a port in communication with the tire on said wheel; a spring supported pneumatically operated piston mounted in said auxiliary cylinder; and a spring catch mounted in said auxiliary cylinder adapted to project into the first named cylinder on the inward movement of the spring supported piston, said catch adapted to automatically lock and hold the piston in the first named cylinder in an inoperative position when the vehicle tire is fully inflated, and to automatically release said piston when the tire becomes partially deflated.

5. In a device of the class described, a pneumatically tired vehicle wheel operatively mounted on a vehicle, in combination with a cylinder rigidly secured to the rim of said wheel; an air inlet valve operatively mounted in the outer end of said cylinder and in communication with the tire on said wheel; a piston in said cylinder; a bifurcated piston rod having a roller in its furcations connected to said piston; a bifurcated frame secured to said cylinder; a cam rigidly mounted on a shaft revolubly mounted in said frame adapted to engage the roller revolubly mounted on the piston rod; an operating arm secured to said shaft; means for returning the operating arm to its normal position; pneumatically operated locking mechanism secured to said cylinder and in communication with the interior thereof, said mechanism adapted to engage and hold said piston in an inoperative position when the vehicle tire is fully inflated and to release said piston when the tire becomes partially deflated; and an adjustable roller contact attached to an arm rigidly secured to the vehicle, said operating arm adapted to engage the said roller contact on the movement of the wheel.

868,940. STOVEPIPE ATTACHMENT. LEWIS REASER, Reading, Pa. Filed Jan. 2, 1907. Serial No. 350,488.



1. The combination with a pipe having a wall opening with a slidably mounted cover plate therefor having a slotted opening, of a damper rotatably mounted in said pipe and having a rod-engaging eye, and a connecting rod having a hooked end removably engaging said eye and a tee-head removably engaged in said slotted opening substantially as set forth.

2. The combination with a pipe having a wall opening with a slidably mounted cover plate therefor having a slotted opening, of a damper rotatably mounted in said pipe and having a rod-engaging eye, a connecting rod having a hooked end removably engaging said eye and a tee-head removably engaged in said slotted opening and projecting therethrough, and a handle for adjusting said slide plate removably attached to said projecting tee-head, substantially as set forth.

868,941. SAFETY WATCH-POCKET. CHARLES E. REDFERN, Providence, R. I. Filed Nov. 7, 1906. Serial No. 342,421.



1. In a device of the class described, the combination of a casing provided with a cover hingedly connected with the bottom thereof to swing upwardly and downwardly and provided with an opening adjacent the top, elastic bands attached to the inner face of the cover for yieldingly holding a watch against the cover and in fixed position as the latter swings open, a yieldable cushioning pad arranged in the casing to coöperate with the bands for holding the watch in fixed position when the cover is closed, means for attaching the casing to a garment, and a watch chain or fob extending through the opening of the cover.

2. In a device of the class described, the combination of a casing having a hinged cover, horisontally extending elastic retaining bands attached to the inner face of the cover for supporting a watch on the latter to move therewith, means limiting the opening movement of the cover with a watch supported thereon, a yielding cushioning pad arranged in the casing to coöperate with the bands to hold the watch in fixed position, and vertically extending belt receiving straps secured to the back of the casing.

868,942. FLAGSTAFF. WILLIAM A. REID, St. Louis, Mo. Filed Feb. 18, 1907. Serial No. 357,682.

1. In a flag staff mast, the combination of a pair of sections comprising clusters of pipes, coupling members fitted to said pipes for uniting them, adjustable core pieces located within said clusters of pipes, and means for shifting said core pieces longitudinally of said pipes, substantially as set forth.



2. In a flag staff mast, the combination of a pair of sections comprising clusters of pipes, and central pipes, coupling members in which the ends of said clusters of pipes are seated, adjustable core pieces loosely fitted to said central pipes and adapted to impinge against said cluster of pipes for the purpose of forcing them outwardly within said coupling members, and means for shifting said core pieces on said central pipes substantially as set forth.

3. In a flag staff mast, the combination of a pair of sections comprising clusters of pipes, coupling members having tapered sleeves in which the ends of said pipes seat, and shiftable means for forcing said pipes outwardly to said sleeves, substantially as set forth.

4. In a flag staff mast, the combination of a pair of sections comprising clusters of pipes, and central pipes the latter of which are provided with longitudinal slots, coupling members for uniting said sections and in which said pipes are seated, core pieces loosely fitted to said central pipes within said clusters of pipes, and means operatable in the slots of said central pipes for moving said core pieces, substantially as set forth.

5. In a flag staff mast, the combination of a pair of sections comprising clusters of pipes, and central pipes the latter of which are provided with longitudinal slots, coupling members for uniting said sections and in which said pipes are seated, core pieces loosely fitted to said central pipes within said clusters of pipes, and draw bolts operatable in said slots for moving said core pieces, substantially as set forth.

6. In a flag staff mast, the combination of a pair of sections comprising clusters of pipes and central pipes, coupling members for uniting said sections provided with sleeves in which the ends of the clusters of pipes are seated and having webs at the bases of said sleeves, core pieces surrounding said central pipes and located within said clusters of pipes, and draw bolts for moving said core pieces fitted to said central pipes and passing through the webs of said coupling members, substantially as set forth.

7. In a flag staff mast, the combination of a pair of sections comprising clusters of pipes and central pipes, coupling members for uniting said sections provided with sleeves in which the ends of the clusters of pipes are seated and having webs at the bases of said sleeves, core pieces surrounding said central pipes and located within said clusters of pipes, and draw bolts for moving said core pieces fitted to said central pipes and passing through the webs of said coupling members; said draw bolts being provided with heads and said central pipes being slotted longitudinally to receive the heads of said bolts, substantially as set forth.

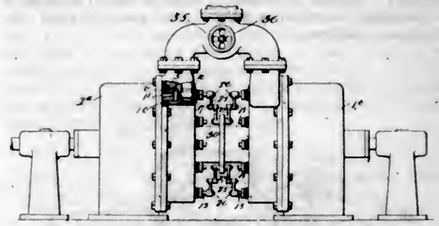
8. In a flag staff mast, the combination of a pair of sections comprising clusters of pipes, coupling members having sleeves in which said clusters of pipes are seated, and spreading screws adapted to enter between adjoining pipes of said clusters, substantially as set forth.

9. In a flag staff, the combination with a main mast and a top mast; of a supporting bracket for said top mast comprising a sleeve having mating segmental sleeve sections formed with neck sections and fitted to said main mast, and a bracket arm having a collar segment and a supplemental collar segment fitted to the neck of said sleeve, substantially as set forth.

10. In a flag staff, the combination with a main mast and a top mast; of a supporting bracket for said top mast comprising a sleeve having sleeve sections formed with neck sections and fitted to said main mast, and a bracket arm fitted to said sleeve and having a collar comprising a pair of segments detachably united to each other and surrounding the neck of said sleeve; substantially as set forth.

11. In a flag staff, the combination with a main mast and a top mast, of a supporting bracket for said top mast comprising a segmental sleeve having an annular rim, and a circular neck above said rim, and a bracket arm for the reception of the top mast having a collar surrounding the neck of said sleeve, a part of which is integral with the bracket arm proper and the remainder of which is detachable from the first named part, substantially as set forth.

868,943. STEAM-TURBINE. HALE G. ROBINSON, Sandusky, Ohio. Filed Dec. 5, 1906. Serial No. 346,426.



1. In a steam turbine, the combination of a main casing carrying a rotor and stator, a circular valve ring secured to the casing having a continuous steam passage around the circle, a plurality of nozzle chambers, each communicating with the steam passage through a valve, and nozzle blocks, each having one or more nozzles, inserted in the nozzle chambers from the inside of the ring, the blocks having flanges bolted to the ring so as to present a flush inner surface engaging the main casing.

2. In a steam turbine, the combination of a valve ring having an outer wall and an interior wall inclosing a steam passage, a valve sleeve having an inner end screwed into the interior wall and enlarged near the outer end where it is screwed into the outer wall and having a counter-bore, a tubular valve rotatably mounted in the counter-bore, a solid stem connected with the valve, a flange on the valve resting against a shoulder formed by a second counter-bore in the outer end of the sleeve, packing about the valve stem within the second counter-bore, and means for compressing the packing comprising a split nut engaging a screw-thread on the outer end of the sleeve.

3. In a steam turbine, the combination of a valve ring having an outer wall and an interior wall inclosing a steam passage, a valve sleeve having an inner end screwed into the interior wall and enlarged near the outer end where it is screwed into the outer wall and having a counter-bore, a tubular valve rotatably mounted in the counter-bore, a solid stem connected with the valve, a flange on the valve resting against a shoulder formed by a second counter-bore in the outer end of the sleeve, a metallic ring resting against the flange, packing about the valve stem within the second counter-bore, a packing compressor on the valve stem engaging the packing and having a flange, and a split nut engaging a screw-thread on the outer end of the sleeve and engaging the flange on the compressor.

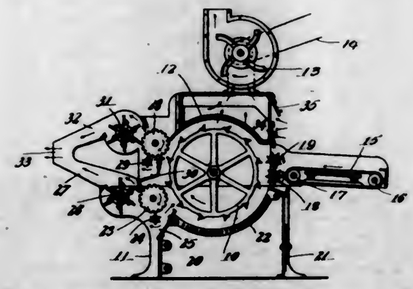
4. The combination of two steam turbines constructed to run in opposite directions, a plurality of rotary valves in each turbine, a rotary valve-operating member, positive mechanical connections between the member and the valves of each turbine, and a three-way main valve controlling supply of steam to the turbines.

5. The combination of two axial-flow turbines constructed to run in opposite directions and having a common shaft, each comprising a main casing, a valve ring secured to the side of the casing adjacent to the other turbine and having a continuous steam passage, a plurality of valves in each valve ring controlling the supply of steam to the nozzles, a valve stem for each valve, an arm

on each stem, a valve-operating disk revolubly mounted between the turbines, and links, one connecting each valve-arm with the disk.

6. The combination of two axial-flow turbines constructed to run in opposite directions and having a common shaft and each comprising a main casing, a valve ring secured to the side of the casing adjacent to the other turbine and having a continuous steam passage, a plurality of valves in each valve ring controlling the supply of steam to the nozzles, a valve stem for each valve, an arm on each stem, a valve-operating disk revolubly mounted between the turbines, links, one connecting each valve-arm with the disk, and a three-way valve controlling supply of steam to the turbines.

868,944. FIBER-CLEANING MACHINE. CHARLES G. SARGENT, Graniteville, Mass. Filed Dec. 20, 1906. Serial No. 348,686.



1. In a fiber cleaning machine, the combination of a picking cylinder, a plurality of bur cylinders each independently taking stock from the picking cylinder, a guard for each bur cylinder, each bur cylinder and guard being arranged to throw the burs clear of the stock, and means for receiving the burs after the same have been thrown from the stock by the guards and preventing the same from passing back into the stock.

2. In a fiber cleaning machine, the combination of a picking cylinder, a plurality of bur cylinders each independently taking stock from the picking cylinder, a guard for each bur cylinder, and an independent and separate bur escape arranged in connection with each bur cylinder and guard.

3. In a fiber cleaning machine, the combination of a picking cylinder, a plurality of bur cylinders each independently taking stock from the picking cylinder, a guard for each bur cylinder, an independent and separate brush for each bur cylinder, and a bur escape arranged in connection with each bur cylinder and guard.

4. In a fiber cleaning machine, the combination of a picking cylinder, two bur cylinders, each independently taking stock from the picking cylinder, a guard for each bur cylinder, and two bur escapes, one arranged between the two bur cylinders, and the other outside of the two bur cylinders.

5. In a fiber cleaning machine, the combination of a picking cylinder, two bur cylinders, each independently taking stock from the picking cylinder, a guard for each bur cylinder, an independent and separate brush for each bur cylinder, and a bur escape provided for each of the two bur cylinders and guards.

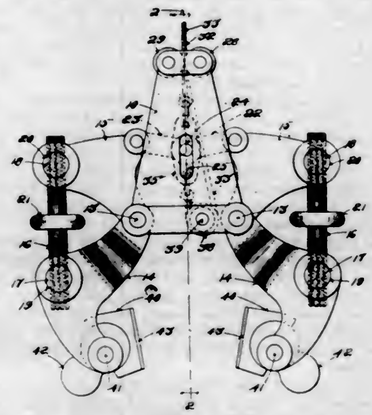
6. In a fiber cleaning machine, the combination of a picking cylinder, two bur cylinders arranged one above the other, each independently taking stock from the picking cylinder, a guard for each bur cylinder, and a bur escape between the two bur cylinders and one below the bur cylinders.

7. In a fiber cleaning machine, the combination of a picking cylinder, two bur cylinders, each independently taking stock from the picking cylinder, a guard for each bur cylinder, and a bur escape for each bur cylinder, each escape being arranged to direct the burs outside of the machine.

8. In a fiber cleaning machine, the combination of a picking cylinder, two bur cylinders, each independently taking stock from the picking cylinder, a guard for each bur cylinder, a fiber outlet for each bur cylinder, and a bur escape for each bur cylinder, each escape arranged to direct the burs outside of the machine.

9. In a fiber cleaning machine, the combination of a picking cylinder, two bur cylinders, each independently taking stock from the picking cylinder, a guard for each bur cylinder, an independent and separate brush for each bur cylinder, a suction fan, and an air inlet arranged in connection with each bur cylinder and guard, and forming a bur escape to direct the burs removed by each guard outside of the machine.

868,945. GRAPPLING-TONGS. JOHN L. SEWALL, Randolph, Mass. Filed Sept. 20, 1906. Serial No. 335,376.



1. The improved grappling tongs comprising a frame, grappling members, a toggle between the upper ends of the grappling members, a suspension attached to the said toggle by means of which the grappling tongs and their load are supported, and a second toggle comprising members pivoted to the lower ends of the grappling members, the inner surfaces of said second toggle members bearing against the load.

2. The improved grappling tongs comprising a frame, grappling members, a toggle between the upper ends of the grappling members, a suspension attached to the said toggle by means of which the grappling tongs and their load are supported, and a second toggle comprising members eccentrically pivoted to the lower ends of the grappling members, the inner surfaces of said second toggle members bearing against the load.

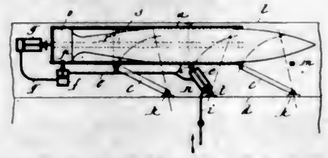
3. The improved grappling tongs comprising a frame, grappling members, a toggle between the upper ends of the grappling members, a suspension attached to the said toggle by means of which the grappling tongs and their load are supported, a second toggle comprising members pivoted to the lower ends of the grappling members, the inner surfaces of said second toggle members bearing against the load, and counterweights to maintain the said second toggle members in upright position when not in engagement with the load.

4. The improved grappling tongs comprising a frame, grappling members pivoted thereon, a toggle joint pivotally connected with the said grappling members, a suspension attached to said toggle joint to support the said grappling tongs and the load from the said toggle joint, a second suspension attached to the toggle joint for releasing the load, and a sheave on the frame beneath the toggle joint, about which the second suspension passes to give it a direction of pull opposite to that of the first mentioned suspension.

5. The improved grappling tongs comprising a frame, grappling members, operating means therefor, a suspension attached to the said operating means to support the grappling tongs and their load, a gripping member comprising a piece eccentrically pivoted to one of the grappling members and a counterweight for the said gripping member.

6. The improved grappling tongs comprising a frame, grappling members, operating means therefor, a suspension attached to the said operating means to support the grappling tongs and their load, a gripping member comprising a piece eccentrically pivoted to one of the grappling members, and a shoe between the said gripping member and the load to be lifted.

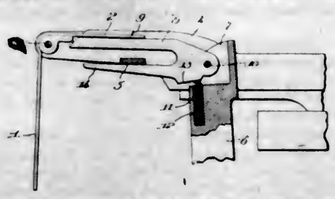
868,946. TORPEDO-PROJECTING APPARATUS FOR SUBMARINE AND SUBMERSIBLE VESSELS. HENRI SMULDERS, Schiedam, near Rotterdam, Netherlands. Filed Jan. 29, 1907. Serial No. 354,603.



1. A torpedo projecting apparatus for submarine and submersible vessels, operated by means of compressed air or other fluid under pressure, said apparatus comprising a metal tube adapted to receive the torpedo, arms movably jointed in a suitable manner to the hull of the boat and carrying the said tube, three cylinders whose pistons are adapted respectively to raise the tube above the wave-guards, to release the device holding the torpedo, and to produce forward movement of the latter.

2. A torpedo projecting apparatus for submarine and submersible vessels, comprising a tube, three cylinders, piping adapted to form communication between the said cylinders, a supply of fluid under pressure adapted to communicate with the first cylinder, and an arresting device such that the piston of one cylinder releases the said arresting device as soon as the apparatus has been raised to the desired height by the piston of another cylinder, the piston of the third cylinder then producing the forward movement of the torpedo in the said tube, this forward movement having the result of opening the air supply valve and starting the movement of the torpedo.

868,947. FILLING-DETECTING MECHANISM FOR LOOMS. EDWARD S. STIMPSON, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed May 29, 1907. Serial No. 376,364.



1. In filling-detecting mechanism for looms, in combination, a filling-fork adapted to be intermittingly engaged and tilted by the filling when intact, a vibrator having a hook to coöperate with the fork upon detection thereby of filling failure, and means to yieldingly sustain the hook in its operative position.

2. The combination, with a filling-fork adapted to be tilted by intact filling, and a slide on which the fork is pivotally mounted, said slide having a cross-bar, of a weft-hammer, a hook movably mounted thereon and having a finger extended beneath said cross-bar, and a spring to yieldingly maintain the finger against the cross-bar with the hook in position to coöperate with the fork upon detection thereby of filling failure.

3. In filling-detecting mechanism for looms, a movable support, a filling-fork fulcrumed thereon and provided with a tail, a vibrating member to coöperate with the fork tail and thereby move the support upon detection of filling failure, and means to yieldingly sustain the vibrating member, whereby the descent of the fork-tail thereon is cushioned.

4. In filling-detecting mechanism for looms, in combination, a filling-fork adapted to be intermittingly engaged and tilted by the filling when intact, and yielding means to cushion the fork upon return movement thereof after it has been tilted, to prevent rebound of the fork.

5. In filling-detecting mechanism for looms, in combination, a filling-fork adapted to be intermittingly engaged and tilted by the filling when intact, a vibrator having a shouldered hook to coöperate with the fork-tail upon detection of filling failure, and a spring to sustain the hook and permit the same to yield upon impact of the descending tail after the fork has been tilted.

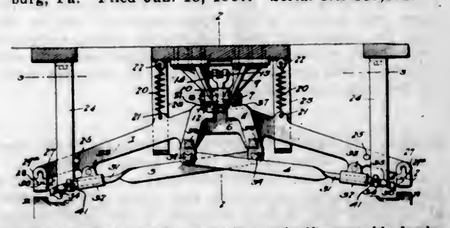
868,948. KEY. EMIL A. STRAUSS, Chicago, Ill. Filed Feb. 21, 1906. Serial No. 302,300.



1. As a new article of manufacture, a key having a recess in one face, the said recess being closed at its ends, and a name plate corresponding in size and shape to said recess and detachably secured therein by a fusible material.

2. As a new article of manufacture, a key having a recess in one face, and a hole leading from said recess through the key, the said recess being closed at its ends, and a name plate corresponding in size and shape to said recess and detachably secured therein by a fusible material.

868,949. EMERGENCY RAILWAY-BRAKE. WILLIAM TAYLOR, Youngstown, Ohio, and HOSEA NAPAY, Pittsburg, Pa. Filed Jan. 15, 1907. Serial No. 352,441.



1. In a railway brake, a main vertically movable brake beam carrying top brake shoes at its ends, a pair of supplemental brake bars carried by the main brake beam and each provided with a side thrust brake shoe, and operating means.

2. In a railway brake, a main vertically movable brake beam carrying top brake shoes at its ends, a pair of supplemental brake bars each carrying a side thrust brake shoe, and a common operating device for the brake beam and said brake bars.

3. In a railway brake, a main vertically movable brake beam carrying top brake shoes at its ends, supplemental brake bars hung from the main brake beam and each carrying a side thrust brake shoe, and a common operating device for the brake beam and said brake bars.

4. In a railway brake, a vertically movable brake beam carrying at its ends top brake shoes, oppositely arranged reciprocal brake bars slidably hung from the beam and each carrying a side thrust brake shoe, and a common operating device for the beam and said bars.

5. In a railway brake, a vertically movable brake beam, top brake shoes pivotally hung from the opposite extremities of the brake beam, a reciprocal brake bar slidably hung from each side leg of the brake beam and carrying a side thrust brake shoe, and a common operating device for the brake beam and said brake bars.

6. In a railway brake, a vertically movable brake beam carrying at its opposite ends pendent brake shoes, a reciprocal brake bar hung from each side portion of the brake beam, and carrying a side thrust brake shoe, the auxiliary braking levers mounted on the brake beam and each of the same having an operative connection with one of the brake bars, and a common operating device engaging the brake beam and said auxiliary braking levers.

7. In a railway brake, a vertically movable brake beam carrying at its ends top brake shoes, opposite and reversely arranged brake levers each having a slide support from the brake beam and carrying a side thrust brake shoe, a pair of auxiliary braking levers mounted upon the brake beam and having inturned bearing heads at one end and pivotally connected at their opposite ends respectively with the separate brake bars, and an operating device having a combined presser and spreader head moving against the brake beam and also operating against the bearing heads of said auxiliary braking levers.

8. In a railway brake, a vertically movable brake beam having a central bearing member provided with a bearing roller, a vertically movable brake shoe pivotally hung from each end of the brake beam, a pair of opposite reversely arranged supplemental brake bars each carrying at its outer end a side thrust brake shoe, a guide sleeve for each brake bar hung from the brake beam and slidably receiving said bar, a pair of opposite reversely arranged auxiliary braking yoke levers pivotally mounted on the brake beam and provided at their upper ends with angularly disposed heads, each of said auxiliary levers having a pivotal connection at its lower end with one of the brake bars, and a suitably arranged operating lever having a pivotal support above the brake beam and provided with an eccentric combined presser and spreader-head operating against the bearing member of the brake beam and also between and against the heads of the auxiliary braking levers.

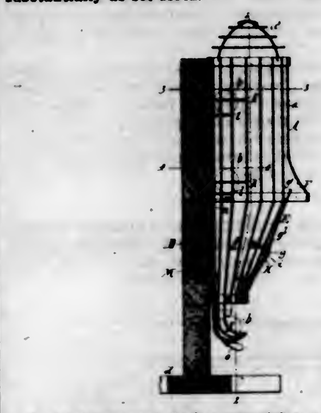
9. In a railway brake, a vertically movable brake beam carrying terminal brake shoes for engaging with the tops of the rails, suspension springs for said beam, guard yokes extending about the beam, bracing guides for the upper end portions of the beam, steadying lugs on the beam for engagement with the bracing guides, reciprocal brake levers slidably hung from the brake beam and each carrying a side thrust brake shoe, and an operating device for the brake beam and brake bars.

868,950. AMUSEMENT DEVICE. JOHN D. VASEY, Buffalo, N. Y. Filed Apr. 15, 1907. Serial No. 368,197.

1. An amusement device comprising a basket having a ball inlet opening in its side and a ball outlet opening at its lower end, a gate arranged in the inlet opening and pivoted at the lower edge thereof, and yielding means operating to permit said gate to be opened by a thrown ball and to automatically close said gate when the ball clears the same, substantially as set forth.

2. An amusement device comprising a basket having a ball inlet opening in its side and a ball outlet opening at its lower end, a gate arranged in the inlet opening and pivoted at the lower edge thereof, and a spring engaging said gate and operating to yieldingly hold the same in a closed position so as to permit the gate to open when hit by a thrown ball and to automatically close the gate when the ball clears the same, substantially as set forth.

3. An amusement device comprising a basket having an upper cylindrical body and a lower downwardly tapering funnel having a ball inlet opening in its side and a ball outlet opening at its lower end, a cross bar arranged at the lower end of said side opening, a gate for closing said side opening having eyes pivoted on said bar, and a spring for yieldingly holding said gate in its closed position, substantially as set forth.



4. An amusement device comprising a basket having an upper cylindrical body and a lower downwardly tapering funnel having a ball inlet opening in its side and a ball outlet opening at its lower end, a cross bar arranged at the lower end of said side opening and having two loops, a gate for closing said side opening having two upright bars, an eccentric cross bar arranged adjacent to said loops and two eyes connecting opposite ends of said eccentric cross bar with the lower ends of said upright bars and pivoted on said loops, and a spring bar connected at one end with said chute and engaging at its opposite end with said eccentric bar, substantially as set forth.

5. An amusement device comprising an upright basket having a ball inlet in its side and a ball outlet at its lower end, a hood projecting forwardly from the body at the upper edge of its inlet opening, and a pivoted gate arranged in said inlet opening, substantially as set forth.

6. An amusement device comprising an upright basket having a cylindrical upper part and a downwardly tapering lower part provided with a ball inlet at its front side and a ball outlet at its lower end, a forwardly projecting hood arranged on the said upper part of the basket at the upper edge of the inlet opening in the lower part thereof, a gate pivoted at its lower end to the lower edge of said inlet opening, and a spring operating to hold said gate yieldingly in its closed position, substantially as set forth.

7. An amusement device comprising a basket having a ball inlet opening in its side and a ball outlet opening at its lower end, and a ball receiving pocket arranged within the basket above the lower end thereof, substantially as set forth.

8. An amusement device comprising a basket having a ball inlet opening in its side and a ball outlet opening at its lower end, and a ball receiving pocket arranged within the basket above the lower end thereof and having a movable bottom, substantially as set forth.

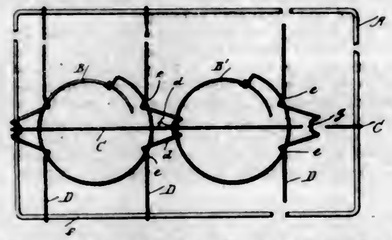
9. An amusement device comprising a basket having a ball inlet opening in its side and a ball outlet opening at its lower end, and a ball receiving pocket arranged within the basket and consisting of a ring-shaped body and a laterally movable bottom, substantially as set forth.

10. An amusement device comprising a basket having a ball inlet opening in its side and a ball outlet opening at its lower end, a ball receiving pocket arranged within the basket and consisting of a ring-shaped body and a laterally movable bottom, and an upright shaft connected with said bottom, substantially as set forth.

11. An amusement device comprising a basket having a ball inlet opening in its side and a ball outlet opening at its lower end, a ball receiving pocket arranged within the basket and consisting of a ring shaped body and a laterally movable bottom an upright shaft connected with said bottom, a spring operating to turn said shaft for causing said bottom to close the underside of said ring, and a stop for limiting the closing movement of said bottom and shaft, substantially as set forth.

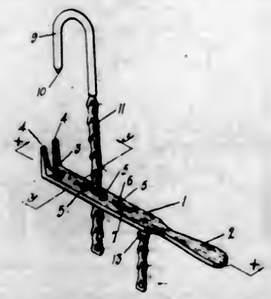
12. An amusement device comprising a basket having a ball inlet in its side and a ball outlet at its lower end, a ball receiving pocket arranged below said outlet, a ball receiving pocket arranged within the basket and having a movable bottom, and a shaft for operating said bottom having a handle arranged adjacent to the pocket below the basket, substantially as set forth.

868,951. BED-BOTTOM. JOHN O. WESNER, Cameron, S. C. Filed June 21, 1907. Serial No. 380,073.



The combination, with the coil of a spring, and a wire arranged adjacent thereto; of a key wire which extends crosswise of the said parts, and a locking wire which engages with the said coil and which is provided with a laterally projecting loop having angle-shaped side portions the apices of which project downwardly below the plane of the top of the bed bottom, said loop terminating in a hook which engages with the said wire and key wire, and a space being formed between the point of the said hook and the side portions of the said loop so that the hook does not require to be bent after the said parts are assembled.

868,952. VALVE-REMOVER. HARRY Z. WHITE, Buffalo, N. Y., assignor of one-half to Samuel B. White, Providence, R. I. Filed Feb. 13, 1907. Serial No. 357,148.



1. In a valve remover, the combination with a lever bar provided with an oblong opening of greater width at one end than at the other, of a bearing member, and a chain attached to the bearing member of sufficient dimensions to slide through the broader end of the opening, but not slidable in the narrow portion of the opening.

2. In a valve remover the combination with a lever bar provided with an oblong opening of greater width at one end than at the other, of a bearing member, and a chain attached to the bearing member slidable through a portion of said opening, and comprising links having thin body portions and thick head portions.

3. In a valve remover the combination with a lever bar provided with an irregular opening of greater width at one end than at the other and having a countersunk portion upon the under face of the bar merging into a portion of the opening, of a bearing member and a chain upon the bearing member adapted to traverse a portion of said opening, the chain comprising links provided with thick head portions adapted to rest in the countersunk portion of the bar when tension is applied to the chain.

4. In a valve remover the combination with a lever bar provided with an opening of irregular dimensions, of a bearing member, and a chain attached to the bearing member slidable through a portion of said opening but non-slidable through another portion of said opening.

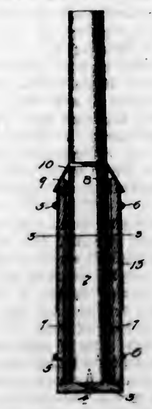
5. In a valve remover the combination with a lever-bar provided with an opening of irregular dimensions, of a bearing member, and a flexible member attached to the bearing member slidable through a portion of said opening, but non-slidable through another portion of said opening.

6. In a valve remover the combination with a lever-bar provided with an opening of a bearing member, and a flexible member attached to the bearing member and slidable through the opening of the lever-bar.

7. In a valve remover, the combination with a lever-bar provided with a longitudinal slot in one end, of angular prongs upon the lever having their angular portions upon each side of the slot, a bearing member, a flexible member attached to the bearing member, and means upon the flexible member for fulcruming the lever-bar.

8. In a valve remover the combination with a lever-bar provided with an opening, of a bearing member and a flexible member attached to the bearing member slidable through a portion of said opening but non-slidable through another portion of said opening.

868,953. POST-PROTECTOR. THOMAS B. WHITE, Warsaw, Mo. Filed Apr. 16, 1907. Serial No. 368,601.



1. A protector for the purpose described embodying a series of staves having their inner surfaces grooved, and means for securing said staves together in cylindrical form.

2. A protector for the purpose described embodying a plurality of staves having liquid-distributing conduits, and means for securing said staves together in cylindrical form.

3. A protector for the purpose described embodying a plurality of staves bound together in cylindrical form and provided in their inner surfaces with capillary fissures, and a receiving pocket communicating with said fissures, substantially as and for the purpose specified.

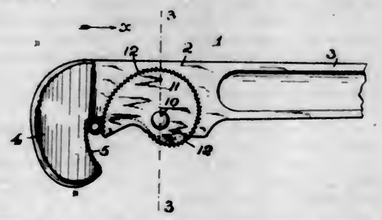
4. A protector for the purpose described embodying a plurality of staves bound together in cylindrical form and having their meeting faces beveled forming grooves for

the distribution of a preservative, substantially as described.

5. A protector for the purpose described embodying a plurality of staves, a base upon which said staves rest, means for fastening all of the staves together in cylindrical form, and a water shedding cap fitting over the upper ends of the staves and composed of a strip of sheet material having the ends thereof overlapped and fastened to the post.

6. A protector for the purpose described, embodying a plurality of staves, a post or pole provided with a groove around the same above the staves, and an impervious conical cap fitting over the upper ends of the staves with its top edge seated in the groove in the post or pole, the said cap consisting of a water proof band wrapped around the post and upper ends of the staves and having its ends overlapped and fastened together.

868,954. WRENCH. WILLIAM H. WHITTEMORE, East Orange, N. J., assignor to Strieby & Foote Co., a Corporation of New Jersey. Filed Oct. 15, 1904. Serial No. 228,498.

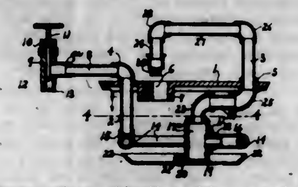


1. The herein described wrench comprising a main body provided with a fixed gripping jaw extending laterally from one of the longitudinal edges of said body, said jaw having a concaved gripping surface, said body being provided with a pivot-portion having a laterally extending hole located near said longitudinal edge of the body, the concaved gripping surface of said fixed jaw being concentric with the central axis of said hole, a pintle rotatable in said hole, said pintle having its end-portions extending on opposite sides of said main body, and a gripping jaw eccentrically arranged upon each end-portion of the pintle, each jaw having a spirally formed gripping edge, so as to bring the various portions of said gripping edges farther away or closer to the concaved gripping edge of the fixed jaw, substantially as and for the purposes set forth.

2. The herein described wrench comprising a main body provided with a fixed gripping jaw extending laterally from one of the longitudinal edges of said body, said jaw having a concaved gripping surface, said body being provided with a pivot-portion having a laterally extending hole located near said longitudinal edge of the body, the concaved gripping surface of said fixed jaw being concentric with the central axis of said hole, a pintle rotatable in said hole, said pintle being provided with reduced end-portions forming annular shoulders with the main body-portion of said pintle and said end-portions of the pintle extending on opposite sides of said main body, and a gripping jaw eccentrically arranged upon each reduced end-portion of the pintle, each jaw extending up the side of said main body and having a gripping surface the marginal edge of which is part of an increased spiral, substantially as and for the purposes set forth.

868,955. HYDROCARBON-BURNER. WILHELM H. WILHELMY, Nebraska City, Nebr. Filed Mar. 26, 1907. Serial No. 364,716.

1. In a burner, a vaporising yoke-pipe an oil inlet-pipe intersecting said yoke-pipe a retort provided with a vapor outlet-pipe and connected to said yoke-pipe by means of a T-pipe connection, and a base-pan carried by said retort parallel with and in close proximity to said vaporising yoke-pipe and provided with a peripheral flange extending toward said vaporising yoke-pipe.

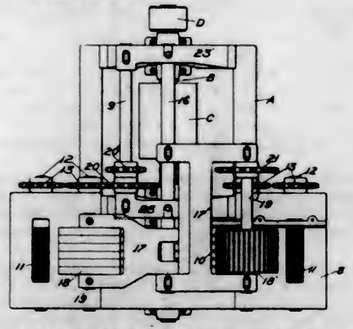


2. In a burner, the combination with a vaporising yoke-pipe, an intersecting oil inlet-pipe and a retort connected at its side to said yoke-pipe by means of a horizontal T-pipe connection and provided with a vapor outlet-pipe; of a base-pan carried by said retort and provided with an upwardly and outwardly-extending peripheral flange extending toward said vaporizing yoke-pipe.

3. In a burner, a horizontal yoke-pipe provided with an inlet-pipe and a diametrically-opposite retort secured to said yoke-pipe by means to a T-pipe connection and provided at its top with a vapor outlet-pipe terminating in a depending burner-tip, a supporting-plate provided with a mixer-opening below said burner-tip, and a base-pan carried by said retort below the plane of said yoke-pipe and provided with an upwardly and outwardly-extending peripheral flange adapted to direct the flame against said yoke-pipe.

4. A burner, comprising a supporting-plate provided with a mixer-opening and an oil inlet-pipe, a vapor outlet-pipe intersecting said supporting-plate and terminating in a depending nozzle above said opening, a vaporizing yoke-pipe connected to said inlet-pipe by means of an inverted T-pipe connection, a retort provided at its side, opposite said T-pipe connection, with a horizontal T-pipe connection secured to said yoke-pipe and secured at its top to said outlet-pipe, and a horizontal base-pan carried by said retort below the plane of said yoke-pipe and provided with a peripheral flange extending toward said yoke-pipe.

868,956. GANG LATH-BOLTER. CHARLES W. WILLETT, Tacoma, Wash., assignor of one-half to Sumner Iron Works, Everett, Wash., a Corporation. Filed May 29, 1907. Serial No. 376,408.

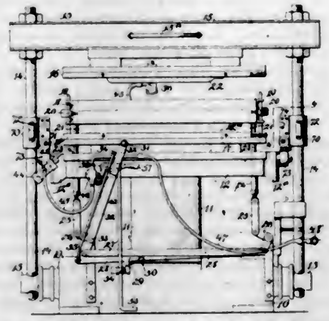


1. In a gang lath-bolter, the combination with a gang saw and lower feed mechanism having sprocket wheels and a link chain movable longitudinally with the sawing table, of presser roller mechanism comprising two oppositely disposed members 17—17′ mounted on a shaft 16 which extends transversely to the table and has bearings at each end in bridge trees 23—23′, the members 17—17′ being provided with presser rollers 18—18′ which are mounted on shafts 19—19′, respectively, located at the outer sides of said members, a shaft 9 mounted in bearings on the bridge trees 23—23′ at a suitable height and location, provided with a sprocket wheel 20, fixedly secured thereon in a position to be engaged by the upper surface of the lower feed roller link chain 14, a second sprocket wheel 20′ fixedly secured on the shaft 9 near its end, a sprocket wheel 21, located in a vertical plane with the sprocket 20′, fixedly secured upon the end of the shaft 19′, and a link chain connecting said sprocket wheels 20′ and 21, substantially as described.

2. In a gang lath-bolter, presser roller mechanism, comprising two oppositely disposed members 17—17′ mounted on a shaft 16 which extends transversely to the table and has bearings at each end in bridge trees 23—23′, the members 17—17′ being provided with presser rollers 18—18′ which are mounted on shafts 19—19′, respectively, located at the outer sides of said members, a shaft 9 mounted in bearings on the bridge trees 23—23′ at a suitable height and location, provided with a sprocket wheel 20, fixedly secured thereon in a position to be engaged by the upper surface of the lower feed roller link chain 14, a second sprocket wheel 20′ fixedly secured on the shaft 9 near its end, a sprocket wheel 21, located in a vertical plane with the sprocket 20′, fixedly secured upon the end of the shaft 19′, and a link chain connecting said sprocket wheels 20′ and 21, substantially as described.

3. A gang lath-bolter comprising a frame of suitable form and dimensions, a saw arbor therein provided with gang saws, lower feed roller mechanism, and means for transmitting power to the saw arbor, lower feed rollers and presser rollers, also presser roller mechanism comprising two oppositely disposed members 17—17′ mounted on a shaft 16 which extends transversely to the table and has bearings at each end in bridge trees 23—23′, the members 17—17′ being provided with presser rollers 18—18′ which are mounted on shafts 19—19′, respectively, located at the outer sides of said members, a shaft 9 mounted in bearings on the bridge trees 23—23′ at a suitable height and location, provided with a sprocket wheel 20, fixedly secured thereon in a position to be engaged by the upper surface of the lower feed roller link chain 14, a second sprocket wheel 20′ fixedly secured on the shaft 9 near its end, a sprocket wheel 21, located in a vertical plane with the sprocket 20′, fixedly secured upon the end of the shaft 19′, and a link chain connecting said sprocket wheels 20′ and 21, substantially as described.

868,957. MOLDING-MACHINE. CHARLES W. WOODS, Elizabeth, N. J. Filed Oct. 26, 1906. Serial No. 340,079.



1. A molding machine comprising a base, a cylinder, a platform, a head pivoted on the base, a mold box, a casing sliding in the box, an adjustable friction device bearing on the casing, and means for lifting the mold box from the platform.

2. A molding machine comprising a base, a reciprocating platform, a fixed platform, patterns on the opposed faces of the platforms, a mold box with a sliding casing therein and means for engaging the mold box to lift it from its casing, and a friction device for maintaining the casing in the mold box.

3. A molding machine comprising a base, a reciprocating platform, a pattern on the reciprocating platform, a fixed platform, a pattern on the fixed platform, a vibrator on each platform, a mold box and patterns between the platforms, means operated by the movable platform to vibrate the fixed platform when the platforms are in their operative positions, and means for vibrating the movable platform when the platforms are being separated.

4. A molding machine comprising a base, a reciprocating platform, a pattern on the reciprocating platform, a fixed platform, a pattern on the fixed platform, a vibrator on each platform, means actuated by the raising of the reciprocating platform for operating the vibrator on the fixed platform when the platforms are pressed together, and means for operating the vibrator on the movable platform when the movable platform has completed its return stroke.

5. A molding machine comprising a base, a reciprocating platform, a pattern on the reciprocating platform, a fixed platform, a pattern on the fixed platform, a vibrator on the fixed platform, a tube conveying pressure to the vibrator, a tripping mechanism on the base, and a valve secured to the base and arranged in the tube, the tripping mechanism opening the valve when the platforms are pressed together.

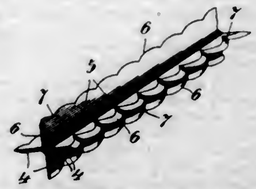
6. A molding machine comprising a base, a reciprocating platform, a pattern on the reciprocating platform, a fixed platform, a pattern on the fixed platform, a vibrator on the fixed platform, a pipe leading to the vibrator, a valve in the pipe and supported on the base, a spring arm to engage the valve, and a roller on the reciprocating platform to engage the spring arm, whereby the valve is opened to operate the vibrator.

7. A molding machine comprising a base, a reciprocating platform, a fixed platform, a mold box on the reciprocating platform, rods arranged to slide in the reciprocating platform and engage the mold box, bars for connecting the rods to operate them simultaneously, a lever to operate the bars, a bar connected to the first bars having a pair of slots in its edge, a stop on the base for the engagement of the slots, and an arm for raising the second bar, the arm sliding on the lever.

8. A molding machine comprising a base, a cylinder, a platform reciprocating on the cylinder, a mold box on the reciprocating platform, a pair of rods pivoted on the base, a platform on the upper ends of the arms, a pattern on the platform, a guide on each rod having a roller thereon, a block on each end of the reciprocating platform, the block receiving the roller of the guide, and a pair of rollers on each block to engage the two sides of the guide when the reciprocating platform is raised.

9. A molding machine comprising a reciprocating platform, a fixed platform, rods sliding in the reciprocating platform and adapted to be projected therefrom, and means for operating and locking the rods, in combination with a mold box arranged to be raised from the reciprocating platform by the projecting rods, an inner lining in the mold box arranged to rest on the platform, and friction devices between the lining and the box.

868,958. DEVICE FOR CUTTING AWAY REEDS AND WATER-PLANTS GROWING IN PONDS AND RIVERS. FRIEDRICH C. ZIEMSEN, Kluss, near Wismar, Germany. Filed Jan. 24, 1907. Serial No. 353,788.



1. A device for cutting away reeds and water plants, consisting in a flexible band having a plurality of cutting edges set at angles to one another and each extending longitudinally of the said band.

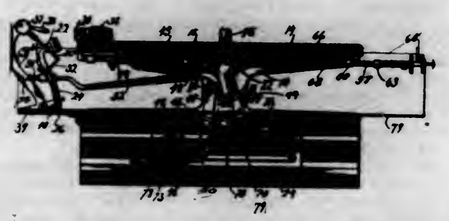
2. A device for cutting away reeds and waterplants,

consisting of a long flexible steel band, having a plurality of cutting edges, said band having a star-shaped cross-section.

3. A device for cutting away reeds and waterplants, consisting of a long flexible steel band having a plurality of cutting edges and a star-shaped cross section, the edges of said band being toothed like saw-blades.

4. A device for cutting away reeds and waterplants consisting of a long flexible metal band, said metal band having a plurality of cutting edges and a cross-shaped cross-section and consisting of two angle shaped metal strips fastened to each other at their angles, substantially as shown and described.

868,959. BOSOM-BOARD FOR IRONING-MACHINES. WILLIAM E. ANDRÉ, Chicago, Ill., assignor, by mesne assignments, to The American Laundry Machinery Manufacturing Company, a Corporation of New Jersey. Filed Nov. 2, 1905. Serial No. 285,594.



1. In combination, an ironing board having a neckband engaging flange, a pair of spring-advanced reciprocable rods mounted below the board to move in diverging paths, each rod carrying a neck-band engaging stud, and means for retracting the rods.

2. In combination, an ironing board having a neckband engaging flange, a pair of spring-advanced reciprocable rods mounted below the board to move in diverging paths, each rod carrying a neckband engaging stud, a rocking crank-shaft, and link connection between the rods and crank shaft.

3. In an ironing board, in combination, a board having a neckband engaging flange, a pair of studs arranged to enter a neckband when engaged by the flange, a pair of oppositely curved spring-advanced slidable rods carrying the studs, a crank shaft, connections between two of the cranks of the shaft and the arms, and a cam acting on one of the cranks of the shaft to rock the shaft in opposition to the rod springs.

4. In an ironing board, in combination, a board having a neckband engaging flange, means independent of the flange, for stetching a neckband when engaged thereby, and clamping blocks movable into engagement with the end of the board.

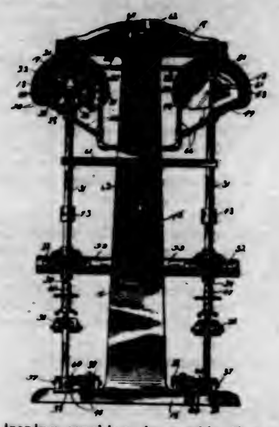
5. In an ironing board, in combination, a board having a neckband engaging flange, means independent of the flange, for stretching a neckband when engaged thereby, and clamping blocks yieldingly engaging the end of the board.

6. In an ironing board, in combination, a board having a neckband engaging flange, means for stretching a neckband when engaged by the flange, oscillatable clamping blocks movable against the end of the board, a crank shaft, and link connection between the shaft and the blocks.

7. In an ironing board, in combination, a board having a neckband engaging flange, means independent of the flange, for stretching a neckband when engaged by the flange, oscillatable clamping blocks movable against the end of the board, a crank shaft, and link yieldingly connecting the crank of the shaft with the blocks.

8. In an ironing board, in combination, a board, spring-advanced spreading studs for engaging the neckband of a garment, spring-extended clamping jaws movable towards and away from the board, a rocking crank shaft operatively connected with the studs, a rocking crank shaft operatively connected with the jaws, a double cam for actuating the rocking shafts successively, a crank shaft, connection between the crank of such last-named shaft and the cam, and a hand lever mounted on the last-named shaft.

868,960. IRONING-MACHINE. WILLIAM E. ANDRÉ, Chicago, Ill., assignor, by mesne assignments, to The American Laundry Machinery Manufacturing Company, a Corporation of New Jersey. Filed Feb. 14, 1906. Serial No. 300,979.



1. In an ironing machine, in combination, an ironing plate having a concave surface; a pressure head comprising a pair of pivotally united blocks having curved outer faces; and a wedge-block arranged to enter between the blocks of the pressure head.

2. In an ironing machine, in combination, an ironing plate having a concave surface; a pressure head comprising a pair of pivotally united blocks having curved outer faces; a wedge-block arranged to enter between the blocks of the pressure head; and means for advancing the wedge-block.

3. In an ironing machine, in combination, an ironing plate having a concave surface; a pressure head comprising a pair of pivotally united blocks having curved outer faces; a wedge block arranged to enter between the blocks of the presure head; a rod for actuating the wedge-block; and a toggle for controlling the rod.

4. In an ironing machine in combination a concave ironing plate; a pressure head comprising a pair of pivotally united blocks having curved outer faces; a wedge block arranged to enter between the blocks of the pressure head; a rod for actuating the wedge-block; an oscillating arm actuating the wedge-block; and means for connecting the arm to the block.

5. In an ironing machine, in combination, a concave ironing plate; a pressure head comprising a pair of pivotally united blocks having curved outer faces; a wedge-block arranged to enter between the blocks of the pressure head; a rod for actuating the wedge-block; an oscillatable arm to which the rod is pivoted, the pivot line being transverse to the axis of the curved ironing plate; and means for reciprocating the rod.

6. In an ironing machine, in combination, an ironing plate having a concave surface; a pressure head comprising a pair of pivotally united blocks having curved outer faces; a wedge-block arranged to enter between the blocks of the pressure head; a pivotally supported rod for actuating the wedge-block; and means for causing the reciprocation of the rod.

7. In an ironing machine, in combination, a curved ironing plate; a pressure head for coöperating with the plate and comprising a pair of pivotally-united blocks; a wedge for expanding the blocks; a rod for actuating the wedge; and yielding connection between the rod and the pressure head independent of the wedge.

8. In an ironing machine, in combination, a curved ironing plate; a pressure head for coöperating with the plate and comprising a pair of pivotally-united blocks; a wedge for expanding the blocks; a rod for actuating the wedge; a rod attached to the head; and a cushioning spring between such rod and an appurtenance of the wedge-actuating rod.

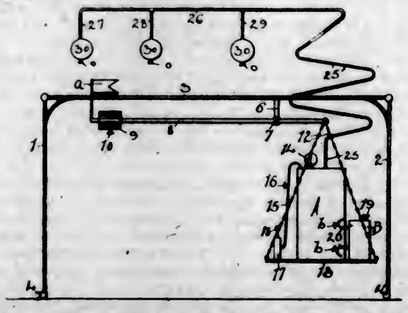
868,961. FLONG FOR STEREOTYPING. EDWARD F. BAUM, Harrisburg, Pa. Filed Jan. 2, 1906. Serial No. 294,264.



1. A flong for stereotyping, employing a thin "cloth" layer, an impressible and non-combustible layer applied to the upper surface of said thin "cloth" layer, and a thick soft layer of paper applied to the lower surface of said thin "cloth" layer, said impressible and non-combustible layer comprising a paste whose principal ingredients are gum tragacanth, mucilage of acacia, and sweet oil, together with sulfate of baryta, amalgamated with said paste.

2. A flong for stereotyping purposes, embracing a thin cloth-layer, a compressible and non-combustible layer applied to the upper surface of said cloth-layer, and a thick, soft layer of paper applied to the lower surface of said thin cloth-layer, said impressible and non-combustible layer comprising a paste, a fixed oil and a refractory earth.

868,962. GASOLENE PRESSURE-LAMP. NOVIA S. BEAVERS, Woodland, Iowa. Filed June 6, 1904, Serial No. 211,303. Renewed Apr. 24, 1907. Serial No. 370,001.



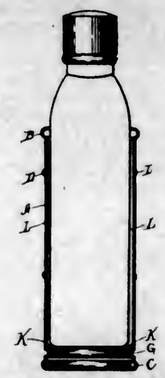
In a device of the character described, the combination with a suitable frame, of a beam pivotally held by said frame, a platform secured to said beam, a gasolene tank upon said platform, a supply pipe extending from said tank, a plurality of vapor lamps, a coil pipe adapted to be lengthened or shortened connected to said gasolene tank, a pump secured to said gasolene tank, a counter-balance secured to said beam, and a signal on said beam, all arranged so that the platform will rise as the gasolene is consumed and will give a signal, substantially in the manner set forth.

868,963. GUARD FOR FLASKS. AUGUST BRUEBACH, Chicago, Ill. Filed Dec. 6, 1906. Serial No. 346,674.

1. A guard for flasks, comprising an elliptical sheet-metal sleeve having its greatest diameter less than the greatest width of the flask and adapted to receive the latter and be expanded in one direction thereby.

2. A guard for flasks, comprising an elliptical sheet-metal sleeve having its greatest diameter less than the greatest width of the flask and adapted to receive the latter and be expanded in one direction thereby, and a stop between the ends of said sleeve to limit the movement of said flask therein in one direction.

3. A guard for flasks comprising an elliptical sheet-metal sleeve adapted to receive the flask, and corresponding on its longer diameter substantially with the longer diameter of said flask to provide relative snug fit between the same, the shorter diameter of said sleeve being greater than the shorter diameter of said flask to provide air spaces on either side between said flask and said sleeve.



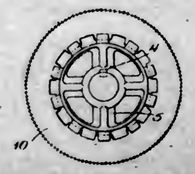
4. In a device of the kind specified, the combination with a non-cylindrical flask, of a guard comprising a sheet metal sleeve engaging said flask only on those portions of the surface thereof farthest removed from the center thereof, said sleeve being bulged outwardly between its points of contact with said flask, thereby forming air spaces between said bulged portions and the adjacent surfaces of said flask.

868,964. CROWN-PIN FOR DENTAL WORK. HENRY D. BULTMAN, New York, N. Y., assignor to Consolidated Dental Manufacturing Company, New York, N. Y., a Corporation of New York. Filed June 8, 1906. Serial No. 320,743.



A crown pin for dental work comprising a pin for the reception of a crown, the said pin having its inner end extended laterally beyond the body of the pin to form a support for root prongs and root prongs projected from said laterally extended end of the pin and spaced apart to leave a bearing space between them on the inner face of said laterally extended end.

868,965. GIN-CYLINDER. CALVIN B. P. CARVER, Bridgewater, Mass. Filed Sept. 5, 1905. Serial No. 276,925.



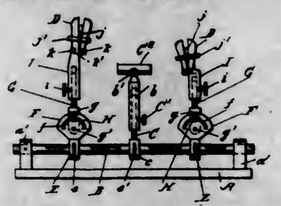
1. A gin-cylinder comprising a cylinder formed with a series of longitudinal ribs separated by spaces, each of said ribs being slotted to form teeth, the teeth and slots of one

rib being arranged in the same vertical plane as the complemental teeth and slots of the other ribs, a saw formed upon its interior circumference with a series of lugs separated by spaces corresponding to the ribs and spaces on the cylinder, the lugs of the saw being arranged in grooves in the ribs, and means for securing the parts in place.

2. A gin saw cylinder comprising a hub formed with a series of longitudinal ribs, each of said ribs being slotted to form a series of teeth, the teeth and slot of one rib lying in the same radial plane as the complemental teeth and slot of the other ribs.

3. A gin cylinder comprising a barrel formed with a series of longitudinal ribs, each of which is slotted to form a series of teeth, the teeth and slots of one rib being arranged in the same radial plane as the teeth and slots of the other rib, a gin saw formed upon its interior circumference with a series of lugs separated by spaces, said lugs being arranged in position in the slots and ribs of the barrel, and a driving connection between the barrel and the saw.

868,966. VISE. DANIEL R. CHASE, Finley, N. D. Filed May 27, 1907. Serial No. 375,862.



1. The combination, with a stationary support, of a socket connected to the said support and provided with a quadrant-plate, a telescopic support pivoted to the said quadrant-plate and provided with a locking-device, means for engaging the work carried by the said telescopic support, and a table for supporting the work also carried by the said stationary support.

2. The combination, with a stationary support, of a socket connected to the said support and provided with a quadrant-plate, a telescopic support pivoted to the said quadrant-plate and provided with a locking-device, a jaw for holding the work loosely connected to the said telescopic support, a spring which moves the said jaw downwards, and a table for supporting the work under the said jaw also carried by the said stationary support.

3. The combination, with a stationary support, of a socket connected to the said support and provided with a quadrant-plate, a telescopic support pivoted to the said quadrant-plate and provided with a locking-device, means for engaging the work carried by the said telescopic support, a second telescopic support also carried by the said stationary support, and a table for supporting the work provided with a universal ball and socket joint which connects it to the last said telescopic support.

4. The combination, with a base, and a shaft secured thereto; of two adjustable vises adjustably connected to the said shaft, each said vise comprising a socket for engaging the said shaft provided with a quadrant-plate, a spindle provided with a forked end portion which is pivoted to the said plate, a fastening device for securing the said spindle to the said plate, and means for engaging the work provided with a tubular shank which is adjustable on the said spindle.

868,967. AUTOMATIC TOOL-OPERATING DEVICE. ARTHUR CLEMONS and DAVID W. PELKEY, Chicago, Ill., assignors of one-third to F. W. Ries, Chicago, Ill. Filed Oct. 9, 1906. Serial No. 338,150.

1. In a machine for the purpose described, the combination of a reciprocatory armature or core, two electro responsive devices in whose magnetic fields the ends of said core are respectively arranged, means operatively related to said core for alternately making and breaking the circuit at both terminals of each electro responsive device as the core reciprocates, and means whereby a tool may be connected to said core.



2. In a machine for the purpose described, the combination of a reciprocatory armature or core, two electro responsive devices in whose magnetic fields the ends of said core are respectively situated, and means operatively related to said core for alternately making and breaking the circuit at both terminals of each electro responsive device as the core reciprocates.

3. In a machine for the purpose described, the combination of a movable armature or core, two electro responsive devices having their magnetic fields arranged to act upon said armature or core alternately, and means whereby the circuit at both terminals of each of said electro responsive devices is automatically interrupted simultaneously, and means whereby a tool is given operative relation to said core.

4. In a machine for the purpose described, the combination of two alined solenoids, an armature having its ends projecting into said solenoids and provided at one end with means for the attachment of a tool, and means for alternately interrupting the circuit at both terminals of each of said solenoids operatively connected with said armature.

5. In a machine for the purpose described, the combination of two alined solenoids, an armature having its ends projecting into said solenoids, contacts for both the terminals of said solenoids respectively, a reciprocating means for alternately engaging said contacts and thereby alternately energising said solenoids, and means on said armature for engaging the movement of said reciprocating means as the armature moves, and means whereby a tool may be operatively connected with said armature.

6. In a machine for the purpose described, the combination of two alined solenoids, an armature having its ends projecting thereinto, two sets of terminal contacts for each of the solenoids, means for closing the circuit across both sets of said terminal contacts of one solenoid simultaneously and opening the circuit across the two sets of contacts of the other solenoid, and means whereby a tool may be connected with said armature.

7. In a machine for the purpose described, the combination of two axially alined solenoids, a casing in which said solenoids are situated at a distance apart, forming a chamber between them within said casing, an armature having its ends arranged in said solenoids and extending through said chamber, contacts for both terminals of each of said solenoids situated within said chamber, a reciprocating means located within said chamber for alternately engaging said terminal contacts and thereby alternately energising said solenoids, and means on the armature within said chamber for engaging and moving said reciprocating means

8. In a machine for the purpose described, the combination of a reciprocating armature, two electro responsive devices in the magnetic fields of which the ends of said armature are situated, means for alternately energising said electro responsive devices embodying a pair of contacts for each terminal of each of said electro responsive devices, reciprocating plugs or switches for alternately engaging two pairs of said contacts simultaneously, spaced shoulders carried by both of said switches and an operating shoulder carried by the armature, means whereby a tool may be connected with said armature, and cushioning means for receiving the impact of the armature at the extremity of its stroke.

9. In a machine for the purpose described, the combination of two axially alined solenoids having hollow cores, a reciprocating armature having its ends situated in said hollow cores, one end of one of said cores being closed and having a vent near the extremity thereof, and the end of the armature contiguous thereto forming a piston, the opposite end of said armature having means for the attachment of a tool to be operated, and means for alternately energizing said solenoids.

10. In a machine for the purpose described, the combination of two electro responsive devices each embodying a helix having two terminals, a reciprocating armature having its ends arranged in the magnetic fields of said helices, a pair of contacts for each terminal of each of said helices, reciprocating plugs or switches for alternately engaging two pairs of said contacts simultaneously, guides upon which said switches slide, spaced shoulders carried by both of said switches, and an operating shoulder carried by the armature and playing between the spaced shoulders of both switches for alternately moving the switches into and out of engagement with said contacts.

868,968. POLE-CHANGER. WALTER H. COTTON, Chicago, Ill., assignor to The Adams & Westlake Company, a Corporation of Illinois. Filed Aug. 6, 1906. Serial No. 329,407.



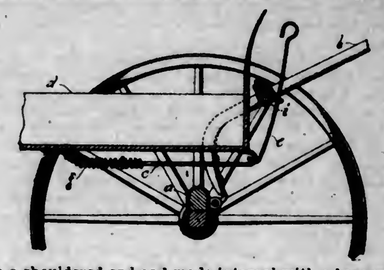
1. In a pole changer, in combination, an oscillatable switch, a reversible rotatable wheel having a recess in its periphery, and an oscillatable member having a lost motion connection with the switch and having a point bearing on the wheel and adapted to enter the recess.

2. In a pole changer, in combination, an oscillatable switch, a reversible rotatable wheel having a recess in its periphery, an oscillatable yoke engaging a stud on the switch and having the arms of the yoke spaced apart more than the diameter of the stud, and a finger projecting from the yoke and riding on the wheel.

3. In a pole changer, in combination, a fixed plate, two pairs of diametrically-disposed contact plates mounted in such plate, two diametrical contact plates intermediate of such pairs of plates each of a width equal to the combined width of the two members of each pair of plates, electric conductors permanently connecting opposed members of the two pairs of plates, an oscillatable plate, a pair of contact plates carried thereby and each adapted to engage one of the wider contact plates with either member of one of the pairs of plates, and means for oscillating such carrying plate.

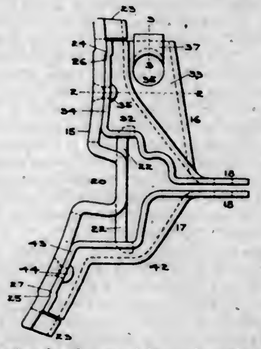
868,969. THILL-SUPPORTER. FRED A. CROCKER, Lincoln, Me. Filed Nov. 3, 1906. Serial No. 341,836.

In a thill support the combination of a metal retaining rod rigidly secured to the under side of a vehicle body; a spiral spring encircling the rearward bent end of said rod, the forward end thereof being bent to form a half circle or loop; a flat metal arm having its rearward end bent at nearly a right angle and provided with a hole thereat, and aforesaid metal retaining rod passing through said hole permanent connection between the two being afforded thereby, its forward end bent, making a handle one side of which is cut away to form a hook, and said arm being provided with adjusting holes; a catch provided



with a shouldered end and made integral with a base which is rigidly secured to under side of the crossbar of the thills and adapted to adjustably engage aforesaid arm by means of the holes therein as and for the purpose set forth.

868,970. RAILWAY-CAR BRAKE. SETH A. CRONE, New York, N. Y. Filed July 25, 1907. Serial No. 385,402.



1. A brake-shoe head comprising a face-plate and a back riveted thereto, said face-plate and back having coöperating shoulders above and below their middle portions to resist the springing backwardly of the upper and lower sections of the head; substantially as set forth.

2. A brake-shoe head comprising a face-plate having a box-loop for the securing key and a back forming a key-way in line with said loop and riveted to said plate, said plate and back having above and below said loop coöperating shoulders to resist the springing backwardly of the upper and lower sections of the head; substantially as set forth.

3. A brake-shoe head comprising a face-plate and a back forming a key-way and seated against and riveted to said plate, said back and plate having coöperating parts above and below their middle portions to resist the springing backwardly of the upper and lower sections of the head and the shearing of the rivets thereby; substantially as set forth.

4. A brake-shoe head comprising a face-plate and a back forming a key-way and seated against and riveted to said plate, said plate and back having above their middle portions coöperating parts to resist the springing backwardly of the upper section of the head and the shearing of the rivets securing said section to the face-plate; substantially as set forth.

5. A brake-shoe head comprising a forged metal back wherein is formed a key-way, and a face-plate carried thereby and adapted to receive the brake-shoe and its securing key, said back in its upper portion having opposite

walls wherein is formed corresponding holes to constitute the eye for the brake-hanger, and a wearing plate being secured in said eye and bent upon the sides of said walls; substantially as set forth.

6. A brake-shoe head comprising a forged metal back wherein is formed a key-way, and a face-plate carried thereby and adapted to receive the brake-shoe and its securing key, said back in its upper portion having opposite walls wherein is formed corresponding holes to constitute the eye for the brake-hanger, and a wearing plate being secured in said eye and bent upon the sides of said walls and over the upper edges of the same; substantially as set forth.

7. A brake-shoe head comprising a forged metal back wherein is formed a key-way, and a face-plate carried thereby and adapted to receive the brake-shoe and its securing means, said back in its upper portion having opposite vertical walls pressed together to form a double thickness; substantially as set forth.

8. A brake-shoe head comprising a forged metal back wherein is formed a key-way, and a face-plate carried thereby and adapted to receive the brake-shoe and its securing means, said back in its upper portion having opposite vertical walls pressed together to form a double thickness and apertured to create an eye for a brake-hanger; substantially as set forth.

9. A brake-shoe head comprising a forged metal back wherein is formed a key-way, and a separate face-plate secured thereto and having a box-loop entered in between the end portions of said back and slotted in line with said key-way, the upper part of said back having a vertical box-like portion, flanges extending therefrom to engage said face-plate and a vertical section extending along said box-like portion and composed of two thicknesses of the metal set inwardly toward each other from the outer edges of said box-like portion; substantially as set forth.

10. A brake-shoe head comprising a forged metal back wherein is formed a key-way, and a face-plate secured thereto and adapted to receive the brake-shoe and its securing key, said back having flanges to engage said face-plate and an outer vertically extending portion formed of opposite walls pressed together to create a double thickness; substantially as set forth.

11. A brake-shoe head adapted to receive a brake-shoe and its securing key, said head in its upper portion having an eye to receive a hanger and a plate in said eye for taking the wear of the hanger from the head and bent at its ends for fastening the same; substantially as set forth.

12. A brake-shoe head comprising a metal back and a face-plate secured thereto and adapted to receive a brake-shoe, said back being provided in its upper portion with an eye to receive a brake-hanger and with a metal plate in said eye for taking the wear of the hanger from said head and bent at its ends for fastening the same; substantially as set forth.

13. A brake-shoe head having in its upper portion a vertical flange-like portion having an eye for a brake-hanger and provided in said eye with a plate lapping upwardly upon the sides of said portion to take the wear of said hanger; substantially as set forth.

14. A brake-shoe head comprising a face-plate and a back forming a key-way and seated against and riveted to said plate, said plate and back having below their middle portions coöperating parts to resist the springing backwardly of the lower section of the head and the shearing of the rivets securing said section to the face-plate; substantially as set forth.

15. A brake-shoe head having in its upper portion an eye for a brake-hanger, and a plate in said eye and lapping upwardly therefrom to take the wear of said hanger; substantially as set forth.

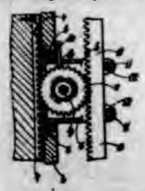
868,971. PAD FOR TRUSSES. JOHN M. CULLIS, Yonkers, N. Y. Filed June 12, 1906. Serial No. 321,316.

1. A truss pad consisting of a metal ring formed integral with the truss spring, a metal plate secured thereto, a pad of yielding material secured to the metal plate having the central portion cut away and an envelop or covering therefor substantially as and for the purposes set forth.



2. A truss pad consisting of a metal ring formed integral with the truss spring, a metal plate having its central portion cut away secured thereto, a pad of yielding material having its central portion cut away secured to the metal plate, and an envelop or covering therefor, substantially as and for the purposes set forth.

868,972. MEANS FOR BALANCING AND FASTENING WINDOW-SASHES. ARTHUR CURWOOD, Campbelltown, New Zealand. Filed Sept. 18, 1905. Serial No. 279,021.



Apparatus for the purpose indicated comprising in combination with a window frame and sashes having a groove formed in each of their side edges, a rack fixed in each groove, a pair of brackets secured side by side to each side of the window frame and with one bracket opposite each rack, a toothed wheel revolubly mounted in each bracket said wheels gearing with the racks, a balance weight in each bracket and having teeth gearing with the toothed wheel, a locking bar to each pair of brackets and entering slots provided therein and passing between the teeth of the wheels of both brackets, a stem upon the locking bar, a bell crank lever pivoted by a pin to the window frame and connected at one end to the stem of the locking bar, a rod pivoted to the other end of the bell crank lever, a drop ring pivoted to the rod and a casing with a sliding lid for inclosing the ring substantially as set forth.

868,973. SELF-CLOSING HINGE. GEORGE A. DATSCHEG, Philadelphia, Pa. Filed Dec. 3, 1906. Serial No. 346,074.



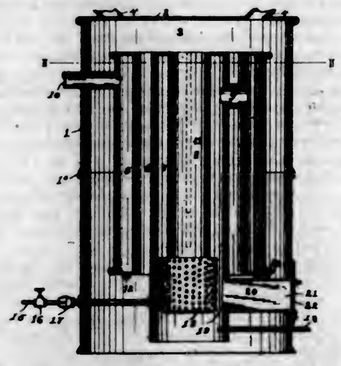
1. In a device of the character described, a pintle rigidly supported, an inclined face on said pintle having a groove

extending across the same, roller bearings in said groove, said groove being smaller than the diameter of said roller bearings, a socket encircling said pintle, an inclined track carried by said socket bearing on said rollers, whereby when the parts are turned the socket will be elevated on said pintle.

2. In a device of the character described, a pintle rigidly supported, an inclined face on said pintle having a groove extending across its surface, roller bearings rotatably mounted in said groove projecting slightly beyond the inclined face and prevented from lateral displacement, a socket encircling said pintle, an inclined track carried by said socket bearing on said rollers whereby when the parts are turned, the socket will be elevated on said pintle.

3. In a device of the character described, a pintle having an inclined upper face, a groove extending across said face, a roller bearing rotatably mounted in said groove and prevented from lateral displacement thereby, a socket movable on said pintle, inclined tracks carried by said socket bearing on said roller, and a socket connected with said first mentioned socket and adapted to receive a suitable portion of a gate.

868,974. HEATING-FURNACE. HENRY A. DENZIN, Ross township, Allegheny county, Pa. Filed Nov. 22, 1906. Serial No. 344,532.



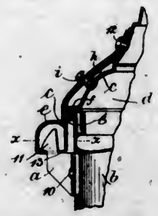
1. In furnaces, an outer casing and a furnace body contained therein consisting of a plurality of concentric annular walls forming a central air chamber, open at both ends, a fume chamber surrounding said central air chamber and closed at the top, a second air chamber surrounding said fume chamber and open at both ends, a second fume chamber surrounding said second air chamber and closed at both ends, a horizontal fume flue adjacent to the top of said body and adapted to conduct the fumes from said first fume chamber to said second fume chamber, a fume pipe leading from the top of said second fume chamber, diametrically opposite to said flume flue, to a point without said casing and an annular ring burner mounted on the inner concentric wall and directing the products of combustion against the inner wall of said second air chamber, substantially as described.

2. In furnaces, an outer casing and a furnace body contained therein and consisting of a plurality of concentric cylindrical walls, the two inner walls extending downwardly beyond the remainder of the furnace body, forming between the same first a central air chamber open at top and bottom, next encircling the same an annular fume chamber closed at the top, next encircling the same an annular air chamber open at top and bottom and next encircling the same an annular fume chamber closed at top and bottom; a horizontal fume flue leading from a point in said first fume chamber, adjacent to the top thereof, to said second fume chamber, a fume pipe leading from said second fume chamber to a point without said casing, diametrically opposite to said fume flue, baffles extending downwardly within said second fume chamber between said flue and said pipe, an annular burner body surrounding and mounted on the lower portion of said interior wall and having its exterior vertical face perforated for combustion so that the products of combustion are thrown against the second interior wall, substantially as described.

3. In furnaces, an outer casing and a furnace body contained therein composed of a plurality of concentric walls forming a central cylindrical air chamber open at top and bottom, an annular fume chamber closed at the top next surrounding said central air chamber, an annular air chamber open at top and bottom next surrounding said fume chamber and a second fume chamber closed at top and bottom next surrounding said second air chamber, said central air chamber and first fume chamber extending downwardly below the remainder of said furnace body, a fume flue connecting said fume chambers adjacent to the top thereof, a fume pipe, diametrically opposite to said fume flue connecting the second fume chamber to a point without the outer casing and an annular burner body within said first fume chamber mounted on the base of said central air chamber.

4. In furnaces, an outer casing and a furnace body contained therein composed of a plurality of concentric walls forming a central cylindrical air chamber open at top and bottom, an annular fume chamber closed at the top next surrounding said central air chamber, an annular air chamber open at top and bottom next surrounding said fume chamber and a second fume chamber closed at top and bottom next surrounding said second air chamber, said central air chamber and first fume chamber extending downwardly below the remainder of said furnace body, a fume flue connecting said fume chambers adjacent to the top thereof, a fume pipe, diametrically opposite to said fume flue, connecting the second fume chamber to a point without the outer casing, an annular burner body within said first fume chamber mounted on the base of said central air chamber and an inclosed pasage connecting the interior of said first fume chamber with the exterior of said casing.

868,975. LATCH-LOCK. FREDERICK W. DRESSEL, New York, N. Y., assignor to The Dressel Railway Lamp Works, New York, N. Y., a Corporation of New York. Filed Apr. 20, 1907. Serial No. 369,200.



1. A latch lock comprising a latch member, a spring catch member, means provided at the end of the said spring catch member for engaging the latch member, an auxiliary spring member and means for guiding and limiting the movement of the said spring catch member.

2. A latch lock comprising a latch member, a spring catch member fixed at one end and provided at the other end with a slotted loop adapted to engage the said latch member, an auxiliary spring and means for guiding and limiting the movement of the said spring catch and auxiliary spring members.

3. In a signal lantern, the combination with the lantern body and the lantern cover hinged thereto, of a latch member secured to the lantern body, a catch member secured at one end to the said lantern cover and adapted at the other end to engage the said latch member an over-lying auxiliary spring-member and means centrally disposed within

the width and length of the catch-member for limiting and guiding the movement of the said spring catch member.

4. In a signal lantern, the combination with the lantern body and the lantern cover hinged thereto, of a latch member secured to the lantern body, a catch member secured at one end to the said lantern cover and adapted at the other end to engage the said latch member, an auxiliary spring conforming in outline with the said spring catch member and lying against the outer surface thereof, and means for limiting and guiding the movement of the said catch spring.

5. In a signal lantern, the combination with the lantern body and the lantern cover hinged thereto, of a latch member secured to the lantern body, a spring catch member, an auxiliary spring member conforming in outline with said spring catch member and lying against the outer surface thereof, means for securing the corresponding ends of the said spring catch and auxiliary spring members to the lantern cover, a slotted loop at the free end of the said spring catch member adapted to engage said latch member and a stud member secured in the said lantern cover and passing freely through the said spring catch member and auxiliary spring member at a point intermediate of that in which said spring members are secured in the lantern cover and the looped end of the said spring catch member.

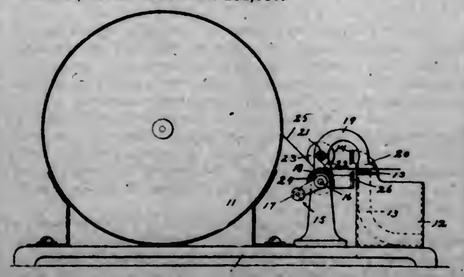
868,976. RECOVERY OF AMMONIA FROM DISTILLERS' WASHES. JEAN EFFRONT, Brussels, Belgium. Filed Dec. 13, 1906. Serial No. 347,613.

1. The process of utilising distiller's washes, which consists in decomposing the alkaline organic substances contained in concentrated washes; then distilling at a low temperature, and collecting the products of distillation; neutralising the dried residue and heating it to a temperature of 700° C., and, during such heating, subjecting the mass to the action of superheated steam and air, and collecting the products of distillation.

2. The process of utilising distiller's washes, which consists in decomposing the alkaline organic substances contained in concentrated washes; then distilling, in the presence of dry air superheated to 170° C., and collecting the products of distillation; neutralising the dried residue and heating it to a temperature of 700° C., whereby a part of the ammonia is driven off, and,—durding such heating, subjecting the mass to the action of superheated steam and air, and collecting the products of distillation.

3. The process of utilising distiller's washes, which consists in treating concentrated washes with material of an acid character for decomposing the alkaline organic substance contained in said washes; distilling at a low temperature, and collecting the products of distillation; neutralising the dried residue and heating it while subjecting the mass to the action of superheated steam and air, and collecting the products of distillation.

868,977. STRIP-SERVING DEVICE. STERLING ELLIOTT, Newton, Mass., assignor to National Binding Machine Company, Boston, Mass., a Corporation of Maine. Filed Oct. 12, 1905. Serial No. 282,387.



1. An apparatus of the character specified, comprising a moistener, a presser movable toward and from the moistener, and adapted to engage the strip, means to withdraw the presser from engagement with the strip, rolls adapted to feed the strip between the moistener and presser and means for actuating said rolls.

2. An apparatus of the character specified, comprising a moistener, a presser relatively movable with respect to said moistener, said presser being adapted to engage the strip to be moistened, means relatively to move the strip to be moistened and the presser to separate them, rolls to feed the strip between the moistener and presser and actuating means for said rolls.

3. An apparatus of the character specified comprising a moistener, a presser relatively movable with respect to the moistener and adapted to engage with the strip to be moistened, rolls adapted to feed the strip between the moistener and presser, actuating means for said rolls and means to separate the presser and the strip.

4. An apparatus of the character specified, comprising a moistener, a pivoted presser movable toward and from the moistener, a pawl connected with said presser, feed rolls for the strip, a ratchet on the shaft of one of said rolls and adapted to engage said pawl, and means for actuating the ratchet and rolls.

5. An apparatus of the character specified, comprising a moistener, a pivoted presser movable toward and from the moistener, a pawl connected with said presser, feed rolls for the strip, a ratchet on the shaft of one of said rolls and adapted to engage said pawl, and means for actuating the ratchet and rolls, a cutter being mounted above the path of movement of the strip on its way from the rolls to the moistener, and a bar connected with the shaft which carries the ratchet and adapted to be raised to carry the strip against the cutter.

6. An apparatus of the character specified comprising moistening mechanism, severing mechanism, a presser, feeding mechanism to feed the strip between the moistener and the presser and means to separate the presser and the strip during the severing operation.

7. An apparatus of the character specified comprising a moistener, severing means, and means operative in one direction to feed a strip to the moistener and in the reverse direction to bring the strip severing means into operative relation with the strip.

8. An apparatus of the character specified comprising a moistener, severing means, feed rolls, manual means for rotating said rolls in opposite directions and connections whereby upon movement of the feed rolls in one direction the strip is fed and upon movement of the rolls in the reverse direction the strip is severed.

9. An apparatus of the character specified comprising a moistener, feeding mechanism to feed a strip thereto, operating means for said feeding mechanism, severing mechanism, and connections whereby upon a reverse movement of the operating means the strip and the severing means are operatively engaged.

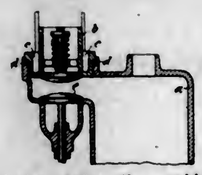
10. An apparatus of the character specified comprising a strip support, a moistener, severing means and means operative in one direction to feed a strip to the moistener and in the reverse direction relatively to move the strip severing means and the strip thereby to bring them into operative relation for the severing action.

11. An apparatus of the character specified comprising a strip support, a moistener, severing means, and means operative in one direction to feed a strip to the moistener and operative upon further movement thereof relatively to move said strip and said severing means to bring them into operative relation for the severing action.

12. A strip serving apparatus adapted to serve strips of paper or the like for wrapping or binding packages, comprising a strip support, a strip moistener operatively related to said support and adapted to moisten the leading end of the strip as it passes the moistener from the support in the operation of the apparatus, and strip severing means located to sever the strip in the rear of the moistener.

13. A strip serving apparatus adapted to serve strips of paper or the like for wrapping or binding packages, comprising a strip support, a strip moistener operatively related to said support and adapted to moisten the leading end of the strip as it passes the moistener from the support in the operation of the apparatus, and strip severing means positioned with relation to the moistener and adapted to sever the strip in the rear of the moistened portion thereof, without necessitating further serving of the strip from the support after the moistening to effect the presentation of an unmoistened portion to such strip severing means.

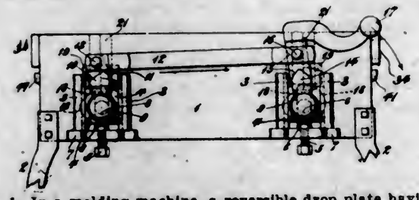
868,978. EXPLOSIVE-ENGINE. MARTIN FISCHER, Zurich, Switzerland. Filed Feb. 27, 1906. Serial No. 303,222.



1. In an explosive engine, the combination with the working cylinder, of an admission valve, a casing therefor, the said casing having on its outside a deep annular groove to constantly hold fresh air circulating around the said casing and cooling the latter, and a gasket, of material which is a bad conductor of heat, arranged between the adjoining surfaces of the said valve casing and the working cylinder for isolating the same from one another, substantially as and for the purpose specified.

2. In an explosive engine, the combination with the working cylinder, of an admission valve mounted on the working cylinder centrally above the piston chambers, a casing therefor, said casing having, on its outside, a deep annular groove to constantly hold fresh air circulating around said casing and cooling the latter, and a gasket, of material which is a bad conductor of heat, arranged between the adjoining surfaces of said valve casing and the working cylinder, substantially as and for the purpose specified.

868,979. MOLDING-MACHINE. FREDERICK J. GEEHRING, Philadelphia, Pa. Filed Jan. 23, 1907. Serial No. 353,612.



1. In a molding machine, a reversible drop plate having dissimilar pattern receiving means on opposite sides thereof, and means for actuating said plate.

2. In a molding machine, a reversible drop plate having dissimilar pattern receiving ribs on opposite sides thereof, and means for actuating said plate.

3. In a molding machine, a casing, a reversible drop plate having dissimilar pattern receiving ribs on opposite sides thereof movably mounted therein, a stripping plate different on opposite sides carried by said casing, and means for locking said stripping plate to said casing.

4. In a molding machine, a casing, a reversible drop plate having dissimilar pattern receiving ribs on opposite sides thereof movably mounted therein, a stripping plate different on opposite sides carried by said casing and a plurality of cams for actuating said drop plate.

5. In a molding machine, a casing, a reversible drop plate having dissimilar pattern receiving ribs on opposite sides thereof movably mounted therein, a reversible stripping plate different on opposite sides carried by said casing, and means for locking said plate to said casing.

6. In a molding machine, a casing, guide members carried thereby; a reversible drop plate having dissimilar pattern supporting ribs on opposite sides thereof guided by said members, a reversible stripping plate different on opposite sides carried by said casing, means for actuating said drop plate, and stops for limiting the movement of said means.

7. In a molding machine, a casing, guides therein, cross bars co-acting with said guides, a reversible drop plate having dissimilar pattern receiving ribs on opposite sides thereof carried by said bars, a stripping plate different on opposite sides carried by said casing, and means for actuating said drop plate.

8. In a molding machine, a casing, guides therein, cross bars co-acting with said guides, a reversible drop plate having dissimilar pattern receiving ribs on opposite sides thereof carried by said bars, means for preventing relative movement of said bars and drop plate, a stripping plate different on opposite sides carried by said casing, and means for actuating said drop plate.

9. In a molding machine, a casing, a reversible drop plate having dissimilar pattern supporting ribs on opposite sides thereof movably mounted therein, a reversible stripping plate different on opposite sides carried by said casing, latches pivoted to said stripping plate, and means on the casing co-acting with said latches to maintain said stripping plate and casing in assembled position.

10. In a molding machine, a casing, guides therein, cross bars co-acting with said guides, a reversible drop plate having dissimilar pattern supporting ribs on opposite sides thereof carried by said bars, means for preventing relative lateral movement of said plate and bars, a reversible stripping plate different on opposite sides carried by said casing, and guides carried by said casing and co-acting with said stripping plate to prevent improper lateral movement of the latter.

11. In a molding machine, a casing, a reversible dropped plate, having dissimilar pattern supporting ribs on opposite sides thereof movably mounted therein, a reversible stripping plate different on opposite sides detachably secured to said casing, means for actuating said drop plate, and adjusting devices for said actuating means.

12. In a molding machine, a casing, guides therein, cross bars engaging said guides, cam shafts adjustably mounted in said casing, cams on said shafts co-acting with said cross bars, means for vertically adjusting said shafts, actuating means for said shafts, a reversible drop plate having dissimilar pattern supporting ribs on opposite sides thereof engaging said guides, and a reversible stripping plate different on opposite sides detachably carried by said casing.

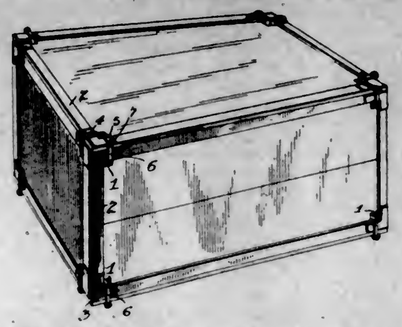
13. In a molding machine, a casing, a reversible drop plate having dissimilar pattern supporting ribs on opposite sides thereof movably mounted therein, a reversible stripping plate different on opposite sides carried by said casing and detachably secured thereto, supporting members carried by said drop plate adapted to engage said stripping plate when the former is in raised position, and means for actuating said drop plate.

14. In a molding machine, a casing, a reversible drop plate having dissimilar pattern supporting ribs on opposite sides thereof movably mounted thereon, a reversible stripping plate carried by said casing, latches pivoted to said stripping plate and lugs on the casing co-acting with said latches to maintain said stripping plate and casing in assembled position.

868,980. CRATE FOR SHIPPING MERCHANDISE. SOLOMON GIWOWSKY, Wichita, Kans. Filed Sept. 29, 1906. Serial No. 336,727.

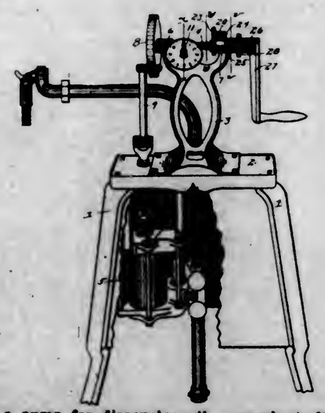
1. A box or crate having independent sides, having holes therein and clamps for holding the sides together, each of said clamps comprising a member having a hooked end engaging the hole in one side and a second member having a hooked end engaging the hole in the adjacent side, the free end of one of said members having a hole therein and the free end of the other member having screw threads thereon and adapted to pass through the said hole and a nut engaging with the said screw threaded end.

2. A box or crate having separate sides, each of said sides having holes in each corner thereof, clamps for holding the sides together engaging with said holes and L-shaped iron plates located at each corner of each side and having a portion extending under the adjacent clamp, both limbs of the L lying in the same longitudinal plane.



3. A box or crate having independent sides, having holes therein and clamps for holding the sides together, each of said clamps comprising a member having a hooked end engaging the hole in one side and a second member having a hooked end engaging the hole in the adjacent side, the free ends of said members converging at the exterior corner of the box and means for detachably connecting said ends together.

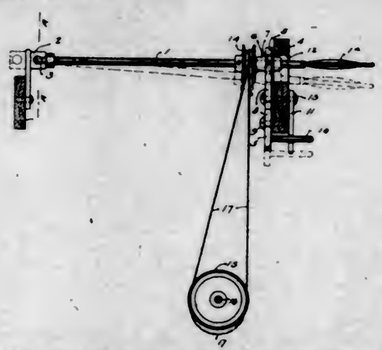
868,981. PUMP FOR DISPENSING OIL. HORACE S. GORDON, Dayton, Ohio. Filed Nov. 12, 1906. Serial No. 342,995.



1. In a pump for dispensing oil, a crank shaft having a worm gear thereon, a dial mounted upon an inclination in the front of said worm gear, said dial having on its rearward side a series of spaced ratchets, a disk mounted in the rear of and parallel with the dial and rotatable upon a common axis with the dial, said disk having on its outer face a series of ratchets adapted to engage the spaced ratchets on the dial, and a series of pins on the rearward side of said disk engaging the worm gear on the crank shaft, and a stationary pointer mounted in front of the dial, substantially as set forth.

2. In a pump for dispensing oil, the combination with a crank shaft having a worm gear thereon, a detail indicating dial to denote the specific quantities of oil dispensed, said dial having upon its rearward side a series of ratchets, a disk mounted in the rear of and parallel with said dial, said disk having on its outer side a series of ratchets engaging the ratchets on the dial, and upon its rearward side a series of pins engaging the worm on the crank shaft, a fixed pointer in front of the dial, and a total counter connected with the crank shaft and adapted to record the total of the oil dispensed from the pump and indicated on the dial in specific quantities, substantially as set forth.

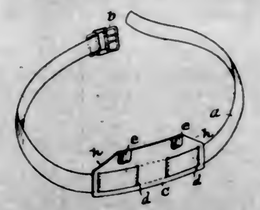
868,982. DRIVING DEVICE FOR QUILTING, SPINNING, AND OTHER TEXTILE MACHINERY. WILLIAM GREGORY, Paterson, N. J., assignor of one-half to John H. Bentley, Paterson, N. J. Filed June 15, 1906. Serial No. 321,846.



1. The combination with a swinging band-driven spindle, of a sleeve through which the outer end of the spindle passes, a slidable, slotted support to which said sleeve is pivotally secured, a frame to which said support is slidably secured, and a swinging hook secured to said frame and adapted to be engaged with and disengaged from said slidable support, substantially as set forth.

2. The combination with a swinging band-driven spindle, of a swivel bearing in which it is revolubly mounted, and means for driving said spindle, of a sleeve through which the outer end of the spindle passes, a slidable, slotted support to which said sleeve is pivotally secured, a frame to which said support is slidably secured, and a swinging hook adapted to be engaged with and disengaged from said slidable support, substantially as set forth.

868,983. SKIRT-SUPPORTER. AGNES GROSSER, Haledon, N. J. Filed Apr. 3, 1907. Serial No. 366,165.



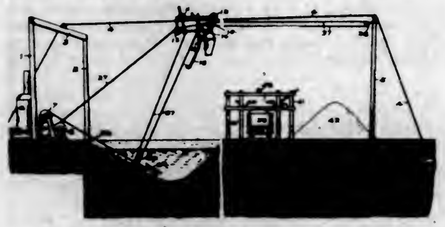
1. In a skirt supporter, the combination of a belt, means for securing the same about the waist of the wearer, a plate having a plurality of slits, the belt being passed through said slits and the plate having its greatest dimension in the direction of length of the belt, a skirt-band, and eye-members attached to the inside of said skirt-band, said plate having hooks extending from its upper edge and adapted to engage with said eye-members, substantially as described.

2. In a skirt-supporter, the combination of a belt, means for securing the same about the waist of the wearer, a plate having a plurality of slits, the belt being passed through said slits and the plate having its greatest dimension in the direction of length of the belt, its upper edge convex and said slits disposed relatively remote from its upper edge, a skirt-band, and eye-members attached to the inside of said skirt-band, said plate having hooks formed at its upper edge and adapted to engage with said eye-members, substantially as described.

3. In a skirt-supporter, the combination of a belt, means for securing the same about the waist of the wearer, a plate having a plurality of slits, the belt being passed through said slits and the plate having its greatest dimension in the direction of length of the belt, its upper edge convex and said slits disposed relatively remote from its upper edge, a skirt-band, and eye-members attached to the inside of said skirt-band, said plate having hooks formed at the highest part of its upper edge and adapted to engage with said eye-members, substantially as described.

4. In a skirt-supporter, the combination of a belt, means for securing the same about the waist of the wearer, a plate having a plurality of slits, the belt being passed through said slits and the plate having its greatest dimension in the direction of length of the belt, a skirt-band, and eye-members attached to the inside of said skirt-band and each having the material thereof above its eye in a different plane from that of the material thereof below said eye, said plate having hooks at its upper edge the same being integral projections of said plate bent first outwardly and downwardly and then upwardly, substantially as described.

868,984. HOISTING AND CONVEYING APPARATUS. HENRY T. GUFFIN, Indianapolis, Ind. Filed June 27, 1904. Serial No. 214,324.



1. In a hoisting and conveying apparatus, a way highest at its dump end, a carriage adapted to travel on said way, a receptacle, a sheave attached to said receptacle, a rope attached to said carriage and passing thence under the sheave attached to said receptacle, thence over a sheave in said carriage, thence around a sheave located at a point outside of the line of said way near the highest end of the latter, thence back over a second sheave in said carriage, means for operating said rope and means for dumping said receptacle.

2. In a hoisting and conveying apparatus, a way highest at its dump end, a carriage adapted to travel on said way, a receptacle, a sheave attached to said receptacle, a rope attached to said carriage and passing thence under the sheave attached to said receptacle, thence over a sheave in said carriage, thence around a sheave located at a point outside of the line of said way near the highest end of the latter, thence back over a second sheave in said carriage, a rope attached to the receptacle, means for operating said ropes and means for dumping said receptacle.

3. In a hoisting and conveying apparatus, a way, a carriage adapted to travel on said way, a receptacle having a two-part rigid bail jointed at the top of said bail, a sheave having its block or frame pivotally secured at said joint between the parts of the bail, a rope attached to said carriage and passing thence under the sheave attached to said receptacle-bail, thence over a sheave in said carriage, thence around a sheave located at a point outside of the line of said way, thence back and over a second sheave in said carriage, means for operating said rope and means for dumping said receptacle.

4. In a hoisting and conveying apparatus, a way, a carriage adapted to travel on said way, a receptacle having a two-part rigid bail jointed at its top, a sheave having its frame pivotally secured at the joint between the parts of the bail, a clevis embracing the ends of said bail, a pin or bolt passing through the clevis, bail ends and sheave frame and uniting said parts, a rope attached to said carriage and passing thence under the sheave attached to said bail, thence over a sheave in said carriage, thence around a sheave located at a point outside of the line of said way, a rope attached to said clevis, means for operating both of said ropes and means for dumping said receptacle.

5. In a hoisting and conveying apparatus, a horizontal member supported at the top of a plurality of masts, a second support, a way supported above the level of the ground on said supports, a carriage adapted to travel on said way, a receptacle, a rope attached to the carriage and passing thence under a sheave attached to said receptacle, thence over a sheave located in the carriage, thence around a sheave located at a point outside of the line of said way as to one of the above supports, thence back and over an idler in said carriage and thence over a second sheave in said carriage, means for operating said rope and means for dumping said receptacle.

6. In a hoisting and conveying apparatus, a way supported above the level of the ground, a carriage adapted to travel upon said way, a receptacle having a horizontal bar below its bottom, a rope and tackle for connecting the carriage and receptacle and for actuating the carriage on the way, a rope attached to the receptacle, a sheave located laterally of the vertical plane of said way around which said rope is passed, means for operating said ropes and a laterally bent dump-bar having a hooked lower end to engage the bar under the receptacle and assist in dumping the latter.

7. In a hoisting and conveying apparatus, a way supported above the level of the ground, a carriage adapted to travel upon said way, a receptacle having a horizontal bar or eye below its bottom, a rope and tackle for connecting the carriage and receptacle and for actuating the carriage on said way, a rope attached to said receptacle, a sheave located laterally of the vertical plane of said way around which said rope is passed, means for operating said ropes and a laterally bent dump-bar having a hooked lower end to engage the bar under the receptacle and assist in dumping the latter, said bar being pivotally supported and yieldingly held in the path of the receptacle.

8. In a hoisting and conveying apparatus, a way, a carriage adapted to travel thereon, a receptacle having an under side eye to engage a hook, a rope and tackle to connect the carriage and receptacle and to operate both, straps secured to the carriage, a dump-bar pivoted under the carriage to said straps said bar having a hook at its lower end and yielding means for pressing the hooked end of the bar into engagement with the eye of the receptacle when the receptacle is elevated into a position close under the carriage.

9. In a hoisting and conveying apparatus, a way, a carriage adapted to travel thereon, a receptacle having an under side eye to engage a hook, a rope and tackle to connect the carriage and receptacle and to operate both, straps secured to the carriage in an adjustable manner and having ends depending from said carriage, a vertical bar depending from the carriage, a weight having a perforation through which said last bar passes, adjustable means for determining the downward movement of said weight on said bar, an idler mounted adjacent to said bar, a flexible connection as a chain, connecting said weight with the top end of a dump-bar, a dump-bar pivotally secured below said chain attachment, to said depending straps, said dump-bar having a terminal hook to engage the eye of the receptacle.

10. In a hoisting and conveying apparatus, a way, a carriage, a receptacle, a dump-bar pivotally secured to the carriage said bar having a lower terminal hook to engage the receptacle and means for yieldingly presenting the hooked end of the bar in the path of the receptacle.

11. In a hoisting and conveying apparatus, a receptacle of oblong form in horizontal section having sharp edges at the tops of its wider sides and having a rigid bail and a horizontal bar at the middle of one of its wider lower edges,

in combination with a rope and tackle for raising and lowering the receptacle, a second rope attached to the receptacle bail and a hooked bar supported independently of the receptacle to engage the bar under the receptacle and assist in dumping it.

12. In a hoisting and conveying apparatus, a receptacle having a rigid bail, a horizontal bar at the middle of one of its wider lower edges and hooks adjacent to said bar opening toward the front of the receptacle.

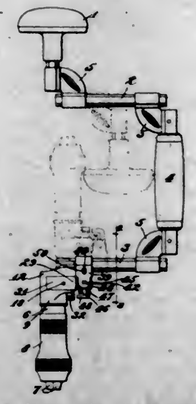
13. In a hoisting and conveying apparatus, a receptacle of oblong form in horizontal section having sharp edges at the tops of its wider sides, a rigid two-part bail bolted to the narrow ends of the receptacle intermediate of the cutting edges, a pair of loops at each end through which the bail sections respectively pass and transverse pins in said sections above and below one of said loops at each end of the receptacle.

14. In a hoisting and conveying apparatus, a way, a carriage, a receptacle having a rigid bail and under side extensions, ropes and tackle to operate said carriage and receptacle, a hopper at the place for discharging the contents of the receptacle and means independent of the receptacle for engaging its under side extensions to invert the receptacle.

15. In a hoisting and conveying apparatus, a receptacle having a rigid two-part bail, the separation between the two parts being at its top and middle, the ends at said separation being bent outwardly and parallel and a sheave frame pivotally secured between said ends.

16. In a hoisting and conveying apparatus, a receptacle having a rigid two-part bail, the separation between the two parts being at its top and middle, and a sheave-frame secured to the ends formed by said separation.

868,985. RATCHET-BRACE. GEORGE M. D. HEARD, Painesville, Ohio. Filed Sept. 21, 1906. Serial No. 335,561.



1. In a ratchet brace, the combination of a chuck, ratchet means in the head thereof, a stock, pawls pivoted upon said stock and engaging said ratchet, a cam-plate for actuating said pawls, a pivot upon which said cam-plate is mounted, and a staple-like bracket, said pivot being supported by said stock and said bracket.

2. In a ratchet brace, the combination of a chuck, ratchet means in the head thereof, a stock, a shaft passing therethrough, pawls pivoted upon said shaft, a cam-plate for actuating said pawls, a pivot upon which said cam-plate is mounted, and a bracket secured by said pawl-bearing shaft, said pivot being supported by said stock and said bracket.

3. In a ratchet brace, the combination of a stock, a pawl-actuating cam-plate, a pivot upon which said plate is mounted, a bracket comprising a pair of arms secured to said stock and a cross-piece, said pivot being supported by said stock and said cross-piece.

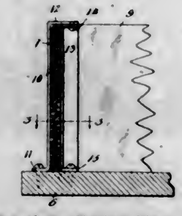
4. In a ratchet-brace, the combination of a stock, a pawl-actuating cam-plate, a pivot upon which said plate is mounted, a bracket comprising a cross-piece and a pair of arms secured to said stock, recesses in said stock and in said cross-piece, said pivot being seated in said recesses.

5. In a ratchet brace, the combination of a chuck, sockets in the heads thereof and extending downwardly therein, pawls rocking in a plane parallel to the axial line of the chuck, a member engaging the opposite end of said pawls thereby to actuate said pawls, said member rocking in a plane approximately at right-angles to the plane of movement of said pawls and, likewise, parallel to the axial line of the chuck.

6. In a ratchet brace, the combination of a chuck, sockets in the heads thereof, pawls seating in said sockets, a pawl-actuating member, and means locking said pawl-actuating member in place, said member being locked in three positions, a first position allowing one pawl to seat in said sockets, a second position allowing both pawls to seat in said sockets, and a third position allowing the second pawl to seat in said sockets.

7. In a ratchet brace, the combination of a chuck, sockets in the heads thereof, pivoted pawls rocking in a vertical plane and seating in said sockets, and a pawl-actuating member rocking in a plane intersecting the plane of movement of said pawls, said member being locked in three positions, a first position allowing only one pawl to seat in said sockets, a second position allowing both pawls to seat therein, and a third position allowing the second pawl only to seat in said sockets.

868,986. DISPLAY-BIN FOR COUNTERS, &c. CLARENCE M. HERR, Chicago, Ill., assignor to Charles T. Blackford and Oscar Ludwig, Chicago, Ill. Filed Aug. 8, 1907. Serial No. 387,619.



1. The post for glass display bins, adapted to be secured to the counter or other support, and having an opening for the glass of the outer wall, and depending strips between which a partition arranged at right angles to the outside wall may be positioned.

2. The post for glass display bins, adapted to be secured to the counter or other support, and having a body supporting the outside wall and provided with a turned over top, and strips depending from said turned over top between which a right angle partition may be positioned.

3. The post for glass display bins adapted to be secured to the counter or other support, and having a body adapted to support the glass of the outside wall upon the outer side and having a turned over top, and strips depending from said turned over top and supporting the outside wall upon the inner side, and also having a space between them in which a right angle partition may be positioned.

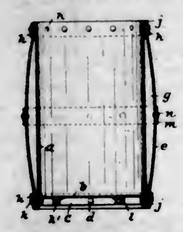
4. The post for compartment display bins, adapted to be secured to the counter or other support, and to be positioned on the outside wall wherever desired, such post having a vertical space admitting the outside wall, and also having means for holding upright a partition arranged at right angles to the outside wall.

5. The post for compartment display bins, adapted to be secured to the counter or other support, and to be positioned on the outside wall wherever desired, such post having vertical spaces for both the outer wall and a partition extending at right angles to the wall.

6. The post for compartment display bins, adapted to be secured to the counter or other support, and to be positioned on the outside wall wherever desired, such post having vertical spaces admitting the glass of the outer wall and the partition and permitting the glass of both to be of the full height of the post below the turned over top.

7. The post herein described having a body, a turned over top and strips depending from the top and forming with the body vertical spaces for holding upright both the outer wall and the partition.

868,987. ASH BARREL OR CAN. JOSEPH D. HEWITT, Paterson, N. J. Filed Feb. 16, 1907. Serial No. 357,641.



1. In a barrel, the combination of an inner sheet metal shell, and an outer shell having bulging sides and also having limited elasticity longitudinally thereof and circumferentially bearing against the inner shell near the ends of the latter, the inner shell having both its end edge portions bent over, and forming annular pockets receiving, the ends of the outer shell, and bearing against, and resisting the end-wise thrust of, said ends substantially at all points thereof, substantially as described.

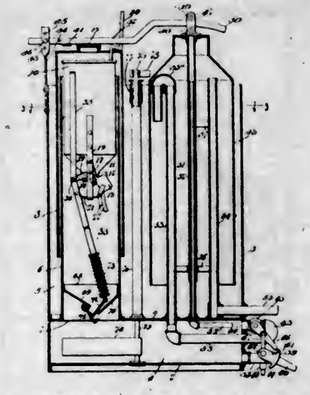
2. In a barrel, the combination of an inner sheet metal shell, an outer shell having bulging sides and limited elasticity longitudinally thereof and circumferentially bearing against the inner shell near the ends of the latter, the inner shell having both its end edge portions bent over, and forming annular pockets receiving, the ends of the outer shell and bearing against, and resisting the end-wise thrust of, said ends substantially at all points thereof, a bottom for the inner shell, a supporting ring for the bottom, and means, extending through said ring, the end-portions of the outer shell and the bent over edge portions of the inner shell, for securing said ring and the shells together, substantially as described.

3. In a barrel, the combination of an inner sheet metal shell, an outer shell having bulging sides and limited elasticity longitudinally thereof and circumferentially bearing against the inner shell near the ends of the latter, the inner shell having both its end edge portions bent over, and forming annular pockets receiving, the ends of the outer shell and bearing against, and resisting the end-wise thrust of, said ends substantially at all points thereof, hoops fitted around the bent over edge portions of the inner shell, and means extending through said hoops, said end portions and the edge portions of the outer shell, for securing these parts together, substantially as described.

868,988. ACETYLENE-GAS GENERATOR. CHARLES W. HOLM, Troy, Ohio. Filed Apr. 2, 1906. Serial No. 309,298.

1. In a gas generator of the character described, a carbid receptacle having a downwardly directed discharge mouth, in combination with a measuring receptacle in the form of a swinging bucket located normally below said mouth and pivoted to said receptacle above said mouth, a cut-off carried by said bucket and adapted to close said mouth when the bucket is swung away therefrom, a hinged bottom for said bucket, and means for first swinging said bucket away from said mouth and dropping said bottom, and for then returning said bucket to its normal position and closing said bottom, substantially as described.

2. In a gas generator of the character described, a carbid receptacle having a downwardly directed discharge mouth, in combination with a measuring receptacle in the form of a swinging bucket located normally below said mouth, provided with a cut-off to close said mouth when the bucket is swung away therefrom, and having a hinged bottom, a fixed shoe supporting said bottom when the bucket is in normal position, and means for swinging said bucket from and to said mouth, said bottom dropping when the bucket is clear of the mouth and the bottom clear of the shoe, to drop the charge, said shoe acting to restore the bottom to closed position as the bucket begins to return to normal position, substantially as described.



3. In a gas generator of the character described, a gas-receiving bell, in combination with a carbid receptacle having a downwardly directed discharge mouth, a swinging measuring bucket located normally below said mouth, provided with a cut-off to close said mouth when the bucket is swung away therefrom, and having a hinged bottom, a fixed shoe supporting said bottom when the bucket is in normal position, and mechanism connecting said bell and bucket to swing the latter away from said mouth when the bell falls, said bottom falling when the bucket is clear of said mouth, said mechanism acting to swing the bucket back to normal position when the bell rises, and said shoe acting to restore the bottom to closed position as the bucket begins to return to normal position, substantially as described.

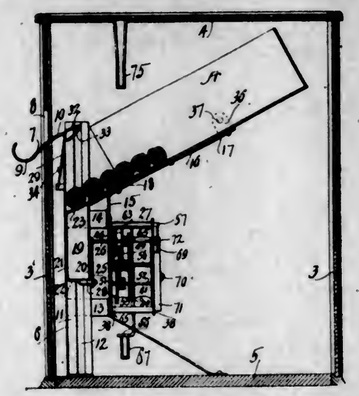
4. In a gas generator of the character described, a gas bell, and a feed-lever operated thereby, in combination with a carbid-receptacle, a discharge device therefor, a feed-bar operatively connected with said discharge device, a spring connecting said feed-bar and feed-lever, a fixed bracket having a guide-pin, and a stop-lug on the feed-bar engaging said pin and coöperating with the bracket arms to limit the movement of the feed-bar, substantially as described.

868,989. AUTOMATIC VENDING-MACHINE. LEON U. KENT, Elmwood, Ill., assignor of one-half to James D. Putnam, Elmwood, Ill. Filed Sept. 5, 1905. Serial No. 277,000.

1. In a vending machine, the combination of an inclined receptacle support, a lift vertically reciprocable in advance of the support and having a rest at its upper end, which, when the lift is in its lowermost position has its upper face in a plane with the support, grooved standards in which said lift is mounted to reciprocate, an upright plate in front of the lift, an outwardly extending slotted shelf carried by said plate, spring fingers also carried by said plate and projecting into the slots of said shelf, and mechanism for raising said lift embodying a driven shaft, a crank arm on said shaft and a roller on said arm upon which the lift rests.

2. In a vending machine, the combination of a means for supporting a cigar box in an inclined position, a lift

arranged to reciprocate vertically in advance of the cigar box adapted to be mechanically elevated, and to lower by gravity, said lift embodying a cigar rest upon its upper end, adapted, when the lift is in the lowered position to lie in a plane with the support for the cigar box, means arranged at opposite sides of the lift for guiding the same in its vertical movement and holding the same against lateral movement, an inclined slotted shelf arranged above the lift and projecting forwardly therefrom, spring fingers also arranged above the lift and projecting into the slots of said shelf with their ends bent inwardly and lying over the upper end of the lift, and mechanism for raising said lift.



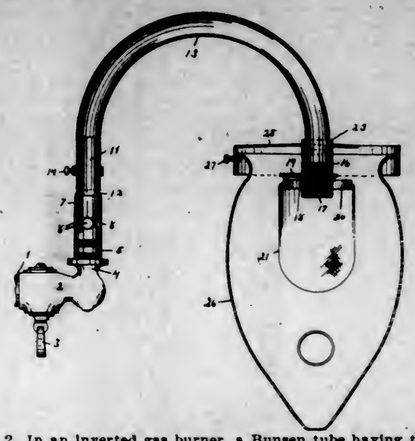
3. In a vending machine, the combination of a support arranged at an incline for supporting a cigar box at an incline, a lift arranged to reciprocate vertically in advance of the inclined support and having a cigar rest at its upper end lying normally in a plane with the said support, and means for operating said lift comprising a driven shaft, an arm carried thereby, and a roller carried by said arm on which the lift rests.

4. In a vending machine, the combination of an inclined support, a lift arranged to reciprocate vertically in advance of the support, and adapted to be mechanically raised and to lower by gravity, grooved standards in which said lift reciprocates, a plate arranged in front of said standards, a slotted shelf carried by said plate and projecting forwardly therefrom, spring fingers carried by the plate and projecting through the slots in said shelf with their inner ends turned inwardly to lie normally above the upper end of the lift and means for raising said lift comprising a driven shaft, and a crank arm thereon from which the lift is supported.

5. In a vending machine, the combination of an inclined support, a lift arranged to reciprocate vertically in advance of said support and having a cigar rest at its upper end which when the lift is in its lowermost position is in a plane with the said support, means for guiding said lift in its vertical movement, means arranged above the lift and controlling the discharge of goods therefrom, and means for operating said lift comprising a driven shaft, a crank arm carried thereby, and a roller carried by the crank arm on which the lift is supported and with which it engages at all times during its vertical movement or while at rest in its lowermost position.

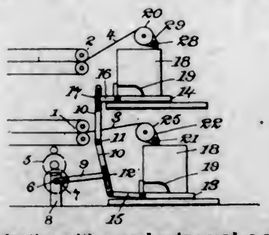
868,990. INVERTED GAS-BURNER. THOMAS F. KENT, Newark, N. J. Filed Mar. 10, 1906. Serial No. 305,243.

1. In an inverted gas burner, the combination of a Bunsen tube, gas supply means at the lower end of said Bunsen tube, a tubular mixing chamber receiving at one end the upper end of the Bunsen tube and having a bore of larger diameter than the opening of said upper end of the Bunsen tube, and a delivery end-piece at the other end of said tubular mixing chamber having an ignition opening whose cross-sectional area is the same as that of the opening of the upper end of the Bunsen tube.



2. In an inverted gas burner, a Bunsen tube having the upper part of its interior passage reduced and providing a tubular injecting portion of uniform diameter, gas supply means at the lower end of said Bunsen tube, a tubular mixing chamber receiving at one end the upper end of the Bunsen tube and having a bore of larger diameter than said tubular injecting portion of the passage of the Bunsen tube, and a delivery end-piece at the other end of said tubular mixing chamber having an ignition opening equal in cross-sectional area to the said injecting portion of the passage of the Bunsen tube.

868,991. CARDING-MACHINE. CHARLES I. KING, New York, N. Y., assignor to H. W. Johns-Manville Company, a Corporation of New York. Filed July 5, 1906. Serial No. 324,803.



1. In combination with a condensing card, a series of receiving cans located adjacent to the delivery end of the rub rollers, and mechanism operated simultaneously with the card machinery for giving said cans motion of translation about the points of delivery of the slubbing.

2. In combination with a condensing card, a series of cans located adjacent to the delivery end of the rub rollers, and mechanism operated by the carding mechanism for reciprocating said cans along lines parallel to the line of travel of the slubbing between the condensing rolls.
along lines parallel to the line of travel of the slubbing between the condensing rolls.

3. In combination with a condensing card, a series of narrow rectangular receiving cans located adjacent to the delivery end of the rub rollers, and mechanism for reciprocating said cans along lines parallel to the line of travel of the slubbing between the condensing rolls.

4. In combination with a condensing card, a grooved roll for receiving the slubbing, a relief roll below the same, a series of receiving cans located below the relief roll, and mechanism for giving the cans a motion of translation to facilitate the even deposition of the slubbing therein.

5. In combination with a condensing card having two series of rub rollers, a series of receiving cans located adjacent to the delivery end of each series of rub rollers, and mechanism operated simultaneously with the card for reciprocating the two series of cans in opposite directions.

6. In combination with a condensing card having two series of rub rollers, a series of receiving cans located adjacent to the delivery end of each series of rub rollers, and mechanism operated simultaneously with the card for reciprocating the two series of cans in opposite directions, said mechanism comprising two sliding shelves, a centrally pivoted rocking lever having its ends connected to the respective shelves, and a connecting rod pivoted to an intermediate point.

7. In combination with a condensing card having two series of rub rollers, a series of receiving cans located adjacent to the delivery end of each series of rub rollers, and mechanism operated simultaneously with the card for reciprocating the two series of cans in opposite directions, said mechanism comprising two sliding shelves, a centrally pivoted rocking lever having its ends connected to the respective shelves, and a connecting rod pivoted to an intermediate point, the connecting rod fastening being adjustable lengthwise of the lever.

868,992. SEWER-CLEANING DEVICE. WILLARD E. KING and CHARLES WINBURN, Topeka, Kans. Filed Nov. 1, 1906. Serial No. 341,546.



1. In a sewer-cleaning device, the combination of a hollow circular cutting tool of a size adapted to fit snugly into the sewer to be cleaned, having its cutting edges flared out slightly and the lower portion projecting forwardly and rearwardly, a single integral valve hinged to the upper part thereof, covering substantially the entire opening therethrough, and having its lower portion bent inwardly; a bail or frame secured to the outside of the cutting tool and terminating at both ends with means suitable for attaching a cable thereto, and pikes secured to the outside of the tool and projecting in advance thereof and having their points bent inwardly.

2. In a sewer-cleaning device, the combination of a hollow circular cutting tool of a size adapted to fit snugly into the sewer to be cleaned, a single integral valve hinged to the upper part thereof covering substantially the entire opening therethrough and having its lower portion bent inwardly; a bail or frame secured to the outside of the cutting tool and terminating at both ends with means suitable for attaching a cable thereto, and pikes secured to the outside of the tool and projecting in advance thereof and having their points bent inwardly.

3. In a sewer-cleaning device, the combination of a hollow circular cutting tool of a size adapted to fit snugly into the sewer to be cleaned, a single integral valve hinged to one side of the cutting tool and covering substantially the entire area in cross section of the passage through the cutting tool, and having its lower portion bent inwardly; a bail or frame secured to the outside of the cutting tool and terminating at both ends with means suitable for attaching a cable thereto, and pikes secured to the outside of the tool and projecting in advance thereof and having their points bent inwardly.

4. In a sewer-cleaning device, the combination of a hollow circular cutting tool of a size adapted to fit snugly into the sewer to be cleaned and having a thin wall, a single integral valve hinged to one side of the cutting tool and covering substantially the entire area in cross section of the passage therethrough, a bail or frame secured to the cutting tool and provided with means for attaching a cable thereto, and pikes secured to the cutting tool and extending outside of the circumference of the tool and projecting in advance of the tool and having their ends bent inwardly.

5. In a sewer-cleaning device, the combination of a hollow circular cutting tool of a size adapted to fit snugly into the sewer to be cleaned, and having a clear passage therethrough, a single integral valve hinged to one side of the cutting tool and covering substantially the entire area in cross section of the passage through the tool, means for attaching a cable to the tool, and pikes adapted to bear against the walls of the sewer and extending in advance of the tool and having their ends bent inwardly.

6. In a sewer-cleaning device, the combination of a hollow circular cutting tool of a size adapted to fit snugly into the sewer to be cleaned, and a single integral valve covering substantially the entire opening therethrough and hinged to one side of the cutting tool, said cutting tool being cut away behind the valve to permit it to open substantially the entire area in cross section through the cutting tool.

868,993. MEANS FOR RESETTING AUTOMATIC CONTROLLING DEVICES FOR VEHICLES OR TRAINS. FRANK E. KINSMAN, Plainfield, N. J. Filed Jan. 29, 1906. Serial No. 298,321.



1. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, and means for resetting said controlling device from any one of a plurality of points.

2. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, and means for resetting said controlling device from any one of a plurality of points on the vehicle.

3. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, and means for resetting said controlling device from a plurality of points.

4. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, and means for resetting said controlling device from a plurality of points on the vehicle.

5. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, and a plurality of devices each of which governs the resetting of said controlling device.

6. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, and a plurality of devices on the vehicle each of which governs the resetting of said controlling device.

7. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, and a plurality of devices conjointly governing the resetting of said controlling device.

8. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, and a plurality of devices on the vehicle conjointly governing the resetting of said controlling device.

9. The combination with a power-operated vehicle, of an

automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, and a plurality of devices at opposite ends of said vehicle each of which governs the resetting of said controlling device.

10. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, and a plurality of devices at opposite ends of said vehicle conjointly governing the resetting of said controlling device.

11. The combination with a power-operated vehicle, of an automatic brake-controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the application of a brake, and means for resetting said brake-controlling device from any one of a plurality of points.

12. The combination with a power-operated vehicle, of an automatic brake-controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the application of a brake, and means for resetting said brake-controlling device from any one of a plurality of points on the vehicle.

13. The combination with a power-operated vehicle, of an automatic brake-controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the application of a brake, and a plurality of devices each of which governs the resetting of said brake-controlling device.

14. The combination with a power-operated vehicle, of an automatic brake-controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the application of a brake, and a plurality of devices conjointly governing the resetting of said brake-controlling device.

15. The combination with a power-operated vehicle, of an automatic brake-controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the application of a brake, and manual controllers at opposite ends of the vehicle each of which governs the resetting of said controlling device.

16. The combination with a power-operated vehicle, of an automatic brake-controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the application of a brake, and manual controllers at opposite ends of the vehicle conjointly governing the resetting of said controlling device.

17. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of an automatic brake-controlling device on the vehicle and governed by a danger condition on a line of way and movable from one position to another for controlling the application of a brake, and means for resetting said brake-controlling device from any one of a plurality of points.

18. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of an automatic brake-controlling device on the vehicle and governed by a danger condition on a line of way and movable from one position to another for controlling the application of a brake, and means for resetting said brake-controlling device from any one of a plurality of points on the vehicle.

19. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of an automatic brake-controlling device on the vehicle and governed by a danger condition on a line of way and movable from one position to another for controlling the application of a brake, and a plurality of devices each of which governs the resetting of said brake-controlling device.

20. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of an automatic brake-controlling device on the vehicle and governed by a danger condition on a line of way and movable from one position to another for controlling the application of a brake, and a plurality of devices conjointly governing the resetting of said brake-controlling device.

21. The combination with a power-operated vehicle and with an air-brake system thereon, of an automatic brake-controlling device on the vehicle and governed by a danger condition on a line of way and movable from one position to another for controlling the application of an air-brake, and means for resetting said brake-controlling device from any one of a plurality of points.

22. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, and fluid-operated means for resetting said controlling device from any one of a plurality of points.

23. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of an automatic brake-controlling device on the vehicle and governed by a danger condition on a line of way and movable from one position to another for controlling the application of a brake, and fluid-operated means for resetting said brake-controlling device from any one of a plurality of points.

24. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, and means operated by air pressure for resetting said controlling device from any one of a plurality of points.

25. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of an automatic brake-controlling device on the vehicle and governed by a danger condition on a line of way and movable from one position to another for controlling the application of a brake, and means operated by air pressure for resetting said brake-controlling device from any one of a plurality of points.

26. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, and fluid-controlling devices each of which governs the resetting of said automatic controlling device.

27. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of an automatic brake-controlling device on the vehicle and governed by a danger condition on a line of way and movable from one position to another for controlling the application of a brake, and fluid-controlling devices each of which governs the resetting of said brake-controlling device.

28. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, and fluid-controlling devices conjointly governing the resetting of said automatic controlling device.

29. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of an automatic brake-controlling device on the vehicle and governed by a danger condition on a line of way and movable from one position to another for controlling the application of a brake, and fluid-controlling devices conjointly governing the resetting of said brake-controlling device.

30. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, means including a source of fluid-power for resetting said controlling device, and means for controlling said fluid-power from any one of a plurality of points.

31. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, means including a source of fluid-power for resetting said controlling device, and means for controlling said fluid-power from any one of a plurality of points on the vehicle.

32. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, means including a source of fluid power for resetting said controlling device, and a plurality of devices each of which governs said fluid power.

33. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, means including a source of fluid power for resetting said controlling device, and a plurality of devices conjointly governing said fluid power.

34. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, means including a source of air pressure for resetting said controlling device, and means for controlling said air pressure from any one of a plurality of points.

35. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, means including a source of air pressure for resetting said controlling device, and a plurality of valves each of which governs the supply of air pressure to such resetting means.

36. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, means including a source of air pressure for resetting said controlling device, and a plurality of valves conjointly governing the supply of air pressure to such resetting means.

37. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, a fluid system for resetting said controlling device, and a plurality of devices located at different points each of which governs the resetting of said controlling device by the fluid in such system.

38. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, a fluid system for resetting said controlling device, and a plurality of devices located at different points on the vehicle each of which governs the resetting of said controlling device by fluid in such system.

39. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, a fluid system for resetting said controlling device, and a plurality of devices located at different points and conjointly governing the resetting of said controlling device by the fluid in such system.

40. The combination with a power-operated vehicle, of an automatic controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the movement of the vehicle, a fluid system for resetting said controlling device, and a plurality of devices located at different points on the vehicle and conjointly governing the resetting of said controlling device by the fluid in such system.

41. The combination with a power-operated vehicle, of an automatic brake-controlling device thereon governed by a danger condition on a line of way and movable from one position to another for controlling the application of a brake, a fluid pressure system for resetting said brake-controlling device, and a plurality of devices located at different points each of which governs the resetting of said brake-controlling device by fluid in such system.

42. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of an automatic brake-controlling device thereon movable from one position to another for controlling the application of a brake, a similar fluid-pressure system for resetting said brake-controlling device, and means for controlling the pressure in said second system from any one of a plurality of points.

43. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of an automatic brake-controlling device thereon movable from one position to another for controlling the application of a brake, a similar fluid-pressure system for resetting said brake-controlling device, and means for controlling the pressure in said second system from any one of a plurality of points on the vehicle.

44. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of an automatic brake-controlling device thereon movable from one position to another for controlling the application of a brake, a similar fluid-pressure system for resetting said brake-controlling device, and a plurality of devices conjointly governing the pressure in said second system.

45. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of an automatic brake-controlling device thereon movable from one position to another for controlling the application of a brake, a similar fluid-pressure system for resetting said brake-controlling device, and a plurality of valves at different points in said second system for controlling the pressure therein.

46. The combination with a power-operated vehicle and with an air-brake system thereon, of an automatic brake-controlling device thereon movable from one position to another for controlling the application of a brake, a similar air-pressure system for resetting said brake-controlling device, and means for controlling the pressure in said second system from any one of a plurality of points.

47. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of a valve in said system, an automatic trip controlling said valve and movable from one position to another, and manually-controlled means on the vehicle for positively resetting said trip.

48. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of a valve in said system, an automatic trip controlling said valve and movable from one position to another, and means for resetting said trip from any one of a plurality of points.

49. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of a valve in said system, an automatic trip controlling said valve and movable from one position to another, and means for resetting said trip from any one of a plurality of points on the vehicle.

50. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of a valve in said system, an automatic trip controlling said valve and movable from one position to another, and a plurality of devices conjointly governing the resetting of said trip.

51. The combination with a power-operated vehicle and with an air-brake system thereon, of a valve in said system, an automatic trip controlling said valve and movable from one position to another, and means for resetting said trip from any one of a plurality of points.

52. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of a valve in said system, an automatic trip controlling said valve and movable from one position to another, and fluid-operated means for resetting said trip from any one of a plurality of points.

53. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of a valve in said system, an automatic trip controlling said valve and movable from one position to another, fluid-operated means for resetting said trip, and a plurality of fluid-controlling devices each of which governs said fluid-operated means.

54. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of a valve in said system, an automatic trip controlling said valve and movable from one position to another, fluid-operated means for resetting said trip, and a plurality of fluid-controlling devices conjointly governing said fluid-operated means.

55. The combination with a power-operated vehicle and

with a fluid-pressure brake system thereon, of a valve in said system, an automatic trip secured to said valve and movable from one position to another, and means including a cylinder and a resetting piston for positively resetting said trip.

56. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of a valve in said system, an automatic trip controlling said valve and movable from one position to another, and means including a cylinder and a resetting piston for resetting said trip from any one of a plurality of points.

57. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of a valve in said system, an automatic trip controlling said valve and movable from one position to another, and means including a cylinder and a resetting piston for resetting said trip from any one of a plurality of points on the vehicle.

58. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of a valve in said system, an automatic trip controlling said valve and movable from one position to another, means including a cylinder and a resetting piston for resetting said trip, and a plurality of devices each of which governs the operation of said resetting piston.

59. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of a valve in said system, an automatic trip controlling said valve and movable from one position to another, means including a cylinder and a resetting piston for resetting said trip, and a plurality of devices conjointly governing the operation of said resetting piston.

60. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of a valve in said system, an automatic trip secured to said valve and movable from one position to another, and a fluid-pressure system including a cylinder and a resetting piston for positively resetting said trip.

61. The combination with a power-operated vehicle and with a fluid-pressure brake system thereon, of a valve in said system, an automatic trip controlling said valve and movable from one position to another, a fluid-pressure system including a cylinder and a resetting piston for resetting said trip, and a plurality of valves each of which governs the operation of said resetting piston.

62. The combination with a power-operated vehicle, of an automatic trip controlling the movement of said vehicle and movable from one position to another, and manually controlled means for positively resetting said trip.

63. The combination with a power-operated vehicle, of an automatic trip controlling the movement of said vehicle and movable from one position to another, and manually controlled means on the vehicle for positively resetting said trip.

64. The combination with a power-operated vehicle, of an automatic trip controlling the movement of said vehicle and movable from one position to another, a trip-resetting device for positively resetting said trip, and manually-controlled means for actuating said trip-resetting device.

65. The combination with a power-operated vehicle, of an automatic trip controlling the movement of said vehicle and movable from one position to another, a trip-resetting device for positively resetting said trip, and manually-controlled power-operated means for actuating said trip-resetting device.

66. The combination with a power-operated vehicle, of an automatic trip controlling the movement of said vehicle and movable from one position to another, a trip-resetting device for positively resetting said trip, and a cylinder containing a power-operated piston for actuating said trip-resetting device.

67. The combination with a power-operated vehicle, of an automatic trip controlling the movement of said vehicle and mounted to swing about an axis from one position to another, and manually-controlled means for positively resetting said trip.

68. The combination with a power-operated vehicle, of an automatic trip controlling the movement of said vehicle and mounted to swing about an axis from one position to another, a trip-resetting device for positively resetting said trip, and manually-controlled means for actuating said trip-resetting device.

69. The combination with a power-operated vehicle, of an automatic trip controlling the movement of said vehicle and mounted to swing about an axis from one position to another and having a cross-head, a yoke for actuating said cross-head, and manually controlled means for actuating said yoke.

70. The combination with a power-operated vehicle, of an automatic trip controlling the movement of said vehicle and mounted to swing about an axis from one position to another and having a cross-head, a cylinder containing a power-operated piston, and a yoke secured to said piston for actuating said cross-head.

71. The combination with a power-operated vehicle, of an automatic trip controlling the movement of said vehicle and mounted to swing about an axis from one position to another and having a cross-head the working face of which intersects said axis, a yoke for engaging the working face of said cross-head and turning said trip, and means for actuating said yoke.

72. The combination with a power-operated vehicle, of an automatic trip controlling the movement of said vehicle and mounted to swing about an axis from one position to another, and a trip-resetting device movable in a right line for positively resetting said trip.

73. A power-operated railway car having thereon the following coöperative elements, viz.—an automatic controlling device movable from one position to another for controlling the movement of the car, and means for resetting said controlling device—said coöperative elements constituting a car-unit unconnectible with any other car-unit.

74. A power-operated railway car having thereon the following coöperative elements, viz.—an automatic controlling device movable from one position to another for controlling the movement of the car, and a plurality of devices each of which governs the resetting of said controlling device—said coöperative elements constituting a car-unit unconnectible with any other car-unit.

75. A power-operated railway car having thereon the following coöperative elements, viz.—an automatic controlling device movable from one position to another for controlling the movement of the car, and a plurality of devices conjointly governing the resetting of said controlling device—said coöperative elements constituting a car-unit unconnectible with any other car-unit.

76. A power-operated railway car having thereon the following coöperative elements, viz.—an automatic brake-controlling device movable from one position to another for controlling the application of a brake, and means for resetting said brake-controlling device—said coöperative elements constituting a car-unit unconnectible with any other car-unit.

77. A power-operated railway car having thereon the following coöperative elements, viz.—an automatic brake-controlling device movable from one position to another for controlling the application of a brake, and fluid-operated means for resetting said brake-controlling device—said coöperative elements constituting a car-unit unconnectible with any other car-unit.

78. A power-operated railway car having thereon the following coöperative elements, viz.—an automatic brake-controlling device movable from one position to another for controlling the application of a brake, means including a source of fluid power for resetting said brake-controlling device, and means for controlling said fluid power—said coöperative elements constituting a car-unit unconnectible with any other car-unit.

79. A power-operated railway car having thereon the following coöperative elements, viz.—an automatic brake-controlling device movable from one position to another for controlling the application of a brake, means including a source of air-pressure for resetting said brake-controlling device, and means for controlling said air-pressure—said coöperative elements constituting a car-unit unconnectible with any other car-unit.

80. A power-operated railway car having thereon the following coöperative elements, viz.—an automatic brake-controlling device movable from one position to another for controlling the application of a brake, a fluid system for resetting said brake-controlling device, and a plurality of devices located at different points each of which governs the resetting of said brake-controlling device by the fluid in such system—said coöperative elements constituting a car-unit unconnectible with any other car-unit.

81. A power-operated railway car having thereon the following coöperative elements, viz.—an automatic trip for controlling the movement of said vehicle and movable from one position to another, and means for resetting said trip—said coöperative elements constituting a car-unit unconnectible with any other car-unit.

82. A power-operated railway car having thereon the following coöperative elements, viz.—an automatic trip for controlling the movement of said car and movable from one position to another, and means including a cylinder and a resetting piston for resetting said trip—said coöperative elements constituting a car-unit unconnectible with any other car-unit.

83. A power-operated railway car having thereon the following coöperative elements, viz.—an automatic trip for controlling the movement of said car and movable from one position to another, and a fluid-pressure system including a cylinder and a resetting piston for resetting said trip—said coöperative elements constituting a car-unit unconnectible with any other car-unit.

84. A train of power-operated vehicles, each of which vehicles has thereon the following coöperative elements, viz.—an automatic controlling device movable from one position to another for controlling the movement of the vehicle, and means for resetting said controlling device—the coöperative elements on each vehicle being independent of the others.

85. A train of power-operated vehicles, each of which vehicles has thereon the following coöperative elements, viz.—an automatic controlling device movable from one position to another for controlling the movement of the vehicle, and manually-controlled means for resetting said controlling device—the coöperative elements on each vehicle being independent of the others.

86. A train of power-operated vehicles, each of which vehicles has thereon the following coöperative elements, viz.—an automatic controlling device movable from one position to another for controlling the movement of the vehicle, and means for resetting said controlling device from any one of a plurality of points—the coöperative elements on each vehicle being independent of the others.

87. A train of power-operated vehicles, each of which vehicles has thereon the following coöperative elements, viz.—an automatic controlling device movable from one position to another for controlling the movement of the vehicle, and a plurality of devices each of which governs the resetting of said controlling device—the coöperative elements on each vehicle being independent of the others.

88. A train of power-operated vehicles, each of which vehicles has thereon the following coöperative elements, viz.—an automatic controlling device movable from one position to another for controlling the movement of the vehicle, and a plurality of devices conjointly governing the resetting of said controlling device—the coöperative elements on each vehicle being independent of the others.

89. A train of power-operated vehicles, each of which vehicles has thereon the following coöperative elements, viz.—an automatic brake-controlling device movable from one position to another for controlling the application of a brake, and means for resetting said brake-controlling device—the coöperative elements on each vehicle being independent of the others.

90. A train embodying a fluid-pressure brake system and made up of power-operated vehicles, each of which vehicles has thereon the following coöperative elements, viz.—an automatic brake-controlling device movable from one position to another for controlling the application of a brake, and means for resetting said brake-controlling device—said coöperative elements on each vehicle being independent of the others.

91. A train embodying an air-brake system and made up of power-operated vehicles, each of which vehicles has thereon the following coöperative elements, viz.—an automatic brake-controlling device movable from one position to another for controlling the application of an air-brake, and means for resetting said brake-controlling device—said coöperative elements on each vehicle being independent of the others.

92. A train embodying a fluid-pressure brake system and made up of power-operated vehicles, each of which vehicles has thereon the following coöperative elements, viz.—an automatic brake-controlling device movable from one position to another for controlling the application of a brake, and fluid-operated means for resetting said brake-controlling device—said coöperative elements on each vehicle being independent of the others.

93. A train embodying a fluid-pressure brake system and made up of power-operated vehicles, each of which vehicles has thereon the following coöperative elements, viz.—an automatic brake-controlling device movable from one position to another for controlling the application of a brake, and fluid-controlling devices each of which governs the resetting of said brake-controlling device—said co-operative elements on each vehicle being independent of the others.

94. A train embodying a fluid-pressure brake system and made up of power-operated vehicles, each of which vehicles has thereon the following coöperative elements, viz.—an automatic brake-controlling device movable from one position to another for controlling the application of a brake, means including a source of fluid-power for resetting said brake-controlling device, and means for controlling said fluid-power—said coöperative elements on each vehicle being independent of the others.

95. A train embodying a fluid-pressure brake system and made up of power-operated vehicles, each of which vehicles has thereon the following coöperative elements, viz.—an automatic brake-controlling device movable from one position to another for controlling the application of a brake, means including a source of air-pressure for resetting said brake-controlling device, and means for controlling said air-pressure—said coöperative elements on each vehicle being independent of the others.

96. A train embodying a fluid-pressure brake system and made up of power-operated vehicles, each of which vehicles has thereon the following coöperative elements, viz.—an automatic brake-controlling device movable from one position to another for controlling the application of a brake, a fluid system for resetting said brake-controlling device, and a plurality of devices located at different points each of which governs the resetting of said brake-controlling device by the fluid in such system—said coöperative elements on each vehicle being independent of the others.

97. A train of power-operated vehicles, each of which vehicles has thereon the following coöperative elements, viz.—an automatic trip for controlling the movement of said vehicle and movable from one position to another, and means for resetting said trip—the coöperative elements on each vehicle being independent of the others.

98. A train embodying a fluid-pressure brake system and made up of power-operated vehicles, each of which vehicles has thereon the following coöperative elements, viz.—a valve in said brake system, an automatic trip controlling said valve and movable from one position to another, and means for resetting said trip—said coöperative elements on each vehicle being independent of the others.

99. A train embodying a fluid-pressure brake system and made up of power-operated vehicles, each of which vehicles has thereon the following coöperative elements, viz.—a valve in said brake system, an automatic trip controlling said valve and movable from one position to another, and means including a cylinder and a resetting piston for resetting said trip—said coöperative elements on each vehicle being independent of the others.

100. A train embodying a fluid-pressure brake system and made up of power-operated vehicles, each of which vehicles has thereon the following coöperative elements, viz.—a valve in said brake system, an automatic trip controlling said valve and movable from one position to another, and a fluid-pressure system including a cylinder and a resetting piston for resetting said trip—said co-

operative elements on each vehicle being independent of the others.

101. A train of power-operated vehicles, each of which vehicles has thereon an automatic controlling device governed by a danger condition on a line of way and movable from one position to another for controlling the movement of said vehicle, and means for resetting all of said controlling devices from a single point on the train.

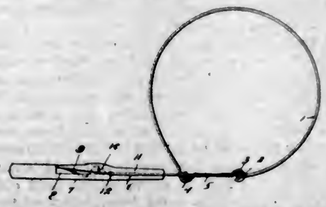
102. A train of power-operated vehicles, each of which vehicles has thereon an automatic brake-controlling device governed by a danger condition on a line of way and movable from one position to another for controlling the movements of such vehicle, and means for resetting all of said brake-controlling devices from a single point on the train.

103. A train of power-operated vehicles, each of which vehicles has thereon an automatic controlling device governed by a danger condition on a line of way and movable from one position to another for controlling the movement of said vehicle, and means for resetting all of said controlling devices from any one of a plurality of points on the train.

104. A train of power-operated vehicles, each of which vehicles has thereon an automatic brake-controlling device governed by a danger condition on a line of way and movable from one position to another for controlling the movement of such vehicle, and means for resetting all of said brake-controlling devices from any one of a plurality of points on the train.

105. A train of power-operated vehicles, each of which vehicles has thereon an automatic controlling device governed by a danger condition on a line of way and movable from one position to another for controlling the movement of such vehicle, and means for resetting all of said controlling devices from any one of a plurality of points on different vehicles of the train.

868,994. TRAIN-ORDER HOLDER. ALBERT D. KNAPP, Saxonburg, Pa. Filed Aug. 1, 1907. Serial No. 386,606.



1. A train-order delivering device, comprising a ring or loop, a spring arm pivotally secured thereto, and a handle to which said arm is detachably secured.

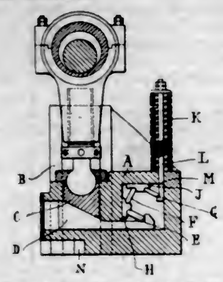
2. A train-order delivering device, comprising a ring or loop, a spring arm pivotally secured thereto, and a handle consisting of a body portion, a pivoted jaw, and a spring interposed between said body portion and jaw.

3. A train-order delivering device, comprising a ring or loop, a spring arm pivotally secured thereto, and a handle consisting of a body-portion and a spring-controlled jaw, said body portion and jaw being recessed to provide a seat for said spring arm.

4. A train order delivering device, comprising a ring or loop of wire, a spring arm pivotally secured thereto, and bent to form a loop, a two-part handle formed with a seat to receive the loop of said arm, and a spring interposed between the parts of said handle.

868,995. ABUTMENT-PRESSURE REGULATOR. LEO KNÖCHL, Vienna, Austria-Hungary. Filed Jan. 26, 1907. Serial No. 354,320.

1. In an abutment pressure regulator for eccentric presses, rolling mills, shears, bending machines and the like, the combination of one of the parts under pressure, a series of angularly disposed rods, the first of which is connected to the machine part, means exerting a force in opposition to the pressure and connected to the final rod of the series, and movable guide bearings between adjacent rods; substantially as described.



2. In an abutment pressure regulator for eccentric presses, rolling mills, shears, bending machines and the like, the combination of one of the parts under pressure with a series of two or more angularly disposed rods, a wedge actuated by the machine part which receives the abutment pressure and engaged by the first rod of the series, a spring acting in opposition to the pressure and connected to the final rod of the series, and a guide bearing between the ends of adjacent rods; substantially as described.

3. In an abutment pressure regulator for eccentric presses, rolling mills, shears, bending machines and the like, the combination of one of the parts under pressure, a series of two or more angularly disposed rods, the first of which is connected to the machine part, means exerting a force in opposition to the pressure and connected to the final rod in the series, sliding bearings for the ends of adjacent rods, and guides for said bearings; substantially as described.

4. In an abutment pressure regulator for eccentric presses, rolling mills, shears, bending machines and the like, the combination of one of the parts under pressure, a series of two or more angularly disposed rods, a wedge actuated by the machine part which receives the abutment pressure and engaged by the first rod of the series, a spring acting in opposition to the pressure and connected to the final rod of the series, sliding bearings for the ends of adjacent rods, and guides for said bearings; substantially as described.

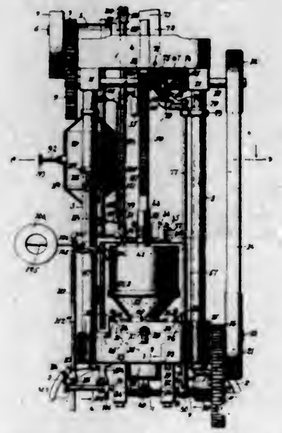
5. In an abutment pressure regulator for eccentric presses, shears, bending machines and the like, the combination of a frame, two plates within this frame provided with coacting wedge shaped ribs, one of said plates being movable in a direction perpendicular to the plane of the frame, a series of two or more angularly disposed rods, the first of which engages the movable plate and has a sliding connection with the frame, a spring acting in opposition to the pressure and connected with the final rod of the series, and guide bearings for the ends of the said rods; substantially as described.

868,996. PULP-SHAPING MACHINE. ALBERT KOMP, New York, N. Y. Filed Apr. 22, 1907. Serial No. 369,567.

1. In a pulp shaping machine, the combination of dies relatively movable to and from each other, a reservoir having a lining, means for feeding pulp from said reservoir between said dies, and means for adjusting said lining whereby the capacity of said reservoir is varied, for the purpose described.

2. In a pulp shaping machine, the combination of dies relatively movable to and from each other, a reservoir having a lining, means for automatically feeding the contents of said reservoir between said dies, and a screw for adjusting said lining, whereby the capacity of said reservoir is varied for the purpose described.

3. In a pulp shaping machine, the combination of dies relatively movable to and from each other, a reservoir, means for filling and discharging said reservoir, a controlling valve for each of said means, and means carried by one of said dies for controlling said valve, whereby the reservoir is intermittently filled and discharged between said dies.



4. In a pulp shaping machine, the combination of dies relatively movable to and from each other, one of said dies being provided with a perforated chamber, means for introducing pulp between said dies, means for forcing said dies together, means for introducing a fluid pressure into said chamber while the dies are forced together, means for automatically releasing said pressure, and means for immediately thereafter retracting said dies.

5. In a pulp shaping machine, the combination of dies relatively movable to and from each other, a wedge for adjusting one of said dies a slight distance to and from the other, and means for bodily lifting said wedge and die when the dies are brought together.

6. In a pulp shaping machine, the combination of a bed block, wedges carried by said block, a die supported on said wedges, a reciprocating die coacting with the die carried by the wedges, means for adjusting one of said wedges whereby said die carried thereon is moved to and from the other, and means for bodily lifting said wedges and the die carried thereon.

7. In a pulp shaping machine the combination of dies, means for moving one of said dies to and from the other, means for locking said movable die when the dies are brought together, and means automatically controlled for thereafter forcing the other die toward the movable die.

8. In a pulp shaping machine, the combination of dies, means for moving one of said dies to and from the other, means for locking said movable die when the dies are brought together, means for thereafter forcing the other die toward the movable die, and means for regulating the distance between said dies independent of said means for moving them.

9. In a pulp shaping machine, the combination of dies, one of which is movable to and from the other, a platen carried by said movable die, and means for giving said platen a twist and depressing it as the movable die is retracted from the opposite die.

10. In a pulp shaping machine, the combination of dies, one of which is movable to and from the other, an ejector, and means for projecting the ejector under the movable die as the dies are retracted for receiving the finished article, and mechanical means operating within the movable die for detaching the article therefrom whereby it drops upon the ejector.

11. In a pulp shaping machine, the combination of dies, one of which is movable to and from the other, a platen carried by said movable die, an ejector, means for projecting the ejector underneath the movable die and finished article, means for gining said platen a twist and depressing it, whereby the finished article is released from the movable die and deposited on said ejector, and means for moving the ejector to one side of the machine and discharging the finished article therefrom as said dies approach each other.

12. In a pulp shaping machine, the combination of a male and a female die, means for automatically reciprocating one of said dies to and from the other, a plate slidably mounted in the bottom of the female die, means for bodily forcing the other die toward the reciprocating die when the latter has reached the lower limit of its movement, and means for forcing the plate in the direction of the male die when said dies are forced together.

13. In a pulp shaping machine, the combination of a bed block, dies relatively movable to and from each other, one of which is seated over the bed block, means interposed between said last-named die and the bed block, means for clamping said last-named means to the bed block, including an elastic abutment, and means for bodily lifting said interposed means and the die against said abutment.

14. In a pulp shaping machine, the combination of dies relatively movable to and from each other, a bed block, reversely-arranged wedges carried by the bed block on which one of said dies is seated, means for clamping the wedges to the bed block including an elastic abutment, means for adjusting one of said wedges whereby the relative elevation of the die carried thereby is changed, and means for bodily lifting said wedges and die against said abutment.

15. In a pulp shaping machine, the combination of dies relatively movable to and from each other, a bed block, means carried by the bed block on which one of said dies is seated, means for clamping said last-named means to the bed block including an elastic abutment, a plunger having a forming plate movably mounted within said seated die, and a plunger for bodily lifting said seated die and the means on which it is seated against said elastic abutment.

16. In a pulp shaping machine, the combination of dies relatively movable to and from each other, a bed block, wedges reversely arranged on which one of said dies is seated, carried by said bed block, clamps for clamping the wedges to the bed block at opposite sides including an elastic abutment, a screw for adjusting one of said wedges, whereby the relative elevation of the die carried thereon is changed, a plunger for bodily lifting said wedges, a die carried thereon against said abutment, and a second plunger slidable within the first having forming means movably mounted in said die carried on the wedges.

17. In a pulp shaping machine, the combination of dies, one of which is movable to and from the other, a piston on which the movable die is carried, a cylinder in which the piston is adapted to slide, carried by the other die, and means for automatically introducing pulp into said cylinder between said dies.

18. In a pulp shaping machine, the combination of dies, one of which is movable to and from the other, a piston on which the movable die is carried, a perforated chamber formed between the piston and movable die, a cylinder in which the piston is adapted to slide, carried by the other die, means for introducing pulp into said cylinder, means for thereafter forcing said dies together, whereby the pulp is compressed between them, and means for introducing fluid pressure into said chamber while the pulp is under compression.

19. In a pulp shaping machine, the combination of dies, means for reciprocating one of said dies including a rack-bar, means for locking said rack-bar against upward movement when the dies are brought together, and means for forcing the opposite die in the direction of the reciprocating die when the rack-bar is locked.

20. In a pulp shaping machine, the combination of a bed block, a die carried by said bed block, an eccentric shaft journaled in bearings carried by said bed block, a countershaft, a movable die coacting with said first-named die, means for driving the movable die from said countershaft, means carried by said movable die for throwing the eccentric shaft into and out of operation, and means operated by the eccentric shaft for throwing the driving means.

of the movable die into and out of operation on said counter-shaft.

21. In a pulp shaping machine, the combination of dies, one of which is movable to and from the other, an eccentric shaft, a countershaft, means for reciprocating the movable die from the countershaft, means carried by the movable die for throwing the eccentric shaft into and out of operation, and means driven by the eccentric shaft for throwing said driving means for the reciprocating die into and out of operation on the countershaft.

22. In a pulp shaping machine, the combination of dies relatively movable to and from each other, an eccentric shaft, a countershaft, a rack-bar carried by one of said dies, means for reciprocating said rack-bar from the countershaft, a clutch carried by the countershaft for throwing said reciprocating means into and out of operation, and means operated by said eccentric shaft for automatically controlling said clutch.

23. In a pulp shaping machine, the combination of dies, means operating to move said dies to and from each other, means for automatically feeding a predetermined quantity of pulp between said dies, means for throwing the operating means of one of said dies out of action and locking the die when the dies are brought together, means for thereafter forcing the other die in the direction of the locked die whereby the completed article is produced, and means for withdrawing said article from the dies and ejecting it from the machine.

24. In a pulp shaping machine, the combination of dies relatively movable to and from each other, means for automatically feeding a predetermined quantity of pulp between said dies, means for thereafter causing the dies to approach each other, whereby the pulp is pressed therebetween, means for locking one of said dies against relative movement, means for bodily lifting the other die against the locked die, means for introducing a fluid pressure into one of said dies, means for automatically releasing said pressure, and means for thereafter retracting said dies and ejecting the finished article therefrom.

25. In a pulp shaping machine, the combination of dies relatively movable to and from each other, an ejector cooperating with said dies, and means for simultaneously revolving said ejector in planes substantially at right angles to each other, for the purpose described.

26. In a pulp shaping machine, the combination of dies, a rack-bar, a countershaft means including a clutch carried by said countershaft for moving said rack-bar, means for automatically locking said rack-bar when the lower limit of movement thereof is reached, and means carried by said locking means to automatically throw out said clutch when said locking means is moved to locking position.

27. In a pulp shaping machine, the combination of dies, means for moving said dies to and from each other including a clutch, a lever having a depending cam for shifting said clutch, a cam shaft, means operated by said cam shaft for moving said depending cam in one direction, and means carried by one of said dies for moving the cam in the opposite direction.

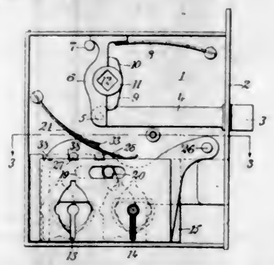
28. In a pulp shaping machine, the combination of dies, a rack-bar to which one of said dies is attached, shafts having pinions in mesh with the opposite sides of said bar for reciprocating the bar and die, a clutch slidably splined to one of said shafts, and means for automatically shifting the clutch.

29. In a pulp shaping machine, the combination of dies, one of which is movable to and from the other, an ejector movable under the movable die when the dies are separated, a platen carried by said movable die, and means for depressing said platen to detach the finished article from the movable die, whereby it drops upon the ejector.

30. In a pulp shaping machine, the combination of dies one of which is movable to and from the other, an ejector, and means for revolving the ejector about a point to carry it under the movable die when the dies are separated, said means operating to revolve the ejector about said point out of the path of the movable die and thereafter rotate the ejector axially when the dies are brought together.

31. In a pulp shaping machine, the combination of dies adapted to form a fibrous article; an ejector, and means for revolving said ejector in planes at substantially right angles to each other to carry it into the path of said dies to receive said article and thereafter reversely revolve said ejector to discharge said article.

868,997. LOCK. PETER H. J. KRULDER and PETER KRULDER, Jr., New York, N. Y. Filed May 11, 1907. Serial No. 373,023.



1. The combination of a lock casing having keyholes arranged out of alinement with each other, tumblers adjacent to the inner sides of said casing, each provided with a keyhole and ward aperture arranged reversely to the corresponding elements of the other tumbler, and tumblers pivotally mounted upon a post attached to said casing and provided with an inclined slot adapted to engage a guide-post attached to said casing, and with apertures forming wards adapted to be arranged in line with the keyholes and ward apertures of the keyhole tumblers.

2. The combination of a lock casing having keyholes arranged out of alinement with each other, tumblers adjacent to the inner sides of said casing, each provided with a keyhole and ward aperture, tumblers pivoted to said casing and provided with apertures adapted to register with the keyholes and apertures of the first named tumblers, and a central tumbler provided with a shoe and a bolt engaging the face of said casing, and with ward apertures adapted to register with the keyholes and ward apertures of the first named tumblers and the ward apertures of the pivoted tumblers.

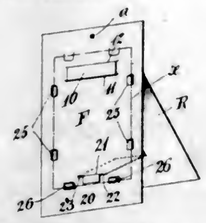
3. The combination with a lock casing having keyholes arranged out of alinement with each other, of a central tumbler provided with retaining notches, a shoe and a bolt formed thereon, with ward apertures and a guiding slot, tumblers arranged on opposite sides of said bolt tumbler, pivoted to said casing, and provided with stops adapted to engage the notches of the bolt tumbler, and ward apertures registering with the ward apertures of the central bolt tumbler, and other tumblers provided with keyholes and ward apertures reversely arranged and adapted to register with the ward apertures of the central and intermediate tumblers.

4. The combination of a lock casing having keyholes arranged out of alinement with each other, a tumbler provided with a keyhole and a ward aperture, a tumbler pivoted to said casing and provided with ward apertures adapted to register with the keyhole and ward aperture of the first named tumbler, a tumbler provided with apertures adapted to register with the keyholes and apertures of the other tumblers, and a bolt connected therewith, and means connected with the bolt tumbler and pivoted tumbler adapted to lock them in engagement with each other.

5. The combination of a lock casing having keyholes arranged out of alinement with each other, tumblers arranged adjacent to the inner sides of said casing and each provided with a keyhole and ward apertures arranged reversely to the corresponding elements of the other tumblers, intermediate tumblers pivoted to said casing and provided with apertures adapted to register with the apertures and keyholes of the outer tumblers, a central tumbler provided with a shoe and a bolt engaging an aperture formed in the face of said casing, means for locking the intermediate tumblers in engagement with the central tumbler, and springs adapted to hold said tumblers in operative position.

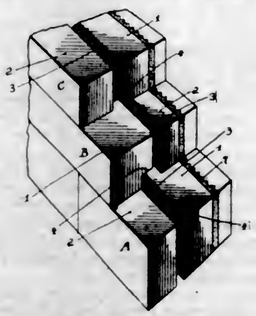
6. The combination with a lock casing having keyholes arranged out of alinement with each other, tumblers adjacent to the side of said casing and provided with blank portions adapted to be brought in alinement with the keyholes of the casing, a central bolt tumbler provided with ward apertures adapted to register with the key-holes of the casing, and provided with notches on its upper edge, and tumblers pivoted on said casing arranged intermediate the first named tumblers and bolt tumbler, and provided with ward apertures adapted to register with the key-holes of said casing, and with stops adapted to engage the notches of the bolt tumbler.

868,998. CARD HOLDING OR EXHIBITING DEVICE. SAMUEL R. LANG, Indian Orchard, Mass. Filed Jan. 24, 1907. Serial No. 353,833.



The combination, with a pair of connected plates, and a tongue attached to one of said plates, and projecting through and beyond the outer face of the other of the plates, of a card, and flaps cut from one of said plates and bent outward, for supporting said card and for holding the same in engagement with said projecting portion and for locking the same against displacement.

868,999. WALL CONSTRUCTION. LYMAN G. LEASE, Warren, Ohio. Filed Oct. 3, 1906. Serial No. 337,167.

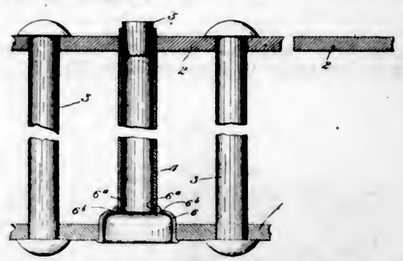


1. A wall composed of building blocks arranged in tiers of courses with alternating blocks of different sizes composing each tier and with the larger blocks of one tier overlapping the larger blocks of the other tier, the larger blocks of one tier being free from abutting engagement with the smaller blocks of the other tier to form irregular vertical air spaces between the tiers, each of the larger blocks having a recess registering with the air spaces between the larger and smaller blocks of the respective tiers.

2. A wall composed of building blocks arranged in tiers of courses with alternating blocks of different sizes composing each tier and with the larger blocks of one tier overlapping the larger blocks of the other tier, the larger blocks of one tier being free from abutting engagement with the smaller blocks of the other tier to form irregular vertical air spaces between the tiers, each of the larger blocks having a recess registering with the air spaces between the larger and smaller blocks of the respective tiers, and facings secured to the tier of blocks forming the exposed side of the wall.

3. A wall whose units are composed of two series of building blocks of unequal size with the blocks of one of said series provided with recesses in one side, and said wall constructed by arranging the blocks in tiers of courses with the smaller blocks at one side of each alternate course and the larger blocks at the other side of each alternate course arranged with their adjacent faces spaced apart and with recesses in the blocks of one series overlapping the spaces of the adjacent blocks, whereby continuous and sinuous air spaces are produced in the wall structure.

869,000. SAFETY DEVICE FOR STEAM-BOILERS. CHARLES LETTERI, Columbus, Ohio. Filed Apr. 24, 1907. Serial No. 369,938.



1. A steam boiler having an opening in its shell between the steam and combustion chambers, a closure for said opening located within the boiler and secured to the shell at said opening and to a rigid part of the shell removed from the combustion chamber, said closure adapted to be ruptured when subjected to abnormal heat due to the lowering of the water in the steam chamber.

2. A steam boiler having an opening in its shell between the steam and combustion chambers, a hollow closure for said opening located within the boiler and comprising a cup-shaped portion secured to the shell at the opening and a tubular portion connected with a rigid part of the shell removed from the combustion chamber, said closure adapted to be ruptured when subjected to abnormal heat due to the lowering of the water in the steam chamber.

3. A steam boiler having an opening in its shell between the steam and combustion chambers, a hollow closure for said opening located within the boiler and comprising a cup-shaped portion secured to the shell at the opening and a portion connected with a rigid part of the shell removed from the combustion chamber, said cup-shaped part being provided with a thin or reduced portion adapted to be ruptured when the cup-shaped portion is subjected to abnormal heat due to the lowering of the water in the steam chamber.

869,001. SANITARY APPARATUS. GUSTAVE A. LUCAS, Levallois-Perret, France. Filed Dec. 23, 1905. Serial No. 293,062.



1. In an apparatus for the bacterial treatment of fecal matters, liquid house refuse and sewage, an anaerobic fermentation chamber, vertical and horizontal partitions dividing the latter into a series of compartments, perfora-

tions provided in some of these partitions so that opposite a perforated partition is always arranged a solid one in order to allow the bacteria to attach themselves on these solid partitions, to completely develop themselves and to entirely accomplish their work without being disturbed by the liquid current freely circulating through the perforated partitions.

2. In an apparatus for the bacterial treatment of fecal matters, liquid house refuse and sewage, a receiving chamber, an anaerobic fermentation chamber, vertical and horizontal walls dividing the latter into a series of compartments, perforations provided in some of these partitions so that opposite a perforated partition is always arranged a solid one, a communication between the lower part of the anaerobic fermentation chamber and the lower part of the receiving chamber, a purifying chamber containing filtering materials and communicating at its upper part with the upper part of the anaerobic fermentation chamber.

869,002. CUTTING-TOOL. JOHN F. MAGNUSON, Yonkers, N. Y. Filed Sept. 19, 1906. Serial No. 335,227.



1. In a pattern makers' carving tool, the combination of a handle, a screw permanently affixed thereto, a cap attached to the handle by said screw, and a thin curved cutting blade pivotally connected to the cap, the screw being arranged to lock the blade in the cap in any one of a plurality of operative positions.

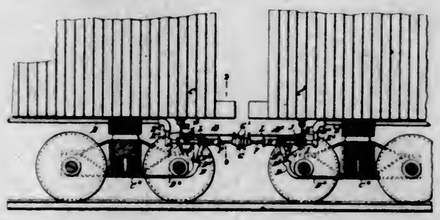
2. In a pattern makers' carving tool, the combination of a handle, a screw permanently affixed thereto, a cap attached to the handle by said screw, said cap being constructed to form a slot at one end, a thin curved cutting blade adapted to be pivotally held within the slotted portion of the cap, the screw being arranged to lock the blade in the cap in any one of a plurality of operative positions.

3. In a pattern makers' carving tool, the combination of a handle, a screw permanently affixed thereto, a cap attached to the handle by said screw, said cap being constructed to form a slot at one end, a thin curved cutting blade adapted to be pivotally held within the slotted portion of the cap, said blade having a flat straight shank provided with a plurality of straight edges, the screw being arranged to lock the blade in the cap in any one of the plurality of operative positions by bearing upon one of said straight edges.

4. In a carving tool, the combination with a handle, a screw permanently affixed thereto, a cap attached to the handle by said screw, said cap being constructed to form a slot at one end, a second screw extending through the cap, and a blade adapted to be held within the slotted portion of the cap by said second screw, said blade having a curved cutting portion and a flat straight shank provided with a plurality of straight edges, the blade being arranged to be locked in the cap in any one of a plurality of operative positions by said first screw bearing upon one of said straight edges.

5. In a carving tool, the combination of a handle, a screw permanently affixed thereto, a cap provided with an internal threaded portion and arranged to be attached to the handle by said screw, said cap being constructed to form a slot at one end, a male and female screw extending through the cap at right-angles to the threaded portion of the cap, and a blade adapted to be held with the slotted portion of the cap by said male and female screw, said blade having a curved cutting portion and a flat straight shank provided with a plurality of straight edges, the blade being arranged to be locked in the cap in any one of a plurality of operative positions by said first screw bearing upon one of the straight edges.

869,003. AUTOMATIC COUPLING FOR BRAKE-PIPES. CHARLES A. MARSHALL, Tulsa, Ind. Ter. Filed Apr. 3, 1907. Serial No. 366,139.



1. In a coupler for an air brake pipe, in combination, telescoping pipe sections having an air-tight joint, a coupling head on one of the sections, a valve on one of the sections adapted to be operated by the movement of the other section, and means to open the valve when the pipe is uncoupled.

2. In a coupler, in combination, pipe sections having a tight joint and adapted to yieldingly telescope or move longitudinally one within the other, a coupling head on one of the said sections, and a valve on one of the sections, adapted to be opened by the movement of the other section when the pipe is coupled or uncoupled.

3. In a coupler, in combination, pipe sections adapted to yieldingly telescope, a coupling-head for one of the sections, a valve in one of the sections adapted to be opened by movement of the other section when the cars are coupled, a latch adapted to engage the valve-lever and retain the valve in closed position when the cars are uncoupled, and means to disengage the latch and allow the valve to open.

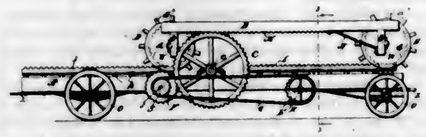
4. In a coupler, in combination, pipe sections adapted to yieldingly telescope, a coupling-head on one of the sections, a valve in one of the sections, whose lever is connected to the other section, whereby movement of the sections relative to each other opens the valve when the pipes are coupled or uncoupled, and means to retain the valve in closed position when desired.

5. In a coupler, in combination, pipe sections adapted to yieldingly telescope, a pronged coupling-head on one of the sections, a valve in one of the sections, adapted to be opened by movement of the other section, and means to retain the valve in closed position when desired.

6. In a coupler for an air brake pipe, in combination, telescoping air-pipe sections having an air-tight joint, a coupling head on one of the sections, a valve in one of the sections, a rod connecting the valve lever with the other sections, and a yielding connection between the rod and the valve lever.

7. In an air brake pipe coupling, in combination, telescoping air-pipe sections having an air-tight joint, a spring connection between the sections, a coupler head on one of the sections, and a valve in one of the sections adapted to be opened when the sections are forced together by the act of coupling, and also to be opened by the movement of the sections, due to the spring, when the cars are uncoupled.

869,004. HEMP-BRAKE. FREEMAN T. MARTIN, Winchester, Ky. Filed Apr. 17, 1907. Serial No. 368,746.



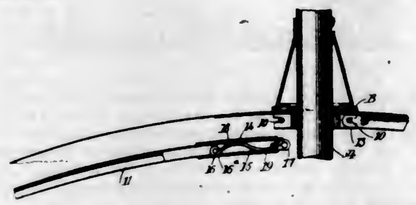
1. In a brake, the combination of a frame having racks along the sides thereof, a bed on the frame having spaced ribs, a carriage over the frame, rollers journaled in the carriage and having gears in mesh with the racks and also having ribs which enter the spaces between said ribs, and means to move the carriage back and forth.

2. In a brake, the combination of a spring-supported bed having spaced ribs, and a roller movable back and forth over the bed and having ribs which enter the spaces between the ribs of the bed.

3. In a brake, the combination with a ribbed bed, tracks along opposite sides of the bed having a plain portion and a cogged portion forming a rack, a carriage frame movable back and forth over the bed, and rollers journaled in the carriage and having ribs which coöperate with the ribs of the bed, and also having plain rims which rest on the plain portions of the track and a gear which meches with the rack.

4. In a brake, the combination of a ribbed bed, a carriage movable back and forth thereover, and having a rack at each side, rollers journaled in the carriage and having ribs which coöperate with the ribs of the bed, gears at opposite sides of the bed, in mesh with the racks, and means to revolve the gears in opposite directions, to reciprocate the carriage.

869,005. UMBRELLA-FIXTURE. WILLIAM C. L. MASKA, New York, N. Y. Filed Aug. 9, 1906. Serial No. 329,838.



1. As an improved article of manufacture an umbrella fixture comprising a casing adapted to engage a rib or stretcher, and an attaching member adapted to enter the casing, the said member having a body portion formed with an upwardly arched section at one side of its center and a downwardly arched section at the opposite side of its center, the said arched portions being adapted to frictionally engage the casing and the rib or stretcher, the said member having attaching means at its outer end.

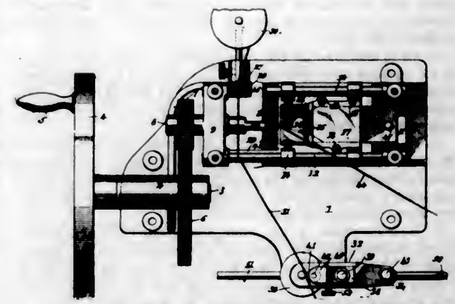
2. As an improved article of manufacture an umbrella fixture consisting of a casing having a slot in its wall near one end, and a spring member adapted to be frictionally held in said casing, the said member having attaching means at one end and an enlargement at the other end adapted to enter said slot.

3. An umbrella fixture consisting of a casing adapted to be slid over a rib or stretcher, and a member which enters the said casing, the said member being formed of spring material and constructed to have frictional engagement with the casing and with a rib or stretcher to which the fixture is applied, one of said parts with which the said member engages having a slot formed therein, the outer or projecting end of said member forming an attaching means and the other end having an enlargement adapted to engage said slot.

4. An umbrella rib or stretcher, a casing surrounding the same at one of its ends, and an attaching member located within the channeled portion of the rib or stretcher and made of spring material, the said attaching member having a body formed with curved portions adapted to frictionally engage the rib and casing, the said member having a hook at its outer or projecting end.

5. The combination with an umbrella rib or stretcher, of a casing surrounding the same at one of its ends and having a slot formed therein, and an attaching member located in the channel portion of the rib or stretcher, the said attaching member comprising a wire having a body portion formed with an upwardly arched section at one side of its center and a downwardly arched section at the opposite side of its center, the said arched portions being adapted to frictionally engage the rib and casing respectively, the said attaching member having a hook at its outer or projecting end and an enlargement at its other end, the said enlargement being of sufficient size to frictionally engage with the rib and the encircling casing and adapted to enter the slot in said casing.

869,006. WIRE-FORMING MACHINE. WILLIAM H. MERKEL, Columbus, Ga. Filed Mar. 6, 1907. Serial No. 360,836.



1. In a wire-twisting machine, in combination, a member adapted to engage a rudimentary eye formed in the wire, a die plate disposed adjacent to said member and having grooves therein converging toward said member, and means for producing a relative rotation between said member and said die plate.

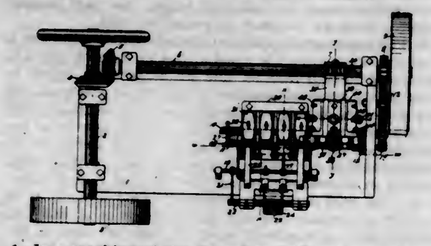
2. In a wire-forming machine, in combination, a hook adapted to engage a rudimentary eye formed in the wire to be twisted, a die plate having grooves converging toward said hook, means for holding the wire in said grooves, and means for rotating said hook.

3. In a wire-forming machine, in combination, a hook adapted to receive a rudimentary eye formed in the wire, a die plate having grooves therein converging toward said hook, means for holding the wire in said grooves, means for producing a relative rotation of said hook and said die plate, and means for movably mounting said die plate whereby said hook and said die plate may separate as a twist is formed.

4. In a wire-forming machine, in combination, a slidably mounted carriage, a die plate having grooves formed therein converging toward the edge of said die plate, said grooves being adapted to receive the straight extensions extending from the rudimentary eye, a slide plate mounted on said carriage and adapted to slide over said die plate to hold said extensions in said grooves, a hook opposite said edge of said die plate and adapted to receive the rudimentary eye, and means for rotating said hook.

5. In a wire-forming machine, in combination, a base, a stud mounted in said base, a lever rotatably mounted about said stud and having a roller lying adjacent to the face thereof, and a gage rod extending from said base and adjustably mounted therein, said gage rod having a laterally projecting finger adapted to receive an eye formed on the end of the wire opposite the end which is being bent about said stud.

869,007. WIRE-WORKING MACHINE. WILLIAM D. MIDDLEBROOK, Waterbury, Conn., assignor to Oakville Company, Waterbury, Conn., a Corporation of Connecticut. Filed Mar. 28, 1906. Serial No. 308,529.



1. In a machine of the class described, the combination of an endless belt for rotating the articles to be operated upon, and means for keeping said belt under tension through only a portion of its length, substantially as described.

2. In a machine of the class described, the combination of an endless belt for rotating the articles to be operated upon, and adjustable means for keeping said belt under tension through only a portion of its length, substantially as described.

3. In a machine of the class described, the combination of an endless belt for rotating the articles to be operated upon, means for driving said belt, and means for keeping said belt under tension through only a portion of its length, substantially as described.

4. In a machine of the class described, the combination of an endless belt for rotating the articles to be operated upon, a driving pulley for said belt and means for exerting a pressure upon said belt as it passes over said driving pulley, substantially as described.

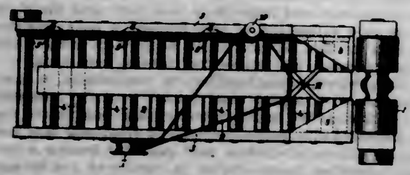
5. In a machine of the class described, the combination of an endless belt for rotating the articles to be opened upon, a driving pulley for said belt, and an adjustable presser-roll adapted to engage said belt as it passes over said driving pulley, substantially as described.

6. In a machine of the class described, the combination of an endless belt for rotating the articles to be operated upon, a driving pulley for said belt, and a series of adjustable presser-rolls adapted to engage said belt as it passes over said driving pulley, substantially as described.

7. In a machine of the class described, the combination of an endless belt, means for holding said belt in contact with the articles to be operated upon, means for driving said belt to rotate the wire, and means to keep said belt under tension through part of its length, substantially as described.

8. In a machine of the class described, the combination of means for feeding the articles to be operated upon, a support for said articles, an endless belt coöperating with said support to rotate said pins, means for pressing said belt against said pins, a driving pulley for said belt, and means overlying said belt and driving pulley and coöperating with said pulley to drive said belt, substantially as described.

869,008. ATTACHMENT FOR ROLLING-MILLS. FOSTER MILLIKEN, New York, N. Y. Filed Mar. 21, 1907. Serial No. 363,583.



1. A rolling mill, comprising a conveyer table having a train of driven rollers, one of which is extended beyond the table, a drum fixed to said extended roller, and means for connecting the drum to the material to be rolled carried by the table.

2. A rolling mill, comprising a conveyer table having a train of driven rollers, a nigger-head fixed to one of said rollers, and a line adapted to be passed from the nigger-head to the material to be rolled.

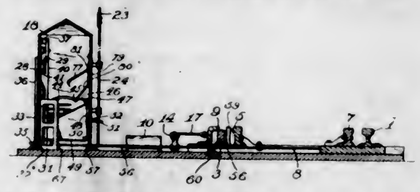
3. A rolling mill, comprising rolls having a conveyer table with a train of driven rollers for frictionally driving the metal to the pass of said rolls, and a winding drum fixed to one of said rollers, for the purpose described.

4. A rolling mill, comprising rolls having a conveyer table with a train of driven rollers for frictionally driving the metal to the pass of said rolls, one of said rollers being extended beyond the table, and a nigger-head fixed to the extended portion of said roller, for the purpose described.

5. A rolling mill, comprising a conveyer table having a train of driven rollers, a drum driven from one of said rollers at one side of the table, a sheave fixed at the opposite side of the table, and a line adapted to be passed about said sheave and attached to said drum, for the purpose described.

6. A rolling mill, comprising a conveyer table having a train of driven rollers, one of which is extended beyond the table, a nigger-head fixed to the extended portion of said roller, a sheave fixed at the opposite side of the table, grappling tongs, and a line passing from said nigger-head directly to said tongs and from said nigger-head to said tongs over said sheave.

869,009. AUTOMATIC RAILWAY-SWITCH ADJUSTER. OWEN MORKERT, Perry township, Tippecanoe county, Ind. Filed May 27, 1907. Serial No. 375,846.



1. An automatic railway switch adjuster including an operating lever, a latch for the lever, a tumbling bar to hold the latch in engagement with the operating lever, a key-lock to automatically engage and hold the operating lever securely, and a spring to force the operating lever away from the latch when released therefrom and into engagement with the key-lock.

2. An automatic railway switch adjuster including an operating lever, a movable latch for the lever, a tumbling bar to hold the latch in engagement with the operating lever, means for moving the latch into engagement with the operating lever and simultaneously into engagement with the tumbling bar, a key-lock to automatically engage and hold the operating lever securely, and a spring to force the operating lever away from the latch when released therefrom and into engagement with the key-lock.

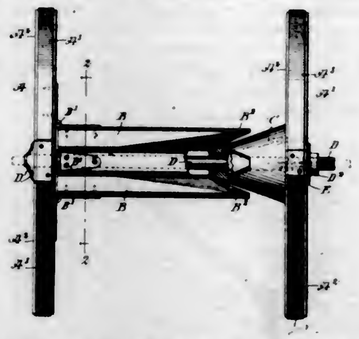
3. An automatic railway switch adjuster, including an operating lever, a movable latch for the lever, a tumbling bar to hold the latch in engagement with the operating lever, means for moving the latch into engagement with the operating lever and simultaneously into engagement with the tumbling bar, a tumbling bar for normally engaging the latch to prevent movement thereof into engagement with the operating lever and having operating devices connected therewith and also with the operating lever for releasing the latch during advance of the operating lever towards the latch, a key-lock to automatically engage and hold the operating lever securely, and a spring to force the operating lever away from the latch when released therefrom and into engagement with the key-lock.

4. An automatic railway switch adjuster including an operating lever, a movable latch for the lever, a locking device to hold the latch in engagement with the operating lever, means for moving the latch into engagement with the operating lever and the locking device, a key-lock to engage and hold the operating lever securely, track rails, switch-points coöperating with the track rails and connected with the operating lever, a pivoted lever connected with the locking device to disengage it from the latch and having a push bar thereon at a side of a track rail, and a spring to move the switch points and force the operating lever away from the latch when released therefrom and into engagement with the key-lock.

5. An automatic railway switch adjuster including main track rails, a pair of movable switch points, a switch rod connected to the switch-points, an operating lever connected to the switch rod, a movable latch for the operating lever, a locking device to hold the latch in engagement with the operating lever, means for moving the latch into engagement with the operating lever and the locking device, a key-lock to engage and hold the operating lever securely, a rotative shaft, means for normally rotating the shaft, a ratchet wheel mounted on the shaft to rotate therewith and provided with a projection, an arm mounted on the locking device and projecting into the path of the projection of the ratchet wheel, means for governing the speed of the rotative shaft, a dog to normally engage and stop the ratchet wheel, connections between the dog and the operating lever, and a spring to move the switch-points and force the operating lever away from the latch when released therefrom and into engagement with the key-lock.

6. An automatic railway switch adjuster including main track rails, a pair of movable switch-points, a switch-rod connected to the switch-points, an operating lever connected to the switch rod, a movable latch for the operating lever, a locking device to hold the latch in engagement with the operating lever, means for moving the latch into engagement with the operating lever and the locking device, a key-lock to engage and hold the operating lever securely, a pivoted lever connected with the locking device to disengage it from the latch and having a push-bar thereon at a side of a track rail, a shifting rail movable laterally on one of the track rails, a pivoted lever connected to the shifting rail and also to the switch rod, a rotative shaft, means for normally rotating the shaft, a gear wheel rotative on the shaft and operated by the means for moving the latch, connections between the gear wheel and the shaft to rotate the shaft, means for locking the shaft and having connection with the operating lever for the control thereof, means connecting the shaft with the locking device of the latch, and a spring to move the switch-points and force the operating lever away from the latch when released therefrom and into engagement with the key-lock.

869,010. REEL. ERNEST G. MCINTYRE, Butte, Mont. Filed Apr. 17, 1907. Serial No. 368,764.



1. A reel comprising reel heads, a plurality of expanding arms hinged at one end to the inner face of the said heads, the free ends of the said expanding arms having beveled under surfaces, a conical expander on the inner face of the other reel head and adapted to engage the said beveled under surfaces of the said expanding arms, and means for drawing the heads towards each other.

2. A reel comprising reel heads, a plurality of expanding arms hinged at one end to the inner face of the said heads, the free ends of the said expanding arms having beveled under surfaces, a conical expander on the inner face of the other reel head and adapted to engage the said beveled under surfaces of the said expanding arms, and a bolt extending centrally through the said heads, the head of the bolt engaging the outer face of one of the heads and the washer and nut of the bolt engaging the outer face of the other head.

3. A reel comprising reel heads, a plurality of expanding arms hinged at one end to the inner face of the said heads, the free ends of the said expanding arms having beveled under surfaces, a conical expander on the inner face of the other reel head and adapted to engage the said beveled under surfaces of the said expanding arms, and a bolt extending centrally through the said heads, the head of the bolt engaging the outer face of one of the heads and the washer and nut of the bolt engaging the outer face of the other head, the said bolt being hollow for the passage of a reel supporting rod.

869,011. PROCESS OF PRODUCING POTASSIUM COMPOUNDS. RALPH H. MCKEE, Lake Forest, Ill. Filed Oct. 17, 1905. Serial No. 283,113.

1. The process herein described of producing a soluble potassium salt from potash bearing material containing mica, which consists in heating said material in the presence of lime, common salt and a reducing agent.

2. The process herein described of producing a soluble potassium salt from potash bearing material containing mica, which consists in heating the substance to be operated upon in the presence of lime, common salt and carbonaceous fuel.

3. The process herein described of producing a soluble potassium salt, which consists in treating potash bearing material containing mica with lime and common salt in the presence of a hydrocarbon fuel.

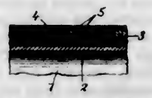
4. The process herein described of producing potassium chlorid, which consists in reducing an admixture of lime and common salt and material containing mica by aid of a reducing agent and heat.

5. The process herein described of producing potassium chlorid, which consists in subjecting, in the presence of lime and common salt and at a high temperature, material containing mica to the action of a substance containing carbon.

6. The process herein described of producing soluble potassium salt, which consists in heating a mica containing material with lime and common salt in the presence of a reducing agent, allowing the same to cool, subjecting the substance thus formed to the action of water so as to dissolve out the soluble potassium salt, and finally evaporating said water so as to leave said potassium salt in a solid form.

7. The process herein described, of producing soluble potassium salts, which consists in heating the above described mica-containing material with lime and common salt in the presence of a reducing agent, allowing the resulting substance to cool, and finally removing from said resulting substance, the potassium salt.

869,012. FILAMENT FOR INCANDESCENT LAMPS. EUGENE MCQUAT and HENRY W. F. LORENZ, Amsterdam, N. Y. Filed June 29, 1904. Serial No. 214,631.



The process of making incandescent filaments, which consists in dipping a carbonized core in a caramel solu-

tion containing finely divided metallic light-emitting particles in mechanical suspension whereby a coat is deposited on said core through which said particles are dispersed, and carbonizing said coat to render said coat and said particles integral with said core.

869,013. INCANDESCENT FILAMENT AND PROCESS. EUGENE MCQUAT, New York, N. Y., and HENRY W. F. LORENZ, Springfield, Ohio. Filed Dec. 6, 1905. Serial No. 290,641.

1. The process of making incandescent lamp filaments which consists in incorporating a metal and silicon in the filament and forming a silicid by reaction between the metal and the silicon components.

2. The process of making incandescent lamp filaments which consists in incorporating a metal and silicon in the filament, and heating said filament thereafter to combine the silicon and metal.

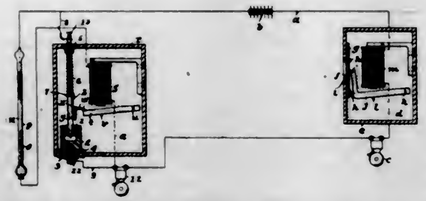
3. The process of making incandescent filaments which consists in depositing a metal and silicon on the surface of a core and effecting the formation of a silicid by heat.

4. The process of making incandescent filaments which consists in producing a coat on a core, said coat consisting of a carbonizable binder having particles of finely divided metal and silicon in mechanical suspension therein, whereby said metal and silicon adheres to said core, and forming a silicid and carbonizing said binder by heat.

5. As a new article of manufacture, an incandescent lamp filament having a carbonized body with a silicid incorporated therewith.

6. An incandescent lamp filament having a silicid as a light emitting substance.

869,014. ELECTRIC FIRE-ALARM. JOHN A. OBESTER, Passaic, N. J. Filed Apr. 25, 1907. Serial No. 370,181.



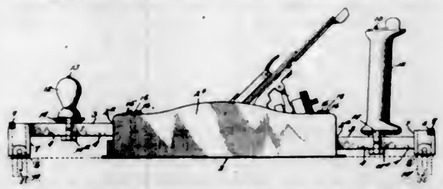
The combination, with the main circuit having a normal break therein and an alarm located in said main circuit, of a thermo-actuative circuit-closer adapted to bridge said break, a branch also having a break therein comprising a metallic thimble, a circuit-closer adapted to bridge the break in the branch and comprising a rectilinearly movable plunger normally movable toward and into said thimble in contact therewith, a pawl normally restraining said plunger from closing the break in the branch, an electro-magnet located in the main circuit, and an armature for said magnet engageable with said pawl, substantially as described.

869,015. STRAP-PROTECTOR. JAMES F. PAYNE and ROBERT L. COLEMAN, Kansas City, Mo. Filed Feb. 11, 1907. Serial No. 356,846.

A strap protector comprising a sheet metal body formed with two sides disposed for a part parallel with each other, one side being the longer, and the longer side having an offset provided with a hole to receive the strap, said body being adapted to have the strap embrace the outer sides of the parallel portions, and the body having a pointed tongue inclining outwardly and from said hole and adapted to enter the strap to prevent the strap slipping on the body in one direction but permitting slipping of the strap in the opposite direction, said body being adapted to embrace and swing on a link through which the strap extends, and serving to prevent the strap from bearing on the link.



869,016. EXTENSION-PLANE. JOHN V. PETRUSICH, Chicago, Ill. Filed June 17, 1907. Serial No. 379,311.

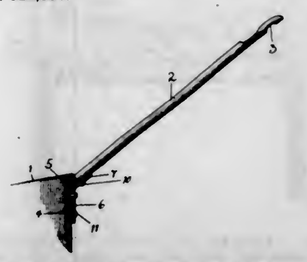


1. In a plane, extension means journaled in the side walls thereof, a sliding clamp mounted on said extension means, a knob seated on said sliding clamp and supporting means terminally carried by said extension means substantially as described.

2. In a plane, extension means journaled in the side walls thereof, an extension stop carried on the side walls thereof, a sliding clamp mounted on said extension means, a knob seated on said sliding clamp, roller-carriers terminally arranged on said extension means, a roller pivoted within said roller-carriers and a lateral drop guide carried by said roller-carrier substantially as described.

3. In combination with a plane having longitudinal sockets in the side walls thereof, sliding extension rods arranged therein, a sliding screw-actuated clamp arranged on said extension rods, a knob seated on said clamp by which the same may be anchored or released, roller-carriers terminally carried by said extension rods, a roller pivotally carried by said roller carriers, a brace 6 connecting said roller-carriers and a worm and rack carried by said roller-carriers substantially as described.

869,017. SHEET-METAL HANDLE. CHARLES F. PFALZGRAF, Baltimore, Md. Filed June 19, 1906. Serial No. 322,397.

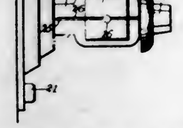


1. A sheet-metal vessel provided with a handle having a grasp-part of single thickness and projecting upward from the vessel and also having a downward-projecting end attached to the wall of the vessel and united to said grasp-part by a crosswise bend, 5; and a plate outside of and in contact with said downward-projecting end—said plate having at its upper portion a short brace, 7, which underlaps said crosswise bend and contacts with the said grasp-part only adjacent the said bend.

2. A sheet-metal handle for vessels having its projecting grasp-part of a single thickness and its inner end, which is to fit against the wall of a vessel, of double thickness, and the said two thicknesses being in close contact and both thicknesses having a crosswise bend and secured together.

3. A vessel having a handle whose projecting grasp-portion is of a single piece of sheet-metal and provided with a downward end-portion attached to the wall of the vessel and said two portions united by a crosswise bend, and the lower extremity of said downward end-portion being folded and doubled back on the outside and extending upward beyond said cross-wise bend where it terminates and secured to said grasp-portion by a rivet, 10.

869,018. CLAMP-INSULATOR. GEORGE POLLOCK and WILLIAM E. WERD, Deer Lodge, Mont., assignors of one-third to Sidney C. Houk, Deer Lodge, Mont. Filed May 9, 1907. Serial No. 372,804.



1. The combination of a block provided with an aperture, a pair of clamping members provided with hooked ends extending into said aperture, bearing members mounted upon said clamping members and adapted to engage a wire, and means for holding together said clamping members so as to cause the same to grip said wire.

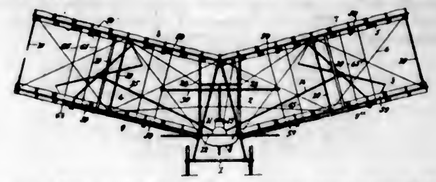
2. The combination of a supporting block provided with an aperture, a pair of clamping members mated together and fitted into said aperture, bearing members mounted upon said clamping members and adapted to engage a wire, and a member engaging both of said clamping members for holding the same together.

3. The combination of a supporting block, clamping members made in pairs and provided with shoulders for spacing said members slightly apart, and being further provided with means for engaging a wire, and a cap engaging said clamping members for the purpose of causing the same to grip said wire.

4. The combination of a supporting block, provided with an aperture, clamping members made in pairs and provided with hooked ends extending into said aperture, means mounted upon said clamping members for engaging a wire, and a cap encircling said members for increasing the pressure upon said wire.

5. The combination of a pair of clamping members disposed upon opposite sides of a wire to be supported, and a cap engaging said clamping members and provided with a hood for protecting the same from moisture.

869,019. FLYING-MACHINE. JOHN D. PURSELL, Chattanooga, Tenn. Filed Apr. 2, 1907. Serial No. 365,963.



1. A flying machine having a frame with aeroplanes, curved balance wings attached at their forward edges to said frame, and automatic means for raising or lowering the rear portions of said balance wings, actuated by the tilting of said machine.

2. A flying machine having aeroplanes, movable balance wings fixed at their forward edges and having free rear edges, and automatic mechanism for adjusting the free edges of said balance wings.

3. A flying machine having balance wings curved and fixed at their forward portions, said wings being free at their rear edges, and automatic mechanism for adjusting the rear edges of said wings actuated by the tilting of said machine

4. A flying machine having a frame, balance wings attached to said frame at their forward edges, means connecting the rear portions of said wings with said frame and tending to raise said wings, and automatic means for lowering said wings at the rear controlled by the tilting of the said machine.

5. A flying machine having movable adjusting plates, a bath of conducting material, electric circuits closed by said bath, and electrical balancing devices controlling the positions of said adjusting plates when said machine is out of its normal position.

6. In a flying machine, in combination, a receptacle containing a conductive bath and having insulated contacts normally above the level of said bath, an electric circuit adapted to be closed at either of said terminals by said bath when said flying machine tilts, and electrically-controlled balancing devices for restoring said machine to its normal position.

7. A flying machine having box frames connected together at their inner ends and inclining upwardly toward their outer ends, aeroplanes attached to the upper and lower sides of said frames, movable balance wings mounted in said aeroplanes, and automatic means for controlling said balance wings by the tilting of said machine.

8. A flying machine having a pair of aeroplanes attached at their inner ends and inclining upwardly toward their outer ends, balance wings in said aeroplanes, and means for automatically controlling said balance wings by the position of said machine.

9. A flying machine having a pair of aeroplanes attached together at their inner ends and inclining upwardly at their outer ends, movable balance wings in said aeroplanes, a movable tail at the rear and a movable adjuster plate at the front of said machine, and automatic devices for controlling said balance wings, said adjuster plate and said tail.

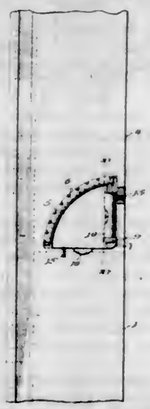
10. A flying machine having a frame, an aeroplane carried thereby, a movable bar pivoted to said frame and carrying a seat for the operator.

11. A flying machine having a frame, an aeroplane carried thereby, a pivoted bar on said frame, and a seat sliding on said bar and adapted to hold the operator.

869,020. TRIMMER-BOARD. CHARLES T. RIDGELY, Springfield, Ohio, assignor to The Standard Trimmer Company, Springfield, Ohio, a Corporation of Ohio. Filed July 16, 1906. Serial No. 326,378.

1. In a device of the character described, the combination, with a trimmer board having a depression therein forming a quadrantal recess in one side of said trimmer board and a projection on the opposite side thereof, of a

spirit-level pivoted in the right angle of said quadrantal recess, and adjusting screws extending through the straight walls of said depression on opposite sides of said spirit-level to limit the movement thereof, substantially as described.



2. In a device of the character described, the combination, with the trimmer board having a recess therein, of a spirit-level having a recess in one end thereof, a coiled spring within said recess, a screw extending through said recess and engaging said trimmer board, the head of said screw engaging said coiled spring, substantially as described.

3. In a device of the character described, the combination, with a trimmer board having a recess therein, said recess being in the form of a quadrant, and supports within said recess, of a scale plate mounted within said recess upon said supports and conforming to the arc of said quadrant, and a spirit-level pivoted at one end in the right angle of said recess and having a guide adapted to engage said scale plate.

4. In a device of the character described, the combination, with the trimmer board having a recess therein, said recess being in the form of a quadrant, a spirit-level pivoted at one end in the right angle of said recess, a scale plate secured along the arc of said recess, and a recess in the free end of said spirit-level adapted to engage said scale, substantially as described.

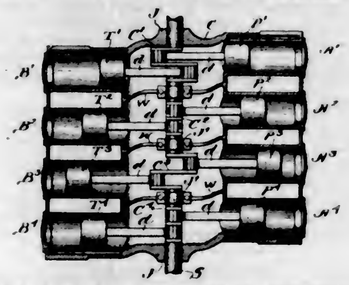
5. In a device of the character described, the combination, with the trimmer board having a recess therein, said recess being in the form of a quadrant, of lugs in the corners of said recess, a spirit-level having a recess in one end thereof, a coiled spring within said recess, a screw extending through said recess and said spring and engaging one of said lugs, a scale plate conforming to the arc of said recess and secured at its opposite ends to the lugs at the ends of said arc, and a recess in the free end of said spirit-level adapted to engage said scale plate, substantially as described.

869,021. INTERNAL-COMBUSTION ENGINE. ODIN ROBERTS, Dedham, Mass. Filed Sept. 9, 1905. Serial No. 277,676.

1. In an internal combustion engine, an assemblage of opposed cylinders with balanced parts, means to eliminate from operation successive balanced portions of the assemblage cumulatively leaving the active residue in balance, and means to vary the operation of said alternating devices to change the location of the active residue in the assemblage.

2. In an internal combustion engine, an assemblage of opposed balanced pairs of cylinders, cam shafts and cams thereon to eliminate from active operation one or more of said opposed balanced cylinder pairs.

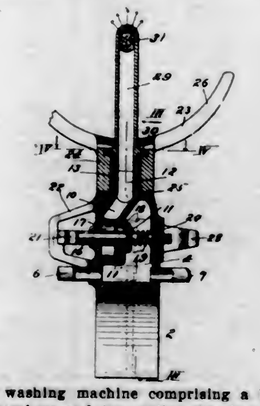
3. In an internal combustion engine, an assemblage of opposed cylinder pairs, means to eliminate from active operation cumulatively the said opposed pairs, said means comprising cam shafts and cams thereon, said cams arranged in sets, devices for bringing into operation any selected set of cams, the sets of cams being fashioned to leave a different active residue of the opposed pairs of cylinders in operation for each set of cams selected.



4. In an internal combustion engine, an assemblage of opposed cylinder pairs, a pair of cam shafts, each bearing cams, cam followers connected to the exhaust valves, cams fashioned to interrupt the action of the exhaust valves successively and cumulatively upon opposed cylinder pairs, and means to rotate the cam shafts.

5. In an internal combustion engine, an assemblage of opposed cylinder pairs, a pair of cam shafts, means to rotate the same, cam followers connected to the exhaust valves said shafts provided with means to shift them longitudinally to a succession of positions, sets of cams, one for each shaft position, upon said shafts, so fashioned as to eliminate from active operation, successively and cumulatively, the opposed cylinder pairs, each set of cams placed to leave an operative residue of cylinders different from the operative residue left by any other set of cams.

869,022. BEER-KEG WASHER. GEORGE E. R. ROTHENBUCHER, New York, N. Y. Filed Dec. 22, 1906. Serial No. 349,069.



1. A keg washing machine comprising a base having two inlet chambers and two outlet chambers, each inlet chamber being in communication with its outlet chamber, valves between said chambers, springs normally holding said valves closed, a valve stem connected to each of said valves and projecting horizontally beyond the base, valve operating arms pivoted on the base, one of said arms engaging each of the valve stems, a keeper to hold said arms in engagement with the valve stems, an upward extending tubular neck formed on the base and connected at its lower end with the outlet chambers in the base, a rotatable keg support mounted on said neck and provided with upward extending keg supporting arms and with outward and downward extending valve operating lugs, each of which is adapted to engage its corresponding valve-operating arm when the keg support is rotated in the proper direction, whereby when the keg support is rotated in one direction one of the valves will be opened, and when it is rotated in the opposite direction the other valve will be opened.

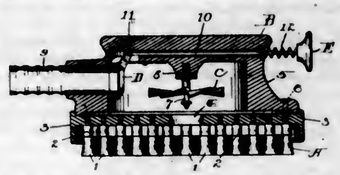
2. A keg washing machine comprising a base having two inlet chambers and two outlet chambers, each inlet chamber being in communication with its outlet chamber, valves between said chambers, springs normally holding said valves closed, a valve stem connected to each of said valves and projecting horizontally beyond the base, valve operating arms pivoted on the base, one of said arms engaging each of the valve stems, a keeper to hold said arms in engagement with the valve stems, an upward extending tubular neck formed on the base and connected at its lower end with the outlet chambers in the base, a rotatable keg support mounted on said neck and provided with upward extending keg supporting arms and with outward and downward extending valve operating lugs, each of which is adapted to engage its corresponding valve-operating arm when the keg support is rotated in the proper direction, whereby when the keg support is rotated in one direction one of the valves will be opened, and when it is rotated in the opposite direction the other valve will be opened, a pair of screw plugs in the base, each plug closing an opening into one of the inlet chambers, said plugs being larger in diameter than the valves and maintaining the valve springs in place.

3. A keg washing machine comprising a base having two inlet chambers and two outlet chambers, each inlet chamber being in communication with its outlet chamber, valves between said chambers, springs normally holding said valves closed, a valve stem connected to each of said valves and projecting horizontally beyond the base, valve operating arms pivoted on the base, one of said arms engaging each of the valve stems, a keeper to hold said arms in engagement with the valve stems, an upward extending tubular neck formed on the base and connected at its lower end with the outlet chambers in the base, a rotatable keg support mounted on said neck and provided with upward extending keg supporting arms and with outward and downward extending valve operating lugs, each of which is adapted to engage its corresponding valve-operating arm when the keg support is rotated in the proper direction, whereby when the keg support is rotated in one direction one of the valves will be opened, and when it is rotated in the opposite direction the other valve will be opened, and a stop on the base on the opposite side thereof from the keeper and adapted to be engaged by the valve operating lug which is not in engagement with a valve operating arm when the keg support is rotated.

4. A keg washing machine comprising a base having an inlet chamber and an outlet chamber, a valve between them, said valve being in the inlet chamber whereby the pressure in said chamber will force said valve to its seat, an outward extending horisontal valve stem connected to said valve and projecting beyond the base, a spring normally seating said valve, a horizontal valve-operating arm pivoted on the base and bearing against the end of the valve stem, a keeper to hold said arm in engagement with the valve stem, a rotatable keg support mounted on the base, a valve-operating lug carried by said keg support said lug being normally out of engagement with the operating arm but adapted to engage said arm and force it inward to open the valve when the keg support is rotated, and a nozzle connected to the outlet from the base and adapted to deliver the washing fluid into the keg.

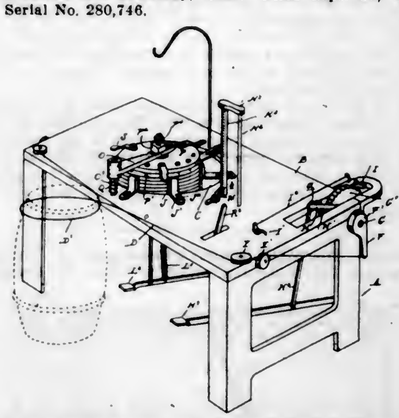
869,023. PNEUMATIC BRUSH. JACOB E. SCHADLE, St. Paul, Minn. Filed Jan. 16, 1905. Serial No. 241,183.

1. The combination of a brush, the back whereof is perforated, a hollow cap removably attached to said back to provide a chamber, a deflector journaled in the cap within said chamber and located above said perforation, a conduit connecting said chamber to an air-exhaust system, and a valve in the chamber for regulating said air exhaust.



2. In a dust remover, the combination of a brush having a perforated back, a cap provided with a chamber, said brush back adapted to be removably attached to said cap whereby to close the chamber, a rotary depending deflector journaled in the cap within said chamber, and positioned immediately over the perforation, an exhaust conduit communicating with said chamber, and a valve at the point of communication.

869,024. BARREL-ASSEMBLING MACHINE. OTTO SCHIMANSKY, Sandusky, Ohio. Filed Sept. 30, 1905. Serial No. 280,746.



1. In a barrel assembling machine, the combination with a receptacle for a series of assembled barrel head sections, of a transfer comprising a laterally swinging arm movable from said receptacle to a position in registration with the barrel, a head provided with means for engaging the barrel head sections secured to said arm with a limited universal pivotal movement, means for vertically moving said arm and head for engaging and disengaging the barrel head sections, and guides projecting radially from said head for engaging the barrel at a plurality of points and constituting stops for limiting the downward movement of the parts, whereby the head sections are registered with the croze of the barrel.

2. In a machine for assembling barrels, the combination with a laterally-swinging transfer arm, of a receptacle for a vertical series of assembled barrel head sections peripherally engaging the same, a head carried by said transfer arm having means for engaging the barrel head sections, means whereby the diameter of said receptacle may be enlarged or contracted, and means for adjusting said head upon the transfer arm into axial alinement with said receptacle.

3. In a machine for assembling barrels, the combination with a frame, of guides for surrounding a vertical series of assembled barrel heads secured to said frame, a bottom board or follower within said guides, an arm supporting said bottom plate, a rack bar secured to said arm and vertically slidable on said frame, a foot-actuated pawl for engaging said rack bar and feeding said arm and bottom plate upward, a holding dog for said rack bar, and a dash

pot for retarding the downward movement of said rack arm and bottom plate when released by said dog.

869,025. METAL VEHICLE-BODY. HINSDALE SMITH and ARTHUR P. SMITH, Springfield, Mass. Filed Apr. 2, 1907. Serial No. 365,902.

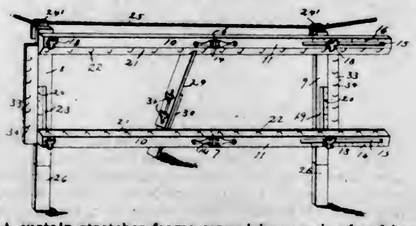


1. In a vehicle body, the seat portion of the same having a bead formed therein, a bow-piece secured to the body portion and at the rear side of the seat portion of the body; said bow-piece being of different material than the body portion whereby the upholstering material can be readily attached thereto.

2. In an improvement of the class described, the metallic body and an attachment therefor for securing the upholstering thereto, said attachment being located at the rear side of the seat portion, and consisting of a molded bow-piece, a bead in the body portion, adjacent to the bow-piece as described.

3. In an improvement of the class described, a metal body having a beaded portion near the upper edge of the seat thereof, a wooden bow-piece secured to the rear side and flush with the upper edge of the seat portion, and upholstering attached to the rear side of the bow-piece, said bow-piece being adjacent to the upper side of the beaded portion.

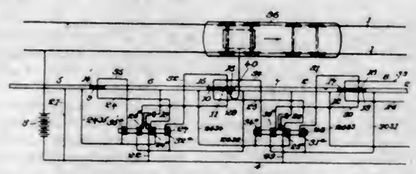
869,026. CURTAIN-STRETCHER. MARY A. SMITH, Reading, Pa. Filed Jan. 24, 1906. Serial No. 297,668.



A curtain stretcher frame comprising a pair of end bars, side bars formed in hinged sections secured to said end bars, adjustable connections between said side and end bars, members arranged parallel with said end bars outside the frame and hinged thereto to swing rearwardly thereof, said side bars and said hinged members being provided with curtain pins, and hooks arranged at the upper ends of said end bars and designed to engage a suitable support to hold said frame in an upright position, said end bars being jointed adjacent their lower ends, and the lower portions thereof being adapted to be bent rearwardly to serve as supporting legs for said frame when in the horizontal position, substantially as shown and described.

869,027. ELECTRIC RAILROAD. WILLIAM G. SPIEGEL, New York, N. Y. Filed July 17, 1906. Serial No. 326,575.

1. In an electric railroad, the combination with the traveling car, electric motor thereon and return circuit connections, of a supply conductor, a sectional conductor having each of its insulated sections normally disconnected from the supply conductor, a contact device carried by the car and bearing on the sectional conductor, a series of switches, each one of which is adapted when closed to connect a corresponding insulated section of the sectional conductor with the supply conductor, electrically actuated means for operating these switches, a series of switch operating sections interspersed between the main sections of the sectional conductor and a circuit extending from each main section through the switch operating means of another main section to the adjacent switch operating section of the sectional conductor.



2. In an electric railroad, the combination of a stationary source of current supply, a movable car, a motor carried thereby and adapted to propel the same, a "safety third rail" composed of insulated main sections normally disconnected from the source of current supply, means for connecting each main section of the third rail to the source of current supply operated by the car before entering that section, a disconnecting switch for each section, electrically operated means for opening said switch, switch opening sections in the third rail located between the main sections, and a circuit extending from each switch opening section to the main section about to be entered through the switch opening means for the main section of the third rail over which the car last passed.

3. In an electric railroad, the combination with the traveling car, electric motor thereon and return circuit connections, of a supply conductor, a sectional conductor having each of its insulated sections normally disconnected from the supply conductor, a contact device carried by the car and bearing on the sectional conductor, a series of switches, each one of which is adapted when closed to connect a corresponding insulated section of the sectional conductor with the supply conductor, electrically actuated means for operating these switches, a series of switch operating sections interspersed between the main sections of the sectional conductor and a circuit extending from each main section through the switch operating means of another main section to the adjacent switch operating section of the sectional conductor, said electrically operated means actuating the switches comprising an electro magnet, the coils of which are included in the last mentioned circuit.

4. In an electric railroad, the combination of a stationary source of current supply, a movable car, a motor carried thereby and adapted to propel the same, a "safety third rail" composed of insulated main sections normally disconnected from the source of current supply, means for connecting each main section of the third rail to the source of current supply operated by the car before entering that section, a disconnecting switch for each section, electrically operated means for opening said switch, switch opening sections in the third rail located between the main sections, and a circuit extending from each switch opening section to the main section about to be entered through the switch opening means for the main section of the third rail over which the car last passed, said electrically operated means for opening the switches comprising an electro-magnet whose coils are included in the last mentioned circuit.

5. In an electric railroad, the combination with the traveling car, electric motor thereon and return circuit connection, of a supply conductor, a sectional conductor having each of its insulated sections normally disconnected from the supply conductor, a contact device carried by the car and bearing on the sectional conductor, a series of switches, each one of which is adapted when closed to connect a corresponding insulated section of the sectional conductor with the supply conductor, electrically actuated means for operating these switches, a series of switch operating sections interspersed between the main sections of the sectional conductor, there being two of the switch operating sections between each two adjacent main sections, and a

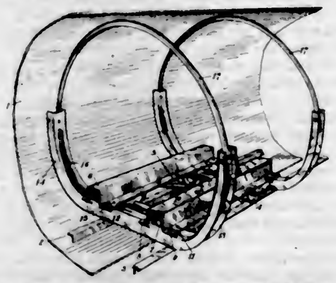
circuit extending from each main section through the switch closing means of the next forward main section to the switch operating section nearest the first mentioned main section.

6. In a "safety third rail" system for electric railroads, the combination of a sectional conductor having a series of long sections and two short sections between each two long sections, a current supply connection to each long section, a switch in each connection, an electro-magnetic device for closing each switch, an electro-magnetic device for opening each switch, a circuit extending from each short section through one of the switch operating magnets of the more remote long section to the adjacent long section, all those circuits whose loops extend in one direction passing through the switch closing magnets and those whose loops extend in the other direction passing through the switch opening magnets.

7. In a "safety third rail" system for electric railroads, the combination of a "third rail" conductor divided into insulated sections, a supply conductor, electrically operated switches for cutting in and cutting out each section to and from connection with the supply conductor, a set of four short switch operating insulated sections located two on each side between the adjacent ends of the main sections of the third rail, circuit connections from the two short sections on one side of the rail to the switch operating mechanism adapted to drive the car in one direction and circuit connections from the two short sections on the other side of the rail to the switch operating mechanism adapted to drive the car in the other direction.

8. In a "safety third rail" system for electric railroads, the combination of a "third rail" conductor divided into insulated sections, a supply conductor, electrically operated switches for cutting in and cutting out each section, to and from connection with the supply conductor, a set of four short switch operating insulated sections between the adjacent ends of the main sections of the third rail, circuit connections from the short sections on one side of the rail to the switch operating mechanism adapted to drive the car in one direction and circuit connections from the short sections on the other side of the rail to the switch operating mechanism adapted to drive the car in the other direction, together with a car, an electric motor thereon, a motor reversing mechanism therefor, a collecting shoe carried by the car, and means for shifting the shoe from one side of the third rail to the other simultaneously with the movement of the motor reversing mechanism aforesaid.

869,028. TIE-CAR FOR IMPREGNATING-TANKS. THOMAS H. STAGG, Columbus, Ohio, assignor to The Kilbourne and Jacobs Manufacturing Company, Columbus, Ohio, a Corporation of Ohio. Filed May 22, 1907. Serial No. 375,170.



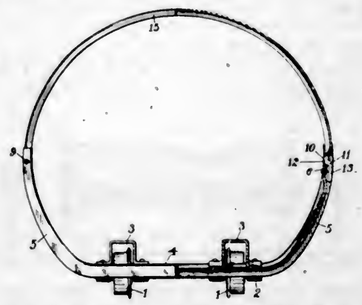
1. In a car for wood impregnating tanks, a side sill formed of a pressed shape and adapted to cover the wheels of the car, an end sill, and folds formed on said side sill adapted to engage said end sill for bracing the same.

2. In a car for wood impregnating tanks, a side sill formed of a pressed shape and adapted to form a cover for the wheels on one side of the car, an end sill formed of a pressed shape and secured to said side sills, flanges on said side sills having folds therein, and a groove formed on said end sill with which said folds are adapted to engage, thereby forming a bracing construction.

3. In a car for wood impregnating tanks, an integral side sill pressed into shape having side flanges, folds formed in said side flanges adjacent the ends thereof, an end sill pressed into channel shape and having a longitudinal groove on its upper face which said folds are adapted to enter, means securing said end sill and side sill together, said side sill being formed to cover the wheels on said car.

4. In a car for wood impregnating tanks, a side sill formed of a pressed shape, an end sill, a corrugation formed on said side sill adapted to engage said end sill, thereby forming a bracing construction.

869,029. TIE-CAR FOR IMPREGNATING-TANKS. THOMAS H. STAGG and JOHN B. ARMACK, Columbus, Ohio, assignors to The Kilbourne and Jacobs Manufacturing Company, Columbus, Ohio, a Corporation of Ohio. Filed May 22, 1907. Serial No. 375,171.



1. In a car a bolster having its ends curved upwardly and outwardly, a bail having its ends adapted to be brought into engagement with the ends of said bolster, and means for automatically locking said bolster and bail together.

2. In a car a bolster having its ends curved upwardly and outwardly, a bail adapted to have its ends brought into engagement with the ends of said bolster, said bolster and bail having openings adapted to register, and a gravity lock adapted to project into said openings to secure said parts in place.

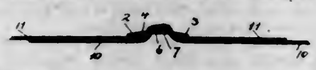
3. In a car bolster having openings adjacent its ends, a bail substantially -shaped in cross section, having openings adjacent its ends, adapted to register with the openings in said bolster, a lock pivotally mounted on said bolster and adapted to project into said registering openings, whereby said parts are locked together.

4. In a car bolster having openings adjacent its ends, a curved bail having openings adjacent its ends adapted to register with the openings in said bolster, a pivoted lock adapted to be swung out of locking position by said bail when the latter is being positioned, whereupon said lock through gravity is projected into said registering openings to lock said parts together.

5. In a car a bolster having openings adjacent its ends, a bail having openings adjacent its ends adapted to register with the openings in said bolster, a pivoted lock adapted to be swung outwardly when said bail is being positioned, and adapted to swing inwardly to project into said openings to lock said parts together, and means for limiting the inward swing of said lock.

6. In a car a bolster having openings adjacent its ends, a bail having openings adjacent its ends adapted to register with the openings in said bolster, a pivoted lock adapted to project into said registering openings, whereby any upward stress upon said bail will cause said lock to be more securely positioned in said openings.

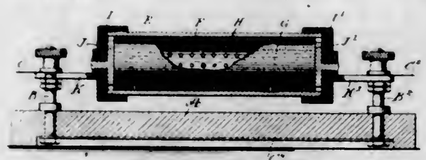
869,030. BUCKLE. AUGUST F. P. STENZY, Baltimore, Md. Filed Mar. 21, 1907. Serial No. 363,592.



1. A buckle for securing two strap ends having side bars, end bars connecting the side bars and an intermediate cross bar between the end bars, and one of the end bars at its inner edge having a blunt projection to frictionally engage one strap, and the intermediate bar also having a blunt projection to frictionally engage the other strap.

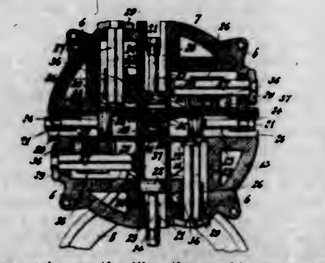
2. A buckle for securing two strap ends having side bars, end bars connecting the side bars and one of said end bars being toothless, and an intermediate cross bar between the end bars, a blunt projection at the inner edge of one end bar, a blunt projection on the edge of the intermediate bar adjacent the toothless end bar, a strap end passing over the intermediate bar and in frictional engagement with the blunt projection thereon, and another strap end passing between the intermediate bar and the blunt projection on the end bar and in frictional engagement with said latter projection, whereby both strap ends may be adjusted by sliding through the buckle in either direction.

869,031. LIGHTNING-ARRESTER. CLARK I. STOCKING, Hiawatha, Kans., assignor of one-half to Arthur J. Stevens, Hiawatha, Kans. Filed Jan. 3, 1907. Serial No. 350,597.



A lightning arrester, comprising a tubular casing of conducting material, and having caps of non-conducting material, a connection between the casing and the ground, a conductor within the said casing, a perforate tubular non-conductor interposed between the said conductor and the said casing, and contacts secured on the inner faces of the said caps and having their ends in contact with the ends of the said conductor, the outer ends of the said contacts being adapted for circuit connection.

869,032. ROTATING ENGINE. FRANKLIN STRATTON, Buffalo, N. Y., assignor to The Stratton Rotating Engine Company, Buffalo, N. Y., a Corporation of Arizona. Filed Dec. 6, 1906. Serial No. 346,597.



1. In an engine or the like, the combination with a rotating element having a plurality of radially disposed cylinders of a valve around which said rotating element rotates, a piston reciprocal in each cylinder, a fixed guide, and connections between opposite pistons and between the pistons and said guide.

2. In an engine or the like, the combination with a plurality of radially disposed rotating piston-cylinders, of a valve around which said cylinders rotate, a piston reciprocal in each cylinder, a fixed guide, and link-mechanism having connection with opposite pistons and being guided on said guides.

3. In an engine or the like, the combination with a plurality of rotating piston-cylinders, of a valve around which the cylinders rotate, a piston reciprocal in each cylinder and having a piston-rod, means for connecting the pistons in pairs, and a fixed cam or guide over which said connecting-means travel to govern the movement of the pistons and the rotation of the cylinders.

4. In an engine, the combination with a spider having a plurality of radially disposed piston-cylinders, of a wheel-rim connected to said spider, a valve controlling the admission of the fluid-agent to and the exhaust thereof from said cylinders, a piston reciprocal in each cylinder, fixed guiding-means, and connections with the pistons traveling around said guiding-means and governing the movements of the piston and the rotation of the spider.

5. The combination with a support, of a hollow valve having an inlet-port and an exhaust-port, a fixed cam or guide held on said support, a spider rotatable on said valve and having radially disposed cylinders with ports at their inner ends for the admission and exhaust of the fluid-agent, pistons connected in tandem and reciprocal within the cylinders, and means on the connections of said pistons co-acting with said cam or guide to govern the movement of the pistons and the rotation of the spider.

6. In a rotating-engine, the combination with a support, of a hollow-valve having an inlet and an exhaust, a spider rotatable around said valve and having a plurality of cylinders and a hollow trunnion extending from opposite sides thereof, a fixed cam or guide on each side of the spider through which said hollow shaft extends, pistons reciprocal in said cylinders, connections to said pistons guided on said cam or guide, and means for adjusting the valve to position the inlet thereof in line with the vertical center of the engine or to either sides of the vertical center, for the purpose described.

7. In a rotating-engine, the combination with a support, of a hollow-valve having an inlet and an exhaust, a spider rotatable around said valve and having a plurality of cylinders and a hollow trunnion extending from opposite sides thereof, a fixed cam or guide on each side of the spider through which said trunnion extends, pistons reciprocal in said cylinders, link-mechanisms connecting the pistons in tandem and having rollers adapted to travel on said cam or guide, and means for oscillating the valve within said spider to regulate the speed thereof, to govern the direction of rotation of said spider, and to stop the engine.

8. In a rotating engine, the combination of a spider having radially disposed cylinders, a hollow center valve having its axis coincident with the axis of said spider, a fixed cam, pistons reciprocal in said cylinders, mechanism connecting the pistons in pairs and having rollers riding around said cam or guide, and means for guiding said mechanism on the spider.

9. In a rotating engine, the combination of a spider having piston-cylinders connected by webs and a hollow trunnion extending from opposite sides of said spider, a tubular valve within said shaft and arranged to admit the fluid-agent to and exhaust the same from the cylinders, fixed cams on opposite sides of the spider through which said hollow trunnion passes, pistons reciprocal in said cylinders, a link-mechanism on each side of the spider connecting coincident pistons and having a roller adapted to travel around said cam, and guides on said spider for guiding the link-mechanisms.

10. In a rotating engine, the combination of a rotating spider having radially disposed cylinders and a center hollow trunnion tapered internally at a point between the cylinders to provide a tapered valve-seat, a hollow-valve in said trunnion having a correspondingly tapered portion fitting the valve-seat and having also an inlet-port and an exhaust-port, means for moving the valve lengthwise, means for rotating said valve, a fixed cam or guide, pistons reciprocal in said cylinders, and connections to the pistons adapted to travel around said cam or guide.

11. In a rotating-engine, the combination of a rotating spider having a center bore and a plurality of radially disposed cylinders, a guide-rod parallel with each cylinder, a hollow valve in the bore of the spider having an inlet-port and an exhaust-port, a fixed cam or guide on each side of the spider, pistons reciprocal in the cylinders, mechanism connecting the pistons in pairs and having boxes fitting said guide-rods, a shaft in each box, and rollers on said shaft adapted to travel around said cams or guides.

12. In a rotating-engine, the combination of a rotating spider having a center bore and a plurality of radially disposed cylinders connected by webs, a hollow valve in the bore of the spider having an inlet-port and an exhaust-port, a fixed cam or guide on each side of the spider, a guide-rod parallel with each cylinder and removably secured to the spider, pistons reciprocal in the cylinders, and mechanism connecting the pistons in pairs and having boxes fitting said guide-rods, a shaft in each of said boxes, rollers on said shafts adapted to travel around said cams or guides, a gear affixed to the hollow-valve, and a handle having a segment-gear in mesh with the gear of the valve.

13. In a rotating-engine, the combination with a spider having a center-bore and radially disposed cylinders, a hollow-valve in said bore having an inlet-port and an exhaust-port, means for rotating said valve, a fixed cam or guide, pistons reciprocal in said cylinders and each having a piston-rod, link-connections on the outside of the spider having each connection with the piston-rods of opposite pistons, and rollers carried on said link-connections and adapted to travel around said cam or guide.

14. In a rotating-engine, the combination with a spider of cast metal having cylinders therein and a central axial hole therethrough, pistons in said cylinders, and means for driving them by the fluid-agent; of a steel trunnion fitting tightly into said hole, means for holding the trunnion within the spider, and ports for the admission and exhaust of the fluid-agent.

15. In a rotating-engine, the combination with a spider of cast metal having cylinders therein and a central axial hole therethrough, thickened hubs around said hole, one hub having radial recesses in its outer end and the other having an annular recess in its outer end, pistons in said cylinders, and means for driving them by the fluid-agent; of a steel trunnion fitting tightly into said hole and having wings adapted to engage said radial recesses and an exterior screw-thread at a proper point, a collar on said thread adapted to enter said annular recess, and ports for the admission and exhaust of the fluid-agent.

16. In a rotating-engine, the combination with a spider having radial cylinders, pistons and piston-rods therein, and a trunnion and valve for admitting and exhausting the fluid agent to and from said cylinders; of guide-rods supported in the spider parallel with the cylinders, boxes moving on the guide-rods, and connections between the boxes and piston-rods.

17. In a rotating-engine, the combination with a spider having cylinders, pistons and piston-rods therein, and a trunnion and valve for admitting and exhausting the fluid-agent to and from said cylinders; of guide-rods parallel with the cylinders, sockets in the spider in which the inner ends of said rods are stepped, nuts in the spider by which the outer ends of said rods are supported, boxes moving on the guide-rods, and connections between the boxes and piston-rods.

18. In a rotating-engine, the combination with a spider having radial cylinders, pistons and piston-rods therein, and a trunnion and valve for admitting the fluid-agent to and from said cylinders; of guide-rods supported in the spider parallel with the cylinders, boxes connected with the piston-rods and having partial openings moving on the guide rods, and plates detachably connected with the boxes and having complementary openings moving on said guide-rods.

19. In a rotating-engine, the combination with a spider having four cylinders, pistons and piston-rods therein, cross-heads on said rods, and boxes connected with the cross-heads; of links connecting the opposite boxes in pairs, the links which connect one pair of boxes being on one side of the spider opposite from those which connect the other pair of boxes, and a valve for the admission and exhaust of the fluid-agent to and from said cylinders.

20. In a rotating engine, the combination with a spider having four cylinders, pistons and piston-rods therein, and boxes connected with said rods; of a trunnion on which the spider rotates, a valve therein for the admission and exhaust of the fluid-agent to and from said cylinders, and links connecting the opposite boxes in pairs, the links which connect one pair of boxes being on one side of the spider opposite from those which connect the other pair of boxes.

21. In a rotating engine, the combination with a spider having four cylinders, pistons and piston-rods therein, and boxes connected with said rods, of a trunnion on which the spider rotates, a valve therein for the admission and exhaust of the fluid-agent to and from said cylinders, and links connecting the opposite boxes in pairs, the links which connect one pair of boxes being opposite from those which connect the other pair of boxes, fixed cams in which the trunnion rotates, and rollers on the boxes traveling on the active faces of said cams, each pair of links standing astride said trunnion.

22. In a rotating engine, the combination with a spider having four cylinders, pistons and piston-rods therein, and boxes connected with said rods, each box having stub shafts at one side of the piston-rod and an ear at the other side; of a trunnion on which the spider is secured, a valve therein for admitting and exhausting the fluid-agent, non-rotary cams on said trunnion, rollers secured on the stub shaft and traveling on the active faces of the cams, and a link connecting each box with the ear on the box diametrically opposite.

23. In a rotating-engine, the combination with a spider having four cylinders, pistons and piston-rods therein, and boxes connected with said rods, each box having stub shafts at one side of the piston rod and an ear at the other side; of a trunnion on which the spider is secured, a valve therein for admitting and exhausting the fluid-agent, non-rotary cams on said trunnion, rollers journaled on the boxes and traveling on the active faces of the cams, and a link connecting each box with the ear on the box diametrically opposite, each link passing to one side of said trunnion and being threaded where it extends through the ear, and nuts on the threaded portion at each side of the ear, for the purpose set forth.

24. In a rotating-engine, the combination with a rotary spider and its cylinders and pistons, a valve for admitting the fluid-agent to and exhausting it from said cylinders, and cams with which said pistons co-act; of a casing comprising a rim member attached to the spider, and end plates detachably connected with the rim member and having openings surrounding the hubs of said cams.

25. In a rotating-engine, the combination with a rotary spider and its cylinders and pistons, a valve for admitting the fluid-agent to and exhausting it from said cylinders, and cams with which said pistons co-act; of a casing comprising a rim member surrounding the spider, end plates having openings surrounding the hubs of the cams, and bayonet-joints detachably connecting said plates and rim-member.

26. In a rotating-engine, the combination with a rotary spider and its cylinders and pistons, a valve for admitting the fluid-agent to and exhausting it from said cylinders, and cams with which said pistons co-act; of a casing comprising a rim member surrounding the spider, end plates having openings surrounding the hubs of the cams, detachable connections between said end plates and rim member, and catches for holding those parts together after the connections are engaged.

27. In a rotating-engine, the combination with a spider having cylinders, pistons therein, rollers connected with the pistons, and fixed cams whose active faces engage said rollers; of a trunnion journaled in said cams and fast in the spider and having ports communicating with its cylinders, a tubular valve within the trunnion and having inlet and outlet ports adapted to register with those

in said trunnion, a partition between said inlet and outlet ports, and means for setting the valve with respect to the positions of the cams.

28. In a rotating-engine, the combination with a spider having cylinders, pistons therein, rollers connected with the pistons, and fixed cams whose active faces engage said rollers; of a trunnion journaled in said cams and fast in the spider and having ports communicating with its cylinders, a tubular valve within the trunnion and having inlet and outlet ports adapted to register with those in said trunnion, a partition between said inlet and outlet ports, a gear fixed on the valve, a sector engaging the gear, and means for moving the sector to set the valve with respect to the position of the cams.

29. In a rotating-engine, the combination with a spider having cylinders, pistons therein, rollers connected with the pistons, and fixed cams whose active faces engage said rollers; of a trunnion journaled in said cams and fast in the spider and having ports communicating with its cylinders, a tubular valve within the trunnion and having inlet and outlet ports adapted to register with those in said trunnion, a partition between said inlet and outlet ports, nipples on the trunnion, nuts on the valve, ball-bearings interposed between the nipples and nuts, an inlet and an outlet connected with opposite ends of said valve, and means for setting the latter with respect to the position of the cams.

30. In a rotating engine, the combination with a spider having cylinders, pistons therein, rollers connected with the pistons, cams engaging said rollers, and a tubular trunnion fixed through the spider and journaled in the cams, the bore of the trunnion being tapered where it passes through the spider and there provided with ports leading into said cylinders; of a tubular valve located within the trunnion and having a tapered portion fitting the similar portion of the trunnion and provided with opposite inlet and outlet ports, an oblique partition between said ports, means for setting the valve with respect to the position of the cams, and nuts beyond the ends of the trunnion, as and for the purpose set forth.

869,033. WATER-TRAP FOR CORNETS, &c. JOHN H. VIOL, Deer Lodge, Mont., assignor of one-third to William E. Werd, Deer Lodge, Mont., and one-eighth to William Dyer and one-eighth to William Sleeman, Butte, Mont. Filed May 13, 1907. Serial No. 373,310.



1. A reservoir trap for wind instruments, consisting of a closed chamber having an inlet opening and an obstruction member partly closing communication through said inlet opening and contained within said chamber.

2. A reservoir trap for wind instruments, consisting of a closed chamber made in two separable parts, one having an inlet opening and the other an outlet opening, an obstruction member partly closing communication through the inlet opening, and a spring seated valve arranged on the outer part of the chamber.

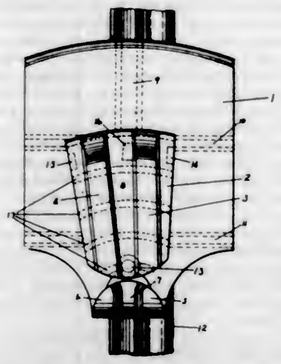
3. A reservoir trap for wind instruments, consisting of a closed chamber having an inlet opening on one side thereof and an outlet opening on the other, a valve stem arranged within the chamber and having an obstruction member opposed to the inlet opening to exclude the air vibrations but allow water to pass and an external knob and collar attached to the valve stem and forming an outlet valve.

4. A reservoir trap for wind instruments, consisting of a two-part closed chamber having an inlet opening on one side, an obstruction member arranged opposite said opening and near thereto, a grooved shank connected to the obstruction member and extending through the wall of the chamber and having an external collar and operating handle and a spiral spring wound about said shank and arranged to force the same inwardly.

5. A reservoir trap for wind instruments, consisting of two hemispherical shells having connecting screw threads and an inlet opening and an obstruction member for the inlet opening arranged within the chamber formed by said shells.

6. A reservoir trap for wind instruments, consisting of a hollow chamber having an inlet opening on one side adapted to be connected with the air passages of the wind instrument, and an obstruction member contained within said chamber and formed as a disk-shaped head slotted and placed opposite to the inlet opening.

869,034. CAR-REPLACER. EUGENE C. WALDORF, Buffalo, N. Y., assignor to Edward D. Howard, Buffalo, N. Y. Filed Mar. 11, 1907. Serial No. 361,790.



1. In car-replacers an adjustable guide-plate designed to be pivoted at one end upon the receiving platform of the replacer and immediately above the central rib, so as to permit of the adjustment of its opposite end to the right or left of the center as occasion may require, all as and for the purpose set forth.

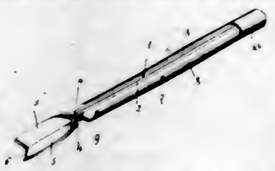
2. The combination in car-replacers of a receiving platform having upon its under side a central longitudinal rib designed to rest longitudinally upon the car-rail, and a longitudinal guide-plate pivoted at one end at a point upon the upper side of the receiving platform immediately above the central longitudinal rib on its underside, all as and for the purpose set forth.

3. The combination in car-replacers of a receiving platform, having upon its under surface a centrally located longitudinal rib extending from end to end, and having upon its upper surface two short parallel ribs located at one end thereof, forming a terminal channel extending to the end of the platform, and a guiding plate, having parallel ribs, located upon the upper surface of the platform and pivoted at one end near the short ribs on the platform, so as to form one continuous channel between the rib on the guiding plate and those on the receiving platform, all as and for the purpose set forth.

869,035. DENTAL INSTRUMENT. WILLIAM C. WOLFORD, Confluence, Pa. Filed Jan. 23, 1907. Serial No. 353,716.

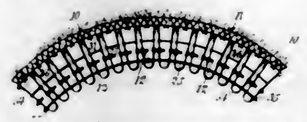
1. A vulcanite trimmer consisting of two pieces of metal pivotally connected together, said pieces of metal having their ends contracted and twisted to form angularly disposed blades having the blunt ends beveled to form cutting edges, handles carried by said pieces of metal, and a threaded sleeve or ferrule for retaining said pieces of metal together.

2. A vulcanite trimmer comprising two pivoted angularly-disposed blades having beveled ends constituting the cutting surface of the blades and disposed at an angle to the longitudinal edges of the blades to form a V-shaped



cutting edge at the end of the trimmer when the blades are closed.

869,036. ADJUSTABLE FORM FOR CURVED SURFACES. JAMES E. WOOD, Pittsburg, Pa. Filed Apr. 23, 1907. Serial No. 369,879.



1. In forms for curved surfaces, a substantially triangular section having an upper flat cap plate, and provided with means at its upper side surfaces for adjustable connection with an opposing section, and means connected with one of the side surfaces of the section at its lower portion for adjustable connection with the side surface of an adjoining section.

2. In a form for curved surfaces, a substantially triangular section having a flat cap plate at its upper end provided with openings therein, the side portions of the said section being provided with a series of apertures, the upper side portions of the section being provided with means for adjustable connection with an adjoining section, and means engaging one of the apertures in one of the side portions of the section and adapted for adjustable connection with the side of an opposing section.

3. In an adjustable form for curved surfaces, a substantially triangular section provided with an upper flat cap plate having a lip extension, means at opposite sides of the cap for adjustable connection with an adjoining section, and a block stationarily held within the section below the cap plate, the sides of the section being provided with a series of openings.

4. In a form for curved surfaces, a series of substantially triangular sections, adjustable connections between the upper portions of the said sections, and bolts provided with suitable nuts adjustably connecting the opposing lower portions of the said sections.

5. In a form for curved surfaces, a series of substantially triangular body sections, each provided with a cap plate at its upper end, adjustable connections between the upper portions of the said sections, bolts provided with suitable nuts adjustably connecting the opposing lower portions of the said sections, and a lagging secured to the upper portions of the said sections.

6. In an adjustable form for curved surfaces, a series of substantially triangular sections having means for hinged connection at their upper ends, and an adjustable connection between their upper and their lower ends.

7. In a form for curved surfaces, a series of triangular sections having adjustable connection at their upper ends and adjustable connection between their lower ends, and means for drawing the lower ends of the sections in direction of each other.

8. In a form for curved surfaces, a series of triangular sections having adjustable connection at their upper ends and adjustable connection between their lower ends, means for drawing the lower ends of the sections in direction of each other, and a lagging removably secured to the upper portions of the said sections.

9. In a form for curved surfaces, a plurality of substantially triangular sections, each having an upper flat surface, adjustable connections between said sections at their upper opposing side surfaces, and means for adjustably connecting the lower portions of said sections with each other.

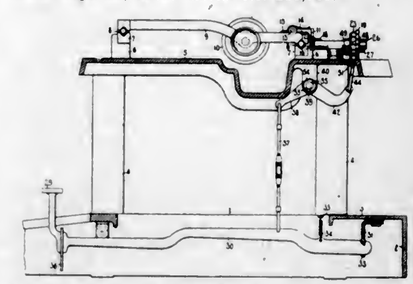
10. In an adjustable form for curved surfaces, a plurality of sections, hinge connections between said sections at one end thereof, and adjustable connections between said sections adjacent to their other ends.

11. In a form for curved surfaces, a section having a flat cap plate at one end, provided with a lip extension, means at opposite sides of the cap plate for adjustable connection with an adjoining section, a block held within the section and bearing at one end against the cap plate, and a bolt extending through the sides of the section and engaging the other end of said block.

12. In a form for curved surfaces, a substantially triangular section provided with a flat cap plate at one end having a lip extension formed with an aperture, means at opposite sides of the cap plate for adjustable connection with an adjoining section, a lagging resting on the said cap plate and a screw extending through the aperture in the said lip extension and engaging the lagging.

13. In a form for curved surfaces a plurality of sections having hinged connection at their upper ends, bolts provided with nuts and adjustably connecting the opposing lower portions of said sections, and a turn buckle extending through the lower ends of said sections.

869,037. TYPE-WRITING MACHINE. OSCAR WOODWARD, New York, N. Y., assignor to Wyckoff, Seamans & Benedict, Ilion, N. Y., a Corporation of New York. Filed Sept. 30, 1905. Serial No. 280,740.



1. In a typewriting machine, the combination of a carriage; a shaft geared to said carriage; a ratchet wheel on said shaft; a back spacing pawl adapted to operate said ratchet wheel but normally out of engagement therewith; a key for operating said pawl; and means for preventing overthrow of said ratchet wheel when said pawl is operated.

2. In a typewriting machine, the combination of a carriage; a back spacing ratchet wheel geared to said carriage; a back spacing pawl for operating said ratchet wheel, said pawl having a curved arm for engaging a part of the machine to guide the motion of said pawl and to jam said pawl against the ratchet wheel at the end of the stroke to prevent overthrow of said ratchet wheel; and a key for operating said pawl.

3. In a typewriting machine, the combination of a carriage; a shaft geared to said carriage; a housing in which said shaft is journaled; a back spacing ratchet wheel on said shaft; a back spacing pawl for operating said ratchet wheel; a guide arm connected with said pawl and coöperating with said housing to guide said pawl out of engagement with said ratchet wheel when the pawl returns to normal position; and a key for operating said pawl.

4. In a typewriting machine, the combination of a carriage; a back spacing ratchet wheel geared to said carriage; a back spacing pawl for operating said ratchet wheel; a guide member connected with said pawl and

adapted to guide said pawl out of engagement with said ratchet wheel when said pawl returns to normal position and to forcibly engage said pawl with said ratchet wheel at the end of the positive stroke of said pawl; and a key for operating said pawl.

5. In a typewriting machine, the combination of a carriage; a feed rack on said carriage; a feed shaft geared to said feed rack; a housing in which said feed shaft is journaled; an escapement wheel mounted on said feed shaft; a ratchet wheel rigidly mounted on said feed shaft in front of said escapement wheel and having pawl and ratchet connection with said escapement wheel; a back spacing pawl adapted to operate said ratchet wheel; and a guide arm on said back spacing pawl adapted to engage said housing to guide the motion of said pawl.

6. In a typewriting machine, a back spacing pawl formed of sheet metal and having a curved guide arm integral with said pawl and bent off therefrom in such fashion that the flat face of said guide arm is substantially at right angles to the flat face of said pawl.

7. In a typewriting machine, the combination of a carriage; a shaft geared to said carriage; a back spacing ratchet wheel mounted on said shaft; a back spacing pawl for operating said ratchet wheel, said pawl having a U-shaped guide arm, the inside curve of which is adapted to engage a part of the machine and guide the motion of said pawl; and a key for operating said pawl.

8. In a typewriting machine, the combination of a carriage; a shaft geared to said carriage; a housing in which said shaft is journaled; a back spacing ratchet wheel mounted on said shaft; a back spacing pawl adapted to engage said ratchet wheel on one side of said housing and having a guide arm adapted to engage the other side of said housing to guide the motion of the pawl; and a key for operating said pawl.

9. In a typewriting machine, the combination of a carriage; a shaft geared to said carriage; a ratchet wheel mounted on said shaft; a housing in which said shaft is journaled; a pawl adapted to engage said ratchet wheel at one side of said housing and having a guide arm extending to the other side of said housing, said guide arm having a part adapted to engage said housing at the end of the stroke of the pawl and to cause said pawl to be forcibly pressed against said ratchet wheel to prevent overthrow; and a key for operating said pawl.

10. In a typewriting machine, the combination of a carriage; a feed rack therefor; a feed pinion engaged by said feed rack; an escapement wheel; pawl and ratchet mechanism for operatively connecting said escapement wheel and feed pinion; a circular housing for inclosing said pawl and ratchet mechanism; grooves cut in the periphery of said circular housing to form a back spacing ratchet wheel thereof; a back spacing pawl coöperating with said ratchet wheel; and a key at the keyboard of the machine for actuating said back spacing pawl.

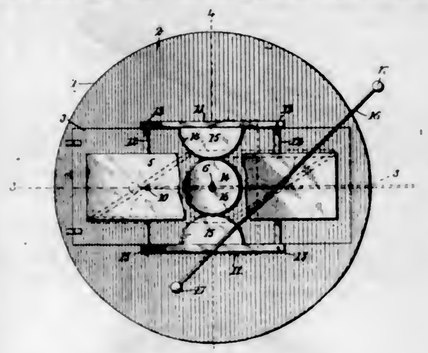
869,038. MECHANICAL MOVEMENT. WILLIAM A. WRIGHT, Greeley, Nebr., assignor of one-half to John L. Ream, Axtell, Kans. Filed Apr. 14, 1906. Serial No. 311,692.

1. A device of the class described, comprising a revoluble spindle having a head, a jointed frame flexibly connected with said head, and a handle rigidly mounted upon said frame and adapted to displace the same to operate said spindle.

2. A device of the class described, comprising a revoluble spindle, a pulley mounted upon said spindle, a pivoted frame having jointed members, flexible bands attached to said members and said pulley, and a handle rigidly secured to said frame and adapted to actuate the same.

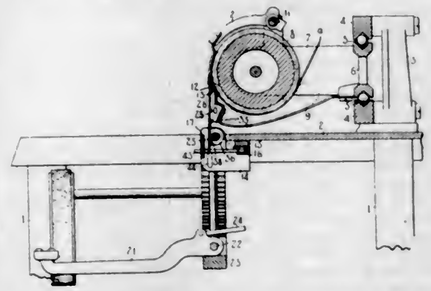
3. A device of the class described, comprising a revoluble spindle, a pulley mounted upon said spindle, a pivoted frame having jointed members, a member of said frame having a half pulley, a flexible band attached to the periphery of said half pulley and said pulley, and a handle adapted to actuate said frame.

4. A device of the class described, comprising a revoluble spindle, a pulley rigid with said spindle, a pivoted jointed frame having half pulleys, flexible bands passing partly about said pulley and said half pulleys and attached



respectively thereto, and a pivoted operating handle rigid with said frame.

869,039. TYPE-WRITING MACHINE. FRANK A. YOUNG, Syracuse, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed July 22, 1905. Serial No. 270,833.



1. In a typewriting machine, the combination with a platen, of a card holder mounted yieldingly and normally pressing against the platen or the paper thereon, and means normally inactive but adapted to act on the card holder for increasing the pressure thereof upon the platen or the paper thereon.

2. In a typewriting machine, the combination with a platen, of a card holder, a spring acting to press the card holder normally against the platen, and a device adapted to be moved to act on the card holder to increase its pressure against the platen.

3. In a typewriting machine, the combination with a platen, of a pivoted card holder, a spring acting to press the same against the platen, and a device for increasing the pressure of the card holder and simultaneously preventing motion thereof about its pivot.

4. In a typewriting machine, the combination of a platen; a card holder; a spring tending constantly to press said card holder against said platen; and means for positively maintaining said card holder against the platen.

5. In a typewriting machine, the combination of a platen, a card holder; a spring tending constantly to press said card holder against said platen; means for positively maintaining said card holder against the platen; and means for releasing said card holder from said positive means.

6. In a typewriting machine, the combination of a longitudinally movable platen; a pressure device for paper or cards mounted on the machine frame; and means for

positively maintaining the pressure device in contact with the platen.

7. In a typewriting machine, the combination of a longitudinally movable platen; a card holder pivoted to a fixed part of the machine; and means for positively maintaining said card holder in contact with the platen.

8. In a typewriting machine, the combination of a longitudinally movable platen; a card holder pivoted to a fixed part of the machine; a spring constantly tending to press said card holder against the platen; and other means which positively maintain said card holder against the platen.

9. In a typewriting machine, the combination of a longitudinally movable platen; a card holder pivoted to a fixed part of the machine; a spring constantly tending to press said card holder against the platen; means for positively maintaining said card holder against the platen; and means for releasing said card holder from said positive means.

10. In a typewriting machine, the combination of a platen, a scale for holding the paper against the platen below and parallel to the printing line; marginal paper guides for controlling the paper at its side edges, said paper guides being movable with the platen; an independent pressure device for the paper mounted to a fixed part central of the machine and acting close to the printing point; and means for positively maintaining said pressure device in engagement with the platen, said pressure device being sufficiently resilient to allow of the passage of the paper between it and the platen.

11. In a typewriting machine, the combination of a platen, a scale for holding the paper against the platen below and parallel to the printing line; marginal paper guides for controlling the paper at its side edges, said paper guides being movable with the platen; an independent pressure device for the paper mounted to a fixed part centrally of the machine and acting close to the printing point; means for positively maintaining said pressure device in engagement with the platen, said pressure device being sufficiently resilient to allow of the passage of the paper between it and the platen; and means for releasing said pressure device.

12. In a typewriting machine, the combination of a platen; a scale for holding the paper against the platen below and parallel to the printing line; marginal paper guides for controlling the paper at its side edges, said paper guides being movable with the platen; an independent pressure device for the paper mounted to a fixed part centrally of the machine and acting close to the printing point; means for positively maintaining said pressure device in engagement with the platen, said pressure device being sufficiently resilient to allow of the passage of paper between it and the platen; means for releasing said pressure device; and a spring constantly tending to press said pressure device against the platen.

13. In a front-strike typewriting machine, the combination of a platen; a centrally arranged card guide attached to a stationary part of the machine; and means for positively maintaining said card guide in contact with said platen.

14. In a front-strike typewriting machine, the combination of a platen; a centrally arranged card guide attached to a stationary part of the machine; means for positively maintaining said card guide in contact with said platen; and means for releasing said card guide from said last named means.

15. In a front-strike typewriting machine, the combination of a platen; a centrally arranged spring-pressed card guide pivoted to a stationary part of the machine; and means for positively maintaining said card guide in contact with said platen.

16. In a front-strike typewriting machine, the combination of a platen; a platen scale; a device arranged in the vicinity of the printing point and adapted to control the lower edge of a card after it leaves the control of the platen scale; and means for maintaining said device positively in contact with the platen, said device being sufficiently resilient to permit of the passage of a card between the platen and the device.

17. In a typewriting machine, the combination of a platen; means for holding and guiding the paper near its side edges, said means being movable with the platen; fixed means for guiding and holding the paper near the printing point; and means for positively maintaining said fixed means in engagement with the platen.

18. In a typewriting machine, the combination of a platen; means for holding and guiding the paper near its side edges, said means being movable with the platen; fixed means for guiding and holding the paper near the printing point; means for positively maintaining said fixed means in engagement with the platen; and means for releasing said fixed means from the control of said last named means.

19. In a typewriting machine, the combination of a platen; means for holding and guiding the paper near its side edges, said means being movable with the platen; fixed means for guiding and holding the paper near the printing point; and means for positively maintaining said fixed means in engagement with the platen, said fixed means being adapted to be acted upon by said holding and guiding means which move with the platen and thus enable the last mentioned means to pass by the fixed means.

20. In a typewriting machine, the combination of a platen; marginal paper fingers mounted to move with the platen; a fixed central paper or card holder; and means for locking said paper or card holder in a fixed position so as to maintain it positively in engagement with said platen, said card holder being movable transversely of the platen by said paper fingers.

21. In a typewriting machine, the combination of a platen; marginal paper fingers; a fixed central card guide; and means for positively maintaining said guide in engagement with the platen, said guide being sufficiently yielding to permit either of said marginal paper fingers to pass from one side to the other of it.

22. In a typewriting machine, the combination of a platen; marginal paper fingers; a fixed central card guide; and means for positively maintaining said guide in engagement with the platen, said guide being adapted to be cammed away from the platen by either of said marginal paper fingers.

23. In a typewriting machine, the combination of a platen; a plurality of guide fingers attached to a fixed part of the machine; and means for positively maintaining said guide fingers in engagement with tho platen.

24. In a typewriting machine, the combination of a platen; a plurality of resilient guide fingers attached to a fixed part of the machine; and means for positively maintaining said guide fingers in engagement with the platen.

25. In a typewriting machine, the combination of a platen; a pressure device provided with camming edges, which edges are adapted to act on the sides of the paper or card; and means for positively maintaining said pressure device in contact with the platen.

26. In a typewriting machine, the combination of a platen; a pressure device for the paper or cards provided with a scale and with camming edges, which edges are adapted to act on the sides of the card or paper; and means for positively maintaining said pressure device in contact with the platen.

27. In a typewriting machine, the combination of a platen; a pressure device for paper or cards attached to a stationary part of the machine and provided with lateral camming edges adapted to act on the side edges of the paper or card; and a margin or side guide for the paper movable with the platen and provided with a cam adapted to act on said pressure device to move it sufficiently to permit said margin guide to pass.

28. In a typewriting machine, the combination of a platen; a pressure device formed of sheet metal and provided with a pair of paper holding fingers each independently yieldable and each having side edges adapted to control the paper, the printing point on the platen being indicated by an opening between the inner edges of the fingers, the printing line being indicated by the tops of the fingers; and a scale formed on the upper portions of said fingers.

29. In a typewriting machine, the combination of a platen; a platen scale and a pressure device of sheet metal formed with a pair of independently yieldable paper fingers having camming edges and also provided with a pointer adapted to coöperate with the carriage scale, said pressure device being adapted to serve as a printing point indicator, a printing line indicator, and a platen scale.

30. In a typewriting machine, the combination of a platen; a sheet metal pressure device having a pair of independently yieldable paper fingers formed with camming edges, said pressure device being pivoted to a stationary part of the machine; a spring constantly tending to press said device against the platen; and a locking lever for positively maintaining said device against the platen.

31. In a typewriting machine, the combination of a platen; a sheet metal pressure device having a pair of independently yieldable paper fingers formed with camming edges, said pressure device being pivoted to a stationary part of the machine; a spring constantly tending to press the ends of said paper fingers against the platen; and a pivoted lock or latch adapted to act on said pressure device to positively maintain the ends of said paper fingers against the platen.

32. In a typewriting machine, the combination of a platen, a carriage scale and a device fixed to the framework opposite the printing point and adapted to serve as a platen scale, a line indicator, a printing point indicator and a carriage scale indicator.

33. In a typewriting machine, the combination of a platen, a device adapted to serve as a platen scale and a line indicator, and means for locking said device in engagement with the platen.

34. In a typewriting machine, the combination of a platen, a device adapted to serve as a platen scale, a line indicator and a printing point indicator, and means for locking said device in engagement with the platen.

35. In a typewriting machine, a sheet metal device fixed to the framework opposite the printing point and adapted to serve as a combined line indicator, platen scale and printing point indicator.

36. In a typewriting machine, a sheet metal device fixed to the framework opposite the printing point and adapted to serve as a combined line indicator, platen scale, printing point indicator and carriage scale indicator.

37. In a typewriting machine, the combination of a platen and a sheet metal device fixed to the framework opposite the printing point and adapted to serve as a combined line indicator, platen scale and printing point indicator, said device being maintained in constant engagement with the platen.

38. In a typewriting machine, the combination with a platen, of a card holding device pivoted to the machine frame and constructed to serve as a line guide and also as a printing point indicator.

39. In a typewriting machine, the combination with a carriage, a platen and a platen scale, of a card holding device pivoted to the machine frame and maintained by pressure in contact with the platen or the paper thereon, said card holding device serving also as a line guide, a printing point indicator and as a carriage scale pointer.

40. In a front-strike typewriting machine, the combination with a platen, of an upstanding pressure device pivoted at its lower portion centrally of the machine and bearing against the platen at its upper edge.

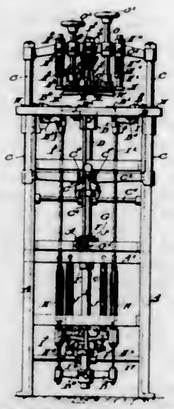
41. In a front-strike typewriting machine, the combination with a platen, of an upstanding pressure device pivoted at its lower portion centrally of the machine and bearing against the platen at its upper edge, and a device for locking the pressure device against movement on its pivot and simultaneously increasing the pressure of its upper edge against the platen.

42. In a typewriting machine, the combination of a platen, a paper or card holder made of resilient material, a spring for maintaining said holder against the platen under gentle pressure, and means independent of said spring for at will exerting a stronger pressure on said holder than said spring exerts.,

43. In a typewriting machine, the combination of a platen, a pivoted card holder, the upper portion of which coöperates with the platen, a spring for causing said upper portion to act with a gentle pressure, a device connected with said card holder and arranged on the opposite side of the pivot thereof, and means acting on said device to cause the upper portion of the card holder to bear with stronger pressure against the platen.

44. In a typewriting machine, the combination of a platen, a pivoted spring-pressed resilient paper or card holder made in the form of a lever and having a lug or projection below the pivot, and a hand lever constructed to engage said lug or projection to clamp the card holder and exert an increased pressure of its upper portion against the platen.

869,040. LEATHER CRIMPING AND CLAMPING MACHINE. CHESTER E. ALBRIGHT, Lewisburg, Pa. Filed Dec. 5, 1903. Serial No. 183,888.



1. In a crimping and clamping machine, the combination of a detachable form and clamping plate, means for operating the clamping plate, and means for suspending the form and clamping plate.

2. In a crimping and clamping machine, the combination of a form and clamping plate, means for operating the clamping plate, and means for suspending the form in register with the clamping plate operating means.

3. In a crimping and clamping machine, the combination of a form and clamping plate, operating means for the clamping plate, means for suspending the form and clamping plate, a yielding bed-plate, and means for bringing the form and clamping plate to the bed-plate.

4. In a crimping and clamping machine, a detachable form in combination with a detachable clamping plate, clamping means for holding the plate loosely in position on the form, in combination with means for forcing the material between the form and the plate, means on the machine for moving the form and plate toward one another and separate means on the machine for fastening the clamping means to hold the plate and form locked when they are detached from the machine.

5. In a crimping and clamping machine, a detachable form bearing a clamping plate extending over the form, in combination with means for receiving and operating the form, detached crimper plates, means for forcing the crimper plates between the clamping plate and the form, and means for operating the clamping plate.

6. In a crimping and clamping machine, a detachable form bearing a clamping plate, means for receiving and operating the form, detached crimper plates, means for forcing the crimper plates forward to carry them and the material between the clamping plate and the form, and means for clamping together the parts of the form, the crimper plates and the material.

7. In a crimping and clamping machine, the combination with a detachable form bearing a clamping plate, of means for receiving and reciprocating the form, a table, a yielding bed-plate moving through the table, detached or free crimper plates substantially rectangular and adapted to lie in the table at the corners of the form, means for moving forward the crimper plates, and means for clamping the parts of the form, the material and the crimping plates.

8. In a crimping and clamping mechanism, a table having an opening, a yielding bed-plate lying in the opening, a detachable form, a reciprocating form-holding mechanism, detached or free crimping plates, means for moving the crimping plates on the table and into the form and means for locking the crimping plates in the form.

9. In a crimping and clamping machine, the combination of a form and clamping plate, free crimping plates, means for forcing the crimping plates between the clamping plate and the form, and means for securing the clamping plate, crimping plates and form together so that they may be removed from the machine.

10. In a crimping and clamping machine, the combination of a form-holder, a detachable form comprising a clamping plate carried by the form, a yielding gripping device for holding the blank in the line of movement of the form, detached crimpers, and means for holding the crimpers clamped to the form when the form is removed from the machine.

11. In a crimping and clamping machine, the combination of a substantially rectangular form with means for crimping the corners and ends of the article or material being treated, and leaving the intervening parts uncrimped.

12. In a crimping and clamping machine, the combination with a rectangular detachable form, of a reciprocating form-holding mechanism, a table with a rectangular opening, a rectangular yielding bed-plate, substantially L-shaped crimper plates adapted to be applied at each corner, and reciprocating slides for moving the crimper-plates in upon the form.

13. In a crimping and clamping machine, the combination of a form having an attaching hooked stud, a form-holding mechanism comprising a snap spring fastening to receive the stud of the form, a yielding bed-plate, means for bringing the form-holding mechanism down to the bed-plate, and means for forcing in the material upon the form.

14. In a crimping and clamping machine, the combination of a table having an opening, a bed-plate lying in the opening and supported by a shaft held by resilient means, stops regulating the extent of movement of the shaft, means for preventing the shaft from twisting in operation, and a reciprocating form-holding mechanism above the table.

15. In a crimping and clamping machine, the combination with a form-holder comprising a yielding frame, a detachable form and means for suspending it within the frame so that there is a space between the rim of the frame and the rim of the form, a table having an opening to receive the form, a bed-plate in the opening, crimper plates, and means for operating the form-holder and the crimping plates.

16. In a crimping and clamping machine, a form comprising parts held together by bolts and nuts, and a form-holding mechanism comprising a frame to receive the form, and means on the form-holder for operating the nuts to hold the parts of the form clamped together.

17. In a crimping and clamping machine, a detachable form comprising parts held together by bolts and nuts and a form-holder comprising a catch to suspend the form and fixed wrenches having jaws which receive the nuts when the form is applied to the form holder.

18. In a crimping and clamping machine, the combination of a table, a series of corner slides, crimper plates operated by the slides, a form-holding mechanism and opposite filling wedges between the opposite pairs of slides.

19. In a crimping and clamping machine, the combination of a reciprocating form-holding mechanism, a table, corner slides with Y-arms, and separable crimper plates adapted to lie within the Y-arms and overlap at the meeting ends.

20. In a machine for forming and crimping leather or other material, the combination of a form for depressing the body of a blank, means for applying a yielding pressure or tension to the projecting flange, detachable crimping means for forcing in the material between the pressure or tension means and the form, the crimping means being removable with the frame, and a clamping device carried by the form for securing the molded blank and crimping means to the form.

21. In a machine for forming and crimping leather or other material, the combination of a form-holding mechanism, a detachable form, a tension frame about the form, a bed-plate, means for operating the form-holding mechanism and the tension frame in unison, crimping plates and a clamping plate, means for operating the crimping plates, means for operating the clamping plate, and separate means on the machine for locking the clamping plate to the form.

22. In a machine for forming and crimping leather or other material, the combination of a form-holding mechanism, a detachable form, a regulable spring-pressed tension plate substantially framing the form, a frame bearing a yielding bed-plate to receive the form and a fixed plate between the form and tension plate to receive the tension plate, crimping devices, and operating means.

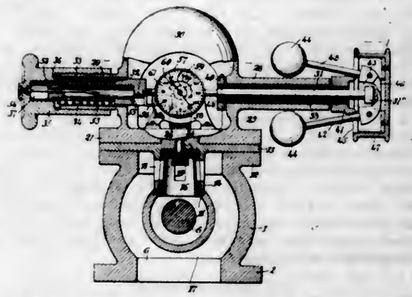
23. In a crimping and clamping machine, a form having a raised rim, a clamping plate extending over the rim of the form in combination with means for forcing the material between the clamping plate and the rim, and securing devices by which the form and the clamping plate may be locked together to clamp the material.

24. In a crimping and clamping machine, a form having a raised rim, a clamping plate extending over the rim, a depending flange fitting against the inner side of the rim, and clamping devices, in combination with means for forcing material between the rim and the clamping plate and against the flange of the clamping plate.

25. A form comprising a sectional body, each section carrying an upright bolt, a union plate carrying a central stud and fitting over the bolts, a clamping plate fitting over the bolts and the stud, and means for holding the parts as assembled.

26. A form comprising a body with a raised rim, a clamping plate having guide-ribs playing within the rim of the body, and securing means.

869,041. GOVERNOR. HUGO F. AMMERMANN and WILHELM LOHSE, New York, N. Y. Filed Mar. 8, 1907. Serial No. 361,212.



1. In a governor, in combination, a governor spindle, means for shifting said spindle longitudinally controlled by the speed of the engine, a spring adapted to be compressed by the shifting of said spindle, a hand wheel for adjusting the tension of said spring, an indicator, and means connecting said hand wheel with said indicator for showing the tension on said spring.

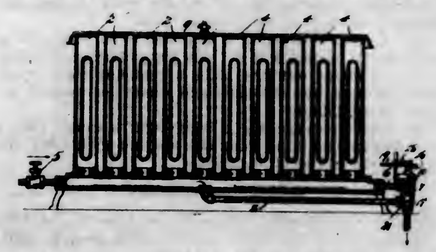
2. In a governor, in combination, a guide sleeve, a thrust-head in said sleeve adapted to be shifted longitudinally, means for controlling the longitudinal shifting of said head from the engine, a bracket supporting the

said head, an indicator supported on said bracket, an adjusting wheel mounted on said guide sleeve, a spring tending to shift said head and adapted to be adjusted by said adjusting wheel, and a connection from said adjusting wheel to said indicator for indicating the tension on said spring.

3. In a governor, in combination, a bracket, a spindle rotatably mounted therein and adapted to shift longitudinally, means for controlling the longitudinal shifting of said spindle with the speed of the engine, a tubular thrust-head mounted in said bracket and abutting said spindle, a spring disposed about said thrust-head within said sleeve and tending to force said spindle longitudinally, an adjusting wheel mounted on said sleeve and adapted to adjust the tension of said spring, an indicator mounted on said bracket, an indicator-stem mounted in said wheel and connected with said indicator whereby the tension of said spring may be shown on said indicator.

4. In a governor, in combination, a bracket, a governor spindle rotatably mounted and slidably mounted in said bracket, means for controlling the longitudinal shifting of said spindle by the speed of the engine, said bracket having a guide sleeve, a thrust-head abutting said spindle, a spring tending to force said spindle longitudinally, an adjusting wheel mounted on said sleeve and adapted to adjust the tension of said spring, an indicator, an indicator-stem loosely mounted in said hand-wheel, said thrust-head having a tubular body through which said stem passes, and a connection between said indicator-stem and said indicator whereby said indicator may show the tension of said spring.

869,042. STEAM-RADIATOR. WILLIAM ANDREWS, New York, N. Y. Filed Apr. 8, 1907. Serial No. 366,905.



1. A radiator comprising heating radiator units, a drainage chamber at the base of the units, unobstructed throughout and at all times serving to keep communication open between the units, a steam inlet, and a normal steam outlet to the radiator and an intermediate outlet and means adapted to close the normal outlet and open the intermediate outlet.

2. A radiator comprising heating radiator units, a drainage chamber at the base of the units, unobstructed throughout and at all times serving to keep communication open between the units, a steam inlet, and a normal steam outlet to the radiator and an intermediate outlet and means adapted to close the normal outlet and open the intermediate outlet, said means comprising a single valve, piping from the normal outlet and piping from the intermediate outlet thereto.

869,043. PROCESS OF SMELTING ORES. HENRY ARDEN, Los Angeles, Cal. Filed Jan. 9, 1907. Serial No. 351,534.

1. The process of smelting ores, which consists in subjecting a charge to the action of a heated gas, and then reducing the charge by means of a reducing gas heated above the temperature of its formation, substantially as described.

2. The process of smelting iron ores, which consists in subjecting a charge containing an oxid ore of iron to the action of a heated gas and then reducing the same by means of carbon monoxid heated above the temperature of its formation, substantially as described.

3. The process of smelting iron ores, which consists in subjecting a charge containing an oxid ore of iron to the action of a heated gas and then reducing the same by means of superheated carbon monoxid in presence of a hydrocarbon vapor, substantially as described.

4. The process of smelting iron ores, which consists in subjecting a charge comprising an iron ore and carbon to the action of a heated gas, then reducing the same by means of a gas heated above the temperature of its formation, substantially as described.

5. The process of smelting iron ores, which consists in subjecting a charge comprising an iron ore and carbon, the carbon being present in less proportion than would be required for reducing the ore, to the action of a heated gas, then reducing the same by means of a superheated reducing gas, substantially as described.

6. The process of smelting iron ores and producing pig metal, which consists in incorporating with an iron ore a relatively small proportion of carbon, and reducing the ore by subjecting it to the action of a reducing gas heated above the temperature of its formation, substantially as described.

7. The process of smelting iron ores and producing pig metal, which consists in incorporating with an iron ore a relatively small proportion of carbon, and reducing the ore by subjecting it to the combined action of a heated reducing gas and a hydrocarbon vapor, substantially as described.

8. The process of smelting iron ores and producing pig metal, which consists in incorporating with an iron ore a relatively small proportion of carbon, and reducing the ore by subjecting it to the combined action of heated carbon monoxid and a hydrocarbon vapor, substantially as described.

9. The process of smelting ores, which consists in heating a non-oxidizing gas to a high temperature, commingling with the same a hydrocarbon vapor, and subjecting a charge comprising the ore and carbon to the action of the mixture, substantially as described.

10. The process of smelting ores, which consists in heating a non-oxidizing gas to a high temperature, commingling with the same a hydrocarbon vapor, and subjecting a charge comprising the ore and carbon to the action of the mixture, the carbon being present in less proportion than would be required for reducing ore, substantially as described.

11. The process of smelting ores, which consists in providing a carbonaceous material with a coating capable of substantially preventing oxidation of the carbonaceous material in presence of the ore, incorporating it with an ore to be reduced, and reducing the ore by means of a heated gas, substantially as described.

12. The process of smelting ores, which consists in providing a carbonaceous material with a protective coating of sodium silicate, incorporating it with an ore to be reduced, and reducing the ore by means of a heated gas, substantially as described.

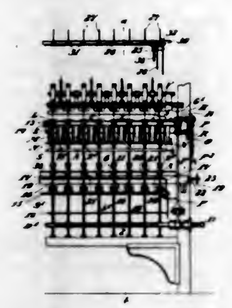
13. The process of smelting ores, which consists in providing a carbonaceous material with a coating capable of substantially preventing oxidation of the carbonaceous material in presence of the ore, incorporating it with an ore to be reduced in proportion less than would be required for reducing the ore, and reducing the ore by means of a heated gas, substantially as described.

14. The process of smelting ores, which consists in providing a carbonaceous material with a protective coating, incorporating it with an ore to be reduced, heating the charge without destroying said protective coating, and finally reducing the ore by means of a heated gas, substantially as described.

15. The process of smelting ores and producing pig metal, which consists in providing a carbonaceous material with a protective coating, incorporating it with an ore to be reduced, heating the charge without destroying said protective coating, and finally reducing the ore by means of heated carbon monoxid, substantially as described.

16. The process of smelting ores and producing pig metal, which consists in providing a carbonaceous material with a protective coating, incorporating it with an ore to be reduced, heating the charge without destroying said protective coating, and finally reducing the ore by means of heated carbon monoxid in presence of a hydrocarbon vapor, substantially as described.

869,044. APPARATUS FOR DOFFING SPOOLS FROM THE SPINDLES OF FLY-FRAMES. WILLIAM H. ARNOLD-FORSTER, Burley in Wharfedale, England. Filed Mar. 29, 1905. Serial No. 252,702.



1. The combination of a frame, a spool-carrying spindle, revoluble means for supporting the spindle on the frame, a device for turning said supporting means to move the spindle in a substantially vertical plane, an auxiliary spindle supported in a line included in said plane and capable of receiving a full spool from the first spindle, with a second auxiliary spindle also supported in a line lying in the plane of the first spindle for delivering an empty spool to said spindle, substantially as described.

2. The combination of a frame, a series of spool-carrying spindles, a structure on a substantially horizontal axis for supporting the spindles on the frame, a device for turning said structure to cause the spindles to move in substantially vertical planes, a set of auxiliary spindles for receiving full spools from the first spindles, and a second set of auxiliary spindles placed to deliver empty spools to the first spindle, one spindle of each auxiliary set being supported so as to extend in lines respectively included in the planes of movement of the movable spindles, substantially as described.

3. The combination of a frame, a series of spindles mounted thereon and each formed in a plurality of separable parts, a revoluble structure for supporting one part of all the spindles, and a device for turning said structure to move the portions of the spindles carried thereby in substantially vertical planes, with means for holding full spools on said spindle portions when the latter are turned from their normal position, substantially as described.

4. The combination of a frame, a structure supported thereon revoluble on a horizontal axis, means for turning said structure on said axis, a series of two-part spindles each having one part carried on said revoluble structure, means for respectively coupling the parts of the spindles, a series of auxiliary spindles supported so as to be respectively in line with said other spindles when these have been turned through predetermined angles and respectively placed to receive full spools from the parts of the spindles attached to the revoluble structure, with means for simultaneously moving said structure to uncouple the respective parts of all the spindles, substantially as described.

5. The combination of a frame, a structure supported thereon revoluble on a horizontal axis, means for turning said structure on said axis, a series of two-part spindles each having one part carried on said revoluble structure, means for respectively coupling the parts of the spindles, a series of auxiliary spindles respectively placed to receive full spools from the parts of the spindles attached to the revoluble structure, with means for vertically moving the revoluble structure to simultaneously uncouple the spindles, and means for simultaneously severing the threads from all the full spools, substantially as described.

6. The combination of a frame, a structure supported thereon so as to be revoluble in a horizontal axis, means for turning said structure on its axis, and means for raising it, a series of spindles carried by said revoluble structure, means for normally retaining the spools on said spindles, other means for engaging the spools to hold them in position when the revoluble structure has been turned to free the spools from said retaining means, and means for receiving full spools after these have been released from the spindles, substantially as described.

7. The combination of a frame, a bar having means for turning it on a horizontal axis and also means for moving it vertically, a series of spindles supported by said bar, a spindle steadier and a spike for each spool, means for operating said steadiers and spikes, with a series of auxiliary spindles respectively placed to receive spools discharged from said spindles, substantially as described.

8. The combination of a frame, a bar having means for turning it on a horizontal axis and also means for moving it vertically, a series of spindles supported by said bar, a spindle steadier and a spike for each spool, means for operating said steadiers and spikes, with a series of auxiliary spindles respectively placed to receive spools discharged from said spindles, each of said spindles being made in two parts detachably coupled together, one of said parts being carried in fixed bearings on the frame, substantially as described.

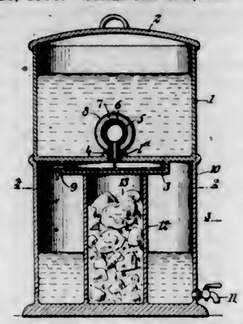
9. The combination of a frame, a bar thereon having means for revolving it on a horizontal axis, a series of auxiliary spindles respectively supported above the spindles on the bar and in the same vertical planes therewith, and means for turning said auxiliary spindles about a horizontal axis to bring them in line with the first mentioned spindles, substantially as described.

10. The combination of a frame, a bar carried thereon having means for turning it on a horizontal axis, a series of main spindles carried by the bar, a second revoluble bar, a series of auxiliary spindles carried thereby respectively extending in the same vertical planes as the main spindles, means for turning said second bar on its axis, and means for temporarily retaining spools on said auxiliary spindles while their supporting bar is being turned, substantially as described.

11. The combination of a frame, a bar thereon having means for revolving it on a horizontal axis and moving it vertically, a series of two-part spindles each having one part carried by said bar, two series of auxiliary spindles so placed that one of each series extends in a vertical plane including one of the main spindles, means for revolubly supporting one of the sets of auxiliary spindles above the main spindles, means for temporarily retaining full spools on the main spindles when these have been moved from their normal position, and means for temporarily retaining empty spools on the second set of auxiliary spindles while these are being brought into line with the main spindles, substantially as described.

12. The combination of a frame, a bar thereon having means for revolving it on a horizontal axis and moving it vertically, a series of two-part spindles each having one part carried by said bar, two series of auxiliary spindles so placed that one of each series extends in a vertical plane including one of the main spindles, means for revolubly supporting one of the sets of auxiliary spindles above the main spindles, means for temporarily retaining full spools on the main spindles when these have been moved from their normal position, means for temporarily retaining empty spools on the second set of auxiliary spindles while these are being brought into line with the main spindles, with means for retaining the main spindles respectively in line with either set of auxiliary spindles, substantially as described.

869,045. COMBINED WATER HEATER, FILTER, AND COOLER. PETER A. AURNESS, Minneapolis, Minn. Filed Oct. 24, 1906. Serial No. 340,322.



1. The combination of a receiving chamber provided with an auxiliary chamber having a drip outlet, a filter arranged within said receiving chamber communicating with said auxiliary chamber, and a lower receptacle adapted to support the receiving chamber and provided with an open ended ice box arranged centrally of said lower chamber, bearing at its upper end against said auxiliary chamber, substantially as shown and described.

2. The combination with a receiving chamber having a filter arranged therein, and an auxiliary chamber connected with said filter and provided with a drip outlet, and a lower chamber provided with a centrally disposed detachable ice box extending at its upper end to said auxiliary chamber, substantially as shown and described.

3. The combination with a receptacle having an open end, of an ice box arranged within said receptacle and spaced from the wall thereof to form a water chamber, and having its upper end terminated short of the upper end of the said receptacle, a receiving chamber detachably mounted on the top of said receptacle and ice box, and a filter arranged within said receiving chamber and provided with an outlet opening into said water chamber, substantially as shown and described.

4. The combination with a receptacle having an open end, of an ice box arranged within said receptacle with its upper end terminated short of the upper end of said receptacle a receiving chamber detachably mounted on the top of said receptacle and ice box, and a filter comprising a spherical perforated head having a neck detachably secured to the bottom of said receiving chamber, layers of filtering material covering said head, and an outlet communicating with the interior of said receptacle, substantially as shown and described.

5. The combination with a receptacle having an open end, of an ice box arranged within said receptacle and spaced from the wall thereof to form a water chamber and having an upper end terminating short of the upper end of the receptacle, a receiving chamber detachably mounted on the top of said receptacle, and a filter arranged within said receiving chamber and provided with an outlet opening into said water chamber, substantially as shown and described.

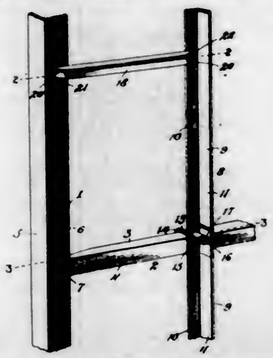
6. The combination with a receptacle having an open end, of an ice box arranged within said receptacle having its upper end terminated short of the upper end of the receptacle, a receiving chamber detachably mounted on the top of said receptacle, and provided with a bottom contracted centrally in diameter adapted to bear on the top of said ice box, and a filter arranged within said receiving chamber and provided with an outlet arranged above the contracted central portion of the bottom of said chamber, substantially as shown and described.

869,046. CARTRIDGE. CHARLES A. BAILEY, Cromwell, Conn. Filed Aug. 6, 1907. Serial No. 387,338.

In a cartridge or shot-shell, the combination with the base-wad and paper-tube, of a metal cap embracing the paper-tube and having a central opening in its head which is wider or countersunk at its outer end, projections extending inwardly from the edge of the opening and embedded in the base-wad, and a metal disk covering the base wad at the outer end of the opening in the cap, substantially as shown and described.



869,047. LADDER. JOHN S. BAKER, Evansville, Wis. Filed July 6, 1907. Serial No. 382,504.



1. A ladder of the character described, comprising side pieces having oppositely disposed slots therein, a series of steps having flat off-set ends entering the slots in the side pieces, and retained therein by said off-set ends.

2. A ladder of the character described, comprising side pieces having oppositely disposed slots therein, a series of steps formed of sheet metal, U-shape in cross section for the greater part of their length and having flattened ends forming off-sets that enter the slots in the side pieces.

3. In a ladder for windmill or like towers, the combination with the corner post or support of the tower, provided with slots or openings, a rail parallel with the corner post and also provided with slots, a plurality of steps having flattened and off-set ends adapted to enter the slots in the corner post and the rail parallel therewith, and be retained by said off-sets.

4. In a windmill or like tower, the combination with the corner post thereof having slots or openings therein, a rail parallel to said corner post and also provided with slots, a plurality of steps formed of sheet metal, substantially U-shape in cross section for the greater part of their length and terminating in flattened off-set ends, one end being adapted to enter the slot in the corner post and the other to enter the slot in the rail, parallel to said post.

5. In a windmill or like power, the combination with the tower girths and one corner post of the tower, having slots therein, a rail parallel with the corner post and formed of sections overlapping at the girths and provided with apertures, a hook bolt passing through the ends of the rail sections and embracing the girth whereby the sections of said rail are held together and to the tower girth, and steps suitably attached to the corner post and to the rail.

6. In a ladder for windmill and like towers, the combination with the horisontal girths thereof, two parallel rails forming the side rails of the ladder and provided with slots or openings, the rails being formed of sections with their ends overlapping and provided with apertures, a hook-bolt passing through the apertures and embracing the girth whereby the rail sections are held together and to the girths, and steps substantially U-shape in cross section for the greater part of their length and provided with flattened ends having off-sets which enter the slots in the side rails.

869,048. MARINE PROPULSION. FREDRICK C. BENNING, Nexpique, La. Filed Feb. 14, 1907. Serial No. 357,288.



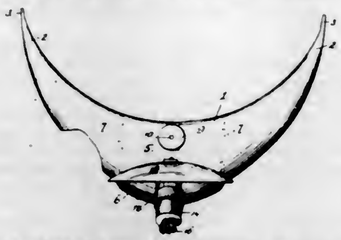
1. A boat having a divided hull with a space between the sections of the hull, and provided with a propeller operating between the sections of the hull and comprising an endless belt, blades having base wings secured to the belt, and radially projecting wings which also extend laterally at their ends beyond the edges of the belt, wheels around which said belt passes, said wheels having at their rims narrow bearing portions extending in waved lines around the wheel and forming discharge pockets at the opposite sides of the wheel adjacent to its periphery, one of said wheels having its shaft provided with a drive pulley, and a slide frame having bearings for one of said wheels, and straining means operating in connection with said slide frame whereby to vary the tension of the belt, substantially as set forth.

2. A boat having a divided hull with a space between the sections thereof, combined with the propeller operating in said space and comprising an endless belt, blades extending therefrom, and wheels around which said belt passes, said wheels having in their opposite faces adjacent to their peripheries, laterally opening pockets, the pockets opening at one end only at their respective sides of the wheel, substantially as and for the purposes set forth.

3. The combination of a boat having a divided hull with a space between the sections thereof, a propeller belt operating in said space and having projecting blades, and wheels around which said belt passes, said wheels having their rims provided with narrow bearing surfaces extending on waved lines and forming pockets opening laterally and circumferentially on opposite sides of the wheels, at the periphery thereof, substantially as set forth.

4. A propeller having an endless belt and wheels around which the same passes, said wheels having their rims provided with bearing surfaces extending on waved lines, substantially as set forth.

869,049. MINER'S LAMP. PHILLIP BIRCH, Pittsburg, Pa. Filed Apr. 18, 1907. Serial No. 368,944.

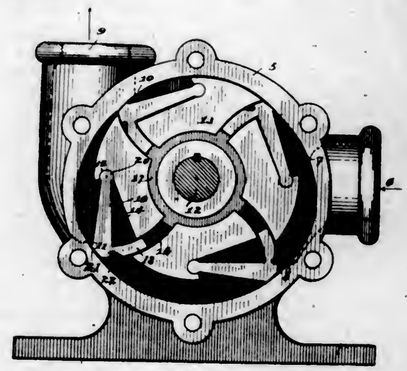


1. In a miner's lamp, a substantially crescent-shaped receptacle, the tapered free ends of which are provided with apertured lobes, dividing partitions arranged in said receptacle to form compartments therein and cut away to establish communication between the compartments, the central compartment having a filling aperture, and a wick spout carried by the receptacle and communicating with said central compartment.

2. In a miner's lamp, a substantially-crescent-shaped receptacle provided at its tapering end with means to secure the same to a cap, transversely-extending partitions within the receptacle dividing the same into a plurality of compartments, the said partitions being cut away to establish communication between the different compartments, one of said compartments having a filling opening, a closure plug therefor provided with a vent opening, and a wick spout carried by the receptacle and communicating with the central compartment of the receptacle.

3. In a miner's lamp, an oil receptacle substantially crescent-shaped in form having the tapered free ends flattened and provided with apertures, a partition within the receptacle dividing the same into compartments in communication one with the other through an opening in the partition, and a wick spout carried by the receptacle in open communication with one of said compartments.

869,050. ROTARY PUMP. ROBERT M. BLACKMER, Conway, Mich., assignor to Blackmer Rotary Pump, Power and Manufacturing Company, Petoskey, Mich., a Corporation of Michigan. Filed Oct. 13, 1905. Serial No. 282,617.



1. In a rotary pump, a pump casing formed with parallel side walls and a cylindrical wall having arcs of different degrees of curvature, said casing having an inlet-port located some distance beyond one end of the arc of smallest radius, and a discharge-port on the opposite side of the cylindrical wall therefrom the orifice of which overlaps the other end of the arc of smallest radius, in combination with a rotary bucket-carrier mounted in said casing concentric with the arc of smallest radius, and a series of buckets mounted in pockets formed in the periphery of said bucket-carrier and having radially swinging blades adapted to engage the inner surface of the cylindrical wall of the casing under centrifugal action, substantially as described.

2. In a rotary pump, a pump casing formed with parallel side walls and a cylindrical wall, the latter having top and bottom portions formed on arcs of greater and less degrees of curvature, respectively, and side portions formed on arcs of intermediate degrees of curvature, said casing having inlet and discharge ports on opposite sides of its cylindrical wall, the lower margins of which overlap the ends of said arc of less curvature, in combination with a rotary bucket-carrier mounted in said casing concentric with the center of said arc of greater curvature, and a series of buckets mounted in pockets formed in the periphery of said bucket-carrier and having radially swinging blades adapted to engage the inner surface of the cylindrical wall of the casing under centrifugal action, substantially as described.

3. In a rotary pump, a pump casing formed with parallel side walls and a cylindrical wall, the latter having top and bottom portions formed on arcs of greater and less degrees of curvature, respectively, and side portions formed on arcs of intermediate degrees of curvature, said casing having an inlet-port the upper edge of whose orifice is located some distance beyond one end of said arc of greater curvature while its lower end overlaps the arc of less curvature, and a discharge-port whose lower end overlaps the other end of said arc of less curvature while its upper end overlaps the other end of said arc of greater curvature, in combination with a rotary bucket-carrier mounted in said

casing concentric with the center of said arc of greater curvature, and a series of buckets mounted in pockets formed in the periphery of said bucket-carrier and having radially swinging blades adapted to engage the inner surface of the cylindrical wall of the casing under centrifugal action, substantially as described.

4. In a rotary pump, a pump casing formed with parallel side walls and an intermediate cylindrical wall having inlet and outlet ports on opposite sides thereof, in combination with a rotary bucket-carrier mounted in said casing eccentrically thereof, the periphery whereof is formed with pockets for the buckets and curved radial slots communicating with one end of said pockets, respectively, and a series of rocking buckets carried in said pockets and having curved blades reciprocably mounted in said slots, the outer edges whereof are adapted to engage the inner surface of the cylindrical wall of the casing under centrifugal action, substantially as described.

5. In a rotary pump, a pump casing formed with parallel side walls and an intermediate cylindrical wall having inlet and outlet ports on opposite sides thereof, in combination with a rotary bucket-carrier mounted in said casing eccentrically thereof, the periphery of said bucket-carrier being formed with pockets for the buckets and curved radial slots communicating with one end of said pockets, respectively, and either or both sides of said bucket-carrier being formed with an annular by-pass connecting the inner ends of said slots, and a series of rocking buckets carried in said pocket and having curved blades reciprocably mounted in said slots, the outer edges whereof are adapted to engage the inner surface of the cylindrical wall of the casing under centrifugal action, substantially as described.

6. In a rotary pump, a pump casing formed with parallel side walls and an intermediate cylindrical wall having inlet and outlet ports on opposite sides thereof, in combination with a rotary bucket-carrier mounted in said casing eccentrically thereof, the periphery whereof is formed with bucket-receiving pockets, and a series of rocking buckets carried in said pockets and having radially swinging blades, the rear sides of which are recessed to augment the pressure effect of the water thereagainst and aid centrifugal action in maintaining the outer edges of said blades in sliding contact with the inner surface of the cylindrical wall of the casing during the travel of said blades from the inlet to the discharge port, substantially as described.

7. A piston-bucket for use in rotary pumps consisting of a blade, a bearing member, and one or more arms narrower throughout than the blade connecting the latter adjacent to its operating edge with said bearing member, substantially as described.

8. A piston-bucket for use in rotary pumps consisting of a blade having a beveled operating edge adapted to afford a substantially line contact with the wall of the pump cylinder, a bearing member, and one or more arms narrower throughout than the blade connecting the latter adjacent to its beveled edge with said bearing member, substantially as described.

9. A piston-bucket for use in rotary pumps having a blade formed with a recess on its rear side, substantially as and for the purpose described.

10. A piston-bucket for use in rotary pumps consisting of a blade having a beveled operating edge adapted to afford a substantially line contact with the wall of a pump cylinder and also having a recess on its rear side, a bearing member, and one or more arms connecting the latter with said bearing member, substantially as described.

869,051. NITRO-STARCH EXPLOSIVE. JESSE B. BRAUNSTEIN, Allentown, Pa. Filed July 18, 1907. Serial No. 384,306.

1. An explosive having as the explosive base a mixture of nitro-starch and soda, the latter being added in such proportion as to stabilize the nitro-starch in substantially the manner described.

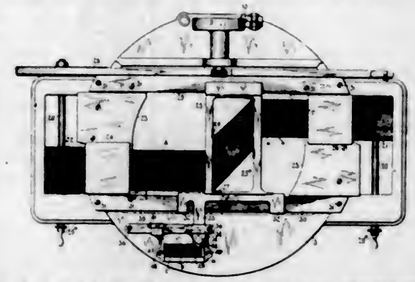
2. An explosive powder having as the explosive base a mixture of substantially 95 parts by weight of nitro-starch and 5 parts of soda.

3. An explosive powder having as the explosive base a mixture of nitro-starch and soda, the proportion of soda in said mixture being approximately from 2 to 10%.

4. An explosive consisting of an intimate mixture of from 30 to 70% of nitro-starch and substantially 70 to 30% of an added material consisting of finely divided iron and soda, the proportion of soda being approximately 5% by weight of nitro-starch and soda.

5. An explosive consisting of an intimate mixture of from 30 to 70% of nitro-starch and substantially 70 to 30% of an added material consisting of finely divided iron and soda, the proportion of soda being approximately 2 to 10% by weight of nitro-starch and soda.

869,052. TYPE-WRITING MACHINE. ARTHUR J. BRIGGS, Syracuse, N. Y., assignor to the Smith Premier Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed Apr. 7, 1906. Serial No. 310,440.



1. In a typewriting machine and ribbon mechanism, the combination of printing instrumentalities; an ink ribbon divided into fields of different characteristics; hand controlled means for confining the coöperation of the printing instrumentalities therewith to any desired field; and means for indicating what particular field of the ribbon is in position to coöperate with the printing instrumentalities, said indicating means comprising an index, a coöperating indicator card or plate divided into fields corresponding to the divisions of the fields of the ink ribbon, and means for removably securing the indicator card or plate in the operative position, whereby each ribbon may have and may be used in the machine in connection with its own indicator card showing the peculiar characteristics of that ribbon.

2. In a typewriting machine and in a ribbon mechanism, the combination of a ribbon having fields of different characteristics; controlling means operable at will to bring either of said fields to the printing point; and an indicator for said controlling means comprising a pointer or index, an indicator card or plate marked to correspond with the different fields of the particular ink ribbon in use, and a card or plate holder for said indicator card or plate, said holder being adapted to permit the card or plate to be readily inserted and removed, whereby each ribbon may have and may be used in the machine in connection with its own indicator card showing the peculiar characteristics of that ribbon.

3. In a typewriting machine and ribbon mechanism, the combination of a ribbon having fields of different colors; controlling means operable at will to bring either of said fields to the printing point; and an indicator for said controlling means comprising a pointer or index, and an indicator card or plate marked with colors corresponding to the colors on the ink ribbon, and a card or plate holder for said indicator card or plate, said holder being adapted to permit the card or plate to be readily inserted and removed, whereby each ribbon may have and may be used in the machine in connection with its own indicator card showing the peculiar characteristics of that ribbon.

4. In a typewriting machine and in a ribbon mechanism, the combination of an ink ribbon having longitudinal fields of different colors or characteristics; a ribbon guide adapted to be moved to bring any selected one of said fields to the printing point; an indicator card or plate marked with colors or characteristics corresponding to the colors or characteristics on the ink ribbon; a card or plate holder in which said card or plate may be readily secured and from which it may be readily removed; and a pointer coöperating with said indicator card or plate to show which of the fields of the ribbon is at the printing point, whereby each ribbon may have and may be used in the machine in connection with its own indicator card showing the peculiar characteristics of that ribbon.

5. In a typewriting machine and in a ribbon mechanism, the combination of a ribbon guide that is movable to bring any desired longitudinal field of an ink ribbon to the printing point so that said ribbon guide is adapted for use with different ribbons each having longitudinal fields of different characteristics, even though the different ribbons employed may be differently divided; an ink ribbon adapted to be used in said ribbon guide and having longitudinal fields of different characteristics; an indicator card divided into fields corresponding to those of the particular ribbon in use; a card-holder in which said card is adapted to be readily mounted and from which it is adapted to be readily detached; and a pointer for coöperating with said detachable card to indicate which of the fields of the ribbon is at the printing point, whereby each ribbon may have and may be used in the machine in connection with its own indicator card showing the peculiar characteristics of that ribbon.

6. In a typewriting machine and in a ribbon mechanism, the combination of a ribbon guide adapted to be moved to different positions to bring any one of a plurality of longitudinal fields of the ink ribbon to the printing point; means for controlling said guide so as to cause any selected one of the fields of the ribbon to be brought to the printing point; an ink ribbon adapted to be used in said ribbon guide and having longitudinal fields of different characteristics; an indicator card marked with fields corresponding to those of the particular ribbon recited; a card-holder in which said card is adapted to be readily mounted and from which it may be readily removed; and a pointer coöperating with said indicator card and indicating which field of the ribbon the guide controlling means is set to bring to the printing point, whereby each ribbon may have and may be used in the machine in connection with its own indicator card showing the peculiar characteristics of that ribbon.

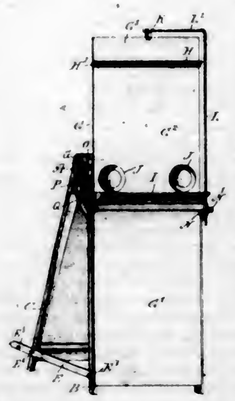
7. In a typewriting machine and in a ribbon mechanism, the combination of type; means for guiding and controlling an ink ribbon; hand operated means adjustable to different positions to cause said type to strike said ink ribbon at different points transversely of said ribbon, so that, as said ribbon is fed longitudinally, different longitudinal fields of the ribbon will be used depending on the different positions to which said hand operated means is adjusted; an ink ribbon adapted for use in said ribbon mechanism and having longitudinal fields of different characteristics; and an indicator device for said hand operated means, said indicator device comprising a pointer and a card-holder and a card marked with different fields corresponding to those of the particular ribbon employed, said card-holder being adapted to have said card readily mounted therein and readily removable therefrom, whereby each ribbon may have and may be used in the machine in connection with its own indicator card showing the peculiar characteristics of that ribbon.

8. In a typewriting machine and in a ribbon mechanism, the combination of a ribbon guide movable to different points to bring different longitudinal fields of the ribbon to the printing point; an ink ribbon mounted in said ribbon guide and having longitudinal fields of different characteristics; a pointer connected with said ribbon guide and movable across the top plate of the machine; a card-holder comprising a plate mounted on the top plate of the machine and having a sight opening therein and another opening; and an indicator card divided into fields corresponding to those of the ink ribbon and adapted to be inserted in the last mentioned opening and to be seen, when in position, through said sight opening and adapted to coöperate with said pointer to indicate which field of the ink ribbon is at the printing point, whereby each ribbon may have and may be used in the machine in connection with its own indicator card showing the peculiar characteristics of that ribbon.

9. In a typewriting machine and in a ribbon mechanism, the combination of means for guiding and controlling an ink ribbon; an ink ribbon having longitudinal fields of different characteristics; hand operated means movable to different positions to indicate which of the fields of the ribbon is at the printing point; a pointer on said hand operated means; and an indicator card divided into fields corresponding to those of the ribbon, the several fields of the card being colored to correspond with the colors of the different fields of the ribbon and each field of the card being marked with a character to indicate some other characteristic of the corresponding field of the ribbon, such as record ribbon or copying ribbon, whereby each ribbon may have and may be used in the machine in connection with its own indicator card showing the peculiar characteristics of that ribbon.

10. An inking ribbon divided into fields of different characteristics, and an indicator card correspondingly divided and having means to designate the characteristics of the several fields of the inking ribbon, both said ribbon and card being adapted to be mounted on a typewriting machine.

869,053. DISPLAY-STAND. ALBERT E. BROWN, Teeswater, Ontario, Canada. Filed May 16, 1907. Serial No. 373,906.



1. A display stand comprising a top, front and rear legs hingedly connected with the said top at the front and rear edges thereof, the top and the upper ends of the front and rear legs being beveled, supporting means for the material to be displayed carried by the top of the stand, the said legs being adapted to be swung over to place the top upside down with the displayed material extending between the legs, and means for securing the parts of the stand in folded position.

2. A display stand comprising a top, front and rear legs hinged to the top at the front and rear edges thereof, the top and the upper ends of the front and rear legs being beveled, means for holding the front and rear legs against spreading, supporting bars secured to the top for supporting the material to be displayed, and vertically adjustable supporting means carried by the said stand.

3. A display stand comprising a top, front and rear legs hinged to the top at the front and rear edges thereof, the top and the upper ends of the front and rear legs being beveled, the front leg being shorter than the rear leg to cause the top to incline downwardly and forwardly when the stand is set up, means for holding the front and rear legs against spreading, and supporting bars extending across the top

and secured at their ends to said top for supporting the material to be displayed.

4. A display stand comprising a stand proper, means on the top of the stand for holding a sample wall covering having an extension, and an adjustable support on the said stand and adapted to engage the said extension to display the latter upwardly as a continuation of the sample wall covering.

5. A display stand comprising a stand proper, sample wall coverings each having an extension, means on the stand for holding the sample wall coverings, and a support for holding the extension as a continuation of the sample wall covering.

6. A display stand comprising a stand proper, sample wall coverings each having an extension, means on the stand for holding the sample wall coverings, a support for holding the extension as a continuation of the sample wall covering, and a molding having attaching means for securing the molding to the extension.

7. A display stand comprising a stand proper, sample wall coverings each having an extension, means on the stand for holding the sample wall coverings, a support for holding the extension as a continuation of the sample wall covering, and a rail for removable attachment to the said stand at the junction of the sample wall covering and its extension.

8. A display stand comprising a stand proper, a sample wall covering having a body portion, and an extension of the same, the said body portion having loops and cut out portions, pins extending through the said loops and across the cut out portions, and curved supporting bars on the top of the stand and engaging the pins at the cut out portions.

9. A display stand having a top provided with transverse loops for the reception of moldings, and buttons at the sides of the top for engaging the ends of the moldings to hold the same in position on the said top and in the said loops.

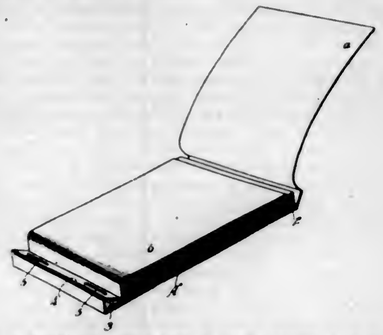
10. A display stand comprising a top, front and rear legs hinged to the said top, curved supporting bars extending across the top and secured at their ends to the top, the said supporting bars being adapted to hingedly support the sample wall coverings to be displayed, a bearing on one side of the front leg, a supporting rod adjustably secured in the said bearing and having an angular arm at its upper end, and a clasp on the said angular arm for engaging the upper edge of the sample wall covering.

11. A folding display stand comprising a top, front and rear legs hinged to the said top, supporting means carried by the top of the stand and adapted to support a sample wall covering, the said legs being adapted to be swung over to place the top upside down with the sample wall covering extending between the legs, and a strap secured at one end to one side of the front leg and adapted to be passed around the rear leg, when the parts are in folded position, and secured at its other end to the opposite side of the front leg.

12. A folding display stand comprising a top, front and rear legs hinged to the said top, supporting means carried by the top and adapted to support a sample wall covering, the said legs being adapted to be swung over to place the top upside down with the sample wall covering extending between the legs, a strap secured at one end to one side of the front leg, a staple on the opposite side of said leg, the said strap being adapted to be passed around the rear leg, when the parts are in folded position and secured to the said staple, a bearing on the side of the front leg, a rod adjustable in said bearing and adapted to pass through the said staple to lock the end of the strap in place, and means for fastening the rod in position.

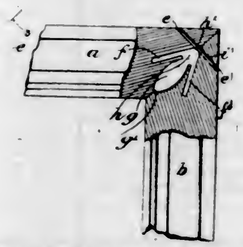
869,054. MANIFOLDING SALES-BOOK. HORACE P. BROWN, Alameda, Cal. Filed July 12, 1907. Serial No. 383,418.

1. A salesbook comprising a pad secured at one end to a cover having a back-portion and a foldable front-flap, the back-portion of said cover provided with a block which extends across the free end of the pad, said block being substantially triangular in cross-section, and the end of the cover being secured to the block by folding the cover over the block and driving staples through the cover and pad so that a portion of the cover is drawn over the inclined top of the block.



2. A salesbook comprising a cover having a back-portion and a foldable flap-portion, a pad secured to the back-portion of said cover, and a triangular block secured to the back-portion of the cover and extending across the free ends of the pad.

869,055. SPLICE AND JOINT. BUEL S. BURROUGHS, Kingston, N. Y. Filed July 16, 1907. Serial No. 384,050.



1. In a splice or joint, the combination with two adjoining strips having mitered ends, each of which has a hole extending thereinto at an angle to the end and a channel in the face of said end, of a metallic spline plate, having divergent arms adapted to enter said holes and a tongue intermediate said arms adapted to enter said channels, and extend across the joint.

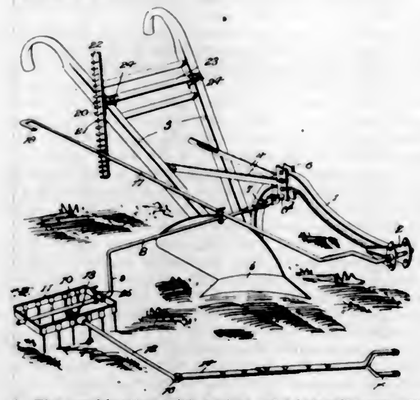
2. In a splice or joint, the combination with two adjoining strips having mitered ends, each of which has a hole extending thereinto at an angle to the end, a channel in the face of said end, and an opening extending through said end from the miter to the side across said hole, of a metallic spline plate having divergent arms adapted to enter said holes, a tongue intermediate said arms adapted to enter said channels and extend across the joint, and a wedge or lock pin adapted to enter said openings and engage the top of said plate whereby said arms will force said strips together and said pin will prevent movement of said plate.

3. In a splice or joint, the combination with two adjoining strips having mitered ends, each of which has a straight hole extending thereinto at an angle to the end, and a channel formed like the sector of a circle and extending along the face of said end, of a metallic spline plate comprising a head having divergent straight arms adapted to enter said holes and a tongue intermediate said arms having curved sides of the same radius as said channels whereby said spline plate will be entirely contained within said strips and will extend across the joint.

4. In a splice or joint, the combination with two adjoining strips having mitered ends, each of which has a straight hole extending thereinto at an angle to the end, a channel formed like the sector of a circle extending along the face of said end an opening extending through said end from the miter to the side across said hole, of a metallic spline plate comprising a head having a rounded or beveled top having divergent straight arms adapted to enter said holes, and a tongue intermediate said arms having curved sides of the same radius as said channel whereby said spline plate will be entirely contained within said strips and will extend across the joint, and a wedge or lock pin adapted to enter said openings and engage the top of said plate, whereby said pin will prevent movement of said plate.

5. In a splice or joint, a metallic spline plate comprising a head, divergent arms and an intermediate tongue all made of substantially the same thickness and integrally, whereby said arms are adapted to cause adjoining strips having openings therein adapted to receive said plate, to form a joint inclosing said plate.

869,056. DRAG ATTACHMENT FOR PLOWS. JAMES E. BURTON, Whitewater, Wis. Filed Apr. 13, 1907. Serial No. 368,051.



1. The combination with a plow, of a laterally extending rod projecting from the beam of the plow and pivotally connected thereto, a drag connected to the outer end of said rod, a draft device for said drag, a lever fulcrumed on the beam and connected intermediate of its ends with said rod, a vertically extending latch plate with which the rear end of the lever is adapted to engage, and means for securing said latch plate to the plow.

2. The combination with a plow of a rod extending laterally from the plow and having a universal joint connection therewith, a drag mounted upon the outer end of said rod, a draft connection for said drag, a lever fulcrumed on the plow and having adjustable connection with said rod, and a latch plate on the plow designed for engagement by said lever.

3. The combination with a plow, of a rod extending laterally therefrom and having a universal joint connection therewith, a drag mounted to tilt on the outer end of said rod, a stop device mounted on said rod and adapted to engage the drag to limit the tilting movement thereof on the rod, a lever fulcrumed on the plow and connected intermediate of its ends to the rod, and a latch plate on the plow adapted for engagement by said lever at different elevations.

4. The combination with a plow, of a crank rod extending laterally therefrom and having a universal connection therewith, a drag mounted on the outer end of said rod, a draft device having a yielding connection with the drag and adapted to be secured to an evener, a lever fulcrumed on the plow, and adjustably connected to said rod, and a latch plate on the plow and designed for engagement with said lever.

5. The combination with a plow, including a supporting frame work, of a depending bracket detachably connected to one side of the frame work, a rod extending laterally from the bracket and having a universal joint connection therewith, a drag supported on the outer end of said rod, a draft device for said drag, a lever fulcrumed on the plow, a vertically extending latch plate with which the lever is adapted to engage at different elevations, and a brace connecting the lever and rod and having a longitudinally adjustable connection with the latter.

6. The combination with a plow, including a supporting frame work, of a bracket detachably connected to one side of the frame work, a rod extending laterally from the bracket and having a universal joint connection therewith, a drag supported on the outer end of said rod, a draft device for said drag, a lever fulcrumed on the plow, a vertically extending latch plate with which the lever is adapted to engage at different elevations, and a brace having a longitudinally adjustable connection with the lever and a pivotally adjustable connection with the rod.

7. The combination with a plow including a supporting frame work, of a bracket detachably connected to one side of the frame work, a rod extending laterally from the bracket and having a universal joint connection therewith, a drag supported on the outer end of said rod, a draft device for said drag, a lever fulcrumed on the plow, a vertically extending latch plate with which the lever is adapted to engage at different elevations, and a brace having a pivotal connection with the lever and a longitudinally adjustable connection with the rod.

8. The combination with a plow, including a supporting frame work, of a bracket secured to one side of the frame work, a rod having a universal joint connection with said bracket, a drag supported on the end of said rod, a draft device for said drag, a frame like lever fulcrumed on the front of the plow and extending rearwardly, a brace connecting the lever with the rod, and a vertically extending latch plate supported on the plow and arranged for engagement with said lever.

9. The combination with a plow including a supporting frame work and seat spring, of a bracket secured to one side of the frame work, a rod having a jointed connection with the bracket, a drag supported on the outer end of said rod, a draft device for said drag, a lever fulcrumed on the plow, a connection between said lever and rod, a latch plate adapted to be engaged by said lever, and an arm to which said plate is secured, said arm being provided with a loop adapted to be slipped over the seat spring and held thereon.

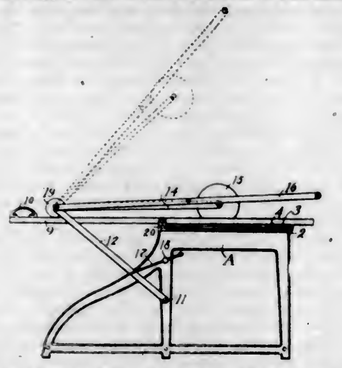
10. The combination with a plow including a supporting frame work and seat spring, of a bracket secured to one side of the frame work, a rod having a jointed connection with the bracket, a drag supported on the outer end of said rod, a draft device for said drag, a lever fulcrumed on the plow, a connection between said lever and rod, a latch plate adapted to be engaged by said lever, and an arm with which said latch plate has a laterally adjustable connection, said arm being formed with a loop adapted to be slipped over the seat spring and held thereon.

11. The combination with a plow including a supporting frame work and seat spring, of a bracket secured to one side of the frame work, a rod having a jointed connection with the bracket, a drag supported on the outer end of said rod, a draft device for said drag, a lever fulcrumed on the plow, a connection between said lever and rod, a latch plate adapted to be engaged by said lever, an angular bracket to the vertical member of which the latch plate is adjustably connected, and an arm to which the other member of said bracket is adjustably connected, said arm being formed with a loop adapted to be slipped over the seat spring and held thereon.

869,057. MACHINE FOR CUTTING FIG-BARS AND SIMILAR ARTICLES. ANDREW S. CAIRNCROSS, St. Paul, Minn. Filed Dec. 10, 1906. Serial No. 347,205.

1. In a machine of the class described, the combination with a frame-work provided with a tray supporting bed, of a carriage movably supported by said frame-work at the

rear of said bed, a series of forwardly extending arms having independent pivotal support in said carriage, and cutting blades supported in the forward ends of said arms.



2. In a machine of the class described, the combination with a frame-work formed with a tray supporting bed, of a guide frame pivotally supported over said bed and formed with a series of parallel slots, a carriage movably supported upon said frame-work in relation to said bed, a reciprocating carriage carried by said frame, a series of arms independently supported in said carriage, and blades carried by said arms in position to travel in said slots.

3. In a machine of the class described, the combination with a frame-work formed with a tray supporting bed, of a guide frame pivotally supported above said bed, and formed with a series of parallel slots, a cam carried by said guide frame at the rear of said bed, a reciprocating carriage arranged in position to engage with said cam to tilt said guide frame, and a series of cutting blades having independent movable support in said carriage in position to travel in said slots.

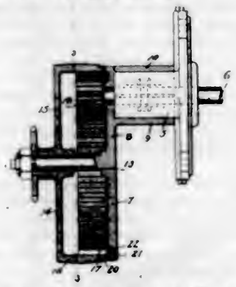
4. In a machine of the class described, the combination with a frame-work formed with a supporting bed, of a guide frame having pivotal support at the rear of said bed and formed with a series of parallel slots, a cam carried by said guide frame at the rear of said bed, a movably supported carriage arranged in position to engage with said cam and tilt said guide frame, a series of forwardly extending arms having independent pivotal support in said carriage, knives carried by the forward ends of said arms in position to travel in said slots, and means for drawing said carriage forward.

5. In a machine of the class described, the combination with a frame-work formed with a supporting bed, of a guide frame pivotally supported at the rear of said bed and formed with a series of parallel slots, cams carried by said guide frame at the rear of said bed, upwardly extending bars pivotally supported upon the sides of said frame, forwardly extending arms having independent swing support in the upper ends of said bars, means carried by said bars for engaging with said cams, cutting blades mounted in the forward ends of said arms and an actuating handle extending forwardly from the upper ends of said bars.

869,058. SPEED-CHANGING DEVICE. JOHN G. CALLAN, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed June 6, 1904. Serial No. 211,243.

1. In combination, a shaft, a support, a member secured to said support and angularly adjustable with respect thereto about said shaft as a center, a rotating member carried by the first mentioned member and eccentrically mounted with respect to said shaft, and a speed-changing driving connection between said shaft and said member.

2. In combination, a shaft, a support, a member secured to said support and angularly adjustable with respect thereto about an axis which coincides with the axis of said shaft, a rotating power-transmitting member carried by the first mentioned member and eccentrically mounted with respect to said shaft, and a driving connection between said shaft and said rotating member.



3. In combination, an armature shaft, a casing having a boss or stud formed on it, a gear on said shaft, a second shaft out of line with the first mentioned shaft supported by said boss and angularly adjustable with respect thereto, and a gear wheel carried by said second shaft and meshing with the gear on the armature shaft.

4. In combination, an armature shaft, a casing, said casing having a boss or stud formed on it concentric to said shaft, a gear on said shaft, a second shaft out of line with the first mentioned shaft carried by the boss and angularly adjustable with respect thereto, a gear wheel carried by said second shaft meshing with the gear on the armature shaft, said gear wheel being formed with a cylindrical portion having gear teeth on its inner surface.

5. In combination, an armature shaft, a casing provided with a boss or stud concentric to said shaft, a gear on said shaft, a second shaft supported by, but angularly adjustable with respect to said boss, said second shaft being out of line with the first mentioned shaft, and a gear wheel carried by said second shaft and formed with a cylindrical portion having gear teeth on its inner surface, said gear teeth meshing with the teeth on the gear carried by the armature shaft, the outer periphery of said cylindrical portion being arranged to drive a band.

6. In combination, an armature shaft, a casing, said casing having a boss concentric with the armature shaft, a gear on the armature shaft, a member clamped on said boss but adjustable with respect thereto, a gear wheel journaled on said member, said gear wheel being formed with a web portion and with a cylindrical portion having teeth formed on its inner surface which mesh with the teeth of the gear on the armature shaft, said member and said gear wheel being shaped to form a casing within which the gear on the armature shaft is inclosed.

7. In combination, a shaft, a support, a member arranged to be rigidly secured to said support in different angular relations with respect to an axis which coincides with the axis of said shaft, a rotatable power-transmitting member carried by the first-mentioned member and eccentrically mounted with respect to said shaft, and gearing between said shaft and said rotatable member.

8. In combination, a shaft, a support, a member arranged to be rigidly secured to said support in different angular positions with respect to an axis which coincides with the axis of said shaft, a rotatable power-transmitting member carried by the first-mentioned member and eccentrically mounted with respect to said shaft, and a speed-reducing gear between said shaft and said rotatable member.

869,059. FASTENING DEVICE. CHARLES E. CASHMORE, New York, N. Y. Filed Jan. 14, 1907. Serial No. 352,182.



1. A fastening device comprising a tubular member having a slot consisting of a long and a short arm, a second member fitting within said tubular member, a projection on said second member passing into said slot, and a spring tongue formed at one side of the short arm of said slot for engaging said projection.

2. A fastening device comprising a tubular member having a hook-shaped slot formed therein consisting of a long and a short arm, a second member fitting within said tubular member, a projection on said second member passing into said slot, and means formed at one side of the short arm of said slot for engaging said projection and locking it therein.

3. A fastening device comprising a tubular member having a slot, a second member slidable within said tubular member, a projection on said second member passing into said slot, and resilient means fixed at the edge of said slot for locking said projection therein.

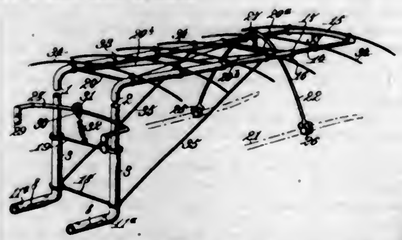
4. A fastening device comprising a tubular member having a slot, a second member slidable within said tubular member having a projection adapted to slide in said slot, and a spring tongue arranged at one edge of said slot acting to lock said projection therein.

869,060. ELECTRIC-LINE FUSE. FRANK B. COOK, Chicago, Ill. Filed Oct. 8, 1906. Serial No. 338,037.



A fuse of the character described, comprising a tube having a small bore therethrough for carrying the fusible conductor, a terminal cap for the tube formed as a thimble from a single piece of sheet-metal, a portion of the said thimble being flattened in a plane parallel with the longitudinal axis of the fuse and off of center of the fuse whereby the fusible conductor may extend out of the center of the end of the thimble in line with the small bore in the tube, a groove along one edge of the flattened portion substantially parallel with the said axis, a bolt extending through the said flattened portion, a washer carried by the said bolt for clamping a conductor in the said groove and being in shape and size substantially the same as the said flattened portion, and a recess in the said washer to accommodate the said fusible conductor where it extends out through the end of the thimble, and allow it to be readily secured to the latter.

869,061. SUPPORTING-FRAME FOR CANOPIES, AWNINGS, &c. ROY A. COX, Elwood, Nebr. Filed May 13, 1907. Serial No. 373,453.



1. A supporting frame for awnings, canopies and covers comprising a pair of L-shaped members, a pair of angle members adjustably connected to said L-shaped members, a U-shaped member adjustably connected to the angle-shaped members, and supporting arms secured to said angle-shaped members and said U-shaped member.

2. A supporting frame for awnings, canopies and covers comprising a pair of L-shaped members, a pair of angle members adjustably connected to said L-shaped members, a U-shaped member adjustably connected to the angle-shaped members, supporting arms secured to said angle-shaped members and said U-shaped member, and cushioned means for connecting the L-shaped members to the axle and body of a vehicle.

3. A supporting frame for awnings, canopies, and covers comprising a pair of L-shaped members, a pair of angle members adjustably connected to said L-shaped members, a U-shaped member adjustably connected to the angle-shaped members, supporting arms secured to said angle-shaped members and said U-shaped member and a support connected to the angle-shaped members and adapted to be attached to the shafts or tongue of a vehicle.

4. A supporting frame for awnings, canopies and covers comprising a pair of L-shaped members, means extending through the longitudinal portion of each of said members for connecting it to the axle of a vehicle, a pair of vertically-adjustable angle members connected to said L-shaped members, a longitudinally adjustably U-shaped member connected to said angle-shaped members, and supporting arms secured to said angle-shaped members, and said U-shaped member and of a length as to extend from each side thereof.

5. A supporting frame for awnings, canopies and covers comprising a pair of L-shaped members, means extending through the longitudinal portion of each of said members for connecting it to the axle of a vehicle, a pair of vertically-adjustable angle members connected to said L-shaped members, a longitudinally-adjustable U-shaped member connected to said angle-shaped members, supporting arms secured to said angle-shaped members and said U-shaped members and of a length as to extend from each side thereof, and bracing means having one end connected to the L-shaped members and the other end to said angle-shaped members.

6. A supporting frame for awnings, canopies and covers, comprising a pair of L-shaped members, means extending through the longitudinal portion of each of said members for connecting it to the axle of a vehicle, a pair of vertically-adjustable angle members connected to said L-shaped members, a longitudinally-adjustable U-shaped member connected to said angle-shaped members, supporting arms secured to said angle-shaped members and said U-shaped members and of a length as to extend from each side thereof, bracing means having one end connected to the L-shaped members and the other end to said angle-shaped members, and resilient connecting means between said L-shaped members and the body of a vehicle.

7. A supporting frame for awnings, canopies and covers, comprising a pair of L-shaped members, means extending through the longitudinal portion of each of said members for connecting it to the axle of a vehicle, a pair of vertically-adjustable angle members connected to said L-shaped members, a longitudinally-adjustable U-shaped member connected to said angle-shaped members, supporting arms secured to said angle-shaped members and said U-shaped members and of a length as to extend from each side thereof, bracing means having one end connected to the L-shaped members and the other end to said angle-shaped members, resilient connecting means between said L-shaped members and the body of a vehicle, and a cushioned supporting means between said angle-shaped members and the shaft or tongue of a vehicle.

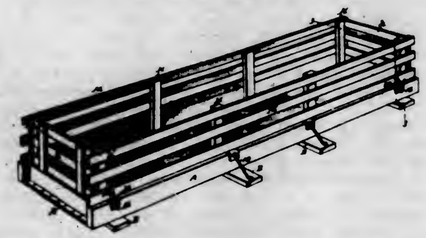
8. A supporting frame for awnings, canopies and covers comprising a pair of L-shaped members, means for connecting them to the axle of a vehicle, a bracket adapted to be attached to the vehicle body, a roller traveling upon said bracket, a resilient connection between said roller and said L-shaped members, a pair of vertically-adjustable angle-shaped members connected to said L-shaped members, a longitudinally-adjustable U-shaped member connected to said angle-shaped members, and supporting arms secured to said angle-shaped members and said U-shaped member.

9. A supporting frame for awnings, canopies and covers comprising a pair of L-shaped members, means for connecting them to the axle of a vehicle, a bracket adapted to be attached to the vehicle body, a roller traveling upon said bracket, a resilient connection between said roller and said

L-shaped members, a pair of vertically-adjustable angle-shaped members connected to said L-shaped members, a longitudinally-adjustable U-shaped member connected to said angle-shaped members, supporting arms secured to said angle-shaped members and said U-shaped member, and a resilient supporting means between said angle-shaped members and the shafts or tongue of a vehicle.

10. A supporting frame for awnings, canopies and covers comprising a pair of L-shaped members, means for connecting them to the axle of a vehicle, a bracket adapted to be attached to the vehicle body, a roller traveling upon said bracket, a resilient connection between said roller and said L-shaped members, a pair of vertically-adjustable angle-shaped members connected to said L-shaped members, a longitudinally-adjustable U-shaped member connected to said angle-shaped members, supporting arms secured to said angle-shaped members an dsaid U-shaped member, a resilient supporting means between said angle-shaped members and the shafts or tongue of a vehicle, brace rods between said L-shaped members, and brace rods between said L-shaped members and said angle-shaped members.

869,062. COMBINED WAGON-BOX, HEADER-BOX, HAY AND STOCK RACK. ALBERT E. CRANSTON, Pollock, S. D. Filed Feb. 23, 1906. Serial No. 302,517.



1. As an improvement in wagon boxes and racks therefor; the combination with the side members A–A, the transverse bars B upon which the said members A rest, a clamping iron 7 having U-shaped upper ends for clamping over the upper edges of the box sides A–A and having their lower ends extended through the cross bars B and provided with clamp nuts for sustaining the said bars, the bolts rotatably mounted in the upper ends of the sides A–A and the U-shaped ends of the clamps, the said bolts having hook members 16–16, the loop or bail members loosely connected with the hooks and the supplemental wagon body portion adapted to be detachably sustained on the sides A–A of the wagon box, said supplemental wagon box having members arranged to be detachably engaged with the bail or loop members 25 for the purposes specified.

2. As an improvement in wagon boxes and racks therefor, the combination with the box which comprises the side members A, the transverse bars B, the flooring N, and the end gate cleats or guides, the clamp irons that secure the sides and cross members to the box, rotatable bolts 11 connected with the irons of the box having hook portions 16; of the stock rack comprising side bars M, vertical cleats H secured to the inside of the bars M and having their lower ends projected below the lowermost ones of said side bars M, the end gate cleats h' h' the end gates h slidable in the said cleats h' h', the hook irons 24 on the bottom members M and the loops 25 detachably connectible to the bolt hook ends and the hook irons 24, all being arranged substantially as shown and for the purposes described.

869,063. CUTTING-TOOL. JAMES CRYER, Walden, N. Y., assignor to Warwick Knife Company, Warwick, N. Y. Filed July 22, 1907. Serial No. 384,865.

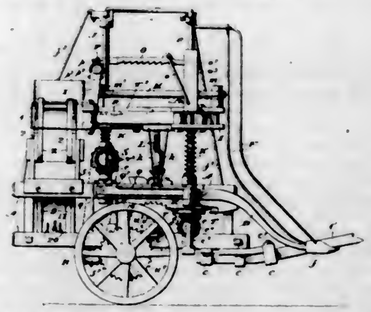
1. A tool for forming holes, consisting of a flat blade tapered on its edges toward one end, said end being convexed at its transverse edge, and the tapered edges having laterally-turned cutters thereon which project in opposite directions and merge into the convexed end that is sharp on the edge.



2. A tool for forming and reaming holes in pliable material, comprising a flat blade adapted for pivoting at one end on a handle and tapered on the edges to its free end which is convexed and sharpened, each edge being concave-channeled on one side and convexed on the opposite side, forming cutters that are shear cutting and trend at opposite sides of the blade.

3. The combination with a suitable handle, having a spring back, of a tool for boring holes and reaming said holes in pliable material, consisting of a flat blade formed with a heel at one end which is pivoted upon an end of the handle and is foldable therein, said blade having tapered edges, that are concaved on one side and convexed on the opposite side, forming laterally turned cutters that trend from opposite sides of the blade, said edges merging into the free end of the blade, which is gouge shaped and sharpened on its transverse edge.

869,064. BROOM-CORN-HARVESTING MACHINE. BURTEN CURL and HERBERT J. HUDDLESTON, Rose Hill, Ill. Filed May 3, 1905. Serial No. 258,733.



1. In a broom corn harvester, a primary cutter for severing the heads of the stalks, means for supporting the severed heads in a substantially upright position a longitudinally movable vibratory jogger adapted to act on the heads of the severed stalks to even the same, and a secondary cutter adapted to act on said stalks after they have been evened.

2. In a broom corn harvester, a primary cutter for severing the heads of the stalks, means for supporting the severed heads in a substantially upright position means for evening the severed heads, a secondary cutter adapted to act on said heads after they have been evened, and means whereby the secondary cutter may be adjusted relative to the primary cutter.

3. In a machine of the character described, a primary cutter, means for supporting the severed stalks in a substantially upright position a vibrating jogger positioned to act on the heads of the severed stalks to even the same while in their upright position, a secondary cutter, and means for adjusting the jogger relative to said primary cutter.

4. In a machine of the character described, a primary cutter, an evener device, a secondary cutter, and a single means whereby the evening device and the secondary cutter may be adjusted toward and away from said primary cutter.

5. In a machine of the character described, a relatively fixed primary cutter, a vertically movable carrier, a device for evening the heads of the severed stalks and a secondary cutter both carried by said carrier, and feeding instrumentalities operatively associated with said carrier and evener device.

6. In a machine of the character described, a relatively fixed primary cutter, a device for evening the heads of the severed stalks, a secondary cutter, an adjustable carrier for said evening device and secondary cutter, and feeding instrumentalities operatively associated with said carrier, evener device and secondary cutter.

7. In a machine of the character described, a relatively fixed primary cutter, a secondary cutter, a device for evening the heads of the stalks severed by the primary cutter, an adjustable carrier for said evening device, and a pair of opposed feeding belts operatively associated with said carrier and adjustable therewith.

8. In a machine of the character described, a relatively fixed primary cutter, devices for evening the heads of the severed stalks, a secondary cutter, an adjustable carrier for said evening device and secondary cutter, and opposing feeding belts operatively associated with said carrier, evening device, and secondary cutter.

9. In a machine of the character described, a cutter, means for maintaining the severed stalks in a substantially upright position and a vibratory device adapted to act on the heads of the severed stalks while in a vertical position to even the same.

10. In a machine of the character described, a cutter, means for maintaining the severed stalks in a substantially upright position a vibratory device adapted to act on the heads of the severed stalks while in a vertical position to even the same, and means for adjusting said evening device relatively to said cutter.

11. In a machine of the character described, a primary cutter, a secondary cutter, means for conveying the stalks in a substantially upright position from the primary to the secondary cutter, and an evener device focated between the primary and secondary cutters and acting on the heads of the stalks to even the same during their passage from the primary to the secondary cutters.

12. In a machine of the character described, a primary cutter, a secondary cutter, means for conveying the stalks in a substantially upright position from the primary to the secondary cutter, and a vibrating jogger acting on the tops of the stalks to even the same during their passage from the primary to the secondary cutter.

13. In a machine of the character described, a relatively fixed primary cutter, a device for evening the heads of the severed stalks, a secondary cutter, an adjustable carrier for said evening device and secondary cutter, and means for adjusting said carrier.

14. In a machine of the character described, a relatively fixed primary cutter, means for evening the stalks severed thereby, a vertically adjustable carrier, a secondary cutter carried by said carrier, and means for adjusting said carrier towards and away from the primary cutter.

15. In a machine of the character described, a relatively fixed primary cutter, means for evening the stalks severed thereby a carrier adjustable towards and away from said primary cutter, feeding instrumentalities and a secondary cutter carried by said carrier, and a discharge conveyer operatively associated with said carrier.

16. In a machine of the character described, feeding belts oppositely disposed to support stalks therebetween in an upright position, and means adapted to act on the heads of the stalks to even the same during their travel between said belts.

17. In a broom corn harvester, a primary cutter, means for evening the stalks severed thereby a secondary cutter, and means for adjusting the position of the secondary cutter towards and away from the primary cutter.

18. In a broom corn harvester, a primary cutter, a secondary cutter, means for adjusting the one relative to the other, means for feeding the severed stalks in an upright position from the primary to the secondary cutter, and means acting on the heads of the severed stalks to even the same during their travel from the primary to the secondary cutter.

19. In a machine of the character described, a primary cutter, a secondary cutter, endless carriers for conveying the stalks in a substantially upright position from the primary to the secondary cutter and an evening device acting on the tops of the severed stalks during their travel from the primary to the secondary cutter.

20. In a machine of the character described, a relatively fixed primary cutter, an evener device, a secondary cutter, and feeding instrumentalities intermediate said evener device and secondary cutter, in combination with an adjustable carrier for said evener device, secondary cutter and feeding instrumentalities.

21. In a machine of the character described, a relatively fixed primary cutter, an evener device, a secondary cutter, feeding instrumentalities between the evener device and secondary cutter, an adjustable carrier for said evener device, secondary cutter and feeding instrumentalities, and means for cushioning the movement of said carrier.

22. In a machine of the character described, a relatively fixed primary cutter, a vertically adjustable carrier, feeding instrumentalities, a secondary cutter carried by said carrier, and a discharge conveyer operatively associated with said carrier, said discharge conveyer having a movable run adjustable with the carrier.

23. In a machine of the character described, a relatively fixed primary cutter, a vertically adjustable carrier, a secondary cutter carried thereby, an evening device for the heads of the severed stalks carried by said carrier, and feeding instrumentalities operatively associated with said carrier for conveying the stalks from the primary to the secondary cutter.

24. In a machine of the character described, an evener device, a cutter, feeding instrumentalities between the evener device and cutter, an adjustable carrier for said evener device, cutter and feeding instrumentalities, and means for cushioning the movement of said carrier.

25. In a machine of the character described, a relatively fixed primary cutter, a vertically movable carrier thereabove, a secondary cutter carried by said carrier, mechanism carried by said carrier and adapted to carry the stalks in a substantially vertical position from the primary to the secondary cutter, and means for adjusting the carrier.

26. In a machine of the character described, feeding belts oppositely disposed to support stalks therebetween in an upright position, and a vibrating jogger adapted to act on the heads of the stalks to even the same during their travel between said belts.

27. In a machine of the character described, a primary cutter, a secondary cutter, opposed feeding belts extending from the primary to the secondary cutter engaging the sides of the stalks and holding them in an upright position from the primary to the secondary cutter, and means acting on the heads of the stalks to even the same during their travel between said belts from the primary to the secondary cutter.

28. In a machine of the character described, a relatively fixed primary cutter, a vertically movable carrier thereabove, a secondary cutter carried by said carrier, mechanism carried by said carrier adapted to convey the stalks in a substantially vertical position from the primary to the secondary cutter, and an evener device carried by said carrier and adapted to act on the heads of the stalks.

29. In a machine of the character described, feeding means, a relatively fixed primary cutter, an evener device, a secondary cutter, an adjustable carrier for the evener device and secondary cutter, and a discharge conveyer operatively associated with said adjustable carrier.

30. In a machine of the character described, a relatively fixed primary cutter, an evener device, a secondary cutter, feeding means, an adjustable carrier for said secondary cutter, and a discharge conveyer adjustable with said carrier operatively associated with said feeding means.

31. In a machine of the character described, a relatively fixed primary cutter, feeding means, guides leading to said primary cutter, and feeding means, an evener device, a secondary cutter, an adjustable carrier for said secondary cutter, and a discharge conveyer adjustable with said carrier operatively associated with said feeding means.

32. In a broom corn harvester, the following instrumentalities, to wit: a primary cutter, a secondary cutter, means feeding the stalks in a substantial upright position

from the primary to the secondary cutter, means for evening the heads of the stalks during their travel from the primary to the secondary cutter, in combination with adjusting means whereby the device may be adapted for use on stalks of varying heights.

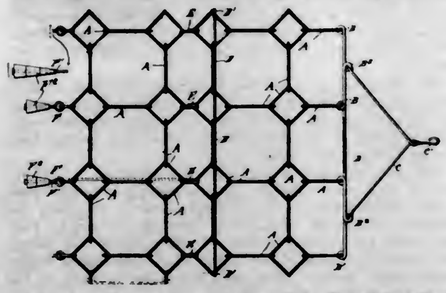
33. In a broom corn harvester, a relatively fixed primary cutter, a secondary cutter, feeding means for conveying the severed stalks from the primary to the secondary cutter, an adjustable carrier for said feeding means, and a conveyer operatively associated with said feeding means, said conveyer having a movable run adjustable with said carrier.

34. In a machine of the character described, feeding means, a conveyer operatively associated therewith, a dumping basket movably supported adjacent one end of said conveyer, and a stop operatively associated with said basket, said stop normally occupying a position between the ends and below the plane of the conveyer and arranged to be projecting upwardly above the plane of the conveyer when the basket is moved to dumping position.

35. In a device of the character described, a relatively fixed primary cutter, a secondary cutter, feeding mechanism for conveying the stalks in a substantially vertical position from the primary cutter to the secondary cutter, an evener device adapted to act on said stalks during their travel from the primary to the secondary cutter, and means for adjusting said secondary cutter and evener device relatively to said primary cutter.

36. In a machine of the character described, means for feeding stalks in an upright position, and means adapted to act on the heads of the stalks to even the same during their feeding movement.

869,065. CHAIN-HARROW. JOSIAH DATSON, Gilberts Creek, Ky. Filed Feb. 1, 1907. Serial No. 355,180.



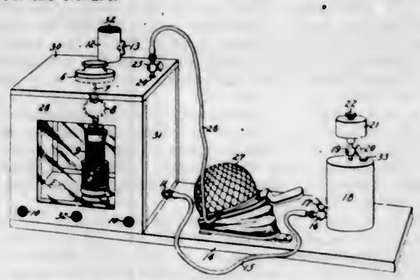
1. A chain harrow composed of links linked together longitudinally and links connecting the alternate links of each longitudinal row with the opposite links of the adjacent row the said links being connected together in planes relatively at right angles one to the other whereby the links of the longitudinal rows between said alternate links will be caused to operate vertically, the harrow being formed in front and rear sections detachably connected, drag bars at the rear of the longitudinal rows, a draft bar at the front ends of said rows, and a spreader extending transversely across the harrow and hooked at its ends to engage therewith, substantially as set forth.

2. A harrow comprising links arranged vertically edgewise and having the intermediate point and projecting bars on opposite sides thereof and whose free ends form with the point coöperating teeth, substantially as set forth.

3. In a chain harrow an angular link of metal angular in cross section and having sharp corners with the angles at its outer side, substantially as set forth.

869,066. APPARATUS FOR TESTING MINERS' SAFETY-LAMPS. EVAN C. DAVIES, Taylor, Pa. Filed Aug. 9, 1905. Serial No. 273,501.

1. A testing apparatus for miner's safety lamps consisting of a closure to hold a lamp and an explosive gas, said closure being provided with an observation means, a means for deflecting an explosive away from the observation means, a means for admitting air in the closure, a means for preventing the gas from escaping, a means for filling and for exhausting the closure and a further means for charging the closure with an explosive gas from a primary source, and a means for cutting off the supply of the gas from the closure.

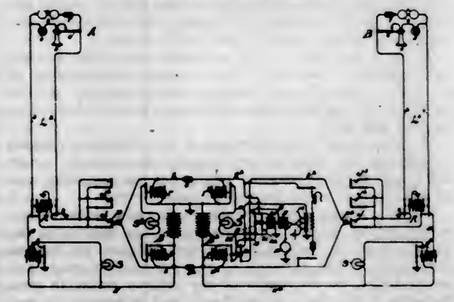


2. A testing apparatus for miner's safety lamps consisting of a closure properly constructed to accommodate a lamp for the purpose of detecting any defects in the safety devices of said lamp, said closure being provided with a means for receiving an explosive gas from a primary source, a source in which an explosive gas is generated, or supplied, said source being provided with a means for cutting off the gas, and for regulating the amount of the gas flowing to the closure.

3. A testing apparatus for miner's safety lamps consisting of a closure properly arranged to admit a miner's safety lamp for the purpose of testing and detecting defects in such lamps, a means for inserting and removing said lamps, a means for ventilating said closure, a means for admitting and regulating air within said closure, a means for permitting a tester to observe the action within the closure, a means for deflecting an explosion from the observer, a means for exhausting the closure, and for holding an exploding gas, a means for generating an explosive gas, and a means for regulating the amount of gas generated, said regulating means being a part of the source in which the explosive gas is generated, and the whole made portable, for the tester to carry it.

4. A testing apparatus for testing miner's safety lamps consisting of a testing chamber, a gas generator, and a means for exhausting the chamber and for filling the chamber with a testing or explosive gas.

869,067. TELEPHONE SYSTEM. WILLIAM W. DEAN, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 16, 1903. Serial No. 143,512.



1. In a telephone system, the combination with a telephone line, of a signal therefor, a relay actuated over a portion of the talking circuit when a connection is established with the line to render said signal inoperative, a ringing generator, means for connecting said generator in circuit to call the wanted subscriber, and means automatically controlled by the subscriber in his response to the call for disconnecting said generator at the central office, substantially as described.

2. In a telephone system, the combination with a plurality of telephone lines each having a cut-off relay actuated over a portion of the talking circuit, a ringing generator adapted to be connected with a line to call a wanted subscriber, means for maintaining said cut-off relay actuated during ringing, and automatic means controlled by the called subscriber for disconnecting said generator at the central office, substantially as described.

3. In a telephone system, the combination with a plurality of subscribers' lines, of signals for said lines, cut-off relays therefor adapted to render the signals inoperative during a connection, said relay circuits including portions of the talking circuits, a ringing generator adapted to be connected with the lines to call the wanted subscribers, means for maintaining the cut-off relays actuated during ringing, and automatic means controlled by the called subscribers in their response to the calls to sever the connection of the generator at the central office, substantially as described.

4. In a telephone system, the combination with telephone lines having line signals, of a cut-off relay for each line adapted to be actuated by current over a portion of the talking circuit to render the line signal for the line inoperative, a ringing generator, means to automatically connect said generator with the called line by the act of establishing a connection therewith, means maintaining the cut-off relay actuated during ringing, and means to disconnect said generator automatically upon the response of the called subscriber, substantially as described.

5. In a telephone system, the combination with telephone lines having line signals, said signals being rendered inoperative when connections are established by current over portions of the talking circuit, of a source of ringing current adapted to be connected with the lines to call the wanted subscribers, and means to automatically disconnect the said source after the subscribers have been called, substantially as described.

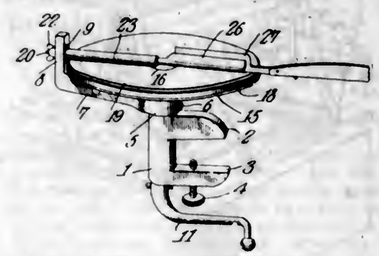
6. In a telephone system, the combination with telephone lines having line signals, said signals being rendered inoperative when connections are established by current over portions of the talking circuit, of a source of ringing current adapted to be automatically connected with the called lines when a connection is established therewith, and means under the control of the subscriber for automatically disconnecting said source, substantially as described.

7. In a telephone system, the combination with telephone lines having line signals, said signals being rendered inoperative when connections are established by current over a portion of the talking circuit, of a source of ringing current adapted to be automatically connected with the called line when a connection is established therewith for conversation, and means for automatically disconnecting said source when the called subscriber responds, substantially as described.

8. In a telephone system, the combination with a pair of telephone lines, of a cord circuit adapted to connect said lines for conversation, a relay associated with the cord circuit and actuated over a local circuit including a portion of the talking circuit when the cord circuit is connected with a telephone line, a source of ringing current, means controlled by the actuation of said relay for connecting said source with the telephone line, and means actuated upon the response of the called subscriber for again severing said source from its connection with the telephone line, substantially as described.

9. In a telephone system, the combination with a cord circuit, of a relay therefor adapted to be actuated over a local circuit including a portion of the talking circuit when the cord circuit is connected for use, a source of ringing current, and means depending upon the actuation of said relay for connecting said ringing source with a strand of the cord circuit, and further means actuated upon the response of the called subscriber for again disconnecting said source from said cord circuit strand, substantially as described.

869,068. MACHINE FOR STROPPING RAZORS. ELIJAH E. DEPUTY, Wilmington, Del., assignor to Dilworth B. Perry, Wilmington, Del. Filed Feb. 7, 1907. Serial No. 356,209.



1. A device of the character described comprising a rotatable sharpening element, a rotatable device frictionally engaging said element, and a blade receiving clip movable with said device.

2. A device of the character described comprising a rotatable sharpening element, an adjustable rotatable device frictionally engaging said element, and a blade holding clip movable with said device.

3. A device of the character described comprising a rotatable sharpening element, a rotatable device adjustably mounted adjacent thereto, means for holding said device in frictional engagment with said element, and a blade engaging clip movable with said rotatable device.

4. A device of the character described comprising a movable sharpening element and a movably mounted blade holding device frictionally engaging said element and disposed to be actuated thereby to direct a blade onto the sharpening element.

5. A device of the character described comprising a movable sharpening element, means for actuating the same in opposite directions alternately, a blade holding device movably mounted adjacent, and frictionally engaging said element, said device being disposed to be actuated by the sharpening element to direct a blade onto said element.

6. A device of the character described comprising a bracket, a sharpening element rotatably mounted adjacent the bracket, a spindle adjustably connected to the bracket, a rotatable device upon the spindle and disposed to frictionally engage said element, and a blade engaging device movable with said rotatable device.

7. A device of the character described comprising a body, means for securing the same to a support, a sharpening element rotatably mounted upon the body, a rotatable device frictionally engaging said element, and a blade engaging device movable with the rotatable device.

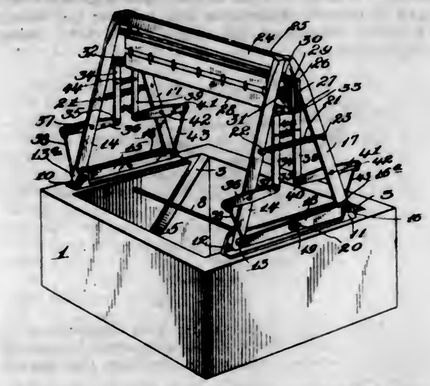
8. A device of the character described comprising a body, a bracket extending therefrom, a shaft rotatably mounted within the body, a reversible sharpening element connected to the shaft, a rotatable device adjustably connected to the bracket and frictionally engaging said element, and a blade engaging device movable with said rotatable device.

869,069. ROLL-PAPER HOLDER AND CUTTER. WILLIAM C. DEUBERRY, Greenfield, Tenn. Filed July 15, 1907. Serial No. 383,833.

1. A roll paper holder and cutter comprising two pairs of bell crank levers, a cutting member carried by each pair of said levers, web grippers, and operative connections between the grippers and the bell cranks for projecting the web past the cutting members after a length of the web has been severed.

2. A roll paper holder and cutter comprising two pairs of bell crank levers, the levers of one pair opposing the levers of the other pair, a resilient connection between each pair of opposing levers, web grippers, a cutting member

secured to each pair of levers, and operative connections between the grippers and said levers for projecting the web past the cutting members after a length of the web has been severed.



3. A roll paper holder and cutter comprising a support for the roll, cutting members for the web, grippers for the web arranged below the cutting members, shiftable supports for the cutting members, and operative connections between said supports for the cutting members and said grippers for automatically projecting the web past the cutting members after a length of the web has been severed.

4. A roll-paper holder and cutter comprising a support provided with a plurality of grooves in which is adapted to be journaled the roll of paper, a pressure roll journaled in the grooves and bearing against the roll of paper, a pair of cutting members between which is adapted to extend the web as it is drawn off the roll, shiftable supports for said members, web grippers arranged below said members, and operative connections between said grippers and the supports for said members for projecting the web past said members after a length of the web has been severed.

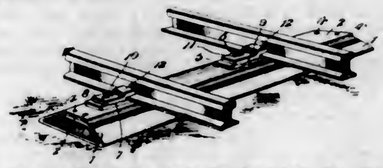
5. A roll paper holder and cutter comprising a pair of cutting members, pivoted supports for each of said members, a pair of vertically movable web grippers arranged between the pivoted supports, and operative connections between said grippers and said supports for projecting the web past said cutting members after a length of the web has been severed.

6. A paper roll holder and cutter comprising a pair of cutting members, spring-controlled supports for each of said members, a pair of web grippers arranged between said supports and below the cutting members, and operative connections between said supports and said grippers for shifting the grippers after a length of the web has been severed, thereby projecting the web past the grippers.

7. A roll paper holder and cutter comprising a support, means whereby the roll of paper can be removably mounted within said support, a pair of cutting members between which the web is adapted to extend, spring-controlled pivoted supports for each of said members, a pair of vertically movable web grippers arranged within said pivoted supports near the top thereof and below said members, and link and lever mechanisms connected with said supports and to the grippers for shifting the grippers after a length of web has been severed thereby projecting the web past the cutting members.

8. A paper roll holder and cutter comprising two pairs of bell crank levers, the levers of one pair opposing the levers of the other pair, pin and slot connections between the pairs of levers, a cutting member carried by each pair of levers, spring connections between the pairs of levers, a pair of vertically-movable web grippers arranged between the pairs of levers, and link and lever mechanisms connected with the grippers and with said bell crank levers for shifting the grippers in a vertical direction after a length of the web has been severed, thereby projecting the web past the cutting members.

869,070. COMBINED RAILROAD TIE AND CLAMP. CLARK P. DEY, Keystone, Wash. Filed Feb. 18, 1907. Serial No. 357,986.



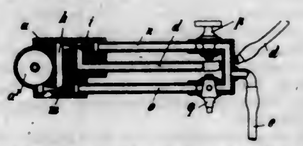
1. In a device of the character described, the combination of a hollow tie formed of sheet material, the edges of which overlap at the upper portion of the tie, a rail clamp carried by the tie, and a fastening member securing the rail clamp to the tie and passing through the said overlapping edges of the sheet material.

2. In a device of the character described, the combination of a hollow tie formed of sheet material, the edges of which overlap at the top of the tie, and a rail clamp comprising a base plate and rail clamping members bearing against the base plate, bolts being employed to secure the base plate to the overlapping edges of the sheet metal of which the tie is formed and the said bolts also serving to adjustably connect the rail clamping members to the base plate.

3. In a device of the character described, the combination of a hollow tie formed of sheet material and comprising inclined slides and a top formed by the overlapping edges of the sheet material, and a rail clamp comprising a base plate and rail clamping members bearing against the base plate, bolts being employed to secure the base plate to the top of the tie, and said bolts also serving to adjustably secure the rail clamping members to the base plate.

4. A tie formed of a single piece of sheet material and comprising inclined sides and a top somewhat narrower than the bottom and constituted by the overlapping edges of the piece of sheet material.

869,071. OXYHYDROGEN-GAS BURNER. ALEXANDER B. DRÄGER and HANS W. C. SCHRÖDER, Lübeck, Germany, assignors to The Firm of Drägerwerk, Heinrich and Bernhard Dräger, Lübeck, Germany. Filed July 30, 1906. Serial No. 328,380.

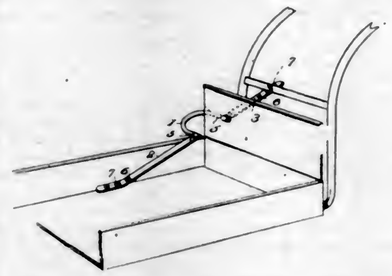


1. An oxyhydrogen burner comprising a head having a circular mixing-chamber and a mixing channel communicating therewith at one end, a fuel conduit communicating with the channel at the opposite end, an oxygen supply conduit having a nozzle communicating with the fuel conduit, a second oxygen supply conduit having a nozzle projecting into the channel, and means in the oxygen supply conduits to regulate the supply to the channel.

2. An oxyhydrogen burner comprising a head having a mixing-chamber and a mixing channel communicating therewith at one end, a conduit for supplying oxygen having a nozzle projecting into the channel near said end, a gas-conduit in the head communicating with the channel and having a portion thereof substantially parallel to the channel and an oxygen supply-conduit having a nozzle projecting into said parallel portion of the gas-conduit.

3. An oxyhydrogen burner comprising a head having a circular mixing chamber and a straight mixing channel communicating at one end through the periphery of the chamber, a conduit for supplying oxygen having a nozzle projecting into the mixing channel at said end, a gas-conduit in the head communicating with the mixing channel and having a portion thereof parallel to the mixing channel, an oxygen supply-conduit having a nozzle parallel to the aforesaid oxygen supply-conduit projecting into said parallel portion of the gas conduit at right-angles thereto and means in each oxygen-supply-conduit to regulate the supply.

869,072. THILL-SUPPORT. WILLIAM B. ELLSWORTH, Hudson, Ohio. Filed Mar. 5, 1907. Serial No. 360,716.



1. A thill support comprising a spanner, straps secured to the outer ends of the legs or members of the spanner and having a series of openings in their length to admit of adjustable connection of either strap with the thills or body of a vehicle.

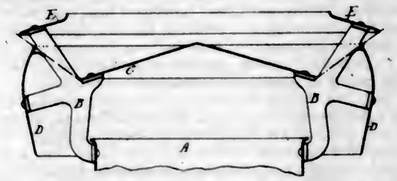
2. In combination with a vehicle comprising a body and thills and having fastenings applied to each, a support for holding the thills elevated, the same comprising an approximately U-shaped iron and straps attached at one end to the ends of the legs or members of said iron and provided in their length with a series of openings.

869,073. PARA-AMINODIPHENYLAMIN SULFONIC ACID AND PROCESS OF MAKING THE SAME. ERNST ERDMANN, Halle-on-the-Saale, Germany, assignor to Actien Gesellschaft für Anilin Fabrikation, Halle-on-the-Saale, Germany. Filed Nov. 19, 1906. Serial No. 344,177. (Specimens.)

1. The hereinbefore described process of producing a new para-aminodiphenylamin sulfonic acid, which is the para-aminodiphenylamin-para'-sulfonic acid and which process consists in heating para-aminodiphenylamin with a concentrated sulfuric acid containing between 0 and 20% of free sulfur trioxid to temperatures between 100 and 130 degrees centigrade.

2. As a new composition of matter a para-aminodiphenylamin sulfonic acid which is the para-aminodiphenylamin-para'-sulfonic acid and which acid may be obtained by the action of mono-hydrate sulfuric acid on para-aminodiphenylamin at 125° centigrade for 2 to 3 hours, and which new sulfonic acid is difficultly soluble in hot water and crystallizes in fine needles, and one part of this sulfonic acid being soluble in 125.5 parts of boiling water, the sodium salt of which acid is very easily soluble in water, whereas the potassium salt is somewhat less soluble and possesses when dried *in vacuo* the composition: $C_{12}H_{11}N_2SO_3K$, a dilute aqueous solution of this sulfonic acid, when added at ordinary temperature with some ferric chlorid or with a mixture of potassium bichromate and of acetic acid, showing a red yellow coloration, and this new para-aminodiphenylamin sulfonic acid by the action of nitrous acid in the usual manner being converted into a diazo-compound possessing a yellow color and being difficultly soluble in water.

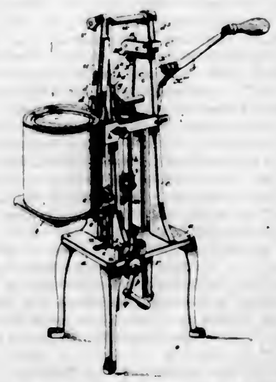
869,074. VENTILATOR. POWELL EVANS, Philadelphia, Pa. Filed June 9, 1904. Serial No. 211,829.



1. The combination in the ventilator of a substantially cylindrical bottom section, a cover section therefor, a side section extending around the upper end of the said bottom section and the cover section, the surface of said side section being inwardly curved, with a ring section supported some distance above said side section so as to form an annular opening between said two latter sections, with a plurality of multiple-armed brackets each having one arm fixed to the bottom section, another arm fixed to the side section, a third arm fixed to the cover section, and a fourth arm engaging both the upper edge of the side section and the ring section, substantially as described.

2. The combination in the ventilator of a substantially cylindrical bottom section, a cover section therefor, a side section extending around the upper end of the said bottom section and the cover section, the surface of said side section being inwardly curved, with a ring section supported some distance above said side section so as to form an annular opening between said two latter sections, with a plurality of multiple-armed brackets each having one arm fixed to the bottom section, another arm fixed to the side section, a third arm fixed to the cover section and a fourth arm engaging both the upper edge of the side section and the ring section, each of said arms having an integral projection extending through the section engaged thereby and said projection being riveted to hold the sections in place, substantially as described.

869,075. CAN-HEAD-CUTTING MACHINE. MYRON J. FERREN, Washington, D. C. Filed Apr. 18, 1907. Serial No. 368,828.



1. In a can cutting machine a cutter, a driving element, means actuated by the driving element for intermittently feeding the can and means also actuated by the driving element for bringing the cutter into operative engagement with the can between the feeding movements.

2. In a can cutting machine, means for feeding the can step by step with intermediate periods of rest, and a cutter movable into and out of engagement with the can during said periods of rest.

3. In a can cutting machine, means for feeding the can step by step with intermediate periods of rest, and a re-

ciprocating cutter movable into and out of engagement with the can during the periods of rest.

4. In a can cutting machine an operating element having a substantially continuous movement imparted thereto, means for supporting and rotating the can operated from said element to impart a step by step movement to the can, a cutter, and means operated by said element to actuate the cutter at regular intervals.

5. In a can cutting machine, an operating element having a substantially continuous movement, means operated from the element for imparting successive feeding movements to the can with intermediate periods of rest, a cutter, and means operated from said element for actuating the cutter at intervals, said intervals occurring synchronously with the periods of rest of the can.

6. In a can cutting machine an operating element having a substantially continuous movement, means operated from the element for imparting successive feeding movements to the can with intermediate periods of rest, a cutter, means operated from the element for giving successive reciprocations to the cutter with intervals of rest, said intervals of rest being timed to occur synchronously with the feeding movements of the can, said reciprocations of the cutter being timed to occur synchronously with the periods of rest of the can.

7. In a can cutting machine, the combination with means for rotating the can comprising, disks engaging the can, a drive-shaft carrying one of the disks, and means for transmitting the movement of the shaft to the other of the disks, of a reciprocating cutter, a shaft, a crank carried by the shaft and connected to the cutter for reciprocating the cutter as the shaft is oscillated, an element having a substantially continuous movement, and means for alternately moving the can and knife during the movement of the element comprising a star wheel on the drive-shaft, a crank arm on the cutter shaft, and striker arms on said continuous moving element, relatively arranged that when one of the arms is in engagement with the star wheel or crank arm the other arm will be out of engagement with the other of said parts.

8. In a can cutting machine a disk for moving the can, a drive-shaft for said disk, a reciprocatory cutter, a drive-shaft therefor, an operating handle having a substantially continuous movement during the cutting operation, and means interposed between said element and said shaft for giving said shafts a series of alternating movements.

9. In a can cutting machine a disk for moving the can, a drive-shaft for said disk, a reciprocatory cutter, a drive-shaft therefor, an operating handle having a substantially continuous movement during the cutting operation, and means for giving said shafts a series of alternating movements interposed between said element and said shafts, said interposed mechanism including a crank arm on the cutter shaft, a star wheel on the disk driving shaft and a series of striker arms movable with the handle.

10. In a can cutting machine, means engaging the can to rotate the same, a drive shaft therefor, a star wheel carried by said drive shaft, a cutter, a cutter shaft, a crank arm on the cutter shaft, a striker arm designed to shift said crank arm and star wheel, and a wiper arm co-acting with the crank arm for restoring the same to initial position, said wiper arm having a part projecting into the path of movement of the striker arm and adapted to be actuated thereby following its disengagement from the crank arm.

11. In a can cutting machine means engaging the can for feeding it, a drive shaft for said means, an actuating element carried by the shaft, a cutter, a cutter shaft, a crank arm on said cutter-shaft, a stop therefor, a pivoted wiper arm, a spring tending to hold the same against the crank arm and the latter against the stop, a striker arm designed to co-act with the crank arm to shift the same in one direction, and a tail piece on the wiper arm extending into the path of movement traversed by the striker arm immediately following the disengagement of the latter from the crank arm.

12. In a can cutting machine a base, a standard rising therefrom having a guide slot therein, a bracket guided in said slot, an upper disk for engaging the can, a lower disk for engaging the can, a shaft carrying the same journaled in said bracket, means for rotating the disk, and means for adjusting the bracket to move the lower disk toward and from the upper disk comprising a rack depending from the bracket, a pinion engaging the rack, a shaft carrying the pinion journaled in the base, and means for rotating the shaft.

13. In a can cutting machine, the combination with a cutter, of upper and lower disks engaging the can for supporting and shifting the same, means for rotating the disks, and a rest engaging the side of the can near the top of the same in advance of the disk, said rest having a vertical continuation co-acting with the side of the can throughout substantially the entire length thereof.

14. In a can cutting machine, the combination with a cutter and means for actuating the same, of a lower feeding disk, an upper feeding disk yieldingly pressed toward the lower disk, and an indicator associated with the upper disk.

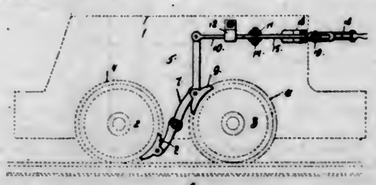
15. In a can cutting machine, the combination with a cutter, and means for actuating the same, of a lower feeding disk, an upper feeding disk mounted to have movement toward and from the lower feeding disk, a spring coöperating with the upper feeding disk for yieldingly pressing the same toward the lower feeding disk, and an indicator associated with the upper feeding disk for denoting the position of the upper disk in its bearing, substantially as described.

869,076. CAN-CLOSURE. JAMES A. FLEMING, Paola, Kans. Filed Apr. 14, 1906. Serial No. 311,671.



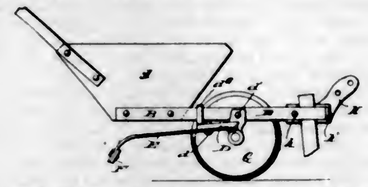
The combination of a can body, a can lid or cover having a flange to overlie the upper edge of a can body, and a sealing strip folded longitudinally between its side edges, forming an upper wing secured to the lid and a lower wing secured to the body, the wings resting normally flat against each other and being located in horizontal planes, whereby when the folded joint is severed, said wings may be moved bodily apart without involving any frictional contact of the wings with each other, the folded joint between the wings being arranged at the outer edge or circumference thereof, and projecting beyond the can body and lid, whereby the folded joint may be cut off and thereby separated bodily from the wings which it unites to divide the upper and lower wings and free the lid or cover, substantially as and for the purposes set forth.

869,077. BRAKE FOR MINE-LOCOMOTIVES. JAMES F. FLYNN, Pardus, Pa. Filed May 7, 1907. Serial No. 372,425.



The combination with the trucks and housing of a mine locomotive, of pivoted brake levers carried by the side walls of said housing, shoes connected to said brake levers and adapted to engage the under side of the wheels of one truck and the upper side of the wheels of another truck, a cross head connecting with said brake levers, a bracket carried by the side walls of said housing, a rod movably mounted in said bracket and adjustably connecting with said cross head, an actuating lever pivotally connected to said bracket and to said rod, and means to lock said actuating lever in a fixed position either to set or release said brake shoes, substantially as described.

869,078. PLANTER. JAMES T. GANTT, Macon, Ga. Filed July 23, 1907. Serial No. 385,114.



1. In a planter, the combination, with the side bars or frame, the wheel, and springs for carrying a coverer, of the brackets secured to said bars and having bearings for the wheel, a bolt passing through the spring and the bracket near the rear end of the latter, the bracket having each an end pocket for reception of a spring, and a vertical hook for engagement with the side bar, as shown and described.

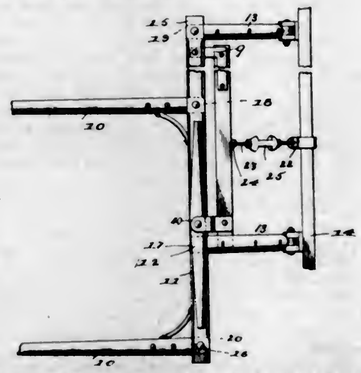
2. In a planter, the combination, with the side bars, of the forward bracket having end pockets for reception of the ends of said bars, and a bolt passing through the bars and bracket near the rear end of the latter, as shown and described.

3. The improved bracket forming part of a planter attachment, which is constructed with an end pocket for reception of covering springs, a bolt hole near its rear end, and a vertical hook, as and for the purpose specified.

4. The improved bracket forming part of a planter attachment, which is constructed with an end pocket for reception of covering springs, as shown and described.

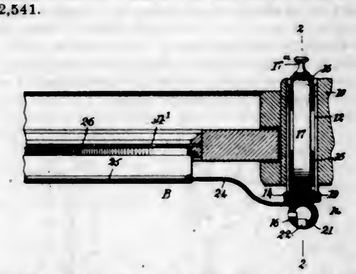
5. The improved bracket forming part of the forward attachment of a planter frame, the same having end pockets for reception of the frame bars, as shown and described.

869,079. SIDE-TRACK DRAFT ATTACHMENT FOR BUGGIES. WILLIAM GRONO, Litchfield, Minn. Filed Aug. 30, 1906. Serial No. 332,690.



In a vehicle, the combination with the axle and the shafts and their cross-bar, the latter arranged on one side of the line of draft, of the thill bows, connected with the axle and the cross-bar, independent of the shaft-connections, the whiffletree supported on the cross-bar, a draft-evening device connected with the axle at a central draft-point, and means connecting the whiffletree to the draft-evening device.

869,080. WINDOW-CLEANER. JOHN GROSSGERAUER, Paterson, N. J. Filed June 20, 1906. Serial No. 322,541.



1. In a window cleaner, a vertically arranged guide bar, a coiled spring, supporting means for the spring, a cleaning arm extending from one end of said spring, a sleeve connected with the supporting means for the spring and mounted to slide on said guide bar, an endless carrier secured to the sleeve, and guides for the carrier.

2. In a window cleaner, a guide bar, a cylinder provided with a sleeve mounted to slide on said guide bar, a coiled spring held in said cylinder, a cleaning arm extending from one end of said spring, the said arm being exteriorly located and normally held in engagement with a window pane by the said spring, and means connected with the sleeve for carrying said arm upward and downward in engagement with said window pane.

3. The combination with the side rail of a sash, of a window cleaner comprising an endless belt passing through the said guide rail and extending at the inner and outer faces thereof, guides for the said belt, a guide bar secured to the side rail, a coiled spring, a cylinder in which said spring is held, a sleeve connected with said cylinder and mounted to slide on said guide bar, the said sleeve being secured to the outer stretch of said belt, and a cleaning arm extending from one end of said coiled spring.

4. The combination with a side rail of a window sash having upper and lower openings therein, and guide rollers in said openings, of an endless belt passed through said openings and over the guide rollers, the longitudinal stretches of the belt being at the inner and outer faces of the rail, a guide rod secured to the outer face of the rail, a sleeve through which the guide rod passes, a cylinder connected with the said sleeve, a coiled spring held in said cylinder and having one end extending horizontally across the window and forming a cleaning arm, and means for attaching the said sleeve to the belt.

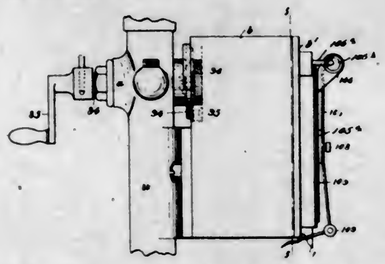
5. In a window cleaner, a vertically arranged guide bar, a cylinder closed at its bottom and provided at its back with a sleeve mounted to slide on said guide bar, a coiled spring held in said cylinder, the upper end of said spring extending horizontally across the outside of the window and forming a cleaning arm, cleaning material carried by said arm and normally held in engagement with a window pane by the tension of the coiled spring, and means connected with the said sleeve for moving said arm upward and downward.

6. In a window cleaner, a spring, a holder for the same, means for moving said holder vertically, and means for guiding said holder, the said spring having a cleaning arm extending from one end thereof across the window.

869,081. TIME-CONTROLLED GAS-COCK. HARRY W. HARRIS, Brockley, England. Filed May 22, 1905. Serial No. 261,623.

1. In an apparatus for operating a cut-off, the combination with a spring-actuated motor mechanism operated at predetermined intervals, connected with and adapted when operated to alternately open and close said cut-off, of a combined locking and releasing means for said motor mechanism, said means comprising an oscillatory actuating lever, a combined releasing and stop lever shiftable to and from normal position when the actuating lever is

operated, a series of rotatable recessed controlling cams, one of which is connected to the main shaft of the motor mechanism, a locking lever provided with means engaging in said cams to arrest the movement thereof, said locking lever shiftable from engagement with said cams on the movement of said combined releasing and stop lever, and a time-controlled tripping device for intermittently shifting the actuating lever in one direction.



2. In an apparatus for operating a cut-off, the combination with means operated at predetermined intervals and connected with the cut-off for alternately opening and closing it and embodying a stop device for temporarily arresting the movement thereof, of a combined locking and releasing means for said motor mechanism, said means comprising an oscillatory actuating lever, a combined releasing and stop lever shiftable to and from normal position when the actuating lever is operated and adapted to engage said stop device to temporarily arrest the operation of said means, a series of rotatable recessed controlling cams, one of which is connected to said means, a locking lever adapted to engage in said cams to arrest the movement thereof, thereby discontinuing the operation of said means for a predetermined time, said locking lever shiftable from engagement with said cams by said combined releasing and stop lever, and a time-controlled tripping device for intermittently shifting the actuating lever in one direction, causing thereby the shifting of the locking lever from engagement with said cams by said combined releasing and stop lever.

3. In an apparatus for operating a cut-off, the combination with means operated at predetermined intervals and connected to the cut-off and adapted when operated to alternately open and close it, of a combined locking and releasing mechanism for said means, said mechanism comprising an oscillatory actuating lever, a combined releasing and stop lever, said levers mounted on a common axis and operating simultaneously, a series of rotatable recessed controlling cams, one of which is connected to said means, a locking lever engaging in said cams to arrest the movement thereof, said locking lever shiftable from engagement with said cams to release said means to allow of the operation thereof and the actuation of the cut-off on the movement in one direction of said combined releasing and stop lever, combined with a time-controlled tripping device for intermittently shifting the actuating lever at predetermined intervals.

4. In an apparatus for operating a cut-off at predetermined intervals, a spring-actuated motor mechanism connected with and adapted when operated to open and close the cut-off, an oscillatory actuating lever, a combined releasing and stop lever, said levers mounted on a common axis and operating simultaneously, three rotatable recessed controlling cams, one of which is connected to the main shaft of the motor mechanism, a locking lever provided with means engaging in said cams to arrest the movement thereof, said locking lever shiftable from engagement with said cams on the movement of said combined releasing and stop lever, said locking lever when moved from engagement with said cams temporarily retained in a non-engaging position by one of said cams, means adapted to be engaged by said combined releasing and stop lever for temporarily arresting the operating of the motor mechanism, combined with a time-controlled tripping device for intermittently shifting the actuating lever at predetermined intervals.

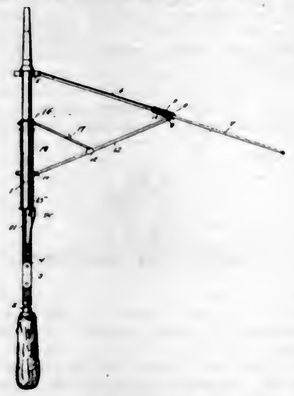
5. In an apparatus for operating a cut-off at predetermined intervals, a spring-actuated motor mechanism connected with and adapted when operated to open and close the cut-off, an oscillatory actuating lever, a combined releasing and stop lever, said levers mounted on a common axis and operating simultaneously, three rotatable recessed controlling cams, one of which is connected to the main shaft of the motor mechanism, a locking lever provided with means engaging in said cams to arrest the movement thereof, said locking lever shiftable from engagement with said cams on the movement of said combined releasing and stop lever, said locking lever when moved from engagement with said cams temporarily retained in a non-engaging position by one of said cams, means adapted to be engaged by said combined releasing and stop lever for temporarily arresting the operation of the motor mechanism, a pair of trip pins adapted to intermittently shift the actuating lever in one direction at predetermined intervals, and a clock mechanism carrying the trip pins.

6. In an apparatus for operating a cut-off at predetermined intervals, a spring-actuated motor mechanism connected with and adapted when operated to open and close the cut-off, an oscillatory actuating lever, a combined releasing and stop lever, said levers mounted on a common axis and operating simultaneously, three rotatable recessed controlling cams, one of which is connected to the main shaft of the motor mechanism, a locking lever provided with means engaging in said cams to arrest the movement thereof, said locking lever shiftable from engagement with said cams on the movement of said combined releasing and stop lever, said locking lever when moved from engagement with said cams temporarily retained in a non-engaging position by one of said cams, means adapted to be engaged by said combined releasing and stop lever for temporarily arresting the operation of the motor mechanism, trip pins adapted to alternately engage with said actuating lever for shifting it in one direction at predetermined intervals, a clock mechanism embodying a revolving element, and means for connecting the trip pins to the revolving element so that said pins will be carried thereby.

7. In an apparatus for operating a cut-off, the combination with a spring-actuated motor mechanism operated at predetermined intervals, connected with and adapted when operated to alternately open and close said cut-off, of a combined locking and releasing means for said motor mechanism, said means comprising an oscillatory actuating lever, a combined releasing and stop lever shiftable to and from normal position when the actuating lever is operated, a series of rotatable recessed controlling cams, one of which is connected to the main shaft of the motor mechanism, a locking lever provided with means engaging in said cams to arrest the movement thereof, said locking lever shiftable from engagement with said cams on the movement of said combined releasing and stop lever, a time-controlled tripping device for intermittently shifting the actuating lever in one direction, combined with means independent of the motor mechanism to allow of the opening and closing of the cut-off manually.

8. In an apparatus for operating a cut-off, the combination with means operated at predetermined intervals and connected with the cut-off for alternately opening and closing it and embodying a stop device for temporarily arresting the movement thereof, of a combined locking and releasing means for said motor mechanism, said means comprising an oscillatory actuating lever, a combined releasing and stop lever shiftable to and from normal position when the actuating lever is operated and adapted to engage said stop device to temporarily arrest the operation of said means, a series of rotatable recessed controlling cams, one of which is connected to said means, a locking lever adapted to engage in said cams to arrest the movement thereof thereby discontinuing the operation of said means for a predetermined time, said locking lever shiftable from engagement with said cams by said combined releasing and stop lever, a time-controlled tripping device for intermittently shifting the actuating lever in one direction, causing thereby the shifting of the locking lever from engagement with said cams by said combined releasing and stop lever, combined with means independent of the motor mechanism to allow of the opening and closing of the cut-off manually.

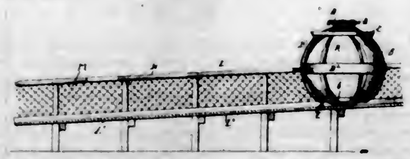
869,082. UMBRELLA. JOHN HAYS, Uniontown, Pa. Filed Apr. 26, 1907. Serial No. 370,383.



1. A folding umbrella consisting of a stick, an outer notched band carried by said stick, an auxiliary notched band carried by said stick and spaced from said outer notched band, a runner slidable upon said stick, a spring operating between said runner and said auxiliary notched band, a spring actuated holder operating to maintain said runner in elevated position, telescopic rib sections swinging at one end from said outer notched band, rib sections slidable in said telescopic rib sections, main stretchers pivotally united at their ends respectively to said runner and to said sliding rib sections, and auxiliary stretchers swinging at their ends respectively from said auxiliary notched band and said main stretchers.

2. A folding umbrella consisting of a stick, an outer notched band carried by said stick, an auxiliary notched band carried by said stick and spaced from said outer notched band, a runner slidable upon said stick, a spring operating between said runner and said auxiliary notched band, a spring actuated holder operating to maintain said runner in elevated position, telescopic rib sections swinging at one end from said outer notched band, rib sections slidable in said telescopic rib sections, sleeves slidable upon said telescopic rib sections and provided with depending ears, bands connected to said sliding rib sections and each provided with an ear extending between the ears of said sleeves, main stretchers pivotally united at one end to said sleeves and sliding rib sections by pivots extending through the depending ears thereof and pivotally united at their other ends to said runner, and auxiliary stretchers swinging at their ends respectively from said auxiliary notched band and said main stretchers.

869,083. AMUSEMENT DEVICE. HARRY C. HEBIG, Closter, N. J., assignor of one-half to Michael Schroeder, Brooklyn, N. Y. Filed July 26, 1907. Serial No. 385,744.



1. The combination of a runway provided with deflecting walls on each side which alternately converge and diverge to and from each other, whereby said walls are formed with alternate inwardly-projecting bends; and a passenger carrier adapted to move along said track and be intercepted by said bends.

2. The combination of a runway provided with deflecting walls on each side which alternately converge and diverge, whereby said walls are formed with alternate inwardly-projecting bends; a passenger platform; a framework supporting the same; and a ball within and supporting said frame-work.

3. The combination with an inclined runway, of a ball adapted for movement thereon, a platform-supporting frame work fitting on said ball, and feet on said frame-work adapted to come in contact with the runway to balance the frame-work.

4. The combination with an inclined runway, of a ball adapted for movement thereon, a platform-supporting frame-work supported by said ball, and yieldingly-mounted feet attached to said frame-work for contact with the runway.

5. In combination, a ball, a frame-work supported by the ball, legs for balancing the frame-work on the ball, and passenger seats carried by said frame-work.

6. In combination, a platform-supporting frame-work, a ball within and supporting the same; anti-friction rollers between the ball and the frame-work, and means for balancing the frame-work.

7. In combination, a platform-supporting frame-work, a ball within and supporting the same; anti-friction rollers between the ball and the said frame-work, legs on the frame-work for balancing the same on the ball, and spring feet on the legs.

8. In combination, a platform-supporting frame-work, and a ball within said frame-work, supporting the same and free to rotate therein in every direction, said frame-work being made in the shape of an animal.

9. The combination of a runway having a floor and a deflecting rail fastened on each side thereof and in close proximity thereto; and a passenger-carrying frame the base portion of which is adapted to bump against said rails and be deflected thereby.

10. The combination with a runway having zigzag deflecting side walls of a passenger carrier adapted to move freely on said runway, and provided with a buffer band for contact with said walls.

11. The combination with a runway having zigzag deflecting side walls, of a passenger carrier adapted to move freely on said runway, and provided with a buffer band encircling the carrier horizontally for contact with said walls.

12. The combination with a runway, and a deflecting rail thereon, of a passenger carrier adapted to move freely on said runway and provided at its base with a buffer band for contact with said deflecting rail.

13. The combination with a runway, and a deflecting rail thereon, of a passenger carrier adapted to move freely on said runway, the same consisting of a platform-supporting frame-work, a ball moving freely therein in any direction; and a buffer band encircling the frame-work horizontally at the height of said deflecting rail.

14. The combination with an inclined runway, of a passenger carrier in the shape of an animal, and a ball which is held within the said carrier and upon which the latter is supported and moves.

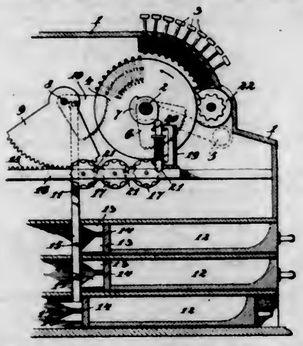
15. The combination with a runway provided with a floor which has a general downward inclination lengthwise, and which inclines first to one side and then to the other side of said runway throughout its length, of a passenger carrier freely movable down and from side to side of said runway.

16. The combination with a runway and a passenger carrier freely movable down and from side to side of the same, of a rail mounted along the sides of said runway and provided with yielding devices for storing the energy of impact.

17. The combination with a runway and a passenger carrier freely movable down and from side to side of the same, of a rail mounted along the sides of said runway and provided with inclined blocks for tilting said carrier.

18. The combination with a runway and a passenger carrier freely movable down and from side to side of the same, of a rail mounted along the sides of said runway and provided with devices for tilting said carrier.

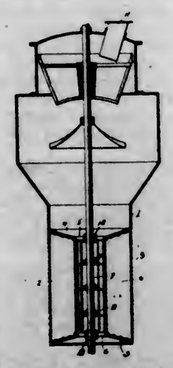
869,084. CASH-REGISTER. WOLDEMAR R. HEINITZ, Chemnitz, Germany, assignor to The Firm of Schubert & Salzer Maschinenfabrik, Aktiengesellschaft, Chemnitz, Germany. Filed May 14, 1907. Serial No. 373,611.



1. In a cash register, in combination, a plurality of sliding tills; a special counting or indicating mechanism for each till; and means, operating with positive motion, actuated by recession of the tills, for bringing the special mechanism corresponding to the receded till into the operative position, substantially as described.

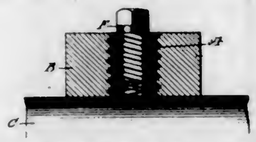
2. In a cash register, in combination, a plurality of sliding tills, a slide provided with a rack at one side, special counting or indicating devices for the tills mounted in the said slide and a toothed segment meshing with the rack on the said slide, a pair of chamfered fingers at the back of each till, a vertically sliding rod jointed to the said toothed segment and presenting a series of studs, normally lying on a level with the chamfer of the lower finger of the said pair of fingers and entering the gap between the latter by recession of the corresponding till, whereby the said sliding rod is elevated and the said toothed segment turned, so that the special device corresponding to the receded till is brought into the operative position; substantially as described.

869,085. SIFTING-MACHINE. GEORG HILLER, Teplitz, Austria-Hungary. Filed Nov. 12, 1906. Serial No. 343,080.



An apparatus of the class described comprising a cylindrical casing having an upper imperforate portion and a lower perforated portion, a vertical shaft mounted for rotation through said casing, hubs spaced apart upon said shaft within said casing and each provided with a plurality of radiating arms, an annular conical plate connected to the terminals of the arms of the upper hub and inclining inwardly toward the center of the machine, an annular conical plate connected to the terminals of the arms of the lower hub and inclining outwardly toward the periphery of the machine, a plurality of curved wings extending between said annular conical plates, a plurality of concave plates spaced apart and connected to said shaft between said hubs, and means for feeding material upon the upper of said conical plates.

869,086. SAFETY SET-SCREW. CLEMENCE E. HOFFMANN, Thomaston, Conn. Filed Jan. 4, 1907. Serial No. 350,761.



1. A safety set screw having a longitudinal opening therein provided with internal screw threads running in opposite directions.

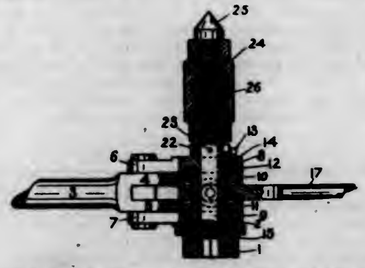
2. A safety setscrew having a longitudinal opening therein provided with internal screwthreads running in opposite directions, and interchangeable auxiliary setscrews having threads corresponding to the internal screwthreads, as and for the purpose set forth.

3. A safety set screw provided with a tubular body having an external screw thread, and internal screw threads running in opposite directions.

4. A safety set screw provided with a tubular body having an external screw thread, internal screw threads running in opposite directions, and an auxiliary set screw screwing in one of the said internal screw threads.

5. A safety set screw provided with a tubular body having an external screw thread, internal screwthreads running in opposite directions, an auxiliary set screw screwing in one of the said internal screw threads, and two headed screws having right and left hand threads for engagement with the said internal screw threads to screw up or unscrew the said safety set screw.

869,087. RATCHET-DRILL. JOHN J. HOURIGAN, Brighton-le-Sands, near Sydney, New South Wales, Australia, assignor to John Ravan, Sydney, New South Wales, Australia. Filed Aug. 28, 1905. Serial No. 276,085.



1. In a ratchet drill, the combination with the spindle carrying the drill stock or bit holder and a key, of two bevel wheels having respectively right and left hand ratchets, either of which bevel wheels may be keyed to the spindle, an operating hand lever with spring pawls mounted on the arms thereof, and a holding arm or lever between said arms and carrying intermediate pinions gearing with the said bevel wheels.

2. A ratchet drill comprising a spindle carrying a drill stock and provided with a screw-threaded portion, motion-transmitting mechanism for the spindle, means for alternately connecting separate elements of said mechanism to the spindle, causing thereby the alternate rotation of the spindle in opposite directions, and interengaging oppositely-threaded feed sleeves mounted upon and engaging with the screw-threaded portion of the spindle for feeding it when operating in one direction, one of said sleeves adapted to be locked to the stock by said connecting means, causing thereby the feed of the spindle when it is operated in the other direction.

3. In a ratchet drill, the combination with a spindle carrying a drill stock, of a right and a left-hand ratchet mechanism for rotating the spindle in opposite directions, each of said mechanisms provided with a gear, means extending through the gears for alternately connecting each of said mechanisms to the spindle, and a holding arm carrying pinions meshing with the gears of said ratchet mechanisms.

4. In a ratchet drill, the combination with a tool carrying spindle having a screw-threaded end, of a right and a left-hand ratchet mechanism for rotating the spindle in either direction, each of said mechanisms provided with a gear, a holding arm carrying intermediate pinions meshing with the gears of said ratchet mechanisms, an internally and externally screw-threaded sleeve mounted upon the screw-threaded end of said spindle, the threads upon the periphery of said sleeve extending in a reverse direction with respect to the threads upon the spindle, an internally screw-threaded sleeve engaging the sleeve mounted upon the spindle, and a slidable member adapted to connect and disconnect the gears and arranged to lock the internally and externally-threaded sleeve for the purpose set forth.

869,088. TROUGH. DANIEL HURST, Red Oak, Iowa. Filed May 6, 1907. Serial No. 372,018.



1. An elongated feed trough having transverse slats separated by intervening spaces and longitudinally disposed laterally extending guide flanges, in combination with a slidable cover having inturned flanges engaging the guide flange and provided with transverse slots adapted for registry with the intervening spaces between the transverse slats of the trough.

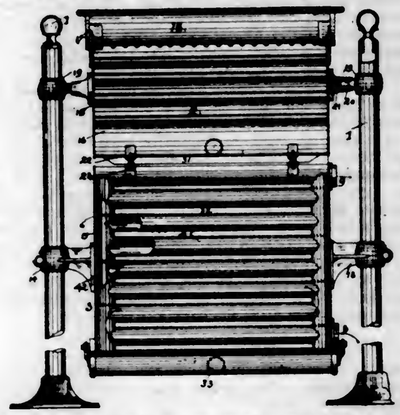
2. An elongated trough having transverse slats and laterally extending guide flanges, a slidable cover engaging said flanges and having transverse slots, a feed spout or hopper at one end of the trough, an arm extending from the cover, a lever pivoted upon the arm, and a link connecting said lever with the hopper.

3. An elongated trough having transverse slats, a longitudinally slidable cover having transverse slots, a feed spout at one end of the trough, an operating lever operatively connected with the slidable cover, a link connecting the operating lever with the feed spout, and a valve waste pipe connected with the spout.

869,089. LIQUID-COOLER. AAGE JENSEN, Eureka, Cal. Filed Jan. 17, 1907. Serial No. 352,730.

1. In a liquid cooler, in combination with posts, a main cooler supported on said posts, and a regenerator slidably secured to the posts and supported on the main cooler, said regenerator being constructed to receive hot and cold liquids and to conduct the partly cooled hot liquid to the main cooler, substantially as described.

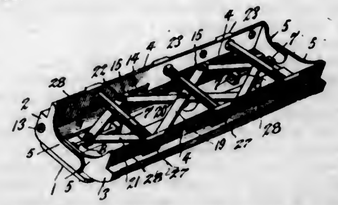
2. In a liquid cooler, in combination with posts, a main cooler supported on said posts, and a regenerator slidably secured to the posts and supported on the main cooler, said regenerator comprising two compartments adapted to receive respectively hot and cold liquids, each compartment having at regular intervals in the bottom thereof apertures formed in the bottom of depressions and a tortuous regenerator sheet on to opposite sides of which the liquid falls and on which they travel, substantially as described.



3. In a liquid cooler, in combination with posts, a main cooler supported on said posts, and a regenerator slidably secured to the posts and supported on the main cooler, said regenerator comprising two compartments adapted to receive respectively hot and cold liquids, each compartment having at regular intervals in the bottom thereof apertures formed in the bottom of depressions and a regenerating element having an extended area on to opposite sides of which said element hot and cold liquids pass, and constructed to deliver the hot liquid to the main cooler, substantially as described.

4. In a liquid cooler, in combination with posts, a main cooler supported on said posts, and a regenerator slidably secured to the posts and supported on the main cooler, said regenerator comprising two compartments adapted to receive respectively hot and cold liquids, each compartment having at regular intervals in the bottom thereof apertures formed in the bottom of depressions and a regenerating element having an extended area on to opposite sides of which said element hot and cold liquids pass, and having a lip depending from the lowest portion thereof, and extending into close proximity with the main cooler to deliver the hot liquid thereto without splashing, substantially as described.

869,090. BINDER. FRED B. JORDAN, Winchester, Mass., assignor to H. E. Martell Company, Boston, Mass., a Corporation of Maine. Filed Aug. 11, 1906. Serial No. 330,232.

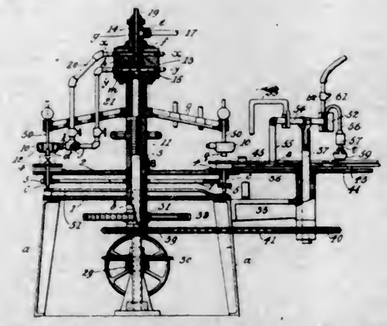


1. In a loose leaf binder a frame having side members and a back member, rods supported in the side members, slides movable upon one of the rods, nuts engaging right and left-hand threads upon the other rod, lazy-tongs connected pivotally with the nuts and slides and including levers fulcrumed upon the back member of the frame, and slides supported by said back member and having pivotal connection with the lazy-tongs.

2. In a loose leaf binder a frame including a back and side members, said side members having undercut portions or recesses, rods supported in the side members and exposed through the undercut portions, slides engaging one of said rods, nuts engaging right and left-hand threaded portions upon the other rod, lazy-tongs connected pivotally with the nuts and slides and including levers fulcrumed upon the back member of the frame, slides supported upon and connected pivotally with the lazy-tongs, and rods supporting said slides.

3. In a loose leaf binder a frame including a back and side members said back having a central boss and longitudinally disposed pairs of lugs, shafts or rods supported in said pairs of lugs longitudinally with relation to the back member, slides upon said shafts, rods supported longitudinally in the side members of the frame, one of said rods having right and left-hand threaded portions, slides and nuts engaging said rods and having wings extending through undercut portions of the side members, lazy-tongs connected pivotally with the wings of the nuts and slides and including levers fulcrumed upon the bosses of the back member, and pivots connecting the toggles of the lazy-tongs with the slides upon the shafts connected with and supported by lugs upon the back member.

869,091. CAN-CAPPING MACHINE. EDWARD J. JUDGE, San Francisco, Cal. Filed Feb. 2, 1907. Serial No. 355,362.



1. In a can-capping machine, a rotary table provided with a system of can supports, combined with burners situated over the can supports, and apparatus to intermittingly effect the production and extinction of a flame at the burners during their revolution about the axis of the table, substantially as specified.

2. In a can-capping machine, a rotary table, a system of can supports on the table with means to effect their axial rotation during the rotation of the table, combined with burners which are placed over the said supports and move in common therewith, and apparatus to effect the intermittent production and extinction of a flame at the burners during their revolution around the axis of the table, substantially as specified.

3. In a can-capping machine, a rotary table, a system of can supports on the table with means to effect the rotation of the table, and mechanism to produce in the can supports a vertical reciprocating movement, combined with burners which are placed directly over the said can supports and are revolved in common therewith, apparatus to intermittently admit gas to the burners, and other apparatus to intermittingly admit compressed air to the burners independently of that which supplies the gas, and means to ignite the gas at the burners before the admission of air thereto, substantially as specified.

4. In a can-capping machine, a rotary table, a system of can supports on the table with means to effect their axial rotation during their revolution about the axis of the table, and mechanism to produce in the can supports a vertical reciprocating movement, combined with burners which are placed over the said supports and are revolved in common therewith, and apparatus to effect the intermittent production and extinction of a flame at the burners during their revolution, substantially as specified.

5. In a can-capping machine, a rotary table, a system of can supports on the table with means to effect their axial rotation during their revolution about the axis of the table, and mechanism to produce in the can supports a vertical reciprocating movement, combined with burners which are placed directly over the said supports and are revolved in common therewith, apparatus to intermittently admit gas to the burners, and other apparatus to admit compressed air to burners independently of that which supplies the gas, and means to ignite the gas at the burners before the admission of air thereto, substantially as specified.

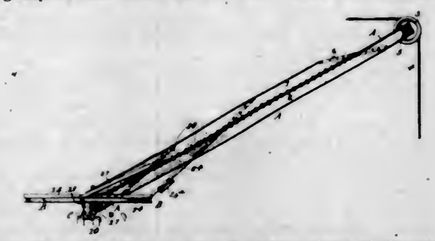
6. In a can-capping machine, a rotary table, a system of can supports on the table with means to effect their movement in common with the table, burners placed over the can supports and apparatus whereby gas is admitted to the burners and ignited, air forced into the gas before it reaches the burner, the flow of gas cut off and the air blast discontinued, the whole of the said operation being performed during one rotation of the table, substantially as specified.

7. In a can-capping machine, a rotary table carrying can supports, combined with a rotary disk having pockets, an endless conveyer belt upon which cans are placed, a deflector to switch the cans from the conveyer belt to pockets in the said disk and push them from the pockets to the can supports, and means to return the cans from the said can supports to the pocketed disk and thence to the conveyer belt, substantially as specified.

8. In a can-capping machine, a rotary table carrying can supports, a conveyer belt on which the uncapped cans are placed, and a pocketed disk to remove the cans from the conveyer belt and transfer them to the can supports, combined with apparatus to apply soldering fluid to the cans while the same are within the pockets of the disk, substantially as specified.

9. In a can-capping machine, a rotary table carrying can supports, a conveyer belt on which the uncapped cans are placed, and a pocketed disk to remove the cans from the conveyer belt and transfer them to the can supports, combined with apparatus to apply soldering fluid to the cans before the same are seated on the said supports, substantially as specified.

869,092. BOOM AND ROTATABLE CIRCLE FOR EXCAVATORS. JAMES P. KARR and JOHN D. RAUCH, Logansport, Ind. Filed Feb. 12, 1907. Serial No. 357,015.



1. The improved boom formed of four pieces of channel steel, the same being arranged in pairs opposite each other, the several flanges of the same projecting outward, and the inner flanges being riveted together, substantially as described.

2. The improved boom for the purpose specified, comprising four pieces of channel steel, the same being arranged in pairs and spaced apart, and the several flanges projecting laterally, the inner flanges of each pair resting in contact and being riveted together, and filling pieces and braces of channel steel arranged between the pieces forming the boom proper, and the flanges of the same being riveted to the boom, substantially as described.

3. The improved boom for the purpose specified, comprising four pieces of channel steel, the same being arranged in pairs, the flanges projecting outward, and the adjacent flanges of each pair being riveted together, the upper pieces of the boom being shorter than the under ones, and a flanged filling piece and tie 6 arranged diagonally between them and bolted to them as shown and described.

4. The combination, with the rotatable circle, having a body portion and a diametrical brace, and a pivoted block, of a boom attached to such pivot block, and a diagonal brace and filling piece 24 extending between the portions of the boom and connected at its lower end with the front end of said diametrical brace at the point where it joins the circle proper, as shown and described.

5. The combination with the pivot block and a rotatable circle attached thereto, and having a diametrical brace, of a boom connected with the pivot block and having a brace extended downward on the under side and rigidly connected with the diametrical brace, as shown and described.

6. The combination with a pivot block having lateral projections, and a circle attached to said pivot block, of a boom whose lower end abuts and rests upon the said projections, and means for securing it to the pivot block, as shown and described.

7. The combination with a pivot block and circle, rigidly attached thereto and having a diametrical brace, of a boom composed of four pieces of channel steel whose flanges project outward, the adjacent ones being riveted together, the upper pieces of the boom being extended on the sides of the diametrical brace of the circle and secured thereto and to the pivot block, substantially as described.

8. The combination with a pivot block, having lateral projections or abutments, a circle rigidly attached thereto so as to rotate therewith, of a boom whose lower end rests on said abutments, a bolt securing the same to the pivot block, diagonal braces attached to the circle proper and the body of the boom, and a brace 24 extending downward from the body of the boom and rigidly connected with the circle, substantially as described.

9. The combination with a pivot block, and a circle which is attached thereto, and including a diametrical brace 15, of the boom extending down through the circle, and abutting on and secured to the pivot block, and a combined brace and filling piece 20 formed of channel steel and arranged between the opposite portions of the boom proper, its lower end extending down to and being rigidly secured upon the circle brace 15, as shown and described.

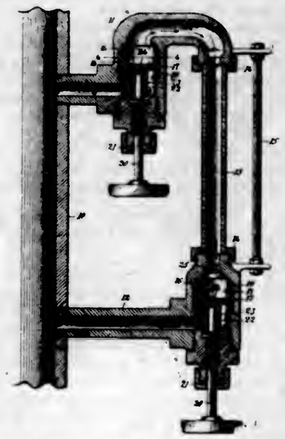
10. The combination with a pivot block, a circle attached thereto, and having a diametrical brace, of a boom extended down and secured to the pivot block and formed of four channel steel pieces, whose flanges extend outward, the adjacent ones being riveted together, the upper channel pieces being extended alongside, and bolted to, the diametrical circle brace, and a combined filling piece and brace 20 arranged between the opposite portions of the boom proper and extended downward and rigidly connected with the circle brace, substantially as described.

869,093. SAFETY DEVICE FOR INDICATORS. ISAAC L. KISER and OSCAR M. PRINCE, St. Charles, Mo. Filed Jan. 30, 1907. Serial No. 354,861.

1. In a device of the class described, a valve casing having a valve seat, a valve having a body portion, a guiding sleeve carried thereby, said body portion having a perforation therethrough communicating with the interior of the sleeve, and a valve stem unattached to said valve and extending into said sleeve and adapted to prevent the passage of fluid through said perforation.

2. A device of the class described, comprising a valve casing having a valve seat, a valve supported adjacent thereto and having a perforation therethrough and a perforated guiding sleeve, and a valve stem extending within said sleeve and adapted to prevent the passage of a fluid through the first mentioned perforation.

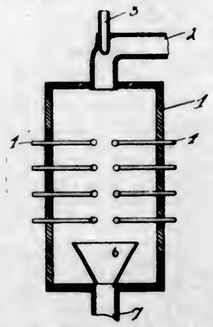
3. A device of the class described, comprising a valve casing, a valve located therein, said valve having a perforation therethrough and a depending perforated guiding sleeve having the interior thereof communicating with said first mentioned perforation, and a valve stem unattached to said valve but extending into said sleeve, whereby the movements of the valve may be guided and the passage of fluid through the first mentioned perforation controlled.



4. A device of the class described, comprising a receptacle for fluids under pressure, an indicating tube, heads supporting said tube and connecting the interior thereof to said receptacle, a valve seat and a valve chamber within each head, a valve vertically movable within said valve chamber and having a perforation therein and a perforated guiding sleeve surrounding the first mentioned perforation, and a vertically movable valve stem extending within said sleeve and adapted to control the flow of fluid through the first mentioned perforation.

5. A device of the class described, comprising a valve casing having a cylindrical valve chamber and grooves in the inner wall of said chamber, a cylindrical valve movable within said chamber, and a valve stem normally supporting said valve but unattached thereto, whereby fluids may normally pass said valve through said grooves, but whereby the valve is closed against its seat when an excessive difference in pressure occurs upon opposite sides of said valve.

869,094. METHOD OF PRODUCING SULFURIC ACID. ISIDOR KITSEE, Philadelphia, Pa. Filed July 21, 1906. Serial No. 327,194.



1. The method of producing sulfuric acid, which consists in subjecting a continuous stream of sulfurous gas in the presence of necessary moisture to the action of an electric current adapted to modify the chemical constituents of said gas to convert the same into sulfuric acid.

2. The method of producing sulfuric acid, which consists in passing a continuous stream of sulfurous gas through a chamber into which is introduced oxygen, and subjecting said gas and oxygen, in the presence of the

requisite moisture, to the action of an electric current adapted to modify the chemical constituents of said gas to convert the same into sulfuric acid.

3. The method of producing sulfuric acid, which consists in bringing a continuous stream of sulfurous gas into contact with a body of air, and subjecting the same in the presence of necessary moisture to the action of an electric current adapted to modify the chemical constituents of said gas to convert the same into sulfuric acid.

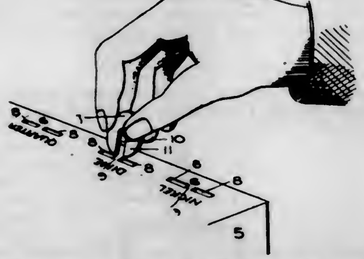
869,095. FLAT MIMEOGRAPH. MAX KLACZKO, Riga, Russia. Filed Apr. 5, 1907. Serial No. 366,639.



1. In a duplicator, the combination of a casing, a printing bed, a sheet of silk, a stencil, a frame for holding said silk and stencil together over the printing bed, ink reservoirs mounted at each end of the casing, delivery and take-up rolls mounted in said reservoirs, and a ribbon carried by said rolls adapted to travel over said bed beneath the stencil.

2. In a duplicator, the combination of a casing, a printing bed, a sheet of silk, a stencil, a sectional frame for holding said silk and stencil together over the printing bed, clamping means at each end of the frame, ink reservoirs mounted at each end of the casing, delivery and take-up rolls mounted in said reservoirs, and a ribbon carried by said rolls adapted to travel over said bed beneath the stencil.

869,096. SLOT AND SLUG FOR COIN-CONTROLLED APPARATUS. HERBERT T. LLOYD and RICHARD BRASCH, Denver, Colo.; said Brasch assignor, by mesne assignments, to W. L. Rouse, Denver, Colo. Filed Sept. 6, 1906. Serial No. 333,538.

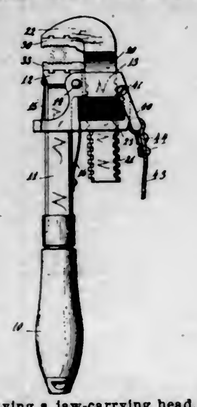


1. The combination with a check-controlled apparatus having a check-receiving means consisting of two slots, separated by a dividing bar, of a check diametrically less than the combined length of the slots and the dividing bar and exceeding the individual length of the slots, and having a peripheral groove adapted to admit the said dividing bar.

2. A check-controlled apparatus having a check-receiving means consisting of two slots separated by a dividing bar, the combined length of the slots and the dividing bar exceeding the diameter of the check designed for the device and the slots being individually shorter than the said diameter.

3. The combination with a check-controlled apparatus having a check-receiving means consisting of two slots separated by a dividing bar, of a check diametrically less than the combined length of the slots and the dividing bar and exceeding the individual length of the slots, the said check having a radial groove adapted to receive the bar and extending from its circumferential edge to a point beyond its center.

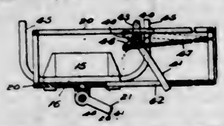
869,097. WRENCH. DAVID MANDL, New York, N. Y. Filed Mar. 20, 1907. Serial No. 363,354.



1. A wrench having a jaw-carrying head, a guiding head pivoted thereto with its front face at the rear of the jaw face, a shackle and a flexible strap connected thereby to the guiding head whereby the free end of the strap, when in use as a wrench, will be bent about a corner of the jaw and held compressed on both sides of the bending point.

2. A wrench having a jaw-carrying head, a guiding head for a supplemental jaw pivoted thereto with its front face at the rear of the jaw face, a shackle and a flexible strap connected thereby to the guiding head whereby the free end of the strap, when in use as a wrench, will be bent about a corner of the jaw and held compressed on both sides of the bending point.

869,098. CLAY-CUTTER. THOMAS MAJOR, Frankfort, Ind. Filed Mar. 25, 1907. Serial No. 364,220.



1. In a clay cutter, the combination, with a support for the clay column, of a cutter carrier, means for reciprocating said carrier transversely of the line of movement of the clay column, a knife pivotally supported on said carrier on an axis substantially parallel with the line of movement of the clay column and independent of the carrier-reciprocating means, and means for limiting the swing of said cutter whereby the angle of inclination of the cutter relative to the clay column may be alternately shifted for alternate movements of the cutter carrier.

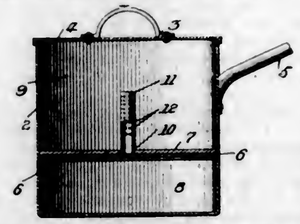
2. In a clay cutter, the combination, with a support for the clay column, of a cutter carrier, means for reciprocating said carrier transversely of the line of movement of the clay column, a knife pivotally supported on said carrier on an axis substantially parallel with the line of movement of the clay column and independent of the carrier-reciprocating means, means for limiting the swing of said cutter whereby the angle of inclination of the cutter relative to the clay column may be alternately shifted for alternate movements of the cutter carrier, and a spring for driving said cutter to either position from an intermediate position.

3. In a clay cutter, the combination, with a support for the clay column, of a cutter table adapted to receive the clay column, means operated by the column support for moving the cutter table intermittently in the direction of movement of the clay column, a reciprocating cutter-carrier mounted on said table, a cutter pivotally supported in said carrier independent of the reciprocating means, means for limiting the swing of said cutter whereby its angle of inclination relative to the clay column may be alternately changed, and means for driving said cutter-carrier intermittently alternately in opposite directions transversely of the line of movement of the clay column.

4. In a clay cutter, the combination, with a support for the clay column, of a cutter-carrier, a comparatively wide, thin, two-edged cutter carried by said carrier with its width in the plane of movement of the carrier, and means for reciprocating said cutter-carrier transversely of the clay column to carry said cutter entirely through the column first from one side and then the other, whereby the cutter will cut alternately on opposite sides, for the purpose set forth.

5. In a clay cutter, the combination, with a support for the clay column, of a cutter carrier, means for reciprocating said cutter carrier transversely of the clay column, and a wide, thin cutter pivotally mounted in said carrier on an axis parallel with the clay column with the width of the cutter in the plane of movement of the carrier, and means for supporting said cutter in positions at opposite inclinations to the clay column.

869,099. STEAMER. THOMAS MATTESON, Armbrust, Pa. Filed Mar. 21, 1906. Serial No. 307,210.



A steam heater comprising a receptacle, an annular flange secured to the inner face of and below the central horizontal line of said receptacle, a partition removably mounted upon said flange and abutting against the inner face of the receptacle, said partition provided with a centrally-disposed opening and further having the remaining portion thereof imperforate, said partition dividing said receptacle into an upper and a lower compartment, a vertically-extending tubular member projecting in the opening of said partition and providing means for establishing communication between the two compartments, said member having that portion adjacent to the partition imperforate and further having the upper portion thereof provided with a plurality of transversely-extending apertures, said tubular member of a length as to terminate approximately mid-way between the central horizontal line and the top of said receptacle, a flanged cover mounted upon the receptacle and provided with an opening and a handle, and a handle secured to the receptacle.

869,100. ROTARY ENGINE. ROBERT MOND, London, England. Filed Jan. 22, 1907. Serial No. 353,506.

1. In a rotary internal combustion engine a revolving cylinder, a revolving piston oscillating in the cylinder, a valve block revolving with the cylinder, a distributing block in contact with said valve block, and ports in the valve block for the admission of air and gas and for the expulsion of products of combustion, said ports being in communication with passages in the distributing block, substantially as described.

2. In a rotary internal combustion engine, a revolving cylinder, a revolving piston oscillating within the cylinder, a valve block revolving with the cylinder, valves in said valve block, a cam shaft coaxial with one of the two shafts of the engine operating said valves, a distributing block in contact with said valve block, and ports in the valve block for the admission of air and gas and for the expulsion of products of combustion, said ports being in communication with passages in the distributing block, substantially as described.

3. In a rotary internal combustion engine, a revolving cylinder, a revolving piston adapted to oscillate in the revolving cylinder, a valve block revolving with the cylinder, valves in said valve block operated by a cam shaft coaxial with one of the two shafts of the engine, a lay shaft geared with said engine and same shaft, a distributing block in contact with said valve block, ports in the valve block for the admission of air and gas and for the expulsion of products of combustion, said ports being in communication with passages in the distributing block, substantially as described.

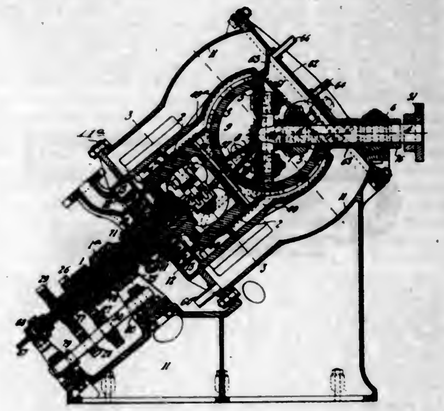
4. In a rotary internal combustion engine, a revolving cylinder, a revolving piston oscillating in the revolving cylinder, a valve block revolving with the cylinder, a distributing block in contact with said valve block, ports in the valve block for the admission of air and gas and for the expulsion of products of combustion, such ports being in communication with passages in the cylinder, the valve block and distributing block for the circulation of a cooling fluid, substantially as described.

5. In a rotary internal combustion engine, a revolving cylinder, a revolving piston oscillating in the revolving cylinder, a valve block revolving with the cylinder, distributing block in contact with said valve block, ports in the valve block for the admission of air and gas and for the expulsion of products of combustion, said ports being in communication with passages in the distributing block, and a chamber at the back of said piston for the reception of oil, or an emulsion of oil for the cooling and lubricating the piston, substantially as described.

6. In a rotary internal combustion engine, a revolving cylinder, a revolving piston oscillating in the revolving cylinder, a valve block revolving with the cylinder, valves in said valve box, a cam shaft coaxial with one of the two shafts of the engine, operating said valves, a distributing block in contact with said valve block, ports in the valve block for the admission of air and gas and for the expulsion of products of combustion, said ports being in communication with passages in the distributing block, and passages through the shafts of the engine, the cam shaft and valve block for admission of oil to the parts of the engine requiring lubricating, substantially as described.

869,101. BURNER. THOMAS J. MCGEE and JAMES GALLAGHER, Allegheny, Pa. Filed Apr. 30, 1907. Serial No. 371,129.

1. A burner for denatured alcohol or gas, consisting of a casing having openings formed therein, a trough for asbestos carried by said casing, adjacent to said openings, an inlet pipe carried by one end of said casing, a mixer carried by said pipe, pipes connecting with said mixer with passages in the distributing block, substantially as described.



3. In a rotary internal combustion engine, a revolving cylinder, a revolving piston adapted to oscillate in the revolving cylinder, a valve block revolving with the cylinder, valves in said valve block operated by a cam shaft coaxial with one of the two shafts of the engine, a lay shaft geared with said engine and same shaft, a distributing block in contact with said valve block, ports in the valve block for the admission of air and gas and for the expulsion of products of combustion, said ports being in communication with passages in the distributing block, substantially as described.

4. In a rotary internal combustion engine, a revolving cylinder, a revolving piston oscillating in the revolving cylinder, a valve block revolving with the cylinder, a distributing block in contact with said valve block, ports in the valve block for the admission of air and gas and for the expulsion of products of combustion, such ports being in communication with passages in the cylinder, the valve block and distributing block for the circulation of a cooling fluid, substantially as described.

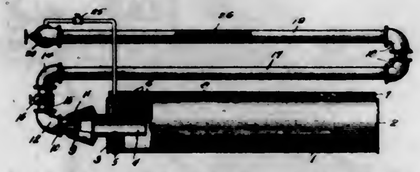
5. In a rotary internal combustion engine, a revolving cylinder, a revolving piston oscillating in the revolving cylinder, a valve block revolving with the cylinder, distributing block in contact with said valve block, ports in the valve block for the admission of air and gas and for the expulsion of products of combustion, said ports being in communication with passages in the distributing block, and a chamber at the back of said piston for the reception of oil, or an emulsion of oil for the cooling and lubricating the piston, substantially as described.

6. In a rotary internal combustion engine, a revolving cylinder, a revolving piston oscillating in the revolving cylinder, a valve block revolving with the cylinder, valves in said valve box, a cam shaft coaxial with one of the two shafts of the engine, operating said valves, a distributing block in contact with said valve block, ports in the valve block for the admission of air and gas and for the expulsion of products of combustion, said ports being in communication with passages in the distributing block, and passages through the shafts of the engine, the cam shaft and valve block for admission of oil to the parts of the engine requiring lubricating, substantially as described.

869,101. BURNER. THOMAS J. MCGEE and JAMES GALLAGHER, Allegheny, Pa. Filed Apr. 30, 1907. Serial No. 371,129.

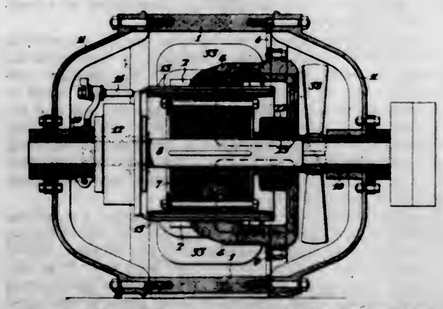
1. A burner for denatured alcohol or gas, consisting of a casing having openings formed therein, a trough for asbestos carried by said casing, adjacent to said openings, an inlet pipe carried by one end of said casing, a mixer carried by said pipe, pipes connecting with said mixer

and arranged one above the other in vertical alinement with said burner, valves carried by said pipes, a main supply pipe connecting with the valve carried by the uppermost pipe, a pilot light tube connecting with said supply pipe and extending obliquely under the lowermost pipe and terminating above an unperforated portion of said casing and in close proximity to the trough for asbestos and a piece of gauze arranged in the uppermost pipe above said burner.



2. A burner for denatured alcohol or gas, consisting of a casing having openings formed in the top thereof, a piece of gauze mounted in said casing beneath the openings and spaced from the top thereof, a V-shaped trough for asbestos located adjacent to said openings, a mixer connecting with said casing, two communicating pipes connecting with said mixer and arranged one above the other in vertical alinement with said casing, gauze located in the uppermost pipe, and a main supply pipe connecting with said pipe and a valve for controlling the admission of alcohol or gas to said uppermost pipe, the lowermost pipe arranged in close proximity to said burner, and a valve placed between the lowermost pipe and the mixer for controlling the admission of heated vapor or gas to said mixer, and a pilot light tube connecting with said supply pipe and extending obliquely under the lowermost pipe and terminating above the unperforated portion of said casing and in close proximity to the trough for asbestos.

869,102. DYNAMO-ELECTRIC MACHINE. MATHIAS PFATISCHER, Philadelphia, Pa., assignor to Electro Dynamic Company, New York, N. Y., a Corporation of Pennsylvania. Original application filed July 23, 1906, Serial No. 327,278. Divided and this application filed July 5, 1907. Serial No. 382,189.



1. A commutation-pole construction for dynamo-electric machines comprising a magnetizable structure having polar projections, so mounted with respect to the armature that the polar projections extend between alternate main poles of the machines and forming with the armature a plurality of closed magnetic circuits, and a magnetizing coil for said structure so constructed and arranged as to magnetize all of the polar projections in the same sense, substantially as described.

2. In a dynamo-electric machine, the combination with an armature; of a main field comprising coils provided with main polar projections; an auxiliary field comprising a coil provided with auxiliary polar projections, extending between said main polar projections; said auxiliary coil being inclosed by said armature, substantially as set forth.

3. In a dynamo electric machine, the combination with an armature; of a main field comprising coils provided with main polar projections; an auxiliary field comprising a coil provided with auxiliary polar projections, extending between said main polar projections; said auxiliary coil being disposed in concentric relation with said armature and extending within the latter, substantially as set forth.

4. In a dynamo-electric machine, the combination with an armature; of a main field comprising coils provided with main polar projections; an auxiliary field comprising a concentric coil provided with auxiliary polar projections, extending between said main polar projections; said auxiliary polar projections being all of the same polarity, substantially as set forth.

5. In a dynamo-electric machine, the combination with an armature; of a main field comprising coils provided with main polar projections; an auxiliary field comprising a coil provided with auxiliary polar projections, extending between said main polar projections; said auxiliary polar projections being diametrically opposed with respect to the armature and being of the same polarity; whereby lines of force of said auxiliary field local to the armature, extend diametrically with respect to the armature axis, substantially as set forth.

6. In a dynamo-electric machine, the combination with an armature; of a main field comprising coils provided with main polar projections; an auxiliary field comprising a coil provided with auxiliary polar projections, extending between said main polar projections; said auxiliary polar projections being diametrically opposed with respect to the armature and being of the same polarity; whereby lines of force of said auxiliary field local to the armature, extend diametrically with respect to said armature, substantially as set forth.

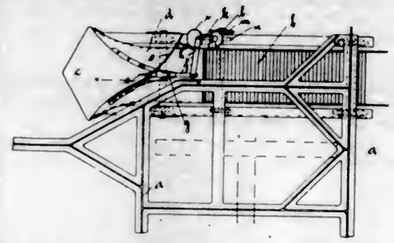
7. In a dynamo-electric machine, the combination with an armature; of a main field comprising coils provided with main polar projections; an auxiliary field comprising a coil provided with auxiliary polar projections, extending between said main polar projections; said auxiliary polar projections being diametrically opposed with respect to the armature and being of the same polarity; whereby lines of force of said auxiliary field local to the armature, extend radially within said armature, substantially as set forth.

8. In a direct current shunt wound motor, the combination with an armature; of a field magnet frame provided with main polar projections; auxiliary polar projections all of the same polarity; coils for said main polar projections; a coil common to said auxiliary polar projections, disposed in axial alinement with the armature; means connecting said main coils in shunt relation to the armature windings; and means connecting said auxiliary coil in series relation to the armature windings, substantially as set forth.

9. In a direct current shunt wound motor, the combination with an armature; of a field magnet frame provided with main polar projections; auxiliary polar projections of different cross sectional area, said auxiliary polar projections being all of the same polarity and forming, in conjunction with the armature iron, a magnetic circuit independent of that of the main polar projections; a coil common to said auxiliary poles disposed in axial alinement with the armature; means connecting said main coils in shunt relation to the armature windings; means connecting said auxiliary coil in series relation to the armature windings; and, means arranged to adjustably vary the strength of the current in said shunt coils, independently of said series coil, substantially as set forth.

869,103. POTATO-HARVESTER. PAUL PLATE, Schloss Buddenburg, near Lünen, Germany. Filed Mar. 29, 1907. Serial No. 365,249.

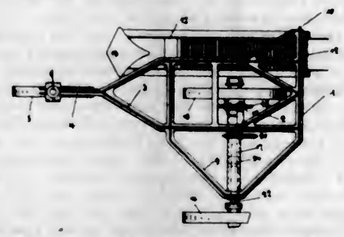
1. In a potato harvester the combination with the framework, the digging plow and the elevator, of a tube like structure arranged above the digging plow between the latter and the elevator, a cut away portion in the front part of the upper wall of the said tube like structure, the said cut away part becoming narrower rearwards, a cutting device arranged over the rear apex of the said cut away portion, means for actuating the said cutting device and means for causing the cut away vines of the potatoes to move sidewards and to fall at the side of the harvester substantially as and for the purpose set forth.



2. In a potato harvester the combination with the framework, the digging plow and the elevator of a tube like structure having a rectangular section and arranged above the plane of and between the digging plow and the elevator, the front part of the upper wall of the said tube like structure being cut away so as to form an angularly shaped entrance having its apex at the rear, a double armed lever fulcrumed on the said upper wall of the tube like structure and having its front arm in the form of a knife and arranged over the said rear apex of the said entrance opening, a connecting rod pivotally connecting the rear arm of the said lever with a rotating crank, means for actuating the said crank from the elevator chain and means for causing the cut away vines of the potatoes to be deflected sidewards, substantially as and for the purpose set forth.

3. In a potato harvester the combination with the framework, the digging plow and the elevator of a tube like structure arranged above the plane of and between the digging plow and the elevator and having a rearwardly tapering entrance opening cut away in the front part of its upper wall, an oscillating cutting device adapted to cut the potato vines, means for actuating the cutting device and a substantially vertical wall mounted on the said upper wall of the tube like structure so as to start from one (the inside) edge of the entrance opening and to direct itself obliquely rearwards across and above the said cutting device towards the outside of the said tube like structure, substantially as and for the purpose set forth.

869,104. POTATO-HARVESTER. PAUL PLATE, Schloss Buddenburg, near Lünen, Germany. Filed Mar. 29, 1907. Serial No. 365,250.



1. In a wheeled potato harvester having an elevator the combination with a substantially rectangular main frame of a substantially triangular frame made integral with the said main frame at the front part thereof and carrying the front guiding wheel, rigid means for supporting one of the main wheels under the said main frame and in line behind the said front guide wheel, means integral with the said main frame and supporting the other main wheel of the harvester at one side of the said main frame, means for controlling the distance between the two main wheels, and means on the other side of the said main frame for supporting the elevator of the potato harvester on the outside of the first named main wheel substantially as and for the purpose set forth.

2. In a potato harvester having an elevator the combination of a substantially rectangular frame, reinforcing members for the said frame, a triangular front prolongation, a supporting beam on the said triangular front prolongation, a front guide wheel supported in the said supporting beam, a triangular side frame sloping down at one side of the said frame, a vertically descending bracket secured to the said frame near the beginning of the said sloping side frame, a horizontal cross beam secured to the lower ends of the said triangular frame and the said bracket, an inner axle rigidly secured to the said cross beam, a driving wheel mounted on the said stationary axle in line with the said front guide wheel, an outer axle mounted on the said cross beam, means for longitudinally adjusting the said outer axle, means for securing same in its adjusted position, a second main wheel on the said outer axle, a horizontal triangular frame secured to the said rectangular main frame on the opposite side of the said sloping frame, an outer vertically depending strut on the said horizontal triangular frame, a vertical depending bracket secured to the said rectangular main frame and forming with the said descending bar the bearings for the upper drum of the elevator arranged outside the wheel track, substantially as and for the purpose set forth.

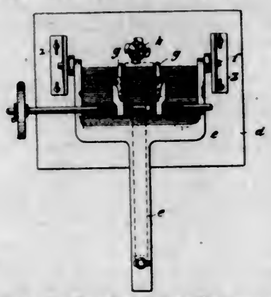
3. In a wheeled potato harvester having an elevator the combination with a substantially rectangular main frame, of reinforcing struts in the said main frame, a substantially triangular front prolongation made integral with the said main frame and pivotally supporting the said front guiding wheel of the harvester a substantially triangular side extension of the said main frame, made integral therewith and sloping down sidewards, a vertically descending bracket secured to the said main frame at substantially the middle part of one side thereof, a horizontal cross beam secured to the lower ends of both the said sloping extension and the said bracket, an inner axle rigidly secured to the inner end of the said cross beam, one of the main wheels of the harvester mounted on the said inner axle in line with the said guiding wheel, a bearing secured to the outer end of the said cross beam, a cylindrical axle mounted in the said bearing and having a square outer end and a screw threaded inner one, a nut secured to the said cross beam and receiving the said screw threaded end of the axle, the second main wheel rotatably mounted on the said adjustable axle inside the said square end thereof, a set screw in the said bearing and adapted to immobilize the said cylindrical axle in its adjusted position, a substantially triangular horizontal extension projecting sidewards from the rear portion of the said main frame on the side opposite to that wherefrom projects the sloping extension, a descending strut at the end of the said horizontal extension, a descending bracket secured to the underside of the said frame outside the said non adjustable main wheel, a bearing on each of the ends of both the latter bracket and the vertical strut, these bearings being adapted to journal the upper shaft of the elevator of the harvester outside the said non adjustable main wheel, driving means between the latter and the elevator, substantially as and for the purpose set forth.

869,105. MANUFACTURE OF D TOOL-HANDLES. CHRISTIAN SCHMALZ and KARL SCHÄFFER, Nordhausen, Germany. Filed Oct. 23, 1905. Serial No. 284,073.

1. In a machine for making D holes in tool handles, the combination with a horizontally rotating cutter, of a work table or bench *d*, a support or carrier *e*, pivotally mounted thereon, and adapted to be partially rotated on its horizontal axis, clamping jaws *g*, and a horizontal shaft on which said jaws are mounted, said shaft being formed with right and left hand screw threads, engaging with the respective jaws, substantially as described.

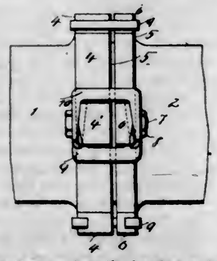
2. In a machine for cutting D holes in tool handles, the combination with a horizontally rotating cutting tool, of the work table *d*, the support or carrier *e* and the slotted, horizontally adjustable bearing blocks to which said carrier is journaled.

3. The method of making D handles for tools, consisting in forming the D-shaped opening and simultaneously rounding the grip by milling such opening progressively from one side of the handle to the other on the arc of a circle whose axis is the center of the grip.



4. A machine for forming D handles comprising a rotary cutter whose longitudinal section is D-shape and means for clamping said handle so pivoted adjacent the cutter that the work may be swung around an axis corresponding to the center line of the grip part of the desired handle against and completely past the cutter to cut the D-opening and simultaneously round the grip portion.

869,106. PIPE-COUPLING. CHARLES R. SCHMIDT, Baltimore, Md. Filed Dec. 14, 1906. Serial No. 347,861.



1. A pipe section or length, having exterior lugs transversely pierced for bolts, and grooved transversely of the pipe and at an oblique angle with its axis, for the reception of clamps.

2. In couplings for pipes, the combination with the sections or length of pipe having external lugs with grooves or recesses disposed transversely of the pipe and at an oblique angle to its axis, and bolts passing transversely through said lugs, of clamps embracing the lugs, and seated in said grooves or recesses.

3. A pipe section having exterior lugs at each end, said lugs being grooved transversely of the pipe and at an oblique angle to its longitudinal axis, for the reception of clamps.

4. In couplings for pipes the combination with pipe sections having external circumferential projecting portions grooved transversely of the pipe and at an oblique angle to the axis of the pipe, of clamps fitting in said grooves.

5. In couplings for pipes, the combination with pipe sections, having external circumferential projecting portions grooved transversely of the axis of the pipe, of clamps embracing said lugs and adjustable transversely of the pipe.

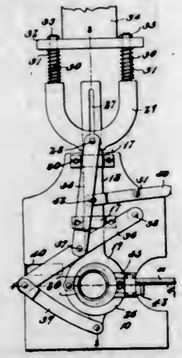
6. In couplings for pipes, the combination with pipe sections, having external circumferential lugs, of clamps embracing said lugs and movable transversely of the pipe axis.

7. In couplings for pipes, the combination of pipe sections having external circumferential lugs, of clamps embracing said lugs, and having the clamping members tapered or converging towards each other.

8. In pipe couplings, the combination with pipe sections having external, circumferential lugs, of elastic metallic clamps embracing said lugs.

9. In pipe couplings, pipe sections having external circumferential lugs, each having two grooves disposed transversely of the axis of the pipe, and running respectively at opposite oblique angles.

869,107. EYEBOLT BENDING AND SWAGING MACHINE. WILLIAM G. SHULTS, Knoxville, Tenn. Filed Mar. 20, 1906. Serial No. 307,091.



1. In a machine of the class described, a mandrel, a reciprocatory die arranged to coöperate with the mandrel, and a second die pivoted to said reciprocatory die and movable therewith, and means for swinging the second die into coöperative relation with the mandrel.

2. In a machine of the class described, the combination with a mandrel, of a semi-circular die carrying block movable toward and from the mandrel, a guide bar carrying said block, a second die carrying block pivoted to the first and arranged to swing around that portion of the mandrel opposite the guide bar carried block, dies carried by the blocks, a pivoted lever, a link connecting the same to the pivoted die block, and a reciprocatory member having a linked connection with the lever and a slotted connection with the die carrying bar to permit lost motion.

3. In a machine of the class described, the combination with a mandrel, of a reciprocatory die carrying block, a slidable bar carrying the same and having a slotted upper end, guides for said bar, a pivoted die carrying block, dies carried by the block, a pivoted lever, a link connecting the same to the pivoted block, a reciprocatory member having a pin extending through the slot of the bar, a link connecting said pin to the lever, and an operating means having a yieldable connection with said reciprocatory member.

4. In a machine of the class described, the combination with a frame, of a mandrel, a semi-circular die carrying block, a vertically guided bar supporting the same and provided with a slot at its upper end, a U-shaped bar having a pin entering said slot, said U-shaped bar having reduced end portions forming bolts, springs encircling the bolts, an actuating member having openings for the passage of said bolts, and bearing against the springs, a second die block pivoted to the first, dies carried by the blocks, a lever pivoted to the frame of the machine, a link connecting the lever to the pivoted die block, and a link connecting the lever to the pin of said U-shaped bar.

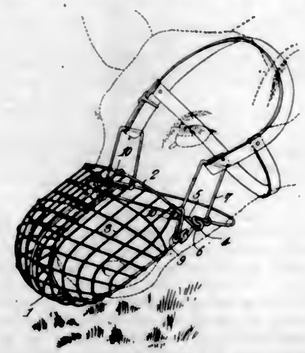
5. In a machine of the class described, a pair of pivotally connected die blocks, bending dies carried thereby, and swaging dies extending laterally from the end portions of said blocks.

6. In a machine of the class described, the combination with a pair of pivotally connected die blocks, each having an arm extending therefrom at an obtuse angle to the block, swaging dies carried by the arms, and means for actuating the die blocks.

7. In a machine of the class described, bending dies, a carrying bar for one of them, a lug projecting from said bar, a slidable mandrel, a spring tending to hold said mandrel in operative position, a bell crank lever connected to the mandrel, and a catch carried by the bell crank lever and disposed in the path of movement of the lug.

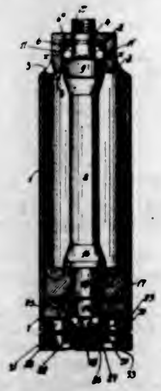
8. In a machine of the class described, a movable mandrel, a pair of bending dies arranged to encircle the same, a carrying bar for said dies, and means under the control of said bar for moving the mandrel to inoperative position.

869,108. STOCK-WEANER. ALBERT W. SWENDER, Carroll, Iowa. Filed Jan. 26, 1907. Serial No. 354,341.



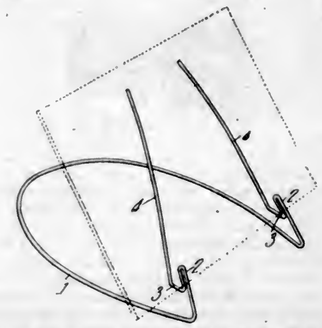
A weaner comprising a basket portion, a bow pivoted thereto, a strap engaging bail attached to the bow and being formed of wire and having a portion of its length extended into a loop which receives a portion of said basket for limiting the movement of the same, said bail wire coiling about the bow at each point where it traverses the same.

869,109. MOTOR. JAMES THOMSON and ERNEST SCHWAMBERGER, Pittsburg, Pa. Filed Feb. 16, 1905. Serial No. 245,974.



A device of the class described, comprising a cylindrical casing internally threaded at one end and reduced at the other end and with a bearing in the reduced portion and with discharge ports at the juncture of the reduced portion and the body of the casing, an externally threaded annular member engaging the threaded portion of the casing, and with a plurality of angular recesses in its periphery and transversely of its threads, said annular member having a projecting annular sleeve internally threaded, a collar having means at one end for connecting to the source of power and with a threaded portion at the other end engaging the threaded portion of said casing exteriorly of said annular member and with a central shaft step externally threaded and engaging the threaded sleeve of the annular member, a shaft mounted for rotation through the bearing at the reduced end of said casing and supported in said step at the other end, and a water wheel having spaced peripheral blades and connected to said shaft adjacent to said annular member.

869,110. PHOTOGRAPH-HOLDER. CYRUS R. TIBBETTS, Sacramento, Cal. Filed May 20, 1907. Serial No. 374,710.



A picture holder comprising a flat base and a pair of independently-yielding supporting arms rearwardly-inclined over the base and including picture rests.

869,111. LADDER. JOHN S. TILLEY, Watervliet, N. Y. Filed July 6, 1906. Serial No. 324,923.



1. In a ladder, the combination with a side and step part having jointed connection, of a metallic knee plate inserted in the side and projecting into the step part, the said plate extending above and below the plane of the step, and means for securing the plate in position.

2. In a ladder, the combination with a side and step part, of a substantially triangular metallic knee plate inserted in the side and extending above and below the step having its inner end inserted in the step, and means for securing the knee in position.

3. The combination with two members jointed together, of a metallic knee or tie inserted in grooves formed in the members, said knee extending into and beyond the angle of the joint and above the joint and means for securing the knee in the grooves.

4. In a ladder, the combination with a side and step part, of a metallic knee plate inserted in the side and projecting into the step part, the plate extending above the plane of the step.

869,112. SEWING-MACHINE. EDWIN J. TOOF, New Haven, Conn. Filed Jan. 5, 1907. Serial No. 350,897.

1. In a sewing machine, the combination of a rotary looper and a bobbin-case and bobbin contained within said looper, the said bobbin-case being open at one side for the insertion and removal of a bobbin and being provided at its opposite side with a finger-receiving opening, and bobbin-retainers for engaging a bobbin within the bobbin-case at opposite sides thereof, one of said retainers being spring-controlled for endwise movement relatively to the other, for the purpose set forth.

2. In a sewing machine, the combination of a rotary looper and a bobbin-case and bobbin contained within said looper, the said looper and bobbin-case both being open at one side for the insertion and removal of a bobbin to and from a position within the bobbin-case and the said bobbin-case being provided at its opposite end with a bobbin retainer and with a finger-receiving opening, and a bobbin retainer at that side of the bobbin opposite the first-mentioned retainer and being coöperative with the latter to hold the bobbin against undue endwise movement therebetween, one of said retainers being spring-controlled for endwise movement relatively to the other, for the purpose set forth.



3. In a sewing machine, the combination of a rotary looper and a bobbin-case and bobbin contained within said looper, the said looper and bobbin-case both being open at their rear side for the insertion and removal of a bobbin to and from a position within the bobbin-case and the said bobbin-case being provided at its front side with a bobbin-retainer and with a finger receiving opening, and a bobbin-retainer at the rear side of the bobbin coöperative with the first mentioned bobbin-retainer to hold the bobbin against undue endwise movement therebetween, one of said retainers being spring-controlled for endwise movement relatively to the other, for the purpose set forth.

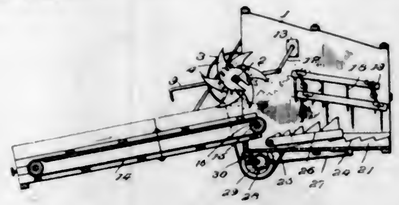
4. In a sewing machine, the combination of a rotary looper and a bobbin-case and bobbin contained within said looper, the said looper and bobbin-case both being open at their rear side for the insertion and removal of a bobbin to and from a position within the bobbin-case and the said bobbin-case being provided at its front side with a bobbin-retainer and with a finger-receiving opening, and a bobbin-retainer supported independent of the bobbin-case at the rear side of the bobbin and being coöperative with the first mentioned bobbin-retainer to hold the bobbin against undue endwise movement therebetween, one of said retainers being spring-controlled for endwise movement relatively to the other, for the purpose set forth.

5. In a sewing machine, the combination with a rotary looper-driver, of a looper detachably connected with said driver and having a bobbin-case and bobbin supported therein, the said looper and bobbin-case both being open at their rear side for the insertion and removal of the bobbin to and from a position within the bobbin-case and the said bobbin-case being provided at its front side with a bobbin-retainer and with a finger-receiving opening, and a bobbin-retainer carried by the looper-driver in position at the rear side of the bobbin and being coöperative with the first mentioned bobbin-retainer to hold the bobbin therebetween, one of said retainers being spring-controlled for endwise movement relatively to the other, for the purpose set forth.

6. In a sewing machine, the combination with a rotary looper-driver, of a looper detachably connected with said driver and having a bobbin-case and bobbin supported therein, the said looper and bobbin-case both being open at their rear side for the insertion and removal of the bobbin to and from a position within the bobbin-case and the said bobbin-case being provided at its front side with a bobbin-retainer and with a finger-receiving opening, and a bobbin-retainer carried by the looper-driver in position at the rear side of the bobbin and being coöperative with the first mentioned bobbin-retainer to hold the bobbin therebetween, locking means for detachably holding the looper and its supported bobbin-case and bobbin in connection with the looper-driver, and means for automatically moving the looper and bobbin-case in a direction outwardly from the driver-supported-bobbin-retainer upon the release of the looper by its locking means, for the purpose set forth.

7. In a sewing machine, the combination of a rotary looper-driver, a looper supporting a bobbin-case and bobbin and having a shank slidably connected with said driver, locking means for detachably holding the looper in connection with its driver, and means for automatically disconnecting the looper from the driver upon the release of the looper by its locking means.

869,113. BAND-CUTTER AND FEEDER. WILLIAM A. TRUE, Natoma, Kans. Filed Oct. 3, 1906. Serial No. 337,211.



1. In a band cutter and feeder, the combination of a casing, means at one end of the casing for carrying grain into the same, means within the casing for feeding the grain through the casing, and agitating the grain, such last named means including grain picking fingers and a grain pan, and means for actuating the same and a series of rotary band knives mounted at the receiving end of the casing, a shaft upon which said knives are mounted, means for rotating said shaft, said knives embodying blades arranged in pairs and the complemental blades of each pair having end recesses by which they are adapted to embrace the shaft and with interengaging hooks and slots, as and for the purpose set forth.

2. In a band cutter and feeder, the combination of a casing, a series of rotary band knives mounted in said casing, a pair of transversely extending crank shafts journaled in the casing in the rear of said knives, longitudinally extending bars secured to the cranks of said shafts and provided with depending grain picking fingers, a grain pan mounted to vibrate underneath said fingers and provided with a series of "fishbacks" and vibratory knives arranged alternately, a carrier adapted to pass the grain into the casing, a drive shaft upon which the rotary band cutters are mounted, an operative driving connection between the said drive shaft, the grain carrier, the grain pan, and one crank shaft, governor mechanism adapted to control the speed of said parts, and manual means for throwing the feeder out of gear at the will of the operator.

869,114. MASSIVE BORON CARBID AND PROCESS OF MAKING SAME. SAMUEL A. TUCKER, New York, N. Y., assignor to Elmer A. Sperry, New York, N. Y. Filed Dec. 19, 1906. Serial No. 348,607.

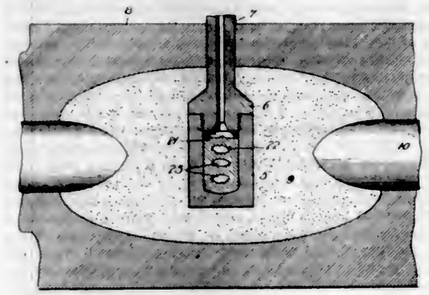
1. The process which consists in bringing a boron compound and carbon to the reacting temperature under conditions which produce practically pure boron carbid.

2. The process which consists in bringing a boron oxid and carbon to the reacting temperature under conditions which produce practically pure boron carbid.

3. The process which consists in bringing carbon and a boron compound in excess to the reacting temperature under conditions which produce practically pure boron carbid.

4. The process which consists in bringing a boron compound and carbon to the reacting temperature under conditions which produce practically pure boron carbid and then cooling the product slowly.

5. The process which consists in bringing a boron compound and carbon to a non-uniform but reacting temperature under conditions which eliminate foreign bodies from the carbid produced and separating the reaction products of the different temperatures.



6. The process which consists in bringing a boron compound and carbon to the reacting temperature under conditions of temperature control and which also produce practically pure boron carbid.

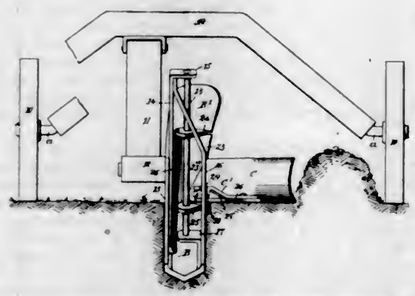
7. The process which consists in bringing a boron compound and carbon to the reacting temperature under conditions which produce practically pure boron carbid, cooling the outer layers and allowing contraction to open up caverns within the mass, aiding thereby in producing carbid of different physical characteristics and afterwards separating same.

8. The method of producing practically pure boron carbid which consists in bringing a boron compound and carbon in an inclosure to the requisite temperature to produce the reaction and controlling the pressure within the inclosure.

9. As a new article of manufacture a mass having a metal-like fracture and a specific gravity of approximately 2.7 consisting of practically pure boron carbid.

10. As a new article of manufacture boron carbid having a composition substantially B_4C.

869,115. CLEARING-WING FOR DITCHING-MACHINES. WALTER UMSTEAD, Jerseytown, Pa. Filed Jan. 26, 1907. Serial No. 354,196.



1. A clearing wing for ditching machines, having a decided concavity at its outer end and a lesser concavity at its central and inner end portion, a standard to which the wing is pivoted, and a guide arm extending from the rear of the wing.

2. A clearing wing for ditching machines, having its outer front surface decidedly concaved, the remaining portion of its forward surface having a lesser concavity, and a lip at the lower edge of the forward portion of the said wing constituting a continuation of the concaved surface at such point.

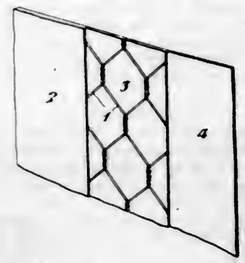
3. A clearing wing for ditching machines, having its outer front surface decidedly concaved, the remaining portion of its forward surface having a lesser concavity, and a lip at the lower edge of the forward portion of the said wing constituting a continuation of the concaved surface at such point, a rearwardly extending flat member at the lower inner edge portion of the wing, a guide member secured to said flat portion, and a slidable bracket to which the inner lower end portion of the wing is pivoted.

4. A clearing wing for ditching machines, having its outer front surface decidedly concaved, the remaining portion of its forward surface having a lesser concavity, and a lip at the lower edge of the forward portion of the said wing constituting a continuation of the concaved surface at such point, a rearwardly extending flat member at the lower inner edge portion of the wing, a guide member secured to said flat portion, a slidable bracket to which the inner lower end portion of the wing is pivoted, a support upon which the said bracket has sliding movement, a standard with which the rear guide arm engages, and means for tensionally holding the wing to its work.

5. A clearing wing for ditching machines, having a concaved forward face, the concavity diminishing in pronouncedness from its outer end in direction of its inner end, being least pronounced at the latter point.

6. A clearing wing for ditching machines, having a concaved forward face, the concavity diminishing in pronouncedness from its outer end in directing of its inner end, being least pronounced at the latter point, and guide devices connected with the rear of the wing.

869,116. MANUFACTURE OF ARTIFICIAL LUMBER. CHARLES E. WADE, North Wales, Pa., assignor to Keasbey & Mattison Company, Ambler, Pa., a Corporation of Pennsylvania. Filed June 13, 1905. Serial No. 264,989.

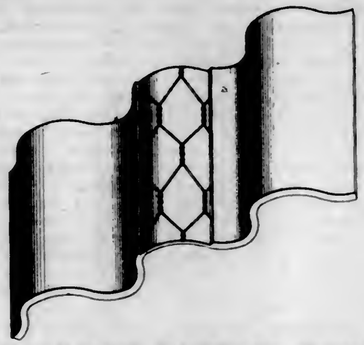


1. A structural material formed by the successive superimposition of very thin continuous pulpy layers of combined hydraulic cement and asbestos fiber, and having a wire mesh embedded between certain of these thin layers.

2. The process of forming a reinforced sheet of asbestos lumber, which consists in first mixing asbestos fibers and hydraulic cement in the presence of a great bulk of water, then forming therefrom a series of thin layers of the mixed cement and asbestos, superposed on each other, whereby the fibers of the asbestos will be positioned flat upon each other, embedding a layer of wire mesh between consecutive layers of the pulp before they are set, then pressing the same and allowing the material to set or harden.

3. The process of forming reinforced sheets of asbestos lumber, which consists in first mixing asbestos fibers and hydraulic cement in the presence of a great bulk of water, then forming a cylinder by the successive superimposition of thin continuous layers of the watery mixture, embedding a layer of wire mesh between consecutive layers of the pulp with the ends of the wire mesh slightly spaced from each other, cutting said cylinder between the spaced ends of the wire mesh, flattening out the layers thus superimposed, and subjecting them to pressure and allowing the same to set.

869,117. MANUFACTURE OF ARTIFICIAL LUMBER. CHARLES E. WADE, Gwynedd, Pa., assignor to Keasbey & Mattison Company, Ambler, Pa., a Corporation of Pennsylvania. Filed Jan. 13, 1906. Serial No. 295,858.



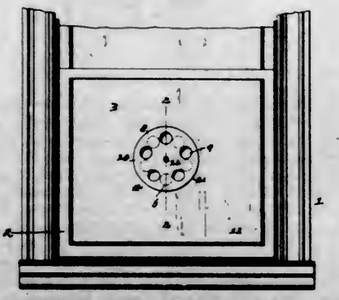
1. A corrugated sheet of asbestos fiber combined with hydraulic cement having wire mesh embedded within it.

2. A composite sheet of structural material formed by the successive superimposition of very thin continuous pulpy layers of asbestos fiber combined with hydraulic cement, having wire mesh embedded between certain of these layers, the whole being corrugated.

3. A corrugated structural material consisting of successively superimposed corrugated laminæ of asbestos fiber combined with hydraulic cement, and a corrugated wire mesh embedded therein.

4. The process of forming corrugated sheets of asbestos lumber which consists in embedding a layer of wire mesh between successive layers of a pulp consisting of asbestos fiber and hydraulic cement, as it is formed on the roller of a paper machine; removing the soft sheet thus formed from the roller; corrugating it while soft; and allowing it to set.

869,118. VENTILATOR FOR WINDOW AND DOOR LIGHTS. GEORGE WAMHOFF, Jr., Pittsburg, Pa., assignor to May Belle S. Wamhoff, Pittsburg, Pa. Filed Nov. 15, 1906. Serial No. 343,581.

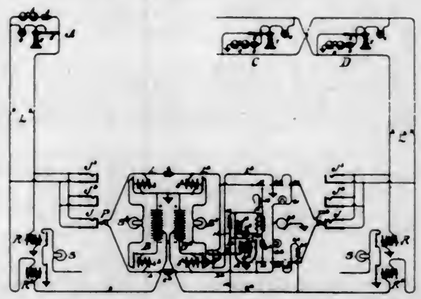


1. The combination with a transparent glass window or door light having air openings through the same, of a transparent glass plate fitting on one side of said light having a series of air openings through the same and having a recess therein, a bolt passing through said light and plate having a flange thereon fitting in said recess for permitting the moving of said plate over the face of the light in the opening and closing of said openings without affecting the transparency, and means on each end of said bolt for clamping the plate in position against said light and flange.

2. The combination with a transparent glass window or door light having air openings through the same, of a transparent glass plate fitting on one side of said light having air openings through the same and having a recess therein, a sleeve fitting within an opening in said light, a bolt passing through said sleeve and plate and having a flange thereon fitting in said recess for permitting the moving of said plate over the face of the light in the opening and closing of said openings without affecting the transparency, and means on each end of said bolt and engaging with said sleeve and plate for holding the plate in position.

3. The combination with a transparent glass window or door light having air openings through the same, of a transparent glass plate fitting on one side of said light having air openings through the same and having a recess therein, a sleeve fitting within an opening in said light, a bolt passing through said sleeve and plate and having a flange thereon for fitting in said recess and for permitting the moving of said plate over the face of the light in the opening and closing of said openings without affecting the transparency, and screw caps on each end of said bolt and engaging with said sleeve and plate for holding the plate in position.

869,119. TELEPHONE SYSTEM. HARRY G. WEBSTER, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 13, 1902. Serial No. 135,028.



1. In a telephone system, the combination with a telephone line, of two line electro-magnets therefor, one in series with each limb of said line, a line signal controlled by said electro-magnets, a source of current associated with the line, means at the subscriber's station for causing current from said source to traverse said electro-magnets to actuate said signal, and means for shunting one of said magnets to retire said signal or prevent its operation when a connection is established with the line, substantially as described.

2. In a telephone system, the combination with a telephone line, two high resistance electro-magnets one serially connected in each limb of the line at the central office, a line signal controlled by said magnets, means controlled from the substation for operating said magnets jointly to operate the said signal, one or both of said magnets being deprived of current without opening the circuit thereof to render the line signal inoperative when a connection is established with the line for conversation, substantially as described.

3. In a telephone system, the combination with a telephone line, of two line electro-magnets therefor, one connected in each line conductor at the central office, a line signal controlled by said electro-magnets, a source of current associated with the line, means at the subscriber's station for causing current from said source to operate said electro-magnets to operate the signal, means for rendering one of said electro-magnets inoperative when a connection is established with the line for conversation to thereby render the line signal inoperative, and means for sending current over one of said electromagnets whereby said signal is not operated substantially as described.

4. In a telephone system, the combination with a telephone line, of two high resistance relays therefor at the central office, one connected with each line conductor, a line signal having its circuit closed through normally open contacts of both said relays, a source of current associated with the line at the central office, means at the substation for closing the circuit of said source over the metallic line to energize said relays and thereby to operate said signal, and means to deprive one of said relays of operating current when a connection is established with the line for conversation to thereby render the line signal inoperative while sending current over the other of said relays, substantially as described.

5. In a telephone system, the combination with a telephone line, of two line relays therefor at the central office, one in each limb of said line a line signal operated by the joint action of said relays, and means for shunting one of said relays by the act of making a connection with the line for conversational purposes whereby said shunted relay serves to render said line signal inoperative, substantially as described.

6. In a telephone system, the combination with a telephone line, of two line relays therefor, a cord circuit, a pair of supervisory relays associated therewith, and means for connecting said relays in shunt of said line relays when a connection is established with the line, substantially as described.

7. In a telephone system, the combination with a telephone line, of two line relays associated therewith, a cord circuit, a pair of supervisory relays associated with said cord circuit, and means for including one of said supervisory relays in parallel with one of said line relays when connection is established with the line by said cord circuit, the other supervisory relay being arranged to be actuated by current flowing over the line circuit, substantially as described.

8. In a telephone system, the combination with a telephone line, of a separate electro-magnet associated with each line conductor, a line signal controlled by said electromagnets, and means for sending ringing current over the path of one of said magnets without actuating said signal, substantially as described.

9. In a telephone system, the combination with a telephone line, of an electro-magnet associated with each line conductor, a signal for the line operated whenever both of said electromagnets are energized, and means for sending ringing current out over the path of either of said magnets without operating said signal, substantially as described.

10. In a telephone system, the combination with a telephone line, of an electro-magnet associated with each line conductor, a line signal controlled by both said electromagnets, the calling generator, and means for connecting said generator with one line conductor and sending ringing current through one of said magnets and at the same time rendering said electro-magnet in the other line conductor inoperative, whereby the said line signal is not actuated, substantially as described.

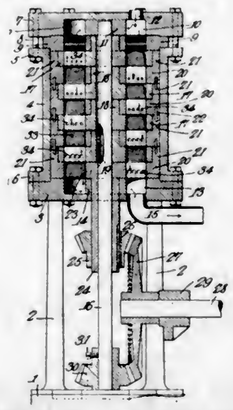
11. In a telephone system, the combination with a telephone line, of an electro-magnet associated with each line conductor, a line signal controlled by said electro-magnets, a calling generator, means for connecting said generator with the line to call a wanted subscriber, and at the same time shunting one of said electro-magnets to prevent the operation of said signal, substantially as described.

12. In a telephone system, the combination with a telephone line, of a line relay associated with each line conductor, a line signal having its circuit controlled through contacts of both said relays, a ringing generator, means for connecting said generator with either side of the line, and at the same time shunting the line relay connected with the other side of the line, whereby said signal is prevented from operation during ringing, substantially as described.

13. In a telephone system, the combination with a telephone line, of a line relay associated with each line conductor, a line signal having its circuit controlled through contacts of both said relays, a ringing generator, means for connecting said generator with either side of the line, and at the same time rendering the line relay connected with the other side of the line inoperative, whereby said signal is prevented from operation during ringing, substantially as described.

14. In a telephone system, the combination with a telephone line, of a pair of relays, one in series with each limb of said line, a central source of current permanently connected to said line through the coils of said relays, a line signal controlled by said relays, a cord circuit adapted to be connected with said line for conversation, a supervisory relay associated with the cord circuit, means for connecting said supervisory relay in series with one of said line relays and a portion of said central source of current when a connection is established with a telephone line, and means thereafter, when current flows in the telephone line, for depriving said line relay of its actuating current without opening its circuit, substantially as described.

869,120. TURBINE. THOMAS J. WESTERMAN, Olalla, Wash. Filed Mar. 8, 1907. Serial No. 361,363.



1. In a turbine, a series of rotatable ported disks each having a peripheral flange extended to and connected with the next adjacent disk of the series, and another series of ported disks housed in the spaces between the first-mentioned series of disks and provided with spacing hubs constituting bearings for the said first-mentioned series of disks.

2. In a turbine, a series of spaced rotatable ported disks having peripheral flanges constituting spacing means, pin connections between the meeting faces of the flanges and the next adjacent disks, and another series of ported disks housed in the spaces between the disks of the first-mentioned series and having spacing hubs constituting journal bearings for the first-mentioned series of disks.

3. A turbine comprising a series of ported disks having spacing hubs and mounted upon and connected to a common shaft, another series of ported disks mounted upon the hubs of the first-mentioned disks and having peripheral flanges encircling the peripheries of the first-mentioned disks, pin connections between the meeting faces of the flanges and the next adjacent members of the same series of disks, a final member of the second series of disks carried by and free to rotate with the shaft and provided with an extended sleeve, gearing connections between the sleeve, shaft and a driven shaft, a ported distributing fixed disk adjacent to one end of the first-mentioned series of disks, a casing for both series of disks, a distributing head carried by the casing and opening into the ports of the distributing disk, and another head having a channel communicating with the ports in the exhaust end of the system.

4. In a turbine, adjacent disks rotating in opposite directions and each provided with ports or buckets having

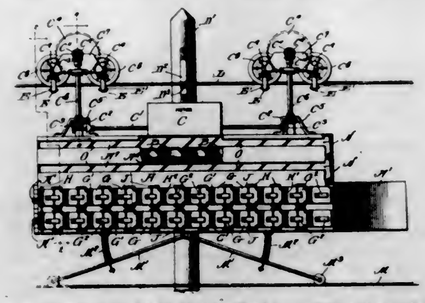
inclined walls, the walls of the buckets in each disk inclining at an angle of forty-five degrees to the plane of rotation of the disk but at an angle of ninety degrees to the inclination of the walls of the buckets of the next adjacent disk, and passages from said buckets to the buckets of the next adjacent disk arranged in line with the inclined walls of the disk wherein they are formed.

5. In a turbine, a rotatable disk having a circular series of ports or buckets extending therethrough, each of said ports having a wide mouth and a series of narrow passages or throats leading therefrom and having an impinging surface for the incoming fluid under pressure, arranged at an angle of ninety degrees to the direction of impact of the fluid and at an angle of forty-five degrees to the plane of rotation of the disk.

6. A turbine comprising a suitable casing, a distributing head, a stationary ported disk with ports inclined at an angle of forty-five degrees to the plane of rotation of the rotary ports of the turbine, two series of oppositely rotating disks having ports or buckets with wide mouths and narrow directing throats, the buckets of each disk having impinging walls at right angles to the impinging walls of the next adjacent disk, an exhaust receiving head, a shaft moving with and carrying one series of disks, journal bearings for the other series of disks upon the first series of disks, and interconnected means for converting the motions of the two oppositely rotating series of disks into a resultant motion in one direction.

7. In a turbine, a series of rotatable disks each having parallel faces and an annular series of ports, and another series of disks each having parallel faces and an annular series of ports matching the ports of the first-mentioned disks, the said second series of disks housing the first series of disks and having journal supports on said first series of disks.

869,121. MAIL-CARRIER. GROVER C. WILLIS, Vliets, Kans., assignor of one-half to Edward Hutson, Vliets, Kans. Filed Apr. 11, 1907. Serial No. 367,499.



1. A device of the kind described comprising a car having slotted sides, mail sacks having blocks sliding in said slots, rings carried by the blocks, and receiving cranes to engage the rings.

2. A mail carrying car having slotted sides, mail sacks having rings, means connecting the rings and sacks and extending through the slot, and means for locking said rings in folded position against the sides of the car, until a predetermined time.

3. A car having a slotted side, mail sacks, a flanged block connected to each sack, and slidable in the slot, a spring pressed ring carried by the outer face of each block and adapted to lie against the face of an adjacent block, and a catch carried by each block adapted to engage a ring of an adjacent block.

4. A mail carrier having longitudinally slotted sides, rearwardly opening doors, sacks having flanged blocks secured to the sacks and slidably held in said slots, spring pressed rings carried by the outer faces of the blocks and a catch carried by each of said outer faces.

5. The combination with a mail car having rearwardly opening end doors, longitudinally slotted sides, and projecting pins, adjacent the slots, of mail sacks, flanged blocks connected to the sacks and fitting in the slots, rings carried by the blocks, springs normally holding the rings at right angles to the car, and catches carried by the blocks adapted to engage the ring of an adjacent block and lock same against the face of the block, said ring engaging two of the pins while so locked.

6. The combination with a rearwardly opening car longitudinally slotted, of sacks having blocks working in the slots, rings carried by the blocks, a receiver comprising a crane adapted to engage one of the rings, and means for successively bringing the rings in position to be engaged by the receiver.

7. The combination with a car, of sacks arranged thereon in reverse order to which they are to be selected, rings carried by the sacks, means for retaining all but the last ring in a position parallel to the side of the car, and a crane arranged adjacent the path of the car to engage and hold the last ring.

8. The combination with a car opening rearwardly and longitudinally slotted, of sacks arranged in the car and transversely thereto, and in reverse order of delivery from the car, a block loosely connected to each sack, said block fitting in the slot, a spring pressed ring carried by the block, said ring normally extending outwardly, a catch carried by each block adapted to grip a ring of an adjacent block, a crane adjacent the path of the car in position to catch a free ring and means carried by the car to prevent rearward movement of any sack other than that engaged by the crane.

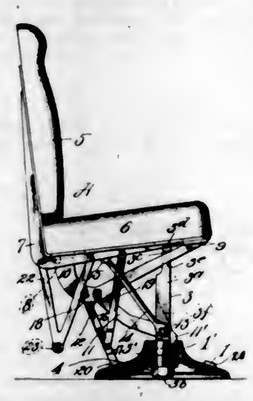
9. In a device for delivering mail a sack, a block connected to said sack, said block being flanged to provide grooves upon its edges, a spring pressed ring carried by the outer face of the block, the spring normally throwing the ring into the position at right angles to the block, and a catch carried by the outer face of the block and adapted to receive the ring of another block and hold the same against the face of the block, upon which the catch is mounted as and for the purpose described.

10. A device for delivering and collecting mail comprising a car longitudinally slotted and divided into upper and lower compartments, the lower compartments carrying mail to be delivered and having doors opening rearwardly and the upper compartments receiving mail collected and having doors opening inwardly and at the front end of the carrier, and a plurality of pins carried by said upper compartment, said pins extending downwardly and rearwardly, the sides of both the upper and lower compartments being longitudinally slotted, as and for the purpose set forth.

11. A mail carrier divided into mail delivery and mail receiving compartments, the sides of said carrier being longitudinally slotted, the mail delivery compartment opening rearwardly and the mail receiving compartment opening at the end of the carrier, means arranged in the path of the carrier for engaging and successively removing sacks carried by the delivery compartments, means arranged adjacent the path of the carrier for delivering sacks to the receiving compartments, and means carried by said receiving compartment for holding the sacks delivered to the compartment against accidental withdrawal as and for the purpose set forth.

12. A carrier of the kind described having a motor thereon, an overhead track, a shaft journaled upon the top of the carrier and provided with beveled gears, vertically mounted shafts provided with bevel gears at their lower ends meshing with the beveled gears of the first mentioned shaft, sleeves supporting the carrier and inclosing the vertical shafts, hangers carried by the said sleeves, flanged wheels mounted on the hangers and traveling upon the overhead track, means for driving said wheels from the vertical shafts, a wire arranged below the path of the carrier and in vertical alinement with the over head track, spring pressed rods pivotally connected to the under side of the carrier and pressed downwardly, and rollers carried by said spring pressed rods and traveling upon the wire, as and for the purpose set forth.

869,122. CAR-SEAT. HUBERT WITTE, St. Louis, Mo. Filed Apr. 20, 1906. Serial No. 312,911.



1. A car seat consisting of a base, a seat supporting post pivotally mounted thereon, a seat proper, a bracket carried by said seat proper and which is slidably mounted on said seat post, and a link pivotally connected to said bracket and said seat post, substantially as and for the purpose specified.

2. A car seat consisting of a base, a seat supporting post pivotally mounted thereon, a seat proper, a bracket carried by said seat proper and which is slidably mounted on said seat post, a link pivotally connected to said bracket and said seat post, and means for locking said seat proper against rotation when said seat proper is in certain positions, substantially as described.

3. A seat consisting of a base provided with a plurality of notches, a seat supporting post pivotally mounted thereon, a seat proper, a bracket carried by said seat proper and which is slidably mounted on said seat post, a link pivotally connected to said bracket and said seat post and adapted to enter the notches in said base, and means for locking said seat proper against rotation when the seat proper is in certain positions, substantially as described.

4. A seat consisting of a base having a plurality of notches, a seat supporting post pivotally mounted on said base, a seat proper, a bracket carried by said seat proper and which is slidably mounted on said seat post, a link pivotally connected to said bracket and said seat post, and an extension carried by said link for engagement with the notches in said base for locking said seat proper to said base in certain of its adjusted positions, substantially as described.

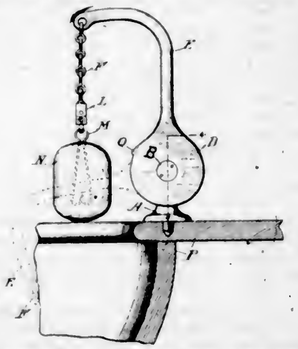
5. A seat consisting of a base having a plurality of notches, a seat supporting post pivotally mounted on said base, a seat proper, a bracket carried by said seat proper and which is slidably mounted on said seat post, a link pivotally connected to said bracket and said seat post, an extension carried by said link for engagement with the notches in said base for locking said seat proper to said base in certain of its adjusted positions, and brace rods for supporting said seat proper, substantially as described.

6. A seat consisting of a base having a plurality of notches, a seat supporting post pivotally mounted on said base, a seat proper, a bracket carried by said seat proper and which is slidably mounted on said seat post, a link pivotally connected to said bracket and said seat post, an extension carried by said link for engagement with the notches in said base for locking said seat proper to said base in certain of its adjusted positions, brace rods secured to said seat supporting post and engaging said seat proper, and adjusting means carried by said brace rods, substantially as described.

869,123. PAINT. ELMO H. WYKOFF and GEORGE R. RISHEL, Alexandria, Pa. Filed Feb. 16, 1907. Serial No. 357,610.

The herein described paint consisting of linseed oil, rubber, sulfur and alum combined substantially as specified in about the proportions set forth.

869,124. SOAP-HOLDING DEVICE. EDWARD W. ALT, Chicago, Ill., assignor to Edw. U. Filehmann, Chicago, Ill. Filed May 23, 1906. Serial No. 318,328.



1. In a soap-holding device, a base, a soap supporting arm pivoted to said base, said base and said arm providing an inclosed annular chamber about the pivot connecting them, a ring within said annular chamber and supported by the base and a spring on said ring and serving to hold the arm in an upright position with respect to the base.

2. In a soap-holding device, the combination with a base, an arm, and a pivoting pin connecting the base and arm together, of an inclosing annular chamber surrounding the pin, lugs on the base within said chamber, and ring held within the chamber by said lugs and a spring located within said chamber surrounding said ring and having one end engaging the base and the other end engaging the arm whereby said arm is held in a desired position by said spring.

3. In a soap-holding device, a base having its upper portion in the form of a vertical disk, a horizontal pin secured at the center of said disk, a second disk pivoted upon said pin and provided with an arm from which a cake of soap may be suspended, said disks being constructed so as to provide an annular groove surrounding said pin and having suitable abutments within the groove, a ring within the groove and held by said abutments and a spring surrounding said ring, said spring having one end in engagement with an abutment on one disk and the other end in engagement with an abutment on the other disk.

4. In a soap-holding device, the combination with stationary and movable parts pivoted together, of an annular chamber surrounding the pivotal connection between the two parts, a ring located within said chamber and supported by one of said parts, and a spring wound about said ring and engaging the other part so as to hold the two parts in desired relationship to each other.

5. In a soap-holding device, the combination with fixed and movable parts pivoted together, a ring held within one part and engaged by an abutment on the other part of an inclosed spring surrounding said ring and normally holding the two parts in a fixed relationship to each other while permitting one to be moved with respect to the other, and a stop arranged to limit the movement of the movable part.

6. In a soap holding device, a fixed member or part, an arm pivoted to the fixed member or part, an annular chamber surrounding the pivotal connection between the fixed member or part and the arm, a ring inclosed in said chamber and supported by the fixed member or part, a spring on said ring serving to normally support said arm in an ele-

vated position, and means carried by the pivoted arm to compress said spring as the arm is drawn down from the vertical position.

869,125. PROCESS OF SMELTING ORES. HENRY ARDEN, San Diego, Cal. Filed Sept. 24, 1906. Serial No. 336,025.

1. The process of smelting ores, which consists in heating a non-oxidizing gas to a high temperature, commingling with the same a hydrocarbon vapor, and subjecting the ore to the action of the mixture, substantially as described.

2. The process of smelting ores, which consists in heating a non-oxidizing gas to a high temperature by electrically developed heat, commingling with the same a hydrocarbon vapor, and subjecting the ore to the action of the heated mixture, substantially as described.

3. The process of smelting ores, which consists in heating carbon monoxid to a high temperature, commingling therewith a hydrocarbon vapor, and subjecting the ore to the action of the heated mixture of carbon monoxid and hydrocarbon vapors so produced, substantially as described.

4. The process of smelting ores, which consists in burning fuel in presence of the ore, thereby heating the same, and then reducing the ore by a highly heated reducing gas in presence of a hydrocarbon vapor, substantially as described.

5. The process of smelting ores, which consists in heating a body of ore by oxidized products of combustion, and then reducing the same by a highly heated reducing gas containing carbon monoxid and a hydrocarbon vapor, substantially as described.

6. The process of smelting ores, which consists in burning fuel in presence of the ore, thereby heating the same, heating a gas to a high temperature by electrically developed heat, commingling therewith a hydrocarbon vapor and subjecting the ore to said heated gas, substantially as described.

7. The process of smelting ores, which consists in heating a body of ore by oxidized products of combustion, heating a gas to a high temperature by electrically developed heat, commingling therewith a hydrocarbon vapor, and subjecting the ore to the action of said gas and vapor, substantially as described.

8. The process of smelting ores, which consists in heating a body of ore by oxidized products of combustion, heating a reducing gas to a high temperature by electrically developed heat, commingling therewith a hydrocarbon vapor, and subjecting the ore to the action of said gas and vapor, substantially as described.

9. The process of smelting ores, which consists in heating a body of ore by oxidized products of combustion, heating carbon monoxid to a high temperature by electrically developed heat, commingling therewith a hydrocarbon vapor, and subjecting the ore to the action of said gas and vapor, substantially as described.

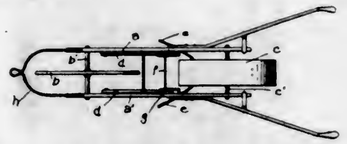
10. The process of smelting ores, which consists in heating a body of ore by oxidized products of combustion, oxidising a liquid hydrocarbon to produce a gaseous mixture containing carbon monoxid, superheating said gaseous mixture, and conveying the same into contact with said heated body of ore, substantially as described.

11. The process of smelting ores, which consists in oxidising a liquid hydrocarbon to produce a gaseous mixture containing carbon monoxid, passing the mixture into contact with heated carbon, superheating the resulting gas by electrically developed heat, and conveying the same into contact with a heated body of ore, substantially as described.

12. The process of smelting ores, which consists in oxidising a liquid hydrocarbon to produce a gaseous mixture containing carbon monoxid, superheating said gaseous mixture by electrically developed heat, commingling a hydrocarbon vapor therewith, and conveying the resulting mixture into contact with a heated body of ore, substantially as described.

13. The process of treating ores, which consists in oxidizing a liquid hydrocarbon to produce a gaseous mixture containing carbon monoxid, passing the mixture into contact with heated carbon, superheating the resulting gas by means of electrically developed heat, commingling therewith a hydrocarbon vapor, and conveying the resulting mixture into contact with a heated body of ore, substantially as described.

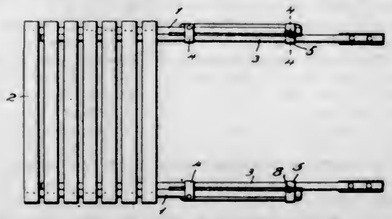
869,126. TOBACCO-HILLER. JAMES P. ATHERTON and CHARLES E. RICE, Livermore, Ky. Filed Aug. 8, 1907. Serial No. 387,717.



1. A tobacco hiller including a front guide wheel, a rear packing wheel having a broad tread, a frame bar at each side carried upon the axles of such wheels, downward and rearward extending arms hinged to such frame bars and carrying at their lower end portions converging scraper blades located between the front and rear wheels, means for adjusting the height of said arms, and means for adjusting the angle of the scraper blades with relation to the ground.

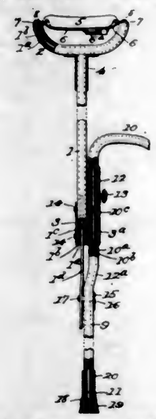
2. A tobacco hiller including a front guide wheel, a rear packing wheel of similar diameter having a broad tread, a frame bar at each side carried upon the axles of such wheels, downward and rearward extending arms hinged to the frame bars and provided with arcuate slots at their lower end portions, adjustable scraper blades having attachment bolts engaging such slots, and a lever device for adjusting such arms and having link connection therewith hinged to one of said frame bars.

869,127. WINDOW-SCAFFOLD. NAPOLEON AUBUCHON, St. Louis, Mo., assignor to John H. Muir, St. Louis, Mo. Filed Oct. 27, 1906. Serial No. 340,910.



The herein-described scaffold-bracket comprising a supporting frame consisting of parallel side bars having connecting members at their outer ends forming a platform, inwardly projecting guide loops upon said side bars, sliding supporting bars arranged on the inner sides of said side bars and engaging the guide loops, clamping members embracing the bars in rear of the guides, bolts extending between the bars and connecting the clamping members and provided with nuts for adjusting said clamps to secure the supporting bars in adjusted position, stops carried by the inner ends of the supporting bars, legs hinged at their upper ends to the side bars at a point in rear of the outer ends of the latter, pairs of folding braces at opposite sides of the device pivotally connected to each other and to the side bars and to the legs, and guides secured to and depending from the outer ends of the side bars beyond the hinges of the legs to engage and stay the hinged ends of the legs from lateral movement.

869,128. CRUTCH. WILLIAM AUTENRIETH, Cincinnati, Ohio. Filed July 13, 1907. Serial No. 383,653.

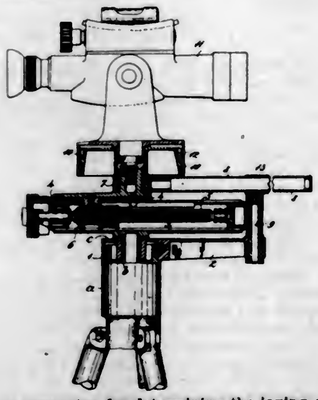


1. A convertible crutch comprising a crutch-member proper having an arm-piece at its upper end and a double tube coupling at its lower end, a cane-member having a detachable handle and with its body portion engaging one of the barrels or tubes of said double tube coupling of the crutch-member and means for detachably uniting the said crutch-member and said cane-member.

2. A convertible crutch and cane comprising a crutch-member proper having a curved arm-piece at its upper end, a double tube coupling and an extension rod at its lower end, a walking-cane member having a detachable handle and engaging one of the tubes of said double tube coupling at the lower end of said crutch-member, means for detachably uniting the crutch and cane members and a sliding sleeve on the cane-member engaging the extension rod of the crutch-member.

3. A crutch comprising a body portion having a curved or concave arm-piece, a flexible pad having extended ends adjustably connected together beneath the pad and loops detachably secured to the opposite ends of said arm-piece and adapted to support the pad by its extended ends.

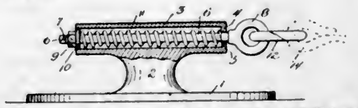
869,129. RANGE AND AZIMUTH FINDER. FRANZ BAUMANN, Vienna, Austria-Hungary. Filed May 31, 1907. Serial No. 376,595.



1. In an apparatus for determining the laying angle for guns for indirect firing in combination with a support, a sleeve adapted to turn round a vertical axis in such support and to be locked in position relatively to the same, a frame adapted to turn around the same vertical axis relatively to the sleeve, a bracket rigidly secured to such sleeve, a vertical pin adapted to turn in such bracket, a slide adapted to move along the said frame on a line intersecting the said vertical axis, means for moving the slide along the said frame, a journal pin rigidly secured to such slide and projecting upward vertically from the said frame, a sighting device rigidly secured to the said journal pin, an arm adapted to turn around the said journal pin and engaging with and guided by the said vertical pin, and means for turning the said frame relatively to the arm, substantially as and for the purpose described.

2. In an apparatus for determining the laying angle for guns, for indirect firing in combination with a support, a sleeve adapted to turn round a vertical axis in such support and to be locked in position relatively to the same, a frame adapted to turn around the same vertical axis relatively to the sleeve, a bracket rigidly secured to such sleeve, a vertical pin adapted to turn in such bracket, a slide adapted to move along the said frame on a line intersecting the said vertical axis, means for moving the slide along the said frame, a journal pin rigidly secured to such slide and projecting upward vertically from the said frame, a sighting device rigidly secured to the said journal pin, an arm adapted to turn around the said journal pin and engaging with and guided by the said vertical pin, a casing rigidly secured to the journal pin, a worm journaled in such casing, a worm wheel concentric to the journal pin and rigidly connected to the said arm and adapted to mesh with the said worm and means for turning this worm, substantially as and for the purpose described.

869,130. YIELDING BOAT-CLEAT. FREDERICK A. BIERIE, Philadelphia, Pa. Filed Feb. 25, 1907. Serial No. 359,292.



1. A boat cleat comprising a base, post and T-head, and yielding means arranged in the head provided with rope attaching means.

2. A T-headed boat cleat, a stem slidable in said head, a spring cushioning said stem, and means for attaching a rope to said stem.

3. In combination with a cleat comprising an integral base, post and T-head, of a stem slidably arranged in said head, a cushion device therefor arranged in said head, and means on one end of the stem for adjusting said cushion device, and means on the other end for attaching a rope to said stem.

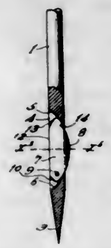
4. In combination with a cleat comprising an integral base, post and T-head, of a stem slidably arranged in said head, a spring arranged on said stem and at one end engaging the end of said T-head, adjusting means on said stem engaged by the other end of said spring, and means for attaching a rope to said stem.

869,131. RETAINING DEVICE. BRUCE BLACKBURN, Los Angeles, Cal. Filed Nov. 30, 1906. Serial No. 345,840.

1. In a pin, in combination, a shaft having a longitudinal slot cut therethrough, said slot terminating at a distance from the point of the pin, and a retaining blade tapering toward each end and pivoted at one end in said slot, the width of said blade being greater at the middle and less at the ends of the blade than the diameter of the slotted portion of the shaft.

2. In a pin, in combination, a shaft having a longitudinal slot cut therethrough, said slot terminating at a distance from the point of the pin, and a retaining blade pivoted at one end in said slot, said blade having a swell at one edge near its mid-length, said swell projecting from the slot when the blade is folded.

3. In a pin, in combination, a shaft having a longitudinal slot therethrough, said slot terminating at a distance from the point of the pin, and a retaining blade in said slot, there being a pivot extending through the end of said blade nearest the point of the pin, said pin having at the middle an outcurved edge projecting from the slot when the blade is folded.



4. In a pin, in combination, a shaft having a longitudinal slot therethrough, said slot terminating at a distance from the point of the pin, and a retaining blade in said slot, there being a pivot extending through the end of said blade nearest the point of the pin, said blade having an outcurved edge projecting from the slot when the blade is closed, stop means being provided adapted to arrest the free end of said blade with said curved edge projecting from the slot.

5. In a pin, in combination, a shaft having a longitudinal slot cut therethrough, said slot terminating at a distance from the point of the pin, and a retaining blade pivoted in said slot to swing outwardly therefrom, said blade being slotted to move longitudinally on its pivot into a position locking the same against being folded.

6. In a pin, in combination, a shaft having a longitudinal slot cut therethrough, said slot terminating at a distance from the point of the pin, and having a wall at the end nearest the point of the pin extending at substantially right angles to the shaft of the pin, and a blade pivoted in said slot adjacent said wall to swing into and out of the slot, said blade being slidable a limited distance on its pivot into and from a position in which the heel thereof abuts against said wall to hold the blade in extended position.

7. In a pin, in combination, a shaft having a longitudinal slot cut therethrough, said slot terminating at a distance from the point of the pin, and a retaining blade pivoted in said slot, said blade having a swell at one edge, said swell projecting from the slot when the blade is folded, said swell being deflected toward one side of the slot.

869,132. STATION MAIL-BAG CATCHER. WALTER E. BLOUNT, Washington, D. C. Filed Aug. 3, 1907. Serial No. 386,958.

1. A mail bag catcher provided with a curved buffer face having a gradually increased resistance which extends through a path adapted to absorb the entire momentum of the bag.

2. A mail bag catcher having a resistance face in the form of a volute curve for engaging the flying bag.

3. A mail bag catcher having a curved face of continuously increasing resistance and a delivery pocket at the inner end of said face.

4. A mail bag catcher having a continuous curved face of increasing resistance, a delivery pocket at the inner end of said curve, and a guide flange at the lower end of said face.

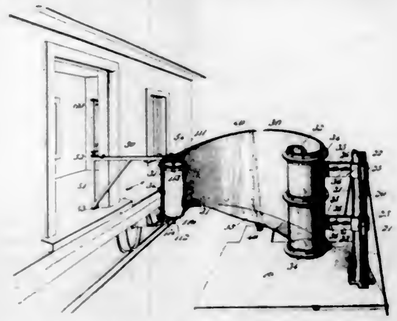
5. A mail bag catcher having a curved face of continuously increasing resistance, a delivery pocket at the inner end of said face, and a guide flange inclined toward said pocket.

6. A mail bag catcher comprising a reversible buffer having a return-curve bag-arresting face of increasing resistance.

7. The combination of a mail bag catcher comprising a buffer having a concave bag-arresting face of increasing resistance, and means for adjusting said buffer vertically.

8. The combination of a mail bag catcher comprising a buffer having a concave bag-arresting face of increasing resistance, and means for adjusting said buffer horizontally.

9. The combination of a mail bag catcher comprising a buffer having a concave bag-arresting face of increasing resistance, and means for adjusting said buffer vertically and horizontally.



10. The combination of a mail bag catcher comprising a buffer having a concave face embracing a backward curve of increasing resistance and means for bracing said buffer.

11. A mail bag catcher comprising a reversible buffer having a volute resistance face and guide flanges at its upper and lower edges.

12. A mail bag catcher comprising a reversible buffer having a volute resistance face and guide flanges at its upper and lower edges respectively, said flanges being inclined in opposite directions.

13. The combination of a buffer having a volute resistance face for overcoming the force of flying bags delivered thereonto, means to permit the reversal of said buffer to engage bags delivered in either direction and adjustable braces for holding said buffer in either position.

14. A mail-bag catcher provided with a buffer-face adapted for the bodily contact of the bag, said face having a curve of gradually decreased radius.

15. A mail-bag catcher comprising a buffer having a concave face of gradually increased resistance, and including a backward bend.

16. A mail-bag catcher comprising a buffer having a concave face of gradually increased resistance including a return bend.

17. A mail-bag catcher having a resistance face in the form of a volute curve involving a full turn.

18. A mail-bag catcher having a resistance face in the form of a volute curve involving a plurality of turns.

19. A mail-bag catcher having a vertical buffer-face disposed in a volute scroll and adapted to absorb the momentum of the bag.

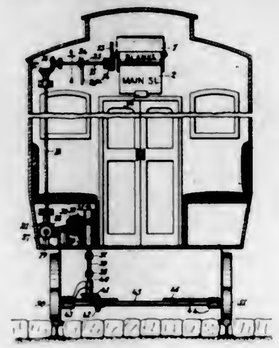
20. A mail-bag catcher having a vertical resistance face disposed in a volute scroll and provided at its inner end with a vertical pocket.

21. A mail-bag catcher comprising a reversible buffer having a volute resistance face.

22. A mail-bag catcher having a curved resistance face which describes an overlapping turn adapted to absorb momentum of bags of various weights and various velocities, said resistance face being disposed in substantially vertical position, whereby the bag is discharged by gravity at any point of said face where its momentum becomes exhausted.

23. A mail-bag catcher provided with a curved buffer face adapted for the bodily traverse of the bag, the resistance of said face increasing in intensity from the point of contact of the bag to the point of delivery thereof.

869,133. STATION-INDICATOR AND ADVERTISER. ALBERT P. BONNAFFONS, New Orleans, La. Filed Sept. 29, 1906. Serial No. 336,741.



1. A station indicator, comprising a drum, a plurality of indicating flaps of flexible material secured thereto, a weight at the end of each of said flaps, tags carried by certain of said flaps intermediate the side edges and extending beyond the free end thereof, resilient means adapted to engage with said tags and release the flaps in succession as the drum is rotated, and means for rotating said drum in one direction.

2. A station indicator, comprising a drum, a plurality of weighted flexible flaps secured thereto around the circumference thereof, tags secured to certain of the flaps adjacent the free edges and intermediate the width of said flaps, a casing surrounding said drum and flaps, said casing having a removable section, resilient means carried by said removable section for engaging with the tags and releasing the flaps in succession as the drum is rotated, and means for rotating said drum in one direction.

3. A station indicator, comprising a drum, a plurality of indicating flaps secured thereto and adapted to drop to a vertical position when released, and means for rotating said drum to release said flaps in succession, said means including two shafts, gears for conveying motion from one shaft to the other, one of said gears being loosely mounted upon its shaft, a ratchet wheel carried by said shaft, means carried by said loosely mounted gear for engaging with said ratchet wheel and causing the rotation of the gear wheel when the shaft is rotated in one direction, a ratchet wheel mounted on the second shaft, and means adapted to engage with said last mentioned ratchet for normally preventing its rotation in one direction.

4. In combination with a car, an indicator located therein, and means adapted to engage with the car rail to operate the indicator as the car is moved, said means including a lost motion device comprising a shaft, a gear wheel loosely mounted thereon, a collar carried by the shaft and having a tooth, and a second collar carried by the gear wheel and having a tooth, said teeth adapted to coact to cause the simultaneous rotation of the gear wheel and the shaft.

5. In combination with a car, an indicator located at each end thereof, and means whereby the indicator at one end of the car will be operated when the car is going in one direction, and said indicator held stationary and the indicator in the opposite end of the car operated when the car is going in the reverse direction, said means including a shaft, a ratchet wheel, a collar loosely mounted on the shaft, a pawl mounted on the collar and in engagement with the ratchet wheel, and a weighted lever suspended from the collar.

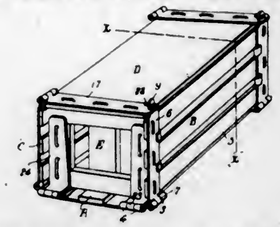
6. In combination with a car, two indicators located therein, and means whereby one indicator will be held stationary and the other indicator operated when the car is going in one direction, and whereby the first mentioned indicator will be operated and the second mentioned indicator held stationary when the car is going in the reverse direction.

7. In combination with a car, two indicators located therein, means adapted to engage with the car rail for operating both of said indicators, means whereby one of the indicators will be held stationary and the other indicator operated when the car is going in one direction and whereby the first mentioned indicator will be operated and the second mentioned indicator held stationary when the car is going in the reverse direction, and means whereby the direction of the car may be reversed a short distance without effecting the operation of either indicator.

8. In combination with a car, an indicator located therein, and means adapted to engage with the car rail to operate said indicator, said means including an auxiliary axle, two car wheels mounted thereon and adapted to travel on the two rails, and a pivoted frame adapted to support said axle whereby it may follow the car track irrespective of the curvature or unevenness of the latter.

9. In combination with a car, a station indicator located therein, and means adapted to engage with the car track and operate said indicator, said means including a pivoted frame, an auxiliary axle supported therein, wheels mounted on said axle and adapted to engage with the car rails, a gear wheel carried by said axle, a substantially vertical shaft having a universal joint therein and a gear wheel adapted to engage with the first mentioned gear wheel, means for slidably mounting a portion of the said shaft, and a gear wheel slidably mounted on said shaft but held from rotation in respect thereto.

869,134. COLLAPSIBLE CRATE. PERRY E. BOYD, Canton, Ga. Filed Jan. 30, 1907. Serial No. 354,883.

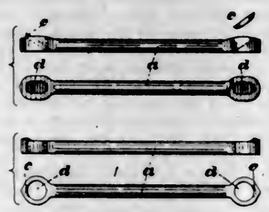


1. A crate comprising a bottom panel, a top panel, and side panels, one side panel and the bottom panel being interposed between the top panel and the other side panel, straps hingedly connected at their ends and secured to the respective panels, the straps of the outer side panel having integral tongues, and the straps of the top panel having apertures to receive said tongues, angular straps hinged to one longitudinal edge of each strap of the bottom panel and movable at right angles to said straps, hooks integral with the angular straps and disposed to engage the straps of the side panels, and end panels secured to the angular straps.

2. A crate comprising a bottom panel, straps extending transversely thereof and secured thereto, said straps having integral laterally extending ears, angular straps pivoted to said ears and adapted to assume positions upon the bottom panel and adapted to swing onto and to be limited in their movement by the bottom panel, one portion of each of said straps extending perpendicularly to the bottom panel upon reaching the limit of its movement, end panels secured to the angular straps, side panels, straps thereon, and hooks integral with the angular straps and disposed to engage the straps of the side panels to hold said angular straps in perpendicular position.

3. In a crate a hinge comprising a plurality of straps hingedly connected at their ends and disposed to be fastened to the bottom, side, and top panels respectively of a crate, ears extending laterally from one edge of the strap of the bottom panel, angular straps hingedly connected to the ears, and hooks integral with said angular straps and disposed to engage the straps of the side panels.

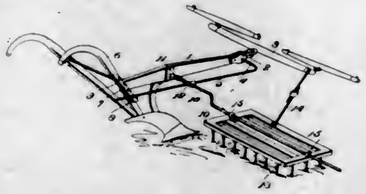
869,135. METHOD OF MAKING SCALE-LOOPS. GEORGE A. BURBANK and CHARLES B. CARR, St. Johnsbury, Vt. Filed May 4, 1906. Serial No. 315,186.



1. In the manufacture of scale loops, the herein described method of forming an eye and introducing a bit thereinto, said method consisting in forming a recess with an oblique bottom in a metal bar, placing a bit in such recess, and forcing the bit through the bar to enlarge the recess into an eye and simultaneously welding the bit to the inner wall of such eye.

2. That method of forming a reinforced eye in a metal bar which consists in forcing a hardened bit through the bar to form an eye therein and gradually turning the bit during such operation until it assumes a position with its length transverse to the bar, the bit being welded in the inner wall of the eye during the operation.

869,136. DRAG ATTACHMENT FOR PLOWS. JAMES E. BURTON, Whitewater, Wis. Filed Mar. 6, 1907. Serial No. 360,852.

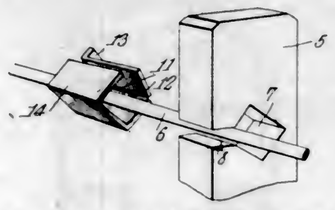


1. The combination with a plow, of a laterally extending rod projecting from said beam and pivotally connected thereto, a drag connected to the outer end of said rod, a draft device for said drag, a lever fulcrumed on the beam and connected intermediate of its ends to said rod to raise and lower the same, a vertically extending latch bar provided with a series of notches with which the rear end of the lever is adapted for engagement, and a support on the plow for said latch bar.

2. The combination with a plow and the beam and handle thereof, of a rod extending laterally from said beam and pivotally connected thereto, a drag mounted upon the outer end of said rod, a draft connection for said drag, a lever fulcrumed on the beam, a loop adjustably connected to said rod and through which said lever extends rearwardly, and a notched latch bar connected to one of the handles of the plow and arranged for engagement by the rear end of said lever.

3. In a plow and its beam and handles, the combination of a rod extending laterally from said beam and pivotally connected thereto, a drag mounted on the outer end of said rod, a draft connection for said drag, a lever fulcrumed at its front end on the beam, a loop mounted to slide on said rod and provided with a set screw whereby its position may be maintained at different points along the rod, the lever extending rearwardly through said loop, and a notched latch bar secured to one of the handles and with which the rear end of the lever is adapted to engage.

869,137. WIRE-FENCING FASTENER FOR CONCRETE POSTS. ERNEST U. DOWN, Waterville, Ohio. Filed Feb. 2, 1907. Serial No. 355,467.



1. The combination with a fence-post having a transverse recess formed therein and opening through one edge of the post, of a split tubular wire receiving member seated in said recess and provided at its opposite ends with means for engagement with the adjacent sides of the post the adjacent longitudinal edges of the tubular member being forced in contact with each other by engagement with the walls of the recess.

2. The combination with a fence post having a transverse recess formed therein and opening through one edge of the post, of a longitudinally split tubular wire-receiving member seated in said recess and forming a closure for the opening in the edge of the post, said tubular member being provided with oppositely disposed lugs engaging the adjacent side walls of the post.

3. The combination with a fence post having a transverse recess formed therein, of a tubular wire-receiving member seated in said recess and having its opposite ends extended laterally beyond the adjacent walls of the post and slit longitudinally to form attaching lugs for engagement with the adjacent walls of the post.

4. The combination with a fence post having a transverse recess formed therein, of a tubular wire-receiving member of the same shape as the recess and engaging the interior walls thereof, said tubular member being extended beyond the opposite side walls of the post and slit longitudinally to form attaching lugs for engagement with said post.

5. The combination with a fence post having a transverse recess formed therein and opening through one edge of the post, of an angularly disposed tubular wire-receiving member seated within the recess and having the mating faces of two of its walls disposed at the opening in the edge of the post, and attaching lugs formed integral with the tubular member and bearing against the adjacent side walls of the post.

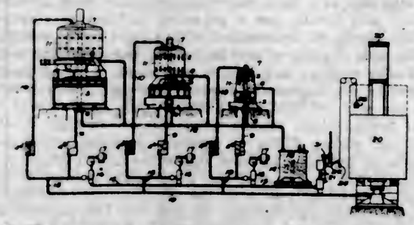
6. The combination with a fence post having a transverse rectangular recess formed therein and provided with a lateral opening communicating with said recess, of a tubular angularly disposed wire-receiving member seated in said recess, the juncture of two of the walls of the tubular member being disposed at the lateral opening in the post, and lugs extending laterally from the opposite ends of an adjacent wall of a member and engaging the adjacent side walls of the post.

7. A wire fastener comprising a tubular body portion having its opposite ends slit longitudinally, the metal at said slits being adapted to be bent laterally to form oppositely disposed attaching lugs.

869,138. SYSTEM OF LUBRICATION FOR ELASTIC-FLUID TURBINES. WILLIAM L. R. EMMET, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Sept. 24, 1904. Serial No. 225,744.

1. The combination in a system of forced lubrication, of a source of lubricant under pressure, conduits leading from the source to the members to be lubricated, bafflers in said conduits for regulating the pressure and the rate of flow of lubricant to the members, said baffers containing a bent continuous passage of practically uniform area.

2. The combination in a system of forced lubrication, of a source of lubricant under pressure, a conduit leading from the source to the member to be lubricated, and a baffler in said conduit having a tortuous passage of practically uniform area for reducing the pressure and flow of the lubricant.



3. The combination with a system of forced lubrication of a baffler having a helical passage of practically uniform area for reducing the pressure and flow of the lubricant.

4. The combination in a system of forced lubrication, of a source of lubricant under pressure, conduits leading from the source to the members to be lubricated, two or more baffers in said conduits having tortuous passages of different lengths for reducing the pressure and flow of the lubricant.

5. In a system of forced lubrication, the combination of a source of lubricant under pressure, a plurality of conduits leading from the source to the members to be lubricated, and baffers in one or more of said conduits for reducing the pressure and flow of the lubricant therein.

6. In a system of forced lubrication having a plurality of conduits, the combination of a source of lubricant under pressure, and baffers in one or more of said conduits which offer different resistances to the flow of the lubricant from the source.

7. In a system of forced lubrication, the combination of a plurality of conduits, a common source of supply for all of the conduits, and baffers located in and controlling one or more of said conduits and offering resistances inversely proportional to the desired rate of flow in the respective conduits.

8. The combination with an apparatus having shaft bearings requiring a constant supply of lubricant, of a source of lubricant under pressure, conduits between the source and the bearings, and a pressure regulator for each bearing located in its supply conduit and comprising a tortuous passageway of practically uniform area.

9. The combination with an apparatus having shaft bearings requiring a constant supply of lubricant, of conduits connected with the bearings, means for forcing lubricant through the conduits, and a pressure regulator for each bearing located in its supply conduit and comprising a tortuous passageway of practically uniform area, the passageways in different regulators being of different lengths to effect different rates of flow to the bearings.

10. The combination with two or more pieces of apparatus having shaft bearings requiring constant but respectively different supplies of lubricant, of conduits connected with the bearings, means for forcing lubricant through said conduits, and a pressure regulator for each bearing located in its supply conduit and comprising a tortuous passageway of uniform area, the passageways in the several regulators offering different resistances to the flow.

11. The combination with a system of lubrication, of a power-driven pump for effecting the circulation of the lubricant, an accumulator connected with said system, and a reserve pump controlled by the movements of said accumulator.

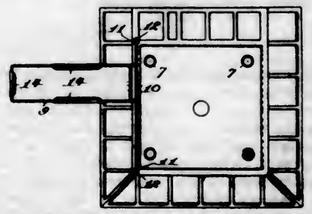
12. The combination with a prime mover, of a system of piping supplying lubricant to the shaft-bearings, a power-driven pump connected with said piping, an accumulator connected with said piping on the delivery side of said pump, and a reserve pump arranged to deliver into said piping and accumulator.

13. The combination with two or more prime movers, of a system of pipes supplying lubricant to the shaft-bearings, a cooler receiving lubricant from said bearings, a power-driven pump taking lubricant from the cooler and delivering it to the supply pipes, an accumulator connected with said supply pipes, and a reserve pump also connected with said pipes.

14. The combination with two or more prime movers, of a system of pipes supplying lubricant to the shaft-bearings, a cooler receiving lubricant from the bearings, a separate power-driven pump for each prime-mover taking lubricant from the cooler and delivering it to the supply pipes, an accumulator connected with said supply pipes, and a reserve power-driven pump also connected with said pipes and automatically controlled by the rise and fall of said accumulator.

15. The combination with a prime mover, of a source of lubricant supply and a system of piping arranged to maintain a continuous flow of lubricant to the prime mover, and an accumulator connected to the system of piping and in multiple with the main source, the said accumulator normally containing a body of lubricant and arranged to feed it back into the piping system when the first source of supply fails.

869,139. LOOSE-LEAF REGISTER AND CABINET. EDWARD A. FACER, Atlanta, Ga., assignor to The National Loose-Leaf Hotel Register Company, Dawson, Ga., a Corporation of Georgia. Filed Mar. 20, 1907. Serial No. 363,477.



1. A device of the class described comprising a pad-carrying body portion and a blotter-frame connected with said body portion for swinging movement relatively thereto, said blotter frame being provided with a plurality of clips carried by the side bars and one of the end bars thereof, for removably engaging a sheet of blotting paper.

2. A device of the class described comprising a body portion having a pad-receiving chamber, a follower member in said chamber, spring means between the follower member and the bottom of the chamber for constantly pressing the follower member outwardly, a rod extending along one side of the chamber, a blotter frame of substantially rectangular formation, the opposite side bars and one end bar of which are provided with clips for removably receiving a sheet of blotting paper, and said side bars having continuations constituting hooks to both slide and turn on said rod.

869,140. SELF-HEATED SOLDERING-IRON. WILLIS MITCHELL, Malden, Mass. Filed Dec. 9, 1905. Serial No. 291,147.

1. In a vapor-heated and gas-heated implement, the combination of a generator, consisting of a series of connected contiguous annular retorts forming the continuous inner wall of the generator, with a mixing chamber surrounded thereby, but adapted to leave a closed space between it and the said generator for the passage of heated gases as far back as the rearmost of the retorts, means for supplying the said generator with vaporisable liquid fuel and a jet block or nozzle discharging into said mixing chamber and supplied with gas or vapor by the said generator substantially as set forth.

2. In a vapor-heated and gas-heated implement, the combination of a generator, consisting of a series of connected annular retorts, with a mixing chamber surrounded there-

by and of equal diameter at its base with the interior of said generator but having its body of pyramidal form in order that heated gases may flow back between them to act directly on the parts of the generator which first receive the fuel, a jet block or nozzle supplied by said generator and discharging gas or vapor into said mixing chamber and means for supplying easily vaporizable liquid fuel to the said generator substantially as set forth.



3. In vapor heated and gas heated implements, the combination of a hollow generator consisting of a series of retorts and presenting a closed continuous wall with a tubular mixing chamber supplied by said generator and discharging into the forward end of the implement, the rear end of said mixing chamber being flared nearly to the internal diameter of the generator but permitting the flame and products of combustion to eddy back between them and be successively applied to all the retorts substantially as set forth.

4. In a vapor-heated and gas-heated implement, the combination of a handle serving also as a main reservoir with a supplemental reservoir which is open at its forward end and provided with a filling of capillary absorbent material, a supporting device for said inner reservoir, extending longitudinally through the same, a tube for liquid fuel extending through the open end of the said supplemental reservoir nearly to the rear end thereof and supported thereby, a generator supplied with liquid fuel by said tube and a burner supplied with gas or vapor by said generator and arranged to discharge the same, ignited, in proximity to said generator for the purpose set forth.

5. In a vapor-heated and gas-heated implement, a handle serving also as a main reservoir, a tubular shank attached to said handle and a generator and burner attached to said shank, in combination with a rigid device extending longitudinally through said handle and shank and fastened to said generator and the rear end of said handle, a supplemental reservoir having an independent wall or shell and arranged concentrically within the rear part of the said main reservoir fastened on said device within said main reservoir and supported thereby and supplied with liquid fuel by said reservoir and a tube entering said inner reservoir supplied thereby and supplying said generator substantially as and for the purpose set forth.

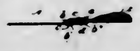
6. In a vapor-heated and gas-heated implement, a handle serving also as a main reservoir, a tubular shank attached to said handle and a generator and burner attached to said shank, in combination with a rigid device extending longitudinally through said handle and shank, a supplemental reservoir wholly contained in said main reservoir and terminating at an interval from the forward end thereof, but supported within said main reservoir by such device which extends longitudinally through it and to which its rear end is fastened, a tube conveying liquid fuel from said supplemental reservoir to said generator, and means for holding in unchanging relative position the forward end of said supplemental reservoir through which the liquid fuel is received by it from the main reservoir substantially as set forth.

7. In a vapor-heated and gas-heated implement, a handle serving also as a main reservoir, a tubular shank attached to the said handle and a generator and burner attached to the shank, in combination with a rigid device attached at its ends to parts of said implement and extending longitudinally through said handle and shank, a supplemental reservoir, wholly contained in the said main reservoir having an open forward end, a closed rear end fastened on said device, which extends longitudinally through it, and provided with a filling of capillary material, which protrudes at the said forward end, extending laterally into contact with the wall of the main reservoir and a tube conducting liquid fuel from the supplemental reservoir to the generator substantially as and for the purpose set forth.

8. In a vapor-heated and gas-heated implement, a handle serving also as a main reservoir, a tubular shank attached to the handle and a generator attached to the shank, in combination with a tubular valve casing attached at its ends to parts of the implement and extending longitudinally through the said reservoir and shank, a jet-block or nozzle provided with a jet-hole supplied by said generator and discharging in proximity thereto, a needle valve extending longitudinally through the said casing governing the said jet hole and operated from the rear end of the handle, an inner reservoir supplied by said main reservoir, and wholly contained within the same and attached at its rear end to said valve casing, which extends longitudinally through it and a tube conveying liquid fuel from said inner reservoir to said generator, the greater part of the space within said inner reservoir being filled with capillary material which protrudes through the open forward end of said inner reservoir and is in contact with the wall of said main reservoir substantially as and for the purpose set forth.

9. A soldering iron provided with two concentric reservoirs having distinct walls or shells, the inner reservoir being wholly combined within said main reservoir and supplied with absorbent material which extends out of one of its ends and spreads peripherally into contact with the wall of the outer reservoir.

869,141. SEAM FOR SEWED ARTICLES. CHESTER MCNEIL, Chicago, Ill., assignor to Union Special Sewing Machine Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 9, 1903. Serial No. 151,786.

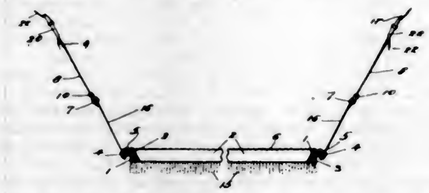


1. A seam for sewed articles, comprising a body fabric, a tuck formed therein within and along the edge thereof, and having its edge beyond the tuck formed with a hem fold having the edge of the hem fold turned upwardly against the tuck to conceal the raw edges of said hem fold, an inserted strip between the upwardly turned hem fold and the tuck, and a line of stitching uniting the said tuck, inserted strip, hem fold and body fabric; substantially as described.

2. A seam for sewed articles, comprising the body fabric provided with an air tuck pressed up vertically out of the body of the goods, lines of stitching passing through the body fabric upon opposite sides of said air tuck, an inserted strip between the base of the air tuck and the edge of the fabric, and a third line of stitching passing through the air tuck, the inserted strip and the body fabric; substantially as described.

3. A seam for sewed articles, comprising a body fabric, an air tuck formed out of said body fabric, a strip inserted between the base of the air tuck and the edge of the fabric, and a line of stitching passing through the air tuck, the inserted strip and the body fabric; substantially as described.

869,142. SUSPENSION-COUCH. JAMES B. PATTERSON, Philadelphia, Pa. Filed Aug. 8, 1907. Serial No. 387,630.



1. A suspension couch comprising a frame provided at its ends with poles or rods, and a cloth arranged above the frame and under the poles or rods and provided at its ends with suspension devices, substantially as described.

2. A suspension couch comprising a frame provided at its ends with poles or rods, a cloth arranged above the frame and under the rods or poles, spreaders at the ends of the cloth, and suspension rings having clue cords connected with said spreaders, substantially as described.

3. A suspension couch comprising a frame provided with rods or poles at its ends, a cloth arranged above the frame and under the poles or rods, clue cords connected with the ends of the cloth, suspension cords, and suspension eyes connected with the clue cords and provided with bars and a movable tongue between which the suspension cords are detachably engaged, substantially as described.

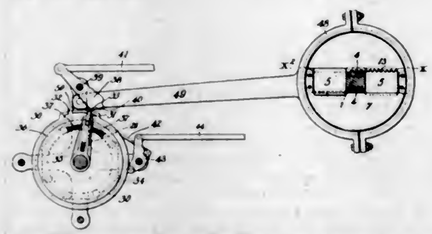
4. A suspension couch comprising a rectangular frame consisting of side and end pieces, rods or poles at the ends of the frame, a cloth arranged above the frame and under the poles or rods and attached to the side pieces, and suspension means at the end of the cloth, substantially as described.

5. A suspension couch comprising a rectangular frame consisting of side and end pieces, rods or poles at the ends of the frame, cloth arranged above the frame and under the rods or poles, suspension devices at the ends of the cloth, and a lacing between the edges of the cloth and below the frame, substantially as described.

6. A suspension couch comprising a rectangular frame having side pieces, a cloth arranged above the frame and having at its edges and beneath the frame spreaders, and a lacing connecting the spreaders, substantially as described.

7. A suspension couch comprising a rectangular frame consisting of side and end pieces, plates or castings provided with hooks and adapted to connect said pieces at the corners of the frame, poles or rods engaged by the hooks and arranged at the ends of the frame, a cloth arranged above the frame and under the rods or poles, and suspension devices for the ends of the cloth, substantially as described.

869,143. TRANSMISSION-GEARING. ROSS M. G. PHILLIPS, Los Angeles, Cal. Filed Dec. 28, 1905. Serial No. 293,605.



1. A driven element, a plurality of oscillatory power transmitters for driving said element, a power shaft, a plurality of eccentrics on the power shaft, means operated by the eccentrics for driving said oscillatory power transmitters, and means comprising a rack having inclined teeth slidable on the power shaft for shifting said eccentrics radially of the power shaft while the power shaft is rotating.

2. A driven element, an oscillatory power transmitter for driving said element, a power shaft, an eccentric on the shaft, a connection from the eccentric to the oscillatory power transmitter, and means for varying the eccentricity of the eccentric, the latter means comprising a rack having oblique teeth and slidable longitudinally of the power shaft, the eccentric having oblique teeth which mesh with the teeth of the rack.

3. A driven element, an oscillatory power transmitter for driving said element, a power shaft, a split eccentric comprising two detachable members with a radial slot mounted on the power shaft, means operated by the eccentric for driving the oscillatory power transmitter, and means for shifting the eccentric radially of the power shaft, said latter means comprising a rack with oblique teeth mounted to slide longitudinally of the power shaft, one member of the eccentric having oblique teeth which mesh with the teeth of the rack.

869,144. SHEET-METAL SHOVEL. JOHN C. ROSS, Elyria, Ohio, assignor to The Ross Stamping Company, Elyria, Ohio, a Corporation of Ohio. Filed Mar. 9, 1907. Serial No. 361,574.



1. In an implement of the class described, the combination with a blade and handle portion formed from an integral blank of sheet metal; said blade being fashioned with a substantially flat lower face, and the handle portion having a longitudinal seam along its upper face, of a reinforcing member upon the upper face of the blade, uniting said blade and handle portion, substantially as set forth.

2. In an implement of the class described, the combination with a blade and tubular handle portion formed from an integral blank of sheet metal; the said handle portion having its seam disposed along its upper face, and being open at its inner end, of a reinforcing piece extending along the upper faces of the blade and handle portion; said parts being secured together, substantially as set forth.

3. In an implement of the class described, the combination with a blade and handle portion fashioned from sheet metal; said blade having a substantially flat lower face, of a combined pad and reinforcing member, comprising a convex shield secured to the upper face of the blade, and an integral semi-tubular reinforcement secured to the upper face of the handle portion, substantially as set forth.

4. The combination in an all-steel implement, with a blade and tubular handle portion fashioned from an integral sheet metal blank; said blade having a substantially flat lower face and the handle an upper longitudinal seam, of a reinforcing member secured to the upper faces of the blade and tubular handle, comprising a substantially convex shield, and a semi-tubular attachment formed of an integral blank of sheet metal, substantially as set forth.

5. In an all-steel shovel, the combination with a shovel blade and tubular handle portion, fashioned from an integral sheet metal blank; said blade having a substantially flat lower face, and said handle portion having its longitudinal seam along its upper face, of a reinforcing member formed of an integral blank of heavy gage sheet metal, comprising a convex shield welded to the upper face of the blade, and a convex reinforcing member welded to the upper face of the tubular handle, substantially as set forth.

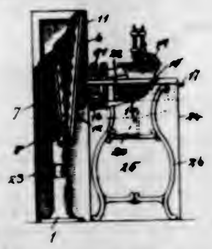
6. In an all-steel shovel, the combination with an integral blade and handle, comprising a blade portion substantially flat along its lower face, a tubular handle portion having its seam along the upper surface, and integral terminals between which is secured a grip member, of a

reinforcing member closing the lower end of said tubular handle portion, comprising convex portions respectively welded to the upper surfaces of said handle portion and blade, substantially as set forth.

7. In an all-steel implement of the class described, the combination with a blade portion and tubular handle shaped from a sheet steel blank; said handle portion having its inner tubular opening adjacent to the upper face of the blade, of a reinforcing-part, comprising a convex pad-member united with the upper face of the blade, and an integral convex portion closing the tubular opening and uniting with the lower handle portion, substantially as set forth.

8. In an implement of the class herein described, the combination with a blade and a tubular handle therefor with its lower surface integrally continuing the under face of said blade, of a reinforcing member upon the upper face of the blade extended to cover the lower opening in the tubular handle and secured to both the blade and the handle, substantially as set forth.

869,145. THEATRICAL APPLIANCE. GEORGE SCHNEIDER, Baltimore, Md., assignor of one-half to Leon A. Ferrandini, Baltimore, Md. Filed Dec. 19, 1906. Serial No. 348,591.



1. The combination with a base, of a scenical device mounted on the base; a table supported at the rear of the scenical device and means for revolving said devices with respect to the base.

2. The combination with a base, of a scenical device mounted on the base; a reversible table supported at the rear of the scenical device and devices of a contrasting character mounted on opposite sides of the reversible table.

3. The combination with a base, of a chair back mounted on said base; a chair seat; and a table-top supported at the rear of the chair back.

4. The combination with a base, of a scenical device mounted on the base; a table supported at the rear of the scenical device; means for revolving said devices with respect to the base, and means to enable the table-top to be reversed and turned up-side-down.

5. The combination with a base, of a chair back mounted on said base; a chair seat; a table at the rear of the chair back and curtains depending from said table.

6. The combination with a base, of a chair back; a seat; means for revolubly mounting said back and seat on the base, and a table-top supported at the rear of said back.

7. The combination with a base, of a reversible table; devices of a contrasting character attached to opposite sides of the table, and a curtain depending from said table to conceal the device on the lowermost side thereof.

8. The combination with a base, of a scenical device mounted on said base; a reversible table sustained at the back of said scenical device and curtains of unequal lengths depending from said table.

9. The combination with a base, of a scenical device mounted on said base; a reversible table carried by the scenical device; means for revolving said device and table on the base, and devices of a contrasting character attached to opposite sides of the reversible table.

10. The combination with a base, of a scenical device mounted on the base; a reversible table secured to the rear of the scenical device; means for permitting the revolution of said device and table with respect to the base, and a cover for the scenical device.

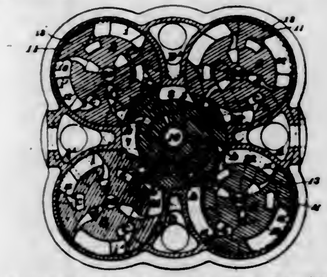
11. The combination with a base, of a chair back mounted above the base; a seat pivoted with respect to the base; a reversible table at the rear of the back; means for permitting the back, seat and table to be revolved with respect to the base and a cover for the back and seat.

12. The combination with a base, of a chair back sustained by the base; a seat; a reversible table attached to the rear of the back; means for permitting the back, seat and table to be revolved on the base; a cover for the back and seat, and curtains depending from the reversible table.

13. The combination with a base, of a chair back sustained by the base; a seat pivoted so as to be raised and lowered with respect to the back; a latch device to coact with the seat; a reversible table attached to the back and devices of a contrasting character secured to opposite sides of the table.

14. The combination with a base, of a chair back sustained by the base; a seat; a rod sustained by and projecting rearwardly from the back; a reversible table sustained by the rod; curtains depending from the table, and devices of a contrasting character secured to opposite sides of the reversible table.

869,146. ROTARY ENGINE. NORMAN R. SMITH, Seattle, Wash. Filed Sept. 11, 1905. Serial No. 278,024.



1. In a rotary engine, in combination, a series of rotative heads, each having peripheral segments alternately of a larger and of a smaller radius, one of said heads being placed centrally of and having peripheral contact with the others, said contact between respective heads being between segments of the larger radius on one and segments of the smaller radius on the other said rotative heads having ports in the body thereof.

2. In a rotary engine, in combination, a series of rotative heads, each having peripheral segments alternately of a larger and of a smaller radius, one of said heads being placed centrally of and having peripheral contact with the others, said contact between the respective heads being between segments of the larger radius on one and segments of the smaller radius on the other, said heads having ports connecting with the spaces lying without the segments of smaller radius, and cylindrical casings surrounding said heads.

3. In a rotary engine, in combination, a series of rotative heads, each having peripheral segments alternately of a larger and of a smaller radius, one of said heads being placed centrally of and having peripheral contact with the others, said contact between respective heads being between segments of the larger radius on one and segments of the smaller radius on the other, said heads having ports extending from their end surfaces to the spaces without the segments of smaller radius, and casings inclosing said heads.

4. In a rotary engine, in combination, a series of rotative heads, each having peripheral segments alternately of a larger and of a smaller radius, one of said heads being placed centrally of and having peripheral contact with the others, said contact between respective heads being between segments of the larger radius on one and segments of the smaller radius on the other, said heads having two sets of ports extending from their end faces to the spaces without the segments of smaller radius, the end face openings of said ports in each set being in a common annular zone, said zones differing for the respective sets, and a casing inclosing said rotative heads.

5. In a rotary engine, in combination, a series of rotative heads, each having peripheral segments alternately of a larger and of a smaller radius, one of said heads being placed centrally of and in peripheral contact with the others, said contact between respective heads being between segments of the larger radius on one and segments of the smaller radius on the other, said heads having ports extending from their end faces to the spaces without the segments of smaller radius, a casing inclosing the said heads and including casing heads having ports adapted to register with the ports in the rotative heads during definite arcs of their rotation.

6. In a rotary engine, in combination, a series of rotative heads, each having peripheral segments alternately of a larger and of a smaller radius, one of said heads being placed centrally of and in peripheral contact with the others, said contact between respective heads being between segments of the larger radius on one and segments of the smaller radius on the other, said heads having two sets of ports extending from their end faces to the spaces without the segments of smaller radius, the end face opening of the ports in any set being in a common annular zone, said zones differing for the respective sets, a casing inclosing said rotative heads, and having two sets of ports each adapted to register with its respective set of ports in the rotative heads at definite points in their revolution.

7. In a rotary engine, in combination, a series of rotative heads, each having peripheral segments alternately of a larger and of a smaller radius, one of said heads being placed centrally of and in peripheral contact with the others, said contact between respective heads being between segments of the larger radius on one and segments of the smaller radius on the other, said heads having ports extending from their end faces to the spaces without the segments of smaller radius, a casing inclosing the said rotative heads and having ports adapted to register with the ports in the rotative heads during definite arcs of rotation and also having ports adapted to communicate directly with the space without the segments of smaller radius at points between said arcs of rotation.

8. In a rotary engine, in combination, a series of rotative heads, each having peripheral segments alternately of a larger and a smaller radius, one of said heads being placed centrally of and in peripheral contact with the others, said contact between respective heads being between segments of the larger radius on one and segments of the smaller radius on the other, said heads having two sets of ports connecting their end faces with the spaces without the segments of smaller radius, the casing having complementary ports therefor, said ports being adapted to act oppositely and alternately as exhaust and supply ports.

9. In a rotary engine, in combination, a series of rotative heads, each having peripheral circular segments alternately of a larger and of a smaller radius, whereby lobes are formed, one of said heads being placed centrally of and having peripheral contact with the others, said contact between respective heads being between segments of the larger radius on one and segments of the smaller radius on the other, the number of lobes on a head and the number of heads co-acting with the central head being even for one and odd for the other, and a casing inclosing said rotative heads, said casing and heads having ports to control the admission and exhaust of steam.

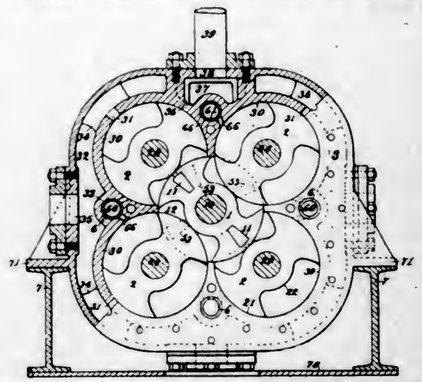
10. In a rotary engine, in combination, a central rotative head and a plurality of similar rotative heads grouped about said central head and turning in unison therewith, said heads having circular peripheral segments of different radii and coacting to each serve as abutments for another head, said heads having ports connecting their end faces with the surfaces connecting segments of different radii.

11. In a rotary engine, in combination, a central rotative head and a plurality of similar heads grouped about said central head and turning in unison therewith, said heads having circular peripheral segments of different radii and co-acting to each serve as abutments for another head, a casing inclosing said heads and casing having ports at the end surfaces of the heads adapted to supply and remove the steam from the acting spaces between said heads.

12. In a rotary engine, in combination, a central rotative head and a plurality of similar heads grouped about said central head and turning in unison therewith, said heads having circular peripheral segments of different radii and co-acting to serve as abutments for another head, a casing inclosing said rotative heads said heads having ports leading from their end faces to the surfaces between the segments of different radii and heads for the casing having steam distributing ports and passages adapted to register with the ports in the rotative heads.

13. In a rotary engine, in combination, a central rotative head, a plurality of similar heads grouped about said central head and turning in unison therewith, said heads having circular peripheral segments of different radii and co-acting to serve as abutments each for the other, said heads having ports opening at their end faces, an inclosing casing for said heads having steam chest spaces between adjacent outer rotary heads, and casing heads having steam ports and passages connecting the ports in the rotative heads with said steam chest spaces.

869,147. ROTARY ENGINE. NORMAN R. SMITH, Seattle, Wash. Filed Jan. 25, 1906. Serial No. 297,843.



1. A rotary engine comprising a series of rotative heads each having peripheral segments alternately of a larger and of a smaller radius, one of said heads being placed centrally of and having peripheral contact with the others, said contact being between segments of the larger radius on one and segments of the smaller radius on the other, and means controlled by the central head for admitting steam to the chambers containing the outer heads and at points without the greater radius of the central head.

2. A rotary engine comprising a central abutment head and a plurality of power heads grouped about said central abutment head, said heads all being of like shape and comprising peripheral segments alternately of larger and smaller radius, the power heads peripherally contacting with the abutment head by a surface of the larger radius on one with a surface of the smaller radius on the other, said abutment head having inlet ports opening out in its peripheral surfaces of the larger radius.

3. A rotary engine comprising a series of rotative heads each having peripheral surfaces alternately of a larger and a smaller radius adapted to permit their turning uniformly and maintaining peripheral contact, one of said heads being placed centrally of and maintaining contact with the others, said central head being provided with ports adapted to discharge the steam centrally of its larger peripheral segments.

4. A rotary engine comprising a series of rotative heads each having peripheral surfaces alternately of a larger and a smaller radius adapted to permit their turning uniformly

and maintaining peripheral contact, one of said heads being placed centrally of and maintaining contact with the others, said central head being provided with ports extending from its end face to the peripheral segments of the larger radius, and a non-rotative member having ports for supplying steam to the ports in the central head.

5. A rotary engine comprising a series of rotative heads each having peripheral surfaces alternately of a larger and a smaller radius adapted to permit their turning uniformly and maintaining peripheral contact, one of said heads being placed centrally of and maintaining contact with the others, said central head being provided with ports extending from its end face to the peripheral segments of the larger radius, and a non-rotative member having ports equal in number and angularly disposed to correspond to the outer heads for suplying steam to the ports in the central head.

6. A rotary engine comprising a series of rotative heads each having peripheral surfaces alternately of a larger and a smaller radius adapted to permit their turning uniformly and maintaining peripheral contact, one of said heads being placed centrally of and maintaining contact with the others, said central head being provided with ports extending from its end face to the peripheral segments of the larger radius, a non-rotative member having ports for supplying steam to the ports in the central head and means for swinging said non-rotative member to opposite sides of a central position to control the direction of rotation of the heads.

7. A rotary engine comprising a series of rotary heads having lobes and circular segmental peripheral surfaces, one of said heads being centrally placed and the other intermeshing therewith with peripheral contact, said central head having steam supply ports discharging centrally of the periphery of its lobes and receiving their supply from the end face of the head, a reversing disk engaging said end face and having ports therein adapted to register with the ports in the end face of the rotary head, and means for shifting the angular position of said reversing disk.

8. A rotary engine comprising a series of lobed rotary heads, one of said heads being placed centrally and the others intermeshing therewith, said central head having circular disks at its ends overlapping the end faces of the other heads.

9. A rotary engine comprising a series of lobed rotary heads, one of said heads being placed centrally and the others intermeshing therewith, said central head having circular disks at its ends overlapping the end faces of the other heads and also having steam supply ports extending from its end face inward.

10. A rotary engine comprising a series of lobed rotary heads, one of said heads being placed centrally and the others intermeshing therewith, said central head having circular disks at its ends overlapping the end faces of the other heads and also having steam supply ports extending from its end face to the outer periphery of the lobe.

11. A rotary engine comprising a series of lobed heads, one of said heads being placed centrally and the others intermeshing therewith, said central head having circular disks at its ends overlapping the end faces of the other heads and also having steam supply ports extending from its end face inward, a reversing disk engaging said end face and having ports adapted to register with the ports in the said head and means for angularly shifting said reversing disk.

12. A rotary engine comprising a series of rotary heads each having peripheral segments alternately of a larger and of a smaller radius, one of said heads being placed centrally of and having rotative peripheral contact with the others, said central head having circular end disks overlapping the end faces of the other heads, said central head also having the steam supply ports extending from its end faces inward and the other heads being without ports.

13. A rotary engine comprising a series of rotary heads each having peripheral segments alternately of a larger and of a smaller radius, one of said heads being placed centrally of and having rotative peripheral contact with the others, said central head having circular end disks overlapping the end faces of the other heads, said central head also having the steam supply ports extending from its end faces inward and the other heads being without ports, reversing disks in contact with the end faces of the central head and provided with ports adapted to register with the ports in the central head, and means for shifting said reversing disks to place their ports at either side of a central position.

14. A rotary engine comprising a rotary piston head having supply ports in its end face, a normally stationary hollow disk having a peripheral supply port and side discharge ports therein adapted to register with the ports in the rotary head, and means for reversing the engine by turning said reversing disks.

15. A rotary engine comprising a lobed rotary head having circular end disks of a radius equal to the maximum radius of the lobes, and other lobed heads fitting and turning between said circular end disks.

16. A rotary engine comprising a lobed rotary head having peripheral surfaces of a larger and of a smaller radius and ports opening in its end faces beyond its smaller radius, and circular end disks secured to said head and extending beyond said ports.

17. A rotary engine comprising a lobed rotary head having peripheral surfaces of a larger and of a smaller radius and ports extending from its end faces at points beyond the smaller radius, circular end disks secured to said head and extending outwardly beyond said ports, reversing disks contacting with said end faces and having ports adapted to register with the ports in the heads, and means for shifting the reversing disks to alter the angular position of its ports.

18. A rotary engine comprising a series of lobed rotary heads having circular segmental peripheral surfaces alternately of a larger and of a smaller radius, one of said heads being centrally placed and acting as an abutment for the others, said other heads being grouped about and turning in contact with said central abutment head, said central head having the supply ports extending from its end faces and supplying steam in succession for the outer heads, a cylinder casing having cylindrical pockets for said heads and an exhaust port for each of the outer pockets located at the side opposite to the central head.

19. A rotary engine comprising a series of lobed rotary heads having circular segmental peripheral surfaces alternately of a larger and of a smaller radius, one of said heads being centrally placed and acting as an abutment for the others, said other heads being grouped about and turning in contact with said central abutment head, said central head having the supply ports extending from its end faces and supplying steam in succession for the outer heads, a cylinder casing having cylindrical pockets for said heads and an exhaust port for each of the outer pockets located at the side opposite to the central head, reversing disks contacting with the central head and having ports adapted to register with the ports in said head, and means for shifting the angular position of said reversing disks to thereby control the direction of rotation of the engine.

20. A rotary engine comprising a central rotative head and a plurality of similar heads grouped about said central head and turning in unison therewith, said central head having within itself the steam distributing ports and acting as a valve and abutment for the other heads.

21. A rotary engine comprising a central rotative head and a plurality of similar heads grouped about said central head and turning in unison therewith, said central head having within itself the steam distributing ports connecting with its end face and acting as a valve and abutment for the other heads, a movable disk contacting with said end face and having ports adapted to register with the ports in the head, and means for angularly shifting said disk.

22. A rotary engine comprising a series of rotative heads, each having peripheral segments alternately of a larger and of a smaller radius, one of said heads being placed centrally of and having peripheral contact with the others, said contact being between surfaces of the smaller radius on one and surfaces of the larger radius on the other, said central head alone being supplied with ports which distribute steam for the other heads.

23. A rotary engine comprising a series of rotative heads, each having peripheral segments alternately of a larger and of a smaller radius, one of said heads being placed centrally of and having peripheral contact with the others, said contact being between surfaces of the smaller radius on one and surfaces of the larger radius on the other, said central head being supplied with ports which distribute steam for the other heads, a casing inclosing said heads and having an exhaust port for each of the outer or power heads on the side opposite the central head, and supply ports at the end face of the central head.

24. A reversing disk for rotary engines comprising a hollow disk having discharge ports in one side face and a receiving port in its periphery.

25. In a rotary engine, in combination, a rotary head having ports in its end face, a normally stationary reversing disk comprising a hollow annulus surrounding the shaft and having discharge ports in one side face and a receiving port in its periphery and means for angularly shifting said disk, to reverse the engine.

26. A reversing disk for rotary engines comprising a hollow disk having discharge ports in one side face and a receiving port in its periphery a casing having a circular opening adapted to receive and permit turning of said disk therein with substantially a steam tight peripheral joint, said casing having a steam supply port adapted to register with the peripheral port in the disk.

27. A reversing disk for rotary engines comprising a hollow disk having discharge ports in one side face and a receiving port in its periphery, a cylindrical casing receiving said disk and opening externally at its outer end means for holding said disk in said casing, and a shifting lever provided with connections with said disk.

28. A rotary engine comprising a rotative head having supply ports opening in one end face, a hollow disk contacting with said end faces and having ports adapted to register with the ports in said head, a casing having a circular recess adapted to receive said disk and form a tight peripheral joint therewith, said disk and the wall of its receiving recess having ports adapted to maintain constant registry, means for holding said disk in place and in contact with the rotative head, and a lever connected with said disk whereby it may be shifted in angular position.

29. A rotary engine comprising a rotary head having ports in its end face, a casing having a circular opening extending to said face of the rotary head, a hollow disk making a steam tight joint in said openings and contacting with the port surface of the rotary head, said disk having ports in its side face adapted to register with the ports in the rotary head, said disk and the wall of its receiving recess having peripheral supply ports adapted to register, a ring secured to the casing and engaging the outer surface of the disk to hold it in engagement with the rotary head, and a shifting lever secured to the disk whereby it may be shifted in angular position.

30. A reversing disk for rotary engines having a peripheral supply port, and discharge ports both in its periphery and side face.

31. A reversing disk for rotary engines having a peripheral supply port, and discharge ports both in its periphery and side face, and a fixed casing having a recess receiving said disk and making a steam tight joint with its periphery, said casing having a supply port registering with the supply port of the disk and distributing ports registering with the peripheral discharge ports of the disk.

32. A reversing disk for rotary engines having a peripheral supply port, and discharge ports both in its periphery and side face, and a fixed casing having a recess receiving said disk and making a steam tight joint with its periphery, said casing having a supply port registering with the supply port of the disk and distributing ports registering with the peripheral discharge ports of the disk, and means for angularly shifting said disk without disturbing its port connections with its casing.

33. A rotary engine comprising a series of rotary heads having intermeshing lobes adapted to turn in mutual peripheral contact, one of said heads being centrally placed and the others grouped about and peripherally contacting with the central head, a casing peripherally inclosing said rotary heads, casing heads inclosing the ends of the rotary heads, the central rotary head having steam distributing ports connecting with its end faces, hollow reversing disks contacting with the end faces of the central rotary head and having discharge ports adapted to register with the ports in the said head, the casing heads having cylindrical recesses receiving said reversing disks, said disks and casing heads having peripherally registering steam ports, and means for turning said disks.

34. A rotary engine comprising a central rotary head and a plurality of similar rotary heads grouped about and turning with said central head, said heads having circular peripheral segments of different radii, a casing peripherally embracing said rotary heads, casing heads, said central rotary head and the casing heads having ports adapted to register at suitable times and to cut off the steam to secure expansion, a pass-over or auxiliary valve located in each outer angle between the outer heads, and ports from said auxiliary valves to the adjacent cylinders, whereby steam may be supplied after it has been cut off by the central rotary head.

35. A rotary engine comprising a central rotary head and a plurality of similar rotary heads grouped about said central head and turning in unison therewith, said heads having circular peripheral segments alternately of different radii, a casing and casing heads inclosing said rotary heads, means for controlling the normal admission of steam by the central head to secure an expansion, passover or auxiliary valves located in the exterior angles between the outer heads, and means for operating said auxiliary valves to admit steam to the cylinder spaces after it has been cut off by the central head.

36. A rotary engine comprising a central rotary head and a plurality of similar rotary heads grouped about said central head and turning in unison therewith, said heads having circular peripheral segments alternately of different radii, a casing and casing heads inclosing said rotary heads, means for controlling the normal admission of steam by the central head to secure an expansion, tubular passover or auxiliary valves located in the exterior angles between the outer heads and extending from casing heads to casing head, the casing heads having supply ports connecting with both ends of the auxiliary valves, and means for operating all of said auxiliary valves together.

37. A rotary engine comprising a central rotary head and a plurality of similar rotary heads grouped about said central head and turning in unison therewith, said heads having circular peripheral segments alternately of different radii, a casing and casing heads inclosing said rotary heads, means for controlling the normal admission of steam by the central head to secure an expansion, a passover or auxiliary valve for each power cylinder and means for operating said valves to admit steam to the cylinder spaces after it has been cut off by the central head.

38. A rotary engine comprising a central rotary head and a plurality of similar rotary heads grouped about said central head and turning in unison therewith, said heads having circular peripheral segments alternately of different radii, a casing and casing heads inclosing said rotary heads, means for controlling the normal admission of steam by the central head to secure an expansion, a passover or auxiliary valve for each power cylinder and means for operating said valves to admit steam to the cylinder spaces after it has been cut off by the central head, said passover valves having stems extending to the exterior, a segment arc on each stem and flexible members connecting said segment arcs whereby all the auxiliary valves are moved together.

39. A rotary engine comprising a central rotary head, a plurality of similar rotary heads grouped about said central head and turning in unison therewith, said heads having circular peripheral segments alternately of a larger and a smaller radius a casing cylinder peripherally inclosing said rotary heads, casing heads secured to and inclosing the ends of said cylinder, means for controlling the steam admission through and by the central rotary head, the casing cylinder having a peripherally extending exhaust passage or chamber and exhaust ports communicating between said chamber and each of the power chambers.

40. A rotary engine comprising a central rotary head, a

plurality of similar rotary heads grouped about said central head and turning in unison therewith, said heads having circular peripheral segments alternately of a larger and a smaller radius, a casing cylinder peripherally inclosing said rotary heads, casing heads secured to and inclosing the ends of said cylinder, means for controlling the steam admission through and by the central rotary head, the casing cylinder having a peripherally extending exhaust passage or chamber and exhaust ports communicating between said chamber and each of the power chambers and located on the diameters which extend through the axes of the outer power heads and the central or abutment head.

41. A rotary engine comprising rotary power heads and a rotary abutment head, means for controlling the distribution of steam by the abutment head, a reversing disk, said reversing disk and abutment head having coöperative ports, and means whereby shifting the reversing disk will produce a reversal of the engine.

42. A rotary engine comprising rotary power heads and a rotary abutment head, means for controlling the distribution of steam by the abutment head, a hollow reversing disk, said disk and the abutment head having coöperative ports, a fixed member having a circular recess receiving said disk and forming a steam tight joint with the periphery thereof, said fixed member and the disk having ports maintaining registry as the disk is rocked, and means whereby angular shifting of said disk and its ports causes a reversal of the engine.

43. A rotary engine comprising rotary power heads and a rotary abutment head, means for controlling the distribution of steam by the abutment head, a hollow reversing disk, said disk and abutment head having coöperative ports, means whereby said disk may be angularly shifted without affecting its steam supply, and means whereby such shifting produces a reversal of the engine.

44. A rotary head comprising a central rotary abutment head and a plurality of rotary power heads grouped about said central abutment head, said heads having circular peripheral segments alternately of different radii and adapted to turn in peripheral contact with the abutment head, said abutment head having steam ports opening in its end face and in the peripheral segments of larger radius, said ports being located on the central diameter of the segments of larger radius, a reversing disk having ports coöperative with the ports in the end face of the abutment head, and means for angularly shifting said disk to cause its ports to begin registry with those in the rotary head when the ports in the latter reach positions in line with the axes of the power heads when turning in either direction.

45. A rotary engine comprising a central rotary abutment head, a plurality of power heads grouped about said abutment head, said heads having circular peripheral segments of different radii and peripherally contacting with the abutment head, means for controlling the normal admission of steam by said abutment head to secure expansion in the steam cylinders, a cylinder casing having cylindrical pockets each inclosing one of said heads, said casing having cylindrical seats for pass-over or auxiliary valves located in the exterior angle between adjacent pockets and ports connecting said seats with each adjacent pocket, a tubular valve in each of said seats having a port adapted to communicate with either of its seat ports, stems for said valves extending to the exterior, and steam passages in the casing heads communicating with said valves.

46. A rotary engine having a lobed rotary head provided with ports in the end face of the lobes at a greater radius than the bottom of the valley between lobes, and a circular web at the end having registering ports and extending to a greater radius than the said ports.

47. A rotary engine having a lobed rotary head provided with ports in the end face of the lobes at a greater radius than the least radius of the valley between the lobes, and having a web continuing the said end face between the lobes and having a greater radius than said ports.

48. A rotary engine comprising a series of rotative heads, each having peripheral segments alternately of a larger and of a smaller radius, one of said heads being placed centrally of and having peripheral contact with the others, said contact being between segments of the larger radius on one and segments of the smaller radius on the other, means controlled by the central head for admitting steam to the chambers containing the outer heads at points without the greater radius of the central head, and intermeshing gears, each connected with its respective rotary head, whereby unison of rotation is secured.

49. A rotary engine comprising a series of rotative heads each having peripheral surfaces alternately of a larger and of a smaller radius adapted to permit their turning synchronously and maintaining peripheral contact, and intermeshing gears connected, each with its respective rotative head, the central head being provided with ports receiving steam at its end faces and discharging at its peripheries of the larger radius.

50. A rotary engine comprising a series of lobed rotary heads, one of said heads being centrally placed and the others intermeshing therewith, said central head having circular disks at its ends overlapping the end faces of the other heads and gears connecting said heads to insure synchronism of rotation.

51. A rotary engine comprising a series of lobed rotary heads, one of said heads being centrally placed and the others intermeshing therewith, said central head having circular disks at its ends overlapping the end faces of the other heads and also having steam ports extending from its periphery to both end faces, the port openings in said end faces being equal in area and registering with their supply ports at the same time, whereby the end thrust of the steam is balanced.

52. A rotary engine comprising a series of lobed rotary heads, one of said heads being centrally placed and the others intermeshing therewith, gears connected, each with its respective rotary head and intermeshing to secure synchronous rotation, said central head having steam supply ports extending from each end face to its periphery, the opposite end face openings of said ports being of equal area whereby the end thrust of steam is balanced.

53. A rotary engine comprising a series of lobed rotary heads, one of said heads being centrally placed and the others intermeshing therewith, gears connected, each with its respective rotary head and intermeshing to secure synchronous rotation, said central head having a circular disk at each end overlapping the end faces of the other heads and having supply ports of equal area in each end face.

54. A rotary engine comprising a series of lobed rotary heads, one of said heads being placed centrally of and intermeshing with the others, means for securing synchronous turning of said heads, and means directly controlled by said abutment head for simultaneously admitting steam to opposite of the outer power heads, whereby the rotative effect communicated to the central shaft is balanced.

55. A rotary engine comprising a series of lobed rotary heads, one of said heads being centrally placed and the other heads being placed in pairs of which the heads are respectively at opposite sides of the central head and maintain an intermeshing peripheral contact therewith, means connecting said heads to insure synchronous rotation, and means controlled by one of said heads for admitting steam simultaneously to opposite heads of each pair whereby the rotative effect upon the central head is balanced.

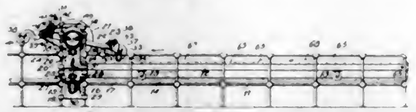
56. A rotary engine comprising a series of lobed rotary heads, one of said heads being centrally placed and intermeshing with the others, a corresponding series of intermeshing gears connected, each with its respective rotary head, and means controlled by the rotation of the heads for admitting steam simultaneously to opposite outer heads whereby the rotative effect upon the central head is balanced.

57. A rotary engine comprising a central rotary abutment head having supply ports therein and rotary power heads turning with and grouped about the abutment head, and means for controlling the steam admission to opposite power heads to balance the steam thrust against the abutment head.

58. A rotary engine comprising a lobed abutmeat head, a plurality of power heads of the same outline as the abutment head, each meshing with said abutment head, steam admission device controlled by the abutment head and steam exhaust means controlled by the power heads.

59. A rotary engine comprising a central abutment head having peripheral circular arcs of different radii and power heads of like kind meshing each with the abutment head to turn in peripheral contact therewith, and means controlled by the abutment head for admitting steam to the outer power heads.

869,148. MACHINE FOR PRINTING A REPRODUCTION OF THE GRAIN OF WOOD. ARTHUR SUTTON, Chicago, Ill., assignor to Chicago Wood Finishing Co., Chicago, Ill., a Corporation of Illinois. Filed May 16, 1907. Serial No. 373,974.



1. In a machine of the character described, the combination of a frame, a reciprocating carriage to carry a master board and a board to be printed, said boards being arranged end to end on the carriage with the master board in front, an ink roller for applying ink to the master board, a transfer roller to receive an impression from the master board and apply it to the other board, a scraper between said rollers, and means for automatically moving the ink roller and scraper out of operative position after the master board has passed thereby, substantially as described.

2. In a machine of the character described, the combination of a frame, a reciprocating carriage to carry a master board and a board to be printed, said boards being arranged end to end on the carriage with the master board in front, an ink roller for applying ink to the master board, a transfer roller for receiving an impression from the master board and applying it on the other board, a scraper for removing surplus ink from the master board, means for automatically lifting the ink roller and the scraper out of operative position after the master board has passed thereby, and means for lifting the transfer roller out of operative position after it has operated on the board to be printed and before the carriage begins its return movement.

3. In a machine of the character described, the combination of a frame, a pair of swinging arms, an ink roller supported on said arms, a transfer roller, a scraper between said rollers, a movable carriage to carry a master board and a board to be printed successively beneath the ink roller, the scraper and the transfer roller, and tracks on said carriage on which the free ends of said arms and the scraper rest, said tracks having inclines and being elevated adjacent to the board to be printed, whereby the ink roller and the scraper are moved out of operative position after they have operated on the master board.

4. In a machine of the character described, the combination of a frame, a gravity ink roller, a transfer roller, a gravity scraper between said rollers, a movable carriage to carry a master board and a board to be printed successively beneath the ink roller, the scraper and the transfer roller, stops at the ends of said carriage, and means operated by said stops to move the transfer roller into and out of operative position.

5. In a machine of the character described, the combination of a frame, an ink roller, a scraper, vertically movable bearing blocks on the frame, a transfer roller journaled in said bearing blocks, toggle links pivotally connected to said bearing blocks and to a fixed part of the frame, a movable carriage to carry a master board and a board to be printed successively beneath the ink roller, the scraper and the transfer roller, and stops at each end of the carriage to engage and operate said toggle links.

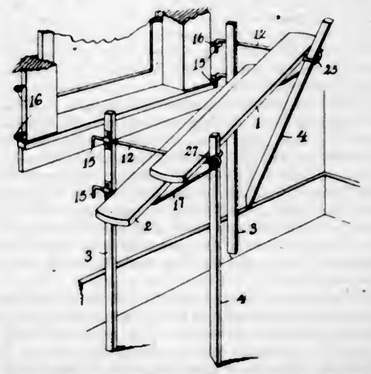
6. In a machine of the character described, the combination of a frame, an ink roller, a scraper, a pair of stationary bearing blocks on the frame, another pair of bearing blocks movable vertically on the frame, a shaft journaled in said movable bearing blocks, a transfer roller on said shaft, a main shaft, an upright shaft carried by one of the movable bearing blocks and geared to said transfer roller shaft and main shaft, toggle links pivotally connected to the stationary bearing blocks and to the movable bearing blocks, a reciprocating carriage to carry a master board and a board to be printed successively beneath the ink roller, the scraper and the transfer roller, and stops on the carriage at the ends thereof to engage and operate said toggle links.

7. In a machine of the character described, the combination of a frame, an ink roller, a transfer roller, a scraper between said rollers, a reciprocating carriage to carry a master board and a board to be printed successively beneath the ink roller, the scraper and the transfer roller, a master shaft, a rack on the carriage, a pinion on said shaft meshing with said rack, means for moving the transfer roller vertically into and out of operative position, and a belt shifter operated coincident with the movement of said transfer roller.

8. In a machine of the character described, the combination of a main frame, an ink roller, a transfer roller, a scraper between said rollers, a benzin tank supported on the main frame adjacent to the transfer roller, a benzin roller, a frame pivoted on the main frame to support said benzin roller in the tank or in engagement with the transfer roller, and a driven scraper roller to engage said transfer roller.

9. In a machine of the character described, the combination of a frame, an ink roller, a scraper, a transfer roller, a revoluble shaft carrying said transfer roller and movable vertically to carry the transfer roller into and out of operative position, a sprocket wheel on said shaft, a roller arranged to operate in engagement with said transfer roller, a shaft 43 carrying said latter roller, a shaft 47 geared to said shaft 43, a sprocket wheel on said shaft 47, and a sprocket chain operating on said sprocket wheels.

869,149. WINDOW-SHELF. EMILY W. THAYER, Saxtons River, Vt. Filed Feb. 11, 1907. Serial No. 356,716.



1. A plant stand comprising one or more shelves, legs connected therewith, and fastening devices connected with the ends of said shelf or shelves for attaching the same to the sides of a window, said fastening devices being readily detachable and disposed to permit the plant stand to be swung horizontally upon the fastening devices at one end thereof when those at the other end have been disconnected.

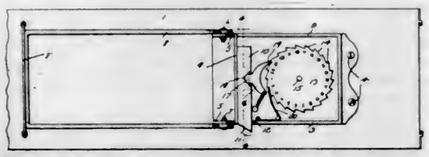
2. A plant stand comprising one or more shelves, side-frames supporting the same, detachable fastening devices for securing said side-frames to the frame of a window, and a pair of legs at each end of the shelves, the outer of which is angularly and longitudinally adjustable.

3. A plant stand comprising one or more shelves, side-

frames supporting the same each consisting of a metal rod bent into two branches terminally hooked, screw-eyes for engaging said hooks and detachably securing them to the frame of a window, legs fixed to said side-frames near said hooks, and legs pivotally secured to the juncture of said branches.

4. A plant stand comprising a pair of shelves, side-frames supporting the same and each consisting of a metal rod bent into two branches terminally hooked, one branch straight for substantially its entire length and the other straight for substantially half its length, and an eye being formed at the juncture of said branches in each side-frame, a leg fixed to the branches of each side-frame and reaching nearly to the floor of the room for which the arrangement is designed, a hooked screw and button in each said eye, thumb-nuts on said hooked screws, and legs clasped by said hooked screws.

869,150. GRAIN-TALLY. HARRY H. WARREN, Sheridan, Ill., assignor of one-half to William P. Warren, Sheridan, Ill. Filed June 3, 1907. Serial No. 377,010.



1. In a grain tally the combination of a tally box, a laterally moving reciprocatory bar working therein, a graduated ratchet dial journaled in said box, a pawl pivoted to said reciprocatory bar and adapted to intermittently move said dial when said bar is moved in one direction, and means coacting with said pawl for moving said bar in the opposite direction, substantially as described.

2. In combination with a spout or chute, a tally box secured near the mouth thereof, an operating bail pivoted to the inner end of said box, a gate secured to said bail and adapted to close the mouth of the spout or chute, a laterally moving reciprocatory bar working in the tally box and having an inclined edge adapted to work through one of the sides thereof, a graduated ratchet dial journaled in said box, and a pawl operable by said reciprocatory bar adapted to intermittently move said dial one notch, substantially as described.

3. In combination with a spout or chute, a tally box arranged longitudinally of and near the mouth of the same, an operating bail pivoted to one end of said tally box, a gate secured to said bail and adapted to close the mouth of the spout or chute, a laterally moving reciprocatory bar working in said box, and having an inclined edge working through one side thereof, a pawl pivoted in said box and adapted to intermittently move said dial when said reciprocatory bar is moved in one direction, and a resilient element coacting with said pawl to move the said bar in the opposite direction.

4. In combination with a spout or chute, a tally box arranged longitudinally of and near the mouth of the same, a laterally moving reciprocatory bar working in said box and having an inclined edge working through one of the sides thereof, a U-shaped operating bail pivoted at its ends to one end of said box, one of the arms of said bail being adapted to engage the inclined edge of the reciprocatory bar when it is swung in one direction, and a gate secured to the bail and adapted to close the mouth of the spout or chute.

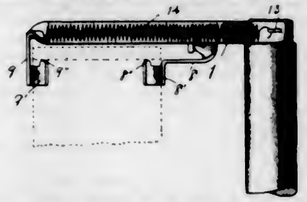
869,151. FIRE-ESCAPE. ROBERT ZUBE, Shell Lake, Wis. Filed Mar. 29, 1907. Serial No. 365,380.

A fire escape comprising a flexible ladder weighted at its lower end, holding arms or levers pivotally mounted at one end at the upper end of the ladder and having pointed free ends to engage the side wall of a building, and grappling hooks connected by rounds and forming an upper auxiliary ladder section, said hooks being pivotally connected at their lower ends to the arms between the ends of the latter, the upper ends of the hooks being



arcuately curved to extend over and embrace the sill of a window and provided with spurs extending toward the pivoted ends of the hooks.

869,152. CAN-LIFTER. CHARLES F. ALLINE, Fort Dodge, Iowa. Filed Oct. 4, 1906. Serial No. 337,399.



1. A can lifter comprising a handle, a pair of jaws mounted thereon, one of said jaws being spring-actuated, means for holding the spring-actuated jaw releasably locked in open position, and means adapted to automatically release the movable jaw by lowering it into engagement with the top of a can or analogous package.

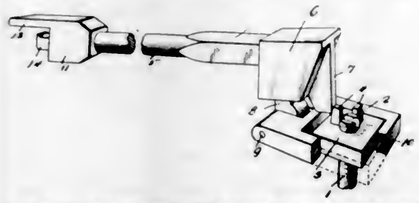
2. A can lifter comprising a handle, a pair of jaws mounted upon said handle, one of said jaws being fixed and the other mounted to reciprocate toward and from the fixed jaw, a contractile spring arranged to act upon said movable jaw, a locking mechanism adapted to hold the movable jaw in extended or open position, and a trigger projecting between the jaws and adapted to release the movable one when the tool is lowered into engagement with the top of the can or analogous package.

3. In a can lifter, the combination of a handle, a frame arm extending substantially at right angles from the handle, a fixed jaw mounted upon said frame arm, a movable jaw mounted to reciprocate upon said frame arm and having both sliding and pivotal movement, a contractile spring connecting the movable jaw with a fixed part of the device, a locking mechanism adapted to hold the movable jaw extended when the latter is flexed relatively to the frame arm, and a trigger projection upon the movable jaw extending downwardly between the jaws.

4. A can lifter comprising a handle, a frame comprising a pair of arms rigid with the handle and extending approximately at right angles thereto, a fixed jaw mounted upon said arms, a movable jaw slotted and guided to reciprocate longitudinally upon pins carried by said arms, a locking shoulder formed at the inner end of the slot of the movable arm and adapted to engage one of the pin supports of the latter, a coiled contractile spring connected with the outer end portion of the movable jaw and with a fixed part of the tool approximately in alinement with said jaw, and a trigger projection upon the movable jaw adapted to move the locking shoulder of the latter out of engagement with the said pin by engagement with the upper side of the package.

5. In a can lifter, the combination with a handle, and a pair of jaws mounted thereon, one of said jaws being spring-actuated, one or both of said jaws having a series of laterally separated and upstanding chisel-shaped teeth adapted to engage the edge of a can cap-flange.

869,153. TOOL FOR LOCKING NUT-LOCKS. JOHN J. AMRHEIN, Johnstown, Pa., assignor of one-half to Arthur Amrhein, Johnstown, Pa. Filed May 3, 1907. Serial No. 371,584.



1. A tool of the character described comprising a handle, a head fixed to one end thereof and provided on its outer face with a tooth, an apertured arm depending from the head, and a spanner pivotally-connected to the arm, said tooth having its lower portion positioned over the spanner.

2. A tool of the character described comprising a handle, a head fixed to one end thereof, having a beveled pivoted face and a tooth projecting approximately centrally from said face, an apertured arm depending from the head, and a spanner pivotally connected to the arm.

3. A tool of the character described comprising a handle, a head fixed to one end thereof, and provided on its outer face with a tooth, said tooth having its outer edge perpendicular, an apertured arm depending from the head, and a spanner pivotally-connected to the arm.

4. A tool of the character described comprising a handle, a head fixed to one end thereof and provided on its outer face with a tooth, said tooth of greater height than the height of the head, an arm depending from the head, and a spanner pivotally-connected to the arm.

5. A tool of the character described comprising a handle, a head fixed to one end thereof and provided on its outer face with a tooth, said tooth projecting below the lower face of said head, and a spanner pivotally connected with the bottom of the head.

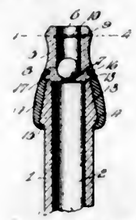
6. A tool of the character described comprising a handle, a head fixed to one end thereof, having a beveled outer face and a tooth projecting from said face, said tooth depending below the bottom of the head, and a spanner pivotally-connected to the head.

7. A tool of the character described comprising a handle, a head fixed to one end thereof and provided on its outer face with a tooth, an apertured arm depending from the head, a spanner pivotally connected to the arm, said tooth having its lower portion positioned over the spanner, and a head fixed to the other end of the handle and having a lateral extension projecting from the top thereof and further provided on its outer face with a tooth having its upper corner upturned.

869,154. BOTTLE-TOP. WILLIAM S. AYLING, Chicago, Ill. Filed Feb. 1, 1907. Serial No. 355,182.

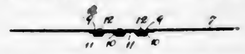
1. A bottle neck provided with an external shoulder, a tubular extension seated on the upper end of the neck and provided with an external shoulder, a coupling member formed to fit on the upper portion of the neck and having end flanges to engage respectively with said shoulders for detachably securing the extension in place, and a movable valve arranged in the extension.

2. A bottle neck provided with an external shoulder, a tubular extension seated on the neck and provided between its ends with an external shoulder, an elastic coupling sleeve fitted on the upper portion of the neck and provided with flanges to engage said shoulders for detachably securing the extension in place, and a movable valve arranged in the extension.



3. A bottle neck, a tubular extension seated on the mouth of said neck, a movable valve arranged in the extension, and an elastic member fitted over the outside of the neck and engaging the extension to form a retainer for detachably securing the latter in position on the neck.

869,155. METAL-ENAMELING. GRACE M. BANNING, Chicago, Ill. Filed Jan. 23, 1907. Serial No. 353,610.



1. The process of decorating metal, which consists in first punching holes in the metal in such manner as to provide burs, and then applying enamel to the rear side of the metal, allowing the enamel to fill into the burred holes, the latter affording sockets for the retention of the enamel, substantially as described.

2. The process of decorating metal, which consists in punching a plurality of adjacent holes in a piece of sheet metal and in a manner to provide a bur around each hole and then in applying enamel in the form of a continuous layer or coating over the rear surface of the perforated metal, allowing the enamel to enter the holes and be retained therein, the holes affording sockets for the retention of the enamel, substantially as described.

3. The process of decorating metal, which consists in punching in a sheet of metal a plurality of holes in a manner to provide a bur around each hole and then in applying enamel to the burred side of the metal by means of a suitable implement, the burs serving to scrape off sufficient enamel for each hole, the enamel being thereafter retained in place within the holes, substantially as described.

4. The process of decorating metal, which consists in impressing in a sheet of metal a design outlined by ridges, then in punching the metal surface intermediate of the ridges with a plurality of holes in such a manner as to provide a bur around each hole and then in applying enamel, in the form of a layer, to the rear or burred side of the metal, allowing the enamel to enter the holes and be retained therein by means of the burs, and be exposed in the form of beads or jewels, substantially as described.

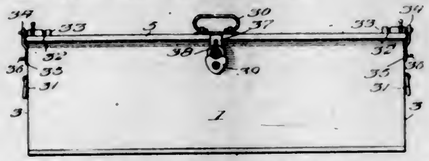
5. As a new article of manufacture, a sheet of metal having pierced therein a plurality of holes, a bur around each hole, a layer of enamel on the rear side of the perforated metal, and beads or jewels of enamel connected with the main layer and held within the burred holes, substantially as described.

6. As a new article of manufacture, a sheet of metal having therein a plurality of holes, a bur around each hole, a continuous layer of enamel extending over the burred surface of the metal on the rear side thereof, and beads of enamel connected with the main layer and entered within the sockets afforded by the burred holes, substantially as described.

7. As a new article of manufacture, a sheet of metal, ridges outlining a design wrought in the metal, holes intermediate of the ridges, each hole having around its rear side a bur, a layer of enamel covering the burred surface

of the metal on the rear side thereof, and beads or jewels of enamel connected with the main layer and entered and held within the sockets afforded by the burred holes, substantially as described.

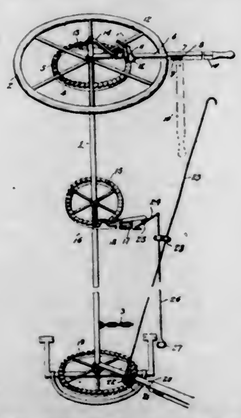
869,156. BOX. JOHN C. BARRY, Parkersburg, W. Va. Filed Sept. 5, 1906. Serial No. 333,310.



1. An engineer's supply box having a pivoted cover and front wall, the latter being provided at its ends with projecting pins, fastening hooks pivoted on the end walls of the box for engagement with the pins to fix said front wall in closed position, means for locking the cover in closed position, and a removable tray arranged in the box and having upstanding flanges attached thereto and forming a number of sockets to receive respectively the lower ends of a plurality of vessels.

2. An engineer's supply box having a pivoted cover and front wall, means for temporarily locking the latter in closed position, sliding bolts mounted on the cover, keepers attached to the end walls of the box for engagement by said bolts to secure the cover in closed position, and a removable tray arranged in the box and provided with a plurality of sockets to receive the lower ends of a plurality of vessels.

869,157. BRAKE MECHANISM. PAUL X. BEAULIEU, Presque Isle, Me. Filed June 10, 1907. Serial No. 378,226.



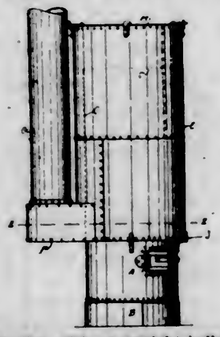
1. In a brake mechanism, and shaft provided at its upper end with a hand wheel and just below said hand wheel with a ratchet, a handle pivotally mounted on said shaft, just above said hand wheel and adapted for convenient manipulation at the top of the car and carrying a weight equipped pawl for engagement with said ratchet, said shaft having at its lower end an additional ratchet wheel and a like handle also loosely connected to said shaft and provided with a weight-equipped pawl for engagement with said latter ratchet wheel, a third ratchet wheel secured to said shaft intermediate of the aforesaid ratchet wheels, a spring-pressed pawl engaging said intermediate ratchet wheel for retention against reverse movement, a handle-equipped lever connected to said intermediate ratchet-engaging pawl, and a handle-rod connected to, and adapted for actuating the bottom ratchet-engaging pawl, said intermediate ratchet-engaging pawl having the handle of its operating lever passing through a bracket common to said handle rod, said handle extending downward for convenient actuation from the ground and said handle rod extending upwardly for manipulation near the top of the car.

2. In a brake mechanism, a shaft provided at its upper end with two wheels, one of which is adapted to be actuated by hand, ratchet teeth on the other wheel, a handle pivotally mounted on said shaft adjacent to said wheels, and extending beyond the rim thereof, a pawl mechanism on said handle in position to engage the ratchet teeth of said wheel, whereby the shaft may be rotated from the top of a car, a ratchet wheel fixedly mounted on the lower end of said shaft, an operating handle pivotally mounted above said wheel, and a pawl mechanism carried by said handle to engage the teeth of said ratchet wheel.

3. In a brake mechanism for cars, a shaft, a hand-wheel rigidly mounted on the upper end of said shaft, a ratchet wheel rigidly mounted on the shaft below said hand-wheel, an operating lever or handle pivotally mounted on the shaft above said hand-wheel, a pawl mechanism carried by said handle or lever and adapted to be held in and out of engagement with the teeth of said ratchet wheel, a shaft locking ratchet wheel, a pawl adapted to engage said wheel, means to operate said pawl from the ground, a pawl and ratchet mechanism mounted on the lower end of said shaft, and means to release the pawl of said operating mechanism from the top of a car.

4. In a brake mechanism for cars, a shaft, a hand-wheel rigidly mounted on the upper end of said shaft, a ratchet wheel rigidly mounted on the shaft below said hand-wheel, an operating lever or handle pivotally mounted on the shaft above said hand-wheel, a pawl mechanism carried by said handle or lever and adapted to be held in and out of engagement with the teeth of said ratchet wheel, a shaft locking ratchet wheel, a pawl adapted to engage said wheel, a releasing lever connected to said pawl, an operating pawl connected to said lever whereby the same is operated from the ground, a ratchet wheel mounted on the lower end of said shaft, a jointed operating handle pivotally mounted on said shaft, a pawl pivotally mounted on said handle, means to hold said pawl into and out of engagement with the teeth of said ratchet wheel and an operating rod connected to said pawl holding means whereby the same may be actuated from the top of a car.

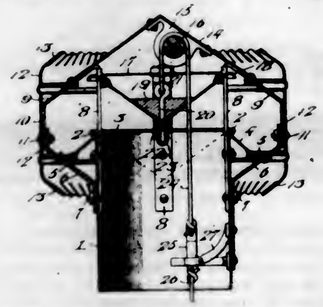
869,158. UPRIGHT STEAM-BOILER. SAMUEL D. BEBAR, Tacoma, Wash. Filed Nov. 6, 1906. Serial No. 342,211.



1. The combination with an upright boiler, of a casing for inclosing the same, said casing consisting of a cylindrical shell of greater diameter and height than the boiler and provided at its lower end, at one side, with a lateral extension from the top of which rises a smoke flue, the cross area of said extension being larger than the area of said flue, said casing being closed at its bottom between the wall thereof and the wall of the boiler, substantially as described.

2. The combination with an upright boiler, of a casing inclosing the same so as to leave a space around and at the top of the boiler, said casing consisting of a cylindrical shell having at its lower end, at one side, a lateral extension from the top of which extends a smoke flue, and brackets secured to the wall of the fire box upon which said casing rests, substantially as described.

869,159. VENTILATOR. WALTER F. BRITTON, Anniston, Ala. Filed Jan. 3, 1907. Serial No. 350,580.



1. In a device of the class described, a flue, a hollow drum sustained upon and surrounding the upper end of the flue, a protecting cap mounted over and remote from the upper end of the flue, a cut-off valve slidably sustained above the latter, means including a fusible piece for holding the valve in open position, said valve being adapted to close automatically when released, and means for guiding the valve in its movements.

2. In a device of the class described, a flue, vertical guide members arising therefrom, a protecting cap mounted over the flue and sustained by the guide members, a cut-off valve slidably mounted on said guides and adapted for closing the upper end of the flue, and means including a fusible piece for holding the valve in open position.

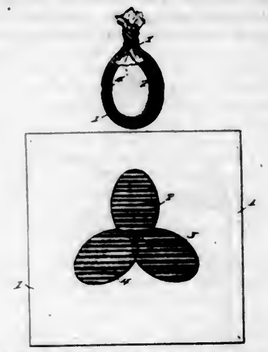
3. In a device of the class described, a flue expanded at its upper end to form a valve seat, a valve suitably guided for vertical movement, means for normally supporting the valve above the seat, a protecting cap supported above the flue and the valve, and a frusto conical guard supported upon the flue adjacent to its upper extremity.

4. In a device of the class described, a flue expanded at its upper end to form a valve seat, a valve guided for vertical movement, means for normally supporting the valve above the seat, a protecting cap supported above the flue and the valve, a frusto conical guard mounted upon the flue adjacent to its upper extremity and a hollow drum disposed about the flue, the protecting cap and the guard, spaced therefrom and having inwardly inclined flanges at its upper and lower ends.

5. In a device of the class described, a flue expanded at its upper end to form a valve seat, a frusto conical guard mounted upon the flue adjacent to its upper extremity, vertical guides secured upon the flue, frame members connecting the guides with the frusto conical guard, a valve mounted for vertical movement upon the guides, a protecting cap supported upon the guides above the valve, a hollow drum mounted upon the frame members and having inwardly inclined flanges at its upper and lower ends which extend above the protecting cap and below the guard respectively, and means for normally supporting the valve above the seat.

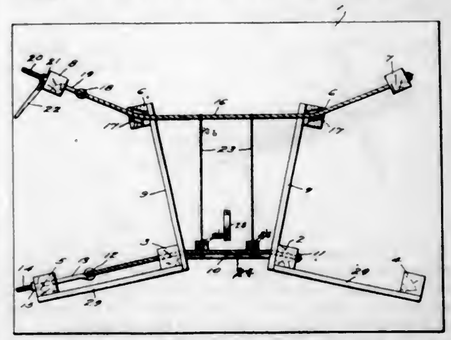
869,160. EGG-WRAPPER. MARY E. BROWN, Cavalier, N. D. Filed Mar. 3, 1906. Serial No. 304,019.

The herein described egg wrapper comprising a rectangular piece of thin flexible paper having secured thereto three oval shaped corrugated paper cushions, said cushions being disposed radially from a central point on said paper sheet and spaced apart to form lines of fold from the center of the sheet so that said sheet may be doubled or folded



about an egg and the corners twisted to hold the cushions in contact with the egg to cover all sides thereof.

869,161. FLOOD-GATE. STEPHEN S. BROWN, Medicine Lodge, Kans. Filed Mar. 5, 1907. Serial No. 360,680.



1. In a flood gate, a frame composed of upright posts, cables stretched across said posts, wires connecting said cables, a flood gate provided with rollers which travel on said wires, and rollers at the bottom of said gate.

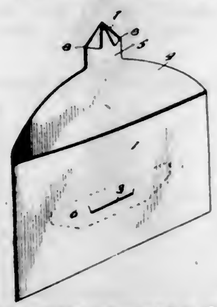
2. A flood gate comprising a platform, guard fences at opposite sides of said platform, upright posts to which said guard fences are secured, a cable passing through two of said posts and connected to an adjusting rod provided with means for adjustment, upright bracing posts provided with rollers, anchor posts, a cable extending from said anchor posts over said rollers, and means for adjusting said cable, and a flood gate provided with rollers and wires connected to said cables upon which said rollers are supported.

3. In a flood gate, the combination of transversely extending cables connected by longitudinal wires, a gate provided with rollers adapted to run on said wires, a platform, rollers on the gate adapted to bear upon the platform, and a bowed spring on the platform in rear of the gate.

869,162. ENVELOP. WILLIAM S. BROWN, Burghill, Ohio, assignor of one-half to Guy B. Brown, Osgood, Pa. Filed Apr. 18, 1906. Serial No. 312,496.

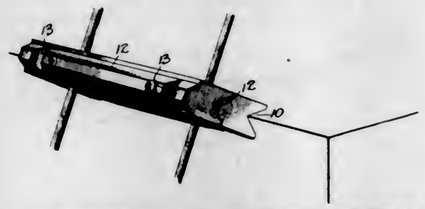
As a new article of manufacture, the herein described envelop comprising a back having the slit 3 formed therein, a front 2, a flap 4 formed in conjunction with the front, a tongue 5 extending from the flap 4 and designed to enter the slit 3, the said tongue 5 having the corners 7 thereof folded rearwardly and notches 8 being

formed at the junction of said rearwardly folded corners 7 and the tongue 5, and a strip 6 located within the interior of the envelop and extending across the slit 3, the ends and upper edge of the said strip being secured to the back of the envelop, the lower edge of the strip



being designed to engage the corners or flaps 7 and enter the notches 8 when the tongue 5 has been inserted through the slit 3 and thereby prevent the opening of the envelop for manipulation thereof.

869,163. INSULATOR. WILLIAM J. DEVINE, Norwalk, Conn. Filed July 23, 1907. Serial No. 385,147.



1. In insulating blocks, the combination with blocks of electric non-conductive material, of interlocking means for adjacent blocks, means for fitting same to the corners of woodwork or other material and means for securing the blocks together and to the corner of the woodwork.

2. In insulating blocks having grooves along their lower sides to fit angular structures and transverse grooves or notches for the wires, the combination of ribs on the upper sides of the blocks adapted to fit the grooves and having corresponding transverse notches, and means for holding the blocks together to clamp the wires.

869,164. RAIL-JOINT. CHARLES E. ELM, South Prairie, Wash. Filed Jan. 30, 1907. Serial No. 354,872.



1. A rail end support comprising a truss-bar disposed above the bottom of the rails, means located at opposite sides of the rail extremities for supporting the truss-bar, and a seat for the rail extremities supported by said truss-bar.

2. The combination with rail ends, of rail clamps located at opposite sides of said extremities, a truss-bar disposed above the bottom of the rails and having its opposite ends supported by said clamps, and a rail end seat supported by the truss-bar at a point intermediate the ends of the latter and extending beneath the rail extremities.

3. The combination with rail ends, of truss-bars arranged at opposite sides thereof and in a common horizontal plane therewith, means for supporting the ends of said truss-bars at points remote from and on opposite sides of the rail joint, and a rail end seat supported on and underneath said truss-bars and extending beneath the extremities of the rails.

4. The combination with rail ends, of secondary clamps secured to the rails at points remote from and on opposite sides of the joint, parallel truss-bars supported above the bottom of the rails and having their ends supported by said clamps, and a rail end seat supported by said truss-bars at a point intermediate the ends of the latter, said seat extending beneath the rail extremities which rest thereon.

869,165. STRAINER. ALBERT F. ETTER, Ettersburg, Cal. Filed Sept. 22, 1906. Serial No. 335,793.



1. A strainer comprising a perforated tube, a disk closure at one end of the tube, said closure being of greater diameter than the tube and having its projecting portion imperforate and its center formed with an opening communicating with the tube, and a supporting disk at the opposite end of the tube, said disk being constructed to provide an annular row of spaced projections forming intervening ports beyond the periphery of the tube and between the same and a pipe or casing in which the strainer is inclosed.

2. A strainer comprising a perforated tube, a disk fixed to one end of the tube and having an opening communicating therewith, said disk being of a greater diameter than the tube and having its projecting portion imperforate, and a supporting disk at the opposite end of the tube, said disk being constructed to provide an annular row of spaced projections forming intervening ports beyond the periphery of the tube and between the same and a pipe or casing in which the strainer is inclosed.

3. A reversible strainer comprising a perforated tube, a disk closure at one end of the tube having an opening communicating therewith, and a triangular supporting disk inclosing the opposite end of the tube with its points projecting beyond the periphery of the tube.

4. A strainer comprising a perforated tube, heads arranged at the opposite ends of the tube and of greater diameter than the same, one of said heads having an opening communicating with the tube, and being otherwise imperforate, and the other constructed to provide an annular row of spaced projections forming ports beyond the periphery of the tube and between the same and a pipe or casing in which the tube is inclosed.

5. A reversible strainer comprising a filtering tube, and means associated therewith whereby the tube may be reversed, said means comprising supports for the tube, one being in open communication with the tube and the other constructed to form ports beyond the periphery thereof, whereby the water may be caused to pass through one of the supports and thence through the tube from the interior thereof, or through the other support from the exterior into the tube and thence out through the other support.

6. A strainer comprising a perforated tube, heads for supporting the tube, said heads being arranged at the respective ends of the tube and of greater diameter than the same, one of the heads being provided with an opening communicating with the interior of the tube, and being otherwise imperforate, and the other constructed to provide an annular row of spaced projections forming ports beyond the periphery of the tube, and a filtering sleeve or wrapper surrounding the tube and secured at one end by one of the heads thereto.

7. A strainer comprising a perforated tube, a head arranged at one end of the tube and having an opening communicating therewith, said head forming an imperforate flange beyond the periphery of the tube, and a second head forming a closure at the opposite end of the tube, said head being provided with projections extending beyond the periphery of the tube to form a support therefor, said projections being spaced to provide a row of annular ports around the tube and between it and a pipe or casing in which said tube is inclosed.

869,166. TIRE-HANDLING TOOL. FRANK J. FALLMANN, Walnut Grove, Cal. Filed Feb. 23, 1907. Serial No. 358,947.

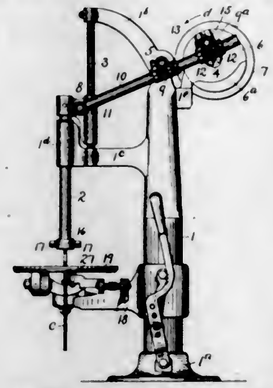


1. In a device of the class described, a supporting rod, a sleeve slidably mounted thereon and having a depending plate therefrom, a jaw provided with a plate at its upper portion fixedly secured to the sleeve plate and parallel therewith, and a companion jaw pivoted in coöperating relation to said fixed jaw.

2. In a device of the class described, a supporting rod, a sleeve slidably mounted thereon and having a depending plate therefrom, a jaw provided with a plate at its upper portion fixedly secured to the sleeve plate and parallel therewith, and an angular companion jaw slotted inward from the angle thereof to embrace a portion of the plate of the fixed jaw.

3. In a device of the class described, a rod, a sleeve, slidably mounted thereon, a fixed jaw having a plate at its upper portion connected to said sleeve, a coöperating angular jaw slotted inward from the angle thereof to embrace one end of said jaw plate and pivoted to said plate, and an operating handle extending from the slotted jaw.

869,167. DRIVING MECHANISM FOR MACHINES FOR OPERATING ABRADING OR CUTTING TOOLS. CHARLES J. FANCHER, West Granby, Conn., assignor to The Simplex Manufacturing Company, New York, N. Y., a Corporation of Connecticut. Original application filed Apr. 22, 1904, Serial No. 204,306. Divided and this application filed Apr. 10, 1905. Serial No. 254,707.

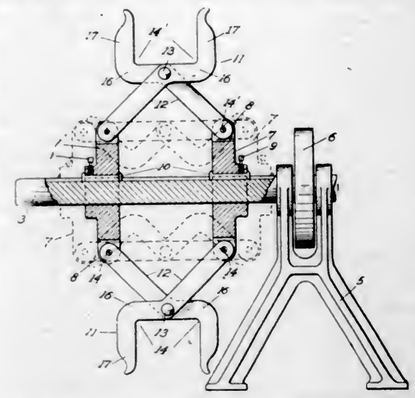


1. The combination, in mechanism of the class specified, of a suitable supporting standard, an arm projecting therefrom, a bearing at the end of said arm, a tool holder mounted to reciprocate in said bearing, a bearing on the standard, a block 8 mounted on the tool holder and provided with a bearing at one side thereof, a guide rod 3 upon which said block bearing reciprocates, a driving rod 10 pivotally connected at one end with block 8, driving mechanism in operative connection with the opposite end portion of said driving rod, said rod being mounted to reciprocate in said bearing on the standard, substantially as shown.

2. The combination, in a filing machine, of a standard 1, an arm 1^c projecting therefrom, a tool holding member, said arm being provided with a bearing to receive said tool holding member and allow it to reciprocate therethrough, a guide rod 3 mounted on said standard and provided with a sliding member 8 attached to one end of the tool holding member, a driving rod 10, a bearing 9 pivotally mounted on the standard and adapted to receive said driving rod, driving mechanism comprising a wheel, a pivotally mounted bearing mounted on one face of the driving wheel, said driving rod being arranged to pass through the bearing 9 pivotally mounted on the standard, and also through the bearing pivotally mounted on the driving wheel.

3. The combination, in mechanism of the class specified, of a suitable supporting frame, a tool holding member mounted to reciprocate therein, a driving rod in operative connection at one end with the tool holding member, a pivotally mounted bearing for the driving rod, through which the driving rod is adapted to slide while the bearing is being turned on its pivot, and driving mechanism consisting of a revolving member having sliding engagement with the driving rod, the engaging member sliding on the rod while revolving with the revolving member, whereby the tool holding member is caused to move at different speeds and the working stroke is slower than the return stroke.

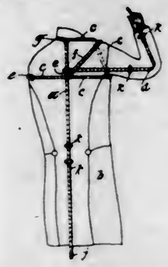
869,168. ROPE-REEL. ISAAC M. FISHER, Seattle, Wash. Filed Apr. 22, 1907. Serial No. 369,711.



1. A rope reel comprising opposite hubs, means for supporting said hubs for rotation, one of said hubs being adjustable to and from the other, means to secure said adjustable hub in adjusted positions, and radially disposed arms comprising pivotally connected crossed members pivotally engaged adjacent their inner ends with said hubs and formed with angular outer portions oppositely disposed and adapted to contact adjacent their outer ends with said hubs when said adjustable hub stands adjusted outwardly relatively to the other hub.

2. A rope reel comprising opposite hubs, means for supporting said hubs for rotation, one of said hubs being adjustable to and from the other, means to secure said adjustable hub in adjusted positions, and radially disposed arms comprising pivotally connected crossed members pivotally engaged adjacent their inner ends with said hubs and formed with angular outer portions oppositely disposed, said portions fitting between said hubs mainly within the line of sweep of the outer edges of the inner portions of said members when said inner portions lie substantially parallel with the axis of said hubs.

869,169. TAPE-MEASURE. CHARLES E. FLINT, Hobart, Tasmania, Australia, assignor of one-third to David Barclay, Hobart, Australia. Filed Aug. 22, 1906. Serial No. 331,642.



1. The combination of a principal tape measure adapted to be connected at its upper end to the middle of the back, and a supplementary tape measure attached to said principal measure, and adapted to slide along the latter, and centrally pivoted with relation to the principal measure so as to swing to either side thereof, so that both sides of the person may be measured while the principal measure is in place.

2. The combination of a principal tape measure adapted to be connected at its upper end to the middle of the back, a marker sliding along said principal measure and having a hook for engaging the clothing, and a supplementary measure pivoted to said marker, whereby the point of junction of said measures can be easily adjusted and fixed, and said supplementary measure can be swung to either side of the principal measure without changing the position of the latter, and both arm measurements or the like can be taken while said principal measure is in place.

3. The combination of a principal tape measure adapted to be connected at its upper end to the middle of the back, and having means for fastening it to the clothing at such point, supplementary measures adapted to slide along such principal measure and being centrally pivoted with relation thereto, and means for fastening such measures to the person and markers sliding along such measures, substantially as described.

4. In a measuring device, a tape measure and a marker adapted to slide thereon, such marker having a spring adapted to press against the tape to hold said marker in its adjusted positions, and having a means for fastening it to a garment.

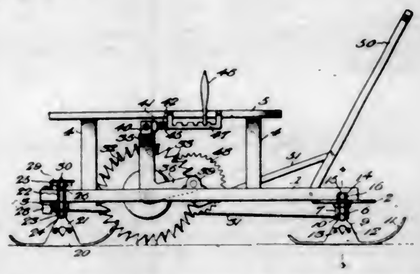
5. In combination, a principal tape, a hook on one end thereof and a weight upon the other, a secondary tape swinging on said principal, sliding pieces on said principal, and other tapes swinging on such sliding pieces, hooks on said sliding pieces and markers upon the tapes adapted to be moved along the same to the place to be marked, substantially as described.

869,170. SLED. ROBERT E. FOOTE, Harvey, Ill. Filed Dec. 29, 1906. Serial No. 350,084.

1. In a sled, the combination of a main frame provided with runners, a propelling wheel, a vertically movable swinging frame carrying the propelling wheel, an adjusting lever for raising and lowering the swinging frame, a rod or bolt pivoted to the lever and slidably and pivotally connected with the swinging frame, a spring surrounding the bolt and exerting pressure on the swinging frame, and means for locking the lever in a variety of adjusted positions.

2. In a sled, the combination of a frame, tilting runners at the rear of the frame, a swinging axle at the front of the frame, tilting steering runners carried by the axle, means for tilting said steering runners as the axle swings, and a connection between the front axle and rear tilting runners to effect the tilting of the latter.

3. In a sled, the combination of a frame, tilting runners at the rear of the frame, a swinging axle at the front of the frame, levers for swinging the axle, said levers being pivotally connected with said axle, front steering runners pivotally connected with the axle and levers, guiding means for the levers for tilting said steering runners as the axle swings, and means for imparting motion from the front axle to the rear tilting runners to effect the tilting of the latter.



4. In a sled, the combination of a frame having cam slots at the front thereof, tilting runners at the rear of the frame, a swinging axle at the front of the frame to the axis of which the slots are eccentrically arranged, steering runners pivotally mounted on the axle, steering levers pivotally connected with the runners and having portions sliding in said slots, whereby the levers when moved to turn the axle will be shifted to tilt said steering runners, and connections between the front axle and rear runners to tilt the latter with the steering runners.

5. In a sled, the combination of a frame, a front axle carrying tilting runners, means for swinging said axle and simultaneously tilting the runners, tilting rear runners, a sliding rod connecting the rear runners, a bell crank lever operatively connected with said rod to shift the same, and an operating connection between said lever and the front axle.

6. In a sled, the combination of a main frame provided with runners, a propelling wheel, a swinging yoke carrying the propelling wheel, said yoke having its cross bar upwardly disposed, a lever arranged to swing longitudinally of the frame, a rod or bolt pivotally connected with the lever and slidably and pivotally connected with the head of the yoke, a spring surrounding the bolt and exerting pressure on the swinging frame for tilting the latter downwardly, and means for locking the lever in a variety of adjusted positions.

7. In a sled, the combination of a main frame provided with runners, a propelling wheel, a vertically swinging yoke-shaped frame having its cross bar upwardly disposed, said frame being provided with angular arms pivoted upon the main frame, an adjusting lever movable longitudinally of the main frame for raising and lowering the swinging frame, a rod or bolt pivoted to the lever and slidably and pivotally connected with the head of the swinging frame, a spring surrounding the bolt and exerting pressure on the swinging frame to force the same downwardly and rearwardly, and means for locking the adjusting lever in a variety of positions.

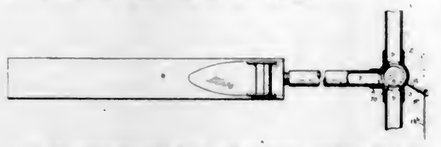
8. In a sled, the combination of a main frame provided with runners, a propelling wheel, a yoke-shaped frame carrying said propelling wheel, said frame having its head portion or cross bar upwardly disposed and being provided at its lower end with forwardly projecting arms pivoted on the main frame, an adjusting lever arranged to swing longitudinally of the main frame for raising and lowering the swinging frame, a rod or bolt pivoted to the lever and slidably and pivotally connected with the swinging frame, a spring surrounding the bolt and exerting pressure on the swinging frame to force the latter downwardly and rearwardly, and means for locking the lever in a variety of adjusted positions.

9. A sled provided with front and rear sets of laterally tilting runners, swinging means for tilting the front set of runners, sliding means for tilting the rear set of runners, and an operative connection between said swinging and sliding means.

10. A sled provided with front and rear sets of laterally tilting runners, swinging means for tilting the front set of runners, guiding means associated with said swinging means for moving the front runners in a determined path, sliding means for tilting the rear set of runners, and an operative connection between said swinging tilting means and the sliding tilting means, whereby the sets of runners are adapted to be tilted in unison.

11. A sled provided with front and rear sets of laterally tilting runners, swinging means for tilting the front set of runners, sliding means for tilting the rear set of runners, a bell crank lever for operating the sliding means, and a connecting rod between said swinging means and bell crank lever, whereby the two sets of runners are adapted to be tilted in unison.

869,171. VALVE. CLAUD H. FOSTER, Cleveland, Ohio. Filed Oct. 1, 1906. Serial No. 336,956.



1. The combination, with the exhaust pipe of an explosive engine, of a valve casing or tee in said pipe, and a rotary valve body in said tee or casing having an inlet port and an outlet port, the wall of said valve body being provided with cutting edges adjacent said ports, and a removable stop for limiting the rotation of said body, substantially as specified.

2. The combination, with a fluid supply pipe, of a rotary valve body therein having an outlet port, the wall of the valve body adjacent said port being provided with a cutting edge, means for rotating said valve, and a removable stop for limiting such rotation, substantially as specified.

3. The combination, with a fluid supply pipe, of a rotary valve therein comprising a casing and a hollow valve body having one or more ports, said valve body being provided with a cutting edge, means for rotating said body, and a removable stop for limiting such rotation, substantially as specified.

4. The combination of a main fluid supply pipe, a branch pipe connected thereto, and a rotary valve at the junction of said pipes, said valve comprising a casing and a valve body having therein two ports, one of said ports being substantially 180 degrees in width and the other being of sufficient width to register with the branch pipe connection and the exhaust branch of the supply pipe, the interior of said valve body being substantially cylindrical, substantially as specified.

5. A valve for exhaust pipes of automobiles and the like, said valve comprising a cylindrical casing having an inlet connection and a pair of outlet connections, a rotary cylindrical valve body in said casing, said valve body having ports extending substantially the length thereof, one of said ports being substantially 180 degrees in width and the other being of a width to register fully with either of the outlet connections, heads closing the ends of the valve body, one of said heads engaging the outer surface of the casing and having a flange projecting inwardly therefrom and fitting the valve casing, said flange terminating short of the bore of the inlet connection, substantially as specified.

6. A valve for exhaust pipes of automobiles and the like, said valve comprising a cylindrical casing having an inlet connection and a pair of outlet connections, a rotary valve body in said casing, said valve body having ports extending substantially the length thereof, one of said ports being substantially 180 degrees in width and the other being of a width to register fully with either of the outlet connections, heads closing the ends of the valve body, and a flange projecting inwardly from one of said heads into each of said ports and fitting the valve casing, said flange terminating short of the bores of the valve casing connections, substantially as specified.

7. The combination with a fluid supply pipe, of a tee or casing having an inlet branch and a pair of outlet branches, said outlet branches being separated by a narrow partition, a cylindrical rotary valve body in said tee or casing, a horn connected with one of said outlet branches, said valve body having a port substantially 180 degrees in width and a port opposite the former port and of sufficient width to register with either or both of the exhaust connections, and means for rotating said valve, substantially as specified.

8. The combination of a tee or casing having a valve seat therein and provided with an inlet connection and a pair of outlet connections, a valve in said tee or casing having a wide inlet port and a single outlet port adapted to communicate with either of said outlet connections, means for rotating said valve in one direction, means connected with said valve and adapted to rotate the same in the opposite direction, and stop mechanism arranged to limit the rotation of the valve in either direction, substantially as specified.

9. The combination of a tee or casing having a valve seat therein provided with an inlet connection and a pair of outlet connections, a rotary valve body therein having an inlet port and an outlet port adapted to register with either of the outlet connections, said valve body having at one end a head provided with stop shoulders, a pin carried by said casing and projecting between said shoulders, a spring support carried by the central portion of said head, a spring on said support and having one end engaging said pin, a second pin projecting from said head and engaged by the other end of said spring, and means for rotating said valve against the action of said spring, substantially as specified.

10. The combination of a tee or casing having a valve seat therein provided with an inlet connection and a pair of outlet connections, a rotary valve body therein having an inlet port and an outlet port adapted to register with either of the outlet connections, means for rotating said valve in one direction, a pin on the casing, stops carried by the valve body for limiting the movement of said valve in either direction, and a spring connected with said valve and engaging said pin for rotating the valve in the opposite direction from the rotating means, substantially as specified.

11. The combination, with the exhaust pipe of an explosive engine, of a branch pipe connected thereto, and a valve at the junction of said pipes, said valve comprising a casing having an inlet port and an outlet port adapted to discharge fluid into the branch pipe, and a rotary hollow valve body in said casing having a port for the reception of fluid from the exhaust pipe and an outlet port, the wall of said body adjacent said outlet port being provided with a cutting edge, substantially as specified.

12. The combination of a main fluid pipe, of a branch pipe connected thereto, and a rotary valve at the junction of said pipes, said valve having therein two ports, said ports being so proportioned and arranged relatively to said pipes that one of them may be in continuous communication with the inlet side of the main pipe while the other is in position to divert the fluid into either the branch pipe, the outlet side of the main pipe, or into both, without materially impeding the flow of the fluid through said valve, substantially as specified.

13. The combination of a tee having a valve seat therein, an engine exhaust pipe comprising an inlet branch and two outlet branches communicating with said tee, a rotary valve body in said tee, said valve body having two ports therein, said ports being so proportioned and located with reference to the inlet and outlet branches that one of said ports may be in continuous communication with the inlet branch while the other port is in communication with either, or both, of the outlet branches, and means for rotating said valve, substantially as specified.

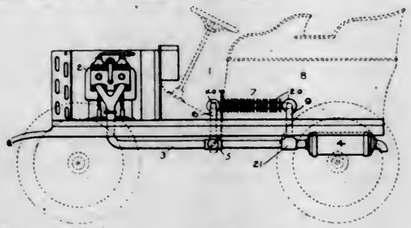
14. The combination of a tee having oppositely arranged inlet and outlet connections and an intermediate branch connection adjacent said outlet connection with a

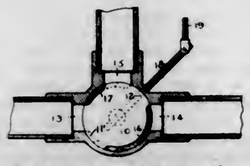
narrow partition therebetween, a valve body in said tee having two ports therein, said ports being so located and proportioned that one of them is in continuous communication with the inlet connection while the other is in communication with the branch connection, the outlet connection, or both, and means whereby said valve may be rotated, substantially as specified.

15. The combination with the exhaust pipe of an engine, of a tee in said pipe, said tee having connections for the inlet and outlet portions of such pipe and a connection intermediate of said former connections, a rotary valve in said tee, said valve having two ports therein, said ports being so proportioned and arranged that one of them will be in continuous communication with the inlet connection of the tee while the other is in communication with either the outlet connection, the intermediate connection, or both, and means for limiting the movement of said valve to prevent the latter port from being moved to any other position than to communicate with either or both of its connections, substantially as specified.

16. The combination of a tee having a valve seat therein and having oppositely arranged inlet and outlet connections for fluid and a branch connection intermediate of said first-mentioned connections, a rotary valve within said tee having at one end a plate engaging the casing of the tee, said plate having a slot therein, a pin projecting from said casing into said slot, said valve being provided with two ports, the relative sizes and arrangement of such ports and slot being such that, when the pin is in engagement with the plate at one end of the slot, one of said ports is in communication with the outlet connection of the tee, and when the pin is in engagement with the slot at the other end of the plate said port is in communication with the intermediate connection, the other port being in communication with the inlet connection for both positions of the former port, substantially as specified.

869,172. MEANS FOR HEATING AUTOMOBILES AND THE LIKE. CLAUD H. FOSTER, Cleveland, Ohio. Filed Dec. 26, 1906. Serial No. 349,398.





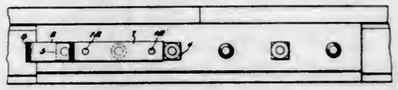
1. The combination of an engine, an exhaust pipe therefor, a muffler, a heater, an inlet pipe or connection extending between said heater and said exhaust pipe, an outlet pipe or connection establishing communication between said heater and the muffler, and a valve at the junction of the inlet pipe or connection and the exhaust pipe, said valve having an outlet port adapted to register either partly or wholly with said inlet pipe and the portion of the exhaust pipe leading to the muffler and having an elongated inlet port adapted to register continuously with the portion of the pipe extending toward the engine while the outlet port is in communication with either or both of its pipes, substantially as specified.

2. The combination of an engine, an exhaust pipe therefor comprising two sections, a muffler, a tee having its opposite branches rotatably fitted to the exhaust sections, a heater having an inlet and an outlet pipe or connection, the former being detachably connected with the third branch of the tee and the latter communicating with the muffler, and a valve in said tee adapted in one position to divert the exhaust gases through the third branch of the tee and in another position to discharge such gases directly into the pipe section extending to the muffler, substantially as specified.

3. In an automobile, the combination of an engine, an exhaust pipe, a muffler, a heater, an inlet pipe extending between said exhaust pipe and heater, an outlet pipe extending between said heater and exhaust pipe, and a valve at the junction of the inlet pipe and the exhaust pipe, said valve having an outlet port adapted to register either partly or wholly with the said inlet pipe and the portion of the exhaust pipe leading to the muffler and an elongated inlet port adapted to register continuously with the portion of the pipe extending toward the engine while the outlet port is in communication with either or both of its pipes.

4. In an automobile, the combination of an engine, an exhaust pipe comprising two sections, a muffler, a tee having its opposite branches rotatably fitted to the exhaust pipe sections, a heater having an inlet and an outlet pipe or connection, the former being detachably connected with the third branch of the tee and the latter being detachably conected to the exhaust pipe at a point between the tee and the muffler, and a valve in said tee adapted in one position to divert the exhaust gases through the third branch of the tee and in another position to discharge such gases directly into the pipe section extending to the muffler.

869,173. NUT-LOCK. HARVEY T. FOWLER, Schell City, Mo. Filed Jan. 30, 1907. Serial No. 354,918.



1. A nut lock for fish plate connections, comprising a locking bar to engage spaced nuts of such connection and engage and conceal the head of an intermediate connecting member, and a holding member engaging the locking bar and engaged between the fish plate and the rail web.

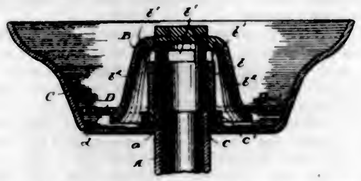
2. A nut lock for fish plate connections, comprising a locking bar to engage spaced nuts of such connection and engage and conceal the head of an intermediate connecting member, and a spring holding member overlying and secured to said bar throughout the length of the latter, said member having a spring tongue for engagement between the fish plate and the rail web.

3. A nut lock for fish plate connections comprising a locking bar to engage the proximate edges of spaced nuts of said connections, said bar being formed with a recess to receive the head of an intermediate connection, and a holding member secured to the locking bar, the holding member overlying and extending the full length of the locking bar, said member having a spring tongue adapted to be inserted between the fish plate and rail web.

869,174. TRAP FOR LIQUIDS. MAURICE GOLDFEIN, Cleveland, Ohio, assignor of one-half to The Central Brass Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed May 25, 1907. Serial No. 375,638.

1. In a trap for liquids, the combination of a waste pipe, a trap member, and a receptacle, said trap member and receptacle being threaded one upon the other and upon said waste pipe so as to prevent the independent removal of said member from said receptacle.

2. In a trap for liquids, the combination of a waste pipe, a trap member threaded upon said waste pipe, and a receptacle for laterally inclosing said trap member, said receptacle being threaded upon said member whereby removal of the latter from said waste pipe independently of said receptacle is prevented.

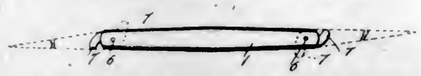


3. In a trap for liquids, the combination of an exteriorly threaded waste pipe, a sleeve threaded thereon, the upper end of said sleeve being open, a cap of inverted cup-shape surmounting said sleeve and inseparable therefrom and an open receptacle exteriorly threaded upon said sleeve and laterally inclosing the same together with said cup.

4. In a trap for liquids, the combination of a waste pipe having its upper end exteriorly screw threaded, a sleeve mounted upon such waste pipe end and having its upper lateral portion perforated, a cap of inverted cup-shape surmounting said sleeve and integral therewith, and an open receptacle exteriorly threaded upon said sleeve and laterally inclosing the same together with said cap.

5. In a trap for liquids, the combination of a waste pipe having its upper end exteriorly screw threaded, a sleeve mounted upon such waste pipe end and having its upper lateral portion perforated, a cap of inverted cup-shape surmounting said sleeve and integral therewith, said cap bearing an integral nut on its top, a receptacle exteriorly threaded upon said sleeve and laterally inclosing the same together with said cap, and an annular perforated plate removably supported between the outer face of said cap and the inner face of said receptacle.

869,175. TOOTHPICK. PETER GORUT, Fulton Chain, N. Y. Filed Apr. 3, 1907. Serial No. 366,202.



1. A handle member consisting of an integral piece of material having an incision or kerf extending from one end in the direction of the opposite end of said member, and dividing the end of the handle member from which it extends to form spaced ears, in combination with a blade pivoted between said ears, said blade being of dimensions to accurately fit and completely fill the kerf or recess whereby, when said blade is folded within the recess, adhering material will be wiped therefrom.

2. A handle member consisting of an integral piece of material having an incision or kerf extending from one end in the direction of the opposite end thereof and dividing the end of the handle to form spaced ears, in combination with a blade pivoted between said ears and provided at its butt end with a lug or extension of arcuate shape extending beyond the handle when the blade is folded and adapted to engage the shoulder or solid portion of the handle adjacent to the spaced ears when the blade is extended, said blade being of dimensions to accurately fit and completely fill the kerf or recess whereby, when the blade is folded within the recess, adhering material will be wiped therefrom.

3. A handle provided with kerfs extending from each end in the direction of the opposite end, said kerfs serving to divide the ends of the handle to form spaced ears, and said kerfs being separated by an obliquely disposed integral web, in combination with blades pivoted between the ears at the ends of the handle and having arcuate lugs or extensions that normally project beyond the ends of the handle when the blades are folded within the kerfs and engage the shoulders or solid portions at the ends of the integral web when the blades are extended.

869,176. PAINT-REMOVER AND PROCESS OF MAKING THE SAME. FRANCIS X. GOVERS, Owego, N. Y. Filed Aug. 9, 1907. Serial No. 387,831.

1. The process of producing a paint and varnish remover which comprises mixing a phenol with one of the lower alcohols and with an aromatic hydrocarbon and in then dissolving casein in the mixture with the aid of a small amount of a liquid fatty acid.

2. The process of producing a paint and varnish remover which comprises mixing cresylic acid with an aromatic hydrocarbon and with one of the lower alcohols, and in then dissolving casein in the mixture with the aid of a small amount of a liquid fatty acid.

3. The process of producing a paint and varnish remover which comprises mixing cresylic acid with toluol and methyl alcohol, and in then dissolving casein in the mixture with the aid of a small amount of a liquid fatty acid.

4. The process of producing a paint and varnish remover which comprises mixing cresylic acid with toluol and methyl alcohol and in then dissolving casein in the mixture with the aid of a small amount of concentrated formic acid.

5. The process of producing a paint and varnish remover which comprises mixing a phenol with an aromatic hydrocarbon and a lower alcohol, mixing casein with the mixture, acidulating said mixture with a small amount of a liquid fatty acid to cause a solution of the casein, and dissolving the casein.

6. As a paint and varnish remover, a thick mixture of a phenol, an aromatic hydrocarbon and one of the lower alcohols in about equal proportions, said remover containing about 10 per cent. of dissolved casein as a colloiding agent and a little liquid fatty acid.

7. As a paint and varnish remover, a thick mixture of cresylic acid, an aromatic hydrocarbon and one of the lower alcohols in about equal proportions, said remover containing about 10 per cent. of dissolved casein as a colloiding agent and a little liquid fatty acid.

8. As a paint and varnish remover, a thick mixture of cresylic acid, toluol and one of the lower alcohols in about equal proportions, said remover containing about 10 per cent. of dissolved casein as a colloiding agent and a little liquid fatty acid.

9. As a paint and varnish remover, a thick mixture of cresylic acid, toluol and methyl alcohol in about equal proportions, said remover containing about 10 per cent. of dissolved casein as a colloiding agent and a little liquid fatty acid.

10. As a paint and varnish remover, a thick mixture of cresylic acid, toluol and methyl alcohol in about equal proportions, said remover containing about 10 per cent. of dissolved casein as a colloiding agent and a little concentrated formic acid.

869,177. WATERPROOF GARMENT. BRUCE C. HATHAWAY, Boulder, Ill. Filed June 18, 1906. Serial No. 322,182.



1. A waterproof garment comprising overlapping sleeve-like portions and means for detachably connecting them, said means comprising a supporting ring inside of the inner portion and a split band around the outer portion, the ends of said band being arranged to overlap and being provided with means for tightening the band, said tightening means comprising a slotted link pivotally mounted on one end of said band and a notched locking lever pivoted

on the other end of said band and arranged to coöperate with said link.

2. A waterproof garment comprising overlapping sleeve-like portions and means for detachably connecting them, said means comprising a supporting ring inside of the inner portion and a split band around the outer portion, the ends of said band being arranged to overlap and being provided with means for tightening said band, said tightening means comprising a slotted link pivotally mounted on one end of said band and a notched locking lever pivoted on the other end of said band and arranged to coöperate with said link, the pivot point of said locking lever being further from the normal surface of the band than said link.

3. A waterproof garment comprising overlapping sleeve-like portions and means for detachably connecting them, said means comprising a supporting ring inside of the inner portion and a split band around the outer portion, the ends of said band being arranged to overlap and being provided with means for tightening said band, said tightening means comprising a curved slotted link pivotally mounted on one end of said band and a curved notched locking lever pivoted on the other end of said band and arrange to coöperate with said link, the pivot point of said locking lever being further from the normal surface of the band than said link, and said link and said lever being arranged to lie substantially parallel with the outer surface of said band.

869,178. RAILROAD-TIE. SAMUEL S. HARPER, Philadelphia, Pa., assignor to The Harper Railway Tie Company, a Corporation of South Dakota. Filed Dec. 22, 1903, Serial No. 186,147. Renewed Mar. 16, 1907. Serial No. 362,729.



1. A railway tie formed of concrete, with an internal hollow metallic strengthening member, the concrete within the strengthening member being cored out through part of the length of the tie a portion not being cored out.

2. A railway tie formed of concrete, with an internal hollow metallic strengthening member, the concrete within the strengthening member being cored out through part of the length of the tie, and solid below the rails.

3. A railway tie formed of concrete, with a rail securing clip, the said clip being formed of sheet metal and having integral ears, the said ears being capable of being bent over the flanges of the rail and into contact therewith, and constitute the holding means for the rail.

4. A railway tie formed of concrete, with a rail-securing clip, the said clip having securing members which pass around the tie.

5. A railway tie formed of concrete, with a rail-securing clip, the said clip having integral ears for attachment of the rail, and securing members, which pass around the tie.

6. A railway tie formed of concrete, with an internal hollow metallic member, the said member being of comparatively large size.

7. A railway tie formed of concrete, with an internal hollow metallic strengthening member and a rail-securing clip, the said clip having securing members which pass around the tie.

8. A railway tie formed of concrete, with an internal hollow metallic member, the said member having lips, for attachment of the concrete.

9. A railway tie formed of concrete, with an internal hollow metallic member, the said member having lips, for attachment of the concrete, the lips adjacent to the corners of the tie being larger than those adjacent to the side.

10. A railway tie formed of concrete, with a rail-securing clip, the said clip having securing members, and a depending ear, which is embedded within the concrete, the said ear being parallel to the rail.

11. A railway tie formed of concrete, with a rail-securing clip, the said clip having securing members for the rail, bands, which surround the tie, on one side of the clip, and a depending ear on the other side, said ear being inserted within the concrete.

12. A railway tie having a rail securing clip, the said clip having integral rail securing ears, which are corrugated and capable of being bent over the flange of the rail and into contact therewith, the said ears constituting the securing means for the rail.

13. A railway tie formed of concrete with a rail securing clip, the said clip having securing members for the rail, and a securing band surrounding the tie.

14. A railway tie formed of concrete with a rail securing clip, the said clip having securing members for the rail, and a securing band surrounding the tie, the band being formed integrally with the clip.

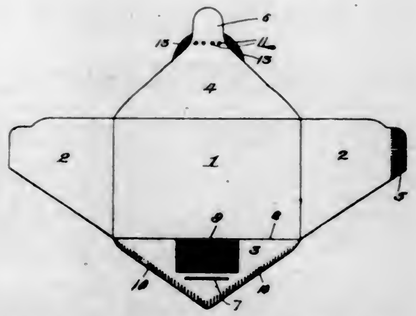
15. A railway tie formed of concrete with a rail securing clip, the said clip having securing members, and a securing band which surrounds the tie and is embedded therein.

16. A railway tie formed of concrete with a rail securing clip, the said clip having securing members and a securing band which surrounds the tie and is embedded therein the band being integral with the clip.

17. A railway tie formed of concrete, with a rail securing clip, the said tie being hollow for a portion of its length and solid adjacent to the clip, the said clip having a securing band surrounding the tie coincident to the solid portion.

18. A railway tie formed of concrete with a rail securing clip, the said tie being hollow for a portion of its length and solid adjacent to the clip, the said clip having securing members for the rail and a securing band surrounding the tie coincident to the solid portion.

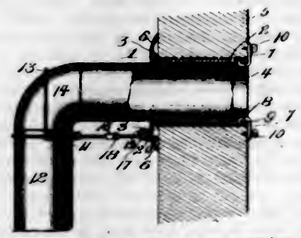
869,179. ENVELOP. HARRY HEFFNER, Warren, Ohio. Filed Feb. 28, 1907. Serial No. 359,752.



1. An envelop comprising a body having end flaps, a bottom flap provided with a slot and having a gummed portion intermediate the slot and body and gummed along its edges for adhering to the side flaps, a top flap having a central tongue arranged to enter the slot of the bottom flap and adhere to the gummed portion thereof, there being perforations between the tongue and top flap to render the tongue readily tearable, and a seal on the outside of the top flap to cover the perforations between the latter and tongue and having its edges free and extending beyond the top flap to adhere to the side and bottom flaps.

2. An envelop comprising a body having end flaps, a bottom flap gummed along its edges and having a central gummed portion and provided with a slot between the gummed edges and said portion, a top flap, a tongue attached thereto and arranged to enter the slot of the bottom flap and adhere to the gummed portion thereof, and a seal secured to the outside of the top flap and having portions adapted to adhere to the outside of the end and bottom flaps.

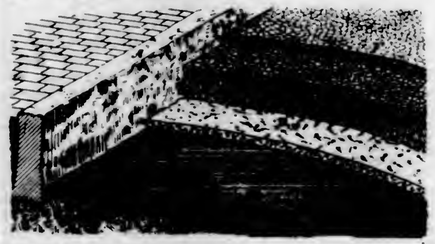
869,180. STOVEPIPE ATTACHMENT. HARRY HEFFNER, Warren, Ohio. Filed Apr. 6, 1907. Serial No. 366,801.



1. A holder comprising a ring, a loop member projecting at right angles therefrom, a connecting strand projecting from the ring and including a terminal section, a clamp member secured upon said strand, and means carried by the clamp member for adjustably engaging the terminal section, whereby to provide a securing loop at the terminal of the strand.

2. A holder comprising a ring, a loop member projecting at right angles therefrom, a connecting strand projecting from the ring and including a terminal section, a clamp member secured upon said strand, and means carried by the clamp member for adjustably engaging the terminal section, whereby to provide a securing loop at the terminal of the strand, in combination with a flue thimble, a hook member carried thereby and adapted to receive the strand loop, and means for securing the thimble in place.

869,181. CONSTRUCTING OR PAVING STREET, ROAD, AND OTHER WAYS. JOHN D. HENDERSON, Everett, Mass., assignor to Henderson Trapo-Crete Company, Boston, Mass., a Corporation of Massachusetts. Filed Mar. 14, 1906. Serial No. 306,065.



A roadway constructed of a suitably prepared sub-graded foundation; a binder-layer composed of clay and gravel or hard-pan one inch or so in thickness on said foundation; a layer composed of broken or crushed stone or macadam four inches or so in thickness on, and rolled or otherwise suitably worked into and intermingled with said binder-layer; a layer composed of broken and crushed stone the pieces of which are two and one half inches or so in size evenly disposed on said intermingled layers, and a layer composed of a mixture of pea or other such like small stones and tar or bitumen, both of which before being mixed and laid have been heated, and that is rolled or otherwise suitably worked into and made to fill the voids between the pieces of said broken or crushed stone and to present and to constitute such stones as the wearing surface of the roadway, all substantially as described.

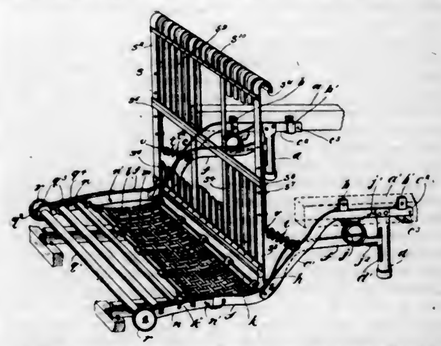
869,182. CROSSCUT-SAW. JOSEPH V. HOTCHKISS, Webster City, Iowa, assignor of one-half to Christian F. W. Buente, Webster City, Iowa. Filed Jan. 29, 1907. Serial No. 354,709.

1. A saw blade having obtuse angular cutting teeth arranged in pairs and having all the sides thereof slanting in one direction, of a greater slant than the sides slanting in the other direction, and pairs of oppositely disposed combined cutting and raking teeth alternating with said pairs of cutting teeth separated from each other by relatively deep notches, the sides of said notches being disposed perpendicularly to the axial line of the saw blade and also perpendicular to the flat faces of said saw blade, the cutting edges of the combined cutting and raking teeth being laterally beveled in relatively reverse directions and the cutting edges of the cutting teeth being also laterally beveled in relatively reverse directions.



2. A saw blade having obtuse angular cutting teeth arranged in pairs and having all of the sides thereof slanting in one direction, of a greater slant than the sides slanting in the opposite direction, pairs of combined cutting and raking teeth alternating with said pairs of cutting teeth, the extreme outside sides being of equal and opposite slant, and relatively deep notches separating the teeth of said pairs of combined cutting and raking teeth, the side faces thereof being perpendicular to both the axial line of the saw blade and the flat faces thereof, the cutting edges of the combined cutting and raking teeth being laterally beveled in relatively reverse directions and the edges of the cutting teeth being also laterally beveled in relatively reverse directions.

869,183. CAR-FENDER. HENRY C. JORDAN, Portland, Oreg., assignor, by direct and mesne assignments, of one-fourth to Joseph C. Griffith, seven-sixteenths to John Wesley Hurley, and one-sixteenth to James N. Sutton, Portland, Oreg. Filed Mar. 4, 1907. Serial No. 360,579.



1. The combination with a car of carrier arms affixed to the sills thereof, a fender frame pivotally supported by the carrier-arms, said fender-frame being arranged to project forward of the car, a basket-like guard on said forward end, wheels on the front end of the fender-frame, means, connected to the inner ends of the fender-frame, adapted to normally hold the forward end thereof clear of the road surface, until a weight is thrown thereon, and means adapted to restrain the oscillation of the fender-frame on its axis.

2. The combination with a car of carrier-arms affixed to the sills thereof, hollow pendent guides on the ends of the carrier-arms and made with vertical slots, a fender-frame comprising longitudinal members pivotally supported by the carrier-arms, the rear ends of said frame-members being inserted in said slots of the pendent guides, wheels on the front end of the fender-frame, a basket-like guard

carried by the forward end of the fender-frame, coil-springs in said pendent guides, above and below the inserted ends of said frame-members, whereby the vertical oscillation of the latter on their axis is restrained, and coil-springs connecting said inner ends of the frame-members to the carrier-arms and arranged to normally hold the forward end of the fender-frame clear of the road surface.

3. The combination with a car of carrier-arms affixed to the sills thereof, hollow pendent guides on the rear ends of the carrier-arms and made with vertical slots, a fender-frame comprising longitudinal members pivotally supported by the carrier-arms, the rear ends of said frame-members being inserted in said slots of the pendent guides, and the forward end of the fender-frame projecting forward of the car, wheels on the front end of the fender-frame, a basket-like guard carried by said forward end, coil-springs in said pendent guides, above and below the inserted ends of said frame-members, whereby the vertical oscillation of the latter on their axis is restrained, and coil-springs connecting said inner ends of the frame-members with the carrier-arms and arranged to normally hold the forward end of the fender-frame clear of the road surface.

4. The combination with a car of carrier-arms affixed to the sills thereof, hollow pendent guides on the rear ends of the carrier-arms and made with vertical slots, a fender-frame comprising longitudinal members pivotally supported by the carrier-arms, the rear ends of said frame-members being inserted in said slots of the pendent guides, and the forward end of the fender-frame projecting forward of the car, wheels on the front end of the fender-frame, a basket-like guard carried by said forward end, coil-springs in said pendent guides, above and below the inserted ends of said frame-members, whereby the vertical oscillation of the latter on their axis is restrained, and coil-springs connecting said inner ends of the frame-members with the carrier-arms and arranged to normally hold the forward end of the fender-frame clear of the road surface, a series of axles transversely journaled in the front ends of the fender-frame, ball-bearings on the axle ends, tubular rollers supported at their ends on the ball-bearings, a resilient friction covering for the tubular rollers, and means restraining said rollers against rotation, otherwise than upward and inward.

5. The combination with a car of carrier-arms affixed to the sills thereof, hollow pendent guides on the rear ends of the carrier-arms and made with vertical slots, a fender-frame comprising longitudinal members pivotally supported by the carrier-arms, the rear ends of said frame-members being inserted in said slots of the pendent guides, and the forward end of the fender-frame projecting forward of the car, wheels on the front end of the fender-frame, a basket-like guard carried by said forward end, coil-springs in said pendent guides, above and below the inserted ends of said frame-members, whereby the vertical oscillation of the latter on their axis is restrained, coil-springs connecting said inner ends of the frame-members with the carrier-arms and arranged to normally hold the forward end of the fender-frame clear of the road surface, a series of axles transversely journaled in the front end of the fender-frame, ball-bearings on the axle ends, tubular rollers supported at their ends on the ball-bearings, a resilient friction covering for the tubular rollers, and means restraining said rollers against rotation, otherwise than upward and inward, the forward frame section in which said rollers are journaled, being jointed to the main frame so that the former may be folded back out of the way.

6. The combination with a car of carrier-arms affixed to the sills thereof, hollow pendent guides on the rear ends of the carrier-arms and made with vertical slots, a fender-frame comprising longitudinal members pivotally supported by the carrier-arms, the rear ends of said frame-members being inserted in said slots of the pendent guides, and the forward end of the fender-frame projecting forward of the car, wheels on the front end of the fender-frame, a basket-like guard carried by said forward end, coil-springs in said pendent guides, above and below the inserted ends of said frame-members, whereby the vertical oscillation of the latter on their axis is restrained, coil-springs connecting said inner ends of the frame-members with the carrier-arms and arranged to normally hold the forward end of the fender-frame clear of the road surface, a series of axles transversely journaled in the front end of the fender-frame, ball-bearings on the axle ends, tubular rollers supported at their ends on the ball-bearings, a resilient friction covering for the tubular rollers, and means restraining said rollers against rotation, otherwise than upward and inward, the forward frame section in which said rollers are journaled, being jointed to the main frame so that the former may be folded back out of the way, a vertical cushion-frame hinged to the main fender-frame rearward of said basket-like guard, telescoping spring-controlled rods arranged to normally hold the upper end of the cushion-frame away from the breast of the car, and connections between said upper ends of the cushion-frame and the car.

7. The combination with a car of carrier-arms affixed to the sills thereof, hollow pendent guides on the rear ends of the carrier-arms and made with vertical slots, a fender-frame comprising longitudinal members pivotally supported by the carrier-arms, the rear ends of said frame-members being inserted in said slots of the pendent guides, and the forward end of the fender-frame projecting forward of the car, wheels on the front end of the fender-frame, a basket-like guard carried by said forward end, coil-springs in said pendent guides, above and below the inserted ends of said frame-members, whereby the vertical oscillation of the latter on their axis is restrained, coil-springs connecting said inner ends of the frame-members with the carrier-arms and arranged to normally hold the forward end of the fender-frame clear of the road surface, a series of axles transversely journaled in the front end of the fender-frame, ball-bearings on the axle ends, tubular rollers supported at their ends on the ball-bearings, a resilient friction covering for the tubular rollers, and means restraining said rollers against rotation, otherwise than upward and inward, the forward frame-section in which said rollers are journaled, being jointed to the main frame so that the former may be folded back out of the way, a vertical cushion-frame hinged to the main fender-frame rearward of said basket-like guard, telescoping spring-controlled rods arranged to normally hold the upper end of the cushion-frame away from the breast of the car, said cushion-frame comprising a plurality of vertical bars, the upper ends of which are connected to each other and curved back in the form of a bow, and adapted to impinge upon the breast of the car, and connections between the latter and such curved bar ends.

8. The combination with a car of carrier-arms affixed to the sills thereof, hollow pendent guides on the rear ends of the carrier-arms and made with vertical slots, a fender-frame comprising longitudinal members pivotally supported by the carrier-arms, the rear ends of said frame-members being inserted in said slots of the pendent guides, and the forward end of the fender-frame projecting forward of the car, wheels on the front end of the fender-frame, a basket-like guard carried by said forward end, coil-springs in said pendent guides, above and below the inserted ends of said frame-members, whereby the vertical oscillation of the latter on their axis is restrained, and coil-springs connecting said inner ends of the frame-members with the carrier-arms and arranged to normally hold the forward end of the fender-frame clear of the road surface, a series of axles transversely journaled in the front ends of the fender-frame, ball-bearings on the axle ends, tubular rollers supported at their ends on the ball-bearings, a resilient friction covering for the tubular rollers, and means restraining said rollers against rotation, otherwise than upward and inward, a vertical cushion-frame hinged to the main fender-frame rearward of the basket-like guard, said cushion-frame comprising lower and upper sections, and the latter being removably supported by the lower section, and said cushion-frame further comprising a plurality of vertical bars, the upper ends of which are connected and curved back in the form of a bow and adapted to impinge upon the breast of the car, telescoping spring-controlled rods arranged to normally hold the cushion-frame away from the breast of the car, and connections between the latter and said curved bar ends.

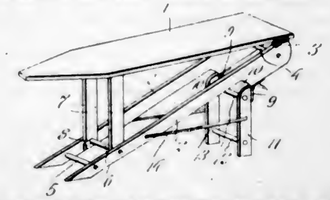
9. A car fender comprising a longitudinally pivoting frame, the front end of which is inclined, a series of axles transversely journaled in such front end, ball-bearings on the axle ends, tubular rollers supported at their ends upon the ball-bearings, a resilient friction covering for the tubular rollers, means restraining said rollers against rotation, otherwise than upward and inward, means normally holding the front end of the fender above the road surface, but adapted to allow the same vertical movement upon impact, a basket-like guard rearward of the rollers, and wheels arranged to support the front end of the fender while holding a body.

10. A car fender comprising a longitudinally pivoting frame, the front end of which is inclined, a series of axles transversely journaled in such front end, ball-bearings on the axle ends, tubular rollers supported at their ends upon the ball-bearings, a resilient friction covering for the tubular rollers, means restraining said rollers against rotation, otherwise than upward and inward, means normally holding the front end of the fender above the road surface, but adapted to allow the same vertical movement upon impact, a basket-like guard rearward of the rollers, and wheels made with conical exterior faces and convexed rims, arranged to support the front end of the fender-frame while holding a body.

11. The combination with a car of carrier-arms affixed to the sills thereof, hollow pendent guides on the rear ends of the carrier-arms and made with vertical slots, a fender-frame comprising longitudinal members pivotally supported by the carrier-arms, the rear ends of said frame-members being inserted in said slots of the pendent guides, and the forward end of the fender-frame projecting forward of the car, wheels on the front-end of the fender-frame arranged to support the same while holding a body, said wheels being made with conical exterior faces and convexed rims, whereby the same are adapted to climb over projections on the road surface, a basket-like guard carried by said forward end of the fender, coil-springs in said pendent guides, above and below the inserted ends of said frame-members, whereby the vertical oscillation of the latter on their axis is restrained, coil-springs connecting said inner ends of the frame-members with the carrier-arms and arranged to normally hold the forward end of the fender-frame clear of the road surface, a series of axles transversely journaled in the front ends of the fender-frame, ball-bearings on the axle ends, tubular rollers supported at their ends on the ball-bearings, a resilient friction covering for the tubular rollers, means restraining said rollers against rotation, otherwise than upward and inward, a vertical cushion-frame hinged to the main fender-frame, rearward of the basket-like guard, said cushion-frame comprising lower and upper sections, and the latter being removably supported by the former, and said cushion-frame further comprising a plurality of vertical bars made of resilient material, the upper ends of which are connected and curved back in the form of a bow, thereby adapting the same to impinge upon the breast of the car, telescoping spring-controlled rods arranged to normally hold the cushion-frame away from the breast of the car, connections between the latter and said curved bar ends, and side guards affixed to the sides of the car and inclosing the rear section of the pivoting fender-frame and the supports therefor.

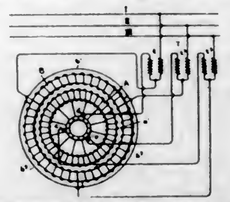
12. The combination with a car of carrier-arms affixed to the sills thereof, hollow pendent guides on the rear ends of the carrier-arms and made with vertical slots, a transverse rod removably supported by the forward ends of the carrier-arms, a fender-frame comprising longitudinal members, pivoted on said rod of the carrier-arms, the rear ends of said frame-members being inserted in said slots of the pendent guides, and the forward end of the fender-frame projecting forward of the car, a frame section jointed to the forward end of the main fender-frame and arranged to be folded back, means normally holding such jointed frame-section in an inclined position, a series of axles transversely journaled in said jointed frame-section, ball-bearings on the axle ends, tubular rollers supported at their ends upon the ball-bearings, a resilient friction covering for the tubular rollers, means restraining said rollers against rotation, otherwise than upward and inward, wheels on the front end of the jointed section of the fender-frame, arranged to support the latter while holding a body, said wheels being made with conical exterior faces and convexed rims, whereby the same are adapted to climb over projections on the road surface, a basket-like guard carried by the forward end of the main fender-frame, coil-springs in said pendent guides, above and below the inserted ends of said frame-members, whereby the vertical oscillation of the latter on their axis is restrained, coil-springs connecting said inner ends of the frame-members with the carrier-arms and arranged to normally hold the forward end of the fender-frame clear of the road surface, a vertical cushion-frame hinged to said main fender-frame rearward of the basket-like guard, said cushion-frame comprising lower and upper sections, the latter being removably supported by the former, and said cushion-frame further comprising a plurality of vertical bars made of resilient material, the upper ends of which are connected and curved back in the form of a bow, thereby adapting the same to impinge upon the breast of the car, telescoping spring-controlled rods arranged to normally hold the cushion-frame away from the breast of the car, connections between the latter and said curved bar ends, and side guards affixed to the sides of the car and inclosing the rear section of the pivoting fender-frame and the supports therefor.

869,184. IRONING-BOARD. SAMUEL J. KLING, Patoka, Ill. Filed Oct. 13, 1906. Serial No. 338,830.



In a device of the class described, a board or table, a pair of main supporting legs pivoted at one end to the table and provided adjacent their free ends with a connecting rung, said legs having their outer edges recessed, a pair of bracing members pivoted at one end to the table and having their free ends formed for engagement with the rung to fix the table in supported position, a pair of auxiliary legs pivoted respectively to the main legs and to fold within the adjacent recesses, said auxiliary legs having their free ends connected by a rung adapted to engage the free ends of the braces when in folded condition and connecting members terminally engaged with the main and auxiliary legs, said connecting members each comprising a longitudinally-extensible spring portion adapted to contract for holding the parts in folded condition.

869,185. SELF-EXCITING ALTERNATING-CURRENT DYNAMO. MARIUS LATOUR, Sèvres, France, assignor to General Electric Company, a Corporation of New York. Filed July 9, 1901. Serial No. 67,668.



1. In a self-exciting alternating current generator, an armature having a distributed winding, a field having a

distributed winding and a many part commutator, and means for supplying polyphase currents to said field winding through said commutator.

2. In a self-exciting alternating-current generator, a distributed polyphase armature winding, a distributed field winding provided with a commutator, and brushes and connections arranged to connect the field winding in series with the several phases of the armature winding, directly or through transformers.

3. In combination, an alternating-current generator comprising relatively rotatable members one of which is mechanically driven and each of which is provided with a polyphase winding, a commutator for one of said windings, brushes bearing on said commutator, polyphase connections from said brushes to the other winding, and a load-circuit supplied with current from said generator.

4. A self-exciting alternating-current generator consisting of two relatively rotatable members one of which is mechanically driven and each of which is provided with a distributed polyphase winding, a commutator for one of said windings, brushes bearing on said commutator, and polyphase connections between said brushes and the other winding whereby a rotary magnetic field is produced in said generator and the generator thus excites itself independently of any external source.

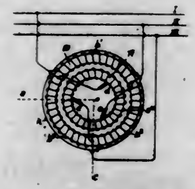
5. In combination, an alternating-current generator comprising relatively rotatable members one of which is mechanically driven and each of which is provided with a polyphase winding, a commutator for one of said windings, brushes on said commutator, polyphase connections from said brushes to the other windings arranged to place the two windings in series, and a load-circuit supplied with current from said generator.

6. In combination, an alternating-current generator comprising relatively rotatable members, one of which is mechanically driven and each of which is provided with a distributed winding, polyphase connections joining together said windings to provide paths for currents whereby the generator becomes self-exciting, and a load circuit supplied with current from said generator.

7. In combination, an alternating-current generator comprising relatively rotatable members, one of which is mechanically driven and each of which is provided with a distributed winding, polyphase series connections joining together said windings to provide paths for currents whereby the generator becomes self-exciting, and a load circuit supplied with current from said generator.

8. An alternating current generator having a distributed closed-circuit field winding connected at intervals to the segments of a many-part commutator.

869,186. SHUNT-WOUND SELF-EXCITED ALTERNATOR. MARIUS C. A. LATOUR, Sèvres, France, assignor to General Electric Company, a Corporation of New York. Original application filed July 9, 1901, Serial No. 67,668. Divided and this application filed Aug. 8, 1903, Serial No. 168,759. Renewed Feb. 27, 1907. Serial No. 359,610.

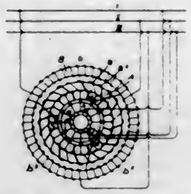


1. In combination, an alternating-current generator comprising relatively rotatable members one of which is mechanically driven and each of which is provided with a distributed winding, a commutator for one of said windings, brushes bearing on said commutator, polyphase connections from said brushes to the other winding whereby the two windings are connected in parallel, and a load-circuit supplied with current from said generator.

2. A self-exciting alternating-current generator comprising two relatively rotatable members one of which is mechanically driven and each of which is provided with a distributed winding, a commutator for one of said windings, brushes bearing on said commutator, and polyphase shunt connections betwen said brushes and the other winding whereby a rotary magnetic field is produced in said generator and the generator thus excites itself independently of any external source.

3. In combination, an alternating-current generator comprising relatively rotatable members one of which is mechanically driven and each of which is provided with a distributed winding, polyphase shunt connections joining together said windings to provide paths for currents whereby the generator becomes self-exciting, and a load circuit supplied with current from said generator.

869,187. COMPOUNDED SELF-EXCITED ALTERNATOR. MARIUS C. A. LATOUR, Sèvres, France, assignor to General Electric Company, a Corporation of New York. Original application filed July 9, 1901, Serial No. 67,668. Divided and this application filed Aug. 8, 1903, Serial No. 168,760. Renewed Feb. 27, 1907. Serial No. 359,611.



1. A self-excited compounded alternator comprising an induced member and an inducing member, the latter consisting of a direct current armature wound with several separate circuits connected to their respective commutators, the magnetic flux of the inducing member being obtained by means of currents derived from the stator or induced member terminals and constituting the shunt excitation and by means of the main currents of the stator or induced member, said currents passing directly through the rotor or inducing member windings or indirectly by the interposition of series current transformers.

2. A self-excited compounded alternator comprising an inducing and an induced member, the first consisting of a direct current armature wound with a single winding connected to a commutator through which are caused to pass the shunt excitation current derived from the stator or induced member terminals and the series excitation currents derived from the main currents of the induced member by the interposition of special series current transformers substantially as hereinbefore described.

3. In an alternating current generator, a field having a distributed winding connected to a many-part commutator, and means for supplying the said winding polyphase currents taken part in derivation from the armature, and part in series with the line.

4. In an alternating current generator, a field having a distributed winding connected to a many-part commutator, brushes bearing on said commutator, and compensating transformers connected and arranged to supply to said brushes polyphase currents varying with both the armature voltage and the armature current.

5. In an alternating current generator, a field having a distributed winding connected to a many-part commutator, brushes bearing on said commutator, and compensating transformers connected and arranged to impress on said brushes superimposed voltages corresponding in magnitude respectively to the armature voltage and to the armature current.

6. In combination, a self-exciting alternating-current generator having two members, each provided with a distributed winding, one of said members being mechanically

driven, polyphase connections between said windings, a load-circuit supplied with current from said generator, and means responsive to variation in load for controlling the excitation of said generator.

7. In combination, an alternating-current generator comprising relatively rotatable members one of which is mechanically driven and each of which is provided with a distributed winding, a commutator for one of said windings, brushes bearing on said commutator, polyphase connections for supplying an exciting current through said brushes to the winding connected to the commutator, a load-circuit supplied with current from said generator, and means for compounding the generator for variation of load.

8. In combination, an alternating-current generator comprising relatively rotatable members one of which is mechanically driven and each of which is provided with a distributed winding, a commutator for one of said windings, brushes bearing on said commutator, polyphase connections for supplying through said brushes to the winding connected to the commutator an exciting current dependent upon the voltage of the generator, a load circuit supplied with current from said generator, and means responsive to variation in load for varying the amount of the exciting current supplied through said brushes.

9. The combination with an alternating-current electric circuit, of an alternating-current dynamo-electric machine comprising two relatively movable windings, the said windings being adapted to have one of said windings, traversed by alternating-current, induced currents in the other of said windings whereby a field will be produced by the latter current which will move asynchronously with relation to the field produced by the first mentioned current, and means for supplying current, proportional to the current in said alternating-current circuit, to said other winding whereby the demagnetizing action of the first mentioned current is opposed, substantially as described.

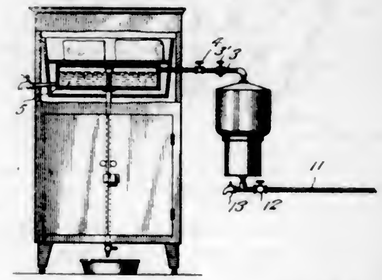
10. The combination with an alternating-current electric circuit, of an alternating-current dynamo-electric machine comprising two relatively movable windings, the said windings being adapted to have one of said windings, traversed by alternating-current, induce currents in the other of said windings whereby a field will be produced by the latter current which will move asynchronously with relation to the field produced by the first mentioned current, means for exciting said other winding by current at a substantially constant potential, and means for supplying current, proportional to the current in said alternating-current circuit, to said other winding whereby the demagnetizing action of the first mentioned current is opposed, substantially as described.

11. In a single or polyphase alternating-current motor or generator, the combination with brushes, and a commutator, of a main stator winding, a winding connected to said commutator, a circuit connected in series with said stator winding and to said brushes, for the purpose of supplying to the rotor a component increasing or decreasing with the main current to annihilate the armature reaction of the working current, and an auxiliary winding of sensibly constant potential connected to said brushes, substantially as described.

869,188. FILTERING APPARATUS. MERRIKEN B. LUKENS, Atlanta, Ga. Filed July 7, 1906. Serial No. 325,103. Renewed May 16, 1907. Serial No. 373,976.

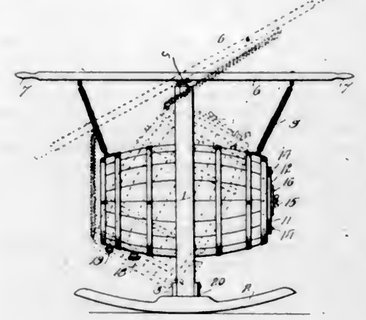
1. A filtering body comprising a plurality of filtering disks, each constructed of a frame having upper and lower reticulated heads, and an interposed flexible filtering sheet having its edge extending beyond the heads, filtering material between the filtering disks, a tie rod passing through the disks, and nuts upon the rod bearing upon the heads of the disks to clamp the same in assembled relation, said nuts being held by the meshes of the disks against retrograde rotation.

2. A filtering apparatus comprising a storage vessel having an outlet at its upper end and an inlet at its lower end, and also provided with a shoulder adjacent said inlet and a threaded flange pendent therefrom, a casing having a threaded engagement at its upper end with said flange and provided with a bottom inlet, a tapered shell within the casing clamped between the bottom of the same and the shoulder on the storage vessel, a filtering body composed of a plurality of filtering disks and a filtering substance between the same, each disk being constructed of a frame



having upper and lower reticulated heads and an interposed flexible filtering medium, the latter having projecting edges engaging the wall of the shell, a tie rod uniting the disks, and means for holding the body of filtering material from upward displacement.

869,189. CHURN. ADA O. MARTIN, Los Angeles, Cal. Filed May 11, 1907. Serial No. 373,084.



1. In a churn, the combination of a rocking frame, a walking beam mounted on the frame, and a barrel flexibly suspended on the walking beam.

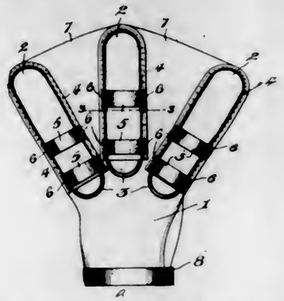
2. In a churn, the combination of an oscillating frame, a walking beam mounted thereon, a barrel for containing the cream to be churned, and elastic members flexibly connecting the barrel with the walking beam.

3. In a churn, the combination of a frame, rockers secured to the frame, a lever fulcrumed on the frame, a barrel containing the cream to be churned, and springs for connecting the ends of the barrel with the lever.

4. In a churn, the combination of a rectangular vertically disposed frame, rockers on the beam thereof, a lever on the top of the frame, a barrel disposed between the lever, helical extension springs connecting the ends of the barrel with the lever, and means for holding the barrel in tilted position.

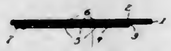
5. In a churn, the combination of a frame, a walking beam thereon, a barrel disposed below the walking beam, springs connecting the walking beam with the barrel, and means for fastening one end of the barrel to the frame to hold the former in a tilted position.

869,190. SWIMMING APPLIANCE. CHARLES H. MATTER, Pittsburg, Pa. Filed May 6, 1907. Serial No. 372,103.



The herein described swimming appliance comprising a piece of thin sheet rubber having a series of radial stiffener pockets secured to one side thereof, oblong wire stiffeners secured in place in said pockets, said stiffeners each consisting of a wire frame having rounded ends and parallel side bars, integral webs between the side bars of the stiffeners, and finger straps secured to the stiffener pockets, essentially as described.

869,191. DENTAL PLATE. GORDON W. MORGAN, Salem, Va. Filed June 18, 1907. Serial No. 379,619.

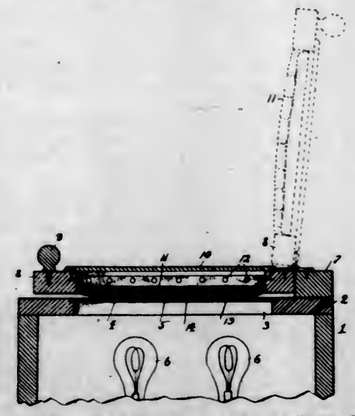


1. A dental plate provided with a plurality of distributed suction cavities, each cavity being larger at its bottom than at its mouth.

2. As an article of manufacture, a body of rubber adapted to form the vulcanized plate of a set of teeth, a body of soft rubber, and removable filling pieces embedded in the soft rubber to provide suction cavities therein.

3. As an article of manufacture, a body of rubber adapted to be treated to form a dental plate, a body of soft rubber adhering thereto, and removable filling pieces of metal embedded in the soft rubber and adapted to leave cavities in the rubber when removed therefrom, said cavities being abruptly enlarged at their inner ends.

869,192. PLATEN. HERVEY H. MCINTIRE, South Bend, Ind. Filed July 6, 1905. Serial No. 268,533.



1. A platen provided with a cushion having a filling of solid elements.

2. A platen provided with a cushion having a filling of minute solid elements that constitutes a yielding mass.

3. A platen provided with a cushion having a filling of granular material, said material being divided into groups within the cushion.

4. A platen comprising a frame, and a sack secured to the frame and having a filling of comminuted, movable elements.

5. A platen comprising a frame, a sack secured within the frame and having pockets, and a filling of granular material in each of said pockets.

6. A platen comprising a frame, a sack secured within the frame and having pockets, and a filling of minute movable elements in each of said pockets and constituting a yielding mass.

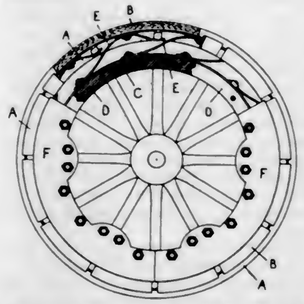
7. A platen comprising a frame, a cushion secured within the frame and consisting of a sack having transverse partitions, and a filling of minute movable elements within the sack separated into groups by said partitions.

8. The combination with the case of a photographic printing machine and the platen hinged thereto, of a cushion for said platen, said cushion consisting of a sack secured at its edges to the frame, and having a filling of minute movable elements that are divided into groups, and a cover plate for the frame, substantially as specified.

9. A platen comprising a frame, and a sack secured to the frame and having a filling of granular material.

10. A platen comprising a frame, a cushion secured to the frame and consisting of a sack having division members, and a filling of granular material within the sack separated into groups by said division members.

869,193. FLEXIBLE WHEEL FOR MOTOR AND OTHER VEHICLES. HENRY F. NICHOLS, Adelaide, South Australia, Australia. Filed Apr. 20, 1906. Serial No. 312,803.



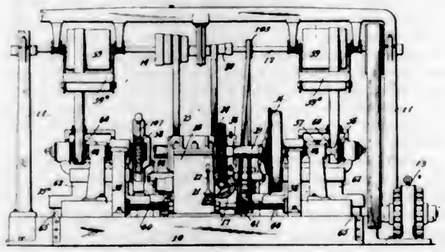
1. In a flexible wheel for motor and other vehicles, an outer flexible rim or tire comprising a number of blocks or sections and an encircling band of flexible material such as rubber, an inner rigid rim connected to the hub by spokes, a series of plate springs corresponding in number to the sections of the outer rim and set tangentially to the rim, one end of each spring being secured to the inner rim and the other end free, the central portion being secured to the middle of a section, and detachable flanges or check plates secured to the inner rim and overlapping a portion of the outer flexible rim, all substantially as described and for the purpose set forth.

2. In a wheel of the character described, an outer rim comprising a number of blocks or sections having inwardly and outwardly projecting sides, the inwardly projecting sides at one end being extended and cranked or bent inward so that they fit betwen the sides of the adjacent section.

3. In a wheel of the character described, an outer rim comprising a plurality of sections, an inner rim, and a plurality of plate springs between the rims and set tangentially thereto, one end of each spring being secured to the inner rim and the other end free to impinge upon the top of the next succeeding spring, the central portion of the spring being secured to the adjacent section of the outer rim.

4. In a wheel of the character described, a rigid inner rim, a flexible outer rim, and a plurality of plate springs arranged between the rims, the springs each being secured at one end to the inner rim and intermediate of its ends to the outer rim, the free ends of the springs being adapted to impinge upon the adjacent spring.

869,194. GRINDING-MACHINE. CHARLES H. NORTON, Worcester, Mass., assignor to The Norton Grinding Co., Worcester, Mass., a Corporation of Massachusetts. Filed Oct. 9, 1906. Serial No. 338,159.



1. In a grinding machine, the combination of a movable grinding wheel support, rotatable means for adjusting the support, and means connected with and acting through the adjusting means for reciprocating the support.

2. In a grinding machine, the combination of a movable grinding wheel support, rotatable means for adjusting the support, and means connected with the adjusting means for reciprocating the support in the direction in which the support is adjusted.

3. In a grinding machine, the combination of a movable grinding wheel support, an adjusting screw connected therewith, means on the support for engaging the adjusting screw, said means and screw being relatively rotatable, whereby the operation of said means will adjust the support, and means for reciprocating the adjusting screw.

4. In a grinding machine, the combination of a grinding wheel support, a non-rotatable screw, an adjusting nut for the screw rotatably mounted on said support, rotatable means for operating the nut and adjusting it on said screw and means for longitudinally reciprocating the screw.

5. In a grinding machine, the combination of a movable grinding wheel support, a screw, a nut on said screw mounted to move with said support, a hand-wheel, means for connecting the hand-wheel to produce a relative rotation between said screw and nut to adjust the same with respect to each other, and means for longitudinally reciprocating the screw.

6. In a grinding machine, the combination of a movable grinding wheel support, a non-rotatable screw, a nut for said screw rotatably mounted on said support, gearing connected with said nut, a hand-wheel for operating said gearing and adjusting the nut, and means for longitudinally reciprocating the screw.

7. In a grinding machine, the combination of a grinding wheel support, a non-rotatable screw, an adjusting nut for said screw mounted on the support, operating means for adjusting the nut, and mechanism for longitudinally reciprocating the screw.

8. In a grinding machine, the combination of a grinding wheel support, a non-rotatable screw, an adjusting nut for said screw mounted on the support, operating means for adjusting the nut, and mechanism for longitudinally reciprocating the screw, said mechanism comprising an eccentric and a connecting rod connected with the screw and operated by the eccentric.

9. In a grinding machine, the combination of a movable grinding wheel support, a nut rotatably mounted thereon, a non-rotatable screw engaging said nut, a connecting rod connected with said screw, and an eccentric for operating said connecting rod.

10. In a grinding machine, the combination of a movable grinding wheel support, a nut rotatably mounted thereon, a non-rotatable screw engaging said nut, a connecting rod connected with said screw, an eccentric for operating said connecting rod, a shaft for operating the eccentric, a power shaft, a clutch between said shafts for connecting them, and means for automatically releasing the clutch.

11. In a grinding machine, the combination of a movable grinding wheel support, an adjusting device connected therewith, a connecting rod connected with said adjusting device, an eccentric for operating said connecting rod, a power shaft, a clutch for connecting said power shaft to operate the eccentric, and means for automatically releasing the clutch.

12. In a grinding machine, the combination of a movable grinding wheel support, a shaft, a second shaft, a clutch for connecting said shafts, means operated by the second shaft for reciprocating said support, a spring normally tending to release said clutch, means for positively locking the clutch in closed position, and means for automatically releasing the clutch und allowing the spring to close it.

13. In a grinding machine, the combination of a grinding wheel support, a shaft, a second shaft, a clutch for connecting said shafts, hand operated means for throwing the sections of said clutch into engagement with each other, means for positively locking the clutch in closed position, resilient means for normally opening the clutch, and means for automatically releasing the locking means comprising a movable member.

14. In a grinding machine, the combination of a grinding wheel support, means for reciprocating said support, a clutch for disconnecting said means from a source of power, manually operated means for closing the sections of said clutch, yielding means normally tending to open the clutch sections, means for automatically and positively locking the clutch in closed position to prevent the opening thereof by said manually operated means, means for releasing the locking means, and movable means mounted to reciprocate with said support for engaging the releasing means and operating it.

15. In a grinding machine, the combination of a grinding wheel support, means for reciprocating said support, a clutch for disconnecting said means from a source of power, manually operated means for closing the sections of said clutch, means normally tending to open the clutch sections, means for automatically locking the clutch in closed position to prevent the opening thereof by said manually operated means, means for releasing the locking means, and movable means mounted to reciprocate with said support for engaging the releasing means at the end of the stroke of said support and permitting the clutch to open.

16. In a grinding machine, the combination of a grinding wheel support, means for reciprocating said support, a clutch for disconnecting said means from a source of power, manually operated means for closing the sections of said clutch, means normally tending to open the clutch sections, and means for automatically and positively locking the clutch in closed position to prevent the opening thereof by said manually operated means.

17. In a grinding machine, the combination of a grinding wheel support, means for reciprocating said support, a clutch for connecting said means with and disconnecting it from a source of power, means for positively locking the clutch and means for automatically unlocking and disconnecting the clutch operable only at the end of the stroke of said support.

18. In a grinding machine, the combination of a grinding wheel support, means for reciprocating said support, a clutch for connecting said means with and disconnecting it from a source of power, and means for automatically disconnecting the clutch operable only at the end of the stroke of said support, said last named means comprising a striker mounted to move with said support, and tiltable thereon into inoperative position.

19. In a grinding machine, the combination of a movable grinding wheel support, means for reciprocating said support, means operable for disconnecting the reciprocating

means from a source of power, and a striker mounted to move with the support for engaging the disconnecting means and operating it, and tiltable thereon into inoperative position.

20. In a grinding machine, the combination of a movable grinding wheel support, means for moving said support, adjustable means for disconnecting the moving means from a source of power, and means mounted on said support for engaging the disconnecting means and operating it at the end of the stroke of the support.

21. In a grinding machine, the combination of a movable grinding wheel support, means for moving said support, adjustable means for disconnecting the moving means from a source of power, and means mounted to move with said support for engaging the disconnecting means and operating it at the end of the stroke of the support, said means comprising a pivoted striker adapted to reciprocate in position to engage said disconnecting means when swung to a certain position.

22. In a grinding machine, the combination of a movable grinding wheel support, means for reciprocating said support, means operable for disconnecting the reciprocating means from a source of power, and a striker pivotally mounted on the support for engaging the disconnecting means and operating it.

23. A grinding machine having means for moving a support for the grinding element and automatic stopping device therefor comprising a striker pivotally mounted on the support.

24. A stopping device for the traverse of a grinding wheel consisting of a pivoted striker adapted to be held both in operative and in inoperative position by gravity.

25. A stopping device for the traverse of a grinding wheel comprising a bracket, and a striker pivoted thereon at a point above the bracket and beyond the end thereof, whereby the striker will be held by gravity in substantially upright position by its lower end engaging the end of the bracket, and whereby it will rest by gravity in substantially horizontal position on the bracket when turned in such position.

26. In a grinding machine, the combination of a pair of pillow-blocks, each having bearings thereon for an axle or the like, a right and left-hand screw engaging the two pillow-blocks, stationary means for supporting said screw, a ratchet wheel on said screw, and means for turning said ratchet-wheel to operate the screw and simultaneously adjust the two pillow-blocks.

27. In a grinding machine, the combination of a pair of movable grinding wheel supports, means for simultaneously reciprocating said supports, means for rotating the grinding wheels on both supports, a counter-shaft, and a plurality of means on the counter-shaft for operating both reciprocating means and both rotating means.

28. In a grinding machine, the combination of a plurality of movable grinding wheel supports, means for simultaneously reciprocating said supports, means for rotating the grinding wheels on said supports, means for rotating the work, a counter-shaft, and a plurality of means on the counter-shaft for operating said reciprocating means and rotating means.

29. In a grinding machine, the combination of a movable grinding wheel support, a grinding wheel thereon, means for rotating the work adjacent to said grinding-wheel, a counter-shaft, means on the counter-shaft for rotating said wheel, and means on the counter-shaft for operating the work rotating means, said work rotating means comprising a shaft, a gear rotatably mounted on the shaft and having a clutch section thereon, a clutch section slidably operated on the shaft, means for operating the sliding clutch section, a worm on said shaft, a worm-wheel engaging the worm, and a work drive operated by said worm wheel.

30. In a grinding machine, the combination of a work-drive stand having an open topped bearing, a rotary element supported by said bearing and having ways, an equalising plate mounted to slide in said ways and provided with ways at an angle to the first named ways, and a work drive dog mounted to slide in the ways on the equalising plate, said equalising plate and work drive dog being adapted to receive said rotary element.

31. In a grinding machine, the combination of a work-drive-stand, having an open-topped bearing thereon, a worm-wheel supported by said bearing, means for rotating said worm-wheel, a horse-shoe shaped equalizing plate mounted to slide in ways on said worm-wheel, and a similar shaped work-drive dog mounted to slide in ways at an angle to the first named ways on the equalizing plate.

32. A grinding machine having a work-drive mechanism comprising a rotatable element having ways, an equalizing plate mounted in said ways, said plate having ways at an angle to the first named ways, a work-drive dog mounted on the last named ways, and means on the work-drive dog for engaging an axle or the like and transmitting a motion of rotation thereto from the rotatable element.

33. A grinding machine having a work-drive mechanism comprising a rotatable element having ways, a horse-shoe shaped equalizing plate mounted in said ways, said plate having ways on the opposite side thereof at an angle to the first named ways, a horse-shoe shaped work-drive dog mounted on the last named ways, and adjustable elements on the work-drive dog for engaging an axle or the like and transmitting a motion of rotation thereto from the rotatable element.

34. A floating drive for a grinding machine comprising a horse-shoe shaped equalizing plate and a horse-shoe shaped work-drive dog slidably connected together, said dog being provided with adjustable means for engaging a shaft or axle passing through the center of the plate and dog.

35. In a grinding machine, the combination of a work-drive stand having an open-topped bearing thereon, a rotatable element supported in said bearing, an equalizing plate movably supported by said element, a work-drive dog on said plate and free to slide with respect thereto, means on the rotatable element for preventing the entire displacement of said dog, adjusting screws carried by said dog for holding the work, a pair of pillow blocks for supporting the work, and means mounted in said work-drive stand and engaging the pillow-blocks for adjusting them.

36. In a grinding machine, the combination of a work-drive stand, a right and left-hand screw mounted thereon, a pair of pillow-blocks having screw-threads for the reception of said screw, means on the pillow-blocks for supporting the work, and a floating drive on the work-drive stand for driving the work.

869,195. EAVES-TROUGH HANGER. WILLIAM E. PATCHIN, Rochester, N. Y., assignor of one-half to Leland V. Slaight, Rochester, N. Y. Filed Aug. 19, 1905. Serial No. 274,815.



1. An eaves trough hanger comprising a base, having an arm thereon provided with a hooked portion to engage one edge of an eaves trough and a plurality of stepped shoulders adapted to engage the other edge of the trough arranged over the arm, one above the other and projecting successively toward said hooked portion.

2. An eaves trough hanger comprising a base, an outwardly and downwardly curved arm having an outer hooked end adapted to receive the outer edge of an eaves trough and a plurality of projections stepped outwardly one above the other over the arm and provided with undercut shoulders adapted to engage the inner edge of the trough.

869,196. RAILWAY-SIGNAL. ROBERT D. PETERS, Knox, Ind. Filed July 25, 1905. Serial No. 271,223.

1. A signaling device having a normally open circuit including the coils of a pair of pole pieces, a core arranged for movement between the pole pieces, a signal carried by and movable with the latter, and means controlled by an approaching train to energize the pole pieces for attracting the core and moving the signal in one direction, and means for affecting the train controlled means to cause it to reversely affect the signal under certain conditions.



2. A signaling device comprising duplicate normally open circuits both including the coils of a pair of pole pieces, a movable core arranged between the pole pieces, a signal carried by and movable with the core, and means controlled by trains approaching from opposite directions for closing the circuits and neutralizing the electrical influence on the pole pieces.

3. A signaling apparatus including a normally open circuit having coils for energizing a pair of pole pieces, a signal normally set at danger, and means controlled by a train approaching from either direction for energizing the pole pieces and operating the signal, said means being arranged to be controlled by a following train to reverse the signal effect of the operating train.

4. In a device of the class described, a pair of normally open circuits, a signal included therein and operable by closing of either of the circuits, said signal remaining in normal position on closing both of the circuits, and means controlled by approaching trains for closing either or both of the circuits.

5. In a device of the class described, a rotary shaft, a core fixed thereon, a semaphore fixed upon and movable with the shaft, a pair of pole pieces designed to coöperate with the core for rotating the shaft respectively in reverse direction, a pair of open circuits including the pole pieces and core, means controlled by operating trains for closing either of the circuits to energize both pole pieces, and means controlled by a train following either operating train for reversing the effect of said operating train upon the controlling means.

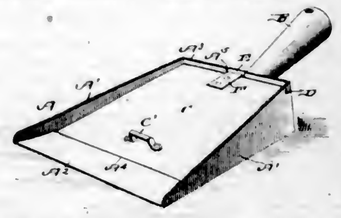
6. In a device of the class described, a pair of oppositely disposed pole pieces, a shaft mounted for rotation between the same, a core fixed upon the shaft, a signal element also fixed upon the shaft, means for maintaining said signal in normal position, a pair of normally open circuits respectively including the pole pieces and core, and means controlled by approaching trains for closing either of the circuits to energize the corresponding pole piece and rotate the shaft in a predetermined direction or for closing both circuits to neutralize both pole pieces and maintain the shaft in stationary position.

7. A signaling apparatus including a plurality of normally open circuits, a signal, means for operating the signal upon the closing of either of said circuits, and means controlled by a traveling train for changing the signal effect of either of said circuits.

8. A signaling apparatus including a plurality of normally open circuits, a signal affected upon the closing of either of said circuits, and means controlled by a train for reversing the normal flow of current in either of said circuits, whereby upon the operation of said means the signal will be reversely affected as respects its normal operation.

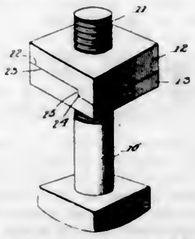
9. A signal apparatus including a signal normally set at danger, means controlled by an approaching train for operating said signal, additional means controlled by an approaching train for similarly operating the signal, said respective means being arranged to neutralize each other when simultaneously affected by approaching trains.

869,197. DUST-PROOF DUST-PAN AND CRUMB-TRAY. LEWIS PRIDEAUX, Philadelphia, Pa., assignor, by direct and mesne assignments, of one-third to August Fertig and one-third to Charles A. Blumhard, Philadelphia, Pa. Filed Mar. 25, 1904. Serial No. 200,012. Renewed Mar. 21, 1907. Serial No. 363,745.



In a dust pan having a bottom, sides, and a rear wall, a cover pivoted to the sides near the top of said rear wall, said rear wall having a notch in its top edge, a flat spring secured to said wall at one end, the free end thereof extending into said notch, a flat faced angular finger piece rigidly secured to the rear edge of said cover and extending into said notch, and engaging against said spring, two faces of said finger piece being so positioned with respect to the cover and spring that the spring rests on the one or the other of said faces to hold the cover in either open or closed position, respectively, substantially as described.

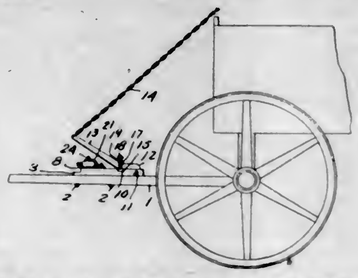
869,198. NUT-LOCK. JESSE F. SANDROCK, JACOB W. NOBLE, and LEE O'DELL, Tylersburg, Pa.; said Noble assignor to said Sandrock and said O'Dell. Filed Feb. 18, 1907. Serial No. 357,875.



1. In a nut-lock, a bolt, superposed nut-sections thereon, the contiguous surfaces of said sections having recesses, and one of said recesses communicating with the bolt-hole of the respective section, and the other recess having a cam-shaped wall, and a dog pivotally mounted in the first mentioned recess, and carrying a pin projecting into the other recess, and engageable by its cam-shaped wall for moving the dog into and out of engagement with the bolt.

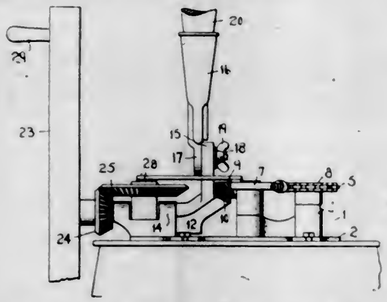
2. In a nut-lock, a bolt, superposed nut-sections thereon, the contiguous surfaces of said sections having recesses, one of said recesses communicating with the bolt-hole of the respective section and having a depression, and the other recess having a cam-shaped wall, and a dog mounted in the first mentioned recess and having on one side a pivot-stud seating in the depression, and on the opposite side a pin projecting into the other recess, and engageable by its cam-shaped wall for moving the dog into and out of engagement with the bolt.

869,199. HORSE-RELEASER. GEORGE W. SMITH, Minnesota Lake, Minn. Filed June 20, 1907. Serial No. 379,956.



A device of the type set forth, comprising a stationary supporting member having a longitudinal groove, a plate mounted for sliding movement in said groove and constructed to support a whiffle tree, said supporting member being constructed with registering transverse grooves, said plate being constructed with a transverse groove designed to register with said first named transverse grooves, a lever pivoted at its rear end to said supporting member, a transverse bar carried by said lever for engagement in said several grooves, said bar being formed with openings in the ends thereof, upstanding bolts carried by said supporting member and projecting through said openings, nuts threaded upon the upper ends of said bolts, and expansive coil springs interposed between said nuts and said bar.

869,200. OPERATING MECHANISM FOR WASHING-MACHINES. JASPER H. STANFIELD, Muskegon, Mich., assignor of one-half to James Hamilton, Muskegon, Mich. Filed Apr. 22, 1907. Serial No. 369,561.



1. An operating mechanism of the character described comprising a revolubly mounted dasher shaft, a sprocket pinion on the upper end of said shaft, a sprocket chain adapted to engage said pinion to turn the same first in one direction and then the other, and means to reciprocate said chain, substantially as described.

2. An operating mechanism for washing machines, comprising a revolubly mounted dasher shaft, a sprocket pinion on the upper end of said shaft, a pivotally mounted operating yoke, a sprocket chain connected to the opposite ends of said yoke, and adapted to engage said sprocket pinion to turn the same first in one direction and then the other, and means to oscillate said yoke, substantially as described.

3. An operating mechanism for washing machines, comprising a revolubly mounted dasher shaft, a sprocket pinion on the upper end of said shaft, a pivotally mounted operating yoke, a sprocket chain connected to the opposite ends of said yoke and adapted to engage said sprocket pinion to turn the same first in one direction and then the other, an operating lever adapted to be engaged with said yoke to oscillate the same, and a handle socket adapted to be adjustably secured to said lever to actuate the same and thereby oscillate said yoke, substantially as described.

4. An operating mechanism for washing machines, comprising a revolubly mounted dasher shaft, a sprocket pinion on the upper end of said shaft, a pivotally mounted operating yoke, a sprocket chain connected to the opposite ends of said yoke and adapted to engage said sprocket pinion to turn the same first in one direction and then the other, an operating lever geared to said yoke, a handle socket, means whereby said handle socket is connected to said lever in different positions, a handle removably connected with said socket, substantially as described.

5. An operating mechanism for washing machines, comprising a revolubly mounted dasher shaft, a sprocket pinion on the upper end of said shaft, a pivotally mounted operating yoke, a sprocket chain connected to the opposite ends of said yoke and adapted to engage said sprocket pinion to turn the same first in one direction and then the other, a pivotally mounted operating lever geared to said yoke, a seat formed in the upper end of said lever, a handle socket having on its inner end a head adapted to be engaged with said seat to support said socket in a vertical or horizontal position, a clamping bolt and nut to secure said socket and lever together in their adjusted positions, and a handle adapted to be engaged with said socket, substantially as described.

869,201. NON-REFILLABLE BOTTLE. CHARLES H. STONE, Buffalo, N. Y. Filed Feb. 13, 1907. Serial No. 357,161.



1. The combination with a bottle, of a tube held in the neck thereof and having a tapering stud extending upward into the interior of the tube, and a valve movable within said tube and having a tapering aperture to be closed by said tapering stud when the bottle is in its upright position.

2. The combination with a bottle, of a tube held in the neck thereof and having a tapering stud extending upward into the interior of said tube, a valve slidable within the tube and having a tapering aperture to be closed by said tapering stud when the bottle is in upright position, and a guard at the upper end of said tube.

3. The combination with a bottle, of a tube held in the neck thereof, a tapering stud extending upward into the tube and supported from the sides of the latter, a valve slidable within said tube and having a tapering aperture to be closed by said tapering stud when the bottle is in its upright position, and a guard at the upper end of said tube.

4. The combination with a bottle, of a tube held in the neck thereof, a compressible covering for said tube, an open-work guard closing the upper end of said tube and being secured between the latter and said covering, and a valve in said tube.

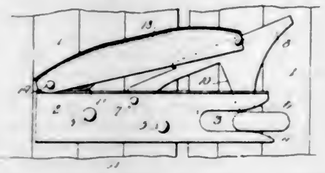
5. The combination with a bottle having the neck thereof provided with an internal depression, of a tube having an inwardly closing valve, a compressible covering around said tube, a band around said covering, a spring retainer having one end secured between said band and said covering and its other end engaging said depression in the neck of the bottle.

6. The combination with a bottle having the neck thereof provided with an internal groove, a tube within the neck having a tapering stud extending centrally therein to form the bottom thereof, a valve slidable in the tube and having a central tapering aperture into which said stud is adapted to fit, a compressible covering around said tube, a band around said covering, and retainers on opposite sides of said covering comprising flat pieces having one of their ends clamped between said compressible covering and said band and having their other ends engaging said internal groove in the neck of the bottle.

7. The combination with a bottle, of a tube within the neck thereof having a tapering stud extending centrally into said tube from the bottom thereof, a valve slidable in said tube having a depression in its top with a circumferential wall around said depression and a tapering aperture arranged centrally therethrough which said tapering stud is adapted to close, and oppositely opening lids closing the top of said depression.

8. The combination with a bottle, of a tube within the neck thereof having a tapering stud extending centrally into said tube from the bottom thereof, a valve slidable in said tube having a depression in its top with a circumferential wall around said depression and a tapering aperture arranged centrally therethrough which said tapering stud is adapted to close, a pintle arranged diametrically at the top of said valve, and semi-circular lids hinged to said pintle to close the top of said depression.

869,202. SLIDING-DOOR FASTENER. ROLLA T. STONE, Keystone, Wash. Filed Feb. 26, 1907. Serial No. 359,376.



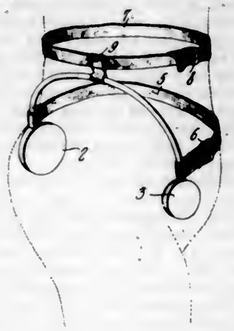
1. A sliding door fastener comprising a recessed bar, a latch member pivoted to said bar and provided with a curved and a plain shoulder, a spring bearing against said latch member, a cover pivoted to said bar and to said latch member, and a stationary bolt having a curved shoulder and a plain shoulder for coöperation with the latch member, substantially as described.

2. A sliding door fastener comprising a recessed bar, a latch member pivoted thereto, said latch member having a curved front shoulder and a plain rear shoulder, a cover pivoted to the bar, and slidingly connected to the latch member, a spring for normally holding the latch member down, and a stationary bar or bolt provided with a curved shoulder and a plain shoulder, substantially as described.

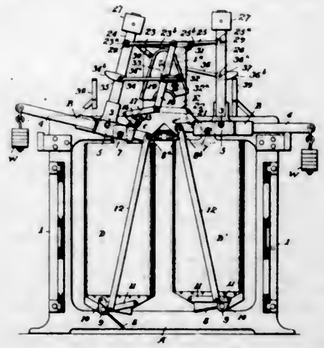
3. A sliding door fastener comprising a bar having a recessed end, and oppositely flaring members, a latch pivoted in a recess in said bar and provided with a curved and a plain shoulder, a spring bearing against said latch member to normally hold it down, a cover pivoted to said bar and slidingly connected to said latch member by means of a pin and slot connection, one of the flaring members on said bar having an aperture therein through which the end of the latch bar passes, said latch bar being provided with a slot for the attachment of a seal, substantially as described.

869,203. TRUSS. SAMUEL H. SUBLETT, Hatton, Ark., assignor of one-half to James N. Porter, Vandervoort, Ark. Filed May 25, 1907. Serial No. 375,683.

A truss comprising a yoke-shaped spring, pads carried by the terminals thereof, a non-elastic attaching semi-belt assembled with the spring, an elastic supporting belt, and a loop carried by the latter belt and slidably connected with the spring.



869,204. AUTOMATIC WEIGHING-MACHINE. ROBERT D. WEBB, Minden, La. Filed Apr. 8, 1907. Serial No. 367,090.



1. In an automatic weighing machine, a scale beam having a weighted standard projecting above the beam, a receptacle connected to said beam, a valve for controlling the admission of material to said receptacle, a lever for moving said valve, a link loosely connecting said lever and standard, and means for supporting said link out of frictional engagement with said standard when the latter is poised.

2. In an automatic weighing machine, a scale beam having a weighted standard projecting above the beam, a receptacle connected to said beam, a valve for controlling the admission of material to said receptacle, a lever for moving said valve, a link connected to the lever and having a slot and pin connection with the standard, and means for supporting said link out of frictional engagement with said standard when the latter is poised.

3. In an automatic weighing machine, a scale beam having a weighted standard projecting above the beam, a receptacle connected to said beam, a valve for controlling the admission of material to said receptacle, a lever for moving said valve, a link pivoted to the lever and having a lost-motion connection with the standard, and a fixed support arranged to hold said link out of frictional engagement with the standard when the latter is poised.

4. In an automatic weighing machine, two independently movable scale beams, having weighted standards projecting above the beams, receptacles connected to said scale beams, valve-mechanism for directing the material to be weighed into said receptacles alternately, levers connected to said valve-mechanism, links loosely connecting said levers and standards, and means for supporting said

links out of frictional engagement with said standards when the latter are poised.

5. In an automatic weighing machine, two independently movable scale beams, having weighted standards projecting above the beams, receptacles connected to said scale beams, valve mechanism for directing the material to be weighed into said receptacles alternately, levers connected to said valve mechanism, links connected to the levers and having slot and pin connections with the standards, and means for supporting said links out of frictional engagement with said standards when the latter are poised.

6. In an automatic weighing machine, two independently movable scale beams, having weighted standards projecting above the beams, receptacles connected to said scale beams, valve mechanism for directing the material to be weighed into said receptacles alternately, levers connected to said valve mechanism, links having lost-motion connections with said standards, and fixed supports arranged to hold said links out of frictional engagement with the standards when the latter are poised.

7. In an automatic weighing machine, two scale beams having weighted standards projecting above the beams, receptacles connected to said beams, valve mechanism for directing the material to be weighed into said receptacles alternately, a lever for operating said mechanism, links connecting said lever with the standards, cranks arranged at an angle to one another, links loosely connecting said cranks with the standards, and means for supporting said links out of engagement with the standards when the weights are poised.

8. In an automatic weighing machine, two scale beams having weighted standards projecting above the beams, receptacles connected to said beams, valve mechanism for directing the material to be weighed into said receptacles alternately, a lever for operating said mechanism, links connecting said lever with the standards, cranks arranged at an angle to one another, links connected to the cranks and having slot and pin connections with the standards, and means for supporting said links out of engagement with the standards when the latter are poised.

9. In an automatic weighing machine, two scale beams having weighted standards projecting above the beams, receptacles connected to said beams, valve mechanism for directing the material to be weighed into said receptacles alternately, a lever for operating said mechanism, links connecting said lever with the standards, cranks arranged at an angle to one another, links loosely connecting said cranks with the standards, and fixed supports arranged to hold said links out of frictional engagement with the standards when the latter are poised.

10. In an automatic weighing machine, two independently movable scale beams having weighted standards projecting above the beams, receptacles connected to said scale beams, valve mechanism for directing the material to be weighed into said receptacles alternately, levers connected to said valve mechanism, links connected to the levers and having lost-motion connections with said standards, means for supporting said links out of frictional engagement with said standards when the latter are poised, cranks arranged at an angle to one another, links connected to said cranks and having lost-motion connections with said standards, and means for supporting said latter links out of frictional engagement with said standards when the standards are poised.

11. In an automatic weighing machine, the combination with pivoted scale beams having weighted standards above the beams, receptacles connected to the beams, and valve mechanism operatively connected to the standards, of cranks arranged at an angle to one another, links connected to said cranks and having lost motion connections with said standards, and means for supporting the links out of frictional engagement with the standards when the latter are poised.

12. In an automatic weighing machine, the combination with pivoted scale beams having weighted standards above the beams, receptacles connected to the beams, and valve mechanism operatively connected to the standards, of cranks arranged at an angle to one another, links connected to said cranks and having lost motion connections with said standards, said links having cam surfaces and supports arranged to be engaged by said surfaces when the standards move to poised position.

13. In an automatic weighing machine, a scale beam having a weighted standard projecting above the beam, a receptacle connected to the beam, valve mechanism for controlling the admission of material to said receptacle, a lever for operating said mechanism, a link connected to said lever and having a lost motion connection with said standard, said link having a cam surface, and a support arranged to be engaged by said surface when the standard moves to poised position.

14. In an automatic weighing machine, two scale beams each having a weighted standard projecting above the beam, receptacles connected to the beams, valve mechanism for controlling the admission of material to said receptacles, levers for operating said mechanism, links connected to said levers and having lost motion connections with said standards, said links having cam surfaces, and supports arranged to be engaged by said surfaces when the standards move to poised positions.

15. An automatic weighing machine comprising two scale beams, receptacles connected to said beams, valve mechanism for controlling the admission of material to said receptacles, connections between said beams and valve mechanism whereby the descending beam aids in operating the valves, and means for holding said connections out of engagement with the beams when the latter are in weighing position.

16. An automatic weighing machine comprising two scale beams, receptacles connected to said beams, connections between said beams whereby the ascending beam releases the opposing beam and is locked in inclined position, and means for holding said connections out of engagement with the beams when the latter are in weighing position.

17. In an automatic weighing machine, scale beams, receptacles connected to said scale beams, connections between the said beams whereby the ascending beam releases the descending beam and is locked out of weighing position, and means for alternately holding said connections out of engagement with the beams until the latter have respectively moved from their original weighing position.

18. In an automatic weighing machine, scale beams, receptacles connected to the scale beams, valves for controlling the admission of material to said receptacles, connections between said beams and the valve mechanism for operating the valves, and means for holding said connections out of engagement with the beams while the latter are in weighing position.

19. In an automatic weighing machine, scale beams, receptacles connected to the scale beams, valves for controlling the admission of material to said receptacles, mechanism between said beams and valves for operating the latter, and means for holding said mechanism out of engagement with the beams until the latter have moved from their original weighing positions.

20. In an automatic weighing machine, a scale beam, a receptacle connected to the scale beam, a valve for controlling the admission of material to said receptacle, mechanism between said beam and valve for operating the latter, and means for holding said mechanism out of engagement with the beam until the latter has moved from its original weighing position.

21. In an automatic weighing machine, scale beams, receptacles connected with said beams, valves for controlling the admission of the material to said receptacles, mechanism for operating the valves, standards for operating the said mechanism, and means for holding said mechanism out of engagement with the standards while the beams are in weighing position.

22. In an automatic weighing machine, scale beams having standards projecting from the same, receptacles connected to said beams, valves for controlling the admission of material to said receptacles, mechanism for operating said valves, and means for supporting said mechanism out of engagement with the standards when their respective beams are in weighing position.

23. In an automatic weighing machine, the scale beam having a standard projecting from same, a receptacle connected to said beam, a valve for controlling the admission of material to said receptacle, mechanism for operating said valve, and means for supporting said mechanism out of engagement with the standard when the beam is in weighing position.

24. In an automatic weighing machine, scale beams having standards projecting from the same, receptacles connected to said beams, valves for controlling the admission of material to the receptacles, mechanism for operating said valves, including cranks arranged at an angle to one another and mechanism for turning the same loosely connected to said standards, and means for holding said mechanism out of frictional engagement with the standards while the respective beams are in weighing position.

25. In an automatic weighing machine, scale beams having standards projecting therefrom, receptacles connected to the scale beams, connections between said standards whereby the standard connected to the ascending scale beam releases the other standard and is locked out of weighing position, and means for alternately holding said connections out of engagement with the standards until the latter have respectively moved out of their original weighing positions.

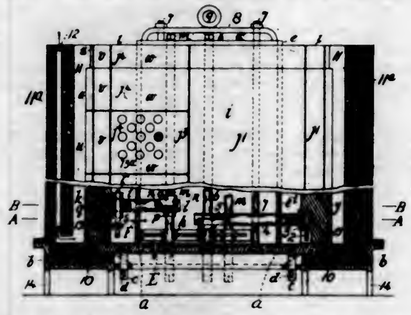
26. In an automatic weighing machine, scale beams with standards projecting therefrom, receptacles connected to said beams, mechanism loosely connecting said standards whereby each standard is alternately locked in fixed position, and means for alternately holding said mechanism out of engagement with the respective standards while same are in original weighing positions.

27. In an automatic weighing machine, scale beams with standards projecting therefrom, and mechanism loosely connecting said standards whereby each standard is alternately locked in fixed position as the receptacles connected with the scale beams are alternately filled.

28. In an automatic weighing machine, scale beams with weighted standards projecting therefrom, receptacles connected to said beams, mechanism loosely connecting said standards whereby each standard is alternately locked in fixed position, and means for alternately holding said mechanism out of engagement with the respective standards while same are in original position.

29. In an automatic weighing machine, scale beams with weighted standards projecting therefrom, and mechanism loosely connecting said standards whereby each standard is alternately locked in fixed position as the receptacles connected with the scale beams are alternately filled.

869,205. INTERNAL-CHILLING APPARATUS FOR HOLLOW CASTINGS. JOHN BUTLER, Salford, England. Filed Mar. 22, 1904. Serial No. 199,490.



1. In an expansible and contractible chilling apparatus for internally chilling hollow castings in cast iron, the combination with a plate or table of segmental chilling parts, forming when used together a chill-core-body with divisions, filling pieces to fill longitudinal spaces left between adjacent segmental parts when in position for casting, framework to carry mechanism to operate the said

segmental parts and mechanism to operate the said filling parts, pins mounted to slide in the said framework to receive and to be connected to the said segmental chilling parts and means to connect the said pins to the said segmental chilling parts, cams to move the said pins and to be set to be moved thereby and devices to support the said cams and to turn them, and so to move the said segmental parts into and out of position for casting and to set them in position to be moved by the said segmental parts in the contraction and shrinkage of castings, and mechanism to be used to move the said filling pieces into and out of and hold them in position for casting, substantially as hereinbefore described.

2. In an expansible and contractible chilling apparatus for internally chilling hollow castings in cast iron, the combination with a plate or table, of segmental chilling parts, forming when used together a chill-core-body with divisions, filling pieces to fill longitudinal spaces left between adjacent segmental parts when in position for casting, framework to carry mechanism to operate the said segmental parts and mechanism to operate the said filling parts, pins mounted to slide in the said framework to receive and be connected to the said segmental chilling parts and means to connect the said pins to the said segmental chilling parts, cams to move the said pins and to be set to be moved thereby and shafts to move the said cams and so to move the segmental parts into and out of position for casting, and to set them in position to be moved by the said segmental parts in the contraction and shrinkage of castings, and mechanism to be used to move the said filling pieces into and out of and hold them in position for casting, substantially as hereinbefore described.

3. In an expansible and contractible chilling apparatus for internally chilling hollow castings in cast iron, the combination with a plate or table, of segmental chilling parts, forming when used together a chill-core-body with divisions, filling pieces to fill longitudinal spaces left between adjacent segmental parts when in position for casting, framework to carry mechanism to operate the said segmental parts and mechanism to operate the said filling parts, pins mounted to slide in the said framework to receive and be connected to the said segmental chilling parts, and means to connect the said pins to the said segmental chilling parts, cams to move the said pins, shafts to move the said cams and so to move the segmental parts into and out of position for casting, and to set them in position to be moved by the said segmental parts in the contraction of castings, pins mounted to slide in the said framework to receive and be connected to the said filling pieces, cams to move such pins, a shaft to move the said cams and to move the said filling pieces into and out of position and hold them in position for casting, substantially as described.

4. In an expansible and contractible apparatus for chilling hollow castings in cast iron, the combination with a plate or table, of segmental chilling parts, forming when used together a chill-core body with divisions, filling pieces to fill longitudinal spaces left between adjacent segmental parts when in position for casting, framework to carry mechanism to operate the said segmental parts and mechanism to operate the said filling parts, pins mounted to slide in the said framework to receive and be connected to the said segmental chilling parts, and means to connect the said pins to the segmental chilling parts, cams to move the said pins and to be set to be moved thereby, shafts to move the said cams, and so to move the segmental parts into and out of position for casting and to be set to allow the said segmental parts to be moved by the contraction of castings, pins mounted to slide in the said core-bar to receive and be connected to the said filling pieces, cams to move such pins, a shaft to move the said cams and to move the said filling pieces into and out of position and hold them in position for casting, and means to lock and release the said shafts, substantially as described.

5. In an expansible and contractible apparatus for chilling hollow castings in cast iron, the combination with segmental chilling parts grooved on the parts intended to adjoin filling pieces correspondingly grooved, of filling pieces grooved on the parts intended to adjoin the correspondingly grooved segmental chilling parts, the grooves of the

segmental chilling parts and the filling pieces serving to facilitate the application of refractory material to prevent air from passing through the divisions of the expansible and contractible apparatus to the iron cast around it and from interfering with the production of a chilled surface on the interior of the casting, substantially as hereinbefore described.

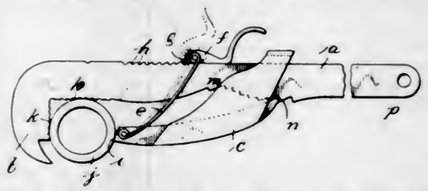
6. In an expansible and contractible apparatus for forming the interiors of hollow castings, the combination with a plate or table of segmental chilling parts, forming when used together a chill-core-body with divisions, filling pieces to fill longitudinal spaces left between adjacent segmental parts when in position for casting, framework to carry mechanism to operate the said segmental parts and mechanism to operate the said filling parts, pins mounted to slide in the said framework to receive and be connected to the said segmental chilling parts and means to connect the said pins to the said segmental chilling parts, cams to move the said pins and to be set to be moved thereby and devices to support the said cams and to turn them and so to move the said segmental parts into and out of position for casting and to set them in position to be moved by the said segmental parts in the contraction and shrinkage of castings, and mechanism to be used to move the said filling pieces into and out of and hold them in position for casting, substantially as hereinbefore described.

7. In an expansible and contractible apparatus for forming the interiors of hollow castings, the combination, with a plate or table, of segmental chilling parts forming, when used together, a chill-core-body with divisions, filling pieces to fill longitudinal spaces left between adjacent segmental parts when in position for casting, framework to carry mechanism to operate the said segmental parts and mechanism to operate the said filling parts, pins mounted to slide in the said framework to receive and to be connected to the said segmental chilling parts, and means to connect the said pins to the said segmental chilling parts, cams to move the said pins and to be set to be moved thereby, shafts to move the said cams and so to move the segmental parts into and out of position for casting and to set them in position to be moved by the said segmental parts in the contraction or shrinkage of castings and mechanism to be used to move the said filling pieces into and out of and hold them in position for casting, substantially as hereinbefore described.

8. In an expansible and contractible apparatus for forming the interiors of hollow castings, the combination, with a plate or table, of segmental chilling parts forming, when used together, a chill-core-body with divisions, filling pieces to fill longitudinal spaces left between adjacent segmental parts when in position for casting, framework to carry mechanism to operate the said segmental parts and mechanism to operate the said filling parts, pins mounted to slide in the said framework to receive and be connected to the said segmental chilling parts, and means to connect the said pins to the said segmental chilling parts, cams to move the said pins, shafts to move the said cams and so to move the segmental parts into and out of position for casting, and to set them in position to be moved by the said segmental parts in the contraction of castings, pins mounted to slide in the said framework to receive and be connected to the said filling pieces, cams to move such pins, a shaft to move the said cams and to move the said filling pieces into and out of position and hold them in position for casting, substantially as described.

9. In an expansible and contractible apparatus for forming the interiors of hollow castings, the combination, with a plate or table, of segmental chilling parts forming, when used together, a chill-core-body with divisions, filling pieces to fill longitudinal spaces left between adjacent segmental parts when in position for casting, a framework to carry mechanism to operate the said segmental parts and mechanism to operate the said filling parts, pins mounted to slide in the said framework to receive and be connected to the said segmental chilling parts, and means to connect the said pins to the said segmental chilling parts, cams to move the said pins and to be set to be moved thereby, shafts to move the said cams and so to move the segmental parts into and out of position for casting, and to be set to allow the said segmental parts to be moved by the contraction of castings, pins mounted to slide in the said framework to receive and be connected to the said filling pieces, cams to move such pins, a shaft to move the said cams and to move the said filling pieces into and out of position and hold them in position for casting and means to lock and release the said shafts, substantially as hereinbefore described.

869,206. WRENCH. HENRY C. CLARK, Charles City, Iowa, assignor of one-third to James M. Burns, one-third to Ignatius N. Snyder, one-ninth to Joseph C. Campbell, and one-ninth to Henry E. Brouillard, Charles City, Iowa. Filed Apr. 12, 1907. Serial No. 367,813.



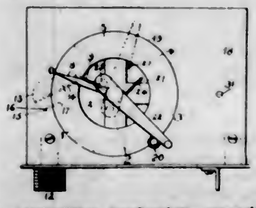
1. In a wrench of the character described, the combination of a stationary jaw formed with grooves; a movable jaw free to swing about one end, said end being free to be engaged with said stationary jaw at different points along the same; a locking latch one end of which is formed with a nose which is adapted to engage in said grooves and the other end of which is adapted to be grasped by the operator to swing the latch; and a link which connects said latch and movable jaw, the swinging of said latch serving to move said jaws towards each other.

2. In a wrench of the character described, the combination of a stationary jaw formed with notches; a movable jaw formed with a tooth adapted to engage in said notches, said movable jaw being adapted to swing about said tooth when the latter is engaged in one of said notches; a link one end of which is pivotally secured to said movable jaw; and a latch pivotally mounted in the other end of said link and adapted to engage with said stationary jaw to lock said movable jaw in gripping position.

3. In a wrench of the character described, the combination of a stationary jaw one edge of which is formed with grooves and the other edge of which is formed with notches; a movable jaw one end of which is formed with a tooth and the other end of which is formed with a gripping face, said tooth being adapted to engage in said notches; a locking latch provided with a nose adapted to engage in said grooves; and a link connecting said movable jaw and locking latch.

4. In a wrench of the character described, the combination of a stationary jaw formed with notches arranged upon a curve; a movable jaw formed to engage with said notches; a locking latch adapted to engage said stationary jaw; and a link connecting said latch and movable jaw.

869,207. VALVE-CONTROLLING MECHANISM. WILLIAM B. GARRETT, Ashton, Ill. Filed Jan. 28, 1907. Serial No. 354,574.



1. A valve controlling mechanism comprising a time movement having a main spring shaft, a spring arm movable with the shaft, a valve, an arm connected with the valve and located in the path of the movement of the spring arm, stops for the movement of the valve in both directions, and means for manually turning the shaft thereby winding the main spring.

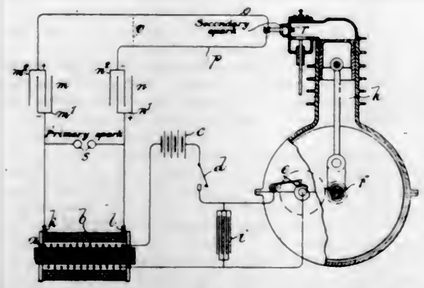
2. A valve controlling mechanism comprising a time movement having a main spring shaft, a spring arm movable with the shaft, a valve, an arm connected with the valve and located in the path of the movement of the spring arm, stops for the movement of the valve in both directions, a lever pivotally connected with the shaft and a projection extending from the shaft with which the lever contacts.

3. A valve controlling mechanism comprising a time movement having a main spring shaft, a spring arm movable with the shaft, a valve, an arm connected with the valve and located in the path of the movement of the spring arm, stops for the movement of the valve in both directions, a lever connected with the shaft, and a stationary dial provided with hour divisions over which the lever moves.

4. A valve controlling mechanism comprising a time movement having a main spring shaft, a spring arm movable with the shaft, a viave, an arm connected with the valve and located in the path of the movement of the spring arm, stops for the movement of the valve in both directions, a lever pivotally connected with the shaft, a stop for the lever, a projection extending from the shaft with which the lever contacts, and a stationary dial provided with hour divisions over which the lever moves.

5. A valve controlling mechanism comprising a time movement, a valve, means operated by the time movement for closing the valve, means for winding the main spring of the time movement, said means also giving a starting impulse to the time movement when returned to its normal position.

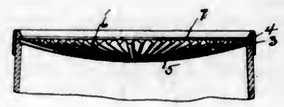
869,208. ELECTRIC IGNITION OF EXPLOSIVES. OLIVER J. LODGE and ALEXANDER M. LODGE, Birmingham, England. Filed Apr. 10, 1903. Serial No. 152,028.



1. In a system of spark ignition, apparatus for firing a combustible mixture, comprising in combination, a low tension circuit, a source of current in said circuit, an interrupter in said circuit, a high tension circuit inductively arranged with relation to said low tension circuit, a spark gap in said high tension circuit, condensing means placed in said high tension circuit and adapted to discharge across said spark gap, a sparking plug forming a secondary spark gap disposed within the combustible mixture, means connecting said spark gap to the condensing means, and a connection normally keeping said sparking plug at the same potential, as and for the purposes described.

2. In a system of spark ignition, apparatus for firing a combustible mixture, comprising in combination, a low tension circuit, a source of current in said circuit, an interrupter in said circuit, a high tension circuit inductively arranged with relation to said low tension circuit, a spark gap in said high tension circuit, a sparking plug forming a secondary spark gap disposed within the combustible mixture, a condenser in parallel with said spark gaps and a connection in parallel with said secondary spark gap, as and for the purposes described.

869,209. BARREL. FRANK E. LOWRY, Erie, Pa., assignor of one-half to Frank H. Payne, Erie, Pa. Filed Feb. 6, 1907. Serial No. 356,003.



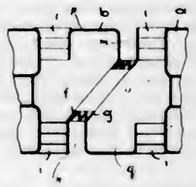
1. In a barrel the combination with the body portion of the barrel having a croze formed therein; of a barrel head of concavo-convex shape with the convex side within the barrel and having corrugations extending from the extreme edge of the head inwardly, the edge of the head resting in the croze.

2. In a barrel the combination with a body portion of the barrel having a croze formed therein; of a barrel head of concavo-convex shape with the convex side within the barrel and having corrugations extending from the extreme edge of the head inwardly, the edge of the head resting in the croze, the surface of the croze engaged by the head being coincident with the edge of the head.

3. In a barrel the combination with the body portion of the barrel formed of comparatively soft material and having a croze formed therein; of a barrel head formed of comparatively hard material and of concavo-convex shape with the convex side within the barrel and having corrugations extending from the extreme edge of the head inwardly, the edge of the head resting in the croze and with the surface of the croze engaged by the head coincident with the edge of the head.

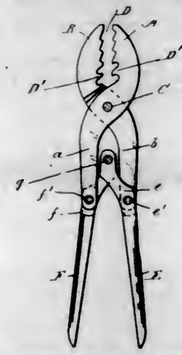
4. In a barrel the combination with the body portion of the barrel having a croze formed therein; of a head of concavo-convex shape with the convex side within the barrel and having corrugations extending from the extreme edge of the head inwardly, the edge of the head resting in the croze, the head having a greater normal diameter than the body of the barrel at the outside edge of the croze.

869,210. RAILWAY-CAR. GEORGE T. MARTIN and WILLIAM H. DART, Smith's Falls, Ontario, Canada. Filed Dec. 7, 1906. Serial No. 346,820.



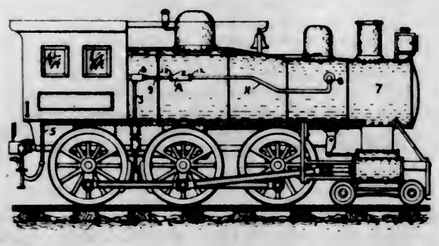
In an anti-telescoping car, the combination with two cars of a plurality of beams outwardly protruding from the center of the same, face-plates connecting the ends of the beams disposed at an angle to the direction of movement of the car, a platform projecting laterally from the extremities of the longest beams of each car, the said platforms adapted to provide the free space in the vestibules for convenience in passage, and suitable vestibules disposed above the said platforms, the faces of the said vestibules having their center portions disposed at an acute angle to the direction of movement of the car and their outer portion at right angles thereto.

869,211. WRENCH. JOHN H. MILLS, Pawpaw, Ill., assignor of one-half to James B. Daugherty, Pawpaw, Ill. Filed Jan. 15, 1907. Serial No. 352,443.



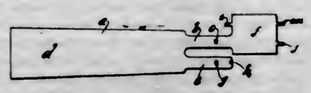
A wrench for horse-shoe calks, comprising a pair of pivoted jaws provided with compound levers for increasing the power of the grip, the opposed faces of the said jaws being provided with angular ratchet-shaped teeth near their points and having inclined round-bottomed teeth near their pivot, the last said teeth being larger and deeper than the aforesaid teeth, and all the said teeth being arranged in straight lines which are substantially radial of the said pivot.

869,212. FEED-WATER HEATER. THOMAS M. MONAHAN, Middleport, Ohio, assignor of one-fourth to John B. Lindsey and one-fourth to Curtis B. Smith, Middleport, Ohio. Filed Feb. 7, 1907. Serial No. 356,138.



In means for pre-heating the feed-water for locomotives, the combination of the boiler, a feed-water supply-pipe for the same, an injector to force the water through the pipe, a tubular housing open at opposite ends where it connects to the supply-pipe mentioned of which it forms an inserted part, said housing being provided with a lateral port open towards the side of the boiler and an upwardly extended part where it is also open, a screw-cap fitted to this open part, a check-valve near one end of the housing and below this screw-cap, and a short horizontal pipe connecting the housing at its lateral port with the side of the boiler.

869,213. GRIP-HANDLE FOR IMPLEMENTS. JOHN C. ROSS, Elyria, Ohio, assignor to The Ross Stamping Company, Elyria, Ohio, a Corporation of Ohio. Filed Mar. 21, 1907. Serial No. 363,555.



1. In an implement handle integrally formed of sheet metal, a tubular handle portion having a single seam, side arms of a grip handle branching therefrom, and a grip-piece connecting said side arms, substantially as set forth.

2. In an integral implement handle, the combination with a tubular handle portion formed of an integral sheet of metal having a single vertical seam, of terminals forming side pieces for a D-handle integral therewith, and a tubular grip-member integral with one of said side pieces and extending transversely thereof, the same being secured to the opposite side piece, substantially as set forth.

3. In an implement handle integrally formed of a single sheet metal blank, a tubular handle portion having a single seam, side arms of a grip handle branching therefrom, a grip-piece connecting said side arms, and means for holding said grip-piece to said side arms, substantially as set forth.

4. In an implement handle integrally formed of a single blank of sheet metal, a tubular handle portion having a single seam, side arms of a grip handle branching therefrom, a tubular grip-piece integral with one of said side arms, and means for securing said grip-piece to the other side arm, substantially as set forth.

5. In an implement handle formed of single blank of sheet metal, a tubular handle portion, a pair of side arms of a grip handle branching therefrom, a tubular grip-piece integral with one of said side arms, and projecting ears of said grip-piece adapted to engage the said side arms to hold the parts rigidly in place, substantially as set forth.

6. In an implement handle formed of a single blank of sheet metal, a tubular handle portion, a pair of side arms of a grip handle branching therefrom, a tubular grip-piece integral with one of said side arms, and cars projecting from the ends of said grip-piece engaging suitable apertures in the respective side arms and bent down to overlap said side arms, substantially as set forth.

7. An implement handle formed complete of a single sheet metal blank, comprising a tubular handle portion, side arms of a grip handle integral with and branching from one end of said handle portion, a tubular grip-piece having one end integral with one of said side arms, a dowel connection between the grip-piece and the attached side arm, and projections upon the free end of the grip-piece engaging suitable apertures in and overlapping the unattached side arm, substantially as set forth.

869,214. SHOVEL. JOHN C. ROSS, Elyria, Ohio, assignor to The Ross Stamping Company, Elyria, Ohio, a Corporation of Ohio. Filed Mar. 21, 1907. Serial No. 363,556.



1. As a new article of manufacture, a hand implement comprising an intermediate handle with a digger blade at one end and a D-shaped grip handle at the other end, all integrally formed from a single sheet of metal, substantially as set forth.

2. As a new article of manufacture, a shovel comprising a digger blade, an intermediate handle and side arms for a grip handle formed from a single sheet metal blank, a tubular metallic grip-piece, and means for securing said grip-piece between and tying together said side arms, substantially as set forth.

3. As a new article of manufacture, a shovel comprising a blade, an intermediate handle, side arms for a grip handle and a hand-piece of a grip handle formed from a single sheet metal blank, and means for securing said hand-piece between said side arms, substantially as set forth.

4. As a new article of manufacture, a hand implement integrally formed from a single sheet of metal comprising a digger blade, an elongated tubular handle for said blade, side arms for a grip handle branching from the end of said tubular handle, and a tubular grip-piece integrally attached to one of said side arms and fixedly secured to the other side arm, substantially as set forth.

5. As a new article of manufacture, a hand implement formed of sheet metal comprising a digger blade, an elongated tubular handle for said blade, and side arms for a grip handle branching from the end of said tubular handle all formed from a single blank, and a tubular grip-piece fixedly secured at each end to the respective side arms, substantially as set forth.

6. A hand implement blanked out of sheet metal of varying thickness comprising the combination of a digger blade of heavier gage, a tubular handle for said blade of lighter gage, side arms for a grip handle branching from said tubular handle, a grip-member spanning the space between and tying together said side arms, and means for securing said grip-member to the respective end portions of said side arms, substantially as set forth.

7. In an implement of the class herein described, the combination with a digger blade, a tubular handle portion, and side arms for a grip handle integrally formed of a sheet metal blank, of a tubular grip-member bearing ears at its ends, said ears engaging and overlapping the respective side arms to hold the grip-member in place therebetween, substantially as set forth.

8. In an implement of the class herein described formed complete of a single blank of sheet metal, the combination of a digger blade, a tubular handle portion, a pair of side arms for a grip handle branching therefrom, a tubular grip-piece integral with one of said side arms, and projecting ears of said grip-piece adapted to engage the said side arms and hold said parts rigidly in place, substantially as set forth.

9. In an implement of the class herein described formed complete of a single blank of sheet metal, the combination of a digger blade, a tubular handle portion, a pair of side arms for a grip handle branching therefrom, a tubular grip-piece integral with one of said side arms, and ears projecting from the ends of said grip-piece engaging apertures in the respective side arms and bent down to overlap said side arms, substantially as set forth.

10. In an implement of the class herein described formed complete of a single blank of sheet metal, the combination of a digger blade, a tubular handle portion, side arms for a grip handle integral with and branching from one end of said handle portion, a tubular grip-piece having one end integral with one of said side arms, a dowel connection between the grip-piece and the attached side arm, and projections upon the free end of the grip-piece engaging apertures in and overlapping the unattached side arm, substantially as set forth.

11. In an implement of the class herein described, the combination with a digger blade, a tubular handle therefor, and side arms for a grip handle continuing and branching outwardly from the same and provided with apertures, said parts being integrally formed of a sheet metal blank, of a tubular metallic grip-member transversely disposed between said side arms and provided with ears projecting through the said apertures, some of said ears engaging the outer faces of the side arms, substantially as set forth.

869,215. IMPLEMENT-HANDLE. JOHN C. ROSS, Elyria, Ohio, assignor to The Ross Stamping Company, Elyria, Ohio, a Corporation of Ohio. Filed Feb. 9, 1906. Serial No. 300,261. Renewed Sept. 25, 1907. Serial No. 394,579.



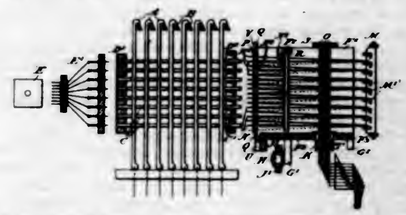
1. In a metallic handle for implements, the combination with an integral blank shaped to provide a socket and side pieces for the handle, of a tubular member disposed transversely within said side pieces and having exterior overlapping ears at the sides of said side pieces for securing the parts firmly together and holding the tubular member in place, substantially as set forth.

2. In an all-steel implement handle, the combination with the side pieces thereof terminating in an integral tubular member, of a grip transversely disposed between the upper ends of said side pieces, and provided with exterior overlapping ears bent down upon the side pieces and securely holding the parts together, substantially as set forth.

3. In an implement handle, the combination with a handle-structure formed of an integral stamping shaped below to present a tubular form having a rear seam and substantially flat side-pieces continuing the same and outwardly bent to receive the hand of the user, and a transverse grip secured between the extremities of said side-pieces and provided with over-lapping lugs, substantially as set forth.

4. In an implement handle, the combination with a handle-structure formed of an integral stamping shaped below to present a tubular form having a rear seam, and substantially flat side-pieces recessed, and a tubular sheet metal member transversely positioned between said side-pieces and provided with overlapping ears engaging the recessed side-pieces and securely uniting the handle members, substantially as set forth.

869,216. JACQUARD CARD-PUNCHING MACHINE. AUGUST M. SCHEID, Barmen, Germany. Filed Aug. 25, 1906. Serial No. 332,000.



1. In combination, pushing-needles arranged by sets at predetermined distances apart, and controlled by feeler needles, a guide plate provided with holes through which the pushing ends of the pushing-needles of certain of said sets are passed, said guide plate being also provided with slots through which the ends of the pushing-needles of certain others of said sets are passed, a slide-strip disposed adjacent to said slots and carrying in holes the ends of the pushing-needles passing through said slots, an adjusting bar or bars enabling said slides to hold and bring the projecting ends of their pushing-needles into and out of acting- or not-acting direction as desired.

2. In a pattern-card-punching-machine, a selecting apparatus, consisting of a movable carriage, a plurality of sets of pushing-needles arranged in said carriage, a corresponding plurality of sets of feeler needles controlling the pushing needles, a pushing-grate arranged to act against the pushing-needles, slide-strips enabling certain of said pushing-needles to be brought and held into or out of effective position, bars arranged to act against said feeler needles, and keys controlling said bars.

3. In a pattern-card-punching-machine, a selecting apparatus consisting of a movable carriage, a plurality of sets of pushing needles disposed in the carriage, a corresponding plurality of sets of feeler needles controlling the pushing-needles, a pushing-grate arranged to act against the pushing-needles, slide-strips additionally controlling certain of the sets of pushing-needles, and key-governed bars arranged to act against said feeler needles.

4. A pattern-card-punching-machine comprising in combination, pushing-needles, a pushing-grate, feeler-needles, a guide plate and slide-strips for the pushing-needles, and an adjusting bar for said slide-strips, said pushing-needles being controlled by said feeler needles in relation to the pushing-grate, and by said slide-strips relatively to their normal positions in said guide plate.

5. In a pattern-card-punching-machine for punching simultaneously a number of repeats, a selecting apparatus comprising a carriage, a series of pushing needles for each repeat arranged in said carriage, an additional series of pushing needles arranged in said carriage for providing an interspace in a repeat, a guide plate for guiding said pushing needles and slide strips, one for each said series of pushing needles, each said slide strip adapted to move its corresponding pushing needles into or out of operative position.

6. In a pattern-card-punching-machine, a selecting apparatus comprising a carriage, pushing needles arranged in said carriage in a plurality of series, feeler needles arranged to control said pushing needles, pushing means arranged to operate said pushing needles, two slide strips, one for each of said series of pushing needles, each said strip arranged to move its corresponding pushing needles into or out of operative position and means for operating said feeler needles.

7. In a pattern-card-punching-machine for punching simultaneously a number of repeats, a selecting apparatus comprising a movable carriage, a series of pushing needles for each repeat arranged in said carriage, an additional series of pushing needles arranged in said carriage for providing an interspace in a repeat, means for moving one of said series of pushing needles into or out of operative position, and means for operating said feeler needles.

8. A pattern-card-punching-machine comprising in combination a plurality of sets of punch controlling means for punching different repeats, the punch controlling means corresponding to each repeat arranged in a plurality of rows, a carriage, sets of pushing needles for said sets of punch controlling means carried by said carriage and likewise arranged in rows, a plurality of selecting devices for said pushing needles each selecting device controlling corresponding pushing needles of the different sets, and means for operating selected needles to cause the operation of corresponding punch controlling means.

9. In a pattern-card-punching-machine for punching simultaneously a number of repeats, a selecting apparatus comprising a carriage, a series of pushing-needles for each repeat arranged in said carriage, an additional series of pushing needles arranged in said carriage for providing an interspace in a repeat, and means for moving said additional series of pushing needles into operative position and for moving the corresponding needles of the first mentioned series of needles out of operative position.

869,217. ROLLER-BEARING. FRANKLIN STRATTON, Providence, R. I. Filed Dec. 10, 1906. Serial No. 347,173.



1. A roller-bearing comprising an annular series of rollers having gudgeons at opposite ends, connected supports at opposite ends of said rollers having sockets to receive the ends of said rollers and apertures to receive said gudgeons.

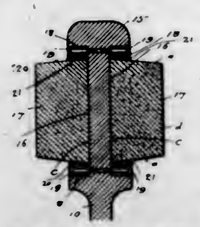
2. A roller-bearing comprising an annular series of rollers, part of which are solid and have gudgeons at opposite ends and part of which are hollow, bearing-rings at opposite ends of said rollers having sockets in their inner surfaces and apertures extending therethrough central of said sockets, the ends of said rollers being seated in said sockets and the gudgeons of the solid rollers fitting their respective apertures, and tie rods passed through said hollow-rollers and entering the corresponding apertures in the bearing-rings to tie the latter together.

3. A roller-bearing comprising bearing-rings having each a series of sockets open at the inner and outer edges of said rings, and sockets of smaller size between said first mentioned sockets and opening into the latter at opposite points, bearing-rollers having their ends fitting into said first mentioned sockets and their circumferential surfaces extending beyond the edges of said bearing-rings, spacing-rollers having their ends fitting into said smaller sockets and in contact throughout their length with said bearing-rollers, and means for connecting said bearing-rings.

4. A roller-bearing comprising two bearing-rings having each an annular series of sockets open at the edges of the rings, sockets of smaller size between said first mentioned sockets, each of said smaller sockets being closed at the edges of the bearing-rings but opening at opposite points into two of the first mentioned sockets, and apertures through said bearing-rings central of said sockets, an annular series of bearing-rollers having their circumferential surfaces extending beyond the edges of said bearing-rings, part of said rollers being solid and having gudgeons at opposite ends and part thereof being hollow, said bearing-rollers having their ends fitting said first mentioned sockets and the solid bearing rollers having their gudgeons fitting their respective apertures in the bearing-rings, tie-rods passed through the hollow bearing-rollers and having their ends secured in the corresponding apertures in said bearing-rings, and spacing-rollers between the bearing-rollers and in contact therewith, said spacing-rollers having gudgeons at their ends fitting into the apertures in the smaller sockets and having their ends fitting into the last mentioned sockets.

5. A roller-bearing comprising an annular series of rollers part of which are solid and part hollow, supports at opposite ends of said rollers having sockets to receive the ends of the latter and apertures central of the sockets receiving the hollow rollers, and tie-rods passed through the hollow rollers and having opposite ends reduced to form shoulders; said tie-rods having their shoulders bearing against the inner walls of the apertured sockets, their reduced ends passed through said apertures, and the extremities of said reduced ends arranged to secure the said supports to said tie-rods.

869,218. GRINDING-MACHINE. GEORGE W. CONKLIN, Shelton, Conn. Filed Apr. 26, 1906. Serial No. 313,808.



1. A grinding wheel comprising a web or body provided with a thickened rim having each face cut out to form an annular groove and a centrally located dividing wall, and a plurality of abrading blocks secured in each groove and resting against said central wall, the exterior faces of said blocks presenting a continuous uninterrupted grinding surface.

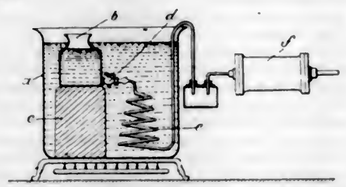
2. A grinding wheel comprising a web or body provided with a thickened rim having its side faces cut out to form annular grooves and a centrally located dividing wall, a plurality of abrading blocks located in each groove and resting against said wall, the exterior faces of said blocks presenting a continuous uninterrupted grinding surface, and locking blocks secured to said dividing wall and engaging said abrading blocks.

3. A grinding wheel comprising a web or body provided with a thickened rim having its side faces cut out to form annular grooves and a centrally located dividing wall, a plurality of abrading blocks located in each groove and resting against said wall, the exterior faces of said blocks presenting a continuous uninterrupted grinding surface, locking blocks secured to said dividing wall, and plates of soft material interposed between said locking blocks and said abrading blocks.

4. A grinding wheel comprising a web or body provided with a thickened rim having its side faces cut out to form annular grooves and a centrally located dividing wall, abrading blocks secured in said grooves and having tapered edges, the exterior faces of said abrading blocks presenting a continuous uninterrupted grinding surface, locking blocks secured to said dividing wall and provided with inclined serrated surfaces, and plates of soft material interposed between the serrated faces of the locking blocks and the inclined edges of the abrading blocks.

5. A grinding wheel comprising a web or body provided with a thickened rim having its side faces cut out to form annular grooves and a centrally located dividing wall, abrading blocks secured in said grooves and having curved tapering sides and ends oblique to a radial line, and locking blocks carried by said wall and engaging said abrading blocks.

869,219. METHOD OF MANUFACTURE OF FUSES FOR MINES. LOUIS LHEURE, Paris, France. Original application filed Jan. 27, 1905, Serial No. 242,942. Divided and this application filed Jan. 10, 1906. Serial No. 295,536.



An improved method of manufacture of fuses according to which a tube of lead or tin of suitable length and diameter is filled by means of a vacuum-pump with melted trinitrotoluene, the tube and the reservoir containing the explosive being immersed in a bath of liquid heated to the low degree at which the explosive melts, and the tube being then rolled out to a tube of great length and very small diameter substantially as described and shown and for the purpose set forth.

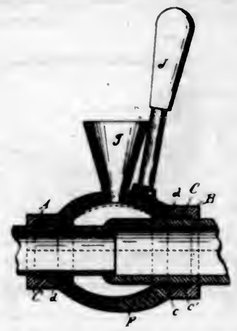
REISSUES.

12,703. JOINT-FORMER. RICHARD M. CORCORAN, Cleveland, Ohio, assignor to The Wipe-Joint Machine Company. Filed Apr. 15, 1907. Serial No. 368,453. Original No. 801,222, dated Oct. 10, 1905, Serial No. 258,370.

1. A joint former comprising a hollow body adapted to be rotatably mounted upon the end portions of the sections to be united, said former being provided with means for retaining the joint-wiping metal within the body and having means for moving the said metal, substantially as specified.

2. A joint former comprising a hollow body adapted to be applied to the end portions of the sections to be united, a clamping ring for an end of said body, and means for rotating or oscillating said body, said body being provided with means for engaging the joint wiping metal therein to move and compact the same as the body is rotated or oscillated, substantially as specified.

3. A joint former comprising a hollow body adapted to be applied to the end portions of the sections to be united, and a clamping ring for an end of said body and with reference to which said body may be rotated or oscillated, the interior of said body being so shaped as to engage the joint-wiping metal and move the same as the body is rotated or oscillated, substantially as specified.



4. A joint former comprising a hollow body, and means for rotatably securing said body in operative relation to the joint to be wiped, said body being provided with means whereby the joint-wiping metal therein may be moved and compacted about the joint, substantially as specified.

5. A joint former adapted to be applied to the joint to be wiped, said former having a chamber for the metal to be applied to the joint and being provided with means whereby the metal in said chamber may be moved and compacted about the joint, substantially as specified.

6. A joint former adapted to be applied to the joint to be wiped and movable with respect thereto, said former being provided with means for retaining the joint-wiping metal around the joint and having means whereby the metal may be worked with respect to said joint, substantially as specified.

7. A joint former comprising a chambered body adapted to be applied to the ends of the sections to be united and to be rotated or oscillated thereon, the interior of said body being so fashioned that, when rotated or oscillated, it will move or work the metal therein, whereby the joint will be tinned and wiped, substantially as specified.

8. A joint-former comprising two clamps adapted to be immovably connected to the contiguous ends of the parts to be connected, a hollow body operative between said parts, and means for causing the oscillation or rotation of the body, around the ends to be connected.

9. A joint former comprising two clamping members immovably connected to different sections of the material to be joined, a hollow body surrounding the material at the zone of its juncture, said body being provided with a space for receiving the melted solder and being roughened on its interior, with means for actuating said body between the clamps.

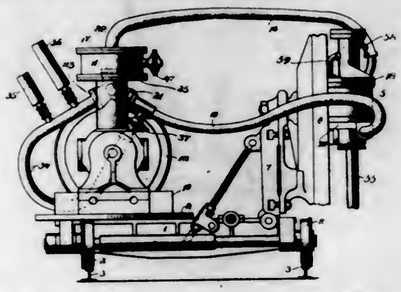
10. A joint-former of the type set forth, comprising two clamping parts having means for receiving and retaining enlarging or decreasing rings also means for receiving the ends of a hollow body, in combination with a hollow body adapted to be rotated or oscillated between said clamping-rings, substantially as set forth.

11. A joint-former of the type set forth composed of two clamping-rings, a hollow body held by said clamping rings in such a manner as to allow of the rotation or oscillation of the hollow body, said body being roughened on its interior, substantially as set forth.

12,704. ELECTROPNEUMATIC CHANNELER. ARTHUR H. GIBSON, Easton, Pa., assignor to The Ingersoll-Sergeant Drill Company, New York, N. Y., a Corporation of West Virginia. Filed Aug. 3, 1907. Serial No. 386,997. Original No. 805,195, dated Nov. 21, 1905. Reissue No. 12,602, dated Jan. 29, 1907, Serial No. 335,522.

1. In combination, a channeler, a pressor connected with the channeler, in practical working proximity thereto,

a motor for actuating the pressor, and a truck upon which said parts are mounted, for maintaining the said practical working proximity of the pressor to the channeler during the travel of the channeler along its line of cut.



2. In combination, a channeler, a pressor connected with the channeler in practical working proximity thereto, a motor for actuating the pressor and means for maintaining the said practical working proximity of the pressor to the channeler during the travel of the channeler along its line of cut.

3. In combination, a truck, a channeler adjustably mounted thereon, and a pressor adjustably mounted on the truck whereby the channeler and pressor cylinders may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.

4. In combination, a truck, a channeler adjustably mounted thereon, and a pressor and motor adjustably mounted on the truck whereby the channeler and pressor cylinders may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.

5. In combination, a truck, a channeler adjustably mounted thereon, and a pressor swiveled on the truck whereby the channeler and pressor cylinders may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.

6. In combination, a truck, a channeler adjustably mounted thereon, and a motor and pressor swiveled on the truck whereby the channeler and pressor cylinders may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.

7. In combination, a truck, a channeler adjustably mounted thereon and a radially-adjustable pressor swiveled on the truck whereby the pressor may be adjusted into close proximity to the channeler and kept in such relationship as the channeler is adjusted to different positions along the truck.

8. In combination, a truck, a channeler adjustably mounted thereon, a radially-adjustable motor and pressor swiveled on the truck whereby the pressor may be adjusted into close proximity to the channeler and kept in such relationship as the channeler is adjusted to different positions along the truck.

9. In combination, a truck, a channeler adjustably mounted thereon, a frame swiveled on the truck and a pressor mounted on the frame whereby the channeler and pressor may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.

10. In combination, a truck, a channeler adjustably mounted thereon, a frame swiveled on the truck and a motor and pressor mounted on the frame whereby the channeler and pressor may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.

11. In combination, a truck, a channeler adjustably mounted thereon, a radially-adjustable frame swiveled on the truck, and a pressor mounted on the frame whereby the channeler and pressor may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.

12. In combination, a truck, a channeler adjustably mounted thereon, a radially-adjustable frame swiveled on the truck, and a motor and pressor mounted on the frame whereby the pressor may be adjusted into close proximity to the channeler and retained in such relationship as the channeler is adjusted to different positions along the truck.

13. In combination, a channeler-cylinder, a pressor-cylinder, their pistons, pipes connecting the corresponding ends of the two cylinders and means for automatically cushioning the channeler-piston comprising a cylinder surmounting the channeler-cylinder, connected ports in the two cylinders and a plunger carried by the channeler-piston, fitted to slide in the cushioning-cylinder and open and close its port as the channeler-piston is reciprocated.

14. In combination, a channeler-cylinder, a pressor-cylinder, their pistons, pipes connecting the corresponding ends of the two cylinders, means for cutting off the escape of air from one of the pipes for cushioning the downward stroke of the channeler-piston and means for automatically sustaining the pressure of air in the last-named pipe.

15. In combination, a channeler-cylinder, a pressor-cylinder, their pistons, pipes connecting the corresponding ends of the two cylinders, a receiver-pressure supply, manually-operated means for cutting off the escape of air from one of the pipes for cushioning the downward stroke of the channeler-piston and means for automatically supplying pressure to said pipes from the receiver-pressure supply to sustain the air-cushion for the downward stroke of the channeler-piston.

16. In combination, a channeler-cylinder, a pressor-cylinder, their pistons, pipes connecting the corresponding upper and lower ends of the two cylinders, and a valve arranged to cut off the supply of air from the lower end of the pressor-cylinder to the lower end of the channeler-cylinder and at the same time to open the lower end of the pressor-cylinder to the atmosphere.

17. In combination, a channeler-cylinder, a pressor-cylinder, their pistons, pipes connecting the corresponding upper and lower ends of the two cylinders, a receiver-pressure pipe leading to the lower pipe, an automatically-operating valve in the receiver-pressure pipe and a valve arranged to cut off the supply of air from the lower end of the pressor-cylinder to the lower pipe and to open the lower end of the pressor-cylinder to the receiver-pressure-pipe.

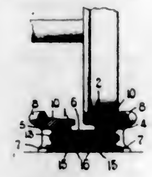
18. In combination, a channeler-cylinder, a pressor-cylinder, their pistons, pipes connecting the corresponding upper and lower ends of the two cylinders, a receiver-pressure pipe leading to the lower pipe, an automatically-operating valve in the receiver-pressure pipe, an exhaust to the atmosphere and a three-way valve arranged to open the lower end of the pressor-cylinder at pleasure to the exhaust, to the receiver-pressure pipe or to the said lower pipe.

19. In combination, a channeler-cylinder, a pressor-cylinder, their pistons, pipes connecting the upper and lower ends of the two cylinders, an induction valve for the pressor-cylinder, a receiver-pressure pipe communicating with the lower pipe, a one-way valve in the receiver-pressure pipe, a manually-operated valve arranged to open communication from the lower end of the pressor-cylinder to the said lower pipe or to the receiver-pressure pipe or to the atmosphere and means for holding the valve in its different positions.

12,705. RAILWAY-FROG. JOHN E. GRAHAM, Salem, Va., assignor to The American Flange Frog & Railway Improvement Company, Gainesville, Fla., a Corporation of Florida. Filed Aug. 19, 1907. Serial No. 389,320. Original No. 790,629, dated May 23, 1905. Reissue No. 12,605, dated Feb. 12, 1907, Serial No. 323,395.

1. As a new article of manufacture, a member adapted to be used in a railway-frog and having a guiding portion which is disposed obliquely to the frog-rail and which lies in a higher horizontal plane than the tread of said rail when said member is in operative position.

2. As a new article of manufacture, a member adapted to be arranged outside of a frog-rail of a railway track structure, and having a guiding portion which lies in a higher horizontal plane than the tread of the frog-rail and is disposed obliquely thereto when said member is in operative position.



3. A railway frog embodying frog-rails, a frog-point, and guiding devices arranged obliquely to the frog-rails and in a higher horizontal plane than the treads of the frog-rails for engaging the edge of the rim of a wheel to guide it past the frog-point.

4. A railway-frog embodying frog-rails, a frog-point, and a member arranged outside of one of the frog-rails and having a portion which lies in a higher horizontal plane than the tread of the frog-rail and is disposed obliquely thereto for engaging the edge of the rim of a wheel to guide it past the point of the frog.

5. A railway frog comprising a frog-point, frog-rails on which the wheels travel as they pass through the frog, and a pair of members arranged outside of the frog-rails adjacent the frog-point and each having a portion which lies in a higher horizontal plane than the tread of the frog-rail for engaging the rim of a wheel to guide it past the point of the frog.

6. A railway frog comprising a frog-point, frog-rails, a filler interposed between the frog-rails, and members arranged outside of each frog-rail and having portions which extend above the treads of the frog-rails and are disposed obliquely thereto for engaging the rim of a car wheel to guide it past the point of the frog.

7. A railway frog comprising a frog-point, frog-rails, members arranged outside of the frog-rails at the toe end of the frog, and flanges on said members that converge toward the frog-point for engaging the rim of a car wheel to guide it past the point of the frog, the terminals of said flanges being flared.

8. As a new article of manufacture, a frog-block having one face shaped to conform to a frog-rail and having a wheel-flange disposed obliquely to the face.

9. As a new article of manufacture, a frog-block having one of its faces shaped to conform to a frog-rail, and a wheel flange integral with the block and disposed obliquely to the face.

10. As a new article of manufacture, a frog-block embodying in an integral structure, a wheel-flange, a transversely-beveled wheel-rim tread and a rail-tread seat.

11. As a new article of manufacture, a frog-block provided with a wheel-flange, the terminals of which are curved, and with a wheel-rim tread, the upper face of the latter being inclined away from the wheel-flange.

12. A railway-frog embodying frog-rails, and a frog-point, in combination with a frog embodying members to embrace the frog-rails and to engage the terminal of the frog-point, and removable spacers or liners interposed between the opposed faces of the outer members of the frog and the web of the frog-rails.

13. A railway-frog embodying frog-rails having the upper faces of their treads inclined, in combination with frog-blocks provided with wheel-flanges and with wheel-rim treads, the upper faces of which are inclined to coincide with those of the treads of the frog-rails.

14. A railway-frog comprising frog-rails and a frog-point, and flanged frog-blocks to embrace the outer sides of the frog-rails and a spacing-block to engage the terminal of the frog-point.

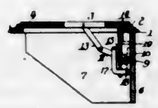
15. A railway-frog embodying frog-rails and a frog-point, and a frog comprising frog-blocks to engage the external portions of the frog-rails, each block being provided with a guard-flange, and a spacing-block interposed between the frog-rails and having a seat to receive the terminal of the frog-point.

16. A railway-frog comprising frog-rails and a frog-point, and a frog comprising frog-blocks having their upper portions each provided with a guard-flange and their opposed faces shaped to conform to the contour of the rail-base, tread and web, and a spacing-block disposed between the rails and shaped to conform to the faces of the webs and the upper sides of the rail-bases, and provided with means for engaging the frog-point, and bolts passing through the frog-blocks, spacing-blocks and rails.

17. A railway-frog comprising frog-rails and a frog-point, and a frog comprising a spacing-block disposed between the rails and provided with a seat to receive the terminal of the frog-point, and a pair of frog-blocks disposed externally of the rails and provided on their outer upper edges with a guard-flange, the inner faces of the block being each provided with a rail-tread seat, and on its upper and lower portions with a wheel-rim tread, and bolts passing through all the parts for holding them combined.

18. As a new article of manufacture, a railway-frog comprising a pair of frog-blocks, each provided on its upper outer edge with a guard-flange, and the opposed faces of the blocks being shaped to the contour of the external portions of the frog-rails, and a spacing-block shaped to conform to the internal portions of the base and web of the frog-rails, and having at one end a seat to receive the terminal of the frog-point.

12,706. AUTOMATIC LIFT AND DROP SEWING-MACHINE CABINET. WILLIAM PERSON, Rockford, Ill., assignor, by direct and mesne assignments, to The Davis Sewing Machine Company, Dayton, Ohio, a Corporation of Ohio. Filed Mar. 22, 1907. Serial No. 363,995. Original No. 798,698, dated Sept. 5, 1905, Serial No. 246,793.



1. The combination with the body, hinged lid, and hinged platform or table of an automatic lift and drop sewing machine cabinet; of a toggle joint connecting the back of the body and platform, an arm connected with the toggle joint and adapted to travel up and down against the back of the body, and an operating connection between said arm and the hinged lid.

2. The combination with the body, hinged lid, and hinged platform or table of an automatic lift and drop sewing machine cabinet; of a toggle joint connecting the back of the body and the platform, an arm connected with the toggle joint and adapted to travel up and down against the back of the body, and an operating connection between said arm and the hinged lid, comprising a chain or cord and a sheave or pulley.

3. The combination with the body, hinged lid, and hinged platform or table of an automatic lift and drop sewing machine cabinet; toggle links connecting the opposite sides of the platform with the back of the cabinet body and operatively connected together, an arm connected with the toggle links and adapted to run up and down against the said cabinet back, and an operating connection between said arm and the hinged lid.

4. The combination with the body, hinged lid, and hinged platform or table of an automatic lift and drop sewing machine cabinet; toggle links connecting the opposite sides of the platform with the back of the cabinet body and operatively connected together, an arm connected with the toggle links and adapted to run up and down against the said cabinet back, and an operating

connection between said arm and the hinged lid comprising a chain or cord and a sheave or pulley.

5. In a sewing machine cabinet, the combination of a top, a platform hinged to the top, a hinged cover, a rod pivotally supported by the cabinet beneath the top, a linked connection between the rod and platform, an arm having a pivotal connection with the rod and having a portion bearing against the cabinet and a connection between the arm and cover.

6. In a sewing machine cabinet, the combination of a top, a platform hinged to the top, a hinged cover, a rod pivotally supported by the cabinet beneath the top, a linked connection between the rod and platform, an arm supporting a roller, the roller bearing against the back of the cabinet, the arm pivotally connected to the rod, and a flexible connection between the arm and cover.

7. In a sewing machine cabinet, the combination of a top, a platform hinged to the top, a hinged cover, a rod pivotally supported by the cabinet beneath the top, a linked connection between the rod and platform, an arm supporting a roller, the roller bearing against the back of the cabinet, the arm pivotally connected to the rod, a flexible connection between the arm and cover, and a spring acting to hold the roller in contact with the cabinet-back when the cover is closed.

8. In a sewing machine cabinet, the combination of a top, a platform hinged to the top, a hinged cover, a rod pivotally supported by the cabinet beneath the top, a linked connection between the rod and platform, an arm extending from the rod, an arm pivotally connected to the arm extending from the rod and having a portion bearing against the cabinet, and a connection between the pivoted arm and cover.

9. In a sewing machine cabinet, the combination of a top, a platform hinged to the top, a hinged cover, a rod pivotally supported by the cabinet beneath the top, a linked connection between the rod and platform, an arm extending from the rod, an arm pivotally connected to the arm extending from the rod and supporting a roller bearing against the cabinet, and a connection between the pivoted arm and the cover.

10. In a sewing machine cabinet, the combination of a top, a platform hinged to the top, a hinged cover, a rod pivotally supported by the cabinet beneath the top, a linked connection between the rod and platform, an arm extending from the rod, an arm pivotally connected to the arm extending from the rod and having a portion bearing against the cabinet, a spring connected to the pivoted arm and exerting its force against the arm extending from the rod, and a connection between the pivoted arm and the cover.

12,707. METHOD OF IMPREGNATING WOOD, &c. MAX RÜPING, Charlottenburg, Germany, assignor to Hülsberg & Co. Gesellschaft mit Beschränkter Haftung, Frankfort-on-the-Main, Germany, a Firm. Filed June 8, 1907. Serial No. 378,044. Original No. 709,799, dated Sept. 23, 1902, Serial No. 100,862.

1. The method of impregnating wood and other porous material, which consists in subjecting the material to be treated, to a strong gas pressure in a closed vessel, whereby the cells, pores, or cavities of said material are filled with highly compressed gas, then subjecting the material to the action of an impregnating liquid at a still higher pressure, and then reducing the pressure, whereupon the compressed gas presses the excess of impregnating liquid out of the cells, pores, or cavities of the material, substantially as described.

2. The method of impregnating wood and other porous material, which consists in subjecting the material to be treated, to a strong gas pressure in a closed vessel, whereby the cells, pores, or cavities of said material are filled with highly compressed gas, then subjecting the material to the action of an impregnating liquid at a still higher pressure and then creating a vacuum in the vessel, whereby the compressed gas presses the excess of impregnating liquid out of the cells, pores, or cavities of the material, substantially as described.

DESIGNS.

38,861. PLATE OR SIMILAR ARTICLE. ALFRED JOHN MEAKIN, Tunstall, England. Filed Sept. 12, 1907. Serial No. 392,599. Term of patent 7 years.



The ornamental design for a plate or similar article as shown.

38,862. METAL BORDER FOR PLATE. JOSEPH THEODORE HOMAN, Cincinnati, Ohio. Filed July 29, 1907. Serial No. 386,173. Term of patent 7 years.



The ornamental design for metal border for plate as shown.

38,863. SPINNING-TOP. JAMES PAULL, Wellsburg, W. Va., assignor to Eagle Glass & Manufacturing Company, Wellsburg, W. Va., a Corporation of West Virginia. Filed July 22, 1907. Serial No. 385,094. Term of patent 14 years.



The ornamental design for a spinning top, as shown.

38,864. TEXTILE FABRIC. SOPHIA L. CROWNFIELD, New York, N. Y., assignor to Cheney Brothers, South Manchester, Conn., a Corporation of Connecticut. Filed Aug. 31, 1907. Serial No. 390,992. Term of patent 3½ years.



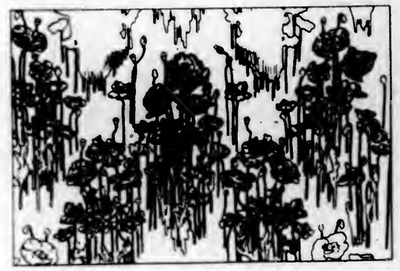
The ornamental design for a textile fabric, as shown.

38,865. TEXTILE FABRIC. SOPHIA L. CROWNFIELD, New York, N. Y., assignor to Cheney Brothers, South Manchester, Conn., a Corporation of Connecticut. Filed Aug. 31, 1907. Serial No. 390,993. Term of patent 3½ years.



The ornamental design for a textile fabric, as shown.

38,866. TEXTILE FABRIC. SOPHIA L. CROWNFIELD, New York, N. Y., assignor to Cheney Brothers, South Manchester, Conn., a Corporation of Connecticut. Filed Aug. 31, 1907. Serial No. 390,994. Term of patent 3½ years.



The ornamental design for a textile fabric, as shown.

38,867. TEXTILE FABRIC. OSCAR CARL SAUER, New York, N. Y., assignor to Cheney Brothers, South Manchester, Conn., a Corporation of Connecticut. Filed Sept. 16, 1907. Serial No. 393,250. Term of patent 3½ years.



The ornamental design for a textile fabric, as shown.

TRADE-MARKS

PUBLISHED OCTOBER 22, 1907.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 6,861. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) E. B. COLBY & Co., Jersey City, N. J. Filed May 29, 1905.

GABLE

Particular description of goods.—Furnaces, Stoves, and Ranges.

Ser. No. 11,117. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) FISCHER CHEMICAL IMPORTING Co., New York, N. Y. Filed Aug. 2, 1905.

EOSOLATE

Particular description of goods.—Calcium-Silver and Quinin Salts.

Ser. No. 11,120. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) FISCHER CHEMICAL IMPORTING Co., New York, N. Y. Filed Aug. 2, 1905.



Particular description of goods.—Filled Gelatin Capsules.

Ser. No. 12,121. (CLASS 59. HOROLOGICAL INSTRUMENTS.) FABRIQUE D'HORLOGERIE, BEAU-SITE VVE FERDINAND BOURQUIN, St. Imier, Switzerland. Filed Aug 31, 1905.



LEONIDAS

Particular description of goods.—Watches.

Ser. No. 14,471. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) P. W. LERCH & Co., South Canaan, Pa. Filed Nov. 9, 1905. Used ten years.



Particular description of goods.—Salve.

Ser. No. 15,211. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) KARL AUGUST LINGNER, Dresden, Germany. Filed Dec. 5, 1905.

Odol

Particular description of goods.—Dentifrice.

Ser. No. 17,343. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GEORGE LA MONTE & SON, New York, N. Y. Filed Feb. 26, 1906. Used ten years.

NATIONAL

Particular description of goods.—Safety-Paper, Such as is Used for Bank-Checks or other Checks, Bills of Exchange, Drafts, Tickets, and All Vouchers of Value.

Ser. No. 17,598. (CLASS 10. FERTILIZERS.) VIRGINIA-CAROLINA CHEMICAL COMPANY, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Filed Mar. 6, 1906. Used ten years.

STANDARD FERTILIZER MFG. CO'S

Particular description of goods.—Fertilizers.

Ser. No. 19,144. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) SAMUEL BELL & SONS, Philadelphia, Pa. Filed Apr. 28, 1906. Used ten years.

FANCY SPRING PATENT

DIPLOMA

Particular description of goods.—Wheat-Flour.

Ser. No. 19,647. (CLASS 29. BROOMS, BRUSHES, AND DUSTERS.) DRITSCH BROTHERS, New York, N. Y. Filed May 18, 1906.



Particular description of goods.—Tooth-Brushes.

Ser. No. 21,519. (CLASS 64. MEDICAL AND SURGICAL APPARATUS, APPLIANCES, AND INSTRUMENTS.) THE JACOBUS & CARLISLE CO., New York, N. Y. Filed Aug. 13, 1906. Used ten years.

Surgeons

Particular description of goods.—Bleached Absorbent Gauze in the Piece.

Ser. No. 22,404. (CLASS 68. PUBLICATIONS.) JOHN MURPHY COMPANY, Baltimore, Md. Filed Oct. 1, 1906. Used ten years.

FAITH OF OUR FATHERS

Particular description of goods.—Printed Books.

Ser. No. 22,837. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) SMITH & ANTHONY COMPANY, Boston, Mass. Filed Oct. 22, 1906.

EBONY FINISH

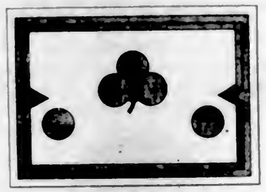
Particular description of goods.—Stoves, Ranges, and Parts Thereof.

Ser. No. 23,557. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) INTERNATIONAL PATENT CORPORATION, Pierre, S. D., and Jersey City, N. J. Filed Nov. 23, 1906.

F. R. V.

Particular description of goods.—Power-Transmitting Apparatus, Clutches, and Speed-Gears.

Ser. No. 23,942. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) GEORGE S. WARD, Pittsburg, Pa. Filed Dec. 11, 1906.



The outer panel and disks being blue and the inner panel and clover-leaf red.

Particular description of goods.—Bread.

Ser. No. 25,086. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) WILSON P. STRADER, Lexington, Ky. Filed Feb. 2, 1907.

RED BEAST

Particular description of goods.—Whisky, Gin, Brandy, Cordials, and Cocktails.

Ser. No. 25,338. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) GEO. BENZ & SONS, St. Paul, Minn. Filed Feb. 16, 1907.

N.P.

Particular description of goods.—Whisky.

Ser. No. 25,569. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) WELSH AND JONES, Philadelphia, Pa. Filed Feb. 23, 1907.



Particular description of goods.—Gold Paint.

Ser. No. 26,056. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) BERG MEDICINE COMPANY, Des Moines, Iowa. Filed Mar. 18, 1907.

MAN-ER-VINE

Particular description of goods.—Remedies and Tonics for the Nerves, Relief for Failing Powers, Lost Vitality, Nervous Debility, Varicocele, Atrophy, Loss of Memory, Sleeplessness, Dyspepsia, Kidney Diseases, and Loss of Appetite.

Ser. No. 26,635. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HARTLAND LAW, HERBERT E. LAW, San Francisco, Cal. Filed Apr. 11, 1907.



Particular description of goods.—A Tonic.

Ser. No. 27,035. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ANNA CLYDE AYDELOTT, McKenzie, Tenn. Filed Apr. 30, 1907.



Particular description of goods.—Hair-Tonics, Face-Powder, Perspiration-Powder, Talcum Powder, and Bath-Powder.

Ser. No. 27,130. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) SOUTHERN SUBSTITUTE TURPENTINE COMPANY, Wilmington, Del., and Highlandtown, Md. Filed May 4, 1907.



Particular description of goods.—A Substitute for Turpentine.

Ser. No. 27,286. (CLASS 5. ADHESIVES.) TORONTO TYPE FOUNDRY CO., (Limited,) Toronto, Ontario, Canada. Filed May 10, 1907.

STEROTONE

Particular description of goods.—An Adhesive Composition for Facing Stereotype-Flongs Used in the Manufacture of Stereotype-Plates.

Ser. No. 27,521. (CLASS 23. HAND-TOOLS NOT OTHERWISE CLASSIFIED.) W. H. COE MANUFACTURING CO., Providence, R. I. Filed May 20, 1907.



Particular description of goods.—A Hand-Operated Gliding-Wheel.

Ser. No. 27,522. (CLASS 23. HAND-TOOLS NOT OTHERWISE CLASSIFIED.) W. H. COE MANUFACTURING CO., Providence, R. I. Filed May 20, 1907.



Particular description of goods.—A Hand-Operated Gliding-Wheel.

Ser. No. 27,768. (CLASS 47. CONFECTIONERY.) THE MAZAWATTEE TEA COMPANY LIMITED, London, England. Filed May 29, 1907.

MAZAWATTEE

Particular description of goods.—Cocoa and Chocolate.

Ser. No. 27,846. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE HOLBROOK GROCERY CO., Keene, Woodsville, and Nashua, N. H. Filed June 3, 1907.

Angelus

Particular description of goods.—Canned Fruits, Canned Vegetables, and Canned Berries.

Ser. No. 27,847. (CLASS 54. SEA FOODS.) THE HOLBROOK GROCERY CO., Keene, Woodsville, and Nashua, N. H. Filed June 3, 1907.

Angelus

Particular description of goods.—Canned Shrimp, Canned Salmon, Canned Clams, and Canned Clam-Chowder.

Ser. No. 27,899. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) SUE E. LANG, Pittsburg, Pa., executrix of the estate of Henry J. Lang, deceased, assignor to H. J. Lang Shoe Company, Pittsburg, Pa., a Firm. Filed June 6, 1907.



Particular description of goods.—Leather Boots and Shoes.

Ser. No. 27,900. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) SUE E. LANG, Pittsburg, Pa., executrix of the estate of Henry J. Lang, deceased, assignor to H. J. Lang Shoe Company, Pittsburg, Pa., a Firm. Filed June 6, 1907.

FORT PITT



SHOE

Particular description of goods.—Leather Boots and Shoes.

Ser. No. 27,906. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) U. S. E. M. Co., New York, N. Y. Filed June 6, 1907.

USEM

Particular description of goods.—Electrical Bells and Electrical Push-Buttons.

Ser. No. 28,311. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) JOHN C. GRAFT, Newark, N. J. Filed June 22, 1907.

Particular description of goods.—Antiseptic and Germicide Preparation for Dental Use in Liquid and Powder Form.

Ser. No. 28,404. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) THE SAMUEL WINSLOW SKATE MFG. CO., Worcester, Mass. Filed June 26, 1907.

WINSLOW'S Skates

Particular description of goods.—Ice and Roller Skates.

Ser. No. 28,456. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) THE PATTERSON SARGENT CO., Cleveland, Ohio. Filed June 28, 1907.



The central disk and bands appearing at the sides thereof being printed in yellow.

Particular description of goods.—Paints, Varnishes, Stains, Fillers, and Surfacers for Under Coats for Varnishes.

Ser. No. 28,472. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) THE MOORE PAINT CO., Cleveland, Ohio. Filed June 29, 1907.



The monogram being printed in red.

Particular description of goods.—Varnishes, Fillers, and Colors Ground in Oil.

Ser. No. 28,589. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) ISAAC ISAACS, Kansas City, Mo. Filed July 3, 1907.

Marizek

Particular description of goods.—Coats, Vests, and Trousers.

Ser. No. 28,590. (CLASS 8. DETERGENTS.) JAMES S. RAMAGE, Chicago, Ill. Filed July 3, 1907. Used ten years.

AMERICA'S FOREMOST

Particular description of goods.—Tooth-Soap

Ser. No. 28,616. (CLASS 23. HAND-TOOLS NOT OTHERWISE CLASSIFIED.) W. H. COE MANUFACTURING CO., Providence, R. I. Filed July 6, 1907.



Particular description of goods.—A Hand-Operated Gliding-Wheel.

Ser. No. 28,675. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) THE SUNSET HONE CO., Los Angeles, Cal. Filed July 8, 1907.

DECK'S SUNSET

Particular description of goods.—Razor-Hones.

Ser. No. 28,811. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) WICHITA VINEGAR WORKS, Wichita, Kans. Filed July 15, 1907.

PRAIRIE KING

Particular description of goods.—Catsup, Mince-Meat, Apple-Butter, Pickles, and Vinegar.

Ser. No. 28,847. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) W. A. ROSS & BROTHER, INCORPORATED, New York, N. Y. Filed July 17, 1907.

"O.P.S."

Particular description of goods.—Whisky.

Ser. No. 28,853. (CLASS 66. OBJECTS OF ART AND ORNAMENT.) DAPRATO STATUARY COMPANY, Chicago, Ill. Filed July 17, 1907.

RIGALICO

Particular description of goods.—Statuary.

Ser. No. 28,879. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) AMERICAN TRADING COMPANY (PACIFIC COAST), San Francisco, Cal. Filed July 19, 1907.



Particular description of goods.—Wheat-Flour.

Ser. No. 28,912. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) FRIEDMANN & DISTILLATOR, New York, N. Y. Filed July 20, 1907.

OWL BRAND

Particular description of goods.—Chiffons, Malines, Ribbons, and Velvets.

Ser. No. 28,933. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) I. L. LAMM CO., Superior, Wis. Filed July 22, 1907.

GLISON

Particular description of goods.—Whisky.

Ser. No. 28,998. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) ST. JOHN HARMSWORTH, London, England. Filed July 23, 1907.

Perrier

Particular description of goods.—Mineral Waters.

Ser. No. 29,029. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) H. HATTEN LEPPER, Chicago, Ill. Filed July 25, 1907.



Particular description of goods.—Toilet Cream for the Skin, Skin-Food, Skin-Tonic, Face-Powder, Perspiration-Preventive, Skin-Whitener, Skin-Ointment, Cold-Cream, and Liver-Tablets.

Ser. No. 29,051. (CLASS 1. ANIMAL.) OFFENE HANDELSGESELLSCHAFT SCHRÖDER, SMIDT & CO., Bremen, Germany. Filed July 26, 1907.

S.S.&C.

Particular description of goods.—Hides, Skins, and Furs.

Ser. No. 29,065. (CLASS 29. BROOMS, BRUSHES, AND DUSTERS.) JENKINS M. LAWTON, New York, N. Y. Filed July 27, 1907. Used ten years.

DR SCOTT'S ELECTRIC

Particular description of goods.—Hair, Flesh, and Tooth Brushes.

Ser. No. 29,096. (CLASS 35. BELTING, HOSE, AND MACHINERY PACKING.) EDWARD C. GARRATT, Seattle, Wash. Filed July 29, 1907.

SWARTS

Particular description of goods.—Packing.

Ser. No. 29,138. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) MONTANA GESELLSCHAFT MIT BESCHRÄNKTER HAFTUNG, Strehla, Germany. Filed July 31, 1907.

Montanin

Particular description of goods.—Preserving and Disinfecting Agents.

Ser. No. 29,146. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) I. DRESNER, San Francisco, Cal. Filed July 31, 1907.

Dresner

LET ME BE YOUR TAILOR

Particular description of goods.—Coats, Vests, Trousers, and Overcoats.

Ser. No. 29,169. (CLASS 37. PAPER AND PAPER MONUFACTURES NOT OTHERWISE CLASSIFIED.) CHARLES C. RAHN, Thompsonville, Conn. Filed Aug. 1, 1907.



The letter "R," the background for the words "Golden R," and the bars and figure arranged within the opening of the letter "R" are yellow.

Particular description of goods.—Pasteboard Cases, Boxes, and Cartons.

Ser. No. 29,182. (CLASS 8. DETERGENTS.) AZIE MANUFACTURING COMPANY, North Adams, Mich. Filed July 26, 1907.

NIX FOR DIRT

Particular description of goods.—Non-Abrasive Scouring-Powder.

Ser. No. 29,265. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) RADIGAN, RICH & CO., New York, N. Y. Filed Aug. 6, 1907.

PROGRESS

Particular description of goods.—Celluloid, Animal and Vegetable Matter Hair-Combs.

Ser. No. 29,274. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HOLLANDER BROS. DRUG CO., Braddock, Pa. Filed Aug. 7, 1907.

CARPATHIAN

Particular description of goods.—A Remedy for Dyspepsia.

Ser. No. 29,280. (CLASS 61. JEWELRY AND SOLID AND PLATED PRECIOUS-METAL WARE.) SATZMAN & FORMAN, New York, N. Y. Filed Aug. 7, 1907.

THE EAGLE

Trade Mark

Particular description of goods.—All Kinds of Gold Chains and Bracelets.

Ser. No. 29,293. (CLASS 8. DETERGENTS.) ALFRED HONS, Berwick, Pa. Filed Aug. 8, 1907.

"ZENO"

Particular description of goods.—Toilet and Laundry Soap.

Ser. No. 29,323. (CLASS 10. FERTILIZERS.) ASHEPOO FERTILIZER COMPANY, Charleston, S. C. Filed Aug. 9, 1907. Used ten years.

EUTAW

Particular description of goods.—Fertilizers.

Ser. No. 29,378. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) LUDDY & CURRIER, Lynn, Mass. Filed Aug. 13, 1907.

Lady Betty

Particular description of goods.—Leather Boots and Shoes.

Ser. No. 29,391. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HAMPDEN MFG. CO., Baltimore, Md. Filed Aug. 14, 1907.

A.J.R.R.

ESTABLISHED 1892

Particular description of goods.—A Remedy for Eczema, Scrofula, Eruptions and Humors, Dyspepsia, Indigestion, Rheumatism, Catarrh, Kidney and Liver Difficulties, Nervousness, General Debility, Gravel and Stricture, Malaria, Sick, Bilious, or Nervous Headaches, Neuralgia, Loss of Sleep, Appetite, or Energy, Tired Weary Feeling, Melancholy, Dry Hacking Cough, and Impure Blood.

Ser. No. 29,424. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) TERAQUA MINERAL COMPANY, Memphis, Tenn. Filed Aug. 16, 1907.

TERAQUA

Particular description of goods.—Medicines for Internal and External Use for the Relief of Diseases of the Stomach, Liver, Kidneys, Nerves, and Blood, for Flux, Diarrhea, Hemorrhage, Menstrual Disorders, Cuts, Wounds, Bruises, Burns, Old Sores, Sore Eyes, Sore Throat, Eczema, Erysipelas, Cholera Morbus, Colic, and Piles.

Ser. No. 29,457. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) KANE CHEMICAL COMPANY, Cleveland, Ohio. Filed Aug. 19, 1907.

Palmiana

Particular description of goods.—Liniment and Medicines for Catarrh, Hay-Fever, and Deafness.

Ser. No. 29,461. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) ELMIRA KNITTING MILLS, Elmira Heights, N. Y. Filed Aug. 19, 1907.

LOISONNETTE

Particular description of goods.—Knitted and Netted Underclothing.

Ser. No. 29,489. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) SOCIÉTÉ "LE FERMENT," Paris, France. Filed Aug. 20, 1907.

LACTOBACILLINE

Particular description of goods.—Medicines for Treatment of the Different Varieties of Enteritis, Typhoid Fever, Cholera, Dysentery, Diarrhea, Liver and Kidney Troubles, Albumen, Colic, Gout, Gravel, and Skin Troubles.

Ser. No. 29,496. (CLASS 72. MERCHANDISE NOT OTHERWISE CLASSIFIED.) HALL-HEFFERNAN BRUSH CO., North Adams, Mass. Filed Aug. 21, 1907.

PREXITE

Particular description of goods.—Vulcanized Fiber Treated by a Secret Process for the Manufacture of Combs.

Ser. No. 29,497. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) LEGGETT & BROTHER, New York, N. Y. Filed Aug. 21, 1907.



Particular description of goods.—Insecticides.

Ser. No. 29,506. (CLASS 35. BELTING, HOSE, AND MACHINERY PACKING. MOUNT VERNON BELTING CO., Baltimore, Md. Filed Aug. 21, 1907.



Particular description of goods.—Stitched Canvas Machine-Belting.

Ser. No. 29,526. (CLASS 54. SEA FOODS.) JED FRYE & Co., New York, N. Y. Filed Aug. 22, 1907.

HARBOR

Particular description of goods.—Canned Fish.

Ser. No. 29,527. (CLASS 54. SEA FOODS.) JED FRYE & Co., New York, N. Y. Filed Aug. 22, 1907.

EXPOSITION

Particular description of goods.—Canned Fish.

Ser. No. 29,528. (CLASS 54. SEA FOODS.) JED FRYE, & Co., New York, N. Y. Filed Aug. 22, 1907.

GOLDEN LION

Particular description of goods.—Canned Sardines.

Ser. No. 29,537. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) HOOD RUBBER CO., Boston, Mass. Filed Aug. 23, 1907.



Particular description of goods.—Rubber Footwear and Rubber Tires for Motor-Vehicles.

Ser. No. 29,548. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) ALBERT DWIGHT SMITH, Springfield, Mass. Filed Aug. 23, 1907.



Particular description of goods.—Children's Textile Bands, Undershirts, and Caps.

Ser. No. 29,559. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) ACME WHITE LEAD & COLOR WORKS, Detroit, Mich. Filed Aug. 24, 1907.

ACME

Particular description of goods.—Colors in Oil, Distemper Colors, Japan Colors, Enamels, Finishes, White Lead, Liquid Slating, Paint and Varnish Remover, Paint of All Kinds, Stains, and Varnishes.

Ser. No. 29,585. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HAWES CHEMICAL COMPANY, Louisville, Ky. Filed Aug. 26, 1907.

TOXINOL.

Particular description of goods.—An Aromatic Medicinal Elixir.

Ser. No. 29,610. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) WILLIAM W. BROWN, Groesbeck, Tex. Filed Aug. 27, 1907.

A-Sep-Tol

Particular description of goods.—An Antiseptic Compound in Tablet Form for the Treatment of Diseases of the Female Generative Organs.

Ser. No. 29,613. (CLASS 47. CONFECTIONERY.) HESS BROS. INC., New York, N. Y. Filed Aug. 27, 1907.



Particular description of goods.—Candy and Chocolates.

Ser. No. 29,657. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) MORRIS HERRMANN & Co., New York, N. Y. Filed Aug. 29, 1907.



Particular description of goods.—Paris-Green.

Ser. No. 29,684. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) ARMIGER CHEMICAL CO., Chicago, Ill. Filed Aug. 30, 1907.

REX.

The mark being printed in red.

Particular description of goods.—Abrasive Metal-Polishes.

Ser. No. 29,690. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THOMAS J. JOYCE, New York, N. Y. Filed Aug. 8, 1907.

RUCASTIVE

Particular description of goods.—Hair Grower and Dandruff-Eradicator.

Ser. No. 29,694. (CLASS 28. SEWING-MACHINES AND ATTACHMENTS.) THE STANDARD SEWING MACHINE COMPANY, Cleveland, Ohio. Filed Aug. 31, 1907. Used ten years.

Perfection

Particular description of goods.—Sewing-Machines and Attachments.

Ser. No. 29,698. (CLASS 28. SEWING-MACHINES AND ATTACHMENTS.) THE STANDARD SEWING MACHINE COMPANY, Cleveland, Ohio. Filed Aug. 31, 1907.

Imperial.

Particular description of goods.—Sewing-Machine Needles.

Ser. No. 29,727. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) M. HALFF & BRO., San Antonio, Tex. Filed Sept. 3, 1907.

Ranger

Particular description of goods.—Men's and Ladies' Knitted or Netted Vests, Drawers, Undershirts, and Sweaters.

Ser. No. 29,738. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) THE MONA MANUFACTURING COMPANY, Boston, Mass. Filed Sept. 3, 1907.

MONA

Particular description of goods.—Stockings, Knitted, Netted, and Lace Underwear and Waists.

Ser. No. 29,751. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) FRANK N. POND, New York, N. Y. Filed Sept. 4, 1907.

F. N. Pond

Particular description of goods.—Cold-Cream, a Cream for Benefiting the Complexion, and a Remedy for Dyspepsia.

Ser. No. 29,789. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) GEORGE W. GILBERT, Chestnut Hill, Mass. Filed Sept. 7, 1907.



Particular description of goods.—A Preparation Containing Lactic Acid as an Active Ingredient Used as a Mordant for Dyeing Purposes.

Ser. No. 29,798. (CLASS 68. PUBLICATIONS.) THE SYSTEM COMPANY, Chicago, Ill. Filed Sept. 9, 1907.

SYSTEM

Particular description of goods.—A Monthly Magazine Devoted to Business.

Ser. No. 29,800. (CLASS 59. HOROLOGICAL INSTRUMENTS.) THE WACHTER MANUFACTURING COMPANY, Hartford, Conn. Filed Sept. 9, 1907.

SECURITAS

Particular description of goods.—Watch-Bows and Watch-Pendants.

Ser. No. 29,849. (CLASS 51. MALT PREPARATIONS NOT OTHERWISE CLASSIFIED.) THE RUEHL BROS. BREWING CO., Chicago, Ill. Filed Sept. 10, 1907.

Tadellos

Particular description of goods.—Beer.

Ser. No. 29,860. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) W. B. COSGRAVE SHOE CO., Zanesville, Ohio. Filed Sept. 11, 1907.



Particular description of goods.—Leather Boots and Shoes.

Ser. No. 29,863. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) W. B. COSGRAVE SHOE CO., Zanesville, Ohio. Filed Sept. 11, 1907.



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Particular description of goods.—Leather Boots and Shoes.

Ser. No. 29,877. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) LOUIS W. BAETEL, St. Louis, Mo. Filed Sept. 11, 1907.



Particular description of goods.—Cold-Cream, Massage Cream, and Toilet Cream.

Ser. No. 29,888. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) ZWONECHEK & AKSAMIT, Wilber, Nebr. Filed Sept. 12, 1907.



Particular description of goods.—Wheat-Flour.

Ser. No. 29,889. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) ZWONECHEK & AKSAMIT, Wilber, Nebr. Filed Sept. 12, 1907.



Particular description of goods.—Wheat-Flour and Cornmeal.

Ser. No. 29,914. (CLASS 71. TOBACCO PRODUCTS.) LOUIS KINDLING CO., Milwaukee, Wis. Filed Sept. 12, 1907.



Particular description of goods.—Cigars.

Ser. No. 29,934. (CLASS 31. FILTERS AND REFRIGERATORS.) THE LOCKLAND LUMBER CO., Lockland, Ohio. Filed Sept. 13, 1907. Used ten years.

MONROE

Particular description of goods.—Refrigerators.

Ser. No. 29,949. (CLASS 5. ADHESIVES.) THE ARABOL M'F'G CO., New York, N. Y. Filed Sept. 13, 1907.

TANGOL

Particular description of goods.—Glues Made from Seaweeds.

Ser. No. 29,957. (CLASS 54. SEA FOODS.) EDWIN SHIVELL, Melrose, Mass. Filed Sept. 13, 1907.



Particular description of goods.—Sardines.

Ser. No. 29,968. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) SAPA CHEMICAL CO., St. Louis, Mo. Filed Sept. 14, 1907.

SAPA

Particular description of goods.—A Medicinal Preparation for the Treatment of Syphilis, Rheumatism, Paralysis, Tuberculosis, Malaria, and All Circulatory Diseases, and Chronic Constipation.

TRADE-MARKS

REGISTERED OCTOBER 22, 1907.

65,712. CERTAIN HAND-TOOLS. ABNER DOBLE COMPANY, San Francisco, Cal.
Filed March 20, 1907. Serial No. 26,084. PUBLISHED AUGUST 13, 1907.

65,713. CERTAIN HAND-TOOLS. ABNER DOBLE COMPANY, San Francisco, Cal.
Filed March 20, 1907. Serial No. 26,086. PUBLISHED AUGUST 13, 1907.

65,714. CERTAIN HAND-TOOLS. ABNER DOBLE COMPANY, San Francisco, Cal.
Filed March 20, 1907. Serial No. 26,087. PUBLISHED AUGUST 13, 1907.

65,715. PUNCHES HAVING A CUTTING EDGE. B. LAWRENCE STATIONERY COMPANY, New York, N. Y.
Filed April 12, 1907. Serial No. 26,661. PUBLISHED AUGUST 13, 1907.

65,716. HAND-TOOLS HAVING CUTTING EDGES. BERING-CORTES HARDWARE CO., Houston, Tex.
Filed June 13, 1907. Serial No. 28,089. PUBLISHED AUGUST 13, 1907.

65,717. HARD LEAD. COOKSON & COMPANY, LIMITED, Newcastle-upon-Tyne, England.
Filed June 13, 1907. Serial No. 28,100. PUBLISHED AUGUST 13, 1907.

65,718. ANTIMONY, PIG-LEAD, AND SHEET-LEAD. COOKSON & COMPANY LIMITED, Newcastle-upon-Tyne, England.
Filed June 13, 1907. Serial No. 28,101. PUBLISHED AUGUST 13, 1907.

65,719. ANTIMONY IN INGOTS. COOKSON & COMPANY LIMITED, Newcastle-upon-Tyne, England.
Filed June 13, 1907. Serial No. 28,102. PUBLISHED AUGUST 13, 1907.

65,720. CERTAIN METAL MANUFACTURES. THE ELBEL COMPANY, Canton, Ohio.
Filed July 15, 1905. Serial No. 10,392. PUBLISHED AUGUST 13, 1907.

65,721. MEDICINE FOR FEVER. FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, Höchst-on-the-Main, Germany.
Filed March 21, 1906. Serial No. 18,253. PUBLISHED AUGUST 6, 1907.

65,722. WHISKY. THE GEORGE BIELER SONS COMPANY, Cincinnati, Ohio.
Filed July 11, 1907. Serial No. 28,721. PUBLISHED AUGUST 13, 1907.

65,723. CERTAIN CUTLERY AND EDGE-TOOLS. THE GEORGE WORTHINGTON COMPANY, Cleveland, Ohio.
Filed March 11, 1907. Serial No. 25,886. PUBLISHED AUGUST 13, 1907.

65,724. SUGAR-GRANULATORS, CUBE-MACHINES, DRIERS, PUMPS, AND PRESSES. HERSEY MANUFACTURING COMPANY, Portland, Me., and Boston, Mass.
Filed February 2, 1907. Serial No. 25,075. PUBLISHED AUGUST 13, 1907.

65,725. WHISKY. MCILVAINE & BALDWIN, New York, N. Y.
Filed April 23, 1907. Serial No. 26,871. PUBLISHED AUGUST 13, 1907.

65,726. CERTAIN ELECTRICAL SUPPLIES. MORGAN CRUCIBLE COMPANY LIMITED, London, England.
Filed December 18, 1906. Serial No. 24,106. PUBLISHED AUGUST 13, 1907.

65,727. FURNITURE-POLISH. ORCHARD & WILHELM CARPET CO., Omaha, Nebr.
Filed July 16, 1907. Serial No. 28,821. PUBLISHED AUGUST 13, 1907.

65,728. WHISKY. THE THEOBALD AND SON CO., Columbus, Ohio.
Filed June 24, 1905. Serial No. 8,922. PUBLISHED DECEMBER 25, 1906.

65,729. METAL BATH-TUBS WITH PORCELAIN LININGS. UNITED STATES SANITARY MANUFACTURING COMPANY, Pittsburg, Pa.
Filed March 7, 1 07. Serial No. 25,834. PUBLISHED AUGUST 13, 1907.

65,730. WASHING-MACHINES. WHITE LILY MANUFACTURING COMPANY, Davenport, Iowa.
Filed July 10, 1907. Serial No. 28,705. PUBLISHED AUGUST 13, 1907.

65,731. CORN-SALVE. CLARA BERMAN, Philadelphia, Pa.
Filed May 22, 1907. Serial No. 27,583. PUBLISHED AUGUST 20, 1907.

65,732. CERTAIN MEDICINAL PREPARATIONS. BLOOMINGDALE BROS., New York, N. Y.
Filed May 15, 1907. Serial No. 27,389. PUBLISHED AUGUST 20, 1907.

65,733. LIQUID VETERINARY BLOOD-PURIFIER. JOHN T. CARBACK, Baltimore, Md.
Filed June 7, 1907. Serial No. 27,969. PUBLISHED AUGUST 20, 1907.

65,734. PREPARATION FOR CLEANING THE TEETH. THE DAVIS CHEMICAL COMPANY, Denver, Colo.
Filed July 11, 1907. Serial No. 28,718. PUBLISHED AUGUST 20, 1907.

65,735. REMEDY FOR CATARRH. THE DAVIS CHEMICAL COMPANY, Denver, Colo.
Filed July 11, 1907. Serial No. 28,719. PUBLISHED AUGUST 20, 1907.

65,736. OINTMENT. RICHARD NEAL GILMORE, Beard, Ky.
Filed July 6, 1907. Serial No. 28,617. PUBLISHED AUGUST 20, 1907.

65,737. STOMACH-BITTERS. DR. THEO. HARTWIG, Grafton, Wis.
Filed February 23, 1907. Serial No. 25,554. PUBLISHED AUGUST 20, 1907.

65,738. OINTMENTS. HARRY HOGSHEAD, Staunton, Va.
Filed July 5, 1907. Serial No. 28,601. PUBLISHED AUGUST 20, 1907.

65,739. CERTAIN CHEMICAL COMPOUND. HOME LABORATORIES, Mankato, Minn.
Filed July 3, 1907. Serial No. 28,588. PUBLISHED AUGUST 20, 1907.

65,740. LEATHER BOOTS AND SHOES. INTERNATIONAL SHOE COMPANY, Boston, Mass.
Filed July 27, 1905. Serial No. 10,908. PUBLISHED AUGUST 13, 1907.

65,741. ANTISEPTIC POWDER. RED CROSS POWDER CO., Providence, R. I.
Filed January 3, 1907. Serial No. 24,415. PUBLISHED AUGUST 20, 1907.

65,742. KNITTED UNDERWEAR. GEO. ROCKWOOD & CO., Bennington, Vt.
Filed March 21, 1907. Serial No. 26,136. PUBLISHED JULY 9, 1907.

65,743. REMEDY FOR CHILLS. JAMES MONROE SMITH, Abbott, Ark.
Filed May 25, 1907. Serial No. 27,659. PUBLISHED AUGUST 20, 1907.

65,744. INSECT-POISON. ULLA STORRJOHANN, St. Louis, Mo.
Filed June 25, 1907. Serial No. 28,382. PUBLISHED AUGUST 20, 1907.

65,745. ANTISEPTIC COMPOUND. VOIGT & Co., Chattanooga, Tenn.
Filed July 8, 1907. Serial No. 28,663. PUBLISHED AUGUST 20, 1907.

65,746. MEDICINAL COMPOUND FOR TOPICAL APPLICATION. THE WALTER L. SMITH DRUG Co., Chanute, Kans.
Filed April 5, 1907. Serial No. 26,490. PUBLISHED AUGUST 20, 1907.

65,747. CERTAIN CHEMICAL COMPOUND. GEORGE M. WOODS, Little Rock, Ark.
Filed April 5, 1907. Serial No. 26,489. PUBLISHED AUGUST 20, 1907.

65,748. PERFUMED SOAP. A. & F. PEARS LIMD., London, England.
Filed January 17, 1906. Serial No. 16,233. PUBLISHED AUGUST 20, 1907.

65,749. SMOKING-TOBACCO. THE AMERICAN TOBACCO COMPANY, New York, N. Y.
Filed July 12, 1907. Serial No. 28,741. PUBLISHED AUGUST 20, 1907.

65,750. COMPUTING-MACHINES. THE CALCULUS COMPANY, Cleveland, Ohio.
Filed July 2, 1907. Serial No. 28,559. PUBLISHED AUGUST 20, 1907.

65,751. LINOLEUM. CATESBY & SONS, London, England.
Filed January 26, 1907. Serial No. 24,933. PUBLISHED AUGUST 20, 1907.

65,752. CERTAIN CLEANING COMPOUND. WM. CREAMER & Co., Baltimore, Md.
Filed April 6, 1907. Serial No. 26,522. PUBLISHED AUGUST 20, 1907.

65,753. DENTAL CEMENTS. EDWARD W. DODEZ, Fort Wayne, Ind.
Filed June 27, 1907. Serial No. 28,439. PUBLISHED AUGUST 20, 1907.

65,754. POST-CARDS. J. & L. E. GAUNT, Armley, England.
Filed April 5, 1907. Serial No. 26,478. PUBLISHED JULY 23, 1907.

65,755. CIGARS. GUSTAV A. MOERS & Co., Detroit, Mich.
Filed May 18, 1907. Serial No. 27,472. PUBLISHED AUGUST 20, 1907.

65,756. WATCH-MOVEMENTS. THE HAMPDEN WATCH Co., Canton, Ohio.
Filed April 25, 1905. Serial No. 2,945. PUBLISHED AUGUST 20, 1907.

65,757. STOGIES. EARLE A. LENKARD & Co., Wheeling, W. Va.
Filed July 6, 1907. Serial No. 28,622. PUBLISHED AUGUST 20, 1907.

65,758. AUTOMOBILE-GOGGLES. THE MEYROWITZ MANUFACTURING COMPANY, New York, N. Y.
Filed July 9, 1907. Serial No. 28,689. PUBLISHED AUGUST 20, 1907.

65,759. CHEWING AND SMOKING TOBACCO. P. LORILLARD COMPANY, Jersey City, N. J.
Filed July 6, 1907. Serial No. 28,623. PUBLISHED AUGUST 20, 1907.

65,760. SOAP. ROBINSON BROS. & COMPANY INCORPORATED, Portland, Me., and Malden, Mass.
Filed March 28, 1907. Serial No. 26,300. PUBLISHED AUGUST 20, 1907.

65,761. SOAP MANUFACTURED FROM WOOL-GREASE. VEREINIGTE CHEMISCHE WERKE AKTIENGESELLSCHAFT, Charlottenburg, near Berlin, Germany.
Filed May 29, 1907. Serial No. 27,748. PUBLISHED AUGUST 20 1907.

65,762. REFRIGERATORS. THE BALDWIN REFRIGERATOR Co., Burlington, Vt.
Filed July 8, 1907. Serial No. 28,633. PUBLISHED AUGUST 20, 1907.

65,763. REFRIGERATORS AND ICE-BOXES. THE BALDWIN REFRIGERATOR Co., Burlington, Vt.
Filed July 22, 1907. Serial No. 28,957. PUBLISHED AUGUST 20, 1907.

65,764. REFRIGERATORS. THE BALDWIN REFRIGERATOR Co., Burlington, Vt.
Filed July 22, 1907. Serial No. 28,958. PUBLISHED AUGUST 20, 1907.

65,765. REFRIGERATORS AND ICE-BOXES. THE BALDWIN REFRIGERATOR Co., Burlington, Vt.
Filed July 22, 1907. Serial No. 28,959. PUBLISHED AUGUST 20, 1907.

65,766. RUBBER AND RUBBER GUMS. CONTINENTAL RUBBER COMPANY, Jersey City, N. J., and New York, N. Y.
Filed July 18, 1907. Serial No. 28,854. PUBLISHED AUGUST 20, 1907.

65,767. RUBBER AND RUBBER GUMS. CONTINENTAL RUBBER COMPANY, Jersey City, N. J., and New York, N. Y.
Filed July 18, 1907. Serial No. 28,855. PUBLISHED AUGUST 20, 1907.

65,768. RUBBER AND RUBBER GUMS. CONTINENTAL RUBBER COMPANY, Jersey City, N. J., and New York, N. Y.
Filed July 18, 1907. Serial No. 28,856. PUBLISHED AUGUST 20, 1907.

65,769. RUBBER AND RUBBER GUMS. CONTINENTAL RUBBER COMPANY, Jersey City, N. J., and New York, N. Y.
Filed July 18, 1907. Serial No. 28,857. PUBLISHED AUGUST 20, 1907.

65,770. VARNISHES. THE GLIDDEN VARNISH COMPANY, Cleveland, Ohio.
Filed July 22, 1907. Serial No. 28,936. PUBLISHED AUGUST 20, 1907.

65,771. HAND-BAGS. HAHN & AMBERG, New York, N. Y.
Filed May 2, 1907. Serial No. 27,065. PUBLISHED AUGUST 20, 1907.

65,772. SIDEBOARDS, BUFFETS, SEWING-TABLES, BEDS, DRESSERS, AND WASHSTANDS. INDIANA FURNITURE Co., Connersville, Ind.
Filed April 28, 1906. Serial No. 19,148. PUBLISHED AUGUST 20, 1907.

65,773. FLOWER-SEEDS. ERNEST C. LUDWIG, Allegheny, Pa.
Filed June 24, 1907. Serial No. 28,357. PUBLISHED AUGUST 20, 1907.

65,774. GRINDSTONES. ROYAL MANUFACTURING Co., Lancaster, Pa.
Filed December 5, 1906. Serial No. 23,788. PUBLISHED AUGUST 20, 1907.

65,775. LEATHER BOOTS, SHOES, AND SLIPPERS. UPHAM BROS. Co., Stoughton, Mass.
Filed July 3, 1907. Serial No. 28,592. PUBLISHED AUGUST 20, 1907.

65,776. FERTILIZERS. VIRGINIA-CAROLINA CHEMICAL COMPANY, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn.
Filed March 22, 1906. Serial No. 18,112. PUBLISHED APRIL 23, 1907.

65,777. MAGAZINES. WALTER A. JOHNSON & Co., New York, N. Y.
Filed July 17, 1907. Serial No. 28,846. PUBLISHED AUGUST 20. 1907.

65,778. TARRED FELT FOR ROOFING, SHEATHING, AND WATERPROOFING BUILDINGS. WARREN-EHRET COMPANY, Philadelphia, Pa.
Filed June 19, 1907. Serial No. 28,260. PUBLISHED AUGUST 20, 1907.

65,779. CLOTH FOR CLEANSING AND POLISHING. ZIP CLOTH MANUFACTURING COMPANY, Boston, Mass.
Filed July 12, 1907. Serial No. 28,757. PUBLISHED AUGUST 20, 1907.

65,780. WRITING AND PRINTING PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed July 22, 1907. Serial No. 28,962. PUBLISHED AUGUST 20, 1907.

65,781. WRITING AND PRINTING PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass..
Filed July 22, 1907. Serial No. 28,965. PUBLISHED AUGUST 20, 1907.

65,782. WRITING AND PRINTING PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed July 22, 1907. Serial No. 28,968. PUBLISHED AUGUST 20, 1907.

65,783. WRITING AND PRINTING PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed July 22, 1907. Serial No. 28,970. PUBLISHED AUGUST 20, 1907.

65,784. WRITING AND PRINTING PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed July 22, 1907. Serial No. 28,974. PUBLISHED AUGUST 20, 1907.

65,785. WRITING AND PRINTING PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed July 22, 1907. Serial No. 28,976. PUBLISHED AUGUST 20, 1907.

65,786. WRITING AND PRINTING PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed July 22, 1907. Serial No. 28,978. PUBLISHED AUGUST 20, 1907.

65,787. WRITING AND PRINTING PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed July 22, 1907. Serial No. 28,980. PUBLISHED AUGUST 20, 1907.

65,788. WRITING AND PRINTING PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed July 22, 1907. Serial No. 28,981. PUBLISHED AUGUST 20, 1907.

65,789. WRITING AND PRINTING PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed July 22, 1907. Serial No. 28,983. PUBLISHED AUGUST 20, 1907.

65,790. WRITING AND PRINTING PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed July 22, 1907. Serial No. 28,984. PUBLISHED AUGUST 20, 1907.

65,791. WRITING AND PRINTING PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed July 22, 1907. Serial No. 28,985. PUBLISHED AUGUST 20, 1907.

65,792. WRITING AND PRINTING PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed July 22, 1907. Serial No. 28,986. PUBLISHED AUGUST 20, 1907.

65,793. VARNISH-STAINS. THE COLONIAL PAINT COMPANY, Cleveland, Ohio.
Filed June 10, 1907. Serial No. 27,995. PUBLISHED AUGUST 20, 1907.

65,794. CERTAIN GLASS ARTICLES. GILLINDER & SONS, INC., Philadelphia, Pa.
Filed October 12, 1905. Serial No. 13,531. PUBLISHED AUGUST 20, 1907.

65,795. MONTHLY MAGAZINES. INTERNATIONAL UNION OF STEAM ENGINEERS, Peoria, Ill.: Boston, Mass., and New York, N. Y.
Filed June 20, 1907. Serial No. 28,284. PUBLISHED AUGUST 20, 1907.

65,796. LEATHER BOOTS AND SHOES. REGAL SHOE COMPANY, Boston, Mass.
Filed June 15, 1907. Serial No. 28,156. PUBLISHED AUGUST 20, 1907.

65,797. COTTON-BATTING. THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.: New York, N. Y., and Charlotte, N. C.
Filed May 24, 1907. Serial No. 27,619. PUBLISHED AUGUST 13, 1907.

65,798. CANNED FRUITS AND VEGETABLES. THE BURT OLNEY CANNING Co., Oneida and Albion, N. Y.
Filed July 17, 1907. Serial No. 28,830. PUBLISHED AUGUST 20, 1907.

65,799. CANNED FRUITS AND VEGETABLES. THE BURT OLNEY CANNING Co., Oneida and Albion, N. Y.
Filed July 17, 1907. Serial No. 28,833. PUBLISHED AUGUST 20, 1907.

65,800. OYSTERS AND CANNED FISH. THE C. CALLAHAN Co., La Fayette, Ind.
Filed July 13, 1907. Serial No. 28,819. PUBLISHED AUGUST 20, 1907.

65,801. CERTAIN FOODS. CARROLL, BROUGH & ROBINSON, Oklahoma, Okla. Ter.
Filed June 1, 1907. Serial No. 27,829. PUBLISHED AUGUST 20, 1907.

65,802. BUTTER. GEORGE NYE COMPANY, Springfield, Mass.
Filed July 20, 1907. Serial No. 28,914. PUBLISHED AUGUST 20, 1907.

65,803. WHISKY. THE I. TRAGER Co., Cincinnati, Ohio.
Filed May 24, 1905. Serial No. 6,484. PUBLISHED NOVEMBER 13, 1906.

65,804. CHOCOLATE-COATED CANDY. J. G. MCDONALD CANDY COMPANY, Salt Lake City, Utah.
Filed July 6, 1907. Serial No. 28,625. PUBLISHED AUGUST 20, 1907.

65,805. BACON, HAM, SAUSAGE, AND LARD. JACOB DOLD PACKING Co., Buffalo, N. Y.
Filed August 13, 1906. Serial No. 21,514. PUBLISHED AUGUST 20, 1907.

65,806. WHISKY. J. W. KELLY & Co., Chattanooga, Tenn.
Filed April 20, 1905. Serial No. 2,343. PUBLISHED AUGUST 20, 1907.

65,807. WHISKY. J. W. KELLY & Co., Chattanooga, Tenn.
Filed April 20, 1905. Serial No. 2,344. PUBLISHED AUGUST 20, 1907.

65,808. RUBBER FOOTWEAR. THE M. LINDSAY RUBBER MANUFACTURING Co., Washington, D. C.
Filed February 6, 1906. Serial No. 16,803. PUBLISHED AUGUST 20, 1907.

65,809. WHISKY. THE NUMBER ONE DISTILLERY Co., Cincinnati, Ohio.
Filed November 7, 1906. Serial No. 23,161. PUBLISHED AUGUST 20, 1907.

65,810. GIN. GUSTAVE REXINGER, Cincinnati, Ohio.
Filed June 21, 1905. Serial No. 8,727. PUBLISHED AUGUST 20, 1907.

65,811. CANNED SALMON. C. SCHMITZ & Co., New York, N. Y.
Filed July 20, 1907. Serial No. 28,915. PUBLISHED AUGUST 20, 1907.

65,812. KÜMMEL. THE SCHUSTER Co., Cleveland, Ohio.
Filed May 25, 1905. Serial No. 6,628. PUBLISHED AUGUST 20, 1907.

65,813. RUBBER BOOTS AND SHOES. SELZ, SCHWAB & COMPANY, Chicago, Ill.
Filed July 19, 1907. Serial No. 28,901. PUBLISHED AUGUST 20, 1907.

65,814. RUBBER BOOTS AND SHOES. SELZ, SCHWAB & COMPANY, Chicago, Ill.
Filed July 19, 1907. Serial No. 28,905. PUBLISHED AUGUST 20, 1907.

65,815. RUBBER BOOTS AND SHOES. SELZ, SCHWAB & COMPANY, Chicago, Ill.
Filed July 19, 1907. Serial No. 28,907. PUBLISHED AUGUST 20, 1907.

65,816. RUBBER BOOTS, OVERSHOES, AND RUBBERS. ST. PAUL RUBBER Co., St. Paul, Minn.
Filed July 22, 1907. Serial No. 28,927. PUBLISHED AUGUST 20, 1907.

65,817. WHISKY. WOOLNER DISTILLING COMPANY, Peoria, Ill.
Filed September 15, 1905. Serial No. 12,647. PUBLISHED AUGUST 20, 1907.

65,818. WHEAT-FLOUR. THE ALLEN & WHEELER COMPANY, Troy, Ohio.
Filed July 19, 1907. Serial No. 28,890. PUBLISHED AUGUST 20, 1907.

65,819. WHEAT-FLOUR. THE ALLEN & WHEELER COMPANY, Troy, Ohio.
Filed July 19, 1907. Serial No. 28,891. PUBLISHED AUGUST 20, 1907.

65,820. INCANDESCENT GAS-BURNERS. BLOCK LIGHT COMPANY, New York, N. Y.
Filed April 18, 1907. Serial No. 26,769. PUBLISHED AUGUST 20, 1907.

65,821. TEA AND COFFEE. CHARLES HEWITT & SONS CO., Des Moines, Iowa.
Filed July 22, 1907. Serial No. 28,947. PUBLISHED AUGUST 20, 1907.

65,822. COFFEE AND TEA. CLOSSET & DEVERS, Portland, Oreg.
Filed July 22, 1907. Serial No. 28,943. PUBLISHED AUGUST 20, 1907.

65,823. SPINNING-RINGS FOR TEXTILE MACHINERY. DRAPER COMPANY, Hopedale, Mass.
Filed July 15, 1907. Serial No. 28,799. PUBLISHED AUGUST 20, 1907.

65,824. CARRIAGES. FOUTS & HUNTER CARRIAGE MANUFACTURING CO., Terre Haute, Ind.
Filed June 12, 1907. Serial No. 28,073. PUBLISHED AUGUST 20, 1907.

65,825. COFFEE. THE FRANK L. SANFORD TEA & COFFEE COMPANY, Denver, Colo.
Filed July 22, 1907. Serial No. 28,994. PUBLISHED AUGUST 20, 1907.

65,826. TEA AND COFFEE. THE GINTER GROCERY CO., Boston, Mass.
Filed July 5, 1907. Serial No. 28,599. PUBLISHED AUGUST 20, 1907.

65,827. LEATHER GLOVES. GORDON & FERGUSON, St. Paul, Minn.
Filed July 13, 1907. Serial No. 28,790. PUBLISHED AUGUST 20, 1907.

65,828. WHEAT-FLOUR. JONES DRY GOODS CO., Kansas City, Mo.
Filed July 15, 1907. Serial No. 28,814. PUBLISHED AUGUST 20, 1907.

65,829. COFFEE. JONES DRY GOODS CO., Kansas City, Mo.
Filed July 15, 1907. Serial No. 28,815. PUBLISHED AUGUST 20, 1907.

65,830. COFFEE. LEVERING COFFEE CO., Baltimore, Md.
Filed October 8, 1906. Serial No. 22,603. PUBLISHED DECEMBER 4, 1906.

65,831. PRINTING-PRESSES AND PARTS THEREOF. MACHINE SALES COMPANY, New York, N Y.
Filed June 4, 1907. Serial No. 27,881. PUBLISHED AUGUST 20, 1907.

65,832. CERTAIN CLOTHING. MAX MAYER AND SONS, New York, N. Y.
Filed May 28, 1907. Serial No. 27,724. PUBLISHED AUGUST 20, 1907.

65,833. WORKING-SHIRTS, JACKETS, OVERALLS, TROUSERS, AND COATS. R. L. MCDONALD & CO., St. Joseph, Mo.
Filed July 11, 1907. Serial No. 28,723. PUBLISHED AUGUST 20, 1907.

65,834. STEEL PENS. PERRY & COMPANY LIMITED, Birmingham, England.
Filed June 19, 1907. Serial No. 28,257. PUBLISHED AUGUST 20, 1907.

65,835. BUST-SUPPORTERS. GABRIELLE M. POIX, New York, N. Y.
Filed October 16, 1906. Serial No. 22,729. PUBLISHED AUGUST 20, 1907.

65,836. COFFEE AND TEA. SELLERS-LOTT COFFEE COMPANY, Quincy, Ill.
Filed July 20, 1907. Serial No. 28,911. PUBLISHED AUGUST 20, 1907.

65,837. LADIES' AND GIRLS' SHIRT-WAISTS. SPIEGEL & PREHS, New York, N. Y.
Filed April 8, 1907. Serial No. 26,571. PUBLISHED AUGUST 20, 1907.

65,838. BEER AND PORTER. T. B. HALL & COMPANY LIMITED, Liverpool, England, assignor to Machen & Company Limited, Liverpool, England, a Company.
Filed May 31, 1905. Serial No. 7,092. PUBLISHED AUGUST 20, 1907.

65,839. AUTOMOBILE-LAMPS. 35% AUTOMOBILE SUPPLY CO., New York, N. Y.
Filed December 12, 1906. Serial No. 23,955. PUBLISHED AUGUST 20, 1907.

65,840. MIXED PAINTS. THE TROPICAL OIL COMPANY, Cleveland, Ohio.
Filed July 8, 1907. Serial No. 28,677. PUBLISHED AUGUST 20, 1907.

65,841. CERTAIN WOOL-FAT PREPARATIONS. VEREINIGTE CHEMISCHE WERKE AKTIENGESELLSCHAFT, Charlottenburg, near Berlin, Germany.
Filed May 29, 1907. Serial No. 27,749. PUBLISHED AUGUST 20, 1907.

65,842. CERTAIN WOOL-FAT PREPARATIONS. VEREINIGTE CHEMISCHE WERKE AKTIENGESELLSCHAFT, Charlottenburg, near Berlin, Germany.
Filed May 29, 1907. Serial No. 27,750. PUBLISHED AUGUST 20, 1907.

65,843. BRASS CANDLESTICKS AND VALVES. W. D. ALLEN MANUFACTURING COMPANY, Chicago, Ill.
Filed April 27, 1907. Serial No. 26,957. PUBLISHED AUGUST 20, 1907.

65,844. COFFEE. W. F. MCLAUGHLIN & COMPANY, Chicago, Ill.
Filed July 13, 1907. Serial No. 28,792. PUBLISHED AUGUST 20, 1907.

65,845. COFFEE. W. F. MCLAUGHLIN & CO., Chicago, Ill.
Filed July 24, 1907. Serial No. 29,023. PUBLISHED AUGUST 20, 1907.

65,846. COMBS. W. H. NOYES & BRO. CO., Newburyport, Mass.
Filed July 13, 1907. Serial No. 28,794. PUBLISHED AUGUST 20, 1907.

65,847. MACARONI, SPAGHETTI, AND WHEAT-FLOUR. WAPLES-PLATTER GROCER COMPANY, Denison, Fort Worth, and Dallas, Tex.
Filed May 18, 1907. Serial No. 27,462. PUBLISHED AUGUST 20, 1907.

65,848. WHEAT AND RYE FLOUR. WILKINSON, GADDIS & CO., Newark, N. J.
Filed July 10, 1907. Serial No. 28,706. PUBLISHED AUGUST 20, 1907.

65,849. COAL. J. W. DAWSON, Ward, W. Va.
Filed December 28, 1906. Serial No. 24,322. PUBLISHED AUGUST 20, 1907.

LABELS

REGISTERED OCTOBER 22, 1907.

13,836.—*Title:* "SPRING LEAF TEA." (For Tea.) HOOPS TEA COMPANY, Chicago, Ill. Filed June 7, 1907.

13,837.—*Title:* "ROYAL JELLY POWDER." (For Jelly-Powder.) ROYAL PURE FOOD CO., (INC.,) New York, N. Y., and Passaic N. J. Filed September 16, 1907.

13,838.—*Title:* "LOADING COCOA BEANS." (For Cocoa-Beans.) BUNTE BROTHERS Chicago, Ill. Filed September 19, 1906.

13,839.—*Title:* "COCOA BEANS." (For Cocoa-Beans.) BUNTE BROTHERS, Chicago, Ill. Filed September 19, 1906.

13,840.—*Title:* "CHOCOLATE." (For Chocolate Goods.) BUNTE BROTHERS, Chicago, Ill. Filed September 19, 1906.

13,841.—*Title:* "ELK BRAND." (For Shoes.) GUSTAV A. LUTZ, Los Angeles, Cal. Filed April 16, 1907.

PRINTS

REGISTERED OCTOBER 22, 1907.

2,139.—*Title:* "CYCLIST BACK, BICYCLE PLAYING CARDS." (For Playing-Cards.) THE UNITED STATES PLAYING CARD COMPANY, Norwood, Ohio. Filed September 19, 1907.

2,140.—*Title:* "MEN'S AND BOYS' APPAREL." (For Men's and Boys' Apparel.) H. C. LYTTON, Chicago, Ill. Filed September 19, 1907.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS

BRAUNSTEIN v. HOLMES.

Decided March 21, 1907.

INTERFERENCE—PRIORITY—ORIGINALITY.

Where an invention is reduced to practice by B. while working as an assistant of H. and in pursuance of a general plan arranged by H. and his associate officers with a view to the attainment of the result actually accomplished by such invention, the presumption is that the reduction to practice is a result of H.'s disclosures to B., and in order for the latter to prevail on the question of priority he must affirmatively show that he was an independent inventor.

APPEAL from Examiners-in-Chief.

EXPLOSIVE AND PROCESS OF MAKING SAME.

Messrs. Howson & Howson for Braunstein.

Messrs. Harding & Harding for Holmes.

MOORE, *Assistant Commissioner, now Commissioner:*

This is an appeal by Braunstein from a decision of the Examiners-in-Chief affirming the decision of the Examiner of Interferences and awarding priority of invention to Holmes on the following issue:

An explosive consisting of a mixture of nitro-starch and ammonium oxalate.

Prior to the invention in controversy it was known that "nitro-starch" was a powerful explosive; but it was not used commercially, owing to the fact that it was unstable—that is, that at ordinary temperatures it decomposed and exploded. It was discovered by one of the parties to this proceeding that the difficulty could be overcome by mixing the compound with ammonium oxalate.

Each contestant claims to have made the invention while employed in the eastern laboratory of the E. I. du Pont de Nemours Powder Company. Holmes, the senior applicant, entered the employ of the company about June 1, 1903, while Braunstein entered their employ about October 1, 1902. Braunstein claims to have conceived the invention prior to Holmes's employment by the company, while Holmes claims that the invention was the outcome of a series of experiments planned by him and executed in part by Braunstein as his assistant. Upon these contentions the subordinate tribunals found in favor of Holmes.

The evidence clearly shows, and it seems to be undisputed, that Braunstein performed the physical acts constituting the actual reduction to practice which both claim. The precise relation existing between the parties at the time of this reduction to practice is a closely-contested question. It is deemed unnecessary to discuss in detail the testimony which has been adduced on this point. The evidence seems to show clearly that shortly after Holmes entered the employ of the company in June, 1903, he was assigned to make a research on what is referred to in the record as the "nitro-starch problem." A number of reports were introduced into evidence which show in connection with the other evidence that he was investigating this problem during the months of June, July, and August, 1903. His work broadened out as he proceeded, and it was determined by the officers of the company that one of the laboratory employees should be assigned to assist him, and Braunstein was chosen for this purpose, beginning his work in this capacity about September 1, 1903. The testimony of Reese and Emery, who were the director and assistant director, respectively, of the laboratory, and of Murrill, who appears to have been in charge of the laboratory in the absence of Reese and Emery, and the testimony of other employees of the laboratory, all tending to show that Braunstein was working as Holmes's assistant, is deemed sufficient to overcome the testimony of Braunstein that he was working independently of Holmes, and of Heard, a coemployee, to the effect that he never knew that Braunstein was working as Holmes's assistant and that he never heard Holmes give Braunstein any instructions. Moreover, Dawson, a stenographer called as a witness by Braunstein, who wrote out the earlier reports made by Holmes and Braunstein, admitted that Holmes sometimes revised the reports of Braunstein. That Braunstein was working as Holmes's assistant at the time the invention was reduced to practice is believed to be clearly established.

The evidence further shows that prior to the assignment of Braunstein as Holmes's assistant a general plan had been laid out by Holmes for the investigation of a series of ammonium compounds with respect to their "stabilizing" effect on nitro-starch. These compounds included ammoniun oxalate, which is the specific ammonium compound mentioned in the issue. This plan was laid before the officers of the eastern laboratory and approved by them, and about September 1, 1903, Braunstein was assigned to Holmes to assist in carrying out this investigation.

Under these circumstances the burden is upon Braunstein to show that he communicated the invention to Holmes or that it was in his possession prior to his association with Holmes.

The evidence adduced on these points consists of the testimony of Braunstein, Heard, and Souder. Braunstein testified that as early as June, 1903, he made tests of several nitro-starch powders, one containing carbonate of ammonia and another ammonium oxalate. He further testified that he again took up the problem in July, 1903, making up at this time several nitro-starch powders containing ammonium carbonate. The testimony of Souder, with whom Braunstein was boarding, is to the effect that about June, 1903, Braunstein told him that he was working on an article known as nitro-starch in an endeavor to make it stable and that he was quite assured that he had discovered the right process. Heard testified that about the 1st of May, 1903, Braunstein spoke to him about a stable nitro-starch powder and that some time later Braunstein spoke to him concerning the same problem and stated that he had tried ammonium carbonate as a stabilizing agent. The testimony of Souder is of practically no weight, as he mentions no specific materials, and that of Heard is insufficient, as he does not fix the date of the alleged disclosure with sufficient certainty, and he does not mention ammonium oxalate, which is the specific material called for by the issue. As to the July experiments there appears to be no testimony whatever to corroborate that of the inventor.

Braunstein further testified that he disclosed the invention to Holmes; but this is flatly denied by the latter, and there is no other evidence sufficient to prove Braunstein's claims in this regard. Moreover, the alleged disclosure took place subsequently to Braunstein's assignment as Holmes's assistant and subsequently, therefore, to the time when it had been determined by Holmes and the officers of the laboratory to try a number of ammonium compounds as stabilizers, including the specific material specified in the issue.

Braunstein has failed to discharge the burden imposed upon him by reason of his later filing date and his relation to the senior party when the invention was reduced to practice, and Holmes is therefore entitled to the award of priority.

The decision of the Examiners-in-Chief is affirmed.

FORDYCE *v.* STOETZEL.

Decided March 28, 1907.

INTERFERENCE—PRIORITY—DILIGENCE—WORK ON AUXILIARY INVENTION.

Work on an auxiliary invention which the inventor regarded as necessary to the commercial success of his invention cannot be regarded as constituting diligence where the evidence does not satisfactorily show the nature of the experiments or when they were made.

APPEAL from Examiners-in-Chief.

PNEUMATIC-TUBE SYSTEM.

Mr. J. Stuart Rusk and *Mr. Edwin C. Gilman* for Fordyce.

Messrs. Poole & Brown and *Mr. Harry P. Simonton* for Stoetzel.

MOORE, *Assistant Commissioner, now Commissioner:*

This is an appeal by Fordyce from the decision of the Examiners-in-Chief affirming the decision of the Examiner of Interferences and awarding priority of invention to Stoetzel.

The issue is set forth in seventeen counts, but one of which need be stated to indicate the character of the invention.

1. In an apparatus of the character described, a transit-tube through which carriers are transmitted, an air-valve controlling the passage of air through said tube and normally closed, an exhaust-tube, mechanism under the control of said exhaust-tube for operating said valve and mechanism operated by the insertion of a carrier into said tube for opening said air-valve and allowing a passage of air through said tube for driving carriers.

This interference is between an application of Stoetzel and a patent inadvertently granted Fordyce during the pendency of Stoetzel's application. Stoetzel's application disclosing the invention in issue was filed April 25, 1904. Fordyce filed his application August 25, 1904. The burden, therefore, is upon Fordyce to establish priority of invention by a preponderance of evidence. (*Furman* v. *Dean*, 114 O. G., 1552.)

The invention in controversy relates to improvements in pneumatic-despatch systems for retail and department stores, in which the air in the transit-tube is exhausted and the carrier impelled to its destination by the air which enters the tube behind the carrier.

In some of the systems in use the transit-tubes are open at the receiving end and a partial vacuum maintained therein by a pump or blower which draws a continuous current of air through the transit-tube. This causes considerable waste of power, since the blower is operated continuously whether carriers are being transmitted or the system is idle. In the invention in issue a normally closed valve is provided between the exhausting mechanism and the transit-tubes which upon the introduction of a carrier is automatically opened by a supplemental pneumatic system to allow the exhaust to become effective in the despatch-tube only during the transmission of the carrier. In order to provide for the maximum saving of power, it is desirable to have in connection with this conveyer system an automatically-regulable suction device which will develop more or less power, according to the demand upon the system by the number of carriers in use.

Stoetzel alleges in his preliminary statement that he conceived the invention in issue on or about June 15, 1902, and that he reduced it to practice in December, 1902. His application for patent was filed April 25, 1904.

Fordyce alleges conception March 21, 1895, and reduction to practice in March, 1901. The application upon which Fordyce's patent was granted was filed August 25, 1904.

The testimony presented in behalf of Fordyce shows, and it is not disputed, that in the spring of 1901 Fordyce equipped a single line of pneumatic-despatch tubing with a system of valves such as are defined by the issue, and his claim to priority rests upon the sufficiency of the evidence to establish the fact of reduction to practice in this device or diligence in reducing the invention to practice after Stoetzel's filing date, since no intermediate reduction to practice is alleged.

The Examiners-in-Chief and the Examiner of Interferences held that the device constructed by Fordyce in 1901 was merely experimental in character and did not constitute a reduction to practice of the invention. They also held that Fordyce was not diligent in

reducing the invention to practice when Stoetzel entered the field, reduced the invention to practice, and filed his application.

In my opinion the conclusions of the lower tribunals are correct.

The device which was made by Fordyce in the spring of 1901 embodied the invention in substantially the form shown in the drawings of his application. The automatic valves were applied to a despatch-tube which was used for testing and experimental purposes in the shops of the Bostedo Pneumatic Tube Company, where Fordyce was employed, and the system tested for a short time, after which it was dismantled. (Fordyce, Q. 51.) According to the testimony of Fordyce and of Chase, who was also in the employ of the Bostedo Pneumatic Tube Company in 1901, the test of this device satisfactorily demonstrated that it would save power. Fordyce was of the opinion, however, that in order that this device should be made commercially successful it would be necessary to have a co-operating speed-regulator for the blower, so that the exhaust could be varied in proportion to the number of carriers being transmitted. He therefore laid aside transmitting mechanism until he could develop a suitable speed-regulator. This was not accomplished until subsequent to the date upon which he filed his application. (Fordyce, X-Qs. 36 and 51.)

It is contended by Fordyce that the device made by him in the spring of 1901 constituted a reduction to practice and that inasmuch as in his own opinion the cylinder and piston mechanism for controlling the valve was not adapted to commercial use with any known type of blower or compressor (X-Qs. 105–106) he was justified in delaying the filing of an application for patent during the progress of experiments to perfect a suitable power-controlling device for the blower.

The argument advanced by Fordyce in excuse of the delay in filing his application is refuted by the fact that when his application was finally filed the problem of the speed-regulator for the blower remained unsolved by him.

The admissions of Fordyce that the 1901 device was merely an experimental apparatus and was not adapted to be placed upon the market (Q. 59; also Chase, Q. 54) when taken in connection with the delay of nearly three and one-half years in constructing a practically operative system or filing an application clearly warrants the conclusion that the device did not constitute a reduction to practice of the invention.

The testimony relating to Fordyce's investigations in respect to a suitable regulator for the blower does not satisfactorily establish diligence in the endeavor to perfect his invention into a commercial form. He offers the testimony of two electrical experts, Markle and Parker, to show that variable-speed electrical motors had not been satisfactorily developed in 1901 and to indicate the necessity of original research upon variable-speed regulators. Fordyce states that he performed a large number of experiments relating to speed-regulators of various types and finally succeeded in constructing a satisfactory device in the fall of 1904. It is stipulated that if Frederick A. Spear, the general agent of the Lamson Consolidated Store Service Company, with which Fordyce has been connected since 1903, were called as a witness he would testify that "Fordyce made numerous experiments regarding devices to control blowers for pneumatic-despatch-tube systems." Chase describes a single experiment in 1901 with coned pulleys (Q. 60) and states that Fordyce made other experiments at various times. Fordyce also tells of observing certain experiments made by others upon variable-speed regulators. There is, however, no satisfactory evidence of the nature of the experiments performed by Fordyce, and it does not appear when the alleged experiments were made. During the interval between the spring of 1901 and August, 1904, no experiments appear to have been made which included the invention in issue. The automatic valve-operating mechanism "was stored on the shelves in the factory of the Bostedo Company," (Chase, Q. 50,) and the tubing was frequently used by Fordyce in the development of other inventions. (Fordyce, X-Q. 66.) The record, moreover, shows that during this period Fordyce filed six applications for patent upon these other inventions.

This testimony is clearly insufficient to show that Fordyce was diligently endeavoring to reduce the invention to practice at the time Stoetzel filed his application April 25, 1904, or at any time prior to his own filing date, August 25, 1904. His lack of diligence cannot be excused because of his inability to procure a supposedly necessary auxiliary invention which had not been developed and which might never have been produced. In view of these facts Stoetzel is clearly entitled to the award of priority of invention.

If, however, it could be conceded that Fordyce's experiment in 1901 constituted a reduction to practice, the testimony, in my opinion, shows that the invention was concealed in the shops of the Bostedo Pneumatic Tube Company for such a period of time as would subordinate his rights to those of Stoetzel, who installed and successfully operated several systems embodying this invention prior to the date upon which Fordyce filed his application. (*Mason* v. *Hepburn*, C. D., 1898, 510; 84 O. G., 148; *Warner* v. *Smith*, C. D., 1898, 517; 84 O. G., 311; *Fefel* v. *Stocker*, C. D., 1901, 269; 94 O. G., 433.)

The decision of the Examiners-in-Chief is affirmed.

KENTUCKY DISTILLERIES AND WAREHOUSE COMPANY *v.* P. DEMPSEY & COMPANY.

OPPOSITION.

Decided September 26, 1907.

1. TRADE-MARK—OPPOSITION—REGISTRATION OF A NON-TECHNICAL MARK MAY BE OPPOSED BY OWNER OF A SIMILAR NON-TECHNICAL MARK.

Where an applicant seeks to register a mark under the ten-year proviso of section 5 of the act of 1905 and the registration of that mark is opposed by a party who claims ownership of a mark consisting of a surname or a geographical term which resembles the applicant's mark, *Held* that the notice of opposition will not be dismissed upon the ground that the opposer's mark is not a proper trade-mark.

2. SAME—SAME—PROOF OF CONFUSION IN TRADE.

Where the opposer alleged in his notice of opposition that confusion in trade had occurred, but introduced no testimony that such confusion had taken place, and where the marks are not so nearly alike that in the absence of proof as to actual confusion it can be held that confusion would be likely to occur, the applicant's mark will not be refused.

3. SAME—SAME—DOUBTFUL SIMILARITY—"MAYFIELD," "MAYFAIR."

Held that the marks "Mayfield" and "Mayfair" are not so nearly alike that in the absence of proof as to actual confusion it can be held that confusion would be so likely to occur as to justify refusing to register the applicant's mark.

APPEAL from Examiner of Interferences.

TRADE-MARK FOR WHISKY.

Mr. James L. Hopkins for Kentucky Distilleries and Warehouse Company.

Mr. James H. Churchill for P. Dempsey & Company.

MOORE, *Commissioner:*

This is an appeal from a decision of the Examiner of Interferences dismissing the opposition and holding that the applicant is entitled to register the mark for which application has been made.

The mark of the applicant is "Mayfair," while that of the opponent is "Mayfield."

The opposition is brought on the ground that the Kentucky Distilleries and Warehouse Company is the sole and exclusive owner of the word "Mayfield" as a trade-name for whisky and that the word "Mayfair" similarly used is calculated to deceive the public into the belief that the goods bearing the trade-mark are those of the opponent and that the public has been so deceived.

It appears from the record that the applicant adopted its mark about 1885 and that the opponent and its predecessors in business have used the word "Mayfield" continuously since about 1872.

It is contended by appellant that the opposition should be dismissed for the reason that "Mayfield" is not a proper trade-mark, being both a surname and a geographical name.

The contention is thought to be not well taken. Applicant seeks to register its mark under the ten-year clause of the Trade-Mark Act of 1905—that is to say, it alleges that it has had exclusive use of its mark for ten years next preceding the passage of the act. Manifestly, if some one else had prior to the time when applicant adopted its mark adopted and used continuously since such adoption a mark which was either the same as applicant's or so nearly the same as to cause confusion in trade and deceive the public, applicant's use was not exclusive.

If, therefore, the testimony shows that the marks are so similar that confusion in trade has taken place or if it is evident from an inspection of the marks that confusion in trade will be likely to occur, (*Wolf Bros. & Co.* v. *Hamilton Brown Shoe Co.*, 125 O. G., 667,) the opposition should be sustained.

Although opponent alleged in his notice of opposition that confusion in trade had occurred, he introduced no testimony to show that such confusion had taken place. It is contended by counsel for opponent that on cross-examination certain of applicant's witnesses admit that there has actually been confusion in the use of the two marks; but the testimony upon careful examination does not bear out the contention.

The testimony of Hunt, a liquor dealer, on this point is as follows:

Cross-int. 25. Did you ever hear or know of any confusion arising from a similarity between the names "Mayfield" and "Mayfair?"

(Objected to as not proper cross-examination.)

A. I did hear that there was some controversy about it.

But in answer to redirect question 31 he states that the controversy referred to was this opposition proceeding.

In answer to recross-question 19, Cox, a salesman for P. Dempsey & Co., states that on one occasion some one asked him if the whisky he was selling was anything like that sold by Peter Moran for forty cents a pint, and that he afterward found that Moran was selling Mayfield whisky. It appears from Cox's answer to cross-question 20 that this question was asked as a joke; but even if this were not true such a chance question asked of a salesman would not establish such confusion in trade as to justify holding that the applicant was not entitled to register his mark.

It would seem to have been a comparatively easy matter to have established that confusion had arisen between the marks if such had been the case. The marks are not so nearly alike that in the absence of proof as to actual confusion it can be held that confusion would be so likely to occur as to justify refusing to register applicant's mark. It is true that the first syllable of the two words "Mayfield" and "Mayfair" are the same; but this is also true of the words "Cuticura" and "Cuticle," the former of which was held, in *Potter Drug and Chemical Co.* v. *Pasfield Soap Co.*, (106 F. R., 914,) not to be infringed by the latter.

The decision of the Examiner of Interferences is affirmed.

DIXON AND MARSH *v.* GRAVES AND WHITTEMORE.

PATENT INTERFERENCE.

Decided October 14, 1907.

INTERFERENCE—CONSIDERATION OF PATENTABILITY ON APPEAL ON PRIORITY—SUPERVISORY AUTHORITY.

The question of the patentability of issue will be considered on appeal on priority only under the supervisory authority of the Commissioner for the purpose of correcting a manifest error.

APPEAL from Examiners-in-Chief.

METHOD OF SHAPING GLASS.

Messrs. Bakewell & Byrnes and *Mr. H. S. Shepard* for Dixon and Marsh.

Mr. James Whittemore and *Messrs. Bacon & Milans* for Graves and Whittemore.

MOORE, *Commissioner:*

This is an appeal by Dixon and Marsh from a decision of the Examiners-in-Chief affirming the decision of the Examiner of Interferences awarding priority of invention to Graves and Whittemore.

Graves and Whittemore are the senior parties. The only testimony taken by the junior parties was that of an expert, tending to show that the issue is not patentable, which testimony was upon motion suppressed, and priority of invention was awarded to Graves and Whittemore on the record dates.

The sole contention on this appeal is that the issue is not patentable to either party. This question has been before the Primary Examiner both *ex parte* and *inter partes*, and in each case he has held the issue to be patentable. Both the Examiner of Interferences and the Examiners-in-Chief upon appeal on priority have refused to recommend, under Rule 126, that the claims be rejected as being without patentable novelty. Under these circumstances the question presented will be considered only under my supervisory authority for the purpose of correcting a manifest error. No such error is apparent here, and priority of invention is therefore awarded to Graves and Whittemore.

The decision of the Examiners-in-Chief is affirmed.

FELBEL *v.* FOX.

PATENT INTERFERENCE.

Decided October 11, 1907.

1. INTERFERENCE—JUDGMENT ON RECORD—ORDER TO SHOW CAUSE—SUFFICIENCY OF SHOWING.

Where in response to an order to the junior party to show cause why judgment of priority should not be rendered against him because his alleged date of conception was subsequent to the filing date of the senior party the junior party files a statement alleging that certain of the counts are specific to his structure and that the subject-matter covered thereby was not shown or described by the senior party, *Held* to be insufficient, as the question sought to be raised was one which should have been raised by a motion to dissolve rather than by the mere filing of a statement.

2. SAME—DELAY IN FILING MOTION—CHARACTER OF SHOWING REQUIRED.

A mere unverified statement accompanying a motion filed one day late stating that the motion could not be brought sooner on account of other work is insufficient. A showing in excuse for delay should be under oath, and it should state facts from which the Office may judge whether or not the delay was excusable.

3. PRACTICE—ADHERENCE TO RULES NECESSARY.

While it is not the desire of the Office to be too technical, it is better to insist upon a reasonable and just compliance with the rules of the Office, though it may work a hardship in an individual case, than to adopt a course that would result practically in abrogating the rules, with consequent confusion. (*Keller* v. *Wethey* v. *Roberts*, C. D., 1897; 81 O. G., 331; *Estes* v. *Gause*, C. D., 1899; 88 O. G., 1336.)

ON PETITION.

TYPE-WRITING MACHINE.

Mr. Jacob Felbel pro se.

Messrs. Chappell & Earl for Fox.

BILLINGS, *Assistant Commissioner:*

This is a petition by Felbel that the judgment of priority of invention in favor of Fox rendered by the Examiner of Interferences be set aside and an *inter partes* hearing upon the merits of Felbel's showing be granted.

The records of this interference show that on July 5, 1907, the Examiner of Interferences gave notice that judgment on the record would be rendered against Felbel unless he should on or before August 5, 1907, show good and sufficient cause why such action should not be taken. The ground of the notice was that the date of conception alleged by Felbel of the invention in issue was subsequent to the filing date of the senior party. This notice was given under the provisions of Rule 114, which is as follows:

114. If the junior party to an interference, or if any party thereto other than the senior party, fails to file a statement, or if his statement fails to overcome the *prima facie* case made by the respective dates of application, such party will be notified by the Examiner of Interferences that judgment upon the record will be rendered against him at the expiration of thirty days, unless cause is shown why such action should not be taken. Within this period any of the motions permitted by the rules may be brought. Motions brought after judgment on the record has been rendered will not be entertained unless sufficient reasons appear for the delay.

One day after the time set by the Examiner of Interferences within which cause should be shown Felbel filed a statement of reasons why in his opinion judgment should not be rendered against him as to certain counts of the issue, the reasons being that the claims corresponding to these counts were specific to Felbel's invention and were not shown and described in Fox's application. The Examiner held the showing to be insufficient under the order to show cause and rendered judgment of priority of invention in favor of Fox, the senior party. The Examiner of Interferences held that the showing made by Felbel in order to be heard by the proper tribunal of the Office was such as should have been made in a motion to dissolve the interference.

Felbel contends—

That Rule 114, relating to the showing of cause why judgment should not be rendered, does not specify that such showing must be made by way of "motion to dissolve," or even by motion.

This Office has found by experience that in order to properly transact business the questions which are sought to be raised by applicants appearing before it must be presented according to certain procedure. To permit applicants to raise questions in the Office by merely filing papers setting forth those questions and without regard to the procedure which is well established and settled by a long line of decisions would result in endless confusion, both to the parties practicing before the Office and to the officials whose duty it is to pass upon these questions. While *ex parte* petitions are sometimes considered in an *inter partes* case, to do so is the exception and not the rule. Where, as in this case, the junior party fails to overcome the filing date of the senior party, it follows as a matter of course that judgment must be rendered against the junior party unless he can show to the satisfaction of the Office some valid reason why the judgment should not be entered. In the present case applicant was given thirty days within which to present these reasons. Rule 114 states:

Within this period any of the motions permitted by the rules may be brought.

This provision of the rule permits the junior party to present to the Office any reason which in his opinion requires that judgment be not rendered. It is well settled that these reasons should be brought in the form of a motion. The applicant has stated in his brief several of the motions which might be brought, as follows:

To amend his preliminary statement; to dissolve the interference for any cause; to amend his application; to shift the burden of proof; to stay proceedings; to permit an assignee to intervene and prosecute.

Every one of these questions should be raised by a motion. Each of them may be heard and determined by the Examiner of Interferences, except questions relating to the dissolution of the interference. Felbel, however, did not bring any of the above-mentioned motions, nor did he raise any of the above-mentioned questions, except that which should, if raised at all, be presented in a motion to dissolve. This latter question, it is well settled, must be heard and determined by the Primary Examiner. As said by the Examiner of Interferences, Felbel contends—

* * * that Fox is not entitled to make claims corresponding to certain counts of the issue. Such a question can only be raised on motion to dissolve.

Inasmuch as it is very clear that the question raised by Felbel is one which if granted would result in the

dissolution of the interference, it becomes necessary to consider Rule 122, which provides for motions to dissolve an interference. This rule provides, in part:

Such motions, and all motions of a similar character, should be accompanied by a motion to transmit the same to the Primary Examiner, and such motion to transmit should be noticed for hearing upon a day certain before the Examiner of Interferences.

It is well settled, also, that where motions are made they should be accompanied by proof of service upon the opposing party. Felbel merely stated that he sent a copy of his statement to the opposing party; but this is not proof of service as required by the rule. Rule 153 states, in part:

In contested cases reasonable notice of all motions, and copies of motion papers and affidavits, must be served, as provided in Rule 154 (2). Proof of such service must be made before the motion will be entertained by the Office.

Rule 154 (2) states specifically how service may be made. The statement filed by Felbel in this case was filed late, and it was accompanied by a mere *ex parte* unverified statement that—

Owing to unavoidable delay in securing copies of Fox's file, and the necessity for acting in other interferences and on pending cases within prescribed times, it has been impossible to make this showing previously.

It is well settled by the practice of this Office that when motions or other papers are filed late they must be accompanied by a verified showing of facts upon which the Office may base conclusions as to the sufficiency of the reasons alleged for the delay. With the exception of the fact that the statement filed by Felbel in answer to the order to show cause was specific he has complied with none of the formal requirements so well established by the practice which are necessary in order to insure consideration of the question raised. While it is not the desire of the Office to be too technical, yet applicants must be required to follow the simple and well-known procedure laid down in the rules and in a long line of decisions. As so well stated by former Commissioners, it is better to insist upon a reasonable and just compliance with the rules of the Office, though it may work a hardship in an individual case, than to adopt a course that would result practically in abrogating the rules, with consequent confusion. (*Keller* v. *Wethey* v. *Roberts*, C. D., 1897; 81 O. G., 331; *Estes* v. *Gause*, C. D., 1899; 88 O. G., 1336.)

The decision of the Examiner of Interferences was right, and the petition is denied.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 14, 1907.

The Saint Paul Roller Mill Company, its assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of the Ralston Purina Company, of Eighth and Gratiot streets, St. Louis, Mo., for registration of a trade-mark and a trade-mark registered to The St. Paul Roller Mill Company, of St. Paul, Minn., and the notice of said declaration mailed by the Patent Office in the usual manner to the said The St. Paul Roller Mill Company having been returned undelivered, notice is hereby given to the said The St. Paul Roller Mill Company, its assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents in order that the notices of declaration heretofore sent by and returned to the Office may be forwarded to them.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 7, 1907.

J. Meyer & Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of P. Raguet Fils & R. Vignes, of Troyes, France, for registration of a trade-mark and a trade-mark registered to J. Meyer & Company, of New York, N. Y., and it appears from the record of the case that the registrant, J. Meyer & Company, cannot be located.

Notice is therefore hereby given to said J. Meyer & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 4, 1907.

McCulloch & Company, their assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of Alart & McGuire, of 66 Madison street, borough of Manhattan, New York, N. Y., for registration of a trade-mark and a trade-mark registered to McCulloch & Company, of 88 Water street, New York, N. Y., and the notice of said declaration mailed by the Patent Office in the usual manner to the said McCulloch & Company having been returned undelivered, notice is hereby given to the said McCulloch & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents in order that the notices of declaration heretofore sent by and returned to the Office may be forwarded to them.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

EDWARD B. MOORE, *Commissioner.*

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ISSUE OF OCTOBER 29, 1907.

Patents	650	No. 869,220 to No. 869,869, inclusive.
Designs	None.	
Trade-Marks	106	No. 65,850 to No. 65,955, inclusive.
Labels	7	No. 13,842 to No. 13,848, inclusive.
Prints	4	No. 2,141 to No. 2,144, inclusive.
Reissues	6	No. 12,708 to No. 12,713, inclusive.
Total	773	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	4	.....	New Hampshire	.....	.....
Arizona Territory	.....	.....	New Jersey	25	4
Arkansas	3	.....	New Mexico Ter't'y	1	.....
California	22	7	New York	111	22
Colorado	13	2	North Carolina	3	.....
Connecticut	14	1	North Dakota	2	.....
Delaware	.....	.....	Ohio	38	5
District of Columbia	3	.....	Oklahoma Territ'y	3	1
Florida	.....	.....	Oregon	1	.....
Georgia	7	.....	Pennsylvania	80	4
Hawaii Territory	.....	.....	Philippine Islands	.....	.....
Idaho	1	.....	Rh de Island	2	1
Illinois	66	18	South Carolina	1	2
Indian Territory	1	.....	South Dakota	.....	.....
Indiana	12	.....	Tennessee	4	4
Iowa	8	1	Texas	3	1
Kansas	4	3	Utah	4	1
Kentucky	4	1	Vermont	1	.....
Louisiana	4	1	Virginia	5	.....
Maine	3	2	Washington	7	1
Maryland	9	3	West Virginia	4	.....
Massachusetts	44	14	Wisconsin	14	.....
Michigan	16	3	Wyoming	1	.....
Minnesota	11	1	U. S. Army	.....	.....
Mississippi	1	2	U. S. Navy	1	.....
Missouri	24	4	Total to citizens of the United States	593	110
Montana	3	.....			
Nebraska	4	1			
Nevada	1	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina	.....	.....	Natal	.....	.....
Austria-Hungary	1	.....	Netherlands	1	1
Belgium	.....	.....	Newfoundland	.....	.....
Brazil	.....	.....	New South Wales	1	.....
British West Indies	.....	.....	New Zealand	1	.....
Canada	11	.....	Norway	2	.....
Cape Colony	.....	.....	Persia	.....	.....
Chile	.....	.....	Queensland	.....	.....
China	.....	.....	Roumania	.....	.....
Costa Rica	.....	.....	Russia	.....	.....
Cuba	1	.....	Scotland	1	.....
Denmark	.....	.....	South Australia	.....	.....
Ecuador	.....	.....	Spain	.....	.....
England	10	4	Sweden	1	.....
France	3	2	Switzerland	.....	.....
Germany	17	.....	Transvaal, South Africa	1	.....
Haiti	.....	.....	Victoria	2	.....
Ireland	2	.....	Western Australia	.....	.....
Italy	1	.....	Total to citizens of foreign countries	57	7
Japan	.....	.....			
Java	.....	.....			
Mexico	1	.....			

Photographic Copies of Drawings.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 7, 1907.

The Patent Office will furnish photographic prints of any unbound drawing, foreign or domestic, which may be in its possession. These prints will be made only in two sizes, 8 by 12½ at 15 cents per sheet and 10 by 15 at 25 cents per sheet.

Prints of drawings of pending, abandoned, forfeited, or informal cases and of caveats may be had in either of the above-named sizes.

Prints of United States or foreign patent drawings will be made only in the 10 by 15 size.

In ordering copies of drawings of foreign patents cited as references, applicants must state the date and number thereof, the name of the patentee, the country in which each patent was granted, and the class and subclass in which the patent is classified. If the class and subclass were not given in the Office letter citing the patent, the applicant must state the serial number of the application in which it was cited, the number of the action therein, the name of the inventor, and the title of the invention.

The photo prints will be furnished more expeditiously if the number of the division is given in which they may be found. A separate order should be made for each drawing, for which the Office will furnish blanks gratuitously upon request.

BOUND VOLUMES CANNOT BE USED FOR MAKING PRINTS.

Failure to give the fullest data whereby the mounted drawing may be found will cause unnecessary delay and correspondence.

Applicants and attorneys are strongly urged to file a set of prints, small size, or order them to be made by the Office at the time of filing an application. Such procedure will save delay later, if correction of the drawing is desired or required.

EDWARD B. MOORE, *Commissioner.*

Attorneys.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 24, 1907.

This Office has been informed by the Secretary of the Interior that George W. Graham, of Toledo, Ohio, was disbarred October 2, 1907, from practicing before the Department or any Bureau thereof.

W. F. WOOLARD, *Chief Clerk.*

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business October 22, 1907.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
303	XVII. Linotyping; Printing; Matrix-Making; Nut and Bolt Locks; Clutches.	Oct. 4	Sept. 24	204
164	XXXIII. Cutlery; Domestic Cooking Vessels; Electricity, Medical and Surgical; Electric Signaling; Fireproof Buildings; Masonry; Tents, Canopies, Umbrellas and Canes.	Oct. 3	Aug. 22	261
244	XXXV. Buckles, Buttons, and Clasps; Card, Picture, and Sign Exhibiting; Toilet; Signals; Garment-Supporters.	Oct. 2	Aug. 10	605
318	VI. Bleaching and Dyeing; Chemicals; Explosives; Fertilizers; Medicines; Preserving; Sugar and Salt.	Sept. 27	Sept. 3	296
232	IV. Bridges; Conveyers; Cranes and Derricks; Excavating; Hoisting; Hydraulic Engineering; Loading and Unloading; Towers; Iron Structures.	Sept. 25	Sept. 20	236
147	XXIX. Coopering; Roofs; Wheelwright-Machines; Wooden Buildings; Wood-Sawing; Wood-Turning; Woodworking-Tools; Woodworking; Fire-Escapes; Ladders.	Sept. 25	Aug. 31	328
304	XXXIV. Railways; Railway-Brakes; Railway Rolling-Stock.	Sept. 23	Sept. 13	228
144	XXIV. Apparel; Apparel Apparatus; Sewing-Machines; Surgery.	Sept. 20	Sept. 3	334
264	XXXVI. Curtains, Shades, and Screens; Drafting; Driers; Measuring Instruments; Wind-Wheels; Engraving.	Sept. 19	Aug. 3	350
179	XX. Artificial Limbs; Builders' Hardware; Dentistry; Locks and Latches; Safes; Undertaking.	Sept. 18	Aug. 22	294
313	I. Fences; Harrows and Diggers; Plows; Seeders and Planters; Trees, Plants and Flowers.	Sept. 16	Aug. 28	317
172	XXXI. Alcohol; Charcoal and Coke; Ammonia, Water, and Wood Distillation; Gas, Heating and Illuminating; Hides, Skins, and Leather; Liquid Coating Compositions; Oils, Fats, and Glue; Water Purification; Mineral Oils.	Sept. 16	Aug. 28	233
247	XXII. Air-Guns, Catapults, and Targets; Ammunition and Explosive Devices; Boats and Buoys; Firearms; Marine Propulsion; Ordnance; Ships.	Sept. 13	Sept. 5	204
135	VIII. Beds; Chairs; Furniture; Kitchen and Table Articles; Store Furniture.	Sept. 11	July 11	466
278	XXXII. Carbonating Beverages; Dispensing Beverages; Dispensing-Cans; Metallic Shipping and Storing Vessels; Packaging Liquids; Refrigeration.	Sept. 11	June 20	509
378	XXXVIII. Artesian and Oil Wells; Bottles and Jars; Care of Live Stock; Fishing and Trapping; Stationery; Stone-Working; Educational Appliances.	Sept. 10	Aug. 22	449
332	X. Carriages and Wagons	Sept. 9	Aug. 12	535
315	XXV. Butchering; Mills; Threshing; Vegetable Cutters and Crushers.	Sept. 6	Aug. 15	339
154	XI. Boot and Shoe Making; Boots, Shoes, and Leggings; Button, Eyelet, and Rivet Setting; Leather Manufactures; Nailing and Stapling; Whips and Whip Apparatus; Harness.	Sept. 6	Aug. 13	324
379	XXIII. Acoustics; Coin-Handling; Horology; Recorders; Registers; Time-Controlling Mechanism.	Sept. 4	Aug. 21	351
375	XXVII. Brushing and Scrubbing; Grinding and Polishing; Laundry; Washing Apparatus.	Sept. 3	Sept. 3	302
238	XIX. Furnaces; Stoves and Furnaces; Heating and Cooking Stoves. Liquid and Gaseous Fuel.	Sept. 3	July 27	485

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
312	VII. Games and Toys; Mechanical Motors; Paper Manufactures; Velocipedes; Optics.	Aug. 29	Aug. 31	386
382	XXVIII. Internal-Combustion Engines; Miscellaneous Heat-Engines Plants.	Aug. 29	Aug. 5	644
152	XXX. Lamps and Gas-Fittings; Fluid-Pressure Regulators; Liquid and Gaseous Fuel Burners; Type-Writing Machines.	Aug. 26	Sept. 3	326
128	II. Bee Culture; Dairy; Label-Affixers; Paper Files and Binders; Presses; Tobacco; Store-Service; Pneumatics.	Aug. 26	Aug. 5	334
167	V. Bookbinding; Harvesters; Jewelry; Music.	Aug. 23	July 25	372
327	XVIII. Steam-Engines; Steam-Boilers; Steam-Engine Valves; Steam and Vacuum Pumps; Injectors and Ejectors.	Aug. 22	July 22	379
322	XII. Elevators; Journal-Boxes, Pulleys, and Shafting; Lubrication; Machine Elements.	Aug. 20	Aug. 7	675
112	XXI. Brakes and Gins; Carding; Cloth-Finishing; Cordage; Felt and Fur; Knitting and Netting; Silk; Spinning; Weaving.	Aug. 19	July 5	514
307	XIV. Cutting and Punching Sheets and Bars; Farriery; Metal-Bending; Metal-Ornamenting; Sheet-Metal-Ware Making; Tools; Wire-Working; Compound Tools.	Aug. 16	July 8	270
142	IX. Fire-Extinguishers; Hydraulic Motors; Pumps; Sewerage; Air and Gas Pumps.	Aug. 14	Aug. 15	261
329	XIII. Arms, Projectiles, and Explosive Charges, Making; Metal-Working, etc.	Aug. 13	Aug. 12	493
308	XV. Bread, Pastry, and Confection Making; Coating; Laminated Sheets and Fabrics; Fuel; Glass; Hydraulic Lime and Cement; Paper-Making; Paving; Plastics; Plastic Block and Earthenware Apparatus; Plastic Compositions; Photography.	Aug 9	Aug. 7	618
105	XXVI. Electricity, Generation; Electric Heating and Rheostats; Electric Railways; Motive Power.	Aug. 5	July 5	418
175	III. Annealing and Tempering; Coating with Metal; Electrochemistry; Metal-Founding; Metallurgy; Shaping Fluid Metal.	Aug. 5	June 25	561
107	XXXVII. Electricity, Conductors; Electric-Lighting; Electricity, General Applications.	Aug. 2	June 24	670
280	XL. Deposit and Collection Receptacles; Special Receptacles and Packages; Check-Controlled Apparatus; Fine Arts; Paper Receptacles; Package and Article Carriers; Wooden Receptacles; Baggage; Lighting-Fixtures; Cloth, Leather, and Rubber Receptacles.	July 22	June 11	1050
109	XVI. Telegraphy; Telephony	July 13	June 4	624
321	XXXIX. Water Distribution; Baths and Closets.	July 11	June 6	758
352	XLI. Railway Draft Appliances; Railway-Ties and Fasteners; Railway-Rails and Joints; Resilient Tires and Wheels.	June 15	May 6	1245

Total number of applications awaiting action 18,248

161	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Trade-Marks	Oct. 17	Oct. 2	319
	Designs	Oct. 14	Sept. 11	95
	Labels and Prints			

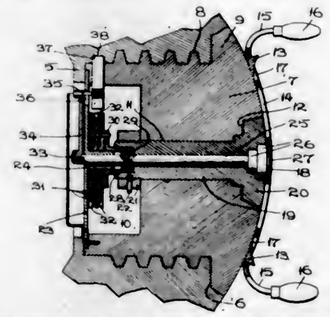
Notice.

Coupons unless properly filled out will not be accepted in payment for copies of publications.

PATENTS

GRANTED OCTOBER 29, 1907.

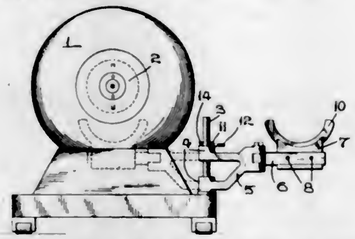
869,220. SAFE. JAMES M. ALLEN, St. Louis, Mo., assignor of two-fifths to Christian F. Schneider, St. Louis, Mo. Filed Aug. 17, 1906. Serial No. 330,998.



1. The combination with a safe having an opening therein, of a door constructed to screw into said opening, lugs integral with the front face of said door, and a handle detachably mounted on said lugs for manipulating said door; substantially as described.

2. The combination with a safe, having an opening therein, of a door constructed to screw into said opening, means whereby said door is locked to the safe, lugs integral with the exterior of the door, and a flat spring handle adapted to be positioned on the front of the door and provided with apertures to receive the lugs; substantially as described.

869,221. SAFE-DOOR SUPPORT. JAMES M. ALLEN, St. Louis, Mo., assignor of two-fifths to Christian F. Schneider, St. Louis, Mo. Filed Feb. 28, 1907. Serial No. 359,784.



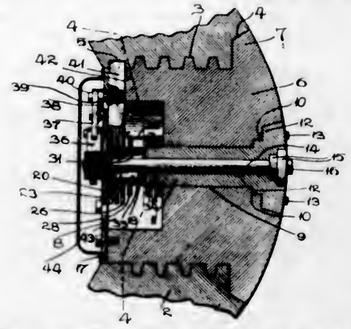
1. The combination with a safe having a removable door, of a post fixed to the base of the safe, a swinging arm arranged to move vertically on the post, and a stirrup arranged for lateral movement upon the arm and adapted to receive the safe door.

2. The combination with a safe, having a removable door, and a post fixed on the base of the safe; of a vertically adjustable laterally swinging bracket arranged on the post, an arm hinged to one end of said bracket, and a stirrup connected to and arranged to slide laterally upon said arm.

3. The combination with a safe, having a removable door, of a post fixed to the base of the safe, a swinging bracket arranged to move vertically upon said post, an arm hinged to the bracket, and a door receiving stirrup arranged to slide upon the arm.

4. The combination with a safe, having a removable door, of a post arranged adjacent the body of the safe, a bracket arranged to slide vertically thereon, means whereby said bracket is held at a fixed elevation, an arm hinged to the bracket, and a door receiving stirrup connected to and arranged to slide upon said arm.

869,222. SAFE-LOCK. JAMES M. ALLEN, St. Louis, Mo., assignor of two-fifths to Christian F. Schneider, St. Louis, Mo. Filed Feb. 28, 1907. Serial No. 359,785.



1. The combination with a safe, comprising a hollow body and door therefor, of a tubular shaft passing through the door, a cylindrical bearing arranged at the inner end of the door, a series of tumbler disks arranged for rotation on said bearing, in the edges of which disks are formed notches which are adapted to coincide, means carried by the tubular shaft for engaging one of the disks, a locking bolt carried by the door, the lower end of which is adapted to engage in the notches in the disks, a shaft passing through the tubular shaft, and a connection from said shaft to the locking bolt.

2. The combination with a safe, constructed with a hollow body and door therefor, of a locking bolt arranged on the inside of the door for engaging the body of the safe to lock the door, a series of tumbler disks independently arranged for rotation on the inside of the door, in the edges of which disks are formed notches, which when alined, are adapted to receive the lower end of the locking bolt, pins projecting from the faces of the disks which are adapted to contact with one another when the disks are rotated, a tubular shaft passing through the door for imparting rotary motion to the disks, and a shaft arranged in the tubular shaft for actuating the locking bolt.

3. The combination with a safe, comprising a hollow body and door therefor, of a tubular shaft passing through the door, a cylindrical bearing arranged at the inner end of the door, a series of tumbler disks arranged for rotation on said bearing, in the edges of which disks are formed notches which are adapted to coincide, means carried by the tubular shaft for engaging one of the disks, a locking bolt carried by the door, the lower end of which is adapted to engage in the notches in the disks, a shaft passing through the tubular shaft, a connection from said shaft to the locking bolt, and annular shoulders formed integral

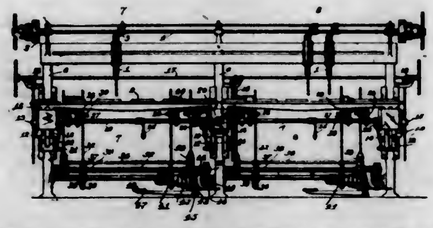
with the outer ends of the shaft and tubular shaft which occupy corresponding recesses formed in said tubular shaft and the door.

4. The combination with a safe constructed with a hollow body and door therefor, of a locking bolt arranged on the inside of the door for engaging the body of the safe to lock the door, a series of tumbler disks independently arranged for rotation on the inside of the door, in the edges of which disks are formed notches, which when alined, are adapted to receive the lower end of the locking bolt, pins projecting from the faces of the disks which are adapted to contact with one another when the disks are rotated, a tubular shaft passing through the door for imparting rotary motion to the disks, a shaft arranged in the tubular shaft for actuating the locking bolt, and shoulders formed integral with the outer ends of the shaft and tubular shaft which occupy corresponding recesses formed in said tubular shaft and the door.

5. The combination with a safe, comprising a body and door therefor, there being a chamber formed on the inside of the door, of a detachable plate closing said chamber, a collar integral with the center of said plate and extending into the chamber, a plurality of tumbler disks independently mounted for rotation on the collar, in the edges of which disks are formed notches adapted to coincide, a locking bolt carried by the door and adapted to engage in a recess formed in the body of the safe, means passing through the door for imparting rotary motion to the disks, and means passing through the door for actuating the locking bolt.

6. The combination with a safe, comprising a body and door therefor, there being a chamber formed on the inside of the door, of a detachable plate closing said chamber, a collar integral with the center of said plate and extending into the chamber, a plurality of tumbler disks independently mounted for rotation on the collar, in the edges of which disks are formed notches adapted to coincide, a locking bolt carried by the door and adapted to engage in a recess formed in the body of the safe, a tubular shaft passing through the door, an adjustable connection between the inner end of said tubular shaft and one of the disks, and a shaft passing through the tubular shaft and through the collar for actuating the locking bolt.

869,223. BORING-MACHINE. MOSES L. ANDREW, Delhi, Ohio. Filed Sept. 17, 1906. Serial No. 335,008.



1. In a machine, having a plurality of power-driven tools, the combination of two tables for feeding work to be operated on by the tools, power-driving means for the tables, clutches for connecting said tables with said power-driving means independently, and means for connecting the tables to move in unison.

2. In a machine for feeding work, the combination of two tables, power driving means for each table, and means for operating the tables in unison or independently as desired.

3. In a machine for feeding work, the combination of two reciprocable tables, power driving mechanism for each table comprising a clutch for controlling the movement of the table independently, and means for permitting the tables to operate independently or connecting them to move in unison.

4. In a machine for feeding work, the combination of two reciprocable tables, power driving mechanism for each table comprising a clutch and a controlling member for the clutch for controlling the movement of the table independently, and means for permitting the tables to operate independently or connecting them to act in unison by manipulation of either clutch.

5. In a machine for feeding work, the combination of a reciprocating table, a rotary member connected to the table serving to move it in forward and back directions by rotation in the same direction, and means for adjusting the table in relation to the rotary member so as to regulate the length of the stroke of the table.

6. In a machine for feeding work, the combination of two movable tables, means for moving the tables forward and back at independently-variable speeds, and means for connecting the tables to move in unison.

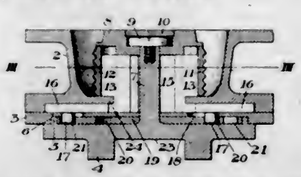
7. In a machine for feeding work, the combination of two movable tables, means for moving the tables forward and back at independently variable speeds, and means for connecting the tables to move in unison at variable speeds.

8. In a machine for feeding work, the combination of two reciprocating tables, means for reciprocating each table independently at variable speeds, and means for connecting the tables to move in unison.

9. In a machine for feeding work, the combination of two reciprocating tables, means for reciprocating said tables independently with independently-variable lengths of stroke, and means for connecting the tables to move in unison.

10. In a machine for feeding work, the combination of two reciprocating tables, power driving mechanism for each table including a clutch for controlling the movement of each table independently, means for moving each table manually, and means for connecting the tables to move in unison.

869,224. CORE-BOX. ARTHUR J. BAZELEY, Cleveland, Ohio, assignor to The National Malleable Castings Company, Cleveland, Ohio, a Corporation of Ohio. Filed Nov. 27, 1906. Serial No. 345,328.



1. In a core box for forming hollow sand cores, an inner wall formed of a plurality of separately movable sections having projections on their outer faces, each section having a radially arranged guide rib or plate, and a downwardly-extending arm, and an actuating cam engaged with said arms; substantially as described.

2. A core box for forming hollow sand cores having a fixed outer wall, an inner wall composed of similar separately movable segments having radial guiding ribs, a central radial slotted hub forming guides for the ribs, an actuating cam engaging the segments, and a rotary base member to which the cam is secured; substantially as described.

3. A core box for forming hollow sand cores having a fixed outer wall, a slotted bottom guide plate secured thereto, an inner wall composed of a series of radially movable segments having projections on their outer surfaces having studs which pass through the slots of the guide plate, an actuating cam for the segments engaged by said studs, and means for actuating the cam; substantially as described.

4. A core box for forming hollow sand cores having its inner wall formed by a plurality of independently movable segments having projections on their outer surfaces, an actuating cam for the segments, a rotary base member secured to the cam, and means for holding the base member against rotation; substantially as described.

5. A core-box for forming hollow sand cores, comprising a rotary base portion, a cam-member carried thereby, a relatively fixed guide member having a central hub secured thereto, an outer fixed wall, and an inner wall composed of a plurality of radially movable segments having an actuating engagement with the cam plate through the guide member, said segments also having guides in the hub; substantially as described.

6. A core box, having an outer wall, an inner wall composed of a plurality of radially movable segments, a base supporting the outer wall and having a rotary connection with the box proper, and means carried by the base and engaging said segments to move the same; substantially as described.

7. A core-box having an outer wall, a base portion supporting said wall and provided with a vertical stem or spindle, a hub surrounding the same and having radial slots therein, an inner core-box wall surrounding the hub and composed of a plurality of segments movably engaged with the slots of the hub, and cam means carried by the base portion and engaging the segments, the box and base portion having a rotary connection; substantially as described.

8. A core box for forming hollow sand cores having an inner wall composed of a plurality of separately movable segments having projections on their outer faces, and a rotary cam plate having two series of cam slots engaging the segments, each of said slots having an eccentric and a concentric portion, and such portions being reversely arranged in the two series of slots, substantially as described.

869,225. STAMPED FABRIC. CHARLES E. BENTLEY, New York, N. Y. Filed Feb. 10, 1906. Serial No. 300,525.



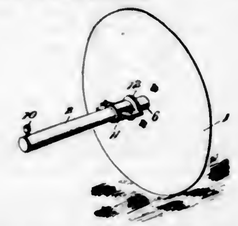
1. A fabric having an imprinted design produced by application of an oleaginous saponified compound, substantially as described, whereby unworked portions of the design may be readily washed from the finished embroidered fabric by water, as set forth.

2. A fabric having an imprinted design produced by application of a semi-fluid oleaginous saponified distinctively colored compound, substantially as described, whereby unworked portions of the design may be readily washed from the finished embroidered fabric by water, as set forth.

869,226. SAND-PROOF DISK-HUB ELLIS L. BLACK, Bentley, Kans. Filed Jan. 19, 1907. Serial No. 353,155.

1. In combination with a cultivator disk having a tubular extension, a hollow stem having a flange, a spindle mounted in the hollow stem and having a plate which is secured to the said disk and confines the flange of the hollow stem, and a box clamped to the hollow stem and having a close fit with the aforesaid tubular extension to exclude foreign matter.

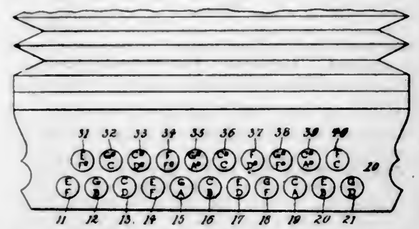
2. In combination a disk having a tubular extension projected therefrom and having a flange, a hollow stem mounted in said tubular extension of the disk and provided with a flange, a spindle in the hollow stem, a plate fast to the spindle and secured to the disk and confining the flange of said hollow stem, and a box clamped to the hollow stem and having a flange coöperating with the flange of the aforementioned tubular extension to insure the formation of a tight joint.



3. In combination, a disk, a hollow stem on which the disk is mounted, and having a flange at one end, companion plates secured to the disk and confining between them the flange of said hollow stem, the inner plate having a tubular extension provided with a flange, a spindle projected from the outer plate and mounted in said hollow stem, and a box clamped upon the hollow stem and having a flange coöperating with the flange of the aforementioned tubular extension to secure a close joint.

4. In combination a disk, a hollow stem provided with a flange, inner and outer plates confining between them, the flange of the hollow stem and secured to each other and to the disk, a tubular extension projected from the inner plate through the disk and having a flange, the said outer plate having an inner flange to encircle the said inner plate and having its middle portion pressed outward to receive the flange of the hollow stem, and a sectional box clamped about the hollow stem and having a flange embracing the flange of the aforementioned tubular extension to secure a close joint therewith.

869,227. ACCORDION. EDWARD E. BRAENDLE, New York, N. Y., assignor to Hans Hohner, New York, N. Y. Filed Mar. 11, 1907. Serial No. 361,634.



1. An accordion having a first and a second row of keys, and a pair of differently tuned sound producers actuated by each of said keys, the sound producers of any one key in the second row being pitched a semitone higher than the sound producers of the preceding key in the first row, substantially as specified.

2. An accordion having a first and second row of keys, and a pair of differently tuned sound producers actuated by each of said keys, four successive keys of the first row actuating the sound producers of the notes C, D; E, F; G, A; C, B; and four successive keys of the second row actuating the sound producers of the notes C♯, D♯; F, F♯; G♯, A♯; C♯, C, substantially as specified.

869,228. GARTER. GRANVILLE L. BURTON and CLIFFORD J. FULLER, New York, N. Y. Filed Apr. 2, 1907. Serial No. 365,918.

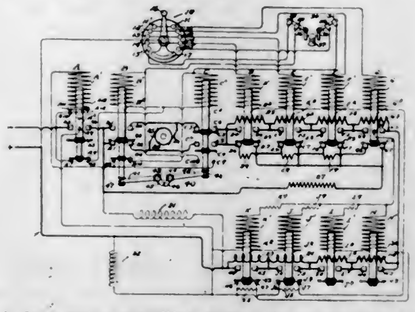
A garter comprising two crossed straps, one of which is longer than the other and each provided with a grip at

one end, a slide through which both of said straps pass in an undulating line at their point of crossing, means for forming an adjustable loop at the other end of the



longer strap and a detachable fastener for connecting the free end of the shorter strap with said loop.

869,229. MOTOR CONTROL. EUGENE R. CARICHOFF, East Orange, N. J., assignor to Otis Elevator Company, East Orange, N. J., a Corporation of New Jersey. Filed Jan. 28, 1904. Serial No. 190,928.



1. In a motor-controlling system, the combination with an electric motor, of two starting resistances, a switch for controlling said resistances to remove one from in circuit with the motor armature, and insert the other in shunt thereto, or to insert one in circuit with said armature and remove the other from in shunt thereto, in starting the motor in either direction, an electro-magnet for operating said switch against the action of gravity which automatically restores said switch to normal when said electro-magnet is deënergized, and a main-line switch for closing a circuit for said armature and for both of said resistances.

2. In a motor controlling system, the combination with an electric motor, of two variable starting resistances, one in series and the other in shunt to the motor armature, a switch for controlling said resistances to increase or diminish the amount of one and substantially at the same time decrease or increase, respectively, the amount of the other of said variable resistances, in starting the motor in either direction, and an electro-magnet operating said switch from one position to the other against the action of gravity which automatically returns said switch to normal when said electro-magnet is deënergized, and a main-line switch for closing a circuit for the motor armature and both of said resistances.

3. In a motor control system, the combination with the armature of the motor, of two resistances, a switch held in normal position by gravity, electric means for operating said switch to remove one of said resistances from the circuit of the armature and insert the other in shunt to the armature, or to insert one of said resistances in circuit with the armature and remove the other from in shunt thereto, reversing switches for the motor, mechanical interlocking mechanism for said switches, and a main line switch for closing the circuit through said armature and both of said resistances.

4. In a motor controlling system, the combination with the armature of the motor, of two variable resistances, one in series with the armature and the other in shunt thereto, both being starting resistances for the motor in starting in either direction and the shunt resistance being also a stopping resistance, a plurality of electro-magnet switches for controlling said resistances, and a manual switch for effecting the operation of said switches to vary the speed of the motor; said speed being dependent upon the position of said manual switch.

5. In a motor control system, the combination with the armature of the motor, of two variable resistances, one in series and one in shunt with said armature, both being starting resistances and the latter also a stopping resistance, a plurality of magnetic switches for controlling said resistances so connected that they will increase or diminish step-by-step the amount of one of said resistances and at the same time decrease or increase the other of said resistances in the operation of the motor in either direction, a manually operated switch for controlling the magnetic switches, and a single switch for closing the motor circuit including the armature and said resistances.

6. In a motor control system, the combination with the armature of the motor, of two variable resistances, one in series and one in shunt with said armature, a plurality of magnetic switches for controlling said resistances so connected that they will increase or diminish step by step the amount of one of said resistances and at the same time decrease or increase the other of said resistances, and other magnetic switches automatically operated by the acceleration of the armature for controlling a part of the series resistance.

7. In a motor control system, the combination with the armature of the motor, of two resistances, one in series and the other in shunt to the armature, a plurality of electromagnetic switches for controlling said resistances to vary the speed of the motor, additional resistance in circuit with the armature, additional switches for controlling said additional resistance, and circuits and connections to effect the operation of said additional switches after the first-named electromagnetic switches have operated.

8. In a motor control system, the combination with the armature of a motor, of resistance in series and parallel with the armature, additional resistance in series with the armature, manually controlled electromagnetic switches for controlling said first-named resistances, and other electromagnetic switches for automatically controlling said additional resistance after said first-named electromagnetic switches have operated.

9. In a motor control system, the combination with starting resistances connected to the armature, of electromagnetic switches for controlling said resistances, a manual switch for operating said switches in successive order, additional starting resistances, other switches for controlling the latter resistances, and automatic means for successively operating said other switches after the said electromagnetic switches have been operated.

10. In a motor control system, the combination with starting resistances connected to the motor armature, of a series of electromagnetic switches for controlling one portion of said resistances, another series of electromagnetic switches for controlling the other portion of said resistances, and means operated by the second series for reducing the current consumed by both series.

11. In a motor control system, the combination with sectional starting resistances for the motor armature, of manually controlled electromagnetic switches for gradually varying said resistances, additional sectional starting resistance, and a series of automatic electromagnetic switches successively operated to control said last-named resistance.

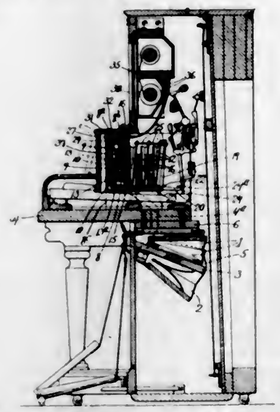
12. In motor-controlling apparatus, the combination with an electric motor, of armature-current reversing mechanism comprising two electric switches, electric means for operating said reversing mechanism, a main line switch, an auxiliary switch co-acting with the main line switch to cut off the current from said electric-operating-means, and an interlocking device for holding one of said first-named electric switches in upper position and the other in lower position.

13. In motor-controlling apparatus, the combination with an electric motor, of reversing switches therefor, electro-magnets for operating said switches, a main line switch, an auxiliary switch controlling the circuit of either of said electro-magnets and normally closed, an additional electro-magnet for operating said main line switch, and said auxiliary switch, the former to closed position and the latter to open position, and a mechanical interlocking device for holding one of the reversing switches in closed position even after the current has been cut off from its operating magnet.

14. In current-controlling apparatus, the combination with current-reversing mechanism comprising two independently operated switches, of electro-magnets for changing the relative positions of said switches, and mechanical means for positively locking one switch in closed position until the other is moved a predetermined distance toward closed position.

15. In current-controlling apparatus, the combination with two electro-magnetic switches for controlling the direction of current through a circuit, of a pivoted lever connected to a moving part of each of said switches, and interlocking lugs on the inner ends of said levers and movable in arc, to mechanically lock one switch in closed position until the other is operated to a predetermined degree.

869,230. COMBINED AUTOMATIC AND MANUALLY-OPERATED PIANO. MELVILLE CLARK, Chicago, Ill. Filed June 5, 1907. Serial No. 377,436.



1. In a combined manually operated and automatic piano, the pneumatic action located above the manual keys rearward of the portion thereof exposed for manual playing, comprising motor pneumatics and their respective controlling primary pneumatics, and connections operated by the motor pneumatics engaging the keys at the rear of said pneumatics for pulling the rear ends of the keys upward.

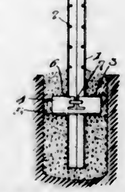
2. In a combined manually operated and automatic piano, a pneumatic action located above the manual keys rearward of the portion thereof exposed for manual playing, comprising motor pneumatics and their respective controlling primary pneumatics, the motor pneumatics being mounted in upright position above the manual keys; bell-crank levers having upstanding arms behind the motor pneumatics respectively, and rearwardly extending arms overhanging the keys respectively, and means by which the upper ends of the upstanding arms are engaged by the motor pneumatics, and the rear ends of the rearwardly extending arms engage the keys.

3. In a combined manually operated and automatic piano, a pneumatic action located above the manual keys rearward of the portion thereof exposed for manual playing, such connection comprising a primary pneumatic chamber at the forward part and upstanding motor pneumatics behind said chamber, and means rearward of said upstanding motor pneumatics by which they engage and operate the manual keys with upward pull thereon.

4. In a combined manually operated and automatic piano; a pneumatic action located above the manual keys rearward of the portion thereof exposed for manual playing, comprising a primary pneumatic chamber at the forward part of said pneumatic action and primary pneumatics therein, the forward wall of said primary pneumatic chamber having the ducts and ports for connection with the motor pneumatics respectively; a duct board at the lower end of said primary pneumatic chamber extending rearward thereunder and therebeyond; duct boards upstanding from said rearwardly extending duct board at the rear of the primary pneumatic chamber; motor pneumatics on said upstanding duct boards; bell-crank levers fulcrumed on the rear side of said horizontal duct board having upstanding arms rearward of the motor pneumatics respectively, and rearwardly extending arms overhanging the keys respectively, and connections by which said bell-crank levers are actuated by the motor pneumatics and actuate the keys.

5. In a combined manually-operated and automatic piano, in combination with the manual keys, a pneumatic action located above the manual keys rearward of the portion thereof exposed for manual playing, comprising a primary pneumatic chamber at the forward part; motor pneumatics rearward of such chamber and levers rearward of such motor pneumatics respectively; means by which the levers actuate the keys respectively and adjustable connections from said levers to the moving walls of the respective motor pneumatics at the upper ends of said levers and pneumatics.

869,231. METALLIC FENCE-POST. CHASE COLVIN, South Charleston, Ohio. Filed Jan. 4, 1907. Serial No. 350,713.



1. A fence post of the character described comprising a substantially V-shaped portion, means for securing the fence wires thereto, a sheet metal anchor having lugs struck therefrom and adapted to fit within said V-shaped portion, and means for rigidly securing said lugs to said V-shaped portion of said post, substantially as described.

2. A fence post of the character described comprising a substantially V-shaped portion having apertures in its opposite sides near the lower end thereof, means for securing the fence wires thereto, a sheet metal anchor having lugs struck therefrom and adapted to fit within said V-shaped portion and having apertures adapted to register with the apertures in said V-shaped portion, and a key adapted to extend through said apertures and to be clenched to secure said lugs rigidly to said V-shaped portion, substantially as described.

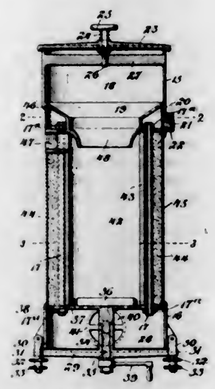
3. A fence post of the character described comprising a substantially V-shaped portion, means for securing the fence wires thereto, a sheet metal anchor consisting of a vertical and a horizontal portion, said vertical portion having lugs struck therefrom, and means for securing said lugs to the V-shaped portion of said post, substantially as described.

4. A fence post of the character described comprising a

V-shaped portion, a plurality of apertures arranged along the edges of said V-shaped portion, means for securing the fence wires to any of said apertures, and an anchor secured to said V-shaped portion above the lower end thereof, substantially as described.

5. In a fence post of the character described, the combination, with a substantially V-shaped portion having corresponding apertures in its opposite side members near the lower ends thereof, of a rod extending through said apertures and having that portion thereof lying between said side members bent towards the apex of said V-shaped portion, thereby locking said rod in said apertures.

869,232. GAS-GENERATOR. WALTER M. CROSS, Kansas City, Mo. Filed Apr. 24, 1906. Serial No. 313,409.



1. A gas generator, comprising an upper end member of hollow cylindrical form, provided with an annular bottom wall and with a hopper downwardly tapered from the side wall of the member, at a point above the bottom wall and intersecting the inner edge of the bottom wall, to define a fuel receptacle above the hopper, and an annular air chamber below the fuel chamber and defined between the side and bottom walls of the member and the wall of the hopper, said member being formed with an air inlet communicating with the air chamber above the bottom wall, and with a gas outlet located below the bottom wall and opposite the lower portion of the hopper, a hollow lower end member having a grate opening in its top wall and a grate located in said opening, inner and outer concentric cylinders interposed between the end members, and hollow tie-rods having their ends extended through and secured to the bottom wall of the upper member and the top wall of the lower member and serving to hold said members firmly against the opposite ends of the inner and outer cylinders, said tie-rods being located intermediate of the cylinders and closely adjacent to the inner cylinder.

2. A gas generator comprising separate upper and lower hollow members of like diameter, the upper member having an annular botom wall and a downwardly tapered hopper constituting the hopper bottom of a fuel receptacle and the top and inner side wall of an annular air chamber underlying the fuel receptacle, and the lower end member having an annular top wall corresponding to the annular bottom wall of the upper member, inner and outer concentric cylinders interposed between the annular walls of the end members to define a generating chamber within the inner cylinder and an annular space between the cylinders, hollow tie-rods extended through the annular walls of the end members between the inner and outer cylinders but disposed closely adjacent to the inner cylinder to be heated, insulating material interposed between the hollow tie-rods in the outer cylinder, a grate located at the bottom of the generating chamber, an air inlet for the air chamber of the upper member, and a gas outlet for the generating chamber.

3. A gas generator comprising two separate and distinct upper and lower end members of hollow cylindrical form and of the same diameter, intermediate concentric cylinders separating the end members, hollow tie-rods constituting the sole connection between the end members and serving to draw the same against the opposite ends of the cylinders, the upper end member having an annular bottom wall, an air inlet immediately above the bottom wall, a gas outlet immediately below the bottom wall, and a hopper wall extending from the side wall of the upper member intermediate of the ends thereof and intersecting the inner edge of the bottom wall and extended below the same and opposite the gas outlet, and the lower end member having an annular top wall corresponding with the annular bottom wall of the upper member and likewise imposed against the ends of the inner and outer cylinders, removable caps closing the outer ends of the upper and lower end members, and a grate carried by the cap of the lower member and surrounded by the annular upper wall of said member.

4. A gas generator comprising an upper end member having an annular bottom wall, and a hopper downwardly tapered from the side wall of the member and intersecting the inner edge of the bottom wall to define a fuel receptacle above the hopper, and an annular air chamber below the fuel chamber and surrounding the hopper, said upper member being formed with an air inlet and a gas outlet, a hollow lower end member having a grate opening in its top wall and a grate located in said opening, inner and outer cylinders interposed between the end members, and hollow tie-rods having their ends extended through the bottom wall of the upper member and the top wall of the lower member, said tie-rods being located intermediate of the cylinders and closely adjacent to the inner cylinder.

5. A generator, comprising a generating chamber, a hollow member supporting said chamber and having a grate opening at the bottom of the generating chamber, a removable cap closing the bottom of the hollow member, a grate supported by the cap and located in the grate opening, and a grate operating device located below the cap to facilitate the manipulation of the grate when the cap is in place.

6. A generator, comprising a generating chamber, a hollow member supporting said chamber and having a grate opening, a removable cap closing the lower side of the hollow member, a grate located in the grate opening and having a stem afforded a bearing in the cap, and a crank connected to the stem below the cap to facilitate the manipulation of the grate when the cap is in place.

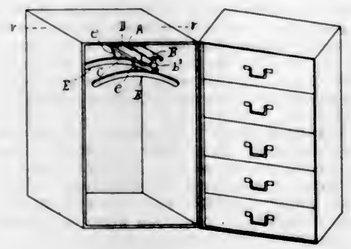
7. A generator, comprising a generating chamber, a hollow member supporting said chamber and having a grate opening in its upper wall, a cap closing the lower side of the hollow member, hinged bolts carried by said member and provided with nuts for the retention of the cap, a grate supported by the cap and located in the grate opening, and a crank located below the cap and connected to the grate.

8. A gas generator comprising separate upper and lower members, the upper member having a bottom wall and a downwardly tapered hopper, said hopper constituting the hopper bottom of a fuel receptacle and the top and inner side wall of an air chamber underlying the fuel receptacle, and the lower end member having a top wall corresponding to the bottom wall of the upper member, inner and outer walls interposed between the end members to define a generating chamber within the inner wall and a space between the inner and outer walls, hollow tie-rods extending between the upper and lower members but disposed closely adjacent to the inner wall to be heated, a grate located at the bottom of the generating chamber, an air inlet for the air chamber of the upper member, and a gas outlet for the generating chamber.

9. A gas generator comprising two separate and distinct upper and lower end members of hollow cylindrical form, intermediate cylinders separating the end members, hollow tie-rods serving to draw the end members against the opposite ends of the cylinders, the upper end member having an annular bottom wall, an air inlet above the bottom wall, a gas outlet below the bottom wall, and a hopper wall dividing the upper member into a fuel receptacle and an air chamber and extended opposite the gas outlet, and the lower end member having an annular top wall corresponding with the annular bottom wall of the upper member, and a grate located in substantially the plane of the annular top wall of the bottom member.

10. A generator comprising two cylindrical end members each having its outer end open and its inner end provided with a transverse annular wall, a cylinder defining a generating chamber, air tubes retaining the annular walls of the end members against the opposite ends of the cylinder, removable caps closing the open outer ends of the end members, a grate carried by one cap and located in the plane of the transverse annular wall of the adjacent end member, and a hopper dividing the upper member into a fuel receptacle and a surrounding air chamber, an air inlet for the air chamber and a gas outlet for the generating chamber.

869,233. SUPPORT FOR GARMENT-HANGERS. HARRY N. DRUCKER, Cincinnati, Ohio. Filed Aug. 8, 1906. Serial No. 329,695.



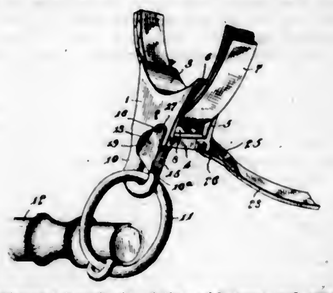
1. In a support for garment hangers the combination of a receptacle for the garments, ways secured to the top of the receptacle, a sliding bar in the ways, a supporting rod situated to one side of the sliding bar, and means for securing the rod to the bar.

2. In a support for garment hangers the combination of a receptacle for the garments, ways secured to the top of the receptacle, a bar sliding in the ways, posts secured to the sliding bar, a supporting rod below and to one side of the sliding bar and having its ends curved inward and coupled to the posts.

3. In a support for garment hangers the combination of ways formed in the top of the garment receptacle, a sliding bar in the ways, a supporting rod situated below and to one side of the sliding bar, means for securing the rod to the bar and a retaining member secured to the top of the receptacle above the rod.

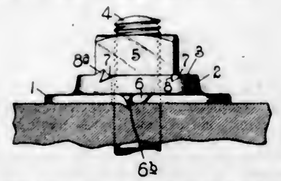
869,234. BREAST-STRAP SLIDE. NORBERT DURAND, Range, Wis., assignor of one-fourth to Joe Carpenter and one-fourth to Earnest P. Ekegren, Range, Wis. Filed Nov. 30, 1906. Serial No. 345,698.

A breast strap slide comprising a curved top wall presenting an inner convex face to the breast strap, a front wall or plate extending downwardly from the front edge of the curved top wall and provided with a depending neck yoke engaging portion arranged in the same longitudinal plane as the front plate or wall, lower arms extending rearwardly from the front plate or wall in spaced relation with the curved top wall at the ends thereof, upwardly extending rear arms connecting the rear ends of the lower arms with the terminals of the top wall at the rear edge thereof to form guide openings for the breast strap, the said top wall, the front wall or plate and the said arms being formed integral with one another, a rear pin connecting



the contiguous terminals of the said arms and arranged to hold a martingale in close connection with the breast strap.

869,235. WASHER. CHARLES G. ETTE, St. Louis, Mo. Filed Dec. 10, 1906. Serial No. 347,145.



1. As a new article of manufacture, a malleable metal washer having a raised portion constituting a nut seat, said seat being provided with a radially disposed groove, said groove having one wall substantially perpendicular, whereby an upsetting tool may be introduced for the purpose of upsetting the wall of said groove, forcing the metal thereof in a vertical direction above the plane of the said nut seat; substantially as described.

2. As a new article of manufacture, a malleable metal washer having a raised portion constituting a nut seat, said seat being provided with an unequal number of radially disposed grooves, each groove having one wall substantially perpendicular, whereby an upsetting tool may be introduced for the purpose of upsetting the wall of said groove, forcing the metal thereof in a vertical direction above the plane of the said nut seat; substantially as described.

3. As a new article of manufacture, a malleable metal washer having a raised portion constituting a nut seat, and a base flange, said raised portion being provided with one or more radially disposed tapered grooves formed with vertical and inclined walls, whereby an up-setting tool may be introduced for the purpose of up-setting the vertical walls of said groove, the up-set metal forming a lock for the nut, the base flange of said washer having a notch forming points, whereby either or both of the points may be bent down into a timber to lock the washer in place; substantially as described.

4. As a new article of manufacture, a malleable metal washer having a raised portion constituting a nut seat, and a base flange, said base flange of said washer having a notch within its marginal line forming points at the marginal line, whereby either or both of the points may be bent down into a timber to lock the washer in place; substantially as described.

869,236. FASTENING-CLAMP. SACHARY I. FEINBERG, New York, N. Y., assignor to Sarah Flanders, New York, N. Y. Filed Aug. 10, 1904. Serial No. 220,278.

1. A device of the class described comprising in combination, a member having angularly disposed leaves adapted to engage the outer faces of two plates, a stud attach-

ing to one of said leaves, means for adjusting the position of said stud upon the same, said stud being adapted to pass through the space between adjacent edges of said plates and having a shank disposed in the angle between said plates, and a clamping block connected by means of said stud and abutting the inner faces of said plates.

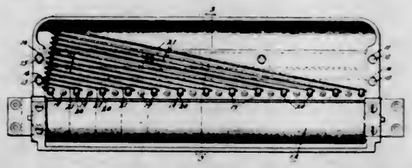


2. In a device of the class described, in combination, a corner clip having extensions adapted to abut the outer faces of two adjacent plates, one of said extensions having a plurality of openings disposed longitudinally therein, a detachable stud seating in said openings and having an extension lying in the angle between said plates, and a clamping block attached to said extension and abutting the inner faces of said plates.

3. In a device of the class described, in combination, an angle clip having extensions adapted to abut the outer faces of two meeting plates, a stud having a body and a stem, means for adjustably securing said body to one of said extensions, means for adjustably securing said stem to said body, and a block attached to said stem and lying in the angle between said plates.

4. In a device of the class described, in combination, an angle clip comprising a pair of leaves connected by a stiff hinge joint, one of said leaves having a plurality of threaded openings disposed longitudinally therein, a stud having a body detachably seating in said openings, said body having a plurality of openings longitudinally disposed therein, a stem detachably seating in said last openings, a block having an opening receiving said stem, and means for attaching said block to said stem.

869,237. INKING-FOUNTAIN FOR PRINTING-PRESSES. SAMUEL G. GOSS, Chicago, Ill., assignor to Goss Printing Press Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 2, 1907. Serial No. 355,511.



1. An inking fountain having a roller for delivering ink therefrom, means for regulating the amount of ink delivered by said roller at different points in the length thereof, and means adapted to be actuated from the end of the fountain for adjusting said regulating means.

2. An inking fountain having a roller for delivering ink therefrom, a knife adapted to bear upon said roller for regulating the ink delivered thereby, means for adjusting the pressure of said knife at different points upon said roller, and means adapted to be actuated from the end of the fountain for adjusting the pressure of said knife at different points upon said roller.

3. An inking fountain having a roller for delivering ink therefrom, a knife adapted to bear upon said roller for regulating the ink delivered thereby, a plurality of regulating screws, means for adjusting said screws, and means adapted to be actuated from the end of the fountain for actuating said adjusting means.

4. An inking fountain having a roller for delivering ink therefrom, a knife adapted to bear upon said roller for regulating the ink delivered thereby, a plurality of regulating screws, a plurality of rods extending from the end of the fountain to the different screws, and means for rotating said screws by the rotation of said rods.

5. An inking fountain having a roller for delivering ink therefrom, a knife adapted to bear upon said roller for regulating the ink delivered thereby, a plurality of regulating screws, a plurality of rods extending from the end of the fountain to the different screws, worm-wheels carried by said screws, and means for rotating said worm-wheels.

6. An inking fountain having a roller for delivering ink therefrom, a knife adapted to bear upon said roller for regulating the ink delivered thereby, a plurality of regulating screws, a plurality of rods extending from the end of the fountain to the different screws, worm-wheels carried by said screws, means for rotating said worm-wheels, and brackets connecting said regulating screws and rods.

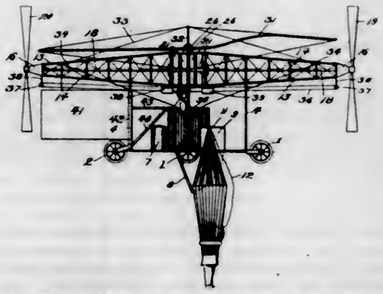
7. An inking fountain having a roller for delivering ink therefrom, means for regulating the amount of ink delivered by said roller at different points in the length thereof, and means at the opposite ends of said fountain adapted to be actuated for adjusting said regulating means.

8. An inking fountain having a roller for delivering ink therefrom, means coacting with said roller for regulating the amount of ink delivered thereby, adjusting devices for said regulating means, and mechanism extending to the end portions of the fountain for operating said adjusting devices.

9. An inking fountain having a roller for delivering ink therefrom, means for regulating the amount of ink delivered by said roller at different points in the length thereof, a plurality of devices extending to the end of the inking fountain and adapted to be actuated for adjusting said regulating means, said actuating devices being numbered to correspond with the regulating devices respectively controlled by them.

10. An inking fountain for newspaper presses having a roller for delivering ink therefrom, a knife adapted to bear upon said roller for regulating the ink delivered thereby, a plurality of regulating screws arranged at intervals along said knife for regulating the pressure thereof upon said roller at points to correspond with the different columns of the newspaper, means for adjusting said screws, and means adapted to be actuated from the end of the fountain for adjusting said screws, said adjusting means being numbered to correspond with the newspaper columns opposite which their respective adjusting screws are located.

869,238. AIR-SHIP. AUGUST W. H. GRIEPE, New York, N. Y. Filed Mar. 8, 1907. Serial No. 361,323.



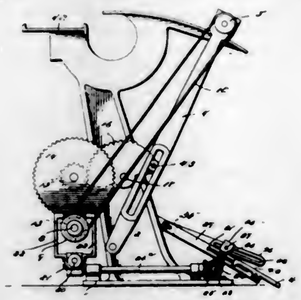
1. In an air ship of the aeroplane type, a frame, ground wheels carried by said frame, propeller wheels, means for rotating said propeller wheels, aeroplanes pivotally mounted upon a cross bar extending centrally across said frame, said aeroplanes being provided with metal frames having upwardly bent front ends, and means for adjusting the longitudinal inclination of said aeroplanes.

2. In an air ship of the aeroplane type, a frame, ground wheels mounted on said frame, motors for operating said propeller wheels, said motors being disposed in four cardinal directions to overcome unequal vibration and to assist in the poise of the ship, aeroplanes mounted upon a transversely arranged centrally disposed cross bar, said aeroplanes having metal frames bent upwardly at their front ends, and means for adjusting the longitudinal inclination of said aeroplanes.

3. In an air ship of the aeroplane type, a frame, ground wheels mounted on said frame, propeller wheels, motors for operating said propeller wheels, aeroplanes mounted upon a centrally disposed transversely arranged cross bar, said aeroplanes being provided with metal frames bent upward at their front ends, means for adjusting the longitudinal inclination of said aeroplanes comprising a cable and a winding drum, a cable mounted upon pulleys on the frame and provided with sliding weights for trimming the ship.

4. In an air ship, the combination of a frame, ground wheels mounted on said frame, propeller wheels, means for rotating said propeller wheels, steering devices, aeroplanes pivotally mounted upon a centrally disposed transverse cross bar, said aeroplanes comprising metal frames having upwardly bent front ends.

869,239. BELT-SHIFTING MECHANISM. AXEL R. GUSTAFSON, Chicago, Ill. Filed Nov. 1, 1905. Serial No. 285,426. Renewed May 21, 1907. Serial No. 374,923.



1. The combination with a drive shaft, swinging arms, and gearing between the shaft and arms including a segment gear, of a belt shifting mechanism for the shaft, connected to and automatically actuated by the arms, to reverse the shaft before the segment gear is disengaged, and means to stop such automatic action, to allow the segment gear to run to disengagement.

2. The combination with a shaft, and a swinging arm driven thereby, of a belt shifting mechanism associated with said shaft, to reverse the same, and automatic connections between said arm and mechanism, arranged to operate the mechanism, and reverse the shaft at predetermined points, and manually operated means to disengage said connections.

3. The combination with a shaft and a belt shifting mechanism therefor, of an arm connected to and operated by the shaft and swinging in a plane at a right angle to the axis of the shaft, and a link carried by the arm and having a sliding connection with said mechanism, arranged to operate the same at the end of each stroke of the arm.

4. In a belt shifter, the combination with a treadle and a rock shaft on which the treadle is mounted, of another shaft geared to said rock shaft and having a crank arm, and movable shifter arms connected to said arm.

5. The combination with a shaft and a belt shifting mechanism therefor including a rocker, of swinging arm connected to and operated by said shaft, and a link connecting the arm and rocker and having a slot and pin connection with the latter, arranged to operate the same at the end of each stroke.

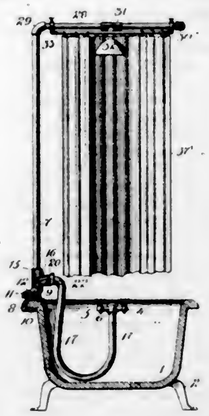
6. The combination with a reciprocating arm, and a rock shaft operatively connected to a belt shifter and having a projecting arm, of a link connected to the said arms, the connection of the link to one of the arms being by means of a slot and pin, producing intermittent operation of the arm and its shaft.

7. The combination with a reciprocating part, and a rock shaft operatively connected to a belt shifter and having a projecting arm, of a link pivoted to the said part and having a slot and pin connection to the arm, and a dog pivoted to the link and having its head extending across the slot and arranged to strike the pin, and movable to avoid the same.

8. The combination with a swinging arm, and a shaft geared thereto, of belt shifting mechanism for the shaft, including a rock shaft operatively connected to the shifter arm, a treadle on said rock shaft, for foot operation, automatic connections between said rock shaft and the swinging arm, and means to disengage the automatic connections.

9. The combination with a swinging arm, and a belt shifting mechanism having a rocker arm, of a link connecting said arms and having a stop which throws the rocker in one direction, and an auxiliary link connected to said link and to the rocker arm and having a stop which throws the rocker in the other direction.

869,240. SHOWER-BATH. CHARLES HEATON, New York, N. Y., assignor of one-half to Hugo Bierhoff, New York, N. Y. Filed June 21, 1906. Serial No. 322,673.



1. A shower bath adapted for bath tubs comprising an upright pipe and means for connecting it to the water supply, and having a clamp composed of a plate adapted to be secured over the top rim of the tub, and another plate adapted to engage the flange of the tub, and means for securing the plates together.

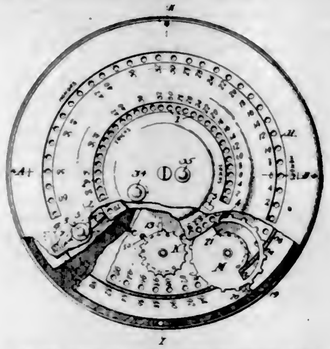
2. A shower bath for tubs, having a pipe, a clamp for securing the same to the tub, said clamp comprising a plate for the top rim of the tub, and having a plug thereon to which said pipe is secured, and an under plate adapted to engage under the flange of the tub, and means for clamping the two plates together.

3. A shower for bath tubs comprising a pipe, a joint therefor, a clamp adapted to secure the joint to the top rim of a tub, a tube to connect the joint with the water supply, and a coupling therefor, comprising a pair of parallel, connected arms, fulcrumed to the pipe joint, a tubular end on the said tube provided with a collar having lateral projections, a gasket on the tube, said arms having depending fingers which engage with the said projections and cause the collar to crowd the gasket against the pipe joint and a recess in said fingers and a shoulder 24 for the collar projections.

869,241. GAME-COUNTER. EDGAR C. HILLYER, Raleigh, N. C. Filed Mar. 28,1906. Serial No. 308,423.

1. In a game counter, the combination with a disk for scoring one set of points, and a second disk for scoring another set of points, said disks having registering per-

formtions whereby they may both be moved by a single stylus for summing the points in both sets.



2. In a game counter, the combination with a disk for scoring one set of points, a second disk for scoring another set of points, said disks having registering perforations whereby they may both be moved by a single stylus and said second disk being adapted to be operated independently of the other disk.

3. In a game counter, the combination of a disk for scoring one set of points, a second disk for scoring another set of points, said disks having registering perforations whereby they may both be moved together by a single stylus, and both of said disks adapted to be moved independently to their zero positions.

4. In a game counter, the combination with a disk for scoring one set of points, a second disk for scoring another set of points, said disks having registering perforations, whereby they may both be moved by a single stylus and said second disk having a second row of perforations by means of which said second disk may be moved independently of the first.

5. In a game counter, the combination with a disk for scoring one set of points, of a second disk for scoring another set of points, said disks being adapted to be operated by a common means and said second disk being adapted to be operated independently of the other disk, and means for indicating the number of games played adapted to engage with and be operated by the first disk.

6. In a game counter, the combination with a disk for scoring one set of points, of a second disk for scoring another set of points, said disks being adapted to be operated by a common means and said second disk being adapted to be operated independently of the other disk, and means adapted to be engaged by said second disk for indicating the number of its revolutions.

7. In a game counter, the combination with two disks for scoring points and a third disk for indicating the points scored on both of the aforesaid disks adapted to be operated upon the operation of either of the aforesaid disks.

8. In a game counter, the combination with two disks for scoring points and a third disk for indicating the points scored on both of the aforesaid disks adapted to be operated upon the operation of either of the aforesaid disks and adapted to be operated independently thereof.

9. In a game counter, the combination with two disks for scoring points and a third disk for indicating the points scored on both of the aforesaid disks adapted to be operated upon the operation of either of the aforesaid disks, and means for indicating the revolutions of said third disk.

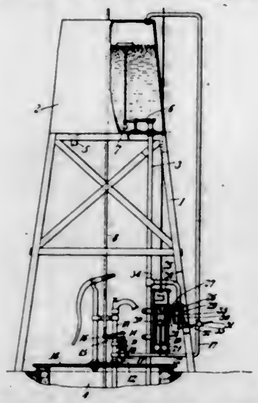
10. In a game counter, the combination with means for scoring points for one side, of means for scoring points for the opposite side and means for indicating the difference between the points scored by the opposite sides, adapted to be operated upon the operation of either of the aforesaid scoring means.

11. In a game counter, the combination with a disk for scoring points for one side, of a second disk for scoring points for the opposite side, each of said disks having a series of perforations, and disks secured together, one of the last mentioned disks having a series of perforations in register with the perforations of one of the said disks for scoring, and being adapted to indicate a difference in favor of one side, and the other of the last mentioned disks having a series of perforations in register with those of the other of said disks for scoring and being adapted to indicate a difference in favor of the opposing side, said two disks secured together being adapted to be turned in one direction upon the scoring of points by one side and to be turned in the opposite direction upon the scoring of points by the other side.

12. In a game counter, the combination with means for scoring points for one side, of means for scoring points for the opposite side, means for indicating the difference between the points scored by the opposite sides adapted to be operated upon the operation of either of the aforesaid scoring means, and means for alternately obscuring and revealing the indicator of the differential scoring means as one side passes or falls behind the other in points scored

13. In a game counter, the combination with a disk for scoring points for one side, of a second disk for scoring points for the opposite side, each of said disks having a series of perforations, disks secured together, one of the last mentioned disks having a series of perforations in register with the perforations of one of the said disks for scoring, and being adapted to indicate a difference in favor of one side, and the other of the last mentioned disks having a series of perforations in register with those of the other of said disks for scoring and being adapted to indicate a difference in favor of the opposing side, said two disks secured together being adapted to be turned in one direction upon the scoring of points by one side and to be turned in the opposite direction upon the scoring of points by the other side, and a wheel corresponding to each of said two disks secured together, said wheel having a slot through which the indications upon said disks may be seen and a solid portion for obscuring said indications and being adapted to be engaged by said two disks.

869,242. WINDMILL-REGULATOR. OTTO C. HORVET, Ong, Nebr. Filed May 7, 1907. Serial No. 372,396.



1. A regulator for wind mills and the like comprising a regulator cylinder having an inlet and an outlet port, a piston mounted to reciprocate within said cylinder, means for connecting a regulating wire to said piston, an auxiliary cylinder communicating with the regulator cylinder through the ports thereof, a weight controlled piston within the auxiliary cylinder and disposed to close either of said ports, and means for directing water under pressure into the auxiliary cylinder to actuate the piston therein.

2. A regulator of the character described comprising a cylinder having an inlet and an outlet port, a piston

mounted to reciprocate therein, means for connecting a regulating wire to the piston, an auxiliary cylinder communicating with the first mentioned cylinder through said ports, a weight controlled piston mounted within the auxiliary cylinder and disposed to close either of the ports, said cylinder having a vent, and means for directing fluid under pressure against said piston, said piston being normally interposed between the vent and the fluid inlet.

3. A regulator of the character described comprising a cylinder having an inlet and an outlet port, a piston therein, means for connecting a regulating wire to the piston, an auxiliary cylinder opening into the ports and having a vent, a piston within said cylinder, a weighted lever for controlling the operation of said piston, said piston normally closing the inlet port and disposed when actuated against the pressure of the weighted lever to open said port and the vent successively, and means for directing fluid under pressure against the piston to actuate it.

4. The combination with a tank and mechanism for directing fluid thereinto, and means for automatically shutting off the admission of fluid to the tank; of a cylinder having an outlet, a piston therein, means operated by the piston for actuating a regulating wire, an auxiliary cylinder having an outlet opening into and constituting the inlet of the first mentioned cylinder, a gravity operated piston within the auxiliary cylinder, and means for directing fluid under pressure against said piston to open the inlet port.

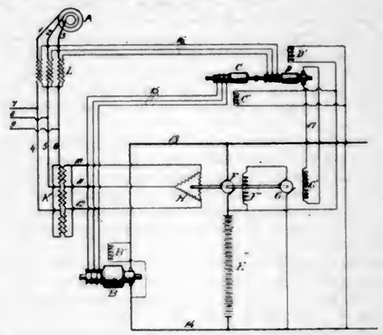
5. The combination with a tank, means for directing fluid thereinto, a float controlled valve within the tank, and a pump actuating rod; of an air pump for directing air under pressure into the tank, means for placing said pump in operative relation with the rod, a cylinder having an outlet, a piston therein, means for connecting said piston with a regulating wire, an auxiliary cylinder communicating with the fluid directing means and having an outlet opening into and constituting the inlet of the first mentioned cylinder, the outlet of said first mentioned cylinder opening into the auxiliary cylinder, a piston within the auxiliary cylinder, and gravity operated means for holding said piston normally across the inlet of the first mentioned cylinder, said piston being disposed to be shifted by the pressure of fluid directed thereagainst to open the inlet.

6. A regulator for wind mills and the like comprising a regulator cylinder having an inlet and an outlet port, a pressure operated device within the cylinder, means for connecting a regulating wire thereto, an auxiliary cylinder communicating with the regulator cylinder through the ports of the regulator cylinder, a pressure operated device therein and disposed to close either of the ports, adjustable means for controlling the movement of said device, and means for directing fluid under pressure into the auxiliary cylinder to actuate the device therein.

869,243. ELECTRICAL SYSTEM OF DISTRIBUTION. ALBERT S. HUBBARD, Greenwich, Conn., and WILLIAM A. TURBAYNE, Lancaster, N. Y., assignors to Gould Storage Battery Company, a Corporation of New York. Filed Mar. 31, 1905. Serial No. 256,107.

1. The combination of an alternating current generator, a circuit leading therefrom, means for transmitting electric energy from the alternating current circuit as direct current supplying a direct current circuit, a storage battery connected to said circuit, a rectifying device connected to the alternating circuit, means for causing the output from said rectifying device to vary in accordance with the electrical condition in the alternating circuit and means for causing the rectified current to vary the electro-motive-force impressed upon the direct current end of said transmitting means and thereby vary the battery action.

2. The combination of an alternating current generator and a circuit therefrom, means for transmitting electrical energy from said circuit to a direct current circuit, a storage battery in the latter circuit, a rectifying device responsive to variations of electrical condition in the alternating current circuit, and a coil receiving the output of said rectifying device and varying the electro-motive-force impressed upon the direct current end of said transmitting means to thereby vary the battery action.



3. The combination of an alternating current generator and a circuit therefrom, means for transmitting electrical energy from said circuit to a direct current circuit, a storage battery in the latter circuit, a rectifying device responsive to variations of electrical condition in the alternating current circuit, and a coil receiving the output of said rectifying device and varying the electro-motive-force impressed upon the direct current end of said transmitting means to thereby vary the battery action.

4. The combination of an alternating current generator and a generator circuit leading therefrom, a work circuit connected to the generator circuit, means for transmitting electric energy from the generator circuit into direct current, a direct current circuit supplied thereby, a battery connected in a branch across the latter circuit, a rectifying device connected to the said generator circuit between the generator and the work circuit connections, and means for causing the rectified current to regulate the electro-motive-force impressed upon the direct current end of said transmitting means to vary the battery action.

5. The combination of an alternating current generator and a generator circuit leading therefrom, a work circuit connected to the generator circuit, means for transmitting electric energy from the generator circuit into direct current, a direct current circuit supplied thereby, a battery connected in a branch across the latter circuit, a rectifying device connected to the said generator circuit between the generator and the work circuit connections, and a coil for regulating the electro-motive-force impressed upon the direct current end of said transmitting means connected with the direct current end of said rectifying device.

6. The combination of an alternating current generator and a generator circuit leading therefrom, a work circuit connected to the generator circuit, means for translating electric energy from the generator circuit into direct current, a direct current circuit supplied thereby, a battery connected in a branch across the latter circuit, a rectifying device connected to the said generator circuit between the generator and the work circuit connections, and a coil receiving the output of said rectifying device and regulating the electro-motive-force impressed upon the direct current end of said transmitting means.

7. The combination of an alternating current generator and a generator circuit leading therefrom, a work circuit connected to the generator circuit, means for transmitting electric energy from the generator circuit into direct current, a direct current circuit supplied thereby, a battery connected in a branch across the latter circuit, a transformer in the alternating current circuit located between the generator and the work circuit connections, a rectifying device connected to the secondary of said transformer, and a coil for regulating the electro-motive-force impressed upon the direct current end of said transmitting means affected by variations in the direct current output of said rectifying device.

8. The combination of an alternating current generator

and a generator circuit leading therefrom, a work circuit connected to the generator circuit, means for transmitting electric energy from the generator circuit into direct current, a direct current circuit supplied thereby, a battery connected in a branch across the latter circuit, a rectifying device connected to the said generator circuit between the generator and the work circuit connections, means for maintaining said rectifying device in synchronism, and a coil for regulating the battery current affected by the variations in the direct current output of said rectifying device.

9. The combination of an alternating current generator, two rectifying devices fed thereby, a direct current circuit connected to both of said rectifying devices, a battery in a branch connected across said direct current circuit and between said rectifying devices, and means for regulating the battery current by the electric condition of the alternating current circuit.

10. The combination of an alternating current generator, two rectifying devices fed thereby, a direct current circuit connected to both of said rectifying devices, a battery in a branch connected across said direct current circuit and between said rectifying devices, a rectifying device receiving current from the alternating current circuit, and a coil for regulating the battery current affected by variations in the direct current output of said rectifying device.

11. The combination of an alternating current generator, two rectifying devices fed thereby, a direct current circuit connected to both of said rectifying devices, a battery in a branch connected across said direct current circuit and between said rectifying devices, a rectifying device receiving an alternating current varying in accordance with the variations of load on the alternating current generator, and a regulating coil for the battery affected by variations in the direct current output of said rectifying device.

12. The combination of an alternating current generator and a generator circuit leading therefrom, a work circuit connected to the generator circuit, means for transmitting electric energy from the generator circuit into direct current, a direct current circuit supplied thereby, a battery connected in a branch across the latter circuit, a booster in the battery branch, a rectifying device connected to the said generator circuit between the generator and the work circuit connections, and means for causing the rectified current to regulate the E. M. F. of the booster.

13. The combination of an alternating current generator and a circuit therefrom, means for transmitting electric energy from said circuit to a direct current circuit, a storage battery and a booster in a branch across the direct current circuit, a rectifying device receiving current from the alternating current circuit that varies in accordance with the variations in load on the alternating current generator, and a coil for regulating the booster E. M. F. connected to the direct current end of said rectifying device.

14. The combination of an alternating current generator and a circuit therefrom, means for transmitting electric energy from said circuit to a direct current circuit, a storage battery and a booster in a branch across the direct current circuit, a rectifying device receiving current from the alternating current circuit that varies in accordance with the variations in the load on the alternating current generator, and a coil for regulating the booster E. M. F. receiving the direct current output of said rectifying device.

15. The combination of an alternating current generator and a circuit therefrom, means for transmitting electric energy from said circuit to a direct current circuit, a storage battery and a booster in a branch across the direct current circuit, a rectifying device receiving current from the alternating current circuit that varies in accordance with the variations in load on the alternating current generator, a field coil for said booster, a regulating dynamo in series with said field coil, a field coil for the regulating dynamo and means for controlling said regulating dynamo in accordance with the direct current generated by said rectifying device.

16. The combination of an alternating current generator and a circuit therefrom, means for transmitting electric energy from said circuit to a direct current circuit, a storage battery and a booster in a branch across the direct current circuit, a rectifying device receiving current from the alternating current circuit that varies in accordance with the variations in load on the alternating current generator, a field coil for said booster, a regulating dynamo in series with said field coil, and a field coil for the regulating dynamo connected to the rectifying device to receive the direct current output thereof.

17. The combination of an alternating current generator and a circuit therefrom, means for transmitting electric energy from said circuit to a direct current circuit, a storage battery and a booster in a branch across the direct current circuit, a rectifying device receiving the current from the alternating current circuit that varies in accordance with the variations in load on the alternating current generator, a field coil for said booster, a regulating dynamo in series with said field coil in a circuit connected to the terminals of the battery, a field coil for the regulating dynamo and means for controlling said regulating dynamo in accordance with the direct current generated by said rectifying device.

18. The combination of an alternating current generator and a circuit therefrom, means for transmitting electric energy from said circuit to a direct current circuit, a storage battery and a booster in a branch across the direct current circuit, a rectifying device receiving current from the alternating current circuit that varies in accordance with the variations in load on the alternating current generator, a field coil for said booster, a regulating dynamo in series with said field coil in a circuit connected to the terminals of the battery, and a field coil for the regulating dynamo connected to the rectifying device to receive the direct current output thereof.

19. The combination of an alternating current generator and a circuit therefrom, means for transmitting electric energy from said circuit to a direct current circuit, a storage battery and a booster in a branch across the direct current circuit, a rectifying device receiving current from the alternating current circuit that varies in accordance with the variations in load on the alternating current generator, a field coil for said booster, a regulating dynamo for said field coil, a field coil for said regulating dynamo connected across the battery terminals, and a second field coil for said regulating dynamo connected to the rectifying device to receive the direct current output thereof.

20. The combination of an alternating current generator and a circuit therefrom, means for transmitting electric energy from said circuit to a direct current circuit, a storage battery and a booster in a branch across the direct current circuit, a rectifying device receiving current from the alternating current circuit that varies in accordance with the variations in load on the alternating current generator, a field coil for said booster, a regulating dynamo in series with said field coil in a circuit connected across the battery terminals, a field coil for said regulating dynamo connected across the battery terminals, and a second field coil for said regulating dynamo connected to the rectifying device to receive the direct current output thereof.

21. The combination of a source of electricity, a circuit fed thereby, a storage battery and a booster in series in a branch connected across said circuit, a field coil for said booster determining the electro-motive-force thereof, a regulating dynamo in series with said field coil in a circuit whose E. M. F. is dependent upon that across the battery, and a field coil for said regulating dynamo whose current strength is dependent upon the current strength of the said source of electricity.

22. The combination of a source of electricity, a circuit fed thereby, a storage battery and a booster in series in a branch connected across said circuit, a field coil for said booster, a regulating dynamo in series with said field coil in a circuit subjected to variations of E. M. F. across the battery, a field coil for said regulating dynamo whose current strength is dependent upon the current strength of the said source of electricity, and a second field coil for said regulating dynamo connected across the battery terminals.

23. The combination of an alternating current generator and a circuit therefrom, means for transmitting electric energy from said circuit to a direct current circuit, a storage battery in a branch across the direct current circuit, a rotary converter to supply direct current for regulating the battery current, connected to receive an alternating current whose strength is dependent upon the strength of the current from the alternating current generator, and means for maintaining said rotary converter in synchronism with the alternating current generator.

24. The combination of an alternating current generator and a circuit therefrom, means for transmitting electric energy from said circuit to a direct current circuit, a storage battery and a booster in a branch across the direct current circuit, a rectifying device receiving current from the alternating current circuit, and a coil for regulating the booster E. M. F. connected to the direct current end of said rectifying device.

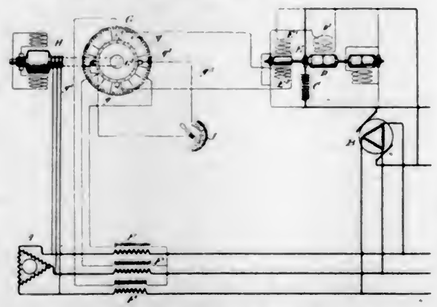
25. The combination of an alternating current generator, a rectifying device, a battery connected thereto, a booster in series with the battery, a coil for regulating the booster E. M. F. connected to receive current from the direct current side of the system, means for applying opposing potential differences thereto, and means for regulating one of said potential differences in accordance with changes of current of the alternating current generator.

26. The combination of an alternating current generator, a rectifying device, a battery connected thereto, a booster in series with the battery, a coil for regulating the booster E. M. F. connected to receive current from the direct current side of the system, means for applying a potential difference thereto that varies with that of the battery, and means for applying a variable and opposing potential difference thereto that is regulated in accordance with changes of current of the alternating current generator.

27. The combination of an alternating current generator, a rectifier, a storage apparatus and booster, connected to the direct current end of the rectifier, means for regulating the booster electro-motive-force responsively to changes of electrical condition of the alternating current side of the system, and means for driving the booster in synchronism with the alternating current generator.

28. The combination of an alternating current generator, a rectifier, a storage apparatus and booster, connected to the direct current end of the rectifier, a regulating dynamo controlling the booster electro-motive-force, means for regulating said dynamo responsively to changes of electrical condition of the alternating current side of the system, and an alternating current synchronous motor mechanically connected to the booster and the regulating dynamo.

869,244. ALTERNATING-CURRENT APPARATUS. ALBERT S. HUBBARD, Belleville, N. J., assignor to Gould Storage Battery Company, a Corporation of New York. Filed July 2, 1906. Serial No. 324,393.



1. The combination of an alternating current generator, a regulating battery therefor, regulating apparatus for varying the battery action and means for controlling the action of said apparatus in accordance with the resultant of the values of the current of the alternating current circuit and the power factor thereof.

2. The combination of an alternating current generator, a regulating battery therefor, regulating apparatus for varying the battery action, means for supplying a regulating current to said apparatus, and means for changing the ratio between the regulating current and that of the alternating current generator in accordance with changes of power factor of the alternating current circuit.

3. The combination of an alternating current generator, a regulating battery therefor, regulating apparatus for varying the battery action, means for regulating said apparatus responsively to variations of one of the components of the alternating current energy, and means for oppositely regulating said apparatus in accordance with the wattless current of the alternating current circuit.

4. The combination of an alternating current generator, a regulating battery therefor, regulating apparatus for varying the battery action, means for supplying a regulating current to said apparatus, and means for by-passing current from said regulating apparatus in accordance with changes of power factor of the alternating current circuit.

5. The combination with an alternating current circuit, a regulating apparatus, a regulating circuit therefor, and means for by-passing current from said circuit in accordance with changes of power factor of the alternating current circuit.

6. The combination with an alternating current circuit of a compensatory storage apparatus in operative relation therewith, regulating apparatus for said storage apparatus connected to the alternating current circuit, and means for affecting the action of said regulating apparatus by power factor changes of the alternating current circuit.

7. The combination of an alternating current generator, compensatory storage apparatus in operative relation thereto, and means for affecting the action of the storage apparatus responsively to power factor changes of the system.

8. An alternating current generator, a compensatory storage battery, regulating devices therefor, apparatus connected to the circuit of the alternating current generator for determining the current for controlling the regulating devices, and means for causing out-of-phase relations of the electro-motive-force and current of the alternating current circuit to act upon said apparatus to modify said current.

9. The combination of an alternating current generator, its load and a regulating batery therefor, regulating apparatus for varying the battery action and means for controlling the action of said regulating apparatus, one of the factors of said control being the power factor of the alternating current circuit.

10. A rectifying device of the induction type having a pair of brushes engaging commutator segments having practically zero difference of potential and a circuit connecting said brushes.

11. A rectifying device of the induction type, having two sets of brushes engaging commutator segments displaced substantially ninety electrical degrees.

12. A rectifying device of the induction type having a pair of brushes adjusted to engage commutator segments having practically zero potential when the power factor is unity.

13. A rectifying device of the induction type having two sets of brushes adjusted to engage the commutator at points corresponding respectively to maximum and zero differences of potential when the power factor is unity.

14. A rectifying device of the induction type, a regulating circuit in connection with the usual commutator brushes thereof, a set of commutator brushes electrically displaced with relation to the usual brushes, and a circuit connected to said displaced brushes.

15. A rectifying device of the induction type, a regulating circuit in connection with the usual commutator brushes thereof, a set of commutator brushes displaced substantially ninety electrical degrees with relation to the usual brushes, and a circuit connected to said displaced brushes.

16. A rectifying device having induction but devoid of motor action, having in adition to the usual commutator

brushes, a set of brushes engaging the commutator to receive substantially zero potential when the power factor is unity.

17. A rectifying device having induction but devoid of motor action, a direct current regulating circuit fed from brushes bearing on the commutator thereof, a second circuit, and an additional pair of commutator brushes feeding the same.

18. A rectifying device having induction but devoid of motor action, a direct curent regulating circuit fed from brushes bearing on the commutator thereof, a set of commutator brushes displaced substantially ninety electrical degrees relatively to the usual commutator brushes, and a second circuit connected thereto.

19. A rectifying device having induction but devoid of motor action, a direct current regulating circuit fed from brushes bearing on the commutator thereof, a set of commutator brushes displaced substantially ninety electrical degrees relatively to the usual commutator brushes, a second circuit connected thereto, and means for adjusting the resistance of said second circuit.

20. The combination with a rectifier in a regulating circuit of means for diverting current therefrom when there is a departure from a predetermined power factor.

21. The combination with a rectifier in a regulating circuit of a local direct current circuit, and means for diverting current from the rectifier to said local circuit when there is a departure from a predetermined power factor.

22. The combination of a regulating circuit, a rectifier of the induction type supplying the current thereto, a local circuit, and means for supplying current thereto in accordance with changes of power factor.

23. The combination of a regulating circuit, a rectifier of the induction type supplying the current thereto, a local circuit, means for supplying current thereto in accordance with changes of power factor, and means for adjusting the resistance of the local circuit.

24. The combination of an alternating current circuit, series transformers therein, a rectifying device of the induction type supplied from said series transformers, a direct current regulating circuit supplied from the rectifying device, and means for diverting current from said rectifying device when the power factor departs from a predetermined value.

25. The combination of an alternating current circuit, series transformers therein, a rectifying device of the induction type supplied from the series transformers, two sets of electrically displaced commutator brushes for said rectifier, a regulating circuit connected to one set of brushes, and a second circuit connected to the other brushes.

26. The combination of an alternating current circuit, series transformers therein, a rectifying device of the induction type supplied from the series transformers, two sets of electrically displaced commutator brushes for said rectifier, a regulating circuit connected to one set of brushes, a second circuit connected to the other brushes and means for adjusting the resistance of said second circuit.

27. The combination of an alternating current circuit, series transformers therein, a rectifying device of the induction type supplied from said series transformers, a direct current regulating circuit supplied from the rectifying device, and means for modifying the relation between the transformer current and that of the regulating circuit as the power factor changes.

28. The combination of an alternating current circuit, series transformers therein, a rectifying device of the induction type supplied from said series transformers, brushes engaging the rectifier commutator at points of normal maximum difference of potential, a regulating circuit connected to said brushes, brushes engaging said commutator at points of normal minimum difference of potential, and a circuit connected to the latter brushes.

29. The combination of an alternating current circuit, series transformers therein, a rectifying device of the induction type supplied from said series transformers, brushes engaging the rectifier commutator at points of normal maximum difference of potential, a regulating circuit connected to said brushes, brushes engaging said commutator at points of normal minimum difference of potential, and a circuit connected to the latter brushes.

30. The combination of an alternating current circuit, a rectifying device supplied therefrom, a dynamo, a controlling coil therefor fed from said rectifying device, and means for varying the current supplied to said coil according to power factor changes in the alternating current circuit.

31. The combination of an alternating current circuit, a rectifying device supplied therefrom, a dynamo, a controlling coil therefor fed from said rectifying device, and means for diverting current from the rectifier according to changes of power factor of the alternating current circuit.

32. The combination of an alternating current circuit, a rectifying device of the induction type supplied therefrom, a dynamo, a controlling coil therefor fed from brushes bearing on the rectifier commutator, a second set of commutator brushes electrically displaced with relation to the usual brushes, and a local circuit connected to said second set of brushes.

33. The combination of an alternating current circuit, series transformers therein, a rectifying device of the induction type supplied therefrom, a dynamo, a controlling coil therefor fed from brushes bearing on the rectifier commutator, a second set of commutator brushes electrically displaced with relation to the usual brushes, and a local circuit connected to said second set of brushes.

34. The combination of an alternating current circuit, series transformers therein, a rectifying device supplied therefrom, a dynamo, a controlling coil therefor fed from brushes bearing on the rectifier commutator, and means for varying the ratio between the current of the series transformers and that of the controlling coil according to changes of power factor of the alternating current circuit.

35. The combination of an alternating current generator, a rectifying device connected thereto, a storage battery also connected thereto, regulating apparatus for varying the battery action, a controlling coil therefor, a rectifying device supplying current to said controlling coil and connected to the alternating current generator, and means for varying the current in said coil according to changes of power factor in the alternating current circuit.

36. The combination of an alternating current generator, a rectifying device connected thereto, a storage battery also connected thereto, regulating apparatus for varying the battery action, a controlling coil therefor, transformers in series with the alternating current generator, a rectifying device connected thereto, connections from the rectifying device to said controlling coil, and means for varying the ratio between the said transformer current and that in the controlling coil according to changes of power factor of the alternating current circuit.

37. The combination of an alternating current generator, a rectifying device connected thereto, a storage battery also connected thereto, regulating apparatus for varying the battery action, a controlling coil therefor, transformers in series with the alternating current generator, a rectifying device connected thereto, connections from the rectifying device to said controlling coil, and means for diverting current from said rectifying device as the power factor of the alternating current circuit changes.

38. The combination of an alternating current generator, a rectifying device connected thereto, a storage battery also connected thereto, regulating apparatus for varying the battery action, a controlling coil therefrom, a rectifier of the induction type connected to the alternating current generator, a local circuit, two sets of brushes bearing on the rectifier commutator, one set electrically displaced with reference to the other, and connections from one set of brushes to the controlling coil and from the other set to a local circuit.

39. The combination of an alternating current generator, a rectifying device connected thereto, a storage battery also connected thereto, regulating apparatus for varying the battery action, a controlling coil therefor, a rectifier of the induction type connected to the alternating current generator, a local circuit, two sets of brushes bearing on the rectifier commutator, one set electrically displaced with reference to the other, connections from one set of brushes to the controlling coil and from the other set to a local circuit, and means for adjusting the resistance of said local circuit.

40. The combination of an alternating current generator, a rectifying device connected thereto, a storage battery also connected thereto, regulating apparatus for varying the battery action, a controlling coil therefor, a rectifier of the induction type connected to the alternating current generator, a set of brushes bearing on the rectifier commutator and connected to said controlling coil, a local circuit, and a set of brushes connected to said local circuit and engaging the commutator at points of substantially zero difference of potential when the power factor of the alternating current circuit is unity.

41. The combination of an alternating current generator, a rectifying device connected thereto, a storage battery also connected thereto, regulating apparatus for varying the battery action, a controlling coil therefor, series transformers therein, a rectifying device connected to said transformers, a set of brushes bearing on the rectifier commutator and connected to said controlling coil, a local circuit, and a set of brushes connected thereto and engaging the commutator at points of substantially zero difference of potential when the power factor of the alternating current circuit is unity.

42. The combination of an alternating current generator, a rectifying device connected thereto, a storage battery also connected thereto, regulating apparatus for varying the battery action, a controlling coil therefor, series transformers therein, a rectifying device connected to said transformers, a set of brushes bearing on the rectifier commutator and connected to said controlling coil, a local circuit, a set of brushes connected thereto and engaging the commutator at points of substantially zero difference of potential when the power factor of the alternating current circuit is unity, and means for adjusting the resistance of the local circuit.

43. A rectifying device of the induction type and means for driving it in synchronism with one of the factors of an alternating load, a commutator and collector rings for the rectifier, means to electrically connect the collector rings and the alternating circuit, means for interlinking the fields due to the alternating and direct currents, and two sets of brushes for the commutator, one set displaced practically ninety electrical degrees relatively to the other set.

44. A rectifying device of the induction type and means for driving it in synchronism with one of the factors of an alternating load, a commutator and collector rings for the rectifier, means to electrically connect the collector rings and the alternating circuit, means for interlinking the fields due to the alternating and direct currents, and two sets of brushes for the commutator, one set electrically displaced relatively to the other set and means for utilizing the current from one set of brushes.

45. A rectifying device of the induction type and means for driving it in synchronism with one of the factors of an alternating load, a commutator and collector rings for the rectifier, means to electrically connect the collector rings and the alternating circuit, means for interlinking the fields due to the alternating and direct currents, and two sets of brushes for the commutator, one set electrically displaced relatively to the other set, the current from one set being utilized, the other set by-passing current from the first set when the driving power is out of phase with the alternating current to be rectified.

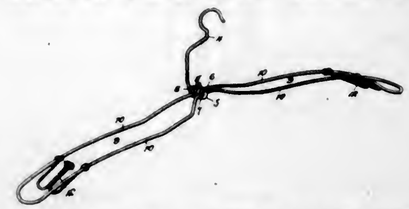
46. A rectifying device of the induction type and means for driving it in synchronism with one of the factors of an alternating load, a commutator and collector rings for the rectifier, means to electrically connect the collector rings and the alternating circuit, means for interlinking the fields due to the alternating and direct currents, and two sets of brushes for the commutator, one set electrically displaced relatively to the other set, and means for obtaining an alternating current to be rectified, varying as the factor to be measured.

47. A device for producing a current corresponding to power factor changes comprising a rectifying device having two sets of commutator brushes, the current dividing between the two sets according to the power factor.

48. A rectifying device of the induction type for polyphase currents and means for driving it in synchronism with one of the factors of an alternating load, a commutator and collector rings for the rectifier, means to electrically connect the collector rings to the different phases of the alternating circuit, means for interlinking the fields due to the alternating and direct currents, and two sets of brushes for the commutator, one set electrically displaced relatively to the other set.

49. An alternating current circuit, a regulating storage battery, a controlling apparatus for the battery, and means for acting upon said controlling apparatus in accordance with variations in the apparent load of the alternating current circuit as modified by the power factor changes therein.

869,245. GARMENT-HANGER. FRANK P. JOHNSON, Danville, Pa. Filed May 7, 1907. Serial No. 372,385.



1. A garment hanger comprising a suspending member terminating in a lower loop and having spaced upper and lower transversely disposed bars that are fixed with relation to the hanger member and to each other, and oppositely swinging supporting arms pivotally mounted on the upper bar and movable into and out of engagement with the lower bar, the downward movement of the said arms being limited by said lower bar.

2. A garment hanger comprising a suspending hook having its lower portion formed into an integral loop that is provided with spaced upper and lower bars fixed with relation to the suspending hook, and an arm comprising a looped rod or wire having a terminal eye journaled on one bar, the other bar being disposed in the path of movement of the arm.

3. A garment hanger comprising a suspending hook having its lower portion formed into an integral offset loop that is provided with upper and lower substantially parallel bars fixed against movement with respect to the hook, and swinging arms comprising looped rods or wires having spaced side sections provided with eyes that are rotatably mounted upon the upper bar, said bar thus constituting a trunnion therefor and the lower bar constituting a stop to limit the downward swinging movement of the arms.

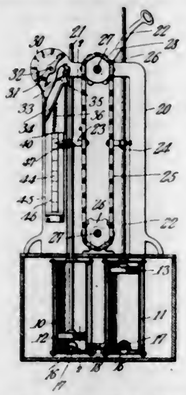
869,246. MEASURING-PUMP. CHARLES S. JONES, Marion, Ind. Filed May 31, 1907. Serial No. 376,538.

1. In a measuring pump, the combination with a pair of pumping devices including piston rods, of a common discharge to which the pumping devices are connected, a sprocket chain, means for operating the same, connecting blocks between the opposite runs of the sprocket chain, and the piston rods, and an indicating device having an operating member arranged in the path of movement of one of said blocks.

2. In a measuring pump, a pair of pumping devices including piston rods, a sprocket chain, the opposite runs of which are connected to said piston rods, a block projecting from said sprocket chain, means for operating the sprocket chain, an indicating device including a ratchet wheel, and a pawl engaging said ratchet wheel, said pawl being disposed in the path of movement of said block.

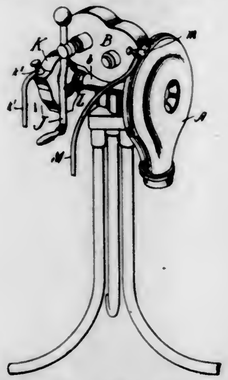
3. In a measuring pump, a pair of pumping cylinders, a discharge pipe to which both cylinders are connected,

pistons arranged in the cylinders, piston rods connected to the pistons, a frame, a pair of sprocket wheels, and sprocket wheel shafts supported by the frame, an endless link belt passing over the sprocket wheels, blocks connecting the opposite runs of the belt to the piston rods, an op-



erating crank on one of the shafts, an indicator including a ratchet wheel, a pawl for operating said ratchet wheel, said pawl having a roller disposed in the path of movement of one of the blocks, and a spring for retracting the pawl.

869,247. COMBINED MOTOR AND HAND OPERATED ROTARY BLOWER. HENRY B. KEIPER, Lancaster, Pa., assignor to The Champion Blower & Forge Company, Lancaster, Pa., a Corporation of Pennsylvania. Filed Feb. 1, 1907. Serial No. 355,289.



1. The combination, in a rotary blower, of a fan driving shaft, a hand-operated device and coöperating mechanism for imparting motion to said blower when said hand-operated device is moved in one direction only, together with a motor combined with said mechanism for imparting motion to said blower independently of said hand-operated device but in the same direction only, neither affecting the operation of the other, and each adapted to remain idle when the other is operating.

2. In combination, a rotary blower, a driving shaft therefor, a clutch on said driving shaft having a fast and a loose member, and means for locking the same so as to cause the shaft to turn therewith when turned in one direction only, a motor for imparting motion to said loose member and through it to the fan driving shaft when said members are locked, a hand-operated device and intermediate mechanism for imparting motion to said fan driving shaft independently of said motor, and a second clutch device whereby said hand device is adapted to remain idle when the blower is being driven by said motor, the latter being adapted to remain idle when the blower is actuated by said hand device, substantially as described.

3. In combination with a blower, a fan driving shaft, a hand-operated device for imparting motion to said fan driving shaft in one direction only, a motor for imparting motion to said fan driving shaft in the same direction only as that in which it is driven by said hand-operated device, and mechanism whereby when the fan-blower is being actuated by the motor the hand-operated device may remain idle, and vice versa.

4. The combination, in a rotary blower, of a fan-driving shaft having a spiral or worm thereon, a hand-operated device and an intermediate train of gears including a worm-wheel engaging said spiral and including a clutch adapted to engage said worm-wheel only when the hand-operated device is worked in one direction, but adapted to release said worm-wheel from the remaining gears when the fan-shaft is driven independently, and a motor for independently running said shaft.

5. The combination, with a rotary fan-blower, of the fan-shaft, a hand-operated device, and intermediate driving-mechanism for impelling said fan-shaft by hand, said mechanism including a clutch whereby the fan-shaft can be driven in one direction only by said hand-operated device, and in the same direction independently of said hand-operated device without affecting or causing motion of the same, and means for operating said blower by compressed air or motive fluid.

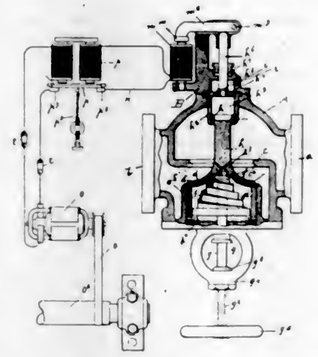
6. The combination, with a rotary fan-blower, of the fan-shaft, a hand-operated device, and intermediate driving-mechanism for impelling said fan-shaft by hand, said mechanism including a clutch whereby the fan-shaft can be driven in one direction only by said hand-operated device, and in the same direction independently of said hand-operated device without affecting or causing motion of the same, and an air-motor on said fan-shaft for driving the same independently of said hand-operated device, said motor comprising an air-impelled fan operatively connected with said shaft by a clutch permitting said shaft to be driven in one direction only by said hand-operated device and without motion of said air-motor.

7. In a rotary blower, a fan-driving shaft and independently operating hand and power devices for imparting motion thereto, comprising means for driving said shaft by hand, and a motor operatively connected therewith for driving said shaft by power, together with intermediate clutch devices for throwing either or both of said hand and power devices into gear independently or simultaneously when driven in one direction only, whereby said fan may be driven either by hand or by power or by both together through the same driving mechanism, said hand and power devices being adapted to operate independently without either affecting or interfering with the operation of the other, whether in operation or at rest.

8. In a rotary blower, a fan-driving shaft and hand and power driven mechanisms each adapted to operate independently of the other for imparting motion to said shaft, comprising a hand-operated device and a motor combined with connected driving gearing through which motion may be imparted to said fan-shaft by either said device or said motor, each being adapted to remain idle while the other is in operation, and means for engaging said device and said motor with said driving gearing to adapt either to operate in driving the fan while the other is in operation.

9. In a rotary blower, a fan-driving shaft and hand and power driven mechanisms adapted to operate either conjointly or independently for imparting motion to said shaft, comprising in combination with suitable driving gearing a device for driving the shaft by hand and a motor for driving the shaft by power, said device and motor each being operatively connected with driving mechanism common to both through which motion is imparted to said shaft and each adapted to remain idle when the other is in operation, together with means whereby either said device or said motor may be operated for driving said shaft independently of and without interfering with the operation of the other.

869,248. ENGINE STOP-VALVE. JAMES L. KIMBALL, Salem, Mass. Filed June 29, 1906. Serial No. 324,002.



1. The combination with an engine stop valve, of an electro-magnet controlling its operation, a normally closed circuit for said magnet, a current generator for said circuit which is operated by the engine which is being controlled and means operated by an increase in the strength of the current for operating said circuit to operate said magnet and thereby operate the valve, substantially as described.

2. The combination with an engine stop valve, of an electro-magnet controlling its operation, a normally closed circuit including said electro-magnet, a dynamo included in said circuit which is operated by the engine which is being controlled, and means operated by an increase in the strength of the current for opening said circuit to thereby cause the magnet to operate the valve, substantially as described.

3. The combination with an engine stop valve, of an electro-magnet controlling its operation, a normally closed circuit for said magnet, a current generator for said circuit which is operated by the engine which is being controlled, a circuit breaker in said circuit, a relay-magnet for operating it, the armature of which is normally held retracted but which is adapted to be attracted upon an increase in the strength of the current to operate said circuit-breaker and open the circuit and thereby cause the valve operating mechanism to operate, substantially as described.

4. The combination with an engine stop valve comprising a main valve and an auxiliary valve controlling its operation, of an electro-magnet for holding said auxiliary valve closed, a circuit for said magnet, a current generator for said circuit, which is operated by the engine which is being controlled and means operated by an increase in the strength of the current for operating said circuit to thereby operate said magnet and open the auxiliary valve, substantially as described.

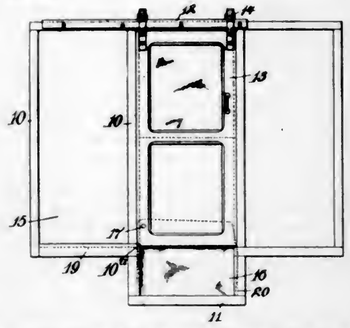
5. The combination with an engine stop valve comprising a main valve, hand actuating means for moving it toward and from its seat, and an auxiliary valve for closing said main valve upon its seat independently of the hand actuating means, of an electro-magnet for holding said auxiliary valve closed, a circuit for said magnet, a current generator for said circuit which is connected with and operated by the engine which is being controlled, and means operated by an increase in the strength of the current for operating said circuit to operate the magnet and open the auxiliary valve, substantially as described.

6. The combination with an engine stop valve, of an electro-magnet controlling its operation, a normally closed circuit for said magnet, a current generator for said circuit which is operated by the engine which is being controlled and means operated by an increase in the strength of the current for operating said circuit to operate said magnet and thereby operate the valve, and one or more circuit-breakers also in said circuit for opening it to also operate the valve mechanism, substantially as described.

7. The combination with an engine stop valve, of an electro-magnet controlling its operation, a normally closed circuit including said electro-magnet, a dynamo included in said circuit which is operated by the engine which is being controlled, and means operated by an increase in the strength of the current for opening said circuit to thereby cause the magnet to operate the valve, and one or more circuit-breakers also in said circuit for opening it to also operate the valve operating mechanism, substantially as described.

8. The combination with an engine stop valve comprising a main valve and an auxiliary valve controlling its operation, of an electro-magnet for holding said auxiliary valve closed, a normally closed circuit for said magnet, a circuit-breaker in said circuit and means operated by an increase in the strength of the current for operating it to open the circuit and thereby operate the valve operating mechanism, substantially as described.

869,249. VEHICLE-DOOR. JACOB LUDWIG and WILLIAM BRADBURY, Newark, N. J. Filed Mar. 20, 1906. Serial No. 306,995.



The combination with a door frame, of a door being formed in its lower portion of two panels forming a recess between them, a plate fitting in the recess and adapted to extend therefrom when the door is closed, and a pin passing through the panels and the plate to pivot the plate to the door, the panels concealing the plate when the door is open.

869,250. BACK-SCRATCHER. FLORIAN J. MARTIN, Milwaukee, Wis. Filed July 6, 1906. Serial No. 324,976.



1. A back scratcher comprising a handle, a holder connected to the handle and consisting of a flat back and converging sides, and a slice or slab of corn cob detachably fitted in the holder and presenting a rounded engaging face, which projects beyond the sides.

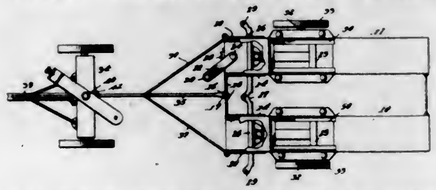
2. A back scratcher comprising a handle, and a holder mounted on the handle and constructed of resilient sheet metal and consisting of a back and converging sides, and a detachable flesh-engaging piece clamped in the holder by the sides thereof.

3. A back scratcher comprising a handle, a flesh-engaging device pivotally mounted on the handle and capable of rotary adjustment, and yieldable means interposed between the flesh-engaging device and the handle and fric-

tionally engaging the former for securing the same in its adjustment.

4. A back scratcher comprising a handle, a holder having a flesh-engaging device, a screw pivoting the holder to the handle, and a resilient compressible friction disk interposed between the holder and the handle and adapted to be adjusted by the screw.

869,251. BALING-PRESS. JAMES A. G. MAXWELL, Rome, Mo. Filed Mar. 11, 1907. Serial No. 361,749.



1. A sectional baling-press, the sections being foldable beside each other, wheels on which the sections are mounted, and a truck adapted to be coupled to the folded sections.

2. A baling-press having folding sections, each of which has a baling-chamber, a plunger for each baling-chamber, and separable driving means for the plungers.

3. A baling-press having folding sections, each of which has a baling-chamber, a plunger for each baling-chamber, a vertical shaft journaled on one of the sections, and having a crank, a sectional slotted yoke engageable by the crank, and connection between the yoke and the plungers.

869,252. TELEGRAPH-POLE, FENCE-POST, AND THE LIKE. HEZEKIAH MILLER, Fort Morgan, Colo., assignor of one-half to Jefferson Horner, Fort Morgan, Colo. Filed July 11, 1907. Serial No. 383,292.



1. A pole including a standard having a concrete base and provided at its lower end with laterally extending lugs, and a plurality of convolutions embedded in the concrete, the upper convolution being secured to the standard and the lower convolution arranged to bear against the lugs.

2. A pole including a standard having a concrete base and provided with oppositely disposed shoulders, and a plurality of convolutions embedded in the concrete and bearing against said shoulders.

3. A pole including a standard having a concrete base and provided with horizontally alined shoulders defining spaced anchoring arms having their free ends bent laterally to form terminal lugs, and a plurality of convolutions embedded in the concrete and bearing against the shoulders and lugs, respectively.

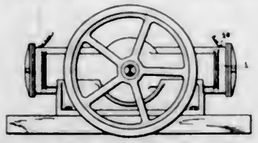
4. A pole including a standard having a concrete base and provided with spaced longitudinal bars terminating in laterally extending lugs, braces connecting the longitudinal bars and constituting steps, and a reinforcing member embedded in the concrete and consisting of a plurality of convolutions the upper one of which is secured to the standard and the lower convolution arranged to bear against the lugs.

5. A pole including a standard comprising longitudinal bars the lower ends of which are reduced to form horizontally alined shoulders, a concrete base, a plurality of convolutions embedded in the concrete base and bearing against the shoulders, and diagonally disposed braces interposed between the longitudinal bars and connected by transverse bars to form steps.

6. A pole including a standard having its lower end reduced to form horizontally alined shoulders defining spaced parallel bars the terminals of which are bent laterally to form anchoring lugs, there being openings formed in the parallel bars, a concrete mass surrounding the bars and constituting the base of the pole, a plurality of convolutions embedded in the concrete, the terminal convolutions being threaded and extended through the adjacent openings in the parallel bars, and clamping nuts engaging the threaded portions of the convolutions and bearing against said bars.

7. A pole including a standard having spaced tapering side walls, the lower ends of which are bent inwardly to form horizontally alined shoulders defining spaced parallel anchoring bars terminating in laterally extending lugs, a concrete base, a plurality of convolutions embedded in the concrete and interposed between the shoulders and lugs, respectively, and a brace formed of a single piece of metal having intermediate portions thereof alternately secured to the longitudinal bars of the standard and constituting steps, one end of the metal forming the steps being supported by the adjacent horizontal shoulder.

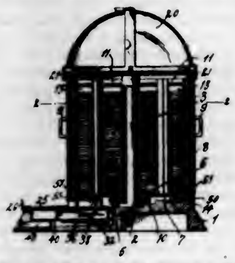
869,253. GAS-ENGINE. WILLIAM L. MORROW, Stockton, Cal. Filed Oct. 31, 1906. Serial No. 341,372.



1. In a gas engine of the class described, a cylinder, a cylindrical compression chamber, a shaft journaled through said cylinder and chamber and having oppositely disposed cranks respectively within the cylinder and the chamber, pistons operating in said chamber at opposite sides of said shaft and connected to the crank within the chamber, pistons operating in said cylinder at opposite sides of said shaft and connected to the crank within the cylinder, and passages between the cylinder and the chamber near the ends thereof and so arranged that the ends communicating with the chamber are constantly uncovered and the ends communicating with the cylinder are alternately covered and uncovered by the cylinder pistons.

2. In a gas engine of the class described, a cylinder, a cylindrical compression chamber, a shaft journaled through said cylinder and chamber and having oppositely disposed cranks respectively within the cylinder and the chamber, pistons operating in said chamber at opposite sides of said shaft and connected to the crank within the chamber, pistons operating in said cylinder at opposite sides of said shaft and connected to the crank within the cylinder, and passages between the cylinder and the chamber near the ends thereof and so arranged that the ends communicating with the chamber are constantly uncovered and the ends communicating with the cylinder are alternately covered and uncovered by the cylinder pistons, intake ports leading into the chamber near its ends and provided with check valves, exhaust ports leading from said cylinder, and sparker devices connected into said cylinder outside of the paths of the pistons therein.

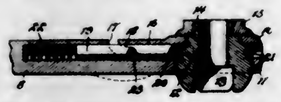
869,254. SLOT-MACHINE. JOHN P. MUNCH, New York, N. Y. Filed Dec. 6, 1905. Serial No. 290,552.



1. In a vending machine, an ejector, a cylindrical rotary receptacle having a circumferential groove at its lower edge, a base, a flange on the base extending up into the groove and having an interrupted part in register with the ejector, a gate preserving the continuity of the flange, and means interposed between the gate and ejector for opening the gate as the ejector is shifted to discharge an article.

2. A slot machine comprising a base, a stationary vertical shaft on said base, a stationary dome on said shaft, a depending annular flange on said dome, a rotary receptacle surrounding said vertical shaft and fitting at its upper end inside the depending flange of the dome, said rotary receptacle being formed at its lower end with an annular groove, a stationary annular flange on said base extending upward into the annular groove of the receptacle, a plurality of vertical compartments in the rotary receptacle, a closing plate at the bottom of each compartment, a ledge on said base adapted to receive packages forced out of the vertical compartments, a gate mounted on said ledge, angle levers for operating said gate, a slide for operating said angle levers, and a plunger connected with said slide for forcing out packages from said compartments on to said ledge.

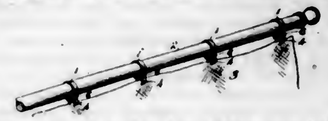
869,255. WRENCH. CHARLES H. MYERS, Buffalo, N. Y. Filed Apr. 25, 1907. Serial No. 370,243.



In a wrench, the combination with a stock having a circular socket formed in one end and opening through one side of said stock, said socket also having an opening of less diameter through the opposite side, of a single solid head rotatably mounted in the socket and having one end projecting from the open side and provided with a nut-receiving seat, an integral stem of less diameter than the head, projecting through the opposite side and exteriorly threaded, and a peripheral series of teeth located on the inner end of the head at its juncture with the stem, said teeth being located in the socket and completely surrounded by the stock, a nut screwed upon the projecting end of the stem and constituting means for retaining the head in place, and a reversible spring pressed dog movably mounted in the stock and having one end coöperating with the teeth of the head, said dog and teeth being housed by the stock.

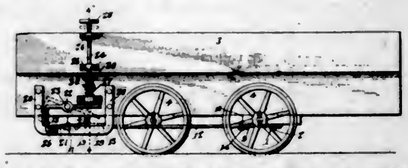
869,256. LACE-CURTAIN HANGER. THOMAS MCCORMICK, Mount Pleasant, Pa. Filed Jan. 29, 1907. Serial No. 354,716.

A lace curtain hanger comprising a loop or ring of a size to embrace and slide upon a pole and open at the bottom, straight neck portions depending from the sides of the loop or ring at the bottom thereof, and outwardly bowed clamping jaws connected at their upper ends to the neck portions and serrated or toothed at their lower ends, said loop or ring and the neck portions and the jaws being constructed of a single piece of metal, and a transverse clip arranged on and engaging the neck portions for holding the jaws in



engagement with a curtain, and slidable into and out of engagement with the said neck portions.

869,257. WHEEL-LOCKING ATTACHMENT FOR TRAM-CARS. THOMAS PARKER, Altoona, Ala., assignor to Jasper N. Rickles, Altoona, Ala. Filed Nov. 13, 1906. Serial No. 343,239.



1. In an attachment of the class described, the combination of spring actuated wheel engaging rods, levers connected to the rods, a setting lever connected with the said levers, and means for holding and for tripping the setting lever.

2. In an attachment of the class described, the combination of spring actuated wheel engaging rods, levers connected to the rods, a setting lever, means for connecting the said levers to permit the first mentioned levers to move independently of each other, and means for holding and for tripping the setting lever.

3. In an attachment of the class described, the combination of spring actuated wheel engaging rods, a setting lever, connecting rods having a slot and pin connection with the said lever to permit them to move independently of each other, and means for connecting the latter rods with the wheel engaging rods.

4. In an attachment of the class described, the combination of opposite spring actuated wheel engaging rods, bell crank levers connected with the rods, a setting lever, and connecting rods extending from the bell crank levers to the setting lever and having a limited independent movement to permit an independent movement of the wheel engaging rods.

5. In an attachment of the class described, the combination with a wheel engaging rod, of a setting lever connected with the rod, a keeper receiving the setting lever and provided with means for engaging the same, and tripping mechanism for disengaging the setting lever from the keeper.

6. In an attachment of the class described, the combination with a wheel engaging rod, of a setting lever connected with the rod, a keeper provided with means for engaging the setting lever, a tripping lever having an arm arranged to lift the setting lever out of engagement with the keeper, and operating mechanism for the tripping lever.

7. In an attachment of the class described, the combination with a wheel engaging rod, a setting lever connected with the rod, a keeper provided with means for engaging the setting lever, a tripping lever having an arm arranged to lift the setting lever out of engagement with the keeper, and a spring supported operating rod arranged to engage and actuate the tripping lever.

8. In an attachment of the class described, the combination of a wheel engaging rod, a setting lever connected with the rod, a keeper having a shoulder for engaging the setting lever, a tripping lever fulcrumed at an intermediate point and provided at one of its arms with a substantially L-shaped portion arranged to lift the setting lever out of engagement with the keeper, and an operating rod for actuating the tripping lever.

9. In an attachment of the class described, the combina-

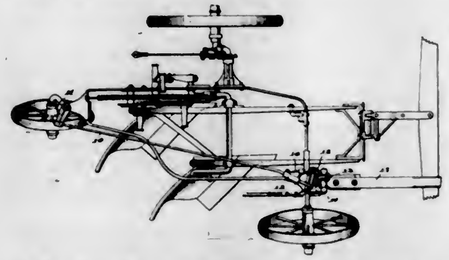
tion of a wheel engaging rod, a setting lever connected with the rod, a substantially U-shaped keeper having a shoulder for engaging the setting lever, a tripping lever provided with an arm arranged to lift the setting lever out of engagement with the shoulder of the keeper, and a yieldably supported operating rod arranged to engage the tripping lever for actuating the same.

10. In an attachment of the class described, the combination of opposite spring actuated wheel engaging rods, bell crank levers connected with the rods, a setting lever connected with the bell crank levers, a keeper provided with means for engaging the setting lever for holding the rods out of engagement with the wheels of a car, a tripping lever having an arm arranged to lift the setting lever out of engagement with the keeper, and a yieldably supported operating rod arranged to engage and actuate the tripping lever.

11. In an attachment of the class described, the combination of opposite locking bars, a transverse setting lever fulcrumed at its inner end, means for connecting the rods with the setting lever, means for automatically actuating the rod to move the same in engagement with the wheels, a keeper for engaging the outer portion of the lever, and tripping mechanism located at the outer portion of the lever for releasing the same.

12. In an attachment of the class described, the combination with a car, of wheel engaging rods, a spring for moving the rods outwardly, a horizontally disposed setting lever, means for connecting the setting lever with the rods for moving the same inwardly against the action of the spring and for placing the lever under tension when the rods are retracted, a keeper for holding the setting lever, and tripping mechanism mounted on the car and arranged to disengage the setting lever from the keeper to permit the lever and the rods to be actuated by the spring.

869,258. CASTER-CONTROLLER FOR WHEELED PLOWS. WILLIAM L. PAUL, Peru, Ill., assignor to Peru Plow & Wheel Company, Peru, Ill., a Corporation of Illinois. Original application filed June 13, 1906, Serial No. 321,561. Divided and this application filed Sept. 27, 1906. Serial No. 336,471.



1. In a wheeled plow, a caster controller comprising a rigid rod eccentrically connected to the rear furrow wheel standard and connected to the front furrow wheel standard, and an arm fastened to said rod, loosely connected to said front furrow wheel standard, and adapted to be brought into action to shift said rod and thereby turn the rear furrow wheel only during turning movements of the plow, substantially as described.

2. In a wheeled plow, a caster controller comprising a rigid rod eccentrically connected to the rear furrow wheel standard and loosely connected to the front furrow wheel standard, and an arm fastened to said rod loosely connected to said front furrow wheel standard and adapted to be brought into action to shift said rod and thereby turn the rear furrow wheel only during turning movements of the plow, substantially as described.

3. In a wheeled plow, a caster controller comprising a rigid rod eccentrically connected to the rear furrow wheel standard and loosely connected to the front furrow wheel standard, and an arm pivoted to said rod, loosely connected to said front furrow wheel standard, and adapted to be brought into action to shift said rod and thereby turn the rear furrow wheel only during turning movements of the plow, substantially as described.

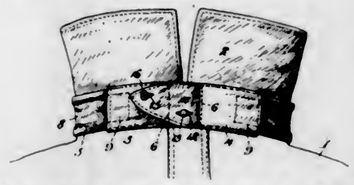
4. In a caster controller for wheeled plows, the combination of a rigid thrust rod eccentrically connected to the rear furrow wheel standard, a plate having two slots secured to the front furrow wheel standard, said thrust rod having a part engaging one of said slots and being normally near the vertical axis of the front furrow wheel standard during forward movement of the plow, and a link pivoted to said thrust rod and engaging the other slot, the ends of said slot being adapted to shift said link and thereby the thrust rod and rear furrow wheel during turning movements of the plow, substantially as described.

5. In a controller for the rear furrow wheel of a wheeled plow, the furrow wheels of which are mounted to turn on substantially vertical axes, the combination of a rigid thrust rod eccentrically connected to the rear furrow wheel standard, a plate having two slots connected to the front furrow wheel standard, said thrust rod having a part engaging one of said slots and being normally near the axis of the front furrow wheel standard during forward movement of the plow, a link pivoted to said thrust rod and engaging the other slot, the ends of said slot being adapted to shift said link and thereby the thrust rod and rear furrow wheel during turning movements of the plow, and a spring interposed between said thrust rod and link tending to separate the same, substantially as described.

6. In a wheeled plow, the combination of a rear furrow-wheel standard, a front furrow-wheel standard, a plate connected to said front furrow-wheel standard and adapted to turn therewith, said plate having two slots, one of which is curved and lies adjacent to the end of the other, which is substantially straight, a rigid rod eccentrically connected to said rear furrow-wheel standard and having a portion fitting in said straight slot, and an arm pivoted to said rod near its front end and having a portion fitted in said curved slot, substantially as described.

7. In a wheeled plow, the combination with the furrow wheels mounted to turn on vertical axes and a controller for the rear furrow wheel, comprising a rigid rod eccentrically connected to the rear furrow wheel standard and loosely connected to the front furrow wheel standard, said latter connection comprising two members, one of which is adapted to receive the thrust of the rear furrow wheel during the forward movement, and the other of said members being adapted to come into action during the turning movement of the plow in either direction, substantially as described.

869,259. COLLAR-STIFFENER FOR NEGLIGÉE SHIRTS. WALTER S. PEACOCK, Selma, Cal. Filed May 1, 1906. Serial No. 314,622.

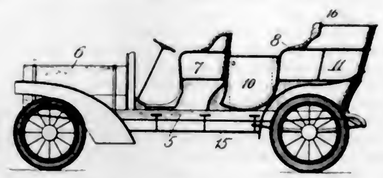


1. The combination of a shirt having a soft attached turned down collar provided at the inner portion or band with opposite pockets concealed by the outer or turned down portion of the collar and terminating in a closed end at each side of the front of the collar, a connecting tab extending across the overlapped ends of the collar band and mounted on one pocket and detachably secured to the other pocket, said tab and overlapping ends of the collar band being provided with registering button holes, and a stiffener concealed by the turned down portion of the collar and having its ends fitted in the said pockets.

2. The combination of a shirt having a soft attached turned-down collar provided at the inner portion or neck-band with opposite pockets concealed by the outer or turned-down portion of the collar, and terminating in a closed end at each side of the front of the collar, and a stiffener consisting of a strip of sheet material extending around the inner portion or neck-band of the collar and having inwardly tapered ends fitting in and frictionally engaging the pockets, said strip being provided with longitudinal openings extending along the tapered portions of the strip and forming compressible upper and lower portions adapted to yield to the pressure of the neck and capable of being compressed to enable the ends of the stiffener to be readily introduced into the pockets.

3. A stiffener for flexible collars consisting of a thin strip of sheet material adapted to be bent around the neck to stiffen and support the inner portion or neck-band of a flexible collar, said strip being provided with inwardly tapered end portions and having longitudinal side openings extending along the tapered portions of the strip and terminating short of the central or back portion, which is provided with a button hole, and a fabric covering for the elestic strip closing the said openings.

869,260. VEHICLE-BODY. HENRY H. PORTER, Jr., Chicago, Ill. Filed Feb. 14, 1905. Serial No. 245,561.



1. A vehicle body having a front seat, a compartment located behind said seat and an adjustable partition dividing the compartment into two sections, and provided with seats upon its oppositely disposed faces, substantially as described.

2. A vehicle body having two front seats, two removable rear seats, and a single wide seat in the middle, mounted to slide backward to take the place of the rear seats when removed.

3. In a vehicle body the combination with the closed central compartment having the seat therein, and the separate closed rear compartment having a rear door, and the removable single seats 13 therein.

4. A vehicle body having a central seating compartment, side doors for access to the same, and a rear compartment having a rear door for access thereto, and being open in the middle and having at the two sides the removable seats 13, substantially as described.

5. A vehicle body having a rear compartment, a shiftable central partition, two rear seats hinged to said partition, a middle seat attached to said partition and designed to slide backward to occupy the rear compartment, substantially as described.

6. In a vehicle body the combination with the supporting shelf 9, 9^a, of the shiftable seat 8, 16, resting thereon and having hinged thereto the rear seats 13, substantially as described.

7. A vehicle body having an open front seat, a closed central compartment with a single wide seat, and a closed rear compartment having a rear door and two seats therein hinged to the said central seat, substantially as and for the purpose described.

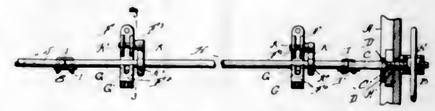
8. A vehicle body having an open front seat, a closed central compartment with a single wide seat, and a closed rear compartment having a rear door and two seats therein, substantially as described.

9. A vehicle body having an open front seat, a closed central compartment, and a closed rear compartment having a rear door, substantially as and for the purpose described.

10. A vehicle body having a front seat, a central seating compartment, side doors for access to the same, and a rear compartment having a rear door for access thereto, substantially as described.

11. A vehicle body having a central seating compartment, side doors for access to the same, and a rear compartment having a rear door for access thereto, substantially as described.

869,261. DEVICE FOR RELEASING ANIMALS FROM STALLS. ALFRED POUKEY, Peoria, Ill. Filed Dec. 17, 1906. Serial No. 348,137.



1. The combination with brackets provided with apertured ears and rollers, of a shaft mounted on said rollers carrying locking pins working in said apertured ears, a notched guide plate, a square shaft mounted in said notched plate provided with a threaded end, and a hand-wheel mounted on said threaded end.

2. The combination with brackets adapted to be secured to the walls of a stall, and provided with grooved rollers and apertured ears, of a shaft mounted on said rollers, arms secured on said shafts provided with pins working through said ears, a guide plate secured to the walls of the barn, a square shaft mounted in said guide-plate connected to said shaft, and provided with a threaded end and a hand wheel mounted on said threaded end.

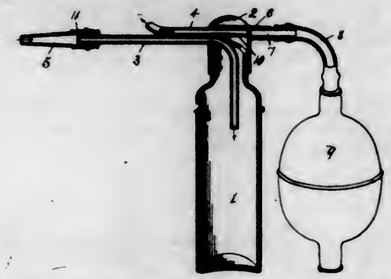
3. The combination with brackets provided with apertured ears, of a shaft slidably mounted in said brackets provided with locking members working in said apertured ears, a guide plate, a shaft mounted in said guide-plate provided with a threaded end, a frame arranged over said shaft and a hand wheel mounted on said shaft in said frame.

4. The combination with brackets provided with apertured ears, of a shaft mounted in said brackets provided with locking pins working in said ears, a notched guide-plate, a square shaft mounted in said notched-guide plate and connected to said shaft at one end, and provided with a threaded portion at the other end, and a hand-wheel working on said threaded portion, for the purpose described.

5. The combination with brackets carrying rollers and adapted to be secured to the heads of stalls and provided with apertured ears, of a shaft mounted on said rollers carrying locking pins working in said apertured ears of the brackets, a notched guide plate secured to the inside of the wall of a barn, in alinement with an opening formed therein, a square shaft provided with a threaded end mounted in said guide-plate extending out through said opening, a frame provided with apertured sides secured on the outside of the barn over said end, hand-wheels mounted on said shaft between the side of the frame and means for connecting the other end of the shaft to the shaft carrying the locking members, for the purpose described.

6. The combination with brackets provided with apertured ears, and grooved rollers and adapted to be secured to the heads of stalls, of a shaft mounted on said rollers having arms clamped thereon provided with locking pins working through said apertured ears, a notched guide plate secured to the side of a barn in alinement with an opening formed therein, a frame provided with openings in its side secured to the outside of the barn in alinement with said openings, a square shaft provided with a threaded end mounted in said guide-plate extending out through the openings in the barn and frame, means for connecting said shaft to the first mentioned shaft and a hand-wheel mounted on the threaded end of the shaft in said frame, for the purpose described.

869,262. ASPIRATOR. EDWIN PYNCHON, Chicago, Ill., assignor to The De Vilbiss Manufacturing Company, Toledo, Ohio, a Corporation of Ohio. Filed Dec. 10, 1906. Serial No. 347,150.



1. The combination with a closed receptacle, of a tube having one end opening within the receptacle, a tube through which fluid is passed under pressure, said tube having communication intermediate its ends with the interior of the receptacle, whereby the fluid current causes air to be drawn from the receptacle and induces a current through the first mentioned tube into the receptacle.

2. The combination with a closed receptacle, of a tube communicating with the interior of the receptacle and having a nozzle at its outer end, a tube having a small perforation through its casing in communication with the interior of the receptacle, and means for forcing a fluid through said perforated tube whereby to create a suction through the perforation and induce a current through the first mentioned tube into the receptacle.

3. The combination with a receptacle having an opening therein, of a stopper for the opening, a tube carried by the stopper and having one end opening without and the other end opening within the receptacle, a second tube carried by the stopper and having both ends opening without the receptacle and a small perforation through its sides in communication with the interior of the receptacle, and means for creating a forced draft through said second tube, whereby to create a suction through said perforation and a consequent vacuum in the receptacle and induce a current through the first mentioned tube into the receptacle.

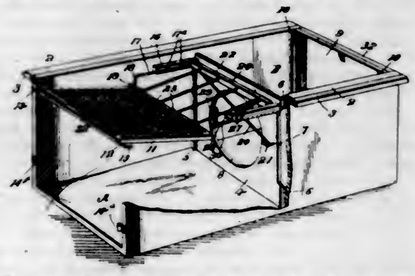
4. In combination, a vessel having an opening therein, a cap for closing the opening, a tube carried by the cap and having one end opening without and its other end extending down and opening within the vessel, a tube extending through the cap with both ends opening without the same and having a restricted orifice opening into the vessel and a partition disposed between said orifice and the inlet end of the tube and provided with a restricted orifice, and means attached to the inlet end of said latter tube for forcing a fluid therethrough for creating a vacuum in the receptacle and inducing a siphoning action through the first mentioned tube into the receptacle.

5. An aspirator comprising in combination with a closed receptacle, a tube having both ends opening without the receptacle and communicating intermediate its ends with the receptacle, and a tube leading into the receptacle, said latter tube having a current induced through it into the receptacle by a current passing through the first mentioned tube.

6. An aspirator comprising in combination a closed receptacle, a siphon tube leading into the receptacle, an air-tube associated with the receptacle and having communication with the interior thereof whereby to create a siphoning action through the siphon tube when a current is forced through the air-tube, and means for creating a current through the air-tube.

869,263. TRAP-NEST. HERMAN P. RANKIN, Hartington, Nebr. Filed Dec. 26, 1906. Serial No. 349,437.

1. In a trap nest of the character described, the combination of a box, inner and outer trap doors connected to said box, means for holding either of said doors in an open position while the other is operating, means for tripping the inner door, and means for tripping the outer door.



2. In a trap nest of the character described, the combination of a box provided with a front trap door and a partition dividing the box into front and rear compartments, the said trap door being adapted to swing about a horizontal axis and suspended from its upper edge and provided at its free edge with a keeper, a rod extending longitudinally of one side of the box and journaled to rotate about its longitudinal axis, one end of said rod being adapted to engage said keeper, whereby to hold the door raised, there being provided an opening establishing communication between the two compartments of the box, a tripping arm extending from the other end of the said rod and adapted to extend across the said opening, and a rest for the free end of said trip arm.

3. In a trap nest of the character described, the combination of a box embodying front and rear compartments and provided with an opening establishing communication between said compartments, a trap door hinged at its upper edge to swing about a horizontal axis at the front of the box and provided at its lower free end with a keeper, a crank rod extending longitudinally of the box and journaled to rotate about its longitudinal axis, one end of said rod being provided with a crank arranged for engagement with said keeper whereby to hold the door raised, the other end of said rod being provided with a laterally extending trip arm adapted to extend across the opening between the compartments, and a rest for the free end of said arm, as and for the purpose set forth.

4. A trap nest of the character described, comprising a box embodying front and rear compartments, and provided with an opening establishing communication between said compartments, a front door hinged at its upper edge to the front of the box and provided at its free end with a keeper, a rod extending longitudinally of the box along one side thereof, a support upon which said rod is mounted to turn about its longitudinal axis and upon which it is slidable longitudinally, said rod being arranged for engagement with the said keeper whereby to hold the door raised, but capable of being tripped, and the said rod being arranged to slide longitudinal so as to carry its main portion underneath the free end of the door to hold said door raised as against the tripping action, and a tripping arm projecting laterally from the rod and adapted to extend across the said opening between the compartments, and a rest for the free end of said arm.

5. A trap nest of the character described, comprising a box embodying front and rear compartments, and a partition separating the same, said partition being formed with an opening establishing communication between the said compartments, a front trap door hinged at its upper edge across the front of the box, and means for supporting the free end of the door in an elevated position, a tripping arm connected to said supporting means and adapted to release the same from the door, said tripping arm being adapted to extend across the opening in the partition, and a hook rest secured to the partition and provided with a bent extremity which is spaced from the face of the partition, the said extremity being adapted to support the end of the tripping arm.

6. A trap nest of the character described, comprising a box, a partition dividing the box into front and rear compartments, said partition being provided with an opening establishing communication between the said two compartments, an inner trap door hinged at its upper edge to swing about a horizontal axis across the opening through the partition, a finger carried by said trap door, a rod extending longitudinally of the box and journaled to turn about its longitudinal axis and provided at one end with a beveled latch arranged for engagement by said finger whereby to hold the trap door elevated, and a tripping arm projecting from said rod and adapted to extend across said opening in the partition and arranged to rock the said latch out of engagement whereby to permit the door to close.

7. A trap nest, consisting of a box provided with an opening, and a trap door adapted to control said opening and close against the same, said trap door being provided with a pliable finger and mounted to swing about a horizontal axis, a latch arranged to support said finger whereby to hold the door raised, the pliability of the finger permitting the angle of the same with respect to the main part of the door to be changed, for the purpose specified, and a tripping arm operatively connected to said latch.

8. A trap nest of the character described, comprising a box formed with an opening and a trap door controlling the said opening and adapted to close against the same, said trap door being mounted to swing about a horizontal axis within the box and provided with a pliable supporting finger, a block secured within the box in proximity to said door and in a plane substantially level with the pivot point of the door, and a pliable finger secured to and projecting from the door and adapted to be bent over upon the said block, as and for the purpose specified.

9. A trap nest of the character described, comprising a box embodying front and rear compartments, a partition being provided to produce the said two compartments, said partition provided with an opening establishing communication between said compartments, a trap door mounted to swing about a horizontal axis at the said opening, a rod journaled within the box and provided at one end with a latch, the door being provided with a finger adapted to rest upon said latch, the other end of said rod being provided with a laterally extending tripping arm, and a guide loop within which the end of said tripping arm moves.

10. A trap nest provided with a transverse partition formed with an opening extending therethrough, said partition being removable, and a door at the rear end of the box, said door being also removable and interchangeable with the said partition, as and for the purpose set forth.

869,264. TAILOR'S TAPE-MEASURE. BARTOLOMEO RICCIARDI, New York, N. Y. Filed Mar. 6, 1906. Serial No. 304,579.

1. The herein-described tailors' tape measure, provided with an inch scale and also provided with a series of proportional scales, the divisions of which have numerals designating the standard chest measurements recognized in the tailoring art, the said divisions being so arranged that the said numerals of each proportional scale are arranged respectively in registry with numerals of the inch scale that are the quotients resulting from the divisions of the numbers of that scale by the common divisor for that scale.

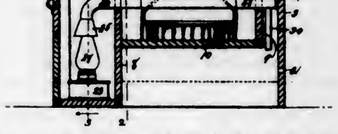
2. The herein-described tailor's tape measure, provided with an inch scale and also provided with a series of proportional scales, the divisions of which have numerals designating the standard chest measurements recognized in the tailoring art, the said divisions being so arranged that the said numerals of each proportional scale are arranged respectively in registry with numerals of the inch scale that are quotients resulting from the divisions of the numbers of that scale by the common divisor for that scale, the said proportional scales being parallel, and a series of parallel lines separating the same, and the tape being provided with end pieces numbered transversely to designate the different columns.

3. The herein-described tailors' tape measure provided on one face with a series of scales, the divisions of which have numerals designating the standard chest measurements recognized in the tailoring art, the said divisions being so arranged that the said numerals of each scale are located respectively distances from the end of the tape



equal in inches to the number of inches obtained by dividing the said numerals on that scale by a common divisor for such scale.

869,265. BROODER. SAMUEL G. ROBINSON, Jr., West Toledo, Ohio. Filed Feb. 7, 1907. Serial No. 356,200.



1. In a brooder, the combination of a feeding chamber, a cover for the same provided with windows, a hover chamber, a curtained doorway between the two chambers, a folding door so positioned as to be adapted to close the doorway or to form a runway between the chambers, a heater compartment, a heater therein, and pipes connected to said heater passing through the hover chamber and extending down so as to discharge heated air below the floor of said hover chamber.

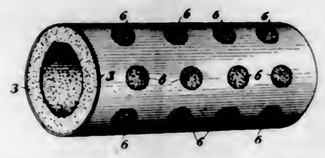
2. In a brooder, the combination of a hover chamber having an elevated floor, a hover mounted therein consisting of an inverted reflector and depending strips of cloth, a hot air pipe passing through the walls of the hover chamber and through said reflector, a second chamber, a branch pipe connected to said hot air pipe in said second chamber and extending down so as to be adapted to discharge heated air in the space below the floor, a heater chamber adjacent to the hover chamber, an elbow connected to the end of the heater pipe which extends through the partition between the heater and hover chambers, and a heater adapted to cause hot air to pass through the hover chamber, the walls of the heater chamber being provided with ventilating openings.

869,266. TILE. JOHN F. SCHWARTZ, Alma, Mich. Filed July 30, 1907. Serial No. 386,262.

1. A tile consisting of a cement body, and an exterior layer of protecting material retained on the tile by the adhesive character of the cement.

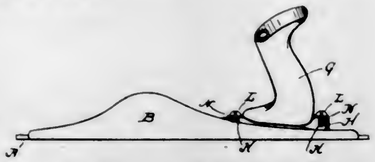
2. A tile consisting of a cement body, and an exterior layer or protecting veneer of paper or other suitable material permanently united with the cement body.

3. A tile consisting of a plastic body, and an exterior protecting layer of paper or other suitable material having its ends permanently secured together, said paper or other suitable material being also permanently united with the plastic body.



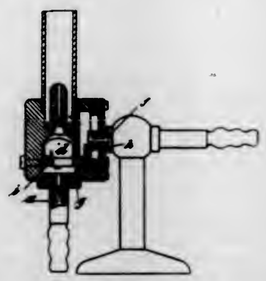
4. A tile consisting of a cement body, and an exterior layer of paper or other suitable material permanently united with the cement body and provided at intervals with apertures for exposing portions of the outside cement.

869,267. PLANE. JOHN H. SHAW, New Haven, Conn., assignor to Sargent & Company, New Haven, Conn., a Corporation of Connecticut. Filed Aug. 10, 1905. Serial No. 273,590.



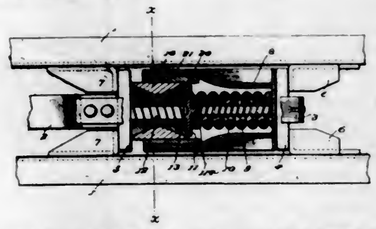
In a plane, the combination with the plane body; of a removable supporting block curved in cross section and adapted to be rigidly secured to the plane body; a correspondingly curved plate adapted to fit on said supporting block; a handle secured to said plate; slots in said plate; and screws projecting through said slots and engaging said block to hold said plate and handle in their adjusted position, substantially as described.

869,268. BLAST-GAS BURNER. JOSEPH SIMMENDINGER, Wenigenjena, Germany. Filed Dec. 27, 1906. Serial No. 349,596.



A self-acting cut-off device for the gas-supply in blast gas burners comprising in combination an axle revolubly mounted in a widening of the air-supply pipe and prolonged through a widening of the gas-supply pipe, a spring for securing the axle in its position, a wind-wing fixed upon the axle in the widening of the air-supply pipe in horizontal position and an eccentric plate fixed upon the axle in the widening of the gas-supply pipe in vertical position for cutting-off the supply of gas to the burner, substantially as described and shown and for the purpose set forth.

869,269. FRICTION DRAFT-GEAR. ISAAC SIMPSON, Wilmerding, Pa., assignor of one-eighth to Harry C. Loudenbeck, Wilkinsburg, Pa. Filed Jan. 10, 1907. Serial No. 351,728.



1. In a friction draft gear, the combination with a draw-bar, and its relatively movable follower plates, of a series of coil springs interposed between said plates, wedge blocks surrounding one of said springs, the other spring being free from frictional contact with said wedge blocks, and means for controlling the radial compression of said surrounded spring by the longitudinal resistance of the other through the instrumentality of said wedge blocks.

2. In a friction draft gear, the combination of a draw-bar and its relatively movable follower plates, of anterior and posterior springs, a housing in which said springs are contained, a division plate between the anterior and posterior springs, wedge blocks surrounding the anterior spring and located between the division plate and the front follower plate, friction plates secured in said housing and bearing against the wedge blocks, and means whereby radial compression of the anterior spring is controlled by the longitudinal resistance of the posterior spring and the coaction between the wedge blocks and said friction plates.

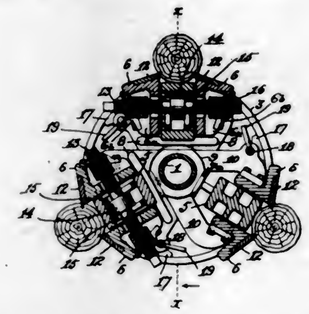
3. In a friction draft gear, the combination with a draw bar and its front and rear follower plates, of anterior and posterior springs interposed between said plates, a housing within which said springs are contained, a division plate between the anterior and posterior springs, center wedge blocks surrounding said anterior spring with their wedge surfaces facing each other, said blocks being located between the division plate and the front follower plate, a lateral wedge block having oppositely sloping faces adapted to engage the wedge surfaces of the center wedge blocks, and friction plates secured rigidly within the outer end of the housing and adapted to bear against the outer side of the lateral wedge blocks.

4. In a friction draft gear, the combination with a draw-bar and its front and rear follower plates, of anterior and posterior springs between said plates, a housing within which said springs are contained, a division plate between the anterior and posterior springs, center wedge blocks surrounding said anterior spring with their wedge surfaces facing each other and with their ends bearing against the division plate and the front follower plate, respectively, center wedge blocks surrounding said anterior spring with their wedge surfaces facing each other, lateral wedge blocks having oppositely sloping faces adapted to engage the wedge surface of the center wedge blocks, and friction plates secured rigidly within the outer face of the housing and adapted to bear against the outer sides of said lateral wedge blocks, the coacting faces of the lateral wedge blocks and the friction plates being correspondingly tapered.

869,270. STAY-LOG. EDWIN F. SMITH, Philadelphia, Pa., assignor to Edwin F. Smith Company, Philadelphia, Pa., a Corporation of New Jersey. Filed Aug. 24, 1906. Serial No. 331,892.

1. A stay-log adapted to receive rotary motion and comprising two clamping jaws movable toward each other to grip the work, and an adjustable back-support coöperative with the clamping jaws and guided medially relatively thereto.

2. A stay-log adapted to receive rotary motion and comprising two clamping jaws, an adjustable back-support located medially relatively to the clamping jaws, and means for moving the clamping jaws toward each other to grip the work and for maintaining at all times the medial relation of the back-support to the clamping jaws.



3. A stay-log adapted to receive rotary motion and comprising orbitally-revoluble clamping jaws, an adjustable back-support located medially relatively to the clamping jaws and coöperative therewith and rotatable with the clamping jaws, and means for moving the clamping jaws toward each other in a direction transverse to their axis of revolution to grip the work laterally and for maintaining the clamping jaws in such relation to the back-support that the back-support will be at all times centered relatively to the clamping jaws.

4. A stay-log adapted to receive rotary motion and comprising two clamping jaws pivotally mounted at the axis of rotation of the stay-log, means for moving the clamping jaws toward each other to grip the work, and an adjustable back-support coöperative with the clamping jaws and guided medially relatively thereto.

5. A stay-log adapted to receive rotary motion and comprising two clamping jaws pivotally mounted at the axis of rotation of the stay-log, means for moving the clamping jaws toward each other to grip the work, and an adjustable back-support coöperative with the clamping jaws and movable radially to the axis of rotation of the stay-log.

6. A stay-log adapted to receive rotary motion and comprising a frame therefor, two clamping jaws pivotally mounted at the axis of rotation of the stay-log, means for moving the clamping jaws toward each other to grip the work, and an adjustable back-support coöperative with the clamping jaws and guided radially by the frame.

7. A stay-log adapted to receive rotary motion and comprising two clamping jaws movable to and from each other in a direction transverse to their axis of revolution to grip the work laterally, an adjustable back-support coöperative with the clamping jaws, and means for adjusting the clamping jaws and for maintaining the clamping jaws in such relation to the back-support that the back-support will be centered relatively to the clamping jaws.

8. In a stay-log, the combination of a rotary frame, two clamping jaws carried by the frame and movable relatively to the frame and to and from each other in a direction transverse to the axis of revolution of the frame to grip the work laterally, an adjustable back-support coöperative with the clamping jaws, means for adjusting the clamping jaws and for maintaining the clamping jaws in such relation to the back-support that the back-support will be centered relatively to the clamping jaws, and a thrust receiving device for transmitting the rotation of the frame to the clamping jaws.

9. A stay-log adapted to receive rotary motion and comprising a frame, two coöperating clamping jaws movable relatively to the frame in a direction transverse to the axis of rotation of the frame, and releasable means for compelling the clamping jaws to rotate with the frame.

10. A stay-log adapted to receive rotary motion and comprising a frame, two clamping jaws pivotally mounted at the axis of rotation of the frame, and means for compelling the clamping jaws to rotate with the frame.

11. A stay-log adapted to receive rotary motion and comprising a frame, two clamping jaws pivotally mounted at the axis of rotation of the frame, an adjustable back-support located medially relatively to the clamping jaws, and means for compelling the clamping jaws and back-support to rotate with the frame.

12. A stay-log adapted to receive rotary motion and comprising a frame, two clamping jaws pivotally mounted at the axis of rotation of the stay-log, a back-support coöperating with the clamping jaws, means for moving the clamping jaws toward each other to grip the work with the back-support at all times centered relatively to the clamping jaws, and means for compelling the clamping jaws and back-support to rotate with the frame.

13. A stay-log adapted to receive rotary motion and comprising a frame, two clamping jaws pivotally mounted at the axis of rotation of the stay-log, means for moving the clamping jaws toward each other to grip the work, and a thrust receiving device carried by one of the jaws and engageable with the rotating frame.

14. A stay-log adapted to receive rotary motion and comprising a frame, two clamping jaws pivotally mounted at the axis of rotation of the stay-log, means for moving the clamping jaws toward each other to grip the work, a thrust receiving device carried by one of the jaws and engageable with the rotating frame, and an adjustable back-support guided medially of the clamping jaws for centrally supporting the work.

15. A stay-log adapted to receive rotary motion and comprising a frame, two clamping jaws pivotally mounted at the axis of rotation of the stay-log, means for moving the clamping jaws toward each other to grip the work, an adjustable back-support guided radially by the frame, and a thrust receiving device carried by one of the jaws and engageable with the frame after the jaws have been adjusted to clamp the work.

16. A stay-log adapted to receive rotary motion and comprising a plurality of pairs of clamping jaws pivotally mounted at the axis of rotation of the stay-log, a back-support for each pair of clamping jaws, and means for moving the clamping jaws of each pair toward each other to grip the work, with the back-support at all times centered relatively to its clamping jaws.

17. A stay-log adapted to receive rotary motion and comprising a frame, a plurality of pairs of clamping jaws pivotally mounted at the axis of rotation of the stay-log, a back-support for each pair of clamping jaws, means for moving the clamping jaws of each pair toward each other to grip the work with the back-support at all times centered relatively to its clamping jaws, and means for compelling the clamping jaws and back-supports to rotate with the frame.

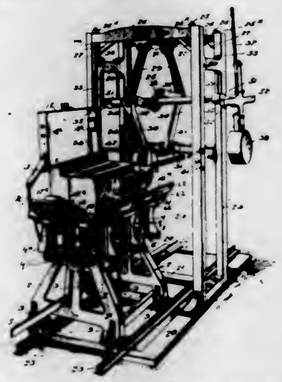
869,271. MACHINE FOR MAKING BUILDING-BLOCKS. EDWARD H. SOMERS, Urbana, Ill., assignor of one-half to Frank A. Somers, Urbana, Ill. Filed June 22, 1906. Serial No. 322,887.

1. In a machine for making building blocks, the combination of a support; a mold-box mounted thereon free to move relatively thereto; a hopper mounted on said mold-box free to move to and from operative position thereon; and mechanism by which the movement of said mold-box relatively to its said support moves said hopper to and from operative position.

2. In a machine for making building blocks, the combination of a mold-box consisting of a base-plate, a stationary wall secured thereto and doors rotatably mounted on said base-plate, with a hopper movably secured to said wall and adapted to fit accurately upon the top edges of said doors a support for said mold-box on which the latter is free to move; and mechanism connecting said mold-box, hopper and support, said mechanism causing the movement of said mold-box to move said hopper to and from operative position.

3. In a machine for making building blocks, the combination of a mold-box consisting of a base-plate, a station-

ary wall secured thereto and doors rotatably mounted on said base-plate, said wall being of greater height than said doors; with a hopper pivotally secured to said wall and adapted to fit upon the top edges of said doors in extension thereof.



4. In a machine for making building blocks, the combination with a removable mold-box, of a mold-carrier comprising a table upon which the mold-box rests; posts adapted to be moved through said table; a frame carrying said posts; an operating lever secured to said frame; a fork projecting from said frame; and a guide-rod engaged by said fork.

5. In a machine for making building blocks, the combination with a mold-carrier, of a mold-box removably mounted therein; a hopper hinged to said mold-box and operatively connected with said mold-carrier; and means mounted in said mold-carrier for ejecting said mold-box from said carrier, whereby said hopper is swung up from over the mold-box.

6. In a machine for making building blocks, the combination with suitable supporting members, of a pair of adjustable cross-beams mounted therebetween; two pairs of coöperating links, one link of each pair being pivotally secured to said cross-beams and the other link of each pair being secured to a presser-block; said presser-block; a shaft rotatably mounted in hangers; said hangers adjustably mounted in said supporting members; and means operatively connecting said links with said shaft, whereby the rotation of said shaft causes said presser-block to be raised and lowered.

7. In a machine for making building blocks, the combination with suitable supporting members, of threaded press-rods mounted therein; cross-beams adjustably mounted on said press-rods; two pairs of coöperating links, one link of each pair being pivotally secured to said cross-beams and the other link of each pair being connected with a presser-block; a pair of shaft-hangers; means for raising and lowering said shaft-hangers independently of said cross beams; a shaft rotatably mounted in said hangers; and means operatively connecting said shaft with said links, whereby the rotation of said shaft raises and lowers said presser-block.

8. In a machine for making building blocks, the combination with suitable supporting members, of press-rods secured thereto; cross-beams adjustably mounted on said press-rods; slotted braces which connect said cross-beams with said supporting members; a presser-block; jointed members connecting said presser-block with said cross-beams; and means for operating said jointed members to reciprocate said presser-block.

9. In a machine for making building blocks, the combination of presser-rods; cross-beams adjustably mounted thereon; a presser-block; jointed members connecting said presser-block and said cross-beams; and guides connecting said presser-block and press-rods.

10. In a machine for making building blocks, the combination with a mold-box the walls of which are provided with core-blocks, of a hopper pivotally secured to said mold-box and provided with core-blocks; the latter registering in closed position with the core-blocks of said mold-box and forming a continuation of the same.

11. In a machine for making building blocks, the combination of a mold-carrier; a mold-box free to be moved into and out of the same; mechanism for holding said mold-box steady in its raised position; and means independent of said mechanism for moving said mold-box.

12. In a machine for making building blocks, the combination of a mold-carrier; a mold-box free to be moved into and out of the same and provided with a stationary wall; mechanism for moving said mold-box; and guiding devices mounted on said stationary wall and engaging said mold-carrier, said devices being independent of said mechanism.

13. In a machine for making building blocks, the combination of a mold-carrier; a mold-box mounted therein free to be moved relatively thereto; a hopper mounted on said mold-box free to move to and from operative position thereon; and mechanism for raising and lowering said mold-box and moving said hopper from and to operative position.

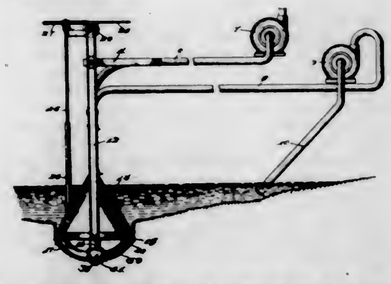
14. In a machine for making building blocks, the combination of a mold-carrier; a mold-box mounted therein free to be moved relatively thereto, said mold-box being provided with rotatable doors; a hopper mounted on said mold-box free to be moved to and from operative position thereon; and mechanism for raising said mold-box, opening said doors and moving said hopper from operative position.

15. In a machine for making building blocks, the combination of a mold-carrier; a mold-box movably mounted therein; said mold-box being provided with rotatable doors; a hopper movably mounted on said mold-box; and mechanism for lowering said mold-box, closing said doors and moving said hopper to operative position.

869,272. TREATMENT OF SEWAGE-SLUDGES. FRANCIS M. SPENCE and HOWARD SPENCE, Manchester, and REINHOLD OCKEL, Lower Walton, England, assignors to Peter Spence & Sons, Limited, Manchester, England. Filed Oct. 28, 1905. Serial No. 284,908.

The process of treating sewage sludge or the like for the recovery of fatty or other matters, which consists in precipitating the sludge, curdling the precipitate by heat, dehydrating said precipitate by hot pressing, mixing mineral acid with the press cake, and subsequently suitably preparing such acid treated mass and extracting the fatty matters therefrom by means of a suitable solvent.

869,273. DREDGING APPARATUS. EDWARD B. STODDARD, Chicago, Ill. Filed Jan. 9, 1905. Serial No. 240,255.



1. In a dredging-machine, the combination of an axially-diaposed intake, one or more feeding-arms arranged to rotate about said intake, means for rotating said arms, and means for directing water through said arms toward said intake.

2. In a dredging-machine, the combination of an axially-disposed intake, one or more feeding-arms arranged to rotate about said intake, means for rotating said arms, excavating-blades for excavating material in advance of said arms, and means for directing water through said arms toward said intake.

3. In a dredging-machine, the combination of an intake, a water-supply pipe, means for excavating the material, means for directing the excavated material to said intake, and means for discharging the water from said water-supply pipe inwardly toward said intake through the excavated material.

4. In a dredging-machine, the combination of an intake, a water-supply pipe, means for excavating the material, means for directing the excavated material to said intake, means for discharging the water from said water-supply pipe inwardly toward said intake through the excavated material, and suction-mechanism communicating with said intake.

5. In a dredging-machine, the combination of an intake, a water-supply pipe, means for excavating the material, means for directing the excavated material to said intake, means for discharging the water from said water-supply pipe inwardly toward said intake through the excavated material, suction-mechanism communicating with said intake, and means for rotating said excavating-devices.

6. In a dredging-machine, the combination of an axially-disposed intake, a water-supply pipe, one or more tubular feeding-arms communicating therewith and arranged to discharge inwardly toward said intake, excavating-means connected with said arms and rotating therewith, and means for rotating said arms.

7. In a dredging-machine, the combination of an intake, a water-supply pipe, one or more tubular feeding-arms communicating with said water-supply pipe and adapted to rotate about said intake, said feeding-arms being arranged to discharge the water inwardly toward said intake, said arms being open at one side to receive the excavated material, and excavating-means for supplying material to said arms.

8. In a dredging-machine, the combination of an intake, a water-supply pipe, one or more tubular feeding-arms communicating with said water-supply pipe and adapted to rotate about said intake, said feeding-arms being arranged to discharge the water inwardly toward said intake, said arms being open at one side to receive the excavated material, excavating-means for supplying material to said arms, and guides for directing the material into said arms.

9. In a dredging-machine, the combination of an intake, a water-supply pipe, one or more tubular feeding-arms communicating with said water-supply pipe and adapted to rotate about said intake, said feeding-arms being arranged to discharge the water inwardly toward said intake, said arms being open at one side to receive the excavated material, excavating-means for supplying material to said arms, and inclined guides for directing the material into said arms.

10. In a dredging-machine, the combination of an intake, a water-supply pipe, one or more tubular feeding-arms communicating with said water-supply pipe and adapted to rotate about said intake, said feeding-arms being arranged to discharge the water inwardly toward said intake, said arms being open at one side to receive the excavated material, excavating-means for supplying material to said arms, and devices for directing abnormally large masses over said arms.

11. In a dredging-machine, the combination of an intake, one or more feeding-arms arranged to revolve around said intake for supplying material thereto, means below said intake for catching the heavier particles of material, and suction-mechanism communicating with said intake.

12. In a dredging-machine, the combination of an intake, one or more feeding-arms arranged to revolve around said intake for supplying material thereto, means below said intake for catching the heavier particles of material, suction-mechanism communicating with said intake, and a drill below said intake.

13. In a dredging-machine, the combination of an intake, a suction-pipe communicating therewith, a water-supply pipe concentrically arranged with reference to said suction-pipe, feeding-arms communicating with said water-supply pipe and extending outward and downward therefrom and inward to the intake, said feeding-arms being open at one side to receive the excavated material, and excavating-blades carried by said arms.

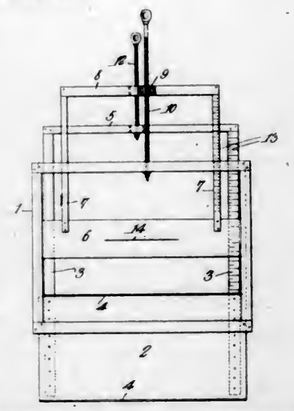
14. In a dredging-machine, the combination of an intake, a suction-pipe communicating therewith, a water-supply pipe concentrically arranged with reference to said suction-pipe, feeding-arms communicating with said water-supply pipe and extending outward and downward therefrom and inward to the intake, said feeding-arms being open at one side to receive the excavated material, excavating-blades carried by said arms, and a series of wings carried by said arms, said wings being spaced a distance apart in front of said openings.

15. In a dredging-machine, the combination of an intake, a suction-pipe communicating therewith, a water-supply pipe concentrically arranged with reference to said suction-pipe, feeding-arms communicating with said water-supply pipe and extending outward and downward therefrom and inward to the intake, said feeding-arms being open at one side to receive the excavated material, excavating-blades carried by said arms, and a series of wings carried by said arms, said wings being spaced a distance apart in front of said openings, the forward edges of said wings being inclined upward and backward.

16. In a suction dredging-machine, the combination of an intake, revolving excavating-means adapted to loosen the material, and means for directing water under pressure toward the intake through the loosened material.

17. In a suction dredging-machine, the combination of an intake, revolving excavating and feeding mechanism adapted to cut up the material excavated, said feeding-mechanism being inclosed except at the forward side thereof, and means for directing water under pressure through said feeding-mechanism toward the intake.

869,274. WATER-MEASURING GATE. ARTHUR H. STOKES, Grand Junction, Colo. Filed Feb. 12, 1907. Serial No. 357,068.

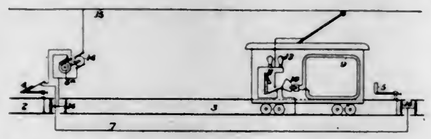


1. A gate comprising a frame, slides arranged in a vertical plane for movement in said frame, a means for varying the space between the edges of the slides and means for moving said slides simultaneously.

2. A gate comprising a frame, slides located in the same vertical plane and mounted for movement in the frame, a means for varying the space between the edges of the slides and a means for moving the slides simultaneously without altering their relative positions.

3. A gate comprising a frame, slides located in the same vertical plane and mounted for movement in the frame, a screw rod connected with the slides for moving the same simultaneously and a screw rod connected with the slides for moving the same relative to each other.

869,275. BLOCK-SIGNALING SYSTEM. LOUIS H. THULLEN, Swissvale, Pa., assignor to The Union Switch & Signal Company, Swissvale, Pa., a Corporation of Pennsylvania. Filed May 15, 1907. Serial No. 373,708.



1. In a block signaling system, a conductor extending adjacent to the track throughout substantially the length of the block from signal to signal, a signal-controlled circuit breaker in the circuit of said conductor, and a coil on the car or other vehicle in inductive relation to said conductor, and signal mechanism on the car or other vehicle operated by said coil; substantially as described.

2. In a block signaling system, a conductor extending adjacent to the trackway throughout substantially the length of the block, means for supplying said conductor with alternating current, a block signal, a circuit breaker controlled by said signal and controlling the circuit of said conductor, a coil on a car or other vehicle in inductive relation to the conductor, a relay operated by said coil, and signal mechanism controlled by the relay; substantially as described.

3. In a block signaling apparatus, a block signal, a conductor extending adjacent to the trackway and having its circuit controlled by the signal, a coil carried by the car or vehicle in inductive relation to said conductor, signal mechanism on the car operated by said coil, and means whereby the signal mechanism is controlled only by a current of certain frequency; substantially as described

4. In a block signaling system, a signal, a conductor extending adjacent to the trackway and having its circuit controlled by the signal, a coil carried by the car or other vehicle in inductive relation to the conductor, a relay operated by said coil, signaling mechanism on the car controlled by the relay, and means for maintaining the relay operating circuit in resonance with a current of predetermined frequency; substantially as described.

5. In a block signaling system, a closed track circuit, a conductor extending adjacent to the track, and having its circuit controlled by the track circuit, a coil on the car or other vehicle in inductive relation to said conductor, and means for controlling the current in said conductor by the passage of a train in the block; substantially as described.

6. In a block signaling system, a closed track circuit, a conductor extending adjacent to the trackway, and having its circuit controlled by the track circuit, a coil on the car or other vehicle in inductive relation to the conductor, and a relay operated by the track circuit to control the current in the conductor extending adjacent to the trackway; substantially as described.

7. In a block signaling system, a signal, a closed track circuit, a conductor extending adjacent to the trackway and having its circuit controlled by the signal, a coil carried by the car or other vehicle in inductive relation to the conductor, and means for controlling the current in the conductor extending adjacent to the trackway by means of the track circuit; substantially as described.

8. In a block signaling system, a signal, a closed track circuit, a conductor extending adjacent to the trackway and having its circuit controlled by the signal, a coil carried by the car or other vehicle in inductive relation to the conductor, a signal mechanism on the car connected to said coil, and means for adjusting the signal mechanism to be in tune with the conductor extending adjacent to the trackway; substantially as described.

9. In a block signaling system, a closed track circuit, a conductor extending adjacent to the track, a signal circuit on the vehicle, means for inducing a current in said circuit from the said conductor, and means for maintaining the resonance of the signal circuit in accord with the frequency of the current in said conductor; substantially as described.

10. In block signaling mechanism, a plurality of tracks, a conductor adjacent to each track, an electrically controlled signal device on each vehicle, and means for inducing a current in the circuits of the signals from the track conductors, the said circuits being each tuned with respect to the current in the particular conductor for that track; substantially as described.

869,276. PROCESS OF REDUCING COMPOUNDS WITH ELECTRICALLY-DEVELOPED HEAT. FRANK J. TONE, Niagara Falls, N. Y. Filed Sept. 22, 1906. Serial No. 335,704.

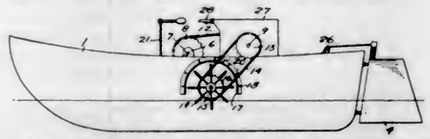
1. The process of producing silicon, which consists in subjecting a mixture containing silica and a compound containing silicon, oxygen and carbon to electrically developed heat and reducing the silicon thereby to its elemental form.

2. The process of reducing silicon from its ores, which consists in first subjecting a mixture of carbon and siliceous material to electrically developed heat sufficient to partially reduce the silica, then mixing the silicon-carbon-oxygen product so formed with a further quantity of silica and subjecting said mixture to electrically developed heat sufficient to completely reduce the silicon to its elemental form.

3. The process of reducing to their elemental form, oxygen compounds having the property, when in a partially reduced state, of forming well-defined compounds with carbon, which consists in subjecting a mixture containing an oxid of the element and a compound resulting from partial reduction of the oxygen compound with carbon, and containing the element with oxygen and carbon, to electrically developed heat, and reducing said element thereby to its elemental form.

4. The process of reducing to their elemental form, oxygen compounds having the property, when in a partially reduced state, of forming well-defined compounds with carbon, which consists in first subjecting a mixture of carbon and the oxygen compound to electrically developed heat sufficient to partially reduce it and form a product containing carbon, oxygen and the compound, then mixing the product so formed with a further quantity of the compound and subjecting said mixture to electrically developed heat sufficient to completely reduce the compound to its elemental form.
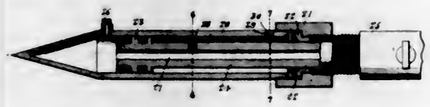
869,277. BICYCLE-BOAT. AANEN TRAVLAND, Hoffman, Minn. Filed Apr. 11, 1907. Serial No. 367,669.



A boat of the type set forth, comprising the combination with the hull and its deck, of a pedal operated power shaft supported on said deck, a transverse shaft rearwardly of said power shaft, and driven therefrom, sprocket wheels located at the ends of said transverse shaft, curved housings having offset flanges secured to the hull at opposite sides thereof and open at their bottoms, transverse shafts having their ends journaled in said housings and in said hull, said housings being formed with spaced openings, sprocket wheels provided on said respective last named transverse shafts, chains connecting said end sprockets with said last named sprockets and working through said openings, and paddle wheels fast on said last named shafts.

869,278. ROCK-DRILL-FEED MECHANISM. THOMAS TUANER, Ottumwa, Iowa. Filed Feb. 13, 1906. Serial No. 300,896.

1. In feed mechanism of the class described, the combination with a motor, of means for feeding the same to its work, said means comprising a cylinder and a piston operating therein, means for conducting and admitting fluid under pressure to the cylinder on one side of the piston, and means, located within the cylinder, for varying the effective pressure area of the piston acted on by such motive fluid.



2. In feed mechanism of the class described, the combination with a motor, of means for feeding the same to its work, said means comprising a cylinder and a piston operating therein, means for conducting and admitting fluid under pressure to the cylinder at one side of the piston, and means, located within the cylinder, for admitting said fluid under pressure to the cylinder on the opposite side of the piston to vary the effective pressure area of the piston.

3. In a feed mechanism of the class described, the combination with a motor, of means for feeding the same to its work, said means comprising a cylinder and a piston operating therein, means for conducting and admitting fluid under pressure to the cylinder at one side of the piston, and means, movable with the piston, for admitting the fluid under pressure to the cylinder on the opposite side of the piston from the fluid admitting means.

4. In feed mechanism of the class described, the combination with a motor, of means for feeding the same to its work, said means comprising a cylinder member and a piston member operating therein, means for conducting and admitting fluid under pressure to the cylinder member on one side of the piston member, said piston member having a passageway for admitting the fluid under pressure to the cylinder member on the opposite side of the piston member, and a device movable with the piston member for controlling the passageway, said device being detachable from the piston member to open the passageway.

5. In feed mechanism of the class described, the combination with a motor, of means for supplying motive fluid to the motor for holding said cylinder to its work, said means comprising a cylinder, a piston operating therein, a piston rod connected to the piston and having a longitudinal passageway therethrough communicating with the motor, means for admitting fluid under pressure to the cylinder on one side of the piston, said piston rod having a port communicating with the cylinder on the opposite side of the piston to the fluid admitting means and communicating with the longitudinal passageway, and a closure for the port.

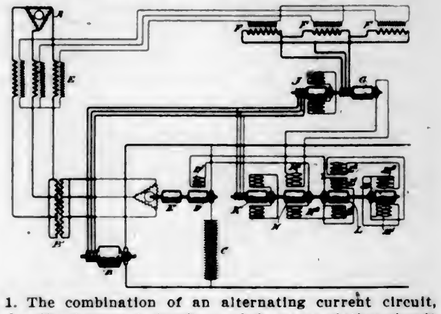
6. In feed mechanism of the class described, the combination with a motor, of means for holding the same to its work, said means comprising a cylinder member and a piston member operating therein, said cylinder member having a vent and the piston member having a port, and a common device for closing either the port or vent.

7. In feed mechanism of the class described, the combination with a motor, of means for holding the same to its work, said means comprising a cylinder member having a vent in its wall, a piston member operating in the cylinder and having a port communicating with the interior thereof, and a common plug for closing either the port or vent.

8. In feed mechanism of the class described, the combination with a cylinder having a vent, of a piston operating in the cylinder, a piston rod connected to the piston, said piston rod having a longitudinal passageway therethrough, and a lateral port communicating with the passageway and the interior of the cylinder, and a screw plug adapted to be threaded into the port or vent.

9. In feed mechanism of the class described, the combination with a cylinder having a vent, of a piston member operating therein, said piston member having a piston and being provided with a passageway that communicates with the cylinder on opposite sides of the piston, and means for closing either the vent or passageway.

869,279. ELECTRICAL SYSTEM OF DISTRIBUTION. EDWARD VAN WAGENEN, New York, N. Y., assignor to Gould Storage Battery Company, a Corporation of New York. Filed July 2, 1906. Serial No. 324,424.



1. The combination of an alternating current circuit, and a direct current circuit, one being a regulating circuit to be governed by fluctuations in the other, a rectifying device connecting the two circuits having magnetic induction, but devoid of motor action and means for rotating said rectifying device synchronously.

2. In a regulating apparatus an alternating current circuit, and a direct current circuit, one a regulating circuit to be governed by fluctuations in the other, a device having magnetic material and windings in inductive relation thereto but arranged to have no motor reaction therewith, connections from said windings to the alternating current circuit and to a commutator, brushes engaging the commutator and connected to the direct current circuit, and means for relatively rotating the brushes and the windings.

3. In a regulating apparatus an alternating current circuit, one a regulating circuit to be governed by fluctuations in the other, a device having magnetic material and windings in inductive relation thereto but arranged to have no motor reaction therewith, connections from said windings to the alternating current circuit and to a commutator, the segments of which are connected successively to a number of points in each division of said windings, brushes bearing on the commutator and connected to the direct current circuit, and means for relatively rotating the brushes and the windings.

4. The combination of an alternating current circuit, a series transformer therein, a rectifying device connected to said transformer having magnetic induction but devoid of motor action, a regulating direct current circuit connected to the rectifying device, and means for rotating said rectifying device synchronously.

5. The combination of a polyphase alternating current circuit, series transformers therein, a rectifying device connected to said transformers having magnetic induction but devoid of motor action, a regulating circuit connected to said rectifying device and means for rotating said rectifying device synchronously.

6. In a regulating apparatus, an alternating current circuit subject to fluctuations of current, a series transformer therein, a device having magnetic material and wipdings in inductive relation thereto but arranged to have no motor reaction therewith, connections from said windings to said transformer, a commutator also connected to said windings, brushes bearing on the commutator, a regulating circuit connected to said brushes and means for relatively rotating the brushes and windings.

7. In a regulating apparatus, a polyphase alternating current circuit subject to fluctuations in current, series transformers therein, a device having magnetic material and windings in inductive relation thereto but arranged to have no motor reaction therewith, connections from said windings to said transformers, a commutator also connected to said windings, brushes bearing on the commutator, a regulating circuit connected to said brushes and means for relatively rotating the brushes and windings.

8. In a regulating apparatus, an alternating current

circuit subject to fluctuations of current, a series transformer therein, a device having magnetic material and windings in inductive relation thereto but arranged to have no motor reaction therewith, connections from said windings to said transformer, a commutator the segments of which are connected successively to a number of points in each division of said windings, brushes bearing on the commutator, a regulating circuit connected to said brushes and means for relatively rotating the brushes and windings.

9. The combination of an alternating current circuit, a series transformer therein, a rectifying device connected to said transformer having magnetic induction but devoid of motor action, a regulating direct current circuit connected to the rectifying device and an alternating current synchronous motor mechanically connected to the rectifying device.

10. The combination of a polyphase alternating current circuit, series transformers therein, a rectifying device having magnetizable material and windings in inductive relation thereto but devoid of motor reaction therewith, a commutator connected to said windings, brushes bearing upon said commutator and connected to a regulating circuit, and means for synchronously rotating said windings and brushes respectively.

11. The combination of a polyphase alternating current circuit, series transformers therein, a rectifying device having magnetizable material and windings in inductive relation thereto but devoid of motor reaction therewith, a commutator the segments of which are connected successively to a number of points in each phase of said windings, brushes bearing upon said commutator and connected to a regulating circuit, and means for synchronously rotating said windings and brushes respectively.

12. In a regulating apparatus, an alternating current circuit subject to fluctuations of current, a series transformer therein, a device having magnetic material and windings in inductive relation thereto but arranged to have no motor reaction therewith, connections from said windings to said transformer, a commutator also connected to said windings, brushes bearing on the commutator, a regulating circuit connected to said brushes and an alternating current synchronous motor mechanically connected to the rectifying device.

13. In a regulating apparatus, an alternating current circuit, series transformers therein, a device having magnetic material and windings in inductive relation thereto but arranged to have no motor action, connections from said windings to said transformers, commutator brushes engaging the commutator, a direct current regulating circuit connected to the brushes, and means for relatively rotating the brushes and the windings.

14. In a regulating apparatus an alternating current circuit and a direct current circuit, one a regulating circuit to be governed by fluctuations in the other, a device having magnetic material and windings in inductive relation thereto, said magnetic material forming a closed magnetic path but arranged so that there is no motor reaction, connections from said windings to the alternating current circuit, and to a commutator, brushes bearing on said commutator and connected to the direct current circuit, and means for relatively rotating the brushes and the windings.

15. In a regulating apparatus, an alternating current circuit subject to fluctuations of current, a device having magnetic material and windings, the magnetic material forming a closed magnetic circuit around said windings but arranged to have no motor reaction therewith, connections from said windings to the alternating current circuit, a commutator also connected to said windings, brushes bearing on the commutator, a regulating circuit connected to said brushes, and means for relatively rotating the brushes and windings.

16. In a regulating apparatus a polyphase alternating current circuit, a direct current circuit, one a regulating circuit to be governed by fluctuations in the other, a device having magnetic material and windings connected to said alternating current circuit in inductive relation thereto but having no motor reaction therewith, a commutator connected to said windings and brushes bearing thereon connected to the direct current circuit, and a synchronous alternating current motor mechanically connected to drive said brushes relatively to said windings.

17. In a regulating apparatus a polyphase alternating current circuit, a direct current circuit, one a regulating circuit to be governed by fluctuations in the other, a device having magnetic material and windings connected to said alternating current circuit in inductive relation thereto but having no motor reaction therewith, a commutator the segments of which are connected successively to a number of points in each phase of said windings and brushes bearing thereon connected to the direct current circuit, and a synchronous alternating current motor mechanically connected to drive said brushes relatively to said windings.

18. In a regulating apparatus, an alternating current circuit subject to fluctuations, a dynamo electric machine, a direct current circuit connected to the regulating circuit of said dynamo electric machine, a rectifying device connecting said alternating and direct current circuits, and having magnetic material and windings in inductive relation thereto but so arranged as to be devoid of motor action, a commutator connected to said windings and brushes bearing thereon connected to said direct current circuit, and means for synchronously rotating said brushes and windings relatively to each other.

19. In a regulating apparatus an alternating current circuit subject to fluctuations, a dynamo electric machine, a direct current circuit connected to the regulating circuit of said dynamo electric machine, a rectifying device connecting said alternating and direct current circuits, and having magnetic material and windings in inductive relation thereto but so arranged as to be devoid of motor action, a commutator the segments of which are connected successively to a number of points in each division of said windings, brushes bearing thereon connected to said direct current circuit, and means for synchronously rotating said brushes and windings relatively to each other.

20. In a regulating apparatus, an alternating current circuit subject to fluctuations, a series transformer therein a dynamo electric machine, a direct current circuit connected to the regulating circuit of said dynamo electric machine, a rectifying device connected to said series transformer and having magnetic material and windings in inductive relation thereto but so arranged as to be devoid of motor action, a commutator connected to said windings and brushes bearing thereon connected to said direct current circuit, a synchronous motor mechanically connected to relatively rotate said brushes and windings.

21. In a regulating apparatus a fluctuating alternating current circuit, a direct current circuit, a rectifying device connecting said circuits, a storage battery and booster connected to said direct current circuit, a rectifying device connected to and controlled by fluctuations in said alternating current circuit and having magnetic material and windings in inductive relation thereto but so arranged as to have no motor reaction therewith, a commutator connected to said windings and brushes bearing thereon connected to a controlling circuit for the booster in the battery circuit, and means for relatively rotating said brushes and windings.

22. In a regulating apparatus a fluctuating alternating current circuit, and a series transformer therein, a direct current circuit, a rectifying device connecting said circuits, a storage battery and booster connected to said direct current circuit, a rectifying device connected to said series transformer and controlled by fluctuations in said alternating current circuit and having magnetic material and windings in inductive relation thereto but so arranged as to have no motor reaction therewith, a commutator connected to said windings and brushes bearing thereon connected to a controlling circuit for the booster in the battery circuit, and a synchronous motor mechanically connected so as to relatively rotate said brushes and windings.

23. An apparatus for regulating a dynamo in accordance with the fluctuations of current in a circuit comprising a regulating dynamo having a field winding in said circuit, means for driving said dynamo, a compensating dynamo connected in series in the same circuit, means for varying the electromotive force of the compensating dynamo proportionally to the speed changes of the regulating dynamo, and a controlling coil for the regulated dynamo in the circuit of the regulating and compensating dynamos.

24. An apparatus for regulating a dynamo in accordance with the fluctuations of current in a circuit comprising a regulating dynamo having a field winding in said circuit, means for driving said dynamo, a compensating dynamo connected in series in the same circuit, and driven at a speed proportional to that of the regulating dynamo, means for varying the electro-motive force of the compensating dynamo proportionally to its speed changes, and a controlling coil for the regulated dynamo in the circuit of the regulating and compensating dynamos.

25. The combination of a dynamo to be regulated, a regulating dynamo therefor controlled by the fluctuations of the regulating current, and a compensating dynamo arranged to modify the effect of said regulating dynamo to compensate for speed changes thereof.

26. The combination of a dynamo to be regulated, a regulating dynamo therefor, and suitable means for driving the same, and a compensating dynamo arranged to modify the effect of said regulating dynamo to compensate for speed changes thereof.

27. The combination of a dynamo to be regulated, an alternating current circuit, a regulating dynamo driven in synchronism with the alternating current source of supply, and means for neutralizing changes in said regulating dynamo due to changes of frequency in the alternating current circuit.

28. The combination of a dynamo to be regulated, a regulating dynamo therefor, and suitable means for driving the same, a compensating dynamo mechanically connected to said regulating dynamo and arranged to modify the regulating effect of the same to compensate for speed changes thereof.

29. The combination of a dynamo to be regulated, a regulating dynamo therefor and suitable means for driving the same, a compensating dynamo mechanically connected to said regulating dynamo having an electro-motive force proportional to its speed and opposed to that of the regulating dynamo.

30. The combination of a dynamo to be regulated, a regulating dynamo therefor and suitable means for driving the same, a compensating dynamo driven at a speed proportional to that of the regulating dynamo, and having its electro-motive force oppose that of the regulating dynamo, and an exciter for the compensating dynamo also driven at said proportional speed.

31. The combination of a dyanmo to be regulated, a regulating dynamo therefor, and suitable means for driving the same, and a compensating dynamo whose electromotive force opposes that of the regulating dynamo, and a dynamo for regulating the field strength of the compensating dynamo, the three last named dynamos being driven at proportionate speeds.

32. The combination of a dynamo to be regulated, a regulating dynamo therefor, and suitable means for driving the same, and a compensating dynamo whose electromotive force opposes that of the regulating dynamo, and a dynamo for regulating the field strength of the compensating dynamo, the three last named dynamos being mechanically connected together.

33. The combination of a dynamo to be regulated, a regulating dynamo therefor and suitable means for driving the same, a regulating winding on the dynamo to be regulated connected in circuit with the regulating dynamo, and a compensating dynamo arranged to modify the effect of said regulating dynamo to compensate for speed changes thereof.

34. The combination of a dynamo to be regulated, a regulating dynamo therefor, and suitable means for driving the same, and a compensating dynamo whose electromotive force opposes that of the regulating dynamo, a dynamo for regulating the field strength of the compensating dynamo, the three last named dynamos being driven at proportionate speeds, and a regulating winding on the dynamo to be regulated, said winding to be connected in series with the armature of said regulating dynamo.

35. The combination of a dynamo to be regulated, a regulating dynamo therefor and suitable means for driving the same, a regulating winding on the dynamo to be regulated connected in circuit with the regulating dynamo, and a compensating dynamo having differential field winding, said differential field so regulated that the electromotive force of the compensating dynamo will compensate for speed changes of said dynamos.

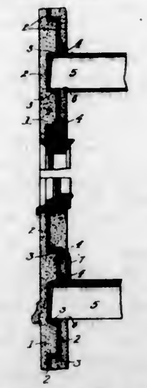
36. The combination of a dynamo to be regulated, a regulating dynamo therefor and suitable means for driving the same, a regulating winding on the dynamo to be regulated connected in circuit with the regulating dynamo and a compensating dynamo having differential field windings, said differential field excited by a dynamo driven at a proportionate speed to said regulating and compensating dynamo and having a rising voltage characteristic with regard to speed.

37. The combination of a dynamo to be regulated, a regulating dynamo therefor and suitable means for driving the same, a regulating winding on the dynamo to be regulated, connected in circuit with the regulating dynamo, and a compensating dynamo having a shunt field winding giving a low voltage characteristic with regard to speed variations, and a differential field winding excited by a dynamo driven at proportionate speed to said regulating dynamo, and having a high voltage characteristic with respect to speed variations.

38. In a regulating apparatus, a fluctuating alternating circuit, a regulating circuit, a rectifying device connected to said alternating current circuit and delivering energy to said regulating circuit in accordance with the fluctuations in said alternating current circuit, a dynamo, a regulating dynamo for the same, said regulating dynamo controlled by said regulating circuit, a compensating dynamo connected in circuit with said regulating dynamo and compensating for speed changes thereof.

39. In a regulating apparatus, a fluctuating alternating circuit, a regulating circuit, a rectifying device of the induction type but devoid of motor action connected to said alternating current circuit and delivering energy to said regulating circuit in accordance with the fluctuations in said alternating current circuit, a dynamo, a regulating dynamo for the same, said regulating dynamo controlled by said regulating circuit, a compensating dynamo connected in circuit with said regulating dynamo and compensating for speed changes thereof.

869,280. MEANS FOR FROST-PROOFING CONCRETE WALLS. JOHN H. WALZL, Baltimore, Md. Filed July 19, 1907. Serial No. 384,669.



1. A composite wall comprising a vertical concrete body having embedded therein a plurality of longitudinally-extending boards arranged in a vertical plane with respect to their longitudinal edges, the boards staggered or alternately arranged at opposite sides of an imaginary vertical

line drawn through the center of the wall, spacing blocks interposed between each two boards and engaging their contiguous faces, and grounds countersunk in the inner face of the wall and having their outer faces parallel with the vertical plane in which the inner face of the wall is formed and the inner faces of said grounds engaging the inner face or side of one of the boards.

2. A composite wall, comprising a plastic body, boards spaced apart and arranged alternately upon opposite sides of an imaginary vertical line drawn approximately through the center of the wall, each two contiguous boards having portions of their contiguous sides overlapping, and comparatively small spacing blocks interposed between and engaging the overlapping faces of said boards.

3. A composite wall, comprising a plastic body, vertical members formed of non-conducting material, countersunk in said walls and arranged in staggered relation and spaced apart, and blocks formed of non-conducting material, interposed between and engaging the contiguous faces of said members.

4. A frost-proof, concrete wall, comprising a plastic body, boards arranged in staggered relation and embedded in said wall, each two boards overlapping at their contiguous longitudinal edges, wooden blocks interposed between the overlapping sides of said boards and plastic material interposed between the remainder portion of the overlapping sides, and said plastic material between the overlapping sides of the boards forming a bond for the plastic material at the outer faces of the boards.

5. A frost-proof concrete wall, comprising a plastic body, non-conducting members arranged in staggered relation and embedded in said wall, each two non-conducting members overlapping, blocks formed of non-conducting material interposed between the overlapping portions of said non-conducting members, and plastic material interposed between the remaining portion of the overlapping portions, and said plastic material between the overlapping portions forming a bond for the plastic material at the outer faces or sides of the non-conducting-members.

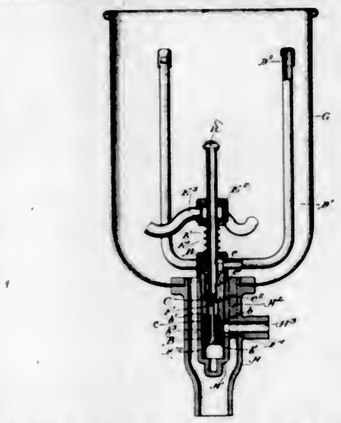
6. A wall for buildings, comprising a plastic body, provided with alternately arranged or staggered reinforcing and non-conducting members positioned between the outer sides of the body, spacing means formed of non-conducting material interposed between and connecting each two of said members, and plastic material interposed between the members and integrally bonding the portions of the body upon opposite sides of the members together.

7. In a building, the combination of a composite wall formed of a plastic body, a series of boards, and blocks embedded therein, said wall provided with a joist-seat opening upon its inner face, said joist-seat having at its back one of said boards and at its top and bottom longitudinal edges of the other boards and horizontal edges of the blocks, said plastic body forming the upper and lower, outer edges of the seat, and a joist extending into said joist-seat and resting upon a portion of the plastic body, one of the longitudinal edges of a board, and upon the upper, horizontal face of a block.

869,281. VALVE. WILLIAM M. WHEILDON, Boston, and HERBERT A. MAXWELL, Medford, Mass., assignors to American Soda Fountain Company, Boston, Mass., a Corporation of New Jersey. Filed Aug. 11, 1906. Serial No. 330,106.

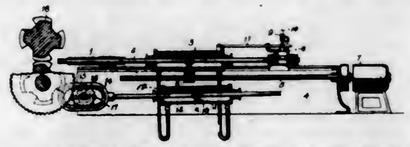
1. The combination of an inlet pipe, outlet pipe and valve chamber, a main valve sliding in said chamber, and seated therein, the portion of the valve chamber below the main valve being normally in pressure-communication with the supply pipe, said main valve centrally perforated, a bleeder valve to close the central perforation, a vertically movable weight support, and connections between the support and bleeder valve to open the same to relieve liquid pressure in the bottom of the main valve.

2. The combination of an inlet pipe and outlet pipe and valve chamber, a main valve sliding in said chamber and seated therein, said main valve being perforated to admit water from the supply pipe to the lower portion of the valve chamber and also centrally perforated, the central perforation being closed by a bleeder valve, said bleeder valve, a vertically movable weight-support and connections between the support and bleeder valve to open



the same to relieve liquid pressure on the bottom of said main valve.

869,282. MILL FOR MANUFACTURE OF TUBES. EMIL WINTER, Pittsburg, Pa. Filed May 9, 1905. Serial No. 259,501. Renewed Mar. 29, 1907. Serial No. 365,337.



1. In a rolling mill, the combination of rolls having any desired number of swaging portions and a corresponding number of portions of less diameter than the swaging portions, means for continuously rotating said rolls, and billet moving mechanism operative in the direction of roll rotation and operative to move the billet at a speed approximately that of the rolls at the time of bite of rolls on the billet.

2. In a rolling mill, the combination of rolls having any desired number of swaging portions, and means for continuously rotating said rolls, and a billet reciprocating mechanism operative to reciprocate the billet and arranged on the movement in the direction of roll rotation, to impart to the billet a speed approximately equal to that of the rolls at the time the swaging portions of the rolls engage the billet.

3. In a rolling mill, the combination of rolls having any desired number of swaging portions and a corresponding number of portions of less diameter than the swaging portions, means for continuously rotating said rolls, a billet reciprocating mechanism operative to reciprocate the billet and arranged on the movement in the direction of roll rotation to impart to the billet a speed approximately equal to that of the rolls at the time swaging portions of the rolls engage the billet, and means for progressively feeding the billet.

4. In a rolling mill, the combination of rolls having any desired number of swaging portions and a corresponding number of portions of less diameter than the swaging portions, means for continuously rotating said rolls, and means for moving the billet into the bite of the swaging portions of the rolls at a speed approximately that of the swaging portions, and means for moving the billet in a reverse direction after swaging or reducing action.

5. In a rolling mill, the combination of rolls having any desired number of swaging portions and a corresponding

number of portions of less diameter than the swaging portions, means for continuously rotating said rolls, means for moving the billet into the bite of the swaging portions of the rolls at a speed approximately that of the swaging portions, means for moving the billet in the reverse direction after swaging or reducing action, and means for progressively feeding the billet between said rolls.

6. In a rolling mill, the combination of rolls having any desired number of swaging portions and a corresponding number of portions of less diameter than the swaging portions, means for continuously rotating said rolls, a billet moving mechanism operative in the direction of roll rotation and operative to move the billet at a speed approximately that of the rolls and means for progressively feeding the billet in the direction of the roll rotation.

7. In a rolling mill, the combination of rolls having any desired number of swaging portions and a corresponding number of portions of less diameter than the swaging portions, means for continuously rotating said rolls, a means for moving the billet in the direction of roll rotation into the bite of the swaging portion of the rolls at a speed approximately that of the swaging portions, and means for moving the billet in the reverse direction after swaging or reducing action.

8. In a rolling mill, the combination of rolls having any desired number of swaging portions and corresponding portions of less diameter than the swaging portions, means for continuously rotating said rolls, and a billet moving mechanism controlled by the rolls and operative in the direction of roll rotation, to move the billet at a speed approximately that of the rolls at the time when the rolls engage the billet.

9. In a rolling mill, the combination of rolls having any desired number of swaging portions and a corresponding number of portions of less diameter than the swaging portions, means for continuously rotating said rolls, and a billet reciprocating mechanism controlled by the rolls and operative to reciprocate the billet and arranged on the movement in the direction of roll rotation to impart to the billet a speed approximately equal to that of the rolls at the time the swaging portions of the rolls engage the billet.

10. In a rolling mill, the combination of intermittingly acting rolls, means for operating said rolls, a billet holder, a fluid pressure cylinder, a piston, one of said parts being connected to the billet holder, a second fluid pressure mechanism consisting of a cylinder and piston, said cylinders being connected at points outside of the traverse of the pistons, and means controlled by the rolls for reciprocating one of the members of the second fluid pressure mechanism.

11. In a rolling mill, the combination of intermittingly acting rolls, means for operating said rolls, a fluid pressure cylinder, a piston, one of said parts being connected to the billet holder, a second fluid pressure mechanism consisting of a cylinder, and piston, said cylinders being connected at points outside of the traverse of the pistons, means controlled by the rolls for reciprocating one of the members of the second fluid pressure mechanism, and means for feeding the billet.

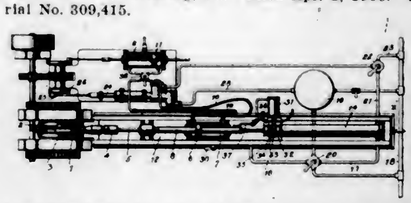
12. In a rolling mill, the combination of intermittingly acting rolls, means for operating said rolls, a billet holder, a fluid pressure cylinder, a piston, one of said parts being connected to the billet holder, means for imparting a feed movement to the other part, a second fluid pressure mechanism consisting of a cylinder and piston, said cylinder being connected at points outside of the traverse of the pistons, and means controlled by the rolls for reciprocating one of the members of the second fluid pressure mechanism.

13. In a rolling mill, the combination of intermittingly acting rolls, means for operating said rolls, a billet holder a fluid pressure cylinder, a piston, one of said parts being connected to the billet holder, a second fluid pressure mechanism consisting of a cylinder and piston, said cylinders being connected at points outside of the traverse of the pistons, a means operated by the rolls for reciprocating one of the members of the second fluid pressure mechanism.

14. In a rolling mill, the combination of rolls having any desired number of reducing or swaging portions and a corresponding number of portions of less diameter, means for continuously rotating said rolls, a billet holder, means for progressively feeding the billet holder towards said rolls, means for moving the billet holder in direction of the rotation of the rolls at a speed approximately equal to that of the rolls at the time when the rolls engage the billet, means for moving the holder in the opposite direction, and means operative on the release of the billet from the rolls for rotating the holder.

15. In a rolling mill, the combination of rolls having any desired number of reducing or swaging portions, and a corresponding number of portions of less diameter, means for continuously rotating said rolls, a billet holder, means for feeding the holder towards the rolls, means for moving the holder in the direction of rotation of the rolls at a speed approximately equal to that of the rolls at the time when the rolls engage the billet, means for moving the holder in the opposite direction, a fluid pressure means for rotating the holder operative when the billet is released from the grip of the rolls.

869,283. MILL FOR MANUFACTURE OF TUBES, &c. EMIL WINTER, Pittsburg, Pa. Filed Apr. 2, 1906. Serial No. 309,415.



1. In a machine for swaging billets, etc., the combination of rolls having one or more swaging portions, means for reciprocating the billet, fluid pressure means for feeding the billet comprising a cylinder and piston, and synchronizing means for forcing a predetermined volume of fluid into the cylinder at intervals whereby said fluid pressure means feed the billet in timed relation to the rolls.

2. In a machine for swaging billets, etc., the combination of rolls having one or more swaging portions, means for reciprocating the billet, fluid pressure means for feeding the billet, fluid pressure means for controlling the feed mechanism and a suitable connection from the roll train for operating the fluid pressure means.

3. In a machine for swaging billets, etc., the combination of rolls having one or more swaging portions and reduced intermediate portion or portions, means having a resilient member for reciprocating the billet, hydraulic pressure means for feeding the billet, means for controlling the feed mechanism and a suitable connection from the roll train for operating the controlling means.

4. In a machine for swaging billets, etc., the combination of swaging rolls, operating means therefor, a billet holder, means for effecting a relative reciprocation between the rolls and billet holder, a feed mechanism including a fluid pressure cylinder and piston, means for intermittently forcing predetermined quantities of fluid into the cylinder and means permitting the uninterrupted flow of fluid pressure into the cylinder.

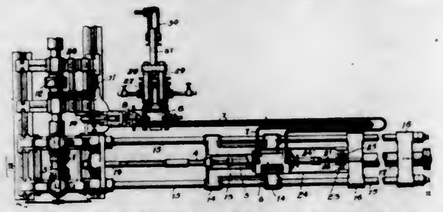
5. In a mill for swaging billets, etc., swaging rolls and operating means therefor, a billet holder and means for permitting a relative reciprocation between the rolls and billet holder, in combination with feed mechanism for the billet comprising a cylinder and piston and means in train with the roll operating means adapted to control the admission of fluid pressure to the cylinder.

6. A mill for swaging billets, swaging rolls and operating means therefor, a billet holder and means for permitting a relative reciprocation between the rolls and billet holder in combination with feed mechanism for the billet comprising a cylinder and piston, a pump connected to the cylinder, mechanism for operating the pump in such con-

nection with the swaging rolls that the pump will operate in timed relation to the rolls.

7. In a machine for swaging billets the combination of rolls having one or more swaging portions and reduced intermediate portion or portions, fluid pressure means for reciprocating the billet and adapted to move in one direction at a speed equal to and in the direction of movement of the rolls, means for rotating the billet controlled by the reciprocating mechanism, fluid pressure means for feeding the billet and suitable connection from the roll train for operating the feed mechanism.

869,284. SWAGING-MILL. EMIL WINTER, Pittsburg, Pa. Filed Jan. 14, 1907. Serial No. 352,281.



1. In a mill for swaging billets, etc., the combination of dies or swages adapted to move in the arc of a circle while operating on the billet, means for holding the billet in position to be operated on by said dies or swages, means for adjusting the holding means, and operative connections from the rolls for said adjusting means, constructed to cause such holding means to present a resistance to the movement of the billet by the dies or swages, proportional to the reduction being effected by the dies or swages.

2. In a mill for swaging billets, etc., the combination of dies or swages adapted to move in the arc of a circle while operating on the billet, resilient means for holding the billet in position to be operated on by the dies or swages, and means so connected with the rolls as to vary the tension of the resilient member of the holding means so as to cause such holding means to present a resistance to the movement of the billet by the dies or swages, proportional to the reduction being effected by the dies or swages.

3. In a mill for swaging billets the combination of dies or swages movable in the arc of a circle while operating on the billet, means having a resilient member for holding the billet from movement by the dies or swages and means for changing the tension of the resilient member during the operation of the dies or swages.

4. In a mill for swaging billets, etc., the combination of dies or swages movable in the arc of a circle while operating on the billet, means including a fluid pressure cylinder and piston for reciprocating the billet, and means for changing the fluid pressure in the cylinder equally and in the same direction on both sides of the piston during the reciprocation of the billet.

5. In a mill for swaging billets, etc., the combination of dies or swages movable in the arc of a circle while operating on the billet, a crank pin revoluble synchronously with the dies or swages, a cylinder and piston, the piston being operatively connected to the crank pin, a second cylinder and piston and fluid passage connections extending from the first to the second cylinder, and a billet holder arranged to be operated by the piston of the second cylinder.

6. In a mill for swaging billets, etc., the combination of dies or swages movable in the arc of a circle, a billet holder, a fluid pressure cylinder having its piston connected to the billet holder, a second fluid pressure cylinder having its ends connected to the ends of the first cylinder, means for reciprocating the piston of the second cylinder and means for varying the pressure of fluid in said cylinders and their connections.

7. In a mill for swaging billets, etc., the combination of dies or swages movable in the arc of a circle, a billet holder, a fluid pressure cylinder having its piston connected to the billet holder, a second fluid pressure cylinder having its ends connected to the ends of the first cylinder so as to permit the passage of fluid, and means for reciprocating the piston of the second cylinder at a variable speed during each stroke.

8. As an improvement in the art of swaging billets, etc., the method herein described which consists in reducing the billet step by step by the action of dies or swages moving in the arc of a circle, holding the billet in position to be operated on by the dies or swages, and varying the resistance presented by the holding means to the movement of the billet by the dies or swages in accordance with the reduction being effected by the dies or swages.

9. As an improvement in the art of swaging billets, etc., the method herein described which consists in reducing the billet step by step by the action of dies or swages moving in the arc of a circle, yieldingly holding the billet in position to be operated on by the dies or swages and varying the resistance presented by the holding means to the movement of the billet by the dies or swages in accordance with the reduction being effected by the dies or swages.

869,285. GARMENT-CLASP. JAMES P. WILSON, Chicago, Ill. Filed June 7, 1906. Serial No. 320,623.



1. In a garment clasp, a supporting member carrying a button, a flexible loop member having both sides thereof secured to said supporting member and adapted to pass over the button, and a slide on said flexible loop member having a rigid and a sliding connection with the opposite sides respectively of said loop member for drawing the lower end of said loop around said button, substantially as described.

2. In a garment clasp, a supporting member carrying a button provided with a shank, a flexible loop member having both sides thereof secured to said supporting member and adapted to be passed over the button, and a slide on the lower portion of said flexible loop member having a rigid and a sliding connection with the opposite sides respectively of said loop member, its downward movement being limited by the side of the flexible loop to which it is rigidly connected, substantially as described.

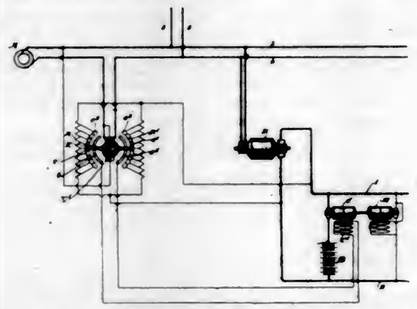
869,286. ELECTRICAL SYSTEM OF DISTRIBUTION. WALTER E. WINSHIP, New York, N. Y., assignor to Gould Storage Battery Company, a Corporation of New York. Filed Mar. 7, 1907. Serial No. 361,148.

1. The combination with an alternating current generator and circuit, and storage apparatus in operative relation therewith, of regulating apparatus therefor controlled responsively to the variations of the true energy of the alternating current circuit.

2. The combination with an alternating current generator and circuit, and storage apparatus in operative relation therewith, of regulating apparatus therefor controlled responsively to the variations of the product of the electro-motive-force and current of the alternating current circuit and the cosine of the angle of the phase difference between said electro-motive-force and current.

3. The combination with an alternating current generator and circuit, storage apparatus in operative relation therewith, a booster in series with the storage apparatus, and regulating apparatus for the booster field controlled responsively to the variations of the true energy of the alternating current circuit.

4. The combination with an alternating current generator and circuit, storage apparatus in operative relation therewith, a booster in series with the storage apparatus, and regulating apparatus for the booster field controlled responsively to the variations of the product of the electro-motive-force and current of the alternating current circuit and the cosine of the angle of the phase difference between said electro-motive-force and current.



5. The combination with an alternating current generator and circuit, storage apparatus in operative relation therewith, a bolster in series with the storage apparatus, a reversing and current controlling apparatus for affecting the booster field strength, a movable member thereof, and means for controlling the movement of said member responsively to variations of the true energy of the alternating current circuit.

6. The combination with an alternating current generator and circuit, storage apparatus in operative relation therewith, a booster in series with the storage apparatus, a reversing and current controlling apparatus for affecting the booster field strength, a movable member thereof, and means for controlling the movement of said member responsively to variations of the product of the electro-motive-force and current of the alternating current circuit and the cosine of the angle of phase difference between said electro-motive-force and current.

7. The combination of an alternating current generator, a rectifier, a storage battery connected to the direct current end of the rectifier, a booster in series with the battery, and regulating apparatus for the booster field controlled by and in accordance with true energy changes of said alternating current generator.

8. The combination of an alternating current generator, a rectifier, a storage battery connected to the direct current end of the rectifier, a booster in series with the battery, and regulating apparatus for the booster field controlled by and in accordance with changes in the product of the current and electro-motive-force of the alternating current generator and the cosine of the angle of phase difference between said current and electro-motive-force.

9. The combination of an alternating current generator, a rectifier, a storage battery connected to the direct current end of the rectifier, a booster in series with the battery, an exciter for the booster, and regulating apparatus for the exciter field controlled by and in accordance with changes in the product of the current and electro-motive-force of the alternating current generator and the cosine of the angle of phase difference between said current and electro-motive-force.

10. The combination of an alternating current generator, a rectifier, a storage battery connected to the direct current end of the rectifier, a booster in series with the battery, a controlling coil therefor subjected to the resultant of opposing potential differences, and regulating apparauts acting to vary one of said potential differences controlled by and in accordance with the true energy changes of the alternating current generator.

11. The combination of an alternating current generator, a rectifier, a storage battery connected to the direct current end of the rectifier, a booster in series with the battery, a controlling coil therefor subjected to the resultant of opposing potential differences, and regulating apparatus acting to vary one of said potential differences controlled by and in accordance with changes in the product of the current and electro-motive-force of the alternating current generator and the cosine of the angle of phase difference between said current and electro-motive-force.

12. The combination of an alternating current generator, a rectifier, a storage battery connected to the direct current end of the rectifier, a booster in series with the battery, an exciter for the booster, a field winding therefor subjected to the resultant of opposing potential differences, and regulating apparatus acting to vary one of said potential differences responsively to changes in the product of the current and electro-motive-force of the alternating current generator and the cosine of the angle of phase difference between said current and electro-motive-force.

13. The combination of an alternating current generator, a rectifier, a storage battery connected to the direct current end of the rectifier, a booster in series with the battery, an exciter for the booster, a field winding therefor subjected to the resultant of opposing potential differences, regulating apparatus acting to vary one of said potential differences, a coil responsive to current changes of the alternating current generator, a coil in magnetic relation therewith responsive to voltage changes of the alternating current generator, one of said coils being movable, and means for governing the operation of said regulating apparatus in accordance with the movement of said moving coil.

14. The combination of an alternating current generator, a rectifier, a storage battery connected to the direct current end of the rectifier, a booster in series with the battery, an exciter for the booster, a field winding therefor subjected to the resultant of opposing potential differences, regulating apparatus acting to vary one of said potential differences, a coil responsive to current changes of the alternating current generator, a coil in magnetic relation therewith responsive to voltage changes of the alternating current generator, one of said coils being movable, mechanical connections between the moving coil and the regulating apparatus tending to actuate the same in one direction, and mechanical means tending to actuate the same in the other direction.

15. The combination of an alternating current generator, a rectifier, a storage battery connected to the direct current end of the rectifier, a booster in series with the battery, a winding for controlling the booster electro-motive-force, a pair of piles of carbon or the like, a connection from said winding to a point between said piles, a movable member arranged to vary the relative resistances of said piles, a coil responsive to current changes of the alternating current generator, a coil in magnetic relation therewith responsive to voltage changes of the alternating current generator, one of said coils being movable and connected to said movable member, and mechanical means acting upon said movable member in the opposite direction.

16. The combination of an alternating current generator, a rectifier, a storage battery connected to the direct current end of the rectifier, a booster in series with the battery, a winding for controlling the booster electro-motive-force, a pair of piles of carbon or the like, a connection from said winding to a point between said piles, a movable member arranged to vary the relative resistances of said piles, a coil responsive to current changes of the alternating current circuit, a coil in magnetic relation therewith responsive to voltage changes of the alternating current circuit, one of said coils being movable and connected to said movable member, and mechanical means acting upon said movable member in the opposite direction.

17. The combination of an alternating current generator, a rectifier, a storage battery connected to the direct current end of the rectifier, a booster in series with the battery, an exciter for said booster, a field winding therefor, a pair of piles of carbon or the like, a connection from said winding to a point between said piles, a movable member arranged to vary the relative resistances of said piles, a coil responsive to current changes of the alternating current generator, a coil in magnetic relation therewith responsive to voltage changes of the alternating current generator, one of said coils being movable and connected to said movable member, and mechanical means acting upon said movable member in the opposite direction.

18. The combination of an alternating current generator, a rectifier, a storage battery connected to the direct current end of the rectifier, a booster in series with the battery, regulating apparatus for the booster including piles of carbon or the like, means for varying the relative pressures exerted upon the two piles, comprising relatively movable coils connected to be respectively responsive to current and voltage changes of the alternating current circuit, and mechanical means acting in opposition to the relative movement of said coils.

19. The combination of an alternating current generator, a rectifier, a storage battery connected to the direct current end of the rectifier, a booster in series with the battery, regulating apparatus for the booster including piles of carbon or the like, means for varying the relative pressures exerted upon the two piles, comprising relatively movable coils connected to be respectively responsive to current and voltage changes of the alternating current generator, and mechanical means acting in opposition to the relative movement of said coils.

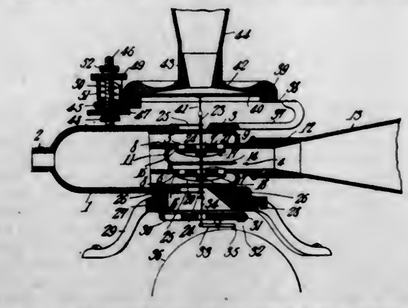
869,287. CYANID TREATMENT OF ORES. ALFRED ADAIR, Troyeville, Johannesburg, Transvaal. Filed Feb. 15, 1907. Serial No. 357,466.

1. In the cyanid treatment of ores the process which consists in treating the ore in the presence of alkali with cyanid in association with a compound of manganese in which manganese dioxid occurs in a finely divided amorphous form.

2. In the cyanid treatment of ores the process which consists in treating the ore in the presence of alkali with cyanid in association with a compound of manganese in which manganese dioxid occurs in a finely divided amorphous form, and with an easily reducible soluble oxygen-giving salt.

3. In the cyanid treatment of ores, the process which consists in treating the ore in the presence of alkali, with a cyanid solution, in association with a manganese compound in which manganese dioxid occurs in a finely divided amorphous form.

869,288. SOUND-AMPLIFIER. NATHANIEL BALDWIN, Heber, Utah. Filed June 21, 1907. Serial No. 380,145.



1. A sound-augmenting device comprising a conduit for fluid under pressure, two connected valves in said conduit for varying the flow of the fluid therethrough, one subjected to the fluid pressure on one side and the other subjected to an equal fluid pressure on the other side, and means for moving said valves to vary the flow of fluid through the conduit in accordance with sound-wave vibrations.

2. A sound-augmenting device comprising a suitable conduit for fluid under pressure, annular ports in said conduit, annular valve seats surrounding said ports, annular, balanced valves in operative relation to said valve seats, and means for moving said valves to and from the valve seats to vary the flow of fluid through the ports in accordance with sound-wave vibrations.

3. A sound-augmenting device comprising a two-part conduit for the passage of fluid under pressure, oppositely located ports constituting the means of communication from one part of the conduit to the other, two connected valves, one located in one part of the conduit and the other in the other part of the conduit in operative relation to the valve seats, and means for moving said valves in accordance with sound-wave vibrations.

4. A sound-augmenting device comprising a conduit adapted to receive fluid under pressure, another conduit interior to the first-named conduit, annular ports between the two conduits, valve seats bordering said ports, one set of seats extending into one conduit and the other set of seats extending into the other conduit, annular valves in operative relation to the valve seats, and means for operating said valves in unison to vary the flow of fluid through the ports in accordance with sound-wave vibrations.

5. A sound-augmenting device comprising a conduit for fluid under pressure, two connected valves in said conduit for varying the flow of the fluid therethrough and having opposed faces subjected to equal fluid pressure, elastic supports for the valves, and means for actuating said valves in accordance with sound wave vibrations.

6. A sound-augmenting device comprising a conduit for fluid under pressure, two connected valves in said conduit for varying the flow of the fluid therethrough and having opposed faces subjected to equal fluid pressure, elastic supports for the valves, and adjusting means for regulating the position of the valves.

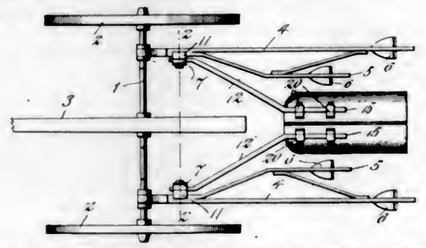
7. A sound-augmenting device comprising a conduit for fluid under pressure, balanced valve mechanism for controlling the flow of fluid through the conduit, elastic supports for the valve mechanism, adjusting means connected to the valve mechanism, said means being elastically supported at one end and having a screw adjustment at the other end, and means for actuating the valves in accordance with sound-wave vibrations.

8. In a sound-augmenting device, a two-part conduit for fluid under pressure, two connected valves having the same phase of movement and one located in one part of the conduit and the other in the other part of the conduit and subjected to the flow of the fluid under pressure on opposite sides, a deflector in the part of the conduit receiving the fluid from the other part of the conduit and located to divert the incoming fluid away from the adjacent valve, and means for actuating the valve mechanism in accordance with sound-wave vibrations.

9. A means for reproducing recorded sounds comprising a conduit for fluid under pressure, a balanced valve mechanism therein for controlling the flow of the fluid through said conduit, phonographic reproducer mechanism connected with the said valve mechanism and adapted to be actuated by a sound record, and means connected with said fluid conduit at the exit end thereof for still further augmenting the sound produced, by the variation of the flow of fluid by the valve mechanism.

869,289. CULTIVATOR-SHIELD. GEORGE E. BARRETT, Superior, Wis., assignor of one-half to John Z. Miller, Superior, Wis. Filed Jan. 23, 1907. Serial No. 353,672.
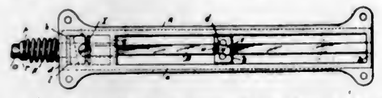
1. A cultivator provided with a pair of shield members adjustably mounted upon pivoted bars, said shield members being oppositely curved and provided with a flaring mouth and a contracted outlet opening at the rear end thereof.



2. A shield for cultivators comprising two members, each being curved outwardly, downwardly, and inwardly, the inlet opening between said shield members having backwardly curved sides and the outlet opening at the rear end of said shield members being curled outwardly and upwardly at the bottom and forming a contracted outlet opening between them.

3. A shield for cultivators comprising two curved members, bearings carried by said members, bars connected to said bearings and means for adjusting said shield members upon said bars, substantially as described.

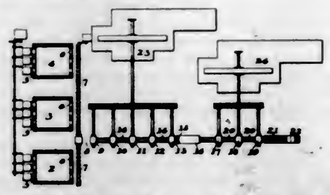
869,290. BENCH-CLAMP. WILLIAM R. BRADFORD, Calumet, Mich. Filed Sept. 18, 1905. Serial No. 278,874.



1. In a bench clamp, the combination with a frame, a beam movably carried in said frame, a mandrel journaled in the frame, a helix-block secured thereto, a similar helix-block mounted upon said mandrel and arranged to engage with the helix-block secured to the frame, whereby a rotative movement of said mandrel will produce a longitudinal movement thereof, means whereby the longitudinal movement of the mandrel is communicated to said beam, and a dog adjustably mounted upon said beam, substantially as described.

2. In a bench-clamp, the combination of a frame, a beam movably carried in said frame, means for actuating said beam, a dog-block constructed to engage over the said beam, having vertical openings therethrough and provided with a helical seat, a dog provided with notched vertical standards adapted to adjustably engage within the vertical openings in said dog-block, a latch made to rest upon said helical seat and arranged to engage with the notches in the standards of said dog whereby the said dog is held in its vertically adjusted position, substantially as described.

869,291. APPARATUS FOR ROLLING BLACK PLATES AND SHEETS. CHARLES W. BRAY, Pittsburg, Pa., assignor to American Tin Plate Company, Orange, N. J., a Corporation of New Jersey. Filed Jan. 30, 1903. Serial No. 141,134.



1. Apparatus for reducing metal bars into sheets in pile, comprising a tandem mill arranged to reduce the cut bars singly and successively, a furnace arranged to receive the plates in piles, means for carrying the piles through the furnace, and a set of rolls arranged to roll the reheated pile; substantially as described.

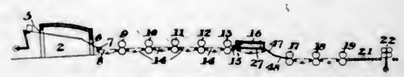
2. Apparatus for reducing metal bars into sheets in pile, comprising a tandem mill arranged to roll cut bars singly and successively, a heating furnace and metal piling device located between two of the sets of rolls of said mill, means for feeding the pile through the furnace, and a transfer device arranged to carry the heated piles to the succeeding pair of rolls; substantially as described.

3. Apparatus for reducing metal bars into sheets in pile, comprising a tandem mill arranged to reduce hot bars singly and successively, a heating furnace in line therewith, means for carrying piles of plates through the furnace, a squaring-up device into which the piles are discharged from the furnace, and mechanism for feeding the packs forwardly from the squaring-up device; substantially as described.

4. Apparatus for reducing metal bars into sheets in pile, comprising a heating furnace for the cut bars, a tandem mill through which the cut bars pass singly and successively from the heating furnace, another heating furnace arranged to receive rolled plates in pile, means for passing the piles through the second furnace, and rolls arranged to reduce said reheated piles; substantially as described.

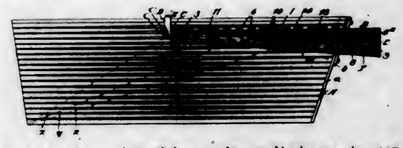
5. Apparatus for reducing metal bars into sheets in pile, comprising a mill having sets of rolls arranged in tandem, a reheating furnace, and a matcher between two of the sets of rolls, means for feeding the packs through the heating furnace and into the matcher, and means for feeding the squared-up packs out of the matcher and into a successive pair of rolls; substantially as described.

869,292. METHOD OF ROLLING BLACK PLATES OR SHEETS. CHARLES W. BRAY, Pittsburg, Pa., assignor to American Tin Plate Company, Orange, N. J., a Corporation of New Jersey. Filed Feb. 7, 1903. Serial No. 142,343.



The method herein described of reducing metal bars into sheets in pile in a heated state, which consists in first, reducing hot bars to plates by passing the bars between "roughing-rolls," second, collecting while hot the plates thus produced one upon another in pile within a heating-furnace and finally transferring and subjecting such pile so heated and while hot to the action of rolls to reduce the plates therein to sheets; substantially as described.

869,293. FEED-BOX FOR ORE-CONCENTRATORS. WILLIAM L. CARD and FRANK S. CARD, Denver, Colo. Filed May 26, 1905. Serial No. 262,416.



1. A feed-box for sizing pulp preliminary to concentration by a concentrator, said box having a bottom inclined transversely downward towards the discharge side and being provided with riffles.

2. A feed-box for sizing pulp preliminary to concentration by a concentrator, the bottom of said box having a riffled area at the rear of the box and a plain or unriffled area at the front end of the box.

3. A feed-box for sizing pulp preliminary to concentration by a concentrator, said box having a bottom inclined transversely downward towards the discharge side and

having a riffled area at the rear end and a plain or unriffled area at the front end thereof.

4. A feed-box for sizing pulp preliminary to concentration by a concentrator, said box having riffles obliquely disposed with respect to the general direction of the length of the box and adapted to induce travel of the pulp towards the discharge side of said box.

5. A feed-box for sizing pulp preliminary to concentration by a concentrator, said box having a bottom inclined transversely downward towards the discharge side and provided with riffles obliquely disposed with respect to the general direction of the length of said box to induce travel of the pulp towards the discharge side thereof.

6. A feed-box for sizing pulp preliminary to concentration by a concentrator, said box having its bottom inclined longitudinally thereof and inclined transversely downward towards the discharge side thereof.

7. A feed-box for sizing pulp preliminary to concentration by a concentrator, said box having a narrow channel adjacent to and parallel with the discharge side thereof.

8. A feed-box for sizing pulp preliminary to concentration by a concentrator, said box having its bottom inclined transversely downward towards and terminating in a narrow channel adjacent to the discharge side of the feed box.

9. A feed-box for sizing pulp preliminary to concentration by a concentrator, said box having its bottom inclined longitudinally thereof and being provided with a narrow channel adjacent to the discharge side of the feed box.

10. A feed-box for sizing pulp preliminary to concentration by a concentrator, said box having its bottom inclined longitudinally thereof and inclined transversely downward towards the discharge side of the box and being provided with a narrow channel adjacent to the discharge side of the box.

11. A feed-box for sizing pulp preliminary to concentration by a concentrator, said box having its bottom inclined transversely downward towards the discharge side thereof, a narrow channel adjacent to the discharge side of the box, and a series of transversely disposed riffles.

12. A feed-box for sizing pulp preliminary to concentration by a concentrator, said feed-box having its bottom inclined longitudinally and also inclined downwardly towards the discharge side thereof, said box having a series of transverse riffles and a narrow channel between the ends of the riffles and the discharge side of the feed-box.

13. A feed-box for sizing pulp preliminary to concentration by a concentrator, said feed-box having its bottom inclined longitudinally thereof, a narrow channel adjacent to the discharge side of the box, and a series of riffles arranged at an oblique angle to the channel and discharge side of the box.

14. A feed-box for sizing pulp preliminary to concentration by a concentrator, said feed-box having its bottom inclined longitudinally and inclined transversely downward towards the discharge side thereof, a narrow channel contiguous to the discharge side of the box, and a series of riffles arranged at an oblique angle to the channel and discharge side of the box.

15. A feed-box for sizing pulp preliminary to concentration by a concentrator, said feed-box having its bottom inclined longitudinally and inclined transversely downward towards the discharge side of the box, a narrow channel contiguous to the discharge side of the box, a riffled area at the rear end of the box, and a plain or unriffled area at the front end of the box.

16. A feed-box for sizing pulp preliminary to concentration by a concentrator, said feed-box having its bottom inclined transversely downward towards the discharge side thereof, a narrow channel contiguous to the discharge side of the box, and a series of riffles arranged at an oblique angle to the channel and discharge side of the box.

17. A feed-box for sizing pulp preliminary to concentration by a concentrator, said feed-box having its bottom inclined longitudinally thereof, a narrow channel contiguous to the discharge side of the box, a riffled area at the rear end of the box, and a plain or unriffled area at the front end of the box, said riffles being obliquely disposed with respect to the general direction of the length of the box to induce travel of the pulp towards the discharge side of said box.

18. A feed-box for sizing pulp preliminary to concentration by a concentrator, said feed-box having its bottom inclined longitudinally and inclined transversely downward towards the discharge side of the box, a narrow channel contiguous to the discharge side of the box, a riffled area at the rear end of the box, and a plain area at the front end of the box, said riffles being obliquely disposed with respect to the general direction of the length of the box to induce travel of the pulp towards the discharge side of said box.

19. In combination with a feed-box for sizing pulp preliminary to concentration by a concentrator, said box having its bottom inclined downwardly towards the discharge side thereof and having a narrow channel contiguous to the discharge side, a perforated water box arranged over said narrow channel and adjacent to the discharge side of the feed box.

20. In combination with a feed-box for sizing pulp preliminary to concentration by a concentrator, said box having its bottom inclined longitudinally and provided with a narrow channel contiguous to the discharge side of the box, a perforated water-box arranged over said channel and adjacent to the discharge side of the box.

21. In combination with a feed-box for sizing pulp preliminary to concentration by a concentrator, said box having its bottom inclined downwardly towards the discharge side thereof, a narrow channel contiguous to the discharge side of the box, and riffles arranged at an oblique angle to the channel, of a perforated water-box arranged over said channel and contiguous to the discharge side of the feed box.

22. In combination with a feed-box for sizing pulp preliminary to concentration by a concentrator, said box having its bottom inclined longitudinally and inclined transversely downward towards the discharge side thereof and being provided with a narrow channel contiguous to the discharge side and a series of riffles arranged at an oblique angle to said channel, of a perforated water-box arranged over said channel and adjacent to the discharge side of the feed-box.

23. A feed-box for sizing pulp preliminary to concentration by a concentrator, said box having a longitudinally extending riffle area and a longitudinally extending plain or unriffled area.

24. A feed-box for sizing pulp preliminary to concentration by a concentrator, said box having a longitudinally extending riffled area adjacent to the discharge side of the box and a longitudinally extending plain or unriffled area adjacent to the opposite side of the box.

25. A feed-box for sizing pulp preliminary to concentration by a concentrator, said box having a longitudinally extending riffled area, a longitudinally extending plain or unriffled area, and a plain or unriffled area at the front end of the said feed box.

26. A feed-box for sizing pulp preliminary to concentration by a concentrator, said box having a longitudinally extending riffled area adjacent to the discharge side of the box, a longitudinally arranged plain or unriffled area adjacent to the opposite side of the box, and a plain or unriffled area at the front end of the said feed box.

27. A feed-box for sizing pulp preliminary to concentration by a concentrator, said box being provided with riffles and having a pulp receiving compartment opening into the main portion of the feed box adjacent to said riffles.

28. A feed-box for sizing pulp preliminary to concentration by a concentrator, said box having its bottom provided with obliquely extending riffles which gradually decrease in height from the rear end to the front end of the box.

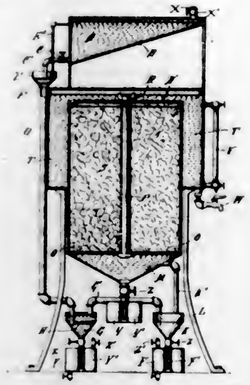
29. A feed-box for sizing pulp preliminary to concentration by a concentrator, said box having its bottom provided with obliquely extending riffles arranged adjacent to the discharge side of said box, each of said riffles progressively decreasing in height from the rear towards the front of the said box.

30. The combination with a feed-box for sizing pulp preliminary to concentration by a concentrator, of means for supplying water thereto above and adjacent to the discharge side of the box.

31. The combination with a feed-box for sizing pulp preliminary to concentration by a concentrator, said box having a narrow channel in its bottom contiguous to the discharge side thereof, of means for delivering water against the discharge side of the box above and adjacent to the discharge orifices thereof.

32. The combination with a feed-box for sizing pulp preliminary to concentration by a concentrator, said feed-box having its bottom inclined longitudinally and inclined transversely downward towards the discharge side thereof, of means for adjusting the longitudinal inclination of said box.

869,294. FILTER. LUCIUS R. CLARK and DWIGHT G. KREUL, Davenport, Iowa. Filed May 2, 1907. Serial No. 371,506.



1. In an oil filter, the combination with an upper receiving tank, of a series of traps below said upper tank, an oil conducting pipe connected to the receiving tank, an air pipe connected to the upper part of the receiving tank having its lower extremity on a level with the oil conducting pipe, a funnel provided with a sieve and open to the air adapted to admit the lower ends of the oil conducting pipe and the air pipe, a vertically disposed tube attached to the funnel, said tube connected to a series of traps, a pipe within each trap connected to the conducting pipe and adapted to convey the material to be filtered below a screen within the trap, settling basins attached to each trap outlet pipes in the upper part of each trap adapted to convey the liquid in process of filtration to the next trap, a main filtering chamber conically formed in its lower part and connected to the last trap, a settling basin attached to the lower part of the filtering chamber, a lower perforated plate or disk supported in the main filtering chamber above its conical base, a filtering medium arranged on said lower plate, an upper plate resting on said medium, a threaded rod connecting said perforated plates a thumb screw attached to the upper end of said rod adapted to engage the said upper plate and compress said filtering material, a chamber above the filtering medium adapted to receive the filtered product, a glass adapted to show the amount of filtered oil in said chamber and a faucet adapted to draw off said product, substantially as described.

2. In a filter of the class specified, an upper receiving tank, a conducting pipe, a series of traps, a settling basin in the form of a cylinder longitudinally compressed in the line of its diameter, oppositely disposed glass windows in the settling basin extending longitudinally from top to bottom thereof, a cover attached to said basin, a pipe attached to the cover and adapted to connect with the first trap at the bottom thereof, similar basins for each additional trap, a main filtering chamber provided with a conical base, a settling basin of the character described attached to the lower part of the conical base removable perforated diaphragms within the filtering chamber an intermediate body of filtering material between the diaphragms, a chamber for the filtered liquid above the diaphragms and means for its withdrawal and means for removal of the top of the filtering chamber.

3. In a filter of the class described, a filtering chamber, preferably cylindrical in shape provided with a removable cover, a conical base attached to the filtering chamber, a conducting tube whose inlet is higher than the filtering chamber, means for supplying the liquid to be filtered to the conducting tube, means for supporting the conducting tube exteriorly to the filtering chamber, traps provided with interior screens serially attached to the conducting tube and located beneath the filtering chamber, settling basins removably attached to the traps, a settling basin removably attached to the vertex of the inverted conical base of the filtering chamber, perforated disks within the cylindrical portion of the filtering chamber, suitable filtering medium disposed between the disks, means for compressing the filtering medium between the disks, a chamber above the disks for the reception of the filtered product and means for withdrawing said product from the chamber.

4. In an apparatus of the class described, a receiving tank, discharging by gravity and vacuum feed, a conducting pipe, a filtering chamber below the receiving tank, traps attached to the conducting pipe, settling basins removably attached to each trap, a faucet between each trap and its settling basin, a settling basin attached to the filtering chamber, means for connecting the conducting pipe with the base of the filtering chamber, means for receiving and conducting the liquid in process of filtration through proper filtering material within the filtering chamber, and means for the withdrawal of said product from the upper part of said chamber.

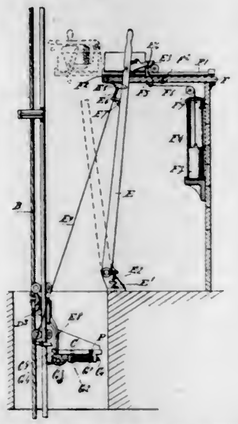
5. In an apparatus of the class described, a cylindrical filtering chamber, a conducting pipe outside of said chamber having its inlet above said chamber, a series of traps removably connected to the conducting pipe, a settling basin removably connected to each trap, cocks between the traps and conducting pipe, cocks between the traps and the settling basins, a cover removably attached to each settling basin, oppositely disposed windows in said settling basins, pet cocks in the upper part of each settling basin, means for connecting the conducting part with the lower part of the filtering chamber, a filtering medium within said chamber, perforated disks adapted to suitably compress said filtering medium means of access to the top of the filtering chamber, and for the withdrawal of the filtered product.

869,295. CONVEYING APPARATUS. JAMES T. COWLEY, Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J., a Corporation of New Jersey. Filed June 15, 1905. Serial No. 265,316.

1. In a conveying apparatus, a framework, tracks mounted on said framework, a carrier adapted to travel on said tracks, means on said carrier for maintaining its load-supporting portion in an upright position, a cable mounted on said framework and adapted to actuate said carrier, despatching stations located along the upward path of travel of said carrier, receiving stations located along the downward path of travel of said carrier, adjustable means on said carrier and at said despatching stations for automatically picking up a load from any one of said despatching stations, and adjustable means on said carrier and at said receiving stations for automatically discharging said load into a predetermined receiving station.

2. In a conveying apparatus, a framework, tracks mounted on said framework, a carrier adapted to travel on said tracks, means on said carrier for maintaining its load-supporting portion in an upright position, a cable mounted on said framework and adapted to actuate said carrier, a central despatching station located on the up-

ward path of travel of said carrier, department receiving stations located along the downward path of travel of said carrier, adjustable means on said carrier for cooperating with and picking up a load from said central despatching station, and adjustable means on said carrier for coöperating with mechanism upon said receiving stations for discharging said load upon a predetermined department receiving station.



3. In a conveying apparatus, a framework, tracks mounted on said framework, a carrier adapted to travel on said tracks, means on said carrier for maintaining its load-supporting portion in an upright position, a cable mounted on said framework and adapted to actuate said carrier, department despatching stations located along the upward path of travel of said carrier, a central receiving station located on the downward path of travel of said carrier, adjustable means on said carrier for cooperating with and picking up a load from any one of said department-despatching stations, and means on said carrier for coöperating with mechanism upon said central receiving station for discharging said load thereon.

4. In a conveying apparatus, a framework, tracks mounted on said framework, carriers adapted to travel on said tracks, means on said carriers for maintaining its load-supporting portion in an upright position, a cable mounted on said framework and adapted to actuate said carriers, despatching stations located along the upward path of travel of said carriers, receiving stations located along the downward path of travel of said carriers, means at any one of said despatching stations for holding a load and for engaging and moving said load-holding means into coöperation with the first empty carrier, means on said carrier for picking up said load, and means on said carrier for coöperating with mechanism upon said receiving stations for discharging said load upon a predetermined receiving station.

5. In a conveying apparatus, a framework, tracks mounted on said framework, carriers adapted to travel on said tracks, means on said carriers for maintaining its load-supporting portion in an upright position, a cable mounted on said framework and adapted to actuate said carriers, despatching stations located along the upward path of travel of said carriers, receiving stations located along the downward path of travel of said carriers, means at any one of said despatching stations for holding a load and for engaging and moving said load-holding means into coöperation with the first empty carrier, means on said carrier for picking up said load, means for resetting said despatching station to normal position after said carrier has picked up the load, and means on said carrier for coöperating with mechanism upon said receiving stations for discharging said load upon a predetermined receiving station.

6. In a conveying apparatus, a framework, tracks mounted on said framework, carriers adapted to travel on said tracks, means on said carriers for maintaining the load-supporting portion in an upright position, a cable mounted on said framework and adapted to actuate said carriers, despatching stations located along the upward path of travel of said carriers, receiving stations located along the downward path of travel of said carriers, means at any one of said despatching stations for holding a load and for engaging and moving the load-holding means at said despatching station into coöperation with the first empty carrier, means on said carrier for picking up said load, adjustable means located on said carrier, selective means located at said despatching station for predetermining the receiving station which receives said load, said selective means engaging and setting said adjustable means, means for resetting the apparatus at said despatching station to normal position after said carrier has picked up the load, and means located at said predetermined receiving station for receiving said load and for engaging said adjustable means for moving said load-receiving means into coöperation with said carrier.

7. In a conveying apparatus, a framework, tracks mounted on said framework, carriers adapted to travel on said tracks, means on said carriers for maintaining the load-supporting portion in an upright position, a cable mounted on said framework and adapted to actuate said carriers, despatching stations located along the upward path of travel of said carriers, receiving stations located along the downward path of travel of said carriers, means at any one of said despatching stations for holding a load and for engaging and moving the load-holding means at said despatching station into coöperation with the first empty carrier, means located on said carrier for picking up said load, adjustable means located on said carrier, selective means located at said despatching station for predetermining the receiving station which receives said load, said selective means engaging and setting said adjustable means, means for resetting the apparatus at said despatching station to normal position after said carrier has picked up the load, means located on said carrier and operated upon by said load to enable said carrier to pass all other despatching stations without engaging same until said load has been discharged, and means located at said predetermined receiving station for receiving said load and for engaging said adjustable means for moving said load-receiving means into coöperation with said carrier.

8. In a conveying apparatus, a framework, tracks mounted on said framework, carriers adapted to travel on said tracks, means on said carriers for maintaining the load-supporting portion in an upright position, a cable mounted on said framework and adapted to actuate said carriers, despatching stations located along the upward path of travel of said carriers, receiving stations located along the downward path of travel of said carriers, means at any one of said despatching stations for holding a load and for engaging and moving the load-holding means at said despatching station into coöperation with the first empty carrier, means on said carrier for picking up said load, adjustable means located on said carrier, selective means located on said despatching station for predetermining the receiving station which receives said load, said selective means engaging and setting said adjustable means, means for resetting the apparatus at said despatching station to normal position after said carrier has picked up the load, means located on said carrier and operated upon by said load to enable said carrier to pass all other despatching stations without engaging same until said load has been discharged, means located at said predetermined receiving station for receiving said load and for engaging said adjustable means for moving said load-receiving means into coöperation with said carrier, and means for resetting said receiving station to normal position after receiving said load.

9. In a conveying apparatus, a framework, tracks mounted on said framework, carriers adapted to travel on said tracks, means for maintaining the load-supporting portion of said carriers in an upright position, a cable mounted on said framework and adapted to actuate said carriers, despatching stations located along the upward path of travel of said carriers, receiving stations located along the downward path of travel of said carriers, means at any one of said despatching stations for holding a load and for engaging and moving the load-holding means at said despatching station into coöperation with the first empty carrier, means on said carrier for picking up said load, adjustable means located on said carrier, selective means located at said despatching station for predetermining the receiving station which receives said load, said selective means engaging and setting said adjustable means, means for resetting the apparatus at said despatching station to normal position after said carrier has picked up the load, means located on said carrier and operated upon by said load to enable said carrier to pass all other despatching stations without engaging same until said load has been discharged, means located at said predetermined receiving station for receiving said load and for engaging said adjustable means for moving said load-receiving means into coöperation with said carrier, and pivoted means for resetting the apparatus at said receiving station to normal position after receiving said load.

10. In a conveying apparatus, a framework, tracks mounted on said framework, carriers adapted to travel on said tracks, means for maintaining the load-supporting portion of said carriers in an upright position, a cable mounted on said framework and adapted to actuate said carriers, despatching stations located along the upward path of travel of said carriers, receiving stations located along the downward path of travel of said carriers, means at any one of said despatching stations for holding a load and for engaging and moving the load-holding means at said despatching station into coöperation with the first empty carrier, means on said carrier for picking up said load, adjustable means located on said carrier, selective means located at said despatching station for predetermining the receiving station which receives said load, said selective means engaging and setting said adjustable means, means for resetting the apparatus at said despatching station to normal position after said carrier has picked up the load, means located on said carrier and operated upon by said load to enable said carrier to pass all other despatching stations without engaging same until said load has been discharged, means located at said predetermined receiving station for receiving said load and for engaging said adjustable means for moving said load-receiving means into coöperation with said carrier, and pivoted means for resetting the apparatus at said receiving station to normal position after receiving said load.

11. In a conveying apparatus, a framework, tracks mounted on said framework, carriers adapted to travel on said tracks, means for maintaining the load-supporting portion of said carriers in an upright position, a cable mounted on said framework and adapted to actuate said carriers, despatching stations located along the upward path of travel of said carriers, receiving stations located along the downward path of travel of said carriers, means at any one of said despatching stations for holding a load and for engaging and moving the load-holding means at said despatching station into coöperation with the first empty carrier, means on said carrier for picking up said load, adjustable means located on said carrier, selective means located on said despatching station for determining the receiving station which receives said load, said selective means engaging and setting said adjustable means, means for resetting the apparatus at said despatching station to normal position after said carrier has picked up the load, means located on said carrier and operated upon by said load to enable said carrier to pass all other despatching stations without engaging same until said load has been discharged, means located at said predetermined receiving station for receiving said load and for engaging said adjustable means for moving said load-receiving means into coöperation with said carrier, and pivoted means for resetting the apparatus at said receiving station and transferring said load therefrom.

12. In a conveying apparatus, a framework, tracks mounted on said framework, carriers adapted to travel on said tracks, means for maintaining the load-supporting portion of said carriers in an upright position, a cable mounted on said framework and adapted to actuate said carriers, despatching stations located along the upward path of travel of said carriers, receiving stations located along the downward path of travel of said carriers, means at any one of said despatching stations for holding a load and for engaging and moving the load-holding means at said despatching station into coöperation with the first empty carrier, means on said carrier for picking up said load, adjustable means located on said carrier, selective means located at said despatching station for predetermining the receiving station which receives said load, said selective means engaging and setting said adjustable means, means for resetting the apparatus at said despatching station to normal position after said carrier has picked up the load, means located on said carrier and operated upon by said load to enable said carrier to pass all other despatching stations without engaging same until said load has been discharged, means located at said predetermined receiving station for receiving said load and for engaging said adjustable means for moving said load-receiving means into coöperation with said carrier, and pivoted reducing means operated upon by said carrier for resetting the apparatus at said receiving station and for transferring said load therefrom at a relatively lower speed than the speed of travel of said carrier.

13. In a conveying apparatus, a track or way, a carrier adapted to travel on said way, despatching stations located along the path of travel of said carrier, receiving stations located along the path of travel of said carrier, adjustable means on said carrier and at said despatching stations for picking up a load from any one of said despatching stations, and means on said carrier and at said receiving stations for discharging said load into any one of said receiving stations.

14. In a conveying apparatus, a track or way, a carrier adapted to travel on said way, despatching stations located along the path of travel of said carrier, receiving stations located along the path of travel of said carrier, adjustable means on said carrier and at said despatching stations for automatically picking up a load from any one of said despatching stations, and adjustable means on said carrier and at said receiving stations for automatically discharging said load into any one of said receiving stations.

869,296. CONVEYING APPARATUS. JAMES T. COWLEY, Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J., a Corporation of New Jersey. Filed June 22, 1905. Serial No. 266,394.



1. In a conveying apparatus, a framework, tracks mounted in said framework, a carrier adapted to travel on said tracks, an endless cable mounted in said framework and adapted to actuate said carrier, means for driving said cable, a despatching station, a receiving station, means for automatically discharging the contents of said carrier into said receiving station, and means for automatically reversing said carrier upon said tracks and returning it to said despatching station after discharging said contents.

2. In a conveying apparatus, a framework, tracks mounted in said framework, a carrier adapted to travel on said tracks, an endless cable mounted in said framework and adapted to actuate said carrier, means for driving said cable, a despatching station, a series of receiving stations, means for automatically discharging the contents of said carrier into any one of said receiving stations, and means for automatically reversing said carrier upon said tracks and returning it to said despatching station after discharging said contents.

3. In a conveying apparatus, a framework, tracks

mounted in said framework, a carrier adapted to travel on said tracks, a plurality of compartments in said carrier, an endless cable mounted in said framework and adapted to actuate said carrier, means for driving said cable, a despatching station, a series of receiving stations, means for automatically discharging the contents of any one of said compartments into any one of said receiving stations, and means for automatically returning said carrier to said despatching station after discharging the contents of said compartments.

4. In a conveying apparatus, a track, a carrier adapted to travel on said track, an endless cable adapted to actuate said carrier, a despatching station, a receiving station, hand operated gripping means located on said carrier for gripping the forward moving portion of said endless cable, means for locking said hand operated gripping means in position, means for automatically discharging the contents of said carrier into said receiving station, means for automatically releasing said locking means after discharging said contents, spring actuated means for gripping the returning portion of said endless cable, and means located at said despatching station adapted to engage said spring actuated means for releasing the grip on said cable and stopping said carrier.

5. In a conveying apparatus, a track, a carrier adapted to travel on said track, an endless cable adapted to actuate said carrier, a despatching station, a series of receiving stations, a plurality of compartments in said carrier, means for predetermining the receiving station at which the contents of any one of said compartments shall be discharged, hand-operated gripping means located on said carrier for gripping the forward-moving portion of said endless cable, means for locking said hand-operated gripping means in position, means for automatically discharging the contents of said compartments into their predetermined receiving stations, means for automatically releasing said locking means after discharging the contents of the last compartment, spring-actuated means for gripping the returning portion of said endless cable, and means located at said despatching station adapted to engage said spring-actuated means for releasing the grip on said cable and stopping said carrier.

6. In a conveying apparatus, a way, a carrier adapted to travel on said way, an endless cable for actuating said carrier, means for driving said cable, gripping means located on said carrier for engaging said cable, means for unlocking said gripping means whereby said cable is released from said gripping means and for gripping the returning portion of said cable whereby the travel of the carrier is reversed upon the way.

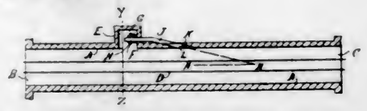
7. In a conveying apparatus, a way, a carrier adapted to travel on said way, an endless cable for actuating said carrier, means for driving said cable, gripping means located on said carrier for engaging said cable, manually-operated means for locking said gripping means, and means for automatically releasing said locking means whereby said cable is released from said gripping means and for gripping the returning portion of said cable whereby the travel of the carrier is reversed upon the way.

8. In a conveying apparatus, a framework, tracks mounted on said framework, a carrier adapted to travel on said tracks, an endless cable mounted in said framework and adapted to actuate said carrier, means for driving said cable, gripping means located on said carrier for engaging the forward-moving portion of said cable, means for locking said gripping means, and means located at the terminus of said tracks for automatically releasing the forward-moving portion of said cable and for gripping the returning portion of said cable whereby the travel of said carrier is reversed upon said tracks.

9. In a conveying apparatus, a framework, tracks mounted on said framework, a carrier adapted to travel on said tracks, an endless cable mounted in said framework and adapted to actuate said carrier, means for driving said cable, gripping means located on said carrier for engaging the forward-moving portion of said cable, means for locking said gripping means, means located at the terminus of said tracks for automatically releasing the forward moving portion of said cable and for gripping the returning portion of said cable whereby the travel of said carrier is reversed upon said tracks, and means for automatically disengaging said gripping means from the returning portion of said cable when a carrier has arrived at the opposite end of the track.

10. In a conveying apparatus, a track, a carrier adapted to travel on said track, an endless cable adapted to actuate said carrier, means for driving said cable, gripping means located on said carrier for engaging the forward-moving portion of said cable, manually-operated means for locking said gripping means, and means located at the terminus of said track for automatically releasing the forward-moving portion of said cable and for gripping the returning portion of said cable whereby said carrier is reversed upon said tracks.

869,297. VENTILATION OF TUNNELS. SAMUEL C. DAVIDSON, Belfast, Ireland. Filed Jan. 27, 1904. Serial No. 190,787.



1. A tunnel having means for moving the column of air contained therein in a direction lengthwise of the tunnel, such means comprising air-forcing means discharging into such column at a point between the ends of the tunnel, said means delivering a blast of air of a cross-section so much smaller than that of said column, that the quantity of air delivered by said blast shall be insufficient to place the sides of said column under any considerable radial pressure, said blast being directed in such manner as to move the latter in the required direction.

2. A tunnel having means for moving the column of air contained therein in a direction lengthwise of the tunnel, such means comprising a plurality of air-forcing means discharging into such column at different points in the length of the tunnel, said means delivering blasts of air of a cross-section so much smaller than that of said column, that the quantity of air delivered by said blasts shall be insufficient to place the sides of said column under any considerable radial pressure, said blasts being directed in such manner as to move the latter in the required direction.

3. A tunnel having air-forcing means adapted to draw a portion of the main column of air therefrom, and to discharge it into said column at a point between the ends of the latter in such manner as to move the column in a direction lengthwise of the tunnel.

4. A tunnel having a plurality of air-forcing means at different points in its length, each of said means adapted to draw a portion of the main column of air therefrom, and to discharge it into said column at points between the ends of the latter in such manner as to move the latter in a direction lengthwise of the tunnel.

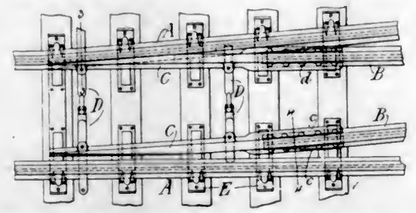
5. A tunnel having a plurality of air-forcing means at different points in its length, each of said means adapted to draw a portion of the main column of air therefrom, and to discharge it into said column at points between the ends of the latter in such manner as to move the latter in a direction lengthwise of the tunnel, one of said means being adapted to act upon said column before the effect of the preceding means is exhausted.

6. A tunnel having a plurality of centrifugal fans arranged at intervals within the tunnel, each of such fans being adapted to withdraw a portion of the main column of air and discharge it into said column at points between the ends of the latter in the direction in which the column is to be moved, said fans being so arranged so that each fan acts upon the column before the effect of the preceding fan is exhausted, whereby the entire column is maintained in movement.

7. A tunnel having means for moving the column of air contained therein in a direction lengthwise of the tunnel, such means comprising a plurality of air-forcing means discharging into such column at different points in the length of the tunnel, said means delivering blasts of air of a cross-section so much smaller than that of said column, that the quantity of air delivered by said blasts shall be insufficient to place the sides of said column under any considerable radial pressure, said blasts being directed in effect into the center of the column, and in a direction substantially parallel therewith.

8. A tunnel having a plurality of air-forcing means at different points in its length, each of said means adapted to draw a portion of the main column of air therefrom, and to discharge it into said column at points between the ends of the latter in such manner as to move the latter in a direction lengthwise of the tunnel, said blasts being in effect directed into the center of said column, and in a direction substantially parallel therewith.

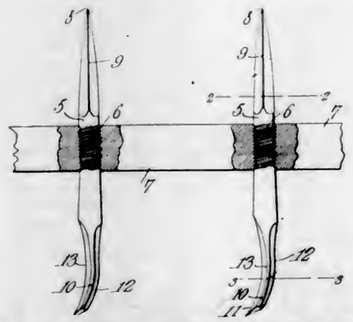
869,298. SPLIT SWITCH. GEORGE M. ERVIN, Johnstown, Pa., assignor to The Lorain Steel Company, a Corporation of Pennsylvania. Filed Apr. 22, 1905. Serial No. 256,845.



1. In a split-switch, a point rail proper which terminates back of the point of the switch, and a separate point of harder material removably secured to the said point rail, said point being of the full depth of the rail and having a head which is of the full width of the rail head for a portion of its length and is of decreasing width during the remainder of its length, said point also having bifurcated arms which embrace the point rail and fit its head and base; substantially as described.

2. In a split-switch, a removable switch point having a bifurcated portion to embrace and seat the end portion of the point-rail, one arm of the bifurcation having a base portion arranged to extend underneath the base of the point rail.

869,299. HARROW-TOOTH. LEWIS W. FAIR, Waldron, Ark. Filed Feb. 11, 1907. Serial No. 356,819.



1. A harrow tooth comprising a body portion having different working ends and provided with intermediate threads.

2. A harrow tooth comprising a body portion having tapering working ends and provided with intermediate threads.

3. A reversible harrow tooth comprising a cylindrical body portion having intermediate threads and provided with different working ends.

4. A harrow tooth comprising a body portion having one end thereof provided with a pointed terminal defining angular cutting faces and its opposite end provided with a cultivator blade, the intermediate portion of the tooth being threaded.

5. A harrow tooth comprising a body portion having one end thereof pointed and provided with angularly disposed cutting faces and its opposite end flattened and curved laterally to form a cultivator blade, the intermediate portion of the teeth being threaded.

6. A harrow tooth comprising a cylindrical body portion having one end thereof provided with a pointed terminal defining a plurality of cutting faces and its opposite end flattened and curved laterally to form a cultivator blade, the active face of the cultivator blade being inclined in opposite directions to form soil deflecting surfaces, there being threads formed on the intermediate portion of the tooth.

7. A harrow tooth comprising a body portion having one end thereof inclined or beveled to form a plurality of angularly disposed cutting faces terminating in a point and its opposite end flattened and curved to form a cultivator blade, the rear face of the blade being substantially semicircular in cross section and the active face thereof inclined in opposite directions to form soil deflecting surfaces, there being threads formed on the body portion between the pointed terminal and the cultivator blade.

8. The combination with a harrow frame, of a tooth threaded in said frame and provided with different working ends.

9. The combination with a harrow frame, of a reversible tooth threaded in said frame and having one end thereof inclined to form a plurality of angular cutting faces terminating in a point and its opposite end flattened and curved laterally to form a cultivator blade, said tooth being adjustable vertically of the frame.

869,300. ARC-LAMP ELECTRODE. RICHARD FLEMING, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Nov. 22, 1902. Serial No. 132,438.



1. An arc lamp electrode consisting of an iron tube filled with iron particles.

2. An arc lamp electrode consisting of an iron tube filled with iron in a finely divided state.

3. An arc lamp electrode consisting of an iron tube filled with iron particles having an iron tack embedded in said particles at one end of the tube.

4. An arc lamp electrode consisting of an iron tube filled with small iron particles and having a large piece of iron embedded in the particles at one end of the tube.

5. An arc lamp electrode consisting of an iron tube filled with iron particles and having a retaining metallic piece inserted in said particles at one end of the tube.

6. An arc lamp electrode consisting of an iron tube filled with particles of iron and having means provided at one end of the tube for retaining the iron particles in the tube and increasing the conductivity of the electrode at that point.

7. An arc lamp electrode consisting of an iron tube filled with particles of iron and provided with means for initially increasing the conductivity of the filled tube at its arcing end.

8. An arc lamp electrode consisting of an iron tube filled with finely divided particles of iron and provided with means at its arcing end for preventing the escape of the iron particles from the tube.

9. An arc lamp electrode consisting of a metal tube filled with iron particles.

10. An arc lamp electrode consisting of a metal tube filled with particles of the metal from which the tube is made.

11. An arc lamp electrode consisting of a metal tube filled with material in a finely divided form, and a metal retaining piece inserted in the tube at its arcing end to prevent the escape of the filling from the tube.

12. An arc lamp electrode consisting of a metal tube filled with metal in a finely divided form, and a metal retaining piece inserted in the tube at its arcing end to prevent the escape of the filling from the tube.

869,301. ARC-LAMP ELECTRODE. RICHARD FLEMING, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Mar. 26, 1903. Serial No. 149,670.



1. An electrode consisting of an iron tube filled mainly with iron oxid.

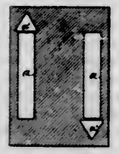
2. An electrode consisting of an iron tube filled mainly with the magnetic oxid of iron.

3. An electrode consisting of a metal tube filled mainly with an oxid of the metal.

4. An electrode consisting of an iron tube and a filling therefor composed principally of powdered oxid of iron, one end of said tube and its filling being fused together to form a conducting mass.

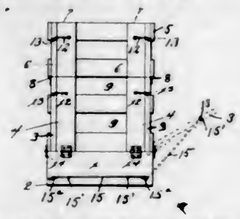
5. An electrode composed essentially of a metal and a refractory oxid of the metal, the metallic oxid being such as to give a luminous or flaming arc in consuming.

869,302. PLAYING-CARD. LOUISE HEALY, New York, N. Y. Filed Jan. 26, 1906. Serial No. 297,936.



A deck of playing cards divided into four suits distinguished by colors, the cards of the first and third suits having triangular pips and the cards of the second and fourth suits having rectangular pips, the value of the cards of each suit being differentiated by modifications in the form of the pips without altering the general form thereof.

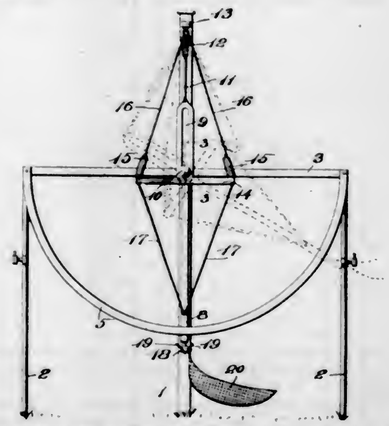
869,303. COMBINED WAGON-BOX AND STOCK AND HAY RACK. OMER K. HIBBETS, Charlton, Iowa. Filed Mar. 26, 1906. Serial No. 308,146.



1. In a device of the character described, the combination of a wagon-box, side and end-pieces hinged to said wagon-box, eye-bolts secured to the ends of each side-piece, short catches pivotally secured to the outer face of and near the edges of the hinged end-pieces contiguous to the eye-bolts when said side and end-pieces are folded together, said catches adapted to engage said eye-bolts for securing said side and end-pieces closed together, a pair of rods pivotally secured at their lower ends to the outside of each end of the box near the sides thereof and below the hinges of the end-pieces, each rod provided at its upper end with a hook, and the upper hooked ends of the rods adapted to engage the eye-bolts of the side-pieces for supporting said side-pieces in an inclined position when said catches are disengaged from said eye-bolts.

2. In a device of the character described, the combination with a box provided with hinged side and end-pieces, of eye-bolts secured directly to the ends of the side-pieces, short catches secured to the outer face of each hinged end-piece and adapted to engage said eye-bolts for securing said end and side-pieces closed together, the end-pieces adapted to fold down parallel with the ends of the box, rods pivotally secured to the outer face of the ends of the box near its corners and below the hinges of the end-pieces, whereby the rods can be folded parallel together below the end-pieces when the side and end-pieces are closed together, each rod provided with a hook upon its upper end and the hooked ends of said rods adapted to detachably engage the eye-bolts and support the side-pieces at an angle to the box when the end-pieces are folded parallel with the ends and positioned between the lower ends of the rods.

869,304. MAIL-BAG CATCHER. JAMES T. HINDMAN, Grayville, Ill. Filed Aug. 10, 1907. Serial No. 389,293.



1. A mail bag catcher, comprising an upright frame, an arm pivotally arranged on said frame, a basket carried on the lower end of said arm, and guides arranged on the frame between which guides the free end of the arm travels.

2. A mail bag catcher, comprising an upright frame, an arm pivotally arranged on said frame, a basket carried on the lower end of said arm, guides arranged on the frame between which guides the free end of the arm travels, and means whereby the upper end of the pivoted arm is yieldingly connected to the frame.

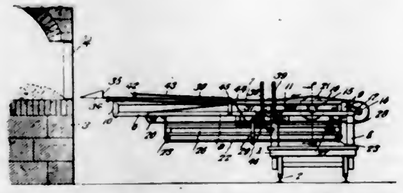
3. A mail bag catcher, comprising an upright frame, an arm pivotally arranged on said frame, a basket carried on the lower end of said arm, guides arranged on the frame between which guides the free end of the arm travels, and means arranged on the sides of the frame for engaging the lower end of the pivoted arm and hold the basket in position to receive a mail bag.

4. A mail bag catcher, comprising an upright frame, semi-circular guides arranged thereon, an arm pivotally arranged on the frame, the free end of which arm travels between the guides, and a reversible basket carried by the lower end of the arm.

5. A mail bag catcher, comprising an upright frame, semi-circular guides arranged thereon, an arm pivotally arranged on the frame, the free end of which arm travels between the guides, a reversible basket carried by the lower end of the arm, and yielding buffers arranged at the ends of the guides in the path of travel of the pivoted arm.

6. In a mail bag catcher, an upright frame, a swinging arm yieldingly mounted on said frame, means whereby the swing of said arm is limited, and a bag receiving basket carried by the lower end of said arm.

869,305. COKE-PULLING APPARATUS. FRANCIS M. HOGG, Bessemer, Ala. Filed Dec. 22, 1906. Serial No. 349,116.



1. A coke pulling apparatus comprising a supporting frame, a carriage operative thereon, a rake supported by the carriage, friction gearing for reciprocating the carriage, and means for shifting the carriage to reverse the action of the friction gearing.

2. A coke pulling apparatus comprising a supporting frame, a carriage operated thereon, a rake controlled by the carriage, friction gearing for reciprocating the carriage, and means for vertically shifting the carriage to reverse the action of the friction gearing.

3. A coke pulling apparatus comprising a supporting frame, a carriage operative thereon, a rake controlled by the carriage, upper and lower guide rails on the supporting frame, friction wheels on the carriage to engage said rails, propelling means associated with the friction wheels, and means for shifting the carriage to bring the friction wheels into engagement with either the upper or the lower rails.

4. A coke-pulling apparatus comprising a supporting frame including a guiding portion having upper and lower guide rails, a reciprocatory carriage provided with rollers to travel said rails, drive gearing for operating the rollers, a rake operated by the carriage, and means for adjusting the rollers into engagement with the upper or lower guide rails to project or retract the carriage.

5. A coke pulling apparatus comprising a supporting frame including a guiding portion having opposed rails, a reciprocatory carriage provided with wheels or rollers to travel said rails, a swinging frame for adjusting the carriage for throwing the wheels into engagement with one or the other sets of rails to project or retract the carriage, means for operating said swinging frame, means for imparting motion to said wheels or rollers, and a rake actuated by the carriage.

6. A coke pulling apparatus comprising a supporting portion including a guiding portion having upper and lower friction rails, a reciprocatory carriage provided with friction wheels to travel upon said rails, a rake actuated by the carriage, propelling means for the carriage including said friction wheels, a swinging frame for raising and lowering the carriage to throw the wheels into engagement with the upper or lower guide rails, and means for operating said swinging frame.

7. A coke pulling apparatus comprising a supporting frame, a drive chain arranged thereon, a carriage having a drive gear engaging the chain, friction gearing associated with said drive gear for reciprocating the carriage, a rake actuated by the carriage, and means for shifting the carriage to reverse the action of the friction gearing.

8. A coke pulling apparatus comprising a supporting frame including a guiding portion having upper and lower friction rails, a drive chain supported by said frame, a carriage adapted to travel on the frame, a rake actuated by the carriage, a shaft upon the carriage carrying a sprocket wheel to engage the chain and friction wheels to engage the friction rails, said carriage being vertically movable to throw the wheels into engagement with the upper or lower set of rails, and means for vertically adjusting the carriage.

9. A coke pulling apparatus comprising a supporting frame having upper and lower friction rails, a reciprocatory carriage provided with friction wheels to engage said rails, means for driving said friction wheels, a swinging frame arranged below the carriage for shifting the same vertically to bring the friction wheels into engagement with the upper or lower friction rails, and means for swinging the swinging frame.

10. A coke pulling apparatus comprising a supporting frame having upper and lower sets of friction rails, a reciprocatory carriage provided with friction wheels to engage said rails, propelling means for driving the friction wheels, a rake actuated by the carriage, a vertically swinging frame arranged below the carriage and having a guiding portion, a guiding device on the carriage arranged to travel upon said guiding portion, and means for swinging the swinging frame for raising and lowering the carriage to throw the friction wheels into engagement with the upper or lower set of friction rails.

11. A coke pulling apparatus comprising a supporting frame provided with upper and lower sets of friction rails, a reciprocatory carriage provided with friction wheels to traverse said rails, propelling means for driving the friction wheels, a rake actuated by the carriage, a swinging frame pivotally supported from the supporting frame below the carriage, said swinging frame being provided with a guiding portion or trackway, a roller supported by the carriage for traversing said trackway, and adjusting means for swinging said swinging frame to raise and lower the carriage and thereby throw the friction wheels into engagement with the upper or lower set of friction rails.

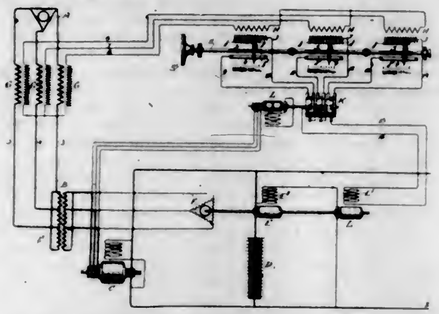
12. In a coke pulling apparatus, a supporting frame, a reciprocating carriage, a rake pivotally supported by the carriage, a vertically swinging ball upon the supporting frame arranged to engage the rake, and means for swinging said ball to raise and lower the rake.

13. In a coke pulling apparatus, a supporting frame, a carriage arranged to reciprocate thereon, a rake pivotally supported by the carriage, a bell crank lever on the supporting frame, a link connecting the rake with one arm of said lever, and adjusting means connected with the other arm of the lever, whereby lateral motion may be communicated to the rake.

869,306. ELECTRICAL SYSTEM OF DISTRIBUTION. ALBERT S. HUBBARD, Belleville, N. J., and WILLIAM A. TURBAYNE, Lancaster, N. Y., assignors to Gould Storage Battery Company, a Corporation of New York. Filed June 20, 1906. Serial No. 322,529.

1. The combination of an alternating current generator, a direct current circuit, a rectifying device between the alternating current and direct current circuits, a battery

connected to the direct current circuit, a regulating alternating current circuit and apparatus for controlling the battery current acted upon by the variations in said regulating circuit, a transformer in the regulating circuit, and means for adjusting the ratio between the primary and secondary turns of said transformer to adjust for different values of regulation.



2. The combination of an alternating current generator, a direct current circuit, a rectifying device between the alternating current and direct current circuits, a battery connected to the direct current circuit, a regulating alternating current circuit and apparatus for controlling the battery current acted upon by the variations in said regulating circuit, a transformer in the regulating circuit, means for adjusting the ratio between the primary and secondary turns of said transformer to adjust for different values of regulation, and means for indicating the value of regulation for which the transformer is adjusted.

3. The combination of an alternating current generator, a direct current circuit, a rectifying device between the alternating current and direct current circuits, a battery connected to the direct current circuit, a regulating alternating circuit and apparatus for controlling the battery current acted upon by the variations in said regulating circuit, a transformer in the regulating circuit, contacts connected to different points in one of the windings of the transformer, and mechanism adapted to connect one terminal of the circuit for said winding to any of said contacts to adjust for different values of regulation.

4. The combination of an alternating current generator, a direct current circuit, a rectifying device between the alternating current and direct current circuits, a battery connected to the direct current circuit, a regulating alternating current circuit and apparatus for controlling the battery current acted upon by the variations in said regulating circuit, a transformer in the regulating circuit, means for adjusting the ratio between the primary and secondary turns of said transformer to adjust for different values of regulation, and means for indicating the value of regulation for which the transformer is adjusted.

5. The combination of an alternating current generator, a direct current circuit, a rectifying device between the alternating current and direct current circuits, a battery connected to the direct current circuit, a regulating alternating current circuit and apparatus for controlling the battery current acted upon by the variations in said regulating circuit, a transformer in the regulating circuit, fixed contacts connected to different points in one of the windings of the transformer, a pair of contacts connected electrically through a resistance, means for moving said pair of contacts over said fixed contacts, and a connection between said pair of contacts and a terminal of the circuit connected to the transformer.

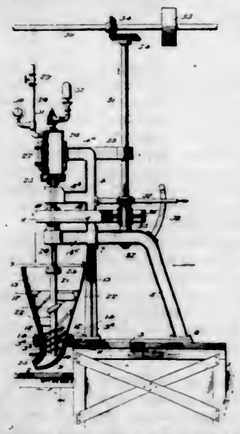
6. The combination of an alternating current generator, a direct current circuit, a rectifying device between the alternating current and direct current circuits, a battery connected to the direct current circuit, a regulating alternating current circuit and apparatus for controlling the battery current acted upon by the variations in said regulating circuit, a transformer in the regulating circuit, fixed contacts connected to different points in one of the windings of the transformer, a pair of contacts connected electrically through a resistance, means for moving said pair of contacts over said fixed contacts, a connection between said pair of contacts and a terminal of the circuit connected to the transformer, and means for indicating the value of regulation corresponding to various positions of the said pair of contacts.

7. A polyphase alternating current generator, a rectifying device connected thereto, a battery connected to the direct current end of the rectifying device, a polyphase regulating circuit and apparatus therein for controlling the battery current, transformers in different branches of said regulating circuit, and means for simultaneously varying the ratio of transformation in each of said transformers to adjust for different values of regulation.

8. A polyphase alternating current generator, a rectifying device connected thereto, a battery connected to the direct current end of the rectifying device, a polyphase regulating circuit and apparatus therein for controlling the battery current, transformers in different branches of said regulating circuit, a series of fixed contacts connected to different points in one of the windings of each of said transformers, and movable contacts each connected to one terminal of the circuit of one of said windings and engaging the series of fixed contacts, and a mechanical connection between said movable contacts.

9. A polyphase alternating current generator, a rectifying device connected thereto, a battery connected to the direct current end of the rectifying device, a polyphase regulating circuit and apparatus therein for controlling the battery current, transformers in different branches of said regulating circuit, a series of fixed contacts connected to different points in one of the windings of each of said transformers, and movable contacts each connected to one terminal of the circuit of one of said windings and engaging the series of fixed contacts, a mechanical connection between said movable contacts, and means for indicating the value of regulation corresponding to different positions of said movable contacts.

869,307. MACHINE FOR FORMING A CARTRIDGE FROM EXPLOSIVE GELATIN. GEORGE P. JONES, Emporium, Pa. Filed Feb. 9, 1907. Serial No. 356,614.



1. In a machine for forming a cartridge from explosive gelatin, the combination with a shell or case having a delivery mouth from which the gelatin is adapted to issue, of means within the shell or case for forcing the gelatin through said mouth, and air cushion means adapted to yieldingly resist backward movement of the gelatin forcing means.

2. In a machine for forming a cartridge from explosive gelatin, the combination with a shell or case having a delivery mouth from which the gelatin is adapted to issue, of rotary means within the shell or case for forcing the gelatin through said mouth, and compressed-air-operated means adapted to yieldingly resist backward movement of the rotary gelatin forcing means.

3. In a machine for forming a cartridge from explosive gelatin, the combination with a shell or case having a delivery mouth from which the gelatin is adapted to issue, of rotary means within the shell or case for forcing the gelatin through said mouth, and a plunger and cylinder adapted to yieldingly resist backward movement of the rotary gelatin forcing means.

4. In a machine for forming a cartridge from explosive gelatin, the combination with a shell or case having a delivery mouth from which the gelatin is adapted to issue, of rotary means within the shell or case for forcing the gelatin through said mouth, a plunger and cylinder, and means for introducing compressed air to the cylinder adapted to yieldingly resist backward movement of the rotary gelatin forcing means.

5. In a machine for forming a cartridge from explosive gelatin, the combination with a shell or case having a delivery mouth from which the gelatin is adapted to issue, of rotary means within the shell or case for forcing the gelatin through said mouth, air cushion means adapted to yieldingly resist backward movement of the rotary gelatin forcing means, and a safety-valve for said air cushion means.

6. In a machine for forming a cartridge from explosive gelatin, the combination with a shell or case having a delivery mouth from which the gelatin is adapted to issue, of rotary means within the shell or case for forcing the gelatin through said mouth, air cushion means adapted to yieldingly resist backward movement of the rotary gelatin forcing means, and a safety-valve and signal controlled thereby for said air cushion means.

7. In a machine for forming a cartridge from explosive gelatin, the combination with a shell or case having a delivery mouth from which the gelatin is adapted to issue, of rotary means within the shell or case for forcing the gelatin through said mouth, compressed-air-operated means adapted to yieldingly resist backward movement of the rotary gelatin forcing means, and a safety-valve for relieving the air pressure from said compressed-air-operated means.

8. In a machine for forming a cartridge from explosive gelatin, the combination with an upright shell or case having an exit mouth for the delivery of the gelatin therethrough, of an upright shaft carrying gelatin forcing means located in the shell or case, and an air cushion adapted to yieldingly resist upward movement of said shaft and gelatin forcing means.

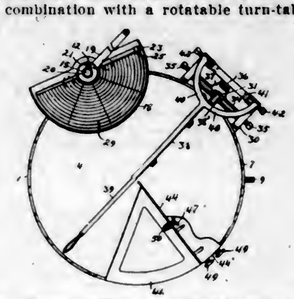
9. In a machine for forming a cartridge from explosive gelatin, the combination with an upright shell or case having an exit mouth for the delivery of the gelatin therethrough, of an upright shaft carrying gelatin forcing means located in the shell or case, and compressed air means for yieldingly resisting upward movement of the shaft and rotary gelatin forcing means.

10. In a machine for forming a cartridge from explosive gelatin, the combination with an upright shell or case having an exit mouth for the delivery of the gelatin therethrough, of an upright shaft carrying gelatin forcing means located in the shell or case, compressed air means for yieldingly resisting upward movement of the shaft and rotary gelatin forcing means comprising a plunger and cylinder, and automatic means for relieving the compressed air pressure when necessary.

11. In a machine for forming a cartridge from explosive gelatin, the combination with ways, and a hopper superposed thereon, of a hollow case slidably seated on the ways under the hopper and adapted for slidable removal, and gelatin forcing means located within the hollow removable case.

869,308. CHEESE-CUTTER. WILLIAM F. KESSLER, Auburn, Ind. Filed Oct. 31, 1904. Serial No. 230,648.

1. In a cheese cutter a knife having two cutting edges at right angles and a radially movable fulcrum adapted to afford to the said knife a radial draw-cut, and provided with a fixed upright coöperative guide adapted to control the radial movement of the said fulcrum and of the said knife, in combination with a rotatable turn-table.



2. In a cheese cutter, an upright bracket pivotally fulcrumed at its lower end; a knife pivotally fulcrumed in the upper end of the said bracket, and having inner and lower cutting edges in right angular relation to each other; and means for guiding the movements of the knife in effecting a radial draw-cut.

3. A cheese cutting blade; a radially movable fulcrum for the said blade; and a fixed vertical guide adapted to so control the said blade in its descent as to secure a radial draw-cut, in combination with a rotatable turn-table; and means for rotating the said turn-table.

4. A cheese supporting turn-table rotatably mounted upon a supporting base; means for rotating the turn-table; and means for throwing said table rotating means out of action by a vertical adjustment of the turn-table.

5. A rotatable cheese supporting turn-table in coöperative relation with the cheese cutting knife; means for actuating the said table when in its normal position; means for throwing said table actuating means out of action by a vertical adjustment of the table for the purpose of centering the surmounted cheese by gravity; a radially movable fulcrum for the said knife; a knife pivoted on said fulcrum and having a draw-cut; and a guide for the said knife adapted to control the movement of the said fulcrum.

6. In a cheese cutting apparatus, a rotatable and vertically adjustable table normally at its lowest limit; means for rotatably actuating the table when in its normal position; means for elevating the said table temporarily for the purpose of centering the said surmounted cheese by gravity; a horizontal graduated scale-plate arranged above the cheese; indicating mechanism in coöperation therewith; and means for operatively connecting the indicating mechanism with the turn-table actuating means.

7. In a cheese cutter a rotatable cheese supporting table adapted for a limited vertical adjustment to throw it out of gear with its actuating means, for the purpose of centering the surmounted cheese by gravity; a knife pivoted upon a radially movable fulcrum means for rotatably actuating the table; a fixed upright guide for the said knife; and a holding plate detachably mounted on the said table in vertical relation, and provided with means for firmly engaging the cheese body as described.

8. In a cheese cutting apparatus, a cheese supporting table rotatably mounted upon a fixed support; means for actuating the said table; means for balancing the said table at its center upon a pivotal support free from the actuating means for the purpose of centering the surmounted cheese; a graduated scale plate; indicating mechanism in coöperative relation with the scale-plate; means for imparting to the table actuating means and the indicating mechanism a simultaneous and coöperative movement; and a radially movable knife plate adapted to sever the cheese body by a draw-cut.

9. In a cheese cutting apparatus, a cheese carrying turn-table rotatably mounted upon a supporting base normally in gear with the actuating means; actuating means for the said turn-table; and means for throwing

the turn-table out of gear by a vertical adjustment thereof for the purpose of balancing the cheese thereon to make its gravity center coincide with the axial center of the turn-table.

10. In a cheese cutting apparatus, a cheese carrying turn-table rotatably mounted upon a supporting base, and normally in gear with its actuating means, and adapted to be thrown out of action by a vertical adjustment when it is desired to so center the cheese thereon as to make its gravity center coincide with the axial center of the turn-table; and actuating means for the said turn-table.

11. In a cheese cutter, a knife adapted to be operated to and from a horizontally rotatable turn-table; a rotatable turn-table in coöperative relation with the said knife; a radially movable fulcrum for the said knife; and a coöperative guide adapted to control a radial movement of the said fulcrum and of the said knife.

12. In a cheese cutter, a supporting base; a horizontally rotatable table mounted upon said base; a radially guided cutting knife; a radially movable fulcrum for the said knife; and means for controlling the movements of said knife and said fulcrum, for the purpose described.

13. A cheese cutter having a radially movable fulcrum and knife, in coöperative relation with the horizontally rotating turn-table, and means for controlling the movement of said fulcrum and knife for the purpose of imparting to said knife a draw-cut.

14. In a cheese cutter a knife operating to and from a turn-table; a turn-table rotatably mounted upon a base in combination with a measuring device comprising an index arm having a frictional turning engagement on a shaft; an upright rotatable shaft in gear with the said turn-table, and carrying the said arm; a plurality of scales to indicate any desired size or value of segment of the cheese; and an indicating finger slidably mounted upon said arm in coöperative relation with the said scales to indicate the size of the desired segment to be cut from the surmounted cheese.

15. In a cheese cutting apparatus, a pivotally mounted cheese carrying-turn-table; means for rotating the turn-table; means for so balancing the turn-table that a cheese can be centered thereon by gravity, whereby the gravity center of the cheese will coincide with the axial center of the turn-table.

16. A cheese cutting apparatus comprising a supporting base; a cheese carrying turn-table pivotally mounted on the base; means for rotating the turn-table; means for so balancing the turn-table that a cheese can be centered thereon by gravity, whereby the gravity center of the cheese will coincide with the axial center of the turn-table.

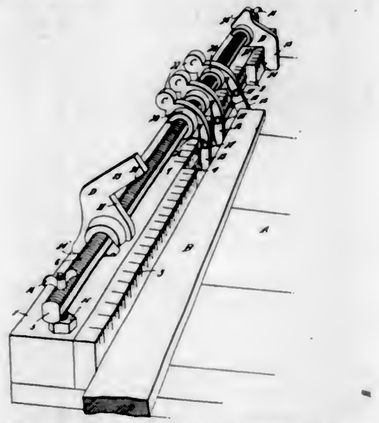
17. In a cheese cutting apparatus means for centering the cheese, consisting of a cheese carrying turn-table rotatably mounted upon a supporting base; means for actuating the turn-table; and means for pivotally supporting the turn-table to permit the centering of the cheese thereon by gravity to make its gravity center coincide with the axial center of the turn-table.

18. In a cheese cutting apparatus means for centering the cheese consisting of a cheese carrying turn-table rotatably mounted upon a supporting base; means for actuating the turn-table; and means for disengaging the turn-table from its actuating means and pivotally supporting it at its center to permit the centering of the surmounted cheese by gravity for the purpose specified.

869,309. AUTOMATIC STOP-GAGE ATTACHMENT. WILSON A. KRAMER, Bloomsburg, Pa. Filed June 14, 1906. Serial No. 321,730.

1. A gage comprising a support, a bar mounted thereon, said bar having a long and short diameter with transverse threads upon its surface at the ends of the long diameter, an arm having a threaded opening, the throat of which is less in width than the long diameter of the bar and greater in width than the short diameter of the bar.

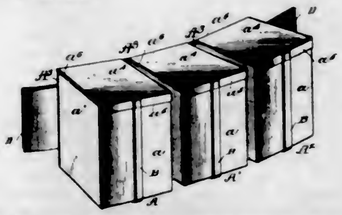
2. A gage comprising a support, a bar mounted upon said support and having a long and short diameter, an arm having an opening for the reception of said bar, the throat of said opening being of greater width than the short diameter of the bar and of less width than the long diameter of the bar and a spring attached to said arm and bearing against said support.



3. In a gage, a carrier bar having an interrupted thread and a gage member on the bar, said gage member having a threaded opening and a throat extending laterally from said opening and interrupting the thread thereof.

4. In a gage, a carrier bar having an interrupted thread and a gage member on the carrier bar, said gage member having a threaded perforation and a laterally disposed throat which interrupts the thread of said perforation, a support for the bar and a spring attached to the gage member and bearing against said support.

869,310. MULTIPLE CARTRIDGE-BOX. HENRY R. LEMLY, Washington, D. C. Filed May 31, 1906. Serial No. 319,568.



1. A multiple cartridge box comprising a flexible back and a series of small boxes connected to said flexible back, with means for movably attaching said back to the belt of the wearer, substantially as described.

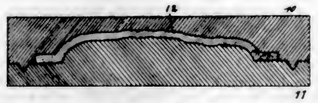
2. A multiple cartridge box, comprising a flexible back, a series of leather boxes permanently secured to said back and provided with flexible tops, with means for fastening said tops down on the respective boxes, and means for movably and detachably connecting the flexible back to the belt of the wearer, substantially as described.

3. A multiple cartridge box, comprising a leather back, a series of leather boxes permanently secured to said back, a leather top for each box, and provided with a front flap and downwardly crimped edges, with means for detachably fastening said tops down on their respective boxes, and means for movably and detachably connecting the leather back to the belt of the wearer, substantially as described.

4. A multiple cartridge box comprising a flexible back, a series of leather boxes permanently secured to said back and provided with flexible tops, removable boxes containing cartridges adapted to fit into said leather boxes, with means for fastening the tops of the leather boxes down on the same, and means for movably and detachably connecting the flexible back to the belt of the wearer, substantially as described.

5. A multiple cartridge box comprising a flexible back, a series of leather boxes permanently secured to said back and provided with flexible tops, removable pasteboard boxes containing clips of cartridges adapted to fit into said leather boxes, with means for fastening the tops of the leather boxes down on the same, and means for movably and detachably connecting the flexible back to the belt of the wearer, substantially as described.

869,311. PROCESS OF PRODUCING GELATIN FORMS OR MOLDS. AUGUST LEUCHTER, Brooklyn, N. Y. Filed Feb. 23, 1905. Serial No. 246,900.



1. The process of producing gelatin or like forms or molds on a reduced scale from an original model, which consists in incorporating a large proportion of liquid in the gelatin or like solution and therewith making the form or mold from the model, then subjecting the form or mold thus produced to the action of a silicate or waterglass bath for effecting a contraction of the same, and then hardening the thus reduced form or mold; substantialy as set forth.

2. The process of producing gelatin or like forms or molds on a reduced scale from an original model, which consists in incorporating a large proportion of liquid in the gelatin or like solution and therewith making the form or mold from the model, and then subjecting the form or mold thus produced to the action of an alkaline bath adapted to effect a contraction of the same; substantially as set forth.

3. The process of producing gelatin or like forms or molds on a reduced scale from an original model, which consists in incorporating a large proportion of liquid in the gelatin or like solution and therewith making the form or mold from the model, then subjecting the form or mold thus produced to the action of an alkaline bath for effecting a contraction of the same, and then hardening the thus reduced form or mold; substantially as set forth.

4. The process of producing gelatin or like forms or molds on a reduced scale from an original model, which consists in incorporating a large proportion of liquid in the gelatin or like solution and therewith making the form or mold from the model, then subjecting the form or mold thus produced to the action of a silicate or waterglass bath for effecting a contraction of the same, and then hardening the thus reduced form or mold by the application of formaldehyde thereto; substantially as set forth.

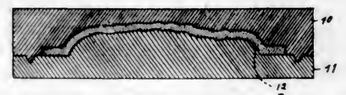
5. The process of producing gelatin or like forms or molds on a reduced scale from an original model, which consists in incorporating a large proportion of liquid in the gelatin or like solution and therewith making the form or mold from the model, then subjecting the form or mold thus produced to the action of an alkaline bath for effecting a contraction of the same, and then hardening the thus reduced form or mold by the application of formaldehyde thereto; substantially as set forth.

6. The process of producing gelatin or like forms or molds on a reduced scale from an original model, which consists in incorporating a large proportion of liquid in the gelatin or like solution and therewith making the form or mold from the model, and then subjecting the form or mold thus produced to the action of a silicate or waterglass bath for effecting a proportionate contraction of the same; substantially as set forth.

7. The process of producing gelatin or like forms or molds from a model, which consists in making the form or mold with a gelatin solution from the model, subjecting the form or mold thus produced to a silicate or waterglass bath, and then hardening the same; substantially as set forth.

8. The process of producing gelatin or like forms or molds from a model, which consists in making the form or mold with a gelatin solution from the model, subjecting the form or mold thus produced to a silicate or waterglass bath, and then hardening the same by the application of formaldehyde thereto; substantially as set forth.

869,312. PROCESS OF PRODUCING GELATIN FORMS OR MOLDS. AUGUST LEUCHTER, Brooklyn, N. Y. Filed Feb. 23, 1905. Serial No. 246,901.



1. The process of producing a gelatin form or mold from a model or pattern and proportionately enlarging the same, which consists in making the form or mold from a gelatin solution containing acetic acid, and then subjecting the same to a liquid bath adapted to enlarge said form or mold; substantially as set forth.

2. The process of producing a gelatin form or mold from a model or pattern and proportionately enlarging the same, which consists in making the form or mold from a gelatin solution containing acetic acid, then subjecting the same to a liquid bath adapted to enlarge said form or mold, and finally hardening the same; substantially as set forth.

3. The process of producing a gelatin form or mold from a model or pattern and proportionately enlarging the same, which consists in making the form or mold from a gelatin solution containing acetic acid, then subjecting the same to a liquid bath adapted to enlarge said form or mold, and finally hardening the same with an alum solution containing acetic acid; substantially as set forth.

4. The process of producing a gelatin form or mold from a model or pattern and proportionately enlarging the same, which consists in making the form or mold from a solution containing gelatin, gum tragacanth and acetic acid, and then subjecting the same to a liquid bath adapted to enlarge said form or mold; substantially as set forth.

5. The process of producing a gelatin form or mold from a model or pattern and proportionately enlarging the same, which consists in making the form or mold from a solution containing gelatin, gum tragacanth and acetic acid, then subjecting the same to a liquid bath adapted to enlarge said form or mold, and finally hardening the same; substantially as set forth.

6. The process of producing a gelatin form or mold from a model or pattern and proportionately enlarging the same, which consists in making the form or mold from a solution containing gelatin, gum tragacanth and acetic acid, then subjecting the same to a liquid bath adapted to enlarge said form or mold, and finally hardening the same with an alum solution containing acetic acid; substantially as set forth.

7. The process of producing a gelatin form or mold from a model or pattern, which consists in making the form or mold from a gelatin solution, and finally hardening the same with a solution of alum containing acetic acid, whereby a uniform hardening without distorting the form is secured; substantially as set forth.

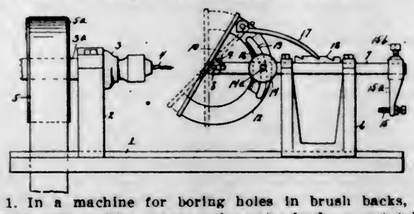
8. The process of producing a gelatin form or mold from a model or pattern, which consists in making the form or mold from a solution containing gelatin and gum tragacanth, whereby the capacity of the form or mold for enlargement in a water bath is increased; substantially as set forth.

9. The process of producing a gelatin form or mold from a model or pattern and proportionately enlarging the same, which consists in making the form or mold from a gelatin solution in which is incorporated a limited quantity of an acid which is a solvent of gelatin, then subjecting the form or mold to a water bath, and finally hardening the same; substantially as set forth.

10. The process of producing a gelatin form or mold from a model or pattern and proportionately enlarging the same, which consists in making the form or mold from a gelatin solution in which is incorporated a limited quantity of an acid which is a solvent of gelatin, then subjecting the form or mold to a water bath, and finally hardening the same with a hardening solution containing a solvent of gelatin to counteract any contracting effect of the solution, whereby a uniform hardening without distortion is secured; substantially as set forth.

11. The process of producing a gelatin form or mold from a model or pattern and proportionately enlarging the same, which consists in making the form or mold from a gelatin solution in which is incorporated a limited quantity of an acid which is a solvent of gelatin, then subjecting the form or mold to a water bath, and finally hardening the same with an alum solution containing acetic acid; substantially as set forth.

869,313. SUPPORTING-TABLE FOR BORING HOLES IN BRUSH-BACKS. WILLIAM G. LIEBIG, Detroit, Mich. Filed Aug. 3, 1906. Serial No. 328,978.



1. In a machine for boring holes in brush backs, in combination with a supporting standard, a rotatable auger horizontally journaled thereupon, a longitudinally slidable shaft and a support therefor, its direction of possible travel being parallel with the longitudinal axis of said auger, and its forward end being forked horizontally, a table provided with an integral supporting arc fixed to its under surface, said table being slidably pivoted to the forked end of said shaft and said arc having therein an eccentric slot, a regulating pin passing through said slot and said shaft by whose engagement against the sides of the slot, as the table and arc are turned about said slidable pivot as a center, the distance of the center of the supporting surface of the table from the end of the shaft is kept unchanged, and a stop governing the travel of said shaft and thereby of the pivot of said table for different depths of hole to be bored substantially as described.

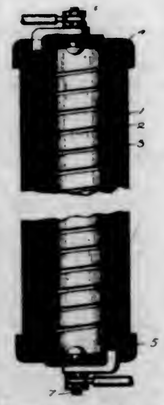
2. In combination with a rotatable auger, said auger being otherwise fixed in position, a fixed horizontal guideway toward which said auger points, a shaft horizontally and slidably journaled therein, the end of said shaft nearest the auger being forked an abutment stop carried by that end of the shaft farthest from said auger, whereby the movement of the shaft may be limited, a table slidably pivoted in the forked end of the shaft, a semicircular arc piece extending from end to end of the non-engaging face of the table, said arc piece having an eccentric slot therein, and a controlling pin engaging through said slot and said shaft, whereby in combination with said slidable pivoting of the table the distance of its engaging face portion is maintained unchanged with respect to said shaft throughout the variety of positions at which it may be set, and a stop whereby the travel of said shaft and thereby of the pivot portion is regulated for various depths of holes to be bored substantially as described.

3. In combination with a longitudinally slidable supporting shaft, one end of which is slit horizontally, a brush back supporting table comprising a flat portion slidably pivoted to said slitted end of the shaft, a semicircular arc fixed to the under side of said flat portion, said arc having in it an eccentric guide slot, a holding pin passing through the shaft and said slot, whereby the distance of the flat portion from the body of the shaft is kept constant during its adjustment to various positions, and whereby it may be locked in place, and a regulating bracket adapted to control the travel of the shaft and thereby of the pivoted table for various depths of holes to be bored substantially as described.

4. The combination of a horizontally slidable shaft having one of its ends slit horizontally, a supporting plate provided with projections on its under face through which it is slidably pivoted to said slitted end, means whereby the travel of said shaft and thereby of the pivoted plate is controlled for various depths of hole to be bored a semicircular arc fixed to the ends of said supporting plate, said arc having an eccentric guide slot therein, and a locking pin whereby the arc and plate may be held in position, said pin being also adapted to cooperate by engagement through the slot, with the slidable pivoting of the plate in maintaining its engaging surface at a fixed distance from the body portion of the shaft at any position of angularity with respect to the shaft to which it may be adjusted, substantially as described.

5. In combination with a forked end of a shaft, a supporting table having an integral arc piece extending from end to end of its under surface, there being an eccentric slot extending through a portion of said arc, and a plurality of projecting tongues at the center of said surface, between which tongues the parts of said forked end engage, a pivot pin engaging through said tongues and between said forked portions whereby the table is slidably pivoted to the shaft, a regulating pin extending through said shaft and engaging through said eccentric slot, whereby the center of the engaging surface of the table as it is moved about said shaft is kept at the same distance from said end by its compensatory forward projection due to the eccentricity of said slot, said projection counteracting the tendency to a decrease of said distance as the angularity of said surface with respect to the shaft is changed from the perpendicular, and a stop governing the travel of said shaft and thereby of the pivot of said table for different depths of hole to be bored substantially as described.

869,314. RESISTANCE UNIT. CAMPBELL MACMILLAN, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Dec. 1, 1905. Serial No. 289,031.



1. A resistance unit comprising a material having a negative temperature coefficient, and a resistance conductor embedded therein.

2. A resistance unit comprising a self-reducing resistance material, and a helical resistance conductor, the turns of said conductor being in electrical contact with said material.

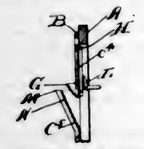
3. A resistance unit comprising a material having a negative temperature coefficient, and a resistance conductor having a positive temperature coefficient embedded therein.

4. A resistance unit comprising a stick of material having a negative temperature coefficient and a helical resistance conductor, the successive turns of which are in electrical contact with said stick.

5. A resistance unit comprising a molded stick of self-reducing resistance material having an electrical resistance conductor embedded therein.

6. A resistance unit comprising a molded stick of material having a negative temperature coefficient and a helical resistance conductor, the successive turns of which are supported by said stick and in electrical contact therewith.

869,315. SCREEN. JAMES L. MALLORY, Evanston, Ill. Filed Sept. 11, 1905. Serial No. 277,929.

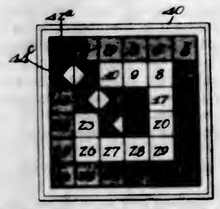


1. The combination of a frame, two screen members mounted thereon and overlapping each other so as to provide a passage therebetween, one of said overlapping parts being movable, and a lever pivoted to said frame and secured to said movable overlapping part whereby the said passage may be opened and closed at will.

2. The combination with a frame of two screen members the main parts of which are mounted in said frame and in substantially the same plane, said screen members being arranged with overlapping edges whereby a passage is provided therebetween, one of said edges being movable and a pivoted member to which said movable edge is secured so that said passage may be opened or closed at will.

3. The combination with a frame, of a fixed screen section, a movable section in the same plane with the fixed section when in its closing position, and means for moving the movable section out of alinement with the fixed section so as to leave a space between the same.

869,316. GAME APPARATUS. MAXIMILIEN MARIS, Chicago, Ill. Filed Sept. 18, 1906. Serial No. 335,066.



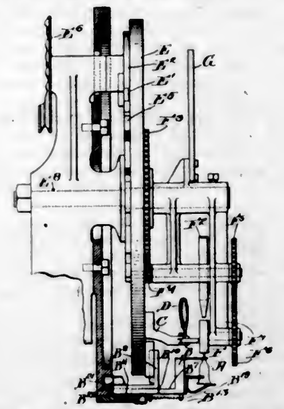
1. In a game apparatus the combination of a game-board having its surface divided into a plurality of squares, said squares divided into a series of continuous fields, and a series of game pieces or cards each having on one face a plurality of side edges or spaces with colors, characters or figures matchable one with another at two or more of the sides or spaces so marked.

2. In a game apparatus, the combination of a game-board having its surface divided into a plurality of equal squares, said squares arranged in a series of continuous fields, means for designating the squares in each field, and a series of polygonal game pieces each having their faces marked near their side edges with colors, characters or figures matchable one with another at two or more of the sides so marked.

3. In a game apparatus the combination of a game-board having its surface divided into a plurality of equal squares, said squares arranged in a series of continuous fields, each of said fields being designated by different colors, and a series of game pieces having their horizontal faces corresponding in size and shape to said squares and marked near the side edges of one of their faces with colors matchable one with another at two or more of the sides so marked.

4. In a game apparatus the combination of a game-board having its surface divided into a plurality of equal squares, said squares arranged in a series of continuous fields, each of said fields being designated by different colors, and a series of game pieces having their horizontal faces corresponding in size and shape to said squares and the upper face divided into triangular fields by their diagonals, said triangular fields being marked near their side edges with colors matchable one with another at two or more of the sides so marked.

869,317. APPARATUS FOR CEMENTING THE FILAMENTS OF ELECTRIC LAMPS TO THE STEM-WIRES. NORMAN MARSHALL, Newton, Mass. Filed Jan. 27, 1906. Serial No. 298,193.



1. An apparatus for cementing the filaments of electric lamps to the stem wires, comprising a stem holding device, a filament holding device, and means operating to cause a relative movement between the devices which brings a wire and filament end into juxtaposition.

2. An apparatus for cementing the filaments of electric lamps to the stem wires comprising a stem holding device, a filament holding device, means for applying cement to the part carried by one of the holding devices, and means for causing a relative movement between the holding devices to bring a stem wire and filament end together.

3. An apparatus for cementing the filaments of electric lamps to the stem wires, comprising a stem holding device, a filament holding device, means for applying cement, and means for moving the stem holding device into position for applying cement to a stem wire and into position to bring the stem wire and a filament end together.

4. An apparatus for cementing the filaments of electric lamps to the stem wires comprising a stem holding device, means for applying cement to a stem wire, and means whereby the filament end and stem wire may be brought together.

5. An apparatus for cementing the filaments of electric lamps to the stem wires comprising a stem holding device, means for applying cement to a stem wire, a filament holding device and means for causing a relative movement of the holding devices to bring the wire and filament end together.

6. An apparatus for cementing the filaments of electric lamps to the stem wires comprising devices for positioning a stem with the stem wires in definite relation, devices for positioning a filament with the ends in a corresponding definite relation, and means for supporting said devices for relative movement.

7. An apparatus for cementing the filaments of electric lamps to the stem wires comprising, a series of stem holding devices, a series of filament holding devices, means for advancing each series of holding devices and means for causing a relative movement between corresponding holding devices in the two series to bring the filament ends and stem wires together.

8. An apparatus for cementing the filaments of electric lamps to the stem wires comprising a series of stem holding devices, a series of filament holding devices, means for applying cement, means for bringing the holding devices of one series successively to the cement applying device, and means for causing a relative movement between corresponding holding devices in the two series to bring a filament end and stem wire together.

9. An apparatus for cementing the filaments of electric lamps to the stem wires comprising a series of stem holding devices, a series of filament holding devices, means for applying cement, means for bringing the stem holding devices in succession to the cement device, and then into position to bring the stem wires and filament ends of corresponding holding devices in the two series together.

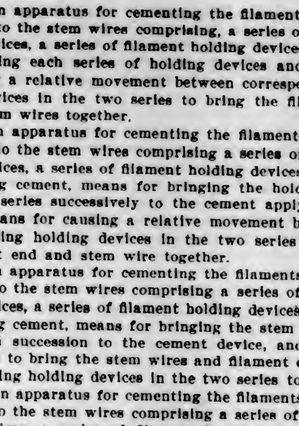
10. An apparatus for cementing the filaments of electric lamps to the stem wires comprising a series of stem holding devices, a series of filament holding devices, means operating to bring holding devices of each series successively into position with the filament ends and stem wires in juxtaposition.

11. An apparatus for cementing the filaments of electric lamps to the stem wires comprising devices for holding the stems and determining the positions of the stem wires, devices for correspondingly positioning the filament ends, and means for supporting said devices for relative movement.

12. An apparatus for cementing the filaments of electric lamps to the stem wires comprising devices for holding the stems and determining the positions of the stem wires, devices for holding the filaments with the filament ends correspondingly positioned, and means for supporting said devices for relative movement.

13. An apparatus for cementing the filaments of electric lamps to the stem wires, comprising devices for positioning the stem wires, devices for engaging and positioning the filament ends, and means operating to cause a relative movement of said supporting devices to bring the stem wires and filament ends into juxtaposition.

869,318. APPARATUS FOR CEMENTING THE FILAMENTS OF ELECTRIC LAMPS TO THE STEM-WIRES. NORMAN MARSHALL, Newton, Mass. Filed Feb. 8, 1906. Serial No. 300,055.



1. An apparatus for cementing the filaments of electric lamps to the stem wires comprising devices for holding a stem, devices for holding a filament with a filament end in juxtaposition with a stem wire and cement applying means.

2. An apparatus for cementing the filaments of electric lamps to the stem wires comprising coöperating devices for positioning a stem wire and filament end in juxtaposition, a cement applying device, and means for causing a relative movement between the cement applying device and positioning devices to apply the cement.

3. An apparatus for cementing the filaments of electric lamps to the stem wires comprising coöperating devices for positioning and holding a stem wire and filament end in juxtaposition, a cement applying device, and means for causing a relative movement between the cement applying device and positioning and holding devices to apply the cement.

4. An apparatus for cementing the filaments of electric lamps to the stem wires comprising devices for holding a stem with a stem wire in definite position, means for holding a filament with one of the filament ends in juxtaposition to the stem wire, and means for applying cement to the wire and filament end.

5. An apparatus for cementing the filaments of electric lamps to the stem wires comprising devices for holding a stem and determining the position of one of the stem wires, devices for determining the position of one of the filament ends, and means for applying cement to the wire and filament end.

6. An apparatus for cementing the filaments of electric lamps to the stem wires comprising devices for holding the stems and determining the positions of the stem wires, devices for holding the filaments and determining the positions of the filament ends, and cement applying means.

7. An apparatus for cementing the filaments of electric lamps to the stem wires comprising devices for guiding a stem wire into definite position and holding it therein, devices for guiding a filament end into a corresponding definite position and holding it therein, and cement applying means.

8. An apparatus for cementing the filaments of electric lamps to the stem wires comprising coöperating devices for positioning the stem wires and filament ends in juxtaposition and means for adjusting said devices for differently spaced stem wires.

9. An apparatus for cementing the filaments of electric lamps to the stem wires comprising coöperating devices for positioning and holding the stem wires and filament ends in juxtaposition, and means for adjusting said devices for differently spaced stem wires.

10. An apparatus for cementing the filaments of electric lamps to the stem wires comprising adjustable devices for engaging and positioning the stem wires, and adjustable devices for engaging and positioning the filament ends whereby differently spaced stem wires and the filament ends may be brought into juxtaposition.

11. An apparatus for cementing the filaments of electric lamps to the stem wires comprising a positioning device provided with relatively adjustable recesses for engaging and positioning the stem wires, and a positioning device provided with corresponding adjustable recesses for engaging and positioning the filament ends in juxtaposition with the wires.

12. An apparatus for cementing the filaments of electric lamps to the stem wires comprising a series of devices for positioning and holding the stem wires and filament ends in juxtaposition, means for moving the series of devices along the same path, and a cement applying means to which said devices are brought in succession.

13. An apparatus for cementing the filaments of electric lamps to the stem wires comprising a series of devices for positioning and holding the stem wires and filament ends in juxtaposition, a cement applying means, a drying device and means for bringing the holding devices successively to the cement applying means and to the drying device.

14. An apparatus for cementing the filaments of electric lamps to the stem wires comprising devices for carrying the stem wires and filaments, a cement applying means, means for bringing the carrying devices to the cement applying means, and means for operating the cement applying means to apply cement to the stem wires and filament ends.

15. An apparatus for cementing the filaments of electric lamps to the stem wires comprising devices for carrying the stem wires and filaments, a cement applying means, a drying device, and means for bringing the carrying devices to the cement applying means and then to the drying device.

16. An apparatus for cementing the filaments of electric lamps to the stem wires comprising a carrier, a series of carrying devices for the stems and filaments mounted thereon, a cement applying means, and mechanism for advancing the carrier to bring the carrying devices successively to the cement applying means.

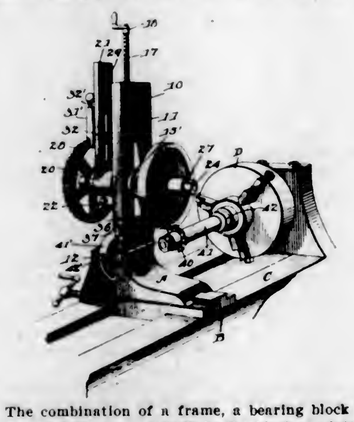
17. An apparatus for cementing the filaments of electric lamps to the stem wires comprising a carrier, a series of carrying devices for the stems and filaments mounted thereon, a cement applying means, a drying device, and mechanism for advancing the carrier to bring the carrying devices successively to the cement applying means and to the drying device.

18. An apparatus for cementing the filaments of electric lamps to the stem wires comprising stem holding devices, a positioning device for engaging and determining the position of a stem wire, devices for holding a filament, a positioning device for positioning an end of the filament, and means for supplying cement to the wire and filament end.

19. An apparatus for cementing the filaments of electric lamps to the stem wires comprising stem holding devices, a filament holding device, positioning devices for guiding a stem wire and filament end into juxtaposition, and means for applying cement to the wire and filament end.

20. An apparatus for cementing the filaments of electric lamps to the stem wires comprising a stem holding device, and means for applying cement to the stem wires.

869,319. GEAR-CUTTER. GARRET D. MARVIN, Findlay, Ohio. Filed Dec. 30, 1905. Serial No. 293,960.

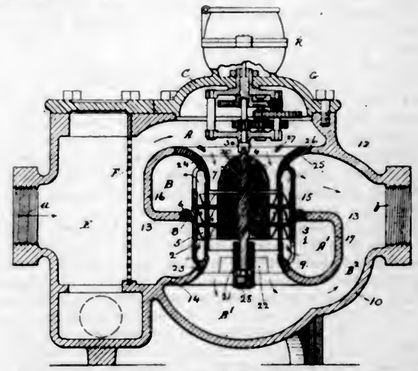


1. The combination of a frame, a bearing block adjustably mounted thereon, a shaft in the block, a slotted arm adjustably secured to the block, a pattern wheel on the shaft adjacent the arm, a slidably adjustable member on the arm, a device on the member arranged to engage the periphery of the pattern wheel, and a spring arranged to hold the device in engagement with the wheel.

2. The combination of a frame, a bearing block adjustably mounted thereon, a shaft in the block, an arm adjustably attached to the block, a chambered block adjustable longitudinally of the arm, a pin in the chamber of the block and extending at one end thereof to form a handhold, and a yielding means within the chamber of the block for operating on the pin.

869,320. WATER-METER. CHARLES F. MERRILL, Worcester, Mass., assignor to Union Water Meter Company, Worcester, Mass., a Corporation of Massachusetts. Filed Mar. 18, 1907. Serial No. 362,838.

1. In a water-meter of the class described, the combination of a main meter-casing or shell provided with inlet and outlet spuds, and having internally the upper, middle and lower horizontal partitions, said upper and middle partitions united by an integral wall across the inlet side, and said lower and middle partitions united by a wall across the outlet side, an inner-casing fitted within openings in the several partitions, a meter-wheel provided with a plurality of concentrically arranged annular series of helical vanes, the vanes of the respective series disposed with opposite inclination, and having a separating barrier between the series, the mid-portions of said inner-casing surrounding the outer series of vanes, its end sections forming directing funnels in alinement with said barrier, bearings for supporting the meter-wheel axle within said funnels, and means for securing said inner casing within the main casing.



2. In a water-meter of the class described, a meter-casing having inlet and outlet spuds, and provided with internal partitions separating the interior into two inflow-chambers and two outflow-chambers, a meter-wheel comprising two separated concentric series of helical vanes, said vanes oppositely inclined in the respective series, an inner-casing arranged through the several partitions and surrounding the periphery of said wheel, and having end-sections that coincide with the dividing barrier between the series of vanes, bearings for said meter-wheel, and water-ways in said inner-casing for simultaneously delivering currents from the respective inflow-chambers through said meter-wheel in opposite directions.

3. In a water-meter of the class described, a meter-wheel comprising an axis spindle and a wheel-body mounted thereon having two differently diametered series of inclined vanes and water-ways concentrically disposed one series within the circle of the other about said body; the vanes of the two series terminating in approximately the same plane at the ends of the body, in combination with means for directing portions of the metered current through the respective series, simultaneously, from end to end of the body.

4. In a current water-meter of the class described, a meter-wheel comprising a body or hub provided with a plurality of series of helically-disposed vanes arranged concentrically about said body, and having the vanes of the separate series formed with different helical pitch, for the purpose set forth.

5. In a water-meter of the class described, a meter-wheel comprising an outer series and an inner series of helical vanes, and having a cylindric barrier between the two series of vanes separating the annular spaces occupied by the respective series.

6. In a water-meter of the class described, a meter-wheel comprising an axis-spindle, a hub thereon with two oppositely directed, concentrically arranged series of helical vanes, and a concentric cylindric wall or barrier separating the two series of vanes, the ends of said barrier extending as a circular flange beyond the ends of the hub and vanes.

7. In a water-meter of the class described, a meter-

wheel comprising two concentric series of helical vanes separated by a barrier or partition between the series, the helical trend of the vanes being in opposite direction and of different pitch in the respective series; in combination with means for directing two currents of water through the wheel to impinge in opposite directions upon the vanes of the respective series.

8. In a water-meter of the class described, the combination of a meter-wheel provided with cylindrical end flanges; in combination with a wheel-casing provided with inwardly directed end sections having lips that coact with said flanges for dividing the currents, the adjacent edges of said lips and flanges being beveled and non-contactingly lapped by each other, substantially as set forth.

9. In a water-meter of the class described, a meter-wheel comprising an axis-spindle, a body-hub carrying two oppositely directed concentrically arranged series of helically disposed vanes, a cylindric barrier separating said series of vanes and projecting beyond the ends of the body-hub, a wheel-casing comprising a cylindrical mid-section surrounding the outer series of vanes, and upper and lower end-sections with circular lips that adjacently match, without contact, the ends of said barrier, means connecting the mid-section and end-sections, and having openings or water-ways between said connecting means, and annular spaces between the sections, and journal-bearings for the axis-spindle concentric with said end-sections.

10. In a water-meter of the character described, in combination with the meter-wheel having an axis-spindle, and peripheral series of vanes; a wheel-casing cylinder formed in two parts with an annular connecting joint intermedial in its length, a funnel-shaped end-section on each part having a circular inward lip, a concentric bearing-sleeve at each end for supporting the axis-spindle, and radial arms connecting said bearing-sleeve with the funnel section and serving as directing guides for the current.

11. In a water-meter of the class described, the inner or wheel-casing made in two parts detachably united by a countermatching joint midway of its length, each part provided with a concentrically disposed bearing-sleeve integrally connected therewith, the end portions of said casing comprising inwardly arranged lips for separating and directing the water currents; in combination with a meter-wheel having two series of vanes, and an axis-spindle with projecting journals that are respectively mounted in said bearing sleeves.

12. In a water-meter of the class described, the combination with the meter-wheel, and the main meter-casing provided with internal partitions as specified, of the inner-casing provided with joint-surfaces at its respective ends, and an intermediate joint-surface, for matching with the several partitions, and the securing annulus for retaining said inner casing within the main meter-casing, substantially as set forth.

13. In a water-meter of the class described, the combination with the meter-wheel having the series of helical vanes, and the main meter-casing having internal horizontal partitions arranged therein substantially as shown; of the inner or wheel-casing provided with a circumferential joint-flange, and having conoidally beveled ends, a seat within the main casing matching the lower end of said inner casing, and an inwardly rounded annulus having an inner edge-surface fitted to match against the upper end of the inner-casing, and an outer-edge threaded into the upper partition within the meter-casing for securing the inner casing in position.

869,321. INSULATING MATERIAL AND METHOD OF MANUFACTURING SAME. ROBERT MÜLLER, Munich, Germany. Filed Jan. 6, 1905. Serial No. 239,955. (Specimens.)

1. An insulating composition comprising a fragmentary mineral fire-proof material united by filmiform layers of a pitchy substance having a relatively high fusing point.

2. An insulating material consisting of a hardened mass comprising fragments of fire resistant material cemented together by a bituminous material having a relatively high fusing point, the bituminous material being only sufficient in quantity to fill substantially the voids whereby the resistant properties of the fire-resistant material are made effective.

3. An insulating material comprising a hardened mass comprising asbestos fragments cemented together by a pitch having a relatively high fusing point, the pitch being only sufficient in quantity to fill substantially the voids whereby the resistant properties of the asbestos are made effective.

4. An insulating material consisting of a hardened mass of intimately mingled comminuted asbestos, and an inorganic heat, water and fire-proof filler cemented together by a bituminous binding material having a relatively high fusing point, the binding material being only sufficient in quantity to fill substantially the voids whereby the resistant properties of the asbestos and the inorganic filler are made effective.

5. A non-hygroscopic, fire-proof, electrical insulating composition comprising asbestos mixed with a solution of pitch and evaporatable pitch solvent, the pitch serving in the composition, after evaporation of the solvent, as a substantially fire-proof binder and also as a non-hygroscopic coating for the asbestos, the pitch also serving to fill the voids.

6. A compressed, non-hygroscopic, fire-proof, electrical insulating composition comprising asbestos, compressed with a solution of mineral pitch and volatile hydrocarbon, the pitch serving in the compressed composition, after evaporation of the solvent, as a substantially fire-proof binder and also as a non-hygroscopic coating for the asbestos, the pitch also serving to fill the voids.

7. A compressed non-hygroscopic, fire-proof, electrical, insulating composition comprising asbestos compressed with an evaporatable solution of mineral pitch which serves in the compressed composition, after evaporation of the volatile constituent of said solution, as a substantially fire-proof binder and also as a non-hygroscopic coating for the asbestos, the pitch also serving to fill the voids.

8. A compressed non-hygroscopic, fire-proof electrical, insulating composition comprising asbestos with an evaporatable solution of bituminous material which serves in the compressed composition, after evaporation of the evaporatable constituent of said solution, as a substantially fire-proof binder and also as a non-hygroscopic coating for the asbestos, the bituminous material also serving to fill the voids.

9. A compressed non-hygroscopic, fire-proof, electrical insulating composition comprising asbestos and a fire-proof filler mixed together and mixed with an evaporatable solution of bituminous material serving in the compressed composition, after evaporation of the evaporatable constituent of the solution, as a substantially fire-proof binder for the asbestos and filler and also as a non-hygroscopic coating for the asbestos, the bituminous material also serving to fill the voids.

10. The method of manufacturing insulating material which consists in dissolving a bituminous binding material having a relatively high fusing point in a volatile solvent for such material, then incorporating therewith a fragmentary fire-resisting material in such proportions that in the completed product the binding material will only be sufficient in quantity to fill completely the voids, then pressing said mass into shape and drying it.

11. The method of manufacturing insulating material which consists in dissolving a pitch having a relatively high fusing point in a pitch solvent, incorporating therewith a fire-resistant filler in such proportions that in the completed product the binding material will only be sufficient to fill completely the voids, then molding said mass into shape and drying it.

12. The method of manufacturing insulating material which consists in dissolving mineral pitch in a pitch solvent, combining therewith comminuted asbestos in such proportions that in the completed product the pitch will only be sufficient to fill completely the voids, then molding the material into shape and drying it.

13. The method of manufacturing insulating material which consists in dissolving mineral pitch in benzol, combining therewith comminuted asbestos in such proportions that in the completed product the pitch will only be sufficient to fill completely the voids, then pressing the mass into shape and removing the solvent.

14. The method of manufacturing insulating material which consists in mixing with asbestos a fire, water and acid proof filler, adding a binder consisting of bituminous material dissolved at normal temperature in a volatile solvent, in such proportions than in the completed product the binding material will be only sufficient in quantity to fill completely the voids, whereby the resistant properties of the asbestos and the filler are made effective, then pressing the mass into shape and drying it.

15. The method of making a solid, non-hygroscopic, electrical, insulating composition, consisting in mixing an inorganic fire-proof filler with asbestos and a solution of mineral pitch and volatile hydrocarbon; then compressing the mixture into the desired form and filling the voids, and then hardening the compressed mass by evaporation of the volatile hydrocarbon.

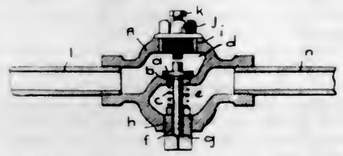
16. The method of making non-hygroscopic, electrical, insulating material consisting in mixing asbestos with a solution of pitch and pitch solvent; and then compressing the mixture into desired form and filling the voids, and then hardening the compressed mass by evaporation of the volatile hydrocarbon.

869,322. SHADE AND CURTAIN BRACKET. MATTHEW S. MCNEESE, New Brighton, Pa. Filed Mar. 26, 1907. Serial No. 364,621.



A combined shade and curtain bracket comprising a pair of strips extensibly connected together and bent at the outer ends to form shade brackets, and curtain pole supports comprising short strips having projecting arms extending vertically therefrom and bent outwardly at the top to support a pole and also having hooked tongues engageable over opposite edges of the main strips at various positions along the same.

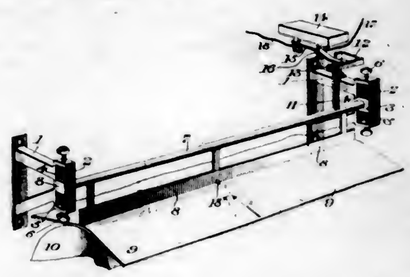
869,323. AUTOMATIC WARNING-SIGNAL FOR AIR-BRAKE SYSTEMS. RICHARD P. NOLAN, Havelock, Ontario, Canada. Filed Nov. 7, 1906. Serial No. 342,431.



In an automatic warning signal for air brake systems, the combination with the globe valve housing and substantially horizontal valve seat therein of a valve operating on the seat, a stem secured to the valve and extending on both sides thereof, a nut screwed through the lower end of the housing having a recess therein into which the stem fits, a compression spring abutting the top of said nut and the underside of the valve, and a cap nut screwed through the top of the valve housing, a set screw extending through the same and adapted to limit the upward movement of the valve by engaging the stem thereof.

869,324. DETECTOR FOR PRINTING-PRESSES OR THE LIKE. ALEXANDER OBERT, Camden, N. J. Filed June 19, 1906. Serial No. 322,435.

1. In a detector for printing presses, a bar, self-alining bearings therefor and a contact arm controlled by said bar, the latter being adapted to be actuated by imperfections in the stock and said bar contacting with the paper across its width whereby every portion of the paper is brought into contact therewith.



2. In a detector for printing presses, a bar, a surface adjacent said bar between which and the bar the paper or stock is adapted to pass, self-alining bearings for said bar, an arm carried by said bar, and a contact piece normally held out of contact with a stationary piece by said arm and said bar contacting with the paper across its width whereby every portion of the paper is brought into contact therewith.

3. In a detector for printing presses, a bar, a surface adjacent said bar between which and the bar the paper or stock is adapted to pass in its movement to the machine and said bar contacting with the paper across its width whereby every portion of the paper is brought into contact therewith, self-alining bearings for said bar, means for adjusting said bearings, an arm carried by said bar, a spring contact piece normally supported by said arm, a stationary contact piece and conductors leading to mechanism for stopping the operation of the machine when the contact pieces are in contact.

4. In a detector for printing presses, brackets adapted to be suitably supported, boxes on said brackets, blocks carried in said boxes, a rod movably connected with said blocks, a bar carried by said rod and contacting with the paper across its width whereby every portion of the paper is brought into contact therewith, an arm on said rod, a stop for said arm, and means for adjusting said stop.

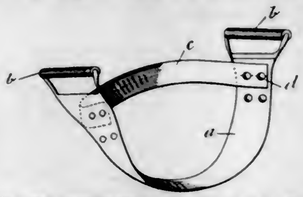
5. In a detector for printing presses, brackets adapted to be suitably supported, boxes on said brackets, blocks carried in said boxes, a rod movably connected with said blocks, a bar carried by said rod and contacting with the paper across its width whereby every portion of the paper is brought into contact therewith, an arm on said rod, a stop for said arm, means for adjusting said stop, a contact piece normally held by said arm, a stationary contact piece adjacent said contact piece and conductors leading to mechanism for automatically stopping the machine when said contact pieces are in contact.

6. In a detector for printing presses, a bar, self-alining bearings therefor, a contact arm controlled by said bar, the latter being adapted to be actuated by imperfections in the stock, and means on said bar for indicating in the paper at what point the imperfections occurred.

7. In a detector for printing presses, a bar, suitable bearings therefor, means carried by said bar for controlling mechanism for automatically stopping the machine, and a lug or point carried by said bar normally out of the path of said paper and adapted to pierce the same when the bar is properly actuated.

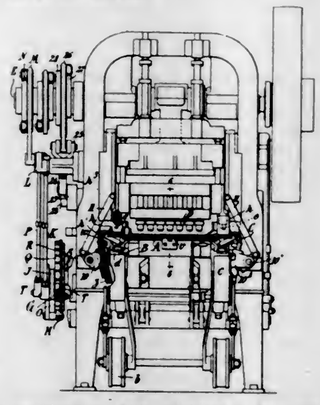
8. In a detector for printing presses, a bar, a lower surface between which and said bar the paper must pass in its movement to the machine, said bar and surface extending entirely across the width of the paper in order that every portion of its surface is brought into contact therewith, bearings for said bar, and means actuated by the movement of the bar for controlling the automatic stopping mechanism for the machine said bar being adapted to be actuated by imperfections in the stock.

869,325. SLING. HERMANN OEHRMANN, Osnabruck, Germany. Filed Aug. 10, 1906. Serial No. 329,954.



In a sling the combination of a sling band *a* buttons *d* in transverse rows thereon, handles *b b* transversely placed at the ends of the band and a back band *c* having rows of button holes alined with its length for attachment to said buttons substantially as set forth.

869,326. PUNCHING-MACHINE AND FEEDING MECHANISM THEREFOR. FRANK C. B. PAGE, New York, N. Y., assignor to E. W. Bliss Company, Brooklyn, N. Y., a Corporation of West Virginia. Filed Dec. 21, 1906. Serial No. 348,920.



1. The combination with mechanism for punching a sheet at uniformly spaced positions throughout its length, of means for causing said mechanism to omit a punching operation at a desired position near an end of a sheet.

2. A punching machine including in combination means for feeding a sheet to punches with a substantially uniform interval between successive punching operations throughout its length, and means for altering the length of the interval when the punches are near an end of the sheet.

3. A punching machine including in combination means for feeding a sheet by substantially uniform steps throughout its length, and means for giving the sheet a movement of different lengths when the punches are near an end thereof.

4. A punching machine including in combination means for feeding a sheet to punches with a substantially uniform interval between successive punching operations throughout its length, and means for doubling the length of such interval when the punches are near an end of the sheet.

5. A punching machine including in combination two rows of punches arranged to punch at staggered positions, means for feeding sheets with a distance between them approximately equal to that between the centers of the two rows of punches, and means for feeding said sheets past the points where the punches would strike the ends thereof without permitting the punches to strike said ends.

6. A punching machine including in combination punches, means for operating them uniformly, a sheet carrier, and means for operating it uniformly during the punching of the main portion of a sheet and with an extra long interval at an end of the sheet.

7. A punching machine including in combination punches, a continuously rotating main shaft E operating said punches, a sheet carrier, a feeding shaft F operating said carrier, a feeding pawl giving said feeding shaft a regular step-by-step rotation, a skipping pawl adapted to give said shaft an extra long movement, and means for maintaining said skipping pawl normally inoperative and rendering it operative at determined intervals.

8. A punching machine including in combination a sheet carrier, means for automatically feeding it step by step, and additional means operating automatically at the end of each feeding movement for locking it in position for the punching operation.

9. A punching machine including in combination reciprocating punches, a dowel carried thereby, and a sheet carrier having an opening adapted for engagement by said dowel to lock the carrier in position for the punching operation.

10. A punching machine including in combination a sheet carrier comprising a chain with clamping devices at intervals for clamping the sheets, means for feeding said carrier, and additional means for locking the clamping device which carries the sheet under the punches.

11. A punching machine including in combination a sheet carrier consisting of a pair of endless chains carrying clamping devices at intervals adapted to clamp the opposite edges of the sheets, means for drawing said chains, reciprocating punches, and a row of dowels on each side of the machine and in advance of the punches and reciprocating therewith, the successive dowels being adapted to engage and lock the clamping devices in their successive positions.

12. A punching machine including in combination reciprocating punches, a dowel *e* carried thereby, and a sheet carrier having an opening adapted for engagement by said dowel to lock the carrier in condition for the punching operation, and a fixed guard having an opening for the passage of said dowel.

13. A clamping device for a sheet-feeding mechanism, including in combination a pivoted upper jaw having a downward arm *o*, and a crank arm *q* and link *s* constituting together a toggle adapted to swing past its center in both directions and connected to said downward arm *o* for locking it in either of its positions.

14. A clamping device for a sheet-feeding mechanism having a crank arm, and a movable jaw operated thereby, in combination with a tappet *w* for swinging said crank arm to close said jaw, rack and pinion mechanism for reciprocating said tappet *w*, and a link 11 connecting said rank and pinion mechanism with a reciprocating part of the machine.

15. A punching machine including in combination a punch, and an ejector, a plate 15 through which the punch passes and to the level of which the ejector rises, a sweeper 14 arranged immediately above said plate, and means for moving said sweeper across said opening to remove the punched article when the ejector has raised it to the level of said plate.

16. A punching machine including in combination a punch, and an ejector, a plate 15 through which the punch passes and to the level of which the ejector rises, a sweeper 14 arranged immediately above said plate, means for moving said sweeper across said opening to remove the punched article when the ejector has raised it to the level of said plate, a hopper 18 at the edge of said plate and into which the punched articles are swept, and supports for said sheet supporting it above said hopper so that the punched articles pass through the sheet into the hopper and the sheet of scrap is carried beyond.

17. A punching machine including in combination a sweeper, a hopper into which the punched articles are swept, and supports for the sheet supporting it above the hopper so that the sheet of scrap is carried beyond the hopper.

18. A punching machine including in combination a feeding shaft, a ratchet wheel and pawl transmitting to said shaft a regular feeding movement, a skipping pawl adapted to give to said shaft a movement of extra length, and means operated independently of said ratchet wheel for holding said skipping pawl normally inoperative and allowing it to become operative at determined intervals.

869,327. HAND-HOLE COVER. KENNEDY PARK, Toledo, Ohio. Filed June 8, 1907. Serial No. 377,907.



1. A hand-hole cover of sinuous formation in cross-section having its outer bulge or convexity disposed in the opposite direction to the cover-retaining force and having its rim terminating in a seat.

2. A hand-hole cover of sinuous formation in cross-section having its outer bulge S disposed in the opposite direction to the applied retaining force to receive the strain approximately longitudinally of its cross-sectional area and having its edge terminating in a seat.

3. The combination with a bolt and its spider, of a man or hand-hole cover having a central bolt engaging portion and a surrounding portion sinuous in cross-section, said surrounding portion forming a single bulge S, the concavity of which is disposed on the same side of the cover as that from which the bolt projects and having its outer leg terminating in an L-shaped seat.

4. A hand-hole cover having a central bolt-receiving portion and a surrounding sinuous portion extending inwardly from said portion in opposition to the applied retaining force and then outwardly in a curved line and having its edge terminating in an L-shaped seat and formed with a seat broadening lip, the resisting strain applied to the cover when it is drawn to its seat being approximately longitudinally of the cross-sectional area of the cover.

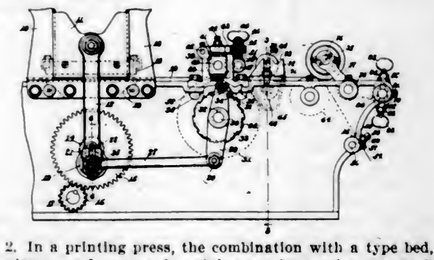
869,328. CURTAIN-POLE SUPPORT. ELLIS S. PEARSON, Bradford, Ohio. Filed Mar. 22, 1906. Serial No. 307,435.



A device of the class described comprising a pair of hinged members, one of which is provided with an integral attaching portion and with an opening, and a latch member secured to the other member and projecting at a right angle therefrom and adapted for engagement in the opening in the first mentioned member, the last mentioned member having its end turned over upon itself.

869,329. FEED MECHANISM FOR PRINTING-PRESSES AND SIMILAR MACHINES. GEORGE W. PROUTY, Dorchester, Mass. Filed Dec. 17, 1906. Serial No. 348,135.

1. In a printing press, the combination with a type bed, a platen, and means for giving an impression to stock passed between the two; of a pair of feed rolls; means operable by the impression device for intermittently rotating one of said rolls; blocks slidable toward and from the axis of said roll and supporting the other roll; a pivoted member; adjustable devices supported by said pivoted member bearing upon said blocks; springs for forcing said blocks and devices in contact; and an independent adjustable tension mechanism interposed between the free end of said pivoted member and the frame to which said member is pivoted.



2. In a printing press, the combination with a type bed, a platen, and means for giving an impression to stock passed between the two; of a pair of feed rolls; means operable by the impression device for intermittently rotating one of said rolls; blocks slidable toward and from the axis of said roll and supporting the other roll; means for operating said blocks comprising a pivoted member; adjustable devices bearing upon said blocks; springs for forcing said blocks and devices in contact; a threaded rod pivoted to a fixed point and extending through said member; a spring surrounding said rod; and an adjustable nut on the threaded end of said rod.

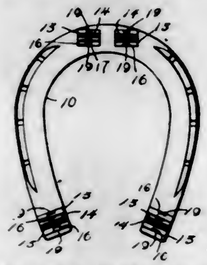
3. In a printing press, the combination with a type bed, a platen, and means for moving one of said elements into position to coöperate with the other; of a pair of feed rolls; a pivoted perforator provided with a slotted arm; a fixed rod extending through said slot; and adjustable members in said lever coöperating with said rod to regulate the operation of said perforator.

4. In a printing press, the combination with a type bed, a platen, and means for giving an impression to stock passed between the two; of a pair of feed rolls; means operable by the impression device for intermittently rotating one of said rolls; blocks slidable toward and from the axis of said roll and supporting the other roll; means operable upon said blocks for normally separating said rolls; a pivoted member; adjustable devices bearing upon said blocks; a threaded rod pivoted to a fixed point and extending through said member; a spring surrounding said rod; and an adjustable nut on the threaded end of said rod.

5. In a printing press, the combination with a type bed, a platen, and means for giving an impression to stock passed between the two; of a pair of feed rolls; means operable by the impression device for intermittently rotating one of said rolls; blocks slidable toward and from the axis of said roll and supporting the other roll; springs operable upon said blocks for normally separating said rolls; a pivoted member; adjustable devices bearing upon said blocks; a threaded rod pivoted to a fixed point and extending through said member; a spring surrounding said rod; and an adjustable nut on the threaded end of said rod.

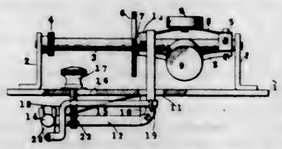
6. In a printing press, the combination with a type bed, a platen, and means for giving an impression to stock passed between the two; of a pair of feed rolls; means operable by the impression device for intermittently rotating one of said rolls; blocks slidable toward and from the axis of said roll and supporting the other roll; means operable upon said blocks for normally separating said rolls; a pivoted member; members threaded to said pivoted member bearing upon said blocks; a threaded rod pivoted to a fixed point and extending through said member; a spring surrounding said rod; and an adjustable nut on the threaded end of said rod.

869,330. REMOVABLE HORSESHOE-CALK. ADAM E. REHAIG, Packerton, Pa. Filed Dec. 17, 1906. Serial No. 348,224.



The combination with a horseshoe provided with determinately arranged threaded openings, and with grooves in its underneath face on each side of said openings and in line with a diameter thereof, of calks carried by said horseshoe, and washers severally interposed between said calks and the underneath face of said shoe, each of said calks comprising a working portion having projecting sides flush with the upper surface of said working portion and disposed in the same plane, and a threaded shank extending from the upper surface of said working portion, each of said sides having recesses in its edge centrally thereof, each of said washers comprising an integral section of material having a central opening adapted to surround said shank, and having ribs stamped therein on each side of said opening, said ribs extending diagonally of said section and along a diametrical line of said openings, said washers being formed in their sides with parallel slits, the material between said slits affording tongues adapted to be bent down and engaged in said recesses.

869,331. REGULATING DEVICE FOR MOTORS. WALTER C. RUNGE, Camden, N. J., assignor to International Royal Phone Company, Boston, Mass., a Corporation of Maine. Filed May 18, 1906. Serial No. 317,514.



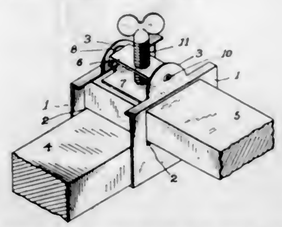
1. A regulating device for motors comprising a plate; a friction governor thereon; a lever pivoted to the plate one end of which lever is adapted to frictionally engage the governor, a stud at the other end; a second lever slidably engaging the first; a yoke pivotally secured to the second lever and engaging the stud on the first; means acting on the levers for varying the position of the end of the first lever with respect to the governor; and means for maintaining the parts in relative position.

2. A regulating device for motors comprising a support, a governor thereon, a lever pivotally secured to the support, one end of which lever is adapted to frictionally engage the governor; a second lever engaging the first and movable longitudinally to start and stop the motor, and also movable vertically to vary the speed thereof; a single means for effecting the two motions; and means for maintaining the parts in relative position.

3. A regulating device for motors comprising a plate; a governor thereon; a bent lever pivotally secured thereto, one end of which is adapted to frictionally engage the governor; a stud on the other end; a loop on the lever near its pivotal point; a second lever slidable in said loop; there being means for detachably locking the levers together when the governor is in open position; a yoke pivotally secured to the end of the second lever and engaging the stud on the first; means for moving the second lever longitudinally to swing the yoke and oscillate the first lever to start and stop the motor, and also for moving both levers to vary the speed of the motor; and a spring bearing on the first lever to hold the parts in position.

4. A regulating device for motors comprising a support; a governor thereon; a bent lever pivotally mounted on the support, one end of which is adapted to frictionally engage the governor; a second lever mounted on and slidably engaging the first and co-acting therewith to move it with respect to the governor; means for maintaining the parts in relative position; and means acting on the levers to move the end of the bent lever with respect to the governor.

869,332. CLAMPING DEVICE FOR CURTAIN-STRETCHERS. HELENA A. SCHWARZ, Waterbury, Conn. Filed Sept. 18, 1905, Serial No. 278,924. Renewed Mar. 23, 1907. Serial No. 364,066.



1. In a device of the character described, the combination with a stirrup having apertured sides, a side bar loosely mounted within the stirrup and a cross bar loosely mounted within the apertured sides, of a horizontally disposed clamping plate pivoted between the sides of the stirrup and capable of a vertical play, a bridge secured between the sides of the stirrup immediately above said plate, and a thumb screw extending through said bridge.

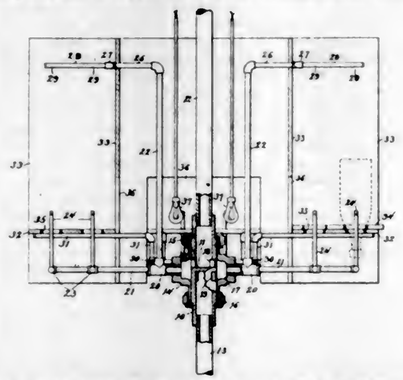
2. In a device of the character described, the combination with a stirrup having apertured sides, a side bar loosely mounted within the stirrup and a cross bar loosely mounted within the apertured sides, of a bridge secured between the opposite upper portions of said stirrup and above said bars, a clamping plate having upwardly extending ears provided with elongated vertically disposed slots, pins passing loosely through these slots and secured to the ends of the bridge and to the upper portions aforesaid of the stirrup whereby said clamping plate is capable of a swinging movement and a vertical play, and a thumb screw passed through the bridge and capable of being operated against said clamping plate, substantially as set forth.

869,333. BOTTLE RINSER AND STERILIZER. DAVID E. SHAW, Milwaukee, Wis. Filed Jan. 12, 1907. Serial No. 352,020.

1. In a device of the character described, a stationary valve member having a plurality of liquid supply chambers, supply pipes connecting with the supply chambers, a valve casing rotatably mounted on the valve member and having a port communicating with the chambers successively by registering with openings in the valve member leading from said chambers, and a bottle spraying device comprising a coupling connected with the valve casing and communicating with the port, a lower feed pipe leading from the coupling and provided with branch pipes, upwardly standing nozzle tubes extending from the branch pipes, an upper feed pipe connected with the coupling, branch pipes on the upper feed pipe having nozzle tubes, the lower nozzle tubes being adapted to have bottles placed thereon and to inject liquid into the interior thereof, and the upper nozzle tubes being adapted to spray the inverted bottoms of the bottles.

2. In a device of the character described, a valved liquid supply chamber, a coupling communicating therewith, a

lower feed pipe leading from the coupling and provided with branch pipes, upwardly standing nozzle tubes extending from the branch pipes, an upper feed pipe connected with the coupling, branch pipes communicating therewith and provided with nozzle tubes, the lower nozzle tubes being adapted to receive bottles thereon and inject liquid into the interior thereof and the upper nozzle tubes being adapted to spray the inverted bottoms of the bottles.



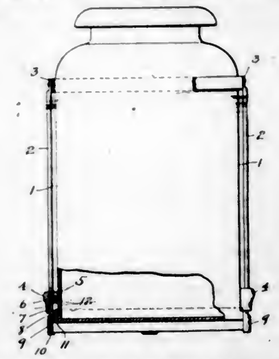
3. In a device of the character described, a stationary valve member having a plurality of liquid supply chambers, supply pipes connecting with the supply chambers, a valve casing rotatably mounted on the valve member and having a port communicating with the valve chambers successively by registering with openings in the valve member leading from said chambers, and a bottle spraying device comprising a coupling connected with the valve casing and communicating with the port, a lower feed pipe leading from the coupling and provided with branch pipes, upwardly extending nozzle tubes on the branch pipes, an upper feed pipe connected with the coupling and having branch pipes, nozzle tubes connected therewith, a tray support carried by the valve casing, a tray mounted on the tray support having openings through which the lower nozzle tubes project and adapted to receive the necks of bottles, and lugs in the openings to space the bottles from the walls of the openings and permit liquid to pass therebetween.

4. In a device of the character described, a stationary valve member, a supply pipe connected with the valve member, a valve casing rotatably mounted on the valve member and having a port communicating with an opening in the valve member, a bottle support having lower and upper nozzle tubes adapted to spray bottles contained on the support, and a protecting casing carried by the bottle support for preventing the splashing of water, there being an opening in the back of the protecting casing through which the light may shine for inspecting the bottles.

5. In a device of the character described, a stationary valve member, a supply pipe connecting with the valve member, a valve casing rotatably mounted on the valve member and having a number of ports communicating with an opening in the valve member, couplings connected with the ports of the valve casing, nozzle tubes communicating with the couplings for injecting water into the bottles and for spraying the inverted bottoms thereof, a frame mounted on the couplings, supporting arms carried by the frame, bases seated on the supporting arms and provided with openings to receive the nozzle tubes that inject water into the bottles, and removable trays resting on the bases and also provided with openings through which the nozzle tubes project, said openings being adapted to receive the necks of bottles to support the bottles, there being lugs in the openings of the trays for providing a space between the bottles and the walls of the openings.

6. In a device of the character described, a stationary valve member having a plurality of liquid supply chambers, supply pipes connecting with the supply chambers, a valve casing rotatably mounted on the valve member and having a number of ports communicating with the chambers successively by registering with openings in the valve member leading from said chambers, bottle spraying devices carried by the valve casing and communicating with the ports, each of the valve chambers having a pair of openings diametrically opposite each other whereby the same effect is produced upon the bottle spraying devices in their passage one half way around the valve member that is produced in their passage the other half way around the valve member.

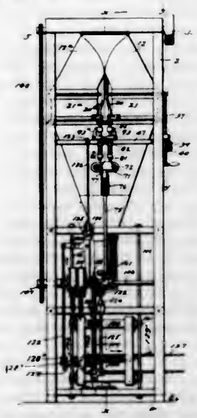
869,334. RECEPTACLE. LOUIS J. SHEPERD, New York, N. Y. Filed Apr. 11, 1906. Serial No. 311,171.



1. A receptacle having a supplemental rim, rim carrying members secured thereto, said members having vertically elongated slots, and pins on said receptacle engaged by said slots, substantially as described.

2. In combination with a metallic shipping can, a movable rib secured thereto, said rib having a hood projection at the lower end thereof, a movable supplemental rim, a pin and vertically elongated slot in said parts forming a connecting means between said rim and said hood, whereby a loose movement of the rim with respect to the body of the can is permitted and a cushioning member confined between said supplemental rim, the body of the can and the hood, substantially as described.

869,335. MEASURING AND WEIGHING MACHINE. EDWIN G. STAUDE, Minneapolis, Minn. Filed July 12, 1904. Serial No. 216,235.



1. The combination, of a sack packing device with a sack platform, mechanism controlled by the movement of

said platform for automatically measuring the material, and a weigher arranged to receive a predetermined load from said measuring mechanism and deliver it to said packing device.

2. The combination of a sack packing device with a vertically movable sack platform, a feed spout, a measuring device, mechanism controlled by the movement of said platform for regulating the feed into said measuring device and the discharge therefrom, and a weigher arranged to receive a given load from said measuring device and deliver it to said packing device.

3. The combination, of a packing device with a platform, a feed spout, a measuring device located therein, mechanism controlled by the movement of said platform for regulating the feed of material into said measuring device and its discharge therefrom, a drip discharge device provided in connection with said measuring device and a weigher arranged to receive a given load from said measuring device and discharge it into said packing device.

4. The combination, of a sack packing device with a sack platform, a feed spout, a measure therein, cut off devices for regulating the feed into said measure and the discharge therefrom, mechanism arranged to be operated by the movement of the sack platform for actuating said cut off devices, a revolving drip discharge device provided in said measure and a weigher arranged to receive a load of given weight from said measure and discharge it into said packing device.

5. In a measuring and packing machine, the combination, of a feed spout with an expansible measuring device provided in said spout and having feeding and discharge openings and cut off plates arranged to alternately open and close said openings, and a weigher arranged to receive a predetermined load from said measuring device.

6. The combination, with a packer, of a feed spout, a measuring device having feed and discharge openings, a cut off mechanism, means arranged to discharge a small quantity of material from said measuring device after the main portion has been discharged by the opening of said cut off, and a weigher arranged to receive a predetermined load from said measuring device and discharge it into said packer.

7. In a measuring and packing machine, the combination with a feed spout, of a receptacle having feed and discharge openings and cut-off plates therefor, mechanism for operating said plates, and a weigher arranged to receive a predetermined load from said receptacle, substantially as described.

8. The combination, of a feed spout, with a measuring device located therein and having feed and discharge openings, the top of said measure being movable toward and from the bottom thereof, a shaft having arms pivotally connected with said top, a crank mounted on said shaft, and a rack bar past which said crank is movable, for the purpose specified.

9. The combination, of a feed spout, with a measuring device located therein and having top and bottom plates provided respectively with feed and discharge openings, cut-off plates arranged to alternately open and close said feed and discharge openings, mechanism for intermittently operating said cut-off plates, and revolving arms arranged to discharge a small quantity of material from said measuring device after the main portion has been discharged by the opening of said cut-off device.

10. The combination, of a feed spout, with a measuring device provided therein and having feed and discharge openings in its top and bottom respectively, revolving cut-off plates having a step by step movement arranged to alternately open and close said openings, mechanism for operating said plates intermittently, the lower plate being provided with pockets having slotted walls, and revolving arms operating through said slots and pockets, for the purpose specified.

11. The combination, with a packer, of a series of feed spouts, measuring receptacles provided in said spouts and having feed and discharge openings and cut-off devices therefor, and mechanism for alternately operating said cut-off devices.

12. The combination, of a packing auger and a vertically movable scale platform, with feed spouts upon each side of said auger, measuring devices provided in said spouts and having feed and discharge openings, and mechanism controlled by the movement of said platform for regulating alternately the feed of material into said measuring devices and its discharge therefrom, substantially as described.

13. The combination, of a sack packing auger, with a sack platform, and mechanism controlled by the movement of said platform for automatically measuring and weighing the material prior to its delivery to said auger.

14. The combination, of a packing auger, with a vertically movable sack platform, feed spouts, measuring devices provided therein, mechanism controlled by the movement of said platform for regulating the feed of flour or other material into said measuring device and its discharge therefrom, alternately operating scale hoppers provided beneath said measuring devices, and mechanism also controlled by the movement of said sack platform for regulating the discharge of material from said hoppers.

15. The combination, of a packing auger, with a vertically movable sack platform, two scale hoppers having pivoted bottom plates, a weighing mechanism in connection with said hoppers, and mechanism arranged to be actuated by the movement of said platform for opening and closing said bottom plates, substantially as described.

16. The combination, of a packing auger, with a feed spout, a scale hopper having a pivoted bottom within said spout, a scale mechanism in connection with said hopper, a shaft beneath said hopper, a block mounted thereon, a crank carried by said shaft and pivotally connected with said hopper bottom, a vertically movable sack platform, and mechanism actuated by the movement of said platform for oscillating said block and opening and closing said hopper bottom, substantially as described.

17. The combination, of a feed spout, with scale hoppers having pivoted bottom plates therein, a scale mechanism in connection with said hoppers, a rock shaft having an arm pivotally connected with said hopper bottoms, a block secured on said rock shaft, a packing auger, a vertically movable sack platform, a reciprocating rod having a plate arranged to engage and oscillate said block and shaft, and mechanism actuated by the movement of said platform for reciprocating said rod, substantially as described.

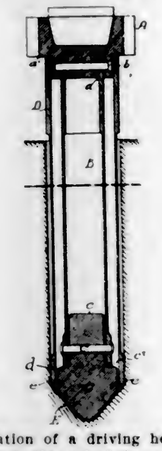
18. The combination, of a feed hopper, with a yoke supported in knife-edge bearings therein, a scale mechanism provided in connection with said yoke, scale hoppers having pivoted bottom plates rigidly supported in said yoke, a packing auger, a sack platform, and mechanism controlled by the movement of said platform for operating said bottom plates to open and close said hoppers.

19. The combination, of a feed spout and a packing auger therein, with a vertically movable carriage, a shaft, a bell crank thereon having oppositely extending arms, a reciprocating rod pivotally connected with said bell crank intermediate to said arms, a measuring and weighing mechanism arranged to be operated by the movement of said rod, and a tripping dog carried by said carriage and arranged to engage said bell crank arms, substantially as described.

20. The combination, of a feed spout, with the measuring devices therein, revolving cut-offs provided with suitable stops upon different levels, levers arranged in the path of said stops, vertically movable shafts whereon said levers are secured, mechanism for operating said cut-offs, scale hoppers having pivoted bottom plates provided beneath said measuring devices, a packing auger, a movable sack platform, and mechanism actuated by the movement of said platform for operating said shafts and levers to release said cut-offs, substantially as described.

869,336. CONCRETE PILE AND MEANS FOR DRIVING SAME. JOHN STEWART, Pittsburg, Pa., assignor to The Simplex Concrete Piling Company, Washington, D. C., a Corporation of the District of Columbia. Filed Feb. 15, 1907. Serial No. 357,471.

1. The combination of a preparatory pile, a driving form, a cap plate extending under the end of the driving form and the preparatory pile, said cap plate being detachable and remaining in the ground after the other parts have been withdrawn, substantially as described.



2. The combination of a driving head having a point shaped to conform to the end of the opening to be formed, a preparatory pile and a cap plate mounted at the end of the driving form and preparatory pile and detachable therefrom, so that when the pile and the driving head are driven into the ground the cap plate will be driven into the ground and will remain after the driving head and preparatory pile are withdrawn, substantially as described.

3. The combination of a driving form having a tapered point, a preparatory pile surrounding the driving form, with a conical sheet metal cap plate at the end of the driving form and preparatory pile, said cap plate being detachable from both the pile and the form, substantially as described.

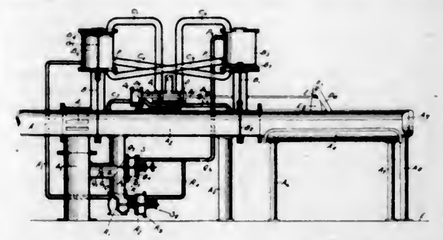
4. The combination of a driving form having a tapered point, a preparatory pile surrounding the driving form and having its edge shaped to conform to the taper of the driving point, and a detachable cap plate conforming both to the taper of the point and the preparatory pile, substantially as described.

5. The combination of a driving form having a tapered point, a preparatory pile surrounding the driving form and its point and having an end tapered to conform to the taper of the point, a cap plate greater in diameter than the preparatory pile so that when it is driven into the ground an overlapping flange will be formed making a tight joint between the preparatory pile and the cap plate, substantially as described.

6. The combination of a driving form, a preparatory pile surrounding the driving form, said driving form having a tapered point, a sheet metal cap plate conical in form and conforming to the shape of the point, said cap plate being greater in diameter than the preparatory pile so that when it is driven into the ground its outer edge will be flanged and bear tightly against the outer walls of the preparatory pile forming a tight joint between the cap plate and the preparatory pile, substantially as described.

869,337. PNEUMATIC-DESPATCH-TUBE APPARATUS. CHARLES F. STODDARD, Boston, Mass., assignor to American Pneumatic Service Company, Dover, Del., a Corporation of Delaware. Filed July 28, 1906. Serial No. 328,195.

1. In an apparatus of the character described, a transmission tube, a terminal communicating with said tube, an inner and an outer gate closing the same, a source of air pressure for operating said gates, a by-pass for leading the pressure of the transit tube to the terminal between said gates, a valve controlling said by-pass, an opening from said by-pass to the atmosphere, a valve controlling said air opening and adapted to open to relieve the pressure behind the carrier in the terminal upon the closing of the inner gate and to close upon the opening of the outer gate, and mechanism for operating said by-pass valve to admit the pressure of the transit tube to the terminal to discharge a carrier upon the outer gate reaching its open position.



2. In an apparatus of the character described, a transit tube, a terminal communicating with said tube, an inner and an outer gate closing the same, an inner and an outer cylinder each having a piston connected to said gates, a source of air-pressure for operating said pistons, communication between said cylinders and said source of air pressure, a valve for opening and closing said communication to each cylinder alternately, mechanism operated by the pressure in the tube for normally closing communication between said source of compressed air and the inner cylinder, a connection between the inner cylinder and the outer cylinder for leading the pressure from the outer cylinder to the inner cylinder to open the inner gate after the outer gate is closed, a by-pass leaving the pressure of the transit tube to the terminal between said gates, a valve controlling said by-pass, an opening from said by-pass to the atmosphere, a valve controlling said air opening and adapted to open to relieve the pressure behind the carrier in the terminal upon the closing of the inner gate and to close upon the opening of the outer gate, and mechanism for operating said by-pass to admit the pressure of the transit tube to the terminal to discharge a carrier upon the outer gate reaching its open position.

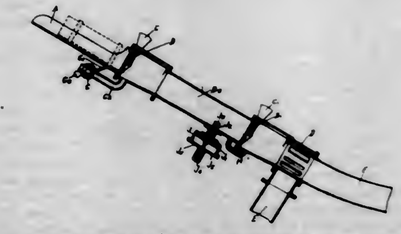
3. In an apparatus of the character described, a transmission tube, a terminal communicating with said tube, an inner and an outer gate closing the same, an inner and an outer cylinder each having a piston connected to said gates, a source of air pressure for operating said pistons, communication between said cylinders and said source of air pressure, a valve for opening and closing said communication to each cylinder alternately, mechanism operated by the pressure in the tube for normally closing communication between said source of compressed air and the inner cylinder, mechanism operated by air compressed by the carrier for operating said valve to open communication between said source of compressed air and the inner cylinder to close the inner gate and to close communication between said source of compressed air and the outer cylinder to open the outer gate, a connection between the inner cylinder and the outer cylinder for leading the pressure from the outer cylinder to the inner cylinder to open the inner gate after the outer gate is closed, a by-pass for leading the pressure of the transit tube to the terminal between said gates, a valve controlling said by-pass, an opening from said by-pass to the atmosphere, a valve controlling said air opening and adapted to open to relieve the pressure behind the carrier in the terminal upon the closing of the inner gate and to close upon the opening of the outer gate, and mechanism for operating said by-pass valve to admit the pressure of the transit tube to the terminal to discharge a carrier upon the outer gate reaching its open position.

4. In an apparatus of the character described, a transmission tube, a terminal communicating with said tube, an inner and an outer gate closing the same, an inner and an outer cylinder each having a piston connected to said gates, a source of air pressure for operating said pistons,

communication between said cylinders and said source of air pressure, a valve for opening and closing said communication to each cylinder alternately, mechanism operated by the pressure in the tube for normally closing communication between said source of compressed air and the inner cylinder, connections between said cylinders for leading the pressure therefrom alternately to one another, a by-pass for leading the pressure of the transit tube to the terminal between said gates, a valve controlling said by-pass, an opening from said by-pass to the atmosphere, a valve controlling said air opening and adapted to open to relieve the pressure behind the carrier in the terminal upon the closing of the inner gate and to close upon the opening of the outer gate, and mechanism for operating said by-pass valve to admit the pressure of the transit tube to the terminal to discharge a carrier upon the outer gate reaching its open position.

3. In an apparatus of the character described, a transmission tube, a terminal communicating with said tube, an inner and an outer gate closing the same, an inner and an outer cylinder each having a piston connected to said gates, a source of air pressure for operating said pistons, communication between said cylinders and said source of air pressure, a valve for opening and closing said communication to each cylinder alternately, mechanism operated by the pressure in the tube for normally closing communication between said source of compressed air and the inner cylinder, mechanism operated by air compressed by the carrier for operating said valve to open communication between said source of compressed air and the inner cylinder to close the inner gate and to close communication between said source of compressed air and the outer cylinder to open the outer gate, a connection between the inner cylinder and the outer cylinder for leading the pressure from the inner cylinder to the outer cylinder after the inner gate is closed to open the outer gate, a by-pass for leading the pressure of the transit tube to the terminal between said gates, a valve controlling said by-pass, an opening from said by-pass to the atmosphere, a valve controlling said air opening and adapted to open to relieve the pressure behind the carrier in the terminal upon the closing of the inner gate and to close upon the opening of the outer gate, and mechanism for operating said by-pass valve to admit the pressure of the transit tube to the terminal to discharge a carrier upon the outer gate reaching its open position.

869,338. PNEUMATIC-DESPATCH-TUBE APPARATUS. CHARLES F. STODDARD, Boston, Mass., assignor to American Pneumatic Service Company, Dover, Del., a Corporation of Delaware. Filed July 28, 1906. Serial No. 328,196.



1. In a pneumatic despatch tube apparatus, a transmission tube, a sender connected to said transmission tube, inner and outer gates normally closing said sender, means for normally producing equalization of pressure in the transmission tube and the sender, an exhaust port from said sender to the atmosphere normally closed, an exhaust valve controlling said port and operated by the carrier to allow the pressure to exhaust from the sender for releasing the transmission tube pressure on the outer gate to permit the entrance of a carrier into the sender, means for closing said exhaust valve after the entrance of a carrier to permit the pressure in the sender and the transmission tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission tube, and a pneumatically-operated device for holding the carrier out of contact with the inner gate until the pressure on both sides of said gate is substantially equalized.

2. In a pneumatic despatch tube apparatus, a transmission tube, a sender connected to said transmission tube, inner and outer gates normally closing said sender, means for normally producing equalization of pressure in the transmission tube and the sender, an exhaust port from said sender to the atmosphere normally closed, an exhaust valve controlling said port and operated by the carrier to allow the pressure to exhaust from the sender for releasing the transmission tube pressure on the outer gate to permit the entrance of a carrier into the sender, means for closing said exhaust valve after the entrance of the carrier to permit the pressure in the sender and the transmission tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission tube and to hold said outer gate closed so that the pressure in the transmission tube will not escape into the atmosphere while the inner gate is open, and a pneumatically-operated device for holding the carrier out of contact with the inner gate until the pressure on both sides of the inner gate is substantially equalized.

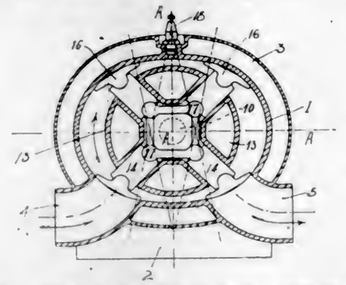
3. In a pneumatic despatch tube apparatus, a transmission tube, a sender connected to said transmission tube, inner and outer gates normally closing said sender, means for normally producing equalization of pressure in the transmission tube and the sender, an exhaust port from said sender to the atmosphere normally closed, an exhaust valve controlling said port and operated by the carrier to allow the pressure to exhaust from the sender for releasing the transmission-tube pressure on the outer gate to permit the entrance of a carrier into the sender, a counterweight on said exhaust valve for closing the same after the entrance of the carrier to permit the pressure in the sender and the transmission tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission tube and to hold the said outer gate closed so that the pressure in the transmission tube will not escape into the atmosphere while the inner gate is open, and a pneumatically-operated device for holding the carrier out of contact with the inner gate until the pressure on both sides of the inner gate is substantially equalized.

4. In a pneumatic despatch tube apparatus, a transmission tube, a sender connected to said transmission tube, inner and outer gates normally closing said sender, a by-pass for normally producing equalization of pressure in the transmission tube and the sender, an exhaust port from said sender to the atmosphere normally closed, an exhaust valve controlling said port operated by the carrier to allow the pressure to exhaust from the sender for releasing the transmission tube pressure on the outer gate to permit the entrance of a carrier into the sender, a counterweight on said exhaust valve for closing the same after the entrance of the carrier to permit the pressure in the sender and the transmission tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission tube and to hold the said outer gate closed so that the pressure in the transmission tube will not escape while the inner gate is open, and a pneumatically-operated device for holding the carrier out of contact with the inner gate until the pressure on both sides of the inner gate is substantially equalized.

5. In a pneumatic despatch tube apparatus, a transmission tube, a sender connected to said transmission tube, inner and outer gates normally closing said sender, means for normally producing equalization of pressure in the transmission tube and the sender, an exhaust port from said sender to the atmosphere normally closed, an exhaust valve controlling said port and operated by the carrier to allow the pressure to exhaust from the sender for releasing the transmission tube pressure on the outer gate to permit the entrance of a carrier into the sender, means for closing said exhaust valve after the entrance of the carrier to permit the pressure in the sender and the transmission tube

to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission tube, and a device for holding the carrier out of contact with the inner gate until the pressure on both sides of the inner gate is substantially equalized.

869,339. ROTARY ENGINE. THOMAS VEITCH, New York, N. Y., assignor to International Patent Corporation, Jersey City, N. J., a Corporation of South Dakota. Filed Oct. 6, 1906. Serial No. 337,793.

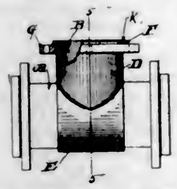


1. In combination, a casing of elliptic cross section, a piston centrally located therein, a plurality of radially reciprocating members on said piston, and a rocking element on each member and having a face in traveling contact with said casing and conforming to the configuration of the contacting surface of said casing over a substantial extent of the same.

2. In combination, a casing of elliptic cross section, a piston centrally located therein, a plurality of concatenated reciprocating members on said piston, and a rocking element on each member and having a face in traveling contact with said casing and conforming to the configuration of the contacting surface of said casing over a substantial extent of the same.

3. The combination with a casing of elliptic cross section, of a piston centrally located therein, an inlet and outlet in said casing, a plurality of radially reciprocating members on said piston, a rocking element on each member and in traveling contact with said casing over a substantial extent of surface and adapted to alternately close and open said inlet and outlet.

869,340. PIPE-FITTING. ARTHUR C. WALWORTH, Jr., Newton, Mass. Filed Nov. 3, 1906. Serial No. 341,923.



1. The improved pipe fitting comprising a lining of metal integral with the body portion of the pipe fitting and a saddle surrounding the said lining.

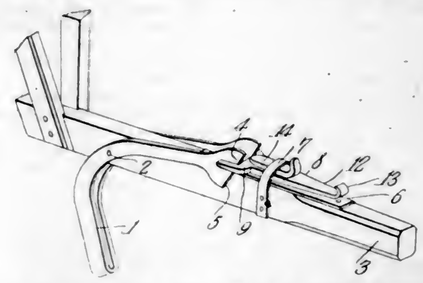
2. The improved pipe fitting comprising a lining of drawn metal integral with the body portion of the pipe fitting and a saddle about the said lining and welded at its edges thereto.

3. The improved pipe fitting comprising a lining of drawn metal integral with the body portion of the pipe fitting and a saddle about the said lining, the upper edges of the said lining and saddle being welded together.

4. The improved pipe fitting comprising a lining of drawn metal integral with the body portion of the pipe fitting and provided with a seat on the upper edge of the said lining, and a saddle about the said lining.

5. The improved pipe fitting comprising a lining of drawn metal integral with the body portion of the pipe fitting, a saddle about the said lining, a flange on the upper end of the said saddle, and a collar about the said saddle.

869,341. ADJUSTABLE PLOW-STANDARD. WILLIAM P. WIGLEY, Dallas, Ga. Filed May 27, 1907. Serial No. 375,980.

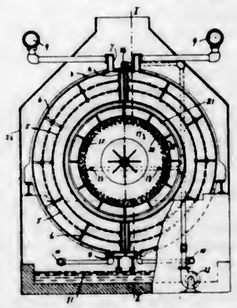


1. In combination with a beam, a standard pivoted thereto, a bit slidably mounted upon the standard and having a beveled edge for engaging the standard and means for holding the bit.

2. In combination with a beam, a standard pivoted thereto, a bit slidably mounted upon the beam and having a beveled edge with parallel projections at its sides, and means for holding the bit.

3. In combination with a beam, a standard pivoted thereto, a plate mounted on the beam, a clip attached to the beam and passing over said plate, a bit lying on the plate and adapted to engage the standard, and a wedge adapted to be interposed between the clip and the bit.

869,342. CONDENSER. JOHN ZELLWEGER, St. Louis, Mo. Filed July 9, 1906. Serial No. 325,332.



1. The combination with a rotary cooling member having a surface over which water is positively spread in a thin film so that said water will be cooled by evaporation in contact with air and adapted to throw the cooled water outwardly by centrifugal force, of a condensing vessel placed in the space radially beyond the zone of rotation of said cooling member, means for conducting steam into the condensing vessel, means for feeding water into the cooling member, and means for producing an air current over the surface of the condensing vessel; substantially as described.

2. The combination with a plurality of condensing vessels arranged to form a ring, of a cooling member placed in the center space of the ring and having a surface over which water is spread so that said water will be cooled by evaporation in contact with air and being adapted to throw this cooled water by centrifugal force onto the condensing vessel, means for positively spreading water in a

thin film over said surface, means for conducting steam into the condensing vessel, means for feeding water into the cooling member, means for rotating the cooling member, and means for producing a current of air over the condensing vessels; substantially as described.

3. The combination with a rotary cooling member which is so constructed that it cools the water applied thereto by evaporation in contact with air and being adapted to throw this cooled water and air outwardly by centrifugal force, means for positively spreading the water to be cooled, in a thin film over said member, of a condensing vessel placed in the space radially beyond the zone of rotation of the cooling member, means for conducting steam into the condensing vessel, and means for feeding water into the cooling member; substantially as described.

4. The combination with a plurality of condensing vessels arranged to form a ring, of a rotary cooling member placed in the center space of the ring, said cooling member being provided with a surface over which water is spread so that said water will be cooled by evaporation in contact with air and being adapted to throw this cooling water and air onto the condensing vessel by centrifugal force, means for positively spreading the water over said surface, means for conducting steam into the condensing vessels, means for feeding water into the cooling member, and means for rotating the cooling member; substantially as described.

5. The combination with a rotary member which is so constructed that it cools the water applied thereto by evaporation in contact with air and being adapted to throw this cooled water and air outwardly in vertical planes by centrifugal force, means for positively spreading water in a thin film over said cooling member, of a number of condensing vessels placed in the space radially beyond the zone of rotation of the cooling member and separated by spaces which serve as outlets for water and air projected from the cooling member, means for conducting steam into the condensing vessels, means for feeding water into the cooling member, and means for rotating the cooling member; substantially as described.

6. The combination with a number of condensing vessels arranged to form a plurality of rings, said rings being placed side by side in vertical planes and separated by spaces which constitute passages for water and air, of a rotary cooling member placed in the center space of the rings and provided with an extended cooling surface, means for spreading water in a thin film over said surface so that the water will be cooled by evaporation in contact with air, said cooling member being adapted to throw this water onto the condensing vessels and blow air onto the same, means for conducting steam into the condensing vessels, means for feeding water into the cooling member, and means for rotating the cooling member; substantially as described.

7. The combination with a rotary cooling member having an extended cooling surface, means for positively spreading water over said surface so that said water will be cooled by evaporation in contact with air, said cooling member being adapted to throw off this cooled water and air by centrifugal force, a condensing vessel placed in the space radially beyond the zone of rotation of the cooling member, a tank underneath the condensing vessel, means for conducting steam into the condensing vessel, means for conveying water out of the tank and distributing it over the interior of the cooling member, and tanks for rotating the cooling member; substantially as described.

8. The combination with a number of condensing vessels arranged in vertical planes to form parallel rings and separated by passages for water and air, a rotary cooling apparatus placed in the center space of the rings, said cooling apparatus being provided with a cooling surface, means for positively spreading water in a thin film over said cooling surface so that said water will be cooled by evaporation in contact with air, said cooling apparatus being adapted to throw this cooled water and air onto the condensing vessels by centrifugal force, of a tank underneath the condensing vessels suitable to hold water, means for feeding steam into the condensing vessels, means for feeding water out of the tank into the cooling apparatus, and means for rotating the cooling apparatus; substantially as described.

9. In combination with a rotary cooling apparatus adapted to cool water by evaporation in contact with air and to throw off water by centrifugal force, a condensing vessel placed in the space radially beyond the zone of rotation of the cooling apparatus and having a tapering cross section of which the thin end is in juxtaposition to the circumference of the cooling apparatus, means for feeding steam into the condensing vessel, means for feeding water into the cooling apparatus, means for rotating the cooling apparatus, and means for producing a current of air over the condensing vessel; substantially as described.

10. In combination with a rotary cooling apparatus adapted to cool water by evaporation in contact with air and to throw water outwardly and in a vertical plane by centrifugal force, a ring-shaped condensing vessel placed in vertical position in the space radially beyond the zone of rotation of the cooling apparatus and having a cross section which tapers inwardly, means for feeding steam into the condensing vessel, means for feeding water into the cooling apparatus, means for rotating the cooling apparatus, and means for producing an air current over the condensing vessel; substantially as described.

11. In combination with a rotary cooling apparatus adapted to cool water by evaporation in contact with air and to throw water outwardly and in a vertical plane by centrifugal force, a number of half-ring-shaped condensing cells placed in vertical position in the space radially beyond the zone of rotation of the cooling apparatus and having a cross section which tapers inwardly, means for feeding steam into the condensing cells, means for feeding water into the cooling apparatus, means for rotating the cooling apparatus, and means for producing an air current over the condensing cells; substantially as described.

12. In combination with a ring-shaped condensing vessel having a cross section which tapers inwardly, a rotary cooling apparatus placed in the center space of the ring, said cooling apparatus being adapted to cool water by evaporation in contact with air and to throw this water and air onto the condensing ring, said cooling apparatus having mounted on its circumference and in juxtaposition to the inner periphery of the condensing ring, a collecting ring of which the cross section tapers outwardly, whereby water and air which enter the collecting ring are discharged near the inner periphery of the condensing ring, means for feeding steam into the condensing vessel, means for feeding water into the cooling apparatus, and means for rotating the cooling apparatus; substantially as described.

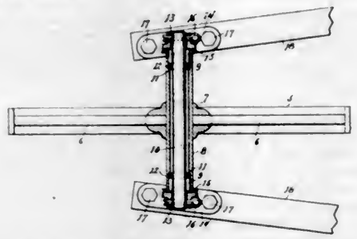
13. In combination with a number of condensing vessels and a rotary cooling apparatus adapted to cool water in contact with air and to throw this water and air onto the condensing vessel, a housing around the condensing vessels and having an opening through which air is admitted to the cooling apparatus, and an opening through which air escapes into the atmosphere; substantially as described.

14. A ring-shaped condensing vessel having inclined side walls, and a ring-shaped perforated stay-plate arranged between the side walls of said vessel and dividing it into compartments which communicate with each other through the openings in the stay-plate; substantially as described.

869,343. WHEELBARROW-WHEEL. CHARLES A. BAKER, and THOMAS L. SMITH, Milwaukee, Wis., assignors to Sterling Wheelbarrow Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed Sept. 10, 1906. Serial No. 333,901.

1. A wheelbarrow wheel having a tubular spindle with its bore countersunk at its ends forming internal shoulders, rings fitting in the countersunk bores of the tubular spindle against the internal shoulders thereof, series of rollers located in the countersunk bores and held in place by the rings, a pin passing through the tubular spindle and bearing on the rollers, and connecting brackets mounted on the ends of the pin and holding the rollers in place.

2. A wheelbarrow wheel having a tubular spindle with its bore countersunk at its ends forming internal shoulders, rings fitting in the countersunk bores of the tubular spindle against the internal shoulders thereof, series of rollers located in the countersunk bores and held in place by the rings, a pin passing through the tubular spindle and bearing on the rollers, and connecting brackets secured to the pin and having cup-shaped sockets to receive and protect the ends of the tubular spindle and hold the rollers in place.



3. A wheelbarrow wheel having a tubular spindle, a pin passing through the tubular spindle, roller bearings between the pin and the tubular spindle, connecting brackets having openings through which the pin loosely passes, and means for connecting the pin with the connecting brackets in a manner to permit of movement of the pin in said openings.

4. A wheelbarrow wheel having a tubular spindle, a pin passing through the tubular spindle, roller bearings between the pin and the tubular spindle, connecting brackets having tapering openings through which the pin passes, and means for connecting the pin with the connecting brackets.

5. A wheelbarrow wheel having a tubular spindle, a pin passing through the tubular spindle, roller bearings between the pin and the tubular spindle at the ends of the tubular spindle, connecting brackets having tapering openings through which the ends of the pin pass, said connecting brackets serving to hold the roller bearings in place, and means for securing the connecting brackets to the ends of the pin.

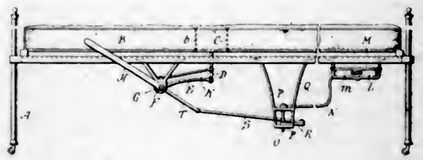
6. A wheelbarrow wheel having a tubular spindle with its bore countersunk at its ends forming internal shoulders, rings fitting in the countersunk bores against the internal shoulders, a pin passing through the tubular spindle and the rings, series of rollers fitting in the countersunk ends of the tubular spindle and held in place by the rings, connecting brackets having tapering openings through which the ends of the pin pass and provided with cup-shaped recesses to receive and protect the ends of the tubular spindle and hold the rollers in place, the tapering openings of the connecting brackets permitting variations in the positioning thereof with relation to the pin, and cotter pins connecting the ends of the pin with the connecting brackets.

7. A wheelbarrow wheel having a tubular spindle, a pin passing through the tubular spindle, roller bearings between the pin and the tubular spindle, connecting brackets having openings through which the pin loosely passes, and cotter pins passing through the connecting brackets and the ends of the pin and permitting movement of the pin in the openings of the connecting brackets.

869,344. INVALID-BED. JOHN D. BIRMINGHAM, Wilkes-Barre, Pa. Filed Dec. 19, 1906. Serial No. 348,606.

1. In an invalid bed, the combination with a main shaft, of a bed pad having a downwardly projecting stem, an arm rigidly secured to the said shaft and pivotally secured to the said stem, guide rods each having one end pivotally secured to the bed, the said guide rods being convergently arranged towards the said stem of the bed pad and pivotally connected with the said stem at a point separated from the point of connection of the said arm and stem whereby the said bed pad is guided in an up and down movement, substantially as described.

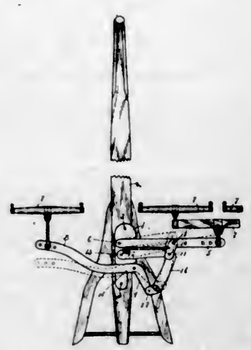
2. In an invalid bed, the combination with a main shaft, of a bed pad having a downwardly projecting stem, an elastic arm rigidly secured to the said shaft and pivotally secured to the said stem, guide rods each having one end pivotally secured to the bed, the said guide rods being convergently arranged towards the said stem of the bed pad and pivotally connected with the said stem at a point separated from the point of connection of the said arm and stem whereby the said bed pad is guided in an up and down movement, substantially as described.



3. In an invalid bed, the combination with a main shaft, of an arm secured to the shaft, a bed pad pivotally connected with the said arm, guiding means connected with the bed and with the said pad and swinging correspondingly with said arm whereby the said pad is guided in an up and down movement, a bed pan, and means actuated by the operation of said main shaft whereby the said bed pan is moved into a predetermined position beneath the bed and restored to its original position, substantially as described.

4. In an invalid bed, the combination with a main shaft, of a bed pad having a downwardly projecting stem, an arm rigidly secured to the said shaft and pivotally secured to the said stem, guide rods each having one end pivotally secured to the bed, the said guide rods being convergently arranged towards the said stem of the bed pad and pivotally connected with the said stem at a point separated from the point of connection of the said arm and stem, a bed pan, and means actuated by the operation of the main shaft and constructed and arranged to move the said bed pan into a predetermined position beneath the bed and to restore the said pan to its original position, substantially as described.

869,345. DRAFT-EQUALIZER. ALEXANDER BUSH, Pinconning, Mich., assignor of one-half to Joseph Hennard, Pinconning, Mich. Filed Jan. 22, 1907. Serial No. 353,467.



1. The combination with the pole of a vehicle, of a draft equalizer comprising a straight draft bar, the inner end of the bar being pivoted to the pole, a long curved draft lever pivoted to the pole, an arm projecting rearwardly from

the long curved draft lever on that side of the pole with the straight draft bar, a rigid bell crank, one arm of which is pivoted to the pole, a link pivotally connecting the remaining arm of the bell crank with the rearwardly extending arm of the curved draft lever, and a pivotal connection between the bell crank and the straight draft bar.

2. The combination with a pole or tongue, of an equalizer comprising a straight draft bar pivoted at one end to the tongue, a curved draft lever pivoted at its angle to the tongue, the pivotal point of the draft lever lying in a plane intersecting the draft bar so that the inner end of the draft bar overlaps or passes beyond the inner pivoted end of the curved draft lever, a rigid bell crank, one arm of which is pivoted to the pole, a link connecting the remaining arm of the bell crank to the inner end of the curved draft bar and a pivotal connection between the bell crank and the straight draft bar, the bell crank located between the straight draft bar and the inner end of the curved draft lever, one arm of the bell crank lying approximately parallel with the draft bar.

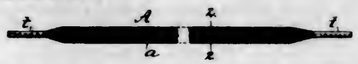
3. The combination with the pole of a vehicle, of a draft equalizer comprising a straight draft bar projecting from one side of the pole, the inner end of the bar being pivoted to the pole, a draft lever pivoted intermediate its ends to the pole, the longer arm of the lever being curved and projecting from the opposite side of the pole, the shorter arm of the lever extending rearwardly and lying on the same side of the pole with the draft bar, an intermediate bell crank, one arm of which lies approximately parallel with the straight draft bar, the free end of said bell crank arm being pivotally secured to the pole, the remaining arm of the bell crank projecting rearwardly to a point adjacent the free end of the shorter arm of the draft lever, a link connection between the free ends of the shorter draft lever arm and the last mentioned bell crank arm, and a link connection between the angle of the bell crank and a point approximately equidistant the ends of the draft bar.

4. The combination with the pole of a vehicle, of a straight draft bar projecting from one side of the pole, the inner end of the bar pivotally secured to the pole, a bell crank draft lever pivoted at its angle to the pole, the longer arm of the bell crank draft lever projecting from the opposite side of the pole, the shorter end of the bell crank projecting on the same side of the pole with the bar, a rigid bell crank, one arm of which is pivoted to the pole and link connections between the shorter end of the bell crank draft lever and the free arm of the bell crank and between the angle of the bell crank and the draft bar.

5. The combination with a pole or tongue, of an equalizer comprising a draft bar pivoted at one end to the pole, a curved draft lever pivotally secured at its angle to the tongue, the inner end of the draft bar extending rearwardly nearly parallel with the pole, a rigid bell crank lever, one arm of which lies parallel with the draft bar and is pivoted to the pole to have a motion parallel to that of the draft bar, the remaining arm of the bell crank extending rearwardly to a point opposite the rear end of the draft lever, a link lying nearly perpendicularly to the pole and connecting the rear ends of the draft lever and of the bell crank respectively, and a link connection between the bell crank and the draft bar.

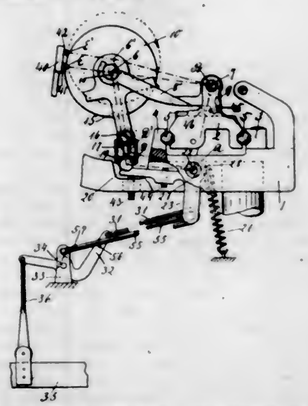
6. The combination with the pole of a vehicle, of a bed plate secured thereto, a guard plate superposed thereon, a straight draft bar extending laterally from the pole on one side, the inner end of the bar being pivotally secured between the plates, a curved draft lever extending between and pivotally secured to the plates in rear of the bar, the longer curved arm of the draft lever projecting from the opposite side of the pole, the shorter arm of the draft lever projecting past the plates and lying on the same side of the pole with the draft bar, a bell crank, one arm of which is pivotally secured between the plates at a point intermediate the pivotal points of the draft bar and draft lever, a link pivotally connecting the remaining arm of the bell crank to the shorter arm of the draft lever, and a pivotal connection between the bell crank and the straight draft bar.

869,346. SHOE-LACING. ALFRED CALDWELL, Providence, R. I., and GEORGE F. DREW, Brunswick, Me., assignors of one-third to J. Vinton Dart and George H. Remington, Providence, R. I. Filed May 5, 1906. Serial No. 315,455.



A flat shoe lacing consisting of a length of woven material folded longitudinally upon itself a plurality of times throughout its entire extent, said lacing having its plies bonded together and both longitudinal edges formed by said folds.

869,347. PLATEN-SHIFT MECHANISM. GEORGE W. CAMPBELL, New York, N. Y., assignor, by mesne assignments, to Victor Typewriter Company. Filed Jan. 15, 1907. Serial No. 352,375.



1. In a typewriting machine, the combination with a carriage guided rectilinearly longitudinally of the machine, a platen carrying frame, links connecting said frame to the carriage, lugs on said links near their pivot points, and lugs on the carriage frame against which said link lugs abut for limiting the upward motion of said links, a rail on which the platen carrying frame has rolling support independently of the carriage, types adapted to strike the platen, pivoted bell cranks having their forward arms operatively connected to said rail and suitably proportioned to the length of said frame connecting links and forming with said links a link system to guide the platen so as to have the same striking point in the normal and in the shifted position in a plane coincident with the plane through the type faces in their striking position, adjustable stops for limiting the motion of said bell cranks in both directions, and means for operating said pivoted bell cranks to shift the platen.

2. In a typewriting machine, the combination of a carriage guided rectilinearly longitudinally of the machine, a platen carrying frame, links connecting said frame to the carriage, lugs on said links near their pivot points having set screws and lugs on the carriage frame against which said link set screws abut for limiting the upward motion of said links, a rail on which the platen carrying frame has rolling support independently of the carriage, types adapted to strike the platen, pivoted bell cranks having their forward arms operatively connected to said rail and suitably proportioned to the lengths of said frame connecting links, and forming with said links a link system to guide the platen so as to have the same striking point in the normal and in the shifted position in a plane coincident with the plane through the type faces in their striking position, adjustable stops for limiting the motion of said bell cranks in both directions, and means for operating said pivoted bell cranks to shift the platen.

3. In a typewriting machine, the combination of a carriage guided rectilinearly longitudinally of the machine, a platen carrying frame, links connecting said frame to the carriage, lugs on said links near their pivot point having set screws, and lugs on the carriage frame against which said link set screws abut for limiting the upward motion of said links, a rail on which the platen carrying frame has rolling support independently of the carriage, types adapted to strike the platen, pivoted bell cranks having their forward arms operatively connected to said rail and suitably proportioned to the lengths of said frame connecting links, and forming with said links a link system to guide the platen so as to have the same striking point in the normal and in the shifted position in a plane coincident with the plane through the type faces in their striking position, adjustable stops for limiting the motion of said bell cranks in both directions, a shift-key, an intermediate bell crank and a pull rod, said intermediate bell crank being rockably fastened and having one arm suitably linked to said shift key and the other arm linked to one end of the pull rod, the other end of said pull rod being suitably connected to the downward arms of the platen shifting bell crank to shift the platen, and means for locking and unlocking the platen in its normal position.

4. In a typewriting machine, the combination of a carriage guided rectilinearly longitudinally of the machine, a platen carrying frame, links connecting said frame to the carriage, lugs on said links near their pivot point having set screws, a lug on the carriage frame against which said link set screws abut for limiting the upward motion of said links, a rail on which the platen carrying frame has rolling support independently of the carriage, types adapted to strike the platen, pivoted bell cranks having their forward arms operatively connected to said rail and suitably proportioned to the lengths of said frame connecting links and forming with said links a link system to guide the platen so as to have the same striking point in the normal and in the shifted position in a plane coincident with the plane through the type faces in their striking position, adjustable stops for limiting the motion of said bell cranks in both directions, a shift key, an intermediate bell crank and a pull rod, said intermediate bell crank being rockably fastened and having one arm suitably linked to said shift key and the other arm linked to one end of the pull rod, the other end of said pull rod having lost motion connection with the downward arms of said platen shifting bell crank to shift the platen, and a pin fastened on the pull rod bearing arm of said intermediate bell crank, a lock rod pivoted on one end close to said intermediate bell crank and supported by said pin and pushing against the downward arm of said platen shifting bell crank with its other end, the lost motion of said shift key operated pull rod causing said supporting pin to unlock said platen shifting bell crank before the platen is being shifted, and to lock said bell crank on the return of the platen to its normal position.

5. In a typewriting machine, the combination of a carriage guided rectilinearly longitudinally of the machine, a platen connected to said carriage to accompany its longitudinal motion having a shifting movement shifting the platen transversely thereto, pivoted bell cranks having one of their corresponding arms operatively connected to said shifting movement, a shift key, an intermediate bell crank and a pull rod, said intermediate bell crank being rockably fastened and having one arm suitably linked to said shift key and the other arm linked to one end of said pull rod, the other end of the pull rod having lost-motion-connection with one of the other corresponding arms of said platen-shifting bell cranks to shift the platen, and a pin fastened on the pull-rod-bearing arm of said intermediate bell crank, a lock rod pivoted on one end close to said intermediate bell crank and supported by said pin and pushing against the pull rod connected arm of said platen shifting bell crank with its other end, the lost motion of said shift key operated pull rod causing said supporting pin to unlock said platen shifting bell crank before the platen is being shifted and to lock said bell crank on the return of the platen to its normal position.

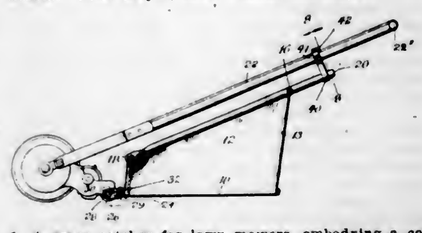
860,348. STORAGE-BATTERY GRID. RUFUS N. CHAMBERLAIN, Depew, N. Y., assignor to Gould Storage Battery Company, New York, N. Y., a Corporation of New York. Filed Feb. 5, 1906. Serial No. 299,610.



1. A lead storage battery grid, having its main body or portion which is intended to become active or carry active material, formed of a series of relatively high, thin and closely set leaves or ribs of rolled or spun metal, compact and dense throughout, integral with the remainder or frame portion of the grid, said ribs being relatively thick at base, tapered substantially from base to apex, raised at the apex above the surface of the surrounding frame portion of the grid and having between them narrow and deep channels decreasing in width from substantially the surface to the mid-thickness of the grid.

2. A lead storage battery grid, having its main body or portion which is intended to become active or carry active material, formed of a series of relatively high, thin and closely set leaves or ribs of rolled or spun metal, compact and dense throughout, integral with the remainder or frame portion of the grid, said leaves or ribs being relatively thick at base, tapered nearly from base to apex, parallel-walled at the apex and raised at the apex above the surface of the surrounding frame portion of the grid and having between them narrow and deep channels decreasing in width from near the surface to the mid-thickness of the grid.

869,349. GRASS-CATCHER. JOSEPH H. COULT, Fairmont, Minn., assignor to Houghtaling-Coult Manufacturing Company, Fairmont, Minn., a Corporation of Minnesota. Filed May 7, 1906. Serial No. 315,553.



1. A grass catcher for lawn mowers, embodying a connection for attaching it to the lawn mower adapted to permit a free lateral adjustment of said grass catcher with respect to the lawn mower.

2. A grass catcher for lawn mowers, embodying a connection for attaching it to the lawn mower adapted to permit the lateral adjustment of said grass catcher with respect to the lawn mower without disconnection of the parts.

3. In a grass catcher, the combination of a receptacle, a support adapted to be secured to a mower, a freely adjustable connection between said support and the front of the receptacle which permits the receptacle to be readily shifted laterally to either side of the mower, and supporting means for the rear of the receptacle.

4. In a grass catcher, the combination of a receptacle, a support adapted to be secured to a mower, a sliding connection between said support and the front of the receptа-

cle which permits the receptacle to be readily shifted laterally to either side of a mower, and supporting means for the rear of the receptacle.

5. In a grass catcher, the combination of a receptacle, a support adapted to be connected to a mower, a handle for the receptacle, a sliding connection between the support and the front end of the receptacle which permits the receptacle to be shifted to either side of a mower by shift of the handle, and supporting means for the rear portion of the handle.

6. In a grass catcher, the combination of a receptacle, a support adapted to be connected to a mower, a sliding connection between the front end of the receptacle and said support which permits the receptacle to be readily shifted laterally to either side of the mower, a handle secured to the receptacle, and means adapted to be connected to the handle of the mower for holding the handle in different lateral positions.

7. In a grass catcher, the combination of a receptacle, a support adapted to be secured to a mower, a sliding connection between the front end of the receptacle and the support which permits the receptacle to be shifted laterally along said support to hold the receptacle at either side of the mower, and supporting means for the rear of the receptacle and whereby it will be sustained in either of its adjusted positions.

8. In a grass catcher, the combination of a receptacle, a support adapted to be secured to a mower and a sliding connection between the front of the receptacle and the support which permits the receptacle to be shifted bodily to either side of the mower, a handle secured to the receptacle, and a support for the receptacle handle adapted to be connected to the handle of the mower and which is adjustable so the receptacle handle can be placed therein.

9. In a grass catcher, the combination of a receptacle, a support adapted to be secured to a mower, means for detachably connecting the front of the receptacle to said support, said connecting means being laterally adjustable to hold the receptacle at either side of the mower, a handle for said receptacle, and a support adapted to be connected to the handle of the mower and having a plurality of seats therein for the handle.

10. The combination with a lawn mower, of a receptacle, and a free laterally adjustable connection between the front end of said receptacle and lawn mower whereby the receptacle may be shifted to project laterally to either side of the mower.

11. The combination with a lawn mower, of a receptacle, the front portion whereof is of greater width than the mower, and a detachable and sliding connection between the front end of the receptacle and the mower whereby the receptacle may be readily shifted laterally to project laterally from either side of the mower.

12. The combination with a lawn mower, of a receptacle, the front portion whereof is of greater width than the mower, a detachable and sliding connection between the front of the receptacle and the mower and which permits the receptacle to be readily shifted laterally to either side of the mower, a handle for the receptacle whereby the receptacle can be shifted laterally and detached, and means for connecting the rear end of the receptacle handle to the push-bar or handle of the mower.

13. The combination with a lawn mower, of a receptacle, the front portion whereof is of greater width than the mower, a detachable and sliding connection between the front end of the receptacle and the mower and which permits the receptacle to be readily shifted laterally to either side of the mower, a handle for the receptacle extending rearwardly therefrom, and a support connected to the handle or push-bar of the mower for holding the receptacle handle in different lateral positions.

14. In a grass catcher, the combination of a receptacle, a mower, a detachable and sliding connection between the front end of the receptacle and the mower which permits the receptacle to be readily shifted laterally with respect to the mower, a handle secured to the receptacle, and a laterally extending support for said handle adapted to be connected to the handle or push-bar of a mower and whereby the receptacle handle may be sustained in different lateral positions.

15. In a grass catcher, the combination of a receptacle comprising a bottom and sides, a bail, means for rigidly securing the bail to a mower to extend transversely thereof, a detachable connection between the front end of the receptacle and the bail, and means whereby the receptacle will be supported by the push-bar of the mower.

16. In a grass catcher, the combination of a receptacle comprising a bottom and sides, an extensible bail having connections adapted to be secured to a mower with the bail extending transversely of the mower, a detachable connection between the front of the receptacle and said bail, and means for supporting the rear of said receptacle from the push-bar of the mower.

17. In a grass catcher, the combination of a receptacle, comprising a bottom and sides, a bail adapted to be secured to the mower comprising two members one at each side of the mower, a sheathing for adjustably connecting said members, means at the front of the receptacle for detachably connecting the receptacle and said bail, and means whereby the rear of the receptacle will be supported by the push-bar of the mower.

18. In a grass catcher, the combination of a receptacle comprising a metallic bottom and fabric sides the edges of the metallic bottom and fabric sides being overlapped and interfolded to form a seam for uniting the sides and the bottom, said seam being flattened and extending upwardly at an angle to the bottom and around the lower edge thereof, and means whereby the receptacle can be detachably connected to a mower.

19. In a grass catcher, the combination of a receptacle comprising a bottom and sides, a support to be attached to a mower, a strip secured to and extending across the front of the receptacle and forming a hook for detachably connecting the receptacle to said support, and means whereby the receptacle can be supported by the push-bar of the mower.

20. In a grass catcher, the combination of a receptacle comprising a bottom and sides, a bail adapted to be secured to a mower and a strip extending across the front of the receptacle and secured thereto and bent to form a hook for engaging said bail and whereby the receptacle can be detachably connected to the bail.

21. In a grass catcher, the combination of a receptacle comprising sides and a metallic bottom, a bail adapted to be secured to a mower, said bottom being bent to form a wall extending across at its front, and to form a hook for engaging said support.

22. In a grass catcher, the combination of a receptacle comprising a metallic bottom and fabric sides, a wire at the upper edge of said sides, uprights secured to said bottom and at the front of the sides, a handle secured to the back of the receptacle, a rod extending across the front of the receptacle secured to the sides and extending through the front end of the handle, and means detachably connecting the receptacle to the mower.

23. In a grass catcher, the combination of a receptacle comprising a metallic bottom and fabric sides, a wire extending across the back of the receptacle and connected to the sides, a handle having a perforation therein through which said wire is extended to connect the rear of the receptacle to the handle, means for connecting the front of the receptacle to the front end of the handle, and means for detachably connecting the front end of the receptacle to a mower.

24. In a grass catcher, the combination of a receptacle comprising a metallic bottom and fabric sides, a wire extending across the back of the receptacle and connected to the sides, a handle having a perforation therein through which said wire is extended to connect the rear of the receptacle to the handle, a rod extending across the front of the receptacle secured to the sides, and means for detachably connecting the front end of the receptacle to a mower.

25. In a grass catcher, the combination of a receptacle comprising a metallic bottom and fabric sides, a handle for the receptacle, a wire at the upper edge of said sides and having a portion thereof extending across the back of the receptacle and through the handle and having uprights secured to the bottom at the front of the receptacle, a cross rod secured to said wire at the front of the receptacle and extending through the front of the handle, and means for detachably connecting the receptacle to a mower.

26. In a grass catcher, the combination of a receptacle, comprising a metallic bottom and fabric sides, a wire at the upper edge of said sides, uprights secured to said bottom at the front of the receptacle and extending upwardly and outwardly from the bottom, a cross rod at the front of the receptacle serving to hold the sides in spread relation, a handle secured to the cross rod and to the back of the receptacle, and means for detachably connecting the receptacle to the mower.

27. In a grass catcher, the combination of a receptacle comprising a metallic bottom and fabric sides, a wire at the upper edge of said sides, having legs secured to said bottom at the front of the receptacle, a cross wire at the front of the receptacle, and a handle secured to said cross wire and secured also to the back of the receptacle, said bottom being provided with a strip at the front edge for detachably connecting the receptacle to a mower.

869,350. CONVEYING APPARATUS. JAMES T. COWLEY, Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J., a Corporation of New Jersey. Filed July 31, 1905. Serial No. 271,883.



1. In a conveying apparatus, a channel track or way, means for permitting the insertion of articles into said channel track or way, propelling means for engaging said articles above said channel track or way and for moving said articles along the same, and means for receiving said articles from said channel track or way.

2. In a conveying apparatus, a plurality of channel tracks or ways, means for permitting the insertion of articles into said channel tracks or ways, propelling means for engaging said articles above said channel tracks or ways and for moving said articles along the same, and means for receiving said articles from said channel tracks or ways.

3. In a conveying apparatus, a channel track or way, means for permitting the insertion of articles into said channel track or way, an endless belt or cable, means located on said belt or cable for engaging said articles above said channel track or way and for moving said articles along the same, and means for receiving said articles from said channel track or way.

4. In a conveying apparatus, a plurality of channel tracks or ways, means for permitting the insertion of articles into said channel tracks or ways, an endless traveling belt or cable, projecting means located on said belt or cable for engaging and moving said articles along said channel tracks or ways, and means for receiving said articles from said channel tracks or ways.

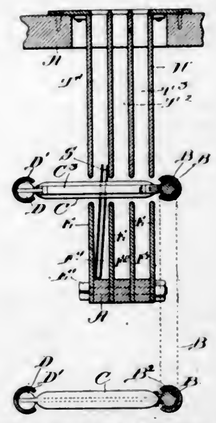
5. In a conveying apparatus, a channel track or way, means for permitting the insertion of articles into said channel track or way, an endless traveling belt or cable, a plurality of means located on said belt or cable adapted to engage said articles above said channel track or way and to move said articles along the same, and means for receiving said articles from said channel track or way.

6. In a conveying apparatus, a plurality of channel tracks or ways, means for permitting the insertion of articles into said channel tracks or ways, an endless traveling belt or cable, a plurality of means located on said belt or cable and adapted to engage and move said articles along said channel tracks or ways, and means for receiving said articles from said channel tracks or ways.

7. In a conveying apparatus, an endless belt or cable, pulleys mounted in suitable bearings supporting said endless belt or cable, means for driving said belt or cable, a plurality of channel tracks or ways located within the path of travel of said belt or cable, a receiving shelf or station located at the open terminus of each channel track or way, means for permitting the insertion of articles into said channel tracks or ways, actuating means carried by said belt or cable and adapted to engage and move said articles to their predetermined destination or receiving shelf.

8. In a conveying apparatus, a channel track or way into which articles are placed for transmission, a traveling belt or cable, means located on said belt or cable adapted to engage said articles above said track or way and to move said articles along the same, and means for receiving said articles from said channel track or way.

869,351. CONVEYING APPARATUS. JAMES T. COWLEY, Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J., a Corporation of New Jersey. Filed Aug. 7, 1905. Serial No. 272,943.



1. In a conveying apparatus, a channel track or way, a chute or guide mounted over said channel track or way and adapted to guide articles into said channel track or way, an endless traveling belt or cable, an actuating bar pivoted to said belt or cable and adapted to engage said articles, means for supporting and guiding said actuating bar in its path of travel and means for receiving said articles from said channel track or way.

2. In a conveying apparatus, a channel track or way, a plurality of chutes or guides mounted over said channel track or way and adapted to guide articles into said channel track or way, an endless traveling belt or cable, a plurality of actuating bars pivoted to said belt or cable and adapted to engage said articles, means for supporting and guiding said actuating bars in their path of travel, and means for receiving said articles from said channel track or way.

3. In a conveying apparatus, a plurality of channel tracks or ways, a plurality of chutes or guides mounted over said channel tracks or ways, means in said chutes or guides for guiding articles into any of said channel track or ways, an endless traveling belt or cable, a plurality of actuating bars pivoted to said belt and adapted to engage said articles, means for supporting and guiding said actuating bars in their path of travel, and means for receiving said articles from said channel tracks or ways.

4. In a conveying apparatus, an endless belt or cable, pulleys mounted in suitable bearings supporting said endless belt or cable, means for driving said belt or cable, a plurality of channel tracks or ways located adjacent the path of travel of said belt or cable, a receiving shelf or station located at the open terminus of each channel track or way, a plurality of chutes or guides mounted over said

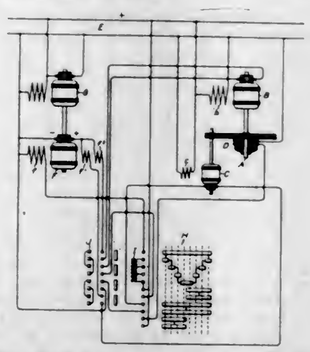
channel tracks or ways, means in said chutes or guides for predetermining the destination of articles to be conveyed along said channel tracks or ways, actuating bars pivoted to said belt or cable, bars pivoted to said cable and to the free ends of said actuating bars, shoes mounted on the free ends of said actuating bars, and the endless tube in which said shoes are supported and guided during their travel.

5. In a conveying apparatus, a channel-track or way, a chute adapted to guide and permit the insertion of articles into said channel-track or way, and projecting means for engaging and moving said articles along said channel-track or way.

6. In a conveying apparatus, a channel-track or way, a chute adapted to guide and permit the insertion of articles into said channel-track or way, projecting means for engaging and moving said articles along said channel-track or way, and means for receiving said articles from said channel-track or way.

7. In a conveying apparatus, a channel track or way, a chute adapted to guide and permit the insertion of articles into said channel track or way, means for engaging the upper ends of said articles in said channel track or way and for moving said articles along the same, and means for receiving said articles from said channel track or way.

869,352. MOTOR-CONTROL SYSTEM. MAXWELL W. DAY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Mar. 6, 1907. Serial No. 360,808.



1. In combination with a load to be driven, an electric motor adapted to drive the load at low speed, a second motor adapted to drive the load at a higher speed, a source of constant voltage, a source of variable voltage, and controlling means for said motors arranged to connect the first motor to the source of variable voltage and gradually increase said voltage, and then to connect the second motor and the source of variable voltage in series to the source of constant voltage and gradually to reduce the voltage of the variable source.

2. In combination with a load to be driven, an electric motor adapted to drive the load at low speed, a second motor adapted to drive the load at a higher speed, constant potential mains, a generator provided with means for varying its voltage, and controlling means arranged to connect the generator to the first motor and gradually to increase its voltage, and then to connect the second motor and the generator in series to the mains and gradually to reduce the generator voltage.

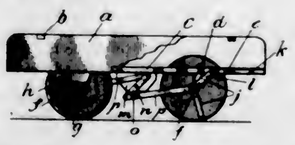
3. In combination with a load to be driven, an electric motor adapted to drive the load at low-speed, a second motor adapted to drive the load at a higher speed, constant potential mains, a generator provided with means for varying its voltage, and controlling means arranged to connect the generator to the first motor and gradually to increase its voltage, and then to disconnect the first motor mechanically from the load and to connect the second motor and the generator in series to the mains and gradually to reduce the generator voltage.

4. In combination with a load to be driven, an electric motor adapted to drive the load at low speed, a clutch between said motor and the load, a second motor adapted to drive the load at a higher speed, a source of constant voltage, a source of variable voltage, and controlling means for said motors adapted to actuate said clutch and to connect the first motor to the source of variable voltage, then gradually to increase said voltage, then to disengage said clutch and to connect the second motor and the source of variable voltage in series to the source of constant voltage, and then gradually to reduce the voltage of the variable source.

5. In combination with the load to be driven, an electric motor adapted to drive the load at low speed, a second motor adapted to drive the load at a higher speed, constant potential mains, a generator provided with means for varying its voltage, and controlling means arranged to connect the generator to the first motor and gradually to increase its voltage, and then to connect the second motor and the generator in series to the mains and gradually to reduce the generator voltage, said generator having a series field winding adapted to assist the main field magnetization when the generator is connected to the first motor and to oppose the main field magnetization when the generator is connected to the second motor.

6. In combination with a load to be driven, an electric motor adapted to drive the load at low speed, a second motor adapted to drive the load at a higher speed, constant potential mains, a generator having a main field winding of variable strength and two series field windings, and controlling means arranged to connect the generator to the first motor with one series winding in circuit and gradually to increase the strength of the main field winding, and then to connect the second motor and the generator in series to the mains with the other series field winding in circuit and gradually to reduce the strength of the main field winding.

869,353. BRICK-TRUCK. HENRY J. DUNDAS, Leeside Junction, Ontario, Canada. Filed Nov. 1, 1906. Serial No. 341,629.

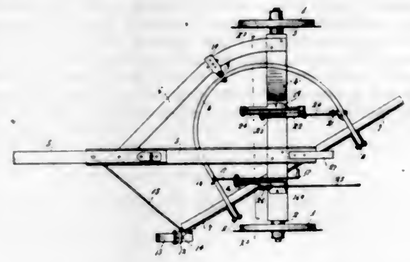


1. In a brick truck, in combination with the axles and carrying wheels, of a frame adjustably mounted on said axles, connecting links adjustably connecting said frame with said axles, operating levers engaging with said axles and frame, and operating levers engaging with said frame and axles, substantially as described.

2. In a brick truck, in combination with the axles and carrying wheels, of a frame adjustably mounted on said axles, connecting links adjustably connecting said frame with said axles, operating levers engaging with said axles and frame, and operating levers engaging with said frame and axles, a lever bar mounted in said frame, coupling bars connecting said axles with said lever bar, substantially as described.

3. In a brick truck, in combination with the carrying axles and wheels, of a frame adjustably mounted on said axles, said frame comprising sides and cross braces, connecting and fulcrum bars set in said frame, connecting links adjustably connecting said axles with said connecting bars, operating levers connecting with said axles and connecting bars, operating levers mounted on said fulcrum bars, said operating levers engaging with crank-arms mounted on said axles, a lever bar mounted in said frame, coupling bars connecting said axles with said lever bars, bearing blocks set under edges of said sides of frames, substantially as described.

869,354. GRADING-MACHINE. CHARLES D. EDWARDS, Albert Lea, Minn. Filed July 24, 1907. Serial No. 385,286.



1. In a grading machine, the combination with a wheel-supported frame and a scraper, of a scraper-suspending hanger overlying a part of said frame and pivoted to the frame, substantially at right angles to the scraper.

2. In a grading machine, the combination with a wheel-supported frame and a scraper, of a scraper-suspending hanger overlying the axle bar of said frame and pivoted to the frame substantially at right angles to the scraper.

3. In a grading machine, the combination with a wheel-supported frame and a scraper, of a scraper-suspending hanger overlying the axle bar of said frame, and connected thereto by a universal joint at a point substantially at right angles to the scraper.

4. In a grading machine, the combination with a wheel-supported frame having an axle bar with sections thereof at different levels, of a scraper and a scraper-suspending hanger, which hanger overlies the lower section of said axle bar and is provided with downward extensions suspending the scraper below the highest section of said axle bar at an angle to the line of draft, and which hanger is pivoted to said frame substantially at right angles to the scraper.

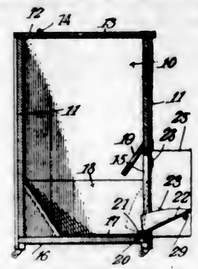
5. In a grading machine, the combination with a wheel-supported frame and a scraper, of a hanger, for suspending said scraper at an angle to the line of draft, which hanger is of bow shape and is mounted with one arm of the bow overlying the axle bar, and the other arm of the bow underlying the pole iron of the frame, and is pivoted at the crown of the bow to the frame substantially at right angles to the line of draft.

6. In a grading machine, the combination with a wheel-supported frame, having an axle bar with opposite end sections at different levels, of a scraper and a bow shaped scraper hanger mounted with one arm overlying the lowest section of said axle bar, its other arm underlying the pole iron, the crown of its arch connected to said frame by a universal joint substantially at right angles to the scraper, and the ends of its arms curved downward and fixed to the scraper-head for suspending the same beneath the highest section of the axle bar at an angle to the line of draft, substantially as described.

7. In a grading machine, the combination with a wheel-supported frame and a scraper, of a scraper-suspending hanger overlying the axle bar of said frame and provided to the frame substantially at right angles to the scraper, and levers mounted on the frame and operative to afford independent vertical adjustments of the opposite ends of said scraper, substantially as described.

8. In a grading machine, the combination with a wheel-supported frame and a scraper, of a scraper-suspending hanger overlying the axle bar of said frame and pivoted to the frame substantially at right angles to the scraper, a vertically adjustable shoe attached to the forward end of the scraper, levers on the frame operative to afford independent vertical adjustments of the opposite ends of said scraper, and a lever on said frame operative to raise or lower the entire scraper, at will, and to hold the same in its elevated position by throwing the lever past a dead center, all for coöperation, substantially as described.

869,355. COAL-CABINET. RAY R. FAULKNER, Marion, Ind. Filed Sept. 17, 1906. Serial No. 334,912.



1. A receptacle having an opening in one of its sides, a removable wear plate upon the floor of the receptacle, opposite said opening, inclined members between the rear and side of said plate and the inner faces of the side walls of the receptacle, and a removable swinging chute adapted to project beyond the front of the receptacle with an upward inclination, the floor of said chute being continuous with said wear plate when so projected.

2. A receptacle having an opening in one of its sides, a removable wear plate upon the floor of the receptacle opposite said opening, inclined members between the rear and side edges of said plate and the inner faces of the side walls of the receptacle, a downwardly-inclined guard member within the receptacle and above the opening, a chute swinging from the outer end of said wear plate and adapted to be extended through said opening.

3. A receptacle having an opening in one of its sides, a removable wear plate upon the floor of the receptacle opposite said opening, inclined members between the rear and side edges of said plate and the inner faces of the side walls of the receptacle, doors swinging from the sides of said opening, and a flexible element connecting said doors to limit their movement and form a support for the chute when in extended position.

4. A receptacle having an opening in one of its sides, a removable wear plate upon the floor of the receptacle opposite said opening, and with spaced apertures at its outer end, and a chute adapted to be extended through said opening, and having studs at its inner ends adapted to engage the apertures in said wear plate.

5. A receptacle having an opening in one of its sides, a wear plate upon the floor of the receptacle opposite said opening and having spaced apertures or sockets at its outer end, inclined members between the rear and side edges of said plate and the inner faces of the side walls of the receptacle, a chute provided with studs on its inner end pivotally supported in spaced apertures of said wear plate, said chute projecting through the opening in the receptacle when in use with an upward inclination, doors swinging from the sides of said receptacle opening, and a flexible element coupling said doors and limiting their movement and forming a support for the chute when in extended position.

869,356. MOTOR-CONTROLLER. WILHELM FIEDLER, Berlin, Germany, assignor to General Electric Company, a Corporation of New York. Filed Apr. 3, 1906. Serial No. 309,619.

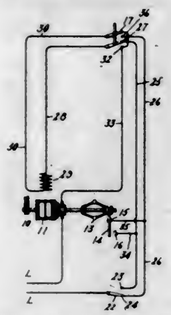
1. The combination with an electric motor, of means for reversing the same, and means controlled by the speed of the motor for interrupting the reverse current.

2. The combination with an electric motor of means for reversing the same, and a centrifugally-actuated cut-out for interrupting the reverse current.

3. The combination with an electric motor of a reversing-switch therefor, and means controlled by the speed of the motor for interrupting the reverse current.

4. The combination with an electric motor of a reversing-switch therefor and a centrifugally-actuated cut-out for interrupting the reverse current.

5. The combination with an electric motor of means for closing the motor-circuit, a cut-out controlled by the speed of the motor, and means for reversing the current to the motor through said cut-out.



6. In combination, an electric motor, means controllable from a distance for closing the motor-circuit, a switch for reversing the direction of current in said circuit, and means controlled by the speed of the motor for interrupting the reverse current.

7. The combination with an electric motor of means for retarding the speed thereof, comprising means for reversing the current through said motor, and means for automatically interrupting the reverse current when the motor is reduced to the desired speed.

8. The combination with an electric motor of means for quickly stopping the same comprising a reversing-switch and a cut-out controlled by the speed of the motor for interrupting the reverse current when the motor substantially stops.

9. The combination with an electric motor of means for closing the motor-circuit, a centrifugally-operated cut-out and means for reversing the current through the motor and including the cut-out in the reverse circuit.

10. The combination with an electric motor of a circuit therefor having parallel branches, a centrifugally-actuated cut-out connected across said branches and a double-pole reversing-switch arranged to complete the circuit through either branch.

11. The combination with an electric motor of a circuit therefor having parallel branches, a cut-out controlled by the speed of the motor connected across said branches and a reversing switch arranged to complete the circuit through either branch.

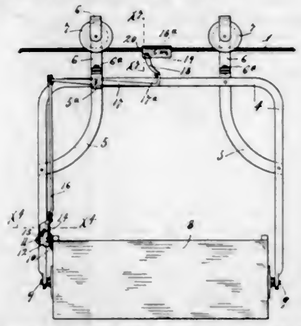
12. The combination with an electric motor of a circuit therefor having different branches, a reversing-switch arranged to complete the circuit through either branch, a centrifugally-actuated cut-out connected across said branches and a second switch coöperating with the reversing-switch to shift the current from one branch to the other.

13. The combination with an electric motor of a circuit therefor having parallel branches provided with independent contacts, a switch-arm mounted to engage either of said contacts, a centrifugally-actuated cut-out connected across said branches and a double-pole reversing switch having contacts arranged in parallel with said first-mentioned contacts.

14. The combination with an electric motor of a reversing switch therefor, and means for operating the same after a definite range of motor operation, a pair of leads connecting with said switch, a two-way control switch for connecting either lead in circuit, and a centrifugally-operated circuit-closer for connecting the leads in parallel whereby the current is reversed in the motor before it comes to rest and the motor may always be reversed by the control switch.

869,357. CARRIER. GEORGE FINK, Northfield, Minn. Filed Apr. 29, 1907. Serial No. 370,783.

1. The combination with an overhead track cable, of a carrier frame having wheels running over said cable, a bucket pivotally mounted on said carrier frame, a latch for locking said bucket to said carrier frame, and means for tripping said latch, comprising a sheath 19 embracing said cable and rigidly secured thereto, an abutment 18 having a stop arm 18^a and pivotally connected between the depending sides of said sheath and located below and in the vertical plane of said cable, a tripping lever pivotally mounted on said carrier frame and engageable at one end with the depending end of said pivoted abutment 18, and a connection between the other end of said lever and said latch, substantially as described.



2. The combination with an overhead track and a carrier frame mounted to travel thereon, of a bucket pivotally mounted on said carrier frame and provided with a laterally yielding spring latch bar, extended concentric to the bucket's pivots, a lock projection on said carrier frame engageable with said latch bar to lock said bucket in operative position, and a latch tripping device operative to press said latch bar laterally and thereby release the same from said lock projection, substantially as described.

3. The combination with an overhead track, of a carrier frame mounted to travel thereon, a bucket pivotally mounted on said frame, a latch bar and coöperating lock bolt, one on said frame and the other on said bucket, said latch bar being extended concentric to the bucket's pivots and means for moving said latch bar laterally to disengage the same from the coöperating lock bolt, substantially as described.

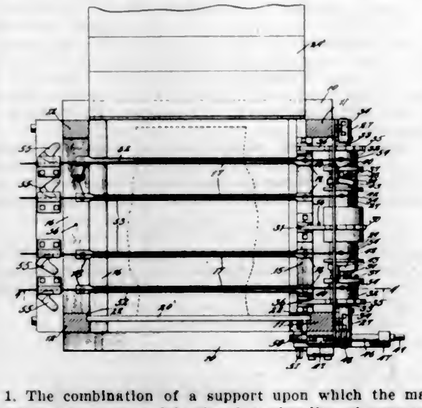
4. The combination with an overhead track, of a carrier frame mounted to travel thereon, a bucket pivotally mounted on said carrier frame, a lock bolt or projection on said frame, a coöperating laterally movable latch bar on said bucket, said latch bar being extended concentric to the bucket's pivots and a tripping device movable on said frame to disengage said latch bar from said coöperating lock bolt, substantially as described.

5. The combination with an overhead track, of a carrier frame having wheels arranged to travel on said track, a bucket pivotally mounted on said frame, automatic latch mechanism for securing said bucket to said frame in an operative position, means for tripping said latch to release said bucket and permit the same to turn into a dumping position, and means for preventing said latch mechanism when once released from again becoming operative until the said bucket has been moved from its operative position, and for automatically releasing said latch when said bucket is moved from its operative position, substantially as described.

6. The combination with an overhead track, of a carrier frame having wheels arranged to travel on said track, a bucket pivotally mounted on said carrier frame, an automatic latch for normally locking said bucket in an operative position, a trip adjacent to said track, operative to trip said latch and thereby cause the latter to release said bucket, and means for holding said latch in its inoperative or tripped position, while the said bucket remains in its normal or upright position, and for automatically releasing said latch when the said bucket moves from its normal or upright position, substantially as described.

7. The combination with an overhead track, of a carrier frame mounted to travel on said track, a bucket pivotally mounted on said frame, a lock bolt or projection on said frame, a coöperating laterally movable latch bar on said bucket, a tripping plate interposed between said latch bar and a depending portion of said frame, provided with oblique cam slots 14 with vertical lower extremities, cam pins on said frame engaging with said cam slots, a tripping abutment adjacent to said track, and a tripping lever connected to said latch plate and coöperating with said abutment to move said latch plate into a releasing position, in which releasing position the said latch plate will be held by said latch bar until the bucket is moved from its normal position, substantially as described.

869,358. MACHINE FOR BUNDLING OR COMPRESSING BROOM-CORN. JAMES F. FOLEY, Chicago, Ill. Filed Mar. 22, 1907. Serial No. 363,979.



1. The combination of a support upon which the material to be compressed is placed, a plurality of compression members, means for causing said members to simultaneously compress the material and means for causing one of said members to further compress the material independently of the other member.

2. The combination of a support upon which the material to be compressed is placed, a plurality of compression members, means for simultaneously adjusting the members to compress the material, means for retaining the members in their adjusted position to maintain the material under compression, and means for permitting an independent adjustment of one of the members to further compress the material at the point adjacent said member.

3. The combination of a supporting member upon which the material to be compressed is placed, a plurality of flexible compression members, means for simultaneously exerting a tension upon all of said members to compress the material, means for maintaining said tension, and means for independently exerting a tension upon one of the members to further compress the material adjacent said member.

4. The combination of a supporting member upon which the material to be compressed is placed, a plurality of flexible compression members, means for securing one end of said members, the body portion of said members surrounding the material, movable members operatively related to the free ends of the flexible members, means for simultaneously adjusting the members to exert a tension upon all of the flexible members to compress the material, means for securing said movable members in their adjusted positions to maintain the flexible members under tension and means whereby one of said members may be further adjusted to increase the tension of the respective flexible member to further compress the adjacent portion of the material.

5. The combination of a support upon which the material to be compressed is placed, a plurality of flexible compression members adapted to surround the material, means for securing one end of the members, a plurality of drums to which the free ends of the members are respectively secured, means for simultaneously rotating the drums to wind the members thereon to exert a tension on said members to compress the material, means for preventing retrograde movement of the drums, and means whereby one of said drums may be rotated independently of the remaining drums to exert a further tension upon the respective flexible member.

6. The combination of a support upon which the material to be compressed is placed, a plurality of flexible compression members surrounding the material, means for securing one of the ends of the members, a plurality of drums upon which the free ends of the members are respectively wound, means for locking the drums together, means for simultaneously rotating the drums to compress the material, means for unlocking the drums to permit one of said drums to be independently rotated, and means for preventing retrograde movement of the drums.

7. The combination of a support upon which the material to be compressed is placed, a plurality of flexible compression members surrounding the material, means for securing one end of the members, a shaft, a drum secured for rotation with the shaft, a drum mounted loosely upon the shaft, means for locking the last said drum for rotation with the shaft, means for imparting a differential speed to the shaft, to rotate the drums to wind the flexible members thereon, means for releasing one of the drums to permit the other drum to be rotated independently thereof and means for preventing retrograde movement of the drums.

8. The combination of a support upon which the material to be compressed is placed, a plurality of flexible compression members surrounding the material, means for securing one end of the members, a shaft, a drum secured for rotation with the shaft, a drum mounted loosely upon the shaft, means for locking the last said drum for rotation with the shaft, means for imparting a differential speed to the shaft, to rotate the drums to wind the flexible members thereon, means for releasing one of the drums to permit the other drum to be rotated independently thereof, and pawl and ratchet mechanism operatively related to the drums for preventing retrograde movement of the drums.

9. The combination of a support upon which the material to be compressed is placed, a plurality of flexible compression members surrounding the material, means for securing one end of the members, a shaft, a drum secured for rotation with the shaft, a drum also loosely mounted on the shaft, means for locking the last said drum for rotation with the shaft, a gear wheel for rotating the shaft to wind the flexible members on their respective drums, a pinion gear meshing with the first said gear to impart motion to the shaft, a worm gear also meshing with the gear to impart a slower motion to the shaft, means for preventing retrograde movement of the drums, and means for unlocking the loose drum to permit the other drum to be rotated independently thereof.

10. The combination of a support upon which the material to be compressed is placed, a plurality of flexible compression members surrounding the material, means for securing one end of the members, a shaft, a drum secured for rotation with the shaft, a drum also loosely mounted on the shaft, means for locking the last said drum for rotation with the shaft, a gear wheel for rotating the shaft to wind the flexible members on their respective drums, a pinion gear meshing with the first said gear to impart motion to the shaft, a worm gear also meshing with the gear to impart a different motion to the shaft, means for preventing retrograde movement of the drums, and means for unlocking the loose drum to permit the other drum to be rotated independently thereof, the said worm gear being adapted to be moved out of engagement with the gear to permit the latter to be rotated by the pinion gear.

11. The combination of a support upon which the material to be compressed is placed, flexible compression members surrounding the material, means for securing one end of the members, a shaft, a fast and a loose pulley thereon,

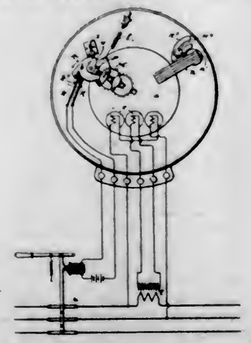
upon which the respective flexible members are adapted to be wound, means for locking the loose pulley for rotation with the shaft, means for preventing retrograde movement of the drums, a gear wheel on the shaft, a worm gear meshing with the gear wheel to rotate the shaft, said worm gear being adapted to be moved into and out of engagement with the gear wheel, means for rotating the gear wheel at a different speed when the worm gear is out of engagement therewith, and means for releasing one of the drums to permit one drum to be rotated independently of the other drum to cause a further compression by the respective compression member.

12. The combination of a support upon which the material to be compressed is placed, said support comprising a stationary member, a flexible compression member adapted to be passed around the material, a guide for directing the flexible member under the material, means for securing one end of the compression member, means for drawing upon the free end of the flexible member to cause the same to compress the material, and means for maintaining the material under compression.

13. The combination of a frame including a support upon which the material to be compressed is placed, said support comprising spaced channeled members, a flexible member within each of the channels and extending beyond the ends thereof, said members being adapted to be passed around the material, means for securing one end of the members, means for simultaneously drawing upon the free end of the flexible members to cause the same to compress the material, means for maintaining the material under compression, and means for increasing the compression of one of said members independent of the other member.

14. The combination of a frame including a support upon which the material to be compressed is placed, said support comprising spaced channel members, a flexible member within each of the channels and extending beyond the end thereof, said members being adapted to be passed around the material so that the ends thereof will cross, means for simultaneously separating the ends of all of the members to create tension thereon to compress the material, means for maintaining the material under compression, and means for independently increasing the tension of one of said members to further compress the adjacent portion of the material.

869,359. RELAY FOR CIRCUIT-BREAKERS. MAX FUSS, Berlin, Germany, assignor to General Electric Company, a Corporation of New York. Filed Aug. 26, 1904. Serial No. 222,292.



1. In an electric system, the combination of an electric circuit and a controlling device for said circuit comprising a reversible motor movable in one direction by excess energy flow and in the other direction by reversal of energy flow, and means actuated by said motor to change the condition of said circuit upon a reversal and upon an excess of energy flow therein.

2. In an electric system, the combination of an electric circuit and a controlling device for said circuit comprising a reversible electric motor movable in one direction by excess energy flow and in the other direction by reversal of energy flow, and means for controlling said circuit actuated by said motor upon a reversal and upon an excess of energy flow in said circuit.

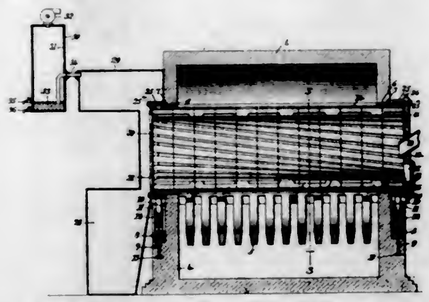
3. In an electric system, the combination of an electric circuit and a relay for controlling said circuit comprising a reversible electric motor movable in one direction by the excess energy flow and in the other direction by reversal of energy flow, adjustable means for opposing the movement of said motor, and means actuated by said motor to change the condition of said circuit.

4. In an electric system, a circuit controlling device comprising an electric motor connected in the circuit to be protected and rotatable in opposite directions upon reversals of energy flow in said circuit, means for opposing the rotation of said motor in one direction until the torque exceeds a definite amount, and means for changing the condition of said circuit upon the rotation of said motor in either direction.

5. In an electric system, a relay comprising an electric motor included in a circuit to be protected and rotatable in opposite directions upon reversals of energy flow in said circuit, means for opposing the rotation of said motor in one direction until its torque exceeds a definite amount, and a switch actuated by the rotation of said motor in either direction.

6. In an electric system, a circuit controlling device comprising a reversible electric motor, a normally open switch and a member actuated by said motor to close said switch upon the rotation of said motor in either direction.

869,360. ORE-ROASTER. ALLEN J. GARVER, Clarkston, Wash., assignor to himself and Jonathan McAssey, Clarkston, Wash. Filed July 26, 1906. Serial No. 327,852.



1. The combination of a cylinder, means for rotating the same, a cylinder head closing one end of said cylinder and provided with apertures and with bevel edges bounding said apertures, means for heating said cylinder, and an ore pan disposed adjacent to the path of travel of said apertures.

2. The combination of a revoluble cylinder, a cylinder head closing one end thereof, and provided with apertures and with bevel edges bounding said apertures, a dust-chamber partially inclosing said cylinder head and said cylinder, means for supplying ore into said cylinder, and an oven for heating said cylinder.

3. The combination of a revoluble cylinder, an oven encircling the same and extending along a considerable portion of said cylinder, a plurality of semi-circular grate bars disposed concentric to said cylinder and adapted to heat said oven, and means for turning said cylinder.

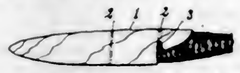
4. In a device of the character described, the combination of a cylinder provided with an inlet and with an outlet, means for turning said cylinder, and a fireproof lining for said cylinder, said fireproof lining being built up of separate bricks, each brick being provided with a portion having a slight inclination, said portion serving as a conveyer thread.

5. The combination of a revoluble cylinder, an oven encircling the same, grate bars of substantially semi-circular form mounted below said cylinder and approximately concentric thereto, and means for passing ore through said cylinder.

6. The combination of a revoluble cylinder, means for passing ore therethrough, an oven encircling said cylinder, and grate bars disposed within said oven and having a conformity relating to the general shape of said cylinder.

7. The combination of an oven, a revoluble cylinder mounted therein, and a lining for said cylinder, said lining being made of separate bricks, each brick having the form of a sector being provided with a fragmentary thread, the bricks being so arranged that several fragmentary threads are in alinement.

869,361. CIGAR, STOGY, &c. ALBERT H. GRAVES, Chicago, Ill. Filed Jan. 9, 1905, Serial No. 240,321. Renewed Mar. 2, 1907. Serial No. 360,227.



1. As a new article of manufacture, a cigar, stogy or the like having between, and at a distance from, its ends one or more transverse portions more combustible than its main body.

2. As a new article of manufacture, a cigar, stogy or the like having circumferential stria portions more combustible than its intermediate main portions.

3. As a new article of manufacture, a cigar, stogy or the like having a plurality of circumferentially extending narrow bands of material more rapidly burning than the main body of the article.

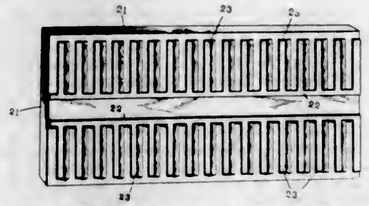
4. As a new article of manufacture, a cigar, stogy or the like having circumferentially extending stria portions impregnated with a substance rendering such portions more rapidly combustible than the untreated portions.

5. As a new article of manufacture, a cigar, stogy or the like having transverse striæ charged with a salt rendering such charged portions more readily combustible than the intermediate portions.

6. As a new article of manufacture, a cigar, stogy or the like provided with circumferentially extending narrow bands impregnated with a solution of saltpeter and a coloring agent.

7. As a new article of manufacture, a cigar, stogy or the like having integral striæ of finely perforated circumferential band portions charged with a solution rendering such portions more rapidly burning.

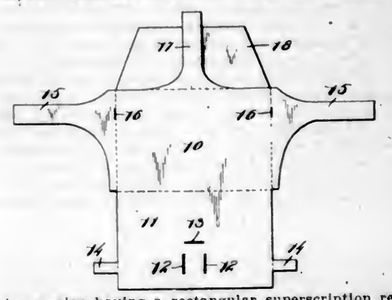
869,362. TILE. HARRY HAUGH, Anderson, Ind. Filed Oct. 28, 1905. Serial No. 284,832.



1. A tile having formed upon its under face a central longitudinal rib and a plurality of laterally extending separated ribs connected with said longitudinal rib at their inner ends, each of said ribs having one side undercut and the other side beveled in the same direction, and the outer ends of said ribs unconnected.

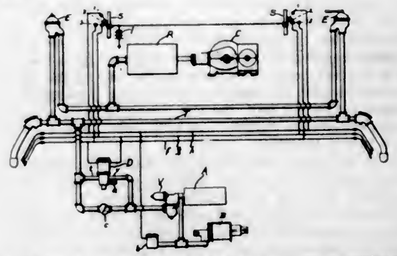
2. A tile having formed upon its under face a central longitudinal rib and a plurality of laterally extending separated ribs connected with said longitudinal rib at their inner ends, each of said ribs having one side undercut and the other side beveled in the same direction, and the outer ends of said ribs unconnected and ending short of the edge of the tile.

869,363. ENVELOP. WALTER B. HAWBAKER, Greencastle, Pa. Filed Sept. 13, 1906. Serial No. 334,528.



An envelop having a rectangular superscription receiving part provided with strips at its side edges having slits 16 at their bases, said strips being folded in upon the first mentioned part, a bottom flap provided with two parallel slits and a lateral slit and strips extending from each side, said bottom flap being folded upon the first mentioned strips, and the latter being tucked through the said parallel slits and lapped on the part therebetween, and the strips on the sides of the bottom flap being tucked through the slits 16, and the parts being pasted down or sealed, and a strip extending from the top and adapted to be tucked through the lateral slit of the bottom flap, and a top flap secured to the upper edge and adapted to be folded down and sealed.

869,364. AIR-BRAKE SYSTEM. LAURENCE A. HAWKINS, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 3, 1906. Serial No. 299,257.



1. In an automatic air-brake system, in combination with the train-pipe, auxiliary reservoir, triple valve, and brake-cylinder, valve mechanism for disconnecting the triple valve from the train-pipe and for connecting the train-pipe connection of the triple valve to atmosphere, and electro-magnetic operating means for said valve mechanism adapted to shift said valve mechanism in either direction.

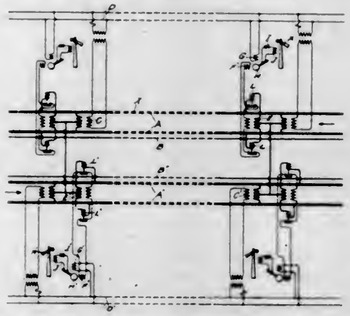
2. In an automatic air-brake system, in combination with the train-pipe, auxiliary reservoir, triple valve, and brake-cylinder, valve mechanism for disconnecting the triple valve from the train-pipe and for connecting the train-pipe connection of the triple valve to atmosphere, electro-magnetic operating means for said valve mechanism, a connection between train-pipe and triple valve independent of said valve mechanism, and a check valve in said connection adapted to permit the flow of air only from triple valve to train-pipe.

3. In an automatic air-brake system, in combination with the train-pipe, auxiliary reservoir, triple valve and

brake cylinder, valve mechanism for disconnecting the triple valve from the train-pipe and for connecting the train-pipe connections of triple valve to atmosphere to apply the brakes, electromagnetic operating means adapted to shift said valve mechanism in either direction, a valve controlling the exhaust from the brake cylinder, and electromagnetic operating means for said exhaust controlling valve.

4. In an automatic air-brake system, in combination with the train-pipe, auxiliary reservoir, triple valve, and brake cylinder, valve mechanism for disconnecting the triple valve from the train-pipe and for connecting the train-pipe connection of the triple valve to atmosphere, electro-magnetic operating means for said valve mechanism, a connection between train-pipe and triple valve independent of said valve mechanism, a check-valve in said connection adapted to permit the flow of air only from triple valve to train-pipe, and an electrically-operated valve controlling the exhaust from the brake-cylinder.

869,365. BLOCK-SIGNAL SYSTEM. LAURENCE A. HAWKINS, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Mar. 28, 1906. Serial No. 308,433.



1. In a signal system for electrically-operated roads having parallel tracks and employing the rails as return conductor for the power-current, means for supplying alternating-current to the rails of a block, an inductive winding connected across the rails at one end of the block, a cross-connection between said block and a parallel block adapted to form a path for the power-current, and signal controlling means inserted between said cross-connection and a rail of the block.

2. In a signal system for electrically-operated roads having parallel tracks and employing the rails as return conductor for the power-current, means for supplying alternating-current to the rails of a block, an inductive winding connected across the rails at one end of the block, a cross-connection between said block and a parallel block adapted to form a path for the power-current, a winding inserted between said connection and a rail of the block, a signal for the block, and means for causing the signal to indicate danger upon a failure of current in the last-mentioned winding.

3. In a signal system for electrically-operated roads having parallel tracks and employing the rails as return conductor for the power-current, means for supplying alternating-current to the rails of a block, an inductive winding connected across the rails at one end of the block, a cross-connection between said block and a parallel block adapted to form a path for the power-current, a winding inserted between said connection and a rail of the block, a signal for the block, and controlling means for the signal controlled by the current in the last-mentioned winding.

4. In a signal system for electrically-operated roads having parallel tracks and employing the rails as return conductor for the power-current, means for supplying alternating-current to the rails of a block, an inductive winding connected across the rails at one end of the block, a cross-connection between said block and a parallel block adapted to form a path for the power-current, a relay winding inserted between said connection and a rail of the block, a signal for the block, and connections whereby said signal is caused to indicate danger when said relay is deënergized.

5. In a signal system for electrically-operated roads employing the rails as return conductor for the power-current, means for supplying alternating-current to the rails of a block, an inductive winding connected across the rails at one end of the block, a connection from the central point of said winding to an adjacent block adapted to afford a path for the power-current, and signal-controlling means in series with said winding on each side of said connection.

6. In a signal system for electrically-operated roads employing the rails as return conductor for the power-current, means for supplying alternating-current to the rails of a block, a transformer having its primary connected across the rails at one end of the block, a connection from the central point of said primary to adjacent blocks adapted to afford a path for the power-current, a signal-controlling relay supplied from the secondary of said transformer, and signal-controlling means in series with the primary on each side of said connection.

7. In a signal system for electrically-operated roads employing the rails as return conductor for the power-current, means for supplying alternating-current to the rails of a block, an inductive winding connected across the rails at one end of the block, a connection from the central point of said winding to adjacent blocks adapted to afford a path for the power-current, two windings in series with the first on opposite sides of said connection, a signal, and means for causing the signal to indicate danger upon a failure of current in either of said two windings.

8. In a signal system for electrically-operated roads employing the rails as return conductor for the power-current, means for supplying alternating-current to the rails of a block, an inductive winding connected across the rails at one end of the block, a connection from the central point of said winding to adjacent blocks adapted to afford a path for the power-current, two windings in series with said inductive winding on opposite sides of said connection, a signal, and controlling means for said signal controlled by the current in each of said two windings.
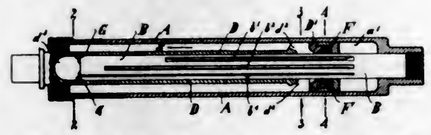
9. In a signal system for electrically-operated roads employing the rails as return conductor for the power-current, means for supplying alternating-current to the rails of a block, an inductive winding connected across the rails at one end of the block, a connection from the central point of said winding to adjacent blocks adapted to afford a path for the power-current, two relays in series with said winding on opposite sides of said connection, a signal, and connections whereby said signal is caused to indicate danger when either of said relays is deënergized.

10. In a signal system for electrically-operated roads employing the rails as return conductor for the power-current, means for supplying alternating-current to the rails of a block, an inductive winding connected across the rails at one end of the block, a connection from the central point of said winding to adjacent blocks adapted to afford a path for the power-current, two relays in series with said winding on opposite sides of said connection, a signal, a circuit passing through the contacts of both relays, and means in said circuit for causing said signal to indicate danger when said circuit is broken.

11. In a signal system for electrically-operated roads having parallel tracks, a connection from an end of a block to the parallel track adapted to form a path for the power-current, a relay winding inserted between said connection and a rail of the block, a signal for the block, and connections whereby said signal is caused to indicate danger when said relay is deënergized.

12. In a signal system for electrically-operated roads having parallel tracks, a connection between an end of a block and the parallel track adapted to form a path for the power-current, independent windings inserted between said connection and the rails of the block, independent relay contacts controlled by the current in said windings respectively, a signal for the block, and operative connections between both relay contacts and the signal.

869,366. FLUID-BRAKE. WALTER HEILEMANN, Essen-on-the-Ruhr, Germany, assignor to Fried. Krupp, Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Filed Apr. 30, 1907. Serial No. 371,076.



1. In a fluid brake, the combination with a cylinder, a piston having a hollow piston rod, and means providing communication between opposite faces of the piston, of a counter rod movable in the hollow piston rod and having a channel in its surface providing communication between one side of the piston only and the hollow space at the end of the piston rod and having a channel in its surface providing communication between the other side of the piston and the hollow space at the end of the piston rod, and means permanently closing said first-named channel to the last-named side of the piston.

2. In a fluid brake, the combination with a cylinder, and a piston having a hollow piston rod and provided with a passageway communicating with the hollow of the rod and with one side of the piston, of a counter-rod having a channel in its surface to communicate with the passageway and with the other side of the piston, and having a channel in its surface communicating with the passageway and with the hollow space of the piston rod, and means preventing the passage of a fluid through the latter channel to the last-named side of the piston.

3. In a fluid brake, the combination with a cylinder, and a piston having a hollow piston rod and provided with a passageway communicating with the hollow of the rod and with one side of the piston, of a counter rod having a channel in its surface to communicate with the passageway and with the other side of the piston, and having a channel in its surface communicating with the passageway and with the hollow space of the piston rod, and a projection extending from the piston into the last-named channel.

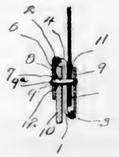
4. In a fluid brake, the combination with a cylinder, and a piston having a hollow piston rod and a passageway providing a communication between the hollow space and one of its faces, of a counter-rod movable in the hollow space and provided with a plurality of channels of different lengths and with channels in its surface to provide communication between the hollow space and the passageway, the piston rod and the counter rod being relatively movable to permit different of the first-named channels to lie opposite the passageway in the piston, and means carried by the piston, rotatable relatively thereto and entering the second named channels to prevent passage of a fluid to the opposite side of the piston.

5. In a fluid brake, the combination with a cylinder and a piston having a hollow piston rod and a passageway providing a communication between the hollow space and one of its faces, of a counter rod movable in the hollow space and provided with a plurality of channels of different lengths, and with channels in its surface to provide communication between the hollow space and the passageway, the piston rod and the counter rod being relatively movable to permit different of the first-named channels to lie opposite the passageway in the piston, and a ring carried by and rotatable relatively to the piston and having projections entering the second-named channels.

6. In a fluid brake, the combination with a cylinder and a piston having a hollow piston rod and provided with a passageway communicating with the hollow of the rod and with one side of the piston, of a counter rod having in its surface a channel to communicate with the passageway and with the other side of the piston, a channel communicating with the hollow space of the rod and the last-named side of the piston and a channel communicating with the passageway and with the hollow space of the piston rod, and a flap valve arranged on the free end of the counter rod and closing the last-named channel during return.

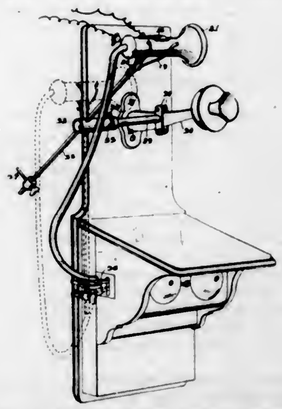
7. In a fluid brake, the combination with a cylinder, a piston having a hollow piston rod, and means providing communication between opposite faces of the piston, of a counter rod movable in the hollow piston rod and having a channel in its surface providing communication between one side of the piston and the hollow space of the piston rod and having a channel in its surface providing communication between the other side of the piston and the hollow space of the piston rod, means permanently closing said first-named channel to the last-named side of the piston, and means closing said first-named channel to the first-named side of the piston only during return.

869,367. COLLAR-FASTENER. SAMUEL R. HEWITT, Belfast, Ireland. Filed July 25, 1905. Serial No. 271,197.



A collar fastener comprising a body portion consisting of a substantially rectangular open wire frame, with its ends bent outward to offset the same in opposite directions; a plate provided with an aperture hingedly connected at its upper end with the upper offset end of the frame-body, and a second plate provided with a locking stud hingedly connected at its lower end with the lower offset end of said frame-body, and the end of the said stud being adapted to effect a snap engagement with the first-mentioned plate through the perforation formed in the latter.

869,368. ADJUSTABLE SUPPORT FOR TELEPHONE-RECEIVERS. ROSS HIGGINS, Canfield, Ohio. Filed Feb. 27, 1907. Serial No. 359,623.

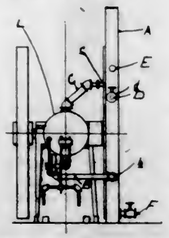


1. A support for telephone receivers, comprising the combination of a vertical tube provided with a horizontal slot and a vertical slot, said horizontal slot leading from the vertical slot and its opposite end communicating with a recess located below the horizontal slot, a bar partially

located within the tube and provided with a pin, said pin adapted to engage the various slots in the tube, a horizontal rod, supported by the rod provided with the pin and adjustable with reference thereto, a second rod adapted to support a telephone receiver and adjustably attached to the horizontal rod, said second rod provided with a pin adapted to engage the circuit closing lever, and means for holding a receiver, substantially as and for the purpose specified.

2. In a telephone receiver holder, the combination of a socket held in fixed position, said-socket provided with two vertical slots and a horizontal slot, said slots communicating with each other, telephone receiver supporting bars adjustably connected together one of the bars provided with a pin adapted to engage the slots in the socket, a cap secured to the socket and adapted to limit the upward movement of the telephone receiver supporting bars, means connected to one of the telephone receiver bars adapted to hold the receiver, a pin adjustably attached to the bar carrying the receiver said pin adapted to engage the circuit closing lever, substantially as and for the purpose specified.

869,369. COOLING SYSTEM FOR INTERNAL-COMBUSTION ENGINES. FRANKLIN G. HOBART and WARREN W. GORE, Beloit, Wis., assignors to Fairbanks, Morse & Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 26, 1907. Serial No. 364,712.



1. In a cooling system, the combination with a cylinder water jacket and inlet and outlet connections therefor, of a water supply connection and means communicating therewith for mixing a portion of the water from said jacket outlet with water from said supply connection and passing said mixture into said inlet, for the purpose described.

2. In a cooling system, the combination with a cylinder water jacket having inlet and outlet, of a mixing conduit having connections communicating with said inlet and outlet, a water supply connection communicating with said conduit, and means for regulating the amount of water from said outlet returned to said inlet, for the purpose described.

3. In a cooling system, the combination with a cylinder water jacket, of a mixing conduit, a water supply connection communicating therewith, and inlet and outlet conduits for said jacket connecting with said mixing conduit.

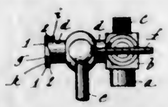
4. In a cooling system, the combination with a cylinder water jacket, of a mixing conduit, a water supply connection communicating therewith, and inlet and outlet conduits for said jacket connecting with said mixing conduit at spaced points.

5. In a cooling system, the combination with a cylinder water jacket, of a mixing chamber or conduit, a water supply connection communicating therewith, and inlet and outlet conduits for said jacket connecting with said mixing chamber or conduit on opposite sides of said supply connection.

6. In a cooling system, a cylinder water jacket provided with an inlet and an outlet, a water supply, pipes connecting the water supply with the inlet and outlet of the cylinder water jacket, and a by pass connecting said inlet and outlet pipes.

7. In a cooling system, a cylinder water jacket provided with an inlet and outlet, a mixing conduit, a water supply communicating with said mixing conduit, and pipes connecting said mixing conduit with the inlet and outlet of the cylinder water jacket.

869,370. CONNECTING DEVICE FOR GAS-CONDUITS. CHARLES DE HOFFMANN, Bergyck, Netherlands. Filed Feb. 23, 1904. Serial No. 194,890.



1. In a gas pipe connection of the character described, the combination with a stationary tubular member comprising a tubular body adapted to be screwed upon a gas tube and a lateral branch pipe, a cock fitted to said branch pipe and controlling the flow of gas through the branch pipe, and a handle for said cock, of a tubular part adapted to be detachably secured to the said branch pipe by a rotative movement in one direction of said tubular part and having a body portion terminating in a hollow cap having an external plane surface with which latter the handle of the cock is adapted to engage and form a lock to prevent reverse rotation of the tubular part in the manner and for the purpose set forth.

2. In a gas pipe connection of the character described the combination with a stationary tubular member comprising a tubular body adapted to be screwed upon a gas tube and a lateral branch pipe for said body, a cam flange at the outer end of the said branch pipe and having diametrically arranged recesses, and pins on the said branch pipe arranged relatively to the recesses as described, of a detachable tubular part having a body portion terminating in a hollow cap and also having an enlarged central tubular portion projecting within the cap and adapted to enter the bore of the branch pipe of the stationary tubular member, diametrically arranged pins carried by the cap and adapted to enter the said recesses and engage with the cam flange and one of said pins adapted to engage with one of the pins on the branch pipe of the stationary tubular member, and washers arranged around the said central tubular projecting portion.

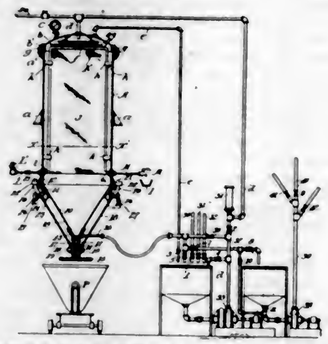
3. In a gas pipe connection of the character described the combination with a stationary tubular member comprising a tubular body adapted to be screwed upon a gas tube and a lateral branch pipe for said body, a cock fitted to said branch pipe and a handle for the said cock, a cam flange at the outer end of the said branch pipe and having diametrically arranged recesses and pins on the branch pipe arranged relatively to the recesses as described, of a detachable tubular part having a body portion terminating in a hollow cap and also having an enlarged central tubular portion projecting within the cap and adapted to enter the bore of the branch pipe of the stationary tubular member, diametrically arranged pins carried by the cap and adapted to enter the recesses in the cam flange and engage with the latter and one of said pins adapted to engage with one of the pins on the branch pipe of the stationary tubular member, and washers arranged around the said central tubular projecting portion, and a flatted external flange on the tubular cap with which engages the handle of the cock on the branch pipe of the tubular member in the manner and for the purpose specified.

869,371. FOOD PRODUCT. JOHN H. KELLOGG, Battle Creek, Mich. Filed Feb. 24, 1906. Serial No. 302,810.

1. An improved food compound consisting of casein, gluten and corn oil, combined in about the proportions stated into a homogeneous cooked mixture of a meat-like consistency and flavor.

2. An improved food compound consisting of casein, gluten and a vegetable oil, combined in about the proportions stated into a homogeneous cooked mixture of a meat-like consistency and flavor.

869,372. FILTERING APPARATUS. DAVID J. KELLY, Salt Lake City, Utah, assignor to The Kelly Filter Press Co., Salt Lake City, Utah, a Corporation of Utah. Filed Jan. 5, 1907. Serial No. 350,971.



1. In an apparatus of the character described, the combination of a stationary tank, a pressure filter supported therein, a detachable bottom for said tank, and means for detachably locking the bottom to the tank during filtration, said locking means including projections on the tank, tightening-rods carried by the bottom and adapted to engage said projections, a screw engaging said bottom and a nut carried by the said rods and through which said screw operates.

2. In an apparatus of the character described, the combination of a stationary filter tank, a bottom therefor of hopper-like form, and coacting locking means between said bottom and the tank whereby the bottom is removably attached to the tank, said locking means including projections on the tank, tightening-rods movable with the bottom and adapted to engage said projections, and means for moving the bottom relative to the tightening-rods to cause it to close tightly against the open end of the tank.

3. In an apparatus of the character described, the combination with a filtering tank and a hollow filtering medium contained therein and upon the outer sides of which the solid material accumulates in cake form, of a removable bottom for said tank said bottom being independent of the filter and adapted to uncover the bottom of the tank to allow the accumulated solid matter to be delivered by gravity from the tank, and securing means for the bottom, said means including projections on the tank and tightening-rods movable with the bottom and adapted to engage said projections, and means for moving the bottom relative to the tightening-rods after the latter has engaged said projections, whereby the bottom is clamped tightly against the open end of the tank.

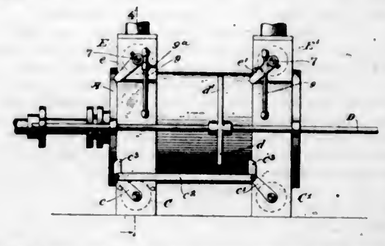
4. In apparatus of the character described, the combination of a stationary tank, a pressure filter supported therein, a removable hopper-like bottom for the tank, detachable connections between the tank and bottom, said connections comprising lugs on the tank and tightening-rods having upper ends to engage said lugs, and follower means adapted to exert a pressure upon said bottom and the tightening-rods simultaneously in opposite directions, thereby seating the bottom and also causing said connections to tighten said seating.

5. In apparatus of the character described the combination of a stationary pressure tank, a pressure filter supported therein, a removable hopper bottom for the tank, a screw turnably mounted on the lower end of said bottom, a tightening-nut through which said screw passes, and tightening rods fixed to the nut and extending upwardly and having locking members at their upper ends, said tank having locking members with which the first-named locking members engage to hold said bottom tightly but removably against the lower end of the tank.

6. In apparatus of the character described the combination of a tank having locking lugs at its lower end, a pressure filter within said tank, a removable hopper bottom for the tank, tightening-rods guided on said bottom and having hook-shaped members at their upper ends to engage the locking lugs on the tank, a nut to which the lower ends of said rods are fixed, a screw turnably mounted on the under side of said bottom and passing through said nut, and means for operating the screw whereby said bottom is tightly but removably seated against the lower end of the tank.

7. In apparatus of the character described the combination of a tank having spacing guides fixed to its inner sides, a series or battery of filter diaphragms engaging said guides, means for detachably securing the diaphragms in position in the tank, said diaphragms having an internal screen plate and a fabric covering therefor, and an impervious binding around the edges of the filter diaphragm adapted to facilitate the removal of the solid material by preventing the same from building up around the edges of the diaphragm and connecting cakes on opposite sides of the same diaphragm.

869,373. VALVE MECHANISM FOR AIR-COMPRESSORS. FRANK LAFFERTY, Elyria, Ohio, and WATSON SPENCE, Philadelphia, Pa. Filed Apr. 6, 1907. Serial No. 366,691.



1. The combination of a cylinder having inlet and discharge ports, a reciprocating piston in said cylinder, valve mechanism for the inlet port, a valve for the discharge port comprising a rotary member having an air-actuated portion, a casing affording a chamber for such portion, a chambered head for said casing having a port for admitting pressure to one face of said air-actuated portion, and an air duct or passage connecting the port of said chambered head with the interior of the cylinder, whereby said valve is automatically turned and the discharge port opened by the pressure within the cylinder.

2. The combination of a cylinder having inlet and discharge ports, a reciprocating piston in said cylinder, valve mechanism for the inlet port, a valve for the discharge port comprising a rotary member having an air-actuated portion, a casing affording a chamber for such portion, a chambered head for said casing having a port for admitting pressure at one face of said air-actuated portion, and an air duct or passage connecting the port of said chambered heads with the interior of the cylinder, whereby said valve is automatically turned and the discharge port opened by the pressure within the cylinder, and devices for returning said valve to its closing position.

3. The combination of a cylinder having plural inlet and discharge ports, a reciprocating piston in said cylinder, valve mechanism for the inlet ports, rotary valves for the discharge ports having air-actuated portions, casings affording chambers for such portions, chambered heads for said casings having ports for admitting pressure at one face of said air-actuated portions, and air ducts or passages connecting the ports of said chambered heads with the interior of the cylinder, whereby the said rotary valves are automatically opened in alternation by the pressure within the cylinder.

4. The combination of a cylinder having plural inlet and discharge ports, a reciprocating piston in said cylinder, valve mechanism for the inlet ports, rotary valves for the discharge ports having air-actuated portions, casings affording chambers for such portions, chambered

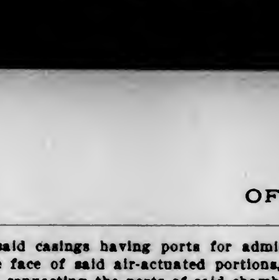
heads for said casings having ports for admitting pressure at one face of said air-actuated portions, air ducts or passages connecting the ports of said chambered heads with the interior of the cylinder, whereby said rotary valves are automatically opened in alternation by the pressure within the cylinder, and mechanical devices for returning said rotary valves to closed positions at intervals.

5. The combination of a cylinder having inlet and discharge ports, a reciprocating piston in said cylinder, valve mechanism for the inlet port, a valve for the discharge port comprising a rotary body having a port therethrough and having end-projecting wings, a casing for said valve having at its ends chambers for said wings, respectively, and ducts or passages leading from said chambers to the interior of the cylinder.

6. The combination of a cylinder having inlet and discharge ports, a reciprocating piston in said cylinder, valve mechanism for the inlet port, a valve for the discharge port comprising a rotary body having a port therethrough and having end-projecting wings, a casing for said valve having at its ends chambers for said wings, respectively, ducts or passages leading from said chambers to the interior of the cylinder, whereby said rotary valve is turned and the discharge port thereof opened by the pressure within the cylinder, and mechanical devices for periodically turning said rotary valve to its closing position.

7. The combination of a cylinder having inlet and discharge ports at its respective ends, a reciprocating piston in said cylinder, rotary valves for the inlet ports, operative connections between said valves, means for actuating the same, rotary valves for the discharge ports having air-actuated portions, casings affording chambers for such portions, ducts or passages connecting said chambers with the interior of the cylinder to permit the opening of the said rotary valves by the pressure within the cylinder, and mechanism whereby said latter valves are independently actuated to close the discharge ports of the cylinder.

869,374. METALLIC PACKING. WILLIAM H. LAW, New York, N. Y. Filed Feb. 26, 1907. Serial No. 358,501.



1. Packing for stuffing boxes comprising a central ring having a bearing face for contact with the rod passing therethrough, and end rings having bearing faces for contact with the stuffing box wall, the adjacent edges of said rings having reverse wedge faces, the upper and lower wedge faces of the central ring being inclined convergently toward each other from the bearing face thereof in the direction of the stuffing box wall, said bearing faces being inwardly cut at their outer edges to form annular channels or grooves.

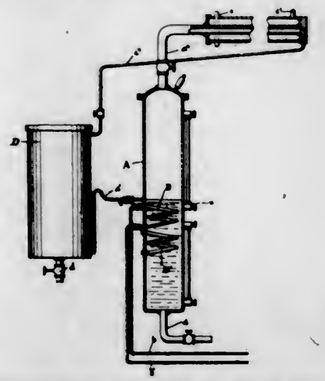
2. A packing for stuffing boxes comprising a middle ring or section having two sides and two edges each of said edges having two oppositely-inclined wedge-faces converging toward each other from the bearing-face of the ring in the direction of the stuffing-box wall; and two end sections or rings having each two sides and an edge having oppositely inclined faces disposed for engagement with the inclined faces of the edges of the middle ring; the apices of the inclined edge faces of the end rings being out of alinement with the apices of the inclined edge faces of the middle section, said bearing faces being inwardly cut at their outer edges to form annular channels or grooves.

3. A packing for stuffing-boxes comprising a central ring having a bearing-face for contact with the rod passing therethrough, and end rings having bearing faces for contact with the stuffing-box wall, the adjacent edges of said rings having reverse wedge-faces, the upper and lower wedge-faces of the central ring being inclined convergently toward each other from the bearing-faces thereof, in the direction of the stuffing-box wall, the outer end ring being formed with a wedge-face at its outer edge and a grooved metallic packing ring arranged with the edges of the two walls formed by said grooves bearing against the sides of the wedge face of the said outer end ring, whereby the walls of said grooved ring will be forced outward against the stuffing box wall and inward against the shaft.

4. The combination in a stuffing-box, of a middle split ring, a lower split ring adapted to wedge the middle ring inward away from the wall of the stuffing-box and to be thereby wedged out against said wall; an upper split ring adapted to wedge the middle ring inward and to be itself thereby wedged outward against the said wall; and a grooved packing ring above the said upper end ring and having two walls adapted to be expanded outwardly and inwardly by forcing it down upon the said upper ring, the upper edge of the end ring being out of contact with the grooved ring.

5. A packing for stuffing boxes comprising a plurality of split rings, one of said rings being formed with an outward inclined bearing surface and the contacting ring being formed with a correspondingly inclined bearing surface, one of said bearing surfaces being undercut to form an annular groove or channel, substantially as described and for the purpose set forth.

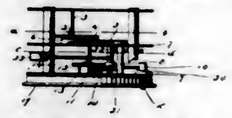
869,375. PROCESS OF PURIFYING VOLATILE SUBSTANCES. JOHN U. LLOYD, Norwood, Ohio. Filed Aug. 15, 1904. Serial No. 220,747.



The hereindescribed process of separating high wines from fusel oil and similar impurities, consisting in heating the mixture at the surface to vaporize and carry off the desirable constituents, and keeping the body of the liquid cool to retain the fusel oil and other impurities in their liquid atate.

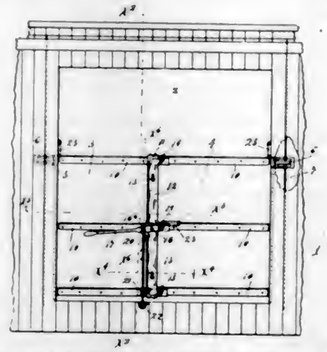
869,376. ALARM-CLOCK. PAUL LUX, Waterbury, Conn., assignor to The Waterbury Clock Co., Waterbury, Conn., a Corporation. Filed Aug. 28, 1907. Serial No. 390,491.

In a convertible alarm mechanism, the combination with an alarm wheel operated by the time-train, of a spring-actuated lever co-acting with the teeth of the said wheel, an oscillating shaft by which the said lever is carried, a stop arm upon the said shaft, an alarm escapement wheel, a stop pin rotating with the said wheel and co-acting with the end of the said stop-arm, a cut-off arm also carried by the said oscillating shaft, and a manual



cut-off co-acting with the said cut-off arm for temporarily retiring the said lever and stop arm.

869,377. GRAIN-DOOR FOR CARS. CHARLES E. MAPES, Havana, N. D., assignor of one-half to Henry J. Waddell, Havana, N. D. Filed July 20, 1907. Serial No. 384,706.



1. The combination with a twopart grain door, the sections of which overlap at their inner edges and are provided with overlapping laterally projecting flanges, of a lock bar slidably mounted on one of said door sections, and having lock bolts engageable with co-incident perforations in said overlapped flanges, to lock together the two door sections, substantially as described.

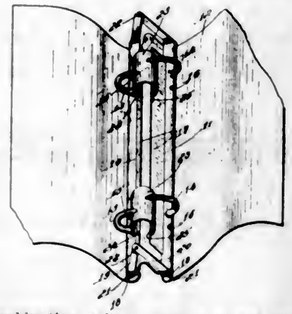
2. The combination with a two-part grain door having upper, lower and intermediate reinforcing angle bars, the flanges of which overlap, of a lock bar slidably mounted on one of said door sections and provided with projecting lock bolts engageable with co-incident perforations in the overlapped flanges of the upper and lower angle bars, a lever pivotally connected to the grain door section to which said bar is applied, and also pivotally connected to said lock bar, said lever having a projecting lock bolt adapted to engage co-incident perforations in the overlapping flanges of said intermediate angle bars, substantially as described.

3. The combination with a two-part grain door having overlapping flanges at their inner faces, of means for locking said two door sections against endwise separation, and a channel shaped lock piece pivoted to one of said flanges and engageable with two of the overlapping flanges to prevent vertical movement of one of the door sections with respect to the other, substantially as described.

869,378. LOOSE-LEAF BINDER. WILLIAM M. S. MILLER, Milwaukee, Wis., assignor to Sieber & Trussell Mnfg. Co., a Corporation of Missouri. Filed Dec. 3, 1906. Serial No. 346,112.

1. In a loose leaf binder in combination, a frame comprising two members having inwardly-directed arms hinged together, a sheet receiving prong curved to arch form springing from one of the frame members and having its end normally engaged with the other, and a bowed spring inclosed by the arch of the prong reacting between the frame members to resist the flexing of the hinge.

2. In a loose leaf binder in combination, a hinged frame comprising two parallel members having inwardly directed hinge arms united by a pivot, a sheet receiving prong curved to arch form springing from one of the frame members and having its end normally engaging the other, and a contractile spring inclosed by the frame and reacting between its members, the plane of action of the spring being crossed by the pivot of frame in flexing the hinge.

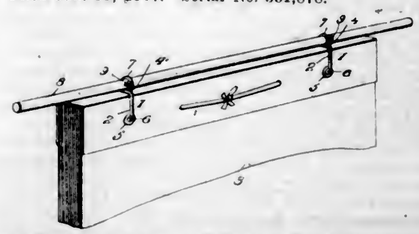


3. In combination, a book cover, a hinged binder frame comprising two parallel members, each attached to the back member of the cover adjacent one of its marginal edges and having a hinge arm extending across the back member of the cover, a sheet receiving prong curved to arch form springing from one of the frame members and normally having its end engaged with the other member, a contractile spring located between the back of the cover and the arch of the prong and reacting between the frame members, the plane of action of the spring being crossed by the pivot of the hinge in flexing the frame.

4. In combination, a book cover, a hinged binder frame comprising two parallel frame members and an openable filing arch, a part of the arch being carried by each of the frame members and each of the frame members being attached to the back member of the book cover adjacent one of its marginal edges and having a hinge arm extending across the back member of the cover, and a contractile spring located in front of the cover and within the arch, and reacting between the frame members, the plane of action of the spring being crossed by the pivot of the hinge in flexing the frame.

5. In a loose leaf binder in combination, a hinged binder frame comprising a pair of parallel members having inwardly directed hinge arms united by a pivot, and a bowed plate spring reacting between the members of the binder frame to resist the flexing of the hinge, each of tre frame members having a flange for engaging one edge of the spring and the ends of the flange of one of the members being overturned on the ends of the spring.

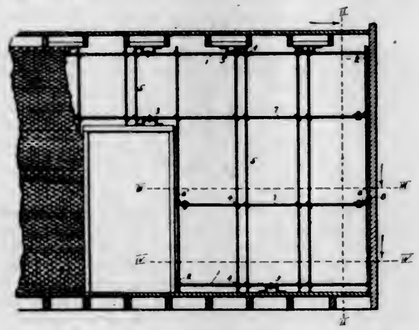
869,379. BOOK-CLIP. FRANK J. MILLS, Brooklyn, N. Y. Filed Jan. 11, 1907. Serial No. 351,878.



As a new article of manufacture the herein described binding device comprising a series of U-shaped clips 1, each of said clips being formed of a single piece of wire and comprising a cross piece 4 looped at an intermediate point to form a suspending eye 7, a pair of arms 2 formed by bending the ends of the cross piece at angles thereto, the extremities of the arms being returned upon them-

selves to form the eyes 5, a binding pin 6 received by the eyes 5 at the extremities of the arms, a rod 8 extending through the suspending eyes of the several clips 1, the two ends of the rod being designed to engage spaced supports, and transverse pins 9 extending through the rod 8 to prevent longitudinal slipping thereof.

869,380. BUILDING CONSTRUCTION. JAMES MULARKEY, Kansas City, Mo., assignor of one-half to Day K. Smith, Kansas City, Mo. Filed Oct. 15, 1906. Serial No. 338,941.



1. In a building construction, the combination of a series of cross bars having edge slots extending between the side walls of a building, a series of vertical bars on each side of and engaging the slots in said cross bars, plain cross bars extending between the vertical bars, and tie wires binding the cross bars and vertical bars together, substantially as set forth.

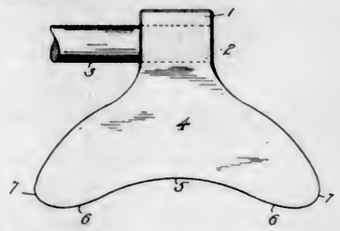
2. In a building construction, the combination of cross bars extending between the walls of a building, some of said bars being plain, and the others of greater width and having slots at their edges of such depth that the central unslotted body of each of said slotted bars is of the same width as the plain bars, vertical bars engaging said slots, and impinging against the edges of the plain bars, and tie wires binding the cross bars and vertical bars together, for the purpose set forth.

3. In a building construction, the combination of a series of brackets carried by the side walls of a building, cross bars having edge slots carried by said brackets and extending across the space to be partitioned with their ends spaced from the side walls, narrow cross bars without slots secured to said side walls and extending across the space to be partitioned, vertical bars engaging the slots in the slotted bars and impinging against the edges of said plain bars, and means for binding the cross bars and vertical bars together, for the purpose set forth.

4. In a building construction, the combination of cross-bars carried by the walls of a building and extending across a space to be partitioned, brackets carried by the floor and ceiling and having body portions projecting into said space, and supporting the top and bottom cross bars away from the floor and ceiling, and vertical bars bound to said cross bars, for the purpose set forth.

5. In a building construction, the combination of cross bars carried by the walls of a building and extending across a space to be partitioned, some of said bars being plain and the others of greater width and having slots at their edges of such depth that the central unslotted body of each of said bars is of the same width as the plain bars, vertical bars engaging said slots and impinging against the edges of the plain bars, tie wires binding the cross bars and vertical bars together, and brackets carried by the floor and ceiling and having body portions projecting into said space and supporting the top and bottom cross bars away from the ceiling and floor, substantially as and for the purpose set forth.

869,381. TURPENTINE-GATHERER'S AX. EDWIN A. MCKOY, New Orleans, La. Filed July 19, 1907. Serial No. 384,584.



1. An ax for turpentine-gatherers' use, comprising a broad blade having a concave cutting edge in the center and convex cutting edges near the ends.

2. An ax for turpentine-gatherers' use, comprising a shank, a broad blade extending downwardly and laterally therefrom, the edge of said blade being concave at its center, and convex at its ends.

3. An ax for turpentine-gatherers' use, comprising a broad blade having an edge of double curvature.

4. An ax for turpentine-gatherers' use, comprising a shank having a flat head and an eye for a handle, a broad blade tapering downwardly from said shank and extending laterally in both directions therefrom, said blade having a concave cutting edge merging near the ends into convex cutting edges and having rounded corners.

869,382. LINEMAN'S SAFETY DEVICE. WILLIAM F. NEWTON, Spokane, Wash. Filed Apr. 19, 1907. Serial No. 369,128.



1. In a device of the class described, a body plate having downwardly projecting spurs on its inner side, a hand grip at either end and means for attaching said plate to the belt of a climber.

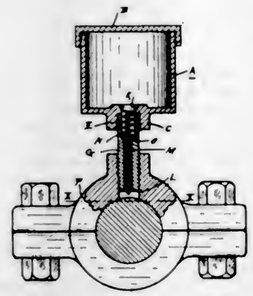
2. In a device of the class described, a curved body plate having a plurality of downwardly projecting spurs on the inner side of said curved plate, an opening being formed in the end of said plate for the attachment of flexible connections to the body of a climber, a strengthening rib on the top and bottom edges of said plate, and a hand grip at each end of said plate.

3. In a device of the class described, a curved body plate having a plurality of downwardly projecting spurs, an opening at each end of said plate, and a strengthening rib attached to the top and bottom of said plate and extended at the ends of said plate to form hand grips.

4. In a device of the class described, a body plate having a hand grip at each end, spurs on the inner side of said plate projecting downwardly, and a disengaging device pivoted to said body plate and adapted to pass through an opening therein beyond the points of said spur.

5. In a device of the class described, a body plate having a hand grip at each end, downwardly projecting spurs on the inner side of said plate and a disengaging device pivoted to said plate comprising a pivoted roller attached thereto and adapted to extend through an opening in said plate beyond the points of the spurs, and an operating handle.

869,383. AUXILIARY AUTOMATIC LUBRICANT-CONTROLLING DEVICE. HENRY ODERMANN and CHARLES V. STRUB, Milwaukee, Wis. Filed Apr. 21, 1906. Serial No. 312,986.

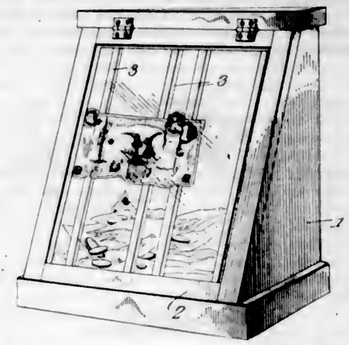


1. The combination, with the discharge duct of a lubricant reservoir and a supporting journal box, of a valve adapted to close the upper end of said duct with the downward pressure of the lubricant above it, a valve stem extending from said valve through said duct to the lower end thereof, a valve actuating spring having supporting bearings at one end in the walls of said duct, said spring being adapted to bear at its opposite end against said valve, a fusible attachment connected with the lower end of said valve stem and adapted to coöperate with a lubricant in the reservoir to hold said valve to its seat against the recoil of said spring, said valve being adapted to prevent all access of the lubricant to said fusible attachment until after such attachment is fused, substantially as set forth.

2. The combination of a lubricant reservoir, a journal box, a duct provided with a spring supporting bearing, communicating between said reservoir and said journal box, a valve located in the upper end of said duct adapted to close with the pressure of the lubricant in said reservoir, a valve stem connected at its upper end with said valve and extending to the lower end of said duct, a spiral spring inclosing said valve stem and supported at its lower end in the bearings formed therefor in the walls of said duct and adapted to bear at its upper end against the lower side of said valve, a transversely arranged fusible anchor connected at its center to said valve stem and adapted to bear at its respective ends against the lower end of said duct and to hold said valve in its closed position against the recoil of said spring, all substantially as and for the purpose specified.

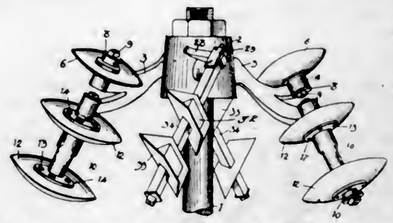
869,384. MONEY-BOX. MILLER J. OGDEN, Rushville, Ind. Filed Feb. 15, 1907. Serial No. 357,584.

A receptacle comprising a body having a transparent hinged lid which when closed lies in a plane extending diagonally with relation to the vertical axis of the body, parallel bars mounted adjacent said lid and being of greater breadth at their outer edges than at their inner



edges whereby oppositely disposed inclined object retaining surfaces are provided.

869,385. SUCTION-DREDGE CUTTER. JOHN F. OLLRICH, San Francisco, Cal. Filed Jan. 28, 1907. Serial No. 354,502.



1. A suction dredge cutter comprising a shaft, arms radiating therefrom, bars extending outwards obliquely from the ends of said arms, and disk-shaped cutters and plow-shaped cutters carried by alternate bars, substantially as described.

2. A suction dredge cutter comprising a shaft, arms radiating therefrom, bars extending outwards from the ends of said arms, and disk-shaped cutters on said bars, substantially as described.

3. A suction dredge cutter comprising a shaft, arms radiating therefrom, bars extending outwards obliquely from the ends of said arms, and plow-shaped cutters on said bars, substantially as described.

4. A suction dredge cutter comprising a shaft, a bar supported thereby, a sleeve on the bar having a flange, and a cutter detachably secured to the flange, substantially as described.

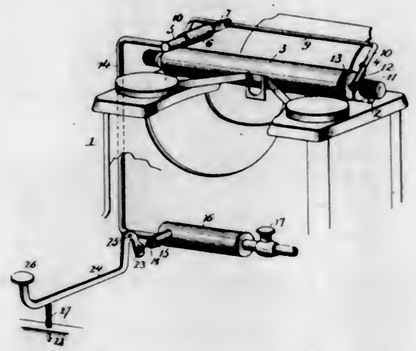
5. A suction dredge cutter comprising a shaft, a bar supported thereby, and a plow-shaped cutter having an apertured bridge, said bar passing through said aperture, and a spacing sleeve on said bar, substantially as described.

6. A suction dredge cutter comprising a shaft, a bar supported thereby, a plow-shaped cutter on said bar, having a socket, and a tongue or point removably secured in said socket, substantially as described.

869,386. PLATEN-ROTATING MECHANISM FOR TYPE-WRITERS. HENRY J. OTTO, Princeton, Ind. Filed July 9, 1906. Serial No. 325,337.

In a typewriting machine, the combination with its rotary platen of mechanism for imparting a step by step movement to said platen, a stationary cylinder, a member connected with said mechanism and having a cylinder

slidably engaging said stationary cylinder, a fluid supply reservoir, a valve chamber connected with said reservoir, a pipe connecting said valve chamber with said stationary cylinder, a valve stem slidable in said chamber and having two cone valves mounted thereon, one opening into the fluid supply reservoir and the other to the at-



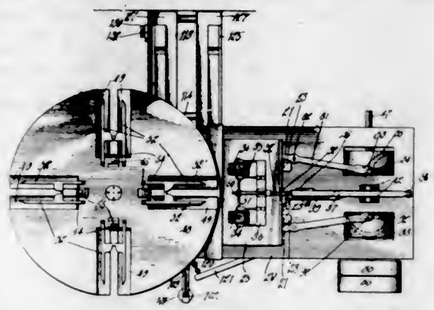
mosphere, means for holding said fluid supply valve normally closed and means for opening one valve and closing the other alternately to connect the stationary cylinder with the fluid supply reservoir or with the atmosphere.

869,387. PUMP. ALFRED PAPILLON, Mermenton, La. Filed Sept. 4, 1902. Serial No. 122,132.



In a pump of the class described, the combination with the discharge pipe thereof, and a valve hinged thereto, of an ejector connected to the discharge pipe and coöperating with said valve to create a vacuum within said discharge pipe, said ejector comprising a T coupling, a bushing arranged in one end thereof, a pipe or nozzle connected to said bushing and having its inner end projecting into the T coupling, the outer end of said pipe or nozzle projecting beyond said bushing, a second bushing connected to the outer end of said pipe or nozzle, a valve connected to said second bushing for controlling the flow of a vacuum-producing agent to said pipe or nozzle, and a valve interposed between the ejector and said discharge pipe for controlling communication between the ejector and the discharge pipe.

869,388. WRAPPING-MACHINE. JAMES M. PATTERSON, Los Angeles, Cal. Filed May 23, 1906. Serial No. 318,430.



1. In a wrapping machine, a main table, a revoluble carrier table, trap-doors in said carrier table, a wrapper holding tray mounted on said main table, and mechanism for removing a wrapper from said tray and carrying it to and over the trap-doors in said carrier table.

2. In a wrapping machine, a frame having a top forming a main table; a revoluble carrier table revolving in a plane parallel with the top of said main table; trap doors in said carrier table; a wrapper holding tray mounted upon said main table; and mechanism for removing a wrapper from said tray and carrying it to and over the trap doors in said carrier table.

3. In a wrapping machine, a main table; a carrier table a paper wrapper tray yieldingly mounted upon said main table; mechanism to hold said wrapper tray in position to hold a wrapper thereon in the plane of the top of the carrier table; wrapper carrying mechanism for moving the top wrapper from said tray to said carrier table; and mechanism for intermittently actuating said wrapper carrying mechanism.

4. In a wrapping machine, a main table; a wrapper holding tray mounted thereon; a carrier table revolubly mounted; mechanism to transfer wrappers from the tray to the carrier a plurality of trap doors in said carrier table; and mechanism to hold said trap doors locked except at a point opposite the wrapper holding tray.

5. In a wrapping machine, a main table; a wrapper holding tray mounted thereon; a carrier table revolubly mounted to revolve in a plane above and parallel to said main table; mechanism to transfer wrappers from the tray to the carrier a plurality of trap doors in said carrier table; and mechanism to hold said trap doors locked except at a point opposite the wrapper holding tray.

6. In a wrapping machine, a main table; a trap door in said main table; top-folding plates slidably mounted on said table, one on each side of said trap door; edge end folding runners connected with said plates and mechanism for moving said top-folding plates toward and from said trap door.

7. In a wrapping machine, a main table; a trap door in said table; top-folding plates slidably mounted on said table, one on each side of said trap door; edge-end-folding runners adjustably secured to and movable with said top-folding plates; and mechanism for reciprocating said top-folding plates, first one, then the other.

8. In a wrapping machine, a main table; a trap door in said table; ledges on each side of said trap door; top-folding plates slidably mounted on said table, one on each side of said trap door; edge-end-folding runners adjustably secured to and movable with said top-folding plates; and mechanism for intermittently reciprocating said top-folding plates, first one, then the other.

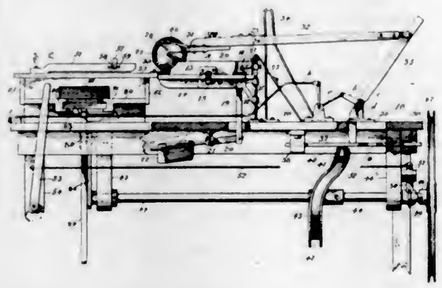
9. In a wrapping machine, a main table; a trap door in said table; ledges on each side of said trap door; top-folding plates slidably mounted on said table, one on each side of said trap door; edge-end-folding runners adjustably secured to and movable with said top-folding plates; shafts mounted below said table; two cam wheels having irregular grooves in the faces thereof mounted on said shaft, a portion of said grooves being on a straight line around the circumference thereof and the other portion curving away from the straight portion and then back to the straight portion, the curved portion of the groove of one cam being staggered as to the curved portion of the groove of the other cam; and two levers pivotally secured upon the top of said table, the ends of said levers being operatively connected to said top folding plates and having pins on the other end thereof projecting into the grooves in said cam.

10. In a wrapping machine, a main table; a trap door in said table pivotally connected thereto; counter-balancing means operatively connected to said trap door; and mechanism for locking and unlocking said trap door.

11. In a wrapping machine, a top folding plate, edge-end-folding runners having the front ends thereof pointed and the adjacent portions of the pointed ends curving away from each other means for adjusting said runners with respect to said top folding plate; and mechanism to intermittently reciprocate said runners.

12. In a wrapping machine, edge-end-folding runners having the front ends thereof pointed and the adjacent portions of the pointed ends curving away from each other, said runners being longitudinally and horizontally and centrally divided and the parts thereof being adjustably secured together; and mechanism for intermittently reciprocating said runners.

869,389. WRAPPING-MACHINE. JAMES M. PATTERSON, Los Angeles, Cal. Filed Nov. 5, 1906. Serial No. 342,005.



1. In a wrapping machine, a main table; a wrapper holding table mounted upon and above said main table, said wrapper holding table having an aperture therein; side-edge and edge-end-folding mechanism secured to the under side of said wrapper holding table adjacent to the aperture therein; and mechanism for moving a package and wrapper into and out of contact with said side-edge and edge-end-folding mechanism.

2. In a wrapping machine, a main table; a wrapper holding table mounted upon and above said main table, said wrapper holding table having an aperture therein; side-edge and edge-end-folding mechanism secured to the under side of said wrapper holding table adjacent to the aperture therein, the side-edge and edge-end-folding mechanism at one side and end being yieldingly held in position; and mechanism for moving a package and wrapper into and out of contact with said side-edge and edge-end-folding mechanism.

3. In a wrapping machine, a frame having a top forming a main table; a wrapper holding table mounted upon and above said main table, said wrapper holding table having an aperture therein; guide arms adjustably secured to said wrapper holding table at each side of the aperture therein; a stop bar adjustably secured to said guide arms; a wrapper holding tray mounted upon said main table; and mechanism for removing a wrapper from said tray and carrying it to and over the aperture in the wrapper holding table.

4. In a wrapping machine, the combination of side-edge and edge-end-folding mechanism with mechanism for moving a package and wrapper into and out of contact with said side-edge and edge-end-folding mechanism.

5. In a wrapping machine, a main table; a wrapper holding table mounted upon and above said main table, said wrapper holding table having an aperture therein; side-edge and edge-end-folding mechanism secured to the under side of said wrapper holding table adjacent to the aperture therein; a pusher plate slidably mounted upon said main table; a supporting block upon one end of said pusher plate; a pusher gate pivotally mounted in said pusher plate between the end thereof and the supporting block; and mechanism to cause the reciprocation of said pusher plate to bring a wrapper on a package on the pusher plate between the supporting block and pusher gate into and out of engagement with the side-edge and edge-end-folding mechanism.

6. In a wrapping machine, a main table; a wrapper holding table mounted upon and above said main table, said wrapper holding table having an aperture therein; side-edge and edge-end-folding mechanism secured to the under side of said wrapper holding table adjacent to the aperture therein, the side-edge and edge-end-folding mechanism at one side and end being yieldingly held in position; a pusher plate slidably mounted upon said main table below said wrapper holding table; a supporting block upon one end of said pusher plate; a pusher gate pivotally mounted in said pusher plate between the end thereof and the supporting block; and mechanism to cause the reciprocation of said pusher plate to bring a wrapper on a package on the pusher plate between the supporting block and pusher gate into and out of engagement with the side-edge and edge-end-folding mechanism.

7. In a wrapping machine, the combination of a pusher plate slidably mounted therein; a supporting block upon one end of said pusher plate which receives the package during the first wrapping operation; pusher gates pivotally mounted in said pusher plate; with end wrapping mechanism having front overhanging top ledges and rear upwardly extending bottom ledges.

8. In a wrapping machine, the combination of a pusher plate slidably mounted therein; a supporting block upon one end of said pusher plate which receives the package during the first wrapping operation; pusher gates pivotally mounted in said pusher plate; with end wrapping mechanism having front overhanging top ledges and rear upwardly extending bottom ledges at each side thereof, the front and rear ledges at one side being yieldingly supported to permit of transverse movement.

9. In a wrapping machine, a delivery chute having vertical sides, one of which is movable transversely; overhanging ledges secured to the front portions of said vertical sides, the front ends of which curve downwardly and rearwardly; rear ledges having the top surfaces thereof sloping upwardly and rearwardly and commencing at a point to leave a channel between said ledges; and mechanism to hold one of the sides of the delivery chute yieldingly supported transversely.

10. In a wrapping machine, a main table; a wrapper holding table mounted upon and above said main table, said wrapper holding table having an aperture therein; side-edge and edge-end-folding mechanism secured to the under side of said wrapper holding table adjacent to the aperture therein, the side-edge and edge-end-folding mechanism at one side and end being yieldingly held in position; a pusher plate slidably mounted upon said main table below said wrapper holding table; a supporting block upon one end of said pusher plate; a pusher gate pivotally mounted in said pusher plate between the end thereof and the supporting block; mechanism to cause the reciprocation of said pusher plate to bring a wrapper on a package on the pusher plate between the supporting block and pusher gate into and out of engagement with the side-edge and edge-end-folding mechanism; a wrapper holding tray mounted on said main table; wrapper moving rollers

mounted on said tray, said rollers being mounted to revolve when moved in one direction and being non-revoluble when moved in the other direction; an operating bar secured to said rollers and extending rearwardly therefrom; a shifting lever secured to the rear end of said operating bar, said shifting lever being in removable engagement at its other end with a sliding bar; a reciprocating sliding bar; mechanism to hold said shifting lever out of engagement with said sliding bar; and mechanism to intermittently operate said sliding bar.

11. In a wrapping machine, the combination with a main frame, a wrapper holding table having an aperture therein, a wrapper holding tray and means for automatically placing a wrapper over the aperture, of means immediately below the aperture between which the package drops by gravity whereby the sides of the wrapper are folded against the package, and mechanism for subsequently passing the top surface of the package successively against said means for folding the wrapper over the top of the package.

12. In a wrapping machine, the combination with a main frame, a wrapper holding table having an aperture therein, a wrapper holding tray and means for automatically placing a wrapper over the aperture, of means immediately below the aperture between which the package drops by gravity, whereby the sides of the wrapper are folded against the package, mechanism for subsequently passing the top surface of the package successively against said means for folding the wrapper over the top of the package, and end wrapping mechanism located at opposite ends of the package for successively folding the edge ends.

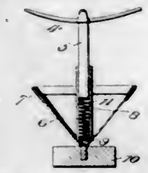
13. In a wrapping machine, the combination with a main frame, a wrapper holding table having an aperture therein, a wrapper holding tray and means for automatically placing a wrapper over the aperture, of means immediately below the aperture between which the package drops by gravity whereby the sides of the wrapper are folded against the package, mechanism for subsequently passing the top surface of the package successively against said means for folding the wrapper over the top of the package, end wrapping mechanism located at opposite ends of the package for successively folding the edge ends, and means at one side of the machine for successively folding the top end of the wrapper downwardly and the bottom end of the wrapper upwardly, a pushing block being provided for automatically causing these successive operations.

14 In a wrapping machine, the combination with a table having an aperture therein over which a wrapper is placed, of rollers immediately below the aperture between which the package descends whereby the wrapper is placed upon the opposite sides of the package, and a pushing block for carrying the package first beneath one roller and then back beneath the other, whereby the wrapper is folded on top of the package.

15. In a wrapping machine, the combination with a table having an aperture therein over which a wrapper is placed, of rollers immediately below the aperture between which the package descends whereby the wrapper is placed upon the opposite sides of the package, a pushing block for carrying the package first beneath one roller and then back beneath the other, whereby the wrapper is folded on top of the package, and means in position to first fold the edge ends at one side while the package is passed beneath one roller and then the edge ends at the other side when passed beneath the other roller.

16. In a wrapping machine, the combination with a table having an aperture therein over which a wrapper is placed, of rollers immediately below the aperture between which the package descends whereby the wrapper is placed upon the opposite sides of the package, a pushing block for carrying the package first beneath one roller and then back beneath the other, whereby the wrapper is folded on top of the package, means in position to first fold the edge ends at one side while the package is passed beneath one roller and then the edge ends at the other side when passed beneath the other roller and end wrapping mechanism for folding the top and bottom ends of the wrapper around the package.

869,390. NON-REFILLABLE BOTTLE. ROY J. PATTERSON, Fort Worth, Tex. Filed Feb. 7, 1907. Serial No. 356,243.



1. In combination, a bottle or receptacle, having a valve seat within the lower portion of its neck, a valve closing downward upon said seat, a stem fitted to said valve and having its lower end reduced and passed through the valve, and a weight fitted to the lower projecting end of the stem and confining the valve in position thereon.

2. In combination, a bottle or necked receptacle having a valve seat within the lower portion of the neck, a valve of approximately conical form and expansible and arranged to close downward upon the said seat, a stem fitted to the valve, means for seating the valve, and other means for directing the valve in its movements.

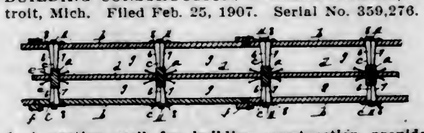
3. In combination, a bottle or necked receptacle, having a valve seat within the lower portion of the neck, an expansible valve of approximately conical form, closing downward upon said seat, a stem having its lower end reduced and threaded and passed through an opening at the apex of said valve and a weight mounted upon the threaded end of the stem and confining the valve between the said weight and the shoulder formed at the base of the reduced end portion of said stem.

4. In combination, a bottle or necked receptacle having an inner valve seat, an expansible valve closing downward upon said sent, and an elastic band fitted to the upper portion of the valve to form a packing and to hold the valve in contracted position.

5. In combination, a bottle or necked receptacle having an inner flange seat, a conical valve consisting of a circular blank having a sector-shaped portion removed from a side thereof and bent into conical form, and an elastic band fitted to the upper edge of the valve and embracing said edge and serving to hold the separated edges of the blank together and to form a packing to insure the formation of a tight joint between the valve and its seat.

6. In combination, a bottle having an inner valve seat and an inner groove a short distance from the valve seat, a spider sprung into said groove, a stem pendent from the spider, a valve adapted to close downward upon said valve seat and having an opening in its apex, a hollow stem fitted to the apex of the valve and having its lower end reduced and threaded and passed through said opening in the apex of the valve, a weight fitted to the projecting end of the stem and a spring arranged within the hollow stem and in contact at its upper end with the aforementioned pendent stem.

869,391. BUILDING APPARATUS AND METHOD OF BUILDING CONSTRUCTION. WILLIAM PEABODY, Detroit, Mich. Filed Feb. 25, 1907. Serial No. 359,276.



1. A section wall for building construction provided with inwardly projecting hollow spacing gages secured thereto, and attaching devices extended through said gages, respectively.

2. A section wall for building construction provided with inwardly projecting spacing gages secured thereto, and attaching devices engaged within said gages, respectively, said gages formed in separable parts.

3. A section wall for building construction provided with inwardly projecting spacing gages secured thereto,

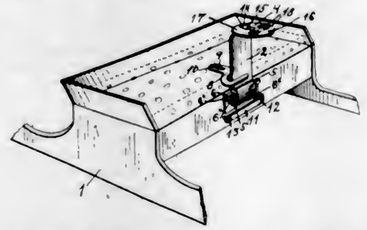
and attaching screws engaged within said gages, respectively, said gages formed in separable parts each provided with an inwardly extended shoulder to hold the screw in place, the outer extremity of the screw projecting to the exterior surface of the section wall.

4. A section wall for building construction provided with inwardly projecting spacing gages secured thereto, and attaching devices engaged within said gages, respectively, said gages formed in separable parts, each of said parts formed with a head secured to the section wall.

5. The method of building construction herein described consisting of engaging removable partitions between the studding of the building, securing upon the frame work of the building a removable sectional wall provided with spacing gages secured thereto, thereby forming a chamber between the removable partitions and the sectional wall, filling said chamber with cement and compressing the sectional wall upon the cement within said chamber.

6. The method of building construction herein described consisting of engaging removable partitions between the studding of the building, securing upon opposite sides of the frame work of the building removable sectional walls provided with spacing gages secured thereto, thereby forming chambers between the partitions and the sectional walls on opposite sides of said partitions, filling said chambers with cement, and compressing the sectional walls upon the cement within said chambers.

869,392. JUMP-SEAT FOR BUGGIES. GEORGE D. POTTS, Taylorville, Ill. Filed Feb. 18, 1907. Serial No. 358,066.



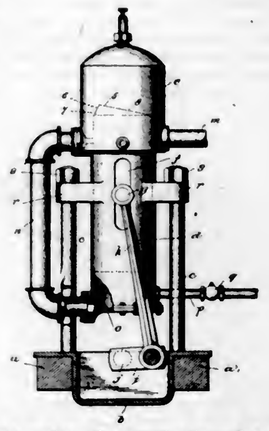
1. In combination with a vehicle seat, a jump seat having a standard hinged to the vehicle seat and adapted to be raised and lowered, said standard having a broadened surface to bear against the front of the vehicle seat when raised, and a hook pivotally mounted on the vehicle seat and having a slot through which its pivot extends, said hook being thus adapted for longitudinal movement and also adapted to engage the standard of the jump seat to secure the same in an upright position.

2. A vehicle seat having a jump seat provided with a standard hinged to the vehicle seat and adapted to be raised and lowered, said vehicle seat being further provided with a hook to engage said standard and support the same in a raised position, and a latch carried by the vehicle seat to engage said standard and secure the same when in a lowered position.

3. In combination with a vehicle seat, a jump seat having a hinge member secured to the vehicle seat and provided with a slot and a pintle, and a standard having an arm at its lower end provided with a slot engaging the pintle of the hinge member, said standard having shoulders on opposite sides of said arm at its upper end to bear on said hinge member, substantially as described.

869,393. GAS-ENGINE. ROYSTON W. POWELL and CHRISTOPHER F. NORTON, Brooklyn, N. Y., assignors of one-fourth to Charles I. McLaughlin and one-fourth to Luther P. Powell, Brooklyn, N. Y. Filed Jan. 3, 1907. Serial No. 350,655.

1. In a gas engine, the combination of supports, a single cylinder mounted in said supports, said cylinder having one end adapted to act as an explosion chamber and the other end as a compression chamber, and a single hollow piston mounted in said cylinder, one end of said piston being closed, and a removable and adjustable plate inserted in said piston near its other end, substantially as described.



2. In a gas engine, the combination of a supporting frame, a single cylinder carried by said frame, said cylinder having one end adapted to act as an explosion chamber and the other as a compression chamber, and said cylinder being provided with centrally arranged slots, a hollow piston mounted in said cylinder, one end of said piston being closed, and a removable and adjustable plate in said piston near its other end, a wrist pin passing through said slots, said piston being mounted on said wrist pin, a shaft and connections between said shaft and said wrist pin, substantially as described.

3. In a gas engine, the combination of a supporting frame, a single cylinder carried thereby, one end of said cylinder acting as an explosion chamber, and the other end as a compression chamber, said cylinder being slotted near its center, a single hollow piston mounted in said cylinder having one end closed and having a removable and adjustable plate located near its other end, and being also provided with lugs at or near its center, a wrist pin passing through said piston lugs through the slots in the cylinder, connecting rods located outside of said cylinder and a cranked shaft to which said rods are connected, substantially as described.

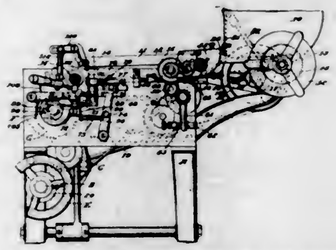
4. In a gas engine, the combination of a single cylinder having one end thereof adapted to act as an explosion chamber and the other end adapted to act as a compression chamber, and provided with connections between said chambers, and a single hollow piston mounted in said cylinder, said piston being closed at one end and having a baffle plate on said closed end, and said piston being also provided with a removable and adjustable plate near its other end, substantially as described.

5. In a gas engine, the combination of a single cylinder, one end of which acts as an explosion chamber and the other as a compression chamber, a pipe connecting said chambers, said pipe where it connects the compression chamber being narrowed vertically and extended below the bottom of the cylinder, said cylinder being provided with ports connecting with both ends of said pipe, and a single hollow piston mounted in said cylinder, said piston having one end closed and being provided with a baffle plate thereon, and having an adjustable plate located near its other end, substantially as described.

869,394. CIGARETTE-MACHINE. SALVADOR RAGONA, New York, N. Y. Filed July 14, 1906. Serial No. 326,243.

1. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette,

means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, a strip feed mechanism whereby the end of a continuous strip is intermittently fed relative to said protruding end, means making said strip adhesive, means whereby the forward free end of said strip is applied to said protruding end, shears adapted to sever a portion from said strip end, means actuating said shears whereby said portion will be severed after the strip end has been so applied, and means wrapping said severed portion about said cigarette.



2. In a machine of the class described, the combination of a holder comprising a hollow shaft and a plurality of jaws mounted therein, springs adapted to normally close said jaws, means whereby said jaws are intermittently opened against the tension of said springs, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, a strip feed mechanism whereby the end of a continuous strip is intermittently fed relative to said protruding end, means making said strip adhesive, means whereby a portion of the end of said strip is severed therefrom as required, and means applying the end of said strip to and wrapping the severed portion thereof about said cigarette.

3. In a machine of the class described, the combination of a holder comprising a hollow shaft and a plurality of jaws mounted therein, lugs thereon projecting through said shaft, springs acting toward the front of each said jaw, and on each said lug, a movable wedge adapted to pass between said lugs and open said jaws against the tension of said springs, means whereby cigarettes are successively fed to said jaws with one end protruding therefrom, and ejected therefrom, a strip feed mechanism whereby the end of a continuous strip is intermittently fed relative to said protruding end, means making said strip adhesive, means whereby a portion of the end of said strip is severed therefrom as required, and means applying the end of said strip to and wrapping the severed portion thereof about said cigarette.

4. In a machine of the class described, the combination of a holder comprising a hollow shaft having a bell shaped mouth adapted to receive and guide a cigarette, and a plurality of jaws mounted therein, lugs thereon projecting through said shaft, springs acting toward the front of each jaw and on each said lug, a movable wedge adapted to pass between said lugs and open said jaws against the tension of said springs, means whereby cigarettes are successively fed to said jaws with one end protruding therefrom, and ejected therefrom, a strip feed mechanism whereby the end of a continuous strip is intermittently fed relative to said protruding end, means making said strip adhesive, means whereby a portion of said end of said strip is severed as required, and means applying the end of said strip to and wrapping the severed portion thereof about said cigarette.

5. In a machine of the class described, the combination of a holder comprising a hollow shaft having a bell mouth adapted to receive and guide a cigarette, and a plurality of jaws mounted therein, lugs thereon projecting through said shaft, springs acting toward the front of each jaw and on each said lug, a movable wedge adapted to pass between said lugs and open said jaws against the tension of said springs, a gear mounted on said shaft and means intermittently actuating said gear, means whereby cigarettes are successively fed to said jaws with one end protruding therefrom, and ejected therefrom, a strip feed mechanism whereby the end of a continuous strip is intermittently fed relative to said protruding end, means making said strip adhesive, means whereby a portion of said strip end is severed as required and means applying the end of said strip to and wrapping the severed portion thereof about said cigarette.

6. In a machine of the class described, the combination of a holder comprising a hollow shaft having a bell mouth adapted to receive and guide a cigarette, and a plurality of jaws mounted therein, lugs thereon projecting through said shaft, springs acting toward the front of each jaw and on each said lug, a movable wedge adapted to pass between said lugs and open said jaws against the tension of said springs, a gear mounted on said shaft, means whereby said gear may be secured to said shaft or rendered inoperative relative thereto, and means intermittently actuating said gear, means whereby cigarettes are successively fed to said jaws with one end protruding therefrom, and ejected therefrom, a strip feed mechanism whereby the end of a continuous strip is intermittently fed relative to said protruding end, means making said strip adhesive, means whereby a portion of said strip end is severed as required and means applying the end of said strip to and wrapping the severed portion thereof about said cigarette.

7. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette therein, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, means supporting a continuous strip of tipping material, a plate, fingers thereon adapted to engage the end of said strip, means reciprocating said plate, means making said strip adhesive, means whereby the end of said strip is applied to said protruding end, shears adapted to sever said portion of said strip end, means actuating said shears whereby said portion will be severed after said end has been so applied, and forwardly of said plate, and means wrapping said severed portion about said cigarette.

8. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette therein, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, means supporting a continuous strip of tipping material, a plate, fingers thereon adapted to engage the end of said strip, means reciprocating said plate, means making said strip adhesive, means whereby the end of said strip is applied to said protruding end, a cam having a graduated portion, a sudden depression, a circular portion and a sudden rise, connections between said cam and said plate whereby said plate is gradually advanced with a rapid movement at the end of the direct feed, is stationary and is rapidly fed in the reverse direction, means making said strip adhesive, means whereby the end of said strip is applied to said protruding end, shears adapted to sever a portion of said strip end, means actuating said shears whereby said portion will be severed after said end has been so applied, and forwardly of said plate, and means wrapping said severed portion about said cigarette.

9. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette therein, means whereby cigarettes are successively fed relative thereto with one end protruding therefrom, and ejected therefrom, means supporting a continuous strip of tipping material, a plate, a spring supported pivotal flap on the forward edge thereof, fingers on said plate adapted to engage the end of said strip, means reciprocating said plate, means making said strip adhesive, means whereby the end of said strip is applied to said protruding end, shears adapted to sever a portion of said end, means actuating said shears whereby said portion will be severed after said end has been so applied, and forwardly of said flap, and means wrapping said severed portion about said cigarette.

10. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette therein, means whereby cigarettes are successively fed relative thereto with one end protruding therefrom, and ejected therefrom, means supporting a continuous strip of tipping material, a plate, a spring supported pivotal flap on the forward edge thereof, spring pressed fingers on said plate adapted to engage the end of said strip, means reciprocating said plate, means making said strip adhesive, means whereby the end of said strip is applied to said protruding end, shears adapted to sever a portion of said end, means actuating said shears whereby said portion will be severed after said end has been so applied, and forwardly of said flap, and means wrapping said severed portion about said cigarette.

11. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette therein, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, means supporting a continuous strip of tipping material, a channel plate, a spring supported pivotal flap on the forward edge thereof, spring pressed fingers on said plate adapted to engage the end of said strip, means reciprocating said plate, means making said strip adhesive, means whereby the end of said strip is applied to said protruding end, shears adapted to sever a portion of said end, means actuating said shears whereby said portion will be severed after said end has been so applied, and forwardly of said flap, and means wrapping said severed portion about said cigarette.

12. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette therein, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, means supporting a continuous strip of tipping material, a plate, fingers thereon adapted to engage the end of said strip, a cam and levers whereby said plate is reciprocated, means carried by said levers whereby the amount of movement of said plate may be regulated independently of the cam, means making said strip adhesive, means whereby the end of said strip is applied to said protruding end, shears adapted to sever a portion of said strip end, means actuating said shears whereby said portion will be severed after said end has been so applied, and forwardly of said plate, and means wrapping said severed portion about said cigarette.

13. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette therein, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, means supporting a continuous strip of tipping material, a plate, fingers thereon adapted to engage the end of said strip, a cam and levers whereby said plate is reciprocated, means carried by said levers whereby the amount of movement of said plate may be regulated independently of the cam, means making said strip adhesive, means whereby the end of said strip is applied to said protruding end, shears adapted to sever a portion of said strip end, means actuating said shears whereby said portion will be severed after said end has been so applied and forwardly of said plate, means regulating the interval at which said last mentioned means will be actuated, and means wrapping said severed portion about said cigarette.

14. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette therein, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, means supporting a continuous strip of tipping material, a plate, fingers thereon adapted to engage the end of said strip, means reciprocating said plate, a paste pot between said strip support and said plate having a discharge opening, parallel rollers one of which partially closes said opening, a stripper bearing on said last mentioned roller, means rotating said rollers whereby the strip will be fed thereby substantially in the same quantity as severed from the end thereof for each tip, means whereby the end of said strip is applied to said protruding end, shears adapted to sever a portion of said strip end, means actuating said shears whereby said portion will be severed as required, and forwardly of said plate, and means wrapping said severed portion about said cigarette.

15. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette therein, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, means supporting a continuous strip of tipping material, a plate, fingers thereon adapted to engage the end of said strip, means reciprocating said plate, a paste pot between said strip support and said plate having a discharge opening, parallel rollers one of which partially closes said opening, a rotary agitator within said pot forcing the paste toward said roller, a stripper bearing on said last mentioned roller, means rotating said rollers whereby the strip will be fed thereby substantially in the same quantity as severed from the end thereof for each tip, means whereby the end of said strip is applied to said protruding end, shears adapted to sever a portion of said strip end, means actuating said shears whereby said portion will be severed as required, and forwardly of said plate, and means wrapping said severed portion about said cigarette.

16. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette therein, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, means supporting a continuous strip of tipping material, a plate, fingers thereon adapted to engage the end of said strip, means reciprocating said plate, a paste pot between said strip support and said plate having a discharge opening, parallel rollers, one of which partially closes said opening, a stripper bearing on said last mentioned roller, a pivotal arm carrying the other and lower of said rollers, a spring normally holding said rollers in engagement with each other through said arm, means acting on said arm whereby said arm may be regulated to control such pressure, means rotating said rollers whereby the strip will be fed thereby substantially in the same quantity as severed from the end thereof for each tip, means whereby the end of said strip is applied to said protruding end, shears adapted to sever a portion of said strip end, means actuating said shears whereby said portion will be severed as required, and forwardly of said plate, and means wrapping said severed portion about said cigarette.

17. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette therein, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, means supporting a continuous strip of tipping material, a plate, fingers thereon adapted to engage the end of said strip, means reciprocating said plate, a paste pot between said strip support and said plate having a discharge opening, parallel rollers one of which partially closes said opening, a stripper bearing on said last mentioned roller, a pivotal arm carrying the other and lower of said rollers, a pivotal spring normally holding said rollers in engagement through said arm and adapted to permit the separation of said rollers, means acting on said arm whereby said arm may be adjusted to control such pressure, means rotating said rollers whereby the strip will be fed thereby substantially in the same quantity as severed from the end thereof for each tip, means whereby the end of said strip is applied to said protruding end, shears adapted to sever a portion of said strip end, means actuating said shears whereby said portion will be severed as required, and forwardly of said plate, and means wrapping said severed portion about the cigarette.

18. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette therein, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, means supporting a continuous strip of tipping material, a plate, fingers thereon adapted to engage the end of said strip, means reciprocating said plate, a paste pot between said strip support and said plate having a discharge opening, a slidable bottom plate regulating the size of said opening, parallel rollers one of which partially closes said opening, a stripper bearing on said last mentioned roller, means rotating said rollers whereby the strip will be fed thereby substantially in the same quantity as severed from the end thereof for each tip, means whereby the end of said strip is applied to said protruding end, shears adapted to sever a portion of said strip end, means actuating said shears whereby said portion will be severed as required, and forwardly of said plate, and means wrapping said severed portion about said cigarette.

19. In a machine of the class described, the combination

of a holder adapted to receive and retain a cigarette therein, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, means supporting a continuous strip of tipping material, a plate, fingers thereon adapted to engage the end of said strip, means reciprocating said plate, a paste pot between said strip support and said plate having a discharge opening, parallel rollers one of which partially closes said opening, a stripper bearing on said last mentioned roller, means rotating said rollers whereby the strip will be fed thereby substantially in the same quantity as severed from the end thereof for each tip, a channel plate between said rollers and said reciprocating plate, means whereby the end of said strip is applied to said protruding end, shears adapted to sever a portion of said strip end, means actuating said shears whereby said portion will be severed as required, and forwardly of said plate, and means wrapping said severed portion about the cigarette.

20. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette, a chute alined with said holder, a conveyer whereby cigarettes are successively fed to said chute, means whereby cigarettes are successively fed from said chute to said holder with one end protruding therefrom, and ejected therefrom, a strip feed mechanism whereby the end of a continuous strip is applied to said protruding end, means making said strip adhesive, shears adapted to sever a portion from the end of said strip as required, means actuating said shears, and means wrapping the said severed portion about said cigarette.

21. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette, a chute alined with said holder, an endless belt discharging into said chute, whereby cigarettes are delivered to said chute from a source of supply, means whereby cigarettes are successively fed from said chute to said holder with one end protruding therefrom, and ejected therefrom, a strip feed mechanism whereby the end of a continuous strip is applied to said protruding end, means making said strip adhesive, shears adapted to sever a portion from the end of said strip as required, means actuating said shears, and means wrapping the said severed portion about said cigarette.

22. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette, a chute alined with said holder, a conveyer whereby cigarettes are delivered from a source of supply to said chute, means whereby cigarettes are successively fed from said chute to said holder with one end protruding therefrom, means limiting the cigarettes on said conveyer to a single row, a strip feed mechanism whereby the end of a continuous strip is applied to said protruding end, means making said strip adhesive, shears adapted to sever a portion from the end of said strip as required, means actuating said shears, and means wrapping the said severed portion about the cigarette.

23. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette, a chute alined with said holder, a conveyer whereby cigarettes are delivered from a source of supply to said chute, means whereby cigarettes are successively fed from said chute to said holder with one end thereof protruding therefrom, and ejected therefrom, means limiting the cigarettes on said conveyer to a single row, a weighted flap between said means and said chute whereby cigarettes are straightened and turned over on said conveyer, a strip feed mechanism whereby the end of a continuous strip is applied to said protruding end, means making said strip adhesive, shears adapted to sever a portion of said strip from the end thereof as required, means actuating said shears, and means wrapping the said severed portion about a cigarette.

24. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette, a chute alined with said holder, a hopper having an open bottom, a conveyer closing said bottom whereby cigarettes are delivered from said hopper to said chute, a plate mounted on the forward end of said hopper above a discharge opening therein and partially closing same, means rocking said plate, a weighted pivotal flap beyond said discharge opening, means whereby cigarettes are successively fed to said holder with one end thereof protruding therefrom, from said chute, and ejected therefrom, a strip feed mechanism whereby the end of a continuous strip is applied to said protruding end, means making said strip adhesive, shears adapted to sever a portion of said strip from the end thereof as required, means actuating said shears, and means wrapping the said severed portion about a cigarette.

25. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, a strip feed mechanism whereby the end of a continuous strip is fed relative to said protruding end, means making said strip adhesive, a reciprocating carrier whereby the end of said strip is brought and held in close juxtaposition to said protruding end, means whereby the forward free end of the strip is applied to a cigarette, shears adapted to sever a portion of said end, means actuating said shears whereby a portion of the strip will be severed after the end has been applied to the cigarette and means wrapping the ends of said severed portion about a cigarette.

26. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, a strip feed mechanism whereby the end of a continuous strip is fed relative to said protruding end, means making said strip adhesive, a reciprocating carrier, an end gage thereon, a depressible plate thereon whereby the end of said strip is brought and held in close juxtaposition to said protruding end, shears adapted to sever a portion of said end, and means wrapping the ends of said severed portion about a cigarette.

27. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, a strip feed mechanism whereby the end of a continuous strip is fed relative to said protruding end, means making said strip adhesive, a reciprocating carrier, an end gage thereon, a plate thereon whereby the end of said strip is brought and held in close justaposition to said protruding end, springs supporting said plate, shears adapted to sever a portion of said end, and means wrapping the ends of said severed portion about a cigarette.

28. In a machine of the class described, the combination of a holder comprising a hollow shaft and a plurality of jaws mounted therein, and having one end thereof projecting therefrom and shaped to correspond to the style of cigarette to be held therein, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, means rotating said jaws intermittently, a strip feed mechanism whereby the end of a continuous strip is fed relative to said protruding end, means ,making said strip adhesive, a reciprocating carrier, an end gage thereon, a plate having a depressed portion adapted to engage said shaped end of said jaws whereby the end of said strip is brought and held in close juxtaposition to said protruding end, springs supporting said plate, shears adapted to sever a portion of said end, and means wrapping the ends of said severed portion about a cigarette.

29. In a machine of the class described, the combination of a holder comprising a hollow shaft and a plurality of jaws mounted therein, and having one end thereof projecting therefrom and shaped to correspond to the style of cigarette to be held therein, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, means rotating said jaws intermittently, a strip feed mechanism whereby the end of a continuous strip is fed relative to said protruding end, means making said strip adhesive, a reciprocating carrier, an end gage thereon, a plate having a depressed portion adapted to engage said shaped end of said jaws whereby the end of said strip is brought and held in close juxtaposition to said protruding end, springs supporting said plate, means limiting the movement of said plate from one horizontal plane to another, shears adapted to sever a portion of said end, and means wrapping the ends of said severed portion about a cigarette.

30. In a machine of the class described, the combination of a holder comprising a hollow shaft and a plurality of jaws mounted therein, and having one end thereof projecting therefrom and shaped to correspond to the style of cigarette to be held therein, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, means rotating said jaws intermittently, a strip feed mechanism whereby the end of a continuous strip is fed relative to said protruding end, means making said strip adhesive, a carrier, an end gage thereon, a plate having a depressed portion adapted to engage said shaped end of said jaws whereby the end of said strip is brought and held in close juxtaposition to said protruding end, springs supporting said plate, means limiting the movement of said plate from one horizontal plane to another, means reciprocating said carrier in conformity to variances in the contour of said shaped ends of said jaws, shears adapted to sever a portion of said end, and means wrapping the ends of said severed portion about a cigarette.

31. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, a strip feed mechanism whereby the end of a continuous strip is intermittently fed relative to said protruding end, means making said strip adhesive, means whereby the end of said strip is applied to said protruding end comprising a carrier adapted to bring and hold the strip end into close juxtaposition to said protruding end, and an oscillatory wiper adapted to apply the forward end of said strip end to one side of the cigarette, means severing the end portion of said strip after the forward free end has been applied to the cigarette, and means wrapping the remaining portion of said severed portion about said cigarette.

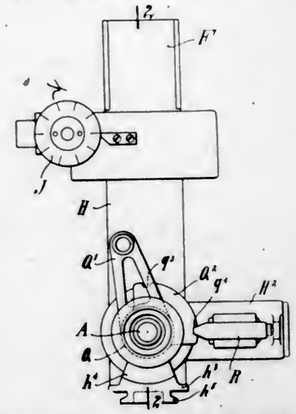
32. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, a strip feed mechanism whereby the end of a continuous strip is intermittently fed relative to said protruding end, means making said strip adhesive, means whereby the end of said strip is applied to said protruding end comprising a carrier adapted to bring and hold the strip end into close juxtaposition to said protruding end, and an oscillatory flexible wiper adapted to apply the edge of said strip end to one side of the cigarette, means severing the end portion of said strip, and means wrapping the remaining portion about said cigarette.

33. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, a strip feed mechanism whereby the end of a continuous strip is intermittently fed relative to said protruding end, means making said strip adhesive, means whereby the end of said strip is applied to said protruding end comprising a carrier adapted to bring and hold the strip end into close juxtaposition to said protruding end, and an oscillatory wiper adapted to apply the edge of said strip end to one side of the cigarette, and means whereby said wiper is raised to act as a retarding means on the cigarettes being respectively ejected from and fed to said holder, lowered to permit the strip end to be positioned between it and the protruding end of the cigarette, raised to affix the edge thereof to the cigarette, held stationary in contact with said edge while the strip feeding mechanism is being withdrawn, raised to permit the other end of the strip to be wrapped about the cigarette, and lowered to press the overlap on the cigarette, means severing the end portion of said strip and means wrapping the remainder of said severed portion about said cigarette.

34. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette, means whereby said holder may be rotated, or permitted to remain stationary, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom, a strip feed mechanism whereby the end of a continuous strip is intermittently fed relative to said protruding end, means making said strip adhesive, means whereby the end of said strip is applied to said protruding end comprising a carrier adapted to bring and hold the strip into close juxtaposition to said protruding end, a tongue on said carrier adapted to raise the rear end of said severed portion, a laterally oscillatory wiper and a vertically oscillatory wiper adapted respectively to apply the rear and the front edges of said severed portion to said protruding end, and means severing the end portion of said strip.

35. In a machine of the class described, the combination of a holder adapted to receive and retain a cigarette, means whereby said holder may be rotated, or permitted to remain stationary, means whereby cigarettes are successively fed thereto with one end protruding therefrom, and ejected therefrom a strip feed mechanism whereby the end of a continuous strip is intermittently fed relative to said protruding end, means making said strip adhesive, means whereby the end of said strip is applied to said protruding end comprising a carrier adapted to bring and hold the strip into close juxtaposition to said protruding end, a tongue on said carrier adapted to raise the rear end of a severed portion, a bell crank mounted above said holder, a wiper carried by one arm thereof, a vertically oscillatory wiper, a link connection between said last mentioned wiper and the other arm of said bell crank whereby a vertical movement of said wiper will impart a lateral movement to said first mentioned wiper whereby the two ends of a severed portion of the strip is wrapped about a cigarette, and means severing the end portion of said strip.

869,395. SIGHT-TELESCOPE. FRIEDRICH SCHLETH, Essen-on-the-Ruhr, Germany, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Filed Dec. 9, 1905. Serial No. 291,141.



1. In a panoramic sight telescope, an eye piece, a main objective whose axis intersects the axis of the eye piece, an auxiliary objective whose axis also intersects the axis of the eye piece, and a prism rotatable into position to transmit rays of light to said eye piece from either of said objectives.

2. In a panoramic sight telescope, an eye piece, a main objective and an auxiliary objective having their respective axes intersecting in a point, and a rotatable prism having its axis of rotation intersecting the three said axes before mentioned, said prism being adapted to transmit rays of light to the eye piece from either of said objectives.

3. In a panoramic telescope, an eye piece, a plurality

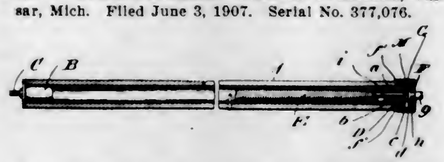
of objectives positioned within the telescope in such manner as to be capable of receiving entering rays of light from different directions, and a prism rotatable into position to transmit rays of light to said eye piece from either of said objectives, as desired.

4. In a panoramic telescope, an eye piece, a main objective whose main axis lies in the same vertical plane as that of the eye piece, an auxiliary objective whose main axis lies in the same horizontal plane as that of the eye piece, and means whereby either of said objectives may be brought into operative optical relation with said eye piece as desired.

5. In a panoramic telescope, an eye piece, a rotatable prism whose axis of rotation coincides with the main axis of said eye piece, and a plurality of objectives transmitting light into the telescope and so positioned as to permit the light from each to be successively transmitted to said eye piece by means of said rotatable prism.

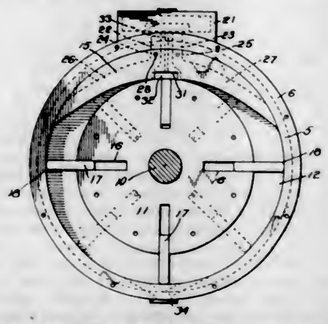
6. In a panoramic telescope, an eye piece, an objective with its axis in the same horizontal plane, a second objective receiving light from above said plane, and means rotatable into position for transmitting the light from either of said objectives into said eye piece.

869,396. SPRING-ROLLER. JOHN H. SWEETLAND, Vassar, Mich. Filed June 3, 1907. Serial No. 377,076.



A spring roller comprising a tubular body, a head having an inwardly extending protuberance snugly occupying one end of the tubular body and also having barbs embedded in the end of the body, a central cam, and an outwardly extending circular flange in which are equi-distant openings the rear walls of which are beveled, a stationary part extending through a central aperture in the head and the inwardly extending protuberance thereof and having an arm disposed at the outer side of the head, a coiled spring contained in the body and connected at one end thereto and at its opposite end to the stationary part at the inner end of said part, and a dog arranged between the head and the arm of the stationary part and pivoted to said arm and having its free end beveled and arranged to engage the beveled rear walls of the openings in the outwardly extending circular flange of the head.

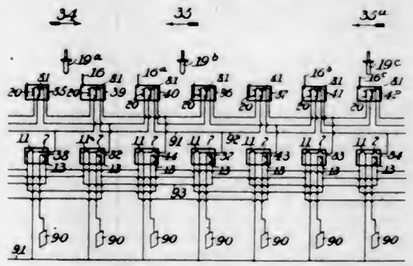
869,397. ROTARY ENGINE. LUCIUS C. TIPPETT and CHARLES L. REECE, Elverton, W. Va. Filed Feb. 11, 1907. Serial No. 356,829.



1. An engine of the class described comprising a cylinder, a core rotatably mounted within the cylinder, a bridge located within the cylinder and above the core and having ports formed therethrough, a steam chest located upon the cylinder and communicating with the ports, the underside of the bridge being merged within the inner periphery of the cylinder and being provided with a channel with which the ports communicate, pistons mounted in the core for sliding movement and for contact with the inner periphery of the cylinder and the underside of the bridge, and means communicating with the ports in the bridge for supplying steam to the core beneath the pistons.

2. An engine of the class described comprising a cylinder, a core mounted for rotation within the cylinder and provided with radial slots, pistons slidably seated in the slots, a steam chest located upon the cylinder at the top thereof, an arcuate bridge located within the cylinder and having its upper face lying against the inner periphery of the cylinder at the upper end thereof and having its under face merging with the inner periphery of the cylinder, said bridge being provided in its under face with channels and having ports formed therethrough for establishing communication between the steam chest and the channels, circular plates carried by the core at each of its ends, said plates being provided with grooves in which the side edges of the pistons are received, said grooves being in alinement with the slots in the core, said plate being provided with ports establishing communication between the corresponding grooves and slots, said bridge being provided with ports for communication between its ports and the grooves in the plate, and an exhaust for the cylinder.

869,398. AUTOMATIC DEVICE FOR PROTECTING TRAINS. EDUARD UNVERRICHT, Altona, Germany. Filed Jan. 8, 1906. Serial No. 295,103.



1. Means for automatically protecting railway trains, consisting of the combination of a plurality of electric circuits, each of which contains two open portions at a distance from one another along the line, means adapted to be actuated by a passing train for closing one of said open portions, means adapted to be actuated by an object endangering said passing train for closing the other of said open portions, a plurality of section-stops arranged in conjunction with each circuit, and means adapted to be actuated by the current in each circuit when closed for setting said section-stops whereby when the current flows said section-stops are so set as to apply the brakes on the train.

2. Means for automatically protecting railway trains, consisting of a plurality of electric circuits, each of which contains two open portions at a distance from one another of three sections, said plurality of circuits being so arranged that each of a plurality of them overlaps the next for two-thirds of its length, means in conjunction with each circuit adapted to be actuated by a passing train for closing one of the open portions of said circuit, means adapted to be actuated by a train endangering said passing train for closing the other of said open portions, two section-stops arranged in conjunction with each circuit, one stop being at a distance of one section from the one open portion of the circuit, and the other stop being one section from the other open portion of the circuit, and means adapted to be actuated by the current in each circuit when closed for setting said section-stops, whereby

when the current flows said section-stops are so set as to apply the brakes on the trains.

3. Means for automatically protecting railway trains, consisting of the combination of a plurality of electric circuits, each of which contains at a distance from one another along the line two tubes of insulating material partially filled with mercury, each of said tubes being normally in a vertical position, whereby the circuit has normally an open portion between the top of the mercury and the top end of each tube, means adapted to be actuated by a passing train for turning one of said tubes into a substantially horizontal position, and thereby closing the circuit in said tube, means adapted to be actuated by an object endangering said passing train for turning the other tube into a substantially horizontal position and thereby completely closing the circuit, a plurality of section-stops arranged in conjunction with each circuit, and means adapted to be actuated by the current in each circuit when closed for setting said section-stops whereby when the current flows said section-stops are so set as to apply the brakes on the train.

4. Means for automatically protecting railway trains, consisting of a plurality of electric circuits, each of which contains at a distance from one another along the line of three sections two tubes of insulating material partially filled with mercury, each of said tubes being normally in a vertical position, whereby the circuit has normally an open portion between the top of the mercury and the top end of each tube, said plurality of circuits being so arranged that each of a plurality of them overlaps the next for two-thirds of its length, means in conjunction with each circuit adapted to be actuated by a passing train for turning one of the mercury tubes into a substantially horizontal position and thereby closing the circuit in said tube, means adapted to be actuated by a train endangering said passing train for turning the other tube into a substantially horizontal position and thereby completely closing the circuit, two section-stops arranged in conjunction with each circuit, one stop being at a distance of one section from the one mercury tube, and the other stop being one section from the other mercury tube, and means adapted to be actuated by the current in each circuit when closed for setting said section-stops, whereby when the current flows said section-stops are so set as to apply the brakes on the trains.

5. Means for automatically protecting railway trains, having underneath breakable compressed air brake-pipe caps, consisting of a plurality of electric circuits, each of which contains at a distance from one another along the line of three sections two tubes of insulating material partially filled with mercury, each of said tubes being normally in a vertical position, whereby the circuit has normally an open portion between the top of the mercury and the top end of each tube, said plurality of circuits being so arranged that each of a plurality of them overlaps the next for two-thirds of its length, means in conjunction with each circuit adapted to be actuated by a passing train for turning one of the mercury tubes into a substantially horizontal position and thereby closing the circuit in said tube, means adapted to be actuated by a train endangering said passing train for turning the other tube into a substantially horizontal position and thereby completely closing the circuit, two section-stops arranged in conjunction with each circuit, one stop being at a distance of one section from the one mercury tube, and the other stop being one section from the other mercury tube, and means adapted to be actuated by the current in each circuit when closed for setting said section stops, whereby when the current flows said section-stops are so set as to engage and break the compressed air brake-pipe caps when the train passes over said stops.

6. Means for automatically protecting railway trains, having underneath breakable compressed air brake-pipe caps, consisting of the combination of a plurality of electric circuits, each of which contains two open portions at a distance from one another along the line, means adapted to be actuated by a passing train for closing one of said open portions, means adapted to be actuated by an object endangering said passing train for closing the other of said open portions, a plurality of section-stops 16, having notches 18, arranged in conjunction with each circuit, pivoted levers engaging the stops, counterweights 21 on the levers, spring-pressed bolts 17 normally engaging in the notches 18, electro-magnets 20, 81 adapted to be actuated by the currents in the circuits when closed for disengaging the bolts 17, spring-pressed bolts 22 for engaging in the notches 18 after the counterweights have raised the stops into the position in which they engage and break the compressed air brake-pipe caps, and keys 23 for disengaging said bolts 22.

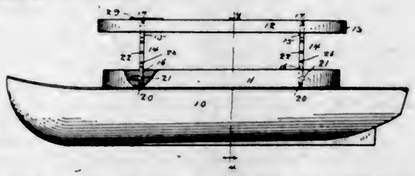
7. Means for automatically protecting railway trains, having underneath breakable compressed air brake-pipe caps, consisting of the combination of a plurality of electric circuits, each of which contains two open portions at a distance from one another along the line, means adapted to be actuated by a passing train for closing one of said open portions, means adapted to be actuated by an object endangering said passing train for closing the other of said open portions, a plurality of section-stops 16, having notches 18, arranged in conjunction with each circuit, pivoted levers engaging the stops, counterweights 21 on the levers, spring-pressed bolts 17 normally engaging in the notches 18, and electro-magnets 20, 81 adapted to be actuated by the currents in the circuits when closed for disengaging the bolts 17, to permit the counterweights to raise the stops into the position in which they engage and break the compressed air brake-pipe caps.

8. Means for automatically protecting railway trains consisting of a plurality of electric circuits, each of which contains two open portions at a distance from one another of three sections, said plurality of circuits being so arranged that each of a plurality of them overlaps the next for two-thirds of its length, means in conjunction with each circuit adapted to be actuated by a passing train for closing one of the open portions of said circuit, means adapted to be actuated by a train endangering said passing train for closing the other of said open portions, two section-stops 16 arranged in conjunction with each circuit, one stop being at a distance of one section from the one open portion of the circuit and the other stop being one section from the other open portion of the circuit, said stops 16 having notches 18, pivoted levers engaging the stops, counterweights 21 on the levers, spring-pressed bolts 17 normally engaging in the notches 18, electro-magnets 20, 81, two for each stop 16, one electro-magnet being in one circuit and the other in one of the other overlapping circuits, said electro-magnets being adapted when energized to disengage the bolts 17, to permit the counterweights to raise the stops into the position in which they engage and break the compressed air brake-pipe caps.

9. Means for automatically protecting railway trains, consisting of the combination of a plurality of electric circuits, each of which contains at a distance from one another along the line two tubes of insulating material partially filled with mercury, each of said tubes being normally in a vertical position, whereby the circuit has normally an open portion between the top of the mercury and the top end of each tube, means adapted to be actuated by a passing train for turning one of said tubes into a substantially horizontal position, and thereby closing the circuit in said tube, means locking said tube in said horizontal position, an electro-magnet adapted when energized to unlock said locking means, a normally open circuit containing said electro-magnet, means at a distance from the above-mentioned means for turning said tube into a horizontal position adapted to be subsequently actuated by the passing train to close the latter circuit to release said tube, means adapted to be actuated by an object endangering said passing train for turning the other tube into a substantially horizontal position and thereby completely closing the circuit, means locking said tube in said horizontal position, an electro-magnet adapted when energized to unlock said locking means, a normally open circuit containing said electro-magnet, means at a distance from the above-mentioned means for turning said tube into a horizontal position adapted to be subsequently actuated by the object endangering the passing train to close the latter circuit to release said tube, a plurality of section-stops ar-

ranged in conjunction with each circuit, and means adapted to be actuated by the current in each circuit when closed for setting said section-stops whereby when the current flows said section-stops are so set as to apply the brakes on the train.

869,399. ADJUSTABLE TOP FOR LAUNCHES. WALTER P. WALTER, Stamford, Conn. Filed Apr. 22, 1907. Serial No. 369,471.



1. The combination with the combing of a launch, of a continuous vertically movable top having a depending flange inclosing the combing in its lowered position, and folding standards by which the top may be retained in the raised position.

2. The combination with the combing of a launch, of a vertically movable top having a depending flange inclosing the combing in its lowered position, folding standards by which the top may be retained in the raised position and offset supports on the combing by which the front standards are held against swinging forward and the rear standards against swinging backward.

3. The combination with the combing of a launch, of a vertically movable top having a depending flange inclosing the combing in its lowered position, and standards by which the top is supported in the raised position, said standards comprising parts pivoted to each other and to the top and combing respectively and means for locking the standards independently in the extended position, substantially as described, for the purpose specified.

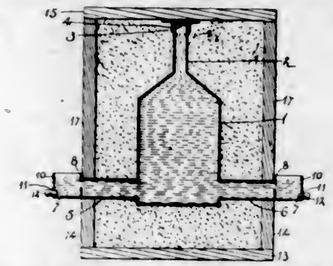
4. The combination with the combing of a launch and a vertically movable top having a depending flange inclosing the combing in its lowered position, of standards comprising parts pivoted to each other and to the top and combing respectively, means for locking the standards independently in the extended position, and offset supports on the combing which prevent the front standard from swinging forward and the rear standard from swinging backward, so that the top may be raised or lowered or either end may be raised the other remaining lowered, or the top when raised may be pushed either backward or forward to permit the taking of passengers.

5. The combination with the combing of a launch and a top having a depending flange adapted to engage the combing, of standards comprising parts 15 pivoted to the top and parts 16 pivoted to the combing, said parts 15 having pins adapted to engage notches in parts 16, and parts 16 having bolts adapted to engage notches in parts 15, said bolts being provided with wing nuts whereby the standards may be locked in the extended position.

6. The combination with the combing of a launch, of a continuous vertically movable top having a trap door and having a depending flange engaging the combing in its lowered position, and folding standards by which the top may be retained in the raised position, the trap door enabling the pilot to steer when the top is in the closed position.

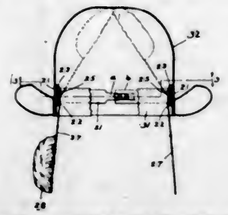
7. The combination with the combing of a launch and a top, of standards comprising parts 15 pivoted to the top and parts 16 pivoted to the combing, pivots connecting said parts to each other, bolts in parts 16, notches in parts 15 engaged by said bolts, wing nuts on said bolts for locking the parts in the extended position and means for preventing the rear standards from swinging backward so that when the wing nuts of the rear standards are loosened, parts 15 of the rear standards may be swung backward leaving the top to rest on parts 16, and the forward standards may be swung backward while extended and will support the top, substantially as described, for the purpose specified.

869,400. POULTRY-FOUNTAIN. MARY L. WELDON, Rockford, Ill. Filed Jan. 28, 1907. Serial No. 354,573.



A poultry fountain comprising a vessel and a cup having a pipe connection with the vessel, an outer casing within which the vessel is placed, heat non conducting material packed around the vessel, the cup provided with a discharge opening also with an opening communicating with the pipe, and a removable stopper adapted to be inserted in either opening.

869,401. EAR-MUFF. SAMUEL R. WELLS, Greenfield, Ind. Filed Oct. 22, 1906. Serial No. 340,014.



1. An ear muff comprising a band other than a band on the head-covering adapted to entirely surround the head of the wearer, separately-constructed wire muff frames mounted on said band, and a suitable covering fabric mounted on the frames.

2. An ear muff comprising a band adapted to surround the head of the wearer, wire muff frame mounted on said band, and a suitable covering fabric mounted on the frame, the wire being formed into coiled springs at the point where the muff frame leaves the band on which it is mounted.

3. The combination, with a head-covering, of an ear-muff structure comprising a band adapted to be inserted between the sweat band and the wall of the head-covering and united by a slip joint at the ends whereby it may be adjusted to the size of said head-covering, spring wire muff frames mounted on said band and having loops adapted to surround the ears of the wearer, and suitable fabric secured on said loops.

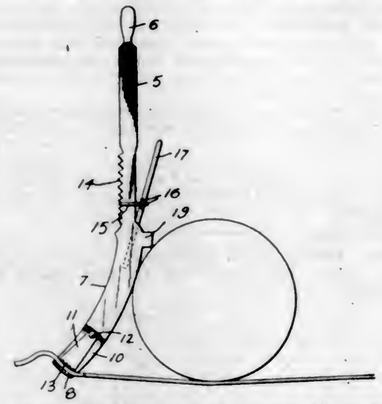
4. The combination, with a head-covering, of a band adapted to be inserted between the sweat band and the wall of the head covering, wire muff-frames mounted on said band and having springs formed therein and adapted to be arranged to clasp the sweat-band of the head-covering to the metal band, and suitable ear covering fabric secured to the muff frames.

5. The combination, with a head-covering, of a frame secured within said head-covering composed of a continuous flat band and separately-constructed spring wire frames mounted on said band and adapted to be held either within the head covering or to come down and engage with the ears of the wearer.

6. The combination, with a head covering embodying the usual sweat band, of suitable supports constructed independently of said head covering and its sweat band and adapted to be removably inserted between said sweat band and the wall of said head covering, wire muff frames mounted on said supports and having coiled springs embodied therein at points on the opposite side of the sweat band from the supports when the latter are placed in position behind the sweat band, and a suitable covering fabric secured to the muff frames.

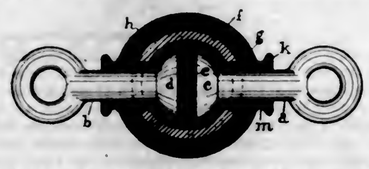
7. The combination, with a head-covering, of suitable supports secured between the sweat band and the wall of the head-covering, wire muff frames mounted on said supports, said wire frames embodying coiled springs forming part of the support clasps, and other coiled springs at a little distance therefrom which operate to hold the muff frames into the head-covering when not in use.

869,402. WIRE-STRETCHER. GEORGE H. WEYANT, Nachusa, Ill. Filed Feb. 18, 1907. Serial No. 357,952.



A device of the class described comprising a curved lever having a wire clamp at one end and provided in its concave edge with a number of serrations, and a chain having a link interchangeably engaged with the serrations, and a post engaging member carried at the end of the chain.

869,403. STRAIN-INSULATOR. ALBERT ANDERSON, Boston, Mass., assignor to Albert and J. M. Anderson Manufacturing Company, Boston, Mass., a Corporation of Maine. Filed Mar. 2, 1906. Serial No. 303,756.



1. In an insulator of the class described, in combination, two metallic members provided with heads, insulating material electrically separating said heads, a one piece inclosing metallic shell substantially spherical in form and provided with openings substantially opposite each other and having its inner surface adjacent each of said openings curved or substantially spherical in shape, insulating material separating said shell from said members, and insulating material on the outer surface of said shell, substantially as described.

2. In an insulator of the class described, in combination, two metallic members provided with substantially semi-spherical heads, insulating material electrically separating said heads, a one piece metallic shell substantially spherical in form and inclosing said heads and provided with openings substantially opposite each other through which said members extend, said shell having its inner surface adjacent each of said openings substantially semi-spherical in shape, insulating material separating said shell from said members, and insulating material on the outer surface of said shell, substantially as described.

3. In an insulator of the class described, in combination, a one piece metal shell substantially spherical in form and provided with substantially diametrically opposite openings and having a curved inner surface adjacent to each of said openings, metallic members provided with heads located within said shell and with shanks extended through said openings, and insulating material within said shell separating said metallic members from each other and from said shell, substantially as described.

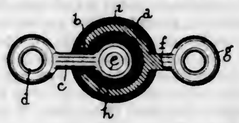
4. In an insulator of the class described, in combination, a one-piece substantially spherical metallic shell provided with substantially diametrically opposite openings, devices provided with heads located in said shell and with shanks extended through said openings, and insulating material separating said heads from each other and from said shell, substantially as described.

5. In an insulator of the class described, in combination, a one-piece substantially spherical metallic shell provided with substantially diametrically opposite openings, metallic members provided with curved heads located in said shell and provided with shanks extended through said openings, and insulating material separating said heads from each other and from said shell, substantially as described.

6. In an insulator of the class described, in combination, a one-piece substantially spherical steel shell provided with substantially diametrically opposite openings, metallic members having curved heads located in said shell and with shanks extended through said openings, and insulating material separating said heads from each other and from said shell, substantially as described.

7. In an insulator of the class described, in combination, a one piece substantially spherical metal shell provided with an opening and having a curved inner surface adjacent to said opening, a metallic member provided with a head located within said shell and with a shank extended through said opening, and insulating material within said shell interposed between said head and the curved inner surface of said shell, substantially as described.

869,404. STRAIN-INSULATOR. ALBERT ANDERSON, Boston, Mass., assignor to Albert and J. M. Anderson Manufacturing Company, Boston, Mass., a Corporation of Maine. Filed July 5, 1906. Serial No. 324,783.



1. In an insulator of the class described, in combination, a metallic shell having a shank attached to it and provided with a substantially diametrically opposite opening and with a substantially spherical curved inner surface adjacent to said opening, a metallic member extended through said opening and having within the said shell a head, and insulating material within the shell separating said head from said shell, substantially as described.

2. In an insulator of the class described, in combination, a substantially spherical metallic shell having a shank integral with it and provided with an opening substantially opposite said shank, a metallic member extended through said opening and having within said shell a head provided with a curved surface adjacent to said opening, and insulating material enveloping said shell and the portion of the metallic member within the same, substantially as described.

869,405. COLLAR-BUTTON. ERNEST T. ATWELL, Kansas City, Mo., assignor to Jones F. Adams, Kansas City, Mo. Filed Mar. 31, 1906. Serial No. 309,032.

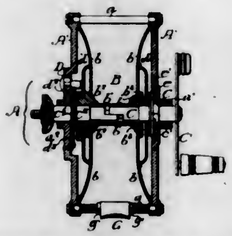
1. A collar button, comprising a pair of arms of unequal length and united at their upper ends, the longer

arm being provided with a jog or shoulder and spaced slightly from and substantially paralleling the other arm below said jog or shoulder and fitting flatly and tightly against the short arm above said shoulder.



2. A collar button, comprising a pair of arms of unequal length united at their upper ends, the longer arm being provided with a jog or shoulder and fitting flatly against the other arm above and spaced slightly from and substantially paralleling said other arm below said jog or shoulder, said long arm below said jog or shoulder having a second jog or shoulder, 8, said last named jog or shoulder disposing the lower extremity of the long arm a greater distance from the plane of the short arm than that portion of the long arm between said jogs or shoulders.

869,406. FISHING-REEL. LEONARD ATWOOD, Philadelphia, Pa., assignor of one-fourth to John M. O. Hewitt, Philadelphia, Pa. Filed Jan. 7, 1907. Serial No. 351,127.



1. The combination in a fishing reel, of a casing, a spool having flanges, one of the flanges being made of spring metal, a spindle on which the spool is mounted, a friction disk carried by the spindle and arranged to contact with the spool, the spring side flange yielding when friction is applied, substantially as and for the purpose set forth.

2. The combination in a fishing reel, of a casing, a spool having flanges, a two-part spindle upon which the spool is mounted, a friction disk carried by one part, and means for adjusting the said friction disk towards and from the spool, the flanges of the spool being made of yielding material and having two disks secured thereto, one disk being rigidly secured to the hub of the spool and the other disk being free of the hub, the said disks taking the bearing of the friction mechanism so that when transverse pressure is applied the side members of the disks will be drawn together, substantially as described.

3. The combination in a fishing reel, of a body portion having two side members, a spindle having its bearing in one of the side members, a sleeve having its bearing in the other side member, a rod forming an extension of the spindle and passing through the sleeve, an adjusting nut on the end of said rod, said spindle and sleeve having projections which interlock, the end of the projection on one part being out of contact with the other part so that the sleeve will turn with the spindle but the spindle will be free to move longitudinally in the sleeve, a friction disk on the spindle, a spool mounted on the spindle and the sleeve and having a friction surface against which the friction disk comes in contact, substantially as described.

4. The combination in a fishing reel having a body portion consisting of side members connected together, a spindle mounted in a bearing on one of the side members, a sleeve mounted in a bearing on the other side member, a rod forming an extension of the spindle passing through the sleeve, a nut on the end of the rod, said spindle having a squared portion, a friction disk loosely mounted on said squared portion, a spool mounted on the spindle and sleeve and having a friction surface against which the friction disk comes in contact, substantially as described.

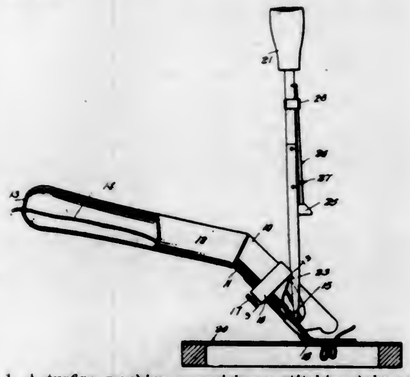
5. The combination in a fishing reel, of a casing, a spool having flanges, a spindle on which the spool is mounted, an abutment at one side of the spool, a friction disk carried by the spindle and mounted at the opposite side of the spool, means for adjusting the said disk in respect to the spool, a disk secured to one flange of the spool and arranged to take the pressure of the friction disk, causing said flange to yield, substantially as and for the purpose set forth.

6. The combination in a reel, of a frame, a spool mounted thereon, and a seat laterally adjustable on the frame, substantially as described.

7. The combination in a reel, of a frame, a spool mounted on the frame, transverse bars extending from one side member of the reel to the other, a reel seat mounted on said bars, and means for laterally adjusting the said seat, substantially as described.

8. The combination in a reel, of a frame, a spool mounted on the frame, two transverse bars carried by the frame, a reel seat mounted on the bars, a transverse screw rod attached to the frame and passing through the seat, nuts on the screw rod so that the seat can be adjusted laterally and can be locked in its adjusted position, substantially as described.

869,407. RUG-TURFING MACHINE. JAMES J. BAIRD, Los Angeles, Cal. Filed Mar. 22, 1906. Serial No. 307,529.



1. A turfing machine comprising a stitching tube with an open top and a V-shaped bottom; a thread holder and guide in said stitching tube in combination with a needle composed of two tapered resilient prongs having blades secured to their opposing surfaces, said blades having their lower ends overlapping and brought to blunt edges.

2. A turfing machine comprising a stitching tube with an open top and a V-shaped bottom; a hollow handle secured to said stitching tube, said handle having an aperture at the outer end and a slit in the top thereof; an adjustable thread holder and guide in said stitching tube; in combination with a needle composed of two tapered resilient prongs having blades secured to their opposing surfaces, said blades having their lower ends overlapping and brought to blunt edges; and a stitch gage adjustably secured to said needle.

3. In a turfing machine the combination of an eyeless needle comprising a shank having two prongs secured to the lower end thereof, said prongs having blades secured thereto; with a stitching tube having an aperture at the lower end adapted to clamp the points of the needle together when they are thrust down through the tube.

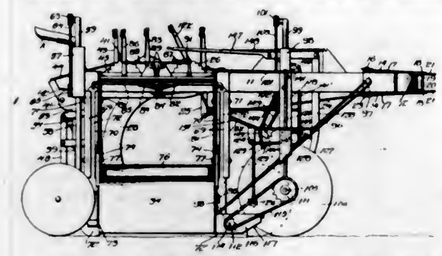
4. In a turfing machine a combination of an eyeless needle comprising two prongs having blades secured there

to; with a stitching tube having an aperture at the lower end adapted to clamp the points of the needle together when they are thrust down through the tube; and means secured within said tube for holding and guiding the thread therein.

5. In a turfing machine an eyeless needle comprising a shank; two prongs secured to the lower end thereof, said prongs being composed of thin resilient metal and the lower part thereof tapered to a point and blades secured to said prongs on their opposing faces, said blades overlapping and having their lower ends brought to a blunt edge.

6. In a turfing machine, an eyeless needle comprising a shank having a handle secured thereto; two prongs secured to the lower end of said shank, said prongs being composed of thin resilient metal and the lower part thereof tapered to a point; blades secured to said prongs on their opposing faces, said blades overlapping and having their lower ends brought to a blunt edge; and a depth gage adjustably secured to said needle.

869,408. GRADING-MACHINE. GEORGE W. BARNETT, Louise, Tex. Filed Oct. 30, 1906. Serial No. 341,246.



1. A machine of the class described, comprising a frame, a plow connected with the frame, a laterally extending carrier arranged to receive from the plow, traction and supporting wheels connected with the frame, operative connections between said wheels, said connections including clutches means for transmitting power from said wheels to the carrier, said means including a clutch, and means for operating the several clutches simultaneously.

2. In a machine of the class described, the combination with a frame, of vertically movable traction and supporting wheels, means for moving the supporting wheel vertically, means for holding the traction wheel yieldably against vertical movement, operative connections between the wheels, said connections including chains and clutches, bodily movable idler sprockets for the chains, and means for operating the clutches and for moving the idler sprockets simultaneously.

3. A machine of the class described, comprising a frame, a plow carried by the frame, a carrier arranged to receive from the plow and pivoted for vertical movement, means for moving the carrier pivotally, said carrier being also arranged for bodily vertical movement, means for moving the carrier bodily a vertically movable ground wheel connected with the frame, means for holding the ground wheel yieldably against upward movement, a side draft bar connected with the frame, and with the carrier, traction and supporting wheels connected with the frame, operative connections between the traction and supporting wheels and the carrier and a tracker wheel for the plow.

4. In a machine of the class described, the combination with a frame, of a guide in the frame, a slide mounted in the guide for vertical movement, a traction wheel connected with the slide for movement therewith, an operative mechanism connected with the traction wheel for vertical movement therewith, a bracket, an operating rod pivotally and slidably mounted in the bracket and connected with the operative member for operation thereof when the rod is moved pivotally, and means for moving the rod pivotally.

5. In a machine of the class described, the combination with a frame, of a vertically movable wheel carried by the frame, means for moving said wheel vertically, a vertical rod slidably connected with the frame, a sprocket revolubly mounted at the lower end of the rod, clutch connections between the sprocket and said wheel, said rod being movable laterally to operate the clutch, a sprocket journaled in the vertical plane of the first named sprocket, a chain engaging with the two sprockets, a lever in the frame, connections between the lever and the rod for movement of the rod to operate the clutch when the lever is moved, and an idler connected with the lever and engaged in the chain, said idler being arranged for movement to slacken the chain when the lever is moved to throw out the clutch.

6. In a machine of the class described, the combination with a frame, of vertically movable traction and supporting wheels carried by the frame, a plow carried by the frame, means for moving the supporting wheel to vary the position of the plow, a sprocket for each of the wheels, clutch connections between the sprockets and their respective wheels, a second pair of sprockets, chains engaged with the first and second named sprockets, vertical members connected with the clutches and arranged for lateral movement to operate said clutches, said members being connected with the frame for vertical movement with their respective wheels, a carrier, clutch connections between the traction wheel and the carrier for operation of the latter, a lever in the frame, connections between the lever and the vertical rods for movement of the latter to operate the clutches when the lever is moved idlers connected with the lever and engaging the chains, and arranged for movement to slacken the chains when the clutches are thrown out, connections between the clutch mechanism of the carrier and the lever, operable to throw out said clutch when the first named clutches are thrown out, means for holding the traction wheel yieldably against upward movement, one of said idlers being movable independently of the lever, and a spring arranged to move said idler to compensate for slackening of the corresponding chain.

7. In a machine of the class described, the combination with beams of a member extending between the beams, a second member connected with the beams and having a convex face directed away from the first named member, arms pivotally connected with the first named member and extending beyond the second named member, a roller carried by one of the arms and resting against the convex face of the second member for movement thereover, a clevis plate carried by the arms, and means for holding the arms at different points of their pivotal movement.

8. In a machine of the class described, the combination with a support, of a share, fastening devices engaged in the share and in the support and blades carried by the fastening devices and extending above the share.

9. In a machine of the class described, the combination with a frame, of a vertical guide carried by the frame, a member slidably mounted in the guide, means for moving the member vertically, means for holding the moving means with the member at different points of its movement, an arm pivoted to the lower end of the member for horizontal movement, a vertical wheel carried by the arm, and means movable into and out of operative position for holding the arm against pivotal movement.

10. In a machine of the class described, the combination with a frame, of an elevator pivotally connected with the frame, rack bars mounted upon the elevator for vertical movement with respect thereto, rack segments meshing with the rack bars and arranged for movement to move the rack bars vertically, a lever pivotally connected with the frame, connections between the lever and the segments for movement of the segments when the lever is moved, and supporting wheels carried by the rack bars.

11. In a machine of the class described, the combination with a frame, of a guide connected with the rearward portion of the frame and lying at one side thereof, a laterally extending carrier located forwardly of the guide, a vertically movable slide in the guide, means for holding the slide yieldably against upward movement, a ground wheel carried by the slide, a forwardly extending member connected with the guide, said elevator being connected with the member for movement with respect thereto, and

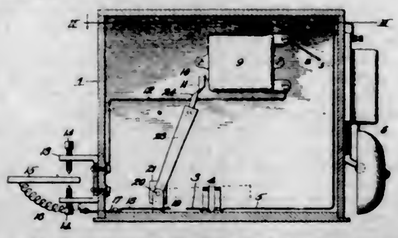
a side draft bar connected with the member and with the frame.

12. In a machine of the class described, the combination with a frame, of wheel-supporting means carried thereby at one side thereof, a wheel connected with said supporting means, a vertically movable carrier connected with the frame and lying forwardly of said wheel, a member secured to the supporting means and extending forwardly therefrom, said elevator being connected with the member for vertical movement with respect thereto, and a side draft bar connected with the member and with the frame.

13. In a machine of the class described, the combination with power transmitting mechanism, including a clutch, of a bracket, a lever connected with the clutch and engaged in the bracket for movement to operate the clutch, a sprocket carried by the clutch, a power receiving shaft, a sprocket carried by the power receiving shaft, a chain engaged with the sprockets, an arm carried by the bracket, a lever pivoted to the arm, an idler sprocket carried by the lever and engaging the chain, said lever being movable to bring the idler out of engagement with the chain, a guide included in the bracket a finger carried by the lever and entering the guide and a spring engaged between one end of the guide and the finger, and arranged to hold the lever yieldably with the idler in engagement with the chain.

14. In a machine of the class described, the combination with a frame, of a plow carried by the frame, cross members secured to the frame and having downwardly turned end portions at one side of the frame, said end portions having their edge portions bent to form guides, members slidably mounted in the guides for vertical movement, a shaft journaled at the lower ends of the members, a carrier pivoted upon the shaft, said carrier including an apron engaged with the shaft for operation thereby, means for moving the carrier pivotally, means connected with the members for movement of the latter, and means for driving the shaft.

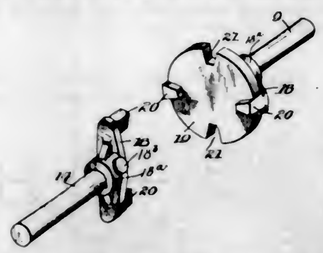
869,409. ALARM ATTACHMENT FOR INCUBATORS. CHARLES R. BENEDICT, Kansas City, Kans., and JOHN A. HUTCHESON, Kansas City, Mo. Filed Mar. 10, 1906. Serial No. 305,289.



1. The combination of a source of electric current supply, an electro-magnet connected to said source of electric current supply, provided with an armature, a contact connected to said electro-magnet, an incubator regulator adapted to engage said contact and electrically connected to the opposite pole of said source of electric current supply, a switch mechanism comprising a pair of poles, one connected to a pole of said source of electric current supply, an electro-magnetic bell connected to the other pole of said switch and to the other pole of the source of electric current supply, an arm adapted to connect the poles of said switch and held normally out of engagement therewith by said armature, a shaft carrying said switch pole connecting arm, and a handle to operate said shaft and elevate said arm to its original position and relation with respect to the armature.

2. The combination of a casing, an electric battery therein, an electro-magnet in said casing, provided with an armature, a pair of switch poles in said casing, a shaft projecting into said casing and suitably journaled, a switch arm mounted on said shaft and provided with a tooth held by gravity against and supported by said armature, a handle for said shaft, a bracket having an adjustable contact electrically connected to said electro-magnet, a conductor between said magnet and one pole of the battery, an incubator regulator adapted for engagement with said adjustable contact and electrically connected to the other pole of said battery, a conductor between the last-named pole of the battery and one of the switch poles, a bell mechanism, and conductors connecting the bell mechanism with the other pole of the switch and the first named pole of said battery.

869,410. INSULATING-COUPLING. ARTHUR W. BERRESFORD, Milwaukee, Wis., assignor to The Cutler-Hammer Mfg. Co., Milwaukee, Wis., a Corporation of Wisconsin. Filed Feb. 21, 1903. Serial No. 144,488.



1. In a shaft coupling, the combination with coupling members, of lugs extending longitudinally from each of said members, and an insulating block having notches into which the lugs on one of said members may extend and separate notches for accommodating the lugs on the other of said members.

2. In a shaft coupling, the combination with yokes secured to the respective shaft parts, of forwardly extending lugs integrally formed on said yokes, and an insulating block having notches into which the lugs on one of said yokes may extend and separate notches for accommodating the lugs on the other of said yokes.

3. In a shaft coupling, the combination with coupling members secured to the respective shaft parts, of forwardly extending lugs for each of said coupling members, and an insulating block disposed between said members and having notches wherein the lugs on one of said members may engage and separate notches for accommodating the lugs on the other of said members.

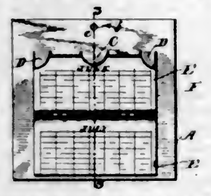
4. In a shaft coupling, the combination with the respective shaft parts, of a dog secured to each of said parts, each of said dogs having a forwardly extending lug, and an insulating block having a notch wherein the lug of one of said dogs may engage and a separate notch in which the lug of the other of said dogs may engage.

5. In a shaft coupling, the combination with the respective shaft parts, of an insulating block disposed between said shaft parts and having notches in the periphery thereof, a dog secured to one of said shaft parts and having forwardly extending lugs engaging in corresponding notches in said block and a similar dog secured to the other of said shaft parts and having its lugs engaging in separate notches in said block.

6. In a shaft coupling, the combination with the respective shaft parts, of an insulating block disposed between said parts, a dog member on each of said parts, and lugs on each of said dog members, the lugs on each of said dog members extending therefrom toward the other dog member, said insulating block having a set of notches within which the lugs on one of said dog members may engage and a separate set of notches wherein the lugs upon the other of said dog members may engage.

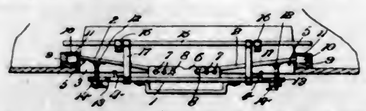
7. In a shaft coupling, the combination with the respective shaft parts, of a dog member secured to each of said parts, forwardly extending lugs on each of said dog members, all of said lugs being disposed to rotate in a common plane, and an insulating block separating said dog members and spacing the lugs on one of said members from the lugs on the other of said members.

869,411. CALENDAR. WILLIAM T. BERRY, Maysville, Ky. Filed Feb. 25, 1907. Serial No. 359,245.



A calendar consisting of one piece of material having a slit therein, and also having leaf-retaining tongues cut from and forming integral parts of said material on one side of said slit, and leaves connected to the face of the material at the other side of said slit, each leaf having on its front face data for one month, and on its back face data for the month following.

869,412. GRAIN-DOOR. HENRY H. BORNKER, St. Charles, Mo. Filed Jan. 18, 1907. Serial No. 352,984.



1. In a device of the character described, the combination of a door, lateral flanges carried by the door, a wing adjustably hinged between the lateral flanges, and means for locking the wing in alinement with the door.

2. In a device of the character described, the combination of grooved door jambs, a door, lateral flanges carried by the door, wings adjustably hinged between the flanges, bolts loosely connected to the wings and extending through the door, and nuts coöperating with the bolts to draw the wings into alinement with the door.

3. In a device of the character described, the combination of door jambs, a door, adjustably mounted wings carried by the door for engaging the jambs, a cross rod designed to engage the jambs, link members loosely connecting the upper edge of the door and the cross rod, and hangers connecting the cross rod and the top of the car, the door being designed to be folded against the upper portion of the hangers and swung against the top of the car, and fastening members for holding the door against the top of the car.

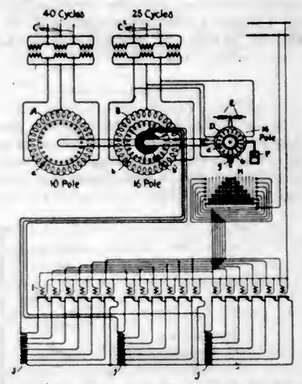
869,413. FREQUENCY-CHANGER. WALTER S. BRALLEY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 5, 1907. Serial No. 355,839.

1. In combination with two transmission systems, two asynchronous induction machines having their primaries supplied from said systems respectively, their secondaries short-circuited, and their rotors mechanically connected to each other.

2. In combination with two transmission systems, two asynchronous induction machines having their rotors on the same shaft and their primaries supplied from said systems respectively and their secondaries short-circuited.

3. In combination with two transmission systems, two asynchronous induction machines having their primaries supplied from said systems respectively, their secondaries short-circuited, and their rotors mechanically connected to each other, and means for automatically controlling the slip of said machines on overload.

4. In combination with two transmission systems, two asynchronous induction machines having their primaries supplied from said systems respectively, their secondaries short-circuited, and their rotors mechanically connected to each other, and automatic means for increasing the resistance of the secondary circuit of one of said machines upon an overload.

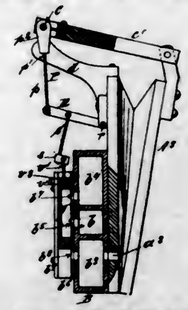


5. In combination with two transmission systems, two asynchronous induction machines having their primaries supplied from said systems respectively, their secondaries short-circuited, and their rotors mechanically connected to each other, a small induction machine supplied from one of said systems having its rotor mechanically connected to the rotors of the main machines and its stator rotatably mounted, yielding means for restraining the movement of the stator, and means controlled by the movement of said stator for varying the resistance of the secondary circuit of one of the main machines.

6. In combination with two transmission systems, two asynchronous induction machines having their primaries supplied from said systems respectively, their secondaries short-circuited, and their rotors mechanically connected to each other, a small induction machine supplied from one of said systems having its rotor mechanically connected to the rotors of the main machines and its stator rotatably mounted, a spring opposing the movement of the stator, a switch mechanically connected to the stator, and a resistance controlled by said switch in circuit with the secondary winding of one of the main machines.

7. In combination with two transmission systems, two asynchronous machines having their primaries supplied from said systems respectively, their secondaries short-circuited, and their rotors mechanically connected to each other, an overload device, and means controlled thereby for inserting resistance in the secondary circuit of one of said machines.

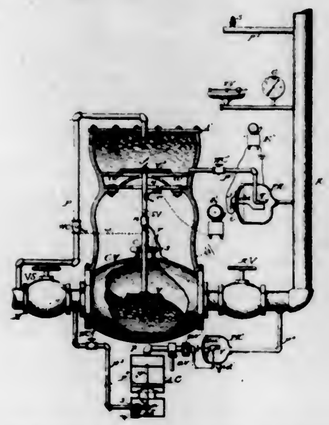
869,414. PNEUMATIC MOTOR FOR USE IN AUTOMATIC MUSICAL PLAYERS. GEORGE P. BRAND, New York, N. Y. Filed Mar. 4, 1907. Serial No. 360,414.



In a pneumatic motor of the character designated, motion transmitting mechanism interposed between a crank

on the power shaft and a reciprocating valve, controlling ports to pneumatics, consisting of a pitman pivotally connected to the crank and to a reducing lever, said reducing lever fulcrumed on a stationary part, and a connection rod pivotally connected with the valve and also pivotally connected with the reducing lever between the fulcrum of the latter and its point of connection with the crank pitman, for the purpose described.

869,415. FIRE-EXTINGUISHING APPARATUS. CHARLES E. BUELL, North Plainfield, N. J., assignor to General Fire Extinguisher Company, New York, N. Y., a Corporation of New York. Filed Nov. 16, 1896. Serial No. 612,347.



1. A valve mechanism for controlling the waterway between a supply main and a main riser of a sprinkler system that comprises a valve, a second valve inclosed in an independent casing, means for connecting said valves, entrapped water in the second valve casing for holding the said valves normally seated, and connections from said casing to a supply main and to the main riser, substantially as described.

2. A valve mechanism for controlling the waterway between the supply main and main riser of a sprinkler system that comprises a valve inclosed in a suitable case, a second valve inclosed in an independent casing, a valve stem connecting the said valves together, entrapped water in the last named casing for holding the said valves normally seated, means for adjusting the length of said valve stem, independent means for preventing the reseating of said valves, and pipe connections from the second valve casing to the supply main at a point between the water supply and the main valve for controlling the water supply to the system, and connections from said casing to the main riser, substantially as described.

3. A valve mechanism comprising a supply valve S V and a valve R V in the main riser, and having a globe valve for closing the waterway between the supply main and the main riser that is normally held to its seat by a valve of larger area which is incased separately, entrapped water for holding the last named valve to its seat, a valve stem connecting said valves, means for preventing the return of said valves to their seats when they have been raised, connections from said valve mechanism to an alarm apparatus, and connections from the said supply main and riser to a water actuated air compressing apparatus, substantially as described.

4. An automatic sprinkler having its valve normally held to its seat by a fusible fastening, an explosive charge located at one side of the outlet for generating pressure on the movable parts of the device, a valve covering the outlet and the said charge and a fusible member adapted to make operative a primer for igniting the said explosive charge by the action of heat at a predetermined temperature, substantially as described.

5. An automatic sprinkler having its valve normally held to its seat by a fusible fastening, a charge of explosive at one side of the sprinkler outlet and a primer for the said explosive charge that comprises an electric fuse-wire and a thermally operated connector, substantially as described.

6. An automatic sprinkler having a valve held to its seat by a fusible fastening and an explosive material located at one side of the sprinkler outlet and adapted to exert a pressure upon said valve when acted upon by heat, substantially as described.

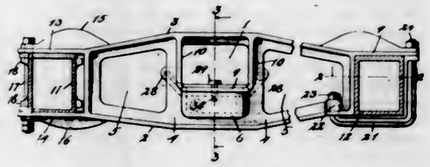
7. An automatic sprinkler having a valve held to close its outlet by a fusible fastening, an explosive material in a chamber at one side of the outlet that is adapted to exert a pressure against the movable parts of the sprinkler when said explosive is ignited, and mechanism adapted to be made operative by heat for igniting said explosive at a predetermined temperature, substantially as described.

8. An automatic sprinkler having its outlet closed by a valve that is held to its seat by a fusible fastening and an explosive material in a chamber at one side of the outlet that is adapted to exert pressure upon the movable parts of the sprinkler when it is ignited, and mechanism adapted to be operated at a predetermined heat by the releasing of a fusible device to ignite said explosive, substantially as described.

9. An automatic sprinkler having an inverted dish-shaped valve extending beyond the valve seat, a gasket facing for said valve, an easily fusible material filling the space around the valve seat, an explosive charge in a chamber at one side of the outlet, and a fusible fastening for holding said valve to its seat, substantially as described.

10. An automatic sprinkler having its valve held to its seat by an easily fusible fastening, an explosive charge at one side of the outlet under the valve, and a primer for said charge of more easily ignited material, substantially as described.

869,416. SIDE FRAME FOR CAR-TRUCKS. HARRY C. BUHOUP, Chicago, Ill. Filed June 14, 1907. Serial No. 378,948.



1. In a cast side frame for car trucks embodying means at its ends for receiving and holding the journal boxes, a bolster spring box situated between said means, and projecting laterally from both sides of the side frame for receiving a plurality of bolster springs, the side frame having a recess above said box for the introduction of the bolster, a central web rising perpendicularly from the bottom of said box in said recess and extending longitudinally of the side frame, said web being cast integral with the side frame and spring box and dividing the bottom of the box into two compartments or spring seats.

2. In a cast side frame for car trucks embodying means at its ends for receiving and holding the journal boxes, a bolster spring box situated between said means at the lower edge of the side frame and having a bottom and upright continuous walls cast integral with the side frame and extending laterally from both sides thereof, the side frame having a recess above said box for the introduction of the end of the bolster and the edges of said recess being formed with laterally projecting ribs at the top and the sides cast integral with the spring box and forming therewith a rectangular structure, the bottom of the spring box being provided with a rising web connecting the sides of said rectangular structure together and extending longitudinally of the side frame for dividing the spring box into two compartments, each for receiving a plurality of springs, said web, spring box and rectangular structure being cast integral with the side frame.

3. In a cast side frame for car trucks embodying means at its ends for receiving and holding the journal boxes, a bolster spring box situated at the lower side of the frame between said means and consisting of a bottom portion extending laterally from the side frame in both directions and a surrounding upwardly extending wall, the side frame above said box having an aperture for the introduction of the end of the bolster and the bottom of the spring box below said aperture being provided with an upwardly extending web connecting the sides of the spring box together and dividing the spring box into two elongated compartments extending longitudinally of the side frame for the reception of a plurality of bolster springs respectively, said web and spring box being cast integral with the side frame.

4. In a cast side frame for car trucks embodying means at its ends for receiving and holding the journal boxes, a bolster spring box situated between said means at the lower edge of the said frame and consisting of a bottom extending laterally from the side frame in both directions and a continuous surrounding wall cast integral with the bottom and with the side frame, the side frame above said box having a recess for the reception of the end of the bolster and provided above and at the sides of said recess with laterally extending reinforcing ribs cast integral with the walls of the spring box, a reinforcing partition rib rising perpendicularly from the bottom of the spring box and connecting the walls thereof together and being cast integral with the said ribs at the sides of said recess whereby the side frame is reinforced against vertical stress and the spring box is divided into two compartments for the reception of the bolster springs.

5. In a cast side frame for car trucks, a spring box situated near the lower edge thereof, the side frame having a recess above said spring box for the reception of the end of the bolster, upper and lower jaws situated at the ends of the side frame and cast integrally therewith for receiving the journal boxes, said jaws being arranged horizontally whereby the journal boxes may be introduced between them and the bolt connecting the extremities of the jaws together outside the journal boxes.

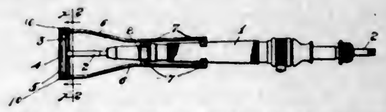
6. In a cast side frame for car trucks, a bolster spring box situated at the lower side thereof and cast integrally therewith, the bottom of the box having a rising web dividing the box into a plurality of seats or compartments for the bolster springs and said web being cast integral with the box and side frame, upper jaws at the extremities of the side frame cast integrally therewith for supporting the side frame upon the journal boxes, an L shaped member adapted to fit the side and bottom of the journal box at each end of the frame and an L shaped bolt embracing said L shaped member and having its extremities separated by the body of the side frame and said jaw respectively.

7. In a side frame for car trucks the combination of the frame proper embodying a bolster spring box extending laterally therefrom, a separate brake beam hanger and means whereby said brake beam hanger is detachably supported by the side of the spring box.

8. In a side frame for car trucks the combination of the frame proper having a bolster spring box extending laterally therefrom, a lip on flange extending from said box, a slotted brake beam hanger fitted over said flange and a means for holding the said hanger from lateral displacement.

9. In a side frame for car trucks the combination of the frame proper having a bolster spring box, a lip or flange extending from the side of the box, a brake beam hanger comprising a slotted body fitted over said lip and two supporting lugs extending from the ends of said body, and a pin for holding the latter against lateral displacement on the flange.

869,417. STONE-GUARD FOR DENTAL GRINDING-TOOLS. FRANK W. CHANDLER, Valley City, N. D. Filed Dec. 10, 1906. Serial No. 347,084.



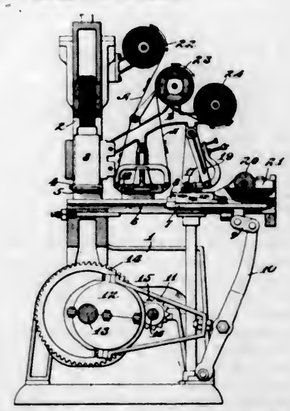
1. The combination with a dental grinding tool comprising a barrel, a rotary spindle, and a grinding stone carried by said spindle, of a segmental shield inclosing a part of said stone, and a supporting frame detachably secured to said shield and provided with means for detachable engagement with the barrel of said tool, substantially as described.

2. The combination with a dental grinding tool, comprising a barrel, a rotary spindle and a grinding stone carried by said spindle, of a segmental shield inclosing a part of said stone, a pair of laterally spaced spring rods detachably secured to said shield, and means for supporting said rods from the barrel of said tool, substantially as described.

3. The combination with a dental tool, comprising a barrel, a rotary spindle and a grinding stone carried by said spindle, of a segmental shield 5 inclosing a part of said stone and provided with peripheral ears 10, a pair of spring rods 6, the outer ends of which are engageable with seats of said lugs 10, and a pair of segmental clamping springs 7 secured to said rods 6 and detachably engageable with the barrel of said tool, substantially as described.

4. A stone guard for a dental grinding tool, comprising a segmental shield, a pair of spring rods for supporting said shield, and a pair of segmental spring clamps secured to said rods and detachably engageable with the barrel of the grinding tool, substantially as described.

869,418. WIPING-STRIP AND PROCESS OF MAKING SAME. CHARLES S. CLARK, St. Louis, Mo. Filed Jan. 15, 1907. Serial No. 352,352.



1. A wiping-strip comprising a strip of paper suitable for wiping dies and a second strip of paper of lower grade superposed thereon and stuck thereto with ink.

2. A wiping-strip comprising a strip of relatively high grade paper and a second strip of lower grade paper attached thereto with ink.

3. The process which consists in wiping an inked die with a paper wiping strip, superposing a second strip on the inked side of the first strip and then pressing them together while the ink is adhesive.

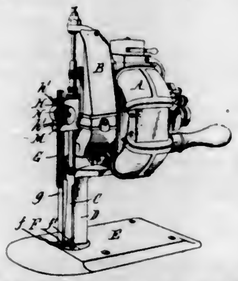
4. The process which consists in wiping an inked die

with a wiping strip, superposing a second strip on the inked side of the first strip and then winding the two strips together while the ink is adhesive.

5. The method of making a wiping-strip, consisting in passing a strip across a wiping device, wiping an inked die with the portion of said strip across said wiping device, and finally winding said strip upon a roll with a spacing strip between the wound layers of said inked strip while the ink is adhesive.

6. The method of making a wiping-strip which consists in winding an inked strip on a roll with a reinforcing strip of lower grade material between the wound layers of said inked strip while the ink is adhesive.

869,419. CLOTH-CUTTING MACHINE. FREDERICK J. CLARK, Buffalo, N. Y., assignor to Eastman Machine Company, Buffalo, N. Y. Filed Nov. 26, 1906. Serial No. 345,153.



1. The combination of a presser foot or the like, a movable rack connected thereto, a pinion engaging said rack, a locking member connected to said pinion and adapted to engage said rack, and means for moving said locking member into engagement with said rack for locking the same, substantially as set forth.

2. The combination of a presser foot or the like, a movable rack connected thereto, a guide for said rack, a pinion engaging said rack, a locking member adjacent to said pinion and adapted to engage said rack, and means for moving said locking member to clamp said rack between said locking member and said guide for locking the same, substantially as set forth.

3. The combination of a presser foot or the like, a movable rack connected thereto, an adjusting shaft, a pinion on said shaft engaging said rack, a locking member secured to said shaft adjacent to said pinion, and means for moving said shaft to bring said locking member into engagement with said rack for locking the same, substantially as set forth.

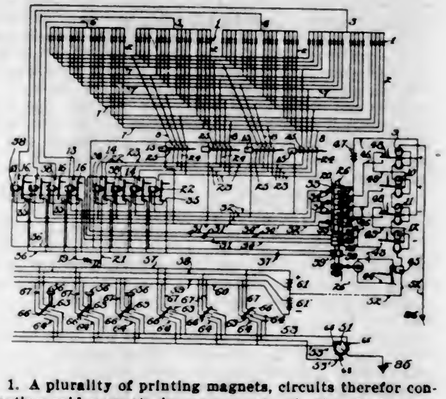
4. The combination of a presser foot or the like, a movable rack connected thereto, an adjusting shaft, a pinion on said shaft engaging said rack, a locking member secured to said shaft adjacent to said pinion, and a device having a screw-threaded engagement with said shaft for moving the same to bring said locking member into engagement with said rack, substantially as set forth.

5. The combination of a presser foot or the like, a movable rack connected thereto, a guide for said rack, an adjusting shaft, a pinion on said shaft engaging said rack, a locking member secured to said shaft adjacent to said pinion, and means for moving said shaft to clamp said rack between said locking member and said guide for locking the same, substantially as set forth.

6. In a cloth cutting machine, the combination of a presser foot, a movable rack connected thereto, a supporting block secured to said machine and having a guide for said rack, an adjusting shaft journaled in said block, a pinion on said shaft engaging said rack, a locking member secured to said shaft adjacent to said pinion, and means for moving said shaft to clamp said rack between said locking member and said guide for locking the same, substantially as set forth.

7. In a cloth cutting machine, a presser foot having a slot through which the knife passes, said slot having a contracted rear portion adapted to embrace the knife, and an enlarged portion adjacent to the cutting edge of the knife through which the pattern directly in advance of the knife can be seen, substantially as set forth.

869,420. PRINTING-TELEGRAPH. BERRY W. COCHRAN, Los Angeles, Cal. Filed Apr. 19, 1905. Serial No. 256,425.



1. A plurality of printing magnets, circuits therefor connecting said magnets in groups, sets of relay devices operatively connected to select the different groups and the different magnets of each group, a movable contact means operating to shift the operating line connection successively to the respective sets of relay devices, a line and relays therein, responding to electric impulses having different combinations of characteristics, and controlling the different relays in the respective sets, and means for imparting to the line electric impulses having such different combinations of characteristics.

2. The combination of a plurality of printing magnets, a line, relays controlled sequentially by the line to establish operating connection to individual printing magnets, a retaining circuit for each precedently operating relay, including a supplementary energizing coil for said relay, said retaining circuits including contacts controlled by the respective precedently operating relays, a movable controlling device operating to bring the relays sequentially into operating connection and comprising a circuit breaker for said retaining circuit.

3. A plurality of printing magnets, circuits therefor connecting said magnets in groups, sets of relay devices operatively connected to select the different groups and the different magnets of each group, a movable contact means operating to shift the operating line connection successively to the respective sets of relay devices, a line and relays therein responding to electric impulses having different characteristics and controlling the different relays in the respective sets, means for imparting to the line a sequence of impulses for operating the line relays, and means for retaining the precedently-operated selecting relays in operated position until the sequence is completed.

4. A plurality of printing magnets, selecting relays therefor, a rotary circuit changer having a plurality of circumferentially disposed contacts arranged in operative relation with the armatures of said relay devices.

5. A plurality of printing magnets and circuits therefor connecting said magnets in groups, sets of relay devices operatively connected to select the different groups and the magnets in the respective groups, an operating line, a rotary contact means operating to shift the operating line connections from one set of relays to another, relay devices responsive to line impulses of different character and controlling the relay devices in the aforesaid sets, and means responsive to all line impulses controlling the operation of the rotary circuit changer.

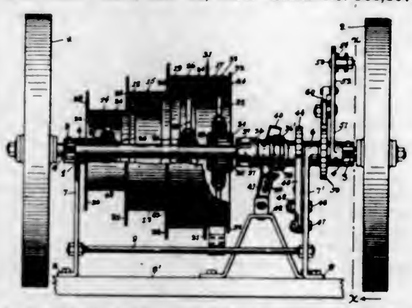
6. A printing telegraph transmitter comprising electromotive force generating means, and leads connected thereto at points of different polarity and different electromotive force, a circuit changer and a plurality of leads connected thereto and sequentially brought into the line connections thereby, a plurality of keys and contacts controlled thereby and connected to the circuit changer wires and to the electromotive force generator leads in different combinations.

7. A printing telegraph transmitter comprising a rotary circuit changer, a plurality of keys, a line, means controlled by the keys and the circuit changer to send a sequence of impulses of different character to the line, stop means for the circuit changer controlled by the keys to release the circuit changer for operation on operation of any key, and means controlled by the circuit changer to disconnect the connection between the keys and the stop means.

8. A printing telegraph transmitter comprising a rotary circuit changer, a plurality of keys, a line, means controlled by the keys and the circuit changer to send a sequence of impulses of different character to the line, stop means for the circuit changer controlled by the keys to release the circuit changer for operation on operation of any key, means controlled by the circuit changer to disconnect the connection between the keys and the stop means, and restoring means reëstablishing such connection on partial rotation of the circuit changer.

9. In a printing telegraph transmitter, a plurality of keys, a release bar engaged thereby, a rotary circuit changer, a stop therefor, an arm connected to said stop and movable into and out of engagement with the aforesaid release bar, a spring tending to draw the arm into such engagement, a cam connected to the circuit changer, and means operated by said cam and connected to aforesaid arm to release its engagement.

869,421. PORTABLE HOIST. WILLIAM CONNELLY, Toledo, Ohio. Filed Mar. 23, 1907. Serial No. 364,167.



1. A portable hoist, comprising an axle provided with end journals, traction wheels mounted on the end journals, means mounted on the axle adapted to be carried by the axle when the axle is moved about by the wheels, and to fixedly support and journal the axle as a shaft, a hoisting drum mounted on and rotatable by and with the axle when the axle is operated as a shaft, means mounted on and carried by the axle adapted to tighten or loosen the drum on the axle when the axle is operated as a shaft, means mounted on and carried by the axle adapted to intermittently revolve the axle in one direction at regular intervals when the axle is in use as a shaft, and means carried by the support adapted to prevent backward revolution of the axle during periods of its rest when the axle is mounted and operated as a shaft.

2. In a portable hoist, the combination of a support, a shaft journaled in the support, means mounted on the shaft adapted to intermittently revolve the shaft in one direction at regular intervals, means to prevent backward revolution of the shaft during its periods of rest, a hoisting drum loosely mounted on the shaft, and means mounted on and rotatable with the shaft and adapted to engage or disengage the drum and rotate it with the shaft.

3. In a portable hoist for oil wells and the like, the combination of a portable shaft, a support for the shaft adapted to be carried by and to rotatably journal the shaft, a drum loosely mounted on the shaft, a clutch head feathered on the axle and adapted to be moved longitudinally thereon into locked engagement with the drum, and to revolve the drum with the axle as the axle revolves, means to move the clutch head into and out of engagement with the drum, a ratchet wheel fixed on the shaft, a bell crank lever pivoted at its angle on the axle, and having a rock arm and a weight arm, a connecting rod pivotally connected at one end to the rock arm of the bell crank and adapted at the other to be coupled to means to reciprocate the connecting rod, a ratchet pawl pivoted to the rock arm of the bell crank, adapted in the forward stroke of the connecting rod to engage the ratchet wheel, and to disengage itself therefrom on the rearward stroke, and means to secure the shaft against backward revolution during the backward stroke of the bell crank.

4. In a portable hoist for oil wells and the like, the combination of a support, a shaft journaled on the support, a step drum journaled on the axle, the steps of the drum being provided with annular retaining flanges that are continuous at the ends of the drum, and that are provided with incuts at the intermediate steps, allowing the rope coiled on the drum to be transferred from a step of smaller diameter to a step of increased diameter, means mounted on the shaft adapted to engage and disengage the drum whereby the drum when so engaged is revolved with the axle, and when disengaged permits the independent revolution of the drum and the axle, means to intermittently revolve the axle a part of a revolution, comprising a bell crank lever pivoted at the angle on the axle, and having a rock arm and a weight arm, a connecting rod pivotally connected at one end to the rock arm of the bell crank, and adapted at the other to be coupled to means to reciprocate the connecting rod, a ratchet wheel fixed on the shaft, a pawl pivoted to the rock arm of the bell crank, adapted to engage the ratchet wheel on the forward stroke of the connecting rod, detachable means to automatically prevent backward revolution of the axle during the backward stroke of the connecting rod, and means to retard the backward movement of the drum when loose on the shaft.

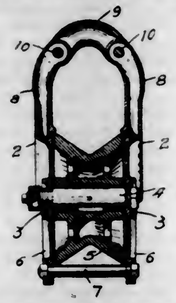
5. In a portable hoist, the combination with a rotatably supported shaft, of a stepped drum rotatably mounted and adapted to be fixed on the shaft, comprising a series of cylindrical winding sections of progressive diameters, and a brake section telescoped in and secured to the winding section of greatest diameter, annular step rings each having integral cylindrical flanges projecting oppositely from the inner and outer peripheries of the annular disk portion, and telescopically connecting and secured to adjacent cylindrical sections, radial flanges on the outer ends of the end sections and annular disks secured to the outer faces of the step rings, having inner diameters to receive a cylindrical section.

6. In a hoist, the combination with a rotatable axle provided with a winding drum, and having a ratchet wheel mounted and fixed on the axle, and means to intermittently rotate the axle a part of a revolution in one direction, of a pair of pawls jointly pivoted on a support and adapted to respectively engage opposite teeth of the ratchet wheel and prevent backward revolution of the axle between the periods of its intermittent revolution, a coil spring connecting the pawls between the pivot and their engaging ends, and a cam lever interposed between the pawl and adapted to simultaneously disengage the pawls from the ratchet wheel.

7. In a portable hoist, the combination of a support, a shaft journaled on the support, means to intermittently revolve the shaft in one direction at regular intervals, means to retain the shaft and prevent backward revolution during the intervals of its rest, a drum journaled on the shaft and having a hub provided with a socket and with tapering ribs at intervals projecting into and longitudinal of the opening of the socket, a clutch head feathered on and movable along the shaft into and out of the socket of the hub and having tapered longitudinal ribs projecting radial from the periphery of the head adapted to intermesh with the ribs of the hub, and means to move the head

into and out of the socket during intervals when the shaft is at rest, substantially as set forth.

869,422. SHEAVE-BLOCK. WILLIAM H. CORBETT, Portland, Oreg. Filed July 1, 1907. Serial No. 381,612.

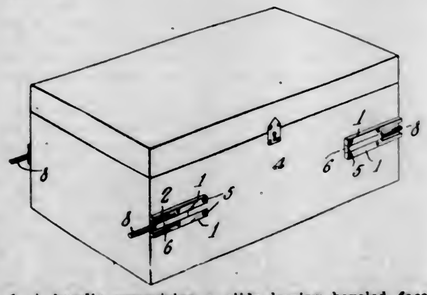


1. A sheave block comprising cheek plates, a sheave having bearings between said plates and arms tubular in cross section and having smooth exterior surfaces projecting from said cheek plates in planes substantially parallel with one another, the ends of said arms being curved toward one another, and a link detachably connecting said arms.

2. A sheave block comprising cheek plates, and a sheave journaled between said plates, said cheek plates being composed of malleable castings, and arms substantially tubular in cross section extending from said plates, an opening being formed between said arms the full width of said sheave, and said arms having smooth exterior surfaces to permit the passage of a chain or hooks through the block without danger of catching on said arms, substantially as described.

3. A sheave block comprising cheek plates, and a sheave journaled between said plates, the edges of said plates being tubular in form and terminating on one side in tubular extensions or arms having smooth exterior surfaces whereby hooks and chains may slide through said block without catching on said plates, substantially as described.

869,423. HANDLE FOR TOOL-CHESTS. HARRY COWAN, Hagerman, N. Mex. Filed Apr. 17, 1907. Serial No. 368,759.

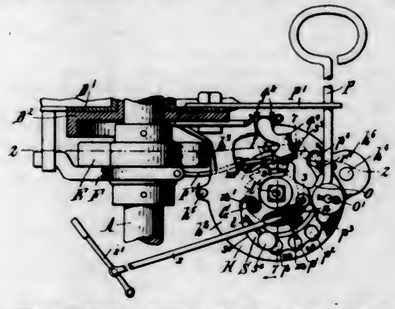


1. A handle comprising a slide having beveled faces, keepers lapping said faces to hold the slide against displacement, and means extending from the slide and engaging the keepers for limiting the movement of the slide.

2. The combination with a slide having a grip extending therefrom; of keepers lapping and designed to hold the slide, said keepers having integral tongues projecting therefrom, and means extending from the slide and engaging the keepers to limit the movement of the slide, said grip being disposed to rest between the tongues.

3. A handle comprising oppositely disposed keepers having their adjoining faces beveled to form a dove tailed groove, said keepers having longitudinally extending tongues at one end thereof, the beveled faces of the keepers being longitudinally grooved, a slide movably mounted between and retained in position by the keepers, a grip extending from the slide and disposed to rest between the tongues when in retracted position, and means extending from the slide and movable within the grooves to limit the movement of the slide.

869,424. COUNTING MECHANISM FOR GRAIN-HARVESTERS. WILLIAM H. CRANE, Poughkeepsie, N. Y., assignor to Adriance, Platt & Company, Poughkeepsie, N. Y. Filed Sept. 7, 1905. Serial No. 277,401.



1. The combination with a rake-switch counting mechanism having an adjustable setting lever and a releasable fastening device for said lever mounted thereon, of a shifting device connected with said fastening device for releasing the same and shifting the setting lever, said shifting device being operated from the driver's seat and capable of a rocking movement for releasing said fastening device and of a lengthwise movement for shifting the setting lever, substantially as set forth.

2. The combination of a rake-switch counting mechanism comprising an adjustable setting lever, a spring-pressed fastening bolt on said lever for securing the same in its adjusted position, and a shifting device capable of rocking and lengthwise movement and connected with said bolt for releasing the same and for shifting the setting lever, substantially as set forth.

3. The combination with a rake-switch counting mechanism having an adjustable setting lever and a releasable fastening device for said lever mounted thereon, of a shifting device movably connected at one end with said fastening device and having its opposite end arranged near the driver's seat, said shifting device being capable of a rocking movement for releasing said fastening device and of a lengthwise movement for shifting the setting lever, substantially as set forth.

4. The combination of a rake-switch counting mechanism comprising a tripping wheel and an adjustable setting lever for the same, a spring bolt mounted on said lever for securing the same in its adjusted position, and a shifting device connected with said bolt and adapted to be operated from the driver's seat by a rocking and lengthwise movement for releasing said bolt and shifting the setting lever, substantially as set forth.

5. In a rake-switch counting mechanism, the combination of a tripping wheel, an adjustable setting lever for the same, a spring bolt mounted on said lever for securing the same in the adjusted position, a shifting rod connected with said spring bolt for operating said bolt and said lever, and a guide in which said rod can be rocked and moved lengthwise, substantially as set forth.

6. In a rake-switch counting mechanism, the combination of a switch-latch, a tripping means for the latch, a setting lever for said tripping means, and a latch supporter which is independent of the tripping means and which is moved by the setting lever toward the latch to support the same in such position that it can move without locking, substantially as set forth.

7. In a rake-switch counting mechanism, the combination of a switch-latch, a tripping means for the latch, a setting lever for said tripping means, and a latch supporter which is independent of the tripping means and which comprises an actuating arm which is engaged by the setting lever and a supporting arm which engages the latch, substantially as set forth.

8. In a rake-switch counting mechanism, the combination of a tripping wheel, a fixed stop, a switch-latch adapted to interlock with said stop in its lower position and to clear said stop in its raised position, a setting lever for said tripping wheel, and a rocking latch supporter having an actuating arm which is engaged by the setting lever and a supporting arm which raises the latch and supports the same in such a position that it can move without interlocking with said stop, substantially as set forth.

9. In a rake-switch counting mechanism, the combination of a tripping wheel, a fixed casing for the same, a switch-latch adapted to interlock with said casing and capable of movement with reference thereto, a setting lever for said tripping wheel, and a rocking latch supporter mounted on said casing and having an actuating arm which is engaged by the setting lever and a supporting arm which engages the latch and supports the same in such a position that it can move without interlocking with said casing, substantially as set forth.

10. In a rake-switch counting mechanism, the combination of a tripping wheel, a fixed casing for the same, a switch-latch arranged on the rear side of said casing and adapted to interlock therewith, a setting lever for the tripping wheel arranged on the front side of the casing, and a rocking latch supporter arranged on said casing and provided at the front side thereof with an actuating arm which is engaged by the setting lever and on the rear side with a supporting arm which engages the latch, substantially as set forth.

11. In a rake-switch counting mechanism, the combination of a switch latch, a tripping means for the latch, a setting lever for said tripping means, an elastic contact device on said lever, and a latch-supporter which is engaged by said contact device and pressed by the same toward the latch, substantially as set forth.

12. In a rake-switch counting mechanism, the combinnation of a switch latch, a tripping means for the latch, a setting lever for said tripping means, a spring bolt arranged in said lever, and a rocking latch-supporter having an actuating arm which is engaged by said spring bolt, substantially as set forth.

13. The combination of a rake-switch, a latch for the same, a tripping wheel, an adjustable setting lever for said wheel, a spring-pressed fastening on said lever for securing the same releasably in its adjusted position, a latch-supporter which is actuated by said lever, and a spring bolt on said lever for engaging said latch-supporter, substantially as set forth.

14. The combination of a rake-switch, a latch for the same, a tripping wheel, a setting lever for said wheel, a spring bolt on said lever for securing the same in its adjusted position, a casing in which said wheel is mounted and which is provided with a series of openings for receiving said spring bolt, a movable latch-supporter, and a spring bolt in said lever for engaging said supporter, substantially as set forth.

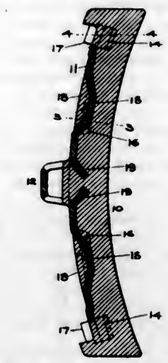
15. The combination of a rake-switch, a spring for opening the same, a latch for holding the switch closed, a tripping wheel, an adjustable setting lever for said wheel, a spring-pressed fastening which releasably secures said lever in its adjusted position, a movable latch supporter, independent of said tripping wheel and operated by said setting lever to support the latch in such a position that it can move without locking, and a casing for said tripping wheel provided with a series of openings for receiving said spring-pressed fastening in different positions of the setting lever, substantially as set forth.

16. In a rake-switch mechanism, the combination of a switch latch, a tripping wheel for said latch, an actuating pawl for said wheel, a movable supporter for preventing the latch from locking, a setting lever for said tripping wheel, which lever moves said latch-supporter toward the latch, and a lifting lever for said actuating pawl, which lever moves the latch-supporter away from the latch, substantially as set forth.

17. The combination of a switch-latch, a tripping wheel for the same, an actuating pawl and a setting lever for said wheel, a supporter for preventing the latch from locking, comprising an actuating arm which is engaged by the setting lever for moving the supporter toward the latch, and a supporting arm which engages the latch for enabling the latter to move without locking, and a lifting lever which disengages the actuating pawl from the tripping wheel and engages the actuating arm of the latch supporter for moving the latter away from the latch, substantially as set forth.

18. The combination of a switch-latch, a tripping wheel for the same, an actuating pawl and a setting lever for said wheel, a supporter for preventing the latch from locking, comprising an actuating arm which is engaged by the setting lever for moving the supporter toward the latch and with a supporting arm which engages the latch for enabling the latter to move without locking, a lifting lever which disengages the actuating pawl from the tripping wheel and engages the actuating arm of the supporter for moving the latter away from the latch, and a yielding contact device by which the setting lever bears against the latch supporter, substantially as set forth.

869,425. RAILWAY-CAR BRAKE. SETH A. CRONE, New York, N. Y. Filed July 24, 1907. Serial No. 385,347.



1. A brake-shoe having a cast-metal body and plate back, said back having at its end a pair of opposite transverse inwardly inclined lips slit therefrom and embedded in the cast metal; substantially as set forth.

2. A brake-shoe having a cast-metal body and plate back, said back having at its end a pair of opposite transverse inwardly inclined lips slit therefrom and embedded in the cast metal, and the cast metal over said lips forming a projecting lug which covers the lines on which said lips are bent inwardly; substantially as set forth.

3. A brake-shoe having a cast-metal body and plate back, said back having at each end a pair of opposite transverse inwardly inclined lips slit therefrom and embedded in the cast metal, and the cast metal over said lips forming projecting lugs; substantially as set forth.

4. A brake-shoe having a cast-metal body and plate back, said back having a central apertured box-loop and means at its ends anchoring the plate to said body, and said back being slit longitudinally and continuously throughout substantially all the available space between said box-loop and its end securing means and having the metal at the side of said slit depressed inwardly and anchored in the cast metal, said plate at the ends of said slit being left exposed to receive the brake-head lugs; substantially as set forth.

5. A brake-shoe having a cast-metal body and plate back, said back having a central apertured box-loop and means at its ends anchoring the plate to said body, and

said back being slit longitudinally and continuously throughout substantially all the available space between the upper and lower sides of said box-loop and the respective end securing means at the ends of said plate and having the metal at the side of said slits depressed inwardly and anchored in the cast metal, said plate at the ends of said slits being left exposed to receive the brake-head lugs; substantially as set forth.

6. A brake-shoe having a cast-metal body and plate back, said back having a central apertured box-loop and means at its ends anchoring the plate to said body, and said back having longitudinal slits substantially parallel with each other above and below said box-loop and extending continuously throughout substantially all the available space between said box loop and the end securing means for the back, and the metal between said slits being depressed inwardly and anchored in the cast metal, and said plate at the ends of said slits being left exposed to receive the brake-head lugs; substantially as set forth.

7. A brake-shoe having a cast-metal body and plate back, said back having a circular inwardly depressed converging flange embedded within the cast metal, said cast metal also filling the outline defined within said flange; substantially as set forth.

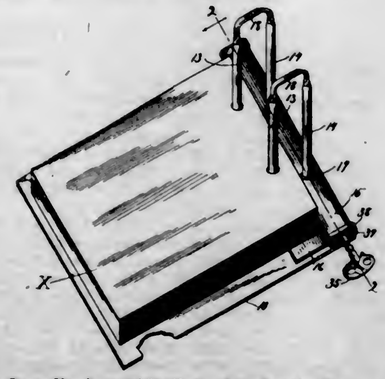
8. A brake-shoe having a cast-metal body and plate back, said back having an inwardly depressed continuous converging flange embedded within the cast metal, said cast metal also filling the outline defined within said flange; substantially as set forth.

9. A brake-shoe having a cast-metal body and plate back, said back having a central key-receiving loop, means at its ends anchoring the plate to said body and between said loop and end securing means inwardly depressed continuous converging flanges embedded within the cast metal, said cast metal also filling the outlines defined within said flanges; substantially as set forth.

10. A brake-shoe having a cast-metal body and plate back, said back having at opposite sides of an opening therein depressed curved converging flanges which are embedded within the cast metal, the said cast metal also filling the outline defined within said flanges; substantially as set forth.

11. A brake-shoe having a cast-metal body and plate back, said back having a central box key-receiving loop and above and below the same openings at whose opposite sides the metal is depressed inwardly to form curved converging flanges which are embedded within the cast metal, the said cast metal also filling the outline defined within said flanges; substantially as set forth.

869,426. FILE. JAMES C. DAWSON, St. Louis, Mo. Filed Jan. 16, 1907. Serial No. 352,555.

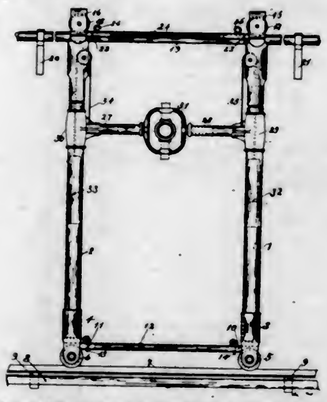


1. In a file, in combination, an arch comprising a pair of upright filing posts, one thereof being tubular, and a movable transfer member forming the crown of the arch, one side of the transfer member entering the tubular post and being extended to its base, and a lock engaging the transfer member adjacent the base of the post.

2. In a file, in combination, an arch comprising a pair of upright filing posts, one thereof being tubular and having an opening in its wall adjacent its base, and a movable transfer member forming the crown of the arch, one side of the transfer member entering the tubular post and being extended to its base, of a locking bolt entering the tubular post through the aperture in its wall and engaging the foot of the transfer member.

3. In a file, in combination, a base having a chamber, an arch mounted thereon comprising a pair of upright post members, one thereof being tubular and communicating with the chamber of the base, and a movable transfer member forming the crown of the arch, one side of the transfer member being extended through the tubular post and entering the chamber of the base, and a shiftable locking member mounted within the chamber of the base for engaging the foot of the transfer member.

869,427. TRAVELING FRAME FOR SIDE-SHELL RIVETERS. JAMES M. DOBBIE, Sr., and JOHN M. DOBBIE, San Francisco, Cal. Filed Aug. 14, 1906. Serial No. 330,566.

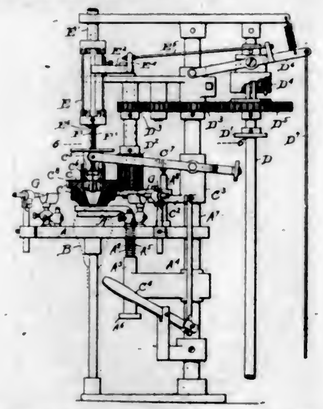


1. In a traveling frame for side-shell riveters, means for slidably supporting a tool-carrier comprising two stanchions each having a head carrying a grooved roller adapted to run on a bracket-track, a tie between said heads, boots adapted to fit loosely over the bottom portions of said stanchions having grooved wheels adapted to run on a stage-track a tie between said boots, sleeves slidable over said stanchions having hollow arms adapted to receive arms from said tool-holder, and counter-weights connected with said sleeves.

2. A traveling frame for side-shell riveters comprising two stanchions each having a head carrying a grooved roller adapted to run on a bracket track, means for tying said heads consisting of arms extending therefrom having eyes, a pipe adapted to receive said arms having eyes registrable with the eyes of said arms, and eye-bolts adapted to fit said eyes, boots adapted to fit loosely over the bottom portions of said stanchions carrying grooved wheels adapted to run on a stage-track, means for tying said boots consisting of arms thereon, a pipe, eyes and eye-bolts, sleeves slidable over said stanchions having hollow arms, a tool-carrier having arms adapted to enter said arms, and counterweights connected with said sleeves.

869,428. TUBULATING-MACHINE. JOHN T. FAGAN, Cleveland, Ohio, assignor to The National Electric Lamp Company, Cleveland, Ohio, a Corporation of New Jersey. Filed Dec. 20, 1905. Serial No. 292,502.

1. Mechanism adapted for affixing glass tubes to other articles comprising a rest for the article to which the tube is to be affixed, holding means for the tube, means for rotating the holding means so connected therewith as to permit movement of the latter toward the rest, and means for releasing the tube from the holding means as said holding means is advanced toward the rest.



2. Mechanism adapted for affixing glass tubes to other articles comprising a supporting plate, a rotatable chuck mounted thereon, a holding means within the chuck, means for reciprocating the chuck, and means for throwing the holding means out of operation at either extremity of its movement.

3. Mechanism adapted for applying glass tubes to other articles comprising a reciprocatable chuck, a holding means within the chuck, means for throwing the holding means out of operation, and means adapted to move a gage plate underneath the chuck.

4. Mechanism adapted for affixing glass tubes to other articles comprising a reciprocatable chuck, a feed cage having a closure at its delivery end, means adapted by the advance of the chuck toward the feed cage to open the closure thereof and holding means adapted to retain a tube in said cage when the closure is opened.

5. Mechanism adapted for affixing glass tubes to other articles comprising a rotatably mounted reciprocatable chuck carrying a holding means, means for reciprocating said chuck, means for rotating the same located so as to be in operative engagement with the chuck throughout its reciprocation, means adapted to loosen the holding means at two points in its reciprocation, said points being spaced apart so as to allow reciprocation throughout a certain distance within which the holding means may be tight.

6. Mechanism adapted for affixing glass tubes to other articles comprising a rotatable chuck, means for reciprocating the chuck, means positioned to feed tubes to said chuck by gravity and means adapted to release the tubes from the chuck at their extreme position away from the feeding means.

7. Mechanism adapted for affixing glass tubes to other articles comprising a movable chuck, and means for opening said chuck to receive a tube at a given point in its movement, means adapted to feed tubes to said chuck by gravity when the chuck is at said point and means adapted to release the tubes from the chuck at their extreme position away from the feeding means.

8. Mechanism adapted for affixing glass tubes to other articles comprising a movable chuck, means for feeding tubes to said chuck, and means adapted to be operated simultaneously with the feeding mechanism and to fix the position of the tube in the chuck and means adapted to release the tube from the chuck by movement of the latter away from the feeding means.

9. Mechanism adapted for affixing glass tubes to other articles comprising a movable chuck, means for opening the chuck, means for feeding a tube thereto while open, means for holding the tube in a predeterminable position in the open chuck means for releasing the tube from the chuck by movement away from the feeding means.

10. Mechanism adapted for affixing glass tubes to other articles comprising a reciprocatable chuck, means for reciprocating the chuck, tube feeding mechanism situated above said chuck, means whereby said tube-feeding mechanism is operated by reciprocation of the chuck and means for releasing the tubes by movement of the chuck away from the feeding means.

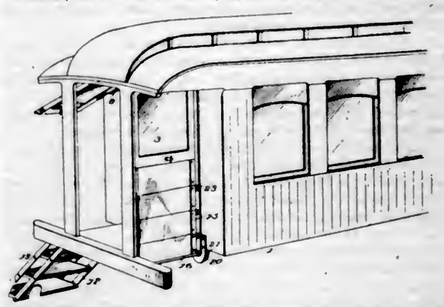
11. Mechanism adapted for affixing glass tubes to other articles comprising a movable chuck having a holding means, means for moving the chuck, means for releasing the holding means at a given position of the chuck, tube-feeding mechanism positioned to feed tubes into said chuck, means whereby said tube-feeding mechanism may be operated when the holding means is released a means for releasing the tubes from the chuck as the latter is moved away from the feeding means.

12. Mechanism for affixing glass tubes to other articles, comprising a holding rest for the article to which the tube is to be attached, a rotatable chuck, means for reciprocating the chuck, and means adapted to release the tube from the chuck by movement toward the rest.

13. Mechanism for holding glass tubes in a heating flame comprising a rotatable reciprocatable holding means, means positioned to feed tubes to said holding means, and means adapted to release the tubes from said holding means at their extreme position away from said feeding means.

14. Mechanism for holding glass tubes in a heating flame comprising a rotatable reciprocatable holding means, means positioned to feed tubes one by one to said holding means by gravity, and means adapted to release the tubes from said holding means at their extreme position away from said feeding means.

869,429. FOLDING CAR-STEP. WILLIAM G. FELKNER, Sebree, Tex. Filed Feb. 6, 1907. Serial No. 356,094.



1. Folding steps comprising corresponding pairs of side bars and treads, corresponding side bars of the pairs being pivoted, and cam ways coöperating with the other bars of said pairs to effect movement of the treads as the steps are raised and lowered by a turning movement about a given axis.

2. In folding steps, the combination of pairs of side bars, treads having pivotal connection at or near their edges with the respective side bars and having their edges matched to form close joints when the steps are raised and the treads are brought into the same plane with their edges matching, means pivotally supporting a set of side bars and cam ways coöperating with the other set of side bars to effect opening and closing of the treads simultaneously when raising and lowering of the steps or a pivotal movement.

3. In combination, folding steps arranged to form a vertical closure for the lower portion of a door way when raised, and a movable panel adapted to close the upper portion of said door way and in conjunction with the folding steps to completely close the said door way.

4. In combination folding steps arranged to form a

vertical closure for the lower portion of a door-way, a movable panel adapted to close the upper portion of said door-way and in conjunction with the folding steps to completely close the said door-way, securing means between the panel and the door frame to hold said panel in closed position, and interlocking means between the panel and steps to hold them in fixed position.

5. In combination, folding steps adapted to swing into vertical position and close the lower portion of a door-way, actuating means for effecting folding and unfolding of said steps, a swinging panel for closing the remaining portion of the door-way and connecting means between said panel and the said actuating means to effect simultaneous movement of the steps and panel.

6. In combination, folding steps adapted to close a portion of a door way, actuating means for effecting folding and unfolding of said steps, a panel for closing the remaining portion of the door way, connecting means between said panel and the said actuating means whereby the steps and panel may be simultaneously operated, the means connecting said panel with the said actuating means have a limited play to permit of said panel being opened at any time without affecting movement of the said steps.

7. In combination, folding steps, a manually operable wheel connected with said steps to effect raising and lowering thereof and having a series of openings in a side thereof, and a lock bolt for securing said manually operable wheel in an adjusted position against movement in either direction to fix the position of the steps when opened to any desired point.

8. In combination, a vehicle provided with a door way, folding steps affording ingress and egress through said door way and adapted when elevated to close the lower portion of said door way, a panel arranged to close the upper portion of said door way and to swing outward at its lower edge, and actuating means for effecting simultaneous movement of the steps and panel, said actuating means having a limited play with reference to the connection of said panel therewith to provide for the opening of said panel when the steps are closed without necessitating movement of said steps.

9. In combination, a vehicle provided with a door way, folding steps adapted to close the lower portion of said door way, a shaft having the steps connected therewith, a wheel fast to said shaft, a manually operable wheel, and an endless belt connecting the two wheels to effect opening and closing of the steps by a pivotal movement.

10. In a vehicle provided with a door way, the combination of folding steps adapted to close the lower portion of said door way when raised, a shaft having the steps connected thereto, a wheel fast to said shaft, a crank wheel, connecting means between the crank wheel and the wheel fast to the shaft supporting said steps, a swinging panel adapted to close the upper portion of the door way above the steps when the latter are raised, and connecting means between said panel and the crank wheel to admit of simultaneous movement of the steps and panel, said connection having a limited play to admit of opening the said panel when the steps are closed without necessitating movement thereof.

869,430. CALENDAR. JOQUIN FERRERES, Habana, Cuba. Filed Nov. 17, 1906. Serial No. 343,841.

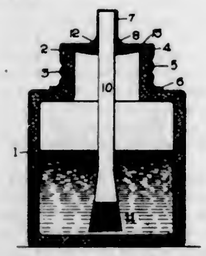
1. A calendar, comprising a suitable support, a stationary member secured thereto, a rotary member pivoted to said stationary member and said support, and a projection or flap adapted to conceal from view a portion of the rotary member and having an opening therein, said support being provided with an opening beneath said projection or flap, through which extends a portion of the rotary member, whereby too free rotation of the latter is prevented.

2. A calendar, comprising a stationary member and a rotary member, said members being provided with the names of the days of the week and the numerals of the days of the month adjacent the periphery of the rotary member, whereby they may be brought into registry by the rotation of said member, said stationary member being provided with a slit connecting two points adjacent the periphery of the rotary member, and one edge of said rotary member extending through said slit and normally concealed by a portion of the stationary member, said concealed portion of the rotary member bearing the names of the months of the year, the concealing portion of the stationary member being provided with an aperture whereby said last mentioned names may be disclosed.



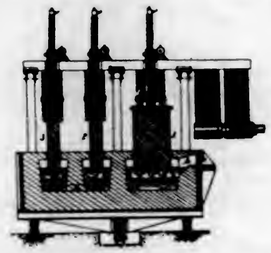
3. A calendar, comprising two members mounted to have a movement relative to each other, one of said members bearing the numerals of the days of the month and the other of said members bearing the names of the days of the week, said names and numerals being so placed as to be brought into registry by the movement of one of the members, one of said members being provided with a slit forming a flap or projection integral with said member and having an opening within said flap or projection, and the other of said members having a portion thereof extending through said slit and lying beneath said flap and bearing the names of the months of the year, whereby the latter may be disclosed through said opening by the relative movement of the members.

869,431. RECEPTACLE AND CLOSURE THEREFOR. CALDER C. GIBSON, Buffalo, N. Y. Filed Jan. 4, 1907. Serial No. 350,773.



A receptacle comprising a body having a neck provided with an exterior screw thread, a metal cap adapted to screw on said neck and provided with a cylindrical screw threaded body, a flat top, a reduced vertical tubular extension and an outwardly curved portion connecting the extension to the cap top, a brush having its stem fitted in the tubular extension, solder in the annular space between the curved portion of the metal cap and the brush stem for fastening the stem in place and also filling up said annular space and a rubber washer fitted in the cap and having a curved bottom surface adapted to bear with its outer margin against the top edge of the neck and a plane top surface fitted against the bottom surface of the cap top and the bottom surface of the solder, substantially as set forth.

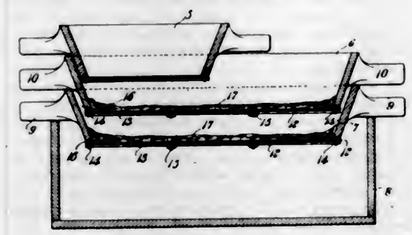
869,432. ELECTRIC FURNACE. GUSTAVE GIN, Paris, France. Filed Jan. 25, 1906. Serial No. 297,856.



1. An electric furnace comprising three communicating reaction chambers, and provided with outlet apertures for said chambers, one of said chambers having an aperture upon the opposite side of said furnace from the apertures of the opposite end chamber, and means to tilt the furnace to either side of its normal longitudinal axis to discharge material from said chambers, the means of communication between each end chamber and the middle chamber being upon the opposite side of said furnace from the outlet aperture of the associated end chamber, substantially as and for the purpose specified.

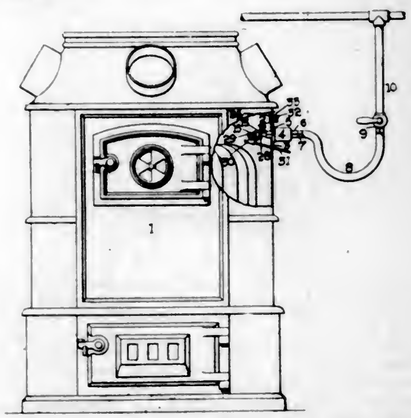
2. An electric furnace comprising a plurality of reaction chambers, and provided with a means of communication between two of said chambers, said furnace being further provided with a vertical passage extending downward from the top of said furnace and opening into the said means of communication, a bar of solid steel disposed within said vertical passage and extending within and partially closing the said means of communication between the said chambers, substantially as and for the purpose specified.

869,433. STRAINER. MITCHELL HANCOCK, Sale City, Ga. Filed Feb. 1, 1907. Serial No. 355,330.



A strainer consisting of an open ended receptacle having converging side and end walls and provided with oppositely disposed handles extending laterally from said end walls, a strip of wire netting covering the bottom of the receptacle, longitudinal and transverse reinforcing strips secured to the lower edges of the receptacle and bearing against the wire netting, a marginal imperforate strip interposed between the wire netting and lower edges of the receptacle, said marginal strip being locked in position by engagement with the reinforcing strips and having its inner edge extended inwardly beyond the adjacent longitudinal reinforcing strips to form a partial closure for the bottom of the receptacle, fastening devices piercing the reinforcing strips, wire netting, and marginal strip and engaging the adjacent lower edges of the receptacle, and a layer of cotton covering the wire netting and bearing against the interior walls of the receptacle at the marginal strip.

869,434. ATTACHMENT FOR FURNACES. BENJAMIN F. HERR, Buffalo, N. Y. Filed Oct. 29, 1906. Serial No. 341,170.



1. A device of the class described having a hollow casing connected to a source of water supply, a nozzle projecting from the casing and having an opening extending throughout, a block fastened to the nozzle and provided with an opening communicating with the nozzle opening, a transverse tapering recess, and a very small outlet and a tapering valve plug rotatably fitted in the transverse recess in the block and having a transverse opening which in part is substantially the size of and adapted to register with the enlarged portion of the opening through the block and in part is reduced to substantially the size of and is adapted to register with the very small outlet; the transverse opening through the valve plug tapering to about sixty degrees at the merging point of the reduced opening to obviate back pressure or counter currents, substantially as set forth.

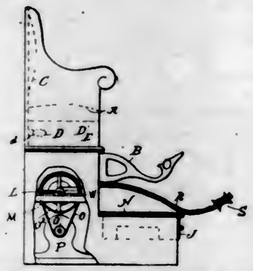
2. A device of the class described having a hollow casing connected to a source of water supply, a nozzle projecting from the casing and having an opening extending throughout, and a block fastened to the nozzle and provided with an opening communicating with the nozzle opening, a transverse recess, and a very small outlet and a valve plug rotatably fitted in the transverse recess in the block; said small outlet being sufficiently short to prevent capillary attraction.

3. The combination with a furnace or the like having an opening in its wall, of a device having connection to a source of water supply under pressure and a nozzle extending through the opening in the wall for introducing water in the form of molecules of vapor into said furnace.

4. A device of the class described having a hollow casing connected to a source of water supply, a nozzle projecting from the casing and having an opening extending throughout, a block fastened to the nozzle and provided with an opening communicating with the nozzle opening and a transverse recess, and a valve plug rotatably fitted in the transverse recess in the block, an extension beneath the block having an opening and a rod supported in said opening and provided at its outer end with a breaking spoon extending in the path of the stream from the outlet.

5. In a device of the class described having a hollow casing connected to a source of water supply, a nozzle projecting from the casing and having an opening extending throughout, a block fastened to the nozzle and provided with an opening communicating with the nozzle opening and a transverse recess, and a valve plug rotatably fitted in the transverse recess in the block, an extension beneath the block having an opening and a rod supported in said opening and provided at its outer end with a breaking spoon extending in the path of the stream from the outlet and a drip cup supported beneath the spoon.

869,435. SHOE-POLISHING MACHINE. FRANK HUMPHREVILLE, Lancaster, Pa. Filed Jan. 12, 1906. Serial No. 295,674.



1. In a shoe brushing machine, the combination of a driving shaft with a flexible shaft, a brush carried by the latter, gearing between said shafts adapted to be shifted along said driving shaft, and a seat-supporting casing slotted opposite said driving shaft to permit the direct outward extension of said flexible shaft from any point of the driving shaft to which it may be shifted.

2. In a shoe-brushing machine, the combination of a driving shaft with a flexible shaft, a brush carried by the latter, a bracket providing a bearing for a short shaft attached to the flexible shaft, a wheel having its hub feathered on the main shaft and movable along the latter with said bracket, a pinion on said short shaft and driven by said wheel, the said short shaft, means for connecting it to said flexible shaft and a seat supporting casing which incloses said main shaft and is provided with a horizontal slot in its front to permit the protrusion of said short shaft and the shifting of said wheel and bracket along said main shaft substantially as set forth.

3. In a shoe brushing machine, the combination of a casing, a motor and driving shaft inclosed therein, gearing connecting these parts, a flexible brush-carrying shaft and bevel gearing rotatively connecting these shafts together and adjustable along the driving shaft, means, transversely grooved on the under side, for connecting said flexible shaft to an attachment of said driving shaft and a guide rod or bar fitting into the groove of said means for supporting the latter and preventing its outward movement, substantially as set forth.

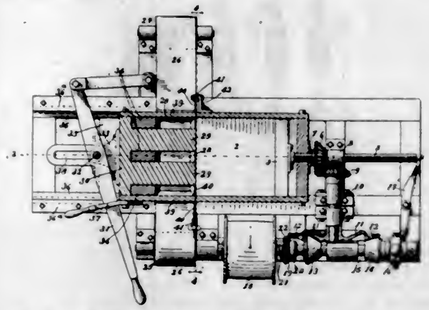
4. In a shoe brushing machine, the combination of a driving shaft with a flexible shaft, a brush carried by the latter, gearing connecting the two shafts and adjustable along the driving shaft, a guide rod parallel with the said driving shaft and a supporting bracket for said flexible shaft and a section Y extending forward from said bracket resting on the said guide rod and recessed on its under side to receive the same substantially as set forth.

869,436. MACHINE FOR MOLDING CONCRETE BLOCKS. JAMES INGELLS, Muskegon, Mich. Filed Feb. 11, 1907. Serial No. 356,863.

1. In a molding machine, a chamber to receive the material, means for ejecting the material from the chamber, a mold communicating with said chamber and comprising a wall opposite the chamber, and spaced apart therefrom, top and end plates slidable on said wall, and a detached bottom plate; means for retracting said top and end plates, and means for removing the bottom plate with the contents of the mold thereon.

2. In a molding machine, a chamber to receive the material and open at one end, means for ejecting the material from the chamber, a movable wall opposite the open end of the chamber and spaced apart therefrom, means for adjusting the wall toward and from the chamber, top and end plates slidable on the wall, and means for adjusting said top and end plates toward and from the chamber.

3. In a molding machine, a chamber to receive the material and open at one end, a ram traversing the chamber, means for reciprocating the ram, a wall opposite the open end of the chamber, and spaced apart therefrom, and also having openings therethrough, cores slidable in said openings, top and end plates slidable on said wall, means for connecting the top plates the end plates and the cores to each other, means for reciprocating said connecting means and parts attached thereto, and a detached bottom plate.



4. In a molding machine, a chamber to receive the material and open at one end, a wall opposite the open end of the chamber and spaced apart therefrom, means for adjusting the wall toward and from the chamber, top and end plates slidable on the wall, means for reciprocating the said plates, a detached bottom plate, a belt or carrier to remove the bottom plate with the contents of the mold thereon, means for periodically moving said belt or carrier, and means for ejecting the contents of the chamber.

5. In a molding machine, a hopper, a chamber below the hopper and open at one end, a ram traversing the chamber, a plate attached to the ram and slidable between the hopper and chamber, a wall opposite the open end of the chamber and mounted on a bed plate slidable in ways, means for adjusting said bed plate toward and from the chamber, top and end plates slidable on said wall, cores slidable in openings in said wall, a cross head to which said plates and cores are attached, ways in which the cross head and attached parts are adjustable, means for adjusting the cross head and attached parts toward and from the chamber, a detached bottom plate, and means for removing said plate with the contents of the mold thereon.

6. In a molding machine, the combination of a hopper, a chamber beneath the hopper and open at one end, a ram traversing the chamber, means for operating the ram, a mold to receive the contents of the chamber, an independently adjustable wall to the mold, a slotted projection attached to said wall, adjustable top and ends to the mold, a lever pivoted to the same and having a pivot pin engaging the slot in said projection, and a detached bottom plate to the mold.

7. In a molding machine, a hopper, a chamber beneath the hopper and open at one end, a ram traversing the chamber, a plate attached to the ram and slidable between the hopper and chamber, means for reciprocating the ram and plate, a wall opposite the open end of the chamber, and slidable toward and from the chamber, a slotted projection on the wall, a top plate and end plates slidable on the wall, cores slidable in openings in the wall, a cross head connecting the said plates and cores, a lever connected to said cross head by a yoke and pivot pin, said pin also extended and traversing the slot in said extension, and a latch to hold the lever.

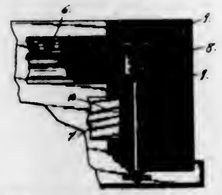
8. In a molding machine, a mold having a detached bottom plate, a ram to fill the mold, a longitudinally movable driving shaft, friction gearing connecting the shaft and ram to reciprocate the ram, means for manually moving the shaft, longitudinally, a belt to carry out the bottom plate, a drum to operate the belt, means for transmitting motion from the shaft to said drum, and a clutch to connect and disconnect said means with the shaft and operated by the longitudinal movement of the shaft.

9. In a molding machine, a mold having a detached bottom plate, a ram to fill the mold, a friction wheel to operate the ram, a driving shaft near the wheel and longitudinally movable, means for manually moving the shaft, friction pulleys on the shaft and oppositely and alternately engaging the wheel, a belt to carry the detached bottom plate, a drum to operate the belt, a shaft and sprocket wheel to operate the drum, a sprocket wheel rotative on the driving shaft, and a clutch to connect said last named sprocket wheel and the driving shaft.

10. In a molding machine, a ram, a screw to operate the ram, a wheel to operate the screw, pinions to oppositely and alternately engage the wheel, a longitudinally movable driving shaft on which the pinions are mounted, a lever to manually move the said shaft to engage a pinion with the wheel, and a lever engaged by the screw and adapted to automatically move the shaft to disengage the pinion.

11. In a molding machine, a ram, a screw attached to the ram, miter gears to operate the screw, a bevel friction wheel connected to one of said gears, a longitudinally movable driving shaft near said wheel, bevel pinions on said shaft to alternately and oppositely engage said wheel, a lever to manually move said shaft to engage a pinion with the wheel, and a lever engaged by the screw and adapted to engage said first named lever to automatically move said shaft to disengage the pinion.

869,437. SASH-HOLDER. THEODORE N. JONES, Boulder, Colo. Filed Dec. 5, 1905. Serial No. 290,340.

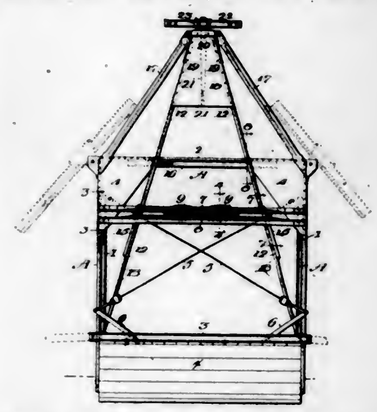


1. In a sash lock, the combination with a suitable casing or housing, a drum eccentrically mounted therein and recessed at one extremity, the recessed portion of the drum being provided with a sleeve which the recess surrounds, the free extremity of the sleeve forming one of the drum journals, a coil spring surrounding the sleeve within the recess or cavity of the drum, one extremity of the spring being made fast to the drum and the other extremity connected with the housing.

2. In a sash lock, the combination with a housing, a drum eccentrically mounted in the housing and provided with a recess at one extremity, the said recess surrounding one of its journals, a torsional spring located in the recess, the spring being connected with the drum at one extremity and with the housing at the opposite extremity, the drum being provided with an opening in the line of its axis, the said opening being angular in cross section, and a key shaped to fit the said drum and adapted to turn the same within the housing and in opposition to the tendency of its spring for the purpose set forth.

3. In a sash lock, the combination with the window frame provided with a cavity adjacent to the sash runway, a housing adapted to fit said cavity, a drum eccentrically mounted in the housing, a torsional spring acting on the drum to throw it outwardly into the sash run-way, the drum being provided with an opening in the line of its axis, the casing being bored to register with the opening in the frame, and a key passing through the bore of the frame and entering the opening of the drum, the drum-opening and the key being shaped to cause the two parts to turn in unison, the key being accessible from the outside of the casing, and suitable means applied to the casing and engaging the key to hold the latter in place without interfering with its rotary action.

869,438. SPUD AND HOISTING FRAME FOR EXCAVATORS. JAMES P. KARR and JOHN D. RAUCH, Logansport, Ind. Filed Feb. 12, 1907. Serial No. 357,016.



1. In an excavator of the type indicated, the combination, with a base support, of a vertical main or spud frame comprising parallel side posts, a connecting top bar and other horizontal connecting bars arranged below the top one, of an A-frame comprising front legs which pass between the upper and adjacent bars of the spud frame and are secured thereto and other legs serving as braces and arranged in rear of the first-named ones, lateral legs or braces arranged diagonally and connected with the upper corners of the spud frame and the upper ends of the A-frame, a housing and cap for said A-frame, a pivot post secured in the cap and housing, and a rotatable yoke journaled on said post, as and for the purpose specified.

2. In an excavator of the type indicated, the combination, with the base support, and a main or spud frame comprising side posts and top and bottom bars arranged horizontally, of the A-frame proper comprising legs passing in front of and secured to the top bar of the spud frame, a support in rear of the spud frame to which said A-frame is also secured and devices connecting the upper ends of the legs, as described.

3. In an excavator of the type indicated, the combination, with the base support and a vertical or main frame secured thereto and including a horizontal top bar and other horizontal bars arranged below the same, of an A-frame comprising two front legs that pass between the upper bar and the next lower bars of the spud frame and are attached to both, rear legs or braces 14, and extension pieces 12^a and 14^a secured to the base and to the four legs of the A-frame, as described.

4. The combination, with a base support and a vertical spud frame including a horizontal top bar and other horizontal bars arranged below the same, of an A-frame comprising two front and two rear legs duly spaced apart and secured to the support, and inclined braces 15 connecting the rear legs of the A-frame with the lower horizontal bars of the spud frame, as described.

5. The combination, with a base support, of a vertical spud frame comprising side posts attached to the support, and a horizontal top bar and two other horizontal angle bars arranged below the same, the angle bars being spaced apart and their opposite adjacent flanges turned upward at an angle, and guide pulleys for the hoisting rope journaled between said bars and at an angle corresponding to the general direction of the hoisting rope, as described.

6. The combination, with the base support, of a spud frame comprising vertical side posts and top and bottom transverse connecting bars, and corner braces 4 comprising triangular plates riveted to the side posts and the upper cross-bar, and serving as pivot supports for spuds, and

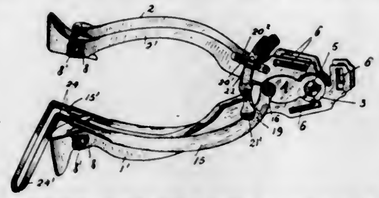
an A-frame which is rigidly connected with the spud frame, substantially as described.

7. The combination, with the A-frame composed of front legs 12 and rear legs or braces 14, of a housing comprising plates attached to the sides of the several legs and a flanged metal cap fitting over and resting upon the ends of the legs and the housing, and a post extending through the cap and secured in vertical position, and a device applied to its upwardly projecting end to serve for attachment of means for supporting a boom, substantially as described.

8. The combination, with an A-frame, a housing and a cap therefor, and a pivot post arranged in and projecting from the cap, of a yoke pivoted on the post and comprising two channel bars arranged back to back and separated in their middle portions, and a bearing block arranged between them and receiving the pivot post, as described.

9. The combination, with a base support, of a spud frame comprising side posts, top and bottom bars and triangular corner plates secured to the posts and said top bar, and diagonal ties and braces 5 attached to the corner plates and connected with the bottom bars, substantially as described.

869,439. MOUTH-SPECULUM. JOHN F. KOEHLER, Chicago, Ill. Filed Nov. 24, 1906. Serial No. 344,816.



1. A speculum of the class specified, comprising a set of hinged lower and upper bars, a set of inter-dental plates detachably secured between the respective lower and upper hinged bars, a bearing plate hinged with each set of bars, a roller carrying plate journaled in the said bearing plate, a set of rollers on said roller carrying plate and located between the hinged bars, means secured with the said roller carrying plate for the purpose of forcing the forward roller upon the lower hinged bar and the hind roller against the upper hinged bar, whereby the instrument is forced open, substantially as described.

2. In a speculum of the class specified, the combination, of a set of lower and upper hinged bars, with a set of semilunar cupped plates detachably secured with the respective set of hinged bars, a bearing plate hinged with each set of lower and upper bars, a roller carrying plate journaled in the said bearing plate, a set of rollers secured with the said roller plate and placed between the respective lower and upper hinged bar, a lever rigidly secured with the corresponding roller plate, a ratchet bar containing a series of ratchet holes and swingingly secured with each lower hinged bar, and a pawl secured with the upper hinged bars and sliding upon the said ratchet bar for the purpose of engaging the holes therein, substantially as described.

3. In a speculum of the class specified, the combination, of a set of lower and upper hinged bars, with dental plates detachably secured with the respective set of hinged bars, a bearing plate hinged with the said lower and upper bars, a roller carrying plate journaled in the said bearing plate, a set of rollers secured with the said roller carrying plate and placed between the respective lower and upper hinged bars, a lever rigidly secured with the corresponding roller carrying plate, a ratchet bar containing a series of ratchet holes and swingingly secured with each lower hinged bar, a bridge bracket fastened to each upper hinged bar, a pair of lugs thereon between which the said ratchet bar is guided, a stationary axle 20^a in the said lugs, a pawl 21 swinging up and down thereon, a coil spring 22 wound around the said axle and bearing down upon the said pawl for the purpose of forcing the pawl into engagement with the holes of the said ratchet bar, substantially as described.

4. In a speculum of the class specified, the combination, of a set of lower and upper hinged bars, with dental plates detachably secured with the respective set of hinged bars, a bearing plate hinged with the said lower and upper bars, a roller carrying plate journaled in the said bearing plate, a set of rollers secured with the said roller carrying plate and placed between the respective lower and upper hinged bars, a set of levers rigidly secured with the corresponding roller carrying plate, a forked handle 24' attached to the said set of levers, a ratchet bar containing a series of ratchet holes and swingingly secured with each lower hinged bar, a bridge bracket fastened to each upper hinged bar, a pair of lugs thereon between which the said ratchet bar is guided, a stationary axle 20^a in the said lugs, a pawl swinging up and down thereon, a wedge-shaped projection on the said pawl for the purpose of engaging the holes of the said ratchet bar, and a coil spring 22 wound around the said axle 20^a and compelling the said projection to engage the said ratchet holes, substantially as described.

5. In a speculum of the class specified, the combination, of a set of lower and upper hinged bars, with dental plates detachably secured with the respective set of hinged bars, a bearing plate hinged with each of the said lower and upper bars, a roller carrying plate journaled in each bearing plate, a set of rollers thereon and placed between the said lower and upper bars, a set of levers rigidly secured with the corresponding roller carrying plate and adapted to receive a forked extension handle, a set of ratchet bars containing a series of holes and swingingly secured with the corresponding lower hinged bars, means secured with each of the upper hinged bars wherein the said ratchet bars are guided, a set of pawls journaled in the said means and gliding upon the said ratchet bars, a wedge-shaped projection secured with the said pawl for the purpose of engaging the said holes in the ratchet bars, and means whereby the projection is forced into engagement with the said ratchet bars when the instrument is swung open, substantially as described.

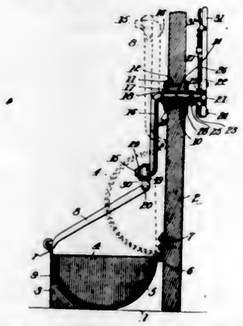
869,440. HYDROCARBON-LAMP. JOHN LANDSIEDEL, Peoria, Ill. Filed Feb. 14, 1905. Serial No. 245,625.



1. In a device of the character described, the combination with a fixture and a burner attached thereto, a generating body comprising a vertical tubular member, a feed connected to said generating body and to a suitable supply, a sleeve projecting transversely from opposite sides of said tubular member and communicating therewith, a valve stem operatively carried in said sleeve, radially extended means projecting from the extreme lower portion of said tubular member, a foraminated sheet extending around said member and seated on said radially extended means, and suitable non-combustible material on said sheet.

2. In a device of the character described, the combination with a fixture and a burner attached thereto, a generating body comprising a vertical tubular member, a feed connected to said generating body and to a suitable supply, a sleeve projecting transversely from opposite sides of said tubular member and communicating therewith, a valve stem operatively carried in said sleeve, radially extended means projecting from the extreme lower portion of said tubular member and having upwardly extended portions at its outer edge adapted to support between the extended portions thereof and the outer wall of said member suitable non-combustible material.

869,441. FEED-TROUGH. CAMERON W. LEONARD, Rockford, Ill. Filed May 21, 1907. Serial No. 374,869.



1. In a device of the character described, the combination with a support, of a trough hinged to said support, an arm carried by said support, a portion of said arm journaled in and extending through said support, means connecting one end of said arm upon one side of said support to said trough, and lever means connected to said arm upon the opposite side of said support.

2. In a device of the character described, the combination with a support, of a plate secured to said support, a band pivotally connected at one end to said plate, a trough positioned above and secured to said band, the outer end of said band provided with an eye, and means connected to the eye of said band and being capable of swinging said band and trough upon said plate.

3. In a device of the character described, the combination with a support, of an arm provided with a vertical portion and with horizontal shafts extending in opposite directions at its ends, one of said shafts journaled upon and extending through said support, lever means connected to said last-mentioned shaft, a trough movably mounted upon said support, and means connecting the other shaft to said trough, whereby when said arm is swung through the medium of said lever means upon said support, said trough will be moved upon said support.

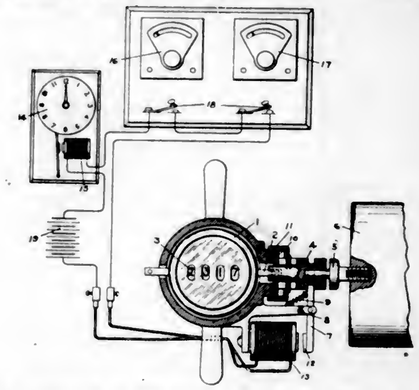
4. In a device of the character described, the combination with a support, of a trough movably mounted upon said support, an arm provided with a vertical portion and oppositely-extending horizontal portions, one of said horizontal portions journaled upon said support, lever means connected to said last-mentioned, horizontal portion, and means pivotally connecting the other horizontal portion to said trough.

869,442. APPARATUS FOR MEASURING SPEED OF ROTATION. WALTER D. LITCHFIELD, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Oct. 5, 1903. Serial No. 175,730.

1. Apparatus for measuring speed of rotation comprising a rotation-counter, timing mechanism, electromagnetically-operated mechanism for simultaneously starting and stopping said counter and timing mechanism, and a plurality of switches arranged in series for controlling said mechanism.

2. Apparatus for measuring the speed of a rotating element, comprising a rotation-counter, an electromagnetic clutch for connecting said counter with said rotating element, timing mechanism, an electromagnetic releasing and stopping device therefor, and a switch for simultaneously closing and opening a circuit through said electromagnetic devices.

3. Apparatus for measuring the speed of a rotating element, comprising a rotation-counter, an electromagnetic clutch for connecting said counter with said rotating element, timing mechanism, an electromagnetic releasing and stopping device therefor, and a plurality of switches in series with said electromagnetic devices.

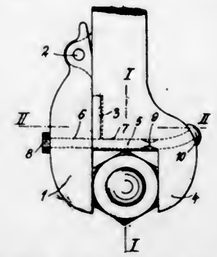


4. Apparatus for measuring speed of rotation under constant load, comprising one or more load-indicating instruments, a rotation-counter, timing mechanism, electrical devices for simultaneously starting and stopping said rotation-counter and said timing mechanism, and a switch at each load-indicating instrument for controlling said devices.

5. Apparatus for measuring speed of rotation under constant load, comprising a rotation-counter, timing mechanism, electrical means for simultaneously starting and stopping the same, and one or more load-indicating devices controlling the circuit of said means.

6. Apparatus for measuring speed of rotation under constant load, comprising a rotation-counter, timing mechanism, electrical means for simultaneously starting and stopping the same, one or more load-indicating devices, and a circuit-closer controlled by each device and in series with said electrical means.

869,443. SCREW-SPANNER. JENS G. F. LUND, Christiania, Norway. Filed Mar. 26, 1907. Serial No. 364,683.



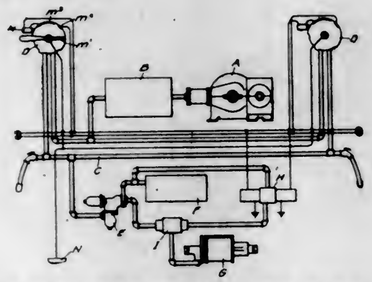
1. A screw spanner having non-adjustable jaws and one of which is movable relatively to the other, and a part of predetermined strength capable of being broken upon stretching a tie-bolt to a predetermined limit by the spanner, and normally securing the jaws in closed position.

2. A screw spanner having non-adjustable jaws and one of which is movable relatively to the other, and an added part having a weakened portion and normally securing the jaws in closed position.

3. A screw spanner having a handle provided with a fixed jaw, a separate jaw pivotally connected with the handle, and one of said jaws provided with a curved bolt-

holding opening, and a weakened bolt curved to fit in said opening and normally securing the jaws in closed position.

869,444. AIR-BRAKE SYSTEM. GEORGE MACLOSKIE, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Apr. 7, 1906. Serial No. 310,415.



1. In an air-brake system, an engineer's valve, a train pipe-line controlled thereby, pneumatically-operated brake-controlling devices connected to said pipe-line, electro-magnetic brake-controlling devices independent of said pneumatic devices, train-wires connected to said electric devices, contacts carried by said engineer's valve controlling said train-wires, and means for rendering the pneumatic devices inoperative when the electric devices are in operation.

2. In combination with the brakes of a train, a pneumatic control system for the brakes, an electric control system for the brakes, a single manually-controlled member controlling both systems, and means for automatically rendering the pneumatic system inoperative when the electric system is in use.

3. In combination with the brakes of a train, a pneumatic control system for the brakes, an electric control system for the brakes, a handle, a valve operatively connected to said handle controlling the pneumatic system, switch contacts operatively connected to said handle controlling the electric system, and means for automatically rendering said pneumatic system inoperative when the electric system is in use.

4. In an air-brake system, pneumatically-operated brake controlling devices, a train pipe-line connected thereto, electrically-operated brake-controlling devices, train-wires connected thereto, a handle, a valve operatively connected to said handle controlling the pressure in said pipe-line, switch contacts operatively connected to said handle controlling the current in said train-wires, and means for rendering said valve inoperative when current is flowing through a train-wire.

5. In an air-brake system, pneumatically-operated brake controlling devices, a train pipe-line connected thereto, electrically-operated brake controlling devices, train-wires connected thereto, a handle, a valve operatively connected to said handle controlling the pressure in said pipe-line, switch contacts operatively connected to said handle controlling the current in said train-wires, an automatic valve adapted to render said controlling valve inoperative when current is flowing through a train-wire, and a magnet controlled by said switch contacts controlling said automatic valve.

6. In an air-brake system, pneumatically-operated brake controlling devices, a train pipe-line connected thereto, electrically-operated brake controlling devices, train-wires connected thereto, a handle, a valve operatively connected to said handle controlling the pressure in said pipe-line, switch contacts operatively connected to said handle controlling the current in said train-wires, a normally-open valve adapted to close a port of said controlling valve, and a magnet controlled by said switch contacts adapted to close said normally-open valve.

7. In an air-brake system, pneumatically-operated brake controlling devices, a train pipe-line connected thereto, electrically-operated brake controlling devices, train-wires connected thereto, a handle, a valve operatively connected to said handle controlling the pressure in said pipe-line, switch contacts operatively connected to said handle controlling the current in said train-wires, a normally-open valve adapted when closed to prevent a variation of train pipe pressure by said controlling valve, and a magnet controlled by said switch contacts adapted to close said normally-open valve.

8. In an air-brake system, a brake-controlling valve, a magnet adapted to move said valve to establish braking connections, means for returning said valve to a lap-position when said magnet is deënergized, a second magnet adapted to move said valve to a second lap-position, and means for returning said valve to release-position when the second magnet is deënergized.

9. In an air-brake system, two yielding stops, a brake-controlling valve adapted to reciprocate between said stops and arranged to be in lap-position when in engagement with one stop and in release-position when in engagement with the other stop, a magnet adapted to move said valve from lap- to application- position against the pressure of one of said stops, and a second magnet adapted to move said valve from release to a second lap-position against the pressure of the other stop.

10. In an air-brake system, two yielding stops, a brake-controlling valve adapted to reciprocate between said stops and arranged to be in lap-position when in engagement with one stop and in release-position when in engagement with the other stop, and electrically-controlled means for moving said valve from lap- to application- position against the pressure of one of said stops and from release to a second lap position against the pressure of the other stop.

11. In an air-brake system, a brake-controlling valve, electro-magnetic means for reciprocating said valve, and yielding stops on opposite sides of said valve so spaced that said valve is in engagement with only one of said stops at a time.

12. In an air-brake system, a brake-controlling valve, electro-magnetic means for reciprocating said valve, and yielding stops on opposite sides of said valve so spaced that said valve is in engagement with only one of said stops at a time, said valve being arranged to be in lap-position when in engagement with one stop and in release position when in engagement with the other.

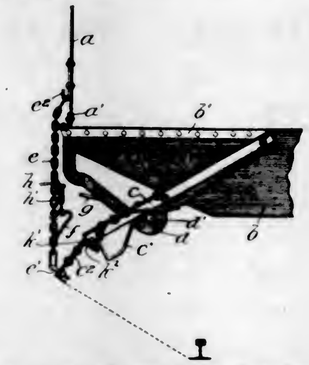
13. In combination with the brakes of a train, a pneumatic control system for the brakes, an electric control system for the brakes, a handle, a valve operatively connected to said handle controlling the pneumatic system and having service and emergency application positions, switch contacts operatively connected to said handle controlling the electric system, and means controlled by said contacts for rendering said valve inoperative in its service application position.

14. In comoination with the brakes of a train, a pneumatic control system for the brakes, an electric control system for the brakes, a handle, a valve operatively connected to said handle controlling the pneumatic system and having two exhaust ports for service and emergency applications respectively, a normally-open valve in the service exhaust port, switch contacts operatively connected to said handle controlling the electric control system, and a magnet controlled by said contacts adapted to close said normally-open valve.

15. In an air-brake system, two yielding stops, a brake-controlling valve adapted to reciprocate between said stops and arranged to be in lap-position when in engagement with one stop and in release-position when in engagement with the other stop, and means controllable from a distance for moving said valve from lap- to application position against the pressure of one of said stops and from release to a second lap-position against the pressure of the other stop.

16. In an air-brake system, a brake-controlling valve, means controllable from a distance for reciprocating said valve, and yielding stops on opposite sides of said valve so spaced that said valve is in engagement with only one of said stops at a time, said valve being arranged to be in lap-position when in engagement with one stop and in release position when in engagement with the other.

869,445. DUMP-CAR. OTTO W. MEISSNER, Montreal, Quebec, Canada, assignor to National Dump Car Company, a Corporation of Maine. Filed Nov. 7, 1906. Serial No. 342,377.



1. A car of the class described having a floor provided with openings, hinged dumping doors completely filling the openings when in closed position, hinged extensions for the doors, said extensions depending from the doors when the doors are closed, and means for bringing the extensions into substantial alinement with the doors when the doors are open.

2. A car of the class described having the usual complete sides, a floor comprising hinged dumping doors whose free edges engage the sides of the cars when the doors are in closed position, and extensions mounted on the free edges of the doors and forming a continuation of the doors when the doors are open.

3. A car of the class described having a floor provided with door openings, hinged dumping doors filling said openings when closed, extension members for said doors, and means for detachably mounting the extension members on the free edges of the doors.

869,446. PROCESS FOR MAKING DRY CELLS. PAUL L. MEYER, New York, N. Y., assignor to John F. Hemenway, New York, N. Y. Filed Feb. 19, 1906. Serial No. 301,962.



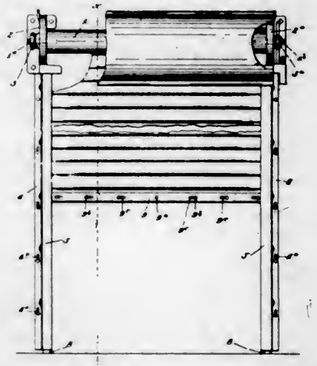
1. The herein described method of constructing a dry cell which consists in first placing in the receptacle constituting the negative pole electrode of the cell a charge of a composition of plaster of paris in a suitably fluent condition, rotating the receptacle on its axis till the composition has set to distribute the composition by centrifugal action, positioning the carbon and the depolarizing agent in the receptacle, and then sealing the receptacle up.

2. The herein described method of constructing a dry cell which consists in first placing in the receptacle constituting the negative pole electrode of the cell a charge of a composition of plaster of paris in a suitably fluent condition, temporarily closing the receptacle, rotating the receptacle on its axis till the composition has set to distribute the composition by centrifugal action, positioning the carbon and the depolarizing agent in the receptacle, and then sealing the receptacle up.

3. The herein described method of constructing a dry cell which consists in first placing in the receptacle constituting the negative pole electrode of the cell a charge of a composition of plaster of paris in a suitably fluent condition, temporarily closing the receptacle, rotating the receptacle on its axis till the composition has set to distribute the composition by centrifugal action, opening the receptacle, and then when the lining has sufficiently hardened positioning the carbon element and the depolarizing element in the receptacle, and then sealing the receptacle up.

4. An element for a dry cell battery consisting of a zinc receptacle and a lining of plaster of paris and an electrolyte, said composition adhering to and being supported solely by the inner wall of the receptacle and being centrifugally deposited thereon.

869,447. FIRE-RESISTING CURTAIN AND CHANNEL THEREFOR. EDWARD H. MCCLOUD, Columbus, Ohio, assignor to The Kinnear Manufacturing Company, Columbus, Ohio, a Corporation of West Virginia. Filed Feb. 2, 1906. Serial No. 299,218.



1. A channel for fire resisting curtains comprising angle bars, and means for binding said bars together, the said binding means adapted to permit the relative movement of the bars due to expansion when subjected to abnormal heat.

2. A channel for fire resisting curtains comprising an angle bar to be secured to the wall at its upper end, and two other angle bars secured to the first mentioned bar placed to form the channel, one of said bars being provided with slots and fastening devices passed through said slots and the other bars.

3. A channel for fire resisting curtains comprising an angle bar to be secured on one flange at its upper end to the wall and provided with slotted holes for the passage of fastening devices below the point where it is to be secured, and two other angle bars each having one of their flanges lapped together and placed upon the other flange of the first mentioned bar to form the channel, the intermediate of the said three flanges being slotted, and fastening devices secured to and passing through the outer of the said three flanges and through the slots of the intermediate flange.

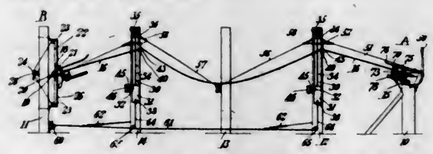
4. A channel for fire resisting curtains comprising angle bars secured together and expansible independently of each other there being a supplemental space closing angle bar at the end of the channel in respect to which the channel bars can expand.

5. In combination with the lower end of a fire resisting

curtain, an integral bar of metal having a connection with said curtain intermediate its ends whereby the bar is adapted to expand independently of the curtain and in opposite directions from said connection.

6. In combination with a fire resisting curtain, a bar at the lower end thereof, means for securing said bar rigidly to said curtain near its middle and means securing it to the curtain expansibly at each side of the middle.

869,448. MAIL-CARRIER. ALEXANDER MCINTIRE and CHARLES W. MCINTIRE, Amorita, Okla. Filed July 1, 1907. Serial No. 381,749.



1. In apparatus of the class described, a track arranged between two terminal stations, a catch serving to support the track in elevated position at a point between the stations, means for releasing the catch to allow the track to fall in advance of the approaching carrier, and means for raising the track into engagement with the catch after the passage of such carrier.

2. In apparatus of the class described, a track extending between two terminal stations, an elevated catch forming a support for the track at a point between the stations, means under the control of the carrier for releasing the catch and allowing the track to fall, and means under the control of the carrier for elevating the track into engagement with said catch after the carrier has passed beyond the track.

3. In apparatus of the class described, a track, an elevated catch for holding the track in raised position, a carrier arranged to travel on the track, means for releasing the track, an elevating arm for engaging and raising the track, a counter-weight for elevating the arm, and a normally locked carrier actuated catch for releasing said weight.

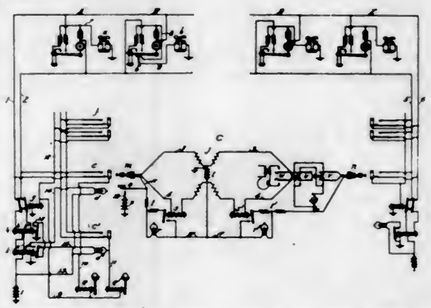
4. In apparatus of the class described, a track extending between two terminal stations, a plurality of catches for holding the track in elevated position at spaced points between the stations, means for releasing said catches to allow the track to fall, a carrier arranged to travel on the track, a pair of counter-weight actuated track elevating means, carrier release catches for holding the elevating means inoperative, and means at one of the stations for restoring said elevating means to operative position.

5. In apparatus of the class described, a track extending between stations, a plurality of spaced track elevating means between the stations, each of said elevating means having a normally restrained locking means, a carrier for releasing the locking means, a flexible member extending to both locking means, and means at one of the stations for winding said flexible member.

6. In apparatus of the class described, a track arranged between terminal stations, a plurality of elevated supports between the stations and on which the track is held, a carrier arranged to travel on the track, and means between such supports and under the control of the carrier for releasing that support toward which the carrier is traveled, and allowing the track to fall in advance of the carrier.

869,449. MEASURED-SERVICE SYSTEM FOR TELEPHONE-LINES. JAMES L. MCQUARRIE, Oak Park, Ill., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 23, 1906. Serial No. 302,492.

1. The combination with a telephone line extending from a plurality of substations to a plurality of connection terminals at a central office, of signal mechanism at the central office adapted to give a plurality of signal indications corresponding with said substations, means at each of said substations adapted to control the operation of said signal mechanism to produce the signal corresponding with said station, a connection register operatively associated with one of said terminals, and means for actuating said connection register brought into operative relation therewith in making connection with the line at the associated terminal.



2. The combination with a telephone line extending from two substations to two connection terminals at a central office, of signal mechanism at the central office adapted to produce two signal indications, each corresponding with a particular substation, means at each of said substations adapted to control the operation of said signal mechanism to produce the particular signal indication corresponding with said substation, two connection registers associated one with each of said connection terminals, and means for actuating said connection registers brought into operative relation with one or the other of said registers in making connection with the line at one or the other of said terminals.

3. The combination with a telephone line extending from two substations to two connection terminals at a central office, of signal mechanism at the central office adapted to give two signal indications, each corresponding with a particular substation, means at each of said substations adapted to control the operation of said signal mechanism to produce the particular indication corresponding with said substation, two registering devices at the central office, one for each of said substations, electromagnetic mechanism operatively connected with said connection terminals for selectively actuating said registering devices, and means for actuating said electro-magnetic mechanism to operate one or the other of said registering devices made operative in completing connection with the line at the corresponding connection terminal.

4. The combination with a telephone line extending from a plurality of substations to a central office, of signal mechanism at the central office adapted to give a plurality of signal indications corresponding with the substations of the line, means at each of said substations adapted to control the operation of said signal mechanism to give the particular indication corresponding with said substation, a plurality of connection devices for completing connection with the line, said connection devices corresponding with the substations of the line, registering devices at the central office corresponding with said substations, electromagnetic mechanism for selectively actuating said registering devices, and means for actuating said electro-magnetic mechanism to operate a particular registering device made operative in completing connection with the line through the medium of the corresponding connection device.

5. The combination with a telephone line extending from a plurality of substations to a plurality of connection terminals at a central office, means at the central office for establishing connection with the line at said connection terminals, a connection register operatively associated with one of said terminals, signals associated one with each of said terminals and corresponding with the substations of the line, means selectively controlled from each of said substations for operating the particular signal corresponding to said station, and means made operative in establishing connection with the line at the aforesaid terminal for actuating said associated connection register.

6. The combination with a telephone line extending from a plurality of substations to a plurality of connection terminals at a central office, of a signal associated with each of said connection terminals, electrically actuated switch mechanism for effecting the actuation of said signals, means made operative in taking the telephone for use at each of said substations for causing the selective actuation of said switch mechanism to operate a particular one of said signals, a connection register associated with one of said connection terminals, and actuating means for said connection register brought into operative relation therewith in establishing connection with the line at the terminal associated with said register.

7. The combination with a telephone line extending from a plurality of substations to a plurality of connection terminals at a central office, of a signal associated with each of said connection terminals, electrically actuated mechanism for effecting the selective operation of said signals, means at each of said substations adapted to control the operation of said selective mechanism, a connection register operatively associated with one of said terminals, and actuating means brought into operative relation with the connection register in making connection with the line at the associated terminal.

8. The combination with a telephone line extending from a plurality of substations to a plurality of connection terminals at a central office, of a signal associated with each of said terminals, electrically actuated mechanism adapted to effect the selective operation of one of said signals, controlling means at one of said substations automatically operated when the telephone is taken for use at such station and adapted to bring about the selective operation of said mechanism to display the aforesaid signal, a connection register operatively connected with the connection terminal associated with said selective signal, and means for actuating said connection register brought into operative relation therewith in completing connection with the line at the associated connection terminal.

9. The combination with a telephone line extending to two connection terminals at a central office, of a signal and a connection register associated with each terminal, means associated with the line for effecting the selective operation of said signals, means for making connection with the line at either terminal in response to the associated signal, and means made operative in completing connection at either terminal for effecting the actuation of the associated connection register.

10. The combination with a telephone line extending to two connection terminals, of a connection register associated with each terminal, means for completing connection with either terminal, and means adapted to actuate either connection register placed in operative relation therewith in making connection with the associated connection terminal.

11. The combination with a telephone line extending to two connection terminals, of connection registers associated one with each of said terminals, a connecting circuit adapted to complete connection with said line at either of its terminals, and means for operating said connection registers associated with the connecting circuit, and brought into operative relation with one or the other of said registers in the act of completing connection with its connection terminal.

12. The combination with a telephone line extending from two substations to two connection terminals at a central office, a signal and a connection register associated with each of said terminals, each connection terminal with its associated signal and connection register corresponding to a particular one of said substations, means controlled at each substation for causing the operation of the corresponding signal, a connecting device for completing connection with the line in response to said signal, and means made operative in completing connection with either terminal of the line for actuating the associated connection register.

13. The combination with a telephone line extending from a plurality of substations to a plurality of connection terminals at a central office, of a line signal and a connection register associated with each of said connection terminals, means controlled at each of the substations for actuating the one of said signals corresponding to such substation, a connecting circuit adapted to be closed in any one of said connection terminals in response to its associated signal to connect the aforesaid line with another line, a source of current for actuating said connection registers, and a switch associated with said connecting circuit adapted to apply said current to the circuit to actuate the register associated with the terminal with which connection is made.

14. The combination with a telephone line extending from two substations to two connection terminals at a central office, of a line signal and a connection register associated with each of said terminals, electro-magnetic controlling mechanism connected with the line at the central office and adapted selectively to actuate said line signals, switch mechanism at each of said substations adapted in the use of the telephone automatically to actuate said controlling mechanism to operate a particular one of said line signals, means for making connection with the line at either of its terminals in response to the associated signal, and means made operative in completing connection at either terminal for actuating the associated connecting register.

15. The combination with a telephone line extending from two substations to two connection terminals at a central office, of a signal associated with each terminal, electro-magnetic switch mechanism at the central office for selectively actuating said signals, means at each substation for controlling the actuation of said switch mechanism to operate a particular one of said signals, two connection registers associated one with each of said connection terminals, means for making connection with the line at either of said terminals, and an actuating circuit for each of said connection registers independent of said switch mechanism, and adapted to be completed in contacts of the associated connection terminal in making connection with the line.

16. The combination with a telephone line extending from two substations to two spring-jacks at a central office, of a signal associated with each spring-jack, an actuating circuit for said signals comprising two branches and an undivided portion, each of said branches including one of said signals, a line relay connected with the line at a central office and arranged to control the undivided portion of said actuating circuit, a second relay arranged to close the branches of said actuating circuit alternatively, means controlled in the use of the telephone at one of the substations for actuating both the line relay and the second relay to operate one of said signals, means controlled in the use of the telephone at the other substation for actuating the line relay alone to operate the other of said signals, a connection register associated with each connection terminal and its signal, a connecting circuit for completing connection with the line at either of the terminals, a source of current for operating the connection registers, and a key associated with said connecting circuit for applying said current to the register associated with the terminal with which connection is made.

17. The combination with a telephone line extending from a plurality of substations to a central office, of signal mechanism at the central office adapted to give a plurality of signal indications corresponding with the substations of the line, means at each of said substations adapted to control the operation of said signal mechanism to give the particular indication corresponding with said substation, a plurality of connection devices for completing connection with the line, said connection devices corresponding with the substations of the line, a registering device at the central office corresponding with one of said substations, electro-magnetic mechanism for actuating said registering device, and means for energizing said electro-magnetic mechanism to operate said registering device, said means being made operative in completing connection with the line through the medium of one of said connection devices.

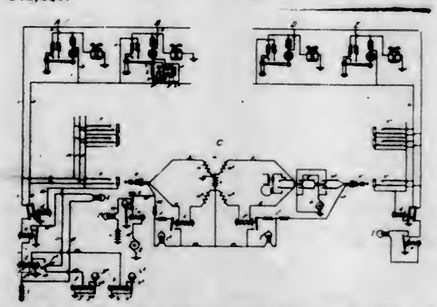
18. The combination with a telephone line extending

from a plurality of substations to a central office, of a plurality of signals associated with said telephone line at the central office, each of said signals corresponding with one of the substations of the line, electrically-actuated mechanism for selectively operating said signals, means at each of said substations adapted to control the operation of said selective mechanism, a connection register corresponding with one of said substations and operatively associated with the line at the central office, a plurality of connection devices for completing connection with the line in response to the various signals, and actuating means brought into operative relation with said connection register in making connection with the line through the medium of the connection device corresponding with the signal of the substation with which the connection register is associated.

19. The combination with a telephone line extending to a central office, of two signals associated with the line at the central office, means associated with the line for effecting the selective operation of said signals, two connection devices, one for each signal, through which connection may be made with the line in response to the associated signal, two connection registers at the central office, one associated with each signal and its corresponding substation, and means made operative in completing connection with the line through the medium of either connection device for effecting the actuation of the corresponding connection register.

20. The combination with a telephone line extending to two connection terminals, of a registering device associated with each terminal, means for completing connection with the line at either terminal, electro-magnetic mechanism for selectively actuating said registering devices, and means for actuating said electro-magnetic mechanism to operate a particular registering device, said means being made operative in completing connection with the line through the medium of the corresponding connection terminal.

869,450. MEASURED-SERVICE SYSTEM FOR TELEPHONE-LINES. JAMES L. MCQUARRIE, Oak Park, Ill., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 23, 1906. Serial No. 302,493.



1. The combination with a telephone line extending in two limbs from a plurality of substations to a central office, of means thereat for making connection with said line, a connection register associated with said line at the central office, electrically actuated mechanism for bringing said register into operative relation with the line, an actuating circuit for said mechanism adapted to be completed at said substations in the act of taking the telephone for use, and controlling means in a non-grounded bridge between the limbs of the line at one of said substations adapted to prevent the operation of said mechanism when the telephone is taken for use at said substation.

2. The combination with a telephone line extending in two limbs from two substations to a central office, of a bridge of the line at each substation and a telephone switch for controlling the same, a connection register associated with the line at the central office, electrically actuated mechanism for bringing said register into operative relation with the line, said mechanism being controlled in said substation telephone switches, and means included in the bridge of the line at one of said substations adapted to prevent the actuation of said mechanism when the switch at said substation is closed.

3. The combination with a telephone line extending in two limbs from two substations to a central office, of a non-grounded bridge at each substation closed in the use of the telephone thereat, a connection register associated with the line at the central office, and normally in operative relation therewith, an electrically actuated mechanism adapted to render said register inoperative, an actuating circuit for said mechanism closed in said bridges of the line at the substations, and means included in the bridge at one of said substations adapted to prevent the actuation of said mechanism when the bridge at said substation is closed.

4. The combination with a telephone line extending from two substations to a connection terminal at a central office, of a bridge of the line at each substation containing the telephone apparatus and controlled by the telephone switch, means for making connection with the line at the central office connection terminal, a connection register associated with the line at the central office, means for operating the connection register associated with the aforesaid connecting means, electrically actuated mechanism adapted to render said connection register responsive or irresponsive to the aforesaid operating means depending upon the actuated or non-actuated condition of said mechanism, an actuating circuit for said mechanism adapted to be completed in the aforesaid bridges of the line at the substations, and a device interposed in the bridge of the line at one of said substations adapted to prevent the actuation of said mechanism when said bridge is closed.

5. The combination with a telephone line extending from a plurality of substations to a connection terminal at a central office, a bridge of the line including the telephone apparatus and controlled in the telephone switch at each of said substations, means for making connection with the line at the central office terminal, a connection register normally operatively associated with the connection terminal of the line at the central office, means for actuating said register associated with said connecting means, electrically actuated mechanism adapted to render said connection register inoperative, said mechanism being adapted to respond only to a predetermined current flow therethrough, an actuating circuit for said mechanism adapted to be completed in the aforesaid bridges of the line at the sub-stations thereof, a high resistance interposed in the bridge at one of the substations adapted to reduce the current flow below the predetermined amount to prevent the actuation of said mechanism and thereby maintain the connection register in an operative condition, a relay at said substation adapted to short-circuit said resistance, and means made operative in completing connection with the line at the central office terminal thereof for actuating said relay.

6. The combination with a telephone line extending from a plurality of substations to a connection terminal at a central office, of means for making connection with the line at the terminal thereof, a bridge of the line at each substation completed in taking the telephone for use, electrically actuated connection register mechanism associated with the line at the central office, said mechanism being adapted to respond selectively in accordance with the quantity of current flow in the line, a device interposed in the bridge of the line at one of said substations adapted to alter the current flow in the line to control the operation of said selective mechanism, an electrically actuated switch at said substation adapted to neutralize the aforesaid interposed device, and means made operative in completing connection with the line at the central office adapted to effect the actuation of said neutralising switch.

7. The combination with a telephone line extending from a plurality of substations to a connection terminal at a central office, of means for making connection with the line at said terminal, a bridge of the line at each substation including the telephone apparatus and controlled in the telephone switch, electrically operated connection register mechanism associated with the line at the central office, said mechanism being adapted for selective actuation the selective response of said mechanism depending upon the quantity of current flowing in the line, a resistance interposed in the bridge of the line at one of said substations adapted to alter the current flow in the line when the bridge is closed to control said selective mechanism, a relay adapted when actuated to neutralize said resistance, and means made operative in the act of completing connection with the line at the central office adapted to actuate said relay.

8. The combination with a telephone line extending from a plurality of substations to a central office, of means for making connection with the line at the central office, connection registers associated with the line at the central office, one for each of said substations, electrically actuated mechanism adapted to select and operatively associate with the line one or another of said connection registers, a device at one of said substations adapted to control the actuation of said selecting mechanism, neutralizing means for said device, an electrically actuated switch adapted to disconnect the aforesaid selecting mechanism from the line, and means made operative in the act of making connection with the line for actuating said neutralizing means and said electrically actuated switch, whereby the aforesaid device at the substation is rendered inert and said selecting mechanism is disconnected from the line.

9. The combination with a telephone line extending from a plurality of substations to a connection terminal at a central office, of means for making connection with the line at said terminal, a bridge at each of said substations including the telephone apparatus and controlled by the telephone switch, a device included in the bridge at one of the substations adapted to modify the current flowing in the line, electrically actuated mechanism connected with the line at the central office selectively responsive to the quantity of current flow in the line, a plurality of connection registers at the central office, one for each of said substations, adapted to be selected and operatively associated with the line by said selecting mechanism, and means made operative in the act of making connection adapted to neutralize said modifying device in the substation bridge.

10. The combination with a telephone line extending from a plurality of substations to a central office, of a bridge of the line at each of said substations including the telephone apparatus and controlled in the telephone switch, a resistance interposed in said bridge, a polarized relay having a winding interposed in said bridge, a short circuit of said resistance adapted to be closed in contacts of said relay when the relay is actuated, a connection register associated with the line at the central office, electrically actuated mechanism selectively responsive to the quantity of current flow in the line, said mechanism being adapted to control the operative relation of said register with the line, means for making connection with the line at the central office, and means made operative in the act of making connection adapted to bring about a reversal of current flow in the line to actuate said polarized relay at the substation.

11. The combination with a telephone line extending to a connection terminal at a central office, of two connection registers associated with the line at the central office, mechanism adapted to operatively connect said connection registers with the line alternatively, an electro-magnet connected together with a source of current in the circuit of the line, and being responsive only to a predetermined flow of current in the line, line signal apparatus connected with the line and adapted to respond to less current flow therein than that to which said register controlling mechanism is adapted to respond, and means associated with said telephone line adapted to determine the flow of current therein to operate both said register controlling magnet and said line signal apparatus, or said line signal apparatus alone, whereby the operative relation of said connections registers with the line is controlled.

12. The combination with a telephone line extending from a plurality of substations to a central office, of two connection registers and a line signal associated with the line at the central office, electrically actuated mechanism adapted alternatively to operatively associate said connection registers with the line, electrically actuated mechanism adapted to effect the operation of said line signal, an actuating circuit for said connection register controlling and signal operating mechanism adapted to be completed in the use of the telephone at any one said substations, said signal operating mechanism being responsive to a smaller flow of current in the line than that to which said register controlling mechanism is responsive, and means at one of said substations for reducing the current flow in the line to a quantity sufficient to operate said signal controlling mechanism without operating said register controlling mechanism.

13. The combination with a telephone line extending to a connection terminal at a central office, of two connection registers and a line signal associated with the line at the central office, electrically actuated mechanism adapted alternatively to bring said connection registers into operative relation with said connection terminal, means for actuating said registers made operative in completing connection with the line at the terminal thereof, electrically actuated mechanism for operating said line signal, said signal actuating mechanism and the aforesaid register controlling mechanism being connected with the line and adapted to respond to current flow therein, said signal actuating mechanism being adapted to respond to a smaller current flow in the line than that to which the register controlling mechanism is adapted to respond, means connected with the line for determining a current flow therein sufficient to operate both mechanisms, and other means associated with the line for determining a current flow sufficient to operate the signal controlling mechanism but insufficient to operate the register controlling mechanism.

14. The combination with a telephone line extending from two substations to a central office, of a connection register and a line signal associated with the line at the central office, mechanism adapted to control the operative relation of said connection register with the line, electrically actuated mechanism adapted to control the operation of said line signal, said register controlling and said signal controlling mechanisms having their circuits connected with the line and being adapted to respond to current flow therein, said signal controlling mechanism being arranged to respond to a smaller current than that to which the register controlling mechanism is arranged to respond, means associated with the line adapted to determine a current flow sufficient to actuate both mechanisms, and other means associated with the line adapted to determine a current flow sufficient to operate the signal controlling mechanism but insufficient to operate the register controlling mechanism.

15. The combination with a telephone line extending in two limbs from two substations to a connection terminal at a central office, of two connection registers, one for each of said substations, electrically actuated mechanism for operatively associating either of said registers with said terminal, and means in a non-grounded bridge of said line at one of the substations for controlling the operation of said mechanism to place in operative relation with the line the particular register associated with said substation.

16. The combination with a telephone line extending from two substations to a connection terminal at a central office, of two connection registers at the central office, one for each of said substations, one of said connection registers being normally in operative relation with said connection terminal, electrically actuated mechanism adapted to render said last mentioned register inoperative and bring the other register into operative relation with said terminal, and controlling means in a non-grounded bridge of the line at one of said substations adapted to control the operation of said electrically actuated mechanism.

17. The combination with a telephone line extending in two limbs from two substations to a central office, of means for establishing connection with the line at the central office, two connection registers at the central office,

one for each of said substations, one of said connection registers being normally operatively associated with the line, electrically actuated mechanism for rendering inoperative said connection register and operatively associating the other register with the line, and controlling means in a non-grounded bridge between the two limbs of the line at one of said substations for determining the operation of said electrically actuated mechanism, to select and operatively associate with the line the particular register corresponding to said substation.

18. The combination with a telephone line extending in two limbs from a plurality of substations to a central office, of means thereat for making connection with said line, a connection register associated with said line at the central office, electrically actuated mechanism for controlling the operative relation of said register with the line, and means in a non-grounded bridge between the limbs of the line at one of said substations adapted to control the operation of said electrically actuated mechanism.

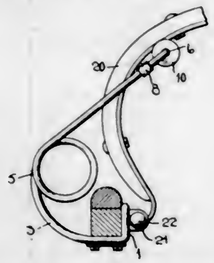
19. The combination with a telephone line extending in two limbs from a plurality of substations to a central office, of means thereat for making connection with said line, a connection register associated with said line at the central office, electrically actuated mechanism for bringing said register into operative relation with the line, controlling means in a non-grounded bridge between the limbs of the line at one of said substations adapted to determine the operation of said electrically actuated mechanism, and actuating means for said connection register operatively associated therewith in making connection with the line.

20. The combination with a telephone line extending from two substations to a central office, of means thereat for completing connection with said line, a connection register at the central office, a relay adapted to be operated upon a predetermined flow of current therethrough to operatively associate said connection register with the line, the winding of said relay being included with a source of current in the circuit of said line, means at one of said substations made operative upon taking the telephone for use for producing in the circuit the predetermined current for actuating said relay and operatively connecting said connection register with the line, and means at the other station made operative in taking the telephone for use adapted to prevent the predetermined current flow through said relay.

21. The combination with a telephone line extending from two substations to a central office, of means thereat for making connection with said line, a connection register at the central office normally operatively associated with said line, a relay having switch contacts adapted upon the actuation of said relay to destroy the operative relation of said register with the line, the winding of said relay being included with a source of current in the circuit of the line, said relay being adapted to require a predetermined current flow for its actuation, means made operative upon taking the telephone for use at one of said substations for producing in the line the predetermined current flow for said relay, and means made operative in taking the telephone for use at the other substation for limiting the current flow in the line to a quantity less than sufficient for operation of said relay.

22. The combination with a telephone line extending from a plurality of substations to a connection terminal at a central office, of means thereat for making connection with said line, a connection register associated with said line at the central office, a relay having switch contacts adapted to bring said connection register into operative relation with the connection terminal of said line, said relay being included, together with a source of current in the circuit of said line and being adapted to require a predetermined current flow for its operation, bridges of the line at said substations controlled in the telephone switches thereat, a device included in the bridge at one of said substations for reducing the current flow below the predetermined amount so that the aforesaid relay will not be operated when the telephone at that station is taken for use, the current flow through the bridge at the other substation being adapted to be sufficient to actuate said relay, and electrically actuated mechanism at the first mentioned substation responsive to the aforesaid connecting means at the central office, and adapted to render inoperative said current reducing device.

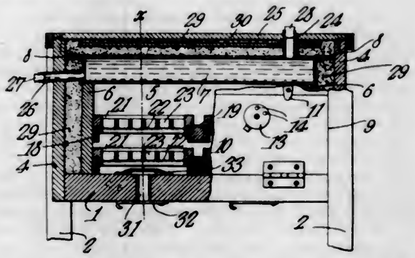
869,451. SHAFT-SUPPORT. EMIL NESTLER, Buffalo, N. Y., assignor to Samuel J. Fell, Buffalo, N. Y. Filed Oct. 29, 1906. Serial No. 341,145.



1. A shaft support composed of a single piece of heavy spring wire bent intermediately to form an angular loop to straddle a shaft coupling with the arms thereof bent at right angles to the loop and then extended forwardly in a continuous curve and having coils formed therein in position to lie over the axle when applied, a roller detachably mounted between the free ends of said arms and means for locking said roller in position on said arms.

2. A shaft support comprising a single piece of wire bent to form a loop to straddle a shaft coupling and having spaced arms with coils formed therein, a spool-shaped roller mounted between said arms with a groove therein and having the inner faces of the side flanges thereof curved to provide for the riding of the roller over the bolt nuts and a clamping member connected with one arm and provided with means for detachably engaging the other.

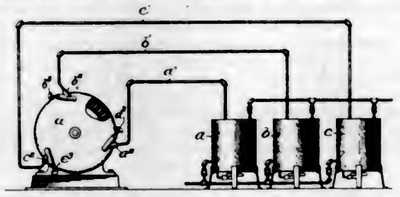
869,452. INCUBATOR. JAMES W. NOTT, Elgin, Nebr. Filed Mar. 29, 1907. Serial No. 365,352.



1. In an incubator the combination with a casing having an inner compartment, and packing surrounding said compartment; of a tank supported within the casing and constituting the top of the compartment, spacing arms extending from the tank, packing interposed between the tank and the walls and top of the casing, and a pressure distributing device interposed between the top of the casing and tank, said tank having an inlet and an outlet.

2. In an incubator the combination with a casing having an inner compartment; of a tank constituting the top of the compartment, spacing arms extending from the tank, packing interposed between the tank and the walls and top of the casing to hold the tank against displacement, a pressure distributing device interposed between the tank and the top of the casing, an inlet tube extending through the top of the casing and opening into the tank, an outlet tube extending from the tank, and closures for said tubes.

869,453. FLUID-PRESSURE MOTOR. SPENCER OTIS, Chicago, Ill. Filed Apr. 24, 1906, Serial No. 313,465. Renewed Mar. 20, 1907. Serial No. 363,451.



1. In combination with a fluid pressure motor, a series of independent generators each generator being independently directly connected to the motor to supply motive fluid thereto, substantially as described.

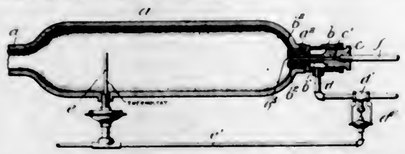
2. In combination with a fluid pressure motor, a series of independent generators, the fluid in the generators being at different pressures each generator being independently directly connected to the motor to supply motive fluid thereto.

3. In combination with a fluid pressure motor, a series of generators of the flasher type, each generator being independently directly connected to the motor.

4. In combination with a fluid pressure turbine, a series of generators each generator being independently directly connected to the turbine.

5. In combination with a fluid pressure turbine, a series of generators of the flasher type each generator being independently directly connected to the turbine, substantially as described.

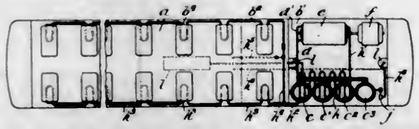
869,454. STEAM-TRANSFORMER. SPENCER OTIS, Chicago, Ill., assignor to National Patent Holding Company, Rapid City, S. D., a Corporation of South Dakota. Filed June 8, 1906. Serial No. 320,761.



1. In a steam transformer, a chamber, a steam inlet leading thereto, a water inlet surrounding the steam inlet, a water supply pipe connected to the water inlet, a valve in the water supply pipe, a thermostat within the chamber, and means connecting the thermostat with the valve to operate the valve.

2. In a steam transformer, a closed chamber, a steam supply, means whereby the steam supply causes a flow of water into the chamber, and means governed by the temperature within the chamber for regulating the amount of water delivered thereto.

869,455. MOTOR-CAR. SPENCER OTIS and HARRY S. HART, Chicago, Ill., assignors to National Patent Holding Company, Chicago, Ill., a Corporation of Illinois. Filed July 26, 1906. Serial No. 327,917.



1. In combination with a motor car, a turbo generator carried by said car, a series of fluid pressure generators also carried by the car, each fluid pressure generator being independently directly connected to the turbine to supply motive fluid thereto, and suitable controllers governing the supply of current to the motors.

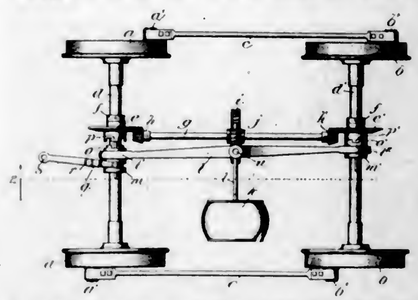
2. In a motor car, the combination of a turbo generator carried by the car body for supplying current to the motors, and a series of independent fluid pressure generators also carried by the car body, said fluid pressure generators being each independently directly connected to the turbine.

3. In a motor car, the combination of a turbo generator carried by the car body for supplying current to the motors, and a series of independent fluid pressure generators of the flasher type also carried by the car body, said fluid pressure generators being each independently directly connected to the turbine.

4. The combination with a motor car, of a turbo generator carried by the car body for supplying current to the motors, a series of fluid pressure generators also carried by the car body, each fluid pressure generator being independently directly connected to the turbine, means for condensing the exhaust products from the fluid pressure generators and for circulating these products around the body of the car, means carried by the car body for storing the exhaust products, and means for returning these products to the fluid pressure generators.

5. The combination with a motor car, of a turbo generator carried by the car body for supplying current to the motors, a series of fluid pressure generators of the flasher type also carried by the car body, each fluid pressure generator being independently directly connected to the turbine, means for condensing the exhaust products from the fluid pressure generators and for circulating these products around the body of the car, and means carried by the car body for storing the exhaust products and for returning them to the fluid pressure generators.

869,456. MOTOR RAILWAY-TRUCK. SPENCER OTIS, Chicago, Ill. Filed Nov. 7, 1906. Serial No. 342,376.



1. In a railway car truck, the combination of a pair of axles, wheels secured to the axles, driving rods connecting the wheels, a loose gear on each of the axles, means engaging the gears for rotating them in opposite directions, a clutch member secured to each axle to rotate therewith and longitudinally movable on the axles, and means for moving the clutch blocks to throw them into and out of engagement with the gears.

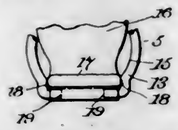
2. In a railway car truck, the combination of a pair of parallel axles, wheels secured thereto, a driving rod connecting the wheels, a loose gear on each axle, a prime mover, means for rotating the gears in opposite directions thereby, and means to secure either of said gears to its axle whereby the truck may be run in either direction using all its wheels as traction wheels.

3. In a truck, the combination of a pair of axles, drive wheels secured to such axles, crank pins on the drive wheels, a driving rod connected between the crank pins, a loose gear on each of the axles, means engaging the gears for rotating them in opposite directions, a clutch block secured to each axle to rotate therewith and adjacent the loose gears and longitudinally slidable on such axles, a lever connecting said blocks and pivoted between them, and means for operating the lever whereby either of the clutch blocks may be rotatively secured to its loose gear

and the other simultaneously released from its loose gear whereby the truck may be driven in either direction.

4. In a truck, the combination of a pair of axles, drive wheels secured to such axles, crank pins on the drive wheels, a driving rod between the crank pins, a loose bevel gear on each of the axles, a shaft mounted at right angles to each of the axles and carrying a beveled gear at each end engaging with such loose gears, a prime mover for rotating the shaft in one direction, a clutch block rotatively secured to each axle and longitudinally slidable into and out of mesh with notches upon the loose gears, a lever connecting the clutch blocks and pivoted between them, and means for operating the lever whereby either of the clutch blocks may be slid into mesh with its loose gear and the other simultaneously slid out of mesh with its loose gear whereby the truck may be driven in either direction.

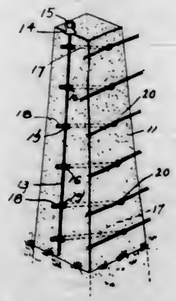
869,457. HOSE-SUPPORTER. EUGENE PEARL, Passaic, N. J. Original application filed Oct. 18, 1906, Serial No. 339,574. Divided and this application filed Jan. 14, 1907. Serial No. 352,326.



1. A hose supporter comprising a member provided with a spring head, a ball loosely encircling the head and having a hinged section movable into clamping relation therewith, and a locking projection formed in part with the hinged section and adapted to be sprung into engagement with the ball.

2. A hose supporter comprising a member provided with a spring head, a ball loosely encircling the head, said ball having a hinged section movable into clamping relation with the head and shaped to inclose the same, and a locking device formed in part with the hinged section and adapted to be sprung into engagement with the ball.

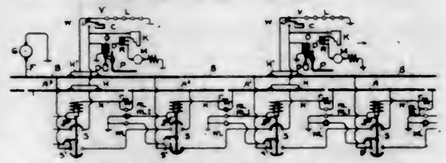
869,458. WIRE-FASTENER. LAWRENCE R. PEEPLES, Shawneetown, Ill. Filed Jan. 9, 1907. Serial No. 351,508.



1. Means for detachably engaging the wires of a fence to a fence post, consisting of a key comprising a straight bar adapted to be inserted in the holes of a post, and having a hook on its forward end to detachably engage the wire of a fence and provided on its opposite end with an eye, and a pin removably engaged with said eye.

2. The combination, with a fence-post provided with holes for the reception of removable keys having hooks on their outer ends to detachably engage the wires of a fence, and provided on their opposite ends with eyes and a pin removably engaged with said eyes.

869,459. ELECTRIC-RAILWAY SYSTEM. WILLIAM B. POTTER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Apr. 3, 1900. Serial No. 11,405.



1. In a safety sectional conductor a block electric railway system, the combination with the feeder, of a sectional conductor the sections of which are of great length with respect to the railway vehicle and are normally disconnected from said feeder, a plurality of switches adapted to close the circuit between the feeder and the section over which the train is passing and to keep the circuit open between the feeder and the section next adjacent to the section over which the train is passing, and a plurality of electromagnets for actuating said switches connected in a circuit between the sections of said sectional conductor and the return.

2. In a safety sectional conductor block electric railway system, the combination with the feeder, of a normally dead sectional working conductor the sections of which are of great length with respect to the railway vehicles, a branch between each section and the feeder, which is broken in two places, and a plurality of double-acting electromagnetic switches each of which normally closes one break in one branch and when actuated opens at that break in that branch and closes a break in a next adjacent branch.

3. In a safety sectional conductor block electric railway system, the combination with the feeder, of a normally dead sectional working conductor the sections of which are of great length with respect to the railway vehicle, a branch between each section and the feeder, which is broken in two places, a plurality of double-acting switches each of which normally closes one break in one branch and when actuated opens at that break in that branch and closes a break in a next adjacent branch, and a plurality of magnet coils each of which is connected between a sectional conductor and the return and controls one of said switches.

4. In an electric railway system, the combination with the feeder, of a normally dead sectional working conductor, a plurality of electromagnetic switches adapted to close the circuit between the feeder and the section over which a train is passing and to keep the circuit open between the feeder and the section behind the section over which the train is passing, an auxiliary continuous service conductor permanently connected with the feeder, and independent collectors engaging said conductors and connected to the translating devices carried by the car.

5. In an electric railway system, the combination with the feeder, of a normally dead sectional working conductor, an auxiliary continuous service conductor permanently connected with the feeder, independent collectors engaging said conductors and connected to translating devices carried by the car, and a plurality of electromagnetic switches adapted to close the circuit between the auxiliary conductor and a section over which a train is passing and to keep the circuit open between the auxiliary conductor and the section behind the section over which the train is passing.

6. In an electric railway system, the combination with the feeder, of a normally dead sectional conductor, switches for connecting said feeder to the sections of said conductor, an auxiliary continuous service conductor permanently connected with the feeder, electrically independent collectors carried by the car for each conductor, a controller connected through one collector with the sectional conductor, and a switch for connecting the controller with the collector which engages the continuous conductor.

7. In an electric railway system, the combination with the feeder, of a normally dead sectional conductor, an auxiliary continuous service conductor permanently connected with the feeder, electrically independent collectors carried by the car so as to engage the respective conductors, and switches to connect the auxiliary conductor with the section of the sectional conductor over which the train is passing for the purpose of supplying current to the said sectional conductor.

8. In an electric railway system, the combination with a source of current supply, of a sectional conductor, an auxiliary continuous conductor connected with the source of current supply to normally supply translating devices on the car other than the motors, car motors, electrically independent collectors carried by the car for engaging independently the sectional and auxiliary conductors, a connection between the car motors and the collector engaging with the sectional conductor, electromagnetic switches for connecting the sections of the sectional conductor with the source of current supply, and a switch for connecting the collector engaging the auxiliary conductor with the car motors so that the latter can be supplied with current from said auxiliary conductor.

9. In an electric arilway system, the combination with a source of current supply, of a sectional working conductor, normally-open switches for connecting the sections of said sectional conductor to the source of current supply, car motors normally operated by current taken from said sectional conductor, an auxiliary continuous conductor permanently connected with the source of current supply and normally supplying translating devices on the car other than the motors, two electrically independent collecting devices carried by the car and coöperating with the respective conductors, and a switch for connecting the car motors and the collecting device which coöperates with the auxiliary conductor, whereby the motors can be operated by current from said auxiliary conductor.

10. In an electric railway system, the combination with a source of current supply, of a normally dead sectional working conductor, car motors normally operated by the current taken from said sectional working conductor, an auxiliary continuous conductor permanently connected with the source of current supply and normally supplying translating devices on the car other than the motors, two electrically independent collecting devices carried by the car and coöperating with the respective conductors, a switch for connecting the car motors to the collecting device which coöperates with the auxiliary conductor, whereby said motors can be operated by current from the auxiliary conductor, and a recording mechinism operated by said switch.

11. In an electric railway system, the combination with a source of current supply, of a normally dead sectional working conductor, connections between the source of current supply and the sections of said conductor, electromagnetically-actuated switches controlling said connections and constructed and arranged so that when the actuating coils of said switches are energized the section over which the train is passing is connected to the feeder and the section over which the train has just passed is disconnected from the feeder and is thereby prevented from becoming energized when a following train enters the last-mentioned section, a permanently energized auxiliary continuous conductor, two electrically independent collecting devices on the train coöperating with the respective conductors, and a switch for connecting the car motors with the collector which engages the continuous conductor, whereby the motors can be operated by current from said continuous conductor.

12. In an electric railway, the combination with a source of current supply, of an auxiliary continuous conductor arranged as a feeder and connected with said source of supply, a sectional service conductor, electromagnetic switches for connecting the sections of said sectional conductor with the continuous conductor, a car collector engaging said sectional conductor, a car collector engaging said continuous conductor, translating devices carried by the car, and a switch for connecting said translating devices with either collector.

13. In an electric railway system, the combination with the working conductor, of a car or train, an air-brake system therefor, a valve controlling the operation of the brakes, a coil controlling said valve, means for retarding the operation of said valve, and a collector connected with the coil and adapted to engage with the working conductor, whereby the valve is held closed and the brakes released while the conductor is energized.

14. In an electric railway system, the combination with the working conductor, of a train operated therefrom, a braking system for the train, means tending normally to operate said braking system to cause the brakes to be applied, electromagnetically-controlled means for preventing the setting of the brakes except when current fails in the working conductor, and means for instituting a time limit in the operation of said braking system to prevent the setting of the brakes by fluctuations of the current in the working conductor.

15. In an electric railway system, the combination with the working conductor, of a train, air-brakes therefor, a valve, means normally tending to operate the valve to apply the brakes, an electromagnet coil connected with the working conductor for holding the valve closed while the conductor is energized, and a dash-pot for instituting a time limit in the action of the valve-opening means.

16. In an electric railway system, a car or train, driving motors therefor, a source of current for said driving motors, a braking system, electrically-operated controlling means for the brakes energized from said source and adapted to apply the brakes upon a deënergizing of said source, and means for retarding the application of the brakes.

17. In an electric railway system, a car or train, driving motors therefor, a supply circuit for said motors, a braking system, a magnet winding connected to said supply circuit, means controlled by said magnet adapted to apply the brakes when said magnet is deënergized, and means for retarding the application of the brakes.

18. In an electric railway system, the combination with a normally dead sectional conductor having sections of different lengths, the lengths of said sections being proportional to the speed at which the train will commonly proceed over a given section, of electromagnetically-controlled means for causing a section over which a train is passing to be energized and for preventing the dead section over which it has just passed from being caused to be energized by a following train.

19. In an electric railway system, the combination with a normally dead sectional working conductor, of electromagnetically-actuated means located at intervals along the road-way, for causing the section of the sectional conductor over which a train is passing to be energized and for preventing the dead section over which it has just passed from being caused to be energized by a following train, and means controlled by said electromagnetically-actuated means for indicating visually to the operator of a train at the beginning of a section the fact that the condition of the section is normal.

20. In an electric railway system, the combination with a normally dead sectional working conductor, of electromagnetically-controlled means for causing the section over which a train is passing to be energized and for preventing the dead section over which it has just passed from being caused to be energized by a following train, means for indicating visually at the beginning of such latter section to the operator of the following train the fact that his train is about to enter the section behind the section over which the advance train is passing, and a branch circuit from the section over which the advance train is passing for controlling said indicating means.

21. In an electric railway system, the combination with a normally dead sectional working conductor, of electromagnetically-controlled means for causing the section over which a train is passing to be energized and for preventing the dead section over which it has just passed from being caused to be energized by a following train, auxiliary means whereby the following train can be propelled over such latter section, means for indicating visually at the beginning of such latter section to the operator

of the following train the fact that his train is about to enter the section over which the advance train has just passed, and a branch circuit from the section over which the advance train is passing, for controlling said indicating means.

22. In an electric railway system, the combination with a normally dead sectional working conductor, of electromagnetic switches which are successively actuated as a car or train proceeds, to energize said sections, electrically operated signals connected in circuits which are closed while the conductor sections are dead, and means connected with said switches for opening the circuits of said signals when the switches are actuated to energize said sectional conductor.

23. In an electric railway, the combination with a normally dead sectional working conductor, of electromagnetic switches which are successively actuated as a car proceeds, to energize said sections, an electrically operated signal connected in circuit with one of said switches and located at the beginning of a section, the circuit connections of said signal being such that the signal is operated by said switch when the latter is actuated by the passage of a car over the next advance section.

24. In an electric railway, the combination with a normally dead sectional working conductor, of electromagnetic switches which are actuated as a car proceeds, to energize said sections, an electrically operated signal connected in circuit with said switches and located at the beginning of a section, the circuit connections of said signal being such that the signal is operated by said switch when the latter is actuated by the passage of a car on said section.

25. In an electric railway system, the combination with a normally dead sectional working conductor, of electromagnetic switches the actuating coils of which are energized to actuate said switches as a car proceeds, to energize said sections, electrically operated visual signaling-means connected in circuit with one of said switches, the circuit connections being such that the signaling-means is supplied with current by the actuation of said switch by an advance train, so that the presence of such train is indicated to the operator of a train on a section immediately in the rear of the advance train.

26. In an electric railway, the combination with a normally dead sectional working conductor, of electromagnetic switches the actuating coils of which are energized to actuate the switches to cause said sections to be successively energized as a car proceeds, an electrically operated signal for a section connected in a circuit which is normally closed by the switch of said section in the closing position of the switch, and a second electrically operated signal for said section connected in circuit with said section, the circuit of said second signal being closed when said section is energized, said signals coöperating to indicate to the operator of a following train the presence of a train on the section to which the signals belong.

27. In an electric railway system, the combination with the feeder, of a normally dead sectional working conductor, an electrically operated safety signal located at the beginning of each section, a switch normally closing a connection between the feeder and said signal, an electromagnetic switch for connecting the feeder and a conductor section, and means connecting said normally closed switch with the electromagnetic switch whereby the circuit of the signal is opened when the electromagnetic switch is actuated to energize the conductor section.

28. In an electric railway system, the combination with the feeder, of a normally dead sectional working conductor, electromagnetic switches for connecting the sections with the feeder, electrically operated visual signals, and normally closed switches therefor controlled by the electromagnetic switches for maintaining the circuit to the signals closed while the electromagnetic switches are in their normal position.

29. In an electric railway system, the combination with a normally dead sectional working conductor, of an energizing switch for each section thereof, means for operating the switch of the next rear section to energize a certain section when the train passes on to said last-mentioned section, an electrically operated safety signal normally operating at the beginning of the rear section, and a switch for the signal, which is controlled by the energizing switch of the rear section and is opened when the latter is operated by the train.

30. In an electric railway system, the combination with a normally dead sectional working conductor, of an electromagnetic energizing switch for each section thereof, and electrically operated safety and danger signals controlled by said switch, the safety signal being cut out when the switch is operated and the danger signal being operated while the coil of the switch is energized.

31. In an electric railway system, the combination with a normally dead section working conductor, of electromagnetic switches for energizing the sections of said conductor, an electrically operated safety signal for a section, which signal is connected in a circuit normally closed by the switch of said section in its open position with respect to the section, an electrically operated danger signal for said section, which signal is connected in a circuit energized by said section, and an electrically operated caution signal which is connected in a circuit energized by the next advance section.

32. In an electric railway system, the combination with a current feeder and a series of normally dead sectional conductors, of automatically operated switches for connecting said sectional conductors to the current feeder and for rendering the sectional conductor immediately in the rear of a preceding car temporarily inoperative by the following car, and branch circuits for controlling said switches, said branch circuits being normally without current potential.

33. In an electric railway system, the combination with a current feeder, a series of normally dead sectional conductors and a signal adjacent to each sectional conductor, of automatically operated switches for connecting said sectional conductors to the current feeder and for rendering the sectional conductor immediately in the rear of a preceding car temporarily inoperative by a following car, branch circuits for controlling said switches, said branch circuits being normally without current potential, and means whereby one of said signals is displayed to indicate the presence of a train in an advance section.

34. In an electric railway system, the combination with a current feeder and a series of normally dead sectional conductors, of automatically operated switches for connecting said sectional conductors to the current feeder and for rendering the sectional conductor immediately in the rear of a preceding car temporarily inoperative by the following car, and branch circuits for controlling said switches, said branch circuits being normally without current potential, together with additional means for enabling a car to pass over a section adjacent to a preceding section over which a car is then passing.

35. In a safety block electric railway system, the combination with the feeder, of a sectional conductor the sections of which are of considerable length with respect to the car or train, connections between the feeder and said sections, a normally closed electromagnetically-actuated switch and a normally-open electromagnetically-actuated switch included in each of said connections, the arrangement of the circuits being such that when the switch for a certain section is actuated to connect that section to the feeder a feeder connection of another section is opened.

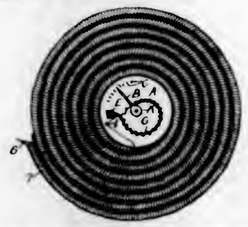
36. A safety block electric railway system comprising the combination with a feeder or main, of a sectional conductor the sections of which are of considerable length with respect to the car or train, connections between said sections and the feeder, and automatically operated switches included in said connections, each switch being so constructed and arranged that during the time it closes the feeder connection to its corresponding conductor section it opens the feeder connection to another section and thus renders impossible the closing of said feeder connection.

37. In a system for controlling the movements of electrically operated railway vehicles, the combination with the power circuit, of automatic means for stopping the vehicle, and a pair of track-circuits one controlling a signal and governed by the power circuit and the other controlling the automatic stopping means and controlled by said first track circuit.

38. In a system for controlling the movements of electrically operated railway vehicles, the combination with the power circuit, of automatic means for stopping the vehicle energized by current derived from the power circuit, and a pair of block-circuits for different blocks one block circuit being governed by the power circuit and controlling a signal and the other controlling the automatic stopping means and being controlled by the first block circuit.

39. In a system for controlling the movements of electrically operated railway vehicles, the combination with the power circuit, of automatic means for stopping the vehicle, and a pair of block circuits for different blocks, each forming a branch of the power circuit and one controlling a signal and the other controlling the automatic stopping means and being controlled by the first block circuit.

869,460. ELECTRIC HEATING FABRIC. WALTER RICHMOND, Memphis, Tenn. Filed June 16, 1905. Serial No. 265,584.



1. The combination with an electric heating mat or the like composed of a high resistance conductor wound about a core, of an expansible controller mounted upon the core, a high resistance conductor in circuit with the expansible controller and with the conductor which is wound about the core, and means arranged upon the core and in circuit with the expansible controller for adjusting the tension of the same, the said controller being arranged when expanded to break its contact with the member.

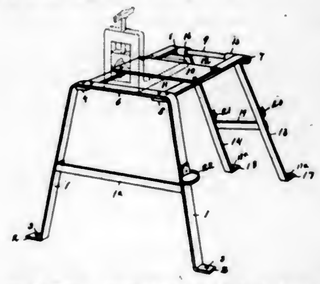
2. An electric heating mat or the like comprising a core, a high resistance element wound about the core, a resilient controller mounted upon the core, a high resistance conductor wound arouud the controller and in circuit therewith at its free end, said resistance conductor being in circuit with the resistance conductor wound about the core, and a movable contact arranged upon the core, said contact being movable to adjust the tension of the expansible controller, said controller being arranged to break its contact with the contact member when expanded.

3. A fabric for mats or pads consisting of a high resistance conductor wound about a core and bent spirally about a central member, and having its convolutions insulated from each other and a controller, regulator, or governor mounted on the central member and said controller in circuit with said conductor, automatically maintaining any desired temperature in the heating fabric.

869,461. PORTABLE WORK-BENCH. HARRY ROSENBAUM, New York, N. Y. Filed Dec. 27, 1905. Serial No. 293,535.

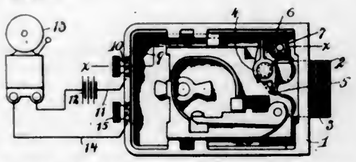
1. In a portable work-bench the combination of two pairs of legs one pair of which is longer than the other, braces secured to said legs, the longitudinal bars 4 and 5 having hinge portions 7 and 8 and to which one pair of said legs are hinged, the other pair of said legs being rigidly secured to the other ends of said bars, one pair of said legs being adapted to be folded against the inner sides of the other pair of legs.

2. A portable work-bench comprising two pairs of diverging legs, braces rigidly secured to said legs, of a bench-top one end of which is rigidly secured to one pair of said legs, the other end having hinge portions formed thereon adapted to engage with hinge portions formed on the other pair of legs, a hinge-bar connecting said hinge portions thereby forming a foldable support for said top.



3. A work-bench comprising a foldable support and a stationary support, of a bench top formed of parallel bars two of said bars having hinge portions adapted to engage with hinge portions formed on the foldable support, the other ends of said bars being fixed to the stationary support, and a hinge-bar connecting said hinge portions.

869,462. ALARM DEAD-LOCK. MORRIS SHEINMAN, New York, N. Y., assignor to The Alarm Lock Company, a Corporation of New York. Filed Aug. 8, 1906. Serial No. 329,719.

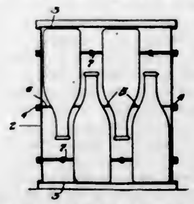


1. A dead-lock having a bolt, in combination with a member movably mounted on said bolt and adapted to be moved by a person tampering with said bolt, a spring seating on said bolt and pressing said member, and means for closing a circuit when said member is moved relatively to said bolt.

2. A dead-lock having a case, a bolt slidably mounted therein, a member mounted to slide on said bolt and protecting the side thereof, a circuit closer pivoted on said bolt and engaged by said member, and a circuit adapted to be closed by said contact closer.

3. A dead-lock having a sliding bolt, a sliding member mounted on said bolt and protecting the side thereof, a spring mounted upon said bolt and pressing said sliding member, a circuit closer adapted to be displaced by said sliding member, and a circuit adapted to be closed by said circuit closer.

869,463. PACKING-CASE. ARTHUR S. SPEER, Pittsburg, Pa. Filed Mar. 22, 1905. Serial No. 251,456.



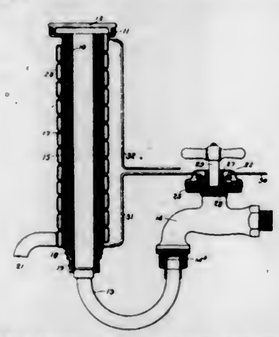
1. In a rectangular bottle case, the combination of a plurality of sheet metal sections connected by folding the flanged edge of one section around a flanged terminal

of the next adjacent section, and a series of cross racks comprising a middle neck rack and outer body racks formed of crossed slats with alternately arranged openings, said outer racks being diagonally arranged and said middle rack being parallel with the sides and ends and having their terminals secured between the flanged meeting portions of said connected sections, substantially as set forth.

2. In a rectangular bottle case, the combination of a plurality of flanged connected sections of sheet metal forming the sides and ends of the case, and a series of racks formed of crossed slats, the outermost racks being arranged diagonally and the intermediate rack being arranged parallel to the sides and ends and having their terminals secured between the meeting edges of said sections, the outermost of said sections having interior top and bottom supporting flanges and reinforcing extensions, with a removable top and bottom secured thereon, substantially as set forth.

3. In a rectangular bottle case, the combination of a plurality of sections of sheet metal comprising the ends and sides of the case connected by folding the meeting terminal flanged edge of one section around the flanged edge of the next adjacent section, a middle transverse rack formed of crossed slats arranged parallel to the sides and ends and having openings for the bottle necks, and outer racks formed of diagonally arranged crossed slats at each side of said middle rack, the spaces between said outer slats providing openings registering alternately with the openings in the middle rack and adapted to embrace the body portions of the bottles, the terminals of said racks being secured between the flanged meeting edges of said connected sections, substantially as set forth.

869,464. ELECTRIC HEATER. GEORGE E. STEVENS, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed May 23, 1904. Serial No. 209,258.



1. In a fluid heater, the combination of a resistance unit having a central opening, fluid conducting tubes extending lengthwise of said unit through said opening and over the outer walls of the unit, and suitable inlet and outlet openings and end connections.

2. A fluid heater comprising an electric resistance unit, a plurality of fluid conducting pipes located in heat conductive relation thereto, and means for removably clamping said unit in said heat conductive relation.

3. A fluid heater comprising a helical resistance conductor, a plurality of fluid conducting pipes located in heat conductive relation thereto, and means for removably clamping said conductor in place.

4. A fluid heater comprising a heating unit consisting of a helical edgewise wound resistance ribbon conductor having its adjacent turns insulated from each other, a plurality of fluid conducting pipes located in heat conductive relation thereto, and clamping means engaging the opposite ends of said helix to hold the same in place.

5. A fluid heater comprising a central fluid conducting pipe, a laterally projecting head at one end thereof, an electric resistance unit associated with said pipe and bearing against said head, and means operatively connected to the other end of said pipe for pressing said unit against said head and holding it in place.

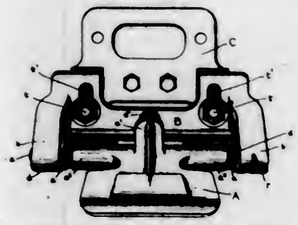
6. A fluid heater comprising one or more fluid conducting pipes, heads located at the opposite ends thereof, an electric resistance unit associated with said pipes and engaging one of said heads, and means comprising a threaded connection with the other head for pressing said unit against said head and holding it in place.

7. A fluid heater comprising one or more fluid conducting pipes, members located at opposite ends thereof, an electric resistance unit associated with said pipes in good heat conductive relation thereto, and means for clamping said unit between said members.

8. A fluid heater comprising one or more fluid conducting pipes, end members providing communication passages between said pipes, an electric resistance unit associated with said pipes in good heat conductive relation thereto, and a bolt for drawing said heads into firm engagement with said unit.

9. A fluid heater comprising an electric resistance unit having a central opening, fluid conducting tubes extending lengthwise of said unit through said opening and over the outer walls of the unit, suitable inlet and outlet openings therefor, and end members providing connecting passages between said tubes so arranged that the fluid as it passes through the heater passes throughout the length of the unit a plurality of times both interiorly and exteriorly thereof.

869,465. THIRD-RAIL CONTACT-SHOE. SAMUEL B. STEWART, Jr., Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 5, 1902. Serial No. 114,342.



1. In an electric railway, a third-rail conductor, a collector shoe having a broad flat contact face, a frame mounted upon a car, and means for yieldingly supporting said shoe upon said frame on an axis parallel to said rail for limited rotary and axial movements.

2. A collector shoe having a small movement of inertia, a rigidly-supported frame carrying a shaft on which the shoe is pivotally mounted so as to allow a vertical movement, a spring for positively forcing said shoe into contact with the upper face of the rail, and buffer springs permitting a slight movement of said shoe in a direction parallel with said rail.

3. A collector shoe having a small movement of inertia, a rigidly supported frame in which the shoe is pivotally mounted so as to allow a vertical movement of the shoe, a spring for maintaining said shoe in contact with the third rail, and buffer springs permitting a slight movement of said shoe in a plane parallel to said rail.

4. In a third rail electric railway, a collector shoe yieldingly held against movement vertically and longitudinally and mounted on an axis parallel with the third rail with which the shoe is adapted to contact, a supporting frame for said shoe, a hanger carried by the car, means for adjusting said supporting frame on said hanger, and a flexible electrical conductor for connecting said shoe with said hanger.

5. In a third rail electric railway, a thin flat horizontally projecting collector shoe, a supporting frame in which said shoe is pivotally mounted, the pivot passing through the body of the shoe so as to give it a small movement of inertia, a spring for positively forcing said shoe downward into contact with the upper surface of the third rail, and means for permitting a slight movement of the shoe in a plane parallel with the rail.

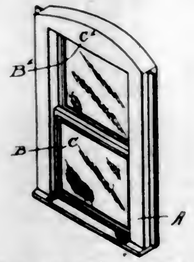
6. In an electric railway, a collector shoe, and means for supporting said shoe on an axis parallel to the third rail and yieldingly holding it against rotary and axial movements.

7. In an electric railway, a collector shoe supported on an axis parallel to the third rail, and springs for yieldingly holding said shoe against rotary and axial movements.

8. In an electric railway, a collector shoe, a frame mounted upon a car for supporting said shoe on an axis parallel to the third rail, and means for yieldingly supporting said shoe upon said axis for limited rotary and axial movements.

9. In an electric railway, a collector shoe, a frame mounted upon a car for supporting said shoe on an axis parallel with the third rail, and springs yieldingly supporting said shoe for limited rotary and axial movements.

869,466. WINDOW CONSTRUCTION. ROSELLA E. TURNBULL, Chicago, Ill. Filed Jan. 22, 1906. Serial No. 297,201.



1. In a device of the class described the combination with an outer sash having its stiles curved rearwardly to afford a stop, a hollow inner sash engaged in each outer sash, a bearing sleeve engaged in and extending longitudinally of each inner sash, a rod engaged at its ends in said bearing sleeves and extending through the inner sash thereby permitting the inner sash to open laterally.

2. In a device of the class described the combination with an outer vertically adjustable hollow sash of an inner laterally adjustable hollow sash, bearing sleeves at each corner of said sashes, a rod pivoted at its ends in corresponding sleeves, a rod extending transversely of said sash, an arm slidable thereon and a seat pivoted on the outer end of said arm to support the inner sash.

3. In a device of the class described the combination with a window frame of upper and lower window sash slidably engaged thereon and each provided with a stop on its inner periphery, a laterally swinging inner frame in each sash, means affording a pivotal connection between the same and said sash and permanent attached adjustable means adapted to support the inner frame in open position.

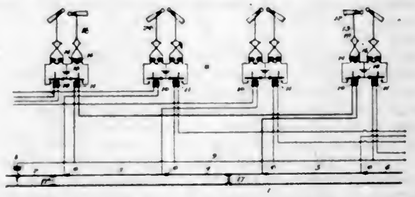
4. In a device of the class described the combination with a window frame of a plurality of window sash slidably engaged therein and each comprising an outer and an inner sash frame, means affording a hinged connection between the inner and outer sash frames, a rod extending transversely of the sashes and an adjustable arm slidable thereon adapted to support the inner frames in any open position when lowered.

5. In a device of the class described the combination with a frame of an outer sash slidable vertically therein and having its inner sides curved rearwardly affording stops, an inner sash having its side members rounded on both sides and adapted to abut against said stops and means pivotally connecting said inner and outer sash adapting said inner sash to open laterally from the outer sash.

6. In a device of the class described the combination with an outer vertically opening sash of an inner laterally opening sash in each outer sash, a rod extending through one side of each of the inner sashes and pivoted at its ends in the outer sash and a bearing sleeve at each end of said rod.

7. In a device of the class described the combination with an outer vertically movable sash having a curved stop engaged to each stile, an inner inwardly opening sash in said outer sash, a rod extending through a stile of the inner sash and pivoted at each end in the frame of the outer sash and a bearing provided for each end of said rod.

869,467. RAILWAY-SIGNAL. CHARLES W. S. TURNER, Mountville, Va. Filed Feb. 1, 1907. Serial No. 355,313.



1. Railway signaling apparatus, comprising a track divided into insulated block sections, track circuits for the respective blocks, each of said circuits including track rails of its respective block, a plurality of translating devices connected in and for operation by each of said circuits, and track signals located at the distant ends of blocks adjoining an intermediate block and operatively connected each to a translating device in the circuit of the intermediate insulated block rails.

2. Railway block signaling apparatus, comprising a track divided into block sections, track signals located at the distant end of each block adjoining an intermediate block, a normally open electric circuit for each of said blocks, to operate the said signals at the distant ends of the adjacent blocks, said circuits including each the track rails of its respective block, and train operated means to complete said circuits.

3. Railway block signaling apparatus, comprising a track the rails of one side of which are electrically connected to form continuous conductors for individual block lengths, the said rails of one block being normally insulated from those of another block, and the rails of the other side of the track electrically connected to form a continuous electrical conductor extending over a plurality of blocks, a normally open electric circuit for each of said blocks, each of said circuits including the insulated track rails of its respective block, a feed wire, a source of electrical energy, and the continuous conductor rails of said track, and a pair of track signals controlled by each of said circuits, one of said track signals being located at the distant end of each block adjacent to the one whose rails form a part of the circuit to control said signals.

4. Railway block signaling apparatus, comprising a track the rails of one side of which are electrically connected to form continuous conductors for individual block lengths, the said rails of one block being normally insulated from those of another block, and the rails of the other side of the track electrically connected to form a continuous electrical conductor extending over a plurality of blocks, a normally open electric circuit for each of said blocks, each of said circuits including the insulated track rails of its respective block, a pair of translating devices, a feed wire, a source of electrical energy, and continuous conductor rails of said track, and track signals controlled respectively by said translating devices, one of said track signals being located at the distant end of each block adjacent to the one whose rails form a part of the circuit to control said signals.

5. Railway block signaling apparatus, comprising a track the rails of one side of which are electrically con-

nected to form continuous conductors for individual block lengths, the said rails of one block being normally insulated from those of another block, and the rails of the other side of the track electrically connected to form a continuous electrical conductor extending over a plurality of blocks, a normally open electric circuit for each of said blocks, each of said circuits including the insulated track rails of its respective block, the magnet windings of a pair of relays, a feed wire, a source of electrical energy, and the continuous conductor rails of said track, a relay circuit controlled by each of said relays, and electrically operated track signals operated respectively by said relay circuits, one of said track signals being located at the distant end of each block adjacent to the one whose rails form a part of the circuit to control said signals.

6. Railway block signaling apparatus, comprising a track the rails of one side of which are electrically connected to form continuous conductors for individual block lengths, the said rails of one block being normally insulated from those of another block, and the rails of the other side of the track electrically connected to form a continuous electrical conductor extending over a plurality of blocks, a normally open electric circuit for each of said blocks, each of said circuits including the insulated track rails of its respective block, the magnet windings of a pair of relays, a feed wire, a source of electrical energy, and the continuous conductor rails of said track, a relay circuit controlled by each of said relays, a semaphore operated by current in each of said relay circuits, means to automatically break the said relay circuits when their respective semaphores are operated, and electrically operated locking devices for the respective semaphores, controlled by current in the track circuits.

7. Signaling apparatus for railway sidings, comprising an electric switch controlled by the track switch, two movable electro-magnets wound and arranged for mutual attraction, means to connect said magnets in circuit with the terminals of said switch, and a semaphore operatively connected to said magnets.

8. Signaling apparatus for crossing railway tracks, comprising insulated block sections in the approach of each track to the crossing, a source of current and the winding of a magnet connected in circuit from the rails of one side of each of said sections to the rails of one side of an adjacent section, a shunt around each of said sections and around the source of current and magnet winding connected to opposite sides of said sections, each of said shunts including a normally closed contact controlled each by one of said magnets, and electrically operated signaling means connected in each of said shunts.

9. Railway signaling apparatus, comprising a system of levers, electro-magnets mounted thereon for mutual attraction, and a signal actuating member connected to said levers.

10. Railway signaling apparatus, comprising a semaphore actuating member, a pair of levers, a toggle joint forming a connection between said levers and said member, and electro-magnetic means to apply power to the power-arms of said levers.

11. Railway signaling apparatus, comprising a semaphore actuating member, a pair of levers mounted on a common fulcrum, a toggle joint forming a connection between said levers and said member, and electro-magnets mounted for mutual attraction on the power-arms of said levers.

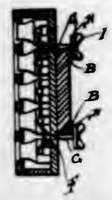
12. Railway signaling apparatus, comprising a semaphore arm, a semaphore actuating rod connected thereto, toggle levers connected to said rod, a pair of levers mounted on a common fulcrum and having their weight arms connected respectively to said toggle levers, frames connected respectively to the power arms of said levers, and electro-magnets mounted respectively to each of said frames, the magnets in one frame being arranged to attract those in the other frame when excited, and thereby actuate said rod through the medium of said levers.

13. Railway signaling apparatus, comprising a system of levers, electro-magnets mounted thereon for mutual attraction, a signal actuating member connected to said levers, and a train-controlled circuit to operate said magnets.

14. Railway signaling apparatus, comprising a semaphore actuating member, a pair of levers mounted on a common fulcrum, a toggle joint forming a connection between said levers and said member, electro-magnets mounted for mutual attraction on the power-arms of said levers, and a train-controlled circuit to operate said magnets.

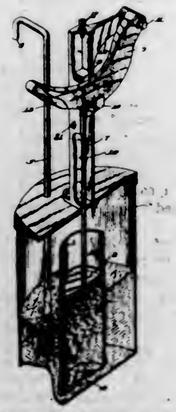
15. Railway signaling apparatus, comprising a semaphore arm, a semaphore actuating rod connected thereto, toggle levers connected to said rod, a pair of levers mounted on a common fulcrum and having their weight arms connected respectively to said toggle levers, frames connected respectively to the power arms of said levers, electro-magnets mounted respectively in each of said frames, the magnets in one frame being arranged to attract those in the other frame when excited, and thereby actuate said rod through the medium of said levers, and a train-controlled circuit to operate said magnets.

869,468. ELECTRIC SIGN. WILLIAM WALLACE, Philadelphia, Pa. Filed July 2, 1906. Serial No. 324,297.



In combination, a supporting board, circuit strips secured to said board along the longitudinal edges thereof, letters each consisting of a casing having lamp sockets therein and provided with terminal blocks, means for electrically connecting the blocks with the lamp sockets, binding screws extending through the letters and engaging the binding blocks thereof, and washers carried by the binding screws contacting with the circuit strips when said letters are in operative position to make the necessary electrical connection.

869,469. MEASURING-PUMP. F CORTEZ WILSON, Chicago, Ill.; Catherine Elizabeth Wilson executrix of said F Cortez Wilson, deceased. Filed Nov. 3, 1904. Serial No. 231,208.



1. An actuating mechanism for pumps, comprising a standard having a vertical channel-guide and a laterally extending bracket on one side of the guide, a channeled curved operating-arm pivoted at one end to the outer end of the bracket and crossing the standard, a cross-head connected with the pump plunger and mounted to slide vertically in the guide of the standard and carrying a roller working in the channel of the operating-arm, a handle attached to the free end of the curved operating-arm on the opposite side of the standard, and a keeper carried by the cross-head and engaging over the curved under-edge of the operating-arm, substantially as described.

2. An actuating mechanism for pumps, comprising a standard, a curved cam arm pivoted to the standard, and a cross head connected with the pump plunger sliding lengthwise of the standard and having sliding engagement with the operating arm, the curve of the cam arm increasing in sharpness from the outer end of the arm toward its pivot, substantially as described.

3. An actuating mechanism for pumps, comprising a standard, a curved cam arm pivoted to the standard, and a cross head connected with the pump plunger sliding lengthwise of the standard and having sliding engagement with the operating arm, the curve of the cam arm increasing in sharpness toward the pivot end of the cam, substantially as described.

4. An actuating mechanism for pumps comprising a standard, a curved cam arm pivoted to the standard, and a cross head connected with the pump plunger and engaging both the standard and cam arm to slide longitudinally thereof, the curve of the cam arm increasing in sharpness from the outer end of the arm toward its pivot and being reversed in direction at an intermediate point, substantially as described.

869,470. WINDOW-SCREEN. HUGH WRIGHT, Denver, Colo. Filed Nov. 7, 1906. Serial No. 342,430.

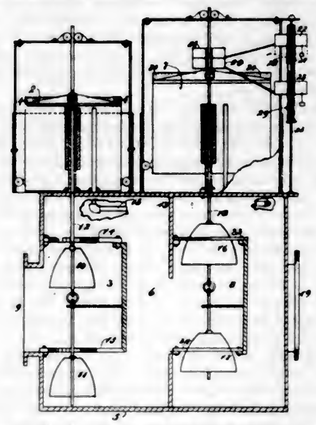
1. In a window screen, the combination with a metallic frame and mesh material, the frame having openings and being provided with an interior groove to receive the mesh material, and removable fastening clips adapted at one extremity to engage the openings of the frame, and the mesh material at the other extremity, whereby the latter is securely held in place within the groove of the frame.

2. A window screen comprising a metal frame having openings and an interior groove, mesh material applied to the frame, and removable metal clips whose outer extremities engage the said openings of the frame, and whose inner extremities are provided with teeth adapted to engage the wire mesh and retain the same within the groove of the frame, the said clips being readily detachable for the purpose set forth.

869,471. AUTOMATIC GAS-GOVERNOR AND STREET-PRESSURE CHANGER. ANTON A. YANKEE, San Francisco, Cal. Filed Feb. 9, 1907. Serial No. 356,495.

1. An automatic gas governor and street pressure changer, comprising a casing provided with an inlet from a gas supply tank, and an outlet to the street mains, a pressure regulating valve actuated by changes of pressure at said inlet and set to maintain a constant pressure within said casing greater than the highest street main pressure, a pressure regulating valve actuated by changes of pressure at said outlet and adapted to maintain a sub-constant maximum pressure at said outlet during the hours of greatest consumption and a sub-constant minimum pressure at said outlet during the hours of minimum consumption, and mercury boxes adapted to change automatically the set of said valve from one sub-constant street main pressure to the other at the proper time.

2. In a device of the character described, means for suddenly changing from one sub-constant street main pressure to another comprising a pressure regulating valve, a gas holder communicating with the outlet to the street mains and connected with said valve, mercury boxes mounted on said holder, other mercury boxes slidably supported on rods, flexible pipes joining said mercury boxes with the boxes on said holder, and springs connected with said rod supported mercury boxes, set so as to be compressed by the weight of said boxes when full, and acting to give a sudden upward impetus to said boxes as mercury flows therefrom.



869,472. COMBINED CHAIR AND DESK. LEWIS P. AGNEW, Wapanucka, Ind. Ter. Filed Dec. 12, 1906. Serial No. 347,480.



1. In a chair, a hollow standard having an open upper end and a slot in its top, racks within the standard on each side of the slot, a chair having a seat-arm adapted to enter the open end of the standard and provided with lugs adapted to engage the rack to maintain the chair in adjusted position, said seat-arm being formed with laterally extending side pieces which overhang the top of the standard adjacent to the slot, and suitable braces for said standard.

2. In a chair, a hollow standard having an open upper end and a slot in its top, racks within the standard on each side of the slot, a chair having a side arm adapted to enter the open end of the standard and provided with lugs adapted to engage the rack to maintain the chair in adjusted position, said seat-arm being formed with laterally extending side pieces, which overhang the top of the standard adjacent to the slot.

3. In a chair, a hollow chair supporting standard having an open upper end and a slot in its top, engaging means

within the standard, a chair having a seat arm having engaging means adapted to engage the engaging means within the standard to hold the chair in adjusted position, said side arm being formed with laterally extending side pieces which overhang the top of the standard adjacent to the slot.

4. In a chair, a standard having an open upper end and a slot in its top, a rack within the standard on each side of the slot, a chair having a seat-arm adapted to enter the open end of the standard and provided with lugs adapted to engage the racks within the standard to maintain the chair in adjusted position.

5. In a chair, a standard having a rack therein, a chair having a seat arm provided with lugs adapted to engage the rack of the standard, said standard being inclined, its upper end forming a fulcrum for the seat-arm whereby the weight of the chair causes the lugs upon the lower end of the seat-arm to engage the rack within the standard.

6. In a chair, a hollow chair supporting standard having engaging means therein, a chair having a seat-arm having lugs thereon adapted to engage the engaging means within the standard said standard being inclined, its upper end forming a fulcrum for the seat-arm whereby the weight of the chair causes the lugs upon the lower end of the seat-arm to engage the engaging means within the standard to maintain the chair in adjusted position.

7. In a desk, means for vertically adjusting the same, said desk having side pieces provided with tongues and a top having the side pieces provided with grooves into which the tongues on the side pieces project, said grooves having a series of sockets therein, spring fingers within the desk adapted to enter one or the other of said sockets, whereby the top of the desk may be held in adjusted position with relation to the lower part thereof, substantially as and for the purpose set forth.

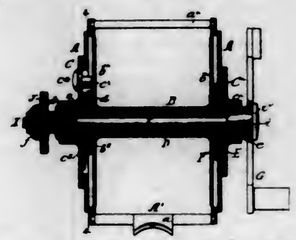
869,473. SLAT-OPERATING MECHANISM. BENJAMIN ALBERTSON, Mantoloking, N. J. Filed July 7, 1906. Serial No. 325,173.



1. In a shutter or like closure provided with movable slats, the combination of a slat operating rod, a finger-piece loosely connected with the slat operating rod, a keeper mounted upon the frame of the shutter and provided with a laterally elongated opening one end of which receives the before mentioned finger-piece, a cam lever located within the opposite end of the laterally elongated opening through the keeper and engaging the finger-piece to lock the same in an adjusted position, and a fastening member serving the double function of forming a pivot for the cam lever and securing the keeper to the frame of the shutter.

2. In a slat operating mechanism, the combination of a stud secured to the slat operating rod, a longitudinally curved finger-piece mounted upon an extension of said rod and curved throughout its length with its convex side facing the shutter or like part, a keeper having an opening through which said finger-piece is freely movable, a cam lever located within the opening of said keeper and adapted to secure the finger-piece in an adjusted position, and a fastening member serving the double function of forming a pivot for the cam lever and securing the keeper to the frame of the shutter.

869,474. FISHING-REEL. LEONARD ATWOOD, Philadelphia, Pa., assignor of one-fourth to John M. O. Hewitt, Philadelphia, Pa. Filed Dec. 29, 1905. Serial No. 293,859.



1. The combination in a fishing reel, of a casing having bearings, a two-part spindle mounted in the bearings, a friction disk carried on one part of the spindle, a handle on the friction disk part, and a spool mounted on the spindle and placed to be clamped between the two parts of the spindle, substantially as described.

2. The combination in a fishing reel, of a casing, a two-part spindle, a spool mounted on the spindle, the two parts of the spindle being interlocked so that they will turn in unison but with one part free to slide longitudinally, independently of the other part, means for imparting a longitudinal movement to said part, with a friction disk and a handle on said longitudinally movable part, substantially as described.

3. The combination in a fishing reel, of a casing, a two-part spindle having its bearings in the casing, said parts being interlocked so as to turn in unison, one of the parts being free to move longitudinally in respect to the other, a friction disk and a handle on said longitudinally movable part, a spool mounted on the spindle and having a friction surface with which the friction disk comes in contact, and means for adjusting the longitudinally movable part to increase or diminish the friction, said part being on that end of the spindle opposite to the end carrying the friction disk and handle, substantially as described.

4. The combination in a fishing reel, of a casing, a spool, a two-part spindle, a rod attached to one part and extending through the other part, a friction disk on the part to which the rod is attached, a handle on said part, and means for imparting longitudinal movement to the tension rod so as to bring the friction disk into frictional contact with the spool, substantially as described.

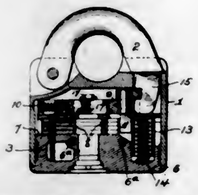
5. The combination in a fishing reel of a casing having side members, bearings thereon, a two-part spindle mounted in the bearings, one of said parts being hollow, a rod attached to one part and extending through the hollow part of the spindle, a friction disk and a handle mounted on that part of the spindle to which the rod is attached, a spool mounted on the spindle between the side members of the casing, and a click wheel on the spool, substantially as described.

6. The combination in a fishing reel of a casing having bearings, a spindle having a hollow portion mounted in one of said bearings and having two flanges extending one on each side of said bearing, the second part of the spindle having a friction disk, and being mounted in the other bearing, a spool on the spindle between the friction disk and one of its flanges, a tension rod passing through the said hollow portion of the spindle and having a squared end extending into the friction disk structure and into the end of the spindle, a nut on the opposite end of the tension rod, and a handle operatively connected to the spindle, substantially as described.

7. The combination in a fishing reel, of a casing having bearings, a spindle having a hollow portion mounted in one of the bearings and extending through the body of the reel, said spindle having a squared opening and being provided with flanges arranged to prevent it moving longitudinally in the bearing, a friction disk having a hub mounted in the bearing on the opposite side of the reel, said hub having a squared end, a handle mounted thereon, said hub also having a squared opening, a tension rod having a head and a squared portion under the head, said tension rod passing through the handle and friction disk and through the hollow portion of the spindle, the squared portion of the rod also extending into the squared opening in the spindle, said rod having a screw thread at its opposite end, and a nut on the screw thread arranged to bear against the hollow spindle, substantially as described.

8. The combination in a reel of a body portion and a seat having a slot therein, substantially as described.

869,475. PADLOCK. ARTHUR F. BARDWELL, Stamford, Conn., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn. Filed Apr. 6, 1907. Serial No. 366,815.

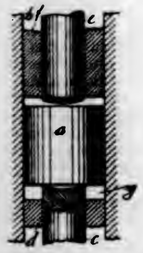


1. The combination of a shell, a shackle pivoted thereto and a plug carrying a bolt, tumblers and a key stop for engaging and supporting the end of the key.

2. The combination of a shell, a shackle pivoted thereto, a plug fitting within said shell and carrying a bolt, tumblers, a key stop for engaging and supporting the end of the key and a plunger for holding the bolt in its retracted position when the shackle is open.

3. The combination of a shell, a shackle pivoted thereto and a plug fitting within said shell and carrying the operative mechanism of the lock including a key stop for engaging and supporting the end of a key.

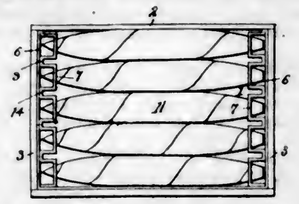
869,476. MANUFACTURE OF TUBES. ARTHUR E. BECK, Earlswood, England, assignor to Perrins Limited, Warrington, England. Filed Jan. 3, 1906. Serial No. 294,439.



The manufacture of tubes from raw material by subjecting the crude or partially formed mass while in a plastic condition to a consolidating action which is immediately followed as a part of the same operation by a piercing action, substantially as described.

869,477. DEVICE FOR CHECKING THE SALE OF CIGARS. JAMES H. BOWE, New York, N. Y. Filed Jan. 11, 1905. Serial No. 240,556.

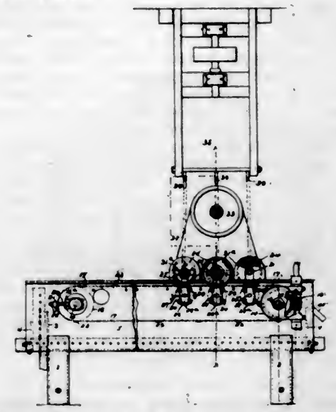
1. In a device of the character described, the combination of a receptacle, a tray adapted to hold cigars and be sealed within said receptacle, and two series of ledges attached to said tray and having openings therein one of the series of ledges adapted to engage one end of the cigars, the other series adapted to engage the other end of the cigars, the ledges of one series being separately detachable from the tray and also having a number of detachable vouchers formed on each ledge one for each cigar contained within said receptacle.



2. In a device of the character described, the combination of a cigar receptacle, a tray adapted to be sealed within said receptacle, and two series of ledges having openings adapted to receive the ends of the cigars therein and attached to said tray, one of the series of ledges having perforations between each ledge whereby said ledges may be separately detached from the tray, and also provided with a number of detachable vouchers for indicating the removal of a cigar from said ledge.

3. In a device of the character described, the combination of a cigar receptacle, and a tray having a bottom and side wall portions the bottom portion provided with cement for sealing the tray within said receptacle, and each side wall portion having a series of ledges provided with openings for engaging the cigars each ledge of one of the series of ledges being separately detachable from the tray, and also having a number of detachable vouchers for indicating the removal of a cigar from said ledge.

869,478. MACHINE FOR SCOURING AND SCRATCH-BRUSHING FLAT METAL WARE. DAVID F. BRODERICK, New Britain, Conn., assignor of one-half to Lewis Sperry, South Windsor, Conn. Filed Aug. 3, 1906. Serial No. 329,060.



1. The combination with a tank and an endless conveyer therein, of a plurality of cylindrical scouring or abrading brushes located over the conveyer and in position to operate on articles on said conveyer, means for rotating said brushes, and conveyer supporting cylinders located in the vertical planes of the brushes.

2. The combination with a tank and an endless conveyer therein, of a plurality of cylindrical scouring or abrading brushes located over the conveyer and in position to operate upon the articles on said conveyer, a pulley for each brush, a driving belt passing under one pulley, over the next pulley and under the next pulley whereby the several pulleys are rotated in unison and at the same speed but the alternate pulleys in reverse directions from

within the standard, a chair having a seat arm having engaging means adapted to engage the engaging means within the standard to hold the chair in adjusted position, said side arm being formed with laterally extending side pieces which overhang the top of the standard adjacent to the slot.

4. In a chair, a standard having an open upper end and a slot in its top, a rack within the standard on each side of the slot, a chair having a seat-arm adapted to enter the open end of the standard and provided with lugs adapted to engage the racks within the standard to maintain the chair in adjusted position.

5. In a chair, a standard having a rack therein, a chair having a seat arm provided with lugs adapted to engage the rack of the standard, said standard being inclined, its upper end forming a fulcrum for the seat-arm whereby the weight of the chair causes the lugs upon the lower end of the seat-arm to engage the rack within the standard.

6. In a chair, a hollow chair supporting standard having engaging means therein, a chair having a seat-arm having lugs thereon adapted to engage the engaging means within the standard said standard being inclined, its upper end forming a fulcrum for the seat-arm whereby the weight of the chair causes the lugs upon the lower end of the seat-arm to engage the engaging means within the standard to maintain the chair in adjusted position.

7. In a desk, means for vertically adjusting the same, said desk having side pieces provided with tongues and a top having the side pieces provided with grooves into which the tongues on the side pieces project, said grooves having a series of sockets therein, spring fingers within the desk adapted to enter one or the other of said sockets, whereby the top of the desk may be held in adjusted position with relation to the lower part thereof, substantially as and for the purpose set forth.

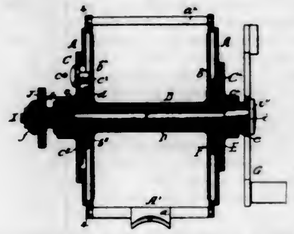
869,473. SLAT-OPERATING MECHANISM. BENJAMIN ALBERTSON, Mantoloking, N. J. Filed July 7, 1906. Serial No. 325,173.



1. In a shutter or like closure provided with movable slats, the combination of a slat operating rod, a finger-piece loosely connected with the slat operating rod, a keeper mounted upon the frame of the shutter and provided with a laterally elongated opening one end of which receives the before mentioned finger-piece, a cam lever located within the opposite end of the laterally elongated opening through the keeper and engaging the finger-piece to lock the same in an adjusted position, and a fastening member serving the double function of forming a pivot for the cam lever and securing the keeper to the frame of the shutter.

2. In a slat operating mechanism, the combination of a stud secured to the slat operating rod, a longitudinally curved finger-piece mounted upon an extension of said rod and curved throughout its length with its convex side facing the shutter or like part, a keeper having an opening through which said finger-piece is freely movable, a cam lever located within the opening of said keeper and adapted to secure the finger-piece in an adjusted position, and a fastening member serving the double function of forming a pivot for the cam lever and securing the keeper to the frame of the shutter.

869,474. FISHING-REEL. LEONARD ATWOOD, Philadelphia, Pa., assignor of one-fourth to John M. O. Hewitt, Philadelphia, Pa. Filed Dec. 29, 1905. Serial No. 293,859.



1. The combination in a fishing reel, of a casing having bearings, a two-part spindle mounted in the bearings, a friction disk carried on one part of the spindle, a handle on the friction disk part, and a spool mounted on the spindle and placed to be clamped between the two parts of the spindle, substantially as described.

2. The combination in a fishing reel, of a casing, a two-part spindle, a spool mounted on the spindle, the two parts of the spindle being interlocked so that they will turn in unison but with one part free to slide longitudinally, independently of the other part, means for imparting a longitudinal movement to said part, with a friction disk and a handle on said longitudinally movable part, substantially as described.

3. The combination in a fishing reel, of a casing, a two-part spindle having its bearings in the casing, said parts being interlocked so as to turn in unison, one of the parts being free to move longitudinally in respect to the other, a friction disk and a handle on said longitudinally movable part, a spool mounted on the spindle and having a friction surface with which the friction disk comes in contact, and means for adjusting the longitudinally movable part to increase or diminish the friction, said part being on that end of the spindle opposite to the end carrying the friction disk and handle, substantially as described.

4. The combination in a fishing reel, of a casing, a spool, a two-part spindle, a rod attached to one part and extending through the other part, a friction disk on the part to which the rod is attached, a handle on said part, and means for imparting longitudinal movement to the tension rod so as to bring the friction disk into frictional contact with the spool, substantially as described.

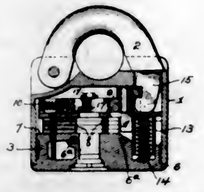
5. The combination in a fishing reel of a casing having side members, bearings thereon, a two-part spindle mounted in the bearings, one of said parts being hollow, a rod attached to one part and extending through the hollow part of the spindle, a friction disk and a handle mounted on that part of the spindle to which the rod is attached, a spool mounted on the spindle between the side members of the casing, and a click wheel on the spool, substantially as described.

6. The combination in a fishing reel of a casing having bearings, a spindle having a hollow portion mounted in one of said bearings and having two flanges extending one on each side of said bearing, the second part of the spindle having a friction disk, and being mounted in the other bearing, a spool on the spindle between the friction disk and one of its flanges, a tension rod passing through the said hollow portion of the spindle and having a squared end extending into the friction disk structure and into the end of the spindle, a nut on the opposite end of the tension rod, and a handle operatively connected to the spindle, substantially as described.

7. The combination in a fishing reel, of a casing having bearings, a spindle having a hollow portion mounted in one of the bearings and extending through the body of the reel, said spindle having a squared opening and being provided with flanges arranged to prevent it moving longitudinally in the bearing, a friction disk having a hub mounted in the bearing on the opposite side of the reel, said hub having a squared end, a handle mounted thereon, said hub also having a squared opening, a tension rod having a head and a squared portion under the head, said tension rod passing through the handle and friction disk and through the hollow portion of the spindle, the squared portion of the rod also extending into the squared opening in the spindle, said rod having a screw thread at its opposite end, and a nut on the screw thread arranged to bear against the hollow spindle, substantially as described.

8. The combination in a reel of a body portion and a seat having a slot therein, substantially as described.

869,475. PADLOCK. ARTHUR F. BARDWELL, Stamford, Conn., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn. Filed Apr. 6, 1907. Serial No. 366,815.

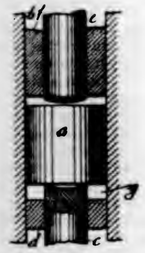


1. The combination of a shell, a shackle pivoted thereto and a plug carrying a bolt, tumblers and a key stop for engaging and supporting the end of the key.

2. The combination of a shell, a shackle pivoted thereto, a plug fitting within said shell and carrying a bolt, tumblers, a key stop for engaging and supporting the end of the key and a plunger for holding the bolt in its retracted position when the shackle is open.

3. The combination of a shell, a shackle pivoted thereto and a plug fitting within said shell and carrying the operative mechanism of the lock including a key stop for engaging and supporting the end of a key.

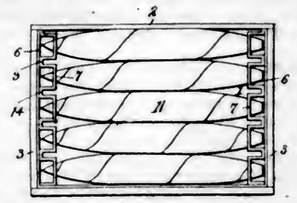
869,476. MANUFACTURE OF TUBES. ARTHUR E. BECK, Earlswood, England, assignor to Perrins Limited, Warrington, England. Filed Jan. 3, 1906. Serial No. 294,439.



The manufacture of tubes from raw material by subjecting the crude or partially formed mass while in a plastic condition to a consolidating action which is immediately followed as a part of the same operation by a piercing action, substantially as described.

869,477. DEVICE FOR CHECKING THE SALE OF CIGARS. JAMES H. BOWE, New York, N. Y. Filed Jan. 11, 1905. Serial No. 240,556.

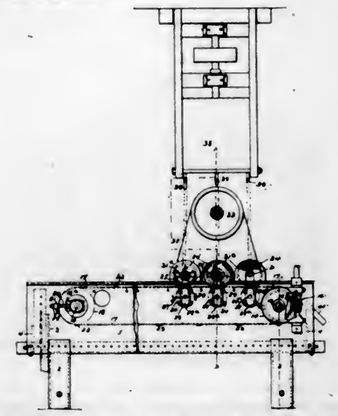
1. In a device of the character described, the combination of a receptacle, a tray adapted to hold cigars and be sealed within said receptacle, and two series of ledges attached to said tray and having openings therein one of the series of ledges adapted to engage one end of the cigars, the other series adapted to engage the other end of the cigars, the ledges of one series being separately detachable from the tray and also having a number of detachable vouchers formed on each ledge one for each cigar contained within said receptacle.



2. In a device of the character described, the combination of a cigar receptacle, a tray adapted to be sealed within said receptacle, and two series of ledges having openings adapted to receive the ends of the cigars therein and attached to said tray, one of the series of ledges having perforations between each ledge whereby said ledges may be separately detached from the tray, and also provided with a number of detachable vouchers for indicating the removal of a cigar from said ledge.

3. In a device of the character described, the combination of a cigar receptacle, and a tray having a bottom and side wall portions the bottom portion provided with cement for sealing the tray within said receptacle, and each side wall portion having a series of ledges provided with openings for engaging the cigars each ledge of one of the series of ledges being separately detachable from the tray, and also having a number of detachable vouchers for indicating the removal of a cigar from said ledge.

869,478. MACHINE FOR SCOURING AND SCRATCH-BRUSHING FLAT METAL WARE. DAVID F. BRODERICK, New Britain, Conn., assignor of one-half to Lewis Sperry, South Windsor, Conn. Filed Aug. 3, 1906. Serial No. 329,060.



1. The combination with a tank and an endless conveyer therein, of a plurality of cylindrical scouring or abrading brushes located over the conveyer and in position to operate on articles on said conveyer, means for rotating said brushes, and conveyer supporting cylinders located in the vertical planes of the brushes.

2. The combination with a tank and an endless conveyer therein, of a plurality of cylindrical scouring or abrading brushes located over the conveyer and in position to operate upon the articles on said conveyer, a pulley for each brush, a driving belt passing under one pulley, over the next pulley and under the next pulley whereby the several pulleys are rotated in unison and at the same speed but the alternate pulleys in reverse directions from

those on either side, and conveyer supporting cylinders located in the vertical planes of the brushes.

3. The combination with a tank and an endless conveyer therein, of yokes adjustably secured to the sides of the tank, bearings pivotally mounted in said yokes and a scouring or abrading brush journaled in said pivoted bearings.

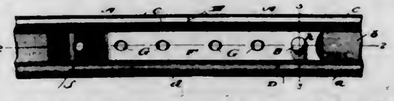
4. The combination with a tank and an endless conveyer therein, of vertically adjustable yokes, bearings mounted to rock lengthwise in said yokes, and a cylindrical scouring or abrading brush journaled in said rocking bearings.

5. The combination with a tank and an endless conveyer therein, of a scouring or abrading brush journaled at its ends in boxes, and means whereby these boxes may be vertically adjusted independently of each other.

6. The combination with a tank and an endless conveyer therein, of a plurality of cylindrical scouring or abrading brushes, journal boxes in which the brush shafts are mounted and a vertically adjustable device supporting each journal box.

7. The combination with a tank and an endless conveyer therein, of boxes secured to the sides of the tank, yokes vertically adjustable in said boxes, bearings pivoted to said yokes, a scouring or abrading brush mounted in said pivoted bearings, a cylinder for holding the conveyer up to the brush, and forming a solid support for the article passing under the brush, and stub shafts inserted from the outside through bearings in the sides of the tank and engaging and supporting the ends of the holding cylinder.

869,479. RAILWAY-RAIL JOINT. THOMAS B. CHEEK, Mattoon, Ill. Filed Nov. 12, 1906. Serial No. 343,039.

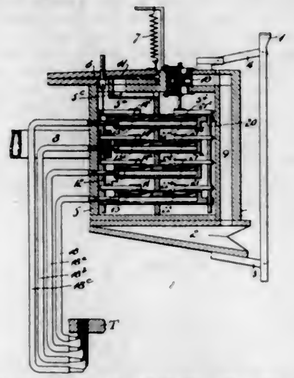


1. A railway rail joint comprising rails having halves of their bases discontinued to form transverse shoulders and their treads discontinued to form transverse abutments disposed in advance of the transverse shoulders, and also having lapped portions provided with semi-bases and webs; the said webs of the lapped portions terminating in tongues which extend beyond the semi-bases and correspond in height to the webs, and means connecting the lapped portions of the rails together.

2. A railway rail joint comprising rails having halves of their bases discontinued to form transverse shouders and their treads discontinued to form transverse abutments disposed in advance of the transverse shoulders, and also having lapped portions disposed at one side of the longitudinal vertical center of the rails and provided with semi-bases and webs; the said webs of the lapped portions having elongated openings and terminating at their inner ends in offsets and at their outer ends in tongues which extend beyond the semi-bases and correspond in height to the webs, in combination with bolts extending through the apertures of the lapped portions, and means for preventing casual displacement of the bolts.

869,480. AUTOPNEUMATIC MUSIC-PLAYING INSTRUMENT. WALTER R. CRIPPEN, Cambridge, Mass., assignor to Emerson Piano Company, Boston, Mass., a Corporation of Illinois. Filed Jan. 22, 1907. Serial No. 353,420.

1. In a device of the character described, a tracker-board having ducts therein, an individual key action-pneumatic, a controller-chest therefor, a vacuum chamber therein, an exhaust communicating with said vacuum chamber, a passage from said vacuum chamber to said action-pneumatic, an auto-pneumatically controlled tension governing throttle in said passage, means within the vacuum chamber for opening said throttle, including a plurality of note-sheet-controlled pneumatics, a normally closed valve independent of the throttle and in the passage between said throttle and said action-pneumatic, and means for moving said valve to open said passage simultaneously with the operation of opening the throttle.



2. In a device of the character described, a tracker-board having ducts therein, a key action-pneumatic, a controller-chest therefor having a vacuum chamber therein, an exhaust, a passage from the vacuum chamber in said chest to said action-pneumatic, an auto-pneumatically controlled tension governing throttle for said passage, means within the controller-chest for opening said throttle and including a series of independent note-sheet controlled pneumatics, an opening from the atmosphere to the passage leading to said action-pneumatic, a valve normally closing said passage and adapted to close said opening to the atmosphere, and means within the controller-chest to shift said valve to open said passage and close said opening to the atmosphere simultaneously with the opening of the throttle.

3. In a device of the character described, a tracker board having ducts therein, a key action pneumatic, a controller chest therefor having a vacuum chember therein, means for creating a vacuum therein, a passage from the vacuum chamber in said chest to said action pneumatic, a throttle for said passage, means for moving said throttle, and means within the chest controllable from the tracker board for in turn controlling the operation of the throttle moving means, the interior of said action pneumatic being also in communication with the atmosphere, and a valve for opening said pneumatic to the atmosphere and closing it to the vacuum chamber and vice versa, and means for operating the same simultaneously with the operation of the throttle controller means.

4. In a device of the character described, a tracker board having ducts therein, a key action pneumatic, a controller chest therefor having a vacuum chamber therein, means for creating a vacuum therein, a passage from the vacuum chamber in said chest to said action pneumatic, a throttle for said passage, means for moving said throttle, and means within the chest controllable from the tracker board for in turn controlling the operation of the throttle moving means, the interior of said action pneumatic being also in communication with the atmosphere, and a valve for opening said pneumatic to the atmosphere and closing it to the vacuum chamber and vice versa, and means for operating the same simultaneously with the operation of the throttle controller means and operated from the same source.

5. In an apparatus of the character described, means for striking different note sounding devices with different degrees of force and comprising action pneumatics, an exhaust for said action pneumatics, a separate controller chest for each pneumatic between said exhaust and the corresponding pneumatic and having a passage leading to its respective action pneumatic, a throttle therefor, and means within said controller chest for actuating said throttle to control the degree to which the passage throttled thereby is opened.

6. In an apparatus of the character described, means for striking different note sounding devices with different degrees of force and comprising action pneumatics, an exhaust for said action pneumatics, a separate controller chest for each pneumatic between said exhaust and its corresponding pneumatic and having a passage leading to its respective action pneumatic, a throttle therefor, and means within said controller chest for actuating said throttle to control the degree to which the passage throttled thereby is opened, a perforated tracker board in communication with each controller chest, and a note sheet having perforations therein of different areas for controlling the throttle controlling means within said chests.

7. In an apparatus of the character described, an individual key-action, comprising an action-pneumatic, an exhaust, a controller-chest between said exhaust and said action-pneumatic and in communication with both, a tension governing throttle in the passage leading from said controller-chest to said action-pneumatic, an independent valve in the passage between said throttle and said action-pneumatic, means for positively operating said valve to open wide the same, and means for variably operating the throttle to open the same to different degrees, both valve and throttle operating means being contained within the controller-chest.

8. In an apparatus of the character described, an individual key-action, comprising an action-pneumatic, an exhaust, a controller-chest between said exhaust and said action-pneumatic and in communication with both, a tension governing throttle in the passage leading to the action-pneumatic, and an independent valve in said passage between said throttle and said action-pneumatic, means for positively operating said valve to open wide the same, and means for variably operating the throttle to open the same to different degrees, said valve and throttle operating means being both contained within the controller-chest and including a plurality of inclosed pneumatics, a tracker-board, a plurality of ducts in the tracker-board in communication with said pneumatics, a perforated note-sheet arranged to co-act with the perforations in said tracker-board to directly control the action of the pneumatics within the exhaust chamber, and indirectly control the degree to which the tension governing throttle is opened.

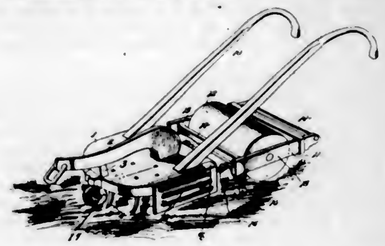
9. In an apparatus of the character described, an exhaust, a single key action including an action pneumatic, a partitioned and divided controller chest, a passage leading from one division in said chest to the other, a throttle therefor, a passage leading from the second division in said controller chest to said pneumatic, and a valve therein, and means within said controller chest for simultaneously opening the valve and for varying the degree of the opening of the throttle.

10. In an apparatus of the character described, an exhaust, a single key action including an action pneumatic, a partitioned and divided controller chest, a passage leading from one division in said chest to the other, a throttle therefor, a passage leading from the second division in said controller chest to said pneumatic, and a valve therein, and means within said controller chest for simultaneously opening the valve and for varying the degree of the opening of the throttle, a tracker board and a perforated note sheet arranged to traverse sad tracker board for controlling the same.

869,481. CULTIVATOR. WILSON H. DANIEL, Jasper, Ind. Filed Mar. 2, 1907. Serial No. 360,157.

1. In a cultivator, the combination of a body, cultivator shovels carried by the body for loosening the earth, a diagonal scraper blade carried by the body in the rear of the cultivator shovels to deflect the surface earth toward one side of the body, and a fender attached to one side of the body and coöperating with the scraper to deposit the earth in a ridge.

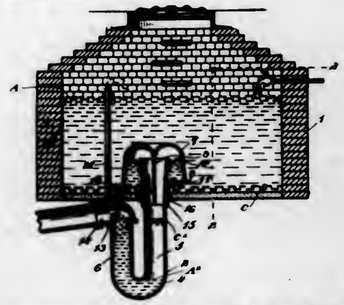
2. In a cultivator, the combination of a body, cultivator shovels carried by the body for loosening the earth, a diagonal scraper blade mounted upon the body in the rear of the cultivator shovels, the said scraper blade comprising a horizontal portion skimming the earth, and a vertical portion deflecting the earth toward one side of the body, and a fender mounted upon one side of the body and coöperating with the scraper blade to deposit the earth deflected thereby in a ridge.



3. In a cultivator, the combination of a body having a flattened formation, cultivator shovels carried by the body for loosening the earth, a diagonal scraper blade mounted upon the body in the rear of the cultivator shovels to deflect the earth toward one side of the body, and a fender pivotally mounted upon one side of the body and designed to coöperate with the scraper to deposit the earth deflected thereby in a ridge, the said fender being adapted to be swung upwardly into an inoperative position.

4. In a cultivator, the combination of a body having a flattened formation, a draft beam having the rear end thereof extended downwardly and secured to the body, a block interposed between the forward portion of the body and the draft beam, cultivator shovels carried by the body, a diagonal scraper blade mounted upon the body for deflecting the earth loosened by the cultivator shovels, and a fender mounted upon the body and coöperating with the scraper to deposit the earth deflected thereby in a ridge.

869,482. ALTERNATING SIPHON. REVERDY C. DE LA HUNT, Cedar Rapids, Iowa. Filed Feb. 18, 1907. Serial No. 358,108.



1. In a siphon, the combination of a trap having one long and one short leg, of an intake or bell, an intaking limb formed integral therewith, a partition in said intake or bell and extending centrally through said integral intaking limb, the mouth of said intake or bell being lower on one side of said partition than on the other, substantially as described.

2. In a siphon, the combination of a trap, an intake or bell, an intaking limb formed integral with said intake or bell, a partition in said intake or bell and extending through said integral intaking limb, the mouth of said intake or bell being lower on one side of said partition than on the other, substantially as described.

3. In a siphon, the combination of a trap, an intake or bell, an intaking limb associated with said intake or bell, a partition in said intake or bell and in said intaking

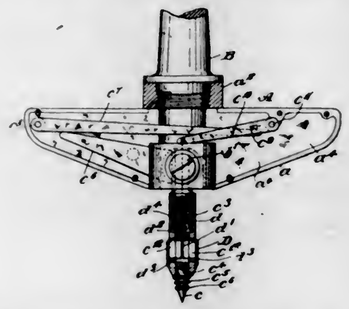
limb, the mouth of said intake or bell being lower on one side of said partition than on the other, substantially as described.

4. In a siphon, the combination of a trap, an intake or bell, an intaking limb associated with said intake or bell, a partition in said intake or bell and in said intaking limb extending entirely across the same, and means for restoring the seal in the trap after siphonage ceases, substantially as described.

5. In a siphon, the combination of a trap, an intake or bell associated therewith, a partition in said bell or intake extending entirely across the same, and means for causing siphonic action to continue on one side of said partition after it ceases on the other, substantially as described.

6. In a siphon, the combination of a trap, an intake or bell, an intaking limb formed integral with said intake or bell and a partition extending entirely across said intake or bell and across said intaking limb, substantially as described.

869,483. WORK-LOCATING INDICATOR. THOMAS L. DENNIS, Jr., and ARTHUR C. LINDHOLM, Prince Bay, N. Y. Filed Apr. 2, 1907. Serial No. 366,004.



1. The combination, with a shaft joined at one end to a support and adapted to engage at its other end with a point to be located and capable of an orbital motion, and an index fitted to slide thereon, of connecting mechanism intermediate the shaft and the slidable index, whereby the location of such point with respect to an axis of rotation and the extent of its eccentricity thereto are indicated, substantially as described.

2. The combination, with a frame, a shaft provided with a pointed end and supported at its other end in such frame so as to be capable of an orbital motion at its free end, and an index fitted to slide along such shaft, of connecting mechanism intermediate the shaft and the index whereby the relation of such pointed end with respect to an axis of rotation may be indicated, substantially as described.

3. The combination, with a frame, a shaft supported therein by a ball and socket joint and provided with a pointed free end, and an index adapted to move along the shaft, of connecting mechanism intermediate the shaft and index, whereby the relation of such pointed end with respect to an axis of rotation may be indicated, substantially as described.

4. The combination, with a frame, a shaft supported at one of its ends therein by a ball and socket joint with its opposite end pointed, and a sleeve-like index mounted to slide upon said shaft, of an arm rigidly connected with such shaft, a system of levers operated by such arm, and connecting devices between one of said levers and the sleeve-like index, substantially as described.

5. The combination, with a frame, and means by which it may be applied to the machine in which the indicator may be employed, of a tubular shaft supported at one of its ends in such frame by a ball and socket joint, and carrying at its other end a second shaft having a pointed end, a sleeve-like index mounted to slide upon the first mentioned shaft, an arm carried by the tubular shaft, a lever fulcrumed within the frame and acted upon by said arm, a second lever also pivoted in such frame and acted upon by the first mentioned lever, and a connecting rod intermediate this last mentioned lever and such sleeve-like index, substantially as described.

6. The combination, with a supporting frame provided with means by which it may be applied to the machine in which the apparatus may be employed, and a tubular shaft jointed at one of its ends in such frame by a ball and socket joint, and provided at its other end with a movable shaft that is constructed with a pointed end, of a spring interposed between the two shafts, whereby the said pointed end may be brought in contact with the point to be located and held against it by yielding pressure, substantially as described.

7. The combination, with a supporting frame, a tubular shaft adapted to engage with a point to be located and jointed at one of its ends in such frame by a ball and socket joint, of an arm projecting from this shaft, a sleeve-like index adapted to slide upon such shaft, a lever pivoted in such frame and engaged by such arm, a second lever also mounted in said frame and engaged by the first mentioned lever, a connecting rod intermediate this last mentioned lever and such sleeve-like index, and a retracting spring for returning such parts to their normal positions after having been moved therefrom, substantially as described.

8. The combination, with a supporting frame having a socket formed therein, a shaft provided with a ball for cooperating with such socket and also with a pointed end and graduations, and an index fitted to slide along such shaft and coöperate with the graduations, of mechanism for connecting the said shaft with the index and comprising an arm and a system of levers, substantially as described.

869,484. CARTRIDGE-CARRIER. EDWARD E. DRAKE, New York, N. Y., assignor to The Union Metallic Cartridge Company, Bridgeport, Conn., a Corporation of Connecticut. Filed June 10, 1907. Serial No. 378,081.

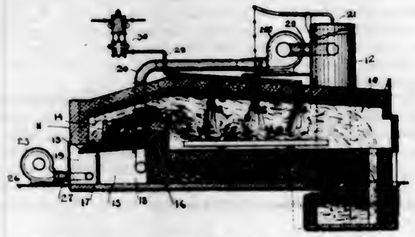


1. A cartridge carrier consisting of a tubular body made of paper and adapted to receive the cartridges longitudinally, the tip of the body being closed by crimping the material of the body and the base being closed with removable closing means.

2. A cartridge carrier consisting of a tubular body made of paper and adapted to receive the cartridges longitudinally, the tip of the body being closed and the base being provided with a removable flanged plug.

3. A cartridge carrier consisting of a tubular body made of paper and provided with slots for the purpose set forth, the tip of the body being closed and the base provided with removable closing means.

869,485. COMBUSTION PROCESS. BYRON E. ELDRED, Bronxville, N. Y., assignor to Combustion Utilities Company, New York, N. Y., a Corporation of New York. Filed Dec. 15, 1904. Serial No. 236,915.



1. The process of applying heat in a reverberatory furnace which consists in supplying to the heating chamber of such a furnace a compound stratified flame current arising from fresh fuel cool-coked in the fire-box thereof by a draft current containing an endothermically acting body and from the combustion of coke in the same fire-box, the coal furnishing a relatively cool, reducing flame stratum and the coke a relatively hot oxidizing flame stratum.

2. The process of applying heat in a reverberatory furnace which consists in burning fresh coal in the fire-box of such a furnace by a draft current containing stack gases and the minimum amount of air required to support free combustion in said coal, burning a portion of coke in the same fire-box with an excess of air, passing the flames arising from the coal and coke into the reverberatory chamber as distinct strata, and there completing their combustion.

3. The process of applying heat in a reverberatory furnace which consists in passing into the heating chamber of such a furnace a compound stratified flame current comprising a stratum of relatively cool tardily burning flame of reducing characteristics and containing admixed stack waste gases and also comprising another stratum of relatively hot flame containing an excess of oxygen, and completing the combustion of the stratified flame in said chamber.

4. The process of applying heat in a reverberatory furnace which consists in passing into the heating chamber of such a furnace a compound stratified flame current comprising a relatively hot oxidizing flame stratum flowing next a wall exposed to atmospheric cooling and another relatively cooler reducing flame stratum separated from such wall by the oxidizing stratum, and mixing and completing the combustion of such strata prior to emergence from the heating chamber.

5. The process of applying heat in a reverberatory furnace which consists in supplying to the heating chamber of such a furnace a compound stratified flame current comprising a voluminous tardily burning flame arising from fresh coal burned at a low temperature by a draft current containing a diluting gas and also comprising a flame from carbon burned with an excess of air and causing said strata to mingle after traveling a predetermined distance in such chamber and completing their combustion.

6. The process of applying heat in a reverberatory furnace which consists in producing in the heating chamber of such a furnace a flaming stratum containing an excess of free oxygen and a flaming stratum containing an excess of combustible and causing said strata to mingle after traveling a predetermined distance therein as distinct strata.

7. The process of applying heat in a reverberatory furnace which consists in supplying to the heating chamber thereof a voluminous tardily burning flame stratum of reducing nature and a hotter oxidizing flame stratum in cooperative relation thereto.

8. The process of applying heat in a reverberatory furnace which consists in supplying to the heating chamber thereof a voluminous tardily burning flame stratum of reducing nature and a hotter oxidizing flame stratum in cooperative relation thereto and causing said strata to mingle after traveling a predetermined distance therein as distinct strata.

9. The process of heating metal articles in a reverberatory furnace which consists in maintaining in the heating chamber of said furnace an underlying current of flaming but reducing gases in a state of retarded combustion and an overlying current of intensely hot, oxygen-rich gases.

10. The process of applying heat in a reverberatory furnace which consists in supplying to the heating chamber thereof a voluminous tardily burning flame stratum produced by the action upon fresh cool-burning coal of a draft current of air diluted with neutral gas and a hotter flame stratum by a draft current of normal composition.

11. The process of applying heat in a reverberatory furnace which consists in supplying to the heating chamber thereof a voluminous tardily burning flame stratum produced by the action upon fresh cool-burning coal of a draft current of air diluted with neutral gas and a hotter flame stratum by a draft current of normal composition and causing said strata to mingle after traveling a predetermined distance therein.

12. The process of burning bituminous coal and heating furnaces thereby which consists in maintaining fresh supplies of said coal in the fire-box of such a furnace at an efficient gasifying temperature by a draft current of admixed air and products of combustion, after coking is completed supplying a separate draft current of air, and simultaneously passing the gaseous products of the two reactions in stratified relationship into the heating chamber of a furnace.

13. The process of heating reverberatory and other furnaces which consists in burning bituminous coal in the fire-box of such a furnace by an accelerated diluted air draft while such coal is in the coking stage, by a separate purer air draft after the coking stage is completed, and simultaneously passing the gaseous products of both combustions into the heating chamber in stratified relationship.

14. The process of heating reverberatory and other furnaces which consists in burning bituminous coal in the fire box of such a furnace by an accelerated diluted air draft while such coal is in the coking stage, by an air draft after the coking stage is completed, and simultaneously passing the gaseous products of both combustions into the heating chamber in stratified relationship.

15. The process of applying heat in a reverberatory furnace which consists in producing within the heating chamber of such a furnace parallel flame strata, one such stratum being rich in fuel gases and another of an oxidizing nature, causing such strata to travel through the chamber a predetermined distance as distinct strata, and finally commingling such strata at a predetermined point by a transverse gaseous jet.

16. The process of applying heat in reverberatory furnaces which consists in producing within a hearth-chamber of such a furnace a tardily-burning voluminous flaming under-stratum rich in combustible, and a flaming upper-stratum of an oxidizing character, and commingling said strata at a predetermined point in operative relation to the materials on the hearth by a transverse gaseous jet directed downwardly upon said materials.

17. The art of direct-heating of materials subject to injury by oxidation, which consists in producing a neutral or reducing flame-stratum adjacent to said materials, and an oxidizing flame-stratum more remote therefrom, and commingling said strata after a definite period of travel adjacent said materials.

18. The method of regulating the intensity of furnace-combustion which consists in producing flame-strata of different compositions, and varying the composition of one or more of said strata in accordance with the heat desired.

19. The method of regulating the intensity of furnace-combustion which consists in producing distinct flame-strata of different compositions, one of which is inflated by a neutral gas, and varying the proportion of said neutral gas relatively to the free oxygen of the draft current producing the inflated stratum according to thermal needs.

20. The method of regulating the intensity of furnace-combustion which consists in producing distinct flame-strata of different compositions, one of which is inflated by a draft-current of neutral gas supplied to the fuel, and varying the relative velocities of the draft-currents supplying the different flame-strata according to thermal needs.

21. The process of conducting combustion in the heating chamber of a reverberatory furnace which consists in subjecting a portion of a mass of ignited fresh fuel to a draft of oxygen-impoverished air of predetermined composition and in simultaneously subjecting a second and adjacent coked portion of said mass of fuel to a draft of atmospheric air, and causing the two draft-currents, augmented in volume by carbonaceous gases, to mingle gradually at a distance from the initial seat of combustion.

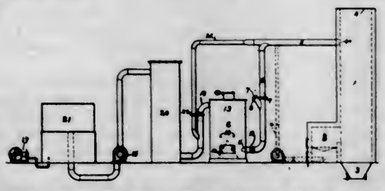
22. The process of conducting combustion in the heating chamber of a reverberatory furnace which consists in subjecting a portion of a mass of ignited fuel to an artificially-accelerated draft of oxygen-impoverished air of predetermined composition, simultaneously subjecting a second and adjacent portion of said mass of fuel to an artificially-accelerated draft of atmospheric air, and causing these two draft currents, augmented in volume by carbonaceous gases, to mingle at a predetermined distance from the initial seat of combustion.

23. The process of conducting combustion in a reverberatory furnace consisting in supplying the heating chamber thereof with two or more heterogeneous and distinct flaming gaseous strata, one or more of said strata containing sufficient oxygen to burn the combustible carried in the other, and commingling said strata after traveling a definite distance in the chamber and before leaving the same.

24. The process of combustion consisting in coking fuel over a seat through which is supplied an air-draft containing a predetermined proportion of waste products of combustion, moving the coke onto an adjacent seat, burning the coke thereon by a draft-current supplied through said seat and containing a greater proportion of free oxygen than the aforesaid draft-current, and simultaneously passing the gaseous products of both combustions into the heating chamber in stratified relationship.

25. The process of heating a reverberatory furnace with bituminous coal which consists in coking the coal in the fire-box of said furnace with an accelerated draft of diluted air, burning the resultant coke with a separate air draft passed therethrough, passing a modicum of air over the coke, and leading the resulting gaseous strata into the heating chamber of the furnace in coöperative relation with each other.

869,486. PROCESS OF PRODUCING GAS. BYRON E. ELDRED and CARLETON ELLIS, New York, N. Y., assignors to Combustion Utilities Company, New York, N. Y., a Corporation of New York. Filed Feb. 1, 1905. Serial No. 243,601.



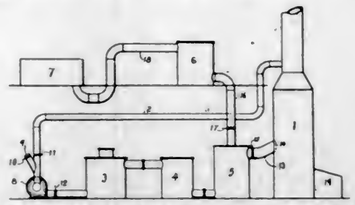
1. The process of producing uniform gas suitable for power purposes which consists in sucking a mixture of lime kiln waste gases and air in adjusted proportions through a deep bed of ignited fuel, diluting the produced gas to a standard strength by regulated additions of a diluting indifferent gas and collecting the standardized gas for use.

2. The process of producing uniform gas suitable for power purposes which consists in sucking a mixture of lime kiln waste gases and air in adjusted proportions through a deep bed of ignited fuel, diluting the produced gas to a standard strength by regulated additions of lime kiln waste gases and collecting the standardized gas for use.

3. The process of producing gas suitable for power purposes which consists in collecting waste gases from a coal burning lime kiln, admixing the same with regulated amounts of air, sucking the mixture through a deep bed of ignited fuel, purifying the produced gas and collecting the same for use.

4. The process of producing uniform gas suitable for power purposes which consists in collecting waste gases from a coal burning lime kiln, admixing the same with a regulated amount of air, sucking the mixture through a deep bed of ignited fuel, bringing the produced gas to a standard strength by regulated additions of lime kiln waste gases, purifying the gas and collecting the same for use.

869,487. PROCESS OF MAKING GAS. BYRON E. ELDRED, New York, N. Y., assignor to Combustion Utilities Company, New York, N. Y., a Corporation of New York. Filed Feb. 21, 1905. Serial No. 246,795.



1. The process of making rich producer gas which consists in alternately blowing hot fuel with air and with products of combustion containing more than the normal proportion of carbon dioxid, and in collecting the gas formed in the latter blow.

2. The process of making rich producer gas which consists in alternately blowing hot fuel with air and with lime kiln gases, and in collecting the gas formed in the latter blow.

3. The process of making rich producer gas which consists in alternately blowing hot fuel with air and with lime kiln gases, employing the gaseous products of the first blow to calcine lime in the kiln and collecting for use the gas formed in the second blow.

4. The process of making gas which consists in alternately blowing hot fuel with air and with enriched products of combustion, substantially free of steam, passing the products of the first blow through a carbureting and a fixing chamber to heat the same, collecting the gas formed in the second blow and carbureting and fixing the same in the said heated chambers.

5. The process of making gas which consists in alternately blowing hot fuel with air and with lime kiln gases, substantially free of steam, collecting the gas formed in the second blow and carbureting and fixing the same.

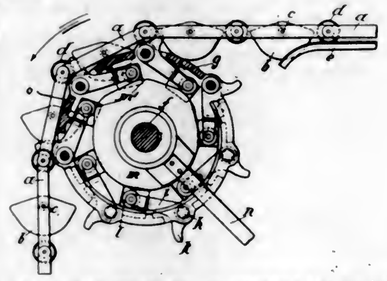
6. The process of making gas which consists in alternately blowing hot fuel with air and with lime kiln gases, employing the gaseous products of the first blow to calcine lime in the kiln, collecting for use the gas formed in the second blow and carbureting and fixing the same.

7. As a new article of manufacture, a gas made by passing a draft-current carrying more than 25% by volume of carbon dioxid through a deep bed of incandescent fuel.

8. As a new article of manufacture, a combustible gas composed chiefly of carbon monoxid and nitrogen in about equal parts.

869,488. DRIVING MECHANISM FOR CONVEYERS. GEORG VON HANFFSTENGEL, Stuttgart, Germany. Filed Jan. 15, 1907. Serial No. 352,430.

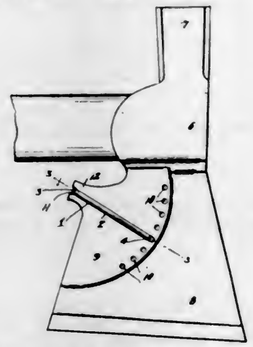
1. In a driving mechanism for conveyers and the like, a driving wheel and a conveyer passing around and engaging said wheel, the latter having levers pivoted thereto at intervals, one end of each lever projecting from the wheel and constituting a catch and the other end of each lever provided with a roller, and a fixed disk whose periphery is engaged by the rollers aforesaid as the wheel revolves and is formed to move the aforesaid catches gradually into engagement with the conveyer and to positively maintain said engagement while the conveyer is in engagement with the wheel.



2. In a driving mechanism for conveyers and the like, a driving wheel and a conveyer passing around and engaging said wheel, the latter having levers pivoted thereto at intervals, one end of each lever projecting from the wheel and constituting a catch and the other end of each lever provided with a roller, and a fixed disk whose periphery is engaged by the rollers aforesaid as the wheel revolves and is formed to lift the aforesaid catches and to gradually project the same from the wheel while positively maintaining the same in engagement with the conveyer.

3. In a driving mechanism for conveyers and the like, a driving wheel having levers pivoted thereto at intervals, one end of each lever projecting from the wheel and constituting a catch and the other end of each lever provided with a roller, and a fixed disk whose periphery is engaged by the rollers aforesaid as the wheel revolves and is provided with a succession of separate cams.

869,489. GAGE. VALCALOW V. HAWLEY, Acampo, Cal. Filed Mar. 13, 1907. Serial No. 362,210.



1. The combination with a shingling tool having a seat, of a shingling gage having a substantially U-shaped resilient body to take over the edge of said tool and a projection to engage said seat.

2. The combination with a shingling tool having a seat in one of its edges and a seat in one of its side faces, of a shingling gage having a portion to engage the seat in said edge of the tool and a resilient arm carrying a projection to enter the seat in said face of the tool.

3. The combination with a shingling tool having a pivot seat and a segmentally arranged series of keeper seats, of a shingling gage pivotally mounted in said pivot seat and adapted to be adjustably engaged with said keeper seats.

4. The combination with a shingling tool having a pivot seat and a segmentally arranged series of keeper seats, of a shingling gage having a resilient member pivotally mounted at one of its ends in said pivot seat and having a projection at its free end to enter said keeper seats.

5. The combination with a shingling tool having a pivot seat and a segmentally arranged series of keeper seats, of a substantially U-shaped shingling gage having a pivot cross piece engaged with said pivot seat and a resilient arm adapted to adjustably engage said keeper seats.

6. The combination with a shingling tool having a pivot seat and a segmentally arranged series of keeper seats, of a substantially U-shaped shingling gage having a pivot cross piece engaged with said pivot seat, resilient arms arranged upon opposite faces of said tool and transversely extending cross pieces upon the ends of said arms, said cross pieces forming outwardly projecting stop heads and inwardly projecting studs adapted to enter said keeper seats.

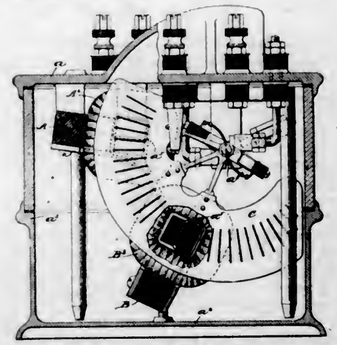
7. The combination with a shingling tool having a notch in one of its edges and segmentally arranged series of keeper seats located in opposite faces of the tool and in alinement, of a substantially U-shaped shingling gage having its closed end engaged with the notch in the edge of said tool, and resilient arms terminating in outwardly projecting heads and inwardly projecting studs, the latter being adapted to enter said keeper recesses.

8. The combination with a shingling tool, of a shingling gage mounted thereon for swinging movement and means for retaining said gage in an adjusted position.

9. The combination with a shingling tool, of a shingling gage pivotally mounted at one of its ends upon said tool, and means for holding the free end of said gage in an adjusted position.

10. As an article of manufacture, a stop gage for use on a shingling tool, comprising a resilient body of substantially U-form and cross pieces arranged upon its arms to provide inwardly extending keeper projections to engage seats in the tool and outwardly extending stops, substantially as set forth.

869,490. RELAY. LEMUEL F. HOWARD, Edgewood Park, Pa., assignor to The Union Switch and Signal Company, Swissvale, Pa., a Corporation of Pennsylvania. Filed Dec. 24, 1906, Serial No. 349,267. Renewed Sept. 10, 1907. Serial No. 392,216.

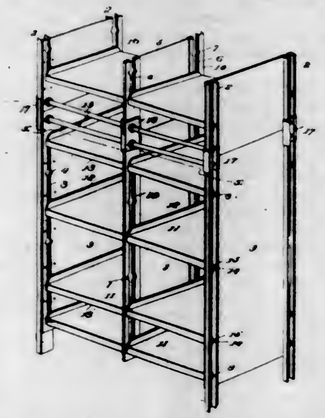


1. In a relay the combination with a vane, contacts opened and closed by movements of the vane in reverse directions, a coil and magnetic circuit for causing a movement of the vane in one direction when the coil is traversed by a high frequency alternating current, a coil and magnetic circuit for causing a movement of the vane in a reverse direction when said second coil is traversed by an alternating current of a lower frequency, means for shunting an alternating current of high frequency from one coil, and means for shunting an alternating current of a lower frequency from the other coil.

2. In a relay the combination with a vane, contacts

opened and closed by movements of the vane in reverse directions, a coil and magnetic circuit for causing a movement of the vane in one direction when the coil is traversed by a high frequency alternating current, a coil and magnetic circuit for causing a movement of the vane in a reverse direction when said second coil is traversed by an alternating current of a lower frequency, said coils being in series circuit, an impedance in shunt across the terminals of one coil and a capacity in shunt across the terminals of the other coil.

869,491. SHELVING. GEORGE H. HURTEAU, Montgomery, Ill. Filed Aug. 21, 1907. Serial No. 389,534.



1. A rack section of the character described, comprising vertically slotted corner posts formed with opposing notches at predetermined intervals in the side walls of the slots, sides secured to said posts, bars extending from side to side of the rack and extending through the slots, said bars being so constructed as to be freely movable in one position, axially considered, within the slots, and to be engaged in said notches when turned from such position, and shelves provided at front and back with lips encircling said bars.

2. A rack section of the character described, comprising vertically slotted corner posts formed with opposing notches at predetermined intervals in the side walls of the slots, sides secured to said posts, bars extending from side to side of the rack and extending through the slots, said bars being so constructed as to be freely movable in one position, axially considered, within the slots, and to be engaged in said notches when turned from such position, and shelves supported on said bars.

3. A rack section of the character described, comprising vertically slotted corner posts formed with opposing notches at predetermined intervals in the side walls of the slots, sides secured to said posts, bars extending from side to side of the rack and extending through the slots, said bars being so constructed as to be freely movable in one position, axially considered, within the slots and to be engaged in said notches when turned from such position, shelves supported on said bars, and a partition intermediate of the sides of the rack and provided with slots and notches corresponding to the slots and notches of the corner posts.

4. A rack section of the character described, comprising vertically slotted corner posts formed with opposing notches at predetermined intervals in the side walls of the slots, sides secured to said posts, bars extending from side to side of the rack and extending through the slots, said bars being so constructed as to be freely movable in one position, axially considered, within the slots, and to be engaged in said notches when turned from such position, shelves supported on said bars, a partition intermediate of the sides of the rack, and beading strips embracing the front and rear edges of the partition, said strips and partitions being formed with slots and notches corresponding to the slots and notches of the corner posts.

5. Shelving of the character described, comprising a plurality of superposed sections embodying channeled corner posts, W-shaped clips fitting the channel of said posts with their ends embracing the edges of the posts and overlapping the adjoining ends thereof, and coupling rods connecting said clips to the posts.

6. Shelving of the character described, comprising a plurality of superposed sections embodying channeled corner posts, W-shaped clips fitting the channel of said posts with their ends embracing the edges of the posts and overlapping the adjoining ends thereof, U-shaped clips, the sections embodying partitions, the adjoining edges of which said last named clips embrace, and tie rods connecting said clips to the posts and partitions.

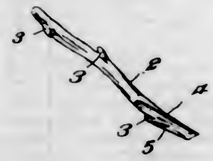
869,492. STAIR-ROD FASTENER. WILLIAM H. JOYNER, St. Margaret's-on-Thames, England. Filed Feb. 19, 1907. Serial No. 358,322.



1. A stair rod fastener comprising a hollow body having a hinged portion and a spring in said body and secured thereto intermediate its ends, said spring having one end engaging with an extension of the hinged portion to raise the said portion when released and having a lug on its other end engaging with the opposite end of the hinged portion to keep said hinged portion closed and a button on the spring for moving the lug out of contact with the hinged portion.

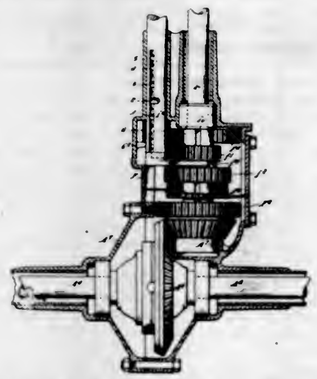
2. A stair rod fastener comprising a hollow body having a hinged portion and a spring in said body and secured thereto intermediate its ends, said spring having one end engaging with an extension of the hinged portion to raise the said portion when released and its other end engaging with the opposite end of the hinged portion to keep said hinged portion closed.

869,493. METHOD FOR GRAFTING TREES. PETER KEISER, Grafton, Mass. Filed Apr. 13, 1907. Serial No. 367,969.



The herein described method of grafting consisting of providing a scion, having buds thereon, then tapering one end of the scion longitudinally and laterally, one face of the tapered portion intersecting one of the buds on the scion, then entering the tapered end of the scion in an incision in the end of the stock, the severed face of the bud being in line with the severed bark at one edge of the incision.

869,494. CHANGE-SPEED GEAR. CHARLES B. KING, Detroit, Mich. Filed Sept. 12, 1904, Serial No. 224,057. Renewed Mar. 30, 1907. Serial No. 365,601.



1. A part adapted to have a linear and an angular movement, in combination with other parts constituting together a speed change gear, said movable part being arranged to connect the parts of the mechanism for the different speeds in one direction by a linear movement, and for a speed in the other direction by its angular movement.

2. The combination of the gearing of a change speed gear, a rod adapted to slide longitudinally to shift the change speed gear, and to turn to throw in the reverse gear, and means for shifting and turning said rod.

3. In a change speed gear, the combination of parts adapted to engage to form the different speeds and to disengage, by a lineal movement of one of said parts, means adapted to engage said parts by an angular movement and a part adapted to have both a lineal and angular movement and to actuate the movable part lineally by its lineal movement, and to actuate the angularly movable means for engaging the parts, by its angular movement.

4. The combination of a driving shaft, a counter shaft and a driven shaft, gear wheels connecting the counter shaft with one of the other shafts, a plurality of gear wheels of different diameters upon the counter shaft, a plurality of gear wheels of different diameters upon the shaft that is not geared to the counter shaft, one of said plurality of gear wheels being sleeved upon its shaft and adapted to move longitudinally thereof to engage different gear wheels to produce the different speeds, a rod adapted to slide in a way in the direction of the motion of said sleeve, an arm upon said rod revoluble but restrained from longitudinal motion with reference thereto and engaging said sleeve, an arm upon said rod a gear wheel at the free end of said arm, said rod being adapted to slide through the last mentioned arm, but restrained from angular movement relative thereto, said rod being adapted to have a longitudinal and a rotary motion, for the purpose described.

5. The combination of a driving shaft, a counter shaft and a driven shaft, gear wheels connecting the counter shaft with one of the other shafts, a plurality of gear wheels of different diameters upon the counter shaft, a plurality of gear wheels of different diameters upon the shaft that is not geared to the counter shaft, one of said plurality of gear wheels being sleeved upon its shaft and adapted to move longitudinally thereof to engage different gear wheels to produce the different speeds, a rod adapted to slide in a way in the direction of the motion of said sleeve, an arm upon said rod revoluble but restrained from longitudinal motion with reference thereto and engaging said sleeve, an arm upon said rod a gear wheel at the free end of said arm, said rod being adapted to slide through the last mentioned arm, but restrained from angular movement relative thereto, said rod being provided with a longitudinal groove and with a groove extending laterally therefrom intermediate its ends and a pin adapted to extend into said grooves.

6. In a change speed gear, a rod adapted to slide longitudinally and to rotate in ways, said rod being provided with gear teeth along its length, said gear teeth extending approximately in an arc of a circle, a gear wheel adapted to turn in fixed bearings and having its teeth meshing with the teeth upon said rod, a longitudinally extending groove in said rod, an arm upon said rod having a key extending into said groove, and means for restraining the lineal movement of said arm without constraining its angular movement.

7. In a change speed gearing, a rod adapted to slide longitudinally and to rotate, in ways, said rod being provided with gear teeth along its length, a gear wheel adapted to turn in fixed bearings and having its teeth meshing with the teeth upon said rod, the intermeshing teeth being adapted to have a relative lateral movement, an arm upon said rod restrained from angular movement relative thereto, and means for adjusting the angular position of said arm.

8. In a change speed gear, a rod adapted to slide longitudinally and to rotate, in ways, said rod being provided with gear teeth along its length, a gear wheel having its teeth meshing with the teeth upon said rod, the intermeshing teeth being adapted to have a relative lateral movement, an arm upon said rod restrained from angular movement relative thereto, means for restraining the lineal movement of said arm without constraining its angular movement, a connecting rod pivoted to the end of said arm, and a fixed pivoted lever arm having its free end connected to the other end of said connected rod.

869,495. CHUTE. CHARLES N. LANGDON and OSCAR E. CARLSON, Chicago, Ill., assignors to Hugo Asb, Chicago, Ill. Filed Nov. 21, 1906. Serial No. 344,379.



1. The combination with a wall having an opening, of two spiral sections therein, one forming a substantial continuation of the other, the junction of said sections being located adjacent to said opening, and a shiftable stop interposed between said sections and having a portion which overhangs the lower section and does not extend above the level of the surface of said upper section.

2. The combination with a cylindrical wall having an opening therein and a spiral slide-way within said wall, of a door in said wall, the upper lateral edge of which lies outside the inner surface of said wall and the lower lateral edge of which does not lie outside of said wall, whereby the shoulders formed on said lateral edges are downwardly facing.

3. The combination with a wall having an opening therein and a spiral slide-way within said wall, of a discharge-door movable in said wall to uncover said opening, a shiftable stop movable with said discharge-door to arrest the progress of articles on said slide-way and deflect them

through said opening, and an intake-door carried by said discharge-door and closing an opening therein.

4. The combination with an outer wall and a spiral slide-way therein, of a discharge-door in said outer wall, a reciprocable lifting-bar and means operable from a floor above said discharge-door for connecting said door with said lifting-bar.

5. The combination with an outer wall and a spiral slide-way therein, of a plurality of discharge-doors in said outer wall, vertically shiftable stops adjacent to said doors and connected therewith and adapted to be moved with said doors to interrupt said slide-way, a vertically shiftable lifting-bar, and means on said lifting-bar for connecting said discharge-doors at will with said lifting-bar, said means being operable in each case from a floor above the door on which it operates.

6. The combination with an outer wall and a slide-way therein, of a movable discharge-door, a vertically shiftable lifting-bar, a hook on said lifting-bar, means for holding said hook normally in engagement with said discharge-door, and means controllable from a floor above said door for holding said hook out of such engagement.

7. The combination with an outer wall and a slide-way therein, of a discharge-door, a vertically shiftable lifting-bar controllable from a floor above said discharge-door, an engagement device on said lifting-bar, means for holding said engagement device normally in engagement with said discharge-door, and a stronger device overcoming said holding means and controllable from a floor above said discharge-door for holding said engagement device out of engagement with said discharge-door.

8. The combination with an outer wall, a slide-way therein, and a discharge-door in said outer wall, of a vertically movable lifting-bar, a hook on said lifting-bar adapted to engage said discharge-door, a spring normally holding said hook in engagement with said door, a cord extending upward from said hook, a spring attached to said cord at its upper end and adapted to overcome said first-named spring and hold said hook out of engagement with said discharge-door, buttons on said cord, and means on said lifting-bar with which said buttons may engage to hold said second spring out of action.

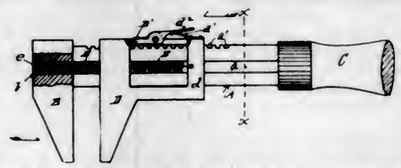
9. The combination with an outer wall and a slide-way therein, of a discharge-door, a stop having means of engagement with said door whereby when the door is raised the stop will intersect the slide-way to deflect articles through the opening covered by said door, means controllable from a floor above for opening said discharge door, and an inlet-door mounted upon and carried by said discharge-door and controlling an opening therein.

10. The combination with an outer wall, a spiral slide-way therein and having two sections, one the continuation of the other whose junction is adjacent to an opening in said outer wall, a vertically shiftable stop interposed between said sections and having an overhanging portion above the upper end of the lower of said two sections, a discharge-door controlling the opening aforesaid in said outer wall, a rod secured to said discharge-door and having a portion extended under said overhanging portion of said stop whereby the lifting of said door will raise said stop to interrupt the continuity of said spiral slide-way.

11. The combination with an outer wall and a spiral slide-way therein, of a discharge-door controlling an opening in said outer wall, said discharge-door having its upper lateral edge outside the inner surface of said wall and having its lower lateral edge as far out as the inner surface thereof, an inlet-door mounted upon and carried by said discharge-door and controlling an opening in said discharge-door, said inlet-door having its upper lateral edge outside the inner surface of said discharge-door and having its lower lateral edge not outside the inner surface thereof, whereby any shoulders formed at the junctions of said doors with each other and with said outer wall will form downwardly facing shoulders.

12. The combination with an outer wall, a central hollow tube and a spiral slide-way between said tubes, of a series of discharge-doors, a vertically shiftable lifting-bar for controlling said discharge-doors, and a counterweight for said lifting-bar within said inner tube.

869,496. WRENCH. JOHN F. LARGE, Jamestown, Pa. Filed Aug. 21, 1907. Serial No. 389,567.



1. The combination in a wrench, of a handle having a longitudinal groove therein, ratchet teeth on the handle, a fixed head or jaw thereon, a jaw sliding on said handle, a spiral spring in the groove in the handle connecting the fixed and movable jaws, and a spring-actuated dog pivoted in the movable jaw and adapted to engage the ratchet teeth in the handle, substantially as set forth.

2. The combination in a wrench, of a grooved handle, rectangular ratchet teeth thereon, a fixed head or jaw on said handle, a sliding jaw thereon, a spiral retracting spring in said handle-groove connecting the fixed and movable jaws, means for adjusting the tension of said spring, and a spring-actuated dog mounted on the movable jaw so as to engage the ratchet teeth on the handle, substantially as set forth.

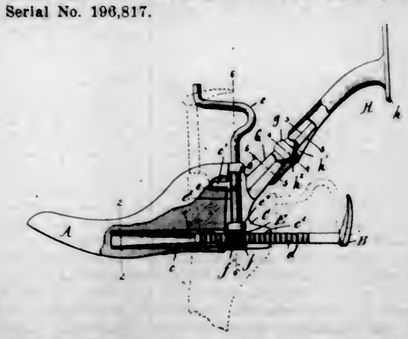
869,497. ARCH-CLAMP. MICHAEL LARKINS, South Bethlehem, Pa. Filed May 22, 1907. Serial No. 375,137.



1. A clamp for arches comprising a beam having at one end a depending flange, and adjacent the opposite end an upstanding flange, an adjustable end piece on the latter end of the beam comprising a plate having upstanding and depending flanges, the latter flange having a slot to receive the end of the beam, and a clamping-screw passing through the upstanding flanges.

2. A clamp for arches comprising a beam having at one end a depending flange, and adjacent the opposite end a slotted upstanding flange, an adjustable end piece on the latter end of the beam comprising a plate on said beam fitting at one end in the slot of the upstanding flange, and having at the opposite end upstanding and depending flanges, and a clamping-screw passing through the upstanding flanges.

869,498. SHOE TREE AND HOLDER. EMMIT G. LATTA, Friendship, N. Y., assignor of one-half to Howard V. D. Waldron, New Brunswick, N. J. Filed Mar. 7, 1904. Serial No. 196,817.



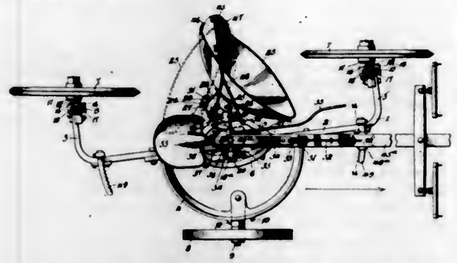
1. The combination of a wall bracket having a downwardly and forwardly projecting arm, and a shoe tree having a projecting attaching shank constructed for detachable and adjustable connection with said bracket arm, substantially as set forth.

2. The combination of a wall bracket having a fixed arm extending downwardly and forwardly, and a shoe tree detachably connected to said arm at a point located within the ankle portion of a shoe supported by the tree, substantially as set forth.

3. The combination of a wall bracket having an integral projecting arm, a shoe tree comprising a wooden toe portion and a movable heel portion, and a part which is fixed to said toe portion and supports the heel portion of the tree, and is constructed for attachment to said bracket arm, substantially as set forth.

4. The combination of the toe part of a shoe tree, a metal piece fixed to said toe part and having an upwardly and rearwardly projecting shank for detachable connection with a supporting bracket and a forward hollow extension which enters said toe part and forms a rearwardly opening guide, a heel part having a support which slides in said guide, and means mounted on said metal piece in front of said heel part for moving the latter, substantially as set forth.

869,499. REVERSIBLE DISK PLOW. CHARLES M. MALLORY and JAMES M. SLAUGHTER, Chattanooga, Tenn., assignors of two-thirds to Edward H. Sholar and Frank P. Llewellyn, Chattanooga, Tenn. Filed May 29, 1906. Serial No. 319,318.



1. A reversible plow including a disk operative in reversed positions and reversible on a substantially horizontal axis disposed transverse to the plow.

2. A reversible disk plow including a frame, furrow wheels, a land wheel, and a disk carried by the frame between the furrow wheels and reversible on a substantially horizontal axis, to face either end of the plow and to operate in such position.

3. A disk plow including a wheel supported frame, a reversible draw-bar, and a disk supported by the frame and reversible on a substantially horizontal axis.

4. A disk plow including a wheel supported frame, a disk operative in reversed positions, and a reversing shaft supporting the disk and disposed transversely of the frame.

5. A disk plow including a wheel supported frame, a disk operative in reversed positions, a reversing shaft supporting the disk and disposed transversely of the frame, and means for rotating the shaft to reverse the disk.

6. A disk plow including a wheeled frame, a disk operative in reversed positions, a reversing shaft disposed transversely of the frame and carrying the disk, and a reversing lever connected to the shaft.

7. A disk plow including a frame, a transverse reversing shaft, and a furrow opening disk having an adjustable connection with the shaft and movable thereby to reversed operative positions.

8. A disk plow including a frame, a transverse reversing shaft, a journal box adjustably connected to the shaft, and a furrow opening disk rotatably supported by the journal box.

9. A disk plow including a frame, a substantially horizontal reversing shaft disposed transversely of the frame, a journal box having pivotal connection with the reversing shaft, a disk having a spindle rotatably mounted in the journal box, and means for retaining the journal box in various adjusted positions with respect to the shaft.

10. A disk plow including a frame, a reversing shaft provided with a guide, a journal box pivoted to the reversing shaft and adjustably connected to the guide, and a disk supported by the journal box.

11. A disk plow including a frame, a substantially horizontal reversing shaft disposed transversely of the frame, a disk adjustably connected to the reversing shaft, and adjustable means for limiting the rotative movement of the reversing shaft.

12. A disk plow including a transverse reversing shaft, a furrow opening disk connected to said shaft and operative in reversed positions, and an adjustable stop coöperating with the shaft to limit the rotative movement thereof.

13. A disk plow including a reversing shaft, a disk connected to the shaft and adjustable to various angular positions with respect thereto, and adjustable stops for limiting the rotative movement of the reversing shaft for the purpose of varying the vertical inclination of the disk.

14. A disk plow including a frame, a substantially horizontal reversing shaft disposed transversely of the frame, a disk connected to the shaft and adjustable to various angular positions with respect to the line of draft and also adjustable to vary the backward tilt of the disk, and means for operating the reversing shaft to reverse the disk.

15. A disk plow including a frame, a transverse reversing shaft carried thereby and provided with a curved guide, a journal box pivotally connected to the shaft and adjustably retained by the guide, a disk rotatably supported by the journal box, means for rocking the reversing shaft to reverse the position of the disk, and a pair of adjustable stop screws carried by the frame and coöperating with the guide to limit the movement of the reversing shaft.

16. A disk plow including a frame, a rotary disk disposed at an angle to the line of draft and automatically reversible on a substantially horizontal axis from one operative position to another.

17. A disk plow including a frame, and a disk disposed at an angle to the line of draft and automatically reversible upon a substantially horizontal axis disposed transversely of the frame.

18. A disk plow including a frame, a disk, a reversible draw-bar, and means independent of the draw-bar for effecting the automatic reversal of the disk to dispose the same in either of two operative angular positions with respect to the line of draft.

19. A disk plow including a frame, a disk operative in reversed angular positions with respect to the line of draft, and means operated by the endwise movement of the frame to effect the automatic reversal of the disk.

20. A disk plow including a frame, a reversible disk operative in reversed angular positions with respect to the line of draft, and disk reversing means coacting with the ground to effect the automatic reversal of the disk as the plow advances.

21. A disk plow including a frame, a reversible disk, a reversing shaft for said disk, and reversing mechanism including an arm extended from the reversing shaft and engaging the ground.

22. A disk plow including a frame, a substantially horizontal reversing shaft, a disk connected to the shaft, and a reversing arm extended from the shaft and disposed to engage the ground.

23. A disk plow including a frame, a substantially horizontal reversing shaft disposed transversely of the frame, a disk connected to the shaft, and automatic means for operating the reversing shaft to reverse the position of the disk.

24. A disk plow including a frame, a reversing shaft, a disk carried by the shaft, and a reversing arm connected to the reversing shaft and including pivotally connected sections one of which coacts with the ground.

25. A plow including a frame, a reversing shaft, a disk carried by the shaft, and reversing mechanism including a reversing arm rotatably mounted in the reversing shaft and having a trailing section and means limiting the rela-

tive movement of the reversing arm and its trailing section.

26. A disk plow including a frame, a reversing shaft, a disk carried by the shaft, and reversing means including an arm rotatably mounted in the reversing shaft, a trailing arm pivotally connected to the arm first named, coacting stop shoulders on said arms, and a spring yieldingly retaining the trailing arm in contact with the ground.

27. A plow frame, draft means whereby the frame may be moved back and forth without turning, a disk operative in reversed positions, and a device operative to lift the disk out of the ground and to reverse said disk.

28. A disk plow including a wheeled frame, a disk carried thereby, a reversible draw-bar pivotally connected at its rear end to the center of the frame, a guide block carried by the draw-bar, a pair of toothed racks extended from the frame and disposed to engage the guide block, and a latch carried by the guide bar to engage the racks.

29. A reversible disk plow including a wheel supported frame adapted to be drawn across the field in either direction without turning the plow, and a disk reversible upon a substantially horizontal axis and located at the same side of the frame in both positions.

30. A reversible plow including a wheel supported frame adapted to be drawn across the field in opposite directions without turning the plow, a reversible disk mounted at the same side of the frame in both positions of said disk, and disk reversing means arranged to lift the disk out of the ground in the act of reversing the same.

31. A disk plow including a frame, a disk mounted at one side of the frame and operative in reversed positions, and means for swinging the disk out of the ground on an axis disposed transversely of the frame.

32. A disk plow including a frame and a disk reversible on an axis disposed in oblique angular relation to the axis of the disk and intersecting said disk.

33. A disk plow including a rotary disk reversible on an axis intersecting the axial plane of the disk at the center of the latter.

34. A disk plow including a frame, a reversible disk, and a stationary scraper arranged to coact with the disk in either of its positions.

35. A plow adapted to move back and forth across the field without turning, including a furrow-opener operative in reversed positions as the plow is moved in opposite directions and reversible on a substantially horizontal axis disposed transverse to the line of draft, and manually operated means for reversing the opener.

36. A plow adapted to move back and forth across a field without turning, including a furrow opener operative in reversed positions as the plow is moved in opposite directions and reversible on a substantially horizontal axis disposed transverse to the line of draft, means for effecting the automatic reversal of the opener, and manually-operated opener reversing means.

37. A double ended plow including a frame disposed in the general direction of the line of draft, and a disk located at all times at the same side of the frame, and movable out of the ground to reversed operative positions in which the disk faces the opposite ends of the plow and assumes opposite angular positions with respect to the line of draft.

38. A disk plow including a frame, a land wheel at one side of the frame and furrow wheels at the opposite side thereof, means whereby the plow may be drawn across a field with either end thereof in advance, and a reversible disk mounted at the same side of the frame in both positions of the disk and movable out of the ground in the act of reversal.

39. In a plow, the combination with a reversible furrow opener, of a stationary scraper comprising angularly related members one of which is arranged to coact with the furrow opener in either position of the latter.

40. In a plow, the combination with a frame, of a reversible disk, a scraper support secured to the frame and carried over the edge of the disk, and a stationary scraper carried by the support and arranged to coact with the disk in either of its positions.

41. In a plow, the combination with a concave reversible disk, of a stationary scraper located opposite the concave side of the disk and arranged to have its opposite side edges coact with the disk in the reversed positions of the latter, said side edges and scraper being curved to conform approximately to the curvature of the concave face of the disk.

42. In a plow, the combination with a reversible disk, of a stationary scraper coacting with the disk in its reversed positions and having the form of a plate bent to produce angularly related wings.

43. In a plow, the combination with a reversible disk, of a stationary scraper coacting with the disk in the reversed positions thereof and including angularly related wings having curved edges.

44. In a plow, the combination with a frame, of an arched stationary scraper support, a scraper carried at one end of said support and having angularly related wings, and a reversible disk coacting in its reversed positions with the respective wings of the scraper and having its upper edge accommodated by the arched form of the scraper support.

45. A plow frame, draft means, furrow wheels and land wheels, a furrow-opener located between the furrow wheels and operative in reversed positions as the plow advances in opposite directions, and means for automatically reversing the disk by the movement of the frame, as the latter starts back across the field to open a new furrow.

46. A plow including a support, a disk reversible to face either end of the plow and to assume either of two angular positions with respect to the line of draft, and a device operative to lift the disk out of the ground, to reverse said disk, and to present the disk to the ground in reversed position.

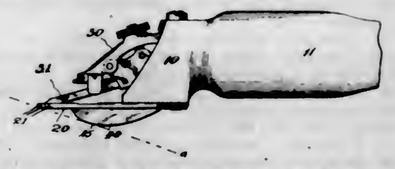
47. A plow including a disk, a disk support, and means for shifting the support to transport the disk endwise of the plow, said disk being shiftable to opposite sides of the support.

48. A reversible plow including a disk shiftable endwise of the plow and reversible on a horizontal axis during the shifting thereof.

49. The combination with a plow and a disk, of mechanism for shifting the disk endwise of the plow and for reversing the disk on a substantially horizontal axis during the shifting thereof.

50. A plow including a support and a disk, said disk being reversible on a substantially horizontal axis by movement endwise of the plow.

869,500. SHEEP-SHEARING MACHINE. THOMAS A. MARTIN, Chicago, Ill. Filed Sept. 1, 1906. Serial No. 332,971.



1. A foot for sheep shearing machines containing one or more thin outwardly projecting runner blades, the spaces between which are unobstructed from end to end.

2. A foot for sheep shearing machines, comprising a runner plate adapted to be removably secured to the machine, and one or more thin outwardly projecting runner blades, the spaces between which are unobstructed from end to end.

3. In a sheep shearing machine, the combination with a stationary cutter having a large number of teeth, and a suitably operated movable cutter coöperating therewith, and having a small number of cutter blades, each of said blades being adapted to traverse a number of teeth on each side of the teeth adjacent to the blade, of a runner device secured to the stationary cutter, having a plurality of outwardly projecting runner blades, the spaces between which are unobstructed from end to end.

4. The combination with a shearing machine, of one or more thin runner blades having outwardly bowed running edges secured thereto, the spaces between the blades being unobstructed from end to end.

5. The combination with a shearing machine having a stationary cutter, and a movable cutter coöperating therewith, of a plurality of thin runner blades projecting outward from the under side of the stationary cutter, the spaces between which are unobstructed from end to end.

6. The combination with a shearing machine having a stationary cutter containing a plurality of teeth about its forward edge, and an oscillatory cutter having cutter blades of less number than the number of teeth on the stationary cutter, of a plurality of thin runner blades projecting outward from the under side of the stationary cutter, the spaces between which are unobstructed from end to end.

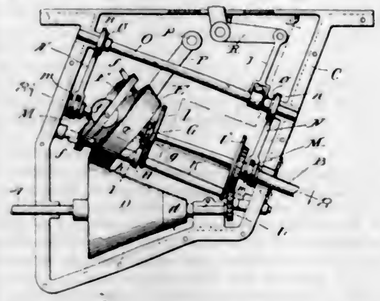
7. The combination with a shearing machine having a stationary cutter and a relatively movable cutter, of a runner plate secured to the under side of the stationary cutter, having a plurality of thin runner blades extending longitudinally of the machine and secured to the stationary cutter, the spaces between which are unobstructed from end to end.

8. The combination with a shearing machine having relatively stationary and movable cutters, of a runner device secured to the stationary cutter containing a plurality of thin longitudinally extending runner blades; the bearing edges of which are curved outward from their base and the sides of which have unobstructed passageways between them.

9. The combination with a shearing machine having relatively stationary and movable cutters, of a runner attachment comprising runner blades secured to the under side of the stationary cutter and adapted to form a traveling fulcrum for the cutters, said runner attachment being constructed and arranged to leave unobstructed passageways between the blades.

10. The combination with a shearing machine having relatively stationary and movable cutters, the stationary cutter of which contains a plurality of teeth, of a runner device curved upon the under side of the stationary cutter and having a plurality of thin runner blades, the bearing edges of which are bowed outward from the stationary cutter and one end of which extends well up into and between the two adjacent teeth of the stationary cutter.

869,501. TRANSMISSION DEVICE. OTTO MATTHEI and HENRY MATTHEI, Chicago, Ill. Filed July 1, 1907. Serial No. 381,604.



1. In a variable-speed transmission device, a pair of similarly-tapered coöperating friction cones, a shaft arranged parallel to the adjacent element of one of said cones, and a supporting bearing between said shaft and the other cone which permits the cone to revolve about its own axis when its peripheral surface is in rolling engagement with the surface of the coöperating cone.

2. In a variable-speed transmission device, a pair of similarly-tapered coöperating friction cones, a shaft arranged parallel to the adjacent element of one of said cones, and a supporting bearing between said shaft and the other cone which permits the cone to revolve about its own axis when its peripheral surface is in rolling engagement with the surface of the coöperating cone, and means for moving the one cone axially of the supporting shaft.

3. In a variable-speed transmission device, a pair of similary-tapered coöperating friction cones, a revoluble member arranged parallel to and supported for movements parallel to an element of one of the cones, means for securing the other cone on said member so as to rotate said member while rolling upon the other cone about its own axis.

4. In a variable-speed transmission device, a driving cone, a driven cone, a shaft extending through the driven cone in parallelism with the adjacent element of the driving cone, a member slidably mounted on said shaft but held against rotation thereon, a spherical boss surrounding said member, said driven cone having a spherical socket fitting said boss, stops between said boss and the cone for permitting the cone to revolve about its own axis while in rolling engagement with the driving cone but preventing rotation of the cone upon said member, and means for moving said member along said shaft.

5. In a variable-speed transmission device, a driving cone, a driven cone, a shaft extending through the driven cone in parallelism with the adjacent element of the driving cone, a member slidably mounted on said shaft but held against rotation thereon, a spherical boss surrounding said member, said driven cone having a spherical socket fitting said boss, stops between said boss and the cone for permitting the cone to revolve about its own axis while in rolling engagement with the driving cone but preventing rotation of the cone upon said member, means for moving said member along said shaft, and means for moving said shaft from and towards the driving cone.

6. In a variable-speed transmission device, a driving cone, a driven shaft supported in parallelism to the adjacent element of said cone, a driven cone, a ball and socket bearing between said shaft and the driven cone arranged to lock the cone in driving engagement with the shaft and at the same time rotate about its own axis while in rolling contact with the driving cone, and means for shifting the driven cone and its bearing along the shaft.

7. In a variable-speed transmission device, a driving cone, a driven shaft supported in parallelism to the adjacent element of said cone, a driven cone, a ball and socket bearing between said shaft and the driven cone arranged to lock the cone in driving engagement with the shaft and at the same time rotate about its own axis while in rolling contact with the driving cone, means for shifting the driven cone and its bearing along the shaft, and means for moving said shaft from and towards the driving cone.

8. In a variable-speed transmission device, a driving cone, a driven shaft supported in parallelism to the adjacent element of said cone, a driven cone, a ball and socket bearing between said shaft and the driven cone arranged to lock the cone in driving engagement with the shaft and at the same time rotate about its own axis while in rolling contact with the driving cone, means for shifting the driven cone and its bearing along the shaft, and an antifriction support arranged to travel with the driving cone along the shaft and hold the cone at the proper angle to the shaft to maintain the contacting elements of the two cones in parallelism.

9. In a variable-speed transmission device, a driving cone, a driven shaft supported in parallelism to the adjacent element of said cone, a driven cone, a ball and socket bearing between said shaft and the driven cone arranged to lock the cone in driving engagement with the shaft and at the same time rotate about its own axis while in rolling contact with the driving cone, means for shifting the driven cone and its bearing along the shaft, a friction disk loose on said shaft, gearing between said disk and the driving cone, and a complementary friction disk connected to the driving cone, said disks being so positioned and arranged that they do not engage until the driving connection between the cones is interrupted, and the said gearing being so constructed that the friction disks serve to rotate

the shaft in the opposite direction from that in which it is rotated by the cones.

10. In a variable-speed transmission device, a driving cone, a driven shaft supported in parallelism to the adjacent element of said cone, a driven cone, a ball and socket bearing between said shaft and the driven cone arranged to lock the cone in driving engagement with the shaft and at the same time rotate about its own axis while in rolling contact with the driving cone, means for shifting the driven cone and its bearing along the shaft, said bearing being in a plane passing through the center of and at right angles to the element of the cone in engagement with the driving cone.

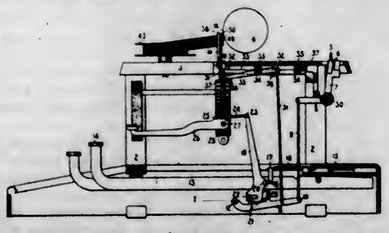
11. In a variable speed transmission device, a revoluble member having a friction surface which recedes uniformly from the axis of rotation, a coöperating friction cone engaging with said friction surface, a shaft arranged parallel to the engaging elements of said member and said cone, and a supporting bearing between said shaft and the cone which permits the cone to revolve about its own axis while its peripheral surface is in rolling engagement with the surface of the coöperating cone.

12. In a variable speed transmission device, a revoluble member having a friction surface which recedes uniformly from the axis of rotation, a coöperating friction cone in engagement with said surface, a shaft arranged parallel to the engaging elements of said member and said cone, and a supporting bearing between said shaft and the cone arranged in a plane at right angles to and intermediate the ends of said engaging elements.

13. In a variable speed transmission device, a revoluble member having a friction surface which recedes uniformly from the axis of rotation, a friction cone engaging with said surface, a shaft arranged parallel to the engaging elements of said member and said cone, and a supporting bearing between said shaft and the cone which permits the cone to revolve about its own axis when its peripheral surface is in rolling engagement with said member, said bearing being in a plane at right angles and intermediate the ends of said engaging elements.

14. In a variable speed transmission device, a revoluble member having a friction surface which recedes uniformly from the axis of rotation, a friction cone engaging with said surface, a shaft arranged parallel to the engaging elements of said member and said cone, a supporting bearing between said shaft and the cone which permits the cone to revolve about its own axis when its perepheral surface is in rolling engagement with said member, said bearing being in a plane at right angles and intermediate the ends of said engaging elements, and means for moving said cone and said bearing longitudinally of the shaft.

869,502. TYPE-WRITING MACHINE. HENRY W. MERRITT, Syracuse, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed Apr. 24, 1905. Serial No. 257,189.



1. In a typewriting machine, the combination of a vertically movable ribbon vibrator, a vertically movable printing point indicator, and means for automatically moving one up when the other is moved down.

2. In a typewriting machine, the combination of a ribbon vibrator, a printing point indicator, and means for automatically moving said vibrator and indicator parallelly and in opposite directions.

3. In a typewriting machine, the combination of a fixed guide, a ribbon vibrator that slides on said guide, an indicator that likewise slides on said guide, means for moving said vibrator at each printing operation, and means for automatically actuating said indicator at each movement of said vibrator.

4. In a typewriting machine, the combination of a fixed guide, a ribbon vibrator that slides on said guide, an indicator that likewise slides on said guide, means for moving said vibrator at each printing operation, and means for automatically actuating said indicator at each movement of said vibrator, the movements of the vibrator and indicator being in opposite directions, so that when the vibrator is moving towards the printing point the indicator will be moving away from the printing point.

5. In a typewriting machine, the combination of two levers, a ribbon vibrator attached to one lever and an indicator attached to the other lever, the indicator being arranged behind the vibrator and in substantial parallelism therewith, and means for actuating the vibrator lever in one direction and for simultaneously actuating the indicator lever in a diametrically opposite direction.

6. In a typewriting machine, the combination of a vibrator, an automatically actuated lever controlling said vibrator, an indicator, and an independent lever controlled by the vibrator lever and controlling the operation of the indicator, the ends of said levers to which the vibrator and indicator are connected moving in opposite directions.

7. In a typewriting machine, the combination of a ribbon vibrator, a printing point indicator that is substantially parallel with said vibrator, said vibrator and indicator moving in opposite directions and in substantially parallel planes, and two automatically actuated levers arranged in parallel planes one controlling the operation of the vibrator and the other the indicator and one of said levers controlling the operation of the other.

8. In a typewriting machine, the combination of a ribbon vibrator, a printing point indicator that is substantially parallel with said vibrator, the vibrator and indicator moving in opposite directions and in substantially parallel planes, two automatically actuated levers arranged in parallel planes, one controlling the operation of the vibrator and the other the indicator and one of said levers controlling the operation of the other, a universal bar, and means for actuating one of said levers from the universal bar.

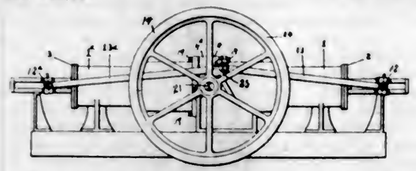
9. In a typewriting machine, the combination of two actuating levers one of the first order and one of the third order, the former being arranged to actuate the latter, a ribbon vibrator attached to the lever of the first order and an indicator attached to the lever of the third order.

10. In a typewriting machine, the combination of a printing point indicator and ribbon vibrator arranged side-by-side and movable vertically in opposite directions, one member moving up when the other is moving down, levers which are arranged side-by-side and extend fore and aft of the machine and control the movements of the indicator and vibrator, and means for automatically actuating said levers.

11. In a typewriting machine, the combination of a printing point indicator and ribbon vibrator arranged side-by-side and movable vertically in opposite directions, one member moving up when the other is moving down, levers which are arranged side-by-side and extend fore and aft of the machine and control the movements of the indicator and vibrator, a universal bar, and means for operatively connecting said levers to the universal bar.

12. In a typewriting machine, the combination of a printing point indicator and ribbon vibrator arranged side-by-side and movable vertically in opposite directions, one member moving up when the other is moving down, levers which are arranged side-by-side and extend fore and aft of the machine and control the movements of the indicator and vibrator, a pin carried by one of said levers and coöperating with the other lever so that the movement of one lever will affect an actuation of the other, a universal bar, and means for connecting one of said levers to said universal bar.

869,503. DOUBLE TWO-CYCLE ENGINE. WILLIAM L. MORROW, Stockton, Cal. Filed Mar. 13, 1906. Serial No. 305,790.



1. In a gas engine, two cylinders disposed in longitudinal alinement and provided with closure heads at the outer ends, a dividing member between the cylinders and formed in two parts having half bearings in their adjacent faces, means for connecting said two-part dividing member between said cylinders, a shaft journaled in said bearings and with cranks at the outer ends, pistons operating respectively in said cylinders, piston rods connected to said pistons and extending through the closure heads of the cylinders, cross heads connected to the free ends of said piston rods, and coupling rods between said cross heads and cranks.

2. In a gas engine, two cylinders disposed in longitudinal alinement and with closure heads at their outer ends, a dividing member disposed between said cylinders and provided with a transverse shaft bearing, means for coupling said connecting member to said cylinders, pistons operating in said cylinders, piston rods connected to said pistons and extending through said closure heads, cross heads connected to said pistons, connecting rods between said cross heads and cranks, spark igniters asociated with said cylinders near said dividing member, mixer devices associated with said cylinders near said closure heads, and exhaust ports in said cylinders.

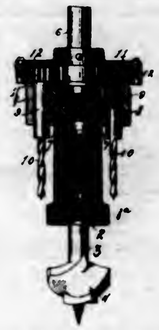
3. In a gas engine, two cylinders disposed in longitudinal alinement and provided with heads at the outer ends, a dividing member between the cylinders and connected to their adjacent ends and provided with a transverse shaft bearing, a shaft member mounted for rotation in said bearing and with cranks at the ends, pistons working respectively in said cylinders, piston rods connected to said pistons and extending through said closure heads, cross heads at the free ends of said piston rods, connecting rods between said cross heads and cranks, circulating feed ports located in the sides of the cylinder and adapted to conduct the explosive charge from the rear to the front of the pistons when the same are in a predetermined position, exhaust ports extending from said cylinders slightly in advance of the inner terminals of said feed ports, spark igniters associated with said cylinders near said dividing member, mixer devices associated with said cylinders near said closure heads.

869,504. BORING-MACHINE. EDWARD C. MUELLER, Toledo, Ohio, assignor to The Toledo Bushing Company, Toledo, Ohio, a Corporation of Ohio. Filed May 14, 1906. Serial No. 316,665.

1. In a device of the described character, an auger, a pair of augers of smaller diameter arranged in such relation to the larger auger that their bores shall intersect the bore of the larger auger, a guide upon the shaft of the larger auger adapted to fit the bore of such auger and extending forward of the ends of the smaller augers, and gears intermediate of the larger and the smaller augers.

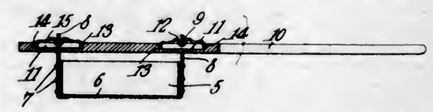
2. In a device of the described character, an auger, a pair of augers of smaller diameter arranged on either side of the larger auger, a cylindrical guide upon the shaft of the larger auger adapted to fit the bore of such auger and extending forward of the ends of the smaller augers, and gears intermediate the larger auger and the smaller augers.

3. A boring device comprising a main auger, an auger of smaller diameter disposed at the side of and in the rear of the main auger adapted to notch the edge of the bore of the main auger, and a guide disposed between the two augers arranged to enter the bore of the main auger and guide the smaller auger in its action.



4. A boring device having a plurality of augers, comprising a shaft for the central auger provided with an enlargement adapted to fit the bore of said auger, and auxiliary augers arranged at the side of the central auger, the ends thereof being behind said enlargement, whereby they will be guided thereby.

869,505. SCREEN-HANDLE FASTENER. MARTIN MURRAY and CHARLES MURRAY, Troy, N. Y. Filed Feb. 25, 1907. Serial No. 359,205.



1. A sieve having oppositely disposed perforated supporting brackets, an operating handle extending through the perforations in the brackets, and means carried by the handle and adapted to engage the walls of the perforations for locking the handle in position on the supporting brackets.

2. A sieve having oppositely disposed handle supporting members, a handle engaging said members and locking members carried by the handle and provided with intermediate loops adapted to engage the walls of the handle supporting members for locking the handle against accidental displacement.

3. A sieve including oppositely disposed handle supporting members, an operating handle provided with spaced recesses, and locking members seated in said recesses and adapted to engage the handle supporting members for locking the handle in position on said members.

4. A sieve having oppositely disposed supporting brackets, an operating handle engaging the brackets and provided with spaced recesses, and locking members having terminal spring arms adapted to bear against the adjacent walls of the recesses and provided with intermediate loops for engagement with the supporting brackets.

5. A sieve having oppositely disposed supporting brackets, an operating handle threaded through said brackets and provided with spaced slots, and spring locking members provided with intermediate depending loops adapted to engage the walls of the supporting brackets, the locking members on each side of the intermediate loop being inclined downwardly in opposite directions.

6. A sieve having oppositely disposed supporting brackets provided with alined openings, a handle threaded through said openings and provided with spaced elongated recesses, and locking members seated in said recesses and each formed of a single piece of wire having an intermediate portion thereof bent to form a depending loop adapted to engage the walls of the supporting brackets and its opposite ends bent downwardly to form spring pressed arms adapted to yieldably engage the end walls of

the recesses, the wire on each side of the depending loop being inclined downwardly towards the spring arms.

869,506. TRAIN-PIPE COUPLING. WILLIAM H. MYERS and WILLIAM G. STEVENS, Belleville, Ill. Filed Apr. 12, 1907. Serial No. 367,858.



1. A train pipe coupling comprising a pair of fluid conducting pipes having openings in the walls thereof, valves carried by said pipes and a pair of spring pressed coupler heads slidably mounted upon said pipes and arranged for assemblage with each other, substantially as set forth.

2. A train pipe coupling comprising a pair of fluid conducting pipes having perforations in the walls thereof valves carried by said pipes and coupler heads slidably fitted to said pipes and arranged for assemblage with each other and springs supported by said pipes and acting to force said coupler heads in an outward direction on the pipes, substantially as set forth.

3. A train pipe coupling comprising a pair of fluid conducting pipes provided with openings in the walls thereof, valves carried by said pipes, a pair of coupler heads containing chambers, channeled shanks carrying said coupler heads and fitted to said pipes and springs for exerting forward pressure upon said coupler heads and their shanks, substantially as set forth.

4. A train pipe coupling comprising a pair of perforated fluid conducting pipes, a pair of coupler heads having channeled shanks slidably fitted to said pipes and provided with valve seats, valves carried by said pipes and arranged to control the flow of fluid through said coupler heads, springs for exerting forward pressure upon said coupler heads, and means for holding said coupler heads in neutral position whereby they are caused to move into engagement when brought together, substantially as set forth.

5. A train pipe coupling comprising a pair of fluid conducting pipes, a pair of coupler heads having shanks slidably fitted to said pipes, valves carried by said pipes and arranged to control the flow of fluid through said coupler heads, springs for exerting forward pressure upon said coupler heads, and spring arms for centering said coupler heads relative to each other, substantially as set forth.

6. A train pipe coupling comprising a pair of fluid conducting pipes and having openings in the walls thereof, valves carried by said pipes and a pair of spring pressed coupler heads, slidably fitted to said pipes and having complementary angular noses and sockets corresponding in contour to said noses, substantially as set forth.

7. A train pipe coupling comprising a pair of fluid conducting pipes and having openings in the walls thereof, valves carried by said pipes and a pair of spring pressed coupler heads slidably fitted to said pipes and having complementary angular noses and sockets corresponding in contour to said noses and being provided with conical bosses and pockets into which said bosses enter when the coupler heads are brought together, substantially as set forth.

869,507. DRILL-CHUCK. ALEXANDER J. MCALLISTER, Erie, Pa. Filed Oct. 3, 1906. Serial No. 337,271.

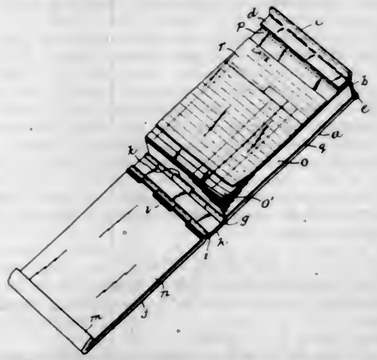
1. The combination in a drill chuck, of a drill collet, a sleeve having openings in the wall thereof, adapted to embrace the lower end of said collet and engage the grooves in a drill, and one or more studs in said collet passing through the openings in said sleeve, substantially as set forth.

2. The combination in a drill-chuck, of a drill collet, one or more studs in said drill-collet, a longitudinally slotted sleeve adapted to engage the grooves in a drill and the studs on said collet, and means for retaining said sleeve in place on said collet, substantially as and for the purpose set forth.



3. The combination in a drill chuck of a drill collet having a tapered socket therein, an internally screw threaded sleeve loosely secured upon said collect, one or more studs on said collet, an externally screw-threaded sleeve having slots in the walls thereof adapted to receive said studs and having a contracted opening in the lower end thereof, and one or more internal projections or studs in said opening adapted to enter the grooves in a drill, substantially as and for the purpose set forth.

869,508. DUPLICATING-PAD AND HOLDER. PERRY A. MCCASKEY, Alliance, Ohio, assignor to The McCaskey Register Company, Alliance, Ohio, a Corporation of Ohio. Filed Dec. 31, 1906. Serial No. 350,273.



1. A duplicating pad holder comprising a back plate with a head-piece and clamp-bar on one end thereof, the opposite end of the plate having a hinge-member thereon, a foot-piece connected to the hinge-member, and a cover hinged to the foot-piece.

2. A duplicating pad holder comprising a back plate with a head-piece and clamp-bar on one end thereof, the opposite end of the plate having a clip and also a hinge member thereon, the clip extending towards the head-piece, a foot-piece connected to the hinge member, and a cover hinged to the foot-piece.

3. A duplicating pad holder comprising a back plate provided at an end thereof with a hinged head-piece having a clamp bar thereon, a spring seated against the head-piece, a foot-piece hinged on the opposite end of the back plate, a clip on said opposite end of the back plate, and a cover hinged to the foot-piece.

4. A duplicating pad holder comprising a back plate provided at an end thereof with a hinged head-piece having a finger-piece and a clamp-bar thereon, a spring seated against the head-piece, a foot-piece hinged on the opposite end of the back plate, a clip on said opposite end of the back plate, and a cover hinged to said foot-piece.

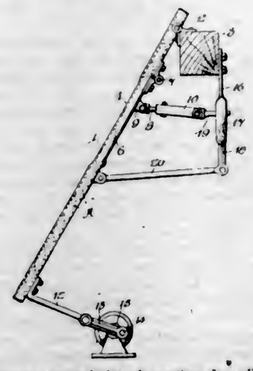
5. A duplicating pad and holder comprising a back plate, a head-piece on one end of the back plate, a hinge member on the other end of the back plate, a foot-piece connected to the hinge-member, a cover hinged to the foot-piece, a carbon sheet holder on the back plate between the head-piece and the hinge member, a pad on the carbon sheet holder and guided by the head piece and the hinge member, and a sheet to coöperate with the pad for duplicating and attached to the carbon sheet holder and guided thereby with respect to portions of the pad, said sheet being shorter than the pad in one direction.

6. A duplicating pad and holder comprising a back plate, a head-piece on one end of the back plate, a hinge member on the other end of the back plate, a foot-piece connected to the hinge member, a cover hinged to the foot-piece, a carbon sheet holder on the back plate between the head-piece and the hinge member, a pad on the carbon sheet holder, a clip on the back plate engaging the pad adjacent to the hinge member, and a flexible sheet attached to the carbon sheet holder to coöperate with the pad for duplicating and having less length than the holder in the direction between the head-piece and the hinge member.

7. A duplicating pad and holder comprising a back plate provided at one end thereof with hinge members and also a clip between the hinge members, a head-piece on the opposite end of the back plate, a clamp-bar on the head-piece, a foot-piece connected to the hinge member, a cover hinged to the foot-piece, a carbon sheet holder carrying a carbon sheet less than the back plate in length in the direction between the head-piece and the hinge member, and a pad on the carbon sheet holder engaging the head-piece and the clamp-bar and also the clip and the hinge member.

8. A duplicating pad holder comprising a back plate with a head-piece and clamp-bar on one end thereof, the opposite end of the plate having a hinge-member formed thereon, a foot-piece connected to the hinge member, and a cover hinged at one end thereof to the foot-piece and having a clip turned up on said hinged end integral therewith, and a clip formed integrally on the opposite end of said cover and extending towards the clip on said hinged end.

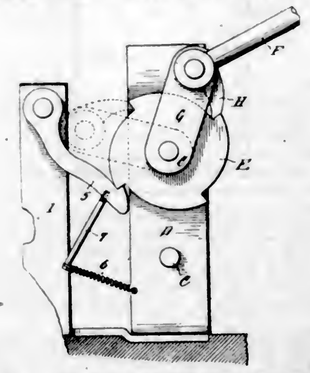
869,509. CAP-FEEDING MECHANISM FOR CANNING-MACHINES. NATHANIEL NELSON, Chicago, Ill. Filed May 11, 1907. Serial No. 373,077.



1. In a mechanism of the character described, the combination with a swingingly mounted cap chute having a reduced portion therein, of a door hinged within said chute, adjacent its reduced portion, means for swinging said chute away from said door, a spring mounted to press said door closed upon the return of said chute, and means having connection with said chute and operated by the same, for moving said spring rearwardly to counteract the effect of the same and allow said door to open when said chute is swung away from the same, substantially as described.

2. In a mechanism of the character described, the combination with a swingingly mounted cap chute having a reduced portion therein, of a door hinged within said chute adjacent its reduced portion, means for swinging said chute away from said door, a spring mounted to press said door closed upon the return of said chute, and means for counteracting the effect of said spring upon the first named movement of said chute, substantially as described.

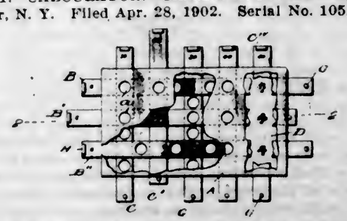
869,510. SOLDER-FEEDING MECHANISM FOR CANNING-MACHINES. NATHANIEL NELSON, Chicago, Ill. Filed May 11, 1907. Serial No. 373,078.



1. In a mechanism of the character described, the combination with the feed rollers for feeding a sheet of solder and the ratchet wheel and operating arm for actuating said rollers, of a locking dog arranged to engage said ratchet wheel to prevent reverse movement of said solder sheet, and a strap brake arranged upon one of said rollers and having a resilient connection at one end thereof to allow this rotation and a rigid connection at its other end to prevent the reverse movement thereof, substantially as described.

2. In a mechanism of the character described, the combination with the feed rollers for feeding a sheet of solder and the ratchet wheel and operating arm for actuating said rollers, of a locking dog arranged to engage said ratchet wheel to prevent reverse movement of said solder, and a strap brake arranged upon one of said rollers and having an adjustable resilient connection at one end thereof to allow this rotation, and a rigid connection at its other end to prevent the reverse movement thereof, substantially as described.

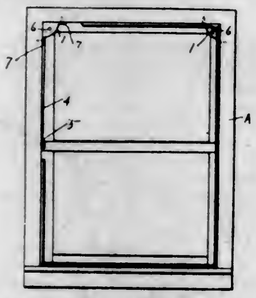
869,511. CALCULATOR. CHARLES H. OCUMPAUGH, Rochester, N. Y. Filed Apr. 28, 1902. Serial No. 105,066.



In a calculator, the combination of a case, a removable back plate, transversely arranged series of perforated re-

movable and numbered slides supported in the case above said plate and movable to cause these perforations to register and expose the back plate, numbers on said plate denoting the numbers of the actuated slides and their product, said numbers being exposed through the coincident perforations of said numbered slides, detachable stops for the slides, and means for securing the plate in operative situation, said means permitting the removal of the plate.

869,512. CASING FOR SASH BALANCES AND PULLEYS. CHARLES H. OCUMPAUGH, Rochester, N. Y. Filed Oct. 24, 1905. Serial No. 284,153.

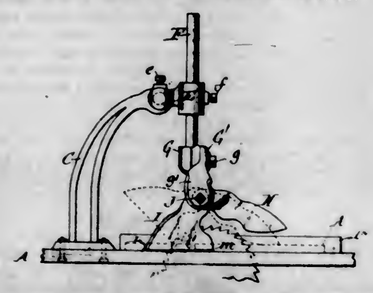


1. The combination, in a spring sash balance, of a drum casing having two flanges extending in planes at right angles to each other, and a spring-holding drum between the planes of the flanges, said casing having open top and side edges adapted to be closed by the window frame when the casing is connected to the frame at an interior angle thereof.

2. A window frame, a sash, a spring sash balance casing provided with means for its attachment to the inside of the upper corner of said window frame and to the frame wall inclosing said corner, and a sash balance in said casing.

3. A window frame, a sash runway, a spring sash balance casing provided with means for attachment to frame surfaces including an angle and a part of the runway and having an open side or edge placed adjacent the runway, said casing being partially cut away at and within said angle to facilitate assembling the casing with a spring drum.

869,513. SAW-GUARD. FREDERICK C. PFEIL, Buffalo, N. Y. Filed June 17, 1907. Serial No. 379,341.



1. A saw guard comprising front and rear shields adapted to be supported above the saw so as to be capable of vertical movement, and the arrangement being such as to compel the front section to rise when the rear section descends, substantially as set forth.

2. A saw guard comprising vertically movable front and rear shields adapted to be arranged above the saw, and the arrangement being such as to permit the front shield to descend when the rear shield rises and compel the front shield to rise when the rear shield descends, substantially as set forth.

3. A saw guard comprising vertically movable front and rear shields adapted to be arranged over the saw, the downward movement of said rear shield being limited by engaging with the top of the saw table, and the arrangement being such as to permit the front shield to descend when the rear shield is raised and to compel the front shield to rise when the rear shield descends, substantially as set forth.

4. A saw guard comprising front and rear shields adapted to be arranged above the saw, a pin or bolt pivotally connecting the opposing ends of said shields so that they may swing vertically, and the arrangement being such as to permit the front shield to descend when the rear shield rises and to compel the front section to rise when the rear section descends, substantially as set forth.

5. A saw guard comprising front and rear shields adapted to be arranged above the saw, a pin or bolt pivotally connecting the opposing ends of said shield so that they may swing vertically consisting of shoulders arranged on the shields adjacent to the pivotal connection between the same and adapted to coöperate with each other to permit the front shield to descend when the rear shield rises and to compel the front shield to rise when the rear shield descends, substantially as set forth.

6. A saw guard comprising front and rear shields adapted to be arranged above the saw, a pivotal connection between said shields, and coöperating shoulders on said shields, the relative weight of said shields and the arrangement of said shoulders being such that the front shield is permitted to descend when the rear shield is raised and the front shield is compelled to rise when the rear shield descends owing to the preponderating weight of the latter, substantially as set forth.

7. A saw guard comprising vertically movable front and rear shields adapted to be arranged above the saw and each extending downwardly along opposite sides of the saw, and the arrangement being such as to permit the front shield to descend when the rear shield rises and to compel the front shield to rise when the rear shield descends, substantially as set forth.

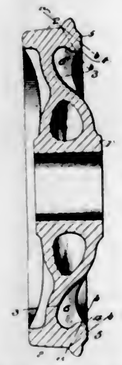
8. A saw guard comprising front and rear shields adapted to be arranged above the saw and said rear shield having an angular corner at its lower front end for engaging the board which is being sawed and preventing backward movement thereof, and a support to which both shields are pivotally connected, substantially as set forth.

9. A saw guard comprising front and rear shields, a support to which both of said shields are pivotally connected, the arrangement being such as to permit the front shield to descend when the rear shield rises but compels the front shield to rise when the rear shield descends, and a stop arranged on said support and operating to limit the upward movement of the front shield, substantially as set forth.

10. A saw guard comprising front and rear shields adapted to be arranged above the saw, a swivel coupling consisting of an upper section, a lower section, a horizontal clamping bolt connecting the upper and lower sections and lugs which depend from said lower section and between which both shields are pivotally connected, and a support to which the upper section of the swivel is connected, substantially as set forth.

11. A saw guard comprising front and rear shields adapted to be arranged above the saw, a swivel coupling consisting of an upper section, a lower section, a horizontal clamping bolt connecting the upper and lower sections and lugs which depend from said lower section and between which both shields are pivotally connected, and means for supporting said swivel coupling on an adjustable saw table consisting of a standard adapted to be secured to the table, a vertical rod connected with the upper section of the swivel coupling, and a horizontal rod connecting said vertical rod with said standard, substantially as set forth.

869,514. CAR-WHEEL. JOHN A. PILCHER and WARD W. LEMEN, Roanoke, Va. Filed Apr. 7, 1906. Serial No. 310,537.



1. In a car-wheel such as described, the flange strengthened by a body of metal extending inwardly opposite the flange and outwardly beyond the back of the flange and integral with the rim or tread-section, substantially as shown and described.

2. In a car-wheel such as described, the flange strengthened by a body of metal extending inwardly opposite the flange and outwardly beyond the back of the flange and integral with the rim or tread-section, and a web or arch plate extending from the hub to the rim at a point in front of the flange, substantially as shown and described.

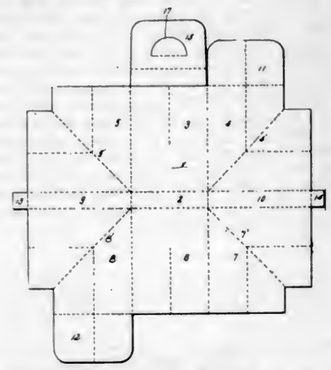
3. A car-wheel formed of a single piece of metal having a rim constituting a tread-section; a flange on the rim; a web or arch plate extending from the hub to point opposite the tread and means for reinforcing the strength of the flange, comprising a body of metal at the inner portion of the rim, extending inwardly opposite the flange, and outwardly beyond the back of the flange, substantially as and for the purpose set forth.

4. A car-wheel formed of a single piece of metal having a rim constituting a tread-section; a flange on the rim; a web or arch plate extending from the hub to a point opposite the tread; means for reinforcing the strength of the flange, comprising a body of metal at the inner portion of the rim extending inwardly opposite the flange and outwardly beyond the back of the flange, and brackets extending from the web or arch plate to the reinforce of the flange, substantially as shown and described.

869,515. SPUTUM-CUP. HARRY J. POTTER, Cambridge, Mass., assignor to Aseptic Drinking Cup Company, Cambridge, Mass., a Corporation of Maine. Filed Dec. 21, 1906. Serial No. 348,902.

1. A sputum cup comprising a base and two pairs of walls rising therefrom and integral therewith, each member of a pair of such walls comprising an outer side wall, and integral with opposite edges thereof infolding double walls adapted when positioned to be superimposed flatwise upon the inside of the cup against said outer side wall, that infolding double wall of each pair of such walls that is first infolded in shaping the cup having a retaining flap extending from and in line with that member of the double wall that lies directly against the outer wall, each flap being adapted to be inturned into the receptacle over the other member of said double wall and over both members of the companion double wall.

2. A sputum cup comprising a base 2, side walls 3 and 6 and end walls 9 and 10 extending integrally therefrom, double infolding walls 4, 5, 7 and 8 extending between said side and end walls and adapted to be infolded against the side walls 3 and 6 respectively and flaps 11 and 12 extending directly from and in line with the member of the infolding walls 4 and 8 that in assembling the box lies directly against said side walls 3 and 6, and adapted to be inturned into the receptacle.



3. A sputum cup comprising a base and two pairs of walls rising therefrom and integral therewith, each member of a pair of such walls comprising an outer side wall, and integral with opposite edges thereof infolding double walls adapted when positioned to be superimposed flatwise upon the inside of the cup against said outer side wall, that infolding double wall of each pair of such walls that is first infolded in shaping the cup having a retaining flap extending from and in line with that member of the double wall that lies directly against the outer wall, each flap being adapted to be inturned into the receptacle over the other member of such double wall and over both members of the companion double wall, and a cover integral with and extending from one of the outer side walls and adapted to extend over the mouth of the receptacle and to have its end inserted between the opposite side wall and that member of the double wall pertaining thereto that lies against said opposite side wall.

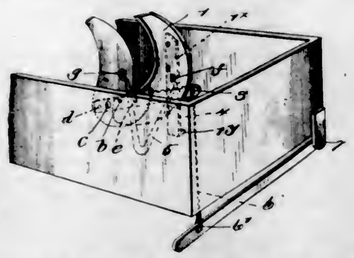
4. A sputum cup comprising a base 2, side walls 3 and 6, and end walls 9 and 10 extending integrally therefrom, double infolding walls 4, 5, 7 and 8 extending between said side and end walls and adapted to be infolded against the side walls 3 and 6 respectively, and flaps 11 and 12 extending directly from and in line with that member of the infolding walls 4 and 8 that in assembling the box lies directly against said side walls 3 and 6 and adapted to be inturned into the receptacle, and a cover 15 extending from the side wall 3 and adapted to have its end inserted between the side wall 6 and that member of the double infolding wall 8 from which the flap 12 extends.

5. A sputum cup comprising a base and two pairs of walls rising therefrom and integral therewith, each member of a pair of such walls comprising an outer side wall, and integral with opposite edges thereof infolding double walls adapted when positioned to be superimposed flatwise upon the inside of the cup against said outer side wall, that infolding double wall of each pair of such walls that is first infolded in shaping the cup having a retaining flap extending from and in line with that member of the double wall that lies directly against the outer wall, each flap being adapted to be inturned into the receptacle over the other member of such double wall and over both members of the companion double wall, the other pair of side walls being rectangular so that the assembled cup is rectangular in transverse vertical section, each of said last mentioned pair of side walls having a flap extending therefrom and adapted when the cup is assembled to be inturned thereinto to lie between the inturned flaps upon the double infolding walls.

6. A sputum cup comprising a base and two pairs of walls rising therefrom and integral therewith, each member of a pair of such walls comprising an outer side wall, and integral with opposite edges thereof infolding double walls adapted when positioned to be superimposed flatwise upon the inside of the cup against said outer side

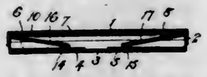
wall, each infolding double wall having a rectangular portion cut from the outer corner thereof, that infolding double wall of each pair of such walls that is first infolded in shaping the cup having a retaining flap extending from and in line with that member of the double wall that lies directly against the outer wall, each flap being adapted to be inturned into the receptacle over the other member of such double wall and over both members of the companion double wall, a cover extending from one of said outer walls and adapted to have its end inserted between the other outer wall of such pair and an infolding double wall pertaining thereto, the other pair of side walls being rectangular, the side walls of the first mentioned pair of walls being longitudinally scored to facilitate outward flexing of such side walls and the consequent rounding open of the mouth of the receptacle.

869,516. HEADING-MACHINE. HINES A. POWERS, Farry, Okla. Filed Feb. 13, 1907. Serial No. 357,231.



A device for heading Kafir corn comprising a stationary blade means for fastening the same to a wagon box, a pivotal blade mounted to shear against the stationary blade, a bar fixed to said stationary blade and provided with a projection serving as a stop, a V-shaped spring fastened at one end to said bar and at its other end to the pivotal blade, a bar fixed to the pivotal blade and adapted to contact with said projection to limit the movement of said pivotal blade in one direction, a lever, and connections between the same and the bar which is fixed to the pivotal blade for operating the latter, as set forth.

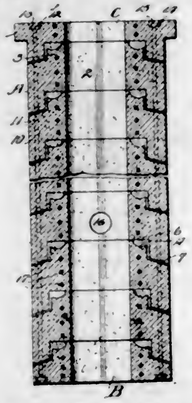
869,517. FOLDING BOX. BARNET RAPEPORT, New York, N. Y. Filed Mar. 28, 1905. Serial No. 252,504.



A box having its body portion consisting of two strips of material, one being bent to form a bottom and interior folding flaps hinged thereto, and the other being bent to form four sides, two of the sides being arranged to fold bodily inward along a line above the bottom of the box and the other two sides being arranged to have a compound fold inwardly along a line above the bottom, the sides of the box being permanently united to the bottom thereof.

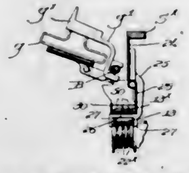
869,518. CONCRETE CHIMNEY. JOHN W. RECTOR, Savannah, N. Y. Filed Sept. 19, 1906. Serial No. 335,291.

The herein described chimney composed of a plurality of concrete blocks, said blocks each having a central flue aperture, an upwardly extending flange surrounding said aperture, an inclined shoulder leading from said flange to the outer surface of the block, the flange being cut away along the top edge away from said aperture to form a mortar receiving groove, a flange on the underside of said block of less length than the first named flange and provided with an inclined under surface and a square shoulder inside the flange, wire rings embedded in the block and surrounding



the flue aperture, and longitudinal binding rods extending through the blocks.

869,519. SPOOLER. ALONZO E. RHOADES, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed May 3, 1907. Serial No. 371,594.

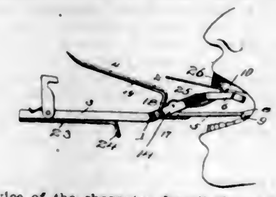


1. In a spooler, a series of bobbin-holders each provided with means to permit ejection of a spent bobbin, a longitudinally-extended trough-like receptacle below the series of bobbin-holders, to receive the bobbins ejected therefrom, a longitudinally-extended, endless traveling belt forming by its upper run the bottom of the receptacle, to convey spent bobbins to one end of the frame, and separated sets of projections diagonally arranged on the outer face of the belt to engage and effect positive movement of the bobbins with the belt, the distance between successive projections diagonally of the belt being greater than the length of a bobbin.

2. In a spooler, a series of bobbin-holders each provided with means to permit ejection of a spent bobbin, a longitudinally-extended trough-like receptacle below the series of bobbin-holders, to receive the bobbins ejected therefrom, a longitudinally-extended, endless traveling belt forming by its upper run the bottom of the receptacle, to convey spent bobbins to one end of the frame, longitudinal rows of diagonally arranged projections on the outer face of the belt, to engage and effect positive movement of the bobbins with the belt, successive projections in any longitudinal row being further apart than successive projections in a diagonal line across the belt, and a guide-roll for the lower run of the belt, having peripheral grooves to permit the passage of the projections on the belt.

869,520. DENTAL IMPRESSION-PLIERS. MYRON A. ROBBINS, Passaic, N. J. Filed Dec. 15, 1906. Serial No. 348,078.

1. A device of the character described, comprising a pair of loosely connected jaws, one of which is formed with two spaced arms provided at their extremities with transversely disposed bearing members, while the opposite jaw is positioned between the spaced arms and, provided with a knob for engaging an impression cup.



2. A device of the character described, comprising complemental members pivotally connected to form handles and jaws, one of the jaws being provided with spaced bearing means and the opposite jaw with means for engaging an impression cup.

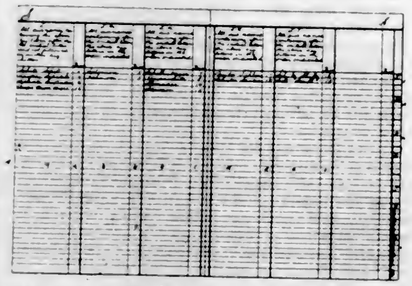
3. A device of the character described, comprising complemental members pivotally connected to form handles and jaws, one of said jaws being pivoted with bearing means and the opposite jaw with means for engaging an impression cup, means for forcing the two jaws apart, and means for locking the jaws together.

4. A device of the character described, comprising complemental members pivotally connected to form handles and jaws, an enlarged rib extending along the outer edge of one of the handles, and a projection coöperating with the rib to enable a firm grip to be obtained upon the handle without danger of slipping.

5. A device of the character described, comprising complemental members pivotally connected to form jaws and handles, spaced bearing means and means for engaging an impression cup carried respectively by the jaws, means normally acting to force the jaws apart, and a catch carried by one of the handles and engaging the extremity of the opposite handle to hold the jaws together.

6. In a dental instrument, crossed and pivoted handle members, a jaw member carried by one handle member and comprising spaced bearing arms, and a single arm carried by the other jaw member spaced between the bearing members and carrying a resilient knob.

869,521. INDEX. ROBERT C. RUSSELL, Williamsport, Pa. Filed May 3, 1905. Serial No. 258,594.



1. An index to names, comprising a series of vertical columns designated respectively to receive only such surnames as contain after the initial letter, the key letters l, m, n, r or t.

2. An index to names, comprising a series of vertical columns designated by letters consisting of the consonants l, m, n, r, t, said vertical columns designated respectively to receive only such names in which said letters appear after the initial letters.

3. An index to names, provided with vertical columns, designated by key letters common to names under all initial letters, said key letters consisting of five certain consonants appearing on the respective columns, and the vertical columns designated respectively, to receive only such names which contain said consonants after the initial letters.

4. An index to names comprising several pages having vertical columns, designated by key letters consisting of the consonants l, m, n, r, t, the respective pages having said key letters designated and exposed on the margins, and the columns of the pages labeled with said key letters and designated respectively to receive only such names as contain said key letters after the initial letters.

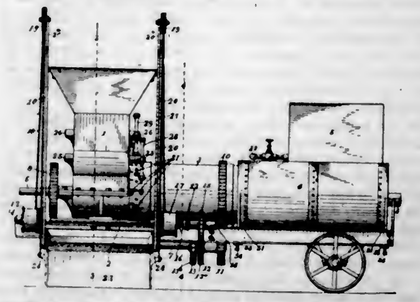
5. An index comprising a series of vertical columns, designated by key letters consisting of the consonants l, m, n, r, t, and combinations of these letters, the said vertical columns designated respectively to contain only such names in which said key letters or combinations of key letters appear after the initial letters of the sur-names.

6. An index divided into a series of vertical columns, designated by key letters comprising five divisions consisting of the letters l, m, n, r, t and sub-divisions of said key letters consisting of each of said key letters combined with each of the others, said vertical columns designated respectively to receive only such names in which said key letters and said combinations of key letters appear after the initial letters of the names.

7. An index divided into a series of pages or sets of pages, each of said pages divided by a series of vertical columns, each properly designated to receive only such names in which a certain key letter or combination of key letters appear after the initial letters of the names, said columns designated by key letters consisting of the letters l, m, n, r, t, and combinations of each of these letters with each of the others, the columns on one of said pages or sets of pages designated with the key letter "l" and combinations thereof with the other key letters, and the columns of the other pages or sets of pages designated respectively with the key letters m, n, r, t and combinations thereof, only one of said key letters and its combinations appearing on each page or set of pages, each of said pages having other columns properly designated to contain numerals referring to a record of transactions relative to the indexed names.

8. The combination with a general index having a column properly designated to receive names of persons, a column to the left of the first-mentioned column designated to contain the names of grantors, a column to the right of the first-mentioned column designated to contain the names of grantees, of a sur-name index to contain names referring to the central column of the general index, said sur-name index divided into a series of vertical columns, designated by key letters consisting only of the letters l, m, n, r, t, and sub-divisions thereof, the columns of the sur-name index designated to receive respectively, names containing one or a combination of said key letters when they appear after the initial letters of the names.

869,522. MACHINE FOR MIXING CONCRETE. GEORGE D. SCHEIFFLER, Jackson, Mich. Filed Sept. 20, 1906. Serial No. 335,426.



1. In a concrete mixer, the combination of a case having an imperforate concave bottom, an imperforate rotative

cylinder communicating end to end with the case, a rotative brush in the case and cylinder and contacting the inner surfaces of each of the same, and means for rotating the brush and the cylinder at different relative speeds.

2. In a concrete mixer, the combination of a rotative cylinder, a stationary case in communication with the cylinder, a rotative brush in the cylinder and case and engaging the inner surface of the same, means for rotating the brush and cylinder at different relative speeds, means for supplying dry material to the cylinder, and means for supplying water to the case.

3. In a concrete mixer, the combination of a hopper having a concave bottom, a rotative cylinder communicating with the hopper at one end, a stationary case communicating with the cylinder and having a concave bottom, a shaft extending through the axis of the hopper, the axis of the cylinder and the axis of the case, and a spiral member on the shaft, said member having a flexible periphery engaging the bottom of the hopper, the interior of the cylinder, and the bottom of the case, and means for rotating the shaft and cylinder.

4. In a concrete mixer, the combination of a stationary case having a concave bottom, a rotative cylinder having one end inserted in one end of the case, a hopper having a concave bottom, and also having a discharge extension inserted in one end of the rotative cylinder, a shaft in the axis of the hopper, the axis of the cylinder and the axis of the case, a spiral brush on the shaft and engaging the inner surfaces of the hopper, the cylinder and the case, feed regulating mechanism in the hopper, means for supplying water to the case, and means for rotating the cylinder and the shaft at different relative speeds.

5. In a concrete mixer, the combination of a hopper having a concave bottom and a tubular discharge extension, a rotative cylinder having one end surrounding said extension, a case having one end surrounding the other end of said cylinder, means for vertically adjusting the cylinder and the axis of the case, a spiral member on the shaft and having a flexible periphery engaging the bottom of the hopper the interior of the cylinder and the bottom of the case, and means for rotating the shaft and cylinder at different relative speeds.

6. In a concrete mixer, the combination of a hopper, a feed regulator in the hopper, radial arms on the feed regulator shaft and outside of the hopper, a rotative mixing cylinder communicating with the hopper, and a series of detachable pins in the cylinder to engage the arms and operate the feed regulator said pins being variable in number to change the rate of operation of the feed regulator.

7. In a concrete mixer, the combination of a hopper divided into separate compartments, a feed regulator in each of the compartments, a series of radial arms on each regulator shaft and outside of the hopper, each series of arms rotating in a different plane, a rotative mixing cylinder communicating with the hopper, and a separate series of pins in the cylinder for each feed regulator and engaging the radial arms thereof.

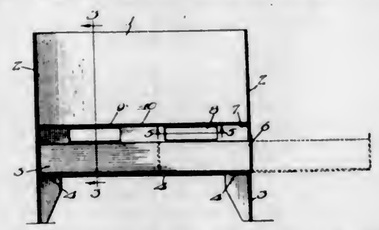
8. In a concrete mixer, the combination of a main shaft having a spiral brush thereon, a hopper having a concave bottom beneath the brush, a rotative cylinder, a gear surrounding the cylinder, a counter-shaft geared to the main shaft and driven thereby, a pinion on the counter-shaft and engaging the gear on the cylinder, rolls supporting the cylinder, a feed regulator in the hopper and having radial arms, and a series of pins in the cylinder to engage the arms and operate the feed regulator.

9. In a concrete mixer, a hopper having a concave bottom, a feed regulator in the hopper, a rotative mixing cylinder communicating with the hopper, radial arms on the feed regulator shaft and outside of the hopper, detachable and rearwardly curved pins in the cylinder and engaging the arms to operate the feeder, and means for rotating the cylinder.

10. In a concrete mixer, the combination of a rotative mixing cylinder, a hopper communicating with the cylinder, a feed regulator in the hopper and having radial arms outside the hopper, pins in the cylinder to engage the arms and operate the feeder, a rotative mixer in the cylinder, and a countershaft geared to the rotative mixer, and also geared to the cylinder to rotate each at different relative speeds.

11. In a concrete mixer, the combination of a hopper having upper compartments and a concave bottom, a rotative cylinder, a stationary case, the hopper bottom the cylinder and the case being arranged in axial alinement and communicating in series, a shaft in the axis of the same, a spiral brush on said shaft, a feed regulator in each compartment of the hopper, means for supplying water to the case, a counter-shaft geared to the brush shaft, gears connecting the counter-shaft and the cylinder, and means for operating the feed regulators.

869,523. FLOWER-POT. CHARLES J. SCHMIDT, Chicago, Ill. Filed Dec. 31, 1906. Serial No. 350,229.



1. A plant receptacle comprising a sheet metal box, inwardly extending lugs therein, a partition resting on said lugs and disposed parallel to the bottom thereof, openings being formed in the sides of the box between the bottom and said partition, and a drawer supported by said bottom and disposed proximate to an opening in said partition.

2. A plant receptacle comprising a sheet metal box having a drawer supported by the bottom thereof, a bottom for supporting the plant and air inlets formed in the sides of the receptacle between the drawer and the bottom to permit the circulation of air.

3. A plant receptacle comprising a box having arranged in the bottom thereof a removable drawer for drainage purposes, a bottom supported above said drawer for supporting the plant and having an opening therein leading to said drawer, the sides of said receptacle having inturned flanges for supporting said false bottom and having openings formed between the drawer and false bottom for the free circulation of air.

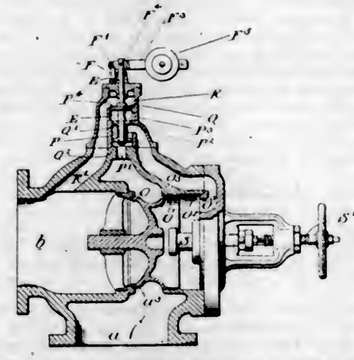
4. A plant receptacle comprising a sheet metal box, a partition therefor, the sides of said box being stamped to form inturned flanges for supporting said partition, thereby leaving openings in the sides between said partition and the bottom of the box, and a drawer supported by the bottom of the box and disposed proximate to an opening in said partition.

5. A plant receptacle comprising a sheet metal box, a partition therefor, the sides of said box being stamped to form legs therefor and to form inturned flanges for supporting the bottom of the box and inturned flanges for supporting said partition, thereby leaving openings in the sides between said partition and the bottom of the box, and a drawer supported by the bottom of the box and disposed proximate to an opening in said partition.

869,524. SAFETY-VALVE. LOUIS SCHUTTE, Philadelphia, Pa.; Guarantee Trust & Safe Deposit Co. and Mary D. Schutte, executors of said Louis Schutte, deceased, assignors to Schutte and Koerting Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Jan. 18, 1905. Serial No. 241,624.

1. A safety valve having in combination a valve seat a^3, and a cylinder O^2, situated in front of said seat, of slightly greater diameter than the effective area of the seat, a chamber having a small valve seat P^4, and a cylindrical chamber P, situated below said seat, said chamber forming a by-pass around the main valve seat a^3, a port connecting

cylinder P, with cylinder O^2, a valve adapted to seat itself on seat a^3, and formed with a piston extension making a loose fit with cylinder O^2, a pilot valve adapted to seat itself on small seat P^4, having a disk attachment working in cylinder P, and means acting to hold the pilot valve to its seat.



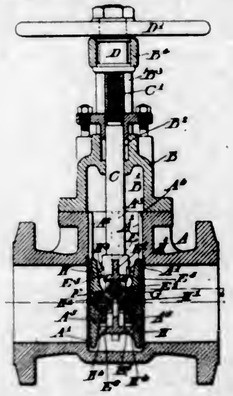
2. A safety valve having in combination, a valve seat a^3, and a cylinder O^2, situated in front of said seat, a cylindrical chamber P, at one side of the valve seat a^3, said chamber having a valve seat P^4, at its top, a port P', at its bottom connecting it with the admission side of the casing, a port P^2, at its side, and laterally expanded chamber P^3, above port P^2, a conduit from the top of the cylinder P, to the delivery side of the casing, a conduit from port P^2, to the cylinder O^2, a valve O, adapted to seat itself on seat a^3, and having a piston O', of slightly greater diameter forming a leaky fit in cylinder O^2, a valve Q, seated on seat P^4, and having a disk Q', forming a leaky fit in the cylinder P, between port P^2, and chamber P^3, a second disk Q^2, fitting a cylinder P, below port P^2, and also attached to valve Q, and means acting with regulated force to seat valve Q.

3. A safety valve having in combination a valve seat a^3, and a cylinder O^2, situated in front of said seat, a cylindrical chamber P, at one side of the valve seat a^3, said chamber having a valve seat P^4, at its top, a port P', at its bottom connecting it with the admission side of the casing, a port P^2, at its side and a laterally expanded chamber P^3, above port P^2, a conduit from the top of the cylinder P, to the delivery side of the casing, a conduit from port P^2, to the cylinder O^2, a valve O, adapted to seat itself on seat a^3, and having a piston O', of slightly greater diameter forming a leaky fit in cylinder O^2, a valve Q, seated on seat P^4, and having a disk Q', forming a leaky fit in the cylinder P, between port P^2, and chamber P^3, a second disk Q^2, fitting in cylinder P, below port P^2, and also attached to valve Q, and means acting to seat valve Q, and with decreasing force as said valve recedes from its seat.

4. In a safety valve construction the combination with an inlet and exhaust passage, of a main pressure valve adapted to establish communication between said passages, a by-pass around said valve, the said main valve having a piston extension of larger pressure area than that of the main valve, a chamber in which said piston extension operates, a minute communication between said inlet passage and said chamber, a cylindrical chamber forming a part of said by-pass, a means of communication between said cylindrical chamber and the first mentioned chamber, a loaded supplemental valve adapted to operate partly within said cylindrical chamber, the said supplemental valve being exposed to the pressure within said inlet passage and said first mentioned chamber for the purpose of relieving the pressure on the main valve within the inlet passage and the first mentioned chamber.

5. In a safety valve construction having an inlet passage and a piston extension on the main valve operating in a chamber, the combination with a by-pass around said valve, of a cylindrical chamber forming a part of said by-pass, the said cylindrical chamber having an enlarged circumferential portion near one end thereof, a loaded supplemental valve consisting of a puppet and a pair of disks, the said puppet adapted to open and close one end of said cylindrical chamber and the said pair of disks being exposed to the pressure in said inlet passage and said first mentioned chamber for the purpose of operating said puppet and establishing communication between said first mentioned chamber and the exhaust passage respectively.

869,525. GATE-VALVE. LOUIS SCHUTTE, Philadelphia, Pa., assignor to Schutte and Koerting Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 23, 1906. Serial No. 302,353.



1. A gate valve casing having oppositely disposed seats in combination with a valve stem located between and extending transversely to said seats and movable in the direction of its length, said casing having guide surfaces at opposite sides of the seats extending substantially parallel to the valve passage, arms pivotally secured to said stem and extending on each side thereof, a valve pivotally secured to the arms at each side of the stem, each valve having guide contacting surfaces arranged to engage said casing guide surfaces when the valve stem is moved in to the valve closing position and direct the valve toward its seat without tending to rotate it.

2. A gate valve casing having oppositely disposed seats and a set of guide surfaces for holding the valves in retracted position while moving toward and away from their operative positions, and a set of guide surfaces for directing the valves towards said seats in combination with the valve stem, arms pivotally secured to said stem and extending on each side thereof, and a valve pivotally secured to said arms on each side of the stem, each valve having guide contacting surfaces arranged to engage casing guide surfaces of each set and guide the valve in its determined path.

3. A gate valve casing having oppositely disposed seats in combination with a valve stem located between and extending transversely to said seats and movable in the direction of its length, said casing having guide surfaces at opposite sides of the seats extending transversely to said stem, arms pivotally secured to said stem and extending on each side thereof, a valve pivotally secured to the arms at each side of the stem, each valve having guide contacting surfaces concentric with the pivotal connection between the valve and arms, arranged to engage said casing guide surfaces when the valve stem is moved in to the valve closing position and direct the valve toward its seat without tending to rotate it.

4. A gate valve casing having oppositely disposed seats and guides for directing the valves, in combination with a valve stem, a head secured to said stem, having in-

clined shoulders E^5, E^6, arms F, G, pivoted on the head, valves H, H, pivotally secured to said arms on opposite sides of the head, said valves having inclined shoulders H^3, H^4, contacting with the shoulders E^5, E^6, and guide rollers I, I, secured to the valves and acting in connection with the guides of the casing.

5. A gate valve casing having oppositely disposed seats and guides A^2, A^3, A^5, A^6, for directing the valves, in combination with a valve stem, a head secured to said stem, having guide lugs E^4, E^4, and inclined shoulders E^5, E^6, arms F, G, pivoted on the head, valves H, H, pivotally secured to said arms on opposite sides of the head, said valves having inclined shoulders H^3, H^4, contacting with the shoulders E^5, E^6, and guide rollers I, I, secured to the valves and acting in connection with the guides of the casing.

6. A gate valve casing having oppositely disposed seats in combination with a valve stem located between and extending transversely to said seats and movable in the direction of its length, said casing having a set of guide surfaces at opposite sides of the seats extending transversely to said stem, and a set of guide surfaces also at opposite sides of said seats and extending parallel to the stem, arms pivotally secured to said stem and extending on each side thereof, a valve pivotally secured to the arms at each side of the stem, each valve having guide contacting surfaces arranged to engage said transversely extending casing guide surfaces when the valve stem is moved into the valve closing position and direct the valve toward its seat without tending to rotate it, said guide contacting surfaces being also arranged to engage said parallel extending guide surfaces to hold the valve retracted when away from its operative position.

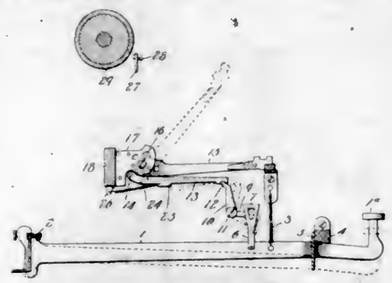
7. A gate valve casing, having oppositely disposed seats and guides for directing the valves towards said seats, in combination with a valve stem, arms pivotally secured to said stem and extending on each side thereof, valves, one for each seat each pivotally connected midway between an opposite pair of its edges to said arms and guiding portions carried by each valve in substantial alinement with the pivotal connection between the valve and said arms for engaging said guides.

8. A gate valve casing having oppositely disposed seats, guides extending parallel to the valve stem for holding the valves in retracted position while moving toward and away from their operative positions and for guiding the valve stem head and the guides for directing the valves toward their seats, in combination with a valve stem, a head carried by the stem, arms pivotally secured to said head and extending on each side thereof, valves pivotally secured to said arms, one on each side of the stem, said valves and valve stem head having guide contacting surfaces arranged to engage the guides in the casing.

9. A gate valve casing having oppositely disposed seats in combination with a valve stem located between said valve seats and extending transversely to the valve passage and movable in the direction of its length, said casing having at opposite sides of the valve seats a set of guide surfaces extending parallel to the stem, and another set of guide surfaces extending substantially parallel to the valve passage, a shaft carried by and extending transversely to the valve stem, valves, one for each seat, and an arm or arms connecting each valve to said shaft, each arm having one end pivotally connected to the shaft and the other end pivotally connected to the corresponding valve, each valve having guide contacting surfaces engaging casing guide surfaces of both sets.

869,526. TYPE-WRITER MECHANISM. JEROME B. SECOR, Derby, Conn., assignor to The Williams Typewriter Company, Derby, Conn., a Corporation of Iowa. Filed Oct. 5, 1906. Serial No. 337,641.

1. In a type-bar operating mechanism for typewriting machines, the combination of a key-lever, a link pivoted by one end to the key-lever and formed at its other end with an extended bearing surface, a bell crank sub-lever pivoted at its elbow on a fixed fulcrum and having an arm with a bearing surface extending longitudinally of said arm and coöperating with the extended bearing surface in the end of said link, and a type-bar to which the other arm of the bell crank sub-lever is connected, whereby the angular motion of the bell crank sub-lever shifts the point of contact between it and the link, nearer the fulcrum of said bell crank sub-lever toward the end of the printing stroke.



2. In a type-bar operating mechanism for typewriting machines, the combination of a key-lever, a vertical link pivoted by its lower end to the key-lever intermediately of the ends of said lever, and formed at its upper end with a horizontally extended bearing surface, a bell crank sub-lever pivoted at its elbow on a fixed fulcrum and having a horizontal arm with a bearing surface extending longitudinally of said arm and coöperating with the horizontally extended bearing surface in the upper end of said vertical link, a link jointed at one end to the other arm of the bell crank lever, and a type-bar to the heel of which the other end of the last named link is pivoted, whereby the angular motion of the bell crank lever shifts the point of contact between it and the vertical link, nearer the fulcrum of said bell crank lever toward the end of the printing stroke.

3. In a type-bar actuating mechanism for typewriting machines, the combination of a key-lever, a link jointed at one end to the key-lever, a bell crank sub-lever fulcrumed on a fixed pivot and having one arm on which the said link acts and another arm transmitting movement to the type-bar, the coöperating bearing surfaces of the link and the first bell-crank-arm being extended in the plane of oscillation of the bell crank lever, whereby the angular motion of said bell crank lever shifts the point of contact of the link therewith toward the fulcrum as the stroke progresses; and means for preventing the relative displacement of these coöperating parts in the printing stroke, substantially as described.

4. In a type-bar actuating mechanism for typewriting machines, the combination of a key-lever, a vertical link jointed at its lower end to the key-lever, a bell crank sub-lever fulcrumed on a fixed pivot and having a substantially horizontal arm on which the vertical link acts and a substantially vertical arm transmitting movement to the type-bar, the coöperating bearing surfaces of the vertical link and horizontal bell-crank arm being extended in the plane of oscillation of the bell crank lever, whereby the angular motion of said bell crank lever shifts the point of contact therewith of the vertical link, toward the fulcrum as the stroke progresses; and means for preventing the relative displacement of these coöperating parts, substantially as described.

5. In a type-bar actuating mechanism for typewriting machines, the combination of a key-lever, a link pivoted at one end to the key-lever and having at its other end a bearing surface extended in the plane of oscillation of the bell crank sub-lever with which it coöperates, a bell-crank sub-lever fulcrumed at its elbow on a fixed pivot and having one arm with an extended bearing surface coöperating with the extended bearing surface of the link so as to shift the contact point between said bearing surfaces toward the fulcrum of the sub-lever by the angular motion of the latter; a rib on one of the said bearing surfaces and a recess in the other bearing surface into which said rib projects to prevent the relative displacement of the parts in operation, substantially as described.

6. In a type-bar actuating mechanism for typewriting machines, the combination of a key-lever, a vertical link pivoted at its lower end to the key-lever and having at its upper end a bearing surface extended horizontally in the plane of oscillation of the bell-crank sub-lever with which it coöperates, a bell crank sub-lever fulcrumed at its elbow on a fixed pivot and having a horizontal arm with an extended bearing surface coöperating with the extended bearing surface of the link so as to shift the contact point between said bearing surfaces toward the fulcrum of the sub-lever by the angular motion of the latter, a rib on one of the said bearing surfaces and a recess in the other bearing surface into which said rib projects to prevent the relative displacement of the parts in operation, substantially as described.

7. In a type-bar actuating mechanism for typewriting machines, the combination of a key-lever, a link pivoted by one end to the key-lever and looped at its other end forming two parallel walls, a bell crank sub-lever having one arm received within the looped upper end of said link and actuated thereby, a rib on one of these coöperating members projecting into a recess in the other member to prevent their relative displacement in a horizontal direction, means for confining the said bell crank arm lengthwise of the link to prevent separation of said confining rib and recess, a type-bar and connecting means between the second arm of the bell-crank and the type-bar, for actuating the latter.

8. In a type-bar actuating mechanism for typewriting machines, the combination of a key-lever, a substantially vertical link pivoted by its lower end to the key-lever and having a looped upper end forming two parallel walls, a bell crank sub-lever having a substantially horizontal arm received within the looped upper end of said link and actuated thereby; a rib on one of these coöperating members projecting into a recess in the other member to prevent their relative displacement in a horizontal direction and means for confining the said bell crank arm vertically in the link to prevent separation of said confining rib and recess.

9. In a type-bar actuating mechanism for typewriting machines, the combination of a key-lever, a link jointed at one end to the key-lever and looped at its other end, a bell crank lever having one arm inclosed in the looped end of said link, a rib projecting inward from the end of the looped link into a recess in the bell crank arm to prevent relative movement transversely to the link and a transverse pin in the loop coöperating with a protuberance on the bell-crank-arm to prevent displacement of the parts longitudinally of the link while permitting oscillatory movement of the bell crank, substantially as described.

10. In a type-bar actuating mechanism for typewriting machines, the combination of a key lever, a substantially vertical link jointed at its lower end to the key-lever and having a looped upper end, a bell crank lever having a substantially horizontal arm inclosed in the looped upper end of said link, a rib projecting downward from the top of the looped link into a recess in the bell-crank-arm to prevent relative horizontal movement and a transverse pin in the loop coöperating with a protuberance on the bottom of the bell-crank-arm to prevent vertical displacement of the parts while permitting oscillatory movement of the bell-crank-lever, substantially as described.

11. In a type-bar actuating mechanism for typewriting machines, the combination of a key lever, a link jointed by one end to the key-lever and formed at its other end with a loop providing within its extremity a bearing surface extended in the plane of oscillation of the bell-crank lever with which said link coöperates, a bell-crank sub-lever having one arm inclosed in the loop of said link and having an extended bearing surface coöperating with that within the extremity of the loop so that the angular motion of the bell crank lever causes the point of contact between the link and bell crank lever to approach the fulcrum of the latter during the progress of the stroke, a recess in one of the coöperating members and a rib on the other entering said recess to prevent relative displacement of said coöperating parts in a direction transverse to the link, an anti-friction roller pivoted within the loop and coöperating with a protuberance on the bell-crank-arm to prevent displacement of the parts longitudinally of the link while permitting the oscillatory motion of the bell-crank lever and a type-bar with which the second arm of the bell crank lever is connected.

12. In a type-bar mechanism for typewriting machines, the type-bar hanger having cheek-plates affording fulcrum support for the type-bar between them and a separating and binding screw engaging both cheek-plates, substantially as described.

13. In a type-bar mechanism for typewriting machines, the type-bar hanger having cheek-plates affording fulcrum support for the type-bar between them and a separating and binding screw having screw-threaded engagement with one cheek-plate and having rotatory support, but held from longitudinal movement in the other cheek-plate, substantially as described.

14. In a type bar mechanism for typewriting machines, the combination of a hanger and a type bar pivoted therein, the said hanger and the heel of the type bar being both provided with apertures arranged on arcs concentric with the fulcrum so as to register with and pass one another in the movement of the type bar in order to cut out and discharge dirt from the joint, substantially as described.

15. In a type bar mechanism for typewriting machines, the combination of a hanger constructed with a pair of cheek plates and a type bar pivoted therein, the heel of the type bar being embraced between the cheek plates of the hanger and the said hanger and the heel of the type bar being provided with apertures arranged equi-distantly from the fulcrum center, so as to register in the movement of the type bar in order to cut out and discharge dirt from the joint, substantially as described.

16. In a type bar mechanism for typewriting machines, the combination of a hanger constructed with a pair of cheek-plates having an interior recess, and a type bar whose heel is pivoted in said hanger and embraced between the cheek-plates thereof, the said cheek-plates of the hanger and the heel of the type bar being provided with registering apertures adapted to cut out and discharge dirt in the movement of the type bar, substantially as described.

17. In a type bar mechanism for typewriting machines the combination of a type bar and a hanger therefor, said hanger and the heel of the type bar being both provided with registering apertures and the apertures in at least one of said members being arranged in a series concentric with the pivot on which the type bar works, to reduce friction and facilitate the discharge of dirt from the joint, substantially as described.

18. In a type-bar mechanism for typewriting machines, the combination of a type-bar and a hanger constructed with cheek plates embracing the heel of the type-bar and between which it is pivoted, the said type-bar heel and hanger cheeks being provided with registering apertures and the apertures in at least one of said members being arranged in a series concentric with the pivot of the type-bar to reduce friction and facilitate the discharge of dirt in the movement of the type-bar, substantially as described.

19. In a typebar mechanism for typewriting machines, the combination of a typebar and a hanger therefor having registering apertures for discharge of dirt in the movement of the typebar and said hanger having on its face adjacent to the typebar an annular recess surrounding the pivot and a concentric guiding surface for the typebar remote from the fulcrum center, substantially as described.

20. In a typebar mechanism for typewriting machines, the combination of a typebar and a hanger constructed with cheek plates embracing the heel of the typebar and between which it is pivoted, said typebar and hanger being both provided with apertures for discharge of dirt in the movement of the typebar, and the hanger-cheeks having on their inner faces adjacent to the typebar recesses surrounding the pivot and providing concentric bearing surfaces for the typebar remote from the fulcrum-center, substantially as described.

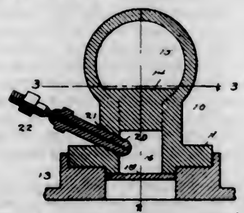
21. In a typebar mechanism for typewriting machines, the combination with a typebar of a fulcrum hanger therefor formed of sheet metal with cheek-plates embracing the typebar heel on both sides and having stamped in their inner faces annular recesses forming concentric guiding surfaces for the typebar remote from the fulcrum-center, substantially as described.

869,527. WRENCH. ALBERT L. SHEARS, Seattle, Wash. Filed Apr. 19, 1907. Serial No. 369,087.



The combination in a wrench, of a handle member having a longitudinal slot and also having a socket arranged in advance of and disposed in the same direction as the slot, a second handle member pivoted in the forward portion of the slot of the first mentioned member and comprising a long arm arranged to be swung into and out of said slot and a short arm reaching at a right angle from the forward end of the long arm, a jaw member having a shank arranged and removably secured in the socket of the first mentioned handle member, and a second jaw member having a loop receiving and removably secured on the short arm of the second mentioned handle member.

869,528. HOT-HEAD FOR EXPLOSIVE-ENGINES. CHARLES L. SMALLEY, Stepney, Conn. Filed June 1, 1907. Serial No. 376,831.



1. A hot head for explosive engines comprising a body having a cross wall, passages on opposite sides of the wall and chambers above and below the wall, a flash plate in the lower chamber and means for supplying oil thereto.

2. A hot head for explosive engines comprising a bulbous body having a cross wall, passages on opposite sides of the wall, an explosion chamber below the wall and a circulating chamber above the wall, a flash plate in the explosion chamber and means for supplying oil thereto.

3. A hot head for explosive engines, comprising a body having a cross wall with passages on opposite sides thereof and chambers above and below the wall.

4. A hot head for explosive engines comprising a body having a cross wall with passages on opposite sides thereof, an explosion chamber below the cross wall, a flash plate in the explosion chamber and an inclined oil supply plug above the flash plate.

5. A hot head for explosive engines comprising a body having an explosion chamber with a flash plate therein and an oil supply plug placed at an incline so that oil therefrom will strike the wall of the chamber and be deflected upon the flash plate in the form of spray.

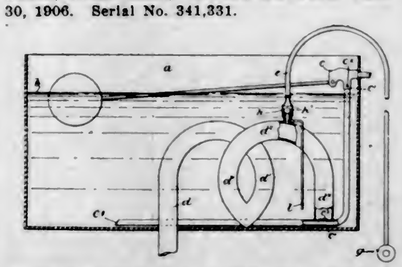
6. A hot head for explosive engines comprising a body having a cross wall, passages on opposite sides of the cross wall, a circulation chamber above the cross wall and an explosion chamber below the cross wall, a flash plate in the explosion chamber and an oil supply plug inclined at an angle so that oil therefrom will strike the wall of the chamber and be deflected upon the flash plate in the form of spray.

869,529. CULINARY DEVICE. GEORGE M. SMITH, Ivanhoe, Colo. Filed Aug. 12, 1905. Serial No. 273,928.



A culinary article, consisting of a strip of sheet metal having an end portion tapered and pointed and having its longitudinal edge portions inwardly curved to provide reinforcements and smooth gripping edges, said recurved edge portions terminating a short distance from the pointed end, the strip being transversely curved and having its tapered end portion longitudinally curved and formed with slots upon opposite sides of a medial line, an edge portion of each slot being outturned to provide a cutter, the widened end of the strip being provided with grating teeth and terminating in a steadying point to fix the position of the article when used as a grater.

869,530. FLUSHING-CISTERN. THOMAS SMITH, South Yarra, Victoria, Australia, assignor of one-half to Mark Yinder, South Yarra, Victoria, Australia. Filed Oct. 30, 1906. Serial No. 341,331.

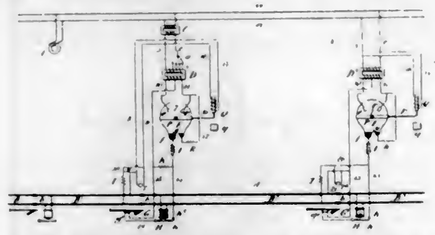


A cistern comprising a trapped pipe having its end opening near the bottom of the cistern, a tube e connected to the top of the trapped pipe, a valve on the free end of said tube, a conduit pipe delivering the water at a point beyond the end of the trapped pipe and having an air inlet port and an outlet port leading to the end of the trapped pipe.

869,531. RAILWAY SIGNALING. JACOB B. STRUBLE, New York, N. Y., assignor to The Union Switch & Signal Company, Swissvale, Pa., a Corporation of Pennsylvania. Filed June 28, 1906. Serial No. 323,828.

1. In electric or other railway signaling, the combination of apparatus adapted to be operated by a direct current, a source of alternating current supply, a mercury arc rectifier for changing the alternating current to direct current, means for applying the direct current to the apparatus to be operated, a track circuit, and means operated by the track circuit for interrupting the supply of direct current to said apparatus.

2. In electric or other railway signaling, the combination of apparatus adapted to be operated by a direct current, a source of alternating current supply, a mercury arc rectifier for changing the alternating current to direct current, means for applying the direct current to the apparatus to be operated, a track circuit, and means operated by the track circuit for interrupting the supply of direct current to said apparatus while the current is maintained through the rectifier.



3. In railway signaling, the combination of apparatus adapted to be operated by direct current, a source of alternating current supply, a pivoted mercury arc rectifier for changing the alternating current to direct current, means for permitting the rectifier to tilt when the alternating current is interrupted, means for establishing a circuit through the rectifier when tilted, means operated by the alternating current for restoring the rectifier to normal position when the supply of alternating current is resumed, and means for applying the direct current to the apparatus to be operated.

4. In railway signaling, the combination of apparatus adapted to be operated by direct current, a source of alternating current supply, a pivoted mercury arc rectifier for changing the alternating current to direct current, a solenoid for controlling the position of the rectifier and to the core of which the rectifier is connected, said solenoid being operated by the alternating current, means for limiting the tilting of the rectifier when the solenoid is deenergized, means for establishing a circuit through the rectifier when in tilted position, and means for conveying direct current from the rectifier to the apparatus to be operated.

5. In railway signaling, the combination of a direct current motor for operating a signal, a source of alternating current supply, a mercury arc rectifier connected to the alternating current supply and to the motor to transmit direct current to the latter, a track relay for making and breaking the circuit between the alternating current supply and the rectifier, and means permitting the rectifier to move when said circuit is broken and for restoring it to normal position when the circuit is again closed.

6. In railway signaling, the combination of a direct current motor for operating a signal, a source of alternating current supply, a mercury arc rectifier connected to the alternating current supply and to the motor to transmit direct current to the latter, and means for moving the rectifier to control the supply of direct current to the motor.

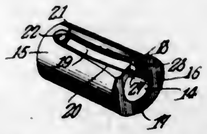
7. In railway signaling, the combination of a direct current motor for operating a signal, a source of alternating current supply, a mercury arc rectifier connected to the alternating current supply and to the motor to transmit direct current to the motor, a solenoid operated by the alternating current and to the core of which the rectifier is connected to be moved by the movements of the core and thereby control the supply of direct current to the motor, and a track relay for making and breaking the circuits between the alternating current supply and the solenoid and the rectifier.

8. In railway signaling, the combination of apparatus to be operated by a direct current, a source of alternating current supply, a mercury rectifier for converting the alternating current into a direct current, and means for destroying and establishing the arc of the mercury rectifier whereby it is caused to cease operating and to again operate.

9. In railway signaling, the combination of apparatus to be operated by a direct current, a source of alternating current supply, a mercury rectifier for converting the alternating current into a direct current, and automatically operated means for destroying and establishing the arc of the mercury rectifier whereby it is caused to cease operating and to again operate.

10. In railway signaling, the combination of apparatus to be operated by a direct current, a source of alternating current supply, a mercury rectifier for converting the alternating current into a direct current, and train controlled means for destroying and establishing the arc of the mercury rectifier whereby it is caused to cease operating and to again operate.

869,532. NON-REFILLABLE BOTTLE. ALBERT E. SUTTON, Elkins, W. Va. Filed Feb. 6, 1907. Serial No. 356,058.



1. A non-refillable bottle having a neck the interior walls of which are provided with a groove, a valve disposed within the neck, a plug spaced from the valve and provided with a discharge passage, a locking member pivotally mounted on the plug, and a spring bearing against the locking member for retaining the latter in engagement with the groove.

2. A non-refillable bottle having a neck, a valve disposed within the neck, a plug spaced from the valve and provided with a discharge passage, a locking member pivotally mounted on the plug at said discharge opening, and a spring for yieldably supporting the locking member in engagement with the interior walls of the neck.

3. A non-refillable bottle having a neck provided with a valve seat, a valve engaging said seat, a plug seated in the neck and spaced from the valve sent, a locking member pivotally mounted on the bottom of the plug, and a spring bearing against the locking member for yieldably supporting said member in engagement with the neck of the bottle.

4. A non-refillable bottle having a neck, a valve disposed within the neck, a plug spaced from the valve and provided with a longitudinal discharge passage, a locking member pivotally mounted on the plug at said discharge passage and provided with a depending lip for engagement with the valve when the latter is in open position, and means for yieldably supporting the locking member in engagement with the interior walls of the neck.

5. A non-refillable bottle having a neck the interior walls of which are provided with a groove, a valve seated in said neck, a plug spaced from the valve and provided with a longitudinal discharge passage, a valve stem having terminal arms bearing against the walls of the discharge passage, a locking member pivotally mounted on the bottom of the plug and a spring for yieldably supporting the locking member, in engagement with the groove.

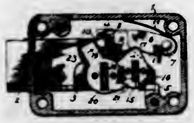
6. A non-refillable bottle having a neck, a partition extending transversely across the neck and provided with a valve seat, there being an annular groove formed in the interior walls of the neck and spaced from the valve seat, a valve, a plug seated in the neck and provided with a longitudinal discharge passage, overlapping lugs extending inwardly from the walls of the discharge passage, and a locking member pivotally mounted on the bottom of the plug and adapted to engage the groove in the neck of the bottle, said locking member being provided with a depending lip for engagement with the valve when the latter is in open position.

7. A non-refillable bottle having a neck the interior

walls of which are provided with an annular groove, a valve disposed within the neck, a plug spaced from the valve and provided with a longitudinal discharge passage, a segmental locking member pivotally mounted on the bottom of the valve and provided with a depending lip defining a stop shoulder, a spring secured to the exterior walls of the plug and having one end thereof disposed in engagement with the shoulder of the locking member for forcing the latter in contact with the walls of the annular groove.

8. A non-refillable bottle having a neck the interior walls of which are provided with an annular groove, a valve disposed within the neck of the bottle, a plug spaced from the valve and provided with a longitudinal discharge passage, the exterior walls of the plug being provided with a longitudinal seating recess, a segmental locking member pivotally mounted for lateral movement on the bottom of the plug at the discharge passage and adapted to enter the groove in the neck of the bottle, said locking member being provided with a terminal depending lip defining an annular shoulder, and a spring one end of which is seated in the recess in the plug and its opposite end bent laterally to form a lip adapted to bear against the shoulder for forcing the locking member in engagement with the groove in the neck of the bottle.

869,533. LOCK. WARREN H. TAYLOR, Stamford, Conn., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn. Filed June 24, 1907. Serial No. 380,465.



1. In a lock the combination with a bolt and a lever for deadlocking same, of a pin tumbler mechanism for disengaging the deadlocking lever from the bolt, and pin tumbler mechanism for retracting the bolt.

2. In a lock the combination with a bolt, and means for deadlocking same, of a pin tumbler mechanism for actuating the deadlocking means, and a pin tumbler mechanism for retracting the bolt and also for restoring the hub of the first mentioned pin tumbler mechanism to its normal position.

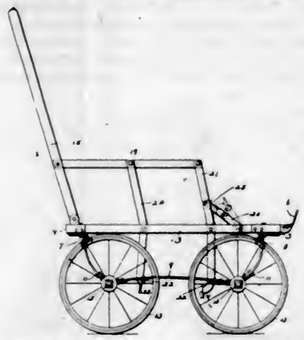
3. In a lock the combination with a bolt, and a dead locking lever for same, of bolt retracting pin tumbler mechanism normally dogged by the bolt, and pin tumbler mechanism for actuating the bolt deadlocking lever, whereby when the lever releases the bolt, the latter may be retracted by the bolt retracting pin tumbler mechanism.

4. In a lock the combination with a casing having a projecting cylindrical nose, and a bolt and dead locking lever within said casing, of two pin tumbler mechanisms mounted in said nose, one of said mechanisms operating to retract the bolt, and the other to actuate the bolt dead locking lever.

869,534. FOLDING BABY-CARRIAGE. ANDREW B. TODD, Branford, Conn., assignor to The Rattan Mfg. Co., New Haven, Conn., a Corporation. Filed May 15, 1907. Serial No. 373,840.

1. In a folding baby carriage, the combination with the side bars, of axle frames carrying axles and having upwardly bent ends pivoted to said bars, wheels mounted on said axles, handle bars pivoted to the rear end of said side bars, links pivoted to the said side bars and adapted to engage with the portions of the axle frames which extend between the axles, and connections between the upper ends of the links and the handle bars.

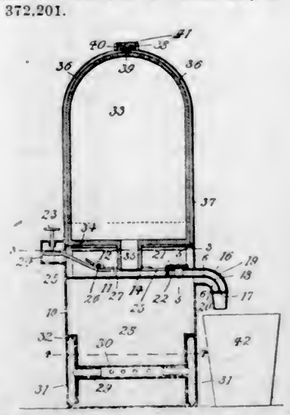
2. In a folding baby carriage, the combination with the side bars, of axle frames pivoted thereto, axles clamped to said frames, wheels mounted on said axles, handle bars pivoted to the rear end of said side bars, arms pivoted to said handle bars, links pivoted to the arms and side bar and adapted to engage with the axle frames, and a pair of locking braces between the side bars and links for locking the parts in the open position, substantially as described



3. In a folding baby carriage, the combination with the side bars, of ears extending downward therefrom, axle frames pivoted to said ears, clamping strips secured to said axle frames, axles mounted between said strips and frames, substantially as described.

4. In a folding baby carriage, the combination with the side bars and axles frames pivoted thereto, of hooks on said axle frames adjacent to each axle, a pair of links pivoted to each of said side bars and adapted to engage with said hooks, and connections between said links and handle bars.

869,535. LIQUID-DISPENSING VESSEL. HERMANN WAECHTER, New York, N. Y. Filed May 6, 1907. Serial No. 372,201.



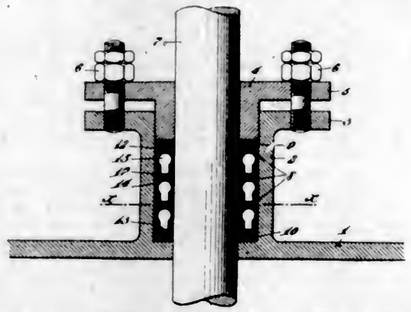
1. A device of the character described, comprising a shell having an upper and a lower compartment, a nozzle communicating with both compartments, a gage in the lower compartment, and means for charging the upper compartment, substantially as specified.

2. A device of the character described, comprising a shell having an upper and a lower compartment, a nozzle communicating with both compartments, a gage in the lower compartment, a reservoir adapted to communicate with the upper compartment, and means for securing said reservoir to the shell, substantially as specified.

3. A device of the character described, comprising a shell having an upper and a lower compartment, a nozzle having an upper and a lower duct adapted to communicate with the upper and lower compartment respectively, a valve controlling the upper duct, a gage in the lower compartment, and means for charging the upper compartment, substantially as specified.

4. A device of the character described, comprising a shell having an upper and a lower compartment, means for subdividing the upper compartment into an inner chamber and an outer chamber, said outer chamber communicating with the lower compartment, a nozzle communicating with the inner chamber and the lower compartment, and means for charging said inner chamber, substantially as specified.

869,536. STUFFING-BOX METALLIC PACKING. JOHANN C. W. WEBER, Philadelphia, Pa. Filed June 5, 1907. Serial No. 377,452.



1. A packing of compressible metal composed of a pair of coinciding semi-circular ring-like sections forming, when brought into register around a piston rod, a longitudinally sectioned sleeve, each section being of cup-like form in cross-section, one edge of which is beveled and the opposite bifurcated edge has interiorly inclined walls, in combination with a pair of top and bottom compressing rings provided respectively with a contacting face coinciding with that of the adjacent interposed ring sections.

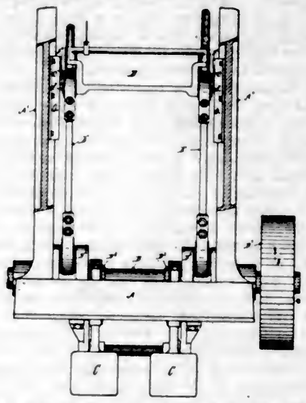
2. A metallic packing composed of a plurality of pairs of semi-circular ring-like sections of compressible metal and of cup-like form in cross-section with beveled top face and outwardly inclined basal edges, said sections coinciding when assembled in vertical series and forming a longitudinally and laterally sectioned sleeve, and a pair of top and bottom compressing rings each provided with a face coinciding with the adjacent compressible ring section.

3. A metallic packing comprising a pair of semi-circular sections of composition "white metal" or the like, said sections having a beveled top face and a grooved under face, the interior being cut away to form a cup-like member with depending sides interiorly tapered at their ends, and perforated through the inner of said depending sides, in combination with top and bottom sections having faces adapted in form to register with the coinciding faces of the cup-like sections and spread the side walls thereof when the parts are assembled and top pressure is applied to the assembled elements.

4. In combination with the stuffing-box of an engine cylinder, with a gland cover therefor and a piston rod passing through the same, of a series of semi-circular sections of metal of the character recited, formed with two depending side walls interiorly tapering at their basal edges and forming a cup-like interior between them, perforations through the inner of said side walls, and coinciding top and bottom compressing sections adapted, when vertical pressure is applied thereto by the gland of the stuffing-box, to force the lower edge of the adjacent wall of each cup-like section against the piston rod.

869,537. GANG-SAW MILL. WILLIAM M. WILKIN, Erie, Pa. Filed Mar. 7, 1907. Serial No. 361,061.

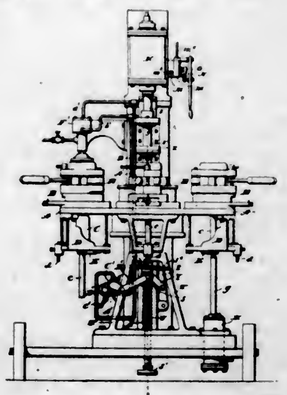
1. In a gang-saw mill, a mill-frame, saw-sash guides thereon, a saw-sash, laterally projecting horns on the lower girth thereof, saw-sash actuating pitmen pivoted on said horns, projections on said pitmen eccentric to the bearings of the pitmen on said horns, and saw-sash slides mounted on said projections and operating in the saw-sash guides, substantially as set forth.



2. In a gang-saw mill, a mill-frame, saw-sash guides thereon, a saw-sash, laterally projecting horns on the ends of the lower girth thereof, saw-sash operating pitmen pivoted on said horns, lateral studs extending from the sides of said pitmen eccentric to the bearings of the pitmen on said horns, and sash-slides pivoted on said lateral studs, and operating in guides on the mill-frame, substantially as set forth.

3. In a gang-saw mill, a saw-sash, a lower girth thereon having recesses cut in the lower corners thereof, laterally projecting horns on said girth in said recesses, sash operating pitmen having their upper ends mounted on said horns, projections on the upper parts of said pitmen eccentric to their bearings on said horns, and sash-slides mounted on said projections, substantially as set forth.

869,538. MACHINE FOR MAKING HOLLOW GLASSWARE. SAMUEL E. WINDER, Bridgeton, N. J., assignor to The Firm of Cox Brothers, Bridgeton, N. J. Filed June 30, 1905. Serial No. 267,803.



1. The combination of a traveling carrier for a plurality of molds, two cylinders that respectively operate two members for coöperating with the molds, said members being situated to coöperate with different molds at the same time, a pipe leading from a source of supply of fluid pressure to one of the cylinders, and a supply pipe leading from said cylinder to the other cylinder, fluid pressure being supplied to the latter cylinder from the other one.

2. The combination of a plurality of molds, a pressing plunger in line with one of the molds, a pressing bottom or blank in line with another mold, a cylinder for operating the plunger, a second cylinder for operating the blank, means for controlling the supply of fluid under pressure to the plunger cylinder, and a constantly-open connection between the two cylinders to pass fluid pressure from the plunger cylinder to the other cylinder.

3. The combination of a traveling mold carrier, a mold, a mold member, a device mounted on the carrier movable into and out of engagement with said mold member to hold it in position when moved into the mold, and a part in the path of said device as it moves with the carrier to engage it and release said mold member from said device.

4. The combination of a traveling mold carrier, a mold member, a device mounted on the carrier movable into and out of engagement with said mold member to hold it in position when moved into the mold, a part in the path of said device as it moves with the carrier to engage it and release said mold member from said device, and a part into engagement with which said member moves when it is free from said device.

5. The combination of a traveling mold-carrying table, a mold member movable into and out of the mold, a plate pivotally supported by the table to engage said member and hold it in position in its mold, and a part in the path of said plate in its travel with the mold to engage and move the same to release said movable mold member.

6. The combination of a traveling mold-carrying table, a mold member movable into and out of the same, a plate pivotally supported by the table to engage said member and hold it in position in its mold, a part in the path of said plate in its travel with the mold to engage and move the same to release said movable mold member, and a block into engagement with which said movable member passes when freed from said pivoted plate.

7. The combination of a traveling mold-carrying table, a bracket for each mold bolted to the underside of said table, a vertically movable mold member for each mold guided by the bracket, a pivoted plate on each bracket to engage said mold member, means to lift said mold member for its engagement by said plate, and a part in the path of said plate in its travel with the table to engage the same and move it out of engagement with said movable mold member.

8. The combination of a mold support, a plunger, a cylinder for moving the plunger, a rotary valve controlling the fluid pressure for the cylinder, an operating lever for the valve, and a connection between said lever and the valve joined to the lever eccentric to its pivot.

9. The combination of a mold support, a plunger, a cylinder for moving the plunger, a rotary valve controlling the supply of fluid pressure to the cylinder having a crank arm, a lever pivoted eccentric to the valve, and connections between said crank arm and the lever.

10. The combination of a mold support, a plunger, a cylinder for operating the plunger, a rotary valve controlling the supply of fluid pressure to the cylinder having a crank arm, a lever pivoted eccentric to the valve, connections between the crank arm and the lever, and means for adjusting the throw of the valve.

11. The combination of a traveling mold carrier, means for locking said carrier, a mold member operated by a fluid under pressure, a valve for controlling the supply of such fluid and direct connections between the locking means and said valve whereby the valve is positively actuated by the locking means.

12. The combination of a mold, a member movable into and out of the mold, means for moving said member into the mold, and supplementary moving and supporting means for said member.

13. The combination of a traveling mold, a member movable into and out of the mold and traveling therewith, and an inclined, movable block for engaging said member, into engagement with which said member is moved after it is lifted into the mold.

14. The combination of a traveling mold, a member movable into and out of the mold, an inclined, movable block mounted on a support stationary with reference to the traveling mold, into engagement with which, the mold member moves, and an automatic mechanism for actuating said block.

15. The combination of a traveling mold carrier, a mold, a member movable into and out of the mold, means for temporarily supporting said member when it is moved into the mold, an inclined, movable block, into engagement with which said member is carried by the movement of the carrier, and means for moving said block.

16. The combination of a traveling mold carrier, a reciprocating locking rod therefor, a mold member movable relative to the other members of the mold, a movable block that engages said mold member and acts to lift said member by its movement, and connections between said block and said rod to actuate said block.

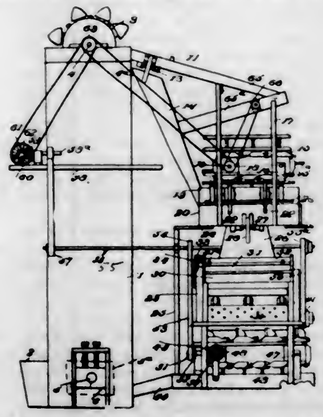
17. The combination of a traveling mold carrier, a reciprocating locking rod therefor, a mold member movable relative to the other members of the mold, a movable block that moves such member, connections between said block and said locking rod for actuating the block, fluid pressure operating mechanism, a valve controlling the supply of fluid for said mechanism, and connections between said valve and said locking rod.

18. The combination of a mold having a movable member, means for moving said member, a movable block for moving said member forming a supplementary moving means, spring actuated means for moving said movable block, and means for adjusting the tension of the spring.

19. The combination of a traveling mold carrier, a vertically movable mold member, movable relative to the other parts of the mold, means for lifting said mold member, means for supporting it when lifted, supplemental lifting and supporting means, means for releasing said mold member to permit it to drop, and an air cushion for cushioning its descent.

20. The combination of a traveling mold carrier, a spring actuated locking rod therefor, a pivoted locking device mounted on the rod and partaking of its movement as well as turning thereon, a part into engagement with which said pivoted locking device moves when it is carried by the rod when moved into unlocking position, and means upon the carrier to rock said locking device to release the rod.

869,539. MECHANICAL STOKER. DAVID A. WOOD, McKeesport, Pa. Filed May 3, 1907. Serial No. 371,712.



1. In a mechanical stoker, the combination of a traveling grate, means for feeding coal to said grate, and means for mixing ashes with the coal preparatory to being fed to the grate.

2. In a mechanical stoker, the combination of a traveling grate, means for actuating the same, a storage tank for coal above the grate and adapted to discharge coal thereon, means for elevating and feeding coal to said tank, and means for conveying the ashes from the grate to the coal elevating means and for transmitting the said ashes to the said storage tank.

3. In a mechanical stoker, the combination of a traveling grate, means for actuating the same, a coal elevator, means for actuating the same, a storage tank for coal above the grate and adapted to discharge coal thereon, a chute adapted to convey the coal from the elevator to said tank, and an ash conveyer underneath the grate and connected to the coal elevator and adapted to convey ashes from the grate to the conveyer so that the ashes may be carried upwardly with the coal and discharged into the tank.

4. In a mechanical stoker, the combination with a traveling grate and means for actuating the same, of a storage tank above the grate and adapted to discharge thereon, an elevator, a chute connecting the upper discharge end of the elevator with the said tank, an ash tank supported above the first named tank, a chute connecting said ash tank with the upper discharge end of the elevator, and means for directing the ashes either over said last named chute into the ash tank, or directly down the first named chute into the first named tank.

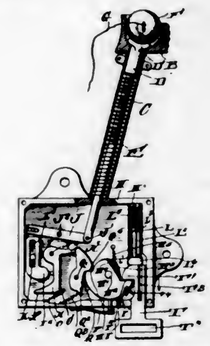
5. In a mechanical stoker, the combination of a traveling grate, means for actuating the same, a coal tank above the traveling grate and adapted to discharge thereon, an elevator, an ash conveyer underneath the grate and adapted to convey the ashes therefrom to the elevator, a coal hopper connected to said elevator, a chute connecting the upper discharge end of the elevator, with the coal tank, a primary chute provided with a bottom discharge opening above the first named chute, means for controlling said opening, an ash tank supported above the coal tank, means for directing ashes over the primary tank into the ash tank, and means for controlling the flow of ashes from the ash tank to the coal tank.

6. A mechanical stoker, the combination of a traveling grate, means for actuating the same, a coal tank mounted above the grate and adapted to discharge thereon, and an elevator adapted to automatically discharge coal into the said tank, means for actuating said elevator, an ash conveyer underneath the grate and adapted to convey ashes therefrom and discharge them into the elevator, and means for actuating said ash conveyer whereby ashes may be emptied into the elevator and carried to the coal tank.

7. In a mechanical stoker, the combination of a traveling grate, means for actuating the same, a coal tank above said grate and adapted to discharge thereon, an elevator provided at its upper end with a chute adapted to discharge coal into the coal tank, an ash tank supported in an inclined position above the coal tank, a chute adapted to direct ashes into the ash tank, and provided with a bottom opening and a closure therefor, said bottom opening being adapted to permit either coal or ashes to drop into the first named chute, means for feeding ashes from the ash tank to the coal tank, an ash conveyer underneath the grate and adapted to convey ashes therefrom to the elevator, and means for actuating said ash conveyer.

8. In a mechanical stoker, the combination of a traveling grate, means for actuating the same, a coal tank mounted above the grate and adapted to discharge thereon, a feeder supported above said tank and adapted to carry material along the top thereof, said top being provided with openings through which the material may be scraped into the tank, an elevator provided at its lower end with a coal receiving hopper, a chute connected to the upper discharge end of said elevator and adapted to discharge material on to the top of the coal tank, a primary tank also secured to the upper discharge end of the elevator, and above the first named chute, an ash tank supported above the coal tank and in operative communication with the lower end of said primary chute, said primary chute being provided with a bottom discharge opening over the first named chute and with a closure therefor and being also provided with a grate extending thereacross beyond said bottom opening, an ash conveyer underneath the grate and adapted to convey ashes to the lower end of the elevator and deposit them therein for elevation, and means for actuating said ash conveyer.

869,540. SAFETY-STIRRUP RELEASE FOR SADDLES. HENRY ARNDT, Brooklyn, N. Y. Filed May 22, 1907. Serial No. 375,148.



1. A safety stirrup releasing apparatus comprising, in combination with a saddle, casings secured thereto, stirrup supporting members adapted to be held one in each of said casings, releasing mechanism within the casings, spring-actuated rods connected to the releasing mechanism within the casings, and a member engaging the upper ends of the rods and adapted to normally hold the latter under the tension of the springs bearing against the same, a cord fastened to said member and designed to be fastened to the rider, the stirrup supporting members adapted to be released as said member is withdrawn from between the rods, as set forth.

2. A safety stirrup releasing apparatus comprising, in combination with a saddle, casings secured thereto, stirrup supporting members adapted to be held one in each of said casings, releasing mechanism within the casings, spring-actuated rods connected to the releasing mechanism within the casings, the upper ends of the rods being recessed to form sockets and a member frictionally engaged and held by said sockets under the tension of the springs acting upon said rods, a cord connected to said member and designed to be fastened to the rider, as set forth.

3. A safety stirrup releasing apparatus comprising, in combination with a saddle, casings secured thereto, stirrup supporting members adapted to be held one in each of said casings, releasing mechanism within the casings, spring-actuated rods connected to the releasing mechanism within the casings, the upper ends of the rods being recessed to form sockets and a member frictionally engaged and held by said sockets under the tension of the springs acting upon said rods, a cord connected to said member and designed to be fastened to the rider, tubes connecting said casings with the saddle and through which said rods are adapted to pass, as set forth.

4. A safety stirrup releasing apparatus comprising, in combination with a saddle, casings secured thereto, stirrup supporting members adapted to be held one in each of said casings, releasing mechanism within the casings, spring-actuated rods connected to the releasing mechanism within the casings, a cup fixed to the horn of the saddle, open-ended tubes connecting said casings with said cup, a rod mounted within each of said tubes and provided at its upper end with a concaved socket portion, springs mounted one within each tube and adapted to normally hold said rod at its farthest upward throw, and a ball adapted to engage and be held by the socket portion of the rods under the tension of said springs, as set forth.

5. A safety stirrup releasing apparatus for saddles comprising casings, each having a spring-pressed plunger mounted therein, a stirrup supporting hook adapted to be

actuated by said plunger, a pivotal rocking member having a shoulder engaging and holding the stirrup supporting member against the tension of the spring-pressed plunger, a spring-pressed pivotal dog engaging a shoulder of said rocking member, a pivotal spring-actuated member engaging said dog, a longitudinal sliding bar having a lateral projection adapted to tilt said spring-actuated member, and spring-pressed rods, a ball adapted to engage sockets formed at the ends of said rods and pivotal link connections between said rods and said sliding bar, as set forth.

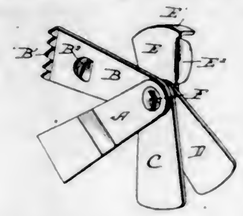
6. In a safety stirrup releasing apparatus, in combination with a casing, a spring-pressed plunger mounted therein, a stirrup supporting member mounted within the casing and provided with a hooked end, a rocking member having a shoulder adapted to be engaged by the hook of said stirrup supporting member, a spring-pressed pivotal dog adapted to engage a shoulder on said rocking member, a pivotal spring-actuated member having lateral projections, one of which is adapted to engage said dog, a sliding bar having a slot therein, a lug upon the casing extending through said slot, said bar having a lateral projection adapted to tilt said pivotal spring-actuated member, a pivotal lever connected to said sliding bar and means for tilting said lever, as set forth.

7. A safety stirrup releasing apparatus comprising two complemental casings adapted to be fastened to a saddle, a tube fixed to each casing, a rod mounted in each tube and having its upper end concaved, a cup to which the upper ends of the tubes are fastened, a ball engaging the upper ends of said rods and held thereby, a cord secured to said ball and adapted to be fastened to a rider, a spring-pressed plunger mounted within the casing, a stirrup supporting member having a hooked end and adapted to be engaged by the head of said plunger, said member having a longitudinal slot, a rib upon the cover of the casing adapted to engage said slot, a rocking member mounted within the casing and having a portion of its face cut away, a spring fixed at one end to the casing and its other end to said rocking member, a portion of the latter adapted to engage the hook upon the stirrup supporting member, a spring-pressed pivotal dog engaging a shoulder upon the rocking member, a sliding bar with pivotal lever connections between the same and said rod, said bar having a lateral projection, a pivotal member interposed between the dog and the lateral projection of said bar, as set forth.

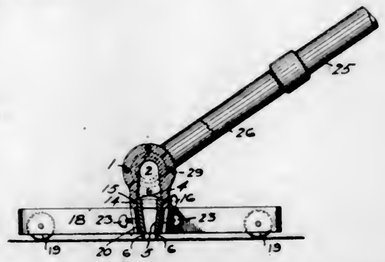
8. A safety stirrup releasing apparatus comprising two complemental casings adapted to be fastened to a saddle, a tube fixed to each casing, a rod mounted in each of said tubes, a cup to which the upper ends of the tubes are fastened, a ball engaging the upper ends of said rods and held thereby, a cord secured to said ball and adapted to be fastened to the rider, a spring-pressed plunger mounted within the casing, a stirrup supporting member having a hooked end and adapted to be engaged by the head of said plunger, said member having a longitudinal slot, a rib upon the cover of the casing adapted to engage said slot, a rock ing member mounted within the casing and having a portion of its face cut away, a spring fixed at one end to the casing and its other end to said rocking member, a portion of the latter adapted to engage the hook upon the stirrup supporting member, a spring-pressed pivotal dog engaging a shoulder upon the rocking member, a sliding bar with pivotal lever connections between the same and said bushing, said bar having a lateral projection, a pivotal member interposed between the dog and the lateral projection of said bar, a spring-pressed pin mounted upon the casing and adapted to engage a recess in said rocking member to hold the latter out of the path of the stirrup supporting member, as set forth.

869,541. POCKET DOOR-LOCK. JOHN J. BAXTER, Erie, Pa. Filed Aug. 11, 1906. Serial No. 330,168.

The combination with a plate having a toothed angled end, and an outwardly projecting bearing lug, of plates pivotally connected to said plate, a plate pivotally connected to said plates provided with a curved bearing member at its end, and a plate having an angled end pivoted to the plate having the toothed angled end adapted to fit over said teeth and lug, for the purpose described.



869,542. PNEUMATIC CLEANING DEVICE. WILLIAM J. BERGENS, Pittsburg, Pa. Filed Jan. 14, 1907. Serial No. 352,255.



1. In pneumatic cleaning apparatus, the combination of a hollow head provided with horizontal ways, a suction pipe connected to said head, and an inlet piece having a sliding fit with said horizontal ways.

2. In pneumatic cleaning apparatus, the combination of a hollow head, a suction pipe connected thereto, an inlet piece having a tongue and groove connection with the head, said tongues and grooves being arranged horizontally and extending from side to side, whereby the inlet piece can be removed by sliding the same endwise, and means for locking the inlet piece to the head.

3. In pneumatic cleaning apparatus, the combination of a carriage, a hollow head, a removable inlet piece for said head, said head and inlet piece being removably secured to the carriage, and a suction pipe connected to said head.

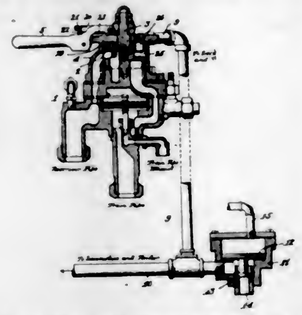
4. In pneumatic cleaning apparatus, the combination of a carriage provided with a transverse opening tapering downwardly, a tapering hollow head projecting through said opening and provided with an inlet slot, means for securing said head to said carriage, and a suction pipe connected to said head.

5. In pneumatic cleaning apparatus, the combination of a carriage with a transverse opening tapering downwardly, a tapering hollow head having a portion projecting down through said opening and provided with an inlet slot, clamping means for securing the head in said opening and regulating the position of the inlet opening with reference to the surface to be cleaned, and a suction pipe connected to said head.

6. In pneumatic cleaning apparatus, the combination of a carriage comprising side frames and cross bars connecting the side frames and providing an opening therebetween, a suction head provided with a portion projecting downwardly between said cross bars, and means for securing the head to said carriage.

7. In pneumatic cleaning apparatus, the combination of a carriage comprising side frames and cross bars connecting the side frames and spaced apart, a suction head having a portion projecting downwardly between said cross bars, and clamping means for securing said head to said cross bars and adjusting the head vertically on said carriage.

869,543. AIR-BRAKE. WILLIAM S. BILBREY, West Point, Ga., assignor of one-half to Stephenson R. Aiken, West Point, Ga. Filed Oct. 12, 1906. Serial No. 338,608.



1. In an air brake, the combination with the engineer's valve, of an independent valve mounted on the key thereof and controlling the engine and tender brakes.

2. The combination of the engineer's valve, an independent valve mounted above the same and operable therewith, a pipe leading from one side of the valve casing to the engine brakes, an equalizing cylinder in communication with said pipe, and a pipe leading from the opposite side of the valve casing to said cylinder, the flow through said pipes being controlled by said independent valve.

3. The combination of an engineer's valve, pipes leading from the opposide sides of the body of the same to control the engine brakes, and an independent valve mounted in the body and arranged to establish direct communication with said pipes and the reservoir pressure.

4. The combination with the body having diametrically opposite applying and releasing ports, of a rotary valve mounted therein and having diametrically opposite ports arranged to establish communication between the reservoir pressure and the said applying and releasing ports in one position of the valve and provided with continuous series of ports extending partly around the valve in opposite directions to maintain such communication during movement of the valve.

5. The combination of the valve body having a release port and a discharge port leading to the atmosphere, a rotary valve mounted therein having a series of ports adapted to register with the release port and a blind port adapted to form a communication between the said release and discharge ports.

6. The combination of the valve body having a release port and a discharge port leading to the atmosphere, a valve mounted therein having a series of ports adapted to register with the release port and a blind port adapted to form a communication between the said release and discharge ports.

7. The combination of the valve body having a release port, a valve mounted in said release port, a rotary handle mounted above the body, and a presser plate carried by the handle and adapted to actuate said valve to open the port.

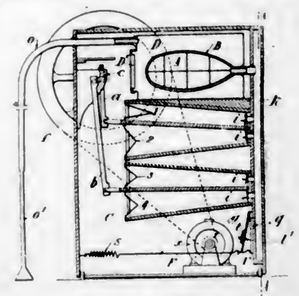
8. The combination of the valve body having a release port and a discharge port, a valve mounted in the body and arranged to close and open the release port and establish communication between the release and discharge ports, the release port having a branch passage leading to the atmosphere, a valve in said branch passage normally closing the same, an operating handle for manipulating the first-mentioned valve, and a presser plate carried by said handle and adapted to operate the valve in the branch passage to open the same.

9. In an air brake, the combination of the body having diametrically opposite applying and releasing ports, and a valve mounted therein and provided with diametrically opposite ports adapted to register with said ports in the body when at a point between the running and lap positions, said valve being further provided with solid portions to block said ports when in the lap position and with further ports adapted to open the said applying and releasing ports at points beyond the lap position.

10. In an air brake, the combination with the engineer's valve, of an independent valve mounted to operate with the engineer's valve and adapted to establish direct communication between the reservoir pressure and the engine brakes.

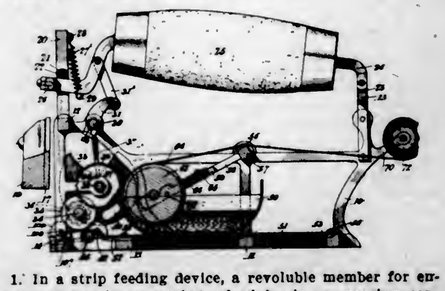
11. In an air brake, the combination with the engineer's valve, of an independent valve mounted to operate with the engineer's valve and controlling the engine brakes.

869,544. REGULATING DEVICE FOR DUST-REMOVING PNEUMATIC MACHINES. JULES R. BLUM, Paris, France, assignor to Company "L'Aspirator," Paris, France, a Corporation of France. Original application filed Apr. 19, 1906, Serial No. 312,672. Divided and this application filed Feb. 20, 1907. Serial No. 358,450.



In a machine for removing dust by suction from carpets, furniture, curtains, tapestry and the like, a regulating device comprising in combination small bellows *r* in constant communication with the suction devices of the machine, a discharge valve *t* provided for in the movable flap of the bellows *r*, an adjustable stop-screw *t'* carried by the discharge valve *t*, and a spring S acting upon the movable flap of the bellows, substantially as described and for the purpose set forth.

869,545. LABEL-AFFIXING MACHINE. CHAUNCEY H. BOOTON, Gallipolis, Ohio, assignor, by direct and mesne assignments, to The Main Automatic Mailing Machine Company, Columbus, Ohio, a Corporation of Ohio. Filed Nov. 2, 1906. Serial No. 341,784.



1. In a strip feeding device, a revoluble member for engaging the strip, a ratchet wheel having a gearing connection with said revoluble member, a pawl carrier, a pawl supported thereby and engaging the ratchet wheel, means for operating the pawl carrier, and means for locking the parts at the completion of each feeding movement, while permitting continued inactive movement of the pawl carrier operating member.

2. In a strip feeding device, a revoluble member for engaging the strip, a ratchet wheel having a gearing con-

nection with said revoluble member, a gear wheel movable with the ratchet wheel and forming part of said gearing connection, a pawl carrier, a pawl supported thereby and engaging the ratchet wheel, a locking pawl and means on the pawl carrier for positively moving the locking pawl into engagement with the gear wheel and serving to prevent movement of the same in either direction at the completion of the movement of the pawl carrier.

3. In a strip feeding device, a revoluble member for engaging the strip, a ratchet wheel having a gearing connection with said revoluble member, a gear wheel movable with the ratchet wheel and forming part of said gearing connection, a pawl carrier, a pawl supported thereby and engaging the ratchet wheel, a pivotally mounted locking pawl adapted to engage between the teeth of the gear wheel, and a pin projecting from the pawl carrier and adapted to engage said locking pawl at the completion of each feeding movement.

4. In strip feeding mechanism, a strip engaging member, and an operating means including a ratchet wheel, a pawl engaging therewith, a pivotally mounted pawl carrier having a recess approximately radial of the axis of movement of the pawl carrier, an arm arranged to enter the recess and movable therein to operate the pawl carrier, said pawl carrier having a curved face with which the arm engages at the completion of each feeding movement to prevent rearward movement of the pawl carrier.

5. In a strip feeding mechanism, the combination with a revoluble strip engaging member, of a pawl carrier having an approximately segmental recess, a rocker arm arranged to engage the walls of said recess, a pawl, a ratchet wheel with which the pawl engages, and gearing connections between the ratchet wheel and the strip engaging member.

6. In a machine of the class described, a strip engaging member, an operating member, a rocker arm connected to said operating member, a recessed pawl carrier with which the rocker arm engages, means for adjusting the pawl carrier to alter the extent of movement transmitted to the strip engaging member, a pawl, a ratchet wheel with which the pawl engages, and means connecting the ratchet wheel to said strip engaging member.

7. In a machine of the class described, a strip engaging member, an operating member, a rocker arm connected to the operating member, a recessed pawl carrier with which the rocker arm engages, means for limiting the movement of the pawl carrier, a pawl, a ratchet wheel with which the pawl engages, and means for transmitting movement from the ratchet wheel to the strip engaging member.

8. In a machine of the class described, the combination with a strip engaging member, of an operating member, a rocker arm, a recessed pawl carrier with which the rocker arm engages, a pin or lug on said pawl carrier, an adjustable rack bar with which said pin engages to limit rearward movement of the pawl carrier, a pawl, a ratchet wheel with which the pawl engages, and means for transmitting movement from the ratchet wheel to the strip engaging member.

9. In a machine of the class described, a strip engaging member, an operating member, a rocker arm connected to the operating member, a recessed pawl carrier with which the arm engages, a pin or lug projecting from the pawl carrier, a pivotally mounted rack bar having a plurality of teeth, said rack bar being adjustable to present any one of its teeth into the path of movement of said pin or lug, a pawl, a ratchet wheel with which the pawl engages, and means for transmitting movement from the ratchet wheel to the strip engaging member.

10. In a machine of the class described, a strip engaging member, an operating member, a rocker arm connected to the operating member, a recessed pawl carrier with which said arm engages, a pin or lug secured to the pawl carrier, a rack bar pivoted at one end and provided at its opposite end with a spring pressed locking catch for holding the rack bar in adjusted position, a pawl, a ratchet wheel with which the pawl engages, and means for transmitting movement from the ratchet wheel to the strip engaging member.

11. In a machine of the class described, a strip engaging member, an operating member, a rocker arm connected to the operating member, a recessed pawl carrier with which the rocker arm engages, a counter weight on the pawl carrier for restoring the same to initial position, a pawl, a ratchet wheel with which the pawl engages, and a gear wheel secured to and movable with the ratchet wheel, a locking pawl for engaging the gear wheel, a pin on the pawl carrier for moving the locking pawl to gear engaging position, a stop pin on the pawl carrier, an adjustable rack bar with which the stop pin engages, and means for transmitting movement from the gear wheel to the strip engaging member.

12. In a machine of the class described, a fixed cutter, a movable cutter, and a plurality of spaced supports arranged at the rear of the fixed cutter and serving to hold the projected portion of the strip above and out of contact with the fixed cutter.

13. In a machine of the class described, a fixed cutter, a movable cutter, and a plurality of spaced pins arranged to the rear of the fixed cutter and serving to elevate the projected portion of the strip above and out of contact with said fixed cutter.

14. In a machine of the class described, a revoluble feed member held in fixed bearings, a second revoluble feed member, a pivotally mounted frame having bearings for the second member, a spring connected to the frame and tending to force the second member into engagement with the first, and a lever connected to said frame for separating said members.

15. In a machine of the class described, a frame, a fixed cutter, a pivotally mounted cutter, an operating lever pivoted at one end, guides for the free end of the lever, and a link connecting the free end of said lever to the pivoted cutter.

16. In a machine of the class described, a detachable strip carrying mandrel having end recesses, a fixed pin engaging one of the recesses, a movable pin engaging the opposite recess, a disk at the end of the movable pin, a spring engaging said disk and tending to force the pin against the mandrel, and a second pin carried by the disk and entering a recess in said mandrel.

17. In a machine of the class described, a detachable strip supporting mandrel having end recesses, a fixed pin engageable in one of the recesses, a slidably mounted pin for engaging the opposite recess, a disk carried by the slidable pin and provided with an auxiliary mandrel engaging pin, a washer mounted on the slidable pin, and a compression spring between the washer and the disk.

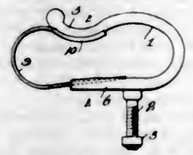
18. In a machine of the class described, a detachable strip supporting mandrel, a frame, a fixed pin carried by the frame and engaging one end of the mandrel, a movable pin mounted in a guiding opening in the frame and engaging the opposite end of the mandrel, a spring tending to force the movable pin toward the mandrel, a pinion on said movable pin, and a winding gear intermeshing with the pinion.

19. In a machine of the class described, a skeleton frame including side members, and front and rear cross bars, a pair of vertically disposed spaced guide bars projecting upward from the front cross bar, a lever pivoted to the rear cross bar and having its front end extending between the guide bars, a fixed cutter, a pivoted cutter, a link connecting the pivoted cutter to the front end of the frame, and springs for restoring the cutter to initial position.

20. In a machine of the class described, the combination with a skeleton frame including side members and front and rear cross bars, of vertically disposed spaced guide bars extending upward from the front cross bar, an operating lever pivoted to the rear bar and extending between said guide bars, a fixed cutter, a pivoted cutter having a link connection with the front end of the lever, a strip feeder, and an operating means therefor including a rock shaft, a rocker arm connected thereto, a link connecting the rocker arm to the operating lever.

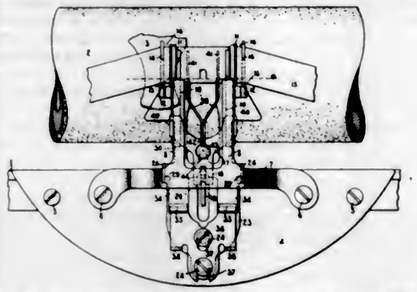
869,546. CHECKREIN-HOOK. JAMES B. L. BROWN, Galena, Kans. Filed Oct. 11, 1906. Serial No. 338,360.

The combination with a check rein hook, of a spring retaining member to close the hook opening, means for securing one end of said member to the hook, the free end of said member contacting with the free end of the hook, the contacting portion of the member curving longitudinally



and transversely to conform to the curvature of the engaged portion of the hook.

869,547. TYPE-WRITING MACHINE. ARTHUR W. BUCKWELL, New York, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed May 17, 1907. Serial No. 374,115.



1. In a typewriting machine, the combination with a platen and a ribbon vibrator having a slot on each side of the printing point, of auxiliary safety fingers interposed between the ribbon and platen.

2. In a typewriting machine, the combination with a platen, a ribbon vibrator, and a relatively fixed paper directing device, of an auxiliary safety device interposed between the ribbon and paper directing device and extending above the latter, for preventing the ribbon from catching on said paper directing device.

3. In a typewriting machine, the combination with a platen, a ribbon vibrator and a relatively fixed paper directing device, of auxiliary safety fingers carried by said vibrator and interposed between the ribbon and paper directing device and extending above the latter, for preventing the ribbon from catching on said paper directing device.

4. In a typewriting machine, the combination with a platen, and a ribbon vibrator having a pair of arms on each side of the printing point with a space between the arms of each pair through which space the ribbon is guided, of auxiliary safety fingers between the ribbon and platen and between the pairs of arms of the vibrator and on opposite sides of the printing point.

5. In a typewriting machine, the combination with a platen, and a ribbon vibrator having a pair of arms on each side of the printing point with a space between the arms of each pair through which space the ribbon is guided, of auxiliary spring safety fingers carried by the vibrator and extending between the ribbon and platen and between the pairs of arms of the vibrator and on opposite sides of the printing point.

6. In a typewriting machine, the combination with a platen, a ribbon vibrator having a pair of arms on each side of the printing point with a space between the arms of each pair through which space the ribbon is guided, and a paper directing device, of an auxiliary safety device extending between the ribbon and said paper directing device, for preventing the ribbon from catching on said paper directing device.

7. In a typewriting machine, the combination with a platen, a ribbon vibrator having a pair of arms on each side of the printing point with a space between the arms of each pair through which space the ribbon is guided, and a paper directing device, of auxiliary safety fingers extending between the ribbon and said paper directing device and between the pairs of arms of said vibrator and on opposite sides of the printing point, for preventing the ribbon from catching on said paper directing device.

8. In a typewriting machine, the combination with a platen, a ribbon vibrator having a pair of arms on each side of the printing point with a space therein through which the ribbon is guided, and a paper directing device, of auxiliary spring safety fingers carried by said vibrator and extending in the rear of said arms thereof and between the ribbon and platen and between the ribbon and said paper directing device, for preventing the ribbon from catching on said paper directing device.

9. In a typewriting machine, the combination with a platen, a ribbon vibrator, and a paper directing device carried by a fixed portion of the machine and situated between the platen and the vibrator and terminating at or near the printing line, of an auxiliary safety device extending between the ribbon and said paper directing device, for preventing the ribbon from catching on said paper directing device.

10. In a typewriting machine, the combination with a platen, a ribbon vibrator, and a paper directing device carried by a fixed portion of the machine and situated between the platen and the vibrator and terminating at or near the printing line, of auxiliary spring fingers extending between the ribbon and said paper directing device and on opposite sides of the printing point, for preventing the ribbon from catching on said paper directing device.

11. In a typewriting machine, the combination with a platen, a ribbon vibrator, and a spring pressed paper directing device carried by and pivoted to a fixed portion of the machine and situated between the platen and the vibrator and terminating at or near the printing line, of auxiliary spring fingers carried by the ribbon vibrator and extending between the ribbon and said paper directing device and on opposite sides of the printing point, for preventing the ribbon from catching on said paper directing device.

12. In a typewriting machine, the combination with a platen and a paper handling device mounted on the framework of the machine at or in the vicinity of the printing point, of a ribbon vibrator and a ribbon guard or fender carried by the vibrator and interposed between the ribbon and the paper handling device.

13. A ribbon vibrator having a set of three arms on each side of the printing point, the ribbon being guided behind the middle arm of each set and in front of the other two arms.

14. A ribbon vibrator having slotted passageways for the ribbon and also a supplementary safety device arranged back of the path of travel of the ribbon.

15. A ribbon vibrator having an open space in front of the printing point, a slotted passageway for the ribbon on each side of the printing point, and having also a supplementary arm on each side of the printing point back of the path of travel of the ribbon.

16. A ribbon vibrator having on each side of the printing point a guide arm or arms with a slotted passageway for the ribbon, and having a pair of supplementary arms back of the ribbon between the guide arms, one supplementary arm on each side of the printing point.

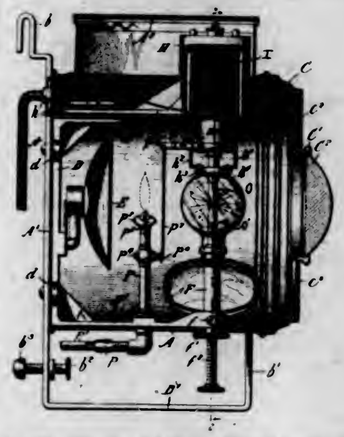
869,548. HEADLIGHT OR LANTERN. FREDERICK P. COBHAM, Jamestown, N. Y., assignor of one-half to Frederick E. Windsor and one-half to Lewis Schmuts, Warren, Pa. Filed Jan. 3, 1907. Serial No. 350,650.

1. In a head light or lantern the combination with a main electric burner, of an auxiliary gas burner, adjacent thereto, and connections between said burners, for bringing the gas burner into operative condition, when the current for the electric burner is interrupted, substantially as described.

2. In a head light or lantern, the combination with a

main electric burner, of an auxiliary gas burner and a pilot therefor, a valve controlling said auxiliary burner and pilot, an electrically operated device in circuit with the main burner, and connections from said electrically controlled device to said valve, for bringing the auxiliary burner into operative condition when the circuit through the main burner is interrupted, substantially as described.

3. In a head light or lantern, the combination with a main electric burner, an electric controlling device in circuit therewith, and including an electro coil and a movable part operated thereby, of an auxiliary gas burner, and connections between said movable part and said gas burner for lighting the said gas burner, when the current through the electric burner is interrupted, substantially as described.



4. In a head light or lantern, the combination with a main electric arc light burner, and an electric controlling device for the movable carbon thereof, an auxiliary burner for gas, located adjacent to the arc light and provided with a pilot, a valve controlling said gas burner and pilot, and operative connections between said electric controlling device and said valve, for bringing the gas burner into operative condition when the current through the arc light is interrupted, substantially as described.

5. In a head light or lantern, the combination with a lens and reflector for throwing a beam of light, of a main electric arc light burner, located in operative relation with said lens and reflector, an auxiliary gas burner located in operative relation with said lens and reflector and provided with lighting means, a controlling device for said gas burner and its lighting means, and a connection between said controlling device, and the controlling mechanism for the movable carbon of the arc light for lighting the gas burner, when the current through the arc light is interrupted, substantially as described.

6. In a head light or lantern, the combination with a lens and a reflector, of a main arc light burner located in operative relation therewith, and provided with an electric controlling device, including an electric coil, a movable core and a carbon engaging clutch connected therewith, an auxiliary gas burner provided with a pilot for lighting the same, a valve controlling said gas burner and pilot, and a link connected to said valve and to said movable core, for lighting the gas burner, when current through the arc light is interrupted, substantially as described.

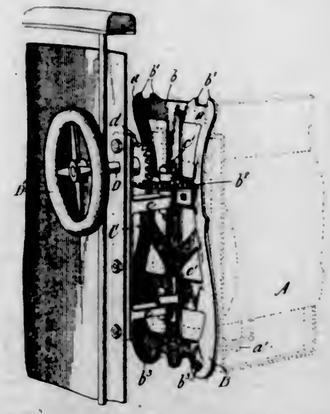
7. In a head light or lantern, the combination with a main body open at the front, a circular frame fitting said opening, a lens frame of smaller diameter than said frame, located centrally therein, a lens in said lens frame, a semi-annular sheet of opaque material permanently located in the upper portion of the space between said lens frame and said circular frame and transparent material located in the remaining portion of the space between said frames, substantially as described.

8. In a head light or lantern, the combination with the main body provided with a front opening, of a circular frame fitting said opening, a semi-annular sheet of opaque material in the upper portion of said frame, and permanently secured thereto, a circular lens frame concentric with and of smaller diameter than said circular frame, secured to the inner edge of said opaque sheet to support said lens frame, and transparent material fitted between said lens frame and the circular frame below said opaque material, substantially as described.

9. In a head light or lantern, the combination with the main body provided with a front aperture, and a main reflector in line therewith, two auxiliary light apertures in its upper portion on opposite sides of its center, and at its lower portion with reflectors located on opposite sides of its center, each of said reflectors being in line with one of said upper light apertures, of a lighting device located between the front aperture and the main reflector and in line with said auxiliary light apertures and the reflectors therefor, substantially as described.

10. In a head light or lantern, the combination with the main body provided with a front aperture and a main reflector in line therewith, two auxiliary light apertures in its upper portion on opposite sides of its center, and at its lower portion with reflectors located on opposite sides of its center, each of said reflectors being in line with one of said upper light apertures, of a lighting device located between the front aperture and the main reflector and in line with said auxiliary light apertures and the reflectors therefor, and a closure for each of said auxiliary light apertures, substantially as described.

869,549. HEADLIGHT-ADJUSTING DEVICE. FREDERICK P. COBHAM, Jamestown, N. Y., assignor of one-half to Frederick E. Windsor and one-half to Lewis Schmutz, Warren, Pa. Filed Jan. 3, 1907. Serial No. 350,651.



1. The combination with a vehicle, of a pivoted headlight support mounted thereon, automatic positioning devices, including connections extending to said pivoted support, for automatically moving said pivoted support to conform to changes of direction of said vehicle, and a hand operated device, for independently adjusting said headlight support, said connections being constructed to permit said hand operated devices to temporarily take the headlight support from the control of said automatic devices, and to return it to the control thereof, substantially as described.

2. The combination with means for pivotally supporting a headlight, of automatic positioning devices, connected with said supporting means and controlled by the position of the front truck of the vehicle, and including yielding devices, and a hand operated device connected with said supporting means for taking them temporarily out of the control of the automatic devices, substantially as described.

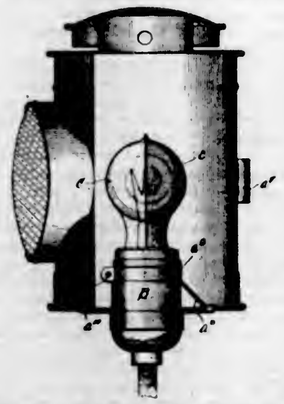
3. The combination with means for pivotally supporting a headlight, of connections from said supporting means to the truck of the vehicle, for automatically positioning said headlight, springs interposed in each of said connections and an independent hand operated device connected with said supporting means, substantially as described.

4. The combination with a pivotally mounted supporting frame for a headlight, of connections between said frame and the front truck of the vehicle, for swinging the said support laterally upon its pivotal connection, said connections being provided with yielding devices therein, a hand wheel located in the vehicle and gearing connecting said hand wheel with the said supporting frame, for independently adjusting said frame without regard to the automatic devices, substantially as described.

5. The combination with a pivotally mounted supporting frame for a headlight, of a shaft provided with a hand operating device, gearing connecting said shaft with said frame, flexible connections between said shaft and the front truck of the vehicle for automatically controlling the position of said frame and springs located in said flexible connections, to permit of the independent operation of said hand operated shaft, substantially as described.

6. The combination with a pivoted support for a headlight, of hand operated devices therefor including a shaft, a retaining device for said shaft comprising a pair of disks provided with interlocking V-shaped projections, one of said disks being stationary and the other secured to said shaft, but movable longitudinally thereof, and a spring engaging said movable disk and holding it in engagement with the stationary disk, whereby said support will be retained in its adjusted positions against accidental displacement, but may be moved in either direction by said hand operated device, substantially as described.

869,550. ELECTRIC LANTERN. FREDERICK P. COBHAM, Jamestown, N. Y., assignor of one-half to Frederick E. Windsor and one-half to Lewis Schmutz, Warren, Pa. Filed Jan. 3, 1907. Serial No. 350,652.

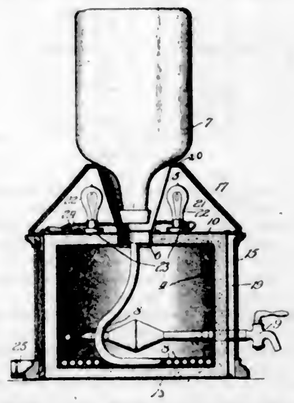


1. In an electric lantern, the combination with the cylindrical main body open at the bottom, and provided at one side with a lens aperture and a lens fitted therein, of a removable bottom having an annular flange for engaging the main body, and provided with a clamping ring rigidly secured thereto, for adjustably holding an incandescent lamp socket, said bottom being provided with an aperture below said socket, substantially as described.

2. In an electric lantern, the combination with the main body, of a removable bottom, provided with a central aperture to permit the insertion of an electric lamp socket, a horizontal clamping ring located above said aperture, supports connected to said bottom, and to said clamping ring, and means for detachably securing said bottom to the main body of the lantern, substantially as described.

3. In an electric lantern, the combination with the cylindrical main body, provided with a lens aperture in one side, and a lens fitted in said aperture, of a curved reflector fitted within said main body, in rear of said lens, a removable bottom for said main body provided with a central aperture for the passage of a lamp socket therethrough, a clamping ring located above said aperture, supports secured to said ring and to the main body, a lamp socket frictionally held by said ring and having portions extending through said aperture, and an incandescent electric lamp fitted in said socket, and having a portion of its globe provided with reflecting material, substantially as described.

869,551. WATER-COOLER. JAMES T. COLE, Chicago, Ill. Filed Jan. 21, 1907. Serial No. 353,301.



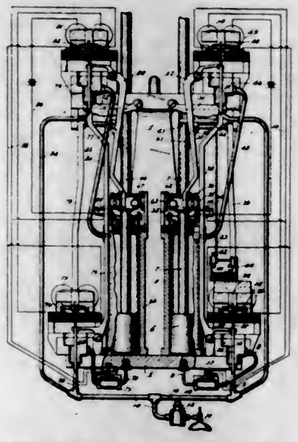
1. In a water cooler, the combination with an ice tank, of a ledge extending across the central portion of the top of the tank, a seat formed in the ledge adapted to receive a liquid holder, a casing consisting of a frame work about the tank, said frame work having panel openings containing panels of translucent material and forming with the tank an interposed air space, a top surmounting the tank top formed of a frame work having panel openings containing panels of translucent material and forming a chamber, and sockets for illuminating means mounted on the ledge whereby said chamber may be illuminated.

2. In a water cooler, the combination with an ice tank, of a ledge extending across the central portion of the top of the tank, a seat formed in the ledge adapted to receive a liquid holder, a casing containing said tank consisting of a glazed frame about the tank and forming therewith an interposed air space and a removable crown-like top of glazed frame work surmounting the tank top and provided with an opening through which the liquid holder passes, said liquid holder being out of contact with the edges of said opening, said top forming an interposed chamber between it and the top of the tank, and sockets for illuminating means mounted on the ledge whereby said chamber may be illuminated.

869,552. SIGNAL APPARATUS. CLARENCE W. COLEMAN, Westfield, N. J., assignor to The Hall Signal Company, a Corporation of Maine. Filed Feb. 4, 1907. Serial No. 355,772.

1. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position and normally operating to go to danger by reason of said bias; a fluid-pressure source; a fluid-pressure applying chamber

in operative connection with the signal and in communication with said supply source; supply and exhaust valves for said chamber; and means for operating said valves whereby fluid-pressure may be supplied to said chamber with approximately equal effective force to move the signal to both safety and danger positions.



2. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a fluid-pressure applying chamber in operative connection with the signal and in communication with said supply force; supply and exhaust valves for said chamber; means for operating said valves whereby fluid-pressure may be supplied to said chamber to move the signal to both safety and danger positions; and a retaining device to hold the signal at safety.

3. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a fluid-pressure applying chamber in operative connection with the signal and in communication with said supply source; means for supplying fluid-pressure to move the signal to safety position; and means for applying fluid-pressure to move the signal to danger, said last mentioned means being dependent for its operation upon a failure of the signal to return to danger when released.

4. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a fluid-pressure applying chamber in operative connection with the signal and in communication with said supply source; means for supplying fluid-pressure to move the signal to safety position; means for applying fluid-pressure to move the signal to danger, said last mentioned means being dependent for its operation upon a failure of the signal to return to danger when released; and a retaining device to hold the signal at safety.

5. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a fluid-pressure applying chamber in operative connection with the signal and in communication with said supply source; means for supplying fluid-pressure to move the signal to safety position; and electrically controlled means for applying fluid-pressure to move the signal to danger, said last mentioned means being dependent for its operation upon a failure of the signal to return to danger when released.

6. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a fluid-pressure applying chamber in operative connection with the signal and in communication with said supply source; train controlled means for supplying fluid-pressure to move the signal to safety position; and means for applying fluid-pressure to move the signal to danger, said last mentioned means being dependent for its operation upon a failure of the signal to return to danger when released.

7. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a fluid-pressure applying chamber in operative connection with the signal and in communication with said supply source; train controlled means for supplying fluid-pressure to move the signal to safety position; electrically controlled means for applying fluid-pressure to move the signal to danger, said last mentioned means being dependent for its operation upon a failure of the signal to return to danger when released; and a retaining device to hold the signal at safety.

8. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a fluid-pressure applying chamber in operative connection with the signal and in communication with said supply source; means for supplying fluid-pressure to move the signal to safety position; a signal circuit for controlling said means; and means for applying fluid-pressure to move the signal to danger, said last mentioned means being dependent for its operation upon a failure of the signal to return to danger when released.

9. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a fluid-pressure applying chamber in operative connection with the signal and in communication with said supply source; means for supplying fluid-pressure to move the signal to safety position; a signal circuit for controlling said means; means for applying fluid-pressure to move the signal to danger, said last mentioned means being dependent for its operation upon a failure of the signal to return to danger when released; and a retaining device to hold the signal at safety and controlled by said signal circuit.

10. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a fluid-pressure applying chamber in operative connection with the signal and in communication with said supply source; means for supplying fluid-pressure to move the signal to safety position; a signal circuit for controlling said means; means for applying fluid-pressure to move the signal to danger, said last mentioned means being dependent for its operation upon a failure of the signal to return to danger when released; and a retaining device to hold the signal at safety and controlled by said signal circuit.

11. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure supply source; a fluid-pressure applying chamber in operative connection with said signal and in communication with said supply source; supply and exhaust valves for said chamber; means for operating said valves whereby fluid pressure may be supplied to said chamber to move the signal to safety; a retaining device to hold the signal at safety; and means for applying fluid-pressure to move the signal to danger, said means being dependent for its operation upon a failure of the signal to return to danger when released.

12. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure supply source; a fluid-pressure applying chamber in operative connection with said signal and in communication with said chamber; supply and exhaust valves for said chamber; means for opening said supply valve whereby fluid-pressure may be supplied to said chamber to move the signal to safety; a retaining device to hold the signal at safety; means for releasing said retaining device and opening said exhaust valve to permit the signal to go to danger; and means for applying fluid-pressure to move the signal to danger, said means being dependent for its operation upon a failure of the signal to return to danger when released.

13. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure supply source; a fluid-pressure applying chamber in operative connection with said signal and in communication with said supply source; supply and exhaust valves for said chamber; means for operating said valves whereby fluid-pressure may be supplied to said chamber to move the signal to safety; a retaining device to hold the signal at safety; a signal circuit for operating said valve operating means and said retaining device; and means for applying fluid-pressure to move the signal to danger, said means being dependent for its operation upon a failure of the signal to return to danger when released.

14. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a fluid-pressure applying chamber in operative connection with said signal and in communication with said supply source; supply and exhaust valves for said chamber; means for operating said valves whereby fluid-pressure may be supplied to said chamber to move the signal to safety; a retaining device to hold the signal at safety; a track circuit for controlling said valve operating means and said retaining device; and means for applying fluid-pressure to move the signal to danger, said means being dependent for its operation upon a failure of the signal to return to danger when released.

15. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position and normally operating to go to danger by reason of said bias; a fluid-pressure source; a piston and piston chamber in operative connection with said signal and in communication with said supply source; and means for supplying fluid-pressure to said piston chamber on both sides of said piston whereby the signal may be moved with approximately equal effective force by fluid-pressure to both safety and danger positions.

16. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a piston and piston chamber in operative connection with said signal and in communication with said supply source; means for supplying fluid-pressure to said chamber on one side of said piston to move the signal to safety; and means for supplying fluid-pressure to said chamber on the other side of said piston to move the signal to danger, said last mentioned means being dependent for its operation upon a failure of the signal to return to danger when released.

17. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a piston and piston chamber in operative connection with said signal and in communication with said supply source; means for supplying fluid-pressure to said chamber on one side of said piston to move the signal to safety; means for supplying fluid-pressure to said chamber on the other side of said piston to move the signal to danger, said last mentioned means being dependent for its operation upon a failure of the signal to return to danger when released; and a retaining device to hold the signal at safety.

18. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a piston and piston chamber in operative connection with said signal and in communication with said supply source; supply and exhaust valves to control the supply of fluid-pressure to said chamber on one side of said piston to move the signal to safety; supply and exhaust valves to control the supply of fluid-pressure to said chamber on one side of said piston to move the signal to safety; supply and exhaust valves to control the supply of fluid-pressure to said chamber on the other side of said piston to move the signal to danger; a retaining device to hold the signal at safety; and means for controlling said valves and retaining device.

19. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a piston and piston chamber in operative connection with said signal and in communication with said supply source; supply and exhaust valves to control the supply of fluid-pressure to said chamber on one side of said piston to move the signal to safety; supply and exhaust valves to control the supply of fluid-pressure to said chamber on the other side of said piston to move the signal to danger; a retaining device to hold the signal at safety; means for simultaneously locking the retaining device and opening the supply valve to move the signal to safety; means for simultaneously releasing said retaining device and opening the exhaust valve to permit the signal to return to danger; and means for opening the supply valve to move the signal to danger, said last mentioned means being dependent for its operation upon a failure of the signal to return to danger when released.

20. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a piston and piston chamber in operative connection with said signal and in communication with said supply source; supply and exhaust valves to control the supply of fluid-pressure to said chamber on one side of said piston to move the signal to safety; supply and exhaust valves to control the supply of fluid-pressure to said chamber on the other side of said piston to move the signal to danger; a retaining device to hold the signal at safety; and train controlled means for controlling said valves and retaining device.

21. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a piston and piston chamber in operative connection with said signal and in communication with said supply source; supply and exhaust valves to control the supply of fluid-pressure to said chamber on one side of said piston to move the signal to safety; supply and exhaust valves to control the supply of fluid-pressure to said chamber on the other side of said piston to move the signal to danger; a retaining device to hold the signal at safety; train controlled means for simultaneously locking the retaining device and opening the supply valve to move the signal to safety; means for simultaneously releasing said retaining device and opening the exhaust valve to permit the signal to return to danger; and means for opening the supply valve to move the signal to danger, said last mentioned means being dependent for its operation upon a failure of the signal to return to danger when released.

22. In a fluid-pressure signal apparatus, the combination of a signal; a fluid-pressure source; a fluid-pressure applying chamber in operative connection with said signal and in communication with said supply source; means for supplying fluid-pressure to move the signal to both danger and safety positions; and retaining devices to hold the signal in both positions.

23. In a fluid-pressure signal apparatus, the combination of a signal; a fluid-pressure source; a fluid-pressure applying chamber in operative connection with and positively to move said signal and in communication with said supply source; means for applying fluid-pressure to operate the signal; and a retaining device to hold the signal at danger position.

24. In a fluid-pressure signal apparatus, the combination of a signal; a fluid-pressure source; a fluid-pressure applying chamber in operative connection with said signal and in communication with said supply source; means for supplying fluid-pressure to operate the signal; and a retaining device to hold the signal at danger position, said device being dependent for its operation upon a casual bias of the signal to safety position.

25. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a fluid-pressure applying chamber in operative connection with said signal and in communication with said supply source; means for supplying fluid-pressure to operate the signal; and a retaining device to hold the signal at danger position, said device being dependent for its operation upon a casual bias of the signal to safety.

26. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure supply source; a fluid-pressure applying chamber in operative connection with said signal and in communication with said supply source; supply and exhaust valves for said chamber; means for operating said valves whereby fluid-pressure may be supplied to said chamber to move the signal to safety; a retaining device to hold the signal at safety; means for applying fluid-pressure to move the signal to danger, said means being dependent for its operation upon a failure of the signal to return to danger when released; and a retaining

device to hold the signal at danger, said device being dependent for its operation upon a casual bias of the signal to safety.

27. In a gas-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a tank for liquefied gas; an automatic reducing valve for said tank; a gas-pressure applying chamber in operative connection with said signal and in communication with said tank; supply and exhaust valves for said chamber; and means for operating said valves whereby gas may be supplied to said chamber to move the signal to both safety and danger positions.

28. In a gas-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a tank for liquefied gas; an automatic reducing valve for said tank; a piston and piston chamber in operative connection with said signal and in communication with said tank; and means for supplying gas to said chamber on both sides of said piston whereby the signal may be moved to both danger and safety positions by gas-pressure.

29. In a gas-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a tank for liquefied gas; an automatic reducing valve for said tank; a piston and piston chamber in operative connection with said signal and in communication with said tank; means for supplying gas to said chamber on one side of the piston to move the signal to safety; and means for supplying gas to said chamber on the other side of said piston to move the signal to danger, said last mentioned means being dependent for its operation upon a failure of the signal to return to danger when released.

30. In a gas-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a tank for liquefied gas; an automatic reducing valve for said tank; a piston and piston chamber in operative connection with said signal and in communication with said tank; means for supplying gas to said chamber on one side of the piston to move the signal to safety; means for supplying gas to said chamber on the other side of said piston to move the signal to danger, said last mentioned means being dependent for its operation upon a failure of the signal to return to danger when released; and a retaining device to hold the signal at safety.

31. In a gas-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a tank for liquefied gas; an automatic reducing valve for said tank; a piston and piston chamber in operative connection with said signal and in communication with said tank; supply and exhaust valves to control the supply of gas on one side of said piston to move the signal to safety; supply and exhaust valves to control the supply of gas to said chamber on the other side of said piston to move the signal to danger, said last mentioned means being dependent for its operation upon a failure of the signal to return to danger when released; a retaining device to hold the signal at safety; and means for simultaneously locking said retaining device and opening said supply valve to move the signal to safety.

32. In a gas-pressure signal apparatus, the combination of a signal; a tank for liquefied gas; a gas-pressure applying chamber in operative connection with said signal and in communication with said tank; means for supplying gas to move the signal to both safety and danger positions; and retaining devices to hold the signal in both positions.

33. In a gas-pressure signal apparatus, the combination of a signal; a tank for liquefied gas; a gas-pressure applying chamber in operative connection with said signal and in communication with said tank; means for supplying gas to operate the signal; and a retaining device to hold the signal at danger.

34. In a gas-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a tank for liquefied gas; a gas-pressure applying chamber in operative connection with said signal and in communication with said tank; means for supplying gas to operate the signal; and a retaining device to hold the signal at danger, said device being dependent for its operation upon a casual bias of the signal to safety.

35. In a gas-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a tank for liquefied gas; a piston and piston chamber in operative connection with said signal and in communication with said tank; supply and exhaust valves on one side of said piston to move the signal to safety; supply and exhaust valves on the other side of said piston to move the signal to danger; a retaining device to hold the signal in safety position; means for simultaneously locking said retaining device and opening said supply valve to move the signal to safety; a retaining device to hold the signal at danger; means for simultaneously locking said last mentioned retaining device and opening said supply valve to move the signal to danger, said means being dependent for its operation upon a casual bias of the signal to safety.

36. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a fluid-pressure applying chamber in operative connection with the signal and in communication with said supply source; supply and exhaust valves for said chamber; means for operating said valves whereby fluid-pressure may be supplied to said chamber to move the signal to both safety and danger positions; and means for cutting off the fluid-pressure supply upon a predetermined movement of the signal.

37. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a fluid-pressure applying chamber in operative connection with the signal and in communication with said supply source; supply and exhaust valves for said chamber; means for operating said valve whereby fluid-pressure may be supplied to said chamber to move the signal to both safety and danger positions; means for cutting off the fluid-pressure supply upon a predetermined movement of the signal; and a retaining device to hold the signal at safety.

38. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a piston and piston chamber in operative connection with said signal and in communication with said supply source; means for supplying fluid-pressure to said piston chamber on both sides of said piston whereby the signal may be moved by fluid-pressure to both safety and danger positions; and means for cutting off the fluid-pressure supply upon a predetermined movement of the signal.

39. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a piston and piston chamber in operative connection with said signal and in communication with said supply source; means for supplying fluid-pressure to said chamber on one side of said piston to move the signal to safety; means for supplying fluid-pressure to said chamber on the other side of said piston to move the signal to danger, said last mentioned means being dependent for its operation upon a failure of the signal to return to danger when released; and means for cutting off the fluid-pressure supply upon a predetermined movement of the signal.

40. In a fluid-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a fluid-pressure source; a piston and piston chamber in operative connection with said signal and in communication with said supply source; means for supplying fluid-pressure to said chamber on one side of said piston to move the signal to safety; means for supplying fluid-pressure to said chamber on the other side of said piston to move the signal to danger, said last mentioned means being dependent for its operation upon a failure of the signal to return to danger when released; means for cutting off the fluid-pressure supply upon a predetermined movement of the signal; and a retaining device to hold the signal at safety.

41. In a fluid-pressure signal apparatus, the combination of a signal; a fluid-pressure source; a fluid-pressure applying chamber in operative connection with said signal and in communication with said supply source; means for supplying fluid-pressure to move the signal to both danger and safety positions; means for cutting off the fluid-pressure supply upon a predetermined movement of the signal; and retaining devices to hold the signal in both positions.

42. In a gas-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a tank for liquefied gas; an automatic reducing valve for said tank; a gas-pressure applying chamber in operative connection with said signal and in communication with said tank; supply and exhaust valves for said chamber; means for operating said valves whereby gas may be supplied to said chamber to move the signal to both safety and danger positions; and means for cutting off the fluid-pressure supply upon a predetermined movement of the signal.

43. In a gas-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a tank for liquefied gas; an automatic reducing valve for said tank; a piston and piston chamber in operative connection with said signal and in communication with said tank; means for supplying gas to said chamber on one side of the piston to move the signal to safety; means for supplying gas to said chamber on the other side of said piston to move the signal to danger, said last mentioned means being dependent for its operation upon a failure of the signal to return to danger when released; and means for cutting off the fluid-pressure supply upon a predetermined movement of the signal.

44. In a gas-pressure signal apparatus, the combination of a signal; a tank for liquefied gas; a gas-pressure applying chamber in operative connection with said signal and in communication with said tank; means for supplying gas to move the signal to both safety and danger positions; means for cutting off the fluid-pressure supply upon a predetermined movement of the signal; and retaining devices to hold the signal in both positions.

45. In a gas-pressure signal apparatus, the combination of a signal having a normal bias to danger position; a tank for liquefied gas; a piston and piston chamber in operative connection with said signal and in communication with said tank; supply and exhaust valves on one side of said piston to move the signal to safety; supply and exhaust valves on the other side of said piston to move the signal to danger; a retaining device to hold the signal in safety position; means for simultaneously locking said retaining device and opening said supply valve to move the signal to safety; a retaining device to hold the signal at danger; means for simultaneously locking said last mentioned retaining device and opening said supply valve to move the signal to danger, said means being dependent for its operation upon a casual bias of the signal to safety; and means for cutting off the fluid-pressure supply upon a predetermined movement of the signal.

46. In combination, a train controlling device capable of assuming a plurality of controlling positions, having a normal bias to a predetermined position and normally operating to go to said predetermined position by reason of said bias; and a fluid-pressure piston motor for said train controlling device operable to force said device to said predetermined position upon the failure of said device normally to operate as described.

47. In a signal apparatus, the combination of a signal capable of assuming a plurality of signaling positions, having a normal bias to a predetermined position and normally operating to go to said predetermined position by reason of said bias; and a fluid-pressure piston motor for said signal operable to force said signal to said predetermined position upon the failure of said signal normally to operate as described.

48. In a signal apparatus, the combination of a signal having a normal bias to danger position and normally operating to go to said danger position by reason of said bias; and a gas-pressure motor for said signal operable to force said signal to danger position upon the failure of said signal normally to operate as described.

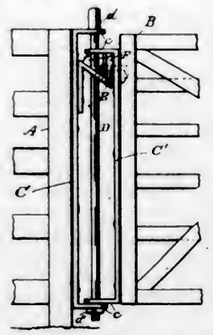
49. In combination, a train controlling device capable of assuming a plurality of controlling positions, having a normal bias to a predetermined position and normally operating to go to said predetermined position by reason of said bias; a gas-pressure motor for said train controlling device operable to force said device to said predetermined position upon the failure of said device normally to operate as described; and means for preventing said motor from forcing said device to said predetermined position when said device goes to said position in response to its bias, as described.

50. In a signal apparatus, the combination of a signal capable of assuming a plurality of signaling positions, having a normal bias to a predetermined position and normally operating to go to said predetermined position by reason of said bias; a gas-pressure motor for said signal operable to force said signal to said predetermined position upon the failure of said signal normally to operate as described; and means for preventing said motor from forcing said signal to said predetermined position when said signal goes to said position in response to its bias, as described.

51. In a signal apparatus, the combination of a signal having a normal bias to danger position and normally operating to go to said danger position in response to said bias; and a fluid-pressure piston motor for moving said signal to safety position, said motor also being operable to force said signal to danger position upon the failure of said signal normally to operate, as described.

52. In a signal apparatus, the combination of a signal having a normal bias to danger position and normally operating to go to said danger position in response to said bias; a gas-pressure piston motor for moving said signal to safety position, said motor also being operable to force said signal to danger position upon the failure of said signal normally to operate, as described; and means for preventing said motor from forcing said signal to danger position when said signal goes to said position in response to its bias, as described.

869,553. HINGE. CHRISTIAN W. COOK, Provo City, Utah. Filed Dec. 10, 1906. Serial No. 347,220.

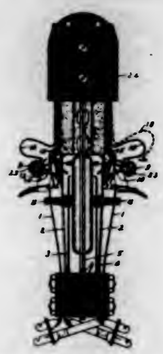


In a hinge having an inclined track on the upper part of its fixed leaf and a roller on the upper part of its swinging leaf adapted to move upon said track, a perforated projection at the top and a perforated projection at the bottom of said fixed leaf, a single vertical rod whose lower end is threaded occupying said perforations, a head on the upper end of said rod, and a threaded nut on the lower end of said rod, a horizontal perforated projection on said swinging leaf engaged by said rod below said projection at the top of said fixed leaf and covering said track and roller, and a horizontal, perforated projection at the lower part of said swinging leaf engaged by said rod above said bottom projection of said fixed leaf, as herein set forth.

869,554. AUTOMATIC TESTING AND RESETTING MEANS FOR ELECTROTHERMAL PROTECTORS. FRANK B. COOK, Chicago, Ill. Filed May 19, 1906. Serial No. 317,837.

1. A testing and resetting device for an electrothermal device of the character described, comprising means for applying current to the electrothermal device to heat same and for operating same when thus heated, the said

resetting device being constructed to reset the electro-thermal device in circuit for operation when removed therefrom.



2. A testing device for a heat-cartridge operable in a given direction, comprising means for applying current to the cartridge to heat same, and for operating the cartridge still farther in the same direction when thus heated, as a test on the latter.

3. A testing device for a rotary heat-cartridge rotatable in a certain direction upon abnormal current conditions, comprising means for applying current to the cartridge to heat same, and for turning the cartridge still farther in the same direction when thus heated, as a test on the cartridge.

4. A testing device for telephone protective apparatus having thermal protectors, comprising means for making electrical connections with the apparatus for testing the line and switchboard circuits separately and means for applying current to a thermal protector and for operating same when heated, as a test on the protector.

5. A device to be applied to electrical protective apparatus, comprising means for making electrical connections for testing the several circuits through the apparatus separately, and means for heating and operating a protector of the apparatus, the said device being constructed to reset the apparatus for operation when removed therefrom.

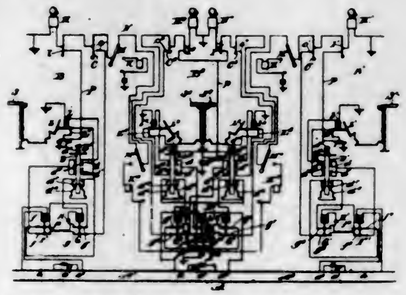
6. A testing device for electrical protective apparatus having a thermal protector, comprising means for making electrical connections with the apparatus for testing the several circuits therethrough separately and means for applying current to the protector to heat same and for operating same when heated, as a test on the protector.

7. A testing and resetting device for a rotary heat-cartridge having a series of engaging devices and means for engaging an engaging device to operate the heat-cartridge under abnormal current conditions, comprising means for applying current to the cartridge to heat same, means for operating the heat-cartridge when same is heated and thereby bringing the said engaging devices successively into engaging position for their engaging means, and means for resetting the said engaging means into engagement with an engaging device for another operation.

8. A testing device for an electro-thermal protector, the latter having means engaged therewith to operate same under abnormal current conditions, comprising means for bearing the said engaging means out of engagement with the protector, means for applying current to the protector to heat same, and means for operating the protector as a test thereon when same is suitably heated.

869,555. BLOCK-SIGNAL SYSTEM. WILLIAM DAVES, Bloomington, Ill. Filed Apr. 22, 1907. Serial No. 369,454.

1. In a block signal system, a plurality of stations, a signal at each station, a lever for operating each of said signals, a lock for each lever, an actuating circuit for each of said locks, a switch governed by the operating lever at one station and a manually operated switch at that station arranged in the actuating circuit for the block at an adjacent station.



2. In a block signal system, a plurality of stations, a signal at each station, a lever for operating each of said signals, a lock for each lever, an actuating circuit for each of said locks, a switch governed by the operating lever at one station and a manually operated switch at that station arranged in the actuating circuit for the lock at an adjacent station, said manually controlled switch causing the actuating circuit for the lock at its own station to be interrupted when said switch is operated to complete the actuating circuit for the lock at the other station.

3. In a block signal system, a plurality of stations, a signal at each station, an operating lever for each signal, a lock for each lever, a manually controlled device at each station for governing the lock at an adjacent station, and means associated with said manually controlled devices for preventing the release of the lock at the local station when the manually controlled device is operated to cause the release of the lock at the other station, said means including a track circuit controlled by a train at the same station so as to permit the release of the local lock to be effected.

4. In a block signal system, a plurality of stations, a signal at each station, an operating lever for each signal, a lock for each lever, means associated with each lever for controlling the lock at an adjacent station, a manually operated switch at each station also controlling the lock at an adjacent station, and means associated with each of said switches for preventing the release of the lock at the same station when the switch is operated to effect the release of the lock at another station, said means including a track circuit controlled by a train at the same station so as to permit the release of the local lock to be effected.

5. In a block signal system, a plurality of stations, a signal at each station, an operating lever for each signal, a lock for each operating lever, a lock controlling circuit extending from each station to the next, a manually operated switch at each station for governing the lock controlling circuit for the next station, said switch being arranged to automatically return to normal position, a relay at each station for governing the controlling circuit for the lock at that station, means associated with each of said switches for causing the local relay to be deënergized upon the operation of the switch, and means arranged to be controlled by a train at the station for causing said relay to be energized.

6. In a block signal system, a plurality of stations, a signal at each station, an operating lever for each signal, a lock for each operating lever, a lock-controlling circuit extending from each station to the next, a manually operated switch at each station for governing the lock-controlling circuit for the next station, a relay at each station for governing the controlling circuit for the lock at that station, means associated with each of said switches for deënergizing the local relay upon the operation of the switch, and means arranged to be controlled by a train at the station for causing said relay to be energized.

7. In a block signal system, a station, a signal at said station, means controlled by a train for causing said signal to give a danger indication during the time the train remains within a predetermined distance of the station, and means also controlled by the train for preventing the aforesaid means from effecting the signal until the whole train has passed the station irrespective of the length of the train.

8. In a block signal system, a signal, a lever for operating the signal, a lock for said lever, a lock-controlling circuit, a stick relay controlling said circuit, a normally energized track relay arranged to cause the energization of the stick relay when the track relay is deënergized, a manually operated switch arranged in the controlling circuit for the lock at an adjacent station, means associated with said switch for deënergizing the stick relay when the switch is operated to cause the release of the locks at the next station, and circuits extending from the track to the track relay so arranged that the track relay is deënergized when a train is opposite the station at which the track relay is located.

9. In a block signal system, a plurality of stations, a station signal and a track signal at each station, an operating lever for each of said track signals, a lock for each of said operating levers, and means at each station for governing the track signal and operating the station signal at an adjacent station, said means including a single wire extending between the stations and including the actuating circuits for the locks at both stations.

10. In a block signal system, a plurality of stations, a signal at each station, an operating lever for each signal, a lock for locking each operating lever in the danger position, and a control circuit for each lock having therein a manually controlled switch at the local station and a plurality of manually controlled switches at an adjacent station, each of said latter switches being arranged to interrupt the circuit to the local lock when said switches are operated to complete the circuit for the lock at the other station, and means associated with one of said latter switches for maintaining the control circuit for the local lock interrupted independently of the switch until the train from the other station has cleared the block between the stations.

11. In a block signal system, a pair of stations at opposite ends of a block, signals at each station, operating levers for the signals, locks for locking each of said levers in the danger position, and controlling means for each of said locks including switches and relays at both stations so arranged that after the switches at one station have been operated to release the lock at another station the operating lever at the first station is prevented from being moved out of the danger position until the operating lever at the other station has been returned to the danger position and the train has cleared the block.

12. In a block signal system, a pair of stations at opposite ends of a block, signals at each station, operating levers for the signals, locks for each of said levers, controlling means for each of said locks including switches and relays at both stations, track relays at said stations for controlling the aforesaid relays, a source of current supply having its opposite terminals connected to one of said track relays and also to one of the track rails, said rail having an insulated section between the points at which the battery is connected, said insulated section being at least as long as the distance between the trucks at opposite ends of a full sized car.

13. In a block signal system, a plurality of stations, a signal at each station, an operating lever for each signal, a lock for each operating lever, a lock controlling circuit extending from each station to the next, a manually operated switch at each station, means for automatically returning said switch to its normal position after it has been operated, normally closed contacts on said switch arranged in the controlling circuit for the local lock, normally opened contacts on said switch arranged in the controlling circuit for the lock at the next station, a relay in the controlling circuit for the local lock, means associated with the switch for deënergizing said relay when the switch is operated, and means controlled by a train at the local station for again energizing the relay.

14. In a block signal system, a station at the end of the system, a signal at said station, an electro magnet for tripping the signal from the safety position to the danger position, a relay for interrupting the circuit of said magnet, circuits from the track to the relay for causing the relay to operate to open the circuit of the magnet when a train is on the first block and within a predetermined distance of the station, a track relay and circuits to the track whereby the track relay is deënergized when a train is at said station, and means connected with said track relay for completing the circuit of the electro magnet independently of the other relay when the track relay is deënergized.

15. In a block signal system, a plurality of stations, a signal at each station, an operating lever for each signal, a lock for locking each of said levers in the danger position, means at each station for controlling the lock at the next station, said means including devices for preventing the release of the lock at the local station until the block has been cleared by the train from the other station, and means associated with each of said levers for preventing a movement of the lever toward either the safe or danger position until it has been fully brought into the other position.

16. In combination, a lever having two operative positions, a ratchet bar arranged at one side thereof, a pawl carried by said lever, and arranged to slide over the teeth on the ratchet bar when the lever is moved in one direction but to engage with the teeth and prevent the movement of the lever in the other direction, and means controlled by said lever for moving the ratchet bar carrying the teeth thereon out of operative relation with the pawl when the lever is brought fully to the operative position toward which it is free to move.

17. In combination, a lever having two operative positions, a ratchet bar having two series of reversely arranged teeth on adjacent sides, a pawl carried by the lever and adapted to coöperate with said teeth to prevent the movement of the lever in one direction or the other depending upon which series of teeth is engaged by the pawl, and means for partially rotating said bar at each end of the movement of the lever so as to cause the pawl to alternately engage with a series of teeth which are inclined in opposite directions with respect to each other.

18. In combination a lever member, a supporting member, a ratchet bar carried by one of said members and having reversely arranged ratchet teeth on two adjacent sides, a pawl carried by the other member, and engaging with one of said series of teeth to prevent the movement of the lever member in one direction, while permitting its movement in the other direction, and means for producing relatively movement between the pawl and the ratchet bar when the lever reaches a predetermined point in its movement so as to bring the pawl into engagement with the second series of teeth.

19. In combination, a lever, a bar revolubly supported adjacent and parallel to the plane of movement of the lever, said bar having a series of ratchet teeth arranged on each of its four sides, the teeth on each side being inclined in opposite directions with respect to the teeth on the adjacent sides, a pawl on the lever arranged to engage with said teeth, a pair of radially extending arms at each end of the bar, the arms at one end being arranged at right angles to the arms at the other ends, and a member carried by said lever and arranged to engage with the adjacent arm on the bar and rotate the bar through an angle of 90 degrees whenever the lever is brought into one of its operative positions, so as to cause the pawl to cooperate with one series of teeth after another.

20. In a block signal system, a plurality of stations, a signal at each station, an operating lever for each signal, a lock for locking each operating lever in the danger position, a control circuit for each lock having therein a manually operated switch at the local station and a plurality of independent manually operated switches at an adjacent station, each of said latter switches being arranged to interrupt the circuit for the local lock when said switches

are operated to complete the circuit for the lock at the other station, and a switch associated with each of said operating levers and arranged in a control circuit for the lock at an adjacent station.

21. In a block signal system, a pair of stations at opposite ends of a block, a signal at each station controlling the entrance to the block from that station, a lock for each signal, lock controlling circuits, a manually operated switch at each station for governing the controlling circuit for the lock at the other station, each of said switches being arranged to return automatically to its normal position upon operation thereof, means associated with each switch for rendering the controlling circuit for the local lock inoperative upon the operation of the switch and for maintaining it inoperative upon the return of the switch to its normal position, and means arranged to be controlled by a train at the same station for again rendering the latter circuit operative.

22. In a block signal system, a pair of stations at opposite ends of a block, a signal at each station controlling the entrance to the block from that station, an operating lever for each signal, a lock associated with each of said levers, lock controlling circuits, a manually operated switch at each station for governing the controlling circuit for the lock at the other station, each of said switches being arranged to return automatically to its normal position upon operation thereof, means associated with each switch for rendering the controlling circuit for the local lock inoperative upon the operation of the switch and for maintaining it inoperative upon the return of the switch to its normal position, and means arranged to be controlled by a train at the same station for again rendering the latter circuit operative.

23. In a block signal system, a pair of stations at opposite ends of a block, a signal at each station controlling the entrance to the block from that station, a lock for each signal, an actuating circuit for each lock extending between said stations, a manually operated switch at each station for governing the actuating circuit for the lock at the other station, each of said switches being arranged to return automatically to its normal position upon operation thereof, means associated with each switch for rendering the actuating circuit for the local lock inoperative upon the operation of the switch and for maintaining it inoperative upon the return of the switch to its normal position, and means arranged to be controlled by a train at the same station for again rendering the latter circuit operative.

24. In a block signal system, a pair of stations at opposite ends of a block, a signal at each station for controlling the entrance to the block from that station, a lock for each signal, lock-controlling circuits, a manually operated switch at each station arranged in the controlling circuit for the lock at the other station, a stick relay at each station having contacts arranged in the control circuit for the local lock, contacts on each of said switches arranged in the circuit for controlling the local stick relay, and a track relay having contacts which coöperate with the contacts on said switch to complete actuating and maintaining circuits for said stick relay in different positions of the track relay.

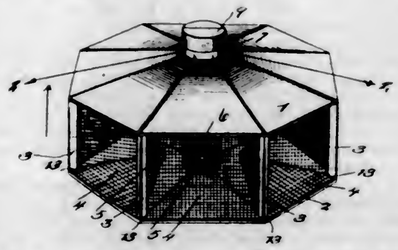
25. In a block signal system, a pair of stations at opposite ends of a block, a signal at each station for controlling the entrance to the block from that station, a lever for operating each of said signals, a lock for each of said levers, lock controlling circuits, a manually operated switch at each station arranged in the controlling circuit for the lock at the other station, a stick relay at each station having contacts arranged in the control circuit for the local lock, contacts on each of said switches arranged in the circuit for controlling the local stick relay, and a track relay having contacts which coöperate with the contacts on said switch to complete actuating and maintaining circuits for said stick relay in different positions of the track relay.

26. In a block signal system, a pair of stations at opposite ends of a block, a signal at each station controlling the entrance to the block from that station, a lock for each signal, actuating circuits for said locks extending between said stations, a manually operated switch at each station arranged in the actuating circuit of the lock at the next station, said switches being arranged to return automatically to their normal positions after being operated, means associated with each switch for rendering the actuating circuit of the local lock inoperative upon actuation of the switch and for maintaining it inoperative after the return of the switch to its normal position, and means arranged to be controlled by a train at the same station for rendering the latter circuit inoperative.

27. In a block signal system, a pair of stations at opposite ends of a block, a signal at each station controlling the entrance to the block from that station, an operating lever for each signal, a lock for each operating lever, actuating circuits for said locks extending between said stations, a manually operated switch at each station arranged in the actuating circuit of the lock at the next station, said switches being arranged to return automatically to their normal positions after being operated, means associated with each switch for rendering the actuating circuit of the local lock inoperative upon actuation of the switch and for maintaining it inoperative after the return of the switch to its normal position, and means arranged to be controlled by a train at the same station for rendering the latter circuit operative.

28. In a block signal system, a pair of stations at opposite ends of a block, a signal at each station controlling the entrance to the block from that station, a lock for each signal, actuating circuits for said locks extending between said stations, a manually operated switch at each station arranged in the actuating circuit of the lock at the next station, said switches being arranged to return automatically to their normal positions after being operated, a stick relay, and a track relay at each station arranged in the actuating circuits of both locks, contacts on each of said switches for controlling the circuit for the local stick relay, and contacts on each of the track relays together with circuits arranged to permit the track relay in its several positions to coöperate with the contacts on the local switch to complete actuating and maintaining circuits respectively for the local stick relay.

869,556. INSECT-TRAP. JAMES E. DE HAAS, Enid, Okla. Filed May 18, 1907. Serial No. 374,413.

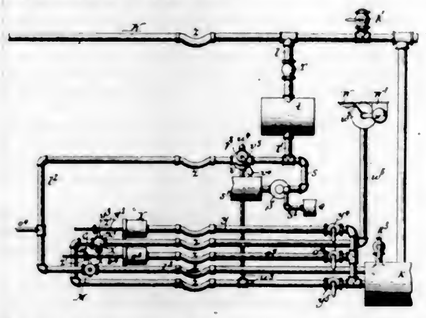


A device of the class described, having upper and lower plates, a wire netting forming the sides thereof and having a plurality of entrances, a removable core mounted in th ecenter of said device, said upper plate being pyramidal or funnel-shaped for the purpose of conveniently dumping the insects out by inverting the device.

869,557. SAFETY MECHANISM FOR RAILWAY-TRAINS. JAMES DOYLE, Niagara Falls, N. Y. Filed May 22, 1906. Serial No. 318,157.

1. A safety mechanism for railway trains, comprising a trip arm arranged on the locomotive or connecting part, a horizontal trip bar arranged at right angles to the railway and movable transversely thereto into and out of the path of the trip arm, and a vertically swinging rock arm supporting said trip bar, substantially as set forth.

2. A safety mechanism for railway cars comprising a trip arm arranged on the locomotive or connecting part, a trip bar movable into and out of the path of said arm, a vertically rocking link supporting the front end of said bar, and an elbow lever supporting the front end of the same, substantially as set forth.



3. A safety mechanism for railway cars comprising a trip arm arranged on the locomotive or connecting part, a trip bar movable into and out of the path of said arm, a vertically rocking link supporting the front end of said bar, an elbow lever having one arm connected with said bar, a housing inclosing said bar, link and lever, a post rising from said housing, a semaphore mounted on said post, and a rod connecting said semaphore with other arm of said elbow lever, substantially as set forth.

4. A safety mechanism for railway trains comprising a trip arm arranged on the locomotive or connecting part, a housing arranged adjacent to the road bed and provided with an opening in its front end, a trip bar arranged on said housing and movable through said opening into and out of the path of said trip arm and a door operating to close said opening automatically, substantially as set forth.

5. A safety mechanism for railway trains comprising a trip arm arranged on the locomotive or connecting part, a trip bar arranged along the road bed and movable into and out of the path of the trip arm, and an electrical signal which is operated by an outward movement of said bar, substantially as set forth.

6. A safety mechanism for railway trains comprising a trip arm arranged on the locomotive or connecting part, a trip bar arranged along the road bed and movable into and out of the path of the trip arm, and an electrical signal which is operated by the inward movement of said bar, substantially as set forth.

7. A safety mechanism for railway trains comprising a trip arm arranged on the locomotive or connecting part, a trip bar arranged along the road bed and movable into and out of the path of the trip arm and two electrical signals one of which is operated by the outward and the other by the inward movement of said bar, substantially as set forth.

8. A safety mechanism for railway trains comprising a trip arm arranged on the locomotive or connecting part, a trip bar arranged along the road bed and movable into and out of the path of the trip arm, a rocking link connected with said bar, two electric signals arranged in separate circuits having switch contacts arranged on opposite sides of said link, and a switch bar arranged on said link and adapted to engage with the contacts on either side of the same for closing either of said circuits and operating the corresponding signal, substantially as set forth.

9. A safety mechanism for railway trains comprising two trip arms which are arranged on a locomotive or connecting part in different positions and one of which is operatively connected with the propulsion controlling devices while the other is connected with the signaling devices, and two trip bars arranged in different positions along the road bed and each adapted to be moved into and out of the path of one of said trip arms, substantially as set forth.

10. A safety mechanism for railway trains comprising two trip arms which are arranged in different positions transversely on a locomotive or connecting part and one of which is operatively connected with the propulsion controlling mechanism while the other is operatively connected with the signaling mechanism, the inner trip arm extending with its end beyond the end of the outer trip arm, and two trip bars arranged at different heights along the road bed, the upper bar being movable into and out of the path of the outer trip arm and the lower bar being movable beyond the upper bar into and out of the path of the inner trip arm, substantially as set forth.

11. A safety mechanism for railway trains comprising an air pipe forming part of the air brake mechanism, a valve arranged in said air pipe and having a movable controlling member, and a trip arm coupled with said member so as to be free to move independent thereof in one direction but compels said member to move therewith in the opposite direction, substantially as set forth.

12. A safety mechanism for railway trains comprising an air pipe forming part of the air brake mechanism, a valve arranged in said air pipe and having a rotary plug, a trip arm pivoted loosely on said plug, and a stop secured to said plug in position to be engaged by said arm and compel the plug to turn with the arm upon rotating the latter in one direction but permitting said arm to rotate in the opposite direction independent of said plug, substantially as set forth.

13. A safety mechanism for railway trains comprising an air pipe forming part of the air brake mechanism, a valve arranged in said air pipe, a trip arm connected with the controlling member of said valve and having its free end beveled and a trip bar arranged along the road bed and adapted to engage with the beveled part of said arm, substantially as set forth.

14. A safety mechanism for railway trains comprising an air pipe forming part of the air brake mechanism, a valve arranged in said air pipe and having a rotary plug, a trip arm connected with said plug, a brake disk connected with said plug, and a brake band applied to said disk, substantially as set forth.

15. A safety mechanism for railway trains comprising an air pipe forming part of the air brake mechanism, a valve arranged in said air pipe and having a rotary plug, a trip arm connected with said plug, a brake disk connected with said plug, a brake band applied to said disk, and means for tightening said band on said disk, substantially as set forth.

16. A safety mechanism for railway trains comprising an air pipe forming part of the air brake mechanism, a valve arranged in said air pipe and having a rotary plug, a trip arm connected with said plug, a brake disk connected with said plug, a brake band applied to said disk, and means for tightening said band on said disk comprising a power cylinder, and a piston arranged on said cylinder and connected with said brake band, substantially as set forth.

17. A safety mechanism for railway trains comprising an air pipe forming part of the air brake mechanism, a valve arranged on said air pipe and having a rotary plug, a trip arm connected with said plug, a brake disk connected with said plug, a brake band applied to said disk and having one end secured to a fixed support, a lever having one of its arms secured to the other end of said band, a piston connected with the other arm of said lever, a cylinder containing said piston, and a pressure medium supply connected with the working end of said cylinder, substantially as set forth.

18. A safety mechanism for railway trains comprising an air pipe forming part of the air brake mechanism, a valve arranged in said pipe and having a movable closure member, a cam operatively connected with said member, and a trip arm connected with said cam, substantially as set forth.

19. A safety mechanism for railway trains comprising an air pipe forming part of the air brake mechanism, a valve arranged in said pipe, and having a movable closure member, a rock shaft, a trip arm connected with said shaft, a cam turning with said shaft and operatively connected

with said member, and a power cylinder and piston operatively connected with said shaft, substantially as set forth.

20. A safety mechanism for railway trains comprising an air pipe forming part of the air brake mechanism, a valve arranged in said pipe and having a sliding closure member, a shifting rod connected with said member, a rocking cam operatively connected with said rod, a rock shaft supporting said cam, a trip arm mounted on said shaft, a restoring arm connected with said shaft, a piston having a rod which is connected with said restoring arm and a power cylinder containing said piston, substantially as set forth.

21. A safety mechanism for railway trains comprising an air pipe forming part of the air brake mechanism, a valve arranged in said pipe and having a sliding closure member, a shifting rod connected with said member, a rocking cam operatively connected with said rod, a rock shaft supporting said cam, a trip arm mounted on said shaft, a restoring arm connected with said shaft, a piston having a rod which is connected with said restoring arm, a power cylinder containing said piston, a compressed air supply reservoir connected with said cylinder by a supply pipe, and a valve arranged in said supply pipe and constructed to connect the reservoir with said cylinder in one position of the valve, and to connect the cylinder with the atmosphere in another position of the valve, substantially as set forth.

22. A safety mechanism for railway trains comprising an air pipe forming part of the air brake mechanism, a valve arranged in said pipe and having a movable member a shifting device for said valve, and a register connected with said movable member substantially as set forth.

23. A safety mechanism for railway trains comprising an air pipe forming part of the air brake mechanism, a valve arranged in said pipe and having a sliding closure member, a rod connected with said member, a shifting mechanism connected with said rod, a register provided with an actuating arm, and an elbow lever having one of its arms connected by a rod with said actuating arm while its other arm is provided with a slot which receives a pin on said rod, substantially as set forth.

24. A safety mechanism for railway trains comprising a brake mechanism, a track sander having a hopper provided with an outlet, a valve for closing said outlet, a crank shaft having its crank connected with said valve and having a rock arm, a whistle having supply pipe, a valve arranged in said supply pipe and having a rotary plug provided with an arm, a rock shaft, a rock arm on said rock shaft connected with the rock arm of said crank shaft, a rock lever having one of its arms connected with the arm of said whistle valve arm, a power piston having its rod connected with the other arm of said rock lever, and a power cylinder containing said piston, substantially as set forth.

25. A safety mechanism for railway trains comprising a throttle valve which controls the steam to the engine, a hand lever connected with said valve, a spring pressed locking bolt mounted on said hand lever, a releasing lever pivoted on said hand lever and having one arm connected with said bolt, a yoke having a slot which receives said hand lever and the other arm of said releasing lever, a piston connected with said yoke, and a power cylinder containing said piston, substantially as set forth.

26. A safety mechanism for railway trains comprising a propulsion controlling device, an air motor connected with said propulsion controlling device, a compressed air supply pipe for said motor, and means for controlling the flow of air from said supply pipe to said air motor consisting of a chamber connected at its front end with the air supply pipe, an outlet port arranged in the rear end of said chamber and connected with said air motor, an auxiliary reservoir connected with the rear part of said chamber, a valve arranged in the rear part of said chamber and controlling said outlet port, and a piston having a leakage groove or passage arranged in the front part of said chamber and connected with said valve, substantially as set forth.

27. A safety mechanism for railway trains comprising a propulsion controlling device and air motor connected with said propulsion controlling and signaling device, a compressed air supply pipe for said motor, and means for controlling the flow of air from said supply pipe to said air motor consisting of a chamber connected at its front end with the air supply pipe, an outlet port arranged in the rear end of said chamber and connected with said air motor, an auxiliary reservoir connected with the rear part of said chamber, a valve arranged in the rear part of said chamber and controlling said outlet port, and a piston having a leakage groove or passage arranged in the front part of said chamber and connected with said valve, substantially as set forth.

28. A safety mechanism for railway trains comprising a main air pipe, a propulsion controlling device, a branch pipe connecting the main pipe with said propulsion controlling device, and a cut-out valve arranged in said branch pipe, substantially as set forth.

29. A safety mechanism for railway trains comprising a main air pipe, a propulsion controlling device, a branch pipe connecting the main pipe with said propulsion controlling device, a cut-out valve arranged in said branch pipe, and a register operatively connected with said cut-out valve, substantially as set forth.

30. A safety mechanism for railway trains comprising a main air pipe, a propulsion controlling device, a branch pipe connecting the main pipe with said propulsion controlling device, a cut-out valve arranged in said branch pipe, and a signal which is operated by the cut-out valve when the same is opened, substantially as set forth.

31. A safety mechanism for railway trains comprising a main air pipe, a propulsion controlling device, a branch pipe connecting the main pipe with said propulsion controlling device, a whistle having a supply pipe, and a cut-out valve having its rotary plug provided with ports adapted to open and close said branch pipe and said whistle supply pipe alternately, substantially as set forth.

32. A safety mechanism for railway trains comprising a main air pipe, a propulsion controlling mechanism, a branch pipe connecting the main air pipe with said propulsion controlling mechanism, an automatic valve arranged in said branch pipe, a register operatively connected with said automatic valve, a manual cut-out valve arranged in said branch pipe, and a register operatively connected with said cut-out valve, substantially as set forth.

33. A safety mechanism for railway trains comprising a main air pipe, a propulsion controlling mechanism, a branch pipe connecting the main air pipe with said propulsion controlling mechanism an automatic valve arranged in said branch pipe, and a manual regulating valve arranged in said branch pipe, substantially as set forth.

34. A safety mechanism for railway trains comprising an air pipe, a valve arranged in said pipe, a trip arm connected with said valve, an air motor connected with said pipe, a lamp and a movable hood for inclosing said lamp operatively connected with said motor, substantially as set forth.

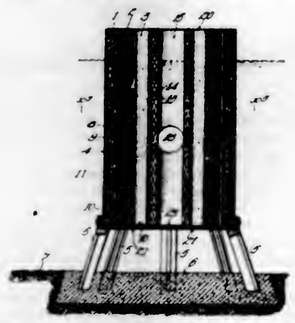
35. A safety mechanism for railway trains comprising an air pipe, a valve arranged in said pipe, a trip arm connected with said valve, a cylinder connected with said pipe, a piston arranged in said cylinder and having a rod, a lamp, a hood inclosing said lamp and connected with said rod, and a bell having an actuating arm which is operatively engaged by said rod, substantially as set forth.

36. A safety mechanism for railway trains comprising an air pipe, an automatic valve arranged in said pipe and having a rotary plug, an arm connected with said plug, a restoring cylinder, and a piston arranged in said cylinder and having a rod which is connected with said arm, substantially as set forth.

869,558. SUBMERGED FILTER. GEORGE W. DURBROW, Indio, Cal., assignor to Durbrow Filtration Company, Yuma, Ariz., a Corporation of Arizona. Filed Nov. 8, 1904. Serial No. 231,831.

1. A filter composed of a series of concentric sections of filtering material and sacks of netting inclosing the respective sections, narrow open bottom spaces being provided between the sections.

2. A filter composed of a series of concentric sections of filtering material, sacks of netting inclosing the respective sections, and means for supporting said sections so as to provide open bottom spaces between the sections.

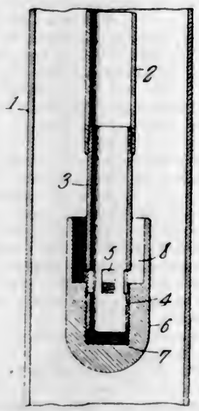


3. A filter composed of a series of substantially concentric sections of filtering material arranged with open bottom spaces between the sections, a pervious casing inclosing the sides of the outer section, a pervious casing inside of the inner section, and an impervious bottom for the inner casing whereby the water from the supply canal must first pass through the filtering material before entering the interior of the inner casing.

4. A filter composed of a series of substantially concentric sections of filtering material arranged with open bottom spaces between the sections, a pervious casing inclosing the sides of the outer section, a pervious casing inside of the inner section, an impervious bottom for the inner casing whereby the water from the supply canal must first pass through the filtering material before entering the interior of the inner casing, and suitable cages of wire netting inclosing the respective sections.

5. A filter composed of a series of substantially concentric sections of filtering material arranged with open bottom spaces between the sections, a pervious casing inclosing the sides of the outer section, a pervious casing inside of the inner section, an impervious bottom for the inner casing whereby the water from the supply canal must first pass through the filtering material before entering the interior of the inner casing, and suitable cages of wire netting inclosing the respective sections, said filter being revolubly mounted.

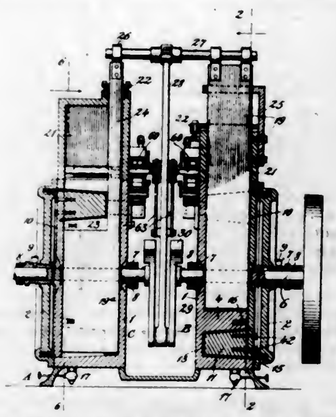
869,559. PUMP. THOMAS FOY, Freehold, N. J. Filed July 15, 1907. Serial No. 383,778.



1. A lift pump for deep wells, comprising a pipe having its lower end threaded and provided above its lower end but within the range of the screw-threads with through openings, and a block provided with an axial threaded portion of sufficient extent to receive the threaded end of the pipe including said openings, said block being also provided above the threaded receptacle with a chamber open at the upper end and having its walls spaced from and concentric with the pipe.

2. A lift pump for deep wells, comprising a pipe having its lower end threaded and provided with through passages above said lower end but within the range of the threads, and a block having its lower end rounded and provided with an axial nut of sufficient extent to receive the threaded end of the pipe and the openings therein, said block having an axial chamber above the threaded receptacle or nut formed therein, with the exterior walls concentric with the pipe.

869,560. ROTARY ENGINE. CHARLES R. FRANCIS, Warsaw, Mo. Filed May 7, 1907. Serial No. 372,433.



1. In a rotary engine, a cylinder having a concentric boss coöperating with the cylinder walls to form an annular steam chest, a detachable cylinder head, a piston carrying plate fixed upon the shaft for rotation therewith intermediate the boss and the detachable cylinder head, and spring actuated packing rings seated in grooves in the boss and in the detachable cylinder head in engagement with opposite sides of the piston carrying plate.

2. In a rotary engine, a cylinder having a concentric boss coöperating with the cylinder walls to form an annular steam chest, a detachable cylinder head, a concentric shaft supported for rotation in the cylinder, a piston carrying plate fixed upon the shaft for rotation therewith, a reciprocatory abutment operating transversely in the cylinder and the boss at one side of the shaft, a crank upon the shaft and a pitman connecting the crank with the abutment.

3. In a rotary engine, a cylinder having a concentric boss coöperating with the cylinder walls to form an annular steam chest, a shaft supported for rotation in the cylinder concentric therewith, a plate fixed upon the shaft for rotation therewith, a piston carried by said plate and operating in the annular steam chest, an abutment mounted for reciprocation at one side of the shaft, a crank upon the shaft, a pitman connecting the crank with the abutment, a movably supported valve controlling the admission of steam to the steam chest, a sleeve upon the stem of said valve, and a rod pivoted upon the pitman and disposed for slidable movement in the sleeve.

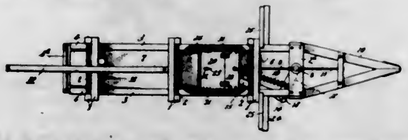
4. In a rotary engine, a cylinder having an annular steam chest, a shaft supported for rotation concentric with the cylinder, a plate fixed upon the shaft for rotation therewith, a piston upon said plate extending into the steam chest, an abutment supported for reciprocation through the steam chest, a crank upon the shaft, a pitman

connecting the crank with the abutment, a movable valve having an axial supporting stem, and a slidable member connecting the valve stem with the pitman.

5. In a rotary engine, a pair of cylinders disposed in axial alinement and having annular steam chests, a shaft supported for rotation concentric with the cylinders, plates fixed upon the shaft for rotation therewith and having pistons extending into the steam chests, said pistons being disposed at diametrically opposite sides of the shaft, abutments supported for reciprocation through the steam chests to alternately obstruct adjacent portions of the steam chests in the two cylinders, a shaft connecting the abutments, a pitman connecting the cross-head with the crank, and means for controlling the admission of steam into the steam chests, and the exhaust steam from the steam chests of the two cylinders.

6. In a rotary engine, a pair of cylinders supported in axial alinement and having annular steam chests, detachable heads fixed upon the outer ends of the cylinders, an axial shaft supported for rotation in the cylinders and having a crank intermediate said cylinders, abutments mounted for reciprocation through the steam chests of the cylinders at one side of the shaft, said abutments being adapted to alternately obstruct adjacent portions of the steam chests in the two cylinders at diametrically opposite sides of the shaft, plates fixed upon the shaft for rotation therewith and having pistons extending into the steam chests of the cylinders, said pistons being disposed at diametrically opposite sides of the shaft, manually operable reversible throttles and inlet valves for controlling the admission of steam to the steam chests of the cylinders alternately at opposite sides of the abutments, movably supported cut-off valves having axial stems, sleeves upon said stems, means including a pitman for transmitting motion from the shaft to the abutments, and rods pivoted upon said pitman and slidably engaging the sleeves upon the stems of the movably supported cut-off valves.

869,561. BALING-PRESS. ARTHUR GASTONGUAY, St. André de Restigouche, Quebec, Canada. Filed May 29, 1907. Serial No. 376,230.



1. In a baling press, the combination comprising a baling chamber, a plunger head, a top hinged to the plunger head, means for locking the top in depressed position, means for actuating the plunger head in one direction, means for retracting the plunger head when the actuating means are in operative position, channeled binding blocks adapted to enter the baling chamber, and means for locking the blocks in position.

2. In a baling press, the combination comprising a baling chamber, a plunger head, a top hinged to the plunger head and provided with an opening, a spring catch disposed through the opening, a spring disposed beneath the hinged top, means for actuating the plunger head in one direction, means for retracting the plunger head when the actuating means are in operative position, channeled binding blocks adapted to enter the baling chamber, and means for locking the blocks in position.

869,562. DENTAL ENGINE. JAMES F. HARDY, New York, N. Y., assignor to Consolidated Dental Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Nov. 23, 1906. Serial No. 344,732.

1. The combination with a hollow standard, an arm pivotally secured thereto, of a counterbalance spring housed within the standard and a vertically movable slide housed within the standard and forming an intermediate connection between the arm and the spring.

2. The combination with a standard, an arm pivotally secured thereto, of a counterbalance spring and a vertically movable slide connected with the spring and having a toothed connection with the arm.



3. The combination with a standard and an arm pivotally secured thereto, of a counterbalance spring and a slide connected with the spring and having its upper end bifurcated to embrace the opposite sides of the end of the arm, the said slide and arm being provided with interengaging teeth.

4. The combination with a standard having a hollow head and an arm pivoted between the opposite sides of the hollow head of the standard and provided with a toothed sector at its end, of a vertically movable slide located between the opposite sides of said head and provided with a rack bar in position to engage the toothed sector and the arm and a counterbalance spring connected with said slide.

5. The combination with a tubular standard provided with a hollow head, of an arm provided with a sector at its end pivotally secured between the opposite sides of the hollow head of the standard, a slide located in the hollow head and having a toothed engagement with the sector, the said slide being provided with a shank extending downwardly within the tubular standard and a counterbalance spring connected to the hollow standard and connected with the slide.

6. The combination with a tubular standard and an arm pivotally secured thereto, of a counterbalance spring connected with the arm and extending downwardly within the standard, a nut mounted on the standard and a screw threaded piece connected with the spring and engaged with the nut for regulating the tension of the counterbalance spring.

7. The combination with a slotted tubular standard, an arm pivotally secured thereto and a counterbalance spring connected with the arm and extending downwardly within the standard, of a link connected with the spring, a key extending through the link and through a slot in the standard and provided with a screw threaded edge and a sleeve nut mounted on the standard and engaged with the key for adjusting the key and hence the tension of the spring.

8. The combination with a tubular standard made in sections, one of the sections being provided with slots through its walls, an abutment thereon, of an arm pivoted to the upper section, a slide engaged with the arm and extending within the upper section, a spring connected with the slide and extending into the lower section, a link connected with the spring, a key passing through the link and through the slots in the walls of the standard section, a sleeve nut mounted on the section in engagement with the key and with said abutment.

9. The combination with a standard, an arm pivotally secured thereto and a counterbalance spring for holding the arm elevated, of a vertically movable slide connected with the spring and with the arm and an adjustable stop for regulating the angle at which the arm shall be held with respect to the standard.

869,563. HANDPIECE FOR DENTAL ENGINES. JAMES F. HARDY, New York, N. Y., assignor to Consolidated Dental Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Nov. 24, 1906. Serial No. 344,945.



1. In a dental hand piece, the combination with a holder, of a spindle and its tool carrier constructed to be moved through the rear end of the holder and means arranged to be operated by the hand of the operator for locking and releasing the spindle to and from the holder.

2. In a dental hand piece, the combination with a holder, of a spindle and its tool carrier constructed to be removed from the holder through the rear end of the holder and a rocking catch arranged to be operated by the hand of the operator for locking and releasing the parts.

3. In a dental hand piece, the combination with a holder, of a spindle and its tool carrier constructed to be removed through the rear end of the holder, a pulley mounted on the holder and provided with a rearwardly projecting lip and a rocking part on the spindle arranged to interlock with the said lip for locking and releasing the parts.

4. In a dental hand piece, the combination with a holder, and a spindle constructed to be removed through the rear end of the holder, of a pulley mounted on the holder and a part having a limited rotary movement on the spindle, the said pulley and the rotary part being provided the one with a tongue and the other with a part arranged to interlock with the tongue for locking and releasing the spindle to and from the pulley.

5. In a dental hand piece, the combination with a holder and a spindle constructed to be removed bodily through the rear end of the holder, a pulley mounted on the holder, a nut locked to the spindle and a ring arranged to be rotated on the nut, the said pulley and ring being provided, the one with a lip and the other with a part arranged to interlock with the lip for locking the spindle to and releasing it from the pulley.

6. In a dental hand piece, the combination with a holder, a pulley mounted on the holder and a spindle constructed to be removed through the rear end of the holder, of a split nut engaged with the spindle, a screw for locking the nut to the spindle and a ring seated on the nut and having a limited rotary movement thereon, the said pulley being provided with a slotted lip and the said ring being provided with a projection arranged to engage the slot in the lip for locking the spindle to and releasing it from the pulley.

7. In a dental hand piece, the combination with a holder, a pulley seated thereon, and provided with rearwardly projecting lips and a spindle constructed to be removed through the rear end of the holder, of a part secured to the spindle and provided with slots for the reception of the lips on the pulley and means for removably locking the spindle to the pulley.

8. In a dental hand piece, the combination with a holder, a pulley mounted on the holder and a spindle constructed to be removed through the rear end of the holder, of means carried by the spindle for locking the spindle to the pulley and a split nut engaged with the spindle and forming a support for the said locking means.

869,564. PRESERVING AND CANNING DEVICE. SARAH W. HARRELL, Amite, La. Filed Jan. 28, 1907. Serial No. 354,627.



1. The combination with a jar and a closure therefor; of means confined within the jar for pressure upon the contents of the latter composed of a single piece of solid material including a shank provided at one end with a perforated base and at its opposite end provided with a head of smaller diameter than the base, said pressure means being free of the closure of the jar.

2. A device of the character described composed of a single piece of solid material including a shank provided at one end with a corrugated perforated base and at its opposite end provided with a head portion.

869,565. ARTIFICIAL FISHING-BAIT. ELMER J. HAVERLY, Sayre, Pa., assignor to The Enterprise Manufacturing Company, Akron, Ohio, a Corporation of Ohio. Filed May 28, 1906. Serial No. 319,025.



1. An artificial fishing bait, comprising three stamped thin metal strips respectively formed to represent the head and two sides of a minnow, the ends of the head piece being formed with outward deflections representing fins and the rear ends of the two sides being similarly formed with outward deflections representing tail pieces, substantially as set forth.

2. An artificial fishing bait, comprising three thin metal strips respectively formed to represent the head and two sides of a minnow, the ends of the head piece being formed with outward deflections representing fins and the rear ends of the two sides being similarly formed with outward deflections representing tail pieces, the two side strips provided with a sleeve fitted between their tail portions, the head strip provided with a hole, said sleeve and hole forming support for said minnow upon said shaft, substantially as set forth.

3. An artificial fishing bait, comprising strips forming its sides, a strip doubled over to represent the head of a minnow and having its respective ends attached to said side strips, said side strips and the ends of said head strip terminating with outward deflections, substantially as set forth.

4. An artificial fishing bait, comprising two strips representing the sides of a minnow, and a third doubled over strip representing the head of such minnow, the ends of such third strip being attached to the respective side strips and being formed with outward deflections, substantially as set forth.

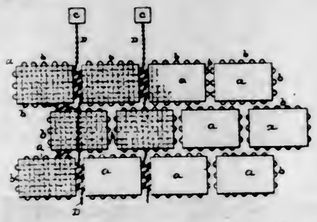
5. An artificial fishing bait, comprising two strips representing the sides of a minnow, and a third doubled over strip representing the head of such minnow, rivets attaching the ends of such doubled over strip to said side strips, the ends of such doubled over strip being formed with outward deflections and the rivets whereby such ends are attached to said side strips representing the eyes of the minnow, substantially as set forth.

6. An artificial fishing bait, comprising three pieces of stamped thin metal strips constituting respectively the sides and head of a minnow said head strip provided with a central shaft hole and having its rear ends respectively deflected outwardly and curvilinearly to form front fins, such rear ends of said head strip fastened to the forward ends of said side strips by rivets representing the eyes of the minnow, said side strips having their rear ends respectively deflected outwardly and curvilinearly to form tail fins and provided with a sleeve forward of said tail fins fastening such side strips together and forming a shaft bearing for same, substantially as set forth.

869,566. RIPRAP. FREDERIC W. HAWKES, New York, N. Y. Filed May 29, 1906. Serial No. 319,320.

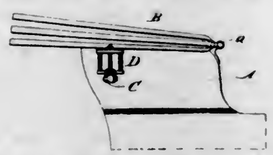
1. A rip-rap comprising a series of units spaced apart, and flexible devices connecting said units, each unit provided with metal pieces extending through and beyond the same and constituting attaching means for the flexible devices.

2. A rip-rap comprising a series of units spaced apart, and flexible devices connecting said units, each unit provided with two metal pieces extending through and beyond the same, one of said metal pieces disposed longitudinally of the unit and the other metal piece disposed transversely thereof.



3. A unit for a rip-rap, comprising a block having two series of wires embedded therein and projecting therefrom, one series of wires disposed longitudinally of the block and the other series disposed transversely of the same.

869,567. VEHICLE-TOP SUPPORT. THOMAS HENEY, Alpena, Mich. Filed Aug. 16, 1907. Serial No. 388,836.

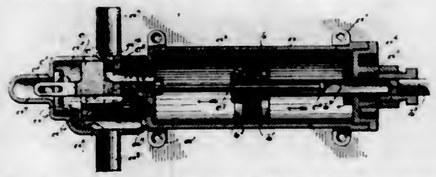


1. The combination with a vehicle body, a top hinged thereto, and a bracket arm fixed to and extending laterally outward from the body; of a top support and cushion comprising a base plate disposed upon the bracket arm and having lateral enlargements with seats or sockets in the upper sides thereof, a padded top plate having lateral enlargements with seats or sockets in the under sides thereof, and also having vertically disposed apertures, vertical, coiled springs interposed between and resting at their ends in the sockets or seats in the base and top plates, vertical guide pins extending loosely through the apertures in the top plate and having yokes at their lower ends straddling the base plate and the bracket arm, means fixedly securing the said yokes on the bracket arm, coiled springs surrounding the said guide pins and interposed between the under side of the top plate and the tops of the yokes, and means retaining the top plate on the said guide pins.

2. As a new article of manufacture, a support and cushion for vehicle tops, comprising a base plate having seats or sockets in the upper sides thereof, a padded top plate having seats or sockets in the under side thereof and also having vertically disposed apertures, vertical, coiled springs interposed between and resting at their ends in the seats or sockets in the base and top plates, vertical guide pins extending loosely through the apertures in the top plate and having yokes at their lower ends straddling the base plate and provided with fastening means, coiled springs surrounding the said guide pins and interposed between the yokes and the top plate, and means retaining the top plate on the said guide pins.

3. The combination with a vehicle body, a top hinged thereto, and a bracket arm fixed to and extending laterally outward from the body; of a top support and cushion comprising a base plate disposed upon the bracket arm, a top plate having vertically disposed apertures, a coiled spring interposed and retained between the said plates, guide pins extending through the apertures in the top plate and having yokes at their lower ends straddling the base plate and the bracket arm, means securing said yokes on the bracket arm, coiled springs surrounding the guide pins and interposed between the top plate and the yokes, and means retaining the top plate on the guide pins.

869,568. WATER-MOTOR. THEODORE M. HIESTER, Dayton, Ohio. Filed Mar. 7, 1906. Serial No. 304,643.



1. In a motor, as described, a cylinder, a piston therein, a piston valve, inlet ports adapted to discharge on opposite sides of said valve, an outlet port, peripheral grooves in said valve, alternately registering with said outlet port as said valve is operated, conduits in said valve extending from the opposite ends and communicating with the respective grooves, substantially as and for the purpose specified.

2. In a motor as described, a cylinder, a piston therein, a single integral valve-head, an inlet port adapted to discharge alternately on opposite sides of said valve-head, an outlet port, conduits in said valve-head adapted to alternately register with said outlet port, and means for operating said valve-head to give thereto an initial movement in either direction by the action of the piston and completing said movement by water pressure, substantially as specified.

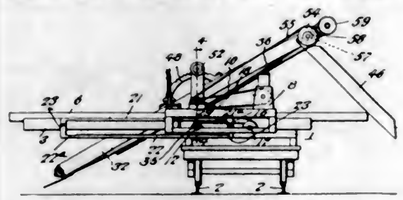
3. In a motor as described, a cylinder, a piston therein, a piston valve, inlet ports controlled by said valve, and an outlet port, peripheral grooves in said valve alternately registering with said outlet port, conduits extending into said valve and communicating with the respective peripheral grooves, substantially as specified.

4. In a motor as described, a main cylinder, a piston in said cylinder, a valve chamber at one end of said cylinder, a valve-piston in said valve-chamber, an inlet port at each end of said valve-chamber and an outlet port in said chamber, a discharge passage-way extending from either end of said valve-piston adapted to form a communication with said outlet port, and a sliding connection between said main-cylinder piston and said valve-piston adapted to impart to said valve-piston an initial movement near the limit of stroke of said main-cylinder piston in either direction sufficient to partially open one of said inlet ports, substantially as specified.

5. In a motor as described, a cylinder, a piston therein, a single integral movable head in said cylinder, a conduit leading from the extreme side of said movable head to the extreme side of said piston, an inlet port leading to said cylinder intermediate said head and piston, an inlet port communicating with said conduit, and means to impart to said head a limited movement at the limit of the stroke of said piston in either direction to cause said movable head to alternately partially open and close said inlet ports to permit the water pressure to move said head to the limit of its movement, substantially as and for the purpose specified.

6. In a motor as described, a cylinder, a piston therein, a single integral movable valve-head in said cylinder, an inlet port on either side of the path of movement of said valve-head, said inlet ports communicating with opposite sides of said piston, a conduit extending through said valve-head from each end thereof, an outlet port adapted to alternately register with said conduits, and a sliding connection between said piston and valve-head adapted at the end of the movement of said piston in either direction to operate said valve-head to partially open one of said inlet ports, completely close the other inlet port and one of said conduits, and to partially open the other conduit to permit the water-pressure to effect the complete operation of said valve-head so as to fully open the said first-mentioned inlet port and cause the partially opened conduit to completely register with the outlet port, substantially as and for the purpose specified.

869,569. LOADING APPARATUS. FRANCIS M. HOGG, Bessemer, Ala. Filed Dec. 22, 1906. Serial No. 349,115.



1. A loading apparatus comprising a supporting frame, a carriage arranged to reciprocate thereon, racks carried by the frame, a pinion mounted on the carriage and arranged between the racks, drive gearing for the pinion, means for throwing the pinion into and out of engagement with either rack, a tilting conveyer supported by the carriage, and means for controlling said conveyer.

2. A loading apparatus comprising a supporting frame, a carriage arranged to reciprocate thereon, spaced racks carried by one of said parts, a drive pinion carried by the other part and arranged between the racks, means for adjusting the pinion into and out of engagement with either rack, drive gearing for operating the pinion, a tilting conveyer supported by the carriage, and means for controlling said conveyer.

3. A loading apparatus comprising a supporting frame, a carriage arranged to reciprocate thereon, a tilting conveyer supported by the carriage, spaced racks upon the frame, a drive pinion on the carriage adapted to mesh with either of said racks, a shaft carrying said pinion and composed of jointed sections, drive gearing connected with one of the sections, adjusting means connected with the other section for throwing the pinion into and out of engagement with the racks, and means for controlling the conveyer.

4. A loading apparatus comprising a supporting frame, a carriage arranged to reciprocate thereon, racks carried by the frame, a sectional shaft on the carriage, one of the sections of the shaft being pivotally connected with the other, a pinion supported by said pivoted section for engagement with either of the racks, adjusting means connected with the pivoted shaft section, a motor on the carriage, a tilting conveyer frame supported by the carriage, an endless conveyer carried by said frame and provided with gathering means, and gearing driven by the motor for operating the said shaft and the conveyer.

5. A loading apparatus comprising a supporting frame, a carriage arranged to reciprocate upon the frame, racks upon the frame, a tilting conveyer supported by the carriage and provided with gathering means, a motor supported upon one side of the carriage, drive gearing between the motor and conveyer, a shaft driven from the motor and having a pivoted section, a pinion arranged between the racks and supported by the pivoted section of the shaft, and adjusting mechanism connected with said pivoted section of the shaft for throwing the pinion into and out of engagement with either rack.

6. A loading apparatus comprising a supporting frame, a carriage arranged to reciprocate thereon, racks carried by the frame, a pinion mounted on the carriage and arranged between the racks, a shaft carrying the pinion, means for adjusting the shaft to throw the pinion into and out of engagement with either rack, a tilting conveyer supported by the carriage, and means for controlling said conveyer.

7. A loading apparatus comprising a supporting frame, a stationary platform projecting laterally beyond one side of the frame, a carriage arranged to reciprocate upon said platform, reversible rack and pinion mechanism for operating the carriage, means for controlling said mechanism to advance or retract the carriage, a tilting conveyer supported by the carriage, means for tilting said conveyer, drive gearing for the operating parts, and a chute pivotally mounted at its upper end upon the upper end of the conveyer and resting at its lower end on the frame and automatically controlled as to position by the tilting of the conveyer.

8. In a loader, a conveyer provided with gatherers, each comprising gathering fingers and a portion adapted to form a pocket for the reception of the coke gathered by the fingers, and adapted to be closed by the fingers to retain the coke therein.

9. In a loader, a conveyer provided with gatherers, each comprising gathering fingers and link members, said link members being adapted to sag under the weight of the material gathered by the fingers and to form a pocket for the reception of the same, the fingers being arranged to close the pockets.

10. In a loader, a conveyer comprising connected chains provided with gatherers, each gatherer comprising supporting members carried by the chains, and gathering fingers and links operatively connected, said links being adapted to move away from the fingers at the extremities of the conveyer and to receive the material gathered thereby and to form a pocket for its reception, the pocket adapted to be closed by the gathering fingers on the working stretch of the chain.

869,570. SOLDER FOR ALUMINUM. THOMAS T. HOSACK, Oil City, Pa., assignor of one-third to Harvey A. Landis, Dubois, Pa. Filed Mar. 2, 1907. Serial No. 360,202.

1. A solder of the character set forth, consisting exclusively of block-tin, antimony, and aluminum.

2. A solder of the character set forth, consisting of substantially two-thirds block-tin, one-sixth antimony and one-sixth aluminum.

869,571. TRAVELING GUIDE FOR TOP ROLLS OF SPINNING OR TWISTING FRAMES. LEWIS T. HOUGHTON, Worcester, Mass. Filed Dec. 2, 1903. Serial No. 183,475.



1. As an article of manufacture, a sheet-metal clip for supporting a trumpet guide for a spinning frame, said clip having a resilient bow-shaped body provided with inwardly turned ears, one being curved and the other straight, said ears being located at the edges of the body and on one side thereof, and an integral guide trumpet extending outwardly from the body near the straight ear.

2. The combination of a metal rail of substantially T shaped section, a sheet metal trumpet guide for directing a thread between the top rolls of a spinning or twisting machine and a bow-shaped spring sheet metal clip sprung over the top rib of the rail and holding the trumpet guide in place thereon.

3. The combination with a supporting rail, of a sheet-metal clip having a resilient body and depending ears at two opposite edges thereof, whereby the body may be sprung to separate the ears so that they may be applied to the rail, the natural resiliency of the body holding the clip on the rail, and a trumpet guide mounted on the clip.

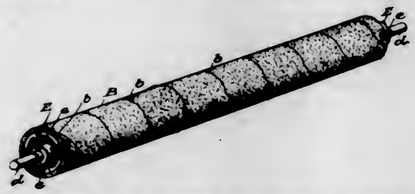
4. The combination with a supporting rail, of a sheet-metal clip having a resilient body and depending ears at opposite edges thereof, whereby the body may be sprung to separate the ears so that the same may be applied to the top of the rail, and a trumpet guide mounted on the clip and extending from the top of one of said ears outwardly so as to constitute means whereby the body of the clip may be sprung to separate the ears.

5. The combination with a metal T-shaped supporting rail having a substantially flat top provided with a rounded edge and an inwardly slanting edge, of a sheet-

metal clip having depending ears substantially fitting said edges of the rail and adapted to be snapped into place thereon, said clip having an integral trumpet guide extending outwardly from the body thereof and adjacent to one of the ears.

6. The combination with a supporting rail having two lateral edges, one of them being rounded and the other forming a V with the top of the rail, of a resilient clip having depending ears substantially fitting said edges of the rail and adapted to be snapped into place thereon by the bending of the body of the clip and the separation of the ears, said clip having a trumpet guide extending from the body thereof adjacent to one of said ears.

869,572. COVERING FOR MANGLE-ROLLS. JAMES H. HUNT, Greenwich, Conn. Filed Aug. 4, 1906. Serial No. 329,256.



1. In a machine of the character described, a roll having a covering of fire-proofed felt, said covering being spirally wound upon said roll, and means for holding the same thereon, said spiral winding comprising one layer of sufficient thickness to form the desired cushion, substantially as described.

2. In a machine of the character described, a roll having a covering of fire-proofed felt, said covering being spirally wound upon said roll, means revolubly supported with relation to the roll and its spiral winding and arranged to be adjusted with relation thereto to change the tension of the covering, said means also being arranged to be held with relation to the roll and covering so as to hold the latter at the tension desired, substantially as described.

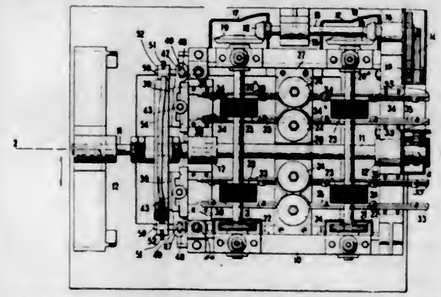
3. In a machine of the character described, a roll having a covering spirally wound thereon, combined with means supported with relation to the roll and its spiral winding to freely rotate whereby the covering may be adjusted to provide the proper tension and cushion, and said freely rotatable means being also arranged to be held with relation to the roll and its covering so that the latter may be maintained under the proper tension, substantially as described.

4. In a machine of the character described, a roll having a covering spirally wound thereon, said covering having its edges beveled whereby one edge slightly overlaps the other, combined with means supported with relation to the roll and its spiral covering to freely rotate whereby said covering may be adjusted to provide the proper tension and cushion, and said means being also arranged to be held with relation to said roll and its spiral covering as to maintain the latter under the proper tension and cushion, substantially as described.

5. In a machine of the character described, a roll having a covering spirally wound thereon, combined with a collar freely rotatable with respect to said roll and its spiral covering whereby said covering may be adjusted to provide the proper tension and cushion, and said collar having means for holding it fixed with relation to the roll and covering whereby the spiral covering may be maintained under the proper tension and cushion, substantially as described.

6. In a machine of the character described, a roll having a covering spirally wound thereon, said covering having its edges beveled whereby one edge slightly overlaps the other, and means for maintaining the said spiral covering under the proper tension and cushion, said means comprising a collar freely rotatable with respect to the roll and winding and a device for holding said collar in fixed relation to the said roll and its covering thus maintaining the proper tension and cushion, substantially as described.

869,573. TOOTHPICK-MACHINE. WILLIAM F. HUTCHINSON, Nyack, N. Y., assignor to Sweetwood Tooth Pick Company, Nyack, N. Y., a Corporation of New York. Filed May 4, 1906. Serial No. 315,255.



In combination, a feed-way having the oscillating section, rotating cutting means adapted to shear across the face of the oscillating section, a cam actuated reciprocating cam block, a reciprocating rod, a releasable connection between the rod and the cam block, an operative connection between the rod and the aforesaid oscillating section, and means to lock the rod against reciprocation in its support.

869,574. SAW. WARREN B. HUTHER, Rochester, N. Y., assignor to Huther Brothers' Saw Manufacturing Company, Rochester, N. Y., a Corporation of New York. Filed Sept. 10, 1906. Serial No. 333,927.

1. A saw comprising two plates arranged side by side and provided with transversely-extending notches arranged alternately in the two plates, rivets passing through the rims of the plates between the notches, teeth located in the latter and rivets securing them to the plates.

2. A saw comprising two plates arranged side by side and provided with transversely extending notches arranged alternately in the two plates, each plate having depressions registering with the notches in the other plate, teeth seated in said notches and depressions and fastening devices securing them to the plates.

869,575. FURNACE-DOOR. CARL J. F. JOHNSON, Cleveland, Ohio, assignor of one-half to Carl W. Carlson, Cleveland, Ohio. Filed Mar. 21, 1907. Serial No. 363,544.

1. A door for furnaces and the like comprising a hollow structure, a vertical partition dividing the same into two longitudinally extending chambers, passages connecting one of said chambers with the opposite outer face of the structure, air supply connections for said last named chamber, and water supply connections for the remaining chamber.

2. A door for furnaces and the like comprising a hollow structure, a vertical partition dividing the same into two longitudinally extending chambers, a plurality of ducts passing transversely through one of said chambers and connecting the other thereof with the opposite outer face of the structure, air supply connections for such other chamber, and water supply connections for said first named chamber.



3. A door for furnaces and the like comprising a flat hollow structure of substantially the size and form of the opening to be closed, a vertical partition dividing the same into two longitudinally extending chambers, a plurality of ducts passing transversely through the inner of said chambers and connecting the outer thereof with the inner face of the door, said ducts being disposed to open contiguously to the edges of the door opening when said door is in its closed position, air connections for the outer of said chambers, and water connections for the inner thereof.

4. A door for furnaces and the like comprising a hollow structure, a vertical partition dividing the same into two longitudinally extending chambers, passages connecting one of said chambers with the opposite outer face of the structure, air supply connections for said last named chamber, water connections for the remaining chamber, and a transverse duct extending through both chambers.

5. A door for furnaces and the like comprising a flat hollow structure of substantially the size and form of the opening to be closed, a vertical partition dividing the same into two longitudinally extending chambers, a plurality of ducts passing transversely through the inner of said chambers and connecting the outer thereof with the inner face of the door, said ducts being disposed to open contiguously to the edges of the door opening when said door is in its closed position, air connections for the outer of said chambers, water connections for the inner thereof, and a centrally disposed transverse duct extending through both chambers.

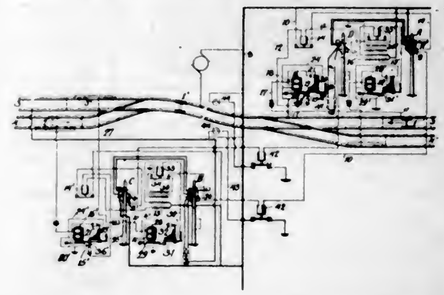
6. A door for furnaces and the like comprising a hollow structure, a plurality of ducts connecting the interior of such structure with one outer face thereof, and air supply connections to the interior of said structure.

7. A door for furnaces and the like comprising a flat hollow structure of substantially the size and form of the opening to be closed, a plurality of ducts connecting the interior of said structure with the face thereof turned towards such opening, said ducts being disposed to open contiguously to the edges of the door opening when said door is in its closed position, and air supply connections for said structure.

869,576. SIGNALING SYSTEM. EDWARD E. KLEINSCHMIDT, New York, N. Y., assignor to George M. Seeley, New York, N. Y. Filed Aug. 10, 1906. Serial No. 330,098.

1. A signal system in which the return current for operating the car is taken through the track rails said system comprising a track battery circuit, a relay included in said circuit, said circuit being closed by the passage of a car or train, and means for interposing a resistance in said circuit when the voltage exceeds that of the battery.

2. A signal system comprising a track relay adapted to operate the signal circuits, said relay having high and low resistance coils, a track circuit in which said relay is included, said relay being normally energized only through the low resistance coil, and means for interposing the high resistance coil in the circuit under abnormal conditions.



3. A signal system comprising a track relay adapted to operate the signal circuits, said relay having high and low resistance coils, a track circuit in which said relay is included, said relay being normally energized only through the low resistance coil, a normally closed shunt circuit around the high resistance coil, and means for opening said shunt circuit under abnormal conditions.

4. A signal system comprising a track relay adapted to operate the signal circuits, said relay having high and low resistance coils, a track circuit in which said relay is included, said relay being normally energized only through the low resistance coil, a normally closed shunt circuit around the high resistance coil, and means actuated by the movement of the relay armature to open said shunt circuit under abnormal conditions.

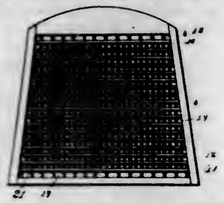
5. A signal system in which the return current for operating the car is taken through the track rails, said system comprising a track battery circuit, a relay having high and low resistance coils included in said circuit, said relay being normally energized only through the low resistance coil, and means for interposing the high resistance coil, in the circuit under abnormal conditions.

6. A block signal system for a single track road having sidings, said system comprising four independently placed signals adapted to be operated in pairs one at each end of the block, track battery circuits for operating the signals, insulated rail sections in both the main track and the sidings at the entrance and end of the block through which said circuits are closed by the passage of a car or train, mechanism adapted to be operated upon the closing of a track circuit by a car or train traveling in a given direction to set a pair of signals, and independent mechanism adapted to be operated upon the closing of another track circuit by a car or train traveling in an opposite direction to set the other pair of signals while the first pair of signals remain set.

7. A block signal system for a single track road having sidings said system comprising four signals adapted to be operated in pairs one at each end of the block, means at the sidings adapted to be set in operation by a car or train traveling in a given direction to set or clear a corresponding pair of signals, means on the main track adapted to be set in operation by a car or train traveling in an opposite direction to set or clear the other pair of signals, and a signal located within the block and included in the circuit of one of the pairs of signals to indicate the position of said pair of signals.

8. A signal system in which the return current for operating the car is taken through the rails, said system comprising a signal track circuit, an insulated rail section included in said track circuit, and additional insulated sections between the signal track circuit rail and the ends of the rail carrying the return current, said ends being connected by a bond.

869,577. RADIATOR. VICTOR LACING, St. Louis, Mo. Filed Feb. 19, 1907. Serial No. 358,303.

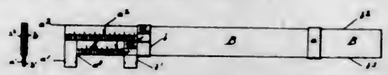


1. A device of the class described comprising a plurality of coils formed of bent sheets, the bends acting as strengthening ribs, walls supporting the ends of said coils, a casing located on each end and secured to the walls, said casings provided with passages for directing the circulation of the water, and stiffening frames connected to the edges of the coils and supported by the walls, substantially as specified.

2. A radiator for automobiles, comprising a plurality of coils formed of thin sheeting material, the sheets so bent as to provide strengthening ribs whereby each coil supports the other, walls supporting the ends of said coils, a detachable casing secured to each wall for directing the circulation of the water through the coils, and a stiffening frame forming the edges of the coils, substantially as specified.

3. A radiator for automobiles, comprising coils, end walls, casings, and stiffening frames, said coils constructed of thin sheets, strengthening ribs formed by folding the sheets and arranged to form air channels when the coils are placed together, substantially as specified.

869,578. RULE OR CALIPERS. GEORGE W. LE COMPTE, New York, N. Y., assignor of one-half to The American Hame and Bit Company, Newark, N. J. Filed Feb. 9, 1907. Serial No. 356,535.

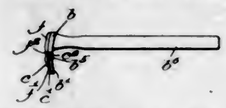


1. A sliding rule or caliper consisting of two members, each having a rigid band or loop forming a socket for the other, and each having a depending portion or flap, the lower member having one scale beginning at the edge of the same, and another scale beginning at the inner edge of the flap, and on the opposite or reverse side the two members having a lineal scale on one edge and a partly reversed scale adjacent thereto, and a metric scale on the other edge, the two said members being made of flexible material, and constructed and arranged to be pushed together so that the upper flap will lie over the lower one, and the bands or loops being formed of transparent material.

2. A sliding rule or caliper consisting of two members, each having a depending portion or flap, the lower member having one scale beginning at the edge of the same, and another scale beginning at the inner edge of the flap, and on the opposite or reverse side the two members having a lineal scale on one edge and a partly reversed scale adjacent thereto, the two said members being made of flexible material, and constructed and arranged to be pushed together so that the upper flap will lie over the lower one, and the bands or loops being made of transparent material.

3. A sliding rule or caliper consisting of two members, each having a rigid band or loop forming a socket for the other, and each having a depending portion or flap, the lower member having one scale beginning at the edge of the same, and another scale beginning at the inner edge of the flap, the two members being made of flexible material, and constructed and arranged to be pushed together so that the upper flap will lie over the lower one, and the bands or loops being formed of transparent material.

869,579. SAFETY-RAZOR. JAMES W. LESLIE, Wakefield, Mass. Filed Nov. 14, 1906. Serial No. 343,323.



1. A safety-razor having a rigid back plate provided with a transverse blade-seat and having teeth at its lower edge, a front plate rigidly secured to the back plate and having its lower edge pressed yieldingly toward the seat, said front plate being reduced in thickness transversely at its outer face to increase the resiliency of its lower edge, and a thin blade slidable sidewise between said plates onto the seat, the pressure of the lower edge of the front plate on the blade from end to end adjacent its cutting edge retaining the blade in place on the seat.

2. A safety-razor having a rigid back plate toothed at its lower edge and provided with a transverse blade-seat having a recess adjacent thereto extending the length thereof, a rigidly attached front plate having its lower edge pressed yieldingly toward the back plate along its toothed lower edge, a thin blade slidable sidewise between said plates onto the seat and pressed upon the seat by the lower portion of the front plate acting thereupon adjacent its cutting edge and lugs on the blade to enter the recess adjacent the seat and position the blade thereon.

3. A safety-razor having a rigid back plate toothed at its lower edge and provided with a transverse blade-seat having a recess adjacent thereto and extending the length thereof, a rigidly attached front plate having its lower edge pressed yieldingly toward the back plate, a handle fixedly secured to the back plate, a thin blade slidable endwise between the plates, and lugs on the blade to enter the recess adjacent the seat as the blade is pushed into place, the cutting edge of the blade extending below the lower edge of the front plate, the pressure of the latter upon the blade adjacent its cutting edge holding it firmly on its seat.

4. A safety-razor comprising a blade-holder consisting of a rigid back-plate having a blade-seat, and a rigidly and permanently attached front plate extended over the seat and having a resilient lip adapted to press against the face of the blade adjacent its cutting edge and retain it on the seat, a blade movable sidewise into position on the seat, means to guide the blade in its sidewise movement on the seat, and a handle connected rigidly and directly to the back-plate.

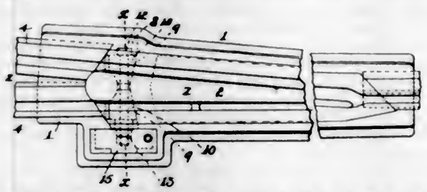
5. In a safety-razor, a blade-holder consisting of a rigid back-plate having a toothed lower edge and a blade-seat on its front face, a handle attached to and substantially at right angles to the back-plate, and a fixedly attached front plate overhanging and completely covering the seat and having a resilient lower edge or lip adapted to press yieldingly upon the blade adjacent its cutting edge when the blade is seated.

6. A safety-razor comprising a blade-holder consisting of a rigid back-plate having a blade-seat, a fixedly attached front plate overlying the seat and having a resilient lower edge to yieldingly press upon the face of the blade adjacent its cutting edge and force the blade onto the seat, a blade movable sidewise into position on the seat, and a longitudinal lip or rib on one of said parts to enter a guide groove formed in the other part, to govern the sidewise movement of the blade into operative position.

869,580. TONGUE-SWITCH. EDWARD LEWIS, Steelton, Pa., assignor to The Pennsylvania Steel Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed May 20, 1905. Serial No. 261,428.

1. In a tongue-switch, the combination of the base having the socket therein, the tongue having the pivot pin of diameter as great as the heel end of the tongue, the rear side of said pin being in the same plane as the heel end of the tongue, together with means for taking up lost motion of said pin, substantially as set forth.

2. In a tongue-switch, the combination of the base having the socket therein, the removable hard-metal disk in the bottom of said socket, the tongue having the pivot pin of diameter as great as the heel end of the tongue and the rear side of the said pin being in the same plane as the heel end of the tongue, said pin having a bottom bearing on said disk, together with means for taking up lost motion of said pin in said socket, substantially as set forth.



3. In a tongue switch, the combination of the base having the socket therein, the tongue having the pivot pin entered into said socket, and means for taking up lost motion of said pin, comprising separate blocks within a recess in said base, one side of each of which blocks is adapted to fit against the side of said pivot-pin and the opposite side of which blocks are provided with inclined faces correspondingly engaging inclined sides of the wall of said recess, together with means for operating said blocks, substantially as set forth.

4. In a tongue-switch, the combination of the base, having the vertical socket and the lateral recess communicating therewith, the tongue having the pin entered into said socket, the blocks having the faces corresponding with and contacting with the adjacent face of said pin, means for adjusting said blocks to take up lost motion of said pin, together with means for preventing vertical displacement of said pin in its socket, substantially as set forth.

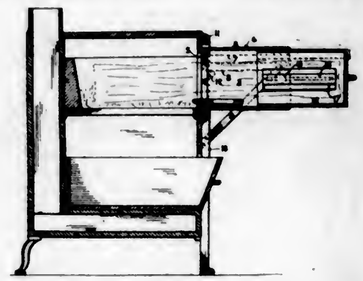
5. In a tongue-switch, the combination of the base, having the vertical socket and the lateral recess communicating therewith, the tongue having the pin entered into said socket, said pin having the face adjacent said recess tapered, the blocks having the faces corresponding with and contacting with said tapered face of the pin, and means for adjusting said blocks to take up lost motion of said pin, substantially as set forth.

6. In a tongue-switch, the combination of the base, having the vertical socket and the lateral recess communicating therewith, the tongue having the pin entered into said socket, the blocks having the faces corresponding with and contacting with the adjacent face of said pin, the opposite faces of said blocks contacting with inclined inwardly convergent faces of the inner walls of said recess, together with the bolt passing through and connecting said blocks and the nut on one end of said bolt, substantially as and for the purpose set forth.

7. In a tongue-switch, the combination of the base, having the socket and the lateral recess communicating therewith, the tongue having the pin entered into said socket, the blocks within said recess and having the faces corresponding with and contacting with the adjacent face of said pin, said blocks and pin having inter-engaging parts to prevent vertical displacement of said pin, together with means for adjusting said blocks to take up lost motion of said pin, substantially as set forth.

8. In a tongue-switch, the combination of the base, having the vertical socket and the lateral recess communicating therewith, the tongue having the pin entered into said socket, the blocks in said recess and having the faces corresponding with and contacting with the adjacent face of said pin, the opposite faces of said blocks contacting with inclined inwardly convergent walls of said recess, the bolt passing through and connecting said blocks there being a recess in said base communicating with said lateral recess and to which access may be had from the top, and into which said recess one end of said bolt extends, together with the nut on said end of said bolt, substantially as set forth.

869,581. AUXILIARY FUEL-BOX FOR STOVES, &c. THOMAS B. LOCKLEY, Goulburn, New South Wales, Australia. Filed Sept. 11, 1906. Serial No. 334,133.

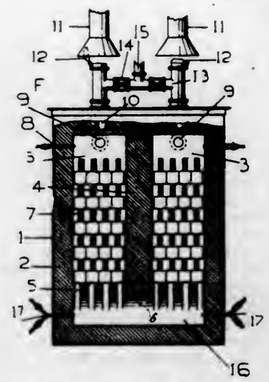


1. An attachment for stoves and the like, comprising an auxiliary fuel box and a U shaped support, the ends of which are adapted to engage the top plate of the stove, and a bracket carried by said support and having a slide for the auxiliary fuel box.

2. An attachment for stoves and the like, comprising an auxiliary fuel box having an open end adapted to communicate with the fire box of the stove, supporting means adapted to be applied to the exterior of the stove, and a bracket applied to said means and having a horizontal slide for the auxiliary fuel box.

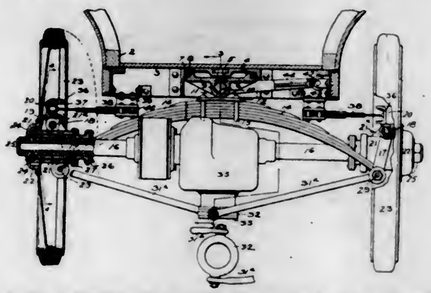
3. An attachment for stoves and the like, comprising an auxiliary fuel box having an open end adapted to communicate with the fire box of the stove, means for supporting said auxiliary fuel box comprising a horizontal slide, a pin and slot connection between said fuel box and slide, and a casing 17 within said fuel box for protecting the slot openings thereof.

869,582. GAS-MAKING APPARATUS. LEON P. LOWE, San Francisco, Cal. Filed Mar. 27, 1905, Serial No. 252,225. Renewed Sept. 3, 1907. Serial No. 391,150.



An apparatus for making gas, comprising a casing, a wall dividing the interior of the casing into two chambers, an arch on which said wall rests, arches below each chamber, loosely piled refractory material thereon, a steam pipe, a gas outlet pipe, a flue, and means for supplying an air blast all communicating directly with the top of each generating chamber, means for supplying oil to the interior of the casing beneath the said arches, and means for independently closing the steam pipe, the flue and the air blast at the top of either chamber, substantially as described.

869,583. SPRING-SUSPENSION FOR VEHICLES. WALTER W. MACFARREN, Pittsburg, Pa., assignor to William H. Donner, Pittsburg, Pa. Filed May 28, 1906. Serial No. 319,126.



1. In a vehicle, the combination of a body or frame, main springs supporting same, and supplemental balancing springs adapted to carry a portion of the load.

2. In a vehicle, the combination of a body or frame, main springs pivotally mounted on said body substantially on the longitudinal center line thereof, and supplementary balancing springs on the outer side of said body to preserve equilibrium.

3. In a vehicle, the combination of a body or frame, main springs arranged transversely of said body, and balancing springs extending from said body and having their outer ends supported by the axles and adapted to carry a portion of the load.

4. In a vehicle, the combination of a body or frame, main springs extending transversely of said frame, and supplementary balancing springs secured to said frame, the outer ends of said springs engaging a curved guideway supported by the axle.

5. In a vehicle, the combination of a body or frame, main springs supporting said body and arranged transversely thereof, a horizontally operated compensator, the outer ends of said springs being connected with said compensator, and supplemental balancing springs.

6. In a vehicle, the combination of a body or frame, main springs supporting said body and arranged transversely thereof, an oscillating horizontally arranged compensator connections between said compensator and the ends of said springs, and supplemental balancing springs.

7. In a vehicle, the combination of a body or frame, main springs supporting said body and pivotally connected thereto transversely of said body, a compensating device, and connections between the ends of said springs and said compensating device.

8. In a vehicle, the combination of a body or frame, and a balancing spring adapted to retard the motion of said body vertically in either direction.

9. In a vehicle, the combination of a body or frame, a balancing or equilibrium spring adapted to retard motion of the body vertically in either direction, said spring comprising a prolonged central leaf, and successively shorter leaves at opposite sides of said prolonged leaf.

10. In a vehicle, the combination of a body or frame, a balancing or equilibrium spring adapted to retard motion of the body vertically in either direction, said spring secured at one end to said body, the outer end of said spring being supported by the axle.

11. In a vehicle, the combination of a body or frame, a balancing or equilibrium spring adapted to retard motion of the body vertically in either direction, said spring being secured at one end to said body, and a curved guideway supported by said axle with which the outer end of said spring engages.

12. In a vehicle, the combination of a body or frame, mainsprings having a centrally hinged pivot intermediate the body and axles, and a supplemental equilibrium spring.

13. In a vehicle, the combination of a body or frame, axles, main springs supporting said body arranged transversely thereof and pivotally mounted thereon, links supported by said axles and connected to the outer ends of said springs, a compensating device, and connections between the outer ends of said springs and said compensating device.

14. In a vehicle, the combination of a body or frame, axles, springs pivotally connected to said body and arranged transversely thereof, a hub on the axle, lugs on said hub, a pin journaled in said lugs, links carried by said pin connected to the outer ends of said springs, a compensating device, and connections between the outer ends of said springs and said compensating device.

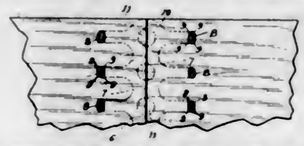
15. In a vehicle, the combination of a body or frame, axles, wheels, and means independent of the axles for suspending the weight in the center line of said wheels.

16. In a vehicle, the combination of a body or frame, axles, wheels, links suspended from a point on the center line of the wheels, and connections between said links and said body or frame.

17. In a vehicle, the combination of a body or frame hinged longitudinally on the center line, and balancing springs.

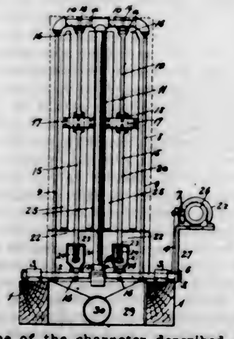
18. In a vehicle, a semi-elliptic or flat spring, links, one end of said links being connected to the body or axle and the other end connected to an end of the spring, a pin fixed to the body or axle, a lever centrally mounted on said pin and connections between the ends of said lever and links to form a compensator.

869,584. BELT-FASTENER. NICHOLAS P. MADER, Sun Prairie, Wis. Filed May 11, 1906. Serial No. 316,235.



A belt fastener, consisting of a main body portion adapted to be placed over the meeting ends of a belt, and teeth with parallel sides bent downwardly from the opposite side edges of said main body portion, and adapted to be forced through the adjacent ends of the belt and to be turned towards each other and up against the under side of the belt ends, the lower ends of the teeth being pointed, and the corners of the teeth being chamfered, the chamfered portions commencing at a point just below the bend of the teeth and extending to points where the teeth begin to taper, and each tooth being of substantially the same width from the point where the chamfering commences to the point where the tooth begins to taper.

869,585. APPARATUS FOR CLEANING SACKS. WILLIS E. MANN, Napa, Cal. Filed May 23, 1906. Serial No. 318,405.



1. A machine of the character described, comprising a frame or holder adapted to permit the inversion of a sack thereover, an agitator or beater carried by said holder for operating upon the sack, a grooved cam equipped shaft for engaging and actuating said holder and agitator, and means for operating said shaft.

2. A machine of the character described, comprising an oscillating frame or holder adapted to permit the inversion of a sack thereover, an agitator or beater carried by said holder for operating upon said sack, and means for actuating said holder and beater or agitator, said frame or holder embracing hollow or tubular members having apertures for delivering compressed air into said sack for aiding the removal of adhering particles and dust therefrom.

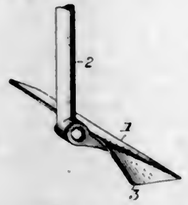
3. A machine of the character described, comprising a rock-shaft carrying an upright frame or holder adapted to permit the inversion thereover of a sack, an agitator or beater connected to said frame and actuated by said rock-shaft and adapted to operate upon said sack and a cam-equipped shaft for actuating said rock-shaft said frame or holder embracing tubular or hollow members equipped with apertures for delivering compresed air into said sack.

4. A machine of the character described, comprising a number of oscillating frames or holders each adapted to permit of the inversion of a sack thereover, a number of beaters arranged in connection with said frames or holders, means for actuating said frames or holders and said beaters, said beaters each comprising longitudinal agitating bars, parallel cross bars connecting said longitudinal bars, links connected to eye-bars interposed between said parallel cross-bars, rock-shafts and means effecting connection between said links and said frames or holders and said rock-shafts.

5. A machine of the character described, comprising an oscillating frame or holder adapted to permit the inversion of a sack thereover, a beater arranged in connection with said frame or holder, and a rock-shaft effective for actuating said frame or holder and said beater, said beater comprising longitudinal agitating bars, parallel cross-bars connecting said longitudinal bars, links connected to eye-bars interposed between said parallel cross-bars, stud-bolts connected to the top end of said oscillating frame or holder and to said rock-shaft, respectively, one of said links being connected to one of said stud-bolts, a coupling or joint member between the other of said stud-bolts and the other of said links, and a spring exerting its stress or pressure upon said coupling or joint member and said latter link.

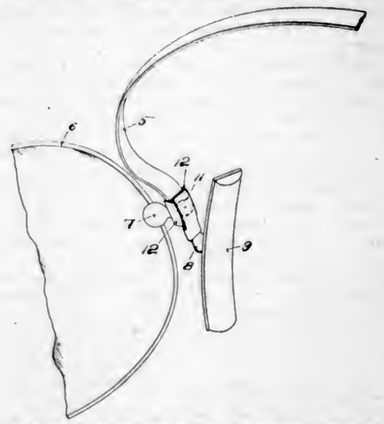
6. A machine of the character described, comprising a rock-shaft, means for operating the same, an oscillating frame or holder carried by said rock-shaft and having an apertured tubular member, said frame being adapted to permit the inversion of a sack thereover, and means for operating upon said sack connected to said frame, said frame or holder having a pipe, connecting with said tubular member and coupled to said shaft and provided with a nozzle adapted to have connected thereto a hose or pipe leading to a source of supply of compressed air.

869,586. KNIFE ATTACHMENT FOR CORN-CULTIVATORS. JOHN MEYER, Bloomington, Ill. Filed Dec. 6, 1906. Serial No. 346,648.



A corn-knife attachment for cultivators of general rectangular outline and means for carrying the same, said knife attachment having its rectangular portion inclined downward and forward with the exception of an end-portion thereof, which end-portion is deflected laterally along an oblique line extending from a lower forward corner edge of said knife upward and rearward to the back edge of said knife, said laterally deflected end-portion having a lower oblique cutting edge.

869,587. EYEGLASS-FITTINGS. GEORGE MOORE, Boston, Mass. Filed Feb. 7, 1907. Serial No. 356,139.

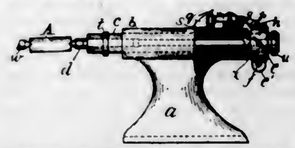


1. In fittings for eyeglasses, in combination with a stud, stud screw, spring and guard arm, a locking clip having a shank which is inserted between the spring and the head of the screw, the screw passing through the guard arm, shank and spring into the stud, the body of the shank then being bent over the outside of the head of the screw into engagement therewith and having wing clips which are bent around the arm of the guard.

2. In fittings for eyeglasses, a locking clip for the stud screw consisting of a strip having a shank of a width equal to the width between the sides of the box of the stud and adapted to be inserted therebetween, and having a screw hole for the passage of the stud screw, said strip being adapted to be bent over the head of the stud screw after the screw has passed through said hole and having side wings which are adapted to be bent to form clips to engage the guard arm.

3. In fittings for eyeglasses, a locking clip for the stud screw consisting of a strip inserted between the spring and the head of the screw and having a screw hole for the passage of the stud screw, said strip being bent over the head of the stud screw after the screw has passed through said hole and having side wings which are bent to form clips to engage the guard arm.

869,588. MACHINE-TOOL. FRIEDERICH MÜLLER, Elizabeth, N. J. Filed May 11, 1904. Serial No. 207,506.



1. In a machine tool, the combination with a work-engaging member, of a device for holding it in engagement with the work, and a member for yieldingly forcing the said work-engaging member into engagement with the work and which is provided with means for actuating the holding device.

2. In a machine tool, the combination with a work-engaging member, of a locking device for maintaining it in operative position, and a member for forcing said work-engaging member into engagement with the work and

provided with means for regulating the pressure of said work-engaging member upon the work and with means for actuating said locking device.

3. In a machine tool, the combination with a reciprocating work-engaging member, of a locking device for holding the same in operative position, a friction member mounted slidably upon said work-engaging member and carrying means for positively actuating said locking device, and means for reciprocating said friction member to successively operate said work-engaging member and its locking device.

4. In a machine tool, the combination with a reciprocating work-engaging member, of a locking device for holding the same in operative position, a split collar carrying means for actuating said locking device, mounted slidably upon said work-engaging member and provided with means for varying its frictional hold upon said work-engaging member, and means for reciprocating said collar.

5. In a machine tool, the combination with a reciprocating work-engaging member provided with a atop to arrest its retractive movement, of a locking device for holding it in operative position, and a member for forcing said work-engaging member into engagement with the work and provided with means for regulating the pressure of said work-engaging member upon the work and with means for actuating said locking device.

6. In a machine tool, the combination with a reciprocating work-engaging member, of a locking device for holding it in operative position, a friction-member fitted slidably to said work-engaging member and carrying means for actuating said locking device, and stops operating respectively to positively arrest the relative movement of said friction member in respect of, and the actual movement of, the work-engaging member in the disengagement of the same from the work.

7. In a machine tool, the combination with a reciprocating work-engaging member, of a friction collar provided with a cam-projection and fitted slidably upon said work-engaging member, means for reciprocating said friction collar, and a clamp-lever pivotally mounted upon a fixed support with one end lying in the path of movement of said cam-projection and the other end adapted for applying lateral pressure to said work-engaging member.

8. In a machine tool, the combination with a reciprocating work-engaging member, of a friction collar provided with a cam-projection and fitted slidably upon said work-engaging member, means for reciprocating said friction collar, and a clamp-lever pivotally mounted upon a fixed support with one end lying in the path of movement of said cam-projection and the other end provided with an adjustable head for applying lateral pressure to said work-engaging member.

9. In a machine tool, the combination with a reciprocating work-engaging member, of a locking device for holding it in operative position, a friction-member fitted slidably to said work-engaging member and provided with means for actuating said locking device, means whereby said friction-member may be prevented from sliding upon the work-engaging member, and means for reciprocating said friction-member.

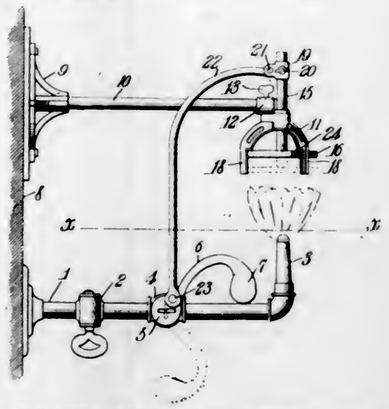
10. In a machine tool, the combination with the work-engaging member and means for locking it in position, of common operative means having a yielding connection with said work-engaging member for communicating thereto movements upon the work variable in extent and adapted for positively actuating said locking member to retain the work-engaging member in operative relation with said work.

11. In a machine tool, the combination with the work-engaging member and means for locking the same in position, of common operative means having a yielding connection with said work-engaging member for communicating thereto movements to and from the work variable in extent, and adapted for positively actuating said locking means to lock and unlock the said work-engaging member when in operative relation with the work.

12. In a machine tool, the combination with the work-engaging member and means for locking it in position, of common operative means constructed and arranged to act by a single continuous movement in successively moving said work-engaging member yieldingly upon the work and positively actuating said locking member to retain the work-engaging member in operative relation with said work.

13. In a machine tool, the combination with a work-engaging member, of operating means having a yieldable connection with the work-engaging member and arranged to be maintained against movement relative to said member by a measured resistance and adapted to force said work-engaging member into engagement with the work with a predetermined thrust, and a holding device with actuating means therefor operatively connected with said operating means whereby said engagement of the work-engaging member with the work is maintained.

869,589. AUTOMATIC GAS CUT-OFF. EDWARD A. McDONOUGH, Phœnixville, Pa. Filed Aug. 23, 1907. Serial No. 389,900.



1. An automatic gas cut-off, comprising a gas valve constrained to normally assume the closed position, an expansion member connected to the valve and in the path of gas issuing from the burner and movable through a vertical path, and a fixed structure with which the expansion member engages and with which it automatically locks when expanded by heat, said fixed structure being in closer relation to the expansion member when remote from the burner than when at the other limit of its travel.

2. A gas fixture provided with a gas cut-off valve, another gas cut-off valve between the first-named valve and the burner and arranged with its axis of rotation in a horizontal plane, gravity means tending to maintain the horizontal valve in the closed position, an expansion plate in the path of gas issuing from the burner, connections between the expansion plate and the gravity-controlled gas valve, a fixed structure having a tapered portion in which the expansion plate is movable and with which it automatically locks when expanded by heat, and a support for said fixed structure for holding it above the gas burner.

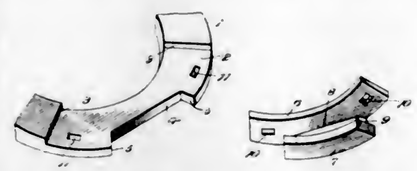
3. An automatic gas cut-off comprising a gas valve constrained to normally assume the closed position, a plate constructed to expand when heated and located in the path of the gas so as to be heated by the same when lighted, connections between the plate and valve, a frame embracing the plate and along which the plate is movable, the said frame being arranged in closer relation to the plate at one limit of movement of the latter than at its other limit of movement.

4. In an automatic gas cut-off, a gravity valve, a plate connected to and movable with said valve and arranged in the path of gas escaping from the burner controlled by the valve, and a frame embracing said plate and in closer relation thereto when the valve is in the opened position than when the valve is in the closed position.

5. An automatic gas cut-off comprising a valve constrained to normally maintain the closed position, a plate connected to said valve and arranged in the path of escaping gas so as to be heated by the gas flame when the gas is lighted, and a frame having arms embracing the plate and having the faces contiguous to the plate gradually separating toward their free ends.

6. An automatic gas cut-off comprising a gas fixture having a gas cut-off valve and a burner, another gas cut-off valve between the first-named valve and the burner, a weighted arm connected to the stem of the second-named valve and tending to maintain said valve in the closed position, a frame arranged over the burner, a plate movable in said frame and constructed to engage and clamp with said frame when expanded by heat, and connections between the plate and the weighted arm on the second-named valve.

869,590. HORSESHOE-CALK. JOSIAH M. McKNIGHT, Ruth, Cal. Filed Oct. 15, 1906. Serial No. 339,109.



1. The combination of a horse-shoe in which the toe portion is notched and has one face thereof recessed, and a clip comprising a base plate fitting within the recessed portion of the toe, and a calk projecting laterally from the base plate and connected thereto by a neck portion received by the before mentioned notch.

2. The combination of a horse-shoe having the toe portion thereof notched and also recessed upon one face thereof, a clip comprising a base plate fitting within the recess and a calk projecting laterally from the base plate and connected thereto by means of a neck received by the before mentioned notch, and fastening members securing the shoe in position and also connecting the clip to the shoe.

3. The combination of a horseshoe in which the toe thereof is notched and formed upon one face with a recess, a clip comprising a base plate fitting within the recess and a calk overlapping the opposite face of the toe and connected to the base plate by a neck portion received by the before mentioned notch, and means for connecting the clip to the shoe.

4. The combination of a horseshoe in which the toe thereof is notched and provided upon one face with a recess, a clip comprising a base plate fitting within the said recess, and a calk extending over the opposite face of the toe and connected to the base plate by a neck portion received by the before mentioned notch, and fastening members extending through corresponding openings in the base plate and body of the shoe and serving the double function of connecting the clip to the shoe and of securing the shoe to the hoof of the animal.

5. The combination of a horseshoe in which the toe thereof is notched and provided upon one face with a recess, the opposite sides of the notch being flared outwardly and the recess terminating in transversely disposed walls, a clip comprising a base plate fitting within the recess, and a calk projecting laterally from the base plate and extending over the opposite face of the shoe, the said calk being recessed adjacent the base plate to form a neck portion corresponding in shape to the before mentioned notch and received thereby, and fastening members passing through corresponding openings in the base plate and body of the shoe.

869,591. METHOD OF PREPARING METALLIC POWDERS. WILLIAM F. McNULTY, Allegheny, Pa. Filed Jan. 25, 1906. Serial No. 297,782.

1. The method of treating metallic powders for electroplating purposes, consisting in cleansing them from greasy impurities; substantially as described.

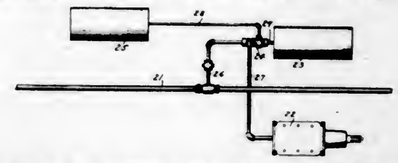
2. The method of treating metallic powders for electroplating purposes, consisting in cleansing them from greasy impurities by subjecting the powder to flame or heat; substantially as described.

3. In the process of electroplating, the step of cleansing the metallic powder, and then applying said powder to the surface to be metallized; substantially as described.

4. The method of cleaning metallic powder for electroplating purposes, consisting in adding an ignitible liquid thereto, and then burning the same; substantially as described.

5. The process of electro-plating, consisting in heating or burning a metallic powder, applying said powder to a surface to be metallized, and then electro-plating said surface; substantially as described.

869,592. FLUID-PRESSURE BRAKE. ROBERT A. PARKE, New York, N. Y., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Aug. 1, 1902. Serial No. 117,945.



1. In a fluid pressure brake, the combination with a train pipe, auxiliary reservoir, and brake cylinder, of a supplemental reservoir, and a valve device having a movable abutment operated by variations in fluid pressure, a main valve for the brake cylinder exhaust actuated by said abutment, and an auxiliary valve having an independent movement relative to the main valve for controlling the release from the brake cylinder.

2. In a fluid pressure brake, the combination with a train pipe, auxiliary reservoir, brake cylinder and supplemental reservoir, of a valve device having a movable abutment operated by variations in fluid pressure, a main valve actuated by said abutment, and an auxiliary valve for controlling communication from the supplemental reservoir to one side of said abutment.

3. In a fluid pressure brake, the combination with a train pipe, auxiliary reservoir, brake cylinder and supplemental reservoir, of a valve device having a movable abutment operated by variations in fluid pressure, a main valve actuated by said abutment, and an auxiliary valve device for controlling the supply from the supplemental reservoir to one side of the abutment and the release from the brake cylinder.

4. In a fluid pressure brake, the combination with a train pipe, auxiliary reservoir, brake cylinder, and supplemental reservoir, of a valve device having a movable abutment operated by variations in fluid pressure, a main valve actuated by said abutment, and an auxiliary valve also actuated by said abutment, said auxiliary valve having a movement independent of the main valve and adapted to control communication from the supplemental reservoir to one side of said abutment.

5. In a fluid pressure brake, the combination with a train pipe, auxiliary reservoir, brake cylinder, and supplemental reservoir, of a valve device having a movable abutment operated by variations in fluid pressure, a main valve actuated by said abutment but having a lost motion relative thereto, and an auxiliary valve positively actuated by said abutment for controlling the release from the brake cylinder.

6. In a fluid pressure brake, the combination with a

train pipe, auxiliary reservoir, brake cylinder and supplemental reservoir, of a valve device having a movable abutment operated by variations in fluid pressure, a main valve actuated by said abutment but mounted to have a lost motion relative thereto, and an auxiliary valve positively actuated by said abutment for controlling communication from the supplemental reservoir to one side of said abutment.

7. In a fluid pressure brake, the combination with a train pipe, auxiliary reservoir, brake cylinder, and supplemental reservoir, of a valve device comprising a movable abutment operated by variations in fluid pressure, a main valve actuated by said abutment but having a lost motion relative thereto, and an auxiliary valve positively actuated by said abutment for controlling communication from the supplemental reservoir to one side of the abutment and from the brake cylinder to the atmosphere.

8. In a fluid pressure brake, the combination with a train pipe, auxiliary reservoir, brake cylinder and supplemental reservoir, of a triple valve device having a piston, a main valve provided with a port communicating with the supplemental reservoir, and an auxiliary valve having a movement relative to the main valve and controlling the port communicating with the supplemental reservoir.

9. In a fluid pressure brake, the combination with a train pipe, auxiliary reservoir, brake cylinder and supplemental reservoir, of a triple valve device having a piston, a main valve operated thereby and provided with ports communicating with the brake cylinder and the exhaust, and an auxiliary valve having a movement relative to the main valve for controlling the exhaust from the brake cylinder through said ports.

10. In a fluid pressure brake, the combination with a train pipe, auxiliary reservoir, brake cylinder and supplemental reservoir, of a triple valve device having a piston, a main valve operated thereby and provided with ports communicating with the supplemental reservoir, the brake cylinder and the exhaust, and an auxiliary valve slidingly mounted on the main valve for controlling said ports.

11. In a fluid pressure brake, the combination with a train pipe, auxiliary reservoir, brake cylinder and supplemental reservoir, of a triple valve device having a piston, a main valve, a graduating valve for controlling the supply from the auxiliary reservoir to the brake cylinder in service applications, and another graduating valve for controlling the communication from the supplemental reservoir to one side of the piston.

12. In a fluid pressure brake, the combination with a train pipe, auxiliary reservoir, brake cylinder and supplemental reservoir, of a triple valve device having a piston, a main valve, a graduating valve for controlling communication from the auxiliary reservoir to the brake cylinder in service applications, and another graduating valve or valves controlling communication from the supplemental reservoir to the valve chamber and from the brake cylinder to the atmosphere.

13. In a fluid pressure brake, the combination with a train pipe, auxiliary reservoir, and brake cylinder, of an additional reservoir or source of pressure, and a valve device comprising a movable abutment, main valve and auxiliary valve operated by variations in train pipe pressure for controlling the supply and release of air to and from the brake cylinder, and communication from the additional reservoir to the auxiliary reservoir.

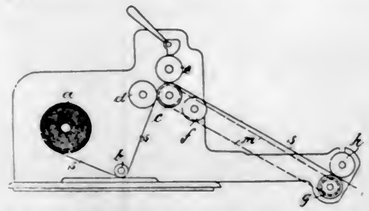
14. In a fluid pressure brake, the combination with a train pipe, auxiliary reservoir, and brake cylinder, of an additional reservoir or source of pressure, and a valve device comprising a movable abutment, main valve and auxiliary valve operated by variations in train pipe pressure and having ports adapted in one position to open communication from the additional reservoir to the auxiliary reservoir and from the brake cylinder to the exhaust.

15. In a fluid pressure brake, the combination with a train pipe and brake cylinder, of another source of fluid pressure, and a valve device having a main valve, an auxiliary valve and a movable abutment operated by variations in train pipe pressure on one side of said abutment for controlling the brake cylinder pressure and communication from said other source of pressure to the opposite side of said abutment.

16. In a fluid pressure brake, the combination with a train pipe and brake cylinder, of another source of fluid pressure, and a valve device having a main valve, an auxiliary valve and a movable abutment subject to the opposing pressures of the train pipe and an auxiliary chamber for actuating said auxiliary valve to control the release from the brake cylinder and the supply from said additional source of pressure to the auxiliary chamber side of said abutment.

17. In a fluid pressure brake, the combination with a train pipe and brake cylinder, of another source of fluid pressure, and a valve device having a piston subject on one side to train pipe pressure, a main valve, an auxiliary valve operated by said piston and having a movement relative to the main valve for controlling the brake cylinder exhaust and the supply of fluid from said additional source to oppose the action of the train pipe pressure on said piston.

869,593. COPYING-MACHINE. FRIEDRICH SOENNECKEN, Bonn, Germany. Filed Apr. 15, 1907. Serial No. 368,397.



1. In a copying machine or press, working upon a continuous paper band, which is weakened or rendered less resistant at various places, means for producing tension in the paper band thereby dividing or tearing off the paper band at the places less resistant.

2. A copying machine or press, comprising a supply roller journaled in the machine standard and having wound on to it a continuous paper band having weakened or less resistant places, a moistening roller over which the continuous paper band is guided for its moistening or dampening, squeezing rollers between which the paper band passes, pressure rollers for providing the paper band with copies, rollers catching the paper band when the copies are made, and means for operating the catching rollers thus that they revolve more quickly than the pressure rollers.

3. A copying machine or press, comprising a supply roller journaled in the machine standard and having wound on to it a continuous paper band having weakened or less resistant places, a moistening roller, over which the continuous paper band is guided for its moistening, squeezing rollers between which the paper band passes, pressure rollers for providing the paper band with copies, a feeding band receiving the paper band, when copies are made, rollers catching the paper band fed by the feeding band, and a pulling organ connecting a pressure roller and a catching roller in such manner that the catching rollers revolve more quickly than the pressure-rollers.

869,594. ANIMAL-TRAP. WILLIAM G. STONE, Knoxville, Ill., assignor to Enterprise Novelty & Manufacturing Company, Knoxville, Ill. Filed Apr. 7, 1906. Serial No. 310,559.

1. A trap comprising a base, a treadle pivoted at its rear end thereheneath, its forward end arising upon the top of the trap for the purposes described, a trigger at the rear end of the treadle but forward of the fulcrum thereof, a lug on the rear side of said trigger, a spring actuated striking member carried by the base forward of the trigger its striking portion adapted, when set, to extend behind the trigger to engage the lug, the trigger adapted for adjustment to place its lug closer to or farther away from a position immediately above the fulcrum of the treadle.



2. A trap comprising a base having a longitudinal groove in its under surface, a treadle positioned in the groove, and pivoted at its rear end therewithin, its forward end extending upward upon the top of the trap, a substantially vertical trigger carried at said rear end of the treadle forward of its fulcrum, and adapted for adjustment with respect to the fulcrum of the treadle for providing more or less sensitiveness whereby a greater or less vertical movement of the treadle will spring the trap, a lug on the rear side of the trigger, and a spring actuated striking member positioned forward of the trigger, but extending rearward thereof for engaging the said lug substantially as described.

3. A trap comprising a base, a treadle pivoted at its rear end therebeneath, its forward end positioned to be touched by the animal, a vertically extending trigger at said rear end forward of the pivot, a lug on its rear side, and a striking member for engaging the lug, the trigger being adjustable toward or away from a position immediately above the pivot of the treadle by bending the same in a direction parallel to the length of the trap for imparting greater or less sensitiveness to cause the trap to be operated by more or less pressure upon its treadle.

4. A trap comprising a base, a treadle pivoted at its rear end therebeneath, its forward end being upturned and extended forward, there being an opening in the trap to permit the same to extend therethrough, a substantially vertical trigger struck up from the treadle just forward of the pivot of the latter and integral with said treadle, a lug struck up from said trigger on its rear surface, and inclined downward and rearward, and a striking member adapted, when set for release, to catch beneath the lug and hold the treadle raised, for action, the said trigger being capable of adjustment by bending it to carry the lug thereof toward or away from a position immediately above the fulcrum of the treadle when the latter is in said raised position as described.

5. A trap comprising a base, a groove in its under side extending longitudinally thereof, a treadle pivoted at one end within said groove the vertical movements of the treadle being confined to such groove, the former having an upward and forward bend terminating upon the top of the base, a substantially vertical trigger struck up from the treadle, a lug struck up from the trigger and extending downward and rearward therefrom, and a striking member adapted to extend behind the trigger and engage the lug when set for action, the trigger adapted for adjustment in a direction toward or away from the striking portion of the striking member when in its set position by bending said trigger for making the trap more or less sensitive.

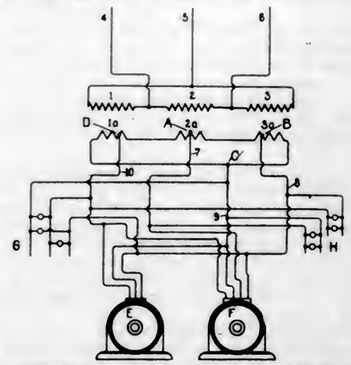
6. In a trap, a spring actuated striking member, a support therefor, a treadle beneath the support but extending up through the said support at its forward end, the treadle being pivoted at its rear end within the support, there being a trigger on the treadle in the vicinity of the pivot and extending up through the support with which the striking-member engages substantially as set forth.

7. An article of manufacture consisting of a length of metal having an upward bend and a forwardly extending portion parallel to the main portion, and having an ear struck up therefrom at its rear end, the ear having a lug struck up therefrom, and downturned edges struck up at the edges of said rear end.

8. As an article of manufacture, a length of sheet metal having an upward and a forwardly extending forward end, ears struck up from the forwardly extending portion, an ear struck up at the rear end of the member, and a lug struck up from the rear side of the ear and extending downward and rearward therefrom.

9. As an article of manufacture, a length of sheet metal having an upward and a forwardly extending forward end, ears struck up from the forwardly extending portion, an ear struck up at the rear end of the member, a lug struck up from the rear side of the ear and extending downward and rearward therefrom and downturned edges at the rear end of the member, there being holes in the said downturned edges for the purposes described.

869,595. TRANSFORMATION OF ELECTRIC CURRENTS. WILLIAM T. TAYLOR, Chihuahua, Mexico. Filed Mar. 14, 1907. Serial No. 362,266.



1. A composite polyphase system of distribution comprising a set of three inductive coils electrically energized with three-phase electromotive forces, and a set of four taps for distributing leads connected thereto, with the mutual electromotive forces between three of said taps being equal and at angles of 120 degrees of arc, and the mutual electromotive force between two of said taps being at right-angles to the mutual electromotive force between the other two of said taps.

2. A composite polyphase system of distribution comprising a set of three inductive coils electrically energized with three-phase electromotive forces, and a set of four taps for distributing leads connected thereto, the mutual electromotive forces between three of said taps being equal and at angles of 120 degrees of arc, and the mutual electromotive force between two of said taps being equal to and at right angles to the mutual electromotive force between the other two of said taps.

3. A composite polyphase system of distribution consisting of three equal inductive coils connected together in delta, means for energizing said coils by a three-phase electromotive force, and a system of four leads tapped from said coils three of which carry electromotive forces having a mutual phase-angle of 120 degrees, and two of which carry an electromotive force differing in phase-angle by 90 degrees from the electromotive force between the other two.

4. A composite polyphase system of distribution consisting of three equal inductive coils connected together in delta, means for energizing said coils by a three-phase electromotive force, and a system of four leads tapped from said coils three of which carry electromotive forces having a mutual phase-angle of 120 degrees, and two of which carry an electromotive force differing in phase-angle by 90 degrees from the electromotive force between the other two, the magnitude of the mutual electromotive force in the first pair being equal to that in the second pair.

5. A composite system of distribution for polyphase currents comprising a set of three inductive coils connected together in delta, means for generating three-phase electromotive forces within said coils, and a set of four current

leads tapped to said coils as follows: the first lead at the junction of two of said coils, the second lead at the center of the third coil, and the third and fourth leads at intermediate points of the first two coils respectively.

6. A composite system of distribution for polyphase currents comprising a set of three inductive coils connected together in delta, means for generating three-phase electromotive forces within said coils, and a set of four current leads tapped to said coils as follows: the first lead at the junction of two of said coils, the second lead at the center of the third coil, and the third and fourth leads at intermediate points of the first two coils respectively, said intermediate points being so taken that they cut off between them and the first point a portion of their respective coils whose electromotive force is to the electromotive force of the whole coil as 3 to 2.

869,596. SLED. LAWRENCE THERRIAULT, Missoula, Mont. Filed Aug. 10, 1906. Serial No. 329,995.



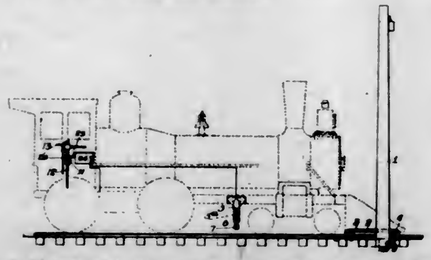
1. In a sleigh, front and rear sleds coupled together so as to be relatively movable, a pole pivoted to the front sled, a cap removably mounted on the forward end of said pole, and a steering runner pivoted to said cap and operating to travel in a groove to guide the sleigh.

2. In a sleigh, a sled, a pole on said sled, a cap removably mounted on said pole, a steering runner, a bracket on said runner, and a pintle rotatable in said bracket and pivoted to said cap.

3. In a sleigh, a sled, a pole on said sled, a cap on said pole, a steering runner, a bracket on said runner, and a pintle hinged to said cap and rotatable in said bracket.

4. In a sleigh, front and rear sleds coupled together so as to be relatively movable, a pole pivoted to the front sled, a cap on said pole, a steering runner, a bracket on said runner, a pintle hinged to said cap and rotatable in said bracket, and a cross-piece on said pintle and movable in said bracket to a limited extent to limit the rotation of the pintle.

869,597. AUTOMATIC APPARATUS FOR STOPPING MOVING RAILWAY-TRAINS. JAMES T. THOMPSON, Chicago, Ill., assignor of one-fourth to C. S. Rosenthal and one-fourth to T. P. Galligan, Chicago, Ill. Filed Feb. 7, 1907. Serial No. 356,247.



1. Means for arresting a moving railway train comprising a valve in the air brake system of the train which is operated independently of the engineer's valve, a contact device on the railway track adapted to be raised into the path of a contact device carried by the locomotive, and automatic mechanism for opening and closing the valve, operating upon engagement of said contact devices.

2. The combination with the train pipe of an air brake system, of a valve in said train pipe between the engineer's valve and the train service pipes, said valve being normally in position to afford communication between the service pipes and engineer's valve and adapted to be operated to close such communication and open the train pipe to the atmosphere, and means, independent of the engineer's control, for automatically opening and closing said valve.

3. Means for arresting a moving railway train comprising a valve in the train pipe of the air brake system of the train which is operated independently of the engineer's valve to open the pipe to the atmosphere and to close the pipe to the pressure reservoir of said air brake system, electro-magnetic mechanism on the locomotive for opening and closing said valve, and a contact carried by the locomotive adapted to engage a stationary contact on the track for closing a circuit to set said valve actuating mechanism in operation.

4. The combination with the train pipe of the air brake system of a railway train, of a valve in said train pipe between the service pipes and the engineer's valve, said valve being constructed to open the train pipe for emergency service, electro-magnetic mechanism on the locomotive for operating the valve, an operating circuit in which said mechanism is included, and a starting circuit for closing said operating circuit embracing a contact carried by the locomotive adapted for engagment with a stationary contact on the track.

5. The combination with the train pipe of an air brake system, of a valve in said train pipe between the engineer's valve and the train service pipes, said valve being normally in position to afford communication between the service pipes and engineer's valve, electrically actuated means comprising a circuit which is closed by a contact on the track for setting said valve for emergency service, and means operating at the end of the throw of the valve to reverse the valve, whereby it is shifted to normal.

6. The combination with the train pipe of the air brake system of a railway train, of an auxiliary valve in the train pipe between the engineer's valve and the service pipes, automatic means, independent of the engineer's control, for opening said valve to an emergency position to set the brakes, and for closing said valve, and a register for registering the emergency operations of said valve.

7. Automatic means for applying brakes to a moving railway train, comprising an auxiliary air releasing valve in the train pipe, an electro-magnetic device for operating said valve independently of the engineer's control, and means for reversing the direction of current through said device to reverse the valve.

8. Automatic means for applying the brakes to a railway train, comprising an air releasing valve in the train pipe, an electro-magnetic device for operating said valve, and means for reversing the direction of current through said electro-magnetic device to reverse the valve, said means comprising a pole changing device in circuit therewith.

9. Automatic means for applying the brakes to a moving train comprising an air releasing valve in the train pipe, an electro-magnetic device for operating said valve, means for closing an operating circuit through said device, a pole changer for reversing the direction of current through said operating circuit, and means controlled by a movable part of the valve operating mechanism for actuating said pole changer.

10. In an automatic braking apparatus for railway trains, an air releasing valve in the train pipe, means, independent of the engineer's control, for automatically shifting said valve to its releasing position and for thereafter returning the valve to normal position, and means for timing the releasing position of said valve.

11. Automatic means for applying brakes to a railway train comprising an auxiliary air releasing valve in the train pipe, and an electro-magnetic device for opening and closing said valve independently of the engineer's control, and arranged to automatically effect such opening and closing movements in a continuous operation of said device.

12. Automatic means for applying brakes to a railway train comprising an air valve operatively connected with the air brake apparatus, and an electro-magnetic device independent of the engineer's control for opening and closing said valve.

13. Automatic means for applying brakes to a railway train comprising an auxiliary air releasing valve in the train pipe, and an electro-magnetic device independent of the engineer's control for opening and closing said valve.

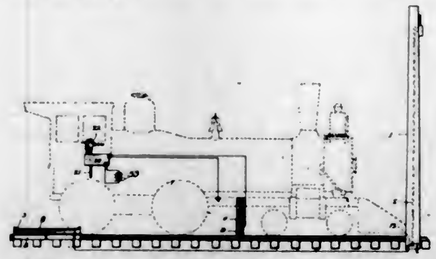
14. Automatic means for applying brakes to a railway train comprising a valve operatively connected with the air-brake apparatus in such manner that by its movement the brakes are applied, and means independent of the engineer's control for operating said valve and for restoring the braking apparatus to the engineer's control.

15. Means for arresting the movement of a railway train comprising in combination with the train pipe of an air brake system, and a source supplying air thereto, a valve, in said pipe, provided with a vent passage, said valve being constructed to normally permit free passage of air through the pipe from said source supplying air, and to be shifted to a position to connect said train pipe with said vent passage and cut off the passage of air from said source supplying air, and means controlled by a contact adjacent to the track for actuating said valve to move it to its venting position and for thereafter restoring the valve to its normal position during a continuous automatic operation of the valve actuating means.

16. Means for arresting the movement of a railway train comprising in combination with the train pipe of an air brake system and the engineer's valve therein, an auxiliary valve, in said pipe, provided with a vent passage, said valve being constructed to normally permit free passage of air through the pipe from the engineer's valve and to be shifted to a position to cut off the passage of air from the engineer's valve and to connect said train pipe with said vent, and means controlled by a stationary contact adjacent to the track for actuating said valve to move it to its venting position and for thereafter restoring the valve to its normal position during a continuous automatic operation of the valve actuating means.

17. Means for arresting the movement of a railway train comprising in combination with the train pipe of an air brake system and the engineer's valve in said pipe, an auxiliary valve located in said pipe between the engineer's valve and train service pipe and provided with a vent passage, said valve being normally in position to permit free passage of air through said pipe from the engineer's valve to the train service pipes and constructed to open the pipe between the train service pipe and valve to the vent and cut off the passage of air from the engineer's valve, electrically controlled mechanism on the locomotive operating to open and close said valve in a continuous automatic operation of said mechanism, and a circuit controlling device adjacent to the railway track adapted for contact with a part carried by the locomotive to control said electrically operated mechanism.

869,598. CONTROLLING APPARATUS FOR RAILWAY-TRAINS. JAMES T. THOMPSON, Chicago, Ill., assignor of one-third to Charles S. Rosenthal and one-third to T. P. Galligan, Chicago, Ill. Filed May 18, 1907. Serial No. 374,411.



1. Means for arresting a moving railway train comprising a valve in the train pipe of the air brake system of the train which is operated independently of the engineer's valve, mechanism on the locomotive for actuating said valve comprising an electric motor and its circuit constructed and arranged to open and close the valve during a continuous operation thereof, operative connections between said motor and valve, and means for controlling the motor circuit embracing a stationary circuit closing device adjacent to the railway track.

2. Means for arresting a moving railway train comprising a valve in the train pipe of the air brake system of the train which is operated independently of the engineer's valve, mechanism on the locomotive for opening and closing the valve comprising an electric motor and its normally open circuit, and operative connections between said motor and said valve operating during the continuous rotation of the motor in one direction to open the valve and to reverse and close the same, and means for closing the motor circuit embracing a circuit controlling device adjacent to the railway track.

3. Means for arresting a moving railway train comprising a valve in the train pipe of the air brake system of the train which is operated independently of the engineer's valve, mechanism on the locomotive for opening and closing the valve comprising an electric motor and its normally open circuit, and operative connections between said motor and valve operating during the continuous rotation of the motor in one direction to open the valve and to reverse and close the same and constructed to hold the valve open for a predetermined time, and means for closing the motor circuit embracing a circuit controlling device adjacent to the railway track.

4. Means for arresting a moving railway train comprising a valve in the train pipe of the air brake system of the train which is operated independently of the engineer's valve, mechanism on the locomotive for opening and closing the valve comprising an electric motor and its normally open circuit designed to be closed through the medium of a circuit controlling device adjacent to the railway track, a cam geared to and rotated by said motor through the medium of a speed reducing mechanism, and operative connections between said cam and valve, constructed to open and close the valve and to hold the valve open for a predetermined period.

5. Means for arresting a moving railway train comprising a valve in the train pipe of the air brake system of the train which is operated independently of the engineer's valve, mechanism on the locomotive for opening and closing the valve comprising an electric motor and its normally open circuit designed to be closed through the medium of a circuit controlling device adjacent to the railway track, a cam geared to and rotated by said motor through the medium of a speed reducing mechanism, operative connections between said cam and valve, constructed to open and close the valve and to hold the valve open for a predetermined period, and means operated during the closing movement of the valve for opening said motor circuit.

6. Means for arresting a moving railway train comprising a valve in the train pipe of the air brake system of the train which is operated independently of the engineer's valve, mechanism on the locomotive for opening and closing the valve comprising an electric motor and its normally open circuit designed to be closed through the medium of a circuit controlling device adjacent to the railway track, a cam disk geared to and rotated by said motor through the medium of a speed reducing mechanism and provided with a cam groove, a swinging lever provided with a stud engaging said groove, and operative connections between said lever and the valve, said cam groove being so arranged as to act through said lever to open and close the valve during one rotation of the cam disk and to hold the valve open for a predetermined period.

7. Means for arresting a moving railway train comprising a valve in the train pipe of the air brake system of the train which is operated independently of the engineer's valve, mechanism on the locomotive for opening and closing the valve comprising an electric motor and its normally open circuit, a switch for closing said motor circuit designed to be closed through the medium of a circuit controlling device adjacent to the railway track, a cam geared to and rotated by said motor through the medium of a

speed reducing mechanism and provided with a cam groove, a swinging lever provided with a stud engaging said groove and operatively connected with said valve, said cam groove being so arranged as to act through said lever to open and close the valve during one rotation of the cam and to hold the valve open for a predetermined period, and means connected with said swinging lever for opening the motor circuit controlling switch.

8. Means for arresting a moving railway train comprising, in combination with the train pipe and the engineer's valve located therein, an auxiliary valve located in said pipe between the engineer's valve and the service pipes of the air brake system, said valve being normally in position to permit free passage of air through the pipe to the engineer's valve, mechanism on the locomotive for opening and closing said valve comprising an electric motor and its normally open circuit, and means carried by the locomotive adapted for contact with a contact device on the railway track for closing said motor circuit.

9. Means for arresting a moving railway train comprising, in combination with the train pipe and the engineer's valve located therein, an auxiliary valve located in said pipe between the engineer's valve and the service pipes of the air brake system and provided with a vent nipple, said valve being normally in position to close said vent nipple and permit free passage of air through the pipe to the engineer's valve and adapted to close said pipe to the engineer's valve and open it to the vent nipple, mechanism on the locomotive for opening and closing said valve comprising an electric motor and its normally open circuit designed to be closed by a circuit controlling device adjacent to the railway track, and operative connections between said motor and said valve.

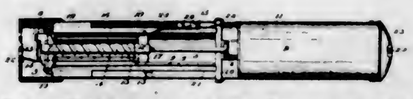
10. Means for arresting a moving railway train comprising a valve in the train pipe of the air brake system of the train which is operated independently of the engineer's valve, mechanism on the locomotive for opening and closing the valve, and a normally open electric circuit for setting said valve actuating mechanism in operation provided with two circuit closing devices, one located on the track right-of-way and destined to be automatically operated to close said circuit at one point through the usual operation of a part of the track service equipment, and the other circuit closing device comprising a stationary member located on the right-of-way and a member carried by the locomotive and adapted to be brought into contact with said stationary member as the locomotive passes the latter.

11. Means for arresting a moving railway train comprising a valve in the train pipe of the air brake system of the train which is operated independently of the engineer's valve, mechanism on the locomotive for opening and closing the valve, constructed to hold the valve open for a predetermined period, and a normally open electric circuit for setting said valve actuating mechanism in operation provided with two circuit closing devices, one located on the track right-of-way and designed to be automatically operated to close said circuit at one point through the usual operation of a part of the track service equipment, and the other circuit closing device comprising a stationary member located on the right-of-way and a member carried by the locomotive and adapted to be brought into contact with said stationary member as the locomotive passes the latter.

12. Means for arresting a moving railway train comprising a valve in the train pipe of the air brake system of the train which is operated independently of the engineer's valve, mechanism on the locomotive for opening and closing the valve, a normally open electric circuit for setting said valve actuating mechanism in operation, a switch throwing device, and two circuit closing devices, one located at the switch throwing device and adapted to be operated to close the circuit at this point when the switch is open or partially open, and the other circuit closing device comprising a stationary member located on the right-of-way and a member carried by the locomotive and adapted to be brought into contact with the stationary member as the locomotive passes the latter.

13. Means for arresting a moving railway train comprising, in combination with the train pipe and the engineer's valve therein, an auxiliary valve located in said train pipe between the engineer's valve and the service pipes of the brake mechanism, said auxiliary valve being constructed and arranged to permit the air to pass freely through said pipe to the engineer's valve, mechanism on the locomotive for opening and closing the auxiliary valve, and a normally open electric circuit for setting said valve actuating mechanism in operation provided with two circuit closing devices, one located on the track right-of-way and designed to be automatically operated to close said circuit at one point through the usual operation of a part of the track service equipment, and the other circuit closing device comprising a stationary member located on the right-of-way and a member carried by the locomotive and adapted to be brought into contact with said stationary member as the locomotive passes the latter.

869,599. HYGIENIC CARTRIDGE-BATTERY. WILLIAM THOMPSON and JENS C. MARTIN, Spokane, Wash.; said Martin assignor to said Thompson. Filed July 26, 1906. Serial No. 327,969.



1. A medical battery consisting of two cylindrical sections rotatably joined together, one section containing a dry cell, and the other section containing an induction coil and having an insulated cap, the sectional cylinder and insulated cap being respectively in circuit with the terminals of the secondary coil of the induction coil.

2. A medical battery consisting of two cylindrical metallic sections rotatably and electrically joined together, one section containing a battery, and the other section containing an induction coil and having an insulated cap, the sectional cylinder and insulated cap being respectively in circuit with the terminals of the secondary coil of the induction coil, and means for connecting the induction coil with the battery.

3. A medical battery consisting of a dry cell and an induction coil inclosed in two cylindrical sections rotatably joined together, an insulated cap on one end of the sectional cylinder, the said sectional cylinder and insulated cap being respectively in electric connection with the induction coil and dry cell, and means for controlling the electric current by rotating one or both of the sections of the cylinder on its axis.

4. A medical battery consisting of two cylindrical sections rotatably joined together, one section containing a dry cell, and the other section containing an induction coil and having an insulated cap, the sectional cylinder and insulated cap being respectively in circuit with the terminals of the secondary coil of the induction coil, means for connecting the induction coil with the dry cell, and means for controlling the electric current by rotating one or both of the sections of the cylinder on its axis.

5. A medical battery consisting of two cylindrical metallic sections rotatably joined together, an insulated metallic cap on one end of said sectional cylinder, a dry cell inclosed in and in zinc contact with one of the sections, an induction coil connected with the carbon element of the dry cell and inclosed in the other section, the secondary coil being connected with the insulated cap and the primary and secondary coils with the sectional cylinder, and means for controlling the electric current by rotating one or both of the sections of the cylinder on its axis.

6. A medical battery consisting of two cylindrical sections rotatably joined together, one section containing a dry cell and the other section an induction coil, and means for controlling the electric current by rotating one or both of the sections of the cylinder on its axis, consisting of a fixed diaphragm or partition in one end of the first section at its junction with the second section, a slotted cylinder attached to the partition and extending into the second section and inclosing the induction coil, a reducing sleeve within the slotted cylinder having an arm extending through the slot at the end of which arm is a grooved rider, and a spiral attached to the inside of the cylinder engaging the grooved rider.

7. A medical battery consisting of two cylindrical metallic sections rotatably joined together, an insulated metallic cap on one end of the sectional cylinder, a dry cell inclosed in and in zinc contact with one of the sections, a fixed diaphragm or partition in the end of the said section at its junction with the other section, a slotted cylinder attached to the partition inclosing an induction coil, its core being connected with the carbon element of the dry cell by a metal clip and bar, and extending into the section having an insulated cap, the secondary coil being connected with the insulated cap and the primary and secondary coils being connected with a metal strip inside of the slotted cylinder, a metal reducing sleeve inside the slotted cylinder in contact with said metal strip having a metal arm extending through the slot, at the end of which arm is a grooved metal rider in contact with the interior surface of the cylinder, and a spiral attached to the inside of the cylinder engaging the grooved rider, the said spiral terminating in an insulated strip.

8. In combination with a medical battery, a device for controlling the electric current, consisting of two cylindrical sections revolubly joined together, an insulated cap on one end of the sectional cylinder, the said sectional cylinder and insulated cap being respectively in electric connection with the induction coil and dry cell, and means for turning on and off and increasing and diminishing the electric current by revolving one or both of the sections of the cylinder on its axis.

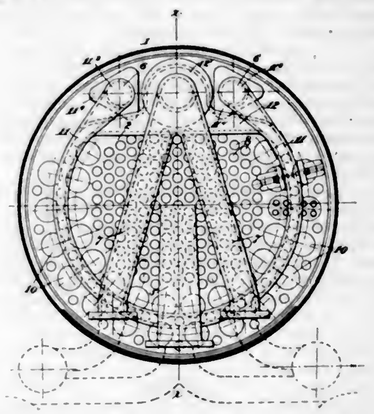
9. In combination with a medical battery, a device for controlling the electric current, consisting of two cylindrical sections rotatably joined together, and means for increasing and diminishing the electric current by rotating one or both of the sections of the cylinder on its axis, consisting of a fixed diaphragm or partition in the end of one section at its junction with the other section, a slotted cylinder attached to said partition and extending into the second section and inclosing an induction coil, a reducing sleeve within the slotted cylinder having an arm extending through the slot at the end of which arm is a grooved rider, and a spiral attached to the inside of the cylinder engaging the grooved rider.

10. In combination with a medical battery, a device for controlling the electric current, consisting of two cylindrical metallic sections revolubly joined together, an insulated metallic cap on one end of the sectional cylinder, an electrical connection between the zinc element of a cell or battery and the metallic sectional cylinder, a fixed diaphragm or partition in the end of the section at its junction with the other section, a slotted cylinder attached to the partition and extending into the section having an insulated cap and inclosing an induction coil, its core being connected with the carbon element of a cell or battery, the secondary coil being connected with the insulated cap and the primary and secondary coils being connected with a metal strip inside of the slotted cylinder, a metal reducing sleeve inside of the slotted cylinder in contact with said metal strip having a metal arm extending through the slot, at the end of which arm is a grooved metal rider in contact with the interior surface of the sectional cylinder, and a spiral attached to the inside of the sectional cylinder engaging the grooved rider, the said spiral terminating in an insulating strip.

869,600. SUPERHEATER. MAX TOLTZ, St. Paul, Minn., assignor of one-fourth to Charles Gilbert Hawley, Chicago, Ill. Filed Jan. 25, 1907. Serial No. 354,154.

1. A locomotive boiler containing a substantially circular row of enlarged fire flues, in combination with a superheater comprising substantially circular saturate and superheated steam headers, and a plurality of superheating elements arranged in said fire flues and connected with said headers, substantially as described.

2. A locomotive boiler containing two substantially circular rows of enlarged fire flues, in combination with steam superheater elements occupying said flues, and saturate and superheated steam headers arranged between said rows and connected to said elements, substantially as described.



3. A locomotive boiler containing a substantially circular row of enlarged fire flues, in combination with superheater elements arranged in said flues, a superheated steam header adjacent to said flues, in shape conforming to the row thereof, a like saturate steam header, and means connecting said elements to said headers, substantially as described.

4. A locomotive boiler containing a dry pipe and having a substantially circular row of enlarged fire flues, in combination with superheater elements occupying said flues, and substantially circular saturate and superheated steam headers connected to said elements, said saturate steam header being connected to said dry-pipe, substantially as described.

5. A locomotive boiler containing a centrally located group of small flues and a substantially circular row of enlarged flues surrounding said group of smaller flues, in combination with superheater elements occupying said enlarged flues, and substantially circular superheated and saturate steam headers whereto said elements are connected, substantially as described.

6. A locomotive boiler containing a substantially circular row of enlarged fire flues and provided with a dry-pipe, in combination with a substantially circular saturate steam header connected to said dry pipe, a substantially circular superheated steam header, a throttle valve provided in the latter, steam feed pipes connected thereto, and a plurality of superheater elements occupying said enlarged flues and having their ends connected to respective headers, substantially as described.

7. A locomotive boiler containing two substantially circular rows of enlarged fire flues, in combination with saturate and superheated steam headers, and superheater elements occupying said flues and having their ends connected to respective headers, said headers being arranged one in advance of the other and between the rows of flues and elements, substantially as described.

8. A locomotive boiler containing two circular rows of fire flues, in combination with superheater elements or loops occupying said flues, saturate and superheated steam headers arranged one in line with and directly in front of the other between said rows of flues and the elements therein and connected to said elements, substantially as described.

9. A locomotive boiler containing two rows of enlarged fire flues, in combination with saturate and superheated steam headers arranged one in front of the other in line with, and directly between said rows of flues, and a plurality of superheater elements occupying said flues and having their ends joined to the inner and outer sides, or faces, of said headers, substantially as described.

10. A locomotive boiler containing two rows of en-

larged fire flues, in combination with saturate and superheated steam headers arranged one in front of the other between said rows of flues, superheater elements arranged in said flues and having their ends joined to respective headers, and a single securing bolt for each pair of said elements, substantially as described.

11. A locomotive boiler containing two substantially circular rows of enlarged fire flues arranged about the central group of small flues, in combination with substantially circular saturate and superheated steam headers arranged between said rows of enlarged flues, and superheater elements occupying said enlarged flues and having bent ends connected to respective sides of said headers, substantially as described.

12. A locomotive boiler containing two substantially circular rows of enlarged fire flues, in combination with a substantially circular superheated steam header arranged between said rows of flues adjacent to the flue sheet of the boiler, a like saturate steam header having its sides tapered, and superheater elements arranged in said flues and connected with said headers, substantially as described.

13. A locomotive boiler containing two substantially circular rows of enlarged flues, in combination with a superheated steam header of substantially uniform cross section, said header being arranged between and conforming to said rows of flues, a like saturate steam header of varying cross section, and superheater elements arranged in said flues and connected to said headers, substantially as described.

14. A locomotive boiler containing two substantially circular rows of enlarged flues, in combination with a plurality of double return superheater elements arranged in said flues and having curved ends, and substantially circular saturate and superheated steam headers, whereto the ends of said elements are connected, substantially as described.

15. A locomotive boiler containing two substantially circular rows of enlarged fire flues, in combination with superheater elements occupying said flues, a substantially circular superheated steam header adjacent to the flue sheet of the boiler in front of and between said rows of flues, a valve casing provided in the upper part of said header, a throttle valve therein, a substantially circular saturate steam header, and means connecting ends of said elements to said headers, substantially as described.

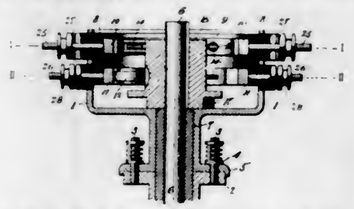
16. A locomotive boiler containing a substantially circular row of enlarged fire flues, in combination with substantially circular saturate and superheated steam headers, a throttle valve arranged at the outlet of said superheated steam header, a bleeder pipe leading from the latter, and superheater elements or loops arranged in said flues and connected to said headers, substantially as described.

17. A locomotive boiler, containing two rows of enlarged fire flues, in combination with saturate and superheated steam headers arranged parallel with the flue sheet, relatively between said rows of flues and one directly in front of the other, the superheater elements or tubes arranged in said flues, connections whereby the ends of the elements in the different rows are joined to opposite sides of said headers, the elements in the different rows being paired and a single securing bolt for the connections of each such pair of elements, said bolts having nuts on both ends and being held against rotation, substantially as described.

869,601. IGNITION SYSTEM FOR EXPLOSION-ENGINES. RICHARD VARLEY, Englewood, N. J., assignor to The Autocoil Company, a Corporation of New Jersey. Filed Apr. 5, 1907. Serial No. 366,462.

1. In an ignition system for explosion engines, a single circuit controller permanently connected to the primary circuits of a plurality of induction coils, a dynamo circuit including a kick-off, a battery circuit including segments, and a switch for completing either of said last named circuits through said circuit controller and its permanently connected coils.

2. In an ignition system for explosion engines, two banks of segments, the segments of one bank being longer than those of the other, a kick-off, a dynamo circuit including said kick-off and the long segments to the exclusion of said short segments, and a battery circuit including said short segments and the long segments to the exclusion of said kick-off.



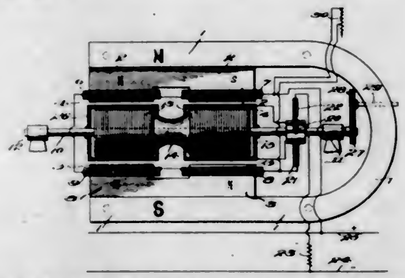
3. In an ignition system for explosion engines, a pair of banks of segments, separate means rotating to engage said segments successively, one such means being in contact with the segments of one bank earlier than the other means with the segments of the other bank, a battery circuit completed by the segments of the second bank, a dynamo circuit, and means for interrupting said dynamo circuit at the instant when said battery circuit is adapted to be completed.

4. In an ignition system for explosion engines, a bank of segments, a second bank of segments shorter than the first, a dynamo circuit completed through said first named segments, a kick-off adapted to interrupt said dynamo circuit, and means engaging said second segments to complete a battery circuit at the instant of operation of said kick-off.

5. In an ignition system for explosion engines, two banks of segments, separate means engaging said segments, one such means engaging the segments of one bank earlier than the other means engaging those of the other bank, a dynamo circuit completed through the segments of said first named bank, means for interrupting said dynamo circuit, and a battery circuit adapted to be completed through the segments of the second bank simultaneously with the operation of said interrupting means.

6. In an ignition system for explosive engines, two banks of segments, a plurality of coils having their primaries connected to the segments of one bank, a battery having one terminal in a common circuit with the segments of the other bank, means for grounding said segments successively, the first named segments being grounded earlier than the second segments, a dynamo circuit, means for completing said battery or dynamo circuit through said first named segments, and entirely separate means for interrupting said dynamo circuit at the instant when the segments of the second bank are grounded.

869,602. ELECTRICAL APPARATUS. THOMAS W. VARLEY, New York, N. Y. Filed Feb. 21, 1906. Serial No. 302,258.



1. In an apparatus of the character described a magnet substantially constant irrespective of variations of potential, a stationary coil adapted to shift the lines of force of the magnetic field without varying the total magnetism of said field and a movable coil in the magnetic field, said coils being connected in the same circuit, the shifting of the lines of force in the magnetic field causing the flux through the moving coil to vary inversely as the current strength.

2. In an apparatus of the character described a magnet substantially constant irrespective of variations of potential, a stationary coil adapted to shift the lines of force of the magnetic field without varying the total magnetism of said field and a movable coil, said coils being connected in series, the shifting of the lines of force in the magnetic field causing the flux through the moving coil to vary inversely as the current strength.

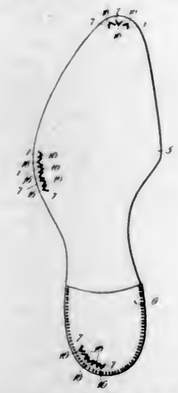
3. In an apparatus of the character described a magnet substantially constant irrespective of variations of potential, a stationary coil adapted to shift the lines of force of the magnetic field without varying the total magnetism of said field, a movable coil in the magnetic field and an adjustable resistance across either of said coils, said coils being connected in the same circuit, the shifting of the lines of force in the magnetic field causing the flux through the moving coil to vary inversely as the current strength.

4. In an apparatus of the character described a magnet, a stationary coil adapted to shift the lines of force of the magnetic field without varying the total magnetism of said field and a movable coil and a retarding device in the magnetic field, the shifting of the lines of force in the magnetic field causing the flux through the movable coil and the retarding device to vary inversely to each other.

5. In an apparatus of the character described a magnet, a stationary coil adapted to shift the lines of force of the magnetic field without varying the total magnetism of said field, a shaft located in said field and a movable coil and a retarding device on said shaft, the shifting of the lines of force in the magnetic field causing the flux through the movable coil and the retarding device to vary inversely to each other so that the speed of said shaft is substantially constant.

6. In an apparatus of the character described a magnet substantially constant irrespective of variations of potential, a stationary coil adapted to shift the lines of force of the magnetic field without varying the total magnetism of said field and a movable coil in the magnetic field, said coils being connected in the same circuit, the shifting of the lines of force in the magnetic field causing the flux through the movable coil to vary inversely as the current strength, the torque of the moving coil remaining substantially constant irrespective of variations of potential.

869,603. SHOE SOLE OR HEEL. JOHN H. VINTON, Boston, Mass., assignor, by direct and mesne assignments, of one-third to Sidney S. Bowes, Jamaica Plain, Mass., and one-third to John W. Goddard, Boston, Mass. Filed Oct. 26, 1906. Serial No. 340,623.



1. A shoe sole or heel provided with a plurality of V-shaped metallic protectors embedded therein, said protectors arranged in series with their apices extending alternately toward and away from the adjacent edge of said sole or heel.

2. A shoe sole or heel provided with a plurality of metallic protectors V-shaped in cross section and wedge-shaped in longitudinal section, said protectors arranged in series with their apices extending alternately toward and away from the adjacent edge of said sole or heel.

3. A shoe sole or heel provided with a plurality of metallic protectors V-shaped in cross section and wedge-shaped in longitudinal section, the thick ends of said protectors being exposed to wear, said protectors arranged in series with their apices extending alternately toward and away from the adjacent edge of said sole or heel.

869,604. WINDING DEVICE. SIMON W. WARDWELL, Providence, R. I., assignor, by mesne assignments, to The Commonwealth Trust Company, trustee, a Corporation of Massachusetts. Filed Dec. 18, 1902. Serial No. 135,768.



1. The combination with a winding spindle and reciprocating guide, of co-acting swinging arms, and weights on said arms arranged to resist the separation of said winding spindle and guide with a decreasing resistance.

2. The combination with a tension device, a reciprocating guide, and a spindle on which the package is wound, of connected pivoted arms, weights on said arms, and connections between the arms and the guide and tension device whereby the weights cause pressure between the guide and the package wound and action of the tension device, said parts arranged to secure a varying degree of pressure and tension with the varying diameter of the package.

3. The combination of a yarn controlling device with a machine having a moving member and a tension device, said controlling device having two separate co-acting pivoted arms, weights on said arms, means for connecting one arm with the tension device, and means for connecting the other arm with the moving machine member, whereby the relative positions of the two arms shall be varied for the purpose described.

4. The combination with a winding spindle, a reciprocating guide and a tension device, of a device connecting the guide with the tension device and comprising an arm, a weight on the arm, connections whereby a separation of the guide and winding spindle causes the arm to be shifted to decrease the pressure of the weight, a second arm hinged to the first, a weight on said second arm, and a connection between the latter and the tension device, substantially as described.

5. The combination with a tension device of a yarn controller having the arm *a*, weight *k*, pin *o*, the arm *c* mounted on the arm *a*, weight *l*, and the rod *i* formed at one end to constitute a bearing for the arm *c* and having a screw threaded portion to mutually secure the arm *c* and

the rod *i*, the adjustable connection *j* on the rod *i*, and the rod *e* to connect the arm *c* with the tension device.

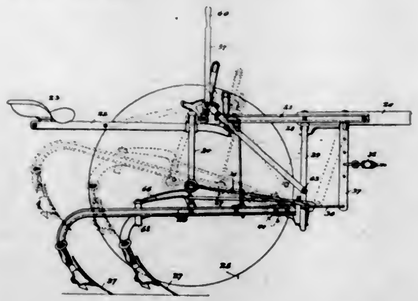
6. The combination in a yarn controller of coacting arms, weights adjustable on said arms and connections whereby the effects of said weights are automatically varied.

7. The combination in a yarn controller of an arm *a*, having graduating notches *p*, a weight *k* slidably mounted thereon, and a spring *q* to secure the weight to the arm, having a projection *r* to engage said notches, a second arm *c* hinged to the arm *a*, a weight *l* mounted thereon in the same manner as the weight *k* is mounted on the arm *a*, and connections whereby the relative positions of the arms are varied to vary the effects of the weights *k* and *l*.

8. The combination with a winding spindle on which a package is wound, a reciprocating guide to lay the yarn on the spindle, and adapted to press at all times against the package, a frame carrying the guide having holes *t* formed therein, and a tension device, of a device interposed between the frame and the tension device to automatically control the guide pressure and tension action, and a connection between the said frame and controlling device adapted to engage the said holes *t*.

9. The combination with a tension device and a movable frame of a mechanism interposed between the tension device and frame comprising a shiftable arm *a*, a rod *i* attached to the arm and an adjustable connection *j* to engage the frame, a second arm *c* attached to the arm *a* and secured thereto by the rod *i* aforesaid, a rod *e* connecting the arm *c* with the tension device and weights adjustably mounted on the arms, substantially as described.

869,605. CULTIVATOR. IRA A. WEAVER, Springfield, Ill., assignor to Racine-Sattley Company, Springfield, Ill., a Corporation of Illinois. Filed Nov. 5, 1906. Serial No. 342,068.



1. In a cultivator, the combination of a frame, a bearing on said frame, a two-part beam coupling arch having its two adjacent ends rotatably mounted in said bearing, and means for holding said ends in said bearing in various adjusted positions, whereby the width of the arch may be varied at will and maintained at any desired width, substantially as described.

2. In a cultivator, the combination of a frame, a bearing on said frame having grooves, a two-part beam coupling arch having its two adjacent ends rotatably mounted in said bearing, a collar on each of said ends fitting in one of the grooves of said bearing, a set-screw to adjustably fasten each collar on its part of the arch, whereby the width of the arch may be varied at will and maintained at any desired width, substantially as described.

3. In a cultivator, the combination of a frame, one or more bearings on said frame, a two-part beam coupling arch rotatably mounted in said bearing or bearings, and means permitting the adjustment of the two parts of said arch in said bearing or bearings to vary its width as a whole, substantially as described.

4. In a riding cultivator, the combination of a cultivator frame, a bearing on said frame, a beam coupling arch rotatably mounted in said bearing and adapted to swing rearwardly, and means to swing said arch rearwardly substantially as described.

5. A cultivator having a beam coupling comprising two parts bolted together and an interposed washer or separator, substantially as described.

6. In a cultivator, the combination of a beam, a vertically-apertured coupling, a beam coupling arch, one leg of which projects through the aperture of said coupling, and means to apply the draft to said arch substantially as described.

7. In a cultivator, the combination of a beam, a vertically-apertured coupling, a beam coupling arch one leg of which projects through the aperture of said coupling, and means to apply the draft to said arch at one side of said coupling, substantially as described.

8. In a cultivator, the combination of a beam, a vertically-apertured coupling, a beam coupling arch one leg of which projects down through the aperture of said coupling and is bent laterally below said coupling, and means to apply the draft to said laterally bent portion of said arch, substantially as described.

9. In a cultivator, the combination of a beam, a vertically-apertured coupling, a beam coupling arch one leg of which projects down through the aperture of said coupling and is bent outwardly below said coupling and then upwardly and again outwardly, and means to apply the draft to the latter outwardly projecting portion of said beam coupling arch, substantially as described.

10. In a cultivator, the combination of an axle, carrying wheels, a beam, a vertically-apertured coupling, a beam coupling arch one leg of which projects down through the aperture of said coupling and is bent outwardly below said coupling and then upwardly and again outwardly, means to apply the draft to the latter outwardly projecting portion of said beam coupling arch, and means connecting said latter outwardly projecting portion to the axle, substantially as described.

11. In a cultivator the combination of a frame, an axle, carrying wheels, a swinging beam coupling arch, means directly connected to said axle to swing the same, means connecting said arch and axle whereby when the arch is swung back to lift the shovels the axle is also shifted rearwardly, substantially as described.

12. In a riding cultivator, the combination of a frame, an axle, a swinging beam coupling arch, a lifting lever on said frame, a link pivoted to said arch and to said lever, and means connecting said arch and axle, substantially as described.

13. In a riding cultivator, the combination of a frame, a swinging beam coupling arch mounted on said frame, a bell-crank lifting lever pivotally mounted on said frame, a link pivoted to said lifting lever and to said arch, said lifting lever and link forming a toggle which is straightened out when the shovels are down and collapsed when the shovels are raised, substantially as described.

14. In a riding cultivator, the combination of a frame, a swinging beam coupling arch mounted on said frame, an adjustment lever mounted on said frame, a lifting lever pivoted to said adjustment lever, and a link pivoted to said lifting lever and arch, substantially as described.

15. In a riding cultivator, the combination of a frame, a swinging beam coupling arch mounted on said frame, a segmental rack, an adjusting lever pivotally mounted on said frame, a locking dog or pawl associated with said lever and coöperating with said rack to maintain said lever in adjusted position, a lifting lever pivoted to said adjusting lever, and a link connecting said lifting lever to said arch, substantially as described.

16. In a riding cultivator, the combination of a frame, a swinging beam coupling arch mounted on said frame, a segmental rack, an adjustment lever pivotally mounted on said frame, a locking dog or pawl associated with said adjustment lever and coöperating with said rack to maintain said lever in adjusted position, a bell-crank lifting lever pivoted to said adjustment lever, and a link pivoted to said lifting lever and to said arch, said lifting lever and link forming a toggle which is straightened out when the shovels are down and collapsed when the shovels are raised, substantially as described.

17. In a cultivator, the combination of a support and a lifting lever pivotally secured to the support by an expansible connection, substantially as described.

18. In a cultivator, the combination of a support and a lifting lever pivoted to said support by means of a pivot pin the construction permitting said lever to shift lengthwise of said pivot pin, substantially as described.

19. In a cultivator, the combination of an apertured support, an apertured lifting lever, a pivot pin longer than the thickness of said support and lever passing through said aperture, and a spring to normally maintain the parts in such position that the support and lever will be at one end of said pivot pin but permitting said lever to shift position longitudinally of said pin, substantially as described.

20. In a cultivator, the combination of an adjustable coupling arch, a lifting lever, a connecting bar fastened to said arch and pivoted to said lifting lever, the pivotal connection between said lever and bar permitting said bar to shift longitudinally of its pivot pin when said arch is adjusted, substantially as described.

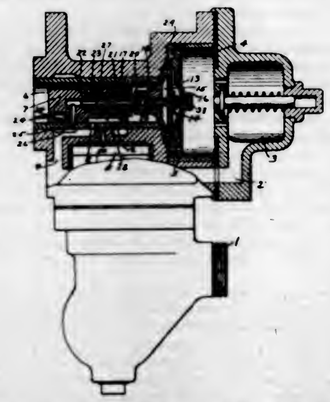
21. In a foot-dodge riding cultivator, the combination of a shovel beam, a foot lever connected to said beam, and a rod connecting said foot lever to a point of support at one side of and above the line of draft on said beam, substantially as described.

22. In a foot-dodge riding cultivator, the combination of a supporting frame, a beam coupling arch, a shovel beam, a coupling connecting said beam to said arch, the latter extending down through said coupling and being bent below said coupling to extend outwardly, upwardly, and again outwardly, a foot lever pivoted to said beam, and a rod connected to said foot lever and to said latter outwardly extended portion of said arch, substantially as described.

23. In a cultivator, the combination of a main frame, a beam coupling arch, a bearing for said arch, a pole or tongue secured to said frame, and an adjustable wedge between said bearing and said tongue, substantially as described.

24. In a cultivator, the combination of a main frame, a beam coupling arch, a bearing for said arch, a pole or tongue pivoted to said frame, and an adjustable wedge interposed between the rear end of said pole or tongue and said bearing, substantially as described.

869,606. FLUID-PRESSURE BRAKE. GEORGE WESTINGHOUSE, Pittsburg, Pa., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Jan. 25, 1904. Serial No. 190,439.



1. In an automatic fluid pressure brake, the combination with a train pipe, auxiliary reservoir and triple valve, of a valve for controlling a local train pipe discharge port, and a diaphragm subject to the opposing pressures of the auxiliary reservoir and the train pipe for opening the local discharge port in advance of the movement of the triple valve piston and also when the triple valve is in service position.

2. In an automatic fluid pressure brake, the combination with a train pipe and triple valve device, of a local discharge port from the train pipe to the brake cylinder, a valve controlling said port, and a diaphragm subject to the opposing pressures of the auxiliary reservoir and the train pipe and having a movement independent of the triple valve piston for opening said local discharge port when the triple valve is in service position.

3. A triple valve device for fluid pressure brakes, comprising a piston and valve operated by variations in train pipe pressure for controlling communication from the auxiliary reservoir to the brake cylinder, and means mounted on said piston and operated by a reduction of train pipe pressure to open a local train pipe discharge in advance of the movement of the triple valve piston and also when the main valve is in service position.

4. A triple valve device for fluid pressure brakes, comprising a piston and valve operated by variations in train pipe pressure for controlling communication from the auxiliary reservoir to the brake cylinder, a movable abutment mounted in said piston and subject to the opposing pressures of the auxiliary reservoir and the train pipe, and a valve operated by said abutment for controlling a local train pipe discharge port when the main valve is in service position.

5. A triple valve device for fluid pressure brakes, comprising a piston and valve operated by variations in train pipe pressure for controlling communication from the auxiliary reservoir to the brake cylinder, a movable abutment mounted in said piston and subject to the opposing pressures of the auxiliary reservoir and the train pipe, a local train pipe discharge port leading through the main piston stem, and a valve operated by said abutment for controlling said port.

6. A triple valve device for fluid pressure brakes, comprising a piston, a main slide valve operated thereby and having a graduating port and a local discharge port, a brake cylinder port communicating with the discharge port, another brake cylinder port for communicating with the graduating port in service position, a graduating valve movable with the piston and having a local train pipe discharge port for communicating with the discharge port in the main slide valve, and a movable abutment and valve for controlling said train pipe discharge port.

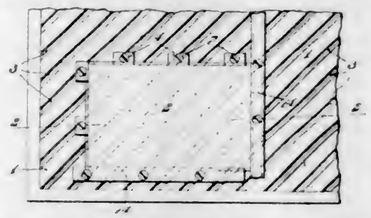
7. A triple valve device for fluid pressure brakes, comprising a piston, a main slide valve operated thereby and having a graduating port and a local discharge port, a brake cylinder port communicating with the discharge port in release and service position, another brake cylinder port for communicating with the graduating port in service position, a graduating slide valve movable with the piston and having a local train pipe discharge port for communicating with the discharge port in the main slide valve, and a movable abutment and valve mounted in the triple valve piston for controlling said train pipe discharge port.

8. A triple valve device for fluid pressure brakes, comprising a piston, a main slide valve operated thereby and having a discharge port, a brake cylinder port communicating with the discharge port in the release position of the valve, a graduating valve movable with the piston, a local train pipe discharge port in said graduating valve, and a movable abutment and valve mounted in the triple valve piston for controlling said train pipe discharge port.

869,607. STEREOTYPE-PLATE HOLDER. JULIUS S. WEYL, Philadelphia, Pa. Filed Dec. 28, 1906. Serial No. 349,767.

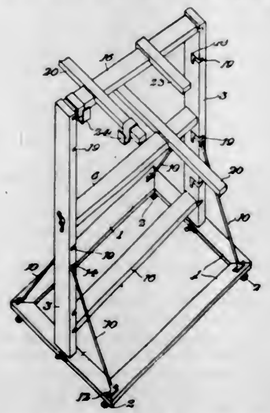
1. A holder for printing-plates comprising a diagonally-grooved supporting-block, the grooves having a greater width at base than at top, a lock-nut of greater length than width, and having its longitudinal edges beveled, and being

slightly less in thickness than the depth of said groove, and adapted to freely enter said groove and slide therein, a clamping-plate having one of its longitudinal edges beveled and provided on its underface with a diagonally-arranged rib, a countersunk opening extending through it and through said rib, and a bevel-headed screw having its threaded shank provided with an extended pointed end adapted to bear against the basal wall of the groove in the supporting-block when its beveled-head is brought into coincidence with the countersunk opening in the said clamping-plate, and operating to lock the nut in the upper portion of said groove.



2. A holder for printing-plates comprising a supporting block having parallel beveled grooves arranged at an angle to the sides of the block, a lock-nut having its longitudinal edges beveled at a corresponding angle, and adapted to freely enter and slide in said grooves, said nut being of greater length than width and slightly less in thickness than the depth of said grooves, a clamping-plate having one or both of its longitudinal edges inwardly beveled and provided on its underface with a diagonally-arranged shallow rib adapted to enter and guide the plate in the groove of the block, said plate having a countersunk slot extending through it and its rib, and a bevel-headed screw having its threaded shank provided with an extended point of a relative length adapted to bear against the basal wall of the groove when the parts are brought into register and lift the bevel edges of the nut into coincidence with the beveled walls of the said groove in the supporting-block.

869,608. DISPLAY-RACK. ROBERT L. WILCOX, Port Leyden, N. Y. Filed May 17, 1907. Serial No. 374,143.



1. A display rack formed of a parallelogrammic base, vertical posts mounted thereon having threaded studs at the end to pass through the base and hand nuts to secure the same, a cross bar having a threaded stud at each end to be supported in the posts, the latter having holes therefor and hand nuts being provided to secure the cross bars in place and a plurality of cross-bars having a square stud at each end to support the same in the posts in given position, the said posts having a plurality of holes arranged in pairs cut into the post to hold the said cross bars from turning, the studs being inserted through a lateral cut-out in the post opening into holes provided to receive the studs.

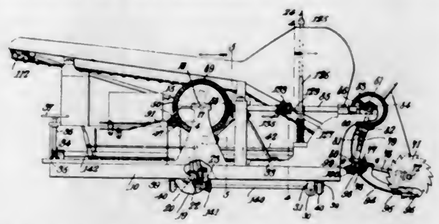
2. A display rack comprised of a rigid base and of vertical posts with a cross-bar therebetween mounted on the base by means of threaded studs on the posts passing through the base and hand-nuts engaging the studs on the opposite side of the base and a plurality of cross-bars with square ends mounted in square spaces in the posts, the latter being provided with a plurality of holes for the variable positioning of such cross-bars.

3. A display rack consisting of a rigid base and a rigid frame of side posts and cross-bars removably mounted thereon and braces between the posts and the base, said braces having at the ends members formed to project into grooves in the adjacent member of the rack, the said member having grooves therefor.

4. A display rack having a base, vertical posts removably mounted thereon, a connecting bar mounted between the posts, a plurality of removable cross-bars mounted between the posts in holes provided in the posts in pairs, a plurality of transverse bars mounted on the cross-bars being recessed to be slidable on the cross-bars and supported thereon and a plurality of hooks formed to be supported on the connecting bars, the cross bars or the transverse bars, the same being formed of a size and form to receive the hooks interchangeably and support the same from turning.

869,609. COAL-MINING MACHINE. WILLIAM YEATTS, Riceville, Va. Filed Dec. 15, 1906. Serial No. 348,046.

1. A scoop or bucket, and cutting members carried thereby and movable independently thereof.



2. A scoop or bucket having cutting members at one edge, and means for operating said cutting members independent of the scoop.

3. A scoop or bucket, and a movable cutting member arranged at the edge thereof.

4. A scoop or bucket, and a longitudinally movable cutter arranged at the entrance lip of said scoop or bucket.

5. A scoop or bucket, a cutter supported thereby, and means for reciprocating said cutter in the direction of the length of the edge or lip of said scoop.

6. A scoop or bucket, a movable cutter arranged at the edge thereof, means for moving the scoop, and means for moving the cutter independent of the scoop.

7. A scoop or bucket, means for traveling the same against the material to be excavated, and an independent means carried by the scoop for loosening the material as the scoop is operated.

8. A scoop or bucket, and a plurality of reciprocatory cutting members projecting beyond the receiving edge of said scoop.

9. A scoop or bucket, revoluble cutters at the sides thereof, reciprocatory cutters at the receiving lip of the scoop, and means for operating all of said cutters.

10. In combination, a pivotally mounted scoop, means for swinging the same, a reciprocatory plate at the back of the scoop, cutters carried by said plate and projecting beyond the receiving edge of the scoop, a shaft carried by the scoop, a pair of revoluble cutters on said shaft, a gear having its axis of rotation coincident with the axis of movement of the scoop, means for driving the gear, a shaft supported by the scoop and having a pair of bevel gears receiving motion from the first gear, gearing connections between the bevel gear carrying shaft and the cutter shaft gears, a crank pin carried by one of said bevel gears, and means for connecting said crank pin to said plate.

11. In a device of the class specified, a frame, an endless conveyer, fixed guiding means for said endless conveyer, a scoop or bucket pivoted to the frame at a point intermediate its front and rear edges, the front edge forming a receiving lip, and means for swinging the scoop upward independent of the conveyer to a point where its contents will run by gravity over the rear edge of the scoop on to such conveyer.

12. A pivotally mounted scoop, a rock shaft carrying the same, a gear mounted on said rock shaft, and a mutilated gear for engaging and driving the rock shaft gear to raise said scoop to dumping position, said scoop being arranged to move by gravity to the lowermost position when the teeth of the gears are out of mesh.

13. A pivotally mounted scoop, a rock shaft carrying the same, means for operating said rock shaft, a bevel gear mounted loosely on the rock shaft, means for operating the bevel gear, a plate arranged under the rear of the scoop and having a ribbed and grooved connection therewith, cutter bits carried by the plate and projecting beyond the receiving lip of the scoop, a hollow shaft having bearings at the side of the scoop and provided with upper and lower bevel gears of which the uppermost intermeshes with the rock shaft gear, a crank pin carried by the lower bevel gear and connected to the plate, a shaft arranged near the forward edge of the scoop, a pair of revoluble cutters supported by said shaft, and gearing connections between the cutter carrying shaft and the lower bevel gear.

14. An excavating scoop arranged to swing in a vertical plane, and a pair of sets of cutters carried thereby, one set being arranged to cut vertically and the other set to cut horizontally.

15. In a machine of the class described, a frame propelling wheels supporting the same, a step by step driving mechanism for said wheels, said mechanism including a bevel gear, a scoop, a rock shaft carrying the same, a bevel gear on said rock shaft, a mutilated gear arranged to engage the bevel gear of the rock shaft, a driven shaft carrying said mutilated gear, a driven gear arranged at one end of the mutilated gear shaft, and a single tooth member carried by the driven gear and arranged to engage the bevel gear of the propelling mechanism.

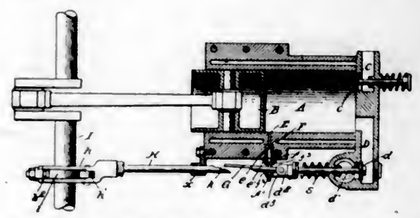
16. In a machine of the class described, a frame, an engine mounted thereon, a pair of sets of wheels for supporting the frame, the axes of the wheels of one set being at an angle to those of the other set, gear and clutch connections between the engine and the wheels, whereby driving movement may be imparted to either set, a scoop, cutting members carried thereby, gearing connections between the engine, the scoop and the cutting members, an endless conveyer arranged to receive the material from the scoop, and gearing connections between the engine and the endless conveyer.

17. In mechanism of the class described, the traveling excavator means, a conveyer mechanism including flaring side walls for directing the material on to the conveyer proper, a plurality of picks arranged to engage with and remove a portion of the roof of the tunnel or drift being excavated, all of said picks being arranged in a space between such flaring side walls, and an operating means common to the excavating means and the picks.

869,610. CARBONIC-ACID BATH. ALFRED ZUCKER, Dresden, Germany. Filed Aug. 23, 1906. Serial No. 331,695.

A carbonic acid bath consisting of acidulated water and containing a package consisting of an alkaline bicarbonate inclosed in a porous bag of flexible, compressible fabric adapted to produce a regular liberation of carbon dioxid in very small bubbles.

869,611. EXPLOSIVE-ENGINE. JOSEPH D. ANDERSON, St. Marys, Ohio. Filed Jan. 9, 1907. Serial No. 351,551.



1. In combination with an explosive engine having an exhaust valve and a valve rod and means for reciprocating it, of a hit-and-miss finger pivotally connected to the end of the exhaust valve stem, means on the stem for normally swinging this finger toward the engine cylinder and out of alinement with the valve rod and an adjustable contact screw on this finger, an auxiliary cylinder formed in the main cylinder adjacent to the pivotal point of the said finger, a bushing or plug closing this cylinder, the inner end of this plug being provided with a valve seat, a piston working in said auxiliary cylinder and having its outer face formed into a valve and its stem or rod extending through the bushing and provided with a head against which said contact screw normally abuts.

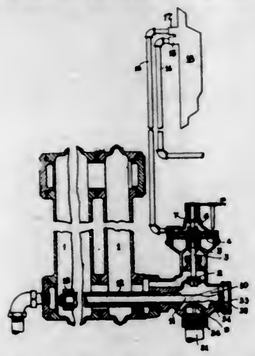
2. In combination with an explosive engine having an exhaust valve and means for actuating said valve consisting of a valve rod and a hit-and-miss finger provided with a contact part and pivotally connected to the valve stem, of automatic means for actuating this finger consisting of an inwardly extending auxiliary cylinder formed in the side wall of the main cylinder adjacent to the pivotal point of the finger and having a port directly connecting its inner end with the interior of the main cylinder at a point where it will be uncovered at the end of the working stroke of the piston, a piston in said auxiliary cylinder provided with a rod or stem extending outward to near the pivotal point of the hit-and-miss finger where it is provided with a head, and means for normally pressing said hit-and-miss finger inwardly toward the cylinder with its contact part into contact with the head on the outer end of said rod.

3. In combination with an explosive engine having an exhaust valve and means for actuating said valve consisting of a valve rod and a hit-and-miss finger provided with an adjustable contact part and pivotally connected to the valve stem, of automatic means for actuating this finger consisting of an auxiliary horizontal cylinder formed in the body of the main cylinder adjacent to the pivotal point of the finger and having a port directly connecting its inner end with the interior of the main cylinder at a point where it will be uncovered at the end of the working stroke of the piston, a plug closing said auxiliary cylinder and provided with a valve seat, a piston in said auxiliary cylinder provided with a rod or stem extending outward through said plug and having its outer face formed into a valve, said stem being provided with a head, and means for normally forcing said hit-and-miss finger toward the cylinder and its contact part into contact with the head on the outer end of said rod.

4. In combination with an explosive engine having an exhaust valve and means for actuating said valve consisting of a valve rod and a hit-and-miss finger having a contact part and pivotally connected with the valve stem, of automatic means for actuating this finger, said means consisting of an inwardly extending auxiliary cylinder formed in the side wall of the main cylinder adjacent to the hit-and-miss finger and having a port directly connecting its inner end with the interior of the main cylinder at a point where it will be uncovered at the end of the working stroke of the piston, a piston in said auxiliary cylinder provided with a rod or stem extending outwardly to near the hit-and-miss finger where it is provided with a head, and means for pressing said hit-and-miss finger inwardly

toward the cylinder with its contact part in contact with the head of the outer end of the stem of the auxiliary piston, substantially as set forth.

869,612. REGULATOR. ROBERT E. ATKINSON, Leicester, England. Filed Oct. 26, 1905. Serial No. 284,546.

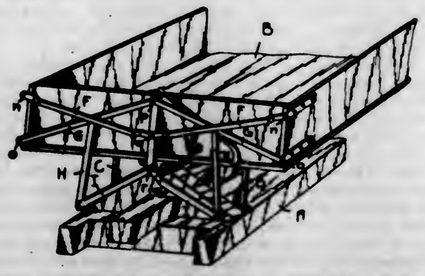


1. The combination with a heating apparatus of a thermostatically actuated valve adapted to control the supply of a heating medium thereto according to the temperature of said heating apparatus, and additional thermostatically actuated means adapted to control said supply according to the temperature remote from said heating apparatus.

2. The combination with a heating apparatus of a thermostatically actuated valve adapted to control the supply of a heating medium thereto according to the temperature of said heating apparatus and an additional valve adapted to control said supply according to the temperature remote from said heating apparatus, a spindle for carrying said additional valve, a flexible diaphragm connected to said spindle, a chamber against which the diaphragm is mounted, said diaphragm having one side open to atmospheric pressure and the other side influenced by the pressure in said chamber, a connection from the latter to the exhaust side of the apparatus, and a thermostat for controlling said connection.

3. The combination with a heating apparatus of a combined regulator comprising a primary steam supply valve 9, thermostatic members 11, 12 for controlling said valve, a second valve 2 for controlling the steam supplied by the first valve, a diaphragm 4 for controlling said valve 2, and a chamber 6 to which said diaphragm is connected, a connection between said chamber and the exhaust side of the apparatus, and a thermostat controlling said connection, substantially as and for the purpose hereinbefore set forth.

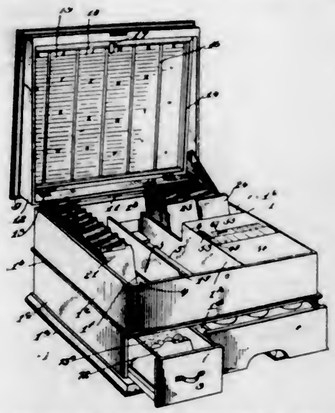
869,613. DUMPING-CAR. JOHN BENNETT, Parry Sound, Ontario, Canada. Filed Feb. 20, 1907. Serial No. 358,502.



1. The combination with the tiltable car body and means for restraining the same from tilting, of means for removing said restraining means and allowing the car to tilt by its own weight, and spring-operated means for returning the car to its normal position after dumping as and for the purpose specified.

2. The combination with the tiltable car body of struts on each side thereof, spring means for holding the same in position and means for withdrawing the struts as and for the purpose specified.

869,614. ACCOUNTING DEVICE. JOSEPH J. BENNETT, Lisbon, Ohio, assignor to Bennett Register Company, a Corporation of Ohio. Filed Jan. 28, 1907. Serial No. 354,594.



1. An accounting appliance comprising a detached flat base having the longitudinal margin thereof bent upwardly and inwardly, and a spacing member mounted upon the base and having the longitudinal margin thereof upturned and notched, a plurality of bill holders each provided at its lower ends with pivot rods extending through the notches of the spacing member and engaging under the inwardly-extending portions of the base.

2. An accounting appliance comprising a flat base having flanges extending in the direction of the length thereof and towards each other, bill holders carrying pivot means extending on the flanges of the base, and means mounted upon the base and below the holders for constituting a fulcrum for the pivots of the holders, said means further spacing the pivots apart.

3. An accounting appliance comprising the combination with a detached flat base having the longitudinal marginal portions thereof bent upwardly in an angular manner and a removable spacing member carried by the base and having side flanges arranged in close proximity to the angular portions of the base, said side flanges being notched, of means for receiving accounts detachably connected with the base and spaced by said member, said means comprising a body portion having side flanges, a retaining arm carried thereby, a pivot bar secured to the lower end of the body portion and extending through said member and under the angular portions of the base, and laterally-extending flanges projecting from each side of the body portion.

4. An accounting appliance comprising the combination with a detached flat base having the longitudinal marginal portions thereof bent upwardly in an angular manner and a removable spacing member carried by the base and having side flanges arranged in close proximity to the angular portions of the base, said side flanges being notched, of means for receiving accounts detachably connected with the base and spaced by said member, said means comprising a body portion having side flanges, a retaining arm carried thereby, a pivot bar secured to the lower end of the body portion and extending through said member and under the angular portions of the base, laterally-extending flanges projecting from each side of the body portion, said body portion provided at its top with a notch and a protuberance having an opening, and an indicating tab mounted upon the protuberance and crimped so as to extend in the opening thereby securing tab to the protuberance.

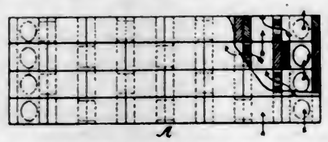
5. An accounting appliance comprising a flat base having the longitudinal marginal portions thereof bent upwardly in an angular manner, a longitudinally-shiftable member mounted upon the base and having side flanges arranged in close proximity to the angular portions of the base, said side flanges being notched, and bill holders provided with pivots mounted in the notches of said member and extending under the angular portions of the base.

6. An accounting appliance comprising a flat base provided with longitudinally-extending flanges, a longitudinally-shiftable notched plate mounted upon the base, and a plurality of bill holders provided with pivots mounted in the notches of the plate and extending under the flanges of the base.

7. An accounting appliance comprising a pivoted bill holder consisting of a body portion having side flanges and at its top formed with a notch and a protuberance having an opening, said body portion near its bottom formed with a pair of slits, a retaining arm having the lower end thereof extending through the slits of the body portion thereby connecting the arm thereto, and a pivot bar secured to the bottom of the body portion.

8. An accounting appliance comprising a pivoted bill holder consisting of a body portion having side flanges and at its top formed with a notch and a protuberance having an opening, said body portion near its bottom formed with a pair of slits, a retaining arm having the lower end thereof extending through the slits of the body portion thereby connecting the arm thereto, a pivot bar secured to the bottom of the body portion, and an indicator tab straddling said protuberance and having a portion thereof crimped to extend in the opening thereby securing the tab to the protuberance.

869,615. BUILDING-BLOCK AND WALL. WILLIAM W. BIRNSTOCK, York, Pa., assignor of one-half to M. G. Collins, York, Pa. Filed Dec. 21, 1906. Serial No. 348,901.

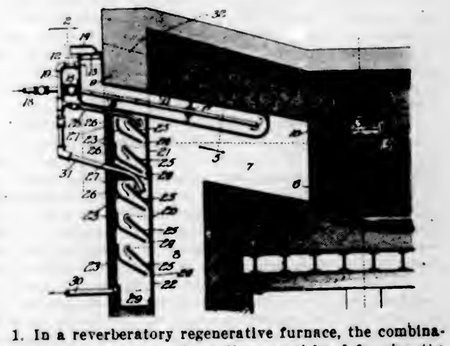


1. A building block having a main longitudinal wall of uniform thickness from end to end, and provided at the center and one end only with projections of transverse walls, the end projection being solid and the central projection being recessed, said central projection extending inward from the inner face of the longitudinal wall approximately half the distance which the end wall projects and being disposed at that side of the longitudinal center of the block nearest the end wall.

2. A wall composed of building blocks, each course comprising inner and outer blocks of like construction, the blocks of superposed courses breaking joint, each block having a solid projection at one end and a recessed projection disposed at that side of the center of the length of the block nearest the solid projection, the ends of the solid projections of contiguous inner and outer blocks in the same course abutting and the solid projections of each inner block of one course resting on the recessed projection of the outer block of the subjacent course and vice versa, thereby forming double transverse portions throughout the entire wall.

3. A wall composed of inner and outer blocks, each including a body portion having a solid projection at one end, and a recessed projection intermediate the ends, and located to one side of the longitudinal center of the block, both projections being of the same height as the body portion, and the recessed projection being of approximately one-half the length of the end projection, the blocks being laid in courses with the end projection of each outer block resting on the recessed projection of an inner block of the subjacent course, the end projection of an inner block resting on the recessed projection of an outer block of the subjacent course, and the end faces of the solid end projections of contiguous inner and outer blocks of the same course abutting, the blocks being so disposed as to form continuous vertical and tortuous approximately horizontal air passages.

869,616. FURNACE. THOMAS S. BLAIR, Jr., Elmhurst, Ill. Filed Apr. 20, 1907. Serial No. 369,411.



1. In a reverberatory regenerative furnace, the combination with the gas-port, of a hollow metal hood forming the entire port covering, and means for circulating water through said hood, for the purpose set forth.

2. In a reverberatory regenerative furnace, the combination with the gas-port, of a hollow metal hood forming the entire port covering, said hood being provided with a water-outlet in its end, and a water-conducting pipe extending within said hood and discharging at its inner end therein, for the purpose set forth.

3. In a reverberatory regenerative furnace, the combination with the gas-port, of a hollow metal hood forming the entire port covering, said hood being provided at its outer end with a chamber-forming head, having a discharge outlet, a manifold having a water-supply pipe connected with it, and water-pipes extending from the manifold in the hood and discharging therein, for the purpose set forth.

4. In a reverberatory regenerative furnace, the combination with the gas-port, of a hollow metal hood forming the entire port covering, said hood extending through the end-wall of the structure into and supported in the furnace-chamber and provided at its outer-end with a chamber-forming vented head having a discharge-outlet, a manifold on said head having a water-supply pipe connected with it, and water-pipes extending from the manifold lengthwise into the hood nearly to and discharging into its inner end, for the purpose set forth.

5. In a reverberatory regenerative furnace, the combination with the gas-port, of the adjacent portion of the end-wall of the structure formed of metal and provided with means for flowing water over its outer surface and operating to protect said wall against the effect of the heat of the outgoing products of combustion, for the purpose set forth.

6. In a reverberatory regenerative furnace, the combination with the gas-port and the downtake-passage communicating therewith, of the end-wall covering said port and passage, formed of metal and provided with means for flowing water over its outer surface and operating to protect said end wall against the effect of the heat of the outgoing products of combustion, for the purpose set forth.

7. In a reverberatory regenerative furnace, the combination with the gas-port and the down-take passage communicating therewith, of the end-wall covering said port and passage, formed of upper and lower metal sections and provided with means for flowing water over its outer surface and operating to protect said end wall against the effect of

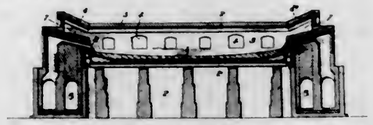
the heat of the outgoing products of combustion, for the purpose set forth.

8. In a reverberatory regenerative furnace, the combination with the gas-port and the downtake-passage communicating therewith, of the end-wall covering said port and passage, formed of metal and provided on its outer surface with water-distributing means, and means for flowing water over said surface and operating to protect said end wall against the effect of the heat of the outgoing products of combustion, for the purpose set forth.

9. In a reverberatory regenerative furnace, the combination with the gas-port and the downtake-passage communicating therewith, of the end-wall covering said port and passage, formed of metal in channel-shape and fitting and confined between brick-sections of the end-wall of the structure, said metal wall having series of water receptacles and troughs on its outer surface, and means for flowing water over said surface through said troughs and receptacles and operating to protect said walls against the effect of the heat of the outgoing products of combustion, for the purpose set forth.

10. In a reverberatory regenerative furnace, the combination with the gas-port and the downtake-passage communicating therewith, of the end-wall covering said port and passage, formed of metal and provided on its outer surface with water-distributing means, said covering operating to protect said wall against the effect of the heat of the outgoing products of combustion, a hollow metal hood forming the entire port covering extending through the end-wall of the structure above said metal wall into and supported in the furnace chamber and having a water-outlet in its outer end and a water-conducting pipe in and discharging within it, and a discharge-pipe leading from said outlet to said water-distributing means on the metal wall, for the purpose set forth.

869,617. OPEN-HEARTH FURNACE. THOMAS S. BLAIR, Jr., Elmhurst, Ill. Filed July 6, 1907. Serial No. 382,487.



1. The method of heating open hearth furnaces which consists in supplying between the roof of the furnace and the burning gases a volume of air in excess of the amount necessary for complete combustion whereby there will always be a stratum of air interposed between the burning gases and the roof of the furnace.

2. The method of heating open hearth furnaces which consists in supplying the gases of combustion to the furnace in a stream of greater width than thickness, supplying a volume of air in excess of the amount necessary for complete combustion between the gases and the roof and over the entire stream of the gases whereby the gases of combustion will be held in a thin stream against the bath by the volume of air between the gases and the roof of the furnace.

3. In an open hearth furnace the combination with a gas port adapted to deliver a stream of gas into the furnace of an air port located over the gas port and adapted to deliver a stream of air between the gas and the roof of the furnace, the gas and air ports being so proportioned in relation to each other that the supply of air will always be in excess of that required for the complete combustion of the gas.

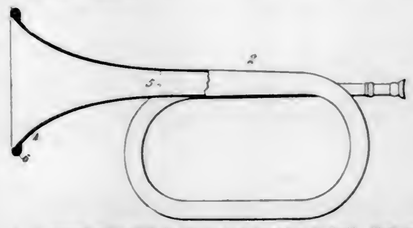
4. In an open hearth furnace having a flat roof over the hearth, the combination with a gas port adapted to deliver a stream of gas into the furnace of an air port located over the gas port and adapted to deliver a stream of air between the gas and the roof of the furnace, the gas and air ports being so proportioned in relation to each other that the supply of air will always be in excess of that required for the complete combustion of the gas whereby there will always be a stratum of air between the gas and the roof to hold the gas in intimate contact with the bath and away from the roof.

5. In an open hearth furnace the combination with a pair of gas ports arranged side by side and adapted to deliver a stream of gas into the furnace, of an air port extending over the pair of gas ports and adapted to deliver a stream of air between the gas and the roof, the gas and air ports being so proportioned in relation to each other that the supply of air will always be in excess of that required for the complete combustion of the gases, the surplus air operating to hold the gases against the bath for the length of the furnace.

869,618. ARTIFICIAL RUBBER. WILLIAM H. BROWNLOW, Brockville, Ontario, Canada. Filed Jan. 15, 1907. Serial No. 352,399.

The herein described composition of matter, for the purpose specified, consisting of glue, seven thousand grains, or thereabouts, molasses, seven thousand grains or thereabouts, glycerin, one thousand, seven hundred and fifty grains or thereabouts, wood tar, fifteen grains or thereabouts, substantially as described and as and for the purpose specified.

869,619. WIND MUSICAL INSTRUMENT. FERDINAND A. BUESCHER, Elkhart, Ind. Filed July 18, 1907. Serial No. 384,395.

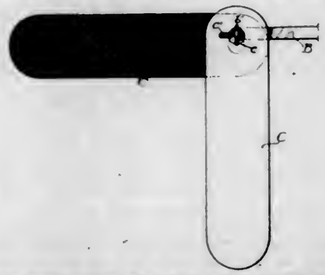


1. A wind musical instrument having a bell, the outer portion of which is of progressively-increasing thickness in an outward direction.

2. A wind musical instrument having a bell, the outer portion of which is of progressively-increasing thickness in an outward direction, the inner and outer surfaces of said progressively-increased thickened portion being smooth.

3. A wind musical instrument having a bell provided with an outwardly-flared terminal portion of progressively-increasing thickness in an outward direction.

869,620. INDEX-CARD HOLDER. FRANK BURNS, Philadelphia, Pa. Filed June 19, 1907. Serial No. 379,782.



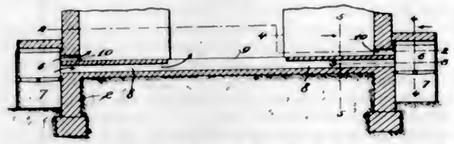
1. The combination of a bar serving as a supporting structure, and a series of index cards mounted on said bar, so as to be free to turn, each of said cards having an opening for the passage of the bar, and said openings being so shaped that certain of their parts are capable of engaging the bar to hold the cards in an extended position against the action of gravity, substantially as described.

2. The combination of a bar forming a supporting structure, and a series of cards mounted thereon and each having a key-hole shaped opening for the reception of the bar, said openings being so placed that their narrow portions are capable of engaging the bar to maintain the cards in an extended position against the action of gravity, substantially as described.

3. The combination of a relatively narrow bar mounted so that one of its edges is uppermost, with a series of cards mounted on the bar and each provided with a key-hole shaped opening for the reception thereof, the narrow portion of said slots extending in a line substantially at right angles to the longitudinal axes of the cards, substantially as described.

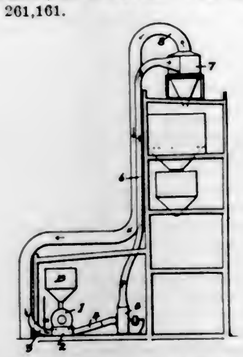
4. The combination of a relatively narrow bar having at one end a head, a series of cards mounted on said bar and each having a key-hole shaped slot for the reception thereof, the narrow portions of said slots extending substantially at right angles to the length of the cards and the diameter of the body portion of each hole being less than the length of the head, substantially as described.

869,621. BRICK-KILN. JACKSON J. P. CASEY, Chattahoochee, Ga. Filed Mar. 28, 1907. Serial No. 365,050.



A kiln of the class described having a brick-receiving chamber, furnaces at opposite sides of the brick-receiving chamber, having combustion chambers, flues formed directly in the base of said brick-receiving chamber and connecting the combustion chambers of the respective furnaces and each having a single outlet substantially centrally between its ends, opening into the interior of the brick-receiving chamber, the width of the outlets being substantially the same as that of the respective flues, and a second set of flues located above the first mentioned flues and extending from the combustion chambers into the sides of said brick-receiving chamber.

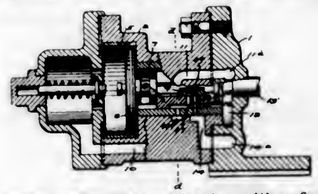
869,622. APPARATUS FOR MILLING GRAIN. GEORGE E. CHAMBERLAIN, St. Louis, Mo. Filed May 19, 1905. Serial No. 261,161.



1. Apparatus for milling grain consisting of a vertical-disk attrition mill, a casing therefor, a dust collector, a blower, a flue connecting said blower and collector and means for injecting moisture into said flue at a point close to said mill, said flue communicating with said casing on opposite sides thereof and directly below the attrition mill whereby the danger of fire is minimized.

2. Apparatus for milling grain consisting of an inclosed vertical-disk attrition mill, a cyclone dust collector, an air blower, and an endless flue passing directly below said mill and arranged to receive the grain directly therefrom and having the blower and the dust collector in its circuit, the mill being on the suction side and the dust collector on the delivery side of said blower, and means for injecting moisture into the flue on the suction side of the mill.

869,623. TRIPLE-VALVE CONNECTION. FRANCIS L. CLARK, Pittsburg, Pa., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Feb. 27, 1905. Serial No. 247,448.



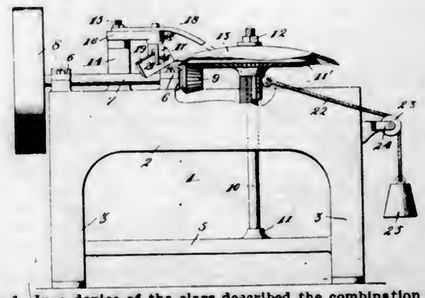
1. In an air brake, the combination with a fixed casing having ports and passages connected respectively with the train pipe, auxiliary reservoir, brake cylinder, and supplemental reservoir, of a triple valve body having corresponding ports and passages adapted to register with those of the fixed casing, and means for securing the triple valve body to the fixed casing.

2. In an air brake, the combination with a fixed casing having ports and passages connected respectively with the train pipe, auxiliary reservoir, brake cylinder, and retaining valve pipe, of a triple valve body having corresponding train pipe, auxiliary reservoir, brake cylinder, and exhaust ports adapted to register with those of the fixed casing, and means for securing the triple valve body to the fixed casing.

3. In an air brake, the combination with a separate bracket forming a fixed casing having ports and passages connected respectively with the train pipe, auxiliary reservoir, and brake cylinder, of a triple valve body having corresponding ports and passages adapted to register with those of said bracket.

4. In an air brake, the combination with a separate bracket forming a fixed casing having ports and passages connected respectively with the train pipe, auxiliary reservoir, brake cylinder, and a supplemental source of fluid pressure, of a triple valve body having corresponding ports and passages adapted to register with those of said bracket, and means for securing the body to the bracket.

869,624. DISK-SHARPENING MEANS. WINFIELD S. CLINE, Trenton, Mo., assignor of one-half to Frank Hall, Trenton, Mo. Filed May 7, 1906. Serial No. 315,605.

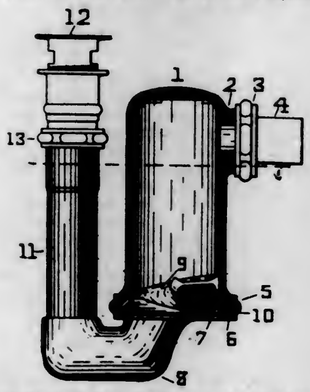


1. In a device of the class described the combination of a rotatable shaft, means for securing a disk thereto, a support, a pivoted device thereon, a knife holder longitudinally and rotatably movable in the said device, a sharpen-

ing knife adjustable in said holder, a lever pivoted upon the support and apertured for the passage of the knife holder and means for drawing the free end of the lever downwardly and toward the center of the disk.

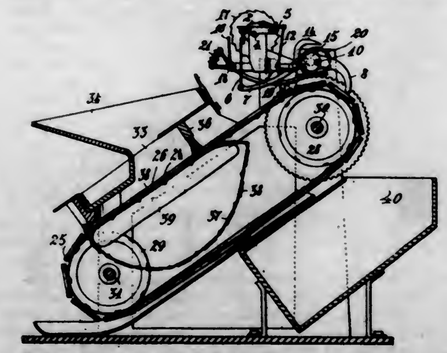
2. In a device of the class described the combination of a rotatable shaft, removable means for securing a disk thereon, a post having a flat top and a pivot pin in its top, a plate pivoted on said pin and apertured for the reception of a knife holder, a knife holder longitudinally and rotatably movable in the aperture in said plate, the knife holder being provided with a slot, a sharpening knife removably and adjustably held in said slot, a lever pivoted upon said pivot pin above the plate and apertured for the passage of the knife holder and means for pulling the free end of the lever horizontally and downwardly to contact the knife with the disk.

869,625. TRAP. LOUIS A. CORNELIUS, Grand Rapids, Mich. Filed July 5, 1906. Serial No. 324,821.



A trap of the class described comprising a hollow cylindrical body having an outlet near its top and provided with an open bottom, an inlet pipe, means for detachably connecting one end of the inlet pipe with the open bottom end of the body to form water-tight communication between the same at one side of the longitudinal axis of said body, and a spiral diaphragm arranged at the point of communication between the inlet pipe and hollow body.

869,626. COIN-COUNTER. BJARNE CRANNER, Kongsberg, Norway. Filed Oct. 4, 1906. Serial No. 337,422.



1. In a coin counter, a receptacle, a movable coin carrier adapted to feed coins from the said receptacle, seats on the said coin carrier equidistantly spaced apart and adapted to receive the coins, holes in the said seats, a movable member, means to move the same, so that a part of said movable member will describe a path crossing the path of the carrier at each of the said holes, an adding machine and a connection between the latter and the said movable member.

2. In a coin counter the combination with a coin carrier having coin seats equidistantly spaced apart and an adding machine, of a movable member connected with the actuating member of the adding machine and means to impart an oscillatory motion to said member in synchronism with the feeding movement of the coin carrier, whereby a point of the said movable member, adapted to form a fulcrum, may be brought in contact with a coin in a seat, the point connected with the adding machine thereby being positively moved.

3. In a coin counter the combination with a coin carrier having two parallel rows of coin seats equidistantly spaced apart and an adding machine of two movable members, a balance piece hung in the actuating member of the adding machine and connected at each end with one end of each of said movable members and means to impart an oscillatory motion to said movable members in synchronism with the feeding movement of the coin carrier, whereby a point of each of the said movable members, adapted to form a fulcrum may be brought in contact with a coin in each of the rows of coin seats and the point connected with the said balance piece thereby positively moved.

4. In a coin counter the combination with a positively driven belt carrying plates provided with holes having recesses around their edges adapted to form coin seats, said belt forming a movable bottom of a coin receptacle of an auxiliary belt having its path inside of the aforesaid belt and being provided with circular projections adapted to enter the holes in the coin belt and fill said holes on the part of the path of the coin belt forming the movable bottom in the coin receptacle and means to guide the auxiliary belt, so that it is taken along by the coin belt.

5. In a coin counter, an adding machine, a movable member adapted to actuate the same and to have its regular motion changed when a coin is passing, a belt carrier adapted to carry two or more rows of coins equidistantly spaced apart, said belt carrier having longitudinal ridges between each row of coins.

6. In a coin counter the combination with a coin magazine and a belt carrier forming an inclined bottom for the magazine, means to prevent coins not seated in the carrier to be taken along with it out of the magazine, a spring pressing on the coins in the belt as it is leaving the magazine and an endless cord running over rolls and serving to hold the coins in place, till the same have passed the counting mechanism.

869,627. SAWMILL SET-WORKS. ALBERT CUNNINGHAM, Milwaukee, Wis., assignor to The Fiber and Stowell Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed Jan. 2, 1904. Serial No. 187,397.

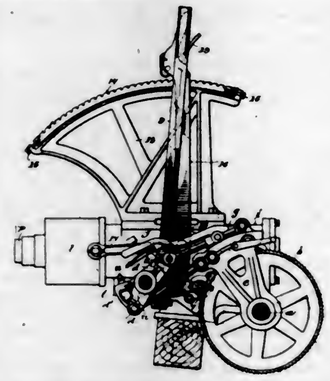
1. In saw-mill set-works the combination with the set shaft and a motor cylinder and piston for actuating said shaft, of a cushion cylinder, a cushion piston attached to the motor piston rod, and means for varying the distance between the cushion piston and one of the cushion cylinder heads, substantially as described.

2. In saw-mill set-works the combination with the set shaft and a motor cylinder and piston for actuating said shaft, of a cushion cylinder having an axially adjustable head and a cushion piston fitted in the cushion cylinder and attached to the motor piston, substantially as described.

3. In saw-mill set-works the combination with the set shaft and a motor cylinder and piston for actuating said shaft, of a cushion cylinder adjustable in length and a cushion piston having a tubular rod attached to the motor piston and provided with ports arranged on opposite sides of the cushion piston in position to be closed by their passage into the cushion cylinder heads, substantially as described.

4. In saw-mill set-works the combination with the set shaft and a motor cylinder and piston for actuating said

shaft, of a cushion piston attached to the motor piston, and a cushion cylinder having a stationary head on which it is adjustable endwise to vary the stroke of said pistons, substantially as described.



5. In saw-mill set-works the combination with the set shaft and a motor cylinder and piston for actuating said shaft, of a cushion cylinder arranged coaxial with the motor cylinder and having one of its heads stationary and the other adjustable to vary the length of the cylinder chamber, and a cushion piston attached to the motor piston rod and having a tubular rod passing through the cushion piston heads and open to the atmosphere, lateral ports being provided in said tubular rod, one or more on each side of the cushion piston, substantially as described.

6. In saw-mill set-works the combination with the set shaft and a motor cylinder and piston for actuating said shaft, of a cushion cylinder having one head adjustable towards and from the other, a graduated quadrant and a lever connected with the adjustable head of the cushion cylinder and adapted to be secured in different positions to said quadrant, and a cushion piston attached to the motor piston, substantially as described.

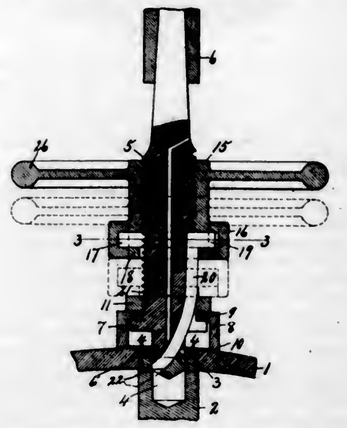
7. In saw-mill set-works the combination with the set shaft and a motor cylinder and piston for actuating said shaft, of a cushion cylinder having a fixed head upon which it with its other head is adjustable lengthwise, a cushion piston attached to the motor piston, a forked lever connected with opposite sides of said cushion cylinder, and a graduated quadrant to which said lever is adapted to be secured in different positions, substantially as described.

8. In saw-mill set-works the combination with the set shaft and a motor cylinder and piston for actuating said shaft, of a cushion cylinder having openings through its heads, one of which is movable towards and from the other, a cushion piston having a restricted passage through it, and a tubular rod fitted in said openings and provided with ports arranged on opposite sides of and at a distance from the piston in positions to be closed by their passage into the cylinder heads, and means for adjusting the movable cylinder head, substantially as described.

9. In saw-mill set-works the combination with the set shaft provided with a ratchet wheel, a pawl carrier provided with a pawl arranged to engage the teeth of the ratchet wheel, a rocker shaft, and a motor connected with the rocker shaft of a jointed link connecting an arm of the rocker shaft with the pawl carrier and serving to transmit motion from the motor to the set shaft and affording means for manually turning the set shaft when the motor is at rest, substantially as described.

10. In saw-mill set-works the combination with the set shaft provided with a ratchet wheel, a pawl carrier provided with a pawl adapted to engage the teeth of the ratchet wheel, a rocker shaft and a motor connected with and arranged to oscillate the rocker shaft, of a link composed of two pivotally connected members connecting an arm on the rocker shaft with the pawl carrier, one of said members being extended beyond its pivot connection with the other and constituting a handle for manually turning the seat shaft, and means for locking said members together, substantially as described.

869,628. TUBE-CUTTER. FRANK FLEMING, Rome, N. Y. Filed May 23, 1907. Serial No. 375,274.



1. A tube cutter comprising a rotary threaded spindle having one end adapted to be inserted into the tube to be cut, said spindle being provided with a lengthwise curved slot extending therethrough from side to side, a curved cutting tool riding in said slot, and means for feeding the cutting tool endwise.

2. A tube cutter comprising a rotatable threaded spindle having one end adapted to be inserted in the tube to be cut, said spindle being provided with a lengthwise slot extending from one side inwardly in curved lines through the opposite side, a curved cutter movable lengthwise in said slot, and a nut adjustable on the threaded portion of the spindle and engaged with the cutter for feeding the latter endwise.

3. A tube cutter comprising a rotatable threaded spindle having one end adapted to be inserted in the tube to be cut, said spindle being provided with a lengthwise slot extending from one side inwardly in curved lines through the opposite side, a curved cutter movable lengthwise in said slot, and a nut adjustable on the threaded portion of the spindle and engaged with the cutter for feeding the latter endwise, and an adjustable stop on the spindle for engaging the outer face of the part to which the tube is attached.

4. A tube cutter comprising a rotatable threaded spindle having one end adapted to be inserted in the tube to be cut, said spindle being provided with a lengthwise slot extending from one side inwardly in curved lines through the opposite side, a curved cutter movable lengthwise in said slot and a nut adjustable on the threaded portion of the spindle and engaged with the cutter for feeding the latter endwise, and a non-rotatable stop mounted on the spindle to limit its endwise inward movement during the cutting operation.

5. A tube cutter comprising a threaded spindle having a reduced inner end adapted to be inserted in the tube to be cut, said spindle having a lengthwise curved slot extending therethrough from side to side, a cutter movable endwise in said slot and provided at its outer end with a lateral offset, a nut engaged with the threaded portion of the spindle and provided with a grooved collar engaging said offset for moving the tool lengthwise as the nut is rotated upon the spindle, and an adjustable limiting stop loosely mounted upon the spindle to limit its inward movement during the cutting operation.

869,629. JOURNAL-BEARING. FRANK FLEMING, Rome, N. Y. Filed May 28, 1907. Serial No. 376,132.



1. In a journal bearing in combination with a revolving element and a stationary box, a plurality of retainer frames seated in the box and having open sides facing the revolving element, a plurality of co-axial rollers in each frame and interposed anti-friction balls between the ends of the rollers.

2. In a journal bearing, in combination with a revolving element and a non-rotatable box having a plurality of seats or pockets, a corresponding number of retainer frames seated in said pockets and having open sides facing the revolving element, a plurality of co-axial rollers in each frame interposed balls between the ends of the rollers, and yielding means for pressing said rollers and balls endwise into contact with each other.

3. A journal bearing comprising a box having a series of pockets arranged concentrically around a common center, a series of retainer frames seated in said pockets and having their open sides facing inwardly, a plurality of co-axial rollers in each frame and having concave seats in their end faces and anti-friction balls interposed between the meeting ends of the rollers and bearing in said seats.

4. A journal bearing comprising a box having a series of pockets arranged concentrically around a common center, a series of retainer frames seated in said pockets and having their open sides facing inwardly, a plurality of co-axial rollers in each frame and having concave seats in their end faces and anti-friction balls interposed between the meeting ends of the rollers and bearing in said seats, and a spring for pressing the rollers and balls axially into one direction to contact with each other at their contiguous faces for the purpose of taking up wear and keeping the rollers and balls in axial alinement.

5. In a journal bearing a box having an elongated pocket in its inner side, an elongated retainer frame loosely seated in said pocket and open at one side, a plurality of co-axial rollers and fixed heads at the outer ends of said rollers, anti-friction balls between the meeting ends of the rollers and heads, and means to press the rollers and balls axially to bring their adjacent faces in contact.

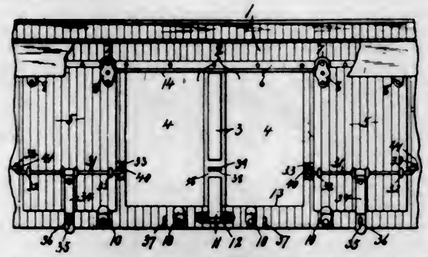
6. In a journal bearing a box having an elongated pocket on its inner side, a retainer-frame loosely seated in said pocket and open at one side, a roller and a co-axial fixed head, an anti friction ball between the meeting ends of the roller and fixed head and means for pressing the roller and ball toward the fixed head for maintaining contact between the adjacent ends of the roller, ball and head.

7. In a journal bearing, a retainer frame open at one side, a roller and a co-axial fixed head in the open side of the frame, said roller and head having concave recesses in their adjacent ends, an anti friction ball seated in said recesses, and yielding means pressing the roller and ball axially toward the fixed head.

869,630. BOX-CAR. CHARLES W. GILL, Mexico, N. Y. Filed Jan. 4, 1907. Serial No. 350,801.

1. A box car having a door opening, an inwardly projecting guide above said opening, a vertical removable partition bar having sliding engagement with said guide and dividing said opening substantially midway between its ends forming two door openings, doors slidable across said openings to and from the bar and means to lock the doors to said bar.

2. In a box car having an opening in one side, a partition bar hinged above the opening and dividing said opening substantially midway between its ends forming two door-openings, doors slidable across said openings to and from the bar, means to lock the doors to the partition bar, and movable means for locking the partition-bar in operative position.



3. A box car having an opening in one side, keepers above and beneath the central portion of the opening and secured to the car, a removable partition bar detachably interlocked with the keepers and dividing the opening substantially midway between its ends, doors movable across the opposite ends of the opening to and from the partition bar, and means to lock the doors in their closed position.

4. A box car having an opening in one side, a removable partition bar dividing the opening between its ends forming smaller door openings, movable means for locking the partition bar to the car, doors movable across opposite ends of the opening to and from the partition bar, movable locking elements on the doors and a keeper on the partition bar adapted to be engaged by said locking elements for holding the doors in their closed position, and additional keepers on the car at opposite sides of the opening adapted to be engaged by said locking element to hold the door in its open position.

5. A box car having an opening in one side, a guide in the car above the opening, a partition bar having its upper end movable along said guide and its lower end adapted to be interlocked with the car below the opening, said partition bar being hinged upon the guide to swing laterally above the opening, and means on the interior to support the free end of the partition bar when swung to its upper position.

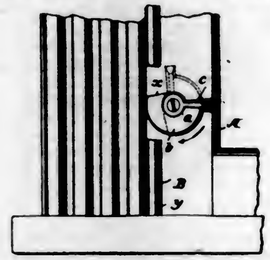
6. A box car having an opening in one side, keepers secured to the car above and beneath the opening, a partition bar having its lower end detachably interlocked with the lower keeper, movable means on the upper end of the bar detachably interlocked with the upper keeper whereby the partition bar may be firmly held in operative position or removed, doors movable across the opposite ends of said opening to and from the partition bar, and each provided with a movable locking member and a keeper on the bar adapted to be engaged by said locking members on the doors.

7. A box car having an opening in one side, keepers above and beneath the central portion of the opening, a partition bar having its lower end detachably engaged with the lower keeper, a movable locking member on the upper end of the bar detachably engaged with the upper keeper, a guide extending inwardly and upwardly from the lintel of the opening, an eye attached to the upper end of the bar and receiving said guide, whereby when the bar is disengaged from its keepers it may be moved inwardly and rocked laterally and upwardly to a substantial horizontal position, and means for holding the bar in its up-position.

8. A box car having an opening in one side, doors movable across opposite ends of the opening, separately movable locking members on said doors, a partition bar at the meeting edges of the doors when closed and provided with a keeper adapted to be engaged by said locking members, and movable members for locking the bar in operative position.

9. A box car having an opening in one side, a removable partition midway between the ends of the opening, movable means for locking the bar in its operative position, a track above the opening, doors supported upon and movable along said track to and from the partition bar, brackets secured to the car in a plane below the opening and provided with grooves in their upper faces of greater transverse width than the thickness of the lower edges of the doors which ride in said grooves to allow either door to be swung outwardly a limited distance, and means to lock the doors to the partition bar.

869,631. WINDOW-TIGHTENER. JOHN M. HADDOCK, Bedford, Iowa. Filed Dec. 29, 1906. Serial No. 350,033.



The herein described sash tightener consisting of a perforated hub, a handle projecting radially from the hub, and a wing extending concentrically with and partially about the hub from one side of the handle, said wing decreasing gradually in thickness from the handle to a thin edge at its other end, whereby the wing forms a curved wedge having its outer face inclined longitudinally, said wedge being of such length that when in one position, relative to its pivotal support on a window sash, it will be out of contact with the window frame and, as the hub is turned, is adapted to extend between the sash and a member on the frame to hold the sash against vibration.

869,632. CARTRIDGE-HOLDER. AARON L. HOCKETT, Birmingham, Ala., assignor of one-half to William H. Moore, Jasper, Ala. Filed June 20, 1904, Serial No. 213,318. Renewed Mar. 27, 1907. Serial No. 364,865.



1. A cartridge holder formed of a single piece of metal, the sides of which are bent to provide flanges forming a guide way, the width of said flanges at one terminal being reduced to form shoulders, whereby said flanges may extend into the magazine of a fire arm.

2. A cartridge holder formed of a single piece of metal one end of which is transversely curved, the sides of said holder being bent to provide flanges forming a guide way, the width of said flanges being reduced adjacent said curved end, whereby said flanges may extend into the magazine of a fire arm.

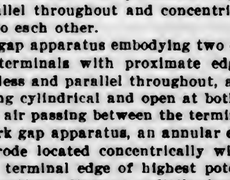
3. A cartridge holder formed of a single piece of metal, the sides of which are bent to provide flanges forming a guide way, one end of said holder being bent into said guide way and under the extremities of said flanges.

4. A cartridge holder formed of a single piece of metal, the sides of which are bent to provide flanges forming a guide way, one end of said holder being bent into said guide way and under the extremities of said flanges, said holder being slit to form a resilient tongue extending into said guide way.

869,633. COTTON-GIN. JAMES HODGKINSON, Salford, Manchester, England. Filed June 29, 1907. Serial No. 381,439.

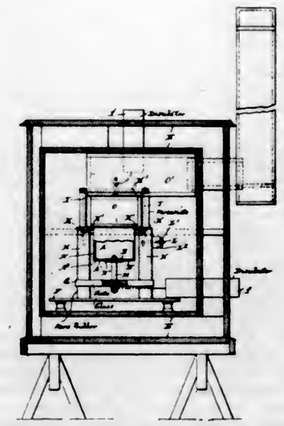
1. A machine for separating fibers from solid substances intermixed therewith, comprising a moving body having a yielding surface, and having pins or teeth embedded therein with their ends practically flush with the said yielding surface and a blade set against the surface of said body, substantially as described.

2. In a machine for separating fibers from solid substances intermixed therewith, such as seeds, a rotary drum having a covering of yielding material and pins or teeth embedded therein and with their ends practically flush with the exterior surface of said covering and a blade set against the surface of said covering substantially as described.



3. In a machine for separating fibers from solid substances intermixed therewith, the combination of a moving body of yielding material carrying pins or teeth with means for holding said fiber against the moving body, the material of said body yielding in respect to said holding means and the pins or teeth, to leave the same slightly projecting as they, together with the fiber, pass said holding means, substantially as described.

869,634. WIRELESS TELEGRAPHY. WILLIAM S. HOGG, U. S. Navy. Filed Feb. 6, 1907. Serial No. 356,055.



1. A spark gap apparatus embodying two electrodes having rounded terminals with proximate edges of highest potential parallel throughout and one of said electrodes forming an air duct through which air passing between the terminal edges of highest potential flows.

2. A spark gap apparatus embodying two electrodes having rounded terminals with proximate edges of highest potential parallel throughout and concentrically arranged with respect to each other.

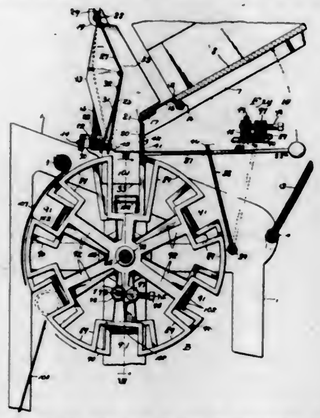
3. A spark gap apparatus embodying two electrodes having rounded terminals with proximate edges of highest potential, endless and parallel throughout, and one of said electrodes being cylindrical and open at both ends to form a duct for the air passing between the terminals.

4. In a spark gap apparatus, an annular electrode and a circular electrode located concentrically within the same and having a terminal edge of highest potential, parallel with and of uniform distance radially from the annular electrode whereby a radial spark gap of uniform width is formed.

5. In a spark gap apparatus a cylindrical electrode open

at the ends and having an inwardly projecting terminal edge and a circular electrode located concentrically within said terminal edge of the cylindrical electrode to form an endless spark gap of uniform width.

869,635. CIGAR-VENDING MACHINE. ALONZO JACOBS, Independence, Mo., assignor to Jacobs Automatic Cigar Vendor Company, Kansas City, Mo., a Corporation. Filed Feb. 26, 1906. Serial No. 302,936.



1. In a vending machine, a goods container, a support for the latter to hold the same at an inclination, a rotatable carrier having adjustable sections provided with a plurality of peripheral recesses forming pockets, adjustable collars interposed between the sections, yieldable loops carried by the collars for increasing or decreasing the depth of the pockets formed by the recesses, a plunger having a push-bar, hinged plates coöperative with the latter to interrupt the path of movement of the goods to the rotatable carrier upon movement of the push bar in one direction, means normally in engagement with the rotary element for imparting an intermittent motion to the same when said plunger is moved in one direction, means controlled by the plunger in an opposite direction to lock the element against movement, and an agitator acting upon the container for vibrating the same to impart free delivery of the goods to the rotary element.

2. In a vending machine, an adjustable rotary goods receiving and delivery element including sections having peripheral recesses, adjustable means for regulating the depth of the recesses, a shiftable plunger, means independent of each other and coöperative with the plunger for engagement with the said element for moving the same when the plunger moves in one direction and for locking the said element against movement when the plunger moves in an opposite direction, a merchandise supporting means, the latter being adjustable to give the proper inclination thereto, and an agitator coöperative with the plunger for vibrating the supporting means to cause free delivery of the merchandise from the said supporting means to the receiving and delivery element.

3. In a vending machine, a rotary receiving and delivery element, an article container, means forming throat communication from the latter to the said element, mechanism including a movable plunger for imparting intermittent motion to the rotary element, means arranged in the throat communication and actuated upon by the plunger for interrupting and freeing the delivery of the goods from the container, and an agitator operative by the plunger and acting directly on the article container for vibrating the same to impart initial feed of the goods from the said container to the receiving and delivery element.

4. In a vending machine, a cigar container, a cigar receiving and delivery element rotatably mounted in the machine, a reversely movable means for interrupting the path of movement of the cigars from the container, and plunger controlled mechanism for intermittently rotating the said element and for actuating the said means to move the same in opposite directions.

5. A vending machine involving a cigar container, means for adjusting the container, a rotary element for receiving and delivering cigars, means forming a throat communication between the said element and the container, a plunger, mechanism coöperative therewith for imparting intermittent motion to the said rotary element, means actuated by the movement of the plunger to interrupt the path of movement of the cigars from the container, and means operated by the movement of the plunger in one direction for agitating the container to allow free delivery of the cigars.

6. A vending machine, involving a rotary receiving and delivery element, an article container having throat communication with the said element, mechanism including a movable plunger for imparting intermittent motion to the rotary element, means actuated upon by the plunger for interrupting and freeing the delivery of the cigars from the container, and an agitator for vibrating the article container.

7. In a vending-machine, the combination with a suitably supported cigar container, of an agitator forming a continuation of the bottom thereof, a horizontally-movable member below the agitator, a rotary carrier below said member, and means to intermittently rotate the carrier.

8. In a vending-machine, a rotary carrier consisting of two pairs of sections, axially alined, each section having peripheral pockets, and means for rotatably adjusting one member of each pair relatively to the other two.

9. In a vending-machine, a rotary carrier mounted on a shaft, said carrier comprising two pairs of separately-adjustable sections having peripheral pockets, and radially-adjustable members forming supports for articles of merchandise in certain positions of the carrier.

10. In a vending-machine, a rotary carrier mounted on a shaft, said carrier comprising two pairs of separately-adjustable sections having peripheral pockets for the purpose named, and radially-adjustable resilient members forming supports for articles of merchandise in certain positions of the carrier.

11. In a cigar vending-machine, a rotary carrier comprising a shaft, two pairs of pocketed sections mounted thereon, one section of each pair being rotatably adjustable, a threaded sleeve extending between the inside sections, a pair of nuts on said sleeve, a pair of slidable collars between the nuts and the inner sections, and two series of resilient, radially-adjustable members carried by said nuts, the outer ends of said members lying closely against the inner sides of the inner sections and forming cigar supports in certain positions of the carrier.

12. In a vending-machine, a rotary carrier comprising a shaft, two pairs of pocketed sections mounted thereon, one section of each pair being rotatably adjustable, a threaded sleeve extending between the inside sections, a pair of nuts on said sleeve, a pair of slidable collars between the nuts and the inner sections, and two series of resilient, radially-adjustable wire loops carried by said nuts, the outer ends of said wire loops lying closely against the inner sides of the inner sections and forming supports.

13. The combination of a goods container, mechanism for receiving and delivering goods from the container, means for causing positively a free feed of the goods to said mechanism, means for interrupting the path of movement of the goods from the container to the mechanism, and means for operating the said mechanism.

14. In a cigar vending machine, a rotatable carrier having adjustable sections provided with a plurality of peripheral recesses forming pockets, a goods container mounted above the carrier, plunger controlled mechanism for intermittently rotating the carrier, and means arranged between the container and the carrier for interrupting the path of movement of the goods to the carrier.

15. In a vending machine, a rotary carrier, a shaft supporting the said carrier, a ratchet wheel on said shaft for driving the carrier, a plunger, a pawl carried by the plunger and coöperative with the ratchet wheel for imparting rotary motion thereto when the plunger is moved in one direction, an auxiliary pawl coöperative with the plunger and ratchet wheel to limit the rotary movement thereof and to lock the carrier in a fixed position when the plunger is operated in an opposite direction, an article container, means for interrupting the path of movement of the articles to the carrier, and an agitator mechanism actuated by the movement of the plunger for causing positively free delivery of goods to the carrier.

16. In a vending-machine, the combination with a receptacle for merchandise, of a throat leading therefrom, the front of said throat being formed by a pair of toggle-jointed plates, a rock-shaft secured to one of said plates, means to rock said shaft in a manner to enlarge the throat, and also in a reverse direction.

17. In a vending-machine, the combination with a receptacle for merchandise, of a throat comprising adjustable side members and inwardly and outwardly movable front members, with means for moving said front members outwardly and inwardly.

18. In a vending-machine, the combination with a receptacle for merchandise, of a throat leading therefrom, the front of said throat being formed by a pair of toggle-jointed plates, means to shift said plates in a manner to enlarge the throat, and means to restore the parts to normal positions.

19. In a vending-machine, the combination with a receptacle for merchandise, of a throat leading therefrom, said throat including an agitator, a rotary carrier, means for imparting a step-by-step rotation to the carrier, a separating device normally closing the lower end of the throat, above the carrier, a plunger, means actuated by the in stroke of the plunger for retracting the separating device, similarly actuated means to actuate the agitator, and means actuated by the out stroke of the plunger for moving the separator across the throat, and similarly actuated means to rotate the carrier one step after said closing movement of the separator.

20. In a vending machine, the combination with a cigar container, of a rotary carrier for receiving and delivering the cigars, a plunger, mechanism coöperative therewith for actuating the carrier to impart intermittent movement thereto, means controlled by the movement of the plunger to interrupt the path of movement of the cigars from the container to the carrier, and an agitating device operative by the movement of the plunger for oscillating the said device for direct action upon the container to cause free movement of the cigars to the carrier.

21. In a vending-machine, the combination with a cigar container, of a primary agitating device over which the cigars roll from the container, a secondary agitating device, means to operate both agitating devices prior to the operation of the rotary carrier, and means to actuate said devices in the reverse direction during the rotation of the carrier.

22. In a vending-machine, the combination with a cigar container and a throat leading therefrom, of a rotary carrier having a step-by-step movement, an operating plunger, a lever operated by the plunger, a separator, a rock-shaft carrying means to actuate the separator, means by which said lever actuates said rock-shaft, and a spring to restore the separator to normal position.

23. In a vending machine, a throat adapted to carry merchandise from a holder to a carrier, an inclined starter over which said merchandise rolls in passing from the holder into the throat, said starter being adjustable, means to oscillate said starter, and a forwardly and rearwardly adjustable plate forming the rear wall of the throat.

24. In a cigar vending-machine, a cigar container, an inclined starter over which the cigars roll from the container, a rest, having a downward projection, an adjusting-screw passing freely through said projection, a throat-member secured to one end of said screw and forming the rear wall of a throat, a spring pressing said throat member forwardly, and an adjusting nut on said screw.

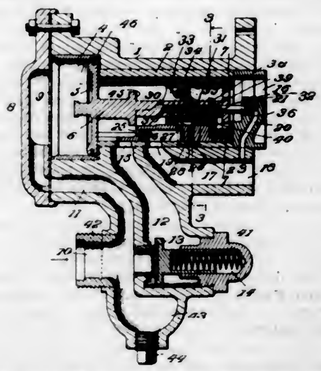
869,636. BORATE OF HEXAMETHYLENEAMIN AND PROCESS OF MAKING SAME. OTTO MANKIEWICZ and JULIUS ALTSCHUL, Berlin, and WILHELM URBAN, Wilmersdorf, near Berlin, Germany, assignors to Actien Gesellschaft für Anilin Fabrikation, Wilmersdorf, near Berlin, Germany. Filed Aug. 11, 1906. Serial No. 330,266.

1. The process for the production of new borates of hexamethyleneamin which consists in reacting on hexamethyleneamin with boric acid.

2. As a new article of manufacture the new borates of hexamethyleneamin which can be obtained by the action of boric acid on hexamethyleneamin as above set forth, being colorless or white substances of weakly acid reaction, easily soluble in water, sparingly soluble in alcohol, insoluble in ether, which decompose without melting when heated in the dry state, which on heating with dilute sulfuric acid split off formic aldehyde, the resulting solution developing ammonia when boiled with an excess of soda lye, which borates when mixed with alcohol and the alcohol being lighted, leave the flame at first uncolored, whereas on addition of sulfuric acid to the mixture they yield at once the green boric acid flame.

3. As a new article of manufacture the new borate of hexamethyleneamin which may be obtained by thoroughly mixing one molecular quantity of hexamethyleneamin with three molecular quantities of boric acid and drying the mixture at 60–70°, being a colorless or white substance of weakly acid reaction, easily soluble in water, sparingly soluble in alcohol, insoluble in ether, which decomposes without melting when heated in the dry state, which on heating with diluted sulfuric acid splits off formic aldehyde, the resulting solution developing ammonia when boiled with an excess of soda-lye, which borate when mixed with alcohol and the alcohol being lighted, leaves the flame at first uncolored, whereas on addition of sulfuric acid to the mixture it yields at once the green boric acid flame and which borate contains about 68 per cent. of boric acid (calculated as H_3BO_3) and 51 per cent. of hexamethyleneamin corresponding to the formula: $(CH_2)_6N_4.(HBO_2)_3$.

869,637. SENSITIVE TRIPLE VALVE. WILLIAM B. MANN, Baltimore, Md. Filed Dec. 16, 1905. Serial No. 292,111.



1. In a triple valve, the combination of a main valve through which air passes from the train pipe to the brake cylinder for emergency applications and from the brake cylinder to the atmosphere to release the brakes, an exhaust valve controlling the ventage from the brake cylinder through said main valve, and a graduating valve which controls the passage of air from the auxiliary reservoir to the brake cylinder independently of the main valve, with a triple-valve-operating piston having a partial traverse for service applications of the brakes, and a full or further traverse for emergency applications.

2. In a triple valve, the combination of a main valve which controls the venting of the train pipe for emergency applications of the brake, a graduating valve controlling the passage of air from the auxiliary reservoir to the brake-cylinder independent of the main valve, an exhaust valve which controls the passage of air from the brake-cylinder to the atmosphere, and a triple-valve-operating piston having a partial traverse for service applications of the brakes and a full or further traverse for emergency applications.

3. In a triple valve, the combination of a valve casing having ports leading to the train pipe, the auxiliary reservoir and the atmosphere and a plurality of ports leading to the brake cylinder, with a main valve through which air passes from one brake-cylinder port to the atmosphere port for exhaust and from the train-pipe port to the said brake cylinder port for emergency, a graduating valve independent of the main valve and controlling the other brake cylinder port, an exhaust valve controlling the brake-cylinder exhaust through the main valve, and a triple-valve-operating piston operably connected to all three of said valves.

4. In a triple valve, a valve casing having an open-one-way passage from the train pipe to the auxiliary reservoir when the parts are in release position, a main valve through which the brake cylinder is vented to the atmosphere, an exhaust valve controlling the ventage through the main valve, a graduating valve independent of the main valve, and a piston operably connected to all three of said valves.

5. In a triple valve, the combination of a main valve movable only on emergency application of the brakes, an exhaust valve and a graduating valve each movable on either service or emergency applications, said graduating valve being independent of the main valve, and a triple-valve-operating piston whose partial traverse is arrested by the inertia of the main valve for service applications but which makes a full or further traverse for emergency applications and carries the main valve with it.

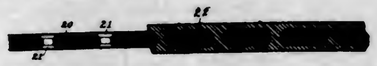
6. In a triple valve, the combination of a main valve immovable except on emergency applications of the brakes and through which exhaust from the brake cylinder passes, an exhaust valve capable of movement independent of the main valve, and controlling the exhaust through the latter, a graduating valve capable of movement independent of the main and exhaust valve, and a triple-valve-operating piston in operative relation with all three of said valves.

7. In a triple valve, the combination of a cast valve casing having a triple valve-chamber and a piston cylinder in alinement, a triple valve and a piston in said chamber and cylinder respectively, a passage from said cylinder to the train pipe, a passage from said chamber to the train pipe, a valve controlling said last named passage, a nut or bushing seated in an opening in said casting and supporting said valve, and a train pipe port in alinement with said last named opening and the seat for said last mentioned valve.

8. In a triple valve, the combination of a main valve through which air passes from the train pipe to the brake cylinder for emergency applications and from the brake cylinder to the atmosphere to release the brakes, an exhaust valve sliding on a seat on said main valve and controlling the exhaust from the brake cylinder, a valve-operating piston in operative relation with both of said valves but moving said exhaust valve relative to the main valve, and a graduating valve independent of the main valve and carried by said piston.

9. In a triple valve, the combination of a valve chamber having a train pipe port, a brake cylinder port and an exhaust port, with a main valve having a channel connecting the train pipe port and the brake cylinder port on emergency applications, and through which channel air passes from the brake cylinder port to the exhaust port upon release of the brakes, an exhaust valve controlling the passage of exhaust through said channel, and a valve operating piston in operative relation with both of said valves but moving the main valve only on emergency applications.

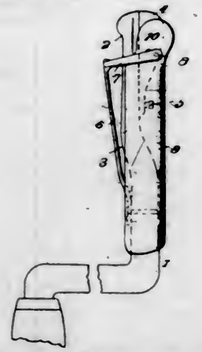
869,638. PROCESS FOR MAKING WOODEN-CORED PLASTER SLABS FOR BUILDING AND OTHER PURPOSES. GEORGE S. MAYHEW, London, England, assignor, by mesne assignments, to The American Mayhew Compo Board Syndicate Limited, London, England. Filed July 11, 1905. Serial No. 269,173.



1. The herein-described process for producing a wooden-cored plaster slab in a continuous sheet, consisting in perforating a compo-board core in lines, distributing a thin coating of adhesive sizing material over said perforated compo-board core, drying said sized core on both sides, feeding ridges or lines of thick plaster on both sides of said perforated core and pressing the faces of the core when completely coated with lines of plaster so that said lines of plaster are locked to the core through the perforations in the latter and are formed, with the core, into a solid slab.

2. The herein-described process for producing a wooden-cored plaster slab in a continuous sheet, consisting in perforating a compo-board core with lines of perforations at regular intervals, feeding ridges or lines of thick plaster over said lines of perforations on both sides of said perforated core, forming said lines of plaster into regular rows, drying said plaster-ridged core, re-perforating said core between said ridges of plaster, feeding lines or ridges of plaster on both sides of said core above the new perforations, and pressing the faces of the core when completely coated with lines of plaster so that said lines of plaster are locked to the core through the perforations and are formed, with the core, into a solid slab.

869,639. BIT-STOCK. JOSEPH O. MICHAUD, Fort Kent, Me. Filed Feb. 23, 1907. Serial No. 358,933.



1. In a bit stock, the combination of a fixed jaw, a movable jaw, a spring mounted upon the fixed jaw, and a link connecting the spring and the movable jaw.

2. In a bit stock, the combination of a fixed jaw, a movable jaw, a spring mounted upon the fixed jaw, a link connecting the spring and the movable jaw, and a lever for compressing the spring to release the jaws.

3. In a bit stock, the combination of a fixed jaw, a movable jaw, a spring mounted upon the fixed jaw, a link connecting the spring and the movable jaw, and a lever carried by the movable jaw and engaging the fixed jaw for compressing the spring to release the jaws.

4. In a bit stock, the combination of a fixed jaw, a movable jaw, a spring mounted upon the fixed jaw and serving to draw the movable jaw toward the same, and a lever carried by the movable jaw and having a cam engagement with the fixed jaw for releasing the said jaws.

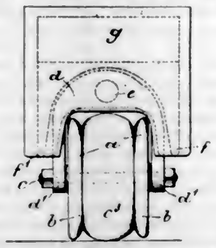
5. A bit stock comprising a shank having a fixed jaw at one end, said jaw being located to one side of a prolongation of the axis of the shank, and a complemental movable jaw arranged upon the opposite side of the prolongation of said axis, and a flat spring placed along side of the shank and fixed jaw and secured at one end to the shank, and a link connecting the free end of the spring with the movable jaw.

6. A bit stock comprising a shank having a fixed jaw at one end, said jaw being located to one side of a prolongation of the axis of the shank, and a complemental movable jaw arranged upon the opposite side of the prolongation of said axis, and a flat spring placed along side of the shank and fixed jaw and secured at one end to the shank, and a link connecting the free end of the spring with the movable jaw, and an operating lever fulcrumed to one of the jaws and adapted to engage the other jaw to force the two jaws apart to admit of placing an article between them or removing a tool or the like when required.

7. In a bit stock, the combination of a shank provided with a fixed jaw, a complemental movable jaw, a spring placed along side of the shank and fixed jaw and secured at one end to the shank, an operating lever having a bifurcated end embracing opposite sides of the movable jaw and pivoted thereto and adapted to engage the fixed jaw and a link connecting the operating lever with the free end of the spring.

8. In a bit stock, the combination of a shank provided with a fixed jaw, a complemental movable jaw, a spring placed alongside of the shank and fixed jaw and secured at one end to the shank, an operating lever having a bifurcated end embracing opposite sides of the movable jaw and pivoted thereto and adapted to engage the fixed jaw and comprising a hollow handle portion which is adapted to inclose the shank, spring and jaws when moved to a position against the said shank, and a link embracing the bifurcated end of the operating lever and connecting the same with the free end of the aforementioned spring.

869,640. MEANS FOR CHECKING SIDE SLIP OF ROAD-VEHICLES. WILLIAM E. MONRO, London, England. Filed Jan. 21, 1907. Serial No. 353,333.



1. In a road vehicle, means for arresting sidewise movement thereof comprising a member mounted to oscillate about an axis arranged longitudinally of the vehicle and carrying a wheel having sharp outer edges normally inactive upon the roadway but adapted to operatively engage the same when the wheel is tilted by sidewise movement of the vehicle.

2. In a road vehicle, means for arresting sidewise movement thereof comprising a wheel normally revolving in a vertical plane, and having sharp edges normally inoperative upon the roadway, a carrying member for such wheel, a pin arranged longitudinally of the vehicle upon which the carrying member is hinged or pivoted so that it can tilt or oscillate and stops for arresting the wheel in a position where one or other of the sharp edges is operative upon the roadway.

3. In a road vehicle, means for arresting sidewise movement thereof comprising a wheel normally revolving in a vertical plane and having sharp edges normally inoperative upon the roadway, a carrying member for such wheel, a pin arranged longitudinally of the vehicle upon which the carrying member is hinged or pivoted so that it can tilt or oscillate, a device supporting said pin, means for yieldingly carrying the supporting device from the vehicle and stops for arresting the wheel in a position where one or other of the sharp edges is operative upon the roadway.

4. In a road vehicle, means for arresting sidewise movement thereof, comprising a wheel having a tread normally bearing on the roadway and sharp edges normally inoperative on such roadway, a carrying member for said wheel, a pin arranged longitudinally of the vehicle upon which the carrying member is hinged or pivoted so that it can tilt or oscillate when sidewise movement occurs, a device supporting said pin, resilient means for carrying the supporting device from the vehicle and stops arranged to arrest the wheel in a position where one or other of the sharp edges is operative upon the roadway.

5. In a road vehicle, means for arresting sidewise movement thereof comprising a wheel, having a comparatively wide tread and sharp outer edges normally running true upon the roadway, a carrying member therefor pivoted to a member resiliently connected to the vehicle and adapted to be oscillated to a limited extent, when sidewise movement occurs, to cause the wheel to run on one or other sharp edge.

6. In a road vehicle, means for arresting sidewise movement thereof, comprising a wheel, having a comparatively wide tread and sharp outer edges, normally running true upon the roadway, an oscillating member carrying said wheel which is resiliently connected to the vehicle between the ordinary carrying wheels thereof and means for arresting the wheel in a tilted position where it is caused to run on one or other sharp edge.

7. In a road vehicle, means for arresting sidewise movement thereof, comprising a wheel normally running true upon the roadway having a comparatively broad tread part of which is resilient, a carrying member therefor, a pin arranged longitudinally of the vehicle upon which the carrying member is hinged or pivoted so that it can tilt or oscillate when sidewise movement occurs, a device supporting said pin, resilient means for carrying the supporting device from the vehicle and stops arranged to enable the wheel when tilted to run on a portion of the tread which is now resilient.

8. In means for arresting sidewise movement of a road vehicle, the combination with the carrying wheels, of a subsidiary wheel having sharp outer edges normally inoperative upon the roadway but adapted when the wheel is tilted to engage such roadway, an oscillating carrier for such wheel, a device capable of vertical displacement to which the wheel carrier is connected and resilient means between the vertically moving device and the underside of the vehicle.

9. In means for arresting sidewise movement of a road vehicle, the combination with the carrying wheels of a subsidiary wheel having sharp outer edges normally inoperative upon the roadway but adapted when the wheel is tilted to engage such roadway, an oscillating carrier for such wheel, a device capable of vertical displacement to which the wheel carrier is connected, antifriction means between the wheel and the carrier, and resilient means between the vertically moving device and the underside of the vehicle.

10. In means for arresting sidewise movement of a road vehicle, the combination with the carrying wheels, of a subsidiary wheel having sharp outer edges normally inoperative upon the roadway but adapted when the wheel is tilted to engage such roadway an oscillating carrier for the wheel, a device capable of vertical displacement to which the wheel carrier is hinged or pivoted longitudinally, a bracket secured to the vehicle and springs located between the vertically moving device and the said bracket.

11. In means for arresting sidewise movement of a road vehicle, the combination with the carrying wheels, of a subsidiary wheel having a comparatively broad tread and sharp outer edges normally inoperative but adapted when the wheel is tilted to engage such roadway an oscillating carrier for the wheel, a box to which the said carrier is hinged or pivoted longitudinally of the vehicle, a bracket secured to the vehicle within which the box aforesaid is arranged and adapted to move vertically and springs interposed between the said box and bracket.

12. In means for arresting sidewise movement of a road

vehicle, the combination with the carrying wheels, of a subsidiary wheel, having sharp outer edges normally inoperative upon the roadway but adapted when the wheel is tilted to engage such roadway, a carrying fork for the wheel, a box to which the fork is connected, a hinge pin effecting said connection arranged longitudinally of the vehicle, a bracket secured to the axle of the vehicle within which the box aforesaid is mounted to slide vertically, springs interposed between the top of the box and the underside of the bracket and stops formed in the box for arresting the wheel carrying fork in a position such that the wheel can run on either of its sharp edges.

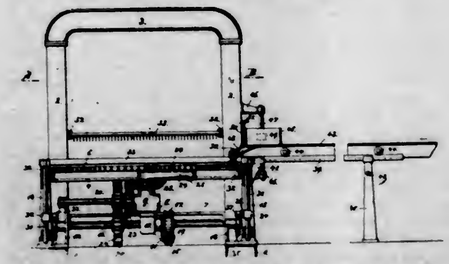
13. In means for arresting sidewise movement of a road vehicle, the combination with the carrying wheels, of a subsidiary wheel, a carrying fork therefor, a box to which the fork is connected by a hinge pin arranged longitudinally of the vehicle, a bracket secured to the axle of the vehicle within which the box aforesaid is mounted to slide vertically, springs interposed between the top of the box and the underside of the bracket, stops formed in the box for limiting the extent to which the wheel carrying fork can be oscillated and antifriction rollers between the sides of the subsidiary wheel and fork for reducing stress upon the wheel axle when the wheel is running on edge.

14. In means for arresting sidewise movement of a road vehicle, the combination with the carrying wheels of a subsidiary wheel comprising outer metal rims or disks and an interposed resilient ring or tire, an oscillating carrier for said wheels, a device capable of vertical displacement to which the wheel carrier is connected, and resilient means between the vertically moving device and the underside of the vehicle.

15. In means for arresting sidewise movement of a road vehicle, the combination with the carrying wheels, of a subsidiary wheel, comprising outer metal rims or disks and an interposed resilient ring or tire, an oscillating carrier for said wheel, a device capable of vertical displacement to which the wheel carrier is connected, antifriction rollers between the wheel and the carrier, and resilient means between the vertically moving device and the underside of the vehicle.

16. In means for arresting sidewise movement of a road vehicle, the combination with the carrying wheels, of a subsidiary wheel comprising outer metal rims or disks and an interposed compressible ring or tire, a carrying fork for said wheel, a box to which the fork is connected by a hinge pin arranged longitudinally of the vehicle, a bracket secured to the axle of the vehicle within which the box aforesaid is mounted to slide vertically, springs interposed between the box and bracket, stops formed in the box for limiting the extent to which the wheel carrying fork can be oscillated, and anti-friction rollers between the sides of the subsidiary wheel and fork for reducing stress upon the wheel axle when the wheel is running on edge.

869,641. DIPPING DEVICE FOR MATCH-MAKING MACHINES. PHILIP MORELAND, Gloucester, England, and OTTO H. LANDVATTER, Durlach, Germany, assignors to Badische Maschinenfabrik und Eisengiesserei, vormals G. Sebold und Sebold & Neff, Durlach, Germany. Filed Nov. 27, 1906. Serial No. 345,396.



1. In a dipping device for match-machines, the combination with a frame, of a table, means for moving said table in a direction into and out of said frame, means for reciprocating said table in said frame in a direction at right angles to its surface, and a receptacle for igniting material guided in said frame at right angles to said table while bearing on same and adapted to spread thereon a layer during the motion of same, said frame being adapted for guiding match-splint carriers over said table, so that the ends of the splints may dip in the layer of igniting material.

2. In a dipping device for match-machines, the combination with a frame, of a table, means for moving said table in a direction into and out of said frame, means for reciprocating said table in said frame in a direction at right angles to its surface, and a receptacle for igniting material open above and below and guided in said frame at right angles to said table while bearing on same and adapted to spread thereon a layer during the motion of same, it being provided with a slide whereby a slit between the slide and the table may be formed and adjusted, said frame being adapted for guiding match-splint carriers over said table, so that the ends of the splints may dip in the layer of igniting material.

3. In a dipping device for match-machines, the combination with a frame, of a table, means for horizontally moving said table into and out of said frame, means for raising and lowering said table in said frame, and a receptacle for igniting material vertically guided in said frame while bearing on said table and adapted to spread thereon a layer during the motion of same, said frame being adapted for horizontally guiding match-splint carriers over said table, so that the ends of the splints may dip in the layer of igniting material.

4. In a dipping device for match-machines, the combination with a frame, of a table, means for horizontally moving said table into and out of said frame, means for raising and lowering said table in said frame, and a receptacle for igniting material open above and below and vertically guided in said frame while bearing on said table and adapted to spread thereon a layer during the motion of same, said receptacle being provided with a slide whereby a slit between the slide and the table may be formed and adjusted, and said frame being adapted for horizontally guiding match-splint carriers over said table, so that the ends of the splints may dip in the layer of igniting material.

5. In a dipping device for match-machines, the combination with a frame, of a table, means for horizontally moving said table into and out of said frame while permitting it to pause at the end of each stroke, means for raising and lowering said table in said frame during the pause at the end of the inward stroke, and a receptacle for igniting material open above and below and vertically guided in said frame while bearing on said table and adapted to spread thereon a layer during the motion of same, said receptacle being provided with a slide whereby a slit between the slide and the table may be formed and adjusted, and said frame being adapted for horizontally guiding match-splint carriers over said table, so that the ends of the splints may dip in the layer of igniting material.

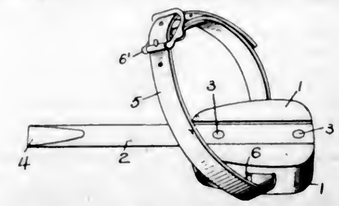
6. In a dipping device for match-machines, the combination with a frame, of an internally toothed ring horizontally disposed in said frame, a planet-wheel having a diameter like half that of the pitch-circle of said internally toothed ring and adapted to roll on same, means for rotating said planet-wheel, a vertical pin on said planet-wheel in its pitch-circle, two parallel rails over said internally toothed ring and vertically guided in said frame, means for raising and lowering said two parallel rails, two stationary rails in line with said two parallel rails in their lowest position, a carriage comprising a horizontal table in which said vertical pin engages for moving the carriage over said two parallel rails and back over said two stationary rails, and a receptacle for igniting material vertically guided in said frame while bearing on the table of said carriage and adapted to spread thereon a layer during the motion of same, said frame being adapted for horizontally guiding match-splint carriers over said carriage, so that the ends of the splints may dip in the layer of igniting material.

7. In a dipping device for match-machines, the combination with a frame, of an internally toothed ring horizontally disposed in said frame, a planet-wheel having a diameter like half that of the pitch-circle of said internally toothed ring, a vertical shaft mounted to turn in said frame in the axis of said internally toothed ring, a crank fastened on said vertical shaft and having a pin on which said planet-wheel is mounted to turn while meshing with said internally toothed ring, a vertical pin on said planet-wheel in its pitch-circle, two parallel rails over said internally toothed ring and vertically guided in said frame, two stationary rails in line with said two parallel rails in their lowest position, a carriage comprising a horizontal table in which said vertical pin engages for moving the carriage over said two parallel rails and back over said two stationary rails, a receptacle for igniting material vertically guided in said frame while bearing on the table of said carriage and adapted to spread thereon a layer during the motion of same, means for rotating said vertical shaft while permitting it to pause at the end of each stroke of said carriage, and means for raising and lowering said two parallel rails with said carriage during the pause at the end of the inward stroke of same, said frame being adapted for horizontally guiding match-splint carriers over said carriage, so that the ends of the splints may dip in the layer of igniting material.

8. In a dipping device for match-machines, the combination with a frame, of an internally toothed ring horizontally disposed in said frame, a planet-wheel having a diameter like half that of the pitch-circle of said internally toothed ring, a vertical shaft mounted to turn in said frame in the axis of said internally toothed ring, a crank fastened on said vertical shaft and having a pin on which said planet-wheel is mounted to turn while meshing with said internally toothed ring, a vertical pin on said planet-wheel in its pitch-circle, two parallel rails over said internally toothed ring and vertically guided in said frame, two stationary rails in line with said two parallel rails in their lowest position, a carriage comprising a horizontal table in which said vertical pin engages for moving the carriage over said two parallel rails and back over said two stationary rails, a receptacle for igniting material open above and below and vertically guided in said frame while bearing on the table of said carriage and adapted to spread thereon a layer during the motion of same, said receptacle being provided with a slide whereby a slit between the slide and the table may be formed and adjusted, means for rotating said vertical shaft while permitting it to pause at the end of each stroke of said carriage, and, means for raising and lowering said two parallel rails with said carriage during the pause at the end of the inward stroke of same, said frame being adapted for horizontally guiding match-splint carriers over said carriage, so that the ends of the splints may dip in the layer of igniting material.

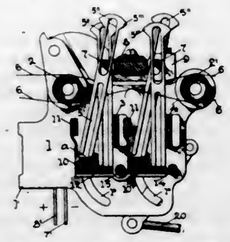
9. In a dipping device for match-machines, the combination with a frame, of an internally toothed ring horizontally disposed in said frame, a planet-wheel having a diameter like half that of the pitch-circle of said internally toothed ring, a vertical shaft mounted to turn in said frame in the axis of said internally toothed ring, a crank fastened on said vertical shaft and having a pin on which said planet-wheel is mounted to turn while meshing with said internally toothed ring, a vertical pin on said planet-wheel in its pitch-circle, two parallel rails over said internally toothed ring and vertically guided in said frame, two stationary rails in line with said two parallel rails in their lowest position, a carriage comprising a horizontal table in which said vertical pin engages for moving the carriage over said two parallel rails and back over said two stationary rails, a receptacle for igniting material open above and below and vertically guided in said frame while bearing on the table of said carriage and adapted to spread thereon a layer during the motion of same, said receptacle being provided with a slide whereby a slit between the slide and the table may be formed and adjusted, a bevel wheel on said vertical shaft, a horizontal shaft mounted to turn in said frame, a second bevel wheel on said horizontal shaft and meshing with said bevel wheel, a gear wheel on said horizontal shaft, a horizontal cam shaft mounted in said frame to turn, a second gear wheel on said horizontal cam shaft and meshing with said gear wheel and having two opposite gaps in its teeth whereby said planet-wheel is caused to pause at the end of each stroke of said carriage, two cams on said horizontal cam shaft, means controlled from said two cams for raising and lowering said two parallel rails at the end of the inward stroke of said carriage, and means for driving said horizontal cam shaft, said frame being adapted for horizontally guiding match-splint carriers over said carriage, so that the ends of the splints may dip in the layer of igniting material.

869,642. HOOF-EXPANDING PAD. CHARLES D. McAFEE, Burgettstown, Pa. Filed May 13, 1907. Serial No. 373,392.



A hoof-expanding pad, comprising a pad proper composed of a firm elastic substance, as described, having a form in outline corresponding to the general outline of the frog of the foot, and of a thickness sufficient to bear on the frog and extend below the plane of the lower surface of the shoe, the said pad having a bar connected therewith at its rear end, the forward end being flattened and thinned down to adapt it to extend over the shoe at the toe point, and a strap connected with the pad and adapted to be extended up over the forward upper surface of the hoof and tightly buckled thereon.

869,643. WARP STOP-MOTION. BENJAMIN F. McGUINESS, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed Dec. 29, 1905. Serial No. 293,711.



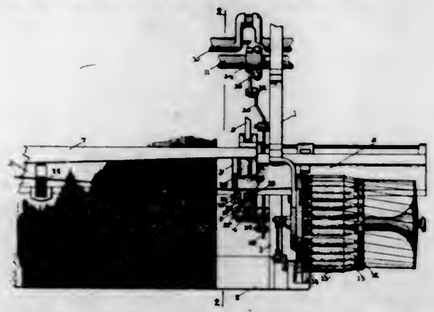
1. In a warp stop motion, the combination with drop devices normally supported on the warp threads, of means for raising any drop device, lowered by the breaking of a warp thread, above the other drop devices, to indicate the position of the broken warp thread, said means comprising a bar extending under the drop devices, and actuating means for raising said bar to engage the lower end of the lowered drop device.

2. In a warp stop motion, the combination with drop devices normally supported on the warp threads, of means for raising any drop device lowered by the breaking of a warp thread, above the other drop devices, to indicate the position of the broken warp thread, said means comprising a bar extending under the drop devices, and having engaging surfaces thereon in two different planes for the drop devices, the upper plane to engage and raise the lowered drop device above the other drop devices, and the lower

plane to engage and raise the normally positioned drop devices.

3. In a warp stop motion, the combination with drop devices normally supported on the warp threads, of means for raising any drop device, lowered by the breaking of a warp thread, above the other drop devices, to indicate the position of the broken warp thread, said means comprising a bar extending under the drop devices, and having engaging surfaces thereon in two different planes for the drop devices, the upper plane to engage and raise the lowered drop device above the other drop devices, and the lower plane to engage and raise a normally positioned drop device, and means for raising and lowering said bar.

869,644. WEFT-REPLENISHING LOOM. BENJAMIN F. MCGUINESS, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed Dec. 31, 1906. Serial No. 350,142.



1. In a weft replenishing loom having a center filling stop motion, means located at one end of the lay, and carried on and moving with the lay, to move the filling ahead of the reed as the lay beats up, and carry the filling under the fork of the center filling stop motion.

2. In a weft replenishing loom having a center filling stop motion, means for moving the filling ahead of the reed as the lay beats up, to carry the filling under the fork of the center filling stop motion, said means comprising a blade or fork mounted on the lay at the weft replenishing end thereof, and moving with the lay, and means for moving said blade or fork.

3. In a weft replenishing loom having a center filling stop motion, the combination with the lay, of means at one end of the lay and carried on the lay, to engage the filling near the end of the lay, and move the filling ahead of the reed as the lay beats up, to carry the filling under the fork of the center filling stop motion.

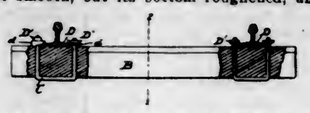
4. In a weft replenishing loom having a center filling stop motion, the combination with the lay, of a blade or fork carried on the lay at the weft replenishing end thereof, and means for moving said blade or fork to cause it to engage and move the filling or weft thread to carry it under the fork of the center filling stop motion as the lay beats up.

5. In a weft replenishing loom having a center filling or weft stop motion, the combination with the lay having a transverse recess therein for a blade or fork, of said blade or fork carried on the lay at the weft replenishing end thereof, and means for moving said blade or fork to cause it to engage and move the filling or weft thread to carry it under the fork or fingers of the filling stop motion as the lay beats up.

869,645. RAILWAY-TIE. MARTIN J. NOLAN, Philadelphia, Pa., assignor, by mesne assignments, to National Slag Construction Company, a Corporation of Delaware. Filed Mar. 5, 1907. Serial No. 360,717.

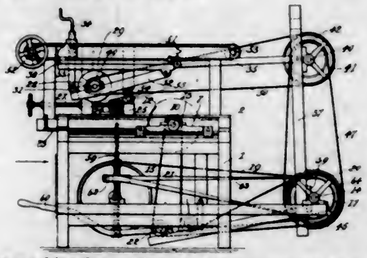
1. A railway tie consisting of a solid mass of slag, and having vertical openings adjacent to the rail seats for the reception of the rail fastenings.

2. A railway tie consisting of a solid mass of slag having rail seats its full width and its upper surface and sides cast smooth, but its bottom roughened, and having



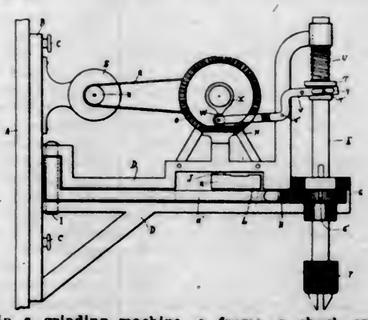
vertical openings adjacent to the rail seats to receive the rail fastenings.

869,646. MACHINE FOR FRAMING TIMBERS. JACOB PETERS and EDWARD H. N. CLARKSON, Baltimore, Md. Filed July 11, 1906, Serial No. 325,604. Renewed July 17, 1907. Serial No. 384,274.



In a machine for cutting rectangular notches in a scantling at prescribed distances apart, and one of the notches at a predetermined distance from one end of the scantling, a rotary notching cutter-head with means to move it transversely of the scantling, a circular saw and appliances independent of those whereby the notching cutter head is actuated, to move the said saw across the path of the scantling, combined with a threaded bar placed in a position parallel with the direction of movement of the scantling, a stop arm which is loose on the threaded bar so that it may be thrown across or away from the path of the scantling, and a nut on the threaded bar whereby the position of the stop arm when adjusted with respect to the notching cutter head and the saw, is maintained, and a vertical boring bit situated below the table with mechanism whereby the bit may be elevated to bore a hole in the notched portion of the scantling while the scantling is held by the stop, substantially as, and for the purpose specified.

869,647. GRINDER FOR VALVES. PHILIP F. PILLINER, Philadelphia, Pa. Filed Mar. 23, 1907. Serial No. 364,127.

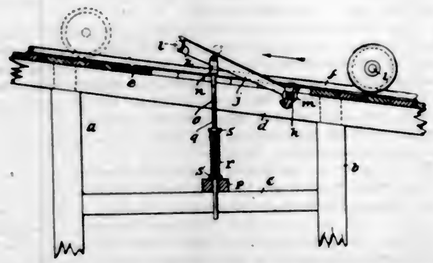


1. In a grinding machine, a frame, a chuck spindle journaled in said frame so as to slide vertical in its bearings, means for forcing said spindle downward, a lever adapted to lift said spindle, a cam adapted to actuate said lever, means for revolving the spindle first in one direction and then the other at predetermined times relative to the raising and lowering of the spindle, as specified.

2. In combination, a slide bar, means for holding said slide bar in various adjustments, a frame carried by the slide bar, a chuck spindle journaled in the frame and adapted to slide vertically therein, a pinion splined upon the chuck spindle, a segmental gear meshing with said pinion, a lever upon which said gear is formed, a crank shaft adapted to oscillate said lever, a shaft upon which said crank shaft is secured, a beveled pinion also secured upon said shaft, a beveled gear meshing with said beveled pinion, a cam carried by the beveled gear and a cam lever adapted to be actuated by said cam and lift the chuck spindle, as and for the purpose set forth.

3. In a machine of the character described, a grooved bar, a slide bar fitted within the first named bar, means for holding the slide bar in any adjustment, a frame carried by the slide bar, a chuck spindle journaled in the outer end of said frame and adapted to slide vertically within its bearings, a pinion splined upon the chuck spindle, a lever pivoted to the frame, a segmental gear formed with said lever and meshing with said pinion, a short shaft also journaled in the frame, a crank carried by said short shaft, a pin carried by the outer end of the crank projecting into a slot formed in the lever whereby the rotations of the crank will cause the lever to oscillate, a beveled pinion secured to the upper end of the short shaft, a beveled gear meshing with said beveled pinion, a cam carried by the beveled gear, a lever pivoted to the frame, the inner end of which is adapted to be actuated by said cam, a collar secured to the chuck spindle around which the outer end of the cam lever extends, a spring interposed between said collar and the upper bearing of the chuck spindle and a motor adapted to rovolve the beveled gear, as and for the purpose set forth.

869,648. SAFETY-STOP OR CHOCK FOR CAR-INCLINES. FRANK POST, Newfoundland, N. J. Filed Aug. 20, 1907. Serial No. 389,357.



1. The combination, with an incline, of a car-checking device comprising a fulcrumed car-chock or stop having its car-impact end projecting toward the upper end of the incline, and an elastic support for said car-chock or stop normally maintaining the same with its car-impact end relatively elevated, a part of said support being engageable with the incline to limit the upward movement of said chock or stop, substantially as described.

2. The combination, with an incline, of a car-checking device comprising a car-chock or stop pivotally supported at one end in said incline and having its other end relatively elevated and projecting toward the upper end of the incline and normally retained in that position, and means, comprising a part carried by said chock or stop, for limiting the upward movement of the upper end of said chock or stop, substantially as described.

3. The combination, with an incline, of a car-checking device comprising a car-chock or stop pivotally supported at one end in said incline and having its other end relatively elevated and projecting toward the upper end of the incline and normally retained in that position, and means, comprising a part pivotally suspended from said chock or stop, for limiting the upward movement of the upper end of said chock or stop, substantially as described.

4. The combination, with an incline, of a car-checking device comprising a car-chock or stop pivotally supported at one end in said incline and having its other end relatively elevated and projecting toward the upper end of the incline and normally retained in that position, and means, connected with said chock or stop between its ends, for limiting the upward movement of the upper end of said chock or stop, substantially as described.

5. The combination, with an incline, of a car-checking device comprising a car-chock or stop pivotally supported in said incline and having one end projecting toward the upper end of the incline, and means for normally maintaining the upper end of said chock or stop relatively elevated comprising a member pivotally connected with said chock or stop and a spring interposed between a portion of the incline and said member, substantially as described.

6. The combination, with an incline having recessed beams, of a bearing member set into said beams, and a car-chock or stop fulcrumed on said bearing member, substantially as described.

7. The combination, with an incline, of a bearing member carried thereby, a car-chock or stop fulcrumed on said bearing member, said car-chock or stop having one end projecting toward the upper end of said incline, a rod pivotally suspended from said chock or stop, a key carried by said rod and engageable with a portion of the incline to limit the movement of said chock or stop on its fulcrum, and elastic means normally maintaining the upper end of said chock or stop in a relatively elevated position, substantially as described.

8. The combination, with an incline, of a car-checking device pivotally supported in said incline and having one end projecting toward the upper end of the incline and being formed as a crotch, said device having its crotched end normally retained in the plane of movement of the car-axles, substantially as described.

869,649. GAGE. JOHN L. PRINGLE, Toronto, Ontario, Canada, assignor to Union Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed June 3, 1905. Serial No. 263,576.



1. A device of the class described comprising a gage-bar having a projecting marking point and with a longitudinal slot provided with guide ways in its inner faces, a slide engaging said slot and provided with longitudinal ribs movably bearing in said guide ways and with a projecting marking point, a head adjustable longitudinally upon said bar and provided with locking means operating to lock the bar and the slide in adjusted position.

2. In an article of the character described the slotted gage-bar, the slide mounted in said slot, the head mounted on said bar, and means for locking the head and slide in any desired position of adjustment, said means comprising coöperating eccentric surfaces, one of which is carried by the head, the other being carried by the bar and fixed against rotation with respect thereto, said head being adapted for slight rotary motion with respect to the bar whereby the relative rotary movement between the eccentric parts causes them to bind the slide in the slot and the head to the bar, substantially as described.

3. A device of the class described comprising a gage-bar having a projecting marking point and provided with a longitudinal slot and with a longitudinal eccentric rib, the inner faces of said slot provided with longitudinal guide ways, a slide engaging said slot and provided with longitudinal ribs bearing in said guide ways and with a projecting marking point, and a head adjustably engaging said bar and with an eccentric cavity bearing over the eccentric rib of the bar.

4. In an article of the character described the slotted gage-bar provided with an eccentric surface, the two-part slide mounted in said slot, the parts of said slide being guided for longitudinal adjustment with respect to the bar and to each other, the head mounted on the bar and having an interior eccentric surface which moves rotarily on to the eccentric surface of said bar to bind the slide in the slot and the head on the bar, substantially as described.

5. In an article of the character described the gage-bar provided with a projecting marking point and diametrically slotted throughout the greater part of its length, a slide mounted in and filling said slot and provided with tongue and groove guides, points projecting from each side of said slide near its inner end, one of said points cooperating with the point projecting from the bar to form a mortise marking device, an eccentric integral with said bar, and the head mounted on said bar and having an eccentric opening corresponding to the eccentric shoulder on the bar to bind the slide in the slot and the head to the bar, substantially as described and for the purposes set forth.

6. A device of the class described comprising a gage bar having a projecting marking point and a longitudinal slot, a slide engaging said slot and with a projecting marking point, a head adjustable longitudinally upon said bar and adapted when located thereon to lock the bar and the slide in adjusted position.

869,650. BOLSTER. OSWALD S. PULLIAM, Pittsburg, Pa., assignor to Pittsburgh Equipment Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Feb. 9, 1907. Serial No. 356,562.



1. A bolster comprising a compression-member having imperforate ends, a tension-member having imperforate ends, and laterally separable end-members having openings to receive the said ends of the compression and tension-members and having portions overlapping said ends and provided with means for maintaining the said ends within the end-members.

2. A bolster comprising a compression-member having imperforate ends, a tension-member having imperforate ends and formed with engaging end flanges, and laterally separable end-members having openings to receive the ends of the compression and tension-members and provided with means for engaging the flanged-ends of the tension-member.

3. A bolster comprising a compression-member, a strengthening-piece located near each end of the compression-member, a tension-member, and overlapping end-members adapted to receive and maintain the ends of both the compression and tension-members and the strengthening-piece therein.

4. A bolster comprising a compression-member of I-beam form, a strengthening-piece located near each end of the compression-member, a tension-member, and end-members adapted to receive and maintain the respective ends of the compression and tension-members therein.

5. A bolster comprising a compression-member provided with a strengthening-piece at each end, a tension-member formed with end engaging flanges, and laterally separable end-members having openings to receive the ends of the compression and tension-members and provided with portions overlapping the ends of both the compression and tension-members and means for engaging the flanged-ends of the tension-members.

6. A bolster comprising a compression-member having imperforate ends, a strengthening-piece located near each end of the compression-member, a tension-member having imperforate ends, and laterally separable overlapping end-members adapted to receive the said ends of the compression and tension-members and strengthening-piece and provided with means for maintaining the ends within the end-members.

7. A bolster comprising a compression-member, a tension-member having end-engaging flanges, laterally separable end-members overlapping the ends of both the compression and tension-members, said end-members provided with means for engaging the flanges of the tension-member.

8. A bolster comprising a compression-member, a tension-member, and a laterally separable end-member having each part provided with an opening adapted to receive and clasp the respective ends of both the compression and tension-members.

869,651. BOLSTER. OSWALD S. PULLIAM, Pittsburg, Pa., assignor to Pittsburgh Equipment Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Feb. 9, 1907. Serial No. 356,563.



1. A bolster comprising a compression-member and a tension-member having their respective ends in contact with one another, and comparatively heavy end-members overlapping and adapted to receive the contacting ends of both the compression and tension-members and to sustain the main strains of both of the latter members.

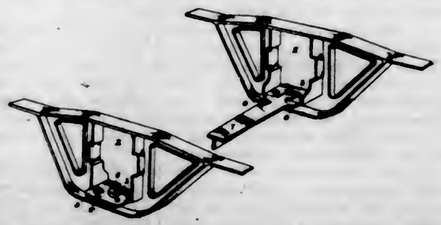
2. A bolster comprising a compression-member, a tension-member, and means for uniting the ends of said members comprising overlapping end-members in which the respective ends of both the compression and tension-members meet and rivets passed through the ends of the compression and tension-members and the respective end-members.

3. A bolster comprising a compression-member, a tension-member, and means for joining the respective ends of said members comprising a casting overlapping the ends of the compression and tension-members said casting and ends rigidly joined by rivets passed through the casting and the ends of the said members.

4. A bolster comprising a compression-member of I-beam form, a tension-member having its ends bent up over the ends of the compression-member, means for uniting the ends of said members and sustaining the heavy strains of said members comprising a comparatively heavy casting in which the ends of said members are located, and rivets passed through the casting and ends of the compression and tension-members.

5. A bolster comprising a compression-member, a tension-member formed with end engaging-flanges said members having their respective ends in contact with one another, and comparatively heavy end-members overlapping the contacting ends of both members and provided with means for engaging the flanged ends of the tension-member.

869,652. CAR-TRUCK CONSTRUCTION. OSWALD S. PULLIAM, Pittsburg, Pa., assignor to Pittsburgh Equipment Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed June 19, 1907. Serial No. 379,689.

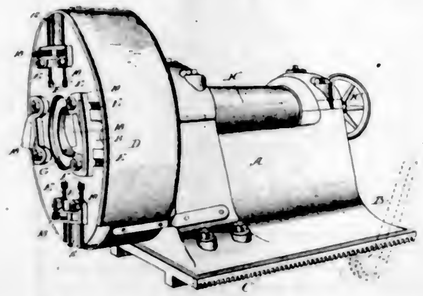


1. In a car-truck construction, a spring-seat formed with a groove and a recess, a spring-plank having an end formed with engaging means located in the groove of the spring-seat.

2. In a car-truck construction, a spring-seat formed with a depression and a laterally extending recess, a spring-plank provided with an engaging-lug fitted into the recess.

3. In a car-truck construction, a spring-seat formed with a depression adapted to receive an end of a spring-plank and a laterally extending recess, a spring-plank provided with stop-shoulders and an engaging-lug the latter adapted to fit into the recess of the spring-seat.

869,653. DRIVING-DOG. SALMON W. PUTNAM, 3d, Fitchburg, Mass. Filed Mar. 4, 1907. Serial No. 360,556.



1. In a work driver, a rotary member, in combination with a dog pivoted thereto on an axis transverse to the axis of said member, said dog having a work-engaging face eccentric to its pivot, and means having a constant tendency to project said work-engaging face, substantially as described.

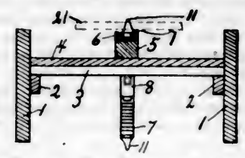
2. In a work-driver, a rotary member, in combination with a dog pivoted thereto on an axis transverse to the axis of said member, said dog having a work-engaging face eccentric to its pivot, and having said pivot located interior to the plane of the outer face of said member, and means having a tendency to project said work-engaging face, substantially as described.

3. In a work driver, the combination with a rotary member, of a dog pivoted thereto on an axis transverse to the axis of said member, said dog having a work-engaging face eccentric to its pivot, and a spring connected to the dog and having a tendency to constantly project the work-engaging face thereof.

4. In machines of the character described, the combination of a rotatable face-plate, a work driving mechanism consisting of a forging or base member fitted to the face-plate, a dog carried by the forging and having two arms one disposed substantially at right-angles to the other, one of said arms being pivotally secured to the forging or base member and the other arm comprising a curved-face jaw member adapted to engage the work with a driving grip, and a spring for holding the jaw member yieldingly in opposition to the work, and allowing the dog to adjust itself automatically to the resistance offered by the cutting tool.

5. In machines of the character described the combination of a rotatable radially-channeled face-plate, a work-driving mechanism consisting of a forging or base member having spaced ears or lugs at its back fitting the channels of the face-plate, said forging or base-member having a recess through its central portion, a dog comprising two arms arranged one at right angles to the other, one of said arms extending into the recessed central portion of the forging and being pivotally mounted between the ears or lugs of the forging, and the other arm having a curved-face serrated jaw member adapted to engage the work with a driving grip, and a spring having one end connected to the dog and the other end connected to a fixed point, said spring permitting the dog to adjust itself automatically to the load.

869,654. GANG-PLANK. ERNEST V. RIDEOUT, San Francisco, Cal. Filed May 3, 1907. Serial No. 371,570.



1. In a gangplank, the combination of a plank near the center thereof, a rail projecting from the top of the plank, a chain passing over the rail and carried by a wheel at each end of the plank, and means to drive the chain, substantially as described.

2. In a gangplank, the combination of a plank, a rail projecting from the plank near the center thereof, a wheel at each end of the plank, a chain running over the wheels and longitudinally of the rail, and a motor carried by the plank below the floor thereof to drive the chain, substantially as described.

3. In a gangplank, the combination of a plank, a wheel at each end of the plank and extending above the top of the plank, a rail projecting from the top of the plank, a chain passing over the wheels and rail, flights carried by the same and projecting above the chain on its upper run, means carried by the rail to hold the chain thereon and means to drive the chain, substantially as described.

4. In a gangplank, the combination of a plank consisting of two deep sides and a floor extending between the same, a rail projecting from the floor on its upper side near the center thereof, a channel iron carried by the rail, a wheel at each end of the plank, a chain passing over the wheels and in the channel, and a motor connected with one of the wheels and carried below the floor of the plank, substantially as described.

5. In a gangplank, the combination of a plank consisting of two deep sides and a floor extending between the same, a rail projecting from the upper side of the floor near its center and extending from a point near one end to a point near the opposite end of the plank, a channel iron carried by the rail, a wheel at each end of the rail, a chain passing over the wheels and in the channel iron, flights carried by the chain and projecting above the channel, and means carried by the plank to drive the chain, substantially as described.

6. In a gangplank, the combination of a plank consisting of two deep sides and a floor extending between the same, a rail projecting from the upper side of the floor near its center line, a channel iron carried by the rail, a wheel at each end of the rail, a chain passing over the wheels and in the channel, flights carried by the chain and projecting above the channel, and a motor connected with one of the wheels and carried below the floor of the plank, substantially as described.

7. In a gangplank, the combination of a plank consisting of two deep sides and a floor extending between the same, a rail projecting from the upper side of the floor near its center line, a channel iron carried by the rail, a wheel at each end of the rail, a chain passing over the wheels and in the channel, flights carried by the chain and projecting above the channel, means to tighten the chain at one end of the plank, and a motor carried by the plank on its under side and connected with the wheel at one end of the plank to drive the chain, substantially as described.

869,655. STABLE DRY HYDROSULFITE MIXTURE. ALFRED RINCKENBERGER, Ludwigshafen-on-the-Rhine, Germany, assignor to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany, a Corporation. Filed Aug. 29, 1906. Serial No. 332,529.

1. As a new composition of matter a dry stable mixture containing calcium hydrosulfite which is practically free from uncombined water and a hereinbefore defined metallic oxid.

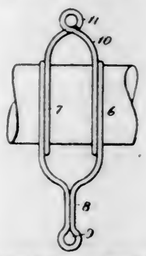
2. As a new composition of matter a dry stable mixture

containing calcium hydrosulfite which is practically free from uncombined water and quicklime.

3. The process of producing dry stable calcium hydrosulfite mixtures by washing precipitated calcium hydrosulfite with a volatile liquid which is miscible with water, then adding a hereinbefore defined oxid and then drying the whole *in vacuo*.

4. The process of producing dry stable calcium hydrosulfite mixtures by washing precipitated calcium hydrosulfite with alcohol, then adding quicklime and then drying the whole *in vacuo*.

869,656. CURTAIN-POLE RING. JULIUS A. RINGS, New York, N. Y. Filed Nov. 9, 1905. Serial No. 286,595.



1. A curtain-pole ring, comprising a pair of rings separated and held in proper relation by the wire body, this body being bent downwardly, and provided with an eye, and the ends of the wire bent upwardly and provided with an eye, as set forth.

2. A curtain-pole ring, comprising a pair of rings separated and held in proper relation by the body of the wire, an eye formed in the wire midway between and below the two rings, and an eye in each terminal above the rings, as set forth.

3. A curtain-pole ring, comprising a single wire forming two parallel rings, means for attaching a main curtain to the body of the rings below, and for attaching short curtains above said rings, as set forth.

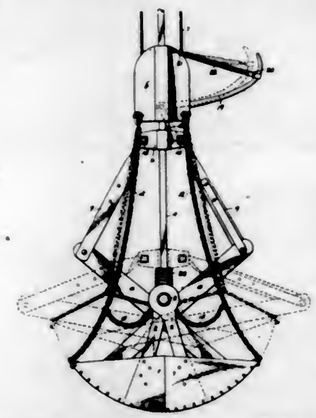
4. A curtain-pole ring comprising transversely extending means adapted to encircle a curtain-pole and contact with widely separated portions thereof, and means centrally disposed both above and below said transverse encircling means adapted for securing a curtain thereto, whereby any strain communicated to said curtain securing means is evenly distributed, substantially as described.

869,657. CLAM-SHELL BUCKET. JOHN ROGERS, Kansas City, Mo., assignor of two-thirds to J. W. Flanagan and J. A. Flanagan, Kansas City, Mo. Filed May 21, 1907. Serial No. 374,938.

1. The combination with a clam shell bucket having spreading jaws, of means for carrying said jaws in closed position, and a tripping mechanism adapted to support the carrying means when held in engagement therewith by the weight of said carrying means and jaws, and for automatic release from such engagement when relieved of such weight, for the purpose set forth.

2. The combination in a clam shell bucket, of jaw members having supporting means, a lifting block, a trip lever pivoted to said block and having an arm adapted for engagement with said supporting means, a second arm projecting from said block, and a coil spring carried on the second arm and anchored to said block, and exerting a yielding tension on said first arm away from said supporting means.

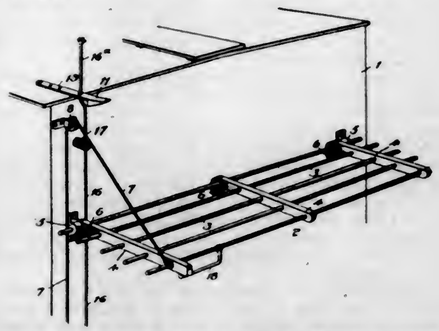
3. In a clam shell bucket, the combination with a pair of bucket jaws, of guide posts projecting upwardly from said jaws, brackets slidably mounted on said guide posts, arms connecting said jaws and said brackets, a pin carried by said brackets; a pulley block slidably mounted on said guide posts above said brackets, a bell crank lever pivoted to said pulley block and having a hook member on one of its arms adapted to engage said bracket pin, and a coil spring on the second lever arm and connected with said pulley block, whereby the pin engaging arm is yieldingly tensioned away from said bracket pin, substantially as set forth.



4. The combination with a pair of bucket jaws, of arms for supporting said jaws in a closed position, a pivoted trip lever adapted for locking the jaw arms when under pressure therefrom, and for automatically releasing said arms when said pressure is removed.

5. The combination in a clam shell bucket, of jaw members, a sliding bracket, folding arms connecting the jaws and bracket, said arms being adapted to spread the jaws when folded, and close same when extended, a pin in said bracket, a rocking lever having a hook member adapted for supporting said parts through engagement with said pin, and for automatic release from such engagement upon the removal of the weight of the parts therefrom.

869,658. SAFETY DEVICE FOR CARS. GEORGE W. SAYRE, Stevens, W. Va. Filed May 22, 1907. Serial No. 375,077.



1. The combination with a car, of bearings arranged upon one end thereof, a swinging guard consisting of parallel longitudinal bars and parallel transverse bars, the latter being apertured to receive the longitudinal bars and being formed at their inner ends with enlargements or shoulders to engage the end of the car and limit the downward swinging movement of the guard, the innermost longitudinal bar being rotatable in said bearings to serve as a pivot for the guard, a guide arranged upon the upper portion of the car and an operating cable attached to the outer portion of the guard and passed over said guide, substantially as described.

2. The combination with a car, of a swinging guard mounted upon one end of the same, means for retaining the guard in its elevated position and a spring for projecting the guard when released.

3. The combination with a car, of a swinging guard mounted upon one end of the same, means for supporting the guard in a horizontal position, means for elevating the guard to a vertical position, a latch for retaining the guard in its vertical position and means for projecting the guard when released by said latch.

4. The combination with a car, of hangers projecting from one end of the same, a guard consisting of longitudinal and transverse bars, one of said longitudinal bars being rotatable in said hangers to serve as a pivot for the guard and said transverse bars having shoulders to engage the end of the car and limit the downward swinging movement of the guard, a guide, a cable passed around said guide and attached to the guard for elevating the same, a spring latch for holding the guard in its elevated position, means for operating said latch and a spring for projecting the guard when released by the latch, substantially as described.

5. The combination with a car, of a swinging guard mounted upon one end of the same and intermediate its top and bottom, a holding means for retaining the guard in its elevated or retracted position, and means for actuating said holding means for either the top or the bottom of the car.

6. The combination with a car, of a swinging guard mounted upon one end of the same, a latch for holding the guard in its elevated or retracted position and an operating member projecting upwardly from the latch whereby the latter may be operated from the top of the car.

7. The combination with a car, of a swinging guard mounted upon one end of the same, a spring latch adapted to engage the guard and hold it in its elevated or retracted position, an operating lever arranged adjacent to the bottom of the car, and a link connecting said lever and said spring latch for the purpose set forth.

869,659. PORTABLE CROSSCUT-SAW. AUGUST SCHUBERT, Snohomish, Wash. Filed July 19, 1904. Serial No. 217,259.



1. A portable cross cut saw provided with chain saw mechanism and adapted to be carried by hand and held in any desired position, said cross cut saw comprising in its entirety a chain saw, a substantially oblong stock or frame having the chain saw mounted on it and lying within the lateral planes of the same so as to travel in the kerf, a motor also carried by the stock and located at one end thereof and a projecting handle at said end of the frame.

2. A portable cross cut saw provided with chain saw mechanism and adapted to be carried by hand and held in any desired position, said cross cut saw comprising in its entirety a chain saw, a substantially oblong stock or frame having the chain saw mounted on it and lying within the lateral planes of the same so as to travel in the kerf, a motor also carried by the stock or frame and located at one end thereof, and handles or grips extending beyond and carried by the motor.

3. A portable cross cut saw provided with chain saw mechanism and adapted to be carried by hand and held in any desired position, said cross cut saw comprising in its entirety a chain saw, a substantially oblong stock or frame having the chain saw mounted on it and lying within the lateral planes of the same so as to travel in the kerf, a motor also carried by the stock or frame and located at one end thereof and laterally offset from the plane of the chain saw mechanism, and a projecting handle at said end of the frame.

4. A portable cross cut saw provided with chain saw mechanism and adapted to be carried by hand and held in any desired position, said cross cut saw comprising in its entirety a chain saw, a substantially oblong stock or frame having the chain saw mounted on it and lying within the lateral planes of the same so as to travel in the kerf, a transverse shaft carrying a gear for actuating the chain saw mechanism, a motor mounted on the shaft and at one end of the stock or frame and offset laterally from the plane of the chain saw mechanism, and a projecting handle at said end of the frame.

5. A portable cross cut saw provided with chain mechanism and adapted to be carried by hand and held in any desired position, said cross cut saw mechanism comprising in its entirety a chain saw, a substantially oblong stock or frame having the chain saw mounted on it and lying within the lateral planes of the same so as to travel in the kerf, a sprocket wheel around which the chain saw passes, a transverse shaft mounted in the stock or frame and carrying the sprocket wheel, said shaft being extended at one side of the stock or frame, a motor mounted on the extended end of the said shaft, and a projecting handle at said end of the frame.

6. A portable cross cut saw provided with chain saw mechanism and adapted to be carried by hand and held in any desired position, said cross cut saw comprising in its entirety a chain saw, a substantially oblong stock or frame having the chain saw mounted on it and lying within the lateral planes of the same so as to travel in the kerf, a motor also carried by the stock or frame and located at one end thereof, a guard around the chain saw at one end of the stock or frame and covering the teeth thereof, and handles or grips projecting from said end of the frame.

7. A saw provided with means for engaging the wall of a kerf for holding the saw in the same.

8. A saw provided with means for engaging the wall of a kerf, said means being movable inward and outward.

9. A saw provided in rear of its cutting edge with a tooth or blade movable inward and outward and adapted to engage the wall of a kerf for holding the saw therein, and means for operating the tooth or blade.

10. A saw provided with a hinged tooth or blade movable inward and outward and adapted to engage the wall of a kerf, and operating mechanism connected with the tooth or blade.

11. A saw provided at opposite sides with teeth or blades movable inward and outward for engaging the wall of a kerf, an operating rod, and means carried by the operating rod for moving the blades or teeth inward or outward.

12. A saw provided at opposite sides with hinged blades or teeth movable inward and outward, a rod arranged between the blades or teeth, and links connecting the rods with the blades or teeth.

13. A saw provided with a longitudinal slot, blades or teeth arranged at opposite sides of the saw and movable inward and outward, a longitudinally movable rod located within the slot, means for guiding the rod, and links connecting the rod with the blades or teeth.

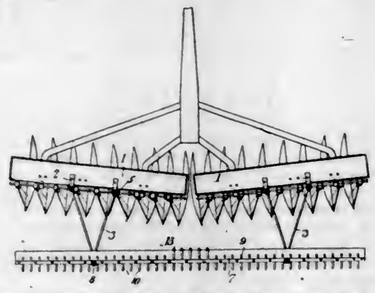
869,660. HARROW ATTACHMENT. EDWARD SCHULTZ, Chenoa, Ill. Filed July 15, 1907. Serial No. 383,752.

1. In combination with a harrow made up of sections, a harrow attachment connected with the respective harrow sections and consisting of a bar substantially equal in length to the combined length of the harrow sections, teeth mounted upon said bar, those teeth occurring immediately behind the adjacent ends of the harrow section being greater in length than the remainder of the teeth.

2. In combination with a harrow made up of sections each having perforated lugs, a harrow attachment consisting of a bar, teeth carried by the bar, arms attached to the bar and passing through said lugs and nuts located upon said arms upon opposite sides of the lugs and being spaced apart whereby the arms may have longitudinal movement through the lugs.

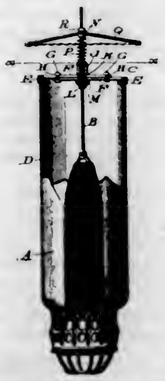
3. In combination with a harrow made up of sections, each section having a pair of lugs provided with perfora-

tions, Y-shaped arms passing through the perforations of the lugs and having limited movement therein, said arms being provided at their apices with hooks provided with eyes, a bar located in said hooks, bolts passing through the bar and the eyes of the hooks and teeth carried by said bar.



4. In combination with a harrow made up of sections each having a pair of perforated lugs, arms having their extremities passing through the perforations of said lugs and having limited movement therein, the intermediate portion of said arms being hooked, a bar located in the hooked portion of said arms, said bar being angular in cross section, teeth passing through one of the sides of the bar and lying against the other side thereof and a clamping bar located under that side of the first said bar through which the teeth pass and bearing laterally against the teeth and clamping bolts securing said bars together.

869,661. HOLDER FOR LAMP-MANTLES. JOSEPH M. SIMMONS, Philadelphia, Pa. Filed Apr. 2, 1907. Serial No. 366,021.



1. A mantle support comprising supporting means to rest on the chimney, and a member disposed axially of the mantle and mounted on said supporting means for free reciprocation therethrough.

2. In a support for a lamp mantle, a device adapted to be sustained on the chimney of the lamp, and reciprocatingly-mounted means disposed axially of the chimney whereby said mantle may be resiliently connected with said device.

3. A support for a lamp mantle, comprising a reciprocatingly-mounted member which is attached to the mantle, and a device from which said member may depend, said device being adapted to be sustained on the chimney of the lamp axially thereof.

4. A support for a lamp mantle, comprising a reciprocatingly-mounted member which is attached to the mantle, and a device from which said member may depend, said device being adapted to be sustained on the chimney of the lamp axially thereof and is adjustable to chimneys of different widths.

5. A mantle support comprising longitudinally-adjustable supporting means to rest on the chimney, and a member disposed axially of the mantle and mounted on said supporting means for free reciprocation therethrough.

6. In a support for a lamp mantle, a reciprocatingly-mounted member adapted to be connected with the mantle and disposed axially of the chimney, a device adapted to be sustained on the chimney of the lamp, said member being freely engaged with said device, and a resilient connection for said device and member.

7. In a support for a lamp mantle, a member adapted to be connected with the mantle, a device adapted to be sustained on the chimney of the lamp, a tubular piece supported on said device, said member passing freely through said piece, and a spring interposed between said piece and an abutment on said member.

8. In a support for a lamp mantle, a member adapted to be connected with the mantle, a tubular piece through which said member freely passes, a device carrying said piece and adapted to be sustained on the chimney of the lamp, and a spring adapted to be interposed between said piece and an abutment on said member.

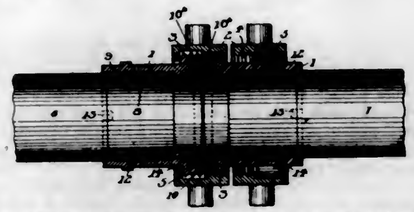
9. A lamp mantle support comprising freely-slidable means for supporting the mantle disposed axially of the chimney, and a canopy adapted to be sustained on said means.

10. A lamp mantle support comprising a freely-slidable carrying member for the mantle disposed axially of the chimney, horizontally-adjustable means for supporting said member, and a canopy adapted to be secured to said member.

11. A lamp mantle support comprising a freely-slidable carrying member for the mantle disposed axially of the chimney, a device applicable to the chimney of the lamp, a resilient connection for said member with said device, a canopy on said member, and means on said member for adjustably securing said canopy in position.

12. A lamp mantle support comprising means to rest on the chimney, a member disposed axially of the mantle and mounted on said supporting means for free reciprocation therethrough, and means for vertical adjustment of said member.

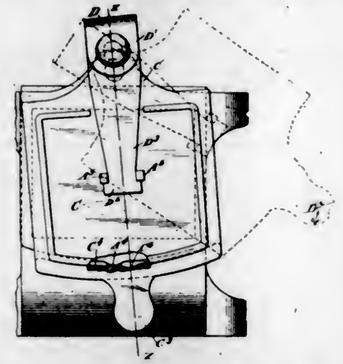
869,662. HOSE OR PIPE COUPLING. CHARLES F. SNYDER, Allegheny, Pa., assignor of one-eighth to John P. Murray, Allegheny, Pa. Filed Sept. 15, 1906. Serial No. 334,721.



A hose or pipe-coupling consisting of two substantially similar members, each member comprising a shank formed with an externally threaded flange having an annular groove and provided with two sets of lugs one set being in advance of the other, a gasket located in the groove, a nut formed with an internally threaded portion and an annular recess and provided with openings to receive the two sets of lugs, and plates adapted to be secured to the nuts over two of the openings, substantially as set forth.

869,663. JOURNAL-BOX AND LID. FREDERICK C. SORENSEN, Chicago, Ill., assignor of one-third to James A. Calek and one-third to Ralph C. Williams, Chicago, Ill. Filed Apr. 15, 1907. Serial No. 368,367.

1. A journal box containing an opening in its end, in combination with a pivot pin projecting perpendicularly from the end of the box, a lid fitted to the box and pivoted on said pin, said lid adapted to transverse movement with respect to the pin, there being coacting latch parts upon the box and the free end of said lid, and a spring operating to move the lid toward said pin and thereby holding said latch parts in engagement, substantially as described.



2. A journal box having an opening in its end, in combination with a hinge pin projecting perpendicularly from said end, a lid containing a slot and thereby pivoted on said pin, there being coacting latch parts on said box and lid, a U-shaped spring held by said pin and having its intermediate portion pressed against the lid by said pin, and the free end of said spring being attached to the central part of said lid and exerting draft upon said lid to hold said latch parts in engagement, substantially as described.

3. A journal box having an opening at its end, in combination with a hinge pin perpendicularly arranged on said end, a lid loosely pivoted on said pin, there being correspondingly inclined curved ledges upon said box and lid, and a spring held by said pin, and at once exerting draft upon said lid and pressing same against the end of the box, substantially as described.

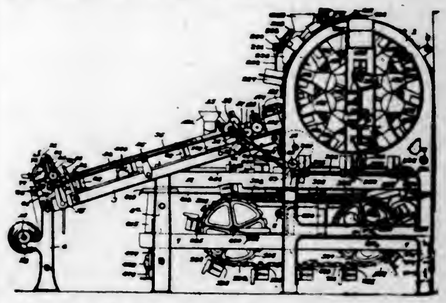
4. A journal box having an opening in its end, in combination with a pivot pin extending perpendicularly from the end of the box, adjacent to said opening, a lid loosely pivoted on said pin to close said opening, and a U-shaped spring through both legs of which the pin extends, the opening in the intermediate portion of the spring being of greater size than the pin, and the lower end of the spring being in tensioned engagement with the center of the lid, there being curved interlocking ledges upon the free end of the lid and upon the box, substantially as described.

5. A journal box having a pivot pin lug at one side of its opening and provided with a curved inwardly and upwardly inclined ledge at the opposite side of said opening, in combination with a pivot pin projecting from said lug, a lid loosely pivoted on said pin and provided with a curved and inclined ledge, corresponding to the ledge on the box, a latch lug and recess being formed in the said curved ledges, and a U-shaped spring having its outer end pivotally fixed on said pin and exerting draft upon said lid, the intermediate portion of said spring pressing upon the lid adjacent to said pin, substantially as described.

869,664. PACKAGING-MACHINE. EDWARD STANLEY, Norristown, Pa. Filed June 19, 1903. Serial No. 162,177.

1. In a packaging machine, the combination of a hollow former having a door pivoted thereto and extending over one of its ends, means for supporting and advancing the same, means for folding a sheet of paper around said former to produce a bag, means for introducing a predetermined quantity of material to said former, and means for moving said bag from said former and thereby permitting said door to open by gravity and the material in said former to pass into the bag.

2. In a packaging machine, the combination of a vertically-arranged wheel, means for supporting and rotating the same, a hollow former carried by said wheel, means for folding a sheet of paper around said former to produce a bag, means for introducing a predetermined quantity of material to said former, and means for moving said bag from said former and thereby permitting the material in said former to pass into the bag.



3. In a packaging machine, the combination of a vertically-arranged wheel, means for supporting and rotating the same, a hollow former carried by said wheel, means for folding a sheet of paper around said former to produce a bag, means for introducing a predetermined quantity of material to said former, means for moving said bag from said former and thereby permitting the material in said former to pass into the bag, and means for closing the open end of the bag to produce a package.

4. In a packaging machine, the combination of a vertically-arranged wheel, means for supporting and rotating the same, a hollow former carried by said wheel, means for horizontally introducing a sheet of paper to said former, means for folding said sheet of paper around said former to produce a bag, means for introducing a predetermined quantity of material to said former, and means for moving said bag from said former and thereby permitting the material in said former to pass into the bag.

5. In a packaging machine, the combination of a vertically arranged wheel, means for supporting and rotating the same, a series of hollow formers carried by said wheel, means for supporting and advancing a strip of paper, means for severing bag blanks from said strip, means for horizontally introducing said blanks to said formers, means for folding said blanks around said formers to produce bags, means for introducing a predetermined quantity of material to each of said formers, and means for moving said bags from said formers and thereby permitting the material in said formers to pass into the bags.

6. In a packaging machine, the combination of a vertically-arranged wheel, means for supporting and rotating the same, a series of radially-arranged hollow formers carried by said wheel, means for folding sheets of paper around said formers to produce bags, a measuring and filling mechanism having its discharge end located above the lower portion of the path traversed by the inner ends of said formers, means for operating said mechanism to introduce a predetermined quantity of material to each of said formers, and means for moving said bags from said formers and thereby permitting the material in said formers to pass into the bags.

7. In a packaging machine, the combination of a vertically-arranged wheel, means for supporting and rotating the same, a series of radially-arranged hollow formers carried by said wheel, means for folding sheets of paper around said formers to produce bags, a measuring and filling mechanism having its discharge end located above the lower portion of the path traversed by the inner ends of said formers, means for operating said mechanism to introduce a predetermined quantity of material to each of said formers, means for moving said bags from said form-

ers and thereby permitting the material in said formers to pass into the bags, and means for closing the open ends of the bags to produce packages.

8. In a packaging machine, the combination of a vertically arranged wheel, means for supporting and rotating the same, radially-arranged hollow formers carried by said wheel, means for folding sheets of paper around said formers to produce bags, means for introducing a predetermined quantity of material to each of said formers, a friction device arranged adjacent to each of said formers, and means for operating said devices to remove the bags from said formers and thereby permit the material in said formers to pass into the bags.

9. In a packaging machine, the combination of a vertically arranged wheel, means for supporting and rotating the same, radially-arranged hollow formers carried by said wheel, means for folding sheets of paper around said formers to produce bags, means for introducing a predetermined quantity of material to each of said formers, a reciprocative slide arranged adjacent to each of said formers, a friction device carried by each of said slides, means for engaging said devices with the bags, a reciprocative bar arranged adjacent to the path traversed by said slides, means for reciprocating said bar, and means for successively engaging said slides with said bar, whereby as each of said slides is engaged with the bar the friction device carried thereby is moved to discharge its bag from its former and thereby permit the material in said former to pass into said bag.

10. In a packaging machine, the combination of a carrier adapted to receive a partially filled bag, means for advancing the carrier, means arranged in the path traversed by the open end of the bag for closing said open end, and means for bodily adjusting said carrier toward or from the last named means.

11. In a packaging machine, the combination of a carrier adapted to receive a partially filled bag, means for advancing the carrier, means arranged in the path traversed by the open end of the bag for folding said open end to close the bag and produce a package, means for applying paste to one or more of the folds previous to folding, a bar for supporting the packages as they are delivered from the carrier, and a plate extending parallel to said bar and adjacent the path traversed by the end of the bag, whereby the closed folds of said closed end are pressed together while the paste is drying.

12. In a packaging machine, the combination of a carrier adapted to receive a partially filled bag, means for advancing the carrier, means arranged in the path traversed by the open end of the bag for folding said open end to close the bag and produce a package, means for applying paste to one or more of the folds previous to folding, a bar for supporting the packages as they are delivered from the carrier, a plate extending parallel to said bar and adjacent the path traversed by the closed end of the bag whereby the folds of said closed end are pressed together while the paste is drying, and means for heating said plate.

13. In a packaging machine, the combination of a carrier adapted to receive a partially filled bag, means for advancing the carrier, means arranged in the path traversed by the open end of the bag for folding said open end to close the bag and produce a package, means for applying paste to one or more of the folds previous to folding, a bar for supporting the packages as they are delivered from the carrier, a plate extending parallel to said bar and adjacent the path traversed by the closed end of the bag whereby the folds of said closed end are pressed together while the paste is drying, and a steam passage extending along said plate.

14. In a packaging machine, the combination of a carrier adapted to receive a partially filled bag, means for advancing the carrier, a fixed bar, and means coacting with the bar for agitating the carrier to settle the material in the bag, and means arranged in the path traversed by the open end of the bag for closing the same.

15. In a packaging machine, the combination of a carrier to receive a partially filled bag, means for advancing the carrier, a support to receive the bag from the carrier, means arranged in the path traversed by the open end of the bag to close said open end, and means for adjusting said carrier and said support toward and from the last named means.

16. In a packaging machine, the combination of a carrier adapted to receive a partially filled bag, said carrier being provided with a pair of doors adapted to take against the rear side of the bag, means for advancing the carrier, means arranged in the path traversed by the open end of the bag for closing the same to produce a package, means for disengaging the carrier from the package during the onward movement of the carrier, a support for the package when disengaged from the carrier, and means for opening said doors to clear the package while the carrier is being disengaged from the same.

17. In a packaging machine, the combination of a chain provided with a series of links each of which is adapted to receive a partially filled bag, said links being each provided with a pair of doors adapted to take against the rear side of a bag, supporting wheels for the chain, means for actuating one of said wheels to advance the chain, means arranged in the path traversed by the open ends of the bags to close said open ends to produce packages, means for supporting said packages to permit said links to move therefrom in passing around one of said wheels, and means for opening said doors to clear the packages while said links are moving from the same.

18. In a packaging machine, the combination of a chain provided with a series of links each of which is adapted to receive a partially filled bag, a pair of parallel plates projecting from each of said links to support two sides of a bag, a pair of doors carried by each of said links and adapted to take against the rear side of a bag, supporting wheels for the chain, means for actuating one of said wheels to advance the chain, means arranged in the path traversed by the open ends of the bags to close said open ends to produce packages, means for supporting said packages to permit said links to move therefrom in passing around one of said wheels, and means for opening said doors to clear the packages while said links are moving from the same.

19. In a packaging machine, the combination of a chain provided with a series of links each of which is adapted to receive a partially filled bag, supporting wheels for the chain, means for actuating one of said wheels to advance the chain, a pair of pivoted doors carried by each of said links and adapted when closed to take against the rear side of a bag, springs tending to maintain said doors normally open, means for closing said doors during the onward movement of the chain, means for maintaining said doors temporarily closed, means arranged in the path traversed by the open ends of the bags to close said open ends to produce packages, means for supporting said packages to permit said links to move therefrom in passing around one of said wheels, and means to permit said springs to open said doors to clear the packages while said links are moving from the same.

20. In a packaging machine, the combination of a pair of wheels, a chain extending between said wheels and provided with links each of which is adapted to receive a partially filled bag, means for actuating one of said wheels to advance the chain, a stationary bar extending between said wheels to support the chain, a series of teeth projecting from said bar and adapted to engage and agitate said links to settle the material in the bag, and means arranged in the path traversed by the open ends of the bags for closing the same.

21. In a packaging machine, the combination of a carrier adapted to receive a partially filled rectangular bag, means for advancing the carrier, means for folding two opposite sides of the open end of the bag inwardly and thereby producing oblique folds in the two remaining sides, means for folding the two last named sides of the open end of the bag inwardly, and creasing rollers adapted to crease the oblique folds before the two last named sides are folded inwardly.

22. In a packaging machine, the combination of a carrier adapted to receive a partially filled rectangular bag, means for advancing the carrier, means for folding two opposite sides of the open end of the bag inwardly and thereby producing oblique folds in the two remaining sides, fixed plates arranged on the respective sides of the path traversed by the open end of the bag, creasing rollers located between said plates and adapted to press the oblique folds against said plates, and means for folding the two last named sides of the open end of the bag inwardly.

23. In a packaging machine, the combination of a carrier adapted to receive a partially filled bag, means for advancing the carrier, means on said carrier for taking against the rear side of the onwardly moving bag, a stationary friction bar extending along the path traversed by the carrier and partially supporting said bag, and means arranged in the path traversed by the open end of the bag for closing the same.

24. In a packaging machine, the combination of a chain provided with a grooved link adapted to receive a partially filled bag, means for supporting and advancing said chain, means on said link for taking against the rear side of the onwardly moving bag, a stationary friction bar extending through the groove in said link and along the path traversed by said link, said bar being adapted to partially support the bag, and means arranged in the path traversed by the open end of the bag for closing the same.

25. In a packaging machine, the combination of a carrier adapted to receive a partially filled bag, means for advancing the carrier, means on said carrier for taking against the rear side of the onwardly moving bag, a pair of stationary friction bars arranged on the respective sides of the path traversed by the bag, and means arranged in the path traversed by the open end of the bag for closing the same.

26. In a packaging machine, the combination of a carrier adapted to receive a partially filled bag, means for advancing the carrier, means on said carrier for taking against the rear side of the onwardly moving bag, a pair of stationary friction bars arranged on the respective sides of the path traversed by the bag, a stationary friction bar extending along the path traversed by the carrier and partially supporting said bag, and means arranged in the path traversed by the open end of the bag for closing the same.

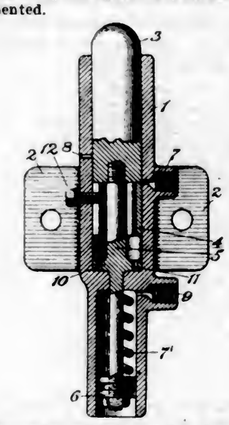
27. In a packaging machine, the combination of a carrier adapted to receive a partially filled bag means for advancing the carrier, means on said carrier for taking against the rear side of the onwardly moving bag, a pair of stationary friction bars arranged on the respective sides of the path traversed by the bag, means for folding two opposite sides of the open end of the bag inwardly, and a pair of folder cams arranged in the path traversed by the open end of the bag, said cams gradually converging from points outside of the path traversed by the open end of the bag to a plane at right angles to the inner faces of the friction bars and adjacent to the path traversed by the top of the material in the bag, whereby the remaining sides of the open end of the bag are folded inwardly.

28. In a packaging machine, the combination with a substantially vertically arranged folding system and a substantially horizontally arranged folding system, of a traveling form coöperating with said systems, and means for delivering material to the form at a point between the systems.

869,665. BELL-RINGING MECHANISM. WALTER A. STEARNS, Louisville, Ky. Filed Mar. 4, 1907. Serial No. 360,326.

1. The combination with a source of air pressure, and a bell, of a ringer comprising a cylinder having admission and exhaust ports, a striking piston passing over and controlling the exhaust port, yielding means for normally holding the piston in rearward position and a movable valve operated by the piston for opening the admission port on the rearward stroke and closing it on the forward stroke, together with a connection from the source of air pressure to the admission port and a controlling valve for the operator in the said connection whereby any desired period of continuous ringing may be secured.

2. The combination with a source of air pressure of a bell, a ringer comprising a pneumatic cylinder, a hammer and a valve adapted to secure the continuous reciprocation of the hammer while pressure is admitted to the cylinder, a connection from the source of air pressure to the ringer, a controlling valve whereby any desired period of continuous ringing may be secured, and a second connection controlled by the valve whereby the speed of operation of the hammer may be augmented.



3. The combination with a source of air pressure, and a bell, of a ringer comprising a casing provided with an operating cylinder, a return spring, and a return cylinder, a hammer extending into both cylinders, and a valve for securing a continuous reciprocation of the hammer when air is admitted, connections from the source of supply to the two cylinders, and a controlling valve in the line of connections whereby air is admitted either to the operating cylinder alone for service application, or to both cylinders simultaneously for emergency application.

4. In combination, a cylinder having admission and exhaust ports, a striking piston therein controlling the exhaust port and adapted on its forward stroke to uncover such port and on the rearward stroke to cover such port, yielding means for normally holding the piston in rearward position, and a movable valve controlled by the piston for opening the admission port on the rearward stroke thereof and closing it on the forward stroke.

5. In combination, a cylinder having admission and exhaust ports, a striking piston therein controlling the exhaust port and adapted on the forward stroke to uncover such port and on the rearward stroke to cover such port, a spring for normally holding the piston in rearward position, and a movable controlling sleeve for the admission port controlled by the piston for opening the admission port on the rearward stroke thereof and closing it on the forward stroke.

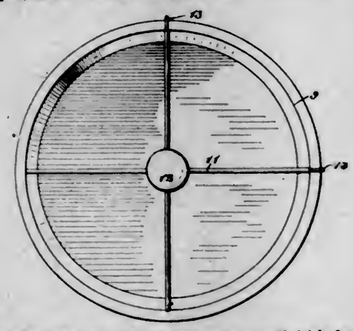
6. In combination, a cylinder having admission and exhaust ports, a striking piston therein controlling the exhaust port and adapted on the forward stroke to uncover such port and on the rearward stroke to cover such port, a spring for normally holding the piston in rearward position, a split ring controlling sleeve for the admission port controlled by the piston for opening the admission port on the rearward stroke thereof and closing it on the forward stroke.

7. In combination, casing provided with two cylinders, one of which has admission and exhaust ports, and the other of which has an admission port, a striking piston fitting the first cylinder and having its rear end extended to the rear of the second cylinder and provided at such end with a piston, a spring for holding the piston normally rearward, and a movable controlling valve operated by the striking piston for opening the admission port in the first cylinder on the rearward stroke of the piston and closing it on the forward stroke.

8. In combination, a cylinder having admission and exhaust ports, a striking piston therein adapted to control

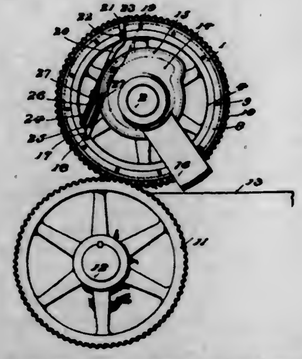
the exhaust port, yielding means for normally holding the piston in rearward position, a movable valve controlled by the piston for opening the admission port on the rearward stroke thereof and closing it on the forward stroke, and means for supplementing the yielding means whereby a quicker return of the piston is secured.

869,666. PIE-MARKER. CATHERINE SULLIVAN, Chicago, Ill. Filed July 3, 1906, Serial No. 324,581. Renewed May 6, 1907. Serial No. 372,030.



A pie marker consisting of a set of radial blades, two of which are provided with downwardly projecting hooks at their outer ends.

869,667. PRINTING-PRESS. ARTHUR K. TAYLOR, Roland Park, Md., assignor of one-half to Harry T. Anderson, Baltimore, Md. Filed Jan. 30, 1907. Serial No. 354,925.



1. In a printing press, the combination with an impression surface, and a printing surface, of gearing connecting the two surfaces and positively operating means which will vary the peripheral speed of one surface in relation to its gear during the time of impression.

2. An impression cylinder provided with a gear and positively operating means to cause a relative peripheral movement between the impression cylinder and gear during the rotation of the cylinder.

3. In a printing press, the combination with an impression cylinder provided with a driving gear, of a printing surface driven in unison with said gear and positively operating means to cause a relative peripheral movement between the impression cylinder and its gear during the time of impression.

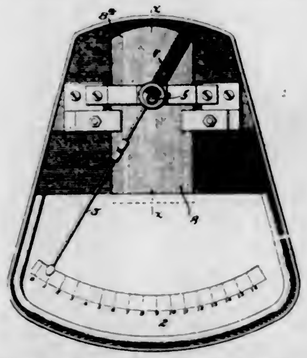
4. In a printing press, the combination with a wheel, of a rim mounted on the wheel, a lever connecting the rim and wheel, means for operating the lever whereby the wheel and rim may be given a peripheral movement in relation to each other and driving means connected to the rim.

5. In a printing press, the combination with a wheel, of a toothed rim loosely mounted on the wheel, a lever connected to the wheel and rim, a stationary cam adapted to operate the lever whereby the wheel is given a peripheral movement in relation to the rim and a driving gear connected to the rim.

6. In a printing press, the combination with a wheel, of a toothed rim loosely mounted on the wheel, a lever connected to the wheel, a second lever connected to the wheel and rim, a link connecting the free ends of said two levers, a stationary cam adapted to operate said first lever whereby the wheel is given a peripheral movement in relation to the rim and a driving gear connected to the rim.

7. In a printing press, the combination with a wheel, of a rim loosely mounted thereon, a lever connecting the rim and wheel, a second lever pivoted at one end to the wheel, an adjustable link connection between said two levers, a stationary cam for operating said second mentioned lever whereby said first mentioned lever will give the wheel a peripheral movement in relation to the rim, the amount of movement being dependent upon the adjustment of said link, and means for driving the rim.

869,668. PYROMETER. CHARLES B. THWING, Philadelphia, Pa. Filed Jan. 25, 1907. Serial No. 354,032.



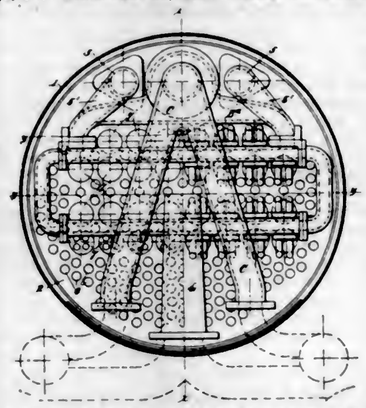
1. In a pyrometer, a scale member, an indicating member, electrically operated mechanism for actuating the indicating member, and automatic means responding to changes in temperature for moving one of said members relatively to the other so as to cause the indicating member to indicate on the scale member the temperature substantially of the surrounding atmosphere when no current is passing through the instrument.

2. In a pyrometer, a scale, an indicator therefor, electrically operated mechanism for actuating the indicator, and bearings for the indicator responding to changes in temperature so as to cause the indicator to indicate the temperature of the surrounding atmosphere when no current is passing through the pyrometer.

3. In a pyrometer, a scale, an indicator therefor, electrically operated mechanism for actuating the indicator, and a coiled bearing for the indicator constructed of materials having different coefficients of expansion which will cause the indicator to indicate the temperature of the surrounding atmosphere when current is not passing through the pyrometer.

4. In a thermo-electric pyrometer, indicating mechanism, and a current-generating member consisting of a tubular member composed of a refractory metal, forming one element of the thermo-electric couple, a wire composed of a dissimilar metal from the tubular member, passing through the pipe and forming the other element of said couple, a split screw plug screwing into the lower end of said tubular member and gripping the lower end of said wire, and circuit wires connected to the pyrometer and to said wire and said tubular member at their upper ends.

869,669. SUPERHEATER. MAX TOLTZ, St. Paul, Minn., assignor of one-fourth to Charles Gilbert Hawley, Chicago, Ill. Filed Jan. 25, 1907. Serial No. 354,155.



1. A locomotive boiler containing two horizontal rows of enlarged flues, in combination with superheater elements arranged in said flues, saturate and superheated steam headers arranged edge to edge one in front of the other between said rows of flues and connected to said elements, said headers being respectively connected to the dry pipe of the boiler and the steam feed pipe or pipes thereof, substantially as described.

2. A locomotive boiler containing two pairs of horizontal rows of enlarged flues, in combination with horizontally disposed and divided saturate and superheated steam headers having their upper and lower parts relatively between the flues of the upper and lower rows of flues respectively, suitable dry pipe and steam feed connections to said saturate and superheated steam headers respectively, and superheater elements arranged in said flues and having their ends connected to adjacent portions of respective headers, substantially as described.

3. A superheater for locomotive boilers, comprising substantially rectangular saturate and superheated steam headers arranged edge to edge one in front of the other and provided with respective inlet and outlet connections, in combination with parallel rows of superheater elements connected in pairs to opposite sides of respective portions of said headers, substantially as described.

4. A steam superheater, comprising substantially rectangular loop-like, saturate and superheated steam headers arranged edge to edge one in front of the other and respectively provided with inlet and outlet connections, in combination with a plurality of superheater elements, the top and bottom surfaces of the upper and the lower portions of said headers being provided with straight rows of holes whereto the ends of said elements are connected, substantially as described.

5. A steam superheater comprising substantially rectangular horizontal loop like saturate and superheated steam headers arranged edge to edge, and respectively provided with inlet and outlet connections, in combination with four rows of superheater elements having their ends connected with respective headers, the middle portions of said headers being constricted as and for the purpose specified.

6. A locomotive boiler provided with four horizontal rows of enlarged fire flues, in combination with horizontally divided or loop like saturate and superheated steam headers, having their upper and lower parts arranged between the rows of flues and suitably connected, inlet connections for said saturate steam header, outlet connections for said superheated steam header, said headers being in substantial abutment upon a single vertical plane, and superheater elements arranged in said flues and having their ends connected with respective headers at points adjacent to said plane, substantially as described.

7. A steam superheater, comprising substantially rectangular loop-like saturate and superheated steam headers arranged edge to edge, in combination with suitable inlet connections for the said saturate steam header, a tee connected with said superheated steam header, and provided with a valve casing, a throttle valve provided in said casing, and a plurality of superheater elements having outwardly and inwardly bent ends, detachably connected to the sides of said superheaters, substantially as described.

8. A locomotive boiler provided with four horizontal rows of enlarged fire-flues in combination with horizontally divided or loop-like saturate and superheated steam headers having their upper and lower parts arranged between the rows of flues and suitably connected, a dry-pipe connection for said saturate steam header, a tee provided at the top of said superheated steam header, a throttle valve arranged in the upper portion of said tee, and a plurality of superheater elements arranged in said flues and having their ends connected with holes in respectively adjacent portions of said headers, substantially as described.

9. A locomotive boiler having two rows of enlarged fire-flues, in combination with a saturate steam header arranged relatively between said rows of fire-flues, a like superheated steam header also arranged between said rows of fire-flues and between the flue sheet and said saturate steam header, a throttle valve at the outlet of the superheated steam header, a plurality of superheater loops or elements arranged in said fire-flues, and having their ends connected with said headers, and said saturate and superheated steam headers being respectively connected with the boiler dry-pipe and the steam feed pipe, substantially as described.

10. A locomotive boiler having two rows of enlarged fire-flues, in combination with a saturate steam header arranged relatively between said rows of fire-flues, a like superheated steam header also arranged between said rows of fire-flues and between the flue sheet and said saturate steam header, a throttle valve at the outlet of the superheated steam header, a plurality of superheater loops or elements arranged in said fire-flues, and having their ends connected with said headers, said saturate and superheated steam headers being respectively connected with the boiler dry-pipe and the steam feed pipe and a bleeder pipe leading from said superheated steam header, substantially as described.

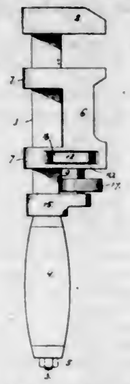
11. A locomotive boiler containing two rows of enlarged fire-flues, in combination with superheater elements arranged in said flues, saturate and superheated steam headers arranged parallel with said rows of flues and relatively between them, means connecting the ends of the superheater elements to said headers, a throttle valve controlling the flow of steam from the superheated steam header, a bleeder pipe leading from said superheated steam header and means connecting the saturate steam header with the dry-pipe of the boiler, substantially as described.

12. A locomotive boiler containing two rows of enlarged fire-flues, in combination with a plurality of double return superheater elements arranged in said flues and having curved ends, saturate and superheated steam headers arranged relatively between said rows of flues and elements, and means connecting the curved ends of said elements to opposite sides of said headers, substantially as described.

869,670. WRENCH. EUGENE H. VANDERSLICE, Jamestown, Pa. Filed July 17, 1907. Serial No. 384,212.

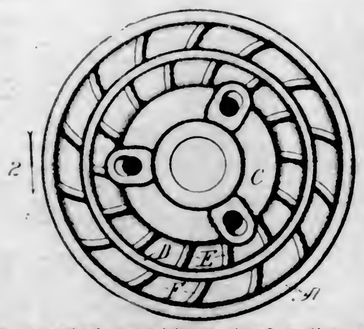
In a monkey wrench, the combination of a shank, carrying a fixed jaw, a movable jaw slidable on said shank having a longitudinally-extending bore and having a slot extending transversely of the shank, said jaw being recessed at the inner end of said slot, two clamping-jaws pivoted within the slot to extend transversely of the movable jaw and having threaded recesses in their inner faces, the free ends of said clamping jaws projecting into the recess in the movable jaw, a screw extending into the longitudinal bore of said movable jaw and engaged by the walls of the threaded recess in said clamping jaws, a spring mounted

between said clamping jaws within said slot and engaging both clamping jaws to hold the same normally engaged



with the screw, a bracket carried by the shank for supporting the inner end of said screw.

869,671. CAR-WHEEL. FREDERICK K. VIAL, La Grange, Ill., assignor to Griffin Wheel Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 1, 1907. Serial No. 365,853.



1. A car wheel comprising a tread section, and a strengthening rib extending around the wheel inside said tread section, said strengthening rib having a free outer edge.

2. A car wheel comprising a tread section, and a strengthening rib extending around the wheel inside said tread section, said strengthening rib having a free outer edge and being connected to the tread section by a plurality of brackets.

3. A car wheel comprising a tread section, a plate section, a strengthening rib extending around the wheel inside the tread, and brackets conecting said rib to the tread and plate sections.

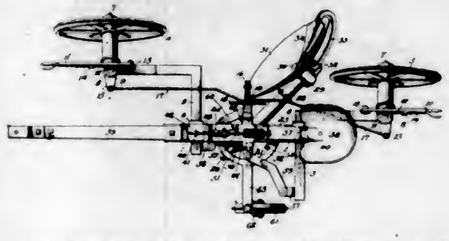
4. A car wheel comprising a tread section, and a circular strengthening rib extending around the wheel inside said tread section, said strengthening rib having a free outer edge.

5. A car wheel comprising a tread section, and a circular strengthening rib extending around the wheel inside said tread section, said strengthening rib having a free outer edge and being connected to the tread section by a plurality of brackets.

6. A car wheel comprising a tread section, a plate section, a circular strengthening rib extending around the wheel inside the tread, and brackets connecting said rib to the tread and plate sections.

7. A car wheel comprising a hub, a double plate section surrounding said hub, a single plate section outside of said double plate section, a tread, a strengthening rib extending around the wheel and projecting from said single plate section, and brackets connecting said rib to the tread and to the single and double plate sections.

869,672. REVERSIBLE DISK PLOW. SAMUEL V. WEEKS, Highland Park, Tenn., assignor to The Volunteer Disc Plow Co., Chattanooga, Tenn. Filed June 30, 1906. Serial No. 324,200.



1. A reversible plow including a disk operative in reversed positions and reversible in a direction to present its concave side opposite the ground when the disk is in its intermediate position.

2. A reversible plow including a disk operative in reversed positions and reversible on a substantially horizontal axis and in a direction to present its concave side opposite the ground when the disk is in its intermediate position.

3. A reversible plow including a disk operative in reversed positions and reversible on a substantially horizontal axis disposed transverse to the plow and in a direction to present its concave side opposite the ground when the disk is in its intermediate position.

4. A reversible plow including a disk reversible on a substantially horizontal axis and movable under said axis during such reversal.

5. A plow including a support, and a disk carried thereby and reversible on a shiftable axis to different operative positions in which the disk faces the opposite ends of the plow.

6. A plow including a frame structure, a disk support mounted to swing therefrom, and a disk carried by said support and movable endwise of the plow and also movable to either side of the support.

7. A plow including a supporting structure, a furrow opening disk, and an approximately horizontal disk support rotatable on an approximately horizontal axis and arranged to swing from an approximately vertical axis.

8. A plow including a frame structure, a horizontal rotary disk support mounted to swing therefrom and rotatable on its longitudinal axis, a disk carried by said support, and means for swinging said support to shift the disk to different positions endwise of the frame.

9. A plow including a support, a disk carried thereby and reversible on a horizontal axis which is laterally shiftable endwise of the plow during the act of reversal.

10. A plow including a support, a disk carried thereby and reversible on a substantially horizontal axis disposed transverse to the plow, and means operative to reverse the disk and to shift the axis of reversal laterally.

11. A plow including a reversible disk, shiftable endwise of the plow and mechanism for moving the disk from both horizontal and vertical axes to reverse and shift said disk.

12. A plow including a disk, and mechanism for shifting the disk bodily around a vertical axis and for reversing the disk upon a horizontal axis.

13. A plow including a disk, and mechanism for shifting the disk from two angularly related axes at the same time.

14. A plow including a disk, mechanism for shifting the disk from two angularly related axes at the same time to reverse the disk and to shift the same to a different position, and means for locking the disk.

15. A plow including a frame structure, furrow wheels, a disk intermediate of the wheels, and means for shifting the disk from a position adjacent to one furrow wheel to a position adjacent to the other furrow wheel and for moving the disk in another direction to reverse the same.

16. A plow including a frame structure, a reversible disk shiftable endwise of the plow, disk shifting means, disk reversing means, and disk locking means.

17. In a plow, the combination with a frame, of a rotary disk reversing shaft laterally movable independently of the frame, and a disk carried by the shaft.

18. A plow including a frame structure, a laterally movable rotary reversing shaft, a disk carried by the shaft, and mechanism for rotating the shaft to reverse the disk and for moving the shaft laterally to shift the disk from one point to another.

19. A plow including a frame structure, a rotary reversing shaft movable to opposite angular positions relative to the frame structure, and a disk carried by the shaft and reversible by the rotation thereof.

20. A plow including a frame structure, a disk, a bodily movable reversing shaft for the disk, and means whereby the bodily movement of said shaft will cause the rotation thereof, to reverse the disk.

21. A plow including a disk, a laterally movable reversing shaft therefor, and means whereby the lateral movement of the reversing shaft will cause the same to rotate for the purpose of effecting the reversal of the disk.

22. A plow including a disk, a laterally movable reversing shaft therefor, and means whereby the lateral movement of the shaft will cause the same to rotate, said means including a relatively fixed part and gearing intermediate of said fixed part and the reversing shaft.

23. A plow including a disk and a horizontally disposed, rotary, disk reversing shaft mounted to swing from a vertical axis.

24. A plow including a frame structure, a disk, a horizontally disposed, rotary, disk reversing shaft mounted on the frame to swing from a vertical axis, a pinion carried by the shaft, and a relatively fixed track engaged by the pinion to cause the reversing shaft to rotate when swung.

25. A plow including a disk, a rotary disk reversing shaft movable laterally, means for causing the shaft to rotate during the movement thereof, and means for locking said shaft at the completion of its movement.

26. A plow including a disk, a laterally movable, rotary, disk reversing shaft, means for causing the shaft to rotate during its lateral movement, and means whereby the lateral movement of the shaft will cause the locking of the shaft against further rotary movement after predetermined rotary movement thereof.

27. A plow including a disk, a rotary and laterally movable disk-reversing shaft, means for causing the lateral movement of the shaft to effect the rotation thereof, and means for arresting the rotary movement of the shaft, said means including a lug movable with the shaft and a relatively fixed lug coöperating therewith.

28. A plow including a disk, a rotary and laterally movable disk reversing shaft, and means for arresting both the rotary and lateral movement of the shaft and for locking said shaft, said means including elements brought into coöperative relation by the movement of the shaft.

29. A double ended disk plow including a supporting structure, a sleeve movable thereon, a furrow opening disk reversible to face toward either end of the plow, and a shaft rotatable in the sleeve to reverse the disk.

30. A double ended plow including a supporting structure, a laterally movable sleeve thereon, a furrow opening disk reversible to face toward either end of the plow, and a shaft carrying the disk and rotatable in the sleeve to reverse said disk.

31. A double ended plow including furrow and land wheels, a supporting structure, a sleeve mounted to swing therefrom, a disk movable to face toward either end of the plow, and a shaft carrying the disk and rotatable in the sleeve to reverse said disk and thus position the same for plowing in either direction.

32. A double ended plow including furrow and land wheels, a supporting structure, a sleeve carried thereby, a disk, and a shaft mounted in the sleeve, said sleeve and shaft being laterally movable and one of said elements being rotatable to reverse the disk and thus cause the same to face toward either end of the plow.

33. A plow including a frame structure, a sleeve mounted to swing thereon, a disk reversing shaft mounted in the sleeve, a disk carried by the shaft, means for swinging the sleeve, and means for rotating the shaft.

34. A plow including a frame, a sleeve carried by the frame and mounted to swing from a vertical axis located intermediate of its ends, a disk reversing shaft mounted to rotate in the sleeve and extended beyond the opposite ends thereof, a disk carried by one end of the shaft, and means coöperating with the opposite end of the shaft to rotate the same.

35. A plow including a frame, a sleeve carried by the frame and mounted to swing from a vertical axis located intermediate of its ends, a disk reversing shaft rotatable in the sleeve and extended beyond the opposite ends thereof, a disk mounted at one end of the reversing shaft, means for swinging the sleeve, and gearing coöperating with the opposite end of the reversing shaft to rotate said shaft as the sleeve is swung.

36. A plow including a frame structure, a sleeve carried thereby and mounted to swing from a vertical axis, a disk reversing shaft rotatable in the sleeve and extended beyond the opposite ends thereof, a disk mounted at one end of the shaft, a pinion carried at the opposite end of the shaft, a track coöperating with the pinion to rotate the shaft when the sleeve is swung, and coöperating stop members associated with the shaft and track respectively to limit the rotary movement of the shaft.

37. A plow including a frame structure, a sleeve carried thereby and mounted to swing from a vertical axis, a disk reversing shaft rotatable in the sleeve and extended beyond the opposite ends thereof, a disk mounted at one end of the shaft, a pinion carried at the opposite end of the shaft, a track coöperating with the pinion to rotate the shaft when the sleeve is swung, coöperating stop members associated with the shaft and track respectively to limit the rotary movement of the shaft, and means coöperating with one of said stop members to lock the shaft against reverse rotation.

38. A plow including a disk operative in reversed positions and reversible on a substantially horizontal axis and a draft appliance coöperatively related to the disk to reverse the same.

39. A reversible plow including a disk operative in reversed positions and reversible on a substantially horizontal axis disposed transverse to the line of draft, and a draft appliance movable to effect the reversal of the disk.

40. A reversible plow including a disk operative in reversed positions and reversible on a substantially horizontal axis, and a reversing bar movable on a substantially vertical axis and arranged to effect the reversal of the disk.

41. A plow including a frame, furrow wheels, a land wheel, a disk located between the furrow wheels and reversible on a substantially horizontal axis, and a draft appliance movable to reverse the disk.

42. A plow including a disk operative in reversed positions and reversible on a substantially horizontal axis and in a direction to present the concave side of the disk opposite the ground when the disk is in an intermediate position, and a draft appliance movable to reverse the disk.

43. A plow including a disk operative in reversed positions and reversible on a substantially horizontal axis and in a direction to present the concave side of the disk opposite the ground when the disk is in an intermediate position, and a reversing bar rotatable on a substantially vertical axis to reverse the disk.

44. A plow including a disk reversible on a substantially horizontal axis disposed transverse to the plow, a draft appliance shiftable from one end of the plow to the other, and means operated by the draft appliance to reverse the disk.

45. A plow including a disk movable to reversed positions and shiftable in a different direction to a different position longitudinally of the plow, and a draft appliance movable to shift the disk and to reverse said disk during the shifting thereof.

46. A plow including a frame structure and furrow

wheels, a reversible disk shiftable by a movement other than its reversing movement to a position adjacent to either furrow wheel, and a draft appliance movable to shift said disk to either of said positions.

47. A plow including a frame structure, furrow wheels, a land wheel, a reversible disk shiftable to a position adjacent to either furrow wheel, a draft appliance shiftable to either end of the plow, and means operated by the draft appliance to reverse the disk by a movement thereof other than the shifting movement of the disk.

48. A plow including a frame structure, furrow wheels, and a land wheel, a reversible disk shiftable to a position adjacent to either furrow wheel by a movement other than the reversing movement of the disk, a draft appliance shiftable to either end of the plow, and means operated by the draft appliance to shift and reverse the disk.

49. A plow including a frame structure, furrow wheels, a land wheel, a reversible disk shiftable to a position adjacent to either furrow wheel, and a reversing bar rotatable on a substantially vertical axis to shift and reverse the disk by imparting simultaneous movement thereto in different directions.

50. A plow including a frame structure, a laterally movable reversing shaft carried thereby, a draft appliance arranged to shift the shaft laterally, and means for causing the shaft to rotate.

51. A plow including a frame structure, furrow wheels, and a land wheel, a horizontal reversing shaft disposed transverse to the frame structure and mounted to swing from a vertical axis, a disk carried by the reversing shaft, a draft appliance reversible on the frame structure, means operated by the draft appliance to swing the reversing shaft for the purpose of shifting the disk from a position adjacent to one furrow wheel to a position adjacent to the other furrow wheel, and means operating during the swinging of the reversing shaft to rotate said shaft for the purpose of reversing the disk.

52. A plow including a frame structure, a sleeve mounted to swing thereon, a draft appliance arranged to swing the sleeve, a reversing shaft rotatable in the sleeve, and a disk carried by the shaft.

53. A plow including a frame structure, a laterally movable sleeve, a shaft interfitting therewith, one of said elements being rotary, a disk carried by the rotary element and having its axis disposed in angular relation thereto, and a draft appliance arranged to move the shaft and sleeve laterally.

54. A plow including a frame structure, a sleeve mounted to swing therefrom, a shaft rotatable in the sleeve, a disk carried in the shaft, a draft appliance reversible on the frame and arranged to swing the sleeve, and gearing for rotating the shaft as the sleeve is swung.

55. A plow including a main frame, furrow wheel frames supporting the main frame, swinging crank axles supporting the wheel frames, furrow wheels supporting the axles, and means for effecting relative shifting of the several frames to adjust the relative positions of the main frame and furrow wheels.

56. A plow including a main frame disposed in the general direction of the line of draft a pair of wheel frames connected for movement in opposite directions transverse to the frame and supporting the latter, and furrow wheels both located at the same side of the plow and supporting the respective wheel frames.

57. A plow including a main frame, furrow wheels supporting the front and rear ends thereof, and means for effecting relative shifting of the frame and furrow wheels to present either of said wheels nearer the line of the frame than the other wheel.

58. A plow including a frame structure, furrow wheel frames shiftable transversely thereof, crank axles mounted to swing from the wheel frames, furrow wheels supporting the crank axles, and means for shifting the main frame relatively to one wheel frame and for shifting the other wheel frame relatively to the main frame, to move the main frame away from one furrow wheel and to present the other furrow wheel nearer the main frame.

59. A plow including a main frame, furrow wheel frames slidably connected to the front and rear ends of the main frame, and means connecting said wheel frames to compel the same to move in opposite directions relative to the main frame.

60. A plow including a main frame, a pair of furrow wheel frames, disposed transverse to the main frame, means for moving the furrow wheel frames in opposite directions relative to the main frame and furrow wheels located at the same side of the main frame and supporting the wheel frames.

61. A plow including a main frame, furrow wheel frames relatively adjustable transversely thereof and located at the front and rear ends of the main frame, and means carried by the main frame for effecting relative adjustment of the wheel frames.

62. A plow including a main frame, transversely adjustable furrow wheel frames connected thereto, and a draft appliance movable to effect relative adjustment of the main frame and furrow wheel frames.

63. A reversible plow including a main frame, furrow wheel frames adjustable transversely thereof but in opposite directions, a draft appliance reversible on the main frame, and means connecting the draft appliance with each of the furrow wheel frames.

64. A plow including a main frame, a disk, and furrow wheels, a draft appliance movable to reverse the disk on a substantially horizontal axis and to shift the positions of the furrow wheels with respect to the frame.

65. A plow including a frame, shiftable furrow wheels, a reversible disk shiftable to a position adjacent to either furrow wheel by a movement other than the reversing movement of the disk, and a draft appliance movable to shift and reverse the disk and to shift the positions of the furrow wheels.

66. A plow including a frame, furrow wheels, a disk shiftable to a position adjacent to either furrow wheel, means operative to shift the disk and to shift the frame away from one furrow wheel and to shift the other furrow wheel toward the frame.

67. A plow including a frame, furrow wheels, a reversible disk shiftable to a position adjacent to either furrow wheel, and means for shifting and reversing the disk and for shifting the frame and one furrow wheel to different positions relative to the other furrow wheel.

68. A plow including a frame, furrow wheels, a disk reversible on a substantially horizontal axis and shiftable to a position adjacent to either furrow wheel, and means operative to shift and reverse the disk and to shift the furrow wheels with respect to the frame.

69. A plow including a main frame, extending in the general direction of the line of draft, furrow wheel frames shiftable transversely of the main frame, a shiftable disk, and means operative to shift the disk and also operative to effect relative shifting of the main frame and wheel frames.

70. A plow including a main frame, furrow wheel frames adjustable laterally thereof, crank axles mounted to swing in the wheel frames, furrow wheels supporting said axles, means for swinging said axles, and means for effecting relative shifting of the several frames.

71. A plow including a main frame, a land wheel, furrow wheels, crank axles constituting mountings for the furrow wheels, means for swinging the crank axles simultaneously but in opposite directions, furrow wheel frames having shiftable connection with the main frame and supported by the crank axles, and means for effecting relative shifting of the main frame and wheel frames.

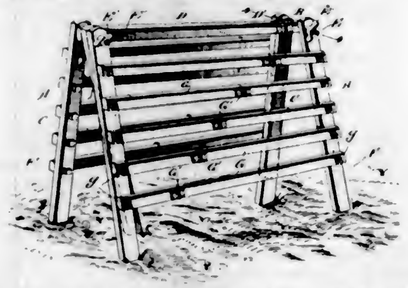
72. A plow including a main frame, furrow wheel frames, means for effecting relative adjustment of the main frame and wheel frames, crank axles at the outer ends of the wheel frames, furrow wheels supporting the crank axles, and means carried by the main frame for swinging the crank axles simultaneously but in opposite directions.

73. A plow including a main frame, furrow wheel frames shiftable transversely thereof, a reversing bar provided with laterally extending arms, and links connecting said arms to the wheel frames.

74. A plow including a support, a disk operative in reversed positions and movable out of the ground in the act of reversal, and a draft appliance movable to reverse the disk.

75. In a plow, the combination with a support, of a reversible disk movable relative to the support, said movement including, as components thereof, the reversing movement of the disk and a movement serving in conjunction with the reversing movement to move the disk a greater distance than the reversing movement alone.

869,673. CLOTHES-DRIER. SAMUEL E. WILSON, Franklin, Ky. Filed Jan. 5, 1907. Serial No. 350,894.



1. The clothes drier herein described comprising opposite drying sections composed each of battens and supporting bars extending between the same and composed of sections hinged together with the hinges of the different supporting bars arranged at different distances from the battens when the latter are adjusted to a position at approximately a right angle to the supporting bars, whereby the drying sections can only be folded, when collapsed, and in position to bring the hinges of the several supporting bars in alinement, the brace bars arranged at their upper ends between the upper ends of the battens of the drying sections, the supplemental supporting bar arranged between the upper ends of the drying sections and the bolts and nuts connecting the drying sections at the upper ends thereof and securing the supplemental supporting bar and the braces, substantially as and for the purposes set forth.

2. In an apparatus substantially as described a section comprising upright battens and supporting bars extending between and pivoted to the end bars or battens and composed of sections hinged together with the several hinges arranged out of alinement in the normal position of the parts and adapted to be brought into alinement when the section is collapsed in order to fold the section on the axis of the alined hinges, substantially as set forth.

3. A section for clothes driers composed of battens and supporting bars composed of sections hinged together between the end bars or battens, the hinges of the several bars being at different distances from the battens whereby when the section is adjusted to position for use the hinges will be out of alinement and will be brought into alinement by collapsing the section, as set forth.

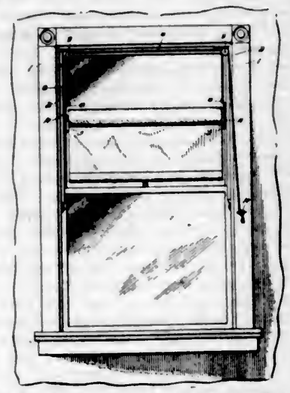
869,674. WINDOW-SHADE BRACKET. CHARLES I. WIMMER, Columbus, Ohio. Filed Mar. 7, 1907. Serial No. 361,045.

1. In a shade bracket, the combination with a window casing and guiding strips carried thereby, of brackets having ribs slidable in said guiding strips, and compensating shoes slidable on said ribs.

2. In a shade bracket, the combination with grooved guiding strips, of shade brackets having longitudinal guiding ribs, and hollow shoes slidably confined on said ribs adapted for engagement with the guiding grooves.

3. A shade bracket having a socket to receive the end of a shade roller and formed with a longitudinal guiding rib, a hollow shoe slidably confined on said rib, guiding strips to receive the shoe, and means for hoisting the bracket.

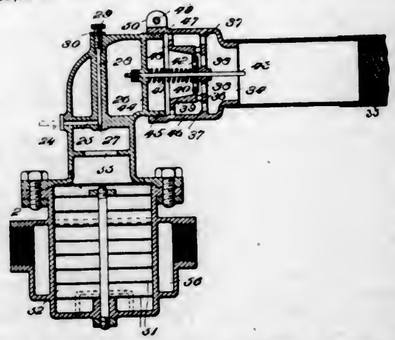
4. A shade bracket comprising a supporting plate having a socket therein, a guiding rib on the rear face of the plate having an angularly disposed slot therethrough, a hollow shoe incasing the rib, and a securing pin carried by the shoe passing through the angular slot in the rib.



5. A shade bracket comprising a supporting plate having a flared upper end with an opening therein for the reception of a cord or other supporting medium, the plate being provided with a socket for the reception of the end of a shade roller, a guiding rib on the rear face of the plate, and a hollow shoe slidably confined on said rib and capable of outwardly sliding movement.

6. Shade brackets comprising flat plates provided with sockets to receive the ends of a shade roller, said plates having outward flaring ends, the upper flared end having a keyhole slot therein to receive the end of a supporting cord, ribs on the rear faces of the plates having inclined ends, shoes of corresponding configuration inclosing the ribs, and pins carried by the shoes engaging angular slots in the ribs to slidably hold the shoes in place.

869,675. GASOLENE-CARBURETER. ALEXANDER WINTON, Cleveland, Ohio. Filed Nov. 10, 1904. Serial No. 232,167.



1. An improved carbureter, comprising a mixing chamber, gasolene and air inlet passages in communication therewith, the air inlet passage having an annular member therein constructed to form a main air passage-way therearound, auxiliary passage-ways in communication with the interior of the annular member, and a member normally obstructing the passing of air through the auxiliary passage and adapted to be moved away from said passages under the influence of the engine, for the purpose described.

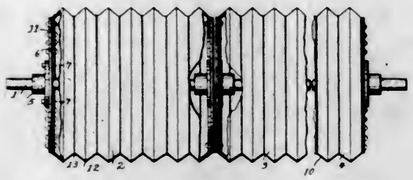
2. An improved carbureter comprising a mixing chamber having gasolene and air passages in communication therewith, the air passage having an adjustable annular member around which is formed a main air passage-way, auxiliary passages in communication with the interior of

the annular member, and means located within the annular member for controlling the passage of the air through the auxiliary passage-ways.

3. An improved carbureter including a mixing chamber having gasolene and air inlet passages in communication therewith, an annular member within the air passage-way and constructed to form a main air passage therearound, auxiliary air passages in communication with the interior of the annular member, and means controlling the passage of air through the auxiliary passage-ways.

4. An improved carbureter comprising a mixing chamber having gasolene and air inlet passages in communication therewith, the air inlet passage having an annular member therein and constructed to form a main air passage therearound, the interior wall of the annular member being cone-shaped in cross-section, the cone diverging inwardly, auxiliary air passages in communication with the interior of the annular member, and an inwardly-movable diaphragm within the annular member and adapted to obstruct the passage of air through the auxiliary passages, the diaphragm adapted to be moved inward longitudinal the annular member by the suction of the engine.

869,676. LAND-ROLLER. JOSEPH WOLFINGER, Dundas, Wis., assignor to Brillion Iron Works Company, Brillion, Wis. Filed June 20, 1907. Serial No. 379,951.



1. A land roller formed of corrugated sheet metal.

2. A land roller formed of corrugated sheet metal and having the corrugations circumferentially arranged thereon.

3. A land roller, the shell of which is formed of corrugated sheet metal, the edges thereof where they are to be connected with the ends of the roller, being adapted in form to be bolted thereto.

4. A land roller formed of corrugated sheet metal, the outer circumference of the corrugations being a comparatively sharp angle.

5. A land roller formed of corrugated sheet metal, the outer surface of the inner corrugations being curved transversely of the corrugations.

6. A land roller formed of corrugated sheet metal, the corrugations being circumferentially arranged, and of a curved form transversely of their smallest diameter.

7. A land roller formed of corrugated sheet metal, and consisting of a plurality of independent sections, a head at each end of each section, said sections being mounted upon a single shaft and forming thereby a substantially continuous corrugated surface the length of the roller.

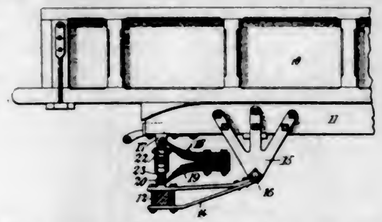
8. A land roller formed of corrugated sheet metal, the corrugations thereof being circumferentially arranged and their outer circumference forming a comparatively sharp angle.

869,677. DUMPING-WAGON. THOMAS WRIGHT, Jersey City, N. J. Filed June 5, 1905, Serial No. 263,743. Renewed Sept. 19, 1907. Serial No. 393,690.

1. In a wagon, the combination of an axle, an arm attached securely thereto, a bed, a bracket depending from the bed and pivoted to the arm, and a forked spring having its arms respectively in connection with the bed and axle.

2. In a wagon, the combination of an axle, an arm attached securely thereto, a bed, a bracket depending from the bed and pivoted to the arm, and a forked spring having its arms respectively in connection with the bed and axle, said spring extending longitudinally of the wagon.

3. In a wagon, the combination of an axle, an arm attached securely thereto, a bed, a bracket depending from the bed and pivoted to the arm, and a forked spring having its arms respectively in connection with the bed and axle, said spring projecting forward from the axle longitudinally of the wagon.



4. In a wagon, the combination of an axle, arms securely attached thereto, a bed, brackets depending from the bed at opposite sides thereof and pivoted to the arms, forked springs between the bed and axle and located at each side of the vehicle, the said springs extending longitudinally of the vehicle, and the arms of the springs being respectively connected with the bed and axle, and a second spring bearing between the bed and axle and extending transversely of the wagon over the axle.

5. In a wagon, the combination of an axle, a bed, means connecting the axle and bed, said means permitting relative movement of the bed, a spring bearing between the axle and bed and extending longitudinally of the wagon, and a second spring between the axle and bed and extending transversely of the wagon over the top of the axle, the said second spring comprising two half elliptic sections secured together, guides carried by the bed and adapted to receive the ends of one of said sections of the spring, the ends of the other section bearing on the axle.

6. In a wagon, the combination of an axle, a bed, means connecting the axle and bed, said means permitting relative movement of the bed, a spring bearing between the axle and bed and extending longitudinally of the wagon, and a second spring bearing between the axle and bed and extending transversely of the wagon over the top of the axle, the second spring being formed of two half elliptic sections fastened together with their convex sides adjacent.

7. In a wagon the combination of an axle, arms securely attached thereto, a bed, brackets depending from the bed at opposite sides thereof and articulated to the arms, and forked springs located at each side of the wagon and having their members respectively connected to the axle and bed.

8. In a wagon the combination of an axle, an arm securely attached thereto, a bed, a bracket depending therefrom and articulated to the arm and a spring formed of two members hingedly connected to each other, said members being respectively connected to the axle and bed.

869,678. MECHANICALLY-CONTROLLED SOLO-ACCENT DEVICE FOR MECHANICAL MUSICAL INSTRUMENTS. PHILIP WURST, Jr., Philadelphia, Pa., assignor to The Auto-Manual Piano Action Company, Philadelphia, Pa., a Corporation of New Jersey. Filed June 15, 1904. Serial No. 212,684.

1. The combination of a series of sounding devices provided with corresponding digitals and operating mechanism; a series of damping devices independent of said digitals and operating mechanism, respectively related to individual sounding devices, and arranged to affect the same in accordance with their position; and means independent of the digitals and operating mechanism whereby the position may be altered of successively and chromatically selected individual damping devices or small continuous groups thereof, substantially as set forth.

2. The combination of a series of sounding devices provided with corresponding digitals and operating mechanism; a series of damping devices independent of said digitals and operating mechanism, respectively related to individual sounding devices, and arranged to affect the same in accordance with their position; and means independent of the digitals and operating mechanism, whereby the position may be altered of successively and chromatically selected individual damping devices or small continuous groups thereof, substantially as set forth.

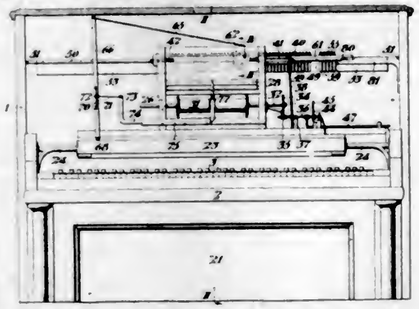
3. The combination of a series of sounding devices provided with corresponding digitals; automatic playing mechanism; a series of damping devices independent of said digitals and playing mechanism, respectively related to individual sounding devices and arranged to affect the same in accordance with their position; means independent of the digitals and playing mechanism whereby the position may be altered of successively and chromatically selected individual damping devices; and an indicator in accordance with which the movement of the damping devices is both controlled and indicated, substantially as set forth.

4. The combination of a series of sounding devices provided with corresponding digitals and operating mechanism; a series of damping devices independent of said digitals and operating mechanism, comprising levers respectively related to the individual sounding devices, and arranged to affect the same in accordance with their position; and means independent of the digitals and operating mechanism, whereby the position may be altered of successively and chromatically selected individual levers or small continuous groups thereof, whereby all of said sounding devices, with the exception of such selected individual or continuous group, may be simultaneously damped, substantially as set forth.

5. The combination of a series of sounding devices; a series of damping devices, comprising levers respectively related to the individual sounding devices and arranged to affect the same in accordance with their position; and means whereby the position may be altered of successively selected individual damping devices, or small continuous groups thereof, such means comprising a rail, and a carriage arranged to traverse said rail in operative relation with said levers.

6. The combination with a series of sounding devices; of a series of damping devices, comprising levers respectively related to the individual sounding devices; strips of resilient material respectively carried by said levers and arranged to affect the operation of said sounding devices in accordance with their position; and, means arranged to change the position of said levers, comprising a rail and a carriage arranged to traverse said rail in operative relation with said levers, substantially as set forth.

7. The combination with a series of sounding devices; of a series of damping devices, comprising levers respectively related to the individual sounding devices; strips of resilient material respectively carried by said levers and arranged to affect the operation of said sounding devices in accordance with their position; and, means arranged to change the position of said levers, comprising a rail and a carriage arranged to traverse said rail in such relation with said levers as to raise and lower said strips, between the sounding devices and their operating means, substantially as set forth.



8. The combination with a series of sounding devices; of a series of damping devices, comprising levers respectively related to the individual sounding devices, arranged to affect the latter in accordance with their position; means arranged to change the position of said levers, comprising a movable rail adjacent to said levers, a carriage arranged to traverse said rail in operative relation with said levers, and, means arranged to engage the carriage and move said rail and thereby contemporaneously change the position of all of said levers, substantially as set forth.

9. The combination with a series of sounding devices; of a series of damping devices, comprising levers respectively related to the individual sounding devices; strips of resilient material respectively carried by said levers and arranged to affect the operation of said sounding devices in accordance with their position; and, means arranged to move said rail and thereby contemporaneously change the position of all of said levers, substantially as set forth.

10. The combination with a series of sounding devices; of a series of damping devices, comprising levers respectively related to the individual sounding devices, arranged to affect the latter in accordance with their position; means arranged to change the position of said levers comprising a rail, means supporting said rail for oscillatory movement, a carriage arranged to traverse said rail in operative relation with said levers; and, means arranged to engage the carriage and move said rail and thereby contemporaneously change the position of all of said levers, comprising an incline arranged to be encountered by said carriage, substantially as set forth.

11. The combination with a series of sounding devices; of a series of damping devices, comprising levers respectively related to the individual sounding devices, arranged to affect the latter in accordance with their position; means arranged to change the position of said levers, comprising a rail and a carriage arranged to traverse said rail in operative relation with said levers; a manually operative member; and, connections between said carriage and said manually operative members, substantially as set forth.

12. The combination with a series of sounding devices; of a series of damping devices, comprising levers respectively related to the individual sounding devices, arranged to affect the latter in accordance with their position; means arranged to change the position of said levers, comprising a rail and a carriage arranged to traverse said rail in operative relation with said levers; a manually operative member; connections between said carriage and said manually operative member; and, an indicator arranged to indicate the location of said damping devices; said indicator being movable in correspondence with the movement of said manually operative members, substantially as set forth.

13. The combination with a series of sounding devices provided with corresponding digitals; a series of damping devices respectively related to the individual sounding devices, each of said damping devices being provided with means for throwing it into or out of action; and means under the control of the operator and independent of the digitals, whereby the control of the damping devices may be successively and chromatically effected during the playing of the instrument, substantially as set forth.

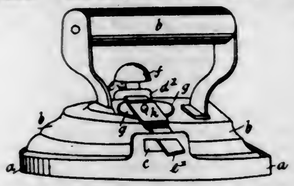
14. In an automatic piano, the combination of strings; digitals; a solo accenting device, comprising a set of dampers for the strings; and means independent of the digitals under continuous control of the operator to successively and chromatically actuate individual dampers or small groups thereof, so as to relieve the corresponding strings from the damping effect.

15. In an automatic piano, the combination of strings; digitals; a solo accenting device comprising a set of dampers for the strings; means independent of the action whereby all of said dampers may be simultaneously actuated to damp all of said strings; and means independent of said digitals under continuous control of the operator, whereby a plurality of said individual dampers may be successively and chromatically actuated to relieve their strings of the damping effect.

16. In an automatic piano, the combination of strings; digitals; a solo accenting device comprising a set of dam-

pers for the strings; means independent of said digitals under continuous control of the operator whereby a plurality of said individual dampers may be successively and chromatically actuated to relieve their strings of the damping effect; and means independent of the action mechanism whereby all of the dampers may be simultaneously actuated to relieve all of the strings from their damping effect.

869,679. LAUNDRY-IRON. JOHN R. ADAMS, Bursiem, England, assignor of one-half to James Sherwin, Hanley, England. Filed July 22, 1905. Serial No. 270,849.

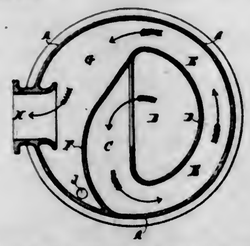


1. A removable metallic shoe for an ordinary laundry iron provided with lugs to be engaged by a fastening bar in combination with a detachable fastening device consisting of a spring bar adapted to engage said lugs and provided with a support on which it is adapted to be swiveled, substantially as described.

2. In combination with an ordinary laundry iron, a removable metallic shoe, lugs on each side of said shoe, a central opening in one of said lugs and an open notch in the other, and a detachable fastening device comprising a spring bar adapted to removably engage one end in the opening in one of said lugs and the other end in the open notch of the other lug.

3. In combination with an ordinary laundry iron, a removable shoe, lugs on each side of the shoe, an independent fastening device consisting of a plate roughened on its lower face, a spring bar swiveling on the upper face thereof and adapted to engage said lugs, substantially as described.

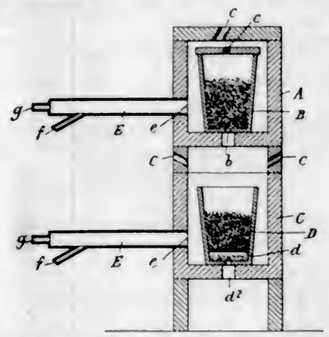
869,680. APPARATUS FOR SEPARATING LIQUIDS FROM VAPORS. HUGH W. AITKEN and WILLIAM MACKIE, Glasgow, Scotland. Filed Apr. 2, 1907. Serial No. 365,938.



An apparatus for separating liquids from vapors comprising a casing, a substantially central and axial inlet thereto, a passage of contracted area formed between the wall of the chamber and a partition and into which the vapor is guided in a definite direction to cause swirling, an expansion chamber into which the vapor flows from the constricted passage, and a discharge outlet from the expansion chamber.

869,681. MANUFACTURE OF FERROCHROMIUM. HENRY W. C. ANNABLE, Battersea, London, England, assignor to The Ferro Alloys Syndicate Limited, London, England. Filed Oct. 31, 1906. Serial No. 341,481.

1. The process of manufacturing ferro-chromium substantially free from carbon which consists in smelting crude ferro-chromium in the presence of carbon and oxid of iron and out of contact with the products of combustion and then passing the molten ferro-chromium through a bed of oxid of iron to reduce the carbon present, substantially as described.



2. The process of manufacturing ferro-chromium substantially free from carbon which consists in smelting crude ferro-chromium in the presence of carbon and oxid of iron and out of contact with the products of combustion and then passing the molten ferro-chromium in a continuous stream through a bed of oxid of iron to reduce the carbon present, substantially as described.

3. The process of manufacturing ferro-chromium substantially free from carbon which consists in smelting crude ferro-chromium in the presence of carbon and oxid of iron and out of contact with the products of combustion and over a bed of oxid of iron and then dropping the molten ferro-chromium in a continuous stream through the said bed of oxid of iron to reduce the carbon present, substantially as described.

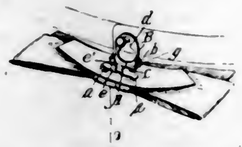
869,682. CANE. WILLIAM AUTENRIETH, Cincinnati, Ohio. Filed July 13, 1907. Serial No. 383,654.



1. A convertible walking-cane comprising a stick or body portion, a hollow lateral handle at the upper end thereof, a spring latch device with an outer hooked end in the hollow of said handle, a lateral arm or drop-step having a vertical, pendent inner end sliding over said stick and engaging said latch device when in normal position, and a stop or detent at the lower end of said stick for supporting said lateral arm or drop-step when dropped downward along said stick into using position as a step.

2. A convertible walking-cane comprising a stick or body portion having a lateral handle at its upper end and a stop or detent at its lower end, a latch device in said handle and a lateral arm or drop-step having a pendent inner portion sliding over said stick, notches in the lower end of said pendent portion of the lateral arm and an elongated opening with a shouldered outer end construction in said lateral arm or drop-step.

869,683. NECKTIE-FASTENER. MAURICE BALLA and DAVID STEIN, Norfolk, Va. Filed May 3, 1906. Serial No. 314,981.

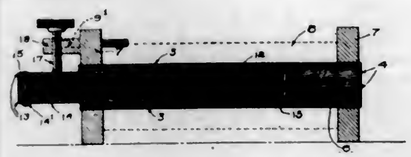


1. In a tie attaching device, the combination with a tie having a shield, of a plate secured thereto, a flap pivoted to the plate having a key-hole slot therein, and a tongue projecting rearwardly from the plate designed to obstruct the narrower portion of the slot and provided with a shoulder designed to engage the inner face of the button head, substantially as described.

2. In a tie attaching device, the combination with a tie, of a plate secured thereto, a flap pivoted to the plate and provided with a key-hole slot, a shouldered tongue projecting from the plate coacting with the flap and a spring tongue interengaging with the flap to hold the same in one position, substantially as described.

3. In a tie attaching device, the combination with a tie, of a plate having tongues projecting from opposite sides thereof extending through the tie shield and up-set upon the front face of the latter, rearwardly extending ears, a spring tongue at its lower edge and a shouldered tongue at its upper edge, and a flap provided with a key-hole slot and with pintles pivoted in said ears, the said flap being so disposed that the shouldered tongue will enter the lower portion of the contracted part of the key-hole slot and obstruct the same when the tongue is closed and a surface on the flap coacting with the spring tongue of the plate, substantially as described.

869,684. ELECTRIC REGULATOR. ALBERT H. BARBER, Watertown, N. Y., assignor of one-half to Jay M. Mullen, Watertown, N. Y. Filed Mar. 27, 1907. Serial No. 364,770.

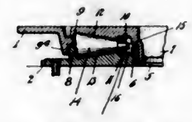


1. An electric regulator of the class described, comprising a spool having a square oblong laminated body, the said body having a square central hole therethrough, and a square laminated core operably fitting the square central hole in said spool and adapted to be adjusted and held in a number of different positions in relation to said spool, substantially as described.

2. A regulator, comprising a square oblong laminated iron spool or bobbin having a square opening extending centrally throughout its entire length, a square laminated iron core adjustably disposed in said spool or bobbin, the iron of said core being substantially proportioned by weight to the iron of said spool body, and means for setting and holding said core in a number of measured positions within said spool or bobbin, substantially as described.

3. A regulator, comprising a coil wound upon a spool having a square laminated iron body provided with a square opening extending lengthwise through its center, a square laminated iron core adjustably fitting said spool, the said core having substantially the same amount of iron by weight as the body of said spool, and adapted to be shifted and set in a number of different positions in the square opening in said spool, substantially as described.

869,685. ANTIFRICTION CENTER-BEARING FOR CARS. JOHN C. BARBER, Chicago, Ill. Filed June 11, 1906. Serial No. 321,153.



1. In a center bearing for cars, the combination with lower and upper plates connected with freedom for swiveling motion in respect to each other, having opposing treads for radially disposed conical rollers and thrust flanges for the outer ends of said rollers, of conical rollers radially disposed between said treads, which rollers have rounded outer ends abutting the thrust flanges of said plates, and are provided with trunnions at their inner ends, and a retaining ring between the said plates in which ring the trunnions of said rollers are journaled and to which they are interlocked, substantially as and for the purposes set forth.

2. In a center bearing for cars, the combination with a pair of bearing plates having telescoping hubs, telescoping outer flanges, treads for radially disposed conical rollers, thrust surfaces for the outer ends of said rollers, and a clearance space for a retaining ring adjacent to their telescoping hubs, of conical rollers radially disposed between said treads, which rollers have rounded outer ends bearing against said thrust surfaces, and are provided with trunnions at their inner ends, and a retaining ring encircling the telescoping hubs of said plates in said clearance space between said plates, in which ring the trunnions of said rollers are journaled and to which they are interlocked with freedom for a limited radial movement in respect to the ring, substantially as described.

869,686. ADVERTISING TOY. JULIUS BAUNO, Chicago, Ill. Filed July 8, 1907. Serial No. 382,783.



1. In combination, a finger trap in the form of a cylindrical structure arranged to contract circumferentially when longitudinally expanded, and a stiffening member for preventing transverse bending of said trap.

2. In combination, a finger trap of the character described, and a stiffening member surrounding said trap.

3. In combination, a finger trap of the character described, and a cylindrical stiffening member surrounding said trap.

4. In combination, a finger trap of the character described having flaring end portions and a stiffening member surrounding said trap between said flaring end portions.

5. In combination, a finger trap of the character described having flaring lips 11, and a cylinder 12, surrounding said trap and covering substantially its length between said flaring lips.

6. In combination, a finger trap of the character described, a stiffening member surrounding said finger trap, and means for retaining said stiffening member in its operative association with the finger trap.

7. In combination, a finger trap of the character described, a stiffening member surrounding said finger trap, and means for positively preventing displacement of the stiffening member with respect to the finger trap, arranged to permit relative rotary movement of said stiffening member with respect to the finger trap.

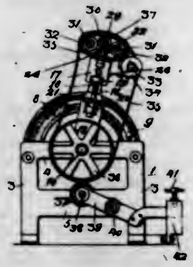
869,687. VENTILATOR FOR BUILDINGS. JAMES BENTON, East Palestine, Ohio. Filed June 12, 1907. Serial No. 378,522.



1. A ventilator consisting of a plurality of bell-shaped castings each having a perforated bottom, a hollow tubular member interposed between and connected to said castings, an inverted bell-shaped casting, means for coupling the latter to one of the first-mentioned castings, said inverted bell-shaped casting having a perforated top, and a cap supported by the top of the inverted bell-shaped casting and of greater diameter than the said casting.

2. A ventilator consisting of a plurality of bell-shaped castings, each having a perforated bottom, a hollow tubular member interposed between and connected to said castings, an inverted bell-shaped casting, means for coupling the latter with one of the first-mentioned castings, said inverted bell-shaped casting having a perforated top, a cap supported by the top of the inverted bell-shaped casting and of greater diameter than the said casting, and a damper mounted in said tubular member.

869,688. SANDPAPERING-MACHINE. JOHN BLACK, Mendota, Ill. Filed May 14, 1906. Serial No. 316,671.



1. In a sand papering machine, the combination of driving mechanism, a surface affording a support for the article to be abraded, a normally slack strip of sand paper actuated by the driving mechanism and passing over the support and adapted to be compressed by the work against the support and means adjacent to the driving mechanism and adapted to press the strip of sand paper against the driving mechanism and holding it in driving contact therewith, substantially as described.

2. In a sand papering machine, the combination of a power wheel, a compressible surface affording a support for the article to be abraded, a slack belt or endless strip of sand paper passing around the power wheel and the support and adapted to be compressed by the work against the support to cause the sand paper to conform to the contour of the work, and means adjacent to the power wheel and adapted to press against the outer surface of the sand paper strip and hold the same in driving contact with the power wheel, substantially as described.

3. In a sand papering machine, the combination of a power wheel, an endless compressible belt, a normally slack endless belt or strip of sand paper passing around the power wheel and the endless compressible belt, and means adjacent to the power wheel and adapted to press against the sand paper strip and hold it in frictional driving contact with the power wheel, substantially as described.

4. In a sand papering machine, the combination of a power wheel, an endless compressible belt, rollers upon which the compressible belt is mounted, a normally slack endless belt or strip of sand paper passing around the power wheel and the endless belt, and means adjacent to the power wheel adapted to press the sand paper strip or belt against the power wheel and hold it in driving contact therewith, substantially as described.

5. In a sand papering machine, the combination of a power wheel, a surface affording a support for the article to be abraded, a slack belt or endless strip of sand paper passing around the power wheel and the support, and a friction roller adapted to compress the endless belt or strip of sand paper against the power wheel, substantially as described.

6. In a sand papering machine, the combination of a framework, a power shaft journaled to the framework, a slotted arched guideway having its center of curvature coincident with the power shaft, an arm adapted to swing around the power shaft as a center and adjustably connected with the slotted guideway, a power wheel on the power shaft, a support for the article to be abraded carried by the adjustable swinging arm, a slack belt or strip of sand paper passing around the power wheel and the support, and means adapted to compress the sand paper belt against the power wheel, substantially as described.

7. In a sand papering machine, the combination of a framework, a power shaft journaled to the framework, a slotted arched guideway having its center of curvature coincident with the power shaft, an arm adapted to swing around the power shaft as a center and adjustably connected with the slotted guideway, a power wheel on the power shaft, guide rollers carried by the adjustable swinging arm, a compressible endless belt mounted on the rollers, a slack belt or strip of sand paper carried around the compressible belt and the power wheel, and rollers adapted to compress the sand paper belt against the power wheel, substantially as described.

8. In a sand papering machine, the combination of a framework, a power shaft journaled to the framework, a power wheel mounted on the shaft, an adjustable arm adapted to swing around the power shaft as a center, an adjustable connection between the arm and the guideway, a head slidably and adjustably mounted on the arm, a center supporting roller, end guide rollers, an endless compressible belt carried by the three rollers, a slack belt or strip of sand paper carried around the power wheel and the compressible belt, and a roller adapted to compress the slack belt against the power wheel, substantially as described.

869,689. CAR-PUSHER. ALEXANDER E. BROWN, Cleveland, Ohio, assignor to The Brown Hoisting Machinery Company, Cleveland, Ohio. Filed June 14, 1907. Serial No. 379,072.



1. A locomotive for pushing cars of suitable dimensions to span the trackway of said cars, and provided with forwardly distensible arms for engaging the same for the purpose, substantially as shown and described.

2. A locomotive for pushing cars, along a track adjoining the track on which it is to move, and provided with laterally distensible arm or arms for the purpose, substantially as shown and described.

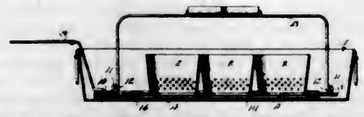
3. A car-pusher made up of the combination of trucks, or track-wheels therefor, an overhead frame-work or structure mounted on and carried by said trucks or wheels, of suitable dimensions to span the cars when brought above the same, distensible arms on said frame-work for engaging the cars, and suitable means for driving said trucks, or wheels, all substantially as shown and described.

4. The combination of a car-pusher, provided with trucks or track-wheels therefor, an overhead frame-work, mounted on and carried by said trucks or wheels, of suitable dimensions to span the cars when brought above the same, distensible arms on said frame-work for engaging the cars, a trackway for said trucks or wheels whose rails embrace or include the trackway for the cars, and suitable means for driving said trucks or wheels along their trackway, substantially as shown and described.

5. A car-pusher made up of the combination of trucks or track-wheels therefor, an over-head frame-work or structure, mounted and carried by said trucks or wheels, of suitable dimensions to span the cars when brought above the same, distensible arms upon said frame-work or structure extending downwardly at their front to engage the car to be pushed and provided at their lower ends with oscillating housings, as described, together with suitable means for driving said trucks or wheels along a trackway, provided for the purpose, that is inclusive of the track on which said cars are mounted and travel, substantially as shown and described.

6. A car-pusher made up of the combination of trucks or track-wheels therefor, a frame-work or structure mounted and carried by said trucks, of suitable dimensions to span the cars when brought above the same, distensible arms on said frame-work or structure for engaging the cars, suitable means for actuating said arms, and suitable means for driving said trucks or wheels along their rails or trackway, substantially as shown and described.

869,690. COOKING UTENSIL. JOSEPH W. BROWN, Curries, Nev. Filed Mar. 8, 1907. Serial No. 361,305.



1. In a cooking utensil, the combination of a plurality of cups having open bottoms, a slide plate having openings alining with the bottoms of the cups, a handle attached to the plates, a holder on which the plate is slidably mounted and serving as bottoms for the cups, and a handle attached to the holder.

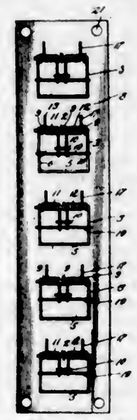
2. In a cooking utensil, the combination of a holder, a plate slidably mounted thereon and having openings, means on the holder forming guides for the plate, and cups rigidly mounted on the plate around the openings thereof.

3. In a cooking utensil, the combination of a plurality of cups having open bottoms, a plate to which the cups are secured having openings alining with the bottoms of the cups, a holder on which the plate is movably mounted and serving as the removable bottoms for the cups, a hand hold for the holder, a hand hold for the plate, and means for guiding the plate on the holder.

4. In a cooking utensil, the combination of a cup provided with an open bottom and having its walls apertured adjacent the bottom, a plate having an opening of the same diameter as the internal diameter of the cup at its bottom, a hand hold secured to the plate, a holder serving as a removable bottom for the cup and provided with apertures opening into the cup, means for guiding the plate on the holder, and a handle on the holder.

5. In a cooking utensil, the combination of a plurality of cups having open bottoms, a plate provided with openings registering with the cups, a bail attached to the plate, a holder for the plate provided with a longitudinal slot having an enlarged end, a headed member engaging in the slot and removable through the enlarged end thereof for detachably securing the holder and plate together, and a handle secured to the holder.

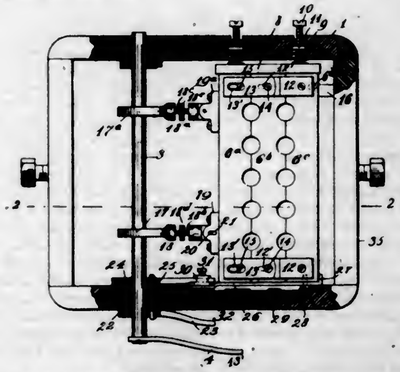
869,691. BAG-HOLDER. LONZO L. CLIPPINGER, Everett, Wash. Filed May 3, 1907. Serial No. 371,769.



1. A bag holder comprising a base, a clamping member pivotally mounted thereon, a pressure bar secured to the clamping member, a spring carried by the base and engaging the pressure bar, and a second spring engaging the base and bearing upon the pressure bar, said latter spring being formed with a piercing member.

2. A bag holder comprising a base, a clamping member pivotally mounted thereon, a spring engaging the base and clamping member, a pressure bar connected to the clamping member and to said spring, and a second spring connected to the clamping member and bearing upon the pressure bar, said latter spring being terminally formed to provide a piercing member.

869,692. CRAYON-MOLDING MACHINE. CHARLES E. DANIEL and WILLIAM KELLER, Sandusky, Ohio, assignors of one-fourth to Richard Taylor and one-fourth to George Young, Sandusky, Ohio. Filed Apr. 15, 1907. Serial No. 368,193.



1. In a crayon molding machine, the combination of a plurality of mold blocks, each having fractional mold-cavities therein and adapted, when the blocks are brought face to face, to form a complete mold, means for separating said plates to open the said cavities, and means for impart-

ing to the crayons in said cavities a rotary movement to facilitate their disengagement from their cavities, substantially as specified.

2. In a crayon molding machine, the combination of a plurality of mold blocks, each provided with fractional mold cavities adapted, when the blocks are brought face to face, to form complete molds, means for separating said blocks, means for imparting a rotary movement to the crayons in said mold cavities to disengage the crayons therefrom, and means for reversing the mold blocks to discharge the crayons therefrom, substantially as specified.

3. In a crayon molding machine, the combination of a mold comprising a plurality of mold blocks, each having a plurality of fractional mold cavities therein adapted, when said blocks are brought face to face, to form complete mold cavities, means for rocking said blocks in one direction, means for separating said blocks, and means for rocking them in the reverse direction, substantially as specified.

4. In a crayon molding machine, the combination of a mold having a plurality of mold cavities therein, means for reducing the diameters of said cavities in one direction, and means for separating said blocks, and means for restoring said diameters to normal dimensions, substantially as specified.

5. In a crayon-molding machine, the combination of a mold having therein a plurality of mold cavities having crayon engaging surfaces, and means for obtaining relative movement between the crayon-engaging surfaces in a direction transverse to the length of the cavities, substantially as specified.

6. In a crayon molding machine, the combination of a mold having therein a plurality of mold cavities having gripping surfaces adapted to engage opposite portions of the crayons in said cavities, means for obtaining relative movement between the gripping surfaces in a direction transverse to the length of the cavities, and means for opening up the mold cavities, substantially as specified.

7. In a crayon molding machine, the combination of a plurality of mold blocks each having therein one or more fractional mold-cavities, adapted when the longitudinal faces of the blocks are brought together to form one or more complete mold cavities, means for causing relative longitudinal movement between said blocks along the line between the fractional cavities and transversely of the length of said cavities, and means for separating said blocks, substantially as specified.

8. In a crayon molding machine, the combination of a frame, a shaft in said frame, a plurality of mold blocks mounted in said frame and each having a plurality of fractional mold sections therein and adapted, when said blocks are brought face to face, to form complete mold cavities, a pair of eccentrics on said shaft, means connecting said eccentrics with the adjacent mold block, one of such connecting means permitting lost motion between its eccentric and the said block, and means for moving one end of each of said blocks, substantially as specified.

9. In a crayon molding machine, the combination of a frame, a shaft in said frame, a plurality of mold blocks mounted in said frame and each having a plurality of fractional mold sections therein and adapted, when said blocks are brought face to face, to form complete mold cavities, means connecting said shaft with the adjacent mold block, one of such connecting means permitting lost motion between the shaft and the said block, and means for moving one end of said blocks, substantially as specified.

10. In a crayon molding machine, the combination of a casing, a plurality of mold blocks therein, each having fractional mold cavities therein adapted, when the blocks are brought face to face, to form complete mold cavities, an operating shaft, connections between said shaft and the adjacent mold block, pin-and-slot connections between the said blocks, and means for rocking said blocks each on one end thereof as a pivot to disengage the crayons from the mold sections, substantially as specified.

11. In a crayon molding machine, the combination of a casing, a plurality of mold blocks therein, each having fractional mold cavities in a longitudinal face thereof adapted, when the blocks are brought face to face, to form complete mold cavities, an operating shaft, connections between said shaft and the blocks for separating the latter, and means for moving said blocks longitudinally with respect to each other to disengage the crayons from the mold sections, substantially as specified.

12. In a crayon molding machine, the combination of a plurality of mold blocks having each a plurality of fractional mold cavities therein adapted, when the blocks are brought face to face, to form complete mold cavities, a shaft, an operating connection between said shaft and each end portion of the adjacent mold block, pin-and-slot connections between the ends of the mold blocks, an operating handle, and a connection therebetween at one end of the mold and adapted to move said end with reference to the other end to diminish the diameters of the mold cavities, substantially as specified.

13. In a crayon-molding machine, the combination of a casing, a mold therein comprising a plurality of mold blocks each having therein fractional mold cavities adapted, when the said blocks are brought face to face, to form complete mold cavities, an operating shaft, a connection between said shaft and one end of the adjacent mold block, a connection between said shaft and the other end of said block, the latter connection permitting lost motion, pin-and-slot connections between the ends of the mold blocks, and means engaging one end of each of the mold blocks for moving the same toward and away from the shaft, substantially as specified.

14. In a crayon molding machine, the combination of a casing, a mold therein consisting of a plurality of mold blocks each having therein a plurality of fractional mold cavities adapted, when the faces of the blocks are brought together, to form complete mold cavities, a plate engaging an end of said mold, springs arranged to press against said plate, an operating plate connected with the opposite end of one of the individual mold blocks, means, as an eccentric, for operating the last-mentioned plate, a shaft, connections between said shaft and the adjacent mold block, and pin-and-slot connections between said mold blocks, substantially as specified.

15. In a machine for molding crayons, the combination of a casing, a mold therein comprising a plurality of mold blocks each having a plurality of fractional mold cavities therein adapted, when the blocks are brought face to face, to form complete mold cavities, pin-and-slot connections between said mold blocks, a sleeve mounted in said casing, said sleeve having an eccentric thereon, a connection between said eccentric and the adjacent end of the mold, an operating handle for said sleeve, a shaft extending through said sleeve and journaled in said casing, connections between said shaft and the adjacent mold block, and pin-and-slot connections between said mold blocks, substantially as specified.

16. In a machine for molding crayons, the combination of a reversible casing, a mold therein composed of a plurality of mold blocks each having a plurality of fractional mold cavities therein adapted, when the blocks are brought face to face, to form complete mold cavities, a pivotal support for one end of said mold, means connected with the opposite end of the mold for rocking said mold on said pivot, and means for separating the mold sections, substantially as specified.

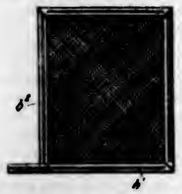
17. In a crayon molding machine, the combination of a casing, a mold therein composed of a plurality of mold blocks each having therein fractional mold cavities adapted, when the blocks are brought face to face, to form complete mold cavities, a shaft, connections, between said shaft and opposite ends of the adjacent mold blocks, pin-and-slot connections between said mold blocks, and means connected with one end of said mold blocks for moving said end toward and away from said shaft, substantially as specified.

18. In a crayon molding machine, the combination of a plurality of mold blocks, each having fractional mold cavities therein and adapted, when brought face to face, to form a complete mold, means for separating said plates to open the said cavities, a shaft, and connections whereby the rotation of said shaft will impart rotary movement to the crayons to disengage them from the mold cavities, substantially as specified.

19. In a crayon molding machine, the combination of a mold comprising a plurality of mold blocks, each having a plurality of fractional mold cavities therein adapted, when said blocks are brought face to face, to form complete mold cavities, means for separating said blocks, and means for rocking said blocks in opposite directions, substantially as specified.

20. In a crayon molding machine, the combination of a mold comprising a plurality of mold blocks, each having a plurality of fractional mold cavities therein adapted, when said blocks are brought face to face, to form complete mold cavities, a shaft extending substantially parallel with the faces of said blocks, an eccentric rotatably mounted on said shaft and provided with an operating handle, an eccentric strap on said eccentric and connected to one end of said mold blocks, an eccentric rigid with said shaft, an eccentric strap thereon and adjustably connected with the adjacent mold block, and pin-and-slot connections between the ends of the mold blocks, substantially as specified.

869,693. WINDOW-SCREEN. ALBERT A. DAY, New York, N. Y. Filed Mar. 7, 1907. Serial No. 361,156.



1. A window screen section comprising a piece of screen fabric and an inclosing frame consisting of an integral strip of sheet metal, folded longitudinally and having portions bent angularly with respect to each other to form frame bars, which inclose the marginal portions of the screen fabric, the surplus metal at the corners being folded on a line disposed at an angle of 45° to an adjacent frame bar, said fold extending to the exterior corner of the frame, and said surplus metal being flattened, to bring it substantially into the plane of the frame and lock the adjacent frame bars in their relative angular positions, substantially as described.

2. A window screen section comprising a piece of screen fabric, and an inclosing frame consisting of an integral strip of sheet metal, folded longitudinally and having portions bent angularly with respect to each other to form frame bars, which inclose the marginal portions of the screen fabric, the surplus metal at the corners being folded on a line disposed at an angle of 45° to an adjacent frame bar, said fold extending to the exterior corner of the frame, the said corners being flattened, and portions of said surplus metal being inclosed within longitudinally folded portions of the adjacent frame bars, substantially as described.

3. A window screen section consisting of a piece of screen fabric, and an integral frame consisting of a piece of sheet metal folded longitudinally, and bent rectangularly with respect to each other to form frame bars which inclose marginal portions of said fabric, the surplus metal at the corners, being folded along lines converging toward and extending to the exterior corners of the frame, interfolded within both of the adjacent longitudinally folded frame bars, and locking adjacent frame bars in their relative angular positions whereby truly rectangular exterior corners are produced, substantially as described.

4. A window screen section comprising a piece of screen fabric, and a frame therefor comprising an integral strip of sheet metal folded longitudinally and having portions bent rectangularly to form the frame bars, the surplus metal at the corners being folded on a line extending at an angle of 45° to each of two adjacent frame bars, to form meeting edges, said surplus metal being interfolded within the adjacent frame bars and locking them in their relative angular positions, substantially as described.
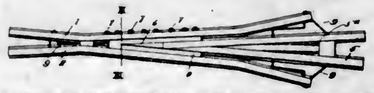
869,694. HEAT-RESISTING COMPOSITION. GIULIA DE ANGELIS, Naples, Italy. Filed Feb. 10, 1906. Serial No. 300,518.

1. As a new article of manufacture, a heat resisting composition comprising a mixture of cellulose, carbonate of magnesium, and oxid of magnesium to which has been added a mixture of water, alum, boric acid and gelatinous material.

2. The method of making a heat resisting composition, which consists in mixing together oxid of magnesium, carbonate of magnesium, and cellulose, kneading this mixture with a solution of water, alum, boric acid and gelatinous material, then drying the mixture and reducing it to a powder, and then adding a mixture of oxid of magnesium and carbonate of magnesium.

3. The method of making a heat resisting composition, which consists in mixing together oxid of magnesium, carbonate of magnesium, wood dust, soot, and cellulose, kneading this mixture with a solution of water, alum, boric acid and gelatinous material, then drying the mixture and reducing it to a powder, and then adding a mixture of oxid of magnesium and carbonate of magnesium.

869,695. RAILWAY-FROG. THOMAS F. DONAHOE, Pittsburg, Pa. Filed Aug. 1, 1907. Serial No. 386,617.



1. A frog consisting of elongated wing rails of similar angularity and an invertible point, said rails and point being suitably connected together.

2. A frog consisting of interchangeable elongated wing rails having similar angularity, an invertible point, and means for securing said rails and point together.

3. A frog consisting of elongated wing rails having similar angles adapting said rails to be interchanged, and an invertible point.

4. A frog consisting of elongated and interchangeable wing rails, an invertible point, and filler blocks between the lower face of the invertible point and base of the wing rails.

869,696. NUT-LOCK. EDWIN A. DOTY, Albany, N. Y. Filed Oct. 19, 1906. Serial No. 339,618.



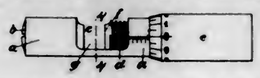
1. A nut-lock consisting of a locking-nut adapted to be screwed on a bolt adjoining a holding-nut; a lug upon the bottom of said locking-nut adapted to come in contact with the top surface of said holding-nut and tilt said locking-nut; an elongated arm to said locking nut on the same side thereof as said lug; the end of said elongated arm forming a sharp point; said point adapted to come in contact with the screw-threads of the bolt on one side of the center thereof, substantially as described.

2. A nut-lock consisting of a locking-nut adapted to be screwed on a bolt, adjoining a holding-nut; a lug upon the bottom of said locking-nut adapted to come in contact with the top surface of said holding-nut and tilt said locking-nut; an elongated arm to said locking-nut on the same side thereof as said lug; the end of said elongated arm divided into two points; said points adapted to come in contact with the screw-threads of the bolt on each side of the center of the bolt, substantially as described.

869,697. MICROMETER-SCREW GAGE. OSKAR EILHAUER, Neustadt, and PAUL RÜCKERT, Gera, Germany. Filed Feb. 14, 1907. Serial No. 357,883.

1. A measuring instrument comprising a tubular casing internally screw-threaded and having a transverse opening

therein, opposite adjustable members engaging said casing one at each end, and a sleeve surrounding one end of the casing and movable with one of said members.



2. A measuring instrument comprising a tubular casing internally screw-threaded and having a transverse opening therein, an adjustable member engaging said casing at one end, a graduated scale on the casing, and a sleeve having a graduated scale thereon and movable with said adjustable member.

869,698. FURNACE. JAMES EYNON and JOHN R. EYNON, Philadelphia, Pa. Filed Feb. 28, 1905. Serial No. 247,768.



In a furnace, a hearth, a double bridge wall, bricks between said walls arranged in a plurality of horizontal rows with vertical and horizontal passages, a chamber beneath the said bricks and communicating with the spaces between them, an air passage under the hearth, communicating at one end with said chamber, a chamber at the other end of said passage, a stack, a casing embracing the same, means connecting said casing with the last named chamber, and baffle plates in said stack.

869,699. KNOCKDOWN CRATE. JOHN FOLLANSBEE, Allegheny, Pa., assignor to Sheet Metal Specialty Company, Follansbee, W. Va., a Corporation of West Virginia. Filed Apr. 25, 1906. Serial No. 313,649.

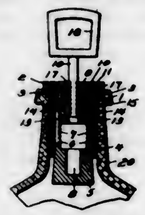


1. A metallic cap or closure for shipping crates having a raised spring edge, and circumferential slots in said raised edge for the reception of suitable tie straps, substantially as described.

2. In a shipping crate the combination with end caps or closures each having a raised spring edge, of circumferential slots in raised edges, and tie straps engaging said slots for adjustably connecting the caps aforesaid, substantially as described.

3. In a shipping crate the combination with end caps or closures each having a raised spring edge in a plane parallel with the surface of said cap, of circumferential slots in said raised edges, metallic tie straps for engaging said slots for adjustably connecting the caps, loops in said tie straps, and an encircling tie band passing through the loops aforesaid, substantially as described.

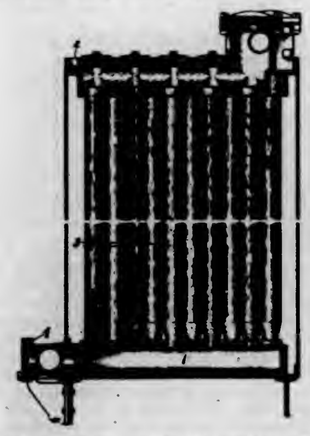
869,700. BOTTLE-STOPPER. JOHN J. FRASER, Somerville, Mass. Filed May 6, 1907. Serial No. 372,075.



1. In a bottle stopper, a tubular body having interior longitudinal grooves, an annular elastic packing member connected with said tubular body, a tapering expansion member having oppositely disposed racks guided in the grooves of the tubular body, a plug fitted in the latter and having pinions engaging the racks of the extension member, and a rack bar movable longitudinally in the plug and engaging the pinions.

2. A bottle stopper comprising a tubular body having an annular flange and interior longitudinal grooves, an annular elastic packing member connected with and extending from the tubular body, a longitudinally movable tapering expansion member having rack bars guided in the grooves of the tubular body, a plug fitted in the latter and having pinions engaging the rack bars, and a rack bar movable longitudinally in the plug in engagement with the pinions and provided with a loop constituting a handle.

869,701. FUEL-ECONOMIZER. ERNEST B. FREEMAN, Dedham, Mass., assignor to B. F. Sturtevant Company, Boston, Mass., a Corporation of Massachusetts. Filed Mar. 8, 1905. Serial No. 248,991.



1. A fuel economizer, having, in combination, a series of lower headers, a series of upper headers, and a series of vertical circulating tubes connecting each lower header with an upper header, a plurality of said vertical tubes being substantially reduced in diameter at their lower ends and said lower headers being correspondingly reduced in their lateral diameter at the points of connection therewith of said vertical tubes, substantially as described.

2. A fuel economizer, having, in combination, a series

of lower headers, a series of upper headers, and a series of vertical circulating tubes connecting each lower header with an upper header, a plurality of said tubes being of the same diameter for the greater portion of their length and being substantially reduced in diameter at their lower ends and said lower headers being correspondingly reduced in their lateral diameter at the points of connection therewith of the vertical tubes, substantially as described.

3. A fuel economizer, having, in combination, a series of lower headers provided with sockets on their upper sides, a corresponding series of upper headers provided with sockets upon their under sides, and a series of vertical circulating tubes connecting each lower header with an upper header and fitted at their upper and lower ends in said sockets, a plurality of said tubes being substantially reduced in diameter at their lower ends and said lower headers being correspondingly reduced in their lateral diameter at the points of connection therewith of the vertical tubes, substantially as described.

4. A fuel economizer, having, in combination, a series of lower headers in communication with each other at their forward ends, a corresponding series of upper headers in communication with each other at their rear ends, and a series of vertical circulating tubes connecting each lower header with an upper header, the front tube of said series being of substantially the same diameter throughout and the remaining tubes of said series being substantially reduced in diameter at their lower ends, substantially as described.

5. A fuel economizer, having, in combination, a series of lower headers in communication with each other at their forward ends, a corresponding series of upper headers in communication with each other at their rear ends, and a series of vertical circulating tubes connecting each lower header with an upper header, the front tube of said series of vertical tubes being of substantially the same diameter throughout, the remainder of said tubes being substantially reduced in diameter at their lower ends and said lower headers being correspondingly reduced in their lateral diameter at the points of connection therewith of the reduced lower ends of said vertical tubes, substantially as described.

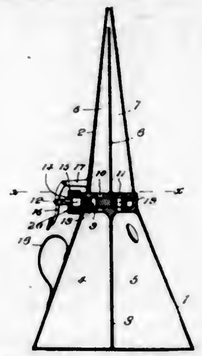
6. A fuel economizer, having, in combination, a series of lower headers provided with sockets on their upper sides, a corresponding series of upper headers provided with sockets upon their under sides, and a series of vertical circulating tubes connecting each lower header with an upper header and fitted at their upper and lower ends in said sockets, a plurality of said tubes being of the same diameter for the greater portion of their length and being substantially reduced in diameter at their lower ends, substantially as described.

7. A fuel economizer, having, in combination, a series of upper headers, a series of lower headers and a series of vertical circulating tubes connecting each upper header with a lower header, a plurality of said tubes being of substantially less diameter at their lower than at their upper ends, and one or more of said tubes being of substantially the same diameter throughout, substantially as described.

8. A fuel economizer, having, in combination, a series of upper headers, a series of lower headers, and a series of vertical circulating tubes connecting each upper header with a lower header, a plurality of said tubes being of the same diameter for the greater portion of their length and being substantially reduced in diameter at their lower ends, substantially as described.

869,702. OIL-CAN. SAMUEL E. FRIEND, Steubenville, Ohio. Filed May 4, 1907. Serial No. 371,917.

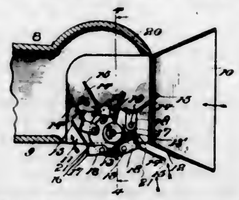
1. In a device of the character described, the combination of a body portion formed with a plurality of compartments, a common discharge spout for the compartments, a wall separating the spout from the compartments and formed with a tubular casing having a plurality of sets of openings therein for establishing communication between the various compartments and the discharge spout, a plunger slidably mounted within the casing and provided with a plurality of openings corresponding to the before mentioned sets of openings in the tubular casing, and means for operating the plunger.



2. In a device of the character described, the combination of a body portion formed with a plurality of compartments, a common discharge spout for the compartments, a wall separating the spout from the compartments and formed with a tubular casing having sets of openings therein for establishing communication between the various compartments and the discharge spout, a plunger slidably mounted within the casing to control the openings, the said plunger carrying a head, a spring bearing against the head to hold the plunger in a predetermined position, and means for operating the plunger.

3. In a device of the character described, the combination of a body provided with a plurality of compartments, a common discharge spout for the compartments, a wall separating the discharge spout from the compartments and formed with a tubular casing, the said casing being provided with sets of openings designed to establish communication between the various compartments and the spout, a plunger slidably mounted within the casing to control the openings, one end of the plunger carrying a head, a spring interposed between the head and the tubular casing to hold the plunger in a predetermined position, and a finger lever applied to the plunger for operating the same.

869,703. COTTON-PICKER. NATHAN A. GASTON, Gulfport, Miss. Filed Sept. 7, 1906. Serial No. 333,698.



1. A cotton picker, comprising a tube, a rotary picker within the tube and having feathering blades, and a suction means for rotating said pickers.

2. A cotton picker, comprising a tube, a rotary picker within the tube and having pivoted blades, and a suction means for rotating said pickers.

3. A cotton picker comprising a tube, a rotary drum within the tube, feathering picker blades mounted upon the drum, and a suction means in communication with the tube for causing a current of air through the tube and engaging the blades and rotating the drum.

4. A cotton picker comprising a tube, a rotary drum, partially within the tube, feathering picker blades mounted upon the drum, and a suction means in communication with the tube for causing a current of air through the tube and engaging the blades and rotating the drum.

5. A cotton picker comprising a tube having a flared outer end, and a cut-away portion within the lower side, a

rotary drum mounted within the tube and extending through the cut-away portion, feathering blades carried by the drum, and suction means in communication with the tube for causing a current of air through the tube and engaging the blades and rotating the drum.

6. A cotton picker comprising a tube having a flared outer end, and a cut-away portion in the lower side, a rotary drum mounted within the tube and extending through the cut-away portion, feathering blades carried by the drum, a suction means in communication with the tube for causing a current of air through the tube and engaging the blades and rotating the drum, and a bulged portion carried by the tube opposite the cut-away portion to allow the blades to carry the cotton rearwardly.

7. A cotton picker, comprising a tube, a drum mounted therein, pickers consisting of a blade portion having teeth at their outer edges, and a body portion bent at a slight angle to the blade, and having its ends extended and turned laterally over the ends of the drums, and pivots passing through the said laterally turned ends and entering the ends of the drums.

8. A cotton picker, comprising a supporting truck, a horizontally arranged tube carried thereby, a suction pump in communication with the horizontal tube, an engine carried by the truck and adapted to operate the said suction pump, flexible tubes in communication with the horizontal tube, picker tubes connected thereto, rotary drums mounted in said picker tubes, feathering blades carried by the drums whereby the drums are caused to rotate by suction.

9. A cotton picker, comprising a tube, a drum mounted therein, pickers each consisting of a blade portion having teeth at its outer edge, and a body portion bent at a slight angle to the blade, and having its ends extended and turned laterally over the ends of the drum, pivots passing through the said laterally turned ends and entering the ends of the drum, and radially arranged pins carried by the periphery of the drum, and adapted to be engaged by the body portion and serving as a stop for the blades.

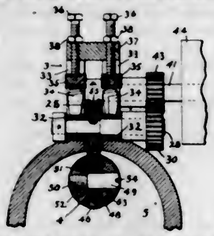
10. A cotton picker, comprising a tube having a bulged portion in one side, a rotary drum mounted in the tube adjacent the opposite side, pickers each consisting of a blade portion and a body portion, means for pivotally connecting the body portion to the drum, and a suction means connected to the tube.

11. A cotton picker comprising a tube having a bulged portion in one side, the opposite side of the tube having a cut-away portion, a drum rotatably mounted within the tube and extending through the cut-away portion, feathering blades carried by the drum, and suction means connected to the tube.

12. A cotton picker comprising a tube having a bulged portion in one side, the opposite side of the tube having a cut-away portion, a drum rotatably mounted within the tube and extending through the cut-away portion, pickers each consisting of a blade portion having teeth at its outer edge and a body portion bent at a slight angle to the blade, and having its ends extended and turned laterally over the ends of the drum, pivots passing through the said laterally turned ends and entering the ends of the drum, and radially-arranged pins carried by the periphery of the drum and adapted to be engaged by the body portion and serving as a stop for limiting the swinging movement of the picker in one direction.

869,704. PIPE-SEAMING MACHINE. CASPER H. GERVERS, Cincinnati, Ohio. Filed May 20, 1907. Serial No. 374,590.

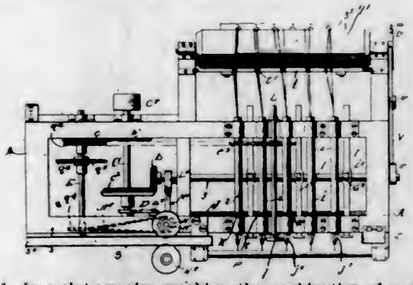
1. In a pipe seaming machine, the combination of a mandrel-support and a roller-housing spaced apart by the length of pipe to be seamed, a mandrel secured in said mandrel-support and overhanging into said roller-housing free of support adjacent to said housing, a feeding-roller in said housing, an idler-roller in said mandrel co-acting with said last-named roller, means for driving said feeding-roller and thereby feeding the pipe being seamed longitudinally of said mandrel between said rollers, with roller-pressure exerted upon said mandrel from one side thereof, the rest of the circumference of said mandrel being free from roller-pressure, and a lateral gage on said mandrel between said roller-housing and mandrel-support along which the curved edge of one of the flanges of the pipe travels and is guided while the pipe is being seamed, substantially as described.



2. In a pipe seaming machine, the combination of a housing, a seaming roller journaled therein, a bearing-block, a mandrel in said bearing-block overhanging into said housing, a seaming roller journaled in the overhanging end of said mandrel opposite said first-named roller, and an adjustable tension-member connecting with the head-end of said mandrel, substantially as described.

3. In a pipe seaming machine, the combination of a housing, a seaming roller journaled therein, a bearing-block, a mandrel in said bearing-block overhanging into said housing, a seaming roller journaled in the overhanging end of said mandrel opposite said first-named roller, an adjustable compression-member adjacent said bearing-block between said bearing-block and housing, and an adjustable tension-member connecting with the head-end of said mandrel, substantially as described.

869,705. MACHINE FOR WEAVING WIRE AND WOOD SLATS. THOMAS F. HAGERTY, New York, N. Y. Filed Oct. 30, 1905. Serial No. 285,166.



1. In a slat weaving machine, the combination of a plurality of parallel rotatable twisters each constructed to carry a plurality of wires, gears carried by said twisters, a reciprocable rack with which said gears mesh, a rotating shaft, a cam thereon, and a pivotally mounted cam-yoke coöperating with the cam and connected with the rack to effect reciprocation thereof.

2. In a slat weaving machine, the combination of a plurality of parallel rotatable twisters constructed each to carry a plurality of wires, means for rotating said twisters intermittingly to twist the wires together and about a slat therebetween, reciprocable slat-pushers disposed parallel to the twisters, a rotating shaft, having a cam thereon, a rock shaft parallel to the first-named shaft, an arm coöperating with the cam and carried by the rock shaft, and a plurality of oscillating arms carried by the rock shaft and engaging the pushers.

3. In a slat weaving machine, the combination of a magazine of a depth to accommodate a plurality of slats constructed to accommodate a plurality of slats and having its exit end closed with the exception of a slat-proportioned slot adjacent its bottom, said magazine having also oppositely disposed slots formed through its sides adjacent the bottom, a pair of feed rollers arranged to project through said slots from without, means for continuously rotating one of said rollers, and means for automatically advancing and retracting one of the rollers with reference to its slot.

4. In a slat weaving machine, the combination of a magazine having upright parallel sides spaced at a distance corresponding to the width of a slat and of a depth to accommodate a plurality of superposed slats, opposed horizontal feed rollers operating at the bottom of the magazine, means whereby one of the rollers is rotated, means whereby one of the rollers is automatically shifted toward and from the other, and means for weaving wire in with the slats fed from the magazine by said rollers.

5. In a slat weaving machine, the combination of a deep, narrow, horizontally-elongated magazine having vertical side walls spaced apart at a distance corresponding to the width of the slats and provided at their bottoms with opposed horizontal slots, said magazine having further an upright end wall formed with a slot at its bottom corresponding to the cross-section of a slat, opposed feed rollers mounted on vertical axes and operating in the slots in said side walls, and means disposed adjacent the slotted end wall for weaving wire in with the slats fed from the magazine therethrough.

6. In a slat weaving machine, the combination of wiring devices, a tension roll around which the wires are led to the wiring devices, slat-pushers disposed to advance the fabric after each actuation of the wiring devices, and means whereby the rotation of the tension roll may be arrested at different points toward the conclusion of the forward travel of the pushers.

7. In a slat weaving machine, the combination of wiring devices, means for supplying strands of wire to said devices, slat-pushers disposed to advance the fabric after the actuation of the wiring devices, and means for regulating the tension of the wires produced by the forward travel of the pushers.

8. In a slat weaving machine, the combination of wiring devices, a tension roll about which the wires are led to the wiring devices, slat-pushers disposed to advance the fabric after each actuation of the wiring devices, means whereby the rotation of the tension roll may be checked at variable points toward the end of the forward travel of the pushers, and pressing and delivery rolls between which the fabric is held while tension is developed by such checking of the tension roll.

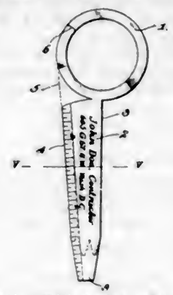
9. In a slat weaving machine, the combination of wiring devices, a tension roll about which the wires are led to the wiring devices, slat-pushers disposed to advance the fabric after each actuation of the wiring devices, removable radial pins carried by the tension roll, a detent adapted to engage with said pins to arrest the rotation of the roll, and means for moving the detent out of engagement.

10. In a slat weaving machine, the combination of wiring devices, a tension roll about which the wires are led to the wiring devices, a device constructed to advance the fabric between actuations of the wiring devices, removable radial pins carried by the tension roll, a detent lever positioned to engage with the pins, a rotating shaft, and a cam carried thereby and positioned to engage with said lever to trip it away from the engaged pin.

11. In a slat weaving machine, the combination of a plurality of parallel rotatable twisters constructed each to carry a plurality of wires, means for rotating said twisters intermittingly to twist the wires together and about a slat therebetween, reciprocable slat-pushers disposed parallel to the twisters, a rotating shaft having a cam thereon, a rock shaft parallel to the first-named shaft, and a plurality of oscillating arms carried by the rock shaft and engaging the pushers, one of said arms being extended beyond the rock shaft to engage said cam.

869,706. COMBINATION TOOL OR UTENSIL. JOHN R. HAMILTON, St. John, New Brunswick, Canada. Filed June 6, 1907. Serial No. 377,612.

1. The combination with a ring, of an integral plate extending therefrom, one edge of the plate being in line with a diameter of the ring, and the other in line with a tangent thereto, the tangential edge of the plate constituting with the ring a straight edge or rule.



2. The combination with a ring, of an integral plate extending therefrom, one edge of the plate being in line with a diameter of the ring, and the other in line with a tangent thereto, the plate adjacent to the tangential edge being provided with a measure scale, indicated both upon the plate and upon the ring.

3. In a device of the kind described, the combination with a ring and a plate integral therewith, of a wing secured by permanent flection at an angle to the plate, the opposing faces of the wing and the plate being provided with inclined file teeth.

4. In a device of the kind described, the combination of a ring, plate, and wing secured by a permanent flection at an angle to the plate, the opposing faces of the wing and the plate being provided with inclined file teeth, and the outer face of the wing being provided with file teeth.

5. The combination with a key ring provided with an elongated plate integral therewith, of a wing shorter than the plate secured thereto by permanent flection, and a fork upon the wing underlying the projecting end of the plate, whereby said projecting end may act as a fulcrum for the fork, substantially for the purpose specified.

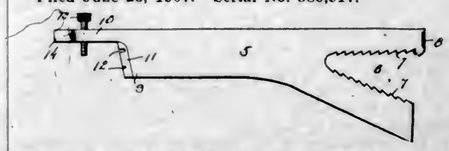
6. The combination with an elongated plate, a wing shorter than the plate secured thereto by permanent flection, of a fork upon the wing underlying the projecting end of the plate, whereby said projecting end may act as a fulcrum to the fork, the projecting end being provided with a sharpened edge extending from its extremity to its junction with the wing.

7. The combination with a ring and plate projecting from one side thereof, of an edge upon the plate in line with a tangent to the ring, said plate being provided with a measured rule inscribed thereon adjacent to the tangential edge.

8. The combination of a pair of plates united by permanent flection, one longer than the other, the longer one terminating in a screw driver and the shorter in a fork one of whose pair of prongs constitutes a nail cleaner, and, in conjunction with the other prong and with the screw driver point, a tack puller.

9. The combination of a pair of plates united by permanent flection, one plate being provided on the outside with a smooth face and the other likewise with a file face, terminating, respectively, at the bend between the plates, whereby a wedge shaped file is formed having one surface smooth and the other adapted to cut.

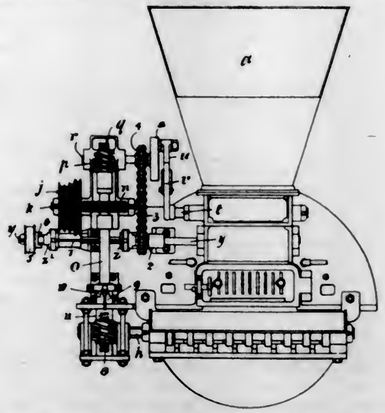
869,707. SAW-SET. JOEL M. HANCOCK, Magnolia, Ark. Filed June 26, 1907. Serial No. 380,917.



A tool of the class described comprising a flat body portion, said body portion being provided at one of its ends

with a shoulder cut at an angle and beveled upon opposite sides, whereby its edge is decreased in width toward its outer end, there being a plurality of notches formed in the said beveled angularly cut edge of the shoulder, the notches of the series being decreased in width and length as they approach the said outer end of the said shoulder, an extension formed integral with the body of the tool and projecting beyond the said shoulder, and a set screw engaged through the extension.

869,708. AUTOMATIC STOKER FOR STEAM-GENERATORS. JAMES HODGKINSON, Manchester, England. Filed June 27, 1907. Serial No. 381,175.



1. A combined coking and sprinkling mechanical stoker comprising a shaft and mechanism for rotating said shaft slowly in one direction for coking feed and rapidly in the opposite direction for sprinkling feed, and means for supplying coal to said shaft.

2. A combined coking and sprinkling mechanical stoker comprising a shaft carrying blades and mechanism for rotating said shaft slowly in one direction for coking feed, and rapidly in the opposite direction for sprinkling feed, and means for supplying coal to said shaft.

3. A combined coking and sprinkling mechanical stoker comprising a shaft carrying blades and mechanism for rotating said shaft slowly in one direction for coking feed and rapidly in the opposite direction for sprinkling feed, said blade or blades being substantially concave in the direction of the coking feed and convex in the direction of the sprinkling feed, and means for supplying coal to said shaft.

4. A combined coking and sprinkling mechanical stoker comprising a shaft carrying blades, a casing for said shaft closed at the rear and bottom and open in front, mechanism for rotating said shaft slowly in one direction for coking feed and rapidly in the opposite direction for sprinkling feed, and means for supplying coal to said shaft.

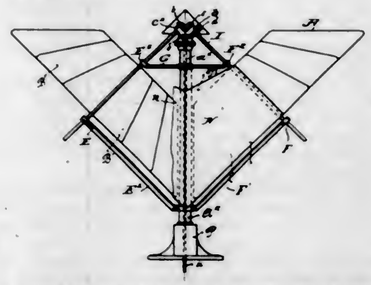
5. In combination in an automatic stoker for steam generator and other furnaces, rotatable blades, with means for feeding fuel to such rotatable blades, and means for slowly rotating the blades in one direction or rapidly rotating the blades in a contrary direction at will substantially as described.

6. In combination in an automatic stoker reciprocating fire bars, a distributing plate, a ram with means for reciprocating such ram, rotatable blades, means for slowly rotating such blades in one direction to feed fuel fed thereto by the ram over the distributing plate upon the reciprocating fire bars, and means for rapidly rotating the blades in a contrary direction to sprinkle the fuel upon the fire bars substantially as described.

7. In combination in an automatic stoker a vertical shaft, means for rotating such shaft, a horizontal shaft and means for rotating such shaft from the vertical shaft, a ram, means for reciprocating such ram from the horizontal shaft, a countershaft, blades mounted on such countershaft, means for slowly rotating the countershaft and blades in one direction from the horizontal shaft, a distributing plate over which fuel is forced by the slowly rotating blades, and means for rapidly revolving the countershaft and blades in a contrary direction to distribute the fuel upon the fire bars substantially as described.

8. In combination in an automatic stoker a hopper for the fuel, a ram disposed below such hopper, means for reciprocating such ram to feed the fuel out of the hopper, a chamber below the ram, blades rotatably mounted in such chamber, a distributing plate, means for slowly rotating the blades in one direction to force the fuel over the distribution plate, fire bars and means for reciprocating such fire bars, means to suspend at will the reciprocation of the fire bars, and means for rapidly rotating the blades in the contrary direction to sprinkle the fuel upon the fire bars substantially as described.

869,709. MACHINE FOR USE WITH WIND-POWER. JOSEF HOMOLA, Veseli, Austria-Hungary. Filed Sept. 28, 1906. Serial No. 336,577.



1. In combination, angularly disposed sail-wheels located in a manner to bring the adjacent margins of the sails in relatively close proximity, and means extending from the adjacent margins laterally to points beyond the axes of said sail wheels for deflecting wind or air currents toward the outermost sails.

2. In combination, angularly disposed sail-wheels located in a manner to bring the adjacent margins of the sails in relatively close proximity, and a deflector provided with wings extending laterally to the axes of said wheels for deflecting wind or air currents toward the outermost sails.

3. In combination, angularly disposed sail-wheels operatively connected with each other to operate in unison and located in a manner to bring the margins of certain of the sails in relatively close proximity, a transmission shaft operatively connected with said wheels, and means projecting laterally from the adjacent margins of said sails beyond the axes of said wheels for deflecting wind or air currents toward the outermost sails.

4. In combination, angularly disposed conical sail-wheels connected to operate in unison and located in a manner to bring the adjacent margins of said sails in relatively close proximity, a shaft operatively related to said wheels, and means for deflecting air currents laterally to the outermost sails of said wheels.

5. In combination, angularly disposed sail-wheels connected to operate in unison and located in a manner to bring certain of the sails in relatively close proximity, means for automatically reefing said sails, and means for deflecting air currents to the outermost sails of said wheels.

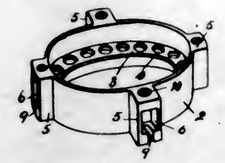
6. In combination, angularly disposed conical sail-wheels connected to operate in unison and located in a manner to bring adjacent sails in relatively close proximity, means for deflecting air currents to the outermost sails of said wheels, said wheels having sails composed of movable members adapted to be reefed, and means for reefing said sail members.

7. In combination, angularly disposed sail-wheels located in a manner, to bring adjacent sails in relatively close proximity, means for deflecting air currents to the outermost sails of said wheels, said wheels having sails composed of movable members adapted to be reefed, and an automatically acting device for reefing said sail members.

8. In combination, angularly disposed conical sail-wheels provided with movable members adapted to be reefed and located in a manner to bring adjacent sails in relatively close proximity, said sail-wheels being connected with each other to operate in unison, a shaft operatively connected with said wheels, a deflector provided with wings adapted to deflect air currents to points outwardly beyond the axes of said sail-wheels, and a governor for automatically reefing said sail members.

9. In combination, sail wheels located in a manner to bring adjacent margins of the sails in relatively close proximity, and means extending from the adjacent margins to points beyond the axes of said sail-wheels for deflecting wind or air currents toward the outermost sails.

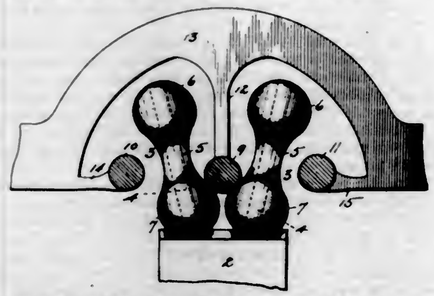
869,710. MEANS FOR CONNECTING FLUE-SECTIONS. VIRGIL C. HOWE, San Francisco, Cal. Filed Aug. 7, 1906. Serial No. 329,628.



1. Means for connecting flue sections comprising a collar adapted to surround both the adjoining ends of adjacent sections, having an internal apertured rib or flange adapted to pass between said ends, and having external lugs, cement between said ends and passing through said apertures, and tie rods each removably secured at its ends to adjacent lugs for tying adjacent collars together, substantially as described.

2. Means for connecting flue sections comprising a collar adapted to surround both the adjoining ends of adjacent sections, having an internal rib or flange adapted to pass between said ends, and having external lugs having recesses to receive nuts, the tops of the lugs having threaded apertures to receive ends of tie rods, and the bottom of the lugs having slots in their edges to receive ends thereof substantially as described.

869,711. TROLLEY. SAMUEL D. HUNT, Youngstown, Ohio. Filed Apr. 24, 1907. Serial No. 370,108.



1. In a trolley, the trolley head comprising a pair of dumb-bell shaped trolley spools.

2. In a trolley, a trolley head having a dumb-bell shaped spool.

3. In a trolley, a trolley head comprising a pair of divergently related spools having heads at both ends.

4. In a trolley, a trolley head comprising a pair of spools having spherical contact heads at both ends.

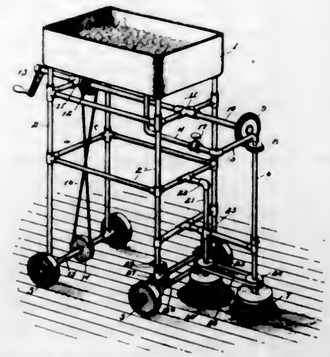
5. In a trolley, a trolley head comprising a pair of divergently related spools having spherical contact heads at both ends.

6. In a trolley, a trolley head comprising a pair of spaced upright spools, each consisting of a body having a narrowed bearing waist, and spherical terminal contact heads at the ends of said waist.

7. In a trolley, a trolley head comprising a pair of upright rotatable trolley spools, each consisting of a body having a longitudinally concaved waist and spherical terminal contact heads.

8. In a trolley system, the combination with a main feed wire and oppositely arranged auxiliary side wires, of a trolley head comprising a pair of upright rotatable spools having terminal spherical contact heads at both ends.

869,712. SCOURING-MACHINE. WILLIAM L. JACOBS, Autreyville, Ga. Filed Sept. 22, 1906. Serial No 335,808.



A machine of the character described comprising a water tank mounted upon a wheeled frame, a pipe leading from said tank and connected to a branch pipe provided with a nipple, a valve in said pipe for regulating the water flow, a vertical pipe section connected to a brush and the upper end thereof having the nipple seated therein, a shaft journaled in the frame and provided with a beveled gear, a crank on said shaft and a beveled gear on the pipe section connected to the brush for rotating said brush, substantially as described.

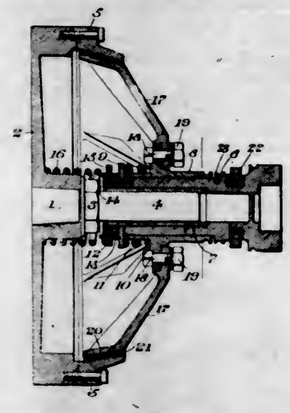
869,713. CLUTCH MECHANISM. PETER JENNESS, Philadelphia, Pa. Filed Sept. 12, 1905. Serial No. 278,075.

1. In a friction clutch, a driving member, a driven member normally held in engagement therewith, endwise compressible yielding means for holding said members in engagement, and a single endwise compressible yielding means coaxial with the shafts of said members for moderating the initial engagement thereof, said yielding means being continuously opposed to each other and both acting to set the clutch.

2. In a friction clutch, a driving shaft, a clutch member fixed thereon, a driven member loosely mounted on said shaft and having longitudinal movement thereon, a spring coaxial with the shaft of one member for holding said members in engagement, a second spring coaxial with the shaft of said members and interposed between the driving member and the point of application of the clutch lever to moderate the initial shock of such engagement, said springs being disposed in line with each other about the shafts of said members and being continuously opposed to each other and both acting to set the clutch.

3. In a friction clutch, a driving member, a driven mem-

ber, adapted to be moved in engagement therewith, a sleeve on which said driven member is mounted, a bushing in said sleeve, washers loosely mounted on said bushing, ball bearings between said washers, a spring acting against one of said washers and adapted to hold said driven member in engagement with said driving member and a buffer spring engaging the other of said washers and adapted to moderate the initial shock of said engagement.



4. In a friction clutch, a driving shaft, a fly wheel, rigidly mounted thereon, a cone face on said fly wheel, a sleeve loosely mounted on said shaft, a bushing having a driving fit with said sleeve and extending outwardly beyond the end thereof, a driven clutch member non-rotatably mounted with respect to said sleeve but having longitudinal movement thereon, a washer loosely mounted on said bushing, and a spring interposed between said driven member and said washer adapted to moderate the initial engagement of said clutch members and means for normally retaining said clutch members in engagement.

5. In a friction clutch, a driving member, a driven member, means for retaining said members in engagement, a sleeve on which said driven member is mounted, a bushing in said sleeve, a washer mounted on said bushing, a second washer mounted on said bushing, ball bearings between said washers, said first washer limiting the engagement of said members and means for moderating the initial shock of said engagement.

6. In a friction clutch, a drivin gmember, a driven member, a sleeve on which the latter is mounted, and on which said member has longitudinal movement, a bushing in said sleeve, a washer mounted thereon and adapted to limit the movement of said driven member in one direction, a flange on said sleeve adapted to engage the other end of said driven member to limit its longitudinal movement in the opposite direction, yielding means for normally holding said members in engagement and a spring adapted to moderate the initial shock of said engagement.

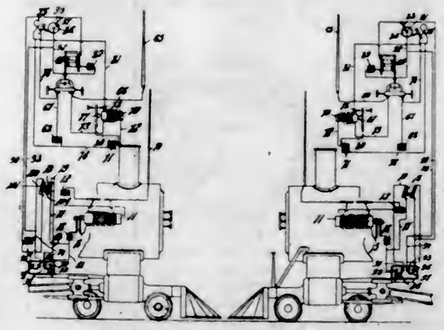
7. In a friction clutch, a driving member having a cone shaped face, a driven member adapted to frictionally engage said face, a sleeve on which said driven member has longitudinal movement, a flange on said sleeve adapted to limit the inward movement of said sleeve, a bushing in the latter, a washer loosely mounted on said bushing, a second washer loosely mounted on said bushing, means engaging said second washer for normally retaining said members in engagement, a recess in said second washer and a buffer spring interposed between said first washer and said driven member and adapted to moderate the initial engagement of said members.

8. In a friction clutch, a driving shaft, a clutch member fixed thereon, a driven member loosely mounted on said shaft and having longitudinal movement thereon, a spring coaxial with the shaft of one member for holding said members in engagement, a buffer spring coaxial with the shafts of said members and interposed between the driving member and the point of application of the clutch lever to moderate the initial shock of such engagement, said springs being disposed in line with each other about the shafts of said members, and said springs being disposed between the points of attachment of said members with their shafts.

9. In a friction clutch, a driving member having a single frictional surface, a driven member having a single frictional surface, and two springs coaxial with each other and coacting with said members, both of said springs tending to normally hold said members in engagement and one spring being released when the other is compressed.

10. In a friction clutch, a driving shaft, a clutch member fixed thereon, a driven member loosely mounted on said shaft, a clutch member mounted on said driven member and having longitudinal movement on said driven member, and two continuously opposed springs coaxial with the shaft for normally holding said clutch members in engagement.

869,714. WIRELESS SIGNALING SYSTEM. JOSEPH L. JONES, Kizer, Tenn. Filed Aug. 24, 1906. Serial No. 331,934.



1. In a wireless signaling system for railways, means carried by the locomotive for propagating electrical waves or oscillations, a coherer, an electrically operated signal controlled by said coherer, a decoherer, an operating curcuit for the latter, means on the locomotive and operated thereby for closing the decoherer circuit during the propagation of the electrical waves, and means controlled by the signal mechanism for closing the decoherer circuit after the signal has ceased to operate.

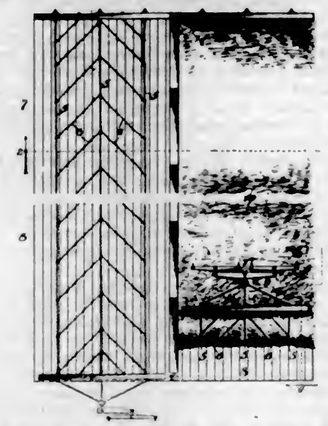
2. In a wireless signaling system, a coherer, a circuit therefor, an electro-magnetically actuated member operated on the closing of the circuit through the coherer, a decoherer, a circuit therefor, and means operable after a predetermined number of movements of said member for closing the decoherer circuit.

3. In apparatus of the class described, a drum of insulating material, a pair of contact bands carried thereby, a shaft or arbor on which the drum is loosely mounted, a spring connecting the shaft and drum, means for imparting a step by step movement to the shaft, a locking member for holding the drum from rotative movement, and a shaft carried arm arranged to engage and release said locking member.

4. In apparatus of the class described, a shaft, means for imparting step by step rotative movement thereto, a frame of insulating material mounted loosely on the shaft, a pair of circuit closing bands mounted on the drum, a pin projecting from the periphery of the drum, a locking member engaging the pin, and an arm carried by the shaft and serving to meve said locking member to release position.

5. In apparatus of the class described, a coherer, an alarm bell, a relay circuit closed by the coherer, a battery circuit under the control of the relay and connected to the bell, a decoherer, an independent battery circuit therefor, and means under the control of the bell for closing the decoherer circuit.

869,715. STABLE EQUIPMENT. JOHN VON DER KAMMER, Prairie View, Ill. Filed May 13, 1907. Serial No. 373,302.



1. In combination with the floor of a stable, or the like, a movable bedding-support on said floor in position to be covered by the bedding to adapt the bedding to be removed when compacted by moving said support.

2. In combination with the floor of a stable, or the like, a bedding-support removably laid on said floor in position to be covered by the bedding for animals and adapted to be dragged at one end for taking the bedding out of the stable.

3. In combination with the floor of a stable, or the like, a flexible bedding-rolling device laid on said floor in position to be covered by the bedding for animals and adapted to be dragged at one end toward its opposite end to roll up said bedding, for the purpose set forth.

4. In combination with the floor of a stable, or the like, a flexible bedding-rolling medium fastened at one end to extend lengthwise along said floor in position to be covered by the bedding for the animals, and adapted to be pulled at its free end to drag it toward its fastened end to roll up said bedding, for the purpose set forth.

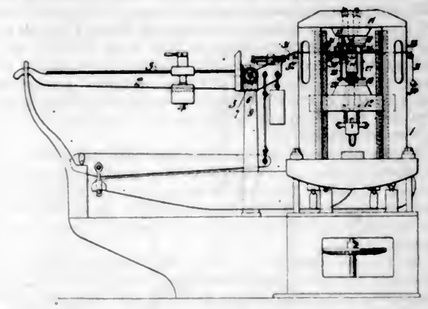
5. In combination with the floor of a stable, or the like, a flexible bedding-rolling medium fastened at one end to extend lengthwise along said floor in position to be covered by the bedding for the animals and adapted to be pulled at its free end to drag it toward its fastened end to roll up said bedding, and an adjunct consisting of a core-forming roller provided with projections adapted to be imposed on said bedding to extend across it near the free end of said flexible medium, for the purpose set forth.

6. In combination with the floor of a stable, or the like, a net-work of chains fastened at one end to extend lengthwise along said floor in position to be covered by the bedding for the animals and provided on its free end with draft-rigging by which to drag it toward its fastened end to roll up said bedding, for the purpose set forth.

7. In combination with the floor of a stable, or the like, a flexible bedding-rolling medium consisting of a plurality of longitudinal chains with cross-chains connecting them at intervals to form a net-work, fastened at one end to extend lengthwise along said floor in position to be covered by the bedding for the animals and provided on its free end with draft-rigging by which to drag it toward its fastened end to roll up said bedding, for the purpose set forth.

8. In combination with the floor of a stable, or the like, a flexible bedding-rolling medium consisting of a plurality of longitudinal chains with cross-connecting chains extending at intervals obliquely between them to form a net-work fastened at one end to extend lengthwise along said floor in position to be covered by the bedding for the animals and provided on its free end with draft-rigging by which to drag it toward its fastened end to roll up said bedding, for the purpose set forth.

869,716. EXTENSOMETER. WILLIAM H. KENERSON, Providence, R. I., assignor to Riehle Brothers Testing Machine Company, a Corporation of Pennsylvania. Filed Oct. 25, 1904. Serial No. 229,981.



1. In a testing machine provided with a scale beam and movable poise a frame supported by the specimen to be tested, a second frame supported by said specimen beneath said first mentioned frame, a drum carried by said first-mentioned frame and adapted to be actuated by the movement of the poise on the scale beam, a weighted carriage supporting a pencil holder and carried by said first-mentioned frame and an adjustable support therefor affected by the distance between the frames permitting said carriage and pencil holder to be lowered when the distance between said frames varies.

2. In a testing machine provided with a scale beam and movable poise, a frame supported by the specimen to be tested, a rotatable drum movable in correlation with the poise, a rotatable rod in suitable engagement with said frame, means for making rotation of the rod dependent upon change of the specimen, means for rotating said rod and a suitable marker adapted to be actuated by the rotation of the rod.

3. In a testing machine provided with a scale beam and movable poise, a rotatable drum movable in correlation with said poise, a rotatable rod suitably supported with respect to the specimen, means for making rotation of the rod dependent upon change of the specimen, means for rotating said rod, and suitable means actuated by said rod for indicating the rotation.

4. In a testing machine provided with a scale beam and movable poise, a rotatable drum movable in correlation with said poise, a rotatable rod suitably supported with respect to the specimen, means for making rotating of the rod dependent upon change of the specimen, means for rotating said rod, indicating the rotation and magnifying on the indication the change in the specimen.

5. In a testing machine provided with a scale beam and movable poise, a rotatable drum movable in correlation with said poise, a rotatable rod suitably supported with respect to the specimen, means for making rotation of the rod dependent upon change of the specimen, means for rotating said rod which is variable as to speed of rotation, and suitable means actuated by said rod for indicating the rotation.

6. In a testing machine provided with a scale beam and movable poise a frame carried by the specimen to be tested, a drum carried by said frame, means for causing movement of the poise to move said drum, a rod suitably supported with respect to the specimen, means for rotating said rod, and an indicating wheel and scale common to said frame and said rod.

7. In a testing machine provided with a scale beam and movable poise a frame carried by the specimen to be tested, a drum carried by said frame adapted to be rotated by the movement of the poise on the scale beam, a rod, a universal joint connecting said rod with said frame, said rod being in threaded engagement with said joint, a weight suitably guided and connected with said rod for rotating the same and a second frame carried by the specimen to be tested and having a bearing for said rod, said weight being so ar-

ranged as to actuate said rod when said bearing is removed therefrom.

8. In a testing machine provided with a scale beam and movable poise a frame carried by the specimen to be tested, a drum carried by said frame adapted to be rotated by the movement of the poise on the scale beam, a rod, a universal joint connecting said rod with said frame, said rod being in threaded engagement with said joint, a weight suitably guided and connected with said rod for rotating the same, and a second frame, one side of which is weighted and a second rod having a bearing on each of said frames, said last mentioned rod acting as a fulcrum for said second mentioned frame.

9. In a device of the character described, frames for attachment to the specimen, a marking drum suitably supported, a marker for said drum, means for moving said marker, and a frictional device operated by movement of the specimen for controlling the operation of said moving means.

10. In a device of the character described, frames for attachment to the specimen, a record holding device suitably supported, a marker for said device, a normally stationary weight for effecting movement of said marker, a rotary device releasing said weight and frictional means for preventing the movement of said rotary means until freed by variation of the specimen.

11. In a device of the character described, frames for attachment to the specimen, a rod rotarily mounted in one of said frames and having frictional engagement with the other, a record holding device, a marker, and means whereby rotation of the rod results in movement of the marker.

12. In a device of the character described, pivoted frames adapted for attachment to the specimen, a record holding device, a gravity actuated marker normally stationary movable with movement of the frames upon their pivots, a rotary device between said frames having frictional engagement with one of them which varies according to the movement of the frames and connections between the marker and rotary device which then permit movement of the marker.

13. In a device of the character described, pivoted frames for attachment to the specimen, a record holding device, a gravity actuated marker normally stationary movable to produce a record, a rotary rod permitting movement of the marker by its rotation and frictional means released by variation of the specimen for controlling said rotation.

14. In a device of the character described, frames adapted for pivotal movement with respect to the specimen, means for attaching said frames to the specimen a record holding device suitably supported in proximity thereto, a marker adapted to produce a record, means for moving the marker and frictional means engaging said frames for controlling movement of the marker according to movement of the specimen.

15. In a device of the character described, frames adapted for attachment to the specimen, a rod having threaded engagement with one of said frames and frictional engagement with the other, a record drum, a marker normally stationary movable along said drum, and means forming a connection between the rod and marker for causing movement of the rod between the frames to permit movement of the marker.

16. In a device of the character described, frames adapted for attachment to the specimen and having pivotal movement with relation thereto, a rod having threaded engagement with one of said frames and frictional engagement with the other, normally stationary record producing mechanism, means tending to cause the operation of this mechanism and a connection whereby this operation is restrained until permitted by rotation of the rod.

17. In a device of the character described, frames for attachment to the specimen and to have pivotal movement with respect thereto, a marker, a rod rotarily mounted in one of said frames and frictionally engaged by the other and means including a connection between the rod and marker released by rotation of the rod to produce a record upon variation in this frictional engagement.

18. In a device of the character described, frames, means for attaching said frames to the specimen, a marker, a cord restraining movement of said marker, and means engaging said cord and lying between said frames for frictionally controlling movement of said cord with movement of said frames.

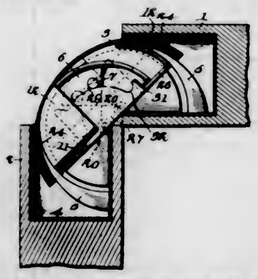
19. In a device of the character described, frames for attachment to the specimen, a rod between said frames retarded from movement by friction and released by movement of said frames, a record drum, a marker, means tending to cause said marker to move and a connection between the rod and marker permitting movement of said marker with movement of said rod.

20. In a device of the character described, frames, means for attaching said frames to the specimen to permit pivotal movement thereon, recording mechanism, and means for restricting movement of said recording mechanism, including a frictionally retarded connection between said frames, permitting movement of said marker with movement of said frames.

21. In a device of the character described, frames, means for mounting the frames upon the specimen to permit pivotal movement thereon, a rotatable rod between the frames frictionally retarded in rotation by pressure between said frames, a record drum, means for rotating the record drum, a marker for said drum, a connection between the marker and the rotatable rod, and means for causing rotation of the rod to advance the rod longitudinally with reference to one of said frames.

869,717. INVISIBLE HINGE. EUGENE M. KLUGE, Washington, D. C. Filed June 24, 1907. Serial No. 380,576.

1. In an invisible hinge, a hinge section provided with a guide horn, an integral guide plate, and hinge eyes, substantially as described.



2. In an invisible hinge, a casing provided with integral guide horns 5, a guide plate integral with said casing hinge eyes 9, a plate 11 provided with hinge eyes 10 adapted to register with said eyes 9, and means for securing said eyes together, substantially as described.

3. In an invisible hinge, a casing 4 provided with integral guide horns 5, and guide plates 6 rigid therewith, and a plate 11 hinged thereto, substantially as described.

4. In an invisible hinge, a casing 4 provided with integral guide horns 5, and guide plates 6 rigid therewith, a plate 11 hinged thereto, and provided with housings 12 adapted to receive said plates 6, substantially as described.

5. In an invisible hinge, the combination of a casing 4 provided with guide horns 5, hinge eyes 9, and guide plates 6, with a plate 11 provided with hinge eyes 10 adapted to register with said eyes 9, and housings 12 adapted to receive said plates 6 and to fit against said horns 5, substantially as described.

6. The combination in an invisible hinge, of a pair of main hinge sections, each composed of a hinge casing 4, provided with the horns 5, and the guide plates 6, and of a hinge plate 11 provided with the housings 12 adapted to fit over said guide plates 6, and a floating frame fitting over said horns 5, substantially as described.

7. The combination in an invisible hinge, of a pair of main hinge sections, each composed of a hinge casing 4, provided with the horns 5, and the guide plates 6, and of a hinge plate 11, provided with the housings 12 adapted to fit over said guide plates 6, and a floating frame having the side strips 24 fitting over said horns 5, substantially as described.

8. The combination in an invisible hinge, of a pair of main hinge sections, each composed of a hinge casing 4, provided with the horns 5, and the guide plates 6, and of a hinge plate 11 provided with the housings 12 adapted to fit over said guide plates 6, and a floating frame having the side strips 24 fitting over the said horns 5 and the bottom strips provided with the plates 27 adapted to enter said housings 12, substantially as described.

9. In an invisible hinge, the combination of a pair of main hinge sections each provided with plates 6 rigid therewith having pins 7, a floating frame having guide plates 27 provided with curved surfaces over which said pins ride, and pivoted plates 11 having housings adapted to receive said plates 11 and 27, substantially as described.

10. In an invisible hinge, the combination of a pair of main hinge sections each provided with horns 5 and plates 6 rigid therewith, and said plates having the pins 7 rigid with the same, a pair of pivoted plates 11 having the housings 12 adapted to receive said plates 6 and having the solid portions provided with the holes 16, a floating frame having the side strips 24, and bottom strips provided with the guide plates 27 fitting in said housings 12 and provided with curved surfaces adapted to receive said pins 7, and bolts 17 adapted to enter said holes, substantially as described.

11. In an invisible hinge, the combination of a pair of casings 4 having rigid therewith the horns 5, the plates 6 provided with the pins 7, and the hinge eyes 9, with the pivoted plates 11 having the housings 12 adapted to receive the plates 6 and having the perforated solid portions 13, the floating frame having the side, end and bottom strips, the latter provided with the guide plates, adapted to enter said housings and the said plates provided with curved surfaces against which the said pins 7 are adapted to bear, and a cover plate 3 concealing all the parts, substantially as described.

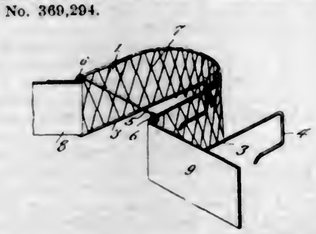
12. An invisible hinge provided with two main hinge sections adapted to separate when the hinge is operated, a frame overlying said sections and a cover therefor, adapted at all times to hide said parts, substantially as described.

13. An invisible hinge comprising two main hinge sections adapted to be fastened to the parts to be hinged together, and a floating frame overlying said sections, substantially as described.

14. An invisible hinge comprising two main sections, a floating frame engaging said sections and a cover, substantially as described.

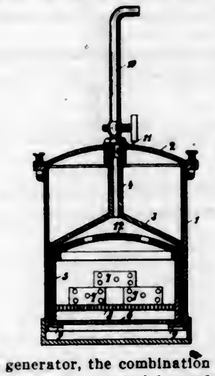
15. An invisible hinge comprising two readily separable main sections, a floating frame overlying the same, and a cover, substantially as described.

869,718. GAME ATTACHMENT FOR TABLES. CHRIS J. KNUDSON, Everdell, Minn. Filed Apr. 20, 1907. Serial No. 369,294.



In a game attachment for tables of the character described, a pocket forming bracket constructed of wire bent to provide an upper U-shaped loop, standards depending from the arms of the loop, horizontal supporting arms extending rearwardly from the lower ends of the standards, said arms being bent downwardly and inwardly at their rear ends to provide spring clasps to engage the edge of the top of the table, and a filling of fabric stretched between the arms of the loop and the supporting arms and forming the body of the pocket.

869,719. ACETYLENE-GAS GENERATOR. JOSEPH MARGRETH, Bergedorf, near Hamburg, Germany. Filed Nov. 28, 1904. Serial No. 234,554.



1. In a gas generator, the combination of a water receptacle, a gas bell, a carbid vessel located within said bell, said vessel having a perforated cover, imperforate sides and a bottom having an opening for the admission of water to said vessel, a supporting grate adjacent said bottom, and means for locking said gas bell and carbid vessel together, substantially as described.

2. In a gas generator, the combination of a water receptacle, a gas bell, a carbid vessel located within said bell, said vessel having a perforated cover, imperforate sides and a bottom having an opening for the admission of water to said vessel, a supporting grate adjacent said bottom, a valved gas conveyer leading from said bell, and means for locking said gas bell and carbid vessel together, substantially as described.

3. In a gas generator, the combination of a water receptacle provided with a removable cover, a gas bell, a carbid vessel located within said bell, said vessel having a perforated cover, imperforate sides, and a bottom having an opening for the admission of water to said vessel, a supporting grate adjacent said bottom, a valve gas conveyer leading from said bell, and locking devices secured to the bottom of said bell at right angles thereto for locking said bell and said carbid vessel together, substantially as described.

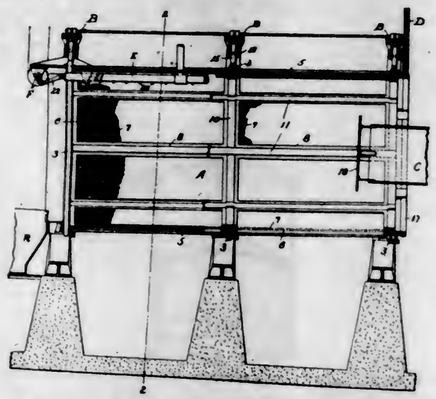
869,720. ROTARY SCREEN MECHANISM. WILLIAM C. MATTHIAS, Reading, Pa., assignor to Oliver M. Weand, Reading, Pa. Filed July 29, 1907. Serial No. 385,965.

1. A rotary screen comprising a series of spaced-apart exterior rings, a cylindrical reinforcing netting within said rings, and a screen lining within said netting made up in separate panels each having a rectangular framing removably secured to the netting substantially as set forth.

2. A rotary screen comprising a series of spaced-apart exterior rings, a cylindrical reinforcing netting within said rings made up of a circumferential series of full-length sections and a circumferential series of longitudinal strips supporting said sections, and a screen lining within said netting made up in separate panels each having a rectangular framing removably secured to the netting between said longitudinal strips substantially as set forth.

3. A rotary screen comprising a series of spaced-apart exterior rings, a cylindrical reinforcing netting within said rings made up of a circumferential series of full-length sections, clamping rings therefor within said exterior rings, and a circumferential series of longitudinal strips supporting said sections, and a screen lining within said netting made up in separate panels each having a rectangular framing removably secured to the netting between said longitudinal strips and clamping rings substantially as set forth.

4. A rotary screen comprising a series of spaced-apart track-rings and a drive-ring all encircling the screening, in combination with circular housings for said track-rings each provided with a series of rollers upon which said rings run substantially as set forth.

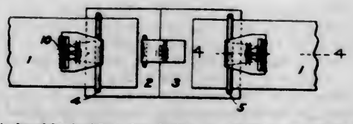


5. The combination with a rotary screen of a longitudinally arranged jet-pipe having spaced-apart apertures, means for supplying a cleaning fluid to said pipe, and means for imparting reciprocating longitudinal movement to the latter during rotation of the screen substantially as set forth.

6. The combination with a rotary screen of a longitudinally arranged jet-pipe having spaced-apart apertures, means for imparting reciprocating longitudinal movement to said pipe during rotation of the screen, and means for intermittently supplying cleansing fluid at determined intervals to the reciprocating jet-pipe substantially as set forth.

7. The combination with a rotary screen of a longitudinally arranged jet-pipe having spaced-apart apertures, means for imparting reciprocating longitudinal movement to said pipe during rotation of the screen, two or more fluid conduits communicating with said movable pipe, and means for intermittently opening and closing communication between said jet-pipe and one or more of said conduits as desired, substantially as set forth.

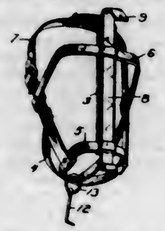
869,721. MEANS FOR ATTACHING BUCKLES TO BELTS OR GIRDLES. FRANCES B. MONTGOMERY, Rochester, N. Y. Filed July 25, 1906. Serial No. 327,742.



1. A buckle holder for belts or girdles consisting of a plate of flexible metal having parallel slots therein, and means whereby the plate may be sewed to a belt or girdle, in combination with a buckle having a loop through which the said plate may be passed and then is folded through the said slots to hold the buckle to the belt.

2. A buckle holder for belts or girdles consisting of a plate of flexible metal having three parallel slots therein, and means whereby the plate may be sewed to a belt or girdle, in combination with a buckle having a loop through which the said plate may be passed and then is bent backward on itself and the end curved through the slot most remote from the bend and back and around the loop formed by the other two slots.

869,722. ANIMAL-POKE. GEORGE R. MUMFORD, Dillon, Colo. Filed Jan. 14, 1907. Serial No. 352,278.

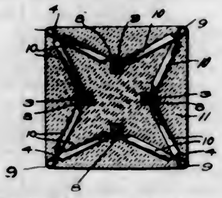


An animal poke comprising a halter including a throat-latch, a metallic strap supported on the forehead by the halter and having its upper end extended to project above the head, the projection terminating in a hook, a nose-ring and a flexible connection between the same and the lower end of the metallic strap, and a pendent hook having a ring connecting it with the throat latch.

869,723. TANNING COMPOUND. HORACE M. MURRAY, Seligman, Mo., assignor to J. W. Dodgen, Oakgrove, Ark. Filed Jan. 7, 1905, Serial No. 240,079. Renewed May 3, 1907. Serial No. 371,661.

A tanning solution consisting of water, gum gambier, terra japonica, alum, and crane's bill in about the proportions specified.

869,724. REINFORCED CONCRETE CONSTRUCTION. EDWARD NICHOLS, Cohasset, Mass. Filed July 8, 1907. Serial No. 382,617.



1. A reinforcement for concrete structures comprising longitudinally-extending reinforcing members and auxiliary reinforcing members each having substantially a V-shape in cross section, the edges of said auxiliary members being secured to the longitudinal members.

2. A reinforced concrete construction comprising longitudinally-extending reinforcing members and auxiliary reinforcing members each having substantially a V-shape in cross section and having also a truss construction, the edges of said auxiliary members overlying and being secured to the longitudinal members.

3. A reinforced concrete column or beam comprising reinforcing members extending longitudinally thereof and other reinforcing members having substantially a V-shape in cross section with the edges secured to the longitudinal members and the apices exposed at the corners of the column or beam.

4. A reinforced concrete column or beam comprising longitudinal reinforcing members and other reinforcing members presenting two edges or strips secured to the longitudinal reinforcing members, a continuous edge or bead exposed at the corner of the column, and bars connecting said bead with the edge strips.

5. A reinforced concrete column or beam comprising reinforcing members extending longitudinally of the column or beam, and other reinforcing members secured to the longitudinal members, said other members each being substantially V-shape in cross section and comprising a continuous edge extending longitudinally of the column at the corner thereof and bars connecting said edge with the longitudinal reinforcing members.

6. A reinforcement for concrete structures comprising a longitudinal reinforcing member of sufficient strength to support the false work necessary to mold the structure, and auxiliary reinforcing members each substantially V-shape in cross section and having their edges secured to the longitudinal member.

7. A reinforcement for concrete structures comprising a longitudinally-extending reinforcing member of sufficient strength to support the false work necessary to mold the structure, and auxiliary trussed reinforced members secured thereto.

8. A reinforcement for concrete structures comprising a longitudinally-extending reinforcing member of sufficient strength to support the false work necessary to mold the structure and an auxiliary trussed form-giving reinforcing member secured thereto.

9. A reinforcement for concrete structures comprising a reinforcing member V-shape in cross section and wider at one end than at the other.

10. A reinforcement for concrete structures comprising longitudinally extending reinforcing members, and auxiliary reinforcing members each having a substantially V-shape in cross section, and each having a progressively increasing width from one end to the other.

869,725. PACKAGE-FEEDING MACHINE. LAURITS M. NIELSEN, Boston, Mass., assignor to Agnew Auto Mailing Machine Company, Boston, Mass., a Corporation of Maine. Filed Apr. 24, 1905. Serial No. 257,256.



1. A package feeding machine comprising means for feeding forward packages, a receiver located at the end of the path in which the packages are fed forward, a series of movable means adapted to intercept said packages before they reach said receiver, and means for moving said intercepting devices in succession out of the path of the packages to permit them to pass to said receiver.

2. A package feeding machine comprising means for feeding forward packages, a series of deflectors located at one side of the path in which the packages are fed forward, and movable means adapted to be brought into the path of the packages to direct said packages successively towards such deflectors and means for successively moving said directing means out of said path.

3. A package feeding machine comprising means for feeding forward packages, a chute at the end of said path, and a series of independent package intercepting devices located at intervals along said path and movable with respect to such path, means for successively releasing said devices and mechanism for actuating said devices simultaneously in one direction.

4. A package feeding machine comprising means for feeding forward packages, gates pivotally mounted to swing into the path of the packages, springs tending to swing said gates out of said path, and mechanical means for simultaneously swinging the gates into said path against the action of the springs.

5. A package feeding machine comprising means for feeding forward packages, driving means therefor, a gate pivotally mounted to swing into the path of the packages, mechanical means for swinging the gate, and means for connecting the gate swinging means with the driving means at times to effect the resetting of the gate in the intercepting position.

6. A package feeding machine comprising means for feeding forward packages, a gate pivotally mounted to swing across the path of said packages, a latch for holding said gate from movement and means for releasing the latch.

7. A package feeding machine comprising means for feeding forward packages, a gate pivotally mounted, a spring adapted to exert an opening pressure on said gate, a latch pawl pivoted on said gate, fixed means for engaging the latch pawl, and means for releasing said pawl from such engaging means.

8. A package feeding machine comprising means for feeding forward packages, a gate pivotally mounted at the side of said feeding means and having a latch member, a spring for moving said gate in one direction, fixed means for engaging the latch member against the action of said spring, means for releasing said latch member from engagement with the fixed means, and movable means adapted to swing said gate back to the latching position.

9. A package feeding machine comprising means for feeding forward packages, a gate pivotally mounted at one side of said feeding means and having a movable latch pawl, a plate fixed with reference to said pawl and having means for engaging said pawl and means for lifting said pawl as it is moved towards such engaging means, a spring adapted to swing the gate in one direction, and means for lifting the pawl from said engaging means.

10. A package feeding machine comprising means for feeding forward packages, a bracket mounted at one side of said feeding means, a gate, spring actuated in one direction, pivotally mounted in said bracket and having a pivoted pawl, a plate fixed in said bracket and having means for engaging such pawl, a cam mounted to slide beneath said pawl to lift the same from said engaging means, a device connected with said cam for engaging the pawl, and means for effecting the sliding of the cam.

11. A package feeding machine comprising a table, a package feed belt mounted to travel over said table, a series of telescopic supports mounted in the table and adapted to support receptacles, a series of package diverting means movably mounted on the table and normally in position above said belt, and means for successively swinging said diverting means from their normal position.

12. A package feeding machine comprising a table, a package feed belt mounted to travel over said table, means for driving said belt, a series of gates pivotally mounted on the table at one side of said belt, sliding means adapted to engage said gates to move them, and means adapted to be connected with the belt driving means at times to effect the swinging of the gates.

13. A package feeding machine comprising a table, a package feed belt mounted to travel over said table, a series of gates pivotally mounted on said table to swing over said belt, means for retaining the gates in said position, and step by step actuated means for successively releasing said gates from their retaining means.

14. A package feeding machine comprising a table, a package feed belt mounted to travel over such table, a series of brackets mounted at the side of said belt and each having a latch member, a spring actuated gate pivotally mounted in each of said brackets and having a pivoted latch pawl adapted to be engaged by the latch member of said bracket, a longitudinally movable member supported on said table, a spring adapted to move said member in one direction, a step by step controlling device for controlling the movement of said movable member, and a series of cams mounted on said movable member and adapted to lift the gate latch pawls from engagement with their latch members at times.

15. A package feeding machine comprising a table, a feed belt mounted to travel thereover, a series of gates pivotally mounted on the table and furnished with pivoted pawls, a series of latch plates with which said pawls are adapted to engage, slidable means for disengaging the pawls from their latch plates, means for controlling the movement of said slidable means step by step, and a magnet for effecting the release of the controlling means.

16. A package feeding machine comprising a table, a feed belt mounted to travel on the table, a series of gates pivotally mounted on the table and having pivoted pawls, a series of latch plates with which said pawls engage, a series of cams slidably mounted with respect to such pawls, a connection between said cams, a spring exerting a tension to draw said connection longitudinally, a rack included in said connection, a magnet furnished with an

armature having means for alternately engaging the teeth of said rack to control the movement of such connection.

17. A package feeding machine comprising a table, a feed belt mounted to travel over said table, driving means for such belt, a series of gates pivotally mounted on the table and having pivoted pawls, latch plates on said table with which such pawls may engage, a series of fingers slidably mounted on the table and adapted to engage said pawls to swing them towards said latch plates, a connection between said pawls and having a chain, a sprocket over which said chain works, and means for connecting said sprocket with the feed belt driving mechanism.

18. A package feeding machine comprising a feed belt, driving means therefor, a series of gates movably mounted, means for locking the gates in the operative position, means for releasing said locking means successively, means adapted to act upon the gates to move them to the operative position, a connection between the gate moving means and the feed driving mechanism, a controlling device for said connection adapted to be released subsequent to the release of the last gate, and means for resetting said controlling means.

19. A package feeding machine comprising, means for feeding forward packages, movably mounted package diverting means, locking means whereby said diverting means are held in the operative positions, means for releasing said locking means, magnetically actuated controlling means for said releasing means, an electric circuit for said magnet having terminals, and a circuit closer adapted to be brought into electrical contact with such terminals.

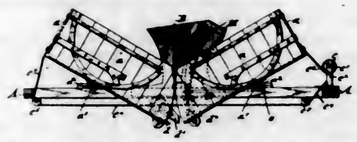
20. In a package feeding machine, furnished with a series of package intercepting gates, the combination with said gates, devices for engaging said gates to move them to the operative positions, a connection for all of said devices, a chain secured to said connection, and a sprocket with which said chain is engaged, of a drive gear furnished with a clutch for connecting the same with said sprocket, a pivoted lever for moving said clutch, and means controlled by the movement of the gate actuating connection for effecting the swinging of said lever.

21. In a package feeding machine the combination with a sprocket rotatably mounted, a chain engaging said clutch, a wire connected with such chain, a spring for exerting a tension on said wire, a cam member and a projecting member secured to said wire, and a guide on which said members are adapted to slide, of a drive gear furnished with a clutch member adapted to connect with said sprocket, a pivoted lever for moving such clutch member, a pivoted member having an arm pivotally connected with said lever, a pawl pivotally mounted on said pivoted member, and a latch plate having a stop with which said pawl may engage, and from which said pawl may be released by movement of the cam member, as and for the purpose described.

22. A package feeding machine comprising package feeding means, a series of gates mounted to swing across said feeding means and furnished with latching devices, of a series of latch releasing mechanisms, a connection therefor having a rack bar furnished with teeth, a spring for exerting a tension on said rack bar to draw the same in one direction, a magnet furnished with an armature having a stop adapted to engage the teeth of the rack bar at times, a pawl pivotally mounted and connected with said armature adapted to be swung into the path of the rack teeth when the armature stop is moved out of such path, said rack teeth and pawl being shaped to permit the passage of the rack in one direction, and an electric circuit having terminals adapted to be connected by a circuit closer, as and for the purpose described.

869,726. DUMPING-CAR. JAMES M. O'KELLY, New York, N. Y., assignor of one-half to J. Turner Morehead, New York, N. Y. Filed Nov. 16, 1905, Serial No. 287,657. Renewed July 27, 1907. Serial No. 385,811.

1. A dumping-car comprising a supporting-frame, tilting-sections pivoted in said frame and having adjacent discharge-ends, a locking device for locking together the inner discharge-ends of said sections, means mounted on said supporting-frame and extending upwardly at the sides of said sections, and a final locking mechanism for said sections supported on said means.



2. In a dumping-car, the combination of a frame, car-sections pivoted in said frame to tilt toward each other longitudinally of the frame and having adjacent discharge-ends, devices mounted on said sections for closing the same at their meeting-edges when the same are in normal or horizontal position, side-plates attached to said frame, and a final locking mechanism for said car-sections arranged on said side-plates.

3. A dumping-car consisting of a supporting-frame, car-sections open at their inner ends, pivoted to said frame, an auxiliary device for locking the outer ends of the car-sections to the supporting-frame, side-plates attached to the supporting-frame and overlapping the inner ends of the car-sections, and a final locking mechanism on the side-plates connecting with the inner end of one of the car-sections.

4. A dumping-car consisting of a supporting-frame, car-sections pivoted to the supporting-frame and open at their inner ends, side-plates attached to the supporting-frame and overlapping the inner ends of said car-sections, means for closing the meeting edges of the bottoms of the car-sections, and a final locking mechanism arranged on the side-plates and connected with one of the car-sections for locking them positively in their normal or horizontal position.

5. In a dumping-car, the combination, with a supporting-frame, of tilting car-sections pivoted to the same, upright side-plates attached to the supporting-frame and overlapping the inner ends of the car-sections, an overlapping lip at the bottom-edge of one car-section, closing devices between the lower inner ends of the car-sections, and a final positive locking mechanism arranged on the side-plates and connected with one of the car-sections.

6. In a dumping-car, the combination, with a supporting-frame, of tilting car-sections pivoted to the same, one of the car-sections being provided at its inner bottom-edge with a projecting lip and with locking-tongues on its side-walls, the other car-section being provided with locking-pins for interlocking with the tongue of the other car-section, and a final locking mechanism arranged in the upright side-plates and connected with one of the car-sections.

7. In a dumping-car, the combination, with a supporting-frame, of tilted car-sections pivoted to said frame, side-plates attached to the supporting-frame and overlapping the inner ends of the car-sections, a final locking mechanism arranged on said side-plates and connected with one of the car-sections, and a lever mechanism arranged on both sides of one of the car-sections and connected with the final mechanism for unlocking or locking the same for tilting the car-sections or when returned into normal position.

8. In a dumping-car, the combination of a supporting-frame, car-sections pivoted to said supporting-frame intermediately of their length, side-plates attached to the supporting-frame and overlapping the inner ends of the car-sections, closing devices at the inner ends of the car-sections, a final locking mechanism arranged in the side-plates and connected with one of the car-sections, lever-mechanisms actuating the final locking-lever and a hand-lever for operating said lever mechanisms and unlocking the car section on both sides for tilting them or locking them after returning them into normal position.

9. In a dumping-car, the combination, with the supporting-frame, of upright side-plates attached thereto and located at the center of the same, car-sections pivoted to the supporting-frame and open at their inner ends, means for closing the inner ends of the car-sections near the bottom of the same, final locking-mechanisms located in the upright side-plates and consisting of curved bars provided with locking-pins at their upper ends, locking-rollers and U-shaped slide-frames guided in the recesses of the side-plates, and lever-mechanisms for moving the slide-frames so as to permit the lateral motion of the rollers and the release or velocity of the locking-pins.

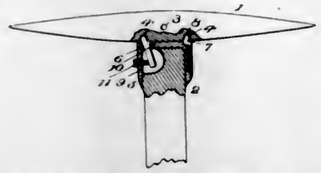
10. In a dumping-car, the combination, with a supporting-frame, of upright side-plates attached to the supporting-frame at the center of the same, car-sections pivoted to said supporting-frame and open at their inner ends, and a final locking mechanism for said car-sections consisting of U-shaped slide-frames guided in recesses of the side-plates and having legs with thinner lower portions and wider upper portions and inclines between said portions, curved bars provided with locking-pins at their upper ends and connected at their lower ends with the car-sections, locking-rollers in said slide-frames, and lever mechanisms connected with the slide-frames for moving the same so as to permit the lateral movement of the locking-rollers and the locking or unlocking of the locking-pins.

11. In a dumping-car, the combination of a supporting-frame, tilting car-sections pivoted to the same, cushioning-blocks arranged on said supporting-frame, and projecting stops arranged on the side-walls of the car-sections for arresting the tilting motion of the car-sections by contact with the cushioning-blocks.

12. In a dumping-car, the combination of a supporting frame, tilting car-sections pivoted to said frame, wire cords attached to the outer ends of said car-sections, a drum shaft at one end of the supporting-frame, drums for the opposite ends of said wire-cords, pulleys on said supporting frame for guiding said wire-ropes, and gearing for turning the drum-shaft for rewinding the wire-cords and returning the car-sections into normal position.

13. In a dumping-car, the combination, with a supporting-frame, of tilting car-sections open at their inner ends and pivoted to said frame, upright side-plates at the center of the supporting-frame, a removable partition guided in ways of the supporting-frame, auxiliary locking devices near the outer end of the car-sections and final locking devices between the side-plates and one of the car-sections.

869,727. PICK. JACOB OLSON, Oskaloosa, and WILLIAM J. O. BOALS, Albia, Iowa. Filed Nov. 12, 1906. Serial No. 343,076.

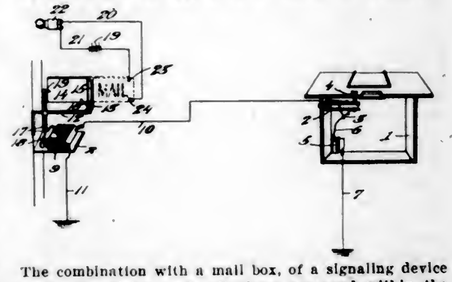


1. In a tool of the character set forth, the combination of a head provided with a pair of spaced diverging openings, a handle, a socket fitted upon the end of the handle, a dog rigid with the handle and projecting beyond the end thereof, a second dog pivotally mounted within the socket at an intermediate point, one end of the second dog projecting beyond the handle while the opposite end extends within a recess in the handle, said dogs being designed to enter the before mentioned diverging openings in the head of the pick and lock the head to the handle, and a set screw carried by the socket for locking the movable dog in a fixed position.

2. In a tool of the character specified, the combination of a head provided with a pair of diverging openings, a handle, a socket fitted over the end of the handle, the end portion of the socket having an opening in one side thereof, a movable dog pivoted at an intermediate point within the socket, one end of the movable dog projecting outwardly beyond the socket while the opposite end extends within a recess in the handle, a second dog rigid with the socket and projecting beyond the end thereof, the said dogs being designed to enter the diverging openings in the head and secure the same to the handle, and a set screw carried by the socket for locking the movable dog in a fixed position.

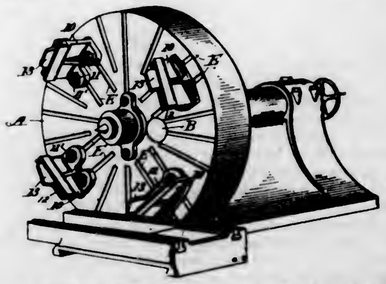
3. In a tool of the character specified, the combination of a head provided with a pair of diverging openings, a handle, a socket fitted over the end of the handle and having an opening formed in one side of the end portion thereof, a movable dog pivoted at an intermediate point upon the socket, one end of the movable dog projecting outwardly through the before mentioned opening, while the opposite end extends within a recess in the handle, the inner portion of the recess being enlarged to permit a swinging motion of the dog, a second dog rigid with the socket and projecting beyond the end thereof, a set screw operating in the socket and engaging the inner end of the movable dog to lock the same in a fixed position, the extremities of the dogs being designed to enter the before mentioned sockets in the head to secure the same to the handle.

869,728. ALARM MECHANISM. LEROY PAISLEY, Waverly, Ohio. Filed May 9, 1906. Serial No. 315,896.



The combination with a mail box, of a signaling device therefor comprising a circuit closer arranged within the box, an electro-magnet included in the circuit and disposed at a distance from the box, a bracket arm supported above the electro-magnet, a signal revolubly supported upon said arm, a latch bar pivoted upon the bracket, an armature for coöperation with the electro-magnet carried at one end of said bar, a latch carried at the opposite end of the bar to engage one edge of the signal and maintain the same in inoperative position against the tension of the spring, and an independent signal circuit having spaced terminals to be bridged by the signal when the latter has been moved to operative position under the influence of the spring.

869,729. DRIVING-DOG. SALMON W. PUTNAM, 3d, Fitchburg, Mass. Filed Mar. 18, 1907. Serial No. 363,044.



1. A movable work-driver comprising a driving-dog, latching means for holding the dog retracted out of engagement with the work, and impelling means tending to move the dog into driving contact with the work.

2. A movable work-driver comprising a slidably-mounted driving-dog, and a guide therefor, latching-means for holding the dog normally retracted out of engagement with the work, an impelling means tending to move the dog into driving contact with the work.

3. In a machine of the character described, the combination of a driving-member, an inclined plane carried thereby, a driving-dog slidably-mounted on said inclined plane, a detent-mechanism for holding the dog out of working position, and means having a tendency to move the dog along said inclined plane into working position, said dog, when in engagement with the work, adapted to retard in unison with said work and relative to the driving member.

4. In a machine of the character described, the combination of a driving member, a slidably-mounted driving-dog, an inclined guide therefor, a detent means on said member for detaining the dog at one position of the guide, said detent means adapted to release the dog to enable it to automatically move to a higher point on the guide and in contact with the work.

5. In a machine of the character described, the combination of a rotatable face plate having an inclined guide, a dog slidably-mounted on said guide and having a cam-face, to engage the work, detent-means for holding the dog out of working position, said means when released allowing the dog to be moved into working position.

6. In machines of the character described, the combination of a rotatable face-plate, an inclined guide carried thereby, a dog slidably mounted relative to the guide and having a serrated driving face, means for holding the dog normally under restraint out of contact with the work, and means for impelling the dog along its guide into contact with the work when said dog is relieved of its restraint.

7. The combination of a driver, a dog connected thereto and having a gripping portion constrained to move in a path oblique to the direction of movement of the dog, and a detent on the driver adapted to hold the dog out of working position.

8. The combination of a driver, a slidable-dog connected thereto and having a gripping portion constrained to move in a path oblique to the direction of movement of the dog, a detent on the driver adapted to hold the dog out of working position, and a means for moving the dog into working position.

9. The combination of a driver, a dog connected thereto and having a gripping motion constrained to move in a path oblique to the direction of movement of the dog, a detent on the driver adapted to hold the dog out of working position, and a spring connecting with said dog for moving the dog into working position after it is released by the detent.

10. In machines of the character described, a non-pivoted, slidably-mounted driving-dog supported relative to the work, means for holding the dog normally retracted and in inoperative position; and means for automatically projecting the dog into operative position to cause its working face to engage the work.

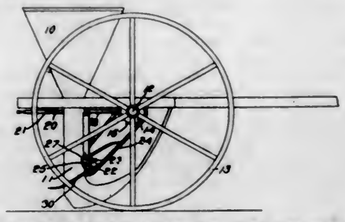
11. In machines of the character described, a slidably-mounted driving-dog supported relative to the work; said dog having a rear surface inclined relative to its driving-face; an inclined-plane in contact with which the rear surface of the dog slides; means for holding the dog normally retracted at a relatively low portion of said inclined-plane; means for releasing the dog from its retracted position; and means for inducing the dog to travel along said inclined-plane and to approach and contact with the work.

12. In machines of the character described, a slidably-mounted driving-dog supported relative to the work, said dog having a rear surface inclined relative to its driving face; an inclined-plane in contact with which the rear surface of the dog slides; means for holding the dog normally retracted at a relatively low portion of said inclined-plane, and releasing said dog; and means for inducing the dog to travel along said inclined-plane and to approach and contact with the work, said last-named means comprising a spring connected with the dog and with a fixed point said spring allowing the dog to adjust itself automatically to the resistance offered by the cutting tool.

13. In machines of the character described the combination of a rotatable face-plate, a dog carried by the face-plate and slidable in a path oblique to the plane thereof; means for holding the dog normally retracted and out of contact with the work, and releasing the dog from its retracted position; and means whereby the dog is moved along its path to bring its working-face into contact with the work, said last-named means holding the dog with a yielding pressure and allowing said dog to adjust itself automatically to the resistance offered by the cutting tool.

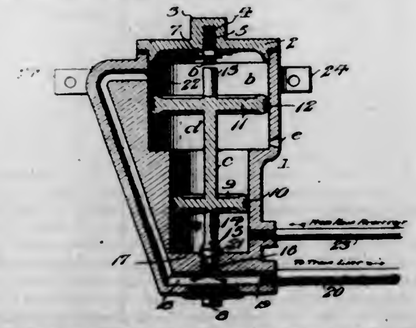
14. The combination with a revoluble face-plate, of a flange or member carried thereon having a channeled front portion with an inclined-plane forming a wall of the channel; a dog slidably-mounted in the channel of the flange or member, said dog having a serrated front face and a rear face to slide in contact with said inclined-plate; a latch-member for holding the dog in a locked position at the lower portion of the inclined-plane; and a spring connected to the dog adapted to project said dog towards the work when the dog is released by its latch-member, said spring holding the released dog with a yielding pressure.

869,730. GRAIN-DRILL CLEANER. ROY M. RICHARDS, Mendon, N. Y. Filed Feb. 11, 1907. Serial No. 356,746.



In a mechanism of the class described the combination with the drive shaft of a seed drill, of a shaft adapted to be driven from the drive shaft, collars arranged upon the shaft and adjustable longitudinally thereof, said collars having threaded bores formed therethrough, and teeth having threaded shanks engaged in the bores.

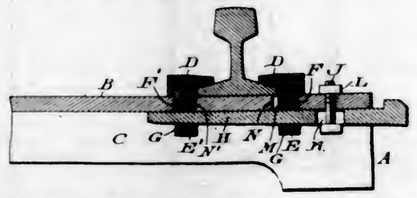
869,731. AUTOMATIC GOVERNOR FOR AIR-BRAKE SYSTEMS. JOSEPH W. RICHARDSON, Cumberland, Md., assignor of one-third to Rufus E. Weimer, Johnstown, Pa. Filed Feb. 5, 1907. Serial No. 355,859.



1. A governor for air brake systems comprising a casing provided with air chambers of different cross sectional area, and an air passage extending into the bottom of the casing and communicating with one of the chambers in said casing, a piston provided with piston heads mounted to move in said chambers, said pistons having a valve head thereon adapted to engage a valve seat in an opening through said casing which communicates with said air passage, a train line pipe communicating with said air passage, and the latter communicating with the air chamber of greater cross sectional area to move the piston and seat the valve after pressure from the main reservoir unseats the valve.

2. A governor comprising a casing provided with chambers of different cross-sectional areas, and an intermediate balancing chamber open to the atmosphere, a piston mounted in said casing and provided with heads fitting the inner walls of said chambers, a valve on the piston, a valve seat in the casing, a screw cap fitting one end of the casing, a set screw mounted underneath said cap, and adapted to be adjusted to limit the action of said piston, and a plug fitted to the opposite end of the casing to give access to the valve seat, substantially as described.

869,732. RAILROAD-TIE AND RAIL-FASTENING. GEORGE W. RITTERSBACH, Philadelphia, Pa., assignor of one-fourth to George S. Elliott, and one-fourth to Morris Schwartz, Philadelphia, Pa. Filed Mar. 27, 1907. Serial No. 364,869.



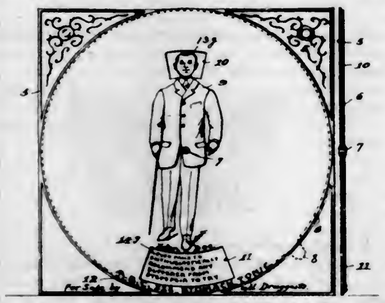
1. In a railroad rail fastening, clamps adapted to engage the base of a rail, the same having members adapted to engage a railroad tie, said members being of different dimensions in the direction of the length of the tie and transposable in said tie.

2. In a railroad tie and rail fastening, a tie, and rail clamps having legs adapted to enter openings in said tie, said legs being of different dimensions in the direction of the length of the tie and transposable in said openings.

3. In a railroad rail fastening, rail clamps having legs adapted to enter a tie, a key adapted to occupy said legs, and a bolt adapted to pass through said key and the tie.

4. In a railroad rail fastening, a rail support, and means for clamping a rail thereon, certain members of said means being differential in dimensions and transposable, for restoring the gage of a railroad track.

869,733. ADVERTISING DEVICE. MAX ROSENFELD, Chicago, Ill. Filed Feb. 28, 1907. Serial No. 359,819.

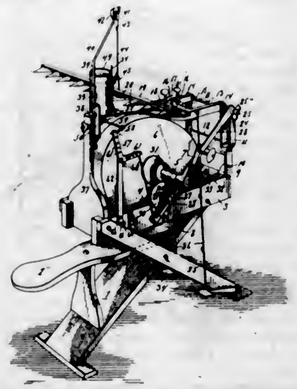


1. An advertising device comprising a pair of concentrically pivoted sheets, the upper of said sheets displaying a human figure, excepting the face, and having openings above and below said figure, and the under sheet having an annular series of faces bearing different expressions of countenance adapted to be brought one at a time into register with the upper opening of the upper sheet, said under sheet also having an annular series of printed expressions adapted to register one at a time with the lower opening of the upper sheet simultaneously with the registration of a face with the upper opening, said printed expressions each referring to the article advertised; and also being in harmony of sentiment with the expression of the face disclosed simultaneously therewith, substantially as described.

2. An advertising device comprising a pair of concentrically pivoted sheets, the upper of said sheets displaying a human figure, excepting the face, and having openings above and below said figure, with the name of the article advertised adjacent to the lower opening, and the under sheet having an annular series of faces bearing different expressions of countenance adapted to be brought one at a time into register with the upper opening of the upper sheet, said under sheet also having an annular series of printed expressions adapted to register one at a time with the lower opening of the upper sheet simultaneously with the registration of a face with the upper opening, said printed expressions each referring to and constituting part of a sentence completed by the name of the article advertised, and also being in harmony of sentiment with the expression of the face disclosed simultaneously therewith, substantially as described.

3. An advertising device comprising a pair of concentrically pivoted sheets, the upper of said sheets displaying a human figure, excepting the face, and having diametrically opposed openings above and below said figure, with a fictitious name of the figure above and the name of the article advertised beneath the lower opening, and the under sheet having an annular series of faces bearing different expressions of countenance adapted to be brought successively into register with the upper opening of the upper sheet to complete the representation of the human figure, said under sheet also having an annular series of printed expressions adapted to successively register with the lower opening of the upper sheet simultaneously with the registration of a diametrically opposed face with the upper opening, said printed expressions each referring to and, with the name of the figure, forming a sentence completed by the name of the article advertised, and also being in harmony of sentiment with the expression of the face disclosed simultaneously therewith, substantially as described.

869,734. MOWER-KNIFE AND TOOL GRINDER. JOHN M. ROSS, Kincardine, Ontario, Canada. Filed Sept. 11, 1905. Serial No. 277,824.



1. In a grinding machine, the combination with the main frame and the grinding stone journaled therein, of a reciprocatory knife-carrying frame, means for reciprocating said knife-carrying frame, means for holding the knife in the knife-carrying frame, and means for springing the knife-carrying frame from side to side as it reciprocates to cause the knife to bear upon one side of the stone more than upon the other.

2. In a grinding machine, the combination with the main frame and the grinding stone journaled therein, of the oscillatory frame, brackets slidably mounted on the main frame to which the oscillatory frame is hinged, a knife-carrying frame hinged to the upper end of the oscillatory frame and loosely mounted to afford facility of movement means for actuating the oscillatory frame to reciprocate the knife-carrying frame, treadles mounted upon the opposite sides of the main frame, and means connecting said treadles with the opposite sides of the knife-carrying frame, whereby said knife-carrying frame may be sprung to cause the knife to bear upon one side of the stone more than upon the other.

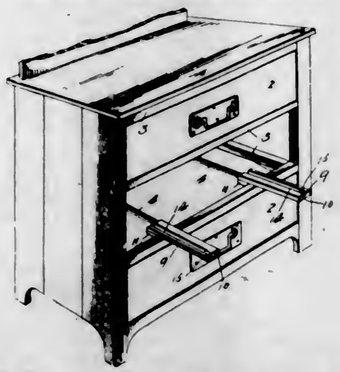
3. In a grinding machine, the combination with the main frame and the grinding stone suitably journaled therein, of a knife-carrying frame, a sand supplying receptacle mounted over the wheel and adapted to discharge sand thereon, and means for actuating the sand receptacle to distribute sand over the surface of the stone concurrently with the rotation thereof.

4. In a grinding machine, the combination with the main frame and the stone journaled therein, of the knife-carrying frame adjacent to said stone, a sand receptacle above the stone adapted to discharge sand onto the face thereof, said sand receptacle being mounted to swing laterally, means for rotating the stone, and means connected with the sand receptacle for swinging it laterally as the stone revolves.

5. In a grinding machine, the combination with the main frame and the grinding stone journaled therein, of a knife-supporting frame adapted to present a knife to the stone, a sand receptacle supported over the stone, and mounted to swing laterally, a bell-crank lever connected to said sand receptacle, and means connected with said lever for actuating it as the stone revolves.

6. In a grinding machine, the combination with the main frame and grinding stone, of a knife-supporting frame adjacent to said wheel, a movably mounted sand receptacle adapted to discharge sand onto the face of the stone, means for moving said receptacle to swing the discharge spout thereof concurrent with the rotation of the stone, and means for regulating the passage of the sand from said receptacle.

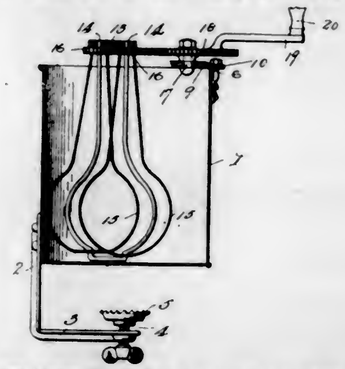
869,735. DRAWER-GUIDE. MYER RUBIN, San Diego, Cal. Filed Jan. 24, 1907. Serial No. 353,826.



1. The combination with a bureau, of transverse angular guiding rods secured therein, supporting bars having longitudinal grooves in their lower faces to engage the guiding rods, boxings secured on the inner ends of the supporting bars and inclosing the guiding rods, the supporting bars adapted to be extended beyond the bureau and formed each with a groove in its upper face, drawers, and cleats carried by the bottoms of the drawers slidably engaged in the grooves in the upper faces of the supporting bars.

2. The combination with an article of furniture, of angular guiding rods secured transversely therein, supporting bars slidably engaged on the guiding rods having longitudinal grooves to receive said rods, boxings at the inner ends of the supporting bars inclosing the guiding rods, the supporting bars adapted to be extended beyond the article of furniture and limited in their outward movement by the boxings, the supporting bars formed each with a guiding groove in its upper face terminating in an abutment, drawers or trays, and cleats on the bottoms of the drawers or trays slidably engaged in the guiding grooves in the supporting bars.

869,736. EGG-BEATER. WILLIAM RUPPEL, Evanston, Wyo. Filed Apr. 24, 1907. Serial No. 369,947.



An egg beater comprising a receptacle, a clamp bar depending from the receptacle, a clamp screw in the end of said bar, a stud mounted on the rim of the receptacle provided with a nut on its upper end forming a head, a corresponding threaded post mounted on the rim opposite said post, a supporting bar having one end slotted for engagement with the headed stud and the opposite end formed with an opening to pass over the threaded post, a wing nut on the post to clamp the bar in position, an angular bracket on the supporting bar having an offset portion, a looped support depending from and having its ends engaged in the angular bracket, pinions journaled on the upper ends of the support, beaters depending from said pinions, and a spur gear journaled on the supporting bar meshing with the pinions and provided with an operating handle.

869,737. MULTIPLE SOCKET FOR INCANDESCENT LAMPS. FRANK J. RUSSELL, New York, N. Y. Filed May 29, 1907. Serial No. 376,348.



1. A multiple lamp socket, having a body part carrying a series of lamp-holding contacts with a detachable lid carrying a series of corresponding center contacts for the lamps.

2. A multiple lamp socket, having a body part carrying a series of lamp-holding contacts and two terminal plates for the wires with a detachable lid carrying a series of center contacts for the lamps, adapted to electrically connect with one of the terminal plates, when the lid is in place.

3. A multiple lamp socket, having a body part carrying a series of spiral wire lamp-holding contacts and a means to clamp them in place with a detachable lid carrying a series of center contacts for the lamp.

4. A multiple lamp socket, having a body part carrying a series of lamp-holding contacts with a detachable lid having spring clips to engage a part of the body, the lamps when screwed in being adapted to bear against the clips to lock the lid to the body.

4. A multiple lamp socket, having a body part carrying a series of lamp-holding contacts and two terminal plates with a detachable lid having spring clips to engage with a part of the body and adapted to make connection with one of the terminal plates, when the lid is in place and to form center contacts for the lamps.

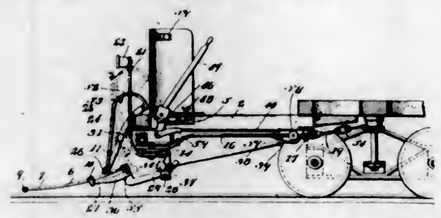
6. A multiple lamp socket, having a box-like body part with a central shouldered projection, a series of lamp-holding contacts carried by the body, a detachable lid carrying a series of spring clips to engage said shouldered projection and form center contacts for the lamps.

7. A multiple socket having a body part with a detachable lid, spring clips to hold the lid in place, and lamp-receiving parts, the lamps being adapted to bear against the clips to lock the lid when the lamps are screwed up.

8. A multiple socket having a body part with a central shouldered projection, a detachable lid with spring clips to engage the shoulder, and lamp-receiving parts, the lamps being adapted to lock the clips on the shoulder when the lamps are screwed up.

9. A multiple socket, having a body part carrying lamp-receiving contacts with a tubular central projection notched for the terminal wires, two terminal plates and a detachable lid with spring clips to make electrical connection with one of the terminal plates, hold the lid in place and form end contacts for the lamps.

869,738. FENDER. JEARUM A. SAGE, Stryker, Ohio. Filed Mar. 12, 1907. Serial No. 361,913.



1. The combination with the car and the trucks thereof, of a yoke pivotally connected to the under side of the car and provided with an opening, a pulley journaled in the opening, a cross-plate connected with the arms of the yoke, a fender having a hinged connection with the cross-plate, a stirrup depending from the cross-plate at the center thereof, an arm extending from the fender and passing through the stirrup, levers pivoted to each side of the stirrup, and each provided with a forward projection, a roller journaled between the projections and resting on the arm, a link connected with the levers and arranged below the yoke, a second link above the yoke, a chain connecting the adjacent ends of the links and passing over the pulley in the opening in the yoke, a swinging lever on the bracket and provided in its upper end with a socket, a spring actuated catch provided with a notch pivoted in the bracket, a pin in connection with the swinging lever for engaging the notch when the lever is swung forwardly, a treadle for operating the catch, a lever for engaging the socket whereby to swing the lever, and a connection between the yoke and the adjacent truck, whereby to impart the swinging motion of the truck to the yoke.

2. The combination with the car and the trucks thereof, of a yoke pivotally connected to the under side of the car, a fender hinged to the arms of the yoke, a stirrup depending from the car, an arm projecting from the fender and passing through the stirrup, a lever pivoted to the stirrup and provided with a roller for engaging the arm whereby to lift the fender out of contact with the track, a swinging lever on the car, a connection between the lever and the lever on the stirrup, a spring actuated catch for engaging the swinging lever whereby to retain the fender out of contact with the track, a treadle for operating the catch to release the swinging lever, means for swinging the swinging lever whereby to lift the fender out of contact with the track, and a connection between the yoke and the adjacent truck whereby to impart the swinging motion of the truck to the fender.

3. The combination with the car and the trucks thereof, of a yoke pivotally connected to the under side of the car, a fender hinged to the arms of the yoke, a stirrup depending from the car, an arm projecting from the fender and passing through the stirrup, a roller engaging the arm for lifting the fender out of contact with the track, a swinging lever for operating the roller, a spring actuated catch for engaging the lever whereby to retain the fender in its elevated position, a treadle for operating the catch to release the swinging lever, means for swinging the lever whereby to return the fender to its elevated position, and a connection between the yoke and the adjacent truck whereby to impart the swinging movement of the truck thereto.

4. The combination with the car and the trucks thereof, of a yoke pivotally connected to the under side of the car, a fender hinged to the arms of the yoke, a stirrup depending from the car, an arm projecting from the fender and passing through the stirrup, means engaging the arm to retain the fender out of contact with the track, a spring actuated catch for locking the retaining means in operative position, a treadle for releasing the catch, means for returning the retaining means to operative position, and a connection between the yoke and the adjacent truck whereby to impart the swinging motion of the truck to the yoke.

5. The combination with the car and the trucks thereof, of a yoke pivotally connected by its body portion to the under side of the car, a fender hinged to the arms of the yoke, said fender comprising a plurality of spaced rods, bars connecting the rods, a cushion comprising a plurality of curved resilient bars connected at each end by cross-bars one of said cross-bars being engaged by bearings fixed to rods of the fender, a guide in connection with the yoke for the cushion and having a sliding connection therewith, a hook on the cushion for retaining the fender in contact therewith, and a connection between the yoke and the adjacent truck whereby to impart the swinging movement of the truck to the yoke.

6. The combination with the car, of a fender hinged to the end thereof, a substantially vertical resilient cushion having its lower end hinged to the fender and arranged at the rear thereof, a guide for the cushion connected with the fender and with which the cushion has a sliding connection, and a hook on the cushion for engaging the fender whereby to retain it in contact therewith.

7. The combination with the car and the trucks thereof, of a yoke mounted for swinging movement beneath the car, a fender hinged to the arms of the yoke, a cushion at the rear of the fender and having a hinged connection therewith, a guide for the cushion connected with the yoke, means for normally retaining the fender out of contact with the track, means on the platform of the car for releasing the retaining means, and a connection between the yoke and the adjacent truck for swinging the fender in unison with the truck.

8. The combination with the car and the trucks thereof, of a yoke mounted for swinging movement beneath the car, a fender hinged to the arms of the yoke, a cushion at the rear of the fender, means for retaining the fender normally out of contact with the track, means on the platform of the car for releasing the retaining means, and a connection between the yoke and the adjacent truck for swinging the fender in unison with said truck.

9. The combination with the car and the trucks thereof, of a yoke mounted for swinging movement beneath the car, a fender hinged to the arms of the yoke, a vertically movable cushion having a hinged connection with the fender, a guide for the cushion connected with the yoke, and means on the cushion for holding the fender when it is swung upwardly thereagainst.

10. The combination with the car and the trucks thereof, of a yoke mounted for swinging movement beneath the car, a fender hinged to the arms of the yoke, and a connection between the yoke and the adjacent truck for swinging the fender in unison with the swinging of the truck.

11. The combination with the car of a fender hinged thereto, a vertically movable cushion having a hinged connection with the fender and arranged near the rear thereof, a guide for the cushion, and means on the cushion for holding the fender when it is swung upward thereagainst.

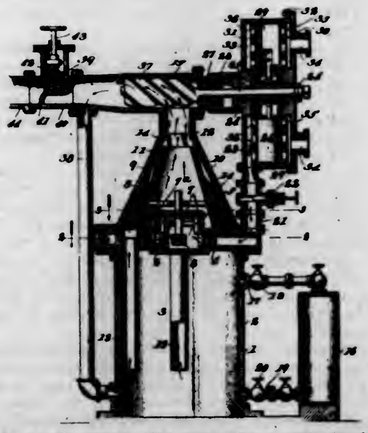
12. The combination with the car and the trucks thereof, of a yoke having its body portion pivotally connected with the under side of the car, brackets provided with overhanging rollers at the ends of the arms of the yoke, a segmental rail on the platform with which the rollers coact, a lateral arm on the yoke body, an adjustable connection between the arm and the adjacent truck, and a fender hinged to the arms of the yoke.

13. The combination with the car and the trucks thereof, of a yoke pivotally connected by its body portion with the car, a fender hinged to the arms of the yoke, a segmental rail on the platform, rollers connected with the yoke arms for engaging the rail, a lateral arm on the yoke body and an adjustable connection between the arm and the adjacent truck.

14. The combination with the car, of a fender hinged to the end thereof, a stirrup depending from the car, an arm projecting from the fender and passing through the stirrup, means engaging the arm to retain the fender out of contact with the track, a spring actuated catch for locking the retaining means in operative position, a treadle for releasing the catch, and means for returning the retaining means to operative position.

15. The combination with the car of a fender, a connection between the adjacent truck and the fender whereby to cause said fender to swing in unison with the truck, means for normally retaining the fender out of contact with the track, and means on the car for releasing said retaining means.

869,739. AIR-COMPRESSING SYSTEM. ADELBERT SAUER, Pittsburg, Pa. Filed Feb. 18, 1907. Serial No. 358,010.



1. In an air compressing apparatus a generator having a reservoir chamber and an injector member which has free communication with said chamber, an air chamber having a cone situated within the first named injector member and arranged to direct a current of atmospheric air to the current of high pressure motive fluid supplied to said injector member, and a propeller in the chamber communicating with the injector device in combination with means for establishing an initial pressure of the motive fluid in the generator and a circulating pipe receiving the motive fluid from the propeller and discharging the same to the chamber of the generator, substantially as described.

2. In an air compressing apparatus a generator shell forming a reservoir chamber, a chambered air shell having a check valve, an injector having its members communicating respectively with the chambers of the generator and air shell, a supply pipe to the air shell, a fan casing to which the supply pipe is coupled, and a shaft carrying the current and propeller wheels, substantially as described.

3. In an air compressing apparatus, the combination of a generator shell having a reservoir chamber and a valved air chamber, a combining injector device having its members connected respectively to said reservoir and air chambers, a current fan in the conduit leading through the air chamber and adapted to be rotated by the air current turned by the suction created through the air chamber by the injector device, and a propeller fan situated in the chamber receiving the motive fluid from the injector devices and actuated by the current fan, substantially as described.

4. In an air compressing apparatus a generator having a reservoir chamber and an air chamber and a combining injector device having its members communicating with said chambers combined with a shell which receives the motive fluid from the injector device and a propeller wheel arranged in said shell for the purpose described, substantially as set forth.

5. In an air compressing apparatus the combination with the generator having a reservoir chamber for a motive fluid and an injector device, of an air fan casing provided with an air discharge member of said injector device and provided with perforated partitions forming a series of chambers within said fan casing, a shell receiving the motive fluid from the combining injector device of the generator, and a single fan shaft carrying a current fan and a propeller fan which are located, respectively in the casing and the shell, substantially as described.

6. In an air compressing apparatus the combination of a generator having a reservoir chamber and a combining injector, a furnace situated within the reservoir chamber of the generator, an injector burner discharging to said furnace, and means for supplying gaseous fuel and aeriform fluid to said furnace, substantially as described.

7. In an air compressing apparatus the combination of the generator having a reservoir chamber and a combining injector, a furnace situated in the reservoir chamber of the generator and having an injector burner, a reserve storage dome receiving the motive fluid from the generator and equipped with a pipe connection to the injector burner of the furnace, and means for supplying gaseous fuel to said injector burner, substantially as described.

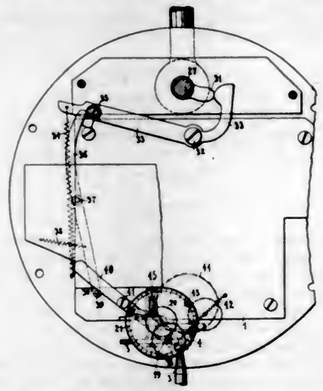
8. In an air compressing apparatus the combination of a generator having a reservoir chamber and a combining injector, a reserve storage dome communicating with such generator, a furnace within the reservoir chamber of the generator, an injector burner discharging to said furnace, a return pipe connection coupled to the furnace, and to one member of the injector burner to convey the gaseous products of combustion from said furnace to said burner and a pipe connection from the reserve storage dome to the other member of the injector burner, substantially as described.

9. In an air compressing apparatus the combination of a generator having a combining injector and a reserve storage dome, a fan casing communicating with one member of the injector, a motor having its exhaust discharging to a port of the fan casing and a supply pipe connection between the reserve storage dome and the inlet port of the motor, substantially as described.

10. The combination with the generator having a combining injector of a current fan driven by the suction through the injector to create an inflowing current of air thereto and a propeller driven by the current fan and operating in the chamber which receives the motive fluid from the injector, substantially as described.

11. The combination with a generator, of a combining injector adapted to create a suction current of atmospheric air to be supplied to a member of said injector, and a rotary motor supplied with motive fluid from the generator and having its exhaust connected to the suction device of the combining injector, substantially as described.

869,740. ODOMETER. BERTHOLD SCHNEIDER, Berlin, Germany. Filed May 23, 1907. Serial No. 375,354.



1. An indicator for traveling vehicles comprising a fare indicator a main odometer operated from the moving part of the vehicle, an auxiliary odometer, shiftable means for actuating a fare indicator, and mechanism actuated when said means is shifted in one direction for operatively connecting the auxiliary odometer with the main odometer.

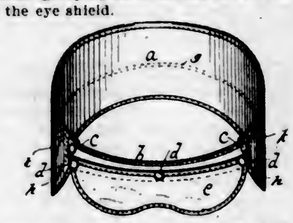
2. An indicator for traveling vehicles, comprising a main odometer operated from a moving part of the vehicle, an auxiliary odometer, a shiftable operating mechanism for said auxiliary odometer, said mechanism carrying said auxiliary odometer, and means for shifting said mechanism to operative engagement with said main odometer, causing thereby the simultaneous operation of the two odometers.

3 A device of the character described comprising a shaft, a main odometer operated from a moving part of the vehicle, an auxiliary odometer, a lever mechanism for moving said auxiliary odometer to operative engagement with said main odometer causing thereby the simultaneous operation of the two odometers, and means carried by said shaft and adapted when the shaft is shifted in one direction, to engage said lever mechanism, thereby shifting it in one direction and causing the moving of the auxiliary odometer out of operative engagement with the main odometer.

4. A device of the character described comprising a main odometer operated from a moving part of the vehicle, an auxiliary odometer, a shiftable lever mechanism carrying said auxiliary odometer and adapted when shifted in one direction to move said auxiliary odometer to operative engagement with said main odometer, causing thereby the simultaneous operation of the two odometers, retaining means engaging with said lever mechanism and adapted to shift it in the opposite direction, causing thereby the disconnecting of the auxiliary odometer from the main odometer, and means for automatically shifting the lever mechanism in the opposite direction, when said retaining means is moved clear of the lever mechanism, causing thereby an operative connection between the two odometers.

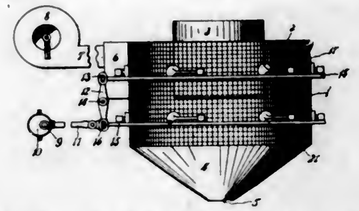
869,741. PROTECTOR FOR EARS, FOREHEAD, AND EYES. ISSAK SEITZMAN, New York, N. Y. Filed Feb. 10, 1906. Serial No. 300,536.

1. A head protector made separate from the hat or head wear and provided with ear pockets, and with a removable forehead grasping strip having means for detachably engaging the eye shield.



2. A head protector with spring wire and hinged flap parts to fold into small compass and provided with a forehead grasping strip having means for detachably engaging an eye shield.

869,742. APPARATUS FOR GRADING FIBROUS MATERIAL AND SEPARATING DUST THEREFROM. EDWARD SLADE and JOSEPH B. CLEARIHUE, Black Lake, Quebec, Canada. Filed May 19, 1906. Serial No. 317,685.



1. In a device for grading and cleaning fibrous material, a cylindrical chamber having perforated walls and provided with a discharge aperture at the bottom and a vent pipe at the top, means for discharging the fibrous material tangentially into said chamber, and means for vibrating said chamber to prevent the mesh from clogging.

2. In a device for grading and cleaning fiber, a cylindrical chamber having perforated walls and a discharge aperture at the bottom, a central interior vent pipe extending downwardly into said chamber, a plurality of pipes extending tangentially into said chamber, and a beater device adapted to prevent clogging of the perforated wall.

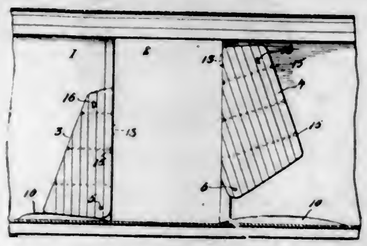
3. In a device for grading and cleaning fiber, a cylindrical chamber having perforated walls and provided with a discharge aperture at the bottom and a centrally located vent pipe extending downwardly from the top of said chamber, means for vibrating said chamber to prevent the perforated walls from clogging, inlet pipes extending tangentially into said chamber, and means for discharging the fibrous material at a high velocity through said inlet pipe and obliquely against the interior walls of said chamber.

4. In a device for grading and cleaning fibrous material, the combination with a cylindrical chamber having perforated walls and provided with a conical discharge aperture at the bottom and a centrally located vent pipe extending downwardly from the top of said chamber, of a plurality of eccentrically actuated beaters, a plurality of inlet pipes extending tangentially into said chamber, and blowers connected with said inlet pipes adapted to discharge the fibrous material at a high velocity against the perforated walls of the chamber.

869,743. GRAIN-CAR DOOR. WILLIAM R. SMITH, Topeka, Kans., assignor of one-fifth to Frank L. Park, Topeka, Kans. Filed July 26, 1906. Serial No. 327,928.

1. In a grain car door, a casing provided with an end opening, a door section pivoted at its lower portion within said casing to travel through said opening, and a pivoted retaining device disposed upon a fixed part at one side of

said section and having a cam face to swing laterally into contact with the side of said section and automatically across the end opening in said casing.



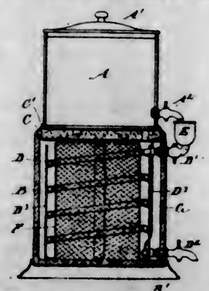
2. In a car door, door sections at opposite sides thereof, a casing within which said sections are adapted to enter, and a cam shaped pivoted plate disposed upon a fixed part laterally and at one side of one of said sections to engage the side face of the free end of an opposite section or swing across the path of travel of another section to retain it within said casing.

869,744. GARMENT-SUPPORTER. HETTA T. SPRAGUE, Cortland, N. Y. Filed June 5, 1907. Serial No. 377,350.



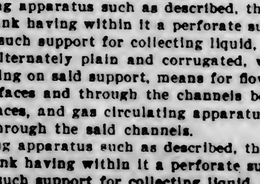
As an improved article of manufacture, a garment supporter consisting of a plate formed with flat end portions in substantially the same plane and a rearward depression extending across the center of the plate and open at the front of the plate and provided with vertical slots through the depressed portion, and a wire formed with a straight central portion, the adjacent portions deflected at right angles from the central portion, and the end portions deflected at right angles from said adjacent portions and formed into upwardly disposed hooks shorter than the lower end portion of the plate, said hooks being inserted through the aforesaid slots from the front of the plate and the central portion of the wire placed into the depression of the plate and carrying the hooks at the rear of the plate and completely covered thereby as set forth and shown.

869,745. COOLER FOR LIQUIDS. JAMES D. SPENCER, New York, N. Y. Filed July 5, 1906. Serial No. 324,715.



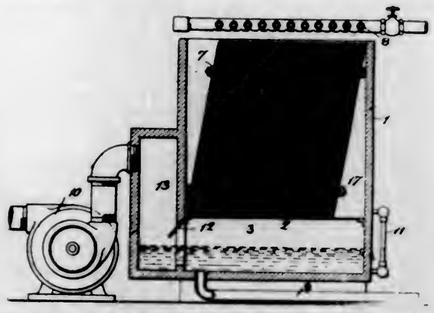
A cooling-chamber, a coil therein, a graduating measuring receptacle connected to the upper end of said coil, a stop-cock between said receptacle and coil, a draw-off cock at the lower end of said coil, a vent-pipe extending from a low point in said coil to a point above the latter and terminating within said receptacle below its cover, a non-conducting cover for said chamber, a reservoir supported on said cover, and a discharge-cock in said reservoir arranged to discharge into said receptacle.

869,746. POT-LID. EDWIN E. SPOTTSWOOD, Fort Wayne, Ind. Filed Apr. 12, 1906. Serial No. 311,210.



A vessel cover formed of a single plate; a handle hinged upon the upper face of the cover between its center and its perimeter, whereby it is adapted to be folded diametrically thereon substantially within its circumference, the said handle being also adapted to be extended in a radial position; and means for securing the handle in its extended position, consisting of a longitudinally slidable clip mounted on the handle and provided with a projecting lip adapted to holdingly engage the lower face of the cover at its perimeter.

869,747. AIR-COOLER OR SURFACER. JOHN E. STARR, New York, N. Y. Filed June 28, 1906. Serial No. 323,872.



1. In cooling apparatus such as described, the combination of a series of surfaces, alternately plain and corrugated, means for flowing liquid over said surfaces and through the channels between the adjacent surfaces, and means for passing gas through said channels.

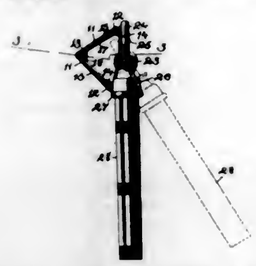
2. In cooling apparatus such as described, the combination of a series of surfaces, alternately flat and corrugated, means for flowing liquid over said surfaces and through the channels between the adjacent surfaces, and means for passing gas through said channels.

3. In cooling apparatus such as described, the combination with a tank having within it a perforate support, and means below such support for collecting liquid, of a series of surfaces, alternately plain and corrugated, within said tank and resting on said support, means for flowing liquid over such surfaces and through the channels between the adjacent surfaces, and gas circulating apparatus arranged to pass gas through the said channels.

4. In cooling apparatus such as described, the combination with a tank having within it a perforate support, and means below such support for collecting liquid, of a series of surfaces, alternately plain and corrugated, within said tank and resting on said support, means for flowing liquid over such surfaces and through the channels between the adjacent plates, and a fan connected with said tank below the said support and arranged to draw gas through the said channels.

5. In cooling apparatus such as described, the combination of a tank having within it a series of surfaces with small channels therebetween for the flow of liquid and gas, and a chamber below such surfaces for collecting the liquid, said chamber having an extension to one side of said series of surfaces, and provided with means for drawing off the gas from such extension, and a deflecting plate between the main portion of said chamber and said extension adapted to effect separation of moisture from the gas by inertia action.

869,748. SAFETY-RAZOR. JOSEPH J. STEINHARTER, Newark, N. J., assignor, by direct and mesne assignments, to The Newark Safety Razor Company, Newark, N. J., a Corporation of New Jersey. Filed Mar. 9, 1907. Serial No. 361,536.



1. A safety razor comprising a casing, and blades in the casing arranged at an angle to one another with their cutting edges adjacent, each blade being adapted to act as a guard to the other.

2. A safety razor comprising a casing, a pair of blades arranged at an angle in the casing with their cutting edges adjoining, and a handle secured to the casing, the handle locking the blades in the casing.

3. A safety razor comprising a casing, channels in the casing to receive a pair of blades, the blades being disposed at an angle to each other and with a slight space between their cutting edges, means for limiting the entrance of the blades in the casing to insure a space between their cutting edges, and a handle attached to the casing.

4. A safety razor comprising a casing, blades arranged in the casing at an angle to each other and with their cutting edges adjoining, and each blade being adapted to act as a guard for the other, and means for limiting the entrance of the blades in the casing.

5. A safety razor comprising a casing having end pieces, channels in the end pieces, strips connecting the end pieces at the top and bottom, blades arranged in the channels and disposed at an angle to each other, and a handle secured to the casing and engaging the back ends of the blades to lock the blades in the casing.

6. A safety razor comprising a casing, a pair of blades in the casing disposed at an angle to each other, their cutting edges adjoining, a handle secured to the casing and when so secured, engaging the back edges of the razor blades to secure the blades in the casing.

7. A safety razor comprising a casing having end plates, top and bottom strips connecting the plates, blades secured in the plates at an angle to each other, and guard strips secured to the casing and engaging the under sides of the blades to stiffen them.

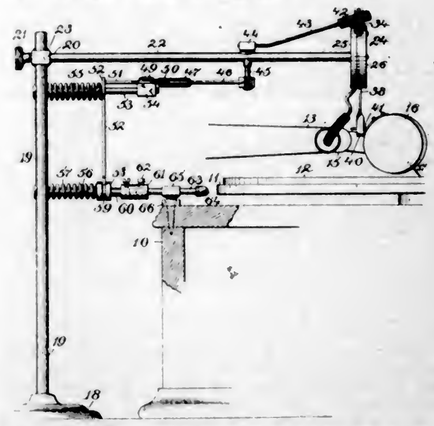
8. A safety razor comprising a casing having end plates, top and bottom strips connecting the end plates, a pair of blades secured in the casing, guard strips underneath the blades and secured to the casing, ties connecting the guard strips at a distance from the cutting edge of the blades, and a handle secured to the casing and when so secured, engaging the back edges of the blades to lock the blades in the casing.

9. A safety razor comprising a casing having a pair of blades disposed at an angle to each other, a handle pivoted to the casing and rotatable thereon, the handle being reversible, and the handle when secured to the casing engaging the back edges of the blades to lock the blades in the casing.

10. A razor blade comprising a casing having end plates, end strips on the plates, top and bottom strips connecting the end strips, blades underneath the strips and arranged at an angle to each other and having their cutting edges adjoining, wings on the blades to limit their entrance into the casing, hooks on the back edge of the side plates, a bar arranged to rotate in the hooks, a screw-threaded shank passing through the bar and engaging the back edge of one blade, an enlarged portion engaging the back edge of the other blade, and a handle secured thereto for its manual manipulation.

11. A safety razor comprising a casing comprising end plates, edge strips on the end plates, top and bottom strips connecting the edge strips on the outside, inside top and bottom plates connecting the side pieces, guards or fingers projecting from the inside and the outside top and bottom strips, and blades secured between the fingers and being disposed at an angle to each other.

869,749. STOP MECHANISM FOR TALKING-MACHINES. JOHN C. STUCKEY, Elizabeth, N. J. Filed Apr. 24, 1907. Serial No. 369,898.



1. In combination with a disk talking machine having a swinging sound box and a pivoted reproducer, of a support having a brake thereon, a tripping mechanism on the support to be operated by the sound box, means operatively connected with the tripping mechanism for lifting the reproducer, the tripping mechanism being adjustable in its relation to a record on the machine, and an operative connection between the tripping mechanism and the brake to cause the brake to stop the machine when the reproducer is lifted.

2. In combination with a disk talking machine having a swinging arm with a sound box thereon, and a reproducer pivoted in the sound box, of a support, a tripping mechanism mounted on the support, a lever connected with the tripping mechanism and adapted to be engaged by the sound box, a hook operated by the tripping mechanism for lifting the reproducer, the tripping mechanism being adjustable in its relation to a record on the machine, a brake on the support adapted to stop the machine, and means for operating the brake when the reproducer is lifted.

3. In combination with a disk talking machine having a swinging arm with a sound box thereon, and having a pivoted reproducer, of a support, a tripping mechanism on the support, means for manually setting the tripping mechanism, the tripping mechanism being adapted to be engaged by the sound box, a hook adapted to engage the reproducer

to lift it when the tripping mechanism is tripped, a brake, a latch to lock the brake in an inoperative position, and a releasing means for the brake to cause it to operate, and means for operating the releasing means when the tripping mechanism is tripped.

4. In combination with a disk talking machine having a swinging sound box and a pivoted reproducer, of a support, a tripping mechanism on the support to be operated by the swinging mechanism, and means connected with the tripping mechanism for lifting the reproducer.

5. In combination with a disk talking machine having a swinging arm with a pivoted reproducer thereon, of a support, a tripping mechanism on the support, a lever projecting from the tripping mechanism and adapted to be engaged by the swinging arm, a stud for manually setting the tripping mechanism, a hook connected with the tripping mechanism and to be raised when the mechanism is tripped, a spring operated brake, a latch, means for locking the brake in its inoperative position, and an operative connection between the locking means of the brake and the stud of the tripping mechanism, whereby the brake is operated when the tripping mechanism is tripped.

6. A device of the kind described comprising a support, a horizontal rod projecting therefrom, a tripping mechanism on the end of the rod, a lever projecting therefrom, a lifting hook attached to the tripping mechanism, means for manually setting the tripping mechanism, a spring operated brake on the support, a latch on the brake, means for locking the latch in its inoperative position, a lever swinging to unlock the latch and being operated by the tripping mechanism when it is tripped, in combination with a plate on the reproducer of a talking machine adapted to be attached to the reproducer of the machine and to be lifted by the lifting hook, and a swinging arm to engage the tripping lever.

7. In a device of the kind described, a support having a rod projecting therefrom with a tripping mechanism on its end, a tripping lever projecting therefrom, parallel rods projecting from the support, a latch sliding on the rods, springs on the rods to actuate the latch in one direction, a reciprocating brake on the lower rod, a pivoted lever on the upper rod and arranged to engage the latch to lock it in its inoperative position, swinging arms pivoted on the upper rod of the machine and having one end adapted to engage the lever, the other pivoted arm being operated by the tripping mechanism.

8. In a device of the kind described, a tripping mechanism comprising a casing, a spring actuated disk therein, a tripping lever having a tooth to engage the disk, a detent in the disk to receive the tooth, a stud projecting from the disk for manually setting the tripping mechanism, and a hook suspended from the disk.

9. In a device of the kind described, a tripping mechanism comprising a casing, a spring actuated disk therein having a detent in its periphery, a tripping lever pivoted on the casing and having a tooth to enter the detent of the disk, and a hook suspended on the disk.

10. In a device of the kind described, a tripping mechanism comprising a casing, a rotatable disk arranged in the casing and having a detent in its periphery, a spring to automatically operate the disk, a tripping lever having a tooth thereon for entering the detent of the disk, a stud for manually manipulating the disk to set the tripping mechanism, and a hook suspended from the disk.

11. In a device of the kind described, a support, a horizontal rod projecting therefrom, means for rotatably, perpendicularly and horizontally adjusting the rod, and a tripping mechanism on the end of the rod to be tripped by and adapted to lift up the reproducer of a talking machine.

869,750. PROCESS OF UTILIZING ZINC SKIMMINGS. BRUNO TERNE, Philadelphia, Pa. Filed Apr. 11, 1907. Serial No. 367,593.

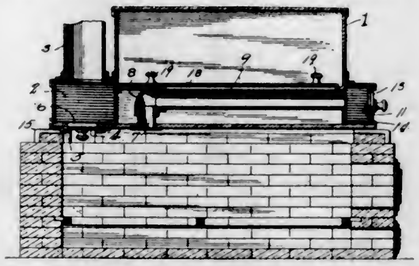
1. The process herein described of utilizing zinc-skimmings, which consists in grinding and boiling the same, separating the solid precipitate from the solution which contains the chlorids, and working it up in the reduction furnace for metallic zinc.

2. The process herein described of utilizing zinc-skimmings, which consists in grinding the crude skimmings, boiling the mixture, separating the solid matter from the solution containing the chlorids, drying the solid matter, converting the same into metallic zinc in a reduction furnace, and producing from the solution zinc oxid hydrate and sal-ammoniac.

3. The process herein described of utilizing zinc-skimmings, which consists in grinding the same, dissolving the soluble salts contained in the same, separating the insoluble precipitate from the solution containing the chlorids, neutralizing the solution, precipitating the zinc oxid hydrate in a solid body, and concentrating the solution for crystallizing the sal-ammoniac from the same.

4. The process herein described of utilizing zinc-skimmings by grinding the same in hot water, boiling the mixture, separating the solid matter from the solution, neutralizing the solution containing the chlorids by ammonia, separating the precipitated zinc oxid hydrate, and concentrating the solution for crystallizing sal-ammoniac from the same.

869,751. CANNING APPARATUS. NOAH W. THARP, Elkin, N. C. Filed Aug. 8, 1906. Serial No. 329,744.



1. A canning apparatus comprising a tank, a heating compartment entirely surrounding the lower portion of the tank, a stack mounted on said compartment, a damper slide in the bottom of the compartment beneath the mouth of the stack, flues extending up through the bottom of the tank and laterally the full length of the tank to the compartment at the forward end thereof, there being openings formed in the front wall of the compartment in alinement with the flue exit openings, a partition in the compartment between said openings and a damper to close said openings.

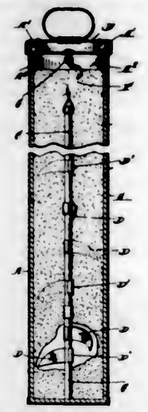
2. A canning apparatus comprising a tank, a heating compartment completely surrounding the lower portion of said tank, an outlet stack to the compartment, a damper slide in the bottom of the compartment beneath the mouth of the stack, flues extending up through the bottom of the tank and directed laterally the full length of the tank to the compartment at the forward end thereof, a deflecting partition located in the front portion of the heating chamber adjacent and between the flue exit openings, there being draft openings formed in the front wall of the compartment on either side of said partition, a slidable damper to close said openings, and means to retain the whole in position upon a stove or furnace.

869,752. FIRE-EXTINGUISHER. GEORGE E. TILFORD, Haverhill, Mass., assignor to Haverhill Fire Appliance Company, Haverhill, Mass., a Corporation of Massachusetts. Filed Oct. 1, 1906. Serial No. 336,864.

1. The combination with a receptacle for a fire extinguishing composition, of a closure therefor, and means supported by and depending from said closure for agitating the composition in the receptacle as the closure and receptacle are separated.

2. The combination with a receptacle for a fire extinguishing powder, and a closure therefor, of means connected with the closure for breaking up caked powder when the closure and receptacle are separated.

3. The combination with a receptacle for a fire extinguishing composition having an opening, of a closure for said opening, and a rod connected with said closure, and having wings or blades adapted to pass through the composition when the closure and receptacle are separated.



4. The combination of a receptacle for a fire extinguishing composition having an opening, a closure frictionally held in said opening and adapted to support the receptacle, and a rod connected with said closure and supported thereby, said rod having means for agitating the composition on passing through it when the closure and receptacle are separated.

5. A fire extinguishing receptacle having a removable closure, a rod connected with the closure, and a series of curved wings or blades located on the rod at angles to each other.

6. An agitator for a fire extinguishing receptacle comprising a rod, and a series of curved wings or blades on the rod, said blades being located nearer together at the bottom of the rod than at the top.

7. An agitator for a fire extinguishing receptacle comprising a rod and a series of wings or blades, said rod and blades being formed from sheet metal.

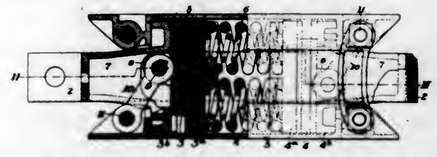
8. An agitator for a fire extinguishing receptacle comprising a rod and a series of wings or blades said rod and blades being formed from an integral piece, said blades being bent to proper position.

869,753. VERANDA-SWING. WILLIAM F. TILL and JOHN C. NEWTON, Brooklyn, N. Y. Filed Apr. 30, 1907. Serial No. 371,131.



A veranda swing or swinging seat suitable for two adults, adapted to be converted at will into an infant's crib by simply changing the angle at which the body is suspended; the same being composed of a metallic frame having tubular side and end pieces united with each other by tee-pieces screwed fast by their stems to the ends of said end pieces and having their cross or top pieces movable as sleeves upon said side pieces, set screws in said sleeves for fixing them in place on the side pieces, caps secured fast upon the extremities of said side pieces to form wrist portions between them and the sleeves of the tees, a canvas body portion removably attached to all of said frame pieces at its edges, the end portions thereof being triangular, whereby to hold the canvas bottom in shape as a bottom to the swinging seat and also as a bottom to the crib, and flexible suspenders attached to the said wrist portions adapted to be adjusted in length and independently of one another in the conversion of the swinging seat into a crib, or in the conversion of the crib into a swinging seat, all subsequently as set forth.

869,754. FRICTIONAL DRAFT-RIGGING. CLINTON A. TOWER, Cleveland, Ohio, assignor to National Malleable Castings Company, Cleveland, Ohio, a Corporation of Ohio. Filed Jan. 24, 1907. Serial No. 353,893.



1. A frictional draft rigging having a spring, an end follower, a laterally movable frictional element, and a connecting piece arranged to move the frictional element transversely during the stroke, said frictional element being interposed in the draft rigging and subjected to stress thereupon independently of said connecting piece.

2. A frictional draft rigging having sets of followers, one movable relatively to another transversely of the rigging, and a swinging element arranged to draw one follower along the other during the stroke.

3. A frictional draft rigging having a spring and a laterally movable frictional follower and a pivoted element connected to the follower and arranged to move it transversely of the case.

4. A frictional draft rigging having a spring, an end follower and three frictional elements, and a connecting piece arranged to move the middle one between the others transversely to the line of draft, said frictional elements being interposed in the draft rigging and subjected to stress thereupon independently of said connecting piece.

5. A frictional draft rigging having a set of followers, one movable relatively to another transversely to the line of draft, and a connection between a fixed point and the movable follower.

6. A frictional draft rigging having a set of followers, one movable relatively to another transversely to the line of draft, and a differentially acting connection for the transversely movable follower.

7. A frictional draft rigging having a set of followers, one movable relatively to another transversely to the line of draft, and a pivotal connection between the transversely movable follower and a fixed point.

8. A frictional draft rigging having a spring and three friction elements, and a pivoted link arranged to move the middle one between the others transversely to the line of draft.

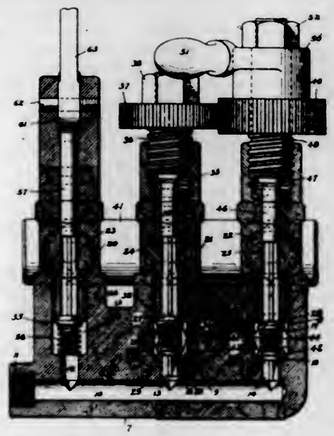
9. A draft rigging having a spring, friction elements, and a differentially acting device controlling the friction elements.

10. A draft rigging having a spring, friction elements, and a differential link.

11. A draft rigging having a draw bar, a spring, a follower, and a differential link interposed between the draw bar and the spring.

12. A frictional draft rigging having a spring and frictional elements capable of relative motion transversely of the draft rigging, said frictional elements having faces at right angles to the line of draft, and means for converting a longitudinal motion of the draft rigging into relative transverse motion of said elements.

869,755. HYDRAULIC FOUR-WAY VALVE AND BY-PASS. WILLIAM J. TRETCH, Philadelphia, Pa., assignor to Frederick A. Riehle, Philadelphia, Pa. Filed Feb. 12, 1907. Serial No. 357,009.



1. In a device of the character described, a valve provided with an inlet manifold, one end of which serves as the intake and having a plurality of passages, a plurality of chambers in direct communication therewith, valves in pairs in said passages controlling the inlet and outlet thereof, the valves in one passage being constructed to act oppositely to those in the other, resilient means between the valves of each pair, means for actuating said valves, a by-pass and a valve controlling the latter.

2. In a device of the character described, a valve provided with an inlet manifold, one end of which serves as the intake and having a plurality of passages, a plurality of chambers in direct communication therewith, valves in pairs in said passages controlling the inlet and outlet thereof, the valves in one passage being constructed to act oppositely to those in the other, resilient means between the valves of each pair, means for actuating said valves, a by-pass and a valve controlling the latter, combined with a pressure cylinder connected at opposite ends with the casing of said valve.

3. In a device of the character described, a pressure cylinder, an intake manifold having separate connection with opposite ends thereof and having passages, valves in pairs controlling said passages, resilient means between the valves of each pair, an exhaust muffler, a by-pass and a valve controlling said by-pass.

4. In a device of the character described, a pressure cylinder, an intake manifold having separate connection with opposite ends thereof and having passages, valves in pairs controlling said passages, resilient means between the valves of each pair, an exhaust muffler, a by-pass, a normally closed valve controlling the passage of the manifold adjacent the inlet and means for simultaneously actuating the valves in pairs.

5. In a device of the character described, a pressure cylinder, a casing, an inlet passage therein, ports leading to said pressure cylinder, communications between said passage and ports, valves in pairs in each of said communications controlling the same, resilient means between the valves of each pair means for actuating said valves, said valves acting oppositely to each other, a by-pass for one of said valves, and a valve controlling said by-pass.

6. In a device of the character described, a pressure cylinder, pipes leading from opposite ends of said cylinder, a valve casing with which said pipes communicate, an inlet manifold in said casing, ports leading from said manifold, chambers with which said ports communicate, valves in pairs in two of said chambers with a spring between each pair of valves, a valve in the other chamber, and an exhaust muffler in communication with said chambers.

7. In a device of the character described, a pressure cylinder, pipes leading from opposite ends of said cylinder, a valve casing with which said pipes communicate, an inlet manifold in said casing, ports leading from said manifold, chambers with which said ports communicate, valves in pairs in two of said chambers with a spring between each pair of valves, a valve in the other chamber, an exhaust muffler in communication with said chambers, and means for simultaneously actuating the valves in pairs.

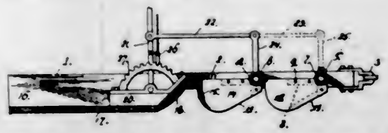
8. In a device of the character described, a casing, an inlet passage therein, ports leading to a pressure cylinder, communications between said passage and said ports, valves in pairs in each of said communications controlling the same, ports communicating with an exhaust muffler and with said ports and pressure cylinder, springs situated between the valves of each pair, means for actuating said valves, a by-pass in said casing and a valve controlling said by-pass.

9. In a device of the character stated, a pressure cylinder, a casing having an inlet passage and ports leading to the pressure cylinder, communications between said passage and ports, an exhaust muffler, ports communicating therewith and with said ports and pressure cylinder, and valves in pairs with resilient means between each pair in each of said communications and controlling the same.

10. In a device of the character stated, a pressure cylinder, a casing having an inlet passage and ports leading to the pressure cylinder, communications between said passage and ports, an exhaust muffler, ports communicating therewith and with said ports and pressure cylinder, and valves in pairs with resilient means between each pair in each of said communications and controlling the same, one of the valves of each pair controlling an exhaust port.

11. In a device of the character stated, a pressure cylinder, a casing having an inlet passage and ports leading to the pressure cylinder, communications between said passage and said ports, an exhaust muffler, ports communicating therewith and with said ports and pressure cylinder, valves in pairs with resilient means between each pair in each of said communications, means for actuating said valves, a by-pass in said casing, and a valve controlled by said by-pass.

869,756. COMBINATION HARROW, PULVERIZER, AND DRAG. ARTHUR D. ULERY, Scenery Hill, Pa. Filed Apr. 23, 1907. Serial No. 369,849.



1. An implement of the type described consisting of side frames, forward extending beams, shafts journaled between said beams, a plurality of sleeves detachably mounted upon said shafts, the sleeves of one shaft being staggered with relation to the sleeves of the other shaft, blades carried by said sleeves, the blades of one shaft having curved edges, a plate arranged between said frames, a seat carried by said plate, operating levers pivotally supported by said plate and connecting with said shafts, and means for locking said blades in a raised or lowered position.

2. An implement of the type described consisting of beams, shafts journaled between said beams, a plurality of staggeredly arranged blades detachably supported by said shafts, some of said blades having curved edges, a plate located in the rear of said shafts, a seat carried by said plate, and operating levers arranged upon said plate for raising and lowering said blades.

3. An agricultural implement of the character described comprising longitudinally-extending beams, a plate disposed between said beams and having the forward end thereof bent upwardly, revoluble shafts journaled in the beams and arranged forwardly of said plate, a plurality of blades carried by each of said shafts, the blades carried by one shaft arranged in staggered relation with respect to the blades carried by the other shaft, certain of said blades having curved edges, and means carried by the plate and connected with the blades for elevating and lowering them.

869,757. HOLDER FOR SAFETY-RAZOR BLADES. WILLIAM N. WARD, Chicago, Ill., assignor to Yale Safety Razor Company, Chicago, Ill., a Corporation of Arizona. Filed Aug. 15, 1907. Serial No. 388,675.



1. A holder for safety razor blades, comprising a pair of clamping jaws adapted to embrace a razor blade, each of the jaws terminating in an elongated shank, the shanks constituting a handle for the manipulation of the device, a pivot near the end of the shanks for pivoting them together, a tubular clamping member provided with a slot adapted to receive the rear edges of the clamping members, and a pivot for hinging the clamping member to the clamping jaws, substantially as described.

2. A holder for safety razor blades, comprising a pair of clamping jaws adapted to embrace a razor blade, a tubular clamping member provided with a slot adapted to receive the rear edges of the clamping members, and a pivotal mounting for the clamping members for holding the latter in hinged relation with respect to the clamping jaws and permitting the clamping member to be bodily removed from the jaws, substantially as described.

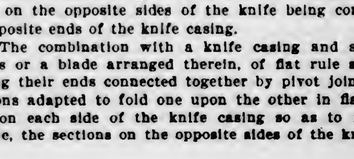
3. A holder for safety razor blades, comprising a pair of clamping jaws adapted to clamp a razor blade between them, each of the jaws being provided in its rear edge with a pivotal recess, and a tubular clamping member provided with a slot adapted to embrace the rear edges of the clamping jaws, and a cross pivot pin in the clamping member adapted to enter the registered slots in the clamping jaws for permitting the clamping member to be swung down onto the clamping jaws, substantially as described.

4. A holder for safety razor blades, comprising a pair of clamping jaws adapted to clamp a razor blade between them, each of the jaws being provided in its rear edge with a pivotal recess, a tubular clamping member provided with a slot adapted to embrace the rear edges of the clamping jaws, a cross pivot pin in the clamping member adapted to enter the registered slots in the clamping jaws for permitting the clamping member to be swung down onto the clamping jaws, and means for pivoting the clamping jaws together, substantially as described.

5. A holder for safety razor blades, comprising a pair of pivoted clamping jaws one of the jaws being provided with inwardly extending studs, the other jaw being provided with holes adapted to receive the studs, the jaws being each further provided with an inwardly enlarging pivotal recess, and a tubular clamping member slotted in one side to receive the jaws and provided with a cross pivot pin adapted to be entered into the pivotal recess for hinging the clamping member to the jaws and permitting it to be swung down thereonto to clamp the jaws together, substantially as described.

869,758. THILL-COUPLING. ANTONE F. WARELE, Jackson, Mich., assignor to James M. Shaffer, Jackson, Mich. Filed Nov. 12, 1906. Serial No. 342,982.

1. A thill coupling comprising in combination a draw iron having a rearward extension for connection with the axle of the vehicle, a hollow tubular casing mounted on the forward end of the draw iron, the draw iron having forked terminals extending up and partially surrounding the casing, the casing having a longitudinal slot in the upper portion thereof and a narrow circumferential groove leading downward from the longitudinal slot between the forked terminals of the draw iron, a roller rotatably held in the casing, the roller having a longitudinal seat to correspond with the longitudinal opening in the casing, a cushioning pad in the base of said seat, a thill iron having an angular head adapted to be entered through the longitudinal slot in the casing and be engaged in the seat in the roller, said thill iron head having a rounded edge to slidably engage the interior walls of the casing, a flexible arm extending up from the shank of the thill iron at an angle to overhang the casing, and an arc shaped shield carried by the angular arm to slidably engage the outer surface of the casing and serve as a closure to the longitudinal slot therein.



2. A thill coupling comprising a draw iron having connection with the axle of a vehicle, and provided with forward diverging hooked terminals or forks, a hollow casing provided with closed ends having drainage openings therein carried by the draw iron and partially embraced by the forked terminals, the hollow casing having a longitudinal slot in its upper side and a narrower circumferential slot leading downward therefrom between the forked terminals, a cylindrical bearing block rotatably engaged in the casing having a longitudinal angular recess therein of the same length as the longitudinal slot in the casing and terminating inward from the ends of the block, an elastic pad seated in the recess in the block, a thill iron having a rectangular shank of slightly less width than the circumferential slot in the casing terminating in a widened angular head adapted to be seated in the recess in the bearing block, an angular spring arm upstanding from the upper side of the rectangular shank overhanging the casing, and an arc-shaped shield carried by said arm adapted to close the longitudinal slot in the casing when the thill iron is in a horizontal position said elastic pad serving to hold the head of the thill iron in close contact with the inner wall of the tubular casing and prevent rattling of the parts.

869,759. COMBINATION-TOOL. ANTON WEBER, Butte, Mont. Filed June 6, 1907. Serial No. 377,557.



1. The combination with a series of jointed rule sections, of one or more knife blades pivoted to one of the innermost rule sections, said rule sections being pivoted flatwise on both sides of the knife section of the rule so as to fold one upon the other and form a handle for the knife blade or blades, and clamping means for securing the rule sections in folded arrangement.

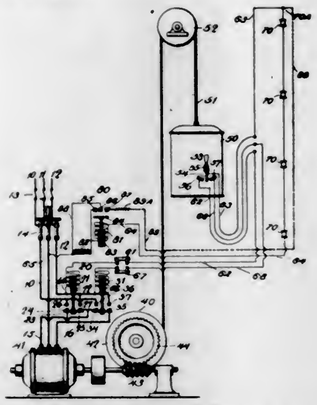
2. The combination with a knife casing and suitable blades arranged therein, of flat rule sections having their ends connected together by pivot joints, the sections adapted to fold one upon the other in flat relation on each side of the knife casing so as to form a handle, the sections on the opposite sides of the knife being connected to opposite ends of the knife casing.

3. The combination with a knife casing and suitable blades or a blade arranged therein, of flat rule sections having their ends connected together by pivot joints, the sections adapted to fold one upon the other in flat relation on each side of the knife casing so as to form a handle, the sections on the opposite sides of the knife be-

ing connected to opposite ends of the knife casing, and a clamp provided with clamping arms, the clamp so pivoted that the arms overhang the rule sections when folded and clamp the whole together as a unitary knife handle.

4. The combination with a knife casing and one or more knife blades arranged therein, of flat rule sections pivoted together, the sections adapted to fold one upon another in flat relation on each side of the knife casing so as to form a handle, and a clasp pivoted at the back of the knife casing having clamping jaws to engage the rule sections and clamp the whole together as a knife handle.

869,760. ELECTRICALLY-CONTROLLED ELEVATOR. CARL T. WESTLIN, Arlington, N. J. Filed Mar. 2, 1907. Serial No. 360,284.



1. In an electrically controlled elevator, the combination of a circuit adapted to carry a controlling current, a door-lock in the circuit, said door-lock arranged to break the path of the circuit when the door-lock is open, and means for shunting a part of said current around the door-lock.

2. In an electrically controlled elevator, the combination of a circuit adapted to carry a controlling current, a door-lock in the controlling circuit, said door-lock arranged to break the path of the circuit when the door-lock is open, an auxiliary circuit around the door-lock, and automatic means for holding said auxiliary circuit closed whenever a current flows through the controlling circuit.

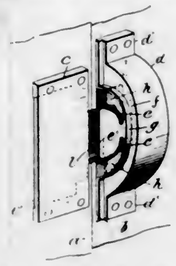
3. In an electrically controlled elevator, the combination of a circuit adapted to carry a controlling current, a door-lock and an electroresponsive device in said circuit, contacts associated with said door-lock, and arranged to break the path of the circuit when the door-lock is open, and an auxiliary circuit around the door-lock, said electroresponsive device being arranged to automatically hold the auxiliary circuit closed whenever a current flows through the controlling circuit.

4. In an electrically controlled elevator, the combination of a circuit adapted to carry a controlling current, a series of door-locks through which said circuit passes when all of said door-locks are closed, an electroresponsive device in said operating circuit, an auxiliary circuit around the door-locks, and a resistance in the auxiliary circuit, said electroresponsive device being arranged to automatically hold the auxiliary circuit closed whenever a current flows through the controlling circuit.

5. In an electrically controlled elevator, the combination of a car, a controlling-switch in the car, a circuit adapted to carry a controlling current, said circuit being connected with the car-switch, a series of door-locks through which said circuit passes when all of said door-locks are closed, an electroresponsive device in said operating circuit, an auxiliary circuit around the door-locks, and a resistance in the auxiliary circuit, said electroresponsive device being arranged to automatically hold the auxiliary circuit closed whenever a current flows through the controlling circuit.

6. In an alternating current electric elevator, the combination of a circuit adapted to carry a controlling current, a plurality of door-locks through which the circuit passes when all of said door-locks are closed, an electroresponsive device in said circuit, a choke-coil in series therewith, an auxiliary circuit around the door-locks, and a resistance in said auxiliary circuit, said electroresponsive device being arranged to automatically hold the auxiliary circuit closed whenever a current flows through the controlling circuit and short-circuiting the choke-coil.

869,761. SEAL-LOCK. JOHN A. WILKINSON, Washington, D. C. Filed Feb. 21, 1906. Serial No. 302,211.



1. A seal lock for closures, comprising a hollow member having a non-rectilinear entrance slot, and a normally flat resilient member adapted to be inserted in part in the slot and to assume a relation out of alinement or registry with said slot after insertion.

2. A seal lock for closures, comprising a hollow keeper provided with a non-rectilinear entrance slot, and a substantially flat resilient member having a head adapted to be inserted in the slot of the keeper and to assume a relation out of alinement or registry with said slot after insertion.

3. A seal lock for closures, comprising a hollow keeper provided with a non-rectilinear entrance slot, a substantially flat resilient member having a head adapted to be inserted in the slot of the keeper and to assume a relation out of alinement or registry with said slot after insertion, and means associated with the closure for confining the body of the resilient member.

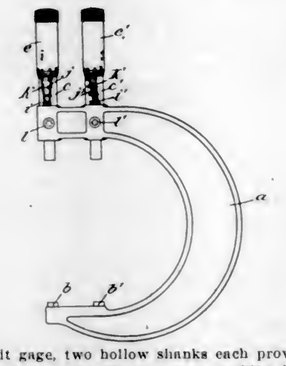
4. A seal lock for closures, comprising a normally flat sheet of resilient material having a reduced intermediate portion, a hollow keeper having a non-rectilinear entrance slot adapted to receive the end of the sheet only when the said end is deformed and to permit said end to assume substantially its normal relation after its insertion in the slot, and means associated with the closure for confining the body of said sheet.

5. A seal lock for closures, comprising a hollow keeper having a non-rectilinear entrance slot, and a normally flat sheet of resilient frangible material having a head of substantially the same cross sectional area as the slot in the keeper, said head being capable of deformation to enter the slot and of resuming substantially its normal relation after passing through said slot.

6. A seal lock for closures, comprising a hollow keeper having a non-rectilinear slot, a normally flat sheet of resilient frangible material having a head of substantially the same cross sectional area as the slot in the keeper, said head being capable of deformation to enter the slot and of resuming substantially its normal relation after passing through said slot, and means associated with the closure for confining the body of the resilient sheet.

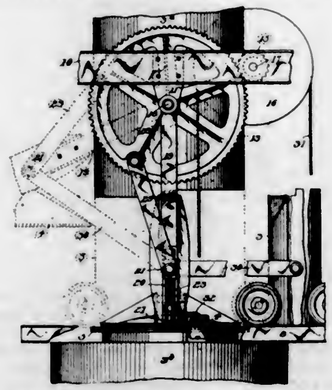
7. A seal lock for closures, comprising a normally flat sheet of resilient frangible material having a main body section, a head and a connecting neck, means associated with the closure for confining the body section, and a hollow keeper having a non-rectilinear entrance slot for receiving the head, said slot being so disposed as to require a relative deformation of the head and body portion during the act of inserting the head.

869,762. LIMIT MICROMETER-GAGE. LOUIS C. WOERNER, Berlin, Germany. Filed Feb. 5, 1907. Serial No. 355,790.



In a limit gage, two hollow shanks each provided with cross-graduations; a maximum screw working in the one shank and a minimum screw in the other, each screw having a hollow cap fitting over the respective shank and furnished with circular graduations; and two fixed inclined marks upon each of the said shanks, on which the longitudinally running micrometer scales are marked, one of the said fixed marks in combination with the corresponding mark on the other screw being intended for determining the limits of the gage for manufacturing shafts or the like with a running fit in their bearing and the other corresponding pair of marks on the screws determining the limits for manufacturing shafts or the like with a keying fit in their bearing, substantially as described.

869,763. CHIMNEY-VALVE CONSTRUCTION. WALTER O. AMSLER, Pittsburg, Pa., assignor to The Amsler Engineering Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Jan. 25, 1906. Serial No. 297,895.



1. A chimney-valve construction for hot-blast stoves comprising, a chimney-flue having a movable section, a disk-valve adapted to retain the pressure in the flue, and means for moving the section and the valve into and out of operative positions.

2. A chimney-valve construction for hot-blast stoves comprising a chimney-flue, a movable-flue-section, a disk-chimney-valve adapted to retain the pressure in the flue, and means for moving the section out of its operative position and the valve into its operative position and vice-versa.

3. A chimney-valve construction for hot-blast stoves comprising a chimney-flue, a movable-flue-section, a disk-chimney-valve adapted to retain the pressure in the flue, and means for simultaneously moving the section out of its operative position and the valve into its operative position and vice-versa.

4. A chimney-valve construction for hot-blast stoves comprising a chimney-flue, a movable-flue-section, a chimney-valve adapted to retain the pressure in the flue, a system of gearing, means connecting the gearing and the valve for moving the valve into and out of operative position, and means connected with the gearing whereby the flue-section is moved into and out of operative position.

5. A chimney-valve construction for hot-blast stoves comprising a chimney-flue, a movable-flue-section, a carrier for the flue-section, a chimney-valve, a system of gearing, means connecting the valve and gearing for moving the valve into and out of operative position, and means connecting the gearing and the carrier whereby the flue-section is moved into and out of operative position.

6. A chimney-valve construction for hot-blast stoves comprising a chimney-flue, a movable-flue-section, a carrier for the movable-flue-section, a chimney-valve adapted to retain the pressure in the flue, a system of gearing, a toggle-joint construction connecting the gearing and valve.

7. A chimney-valve construction for hot-blast stoves comprising a chimney-flue, a movable-flue-section, a valve adapted to retain the pressure in the flue, means for moving the flue-section and valve into and out of operative positions, and a toggle mechanism for seating the valve.

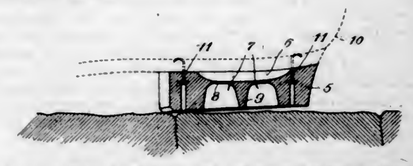
8. A chimney-valve construction for hot-blast stoves comprising a chimney-flue, a chimney-valve, and a toggle mechanism arranged to exert a pressure upon the valve to force the valve to its seat against the pressure in the flue.

9. A chimney-valve construction for hot-blast stoves comprising a chimney-flue, a chimney-valve, a cross-bar for supporting the valve, and a toggle-mechanism connected with the cross-bar adapted to move the valve and arranged to exert a pressure upon the valve to force it against its seat.

10. A chimney-valve construction for hot-blast stoves comprising a chimney-flue, a chimney-valve, a cross-bar, spring-bearings for the cross-bar, a toggle-mechanism connected with the cross-bar, and means for actuating the toggle-mechanism to move the valve.

11. A chimney-valve construction for hot-blast stoves comprising a chimney-flue constructed with a movable section, a chimney-valve adapted to retain the pressure in the flue, a cross-bar supporting the valve, a connection between the cross-bar and the movable flue-section, and means comprising a toggle-mechanism for moving the valve and movable flue-section.

869,764. HEEL FOR BOOTS AND SHOES. WILLIAM G. ANDERSON, Brookline, Mass., assignor to Nellie S. Anderson, trustee, Brookline, Mass. Filed Oct. 11, 1906. Serial No. 338,387.



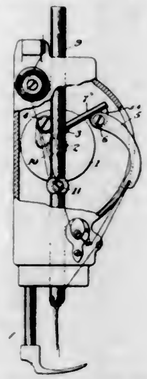
1. A resilient heel for boots and shoes having a recess in its upper side and a recess in its lower side, the material between said upper and lower recesses being relatively thin and constituting a diaphragm, and a depending projection depending from said diaphragm, the lower face of said projection adapted to contact with the ground or pavement when in use.

2. A resilient heel for boots and shoes having a recess in its upper side and a recess in its lower side, the material

separating said upper and lower recesses being relatively thin and constituting a diaphragm, and a rib extending across said lower recess adapted to contact with the ground or pavement when in use.

3. A resilient heel for boots and shoes having a recess in its upper side and a recess in its lower side, the material between said upper and lower recesses constituting a diaphragm and having a depending projection extending from said diaphragm, the lower face of said projection adapted to contact with the ground or pavement when in use and said upper side being concave, whereby when applied to a boot or shoe said lower side is made concave.

869,765. TAKE-UP MECHANISM FOR SEWING-MACHINES. PAUL ANSCHÜTZ, New York, N. Y., assignor of one-half to George Bickelhaupt, New York, N. Y. Filed Oct. 27, 1905. Serial No. 284,621.



1. A take-up mechanism for sewing machines, comprising an operating arm, a pivoted take-up bar connected with said operating arm, the pivot point of said take-up bar being laterally off-set from said operating arm, a rotary member and a pivotal member on said rotary member engaging said operating arm and being adapted to slide partially past the pivot point of said take-up bar, substantially as described.

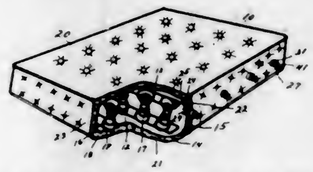
2. A take-up mechanism for sewing machines, comprising an operating arm, a pivoted take-up bar connected with said operating arm, the pivot point of said take-up bar being disposed intermediate the ends of said operating arm and laterally off-set therefrom, a rotary member, and a sleeve pivotally mounted on said rotary member and slidably engaged with said operating arm, said sleeve being adapted to slide partially past the pivot point of said take-up bar, substantially as described.

3. A take-up mechanism for sewing machines, comprising an operating arm, a pivoted take-up bar, the pivot point of said take-up bar being disposed intermediate the ends of said operating arm and laterally off-set therefrom, a narrow web connecting said operating arm with said take-up bar, a rotary member adjacent the pivot point of said take-up bar, and a sleeve pivoted upon said rotary member and slidably engaged with said operating arm, said sleeve having a narrow slot therein to receive said narrow web, whereby said sleeve can slide partially past the pivot point of said take-up bar, substantially as described.

869,766. BED. ERNEST J. ANTONI, Kansas City, Mo. Filed Jan. 2, 1907. Serial No. 350,418.

1. A bed comprising a spring distended case and a cover having openings registering with each other, boxings within said openings secured at their inner ends to said case and at their outer ends to said cover and reversible valve cases within said boxings and spring actuated valves within said cases.

2. In a bed, a case spiral springs within said case, a cover extending over said case and fibrous material between said cover and case, said case and cover having openings in the sides registering with each other boxings within said openings secured to said case and cover, and reversible cases within said boxings having openings at the ends and spring actuated valves within said reversible cases.



3. In a bed a case, spiral springs within said case, a cover extending over said case and fibrous material between said cover and case, said case and cover having openings in the sides registering with each other, boxings within said case, means for securing the inner ends of said boxings within said case and devices upon their outer end for drawing inwardly the adjacent portions of the cover.

4. In a bed, a case spiral springs within said case a cover extending over said case, fibrous material between said case and cover, said case and cover having openings registering with each other, boxings within said openings having strips upon their inner ends adapted to be extended upon the inner surfaces of said case and a concentric portion of said boxing having prongs extending inwardly toward the cover.

5. In a bed comprising a case, spiral springs within said case, a cover extending over said case, fibrous filling material between said case and cover, said case and cover having openings in the sides registering with each other, boxings within said openings having strips adapted to be extended upon the inner surfaces of said case and a flange upon the outer end of said boxing and downward extension of said flange having prongs adapted to draw inwardly portions of the said cover.

869,767. TRUCK-WHEEL. GEORGE F. ARMSTRONG, Jr., North Wales, Pa. Filed Apr. 3, 1907. Serial No. 366,109.



1. A truck wheel consisting of a central metal hub having oppositely directed tapered flanges with the smallest diameters directed away from each other and largest diameters at the middle, combined with two annular fiber rim sections tightly sleeved upon the tapered flanges, and transverse fastening devices extending through the sections for uniting them together and upon the hub.

2. A truck wheel consisting of a central metal hub having oppositely directed lateral tapered flanges and a circumferential central flange, combined with two annular fiber rim sections tightly sleeved upon the tapered flanges and inclosing the circumferential flange, and transverse fastening devices extending through the sections for uniting them together and upon the hub.

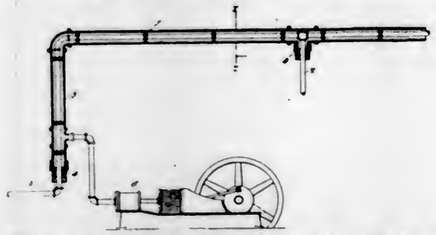
3. A truck wheel consisting of a central metal hub having oppositely directed lateral tapered flanges and a circumferential central flange, combined with two annular fiber rim sections tightly sleeved upon the tapered flanges and inclosing the circumferential flange, and transverse fastening devices extending through the sections and the circumferential flange for uniting them together and upon the hub.

4. In a truck wheel the combination of a central metal portion having two oppositely directed tapering portions and a central circumferential notched flange, with annular fiber rim sections tightly fitting the tapered portions, and transverse rivets extending through the rim sections and notches of the flange for holding the sections in position upon opposite sides of the flange.

5. In a truck wheel the combination of a central metal portion having two oppositely directed tapering portions and a central circumferential notched flange, with annular fiber rim sections tightly fitting the tapered portions and having undercut portions to receive the flange, and transverse rivets extending through the rim sections and notches of the flange for holding the sections in position upon opposite sides of the flange and completely inclosing the flange.

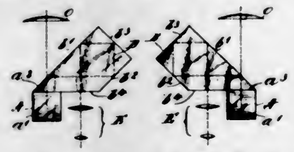
6. In a truck wheel the combination of a central metallic part having lateral annular portions and a circumferential flange, two annular fiber sections tightly fitting the annular portions of the central part and inclosing the circumferential flange, and transverse rivets extending through the fiber sections and flange for uniting them together.

869,768. STEAM-CONDUIT. JONAS W. AYLSWORTH, East Orange, and FRANK L. DYER, Montclair, N. J. Filed May 25, 1906. Serial No. 318,692.



The combination with a conduit comprising a long continuous pipe or tube, an air tight jacket surrounding the same with an interspace between, and supports spaced along said tube for centering the same, of a vacuum pump in communication with said interspace for maintaining a vacuum therein, substantially as set forth.

869,769. TELESCOPE. LOUIS BELL, Brookline, Mass. Filed Mar. 16, 1907. Serial No. 362,712.



1. The combination with an object lens of a compound prism composed of a twice totally reflecting right prism and a trapezoidal right prism.

2. The combination of a compound prism composed of a twice totally reflecting right prism, and a trapezoidal right prism, and an eye piece.

3. In a prism-telescope, the combination with object lens and eye piece, of a compound prism composed of a twice totally reflecting right prism and a trapezoidal right prism.

4. In a prism telescope, the combination with object lens and eye piece, of a compound prism composed of a twice totally reflecting right prism, and a trapezoidal right prism, whereof the entrance and emergence faces lie in planes between which the angle is zero.

5. In a prism telescope, the combination with object lens and eye piece, of a compound prism composed of a twice totally reflecting right prism, and a trapezoidal right prism, the two members of the compound prism joined as one body with the entrance face on one and the emergence face on the other lying respectively in planes between which the angle is zero.

6. In a prism-telescope, the combination with object glass and eye piece, of a compound prism composed of a right angled twice totally reflecting prism presenting a portion of its hypotenuse face to the object glass and a right trapezoidal prism whereof the prismatic faces are at angles of 45° and 90° respectively with each other, said trapezoidal prism presenting a portion of its 45° inclined face to the hypotenuse face of the right angled prism and another portion of said face to the eye piece.

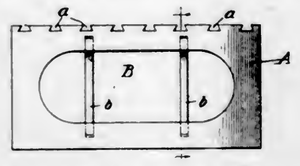
7. A compound prism for prism telescopes, whereof one member is a twice totally reflecting right prism and the other member possesses four loci of reflection, whereof three turn the optical ray in a closed loop.

8. In a prism telescope, the combination with object glass and eye piece, of a right angled totally reflecting prism and a prism possessing four loci of reflection, whereof three turn the optical ray in a closed loop.

9. In a prism telescope, the combination with object glass and eye piece of a compound prism, whereof one member has two adjacent reflecting faces and the other member has three adjacent reflecting faces, whereof one has two loci of reflection coöperating with the two other reflecting faces of said member to turn the optical ray in a closed loop.

10. In a binocular prism telescope the combination of two inverting prism systems, each comprising a twice totally reflecting right prism and a trapezoidal right prism with the longest sides of said trapezoidal prisms converging at an angle of 90°.

869,770. BUILDING-BLOCK. WILLIAM W. BIRNSTOCK, York, Pa., assignor of one-half to Matthew G. Collins, York, Pa. Filed Oct. 31, 1906. Serial No. 341,419.

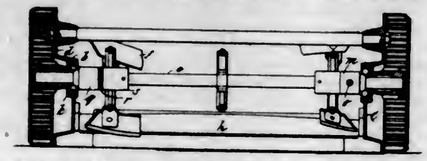


1. A hollow building block formed with continuous side and end walls and having a single central elongated opening between the side and end walls extending vertically through the block, and a pair of spaced reinforcing metal struts extending across the opening, and having their opposite ends embedded in the front and rear parallel walls of the block, said struts being arranged midway of the vertical height of the block to form handles accessible from either open side of the block, and the struts being parallel with each other, and at equal distances from the ends of the block for convenience in lifting the latter.

2. A building block formed with continuous side and end walls and having a single central elongated opening between the side and end walls extending vertically through the block, spaced reinforcing metal struts extending across the opening and having their opposite ends embedded in the front and rear walls of the block, said struts being arranged midway of the vertical height of the block, the inner face of said block being provided with plaster receiving grooves.

3. A building block formed with continuous side and end walls and having an opening extending vertically through the block, and reinforcing metal struts extending across the opening and having their opposite ends embedded in the front and rear walls of the block.

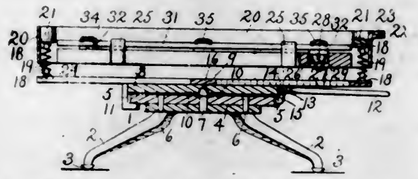
869,771. LAWN-MOWER. ADELBERT B. CASE, Springfield, Mass. Filed June 6, 1907. Serial No. 377,649.



1. In a lawn mower, a frame comprising oppositely placed rigid side frames, a stationary knife extending between said side frames and secured to each of them, a rotary cutter-shaft having a bearing at each end thereof, bearings in the side-fames, each of said bearings of the cutter-shaft having tapered contact surfaces, and means to prevent the separation of said contact surfaces from their seats in the bearings of the side-frames upon a change of the relation of one side frame relative to the other.

2. In combination, a lawn mower frame comprising rigid side frames, a stationary knife extending between the frames, a rotary cutter-shaft having a bearing in each of said side-frames, each of said bearings comprising a tapered bearing surface and a supporting element for said bearing surface; and means to maintain a yielding contact between said bearing surface and said supporting element.

869,772. BED. CHARLES H. CODERRE, Holyoke, Mass. Filed Sept. 17, 1906. Serial No. 334,846.



1. The combination, in a bed, of a suitable pedestal provided with a disk, a rotary platform pivotally mounted on said disk, an X-support fast on said platform, a frame having corner pieces, vertical supporting springs for said frame between said corner pieces and the ends of said X-support, and means to adjust the platform and the members carried thereby relative to the points of compass.

2. The combination, in a bed, of a suitable pedestal provided with a fixed serrated disk, a rotary platform pivotally mounted on said disk, and a vertically-movable arm pivoted to said platform and having a dog normally held in engagement with the disk serrations by the weight of said arm and adapted to disengage the serrations when the arm is raised.

3. The combination, in a bed, of a suitable pedestal provided with a disk, a rotary platform mounted on said disk, an X-support fast on said platform, a frame provided with corner pieces and ledges, vertical supporting springs for said frame between said corner pieces and the ends of said X-support, springs carried by said ledges, and side rails supported on said last-mentioned springs.

4. The combination, in a bed, of a suitable pedestal provided with a disk, a rotary platform mounted on said disk, an X-support fast on said platform, a frame provided with corner pieces and ledges, vertical supporting springs for said frame between said corner pieces and the ends of said X-support, springs carried by said ledges, guides rising from the ledges, and side rails supported on said last-mentioned springs and arranged to play up and down between the sides of the frame and said guides.

5. The combination, in a bed, of a rotatable support and central supporting means therefor, vertical springs on the ends of said rotatable support, and a frame having corner pieces mounted on said springs said corner pieces being above the bottom edge of said frame.

6. The combination, in a bed, of a rotatable supporting member carrying vertical springs at its ends, a frame provided with corner pieces mounted on said springs and having ledges with pockets therein, such corner pieces being above the bottom edge of said frame, receivers between the ends of said supporting member and said springs and between said corner pieces and said springs adapted to afford lateral support for the springs, springs carried by said ledges in said pockets, side rails supported by said last-mentioned springs, and receivers on said rails above such springs adapted to afford lateral support for the latter.

7. The combination, in a bed, with a suitably supported frame provided with fixed ledges, springs carried by said ledges, and guides on the ledges, of side rails resting on said springs and adapted to play up and down between said guides and the sides of said frame.

8. The combination, in a bed, with a rotatable support carrying vertical springs at the ends, a frame provided with corner pieces adapted to rest on said springs and having fixed ledges provided with a plurality of series of springs, the springs in a series being of different lengths and arranged side by side, of side rails supported normally by the longer springs of the series and received onto the shorter springs of the series when forced below a given plane.

9. The combination, in a bed, with a rotatable support carrying vertical springs at the ends, a frame provided with corner pieces adapted to rest on said springs and having fixed ledges provided with a plurality of series of springs, the springs in a series possessing different degrees of resistance and being arranged side by side, of side rails supported normally by the longer springs of the series and received onto the shorter springs of the series when forced below a given plane.

10. The combination, in a bed, with a support carrying vertical springs at the ends, a frame provided with corner pieces adapted to rest on said springs and having ledges provided with a plurality of series of springs, the springs in a series being of different lengths and possessing different degrees of resistance, of side rails supported normally by the longer springs of the series and received onto the shorter springs of the series when forced below a certain point.

11. The combination, in a bed, with a support carrying vertical springs at its ends, a frame provided with corner pieces adapted to rest on said springs and with ledges having pockets therein, of a series of three springs in each of said pockets, one of such springs being characteristically different from the other two.

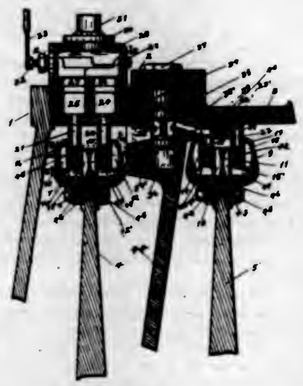
12. The combination, in a bed, with a suitably supported frame provided with fixed ledges having pockets therein, and springs in said pockets, of side rails provided with bearing blocks adapted to enter the pockets and rest on said springs, and slats supported by said side rails.

13. The combination, in a bed, of a suitable pedestal provided with a disk, a rotary platform mounted on said disk, an X-support fast on said platform, a frame provided with corner pieces and ledges, vertical supporting springs for said frame between said corner pieces and the ends of said X-support, springs carried by said ledges, guides rising from the ledges, side rails supported on said last-mentioned springs and adapted to play up and down between the sides of the frame and said guides, ribs on the side rails, and slats resting on the side rails between said ribs.

869,773. REVERSIBLE ELASTIC-FLUID TURBINE. CHARLES W. DAKE, Grand Rapids, Mich. Filed Jan. 10, 1907. Serial No. 351,607.

1. In a reversible elastic fluid turbine, the combination of a suitable casing divided by a diaphragm; a primary and a secondary turbine wheel, each of which is provided with a double set of buckets at its periphery, consisting of a central ring with U-shaped buckets facing in opposite directions on the opposite sides thereof, and segments or rings corresponding thereto and opposite the same; nozzle and guide blocks in pairs, one block at least for each set of buckets facing in opposite directions; annular passages connected to each series of guide blocks in pairs; a valve

arranged to control the admission of the fluid to either of said passages separately, or to shut off the said fluid entirely; an automatic valve between the two parts of the engine, the same being a piston valve operated by the elastic fluid; passages leading from the annular chambers of each side of the primary turbine to opposite ends of the valve chamber of the piston valve for throwing the automatic valve to pass the elastic fluid from the primary to the secondary turbine; a secondary turbine with passages controlled by the said automatic piston valve for receiving the fluid that is delivered from the said primary turbine, all co-acting substantially as described and for the purpose specified.



2. In a reversible elastic fluid turbine, the combination of a suitable casing divided by a diaphragm; a primary and a secondary turbine wheel, each of which is provided with a double set of buckets at its periphery, consisting of a central ring with U-shaped buckets facing in opposite directions on the opposite sides thereof, and segments or rings corresponding thereto and opposite the same; nozzle and guide blocks in pairs, one block at least for each set of buckets facing in opposite directions; annular passages connected to each series of guide blocks in pairs; a valve arranged to control the admission of the fluid to either of said passages separately, or to shut off the said fluid entirely; an automatic valve between the two parts of the engine; passages leading from the annular chambers of each side of the primary turbine for throwing the automatic valve to pass the elastic fluid from the primary to the secondary turbine; a secondary turbine with passages controlled by the said automatic valve for receiving the fluid that is delivered from the said primary turbine, all co-acting substantially as described and for the purpose specified.

3. In a reversible elastic fluid turbine, the combination of a suitable casing, divided by a diaphragm; a primary and secondary turbine wheel, each of which is provided with a double set of buckets at its periphery, arranged to be acted upon to rotate the wheel in opposite directions; nozzle and guide blocks in pairs, one block at least for each set of buckets, facing in opposite directions from each other, arranged to co-act with the corresponding rows of buckets; passages connected to each series of guide blocks; a valve arranged to control the admission of fluid through said passages separately or to shut off the said fluid entirely; an automatic valve between the two parts of the engine, the same being a piston valve operated by the elastic fluid; passages leading from the annular chambers of each side of the primary turbine, to opposite ends of the valve chamber of the piston valve, for throwing the automatic valve to pass the elastic fluid from the primary to the secondary turbine; a secondary turbine with passages controlled from the said automatic piston valve, for receiving the fluid that is delivered from the said primary turbine, all co-acting substantially as described and for the purpose specified.

4. In a reversible elastic fluid turbine, the combination of a suitable casing, divided by a diaphragm; a primary and secondary turbine wheel, each of which is provided with a double set of buckets at its periphery, arranged to be acted upon to rotate the wheel in opposite directions; nozzle and guide blocks in pairs, one block at least for each set of buckets, facing in opposite directions from each other, arranged to co-act with the corresponding rows of buckets; passages connected to each series of guide blocks; a valve arranged to control the admission of fluid through said passages separately or to shut off the said fluid entirely; an automatic valve between the two parts of the engine; passages leading from the annular chambers in each side of the primary turbine for throwing the automatic valve to pass the elastic fluid from the primary to the secondary turbine; a secondary turbine with passages controlled from the said automatic valve, for receiving the fluid that is delivered from the said primary turbine, all co-acting substantially as described and for the purpose specified.

5. In a reversible elastic fluid turbine, the combination of a suitable casing divided by a diaphragm; a primary and a secondary turbine wheel, each of which is provided with a double set of buckets at its periphery, consisting of a central ring with U-shaped buckets facing in opposite directions on the opposite sides thereof, and segments or rings corresponding thereto and opposite the same; nozzle and guide blocks in pairs, one block at least for each set of buckets facing in opposite directions; annular passages connected to each series of guide blocks in pairs; means arranged to control the admission of the fluid to either of said passages separately or to shut off the said fluid entirely; an automatic valve between the two parts of the engine, the same being a piston valve operated by the elastic fluid; passages leading from the annular chambers of each side of the primary turbine to opposite ends of the valve chamber of the piston valve for throwing the automatic valve to pass the elastic fluid from the primary to the secondary turbine; a secondary turbine with passages controlled by the said automatic piston valve for receiving the fluid that is delivered from the said primary turbine, all co-acting substantially as described and for the purpose specified.

6. In a reversible elastic fluid turbine, the combination of a suitable casing divided by a diaphragm; a primary and a secondary turbine wheel, each of which is provided with a double set of buckets at its periphery, consisting of a central ring with U-shaped buckets facing in opposite directions on the opposite sides thereof, and segments or rings corresponding thereto and opposite the same; nozzle and guide blocks in pairs, one block at least for each set of buckets facing in opposite directions; annular passages connected to each series of guide blocks in pairs; means to control the admission of the fluid to either of said passages separately or to shut off the said fluid entirely; an automatic valve between the two parts of the engine; passages leading from the annular chambers of each side of the primary turbine for throwing the automatic valve to pass the elastic fluid from the primary to the secondary turbine; a secondary turbine with passages controlled by the said automatic valve for receiving the fluid that is delivered from the said primary turbine, all co-acting substantially as described and for the purpose specified.

7. In a reversible elastic fluid turbine, the combination of a suitable casing, divided by a diaphragm; a primary and secondary turbine wheel, each of which is provided with a double set of buckets at its periphery, arranged to be acted upon to rotate the wheel in opposite directions; nozzle and guide blocks in pairs, one block at least for each set of buckets, facing in opposite directions from each other, arranged to co-act with the corresponding rows of buckets; passages connected to each series of guide blocks; means to control the admission of fluid through said passages separately or to shut off the fluid entirely; an automatic valve between the two parts of the engine, the same being a piston valve operated by the elastic fluid; passages leading from the annular chambers in each side of the primary turbine to opposite ends of the valve chamber of the piston valve, for throwing the auto-

matic valve to pass the elastic fluid from the primary to the secondary turbine; a secondary turbine with passages controlled from the said automatic piston valve, for receiving the fluid that is delivered from the said primary turbine, all co-acting substantially as described and for the purpose specified.

8. In a reversible elastic fluid turbine, the combination of a suitable casing, divided by a diaphragm; a primary and secondary turbine wheel, each of which is provided with a double set of buckets at its periphery, arranged to be acted upon to rotate the wheel in opposite directions; nozzle and guide blocks in pairs, one block at least for each set of buckets, facing in opposite directions from each other, arranged to co-act with the corresponding rows of buckets; passages connected to each series of guide blocks; means to control the admission of fluid through said passages separately or to shut off the fluid entirely; an automatic valve between the two parts of the engine; passages leading from the annular chambers in each side of the primary turbine for throwing the automatic valve to pass the elastic fluid from the primary to the secondary turbine; a secondary turbine with passages controlled from the said automatic valve, for receiving the fluid that is delivered from the said primary turbine, all co-acting substantially as described and for the purpose specified.

9. In a reversible elastic fluid turbine, the combination of a suitable casing; a turbine wheel within the casing, provided with a double set of buckets at its periphery, consisting of a central ring with U-shaped buckets facing in opposite directions on the opposite sides thereof, and segments or rings corresponding thereto and opposite the same; nozzle and guide blocks, in pairs, one at least for each set of buckets facing in opposite directions; passages connected to each of said pair of guide blocks, and a valve arranged to control the admission of fluid to either of said passages, separately or to shut the same off entirely, co-acting for the purpose specified.

10. In a reversible elastic fluid turbine, the combination of a suitable casing; a turbine wheel within the casing, provided with a double set of buckets at its periphery, consisting of a central ring with U-shaped buckets facing in opposite directions on the opposite sides thereof, and segments or rings corresponding thereto and opposite the same; nozzle and guide blocks, in pairs, one at least for each set of buckets facing in opposite directions; passages connected to each of said pair of guide blocks, and means to control the admission of fluid to either of said passages, separately or to shut the same off entirely, co-acting for the purpose specified.

11. In a reversible elastic fluid turbine, the combination of a suitable casing; a pair of fluid passages, one for the direct action and the other for the reverse; a turbine wheel with double sets of buckets facing to act in opposite directions, consisting of the web 4, dovetailed at its periphery, a ring 8, provided with oppositely-facing U-shaped buckets on its opposite sides, fitted to one periphery of the web 4, and having a dovetail at its inner part, the broad portion of which abuts against the broad portion of the dovetail of the web, both of said dovetails being provided with shoulders, bucket segments 6 and 7, on opposite sides of the said web, corresponding to the buckets on the corresponding sides of said ring 8, having shanks corresponding to the said dovetailed portions, and a transverse bolt through the shanks and the web near its periphery, for clamping the parts together and locking them in correct relation to each other, all co-acting substantially as described and for the purpose specified.

12. In a reversible elastic fluid turbine, the combination of a suitable casing; a pair of fluid passages, one for the direct action and the other for the reverse; a turbine wheel with double sets of buckets facing to act in opposite directions, consisting of the web 4, dovetailed at its periphery, a ring 8, provided with oppositely-facing U-shaped buckets on its opposite sides, fitted to the periphery of the web 4, and having a dovetail at its inner part, the broad portion of which abuts against the broad portion of the dovetail of the web, both of said dovetails being provided with shoulders, bucket segments 6 and 7, on opposite sides of the said web, corresponding to the buckets on the corresponding sides of said ring 8, having shanks corresponding to the said dovetailed portions, means for clamping the parts together and locking them in correct relation to each other, all co-acting substantially as described and for the purpose specified.

13. In a reversible elastic fluid turbine, the combination of a suitable casing, containing a series of chambers; a turbine in each chamber, with a double series of U-shaped buckets arranged to react in opposite directions; independent guide passages and nozzles corresponding to said double series of buckets; a valve means arranged to control said fluid passages; and an automatic valve between the first chamber and the second chamber controlled by the direct fluid pressure, for directing the flow of fluid into the second chamber from the first chamber, co-acting for the purpose specified.

14. In a reversible elastic fluid turbine, the combination of a suitable casing containing a series of chambers; a turbine in each chamber, with a double series of buckets arranged to react in opposite directions; independent guide passages and nozzles corresponding to said double series of buckets; a valve means arranged to control said guide passages; a passage between the first and second chambers; a piston valve to control said passage; and a steam-passage leading from each of the guide passages of the said first turbine to opposite ends of said piston valve for reversing the throw of the piston valve automatically by the reverse of the main valve, co-acting for the purpose specified.

15. In a reversible elastic fluid turbine, the combination of the casing; a reversible turbine with oppositely faced U-shaped buckets; nozzle blocks arranged between the said buckets, having a series of delivery nozzles; a corresponding series of guide passages; and means to deliver to one or the other of said nozzle blocks, co-acting as specified.

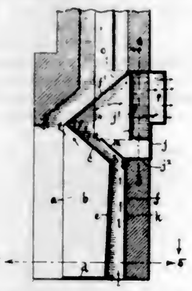
869,774. CLASP. FERDINAND FREIMAN and ANDREW STEVENSON, Seattle, Wash. Filed Apr. 8, 1907. Serial No. 367,029.



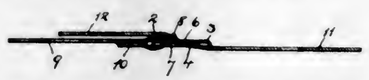
As an article of manufacture, a clasp for the purpose described, comprising a plate having integral inwardly turned flanges at one end and at its side edges adjacent to said end and also having a swell, a pad rabbeted at one end and at its side edges and having the reduced portions formed thereby secured in the said flanges and also having its face projected beyond the flanges and provided with a teat or protuberance, a plate opposed to the first mentioned plate and having integral inwardly turned flanges at one end and at its side edges adjacent to said end and also having a swell, and a pad rabbeted at one end and at its side edges and having the reduced portions formed thereby secured in the flanges and also having its face projected beyond the flanges and opposed to the face of the first mentioned pad and provided with a depression to receive the protuberance thereof.

869,775. FIREPLACE-HEATER. HARRY D. FRISBIE, Sr., Cynthiana, Ky. Filed Feb. 2, 1907. Serial No. 355,517.

In a fire place heater, the combination with a fire place section having side walls, a rear wall, and an outward and upward inclined top wall, of a casing section having an inward and upward inclined top wall meeting and secured to the top wall of the fire place section at its outer edge, side walls connected to the top wall thereof and to the side walls of the fire place section at their outer edges, and a rear wall connecting the side walls thereof, said inward and upward inclined top wall and the rear wall of the casing section having rearward extensions provided with a connecting rear wall forming a drum having a rearward offset chamber extension, and the rear wall of the casing section having a deflecting flange at its top, the chamber extension of the drum having a tubular projection for piping connection, such heater having vertical lateral flues between the side walls of the two sections and opening at the top thereof into the drum, and a vertical rear flue between the rear walls of the two sections and also communicating at the top thereof with the drum.



869,776. BUCKLE. KAZIMIR GLUCHOWSKI, Baltimore, Md. Filed Jan. 31, 1907. Serial No. 354,967.



1. A buckle having side bars and cross-bars connecting the side bars and one of said cross-bars having a plurality of teeth for engaging the strap and also having a guard to guide the strap and prevent engagement of the teeth during the adjusting operation.

2. A buckle having side bars and cross-bars connecting the side bars and one of said cross-bars having a plurality of teeth for engaging the strap and said bar also having a guard finger that projects laterally and beyond the teeth for the purpose set forth.

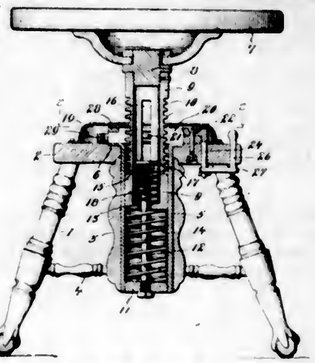
3. A buckle having side bars and cross-bars connecting the side bars and one of said cross-bars having a plurality of inwardly-projecting teeth for engaging the strap and a guard finger also projecting from said bar and interposed between said teeth.

4. A buckle having side bars and cross-bars connecting the side bars and one of said cross-bars having spaced apart teeth that project laterally and inwardly within the outer surface of the buckle plate and a guard finger also projecting from said bar and interposed between said teeth and the end of said guard finger being turned outwardly.

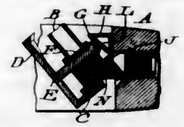
869,777. ADJUSTABLE STOOL OR SEAT. WILLIAM C. HAHNE, Chicago, Ill. Filed Nov. 20, 1906. Serial No. 344,207.

1. In a stool of the type set forth, a support comprising a base carried upon suitable legs, a cylinder inserted through an aperture in said base and depending therefrom, a post carrying a seat movable in said cylinder, a spring secured to said cylinder and adapted to raise said post and a second spring secured to said post and adapted to cushion the action of said first-named spring, substantially as described.

2. In a stool of the type set forth, a support carrying a base plate, a cylinder inserted through an aperture therein and depending therefrom, a corrugated post carrying a seat movable within said cylinder, a spring secured to said cylinder and adapted to raise said post, a second spring weaker than the first-named spring and so placed as to resist the action of the first-named spring and means for locking said post in any desired position, substantially as described.



869,778. LOOM-SHUTTLE. WASHINGTON L. HALL, Philadelphia, Pa. Filed Nov. 6, 1906. Serial No. 342,215.



1. In a loom shuttle, the combination with a spindle pivoted at one end, the pivot of said spindle, and a resiliently mounted bobbin-locking device mounted thereon, of an abutment for contact by said bobbin-locking device and disposed over the pivoted end of said spindle and mounted on the pivot thereof, said abutment embodying a wall to receive the thrust of the bobbin-locking device when raised, to prevent breakage of the body of the shuttle.

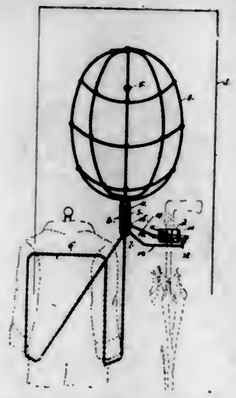
2. In a loom shuttle, a catch for the bobbin, a pin connected with said catch, a spindle-carrying head through which said pin is mounted to slide, a spring in said head acting on said pin, an abutment for said pin mounted on the pivot of the spindle and having a wall with which the head of said pin engages, and means for supporting and connecting it with the body of the shuttle.

3. In a loom shuttle, a bobbin-holding catch having a resiliently-mounted operating pin working through the head of said spindle, an abutment for said operating pin, comprising a top plate, side ears, means for mounting said ears on the pivot of the spindle, and a wall, the latter being under said top plate and directly engaging the end of said operating pin.

4. In a loom shuttle, a bobbin-holding catch having a resiliently-mounted operating pin working through the head of said spindle, an abutment for said operating pin, comprising a top plate, side ears, means for mounting said ears on the pivot of the spindle, and a wall, the latter being under said top plate and directly engaging the end of said operating pin, said wall being over the pivoted end of the spindle and obliquely extended with relation to the top plate.

5. In a loom shuttle, a spindle and its head, the shuttle and a catch, a pin carried by said catch and slidably mounted in said head, a spring acting on said pin, an abutment for said pin comprising a top plate, an obliquely extending wall beneath said top plate, ears by which said abutment is mounted on the pivot of the spindle and a back plate having lips extending laterally and received in the recess in the body of the shuttle, said obliquely extending wall being disposed over the pivot of the spindle and being engaged by the end of the pin when the spindle is moved upwardly.

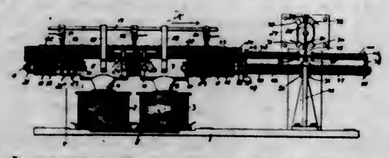
869,779. HAT, COAT, AND UMBRELLA RACK. GEORGE W. HARTMAN, Struthers, Ohio. Filed May 27, 1907. Serial No. 375,875.



1. In a device of the character described, the combination with a support and a staple secured thereto, of a frame pivotally connected at its upper end to said support and having its lower end formed with a loop adapted to extend over said staple, a flexible member having one end connected to the staple and its other end provided with a loop adapted to be mounted on the staple, a yoke having the space formed between its arms of different width, each of the arms of the yoke provided with an opening, a pin extending through said openings and the wider part of said space, a flexible member having one end attached to one end of the pin and its other end attached to said staple, a flexible member having one end attached to the other end of the pin and its other end provided with a loop adapted to be mounted upon the staple, and means extending through the staple for retaining the loops thereon.

2. In a device of the character described, the combination with a support and a staple secured thereto, of a skeleton frame pivotally-connected at its upper end to said support and having its lower end formed with a loop adapted to extend over said staple, a flexible member having one end connected to the staple and its other end provided with a loop adapted to be mounted on the staple, said member is of a length as to extend through both sleeves of a garment, a yoke having the space formed between its arms of different width, each of the arms of the yoke provided with an opening, a pin extending through said openings and the wider part of said space, a flexible member having one end attached to one end of the pin and its other end attached to said staple. a flexible member having one end attached to the other end of the pin and its other end provided with a loop adapted to be mounted upon the staple, and means extending through the staple for retaining the loops thereon.

869,780. ELECTRIC MOTOR. JOHN P. HAYES, Pittsburg, Pa. Filed Mar. 8, 1907. Serial No. 361,297.



1. In an automatic reciprocating electric motor, a field pole with magnet coils thereon and a pole-piece and armature, said pole-piece surrounding the armature and being recessed to provide a clearance for the movement of the armature, guides on said pole-pieces and slides on said armature supported by said guides.

2. In an automatic reciprocating electric motor, the combination with a field pole with magnet coils thereon, and a pole-piece, of an armature provided at diametrically opposite sides with longitudinal projecting slides, a pole-piece surrounding said armature and formed with longitudinal recesses to provide passages for said slides, and grooved guide-blocks within which said slides travel.

3. In an automatic reciprocating electric motor, the combination with an armature provided with diametrically opposite longitudinal slides, magnet coils on the magnet core, a commutator, and a pole-piece surrounding the armature and formed with recesses for the passage of the armature slides, and grooved guide-blocks for supporting said slides.

4. In an automatic reciprocating electric motor, the combination with an armature shaft of a commutator secured thereto, pole-pieces surrounding said armature, a metallic contact-bar, and adjustable cut-off brushes supported by said pole-pieces.

5. In a reciprocating electric motor, the combination with field magnets, field poles, and pole-pieces, of a reciprocating armature surrounded by said pole-pieces, a commutator secured to said armature, brushes supported above the commutator, and a cut-off device comprising a metal contact bar carried by the commutator, and brushes bearing thereon and supported by the pole-pieces.

6. In a reciprocating electric motor, the combination with field magnets, field poles, and pole-pieces, of a reciprocating armature surrounded by said pole-pieces, a commutator clamped to said armature, a rod extension from one end of the armature shaft, springs on said rod and disks confining said springs.

7. In a reciprocating electric motor, the combination with a base, and field magnets thereon of a conductor plate connecting said magnets, field-poles and pole-pieces, a reciprocating armature surrounded by said pole-pieces, a commutator secured to said armature, brushes supported above the commutator, a rod extension from the armature shaft, spiral springs on said rod, disks confining said springs, a reverser-switch, and means carried by said rod extension for automatically operating said switch.

8. In a reciprocating electric motor, the combination with a base and field magnets thereon, of a conductor-plate connecting said magnets, field-poles and pole-pieces, a reciprocating armature surrounded by said pole-pieces, a commutator secured to said armature, brushes supported above the commutator, a rod extension from the armature shaft, spiral springs on said rod, disks confining said springs, a reverser-switch and means carried by said rod extension for automatically operating said switch, consisting of a rod secured to said rod extension, spiral springs on said rod, and disks for confining said springs.

9. In a reciprocating electric motor, the combination with a reciprocating armature, of a reverser-switch operated by the movement of the armature, and a reverser electrically connected to said switch and to the motor, comprising a reciprocating armature, a commutator, and a rheostat operated by the armature of the reverser.

10. In a reciprocating electric motor, the combination with a reciprocating armature, and a commutator secured thereto, of a rod extension from the armature shaft, a standard through which said rod extends, coil springs on said rod extension, disks on said rod for confining said springs, a second rod secured to said rod extension, springs and disks on said second rod, and a reversing-switch adapted to be operated by contact with the disks on said second rod.

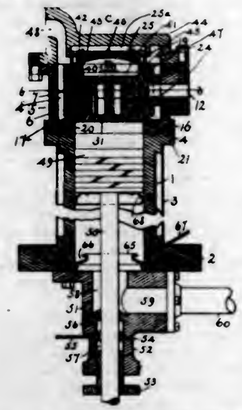
11. In a reciprocating electric motor, the combination with a reciprocating armature and its commutator, a reversing switch, means for automatically operating said switch, a reverser electrically connected to said switch, and a rheostat located adjacent to said reversing switch.

12. In a reciprocating electric motor, an automatic rheostat comprising a pivoted lever, a rod secured thereto, a roller carried by said rod, a spring controlled socket on said lever, and an arc shaped guide formed with an eccentric recess within which said roller travels.

13. In a reciprocating electric motor, the combination with the field poles and armature of a commutator provided with one more brush than there are field poles to produce two armature poles for each magnetic field pole.

14. In a reciprocating electric motor, the combination with the armature and field poles of a commutator having a plurality of brushes the number of said brushes exceeding the number of field poles to create a greater number of armature poles than there are field poles.

869,781. PNEUMATIC PUMP. DANIEL L. HOLDEN, New York, N. Y., assignor to Federal Ice Company, New York, N. Y., a Corporation of New York. Filed Feb. 8, 1906. Serial No. 300,047.



1. In a pneumatic pump, the combination of a cylinder; a piston therein, a chamber mounted upon the pump cylinder, an outer and an inner wall for the chamber with intervening spaces, an annular space connecting said spaces with the interior of the chamber, a fluid inlet to the interior of the chamber; a cover for the chamber having an annular space in communication with the intervening spaces of the chamber, a cushioning chamber in the cover and vents therefrom to the annular space, an outlet from the space, an outlet valve within the chamber and seated by the gas cushion, and an inlet valve within the outlet valve with resilient seating means.

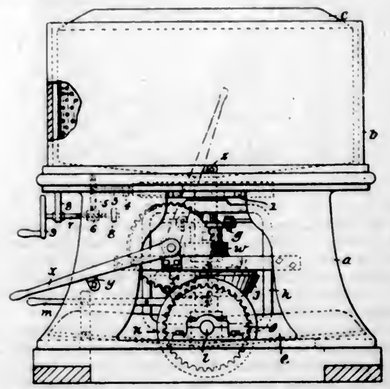
2. In a pneumatic pump, the combination of a cylinder; a piston therein, a chamber covering the pump cylinder and having a double wall with intervening spaces around the interior of the chamber and in communication with its interior; a cover for the chamber; a cushioning chamber in the cover, and outlet valve within the chamber, and seated upon the pump cylinder and entering the cushion chamber, a fluid passage from the interior of the valve to a corresponding passage in the chamber; packing rings for the valve, and an inlet valve within the outlet valve, having resilient means for its seating, and open spaces through its top and its diametral surface.

3. In a pneumatic pump, the combination of a cylinder; a piston therein, a double walled chamber upon the pump cylinder, with intervening spaces in communication with the interior of the chamber; a fluid passage to the chamber; a cover for the chamber with an outlet passage in communication with the intervening spaces of the chamber; an outlet valve within the chamber, seated upon the pump cylinder, and having a fluid passage to its interior; an inlet valve within the outlet valve and seated thereon, and openings therein to permit fluid flowing to its interior.

4. In a pneumatic pump, the combination of a cylinder; a piston therein, a double walled chamber upon the pump cylinder, with intervening spaces in communication with the interior of the chamber; a fluid passage to the chamber; a cover for the chamber with an outlet passage in communication with the intervening spaces of the chamber; an outlet valve within the chamber, seated upon the pump cylinder, and having a fluid passage to its interior; an inlet valve within the outlet valve and seated thereon, openings through its wall for fluid flowing to its interior, a follower on the valve, and resilient means seated under the follower at one end and upon the outlet valve at its opposite end, to retain the inlet valve on its seat in the outlet valve.

5. In a pneumatic pump, the combination of a cylinder; a piston therein; a removable oil dip ring under the piston, and having a curved exterior, a wiper ring secured at the lower end of the pump cylinder, of an outwardly curved top, and serving as an oil reservoir to supply lubricant to the dip ring, and means to feed the reservoir.

869,782. SPEED-CHANGING MECHANISM FOR HYDRO-EXTRACTORS. HENRY HOTT, Paterson, N. J., assignor to The Auger & Simon Silk Dyeing Co., Paterson, N. J., a Corporation of New Jersey. Filed Apr. 11, 1906. Serial No. 311,108.



The combination of the base, the driven shaft, the drive shaft, power-transmitting devices arranged one on the drive shaft and the other on the driven shaft, an eccentrically mounted rotary part, an intermediate power-transmitting device journaled on said rotary part and adapted to operatively connect said devices, a radial operating part rotative with said rotary part, and spaced stops located one on each side, and each adapted to limit the movement, of said operating part, said eccentric part having its high part located between its limits of movement with the operating part, substantially as described.

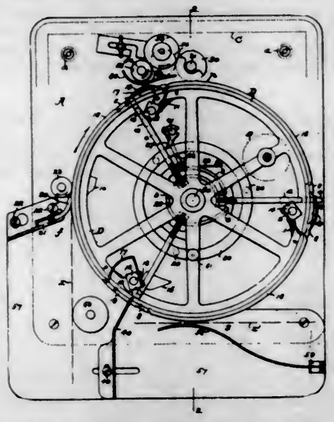
S69,783. PRINTING MECHANISM. FREDERICK G. JAHN, New York, N. Y., assignor to The International Postal Supply Company of New York, Brooklyn, N. Y., a Corporation of New York. Filed Oct. 11, 1906. Serial No. 338,359.

1. A printing couple, the impression member of which comprises a continuous surfaced rotary carrier in the periphery of which is inset a fixedly mounted frictional feed surface, and a gripper carried by said carrier for gripping the piece taken by said feed surface to the carrier.

2. A printing couple, the impression member of which consists of a continuous surfaced rotary carrier in the periphery of which is inset a fixedly mounted frictional feed surface, a gripper carried by said carrier for gripping the piece taken by said feed surface to the carrier, and a coacting wiper of adhesive material preventing said feed surface from taking more than one piece at a time.

3. A printing couple, the impression member of which consists of a rotary carrier in the periphery of which is inset a frictional feed surface, the printing member of which is normally at rest, a means on the carrier movable with respect thereto and controlled by the presence of the article to be printed for causing the timely movement of the printing member.

4. A printing couple, the printing member of which is normally at rest, the impression member of which consists of a rotary carrier, means on the carrier movable with respect thereto and controlled by the presence of the article thereon, and a connection with said means and with the printing member for causing the timely coöperation of said two members.



5. A carrier provided with a frictional feed surface and an impression surface, a wiper coacting with the feed surface and bearing against the carrier, a gripper for holding the piece to the carrier taken by the feed surface, means for operating the gripper and a printing roll coacting with the impression surface.

6. A carrier provided with a frictional feed surface and an impression surface, a wiper coacting with the feed surface and bearing against the carrier, a roll in advance of the wiper bearing against the carrier and a normally at rest printing roll coacting with the impression surface.

7. A carrier provided with a frictional feed surface and an impression surface, a wiper coacting with the feed surface and bearing against the carrier, a roll in advance of the wiper also bearing against the carrier, a gripper for holding the piece to the carrier taken by the feed surface, means for operating the gripper, and a printing roll coacting with the impression surface.

8. The combination of a rotatable printing member normally at rest, a rotary impression member, and means on the impression member and rotative therewith adapted to be engaged and moved relative to said impression member by the article to be printed for controlling the rotative coöperation of the two members.

9. The combination of a rotary printing couple one member whereof is normally at rest, and an article controlled device mounted on and rotatable with the other member and adapted to be engaged and moved relative to said other member by the article to be printed for determining the rotative coöperation of both members.

10. The combination of a rotary printing couple, vibratory means for controlling the printing movement of the printing member thereof and mounted independent of said couple, and an article controlled device mounted on and rotative with the impression member and movable relative to said member by the engagement therewith of the article to be printed for determining the movement of said vibratory means.

11. The combination of a printing member normally at rest, an impression member, contact pieces one of which is carried by the impression member for causing the coöperation of the two members and means carried by the impression member and adapted to be engaged by the article to be printed for controlling the coaction of said contact pieces.

12. The combination of a printing member normally at rest, an impression member, an arm and connections mounted independent of said members for controlling the coaction of said two members, a contact carried by the impression member, and article engaged means on the impression member for controlling the engagement of the arm and contact.

13. The combination of a printing couple, an abutment for controlling the movement of the printing member thereof and having a contact engaging-piece, means for carrying the article to be printed and having a contact for engaging said engaging-piece, and an article controlled device on the carrying means for determining the engagement of the contact and engaging piece.

14. The combination of a printing member normally at rest, an impression member, an abutment controlling the coöperation of said two members, an arm for moving said abutment, a contact on the impression member for engaging said arm, and an article engaged means on the impression member for controlling the position of said arm with respect to said contact.

15. The combination of a printing member normally at rest, an impression member, an arm and connections for controlling the coaction of said two members, an adjustably mounted contact carried by the impression member, and an article engaged means on the impression member for controlling the engagement of the arm and contact.

16. The combination of a printing member normally at rest, an impression member, an arm and connections for controlling the coaction of said two members, a traveling contact for engaging said arm, and a traveling article-engaged means for controlling the engagement of the arm and contact.

17. The combination of a printing member normally at rest, an impression member, an arm and connections for controlling the coaction of said two members, a plurality of contacts carried by the impression member, and a plurality of article engaged means on the impression member for controlling the engagement of the arm and contacts.

18. The combination of a printing member, an impression member, an arm and connections for controlling the coaction of said two members, a plurality of contacts carried by the impression member, means for simultaneously adjusting said contacts, and a plurality of article engaged means on the impression member for controlling the engagement of the arm and contacts.

19. The combination of a printing member, an impression member, an arm and connections for controlling the coaction of said two members, a contact carried by the impression member for engaging said arm, an article engaged means, and a lever connected to move said arm by contact therewith of said means when no article is present.

20. The combination of a printing member normally at rest, an impression member, an arm and connections for controlling the coaction of said two members, a contact carried by the impression member for engaging said arm, an article engaged means for controlling the engagement of the arm and contact and an interrupted guard governing the movement of said means independent of the article.

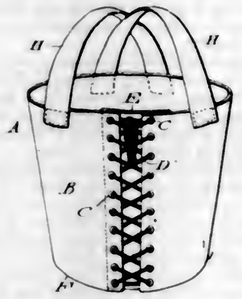
21. The combination of a printing member normally at rest, a sheet carrier serving also as the impression member and having a gripper to grasp the sheet to the carrier, sheet controlled means on the carrier for determining the operation of the printing member, a delivery plate for the printed sheet and a gripper releasing device adjacent said plate.

22. The combination with a printing member normally at rest and an impression member, of means for causing the printing operation when an article is present and means traveling with the impression member for rendering said first named means inoperative when no article is present.

869,784. INFANT'S BINDER. ANN JARRETT, Davis Grove, Pa. Filed June 3, 1904. Serial No. 210,944.

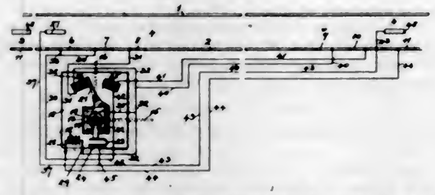
As an improved article of manufacture, an infant binder formed of a soft unstiffened fabric of a width to fit only between the hips and arm pits and wider at the top than at the bottom to conform to the normal shape of the infant, and provided with lacings joining the vertical edges

of the binder, and at the upper end with independent shoulder straps, the latter preventing downward displace-



ment, and the taper of the binder preventing upward displacement thereof.

869,785. ELECTRICALLY-OPERATED SIGNAL FOR RAILROADS. HELENA J. JONES, Baltimore, Md. Filed May 13, 1907. Serial No. 373,375.

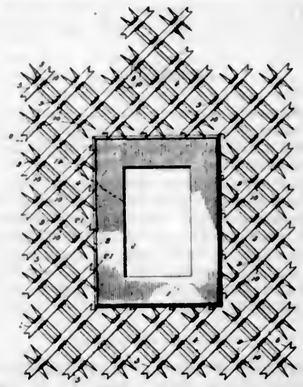


1. A railway block signal comprising a plurality of insulated rail sections at one end of the block, a signal operating arm at the same end of the block; an electro-magnet at one side of the said arm; direct electrical connection between one of said rail sections and said magnet; a direct electrical connection between said magnet and the source of electrical energy; a direct electrical connection between another rail section at the same end of the block and the source of energy whereby a circuit to set the signal may be established by connection entirely at the operating end of the block; a second magnet at the same end of the block as said operating arm; connections between said latter magnet and the source of energy, and means at the distant end of the said block and in electrical connection with said latter magnet whereby to energize said latter magnet to change the said signal arm.

2. A railway block signal comprising a plurality of insulated rail sections at the entrance to a block; a source of electrical energy; a magnet in electrical connection with one of said rail sections; a connection between another of said rail sections and the source of energy; a signal device operated by said magnet to set the danger signal and to make an electrical connection between the signal and source of energy; a contact plate also at the entrance to the block; a connection between said contact plate and the signal device during the period that the signal is in the danger position, and electrically operated devices carried by the motor vehicle for operating the air brakes said devices being operated only by a current that can pass through the signal device while the latter is set in the danger position.

3. A railway block signal comprising a pair of magnets at the entrance end of a block; a signal device having an operating arm movable between said magnets; a source of electrical energy; insulated rail sections; connections between said rail sections, magnets and source of energy for setting the danger signal as a train enters one end of the block; a contact plate at the other end of the block; connections between said contact plate and the source of energy, and electrically-operated devices on the motor vehicle for operating the brakes through the said contact plate during the period that the danger signal at the opposite end of the block is set.

869,786. PICTURE-FRAME. HENRY KASSAHN and GEORGE SCHAAF, Menomonie, Wis. Filed May 24, 1907. Serial No. 375,378.



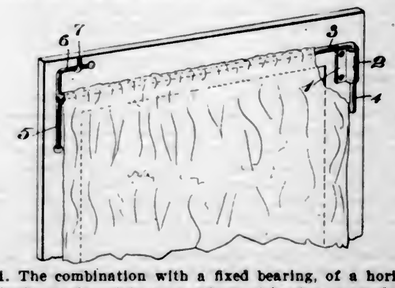
1. A frame composed of two sets in pairs of diametrically disposed units formed with mortises, each set of pairs of units having their edges at right angles to the other set of pairs, horizontal key units formed with mortises, the mortises of all the units serving to lock the units together at their junction, an inner frame, the ends of the units engaging the inner frame to hold the latter in position.

2. A frame composed of a series of units, the ends of selected units being bifurcated, and an inner frame surrounded by the units, the bifurcated ends of the units engaging the outer edges of the inner frame to hold the latter in position.

3. A frame composed of a series of units, the ends of selected units being bifurcated to form substantially V-shaped notches, an inner frame surrounded by the units and having its edges beveled, the V-shaped bifurcated ends of the units engaging the beveled edges of the inner frame to hold the latter in position.

4. A frame composed of a series of bifurcated units, and a frame having a portion with which the bifurcated units engage to hold said latter frame in position with respect to the units.

869,787. CURTAIN-SUPPORT. MARION KEITH, St. Louis, Mo. Filed June 24, 1907. Serial No. 380,625.



1. The combination with a fixed bearing, of a horizontally disposed curtain supporting rod having one end bent vertically and arranged in the bearing, a vertically disposed rod integral with the opposite end of the curtain supporting rod, and the upper end of said vertically disposed rod being bent into a horizontal plane parallel with the curtain supporting rod, in order to engage the hook seated in the window frame.

2. A curtain support, comprising a horizontally disposed rod, a bearing engaging one end of said rod, which permits the same to swing horizontally and move vertically, a vertically disposed rod integral with the opposite end of the first mentioned rod, and a portion of the second mentioned rod being adapted to engage a hook seated in the window frame.

869,788. INSULATED JOINT. FRANK E. KINSMAN, Plainfield, N. J. Filed Mar. 1, 1905. Serial No. 247,981.

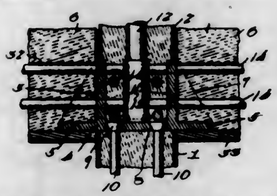


1. An insulated wheel for use in electric traction, having one or more mechanically impenetrable layers within the insulation between the wheel body and its rim, as and for the purpose set forth.

2. An insulated wheel for use in electric traction, having a body and separate rim with insulation between them and an impenetrable layer within said insulation.

3. An insulated wheel for use in electric traction, having a body, a separate rim, side clamping rings, and securing bolts with insulation between the body and rim and clamping rings impenetrable layers within said insulation and insulating sleeves on bolts.

869,789. COLUMN FOR FIREPROOF CONSTRUCTION. JOHN LALLY, Boston, Mass. Filed Jan. 9, 1907. Serial No. 351,518.



1. A column comprising a casing, a filling therefor, a union means for securing the union upon the casing, a superimposed casing resting upon the union, a filling for the union and the superimposed casing, and floor-supporting rods entering the union and secured therein.

2. A column comprising a casing, a filling therefor, a union resting upon the casing, a filling therefor, and floor-supporting rods passing inward through the union and secured within the same.

3. A column comprising a casing, a filling therefor, a union resting upon said casing, a filling therefor, and floor-supporting rods passing through opposite sides of the union and secured therein.

4. A column comprising a casing, a filling therefor, a union resting upon said casing, a filling therefor, and floor-supporting rods passing through opposite sides of the union and secured therein, some of said rods entering at different angles from other rods.

5. A column comprising a casing, a filling therefor, a union resting on said casing, a filling therefor, floor-supporting rods passing through opposite sides of the union, and means within the union for fastening said rods.

6. A column comprising a casing, a filling therefor, a union resting on said casing, a filling therefor, floor-supporting rods passing through the sides of the union, and stays engaging within the union for securing said rods.

7. A column comprising a casing, a filling therefor, a union resting on said casing, a filling therefor, and floor-supporting rods passing through the sides of the union and having their ends bent within the union, forming stays which secure the rods in place.

8. A column comprising a casing, a filling therefor, a union resting on said casing, a filling therefor, a reinforcing sleeve within the end of said casing, and floor-supporting rods passing through the sides of the union and having their ends secured therein.

9. A column comprising a casing, a filling therefor, a union resting on said casing, a filling therefor, a superimposed column casing, a filling therefor, and a stay or steady pin having a portion thereof held within the union and the end portions thereof embedded in the filling of the casings.

10. A column comprising a casing, a filling therefor, a union resting on said casing, a filling therefor, a superimposed column casing, a filling therefor, a stay pin socket within the union, and a steady pin fitted in said socket and projecting upward into the filling of the column casing above in which it is embedded.

11. A column comprising a casing, a union resting thereon, a superimposed column casing resting on the union, a filling for the union and the column casings, a steady pin socket within the union, and a steady pin having its lower end held in said socket and its upper end embedded in the filling of the column casing.

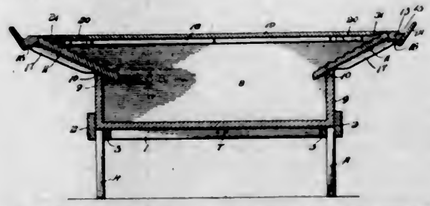
12. A plurality of sectional columns embodying unions, in combination with floor-supporting rods interposed between and connecting the column unions.

13. A plurality of columns embodying unions, in combination with floor-supporting rods interposed between and connecting the unions, and means associated with the unions for securing the rods thereto.

14. A plurality of sectional columns embodying unions, in combination with floor-supporting rods extending between said unions in parallel and diagonal planes and connected with said unions.

15. A plurality of columns arranged in rows running at angles to each other, in combination with floor-supporting rods running from column to column and connected therewith to brace the columns relatively to each other.

869,790. COMBINED WASH AND BATH TUB AND IRONING-TABLE. AUGUST LOMBARDO, Washington, Iowa, assignor, by mesne assignments, of one-half to Joe Carso, Washington, Iowa. Filed Mar. 13, 1907. Serial No. 362,189.

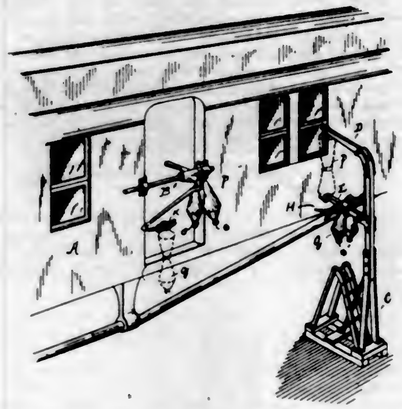


1. In an apparatus of the class described, the combination with a support, of a receptacle carried by said support, said receptacle comprising a bottom, sides, and ends, the ends of less height than the sides, each end provided with a beveled, upper edge, inclined wash-boards positioned between the sides and resting upon the beveled upper edges of the ends, reinforcing-boards secured between the sides and at the upper ends of the wash-boards and a cover positioned between the sides and the reinforcing boards.

2. In a device of the character described, the combination of a receptacle provided with an inclined wash-board, said wash-board provided upon its upper face with a corrugated surface, said wash-board being beveled at its sides and at the ends of said corrugated surface, a reinforcing-board secured at the upper ends of said wash-board, said reinforcing-board provided with transverse ways or grooves and with a longitudinally-extending groove constituting a compartment, and a guard positioned at the outer edge of said reinforcing-board and having its upper edge positioned above said board.

3. In an apparatus of the class described, the combination with a support, of a receptacle carried by said support, said receptacle provided with an inclined wash-board, said wash-board constituting a part of said receptacle, a longitudinally-extending reinforcing cleat secured to the under face of said wash-board, and a reinforcing-board secured against the upper end of said wash-board.

869,791. DEVICE FOR DELIVERING MAIL-BAGS ALONG RAILROAD-LINES. ADELARD F. MARTEL, Chittenden, Cal. Filed Jan. 15, 1907. Serial No. 352,432.



1. In combination with the arm of a mail crane, a spring catch projecting from both sides of the arm, and a clamp engaging the intermediate portions of the catch to hold it to the arm.

2. In combination with the arm of a mail catcher, a spring catch carried by the end of said arm, said catch comprising two sections rotatably held by the arm.

869,792. TOY BADGE. JOHN J. MEEHAN, Denver, Colo. Filed Nov. 7, 1906. Serial No. 342,427.



1. A toy badge comprising two telescoping parts, one of which is provided with means for fastening the device to a garment of the user, and a laterally extending frame attached to one of the parts, the two parts being constructed to cause the part having the frame to rotate as the telescoping movement is imparted to one of the parts.

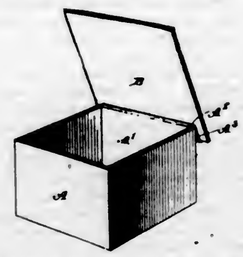
2. A toy badge comprising a sleeve and a spindle mounted to reciprocate in the sleeve and having a spiral portion, one of the said parts being provided with means for fastening the device to a garment the sleeve having a part fashioned to allow the spiral portion of the spindle to pass through whereby a rotary movement is imparted to one of the said elements, the rotatable part being provided with a radially extending wing or sleeve, substantially as described.

3. A toy badge comprising a sleeve provided with a fastening device, a spindle constructed to telescope in the sleeve, the said spindle having a radially projecting wing or sleeve, a spring for normally maintaining the spindle at its limit of movement in one direction, the spindle having a spiral portion, and the sleeve having a slot through which the spiral portion of the spindle is adapted to pass whereby a rotary movement is imparted to the spindle as the latter is moved axially in the sleeve.

4. A toy badge comprising a sleeve and a spindle mounted to reciprocate in the sleeve, the spindle having a spiral portion and the sleeve having a slot at one extremity through which the spiral portion of the spindle passes, one of the said elements being provided with means for fastening the device to a garment, one of the said elements being provided with a radial wing or frame, the arrangement of the two parts being such that as the spiral portion of the spindle is moved through the slot of the sleeve, the part carrying the radial wing or frame is given a rotary movement, substantially as described.

5. A toy badge comprising a sleeve, and a spindle mounted to reciprocate in the sleeve, one of the said parts being provided with a radial wing, one of the said parts being provided with a device for fastening it to a garment, the spindle having a spirally shaped portion and the sleeve having a slot through which the spiral portion of the spindle passes, a spring located within the sleeve and acting on the spindle to normally maintain the latter at its limit of movement in one direction, and a flexible device connected with the spindle below the sleeve, the construction and arrangement of the parts being such that a pull on the flexible device will actuate the spindle to impart a rotary movement to the element having the radial wing.

869,793. SPUTUM-CUP. CHRISTIAN W. MEINECKE, Jersey City, N. J., assignor to Whitall Tatum Company, New York, N. Y., a Corporation of New Jersey. Filed Oct. 16, 1906. Serial No. 339,253.



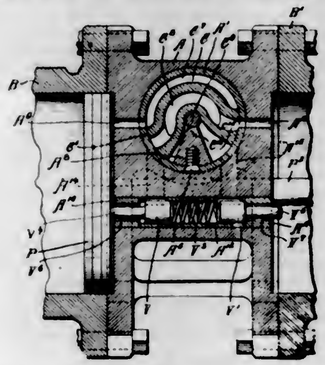
A sputum receptacle comprising a box of flexible material the upper edge of one side being extended outwardly beyond the upper edge of the box to form a thumb piece and adapted to be readily flexed at said edge to form a hinge, and a lid attached to said extension, substantially as described.

869,794. STEAM-ACTUATED VALVE. GEORGE W. MEYER, Sparrows Point, Md. Filed June 25, 1906. Serial No. 323,352.

1. The combination with a cylindrical valve chamber having a steam inlet through one head thereof and an exhaust outlet through the other head thereof, of a lug fixed in position along one side of said chamber and having a journal bearing along its outer side, a rotary valve fitted in the chamber and so formed as to leave a compartment at either side of said lug and having fixed at its axis a rod journaled in said bearing, the valve chamber being provided with inlet and exhaust ports communicating with said compartments and also having lateral ports, and the valve having transverse inlet and exhaust ports communicating respectively and continuously with said inlet and exhaust outlet through the heads of the chambers and communicating alternately with said lateral ports, and means for controlling the exhaust from said compartments alternately.

2. The combination with adjacent cylinders provided with pistons and a piston rod common to both pistons, of a cylindrical valve chamber located between said cylinders and at right angles thereto, said chamber being provided

with steam inlet and exhaust ports, a rotary valve located in said chamber and having transverse inlet and exhaust ports, the heads of the cylinders having ports so located as to communicate alternately with said transverse ports and means operated by said pistons to alternate the rotation of said valve, for the purpose set forth.



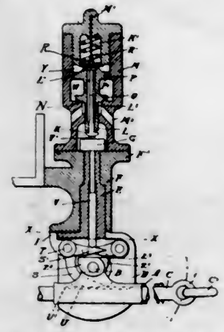
3. The combination with adjacent cylinders provided with pistons and a piston rod common to both pistons, of a cylindrical valve chamber located between said cylinders and at right angles thereto, said chamber being provided with steam inlet and exhaust ports, of a rotary valve located in said chamber and having transverse inlet and exhaust ports, the heads of the cylinders having ports so located as to communicate alternately with said transverse ports, a lug located along the lower side of said valve chamber, said valve being journaled upon said lug and so constructed as to form a compartment upon either side of said lug, ports communicating with said compartments and with the inlet of the valve chamber and with said cylinders, and valves in said last-named ports actuated by the pistons whereby to effect the operation of the rotary valve.

4. In a rotary steam actuated valve, the combination with a cylindrical valve chamber having an inlet through one head thereof and an exhaust outlet through the other head thereof, of a stationary lug on one side of said chamber, a rotary valve journaled along the outer edge of said lug and provided with a pressure supply passage extending from one end thereof to a flange at the other end thereof and provided with an exhaust passage extending from the end of the valve bearing said flange to a wall at the other end of said valve and communicating with the exhaust outlet, lateral ports through the walls of the cylindrical chamber communicating alternately with said supply and exhaust passages, and automatic means for rotating said valve to effect said alternate communication.

5. In a rotary steam actuated valve, the combination with a cylindrical valve chamber having an inlet through one head thereof and an exhaust outlet through the other head thereof, of a stationary lug on one side of said chamber, a rotary valve journaled along the outer edge of said lug and provided with a pressure supply passage extending from one end thereof to a flange at the other end thereof and provided with an exhaust passage extending from the end of the valve bearing said flange to a wall at the other end of said valve and communicating with the exhaust outlet, lateral ports through the walls of the cylindrical chamber communicating alternately with said supply and exhaust passages, ports leading from the inlet of said chamber to either side of said lug and trick valves alternately controlling these last-named ports, for the purpose set forth.

6. In a rotary steam actuated valve, the combination with a cylindrical valve chamber having an inlet through one head thereof and an exhaust outlet through the other head thereof, of a stationary lug on one side of said chamber, a rotary valve journaled along the outer edge of said lug and provided with a pressure supply passage extending from one end thereof to a flange at the other end thereof and provided with an exhaust passage extending from the end of the valve bearing said flange to a wall at the other end of said valve and communicating with the exhaust outlet, lateral ports through the walls of the cylindrical chamber communicating alternately with said supply and exhaust passages, said valve and said lug being so constructed and arranged as to leave a compartment on either side of said lug, said compartments being closed at one end by a portion of the head at the exhaust outlet of the cylinder and said valve having a flange for closing said compartments at the opposite end, and automatic means for alternately connecting said compartments with the exhaust outlet of said valve.

869,795. BRAKE-ACTUATING APPLIANCE TO OPERATE WHEN A VEHICLE LEAVES THE TRACK IN RAILROADS. GEORGE S. MORISON, Melbourne, Victoria, Australia. Filed July 13, 1907. Serial No. 383,681.



1. In brake appliances, a centered radially working arm, a valve actuating spindle or rod, said arm being linked to the next respective vehicle in the train and so arranged that upon its being rotated unduly in either a vertical or horizontal direction, the valve actuating spindle or rod will be actuated to turn on or shut off the power to operate the brakes, substantially as and for the purposes set forth.

2. In brake appliances, in combination, a sliding rod C having therein a shoulder groove U, a pawl or trigger S, a spindle or rod V, and means actuated by the motion of the rod V for turning on and shutting off the power operating the brakes, substantially as and for the purposes set forth.

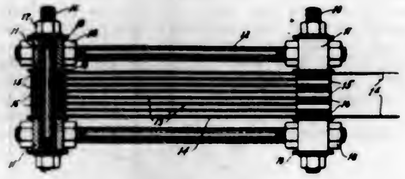
3. In brake appliances, in combination, a sliding rod C, a hollow shaft A centered at B, a pawl or trigger S, a spindle V, a vertical hollow shaft E, a valve R, and means for communicating the motion from the spindle V or hollow shaft E to the said valve, substantially as and for the purposes set forth.

4. In brake appliances, in combination, a valve actuating spindle V, a vertical hollow shaft E, a valve rod K, means such as V' for communicating movement from V or E to the said valve rod K, a cylinder M and a piston P mounted upon a hollow shaft L and free to move up or down in the cylinder M and having through the same a perforation P', substantially as and for the purposes set forth.

5. In brake appliances, in combination, a valve actuating rod K, valve R, piston P mounted upon a hollow shaft L and having ports L^3 therein, a cylinder M, and a valve seat N, a valve O, and a hollow spindle L, upon which the valve O is set and adapted to seat itself upon the valve seat N, substantially as and for the purposes set forth.

6. A brake operating mechanism comprising a pivotally mounted arm adapted to swing both horizontally and vertically, power controlling devices, and means actuated by any undue movement of said pivotally mounted arm for operating the said power controlling devices.

869,796. SERIES SHUNT FOR DYNAMO-ELECTRIC MACHINES. EDWARD T. MUG, Norwood, Ohio, assignor to The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed Nov. 17, 1905. Serial No. 287,835.



1. A resistance member comprising a plurality of parallel strips of flexible resistance material supported at their ends, and means for putting tension in said strips.

2. A resistance member comprising a plurality of parallel strips of sheet metal, adjustable clamping members at the ends of said strips, and means for putting tension in said strips.

3. A resistance member comprising a plurality of parallel, series-connected strips of sheet metal, transverse clamping members at the ends of said strips, and adjustable means for spreading apart said clamping members.

4. A resistance member, comprising a plurality of flexible parallel strips of sheet metal, alternately arranged strips of conducting and insulating material at the ends of the members, whereby the strips are connected in series, adjustable spaced clamping members at the ends of the strips, and adjustable means for spreading apart said clamping members.

5. A resistance member, comprising a group of parallel strips of sheet metal, spaced rods or bolts passing through the ends of said strips, adjustable clamping means at the ends of the strips, and means for putting tension in said strips.

6. A resistance member, comprising a group of parallel strips of metal, alternately arranged conducting and insulating spacing members arranged between the ends of the strips whereby the latter are connected in series, clamping means comprising bolts passing transversely through the spacing members and the ends of the strips and means for spreading apart said clamping means so as to put tension in said strips.

7. A resistance member, comprising a group of parallel series connected resistance strips, adjustable clamping means at the ends thereof, the first and last strips of the group being longer than the intermediate strips whereby the group may be connected to terminals, and longitudinal bolts for putting tension in said strips.

8. A resistance member, comprising a group of parallel strips of metal, alternately arranged conducting and insulating members arranged between the strips at each end, whereby the strips are connected in series, one or more bolts or rods passing through the ends of the strips and through the separating members, clamping blocks mounted on the ends of the bolts, and means for spreading apart said blocks so as to put tension in said strips.

9. A resistance member, comprising a group of parallel strips of metal, alternately arranged conducting and insulating members arranged between the strips at each end, whereby the strips are connected in series, bolts or rods passing through the ends of the strips and through the separating members, means for clamping the ends of the group together and means for holding the bolts or rods a predetermined distance apart.

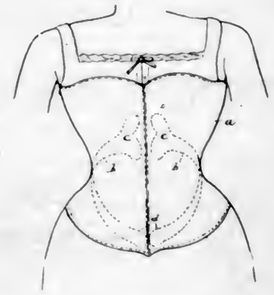
10. A resistance member, comprising a plurality of strips of metal, means for clamping the ends of the strips, and means for forcing said clamping means apart.

11. A resistance member, comprising a plurality of strips of thin sheet-metal, bolts passing through the ends of the strips and means for forcing said bolts apart to put tension in said flexible strips.

12. A series shunt, comprising a plurality of thin sheet-metal, series connected strips, bolts passing through the ends of the strips, clamping blocks on the ends of the bolts, and a plurality of longitudinal studs or bolts for forcing the blocks apart.

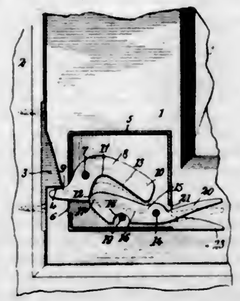
13. A series shunt, comprising a group of strips of thin sheet metal, one or more bolts passing transversely through each end of the group, a pair of clamping blocks at opposite sides of each end of the assembled group, and a plurality of bolts or studs parallel to the strips passing through the blocks for holding the latter a predetermined distance apart, and for putting tension in the flexible strips.

869,797. CORSET-STAY. HUGH M. MCCORMICK, Royal Oak, Mich. Filed Oct. 8, 1906. Serial No. 338,054.



A corset stay formed of spring material shaped and constructed, at its front end, to impinge supportingly upon the abdomen, and to be fitted into a corset beginning at or near one lower front extremity thereof, thence passing outward and upward over the hip at or near the waistline, and extending well into the rear central portion of the corset with the center of its rear extremity at or near the waistline, said extremity being provided with oppositely directed laterally extending fulcrumic wings intended and adapted to receive and distribute upon the back of the wearer the strain imposed on the forward end by the abdomen, substantially as described.

869,798. SASH-FASTENER. GAYLORD A. ORR, Cripple Creek, Colo. Filed Mar. 12, 1907. Serial No. 361,906.



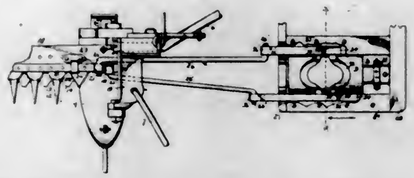
1. In a sash fastener, in combination, a gravity-controlled pivoted catch, and a gravity-controlled pivoted lever, said catch having a projecting toe and presenting a shoulder adapted to abut said lever when said catch ro-

tates upon its pivot, said lever affording means for withdrawing said toe by rotating said catch.

2. In a sash fastener, in combination, a pivotally mounted catch having a projecting toe and a throat formed on the edge thereof behind said toe, said throat presenting a shoulder, and a pivoted lever having a nose normally lying behind said shoulder and adapted to move upwardly into said throat to rotate said catch and withdraw said toe.

3. In a sash fastener, in combination, a case having an opening in the wall thereof, a catch pivotally mounted in said case and having a toe, and a counterweight arm normally holding said toe projecting from said opening, said catch having a throat formed on the under edge thereof, presenting a shoulder behind said toe, and a lever pivotally mounted within said case and having a nose normally lying behind said shoulder and adapted to move upwardly into said throat to engage said arm to withdraw said toe, said nose operating as a stop to limit the backward movement of said toe when moved by a force applied directly to said toe.

869,799. MOWING-MACHINE. WILLIAM OSTER, Caldwell county, Mo. Filed June 14, 1907. Serial No. 378,913.



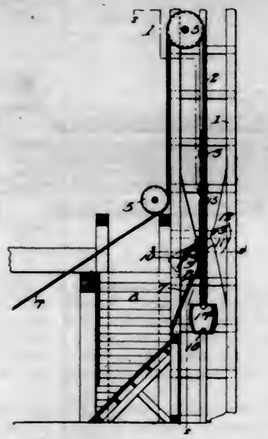
1. In a mowing machine the combination with a suitable truck and running gear; of a casing carried by said truck and provided with an interior chamber and recesses in said casing at the sides of and communicating with said chamber; a cylinder revolubly mounted in said casing with its axis parallel with said recesses and provided with peripheral cam grooves; knife bars; pitmen on said knife bars having slide bars adapted to travel in said casing recesses; and studs projecting from said slide bars into the cylinder cam grooves; substantially as and for the purpose set forth.

2. In a mowing machine, the combination with a suitable truck and running gear; of a revoluble cylinder having a pair of oppositely disposed cam grooves in its periphery; a casing inclosing said cylinder comprising a body portion having grooves parallel with said cylinder and opening through one of the body ends, and a cover adapted for inclosing said cylinder; a pair of knife bars; pitmen on said knife bars; slide bars connected with said pitmen and adapted for travel in the casing grooves; and roller bearings projecting from said slide bars into the cylinder cam groves; substantially as and for the purpose set forth.

869,800. ELEVATOR. RICHARD H. PASCOE and FREDERICK BERGEN, Mace, Idaho. Filed Feb. 1, 1907. Serial No. 355,263.

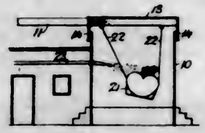
1. In a hoisting apparatus a frame having a discharge chute, skids located adjacent to the chute and having recesses, a yoke pivoted upon the skids and constituting a trigger, said yoke having an inclined face that projects beyond the skids, a hoisting bucket having laterally extending trunnions, means for elevating the bucket, and means for deflecting the upper end of the bucket in the direction of the chute.

2. In a hoisting apparatus a hoisting bucket having laterally extending trunnions, skids having trunnion engaging recesses, a yoke or trigger pivoted upon the skids and having an inclined face projecting beyond the latter, and a deflector disposed in the path of the bucket opposite to the



skids and having a bucket engaging hump above the recesses of the skids.

869,801. AMUSEMENT DEVICE. HERBERT H. PATTEE, New York, N. Y. Filed Aug. 24, 1906. Serial No. 331,837.



1. In an amusement device the combination with a structure made up of radial arms and carrying cars pendent therefrom, of a tunnel built about part of the course of the cars, and roofing for the tunnel carried by the outer ends of the radial arms and flanges depending from the roofing and embracing the sides of the tunnel.

2. In an amusement device the combination with a structure composed of radial arms and carrying suspended cars, of a tunnel built about part of the course of the cars, pipes with openings leading into the tunnel, means for providing a blast of air for the pipes and means for admitting confetti or a powdered material into the blast of air.

3. In an amusement device the combination with a rotating frame carrying cars or floats, of a tunnel through part of the course of the cars and telescopic means whereby the tunnel may be lengthened or wholly completed around the course of the travel of the cars.

4. In an amusement device the combination with a rotating frame having cars suspended therefrom, of a stationary tunnel, movable sections adapted to increase the length of the tunnel, and means for moving the sections inward and outward from the stationary tunnel.

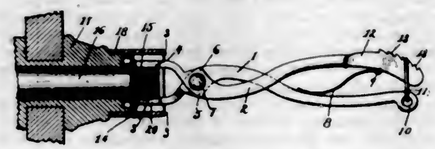
5. In an amusement device the combination with a rotating frame having cars suspended therefrom, of an inclosed structure around part of the line of travel of the cars, flanges depending from the rotating structure and enveloping the upper edges of the tunnel walls, pipes discharging into the inclosure, and means for forcing a blast of air with any desirable material through the pipes and into the tunnel.

6. In an amusement device the combination with a rotating frame made up of radial arms, cars hung from the outer ends of the arms, means for tipping the cars and

their occupants outward and from the horizontal line as the frame rotates, a tunnel partly or wholly around the course of the moving cars, and pipes discharging into the tunnel and adapted to receive a direct blast of air or throw substances against the occupants of the cars as they pass through the tunnel.

7. In an amusement device the combination with a frame made up of radial arms and adapted to rotate about a center, cars suspended from the outer ends of the arms, means for tipping the inner side of the cars upward, a permanent tunnel about part of the line of travel of the cars, telescopic sections adapted to move in and out of the permanent tunnel so as to increase the length of the tunnel effect, and means for moving the telescopic sections in and out of the permanent tunnel.

869,802. WRENCH. ARTHUR S. PEARCE, San Juan, Cal. Filed Sept. 19, 1906. Serial No. 335,252.



1. A wrench having arms provided with jaws adapted to engage with the inner side of a hub-ring and having a pivotal connection, said arms being crossed at said connection and on the side of said connection remote from said jaws, means for holding said arms in a plurality of positions, and means between said arms for forcing the same apart at the side of said pivotal connection remote from said jaws.

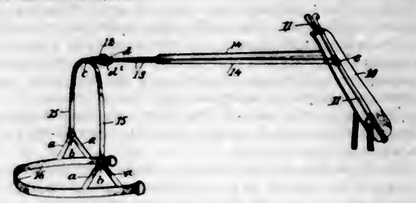
2. A wrench having crossed arms terminating in jaws adapted to grip a nut, and having a pivotal connection at the crossing of said arms, said jaws being further adapted to engage with the inner face of a hub ring to grip the same, said arms being further crossed at the side of said pivotal connection remote from said jaws, one of said arms having a link at an extremity, the other of said arms having recesses adapted to engage with said link, and means between said arms adapted to force the same apart.

3. A wrench having arms provided with jaws adapted to engage with the inner side of a hub-ring and having a pivotal connection, said arms being crossed at said connection and on the side of said connection remote from said jaws, means for holding said arms in a plurality of positions, and a spring between said arms adapted to force the same apart.

4. A wrench having crossed arms terminating in flattened jaws adapted to grip a nut and having a pivotal connection at the crossing of said arms, said jaws having edges adapted to engage with the inner face of a hub-ring, said arms being further crossed at the side of said pivotal connection remote from said jaws, one of said arms having a link at an extremity, the other of said arms having recesses adapted to engage with said link, and a spring between said arms adapted to force the same apart.

5. A wrench having crossed arms terminating in flattened jaws adapted to grip a nut and having a pivotal connection at the crossing of said arms, said jaws having edges adapted to engage with the inner side of a hub-ring, said jaws further being laterally disposed on said arms, said arms being crossed on the side of said pivotal connection remote from said jaws, one of said arms having an eye at the end thereof and a link loosely mounted in said eye, the other arm having an end disposed toward said first arm and provided with a plurality of teeth adapted to engage with said link, and a spring secured to one of said arms and adapted to press against the other of said arms to force said arms apart.

869,803. ATTACHMENT FOR DRAFT-HARNESS. WATSON E. PERRY, Warrensburg, N. Y. Filed May 10, 1907. Serial No. 372,893.



1. The combination, with draft harness having a pair of hames and a hip strap, of a pulley supported to rotate and connected with the crown of the hip strap, and a flexible looped connection passed around the pulley at its bight and having its ends connected with the hames.

2. The combination with draft harness embodying a collar, hames thereon, a two-part hip strap, joined together by a ring, and a breeching connected to the pendent ends of the hip straps, of a bracket frame bent into U-shape to produce two spaced limbs thereon, a bearing pad on one of said limbs, a pulley pivoted between the limbs, and a looped back strap having a rope-like middle portion that engages with the pulley and extends forward therefrom in the form of flat strap members, joined at their extremities to the hames.

869,804. DUMPING-CAR. WILLIAM L. PHILLIPS, Trenton, N. J. Filed Jan. 8, 1907. Serial No. 351,346.



1. A device of the character described comprising a rotary member having radially disposed shoulders or abutments on one of its faces formed by intervening recesses, said recesses being separated by substantially flat portions of the disk, whereby each abutment has a substantial reinforcing backing, a lever pivoted to said disk and having a portion formed complementary to said shoulders or abutments whereby to engage the same and adapted to be shifted from one shoulder or abutment to a succeeding shoulder or abutment.

2. A device of the character described comprising a rotary disk member having radially disposed shoulders or abutments on one of its faces separated by intervening recesses, both walls of said recesses being formed to constitute said abutments, and a lever operatively associated with said disk formed to be reversible, and actuated to engage either of said wall abutments of each recess.

3. A device of the character described comprising a rotary disk member having radially disposed shoulders or abutments on one of its faces formed by intervening recesses, said recesses being separated by substantially flat portions of the disk, whereby each abutment has a substantial reinforcing backing, a lever pivoted to said disk and having a portion formed complementary to said shoulders or abutments whereby to engage the same and adapted to be shifted from one shoulder or abutment to a succeeding shoulder or abutment, in combination with means for forcing the lever into engaging position with an abutment, and the parts being formed to facilitate the riding of the lever over the intermediate projecting portion from one recess to another to engage a succeeding abutment.

4. A device of the character described comprising a rotary disk member having radially disposed shoulders or abutments on one of its faces separated by intervening recesses, both walls of said recesses being formed to constitute said abutments, and a lever operatively associated with said disk, formed to be reversible, and actuated to engage either of said wall abutments of each recess, in combination with means for forcing the lever into engaging position with an abutment, and the parts being formed to facilitate the riding of the lever over the intermediate projecting portion from one recess to another to engage a succeeding abutment.

5. A device of the character described comprising a rotary disk member having radially disposed shoulders or abutments on one of its faces separated by intervening recesses, a lever pivoted to said disk having a part adapted to seat in said recesses including a beveled projection, the beveled edge of which is formed radially of the disk to be complementary to and abut the shoulder or abutment with which it engages.

6. A device of the character described comprising a rotary disk member having radially disposed shoulders or abutments on one of its faces separated by intervening recesses, a lever pivoted to said disk having a part adapted to seat in said recesses including a beveled projection, the beveled edge of which is formed radially of the disk to be complementary to and abut the shoulder or abutment with which it engages, and another portion of the lever at a point the other side of its pivot being formed complementary to the abutment constituted by the opposite wall of the recess in which it seats.

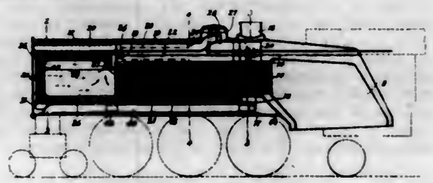
7. A device of the character described comprising a rotary disk member having radially disposed shoulders or abutments on one of its faces separated by intervening recesses, a lever pivoted to said disk having a part adapted to seat in said recesses including a beveled projection, the beveled edge of which is formed radially of the disk to be complementary to and abut the shoulder or abutment with which it engages, in combination with means for forcing the lever into engaging position in opposite recesses, and the parts being formed to facilitate the riding of the lever over the intermediate projections to advanced recesses whereby to engage succeeding abutments.

8. A device of the character described comprising a rotary disk member having radially disposed shoulders or abutments on one of its faces separated by intervening recesses, a lever pivoted to said disk having a part adapted to seat in said recesses including a beveled projection, the beveled edge of which is formed radially of the disk to be complementary to and abut the shoulder or abutment with which it engages, and another portion of the lever at a point the other side of its pivot being formed complementary to the abutment constituted by the opposite wall of the recess in which it seats, in combination with means for forcing the lever into engaging position in opposite recesses, and the parts being formed to facilitate the riding of the lever over the intermediate projections to advanced recesses whereby to engage succeeding abutments.

9. A device of the character described comprising a rotary disk member having radially disposed shoulders or abutments on one of its faces separated by intervening spaces, the walls of which constitute said abutments, a lever pivoted to said disk having a portion formed complementary to said shoulders or abutments whereby to engage the same and adapted to be shifted from one shoulder or abutment to a succeeding shoulder or abutment, and means for detachably securing the lever in place whereby it may be reversed to engage opposite shoulders or abutments to turn the disk in a reverse direction.

869,805. LOCOMOTIVE-BOILER. SIDNEY A. REEVE, Worcester, Mass., assignor to Charles F. Brown, trustee, Reading, Mass. Filed Dec. 17, 1906. Serial No. 348,104.

1. A locomotive-type boiler comprising a furnace, a vaporising-chamber, a preheating-chamber embracing said vaporising-chamber and having a common steam-space therewith, fire-tubes traversing said vaporizing and preheating chambers and forming respectively an outward and a return gas-course, a means for discharging the gases, a gas-chamber at the forward end of the boiler connecting the vaporizing and preheating tubes, and a steam-superheater located in said forward gas-chamber.



2. A locomotive-type boiler comprising a tubular pressure-retaining shell, a vaporizing-chamber therein, a preheating-chamber therein embracing and having a common steam-space with said vaporizing-chamber, fire-tubes traversing the said chambers and forming outward and return passages for the gases, a gas-chamber at the forward end of the boiler connecting the vaporizing and preheating tubes, and a steam-superheater located in said gas-chamber out of line with the fire-tubes so as to permit access to the ends of said tubes.

3. A locomotive-type boiler comprising a tubular shell, a vaporizing-chamber therein, a preheating-chamber therein embracing and having a common steam-space with said vaporizing-chamber and located mainly in the lower part of the tubular shell, a gas-chamber in line with the shell located forward of said vaporizing and preheating chambers, and a steam-superheater situated in said gas-chamber and composed of a series of superheating-sections located mainly in the upper part of the gas-chamber out of line with the fire-tubes.

4. A locomotive comprising a furnace, a water-vaporizer heated thereby, a chamber for the furnace gases embracing said vaporizer and comprising portions on opposite sides thereof, an engine, and two blast-devices located in the respective portions of said chamber and supplied by the engine exhaust, for impelling the furnace gases.

5. A locomotive having a furnace at the rear end, a forwardly-extending vaporizer heated by said furnace, a chamber for the furnace gases embracing said vaporizer adjacent the furnace and having a discharge outlet, an engine, and a plurality of blast-devices located in said gas-chamber on opposite sides of the vaporizer and supplied by the engine exhaust.

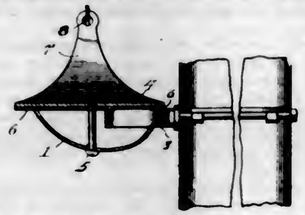
6. A locomotive-type boiler comprising a water-preheating chamber, a water-vaporizing chamber embraced by and projecting beyond the end of said preheating-chamber and having a flattened wall on its projecting portion, and a segmental buttress-stay for reinforcing the flattened portion of said wall.

7. A locomotive-type boiler comprising a gas-chamber, vaporizing and preheating fire-tubes leading respectively into and out of said chamber, an inner gas-box including the ends of the vaporizing-tubes and having an opening into the outer portion of said gas-chamber, and a series of superheating elements located within said outer portion of the gas-chamber.

8. A locomotive comprising a boiler-structure having an engine at the forward end, a gas-discharge outlet at the rear end, and an intermediate water-preheater, a gas-chamber at the forward end of said boiler-structure, an exhaust-pipe leading from the engine through said forward gas-chamber and the preheater to the rear gas-chamber, and an expansion-joint connecting the sections of said pipe which occupy the forward gas-chamber and the preheater, respectively.

9. A locomotive-type boiler having a furnace, vaporizing and preheating chambers both subject to the boiler pressure, a gas-chamber between the preheating-chamber and the furnace, and a stay crossing the zone of said gas-chamber and connecting the wall of the preheating-chamber with the furnace wall.

869,806. DAMPER ATTACHMENT. JOHN W. REYNOLDS, Proctor, Vt. Filed Mar. 26, 1907. Serial No. 364,675.

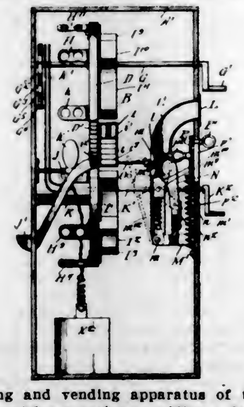


1. In a damper operating device, a transversely curved base plate, a cap plate having an arm or extension, an operating rod connected with the latter and clamping means connecting the cap plate with the base plate to secure the same upon the handle of a damper.

2. In a device of the class described, a transversely curved base plate, a cap plate having an arm or extension, an operating rod connected with said arm, a friction pad interposed between the base plate and the cap plate adjacent to the latter, and clamping means connecting the cap plate with the base plate to secure the same upon the handle of a damper.

3. In a device of the class described, a concave-convex transversely curved base plate, a cap plate having an arm or extension provided with a terminal eye, a friction pad interposed between the base plate and the cap plate, clamping screws extending through the base plate and the cap plate, to secure the same upon the handle of a damper and an operating rod connected with the arm extending from the latter.

869,807. VENDING APPARATUS. ARNOLD ROSENFELD, Bel Air, Md. Filed Dec. 1, 1906. Serial No. 345,877.



1. A testing and vending apparatus of the character described comprising a casing providing a darkened chamber and having sight openings and an outlet, means for illuminating the chamber, a rotary carrier within the chamber, testing lenses upon the carrier adapted to be brought into registering relation with the sight openings, a sight object disposed in line with the sight openings and within the plane of rotation of the lenses, means for rotating the carrier, holders arranged upon the carrier in such relation to the lenses that when any particular set of lenses is in register with the sight openings the holder carrying the glasses represented thereby will be in position for the discharge of the glasses therefrom through the outlet, and means for ejecting the glasses from the holders.

2. A testing and vending apparatus of the character described, comprising a casing providing a darkened chamber and having sight openings and an outlet, means for illuminating the chamber, an ejecting device arranged for movement toward and from the outlet, a rotary carrier within the casing movable in a path between said outlet and ejecting device and provided upon its periphery with lenses disposed in spaced relation and adapted to register with the sight opening, means for rotating the carrier, a sight object disposed in the chamber in the space bounded by the path of rotation of the lenses, holders upon the carrier arranged in spaced relation on lines between the lenses and in such relation thereto that when any particular set of lenses is in register with the sight openings the holder carrying the glasses represented thereby will be in position for the discharge of the glasses therefrom through the outlet, said holders being provided with transverse passages for the movement of the ejector therethrough, and means for operating the ejector.

3. A testing and vending apparatus of the character described comprising a casing providing a darkened chamber, said casing having sight openings and an outlet, an ejector movable toward and from said outlet, means for illuminating the casing, a rotary carrier arranged within the casing and movable in a path in line with the sight openings and between the outlet and ejector, means for rotating the carrier, testing lenses arranged in spaced relation upon the periphery of the carrier, a sight object arranged within the space bounded by the path of rotation of the lenses and in position to be viewed through the sight openings and the lenses in register therewith, holders fixed upon the periphery of the carrier and projecting inwardly therefrom, said holders being provided with transverse openings for the discharge of glasses therefrom by the ejector through the outlet and so arranged relative to the lenses that when any particular set of lenses is in register with the sight openings the holder carrying the glasses represented thereby will be in discharging position, and means for operating the ejector.

4. A testing and vending apparatus of the character described comprising a casing providing a darkened chamber, said casing being provided at its front with sight openings and at one side with an outlet and a discharge chute leading thereto, means for illuminating the casing, a rotary carrier arranged within the casing, an annular series of sets of testing lenses projecting laterally from the carrier on the side adjacent the discharge chute, a sight object disposed within the space bounded by the path of rotation of the lenses and arranged to lie in line with the sight openings and any set of lenses registering therewith, holders arranged upon the opposite side of the carrier from the lenses and provided with transverse discharge openings, said holders being so disposed with relation to the lenses that when any particular set of lenses is in register with the sight openings the holder carrying the glasses represented thereby will be in discharging position, an ejector supported within the casing for movement transversely of the carrier and through the openings in the respective holders, and means for operating said ejector when any of said holders is in discharging position..

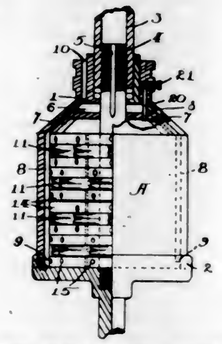
869,808. CENTRIFUGAL SEPARATOR-BOWL. PARKE B. SHEE, St. Paul, Minn., assignor of one-half to James D. Denegre, St. Paul, Minn. Filed Apr. 30, 1906. Serial No. 314,514.

1. A centrifugal separator bowl provided with a plurality of separable sections comprising corrugated blades curved horizontally, central and peripheral bands connecting the blades at their inner and outer extremities, said blades upon each section being deeper than the bands and when in place in the bowl, projecting between those of an adjoining section.

2. A centrifugal bowl provided with a plurality of separable sections, each section comprising inner and outer bands, and curved blades connected by said bands, the blades being of greater width than the bands and extending on one side beyond them so that when the sections are in place within the separator bowl the blades of one section project between the corresponding blades upon an adjoining section.

3. A centrifugal bowl provided with a plurality of separable sections, each section comprising curved blades connected medially and on one side by circular bands so that

when the sections are arranged in pairs within the separator bowl the blades of one section will project between and alternate with the corresponding blades upon an adjoining section.



4. A centrifugal separator bowl, provided with a liner composed of a plurality of detachable sections resting one upon another, each section comprising curved blades adapted to alternate with, and pass between corresponding blades upon an adjoining section, and an open frame consisting of bands and vertical flanges for connecting the blades of the respective sections.

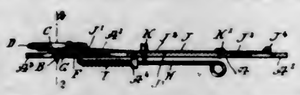
5. A centrifugal separator bowl, provided with a plurality of separable sections each consisting of curved corrugated blades which respectively project between the corresponding blades of an adjoining section, and peripheral bands for supporting the blades, the lower band of one section being adapted to rest upon the upper bands of an adjoining section whereby continuous vertical passageways are formed between the blades.

6. A centrifugal separator bowl comprising a center bolt, a plurality of separable sections consisting of corrugated blades, central bands attached thereto and provided with inwardly projecting vertical flanges, outer bands uniting said blades at their peripheral extremities, the central bands being narrower than the flanges or blades so that when said sections are fitted one upon another vertical passageways are formed in the center of the bowl and the blades of one section pass between those of an adjoining section.

7. A centrifugal bowl provided with a center bolt, a plurality of separable sections, each section comprising curved blades united by central and outer bands, the inner side of said central bands being furnished with radial, vertical flanges deeper than the bands, extending substantially to the center bolt and subdividing the inner cavity of the bowl, formed by the central bands and bolt, into vertical passageways connected with the outer cavity of the bowl.

8. A centrifugal bowl provided with a center bolt and a plurality of separable sections each section comprising curved blades united by central bands, the inner side of said central bands being furnished with vertical flanges deeper than the central bands, said center bolt, bands and flanges forming inner conduits for the upward passage of the cream, in combination with vertical tubes attached to the periphery of the bowl adapted to form conduits for the upward passage of the skimmed milk.

869,809. RUBY-PIN SETTER. CHARLES A. SLOAN, Ozark, Ark. Filed June 29, 1907. Serial No. 381,472.



1. A ruby pin setter comprising a plate having a guideway and a forked end for the reception of the staff, a manually controlled spring-pressed slide in the said guideway for clamping the ruby pin in place in the plate, and a support for engagement with the roller table and mounted to slide on the said plate in the direction of the length thereof.

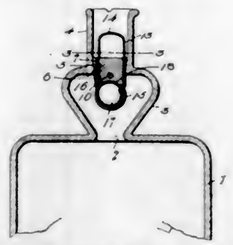
2. A ruby pin setter comprising a plate having a guideway and a forked end for the reception of the staff, a manually controlled spring-pressed slide in the said guideway for clamping the ruby pin in place in the plate, a support for engagement with the roller table and mounted to slide on the said plate in the direction of the length thereof, and means for fastening the said holder in place on the said plate.

3. A ruby pin setter comprising a plate having a guideway and a forked end for the reception of the staff, a manually controlled spring-pressed slide in the said guideway for clamping the ruby pin in place in the plate, and a forked support for engagement with the balance wheel between the roller table and the balance wheel to support the balance, the said support being mounted to slide on the said plate in the direction of the length thereof.

4. A ruby pin setter comprising a plate having a guideway and a forked end for the reception of the staff, a manually controlled spring-pressed slide in the said guideway for clamping the ruby pin in place in the plate, a forked support for engagement with the balance wheel between the roller table and the balance wheel to support the balance, the said support being mounted to slide on the said plate in the direction of the length thereof, and a screw for securing the support in place on the said plate.

5. A ruby pin setter comprising a plate having clamping means for holding the ruby pin in place, a support for the balance, slidable on the said plate and having a forked end for engagement with the roller table between the latter and the balance wheel and means for fixing the support with respect to the plate.

869,810. NON-REFILLABLE BOTTLE. EDWARD L. SOUTHWICK, Mapleton, Minn. Filed Feb. 21, 1907. Serial No. 358,638.



1. A bottle stopper provided with peripheral ducts and with a spring-pressed locking pin, a resilient band combined with the stopper, and a ball held assembled with the stopper by the band.

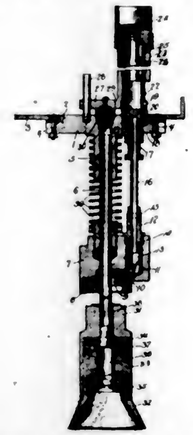
2. A bottle stopper provided at its periphery with ducts, a transversely disposed locking pin carried by the stopper, a ball, and a resilient retaining member carried by the stopper and engaging the ball.

3. A bottle stopper having its lower end provided with a seat and its periphery provided with ducts, in combination with a resilient band, a ball held in the seat by the band.

4. A bottle having a straight and a laterally enlarged neck member, a stopper depressed within the straight member, a spring-pressed locking pin carried by the stopper, a ball, and a resilient band carried by the stopper and retaining the ball and operating upon depression to release the ball.

5. The combination with a bottle having an inverted substantially conical shaped chamber on the top thereof over the outlet opening, and a neck rising from said chamber, of a plug mounted in the neck and upper portion of the chamber and carrying a locking pin, the plug having peripheral grooves and also openings therethrough, a ball valve, a carrying band movably mounted in the plug and normally holding the ball valve against the bottom of the plug, and a stopper removably mounted in the neck and operating when pressed into the latter to release a portion of the band and the ball valve.

869,811. FILLING-MACHINE. FRANK C. H. STRASBURGER, Chicago, Ill., assignor to Bottlers Machinery Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 1, 1906. Serial No. 336,929.



1. The combination with a liquid tank, of a liquid valve, a stationary tube arranged within the tank, an air connection between the tank and the bottle to be filled, said connection comprising an air valve at the bottom of said stationary tube and a movable air tube arranged to unseat said air valve and operating in said stationary tube, a part slidable on said stationary tube and carrying said liquid valve and arranged to be engaged by said air tube after the air valve is opened and moved to unseat said liquid valve, and means for operating said movable tube.

2. The combination with a liquid tank, of a liquid valve, a stationary tube within the tank, an air connection between the tank and the bottle to be filled, said connection comprising an air valve at the bottom of said stationary tube and a movable air tube arranged to unseat said air valve and operating in said stationary tube, a sleeve movably arranged on said stationary tube, a foot on said sleeve carrying the liquid valve, a projection on said sleeve extending downward in the stationary tube to be engaged by the air tube and lifted to unseat the liquid valve after the air valve has been unseated, and means for operating said movable tube.

3. The combination with a liquid tank, of a liquid valve, a stationary tube arranged within the tank, an air connection between the tank and the bottle to be filled, said connection comprising an air valve at the bottom of said stationary tube, a movable air tube arranged to unseat said air valve and operating in said stationary tube, a sleeve slidably arranged on said stationary tube, a foot on the sleeve carrying said liquid valve, a fixed guide for said foot, a rod carried by the sleeve and projecting downward in the stationary tube to be engaged by the movable tube and moved to unseat the liquid valve, and means for operating said movable tube.

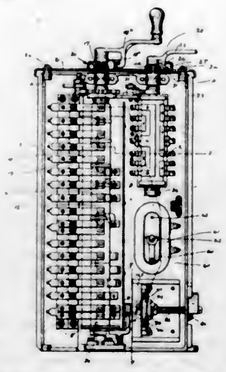
4. The combination with a liquid tank, of a liquid valve, a stationary tube arranged within the tank, an air connection between the tank and the bottle to be filled, said connection comprising an air valve and a movable air tube arranged to unseat said air valve and operating in said stationary tube, a movable part guided on said tube and carrying said liquid valve and arranged to be engaged by said movable tube within the tank and moved to unseat the liquid valve after the air valve has been unseated, a head arranged to be operated by the bottle and provided with an air chamber and an air connection leading therefrom to the bottle, a nipple on said head connected to the air tube and having its lower end arranged in said chamber, a check valve on the lower end of said nipple, and a contracted port in said nipple above the check valve and within said chamber.

5. The combination with a liquid tank, of a liquid valve, a stationary tube within the tank, an air connection between the tank and the bottle to be filled, said connection comprising an air valve at the bottom of said stationary tube and a movable air tube arranged to unseat said air valve and operating in said stationary tube, a sleeve slidably arranged on said stationary tube and provided at its upper end with one or more lateral ports, a foot on said sleeve carrying the liquid valve, a fixed guide for said foot, a rod carried by said sleeve and projecting down in the stationary tube to be engaged by the movable tube to unseat the liquid valve after the air valve has been unseated, and a body carrying all of said parts.

6. In a filling machine, the combination with a liquid tank, of a liquid valve on the tank, a filling tube, a head slidable on the filling tube, means intermediate of said head and valve for opening the valve when the head is raised, and a guide to adjust the mouth of the bottle to receive the tube, said guide comprising a body slidably held on the tube and provided with a seat in its lower end, a flared or bell-shaped member, and an intermediate removable member having a seat in its lower end, said parts being screwed together and constructed so that the intermediate member may be removed and the bell-shaped member screwed directly into the body to adapt the guide for taller bottles.

7. In a filling machine, the combination with a liquid tank, of a liquid valve on the tank, a filling tube, a head slidable on the filling tube, and a guide to adjust the mouth of the bottle to receive the tube, said guide comprising a body slidable on the tube and having an air passage, means on the end of said tube to hold the body thereon, a rubber seat in the lower end of said body, an intermediate member removably secured against said seat in the lower end of the body and provided with an enlarged bore, a seat in the lower end of said intermediate member, and a flared or bell-shaped member removably secured against said seat in the lower end of the intermediate member.

869,812. CONTROLLER. EMMETT W. STULL, Norwood, Ohio, assignor to The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed Aug. 17, 1904. Serial No. 221,027.



1. In a system of motor control, a pair of motors and a motor controller constructed and arranged to connect the

motors first in series, then short circuit part of the field of each motor, then connect each motor in series with part of the field of the other motor so that the armature and remaining field of one motor will be in parallel to the armature and remaining field of the other motor, then connect the motors in parallel.

2. In a system of motor control, the combination with a pair of motors, of a motor controller constructed and arranged to connect the motors in series and parallel relationship by first connecting them in series, then short-circuiting the armature and part of the field of one motor, then connecting each motor in series with part of the field of the other motor with the motor armatures and remaining fields in parallel, then connecting the motors in parallel.

3. In combination, a pair of motors, and a motor controller constructed and arranged to connect the motors in series and parallel by first connecting them in series, then connecting each motor in series with part of the field of the other motor while severing the series connection between the motors, then cutting out the armature and part of the field of one motor, then short-circuiting the remaining field of the last mentioned motor, leaving the other motor connected directly across the line, then connecting the motors in parallel.

4. In a controller, an operating cylinder, a reversing switch, and an interlock between the operating cylinder and the reversing switch comprising a cylindrical apron carried by the controller shaft and provided with an opening in its side, a pivoted lever arm, an end of which is adapted to enter said opening, a cam carried by the reversing switch against which said arm is yieldingly pressed, said cam being constructed to force said lever end into said opening as the reversing switch is moved from one position to another, but to permit said lever to withdraw from said opening when the reversing switch is in its "off" or inoperative position.

5. In a controller, an operating cylinder, a star wheel mounted to rotate with said cylinder, and a spring pressed pawl engaging said star wheel, the periphery of said star wheel being so formed as to offer greater resistance to the spring pressed pawl while passing from notch to notch during the forward movement of the operating cylinder than during the backward movement thereof to obtain an improved snap action between operative positions during forward movement of the cylinder.

6. In a controller, a blow-out magnet having one of its pole-pieces formed of a sheet of magnetic material, a plurality of strips of insulating material mounted on said pole piece to act as arc deflectors, and means for holding said pole piece on the magnet core consisting of positioning pins and a single bolt.

7. In a motor controller, a casing, a blow-out magnet having its core formed integral therewith, a removable pole piece attached to said core, and means for holding said pole piece in position comprising a plurality of positioning pins and a single bolt.

8. In a controller, a blow-out magnet, a pole piece therefor, and means for fastening said pole piece to the core of said magnet comprising positioning pins and a bolt, the whole being so arranged that the pole piece will be held in a definite position on the core, but may be readily removed therefrom by the removal of a single bolt.

9. In a controller, a blow-out magnet, a plate of magnetic material forming one of the pole pieces for said magnet, arc deflectors carried by said plate formed of strips of insulating material mounted on rods passing therethrough and separated from each other the proper distance by sleeves of insulating material mounted on said rods, and means for fastening said rods to said plate.

10. In a controller, an arc deflector formed of strips of insulating material, rods upon which said strips are mounted, sleeves of insulating material on said rods acting as separating pieces for said strips, a supporting plate, and means for fastening said rods to said plate.

11. In a controller, a magnet pole piece, and an arc deflector carried by said pole piece formed of strips of insulating material mounted on rods passing therethrough, said strips being separated from each other the required distance by sleeves of insulating material mounted on said rods, the latter being held in position on said pole piece by readily removable blocks through which said supporting rods pass.

12. In a series parallel controller, a single rotatable cut-out switch adapted to cut out of circuit one or more of the motors controlled by the controller and connect the remaining motor or motors in circuit so as to be controlled rheostatically and means for controlling the motors rheostatically.

13. In combination, a plurality of motors, a controller for controlling said motors rheostatically and in series and parallel combinations, a single rotatable cut-out switch for cutting out of circuit one or more of said motors and for connecting the remaining motor or motors in circuit so as to be controlled by said controller rheostatically only.

14. In combination, a pair of motors, a series-parallel controller therefor, and a rotatable cut-out switch which when in a certain position cuts one motor out of circuit and connects the remaining motor in circuit to be controlled rheostatically by said controller, and when in another position cuts out the second motor and connects the first to be controlled rheostatically.

15. In combination, a pair of motors, a series parallel controller therefor, and a rotatable cut-out switch which when in a certain position cuts one motor out of circuit and connects the remaining motor in circuit to be controlled rheostatically by said controller, and when in another position cuts out the second motor and connects the first to be controlled rheostatically, and a mechanical interlock between said series parallel controller and said cut-out switch operating to prevent the controller from moving past its series positions when the cut-out switch is in either of said cut-out positions.

16. In combination, a plurality of motors, a controller for controlling said motors rheostatically and in series and parallel combinations, a single rotatable cut-out switch for cutting out of circuit one or more of said motors and connecting the remaining motor or motors in circuit so as to be controlled rheostatically only, and a mechanical interlock for preventing the controller moving beyond a predetermined position when the cut out switch is moved to cut out any motor.

17. In a motor controller, a reversing switch, the shaft of which has an irregularly shaped end, a handle adapted to fit said shaft end, a hooked lug on said handle, a notched flange with which said lug is adapted to co-act, a cut-out switch having its shaft end shaped similarly to the reversing switch shaft end and provided with a similar notched flange, the whole being so constructed and arranged that when the reversing switch is in its "off" position, the handle may be removed therefrom and employed to operate the cut-out switch.

18. In combination, a pair of motors, and means for connecting said motors in series and parallel relationship which includes means for accomplishing the intermediate step of connecting each motor in series with a field winding and not with the armature of the other motor.

19. In a system of motor control, a pair of motors and a motor controller constructed and arranged to connect the motors first in series, then connect each motor in series with but part of the field and not the armature of the other motor, and then connect the motors in parallel.

20. In a controller, an operating cylinder, a reversing switch, and an interlock between the operating cylinder and the reversing switch so constructed and arranged as to prevent movement of the operating cylinder as the reversing switch is moved from one position to another but to permit such movement when the reversing switch is in its "off" or inoperative position.

21. In a controller, an operating cylinder, a reversing switch, and an interlock between the two, said interlock being constructed and arranged to prevent movement of the reversing switch save when the operating cylinder is in "off" position, and to permit movement of the operating cylinder when the reversing switch is in either its "ahead," "back" or "off" position while preventing such movement when the reversing switch is not in one of such positions.

869,813. HAME-TUG. ALBERT E. SUTTON, Elkins, W. Va., assignor of one-half to John R. Sutton, Beverly, W. Va. Filed Feb. 2, 1907. Serial No. 355,466.



1. A hame tug comprising a flexible leather section, a pair of links hingedly connected together, an eye riveted to the front link and said section, a hook movably attached to the rear end of the said section, and a cushioning device between the hook and rear link.

2. A hame tug comprising a leather member, links disposed along one side of the said member and having open body portions, strips arranged on the said member to extend through the open portion of the links and cooperating with the said member to receive parts of the harness, a fastening device at the rear end of the member, and a cushioning means between the said device and rear link.

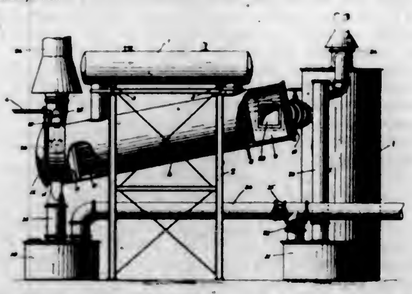
3. A hame tug comprising a flexible member having a looped end, a hook, a member extending through the loop for securing the hook to the flexible member, a structure extending along the flexible member to receive the draft, and a cushioning device between the hook and said structure.

4. A hame tug comprising a flexible member having a loop at one end, an attachment device for attaching the tug to the vehicle to be drawn, a bolt on the device extending through the loop of the said member, a laterally extending frame connected with the said device, a structure extending along the said member for receiving the draft, means for connecting the said structure to the flexible member at the front end only, a compression spring on the said structure, and an adjustable connection between the spring and frame for cushioning the relative movement between the attachment device and said structure.

5. In a device of the class described, the combination of a hook, a laterally extending frame connected therewith, an open link, a helical compression spring arranged within the link, a bolt flexibly connecting the link and frame and extending through the spring, and means on the bolt forming an adjustable abutment for varying the tension of the spring.

6. In a device of the class described, the combination of a hook, a laterally extending frame connected therewith, an open link, a helical compression spring arranged within the link, and a bolt flexibly connecting the link and frame and connected with the spring for elastically connecting the hook with the link.

869,814. WATER-GAS APPARATUS. JOHN H. TAUSSIG, Philadelphia, Pa., assignor to The United Gas Improvement Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Aug. 6, 1906. Serial No. 329,378.



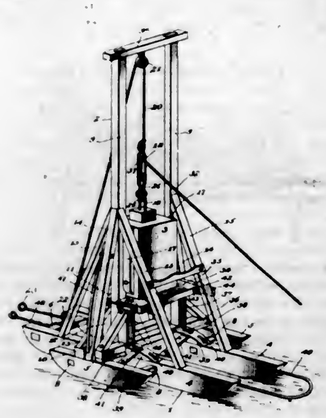
1. The combination of a boiler, the fixing chamber of a water gas apparatus provided with eduction connections for illuminating and blast gases which eduction connections by-pass the boiler structure, a connection for conveying either gas into the boiler structure, and eduction connections from the boiler structure for each kind of gas, whereby either or both gases can be passed through the boiler or excluded from the entire boiler structure without interfering with the operation of the gas apparatus.

2. The combination of a water gas apparatus, tubes through which gases pass and which are inclined for the eduction of tarry deposits, a boiler shell filled with said tubes and provided with an elevated communicating steam drum adapted to contain water and thereby insure complete immersion of the tubes and prevent their burning by the incoming gases, and means for leading either blast gas or illuminating gas or both from the apparatus through the tubes from the higher to the lower end thereof, whereby tarry deposits from the illuminating gas flow to the eduction end of the boiler thus preventing coking and obstruction, substantially as described.

3. The combination of the fixing chamber, a boiler, and a sectional passage interposed between the two and whereof some of the sections are wedge shaped and detachable, substantially as described.

4. The combination of a water gas apparatus, an inclined fire tube boiler of which all parts of all the tubes are arranged below the water level and the inclination of the boiler permitting of the escape of steam from the upper tube sheet thereof without the formation of steam pockets which if present would permit of the burning of the ends of the tubes, and means for leading either blast gas or illuminating gas or both from the apparatus through the tubes from the higher to the lower end thereof, whereby tarry deposit from the illuminating gas flows to the eduction end of the boiler thus preventing coking and obstruction, substantially as described.

869,815. POST-DRIVING MACHINE. WILLIAM W. TURNER, Sunlight, Mo. Filed Apr. 25, 1907. Serial No. 370,296.



1. A machine of the character described comprising a base, uprights projecting therefrom, a hammer slidable between said uprights, adjustably mounted stops, a post holder arranged upon one side of said uprights and engaged with said stops and an adjustable and detachable fastening means for retaining said holder in engagement with said stops.

2. A machine of the character described comprising a base, uprights projecting therefrom, a hammer slidable between said uprights, adjustably mounted stops, a post holder arranged upon one side of said uprights and engaged with said stops, and an adjustable hook and eye connection between said cross bar and said holder.

motors first in series, then short circuit part of the field of each motor, then connect each motor in series with part of the field of the other motor so that the armature and remaining field of one motor will be in parallel to the armature and remaining field of the other motor, then connect the motors in parallel.

2. In a system of motor control, the combination with a pair of motors, of a motor controller constructed and arranged to connect the motors in series and parallel relationship by first connecting them in series, then short-circuiting the armature and part of the field of one motor, then connecting each motor in series with part of the field of the other motor with the motor armatures and remaining fields in parallel, then connecting the motors in parallel.

3. In combination, a pair of motors, and a motor controller constructed and arranged to connect the motors in series and parallel by first connecting them in series, then connecting each motor in series with part of the field of the other motor while severing the series connection between the motors, then cutting out the armature and part of the field of one motor, then short-circuiting the remaining field of the last mentioned motor, leaving the other motor connected directly across the line, then connecting the motors in parallel.

4. In a controller, an operating cylinder, a reversing switch, and an interlock between the operating cylinder and the reversing switch comprising a cylindrical apron carried by the controller shaft and provided with an opening in its side, a pivoted lever arm, an end of which is adapted to enter said opening, a cam carried by the reversing switch against which said arm is yieldingly pressed, said cam being constructed to force said lever end into said opening as the reversing switch is moved from one position to another, but to permit said lever to withdraw from said opening when the reversing switch is in its "off" or inoperative position.

5. In a controller, an operating cylinder, a star wheel mounted to rotate with said cylinder, and a spring pressed pawl engaging said star wheel, the periphery of said star wheel being so formed as to offer greater resistance to the spring pressed pawl while passing from notch to notch during the forward movement of the operating cylinder than during the backward movement thereof to obtain an improved snap action between operative positions during forward movement of the cylinder.

6. In a controller, a blow-out magnet having one of its pole-pieces formed of a sheet of magnetic material, a plurality of strips of insulating material mounted on said pole piece to act as arc deflectors, and means for holding said pole piece on the magnet core consisting of positioning pins and a single bolt.

7. In a motor controller, a casing, a blow-out magnet having its core formed integral therewith, a removable pole piece attached to said core, and means for holding said pole piece in position comprising a plurality of positioning pins and a single bolt.

8. In a controller, a blow-out magnet, a pole piece therefor, and means for fastening said pole piece to the core of said magnet comprising positioning pins and a bolt, the whole being so arranged that the pole piece will be held in a definite position on the core, but may be readily removed therefrom by the removal of a single bolt.

9. In a controller, a blow-out magnet, a plate of magnetic material forming one of the pole pieces for said magnet, arc deflectors carried by said plate formed of strips of insulating material mounted on rods passing therethrough and separated from each other the proper distance by sleeves of insulating material mounted on said rods, and means for fastening said rods to said plate.

10. In a controller, an arc deflector formed of strips of insulating material, rods upon which said strips are mounted, sleeves of insulating material on said rods acting as separating pieces for said strips, a supporting plate, and means for fastening said rods to said plate.

11. In a controller, a magnet pole piece, and an arc deflector carried by said pole piece formed of strips of insulating material mounted on rods passing therethrough, said strips being separated from each other the required distance by sleeves of insulating material mounted on said rods, the latter being held in position on said pole piece by readily removable blocks through which said supporting rods pass.

12. In a series parallel controller, a single rotatable cut-out switch adapted to cut out of circuit one or more of the motors controlled by the controller and connect the remaining motor or motors in circuit so as to be controlled rheostatically and means for controlling the motors rheostatically.

13. In combination, a plurality of motors, a controller for controlling said motors rheostatically and in series and parallel combinations, a single rotatable cut-out switch for cutting out of circuit one or more of said motors and for connecting the remaining motor or motors in circuit so as to be controlled by said controller rheostatically only.

14. In combination, a pair of motors, a series-parallel controller therefor, and a rotatable cut-out switch which when in a certain position cuts one motor out of circuit and connects the remaining motor in circuit to be controlled rheostatically by said controller, and when in another position cuts out the second motor and connects the first to be controlled rheostatically.

15. In combination, a pair of motors, a series parallel controller therefor, and a rotatable cut-out switch which when in a certain position cuts one motor out of circuit and connects the remaining motor in circuit to be controlled rheostatically by said controller, and when in another position cuts out the second motor and connects the first to be controlled rheostatically, and a mechanical interlock between said series parallel controller and said cut-out switch operating to prevent the controller from moving past its series positions when the cut-out switch is in either of said cut-out positions.

16. In combination, a plurality of motors, a controller for controlling said motors rheostatically and in series and parallel combinations, a single rotatable cut-out switch for cutting out of circuit one or more of said motors and connecting the remaining motor or motors in circuit so as to be controlled rheostatically only, and a mechanical interlock for preventing the controller moving beyond a predetermined position when the cut out switch is moved to cut out any motor.

17. In a motor controller, a reversing switch, the shaft of which has an irregularly shaped end, a handle adapted to fit said shaft end, a hooked lug on said handle, a notched flange with which said lug is adapted to co-act, a cut-out switch having its shaft end shaped similarly to the reversing switch shaft end and provided with a similar notched flange, the whole being so constructed and arranged that when the reversing switch is in its "off" position, the handle may be removed therefrom and employed to operate the cut-out switch.

18. In combination, a pair of motors, and means for connecting said motors in series and parallel relationship which includes means for accomplishing the intermediate step of connecting each motor in series with a field winding and not with the armature of the other motor.

19. In a system of motor control, a pair of motors and a motor controller constructed and arranged to connect the motors first in series, then connect each motor in series with but part of the field and not the armature of the other motor, and then connect the motors in parallel.

20. In a controller, an operating cylinder, a reversing switch, and an interlock between the operating cylinder and the reversing switch so constructed and arranged as to prevent movement of the operating cylinder as the reversing switch is moved from one position to another but to permit such movement when the reversing switch is in its "off" or inoperative position.

21. In a controller, an operating cylinder, a reversing switch, and an interlock between the two, said interlock being constructed and arranged to prevent movement of the reversing switch save when the operating cylinder is in "off" position, and to permit movement of the operating cylinder when the reversing switch is in either its "ahead," "back" or "off" position while preventing such movement when the reversing switch is not in one of such positions.

869,813. HAME-TUG. ALBERT E. SUTTON, Elkins, W. Va., assignor of one-half to John R. Sutton, Beverly, W. Va. Filed Feb. 2, 1907. Serial No. 355,466.



1. A hame tug comprising a flexible leather section, a pair of links hingedly connected together, an eye riveted to the front link and said section, a hook movably attached to the rear end of the said section, and a cushioning device between the hook and rear link.

2. A hame tug comprising a leather member, links disposed along one side of the said member and having open body portions, strips arranged on the said member to extend through the open portion of the links and cooperating with the said member to receive parts of the harness, a fastening device at the rear end of the member, and a cushioning means between the said device and rear link.

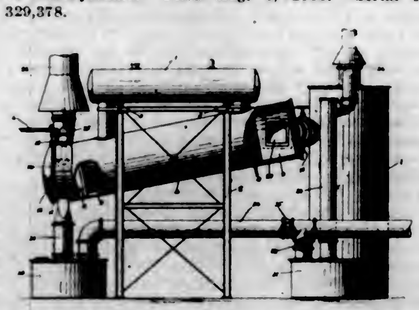
3. A hame tug comprising a flexible member having a looped end, a hook, a member extending through the loop for securing the hook to the flexible member, a structure extending along the flexible member to receive the draft, and a cushioning device between the hook and said structure.

4. A hame tug comprising a flexible member having a loop at one end, an attachment device for attaching the tug to the vehicle to be drawn, a bolt on the device extending through the loop of the said member, a laterally extending frame connected with the said device, a structure extending along the said member for receiving the draft, means for connecting the said structure to the flexible member at the front end only, a compression spring on the said structure, and an adjustable connection between the spring and frame for cushioning the relative movement between the attachment device and said structure.

5. In a device of the class described, the combination of a hook, a laterally extending frame connected therewith, an open link, a helical compression spring arranged within the link, a bolt flexibly connecting the link and frame and extending through the spring, and means on the bolt forming an adjustable abutment for varying the tension of the spring.

6. In a device of the class described, the combination of a hook, a laterally extending frame connected therewith, an open link, a helical compression spring arranged within the link, and a bolt flexibly connecting the link and frame and connected with the spring for elastically connecting the hook with the link.

869,814. WATER-GAS APPARATUS. JOHN H. TAUSSIG, Philadelphia, Pa., assignor to The United Gas Improvement Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Aug. 6, 1906. Serial No. 329,378.



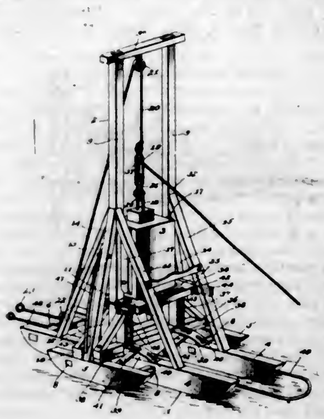
1. The combination of a boiler, the fixing chamber of a water gas apparatus provided with eduction connections for illuminating and blast gases which eduction connections by-pass the boiler structure, a connection for conveying either gas into the boiler structure, and eduction connections from the boiler structure for each kind of gas, whereby either or both gases can be passed through the boiler or excluded from the entire boiler structure without interfering with the operation of the gas apparatus.

2. The combination of a water gas apparatus, tubes through which gases pass and which are inclined for the eduction of tarry deposits, a boiler shell filled with said tubes and provided with an elevated communicating steam drum adapted to contain water and thereby insure complete immersion of the tubes and prevent their burning by the incoming gases, and means for leading either blast gas or illuminating gas or both from the apparatus through the tubes from the higher to the lower end thereof, whereby tarry deposits from the illuminating gas flow to the eduction end of the boiler thus preventing coking and obstruction, substantially as described.

3. The combination of the fixing chamber, a boiler, and a sectional passage interposed between the two and whereof some of the sections are wedge shaped and detachable, substantially as described.

4. The combination of a water gas apparatus, an inclined fire tube boiler of which all parts of all the tubes are arranged below the water level and the inclination of the boiler permitting of the escape of steam from the upper tube sheet thereof without the formation of steam pockets which if present would permit of the burning of the ends of the tubes, and means for leading either blast gas or illuminating gas or both from the apparatus through the tubes from the higher to the lower end thereof, whereby tarry deposit from the illuminating gas flows to the eduction end of the boiler thus preventing coking and obstruction, substantially as described.

869,815. POST-DRIVING MACHINE. WILLIAM W. TURNER, Sunlight, Mo. Filed Apr. 25, 1907. Serial No. 370,296.



1. A machine of the character described comprising a base, uprights projecting therefrom, a hammer slidable between said uprights, adjustably mounted stops, a post holder arranged upon one side of said uprights and engaged with said stops and an adjustable and detachable fastening means for retaining said holder in engagement with said stops.

2. A machine of the character described comprising a base, uprights projecting therefrom, a hammer slidable between said uprights, adjustably mounted stops, a post holder arranged upon one side of said uprights and engaged with said stops, and an adjustable hook and eye connection between said cross bar and said holder.

3. A machine of the character described comprising a base having runners, uprights projecting therefrom, a hammer slidable between said uprights, a cross bar connecting said uprights upon one side, adjustable stops arranged upon the other side of said uprights and a post holding member slidably engaged with said stops.

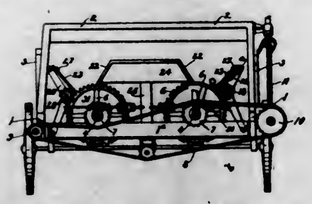
4. A machine of the character described comprising a base having runners, uprights projecting therefrom, a hammer slidable between said uprights, a cross bar connecting said uprights upon one side, slidably and adjustably mounted guide and stop blocks arranged upon the opposite side of said uprights, a transversely slidable post holding frame engaged with said blocks and an adjustable hook and eye connection for retaining said frame against movement.

5. A machine of the character described comprising a base having runners, uprights projecting therefrom, a hammer slidable between said uprights, a cross bar connecting said uprights upon one side, slidably and adjustably mounted guide and stop blocks arranged on the opposite side of said uprights, a transversely slidable post holding frame engaged with said blocks and an adjustable connection for retaining said frame against movement.

6. A trip device for a hoisting machine comprising a main section, a hook pivoted thereon, and a keeper having limited sliding movement upon said main section and a loop surrounding the same and adapted to engage said hook.

7. A trip device for a hoisting machine comprising a main section having spaced side bars, a stop connecting said side bars and a guide above said stop, a hook pivoted at the lower end of said main section, a keeper slidable upon said main section and adapted to engage said stop, said keeper having at its lower end a loop to receive said hook and a flexible element attached to said keeper and engaged with said guide.

869,816. VEGETABLE-TOPPING MACHINE. ARBA E. VROOMAN, Palmesville, Ohio. Original application filed Nov. 3, 1902, Serial No. 129,833. Divided and this application filed May 10, 1906. Serial No. 316,108.



1. In a machine for topping vegetables, the combination with a revoluble feeding-cylinder, and a revoluble cutting-bar; of a side wall pivotally mounted and having its lower or free edge above the meeting perimeters of said feeding-cylinder and cutting-bar, arms for supporting said side wall and cutting-bar, and means carried by said arms whereby the free edge of said side wall may be moved vertically and transversely to and from said revoluble feeding-cylinder and cutting-bar.

2. A vegetable-topping-machine, comprising an inclined revoluble feeding-cylinder, a revoluble cutting-bar, a pair of pivotally-mounted spring-resisted angled supporting-arms having their angled portions extending toward said feeding-cylinder and provided with bearings carrying said revoluble cutting-bar, a pair of blocks pivotally attached at one end to the free ends of said supporting-arms, a side wall slidably and adjustably-secured to said pair of blocks carried by said supporting-arms and having its lower or free edge above the meeting perimeters of said feeding-cylinder and cutting-bar, and means carried by said blocks whereby said side wall may be moved to and from said revoluble feeding-cylinder.

3. In a machine for topping vegetables, the combination with a stationary revoluble feeding-cylinder and a revoluble cutting-roll movably yieldingly mounted against said feeding-cylinder; of a stationary side wall or board mounted above said feeding cylinder, a movable side wall or board adjustably mounted with said cutting-roll and forming with said stationary side wall a vegetable supporting-trough, and collars, of less diameter than the cutting-edge diameter of said cutting-roll, for imparting a simultaneous vibratory motion to said cutting-roll and said movable side wall or board as said cutting edges are thrown into and out of engagement with said feeding-cylinder.

4. In a vegetable-topping machine, the combination with a revoluble feeding-cylinder, and a pair of pivotally-mounted spring-resisted bell-crank supporting-arms having their angled portions extending toward said feeding-cylinder and carrying a revoluble cutting-roll; of a pair of supporting-blocks pivotally attached to the free ends of said supporting arms, a side wall carried by said supporting-blocks and adjustably-secured thereto by means of adjusting-bolts passing through slots in said side wall and into said blocks, and adjusting-bolts mounted in said supporting-arms and resting against said side wall by means of which the free edge of the same may be moved to and from said cutting-roll.

5. In a machine for topping vegetables, the combination with an inclined revoluble feeding-cylinder and cutting-bar; of a side wall parallel to said feeding-cylinder and having its lower edge supported above the meeting perimeters of said feeding-cylinder and cutting-bar, supporting-arms suitably mounted and carrying said cutting-bar and said side wall, and adjusting-bolts carried by said supporting-arms whereby the lower edge of said side wall may be moved laterally to and from said feeding-cylinder and cutting-bar.

6. In a vegetable-topping-machine, the combination with a revoluble feeding-cylinder; of a cutting-bar and side wall yieldingly mounted parallel and in close proximity to said revoluble feeding-cylinder, means whereby the lower edge of said side wall may be moved vertically and laterally to and from said feeding cylinder and cutting-bar, and collars for transforming the ends of said cutting-bar to a round form.

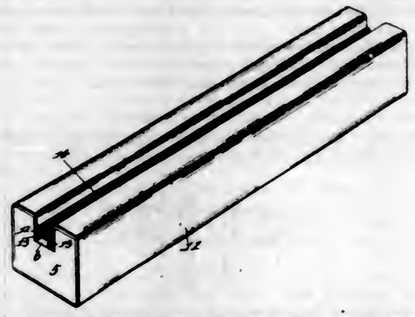
7. In a vegetable-topping-machine, the combination with an inclined revoluble feeding-cylinder and a stationary side wall; of a movable cutting-bar and side wall yieldingly mounted parallel to said feeding-cylinder, bell-crank supporting-arms suitably mounted and carrying said cutting-bar and side wall, and means carried by said supporting-arms whereby the lower edge of said side wall may be moved vertically and laterally to and from said feeding-cylinder.

8. In a vegetable-topping-machine, a pair of pivotally-mounted spring-resisted angled supporting-arms having their angled portions extending towards the feeding-cylinder and provided with bearings carrying a revoluble cutting-bar, a movable side board secured to the free ends of said supporting-arms, and means carried by said supporting-arms whereby the free edge of said side board may be moved to and from said cutting-bar.

9. In a vegetable-topping-machine, the combination with a frame, and an inclined feeding-cylinder; of a cutting-roll, and a pair of spring-resisted bell-crank arms provided with bearings at their intermediate portions for the ends of said cutting-roll, one of the arms of said bell-cranks extending outwardly and downwardly from said feeding-cylinder and being pivotally mounted, and the other extending upwardly and outwardly and carrying a pivotally-mounted similarly-inclined side wall having its free end adjustably-mounted above the meeting perimeters of said feeding-cylinder and cutting-roll.

10. In a vegetable-topping-machine, the combination with an inclined feeding-cylinder mounted on a suitable frame; of a similarly-inclined cutting-bar engaging said cylinder, and a pair of spring-resisted bell-cranks provided with bearings for said cutting-bar, one of the arms of said bell-cranks leading downwardly and outwardly from said feeding-cylinder and cutting-bar and pivotally-secured to said frame and the other or free end being inclined outwardly and upwardly and carrying a similarly inclined adjustably-mounted side board.

869,817. BLACKBOARD-CLEANER. FRANCIS W. WADE, East St. Louis, Ill. Filed Feb. 19, 1907. Serial No. 358,309.

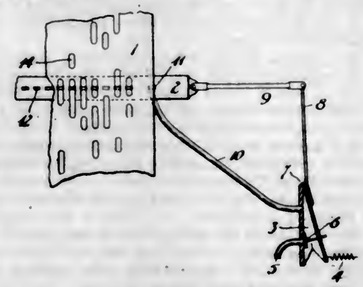


1. A device for cleaning blackboards, comprising an elongated grooved block, a covering located around the block, spindles secured to the ends of the covering, and a plate contacting with the spindles for tightening the cover around the block, substantially as specified.

2. A device for cleaning blackboards, comprising a block, a covering located around the block, the ends of said covering provided with loops, spindles placed in said loops, a plate secured to said block by screws, and brought in contact with the spindles to tightly retain the covering in position and so arranged as to provide four contacting surfaces to the cleaner, substantially as specified.

3. A device for cleaning blackboards, comprising an elongated block provided with a groove, plates located in said groove in which operate adjusting screws, a covering located around the four sides of the block, the ends of said covering provided with loops, spindles located in the loops, said spindles together with the loops of the covering located in the groove of the block, a plate held by adjusting screws contacting with the spindles and covering for tightly retaining the cover in position around the four surfaces of the block, substantially as specified.

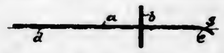
869,818. AUTOPNEUMATIC MUSIC-PLAYING INSTRUMENT. WILLIAM A. WATSON, Medford, Mass., assignor to Emerson Piano Company, Boston, Mass., a Corporation of Massachusetts. Filed Mar. 21, 1907. Serial No. 363,536.



1. In an auto-pneumatic music playing instrument, a tracker board having ducts therein, a perforated note sheet arranged to traverse said tracker board, means to preserve the relative alinement of the perforations in the said sheet and tracker board to compensate for the swelling and shrinking of said note sheet, said means including a pneumatic operatively connected with one end of the tracker board, a duct in the tracker board adjacent to the margin of the note sheet, an exhaust extending through said pneumatic and to said last mentioned duct, and a throttle for said exhaust controlled by said pneumatic.

2. In an auto-pneumatic music playing instrument, a tracker board having ducts therein, a perforated note sheet arranged to traverse said tracker board, means to preserve the relative alinement of the perforations in the said sheet and tracker board to compensate for the swelling and shrinking of said note sheet, said means including a pneumatic operatively connected with one end of the tracker board, a duct in the tracker board adjacent to the margin of the note sheet, an exhaust extending through said pneumatic and to said last mentioned duct, and a throttle for said exhaust controlled by said pneumatic, said note sheet partially but never completely closing said last mentioned duct.

869,819. FALLER FOR STOP-MOTION MECHANISM FOR LOOMS. JOSEPH B. WHITNEY and FREDERIC ECAUBERT, New York, N. Y., assignors, by direct and mesne assignments, to Textile Appliance Co., Paterson, N. J., a Corporation of New Jersey. Filed Feb. 14, 1906. Serial No. 300,958.



1. A pivoted faller for stop motion mechanisms for textile machinery having a thread aperture and having the portion of the material thereof at and including one side of the aperture bent to stand in a different plane from the plane of the remainder of the faller, the line of bend extending transversely of the thread line and being relatively greater in length than the coinciding dimension of the aperture, substantially as described.

2. A pivoted faller for stop motion mechanisms for textile machinery having a thread aperture and having the portion of the material thereof at and including one side of the aperture bent to stand in a different plane from the plane of the remainder of the faller, the line of bend extending transversely of the thread line and substantially entirely across the faller, substantially as described.

3. A pivoted faller for stop motion mechanisms for textile machinery having the portion of the material thereof at and including one side of the aperture bent to stand in a different plane from the plane of the remainder of the faller, the line of bend extending at a rearward upward incline to the thread line, substantially as described.

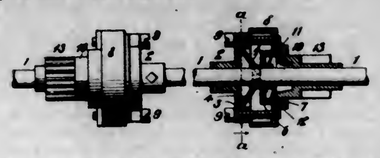
4. A pivoted faller for stop motion mechanisms for textile machinery having its thread eyelet located in its relatively upper end portion and having the portion of the material at and including one side of said aperture bent to stand in a different plane from the plane of the remainder of the faller, the line of bend extending transversely of the thread line and being relatively greater in length than the coinciding dimension of the aperture, substantially as described.

5. A faller for stop motion mechanisms for textile machinery having its thread aperture located near the junction of the thread line and one edge of the faller, whereby to present a broad thread bearing surface on each face of the faller at one side of the aperture, said faller having the material thereof at and including one side of the aperture bent to stand in a different plane from the plane of the remainder of the faller and the line of bend extending transversely of the thread line and being relatively greater in length than the coinciding dimension of said aperture, substantially as described.

869,820. POWER-TRANSMITTING DEVICE. EDWIN WINANS, New York, N. Y., assignor to Y-Nan-S Trendle Co., New York, N. Y. Filed Mar. 18, 1907. Serial No. 362,919.

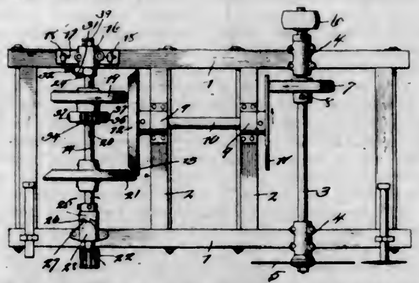
1. A power-transmitting device in which is comprised a shaft to be driven; a hub fixed to said shaft and having an annular projection at one side; a plurality of leaves loosely held within the annular projection at an angle to the shaft to be driven; a power-applying device loosely mounted on said shaft, and means, controlled by the power-applying device, for applying pressure to the edges of the leaves next to the shaft, whereby all the parts are

locked together and caused to move in unison, substantially as shown and described.



2. In a device of the character herein specified, a shaft to be driven; a hub fixed to said shaft and having an annular projection at its side; a plurality of leaves loosely held between the annular projection and the shaft at an angle thereto; a bearing for the inner edges of the leaves, provided with beveled projections on its face opposite to the leaves, and a power-applying device loosely mounted upon the shaft and having beveled projections on its face, the whole combined and arranged to operate substantially as shown and described.

869,821. SAWMILL-FEED. ROBERT L. WOODRUFF, Winder, Ga., assignor to Woodruff Hardware & Manufacturing Company, Winder, Ga. Filed Apr. 8, 1907. Serial No. 367,023.



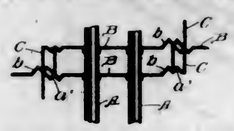
1. A sawmill feed comprising a main mandrel and friction pulley thereon, an intermediate shaft, a disk thereon engaged by the pulley on the mandrel, a bevel edged disk on the opposite end of the intermediate shaft, a movable mandrel, a fixed bevel edge disk thereon and a relatively slidable friction pulley thereon, cam mechanism for shifting the movable mandrel longitudinally, and means for causing engagement of the clutch members to shift the shaft longitudinally to cause engagement of the bevel edge friction disks, said means also serving to cause engagement of the movable friction pulley with the friction bevel edged pulley on the intermediate shaft.

2. The combination with a driving bevel edge disk, of a laterally movable shaft, a relatively slidable friction pulley thereon and a fixed bevel edge disk thereon, a rock lever fulcrumed to shift the shaft laterally, cam members operated by said rock motion to shift the shaft longitudinally and cause engagement of the bevel edges of the friction disks, an operating lever pivoted to the rock lever to shift the slidable friction pulley on the shaft, said lever serving likewise to rock the rock lever.

3. The combination with a main mandrel, driven mandrel and frictional connecting elements between the same, speed changing and reversing elements on the driven mandrel, a rock lever pivoted to shift one end of the driven mandrel laterally to cause operative engagement of the speed changing element thereon, an operating lever pivoted to the rock lever and connected to the speed changing element to shift the same, the rock lever adapted when actuated in one direction to exert longitudinal thrust on the driving mandrel, thereby shifting the same to cause operative engagement of the reversing element thereon.

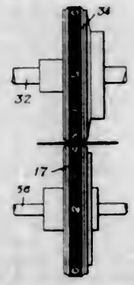
4. The combination with a driven mandrel and a driving element, a relatively slidable speed changing frictional element on said mandrel and a fixed reversing element thereon, of a rock lever adapted to shift the mandrel to cause operative engagement of the speed changing element with the driving element, an operating lever for the rock lever adapted to regulate the position of the speed changing element on the mandrel, and cam mechanism operating in conjunction with the rock lever to cause longitudinal movement of the mandrel and operative engagement of the reversing element with the driving element when the rock lever is moved a certain way.

869,822. RADIATOR. CHRISTOPHER WRIGHT, Chicago, Ill. Filed Apr. 16, 1906. Serial No. 311,933.



A radiator having a plurality of radiating tubes, a plurality of radiating plates sleeved onto said tubes in a plurality of horizontal series, each plate embracing a plurality of said tubes and the plates of the several series being staggered, each plate being provided with flanges and grooves, the edges of the flanges of the plates of each series being in engagement with the grooves of the plates of the adjacent series.

869,823. METHOD OF PROTECTING COMMERCIAL PAPER. EDWIN E. ANGELL, Boston, Mass. Filed Apr. 4, 1907. Serial No. 366,437.



1. The method of protecting commercial paper, which consists in stretching or breaking the fibers of the entire field of the paper surrounding areas having the form of conventional characters.

2. The method of protecting commercial paper, which consists in destroying the continuity of the surface of the paper on all sides of areas having the form of conventional characters, which are left intact, said destruction including the entire field between the characters.

3. The method of protecting commercial paper, which consists in distorting the surface of the entire field of the paper surrounding blank areas having the form of conventional characters, while leaving all the particles of the paper attached to the sheet.

4. The method of protecting commercial paper, which consists in weakening, without removing, the entire field of the paper immediately surrounding blank portions in the form of conventional characters.

5. The method of protecting commercial paper, which consists in weakening, without removing, the entire field of the paper immediately surrounding blank portions in the form of conventional characters, and depositing ink on the weakened portions of the paper.

6. The method of protecting commercial paper by forcing ink into, and simultaneously distorting and weakening, the entire field of the paper on all sides of a portion thereof, having the form of a conventional character, which is left smooth and clear.

7. The method of protecting commercial paper, consisting in corrugating the paper to form alternate ridges and depressions, interrupting the ridges and depressions to leave blank smooth intermediate spaces shaped as conventional characters, the said ridges and depressions occupying the entire field between characters, and inking the bottoms of the depressions.

8. The method of protecting commercial paper, consisting in pressing the paper between printing plates having alternately opposed sharp ridges and depressions, one or both of said plates having recesses shaped as conventional characters or the reverse of characters, the said ridges and depressions occupying the entire field between the characters, and forcing ink into the paper by means of such ridges.

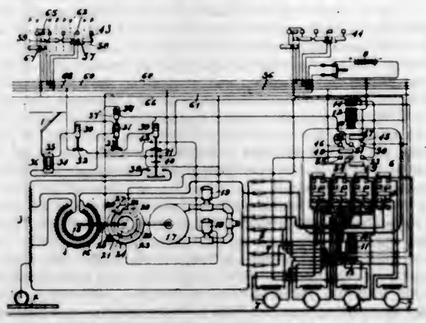
9. The method of protecting commercial paper which consists in forming a character out of the original paper by destroying the continuity of the paper, but without removing the same, immediately and entirely aronnd the character.

10. Commercial paper having smooth blank areas shaped as conventional characters, the entire field between the characters being occupied by weakened and distorted portions of the paper.

11. Commercial paper having smooth blank areas shaped as conventional characters, the entire surface of the paper between and surrounding said areas being inked and the fibers thereof stretched and weakened.

12. Commercial paper having smooth blank areas shaped as conventional characters having surrounding portions and the entire intermediate field corrugated to form alternating ridges and depressions, said ridges and depressions terminating at the edges of the said spaces.

869,824. CONTROL SYSTEM. LOUIS M. ASPINWALL, Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Jan. 3, 1905. Serial No. 239,519.



1. In a system of control, the combination with main and auxiliary circuits a translating device, a reversing switch provided with means for moving it to and holding it in an "off" position, and a circuit-breaker located in the main circuit, of means for preventing the reversing switch from returning to its "off" position until the circuit-breaker has opened.

2. In a system of control, the combination with main and auxiliary circuits a translating device, a reversing switch provided with means for moving it to and holding it in an "off" position, and a circuit-breaker located in the main circuit, of means controlled by the circuit-breaker for preventing the reversing switch from returning to its "off" position until the circuit-breaker has opened.

3. In a system of control, the combination with a translating device, a reversing switch, and a circuit-breaker, of operating and retaining magnet windings for said reversing switch, and an interlocking switch operated by the reversing switch which controls the circuits to the retaining magnet windings.

4. In a system of control, the combination with a translating device, a reversing switch, and a circuit-breaker, of operating and retaining magnet windings for said reversing switch, and an interlocking switch operated by the circuit-breaker which controls the circuits to the retaining magnet windings.

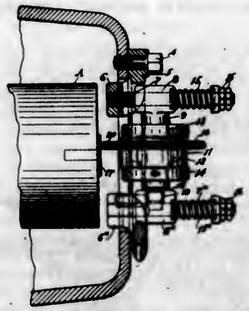
5. In a system of control, the combination with a translating device, a reversing switch, and a circuit-breaker, of operating and retaining magnet windings for said reversing switch, an interlocking switch operated by the reversing switch for preventing energization of the retaining magnet winding until the reversing switch has been thrown to its forward or to its reverse position, and an interlocking switch operated by the reversing switch for preventing deënergization of the retaining magnet windings until the circuit-breaker has opened.

6. The combination with a translating device and a circuit-breaker located in the circuit thereof, of a reversing switch, means for retaining the reversing switch in normal open-circuit position, means for moving the reversing switch to either its forward or its reverse operating position, and means for holding it in said operating position that is governed by the circuit-breaker.

7. The combination with a translating device and a circuit-breaker located in the circuit thereof, of a reversing switch, means for retaining the reversing switch in normal open-circuit position, means for moving the reversing switch to either its forward or its reverse position, and means for retaining the reversing switch in said position until the circuit-breaker is opened.

8. The combination with a translating device and a circuit-breaker located in the circuit thereof, of a reversing switch, means for retaining the reversing switch in normal open-circuit position, means for moving the reversing switch to either its forward or its reverse position, and means for retaining the reversing switch in said position while the circuit-breaker is closed.

869,825. MECHANICAL SHAFT-OSCILLATOR. WILLIAM F. BOUCHÉ, Norwood, Ohio, assignor to The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed June 16, 1904. Serial No. 212,853.



1. In combination, a shaft, a shaft oscillator comprising a cam-shaped or eccentric member mounted adjacent the end of the shaft, and means acting upon said member independent of the shaft for holding said member in engagement with the end of the shaft.

2. In combination, a shaft, a shaft oscillator comprising a cam-shaped or eccentric member mounted adjacent the end of the shaft, and means acting upon said member independent of the shaft for holding said member yieldingly in engagement with the end of the shaft.

3. In combination, a shaft, a shaft oscillator comprising a disk eccentrically mounted on a spindle at right angles to the axis of said shaft and having its periphery in engagement with the shaft end, and a yielding support for said spindle acting to hold said disk in engagement with the shaft.

4. In combination, a shaft, a shaft oscillator comprising an eccentric disk mounted with its axis of rotation at an angle to the axis of rotation of said shaft and with its

periphery engaging the end of said shaft, and yielding supports for said eccentric disk.

5. In combination, a shaft, a spindle, a disk eccentrically mounted on said spindle and having its periphery engaging the end of said shaft at a point out of alinement with the axis of rotation of the shaft, and a spring mounting for said spindle acting to hold said disk in engagement with said shaft so that the rotation of the latter will cause the disk to rotate and oscillate said shaft.

6. In combination, a shaft, an eccentrically mounted disk having its periphery engaging the end of said shaft at a point out of alinement with the axis of rotation of the shaft, a support upon which said disk is rotatably mounted, and means for adjusting the position of said disk relative to its support so that the period of oscillation may be varied.

7. A shaft oscillator comprising a rotatable disk, a spindle on which said disk is eccentrically mounted, and means for maintaining said disk yieldingly in engagement with the shaft to be oscillated, said means comprising a spring mounting for said spindle.

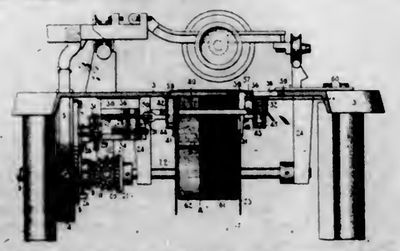
8. In combination, a shaft, and a shaft oscillator comprising a rotatable disk adapted to engage said shaft, a spindle on which said disk is eccentrically mounted, and means for adjusting the position of said disk on said spindle.

9. In combination, a shaft, a shaft oscillator comprising a spindle carrying an eccentric member, said spindle being movably mounted adjacent the end of the shaft so as to be capable of a reciprocating movement, and yielding means for holding the eccentric member in engagement with the end of the shaft.

10. A shaft oscillator, comprising parallel bolts, a spindle slidably supported on said bolts, a disk eccentrically mounted on said spindle, and springs bearing against said spindle for the purpose of maintaining said disk in contact with the end of the shaft to be oscillated.

11. A shaft oscillator, comprising parallel bolts, a spindle slidably supported on said bolts, a disk eccentrically mounted on said spindle, springs bearing against said spindle for the purpose of maintaining said disk in contact with the end of the shaft to be oscillated, and means for adjusting the position of said disk on said spindle.

869,826. TYPE-WRITING MACHINE. DANIEL BRIGGS, New York, N. Y., assignor to Wyckoff, Seamans & Benedict, Ilion, N. Y., a Corporation of New York. Original application filed Oct. 31, 1902, Serial No. 129,549. Divided and this application filed June 7, 1906. Serial No. 320,613.



1. In a typewriting machine, the combination of inking surfaces having different characteristics, means whereby any surface or field may be moved to operative position, means operative to automatically move said inking surfaces in two directions at substantially right angles to each other and to effect an automatic movement of the inking surfaces in at least one direction when any field is in the printing position, and means for preventing an automatic widthwise movement of the inking surfaces when one of said inking fields is in the operative position.

2. In a typewriting machine, the combination of inking surfaces having different characteristics, means for affording a movement of the inking surfaces so as to bring any particular surface or field to operative position, and means operative to automatically effect a feed of the inking surfaces in two directions when one of said fields is in the operative position and to automatically feed the inking surfaces in but one direction when another field is in the operative position.

3. In a typewriting machine, the combination of inking surfaces having different characteristics, means for affording a movement of said inking surfaces so as to bring any field thereof to operative position, means operative to automatically effect a feed of the inking surfaces in two directions when one of said fields is in the operative position and to automatically feed the inking surfaces in but one direction when another field is in the operative position, and a lock for locking certain of the parts in position to effect the last mentioned result.

4. In a typewriting machine, the combination of an inking ribbon having longitudinally extending inking fields of different characteristics, means whereby any inking field may be moved to operative position, and means operative to automatically feed said inking ribbon both longitudinally and crosswise when one of the inking fields is in the operative position and to feed the ribbon in but one direction when another inking field is in the operative position.

5. In a typewriting machine, the combination of an inking ribbon having longitudinally extending inking fields of different characteristics, means for affording the movement by hand of any inking field to operative position, and means operative to automatically move said ribbon both longitudinally and crosswise when one of the inking fields is in the operative position and to feed the ribbon longitudinally when another inking field is in the operative position.

6. In a typewriting machine, the combination of a ribbon having inking fields of different characteristics, means for automatically feeding said ribbon longitudinally, means for automatically effecting a transverse feed of the ribbon, and means for holding the ribbon against transverse feed without affecting the longitudinal feed of the ribbon.

7. In a typewriting machine, the combination of a ribbon having inking fields of different characteristics, means for automatically feeding said ribbon longitudinally, means for automatically effecting a transverse feed of the ribbon, and means for affording a movement of the ribbon widthwise by hand to bring different fields into operative position, the construction and arrangement being such when one field is in the operative position the ribbon will receive both a longitudinal and a widthwise feed and when another field is in the operative position a longitudinal feed alone will be effected.

8. In a typewriting machine, the combination of a ribbon having inking fields of different characteristics, means for automatically feeding said ribbon longitudinally, and automatically actuated driving devices for effecting a widthwise feed of the ribbon when one field is in the operative position, and means for affording a movement of the ribbon to bring another field to the operative position and to render said driving device ineffective to move the ribbon and without affecting the means for feeding it longitudinally.

9. In a typewriting machine, the combination of a ribbon having inking fields of different characteristics, a guide for said ribbon, means for automatically feeding the ribbon longitudinally, an automatically actuated driving device coöperating with said ribbon guide for effecting a widthwise feed of the ribbon when one field is in the operative position, and means for affording a movement of the ribbon guide to bring another field of the ribbon to the operative position and to render said driving device ineffective to move the ribbon guide and without affecting the means for feeding the ribbon longitudinally.

10. In a typewriting machine, the combination of a carriage, a ribbon having inking fields of different characteristics, a guide for said ribbon, means controlled by the movement of the carriage for automatically feeding said ribbon longitudinally, means controlled by the movement of the carriage and coöperating operatively with said ribbon guide to automatically effect a transverse feed of the ribbon when one field of the ribbon is in the operative position, and means for affording a movement of said guide to bring another field of the ribbon to the operative position and to render said transverse feeding means ineffective to move the guide and without affecting the means for feeding the ribbon longitudinally.

11. In a typewriting machine, the combination of a carriage, a ribbon having inking fields of different characteristics, a guide for said ribbon, means controlled by the movement of the carriage for automatically feeding said ribbon longitudinally, means controlled by the movement of the carriage and coöperating operatively with said ribbon guide to automatically effect a transverse feed of the ribbon when one field of the ribbon is in the operative position, means for affording a movement of said guide to bring another field of the ribbon to the operative position and to render said transverse feeding means ineffective to move the guide and without affecting the means for feeding the ribbon longitudinally, and means for locking the ribbon guide in said last mentioned position.

12. In a typewriting machine, the combination of a carriage, a ribbon having inking fields of different characteristics, means always operable during the feed movement of the carriage for automatically effecting a longitudinal feed of the ribbon, and means which may be brought into operation at will for effecting an automatic transverse feed movement as well as a longitudinal feed movement of the ribbon.

13. In a typewriting machine, the combination of a carriage, a ribbon having fields of different characteristics, means always operable during the feed movement of the carriage for automatically effecting a longitudinal feed of the ribbon, and means which may be brought into operation at will for effecting an automatic transverse feed movement as well as a longitudinal feed movement of the ribbon, one field of the ribbon being in the operative position when the ribbon is receiving both a transverse and longitudinal feed and another field of the ribbon being in the operative position when the ribbon is receiving merely a longitudinal feed.

14. In a typewriting machine, the combination of a ribbon having inking fields of different characteristics, means for automatically feeding said ribbon longitudinally, a ribbon guide, means for automatically moving said ribbon guide to effect a transverse movement of the ribbon, and means for rendering said last mentioned means inoperative at will and without affecting the longitudinal feed of the ribbon.

15. In a typewriting machine, the combination of a ribbon having different longitudinally extending fields of different characteristics, ribbon spools, means for automatically turning said ribbon spools, means for affording an axial movement of said spools to bring different fields of the ribbon to operative position, means operatively connected to said ribbon spools for automatically effecting an axial movement of the ribbon spools to effect a crosswise as well as a longitudinal feed of the ribbon within a given field, and means for effecting a disconnection between said ribbon spools and the means for effecting an automatic axial movement thereof and without affecting the means for feeding the ribbon longitudinally.

16. In a typewriting machine, the combination of a ribbon having different longitudinally extending fields of different characteristics, ribbon spools, means for automatically turning said ribbon spools, means for affording an axial movement of said spools to bring different fields of the ribbon to operative position, an automatically actuated cam for automatically effecting an axial movement of the ribbon spools to effect a crosswise feed of the ribbon within a given field during the longitudinal feed thereof, and means for affording a movement of said ribbon spools to a position where they are unaffected by said cam and without affecting the means for feeding the ribbon longitudinally.

17. In a typewriting machine, the combination of a ribbon having different longitudinally extending fields of different characteristics, ribbon spools, means for automatically turning said ribbon spools, means for affording an axial movement of said spools to bring different fields of the ribbon to operative position, a spring for effecting an axial movement of the spools in one direction, a cam for automatically effecting an axial movement of the ribbon spools in the opposite direction, to effect a crosswise feed of the ribbon during the longitudinal feed thereof and within a given field, and means for affording an axial movement of said ribbon spools to a position where they are unaffected by said cam and without affecting the means for feeding the ribbon longitudinally.

18. In a typewriting machine, the combination of a ribbon having different longitudinally extending fields of different characteristics, ribbon spools, means for automatically turning said ribbon spools to effect a longitudinal feed of the ribbon, means for affording an axial movement of said spools to bring different fields of the ribbon to operative position, a spring for effecting an axial movement of the spools in one direction, a cam for automatically effecting an axial movement of the ribbon spools in the opposite direction, to effect a crosswise as well as a longitudinal feed of the ribbon within a given field, means for affording an axial movement of said ribbon spools to a position where they are unaffected by said cam and without affecting the means for feeding the ribbon longitudinally, and a locking device for locking the ribbon spools in said last mentioned position.

19. In a typewriting machine, the combination of a ribbon having longitudinally extending fields of different characteristics, ribbon spool shafts, ribbon spools adapted to turn with and to move axially along said shafts, automatic means for effecting an axial movement of the spools on said shafts, and means for affording an axial movement of the spools away from said automatic means and out of coöperation therewith without affecting the rotation of the spools.

20. In a typewriting machine, the combination of a ribbon having longitudinally extending fields of different characteristics, ribbon spool shafts, ribbon spools adapted to turn with and to move axially along said shafts, automatic means for effecting an axial movement of the spools on said shafts, means for affording an axial movement of the spools away from said automatic means and out of coöperation therewith without affecting the rotation of the spools, and a detent for holding the spools in said last mentioned position.

21. In a typewriting machine, the combination of a ribbon having longitudinally extending fields of different characteristics, ribbon spool shafts, ribbon spools adapted to turn with and to move axially along said shafts, automatic means for effecting an axial movement of the spools on said shafts, means for affording an axial movement of the spools away from said automatic means and out of coöperation therewith and without affecting the rotation of the spools, a part that moves with the ribbon spools during the axial movement of the latter, engaging means on said part, and coöperative engaging means on a fixed part of the machine to hold the spools against axial movement on their shafts.

22. In a typewriting machine, the combination of a carriage, a spring drum therefor, a cam, pawl and ratchet mechanism between said spring drum and cam, ribbon controlling means actuated by said cam, and means for affording a movement of the controlling means away from said cam.

23. In a typewriting machine, the combination of a carriage, a spring drum therefor, a cam, pawl and ratchet mechanism between said spring drum and cam, ribbon controlling means actuated by said cam, means for affording a movement of the controlling means away from said cam, and a spring detent for holding the controlling means in said last mentioned position.

24. In a typewriting machine and in a mechanism for moving a multi-colored ribbon laterally, the combination of a carriage driving drum, a ratchet wheel carrying a spider with lugs or projections, a lever carrying a pawl, a worm carrying a ratchet wheel adapted to be turned by said pawl, a worm wheel in engagement with the said worm, and a cam having one part of its face a regular rise and the other part formed with a series of steps.

25. In a typewriting machine and in a mechanism for moving a multi-colored inking ribbon laterally in both directions, the combination of a pair of ribbon spools con-

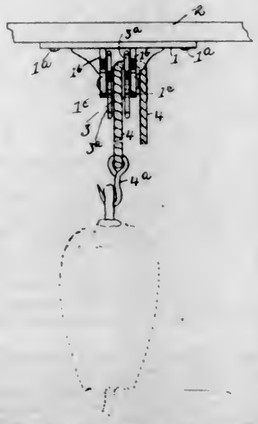
nected together to move laterally in unison, a ribbon spool shifting frame, a spring for moving said shifting frame and the ribbon laterally in one direction, a pair of pivoted links supporting the shifting frame, and means for moving the ribbon laterally in the opposite direction and confining the feed to a given field, said means comprising a cam, a worm wheel, a worm, and pawl and ratchet mechanism.

26. In a typewriting machine, the combination of a carriage, a carriage driving drum, a multi-colored ribbon, a cam driven by the carriage driving drum, supporting links, a spool shifting frame actuated by said cam, a pin carried by the shifting frame and provided with a nut having an annular groove, a flat spring with a wedge-shaped end to engage the annular groove, a pair of ribbon spools, and ribbon spool shafts.

27. In a typewriting machine, the combination of a multi-colored ribbon, ribbon spools, ribbon spool shafts, a spool shifting frame, a pin having a nut with an annular groove therein, a ribbon guide plate hinged thereon, a spring with wedge-shaped extremity adapted to fit the groove in the nut of the guide pin, pivoted supporting links, a cam, and means for operating the supporting links through said cam, whereby the shifting frame is moved.

28. In a typewriting machine, the combination of a carriage, a driving drum therefor, a cam operated by said drum, a multi-colored ribbon, ribbon spools, supporting links adapted to be shifted by said cam, a spool shifting frame provided with a pin having a nut with an annular groove, and a spring adapted to coöperate with said annular groove and to prevent lateral movement of the spools.

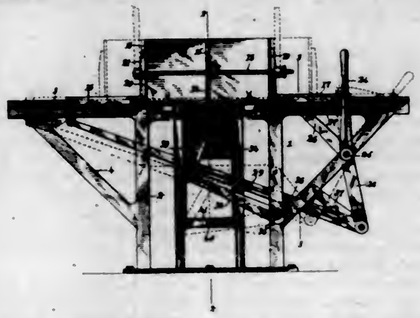
869,827. PULLEY. JAMES L. COLEMAN, Duluth, Minn., assignor to Lisdon B. Manley, Duluth, Minn. Filed Mar. 11, 1907. Serial No. 361,701.



The combination with a support having a cheek piece and a shoulder formed thereon, said support having an indent formed therein between said shoulder and cheek piece, of a pulley carried by said cheek piece and provided with a peripherally indented flange, the indent in said flange being adapted to register with the indent in said support.

869,828. BUILDING-BLOCK MOLD. CHARLES J. T. CORDES, Waldwick, N. J. Filed May 11, 1907. Serial No. 373,027.

1. In a molding machine, in combination, a frame, a fixed side wall, a second side wall hinged at the lower edge of said frame, guides formed on said frame between said side walls, slides moving on said guides and having end walls adapted to come into position to form a mold with said side walls, a lever, mechanism connecting said lever with said slides for advancing or withdrawing the same, core prints carried by the inner faces of said end walls, and a yoke affording means for holding all of said walls in position.



2. In a molding machine, in combination, a frame, oppositely disposed guides formed thereupon, slides mounted on said guides and having end walls, core prints on the inner faces thereof, a main core print, means for guiding the same upwardly into the space between said end walls, a lever, mechanism connecting said lever with said main core print and said slides for simultaneously advancing or withdrawing the same, a fixed side wall, a movable side wall, and a yoke adapted to hold all of said walls in position.

3. In a molding machine, in combination, a frame having oppositely disposed guides, slides mounted movably on said guides and having end walls with core prints formed on the inner faces thereof, a main core print, means for guiding the same to advance into position between said first core prints, said core prints having means at the meeting edges thereof for supporting anchors in the interior of the mold, a fixed side wall, a movable side wall hinged to said frame, a lever, mechanism connecting said lever with said slides and said main core print for advancing or withdrawing the same simultaneously, and a yoke adapted to hold said walls in position.

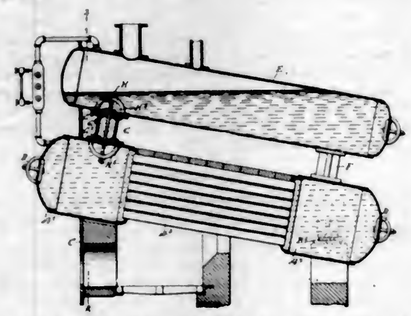
4. In a molding machine, in combination, a frame having oppositely disposed guides, slides mounted on said guides and having end walls with core prints formed on the inner sides thereof, a fixed wall, a side wall hinged between said end walls, a pallet supported on said frame between all of said walls, said pallet having an opening therethrough, a main core print, means for guiding the same to slide through said opening into the interior of the mold, means for advancing said slides and said main core print, said core prints being adapted to meet at their edges to form a division through the mold, the meeting edges of said core prints having notches adapted to support anchors projecting into the divisions of said mold.

5. A molding machine having oppositely disposed end walls mounted to slide inwardly to form the mold, core-prints carried on the inner faces of said walls, a bottom core-print sliding up through the bottom of the mold and adapted to bridge the space between said first core-prints to divide the mold, the meeting edges of said core-prints having notches adapted to support bonding anchors between the divisions of the mold.

6. A molding machine having oppositely disposed walls adapted to slide inwardly to form the mold, core-prints on the inner faces of said molds, a main core-print adapted to slide into the mold from beneath, said core prints having notched edges, which meet together to form a continuous core-print within the mold, said first core-prints having notches in the edges thereof adapted to support bonding anchors beyond the edge of said main core-print whereby said anchors permit the upward sliding movement of said main core-print.

869,829. STEAM-GENERATOR. HOWARD COX, Abraham, Utah. Filed June 8, 1907. Serial No. 377,865.

1. A steam generator, comprising a water tube boiler provided with heads, and tubes connecting the heads with each other, a steam drum above the boiler, connections between the boiler and the steam drum at each end, one of said connections comprising a tube having spherical ends, the boiler and the steam drum being provided with sockets shaped to fit the ends of the tubes, stirrups within the steam drum and the boiler, and a bolt connecting the stirrups and traversing the tube whereby to connect the parts together.



2. A steam generator having a water tube boiler, and a steam drum rigidly connected at one end with one end of the water tube boiler, and a yielding connection between the other ends of the said water tube boiler and the said steam drum.

3. A steam generator having a water tube boiler provided with front and rear heads and tubes connecting the heads with each other, a steam drum, a rigid connection between the rear head of the said water tube boiler and the rear end of the said steam drum, and a yielding tubular connection between the front head of the said water tube boiler and the front end of the said steam drum.

4. A steam generator having a water tube boiler provided with front and rear heads and tubes connecting the heads with each other, a steam drum, a rigid connection between the rear head of the said water tube boiler and the rear end of the said steam drum, apertured ball sockets secured opposite each other on the front head of the said water tube boiler and the front end of the said steam drum, and a connecting tube having spherical ends seated in the said sockets.

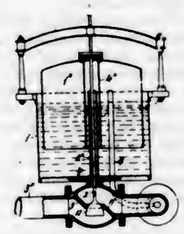
5. A steam generator having a water tube boiler provided with front and rear heads and tubes connecting the heads with each other, a steam drum, a rigid connection between the rear head of the said water tube boiler and the rear end of the said steam drum, apertured ball sockets secured opposite each other on the front head of the said water tube boiler and the front end of the said steam drum, a connecting tube having spherical ends seated in the said sockets, and a bolt and stirrup connection connecting the water tube boiler and steam drum at the said connecting tube and sockets.

869,830. GAS-PRESSURE-REGULATING DEVICE. GUSTAF DALÉN, Stockholm, Sweden, assignor to Aktiebolaget Gas Accumulator, Stockholm, Sweden. Filed Aug. 8, 1905. Serial No. 273,286.

1. In a gas pressure regulating device, the combination with the gas main, of means for maintaining a constant gas pressure at a point of the gas main, means for raising the gas pressure corresponding to the reduction of pressure due to friction and the like during the flow between said point and a distant point therefrom, and means for varying said raising of gas pressure corresponding to variations of distances between said point of constant gas pressure and said distant point therefrom.

2. In a gas pressure regulating device, the combination with the gas main of a gas holder, a pipe inserted in the gas main having its bore provided with means for variably converting velocity energy into pressure, and a pipe connecting said pipe with the gas chamber of the gas holder.

3. In a gas pressure regulating device, the combination with the gas main of a gas holder, a pipe inserted in the gas main provided with a contracted inlet portion and from said inlet portion with continually increasing sectional areas, means for varying the area of the smallest section of the pipe, and a pipe connecting the gas chamber of said gas holder with the smallest section of said pipe.



4. In a gas pressure regulating device, the combination with the gas main of a gas holder, a pipe inserted in the gas main, provided with a contracted inlet portion and from said inlet portion with continually increasing sectional areas, a conical screw spindle entering the smallest section of said pipe and a pipe connecting the gas chamber of said gas holder with the smallest section of said pipe.

869,831. CAR-STANCHION. ROBERT P. DE REMER, Houma, La., assignor of one-half to Alfred T. Gerrans, Houma, La. Filed Aug. 7, 1907. Serial No. 387,536.

1. A car stanchion comprising a bar pivoted at its lower end to the side of the car and capable of being shifted from a horizontal to a vertical position, and a combined lock and stop bracket between the bar and the side of the car and mounted upon the pivotal connection between the bar and the car, said bracket provided with means for limiting the movement of the bar in either direction and further having means for maintaining the bar in a vertical position.

2. A car stanchion comprising a bar pivoted at its lower end to the side of the car and capable of being shifted from a horizontal to a vertical position, a combined lock and stop bracket between the bar and the side of the car and mounted upon the pivotal connection between the bar and the car, said bracket provided with means for limiting the movement of the bar in either direction and further having means for maintaining the bar in a vertical position, and means bearing against the bar for maintaining it in close contact with said bracket.

3. A car stanchion comprising a combined lock and stop bracket provided with a pair of wings and a pair of upset corners, a pivoted bar arranged against the outer face of said bracket and adapted to be maintained in a vertical position by said upset corners and further having its movement limited in either direction by said wings.

4. A car stanchion comprising a combined lock and stop bracket provided with a pair of wings and a pair of upset corners, a pivoted bar arranged against the outer face of

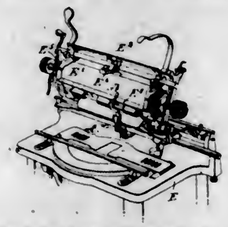
said bracket and adapted to be maintained in a vertical position by said upset corners and further having its movement limited in either direction by said wings, and means bearing against the lower portion of the bar for keeping it in close contact with said bracket.

5. A car stanchion comprising a combined lock and stop bracket, a shiftable bar, a pivot for the bar, and means mounted upon the pivot and engaging the bar for maintaining it in its shifted position.

6. A car stanchion comprising a fixed bracket provided with a pair of stops and a pair of locks, a pivot extending through said bracket carrying on its outer end a bow-shaped spring, and a bar mounted upon said pivot and interposed between the bracket and the spring.

7. A car stanchion comprising a fixed bracket provided with a pair of wings and upset corners, a shiftable bar adapted to have its movement in both directions arrested by said stop and maintained in a vertical position by said upset corners, and a spring bearing against the bar for keeping it in close contact with said bracket.

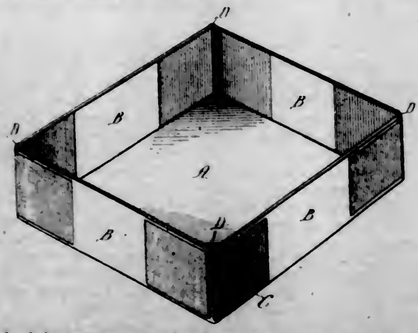
869,832. INDICATOR FOR TYPE-WRITING MACHINES. HENRY A. DEWING, San Buenaventura, Cal. Filed Jan. 31, 1907. Serial No. 354,997.



1. The combination with the typewriter, of an indicator comprising a lever mounted to swing towards and from the platen, a spring acting normally to move the lever towards the platen, a pointer fulcrumed on the lever for swinging movement at right angles to the swinging movement of the lever, and means whereby the swinging of the lever against the resistance of the spring will swing said pointer on its fulcrum.

2. An indicator for typewriting machines, comprising a fixed bracket, a lever hinged thereto, a spring connecting the lever and the bracket, a pointer fulcrumed on the lever, one end of said pointer being provided with an indicator and a link connecting the other end and the bracket.

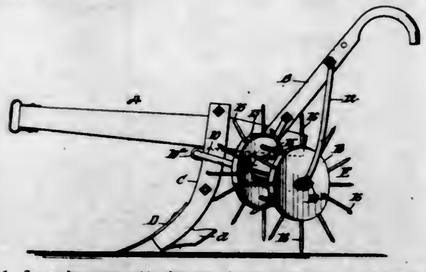
869,833. FOLDING BOX. JEFFREY T. FERRES, Anderson, Ind., assignor to J. W. Sefton Manufacturing Company, Anderson, Ind., a Corporation of Indiana. Filed Apr. 9, 1906. Serial No. 310,813.



1. A box cover comprising a cover proper, flaps hinged thereto, tapes secured to opposite sides of the flaps and extending around the ends thereof, said cover and flaps being formed of double faced corrugated paper board, whose corrugations in two opposite flaps extend transversely and in the other two flaps extend longitudinally, and staples having parallel members insertible in the loops of adjacent tapes, one member of each staple extending lengthwise of the corrugations as to two of the flaps and the other member crosswise of the corrugations as to the other two flaps; substantially as described.

2. A box cover comprising a cover proper formed of double faced corrugated paper board, flaps hinged thereto and also formed of board, fabric tapes passing around the ends of the flaps and secured to the facing strips on opposite sides of the board, and loop-shaped staples having parallel members insertible in the loop of adjacent tapes and in the corrugated portion of the board and between the facing portion thereof.

869,834. HARROW ATTACHMENT FOR PLOWS. JOHN C. FOOSHE, Ninety Six, S. C. Filed Feb. 26, 1907. Serial No. 359,498.



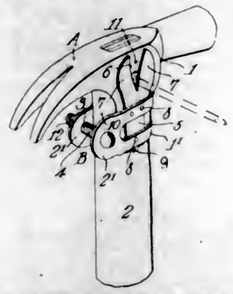
1. In a harrow attachment for plows, the combination with the plow beam and the stock and the handles for the beam, of an axle supported by the stock and having a rearward and outward inclination from said stock at both sides thereof, the harrows comprising spaced disks provided with radial teeth mounted upon the said axle at its outer end portions.

2. In a harrow attachment for plows, the combination with the plow beam and the stock and the handles for the beam, of an axle supported by the stock and having a rearward and outward inclination from said stock at both sides thereof, braces for the said axle, and harrows mounted upon the said axle at its outer end portion, said harrows consisting each of opposing disks having teeth radially secured therein, and a connecting hub.

3. In a harrow attachment for plows, the combination with a plow beam, the handles therefor, the stock, and a winged shovel carried by the said stock, of an axle extending from the said stock in a rearward and outward direction at each side of the same, braces for the said axle, and harrows mounted to revolve on the axle between the said braces, which harrows consist of disk end sections, a connecting hub, connecting bars, and teeth radially secured in the said disks for the purpose described.

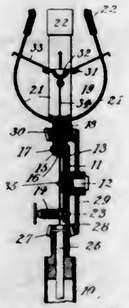
869,835. NAIL-HOLDING ATTACHMENT FOR HAMMERS. GEORGE W. FOWLER, Raleigh, N. C. Filed Nov. 23, 1906. Serial No. 344,759.

1. A nail holder attachment for hammers composed of sheet material and embodying a divided clamping sleeve, surrounding the tapered handle-receiving socket of the hammer head, a bolt coöperating with the free ends of said sleeve for drawing its sides into coöperative relation with the said socket, a nail holding device rigidly attached to one side of the sleeve embodying a plate coöperating with one of the flat sides of the hammer head to prevent a relative rotary movement of the nail holder and having a pair of relatively fixed convergent jaws formed at one end thereof and resting opposite to the side face of the hammer head, and a spur formed on the opposite end of said plate at a point beyond the smaller end of the socket on the hammer head and extending radially inwardly and adapted to be held in coöperative relation with the hammer handle by the drawing action of said bolt.



2. A nail holder attachment for hammers embodying a clamping sleeve, a tightening bolt for drawing it into coöperative relation with the hammer handle, and a nail holding device rigidly secured to one side of the sleeve and embodying a plate having a pair of relatively fixed convergent jaws at one end arranged opposite to one of the side faces of the hammer head, and diverging outwardly relatively thereto to form a contracted recess between the plate and hammer head to receive the nail head and to produce a wedging action thereon and a spur formed on the opposite end of said plate and extending inwardly in a direction substantially parallel to the axis of the tightening bolt and adapted to be drawn directly into coöperative relation with the hammer handle by the tightening action of said bolt.

869,836. GLOBE-MANIPULATOR. JOSEPH GAYNOR, New York, N. Y. Filed Feb. 15, 1907. Serial No. 357,470.



1. A device of the character described, comprising a hollow hand rod, a plate carried thereby, a lever rotatable over the plate, means for locking the lever to the plate at different angles, an axially rotatable clasp secured to the lever, a first gear wheel carried by the clasp, a second gear wheel along which the first gear wheel is movable, a spindle rotatable within the rod, and means for operatively connecting said spindle to the second gear wheel, substantially as specified.

2. A device of the character described, comprising a rod, a clasp carried thereby, a plate movable within the clasp, and means for connecting said plate with the clasp, substantially as specified.

3. A device of the character described, comprising a rod, a perforated clasp carried thereby, a plate movable within the clasp, and headed arms pivoted to the plate and engaging the clasp-perforations, substantially as specified.

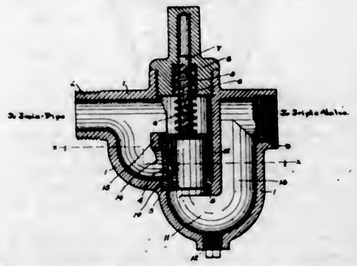
4. In an instrument for applying or removing electric lamp bulbs, the combination of two members adjustable to different angles in respect to one another, a shaft carried by each of said members, means for rotating one of said shafts, interposed bevel gears whereby movement can be transmitted from one shaft to the other in any position of adjustment of the latter, and bulb-clamping devices carried by the latter shaft.

5. In an instrument for applying or removing electric light bulbs, the combination of two members adjustable to different angles in respect to one another and each carrying a shaft, means for locking said members in their different positions of angular adjustment, means for rotating one of said shafts, means for transmitting rotative movement from said shaft to the other in any position of adjustment of the latter, and bulb-clamping devices carried by the latter shaft.

6. In an instrument for applying or removing electric light bulbs, the combination of two members adjustable to different angles in respect to one another, a shaft carried by each member, means for rotating the shaft of one member, means for imparting rotative movement from said shaft to that carried by the other member, a bulb-clamping device on the latter shaft, and means mounted upon said shaft-carrying member for expanding and contracting said clamping device.

7. In an instrument for applying or removing electric lamp bulbs, the combination of two members adjustable to different angles in respect to one another and each carrying a shaft, means for rotating one of said shafts, means for imparting rotative movement therefrom to the other shaft in any of its positions of adjustment, and a bulb-clamping device carried by the latter shaft.

869,837. AIR-BRAKE SYSTEM. ALVA L. GOODKNIGHT, Council Bluffs, Iowa. Filed Feb. 16, 1907. Serial No. 357,765.



1. The combination in and with a fluid-pressure-controlled railway-brake system, of means responsive to sudden reductions of train-pipe-pressure in the emergency operation of the brakes for opening a large passage from the train-pipe to the triple-valve mechanism, and means for restricting the flow of train-pipe-air into the triple-valve mechanism during service operations of the brakes.

2. The combination in and with a fluid-pressure-controlled railway-brake system, of a valve arranged between the train-pipe and triple-valve mechanism, said valve normally restricting the passage between the train-pipe and triple-valve mechanism but being openable by sudden reduction of train-pipe-pressure.

3. In a fluid-pressure-controlled railway-brake system, means for preventing emergency reductions of train-pipe-pressure through defective operation of a triple-valve, said means comprising a valve arranged to normally restrict the connection between the train-pipe and triple-valve mechanism, said valve being openable only by emergency reductions of train-pipe-pressure.

4. In an automatic air-brake system, a valve arranged between the train-pipe and triple-valve mechanism, said valve being openable toward the train-pipe, and there being a relatively small port affording communication between the train-pipe and triple-valve mechanism when said valve is in closed position.

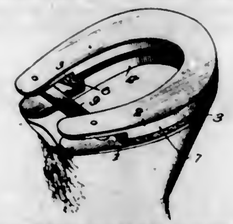
5. In an automatic air-brake system, a valve arranged between the train-pipe and triple-valve mechanism, said

valve being openable toward the train-pipe by sudden reduction of pressure therein, there being a relatively small port affording communication between the train-pipe and triple-valve mechanism when the valve is in closed position, and means whereby when the valve is opened a rush of air from the train-pipe toward the triple-valve mechanism will retard closure of the valve.

6. In an automatic air-brake system, a valve controlling communication between the train-pipe and triple-valve mechanism, said valve when open affording a relatively large passage between the train pipe and triple-valve mechanism and when closed restricting said passage, and means preventing opening of said valve except by sudden reduction of train-pipe-pressure.

7. In an automatic-air-brake system, a valve casing connected in the branch-pipe between the train-pipe and triple-valve mechanism, a spring-impressed cup-shaped check valve arranged within said casing and adapted when closed to restrict the passage of air through the same, said valve being openable by air pressure toward the train-pipe, and there being a port arranged adjacent the valve whereby when the valve is open a rush of air from the train-pipe will retard closure thereof.

869,838. HORSESHOE. GEORGE M. GREEN, Denver, Colo., assignor of one-half to William T. Green, Tampa, Fla. Filed Jan. 31, 1907. Serial No. 355,093.



1. The hereindescribed horse-shoe consisting of an inner shoe, an outer shoe, an interposed resilient cushion, said two shoes being provided upon their inner margins with oppositely extending interlocking angular flanges, one of said shoes being provided around its outer margin with a flange adapted to assist in maintaining the cushion in place, and a cross bar secured at its ends to the heel portions of the outer shoe.

2. The hereindescribed horse-shoe consisting of an inner and an outer shoe and an interposed cushion of rubber, said two shoes being provided with oppositely extending interlocking angular flanges, and a cross bar connected at its ends to the heel portions of the outer shoe.

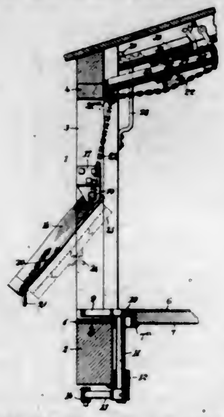
3. The herein-described horseshoe, consisting of an inner shoe and an outer shoe and an interposed resilient cushion, the outer shoe being formed around its inner and outer margins with upstanding flanges, the innermost flange being angular, and the inner shoe being formed along its inner margin with an angular flange interlocking with the angular flange of the outer shoe.

869,839. CAR-DOOR. RICHARD HALL, Kenora, Ontario, Canada. Filed June 26, 1906. Serial No. 323,491.

1. In a car door, door posts, door jambs fixed to the inside of the posts, rounded corners on the door jambs, a second set of door jambs carried by the door posts, a lower door contacting with the second set of door jambs, an upper door contacting with said first-mentioned jambs, and means fixed to one of said doors for closing the openings due to said rounded corners.

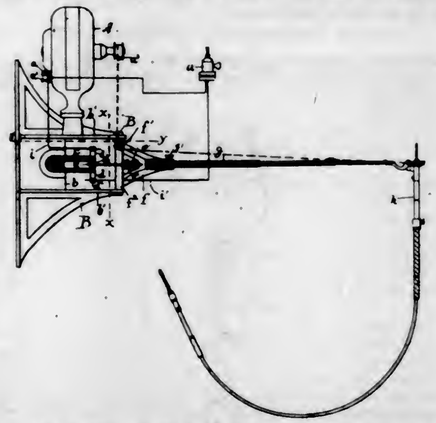
2. In a car door, pivotally mounted door jambs, hooks for engaging the lower ends of the jambs to hold them in position, a door coöperating with the jambs, vertical shafts fixed to the hooks, and links connected to the shafts and to each other, whereby as they are operated the hooks simultaneously release the jambs.

3. In a car door, pivotally mounted door jambs, a door coöperating with the jambs, hooks for locking the door jambs in position, vertical shafts fixed to the hooks, arms fixed to the vertical shafts, links pivotally connected to the arms and to each other, and a slotted bracket for



guiding the links whereby when the links are operated the hooks are simultaneously swung to release the door jambs and the door.

869,840. DENTAL ENGINE. WINFIELD E. HANSON, Biddeford, Me. Filed Feb. 21, 1907. Serial No. 358,657.



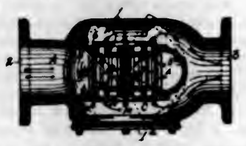
1. The herein described dental engine consisting of a bracket, an electric motor mounted on said bracket, an arm pivoted to said bracket and adapted to swing in a horizontal plane, a flexible shaft and hand piece journaled at the end of said arm and a switch for controlling the current to said motor adapted to be opened and closed by the swinging of said arm.

2. The herein described dental engine consisting of a bracket, an electric motor mounted on said bracket, an arm pivoted to said bracket and adapted to swing in a horizontal plane, a pair of switch terminals on said bracket, adapted to be connected to said motor and a contact plate adjustably secured to said arm and adapted to connect and disconnect said switch terminals.

3. The herein described dental engine consisting of a bracket, an electric motor mounted on said bracket, an arm pivoted to said bracket and adapted to swing in a horizontal plane, a pair of switch terminals on said bracket adapted to be connected with said motor, a slotted projection on said arm, a contact plate fitting in the slot of said projection and adapted to connect and disconnect said switch terminals, and having a longitudinal slot therein, and a clamping screw passing through said projection and said longitudinal slot for adjustably holding said contact plate in place.

4. The herein described dental engine consisting of a bracket, an electric motor mounted on said bracket, an arm pivoted to said bracket, and adapted to swing in a horizontal plane, a flexible shaft and pulleys journaled on said arm at or near the pivoting point for carrying the power band.

869,841. WATER-METER. NOBLE W. HARTMAN, Toledo, Ohio, assignor to Clyde J. Spear, Toledo, Ohio. Filed May 22, 1905. Serial No. 261,496.

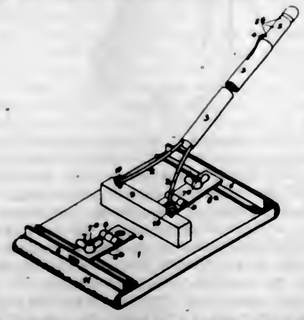


1. In a fluid meter, a casing having two partitions therein which divide the interior of the casing into three principal chambers, said casing having an inlet opening which leads into the middle chamber and having an outlet opening leading from said two other chambers, a cylindrical open-work screen having its ends disposed in corresponding opposed openings in said partitions, a bracket disposed within the screen, a spindle journaled in the bracket, a right hand turbine on one end of said spindle disposed in one of the openings in the partitions, a left hand turbine on the other end of the spindle in the other of said openings, and means for operatively connecting a registering mechanism with the spindle.

2. In a fluid meter, a pair of vertically disposed reversed turbines, means for directing the liquid to be measured in between said turbines and out through the turbines, a registering mechanism, and connections intermediate the turbines and the registering mechanism combined with a cylindrical open-work screen in the opposite ends of which said two turbines revolve.

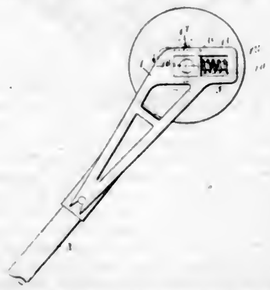
3. In a fluid meter, a casing having at top a removable cap and having at one side a removable closure, a pair of reverse turbines, means for directing the liquid to be measured in between the turbines and out through the turbines, a spindle upon which said turbines revolve and having an extension in the direction of said closure adapted for connection with a train of gearing, and a counter-spindle engaged with said first mentioned spindle and having its upper end projected in the direction of said cap and adapted for engagement with a train of gearing.

869,842. WINDOW-CLEANER. BENJAMIN A. HILL, Chicago, Ill. Filed Apr. 28, 1906. Serial No. 314,312.



In a window cleaner, the combination with a body having a transversely located block at about its middle on one of its surfaces, a handle pivotally and detachably connected to said raised portion, a screw-bolt projecting from the surface of the body near each of its ends, a pair of plates hinged to the body and extending to near its ends, each of said plates having an aperture through which said bolts are passed, a bar transversely secured on the outer end of each of said plates, a nut engaging each of said bolts, and a pad interposed near each of its ends between the transverse bars and body and underlying the latter, substantially as described.

869,843. TROLLEY-HEAD FOR ELECTRIC TRACTION. GARNET B. HOLMES and ARTHUR D. ALLEN, Wellington, New Zealand. Filed Aug. 7, 1907. Serial No. 387,485.



1. In a trolley head, the combination of a yoke provided with slots, bearing blocks slidably mounted in said slots, a spindle secured to said bearing blocks, a trolley wheel carried by said spindle, curved flanges on said blocks engaging the walls of said yoke to permit swing of the blocks and spindle, springs for automatically returning said blocks and spindle to their normal straight position, and means on the yoke and blocks for engaging said springs to permit accommodation of the latter to the swing of said blocks, substantially as described.

2. In a trolley head, the combination of a yoke provided with inclined slots, bearing blocks slidably mounted in said slots, a spindle secured to said bearing blocks, a trolley wheel carried by said spindle, curved flanges on said blocks engaging the walls of said yoke to permit swing of the blocks and spindle, and springs for shifting said bearing blocks against the upper ends of said inclined slots and yieldingly maintaining said blocks and spindle in their normal straight position in the several shifted positions of the latter, substantially as described.

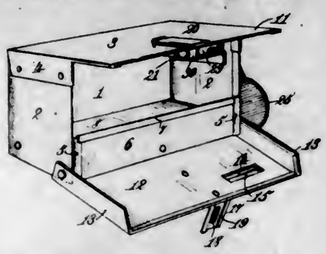
3. In a trolley head, the combination of a yoke provided with slots, bearing blocks slidably mounted in said slots, a spindle secured to said bearing blocks, a trolley wheel carried by said spindle, curved flanges on said blocks engaging the walls of said yoke to permit swing of the blocks and spindle, springs for automatically returning said blocks and spindle to their normal straight position, means on the yoke and blocks for engaging said springs to permit accommodation of the latter to the swing of said blocks, and flat springs secured to said bearing blocks and engaging the adjacent sides of the trolley wheel for yieldingly positioning the latter on its spindle, said flat springs being provided with openings for permitting passage of its spindle therethrough, substantially as described.

869,844. LETTER-BOX. WILLIAM H. HUSHOUR, Groseclose, Va., assignor of one-half to Lloyd Posey, New Orleans, La. Filed Sept. 13, 1905. Serial No. 278,354.

1. In a box of the class set forth, the combination of a body having a top or cover with a forwardly projecting guard, a drop front carrying a hasp member, and a shackle movably mounted on the top or cover and provided with means to extend through the guard and engage the hasp member.

2. In a box of the class set forth, the combination of a

body having a top or cover, a gravitating shackle member movably held on the cover and provided with engaging means movable through the cover, and a movably attached front having a hasp member with an opening therein to receive the engaging means of the said shackle.



3. In a box of the class set forth, the combination of a body having a rigid top or cover, a gravitating shackle carried by the cover and having engaging means freely movable through the latter, and a front movably attached to the body and provided with a hasp member to automatically coöperate with the shackle and its engaging means.

4. In a box of the class set forth, the combination of a body having a top or cover, a gravitating shackle member disposed on the top or cover, and a movable front carrying a hasp member, a part of the shackle member automatically engaging the hasp member when the front is closed.

5. In a box of the class set forth, the combination of a body having a top or cover, a shackle movably supported by the cover, and a front movably attached to the body and having a grip with an upper angular extension forming a hasp member to engage a portion of the shackle.

6. In a box of the class set forth, the combination of a body having a top or cover with a slot through the forward portion thereof, a shackle member gravitatingly held on the top or cover and provided with an eye movable through the said slot, and a front movably attached to the body and having an upper hasp member with a slot therein to receive the said eye.

7. In a box of the class set forth, the combination of a body fully closed at the back, ends and bottom and open at the front side, a fixed top on the body, a front closing member movably attached to the lower portion of the body and having flanges to embrace the ends of the body, one of the flanges being provided with a projection, and a signal device having a shank pivotally secured to one end portion of the body and provided with a throat opening through one edge, the throat of the slot being disposed diagonally with respect to the shank, the signal device being locked down in horizontal position when the front member is closed and released when the said member is opened.

8. In a box of the class set forth, the combination of a body comprising a back, opposite ends, and a top or cover formed from a single piece of material bent at different angles without joints or seams, the top or cover being upwardly inclined regularly from the rear towards the front of the box and of greater width than the transverse extent of the latter and projected over the front of the box to form a guard, the guard having the same upward inclination as the top or cover, a bottom secured in the body and elevated above the lower edges of the back and ends, and a front closing member adapted to expose the entire front of the body and movably attached at its lower edge to the lower portion of the body front, the opposite free edge of the front closing member snugly fitting under the guard when shut, and the upward inclination of the guard permitting said member to be freely opened and closed.

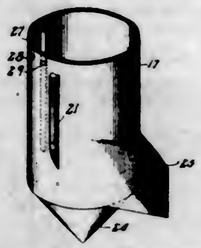
9. In a box of the class set forth, the combination of a body comprising a back, ends, and a top or cover formed from a single piece of material bent at different angles without joints or seams, the top or cover being upwardly inclined regularly from the rear towards the front of the box and of greater width than the transverse extent of the latter and projected over the front of the box to form a guard, the guard being continued in the same upward inclined plane as the remaining portion of the top or cover, the front portion of the body of the box being normally open from the guard downward to the lower portion thereof, a bottom secured in the body and elevated above the lower edges of the back and ends, a drop front movably attached at its lower edge to the lower portion of the body and having terminal flanges extending throughout the length of the ends thereof to embrace adjacent portions of the ends of the body, the free edge of the drop front fitting snugly under and close to the guard when said front is shut, and the guard, by its upward inclination, permitting free opening and closing movements of the said front, and locking means carried in part by the guard and the free edge of the drop front.

10. In a box of the class set forth, the combination of a body having a back, ends, and a top or cover formed from a single piece of material and bent at different angles to provide the said respective parts of the body, the top or cover being inclined upwardly towards the front of the box and extended to form a guard to shield the interior of the box when the latter is opened, a bottom secured within the body and located in a plane above the lower edges of the ends and back, a fixed strip extending across the lower portion of the open front of the body, and a front closing member movably attached to the lower portion of the body.

11. In a box of the class set forth, the combination of a body having the back, ends and top or cover formed of one piece, and the front portion open, a fixed strip extending across the lower portion of the open front of the body, a bottom elevated and secured within the body and having depending side and end flanges for holding the same in attached position, and a front closing member movably attached to the lower portion of the body and movable over the said strip.

12. In a box of the class set forth, the combination of a body open at the front and having a drop closing member for said front, a bottom secured within the body, and a removable drawer located in one of the upper corners of the body close to the top of the latter, the portion of the body below the drawer or from the bottom upward being clear and unobstructed for the reception of mail matter, the drop front being provided with an opening for the introduction of mail matter into the box when said front is closed.

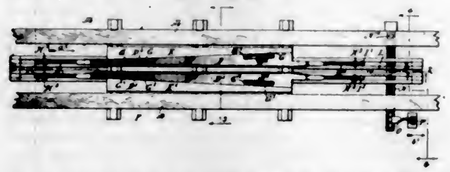
869,845. SHUTTLE. ERNEST C. IVES, Warren, Pa., assignor of one-half to James H. Perks and Thomas Perks, Warren, Pa. Original application filed Aug. 17, 1905, Serial No. 274,601. Divided and this application filed Feb. 7, 1906. Serial No. 299,963.



1. A shuttle, comprising a hollow cylindrical casing, open at one end and closed at its opposite end by a conical bottom, a loop spreader projecting from one side of the lower end of the cylindrical part of said casing, the sides of which loop spreader are angularly disposed with relation to each other and tangential to the outer surface of the casing, and diametrically opposed longitudinal ribs on the outer side of and shorter than said casing, the lower end of each rib tapering towards the casing.

2. A shuttle, comprising a hollow cylindrical casing open at one end and closed at its opposite end by a conical bottom, said casing having thread holes passing through its wall near its open end and a longitudinal slot extending substantially from the bottom to top thereof, an angular loop spreader projecting from one side of the casing at its junction with the conical bottom, the sides of which loop spreader are tangential to the outer surface of said casing, the dividing edge of said loop spreader having its lower part parallel to the axis of the casing and its upper part inclined inwardly thereto, and diametrically opposed longitudinal ribs on the outside of said casing, the lower ends of which are inwardly tapered, said ribs being shorter than the casing.

869,846. BRAKE MECHANISM FOR INCLINED RAILWAYS. STEPHEN E. JACKMAN, New York, N. Y. Filed Feb. 28, 1907. Serial No. 359,715.



1. An apparatus of the class described provided with a brake mechanism arranged in the track, for braking a car traveling on the track, the said brake mechanism comprising a beam on the car, and a brake shoe on the track for engagement with the said beam, manually controlled means connected with the ends of the said shoe, to move the latter in the direction of its length, and means for bodily moving the brake shoe transversely in and out of engagement with the said beam.

2. An apparatus of the class described provided with a brake mechanism comprising a beam on the car, a brake shoe in the track of the apparatus, for engagement with the said beam, manually controlled means for shifting the brake shoe in the direction of its length, and means for moving the brake shoe transversely on shifting it lengthwise, to move it in or out of engagement with the said car surface.

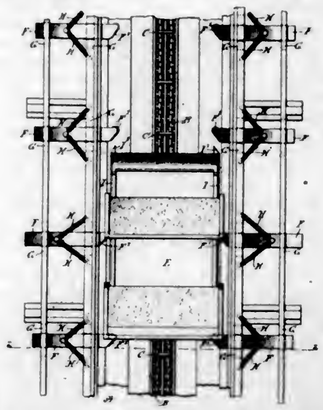
3. An apparatus of the class described provided with a brake mechanism comprising a wedge-shaped brake shoe in the track of the apparatus, for engagement with a surface on the car traveling over the said track, a wedge fixed in the track on which slides the said brake shoe, to move into and out of engagement with the said car surface, and manually controlled means for shifting the said brake shoe in the direction of its length.

4. An apparatus of the class described provided with a brake mechanism comprising a wedge-shaped brake shoe in the track of the apparatus, for engagement with a surface on the car traveling over the said track, a wedge fixed in the track on which slides the said brake shoe, to move into and out of engagement with the said car surface, the said brake shoe having a lining on its brake face, the lining being fastened at the ends and capable to bulge, and manually controlled means for shifting the said brake shoe in the direction of its length.

5. An apparatus of the class described provided with a track having a manually controlled brake mechanism arranged in the track, to engage and brake the car on its downward travel, the said brake mechanism comprising a brake beam arranged longitudinally on the car, wedge-shaped brake shoes arranged longitudinally in the track and adapted to engage opposite side faces of the said brake beam, wedges fixed in the track and engaged by the said brake shoes, and manually controlled means for imparting a lengthwise sliding motion to the said brake shoes, to move the same in and out of engagement with the said side faces of the car brake beam.

6. An apparatus of the class described provided with a track having a manually controlled brake mechanism arranged in the track to engage and brake the car on its downward travel, the said brake mechanism comprising a brake beam arranged longitudinally on the car, wedge-shaped brake shoes arranged longitudinally in the track and adapted to engage opposite side faces of the said brake beam, wedges fixed in the track and engaged by the said brake shoes, links connected with the ends of the said brake shoes, upright levers connected with the said links, a reach rod connecting the said upright levers with each other, a transverse lever connected with the said reach rod, and a hand lever under the control of the operator and connected with the said transverse lever.

869,847. SAFETY DEVICE FOR INCLINED RAILWAYS. STEPHEN E. JACKMAN, New York, N. Y. Filed May 4, 1907. Serial No. 371,769.



1. An apparatus of the class described provided with an inclined railway, and safety retaining arms mounted to slide on the track, projecting with their inner ends into a retaining position in the path of a car, the latter imparting an outward sliding motion to the arms, to hold the same in an outward position until the end of the car releases the arms, for the latter to return to retaining position.

2. An apparatus of the class described provided with an inclined railway, and safety retaining arms mounted to slide on the track, projecting with their inner ends into a retaining position in the path of a car, the latter imparting an outward sliding motion to the arms to hold the same in an outward position until the end of the car releases the arms, for the latter to return to retaining position, and means for returning the said retaining arms to retaining position.

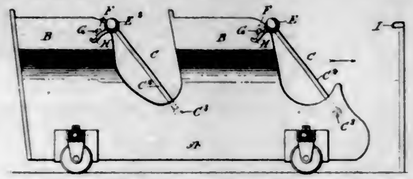
3. In an apparatus of the class described, the combination of an inclined railway, a car adapted to travel thereon and provided at its sides with longitudinally extending rubbing irons having beveled heads and retaining arms movable on the track and projecting into the path of the car in line with the said rubbing irons, for the latter to engage the retaining arms and move the same into an outward position, the rubbing irons on leaving the retaining arms adhering to the latter to return to retaining positions.

4. In an apparatus of the class described, the combination of an inclined railway, a car adapted to travel thereon and provided at its sides with longitudinally extending rubbing irons having beveled heads, and retaining arms mounted to slide transversely on the track and projecting into the path of the car in line with the said rubbing irons, for the latter to engage the said retaining arms and slide the same outward, and springs pressing the said retaining arms, to return the same to retaining position at the time the rubbing irons disengage the retaining arms.

869,848. LOCKING DEVICE FOR SEAT-GUARDS. STEPHEN E. JACKMAN, New York, N. Y. Filed May 4, 1907. Serial No. 371,770.

1. A locking device for the seat guard of a vehicle comprising a locking hook mounted to swing on the hand rail

of the seat guard, and a stud on the seat and adapted to be engaged by the said locking hook.



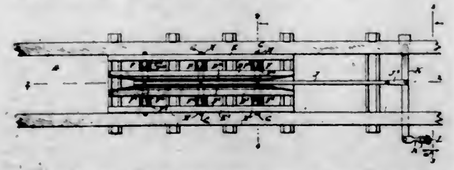
2. The combination with a vehicle and a seat guard mounted to swing on the vehicle body and adapted to extend across the front of the vehicle seat, of a locking device comprising a hook mounted on the said seat guard, and a stud on the vehicle seat and adapted to be engaged by the said hook.

3. The combination with a vehicle and a seat guard mounted to swing on the vehicle body and having a hollow hand rail extending across the front of the vehicle seat, of a locking device comprising a rod extending through the said hand rail and mounted to turn therein, hooks on the said rod outside of the hand rail, and studs on the car seat and adapted to be engaged by the said hooks.

4. The combination with a vehicle and a seat guard mounted to swing on the vehicle body and having a hollow hand rail extending across the front of the vehicle seat, of a locking device comprising a rod extending through the said hand rail and mounted to turn therein, hooks on the said rod outside of the hand rail, and studs on the car seat and adapted to be engaged by the said hooks, the latter extending rearwardly and approximately at a right angle to the side bars of the seat guard.

5. The combination with a vehicle and a seat guard mounted to swing on the vehicle body and having a hollow hand rail extending across the front of the vehicle seat, of a locking device comprising a rod extending through the said hand rail and mounted to turn therein, hooks on the said rod outside of the hand rail, studs on the car seat and adapted to be engaged by the said hooks, a trip arm on the said rod, and an inclined block for engagement by the said trip arm.

869,849. BRAKE MECHANISM FOR INCLINED RAILWAYS. STEPHEN E. JACKMAN, New York, N. Y.. Filed May 15, 1907. Serial No. 373,728.



1. An apparatus of the class described provided with a brake mechanism arranged in the track for braking a car traveling on the track, the said brake mechanism comprising a beam on the car, a brake shoe on the track for engagement with the said beam, and a manually controlled cam mechanism for moving the brake shoe transversely in engagement with the said beam.

2. An apparatus of the class described provided with a brake mechanism arranged in the track for braking a car traveling on the track, the said brake mechanism comprising a beam on the car, a brake shoe on the track for engagement with the said beam, a manually controlled cam mechanism for moving the brake shoe transversely in engagement with the said beam, and spring-pressed means connected with the said brake shoe, to return the latter to an inactive position.

3. An apparatus of the class described provided with a brake mechanism arranged in the track for braking a car traveling on the track, the said brake mechanism comprising a beam on the car, a brake shoe on the track for engagement with the said beam, and cams movable one on the other for moving the brake shoe transversely in engagement with the said beam.

4. An apparatus of the class described provided with a brake mechanism arranged in the track for braking a car traveling on the track, the said brake mechanism comprising a beam on the car, a brake shoe on the track for engagement with the said beam, cams movable one on the other for moving the brake shoe transversely in engagement with the said beam, and a manually controlled device connected with one of the said cams to actuate the latter.

5. An apparatus of the class described provided with a brake mechanism arranged in the track for braking a car traveling on the track, the said brake mechanism comprising a beam on the car, a brake shoe on the track for engagement with the said beam, a brake shoe cam for moving the brake shoe toward the said beam, and a manually controlled cam for actuating the said brake shoe cam.

6. An apparatus of the class described provided with a brake mechanism arranged in the track for braking a car traveling on the track, the said brake mechanism comprising a beam on the car, a brake shoe on the track for engagement with the said beam, a brake shoe cam for moving the brake shoe toward the said beam, a manually controlled cam for actuating the said brake shoe cam, and a spring for returning the brake shoe to normal inactive position.

7. An apparatus of the class described provided with a brake mechanism comprising a brake shoe movable transversely on the track and adapted to engage the car traveling over the track to brake the same, a manually controlled cam mechanism for moving the said brake shoe transversely in engagement with the car, and a spring for returning the brake shoe to normal position.

8. An apparatus of the class described provided with a brake mechanism comprising a brake shoe movable transversely on the track and adapted to engage the car traveling over the track to brake the same, a fixed cam, and a cam lever under the control of the operator for actuating the said fixed cam to shift the brake shoe into active position for braking the car.

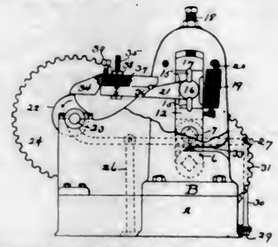
9. An apparatus of the class described provided with a brake mechanism comprising a brake shoe movable transversely on the track and adapted to engage the car traveling over the track to brake the same, a fixed beam arranged approximately parallel to the said brake shoe, and a cam mechanism interposed between the said brake shoe and the fixed beam for shifting the brake shoe.

10. An apparatus of the class described provided with a brake mechanism comprising a brake shoe movable transversely on the track and adapted to engage the car traveling over the track to brake the same, a fixed beam arranged approximately parallel to the said brake shoe, a cam mechanism interposed between the said brake shoe and the fixed beam for shifting the brake shoe into locking position, and a spring for returning the brake shoe to normal inactive position.

11. An apparatus of the class described provided with a brake mechanism comprising a brake shoe movable transversely on the track and adapted to engage the car traveling over the track to brake the same, a fixed beam arranged approximately parallel to the said brake shoe, transverse rods on the brake shoe and extending through the said beam, springs on the said rods for moving the brake shoe into a normal inactive position, cams fixed on the said rods, and cam levers mounted to turn on the said rods, the said cams having contacting cam faces.

12. An apparatus of the class described provided with a brake mechanism comprising a brake shoe movable transversely on the track and adapted to engage the car traveling over the track to brake the same, a fixed beam arranged approximately parallel to the said brake shoe, transverse rods on the brake shoe and extending through the said beam, springs on the said rods for moving the brake shoe into a normal inactive position, cams fixed on the said rods, cam levers mounted to turn on the said rods, the said cams having contacting cam faces, and manually controlled means for actuating the said cam levers simultaneously.

869,850. MACHINE FOR ROLLING CARPENTERS' SQUARES. HORACE K. JONES, Hartford, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation. Filed Oct. 4, 1904. Serial No. 227,105.



1. The combination of a frame with the rolls mounted therein, one of the said rolls being movable to and from the other, a cam mounted in the frame separately from the said rolls, toggle links and a lever having a head at one end lying between the said links and by which the lever is fulcrumed, the other end of the said lever being acted on by the said cam and means for adjusting the axial position of the said head without changing the throw of the lever as acted upon by the said cam.

2. The combination of rolls relatively movable to and from each other with a cam moving in connection with the said rolls, toggle links acting to force the said rolls together, a two-part lever for operating the said toggle links, one part of which lever bears upon the said cam and the other part of which lies between the inner ends of the said toggle links for operating them, and means for adjusting the position of that part of the said lever that lies between the inner ends of the said links, for varying the angles that the said links will have at both ends of their stroke as operated through the said lever and cam.

3. In a machine for rolling tapering blades, the combination of a pair of rolls movable one towards the other, a cam moving in unison with the said rolls, mechanism for forcing the said rolls together, and a lever for operating the said mechanism, the said lever consisting of a lever body connected with the said mechanism for forcing the rolls together, a sub-lever hinged to the said body and extended to bear upon the said cam, a bolt passing through the said body and sub-lever to limit their separation, and a set screw to limit their movement towards each other.

4. In a machine for rolling tapering blades, the combination of the rolls relatively movable to and from each other, mechanism for forcing the said rolls together, a lever for actuating the said mecbanism consisting of a body portion connected with the said mechanism for forcing the rolls together and a sub-lever mounted thereon, an actuator acting upon the said sub-lever, and means for adjustably connecting the said body portion and sub-lever together and which also serves as a breakable connection.

869,851. BEVEL. ERNEST A. KING, Philadelphia, Pa., assignor to Henry Disston & Sons, Incorporated, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Aug. 3, 1907. Serial No. 386,894.

1. The combination in a bevel, of a two part stock, a blade mounted between the two parts of the stock, a transverse bolt having a beveled portion, said bolt being attached to one part and free to move in the other part of the stock, a ball arranged to bear against the beveled portion of the bolt, and means for adjusting the ball, substantially as described.

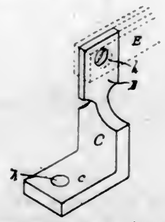
2. The combination in a bevel, of a two part stock, a blade adjustably mounted between the two parts of the stock, a transverse bolt passing freely through one part and secured to the other part, said bolt having a beveled portion, a socket in one part, a ball mounted in the socket arranged to bear against the beveled portion of the bolt, and a screw extending through the stock for adjusting the ball, substantially as described.

3. The combination in a bevel, of a stock made in two parts rigidly connected together at one end and connected together by a screw bolt at the opposite end, a slotted blade mounted between the two parts of the stock, a screw bolt passing through the slot in the blade, said screw bolt having a beveled head, a socket arranged in one part of the stock at right angles to the bolt, a ball in the socket arranged to bear against the beveled head of the screw bolt, and means for adjusting the ball so as to force it against the beveled head of the screw bolt in order to confine the blade between the two parts of the stock, substantially as described.



4. The combination in a bevel, of a stock having a fixed and a movable part, a blade mounted between the two parts near one end, a headed screw bolt passing freely through the fixed part of the stock and screwed into the threaded opening in the adjustable part of the stock, said screw also passing freely through the opening in the blade, the head of the bolt being beveled, a socket arranged at right angles to the bolt, a ball in the socket arranged to bear against the beveled portion of the head, a longitudinal screw mounted in the fixed portion of the stock and having a threaded portion adapted to a threaded opening forming a continuation of the socket, so that on turning the screw in one direction the ball will be forced against the beveled portion of the transverse bolt and will cause the adjustable part of the stock to retain the blade rigidly to the fixed part, substantially as described.

869,852. CLIP FOR ELECTRICAL APPARATUS. HUBERT KRANTZ, Brooklyn, N. Y. Filed July 5, 1904. Serial No. 215,330.

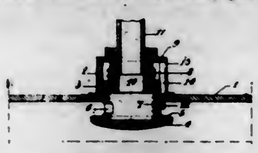


An L-shaped terminal clip for electrical apparatus, comprising a base of substantial thickness, an upstanding portion integral with the base and bent at right angles thereto, said upstanding portion having cut-away shoulders at the top and a narrow neck terminating in an integral plate of less thickness than the upstanding portion and lying in a plane at right angles thereto and perpendicular to the plane of the base.

869,853. SYSTEM FOR CLOSING RECEPTACLES. PIERRE LAMOUROUX, Paris, France, assignor to T. W. Stemmler, New York, N. Y. Original application filed Nov. 17, 1905, Serial No. 287,821. Divided and this application filed Oct. 1, 1906. Serial No. 336,891.

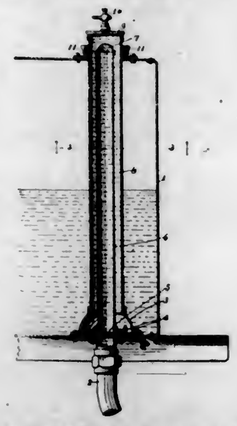
A receptacle provided with an upstanding neck, said neck being grooved and provided with an opening in its

side wall at the upper end of such groove, a plate provided with a downwardly extended exteriorly threaded nut portion fitted to said neck, said plate and nut portion having a central opening angular in cross section, and a sleeve fitted in said neck and having a flanged head at one end closing the same and interiorly threaded to engage the nut portion of the plate, said sleeve having a compressible ring carried on the flange and an opening in its side walls, said sleeve also being provided with a



channeled feather to engage the groove in the neck whereby said sleeve is kept from turning in the neck, the parts being so arranged that the sleeve may be moved to compress the ring between the flange and the inner wall of the receptacle, or may be moved to provide communication with the interior of the receptacle through the opening in the side wall of the sleeve and the central openings in the sleeve and plate and through the channeled feather and groove and opening in the neck.

869,854. TANK-SIPHON FOR LOCOMOTIVES. CHARLES W. LA RUE, Grand Rapids, Mich., assignor of one-fifth to Fred H. La Rue, one-fifth to Frank J. La Rue, and one-fifth to Alice P. La Rue, Grand Rapids, Mich., and one-fifth to William L. Wilcox, Leroy, Mich. Filed Dec. 26, 1906. Serial No. 349,572.



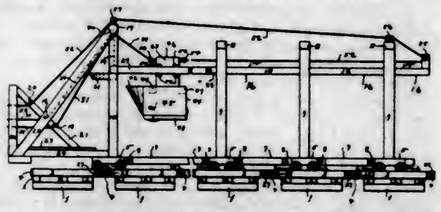
1. In combination with a tank, and a hose opening into the bottom thereof; an inner pipe connected to the hose and extending upward within the tank, a strainer on the upper end of the said pipe, an outer pipe inclosing the inner pipe and the strainer and spaced apart therefrom, and means for admitting fluid to the lower end of the outer pipe.

2. In combination with a tank and a hose opening into the bottom of the tank, an inner pipe connected to the hose and extending upward within the tank, an outer pipe surrounding the inner pipe and spaced apart therefrom and also extending through the top of the tank and slidable therein, a gland on the top of the tank and surrounding the outer pipe, a cap on the outer pipe, an air cock in the cap and means for admitting fluid to the lower end of the outer pipe.

3. The combination of a tank, a hose opening into the bottom of the tank, a dome-shaped member on the bottom of the tank and having a bottom opening opposite the hose and lateral openings, an inner pipe connected through the bottom opening with the hose and extending upward in the tank, an outer pipe surrounding the inner pipe and spaced apart therefrom, said outer pipe being inserted in the top of the dome and opening into the same at the lower end, a cap closing the upper end of the outer pipe, and an air cock in the cap.

4. The combination of a tank, a hose opening into the bottom of the tank, a dome-shaped member having a bottom opening opposite the hose and lateral openings near its base, an inner pipe connected to the hose and extending upward therefrom, a strainer on the upper end of said pipe, an outer pipe surrounding the inner pipe and spaced apart therefrom and also attached to the top of the dome and opening into the same, a cap closing the top of the outer pipe, an air cock in the cap, and a gland on the top of the tank and surrounding the outer pipe.

869,855. EXCAVATING AND FILLING MECHANISM. WILLIAM Z. LAUGHTERBACK, South Omaha, Nebr., assignor of one-fourth to John D. Cook, South Omaha, Nebr. Filed Dec. 20, 1906. Serial No. 348,748.

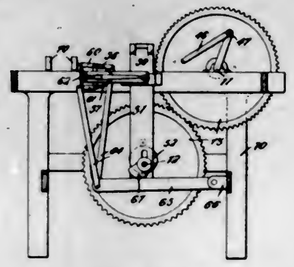


1. In excavating and filling mechanism, the combination with a lengthwise-movable frame having a conveying trackway sustained thereon; of a track-portion hingeably connected with one of the ends of the conveying trackway, and having a cutting-blade secured upon its free end; a receptacle adapted to be sustained by the conveying trackway and by the hingeably connected track-portion; means to cause a swinging movement of the hingeably connected track-portion, and means to cause a movement of said receptacle in a direction in alinement with said conveying trackway and said hingeably connected track-portion.

2. In combination, mechanism for the purpose described, comprising a pair of adjacently-disposed parallel trackways; a frame; a trackway secured upon said frame; a series of sustaining-platforms lengthwise movable upon each of the adjacently-disposed parallel trackways and having said frame secured thereon; said trackway upon the frame having an oscillatory end-portion with a cutting-blade secured upon its free end; a guide-plate having a receptacle secured thereon and adapted to have a seating upon the trackway upon said frame and upon the oscillatory end-portion of said trackway; means to cause an oscillatory movement of said end-portion of the trackway upon said frame, and means to cause a lengthwise movement of said guide-plate upon the trackway upon said frame and upon the oscillatory end-portion of said trackway.

3. In combination, mechanism as described, comprising a pair of adjacently-disposed parallel trackways formed as lengthwise-extending separable sections: a frame; a trackway secured upon said frame; a series of sustaining-platforms lengthwise movable upon each of the adjacently-disposed parallel trackways and having said frame secured thereon; said trackway upon the frame having a hinged end-portion with a circular cutting-blade secured upon its free end; a guide-plate having a receptacle secured thereon and adapted to have a seating upon the trackway upon said frame and upon the hinged end-portion of said trackway; means to cause a swinging movement of said hinged end-portion of the trackway upon said frame, and means to cause a lengthwise movement of said guide-plate upon the trackway upon said frame and upon the hinged end-portion of said trackway.

869,856. BOBBIN-STRIPPER. WARNER B. LEATHERS, New Holland, Ga. Filed June 5, 1906. Serial No. 320,296.



1. In a device of the class specified, a bobbin stripping member, a bobbin carrier, and means for feeding the carrier and its bobbin past said member.

2. In a device of the class specified, a plurality of stripping members arranged to engage against the opposite sides of a bobbin, a bobbin carrier, means for feeding bobbins thereto, means for effecting relative movement of the carrier and stripping members, and means for dislodging the bobbin from the carrier.

3. In a device of the class specified, a bobbin carrier, a stripping member, means for moving the carrier past said member, and means for dislodging the bobbin from the carrier.

4. In a device of the class described, a bobbin carrier, means for feeding bobbins thereto, a stripping member, means for moving the carrier past said stripping member, and means for dislodging the bobbin from the carrier.

5. In a device of the class specified, a reciprocatory bobbin carrier movable between a receiving and a discharge point, means for feeding bobbins to the carrier, means for dislodging the bobbins, and a stripper arranged between said receiving and discharge points.

6. In a device of the class described, a movable bobbin carrier, means for automatically feeding bobbins thereto, a stripper, means for moving the carrier past the stripper, and means for dislodging the bobbin.

7. In a machine of the class described, a bobbin carrier, feeding fingers for conveying bobbins to the carrier, means for automatically presenting successive bobbins in position to be engaged by the feeding fingers, means for forcing the bobbins from the fingers into the carrier, a stripper, means for moving the carrier past the stripper, and means for dislodging the bobbin from the carrier.

8. In a machine of the class described, a bobbin carrier, a pair of revoluble disks having bobbin receiving notches, a supply chute through which said disks rotate to receive successive bobbins, feeding fingers, means for operating the same to engage and carry the successive bobbins from the disks to the carrier, means for forcing the bobbins from the fingers into the carrier, a stripper, means for moving the carrier past the stripper, and means for dislodging the bobbin from the carrier.

9. In a machine of the class described, the combination with a bobbin carrier, of a pair of revoluble feed disks having notches for the reception of bobbins, a supply chute through which the disks move to receive the bobbins, yieldable guard fingers for maintaining the bobbins in the notches, a shaft carrying the disks, a ratchet wheel on said shaft, feeding fingers arranged to engage and remove the successive bobbins from the disks and force the same past said guard fingers, a pawl movable with the fingers and arranged to engage the ratchet wheel to impart step by step rotative movement to the disks, means for forcing the bobbins from the fingers into the carrier, a stripper, means for moving the carrier past the stripper, and means for dislodging the bobbins from the carrier.

10. In a machine of the class described, the combination with a bobbin carrier, of a pair of notched bobbin feeding disks, spring guard fingers for maintaining the bobbins in position on the disks, a supply chute through which said disks move, a shaft carrying said disks, a ratchet wheel on the shaft, a rock shaft, feeding fingers carried by the rock shaft and arranged to engage and carry the successive bobbins from the disks to the carrier, an arm on said rock shaft, a ratchet wheel engaging pawl on said arm, means for forcing the bobbins from the fingers into the carrier, a stripper, means for moving the carrier past the stripper, and means for dislodging the bobbins from the carrier.

11. In a machine of the class described, the combination with a bobbin carrier, of a pair of notched bobbin receiving disks, spring guard fingers for holding the bobbins in the disks, a supply chute through which the disks move, a shaft carrying the disks, a ratchet wheel on said shaft, a rock shaft, a pair of clamping fingers carried by the rock shaft and provided with movable clamps, said fingers and clamps being arranged to engage and carry the bobbins from the disks to the bobbin carrier, a rocker arm on said rock shaft, a ratchet wheel engaging pawl on said rocker arm, a stripper, means for moving the carrier past the stripper, and means for dislodging the bobbins from the carrier.

12. In a machine of the class described, the combination with a bobbin carrier, of an oscillatory feeding finger having a bobbin receiving recess, a spring pressed clamp pivoted to the finger and having a mating recess, the adjacent faces of the finger clamp being inclined to permit the passage of the bobbin into the recesses, means for presenting successive bobbins into the path of movement of said finger, means for forcing the bobbins from the finger into the carrier, a stripper, means for moving the carrier past the stripper, and means for dislodging the bobbins from the carrier.

13. In a machine of the class described, a bobbin carrier, a pair of stripper fingers having transversely curved bobbin engaging ends, means for opening the fingers to permit the passage of the carrier, means for closing the fingers on the bobbin, and means for dislodging the bobbin from the carrier.

14. In a machine of the class described, the combination with a bobbin carrier, a pair of crank shafts, stripping-fingers carried by said shafts and arranged to engage the bobbin at diametrically opposite points, arms projecting from said shafts, a spring connecting the arms and tending to open the fingers, cam actuated links connected to the shafts and arranged to close the fingers on the bobbin, means for moving the carrier past the stripping fingers, and means for dislodging the bobbins from the carrier.

15. In a machine of the class described, the combination with a stripper, of a reciprocatory bobbin carrier, spring clamps supported thereby and arranged to engage the bobbin, and means for automatically dislodging the bobbin.

16. In a machine of the class described, a stripper, a bobbin carrier, spring clamps on said carrier for engaging the opposite end portions of the bobbin, and means for automatically dislodging the bobbin.

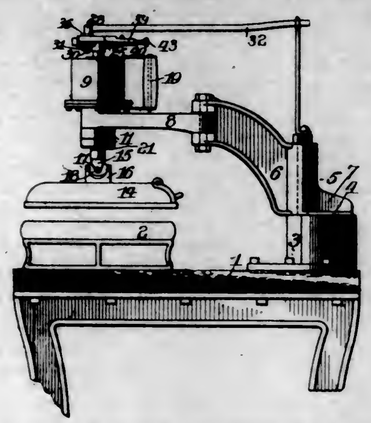
17. In a machine of the class described, a stripper, a bobbin carrier, a leaf spring engaging the smaller end of the bobbin, and a pair of spring actuated clamping fingers for engaging the large end of the bobbin.

18. In a machine of the class described, the combination with a stripper, of a bobbin carrier open at top and bottom, means for inserting a bobbin through the open top of the carrier, and means for dislodging the bobbin and forcing the same same through the open bottom of the carrier.

869,857. PRESSING-MACHINE. JOSEPH LEHR, Rochester, N. Y., assignor of one-half to Martin H. Schirmer, Rochester, N. Y. Filed Oct. 17, 1902. Serial No. 127,727.

1. In a machine for pressing garments, the combination with a support and an arm pivotally supported at one side of the latter and swinging over it in a horizontal plane only, of a cylinder carried on the free end of said arm, a piston operating in the cylinder having a rod and a sad-iron attached thereto, means at the free outer end of the arm operating to normally move the sad-iron away from the support, means for supplying fluid under pressure to

the cylinder to move the sad-iron toward the support and a valve for controlling the fluid supply to the cylinder.



2. In a pressing machine, the combination with a support, a jointed arm extended over the latter and swinging only in a horizontal plane, a cylinder thereon, a piston operating in said cylinder and a sad-iron attached to the piston and movable toward and from the support, of a retracting device arranged within the cylinder for normally holding the sad-iron out of contact with the support, means for supplying fluid under pressure to the cylinder to move the sad-iron toward the support, a handle for guiding the sad-iron and a valve for controlling the operation of the piston arranged in proximity to the handle.

3. In a pressing machine, the combination with a support, a movable arm located above the latter and a cylinder journaled on the arm and having an operating handle attached thereto, of a piston in the cylinder, a sad-iron attached thereto, means for supplying pressure to the cylinder and a valve for controlling the movement of the piston.

4. In a pressing machine, the combination with a support, a movable arm located above the latter and a cylinder having the extension journaled in the arm, a piston in the cylinder, a rod attached thereto and operating through said extension and a sad-iron connected to the rod and permitted a universal movement relative the support, of a handle on the cylinder, means for supplying pressure to the latter, a valve controlling the movement of the piston and a valve operating device arranged in proximity to the handle.

5. In a pressing machine, the combination with a support, a cylinder having a piston therein and a pressing head attached to the piston, of a valve casing connected to the cylinder having an inlet port, a valve operating therein having the stem provided with a passage, a plunger controlling said passage and means for operating it to open the valve.

6. In a pressing machine, the combination with a support, a cylinder having a piston therein and a pressing head attached to the latter, a valve casing connected to the cylinder having an inlet port, a valve controlling the latter having a stem provided with an exhaust passage, a plunger controlling the latter and movable to operate the valve and a latch for retaining the plunger to hold the valve in the open position.

7. In a pressing machine, the combination with a support, a movable arm operating over the latter, a cylinder rotatably mounted on the arm having a piston and a pressing head thereon, of a casing attached to the cylinder having a passage and a port therein, a head rotatably mounted on the casing having the passage communicating with the passage in the casing and a fluid supply pipe attached to the head, a valve coöperating with the port and means for operating it.

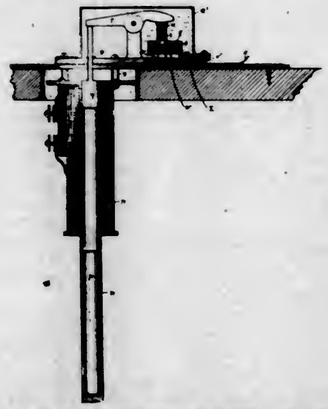
8. In a pressing machine, the combination with a support, operating devices movable relatively thereto and a sad-iron having a jaw, of a jaw on the operating devices, said jaws having the concaved inner surfaces, a ball arranged between the jaws and engaging said surfaces and pivoted connections between the jaws and ball.

9. In a pressing machine, the combination with a freely movable support, a cylinder rotatably mounted thereon adapted to receive fluid under pressure and having a piston and a pressing head attached to the piston, of a valve casing connected to the cylinder having an inlet port and a valve, a rotatable head journaled in said casing having the passage communicating with that in the casing and means for controlling the valve.

10. In a pressing machine, the combination with a support and an arm supported at one end at the side of the latter and movable only in a horizontal plane, of a pressing head and a motor device carried on the free end of the arm normally operating to move the head relatively thereto away from the support and when actuated operating to move the head toward said support and a manually operable controller for said motor device.

11. In a pressing machine, the combination with a support, an arm movable over the latter and a motor device journaled on the arm, a pressing head operated by said device relatively to the arm and toward the support, a handle attached to the motor whereby the pressing head may be rotated on the arm and guided thereby, and means for controlling the motor arranged in proximity to the handle.

869,858. CREDIT-MARKING APPARATUS. JOHN J. LEIDIGH, Milwaukee, Wis. Filed Jan. 24, 1906. Serial No. 297,562.

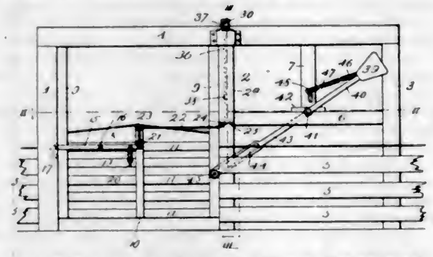


1. In a device of the described class, the combination of a perforated die table; a gage plate mounted thereon; a bracket supported from the gage plate; a puncher head yieldingly supported from said bracket and provided with punch pins adapted to pass through perforations in the gage plate to the perforations in the die table; a lever having one arm connected with the puncher head and an electro-magnetic hammer arranged in operative relation to the other arm of said lever.

2. In apparatus of the described class, the combination of a die table; a punch in operative relation thereto; a punch actuating lever; and an electro magnetic hammer for actuating the lever, together with a housing covering the punch and its actuating lever, and provided with a ticket receiving slot.

3. In apparatus of the described class the combination of a die table; a housing thereon provided with a ticket receiving slot, a lever fulcrumed within the housing; a punch provided with pins adapted to be projected across said ticket receiving slot; a post connected with the punch head in the path of one arm of said lever; a spring adapted to normally hold the post and puncher head in retracted position; an electro magnet located underneath said table; a movable bar extending through said table to the other arm of said lever; and an electro magnetic hammer, adapted, when the magnet is energized, to strike said bar and actuate said lever.

869,859. GATE. CHARLES E. RIFE, Kansas City, Kans. Filed July 26, 1907. Serial No. 385,608.



1. A sliding gate, a frame on which it is suspended, a rock-shaft mounted in said frame, a crank-arm loosely connected at one end to the gate and fixed at its opposite end to the rock-shaft, another crank-arm fixed to the rock-shaft, a counterweight on the free end of the last-mentioned crank-arm, and resilient means attached to the counterweight and the frame.

2. A sliding gate, a frame on which it is suspended, a rock-shaft mounted in said frame, a crank-arm loosely connected at one end to the gate and fixed at its opposite end to the rock-shaft, another crank-arm fixed to the rock-shaft, a counterweight on the free end of the last-mentioned crank-arm, resilient means attached to the counterweight, and a cable attached to said means and adjustably connected to the frame.

3. A sliding gate, a frame on which it is suspended, a rock-shaft mounted in said frame, an antifriction roller on the gate, a crank-arm fixed at one end to the shaft and having a slotted portion loosely engaging the antifriction roller, another crank-arm fixed to the rock-shaft, and a counterweight on the free end of the last-mentioned crank-arm.

4. A sliding gate, a frame on which it is suspended, a rock-shaft mounted in said frame, a crank-arm loosely connected at one end to the gate and fixed at its opposite end to the rock-shaft, another crank-arm fixed to the rock-shaft, a counterweight on the free end of the last-mentioned crank-arm, a latch pivoted on the gate, posts at each side of the gate a suitable distance therefrom, a sheave secured to each post, a cable attached to the latch and running over one of the sheaves, and another cable attached to the first-mentioned one and extending over the other sheave.

869,860. ORE-CONCENTRATING TABLE. FRANK E. SHEPARD, Denver, Colo., assignor to The Denver Engineering Works Co., a Corporation of Colorado. Filed June 4, 1906. Serial No. 320,174.



1. In combination in an ore concentrator, a table, a frame member therefor, a transversely disposed base on which the said frame member is mounted to turn on its longitudinal axis, supports for the said base on which it is free to rock on a transverse axis, a vertically adjustable support for the said frame member by which it may be rocked with the base on the said transverse axis, and means for adjusting the said frame member upon the longitudinal axis.

2. In combination in an ore concentrator, a table, a frame member therefor, a transversely disposed base on which the said frame member is mounted to turn on its longitudinal axis, supports for the said base on which it is free to rock on a transverse axis, means for supporting and vertically adjusting one end of said frame member and thereby rocking it with the base, and separate means for adjusting it on its longitudinal axis.

3. In combination in an ore concentrator, a table, a base member mounted to rock on a horizontal axis, a table supporting frame member rotatably mounted on the said base member to turn on an axis transverse to the first said axis and provided with a vertically adjustable support for rocking it with the said base on the first said axis and with another adjustable means for adjusting it on the second said axis.

4. In combination in an ore concentrator, a table, a base member mounted to rock on a horizontal axis, a table supporting frame member rotatably mounted on the said base member to turn on an axis transverse to the first said axis and provided with means for adjusting it separately on the respective axes.

5. In combination in an ore concentrator, a table, a base member mounted to rock on a horizontal axis, a table supporting frame member rotatably mounted on the said base member to turn on an axis transverse to the first said axis and provided with means for supporting and vertically adjusting the said frame member at another point, and means for adjusting the frame member on the last said axis.

6. In combination in an ore concentrator, a table, a longitudinal frame member, a transverse base in which the said frame member is rotatably secured, said base being supported near its respective ends to rock, a support for the frame remote from the said base, and means for adjusting the frame member in the said base.

7. In combination in an ore concentrator, a longitudinal frame member, a transverse base in which the said frame member is rotatably secured, said base being supported near its respective ends to rock, a support for the frame remote from the said base, and means for adjusting the frame member in the said base, a table movably mounted on the said frame member, and a head motion fixed on the said base for actuating the table.

8. In an ore concentrator, a longitudinal frame member, an end base at one end thereof extending crosswise of the said frame member having revoluble connection therewith, supports on which the said end base is mounted to rock with the endwise inclination of the said frame member, a head motion mounted on the said end base, a table mounted on the said frame member, and means for supporting and vertically adjusting the other end of the said frame member.

9. In an ore concentrator, a base, a frame member, one end of which is revolubly secured at right angles to said base, means for pivotally supporting said base, a cam supporting the other end of said member, a bearing pivotally supporting said cam, flexible blades secured to said frame member, a table secured to said flexible blades, means secured to one end of said member for reciprocating said table, means for adjusting said member in a longitudinal direction by said cam, and means independent of said supports for revolving said member.

10. In an ore concentrator, a longitudinal frame member, flexible blades extending laterally therefrom, a table mounted thereon, a base for one end of said frame member extending laterally therefrom and to which the said member is revolubly secured, vertically adjustable means for supporting the other end of the said frame member, and means for turning it on said base.

11. In an ore concentrator, a table, a frame comprising a longitudinally disposed member beneath said table, and horizontally disposed flexible blades connected at each end to said table and to the longitudinally disposed member of said frame at the middle of said flexible blades.

12. In an ore concentrator, a frame supported upon a foundation about three points, blades secured at the middle to said frame, and a table movably supported by said blades on the ends thereof.

13. In an ore concentrator, a T-shaped frame composed

of two members movably secured together, blades secured at the middle to one member of said frame, and a table movably supported by said blades on the ends thereof.

14. In an ore concentrator, the combination of a table, a central longitudinal frame member arranged beneath said table, and horizontally disposed transverse flexible supports secured at their middle portions at each end of the central frame member, the outer ends of said cross supports being connected to the table, whereby the supports are capable of being flexed about vertical axes when the table is moved longitudinally.

15. In an ore concentrator, the combination of a table, a central longitudinal frame member arranged beneath said table, and horizontally disposed transverse flexible cross supports secured at their middle portion at each end of the central frame member, and upright connections at each end of the cross supports connected to the table for supporting the bottom of the table above the cross supports.

16. In an ore concentrator, the combination of a table, a central longitudinal frame member arranged beneath said table, and horizontally disposed transverse flexible supports secured along the length of said central frame member and extending outwardly therefrom at each side, the outer free ends of said cross supports being connected to the table, whereby the supports are capable of being flexed about vertical axes when the table is moved longitudinally.

869,861. TOOL FOR REMOVING BUSHINGS. JESSE L. ALSPAUGH, Georgetown, Colo. Filed Mar. 5, 1907. Serial No. 360,797.



1. In a tool for the removal of bushings, a stock having a central bore and adapted to be inserted into said bushing, dogs seated in recesses in said stock, a spindle capable of longitudinal movement in said bore and having a pointed end adapted to engage said dogs and force them outwardly into firm engagement with the bushing and means for withdrawing said stock from the chuck.

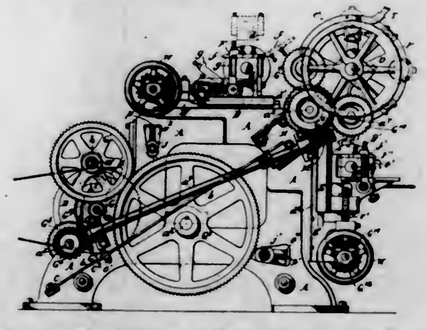
2. In a tool for the removal of bushings, a stock having a central bore, a spindle located within said bore and having a threaded section of larger diameter adjacent to the outer end thereof, a countersunk portion of said bore adapted to be engaged by said threaded section of said spindle whereby the rotation of said spindle acts to move the same longitudinally in said bore, dogs seated in recesses adjacent to the end of said stock, a pointed end to said spindle adapted to force said dogs outwardly into firm engagement with the bushing to be removed and means for imparting longitudinal movement to said stock whereby said bushing is drawn out of said chuck, substantially as described.

3. In a tool for the removal of bushings, a stock having a central bore and adapted to be partially inserted in said bushing and its chuck, a spindle located within said bore and having a threaded section of larger diameter adjacent to the outer end thereof, a countersunk portion of said bore adapted to be engaged by said threaded section of said spindle whereby the rotation of said spindle acts to move the same longitudinally in said bore, dogs having inclined inner faces seated in recesses adjacent to the end of said stock, a pointed end to said spindle adapted by its downwardly motion to force said dogs outwardly into firm engagement with said bushing by contact with the inner inclined faces thereof and means for withdrawing said stock with the bushing attached thereto, substantially as described.

4. In a tool for the removal of bushings, a stock having a central bore and adapted to be inserted into said bushing, dogs seated in recesses in said stock, a spindle capable of longitudinal movement in said bore and having a pointed end adapted to engage said dogs and force them outwardly into firm engagement with the bushing, a sleeve adapted to be slipped over the outer portion of said stock and bear against the chuck or other construction from which the bushing is to be removed and a force nut adapted to be screwed down on said stock against the outer end of said sleeve whereby said stock is drawn outwardly with said bushing attached, substantially as described.

5. In a tool for the removal of bushings, a stock having a central bore and adapted to be inserted into said bushing, dogs seated in recesses in said stock and having inclined rear faces, a spindle located within said bore and having a pointed lower end adapted to be forced down between said dogs to force the same outwardly into close engagement with the bushing to be removed, a counter sunk and threaded portion of said bore, a portion of said spindle of enlarged diameter and threaded to engage said countersunk and threaded portion of said bore whereby the rotation of said spindle moves the same longitudinally in said bore, a sleeve adapted to be slipped over the protruding end of said stock and bear against the chuck or other construction in which said bushing is held and a force nut adapted to be screwed down on the outer end of said stock against said sleeve whereby said stock is drawn outwardly with the bushing secured thereto, substantially as described.

869,862. DOUBLE-ARBOR LATHE. DANIEL BACON, New York, N. Y., assignor, by mesne assignments, to William Benedict Bull, Chicago, Ill. Filed Dec. 14, 1904. Serial No. 236,802.

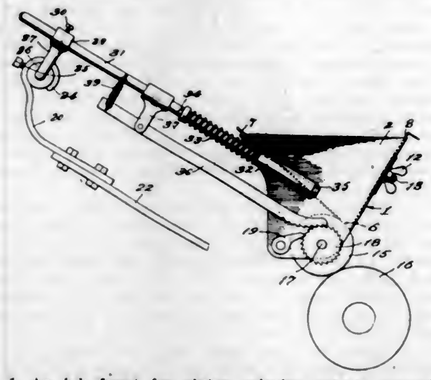


1. In a double arbor lathe, the combination of bed plates reciprocating in ways on the horizontal and vertical faces of the machine frame, cutters adjustably supported on said bed-plates, a chuck-carrying reel mounted in bearings of the frame with its shaft in the horizontal and vertical planes of travel of the cutters, a plurality of chucks carried by the reel, and a lock to hold the reel from movement when the appropriate chuck is in the plane of travel of a cutter.

2. In a double arbor lathe, the combination of bed-plates reciprocating in ways on the horizontal and vertical faces of the frame, cutters adjustably supported on said bed-plates, a chuck-carrying reel mounted in bearings of the frame, its shaft being in the horizontal and vertical planes of travel of the cutters, chucks carried by the reel, a fixed guide plate having guide openings at points in said plane of travel of the cutters, and a locking lever to engage an idle chuck and hold the reel rigid during the operation of the cutters.

3. In a double arbor lathe, the combination with cutters adapted for horizontal and vertical reciprocation in planes at right angles to each other, a chuck-carrying reel mounted in bearings in the frame with its shaft in the horizontal, and vertical plane of travel of the cutters, four chucks symmetrically spaced apart carried by the reel, a guide plate secured to the frame and provided with two guide openings in the horizontal and one guide opening in the vertical plane of travel of the cutters, and a locking lever having a notch positioned to engage the idle chuck of the reel when the other chucks of the reel are opposite the openings of the guide plate.

869,863. AUTOMATIC INK-FONT FOR PLATEN PRINTING-PRESSES. GUY O. BEEM and CHARLES H. MARTIN, Los Angeles, Cal. Filed Mar. 11, 1907. Serial No. 361,841.



1. An ink fount for platen printing presses comprising a track formed of a rod bent into an elongated U shape, an ink box provided with guides, one for each of the arms of the track, the same being mounted to move along said track, means for delivering ink from said ink-box, and means in which said arms are slidably mounted for adjustably mounting the track on a printing-press whereby the ink delivery means is held in the path of the inking roller of the press.

2. An ink fount comprising a track formed of a rod bent into an elongated U shape, an ink-box provided with guides movably mounted on the track and provided with an outlet, a roller at said outlet, and means for adjustably mounting the track on a press with the roller in the path of the inking roller of the press.

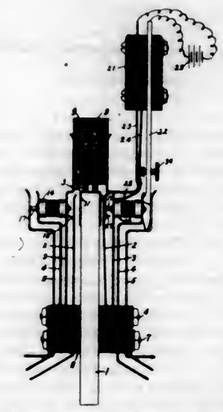
3. A bracket, a track formed of a rod bent into an elongated U shape, means for adjustably mounting the track on the bracket, an ink-box provided with guides mounted to move on the track, a roller tangent to the rear bottom wall to deliver ink from said box, a ratchet wheel on the roller, a pawl pivotally connected to the track and engaging the ratchet to rotate the roller at the rearward movement of the box on the track, and springs on the arms of the track to move the box forward.

4. A track, a box mounted on the track and provided with slides at the front and bottom to afford a slot through which ink may be delivered, a roller carried by the box to deliver ink from said slot, a ratchet wheel on the roller, a click for the ratchet wheel, and a pawl to engage the ratchet wheel to rotate the roller when the box is moved along the track in one direction.

5. A bracket, a track, means adjustably connecting the track with the bracket, a pawl connected with the track, an ink-box provided with an ink outlet, converging slides to close the outlet, a roller to deliver ink from said outlet and adapted to be covered by the rear bottom slide, a ratchet wheel connected with the roller, a click for said ratchet wheel, and a spring to yieldingly hold the pawl in engagement with the ratchet wheel.

6. The combination of a bracket adapted to be fastened to a printing press, a swivel-piece in said bracket provided with two arms, means for clamping the swivel-piece in the bracket, a U shaped track having its arms adjustable in the arms of the swivel-piece, means for clamping the same in said arms of the swivel-piece, springs on the track arms, stop means for said springs, an ink box provided with guides slidable along said arms and engaging said springs, means to retain said guides on said arms, and means for delivering ink from the bottom of said ink box.

869,864. AUTOMATIC RESETTING AND TESTING MEANS FOR THERMAL PROTECTORS. FRANK B. COOK, Chicago, Ill. Filed Apr. 28, 1906. Serial No. 314,195.



1. A resetting tool for a reversible electro-thermal protector having a central operable member, comprising means for applying current to the protector to heat same, and spring mechanism for operating the central operable member in one direction to reset same for another operation in a reversed direction.

2. A resetting tool for an electro-thermal protector having a central operable member, comprising means for applying current to the protector to heat same, and means for operating the central operable member when the protector is thus heated, the resetting tool being constructed to reset the protector in circuit for operation when removed therefrom.

3. A resetting tool for a reversible electro-thermal protector having a central operable member, comprising electromechanical means for heating the protector and operating the central operable member in one direction to set the protector for another operation in a reversed direction.

4. A testing device for an electro-thermal protector having a central operable member, comprising means for applying current to the protector to heat same, and means for operating the central operable member when the protector is thus heated, as a test on the condition of the protector.

5. A resetting tool for a reversible electro-thermal protector having a central operable spindle extending therethrough and a spring member bearing against one end of the spindle to operate same, comprising a portion for bearing the said spring member away from the end of the spindle, a spring member for engaging the opposite end of the spindle to operate same upon heating, and means for closing a heating current through the protector.

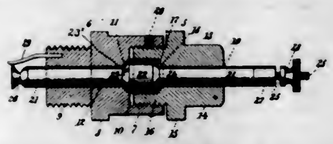
6. A resetting tool for an electro-thermal protector having an operable pin extending therethrough, comprising means for closing a circuit through the protector for heating, and a spring adapted to bear against one end of the said pin to operate same when the device is properly heated, for purposes substantially as described.

7. A testing tool for a heat cartridge having a central operable spindle, comprising means for closing a current through the cartridge to heat same, and means for moving

the spindle endwise when the cartridge is heated, to test same.

8. A resetting tool for electro-thermal protectors, comprising a rigid portion, a pair of spring members normally out of contact with each other, and a thumb piece carried by the rigid portion for depressing one of the spring members into electrical connection with the other and for arranging the position of the several members suitable for applying the tool to a protector to reset same.

869,865. SPARK-PLUG. ALFRED HOLSTEN, New York, N. Y. Filed Dec. 2, 1904. Serial No. 235,143.



1. A spark plug comprising a socket member, a contact electrode thereon, an insulated member arranged within said plug and adapted for reciprocation therein, oppositely closing valves arranged upon said insulated member, and a contact electrode carried by said insulated member, substantially as specified.

2. A spark plug comprising a socket member, a contact electrode thereon, a member arranged within said plug and adapted for movement therein, oppositely-closing valves arranged upon said member, a contact electrode carried by said valved member, and means for regulating the movement of said valved member, substantially as specified.

3. A spark plug comprising a socket member, a contact electrode thereon, a member arranged within said plug and adapted for reciprocation therein, oppositely-closing valves arranged upon said member, a contact electrode carried by said valved member, and means for regulating the reciprocation of said valved member, substantially as specified.

4. A spark plug comprising a socket member, a contact electrode thereon, a member arranged within said plug and adapted for reciprocation therein, oppositely-closing valves arranged upon said member, a contact electrode carried by said valved member, means for regulating the reciprocation of said valved member, and means for securing said regulating means to its adjusted position, substantially as specified.

5. A spark plug comprising a socket member, a contact electrode thereon, a member arranged within said spark plug and adapted to move freely therein, oppositely-closing valves arranged upon said member, a contact electrode carried by said member and insulated from said plug, and means for securing said valved member within said plug, substantially as specified.

6. A spark plug comprising a socket member, a contact electrode thereon, a member arranged within said plug and adapted to move freely therein, oppositely-closing valves arranged upon said member adapted to seat within said plug under influence of the motor piston in each direction, a contact electrode carried by said member, and means for securing said member within said plug, substantially as specified.

7. A spark plug comprising a socket member, a contact electrode thereon, a cap for said socket member, a member arranged partly within and partly without said socket member and cap, a contact electrode carried by said member, oppositely operating valves arranged upon said member, and means for securing said cap in position upon said plug, substantially as specified.

8. A spark plug comprising a socket member, a contact electrode thereon, a valve seat in said socket member, a bore extending therefrom, a cap for said plug having a valve seat, and a bore extending therefrom in line with the one in the socket member, an insulated stem arranged within said bores having oppositely operating valves adapted to seat upon the seats aforesaid, and a contact electrode carried by said stem, substantially as specified.

9. A spark plug comprising a socket member, a contact electrode therefor, a recess in said socket member, a cap adapted to be fitted into said recess, a member arranged to work within said socket member, said member having an enlarged portion disposed within the recess of said plug, and provided with oppositely operating valves, and a contact electrode carried by said member, substantially as specified.

10. A spark plug comprising a socket member, a contact electrode thereon, a recess in said socket member, a cap having a recess therein adapted to be fitted into the recess of said socket member, a member arranged partly within and partly without said socket member, said member having an enlarged portion adapted to work within the recess in said socket member and cap, oppositely operating valves arranged upon said member, and a contact electrode carried by said member adapted for coöperation with the contact electrode first mentioned, substantially as specified.

11. A spark plug comprising a socket member, a contact electrode thereon, a recess in said socket member, a valve seat at the base thereof, an adjustable cap having a recess therein, and a valve seat at the base thereof adapted to be fitted into the recess in said socket member, a reciprocating member arranged partly within and partly without said socket member and cap having an enlarged intermediate portion provided at its ends with oppositely operating valves adapted to seat upon the seats in said socket member and cap, and a contact electrode carried by said reciprocating member, but insulated therefrom, adapted for cooperation with the contact electrode first mentioned, substantially as specified.

12. A spark plug comprising a socket member, a contact electrode at the base thereof, a recess in said socket member, a valve seat at the base thereof and an adjustable cap adapted to be fitted into the recess in said socket member, said cap having a recess therein and a valve seat at the base thereof, means for securing said cap to its adjusted position, a reciprocating stem arranged partly within, and partly without said socket member and cap, having an enlarged intermediate portion provided with valves at its opposite ends adapted to seat upon the valve seats in said socket member and cap, a contact electrode carried by said reciprocating member at its inner end, but insulated therefrom, adapted for coöperation with the contact electrode of the socket member, and an attaching device arranged upon the outer end of said stem, substantially as specified.

13. A spark plug comprising a socket member, a contact finger projecting from the inner end thereof, a recess in the outer end of said socket member, screw threads upon the inner surface, and a conical valve seat at the base of said recess, a bore extending from said conical valve seat to the inner end of said socket member, a cap having an exteriorly-threaded portion extending from its under side adapted to engage the screw-threads upon the inner surface of the recess in the socket member, said cap having a recess therein and a conical valve seat at the base thereof, a bore extending from said conical valve seat to the top of said cap, a screw extending through the side of the socket member adapted to engage the portion of the cap therein, a stem of insulating material arranged partly within and partly without the bores in said socket member and cap having therefor an enlarged intermediate portion arranged to work within the recess in said socket member and cap, and provided with conical valves at its opposite ends, a contact head carried upon said reciprocating member at its inner end adapted for coöperation with the contact finger on the socket member, a conductor arranged within the stem having one end connected with the contact head and its other end projecting beyond the outer end of said stem, and provided with an attaching device, substantially as specified.

869,866. STRAP-FASTENER. GEORGE A. MAINS, Thompson, Mont. Filed Feb. 16, 1907. Serial No. 357,751.

1. A strap fastener having a base plate provided between its ends with slots for the passage of a strap, and also having an opening forming a seat for a rib or projection on a coöperating plate, and having at one end of said base plate an outwardly projecting tongue provided with a perforation for the passage of a lock, a cover plate hinged at one end to the end of said base plate opposite the outwardly projecting tongue, and provided near its free end with an opening through which said tongue may protrude, and having between its ends openings for the passage of a strap, and between said openings a rib or projection opposite the seat in the base plate, and a strap secured to the base plate about midway between its ends and disposed thence through the openings in the base plate and around the hinged end of the fastener and thence through the openings in the cover plate, substantially as and for the purposes set forth.



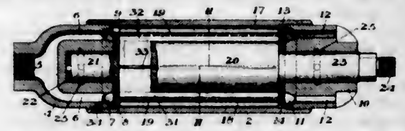
2. A strap fastener or buckle, substantially as herein described, comprising a base plate having a cross bar and provided on opposite sides thereof with openings, a cover plate hinged at one end to one end of the base plate and provided with openings spaced apart, and a strap secured at one end to the cross bar of the base plate between the openings thereof, and having its other end laced through the openings in the base plate and extended thence around the hinged end of the buckle, and laced through the spaced apart openings of the cover plate, and means for holding the buckle closed, substantially as set forth.

3. A buckle comprising a base plate, and a cover plate hinged at one end to one end of the base plate, a strap secured at one end to the base plate, midway between the ends of the latter, the base plate being provided on opposite sides of the point of connection of the strap with openings through which the other end of the strap may be laced, and passed thence around the hinged end of the buckle, and the cover plate being provided with openings spaced apart and through which the return end of the strap may be laced, the said cover plate being provided between its said openings with an inwardly projecting lug or portion to bind upon the strap when the buckle is closed, and means for holding the buckle closed, substantially as set forth.

4. A buckle comprising a main plate, and a cover plate, and a strap secured at one end to the main plate, the said main plate and cover plate being provided with openings through which the return end of the strap is laced, when the buckle is closed, and means for holding the buckle closed, substantially as set forth.

5. A fastener or buckle for straps, consisting of a base plate, and a cover plate hinged together at one end, and provided with means for securing the other ends of the plates when the buckle is closed, the said plates having spaced apart openings, and a strap secured at one end to the base plate and laced at its free end through the spaced apart openings in the base plate, and thence around the hinge and through the spaced apart openings in the cover plate, all substantially as and for the purposes set forth.

869,867. ROTARY MOTOR. EDWARD R. MILLS and CHARLES A. CONN, Pittsburg, Pa., and HERMAN VAN ORMER, Hartford, Conn., assignors to Liberty Manufacturing Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Dec. 8, 1906. Serial No. 346,927.



1. In a motor, a cylinder having a longitudinal piston chamber, admission and exhaust ports in the walls of the cylinder and communicating with the piston chamber at different points throughout its length, detachable ported admission and exhaust heads closing the ends of the cylinder, and a rotary piston journaled in the admission and exhaust heads, substantially as described.

2. In a motor, a cylinder having a piston chamber therein eccentric to the longitudinal axis of the cylinder and also having longitudinally extending admission and exhaust ports in its wall which communicate with said chamber at a plurality of different points, and detachable ported admission and exhaust heads closing the ends of the cylinder and having their ports communicating with the longitudinally extending admission and exhaust ports, said heads also carrying bearings for the rotary piston, substantially as described.

3. In a motor, a cylinder having a piston chamber therein, a rotary piston, longitudinally extending admission and exhaust ports, each communicating with the cylinder at a plurality of points throughout its length, and ported admission and exhaust heads closing the ends of the cylinder and removably secured thereto and carrying bearings for the rotary piston; substantially as described.

4. In a motor, a cylinder having an eccentric piston chamber therein and longitudinally extending admission and exhaust ports communicating with said chamber at different points along its length, a removable ported admission head closing one end of the cylinder, a removable ported exhaust head closing the opposite end of the cylinder, said heads having bearings for the piston, and ported admission and exhaust plates or disks intermediate the respective heads in the ends of the piston; substantially as described.

5. In a motor, a cylinder having a longitudinally extending piston chamber, admission and exhaust ports extending parallel with said chamber and communicating therewith at a plurality of points, ported admission and exhaust heads closing the ends of said cylinder and having their ports arranged to communicate respectively with the admission and exhaust ports of the cylinder, and a rotary piston, having journal portions provided with bearings in the said heads, and means for lubricating said bearings; substantially as described.

6. In a motor, a cylinder having a longitudinally extending piston chamber therein, admission and exhaust ports parallel with the chamber and communicating therewith at a plurality of points, an admission head closing one end of the cylinder and having an annular port or chamber at its inner end, and a ported admission plate forming the inner wall of said port or chamber with its port connecting the same with the admission port of the chamber; substantially as described.

7. In a motor, a cylinder having a longitudinal piston chamber, admission and exhaust ports extending parallel with the chamber and communicating therewith at different points throughout its length, a rotary piston in said chamber, means for admitting pressure to the admission port of the cylinder, and an exhaust head closing the exhaust end of the cylinder and having an annular port or passage at its inner end and an exhaust plate or disk forming the inner wall of said chamber and having a port which connects the same with the exhaust port of the cylinder; substantially as described.

8. In a motor, a cylinder having a longitudinal piston

chamber, admission and exhaust ports in the walls of the cylinder and communicating with the piston chamber at different points throughout its length, ported admission and exhaust heads closing the ends of the cylinder, a rotary piston journaled in the admission and exhaust heads, and means for lubricating the piston journals; substantially as described.

9. In a motor, a cylinder having a piston chamber eccentric to the longitudinal axis of the cylinder and also having longitudinally extending admission and exhaust ports in its wall which communicate with said chamber at a plurality of different points, detachable heads closing the ends of said cylinder and having ports which communicate respectively with the longitudinally extending admission and exhaust ports, the rear head having means for the attachment thereto of a fluid supply pipe, and a rotary piston journaled in said heads, said piston having one of its journals extended through the front head and provided with means for attaching a tool thereto, substantially as described.

10. In a motor, a cylinder having a piston chamber eccentric to the longitudinal axis of the cylinder and also having longitudinally extending admission and exhaust ports in its wall which communicate with said chamber at a plurality of different points, heads detachably secured to said cylinder and closing its end portions, said heads having respectively admission and exhaust ports therein in communication with the longitudinal ports in the cylinder wall, a rotary piston journaled in said heads, and means in the rear head for taking the end thrust of the piston, substantially as described.

11. In a motor of the character described, a cylinder having a piston chamber therein and also having longitudinally extending admission and exhaust ports at its wall which communicate with said chamber at a plurality of different points, and heads closing the ends of said cylinder and detachably secured thereto, said heads having ports which communicate with the respective ports in the cylinder and being of an exterior diameter different from that of the cylinder, substantially as described.

12. In a motor of the character described, a cylinder having a piston chamber therein and also having longitudinally extending admission and exhaust ports in its wall which communicate with said chamber at a plurality of different points, and heads closing the ends of said cylinder and detachably secured thereto, said heads having ports which communicate with the respective ports in the cylinder and having a cylindrical cross section at all points, substantially as described.

13. In a motor, a cylinder having a piston chamber therein and also having longitudinally extending admission and exhaust ports in its wall which communicate with said chamber at a plurality of different points throughout its length, ported heads secured to and closing the ends of the cylinder, a rotary piston journaled within the said heads, and means for lubricating the piston journals and also the cylinder, substantially as described.

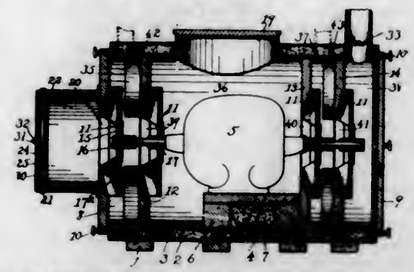
14. In a motor, a cylinder having a piston chamber therein and also having longitudinally extending admission and exhaust ports in its wall which communicate with said chamber, at a plurality of different points throughout its length, ported heads secured to and closing the ends of the cylinder, and a rotary piston journaled within the said heads, the bearings for the piston having openings communicating therewith and leading outwardly through the heads, substantially as described.

15. In a motor, a cylinder having a piston chamber therein and also having longitudinally extending admission and exhaust ports in its walls which communicate with said chamber at a plurality of different points, the centers of said ports being less than 180° from each other, ported heads detachably secured to and closing the ends of the cylinder, and a rotary piston journaled in said heads and having a single slot extending diametrically therethrough to seat a piston blade, substantially as described.

16. In a motor, a cylinder having a piston chamber therein and also having longitudinally extending admission and exhaust ports in its wall which communicate with said cylinder at a plurality of different points, ported admission and exhaust heads closing the ends of the cylinder and detachably secured thereto, a rotary piston journaled in the admission and exhaust ports, and means for connecting a supply pipe to one of said heads, substantially as described.

17. In a motor, a cylinder having a longitudinal piston chamber, admission and exhaust ports in the walls of the cylinder communicating with the piston chamber at different points throughout its length, ported admission and exhaust heads closing the ends of the cylinder and detachably secured thereto, and a rotary piston journaled in the admission and exhaust heads, the admission head having a space or chamber therein at the rear end of the piston journal, substantially as described.

869,868. ORGAN-BLOWING APPARATUS. IRA H. SPENCER, Hartford, Conn., assignor to The Organ Power Company, Hartford, Conn., a Corporation of Connecticut. Filed Jan. 12, 1905. Serial No. 240,712.



1. A wind pressure device comprising a sound proof casing provided with a blower arranged therein and adjacent to its wall, and with an inlet opening and a variable tension device for automatically controlling the air inlet and preventing the passage of sounds, said automatic variable tension device depending for operation upon the force and volume of air passing through the device.

2. A wind pressure device comprising a sound impeding casing, a centrifugal blower arranged within the casing and adjacent to its wall, an air inlet forming a part of said casing and provided with a valve, a variable tension device for automatically closing said valve, said tension device being actuated to a greater or less extent dependent upon the suction of the blower.

3. A wind pressure device comprising a casing, a centrifugal blower arranged within the casing and adjacent to its wall, an air inlet to said casing normally closed by a pair of interconnected pivoted wings forming a valve, a variable tension device for holding said wings normally closed, said wings being opened to varying degrees dependent upon the volume of air passing through the device.

4. A wind pressure device comprising a sound impeding casing completely inclosing a motor and a directly connected blower, said casing having a part extending about the air inlet to the blower, an air shutter arranged appurtenant to the casing, and resilient means for normally holding said air shutter in closed position, and arranged to decrease its pull upon an opening of the air shutter.

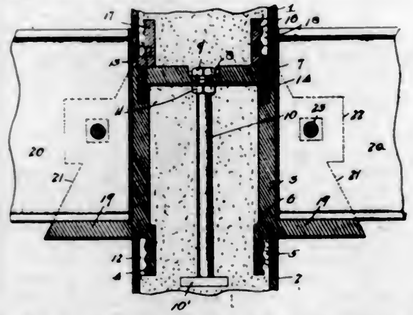
5. A wind pressure device comprising a sound impeding casing completely inclosing a centrifugal blower and provided with an air inlet appurtenant to said blower, an air shutter operatively arranged with reference to the air inlet and adapted normally to close it, resilient means for holding said air shutter in normally closed position, and arranged to decrease its pull upon the opening of the shutter.

6. In combination in a wind pressure device comprising a sound impeding casing and one or more fan blowers arranged therein, an air inlet to said casing, an air shutter normally closing said inlet, said shutter comprising a pair of wings pivoted at their adjacent edges, means for normally holding said wings in closed position, said holding means arranged to lose its active force upon an opening of the wings.

7. In combination in a wind pressure device including a casing and a blower arranged therein, an air inlet to said casing, an air shutter arranged appurtenant to said inlet and including a hinged member, means for holding said hinged member in closed position, and means dependent upon the position of said hinged member for releasing the pull of the holding means as the hinged member is opened.

8. In combination in a wind pressure device including a casing surrounding a blower fan and having an air inlet, an air shutter appurtenant to said inlet and comprising two semi-circular sections pivoted at their adjacent edges, a resilient member normally holding said hinged sections in closed position, said member attached to each of said sections and extending between them at substantially right-angles to their line of opening.

869,869. COLUMN. JOHN LALLY, Waltham, Mass., assignor to United States Column Company, Cambridge, Mass., a Corporation of Massachusetts. Filed Apr. 28, 1906. Serial No. 314,190.



1. The combination with adjacent hollow column sections, and a plastic filling therefor, of a coupling for connecting said sections, an anchor for holding said coupling to one section, and a flange projecting upward from said coupling and embedded in the filling of the adjacent section.

2. The combination with adjacent hollow column sections, and a plastic filling therefor, of a cap interposed between the sections and provided with a flange which is provided on its outer side with corrugations and centering projections.

3. The combination with adjacent hollow column sections, and a plastic filling therefor, of a combined column cap and base provided with oppositely projecting flanges having corrugated annular outer faces embedded in the filling a portion of which is introduced between said flanges and the inner surfaces of the column sections.

4. The combination with adjacent hollow column sections, and a plastic filling therefor, of a cap fitted to one of the sections and having a recessed or countersunk head, and an anchor embedded in the filling and passing through the recessed portion of the head and fastened by a nut arranged in the recess.

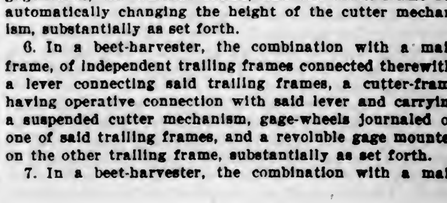
5. The combination with adjacent hollow column sections, and a plastic filling therefor, of a connection between said sections having portions thereof embedded in the filling, beam rests projecting outward from the cap, bracing webs connecting the rests and cap, beam ends supported on said rests, bolts passing through the webs of the rests and beams, and sleeves or washers on said bolts interposed between the webs of the rests and beams.

6. The combination with adjacent hollow column sections, and a plastic filling therefor, of a connection between said sections having a flange entering one of the sections, and a cap or guard fitted to said flange to prevent the filling from entering the space within the flange.

7. The combination with adjacent hollow column sections, and a plastic filling therefor, of a connection between said sections having a flange entering one of the sections, a cap or guard covering said flange and the space within the same, and anchoring means connected with said cap or guard and embedded in the filling.

REISSUES.

12,708. BEET-HARVESTER. HERSCHEL M. HEILIG, Culbertson, and MERIMAN H. REED, Blue Springs, Nebr., assignors to said Heilig, and Hugh Scilley, Leavitt, Nebr. Filed July 29, 1905. Serial No. 272,346. Original No. 757,425, dated Apr. 12, 1904, Serial No. 151,761.



1. A beet-harvester having a main frame, a positively-driven cutter mechanism, means for suspending said cutter mechanism from said main frame, a wheeled trailing frame, a gage carried by said frame, and means connecting said trailing frame with the cutter-suspending means for automatically changing the height of the cutter mechanism when the gage encounters a beet-plant, substantially as set forth.

2. A beet-harvester having a main frame, a top-cutter mechanism, means for suspending said cutter mechanism from said main frame, adjusting devices including a revoluble gage adapted to encounter projecting beet-plants and a wheeled trailing frame movable independently of the main frame, and lever connections between the trailing frame and the cutter-suspending devices for varying the height of the latter without affecting the main frame, substantially as set forth.

3. A beet-harvester having an adjustable cutter-frame, coöperating cutter devices suspended from said frame, a wheeled gage-frame carrying a revoluble gage, and automatic adjusting mechanism controllable by said wheeled gage-frame and connected operatively with said cutter-frame for varying the height of the latter when a part of the gage-frame encounters a projecting beet-plant, substantially as set forth.

4. In a beet-harvester, a top-cutting mechanism having a pair of coöperating cutter-disks, means for positively driving said disks, a pivoted frame carrying said cutter mechanism, a wheeled trailing frame, a trailing gage-frame carrying a gage, and means connecting the several frames for varying the height of the cutter-frame automatically when the gage encounters an obstruction in its path, substantially as set forth.

5. In a beet-harvester, a pivoted frame suspended from a main frame, a pair of coöperating disks disposed in lapping engagement and carried by said pivoted frame, means for holding said disks in coöperative relation and permitting them to spread automatically, means for driving said disks, a trailing wheeled frame, a trailing gage-frame carrying a revoluble gage, and lever connections between the gage-frame, the wheeled frame, and the cutter-frame for automatically changing the height of the cutter mechanism, substantially as set forth.

6. In a beet-harvester, the combination with a main frame, of independent trailing frames connected therewith, a lever connecting said trailing frames, a cutter-frame having operative connection with said lever and carrying a suspended cutter mechanism, gage-wheels journaled on one of said trailing frames, and a revoluble gage mounted on the other trailing frame, substantially as set forth.

7. In a beet-harvester, the combination with a main

frame, of independent trailing frames, one of said frames having gage-wheels and the other frame supporting a revoluble gage, a cutter-frame, connections between the trailing frames and said cutter-frame, and a cutter mechanism supported by said cutter-frame, said cutter-frame carrying means for positively driving the cutter mechanism and the revoluble gage, substantially as set forth.

8. In a beet-harvester, the combination with a cutter-frame, of a cutter mechanism suspended therefrom, a revoluble gage disposed in advance of the cutter mechanism, means connecting said revoluble gage with said cutter-frame, and devices for positively driving the cutter mechanism and said revoluble gage, substantially as set forth.

9. In a beet-harvester, a revoluble gage consisting of a shaft having a series of disks spaced thereon, in combination with a cutter mechanism disposed in rear of said gage, means actuated by the gage to determine the elevation of said cutter mechanism, and means for positively driving said gage, substantially as set forth.

10. In a beet-harvester, the combination with a cutter mechanism one of the members of which is positively driven, of an ejector-disk disposed obliquely to said cutter mechanism and having frictional engagement with the driven member thereof, substantially as set forth.

11. In a beet-harvester, the combination with a cutter mechanism, of an inclined ejector-disk having frictional engagement with a member of said cutter mechanism, and means for yieldably holding said ejector-disk in operative position, substantially as set forth.

12. In a beet-harvester, the combination with a cutter mechanism, of a hanger pivotally supported in rear of said cutter mechanism, an ejector-disk journaled in said hanger, and a tension device for holding the hanger and disk normally in active relation to the cutter mechanism, substantially as set forth.

13. In a beet-harvester, a revoluble gage and a rotary cutter mechanism, combined with connecting means between the two for causing the cutter mechanism to move vertically to a less extent than the gage, substantially as set forth.

14. In a beet-harvester, a revoluble gage and a rotary cutter mechanism, combined with connections intermediate of said gage and said cutter mechanism, by means of which connections the cutter mechanism is moved vertically to a less extent than the gage, substantially as set forth.

15. In a beet-harvester, a revoluble gage, rotary cutter devices, and connections intermediate of the two, whereby the vertical movement of the gage, due to contact with a beet, is coincidently imparted to the cutter devices, and whereby further the cutter devices are vertically moved to a less extent than the gage, substantially as set forth.

16. A beet-harvester provided with a rotary cutter and a guide roller automatically variable with relation to each other, substantially as set forth.

17. In a beet-harvester, the combination of a rotary cutter and guide roller and means whereby the guide roller varies in its vertical relation to the cutter, substantially as set forth.

18. In a beet-harvester, the combination of a rotary cutter, a guide roller, and means whereby the guide roller causes the cutter to remove from the beet a part proportioned to the height of the beet top, substantially as set forth.

19. In a beet-harvester, a main frame, a rotary cutter supported in a frame vertically adjustable on such main frame, a guide roller mounted in a second vertically adjustable frame, and connections between the adjustable frames whereby the cutter is caused to operate upon the beet at a point proportioned to the height of the crown of the beet, substantially as set forth.

20. In a beet-harvester, a rotary cutter, a guide roller and means whereby the vertical relation between the cutter and the guide roller is automatically adjusted, substantially as set forth.

21. In a beet-harvester, a rotary cutter, a guide roller and means whereby the vertical relation between the cutter and the guide roller is automatically proportioned to the height of the beet above the ground, substantially as set forth.

22. In a beet-harvester, the combination of a vertically adjustable frame carrying a rotary topping device, a vertically adjustable frame carrying one or more guide rollers, and connections between the said frames whereby the guide roller controls the position of the topping device in accordance with the height of the beet top, substantially as set forth.

23. In a beet-harvester, the combination of a vertically adjustable frame carrying a rotary topping device, a vertically adjustable frame carrying one or more guide rollers, and connections between the said frames whereby the guide roller controls the position of the topping device in accordance with the amount to which the beet to be cut projects above the ground, substantially as set forth.

24. In a beet-harvester, the combination of a rotary cutter, a guide roller, and means whereby the vertical relation of such cutter and guide roller is varied proportionately to the height of the beet top, substantially as set forth.

25. In a beet-harvester, the combination of two independently adjustable frames, one carrying a rotary cutter and the other carrying a guide roller, and connections between such frames whereby the adjustment of one frame shall vary the adjustment of the other by an amount proportioned to the work to be done, substantially as set forth.

12,709. EYEGLASSES. GEORGE H. CHAPEL, Howell, Mich. Filed Mar. 4, 1907. Serial No. 360,537. Original No. 791,320, dated May 30, 1905, Serial No. 234,369.



1. The combination with the bridge, the lens-clamps and the hinges having pivots for hinging the lens-clamps to the ends of the bridge of nose-guards held by the pivots of said hinges.

2. The combination with the bridge and a lens-clamp hinged to the end of said bridge of a nose-guard held by the pivot of said hinge.

3. The combination, with the bridge, of the lens-clamps and the nose-guards pivoted to said bridge and having common pivotal centers.

4. The combination with the rigid bridge and a lens-clamp hinged to the end of said bridge by a vertical pivot, of a nose-guard held by said vertical pivot and projecting back of said hinge and a spring engaging said nose-guard, substantially as and for the purposes set forth.

5. In eyeglasses, the combination with the bridge, the lens-clamps and the nose-guards, of pivots connected to the lens clamps and to which pivots the bridge and nose-guard are connected.

6. In eyeglasses, the combination with the bridge, a lens-clamp and a nose-guard, of a pivot connected to the lens-clamp and to which pivot the bridge and the nose-guard are connected.

7. In eyeglasses, the combination with the bridge, a lens-clamp and a nose-guard, of a pivot connected to the lens-clamp and to which pivot the bridge and the nose-guard are attached and a spring for turning the nose-guard and lens-clamp.

8. In eyeglasses, the combination with the bridge, of a lens-clamp, a nose-guard and a pivot connected to the lens clamp and to which pivot the bridge and nose-guard are connected, said pivot forming a common pivotal center for the lens-clamp and nose guard.

9. In eyeglasses, a lens-clamp, a vertical pivot held by said lens-clamp, a nose-guard journaled on said pivot, and a bridge held by said pivot.

10. In eyeglasses, a lens-clamp, a vertical pivot held by said lens-clamp, a nose-guard journaled on said pivot, a bridge held on said pivot and a spring for turning the lens-clamp and the nose-guard on said pivot.

11. In eyeglasses having the guards fixed to the lenses and adapted to be moved by the movement of the latter in the plane of vision, a nose-bridge connecting the lenses rigidly against vertical movement, a stud to fix the guards and pivot the bridge so as to permit horizontal movement of the lenses on the bridge, and a spring held by the stud ends and extending centrally from the studs onto the bridge to effect a pressure on the nose by the guards.

12. In eyeglasses, the one-piece lens-brackets having a slot at right angles to the lenses, guards provided with securing ends having a straight edge to engage the base of the slot, a bridge, and a stud at each end of the bridge to pivot the latter and to fix the guards.

13. In eyeglasses, a nose-bridge having ends provided with stop-lugs, lens-brackets having a slot the base edges of which engage the said lugs to limit the movement of the lens, the nose-guards, and the studs for pivoting the bridge and fixing the guards in the slot.

14. In eyeglasses, a nose-bridge having ends provided with stop-lugs, lens-brackets having a slot the base edges of which engage the said lugs to limit the movement of the lenses, the nose-guards, and the studs for pivoting the bridge and fixing the guards in the slots.

15. In eyeglasses, the lens-brackets, guards having stud apertures, the nose-bridge having stud-apertures, screw-studs extending through said apertures to fix the guards and pivot the bridge to the brackets, and the springs held by the studs and having a portion engaging the bridge with the spring ends engaging the brackets.

16. In eyeglasses, the combination, with the lens-brackets, having a slot at right angles to the lenses, and nose-guards fitting the slot and having ends provided with a straight edge to engage the base of the slot, of the nose-bridge having ends fitting the slot and provided with stop-lugs adapted to be engaged by the base edges of the slot to limit the pivot movement of the lenses and guards, springs looped over the bridge with their ends engaging the brackets to give the guards pressure on the nose, and the studs fixing the guards to the brackets and forming a pivot for the lenses.

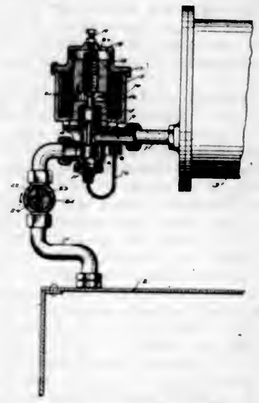
17. In stiff-bridge eyeglasses, having lenses movable in line with the plane of vision, the combination, with the lens-brackets having ears with a slot therebetween at right angles to the lenses, and guards or plaquettes fitting the slots, of the bridge having necks and ends which fit the said slots, springs having a bow fitting the bridge-necks with coils resting on the said ears and the ends of the springs engaging the lens-brackets, and the studs extending through the coils and ears to fix the guards to the lenses and to pivot the latter against vertical movement.

12,710. AIR-PRESSURE BRAKE. ERWIN KRAMER, Berlin, Germany, assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed July 1, 1907. Serial No. 382,127. Original No. 828,939, dated Aug. 21, 1906, Serial No. 219,402.

1. In a regulating valve for air-pressure brakes, the combination with a valve casing, having inlet and exhaust ports; of a piston-slide adapted to open and close the said ports; a spring bearing on the piston with one end and with the other end on a rigid support attached to the valve-body; a chamber provided in the valve in which the regulated air pressure reacts on the piston; and means adapted to provide a force which acts on the piston and varies according to the rotative speed of the car-wheels, substantially as described.

2. In a regulating valve for air-pressure brakes, the combination with a valve casing, having inlet and exhaust ports; of a piston slide adapted to open and close the said ports; a spring bearing on the piston with one end and on a support attached to the valve casing with the other end; a chamber in the casing in which the regulated air-pressure reacts on the piston; and a device which acts on the piston with a force varying in conformity with the rotative speed of the wheels, substantially as described.

3. A regulating valve for air-pressure brakes, consisting of a casing; inlet and exhaust ports formed therein; a by-pass closed by a return-valve; a slide adapted to open and close the said ports; a spring supported on a rest attached to the casing, which spring bears on the slide; and a chamber in the casing in which the regulated air reacts on the slide; in combination with a device connected to the wheel-axle which produces a force varying with the rotative speed and acts on the piston in such a manner that the pressure working in the brake-cylinder is automatically regulated in accordance with the rotative speed of the wheels, substantially as described.



4. An air-pressure brake, consisting of a regulating valve, having a casing with inlet and exhaust ports formed therein; a slide displaceable in the casing and adapted to open and close the said ports; a spring bearing on a support attached to the casing and acting on the slide; and a chamber in the casing in which the regulating air reacts on the slide; in combination with a device connected to the wheel-axle which produces a force varying with the rotative speed and acts on the piston in such a manner that the pressure of the brake-blocks to the wheels is automatically regulated in accordance with the rotative speed of the wheels, substantially as described.

5. A regulating valve for air-pressure brakes, consisting of a casing with inlet and exhaust ports formed therein; a slide adapted to open and close the said ports; a spring supported on the casing and bearing on the slide; and a chamber in which the regulated air reacts on the slide; in combination with a device capable of producing a force varying with the rotative speed of the wheels; all so arranged that the three forces acting on the piston in opposite directions displace the same in such a manner that the pressure of the brake-blocks onto the wheels is automatically regulated in conformity with the rotative speed of the wheels, substantially as described.

6. An air-pressure brake, consisting of a regulating valve, having a casing with inlet and exhaust ports formed therein; a slide adapted to open and close the said ports; a spring supported on the casing and bearing on the said slide; and a chamber in which the regulated air reacts on the slide; in combination with a device capable of producing a force which varies with the rotative speed of the wheels, whereby the said force together with the forces produced by the spring and the regulated air act on the slide in such a manner that the pressure working in the brake-cylinder is automatically regulated in accordance with the rotative speed of the wheels, substantially as described.

7. In a regulating valve for air-pressure brakes, the combination with a valve casing, having inlet and exhaust ports; of a regulating slide adapted to open and close the said ports; a spring bearing on the piston with one end and with the other end on a rigid support attached to the valve-body; means which allow the regulated air to act on the piston; and means adapted to produce a force which acts on the piston and varies according to the rotative speed of the car-wheels, substantially as described.

8. In a regulating valve for air-pressure brakes, the combination with a valve casing, having inlet and exhaust ports; of a slide adapted to open and close the said ports; a spring bearing with its one end on the piston and with its

other end on a support attached to the valve casing, means for regulating the tension of the spring; means which allow the regulated air to act on the piston; and a device which acts on the piston with a force varying in conformity with the rotative speed of the wheels, substantially as described.

9. In a fluid pressure brake, the combination with an electro-magnetic device for controlling the brake-cylinder pressure, of an electric generator driven by the momentum of the vehicle for varying the supply of current to the electro-magnetic device according to the speed of the vehicle.

10. In a fluid pressure brake, the combination with a valve device for governing the brake-cylinder pressure, and electro-magnetic means for controlling said device, of an electric generator driven from the axle of the vehicle for varying the supply of current to said electro-magnetic means according to the speed.

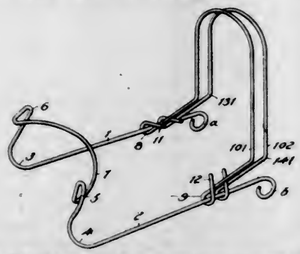
11. In a fluid pressure brake, the combination with a valve device for governing a brake-cylinder discharge, of an electric generator driven from the axle of the vehicle, and means operated by the varying current thus generated for controlling said valve device, according to the speed.

12. In a fluid pressure brake, the combination with a brake-cylinder, and an electro-magnetic device for controlling the pressure therein, of an electric generator driven by the momentum of the vehicle for varying the supply of current to the electro-magnetic device according to the speed.

13. In a fluid pressure brake, the combination with a brake-cylinder, and an electro-magnetic device for controlling the pressure therein, of a momentum-driven electric generator for supplying current to said electro-magnetic device, according to the speed.

14. In a fluid pressure brake, the combination with a valve device for governing the supply of air to and its discharge from a brake-cylinder, and electro-magnetic means for controlling said valve device, of an electric generator driven by the momentum of the vehicle for supplying current to said electro-magnetic device according to the speed.

12,711. DISPLAY-EASEL. JAMES E. TWITCHELL, Detroit, Mich., assignor, by mesne assignments, to J. B. Timberlake & Sons, Jackson, Mich. Filed Mar. 17, 1905. Serial No. 250,694. Original No. 760,403, dated May 17, 1904, Serial No. 173,988.



1. In a display easel, in combination, a base having parallel parts 1 and 2, connected by an elevated cross bar 7, a looped wire with terminals one of which is bent around part 1, and another of which is bent around part 2, with the loop arching between the terminals, substantially as described.

2. In a display easel, in combination a base having parallel parts 1 and 2, connected by a cross bar 7 and having turns 5 and 6 between the cross bar 7 and the parts 1 and 2, a looped wire with terminal eyes 8 and 9 engaging the parts 1 and 2, and with ends 11, 12 projecting from the eyes, and with the looped part thereof arching above the base, substantially as described.

3. In a display easel, in combination a base having parallel parts 1 and 2, connected by an elevated cross bar 7 and with curved ends whereby the main portions of the parts 1 and 2 are supported, a looped wire having its terminals bent around the parts 1 and 2 and arching between the terminals, and also having an angular bend between each terminal and the curve of the arch, substantially as described.

4. A display easel having a forward element adapted to support the bottom of a dish or other article, a back supporting element for the article to be displayed having uprights adjustably connected to the said forward element, and adjustable forward and back to various positions between the front and rear end of the said forward element, substantially as set forth.

5. A display easel having in combination a base, and an upright frame connected with the base, adjustable forward and back thereon and having connection with the base arranged to prevent the frame from swinging backward beyond a predetermined point, substantially as set forth.

6. A display easel, having a base part with two parallel guides, in combination with an upright part having its ends connected to the guides, adjustable forward and back thereon, and adapted to engage with said guides to prevent its swinging backward beyond a predetermined limit.

7. A display easel comprising a front element having parallel parts 1 and 2 connected by an elevated cross bar 7, and a back supporting element for the article to be displayed having upright parts connected by a cross bar at their tops and having their lower ends so connected to the parallel parts 1 and 2 of the front element as to permit the adjustment of the upright or back supporting element longitudinally of the front element and to prevent it from swinging backward beyond a predetermined point in its various positions of adjustment.

8. A display easel comprising a front element having parallel parts 1 and 2 connected at their front ends by a cross bar, and a back supporting frame for the article to be displayed having parallel uprights connected by an elevated cross bar, and each connected to one of said parts 1, 2 of the front element, these latter connections being adapted both to permit the adjustment of the said frame longitudinally of the front element and to prevent its swinging backward relatively to said front element beyond a predetermined limit.

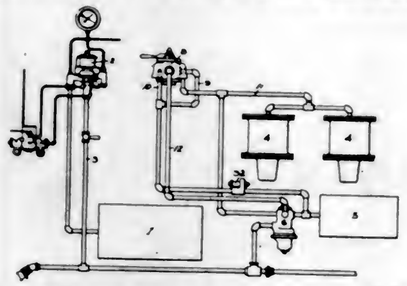
9. A display easel comprising a front element having parallel parts 1, 2 with their front ends arranged to form the front rests or supports for the easel, said parallel parts being connected by an elevated cross bar arranged in the rear of their front ends, and a back supporting element for the article to be displayed comprising uprights connected by an elevated cross bar and each having its lower end adjustably connected to one of the parts 1, 2 of the front element.

10. A display easel comprising a front element having parallel parts 1, 2 with their front ends arranged to form the front rests or supports for the easel, said parallel parts being connected by an elevated cross bar, and a back supporting part for the article to be displayed having upright parts connected by a cross bar in a horizontal plane relatively considerably above the cross bar connecting the parallel parts 1 and 2, and each of said uprights having its lower end adjustably connected with one of the parallel parts 1 and 2 of the said forward element.

11. A display easel comprising a front element having parallel side bars 1, 2 arranged at their front ends to provide feet or rests for the front of the easel and connected at their front ends by a cross bar, and the back supporting part for the article to be displayed having uprights connected by a cross bar, each of said uprights having its lower end adjustably connected to the parallel bars 1, 2 in such manner as to permit the said uprights to be adjusted longitudinally of the said forward part to several positions in transverse planes of the easel and in front of the rear ends of the parallel parts 1 and 2 of the said front element.

12,712. AIR-BRAKE SYSTEM. FRANK H. DUKESMITH, Meadville, Pa., assignor to The Dukesmith Air Brake Company, Pittsburg, Pa., a Corporation of West Virginia. Filed May 10, 1907. Serial No. 373,015. Original No. 819,415, dated May 1, 1906, Serial No. 290,980.

1. In an automatic air brake system, the combination of a brake cylinder, an auxiliary reservoir, a triple valve and an engineer's valve connected in the usual way, and control valve mechanism connected to the auxiliary reservoir and to the brake cylinder and arranged to connect both the brake cylinder and auxiliary reservoir to the atmosphere.



2. In an automatic air brake system, the combination of a brake cylinder, an auxiliary reservoir, a triple valve and an engineer's valve connected in the usual way, and control valve mechanism connected to the auxiliary reservoir port and to the triple valve exhaust port and arranged to connect both of said ports to the atmosphere.

3. In an automatic air brake system, the combination of a brake cylinder, an auxiliary reservoir, a triple valve and an engineer's valve connected in the usual way, and control valve mechanism connected to the auxiliary reservoir and the brake cylinder, and arranged to connect the auxiliary reservoir to both the atmosphere and to the brake cylinder.

4. In an automatic air brake system, the combination of a brake cylinder, an auxiliary reservoir, a triple valve and an engineer's valve connected in the usual way, and control valve mechanism connected to the brake cylinder, the auxiliary reservoir, and the triple valve exhaust port, and arranged to connect each of these to the atmosphere.

5. In an automatic air brake system, the combination of a brake cylinder, an auxiliary reservoir, a triple valve and an engineer's valve connected in the usual way, and control valve mechanism connected to the triple valve exhaust port, the brake cylinder and the auxiliary reservoir, and arranged to connect the triple valve exhaust port and brake cylinder to the atmosphere and connect the auxiliary reservoir to the brake cylinder.

6. In an automatic air brake system, the combination of a brake cylinder, an auxiliary reservoir, a triple valve and an engineer's valve connected in the usual way, and control valve mechanism connected to the auxiliary reservoir, the brake cylinder, and the triple valve exhaust port, and arranged to connect the auxiliary reservoir, the triple valve exhaust, and the brake cylinder to the atmosphere, and to also connect the auxiliary reservoir to the brake cylinder.

7. In an automatic air brake system, the combination of a brake cylinder, an auxiliary reservoir, a triple valve and an engineer's valve connected in the usual way, and control valve mechanism connected to the auxiliary reservoir and brake cylinder, and arranged in one position to connect the auxiliary reservoir and the brake cylinder to the atmosphere, and in another position to connect only the brake cylinder to the atmosphere.

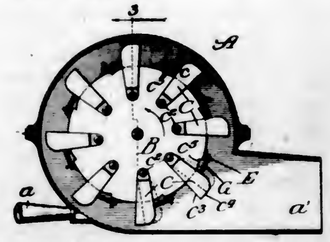
8. In an automatic air brake system, an auxiliary valve having ports for connection to the triple valve exhaust port, to the brake cylinder and to a source of air supply, and provided with a passage which serves in one position to connect the brake cylinder to the atmosphere, and in another position to connect the brake cylinder to the source of air supply.

9. In an automatic air brake system, an auxiliary valve having ports for connection to the triple valve exhaust port, to the brake cylinder and to a source of air supply, and provided with a passage which serves in one position to connect the triple valve exhaust port to the atmosphere, in another position to connect the brake cylinder to the atmosphere, and in still another position to connect the brake cylinder to the source of air supply.

10. In an automatic air brake system, an auxiliary valve casing having ports for connection to the triple valve exhaust port, to the brake cylinder and to a source of air supply and having a port to the atmosphere, and a rotary plug valve in said valve casing and provided with ports or grooves arranged in two planes only, said ports and grooves being arranged in one position of the valve to connect the brake cylinder to the atmosphere, in another position of the valve to connect the triple valve exhaust port to the atmosphere, and in still another position of the valve to connect the brake cylinder to the source of air supply.

11. In an automatic air brake system, an auxiliary valve casing having ports for connection to the triple valve exhaust port, to the brake cylinder, and to a source of air supply and having a port leading to the atmosphere, and a rotary plug valve in said valve casing and provided with passages arranged in two planes only, one of said passages being arranged to connect the brake cylinder to the atmosphere and the other of said passages being arranged in one position of the valve to connect the brake cylinder to the atmosphere, in another position of the valve to connect the brake cylinder to the source of air supply, and in still another position of the valve to connect the triple valve exhaust port to the atmosphere.

12,713. WATER-MOTOR WHEEL. BERTRAND B. BUSH, Chicago, Ill., assignor, by direct and mesne assignments, of one-half to Frederick H. Knapp and one-half to Emma Bush, Chicago, Ill. Filed May 31, 1906. Serial No. 319,654. Original No. 817,546, dated Apr. 10, 1906, Serial No. 247,029



1. The combination, with the body of a wheel with a V-shaped edge, having mounted upon its periphery, a series of lugs, elongated, cup-shaped buckets, pivoted upon the sides of the wheel at their inner ends, bolts passing through the bottoms of the buckets, and threaded into said lugs, with springs upon the bolts, between the buckets and lugs, substantially as described.

2. The combination of a wheel-body having a V-shaped edge, a series of buckets having bifurcated shanks embracing the V-shaped edge of the wheel-body, and rearwardly turned side and end flanges, pivots connecting said shanks with the wheel-body at a distance from the periphery of the body, and means for yieldingly holding the buckets in a given position with relation to the wheel-body.

3. The combination of a wheel-body, buckets having slots receiving the periphery of the wheel-body, pivots connecting the shanks of the buckets with the wheel-body, the wheel-body having curved surfaces at its periphery struck upon radii from said pivots as centers, and springs supported on the wheel-body and yieldingly holding said buckets in a given relation to the wheel-body.

TRADE-MARKS

PUBLISHED OCTOBER 29, 1907.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 1,149. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) SEA FOAM BAKING POWDER CO., New York, N. Y. Filed Apr. 11, 1905.



Particular description of goods.—Baking-Powder.

Ser. No. 4,726. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) THOS. HARPER & SONS LTD., London, England. Filed May 8, 1905.

PHOENIX

Particular description of goods.—Hand Sewing-Needles, Tape-Needles, Knitting-Needles, and Crochet-Needles.

Ser. No. 5,796. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) WILLIAM E. SEEL, Harrisburg, Pa. Filed May 16, 1905.



Particular description of goods.—Whisky.

Ser. No. 7,264. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) FAXON, WILLIAMS & FAXON, Buffalo, N. Y. Filed June 2, 1905.

401

Particular description of goods.—Effervescent Vichy Salts, Granular Effervescent Kissingen Salts, Granular Effervescent Sodium Phosphate, Granular Effervescent Citrate of Magnesia Granular Effervescent Lithia Salts, Sodium Phosphate, Caffein Hydrobromate, Sugar of Milk, and Ammonia.

Ser. No. 7,745. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) GOODERHAM & WORTS, LTD., Toronto, Canada. Filed June 9, 1905. Used ten years.

GOODERHAM-WORTS Special

Particular description of goods.—Whisky.

Ser. No. 12,259. (CLASS 19. BOATS AND ROAD-VEHICLES.) HARTFORD SUSPENSION COMPANY, New York, N. Y. Filed Sept. 6, 1905.

ABSORBER

Particular description of goods.—Frictional Suspension Devices for Modifying the Action of Vehicle-Springs.

Ser. No. 13,081. (CLASS 2. MINERAL.) NEW ENGLAND GAS & COKE COMPANY, Boston, Mass. Filed Sept. 27, 1905.



Particular description of goods.—Coke.

Ser. No. 15,557. (CLASS 55. WINES.) OFFLEY, FORRESTER & Co., London, England. Filed Dec. 21, 1905. Used ten years.

OFFLEY & Co

Particular description of goods.—Port-Wine.

Ser. No. 16,296. (CLASS 47. CONFECTIONERY.) JACOB R. ELFRETH, Philadelphia, Pa. Filed Jan. 18, 1906.

LACTO-CHOCOLATE

Particular description of goods.—Chocolate

Ser. No. 19,678. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) THE CROFUT & KNAPP CO., South Norwalk, Conn. Filed May 19, 1906.



Particular description of goods.—Fur-Hats.

Ser. No. 19,826. (CLASS 51. MALT PREPARATIONS NOT OTHERWISE CLASSIFIED.) THE STARK-TUSCARAWAS BREWERIES CO., Canton, Ohio. Filed May 24, 1906.



Particular description of goods.—Beer.

Ser. No. 21,479. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ANTHONY FISCHER, Flushing, N. Y. Filed Aug. 11, 1906.





Particular description of goods.—Stomach-Bitters.

Ser. No. 21,501. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) EDW. B. BRUCE CO., Baltimore, Md. Filed Aug. 13, 1906.



Particular description of goods.—Whisky, Gin, and Brandy.

Ser. No. 23,131. (CLASS 51. MALT PREPARATIONS NOT OTHERWISE CLASSIFIED.) THE LOUIS BERGDOLL BREWING COMPANY, Philadelphia, Pa. Filed Nov. 6, 1906.



Particular description of goods.—Lager-Beer.

Ser. No. 23,286. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) MCKIBBIN, DRISCOLL & DORSEY, St. Paul, Minn. Filed Nov. 12, 1906.



Particular description of goods.—Coats.

Ser. No. 23,872. (CLASS 52. PACKING-HOUSE PRODUCTS.) REISS & BRADY, New York, N. Y. Filed Dec. 8, 1906.

CRESCA

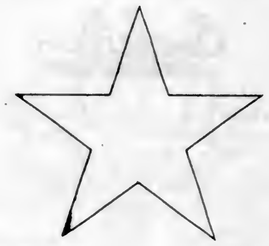
Particular description of goods.—Pâté de Foie Gras, Parfait de Foie Gras, Prepared Fresh Goose-Livers, Prepared Larks, Quails, Chicken, Capon, Coqcombs, Financieres, Rognons, Snails, Tripe, Partridge, Pigeon, Potted Lunch-Fowl, Sausages, Calf's-Foot Jelly, Hams, Bolognas, Prepared Goose-Breasts.

Ser. No. 23,911. (CLASS 51. MALT PREPARATIONS NOT OTHERWISE CLASSIFIED.) WAGNER BREWING CO., Granite City, Ill. Filed Dec. 10, 1906.



Particular description of goods.—Beer.

Ser. No. 24,151. (CLASS 3. VEGETABLES.) CLIFFORD BROS., Cleveland, Ohio. Filed Dec. 19, 1906. Used ten years.



The star being red.

Particular description of goods.—Charcoal.

Ser. No. 24,419. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) CONSOLIDATED RUBBER COMPANY, Trenton, N. J. Filed Jan. 3, 1907.



Particular description of goods.—Rubber Fruit-Jar Rings.

Ser. No. 25,145. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) CITY OF CARLSBAD, Carlsbad, Austria-Hungary. Filed Feb. 5, 1907.

Spradel

Particular description of goods.—Medicinal Salts.

Ser. No. 25,335. (CLASS 23. HAND-TOOLS NOT OTHERWISE CLASSIFIED.) SUPPLEE HARDWARE COMPANY, Philadelphia, Pa. Filed Feb. 16, 1907.



Particular description of goods.—Shovels, Spades, Scoops, and Hammers.

Ser. No. 25,336. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) SUPPLEE HARDWARE COMPANY, Philadelphia, Pa. Filed Feb. 16, 1907.



Particular description of goods.—Hatchets and Axes.

Ser. No. 26,287. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) HARRIET POWELL WHEELER, New York, N. Y. Filed Mar. 27, 1907.

Isabelle

Particular description of goods.—Ladies' Drawers Manufactured from Textile Material.

Ser. No. 26,401. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) CLYSMIC SPRING CO., New York, N. Y. Filed Apr. 2, 1907.

CLYSMIC

Particular description of goods.—A Natural Mineral Water.

Ser. No. 26,725. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE SAMURAI COMPANY, New York, N. Y. Filed Apr. 15, 1907.



Particular description of goods.—Perfumery Extracts, Toilet Waters, Sachets, Colognes, Cold-Creams, Nail-Bleaches, Nail-Stains, Talcum Powders, Face-Powders, Incense, and Tooth-Powders.

Ser. No. 26,867. (CLASS 51. MALT PREPARATIONS NOT OTHERWISE CLASSIFIED.) BLACK HILLS BREWING CO., Central City, S. D. Filed Apr. 23, 1907.



Particular description of goods.—Beer.

Ser. No. 27,171. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) WESTER BROS., New York, N. Y. Filed May 6, 1907. Used ten years.



Particular description of goods.—Table Knives and Forks, Carving Knives and Forks, Game Knives and Forks, Manicuring-Files, Corn and Cuticle Knives, Corn-Chisels, and Nail-Nippers, Scissors and Shears.

Ser. No. 27,765. (CLASS 43. THREAD AND YARN.) ARTHUR J. KAHN, New York, N. Y. Filed May 29, 1907.

FIL AU PATRIOTE

Particular description of goods.—Linen Thread for Machine-sewing and for Lace-Making.

Ser. No. 27,798. (CLASS 47. CONFECTIONERY.) KERR BROTHERS, Toronto, Ontario, Canada. Filed May 31, 1907.



Particular description of goods.—Butter-Scotch.

Ser. No. 27,854. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) JOHN W. HASBURG COMPANY, Chicago, Ill. Filed June 3, 1907. Used ten years.



Particular description of goods.—Gold Paints and Colors and Enamels for Vitrifiable Painting.

Ser. No. 27,972. (CLASS 27. RAILWAY EQUIPMENT NOT OTHERWISE CLASSIFIED AND RAILWAY ROLLING-STOCK.) J. G. BRILL COMPANY, Philadelphia, Pa., assignor to The J. G. Brill Company, a Corporation of Pennsylvania. Filed June 7, 1907.

DUMPIT

Particular description of goods.—Sand-Boxes for Railway-Cars.

Ser. No. 27,987. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE MIOL MANUFACTURING CO., LIMITED, London, England. Filed June 8, 1907.

Miol

Particular description of goods.—An Iodo-Phosphated Malt and Oil for Human Use, Being a Medicine for the Relief of Tuberculosis.

Ser. No. 28,064. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) MORGAN & WRIGHT, Detroit, Mich. Filed June 12, 1907.

ATLAS

Particular description of goods.—Rubber Hoof-Pads.

Ser. No. 28,128. (CLASS 61. JEWELRY AND SOLID AND PLATED PRECIOUS-METAL WARE.) JOS. MAYER & BROS., Seattle, Wash. Filed June 14, 1907.

JMB 1897

Particular description of goods.—Sterling-Silver-Handled Knives and Forks, Sterling-Silver-Handled Carving Knives and Forks, Sterling-Silver-Handled Penknives, Sterling-Silver-Handled Shears and Scissors, Sterling-Silver-Handled Manicure File-Knives and Cuticle Knives and Scissors, and Sterling-Silver-Handled Glove-Hooks.

Ser. No. 28,294. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) SUSQUEHANNA SILK MILLS, New York, N. Y. Filed June 22, 1907.

Tussola

Particular description of goods.—Silk Piece Goods and Silk-Mixed Piece Goods.

Ser. No. 28,438. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) HARRIET POWELL WHEELER, Chicago, Ill. Filed June 27, 1907.

Isabelle

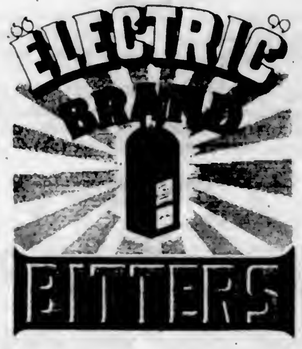
Particular description of goods.—Ladies' Knitted, Netted, and Lace Drawers.

Ser. No. 28,620. (CLASS 68. PUBLICATIONS.) INDUSTRY PUBLISHING COMPANY, Pittsburg, Pa. Filed July 6, 1907.

INDUSTRY
A MAGAZINE OF
Commerce & Finance

Particular description of goods.—A Magazine Devoted to Commerce and Finance.

Ser. No. 28,696. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) H. E. BUCKLEN & COMPANY, Chicago, Ill. Filed July 10, 1907.



Particular description of goods.—Medicines for All Diseases of the Stomach, Liver, and Kidneys, for Biliousness, General Debility, Fever and Ague, Jaundice, and Diseases of the Urinary Organs, Neuralgia, Nervousness, Mental Depression, and Blood Disorders.

Ser. No. 28,788. (CLASS 61. JEWELRY AND SOLID AND PLATED PRECIOUS-METAL WARE.) CHAS. S. CROSSMAN & CO., New York, N. Y. Filed July 18, 1907.



Particular description of goods.—Precious Stones, Necklaces, Finger-Rings, Scarf-Pins, Ear-Screws, Lorgnette-Chains, Pendants, Brooches, Neck-Chains, and Bracelets.

Ser. No. 28,866. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) THE LANDESMAN HIRSCHHEIMER COMPANY, Cleveland, Ohio. Filed July 18, 1907.

LH

Particular description of goods.—Ladies' Cloaks, Outer Suits, and Outer Skirts.

Ser. No. 29,062. (CLASS 35. BELTING, HOSE, AND MACHINERY PACKING.) THE FAIRBANKS CO., New York, N. Y. Filed July 27, 1907.



The disk being red.

Particular description of goods.—Rubber Belting.

Ser. No. 29,082. (CLASS 53. SACCHARINE FOODS NOT INCLUDED IN CLASS 47.) MANSFIELD, WITHAM & CO., Lowell, Mass. Filed July 29, 1907.



Particular description of goods.—Syrup.

Ser. No. 29,085. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) P. BEIERSDORF & CO., Hamburg, Germany. Filed July 29, 1907.

TESA

Particular description of goods.—Collapsible Tubes Made of Tin and Adapted to Contain Tooth-Paste or the Like.

Ser. No. 29,103. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) ALFRED DEWSBURY, Walsall, England. Filed July 30, 1907.

VICOLETTE

Particular description of goods.—Bits, Stirrups, Spurs, Buckles, Rings, Terrets, Hames, D's Swivels, and Chains.

Ser. No. 29,112. (CLASS 64. MEDICAL AND SURGICAL APPARATUS, APPLIANCES, AND INSTRUMENTS.) THE M. LINDSAY RUBBER MANUFACTURING COMPANY, New York, N. Y., and Washington, D. C. Filed July 30, 1907.



Particular description of goods.—Abdominal Coils, Atomisers, Bed-Pans Made of Rubber, Breast-Pumps, Bulbs, Breast-Shields, Bottles for Water, Made of Rubber; Caps, Ice; Catarrh-Douches, Cautery, Sets, Child-Syringes, Coils, Head; Colon-Tubes, Combination Water-Bottles and Fountain-Syringes, Cupping-Cups, Dilators; Douches, Nasal, Vaginal; Droppers, Medicine, Eye; Ear and Ulcer Syringes, Eye and Ear and Infant Syringes, Elastic Stockings, Face-Bags, Face-Hoods, Face-Masks, Fountain-Syringes, Fountain-Syringe Attachments, Fountain-Syringe Bags, Glass and Rubber Syringes, Hard-Rubber Syringes and Fittings; Helmets, Ice; Ice-Bags, Ladies' Syringes, Nipples, Nipple-Shields, Pessaries, Powder-Blowers, Rectal-Tubes, Stomach-Tubes, Syringes, Throat-Bags, Urinals, Vaporisers, Water-Bags Composed Wholly or Partly of Rubber.

Ser. No. 29,137. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) MICHIGAN PAINT COMPANY, Detroit and Flint, Mich. Filed July 31, 1907.



Particular description of goods.—Substitute for White Lead.

Ser. No. 29,183. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) PACIFIC COAST RUBBER CO., Seattle, Wash. Filed Aug. 3, 1907.



Particular description of goods.—Rubber Boots, Rubber Shoes, Pacs, Being Rubber Shoes with Leather Tops; Rubber Clothing, Rubber Bands, Rubber Bath-Sprays, Rubber Bathing-Caps, Rubber Finger-Cots, Rubber Gloves, Rubber Cane and Chair Tips, Rubber Sheeting, and Rubber Cushions.

Ser. No. 29,184. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) PACIFIC COAST RUBBER CO., Seattle, Wash. Filed Aug. 3, 1907.



Particular description of goods.—Rubber Boots, Rubber Shoes, Pacs, Being Rubber Shoes with Leather Tops, and Rubber Coats, Rubber Gloves, Rubber Hats, Rubber Leggings, and Rubber Pants.

Ser. No. 29,192. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) A. THEODORE ABBOTT & COMPANY, Philadelphia, Pa. Filed Aug. 3, 1907.



Particular description of goods.—Tapestry Curtains, Tapestry Table-Covers, Tapestry Couch-Covers, Tapestry Goods to be Sold in the Piece or by the Yard.

Ser. No. 29,221. (CLASS 28. HAND-TOOLS NOT OTHERWISE CLASSIFIED.) MASSACHUSETTS SAW WORKS, Chicopee, Mass. Filed Aug. 5, 1907.

VICTOR

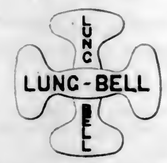
Particular description of goods.—Nail-Sets, Solid Punches, and Center-Punches Without Cutting Edges.

Ser. No. 29,235. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) PENNSYLVANIA PRIMO FEED COMPANY, Harrisburg, Pa. Filed Aug. 5, 1907.



Particular description of goods.—Stock and Poultry Food.

Ser. No. 29,318. (CLASS 64. MEDICAL AND SURGICAL APPARATUS, APPLIANCES, AND INSTRUMENTS.) JOHN EDWIN GARRATT, London, England. Filed Aug. 9, 1907.



Particular description of goods.—Instruments, Apparatus, and Contrivances for Exercising and Developing the Lungs and for Recording the Capacity of the Lungs, and Parts of and Fittings for Such Instruments, Apparatus, and Contrivances.

Ser. No. 29,362. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) NEUHAUS MFG. CO., Glen Rock, Pa. Filed Aug. 12, 1907.

NEW



Particular description of goods.—Wire Screens and Wire-Screen Doors.

Ser. No. 29,376. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) JULES BLAN, Port Richmond, N. Y. Filed Aug. 13, 1907.

BLANOLIN

Particular description of goods.—A Liquid Disinfectant and Antiseptic Preparation.

Ser. No. 29,387. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) OSCAR P. GOERG, East Chicago, Ind. Filed Aug. 14, 1907.

VIROX

Particular description of goods.—A Skin Remedy for Chapped Hands, Face, Lips, Sunburn, and Roughness of Skin.

Ser. No. 29,398. (CLASS 35. BELTING, HOSE, AND MACHINERY PACKING.) MORGAN & WRIGHT, Detroit, Mich. Filed Aug. 15, 1907.



Particular description of goods.—Rubber Hose, Cotton Hose, Linen Hose, Sheet-Packing, Piston-Packing, Valve-Packing, and Gaskets.

Ser. No. 29,407. (CLASS 35. BELTING, HOSE, AND MACHINERY PACKING.) FABRIC FIRE HOSE COMPANY, Sandy Hook, Conn., and New York, N. Y. Filed Aug. 15, 1907.



Particular description of goods.—Rubber Hose and Fabric Hose.

Ser. No. 29,426. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) CHARLES A. ETHERINGTON, New York, N. Y. Filed Aug. 16, 1907.



Particular description of goods.—Hair Remover.

Ser. No. 29,462. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE WIGLESWORTH BROS. CO., Poindexter, Ky. Filed Aug. 19, 1907. Used ten years.

JOHN POINDEXTER

Particular description of goods.—Whisky.

Ser. No. 29,500. (CLASS 68. PUBLICATIONS.) THE HALE PUBLISHING CO., St. Louis, Mo. Filed Aug. 21, 1907.

The NATIONAL FARMER and STOCK GROWER.

Particular description of goods.—A Periodical Devoted to Farm and Stock-Growing Interests.

Ser. No. 29,511. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) CARLO T. PIRANIO, Dallas, Tex. Filed Aug. 22, 1907.

LEMONELLA

Particular description of goods.—A Carbonated Beverage.

Ser. No. 29,516. (CLASS 47. CONFECTIONERY.) CHARLES & Co., New York, N. Y. Filed Aug. 22, 1907.

BON VOYAGE

Particular description of goods.—Candies, Glacé Fruits, Chocolates, Bonbons, and Candy Kisses.

Ser. No. 29,547. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) EUGENE L. WALDO, New York, N. Y. Filed Aug. 23, 1907.

FLUFFY RUFFLES

Particular description of goods.—Taffetas, Pongees, Voiles, Bareges, Linen Foulards, Swisses, Mousselines, and Shantung, ("Shantung" Being a Domestic Cloth Made of a Mixture of Cotton and Silk, Named After the Chinese Silk of Which it is an Imitation,) Cotton, Silk, and Cotton and Silk Piece Goods.

Ser. No. 29,584. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) GRIFFIN & SKELLEY COMPANY, San Francisco, Cal. Filed Aug. 26, 1907.

Fortuna

Particular description of goods.—Canned and Dried Fruits and Canned Vegetables.

Ser. No. 29,589. (CLASS 8. DETERGENTS.) MASTER SOAP CO., Boston, Mass. Filed Aug. 26, 1907.

WASH-UP

Particular description of goods.—Soap.

Ser. No. 29,590. (CLASS 68. PUBLICATIONS.) JOSEPH A. GAVIN, Buffalo, N. Y. Filed Aug. 26, 1907.

Strenuous Life

Particular description of goods.—A Weekly Publication.

Ser. No. 29,601. (CLASS 52. PACKING-HOUSE PRODUCTS.) LIBBY, MCNEILL & LIBBY, Chicago, Ill. Filed Aug. 26, 1907.

PRIME ROAST BEEF

Particular description of goods.—Corned Beef and Roast Beef.

Ser. No. 29,603. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) BLUTHENTHAL & BICKART, Atlanta, Ga. Filed Aug. 26, 1907.

ALLIGATOR BAIT

Particular description of goods.—Whisky and Gin.

Ser. No. 29,616. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) PETER P. MINIOTTI, New York, N. Y. Filed Aug. 27, 1907.

Particular description of goods.—Proprietary Medicine for Rheumatism, Constipation, Malaria, Pimples, Carbuncles, and Impurities of the Blood.

Ser. No. 29,624. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) WILHELM SPAETHE, (a Firm,) Gera, Germany. Filed Aug. 27, 1907.



Particular description of goods.—Accordions.

Ser. No. 29,631. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) O'BRYAN BROS., Louisville, Ky. Filed Aug. 28, 1907.



Particular description of goods.—Whisky.

Ser. No. 29,632. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) O'BRYAN BROS., Louisville, Ky. Filed Aug. 28, 1907.



Particular description of goods.—Whisky.

Ser. No. 29,641. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) CHINA & JAPAN TRADING COMPANY, LIMITED, New York, N. Y. Filed Aug. 28, 1907.

Particular description of goods.—Unbleached Sheetings, Shirtings, Drills, and Flannels Woven of Cotton Yarn.

Ser. No. 29,642. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) CHINA & JAPAN TRADING COMPANY, LIMITED, New York, N. Y. Filed Aug. 28, 1907.



Particular description of goods.—Unbleached Sheetings, Shirtings, Drills, and Flannels Woven of Cotton Yarn.

Ser. No. 29,643. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) CHINA & JAPAN TRADING COMPANY, LIMITED, New York, N. Y. Filed Aug. 28, 1907.



Particular description of goods.—Unbleached Sheetings, Shirtings, Drills, and Flannels Woven of Cotton Yarn.

Ser. No. 29,644. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) CHINA & JAPAN TRADING COMPANY, LIMITED, New York, N. Y. Filed Aug. 28, 1907.



Particular description of goods.—Unbleached Sheetings, Shirtings, Drills, and Flannels Woven of Cotton Yarn.

Ser. No. 29,645. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) CHINA & JAPAN TRADING COMPANY, LIMITED, New York, N. Y. Filed Aug. 28, 1907.



Particular description of goods.—Unbleached Sheetings, Shirtings, Drills, and Flannels Woven of Cotton Yarn.

Ser. No. 29,646. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) J. H. BUNNELL & Co., New York, N. Y. Filed Aug. 28, 1907. Used ten years.

BUNNELL

Particular description of goods.—Telegraphic Apparatus and Electric Batteries.

Ser. No. 29,647. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE JACOB DUDENHOEFER CO., Milwaukee, Wis. Filed Aug. 28, 1907.

Yellow Springs

Particular description of goods.—Whisky.

Ser. No. 29,665. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) ANDREW FORBES, Philadelphia, Pa. Filed Aug. 29, 1907.

PABU

Particular description of goods.—Gin.

Ser. No. 29,678. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) FARBENFABRIKEN OF ELBERFELD CO., New York, N. Y. Filed Aug. 30, 1907. Used ten years.

BAYER

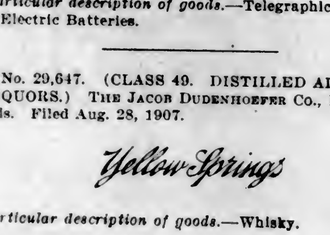
Particular description of goods.—Coal-Tar Dyes, Disinfectants, Preservatives for Food, Photographic Developers, and Chemicals Used in Printing, Dyeing, and Finishing.

Ser. No. 29,686. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) STANLEY RULE & LEVEL COMPANY, New Britain, Conn. Filed Aug. 30, 1907.

BED ROCK

Particular description of goods.—Planes.

Ser. No. 29,692. (CLASS 71. TOBACCO PRODUCTS.) STARLIGHT BROTHERS, New York, N. Y. Filed Aug. 31, 1907.



STARLIGHT BROS. NEW YORK.

The mark being printed entirely in gilt.
Particular description of goods.—Cigars.

Ser. No. 29,703. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) NATIONAL GROCER COMPANY, Chicago, Ill. Filed Aug. 31, 1907.

SQUARE DEAL

Particular description of goods.—Coffee.

Ser. No. 29,707. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WILLIAM R. BURGOYNE, Steubenville, Ohio. Filed Aug. 31, 1907. Used ten years.

BURGOYNE'S
AGUE & MALARIAL FEVER
REMEDY

Particular description of goods.—Remedies for Ague and Malarial Fevers.

Ser. No. 29,720. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) BISSELL CARPET SWEEPER COMPANY, Grand Rapids, Mich. Filed Sept. 3, 1907.

Parlor Grand

Particular description of goods.—Carpet-Sweepers.

Ser. No. 29,731. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) VOGT-APPLEGATE COMPANY, Louisville, Ky. Filed Sept. 3, 1907.

OLD
Beechwood

Particular description of goods.—Whisky.

Ser. No. 29,741. (CLASS 12. MASONRY MATERIALS.) AMERICAN SASH & DOOR CO., Kansas City, Mo. Filed Sept. 3, 1907.

AMSADOR

Particular description of goods.—Paper and Felt Roofing and Sheathing.

Ser. No. 29,759. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) WILLIAM HILLS, Jr., New York, N. Y. Filed Sept. 5, 1907.

AFTERDINNER

Particular description of goods.—Figs.

Ser. No. 29,769. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) HOMESTEAD VALVE MANUFACTURING COMPANY, Homestead, Pa. Filed Sept. 6, 1907. Used ten years.

HOMESTEAD

Particular description of goods.—Valves.

Ser. No. 29,814. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) WINDSOR PRINT WORKS, North Adams, Mass. Filed Sept. 9, 1907.

COTTOSILK

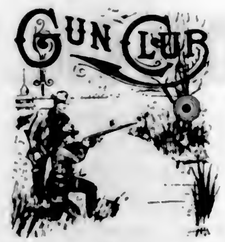
Particular description of goods.—Cotton Piece Goods.

Ser. No. 29,825. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) LICHTERMAN & JUDT, Brooklyn, N. Y. Filed Sept. 9, 1907.

Manju

Particular description of goods.—Tonics for Rheumatism.

Ser. No. 29,829. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) A. HIRSCHMAN & Co., St. Paul, Minn. Filed Sept. 10, 1907.



Particular description of goods.—Whisky.

Ser. No. 29,830. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) BENNETT, SLOAN & Co., New York, N. Y. Filed Sept. 9, 1907.

SQUARE DEAL

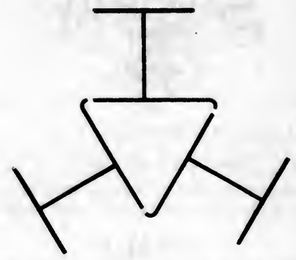
Particular description of goods.—Coffee.

Ser. No. 29,832. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) THE ROYAL GRAPE JUICE CO., Harrisburg, Pa. Filed Sept. 9, 1907.

Royal

Particular description of goods.—Unfermented Grape-Juice.

Ser. No. 29,844. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HENRY H. HARRIS, Jacksboro, Tex. Filed Sept. 10, 1907.



Particular description of goods.—A Remedy for Rheumatism, Neuralgia, and Chills.

Ser. No. 29,846. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) BOERICKE & TAFEL, Philadelphia, Pa. Filed Sept. 10, 1907.



Particular description of goods.—Grape-Juice.

Ser. No. 29,847. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) THE AUTO RADIUM CO., East Cleveland, Ohio. Filed Sept. 10, 1907.



Particular description of goods.—A Composition for Purifying Water.

Ser. No. 29,848. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) AMERICAN CHEMICAL & TEXTILE COLORING CO., Wilmington, N. C. Filed Sept. 10, 1907.

APINOL

Particular description of goods.—Antiseptic Preparation for Use as a Dressing and for other Purposes.

Ser. No. 29,850. (CLASS 55. WINES.) CALIFORNIA WINE ASSOCIATION, San Francisco, Cal. Filed Sept. 10, 1907.

Vino de Rosa

Particular description of goods.—Wine.

Ser. No. 29,852. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) STEIN BROTHERS, Chicago, Ill. Filed Sept. 10, 1907.

STEINDALE

Particular description of goods.—Whisky.

Ser. No. 29,874. (CLASS 8. DETERGENTS.) DR. MAX LEHMANN & Co., Berlin, Germany. Filed Sept. 11, 1907.

KULI

Particular description of goods.—Ink-Stain Remover.

Ser. No. 29,891. (CLASS 8. DETERGENTS.) THE H. B. CLAFLIN COMPANY, New York, N. Y. Filed Sept. 12, 1907.

1807
SOAP

Particular description of goods.—Soaps.

Ser. No. 29,897. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) BUEGELEISEN & JACOBSON, New York, N. Y. Filed Sept. 12, 1907.

„DURRO"

Particular description of goods.—Accordions.

Ser. No. 30,022. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE ST. LUKE REMEDIES COMPANY, New York, N. Y. Filed Sept. 16, 1907.

Depiline

Particular description of goods.—A Preparation for Removing Hair.

Ser. No. 30,048. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HORACE B. TAYLOR, Philadelphia, Pa. Filed Sept. 18, 1907.

The seal being in green.

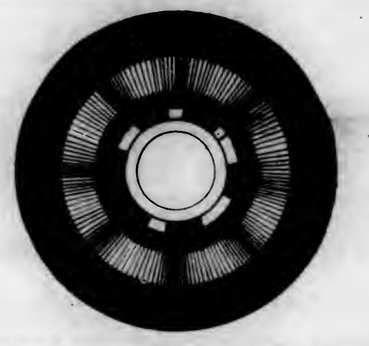
Particular description of goods.—Pills for Female Complaints.

Ser. No. 30,053. (CLASS 25. LOCKS AND SAFES.) THE SMITH & EGGE MFG. Co., Bridgeport, Conn. Filed Sept. 18, 1907. Used ten years.

GIANT

Particular description of goods.—Locks and Keys.

Ser. No. 30,074. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) ABRASIVE MATERIAL CO., Philadelphia, Pa. Filed Sept. 19, 1907.



Particular description of goods.—Abrasive Material.

Ser. No. 30,085. (CLASS 72. MERCHANDISE NOT OTHERWISE CLASSIFIED.) DUPARQUET, HUOT & MONEUSE Co., New York, N. Y. Filed Sept. 19, 1907.

D.H.&M.

Particular description of goods.—Fire-Brick for Stoves, Ranges, Boilers, Ovens, and Furnaces.

Ser. No. 30,133. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) SHARP & DOHME, Baltimore, Md. Filed Sept. 21, 1907.

ELIXAFORM

Particular description of goods.—A Muscular and Nerve Tonic.

Ser. No. 30,136. (CLASS 29. BROOMS, BRUSHES, AND DUSTERS.) FLORENCE MANUFACTURING COMPANY, Northampton, Mass. Filed Sept. 21, 1907.



Particular description of goods.—Tooth-Brushes.

Ser. No. 30,138. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) MARMOLA COMPANY, Detroit, Mich. Filed Sept. 21, 1907.

MARMOLA

Particular description of goods.—Obesity Remedies.

Ser. No. 30,155. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) REINHARD SCHULZE, Baltimore, Md. Filed Sept. 23, 1907.

RUBINOL

Particular description of goods.—Furniture-Polish.

Ser. No. 30,157. (CLASS 8. DETERGENTS.) FISKE BROTHERS REFINING Co., New York, N. Y. Filed Sept. 23, 1907.

KAMSO

Particular description of goods.—Camphorated Liquid Soap.

Ser. No. 30,170. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THOMAS G. PLANT Co., Boston, Mass. Filed Sept. 23, 1907.

Queen

Particular description of goods.—Leather Shoes, Leather Soles, Wool Soles, and Felt Insoles.

Ser. No. 30,173. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE SCHRIFFELE SHOE MANUFACTURING COMPANY, Cincinnati, Ohio. Filed Sept. 24, 1907.

DIXEY WALKER

Particular description of goods.—Ladies' Misses' Children's, and Infants' High and Low Cut Leather Shoes.

Ser. No. 30,186. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WILLIAM I. DEARISO, Albany, Ga. Filed Sept. 24, 1907.

20th Century

Particular description of goods.—Remedy for Syphilis.

Ser. No. 30,189. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) EVERETT S. ESTLINGEN, Los Angeles, Cal. Filed Sept. 24, 1907.

MERMAID

Particular description of goods.—Tooth-Powder.

Ser. No. 30,190. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HARRIS REIFE, New York, N. Y. Filed Sept. 24, 1907.

Particular description of goods.—Antispasmodic Expectorant Sedative.

Ser. No. 30,191. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) HAYNES, SPARRELL & Co., Boston, Mass. Filed Sept. 24, 1907.

Hansco

Particular description of goods.—Leather Boots and Shoes.

TRADE-MARKS

REGISTERED OCTOBER 29, 1907.

65,850. LAXATIVE HORSE-PILLS. JACOB S. BERNER, Chicago, Ill.
Filed August 4, 1905. Serial No. 11,267. PUBLISHED AUGUST 27, 1907.

65,851. MOUTH-WASH AND GARGLE, TOOTH-PASTE, AND THROAT-PASTIL. JOHN F. CARNEGIE, Chicago, Ill.
Filed July 22, 1907. Serial No. 28,926. PUBLISHED AUGUST 27, 1907.

65,852. LINIMENT. THOMAS G. CASTOR, Neosho, Mo.
Filed June 10, 1907. Serial No. 28,013. PUBLISHED AUGUST 27 1907.

65,853. VETERINARY MEDICINE. S. P. CRAWFORD, Indian Creek, Tex.
Filed May 27, 1907. Serial No. 27,670. PUBLISHED AUGUST 27, 1907.

65,854. REMEDY FOR HEADACHE AND HEARTBURN. TOSHIKUNI MORI, San Francisco, Cal.
Filed May 28, 1907. Serial No. 27,710. PUBLISHED AUGUST 27, 1907.

65,855. REMEDY FOR SEASICKNESS. TOSHIKUNI MORI, San Francisco, Cal.
Filed May 28, 1907. Serial No. 27,712. PUBLISHED AUGUST 27, 1907.

65,856. MEDICINE TO PERFUME THE BREATH. TOSHIKUNI MORI, San Francisco, Cal.
Filed May 28, 1907. Serial No. 27,714. PUBLISHED AUGUST 27, 1907.

65,857. CERTAIN MEDICINE. WILLIAM CURTIS OTTERSON, New York, N. Y.
Filed July 11, 1907. Serial No. 28,725. PUBLISHED AUGUST 27, 1907.

65,858. REMEDY FOR INEBRIETY. PHYSICIANS CO-OPERATIVE ASSOCIATION, Chicago, Ill.
Filed May 25, 1907. Serial No. 27,661. PUBLISHED AUGUST 27, 1907.

65,859. BITTERS. MENDLE ROTHENBERG, San Francisco, Cal.
Filed September 21, 1906. Serial No. 22,226. PUBLISHED AUGUST 27, 1907.

65,860. OINTMENT. THE THOMPSON DRUG CO., Tyrone, Pa.
Filed July 22, 1907. Serial No. 28,938. PUBLISHED AUGUST 27, 1907.

65,861. CERTAIN CHEMICALS. ALBRIGHT & WILSON LIMITED, Oldbury, England.
Filed January 28, 1907. Serial No. 24,953. PUBLISHED AUGUST 27, 1907.

65,862. ASBESTOS-COMPOSITION SHINGLES, SLATE, AND SHEATHING. ASBESTOS SHINGLE SLATE & SHEATHING COMPANY, Ambler, Pa.
Filed July 10, 1907. Serial No. 28,694. PUBLISHED AUGUST 27, 1907.

65,863. LEATHER BOOTS AND SHOES. SELZ, SCHWAB & COMPANY, Chicago, Ill.
Filed July 19, 1907. Serial No. 28,897. PUBLISHED AUGUST 27, 1907.

65,864. LEATHER BOOTS AND SHOES. SELZ, SCHWAB & COMPANY, Chicago, Ill.
Filed July 19, 1907. Serial No. 28,900. PUBLISHED AUGUST 27, 1907.

65,865. LEATHER BOOTS AND SHOES. SELZ, SCHWAB & COMPANY, Chicago, Ill.
Filed July 19, 1907. Serial No. 28,902. PUBLISHED AUGUST 27 1907

65,866. LEATHER BOOTS AND SHOES. SELZ, SCHWAB & COMPANY, Chicago, Ill.
Filed July 19, 1907. Serial No. 28,903. PUBLISHED AUGUST 27, 1907.

65,867. ABRASIVE MATERIAL AND MATERIAL FOR POLISHING METAL. WALTER R. FORBUSH, Boston, Mass.
Filed July 22, 1907. Serial No. 28,945. PUBLISHED AUGUST 27, 1907.

65,868. PORTLAND CEMENT. THE FREDONIA PORTLAND CEMENT CO., Fredonia, Kans.
Filed July 27, 1907. Serial No. 29,063. PUBLISHED AUGUST 27, 1907.

65,869. LEATHER BOOTS AND SHOES. SMITH-WALLACE SHOE COMPANY, Chicago, Ill.
Filed March 18, 1907. Serial No. 26,027. PUBLISHED AUGUST 27, 1907.

65,870. [WITHDRAWN.]

65,871. WATCH-MOVEMENTS. A. WITTNAUER CO., New York, N. Y.
Filed June 15, 1907. Serial No. 28,139. PUBLISHED AUGUST 27, 1907.

65,872. INDIA-RUBBER, GUTTA-PERCHA, AND OTHER VULCANIZABLE GUMS. GEO. A. ALDEN & CO., Boston, Mass.
Filed July 2, 1906. Serial No. 20,711. PUBLISHED AUGUST 27, 1907.

65,873. COVER-PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed June 7, 1907. Serial No. 27,936. PUBLISHED AUGUST 27, 1907.

65,874. COVER-PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed June 7, 1907. Serial No. 27,934. PUBLISHED AUGUST 27, 1907.

65,875. COVER-PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed June 7, 1907. Serial No. 27,935. PUBLISHED AUGUST 27, 1907.

65,876. COVER-PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed June 7, 1907. Serial No. 27,937. PUBLISHED AUGUST 27, 1907.

65,877. SMOKING-TOBACCO, CIGARS, CIGARETTES, AND SNUFF. DE ERVEN DE WED. J. VAN NELLE, Rotterdam, Netherlands, assignor to new firm De Erven de Wed. J. van Nelle, Rotterdam, Netherlands.
Filed November 22, 1905. Serial No. 14,895. PUBLISHED AUGUST 27, 1907.

65,878. LEATHER BOOTS AND SHOES. DRAKE-INNESS-GREEN SHOE CO., Charleston, S. C.
Filed February 18, 1907. Serial No. 25,357. PUBLISHED AUGUST 27, 1907.

65,879. LEATHER BOOTS AND SHOES. DRAKE-INNESS-GREEN SHOE CO., Charleston, S. C.
Filed February 18, 1907. Serial No. 25,358. PUBLISHED AUGUST 27, 1907.

65,880. LAUNDRY AND TOILET SOAP. ENTERPRISE SOAP WORKS, Nashville, Tenn.
Filed August 3, 1907. Serial No. 29,197. PUBLISHED AUGUST 27, 1907.

65,881. LAUNDRY AND TOILET SOAP. ENTERPRISE SOAP WORKS, Nashville, Tenn.
Filed August 3, 1907. Serial No. 29,198. PUBLISHED AUGUST 27, 1907.

65,882. LAUNDRY AND TOILET SOAP. ENTERPRISE SOAP WORKS, Nashville, Tenn.
Filed August 3, 1907. Serial No. 29,199. PUBLISHED AUGUST 27, 1907.

65,883. SOAPS AND DETERGENT WASHING-POWDERS. FISCHER BROS., Seattle, Wash.
Filed June 11, 1907. Serial No. 28,032. PUBLISHED AUGUST 27, 1907.

65,884. CERTAIN PREPARED SPONGES. GERTRUDE GLASS, Chicago, Ill.
Filed January 25, 1907. Serial No. 24,900. PUBLISHED AUGUST 27, 1907.

65,885. PAINT, ENAMEL, AND VARNISH. THE HOCKADAY PAINT COMPANY, Wichita, Kans.
Filed July 25, 1907. Serial No. 29,024. PUBLISHED AUGUST 27, 1907.

65,886. VARNISH, VARNISH-STAIN, AND PAINT. THE HOCKADAY PAINT COMPANY, Wichita, Kans.
Filed July 25, 1907. Serial No. 29,026. PUBLISHED AUGUST 27, 1907.

65,887. ROUGH AND DRESSED LUMBER. J. M. CARD LUMBER CO., Chattanooga, Tenn.
Filed July 25, 1907. Serial No. 29,032. PUBLISHED AUGUST 27, 1907.

65,888. TOILET SOAP. JAMES S. KIRK & COMPANY, Chicago, Ill.
Filed July 26, 1907. Serial No. 29,054. PUBLISHED AUGUST 27, 1907.

65,889. SOAP. THE MAX HUNCKE CHEMICAL CO., Brooklyn, N. Y.
Filed July 17, 1907. Serial No. 28,845. PUBLISHED AUGUST 27, 1907.

65,890. CERTAIN MILITARY EQUIPMENTS. MILLS WOVEN CARTRIDGE BELT CO., Worcester, Mass.
Filed July 24, 1907. Serial No. 29,022. PUBLISHED AUGUST 27, 1907.

65,891. ROOFING-PAINT. PITTSBURG-SALT LAKE OIL CO., Salt Lake City, Utah.
Filed May 13, 1907. Serial No. 27,334. PUBLISHED AUGUST 27, 1907.

65,892. SOAP FOR LAUNDRY USE. THE PROCTER & GAMBLE COMPANY, Ivorydale, Ohio, and Kansas City, Kans.
Filed November 27, 1905. Serial No. 15,029. PUBLISHED AUGUST 27, 1907.

65,893. MATTRESSES. THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.; New York, N, Y., and Charlotte, N. C.
Filed May 24, 1907. Serial No. 27,617. PUBLISHED AUGUST 27, 1907.

65,894. FERTILIZERS. VIRGINIA-CAROLINA CHEMICAL COMPANY, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn.
Filed July 26, 1907. Serial No. 29,057. PUBLISHED AUGUST 27, 1907.

65,895. PERFUMED SOAP. A. & F. PEARS LIMD., London, England.
Filed January 17, 1906. Serial No. 16,231. PUBLISHED AUGUST 27, 1907.

65,896. CANDIES. ADAMS ARGOOD CHOCOLATE CO., Philadelphia, Pa.
Filed March 22, 1907. Serial No. 26,147. PUBLISHED AUGUST 27, 1907.

65,897. CERTAIN CEREAL FOODS. ALLEN BROTHERS COMPANY, Omaha, Nebr.
Filed March 25, 1907. Serial No. 26,206. PUBLISHED MAY 21, 1907.

65,898. WHEAT-FLOUR. THE ALLEN & WHEELER COMPANY, Troy, Ohio.
Filed July 19, 1907. Serial No. 28,892. PUBLISHED AUGUST 27, 1907.

65,899. ICE-CREAM CONES. ANDALAFT BROS., Kansas City, Mo.
Filed July 15, 1907. Serial No. 28,803. PUBLISHED AUGUST 27, 1907.

65,900. COMBINATION-UNDERGARMENTS. BIRKENFELD, STRAUSS AND CO., New York, N. Y.
Filed June 29, 1907. Serial No. 28,478. PUBLISHED AUGUST 27, 1907.

65,901. TEAS AND COFFEES. JOHN B. BROWN & CO., New York, N. Y.
Filed June 28, 1907. Serial No. 28,459. PUBLISHED AUGUST 27, 1907.

65,902. TEAS. JOHN B. BROWN & CO., New York, N. Y.
Filed June 28, 1907. Serial No. 28,460. PUBLISHED AUGUST 27, 1907.

65,903. TEAS. JOHN B. BROWN & CO., New York, N. Y.
Filed June 28, 1907. Serial No. 28,461. PUBLISHED AUGUST 27, 1907.

65,904. DRESS AND NEGLIGÉE SHIRTS. BURNHAM HANNA MUNGER DRY GOODS CO., Kansas City, Mo.
Filed July 23, 1907. Serial No. 29,002. PUBLISHED AUGUST 27, 1907.

65,905. CANNED FRUITS AND VEGETABLES. THE BURT OLNEY CANNING CO., Oneida and Albion, N. Y.
Filed July 12, 1907. Serial No. 28,747. PUBLISHED AUGUST 27, 1907.

65,906. [WITHDRAWN.]

65,907. CRACKED CORN OR CORN-CHOPS. GULFPORT GROCERY CO., Gulfport, Miss.
Filed July 2, 1907. Serial No. 28,555. PUBLISHED AUGUST 27, 1907.

65,908. PREPARED STOCK FOOD. GULFPORT GROCERY CO., Gulfport, Miss.
Filed July 2, 1907. Serial No. 28,557. PUBLISHED AUGUST 27, 1907.

65,909. COATS, VESTS, AND PANTS. NOVICK BROS., New York, N. Y.
Filed June 13, 1907. Serial No. 28,098 PUBLISHED AUGUST 27, 1907.

65,910. BREAKFAST-WHEAT. PACIFIC MILLING COMPANY INCORPORATED, San Francisco, Cal.
Filed January 26, 1907. Serial No. 24,930. PUBLISHED AUGUST 27, 1907.

65,911. CERTAIN PAINTS AND PAINTERS' MATERIALS. PENINSULAR PAINT AND VARNISH COMPANY, LTD., Detroit, Mich.
Filed July 10, 1907. Serial No. 28,702. PUBLISHED AUGUST 27, 1907.

65,912. [WITHDRAWN.]

65,913. FLAVORING EXTRACTS. THE R. HARDESTY MANUFACTURING COMPANY, Denver, Colo.
Filed May 21, 1907. Serial No. 27,551. PUBLISHED AUGUST 27, 1907.

65,914. ROQUEFORT CHEESE. L. RIGAL, Roquefort, France.
Filed April 27, 1907. Serial No. 26,971. PUBLISHED AUGUST 27, 1907.

65,915. SUGAR. ROCKWOOD BROTHERS COMPANY, Chicago, Ill.
Filed May 20, 1907. Serial No. 27,534. PUBLISHED AUGUST 27, 1907.

65,916. WHEAT-FLOUR. ALFRED B. SMITH & COMPANY, Springfield, Mass.
Filed July 22, 1907. Serial No. 28,942. PUBLISHED AUGUST 27, 1907.

65,917. CANNED FRUITS AND VEGETABLES. WARFIELD PRATT HOWELL COMPANY, Des Moines, Sioux City, and Cedar Rapids, Iowa.
Filed May 8, 1907. Serial No. 27,244. PUBLISHED AUGUST 27, 1907.

65,918. MIDDLINGS AND RED-DOG. THE WELLS FLOUR MILLING COMPANY, Wells, Minn.
Filed June 5, 1907. Serial No. 27,894. PUBLISHED AUGUST 27, 1907.

65,919. WHISKY. THE ALBERT M. GUGENHEIM CO., Cincinnati, Ohio.
Filed July 24, 1907. Serial No. 29,011. PUBLISHED AUGUST 27, 1907.

65,920. WHISKY. MAX L. BAYER, Dayton, Ohio.
Filed July 22, 1907. Serial No. 28,931. PUBLISHED AUGUST 27, 1907.

65,921. SUSPENDERS. THE C. A. EDGARTON MANUFACTURING COMPANY, Shirley, Mass.
Filed May 12, 1906. Serial No. 19,464. PUBLISHED AUGUST 27, 1907.

65,922. WHISKY. CIOTTI VINCENTI & CO., Baltimore, Md.
Filed July 22, 1907. Serial No. 28,922. PUBLISHED AUGUST 27, 1907.

65,923. WHISKY. THE COOK & BERNHEIMER CO., New York, N. Y.
Filed June 27, 1905. Serial No. 9,263. PUBLISHED DECEMBER 26, 1905.

65,924. MAGAZINE. W. R. HEARST, New York, N. Y.
Filed May 7, 1907. Serial No. 27,203. PUBLISHED AUGUST 27, 1907.

65,925. INKS. J. C. & W. E. POWERS, New York, N. Y.
Filed May 29, 1907. Serial No. 27,770. PUBLISHED AUGUST 27, 1907.

65,926. WHISKY. KAMP DISTILLING CO., St. Louis, Mo.
Filed July 22, 1907. Serial No. 28,923. PUBLISHED AUGUST 27, 1907.

65,927. WHISKY. JEREMIAH F. MURPHY, Lowell, Mass.
Filed July 17, 1907. Serial No. 28,839. PUBLISHED AUGUST 27, 1907.

65,928. MAGAZINE. GEO. H. PATTERSON, Chicago, Ill.
Filed July 16, 1907. Serial No. 28,825. PUBLISHED AUGUST 27, 1907.

65,929. ILLUMINATING-OIL. STANDARD OIL COMPANY OF NEW YORK, New York, N. Y.
Filed June 29, 1907. Serial No. 28,485. PUBLISHED AUGUST 27, 1907.

65,930. STIFFENING BLADES, CORDS, TAPES, AND FABRICS. WARREN FEATHERBONE CO., Three Oaks, Mich.
Filed June 17, 1907. Serial No. 28,220. PUBLISHED AUGUST 27, 1907.

65,931. WHISKY. WEITZENHOFFER & TURK, Oklahoma, Okla. Ter.
Filed March 20, 1907. Serial No. 26,115. PUBLISHED AUGUST 27, 1907.

65,932. TRACING-CLOTH. THE WINTERBOTTOM BOOK CLOTH COMPANY, LTD., Manchester, England.
Filed April 6, 1907. Serial No. 26,509. PUBLISHED AUGUST 27, 1907.

65,933. LEATHER SHOES. BARKE & COMPANY, Philadelphia, Pa.
Filed July 1, 1905. Serial No. 9,590. PUBLISHED AUGUST 27, 1907.

65,934. COMBINATION KNITTED AND NETTED UNDERGARMENTS. BIRKENFELD, STRAUSS AND CO., New York, N. Y.
Filed June 29, 1907. Serial No. 28,477. PUBLISHED AUGUST 27, 1907.

65,935. RUBBER-MILL MACHINERY. BIRMINGHAM IRON FOUNDRY, Derby, Conn.
Filed July 18, 1907. Serial No. 28,872. PUBLISHED AUGUST 27, 1907.

65,936. CERTAIN ELECTRICAL GOODS. FRANK B. COOK, Chicago, Ill.
Filed July 8, 1907. Serial No. 28,665. PUBLISHED AUGUST 27, 1907.

65,937. CERTAIN METAL ARTICLES. COVERT MFG. CO., Watervliet, N. Y.
Filed May 5, 1905. Serial No. 4,342. PUBLISHED AUGUST 27, 1907.

65,938. BOOT AND SHOE LASTS. THE CRAWFORD MCGREGOR & CANBY CO., Dayton, Ohio.
Filed July 15, 1907. Serial No. 28,806. PUBLISHED AUGUST 27, 1907.

65,939. PREPARATION OF LEMON USED IN MAKING NON-ALCOHOLIC BEVERAGES. ERNST C. FISCHER, New York, N. Y.
Filed May 20, 1907. Serial No. 27,544. PUBLISHED AUGUST 27, 1907.

65,940. WHISKY. FRIEDMAN, KEILER & CO., Paducah, Ky.
Filed June 15, 1905. Serial No. 8,266. PUBLISHED AUGUST 27, 1907.

65,941. RAZORS. THE GEM CUTLERY CO., New York, N. Y.
Filed July 20, 1907. Serial No. 28,916. PUBLISHED AUGUST 27, 1907.

65,942. SOLUBLE WASHING-CRYSTALS. THE MAGI WASHING CRYSTALS CO., Rutherford, N. J.
Filed April 18, 1907. Serial No. 26,776. PUBLISHED AUGUST 27, 1907.

65,943. SEWING-MACHINES. MARKT & CO. LTD., New York, N. Y.
Filed July 20, 1907. Serial No. 28,918. PUBLISHED AUGUST 27, 1907.

65,944. MINERAL WATER. THE MIRACO CO. LTD., Monroe, La.
Filed May 3, 1907. Serial No. 27,085. PUBLISHED AUGUST 27, 1907.

65,945. CERTAIN COTTON FABRICS. MOUNT HOPE FINISHING COMPANY, North Dighton, Mass.
Filed June 22, 1907. Serial No. 28,314. PUBLISHED AUGUST 27, 1907.

65,946. COTTON DUCK. MOUNT VERNON-WOODBERRY COTTON DUCK COMPANY, Baltimore, Md.
Filed July 18, 1905. Serial No. 10,497. PUBLISHED AUGUST 27, 1907.

65,947. COTTON DUCK. MOUNT VERNON-WOODBERRY COTTON DUCK COMPANY, Baltimore, Md.
Filed August 20, 1906. Serial No. 21,675. PUBLISHED AUGUST 27, 1907.

65,948. WHISKY. O'NEIL & RICHARDSON, Glenwood Springs, Colo.
Filed July 22, 1907. Serial No. 28,935. PUBLISHED AUGUST 27, 1907.

65,949. NOZZLES. HOWARD B. SHERMAN, Battle Creek Mich.
Filed July 19, 1907. Serial No. 28,882. PUBLISHED AUGUST 27, 1007.

65,950. CERTAIN FURNITURE. THE SIMMONS MANUFACTURING COMPANY, Chicago, Ill.
Filed May 28, 1906. Serial No. 19,928. PUBLISHED AUGUST 27, 1907.

65,951. IMPLEMENTS FOR DEPOSITING METALLIC LEAF. W. H. COE MANUFACTURING CO., Providence, R. I.
Filed July 17, 1907. Serial No. 28,849. PUBLISHED AUGUST 27, 1907.

65,952. PRINTERS' QUOINS. WICKERSHAM QUOIN COMPANY, Boston, Mass.
Filed June 17, 1907. Serial No. 28,201. PUBLISHED AUGUST 27, 1907.

65,953. PRINTERS' QUOINS. WICKERSHAM QUOIN COMPANY, Boston, Mass.
Filed June 17, 1907. Serial No. 28,202. PUBLISHED AUGUST 27, 1907.

65,954. GINGER-ALE. WM. J. STANGE CO., Chicago, Ill.
Filed March 11, 1907. Serial No. 25,912. PUBLISHED APRIL 30, 1907.

65,955. ELECTRIC CONDUITS. AMERICAN CIRCULAR LOOM COMPANY, Portland, Me., and Chelsea, Mass.
Filed June 29, 1907. Serial No. 28,462. PUBLISHED AUGUST 27, 1907.

LABELS

REGISTERED OCTOBER 29, 1907.

13,842.—*Title:* "BRANDY-BOOK CHARENTAIS." (For Brandy.) SYNDICAT DES VITICULTEURS DES CHARENTES ET DE LA SOCIÉTÉ COOPERATIVE ANNEXE DE SAINTES, Saintes, near Cognac, France. Filed September 27, 1907.

13,843.—*Title:* "J. & H. CUP QUALITY." (For Roasted Coffee.) JAMES & HUG, San Francisco, Cal. Filed October 1, 1907.

13,844.—*Title:* "LAVA SALT-HERBS." (For Preparation of Meats and Vegetable Soups.) JOHN J. RUEGG, Clifton, N. J. Filed September 23, 1907.

13,845.—*Title:* "KATAROL." (For a Medicinal Preparation.) I. CLARENCE SCHIMELFENIG, Chicago, Ill. Filed July 18, 1907.

13,846.—*Title:* "DO-NO LIVER, KIDNEY AND CONSTIPATION TABLETS." (For Medicine.) LEWIS G. DENTON, Schenectady, N. Y. Filed September 13, 1907.

13,847.—*Title:* "LIGHTNING STAR." (For a Dressing for Pianos, Automobiles, Carriages, Hacks, and All Kinds of Furniture.) JOSEPH GAOUTTE, Holyoke, Mass. Filed October 1, 1907.

13,848.—*Title:* "SWEET-ORR BELT GRIP." (For Trousers.) SWEET-ORR & Co., New York, N. Y. Filed September 20 1907.

PRINTS

REGISTERED OCTOBER 29, 1907.

2,141.—*Title:* "TREAT YOURSELF RIGHT." (For a Brand of Whisky.) THE MEYERCORD COMPANY, Chicago, Ill. Filed September 19, 1907.

2,142.—*Title:* "HASN'T SCRATCHED YET!!! 16 Y'R'S ON THE M'K'T." (For a Scouring-Soap.) THE BON AMI COMPANY, New York, N. Y. Filed September 20, 1907.

2,143.—*Title:* "MEN'S AND BOYS' APPAREL." (For Men's and Boys' Apparel.) H. C. LYTTON, Chicago, Ill. Filed September 27, 1907.

2,144.—*Title:* "ELK BRAND." (For Shoes.) GUSTAV A. LUTZ, Los Angeles, Cal. Filed September 26, 1907.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE ISAACS & SPEED.

APPLICATION FOR PATENT.

Decided June 20, 1907.

PATENTABILITY—PRIOR PATENT OF APPLICANT DISCLOSING BUT NOT CLAIMING INVENTION.

A patent disclosing a process and apparatus and claiming only the process is no bar to the allowance of an application covering the apparatus filed by the same party within two years after the grant of the patent. (*Ex parte Mullen & Mullen*, C. D., 1890, 9; 50 O. G., 837.)

APPEAL from Examiners-in-Chief.

HELICALLY-CORRUGATED PIPE.

Mr. William F. Booth and *Messrs. Bacon & Milans* for the applicants.

MOORE, *Acting Commissioner, now Commissioner*

This is an appeal from the decision of the Examiners-in-Chief affirming the action of the Examiner rejecting the following claims:

1. A fluid-pipe line composed of sections each section being formed with end couplings, and having a helically-directed cross-sectionally-convex elevation on its inner wall terminating short of its end couplings.

2. In an apparatus for the method stated and in combination with means for supplying the lighter and heavier fluids to a pipe-line the pipe-line having a helically-directed cross-sectionally concavo-convex impression in its walls, the convexity being presented inwardly to form an elevation on the interior of the pipe-line.

3. In an apparatus for the method stated and in combination, a pipe-line having a helically-directed cross-sectionally concavo-convex impression in its walls, the convexity being presented inwardly to form an elevation on the interior of the pipe-line, means for supplying lighter and heavier fluids to the pipe-line including connected pipes, and a screw-threaded connection between said means and the pipe-line, the impression in the walls of the pipe-line terminating short of said connection.

The references are Haas, August 17, 1886, No. 347,594; Morrison, December 18, 1894, No. 531,000; Whitney, May 29, 1900, No. 650,575; Isaacs & Speed, May 10, 1904, No. 759,374.

The Examiner rejected the claims upon the patent to Isaacs & Speed in view of the patent to Morrison, holding that the adoption of corrugations of the latter in lieu of the helical obstructions shown in the patent to Isaacs & Speed would not involve invention. He also cited the patents to Haas and Whitney as showing the prior art in respect to corrugated tubes.

The Examiners-in-Chief properly held the earlier patent to Isaacs & Speed, which is for a process and was granted less than two years prior to the filing date of this application, to be too late to constitute a disclosure which would defeat the present application, for the reasons fully stated in *ex parte Mullen & Mullen* (C. D., 1890, 9; 50 O. G., 837) and the decisions cited therein. They, however, held the state of the art to be sufficient to anticipate the appealed claims. I do not entirely agree with the conclusions of the Examiners-in-Chief.

Claim 1 comprises nothing more than a pipe-line composed of sections of pipe of the form disclosed in the patent to Whitney, connected by ordinary end couplings, and was correctly held to be unpatentable.

Claims 2 and 3, however, in my opinion comprise new structural combinations adapted to effect a result which is not suggested in any of the references other than the earlier patent to the applicants, which is not a valid reference. These claims call for means for supplying lighter and heavier fluids to a pipe-line having helical corrugations. The helical corrugations of the sections of pipe cause the denser fluid to form around and incase the lighter fluid thereby intervening between the latter and the pipe-walls and reducing the friction, which impedes the progress of the lighter fluid.

In the patent to Morrison the corrugations of the outer cylinder by contacting with the inner cylinder form merely a spiral conduit of substantially rectangular cross-section, which is not adapted to produce the same function as the structure called for by the claims. The patents to Whitney and Haas, while showing corrugated pipes, contain no suggestion of the function which is performed by the structure set forth in the applicants' claims. This case is analogous to the case of *Potts* v. *Creager*, (70 O. G., 494,) in which the Supreme Court of the United States said:

As a result of the authorities upon this subject, it may be said that, if the new use be so nearly analogous to the former one, that the applicability of the device to its new use would occur to a person of ordinary mechanical skill, it is only a case of double use, but if the relations between them be remote, and especially if the use of the old device produce a new result, it *may* at least involve an exercise of the inventive faculty. Much, however, must still depend upon the nature of the changes required to adapt the device to its new use.

The same court reiterated this statement in the later case of *Hobbs* v. *Beach*, (94 O. G., 2357.)

In the present case the provision of means for supplying both lighter and heavier fluids to the pipe-line comprises a change which adapts the old corrugated form of pipe to its new use, and this in my opinion involved sufficient exercise of the inventive faculty to warrant the allowance of claims 2 and 3.

The decision of the Examiners-in-Chief is affirmed as to count 1 and is reversed as to counts 2 and 3.

PROUTT v. JOHNSTON AND JOHNSTON.

PATENT INTERFERENCE.

Decided June 24, 1907.

FINAL JUDGMENT BY PATENT OFFICE—APPEAL TO COURT PENDING.

Judgment in an interference proceeding will not be made final by the Patent Office after the filing of a notice of appeal to the Court of Appeals of the District of Columbia and pending such appeal, on the ground that such notice was filed one day outside the forty-day period set by the Rules of that court for filing notice of appeal, it being regarded as within the discretion of the court to waive a strict adherence to the rule and to entertain the appeal notwithstanding the delay in filing the notice.

ON MOTION.

ELECTRIC-CIRCUIT CUT-OUT.

Messrs. Knight Brothers for Proutt.

Messrs. Munn & Company for Johnston and Johnston.

MOORE, *Commissioner:*

This is a motion by Johnston and Johnston that judgment in this interference be made final and the interference determined upon the ground that Proutt failed to file an appeal to the Court of Appeals of the District of Columbia within forty days after the decision of the Commissioner adversely to him upon the question of priority of invention.

The record shows that the decision of the Commissioner was rendered April 11, 1907, and that notice to the Commissioner of appeal to the Court of Appeals of the District of Columbia was filed May 29, 1907, which is one day outside of the forty days allowed by Rule 21 of the rules of the Court of Appeals of the District of Columbia and Rule 149 of the Rules of Practice of the Patent Office. It is contended that there is no regular notice of appeal in the present case which the Court of Appeals of the District of Columbia can possibly entertain.

The time within which an appellant is required to give notice to the Commissioner of Patents and to the Court of Appeals of the District of Columbia is fixed by a rule of that court and not by statute. It is therefore within the discretion of that court whether or not a strict adherence to the letter of that rule will be insisted on. While in the cases cited by the petitioner the court of appeals has refused to entertain appeals where notice has been given to the Commissioner a considerable time after the expiration of the forty days and has also indicated that strict adherence to the rule would be insisted on, it has not held that no excuse for failure to give notice within forty days will be considered or accepted. *In re Bryant* (9 D. C. Appeals, 447) the court said:

> The second section of Rule 20 provides that appeals from decisions of the Commissioner of Patents "shall be taken within forty days from the date of the ruling or order appealed from, and not afterwards;" and the present appeal has been taken in plain disregard of that rule. Not even an excuse is sought to be given for the delay. Now, while some rules of the court, from their peculiar nature and application may have in them an inherent element of elasticity, that would justify their modification from time to time in special cases, rules of court are intended to be a law for the court itself, as well as for parties and counsel, until they are changed in pursuance of the same power under which they have been promulgated. And to no rule is rigid adherence required more than to those which prescribe the time within which appeals are to be taken, and which in their nature, as long as they are in force, are intended to have the effect of statute.
>
> Before these rules were promulgated, there was much controversy in regard to the time to be allowed for the taking of appeals from the Commissioner of Patents; and this rule was made for the express purpose of setting the controversy at rest. We do not feel that we are at liberty ourselves to disregard the rule or to permit it to be disregarded by parties to proceedings in the Patent Office.
>
> We come to this conclusion more readily in the present case for the reason that, even upon a consideration of the merits of the case, we see no sufficient reason to disturb the decision of the Commissioner of Patents.

In view of the fact that appeals of which notice has not been given to the Commissioner of Patents within forty days of the date of his decision have not been dismissed by the court of appeals *pro forma*, it is not believed that further action should be taken by this Office in the present case upon the assumption that the court would not in any event consider the appeal.

Furthermore, it does not appear that any great hardship will be imposed upon Johnston and Johnston by the postponement of action upon this case pending the decision of the court upon the question presented, since they are already in possession of a patent upon the subject-matter in issue, and the rejection of Proutt's claims in view of the decision upon priority cannot affect their rights.

The motion is denied.

LIPSCHUTZ v. FLOYD.

PATENT INTERFERENCE.

Decided September 12, 1907.

INTERFERENCE—PRACTICE UNDER RULE 124—SUPERVISORY AUTHORITY OF COMMISSIONER.

No appeal lies from a favorable decision on the right to make the claims or the identity of meaning of the counts in the cases of different parties, and such a decision will be reviewed on petition in the exercise of the Commissioner's supervisory authority only to correct some palpable error in the decision which is clear and evident on its face.

APPEAL and petition.

CAR-TRUCK SIDE FRAME.

Mr. Charles G. Hawley for Lipschutz.

Messrs. Offield, Towle & Linthicum for Floyd.

MOORE, *Commissioner:*

This case comes up on an appeal by Lipschutz from the action of the Primary Examiner holding that Floyd has a right to make a claim in the terms of count 1 and that said count has the same meaning when read upon the disclosure of both parties, and a petition that in the exercise of my supervisory authority I dissolve the interference on the ground that there is no interference in fact. Floyd has filed a motion to dismiss both the appeal and the petition.

As to the appeal, Rule 124 specifically provides that no appeal will be permitted from a decision affirming the applicant's right to make a claim or the identity of meaning of counts in the cases of different parties.

The appeal is therefore dismissed.

As to the petition, it is well settled that the supervisory authority of the Commissioner will be exercised only in exceptional cases and then only to correct some palpable error in the decision of the Examiner which is clear and evident on its face. No such case exists here. The questions which applicant seeks to have reviewed were considered by the Examiner in his decision. Applicant under the guise of a petition merely seeks to have the same points reviewed that he attempts to have reviewed on appeal.

The petition is dismissed.

BORG v. STRAUSS.

PATENT INTERFERENCE.

Decided October 7, 1907.

1. INTERFERENCE—PRELIMINARY STATEMENT—SECOND PROPOSED AMENDMENT—SHOWING REQUIRED.

Where after decision upon a motion for dissolution a party moves to amend his preliminary statement and it is held that the showing in support thereof in insufficient to warrant such amendment, a second motion to amend will not be granted where no good reason appears why the showing then made could not have been presented in connection with the first motion. Parties cannot be permitted to try their cases piecemeal and experimentally.

2. SAME—SAME—SAME—SAME.

Amendments to preliminary statements are to be permitted after a party has had an opportunity to inspect his opponent's case only in cases where *bona fide* mistakes of fact have been made and a full and clear showing is made that there was no negligence in discovering the true facts.

APPEAL on motion.

ON PETITION.

BRIDGE.

Mr. George E. Waldo for Borg.

Messrs. Parker & Carter for Strauss.

MOORE, *Commissioner:*

This case is before me on appeal by Borg from the decision of the Examiner of Interferences denying a second motion by him to amend his preliminary statement and also upon petition by Borg that the decision of the Examiner of Interferences denying said motion be set aside and that the Examiner be instructed to decide the motion on its merits upon full consideration of affidavits presented by him.

The record shows that after the preliminary statements in this case had been approved Borg moved to dissolve the interference upon the ground, *inter alia*, that Strauss had no right to make the claims.

This motion having been denied by the Primary Examiner, Borg presented a motion for leave to file an amended preliminary statement setting back his dates of conception and reduction to practice of the invention. The Examiner of Interferences denied this motion on the ground that the alleged mistake in Borg's original statement was one of law and not of fact and that there was no showing of such care and diligence in the preparation of that statement as would warrant an amended preliminary statement.

Appeal was taken from this decision of the Examiner of Interferences; but prior to the hearing on appeal Borg presented additional affidavits in support of his motion to amend and moved that the motion to amend be remanded to the Examiner of Interferences for reconsideration in connection with said affidavits. The Assistant Commissioner denied the motion to remand on the ground that the showing in excuse of the failure to present these affidavits in conjunction with the original motion to amend was insufficient. Subsequently the decision of the Examiner of Interferences upon the motion to amend was affirmed in my decision rendered June 28, 1907, the additional affidavits filed by Borg not being considered.

On August 2, 1907, Borg again moved to amend his preliminary statement in view of the affidavits above referred to, together with an affidavit by his attorney showing why the original motion to amend did not include a full showing of the facts now presented. In this affidavit the attorney for Borg states:

> That the failure of said Borg to make a fuller and more complete showing at the time he presented his original motion to amend was for the reason that affiant advised him (Borg) that in his (affiant's) opinion the showing would be sufficient. * * * Furthermore, relying on the case of *Fowler* v. *Boyce* v. *Temple and Goodrum*, (108 O. G., 561,) attorney for Borg advised said Borg that in case the showing on the first motion was not sufficient he could bring a second motion to amend on additional showing and that therefore it was advisable to disclose no more of his case than was necessary to secure the amendment asked.

In the case referred to the second motion by Fowler to amend his preliminary statement was denied for the reason that this party did not exercise reasonable care in the preparation of his original statement. This case does not in any way support the contention of Borg. On the contrary, it clearly indicates that the Office will not consider additional showing made upon a second motion where such showing might as well have been made in the first instance.

The affidavit of Borg's attorney clearly shows that there was no good reason why the entire showing now relied upon in support of the motion to amend could not have been presented when the motion was first made. Parties cannot be permitted to try their cases piecemeal and experimentally. Amendments to preliminary statements are to be permitted after a party has had an opportunity to inspect his opponent's case only in cases where *bona fide* mistakes of fact have been made and a full and clear showing is made that there was no negligence in discovering the true facts.

The decision of the Examiner of Interferences in this case is right and is affirmed, and the petition is denied.

EMMET v. FULLAGAR.

PATENT INTERFERENCE.

Decided October 9, 1907.

INTERFERENCE—MOTION TO DISSOLVE—OATH TO REISSUE APPLICATION INSUFFICIENT.

A motion to dissolve an interference involving a reissue application, alleging that the oath accompanying the application was insufficient to warrant the grant of a reissued patent, should be transmitted to the Primary Examiner.

APPEAL on motion.

TURBINE.

Mr. A. G. Davis and *Messrs. Dyer & Dyer* for Emmet.

Mr. Thos. F. Sheridan for Fullagar.

MOORE, *Commissioner:*

This is an appeal by Fullagar from a decision of the Examiner of Interferences granting Emmet's motion to transmit to the Primary Examiner a motion to dissolve the interference.

The motion to dissolve is divided into two sections, one relating to Fullagar's reissue application filed October 31, 1906, and the other to Fullagar's reissue application filed January 7, 1907, each of which is involved in this interference. Only one ground is urged for dissolving the interference—namely, that Fullagar is not entitled to claim the subject-matter of the issue in these reissue applications. It is contended on behalf of Fullagar that the motion to transmit should have been denied, for the reason that none of the facts alleged are such as would justify the granting of the motion to dissolve. More specifically, it is urged that the questions raised do not affect the question of priority, since it is merely alleged that Fullagar is not entitled to receive a patent on either of his

reissue applications and that therefore should a decision in Emmet's favor be rendered a patent would be issued to Emmet without his first establishing that he is the prior inventor.

The questions raised are all such as could have been considered in the *ex parte* prosecution of Fullagar's applications and which, if finally decided adversely to him, would have resulted in the rejection of his claims. In such an event it would have been manifestly improper for the Primary Examiner to have declared the interference. The mere fact that two parties claim the same invention is not sufficient to justify the declaration of an interference, but it must appear that each one is entitled to claim it. If for any reason one of the parties is barred from claiming the invention, then he has no more interest in the other party's claim thereto than has any other member of the public.

In *Felbel* v. *Aguilar* (121 O. G., 1012) and in *Felsing* v. *Nelson* (121 O. G., 1347) a motion to dissolve based on grounds similar to those of Emmet's motion and to which the same objections that are raised by Fullagar to that motion would have applied was transmitted and considered. It is contended by Fullagar that in *Wert* v. *Borst and Groscop* (122 O. G., 2062) a contrary holding was made, and that being later that decision is controlling. It appears, however, that in that case a motion to dissolve was brought after final hearing on the question of priority on the ground that the testimony showed such a case of intervening rights as would bar a reissue to Borst and Groscop. This motion was denied transmission on the ground that—

> • • • where the evidence relating to priority of invention is before the Office and the question of a statutory bar is raised which applies to but one of two applications involved in the interference and which requires for its determination consideration of evidence, and possibly further taking of testimony, such determination should be postponed until priority of invention has been settled, at least so far as the same can be settled in this Office.

This decision followed the well-established practice that an interference will not be dissolved on grounds arising out of testimony taken on the question of priority. (*Paget* v. *Bugg*, 89 O. G., 1342.)

The facts in the present case are different, since the grounds alleged in support of the motion to dissolve do not arise out of testimony which has been taken, but relate merely to Fullagar's right to the claims in issue as made out by his application papers.

The decision of the Examiner of Interferences is affirmed.

BRANTINGHAM v. DRAVER AND DRAVER.

PATENT INTERFERENCE.

Decided October 16, 1907.

INTERFERENCE—MOTION TO DISSOLVE—DELAY IN BRINGING—EXCUSE.

The fact that numerous appeals and petitions have been taken to have transmitted a motion to dissolve which was not in proper form constitutes no excuse for the delay in bringing the motion in proper form.

APPEAL on motion.

CONTROL DEVICE FOR SIFTERS.

Mr. George E. Kirk for Brantingham.

Messrs. Williamson & Merchant and *Messrs. Pennie & Goldsborough* for Draver and Draver.

BILLINGS, *Assistant Commissioner:*

This is an appeal from a decision of the Examiner of Interferences refusing to transmit a motion to dissolve.

The motion to transmit was denied on the ground that the motion to dissolve was brought long after the time allowed by the rules for bringing such motions.

It appears that on May 31, 1907, Brantingham brought a motion to dissolve on the grounds of irregularity in declaring the interference, non-patentability of the issue, lack of right of Draver and Draver to make the claims, and non-interference in fact. This motion was transmitted as to the third ground, but refused transmission as to the other three grounds. The reason given in support of the ground of non-interference in fact was that the device shown in the application of Draver and Draver is inoperative and that therefore the issue is not patentable to Draver and Draver and that they have no right to make the claims.

The Examiner of Interferences refused to transmit the motion as to this ground for the reason that—

> it deals with matters which should have been alleged under the other grounds of the motion.

From this decision a petition was taken which was treated as an appeal and the decision affirmed in a decision rendered June 27, 1907, in which the following statement was made:

> The other ground as to which the motion was refused transmission was that of non-interference in fact. This ground is based on the allegation that Draver and Draver have no right to make the claims since the device shown by them is inoperative. As pointed out in *Lizotte* v. *Neuberth*, (124 O. G., 1842,) the facts alleged to show no right to make the claims can have no bearing on the question of non-interference in fact and this part of the motion was properly refused transmission.

A petition was then brought asking that the Examiner of Interferences be directed to transmit the motion to dissolve as to patentability and right to make the claims. This petition was denied on the ground that it was well settled that non-interference in fact exists only where the same claims mean one thing in one application and another in the other application, and that the question of operativeness of the Draver and Draver device can therefore have no possible bearing on the question of non-interference in fact.

The present motion alleges that Draver and Draver have no right to make the claims corresponding to the counts of the issue. The reasons alleged in support of this motion are the same as those set up in the original motion under the head of non-interference in fact. While the motion is in proper form, it is brought long after the period allowed by the rules for bringing such motion, and the Examiner of Interferences was clearly right in holding that no sufficient excuse had been given for the delay.

The practice as to the transmission of motions to dissolve is well settled, and where a motion is brought which in accordance with the practice cannot be transmitted it is no excuse for the delay in bringing the motion in proper form that numerous appeals and petitions have been taken in an attempt to have the original motion transmitted.

The decision of the Examiner of Interferences is affirmed.

EILERMAN *et al. v.* MCELROY.

PATENT INTERFERENCE.

Decided October 23, 1907.

1. INTERFERENCE—MOTION FOR DISSOLUTION—TRANSMISSION—RIGHT TO MAKE CLAIM AND DIFFERENCE IN MEANING OF CLAIMS.

Where in a motion for dissolution the right of the adverse party to make the claims in issue is denied and it is also alleged that the claims when read upon the structures disclosed by the respective parties have different meanings, reasons relied upon in support of such contentions being clearly pointed out, *Held* that the motion to dissolve should be transmitted as to both grounds (*Cushman* v. *Edwards*, 128 O. G., modified.)

2. SAME—DISSOLUTION—CLAIMS HAVING DIFFERENT MEANINGS IN OPPOSING PARTIES' APPLICATION—PRACTICE.

Where it is found upon motion for dissolution that the claims in issue have different meanings in the cases of the respective parties the Examiner should require one or both of the applicants to so modify the claims as to avoid a conflict in the terms employed to define the respective inventions.

APPEAL on motion.

VOTING-MACHINE.

Messrs. Bradford & Hood for Eilerman *et al.*

Mr. John H. McElroy pro se.

BILLINGS, *Assistant Commissioner:*

This case is before me on appeals by Eilerman *et al.* from two decisions of the Examiner of Interferences refusing to transmit their motions to dissolve as to certain grounds stated therein. The first motion to dissolve was filed within the time allowed by Rule 122 and alleged the following grounds:

1. That McElroy had no right to make the claims.
2. That there is no interference in fact.
3. That the claims have different meanings in the cases of the respective parties.

This motion was transmitted by the Examiner of Interferences as to that part alleging that McElroy had no right to make the claims and was denied transmission as to the remaining grounds, for the reason that no other showing was made in respect to these grounds than that relied upon in connection with the denial of McElroy's right to make the claims. The decision of the Examiner of Interferences in refusing to transmit the first motion as to these grounds was clearly right and is affirmed.

Subsequently Eilerman *et al.* presented a motion to transmit the second motion to dissolve, stating more fully the grounds upon which the second and third parts of the original motion were based. The Examiner of Interferences considered the showing in excuse of the delay in presenting this motion to be sufficient, but denied transmission of the motion as to the first ground, for the reason that the question of interference in fact is no longer a part of the grounds enumerated in Rule 122. It appears that this conclusion is now acquiesced in by the appellant. He also refused to transmit the motion as to the second ground, because it was not accompanied by a statement of reasons in support thereof, as required by the decision of *Cushman* v. *Edwards*, (128 O. G., 456.)

The invention in issue is an improvement in voting-machines, and it appears from the statement of grounds in the second motion for dissolution that the claim as read upon McElroy's device refers to the actuation of certain mechanisms in such a manner that it will be fully operated only when the voter leaves the booth, while as disclosed in the application of Eilerman *et al.* the actuation of corresponding mechanism occurs while the voter remains within the booth. It is therefore urged by Eilerman *et al.* that if the Primary Examiner should hold that the language of the issue sufficiently defines McElroy's invention, then the claims in issue when read upon the different structures must have a different meaning in the respective applications and the interference should be dissolved for that reason.

If the motion for dissolution is transmitted only as to the denial of the right of one of the parties to make the claims, such party's case is alone considered in respect to the applicability of the language to the structure disclosed in that application. In cases of this character it is, however, necessary that the terms of the issue should be considered in the light of each party's application, and it is for this reason that it is urged that the present motion should be transmitted.

The action of the Examiner of Interferences in refusing to transmit the second motion for dissolution was in accordance with the decision of *Cushman* v. *Edwards*, *supra*, in which it is pointed out that—

> The provision in Rule 122 for dissolution upon the ground of difference in the meaning of claims was placed there to cover a clean-cut class of cases which theoretical considerations show may arise, but which, in fact, are of very rare occurrence. To justify transmission of a motion brought upon this ground, facts must be alleged indicating something more than a possible lack of right upon the part of one or the other of the parties to use the language of the claim in issue.

It is believed that this principle is not applicable to all cases. Interferences are necessarily between inventions. Claims are verbal means employed to express the extent of the applicant's alleged invention, and when broad terms are employed they may cover structures which are widely different in detail and which do not produce the same ultimate results in substantially the same manner. The real meaning of the words of the claim may not be apparent when viewed solely in the light of the disclosure of one party. It is believed, therefore, that the best practical results will be obtained by permitting a party when moving to dissolve an interference not only to raise the question of the right of the other party to make the claims of the issue, but also the question of the meaning of the claims when applied to the respective structures involved. The reasons relied upon in support of these contentions must, of course, be clearly stated in the motion in accordance with the well-settled practice. The motion should in such cases be transmitted in order that the Primary Examiner may consider the applicability of the terms of the claims to the devices of the respective parties in connection with his consideration of the right of one of the parties to make the claims in issue in order that he may more correctly reach a determination of the real question at issue—viz., whether the interference should be dissolved.

Where it is found that the claims have different meanings in the cases of the respective parties, the Examiner should require one or both of the applicants to so modify the claims as to avoid conflict, in accordance with the holding in the decision of the Court of Appeals of the District of Columbia in *Podlesak and Podlesak* v. *McInnerney*, (120 O. G., 2127,) which is as follows:

We think neither party is entitled to a claim, for the feature here in controversy, which shall dominate the other. It would seem that the claims presented by both, and made the issue of this interference, should be so re-formed that each should have a specific claim provided each can draw a claim that avoids the reference. We do not mean to hold that appellant's claim, which has been held patentable, is not patentable as read in the light of their specification. If, as we think, the claim read in the light of their specification means one thing, and the same claim read in the light of appellee's specification means another the same phraseology should not be employed.

For the reasons above stated it is believed that the showing made by Eilerman *et al.* in connection with the ground alleging different meanings of the claims in the applications of the respective parties is sufficient to warrant the transmission of the second motion as to this ground.

The decision of the Examiner of Interferences is reversed to this extent.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 22, 1907.

Adams Packing Company, its assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of Edward C. Flaccus, of Wheeling, W. Va., for registration of a trade-mark and a trade-mark registered to the Adams Packing Company, of Indianapolis, Ind., and the notice of said declaration mailed by the Patent Office in the usual manner to the said Adams Packing Company having been returned undelivered, notice is hereby given to the said Adams Packing Company, its assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents in order that the notices of declaration heretofore sent by and returned to the Office may be forwarded to them.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 16, 1907.

John A. Uhland, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of the Anti-Cori-Zine Chemical Company, of St. Louis, Mo., for registration of a trade-mark and a trade-mark registered to John A. Uhland, of Denver, Colo., and it appears from the record of the case that the registrant, John A. Uhland, cannot be located.

Notice is therefore hereby given to said John A. Uhland, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 18, 1907.

Reade Manufacturing Company, its assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of The Hewitt Brothers Soap Company, of Dayton, Ohio, for registration of a trade-mark and a trade-mark registered to the Reade Manufacturing Company, of Chicago, Ill., and it appears from the record of the case that the registrant, Reade Manufacturing Company, or its attorneys of record cannot be located.

Notice is therefore hereby given to said Reade Manufacturing Company, its assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 14, 1907.

The Saint Paul Roller Mill Company, its assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of the Ralston Purina Company, of Eighth and Gratiot streets, St. Louis, Mo., for registration of a trade-mark and a trade-mark registered to The St. Paul Roller Mill Company, of St. Paul, Minn., and the notice of said declaration mailed by the Patent Office in the usual manner to the said The St. Paul Roller Mill Company having been returned undelivered, notice is hereby given to the said The St. Paul Roller Mill Company, its assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents in order that the notices of declaration heretofore sent by and returned to the Office may be forwarded to them.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 7, 1907.

J. Meyer & Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of P. Raguet Fils & R. Vignes, of Troyes, France, for registration of a trade-mark and a trade-mark registered to J. Meyer & Company, of New York, N. Y., and it appears from the record of the case that the registrant, J. Meyer & Company, cannot be located.,

Notice is therefore hereby given to said J. Meyer & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 4, 1907.

McCulloch & Company, their assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of Alart & McGuire, of 66 Madison street, borough of Manhattan, New York, N. Y., for registration of a trade-mark and a trade-mark registered to McCulloch & Company, of 88 Water street, New York, N. Y., and the notice of said declaration mailed by the Patent Office in the usual manner to the said McCulloch & Company having been returned undelivered, notice is hereby given to the said McCulloch & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents in order that the notices of declaration heretofore sent by and returned to the Office may be forwarded to them.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

EDWARD B. MOORE, *Commissioner.*

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ABANDONED EXPERIMENTS.

(See Reduction to Practice, 5, 9.)

ABANDONMENT OF APPLICATIONS.

(See Trade-Marks, 10.)

1. CLAIMS PRESENTED AFTER FINAL REJECTION UNACCOMPANIED BY SHOWING DOES NOT AVOID.
Where after final rejection the applicant presents an amendment curing informalities and containing claims which differ substantially from those finally rejected, but does not make a showing of good and sufficient reasons why the amendment was not earlier presented, *Held* that the amendment is inadmissible, although it would have been proper to cure the informalities by proper amendment, and that such action does not relieve the application from its condition as subject to appeal or save it from abandonment. [*Ex parte* Green, 299.

2. REVIVAL—UNAVOIDABLE DELAY.
The fact that the Office did not suggest claims from a copending application does not render applicant's delay in prosecuting his case unavoidable. [*Ex parte* McKee, 980.

ACCESS TO INTERFERENCE FILES.

(See Interference, 5.)

ADOPTION AND USE.

(See Trade-Marks, 6.)

AFFIDAVIT UNDER RULE 75.

(See Copies of Affidavit Filed Under Rule 75; Motion to Dissolve Interference, 9.)

AMENDMENTS.

(See Abandonment of Applications, 1.)

AMENDMENTS TO PRELIMINARY STATEMENTS.

(See Interference, 14, 15.)

ANTICIPATION.

(See Motion to Dissolve Interference, 9; Trade-Marks, 11, 18, 19.)

PATENT—FAILURE OF SPECIFICATION TO STATE CHARACTER OF MATERIAL.
Where the specification of a patent cited as an anticipation does not state of what material the article is composed, it cannot ordinarily be assumed to be of any particular material.
[*Ex parte* Walters, 1483.

APPEAL.

(See Interference, 7, 8.)

APPEAL FROM FAVORABLE DECISION.

(See Interference, 13.)

APPEAL FROM THE EXAMINERS-IN-CHIEF.

(See Interference, 2.)

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(See Interference, 7, 12.)

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(See Abandonment of Applications; Construction of Statutes; Foreign Executors or Administrators; Invention; Patentability; Trade-Marks; Withdrawal of Allowed Applications from Issue.)

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(See Patentability.)

BILL IN EQUITY UNDER SECTION 4915, REVISED STATUTES.

(See Reopening of Interference, 2.)

CERTIFICATE OF THE COURT.

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CLAIMS.

(See Motion to Dissolve Interference, 10, 14, 15; Rejection of Claims.)

COMMERCIAL SUCCESS.

(See Diligence.)

COMMISSIONER OF PATENTS.

(See Interference, 8, 13; Mandamus, 3, 4.)

CONCEPTION OF INVENTION.

(See Reduction to Practice, 4.)

CONSTRUCTION OF STATUTES.

1. APPLICATION—PERIOD OF ONE YEAR AFTER FILING OF APPLICATION IN FOREIGN COUNTRY NOT EXTENDED.
Where the applicant filed an application in a foreign country on May 7, 1906, and a patent was granted thereon, an application filed in this country after May 7, 1907, cannot be received. Applications which the law requires to be filed in this Office within a certain time cannot be held to be so filed by reason of the fact that they are in the hands of the postal authorities.
[*Ex parte* Ravelli, 982.

2. SAME—SAME—REVISED STATUTES 4894 INAPPLICABLE.
Section 4894 of the Revised Statutes only applies to applications which already have a status in this Office and is not applicable to cases in which an application is filed in this Office more than one year from the date upon which the applicant filed an application in a foreign country and upon which he has received a patent. [Id.

CONSTRUCTION OF TRADE-MARK STATUTES.

(See Trade-Marks, 14, 15, 19, 26.)

CONTINUOUS USE.

(See Trade-Marks, 6, 8.)

COPIES OF AFFIDAVIT FILED UNDER RULE 75.

CERTIFICATE OF COURT REQUIRED.
The Patent Office will not, upon the request of the defeated party of an interference proceeding, furnish copies of an affidavit filed *ex parte* by his opponent under Rule 75 to overcome a reference against claims not involved in the interference merely upon a showing that petitioner has brought a suit in equity under section 4915, Revised Statutes, to determine priority of invention and desires a copy of such affidavit for use in such suit. Under such circumstances a copy will be furnished only upon a certificate of the court that such affidavit would constitute material and proper evidence in such suit.
[*In re* U. S. Standard Voting Machine Company, 1486.

COPIES OF INTERFERENCE RECORDS.

(See Interference, 5.)

COURT OF APPEALS OF THE DISTRICT OF COLUMBIA.

(See Reopening of Interference, 1.)

DATE OF FILING APPLICATION.

(See Construction of Statutes, 1; Reduction to Practice, 4.)

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(See Reopening of Interference, 3.)

DELAY IN BRINGING MOTIONS.

(See Interference, 10; Motion to Dissolve Interference, 1, 4, 10, 11, 13; Reopening of Interference, 3.)

DELAY IN FILING APPLICATIONS.

(See Priority of Invention, 1.)

DELAY IN PROSECUTING APPLICATION.

(See Abandonment of Applications, 2.)

DESCRIPTION OF GOODS.

(See Trade-Marks, 12.)

DESCRIPTIVE TERMS.

(See Trade-Marks, 1, 22, 24, 27, 28.)

DESIGNS.

FONT OF TYPE—PATENTABILITY.
Where, as in the art of printing, the field of inventive design is limited to modifications of detail in predetermined forms of letters, and an inventor has succeeded in producing a new font having clearly-distinguishing characteristics running through the whole, and the esthetic value of his production is confirmed by an extensive demand for the same, it is believed that he should be granted the right to a lawful monopoly of the results of his labor for the limited time provided by the design statutes.
[*Ex parte* Smith, 1688.

DILIGENCE.

(See Priority of Invention, 1; Reduction to Practice, 2.)

1. INTERFERENCE—PRIORITY—CIRCUMSTANCES TO BE CONSIDERED.
There is no arbitrary rule or standard by which diligence may be measured. The sole object of the law being to mete out the fullest measure of justice, each case must be considered and decided in the light of the circumstances of that case. The nature of the invention, the situation of the inventor, the length of time intervening between conception and reduction to practice, the character and reasonableness of the inventor's testimony and that of his witnesses, are all important factors in determining the question of diligence.
[*Woods *v.* Poor, 1313.

2. SAME—SAME—SAME.
Where on October 24, 1903, twenty-three days after his conception of the invention, Woods left the company by which he had been employed to embark in business on his own account, and during this period had made a blackboard drawing of the invention and frequently discussed with one Jacob, who was skilled in the art, the possibility of overcoming certain criticisms, and where after establishing his own business he employed said Jacob and resumed the consideration of these defects, and while he did not eventually modify his device, but filed his application January 27, 1904, *Held* he was not lacking in diligence, and priority was awarded to him over Poor, who reduced his invention to practice by filing his application December 17, 1903. [*Id.

3. SAME—SAME—WORK ON AUXILIARY INVENTION.
Work on an auxiliary invention which the inventor regarded as necessary to the commercial success of his invention cannot be regarded as constituting diligence where the evidence does not satisfactorily show the nature of the experiments or when they were made. [Fordyce *v.* Stoetzel, 2372.

DISCLOSURE OF INVENTION.

(See Interference, 7; Priority of Invention, 2, 3.)

EVIDENCE.

(See Copies of Affidavit Filed Under Rule 75; Diligence; Priority of Invention, 2; Reduction to Practice, 5, 7, 8, 9; Trade-Marks, 18.)

EXPERIMENTAL MACHINES.

(See Reduction to Practice, 1.)

FINAL HEARING.

(See Motion to Suppress Testimony; Reopening of Interference, 4.)

FINAL REJECTION.

(See Rejection of Claims.)

FIRST AND ORIGINAL INVENTOR.

(See Priority of Invention, 3.)

FOREIGN APPLICATION.

(See Construction of Statutes, 1; Trade-Marks, 19.)

FOREIGN EXECUTORS OR ADMINISTRATORS.

FOREIGN INVENTORS—GERMANY—PROOF OF AUTHORIZATION.
Where it appears that the applicant, who was a subject of the Emperor of Germany and resided in Germany, is dead and application is made by Mrs. Niedenführ, his alleged administratrix, to prosecute the application, *Held* that in addition to a properly-authenticated certificate of inheritance there should be filed either a certificate of a German court of record that Mrs. Niedenführ is entitled to administer the estate, such certificate being properly proved by the certificate of a consular or diplomatic officer, or else a formal statement to that effect from the German embassy or the German consulate.
[*Ex parte* Niedenführ, 981.

FORMER DECISIONS CITED.

(See Interference, 7, 11; Patentability; Reduction to Practice, 3; Trade-Marks, 4, 10.)

FORMER DECISIONS FOLLOWED.

(See Trade-Marks, 21.)

FORMER DECISIONS MODIFIED.

(See Motion to Dissolve Interference, 14.)

INTERFERENCE.

(See Copies of Affidavit Filed Under Rule 75; Diligence; Motion to Amend Application; Motion to Dissolve Interference; Motion to Suppress Testimony; Priority of Invention; Reduction to Practice; Reopening of Interference; Trade-Marks, 8, 9, 10, 16, 17; Withdrawal of Allowed Applications from Issue.)

1. REOPENING.
An interference will not be reopened for the purpose of introducing newly-discovered evidence where it does not appear that the evidence could not have been discovered at the time of taking testimony. [Latshaw *v.* Duff *v.* Kapian, 980.

2. APPEAL—REHEARING.
An appeal from the Examiners-in-Chief will not be reheard for the purpose of considering a patent of one of the parties to the interference which is not in evidence. [Id.

3. TESTIMONY—SURREBUTTAL.
Where an inventor testifying in rebuttal on behalf of his opponent denies that he is the inventor of a part of the invention in issue, his testimony constitutes such legal surprise as will entitle his assignee, who is prosecuting the invention, to take surrebuttal testimony.
[Sandage *v.* Dean *v.* Wright *v.* McKenzie 981.

4. SAME—SAME.
Where the instances alleged to show that the inventor has testified falsely amount to no more than a difference of opinion between the witness and the affiant, a motion to take surrebuttal testimony should be denied. [Id.

5. ACCESS TO RECORDS OF ANOTHER.
Where S. requested copies of the decision of the Examiner upon a motion for dissolution in another interference to which F. was a party and which is referred to in F.'s record, *Held* that since S. was not a party to the other interference and the claims forming the issue of that interference are not made by S. he should be denied access to the record of that interference, even though the issue thereof is based upon the same structure as that upon which the claims in the present interference are drawn.
[Stone *v.* Fessenden, 1487.

6. SUSPENSION—POSTPONEMENT OF TIME FOR OPENING PRELIMINARY STATEMENTS.
An interference relating to a machine will not be suspended and the time for opening the preliminary statements postponed in order that one of the parties may take out a patent upon an application covering a closely-related process not involved in the interference before the existence of such application is discovered by his opponent through access to the machine application which contains a cross-reference thereto.
[*Ex parte* Field, 1687.

7. PRIORITY—APPEAL TO COURT—SUFFICIENCY OF DISCLOSURE CONSIDERED.
Whether or not an application involved in interference discloses the subject-matter in issue, and therefore whether or not the interference is properly declared, is a question to be ordinarily determined by the Patent Office, (*Ostergren* v. *Tripler*, 95 O. G., 359; 17 App. D. C., 558; *Herman* v. *Fullman*, 109 O. G., 625; 23 App. D. C., 264, 265;) but in extreme cases where palpable error has been committed the court may review the decision of the Patent Office on this point. (*Podlesak and Podlesak* v. *McInnerney*, 120 O. G., 2127; 26 App. D. C., 309.)
[*MacMulkin *v.* Bollee, 1691.

8. CONSIDERATION OF PATENTABILITY ON APPEAL ON PRIORITY—SUPERVISORY AUTHORITY.
The question of the patentability of issue will be considered on appeal on priority only under the supervisory authority of the Commissioner for the purpose of correcting a manifest error.
[Dixon and Marsh *v.* Graves and Whittemore, 2374.

9. JUDGMENT ON RECORD—ORDER TO SHOW CAUSE—SUFFICIENCY OF SHOWING.
Where in response to an order to the junior party to show cause why judgment of priority could not be rendered against him because his alleged date of conception was subsequent to the filing date of the senior party the junior party files a statement alleging that certain of the counts are specific to his structure and that the subject-matter covered thereby was not shown or described by the senior party, *Held* to be insufficient, as the question sought to be raised was one which should have been raised by a motion to dissolve rather than by the mere filing of a statement. [Felbel *v.* Fox, 2375.

10. DELAY IN FILING MOTION—CHARACTER OF SHOWING REQUIRED.
A mere unverified statement accompanying a motion filed one day late stating that the motion should not be brought sooner on account of other work is insufficient. A showing in excuse for delay should be under oath, and it should state facts from which the Office may judge whether or not the delay was excusable. [Id.

11. PRACTICE—ADHERENCE TO RULES NECESSARY.
While it is not the desire of the Office to be too technical, it is better to insist upon a reasonable and just compliance with the rules of the Office, though it may work a hardship in an individual case, than to adopt a course that would result practically in abrogating the rules, with consequent confusion (*Keller* v. *Wethey* v. *Roberts*, C. D., 1897, 157; 81 O. G., 331; *Estes* v *Gause*, C. D., 1899, 164; 88 O. G., 1336.) [Id.

12. FINAL JUDGMENT BY PATENT OFFICE—APPEAL TO COURT PENDING.
Judgment in an interference proceeding will not be made final by the Patent Office after the filing of a notice of appeal to the Court of Appeals of the District of Columbia and pending such appeal, on the ground that such notice was filed one day outside the forty-day period set by the rules of that court for filing notice of appeal, it being regarded as within the discretion of the court to waive a strict adherence to the rule and to entertain the appeal notwithstanding the delay in filing the notice.
[Proutt *v.* Johnston and Johnston, 2718.

13. PRACTICE UNDER RULE 124—SUPERVISORY AUTHORITY OF COMMISSIONER.
No appeal lies from a favorable decision on the right to make the claims or the identity of meaning of the counts in the cases of different parties, and such a decision will be reviewed on petition in the exercise of the Commissioner's supervisory authority only to correct some palpable error in the decision which is clear and evident on its face. [Lipschutz *v.* Floyd, 2718.

14. PRELIMINARY STATEMENT—SECOND PROPOSED AMENDMENT—SHOWING REQUIRED.
Where after decision upon a motion for dissolution a party moves to amend his preliminary statement and it is held that the showing in support thereof is insufficient to warrant such amendment, a second motion to amend will not be granted where no good reason appears why the showing then made could not have been presented in connection with the first motion. Parties cannot be permitted to try their cases piecemeal and experimentally. [Borg *v.* Strauss, 2719.

15. SAME—SAME—SAME.
Amendments to preliminary statements are to be permitted after a party has had an opportunity to inspect his opponent's case only in cases where *bona fide* mistakes of fact have been made and a full and clear showing is made that there was no negligence in discovering the true facts. [Id.

INVENTION.

(See Designs; Reduction to Practice, 3.)

1. PATENTABILITY—CHANGES INVOLVING MECHANICAL SKILL ONLY—NO INVENTION.
Where the device shown in the application differs from that of a prior patent merely in the shape of the grooves in which a sealing mixture is to be placed, *Held* that it would be a mere matter of mechanical skill to adapt the shape of the groove to the nature of the sealing material to be used.
[*Ex parte* Williams, 1688.

2. SAME—MERE CHANGE IN DESIGN.
Where the claim is distinguishable from the prior art by a mere arbitrary variation which amounts only to a change in mechanical design, *Held* that such a claim is unpatentable.
[**In re* Williams, 1692.

IRREGULARITY IN DECLARATION OF INTERFERENCE.

(See Motion to Dissolve Interference, 8.)

JUDGMENT OF THE PATENT OFFICE IN INTERFERENCE PROCEEDINGS.

(See Interference, 12.)

JUDGMENT ON THE RECORD.

(See Interference, 9.)

JURISDICTION OF THE SUPREME COURT OF THE DISTRICT OF COLUMBIA.

(See Mandamus, 3.)

LIMITATION OF TRADE-MARK.

(See Trade-Marks, 4.)

LIMIT OF TIME.

(See Construction of Statutes, 1; Motion to Dissolve Interference, 10.)

MACHINES.

(See Reduction to Practice, 6, 7, 8, 9.)

MANDAMUS.

1. NOT GRANTED—WHERE OTHER LEGAL REMEDIES EXIST.
Where the relator is not without other complete and adequate remedies, a writ of mandamus will not lie.
[*The United States of America, *ex rel.* The Newcomb Motor Co., *v.* Allen, (Moore substituted,) Commissioner of Patents, 302.

2. SAME—MERELY TO EXPEDITE THE CASE.
Although the writ of mandamus might serve as an inexpensive and summary conclusion of the whole matter, providing this court had jurisdiction to issue the writ, yet neither economy of time nor expense can weigh anything as against the orderly procedure under the law of a given case. [*Id.

3. SAME—WHERE COURT IS WITHOUT JURISDICTION.
Where the Commissioner has, in fact, acted and rendered his decision touching the very matter here in controversy and has the clear legal right to act and decide for himself, this court is without jurisdiction to review his action and above all to compel him by its writ to undo what he has done. [*Id.

4. PRACTICE.
Where the Commissioner had the power to act and has acted, *Held* that it is wholly immaterial whether in the judgment of the court he was right or wrong in his determination and that in overruling the motion for a writ of mandamus no opinion will be expressed as to the merits of the relator's contentions. [*Id.

MECHANICAL SKILL.

(See Invention.)

MODEL.

(See Motion to Dissolve Interference, 10.)

MOTION TO AMEND APPLICATION.

QUESTION OF NEW MATTER—TRANSMISSION.
The contention that the motion to amend contains new matter relates to the merits and is a matter for the consideration of the Primary Examiner and not the Examiner of Interferences. The motion was therefore properly transmitted.
[Brown *v.* Inwood and Lavenberg, 978.

MOTION TO DISSOLVE INTERFERENCE.

(See Interference, 9.)

1. MOTION TO TRANSMIT—DELAY IN BRINGING.
Where the reasons which are alleged to excuse delay in bringing a motion appear clearly from the record, it is only necessary for the moving party to call attention thereto.
[Cutler *v.* Carichoff, 656.

2. SAME—SAME.
The fact that similar motions have been brought in companion interferences constitutes no sufficient excuse for delay in bringing a motion to dissolve. [Id.

3. SAME—SAME—APPLICATION OF REFERENCES.
Where a motion for dissolution refers to the prior art cited in the records of the applications and gives no information as to what patents are to be urged against the respective counts or how they are to be used or combined to anticipate invention stated in said counts, *Held* that the motion is too indefinite and transmission of the same was properly refused.
[Brown *v.* Inwood and Lavenberg, 978.

4. SAME—SAME.
Where the hearing on a motion to transmit a motion to dissolve is extended by stipulation of the parties and before the hearing an amended motion is filed stating the grounds of the first motion more specifically, *Held* that the motion, if in proper form, should have been transmitted even if the first motion was not sufficiently specific. [Smith *v.* Fox, 1312.

5. SAME—SAME.
Where the opposing party is not given sufficient notice of the hearing on the motion to transmit a motion to dissolve, the motion should not be refused transmission on that ground, but the hearing should be continued.
[Phillips *v.* Scott 1312.

6. SAME—SAME.
Where it is moved to dissolve an interference on the ground that the issue is not patentable in view of certain references cited, but it is not stated how these references are to be applied, the motion to transmit should be denied. [Id.

7. SAME—SAME—NON-PATENTABILITY—APPLICATION OF REFERENCES.
The allegation in a motion for dissolution that the issue is unpatentable in view of eight references, of which it is said that "each of the counts is also met in each of the above patents, singly or in combination," is vague and indefinite, and the transmission of the motion for dissolution was properly refused.
[Thullen *v.* Townsend, 1312.

8. SAME—SAME.
A motion to dissolve on the ground of irregularity in the declaration of the interference properly refused transmission where the alleged irregularity is that the issue of the present interference is substantially the same as that of a former interference which the Primary Examiner dissolved.
[Sugden and Pidgin *v.* Laganke and Smith *v.* Marshall, 1484.

9. NON-PATENTABILITY—REFERENCE FAILING TO ANTEDATE ALLEGATIONS OF PRELIMINARY STATEMENT—TRANSMISSION.
Although the date of a reference relied upon in a motion to dissolve alleging anticipation of the issue is later than the date of conception set up in the preliminary statement of the opposing party, the motion may nevertheless be transmitted in order that the Primary Examiner may consider the pertinency of the reference and permit the filing of an affidavit alleging the facts required by Rule 75 outside of those contained in such preliminary statement. [Martin *v.* Goodrum *et al.*, 1485.

10. DELAY IN BRINGING—RIGHT TO MAKE CLAIM.
Where a motion to dissolve, on the ground that the adverse party had no right to make the claims and that his application did not show an operative device, was brought nearly two months after the expiration of the thirty days, *Held* that the fact that attorneys were busy with other matters and that it was necessary to make certain models constitutes no sufficient excuse for the delay, especially as no showing was made why it was necessary to make so many models or to take so long a time to complete them. [Josleyn *v.* Hulse, 1689.

11. SAME.
The pendency of a motion under Rule 109 is no excuse for the delay in bringing a motion to dissolve. [Id.

12. OATH TO REISSUE APPLICATION INSUFFICIENT.
A motion to dissolve an interference involving a reissue application, alleging that the oath accompanying the application was insufficient to warrant the grant of a reissued patent, should be transmitted to the Primary Examiner.
[Emmet *v.* Fullagar, 2719.

13. DELAY IN BRINGING—EXCUSE.
The fact that numerous appeals and petitions have been taken to have transmitted a motion to dissolve which was not in proper form constitutes no excuse for the delay in bringing the motion in proper form.
[Brantingham *v.* Draver and Draver, 2720.

14. SAME—TRANSMISSION—RIGHT TO MAKE CLAIM AND DIFFERENCE IN MEANING OF CLAIMS.
Where in a motion for dissolution the right of the adverse party to make the claims in issue is denied and it is also alleged that the claims when read upon the structures disclosed by the respective parties have different meanings, reasons relied upon in support of such contentions being clearly pointed out, *Held* that the motion to dissolve should be transmitted as to both grounds. (*Cushman* v. *Edwards*, 128 O. G., 456, modified.)
[Eilerman *et al. v.* McElroy, 2721.

15. SAME—CLAIMS HAVING DIFFERENT MEANINGS IN OPPOSING PARTIES' APPLICATIONS—PRACTICE.
Where it is found upon motion for dissolution that the claims in issue have different meanings in the cases of the respective parties, the Examiner should require one or both of the applicants to so modify the claims as to avoid a conflict in the terms employed to define the respective inventions. [Id.

MOTION TO SUPPRESS TESTIMONY.

(See Trade-Marks, 20, 21.)

1. INTERFERENCE—CONSIDERATION POSTPONED UNTIL FINAL HEARING.
Where a consideration of a motion to suppress testimony would involve a consideration of a large portion of the record, a decision upon the motion will be postponed until final hearing.
[Dyson *v.* Land *v.* Dunbar *v.* Browne, 1690.

2. SAME—QUESTION OF RIGHT TO TAKE SURREBUTTAL TESTIMONY.
The right to take surrebuttal testimony is not merely dependent upon the propriety of opponent's testimony and is therefore not affected by a refusal to consider a motion to suppress prior to final hearing. [Id.

NEWLY-DISCOVERED EVIDENCE.

(See Interference, 1, 3.)

NEW MATTER.

(See Motion to Amend Application.)

NOTICE OF HEARING.

(See Motion to Dissolve Interference, 5, 6.)

OATH.

(See Motion to Dissolve Interference, 12.)

OLD DEVICES.

(See Reduction to Practice, 5.)

OPPOSITION TO REGISTRATION.

(See Trade-Marks, 2, 3, 5, 6, 7, 20, 26, 27.)

OWNERSHIP.

(See Trade-Marks, 6, 25, 26.)

PARTNERSHIP.

(See Trade-Marks, 25.)

PATENTABILITY.

(See Designs; Interference, 8; Invention; Motion to Dissolve Interference, 6, 7.)

PRIOR PATENT OF APPLICANT DISCLOSING BUT NOT CLAIMING INVENTION.
A patent disclosing a process and apparatus and claiming only the process is no bar to the allowance of an application covering the apparatus filed by the same party within two years after the grant of the patent. (*Ex parte Mullen & Mullen*, C. D., 1899, 9; 90 O. G., 837.)
[*Ex parte* Isaacs & Speed, 2717.

PRACTICE IN THE PATENT OFFICE.

(See Interference, 11, 13; Motion to Dissolve Interference, 15; Reopening of Interference, 1, 2, 4; Trade Marks, 5.)

PRELIMINARY STATEMENT.

(See Interference, 6, 14, 15; Motion to Dissolve Interference, 9.)

PRINTED RECORD.

(See Trade-Marks, 21.)

PRIORITY OF INVENTION.

(See Diligence, 1, 2; Interference, 7, 9.)

1. INTERFERENCE—DILIGENCE.
Where Poe, who was the first to conceive, but the last to constructively reduce to practice, was diligent at the time Scharf entered the field and the delay of three months between this time and the filing of his application was due to no inaction on the part of Poe, but to the fact that the attorney for his assignee, who was particularly skilled in the art and prepared all its patent applications, was delayed by other work which had accumulated because of his sickness, and the testimony shows that there was no intentional delay upon his part in the preparation of Poe's application, *Held* that Poe was not lacking in diligence.
[Poe *v.* Scharf, 1309.

2. SAME—FAILURE OF SENIOR PARTY TO DISCLOSE INVENTION.
Evidence considered and held to show that the application on which the patent involved in interference was granted did not as originally filed disclose the invention in issue, and priority therefore awarded to the junior party.
[*McKnight *v.* Pohle, 2099.

3. SAME—ORIGINALITY.
Where an invention is reduced to practice by B. while working as an assistant of H. and in pursuance of a general plan arranged by H. and his associate officers with a view to the attainment of the result actually accomplished by such invention, the presumption is that the reduction to practice is a result of H.'s disclosures to B., and in order for the latter to prevail on the question of priority he must affirmatively show that he was an independent inventor. [Braunstein *v.* Holmes, 2371.

PROCESS AND APPARATUS.

(See Patentability.)

PROCESS AND MACHINE.

(See Interference, 6.)

PROOF.

(See Trade-Marks, 7, 27, 28.)

PROOF OF AUTHORIZATION OF FOREIGN EXECUTORS OR ADMINISTRATORS.

(See Foreign Executors or Administrators.)

REBUTTAL TESTIMONY.

(See Trade-Marks, 20.)

REDUCTION TO PRACTICE.

(See Priority of Invention, 1, 3.)

1. INTERFERENCE—TEST.
Where it appears that L. and W. constructed a machine embodying the tin-plate catcher set forth in the issue and secretly tested the same August 23, 1902, but it is not clear that freshly-tinned plates were used in the test, and the machine was at once dismantled, and that subsequently, in October, 1903, another machine was constructed which is said to have been operated until November 18, 1903, but was not again used until September, 1904, after L. and W. heard of C.'s patent, and no sheets which were run through this catcher are produced, and where another machine, which was made in February, 1905, in conformity with the first machine and tested in the presence of witnesses called in this case, required frequent adjustments of the catcher-disks to prevent the sheets from slipping and yet to place them far enough apart to avoid denting the sheets, *Held* that the experimental stage of the invention had not been passed and that such tests did not establish reduction to practice of the invention.
[*Lewis and Williams *v.* Cronemeyer, 300.

2. SAME—DILIGENCE.
Where L. and W. made and secretly tested a machine embodying the invention August 23, 1903, and at once dismantled the same, made and tested another machine October, 1903, but did not use the same again until September, 1904, and where L. and W. consulted their attorneys in November, 1903, and had the application papers prepared in January, 1904, but did nothing further toward filing their application until June, 1904, after they had heard of C.'s patent, *Held* that L. and W. were lacking in diligence and cannot prevail over C., who reduced the invention to practice and filed his application in September, 1903.
[*Id.

3. SAME.
Reduction to practice must produce something of practical use, coupled with a knowledge, preferably by actual trial, that the thing will work practically for the intended purpose. The conception may give rational hopes of future fulfillment of the purpose at which it aims; but if as a matter of practice it falls short of success it is not a sufficient reduction to practice. Complete invention amounts to demonstration. When, as in this case, it had not quite passed beyond experiment and had not quite attained certainty and had fallen short of demonstrating the capacity of the invention to produce the desired result, the invention itself was still inchoate. These parties sought certainty; but they had not attained certainty beyond all conjecture, which certainty the law requires. (See *McKenzie* v. *Cummings*, C. D., 1904, 683; 112 O. G., 1481; 24 App. D. C., 140; *Hunter* v. *Stakeman*, C. D., 1898, 564; 85 O. G., 610; 13 App. D. C., 219; *Coffin* v. *Ogden*, 5 O. G., 270; 18 Wall., 124.)
[*Sherwood *v.* Drewsen, 657.

4. SAME—FILING OF APPLICATION.
Where neither the testimony presented by S. nor that offered in behalf of D. satisfactorily establishes conception of the invention in issue, *Held* that each party must be restricted to the date of filing of his application for conception and constructive reduction to practice, and since D. was the first to file, priority of invention must be awarded to him. [*Id.

5. SAME—PRIORITY—LONG DELAY.
Where the evidence satisfactorily shows that Hallwood constructed a machine embodying the invention in issue and successfully operated it more than five years prior to the filing of his application and that several machines were afterward constructed and sent to various parts of the United States, *Held* that these acts should not be considered merely as evidence of an abandoned experiment, but as evidence of a reduction to practice, although other machines were built embodying an older form of device for performing the same function, where it appears that the old devices satisfactorily performed the desired function in ordinary use and that they were so made in order to dispose of old materials then on hand.
[*McCormick *v.* Hallwood, 1487.

6. SAME—SAME—TEST.
As a general rule, before a machine can be considered as a reduction to practice it must be subjected to a test, and the test must demonstrate the fitness of the machine for a useful purpose. [Gordon *v.* Wentworth, 2065.

7. SAME—SAME—EVIDENCE OF SUCCESSFUL TEST.
The mere general statements of witnesses that a device operated successfully, unsupported by the production of the articles upon which the machine operated at the time, must be regarded as meager evidence of a successful test. [Id.

8. SAME—SAME—SAME—SUCCESSFUL OPERATION OF DEVICE AT TRIAL.
If a machine may be successfully operated at the time testimony is taken, this fact, taken in connection with statements of witnesses that it operated successfully when first constructed, may be considered sufficient evidence of a successful test where it appears that the device has not been changed in the meantime. [Id.

9. SAME—SAME—EVIDENCE THAT DEVICE WAS UNSUCCESSFUL.
Where after an alleged successful test a device is thrown aside and apparently forgotten until knowledge is gained of a rival's successful invention, notwithstanding an apparent demand for such a device, *Held* that such conduct carries a strong presumption that the device was regarded only as an unsuccessful experiment. [Id.

REFERENCES.

(See Motion to Dissolve Interference, 3, 6, 7, 9.)

REGISTRABILITY.

(See Trade-Marks, 1, 13, 14, 24.)

REGISTRATION.

(See Trade-Marks, 4, 16, 18, 19, 22.)

REHEARING.

(See Interference, 2.)

REISSUE APPLICATIONS.

(See Motion to Dissolve Interference, 12.)

REJECTION OF CLAIMS.

FORMAL OBJECTION DOES NOT RENDER PREMATURE.
Where the Examiner points out certain formal objections in his letter finally rejecting the claims of an application, *Held* that the final rejection is not thereby rendered premature.
[*Ex parte* Green, 209.

REOPENING OF INTERFERENCE.

(See Interference, 1.)

1. PRACTICE.
The Court of Appeals of the District of Columbia having held that a second interference involving claims differing merely in scope from those involved in the first interference should not have been declared, the latter will not be reopened for the purpose of allowing the issue of the second interference to be contested therein. [Wende v. Horine, 1311.

2. SAME.
The fact that a proceeding by bill in equity under section 4915, Revised Statutes, might prove slow and expensive should not outweigh the necessity for proper and orderly procedure in an interference. [Id.

3. DELAY IN BRINGING MOTION.
A motion to reopen a case for the purpose of allowing a party to print testimony taken by his opponent will be denied where such motion was brought after the decision of the Examiner of Interferences was rendered and no satisfactory reason for such delay is given. [Parker v. Corkhill, 2067.

4. PIECEMEAL CONDUCT OF CASE.
A piecemeal conduct of a case cannot be allowed. Where a contestant elects to stand upon the record as presented at final hearing, he is bound by the decision rendered thereon. [Id.

SIMILARITY OF MARK.

(See Trade-Marks, 2, 7, 27, 28.)

SPECIFICATIONS.

(See Anticipation.)

SUITS IN EQUITY UNDER SECTION 4915, REVISED STATUTES.

(See Copies of Affidavit Filed Under Rule 75.)

SUPERVISORY AUTHORITY OF THE COMMISSIONER OF PATENTS.

(See Interference, 8, 13.)

SURREBUTTAL TESTIMONY.

(See Interference, 3, 4; Motion to Suppress Testimony.)

SUSPENSION OF INTERFERENCE.

(See Interference, 6.)

TESTIMONY.

(See Interference, 3, 5, 6; Motion to Suppress Testimony; Reopening of Interference, 3; Trade-Marks, 21.)

TESTS.

(See Motion to Dissolve Interference; Reduction to Practice, 1, 3, 6, 7, 8, 9.)

TRADE-MARKS.

1. "RAT BIS-KIT" FOR POISONOUS COMPOUND FOR RATS AND MICE—DESCRIPTIVE—NOT REGISTRABLE.
The words "Rat Bis-Kit" indicate a product to be eaten by rats, which would be understood by the public to contain a rat-poison. *Held*, therefore, to be descriptive and not registrable as a trade-mark for a poisonous compound for rats and mice.
[*Ex parte* The Rat Biscuit Company, 300.

2. OPPOSITION—SIMILARITY OF MARKS INCLUDING COMMON FEATURE.
Held that the mark of the appellant which consists of the representation of a cross having rays radiating from its upper portion, associated with the title-phrase "Liqueur de St. Dominic," and the name "Charles Jacquin et Cie" appearing above and below the title-phrase, the whole inclosed in a circular border of dots and crosses arranged alternately, does not so nearly resemble the mark of the opponent, which comprises the words "Veritable Benedictine," "D. O. M.," and the representation of a "cross," as to cause confusion in the mind of the public, where crosses of various types have been used upon liqueurs and cordials by many other dealers.
[Gourd v. Charles Jacquin et Cie., Inc., 655.

3. SAME—UNFAIR COMPETITION IN TRADE NOT CONSIDERED.
The question of unfair competition in trade cannot be considered in an opposition proceeding. [Id.

4. LIMITATION BY REGISTRATION.
Where it is stated in the certificate of registration that the essential features of the trade-mark are the words "Veritable Benedictine," "D. O. M.," and a "cross," *Held* that the registrant having limited himself in the registration to a mark containing these features is not entitled broadly to the use of a cross so as to exclude others from the use of the same regardless of the similarity of the marks. (Citing *Richter* v. *Reynolds et al.*, 67 O. G., 404; 59 Fed. Rep., 577. [Id.

5. SAME—PRACTICE.
Where no pleading was filed in response to a notice of opposition and no action taken in response to an order to show cause why the opposition should not be sustained, *Held* that a judgment sustaining such notice of opposition was proper.
[The Drevet Manufacturing Company v. The Liquozone Company, 977.

6. SAME—ALLEGATION OF ADOPTION AND USE.
An allegation in a notice of opposition that the opposer adopted "Glycozone" as a trade-mark for a remedy for the treatment of germicidal diseases and that its use was begun prior to the use of the trade-mark "Liquozone" and that it is still sold to a large extent is a sufficient allegation of ownership and continuous use. [Id.

7. SAME—SIMILARITY OF MARKS.
Where two marks which are not identical in appearance are similar in sound and it is alleged that such similarity has caused confusion in trade and the applicant does not see fit to put the opposer to proof of the allegation, the contention as to similarity should be sustained. [Id.

8. INTERFERENCE—USE OF MARK.
A mere casual use of a mark is insufficient to establish a right to protection in the use thereof.
[Luthy & Company v. Peoria Drill & Seeder Company, 978.

9. SAME—SAME.
Slight and immaterial changes in an article to which a trade-mark is applied do not render the use of said mark fraudulent. [Id.

10. SAME—ABANDONMENT.
A declaration of abandonment filed for the purpose of terminating an interference must be unconditional and unequivocal. (*Gabrielson* v. *Felbel*, 121 O. G., 691.)
[The Thomson Wood Finishing Company v. Rinald Brothers, 980.

11. ANTICIPATION.
"La Camille" for corsets *Held* to be anticipated by "Camille Royal Combination" for feminine apparel.
[*Ex parte* International Corset Company, 1310.

12. IDENTITY OF MERCHANDISE—FEMININE APPAREL—CORSETS.
Held that the term "feminine apparel" stated as the particular description of the goods to which the registrant's mark is applied is comprehensive enough to include "corsets." [Id.

13. "RAINIER"—SURNAME.
The primary significance of the word "Rainier," which forms part of applicant's name, is that of the name of an individual, and it is therefore not registrable as a trade-mark.
[*Ex parte* The Rainier Company, 1311.

14. SAME—NOT WRITTEN IN FANCIFUL MANNER.
The word "Rainier" written in large script letters, with a flourish extending from the letter "R" beneath certain letters of the word, *Held* not to be such a distinctive display of the name as required by the act of 1905 to confer registrability upon the mere name of an individual. [Id.

15. RED CROSS ACT.
A mark an essential feature of which is a cross printed in red properly refused registration under the act of January 5, 1905, since such a cross is a colorable imitation of the cross of the American National Red Cross.
[*Ex parte* Streator Metal Stamping Company, 1483.

16. MOTIONS FOR DISSOLUTION—INTERFERENCE IN FACT—MARKS SHOWN IN DRAWINGS ALONE CONSIDERED.
In determining the question of interference in fact between two trade-marks which are presented for registration only the marks disclosed in the applications of the respective parties are to be considered.
[Planten v. Canton Pharmacy Company, 1484.

17. SAME—SAME.
Held that interference in fact exists between the words "Black Caps" written in script on a black rectangular background and a mark comprising the words "Black Capsules" printed in Roman letters on a similar background. [Id.

18. ANTICIPATION—EXPIRED REGISTRATION.
An expired registration is still evidence to some extent of the existence of a mark, and the Office is not justified in permitting registration of the same mark or a similar mark by another until he has in some way overcome the registration.
[*Ex parte* Collins, 1485.

19. SAME—SAME—FOREIGN APPLICANT.
Inasmuch as the act of 1881 did not require that applicants residing in a foreign country obtain registration in that country as a prerequisite to registration in this country and since the laws of Great Britain, where the applicant resides, provide for reregistration of marks, *Held* that in the absence of proof the expiration of the trade-mark registration under section 5 of the act of 1881 will not be presumed merely because more than fourteen years, the period of registration in Great Britain, have elapsed since registration in this country. [Id.

20. OPPOSITION—TESTIMONY—SUPPRESSION.
Rebuttal testimony taken for the purpose of establishing facts not alleged in the notice of opposition or which should have been offered as part of the testimony-in-chief is improper rebuttal, and a motion to suppress the same will be granted.
[Underwood Typewriter Company v. A. B. Dick Company, 1690.

21. SAME—SAME—PRINTED RECORD.
Where the motion to suppress was granted after the testimony was printed, it will be a sufficient compliance with the ruling in *Marconi* v. *Shoemaker* v. *Fessenden* (121 O. G., 2064) for the docket clerk to indicate in the usual manner in the printed record the matter which has been expunged. [Id.

22. "GOLDEN BROWN COLOR" DESCRIPTIVE.
The words "Golden Brown Color No. 21" refused registration as a trade-mark for leather, since the words "Golden Brown Color" are descriptive of the character or quality of the goods.
[*Ex parte* F. Blumenthal & Co., 2068.

23. DESCRIPTIVE WORDS ASSOCIATED WITH ARBITRARY SYMBOLS.
Descriptive words are no less so because associated with some arbitrary symbol. [Id.

24. DESCRIPTIVE WORDS ARRANGED IN AN ARBITRARY MANNER.
Combining descriptive words in an arbitrary manner does not render a mark registrable. [Id.

25. OWNERSHIP BY PARTNERS—RIGHTS UPON DISSOLUTION.
Whatever interest in a trade-mark a retiring partner of a firm may have had ceases upon his withdrawal from the firm and remains with the surviving partner.
[* Bluthenthal and Bickart v. Bigbie Brothers & Company, 2068.

26. OPPOSITION—REGISTRATION OF A NON-TECHNICAL MARK MAY BE OPPOSED BY OWNER OF A SIMILAR NON-TECHNICAL MARK.
Where an applicant seeks to register a mark under the ten-year proviso of section 5 of the act of 1905 and the registration of that mark is opposed by a party who claims ownership of a mark consisting of a surname or a geographical term which resembles the applicant's mark, *Held* that the notice of opposition will not be dismissed upon the ground that the opposer's mark is not a proper trade-mark.
[Kentucky Distilleries and Warehouse Company v. P. Dempsey & Company, 2373.

27. SAME—PROOF OF CONFUSION IN TRADE.
Where the opposer alleged in his notice of opposition that confusion in trade had occurred, but introduced no testimony that such confusion had taken place, and where the marks are not so nearly alike that in the absence of proof as to actual confusion it can be held that confusion would be likely to occur, the applicant's mark will not be refused. [Id.

28. SAME—DOUBTFUL SIMILARITY—"MAYFIELD," "MAYFAIR."
Held that the marks "Mayfield" and "Mayfair" are not so nearly alike that in the absence of proof as to actual confusion it can be held that confusion would be so likely to occur as to justify refusing to register the applicant's mark. [Id.

TRANSMISSION OF MOTIONS.

(See Motion to Amend Application; Motion to Dissolve Interference.)

UNFAIR COMPETITION IN TRADE.

(See Trade-Marks, 3.)

WITHDRAWAL OF ALLOWED APPLICATIONS FROM ISSUE.

INTERFERENCE.
An application will not be withdrawn from issue for the purpose of permitting the applicant to adopt claims of a patent where it appears that the question of interference between the applications of the respective parties was considered by the Examiner before the cases were allowed.
[*Ex parte* Meyer, 1689.

ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED DURING THE MONTH OF SEPTEMBER, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Specification.	Drawing.	Volume.	Page.
A. Sorge Jr. Company. (See Sorge, Adolph, Jr., assignor.)						
A. B. Dick Company. (See Carter, Melon J. D., assignor.)						
A. B. Dick Company. (See Dick, Albert B., assignor.)						
A. G. Kaufman Manufacturing Company. (See Kaufman, Adolph G., assignor.)						
Abbey and Imbrie. (See Vanderbilt, Oliver D., assignor.)						
Abbey, Reuben, and W. E. Risley, Corning, N. Y. Railway-switch	867,158	Sept. 24	3095	1045	130	1253
Abbott, Ira, Wyandotte, Mich. Vehicle-wheel	865,072	Sept. 3	489	135	130	148
Abbott, John E. (See Johnson, Warner, assignor.)						
Abel, John J. (See Beckel and Abel.)						
Abizaid, Antonio, Douma, Syria, Turkey. Friction-slide for garment-supporters	865,554	Sept. 10	1255	356	130	412
Ackerman, Edwin T., Chicago, Ill. Automatic electric signal system	865,555	Sept. 10	1256	356	130	412
Actien Gesellschaft für Anilin Fabrikation. (See Herzberg and Scharfenberg, assignors.)						
Actien Gesellschaft für Anilin Fabrikation. (See Herzberg and Spengler, assignors.)						
Adams, Allen A., Berryton, Kans. Gate-latch	865,844	Sept. 10	1719	478	130	570
Adams, Clinton P. (See Christopherson, Ole A., assignor.)						
Adams, John D., *et al.*, executors. (See Adams, Thomas.)						
Adams, Martha E., *et al.*, executors. (See Adams, Thomas.)						
Adams, Salathiel S. (See Knight and Adams.)						
Adams, Thomas, *et al.*, executors. (See Adams, Thomas.)						
Adams, Thomas, deceased, New York; J. D. and T. Adams, Bay Shore, and M. E. Adams, Brooklyn, N. Y., executors. Machine for wrapping merchandise	866,902	Sept. 24	3287	926–8	130	1125
Adams & Westlake Company. (See Giese, James A., assignor.)						
Adams & Westlake Company. (See Mosher, John A., assignor.)						
Adams & Westlake Company. (See Schuetz, Frank A., assignor.)						
Aden, Joseph, Ruralhall, N. C. Axle-lubricator	865,347	Sept. 10	917	263	130	307
Adjustable Collet Company. (See Holstein, Joseph L., assignor.)						
Adt, Leo F., Troy, N. Y. Eyeglasses	865,982	Sept. 17	1927	540	130	663
Aeolian Company. (See Rees, William H., assignor.) (Reissue.)						
Aeolian Company. (See Votey, Edwin S., assignor.)						
Ahlders, Bernard E., Indianapolis, Ind. Railway-signal	865,983	Sept. 17	1928	540	130	663
Aicher, Gustav A., and F. J. Demartini, San Francisco, Cal. Heating wagon-tires	866,553	Sept. 17	2751	770	130	921
Ainsworth, Francis, St. John, New Brunswick, Canada. Artificial denture	866,176	Sept. 17	2218	619	130	754
Air-Brake and Steam-Heat Connection Company. (See Kilpatrick, Walter W., assignor.)						
Ajello, Vincent, New York, N. Y. Detachable billiard-cue tip	864,943	Sept. 3	279	75	130	89
Akin, Daniel F., Farmington, Minn. Land and water vehicle	865,845	Sept. 10	1720	478	130	570
Albee, Honestus M., Nutley, N. J. Hose-nozzle	865,146	Sept. 3	580	163	130	177
Albrecht, Christian A., Berlin, Germany. Releasing device for the matrices in composing-machines with two or more magazines placed one above the other	865,846	Sept. 10	1721	478	130	570
Albrecht, John H., and B. E. Erickson, Madison, Wis. Leaf-turner	866,554	Sept. 17	2752	770–1	130	922
Alden, Herbert W., assignor to Timken Roller Bearing Axle Company, Canton, Ohio. Roller-bearing	865,472	Sept. 10	1110	316–17	130	366
Aldrich, George A., San Francisco, Cal. Type-writer	865,147	Sept. 3	582	164	130	177
Aldridge, James G. W., Westminster, and R. E. Gibson, Liverpool, England. Charging gas-retorts, coke-ovens, and the like	866,177	Sept. 17	2219	619–20	130	754
Alfano, Leonard, Brooklyn, N. Y. Device for sharpening razors	865,847	Sept. 10	1722	479	130	571
Alger, Lewis B., Chelsea, Mich. Clevis	866,555	Sept. 17	2754	771	130	922
Allbritton, Willie C., Cairo, Ga. Cultivator attachment	866,903	Sept. 24	3293	928	130	1127
Allcutt, David, Fostoria, Ohio. Ballot-box	866,413	Sept. 17	2503	715–16	130	864
Allen, Alonzo W., Streator, Ill. Instrument for describing arcs of circles	866,178	Sept. 17	2221	620	130	755
Allen and Company, Edgar. (See James, Charles W., assignor.)						
Allen, Edward B., Bridgeport, Conn., assignor to Singer Manufacturing Company. Buttonhole-stitching machine	865,324	Sept. 3	864	248–9	130	262
Allen, Elmer V., Hiawatha, Kans. Washing-machine	866,612	Sept. 24	2847	803	130	985
Allenbrand, Lawrence, Basehor, Kans. Car-brake	866,904	Sept. 24	3294	929	130	1127
Allington, William E. Saginaw, Mich. Centrifugal fan	865,962	Sept. 10	1884	528	130	618
Allis-Chalmers Company *et al.* (See Bogen, Louis E., assignor.)						
Allis-Chalmers Company *et al.* (See Mattman, Emil, assignor.)						
Allis-Chalmers Company *et al.* (See Powell, William H., assignor.)						
Allis-Chalmers Company. (See Richards, Walter J., assignor.)						
Allis-Chalmers Company *et al.* (See Stull, Emmett W., assignor.)						
Allison, James M., assignor of one-half to W. C. Freed, Indianapolis, Ind. Saw	865,248	Sept. 10	918	263	130	307
Allison, James R., Avinger, Tex. Tire-setting implement	866,320	Sept. 17	2430	678	130	821
Alohikea, William K., Los Angeles, Cal. Sanitary stool	866,281	Sept. 17	2317	647	130	785
Aisieben, Ernst, assignor of one-half to M. Steinberg, Charlottenburg, near Berlin, Germany. Drilling-machine	865,148	Sept. 3	583	164	130	177
Altermatt, John F., Missoula, Mont. Catamenial appliance	867,091	Sept. 24	3593	1018	130	1219
Altstock, Marcus, Lemberg, Austria-Hungary. Mechanism for operating clutches	866,707	Sept. 24	2993	849	130	1034

ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 3D DAY OF SEPTEMBER, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
A. Sorge Jr. Company. (See Sorge, Adolph, Jr., assignor.)						
A. G. Kaufman Manufacturing Company. (See Kaufman, Adolph G., assignor.)						
Abbott, Ira, Wyandotte, Mich. Vehicle-wheel	865,072	Sept. 3	489	135	130	148
Adams, Selathiel S. (See Knight and Adams.)						
Adams & Westlake Company. (See Mosher, John A., assignor.)						
Adams & Westlake Company. (See Schuetz, Frank A., assignor.)						
Ajello, Vincent, New York, N. Y. Detachable billiard-cue tip	864,943	Sept. 3	279	75	130	89
Albee, Honestus M., Nutley, N. J. Hose-nozzle	865,146	Sept. 3	580	163	130	177
Aldrich, George A., San Francisco, Cal. Type-writer	865,147	Sept. 3	582	164	130	177
Allen, Edward B., Bridgeport, Conn., assignor to Singer Manufacturing Company. Buttonhole-stitching machine	865,224	Sept. 3	864	248–9	130	262
Alsleben, Ernst, assignor of one-half to M. Steinberg, Charlottenburg, near Berlin, Germany. Drilling-machine	865,148	Sept. 3	583	164	130	177
American Attachment Company. (See Stevens, George J., assignor.)						
Ammerman, William M., assignor to Edwin J. Toof Company, New Haven, Conn. Sewing-machine	865,149	Sept. 3	585	164–5	130	178
Anderson, Niels, Philadelphia, Pa. Mortar mixer or hoe	865,150	Sept. 3	587	165	130	178
Andrew, James T., Montgomery, Ala. Safety appliance for railway-cars	865,287	Sept. 3	805	231	130	243
Andrew, William K., Milwaukee, Wis., assignor to International Harvester Company, Force-pump	865,151	Sept. 3	588	165	130	179
Andrews, John B. (See Woodward, Jesse G., assignor.)						
Anker-Werke Aktien-Gesellschaft vormals Hengstenberg & Co. (See Büscher, Wilhelm, assignor.)						
Anteau, Richard, West Toledo, Ohio. Safety-hanger	864,765	Sept. 3	1	1	130	3
Applegate, Howard, Long Branch, N. J. Trace-hook	865,224	Sept. 3	707	201	130	213
Arcoren, John, Rosebud, S. D. Vehicle-seat lock	865,152	Sept. 3	589	166	130	179
Armstrong Cork Company. (See Busch, Herman F., assignor.)						
Arney, Sidney E., Roswell, N. Mex. Ter. Saw filing and setting machine	865,225	Sept. 3	708	201	130	214
Arney, Sidney E., Roswell, N. Mex. Ter. Saw-setting machine	865,226	Sept. 3	866	249	130	263
Ashford, Snowden, Washington, D. C. Alarm for fire-escapes	864,878	Sept. 3	182	52	130	57
"Avernus Wheel Limited." (See Hartley and Bishop, assignors.)						
Bach, George, Lyndon Station, Wis. Coupling	865,153	Sept. 3	590	166	130	179
Bachman, Franklin H., Allentown, and J. D. Bachman, Catasauqua, Pa. Clutch	865,154	Sept. 3	592	166	130	180
Bachman, James D. (See Bachman, Franklin H. and J. D.)						
Bailey, Wilson, Philadelphia, Pa. Bottle-sealing device	865,904	Sept. 3	381	103	130	120
Baker, Charles A. (See Smith and Baker.)						
Baker, Eric K., and C. G. Hawley, Chicago, Ill. Tread for pneumatic tires	865,288	Sept. 3	806	232	130	243
Baker, Eric K., and C. G. Hawley, Chicago, Ill. Pneumatic tire casing or shoe	865,326	Sept. 3	867	249	130	263
Bannatyne, Archibald, assignor to Bannatyne Watch Co., Waterbury, Conn. Watch	864,822	Sept. 3	89	25	130	29
Bannatyne Watch Co. (See Bannatyne, Archibald, assignor.)						
Barber Asphalt Paving Company. (See Fowler, John C., assignor.)						
Barnes, John S., assignor to W. F. & John Barnes Company, Rockford, Ill. Variable-speed gearing	864,823	Sept. 3	90	25	130	30
Barnes, John S., assignor to W. F. & John Barnes Company, Rockford, Ill. Variable-speed gearing	864,824	Sept. 3	91	26	130	30
Barnett, Leon H., Bellows Falls, Vt., assignor to Micaroid Manufacturing Company, Jersey City, N. J. Molding casein and producing same	865,005	Sept. 3	382	.....	130	120
Barnett, Lewis, Millville, N. J. Shirt-waist and skirt adjuster	865,226	Sept. 3	710	202	130	214
Barr, Berzelius L. (See Neff, William T., assignor.)						
Barrett, Harold G., Wilmette, assignor, by mesne assignments, to Diamond Bleacher Seat Company, Chicago, Ill. Seat	865,327	Sept. 3	871	250	130	264
Bartholomew Company. (See Bartholomew, John B., assignor.)						
Bartholomew Company. (See Stutesman, Reuben O., assignor.)						
Bartholomew, John B., assignor to Bartholomew Company, Peoria, Ill. Starter for explosive-engines	864,766	Sept. 3	2	1	130	3
Bartlett, Edward F., Houlton, Me. Self-propelled sled	865,289	Sept. 3	807	232	130	243
Barwis, Thomas S., assignor of one-half to F. C. Wade, Vancouver, British Columbia, Canada. Marine vessel	865,155	Sept. 3	594	167	130	180
Bastel, Joseph F., St. Louis, Mo. Rail-joint	865,227	Sept. 3	711	202	130	214
Beecher, Walter N., Chicago, Ill. Wind-shield for vehicles	865,290	Sept. 3	808	233	130	244
Beekhuis, Hermanus A., Hanford, assignor to California Fruit Canners Association, San Francisco, Cal. Apparatus for removing the skin from fruit	864,944	Sept. 3	280	75–6	130	89
Bell, Carroll M., and A. Dykstra, Goodland, Ind. Automatic switch mechanism	864,879	Sept. 3	183	52	130	58
Bell, Jerome B., Wilmington, Del. Font of matrices	865,073	Sept. 3	490	135	130	149
Bell, William J., assignor of one-third to H. B. Fargo, Deerfield, Wis. Lightning-arrester	865,291	Sept. 3	809	233	130	244
Benicke, Georg, Offenbach-on-the-Main, Germany. Apparatus for grinding crank-shafts	864,880	Sept. 3	186	52	130	58
Bensinger, Charles E., and F. L. Thomas, Sterling, Ill. Combined ambulance-stretcher and hospital-chair	865,006	Sept. 3	383	104	130	120
Berggren, Gertrude, Chicago, Ill. Corset	865,156	Sept. 3	595	167	130	180
Bergquist, John U., Manchester, N. H. Vamp-holder	865,228	Sept. 3	712	202	130	215
Berry, Washington, Chicago, Ill. Method and apparatus for placing inserts in cakes of soap	865,074	Sept. 3	490	135–6	130	149
Bertram and Son, James. (See Happer, James R., assignor.)						
Bickford, John D., Cleveland, Ohio. Building-mold	864,767	Sept. 3	3	1–2	130	3
Biddle, Oscar L. (See Deitch and Biddle.)						
Bigelow, Theodore F., Amsterdam, N. Y. Folding umbrella	864,945	Sept. 3	283	76	130	91

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Bishop, James Carthage, N. Y. Tower for making bisulfite liquor	864,881	Sept. 3	187	53	130	39
Bishop, Robert H. (See Hartley and Bishop.)						
Bliss, James E. (See Roberts and Bliss.)						
Bloomingdale, Frank, Voorheesville, N. Y. Dumping-wagon	864,768	Sept. 3	5	2	130	4
Boone, George M., Baltimore, Md. Apparatus for determining heights of liquids in receptacles	865,229	Sept. 3	713	203	130	215
Borden, Bradford, assignor to Borden Company, Warren, Ohio. Adjustable die-stock	865,157	Sept. 3	595	167	130	181
Borden Company. (See Borden, Bradford, assignor.)						
Boughton, William G., Cleveland, assignor to F. Hoehn, Clifton Park, Ohio. Sad-iron handle	865,328	Sept. 3	873	251	130	265
	865,292	Sept. 3	809	233–4	130	244
Bour, John, Sedalia, Mo. Mail-crane	864,825	Sept. 3	92	26	130	30
Bowers, Albert A., New York, N. Y. Clutch for pencil-holders, &c	865,230	Sept. 3	715	203	130	216
Bowland, Homer H., Chicago, Ill. Canopy-bracket	865,231	Sept. 3	715	203	130	216
Boyle, Eldridge R., and W. B. Upton, Washington, D. C. Reinforced concrete structure	865,232	Sept. 3	717	204	130	216
Bradford, McDuffee, Nacona, Tex. Gin-saw cleaner	865,075	Sept. 3	493	136	130	150
Braun, Reiner, Glen Ullin, N. D. Belt-holder	865,076	Sept. 3	494	136	130	150
Braunfeldt, Edward, Brooklyn, N. Y. Closure for milk and cream bottles or jars	864,882	Sept. 3	189	53	130	39
Brawley, William H., Davenport, Iowa. Nut-wrench	865,007	Sept. 3	385	104	130	121
Breitenfeld, Rudolph A., Madison, Wis. Shade and curtain adjusting device	865,008	Sept. 3	387	105	130	121
Brenzinger, Julius, Mount Vernon, assignor to Max Ams Machine Company, New York, N. Y. Closure for containing vessels	864,946	Sept. 3	286	76–7	130	92
Bretney, Eugene, assignor of two-thirds to E. H. Schmidt and L. P. Rothehild, Indianapolis, Ind. Stoker for furnaces	864,769	Sept. 3	6	2–3	130	4
Brewer, Edward P., Norwich, Conn. Ophthalmometer	865,009	Sept. 3	388	105	130	122
Brizzolara, Charles, assignor of one-half to D. Leveri, Richmond, Va. Internal-combustion engine	865,010	Sept. 3	389	105	130	122
Brockhoff, Frederick, Chicago, Ill. Pickling vat or barrel	865,077	Sept. 3	495	137	130	150
Brown, Edwin L., Minneapolis, Minn. Combined window-shade and curtain-rod supporting bracket						
Brown Straw Binder Company. (See Hancock, Harry A., assignor.)						
Brown, William H., Syracuse, N. Y. Single-trigger mechanism	864,826	Sept. 3	93	26	130	31
Brun, Raoul, Havre, France. Connecting system for direct-current electric motors	865,011	Sept. 3	391	105	130	122
Brüstle, Georg, Stuttgart, Germany. Broom	865,293	Sept. 3	811	234	130	245
Buck, Leon H. (See Doerflinger and Buck.)						
Buffington, Elisha W., assignor of one-half to M. M. Huggett, Fall River, Mass. Clamp for electric wires	864,947	Sept. 3	287	77	130	92
Bullard, Thomas P., Richmond, Va. Hydraulic motor	865,078	Sept. 3	496	137	130	150
Burns, Walter W., Frostburg, Md. Stair-rail joint	865,233	Sept. 3	719	204	130	217
Busch, Herman F., Millvale, assignor to Armstrong Cork Company, Pittsburg, Pa. Cork-cutting machine	865,345	Sept. 3	907	260	130	274
Büscher, Wilhelm, assignor to Anker-Werke Aktien-Gesellschaft vormals Hengstenberg & Co., Bielsfeld, Germany. Thread take-up for sewing-machines	865,234	Sept. 3	719	204–5	130	217
Butler, George P., New York, N. Y. Manufacturing cigars and all-tobacco cigarettes	864,948	Sept. 3	288	77	130	92
Butler, George P., New York, N. Y. Manufacture of cigarettes having tobacco wrappers	864,949	Sept. 3	290	77	130	93
Butler, William H., New York, N. Y. Manufacture of cigars	865,012	Sept. 3	392	106	130	123
Butts, Lucien A., Russell, Iowa. Wire-stretcher	865,079	Sept. 3	497	137	130	151
C. B. Hutchins & Sons. (See Ross, Delmar C., assignor.)						
Calhoun, Joseph C., Holland, assignor of one-half to G. P. Hummer, Grand Rapids, Mich. Time-switch for photograph-printing machines	864,883	Sept. 3	190	53	130	39
California Fruit Canners Association. (See Beekhuis, Hermanus A., assignor.)						
Calkins, William H., Columbus, Ohio. Gas-stove	865,158	Sept. 3	597	167	130	181
Callow, John M., Salt Lake City, Utah. Screen sizing and separating machinery	864,827	Sept. 3	96	26–7	130	32
Callow, John M., Salt Lake City, Utah. Screen sizing and separating machinery	864,828	Sept. 3	98	27–8	130	33
Callow, John M., Salt Lake City, Utah. Screen sizing and separating machinery	864,829	Sept. 3	101	28–9	130	34
Campbell, Harry G., New York, N. Y. Label-moistener	865,159	Sept. 3	598	168	130	182
Candee, Raphael R., Bakersfield, Cal. Building construction	865,080	Sept. 3	498	137	130	151
Capaldi, Joseph, Providence, R. I. Vent-cap	864,884	Sept. 3	191	53	130	40
Capen, Edwy O., Buffalo, N. Y. Condensation-preventer	865,081	Sept. 3	500	138	130	152
Carroll, Joseph E., Portsmouth, Ohio. Computing-machine	864,770	Sept. 3	7	3	130	4
Carson, Louis T., Fort Collins, Colo. Beet dumping and screening apparatus	865,235	Sept. 3	720	205	130	217
Carter, Josiah A., Jr., Atlanta, Ga. Telegraph-transmitter	864,950	Sept. 3	292	78	130	94
Casgrain, Louis A., Winchester, Mass., assignor, by mesne assignments, to United Shoe Machinery Company. Machine for inserting fastenings	864,951	Sept. 3	293	78–9	130	94
Casgrain, Louis A., Winchester, assignor to United Shoe Machinery Company, Boston, Mass. Work-gage for nailing-machines	865,329	Sept. 3	874	251	130	265
Cassel, Elmer F., Seattle, Wash. Governor	865,082	Sept. 3	501	138	130	152
Chaddock, Emory L., Fresno, Cal. Impeling-roll for raisin-seeders	865,236	Sept. 3	721	206	130	217
Chalupsky, Mathias, Detroit, Mich. Awning	864,885	Sept. 3	192	54	130	40
Chamberlain, Clarence K. (See Mapes, Dorchester, assignor.)						
Chandler, Josiah. (See Chandler, Samuel and J.)						
Chandler, Samuel and J., Westminster, assignors to Living Letters Limited, London, England. Mechanical device for advertising purposes	865,237	Sept. 3	723	206	130	218
Chapman, Winthrop M., Needham, Mass. Railway block-signal system	865,013	Sept. 3	393	106–7	130	123
Charles, Homer, Rapid City, S. D. Explosive-engine	864,830	Sept. 3	104	29–30	130	34
Charles, Homer, Rapid City, S. D. Thermostatic regulator for explosive-engines	864,831	Sept. 3	107	30	130	35
Charles, Owen A., assignor to Rex Shield and Manufacturing Company, Connersville, Ind. Storm-front for vehicles	864,952	Sept. 3	299	79	130	96
Christ, Rinehart. (See Kahn and Christ.)						
Christensen, Niels A., Milwaukee, Wis. Discharge-valve for fluid-compressors	865,014	Sept. 3	401	107	130	124
Christensen, Niels A., Milwaukee, Wis. Compressor	865,015	Sept. 3	403	107	130	124
Christensen, Niels A., Milwaukee, Wis. Lubricating mechanism	865,083	Sept. 3	503	138	130	153
Claremont Iron Works Company. (See Jones, William F., assignor.)						
Clark, George M., Higganum, Conn. Plowing-machine	865,294	Sept. 3	812	234–5	130	245
Clark, Joseph K., Honolulu, Hawaii. Steam-turbine	865,160	Sept. 3	599	168	130	182
Clark, Morgan S., Roanoke, Va. Press	864,832	Sept. 3	110	30–1	130	35
Clark, Walter G., New York, N. Y., assignor to Electric Furnace Company, Portland, Me. Electric furnace	865,016	Sept. 3	404	108	130	125
Clarkson, Alfred R., Spartanburg, S. C. Humidifier	865,295	Sept. 3	814	235	130	246
Click, Joseph S. (See Shipman and Click.)						
Clymer, Reuben S., and T. M. Woodhouse, Allentown, Pa.: said Woodhouse assignor to said Clymer. Battery	865,330	Sept. 3	875	251	130	265
Coldwell, William H., Newburgh, N. Y. Lawn-mower	865,161	Sept. 3	601	169	130	183
Coldwell, William H., Newburgh, N. Y. Traction and lawn-rolling roller	865,162	Sept. 3	603	169–70	130	183
Coldwell, William H., Newburgh, N. Y. Lawn-mower	865,331	Sept. 3	877	252	130	266
Cole, Samuel, *et al.* (See Guttman, Harry J., assignor.)						
Colorado Railway Signal Company. (See Dowler, Charles R., assignor.)						
Conkle, William G., Knoxville, assignor of three-fourths to F. Geisse and F. M. Thompson, Wellsville, Ohio. Fireplace-heater for radiator systems	865,238	Sept. 3	724	206–7	130	218
Connally, William J., Atlanta, Ga. Wheel-hub	865,239	Sept. 3	725	207	130	218

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Conrad, W. H., *et al.* (See Doak, David H., assignor.)						
Conrader, Rudolph, Erie, Pa. Means for actuating fluids	865,296	Sept. 3	816	235–6	130	247
Copeland, Hugh B., Denver, Colo. Mold for portable wall blocks or sections	865,297	Sept. 3	820	236–7	130	248
Coppock, Joseph A., Pinehurst, Ga. Railway-switch	865,163	Sept. 3	604	170	130	184
Cornelison, John H., St. Louis, Mo. Swinging screen	864,886	Sept. 3	194	54	130	60
Corthésy, Jules H., assignor of one-half to G. F. Griffin, London, England. Turbine	865,164	Sept. 3	605	170–1	130	184
Cowell, Albert G., Kidderminster, England. Loom for weaving pile fabrics	865,232	Sept. 3	878	252	130	266
Craig, David, Melrose, Mass. Horticultural implement	864,953	Sept. 3	301	79	130	96
Craig, Dickey W., Sioux Falls, S. D. Shoe-polishing stand	864,954	Sept. 3	302	80	130	97
Craig, Edward, St. Joseph, Mo., assignor to W. P. Healy, Chicago, Ill. Box-blank machine	864,955	Sept. 3	304	80–2	130	97
Creque, Frank J., Cuyahoga Falls, Ohio. Slicing-board	864,833	Sept. 3	111	31	130	36
Crompton & Knowles Loom Works. (See Cyr, Joseph T., assignor.)						
Crompton & Knowles Loom Works. (See Macpherson, Peter, assignor.)						
Crompton & Knowles Loom Works. (See McGuiness, Benjamin F., assignor.)						
Crompton & Knowles Loom Works. (See Ryon, Eppa H., assignor.)						
Crompton & Knowles Loom Works. (See Wattie, William, assignor.)						
Cromwell, John C., and H. W. Lash, assignors to Garrett-Cromwell Engineering Company, Cleveland, Ohio. Combined ingot stripper and charger	865,240	Sept. 3	727	207–8	130	219
Cross, Theodore W., Everett, Wash. Saw-set	865,165	Sept. 3	607	171	130	185
Crown Drilling Machine Company. (See Stevens, William C., assignor.)						
Cummings, Henry H. (See Marston and Cummings.)						
Cumnock, Robert L., Anderson, S. C. Automatic or self-threading shuttle	865,166	Sept. 3	608	171	130	185
Cyr, Joseph T., Worcester, Mass., assignor to Crompton & Knowles Loom Works. Weft-replenishing loom	864,956	Sept. 3	308	82–3	130	98
Dahlke, Hermann, Dreyseplatz, assignor to Rheinische Metallwaren-und Maschinenfabrik, Düsseldorf-Derendorf, Germany. Time-fuse	865,298	Sept. 3	822	237	130	248
Danforth, Albert H., Monson, Mass. Builder's bracket	865,017	Sept. 3	405	108	130	125
Darr, Samuel A. (See York and Darr.)						
Darrah, Charles A., Ottumwa, Iowa. Sickle-drive for mowers and the like	865,241	Sept. 3	728	208	130	219
Davis, Frank J., assignor to Wagner-Davis Glass Company, Indianapolis, Ind. Non-refillable bottle	864,834	Sept. 3	112	31	130	36
Davis, Lewis, assignor to A. L. Powers, Jacksonville, Fla. Artificial fuel	865,018	Sept. 3	407		130	125
Day, Arthur M., Bingham Canyon, Utah. Smelting ore and converting matte	865,333	Sept. 3	880	253	130	266
De Smith, Henry, assignor to M. D. Knowlton Company, Rochester, N. Y. Cutting-machine	865,020	Sept. 3	408	109	130	126
Deagan, John C., Chicago, Ill. Musical bell	864,771	Sept. 3	9	3	130	5
Dean, Cyrus S., assignor of one-half to A. D. Jamieson, Buffalo, N. Y. Steam-boiler tube or flue cleaner or scraper	864,772	Sept. 3	11	4	130	5
Dean, William W., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Supervisory system for telephone-lines	864,887	Sept. 3	195	55	130	61
Deeds, Samuel P., Circleville, Ohio. Fire-escape	865,167	Sept. 3	609	172	130	185
Deiler, Eugene M. (See Koerber and Deiler.)						
Deiler, Martin. (See Koerber and Deiler.)						
Deitch, Charles J., and O. L. Biddle, assignors of one-third to M. N. Knell, Elkhart, Ind. Carpet-sweeper	865,084	Sept. 3	504	138–9	130	153
Delbon, Frank G., assignor to William Lane, Brooklyn, N. Y. Manufacture of shoes	864,835	Sept. 3	113	31–2	130	37
Dellanna, Antonio, Salt Lake City, Utah. Pump	865,019	Sept. 3	407	108–9	130	125
Demoulin, Theodor, Bielitz, Austria-Hungary. Ring-traveler for ring-spinning and ring-twisting frames	865,242	Sept. 3	729	209	130	219
Diamond Bleacher Seat Company. (See Barrett, Harold G., assignor.)						
Dickens, John, Passaic, N. J., assignor to Standard Sheet Metal Company. Portable search-light	864,957	Sept. 3	311	83	130	99
Dieterle, Edward. (See Weihman, Henry A., assignor.)						
Dimock, Julian A., Denning, N. Y. Camera-focusing device	864,773	Sept. 3	12	4	130	6
Dionne, Napoleon, Bradford, assignor to A. Le Clair, Haverhill, Mass. Broom-binder	865,085	Sept. 3	506	139	130	153
Dive, Gustave. (See Rosemeyer and Dive.)						
Dixon, William. (See Gaudron, Edward N., assignor.)						
Doak, David H., Morgan Park, assignor of two-thirds to C. Oldenburg, Chicago, and W. H. Conrad Blue Island, Ill. Trolley-wire crossover	864,888	Sept. 3	198	55	130	62
Dodge, Philip T., Washington, D. C., assignor to Mergenthaler Linotype Company. Linotype-machine	865,086	Sept. 3	507	139–40	130	154
Doerflinger, William F., and L. H. Buck, Niagara Falls, assignors, by mesne assignments, to M. Stine, New York, N. Y., and E. F. C. Young, Jersey City, N. J. Treating wurtzilite or elaterite and producing fusible soluble products	864,836	Sept. 3	115		130	37
Dohan, Joseph M., Darlington, Pa. Manufacture of pulp and paper	865,168	Sept. 3	611	172–3	130	186
Dorment, Frank C., Detroit, Mich., assignor to E. J. Worst, Ashland, Ohio. Atomizer	865,021	Sept. 3	410	109	130	127
Dorment, Frank C., Detroit, Mich., assignor to E. J. Worst, Ashland, Ohio. Atomizer	865,022	Sept. 3	411	109–10	130	127
Doty, Ellsworth P., Meridian, N. Y. Chimney-top	865,023	Sept. 3	413	110	130	127
Doty, James R., Knoxville, Tenn. Car-mover	865,087	Sept. 3	508	140	130	154
Douglass, Leon F., Philadelphia, Pa., assignor to Victor Talking Machine Company Mounting for the stylus-bar of talking-machines	865,088	Sept. 3	509	140	130	154
Dower, John H. (See Jackson and Dower.)						
Dowler, Charles R., Denver, assignor to Colorado Railway Signal Company, Lamar, Colo. Signal	865,169	Sept. 3	613	173	130	186
Doyen, Denis, Schaerbeek, Belgium. Door-hanger	865,089	Sept. 3	510	140	130	155
Doyle, John, assignor to Municipal Lighting Company, New York, N. Y. Street-lamp	864,958	Sept. 3	313	84	130	99
Dropsekey, Joseph J., Mount Carmel, Pa. Combined jar and drinking-fountain	865,024	Sept. 3	415	110	130	128
Dubé, Louis, Albany, N. Y. Spike	865,170	Sept. 3	615	173	130	186
Dubuque Harness & Saddlery Company. (See Gringa, Casper H., assignor)						
Dubuque Harness and Saddlery Company. (See Lee and Gringa, assignors.)						
Dumke, Frank F., Milwaukee, Wis. Shoe-fastening	864,774	Sept. 3	13	4	130	6
Dunham, Clayton A., Marshalltown, Iowa. Thermostatic controller	865,171	Sept. 3	615	174	130	187
Dunn, John V., Provo, Utah. Gate-hinge	865,243	Sept. 3	729	209	130	220
Durand, Nelson C., East Orange, assignor to New Jersey Patent Company, West Orange, N. J. Dictation memorandum-sheet	865,025	Sept. 3	416	110	130	128
Durston, Alfred H., Syracuse, N. Y. Gun-cleaning tool	864,837	Sept. 3	116	32	130	37
Dykstra, August. (See Bell and Dykstra.)						
Eddy, Lawrence R., Elizabeth, N. J. Sash-lock	865,090	Sept. 3	511	141	130	155
Edson, Charles F., Los Angeles, Cal., assignor to L. A. Roy, Chicago, Ill. Intermitting apparatus for cooling cars, &c	865,172	Sept. 3	617	174	130	187
Edwards, Alexander G., Longbeach, assignor of one-half to S. L. Strickland, Los Angeles, Cal. Rotary engine	864,889	Sept. 3	200	55–6	130	62
Edwin J. Toof Company. (See Ammerman, William M., assignor.)						
Ehrlich, Leo. (See Wiesler, Adolph, assignor.)						
Eichberg, Otto F., New York, N. Y. Expanded receptacle	865,173	Sept. 3	619	175	130	188
Electric Compositor Company. (See Reynolds, Horace A., assignor.)						
Electric Furnace Company. (See Clark, Walter G., assignor.)						
Elevator Supply & Repair Company. (See Reimers, Charles A., assignor.)						
Eliason, Albert W., Lindsborg, Kans. Garment-presser	865,091	Sept. 3	512	141	130	155

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Elliott, Glen F., Delmar, Del. Tank-alarm	864,959	Sept. 3	314	84	130	99
Ellis, Carleton, White Plains, N. Y., assignor to Ellis-Foster Company. Masticable tobacco preparation	865,026	Sept. 3	416	.....	130	118
Ellis-Foster Company. (See Ellis, Carleton, assignor.)						
Ellis, Oscar A., San Francisco, Cal. Apparatus for extracting minerals from ore	865,027	Sept. 3	418	111	130	123
Elmore, Alexander S., assignor to Ore Concentration Company (1905) Limited, London, England. Apparatus for concentrating ores	865,234	Sept. 3	882	253–4	130	267
Enderis, Henry W., Lincoln, Nebr., assignor to Wyckoff, Seamans & Benedict, Ilion, N. Y. Writing-machine	864,960	Sept. 3	315	84–5	130	100
Erickson, Knute, New York, N. Y. Book-mark	865,092	Sept. 3	513	141	130	156
Estate Stove Company. (See Kahn and Christ, assignors.)						
Evans, Charles G. (See Evans, Evan W., assignor.)						
Evans, Evan W., Greenwood, British Columbia, Canada. Rock-drill	865,174	Sept. 3	620	175	130	188
Evans, Evan W., assignor of one-half to C. G. Evans, Marysville, British Columbia, Canada. Rock-drill	865,175	Sept. 3	622	176	130	188
Fallek, Nathan, and G. F. Wolfe, assignors to Standard Electro-Automatic Signal Device Company, Denver, Colo. Automatic electric gong-ringing device for street-cars	864,961	Sept. 3	318	85	130	101
Fankboner, George O., Cleveland, Ohio. Vehicle-tire						
Farbenfabriken vorm. Friedr. Bayer & Co. (See Kahn and Kothe, assignors.)						
Fargo, Howell B. (See Bell, William J., assignor.)						
Faria, Oswaldo de, Paris, France. Current-transformer	865,093	Sept. 3	514	142	130	156
Federal Ice Company. (See Holden, Daniel L., assignor.)						
Fehler, Rudolph, and D. McLaughlin, Milwaukee, Wis. Brush-holder	865,029	Sept. 3	422	111	130	120
Feinenburg, Johann, Auf der Höhe, near Solingen, Germany. Scissors	864,962	Sept. 3	322	86	130	102
Felten & Guilleaume-Lahmeyerwerke Actien-Gesellschaft. (See Krämer, Christian, assignor.)						
Ferreira, Luis D. G., London, England, assignor to Siemens & Halske, A. G., Berlin, Germany. Mechanism for moving and locking railway or like points	864,963	Sept. 3	322	86	130	102
Ferres, Jeffrey T., assignor to J. W. Sefton Manufacturing Company, Anderson, Ind. Board	864,775	Sept. 3	15	4	130	7
Fields, Lester, Montfort, Wis. Neck-yoke attachment for taking up vibrations	865,094	Sept. 3	515	142	130	156
Fisher, Henry L., Waynesboro, Pa. Bolt-cutting machine	864,964	Sept. 3	324	87	130	103
Fogal, John E. W., assignor to Quincy Elevator Gate Co., Quincy, Ill. Elevator-gate-operating mechanism	865,335	Sept. 3	883	254	130	267
Fogel, Clifford A. (See Sons, Fogel, and McCoy.)						
Forbes, James L., Lagrange, Ga. Churn	865,095	Sept. 3	515	142	130	156
Forrest, George L., Chicago, Ill. Meat-chopper	865,096	Sept. 3	517	142–3	130	157
Foster, George E., East Alton, Ill. Pipe-turning machine	864,776	Sept. 3	15	5	130	7
Foust, Henry, Baxter Springs, Kans. Ore-concentrating jig	864,838	Sept. 3	117	32–3	130	36
Fowden, Robert A., Germantown, Pa. Rock-drill						
Fowler, John C., Sewaren, N. J., assignor to Barber Asphalt Paving Company, Philadelphia, Pa. Block-press	864,839	Sept. 3	121	33–4	130	39
Fox, Marcus H., Flushing, N. Y. Instrument representing the transfer of money	865,176	Sept. 3	624	176	130	189
Fox, William R., Grand Rapids, Mich. Spool and ribbon mechanism for front-strike type-writing machines	864,777	Sept. 3	16	5	130	7
Franke, Emil, Astoria, N. Y. Lawn-mower	865,028	Sept. 3	420	111	130	128
Frickey, Royal E., Berkeley, Cal. Apparatus for electrically removing and severing metal	865,097	Sept. 3	519	143	130	157
Gabrielson, Carl, assignor to L. C. Smith and Bros. Typewriter Company, Syracuse, N. Y. Type-writing machine	864,840	Sept. 3	124	34	130	39
Gamage, Harry C., New York, N. Y., assignor, by mesne assignments, to Oil-Bath Lubricator Co. Lubricating device	864,900	Sept. 3	201	56	130	63
Gamage, Harry C., New York, N. Y., assignor, by mesne assignments, to Oil-Bath Lubricator Co. Device for securing spindles to shafts	864,778	Sept. 3	18	6	130	8
Gardner, Howard S., Cape May, N. J. Building structure	864,779	Sept. 3	20	6	130	9
Garrett-Cromwell Engineering Company. (See Cromwell and Lash, assignors.)	865,336	Sept. 3	886	254–5	130	268
Gast, Jacob, Jr. (See Gast, Louis B. and J., Jr.)						
Gast, Louis B. and J., Jr., Akron, Ohio. Vehicle-rim	864,841	Sept. 3	125	34	130	39
Gaudron, Edward N., assignor to W. Dixon, Newark, N. J. Buffing and polishing brush	865,098	Sept. 3	520	143	130	157
Geisse, Frank, *et al.* (See Conkle, William G., assignor.)						
Gibbs, James D., Louisville, Ky. Trolley-head	864,965	Sept. 3	325	87	130	104
Gibbs, James E., Clifton Forge, Va. Sash-fastener	864,780	Sept. 3	21	7	130	9
Gillett, John W., and G. I. Martin, Atlantic, Iowa. Vending-machine	864,891	Sept. 3	208	57	130	63
Gleason, John L., Boston, Mass. Universal outlet or junction box	864,781	Sept. 3	22	7	130	10
Gledhill, John J., St. Louis, Mo. Vehicle for carrying brick	865,299	Sept. 3	824	237–8	130	249
Glidden, Oscar F., Grand Rapids, Mich. Flush-tank	865,300	Sept. 3	825	238	130	249
Glynn, Clarrissa E., Alamosa, Colo. Dashboard-pocket	865,081	Sept. 3	424	112	130	130
Gooding, Charles S., trustee. (See Thompson, Milton O., assignor.)						
Goodyear Tire and Rubber Company. (See State, Will C., assignor.)						
Graham, Frederick S., Philadelphia, Pa., assignor of two-thirds to R. M. Seaman and C. A. Struntz. Pneumatic tool	865,337	Sept. 3	888	255	130	268
Graham, Thomas W., Dubuque, Iowa. Flour-bolting machine	865,346	Sept. 3	910	261	130	275
Gray, George, assignor to Mianus Motor Works, Mianus, Conn. Engine	865,099	Sept. 3	521	144	130	158
Greenawalt, David F., York, Pa. Merchandise-holder	865,082	Sept. 3	425	112–13	130	130
Griffin, Gerard F. (See Corthésy, Jules H., assignor.)						
Grings, Casper H. (See Lee and Grings.)						
Grings, Casper H., assignor of one-half to Dubuque Harness & Saddlery Company, Dubuque, Iowa. Manufacturing harness-saddles	864,892	Sept. 3	206	57–8	130	64
Guschl, Jacob. (See Longauer, Hubert, assignor.)						
Guttman, Harry J., assignor of two-thirds to A. E. Keith and S. Cole, Chicago, Ill. Tumbling-barrel	864,782	Sept. 3	24	7–8	130	10
Haase, Leo G., Pasadena, Cal. Scraper	864,966	Sept. 3	326	87	130	104
Hadfield, Robert A., Sheffield, England. Magnetic composition and making the same. (Reissue)	12,691	Sept. 3	913	.....	130	276
Hague, Snyder L., deceased, Salt Lake City, Utah; W. Ingleheart, administrator. Classifier	865,301	Sept. 3	836	238	130	250
Haley, Henry V., assignor of one-half to R. A. Wooldridge, Oklahoma, Okla. Ter. Fireproofing cotton in bales	865,083	Sept. 3	427	.....	130	131
Halfpenny, Arthur G., West Hoboken, N. J., and A. A. Hopkins, New York, N. Y. Printing-press	865,177	Sept. 3	626	177	130	190
Hamburg Manufacturing Company. (See Schmick, Henry J., assignor.)						
Hammond, Robert O., Jamestown, N. Y., assignor to Rochester Electric Specialty Company. Water-motor	864,967	Sept. 3	327	87–8	130	104
Hancock, Harry A., assignor to Brown Straw Binder Company, Indianapolis, Ind. Straw-binder	864,783	Sept. 3	27	8–9	130	11
Hanitzsch, Curt A., Manchester, England. Device for spraying fluid upon the surfaces of paper, textile fabrics, or the like	864,784	Sept. 3	31	10	130	12
Hanson, Bengt M. W., assignor to Pratt & Whitney Company, Hartford, Conn. Clutch mechanism	865,302	Sept. 3	827	239	130	250

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Happer, James R., Linwood, assignor of one-half to J. Bertram and Son, Limited, Edinburgh, Scotland. Electric drive for paper-making and like machines	864,842	Sept. 3	127	24–5	130	40
Harden, Frederick E., Atlanta, Ga. Journal-bearing	865,245	Sept. 3	731	209	130	220
Hardman, John H., Smithfield, Nebr. Draft-equalizer	865,024	Sept. 3	427	113	130	121
Hardwick, Fenton A., Colorado City, Colo. Miner's pan	865,178	Sept. 3	628	178	130	191
Harris, Ford W., Wilkinsburg, Pa. Mine-hand	865,303	Sept. 3	828	230	130	251
Harris, Ford W., Wilkinsburg, Pa. Power yielding and receiving means	865,338	Sept. 3	890	255–6	130	269
Harris, Joseph T., Bloomingdale, Fla. Mattress-making machine	865,100	Sept. 3	522	144	130	158
Harrison, James M., New York, N. Y. Thermostat	865,304	Sept. 3	831	239	130	252
Hartley, Cyril J., Stone, and R. H. Bishop, Islington, assignors to Avernus Wheel Limited, London, England. Switchboard apparatus	865,035	Sept. 3	428	113–15	130	121
Haskins, Joseph T., Portland, Me. Pencil-holder	864,893	Sept. 3	208	58	130	64
Hatfield, Albert L., Newark, N. J. Attachment for penholders	865,036	Sept. 3	430	116	130	121
Hawley, Charles G. (See Baker and Hawley.)						
Hays, Harvey G. and J. W., Chicago, Ill. Composition or concrete post	865,179	Sept. 3	629	178	130	191
Hays, Joseph W. (See Hays, Harvey G. and J. W.)						
Hazard, Samuel B., assignor to Illinois Implement Company, Peoria, Ill. Riding attachment for harrows. (Reissue)	12,690	Sept. 3	911	261	130	278
Healey, William P. (See Craig, Edward, assignor.)						
Hedstrom, Carl O., Springfield, Mass. Lubricating means for internal-combustion engines	865,101	Sept. 3	523	145	130	158
Heim, Adam, Brownsville, assignor of one-half to C. A. Rieman, Connersville, Ind. Locking device for cross-wires	865,305	Sept. 3	831	240	130	252
Heist, Thomas H. (See McGinty, Bernard, assignor.)						
Heltzel, Jacob, York, Pa. Toy	865,246	Sept. 3	732	210	130	220
Heynemann, Lionel, San Francisco, Cal. Tapping arrangement for crucibles	865,037	Sept. 3	434	116	130	123
Hill, Herbert G., assignor, by mesne assignments, to W. G. Shelton, Chicago, Ill. Vibrator	864,843	Sept. 3	128	35	130	40
Hill, Walter C., London, England. Water-tight electric bell	865,038	Sept. 3	435	116	130	123
Hillyard, Newton S., St. Joseph, Mo. Sash fastener and tightener	865,339	Sept. 3	893	266	130	270
Hilton, Frank M., J. S., and W. W., assignors of one-half to H. Musser, Akron, Ohio. Means for securing soft-tread tires to rims	865,039	Sept. 3	435	117	130	123
Hilton, Frank M., J. S., and W. W., assignors of one-half to H. Musser, Akron, Ohio. Means for securing soft-tread tires to rims	865,306	Sept. 3	832	240	130	252
Hilton, John S. (See Hilton, Frank M., J. S., and W. W.)						
Hilton, William W. (See Hilton, Frank M., J. S., and W. W.)						
Hine, Adelbert P. (See Morse, Arthur J., assignor.)						
Hipolito, David E., San Jose, Cal. Reversible window	865,340	Sept. 3	894	266	130	271
Hobart Electric Manufacturing Company. (See Johnston, Herbert L., assignor.)						
Hoehn, Fred. (See Boughton, William G., assignor.)						
Holden, Daniel L., assignor to Federal Ice Company, New York, N. Y. Freezing-machine for ice manufacture	865,040	Sept. 3	437	117	130	124
Holmén, Axel R., Columbus, Ohio. Elevating and conveying mechanism	865,041	Sept. 3	438	118	130	124
Hopkins, Albert A. (See Halfpenny and Hopkins.)						
Horn, Ernest H., assignor to Waterbury Clock Co., Waterbury, Conn. Ratchet-wheel click-spring	864,785	Sept. 3	32	10	130	12
Horner, John W., Revere, Mass. Floor-mat	865,180	Sept. 3	630	178–9	130	191
Howes, Claude L., Boston, Mass. Nose-guard for eyeglasses	865,042	Sept. 3	439	118	130	125
Hubbard, Elmer W., U. S. Army. Automatic gunnery-correcting device	865,247	Sept. 3	733	210	130	221
Hudson, Edmund, Templeton, Mass. Hydrocarbon-engine	864,844	Sept. 3	130	35	130	41
Huggett, Marietta M. (See Buffington, Elisha W., assignor.)						
Hulsing, Garrett H., assignor to Porter Safety Seal Co., Chicago, Ill. Seal	865,043	Sept. 3	440	118	130	125
Hummer, George P. (See Calhoun, Joseph C., assignor.)						
Humphries, George E., Wellington, New Zealand. Window	865,341	Sept. 3	895	256	130	271
Hunnicutt, Charles, Wilmington, Ohio. Corn-grader	864,894	Sept. 3	208	58	130	65
Hunter, Charles C. (See Minehart and Hunter.)						
Huntley, Elijah, Seattle, Wash. Rug-fastener	865,102	Sept. 3	524	145	130	159
Hussey, John M., Cambridge, Mass. Apparatus for desiccating eggs	865,342	Sept. 3	896	257–9	130	272
Illinois Implement Company. (See Hazard, Samuel B., assignor.) (Reissue.)						
Ingleheart, William, administrator. (See Hague, Snyder L.)						
Insinger, Alfred, Philadelphia, Pa. Dish-washing machine	865,181	Sept. 3	631	179	130	191
International Harvester Company. (See Andrew, William K., assignor.)						
International Harvester Company. (See Johnston, Edward A., assignor.)						
Isham, William, and F. E. Miller, Butternut, Mich. Road-culvert and bank-retainer	865,044	Sept. 3	441	119	130	135
J. W. Sefton Manufacturing Company. (See Ferres, Jeffrey T., assignor.)						
Jackson, James A., and J. H. Dower, Bruin, Pa. Deep-well-drilling apparatus	865,103	Sept. 3	525	145	130	159
Jamieson, Albert D. (See Dean, Cyrus S., assignor.)						
Jamieson, William, assignor of two-thirds to A. Valentour and W. Jamieson, Jr., McDonald, Pa. Lubricator	865,248	Sept. 3	740	211	130	224
Jamieson, William, Jr., *et al.* (See Jamieson, William, assignor.)						
Janson, Carl A., Chicago, Ill. Variable-speed transmission mechanism	864,845	Sept. 3	133	36	130	41
Jantzen, Carl C., Hood River, Oreg. Rail-joint	864,895	Sept. 3	209	59	130	65
Jaquith, Harry J., Boston, Mass. Multiple-drill attachment for drilling-machines	865,249	Sept. 3	741	211	130	224
Jaquith, Harry J., Boston, Mass. Device for sawing last-blocks	865,250	Sept. 3	743	212	130	224
Jenney, Charles D., Indianapolis, Ind. Power-transmission device	864,846	Sept. 3	134	36	130	42
Joergensen, Niels, West Hoboken, N. J. Auxiliary car-seat	865,104	Sept. 3	526	145	130	159
Johnson, Edward W., Chicago, Ill. Multiple-needle holder for electrolysis	864,908	Sept. 3	329	88	130	105
Johnson, Eldridge R., Philadelphia, Pa., assignor to Victor Talking Machine Company, Sound-box for talking-machines	865,105	Sept. 3	527	146	130	159
Johnson, Otto, Beatty, Nev. Non-refillable bottle	865,251	Sept. 3	746	212	130	226
Johnson, William H., Terre Haute, Ind. Apparatus for aging whisky	864,896	Sept. 3	210	59	130	65
Johnston, Andrew, assignor to Massey-Harris Company, Limited, Toronto, Ontario, Canada. Manure-spreader	865,182	Sept. 3	633	179–81	130	192
Johnston, Edward A., Sterling, Ill., assignor to International Harvester Company. Seed-dropping mechanism for corn-planters	865,307	Sept. 3	833	240	130	252
Johnston, Herbert L., assignor to Hobart Electric Manufacturing Company, Troy, Ohio. Driving mechanism	864,786	Sept. 3	33	10	130	13
Jones, Howard S. (See Kelley, William V. D., assignor.)						
Jones, James E., Richmond, Ind. Pipe-hanger	864,897	Sept. 3	213	59	130	66
Jones, Willard, Auburn, Me. Strainer	864,787	Sept. 3	34	11	130	13
Jones, William F., Little Falls, N. J., assignor to Claremont Iron Works Company. Bucket or conveyer	865,045	Sept. 3	442	119	130	135
Kahn, Lazard, and R. Christ, assignors to Estate Stove Company, Hamilton, Ohio. Bracket	864,847	Sept. 3	135	37	130	42
Kahn, Myrtil, Elberfeld, and R. Kothe, Vohwinkel, near Elberfeld, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Azo dye	865,252	Sept. 3	747	.....	130	226
Kahn, Myrtil, Elberfeld, and R. Kothe, Vohwinkel, near Elberfeld, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Azo dye	865,253	Sept. 3	748	.....	130	227
Kall, Jackson L., assignor to Winslow Bros. Company, Chicago, Ill. Means for hanging laterally-movable doors	865,046	Sept. 3	443	119	130	136
Kappmeier, Paul F. W., Altkloster, Germany. Surgical or medical bandage	865,254	Sept. 3	748	213	130	227

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Kaufman, Adolph G., assignor to A. G. Kaufman Manufacturing Company, New York, N. Y. Burner	865,183	Sept. 3	640	181	130	195
Keith, Alexander E., *et al.* (See Guttman, Harry J., assignor.)						
Keller, Boyd H., New York, N. Y. Kinetoscope	865,106	Sept. 3	528	146–7	130	160
Kelley, Vassal A., Cement, Okla. Ter. Cattle-guard	865,343	Sept. 3	905	259	130	273
Kelley, William V. D., Newark, N. J., assignor of one-half to H. S. Jones, Brooklyn, N. Y. Sign character	865,255	Sept. 3	749	213	130	227
Kellogg Switchboard and Supply Company. (See Dean, William W., assignor.)						
Kenerson, William H., and A. J. Loepsinger, Providence, R. I. Method of and means for moving a gas or vapor by the direct application to it of a suitably-expanded medium.	864,989	Sept. 3	331	88	130	106
Kenlon, John, New York, N. Y. Fire-hose holder	865,184	Sept. 3	641	181	130	195
Kennedy, Julian, Pittsburg, Pa. Ingot-manipulator	865,047	Sept. 3	444	120	130	136
Kenney, Orceal, Longbeach, Cal. Dressmaker's skirt-gage	865,256	Sept. 3	750	213	130	227
Kerrigan, Stephen J., Gilberton, Pa. Slate-jig	865,185	Sept. 3	643	181	130	196
Kessler, Ernst, Stuttgart, assignor of one-half to Lowenstein & Cie., Frankfort-on-the-Main, Germany. Apparatus for making measurements on fabric, piece goods, and the like	864,788	Sept. 3	35	11	130	13
Kickbush, William J., Buffalo, N. Y. Windmill	864,789	Sept. 3	37	11–12	130	14
Kidwell, Edward S., Baltimore, Md. Machine for stuffing pincushions	865,107	Sept. 3	532	147–8	130	161
King, Jacob, Corinth, Miss. Baling-press	865,186	Sept. 3	643	182	130	196
Kingsbury, Frederick C. (See Orbison, Kingsbury, and Pray.)						
Kinson, James D., Tolar, assignor of one-half to J. M. Wright, Weatherford, Tex. Power-hammer	864,970	Sept. 3	333	89	130	106
Kitsee, Isidor, Philadelphia, Pa. Printing telegraphy	865,108	Sept. 3	53	148	130	161
Klein, Achille, Roubaix, France. Ring-spinning machine	865,048	Sept. 3	446	121	130	137
Knapp Bros. Manufacturing Company. (See Knapp, Charles H., assignor.)						
Knapp, Charles H., Chicago, Ill., assignor to Knapp Bros. Manufacturing Company. Sheet-metal fireproof stud for plastered partitions	865,109	Sept. 3	534	148	130	162
Knapp, George F., St. Louis, Mo., assignor to St. Louis Tin & Sheet Metal Working Company. Roaster	865,110	Sept. 3	536	149	130	162
Kneil, Missouri N. (See Deitch and Biddle, assignors.)						
Knight, David H., and S. S. Adams, Lafayette, Tenn. Combined halter and bridle	865,308	Sept. 3	835	241	130	253
Koerber, Alexander, Jr., and E. M. and M. Deiller, Newark, N. J.; said Koerber assignor to said E. M. and M. Deiller. Faucet	865,111	Sept. 3	537	149–50	130	163
Kohl, Hermann, Rodenkirchen, near Cologne, Germany. Apparatus for narrowing the walls of hollow bodies	865,257	Sept. 3	751	213–14	130	227
Kothe, Richard. (See Kahn and Kothe.)						
Koues, Frank B., Rutherford, N. J. Folding step-ladder	864,898	Sept. 3	214	59–60	130	67
Kouns, Moses W. (See Morton and Kouns.)						
Krämer, Christian, assignor to Felten & Guilleaume-Lahmeyerwerke Actien-Gesellschaft, Frankfort-on-the-Main, Germany. Step-switch	864,899	Sept. 3	215	60	130	67
Kuck, Albert P., *et al.* (See Porter, Joseph I., assignor.)						
Kügelgen, Franz von. (See Seward and Kügelgen.)						
Kunkel, John, Wellsburg, W. Va. Jar-closure clamp	865,187	Sept. 3	646	182	130	196
Kunze, Reinhart F., Detroit, Mich. Fluting-machine	865,188	Sept. 3	647	183	130	197
L. C. Smith and Bros. Typewriter Company. (See Gabrielson, Carl, assignor.)						
La Chapelle, Francis, San Francisco, Cal. Contouring gold tooth-crowns	865,112	Sept. 3	539	150	130	163
Lamb, Richard, Lawrence, Mass. Spark-arrester	865,189	Sept. 3	649	184	130	197
Lamb, Robert M., Woodbine, Ga. Pivoted car-step	864,848	Sept. 3	136	37	130	43
Lambert, Henry M., Portland, Oreg. Car-fender	865,258	Sept. 3	752	214	130	228
Lang, George H., Boston, Mass. Numbering or marking machine	864,790	Sept. 3	40	12–13	130	15
Lang, George H., Boston, Mass. Stop-motion	864,849	Sept. 3	137	38	130	43
Lange, Carl J. F., Berlin, Germany. Writing apparatus	864,850	Sept. 3	139	38	130	44
Langworthy Brothers & Company. (See Yates, Thomas, assignor.)						
Larsson, Alfred. (See Weman and Larsson.)						
Larsson, Alfred, Buffalo, N. Y. Electric signaling device	864,971	Sept. 3	333	89	130	106
Lash, Horace W. (See Cromwell and Lash.)						
Lash, Horace W., Cleveland, Ohio. Material for use in refining iron and preparing the same	864,972	Sept. 3	335		130	107
Lawrence, Lilford L., Bridgeport, Ala. Canning apparatus	865,190	Sept. 3	650	184	130	197
Le Clair, Archie. (See Dionne, Napoleon, assignor.)						
Lee, Alva D., Brookline, Mass. Apparatus for roasting ores and separating by-products therefrom	865,309	Sept. 3	836	241–2	130	253
Lee, Maurice B., and C. H. Grings, assignors to Dubuque Harness and Saddlery Company, Dubuque, Iowa. Manufacture of harness-pads	864,973	Sept. 3	336	89–90	130	107
Lefever Arms Company. (See Lefever, Charles F., assignor.)						
Lefever, Charles F., assignor to Lefever Arms Company, Syracuse, N. Y. Cocking mechanism for guns	865,310	Sept. 3	840	242	130	254
Lemon, Abby C., Roanoke, Va. Dumping-wagon	865,049	Sept. 3	449	121–2	130	138
Lemp, William E., Mobile, Ala. Car-door latch	865,191	Sept. 3	652	184	130	198
Leveri, Dominic. (See Brizzolara, Charles, assignor.)						
Linfoot, Benjamin E., Philadelphia, Pa. Bottle-washing machine	865,192	Sept. 3	652	185	130	198
Living Letters Limited. (See Chandler, Samuel and J., assignors.)						
Lockhart, John M., Pittsburg, Pa. Ironing-machine	864,851	Sept. 3	140	38–9	130	44
Loeffler, Gustav W., Tampa, Fla. Vehicle-spring	865,259	Sept. 3	753	215	130	228
Loepsinger, Albert J. (See Kenerson and Loepsinger.)						
Longauer, Hubert, Wauwatosa, assignor of forty-five one-hundredths to J. Guschl, Milwaukee, Wis. Railway block system and locomotive equipment for operating the same.	864,974	Sept. 3	337	90	130	107
Louden, William, Fairfield, Iowa. Elevated carrier	865,113	Sept. 3	540	150–1	130	163
Lowenstein & Cie. (See Kessler, Ernst, assignor.)						
Luce, Charles J., Niantic, Conn., assignor to Luce Compress & Cotton Company, New Orleans, La. Baling fibrous material and bale	864,975	Sept. 3	340	91	130	108
Luce Compress & Cotton Company. (See Luce, Charles J., assignor.)						
Lucock, John S., Washington, Pa. Grinding-machine	864,791	Sept. 3	42	13	130	16
Ludlow, Israel, New York, N. Y. Street-cleaner	865,311	Sept. 3	842	242	130	256
Lung Manufacturing Co. (See Nebelthau, Fredrick W., assignor.)						
M. D. Knowlton Company. (See De Smith, Henry, assignor.)						
Macklin, Athol B., Ottawa, Ontario, Canada. Ship-salvage system	865,193	Sept. 3	652	185	130	199
Macpherson, Peter, Worcester, Mass., assignor to Crompton & Knowles Loom Works. Loom shuttle-check	864,900	Sept. 3	216	60	130	67
Macquisten, Arthur P. S., Glasgow, Scotland. Separating solids	865,194	Sept. 3	655	185–6	130	199
Macquisten, Arthur P. S., Glasgow, Scotland. Apparatus for separating solid particles from each other	865,195	Sept. 3	657	186	130	199
Macquisten, Arthur P. S., Glasgow, Scotland. Apparatus for separating solid particles from each other	865,260	Sept. 3	754	215	130	229
Madison Kipp Lubricator Company. (See Parr, William E., assignor.)						
Madison Kipp Lubricator Company. (See Winkley, Frank D., assignor.)						
Main, James R., Pittsburg, Pa. Stamping-die	864,976	Sept. 3	342	91	130	108
Mapes, Dorchester, assignor to C. K. Chamberlain, Chicago, Ill. Bookcase	865,114	Sept. 3	541	151	130	164
Markham, Edward D., Chicago, Ill. Wheel	865,115	Sept. 3	543	151	130	165

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Marston, Charles H., Reading, and H. H. Cummings, Newton, Mass.; said Cummings assignor to said Marston. Apparatus for marking checks	865,050	Sept. 3	450	122	130	138
Martin, George I. (See Gillett and Martin.)						
Martin, Whitley E., Winston Salem, N. C., assignor to Standard Cross Tie Machine Company, New Orleans, La. Leveling mechanism	865,196	Sept. 3	659	187	130	200
Massey-Harris Company. (See Johnston, Andrew, assignor.)						
Maud, Charles E., San Francisco, Cal. Attachment for horseshoes	864,901	Sept. 3	217	60	130	67
Max Ams Machine Company. (See Brenzinger, Julius, assignor.)						
McCarroll, Charles T., Ottumwa, Iowa. Stovepipe-thimble	864,980	Sept. 3	348	93	130	109
McCarthy, Ernest F., Melrose, Mass. Tool	864,981	Sept. 3	349	93	130	110
McCoy, Alfred C. (See Sons, Fogel, and McCoy.)						
McGinty, Bernard, Doylestown, assignor of one-half to T. H. Helst, Philadelphia, Pa. Newspaper-file	864,982	Sept. 3	350	94	130	110
McGuiness, Benjamin F., Worcester, Mass., assignor to Crompton & Knowles Loom Works. Loom harness-evener mechanism	865,264	Sept. 3	761	217	130	231
McKee, Arthur G., Cleveland, Ohio. Charging blast-furnaces	864,795	Sept. 3	49	14	130	18
McKenzie, Roderick, assignor to U. S. Standard Voting Machine Company, Jamestown, N. Y. Voting-machine	865,052	Sept. 3	454	123–8	130	139
McKeone, Richard J., Sault Ste. Marie, Mich. Mineral-separator	865,053	Sept. 3	466	129	130	141
McKinney, Leo P., assignor of one-half to J. L. Snow, Boston, Mass. Spare-tire holder for automobiles	864,983	Sept. 3	351	94	130	110
McLaughlin, Daniel. (See Fehler and McLaughlin.)						
McPhee, Colin C., Westmount, Quebec, Canada. Magazine card-folder	864,984	Sept. 3	353	94	130	111
Meek, Alexander S., Washington, Iowa. Window-ventilator	864,792	Sept. 3	44	14	130	17
Mehaffey, David R., Philadelphia, Pa. Railway ballast handling and cleaning apparatus	865,261	Sept. 3	755	216	130	229
Meier, Ernst, Schöneberg, near Berlin, Germany. Storage plant	865,197	Sept. 3	660	187–8	130	200
Meigs, Hiram W., Birmingham, Ala. Emergency air-brake appliance	865,198	Sept. 3	662	188	130	201
Mennesson, Georges, Troyes, France. Radiator	865,199	Sept. 3	663	188	130	201
Mergenthaler Linotype Company. (See Dodge, Philip T., assignor.)						
Merritt, Henry W., assignor to Monarch Typewriter Company, Syracuse, N. Y. Typewriting machine	864,793	Sept. 3	46	14	130	17
Metallic Specialty Manufacturing Company. (See Sternberg, Marc, assignor.)						
Metterhausen, Carl, Chicago, Ill. Mechanism for operating double sliding doors	864,977	Sept. 3	343	91–2	130	108
Meyer, Carl, Toledo, Ohio. Car-fender	864,794	Sept. 3	49	14	130	18
Mianus Motor Works. (See Gray, George, assignor.)						
Micaroid Manufacturing Company. (See Barnett, Leon H., assignor.)						
Michalk, Wilhelm, Deuben, near Dresden, Germany. Steam lubricating apparatus	865,262	Sept. 3	758	216	130	230
Miller, Frank E. (See Isham and Miller.)						
Miller, George H., Norwalk, Ohio. Auger for enlarging the lower ends of holes	865,051	Sept. 3	453	123	130	139
Minehart, Irvin U., and C. C Hunter, Rogers, Iowa. Knockdown crate	864,852	Sept. 3	142	39	130	45
Moe, Sivert, Chicago, Ill., assignor to Troy Laundry Machinery Company, Limited, Troy, N. Y. Conveyer-stripper	865,263	Sept. 3	759	216	130	230
Monarch Typewriter Company. (See Merritt, Henry W., assignor.)						
Moore, Alexander T., New Orleans, La. Multiple gramophone	865,344	Sept. 3	906	259	130	273
Moore, Charles H., New York, N. Y. Waste-water trap	865,312	Sept. 3	843	243	130	256
Moore, Charles P. and T. G., Ravenswood, W. Va. Adding-machine	865,200	Sept. 3	663	189	130	201
Moore, James L., Atlanta, Ga. Winding-tool for coils	865,116	Sept. 3	543	152	130	165
Moore, Thomas C., Dublin, Ind. Lifting and carrying truck	864,902	Sept. 3	218	61	130	68
Moore, Thomas G. (See Moore, Charles P. and T. G.)						
Morel, Louis A., Meaux, France. Obtaining dry gluten	864,978	Sept. 3	345	92	130	109
Morgan Engineering Company. (See Taylor, Clarence L., assignor.)						
Morse, Arthur J., assignor of one-half to A. P. Hine, Torrington, Conn. Transmission-gear	864,903	Sept. 3	220	61	130	68
Morse, Arthur J., assignor of one-half to A. P. Hine, Torrington, Conn. Transmission-gearing	864,904	Sept. 3	222	61	130	70
Morse, Arthur J., assignor of one-half to A. P. Hine, Torrington, Conn. Transmission-gearing	864,905	Sept. 3	225	62	130	71
Morse, Arthur J., assignor of one-half to A. P. Hine, Torrington, Conn. Transmission-gear	864,906	Sept. 3	228	62	130	72
Morton, Walter S., Upper Sandusky, and M. W. Kouns, Columbus, assignors to Ohio Manufacturing Company, Upper Sandusky, Ohio. Reversible transmission-gear	865,201	Sept. 3	666	189–90	130	202
Mosher, Charles D., New York, N. Y. Steam-generator	864,853	Sept. 3	143	40	130	45
Mosher, John A., Chicago, Ill., assignor to Adams & Westlake Company. Rotary engine	864,979	Sept. 3	347	92–3	130	109
Mühl, Ernst, Philadelphia, Pa. Rotary engine	865,117	Sept. 3	544	152	130	165
Muir, Reginald L., assignor to West Coast Machinery Company, San Francisco, Cal. Chain saw	865,118	Sept. 3	546	153	130	166
Mundhenk, Charles J., Freeport, Ill. Internal-combustion engine	865,202	Sept. 3	667	190	130	202
Municipal Lighting Company. (See Doyle, John, assignor.)						
Murback, John G., Cathlamet, Wash. Saw-jointer	864,907	Sept. 3	231	63	130	72
Murray, Maurice H., Bakersfield, Cal. Pole-base	864,854	Sept. 3	145	41	130	45
Musser, Harvey. (See Hilton, Frank M., J. S., and W. W., assignors.)						
Mussman, Oscar, New York, N. Y. Lead-pencil attachment	865,119	Sept. 3	548	153	130	166
Mussman, Oscar, New York, N. Y. Lead-pencil attachment	865,120	Sept. 3	549	153	130	167
Mussman, Oscar, New York, N. Y. Lead-pencil attachment	865,121	Sept. 3	550	153	130	167
Mustonen, Henry, and T. A. Nissinen, Union Hill, N. J. Automatic coffee-roaster	865,203	Sept. 3	669	191	130	203
Nebelthau, Fredrick W., assignor to Lung Manufacturing Co., Minneapolis, Minn. Therapeutic lung-testing device	864,908	Sept. 3	231	63	130	72
Neff, William T., assignor to B. L. Barr, Tremont City, Ohio. Device for breaking horses of kicking	864,796	Sept. 3	51	15	130	19
Neighbours, James W. (See Robinson, Neighbours, and Pierce.)						
New Departure Manufacturing Company. (See Rockwell, Albert F., assignor.)						
New Jersey Patent Company. (See Durand, Nelson C., assignor.)						
Nichols, Josiah, Lima, Ohio. Friction-buffer	865,054	Sept. 3	467	129	130	142
Nicol, William, Glasgow, Scotland. Weatherproof fitting for windows	865,204	Sept. 3	673	192	130	204
Nielsen, Andrew B., Downers Grove, Ill. Combined chair and crib	864,855	Sept. 3	146	41	130	46
Nissinen, Toimi A. (See Mustonen and Nissinen.)						
Norris, Dudley H., New York, N. Y. Separating the metallic and rocky constituents of ores	864,856	Sept. 3	147	42	130	46
Northey, John P., Toronto, Ontario, Canada. Sound-producing device	864,909	Sept. 3	233	63	130	73
Norton, Edwin, New York, N. Y. Rolling sheet metal	865,055	Sept. 3	468	129	130	142
O'Brian, Harry R. (See Vanness and O'Brian.)						
O'Neill, Charles W., Chicago, Ill. Basement-pipe	864,910	Sept. 3	234	64	130	73
Ohio Manufacturing Company. (See Morton and Kouns, assignors.)						
Oil-Bath Lubricator Co. (See Gamage, Harry C., assignor.)						
Oldenburg, Charles, *et al.* (See Doak, David H., assignor.)						
Oldham, Samuel. (See Rivett and Oldham.)						
Olson, Andrew P., Chicago, Ill. Automatic oiler	864,857	Sept. 3	149	42	130	47
Olson, Andrew P., Chicago, Ill. Buffer	864,985	Sept. 3	354	95	130	111
Orbison, James B., F. C. Kingsbury, and A. J. Pray, Columbus, Ohio. Seal-padlock	865,313	Sept. 3	845	243	130	257

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Ore Concentration Company (1905). (See Elmore, Alexander S., assignor.)						
Osborn, Henry P., Bayonne, N. J. Producing threads and undercuts in porcelain and other vitreous substances	865,314	Sept. 3	347	243	130	257
Padgett, James M., Topeka, Kans. Vehicle wheel rim	864,911	Sept. 3	235	64	130	73
Padley, Harry, Elyria, Ohio. Jointed trolley-pole	864,912	Sept. 3	236	64	130	74
Palmer, Winfield S., Glenburn, Pa. Repair-clip for pipes, shafts, &c.	865,056	Sept. 3	499	129	130	142
Pape, Hermann G., New York, N. Y. Automatic circuit-closer	864,858	Sept. 3	151	42-3	130	47
Parr, William E., assignor to Madison Kipp Lubricator Company, Madison, Wis. Lubricant feeding and distributing mechanism	865,215	Sept. 3	348	244	130	258
Patrick, George E., Ames, Iowa. Determining the percentage of water in butter	864,913	Sept. 3	237	.....	130	74
Pauly, Albert A., Youngstown, Ohio. Concrete construction	865,205	Sept. 3	768	217	130	231
Pauly, Albert A., Youngstown, Ohio. Apparatus for forming building-blocks and artificial stone from plastic material	865,206	Sept. 3	768	218	130	232
Pearson, John A., Chicago, Ill. Router-head	864,986	Sept. 3	355	95	130	112
Pease, Charles F., Chicago, Ill., assignor of one-half to Williams, Brown and Earle, Philadelphia, Pa. Blue-print-drying machine	865,057	Sept. 3	471	130	130	143
Perreault, Moses, New Bedford, Mass. Loom	865,122	Sept. 3	551	154	130	167
Phelps, Charles, Oskaloosa, Iowa. Furnace-casing	865,123	Sept. 3	552	154	130	167
Phelps, Herbert L., Chicago, Ill., assignor, by mesne assignments, to Singer Manufacturing Company. Seam-trimmer throat-plate for sewing-machines	864,797	Sept. 3	52	15	130	19
Pickés, Daniel J. (See Rücker and Pickés.) (Reissue.)						
Pierce, Wilbourn O. (See Robinson, Neighbours, and Pierce.)						
Pilling, James L., Chicago, Ill. Portable-hoist	864,798	Sept. 3	53	15-16	130	19
Pilling, James L., Chicago, Ill. Operating mechanism for turn-tables	864,799	Sept. 3	55	16	130	20
Pilling, James L., Chicago, Ill. Operating mechanism for turn-tables	864,800	Sept. 3	56	16	130	21
Pollard, Henry, Paisley, Scotland. Gas-engine	865,267	Sept. 3	765	218-19	130	232
Porter, Joseph I., Washington, D. C., assignor two-thirds to C. H. Schott and A. P. Kuck. Attachment for type-writers	864,987	Sept. 3	356	96	130	112
Porter Safety Seal Co. (See Hulsing, Garrett H., assignor.)						
Potter, Charles W. (See Staples, Albert F., assignor.)						
Powell, Henry L., Tampa, Fla. Display-rack for metal bedsteads	865,268	Sept. 3	767	219	130	232
Power, William M., Port Chester, N. Y. Ball-bearing	864,859	Sept. 3	152	43	130	46
Powers, Annie L. (See Davis, Lewis, assignor.)						
Pratt, Charles R., New York, N. Y. Elevator	865,206	Sept. 3	673	192	130	204
Pratt & Whitney Company. (See Hanson, Bengt M. W., assignor.)						
Pray, Alvah J. (See Orbison, Kingsbury, and Pray.)						
Pressed Prism Plate Glass Company. (See Wadsworth, Frank L. O., assignor.)						
Quincy Elevator Gate Co. (See Fogal, John E. W., assignor.)						
Raab, Andrew. (See Raab, John and A.)						
Raab, John and A., Tacoma, Wash. Spring-equalizer	864,914	Sept. 3	237	64	130	74
Ranck, John V., Cleveland, Ohio. Rotary explosive-engine	865,206	Sept. 3	675	192	130	205
Randall, William P., Le Roy, N. Y. Wire-feeding device	864,860	Sept. 3	153	43	130	46
Raven, Frederick, Korrumburra, Victoria, Australia. Milking-machine and connections	864,988	Sept. 3	357	96	130	112
Reagan Bale Company. (See Reagan, Edgar, assignor.)						
Reagan, Edgar, assignor, by mesne assignments, to Reagan Bale Company, San Antonio, Tex. Bale-forming apparatus	865,316	Sept. 3	351	244-5	130	258
Reed, Oscar M., Manchester, N. H. Puzzle	865,207	Sept. 3	676	193	130	205
Reese, John E., Louisville, Ky. Railway-crossing	865,317	Sept. 3	355	246	130	259
Reiners, Charles A., Hoboken, N. J., assignor to Elevator Supply & Repair Company. Elevator signaling apparatus	864,915	Sept. 3	239	65	130	75
Renkenberger, Edward, Buffalo, N. Y. Hacksaw-machine	865,269	Sept. 3	767	219-20	130	233
Rex Shield and Manufacturing Company. (See Charles, Owen A., assignor.)						
Reynolds, Horace A., Woonsocket, R. I., assignor to Electric Compositor Company, New York, N. Y. Indicator-gage	864,861	Sept. 3	157	44	130	49
Reynolds, Horace A., Woonsocket, R. I., assignor to Electric Compositor Company, New York, N. Y. Routing-machine fixture	864,862	Sept. 3	159	44-5	130	50
Rheinische Metallwaren-und Maschinenfabrik. (See Dahlke, Hermann, assignor.)						
Rheinische Metallwaren-und Maschinenfabrik. (See Völler, Karl, assignor.)						
Rice, Thomas B., Jr., Philadelphia, Pa. Device for automatically stopping a planing-machine	865,124	Sept. 3	553	154	130	168
Richards, Francis H., Hartford, Conn. Fastening device for adjustable collars	864,989	Sept. 3	358	96	130	113
Richards, Orlando, Bristol, Wis. Wall and block for making the same	864,701	Sept. 3	57	17	130	21
Richards, Walter J., and C. P. Tolman, Milwaukee, Wis. Water-governor	864,990	Sept. 3	361	96	130	114
Richardson, Henry C., Haverhill, Mass. Apparatus for making felted boot-bodies	864,916	Sept. 3	243	65	130	76
Richter, Gustave E. H., Chattanooga, Tenn. Display-cover	865,208	Sept. 3	676	193	130	205
Rickards, Richard T., Philadelphia, Pa. Emergency oil-cup	864,991	Sept. 3	362	97	130	114
Ricker, William H., Cambridge, Mass. Combustion apparatus	865,209	Sept. 3	677	193	130	206
Rieman, Charles A. (See Helm, Adam, assignor.)						
Rietzke, John W., East Liverpool, Ohio. Boiler-cleaner	865,270	Sept. 3	769	220	130	233
Rivett, Fred, Heaton Chapel, and S. Oldham, Heaton Norris, England. Burner for gassing yarns and other fibers	864,917	Sept. 3	244	65	130	76
Roberts, Charles C., Ansonia, Conn. Drill socket or chuck	864,992	Sept. 3	364	97	130	115
Roberts, D. H. (See Roberts, William H., assignor.)						
Roberts, John, and J. E. Bliss, Faust, N. Y. Railway-rail tie	865,125	Sept. 3	555	155	130	168
Roberts, William H., assignor to D. H. Roberts, Detroit, Mich. Valve	865,318	Sept. 3	857	246	130	260
Robertson, John, Chicago, Ill. Lubricating and dust-proof gland	865,058	Sept. 3	472	130	130	143
Robertson, Maxwell W., New York, N. Y. Means for attaching pigtails to carbon-brushes	865,059	Sept. 3	473	130	130	143
Robinson, William T., J. W. Neighbours, and W. O. Pierce, Pulaski, Va. Air-brake apparatus	865,210	Sept. 3	679	194	130	207
Rochester Electric Specialty Company. (See Hammond, Robert O., assignor.)						
Rockwell, Albert F., assignor to New Departure Manufacturing Company, Bristol, Conn. Carbureter	865,060	Sept. 3	474	131	130	143
Rohrbacher, Edward J., Blaine, Wash. Automatic air-pump	864,918	Sept. 3	244	66	130	76
Rollinson, Earl H., Albany, N. Y. Binding-post	865,211	Sept. 3	680	194	130	207
Rose, William H., Baltimore, Md. Disinfecting apparatus	865,061	Sept. 3	475	131	130	144
Rosemeyer, Josef, Lindenthal, Germany, and G. Dive, Bressoux, Germany. Long-burning arc-lamp	865,271	Sept. 3	770	220-1	130	233
Rosing, Astrid S., Chicago, Ill. Garment-ripping tool	865,126	Sept. 3	555	155	130	168
Rose, Charles R., assignor of one-third to A. E. Streeter, Kansas City, Mo. Adjustable hose-nozzle	864,919	Sept. 3	245	66	130	77
Rose, Delmar C., assignor to C. B. Hutchins & Sons, Detroit, Mich. Car-roof	864,993	Sept. 3	365	97-8	130	115
Routh, Clarence E., Clark, S. D. Closet	864,994	Sept. 3	366	98	130	115
Roy, Louis A. (See Edson, Charles F., assignor.)						
Rücker, Karl, and D. J. Pickée, Berlin, Germany. Preservative. (Reissue)	12,693	Sept. 3	915	.....	130	277
Rüprich, Willy, Dresden-Trachau, Germany. Labeling-machine	864,920	Sept. 3	247	66-7	130	77
Rüprich, Willy, Dresden-Trachau, Germany. Labeling-machine	864,921	Sept. 3	262	67	130	79
Russell, Frank J., New York, N. Y. Junction-box-cover rosette	864,995	Sept. 3	367	98	130	116

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Ryon, Eppa H., Worcester, Mass., assignor to Crompton & Knowles Loom Works. Swivel-loom	865,272	Sept. 3	772	221-2	130	234
S. S. Wensell Machine Company. (See Van Leir, Henry W., assignor.)						
Sackett, Jasper L., Melrose, Mass. Packing	864,996	Sept. 3	366	99	130	116
Sage, George W., Eureka, Cal. Spark-plug	865,212	Sept. 3	681	194	130	208
Saltiel, Josef, Vienna, Austria-Hungary. Wire brush	864,922	Sept. 3	254	67	130	80
Samuelson, David M., Chandlers Valley Pa. Fertilizer-distributer	864,863	Sept. 3	160	45	130	50
Sanders, Ira B., Fort Worth, Tex. Stove	864,864	Sept. 3	162	46	130	51
Sapp, David A., Towns, Ga. Gutter-inserter	864,997	Sept. 3	370	99	130	116
Saunders, Charles, Saginaw, Mich. Chimney top or ventilator	864,865	Sept. 3	163	46	130	51
Saunders, Charles A. L., Elgin, Ill. Scouring-wheel or the like	864,923	Sept. 3	255	67-8	130	81
Sawyer, Isaac F., Mesa, Colo. Bee-knife	865,063	Sept. 3	476	131	130	144
Scales, Eldridge E., Braddock, Pa. Wrench	865,127	Sept. 3	556	155	130	169
Schaeffers, Joseph, New York, N. Y. Engine	865,213	Sept. 3	682	194-5	130	208
Schimmel, Arthur, Evansville, Ind. Pump-curb	864,924	Sept. 3	256	68	130	81
Schmick, Henry J., assignor to Hamburg Manufacturing Company, Limited, Hamburg, Pa. Hoisting device	864,998	Sept. 3	371	99	130	117
Schmidt, Edward H., *et al.* (See Bretney, Eugene, assignor.)						
Schmitt, Benjamin C., Columbus, Ohio. Stereotype plate and base	864,808	Sept. 3	59	17	130	21
Schneider, Reinhold, Sharon, Pa. Condenser	864,925	Sept. 3	257	68	130	81
Schoonmaker, Edward C., Perham, Minn. Cellular pneumatic tire	864,926	Sept. 3	259	69	130	82
Schott, Charles H., *et al.* (See Porter, Joseph I., assignor.)						
Schuetz, Frank A., Chicago, Ill., assignor to Adams & Westlake Company. Signal-lantern burner	864,808	Sept. 3	60	18	130	21
Schüler, Franz, Berlin, Germany. Feed mechanism for type-writers	865,214	Sept. 3	685	195	130	208
Schumacher, Wilhelm, Osnabrück, Germany, assignor to E. Thalmann, New York, N. Y. Agglomerated body	864,804	Sept. 3	61	.....	130	22
Schwendner, Max, Reading, Pa. Engineer's wrench	864,805	Sept. 3	62	18	130	22
Schwendner, Max, Reading, Pa. Wrench	864,806	Sept. 3	63	18	130	22
Seaman, Ralph M., *et al.* (See Graham, Frederick S., assignor.)						
Sedgwick, Hiram G. Mill Valley, Cal. Automatic train-stop	864,866	Sept. 3	164	46	130	52
Selp, David, Chillicothe, Ohio. Pen-wiper	865,272	Sept. 3	775	222	130	234
Sellers, Frank, London, England. Dynamometer	864,927	Sept. 3	260	69	130	82
Senter, John F., assignor to Senter Manufacturing Company, Chattanooga, Tenn. Boiler-feeder	864,807	Sept. 3	64	18-19	130	23
Senter Manufacturing Company. (See Senter, John F., assignor.)						
Seward, George O., and F. von Kügelgen, Holcombe Rock, Va., assignors to Virginia Laboratory Company, New York, N. Y. Electrolytic production of earth-alkali metals	864,928	Sept. 3	261	69	130	82
Shelton, William G. (See Hill, Herbert G., assignor.)						
Sherry, John, Rochester, N. Y. Lubricator	865,319	Sept. 3	858	247	130	260
Sherwood, Lawrence W., Washington, D. C. Center-punch	865,063	Sept. 3	477	131	130	144
Shipman, James R., and J. S. Click, Bridgewater, Va. Umbrella	864,929	Sept. 3	263	69	130	83
Shoemaker, William T., Philadelphia, Pa. Trousers-stretcher	864,999	Sept. 3	372	100	130	117
Short, Benjamin H., High Point, Mo. Whip-socket lock	865,000	Sept. 3	373	100	130	117
Siegfried, Robert, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Receptacle for electrical and other devices	864,930	Sept. 3	264	70	130	83
Siemens & Halske, A. G. (See Ferreira, Luis D. G., assignor.)						
Singer Manufacturing Company. (See Allen, Edward B., assignor.)						
Singer Manufacturing Company. (See Phelps, Herbert L., assignor.)						
Small, Eli D., Little Rock, Ark. System for railway-trains	864,808	Sept. 3	65	19	130	23
Smith, Alonzo E., New York, N. Y. Compound railway-rail	864,867	Sept. 3	166	46	130	52
Smith, Ernest C., Hinckley, Ill. Side-delivery rake	864,868	Sept. 3	*167	47	130	53
Smith Paper Machinery Company. (See Smith, Richard, assignor.)						
Smith, Richard, Worcester, Mass., assignor to Smith Paper Machinery Company, Portland, Me. Agitator or mixing apparatus	865,128	Sept. 3	557	156	130	169
Smith, Thomas L., and C. A. Baker, assignors to Sterling Wheelbarrow Company, Milwaukee, Wis. Wheelbarrow-wheel	865,274	Sept. 3	776	223	130	235
Snow, John L. (See McKinney, Leo P., assignor.)						
Society Deutsche Kraftgas-Gesellschaft M. B. H. (See Wagener, August, assignor.)						
Sons, Ernest L., C. A. Fogel, and A. C. McCoy, Pittsburg, Pa. Vending-machine	865,275	Sept. 3	777	223-4	130	235
Sorge, Adolph, Jr., Chicago, Ill., assignor, by mesne assignments, to A. Sorge Jr. Company, Wilmington, Del. Steam-trap	864,869	Sept. 3	168	47-9	130	53
Sparks, Tahaska, St. Louis, Mo. Square	865,129	Sept. 3	558	156	130	169
Spicer, Samuel J., Grand Rapids, Mich. Combined storm and screen door	864,931	Sept. 3	265	70	130	84
Spitzer, Emanuel, Munich, Germany. Etching	865,276	Sept. 3	780	.....	130	236
Sprague, Lowselle W., Osakis, Minn. Rail-brace	865,320	Sept. 3	859	247	130	261
St. Louis Tin & Sheet Metal Working Company. (See Knapp, George F., assignor.)						
Standard Cross Tie Machine Company. (See Martin, Whitley E., assignor.)						
Standard Sheet Metal Company. (See Dickens, John, assignor.)						
Standard Electro-Automatic Signal Device Company. (See Fallek and Wolfe, assignors.)						
Stannard, Jay D., Phœnix, Ariz. Ter. Nautical indicating device	865,277	Sept. 3	783	224	130	236
Stannard, Jay D., Phœnix, Ariz. Ter. Nautical indicating device	865,278	Sept. 3	785	225	130	236
Staples, Albert F., Dorchester, assignor of one-half to C. W. Potter, Waltham, Mass. Spring-hinge	864,932	Sept. 3	265	70	130	84
State, Will C., assignor to Goodyear Tire and Rubber Company, Akron, Ohio. Collapsible core	865,064	Sept. 3	478	132	130	144
Steber, Bernard T., assignor to Steber Machine Company, Utica, N. Y. Knitted fabric	865,279	Sept. 3	788	225	130	238
Steber Machine Company. (See Steber, Bernard T., assignor.)						
Stein, Philip, San Jose, Cal. Body-heater	865,131	Sept. 3	561	157	130	170
Steinberg, Max. (See Alsleben, Ernst, assignor.)						
Sterling Wheelbarrow Company. (See Smith and Baker, assignors.)						
Sternberg, Marc, assignor to Metallic Specialty Manufacturing Company, Philadelphia, Pa. Riveting-machine	865,132	Sept. 3	562	157-8	130	171
Stevens, George J., London, England, assignor, by mesne assignments, to American Attachment Company, Portland, Me. Attachment for sewing-machines	865,321	Sept. 3	860	247	130	261
Stevens, William C., assignor to Crown Drilling Machine Company, Akron, Ohio. Rotary fan-motor	865,133	Sept. 3	564	158	130	171
Stewart, James, Grand Rapids, Mich. Feeder for carding-machines	864,933	Sept. 3	266	70-1	130	84
Stillman, Herbert L., West Acton, Mass. Railway	864,870	Sept. 3	171	49	130	54
Stine, Marcus, *et al.* (See Doerflinger and Buck, assignors.)						
Stoup, Henry L., Ypsilanti, Mich. Rubber-tire setter	865,134	Sept. 3	565	158	130	171
Straub, William, Toledo, Ohio. Box	865,280	Sept. 3	789	226	130	238
Streeter, Ada E. (See Rose, Charles R., assignor.)						
Strickland, Steetman L. (See Edwards, Alexander G., assignor.)						
Struntz, Charles A., *et al.* (See Graham, Frederick S., assignor.)						
Studebaker, Henry B., Pagosa Springs, Colo. Running-gear	864,809	Sept. 3	66	19	130	23
Sturm, John J., Glen Lord, Mich. Handle for baskets	865,065	Sept. 3	479	132	130	145
Stutsman, Reuben O., assignor to Bartholomew Company, Peoria, Ill. Radiator	864,871	Sept. 3	172	49	130	54
Sumner Iron Works. (See Willett, Charles W., assignor.)						
Tambour, Joseph, Nanterre, near Paris, France. Safety-lock for firearms	865,281	Sept. 3	790	226	130	238

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Tarrant, Hugh M., Beulahville, Va. Attachment for mowing-machines	865,066	Sept. 3	480	132	130	145
Taylor, Clarence L., assignor to Morgan Engineering Company, Alliance, Ohio. Furnace-charging apparatus	864,934	Sept. 3	268	71	130	85
Taylor, Clarence L., assignor to Morgan Engineering Company, Alliance, Ohio. Crane for carrying ladles	864,935	Sept. 3	269	72	130	85
Taylor, Clarence L., assignor to Morgan Engineering Company, Alliance, Ohio. Vertical charging mechanism	864,936	Sept. 3	270	72–3	130	86
Taylor, John, Manchester, England. Humidifying apparatus	864,810	Sept. 3	67	20	130	23
Templeton, Henry W., Balaclava, Victoria, Australia. Account or ledger card in book-keeping	864,872	Sept. 3	173	49	130	55
Thalmann, Ernst. (See Schumacher, Wilhelm, assignor.)						
Therrell, Daniel M., Charleston, S. C. Telephony	865,215	Sept. 3	686	195–7	130	209
Thiel, Louis, Cincinnati, Ohio. Dividing-head	864,873	Sept. 3	174	50	130	55
Thoens, Burchard, New York, N. Y. Jet-condenser and centrifugal vacuum-pump	864,811	Sept. 3	70	20	130	24
Thomas, Frank L. (See Bensinger and Thomas.)						
Thompson, Charles G., Wilkinsburg, Pa. Clothes-line fastener	864,937	Sept. 3	273	73	130	87
Thompson, Frank M., *et al.* (See Conkle, William G., assignor.)						
Thompson, Lewis P., Minneapolis, Minn. Floor-scraper	864,874	Sept. 3	176	50	130	55
Thompson, Milton O., Wollaston, assignor of one-half to C. S. Gooding, trustee, Brookline, Mass. Handle-making machine	865,001	Sept. 3	374	100–2	130	117
Thuillier, Georges, Nogent-en-Bassigny, Haute-Marne, France. Knife and other cutting blade	864,812	Sept. 3	71	20	130	24
Tinsley, Benjamin F., Richmond, Va. Coin-cup	864,938	Sept. 3	273	73	130	87
Tolman, Charles P. (See Richards and Tolman.)						
Toquet, Benjamin L., Westport, Conn. Internal-combustion motor	865,135	Sept. 3	566	159	130	171
Train, Charles G., Belknap, Ill. Charcoal-kiln	865,067	Sept. 3	481	132–3	130	145
Trauner, Jerome, San Francisco, Cal. Dressmaker's skirt-gage	864,939	Sept. 3	274	73	130	87
Trotter, George, Riverton, Ill. Dumping-cage for mine-cars	864,813	Sept. 3	72	21	130	25
Troy Laundry Machinery Company. (See Moe, Sivert, assignor.)						
U. S. Standard Voting Machine Company. (See McKenzie, Roderick, assignor.)						
Ullmann, Albert, Macon, Ga. Faucet	865,216	Sept. 3	694	197	130	209
United Shoe Machinery Company. (See Casgrain, Louis A., assignor.)						
Upton, William R. (See Boyle and Upton.)						
Valentour, August, *et al.* (See Jamieson, William, assignor.)						
Van Leir, Henry W., Philadelphia, Pa., assignor to S. S. Wenzell Machine Company, Charleston, W. Va. Bottle-washing machine	865,217	Sept. 3	698	197	130	210
Vanness, John T., and H. R. O'Brian, Oxford, Ohio. Automatic brake for wagons	864,814	Sept. 3	74	22	130	25
Victor Talking Machine Company. (See Douglass, Leon F., assignor.)						
Victor Talking Machine Company. (See Johnson, Eldridge R., assignor.)						
Villinger, George F., London, England. Reversible propeller for ships and boats	864,875	Sept. 3	177	51	130	56
Viola, Bartholomew, Brooklyn, N. Y. Vehicle-brake	865,002	Sept. 3	378	102–3	130	119
Virginia Laboratory Company. (See Seward and Kügelgen, assignors.)						
Völler, Karl, assignor to Rheinische Metallwaren-und-Maschinenfabrik, Düsseldorf, Germany. Explosive projectile	865,282	Sept. 3	791	227	130	238
W. F. & John Barnes Company. (See Barnes, John S., assignor.)						
Wade, Frederick C. (See Barwis, Thomas S., assignor.)						
Wadsworth, Frank L. O., Pittsburg, Pa., assignor to Pressed Prism Plate Glass Company, Morgantown, W. Va. Making prism-glass	865,136	Sept. 3	568	159	130	172
Wagener, August, assignor to Society Deutsche Kraftgas-Gesellschaft M. B. H., Berlin, Germany. Air-supplying means for explosive-engines	865,218	Sept. 3	699	198	130	211
Wagner-Davis Glass Company. (See Davis, Frank J., assignor.)						
Walker, Miles, Hale, Altrincham, England, assignor to Westinghouse Electric & Manufacturing Company. End connection for conductors on field-magnets of alternate-current generators	865,219	Sept. 3	701	198	130	211
Wallen, Nannie L., Chicago, Ill. Shower-bath apparatus	865,137	Sept. 3	569	160	130	172
Walters, Henry A., Linton, Ind. Vending-machine	864,815	Sept. 3	77	22	130	26
Warner Clutch Company. See Warner, Edward P., assignor.)						
Warner, Edward P., Chicago, Ill., assignor, by mesne assignments, to Warner Clutch Company. Power-transmission device	865,138	Sept. 3	570	160	130	172
Warren, William R., New York, N. Y. Rotary kiln	864,816	Sept. 3	79	23	130	27
Waterbury Clock Co. (See Horn, Ernest H., assignor.)						
Waterhouse, Charles N., St. Louis, Mo. Combined spindle and vehicle-wheel axle-box	865,139	Sept. 3	571	160	130	173
Wattle, William, Worcester, Mass., assignor to Crompton & Knowles Loom Works. Cane-loom	865,283	Sept. 3	792	227–8	130	239
Weaver, Ira A., Springfield, Ill. Wheeled plow	865,140	Sept. 3	572	160–1	130	173
Weihman, Henry A., assignor of one-half to E. Dieteria, Chicago, Ill. Lubricator	864,876	Sept. 3	177	51	130	56
Weman, Klas, and A. Larsson, Buffalo, N. Y. Electric generator	865,068	Sept. 3	484	133–4	130	147
West Coast Machinery Company. (See Muir, Reginald L., assignor.)						
Westinghouse Electric & Manufacturing Company. (See Siegfried, Robert, assignor.)						
Westinghouse Electric & Manufacturing Company. (See Walker, Miles, assignor.)						
Whitaker, Charles H., Bordentown, N. J. Foot-warmer	865,220	Sept. 3	702	199	130	212
Whittier, Walter H., Grand Rapids, Mich. Breech-loading firearm	864,940	Sept. 3	275	74	130	87
Wiard, Harry, Syracuse, N. Y. Plow	865,141	Sept. 3	574	161	130	174
Wigington, Charles C., Morristown, Tenn. Trunk	865,322	Sept. 3	862	248	130	262
Wilder, Henry S. (See Wilder, Leslie S., assignor.)						
Wilder, Leslie S., Northampton, assignor of one-half to H. S. Wilder, Easthampton, Mass. Trolley	865,323	Sept. 3	863	248	130	262
Willett, Charles W., assignor of one-half to Sumner Iron Works, Everett, Wash. Lath-mill	865,142	Sept. 3	576	161–2	130	175
William Lane. (See Delbon, Frank G., assignor.)						
Williams, Brown & Earle. (See Pease, Charles F., assignor.)						
Williams, George R., Little Rock, Ark. Vehicle-wheel	865,143	Sept. 3	577	162	130	176
Wilson, Archibald R., Chicago, Ill. Laundry device	865,009	Sept. 3	486	134	130	148
Wilson, Thomas, Ottawa, Ontario, Canada. Adjustable roof	864,941	Sept. 3	277	74	130	88
Winkley, Frank D., assignor to Madison Kipp Lubricator Company, Madison, Wis. Lubricator	865,221	Sept. 3	703	199–200	130	272
Winslow Bros. Company. (See Kall, Jackson L., assignor.)						
Winter, Rudolph G., Milwaukee, Wis. Hinge. (Reissue)	12,692	Sept. 3	914	261–2	130	276
Wise, James B., Watertown, N. Y. Sheet-metal handle	864,817	Sept. 3	79	23	130	27
Wissler, Adolph, assignor to L. Ehrlich, St. Louis, Mo. Journal-box lid	865,070	Sept. 3	478	134	130	148
Witt, William, Port Clinton, Ohio. Propeller-gear	864,942	Sept. 3	278	75	130	89
Wolcott, Alven E., Tacoma, Wash. Explosive-engine	864,818	Sept. 3	80	23	130	27
Wolfe, George F. (See Fallek and Wolfe.)						
Wonson, Roger W., Gloucester, Mass. Gaff-clapper	865,003	Sept. 3	380	103	130	120
Wood, William H., Allegheny, Pa. Molding-machine	865,071	Sept. 3	488	135	130	148
Woodhouse, Thomas M. (See Clymer and Woodhouse.)						
Woodward, Jesse G., Jellico, assignor of one-half to J. B. Andrews, Coal Creek, Tenn. Oil-can	865,222	Sept. 3	705	200	130	213
Wooldridge, Richard A. (See Haley, Henry V., assignor.)						
Woolf, Daniel, New York, N. Y. Eyeglasses	865,284	Sept. 3	797	229	130	239

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Woolf, Ellis J., assignor to Woolf Valve Gear Company, Minneapolis, Minn. Explosive-engine	864,877	Sept. 3	180	51	130	57
Woolf Valve Gear Company. (See Woolf, Ellis J., assignor.)						
Worst, Elmore J. (See Dorment, Frank C., assignor.)						
Wright, James M. (See Kinson, James D., assignor.)						
Wyckoff, Seamans & Benedict. (See Enderis, Henry W., assignor.)						
Ximénez, Fernando S. y, Chicago, Ill. Apparatus for raising sunken vessels	865,130	Sept. 3	559	156–7	130	170
Yates, Thomas, assignor to Langworthy Brothers & Company Limited, Greengate Mills, Salford, England. Ring-spinning machine	865,144	Sept. 3	578	162	130	176
Yorgensen-Gundholm, Niels C., Bradfordville, Fla. Protector for vessels in case of collision	865,244	Sept. 3	731	209	130	220
York, Doctor A., and S. A. Darr, Mineola, Tex. Vehicle-axle	865,223	Sept. 3	706	200	130	213
Young, Edward F. C., *et al.* (See Doerflinger and Buck, assignors.)						
Young, James C., Jersey City, N. J. Electric smelting apparatus	865,285	Sept. 3	798	229–30	130	240
Young, William H. F., Muncie, Ind. Lock	864,819	Sept. 3	82	23–4	130	28
Zahner, William E., Kansas City, Mo. Metallic window	865,286	Sept. 3	801	230–1	130	241
Zastrow, August, Aberdeen, S. D. Self-feeder for threshing-machines	864,820	Sept. 3	86	24	130	28
Zimmer, Samuel B., Oakland, Cal. Reinforced concrete construction	865,145	Sept. 3	579	163	130	176
Zoelly, Heinrich, Zurich, Switzerland. Explosive-turbine	864,821	Sept. 3	88	25	130	29

DESIGNS.

Name, residence, and design.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Beach, Harry L., Coshocton, Ohio. Picture-frame	38,780	Sept. 3	130	277
Benjamin, Joseph O. (See Wilhelm and Benjamin.)				
Flanagan, Eleonora, Portland, Oreg. Wall-pocket or similar article	38,781	Sept. 3	130	275
Hillbom, Henrik, assignor to R. Wallace & Sons Mfg. Co., Wallingford, Conn. Handle for spoons, forks, or similar articles	38,784	Sept. 3	130	278
Lord, Frederic W., New York, N. Y. Casing and support for lightning-arresters	38,782	Sept. 3	130	278
McKeen, William R., Jr., Omaha, Nebr. Car-body	38,785	Sept. 3	130	278
McKeen, William R., Jr., Omaha, Nebr. Car-body	38,786	Sept. 3	130	278
R. Wallace & Sons Mfg. Co. (See Hillbom, Henrik, assignor.)				
Selkirk, Charles, Albany, N. Y. Spoon	38,783	Sept. 3	130	278
Wilhelm, Henry T., and J. O. Benjamin, New York, N. Y. Plate	38,779	Sept. 3	130	277

TRADE-MARKS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
A. G. Hyde & Sons, New York, N. Y. Cotton piece goods of plain weave	65,059	Sept. 3	130	295
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Synthetic medicines and preparations made therefrom	64,994	Sept. 3	130	294
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Perfumeries	64,995	Sept. 3	130	294
Ajax Valve Company, Chicago, Ill. Valves	65,060	Sept. 3	130	295
American Thread Company, Jersey City, N. J. Spool-cotton, sewing-cotton, and thread	64,977	Sept. 3	130	293
American Writing Paper Company, Holyoke, Mass. Type-writer paper	64,956	Sept. 3	130	293
Atlanta Spring Bed Co., Atlanta, Ga. Spring-bottoms for beds	64,957	Sept. 3	130	293
Atlantic Cotton Mills, Lawrence, Mass. Cotton piece goods and blankets	65,061	Sept. 3	130	295
Axton-Fisher Tobacco Company, Louisville, Ky. Twist-tobacco for smoking and chewing	64,978	Sept. 3	130	293
B. F. Goodrich Company, Akron, Ohio. Belting and hose	64,996	Sept. 3	130	294
B. F. Goodrich Company, Akron, Ohio. Belting	64,997	Sept. 3	130	294
B. F. Goodrich Company, Akron, Ohio. Belting	64,998	Sept. 3	130	294
B. F. Goodrich Company, Akron, Ohio. Belting	64,999	Sept. 3	130	294
B. F. Goodrich Company, Akron, Ohio. Belting	65,000	Sept. 3	130	294
B. F. Goodrich Company, Akron, Ohio. Belting	65,001	Sept. 3	130	294
B. F. Goodrich Company, Akron, Ohio. Hose	65,002	Sept. 3	130	294
B. F. Goodrich Company, Akron, Ohio. Hose	65,003	Sept. 3	130	294
B. F. Goodrich Company, Akron, Ohio. Hose	65,004	Sept. 3	130	294
B. F. Goodrich Company, Akron, Ohio. Hose	65,005	Sept. 3	130	294
B. F. Goodrich Company, Akron, Ohio. Hose	65,006	Sept. 3	130	294
B. F. Goodrich Company, Akron, Ohio. Hose	65,007	Sept. 3	130	294
B. F. Goodrich Company, Akron, Ohio. Hose	65,008	Sept. 3	130	294
B. F. Goodrich Company, Akron, Ohio. Hose	65,009	Sept. 3	130	294
B. F. Goodrich Company, Akron, Ohio. Hose	65,010	Sept. 3	130	294
B. F. Goodrich Company, Akron, Ohio. Hose	65,011	Sept. 3	130	294
B. F. Goodrich Company, Akron, Ohio. Hose	65,012	Sept. 3	130	294
B. F. Goodrich Company, Akron, Ohio. Hose	65,013	Sept. 3	130	294
B. F. Goodrich Company, Akron, Ohio. Hose	65,014	Sept. 3	130	294
B. F. Goodrich Company, Akron, Ohio. Hose	65,015	Sept. 3	130	294
Balfour, Guthrie & Co., San Francisco, Cal. Canned, dried, and fresh fruits	65,030	Sept. 3	130	295
Barber, H. Clark. (See Smith, William F., assignor.)				
Bartlett, George E., Boston, Mass. Leather shoes	64,958	Sept. 3	130	293
Bernstein, William, New York, N. Y. Leather boots, shoes, and slippers	64,959	Sept. 3	130	293
Bigney, Sidney O., Attleboro, Mass. Filled chains of all kinds	65,016	Sept. 3	130	294
Blair Camera Company, Portland, Me., and Rochester, assignor to Eastman Kodak Company, Rochester, N. Y. Cameras and camera-stands and tripods	64,979	Sept. 3	130	293
Buffalo Specialty Company, Buffalo, N. Y. Tacks, staples, and blind staples	65,040	Sept. 3	130	295
Burnham Hanna Munger Dry Goods Co., Kansas City, Mo. Jumpers and overalls	65,080	Sept. 3	130	296

TRADE-MARKS—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
C. Howard Hunt Pen Company, Camden, N. J. Writing and drawing pens	64,900	Sept. 3	130	293
C. A. Murdock Mfg. Co., Kansas City, Mo. Baking-powder	65,017	Sept. 3	130	294
Cadbury Brothers Limited, Birmingham, England. Chocolate and cocoa	65,081	Sept. 3	130	295
Cornely & Fils, E., Paris, France. Sewing-machines and attachments	65,041	Sept. 3	130	295
Corry Chair Co., Erie, Pa. Chairs	64,961	Sept. 3	130	293
Cudahy Packing Company, Chicago, Ill., and Los Angeles, Cal. Lard substitute	64,962	Sept. 3	130	293
D. L. Arey Distilling Co., Salisbury, N. C. Whisky	65,062	Sept. 3	130	295
Dixie Carbonating Co., Augusta, Ga. Non-alcoholic carbonated beverages	65,042	Sept. 3	130	295
Dudgeon, Richard, deceased; W. M. Dudgeon, New York, N. Y., executor. Hydraulic jacks	65,063	Sept. 3	130	295
Dudgeon, Richard, deceased; W. M. Dudgeon, New York, N. Y., executor. Hydraulic jacks and presses and force-pumps therefor and tube-expanders	65,064	Sept. 3	130	295
Dudgeon, Richard, deceased; W. M. Dudgeon, New York, N. Y., executor. Hydraulic jacks, presses, and pumps	65,065	Sept. 3	130	295
Dudgeon, Richard, deceased; W. M. Dudgeon, New York, N. Y., executor. Hydraulic jacks	65,066	Sept. 3	130	295
Dudgeon, Richard, deceased; W. M. Dudgeon, New York, N. Y., executor. Hydraulic jacks and presses and force-pumps therefor and tube-expanders	65,067	Sept. 3	130	295
Dudgeon, William M., executor. (See Dudgeon, Richard.)				
Duka, Andrew, Bridgeport, Conn. Certain medicines	65,018	Sept. 3	130	294
Eagle Pencil Company, New York, N. Y. Lead-pencils	64,963	Sept. 3	130	293
Eastman Kodak Company. (See Blair Camera Company, assignor.)				
Empire Cream Separator Company, Bloomfield, N. J. Centrifugal liquid-separating machines	65,043	Sept. 3	130	295
Empire Cream Separator Company, Bloomfield, N. J. Cream-separators	65,044	Sept. 3	130	295
Enge, Balduin E., Oberlössnitz, near Dresden, Germany. Cocoa, chocolate, and preparations thereof	65,045	Sept. 3	130	295
Evershed & Vignoles Ltd., London, England. Electric testing apparatus	64,980	Sept. 3	130	293
Flaccus, Edward C., Wheeling, W. Va. Certain foods	65,082	Sept. 3	130	295
Frank Payne Company, Charleston, W. Va. Certain leather manufactures	64,964	Sept. 3	130	293
Freeport Plumbing and Heating Co., Freeport, Ill. Boiler-cleaning compounds	65,019	Sept. 3	130	294
Friedman & Co., Sol, New York, N. Y. Silk and cotton piece goods	65,083	Sept. 3	130	295
Ginter Grocery Co., Boston, Mass. Chocolates	65,048	Sept. 3	130	295
Gould & Eberhardt, Newark, N. J. Certain machinery	65,049	Sept. 3	130	295
Green, Frederick H., Muscatine, Iowa. Certain medicines	65,020	Sept. 3	130	294
Gulfport Grocery Co., Gulfport, Miss. Cornmeal	65,050	Sept. 3	130	295
H. Mueller Manufacturing Company, Decatur, Ill. Regulating and balance valves	65,052	Sept. 3	130	295
H. F. Hemingway & Co., Baltimore, Md. Canned fruits and vegetables	65,051	Sept. 3	130	295
Hudson, George I., Ipswich, Queensland, Australia. Medicated lozenges	65,021	Sept. 3	130	294
Ide & Co., Geo. P., New York, N. Y. Buttonhole-stripe for garments	65,084	Sept. 3	130	295
J. A. Wright & Co., Keene, N. H. Silver and metal polishes	64,981	Sept. 3	130	293
J. F. Zahm Tobacco Co., Toledo, Ohio. Smoking and chewing tobacco	64,982	Sept. 3	130	293
J. F. Zahm Tobacco Co., Toledo, Ohio. Smoking and chewing tobacco	64,983	Sept. 3	130	293
John Walker & Co. Limited, London, England. Writing-paper and tablets and pads of such paper	64,965	Sept. 3	130	293
Junginger, Ernst, Wiesbaden, Germany, assignor to A. Lee, Lawrence, Mass. Mineral oils soluble in water	64,984	Sept. 3	130	293
Kops Bros., New York, N. Y. Corsets	65,085	Sept. 3	130	295
Latimer & Co., Robt. L., Philadelphia, Pa. Silk bolting-cloth	65,086	Sept. 3	130	295
Lee Broom & Duster Company, Lincoln, Nebr. Brooms	65,022	Sept. 3	130	294
Lowe Bros. Co., Dayton, Ohio. Certain paints and painters' materials	64,985	Sept. 3	130	294
Lyons Manufacturing Co., Providence, R. I. Finger-rings	64,986	Sept. 3	130	294
M. Werk Co., Cincinnati, Ohio. Soap	64,966	Sept. 3	130	293
McCormick & Co., Baltimore, Md. Flavoring extracts	65,086	Sept. 3	130	295
McMains, Bert R., assignor to McMains Novelty Company, Columbus, Ohio. Stringed instruments of the nature of mandolins	64,967	Sept. 3	130	293
McMains Novelty Company. (See McMains, Bert R., assignor.)				
Mégroz, Louis, New York, N. Y. Hair-tonics	65,023	Sept. 3	130	294
Merkle Wax and Candle Company, St. Louis, Mo. Candles	65,024	Sept. 3	130	294
Milton Bradley Co., Springfield, Mass. Certain game	64,968	Sept. 3	130	293
Mollering, Frances, St. Louis, Mo. Certain medicines	65,087	Sept. 3	130	295
Nachtigall, Simeon, New York, N. Y. Canvas interlinings	65,069	Sept. 3	130	295
National Vending Machine Company, Chicago, Ill. Chewing-gum	65,053	Sept. 3	130	295
New York Leather Belting Co., New York, N. Y. Leather belting	65,025	Sept. 3	130	294
Old Fort Chemical Company, Fort Wayne, Ind. Rheumatic, kidney, and bladder remedies	65,026	Sept. 3	130	294
Oliver-Finnie Co., Memphis, Tenn. Candies, crystallized fruits, and glacé fruits	65,054	Sept. 3	130	295
Oliver-Finnie Co., Memphis, Tenn. Certain beverages and preparations for making beverages	65,088	Sept. 3	130	295
Omacht & Stedman, South Bend, Ind. Cigars	64,988	Sept. 3	130	294
Pacific Coast Borax Co., Oakland, Cal.; New York, N. Y., and Chicago, Ill. Soap and bath powder	64,969	Sept. 3	130	293
Pacific Novelty Company, New York, N. Y. Hair-pins, combs, and hair ornaments	65,055	Sept. 3	130	295
Parchen Drug Co., Helena, Mont. Certain pharmaceutical preparations	65,027	Sept. 3	130	295
Pérez & Co., E. G., New York, N. Y. Butter	65,070	Sept. 3	130	295
Portland Flouring Mills Co., Portland, Oreg. Wheat-flour, pancake-flour, cake and pastry flour	65,071	Sept. 3	130	295
Rhoads & Sons, J. E., Philadelphia, Pa., and Wilmington, Del. Leather belting and fabric belting	65,028	Sept. 3	130	295
Robbins & Prokesch, New York, N. Y. Leather hand-bags and reticules	64,970	Sept. 3	130	293
Roe & Bro., F. P., Greensboro, Md. Canned peas	65,056	Sept. 3	130	295
S. Rauh & Company, New York, N. Y. Leggings made from textile fabric	65,072	Sept. 3	130	296
S. Rauh & Company, New York, N. Y. Leggings made from textile fabric	65,073	Sept. 3	130	296
Schoellkopf, Robert, Munich, Germany. Pills for curing rheumatism and gout	65,089	Sept. 3	130	296
Scientific Station for Pure Products, New York, N. Y. Magazines	64,971	Sept. 3	130	293
Selby Smelting & Lead Co., San Francisco, Cal. White lead in oil	64,989	Sept. 3	130	294
Silljan, Elise H., New York, N. Y. Skin food	65,029	Sept. 3	130	295
Simmons Hardware Company, St. Louis, Mo. Certain wood manufactures	64,972	Sept. 3	130	293
Smith-Wallace Shoe Company, Chicago, Ill. Leather boots and shoes	64,973	Sept. 3	130	293
Smith, William F., assignor to H. C. Barber, New York, N. Y. Chemical sweeping compound	65,030	Sept. 3	130	295
Spiro, Louis, New York, N. Y. Hair-dye	65,074	Sept. 3	130	296
Street and Corkran Company, Baltimore county and Baltimore, Md. Substitute for lard	65,075	Sept. 3	130	296
Susquehanna Silk Mills, New York, N. Y. Silk piece goods and silk-mixed piece goods	65,057	Sept. 3	130	295
Susquehanna Silk Mills, New York, N. Y. Silk piece goods and silk-mixed piece goods	65,090	Sept. 3	130	296
Tagliabue, Charles J., New York, N. Y. Razors	65,076	Sept. 3	130	296
Tanqueray, Gordon & Co. Limited, London, England. Gin and cordials	65,077	Sept. 3	130	296
Taylor-Atkins Paper Company, Burnside, Conn. Writing-paper	64,974	Sept. 3	130	293
Tebbleman Sons & Co., E., New Orleans, La. Syrup and molasses	65,046	Sept. 3	130	295
Tebbleman Sons & Co., E., New Orleans, La. Syrup and molasses	65,047	Sept. 3	130	295
Touraine Confectionery Co., Boston, Mass. Chocolates	65,058	Sept. 3	130	295

TRADE-MARKS—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Triumph Electric Co., Cincinnati, Ohio. Ice-making machinery, ammonia-compressors, ammonia-condensers	64,975	Sept. 3	130	293
Union Metallic Cartridge Company, Bridgeport, Conn. Shotgun, rifle, and pistol cartridges, caps, and primers	64,990	Sept. 3	130	294
Union Metallic Cartridge Company, Bridgeport, Conn. Shotgun, rifle, and pistol cartridges, caps, and primers	64,991	Sept. 3	130	294
Union Metallic Cartridge Company, Bridgeport, Conn. Shotgun, rifle, and pistol cartridges, caps, and primers	64,992	Sept. 3	130	294
Union Metallic Cartridge Company, Bridgeport, Conn. Shotgun, rifle, and pistol cartridges and primers	65,031	Sept. 3	130	295
Union Metallic Cartridge Company, Bridgeport, Conn. Shotgun, rifle, and pistol cartridges and primers	65,032	Sept. 3	130	295
Union Metallic Cartridge Company, Bridgeport, Conn. Shotgun, rifle, and pistol cartridges and primers	65,033	Sept. 3	130	295
Union Metallic Cartridge Company, Bridgeport, Conn. Shotgun, rifle, and pistol cartridges and primers	65,034	Sept. 3	130	295
Union Metallic Cartridge Company, Bridgeport, Conn. Shotgun, rifle, and pistol cartridges and primers	65,035	Sept. 3	130	295
Union Metallic Cartridge Company, Bridgeport, Conn. Cartridges, shells, bullets, and wads	65,036	Sept. 3	130	295
Utility Salt Co., Wheeling, W. Va. Stock and table salt	65,037	Sept. 3	130	295
Victor Talking Machine Company, Camden, N. J. Talking-machines and talking-machine records	64,976	Sept. 3	130	293
Weil & Sons, H., Paducah, Ky. Whisky	65,078	Sept. 3	130	296
Wells & Richardson Company, Burlington, Vt. Dyes	65,038	Sept. 3	130	295
Will & Baumer Company, Syracuse, N. Y. Candles	64,993	Sept. 3	130	294
Wm. Hoelscher and Co., Inc., San Francisco, Cal. Brandies	65,079	Sept. 3	130	296

LABELS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Bilisoly, Paul C., Norfolk, Va. "Lincoln Hair Pomade." (For a Hair Preparation)	13,774	Sept. 3	130	297
Century Co., New York, N. Y. "Century Prints." (For Pictures)	13,778	Sept. 3	130	297
Chicago Wood Finishing Co., Chicago, Ill. "Elston The Original Paint and Varnish Remover." (For a Varnish-Remover)	13,777	Sept. 3	130	297
McCann, Elizabeth T., New York, N. Y. "Madame Elise Inimitable Perfection Skin Food." (For Massage-Cream)	13,773	Sept. 3	130	297
Nooksack Valley Condensed Milk Company, Everson, Wash. "Jersey Queen." (For Condensed Milk)	13,772	Sept. 3	130	297
Penn Tobacco Company, Wilkes-Barre, Pa. "Penn's High Grade Smoking and Chewing Tobacco." (For Smoking and Chewing Tobacco)	13,770	Sept. 3	130	297
Penn Tobacco Company, Wilkes-Barre, Pa. "Duco Smoking and Chewing Tobacco." (For Smoking and Chewing Tobacco)	13,771	Sept. 3	130	297
Rahayel, Chas., New York, N. Y. "Trocadero Parisian Cologne." (For Cologne)	13,776	Sept. 3	130	297
Theion Chemical Company, New York, N. Y. "Behrens' Glyco Theion." (For a Soluble Sulfur Compound)	13,775	Sept. 3	130	297

PRINTS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
A. Schoenhut Company, Philadelphia, Pa. "Schoenhut's Humpty Dumpty Circus, The Toy Wonder." (For Toys)	2,103	Sept. 3	130	297
Empire State Engineering Company, New York, N. Y. "Empire State Refrigerating Machine." (For Ice and Refrigerating Machinery)	2,104	Sept. 3	130	297
Globe Sign and Poster Company, Akron, Ohio. "Headquarters for Souvenir Post Cards." (For Post-Cards)	2,100	Sept. 3	130	297
Lytton, H. C., Chicago, Ill. "Men's and Boys' Apparel." (For Men's and Boys' Apparel)	2,099	Sept. 3	130	297
Runkel Brothers Incorporated, New York, N. Y. "Highest Grade." (For Cocoa)	2,098	Sept. 3	130	297
United States Playing Card Company, Cincinnati, Ohio. "Mold Back, 48. Pinochle Playing Cards." (For Playing-Cards)	2,101	Sept. 3	130	297
United States Playing Card Company, Cincinnati, Ohio. "Pneumatic Back, Bicycle Playing Cards." (For Playing-Cards)	2,102	Sept. 3	130	297
Victor Typewriter Co., New York, N. Y. "Victor." (For Type-Writers)	2,105	Sept. 3	130	297

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Alberger Condenser Company, New York, N. Y. Water-heaters and heat-extractors	16,250–1	Sept. 3	130	281
Albert Dickinson Company, Chicago, Ill. Field and grass seed	24,253	Sept. 3	130	283
Algeo, Thomas W., Chicago, Ill. Antiseptic antefebrile medicine	25,731	Sept. 3	130	284
Allen-Day Company, New York, N. Y. Chocolates and candies	29,013	Sept. 3	130	289
American Thread Company, Jersey City, N. J. Spool and sewing cotton and thread	29,125	Sept. 3	130	290
American Trading Company (Pacific Coast), San Francisco, Cal. Canned salmon	28,812–13	Sept. 3	130	288
American Writing Paper Company, Holyoke, Mass. Cover-paper	28,326	Sept. 3	130	286
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	28,334	Sept. 3	130	286
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	28,336–7	Sept. 6	130	286
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	28,341	Sept. 3	130	286
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	28,344	Sept. 3	130	286
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	28,977	Sept. 3	130	289
Anheuser-Busch Brewing Association, St. Louis, Mo. Beer	9,767	Sept. 3	130	280
Associated Shoe Company, Boston, Mass. Oil and paste blackings, shoe and leather dressings	27,880	Sept. 3	130	286
Auerbach, Meyer, New York, N. Y. Financial and commercial newspaper	29,193	Sept. 3	130	291
Baldwins Limited, Wilden Iron Works, near Stourport, England. Tin, terne, leaded, and black sheets	8,670	Sept. 3	130	279
Baldwins Limited, Wilden Iron Works, near Stourport, England. Tin plates	8,671	Sept. 3	130	279
Barnes & Mauk, Seattle, Wash. Shingles	11,912	Sept. 3	130	281
Becker Bros. & Co., New York, N. Y. Furs and skins	18,772	Sept. 3	130	282
Bentley & Olmsted Company, Des Moines, Iowa. Leather boots and shoes	25,362	Sept. 3	130	283
Bigbie Bros. & Co., Lynchburg, Va. Whisky	2,275	Sept. 3	130	279
Blodgett & Orswell Co., Pawtucket, R. I. Spool-cotton or sewing-thread	19,870	Sept. 3	130	282
Burt Olney Canning Co., Oneida and Albion, N. Y. Canned fruits and vegetables	28,952	Sept. 3	130	286
C. S. Morey Mercantile Company, Denver, Colo. Dried fruits, olives, canned fruits and vegetables	12,062	Sept. 3	130	281
Carter, Qvarnstrom & Remington, Attleboro, Mass. Jewelry	28,861	Sept. 3	130	288
Central Brewing Co., East St. Louis, Ill. Beer	23,411	Sept. 3	130	283
Charles Hewitt & Sons Co., Des Moines, Iowa. Canned and dried fruits, canned vegetables, &c	28,948	Sept. 3	130	289
Chemische Fabrik auf Actien (vorm. E. Schering), Berlin, Germany. Disinfecting and deodorizing apparatus	12,313	Sept. 3	130	281
Childs, Thomas M., Providence, R. I. Liquid tooth-cleansing compound	23,157	Sept. 3	130	283
Clewell & Son, Tho's. B., Allentown, Pa. Potato-chips	29,212	Sept. 3	130	291
Coleman Mining Co., Louisville, Ky. Coal	29,030	Sept. 3	130	289
Compton, W. E., Redditch, England. Fish-hooks	8,744	Sept. 3	130	279
Covert Manufacturing Co., Watervliet, N. Y. Snap-hooks	29,220	Sept. 3	130	291
Covert Mfg. Co., Watervliet, N. Y. Metallic bull-leads, hitching devices, &c	4,343	Sept. 3	130	279
Daimler-Motoren-Gesellschaft, Untertürkheim, near Stuttgart, Germany. Sheet-rubber, rubber tires, boots, coats, &c	19,608	Sept. 3	130	283
Daimler-Motoren-Gesellschaft, Untertürkheim, near Stuttgart, Germany. Carriages, automobiles, motor-cycles, &c	21,736	Sept. 3	130	282
Davidson, Samuel C., Belfast, Ireland. Centrifugal and propeller fans, forges, &c	25,168	Sept. 3	130	283
Davidson, Samuel C., Belfast, Ireland. Stoves, furnaces, ventilating fans and apparatus, &c	25,169	Sept. 3	130	283
Deitsch Brothers. (See Martin, Wm. L., assignor.)				
Deutsche Weinmostkelterei alkoholfreier Obst und Traubensafte H. Lampe & Co. Worms a Rh. G. m. b. H., Worms-on-the-Rhine, Germany. Must or grape-juice	26,525	Sept. 3	130	284
Dexter Brothers Company, Boston, Mass. Damp-proof paint	28,408	Sept. 3	130	287
Doyle, Frank M., Boston, Mass. Compound of malt and hops	26,741	Sept. 3	130	284
Dr. Pierre Chemical Company, Chicago, Ill. Suppositories, tablets, and pills	28,604	Sept. 3	130	287
Duffy, Robert L., Newbern, N. C. Tonic beverages	28,350	Sept. 3	130	286
E. A. Pflueger Company, Akron, Ohio. Fish-hooks, leaders, artificial flies, &c	29,067	Sept. 3	130	290
E. A. Pflueger Company, Akron, Ohio. Harness rosettes and ornaments, &c	29,068	Sept. 3	130	290
E. I. Horsman Co., New York, N. Y. Automatic instruments for making conventional figures	29,238	Sept. 3	130	292
F. A. Patrick & Co., Duluth, Minn. Dresses, cloaks, rain-coats, fur sets, &c	26,605	Sept. 3	130	284
Fabrik Stolzenberg Deutsche Bureau-Einrichtungs-Gesellschaft mit beschränkter Haftung, Oos, Germany. Type-writing machines	19,878	Sept. 3	130	282
Fisher, Rolland R., Freeport, Ill. Magazines	27,370	Sept. 3	130	285
Galena-Signal Oil Company, Franklin, Pa. Lubricating-oil	10,315	Sept. 3	130	280
Galena-Signal Oil Company, Franklin, Pa. Lubricating-oil	10,317	Sept. 3	130	280
Galena-Signal Oil Company, Franklin, Pa. Lubricating-oil	10,783	Sept. 3	130	280
Gane Brothers & Co., New York, N. Y. Imitation metal leaf	26,898	Sept. 3	130	285
Goldschmidt, Th., Essen-on-the-Ruhr, Germany. Iron, steel, copper, tin, &c	11,964	Sept. 3	130	281
Goodyear's Metallic Rubber Shoe Co., Naugatuck, Conn. Rubber boots and shoes	28,742–3	Sept. 3	130	287–8
Grafton Press, New York, N. Y. Magazine	28,667	Sept. 3	130	287
Great Western Cereal Company, Chicago, Ill. Cattle feed	29,143	Sept. 3	130	291
Gregory, James F., St. Louis, Mo. Artificial bait for fish	29,140	Sept. 3	130	290
Grunauer, Bernard P., Cleveland, Ohio. Statements of credit ratings	24,491	Sept. 3	130	283
H. B. Claflin Company, New York, N. Y. Tooth powders and pastes	26,602	Sept. 3	130	284
H. B. Claflin Company, New York, N. Y. Liquid antiseptic medicines	28,607	Sept. 3	130	287
Hammel, Riglander & Co., New York, N. Y. Watch-glasses	28,807	Sept. 3	130	288
Hanlon-Sharps Co., Wheeling, W. Va. Wrapping-paper	26,900–1	Sept. 3	130	285
Harkness, Fannie, Brooklyn, N. Y. Salve for burns, frost-bites, and sores	28,990	Sept. 3	130	289
Hess, Elmer E., Brook, Ind. Witch-hazel cream	28,609	Sept. 3	130	287
Hoosier Mfg. Co., Newcastle, Ind. Kitchen-cabinets	28,562	Sept. 3	130	287
J. G. Hutchison & Co., Ottumwa, Iowa. Buckwheat and wheat flour, breakfast cereal foods, &c	23,593	Sept. 3	130	283
Jesse Moore Hunt Co., San Francisco, Cal. Whisky	6,932	Sept. 3	130	280
Jones-Paddock Co., San Francisco, Cal. Tea	29,019	Sept. 3	130	289
Jönkopings och Vulcans Tändsticksfabriksaktiebolag, Jönköping Sweden. Matches	16,934	Sept. 3	130	282
Kautzmann & Sussfeld, Newark, N. J. Bracelets, rings, necklaces, &c	26,659	Sept. 3	130	284
Keiffer Bros., New Orleans, La. Leather and canvas shoes	28,765–6	Sept. 3	130	288
Keiffer Bros., New Orleans, La. Leather and canvas shoes	28,770	Sept. 3	130	288
Keiffer Bros., New Orleans, La. Leather and canvas shoes	28,772	Sept. 3	130	288
Klinger, Richard, Gumpoldskirchen, near Vienna, Austria-Hungary. Glass tubes for water-gages	29,079	Sept. 3	130	290
Lafayette Suspender Company, Easton, Pa. Suspenders	29,136	Sept. 3	130	290
Laroche & Co., J. Petit, Bordeaux, France. Claret and Sauterne wines	13,173	Sept. 3	130	281
Loewenstein, Max, New York, N. Y. Metal-polish	27,420	Sept. 3	130	285
Martin, Wm. L., assignor to Deitsch Brothers, New York, N. Y. Tooth and nail brushes	29,230	Sept. 3	130	292
Matthaei, Henry, Kansas City, Mo. Bread	29,177	Sept. 3	130	291
McHugh, Michael J., Jersey City, N. J. Tonic beverage	28,820	Sept. 3	130	288
Miller Hapgood Shoe Co., Lynn, Mass. Leather boots, shoes, slippers, and leggings	29,093	Sept. 3	130	290
Monarch Typewriter Company, Syracuse, N. Y. Type-writer ribbons and carbon-paper	28,454	Sept. 3	130	287
Mount Vernon-Woodberry Cotton Duck Company, Baltimore, Md. Cotton duck	10,499	Sept. 3	130	280

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Mount Vernon-Woodberry Cotton Duck Company, Baltimore, Md. Cotton duck	10,502–4	Sept. 3	130	280
Mount Vernon-Woodberry Cotton Duck Company, Baltimore, Md. Cotton duck	10,840	Sept. 3	130	280
Mount Vernon-Woodberry Cotton Duck Company, Baltimore, Md. Cotton duck	12,449	Sept. 3	130	281
Mount Vernon-Woodberry Cotton Duck Company, Baltimore, Md. Cotton duck	29,223	Sept. 3	130	292
Northern Brewery Company, Portland, Oreg. Beer	11,489	Sept. 3	130	281
Oesterreichische Daimler-Motoren-Gesellschaft Gesellschaft mit beschränkter Haftung, Vienna, Austria-Hungary. Automobiles	27,273	Sept. 3	130	285
Oesterreichische Daimler-Motoren-Gesellschaft Gesellschaft mit beschränkter Haftung, Vienna, Austria-Hungary. Automobiles	27,424	Sept. 3	130	286
Pacific Coast Rubber Co., Seattle, Wash. Rubber tires and inner tubes	29,185	Sept. 3	130	291
Pacific Novelty Company, New York, N. Y. Ladies' hair-combs	29,066	Sept. 3	130	290
Paragon Malt Extract Co., New York, N. Y. Malt extract	29,114	Sept. 3	130	290
Patterson, Joseph E., Wilkes-Barre, Pa. Spring-water	29,170	Sept. 3	130	291
Roesekamp Bros., Oshkosh, Wis. Whisky	26,745	Sept. 3	130	284
Rohde, C., Hamburg, Germany. Writing, packing, &c., paper, paste and card board	27,892	Sept. 3	130	286
S. & B. Lederer Company, Providence, R. I. Jewelry	29,163	Sept. 3	130	291
Sander, Johannes A., Hamburg, Germany. Disinfectants, deodorants, &c	13,604	Sept. 3	130	281
Sanderson & Son, Wm., Leith, Scotland. Whisky	23,248	Sept. 3	130	283
Sauerston & Brown, Cincinnati, Ohio. Candy	29,206	Sept. 3	130	291
Schacht, F., Brunswiek, Germany. Preservatives of fruits and vegetables	27,159	Sept. 3	130	285
Schoeneman, J., Baltimore, Md. Pantaloons	20,501	Sept. 3	130	282
Schrader, Hugo E., Chicago, Ill. Feed composed of crushed grain	27,307	Sept. 3	130	285
Selz, Schwab & Company, Chicago, Ill. Leather boots and shoes	28,898–9	Sept. 3	130	289
Shuler, John D., Vernal, Utah. Liniment	20,804	Sept. 3	130	282
Smith Lichty & Hillman Company, Waterloo, Iowa. Mince-meat, dried fruits, and flavoring extracts	21,815	Sept. 3	130	283
Sonnenthal & Co., Selig, London, England. Corundum and emery grinding-wheels	26,265	Sept. 3	130	284
Sormani, Egbert J., Brooklyn, N. Y. Cough remedies	26,762	Sept. 3	130	284
Standard Sanitary Mfg. Co., Pittsburg, Pa. Metal bath-tubs, sinks, &c	25,953	Sept. 3	130	284
Standard Wafer Co., New York, N. Y. Biscuits	28,795	Sept. 3	130	288
Stevens-Duryea Company, Chicopee Falls, Mass. Automobiles	28,805	Sept. 3	130	288
Strasburger, Byron L., New York, N. Y. Watches and watch-movements	29,021	Sept. 3	130	289
Susquehanna Silk Mills, New York, N. Y. Silk piece goods and silk-mixed piece goods	27,744	Sept. 3	130	286
Taylor, H. P., Jr., Richmond, Va. Canned fruits and vegetables	29,329	Sept. 3	130	292
Tide Water Oil Co., New York, N. Y. Illuminating-oil	28,881	Sept. 3	130	289
Trowbridge Chocolate Chip Co., Meadville, Pa. Candies	29,201–2	Sept. 3	130	291
Union Brewing & Malting Co., San Francisco, Cal. Beer	11,491	Sept. 3	130	281
United States Whip Company, Westfield, Mass. Whips	28,129	Sept. 3	130	286
Upham Bro's, New York, N. Y. Teas and coffees	29,031	Sept. 3	130	290
Voigt & Co., Chattanooga, Tenn. Tasteless castor-oil	28,662	Sept. 3	130	287
Wall-Rogalsky Milling Co., McPherson, Kan. Wheat-flour	26,780	Sept. 3	130	285
Washburn Crosby Company, Minneapolis, Minn. Wheat-flour	28,458	Sept. 3	130	287
Welch & Co., C. S., New York, N. Y. Depilatories, toilet cream, hair-tonic, &c	28,730	Sept. 3	130	287
Whittaker, George E., Somerville, Mass. Cough medicine	27,077	Sept. 3	130	285
William Carter Co., Highlandville, Mass. Knitted union suits, corset-covers, &c	20,952	Sept. 3	130	282
Wm. B. Riker & Son Co., New York, N. Y. Deodorants and antiseptics	28,800	Sept. 3	130	288
Wm. Pfeifer Berlin Weiss Beer Co., Chicago, Ill. Beer	27,175	Sept. 3	130	285
Wusthof, Ed., Solingen, Germany. Cutlery and hand edge-tools	20,811	Sept. 3	130	282
Young, Charles M., San Francisco, Cal. Calculators	29,181	Sept. 3	130	291

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED ON THE 3D DAY OF SEPTEMBER, 1907.

Invention.	Name.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
Account or ledger card in bookkeeping	H. W. Templeton	864,872	Sept. 3	173	49	130	55
Adding-machine	C. P. and T. G. Moore	865,200	Sept. 3	663	189	130	201
Advertising purposes. Mechanical device for	S. and J. Chandler	865,237	Sept. 3	723	206	130	218
Agglomerated body	W. Schumacher	864,804	Sept. 3	61		130	22
Agitator or mixing apparatus	R. Smith	865,128	Sept. 3	557	156	130	169
Air-brake apparatus	W. T. Robinson, J. W. Neighbours, and W. O. Pierce.	865,210	Sept. 3	679	194	130	207
Air-brake appliance. Emergency	H. W. Meigs	865,198	Sept. 3	662	188	130	201
Alarm: *See* Fire-escape alarm. Tank-alarm.							
Alkali metals. Electrolytic production of earth-	G. O. Seward and F. von Kügelgen.	864,928	Sept. 3	261	69	130	82
Ambulance-stretcher and hospital-chair. Combined	C. E. Bensinger and F. L. Thomas	865,006	Sept. 3	383	104	130	120
Atomizer	F. C. Dorment	865,021	Sept. 3	410	109	130	127
Atomizer	F. C. Dorment	865,022	Sept. 3	411	109–10	130	127
Auger for enlarging the lower ends of holes	G. H. Miller	865,051	Sept. 3	453	123	130	139
Automobiles. Spare-tire holder for	L. P. McKinney	864,983	Sept. 3	351	94	130	110
Awning	M. Chalupsky	864,885	Sept. 3	192	54	130	60
Axle-box. Combined spindle and vehicle-wheel	C. N. Waterhouse	865,139	Sept. 3	571	160	130	173
Axle. Vehicle-	D. A. York and S. A. Darr	865,223	Sept. 3	706	200	130	213
Bale-forming apparatus	E. Reagan	865,316	Sept. 3	851	244–5	130	258
Baling fibrous material and bale. Method of	C. J. Luce	864,975	Sept. 3	340	91	130	108
Baling-press	J. King	865,186	Sept. 3	643	182	130	196
Basement-pipe	C. W. O'Neill	864,910	Sept. 3	234	64	130	73
Basket-handle	J. J. Sturm	865,065	Sept. 3	479	132	130	145
Bath apparatus. Shower-	N. L. Wallen	865,137	Sept. 3	569	160	130	172
Battery	R. S. Clymer and T. M. Woodhouse.	865,330	Sept. 3	875	251	130	265
Bearing. Ball-	W. M. Power	864,859	Sept. 3	152	43	130	48
Bee-knife	I. F. Sawyer	865,062	Sept. 3	476	131	130	144
Beet dumping and screening apparatus	L. T. Carson	865,235	Sept. 3	720	205	130	217
Bell. Musical	J. C. Deagan	864,771	Sept. 3	9	3	130	5
Bell. Water-tight electric	W. C. Hill	865,038	Sept. 3	435	116	130	133
Belt-holder	R. Braun	865,075	Sept. 3	493	136	130	150
Billiard-cue tip. Detachable	V. Ajello	864,943	Sept. 3	279	75	130	89
Binding-post	F. H. Rollinson	865,211	Sept. 3	680	194	130	207
Bisulfite liquor. Tower for	J. Bishop	864,881	Sept. 3	187	53	130	59
Block-press	J. C. Fowler	864,839	Sept. 3	121	33–4	130	30
Blue-print-drying machine	C. F. Pease	865,057	Sept. 3	471	130	130	143
Board: *See* Slicing-board.							
Board	J. T. Ferres	864,775	Sept. 3	15	4	130	7
Body-heater	P. Stein	865,131	Sept. 3	561	157	130	170
Boiler-cleaner	J. W. Rietzke	865,270	Sept. 3	769	220	130	233
Boiler tube or flue cleaner or scraper. Steam-	C. S. Dean	864,772	Sept. 3	11	4	130	5
Bolt-cutting machine	H. L. Fisher	864,964	Sept. 3	324	87	130	103
Bolting machine. Flour-	T. W. Graham	865,346	Sept. 3	910	261	130	275
Book-mark	K. Erickson	865,092	Sept. 3	513	141	130	156
Bookcase	D. Mapes	865,114	Sept. 3	541	151	130	164
Boot-bodies. Apparatus for making felted	H. C. Richardson	864,916	Sept. 3	243	65	130	76
Bottle. Non-refillable	F. J. Davis	864,834	Sept. 3	112	31	130	36
Bottle. Non-refillable	O. Johnson	865,251	Sept. 3	746	212	130	226
Bottle or jar closure. Milk and cream	E. Braunfeldt	865,076	Sept. 3	494	136	130	150
Bottle-washing machine	B. E. Linfoot	865,192	Sept. 3	652	185	130	198
Bottle-washing machine	H. W. Van Leir	865,217	Sept. 3	698	197	130	210
Box: *See* Outlet or junction box. Talking-machine sound-box.							
Box	W. Straub	865,280	Sept. 3	789	226	130	238
Box-blank machine	E. Craig	864,955	Sept. 3	304	80–2	130	97
Brace: *See* Rail-brace.							
Bracket: *See* Builder's bracket. Canopy-bracket. Shade and curtain-rod supporting bracket.							
Bracket	L. Kahn and R. Christ	864,847	Sept. 3	135	37	130	42
Brake: *See* Vehicle-brake. Wagon-brake.							
Brick-carrying vehicle	J. J. Gledhill	865,299	Sept. 3	824	237–8	130	249
Broom	G. Brüstle	865,293	Sept. 3	811	234	130	245
Broom-binder	N. Dionne	865,085	Sept. 3	506	139	130	153
Brush. Buffing and polishing	E. N. Gaudron	865,098	Sept. 3	520	143	130	157
Brush-holder	R. Fehler and D. McLaughlin	865,029	Sept. 3	422	111	130	129
Brush. Wire	J. Saltiel	864,922	Sept. 3	254	67	130	80
Bucket or conveyer	W. F. Jones	865,045	Sept. 3	442	119	130	135

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page
Buffer	A. P. Olson	864,986	Sept. 3	384	95	130	111
Buffer. Friction-	J. Nichols	865,064	Sept. 3	467	129	130	142
Builder's bracket	A. H. Danforth	865,017	Sept. 3	405	108	130	125
Building-blocks and artificial stone from plastic material. Apparatus for forming	A. A. Pauly	865,266	Sept. 3	763	218	130	232
Building construction	R. R. Candee	865,080	Sept. 3	498	137	130	151
Building-mold	J. D. Bickford	864,767	Sept. 3	3	1-2	130	3
Building structure	H. S. Gardner	865,336	Sept. 3	886	264-5	130	268
Burner:							
See Lantern-burner.							
Burner	A. G. Kaufman	865,183	Sept. 3	640	181	130	195
Butter. Determining the percentage of water in	G. E. Patrick	864,913	Sept. 3	237	.....	130	74
Buttonhole-stitching machine	E. B. Allen	865,324	Sept. 3	864	248-9	130	262
Camera-focusing device	J. A. Dimock	864,773	Sept. 3	12	4	130	6
Can:							
See Oil-can.							
Canning apparatus	L. L. Lawrence	865,190	Sept. 3	680	184	130	197
Canopy-bracket	H. H. Bowland	865,220	Sept. 3	715	203	130	216
Car dumping-cage. Mine-	G. Trotter	864,813	Sept. 3	72	21	130	25
Car-fender	C. Meyer	864,794	Sept. 3	49	14	130	18
Car-fender	H. M. Lambert	865,258	Sept. 3	752	214	130	228
Car-mover	J. R. Doty	865,087	Sept. 3	508	140	130	154
Car-roof	D. C. Roes	864,993	Sept. 3	365	97-8	130	115
Car safety appliance. Railway-	J. T. Andrew	865,287	Sept. 3	805	231	130	243
Car-seat. Auxiliary	N. Joergensen	865,104	Sept. 3	526	145	130	159
Car-step. Pivoted	R. M. Lamb	864,848	Sept. 3	136	37	130	43
Cars. Automatic electric gong-ringing device for street-	N. Fallek and G. F. Wolfe	864,961	Sept. 3	318	85	130	101
Cars, &c. Intermitting apparatus for cooling	C. F. Edson	865,172	Sept. 3	617	174	130	187
Carbon-brushes. Means for attaching pigtails to	M. W. Robertson	865,069	Sept. 3	473	130	130	143
Carbureter	A. F. Rockwell	865,060	Sept. 3	474	131	130	143
Card-folder. Magazine	C. C. McPhee	864,984	Sept. 3	353	94	130	111
Carding-machine feeder	J. Stewart	864,933	Sept. 3	266	70-1	130	84
Carpet-sweeper	C. J. Deitch and O. L. Biddle	865,084	Sept. 3	504	138-9	130	153
Carrier:							
See Elevated carrier.							
Case:							
See Bookcase.							
Casein and producing same. Molding	L. H. Barnett	865,005	Sept. 3	382	.....	130	120
Cattle-guard	V. A. Kelley	865,343	Sept. 3	905	259	130	273
Chair and crib. Combined	A. B. Nielsen	864,855	Sept. 3	146	41	130	46
Charcoal-kiln	C. D. Train	865,067	Sept. 3	481	132-3	130	145
Charging mechanism. Vertical	C. L. Taylor	864,996	Sept. 3	270	72-3	130	86
Check-marking apparatus	C. H. Marston and H. H. Cummings.	865,050	Sept. 3	450	122	130	138
Chimney-top	E. P. Doty	865,023	Sept. 3	413	110	130	127
Chimney top or ventilator	C. Saunders	864,865	Sept. 3	163	46	130	51
Chopper:							
See Meat-chopper.							
Churn	J. L. Forbes	865,030	Sept. 3	422	112	130	129
Cigarettes having tobacco wrappers. Manufacture of	G. P. Butler	864,949	Sept. 3	290	77	130	93
Cigars and all-tobacco cigarettes. Manufacturing	G. P. Butler	864,948	Sept. 3	288	77	130	92
Cigars. Manufacture of	W. H. Butler	865,012	Sept. 3	392	106	130	123
Circuit-closer. Automatic	H. G. Pape	864,858	Sept. 3	151	42-3	130	47
Clamp:							
See Electric-wire clamp. Jar-closure clamp.							
Classifier	S. L. Hague	865,301	Sept. 3	826	238	130	250
Cleaner:							
See Boiler-cleaner. Gin-saw cleaner. Boiler tube or flue cleaner. Street-cleaner.							
Closet	C. E. Routh	864,994	Sept. 3	366	98	130	115
Closure for containing vessels	J. Brenzinger	865,008	Sept. 3	387	105	130	121
Clothes-line fastener	C. G. Thompson	864,937	Sept. 3	273	73	130	87
Clutch	F. H. and J. D. Bachman	865,154	Sept. 3	592	166	130	180
Clutch for pencil-holders, &c	A. A. Bowers	864,825	Sept. 3	92	26	130	30
Clutch mechanism	B. M. W. Hanson	865,302	Sept. 3	827	239	130	250
Coffee-roaster. Automatic	H Mustonen and T. A. Nissinen	865,203	Sept. 3	669	191	130	203
Coil-winding tool	J. L. Moore	865,116	Sept. 3	543	152	130	165
Coin-cup	B. F. Tinsley	864,938	Sept. 3	273	73	130	87
Collar-fastening device. Adjustable-	F. H. Richards	864,989	Sept. 3	358	96	130	113
Combustion apparatus	W. H. Rieker	865,209	Sept. 3	677	193	130	206
Composition or concrete post	H. G. and J. W. Hays	865,179	Sept. 3	629	178	130	191
Compressor	N. A. Christensen	865,015	Sept. 3	403	107	130	124
Computing-machine	J. E. Carroll	864,770	Sept. 3	7	3	130	4
Concrete construction	A. A. Pauly	865,265	Sept. 3	763	217	130	231
Concrete construction. Reinforced	S. B. Zimmer	865,145	Sept. 3	579	163	130	176
Concrete structure. Reinforced	E. R. Boyle and W. B. Upton	865,231	Sept. 3	715	203	130	216
Condensation-preventer	E. O. Capen	865,081	Sept. 3	500	138	130	152
Condenser	R. Schneider	864,925	Sept. 3	257	68	130	81
Condenser and centrifugal vacuum-pump. Jet-	B. Thoens	864,811	Sept. 3	70	20	130	24
Conveyer-stripper	S. Moe	865,263	Sept. 3	759	216	130	230
Core. Collapsible	W. C. State	865,064	Sept. 3	478	132	130	144
Cork-cutting machine	H. F. Busch	865,345	Sept. 3	907	260	130	274
Corn-grader	C. Hunnicutt	864,894	Sept. 3	208	58	130	65
Corset	G. Berggren	865,156	Sept. 3	596	167	130	180
Coupling	G. Bach	865,153	Sept. 3	590	166	130	179
Crane for carrying ladles	C. L. Taylor	864,935	Sept. 3	269	72	130	85
Crate. Knockdown	I. U. Minehart and C. C. Hunter	864,852	Sept. 3	142	39	130	45
Crucible tapping arrangement	L. Heynemann	865,037	Sept. 3	434	116	130	133
Culvert and bank-retainer. Road-	W. Isham and F. E. Miller	865,044	Sept. 3	441	119	130	135
Cup:							
See Coin-cup. Oil-cup.							
Current-transformer	O. de Faria	865,093	Sept. 3	514	142	130	156
Cutting-machine	H. De Smith	865,020	Sept. 3	408	109	130	126
Dashboard-pocket	C. E. Glynn	865,031	Sept. 3	424	112	130	130
Die:							
See Stamping-die.							
Die-stock. Adjustable	B. Borden	865,157	Sept. 3	596	167	130	181

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page
Dish-washing machine	A. Insinger	865,181	Sept. 3	631	179	130	191
Disinfecting apparatus	W. H. Rose	865,061	Sept. 3	475	131	130	144
Display-cover	G. E. H. Richter	865,208	Sept. 3	676	193	130	205
Display-rack for metal bedsteads	H. L. Powell	865,268	Sept. 3	767	219	130	232
Dividing-head	L. Thiel	864,873	Sept. 3	174	50	130	55
Door. Combined storm and screen	S. J. Spicer	864,931	Sept. 3	265	70	130	84
Door-hanger	D. Doyen	865,089	Sept. 3	510	140	130	155
Door-operating mechanism. Double-sliding-	C. Metterhausen	864,977	Sept. 3	343	91-2	130	108
Doors. Means for hanging laterally-movable	J. L. Kail	865,046	Sept. 3	443	119	130	136
Draft-equalizer	J. H. Hardman	865,034	Sept. 3	427	113	130	131
Drill:							
See Rock-drill.							
Drill socket or chuck	C. C. Roberts	864,992	Sept. 3	364	97	130	115
Drilling-machine	E. Alsleben	865,148	Sept. 3	583	164	130	177
Drilling-machine multiple-drill attachment	H. J. Jaquith	865,249	Sept. 3	741	211	130	224
Driving mechanism	H. L. Johnston	864,786	Sept. 3	33	10	130	13
Dye. Azo	M. Kahn and R. Kothe	865,252	Sept. 3	747	.....	130	226
Dye. Azo	M. Kahn and R. Kothe	865,253	Sept. 3	748	.....	130	227
Dynamometer	F. Sellers	864,927	Sept. 3	260	69	130	82
Egg-desiccating apparatus	J. M. Hussey	865,342	Sept. 3	896	257-9	130	272
Electric furnace	W. G. Clark	865,016	Sept. 3	404	108	130	125
Electric generator	K. Weman and A. Larsson	865,068	Sept. 3	484	133-4	130	147
Electric motors Connecting system for direct-current	R. Brun	865,011	Sept. 3	391	105	130	122
Electric-wire clamp	E. W. Buffinton	864,947	Sept. 3	287	77	130	92
Electrical and other devices. Receptacle for	R. Siegfried	864,930	Sept. 3	264	70	130	83
Electrolysis. Multiple-needle holder for	E. W. Johnson	864,968	Sept. 3	329	88	130	105
Elevated carrier	W. Louden	865,113	Sept. 3	540	150-1	130	163
Elevating and conveying mechanism	A. R. Holmén	865,041	Sept. 3	438	118	130	134
Elevator	C. R. Pratt	865,205	Sept. 3	673	192	130	204
Elevator-gate-operating mechanism	J. F. W. Fogal	865,335	Sept. 3	883	254	130	267
Elevator signaling apparatus	C. A. Reiners	864,915	Sept. 3	239	65	130	75
Engine:							
See Explosive-engine. Rotary engine. Gas-engine. Rotary explosive-engine. Hydrocarbon-engine.							
Engine	G. Gray	865,099	Sept. 3	521	144	130	158
Engine	J. Schaeffers	865,213	Sept. 3	682	194-5	130	208
Engine lubricating means. Internal-combustion-	C. O. Hedstrom	865,101	Sept. 3	523	145	130	158
Engine starter. Explosive-	J. B. Bartholomew	864,766	Sept. 3	2	1	130	3
Engines. Air-supplying means for explosive-	A. Wagener	865,218	Sept. 3	699	198	130	211
Engines. Thermostatic regulator for explosive-	H. Charles	864,831	Sept. 3	107	30	130	35
Engineer's wrench	M. Schwendner	864,805	Sept. 3	62	18	130	22
Etching	E. Spitzer	865,276	Sept. 3	780	.....	130	236
Explosive-engine	A. E. Wolcott	864,818	Sept. 3	80	23	130	27
Explosive-engine	H. Charles	864,830	Sept. 3	104	29-30	130	34
Explosive-engine	E. J. Woolf	864,877	Sept. 3	180	51	130	57
Explosive-engine	C. L. Howes	865,042	Sept. 3	439	118	130	135
Eyeglass nose-guard	D. Woolf	865,284	Sept. 3	797	229	130	239
Eyeglasses							
Fabric:							
See Knitted fabric.							
Fan-motor. Rotary	W. C. Stevens	865,133	Sept. 3	564	158	130	171
Fastenings. Machine for inserting	L. A. Casgrain	864,951	Sept. 3	293	78-9	130	94
Faucet	A. Koerber, Jr., E. M. and M. Deiller.	865,111	Sept. 3	537	149-50	130	163
Faucet	A. Ullmann	865,216	Sept. 3	694	197	130	209
Feeder. Boiler-	J. F. Senter	864,807	Sept. 3	64	18-19	130	23
Fender:							
See Car-fender.							
Fertilizer-distributer	D. M. Samuelson	864,863	Sept. 3	160	45	130	50
File. Newspaper-	B. McGinty	864,982	Sept. 3	350	94	130	110
Fire-escape	S. P. Deeds	865,167	Sept. 3	609	172	130	185
Fire-escape alarm	S. Ashford	864,878	Sept. 3	182	52	130	57
Firearm. Breech-loading	W. H. Whittier	864,940	Sept. 3	275	74	130	87
Firearm safety-lock	J. Tambour	865,281	Sept. 3	790	226	130	238
Fireplace-heater for radiator systems	W. G. Conkle	865,238	Sept. 3	724	206-7	130	218
Fireproof stud for plastered partitions. Sheet-metal.	C. H. Knapp	865,109	Sept. 3	534	148	130	162
Fireproofing cotton in bales	H. V. Haley	865,033	Sept. 3	427	.....	130	131
Floor-mat	J. W. Horner	865,180	Sept. 3	630	178-9	130	191
Floor-scraper	L. P. Thompson	864,874	Sept. 3	176	50	130	55
Fluid-actuating means	R. Conrader	865,296	Sept. 3	816	235-6	130	247
Flush-tank	O. F. Glidden	865,300	Sept. 3	825	238	130	250
Fluting-machine	C. H. Whitaker	865,188	Sept. 3	647	183	130	197
Foot-warmer	H. A. Beekhuis	865,220	Sept. 3	702	199	150	212
Fruit. Apparatus for removing the skin from	L. Davis	864,944	Sept. 3	280	75-6	130	89
Fuel. Artificial		865,018	Sept. 3	407	.....	130	125
Furnace:							
See Electric furnace.							
Furnace-casing	C. Phelps	865,123	Sept. 3	552	154	130	167
Furnace-charging apparatus	C. L. Taylor	864,934	Sept. 3	268	71	130	85
Furnaces. Charging blast-	A. G. McKee	864,795	Sept. 3	49	14	130	18
Fuse. Time-	H. Dahlke	865,298	Sept. 3	822	237	130	248
Gaff-clapper	R. W. Wonson	865,003	Sept. 3	380	103	130	120
Gage:							
See Indicator-gage. Skirt-gage. Nailing-machine work-gage.							
Garment-presser	A. W. Eliason	865,091	Sept. 3	512	141	130	155
Gas-engine	H. Pollard	865,267	Sept. 3	765	218-19	130	232
Gas or vapor by the direct application to it of a suitably-expanded medium. Method of and means for moving a	W. H. Kenerson and A. J. Loepsinger.	864,969	Sept. 3	331	88	130	106
Gassing yarns and other fibers. Burner for	F. Rivett and S. Oldham	864,917	Sept. 3	244	65	130	76
Gear. Propeller-	W. Witt	864,942	Sept. 3	278	75	130	89
Gear. Reversible transmission-	W. S. Morton and M. W. Kouns	865,201	Sept. 3	666	180-90	130	202
Gear. Transmission-	A. J. Morse	864,903	Sept. 3	220	61	130	68
Gear. Transmission-	A. J. Morse	864,906	Sept. 3	228	62	130	72
Gearing. Transmission-	A. J. Morse	864,904	Sept. 3	222	61	130	70
Gearing. Transmission-	A. J. Morse	864,905	Sept. 3	225	62	130	71
Gearing. Variable-speed	J. S. Barnes	864,823	Sept. 3	90	25	130	30

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Gearing. Variable-speed	J. S. Barnes	864,824	Sept. 3	91	26	130	30
Generator:							
See Electric generator. Steam-generator.							
Gin-saw cleaner	M. Bradford	865,232	Sept. 3	717	204	130	216
Glass. Making prism-	F. L. O. Wadsworth	865,136	Sept. 3	568	159	130	172
Gluten. Obtaining dry	L. A. Morel	864,978	Sept. 3	345	92	130	109
Governor	E. F. Cassel	865,082	Sept. 3	501	138	130	152
Gramophone. Multiple	A. T. Moore	865,244	Sept. 3	908	259	130	273
Grinding apparatus. Crank-shaft-	G. Benicke	864,880	Sept. 3	186	52	130	58
Grinding-machine	J. S. Lucock	864,791	Sept. 3	42	13	130	16
Gun-cleaning tool	A. H. Durston	864,837	Sept. 3	116	32	130	37
Gun cocking mechanism	C. F. Lefever	865,310	Sept. 3	840	242	130	254
Gunnery-correcting device. Automatic	E. W. Hubbard	865,247	Sept. 3	733	210	130	221
Gutter-inserter	D. A. Sapp	864,907	Sept. 3	370	99	130	116
Halter and bridle. Combined	D. H. Knight and S. S. Adams	865,208	Sept. 3	835	241	130	253
Hammer. Power-	J. D. Kinson	864,970	Sept. 3	333	89	130	105
Handle:							
See Basket-handle. Sheet-metal handle. Sad-iron handle.							
Handle-making machine	M. O. Thompson	865,001	Sept. 3	374	100-2	130	117
Hanger:							
See Door-hanger. Safety-hanger. Pipe-hanger.							
Harness-pads. Manufacture of	M. B. Lee and C. H. Grings	864,973	Sept. 3	336	89-90	130	107
Harrow riding attachment	S. B. Hazard. (Reissue)	12,690	Sept. 3	911	261	130	275
Heater:							
See Body-heater. Fireplace-heater.							
Hinge	R. G. Winter. (Reissue)	12,692	Sept. 3	914	261-2	130	276
Hinge. Gate-	J. V. Dunn	865,243	Sept. 3	729	209	130	220
Hinge. Spring-	A. F. Staples	864,932	Sept. 3	265	70	130	84
Hoist. Portable	J. L. Pilling	864,798	Sept. 3	53	15-16	130	19
Hoisting device	H. J. Schmick	864,908	Sept. 3	371	99	130	117
Hollow bodies. Apparatus for narrowing the walls of	H. Kohl	865,257	Sept. 3	751	213-14	130	227
Hook:							
See Trace-hook.							
Horses of kicking. Device for breaking	W. T. Neff	864,796	Sept. 3	51	15	130	19
Horseshoe attachment	C. E. Maud	864,901	Sept. 3	217	60	130	67
Horticultural implement	D. Craig	864,983	Sept. 3	301	79	130	96
Hose holder. Fire-	J. Kenlon	865,184	Sept. 3	641	181	130	196
Hose-nozzle	H. M. Albee	865,146	Sept. 3	580	163	130	177
Hose-nozzle. Adjustable	C. R. Ross	864,919	Sept. 3	246	66	130	77
Hub. Wheel-	W. J. Connally	865,239	Sept. 3	725	207	130	218
Humidifier	A. R. Clarkson	865,295	Sept. 3	814	235	130	246
Humidifying apparatus	J. Taylor	864,810	Sept. 3	67	20	130	23
Hydraulic motor	T. P. Bullard	865,078	Sept. 3	496	137	130	150
Hydrocarbon-engine	E. Hudson	864,844	Sept. 3	130	35	130	41
Ice manufacture. Freezing-machine for	D. L. Holden	865,040	Sept. 3	437	117	130	134
Indicator-gage	H. A. Reynolds	864,861	Sept. 3	157	44	130	49
Ingot-manipulator	J. Kennedy	865,047	Sept. 3	444	120	130	139
Ingot stripper and charger. Combined	J. C. Cromwell and H. W. Lash	865,240	Sept. 3	727	207-8	130	219
Internal-combustion engine	C. Brizzolara	865,009	Sept. 3	388	105	130	122
Internal-combustion engine	C. J. Mundhenk	865,202	Sept. 3	667	190	130	202
Internal-combustion motor	B. L. Toquet	865,135	Sept. 3	566	159	130	171
Iron-refining material and preparing the same	H. W. Lash	864,972	Sept. 3	335	.....	130	107
Ironing-machine	J. M. Lockhart	864,851	Sept. 3	140	38-9	130	44
Jar and drinking-fountain. Combined	J. J. Dropeskey	865,024	Sept. 3	415	110	130	128
Jar-closure clamp	J. Kunkel	865,187	Sept. 3	646	182	130	196
Joint:							
See Rail-joint. Stair-rail joint.							
Journal-bearing	F. E. Harden	865,245	Sept. 3	731	209	130	220
Journal-box lid	A. Wissler	865,070	Sept. 3	487	134	130	148
Junction-box-cover rosette	F. J. Russell	864,995	Sept. 3	367	98	130	116
Kiln:							
See Charcoal-kiln. Rotary kiln.							
Kinetoscope	B. H. Keller	865,106	Sept. 3	528	146-7	130	160
Knife:							
See Bee-knife.							
Knife and other cutting blade	G. Thuillier	864,812	Sept. 3	71	20	130	24
Knitted fabric	B. T. Steber	865,279	Sept. 3	788	225	130	238
Labeling-machine	W. Rüprich	864,920	Sept. 3	247	66-7	130	77
Labeling-machine	W. Rüprich	864,921	Sept. 3	252	67	130	79
Lamp. Long-burning arc-	F. B. Koues	864,898	Sept. 3	214	59-60	130	67
Lamp. Street-	J. Rosemeyer and G. Dive	865,271	Sept. 3	770	220-1	130	233
Lantern burner. Signal-	J. Doyle	864,958	Sept. 3	313	84	130	99
Last-block-sawing device	F. A. Schuetz	864,803	Sept. 3	60	18	130	21
Latch. Car-door	H. J. Jaquith	865,250	Sept. 3	743	212	130	224
Lath-mill	W. E. Lemp	865,191	Sept. 3	652	184	130	198
Laundry device	C. W. Willett	865,142	Sept. 3	576	161-2	130	175
Leveling mechanism	A. R. Wilson	865,069	Sept. 3	486	134	130	148
Light:	W. E. Martin	865,196	Sept. 3	659	187	130	200
See Search-light.							
Lightning-arrester	W. J. Bell	865,291	Sept. 3	809	233	130	244
Linotype-machine	P. T. Dodge	865,086	Sept. 3	507	139-40	130	154
Liquids in receptacles. Apparatus for determining heights of	G. M. Boone	865,229	Sept. 3	713	203	130	215
Lock:							
See Firearm safety-lock. Vehicle-seat lock. Padlock. Whip-socket lock. Sash-lock.							
Lock	W. H. F. Young	864,819	Sept. 3	82	23-4	130	28
Loom	M. Perreault	865,122	Sept. 3	551	154	130	167
Loom. Cane-	W. Wattie	865,283	Sept. 3	792	227-8	130	239
Loom for weaving pile fabrics	A. G. Cowell	865,232	Sept. 3	678	252	130	266
Loom harness-evener mechanism	B. F. McGuiness	865,264	Sept. 3	761	217	130	231
Loom shuttle-check	P. Macpherson	864,900	Sept. 3	216	60	130	67
Loom. Swivel-	E. H. Ryon	865,272	Sept. 3	772	221-2	130	234
Loom. Weft-replenishing	J. T. Cyr	864,956	Sept. 3	308	82-3	130	98
Lubricant feeding and distributing mechanism	W. E. Parr	865,315	Sept. 3	848	244	130	258
Lubricating and dust-proof gland	J. Robertson	865,058	Sept. 3	472	130	130	143
Lubricating apparatus. Steam	W. Michalk	865,262	Sept. 3	758	216	130	230
Lubricating device	H. C. Gamage	864,778	Sept. 3	18	6	130	8
Lubricating mechanism	N. A. Christensen	865,083	Sept. 3	503	128	130	153
Lubricator	H. A. Weihman	864,876	Sept. 3	177	51	130	56
Lubricator	F. D. Winkley	865,221	Sept. 3	703	199-200	130	212
Lubricator	W. Jamieson	865,248	Sept. 3	740	211	130	224
Lubricator	J. Sherry	865,319	Sept. 3	858	247	130	260
Lubricator	F. W. Nebelthau	864,908	Sept. 3	251	63	130	72
Lung-testing device. Therapeutic	R. A. Hadfield. (Reissue)	12,691	Sept. 3	913	.....	130	276
Magnetic composition and making the same	M. Walker	865,219	Sept. 3	701	198	130	211
Magnets of alternate-current generators. End connection for conductors on field-	J. Bour	865,292	Sept. 3	809	233-4	130	244
Mail-crane	A. Johnston	865,182	Sept. 3	633	179-81	130	192
Manure-spreader							
Mat:							
See Floor-mat.							
Matrices. Font of	J. B. Bell	865,073	Sept. 3	490	135	130	149
Mattress-making machine	J. T. Harris	865,100	Sept. 3	522	144	130	158
Measurements on fabric, piece goods, and the like. Apparatus for marking	E. Kessler	864,788	Sept. 3	35	11	130	13
Meat-chopper	G. L. Forrest	865,095	Sept. 3	515	142	130	156
Memorandum-sheet. Dictation	N. C. Durand	865,025	Sept. 3	416	110	130	128
Merchandise-holder	D. F. Greenawalt	865,032	Sept. 3	425	112-13	130	130
Metal. Apparatus for electrically removing and severing	R. E. Frickey	864,840	Sept. 3	124	34	130	39
Milking-machine and connections	F. Raven	864,988	Sept. 3	357	95	130	112
Mill:							
See Lath-mill. Windmill.							
Mine-haul	F. W. Harris	865,303	Sept. 3	828	239	130	251
Miner's pan	P. A. Hardwick	865,178	Sept. 3	628	178	130	191
Mineral-separator	R. J. McKeone	865,053	Sept. 3	466	129	130	141
Minerals from ore. Apparatus for extracting	O. A. Ellis	865,027	Sept. 3	418	111	130	128
Mixer:							
See Mortar-mixer.							
Moistener. Label-	H. G. Campbell	865,159	Sept. 3	598	168	130	182
Mold:							
See Building-mold.							
Molding-machine	W. H. Wood	865,071	Sept. 3	488	135	130	148
Money. Instrument representing the transfer of	M. H. Fox	865,176	Sept. 3	624	176	130	190
Mortar mixer or hoe	N. Anderson	865,150	Sept. 3	587	165	130	178
Motor:							
See Fan-motor. Water-motor. Hydraulic motor. Internal-combustion motor.							
Mower. Lawn-	E. Franke	865,097	Sept. 3	519	143	130	157
Mower. Lawn-	W. H. Coldwell	865,161	Sept. 3	601	169	130	183
Mower. Lawn-	W. H. Coldwell	865,331	Sept. 3	877	252	130	266
Mowers and the like. Sickle-drive for	C. A. Darrah	865,241	Sept. 3	728	208	130	219
Mowing-machine attachment	H. M. Tarrant	865,066	Sept. 3	480	132	130	145
Nailing-machine work-gage	L. A. Casgrain	865,329	Sept. 3	874	251	130	265
Nautical indicating device	J. D. Stannard	865,277	Sept. 3	783	224	130	236
Nautical indicating device	J. D. Stannard	865,278	Sept. 3	785	225	130	236
Numbering or marking machine	G. H. Lang	864,790	Sept. 3	40	12-13	130	15
Nut-wrench	W. H. Brawley	864,882	Sept. 3	189	53	130	59
Oil-can	J. G. Woodward	865,222	Sept. 3	705	200	130	212
Oil-cup. Emergency	R. T. Rickards	864,991	Sept. 3	362	97	130	114
Oiler. Automatic	A. P. Olson	864,857	Sept. 3	149	42	130	47
Ophthalmometer	E. P. Brewer	864,760	Sept. 3	6	2-3	130	4
Ore-concentrating apparatus	A. S. Elmore	865,334	Sept. 3	882	253-4	130	267
Ore-concentrating jig	H. Foust	864,776	Sept. 3	15	5	130	7
Ores and separating by-products therefrom. Apparatus for roasting	A. D. Lee	865,309	Sept. 3	836	241-2	130	253
Ores. Separating the metallic and rocky constituents of	D. H. Norris	864,856	Sept. 3	147	42	130	46
Outlet or junction box. Universal	J. L. Gleason	864,781	Sept. 3	22	7	130	10
Packing	J. L. Sackett	864,996	Sept. 3	368	99	130	116
Padlock. Seal-	J. B. Orbison, F. C. Kingsbury, and A. J. Pray.	865,313	Sept. 3	845	243	130	257
Pan:							
See Miner's pan.							
Paper-making and like machines. Electric drive for	J. R. Happer	864,842	Sept. 3	127	34-5	130	40
Pen-wiper	D. Selp	865,273	Sept. 3	775	222	130	234
Penholder attachment	A. L. Hatfield	865,036	Sept. 3	430	116	130	131
Pencil attachment. Lead-	O. Mussinan	865,119	Sept. 3	548	153	130	166
Pencil attachment. Lead-	O. Mussinan	865,120	Sept. 3	549	153	130	167
Pencil attachment. Lead-	O. Mussinan	865,121	Sept. 3	550	153	130	167
Pencil-holder	J. T. Haskins	864,893	Sept. 3	208	58	130	64
Photograph-printing machines. Time-switch for	J. C. Calhoun	864,883	Sept. 3	190	53	130	59
Pickling vat or barrel	F. Brockhoff	865,010	Sept. 3	389	105	130	122
Pincushion-stuffing machine	E. S. Kidwell	865,107	Sept. 3	532	147-8	130	161
Pipe:							
See Basement-pipe.							
Pipe-hanger	J. E. Jones	864,897	Sept. 3	213	59	130	66
Pipe-turning machine	G. E. Foster	865,096	Sept. 3	517	142-3	130	147
Pipes, shafts, &c. Repair-clip for	W. S. Palmer	865,056	Sept. 3	469	129	130	142
Planing-machine. Device for automatically stopping a	T. B. Rice, Jr.	865,124	Sept. 3	553	154	130	168
Planters. Seed-dropping mechanism for corn-	E. A. Johnston	865,307	Sept. 3	833	240	130	252
Plow	H. Wiard	865,141	Sept. 3	574	161	130	174
Plow. Wheeled	I. A. Weaver	865,140	Sept. 3	572	160-1	130	173
Plowing-machine	G. M. Clark	865,294	Sept. 3	812	234-5	130	245
Pole-base	M. H. Murray	864,854	Sept. 3	145	41	130	45
Porcelain and other vitreous substances. Producing threads and undercuts on	H. P. Osborn	865,314	Sept. 3	847	243	130	257
Post:							
See Binding-post. Composition or concrete post.							
Power-transmission device	C. D. Jenney	864,846	Sept. 3	134	36	130	42
Power-transmission device	E. P. Warner	865,138	Sept. 3	570	160	130	172
Power yielding and receiving means	F. W. Harris	865,338	Sept. 3	890	255-6	130	269

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Preservative	K. Rücker and D. J. Pickée. (Reissue.)	12,693	Sept. 3	915	.....	130	277
Press: *See* Baling-press. Printing-press. Block-press.							
Press	M. S. Clark	864,832	Sept. 3	110	30–1	130	36
Printing-press	A. G. Halfpenny and A. A. Hopkins.	865,177	Sept. 3	626	177	130	190
Projectile. Explosive-	K. Völler	865,282	Sept. 3	791	227	130	238
Propeller for ships and boats. Reversible	G. F. Villinger	864,875	Sept. 3	177	51	130	56
Pulp and paper. Manufacture of	J. M. Dohan	865,168	Sept. 3	611	172–3	130	186
Pump	A. Dellanna	865,019	Sept. 3	407	108–9	130	125
Pump. Automatic air-	E. J. Rohrbacher	864,918	Sept. 3	244	66	130	76
Pump-curb	A. Schimmel	864,924	Sept. 3	256	68	130	81
Pump. Force-	W. K. Andrew	865,151	Sept. 3	588	165	130	179
Punch. Center-	L. W. Sherwood	865,063	Sept. 3	477	131	130	144
Puzzle	O. M. Reed	865,207	Sept. 3	676	193	130	205
Rack: *See* Display-rack.							
Radiator	R. O. Stutsman	864,871	Sept. 3	172	49	130	54
Radiator	G. Mennesson	865,199	Sept. 3	663	188	130	201
Rail-brace	L. W. Sprague	865,320	Sept. 3	859	247	130	261
Rail-joint	C. C. Jantzen	864,896	Sept. 3	209	59	130	65
Rail-joint	J. F. Bastel	865,227	Sept. 3	711	202	130	214
Railway	H. L. Stillman	864,870	Sept. 3	171	49	130	54
Railway ballast handling and cleaning apparatus	D. R. Mehaffey	865,261	Sept. 3	755	216	130	229
Railway block-signal system	W. M. Chapman	865,013	Sept. 3	393	106–7	130	123
Railway block system and locomotive equipment for operating the same.	H. Longauer	864,974	Sept. 3	337	90	130	107
Railway-crossing	J. E. Reese	865,317	Sept. 3	855	246	130	259
Railway or like points. Mechanism for moving and locking.	L. D. G. Ferreira	864,963	Sept. 3	322	86	130	102
Railway-rail. Compound	A. E. Smith	864,867	Sept. 3	166	46	130	52
Railway-rail tie	J. Roberts and J. E. Bliss	865,125	Sept. 3	555	155	130	168
Railway-switch	J. A. Coppock	865,163	Sept. 3	604	170	130	184
Railway-train system	E. D. Small	864,808	Sept. 3	65	19	130	23
Raisin-seeders. Impaling-roll for	E. L. Chaddock	865,236	Sept. 3	721	206	130	217
Rake: *See* Side-delivery rake.							
Ratchet-wheel click-spring	E. H. Horn	864,785	Sept. 3	32	10	130	12
Receptacle. Expanded	O. F. Eichberg	865,173	Sept. 3	619	175	130	188
Ripping tool. Garment-	A. S. Rosing	865,126	Sept. 3	555	155	130	168
Riveting-machine	M. Sternberg	865,132	Sept. 3	562	157–8	130	171
Roaster: *See* Coffee-roaster.							
Roaster	G. F. Knapp	865,110	Sept. 3	536	149	130	162
Rock-drill	R. A. Fowden	864,838	Sept. 3	117	32–3	130	38
Rock-drill	E. W. Evans	865,174	Sept. 3	620	175	130	188
Rock-drill	E. W. Evans	865,175	Sept. 3	622	176	130	188
Roller: *See* Traction and lawn-rolling roller.							
Rolling sheet metal	E. Norton	865,055	Sept. 3	468	129	130	142
Roof. Adjustable	T. Wilson	864,941	Sept. 3	277	74	130	88
Rotary engine	A. G. Edwards	864,889	Sept. 3	200	55–6	130	62
Rotary engine	J. A. Mosher	864,979	Sept. 3	347	92–3	130	109
Rotary engine	E. Mühl	865,117	Sept. 3	544	152	130	165
Rotary explosive-engine	J. V. Ranck	865,206	Sept. 3	675	192	130	205
Rotary kiln	W. R. Warren	864,816	Sept. 3	79	23	130	27
Router-head	J. A. Pearson	864,966	Sept. 3	355	95	130	112
Routing-machine fixture	H. A. Reynolds	864,862	Sept. 3	159	44–5	130	50
Rug-fastener	E. Huntley	865,102	Sept. 3	524	145	130	159
Running-gear	H. B. Studebaker	864,809	Sept. 3	66	19	130	23
Sad-iron handle	W. G. Boughton	865,328	Sept. 3	873	251	130	265
Saddles. Manufacturing harness-	C. H. Grings	864,892	Sept. 3	206	57–8	130	64
Safety-hanger	R. Anteau	864,765	Sept. 3	1	1	130	3
Sash-fastener	J. E. Gibbs	864,780	Sept. 3	21	7	130	9
Sash fastener and tightener	N. S. Hillyard	865,339	Sept. 3	803	256	130	270
Sash-lock	L. R. Eddy	865,090	Sept. 3	511	141	130	155
Saw filing and setting machine	R. L. Muir	865,118	Sept. 3	546	153	130	166
Saw-jointer	S. E. Arney	865,225	Sept. 3	708	201	130	214
Saw machine. Hack-	J. G. Murback	864,807	Sept. 3	231	63	130	72
Saw-set	E. Renkenberger	865,269	Sept. 3	767	219–20	130	233
Saw-setting machine	T. W. Cross	865,165	Sept. 3	607	171	130	185
Scissors	S. E. Arney	865,325	Sept. 3	866	249	130	263
Scouring-wheel or the like	J. Feinenburg	864,962	Sept. 3	322	86	130	102
Scraper	C. A. L. Saunders	864,923	Sept. 3	255	67–8	130	81
Screen: *See* Swinging screen.	L. G. Haase	864,966	Sept. 3	326	87	130	104
Screen sizing and separating machinery	J. M. Callow	864,827	Sept. 3	98	26–7	130	32
Screen sizing and separating machinery	J. M. Callow	864,828	Sept. 3	98	27–8	130	33
Screen sizing and separating machinery	J. M. Callow	864,829	Sept. 3	101	28–9	130	34
Sealing device. Bottle-	G. H. Hulsing	865,043	Sept. 3	440	118	130	135
Search-light. Portable	W. Bailey	865,004	Sept. 3	381	103	130	120
Seat: *See* Car-seat.	J. Dickens	864,957	Sept. 3	311	83	130	99
Seat	H. G. Barrett	865,327	Sept. 3	871	250	130	264
Separating solid particles from each other. Apparatus for	A. P. S. Macquisten	865,195	Sept. 3	657	186	130	199
Separating solid particles from each other. Apparatus for	A. P. S. Macquisten	865,260	Sept. 3	754	215	130	229
Separating solids	A. P. S. Macquisten	865,194	Sept. 3	655	185–6	130	199
Separator: *See* Mineral-separator.							
Sewing-machine	W. M. Ammerman	865,149	Sept. 3	585	164–5	130	178
Sewing-machine attachment	G. J. Stevens	865,321	Sept. 3	860	247	130	261
Sewing-machine thread take-up	W. Büscher	865,234	Sept. 3	719	204–5	130	217
Sewing-machines. Seam-trimmer throat-plate for	H. L. Phelps	864,797	Sept. 3	52	15	130	19
Shade and curtain adjusting device	R. A. Breitenfeld	865,007	Sept. 3	383	104	130	121

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Shade and curtain-rod supporting bracket. Combined	E. L. Brown	865,077	Sept. 3	495	137	130	150
Sheet-metal handle	J. B. Wise	864,817	Sept. 3	79	23	130	27
Ship-salvage system	A. B. Macklin	865,193	Sept. 3	653	185	130	199
Shirt-waist and skirt adjuster	L. Barnett	865,226	Sept. 3	710	202	130	214
Shoe-fastening	F. F. Dumke	864,774	Sept. 3	13	4	130	6
Shoe-polishing stand	D. W. Craig	864,954	Sept. 3	302	80	130	97
Shoes. Manufacture of	F. G. Delbon	864,835	Sept. 3	113	31–2	130	37
Shuttle. Automatic or self-threading	R. L. Cumnock	865,166	Sept 3	608	171	130	185
Side-delivery rake	E. C. Smith	864,868	Sept. 3	167	47	130	53
Sign character	W. V. D. Kelley	865,255	Sept. 3	749	213	130	227
Signal	C. R. Dowler	865,169	Sept. 3	613	173	130	186
Signaling device. Electric	A. Larsson	864,971	Sept. 3	333	89	130	106
Single-trigger mechanism	W. H. Brown	864,826	Sept. 3	93	26	130	31
Skirt-gage. Dressmaker's	J. Trauner	864,939	Sept. 3	274	73	130	87
Skirt-gage. Dressmaker's	O. Kenney	865,256	Sept. 3	750	213	130	227
Slate-jig	S. J. Kerrigan	865,185	Sept. 3	643	181	130	196
Sled. Self-propelled	E. F. Bartlett	865,289	Sept. 3	807	232	130	243
Slicing-board	F. J. Creque	864,833	Sept. 3	111	31	130	36
Smelting apparatus. Electric	J. C. Young	865,285	Sept. 3	798	229–30	130	240
Smelting ore and converting matte	A. M. Day	865,333	Sept. 3	880	253	130	266
Soap. Method and apparatus for placing inserts in cakes of	W. Berry	865,074	Sept. 3	490	135–6	130	149
Sound-producing device	J. P. Northey	864,909	Sept. 3	233	63	130	73
Spark-arrester	R. Lamb	865,189	Sept. 3	649	184	130	197
Spark-plug	G. W. Sage	865,212	Sept. 3	681	194	130	208
Speed transmission mechanism. Variable-	C. A. Janson	864,845	Sept. 3	133	36	130	41
Spike	L. Dubé	865,170	Sept. 3	615	173	130	186
Spindles to shafts. Device for securing	H. C. Gamage	864,779	Sept. 3	20	6	130	9
Spinning and ring-twisting frames. Ring-traveler for ring-	T. Demoulin	865,242	Sept. 3	729	209	130	219
Spinning machine. Ring-	A. Klein	865,048	Sept. 3	446	121	130	137
Spinning machine. Ring-	T. Yates	865,144	Sept. 3	578	162	130	176
Spraying fluid upon the surfaces of paper, textile fabrics, or the like.	C. A. Hanitzsch	864,784	Sept. 3	31	10	130	12
Spring: *See* Ratchet-wheel click-spring. Vehicle-spring.							
Spring-equalizer	J. and A. Raab	864,914	Sept. 3	237	64	130	74
Square	T. Sparks	865,129	Sept. 3	558	156	130	169
Stair-rail joint	W. W. Burns	865,233	Sept. 3	718	204	130	217
Stamping-die	J. R. Main	864,976	Sept. 3	342	91	130	108
Stand: *See* Shoe-polishing stand.							
Steam-generator	C. D. Mosher	864,853	Sept. 3	143	40	130	45
Steam-trap	A. Sorge, Jr.	864,869	Sept. 3	168	47–9	130	53
Step-switch	C. Krämer	864,899	Sept. 3	215	60	130	67
Stereotype plate and base	B. C. Schmitt	864,802	Sept. 3	59	17	130	21
Stoker for furnaces	E. Bretney	864,946	Sept. 3	286	76–7	130	92
Stop-motion	G. H. Lang	864,849	Sept. 3	137	38	130	43
Storage plant	E. Meier	865,197	Sept. 3	660	187–8	130	200
Stove	I. B. Sanders	864,864	Sept. 3	162	46	130	51
Stove. Gas-	W. H. Calkins	865,158	Sept. 3	597	167	130	181
Stovepipe-thimble	C. T. McCarroll	864,980	Sept. 3	348	93	130	109
Strainer	W. Jones	864,787	Sept. 3	34	11	130	13
Straw-binder	H. A. Hancock	864,783	Sept. 3	27	8–9	130	11
Street-cleaner	I. Ludlow	865,311	Sept. 3	842	242	130	256
Surgical or medical bandage	P. F. W. Kappmeier	865,254	Sept. 3	748	213	130	227
Swinging screen	J. H. Cornelison	864,896	Sept. 3	194	54	130	60
Switch: *See* Railway-switch. Step-switch.							
Switch mechanism. Automatic	C. M. Bell and A. Dykstra	864,879	Sept. 3	183	52	130	58
Switchback apparatus	C. J. Hartley and R. H. Bishop	865,035	Sept. 3	428	113–15	130	131
Talking-machine sound-box	E. R. Johnson	865,105	Sept. 3	527	146	130	159
Talking-machines. Mounting for the stylus-bar of	L. F. Douglass	865,068	Sept. 3	509	140	130	154
Tank: *See* Flush-tank.							
Tank-alarm	G. F. Elliott	864,959	Sept. 3	314	84	130	99
Telegraph-transmitter	J. A. Carter, Jr.	864,950	Sept. 3	292	78	130	94
Telegraphy. Printing-	I. Kitsee	865,108	Sept. 3	533	148	130	161
Telephone-lines. Supervisory system for	W. W. Dean	864,887	Sept. 3	195	55	130	61
Telephony	D. M. Therrell	865,215	Sept. 3	686	195–7	130	209
Thermostat	J. M. Harrison	865,304	Sept. 3	831	239	130	252
Thermostatic controller	C. A. Dunham	865,171	Sept. 3	615	174	130	187
Threshing-machines. Self-feeder for	A. Zastrow	864,820	Sept. 3	86	24	130	28
Tie: *See* Railway-rail tie.							
Tire casing or shoe. Pneumatic-	E. K. Baker and C. G. Hawley	865,326	Sept. 3	867	249	130	263
Tire. Cellular pneumatic	E. C. Schoonmaker	864,926	Sept. 3	259	69	130	82
Tire setter. Rubber-	H. L. Stoup	865,134	Sept. 3	565	158	130	171
Tire. Vehicle-	G. O. Fankboner	865,028	Sept. 3	420	111	130	129
Tires to rims. Means for securing soft-tread	F. M., J. S., and W. W. Hilton	865,039	Sept. 3	435	117	130	133
Tires to rims. Means for securing soft-tread	F. M., J. S., and W. W. Hilton	865,306	Sept. 3	832	240	130	252
Tires. Tread for pneumatic	E. K. Baker and C. G. Hawley	865,288	Sept. 3	806	232	130	243
Tobacco preparation. Masticable	C. Ellis	865,026	Sept. 3	416	.....	130	128
Tool	E. F. McCarthy	864,981	Sept. 3	349	93	130	110
Tool. Pneumatic	F. S. Graham	865,337	Sept. 3	888	255	130	268
Tooth-crowns. Contouring gold	F. La Chapelle	865,112	Sept. 3	539	150	130	163
Toy	J. Heitzel	865,246	Sept. 3	732	210	130	220
Trace-hook	H. Applegate	865,224	Sept. 3	707	201	130	213
Traction and lawn-rolling roller	W. H. Coldwell	865,162	Sept. 3	603	169–70	130	183
Train-stop. Automatic	H. G. Sedgwick	864,866	Sept. 3	164	46	130	52
Trap: *See* Steam-trap.							
Trolley	L. S. Wilder	865,323	Sept. 3	863	248	130	262
Trolley-head	J. D. Gibbs	864,965	Sept. 3	325	87	130	104
Trolley-pole. Jointed	H. Padley	864,912	Sept. 3	236	64	130	74
Trolley-wire crossover	D. H. Doak	864,888	Sept. 3	196	55	130	62
Trousers-stretcher	W. T. Shoemaker	864,999	Sept. 3	372	100	130	117
Truck. Lifting and carrying	T. C. Moore	864,902	Sept. 3	218	61	130	68

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Trunk	C. C. Wigington	865,222	Sept. 3	382	248	130	282
Tumbling-barrel	H. J. Guttman	864,782	Sept. 3	24	7-8	130	10
Turbine	J. H. Corthésy	865,164	Sept. 3	405	170-1	130	184
Turbine. Explosive	H. Zoelly	864,821	Sept. 3	88	25	130	29
Turbine. Steam	J. K. Clark	865,163	Sept. 3	580	168	130	182
Turn-table-operating mechanism	J. L. Pilling	864,798	Sept. 3	55	16	130	29
Turn-table-operating mechanism	J. L. Pilling	864,800	Sept. 3	56	16	130	29
Type-writer	G. A. Aldrich	865,147	Sept. 3	582	164	130	177
Type-writer attachment	J. I. Porter	864,987	Sept. 3	256	95	130	112
Type-writer feed mechanism	F. Schüler	865,214	Sept. 3	685	195	130	208
Type-writing machine	H. W. Merritt	864,788	Sept. 3	46	14	130	17
Type-writing machine	C. Gabrielson	864,880	Sept. 3	201	86	130	93
Type-writing machines. Spool and ribbon mechanism for front-strike	W. R. Fox	864,777	Sept. 3	16	5	130	7
Umbrella	J. R. Shipman and J. S. Click	864,929	Sept. 3	263	69	130	83
Umbrella. Folding	T. F. Bigelow	864,945	Sept. 3	283	76	130	91
Valve	W. H. Roberts	865,318	Sept. 3	857	246	130	260
Valve for fluid-compressors. Discharge	N. A. Christensen	865,014	Sept. 3	401	107	130	124
Vamp-holder	J. U. Bergquist	865,228	Sept. 3	712	202	130	215
Vat: *See* Pickling-vat.							
Vehicle-brake	B. Viola	865,002	Sept. 3	378	102-3	130	119
Vehicle-rim	L. B. and J. Gast, Jr	864,841	Sept. 3	125	34	130	39
Vehicle-seat lock	J. Arcoren	865,182	Sept. 3	589	166	130	179
Vehicle-spring	G. W. Loeffler	865,229	Sept. 3	753	215	130	228
Vehicle storm-front	O. A. Charles	864,952	Sept. 3	299	79	130	96
Vehicle-wheel	I. Abbott	865,072	Sept. 3	480	135	130	148
Vehicle-wheel	G. R. Williams	865,143	Sept. 3	577	162	130	176
Vehicle wind-shield	W. N. Beecher	865,200	Sept. 3	808	233	130	244
Vending-machine	H. A. Walters	864,815	Sept. 3	77	22	130	26
Vending-machine	J. W. Gillett and G. I. Martin	864,891	Sept. 3	203	57	130	63
Vending-machine	E. L. Sons, C. A. Fogel, and A. C. McCoy.	865,275	Sept. 3	777	223-4	130	235
Vent-cap	J. Capaldi	864,884	Sept. 3	191	53	130	60
Ventilator: *See* Window-ventilator.							
Vessel. Marine	T. S. Barwis	865,155	Sept. 3	594	167	130	180
Vessel-raising apparatus. Sunken	F. Staud y Ximénes	865,130	Sept. 3	559	156-7	130	170
Vessels in case of collision. Protector for	N. C. Yorgensen-Gundholm	865,244	Sept. 3	731	209	130	220
Vibrator	R. G. Hill	864,843	Sept. 3	128	35	130	40
Voting-machine	R. McKenzie	865,052	Sept. 3	454	123-8	130	139
Wagon-brake. Automatic	J. T. Vanness and H. R. O'Brian	864,814	Sept. 3	74	22	130	25
Wagon. Dumping	F. Bloomingdale	864,786	Sept. 3	5	2	130	4
Wagon. Dumping	A. C. Lemon	865,049	Sept. 3	449	121-2	130	138
Wall and block for making the same	O. Richards	864,801	Sept. 3	57	17	130	21
Wall block or section mold. Portable	H. B. Copeland	865,297	Sept. 3	820	236-7	130	248
Watch	A. Bannatyne	864,822	Sept. 3	89	25	130	29
Water-governor	W. J. Richards and C. P. Tolman	864,990	Sept. 3	361	98	130	114
Water-motor	R. O. Hammond	864,967	Sept. 3	327	87-8	130	104
Water trap. Waste	C. H. Moore	865,312	Sept. 3	843	243	130	258
Well-drilling apparatus. Deep	J. A. Jackson and J. H. Dower	865,103	Sept. 3	525	145	130	159
Wheel: *See* Scouring-wheel. Wheelbarrow-wheel. Vehicle-wheel.							
Wheel	E. D. Markham	865,115	Sept. 3	543	151	130	165
Wheel rim. Vehicle	J. M. Padgett	864,911	Sept. 3	235	64	130	73
Wheelbarrow-wheel	T. L. Smith and C. A. Baker	865,274	Sept. 3	776	223	130	235
Whip-socket lock	B. H. Short	865,000	Sept. 3	373	100	130	117
Whisky-aging apparatus	W. H. Johnson	864,898	Sept. 3	210	59	130	65
Windmill	W. J. Kickbush	864,789	Sept. 3	37	11-12	130	14
Window	G. E. Humphries	865,341	Sept. 3	898	256	130	271
Window. Metallic	W. E. Zahner	865,286	Sept. 3	801	230-1	130	241
Window. Reversible	D. E. Hipolito	865,340	Sept. 3	894	256	130	271
Window-ventilator	A. S. Meek	864,792	Sept. 3	44	14	130	17
Windows. Weatherproof fitting for	W. Nicol	865,204	Sept. 3	673	192	130	204
Wire-feeding device	W. P. Randall	864,860	Sept. 3	153	43	130	46
Wire-locking device. Cross	A. Helm	865,305	Sept. 3	831	240	130	252
Wire-stretcher	L. A. Butts	865,079	Sept. 3	497	137	130	151
Wrench: *See* Engineer's wrench. Nut-wrench.							
Wrench	M. Schwendner	864,806	Sept. 3	63	18	130	22
Wrench	E. E. Scales	865,127	Sept. 3	556	155	130	169
Writing apparatus	C. J. F. Lange	864,850	Sept. 3	139	38	130	44
Writing-machine	H. W. Enderis	864,960	Sept. 3	315	84-5	130	100
Wurtzilite or elaterite and producing fusible soluble products. Treating	W. F. Doerflinger and L. H. Buck.	864,836	Sept. 3	115	.....	130	37
Yoke attachment for taking up vibrations. Neck	L. Fields	865,094	Sept. 3	515	142	130	156

DESIGNS.

Design.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Car-body	W. R. McKeen, Jr	38,785	Sept. 3	130	278
Car-body	W. R. McKeen, Jr	38,786	Sept. 3	130	278
Lightning-arrester casing and support	F. W. Lord	38,782	Sept. 3	130	278
Picture-frame	H. L. Beach	38,780	Sept. 3	130	277
Plate	H. T. Wilhelm and J. O. Benjamin.	38,779	Sept. 3	130	277
Spoon	C. Selkirk	38,783	Sept. 3	130	278
Spoons, forks, or similar articles. Handle for	H. Hillbom	38,784	Sept. 3	130	278
Wall-pocket or similar article	E. Flanagan	38,781	Sept. 3	130	278

TRADE-MARKS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Baking-powder	C. A. Murdock Mfg. Co	65,017	Sept. 3	130	294
Bed-bottoms. Spring	Atlanta Spring Bed Co	64,957	Sept. 3	130	293
Belting	B. F. Goodrich Company	64,997	Sept. 3	130	294
Belting	B. F. Goodrich Company	64,998	Sept. 3	130	294
Belting	B. F. Goodrich Company	64,999	Sept, 3	130	294
Belting	B. F. Goodrich Company	65,000	Sept. 3	130	294
Belting and hose	B. F. Goodrich Company	64,996	Sept. 3	130	294
Belting. Leather	New York Leather Belting Co	65,025	Sept. 3	130	294
Belting. Leather and fabric	J. E. Rhoads & Sons	65,028	Sept. 3	130	295
Beverages and preparations for making same. Certain	Oliver-Finnie Co	65,088	Sept. 3	130	296
Beverages. Carbonated	Dixie Carbonating Co	65,042	Sept. 3	130	295
Boiler-cleaning compounds	Freeport Plumbing and Heating Co.	65,019	Sept. 3	130	294
Bolting-cloth. Silk	R. L. Latimer & Co	65,068	Sept. 3	130	296
Boots and shoes. Leather	Smith-Wallace Shoe Company	64,973	Sept. 3	130	293
Boots, shoes, and slippers. Leather	W. Bernstein	64,959	Sept. 3	130	293
Brandies	Wm. Hoelscher and Co	65,079	Sept. 3	130	296
Brooms	Lee Broom & Duster Company	65,022	Sept. 3	130	294
Butter	E. G. Pérez & Co	65,070	Sept. 3	130	296
Buttonhole-stripe for garments	G. P. Ide & Co	65,084	Sept. 3	130	296
Cameras, camera-stands, and tripods	Blair Camera Company	64,979	Sept. 3	130	293
Candies, crystallized and glacé fruits	Oliver-Finnie Co	65,054	Sept. 3	130	295
Candies	Will & Baumer Company	64,993	Sept. 3	130	294
Candles	Merkle Wax and Candle Company.	65,024	Sept. 3	130	294
Canned, dried, and fresh fruits	Balfour, Guthrie & Co	65,039	Sept. 3	130	295
Canned fruits and vegetables	H. F. Hemingway & Co	65,051	Sept. 3	130	295
Canned peas	F. P. Roe & Bro	65,056	Sept. 3	130	295
Canvas interlinings	S. Nachtigall	65,060	Sept. 3	130	296
Cartridge-shells, bullets, and wads	Union Metallic Cartridge Company.	65,036	Sept. 3	130	295
Cartridges and primers	Union Metallic Cartridge Company.	64,992	Sept. 3	130	294
Cartridges and primers	Union Metallic Cartridge Company.	65,031	Sept. 3	130	295
Cartridges and primers	Union Metallic Cartridge Company.	65,032	Sept. 3	130	295
Cartridges and primers	Union Metallic Cartridge Company.	65,033	Sept. 3	130	295
Cartridges and primers	Union Metallic Cartridge Company.	65,034	Sept. 3	130	295
Cartridges and primers	Union Metallic Cartridge Company.	65,035	Sept. 3	130	295
Cartridges, caps, and primers	Union Metallic Cratridge Company.	64,990	Sept. 3	130	294
Cartridges, caps, and primers	Union Metallic Cartridge Company.	64,991	Sept. 3	130	294
Chains. Filled	S. O. Bigney	65,016	Sept. 3	130	294
Chairs	Corry Chair Co	64,961	Sept. 3	130	293
Chocolate and cocoa	Cadbury Brothers	65,081	Sept. 3	130	296
Chocolates	Ginter Grocery Co	65,048	Sept. 3	130	295
Chocolates	Touraine Confectionery Co	65,058	Sept. 3	130	295
Cigars	Omacht & Stedman	64,988	Sept. 3	130	294
Cocoa, chocolate, and preparations thereof	B. E. Enge	65,045	Sept. 3	130	295
Cornmeal	Gulfport Grocery Co	65,050	Sept. 3	130	295
Corsets	Kops Bros	65,085	Sept. 3	130	296
Cotton piece goods	A. G. Hyde & Sons	65,059	Sept. 3	130	295
Cotton piece goods and blankets	Atlantic Cotton Mills	65,061	Sept. 3	130	295
Cream-separators	Empire Cream Separator Company.	65,044	Sept. 3	130	295
Dyes	Wells & Richardson Company	65,038	Sept. 3	130	295
Electric testing apparatus	Evershed & Vignoles	64,960	Sept. 3	130	293
Flavoring extracts	McCormick & Co	65,086	Sept. 3	130	296
Flour. Wheat, pancake, and pastry	Portland Flouring Mills Co	65,071	Sept. 3	130	296
Foods. Certain	F. C. Flaccus	65,082	Sept. 3	130	296
Game. Certain	Milton Bradley Co	64,968	Sept. 3	130	293
Gin and cordials	Tanqueray, Gordon & Co	65,077	Sept. 3	130	296
Gum. Chewing	National Vending Machine Company.	65,053	Sept. 3	130	295
Hair-dye	L. Spiro	65,074	Sept. 3	130	296
Hair-pins, combs, and hair ornaments	Pacific Novelty Company	65,055	Sept. 3	130	295
Hair-tonics	L. Mégroz	65,023	Sept. 3	130	294
Hose	B. F. Goodrich Company	65,001	Sept. 3	130	294
Hose	B. F. Goodrich Company	65,002	Sept. 3	130	294
Hose	B. F. Goodrich Company	65,003	Sept. 3	130	294
Hose	B. F. Goodrich Company	65,004	Sept. 3	130	294
Hose	B. F. Goodrich Company	65,005	Sept. 3	130	294
Hose	B. F. Goodrich Company	65,006	Sept. 3	130	294
Hose	B. F. Goodrich Company	65,007	Sept. 3	130	294
Hose	B. F. Goodrich Company	65,008	Sept. 3	130	294
Hose	B. F. Goodrich Company	65,009	Sept. 3	130	294
Hose	B. F. Goodrich Company	65,010	Sept. 3	130	294
Hose	B. F. Goodrich Company	65,011	Sept. 3	130	294
Hose	B. F. Goodrich Company	65,012	Sept. 3	130	294
Hose	B. F. Goodrich Company	65,013	Sept. 3	130	294
Hose	B. F. Goodrich Company	65,014	Sept. 3	130	294
Hose	B. F. Goodrich Company	65,015	Sept. 3	130	294
Hydraulic jacks	R. Dudgeon	65,063	Sept. 3	130	296
Hydraulic jacks	R. Dudgeon	65,066	Sept. 3	130	296
Hydraulic jacks and presses, pumps therefor, &c	R. Dudgeon	65,064	Sept. 3	130	296
Hydraulic jacks and presses, pumps therefor, &c	R. Dudgeon	65,067	Sept. 3	130	296
Hydraulic jacks, presses, and pumps	R. Dudgeon	65,065	Sept. 3	130	296

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Ice-making machinery, ammonia-compressors, and condensers	Triumph Electric Co	64,975	Sept. 3	130	293
Jumpers and overalls	Burnham Hanna Munger Dry Goods Co.	65,080	Sept. 3	130	296
Lard substitute	Cudahy Packing Company	64,962	Sept. 3	130	293
Lard substitute	Streett and Corkran Company	65,075	Sept. 3	130	296
Lead in oil. White	Selby Smelting & Lead Co	64,989	Sept. 3	130	294
Leather hand-bags and reticules	Robbins & Prokesch	64,970	Sept. 3	130	293
Leather manufactures. Certain	Frank Payne Company	64,964	Sept. 3	130	293
Leggings made from textile fabric	S. Rauh & Company	65,072	Sept. 3	130	296
Leggings made from textile fabric	S. Rauh & Company	65,073	Sept. 3	130	296
Liquid-separating machines. Centrifugal	Empire Cream Separator Company.	65,043	Sept. 3	130	296
Machinery. Certain	Gould & Eberhardt	65,049	Sept. 3	130	295
Magazines	Scientific Station for Pure Products.	64,971	Sept. 3	130	293
Medicated lozenges	G. I. Hudson	65,021	Sept. 3	130	294
Medicines. Certain	A. Duka	65,018	Sept. 3	130	294
Medicines. Certain	F. H. Green	65,020	Sept. 3	130	294
Medicines. Certain	F. Mollering	65,087	Sept. 3	130	296
Medicines. Synthetic	Actien-Gesellschaft für Anilin-Fabrikation.	64,994	Sept. 3	130	294
Oils. Mineral	E. Junginger	64,984	Sept. 3	130	293
Paints and painters' materials. Certain	Lowe Bros. Co	64,985	Sept. 3	130	294
Paper, tablets, and pads. Writing	John Walker & Co	64,965	Sept. 3	130	293
Paper. Type-writer	American Writing Paper Company.	64,956	Sept. 3	130	293
Paper. Writing	Taylor-Atkins Paper Company	64,974	Sept. 3	130	293
Pencils. Lead-	Eagle Pencil Company	64,963	Sept. 3	130	293
Pens. Writing and drawing	C. Howard Hunt Pen Company	64,960	Sept. 3	130	293
Perfumeries	Actien-Gesellschaft für Anilin-Fabrikation.	64,995	Sept. 3	130	294
Pharmaceutical preparations. Certain	Parchen Drug Co	65,027	Sept. 3	130	295
Pills for curing rheumatism and gout	R. Schoellkopf	65,089	Sept. 3	130	296
Razors	C. J. Tagliabue	65,076	Sept. 3	130	296
Remedies. Rheumatic, kidney, and bladder	Old Fort Chemical Company	65,026	Sept. 3	130	294
Rings. Finger-	Lyons Manufacturing Co	64,986	Sept. 3	130	294
Salt. Stock and table	Utility Salt Co	65,037	Sept. 3	130	295
Sewing-machines and attachments	E. Cornely & Fils	65,041	Sept. 3	130	295
Shoes. Leather	G. E. Bartlett	64,958	Sept. 3	130	293
Silk and cotton piece goods	S. Friedman & Co	65,083	Sept. 3	130	296
Silk and silk-mixed piece goods	Susquehanna Silk Mills	65,057	Sept. 3	130	295
Silk and silk-mixed piece goods	Susquehanna Silk Mills	65,090	Sept. 3	130	296
Silver and metal polishes	J. A. Wright & Co	64,981	Sept. 3	130	293
Skin food	E. H. Stiljan	65,029	Sept. 3	130	295
Soap	M. Werk Co	64,966	Sept. 3	130	293
Soap and bath powder	Pacific Coast Borax Co	64,969	Sept. 3	130	293
Stringed instruments	B. B. McMains	64,967	Sept. 3	130	293
Sweeping compound. Chemical	W. F. Smith	65,030	Sept. 3	130	295
Syrup and molasses	E. Feibleman Sons & Co	65,046	Sept. 3	130	295
Syrup and molasses	E. Feibleman Sons & Co	65,047	Sept. 3	130	295
Tacks and staples	Buffalo Specialty Company	65,040	Sept. 3	130	295
Talking-machines and talking-machine records	Victor Talking Machine Company.	64,976	Sept. 3	130	293
Thread, spool and sewing cotton	American Thread Company	64,977	Sept. 3	130	293
Tobacco. Smoking and chewing	Axton-Fisher Tobacco Company	64,978	Sept. 3	130	293
Tobacco. Smoking and chewing	J. F. Zahm Tobacco Co	64,982	Sept. 3	130	293
Tobacco. Smoking and chewing	J. F. Zahm Tobacco Co	64,983	Sept. 3	130	293
Valves	Ajax Valve Company	65,060	Sept. 3	130	295
Valves. Regulating and balance	H. Mueller Manufacturing Company.	65,052	Sept. 3	130	295
Whisky	D. L. Arey Distilling Co	65,082	Sept. 3	130	295
Whisky	H. Weil & Sons	65,078	Sept. 3	130	296
Wood manufactures. Certain	Simmons Hardware Company	64,972	Sept. 3	130	293

LABELS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Behrens' Glyco Thelon." (For a Soluble Sulfur Compound)	Thelon Chemical Company	13,775	Sept. 3	130	297
"Century Prints." (For Pictures)	Century Co	13,778	Sept. 3	130	297
"Duco Smoking and Chewing Tobacco." (For Smoking and Chewing Tobacco.)	Penn Tobacco Company	13,771	Sept. 3	130	297
"Elston The Original Paint and Varnish Remover." (For a Varnish-Remover.)	Chicago Wood Finishing Co	13,777	Sept. 3	130	297
"Jersey Queen." (For Condensed Milk)	Nooksack Valley Condensed Milk Company.	13,772	Sept. 3	130	297
"Lincoln Hair Pomade." (For a Hair Preparation)	P. C. Billsoly	13,774	Sept. 3	130	297
"Madame Elise Inimitable Perfection Skin Food." (For Massage Cream.)	E. T. McCann	13,773	Sept. 3	130	297
"Penn's High Grade Smoking and Chewing Tobacco." (For Smoking and Chewing Tobacco.)	Penn Tobacco Company	13,770	Sept. 3	130	297
"Trocadero Parisian Cologne." (For Cologne)	C. Rahayel	13,776	Sept. 3	130	297

PRINTS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Empire State Refrigerating Machine." (For Ice and Refrigerating Machinery.)	Empire State Engineering Company.	2,104	Sept. 3	130	297
"Headquarters for Souvenir Post Cards." (For Post-Cards)	Globe Sign and Poster Company	2,100	Sept. 3	130	297
"Highest Grade." (For Cocoa)	Runkel Brothers Incorporated	2,098	Sept. 3	130	297
"Mid Back, 48. Pinochle Playing Cards." (For Playing-Cards)	United States Playing Card Company.	2,101	Sept. 3	130	297
"Men's and Boys' Apparel." (For Men's and Boys' Apparel)	H. C. Lytton	2,099	Sept. 3	130	297
"Pneumatic Back, Bicycle Playing Cards." (For Playing-Cards.)	United States Playing Card Company.	2,102	Sept. 3	130	297
"Schoenhut's Humpty Dumpty Circus, The Toy Wonder." (For Toys.)	A. Schoenhut Company	2,103	Sept. 3	130	297
"Victor." (For Type-Writers)	Victor Typewriter Co	2,105	Sept. 3	130	297

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Automobiles	Oesterreichische Daimler-Motoren-Gesellschaft Gesellschaft mit beschränkter Haftung.	27,273	Sept. 3	130	285
Automobiles	Oesterreichische Daimler-Motoren-Gesellschaft Gesellschaft mit beschränkter Haftung.	27,424	Sept. 3	130	286
Automobiles	Stevens-Duryea Company	28,805	Sept. 3	130	288
Bath-tubs, sinks, water-closets, &c	Standard Sanitary Mfg. Co	25,953	Sept. 3	130	284
Beer	Anheuser-Busch Brewing Association.	9,767	Sept. 3	130	280
Beer	Northern Brewery Company	11,489	Sept. 3	130	281
Beer	Union Brewing & Malting Co	11,491	Sept. 3	130	281
Beer	Central Brewing Co	23,411	Sept. 3	130	283
Beer	Wm. Pfeifer Berlin Weiss Beer Co	27,175	Sept. 3	130	285
Biscuits	Standard Wafer Co	28,795	Sept. 3	130	288
Blackings, paste, shoe-dressings, &c	Associated Shoe Company	27,880-4	Sept. 3	130	286
Boots and shoes. Leather	Bentley & Olmsted Company	25,362	Sept. 3	130	283
Boots and shoes. Leather	Selz, Schwab & Company	28,898-9	Sept. 3	130	289
Boots, shoes, slippers, and leggings. Leather	Miller Hapgood Shoe Co	29,093	Sept. 3	130	290
Bracelets, rings, necklaces, &c	Kantzmann & Sussfeld	26,659	Sept. 3	130	284
Bread	H. Matthael	29,177	Sept. 3	130	291
Brushes. Tooth and nail	W. L. Martin	29,239	Sept. 3	130	292
Cabinets. Kitchen-	Hoosier Mfg. Co	28,562	Sept. 3	130	287
Calculators	C. M. Young	29,181	Sept. 3	130	291
Candies	Trowbridge Chocolate Chip Co	29,201-2	Sept. 3	130	291
Candy	Sauerston & Brown	29,206	Sept. 3	130	291
Canned fruits and vegetables	Burt Olney Canning Co	28,952	Sept. 3	130	289
Canned fruits and vegetables	H. P. Taylor, Jr	29,329	Sept. 3	130	292
Canned fruits and vegetables, dried fruits, &c	Charles Hewitt & Sons Co	28,948	Sept. 3	130	289
Canned fruits and vegetables, dried fruits and olives	C. S. Morey Mercantile Company	12,062	Sept. 3	130	281
Canned salmon	American Trading Company (Pacific Coast).	28,812-13	Sept. 3	130	288
Carriages, automobiles, motor-cycles, &c	Daimler-Motoren-Gesellschaft	21,736	Sept. 3	130	282
Chocolates and candies	Allen-Day Company	29,013	Sept. 3	130	289
Coal	Coleman Mining Co	29,030	Sept. 3	130	289
Combs. Celluloid	Pacific Novelty Company	29,066	Sept. 3	130	290
Corundum and emery grinding-wheels	S. Sonnenthal & Co	26,265	Sept. 3	130	284
Cotton duck	Mount Vernon-Woodberry Cotton Duck Company.	10,499	Sept. 3	130	280
Cotton duck	Mount Vernon-Woodberry Cotton Duck Company.	10,502-4	Sept. 3	130	280
Cotton duck	Mount Vernon-Woodberry Cotton Duck Company.	10,840	Sept. 3	130	280
Cotton duck	Mount Vernon-Woodberry Cotton Duck Company.	12,449	Sept. 3	130	281
Cotton duck	Mount Vernon-Woodberry Cotton Duck Company.	29,223	Sept. 3	130	292
Cream. Witch-hazel	E. E. Hess	28,699	Sept. 3	130	287
Credit ratings. Periodical statements of	B. P. Grunauer	24,491	Sept. 3	130	283
Cutlery and edge-tools	E. Wüsthof	20,811	Sept. 3	130	282
Deodorants and antiseptics	Wm. B. Riker & Son Co	28,800	Sept. 3	130	288
Depilatories, toilet cream, hair-tonic, &c	C. S. Welch & Co	28,730	Sept. 3	130	287
Disinfectants, deodorants, &c	J. A. Sander	13,604	Sept. 3	130	281
Disinfecting and deodorizing apparatus	Chemische Fabrik auf Actien (vorm E. Schering).	12,213	Sept. 3	130	281
Dresses, skirts, gowns, petticoats, &c	F. A. Patrick & Co	26,605	Sept. 3	130	284
Fans, blowers, pumps, forges, &c. Centrifugal	S. C. Davidson	25,168	Sept. 3	130	283
Feed. Cattle	Great Western Cereal Company	29,143	Sept. 3	130	291
Feed composed of crushed grain	H. E. Schrader	27,307	Sept. 3	130	285
Figures. Automatic instruments for making conventional	E. I. Horsman Co	29,238	Sept. 3	130	292
Fish-bait	J. F. Gregory	29,140	Sept. 3	130	290
Fish-hooks	W. E. Compton	8,744	Sept. 3	130	279
Fish-hooks, leaders, artificial flies, baits, &c	E. A. Pflueger Company	29,067	Sept. 3	130	290
Flour, cereal foods, cornmeal, &c	J. G. Hutchison & Co	23,593	Sept. 3	130	283
Flour. Wheat-	Wall-Rogalsky Milling Co	26,780	Sept. 3	130	286
Flour. Wheat-	Washburn Crosby Company	28,458	Sept. 3	130	287

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Fruit and vegetable preservative	F. Schacht	27,159	Sept. 3	130	285
Furs and skins	Becker Bros. & Co	18,772	Sept. 3	130	282
Harness rosettes and ornaments, buckle-shields, &c	E. A. Pfueger Company	29,068	Sept. 3	130	290
Heaters and heat-extractors. Water-	Alberger Condenser Company	16,250-1	Sept. 3	130	281
Hooks. Snap-	Covert Manufacturing Co	29,220	Sept. 3	130	291
Iron, steel, copper, tin, &c	T. Goldschmidt	11,984	Sept. 3	130	281
Jewelry	Carter, Qvarnstrom & Remington	28,861	Sept. 3	130	288
Jewelry	S. & B. Lederer Company	29,163	Sept. 3	130	291
Knitted union-suits, corset-covers, vests, &c	William Carter Co	20,952	Sept. 3	130	282
Liniment	J. D. Shuler	20,804	Sept. 3	130	285
Magazine	Grafton Press	28,667	Sept. 3	130	282
Magazines	R. R. Fisher	27,370	Sept. 3	130	282
Malt and hops. Compound of	F. M. Doyle	26,741	Sept. 3	130	284
Malt extract	Paragon Malt Extract Co	29,114	Sept. 3	130	290
Matches	Jönköpings och Vulcans Tändsticksfabriksaktiebolag.	16,934	Sept. 3	130	282
Medicine. Antiseptic antefebrile unguent	T. W. Algeo	25,731	Sept. 3	130	284
Medicine or medicinal cordial. Cough	G. E. Whittaker	27,077	Sept. 3	130	285
Medicines. Antiseptic	H. B. Claflin Company	28,697	Sept. 3	130	287
Metal leaf. Imitation	Gane Brothers & Co	26,898	Sept. 3	130	286
Metal-polish	M. Loewenstein	27,420	Sept. 3	130	285
Metallic bull-leads, chains, hitching-pins, &c	Covert Mfg. Co	4,343	Sept. 3	130	279
Mince-meat, dried fruits, and flavoring-extracts	Smith Lichty & Hillman Company.	21,815	Sept. 3	130	283
Must or grape-juice	Deutsche Weinmostkelterei alkoholfreier Obst und Traubensafte H. Lampe & Co. Worms a/ Rh. G. m. b. H.	26,525	Sept. 3	130	284
Newspaper	M. Auerbach	29,193	Sept. 3	130	291
Oil. Illuminating-	Tide Water Oil Co	28,981	Sept. 3	130	289
Oil. Lubricating-	Galena-Signal Oil Company	10,315	Sept. 3	130	280
Oil. Lubricating	Galena-Signal Oil Company	10,317	Sept. 3	130	280
Oil. Lubricating-	Galena-Signal Oil Company	10,783	Sept. 3	130	280
Oil. Tasteless castor-	Voigt & Co	28,662	Sept. 3	130	287
Paint. Damp-proof	Dexter Brothers Company	28,408	Sept. 3	130	287
Pantaloons	J. Schoeneman	20,501	Sept. 3	130	282
Paper. Cover-	American Writing Paper Company.	28,326	Sept. 3	130	286
Paper, pasteboard, and cardboard	C. Rohde	27,892	Sept. 3	130	286
Paper. Wrapping-	Hanlon-Sharps Co	26,900-1	Sept. 3	130	285
Paper. Writing and printing	American Writing Paper Company.	28,334	Sept. 3	130	286
Paper. Writing and printing	American Writing Paper Company.	28,336-7	Sept. 3	130	286
Paper. Writing and printing	American Writing Paper Company.	28,341	Sept. 3	130	286
Paper. Writing and printing	American Writing Paper Company.	28,344	Sept. 3	130	286
Paper. Writing and printing	American Writing Paper Company.	28,977	Sept. 3	130	289
Potato-chips	T. B. Clewell & Son	29,212	Sept. 3	130	291
Powders and pastes. Tooth	H. B. Claflin Company	26,602	Sept. 3	130	284
Remedies. Cough	E. J. Sormani	26,762	Sept. 3	130	284
Rubber boots and shoes	Goodyear's Metallic Rubber Shoe Co.	28,742-3	Sept. 3	130	287-8
Rubber, rubber tires, boots, hats, &c. Sheet-	Daimler-Motoren-Gesellschaft	19,608	Sept. 3	130	282
Salve	F. Harkness	28,999	Sept. 3	130	289
Seed. Field and grass	Albert Dickinson Company	24,253	Sept. 3	130	283
Shingles	Barnes & Mauk	11,912	Sept. 3	130	281
Shoes. Leather and canvas	Keiffer Bros	28,765-6	Sept. 3	130	288
Shoes. Leather and canvas	Keiffer Bros	28,770	Sept. 3	130	288
Shoes. Leather and canvas	Keiffer Bros	28,772	Sept. 3	130	288
Silk and silk-mixed piece goods	Susquehanna Silk Mills	27,744	Sept. 3	130	286
Stoves, furnaces, steam-boilers, &c	S. C. Davidson	25,169	Sept. 3	130	283
Suppositories, tablets, and pills	Dr. Pierre Chemical Company	28,604	Sept. 3	130	287
Suspenders	Lafayette Suspender Company	29,136	Sept. 3	130	290
Tea	Jones-Paddock Co	29,019	Sept. 3	130	289
Teas and coffees	Upham Bro's	29,031	Sept. 3	130	290
Thread or spool-cotton. Sewing-	Blodgett & Orswell Co	19,870	Sept. 3	130	282
Thread, spool and sewing cotton	American Thread Company	29,125	Sept. 3	130	290
Tin plates	Baldwins Limited	8,671	Sept. 3	130	279
Tin, terne, leaded, and black sheets	Baldwins Limited	8,670	Sept. 3	130	279
Tires and inner tubes. Rubber	Pacific Coast Rubber Co	29,185	Sept. 3	130	291
Tonic beverage	M. J. McHugh	28,829	Sept. 3	130	288
Tonic beverages	R. L. Duffy	28,380	Sept. 3	130	286
Tooth-cleansing compound	T. M. Childs	23,157	Sept. 3	130	283
Type-writer ribbons and carbon paper	Monarch Typewriter Company	28,454	Sept. 3	130	287
Type-writing machines	Fabrik Stolzenberg Deutsche Bureau-Einrichtungs-Gesellschaft mit beschränkter Haftung.	19,878	Sept. 3	130	282
Watch-glasses	Hammel, Riglander & Co	28,807	Sept. 3	130	288
Watches and match-movements	B. L. Strasburger	29,021	Sept. 3	130	289
Water-gage tubes	R. Klinger	29,079	Sept. 3	130	290
Water. Spring-	J. E. Patterson	29,170	Sept. 3	130	291
Whips	United States Whip Company	28,129	Sept. 3	130	286
Whisky	Bigbie Bros. & Co	2,275	Sept. 3	130	279
Whisky	Jesse Moore Hunt Co	8,932	Sept. 3	130	280
Whisky	W. Sanderson & Son	23,248	Sept. 3	130	283
Wines. Claret and Sauterne	Roewekamp Bros	26,749	Sept. 3	130	284
	J. P. Laroche & Co	13,173	Sept. 3	130	281

ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 10TH DAY OF SEPTEMBER, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
Abizaid, Antonio, Douma, Syria, Turkey. Friction-slide for garment-supporters	865,554	Sept. 10	1255	356	130	412
Ackerman, Edwin T., Chicago, Ill. Automatic electric signal system	865,555	Sept. 10	1256	356	130	412
Actien Gesellschaft für Anilin Fabrikation. (See Herzberg and Spengler, assignors.)						
Adams, Allen A., Berryton, Kans. Gate-latch	865,844	Sept. 10	1719	478	130	570
Adams & Westlake Company. (See Schuetz, Frank A., assignor.)						
Aden, Joseph, Ruralhall, N. C. Axle-lubricator	865,347	Sept. 10	917	263	130	307
Aeolian Company. (See Votey, Edwin S., assignor.)						
Akin, Daniel F., Farmington, Minn. Land and water vehicle	865,845	Sept. 10	1720	478	130	570
Albrecht, Christian A., Berlin, Germany. Releasing device for the matrices in composing-machines with two or more magazines placed one above the other	865,846	Sept. 10	1721	478	130	570
Alden, Herbert W., assignor to Timken Roller Bearing Axle Company, Canton, Ohio. Roller-bearing	865,472	Sept. 10	1110	316–17	130	366
Alfano, Leonard, Brooklyn, N. Y. Device for sharpening razors	865,847	Sept. 10	1722	479	130	571
Allington, William E. Saginaw, Mich. Centrifugal fan	865,962	Sept. 10	1884	528	130	618
Allis-Chalmers Company *et al.* (See Bogen, Louis E., assignor.)						
Allis-Chalmers Company *et al.* (See Powell, William H., assignor.)						
Allis-Chalmers Company. (See Richards, Walter J., assignor.)						
Allison, James M., assignor of one-half to W. C. Freed, Indianapolis, Ind. Saw	865,348	Sept. 10	918	263	130	307
American Graphophone Company. (See Macdonald and Capps, assignors.)						
American Lithographic Company. (See Murray, George G., assignor.)						
American Sugar Refining Company. (See Morrison, Edwin, assignor.)						
Andersen, Johan M., assignor of one-half to A. Anderson, Boston, Mass. Power-operated valve	865,556	Sept. 10	1260	357	130	413
Anderson, Albert. (See Andersen, Johan M., assignor.)						
Anderson, James S., Ames, Nebr. Automatic signaling apparatus	865,848	Sept. 10	1723	479–80	130	572
Andrews, James S., New York, N. Y. Underframe for cars	865,668	Sept. 10	1424	403	130	465
Andrews, James S., New York, N. Y. Underframe for cars	865,669	Sept. 10	1425	404	130	466
Andrews, James S., New York, N. Y. Underframe for cars	865,670	Sept. 10	1426	404	130	466
Andrews, James S., New York, N. Y. Underframe for cars	865,745	Sept. 10	1544	435	130	503
Andrews, James S., New York, N. Y. Underframe for cars	865,557	Sept. 10	1263	358	130	413
Arburn, David F., Somerville, Ind. Polishing-machine						
Arch, Charles. (See Arch, Nicholas and C.)						
Arch, Nicholas and C., Nappanee, Ind. Crude-oil burner	865,746	Sept. 10	1545	436	130	504
Ardell, Robert, Stockholm, Sweden. Device for hauling cars	865,849	Sept. 10	1726	480	130	572
Armitage, Homer C., Kenesaw, Nebr. Stovepipe-retaining device	865,850	Sept. 10	1727	481	130	572
Armored Concrete Construction Company of Baltimore City. (See Barré, Ferdinand, assignor.)	865,851	Sept. 10	1728	481	130	572
Armstrong, Daniel F., Mallorytown, Ontario, Canada. Vehicle carpet-holding spring	865,747	Sept. 10	1546	436	130	504
Arnold, Frederick H., and E. D. Becker, Reading, Pa.; said Becker assignor to said Arnold. Safety-razor	865,558	Sept. 10	1264	358	130	413
Arnold, Hunter, *et al.* (See Ladd, Earnest W., assignor.)	865,473	Sept. 10	1112	317	130	367
Arrosmith, George, Terre Haute, Ind. Oil-pump	865,474	Sept. 10	1114	317	130	367
Arthur, Walter A., Manchester, N. H. Break-arm for electric wiring	865,852	Sept. 10	1729	481	130	573
Asbestos Wood Company. (See Norton, Charles L., assignor.)						
Ashurst, Joseph, Chicago, Ill. Trolley	865,748	Sept. 10	1547	436	130	504
Assorati, Antenor, New York, N. Y. Corset	865,749	Sept. 10	1549	437	130	504
Auble, James H., Cincinnati, assignor of two-thirds to J. H. Bromwell, Wyoming, and J. J. McDonald, Cincinnati, Ohio. Conveyer for lawn-mowing machines	865,750	Sept. 10	1550	437	130	505
Austerlitz, Alexander, Győr, Austria-Hungary. Frame for oil-presses						
Austin, George. (See Gudmunsen, Abraham, assignor.)						
Austin, Samuel E., Baltimore, Md. Elevator-shaft closure and operating means therefor						
Autocoil Company. (See Varley, Richard, assignor.)						
Automatic Envelope Sealing and Stamping Machine Company. (See Davis, Charles F., assignor.)						
Automatic Oscillating Loom Company of America. (See Poalk, James L., assignor.)						
Babin, Robert M. (See Lippke and Babin.)	865,751	Sept. 10	1552	438	130	505
Bach, Charles H., Brooks, Minn. Vehicle-brake	865,671	Sept. 10	1427	405	130	467
Baggaley, Ralph, Pittsburg, Pa. Converter	865,853	Sept. 10	1729	481	130	573
Bailey, Charles A., Cromwell, Conn. Cartridge	865,978	Sept. 10	1919	538	130	631
Bailey, Charles A., assignor to Best Ammunition Company, Cromwell, Conn. Cartridge	865,979	Sept. 10	1920	538	130	631
Bailey, Charles A., assignor to Best Ammunition Company, Cromwell, Conn. Cartridge	865,625	Sept. 10	1363	386	130	446
Baker, Nathan D., Thackery, Ohio. Stretcher	865,559	Sept. 10	1265	358	130	414
Ball, William R., Richmond, Va. Tie						
Ballenger, Benjamin, *et al.* (See Richmond, Edward J., assignor.)						
Barnes, Harry. (See McCormick and Barnes.)	865,626	Sept. 10	1364	386	130	446
Barnett, George W., Louise, Tex. Clevis	865,752	Sept. 10	1554	438	130	506
Barney, Edwin E., assignor to Monarch Typewriter Company, Syracuse, N. Y. Type-writing machine						
Barr, Francis P., *et al.* (See Moore, Marion, assignor.)	865,963	Sept. 10	1887	528	130	619
Barré, Ferdinand, Baltimore, Md., assignor to Armored Concrete Construction Company of Baltimore City. Concrete beam	865,753	Sept. 10	1557	439	130	507
Bartholomew, William, New York, assignor to Troy Laundry Machinery Company, Limited, Troy, N. Y. Ironing-machine						

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Bartlett, George H., Buffalo, N. Y., assignor to Stanley Rule & Level Company, New Britain, Conn. Plane	865,560	Sept. 10	1266	358–9	130	414
Bavier, Adolphus, assignor to Waterbury Clock Co., Waterbury, Conn. Concealed hinge for watches	865,672	Sept. 10	1428	405	130	467
Bayer, Henry S., Jacksonville, Fla., assignor to Patent Ventilated Car Company, Charleston, S. C. Railway-car	865,349	Sept. 10	919	263–4	130	307
Becker, Anton, assignor to Ralston Steel Car Company, Columbus, Ohio. Railway-car	865,561	Sept. 10	1266	359	130	414
Becker, Anton, assignor to Ralston Steel Car Company, Columbus, Ohio. End construction of railway-cars	865,854	Sept. 10	1730	482	130	573
Becker, Ellsworth D. (See Arnold and Becker.)						
Beebe, Charles S. (See Reichert and Beebe.)						
Belisle, Nazaire, Manchaug, Mass. Smoker's set	865,475	Sept. 10	1115	318	130	367
Bell, Franklin, *et al.* (See Wentworth, Reginald H., assignor.)						
Benedict, Harris M., Cincinnati, Ohio. Key guard and stop	865,855	Sept. 10	1731	482	130	573
Benjamin, Bert R., Oak Park, Ill., assignor to International Harvester Company. Cord-holder for self-binders	865,734	Sept. 10	1559	439	130	508
Benning, William. (See Wilson, Charles, assignor.)						
Berenberg, David, St. Joseph, Mo. Measuring apparatus	865,350	Sept. 10	920	264	130	307
Berry, Robert L. (See Dugger, George A., assignor.)						
Berthold, Richard E., assignor of one-half to W. F. Holcombe, New York, N. Y. Self-igniter	865,755	Sept. 10	1561	440	130	509
Besse, Allen. (See Hogan, Thomas, assignor.)						
Best Ammunition Company. (See Bailey, Charles A., assignor.)						
Bestmann & Co. Maschinenfabrik zu Neumünster G. M. B. H. in Neumünster. (See Köster, Gustav, assignor.)						
Bible, Hunley, Sherman, Tex. Wood-column-turning lathe	865,673	Sept. 10	1429	405	130	467
Bienfait, John, The Hague, Netherlands. Grapnel for boring-tubes	865,756	Sept. 10	1563	440	130	509
Bierley, Henry A., Portsmouth, Ohio. Fountain-brush	865,351	Sept. 10	922	264	130	308
Blackman, Joseph N., East Orange, N. J. Cleaning attachment for sound-records	865,674	Sept. 10	1431	405	130	467
Blain, Charles S., Seattle, Wash. Stationary washstand	865,856	Sept. 10	1732	482	130	574
Bleecker, Frederick G., *et al.* (See Bleecker, Warren F., assignor.)						
Bleecker, Martin C., *et al.* (See Bleecker, Warren F., assignor.)						
Bleecker, Warren F., Victor, Colo., assignor of two-thirds to F. G. Bleecker, Grand Island, Nebr., and M. C. Bleecker, Pueblo, Colo. Rotary engine	865,964	Sept. 10	1888	529	130	619
Bliss, James E. (See Roberts and Bliss.)						
Bloxham, Frederic W., Grundy Center, Iowa. Chain-tightener	865,352	Sept. 10	923	264	130	308
Bogen, Louis E., Cincinnati, Ohio, assignor to Allis-Chalmers Company and Bullock Electric Manufacturing Company. Method of and means for controlling electric motors	865,822	Sept. 10	1682	467	130	557
Bomsdorff, Ernst von, Breslau, Germany. Orienting device	865,675	Sept. 10	1432	406	130	467
Bond, Samuel C., Wilmington, Del. Machine for punching	865,857	Sept. 10	1733	483	130	574
Bonenberger, George, assignor to Handy Scaffold Co., Evansville, Ind. Scaffold or trestle	865,858	Sept. 10	1735	483	130	574
Bonwell, Charles E. (See Hernsheim and Bonwell.)						
Boyd, Alonzo, Indianapolis, Ind. Curb safety-hitch	865,757	Sept. 10	1564	440	130	510
Brabrook, George H., Taunton, Mass. Producing castings	865,562	Sept. 10	1268		130	415
Breed, Wurtem A., Painesville, Ohio. Attachment for razor-strops	865,353	Sept. 10	924	265	130	309
Breite, Stefan, Dresden, Germany. Machine and apparatus for milking	865,476	Sept. 10	1116	318	130	368
Brian, Thomas C. (See Martin, James V., assignor.)						
Brister, William T., assignor of one-half to L. Stipp, Liberty Hill, Tex. Railway-tie	865,354	Sept. 10	925	265	130	309
Brockway, Tiffany J., Aline, Okla. Ter. Mixing apparatus	865,563	Sept. 10	1268	359–60	130	415
Bromwell, Jacob H., *et al.* (See Auble, James H., assignor.)						
Brophy, Patrick, South Omaha, Nebr. Ore-concentrator	865,859	Sept. 10	1736	483	130	575
Brower, William, M. Rose, and W. O. Jones, Manilus, Ill. Disk-grinder	865,627	Sept. 10	1365	387	130	447
Brown, Charles D., Rochester, N. Y. Pipe-cleaner	865,860	Sept. 10	1737	483	130	575
Brown, Daniel W., Youngstown, Ohio. Artificial bait	865,676	Sept. 10	1434	406	130	468
Brown, James, New York, N. Y. Toy	865,564	Sept. 10	1272	360	130	416
Brown, John F., Florence, Ala. Ash-pan for locomotives	865,758	Sept. 10	1565	441	130	510
Brown, John L. (See Brown, Nathaniel and J. L.)						
Brown, Nathaniel and J. L., Star City, Ind. Corn-harvesting machine	865,861	Sept. 10	1737	484	130	575
Brown, Summers, London, England. Type font or holder	865,565	Sept. 10	1272	361	130	416
Bruce, Brainard T., Jersey City, N. J., assignor to Underwood Typewriter Company, New York, N. Y. Type-writer carriage. (Reissue)	12,094	Sept. 10	1924	539	130	632
Brukenhaus, Robert, Haspe, near Hagen, Germany. Thermostat for centrally-heated plants	865,862	Sept. 10	1740	485	130	576
Brunswick-Balke-Collender Company. (See Cunningham, Patrick M., assignor.)						
Buck, Thad E. (See Hickson, Joseph, assignor.)						
Bühle, Erich, New York, N. Y., assignor to Pelton Water Wheel Co., San Francisco, Cal. Turbine	865,863	Sept. 10	1741	485	130	576
Bullock Electric Manufacturing Company *et al.* (See Bogen, Louis E., assignor.)						
Bullock Electric Manufacturing Company *et al.* (See Powell, William H., assignor.)						
Burkett, John W., Kansas City, Mo., assignor to Kansas City Hay Press Company. Gas-engine	865,677	Sept. 10	1435	407	130	468
Butler, William L., Carthage, Mo. Threshing-machine	865,678	Sept. 10	1437	407	130	469
Button, Theodore E. (See Hewlett and Button.)						
Butts, Charles W., Sag Harbor, assignor to Fahys Watch Case Company, New York, N. Y. Making watchcase-pendants	865,759	Sept. 10	1566	441	130	510
C. W. Hunt Company. (See King, Charles C., assignor.)						
Callmann, Irving, and J. Sabatelli, New York, N. Y. Spraying device	865,355	Sept. 10	925	265	130	309
Callow, John M. (See Kelly and Callow.)						
Campbell, Evan H., New York, N. Y. Bottle	865,864	Sept. 10	1742	485	130	576
Capps, Frank L. (See Macdonald and Capps.)						
Carlson, Carl G., Braham, Minn. Bag-holder	865,760	Sept. 10	1568	441	130	511
Carpenter, James, Brooklyn, N. Y. Weeder, chopper, and scuffle-hoe	865,566	Sept. 10	1273	361	130	416
Carr, George W., Cleveland, Ohio. Display-sign	865,356	Sept. 10	926	265–6	130	309
Carrara, Marie L., Geneva, Switzerland. Waist-pattern	865,761	Sept. 10	1569	442	130	511
Carsley, Josephine C., Cumberland, Wis. Vegetable-cutter	865,628	Sept. 10	1366	387	130	447
Carter, Woodhouse, Victoria Mills, Low Moor, and E. Hodgson, Cleckheaton, England. Driving mechanism for drawing-through drums of wire-drawing machines	865,679	Sept. 10	1439	408	130	469
Carty, Alton B. and R. F., Washington, D. C. Time-controlling mechanism	865,629	Sept. 10	1367	388	130	447
Carty, Roy F. (See Carty, Alton B. and R. F.)						
Cary, Aaron E. (See Maguire and Cary.)						
Castner Electrolytic Alkali Co. (See Mauran, Max, assignor.)						
Catchpole, Alfred, Geneva, N. Y. Automatic regulator for hot-water heating systems	865,963	Sept. 10	1743	485–6	130	577
Chadwick, Frank C., Utica, assignor to Savage Arms Company, Frankfort, N. Y. Take-down firearm	865,357	Sept. 10	929	266–7	130	311
Chandeysson, Pierre I., St. Louis, Mo. Block-signal	865,866	Sept. 10	1744	486	130	577
Chapot, Frank P., assignor to Chapot-Shirlaw Company, Great Bend, Pa. Polishing-brush	865,762	Sept. 10	1570	443	130	511
Chapot-Shirlaw Company. (See Chapot, Frank P., assignor.)						
Chevrette, Eugene, assignor of one-half to A. H. La Rue, Fitchburg, Mass. Loom picker-stick	865,680	Sept. 10	1441	408	130	470

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Christiansen, Carl, Crookston, Minn. Band-cutter and feeder	865,867	Sept. 10	1745	486–7	130	577
Citelli, Giuseppe, La Chaux-de-Fonds, Switzerland. Repeating mechanism for timepieces	865,358	Sept. 10	931	267	130	312
Clark, Reed J., Jr., Youngstown, Ohio. Nutmeg-grater	865,763	Sept. 10	1571	443	130	511
Clark, William G., Altoona, Pa. Sanitary bar	865,359	Sept. 10	934	267	130	312
Clay, William H., Lexington, Ky. Garment-hook	865,630	Sept. 10	1371	388	130	449
Close, Robert J. (See Saxe, John G., assignor.)						
Cobb, Herbert F., Cleveland, Ohio. Reinforced concrete structure	865,477	Sept. 10	1117	318	130	368
Cockerill, Lewis, Richmond, Ind. Safety storm-front	865,478	Sept. 10	1119	318–19	130	369
Coffman, Guvarie S., Coldwater, Mich. Corn-harvesting machine	865,360	Sept. 10	935	268	130	312
Cole, Henry T., New York, N. Y. Rotary advertising-machine	865,681	Sept. 10	1442	408–9	130	470
Cole, Robert C., assignor to Johns-Pratt Company, Hartford, Conn. Fuse-plug	865,567	Sept. 10	1274	361	130	417
Cole, William E., Norfolk, Va. Furnace air-feeding mechanism	865,868	Sept. 10	1746	487	130	577
Columbia School Supply Company. (See Moore, William A. and J. C., assignors.)						
Columbus Aseptic Furniture Company. (See Norris and Shoemaker, assignors.)						
Conry, Kate, New York, N. Y. Garment-supporter	865,869	Sept. 10	1747	487	130	578
Cooper, William K., Lakewood, N. J. Vine-cutter	865,361	Sept. 10	938	268–9	130	313
Cooper, William S., Philadelphia, Pa. Flushing-valve	865,479	Sept. 10	1121	319	130	369
Cooper, William S., Philadelphia, Pa. Faucet	865,568	Sept. 10	1276	361	130	417
Cotier, Frank P., Augusta, Ga. Check-valve	865,631	Sept. 10	1372	389	130	449
Coulter, John T., Oxford township, Johnson county, Kans. Shocking attachment for binders	865,870	Sept. 10	1748	487–8	130	578
Coultrap, Jesse. (See England, James C., assignor.)						
Cox, Thomas H., Newark, N. J. Calendar and holder therefor	865,871	Sept. 10	1751	488	130	578
Crafts, James M., Boston, Mass. Gear-shifting device	865,569	Sept. 10	1278	362	130	418
Crafts, James M., Boston, Mass. Gear-shifting device	865,570	Sept. 10	1280	362	130	418
Cramer, Herman, Sonora, assignor to Cramer Wheel Company, San Francisco, Cal. Wheel	865,682	Sept. 10	1443	409	130	471
Cramer Wheel Company. (See Cramer, Herman, assignor.)						
Cranston, Thaddeus S., New Comerstown, Ohio. Casing-head	865,872	Sept. 10	1752	488	130	579
Creahan, Michael F., Philadelphia, Pa. Eraser-holder	865,764	Sept. 10	1572	443	130	512
Credlebaugh, John D., Chicago, Ill. Artificial fish-bait	865,683	Sept. 10	1445	409	130	471
Crosby, George E., Allston, Mass. Gas-holder	865,480	Sept. 10	1124	319	130	370
Crowns, George H. (See Koch, Nicholas, assignor.)						
Cudaback, Edgar L., assignor to Lane Manufacturing Company, Buffalo, N. Y. Harrow	865,873	Sept. 10	1753	489	130	580
Cunningham, Patrick M., New York, N. Y., assignor to Brunswick-Balke-Collender Company, Chicago, Ill. Convertible pocket-carom billiard-table	865,874	Sept. 10	1755	489	130	580
Curran, Garner, Los Angeles, Cal. Feed-water heater	865,875	Sept. 10	1757	489	130	580
Currey, Herschel E., Baker City, Oreg. Curette	865,571	Sept. 10	1280	362	130	419
Cutler, Walter A., Whiteclay, Nebr. Churn	865,684	Sept. 10	1446	409–10	130	472
David Lupton's Sons Company. (See Watkins, John W., assignor.)						
Davies, Joseph, Birmingham, England. Wheel for road-vehicles	865,765	Sept. 10	1573	443–4	130	512
Davis, Charles F., Providence, R. I., assignor to Automatic Envelope Sealing and Stamping Machine Company. Sealing-machine	865,362	Sept. 10	939	269–70	130	313
Davis & Furber Machine Company. (See Rundlett, William D., assignor.)						
Davis, James E., Pleasant Shade, Tenn. Adjustable hoe	865,632	Sept. 10	1373	389	130	449
Davis, Stephen G., Cooper, Iowa. Tire	865,633	Sept. 10	1374	389	130	449
Davis, Thomas J. (See Webb and Davis.)						
Davis, William B., Swissvale, Pa. Wrench	865,766	Sept. 10	1573	444	130	512
Dawes, Edmund, *et al.* (See Dawes, Robert, assignor.)						
Dawes, Robert, assignor to himself, E. Dawes, Philadelphia, Pa., and E. H. Haskell, Newton, Mass. Spinning, twisting, and winding machine	865,685	Sept. 10	1446	410	130	472
Dawson, Wallace, Montreal, Quebec, Canada. Funnel	865,572	Sept. 10	1281	362	130	419
Dean, Charles G., Indianapolis, Ind. Apparatus for supplying explosive-engines with explosive mixture	865,767	Sept. 10	1575	444	130	512
Decks, Robert E., New York, and J. O. Drennan, Syracuse, N. Y. Desk-lid support	865,481	Sept. 10	1126	320	130	371
Deegan, Ann, Chicago, Ill. Cover for flat-irons	865,768	Sept. 10	1577	444	130	513
Delphey, John P., Toledo, Ohio. Wire-payout reel	865,482	Sept. 10	1128	320	130	371
Demuth, George E., *et al.* (See Rau, Henry, Jr., assignor.)						
Denison, Wallace B., *et al.* (See Hanlon, Andrew J., assignor.)						
Denison, William W., *et al.* (See Hanlon, Andrew J., assignor.)						
Devineau, Louis, Cleveland, Ohio. Phonograph	865,769	Sept. 10	1577	445	130	514
Dieckmann, Carl F., New York, N.Y., assignor, by mesne assignments, to Kryptok Company. Making bifocal lenses	865,363	Sept. 10	940	270	130	314
Diehl, Jacob, Sheboygan, Wis. Sash-lock	865,573	Sept. 10	1282	363	130	419
Dirzuweit, John F., Philadelphia, Pa. Recording and reproducing sounds	865,574	Sept. 10	1283	363	130	419
Donovan, John P., assignor to United States Whip Company, Westfield, Mass. Bevel-string-cutting machine	865,686	Sept. 10	1449	411	130	473
Doratella, Augustus, Steelton, Pa. Rail-joint	865,770	Sept. 10	1579	445	130	514
Doron, Louis E., Thayer, Kans. Draft-equalizer	865,634	Sept. 10	1374	390	130	449
Douse, Frederick A., Seattle, Wash. Propeller	865,364	Sept. 10	942	270	130	314
Drake, Chester T., Chicago, Ill. Mixing apparatus	865,365	Sept. 10	942	270–1	130	314
Dreher, Gustave F., assignor of one-half to G. F. E. Dreher, Schenectady, N. Y. Insulating coupling	865,483	Sept. 10	1130	320	130	371
Dreher, Gustave F. E. (See Dreher, Gustave F., assignor.)						
Drennan, John O. (See Decks and Drennan.)						
Drew, George W., San Francisco, Cal. Feed-roll	865,575	Sept. 10	1286	364	130	420
Duer, Lenna G., Colorado Springs, Colo. Globe-fastener	865,366	Sept. 10	944	271	130	314
Dugger, George A., assignor of one-half to R. L. Berry, Frederick, Ill. Railway-track liner	865,635	Sept. 10	1375	390–1	130	450
Duncan, John A., Seattle, Wash. Bucking-roll for riding-saddles	865,576	Sept. 10	1286	364	130	420
Dunston, Robert P. (See Griffin, Fitz Roy N., assignor.)						
Earp-Thomas, George H., Toronto, Ontario, Canada. Growing and distributing nitro-gathering bacteria	865,965	Sept. 10	1888	529	130	619
Eckberg, Carl W., Mohall, N. D. Safety riding attachment for plows	865,876	Sept. 10	1759	490	130	581
Eden, Harold W., assignor to P. R. Manufacturing Company, Detroit, Mich. Electric signal-bell	865,771	Sept. 10	1580	446	130	515
Edison Storage Battery Company. (See Edison, Thomas A., assignor.)						
Edison, Thomas A., Llewellyn Park, N. J. Fluorescent electric lamp	865,367	Sept. 10	945	271	130	315
Edison, Thomas A., Llewellyn Park, Orange, assignor to Edison Storage Battery Company, West Orange, N. J. Making nickel films	865,687	Sept. 10	1452		130	473
Edison, Thomas A., Llewellyn Park, Orange, assignor to Edison Storage Battery Company, West Orange, N. J. Making metallic films or flakes	865,688	Sept. 10	1453		130	474
Edwards, Bennie S., White Hall, Ill. Gate	865,577	Sept. 10	1287	364	130	420
Electric Vehicle Company. (See Pope and Maxim, assignors.)						
Elledge, Forrest M., assignor to Sanitary Oyster Carrier and Commission Co., St. Louis, Mo. Oyster-carrier	865,772	Sept. 10	1581	446	130	515
Elliott, John R., Camden, N. J. Pigeon-feeder	865,773	Sept. 10	1582	446–7	130	515
Ellis, Carleton, Larchmont, N. Y., assignor to Ellis-Foster Company. Composition for laying road-dust	865,578	Sept. 10	1289		130	421

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Ellis-Foster Company. (See Ellis, Carleton, assignor.)						
Ellis, Frank O., Sandwich, Mass. Eye-shade	865,484	Sept. 10	1132	321	130	372
Elmes, George W. (See Kirker, James M., assignor.)						
Enfield, William E., Victor, Colo. Folding stove	865,579	Sept. 10	1289	365	130	421
England, James C., assignor of one-half to J. Coultrap, Zanesville, Ohio. Stage-brace	865,774	Sept. 10	1583	447	130	515
Enochs, Claude D. (See Scribner and Enochs.)						
Entz, Justus B., Philadelphia, Pa. System of electrical distribution	865,368	Sept. 10	946	272	130	315
Erickson, Carl A. (See Morgan and Erickson.)						
Esperson, William E., New York, N. Y. Ventilator or chimney-cap	865,877	Sept. 10	1761	490	130	581
Etherington, James B. (See Kenyon, Daniel M., assignor.)						
Eubank, Josephus H., Ysleta, Tex. Windmill-tower	865,580	Sept. 10	1291	366	130	421
Evans, Edward E. (See Tower, Wallace G., assignor.)						
Eveland, Samuel S., Philadelphia, Pa. Roller-bearing	865,636	Sept. 10	1377	391	130	450
Fahys Watch Case Company. (See Butts, Charles W., assignor.)						
Fairchild, William, Albany, N. Y. Core-support and bearing member	865,775	Sept. 10	1584	447	130	516
Falstrom & Tornqvist Company. (See Frenzel, Paul W., assignor.)						
Farley, William T., Newton, Mass. Railway-rail	865,878	Sept. 10	1762	491	130	582
Farnham Company. (See Farnham, Ed W., assignor.)						
Farnham, Ed W., assignor to Farnham Company, Chicago, Ill. Electric contact-rail	865,879	Sept. 10	1763	491	130	582
Farrar, Thomas J., *et al.* (See Ladd, Earnest W., assignor.)						
Ferris, Henry L., assignor to Hunt, Helm, Ferris & Company, Harvard, Ill. Hay-carrier	865,689	Sept. 10	1456	411	130	474
Fesler, Edward L., Santa Maria, Cal. Pipe-tongs	865,369	Sept. 10	949	272	130	316
Fessler, Charles M., Sunbury, Pa. Retaining-valve	865,370	Sept. 10	950	273	130	316
Fisher, Oliver M., Washburn, Ill. Draft-equalizer	865,371	Sept. 10	951	273	130	317
Floyd, John J., Boston, Mass. Electrotype-locking apparatus	865,581	Sept. 10	1292	366	130	422
Flynn, John T., San Francisco, Cal. Chimney	865,372	Sept. 10	951	273	130	317
Foster, George, East Auburn, Cal. Ironing-table	865,637	Sept. 10	1378	391	130	450
Foster, Walter J., Port Huron, Mich. Buggy-body extension and rear-seat attachment	865,690	Sept. 10	1457	412	130	475
Fox Typewriter Company. (See Fox and Lund, assignors.)	865,691	Sept. 10	1458	412	130	475
Fox, William R., and M. Lund, assignors to Fox Typewriter Company, Grand Rapids, Mich. Angle-gage for mitering-machines	865,692	Sept. 10	1459	412	130	475
Fredrick, William, assignor to H. Metzger and T. Fuller, Clyde, Ohio. Automatic lantern-slide-moving device	865,373	Sept. 10	953	273–4	130	317
Freed, William C. (See Allison, James M., assignor.)						
Freeman, Alonzo O., Ionia, Mich. Hand-sprayer	865,485	Sept. 10	1133	321	130	372
Frenzel, Paul W., assignor to Falstrom & Tornqvist Company, Passaic, N. J. Fireproof window frame and sash	865,374	Sept. 10	956	274	130	318
Friederichs, Jacob A. E. (See Schaff and Friederichs.)						
Froesé, Minna, New York, N. Y. Ash-sifter	865,582	Sept. 10	1293	367	130	422
Fromherz, Adolf, Montesano, Wash. Log-guide for log-skids	865,693	Sept. 10	1460	413	130	476
Frye, Charles E., Laconia, N. H. Collapsible step	865,375	Sept. 10	958	274	130	319
Fuller, Harvey H., Los Angeles, Cal. Two-speed gear for motor-cycles	865,583	Sept. 10	1295	367	130	422
Fulton, Thomas A. and T. H., New York, N. Y. Portable amusement apparatus	865,584	Sept. 10	1296	367–8	130	423
Fulton, Thomas H. (See Fulton, Thomas A. and T. H.)						
Gabler, Johannes, and R. Kunz, Mülhausen, Germany. Bobbin-feeding device for weft-replenishing looms	865,376	Sept. 10	959	275	130	319
Gabrielson, Carl, assignor to L. C. Smith and Bros. Typewriter Company, Syracuse, N. Y. Type-writing machine	865,694	Sept. 10	1461	413	130	476
Gannon, Thomas H., Springfield, Ohio. Yieldable gearing	865,486	Sept. 10	1134	321	130	372
Garland, George D., Chicago, Ill., assignor, by mesne assignments, to U. S. Gas Machine Co. Carbureter	865,960	Sept. 10	1922	539	130	632
Garrett, Charles B., assignor to Globe Automatic Sprinkler Company, Minneapolis, Minn. Dry-pipe valve	865,880	Sept. 10	1763	491	130	582
Garrett, Thomas P., Westcliffe, Colo. Leather preserving and finishing compound	865,881	Sept. 10	1766	.....	130	583
Garrette, John E., Indianapolis, Ind., assignor of two-thirds to W. C. Witz and W. H. Lueders, Cincinnati, Ohio. Combination amusement vehicle and boat	865,882	Sept. 10	1766	492	130	583
Gazley, Elmer, Canyonville, Oreg. Scale	865,883	Sept. 10	1769	492	130	584
Geibel, Andrew, Chicago, Ill. Washboard support and shield	865,487	Sept. 10	1136	321	130	373
Geissinger, Harry G., New York, N. Y. Thermostat	865,638	Sept. 10	1379	392	130	451
General Electric Company. (See Hewlett and Button, assignors.)						
General Electric Company. (See Jodrey, Elbert W., assignor.)						
General Electric Company. (See Steinmetz, Charles P., assignor.)						
Georg, Bernáth, Cincinnati, Ohio. Coffee-pot	865,776	Sept. 10	1585	447	130	516
Gerland, Charlotte A. (See Gerland, Frederick J. M., assignor.)						
Gerland, Frederick J. M., assignor to C. A. Gerland, Sea Cliff, N. Y. Process and apparatus for etching plates	865,884	Sept. 10	1770	492	130	584
Gladding, Charles E., Columbia Cross Roads, Pa. Mail-delivery apparatus	865,695	Sept. 10	1463	413–14	130	477
Globe Automatic Sprinkler Company. (See Garrett, Charles B., assignor.)						
Goertz, August. (See Schneider, Adolf J., assignor.)						
Goldin, Horace, London, England. Means for producing stage illusions	865,966	Sept. 10	1892	530	130	621
Goosmann, Justus C. (See Loeb and Goosmann.)						
Gordon, John H., Snoqualmie, Wash. Automatic suspending-reel for electric incandescent lamps	865,377	Sept. 10	959	275	130	319
Goss, James B. (See Robinson, George A., assignor.)						
Graham, George M., assignor to G. A. E. Kohler, Chicago, Ill. Building girder and column	865,488	Sept. 10	1137	322	130	374
Graham, George M., assignor to G. A. E. Kohler, Chicago, Ill. Fitting for metal reinforce constructions	865,489	Sept. 10	1138	322	130	374
Graham, George M., assignor to G. A. E. Kohler, Chicago, Ill. Reinforced concrete construction	865,490	Sept. 10	1140	323–4	130	375
Graves, Burton M., and F. N. Loson, Lowville, N. Y. Bench-plane	865,491	Sept. 10	1145	325	130	378
Greeley, Eliza D., Louisville, Ky. Eaves-trough hanger	865,639	Sept. 10	1281	392	130	452
Green, Samuel R., Grassflat, Pa. Brake for mine-cars	865,378	Sept. 10	961	275	130	320
Greenley, Ellis. (See Robbins, Ira O., assignor.)						
Grenier, Emanuel, Menominee, Mich. Combined jack and restoring-drop	865,379	Sept. 10	962	276	130	320
Griffin, Fitz Hugh N., Chicago, Ill., assignor to R. P. Dunston, Hancock, Mich. Excavating-wheel	865,380	Sept. 10	964	276	130	321
Griffin, George C., Houston, Tex. Ditching-machine	865,381	Sept. 10	964	276–7	130	321
Groskopf, William, Chicago, Ill. Mattress	865,585	Sept. 10	1290	368	130	424
Gudmunsen, Abraham, assignor of one-half to G. Austin, Lehi, Utah. Beet-topper	865,885	Sept. 10	1771	492	130	585
Guinn, James J., Quanah, Tex. Tag-holder	865,886	Sept. 10	1772	493	130	585
Häberer, Hermann, Rodewisch, Germany. Manufacturing embroidery	865,640	Sept. 10	1281	392	130	452
Hall, Adrian and J. M., Greenfield, Ind. Conveying apparatus	865,777	Sept. 10	1586	448	130	516
Hall, Adrian and J. M., Greenfield, Ind. Conveying apparatus	865,778	Sept. 10	1588	448–9	130	516
Hall, John M. (See Hall, Adrian and J. M.)						
Hall, Watkin, Great Crosby, near Liverpool, England. Invert or block for sewers and pipes	865,382	Sept. 10	967	277–8	130	322

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Handy, Arthur E., assignor to Rhode Island Elevator and Machine Company, Providence, R. I. Controlling device	865,383	Sept. 10	969	278–9	130	322
Handy Scaffold Co. (See Bonenberger, George, assignor.)						
Hanlon, Andrew J., assignor of one-half to W. W. and W. B. Denison, Columbus, Ind. Welding compound	865,887	Sept. 10	1772	.....	130	585
Hanson, Frederick O., Victoria, assignor of one-half to W. Schrenkler, Walker, Kans. Sound-magnifier for telegraph instruments	865,888	Sept. 10	1773	493	130	585
Hardy, Charles S., Summit, N. J. Timer	865,384	Sept. 10	972	279	130	324
Harford, Albert K., Oakland, Cal. Hammer	865,889	Sept. 10	1774	493	130	586
Harfst, Henry F., Meta, Mo. Gate-latch	865,385	Sept. 10	975	279	130	325
Harper, Edward L., Topeka, Kans. Gate	865,386	Sept. 10	976	280	130	325
Harriman, John E., Jr., Brookline, Mass. Rotary engine	865,967	Sept. 10	1893	530	130	621
Harrington, Robert J., Dalton, Mass. Attachment for spinning-mules	865,890	Sept. 10	1776	493–4	130	586
Harris, Herman R. (See Harris, Robert C. and H. R.)						
Harris, Robert C., deceased, H. B. McCoy, administrator, and H. R. Harris, Oskaloosa, Iowa. Four-horse evener	865,696	Sept. 10	1465	414	130	477
Hart, Harry S., Chicago, Ill. Car-truck	865,492	Sept. 10	1146	325	130	378
Hart, Harry S., Chicago, Ill. Car-truck	865,493	Sept. 10	1147	325–6	130	378
Haskell, Edward H., *et al.* (See Dawes, Robert, assignor.)						
Hattersley and Sons, George. (See Leeming and Hudson, assignors.)						
Healley, George M., La Crosse, Wis. Multiform-curve rule	865,586	Sept. 10	1300	368	130	424
Heberling, Ralph H. and W. L., Havana, Ill. Rotary engine	865,891	Sept. 10	1778	494–7	130	587
Heberling, William L. (See Heberling, Ralph H. and W. L.)						
Heim, Lewis R., Danbury, Conn. Machine for ironing fold-collars	865,977	Sept. 10	1918	537–8	130	631
Hein, Adolf, Berlin, Germany, assignor to Vacuum Cleaner Company. Portable dust-suction apparatus worked by means of an electromotor	865,387	Sept. 10	977	280	130	326
Henderson, John B. (See Walters and Henderson.)						
Henderson, Robert E., and J. N. King, assignors of one-half to E. O. Williams and J. W. King, Los Angeles, Cal. Insulator	865,697	Sept. 10	1466	414	130	477
Hendler, John J., Chicago, Ill., assignor to Tiger Tire Company. Rubber vehicle-tire	865,698	Sept. 10	1467	414	130	478
Hendler, John J., Chicago, Ill., assignor to Tiger Tire Company. Rubber vehicle-tire	865,699	Sept. 10	1468	415	130	478
Henke, Willy, Jersey City Heights, N. J. Advertising apparatus	865,494	Sept. 10	1148	326	130	378
Hensley, George P., assignor of one-half to E. N. Richardson, Girard, Kans. Razor-strop	865,495	Sept. 10	1148	326	130	379
Hernsheim, Maurice, and C. E. Bonwell, Mannington, W. Va. Pickling	865,700	Sept. 10	1470	.....	130	478
Herrington, Fred G., Decatur, Ill. Compressed-air motor for automobiles	865,496	Sept. 10	1149	327	130	379
Herzberg, Wilhelm, Berlin, and O. Spengler, Nieder-Schönweide, near Berlin, assignors to Actien Gesellschaft für Anilin Fabrikation, Berlin, Germany. Red-orange mono-azo dye and making same	865,587	Sept. 10	1301	.....	130	424
Hess, Edward B., New York, N. Y., assignor to Royal Typewriter Company, Hoboken, N. J. Type-writing machine	865,892	Sept. 10	1782	497	130	588
Hess, Edward B., New York, N. Y., assignor to Royal Typewriter Company, Hoboken, N. J. Writing-machine	865,893	Sept. 10	1783	497	130	589
Hess, Edward B., New York, N. Y., assignor to Royal Typewriter Company, Hoboken, N. J. Type-writing machine	865,894	Sept. 10	1785	498	130	589
Hesser, Otto, Cannstatt, Germany. Machine for making paper bags	865,779	Sept. 10	1589	449–51	130	517
Hewitt, Samuel R., Belfast, Ireland. Hinge	865,895	Sept. 10	1786	498	130	590
Hewlett, Edward M., and T. E. Button, Schenectady, N. Y., assignors to General Electric Company. Electric switch	865,588	Sept. 10	1302	369–70	130	424
Heyland, Alexander, Brussels, Belgium. Alternate-current generator and motor	865,701	Sept. 10	1470	415	130	478
Hickson, Joseph, assignor of two-fifths to T. E. Buck, Mount Gilead, Ohio. Mold for making culverts, conduits, and similar hollow structures	865,968	Sept. 10	1895	531	130	622
Hill, Ebenezer, Norwalk, Conn. Control of an electrically-driven air-compressor	865,388	Sept. 10	978	280–1	130	326
Hill, Ebenezer, Norwalk, Conn. Control of electrically-driven air-compressors	865,389	Sept. 10	980	281	130	326
Hill, Ebenezer, Norwalk, Conn. Means for unloading air-compressors	865,390	Sept. 10	982	282	130	327
Hill, James B., Findlay, Ohio. Ditching-machine	865,702	Sept. 10	1472	416	130	479
Hines, Fred A., Creston, Iowa. Automatic alarm for roasters	865,896	Sept. 10	1787	498–9	130	590
Hitchens, Joseph A., *et al.* (See Richmond, Edward J., assignor.)						
Hodgson, Edwin. (See Carter and Hodgson.)						
Hoffman, John J., assignor to P. H. Murphy, St. Louis, Mo. Friction draft-gear	865,391	Sept. 10	984	282	130	327
Hofmeister, Christopher W. (See Kelley and Hofmeister.)						
Hogan, Richard, Lochgelly, Scotland. Compound for treating glass surfaces	865,589	Sept. 10	1305	.....	130	425
Hogan, Thomas, assignor of one-half to A. Besse, Shreveport, La. Joint-mold	865,897	Sept. 10	1788	499	130	590
Hohenadel, Peter, Jr., *et al.* (See Jennings, John, assignor.)						
Holcombe, William F. (See Berthold, Richard E., assignor.)						
Holmquist, Peter O., Chicago, Ill. Curtain-stretcher	865,641	Sept. 10	1382	392	130	452
Hooper, William H., Lynn, Mass., assignor to Manufacturers Machine Company, Montclair, N. J. Portable power channel-flap layer	865,898	Sept. 10	1789	499–500	130	590
Hoover, Arthur L., Avery, Ohio. Vine-separator for potato-diggers	865,703	Sept. 10	1476	417	130	480
Hoover, Arthur L., Avery, Ohio. Vine-separating mechanism for potato-diggers	865,780	Sept. 10	1593	451	130	517
Horn, Ernest H., assignor to Waterbury Clock Co., Waterbury, Conn. Stem winding and setting watch	865,642	Sept. 10	1383	393	130	452
Horst, George C., assignor to J. A. Jeffrey, Columbus, Ohio. Conveyer	865,591	Sept. 10	1307	371	130	425
Horton, Joseph D., Fort Smith, Ark. Portable house	865,590	Sept. 10	1306	370	130	425
Hose, Charles M., Indianapolis, Ind. Screw-seat valve	865,392	Sept. 10	986	283	130	328
Howard, Frank H., Brookside, near Reading, Pa. Journal-bearing	865,899	Sept. 10	1794	500	130	591
Howell, Edward B., Butte, Mont. Electric railway signaling device	865,781	Sept. 10	1594	451–2	130	517
Hudson, Charles. (See Leeming and Hudson.)						
Huffman, Roy T., Bessemer, Ala. Automatic wagon-brake	865,704	Sept. 10	1477	417	130	480
Hulbert, Edwin F., Kenosha, Wis. Crate	865,705	Sept. 10	1478	417	130	480
Hunsaker, Archibald W., Pomona, Cal. Automatically-balanced vertical-shaft centrifugal pump	865,900	Sept. 10	1794	500	130	591
Hunt, Helm, Ferris & Company. (See Ferris, Henry L., assignor.)						
Hutchins, Elmer F., and J. J. Sala, Loyal, Wis. Rural-mail-carrier's box	865,706	Sept. 10	1480	418	130	481
Hutchinson, William F., Nyack, N. Y., assignor to Sarnia Match Company, Sarnia, Ontario, Canada. Match-machine	865,592	Sept. 10	1308	371	130	426
Hyslin, Evan, Kindred, N. D. Automobile	865,901	Sept. 10	1796	501	130	592
Ideal Shaft Supporter Company. (See Lowe, William, assignor.)						
International Harvester Company. (See Benjamin, Bert R., assignor.)						
International Packing Machine Company. (See Lopez and Zamora, assignors.)						
Isaman, Joshua A., and W. H. Mitchell, Aurora, Nebr. Shocking attachment for binders	865,902	Sept. 10	1797	501	130	592
Ivy, Frank B. (See Wineburgh and Ivy.)						
J. H. Day Company. (See Ward, Paul S., assignor.)						
Jackson, Charles, Pittsburg, Pa. Ink-well	865,782	Sept. 10	1597	452	130	518
Jackson, Charles W., Armour, S. D. Dust-pan	865,643	Sept. 10	1385	393	130	453
Jacob, Richard F., Bessemer, Ala. Safety-lock for switch-stands	865,904	Sept. 10	1800	502	130	593
Jacobsen, Axel, Hastings, Nebr. Campaign-badge	865,905	Sept. 10	1802	502	130	593
James, Lawrence, Shenandoah, Iowa. Washboiler	865,903	Sept. 10	1799	502	130	593
James Reilly Repair and Supply Company. (See Row, Reuben R., assignor.)						
Janssen, Joseph H., Chicago, Ill. Holder for coffee-bottles and the like	865,644	Sept. 10	1386	393	130	453

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Jarvis, William D. F., assignor of one-half to J. A. Viqusney, Belington, W. Va. Spike-holder	865,906	Sept. 10	1803	503	130	504
Jeffrey, Joseph A. (See Horst, George C., assignor.)						
Jenkins, Charles F., Washington, D. C. Motion-picture apparatus	865,593	Sept. 10	1309	371	130	426
Jennings, John, assignor of two-thirds to G. E. Stocking and P. Hohenadel, Jr., Rochelle, Ill. Agitating cooker and processer	865,645	Sept. 10	1387	393–4	130	453
Jensen, Aage, Eureka, Cal. Combined churn and butter-worker	865,594	Sept. 10	1310	372	130	426
Jodrey, Elbert W., Lynn, Mass., assignor to General Electric Company. Self-sustaining field-magnet coil	865,707	Sept. 10	1482	418	130	482
Jodrey, Elbert W., Lynn, Mass., assignor to General Electric Company. Coil for electrical purposes	865,907	Sept. 10	1804	503	130	504
Johns-Pratt Company. (See Cole, Robert C., assignor.)						
Johnson, Charles, Auburn, N. Y. Dumping-wagon	865,708	Sept. 10	1482	418	130	482
Johnson, Edward E., White Bear Lake, Minn. Well-screen	865,595	Sept. 10	1311	372	130	427
Johnson, Godfrey B., London, England. Machine for corrugating sheet metal	865,908	Sept. 10	1806	503–4	130	504
Johnson, Otto T., Jamestown, assignor, by mesne assignments, to U. S. Standard Voting Machine Co., Rochester, N. Y. Voting-machine	865,393	Sept. 10	967	283	130	328
Johnson, Seward T., and C. Y. Roop, Oakland, Cal. Oil-burner	865,783	Sept. 10	1598	452	130	519
Johnson, William H., Brandon, Vt. Device for measuring heights of persons	865,709	Sept. 10	1484	419	130	482
Jones, William O. (See Brower, Rose, and Jones.)						
Kansas City Hay Press Company. (See Burkett, John W., assignor.)						
Kay Brothers. (See Kay, Samuel V., assignor.)						
Kay, Samuel V., assignor to Kay Brothers Limited, Stockport, England. Receptacle for insect-catching tape	865,596	Sept. 10	1312	372	130	427
Keeney, Urias Z., Malden, W. Va. Fireplace and chimney	865,909	Sept. 10	1808	504	130	505
Kehoe, William J., Washington, D. C. Stenographic machine	865,910	Sept. 10	1810	504	130	505
Keith, Calvin, and G. F. Lister, Mansfield, Ohio. Door-hinge	865,911	Sept. 10	1810	505	130	506
Keith, Elmer L. (See Willix and Keith.)						
Kelley Petroleum Gas Generator Company. (See Kelley and Hofmeister, assignors.)						
Kelley, William T., and C. W. Hofmeister, Muskogee, Ind. Ter., assignors to Kelley Petroleum Gas Generator Company. Supplying fuel for heating purposes	865,646	Sept. 10	1389	394	130	454
Kelley, William T., and C. W. Hofmeister, Muskogee, Ind. Ter., assignors to Kelley Petroleum Gas Generator Company. Attachment for stoves, boilers, burners, and the like	865,647	Sept. 10	1390	394	130	454
Kelly, David J., and J. M. Callow, assignors to Kelly Filter Press Co., Salt Lake City, Utah. Slimes-filtering apparatus	865,912	Sept. 10	1812	505	130	506
Kelly Filter Press Co. (See Kelly and Callow, assignors.)						
Kenyon, Daniel M., assignor of one-half to J. B. Etherington, Bradford, Pa. Pipe-coupling and applying same	865,497	Sept. 10	1151	327–8	130	379
Kenyon, Daniel M., assignor of one-half to J. B. Etherington, Bradford, Pa. Implement for coupling pipe	865,498	Sept. 10	1154	328	130	381
Keuffel & Esser Company. (See Keuffel, Willie L. E., assignor.)	865,394	Sept. 10	989	283	130	329
Keuffel, Willie L. E., Hoboken, N. J., assignor to Keuffel & Esser Company. Protractor	865,597	Sept. 10	1313	372	130	427
Kiefer, Karl, Cincinnati, Ohio. Bottle-filling machine	865,395	Sept. 10	990	283–4	130	329
Kiesel, William F., Jr., Altoona, Pa. Car-window	865,499	Sept. 10	1156	328–9	130	382
Kiesel, William F., Jr., Altoona, Pa. Steel railway-car	865,500	Sept. 10	1158	329–30	130	382
Kiesel, William F., Jr., Altoona, Pa. Motor-truck	865,501	Sept. 10	1160	330	130	383
King, Charles C., New York, assignor to C. W. Hunt Company, West New Brighton, N. Y. Machinery for handling coal, ore, &c.	865,913	Sept. 10	1814	505–6	130	507
King, James W., *et al.* (See Henderson and King, assignors.)						
King, John N. (See Henderson and King.)						
Kirker, James M., deceased, Cincinnati, Ohio; (N. Ritter, administratrix,) assignor of one-half to G. W. Elmes, Newport, Ky. Non-refillable bottle	865,710	Sept. 10	1484	419	130	483
Kissel, William H., Avoca, Iowa. Apparatus for testing seeds	865,502	Sept. 10	1161	330	130	383
Kitsee, Isidor, Philadelphia, Pa. Separating metal from deposits	865,711	Sept. 10	1485	419	130	483
Klingler, Herman, Sitterdorf, Switzerland. Resilient tire	865,396	Sept. 10	991	284	130	330
Knabe, Ernest J., Jr., assignor to Wm. Knabe & Co. Manufacturing Company of Baltimore City, Baltimore, Md. Automatic pedal-exposing device for player-pianos	865,914	Sept. 10	1815	506–7	130	507
Knobloch, John, New York, N. Y. Electrical accumulator	865,503	Sept. 10	1162	331	130	384
Knopf, Carl, New York, N. Y. Dress-skirt marker	865,397	Sept. 10	992	284	130	330
Koch, Henry, assignor to Regina Company, Rahway, N. J. Talking-machine attachment	865,398	Sept. 10	993	284	130	330
Koch, Henry, assignor to Regina Company, Rahway, N. J. Talking-machine horn	865,399	Sept. 10	994	285	130	330
Koch, Nicholas, Milwaukee, assignor to G. H. Crowns, Port Washington, Wis. Valve	865,915	Sept. 10	1817	507	130	508
Koehler, G. A. Edward. (See Graham, George M., assignor.)						
Koons, Virgil C., Colorado Springs, Colo. House letter-box	865,400	Sept. 10	994	285	130	331
Kormil, Alexander, assignor of one-half to F. Radloff, Goldendale, Wash. Combined whip-socket and rein-holder	865,916	Sept. 10	1818	507–8	130	508
Köster, Gustav, assignor to Bestmann & Co., Maschinenfabrik zu Neumünster G. M. B. H. in Neumünster, Neumünster, Germany. Means for grinding carding-cylinders	865,401	Sept. 10	996	285	130	331
Krentler-Arnold Hinge Last Company. (See Krentler, Edwin O., assignor.)						
Krentler Brothers Company. (See Pym, Charles F., assignor.)						
Krentler, Edwin O., assignor to Krentler-Arnold Hinge Last Company, Detroit, Mich. Last-lock	865,712	Sept. 10	1487	420	130	843
Kritzler, Julius, Kiel, Germany. Piston packing-ring	865,402	Sept. 10	997	285	130	332
Kryptok Company. (See Dieckmann, Carl F., assignor.)						
Kuehnlein, Harry. (See Kuehnlein, William and H.)						
Kuehnlein, William and H., Philadelphia, Pa. Culinary utensil	865,917	Sept. 10	1820	508	130	509
Kügelgen, Franz von, and G. O. Seward, Holcombs Rock, Va. Electrolysis of fused salts	865,648	Sept. 10	1391	.....	130	454
Kunz, Robert. (See Gabler and Kunz.)						
L. C. Smith and Bros. Typewriter Company. (See Gabrielson, Carl, assignor.)						
La Rue, A. Horace. (See Chevrette, Eugene, assignor.)						
Laberee, George P. (See Thompson and Laberee.)						
Ladd, Earnest W., assignor of three-fourths to H. Arnold, W. H. Rohrer, H. L. Wheatley, B. M. McQuinn, Washington, D. C., and T. J. Farrar, Va. Cutting-tool	865,918	Sept. 10	1821	508	130	509
Lager, Carl, Baldwinsville, N. Y. Centrifugal high-pressure pump	865,504	Sept. 10	1164	331	130	384
Lamouroux, Pierre, Paris, France, assignor to T. W. Stemmler, New York, N. Y. Apparatus for sterilizing and filling vessels	865,713	Sept. 10	1488	420	130	483
Landry, Wilfred, New Orleans, La. Refrigerator	865,403	Sept. 10	998	286	130	332
Lane Manufacturing Company. (See Cudaback, Edgar L., assignor.)						
Lange, Otto, Camden, N. J. Expansible reamer	865,784	Sept. 10	1600	453	130	519
Langer, Carl, Clydach, assignor to Mond Nickel Company Limited, Westminster, England. Apparatus for treating with carbonic oxid nickel ores or other material containing nickel	865,909	Sept. 10	1806	531	130	622
Laurent, Andrew J., Indiana, Pa. Gate	865,404	Sept. 10	999	286	130	332
Lavy, Martin W., New York, N. Y. Corset-waist	865,785	Sept. 10	1601	453	130	520
Lewis, De Witt H., Delaware, Ohio. Program-clock	865,598	Sept 10	1314	373	130	428
Leavitt Machine Co. (See Williams, Thomas B., assignor.)						
Leder, Paul H. A., Baltimore, Md., and B. F. Schubert, Washington, D. C. Bottle-stopper	865,405	Sept. 10	1000	286	130	333
Lee, Charles S., Troy, N. Y. Controller for electric motors	865,970	Sept. 10	1898	531–2	130	622

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Leeming, Frank, Bradford, and C. Hudson, Ingrow, near Keighley, assignors to G. Hattersley and Sons Limited, Keighley, England. Shuttle-box-operating mechanism for looms	865,649	Sept. 10	1392	394–5	130	455
Leetham, Richard E. (See Leetham, Sidney and R. E.)						
Leetham, Sidney and R. E., York, England. Automatic feed weighing and packing apparatus	865,919	Sept. 10	1823	508–10	130	600
Lewis, Jacob O., Chicago, Ill. Vehicle-spring	865,505	Sept. 10	1167	332	130	385
Lewis, Jacob O., Chicago, Ill. Vehicle-spring	865,599	Sept. 10	1317	373	130	429
Lewis, Lewis C., assignor to Monarch Manufacturing Company, Columbus, Ohio. Cock	865,506	Sept. 10	1167	332	130	385
Libbey Glass Company. (See Nolan, Cornelius J., assignor.)						
Liebert, Morris A., New York, N. Y. Horseshoe	865,507	Sept. 10	1168	332	130	385
Lind, Harvey E., Kent, Ohio. Car-repairing device	865,508	Sept. 10	1170	332	130	386
Lindström, Charles A., Allegheny, Pa. Safety-clutch for door-operating mechanisms	865,714	Sept. 10	1490	421	130	484
Lindström, Charles A., Allegheny, Pa. Safety-clutch for car-door mechanisms	865,920	Sept. 10	1825	510	130	600
Lindström, Charles A., Allegheny Pa. Safety-clutch for car-door-operating mechanisms	865,921	Sept. 10	1826	511	130	600
Lingo, Francis. (See Lynch, John, assignor.)						
Linker, Moses, New York, N. Y. Bottle-stopper	865,406	Sept. 10	1001	286	130	333
Lippke, John H., Waterbury, and R. M. Babin, Oakville, Conn. Lock safety-pin	865,786	Sept. 10	1602	453	130	520
Lister, George F. (See Keith and Lister.)						
Loeb, Hugo D. (See Loeb and Goosmann.)						
Loeb, Jacob A. and H. D., and J. C. Goosmann, Chicago, Ill. Automatic fire-extinguisher	865,407	Sept. 10	1002	287	130	333
Lonergan, Daniel F., Morristown, N. J. Device for operating window-blinds	865,922	Sept. 10	1827	511	130	601
Long, Abijah, Grandfalls, Tex. Lap-link	865,600	Sept. 10	1318	373	130	429
Lopez, Perfecto F., and J. P. Zamora, Habana, Cuba, assignors to International Packing Machine Company. Wrapping-machine	865,408	Sept. 10	1003	287–8	130	334
Loson, Frank N. (See Graves and Losoon.)						
Lothrop, George J. (See Wood, Winthrop E., assignor.)						
Louden, William, Fairfield, Iowa. Elevated carrier	865,509	Sept. 10	1171	333	130	386
Lowe, Levi E. Columbus, Ohio. Valve and sparking mechanism for hydrocarbon-engines	865,650	Sept. 10	1393	395	130	455
Lowe, William, assignor to Ideal Shaft Supporter Company, Provo, Utah. Shaft-supporter	865,715	Sept. 10	1491	421	130	484
Lowry, Moses M., Hodges, Tex. Combined quilting-frame and ironing-board	865,409	Sept. 10	1008	288	130	335
Loyd, William F., Granville, Ohio. Truck	865,601	Sept. 10	1319	374	130	429
Lueders, William H., *et al.* (See Garrette, John E., assignor.)						
Lund, Matthew. (See Fox and Lund.)						
Lynch, John, Trenton, assignor of one-third to F. Lingo, Camden, N. J. Clothes-line support	865,923	Sept. 10	1828	511	130	601
Lynn, Robert, High Bridge, N. J. Safe	865,602	Sept. 10	1319	374	130	429
Macdonald, Thomas H., and F. L. Capps, assignors to American Graphophone Company, Bridgeport, Conn. Sleve for use in making disk sound-records	865,716	Sept. 10	1492	421–2	130	485
Macgowan and Finigan Foundry & Machine Co. (See Macgowan, Peter S., assignor.)						
Macgowan, Peter S., assignor to Macgowan and Finigan Foundry & Machine Co., St. Louis, Mo. Power-hammer	865,787	Sept. 10	1603	453–4	130	520
Mael, Peter E., Mount Horeb, Wis. Monument	865,410	Sept. 10	1009	288	130	335
Maginn, John J., and A. E. Cary, Greeley, Nebr. Draft attachment	865,924	Sept. 10	1829	511	130	601
Magnasco, Giovanni, assignor to Societa Italiana dei Forni, Genoa, Italy. Oven or stove	865,971	Sept. 10	1900	532	130	622
Mann, John L., Smithton, W. Va. Apparatus for making lampblack	865,603	Sept. 10	1321	374–5	130	430
Manufacturers Machine Company. (See Hooper, William H., assignor.)						
Manufacturers Machine Company. (See Stanbon, Charles P., assignor.)						
Marcks, Martin, Baltimore, Md. Cabinet-mantel	865,510	Sept. 10	1174	333–4	130	388
Marien, Charles A., St. Louis, Mo Cushion-tire wheel	865,411	Sept. 10	1010	289	130	335
Maring, Hermann. (See Noack and Maring.)						
Martin, Daniel. (See Wrenn and Martin.)	865,788	Sept. 10	1604	454	130	521
Martin, Frances J., Cedar Bayou, Tex. Skirt-supporter	865,789	Sept. 10	1605	454	130	521
Martin, James V., assignor of one-third to T. C. Brian, Baltimore, Md. Furnace for melting metal	865,412	Sept. 10	1011	289	130	336
Mathewson, Albert H., Thompsonville, Conn. Attachment for electric-motor controllers	865,413	Sept. 10	1012	289–90	130	336
Mauran, Max, Niagara Falls, N. Y. Drumheading-machine	865,651	Sept. 10	1394	395	130	455
Mauran, Max, Niagara Falls, N. Y., assignor to Castner Electrolytic Alkali Co. Bleaching-powder chamber	865,414	Sept. 10	1015	290	130	337
Mauve, Waldemar Sosnowice, Russia. Steam-brake	865,790	Sept. 10	1607	454	130	521
Maxim, Hiram P. (See Pope and Maxim.)						
Mayer, Moritz, New York, N. Y. Collapsible display-rack	865,422	Sept. 10	1023	292	130	340
McArdle, Jerome B., West Orange, N. J. Horseshoe-pad	865,720	Sept. 10	1501	423–4	130	488
McCarthy, Alexander, New York, N. Y. Apparatus for the generation of power	865,929	Sept. 10	1834	513–14	130	608
McClave-Brooks Company. (See McClave, William, assignor.)						
McClave, William, assignor to McClave-Brooks Company, Scranton, Pa. Grate	865,423	Sept. 10	1024	293	130	340
McCormick, William, and H. Barnes, Cleveland, Ohio. Flushing-tank	865,794	Sept. 10	1611	456	130	523
McCoy, Hugh B., administrator (See Harris, Robert C. and H. R.)						
McCulloch, Henry B., Canton, Okla. Ter. Game apparatus	865,930	Sept. 10	1838	514	130	604
McCusker, Frank C., Philadelphia, Pa. Roofing-tongs						
McDonald, James J., *et al.* (See Auble, James H., assignor.)	865,424	Sept. 10	1025	293	130	340
McFarlane, George C., Bay City, Mich. Air-compressor	865,721	Sept. 10	1502	424	130	488
McGonegal, Guy N., Juniata, Nebr. Veterinary obstetrical forceps	865,795	Sept. 10	1612	456	130	523
McKenna, Edward D., Brooklyn, N. Y. Tally-card	865,425	Sept. 10	1031	294	130	342
McNeil, John, Reserve Mines, Nova Scotia, Canada. Spike						
McQuinn, B. M., *et al.* (See Ladd, Earnest W., assignor.)	865,511	Sept. 10	1175	334	130	388
Mehaffey, George P., Knoxville, Tenn. Machine for making foundry-molds	865,791	Sept. 10	1606	455	130	522
Meier, Wilhelm, Elizabeth, N. J. Fireproof lath						
Mellor, Arthur, Macclesfield, England, and J. Villy, Amplepuis, France. Machine for working or dressing textile fibers	865,512	Sept. 10	1176	334–7	130	388
Merchant, Frank D., Minneapolis, Minn. Concrete-block machine	865,717	Sept. 10	1493	423	130	485
Metzger, Homer, *et al.* (See Fredrick, William, assignor.)						
Meyer, August C., Worcester, Mass. Target	865,604	Sept. 10	1322	375	130	430
Mielcarek, Wladyslaw S., St. Louis, Mo. Air-ship	865,415	Sept. 10	1015	290	130	337
Miller, Clarence E., Fairmont, W. Va., and Q. L. Pore, Connellsville, Pa. Miner's lock	865,792	Sept. 10	1608	455	130	522
Miller, Louis H., Portland, Oreg. Pallet-jewel setter	865,025	Sept. 10	1829	512	130	601
Mills, James S., New York, N. Y. Hat-protector	865,926	Sept. 10	1831	512	130	602
Mitchell, Isaiah, Bell City, La. Traction-wheel	865,416	Sept. 10	1016	291	130	337
Mitchell, Isaiah N., Bell City, La. Antislipping device for traction-engines	865,417	Sept. 10	1018	291	130	338
Mitchell, William H. (See Isaman and Mitchell.)						
Moe, Gerhard, Ladysmith, Wis. Background for photographic measurements	865,418	Sept. 10	1019	291	130	338
Monarch Manufacturing Company. (See Lewis, Lewis C., assignor.)						
Monarch Typewriter Company. (See Barney, Edwin E., assignor.)						
Monarch Typewriter Company. (See Young, Frank A., assignor.)						
Mond Nickel Company. (See Langer, Carl, assignor.)						
Montandon, Frits, and N. Weil, La Chaux-de-Fonds, Switzerland. Plate for repeater-watches	865,652	Sept. 10	1395	395	130	455
Montasbre, Philippe, Fresno, Cal. Rack traction-engine	865,605	Sept. 10	1325	376–9	130	431

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Moore, Edward, Syracuse, N. Y. Gas-engine	865,972	Sept. 10	1901	532	130	624
Moore, James C., Philadelphia, Pa. Device for thawing hydrants and fire-plugs	865,927	Sept. 10	1831	512	130	602
Moore, Jesse C. (See Moore, William A. and J. C.)						
Moore, Marion, assignor of two-thirds to C. M. Rowlee and F. P. Barr, Lancaster, Ohio. Nut-lock	865,513	Sept. 10	1182	337	130	389
Moore, William A. and J. C., assignors to Columbia School Supply Company, Indianapolis, Ind. Jolly balance	865,420	Sept. 10	1022	292	130	339
Moore, William F., Owego, N. Y. Music-leaf turner	865,928	Sept. 10	1833	513	130	602
Moorhead, Dennis L., St. Louis, Mo. Aeroplane	865,419	Sept. 10	1021	292	130	339
Morgan, Elbert R., and C. A. Erickson, Forestgrove, Mont. Fire-escape	865,718	Sept. 10	1497	423	130	486
Morrison, Edwin, Fort Collins, Colo., assignor to American Sugar Refining Company, Jersey City, N. J. Apparatus for making sucrate of lime	865,793	Sept. 10	1609	455–6	130	522
Müllenmeister, Paul, Aix-la-Chapelle, Germany. Sick and invalid carriage	865,514	Sept. 10	1183	337	130	389
Müller, Askan, Hohenau, Austria-Hungary. Flue-cleaner	865,653	Sept. 10	1396	396	130	456
Müller, Paul, Breslau, Germany. Lock	865,421	Sept. 10	1023	292	130	339
Muney, Martha A., Escalon, Cal. Cream-cooler	865,515	Sept. 10	1185	337	130	390
Murphy, Peter H. (See Hoffman, John J., assignor.)						
Murphy, Peter H. (See Tatum, John J., assignor.)						
Murray, George G., Larchmont, N. Y., assignor to American Lithographic Company. Lithographic-printing form and making the same	865,719	Sept. 10	1498	423	130	487
National Peat Products & Chemical Company. (See Smith, James E., assignor.)						
Naylor, Ellsworth G. (See Kerins and Naylor.)						
Neel, Clyde N., *et al.* (See Teate, Thomas A., assignor.)						
Neel, Elijah L., *et al.* (See Teate, Thomas A., assignor.)						
Neel, Herbert A., *et al.* (See Teate, Thomas A., assignor.)						
New Haven Clock Company. (See Porter, Wilson E., assignor.)						
Newell, Frank C., Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Electric regulator	865,516	Sept. 10	1186	338	130	390
Noack, Hugo, Stamford, and H. Maring, Darien, Conn. Waterproof building-block	865,654	Sept. 10	1398	396	130	456
Nolan, Cornelius J., assignor to Libbey Glass Company, Toledo, Ohio. Tube-forming apparatus	865,517	Sept. 10	1187	338	130	391
Norris, George E., and G. R. Shoemaker, assignors to Columbus Aseptic Furniture Company, Columbus, Ohio. Grinding apparatus	865,426	Sept. 10	1031	294	130	343
Norton, Charles L., Manchester, Mass., assignor to Asbestos Wood Company. Insulating material and producing the same	865,606	Sept. 10	1337		130	437
O'Brien, Frederick W., Detroit, Mich. Hydraulic motor	865,796	Sept. 10	1612	457	130	523
Ocumpaugh, Charles H., Rochester, N. Y. Ventilator	865,518	Sept. 10	1188	339	130	391
Oliver, William H., Chicago, Ill. Wrench or nut-jack	865,519	Sept. 10	1190	339	130	391
Orbin, Edwin R., Duquesne, Pa. Curtain-stretcher	865,722	Sept. 10	1503	424	130	489
Owings, James P., Webster, Kans. Tedder attachment for mowing-machines	865,607	Sept. 10	1339	379	130	438
P. R. Manufacturing Company. (See Eden, Harold W., assignor.)						
Page, Arthur A., Brooklyn, N. Y. Window-curtain-suspending device	865,520	Sept. 10	1191	339	130	392
Pallenberg, Franz, Dortmund, Germany. Fuel-feeding device for furnaces	865,723	Sept. 10	1504	425	130	489
Palmer, Arthur R., San Diego, Cal., W. C. Palmer and H. A. Stanford, Chicago, Ill. Automatic photographic-printing device	865,797	Sept. 10	1613	457–8	130	524
Palmer, Will C. (See Palmer and Stanford.)						
Park, John W., Excelsior Springs, Mo. Windmill	865,521	Sept. 10	1192	340	130	392
Park, Samuel T., assignor to himself and J. E. Phillips, Danville, Ill. Draft or work indicating and recording mechanism for locomotives	865,931	Sept. 10	1839	514–17	130	605
Park, William R., Taunton, Mass. Carbureter	865,522	Sept. 10	1195	340–1	130	393
Parker, Thomas, London, England. Fuel	865,724	Sept. 10	1505		130	489
Patent Ventilated Car Company. (See Bayer, Henry S., assignor.)						
Patten, Grant T., Newberry township, Miami county, Ohio. Combined corn harvester and shocker	865,655	Sept. 10	1399	396–7	130	406
Pelton Water Wheel Co. (See Bühle, Erich, assignor.)						
Peters, Frank M., Chicago, Ill. Machine for forming carton-blanks	865,523	Sept. 10	1198	341–3	130	394
Peterson, John, New York, N. Y. Valve	865,798	Sept. 10	1617	458	130	525
Phillips, John E. (See Park, Samuel T., assignor.)						
Pierson, Arthur N., Westfield, N. J. System of refuse disposal	865,427	Sept. 10	1033	294–5	130	343
Pierson, John, Jr., Attica, Kans. Whiffletree-hook	865,932	Sept. 10	1841	517	130	605
Pletcher, Thomas M., Chicago, Ill. Automatic piano	865,524	Sept. 10	1201	343	130	394
Poalk, James L., Philadelphia, Pa., assignor to Automatic Oscillating Loom Company of America. Loom	865,973	Sept. 10	1902	532–3	130	624
Poalk, James L., Philadelphia, Pa, assignor to Automatic Oscillating Loom Company of America. Woven fabric and weaving the same	865,974	Sept. 10	1904	533	130	675
Ponomarew, Johann J., Terskaja Oblast, Grosny, Russia. Apparatus for rectifying and dephlegmating vapor mixtures	865,933	Sept. 10	1842	517	130	605
Pope, Harry M., and H. P. Maxim, Hartford, Conn., assignors, by mesne assignments, to Electric Vehicle Company, Jersey City, N. J., and New York, N. Y. Generation of vapor	865,725	Sept. 10	1507	425	130	489
Pore, Quincy L. (See Miller and Pore.)						
Portable Elevator Mfg. Co. (See White, John F., assignor.)						
Porter, Wilson E., assignor to New Haven Clock Company, New Haven, Conn. Watch	865,656	Sept. 10	1401	397	130	457
Potter, J. R., *et al.* (See Vaughn, Clark D., assignor.)						
Powell, William H., Norwood, Ohio, assignor to Allis-Chalmers Company and Bullock Electric Manufacturing Company. System of motor control	865,811	Sept. 10	1642	464	130	535
Powell, William H., Norwood, Ohio, assignor to Allis-Chalmers Company and Bullock Electric Manufacturing Company. Motor-control system	865,812	Sept. 10	1645	465	130	536
Powell, William H., Norwood, Ohio, assignor to Allis-Chalmers Company and Bullock Electric Manufacturing Company. Method and means for controlling electric motors	865,813	Sept. 10	1651	465	130	539
Powell, William H., Norwood, Ohio, assignor to Allis-Chalmers Company and Bullock Electric Manufacturing Company. Motor-control system	865,814	Sept. 10	1655	465	130	542
Powell, William H., Norwood, Ohio, assignor to Allis-Chalmers Company and Bullock Electric Manufacturing Company. System of motor control	865,815	Sept. 10	1659	466	130	544
Powell, William H., Norwood, Ohio, assignor to Allis-Chalmers Company and Bullock Electric Manufacturing Company. Motor-control system	865,816	Sept. 10	1664	466	130	547
Powell, William H., Norwood, Ohio, assignor to Allis-Chalmers Company and Bullock Electric Manufacturing Company. System of motor control	865,817	Sept. 10	1668	466	130	549
Powell, William H., Norwood, Ohio, assignor to Allis-Chalmers Company and Bullock Electric Manufacturing Company. System of motor control	865,818	Sept. 10	1671	466	130	551
Powell, William H., Norwood, Ohio, assignor to Allis-Chalmers Company and Bullock Electric Manufacturing Company. Motor-control system	865,819	Sept. 10	1674	467	130	552
Powers, Leonard J., assignor to Powers Manufacturing Company, Waterloo, Iowa. Machine for stuffing horse-collars	865,934	Sept. 10	1843	517–18	130	606
Powers Manufacturing Company. (See Powers, Leonard J., assignor.)						
Price, Edgar F., Niagara Falls, N. Y. Baking carbon electrodes and heating by electricity and combustion	865,608	Sept. 10	1340	380	130	438
Price, Edgar F., Niagara Falls, N. Y. Smelting refractory ores and producing low-carbon ferro alloys	865,609	Sept. 10	1341	380	130	439
Price, Thomas M., Itasca, Tex. Cleaning-rod for rifled firearms	865,726	Sept. 10	1510	426	130	490

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Proctor, William H. W. (See Vandervell and Proctor.)						
Prouty, George W., Dorchester, Mass. Delivery mechanism for printing-presses and similar machines	865,525	Sept. 10	1203	343–4	130	395
Puffenberger, Judson, Charlotte, Mich. Tongue-support	865,935	Sept. 10	1845	518	130	606
Pullets, George, New York, N. Y. Device for securing an asbestos covering and plaster to a hot-air duct or pipe	865,610	Sept. 10	1343	381	130	439
Putnam, Willis E., Worcester, Mass. Sign-operating mechanism	865,526	Sept. 10	1206	344	130	397
Pym, Charles F., Essex, Ontario, Canada, assignor of one-half to Krentler Brothers Company, Detroit, Mich. Lasting-machine	865,936	Sept. 10	1846	518–19	130	606
Quade, Frank H., Jr., San Francisco, Cal. Automatic time switch and alarm	865,428	Sept. 10	1036	296	130	344
Queneau, Augustin L. J., South Bethlehem, Pa. Making and utilizing gas	865,727	Sept. 10	1511	426	130	491
Quinby, Edwin J., Portland, Me. Telephone-receiver	865,937	Sept. 10	1848	519	130	607
Radloff, Fred. (See Kormill, Alexander, assignor.)						
Radtke, Albert A., Chicago, Ill. Heating device	865,527	Sept. 10	1206	345	130	397
Rago, Carmen, Chicago, Ill. Grain-car	865,938	Sept. 10	1849	519	130	608
Ralston Steel Car Company. (See Becker, Anton, assignor.)						
Ramsden, Edwin R., Jersey City, N. J. Non-refillable bottle	865,939	Sept. 10	1849	520	130	608
Randolph, Marion W., Seattle, Wash. Stove	865,940	Sept. 10	1851	520	130	608
Rau, Henry, Jr., assignor of one-half to W. H. Rhine and G. E. Demuth, Baltimore, Md. Pneumatic track-sander	865,941	Sept. 10	1852	520	130	609
Rau, Henry, Jr., assignor of one-half to W. H. Rhine and G. E. Demuth, Baltimore, Md. Pneumatic track-sander	865,942	Sept. 10	1854	520–1	130	609
Reading Standard Company. (See Schaeffer, William G., assignor.)						
Reed, Franklin M., assignor to Wayne Stove Company, Fort Wayne, Ind. Heating-stove	865,528	Sept. 10	1210	345	130	398
Reed, Ralph R., San Francisco, Cal. Fire-shutter	865,943	Sept. 10	1857	521	130	610
Regina Company. (See Koch, Henry, assignor.)						
Regina Company. (See Schubert, William, assignor.)						
Reichert, John, and C. S. Beebe, Racine, Wis. Tank-lug	865,944	Sept. 10	1858	521–2	130	611
Rettig, John M., Chanute, Kans. Oil-hoisting apparatus for wells	865,429	Sept. 10	1038	296	130	345
Reynolds, Leander E., Grand Rapids, Mich. Knockdown box	865,430	Sept. 10	1040	297	130	345
Rhine, William H., *et al.* (See Rau, Henry, Jr., assignor.)						
Rhode Island Elevator and Machine Company. (See Handy, Arthur E., assignor.)						
Richards, W. R., *et al.* (See Vaughn, Clark D., assignor.)						
Richards, Walter J., Norwood, Ohio, assignor to Allis-Chalmers Company. Motor-control system	865,820	Sept. 10	1677	467	130	553
Richards, Walter J., Norwood, Ohio, assignor to Allis-Chalmers Company. System of motor control	865,821	Sept. 10	1680	467	130	555
Richardson, E. N. (See Hensley, George P., assignor.)						
Richardson, Henry, Chicago, Ill. Wire bed-bottom fabric	865,799	Sept. 10	1618	458	130	525
Richmond, Dora M., administratrix. (See Richmond, Edward J.)						
Richmond, Edward J., deceased; D. M. Richmond, administratrix, assignor of two-thirds to J. A. Hitchens and B. Ballenger, Joplin, Mo. Check-row attachment for corn-planters	865,529	Sept. 10	1212	345–6	130	399
Risley, Seneca, and F. E. Ruger, Binghamton, N. Y. Chair having adjustable back	865,431	Sept. 10	1042	297	130	345
Ritter, Nannie, administratrix. (See Kirker, James M.)						
Robbins, Ira O., assignor of one-half to E. Groenley, Millville, Pa. Elevator-bucket	865,611	Sept. 10	1344	381	130	440
Roberts, John, and J. E. Bliss, Faust, N. Y. Tie	865,945	Sept. 10	1861	522	130	611
Robinson, George A., assignor of one-half to J. B. Goss, St. Paul, Minn. Cord-adjuster	865,531	Sept. 10	1221	348	130	400
Robinson, William, Brooklyn, N. Y. Box-making machine	865,530	Sept. 10	1214	346–7	130	399
Rockstroh, Max, Klein-Sedlitz, near Pirna, Germany. Platen printing-machine	865,800	Sept. 10	1620	459	130	526
Rodeen, Laura, Webrum, Pa. Lady's work-stand	865,801	Sept. 10	1620	459	130	526
Rodgers, John P., Youngstown, Ohio. Rail-joint	865,946	Sept. 10	1862	522	130	612
Rohrer, William H., *et al.* (See Ladd, Earnest W., assignor.)						
Roop, Christian Y. (See Johnson and Roop.)						
Rose, Israel M., Philadelphia, Pa. Automatic lighting device	865,802	Sept. 10	1621	459	130	526
Rose, Mahlon. (See Brower, Rose, and Jones.)						
Rosenberg, Albert, Baltimore, Md. Brake for machines	865,532	Sept. 10	1221	348	130	400
Ross, William D., Providence, R. I. Electric time-switch	865,432	Sept. 10	1042	297	130	346
Row, Reuben R., assignor to James Reilly Repair and Supply Company, Jersey City, N. J. Means for coiling pipes or tubes	865,803	Sept. 10	1623	460	130	527
Rowe, Byron W., Plymouth, Wis. Railway-signal	865,433	Sept. 10	1043	297–8	130	346
Rowe, Daniel H., Greenup, Ill. Cylinder-boring device	865,533	Sept. 10	1222	348	130	400
Rowlee, Clarence M., *et al.* (See Moore, Marion, assignor.)						
Royal Typewriter Company. (See Hess, Edward B., assignor.)						
Ruger, Forrest E. (See Risley and Ruger.)						
Rundlett, William D., assignor to Davis & Furber Machine Company, North Andover, Mass. Spinning-mule	865,947	Sept. 10	1863	522–3	130	612
Sabatelli, Joseph. (See Callmann and Sabatelli.)						
Sadorus, Samuel S., Sarilda, Idaho. Rotary engine	865,804	Sept. 10	1626	460–1	130	528
Sala, Jacob J. (See Hutchins and Sala.)						
Sampson, George P., Newton, Iowa. Draft-equalizer	865,534	Sept. 10	1223	349	130	400
Sangster, Charles T. B., Bournbrook, near Birmingham, England. Controlling device for variable-speed mechanisms	865,805	Sept. 10	1627	461	130	529
Sanitary Oyster Carrier and Commission Co. (See Elledge, Forrest M., assignor.)						
Sarnia Match Company. (See Hutchinson, William F., assignor.)						
Savage Arms Company. (See Chadwick, Frank C., assignor.)						
Saxe, John G., assignor of one-half to R. J. Close, Port Huron, Mich. Gage-cock	865,535	Sept. 10	1224	349	130	401
Saylor, Howard D., Philadelphia, Pa. Insulating-machine	865,612	Sept. 10	1345	381–2	130	440
Schaeffer, William G., Reading, Pa., assignor, by mesne assignments, to Reading Standard Company. Combined luggage-carrier and stand	865,948	Sept. 10	1865	523	130	612
Schaff, William C., and J. A. E. Friederichs, San Bernardino, Cal. Valve for fluid-pressure engines	865,949	Sept. 10	1866	523	130	612
Schneider, Adolf J., assignor of one-half to A. Goertz, Newark, N. J. Button	865,657	Sept. 10	1402	398	130	457
Schneider, Frederick A., assignor to H. B. Schneider, Washington, D. C. Pencil-clasp	865,981	Sept. 10	1923	539	130	632
Schneider, Helen B. (See Schneider, Frederick A., assignor.)						
Schreidt, Frank, Mansfield, Ohio. Fishing-reel	865,613	Sept. 10	1347	382	130	441
Schrenkler, Wm. (See Hanson, Frederick O., assignor.)						
Schubert, Bernard F. (See Leder and Schubert.)						
Schubert, George, Fort Worth, Tex. Self-feeder for balers	865,614	Sept. 10	1350	383	130	442
Schubert, William, assignor to Regina Company, Rahway, N. J. Reproducer for phonographs	865,435	Sept. 10	1046	298	130	347
Schuch, August, Waseca, Minn. Clasp	865,434	Sept. 10	1045	298	130	347
Schuetz, Frank A., Chicago, Ill., assignor to Adams & Westlake Company. Candle-lamp	865,950	Sept. 10	1868	523	130	613
Scott, Arthur H., Philadelphia, Pa. Supporting device for toilet-paper packages	865,436	Sept. 10	1047	299	130	347
Scott, James, Pittsburg, Pa. Sintering ores	865,658	Sept. 10	1404	398	130	458
Scott, James, Pittsburg, Pa. Sintering ores	865,659	Sept. 10	1406	398–9	130	458
Scott, Robert W., Leeds Point, N. J., assignor of one-half to L. N. D. Williams, Ogontz, Pa. Open-work knitted web	865,660	Sept. 10	1407	399	130	480

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Scranton, Henry O (See Stokoe, John W., assignor.)						
Scribner, Charles E., Jericho, Vt., and C. D. Enochs, assignors to Western Electric Company, Chicago, Ill. Selector for automatic telephone-exchanges	865,536	Sept. 10	1225	349–60	130	401
Seagrave, Frederic S., Detroit, Mich. Ladder	865,951	Sept. 10	1869	524	130	613
Seward, George O. (See Kügelgen and Seward.)						
Shannen, Harry J., Atlanta, Ga. Refrigerator	865,952	Sept. 10	1870	524	130	613
Shaw, Eugene W., Weir, Kans. Air-brake hose-coupling	865,615	Sept. 10	1352	383	130	442
Shaw, John P., Aberdeen, Miss. Animal-yoke	865,953	Sept. 10	1872	525	130	614
Sheahan, Maurice J., Rochester, N. Y. Device for gathering fruit	865,437	Sept. 10	1047	299	130	347
Sheldon, Samuel B., Buffalo, N. Y. Poker mechanism for gas-producers	865,616	Sept. 10	1353	383–4	130	442
Shell, Mason N., Eckman, W. Va. Car-mover	865,438	Sept. 10	1049	299	130	348
Shepard, Charles H., New York, assignor to Wyckoff, Seamans & Benedict, Ilion, N. Y. Type-writing machine	865,806	Sept. 10	1629	461–2	130	529
Shoemaker, George R. (See Norris and Shoemaker.)						
Simonds, Frank A., Grand Rapids, assignor to Simonds Heating and Specialty Company, Fremont, Mich. Heating system	865,439	Sept. 10	1050	299–300	130	348
Simonds Heating and Specialty Company. (See Simonds, Frank A., assignor.)						
Sleeper, Charles W., Lancaster, N. H. Flanging-machine	865,440	Sept. 10	1051	300–1	130	348
Slocum, George S., Newport, R. I. Roller-skate	865,441	Sept. 10	1055	301	130	350
Smith, Jacob A., Cleveland, Ohio. Printing-press	865,728	Sept. 10	1513	427–8	130	491
Smith, James E., Clinton, Ill., assignor to National Peat Products & Chemical Company. Obtaining gas from peat	865,537	Sept. 10	1228	350	130	401
Smith, Martin V., New York, N. Y. Gas-producer	865,954	Sept. 10	1872	525	130	615
Smith, Walter E., Clay Center, Kans. Shipping-case	865,538	Sept. 10	1228	350	130	401
Snell, Harry K. (See Vogel and Snell.)						
Societa Italiana dei Forni. (See Magnasco, Giovanni, assignor.)						
Sokup, Joseph V., Rice Lake, Wis. Cheese-press	865,955	Sept. 10	1874	526	130	615
Spangenberg, Brewster H., assignor to United Gas Improvement Company, Philadelphia, Pa. Gas-meter	865,442	Sept. 10	1057	302	130	350
Spengler, Oscar. (See Herzberg and Spengler.)						
Sponsel, Charles W., Hartford, Conn. Wire clip	865,956	Sept. 10	1875	526	130	615
Spring, William F. (See Williams, Warren and H. M., assignors.)						
Sprinkle, Thomas J., Hillsboro, Ohio. Tire-shield	865,443	Sept. 10	1059	302	130	351
Staley, Oran N., Hastings, Nebr. Plate-glass lifter	865,444	Sept. 10	1059	303	130	351
Stanbon, Charles P., Lynn, Mass., assignor to Manufacturers Machine Company, Montclair, N. J. Channeling-machine	865,957	Sept. 10	1875	526	130	615
Stanfield, Jasper H., Muskegon, Mich. Mechanical movement	865,958	Sept. 10	1879	527	130	616
Stanford, Harry A. (See Palmer and Stanford.)						
Stange, Louis, Aix-la-Chapelle, Germany. Production of elastic and plastic substances	865,807	Sept. 10	1634	.....	130	532
Stanley Rule & Level Company. (See Bartlett, George H., assignor.)						
Stansbury, Joseph A., Los Angeles, Cal. Apparatus for truing grinding-disks	865,959	Sept. 10	1880	527	130	617
Steel, John W., and J. C. Titus, Norfolk, Va. Machine for stemming peanuts	865,445	Sept. 10	1060	303	130	351
Steinmetz, Charles P., Schenectady, N. Y., assignor to General Electric Company. Induction-motor	865,617	Sept. 10	1356	384	130	444
Steinmetz, Charles P., Schenectady, N. Y., assignor to General Electric Company. Production of nitrous compounds	865,618	Sept. 10	1358	384	130	444
Stemmler, T. W. (See Lamouroux, Pierre, assignor.)						
Stewart, Alfred C., Los Angeles, Cal. Carbureter	865,539	Sept. 10	1230	350–1	130	402
Stewart, David A., J. F., and R. C., Molesworth, Ontario, Canada. Loader for shocks or sheaves of grain	865,446	Sept. 10	1063	304	130	352
Stewart, John F. (See Stewart, David A., J. F., and R. C.)						
Stewart, Richard F., Pocantico Hills, N. Y. Butter-cutter	865,447	Sept. 10	1065	304	130	355
Stewart, Robert C. (See Stewart, David A., J. F., and R. C.)						
Stipp, Leroy. (See Brister, William T., assignor.)						
Stocking, George E., *et al.* (See Jennings, John, assignor.)						
Stockton, William A., Eastman, Miss. Cotton-chopper	865,540	Sept. 10	1233	351	130	402
Stokoe, John W., assignor of one-half to H. O. Scranton, Jeanerette, La. Car-stake	865,448	Sept. 10	1067	304	130	355
Storm, George H., New York, N. Y. Folding invalid-chair	865,541	Sept. 10	1233	351	130	403
Stringham, Fred, Manitou, Colo. Separating-machine	865,542	Sept. 10	1235	352	130	403
Stump, Benjamin F., Cleveland, Ohio. Calculating-machine	865,808	Sept. 10	1636	462	130	533
Sturtevant Mill Company. (See Sturtevant, Thomas L. and T. J., assignors.)						
Sturtevant, Thomas J. (See Sturtevant, Thomas L. and T. J.)						
Sturtevant, Thomas L., Quincy, and T. J. Sturtevant, Wellesley, Mass., assignors to Sturtevant Mill Company, Portland, Me. Clutch-device power-transmitting mechanism	865,449	Sept. 10	1068	304–6	130	355
Sturtevant, Thomas L., Quincy, and T. J. Sturtevant, Wellesley, Mass., assignors to Sturtevant Mill Company, Portland, Me. Clutch device	865,450	Sept. 10	1071	306	130	355
Swift, William H., Everett, Mass. Faucet	865,451	Sept. 10	1075	307	130	356
Szameitat, Carl, assignor to Szameitat Reform-Sattel-Gesellschaft mit Beschränkter Haftung, Hamburg, Germany. Saddle	865,661	Sept. 10	1408	399	130	459
Szameitat Reform-Sattel-Gesellschaft mit Beschränkter Haftung. (See Szameitat, Carl, assignor.)						
Taggart, William H., Chicago, Ill. Apparatus for making molds for the casting of dental fillings and the like	865,823	Sept. 10	1686	468	130	559
Tatum, John J., Baltimore, Md., assignor to P. H. Murphy, St. Louis, Mo. Car-roof	865,452	Sept. 10	1076	307	130	356
Taylor, Elmer Z., London, England. Paper-cutting machine	865,809	Sept. 10	1638	463–4	130	533
Taylor, John H., Waterloo, Nebr. Flexible horse-collar pad	865,543	Sept. 10	1239	352	130	405
Taylor, William J., Philadelphia, Pa. Clamp for drains, traps, &c.	865,810	Sept. 10	1641	464	130	534
Teate, Thomas A., assignor of three-fourths to C. N., E. L., and H. A. Neel, Thomasville, Ga. Sewing-machine attachment	865,544	Sept. 10	1240	352	130	405
Terriff, William W., Portland, Mich. Gearing for washing-machines	865,824	Sept. 10	1687	468	130	560
Thompson, Amon, and G. P. Laberee, Salem, Oreg. Gang-plow	865,825	Sept. 10	1689	468–9	130	560
Tiger Tire Company. (See Hendler, John J., assignor.)						
Timken Roller Bearing Axle Company. (See Alden, Herbert W., assignor.)						
Titus, John C. (See Steel and Titus.)						
Todd, Davidson, Toronto, Ontario, Canada. Storm-sash for windows	865,453	Sept. 10	1077	307	130	356
Toney, Joseph, and J. H. Viol, assignors of one-eighth to S. Viol, Deer Lodge, Mont. Veterinary instrument	865,826	Sept. 10	1693	469	130	562
Torrance, Albert M., Bennington, Vt. Seam-dampener	865,827	Sept. 10	1693	470	130	562
Toussaint, Edward T., Jacksonville, Ill. Roller-awning	865,729	Sept. 10	1517	428	130	494
Tower, Wallace G., assignor of three-fourths to E. E. Evans, Kansas City, Mo. Machine for making concrete blocks	865,454	Sept. 10	1078	307–8	130	357
Trautmann, Bertha. (See Trautmann, Max, assignor.)						
Trautmann, Max, assignor to B. Trautmann, née Sprie, Dresden, Germany. Controlling system for railways	865,730	Sept. 10	1519	428–9	130	494
Travis, Jeremiah D., Fairbury, Ill. Conveyer	865,455	Sept. 10	1079	308	130	357
Tresenreuter, Gustav, Steglitz, near Berlin, Germany. Spinning device for whipping tops	865,619	Sept. 10	1260	384	130	445
Trommald, Gunder T., Portland, Oreg. Bottle attachment	865,545	Sept. 10	1240	353	130	405
Troy Laundry Machinery Company. (See Bartholomew, William, assignor.)						
Troy Laundry Machinery Company. (See Wilcox, Henry S., assignor.)						
Tucker, Frank W., Milford, Conn. Coin-operated vending-machine	865,828	Sept. 10	1695	470–1	130	562

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Twining, William S., Philadelphia, Pa. Passenger street-car	865,456	Sept. 10	1060	308–9	130	358
U. S. Gas Machine Co. (See Garland, George D., assignor.)						
U. S. Standard Voting Machine Co. (See Johnson, Otto T., assignor.)						
Uhlhorn, Diedrich, Jr., Grevenbroich, Germany. Drying-shaft for corn	865,546	Sept. 10	1242	353	130	406
Underwood Typewriter Company. (See Bruce, Brainard T., assignor.) (Reissue.)						
Unger, Frank, Rimersburg, Pa. Swing	865,829	Sept. 10	1699	472	130	563
United Gas Improvement Company. (See Spangenberg, Brewster H., assignor.)						
United States Whip Company. (See Donovan, John P., assignor.)						
Vacuum-Cleaner Company. (See Hein, Adolf, assignor.)						
Valenta, Edward W., assignor of one-half to W. A. Valenta, Cedar Rapids, Iowa. Liquid-weighing apparatus	865,731	Sept. 10	1520	429	130	495
Valenta, Wesley A. (See Valenta, Edward W., assignor.)	865,457	Sept. 10	1083	309	130	359
Van Kirk, Lyndon J., Rush Lake, Wis. Post-hole-boring machine	865,732	Sept. 10	1522	429	130	495
Vandervell, Charles A., London, and W. H. W. Proctor, Coventry, England. Dynamo or the like	865,662	Sept. 10	1409	400	130	459
Varley, Richard, Englewood, N. J., assignor to Autocoil Company. Igniter system	865,663	Sept. 10	1411	400	130	460
Varley, Richard, Englewood, N. J., assignor to Autocoil Company. Ignition system for explosion-engines	865,620	Sept. 10	1360	385	130	445
Vasconcelles, Harvey J., Jacksonville, Ill. Combined fork, egg-beater, and dish-lifter	865,830	Sept. 10	1700	472	130	564
Vaughn, Clark D., assignor to W. R. Veith, W. R. Richards, and J. R. Potter, Philadelphia, Pa. Cigar-lighter	865,458	Sept. 10	1085	309	130	360
Veith, Friedrich, Veithwerk, near Höchst, Germany. Mold for pneumatic tires						
Veith, William R., *et al.* (See Vaughn, Clark D., assignor.)						
Vidal, Juan B., Habana, Cuba. Keyboard for type-writing and other machines on which a keyboard is used	865,459	Sept. 10	1086	310	130	360
Villy, Jean. (See Mellor and Villy.)						
Viol, John H. (See Toney and Viol.)						
Viol, Salina. (See Toney and Viol, assignors.)						
Viquesney, Jules A. (See Jarvis, William D. F., assignor.)	865,460	Sept. 10	1087	310	130	361
Vogel, William C., and H. K. Snell, Rockford, Ill. Piano-action rail-support	865,664	Sept. 10	1414	401	130	460
Votey, Edwin S., Summit, N. J., assignor to Aeolian Company, New York, N. Y. Music-roll and support therefor	865,621	Sept. 10	1360	385	130	445
Wadsworth, Balys A., Hale, Oreg. Saw-guide						
Wagner, John F., *et al.* (See Weston, James H., assignor.)	865,547	Sept. 10	1242	353	130	406
Walker, George, Newton, Mass. Pipe-cleaner	865,831	Sept. 10	1701	472	130	564
Walker, Jasper N., Marion, Ill. Combined level and plumb						
Walters, Thomas, and J. B. Henderson, Brisbane, Queensland, Australia, assignors to said Walters. Bottle and the like	865,832	Sept. 10	1703	472	130	565
	865,833	Sept. 10	1704	473	130	565
Walton, Edgar H., Bay Minette, Ala. Turpentine-hack	865,960	Sept. 10	1882	527	130	617
Ward, Abraham D., Denver, Colo. Horseshoe	865,548	Sept. 10	1243	353–4	130	406
Ward, George H., Brooklyn, N. Y. Apparatus for boring cylinders						
Ward, Paul S., Covington, Ky., assignor to J. H. Day Company, Cincinnati, Ohio. Machine for cutting crackers and the like	865,461	Sept. 10	1088	310	130	361
	865,549	Sept. 10	1245	354	130	407
Waring, Nicholas, Rochester, N. Y. Potato-planter						
Waterbury Clock Co. (See Bavier, Adolphus, assignor.)						
Waterbury Clock Co. (See Horn, Ernest H., assignor.)						
Watkins, John W., assignor to David Lupton's Sons Company, Philadelphia, Pa. Sheet-metal window-sash	865,834	Sept. 10	1705	473	130	566
Watkins, John W., assignor to David Lupton's Sons Company, Philadelphia, Pa. Safety-catch for pivoted closures	865,835	Sept. 10	1707	474	130	566
Wayne Stove Company. (See Reed, Franklin M., assignor.)						
Weagant, Henry B., deceased; M. H. Weagant, executrix, Owen Sound, Ontario, Canada. Dental clamp	865,733	Sept. 10	1524	430	130	496
Weagant, Margaret H., executrix. (See Weagant, Henry B.)	865,734	Sept. 10	1524	430–1	130	496
Webb, Samuel J., Minden, La. Compress	865,550	Sept. 10	1249	355	130	408
Webb, Thomas M., and T. J. Davis, Charlotte, N. C. Game appliance or puzzle	865,665	Sept. 10	1417	401	130	462
Weckerly, Frank, St. Davids, Pa. Means for securing rails to ties	865,836	Sept. 10	1708	474	130	567
Wedekind, Frank F., San Francisco, Cal. Foot-supporter	865,462	Sept. 10	1091	311	130	362
Weeks, Henry G., Pittson, Pa. Shoe-horn						
Weil, Nathan. (See Montandon and Weil.)	865,463	Sept. 10	1092	311	130	362
Weiss, Rudolf, Biel, Switzerland. Paint-can	865,735	Sept. 10	1527	431	130	497
Welch, Lyman W., Grand Rapids, Mich. Extension-bracket for garment-display cases	865,464	Sept. 10	1092	312–13	130	362
Weller, John N., Knoxville, Tenn. Cash-register	865,551	Sept. 10	1250	355	130	409
Wells, Frederick P., Clarinda, Iowa. Veterinary dental instrument	865,666	Sept. 10	1418	401–2	130	463
Wendorff, Charles, Chicago, Ill. Driving-clutch for automobiles	865,737	Sept. 10	1529	432	130	497
Wentsch, Robert, Butler, S. D. Belt-shifter						
Wentworth, Amos H., *et al.* (See Wentworth, Reginald H., assignor.)						
Wentworth, Reginald H., assignor of one-half to A. H. Wentworth, Santa Monica, and F. Bell, Oceanpark, Cal. Automatic switching apparatus	865,552	Sept. 10	1250	355	130	409
	865,736	Sept. 10	1529	431	130	497
West, George V., Jewell, Kans. Wrench						
Western Electric Company. (See Scribner and Enochs, assignors.)						
Westinghouse Electric & Manufacturing Company. (See Newell, Frank C., assignor.)						
Weston, James H., assignor of two-thirds to J. F. Wagner and G. A. Wilford, Tamaqua, Pa. Conveyer and elevator	865,837	Sept. 10	1709	474	130	567
Wheatley, Harry L., *et al.* (See Ladd, Earnest W., assignor.)						
White, John F., assignor to Portable Elevator Mfg. Co., Bloomington, Ill. Wagon-dump	865,667	Sept. 10	1420	402–3	130	463
	865,838	Sept. 10	1710	474–6	130	567
Wicks, Frederick, Esher, England. Machine for composing and casting logotypes	865,839	Sept. 10	1713	476	130	568
Wieland, George A., Duluth, Minn. Drawbridge						
Wilcox, Henry S., Chicago, Ill., assignor to Troy Laundry Machinery Company, Limited, Troy, N. Y. Fringe-brushing machine	865,840	Sept. 10	1715	476	130	569
	865,738	Sept. 10	1530	432	130	497
Wildason, Frank A., Eaton, Ind. Child's folding cot						
Wilford, George A., *et al.* (See Weston, James H., assignor.)	865,841	Sept. 10	1716	476	130	569
Wilhelmi, Valentin, Paterson, N. J. Range-boiler						
Wilkinson, George, Harrogate, England. Direct-contact feed-water heater for steam-boilers	865,842	Sept. 10	1717	477	130	569
Williams, E. O., *et al.* (See Henderson and King, assignors.)	865,465	Sept. 10	1097	313	130	363
Williams, Frank L., Salem, Ill. Display means for doors or the like						
Williams, Hobart M. (See Williams, Warren and H. M.)						
Williams, Louis N. D. (See Scott, Robert W., assignor.)						
Williams, Thomas B., assignor to Leavitt Machine Co., Orange, Mass. Machine for facing valves, &c.	865,739	Sept. 10	1531	433	130	498
Williams, Warren and H. M., Lordsburg, assignors to W. F. Spring, Los Angeles, Cal. Pump-head	865,740	Sept. 10	1533	433	130	499
Willix, Enos B., Mount Vernon, Iowa, and E. L. Keith, Smith, S. D., said Keith assignor to said Willix. Voting-machine	865,975	Sept. 10	1905	534	130	625
Willix, Enos B., and E. L. Keith, Mount Vernon, Iowa; said Keith assignor to said Willix. Voting-machine	865,976	Sept. 10	1908	534–7	130	627
	865,843	Sept. 10	1718	478	130	570
Willson, Samuel T., Denver, Colo. Burner						

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Wilson, Charles, assignor of one-half to W. Benning, Chicago, Ill. Nut and bolt turning attachment for pneumatic hammers	865,622	Sept. 10	1361	385	130	445
Wilson, Howard B., New York, assignor to Wyckoff, Seamans & Benedict, Ilion, N. Y. Type-writing machine	865,741	Sept. 10	1534	433–4	130	499
Wineburgh, Abraham. (See Wineburgh and Ivy.)						
Wineburgh, Jesse and A., New York, N. Y., and F. B. Ivy, Essex Fells, N. J. Reel and display device for veilings, laces, and like fabrics	865,466	Sept. 10	1098	313	130	363
Winslow, George C., Albion, Mich. Pipe-wrench	865,553	Sept. 10	1252	356	130	410
Wirsching Organ Company. (See Wirsching, Philipp, assignor.)						
Wirsching, Philipp, assignor to Wirsching Organ Company, Salem, Ohio. Multipressure bellows for pipe-organs	865,467	Sept. 10	1099	313	130	363
Witz, William C., *et al.* (See Garrette, John E., assignor.)						
Wm. Knabe & Co. Manufacturing Company of Baltimore City. (See Knabe, Ernest J., Jr., assignor.)						
Wolfe, Thomas, Kansas City, Mo. Railway-switch and automatic signal apparatus	865,742	Sept. 10	1538	434	130	501
Wood, William T., Nashville, Tenn. Tire	865,743	Sept. 10	1540	434	130	501
Wood, Winthrop E., Winthrop, assignor of one-third to G. J. Lothrop, Medford, Mass. Clamping device	865,623	Sept. 10	1362	385	130	445
Wrenn, Samuel E., and D. Martin, Portland, Oreg. Veneer-box-shaping machine	865,468	Sept. 10	1101	314	130	364
Wright, Earl E., Mansfield, Ohio. Clutch	865,469	Sept. 10	1102	314	130	364
Wright, John E., New York, N. Y. Printing-telegraph	865,470	Sept. 10	1103	314–16	130	364
Wright, Thomas W., Anderson, Ind. D-handle	865,471	Sept. 10	1109	316	130	366
Wyckoff, Seamans & Benedict. (See Shepard, Charles H., assignor.)						
Wyckoff, Seamans & Benedict. (See Wilson, Howard B., assignor.)						
Young, Frank A., assignor to Monarch Typewriter Company, Syracuse, N. Y. Type-writing machine	865,744	Sept. 10	1542	435	130	502
Zamora, Jose P. (See Lopez and Zamora.)						
Ziegler, George W., Los Angeles, Cal. Manufacture of illuminating and heating gas	865,624	Sept. 10	1363	386	130	446
Zilly, August W., Camden, N. J. Ventilated ridge-bar	865,961	Sept. 10	1883	528	130	618

DESIGNS.

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Alexander, George A., assignor to W. Linker, Philadelphia, Pa. Handle for spoons, forks, and similar articles	38,789	Sept. 10	130	634
American Silver Company. (See Large, Samuel J., assignor.)				
Barr, John U., New York, N. Y. Pincushion	38,787	Sept. 10	130	633
Bennett, Ernest H., East Orange, N. J., assignor to J. Bromley and Sons, Philadelphia, Pa. Rug	38,796	Sept. 10	130	635
Bensel, Thomas H., Camden, N. J. Match-box	38,788	Sept. 10	130	633
Bromley and Sons, John. (See Bennett, Ernest H., assignor.)				
Bromley & Sons, John. (See Petzold, Adolph, assignor.)				
Co-Operative Foundry Co. (See Kennedy and King, assignors.)				
Coffin, Howard E., assignor to E. R. Thomas Detroit Co., Detroit, Mich. Automobile-body	38,800	Sept. 10	130	635
Davis, Charles T., Brooklyn, N. Y. Metal washstand	38,797	Sept. 10	130	635
E. R. Thomas Detroit Co. (See Coffin, Howard E., assignor.)				
Grever, William H., Buffalo, N. Y. Flower-pot cover	38,792	Sept. 10	130	634
Jack, William A., Grand Rapids, Mich. Box-cover	38,791	Sept. 10	130	634
Kennedy, Thomas R., and E. J. King, assignors to Co-Operative Foundry Co., Rochester, N. Y. Stove	38,798	Sept. 10	130	635
Kennedy, Thomas R., and E. J. King, assignors to Co-Operative Foundry Co., Rochester, N. Y. Stove	38,799	Sept. 10	130	635
King, Edward J. (See Kennedy and King.)				
Large, Samuel J., assignor to American Silver Company, Bristol, Conn. Handle of spoons, forks, or similar articles	38,790	Sept. 10	130	634
Linker, William. (See Alexander, George A., assignor.)				
Martin, Louis L., Toronto, Ontario, Canada. Case of a coin-controlled vending apparatus	38,793	Sept. 10	130	634
Petzold, Adolph, assignor to J. Bromley & Sons, Philadelphia, Pa. Rug	38,794	Sept. 10	130	635
Petzold, Adolph, assignor to J. Bromley & Sons, Philadelphia, Pa. Rug	38,795	Sept. 10	130	635

TRADE-MARKS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
A. Wittnauer Co., New York, N. Y. Watches, parts of watches, and watchcases	65,109	Sept. 10	130	649
A. Wittnauer Co., New York, N. Y. Watches, parts of watches, and watchcases	65,110	Sept. 10	130	649
A. Wittnauer Co., New York, N. Y. Watches, parts of watches, and watchcases	65,111	Sept. 10	130	649
Appliance Mfg. Co., Chicago, Ill. Certain automobile accessories	65,112	Sept. 10	130	649
August Schell Brewing Company, New Ulm, Minn. Malt tonic	65,206	Sept. 10	130	652
Barclay & Barclay, New York, N. Y. Toilet and medicinal soaps	65,160	Sept. 10	130	650
Barrett Manufacturing Company, New York, N. Y. Roofing, sheathing, and building paper	65,193	Sept. 10	130	651
Bay State Milling Company, Winona, Minn. Wheat-flour	65,091	Sept. 10	130	649
Boehringer & Soehne, C. F., Mannheim-Waldhof, Germany, and New York, N. Y. Certain chemicals	65,135	Sept. 10	130	650
Brandt, John, Chicago, Ill. Certain medicine	65,161	Sept. 10	130	651
Brown Soap Co., Columbus, Ohio. Soap	65,171	Sept. 10	130	651
C. A. Carlin, Ltd., London, England. Smoking-tobacco and cigarettes	65,194	Sept. 10	130	651
C. A. Murdock Mfg. Co., Kansas City, Mo. Baking-powder	65,113	Sept. 10	130	649
Carruthers-Jones Shoe Co., Memphis, Tenn. Ladies' leather dress-shoes	65,162	Sept. 10	130	651
Chaffee-Miller Milling Company, Casselton, N. D. Certain cereal foods	65,147	Sept. 10	130	650
China & Japan Trading Company, Limited, New York, N. Y. Sheetings, shirtings, drills, and flannels	65,136	Sept. 10	130	650
	65,148	Sept. 10	130	650

TRADE-MARKS—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
China & Japan Trading Company, Limited, New York, N. Y. Sheetings, shirtings, drills, and flannels	65,149	Sept. 10	130	650
China & Japan Trading Company, Limited, New York, N. Y. Sheetings, shirtings, drills, and flannels	65,150	Sept. 10	130	650
China & Japan Trading Company, Limited, New York, N. Y. Sheetings, shirtings, drills, and flannels	65,151	Sept. 10	130	650
China & Japan Trading Company, Limited, New York, N. Y. Sheetings, shirtings, drills, and flannels	65,152	Sept. 10	130	650
Chisholm & Moore Manufacturing Company, Cleveland, Ohio. Hoists	65,207	Sept. 10	130	652
Cole, John, Lishaskill, N. Y. Remedy for corns, bunions, and warts	65,172	Sept. 10	130	651
Columbian Rope Company, Auburn, N. Y. Certain cordage	65,092	Sept. 10	130	649
Comfort Suspender Co., St. Louis, Mo. Suspender-buckles	65,208	Sept. 10	130	652
Consumers' Brewing Co., Norfolk, Va. Beer	65,163	Sept. 10	130	651
Coughlet Company, Reading, Pa. Sugar-coated tablets for the throat and voice	65,173	Sept. 10	130	651
Coward, James S., New York, N. Y. Certain medicine	65,174	Sept. 10	130	651
Crew, Chas. H., Richmond, Va. Soaps and soap powder	65,195	Sept. 10	130	651
Detrick & Harvey Machine Co. of Baltimore City, Baltimore, Md. Pamphlets and catalogues	65,175	Sept. 10	130	651
Detrick & Harvey Machine Co. of Baltimore City, Baltimore, Md. Pamphlets and catalogues	65,222	Sept. 10	130	652
Deutsch-Französische Cognac-Brennerei und Weinsprit-Raffinerie vorm. Gebrüder Macholl (Actiengesellschaft), Munich, Germany. Cognace	65,164	Sept. 10	130	651
Dicks, Frederick A., New Orleans, La. Certain medicine	65,176	Sept. 10	130	651
Durkee & Co., E. R., New York, N. Y. Spices and mustard	65,114	Sept. 10	130	649
Eagle Pencil Company, New York, N. Y. Penholders	65,196	Sept. 10	130	651
Epstein, Frank A., Boston, Mass. Certain medicines	65,223	Sept. 10	130	652
Epstein, Frank A., Boston, Mass. Certain medicines	65,224	Sept. 10	130	652
Erb, Ludwig G. B., New York, N. Y. Certain pharmaceutical preparations	65,225	Sept. 10	130	652
Everett, Aughenbaugh & Company, Waseca, Minn. Certain cereal foods	65,137	Sept. 10	130	650
Everett Robinson, Baltimore and Hopewell, Md. Canned tomatoes	65,158	Sept. 10	130	650
F. S. Walton Company, Philadelphia, Pa. Dressings for leather belting	65,093	Sept. 10	130	649
Falk Tobacco Company, New York, N. Y., and Richmond, Va. Smoking-tobacco	65,115	Sept. 10	130	649
Falk Tobacco Company, New York, N. Y., and Richmond, Va. Smoking-tobacco	65,116	Sept. 10	130	649
Farbwerke vorm. Meister Lucius & Brüning, Höchst-on-the-Main, Germany. Benzoylguaiacol	65,165	Sept. 10	130	651
Farbwerke vorm. Meister Lucius & Brüning, Höchst-on-the-Main, Germany. Certain medicine	65,177	Sept. 10	130	651
Farwell, Ozmun, Kirk & Co., St. Paul, Minn. Knives and forks	65,209	Sept. 10	130	652
Farwell, Ozmun, Kirk & Co., St. Paul, Minn. Certain cutlery	65,210	Sept. 10	130	652
Feibleman Sons & Co., E., New Orleans, La. Syrup and molasses	65,117	Sept. 10	130	649
Fisher, Rolland R., Freeport, Ill. Magazine	65,226	Sept. 10	130	652
Fisk Rubber Co., Chicopee Falls, Mass. Pneumatic tires	65,227	Sept. 10	130	652
Flee-Flea Co., Philadelphia, Pa. Certain medicines	65,228	Sept. 10	130	652
Francis Hook & Eye & Fastener Company, Niagara Falls, N Y. Ball-and-socket snap-fasteners for garments	65,211	Sept. 10	130	652
Frank Payne Company, Charleston, W. Va. Certain leather manufactures	65,156	Sept. 10	130	650
G. Gordon Martin, Incorporated, Chicago, Ill. Teeth	65,118	Sept. 10	130	649
Galena Signal Oil Co., Franklin, Pa. Illuminating and lubricating oils and greases	65,197	Sept. 10	130	651
Gallaher, Edward B., New York, N. Y. Metal-polish	65,094	Sept. 10	130	649
Garst, Julius, Worcester, Mass. Pills	65,229	Sept. 10	130	652
General Chemical Company, New York, N. Y. Crates or boxes for shipping carboys	65,095	Sept. 10	130	649
Geo. Borgfeldt & Co., New York, N. Y. Dolls	65,119	Sept. 10	130	649
Geo. Borgfeldt & Co., New York, N. Y. Harmonicas	65,120	Sept. 10	130	649
Geo. Borgfeldt & Co., New York, N. Y. Pocket-knives, razors, and table-cutlery	65,212	Sept. 10	130	652
Geo. W. Korn Razor Mfg. Co., Little Valley, N. Y. Razors	65,213	Sept. 10	130	652
Golden & Co., Washington, D. C. Butter	65,121	Sept. 10	130	649
Grande, Ole, Velva, N. D. Certain medicines	65,230	Sept. 10	130	652
Guiterman Bros., St. Paul, Minn. Certain clothing	65,096	Sept. 10	130	649
Gundlach-Bundschu Wine Co., San Francisco, Cal. Wine	65,166	Sept. 10	130	651
Harger & Blish, Dubuque, Iowa. Needles for disk talking-machines	65,122	Sept. 10	130	650
Hertz, New York, N. Y. Certain clothing	65,097	Sept. 10	130	649
Howell & Co., Charles H., Philadelphia, Pa. Certain paints and painters' materials	65,198	Sept. 10	130	651
Independence Coffee and Spice Company, Denver, Colo. Coffee	65,123	Sept. 10	130	650
Inter-State Rubber Company, Omaha, Nebr. Certain clothing	65,098	Sept. 10	130	649
J. & P. Coats, Limited, Paisley, Scotland. Sewing-cotton on spools or reels	65,099	Sept. 10	130	649
James Graham Manufacturing Co., San Francisco, Cal. Stoves and ranges	65,178	Sept. 10	130	651
James Graham Manufacturing Co., San Francisco, Cal. Stoves and ranges	65,231	Sept. 10	130	652
John T. Dyer Quarry Co., Norristown, Pa. Quarried stone	65,100	Sept. 10	130	649
Johns Bros., Norfolk, Va. Coal	65,101	Sept. 10	130	649
Jones & Skinner, New York, N. Y. Toilet-paper	65,199	Sept. 10	130	652
Joplin Overall Company, Joplin, Mo. Overalls, pants, and coats	65,102	Sept. 10	130	649
Kelley-How-Thomson Co., Duluth, Minn. Floor, house, and barn paints and varnishes	65,200	Sept. 10	130	652
Kumberger & Vreeland, New York, N. Y. Stationary gas-engines	65,214	Sept. 10	130	652
L. J. Mueller Furnace Company, Milwaukee, Wis. Furnaces, heaters, and boilers	65,232	Sept. 10	130	652
Lacroix & Cie., H., Paris, France. Basic salt of quinin	65,167	Sept. 10	130	651
Lippincott, Thos. E., St. Louis, Mo. Aerated waters, juices, syrups, extracts, and tonics for flavoring same	65,157	Sept. 10	130	650
Lloyd Bros., Lestershire, N. Y. Bread	65,138	Sept. 10	130	650
Luthy & Co., Peoria, Ill. End-gate seeding-machine	65,215	Sept. 10	130	652
Lyon & Sons Brewing Co., Newark, N. J. Beer, ale, and porter	65,168	Sept. 10	130	651
Macy & Jenkins, New York, N. Y. Whisky	65,216	Sept. 10	130	652
Maher Veterinary Remedy Co., Beresford, S. D. Veterinary medicine	65,179	Sept. 10	130	651
Manhattan Cork Specialty Co., New York, N. Y. Stoppers constructed of tin and cork	65,217	Sept. 10	130	652
Mapes, Annie F., Brooklyn, N. Y. Babies' jumpers	65,103	Sept. 10	130	649
McDonald, Charles C., Elyria, Ohio. Canned fruit, vegetables, and baked beans	65,139	Sept. 10	130	650
McDonald, Charles C., Elyria, Ohio. Canned fruit, vegetables, and baked beans	65,140	Sept. 10	130	650
McNamee, John F., Indianapolis, Ind. Monthly magazines	65,233	Sept. 10	130	652
National Biscuit Company, Jersey City, N. J., and New York, N. Y. Bread and biscuit	65,141	Sept. 10	130	650
New York Vitak Company, New York, N. Y. Optical projecting apparatus and films	65,124	Sept. 10	130	650
Oberföll, Otto, Achern, Germany. Distilled fruit-juices	65,169	Sept. 10	130	651
Ohio Brass Company, Mansfield, Ohio. Valves	65,218	Sept. 10	130	652
Ohio Mining & Manufacturing Co., Shawnee, Ohio. Building bricks or blocks	65,104	Sept. 10	130	649
Oliver-Finnie Co., Memphis, Tenn. Candies, crystallized fruits, and glacé fruits	65,125	Sept. 10	130	650
Oliver-Finnie Co., Memphis, Tenn. Butter and cheese	65,126	Sept. 10	130	650
Oliver-Finnie Co., Memphis, Tenn. Coffee and tea	65,127	Sept. 10	130	650

TRADE-MARKS—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Oliver-Finnie Co., Memphis, Tenn. Certain cereal foods	65,142	Sept. 10	130	650
Oliver-Finnie Co., Memphis, Tenn. Coffee	65,143	Sept. 10	130	650
Oliver-Finnie Co., Memphis, Tenn. Certain cereal foods	65,144	Sept. 10	130	650
Oliver-Finnie Co., Memphis, Tenn. Baking-powder	65,170	Sept. 10	130	651
Rees, Edmund S. G., Wolverhampton, England. Pumps and turbines	65,219	Sept. 10	130	652
Roberts Medicine Company, W. J., Coldwater, Mich. Certain medicine	65,180	Sept. 10	130	651
S. Hamill Company, Keokuk, Iowa. Canned fish and sardines	65,128	Sept. 10	130	650
S. Hamill Company, Keokuk, Iowa. Pancake and buckwheat flour	65,145	Sept. 10	130	650
S. Hamill Company, Keokuk, Iowa. Soap	65,201	Sept. 10	130	652
Shaw, Harry L., Boston, Mass. Soap, washing-powder, and fluid washing and cleaning compounds	65,181	Sept. 10	130	651
Simar, Alexandre P., Montreal, Canada. Hair-restoring compound	65,182	Sept. 10	130	651
Smith, Will, Gouverneur, N. Y. Medicinal suppository for female diseases	65,234	Sept. 10	130	652
Solms, Frederick C., Saginaw, Mich. Liquid furniture-polish	65,183	Sept. 10	130	651
Soltmann, Edward G., New York, N. Y. Drawing-paper and tracing-paper	65,184	Sept. 10	130	651
Soltmann, Edward G., New York, N. Y. Drawing-paper	65,185	Sept. 10	130	651
Soltmann, Edward G., New York, N. Y. Tracing-cloth	65,186	Sept. 10	130	651
Soltmann, Edward G., New York, N. Y. Tracing-cloth	65,187	Sept. 10	130	651
Soltmann, Edward G., New York, N. Y. Tracing-cloth	65,188	Sept. 10	130	651
Soltmann, Edward G., New York, N. Y. Tracing-cloth	65,189	Sept. 10	130	651
Soltmann, Edward G., New York, N. Y. Tracing-cloth	65,190	Sept. 10	130	651
Soltmann, Edward G., New York, N. Y. Steel pens	65,191	Sept. 10	130	651
Soltmann, Edward G., New York, N. Y. Drawing-paper and tracing-paper	65,203	Sept. 10	130	652
St. Louis, Rocky Mountain & Pacific Co., Raton, N. Mex. Ter. Coal	65,105	Sept. 10	130	649
St. Louis, Rocky Mountain & Pacific Co., Raton, N. Mex. Ter. Washed coke	65,106	Sept. 10	130	649
Standard Varnish Works, New York, N. Y. Certain paints and painters' materials	65,202	Sept. 10	130	652
Standard Varnish Works, New York, N. Y. Stains	65,204	Sept. 10	130	652
Tone Bros., Des Moines, Iowa. Coffee	65,129	Sept. 10	130	650
Tone Bros., Des Moines, Iowa. Coffee	65,130	Sept. 10	130	650
Tone Bros., Des Moines, Iowa. Coffee	65,131	Sept. 10	130	650
United States Whip Company, Westfield, Mass. Whips	65,146	Sept. 10	130	650
Upham Bro's, New York, N. Y. Teas and coffees	65,132	Sept. 10	130	650
Valdes & Co., Fernandez, Habana, Cuba. Certain footwear	65,153	Sept. 10	130	650
Valdes & Co., Fernandez, Habana, Cuba. Leather boots, shoes, and slippers	65,154	Sept. 10	130	650
Valdes & Co., Fernandez, Habana, Cuba. Certain footwear	65,155	Sept. 10	130	650
Victor Sporting Goods Co., Springfield, Mass. Certain clothing	65,107	Sept. 10	130	649
Water Oil Co., New York, N. Y. Illuminating-oil	65,205	Sept. 10	130	652
Webster & Prager Co., New York, N. Y. Wall-paper	65,192	Sept. 10	130	651
Wetherill Finished Castings Co., Philadelphia, Pa. Metal castings	65,220	Sept. 10	130	652
Whitcher, Frank W., Boston, Mass. Shoe and corset laces	65,133	Sept. 10	130	650
Williams Typewriter Company, Derby, Conn. Type-writing machines	65,221	Sept. 10	130	652
Willson Bros., Edgerton, Wis. Flavoring preparation	65,134	Sept. 10	130	650
Wilson Fruit Juice Co., Lawton, Mich. Unfermented grape-juice	65,159	Sept. 10	130	650
Yale & Towne Mfg. Co., Stamford, Conn. Locks	65,108	Sept. 10	130	649

LABELS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Busy Bee Candy Co., St. Louis, Mo. "Diamond Special." (For Candy)	13,786	Sept. 10	130	653
Drews & Co., A. E., Wilmington, Cal. "Vegetable Cough Syrup." (For Medicines for Diseases of the Throat and Lungs)	13,789	Sept. 10	130	653
Fischer & Co., B., New York, N. Y. "Coffee." (For Coffee)	13,780	Sept. 10	130	653
Fischer & Co., B., New York, N. Y. "Coffee." (For Coffee)	13,781	Sept. 10	130	653
Fischer & Co., B., New York, N. Y. "Coffee." (For Coffee)	13,782	Sept. 10	130	653
Fischer & Co., B., New York, N. Y. "Coffee." (For Coffee)	13,783	Sept. 10	130	653
Pinkham, Francis C. "Delaware Standard Damask." (For Damasks)	13,784	Sept. 10	130	653
Purita Co., A. C. H., Buffalo, N. Y. "A. C. Hynd's Antiseptic Skin Tonic." (For an Antiseptic Tonic)	13,792	Sept. 10	130	653
Raymond S. Bottling Co., Fall River, Mass. "New England Washing & Bleaching Water." (For a Bleaching Liquid)	13,790	Sept. 10	130	653
Selser, Wm. A., Jenkintown, Pa. "Blossom Nectar." (For Honey)	13,791	Sept. 10	130	653
Vargas, Jorge, Boston, Mass. "Vargas Coffee." (For Coffee)	13,785	Sept. 10	130	653
William G. Bell Company, Boston, Mass. "Bells Seasoning." (For Spiced Seasoning for Meat, Game, Fish, and Poultry)	13,779	Sept. 10	130	653
William G. Bell Company, Boston, Mass. "Bells Sausage Seasoning." (For Spiced Sausage-Seasoning)	13,787	Sept. 10	130	653
	13,788	Sept. 10	130	653

PRINTS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
California Root Beer Company, Los Angeles, Cal. "California Root Beer Extract." (For Root-Beer Extract)	2,106	Sept. 10	130	653
Lytton, H. C., Chicago, Ill. "Men's and Boys' Apparel." (For Men's and Boys' Apparel)	2,110	Sept. 10	130	653
Naegelis Sons, R., Hoboken, N. J. "The Pretty Barmaid." (For Lager-Beer)	2,108	Sept. 10	130	653
United States Playing Card Company, Cincinnati, Ohio. "Swastika and Maltese Backs, '45 Texan Playing Cards." (For Playing-Cards)	2,109	Sept. 10	130	653
Wm. J. Lemp Brewing Co., St. Louis, Mo. "The Home of Falstaff." (For Beer)	2,107	Sept. 10	130	653

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Synthetic medicines and preparations made therefrom	29,116	Sept. 10	130	645
Allen Brothers Company, Omaha, Nebr. Canned salmon and oysters	26,208	Sept. 10	130	642
Althea Remedy Company, Fort Wayne, Ind. Liver remedies	27,060	Sept. 10	130	642
American Beverage Co., Atlanta, Ga. Ginger-ale	28,060	Sept. 10	130	643
American Beverage Co., Atlanta, Ga. Root-beer	28,061	Sept. 10	130	643
American Thread Company, Jersey City, N. J. Spool-cotton, sewing-cotton, and thread	29,381–4	Sept. 10	130	648
American Wringer Company, New York, N. Y. Mangles	24,041	Sept. 10	130	640
American Wringer Company, New York, N. Y. Clothes-wringers and mangles	24,043	Sept. 10	130	640
American Wringer Company, New York, N. Y. Bench-wringers	24,045	Sept. 10	130	640
American Wringer Company, New York, N. Y. Clothes-wringers	24,048–54	Sept. 10	130	640–1
American Wringer Company, New York, N. Y. Clothes-wringers	24,057	Sept. 10	130	641
American Wringer Company, New York, N. Y. Clothes-wringers	24,153	Sept. 10	130	641
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	28,973	Sept. 10	130	645
Batchelder, Mark D., Peoria, Ill. Ginger-ale and root-beer	24,972	Sept. 10	130	642
Big Four. (See Moore, Harrie G., assignor.)	29,101	Sept. 10	130	645
Billings, Frederick C., Milwaukee, Wis. Flanges for piano-actions	24,921	Sept. 10	130	642
Boston Artificial Leather Company, New York, N. Y. Artificial leather	29,278	Sept. 10	130	647
Bowen, Samuel B., Philadelphia, Pa. Portland cements	18,383	Sept. 10	130	639
Burroughs Adding Machine Co., Detroit, Mich. Adding and listing machines	26,609	Sept. 10	130	642
C. E. Conover Co., New York, N. Y. Dress-shields	29,266	Sept. 10	130	646
C. S. Morey Mercantile Company, Denver, Colo. Coffee	29,271	Sept. 10	130	647
Carter, George H., Plymouth, Pa. Paste for softening horses' hoofs	23,817	Sept. 10	130	640
Cavanagh & Sons, H. L., Chicago, Ill. Ironing-boards	29,363	Sept. 10	130	648
Charles Hewitt & Sons Co., Des Moines, Iowa. Rolled oats, rice, wheat-flour, crackers, corn and wheat flakes	28,680	Sept. 10	130	644
Courtney Shoe Co., St. Louis, Mo. Leather boots and shoes	26,002	Sept. 10	130	642
Davis-Bridaham Drug Company, Denver, Colo. Syringes, hot-water bottles, fever-thermometers, &c.	29,130	Sept. 10	130	645
Davis Chemical Company, Denver, Colo. Laxative candy	14,308	Sept. 10	130	639
Die Actiengesellschaft Apollinaris Brunnen, Neuenahr, Germany. Mineral water	29,370	Sept. 10	130	648
Eagle Roller Mill Company, New Ulm, Minn. Bread	24,353–4	Sept. 10	130	641
Eckardt, Christian, Hamburg, Germany. Dried, fresh, and preserved fruits and vegetable oils	29,111	Sept. 10	130	645
Erb, Ludwig G. B., New York, N. Y. Remedy for headache and neuralgia	29,317	Sept. 10	130	647
Falck, James S., Washington, D. C. Suppositories	28,062	Sept. 10	130	643
Forcat, Tomás S., New York, N. Y. Remedy for the treatment of leprosy	28,063	Sept. 10	130	643
Forcat, Tomás S., New York, N. Y. Remedy for the treatment of syphilis	29,270	Sept. 10	130	647
Franklinville Canning Co., Franklinville, N. Y. Canned fruits and vegetables	10,311–13	Sept. 10	130	638
Galena-Signal Oil Company, Franklin, Pa. Lubricating-oils	28,560	Sept. 10	130	643
Greif & Bro., L., Baltimore, Md. Coats, vests, and trousers, rain-coats, and overcoats	29,161–2	Sept. 10	130	645
Gustav A. Moebs & Co., Detroit, Mich. Cigars	29,335	Sept. 10	130	647
H. K. Mulford Company, Philadelphia, Pa. Sedative, tonic, and mild astringent	28,434	Sept. 10	130	643
Hohfeld, Herman L., Philadelphia, Pa. Hammocks	28,934	Sept. 10	130	644
Hollenbach, Dietrich & Co., Reading, Pa. Whisky	29,331	Sept. 10	130	647
Hollingsworth & Co., Augusta, Ga. Canned tomatoes	16,808–9	Sept. 10	130	639
Holmes Keeler & Selleck Co., Norwalk, Conn. Canned vegetables and fruit	27,616	Sept. 10	130	642
John V. Farwell Company, Chicago, Ill. Textile collars and shirts	24,804	Sept. 10	130	641
Johnson Educator Food Company, Boston, Mass. Breakfast food, yellow hominy, buckwheat-meal, rolled oats, &c.	26,775	Sept. 10	130	642
Korkemas & Co., R., New York, N. Y. Razors and razor-blades	28,867	Sept. 10	130	644
Littlejohn & Co., L., New York, N. Y. Gambier	24,325	Sept. 10	130	641
Mason, Albert G., Cleveland, Ohio. Sewing-machine heads and attachments	28,688	Sept. 10	130	644
Mayer, Joshua W., New York, N. Y. Precious stones and jewelry	18,093	Sept. 10	130	639
Maywood Packing Co., Corning, Cal. Canned, dried, and fresh fruits and olive-oil	13,040	Sept. 10	130	638
Mein, William G., London, England. Metal casters for trucks, furniture, &c.	10,294	Sept. 10	130	638
Meisel, Charles, New York, N. Y. Accordions, concertinas, cornets, trombone, &c., strings, bows, and parts for said instruments	16,129	Sept. 10	130	639
Meisel, Chas., New York, N. Y. Violins, cellos, &c., and parts for said instruments and bows and strings	18,410	Sept. 10	130	638
Meisel, Charles, New York, N. Y. Accordions, concertinas, cornets, trombone, &c., strings, bows, and parts for said instruments	24,467	Sept. 10	130	641
Mendel, Weinstock & Company, Louisville, Ky. Woolen caps, felt and straw hats, and leather and kid gloves	23,760	Sept. 10	130	640
Modoc Company, Chester Pa. Marine, cylinder, drilling, and textile oils, lubricating and gear grease	22,393	Sept. 10	130	640
Moore, Harrie G., assignor to Big Four, Kansas City, Mo. Wagons and carriages	25,775	Sept. 10	130	642
Morton, Robert M., Detroit, Mich. Bread and cakes	25,660	Sept. 10	130	642
Mráz, Franz, Prague, Austria-Hungary. Food-preservatives				

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Murphey, Robert O., New York, N. Y. Powdered yeast	18,842	Sept. 10	130	639
Mutual Drug Company, Cleveland, Ohio. Consumption remedies	29,086	Sept. 10	130	643
New Kensington Distilling Co., New Kensington, Pa. Whisky	28,919	Sept. 10	130	644
Novelty Candy Co., New York, N. Y. Candy	29,322	Sept. 10	130	647
Paragon Suspender Company, Atlanta, Ga. Suspenders	29,133	Sept. 10	130	645
Pearl & Co., I. L., Johnson, Vt. Trousers	13,514	Sept. 10	130	639
Pellow, Norman, Grand Rapids, Mich. Sizing plastic material	28,860	Sept. 10	130	644
Penn Tobacco Co., Wilkes-Barre, Pa. Smoking and chewing tobacco	29,356	Sept. 10	130	648
Peter Henderson & Co., New York, N. Y. Lawn-mowers	825	Sept. 10	130	637
Peter Henderson & Co., New York, N. Y. Agricultural and horticultural seeds	827	Sept. 10	130	637
Planten, John R., Brooklyn, N. Y. Remedy for gonorrhea, gleet, catarrh of the bladder, &c	29,205	Sept. 10	130	646
Pompeian Mfg. Co., Cleveland, Ohio. Salve, ointment and cream for the toilet, &c	29,258	Sept. 10	130	646
Pratt, George K., New Orleans, La. Antiseptic powder	29,281	Sept. 10	130	647
Procter & Gamble Company, Ivorydale, Ohio; Kansas City, Kans., and Cincinnati, Ohio. Soap	12,948	Sept. 10	130	638
Robinson Bros. & Company Incorporated, Portland, Me. Ointment	28,752	Sept. 10	130	644
Ruby & Co., S., Chicago, Ill. Cigarette-paper	18,766	Sept. 10	130	639
Safety Emery Wheel Company, Springfield, Ohio. Emery-wheels	29,320	Sept. 10	130	647
Safford, Harry E., Allegheny, Pa. Hand chemical fire-extinguishers	28,997	Sept. 10	130	645
Sanford, Vincent, Toledo, Ohio. Teas	14,221	Sept. 10	130	638
Sawyer Belting Company, Cleveland, Ohio. Dressings for canvas, leather, and rubber belts	29,396	Sept. 10	130	648
Scandinavian Fur & Leather Co., New York, N. Y. Fur or cloth automobile coats, wraps, robes, hats, &c	28,727	Sept. 10	130	644
Scharff, L. & A., St. Louis, Mo. Whisky	9,108	Sept. 10	130	638
Seidel, George E., Richmond, Ind. Folding storm-fronts for vehicles having a top	28,606	Sept. 10	130	643
Sherman, Horace E., Boston, Mass. Wheat-flour	29,208	Sept. 10	130	646
St. Louis Coffee and Spice Mills, St. Louis, Mo. Baking-powder	28,161	Sept. 10	130	643
St. Louis Coffee and Spice Mills, St. Louis, Mo. Coffee and tea	28,162	Sept. 10	130	643
St. Louis Coffee and Spice Mills, St. Louis, Mo. Spices and flavoring extracts	28,163	Sept. 10	130	643
Stewart & Co., Baltimore, Md. Ladies' leather boots and shoes	28,708	Sept. 10	130	644
Stromberg-Carlson Telephone Mfg. Company, Rochester, N. Y. Telephonic instruments and apparatus	6,260	Sept. 10	130	637
Summit Foundry Co., Geneva, N. Y. Stoves, ranges, and furnaces and parts thereof	27,803	Sept. 10	130	642
Thompson Milling Company, Lockport, N. Y. Wheat-flour	29,148	Sept. 10	130	645
Tonnancour, C. G. de, Montreal, Canada. Blacking and dressing for boots, shoes, and leather	12,804	Sept. 10	130	638
W. & J. Sloane, New York, N. Y. Fiber carpets and rugs	28,501	Sept. 10	130	643
Wabash Baking Powder Company, Wabash, Ind. Baking-powder and bicarbonate of soda	24,131	Sept. 10	130	641
Wabash Baking Powder Company, Wabash, Ind. Corn-starch	24,132	Sept. 10	130	641
Wabash Baking Powder Company, Wabash, Ind. Catsup and flavoring extracts	24,133	Sept. 10	130	641
Warren-Ehret Company, Philadelphia, Pa. Coal-tar cement	28,322	Sept. 10	130	643
Warren-Ehret Company, Philadelphia, Pa. Coal-tar cement	28,595	Sept. 10	130	643
Werle & Co., Rheims, France. Champagne	29,226-31	Sept. 10	130	646
Weston, John A., Newark, N. J. Wooden ladders, step-ladders, and flag-poles	27,896	Sept. 10	130	642
Whelan, Mary C., Washington, D. C. Skin food, toilet cream, nail-bleach, face-washes, &c	29,053	Sept. 10	130	645
Wydler, Albert, Zurich, Switzerland. Silk bolting-cloth	19,941	Sept. 10	130	640
Yerba Yutu Remedy Company, Los Angeles, Cal. Medicinal preparation for purifying the blood	28,755	Sept. 10	130	644

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED ON THE 10TH DAY OF SEPTEMBER, 1907.

Invention.	Name.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
Advertising apparatus	W. Henke	865,494	Sept. 10	1148	326	130	378
Advertising-machine. Rotary	H. T. Cole	865,681	Sept. 10	1442	408-9	130	470
Aeroplane	D. L. Moorhead	865,419	Sept. 10	1021	292	130	339
Air-brake hose-coupling	E. W. Shaw	865,615	Sept. 10	1352	383	130	442
Air-compressor	G. C. McFarlane	865,424	Sept. 10	1025	293	130	340
Air-compressors. Control of electrically-driven	E. Hill	865,388	Sept. 10	978	280-1	130	326
Air-compressors. Control of electrically-driven	E. Hill	865,389	Sept. 10	980	281	130	326
Air-compressors. Means for unloading	E. Hill	865,390	Sept. 10	982	282	130	327
Air-ship	W. S. Mieicarek	865,415	Sept. 10	1015	290	130	337
Alarm: *See* Roaster-alarm.							
Amusement apparatus. Portable	T. A. and T. H. Fulton	865,584	Sept. 10	1298	367-8	130	423
Asbestos covering and plaster to a hot-air duct or pipe.	G. Pullets	865,610	Sept. 10	1343	381	130	439
Device for securing an Automobile	E. Hyslin	865,901	Sept. 10	1796	501	130	592
Automobiles. Compressed-air motor for	F. G. Herrington	865,496	Sept. 10	1149	327	130	379
Awning. Roller-	E. T. Toussaint	865,729	Sept. 10	1517	428	130	494
Axle-lubricator	J. Aden	865,347	Sept. 10	917	263	130	307
Bacteria. Growing and distributing nitro-gathering	G. H. Earp-Thomas	865,965	Sept. 10	1888	529	130	619
Badge. Campaign-	A. Jacobsen	865,905	Sept. 10	1802	502	130	593
Bag-holder	C. G. Carlson	865,760	Sept. 10	1568	441	130	511
Bait. Artificial	D. W. Brown	865,676	Sept. 10	1434	406	130	468
Bait. Artificial fish-	J. D. Credlebaugh	865,083	Sept. 10	1445	409	130	471
Balance. Jolly	W. A. and J. C. Moore	865,420	Sept. 10	1022	292	130	339
Balers. Self-feeder for	G. Schubert	865,614	Sept. 10	1350	383	130	442
Band-cutter and feeder	C. Christiansen	865,867	Sept. 10	1745	486-7	130	577
Bar: *See* Ridge-bar. Sanitary bar.							
Bearing. Roller-	H. W. Alden	865,472	Sept. 10	1110	316-17	130	366
Bearing. Roller-	S. S. Eveland	865,636	Sept. 10	1377	391	130	450
Bed-bottom fabric. Wire	H. Richardson	865,799	Sept. 10	1618	458	130	525
Best-topper	A. Gudmunsen	865,885	Sept. 10	1771	492	130	585
Belt-shifter	R. Wentsch	865,737	Sept. 10	1529	432	130	497
Billiard-table. Convertible pocket-carom	P. M. Cunningham	865,874	Sept. 10	1755	489	130	580
Binders. Cord-holder for self-	B. R. Benjamin	865,754	Sept. 10	1559	439	130	508
Bleaching-powder chamber	M. Mauran	865,651	Sept. 10	1394	395	130	455
Blind-operating device. Window-	D. F. Lonergan	865,922	Sept. 10	1827	511	130	601
Block: *See* Building-block.							
Block-signal	P. I. Chandeysson	865,866	Sept. 10	1744	486	130	577
Boiler: *See* Range-boiler. Washboiler.							
Boring cylinders. Apparatus for	G. H. Ward	865,548	Sept. 10	1243	353-4	130	408
Boring device. Cylinder-	D. H. Rowe	865,533	Sept. 10	1222	348	130	400
Boring machine. Post-hole-	L. J. Van Kirk	865,457	Sept. 10	1083	309	130	359
Bottle	E. H. Campbell	865,864	Sept. 10	1742	485	130	576
Bottle and the like	T. Walters and J. B. Henderson	865,832	Sept. 10	1703	472	130	565
Bottle attachment	G. T. Trommald	865,545	Sept. 10	1240	353	130	405
Bottle-filling machine	K. Kiefer	865,395	Sept. 10	990	283-4	130	329
Bottle. Non-refillable	J. M. Kirker	865,710	Sept. 10	1484	419	130	483
Bottle. Non-refillable	E. R. Ramsden	865,939	Sept. 10	1849	520	130	606
Bottle-stopper	P. H. A. Leder and B. F. Schubert.	865,405	Sept. 10	1000	286	130	333
Bottle-stopper	M. Linker	865,406	Sept. 10	1001	286	130	333
Bottles and the like. Holder for coffee-	J. H. Janssen	865,644	Sept. 10	1386	393	130	453
Box: *See* Knockdown box. Mail-carrier box. Letter-box.							
Box-making machine	W. Robinson	865,530	Sept. 10	1214	346-7	130	399
Box-shaping machine. Veneer-	S. E. Wrenn and D. Martin	865,468	Sept. 10	1101	314	130	364
Brace: *See* Stage-brace.							
Brake: *See* Car-brake. Vehicle-brake. Machine-brake. Wagon-brake. Steam-brake.							
Bridge. Draw-	G. A. Wieland	865,839	Sept. 10	1713	476	130	566
Brush. Fountain-	H. A. Bleriey	865,351	Sept. 10	922	264	130	308
Brush. Polishing-	F. P. Chapot	865,762	Sept. 10	1570	443	130	511
Buggy-body extension and rear-seat attachment	W. J. Foster	865,690	Sept. 10	1457	412	130	475
Building-block. Waterproof	H. Noack and H. Maring	865,654	Sept. 10	1398	396	130	456
Burner: *See* Oil-burner.							
Burner	S. T. Willson	865,843	Sept. 10	1718	478	130	570
Butter-cutter	R. F. Stewart	865,447	Sept. 10	1066	304	130	353
Button	A. J. Schneider	865,657	Sept. 10	1402	398	130	457
Calculating-machine	B. F. Stump	865,808	Sept. 10	1636	462	130	533
Calendar and holder therefor	T. H. Cox	865,871	Sept. 10	1751	488	130	578
Can: *See* Paint-can.							
Car brake. Mine-	S. R. Green	865,378	Sept. 10	961	275	130	320

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Drg.	Official Gazette. Vol.	Page.
Car-door mechanisms. Safety-clutch for	C. A. Lindström	865,920	Sept. 10	1825	510	130	600
Car-door-operating mechanisms. Safety-clutch for	C. A. Lindström	865,921	Sept. 10	1826	511	130	600
Car end construction. Railway	A. Becker	865,854	Sept. 10	1730	482	130	573
Car. Grain	C. Rago	865,938	Sept. 10	1849	519	130	608
Car-hauling device	R. Ardell	865,849	Sept. 10	1726	480	130	572
Car-mover	M. N. Shell	865,438	Sept. 10	1040	299	130	348
Car. Passenger street	W. S. Twining	865,456	Sept. 10	1080	308–9	130	358
Car. Railway	H. S. Bayer	865,349	Sept. 10	919	263–4	130	307
Car. Railway	A. Becker	865,561	Sept. 10	1266	359	130	414
Car. Railway	H. E. Lind	865,508	Sept. 10	1170	332	130	386
Car-repairing device	J. J. Tatum	865,452	Sept. 10	1076	307	130	356
Car-roof	J. W. Stokoe	865,446	Sept. 10	1067	304	130	353
Car-stake	W. F. Kiesel, Jr.	865,500	Sept. 10	1158	329–30	130	382
Car. Steel railway	J. S. Andrews	865,668	Sept. 10	1424	403	130	465
Car-underframe	J. S. Andrews	865,669	Sept. 10	1425	404	130	466
Car-underframe	J. S. Andrews	865,670	Sept. 10	1426	404	130	466
Car-underframe	J. S. Andrews	865,745	Sept. 10	1544	435	130	503
Car-window	W. F. Kiesel, Jr.	865,499	Sept. 10	1156	328–9	130	382
Carbureter	W. R. Park	865,522	Sept. 10	1196	340–1	130	393
Carbureter	A. C. Stewart	865,539	Sept. 10	1230	350–1	130	402
Carbureter	G. D. Garland	865,980	Sept. 10	1922	539	130	632
Card. Tally	E. D. McKenna	865,795	Sept. 10	1612	456	130	523
Carpet-holding spring. Vehicle	D. F. Armstrong	865,851	Sept. 10	1728	481	130	572
Carriage. Sick and invalid	P. Müllenmeister	865,514	Sept. 10	1183	337	130	389
Carrier: *See* Elevated carrier. Luggage-carrier. Hay-carrier. Oyster-carrier.							
Carton-blank-forming machine	F. M. Peters	865,523	Sept. 10	1198	341–3	130	394
Cartridge	C. A. Bailey	865,853	Sept. 10	1729	481	130	573
Cartridge	C. A. Bailey	865,978	Sept. 10	1919	538	130	631
Cartridge	C. A. Bailey	865,979	Sept. 10	1920	538	130	631
Case: *See* Shipping-case.							
Cash-register	J. N. Weller	865,464	Sept. 10	1092	312–13	130	362
Casing-head	T. S. Cranston	865,872	Sept. 10	1752	488	130	579
Castings. Producing	G. H. Brabrook	865,562	Sept. 10	1268	.....	130	415
Catch for pivoted closures. Safety	J. W. Watkins	865,835	Sept. 10	1707	474	130	566
Chain-tightener	F. W. Bloxham	865,352	Sept. 10	923	264	130	308
Chair: *See* Invalid-chair.							
Chair having adjustable back	S. Risley and F. E. Ruger	865,431	Sept. 10	1042	297	130	345
Channel-flap layer. Portable power	W. H. Hooper	865,898	Sept. 10	1789	499–500	130	590
Channeling-machine	C. P. Stanbon	865,957	Sept. 10	1875	526	130	615
Cheese-press	J. V. Sokup	865,955	Sept. 10	1874	526	130	615
Chimney	J. T. Flynn	865,372	Sept. 10	951	273	130	317
Chopper: *See* Cotton-chopper.							
Churn	W. A. Cutler	865,684	Sept. 10	1446	409–10	130	472
Churn and butter-worker. Combined	A. Jensen	865,594	Sept. 10	1310	372	130	426
Cigar-lighter	C. D. Vaughn	865,830	Sept. 10	1700	472	130	564
Clamp: *See* Dental clamp.							
Clamping device	W. E. Wood	865,623	Sept. 10	1362	385	130	445
Clasp: *See* Pencil-clasp.							
Clasp	A. Schuch	865,434	Sept. 10	1045	298	130	347
Cleaner: *See* Flue-cleaner. Pipe-cleaner.							
Clevis	G. W. Barnett	865,626	Sept. 10	1364	386	130	446
Clip: *See* Wire clip.							
Clock. Program	D. H. Leas	865,598	Sept. 10	1314	373	130	428
Clothes-line support	J. Lynch	865,923	Sept. 10	1828	511	130	601
Clutch	E. E. Wright	865,469	Sept. 10	1102	314	130	364
Clutch device	T. L. and T. J. Sturtevant	865,450	Sept. 10	1071	306	130	355
Clutch for automobiles. Driving	C. Wendorff	865,666	Sept. 10	1418	401–2	130	463
Clutch for door-operating mechanisms. Safety	C. A. Lindström	865,714	Sept. 10	1490	421	130	484
Coal, ore, &c. Machinery for handling	C. C. King	865,913	Sept. 10	1814	505–6	130	597
Cock	L. C. Lewis	865,506	Sept. 10	1167	332	130	385
Cock. Gage	J. G. Saxe	865,535	Sept. 10	1224	349	130	401
Coffee-pot	B. Georg	865,776	Sept. 10	1585	447	130	516
Collar pad. Flexible horse	J. H. Taylor	865,543	Sept. 10	1239	352	130	405
Collar-stuffing machine. Horse	L. J. Powers	865,934	Sept. 10	1843	517–18	130	606
Composing-machines with two or more magazines placed one above the other. Releasing device for the matrices in	C. A. Albrecht	865,846	Sept. 10	1721	478	130	570
Compress	S. J. Webb	865,734	Sept. 10	1524	430–1	130	486
Concrete beam	F. Barré	865,963	Sept. 10	1887	528	130	619
Concrete-block machine	F. D. Merchant	865,717	Sept. 10	1483	421–2	130	485
Concrete-block-making machine	W. G. Tower	865,454	Sept. 10	1078	307–8	130	357
Concrete construction. Reinforced	G. M. Graham	865,490	Sept. 10	1140	323–4	130	375
Concrete structure. Reinforced	H. F. Cobb	865,477	Sept. 10	1117	318	130	368
Controlling device	A. E. Handy	865,383	Sept. 10	969	278–9	130	322
Converter	R. Baggaley	865,671	Sept. 10	1427	405	130	467
Conveyer	J. D. Travis	865,455	Sept. 10	1079	308	130	357
Conveyer and elevator	G. C. Horst	865,591	Sept. 10	1307	371	130	426
Conveying apparatus	J. H. Weston	865,837	Sept. 10	1709	474	130	567
Conveying apparatus	A. and J. M. Hall	865,777	Sept. 10	1586	448	130	516
Cooker and processer. Agitating	A. and J. M. Hall	865,778	Sept. 10	1588	448–9	130	516
Cooler: *See* Cream-cooler.	J. Jennings	865,645	Sept. 10	1387	393–4	130	453
Cord-adjuster	G. A. Robinson	865,531	Sept. 10	1221	348	130	400
Core-support and bearing member	W. Fairchild	865,775	Sept. 10	1584	447	130	516
Corn-drying shaft	D. Uhlhorn, Jr.	865,546	Sept. 10	1242	353	130	403
Corset	A. Assorati	865,852	Sept. 10	1729	481	130	573
Corset-waist	M. W. Lavy	865,785	Sept. 10	1601	453	130	520
Cot. Child's folding	F. A. Wildason	865,738	Sept. 10	1530	432	130	497
Cotton-chopper	W. A. Stockton	865,540	Sept. 10	1233	351	130	402

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Drg.	Official Gazette. Vol.	Page.
Coupling: *See* Air-brake hose-coupling. Pipe-coupling. Insulating-coupling.							
Crackers and the like. Machine for cutting	P. S. Ward	865,461	Sept. 10	1088	311	130	361
Crate	E. F. Hulbert	865,705	Sept. 10	1478	417	130	480
Cream-cooler	M. A. Muncy	865,515	Sept. 10	1185	337	130	390
Culinary utensil	W. and H. Kuehnlein	865,917	Sept. 10	1820	508	130	599
Culverts, conduits, and similar hollow structures. Mold for making	J. Hickson	865,968	Sept. 10	1895	531	130	622
Curette	H. E. Currey	865,571	Sept. 10	1280	362	130	419
Current generator and motor. Alternate	A. Heyland	865,701	Sept. 10	1470	415	130	478
Curtain-stretcher	P. O. Holmquist	865,641	Sept. 10	1382	392	130	452
Curtain-stretcher	E. R. Orbin	865,722	Sept. 10	1503	424	130	489
Curtain-suspending device. Window	A. A. Page	865,520	Sept. 10	1191	339	130	392
Cushion-tire wheel	C. A. Marien	865,411	Sept. 10	1010	289	130	335
Cutter: *See* Band-cutter. Vegetable-cutter. Butter-cutter. Vine-cutter.							
Cutting-tool	E. W. Ladd	865,918	Sept. 10	1821	508	130	599
Cycles. Two-speed gear for motor	H. H. Fuller	865,583	Sept. 10	1295	367	130	422
D-handle	T. W. Wright	865,471	Sept. 10	1109	316	130	366
Dental clamp	H. B. Weagant	865,733	Sept. 10	1524	430	130	496
Dental fillings and the like. Apparatus for making molds for the casting of	W. H. Taggart	865,823	Sept. 10	1686	468	130	559
Desk-lid support	R. E. Decks and J. O. Drennan	865,481	Sept. 10	1126	320	130	371
Display cases. Extension-bracket for garment	L. W. Welch	865,735	Sept. 10	1527	431	130	497
Display means for doors or the like	F. L. Williams	865,465	Sept. 10	1097	313	130	363
Display-rack. Collapsible	M. Mayer	865,790	Sept. 10	1607	454	130	521
Ditching-machine	G. C. Griffin	865,381	Sept. 10	964	276–7	130	321
Ditching-machine	J. B. Hill	865,702	Sept. 10	1472	416	130	479
Draft attachment	J. J. Maginn and A. E. Cary	865,924	Sept. 10	1829	511	130	601
Draft-equalizer	O. M. Fisher	865,371	Sept. 10	951	273	130	317
Draft-equalizer	G. P. Sampson	865,534	Sept. 10	1223	349	130	400
Draft-equalizer	L. E. Doron	865,634	Sept. 10	1374	390	130	449
Draft-equalizer	W. J. Taylor	865,810	Sept. 10	1641	464	130	534
Drains, traps, &c. Clamp for	M. Mauran	865,413	Sept. 10	1012	289–90	130	336
Drumheading-machine	C. Ellis	865,578	Sept. 10	1289	.....	130	421
Dust-laying composition. Road	C. W. Jackson	865,643	Sept. 10	1385	393	130	453
Dust-pan	A. Hein	865,387	Sept. 10	977	280	130	326
Dust-suction apparatus worked by means of an electromotor. Portable	W. Herzberg and O. Spengler	865,587	Sept. 10	1301	.....	130	424
Dye and making same. Red-orange monoazo	C. A. Vandervell and W. H. W. Proctor.	865,732	Sept. 10	1522	429	130	495
Dynamo or the like	E. D. Greeley	865,639	Sept. 10	1381	392	130	452
Eaves-trough hanger	L. Stange	865,807	Sept. 10	1634	.....	130	532
Elastic and plastic substances. Production of	E. W. Farnham	865,879	Sept. 10	1763	491	130	582
Electric contact-rail	C. S. Lee	865,970	Sept. 10	1898	531–2	130	622
Electric-motor controller	A. H. Mathewson	865,412	Sept. 10	1011	289	130	336
Electric-motor-controller attachment	W. H. Powell	865,813	Sept. 10	1651	465	130	539
Electric motors. Method and means for controlling	L. E. Bogen	865,822	Sept. 10	1682	467	130	557
Electric motors. Method of and means for controlling	F. C. Newell	865,516	Sept. 10	1186	338	130	390
Electric regulator	E. M. Hewlett and T. E. Button	865,588	Sept. 10	1302	369–70	130	424
Electric switch	W. D. Ross	865,432	Sept. 10	1042	297	130	346
Electric time-switch	W. A. Arthur	865,473	Sept. 10	1112	317	130	367
Electric wiring. Break-arm for	J. Knobloch	865,503	Sept. 10	1162	331	130	384
Electrical accumulator	J. B. Entz	865,368	Sept. 10	946	272	130	315
Electrical-distribution system	E. W. Jodrey	865,907	Sept. 10	1804	503	130	594
Electrical purposes. Coil for	E. F. Price	865,608	Sept. 10	1340	380	130	438
Electrodes and heating by electricity and combustion. Baking carbon	J. J. Floyd	865,581	Sept. 10	1292	366	130	422
Electrotype-locking apparatus	W. Louden	865,509	Sept. 10	1171	333	130	386
Elevated carrier	I. O. Robbins	865,611	Sept. 10	1344	381	130	440
Elevator-bucket	S. E. Austin	865,750	Sept. 10	1550	437	130	506
Elevator-shaft closure and operating means therefor	H. Häberer	865,640	Sept. 10	1381	392	130	452
Embroidery. Manufacturing	I. N. Mitchell	865,417	Sept. 10	1018	291	130	338
Engine: *See* Gas-engine. Traction-engine. Rotary engine.	R. Varley	865,663	Sept. 10	1411	400	130	460
Engines. Antislipping device for traction	C. G. Dean	865,767	Sept. 10	1575	444	130	512
Engines. Ignition system for explosion	M. F. Creahan	865,764	Sept. 10	1572	443	130	512
Engines with explosive mixture. Apparatus for supplying explosive	F. J. M. Geriand	865,884	Sept. 10	1770	492	130	584
Eraser-holder	R. C. and H. R. Harris	865,696	Sept. 10	1465	414	130	477
Etching plates. Process and apparatus for	F. N. Griffin	865,390	Sept. 10	964	276	130	321
Evener. Four-horse	F. O. Ellis	865,484	Sept. 10	1132	321	130	372
Excavating-wheel	W. E. Allington	865,962	Sept. 10	1884	528	130	618
Eye-shade	W. H. Swift	865,451	Sept. 10	1075	307	130	356
Fabric: *See* Bed-bottom fabric. Woven fabric.	W. S. Cooper	865,568	Sept. 10	1276	361	130	417
Fan. Centrifugal	G. W. Drew	865,575	Sept. 10	1286	364	130	420
Faucet	G. Curran	865,875	Sept. 10	1757	490	130	580
Faucet	G. Wilkinson	865,842	Sept. 10	1717	477	130	560
Feed-roll	J. R. Elliott	865,773	Sept. 10	1582	445–7	130	515
Feed-water heater	A. Mellor and J. Villy	865,512	Sept. 10	1176	334–7	130	388
Feed-water heater for steam-boilers. Direct-contact	T. A. Edison	865,687	Sept. 10	1452	.....	130	473
Feeder. Pigeon	T. A. Edison	865,688	Sept. 10	1453	.....	130	474
Fibers. Machine for working or dressing textile	T. A. Edison	865,691	Sept. 10	1458	412	130	475
Films. Making nickel	J. H. Fox	865,912	Sept. 10	1812	505	130	596
Films or flakes. Making metallic	D. J. Kelly and J. M. Callow	865,718	Sept. 10	1497	423	130	486
Filter. Pressure	E. R. Morgan and C. A. Erickson.	865,407	Sept. 10	1002	287	130	333
Filtering apparatus. Slimes	J. A. and H. D. Loeb and J. C. Goosmann.	865,943	Sept. 10	1857	521	130	610
Fire-escape	R. R. Reed	865,357	Sept. 10	929	266–7	130	311
Fire-extinguisher. Automatic	F. C. Chadwick	865,726	Sept. 10	1510	426	130	490
Fire-shutter	T. M. Price	865,900	Sept. 10	1808	504	130	595
Firearm. Take-down	U. Z. Keeney	865,791	Sept. 10	1608	455	130	522
Firearms. Cleaning-rod for rifled	W. Meier	865,374	Sept. 10	956	274	130	318
Fireplace and chimney	P. W. Frenzel						
Fireproof lath							
Fireproof window frame and sash							

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Fishing-reel	F. Schreidt	865,613	Sept. 10	1347	382	130	441
Flanging-machine	C. W. Sleeper	865,440	Sept. 10	1051	300–1	130	348
Flat-iron cover	A. Deegan	865,768	Sept. 10	1577	444	130	513
Flue-cleaner	A. Müller	865,653	Sept. 10	1396	396	130	456
Flushing-tank	W. McCormick and H. Barnes	865,423	Sept. 10	1024	293	130	340
Foot-supporter	F. F. Wedekind	865,836	Sept. 10	1708	474	130	567
Fork, egg-beater, and dish-lifter. Combined	H. J. Vasconcelles	865,620	Sept. 10	1360	385	130	445
Foundry-molds. Machine for making	G. P. Mehaffey	865,511	Sept. 10	1175	334	130	395
Frame: *See* Fireproof window-frame. Quilting-frame. Oil-press frame.							
Fringe-brushing machine	H S. Wilcox	865,840	Sept. 10	1715	476	130	569
Fruit-gathering device	M. J. Sheahan	865,437	Sept. 10	1047	299	130	347
Fuel	T. Parker	865,724	Sept. 10	1505	.....	130	499
Fuel for heating purposes. Supplying	W. T. Kelley and C. W. Hofmeister.	865,646	Sept. 10	1389	394	130	454
Funnel	W. Dawson	865,572	Sept. 10	1281	362	130	419
Furnace: *See* Metal-melting furnace.							
Furnace air-feeding mechanism	W. E. Cole	865,868	Sept. 10	1746	487	130	577
Furnaces. Fuel-feeding device for	F. Pallenberg	865,723	Sept. 10	1504	425	130	499
Fuse-plug	R. C. Cole	865,567	Sept. 10	1274	361	130	417
Game apparatus	H. B. McCulloch	865,794	Sept. 10	1611	456	130	523
Game appliance or puzzle	T. M. Webb and T. J. Davis	865,550	Sept. 10	1249	355	130	408
Garment-hook	W. H. Clay	865,630	Sept. 10	1371	388	130	449
Garment-supporter	K. Conry	865,809	Sept. 10	1747	487	130	578
Garment-supporters. Friction-slide for	A. Abizaid	865,554	Sept. 10	1255	356	130	412
Gas-engine	J. W. Burkett	865,677	Sept. 10	1435	407	130	466
Gas-engine	E. Moore	865,972	Sept. 10	1901	532	130	624
Gas from peat. Obtaining	J. E. Smith	865,537	Sept. 10	1228	350	130	401
Gas-holder	G. E. Crosby	865,480	Sept. 10	1124	319	130	370
Gas. Making and utilizing	A. L. J. Queneau	865,727	Sept. 10	1511	426	130	491
Gas. Manufacture of illuminating and heating	G. W. Ziegler	865,624	Sept. 10	1363	386	130	446
Gas-meter	B. H. Spangenberg	865,442	Sept. 10	1057	302	130	350
Gas-producer	M. V. Smith	865,954	Sept. 10	1872	525	130	615
Gas-producers. Poker mechanism for	S. B. Sheldon	865,616	Sept. 10	1353	383–4	130	442
Gate	E. L. Harper	865,396	Sept. 10	976	280	130	325
Gate	A. J. Laurent	865,404	Sept. 10	999	286	130	332
Gate	B. S. Edwards	865,577	Sept. 10	1287	364	130	420
Gear. Friction draft-	J. J. Hoffman	865,301	Sept. 10	984	282	130	327
Gear-shifting device	J. M. Crafts	865,569	Sept. 10	1278	362	130	418
Gear-shifting device	J. M. Crafts	865,570	Sept. 10	1280	362	130	418
Gearing. Yieldable	T. H. Gannon	865,496	Sept. 10	1134	321	130	372
Generator: *See* Current-generator.							
Girder and column. Building	G. M. Graham	865,488	Sept. 10	1137	322	130	374
Glass lifter Plate	O. N. Staley	865,444	Sept. 10	1059	303	130	351
Glass surfaces. Compound for treating	R. Hogan	865,589	Sept. 10	1305	.....	130	425
Globe-fastener	L. G. Duer	865,366	Sept. 10	944	271	130	314
Grain shock or sheaf loader	D. A., J. F., and R. C. Stewart	865,446	Sept. 10	1063	304	130	352
Grapnel for boring-tubes	J. Blenfait	865,756	Sept. 10	1563	440	130	509
Grate	W. McClave	865,929	Sept. 10	1834	513–14	130	603
Grater. Nutmeg-	R. J. Clark, Jr.	865,763	Sept. 10	1571	443	130	511
Grinder. Disk-	W. Brower, M. Rose, and W. O. Jones.	865,627	Sept. 10	1365	387	130	447
Grinding apparatus	G. E. Norris and G. R. Shoemaker.	865,426	Sept. 10	1031	294	130	343
Grinding carding-cylinders. Means for	G. Köster	865,401	Sept. 10	996	285	130	331
Grinding-disk-truing apparatus	J. A. Stansbury	865,959	Sept. 10	1880	527	130	617
Hammer	A. K. Harford	865,889	Sept. 10	1774	493	130	586
Hammer. Power-	P. S. Macgowan	865,787	Sept. 10	1603	453–4	130	520
Hammers. Nut and bolt turning attachment for pneumatic	C. Wilson	865,622	Sept. 10	1361	385	130	445
Handle: *See* D-handle.							
Hanger: *See* Eaves-trough hanger.							
Harrow	E. L. Cudaback	865,873	Sept. 10	1753	489	130	580
Harvester and shocker. Combined corn	G. T. Patten	865,655	Sept. 10	1399	396–7	130	456
Harvesting machine. Corn-	G. S. Coffman	865,360	Sept. 10	935	268	130	312
Harvesting machine. Corn-	N. and J. L. Brown	865,861	Sept. 10	1737	484	130	575
Hat-protector	J. S. Mills	865,926	Sept. 10	1831	512	130	602
Hay-carrier	H. L. Ferris	865,689	Sept. 10	1456	411	130	474
Heater: *See* Feed-water heater.							
Heating device	A. A. Radtke	865,527	Sept. 10	1208	345	130	397
Heating system	F. A. Simonds	865,439	Sept. 10	1050	299–300	130	348
Heating systems. Automatic regulator for hot-water	A. Catchpole	865,865	Sept. 10	1743	485–6	130	577
Hinge	S. R. Hewitt	865,895	Sept. 10	1786	498	130	590
Hinge. Door-	C. Keith and G. F. Lister	865,911	Sept. 10	1810	505	130	596
Hitch. Curb safety-	A. Boyd	865,757	Sept. 10	1564	440	130	510
Hoe. Adjustable	J. E. Davis	865,632	Sept. 10	1373	389	130	449
Hook: *See* Garment-hook. Whiffletree-hook.							
Horseshoe	M. A. Liebert	865,507	Sept. 10	1168	332	130	385
Horseshoe	A. D. Ward	865,900	Sept. 10	1882	527	130	617
Horseshoe-pad	J. B. McArdle	865,422	Sept. 10	1023	292	130	340
House: *See* Portable house.							
Hydraulic motor	F. W. O'Brien	865,796	Sept. 10	1612	457	130	523
Igniter. Self-	R. E. Berthold	865,755	Sept. 10	1561	440	130	509
Igniter system	R. Varley	865,662	Sept. 10	1409	400	130	459
Induction-motor	C. P. Steinmetz	865,617	Sept. 10	1356	384	130	444
Ink-well	C. Jackson	865,782	Sept. 10	1597	452	130	518
Insect-catching tape. Receptacle for	S. V. Kay	865,596	Sept. 10	1312	372	130	427
Insulating-coupling	G. F. Dreher	865,483	Sept. 10	1130	320	130	371
Insulating-machine	H. D. Saylor	865,612	Sept. 10	1345	381–2	130	440
Insulating material and producing the same	C. L. Norton	865,608	Sept. 10	1337	.....	130	437
Insulator	R. E. Henderson and J. N. King	865,697	Sept. 10	1486	414	130	477
Invalid-chair. Folding	G. H. Storm	865,541	Sept. 10	1233	351	130	403

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Ironing fold-collars. Machine for	L. R. Helm	865,977	Sept. 10	1918	537–8	130	631
Ironing-machine	W. Bartholomew	865,753	Sept. 10	1557	439	130	507
Ironing-table	G. Foster	865,637	Sept. 10	1378	391	130	450
Jack and restoring-drop. Combined	E. J. Grenier	865,379	Sept. 10	962	276	130	320
Jewel setter. Pallet-	L. H. Miller	865,925	Sept. 10	1829	512	130	601
Joint: *See* Rail-joint.							
Joint-mold	T. Hogan	865,897	Sept. 10	1788	499	130	590
Journal-bearing	F. H. Howard	865,899	Sept. 10	1794	500	130	591
Key guard and stop	H. M. Benedict	865,855	Sept. 10	1731	482	130	573
Knitted web. Open-work	R. W. Scott	865,660	Sept. 10	1407	399	130	459
Knockdown box	L. E. Reynolds	865,430	Sept. 10	1040	297	130	345
Ladder	F. S. Seagrave	865,951	Sept. 10	1869	524	130	613
Lamp. Candle-	F. A. Schuetz	865,950	Sept. 10	1868	523	130	613
Lamp. Fluorescent electric	T. A. Edison	865,367	Sept. 10	945	271	130	315
Lamps. Automatic suspending-reel for electric incandescent	J. H. Gordon	865,377	Sept. 10	959	275	130	319
Lampblack-making apparatus	J. L. Mann	865,603	Sept. 10	1321	374–5	130	430
Lantern-slide-moving device. Automatic	W. Fredrick	865,373	Sept. 10	953	273–4	130	317
Lap-link	A. Long	865,600	Sept. 10	1318	373	130	429
Last-lock	E. O. Krentler	865,712	Sept. 10	1487	420	130	483
Lasting-machine	C. F. Pym	865,936	Sept. 10	1846	518–19	130	606
Latch. Gate-	H. F. Harfst	865,385	Sept. 10	975	279	130	325
Latch. Gate-	A. A. Adams	865,844	Sept. 10	1719	478	130	570
Lathe. Wood-column-turning	H. Bible	865,673	Sept. 10	1429	405	130	467
Leather preserving and finishing compound	T. P. Garrett	865,881	Sept. 10	1766	.....	130	583
Lenses. Making bifocal	C. F. Dieckmann	865,363	Sept. 10	940	270	130	314
Letter-box. House	V. C. Koons	865,400	Sept. 10	994	285	130	331
Level and plumb. Combined	J. H. Walker	865,831	Sept. 10	1701	472	130	564
Lifter: *See* Glass-lifter.							
Lighting device. Automatic	I. M. Rose	865,802	Sept. 10	1621	459	130	526
Lime sucrate. Apparatus for making	E. Morrison	865,793	Sept. 10	1609	455–6	130	522
Lock: *See* Last-lock. Sash-lock. Miner's lock. Switch-stand safety-lock. Nut-lock.							
Lock	P. Müller	865,421	Sept. 10	1023	292	130	339
Locomotive ash-pan	J. F. Brown	865,758	Sept. 10	1565	441	130	510
Locomotives. Draft or work indicating and recording mechanism for	S. T. Park	865,931	Sept. 10	1839	514–17	130	605
Log-guide for log-skids	A. Fromherz	865,693	Sept. 10	1460	413	130	476
Logotypes. Machine for composing and casting	F. Wicks	865,838	Sept. 10	1710	474–6	130	567
Loom	J. L. Poalk	865,973	Sept. 10	1902	532–3	130	624
Loom picker-stick	E. Chevrette	865,680	Sept. 10	1441	408	130	470
Loom shuttle-box-operating mechanism	F. Leeming and C. Hudson	865,649	Sept. 10	1392	394–5	130	455
Looms. Bobbin-feeding device for weft-replenishing	J. Gabler and R. Kunz	865,376	Sept. 10	959	275	130	319
Lubricator: *See* Axle-lubricator.							
Luggage-carrier and stand. Combined	W. G. Schaeffer	865,948	Sept. 10	1865	523	130	612
Machine-brake	A. Rosenberg	865,532	Sept. 10	1221	348	130	400
Magnet coil. Self-sustaining field-	E. W. Jodrey	865,707	Sept. 10	1482	418	130	482
Mail-carrier's box. Rural-	E. F. Hutchins and J. J. Sala	865,706	Sept. 10	1480	418	130	481
Mail-delivery apparatus	C. E. Gladding	865,695	Sept. 10	1463	413–14	130	477
Mantel. Cabinet-	M. Marcks	865,510	Sept. 10	1174	333–4	130	388
Match-machine	W. F. Hutchinson	865,592	Sept. 10	1308	371	130	426
Mattress	W. Groskopf	865,585	Sept. 10	1299	368	130	424
Measuring apparatus	D. Berenberg	865,350	Sept. 10	920	264	130	307
Measuring heights of persons. Device for	W. H. Johnson	865,709	Sept. 10	1484	419	130	482
Mechanical movement	J. H. Stanfield	865,958	Sept. 10	1879	527	130	616
Metal from deposits. Separating	I. Kitsee	865,711	Sept. 10	1485	419	130	483
Metal-melting furnace	J. V. Martin	865,789	Sept. 10	1605	454	130	521
Metal reinforce constructions. Fitting for	G. M. Graham	865,490	Sept. 10	1138	322	130	374
Meter: *See* Gas-meter.							
Milking machine and apparatus	S. Breite	865,476	Sept. 10	1116	318	130	368
Mill: *See* Windmill.							
Miner's lock	C. E. Miller and O. L. Pore	865,792	Sept. 10	1608	455	130	522
Mitering-machines. Angle-gage for	W. R. Fox and M. Lund	865,692	Sept. 10	1459	412	130	475
Mixing apparatus	C. T. Drake	865,365	Sept. 10	942	270–1	130	314
Mixing apparatus	T. J. Brockway	865,563	Sept. 10	1268	359–60	130	415
Mold: *See* Joint-mold. Tire-mold.							
Monument	P. E. Mael	865,410	Sept. 10	1009	288	130	335
Motor: *See* Hydraulic motor. Truck-motor. Induction-motor.							
Motor-control system	W. H. Powell	865,811	Sept. 10	1642	464	130	535
Motor-control system	W. H. Powell	865,812	Sept. 10	1645	465	130	536
Motor-control system	W. H. Powell	865,814	Sept. 10	1655	465	130	542
Motor-control system	W. H. Powell	865,815	Sept. 10	1659	466	130	544
Motor-control system	W. H. Powell	865,816	Sept. 10	1664	466	130	547
Motor-control system	W. H. Powell	865,817	Sept. 10	1668	466	130	549
Motor-control system	W. H. Powell	865,818	Sept. 10	1671	466	130	551
Motor-control system	W. H. Powell	865,819	Sept. 10	1674	467	130	552
Motor-control system	W. J. Richards	865,820	Sept. 10	1677	467	130	553
Motor-control system	W. J. Richards	865,821	Sept. 10	1680	467	130	555
Motor-control system	J. P. Owings	865,607	Sept. 10	1339	379	130	438
Mowing-machine tedder attachment	J. H. Auble	865,748	Sept. 10	1547	436	130	504
Mowing machines. Conveyer for lawn-	W. F. Moore	865,928	Sept. 10	1833	513	130	602
Music-leaf turner	E. S. Votey	865,664	Sept. 10	1414	401	130	460
Music-roll and support therefor	C. Langer	865,989	Sept. 10	1896	531	130	622
Nickel ores or other material containing nickel. Apparatus for treating with carbonic oxid	C. P. Steinmetz	865,618	Sept. 10	1358	384	130	444
Nitrous compounds. Production of	M. Moore	865,513	Sept. 10	1182	337	130	389
Nut-lock	S. T. Johnson and C. Y. Roop	865,783	Sept. 10	1598	452	130	519
Oil-burner	N. and C. Arch	865,746	Sept. 10	1545	436	130	504
Oil burner. Crude-	A. Austerlitz	865,749	Sept. 10	1549	437	130	504
Oil-press frame	P. Brophy	865,859	Sept. 10	1736	483	130	575
Ore-concentrator	J. Scott	865,658	Sept. 10	1404	398	130	458
Ores. Sintering							

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Ores. Sintering	J. Scott	865,659	Sept. 10	1406	398–9	130	458
Organs. Multipressure bellows for pipe-	P. Wirsching	865,467	Sept. 10	1099	313	130	363
Orienting device	E. von Bomsdorff	865,675	Sept. 10	1432	406	130	467
Oven or stove	G. Magnasco	865,971	Sept. 10	1900	532	130	622
Oyster-carrier	F. M. Elledge	865,772	Sept. 10	1581	446	130	515
Packing-ring. Piston	J. Kritzler	865,402	Sept. 10	997	285	130	332
Pad:							
See Collar-pad. Horseshoe-pad.							
Paint-can	R. Weiss	865,463	Sept. 10	1092	311	130	362
Pan:							
See Dust-pan. Locomotive ash-pan.							
Paper-bag-making machine	O. Hesser	865,779	Sept. 10	1589	449–51	130	517
Paper-cutting machine	E. Z. Taylor	865,809	Sept. 10	1638	463–4	130	533
Paper packages. Supporting device for toilet-	A. H. Scott	865,436	Sept. 10	1047	299	130	347
Pattern:							
See Waist-pattern.							
Peanut-stemming machine	J. W. Steel and J. C. Titus	865,445	Sept. 10	1060	303	130	351
Pencil-clasp	F. A. Schneider	865,981	Sept. 10	1923	539	130	632
Phonograph	L. Devineau	865,769	Sept. 10	1577	445	130	514
Phonograph-reproducer	W. Schubert	866,435	Sept. 10	1046	298	130	347
Photographic measurements. Background for	G. Moe	865,418	Sept. 10	1019	291	130	338
Photographic-printing device. Automatic	A. R. and W. C. Palmer and H. A. Stanford.	865,797	Sept. 10	1613	457–8	130	524
Piano-action rail-support	W. C. Vogel and H. K. Snell	865,460	Sept. 10	1087	310	130	361
Piano. Automatic	T. M. Pletcher	865,524	Sept. 10	1201	343	130	394
Pianos. Automatic pedal-exposing device for player-	E. J. Knabe, Jr.	865,914	Sept. 10	1815	506–7	130	597
Pickling	M. Hernsheim and C. E. Bonwell.	865,700	Sept. 10	1470		130	478
Picture apparatus. Motion-	C. F. Jenkins	865,593	Sept. 10	1309	371	130	426
Pin:							
See Safety-pin.							
Pipe-cleaner	G. Walker	865,547	Sept. 10	1242	353	130	406
Pipe-cleaner	C. D. Brown	865,880	Sept. 10	1737	483	130	575
Pipe-coupling and applying same	D. M. Kenyon	865,497	Sept. 10	1151	327–8	130	379
Pipe-coupling implement	D. M. Kenyon	865,498	Sept. 10	1154	328	130	381
Pipe or tube coiling means	R. R. Row	865,803	Sept. 10	1623	460	130	527
Pipe-wrench	G. C. Winslow	865,553	Sept. 10	1252	356	130	410
Plane	G. H. Bartlett	865,560	Sept. 10	1266	358–9	130	414
Plane. Bench-	B. M. Graves and F. N. Loson	865,491	Sept. 10	1145	325	130	378
Planter check-row attachment. Corn-	E. J. Richmond	865,529	Sept. 10	1212	345–6	130	399
Planter. Potato-	N. Waring	865,549	Sept. 10	1245	354	130	407
Plow. Gang-	A. Thompson and G. P. Laberee	865,825	Sept. 10	1680	468–9	130	560
Plow safety riding attachment	C. W. Eckberg	865,876	Sept. 10	1759	490	130	581
Polishing-machine	D. F. Arburn	865,557	Sept. 10	1263	358	130	413
Portable house	J. D. Horton	865,590	Sept. 10	1306	370	130	425
Pot:							
See Coffee-pot.							
Potato-diggers. Vine-separating mechanism for	A. L. Hoover	865,780	Sept. 10	1593	451	130	517
Potato-diggers. Vine-separator for	A. L. Hoover	865,703	Sept. 10	1476	417	130	480
Power. Apparatus for the generation of	A. McCarthy	865,720	Sept. 10	1501	423–4	130	488
Power-transmitting mechanism. Clutch-device	T. L. and T. J. Sturtevant	865,449	Sept. 10	1048	304–5	130	353
Press:							
See Cheese-press. Printing-press.							
Printing form and making the same. Lithographic-	G. G. Murray	865,719	Sept. 10	1498	423	130	487
Printing-machine. Platen	M. Rockstroh	865,800	Sept. 10	1620	459	130	526
Printing-press	J. A. Smith	865,728	Sept. 10	1513	427–8	130	491
Printing-presses and similar machines. Delivery mechanism for	G. W. Prouty	865,525	Sept. 10	1203	343–4	130	395
Propeller	F. A. Douse	865,364	Sept. 10	942	270	130	314
Protractor	W. L. E. Keuffel	865,597	Sept. 10	1313	372	130	427
Pump. Automatically-balanced vertical-shaft centrifugal	A. W. Hunsaker	865,900	Sept. 10	1794	500	130	591
Pump. Centrifugal high-pressure	C. Lager	865,504	Sept. 10	1164	331	130	384
Pump-head	W. and H. M. Williams	865,740	Sept. 10	1533	433	130	499
Pump. Oil-	G. Arrosmith	865,558	Sept. 10	1264	358	130	413
Punching-machine	S. C. Bond	865,857	Sept. 10	1733	483	130	574
Quilting-frame and ironing-board. Combined	M. M. Lowry	865,409	Sept. 10	1008	288	130	335
Rack:							
See Display-rack.							
Rail-joint	A. Doratella	865,770	Sept. 10	1579	445	130	514
Rail-joint	J. P. Rodgers	865,946	Sept. 10	1862	522	130	612
Rails to ties. Means for securing	F. Weckerly	865,665	Sept. 10	1417	401	130	462
Railway controlling system	M. Trautmann	865,730	Sept. 10	1519	428–9	130	494
Railway-rail	W. T. Farley	865,878	Sept. 10	1762	491	130	582
Railway signaling device. Electric	B. W. Rowe	865,433	Sept. 10	1043	297–8	130	346
Railway-switch and automatic signal apparatus	E. B. Howell	865,781	Sept. 10	1594	451–2	130	517
Railway-tie	T. Wolfe	865,742	Sept. 10	1538	434	130	501
Railway-track liner	W. T. Brister	865,354	Sept. 10	925	265	130	309
Range-boiler	G. A. Dugger	865,625	Sept. 10	1378	390–1	130	450
Razor. Safety-	V. Wilhelmi	865,841	Sept. 10	1716	476	130	569
Razor-strop	F. H. Arnold and E. D. Becker	865,747	Sept. 10	1546	436	130	504
Razor-strop attachment	G. P. Hensley	865,495	Sept. 10	1148	326	130	379
Reamer. Expansible	W. A. Breed	865,353	Sept. 10	924	265	130	309
Reel:	O. Lange	865,784	Sept. 10	1600	453	130	519
See Fishing-reel. Wire-payout reel.							
Reel and display device for veilings, laces, and like fabrics.	J. and A. Wineburgh and F. B. Ivy.	865,466	Sept. 10	1098	312	130	363
Refrigerator	W. Landry	865,403	Sept. 10	998	286	130	332
Refrigerator	H. J. Shannen	865,952	Sept. 10	1870	534	130	613
Refuse disposal. System of	A. N. Pierson	865,427	Sept. 10	1083	294–5	130	343
Register:							
See Cash-register.							
Regulator:							
See Electric regulator.							
Ridge-bar. Ventilated	A. W. Zilly	865,961	Sept. 10	1883	528	130	618
Ring:							
See Packing-ring.							
Roaster-alarm. Automatic	F. A. Hines	865,898	Sept. 10	1787	488–9	130	590
Rotary engine	S. S. Sadorus	865,804	Sept. 10	1626	460–1	130	528
Rotary engine	R. H. and W. L. Heberling	865,801	Sept. 10	1778	484–7	130	587
Rotary engine	W. F. Bleecker	865,964	Sept. 10	1868	530	130	619

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Rotary engine	J. E. Harriman, Jr	865,967	Sept. 10	1893	530	130	621
Rule. Multiform-curve	G. M. Healley	865,586	Sept. 10	1300	368	130	424
Saddle	C. Szameitat	865,661	Sept. 10	1408	399	130	459
Saddles. Bucking-roll for riding-	J. A. Duncan	865,576	Sept. 10	1286	364	130	420
Safe	R. Lynn	865,602	Sept. 10	1319	374	130	429
Safety-pin. Lock	J. H. Lippke and R. M. Babin	865,786	Sept. 10	1602	453	130	520
Salts. Electrolysis of fused	F. von Kügelgen and G. O. Seward	865,648	Sept. 10	1391		130	454
Sanitary bar	W. G. Clark	865,359	Sept. 10	934	267	130	312
Sash for windows. Storm-	D. Todd	865,453	Sept. 10	1077	307	130	356
Sash-lock	J. Diehl	865,573	Sept. 10	1282	363	130	419
Sash. Sheet-metal window-	J. W. Watkins	865,834	Sept. 10	1705	473	130	566
Saw	J. M. Allison	865,348	Sept. 10	918	263	130	307
Saw-guide	B. A. Wadsworth	865,621	Sept. 10	1360	385	130	445
Sawdust-blower	G. T. Kerins and E. G. Naylor	865,394	Sept. 10	989	283	130	329
Scaffold or trestle	G. Bonenberger	865,858	Sept. 10	1735	483	130	574
Scale	E. Gazley	865,883	Sept. 10	1769	492	130	584
Screen:							
See Well-screen.							
Sealing-machine	C. F. Davis	865,362	Sept. 10	939	269–70	130	313
Seam-dampener	A. M. Torrance	865,827	Sept. 10	1693	470	130	562
Seed-testing apparatus	W. H. Kissel	865,502	Sept. 10	1161	330	130	383
Separating-machine	F. Stringham	865,542	Sept. 10	1235	352	130	403
Sewers and pipes. Invert or block for	W. Hall	865,382	Sept. 10	967	277–8	130	322
Sewing-machine attachment	T. A. Teate	865,544	Sept. 10	1240	352	130	405
Shaft-supporter	W. Lowe	865,715	Sept. 10	1491	421	130	484
Sharpening device. Razor-	L. Alfano	865,847	Sept. 10	1722	479	130	571
Sheet-metal-corrugating machine	G. B. Johnson	865,908	Sept. 10	1806	503–4	130	594
Shipping-case	W. E. Smith	865,538	Sept. 10	1228	350	130	401
Shocking attachment for binders	J. T. Coulter	865,870	Sept. 10	1748	487–8	130	578
Shocking attachment for binders	J. A. Isaman and W. H. Mitchell	865,902	Sept. 10	1797	501	130	592
Shoe-horn	H. G. Weeks	865,462	Sept. 10	1091	311	130	362
Sifter. Ash-	M. Froesé	865,582	Sept. 10	1293	367	130	422
Sign. Display-	G. W. Carr	865,356	Sept. 10	926	265–6	130	309
Sign-operating mechanism	W. E. Putnam	865,526	Sept. 10	1206	344	130	397
Signal:							
See Block-signal. Railway-signal.							
Signal-bell. Electric	H. W. Eden	865,771	Sept. 10	1580	446	130	515
Signal system. Automatic electric	E. T. Ackerman	865,555	Sept. 10	1256	356	130	412
Signaling apparatus. Automatic	J. S. Anderson	865,848	Sept. 10	1723	479–80	130	572
Skate. Roller-	G. S. Slocum	865,441	Sept. 10	1055	301	130	350
Skirt marker. Dress-	C. Knopf	865,397	Sept. 10	992	284	130	330
Skirt-supporter	F. J. Martin	865,788	Sept. 10	1604	454	130	521
Smelting refractory ores and producing low-carbon ferro alloys.	E. F. Price	865,609	Sept. 10	1341	380	130	1139
Smoker's set	N. Belisle	865,475	Sept. 10	1115	318	130	367
Sound-record-cleaning attachment	J. N. Blackman	865,674	Sept. 10	1431	405	130	467
Sound-records. Sieve for use in making disk	T. H. Macdonald and F. L. Capps.	865,716	Sept. 10	1492	421	130	485
Sounds. Recording and reproducing	J. F. Dirzuweit	865,574	Sept. 10	1283	363	130	419
Speed-mechanism controlling device. Variable-	C. T. B. Sangster	865,805	Sept. 10	1627	461	130	529
Spike	J. McNeil	865,425	Sept. 10	1031	294	130	342
Spike-holder	W. D. F. Jarvis	865,906	Sept. 10	1803	503	130	594
Spinning-mule	W. D. Rundlett	865,947	Sept. 10	1863	522–3	130	612
Spinning-mule attachment	R. J. Harrington	865,890	Sept. 10	1776	493–4	130	586
Spinning, twisting, and winding machine	R. Dawes	865,685	Sept. 10	1446	410	130	472
Sprayer. Hand-	A. O. Freeman	865,485	Sept. 10	1133	321	130	372
Spraying device	I. Callmann and J. Sabatelli	865,355	Sept. 10	925	265	130	309
Spring:							
See Carpet-holding spring. Vehicle-spring.							
Stage-brace	J. C. England	865,774	Sept. 10	1583	447	130	515
Stage illusions. Means for producing	H. Goldin	865,966	Sept. 10	1892	530	130	621
Stand:							
See Washstand. Work-stand.							
Steam-brake	W. Mauve	865,414	Sept. 10	1015	290	130	337
Stenographic machine	W. J. Kehoe	865,910	Sept. 10	1810	504	130	595
Step. Collapsible	C. E. Frye	865,375	Sept. 10	958	274	130	319
Sterilizing and filling vessels. Apparatus for	P. Lamouroux	865,713	Sept. 10	1488	420	130	483
Stopper:							
See Bottle-stopper.							
Storm-front. Safety	L. Cockerill	865,478	Sept. 10	1119	318–19	130	369
Stove	M. W. Randolph	865,940	Sept. 10	1851	520	130	608
Stove. Folding	W. E. Enfield	865,579	Sept. 10	1289	365	130	421
Stove. Heating-	F. M. Reed	865,528	Sept. 10	1210	345	130	398
Stoves, boilers, burners, and the like. Attachment for.	W. T. Kelley and C. W. Hofmeister.	865,647	Sept. 10	1300	394	130	454
Stovepipe-retaining device	H. C. Armitage	865,850	Sept. 10	1727	481	130	572
Stretcher	N. D. Baker	865,625	Sept. 10	1363	386	130	446
String-cutting machine. Bevel-	J. P. Donovan	865,686	Sept. 10	1449	411	130	473
Swing	F. Unger	865,829	Sept. 10	1699	872	130	569
Switch:							
See Electric switch. Time-switch. Electric time-switch.							
Switch-stand safety-lock	R. F. Jacob	865,904	Sept. 10	1800	502	130	593
Switching apparatus. Automatic	R. H. Wentworth	865,552	Sept. 10	1250	355	130	409
Table:							
See Billiard-table. Ironing-table.							
Tag-holder	J. J. Guinn	865,886	Sept. 10	1772	493	130	585
Talking-machine attachment	H. Koch	865,398	Sept. 10	993	284	130	330
Talking-machine horn	H. Koch	865,399	Sept. 10	994	285	130	330
Tank:							
See Flushing-tank.							
Tank-lug	J. Reichert and C. S. Beebe	865,944	Sept. 10	1858	521–2	130	611
Target	A. C. Meyer	865,604	Sept. 10	1322	375	130	420
Telegraph instruments. Sound-magnifier for	F. O. Hanson	865,888	Sept. 10	1773	493	130	585
Telegraph. Printing-	J. E. Wright	865,470	Sept. 10	1103	314–16	130	704
Telephone-exchanges. Selector for automatic	C. E. Scribner and C. D. Enochs.	865,536	Sept. 10	1225	349–50	130	401
Telephone-receiver	E. J. Quinby	865,937	Sept. 10	1848	519	130	607
Thawing hydrants and fire-plugs. Device for	J. C. Moore	865,927	Sept. 10	1831	512	130	602
Thermostat	H. G. Geissinger	865,638	Sept. 10	1379	392	130	451
Thermostat for centrally-heated plants	R. Brukenhaus	865,862	Sept. 10	1740	485	130	576
Threshing-machine	W. L. Butler	865,678	Sept. 10	1437	407	130	469

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Tie: *See* Railway-tie.							
Tie	W. R. Ball	865,559	Sept. 10	1265	358	130	414
Tie	J. Roberts and J. E. Bliss	866,945	Sept. 10	1861	522	130	611
Time-controlling mechanism	A. B. and R. F. Carty	865,629	Sept. 10	1367	388	130	447
Time switch and alarm. Automatic	F. H. Quade, Jr.	865,428	Sept. 10	1036	296	130	344
Timepieces. Repeating mechanism for	G. Citelli	865,358	Sept. 10	931	267	130	311
Timer	C. S. Hardy	865,284	Sept. 10	972	279	130	324
Tire	S. G. Davis	865,633	Sept. 10	1374	389	130	449
Tire	W. T. Wood	865,743	Sept. 10	1540	434	130	501
Tire mold. Pneumatic	F. Veith	865,458	Sept. 10	1085	309	130	360
Tire. Resilient	H. Klingler	865,396	Sept. 10	991	284	130	330
Tire. Rubber vehicle	J. J. Hendler	865,698	Sept. 10	1467	414	130	478
Tire. Rubber vehicle	J. J. Hendler	865,699	Sept. 10	1468	415	130	478
Tire-shield	T. J. Sprinkle	865,443	Sept. 10	1059	302	130	351
Tongs. Pipe	E. L. Fesler	865,369	Sept. 10	949	272	130	316
Tongs. Roofing	F. C. McCusker	865,930	Sept. 10	1838	514	130	604
Tongue-support	J. Puffenberger	865,935	Sept. 10	1845	518	130	606
Tops. Spinning device for whipping	G. Tresenreuter	865,619	Sept. 10	1360	384	130	445
Toy	J. Brown	865,564	Sept. 10	1272	360	130	416
Track-sander. Pneumatic	H. Rau, Jr.	865,941	Sept. 10	1852	520	130	609
Track-sander. Pneumatic	H. Rau, Jr.	865,942	Sept. 10	1854	520–1	130	609
Traction-engine. Rack	P. Montsabre	865,605	Sept. 10	1325	376–9	130	431
Traction-wheel	I. Mitchell	865,416	Sept. 10	1016	291	130	337
Trolley	J. Ashurst	865,474	Sept. 10	1114	317	130	367
Truck	W. F. Loyd	865,601	Sept. 10	1319	374	130	429
Truck. Car	H. S. Hart	865,492	Sept. 10	1146	325	130	378
Truck. Car	H. S. Hart	865,493	Sept. 10	1147	325–6	130	378
Truck. Motor	W. F. Kiesel, Jr.	865,501	Sept. 10	1160	330	130	383
Tube-forming apparatus	C. J. Nolan	865,517	Sept. 10	1187	338	130	391
Turbine	E. Bühle	865,863	Sept. 10	1741	485	130	576
Turpentine-hack	E. H. Walton	865,833	Sept. 10	1704	473	130	565
Type font or holder	S. Brown	865,565	Sept. 10	1272	361	130	416
Type-writer carriage	B. T. Bruce. (Reissue)	12,694	Sept. 10	1924	539	130	632
Type-writing and other machines. Keyboard for	J. B. Vidal	865,450	Sept. 10	1086	310	130	360
Type-writing machine	C. Gabrielson	865,694	Sept. 10	1461	413	130	476
Type-writing machine	H. B. Wilson	865,741	Sept. 10	1534	433–4	130	499
Type-writing machine	F. A. Young	865,744	Sept. 10	1542	435	130	502
Type-writing machine	E. E. Barney	865,752	Sept. 10	1554	438	130	506
Type-writing machine	C. H. Shepard	865,806	Sept. 10	1629	461–2	130	529
Type-writing machine	E. B. Hess	865,892	Sept. 10	1782	497	130	588
Type-writing machine	E. B. Hess	865,894	Sept. 10	1785	498	130	589
Valve	J. Peterson	865,796	Sept. 10	1617	458	130	525
Valve	N. Koch	865,915	Sept. 10	1817	507	130	598
Valve and sparking mechanism for hydrocarbon-engines	L. E. Lowe	865,650	Sept. 10	1393	395	130	455
Valve. Check	F. P. Cotter	865,631	Sept. 10	1372	389	130	449
Valve. Dry-pipe	C. B. Garrett	865,880	Sept. 10	1763	491	130	582
Valve. Flushing	W. S. Cooper	865,479	Sept. 10	1121	319	130	369
Valve for fluid-pressure engines	W. C. Schaff and J. A. E. Friederichs.	865,949	Sept. 10	1866	523	130	612
Valve. Power-operated	J. M. Andersen	865,556	Sept. 10	1260	357	130	413
Valve. Retaining	C. M. Fessler	865,370	Sept. 10	950	273	130	316
Valve. Screw-seat	C. M. Hose	865,392	Sept. 10	986	283	130	328
Valves, &c. Machine for facing	T. B. Williams	865,730	Sept. 10	1531	433	130	498
Vapor. Generation of	H. M. Pope and H. P. Maxim	865,725	Sept. 10	1507	425	130	489
Vapor mixtures. Apparatus for rectifying and dephlegmating	J. J. Ponomarew	865,933	Sept. 10	1842	517	130	605
Vegetable-cutter	J. C. Carsley	865,628	Sept. 10	1366	387	130	447
Vehicle and boat. Combination amusement	J. E. Garrette	865,882	Sept. 10	1766	492	130	583
Vehicle-brake	C. H. Bach	865,751	Sept. 10	1552	438	130	505
Vehicle. Land and water	D. F. Akin	865,845	Sept. 10	1720	478	130	570
Vehicle-spring	J. O. Lewis	865,505	Sept. 10	1167	332	130	385
Vehicle-spring	J. O. Lewis	865,599	Sept. 10	1317	373	130	429
Vehicle wheel. Road	J. Davies	866,765	Sept. 10	1573	443–4	130	512
Vending-machine. Coin-operated	F. W. Tucker	866,828	Sept. 10	1695	470–1	130	563
Ventilator	C. H. Ocumpaugh	865,518	Sept. 10	1188	339	130	391
Ventilator or chimney-cap	W. E. Esperson	865,877	Sept. 10	1761	490	130	581
Veterinary dental instrument	F. P. Wells	865,551	Sept. 10	1250	355	130	409
Veterinary instrument	J. Toney and J. H. Viol	865,826	Sept. 10	1693	469	130	562
Veterinary obstetrical forceps	G. N. McGonegal	865,721	Sept. 10	1502	424	130	488
Vine-cutter	W. K. Cooper	865,361	Sept. 10	938	268–9	130	313
Voting-machine	O. T. Johnson	865,393	Sept. 10	987	283	130	328
Voting-machine	E. B. Willix and E. L. Keith	865,975	Sept. 10	1905	534	130	625
Voting-machine	E. B. Willix and E. L. Keith	865,976	Sept. 10	1908	534–7	130	627
Wagon-brake. Automatic	R. T. Huffman	865,704	Sept. 10	1477	417	130	480
Wagon-dump	J. F. White	865,667	Sept. 10	1420	402–3	130	463
Wagon. Dumping	C. Johnson	865,708	Sept. 10	1482	418	130	482
Waist-pattern	M. L. Carrara	865,761	Sept. 10	1569	442	130	511
Washboard support and shield	A. Geibel	865,487	Sept. 10	1136	321	130	373
Washboiler	L. James	865,908	Sept. 10	1799	502	130	583
Washing-machine gearing	W. W. Terriff	866,824	Sept. 10	1687	468	130	560
Washstand. Stationary	C. S. Blain	865,856	Sept. 10	1732	482	130	574
Watch	W. E. Porter	865,656	Sept. 10	1401	397	130	457
Watch. Stem winding and setting	E. H. Horn	865,642	Sept. 10	1383	393	130	452
Watches. Concealed hinge for	A. Bavier	865,672	Sept. 10	1428	406	130	467
Watches. Plate for repeater	F. Montandon and N. Weil	865 652	Sept. 10	1395	395	130	455
Watchcase-pendants. Making	C. W. Butts	865,759	Sept. 10	1566	441	130	510
Weeder, chopper, and scuffle-hoe	J. Carpenter	865 566	Sept. 10	1273	361	130	416
Weighing and packing apparatus. Automatic feed	S. and R. E. Leetham	865 919	Sept. 10	1823	508–10	130	600
Weighing apparatus. Liquid	E. W. Valenta	865,731	Sept. 10	1520	429	130	495
Welding compound	A. J. Hanlon	865,887	Sept. 10	1772	.....	130	585
Well-screen	E. E. Johnson	865,595	Sept. 10	1311	372	130	427
Wells. Oil-hoisting apparatus for	J. M. Rettig	865,429	Sept. 10	1038	296	130	345
Wheel: *See* Cushion-tire wheel. Excavating-wheel. Traction-wheel. Vehicle-wheel.							
Wheel	H. Cramer	865,682	Sept. 10	1443	409	130	471
Whiffletree-hook	J. Pierson, Jr.	865,932	Sept. 10	1841	517	130	605
Whip-socket and rein-holder. Combined	A. Kormil	865,916	Sept. 10	1818	507–8	130	598
Windmill	J. W. Park	865,521	Sept. 10	1192	340	130	392

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Windmill-tower	J. H. Eubank	865,580	Sept. 10	1291	366	130	421
Wire clip	C. W. Sponsel	865,956	Sept. 10	1875	526	130	615
Wire-drawing machines. Driving mechanism for drawing-through drums of	W. Carter and E. Hodgson	865,679	Sept. 10	1439	408	130	469
Wire-payout reel	J. P. Delphey	865,482	Sept. 10	1128	320	130	371
Work-stand. Lady's	L. Rodeen	865,801	Sept. 10	1620	459	130	526
Woven fabric and weaving the same	J. L. Poalk	865,974	Sept. 10	1904	533	130	625
Wrapping-machine	P. F. Lopez and J. P. Zamora	865,408	Sept. 10	1003	287–8	130	334
Wrench: *See* Pipe-wrench.							
Wrench	G. V. West	865,736	Sept. 10	1529	431	130	497
Wrench	W. B. Davis	865,766	Sept. 10	1573	444	130	512
Wrench	W. H. Oliver	865,519	Sept. 10	1190	339	130	391
Wrench or nut-jack	E. B. Hess	865,893	Sept. 10	1783	497	130	589
Writing-machine	J. P. Shaw	865,953	Sept. 10	1872	525	130	614
Yoke. Animal							

DESIGNS.

Design.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Automobile-body	H. E. Coffin	38,800	Sept. 10	130	635
Box-cover	W. A. Jack	38,791	Sept. 10	130	634
Flower-pot cover	W. H. Grever	38,792	Sept. 10	130	634
Match-box	T. F. Bensel	38,787	Sept. 10	130	633
Pincushion	J. U. Barr	38,794	Sept. 10	130	635
Rug	A. Petzold	38,795	Sept. 10	130	635
Rug	A. Petzold	38,796	Sept. 10	130	635
Rug	E. H. Bennett	38,789	Sept. 10	130	634
Rug	G. A. Alexander	38,790	Sept. 10	130	634
Spoons, forks, and similar articles. Handle for	S. J. Large	38,798	Sept. 10	130	635
Spoons, forks, or similar articles. Handle for	T. R. Kennedy and E. J. King	38,799	Sept. 10	130	635
Stove	T. R. Kennedy and E. J. King	38,793	Sept. 10	130	634
Stove	L. L. Martin	38,797	Sept. 10	130	635
Vending-apparatus case. Coin-controlled	C. T. Davis				
Washstand. Metal					

TRADE-MARKS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Aerated waters, and juices, syrups, &c., for flavoring same	T. E. Lippincott	65,157	Sept. 10	130	650
Automobile accessories. Certain	Appliance Mfg. Co	65,206	Sept. 10	130	652
Baking-powder	C. A. Murdock Mfg. Co	65,162	Sept. 10	130	651
Baking-powder	Oliver-Finnie Co	65,170	Sept. 10	130	651
Beer	Consumers' Brewing Co	65,163	Sept. 10	130	651
Beer, ale, and porter	Lyon & Sons Brewing Co	65,168	Sept. 10	130	651
Belting dressings. Leather	F. S. Walton Company	65,093	Sept. 10	130	649
Benzoylguaiacol	Farbwerke vorm. Meister Lucius & Brüning.	65,165	Sept. 10	130	651
Boots, shoes, and slippers. Leather	F. Valdes & Co	65,154	Sept. 10	130	650
Bread	Lloyd Bros	65,138	Sept. 10	130	650
Bread and biscuit	National Biscuit Company	65,141	Sept. 10	130	650
Bricks or blocks. Building	Ohio Mining & Manufacturing Co	65,104	Sept. 10	130	649
Buckles. Suspender	Comfort Suspender Co	65,208	Sept. 10	130	652
Butter	Golden & Co	65,121	Sept. 10	130	649
Butter and cheese	Oliver-Finnie Co	65,126	Sept. 10	130	650
Candies, crystallized and glacé fruits	Oliver-Finnie Co	65,125	Sept. 10	130	650
Canned fish and sardines	S. Hamill Company	65,128	Sept. 10	130	650
Canned fruit, vegetables, baked beans, &c	C. C. McDonald	65,139	Sept. 10	130	650
Canned fruit, vegetables, baked beans, &c	C. C. McDonald	65,140	Sept. 10	130	65
Canned tomatoes	E. Robinson	65,158	Sept. 10	130	650
Castings. Metal	Wetherill Finished Castings Co	65,220	Sept. 10	130	652
Chemicals. Certain	C. F. Boehringer & Soehne	65,161	Sept. 10	130	651
Clothing. Certain	Guiterman Bros	65,096	Sept. 10	130	649
Clothing. Certain	Hertz	65,097	Sept. 10	130	649
Clothing. Certain	Inter-State Rubber Company	65,098	Sept. 10	130	649
Clothing. Certain	Victor Sporting Goods Co	65,107	Sept. 10	130	649
Coal	Johns Bros	65,101	Sept. 10	130	649
Coal	St. Louis, Rocky Mountain & Pacific Co.	65,105	Sept. 10	130	649
Coffee	Independence Coffee and Spice Company.	65,123	Sept. 10	130	650
Coffee	Tone Bros	65,129	Sept. 10	130	650
Coffee	Tone Bros	65,130	Sept. 10	130	650
Coffee	Tone Bros	65,131	Sept. 10	130	650
Coffee	Oliver-Finnie Co	65,143	Sept. 10	130	650
Coffee and tea	Oliver-Finnie Co	65,127	Sept. 10	130	650
Cognacs	Deutsch-Französische Cognac-Brennerei und Weinsprit-Raffinerie vorm. Gebrüder Macholl (Actiengesellschaft).	65,164	Sept. 10	130	651
Coke. Washed	St. Louis, Rocky Mountain & Pacific Co.	65,106	Sept. 10	130	649
Cordage. Certain	Columbian Rope Company	65,092	Sept. 10	130	649
Crates or boxes for shipping carboys	General Chemical Company	65,095	Sept. 10	130	649

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Cutlery. Certain	Farwell, Ozmun, Kirk & Co	65,210	Sept. 10	130	652
Dolls	Geo. Borgfeldt & Co	65,119	Sept. 10	130	649
Engines. Stationary gas	Kumberger & Vreeland	65,214	Sept. 10	130	652
Flavoring preparation	Willson Bros	65,134	Sept. 10	130	650
Flour. Pancake and buckwheat	S. Hamill Company	65,145	Sept. 10	130	650
Flour. Wheat	Bay State Milling Company	65,135	Sept. 10	130	650
Foods. Certain cereal	Chaffee-Miller Milling Company	65,136	Sept. 10	130	650
Foods. Certain cereal	Everett, Aughenbaugh & Company.	65,137	Sept. 10	130	650
Foods. Certain cereal	Oliver-Finnie Co	65,142	Sept. 10	130	650
Foods. Certain cereal	Oliver-Finnie Co	65,144	Sept. 10	130	650
Footwear. Certain	F. Valdes & Co	65,153	Sept. 10	130	650
Footwear. Certain	F. Valdes & Co	65,155	Sept. 10	130	650
Fruit-juices. Distilled	O. Oberföll	65,169	Sept. 10	130	651
Furnaces, heaters, and boilers	L. J. Mueller Furnace Company	65,232	Sept. 10	130	652
Furniture-polish	F. C. Solms	65,183	Sept. 10	130	651
Grape-juice. Unfermented	Wilson Fruit Juice Co	65,159	Sept. 10	130	650
Hair-restoring compound	A. P. Simar	65,182	Sept. 10	130	651
Harmonicas	Geo. Borgfeldt & Co	63,120	Sept. 10	130	649
Hoists	Chisholm & Moore Manufacturing Company.	65,207	Sept. 10	130	652
Jumpers. Babies'	A. F. Mapes	65,103	Sept. 10	130	649
Knives and forks	Farwell, Ozmun, Kirk & Co	65,209	Sept. 10	130	652
Knives, razors, and table-cutlery. Pocket	Geo. Borgfeldt & Co	65,212	Sept. 10	130	652
Laces. Shoe and corset	F. W. Whitcher	65,133	Sept. 10	130	650
Leather manufactures. Certain	Frank Payne Company	65,156	Sept. 10	130	650
Locks	Yale & Towne Mfg. Co	65,108	Sept. 10	130	649
Magazine	R. R. Fisher	65,226	Sept. 10	130	652
Magazines. Monthly	J. F. McNamee	65,233	Sept. 10	130	652
Medicinal suppository	W. Smith	65,234	Sept. 10	130	652
Medicine. Certain	J. Brandt	65,171	Sept. 10	130	651
Medicine. Certain	J. S. Coward	65,174	Sept. 10	130	651
Medicine. Certain	F. A. Dicks	65,176	Sept. 10	130	651
Medicine. Certain	Farbwerke vorm. Meister Lucius & Brüning.	65,177	Sept. 10	130	651
Medicine. Certain	W. J. Roberts Medicine Company.	65,180	Sept. 10	130	651
Medicine. Veterinary	Maher Veterinary Remedy Co	65,179	Sept. 10	130	651
Medicines. Certain	F. A. Epstein	65,223	Sept. 10	130	652
Medicines. Certain	F. A. Epstein	65,224	Sept. 10	130	652
Medicines. Certain	Flee-Flea Co	65,228	Sept. 10	130	652
Metal-polish	O. Grande	65,230	Sept. 10	130	652
Oil. Illuminating	E. B. Gallaher	65,094	Sept. 10	130	649
Oils and greases. Illuminating and lubricating	Tide Water Oil Co	65,205	Sept. 10	130	652
Optical projecting apparatus and films	Galena Signal Oil Co	65,197	Sept. 10	130	651
Overalls, pants, and coats	New York Vitak Company	65,124	Sept. 10	130	650
Paints and painters' materials. Certain	Joplin Overall Company	65,102	Sept. 10	130	649
Paints and painters' materials. Certain	C. H. Howell & Co	65,198	Sept. 10	130	651
Paints and varnishes	Standard Varnish Works	65,202	Sept. 10	130	652
Pamphlets and catalogues	Kelley-How-Thomson Co	65,200	Sept. 10	130	652
Pamphlets and catalogues	Detrick & Harvey Machine Co. of Baltimore City.	65,175	Sept. 10	130	651
Paper. Drawing	Detrick & Harvey Machine Co. of Baltimore City.	65,222	Sept. 10	130	652
Paper. Drawing and tracing	E. G. Soltmann	65,185	Sept. 10	130	651
Paper. Drawing and tracing	E. G. Soltmann	65,184	Sept. 10	130	651
Paper. Roofing, sheathing, and building	E. G. Soltmann	65,203	Sept. 10	130	652
Paper. Toilet	Barrett Manufacturing Company	65,091	Sept. 10	130	649
Paper. Wall	Jones & Skinner	65,199	Sept. 10	130	652
Penholders	Webster & Prager Co	65,192	Sept. 10	130	651
Pens. Steel	Eagle Pencil Company	65,196	Sept. 10	130	651
Pharmaceutical preparations. Certain	E. J. Soltmann	65,191	Sept. 10	130	651
Pills	L. G. B. Erb	65,225	Sept. 10	130	652
Pumps and turbines	J. Garst	65,229	Sept. 10	130	652
Quinin. Basic salt of	E. S. G. Rees	65,219	Sept. 10	130	652
Razors	H. Lacroix & Cie	65,167	Sept. 10	130	651
Remedy for corns, bunions, and warts	Geo. W. Korn Razor Mfg. Co	65,213	Sept. 10	130	652
Seeding-machines. End-gate	J. Cole	65,172	Sept. 10	130	651
Sewing-cotton	Luthy & Co	65,215	Sept. 10	130	652
Sheetings, shirtings, drills, &c	J. & P. Coats	65,099	Sept. 10	130	649
Sheetings, shirtings, drills, &c	China & Japan Trading Company.	65,148	Sept. 10	130	650
Sheetings, shirtings, drills, &c	China & Japan Trading Company.	65,149	Sept. 10	130	650
Sheetings, shirtings, drills, &c	China & Japan Trading Company.	65,150	Sept. 10	130	650
Sheetings, shirtings, drills, &c	China & Japan Trading Company.	65,151	Sept. 10	130	650
Sheetings, shirtings, drills, &c	China & Japan Trading Company.	65,152	Sept. 10	130	650
Shoes. Ladies' leather	Carruthers-Jones Shoe Co	65,147	Sept. 10	130	650
Snap-fasteners for garments	Francis Hook & Eye & Fastener Company.	65,211	Sept. 10	130	652
Soap	Brown Soap Co	65,194	Sept. 10	130	651
Soap	S. Hamill Company	65,201	Sept. 10	130	652
Soap, washing-powder, &c	H. L. Shaw	65,181	Sept. 10	130	651
Soaps and soap powder	C. H. Crew	65,195	Sept. 10	130	651
Soaps. Toilet and medicinal	Barclay & Barclay	65,198	Sept. 10	130	651
Spices and mustard	E. R. Durkee & Co	65,114	Sept. 10	130	649
Stains	Standard Varnish Works	65,204	Sept. 10	130	652
Stone. Quarried	John T. Dyer Quarry Co	65,100	Sept. 10	130	649
Stoppers of tin and cork	Manhattan Cork Specialty Co	65,217	Sept. 10	130	652
Stoves and ranges	James Graham Manufacturing Co.	65,178	Sept. 10	130	651
Stoves and ranges	James Graham Manufacturing Co.	65,231	Sept. 10	130	652
Syrup and molasses	E. Feibleman Sons & Co	65,117	Sept. 10	130	649
Tablets for the throat and voice. Sugar-coated	Coughlet Company	65,173	Sept. 10	130	651
Talking-machine needles. Disk	Harger & Blish	65,122	Sept. 10	130	649
Teas and coffees	Upham Bro's	65,132	Sept. 10	130	650
Teeth	G. Gordon Martin, Incorporated	65,118	Sept. 10	130	649
Tires. Pneumatic	Fisk Rubber Co	65,227	Sept. 10	130	652
Tobacco and cigarettes. Smoking	C. A. Carlin, Ltd	65,113	Sept. 10	130	649
Tobacco. Smoking	Falk Tobacco Company	65 115	Sept. 10	130	649

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Tobacco. Smoking	Falk Tobacco Company	65,116	Sept. 10	130	649
Tonic. Malt	August Schell Brewing Company	65,160	Sept. 10	130	650
Tracing-cloth	E. G. Soltmann	65,186	Sept. 10	130	651
Tracing-cloth	E. G. Soltmann	65,187	Sept. 10	130	651
Tracing-cloth	E. G. Soltmann	65,188	Sept. 10	130	651
Tracing-cloth	E. G. Soltmann	65,189	Sept. 10	130	651
Tracing-cloth	E. G. Soltmann	65,190	Sept. 10	130	651
Type-writing machines	Williams Typewriter Company	65,221	Sept. 10	130	652
Valves	Ohio Brass Company	65,218	Sept. 10	130	652
Watches, watch parts and cases	A. Wittnauer Co	65,109	Sept. 10	130	649
Watches, watch parts and cases	A. Wittnauer Co	65,110	Sept. 10	130	649
Watches, watch parts and cases	A. Wittnauer Co	65,111	Sept. 10	130	649
Watches, watch parts and cases	A. Wittnauer Co	65,112	Sept. 10	130	649
Watches, watch parts and cases	United States Whip Company	65,146	Sept. 10	130	650
Whips	Macy & Jenkins	65,216	Sept. 10	130	652
Whisky	Gundlach-Bundischu Wine Co	65,166	Sept. 10	130	651
Wine					

LABELS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"A. C. Hynd's Antiseptic Skin Tonic." (For an Antiseptic Skin-Tonic.)	A. C. H. Purita Co	13,790	Sept. 10	130	653
"Bell's Sausage Seasoning." (For Spiced Sausage-Seasoning)	William G. Bell Company	13,788	Sept. 10	130	653
"Bell's Seasoning." (For Spiced Seasoning for Meat, Game, Fish, and Poultry.)	William G. Bell Company	13,787	Sept. 10	130	653
"Blossom Nectar." (For Honey)	W. A. Selser	13,785	Sept. 10	130	653
"Coffee." (For Coffee)	B. Fischer & Co	13,780	Sept. 10	130	653
"Coffee." (For Coffee)	B. Fischer & Co	13,781	Sept. 10	130	653
"Coffee." (For Coffee)	B. Fischer & Co	13,782	Sept. 10	130	653
"Coffee." (For Coffee)	B. Fischer & Co	13,783	Sept. 10	130	653
"Coffee." (For Coffee)	B. Fischer & Co	13,784	Sept. 10	130	653
"Coffee." (For Coffee)	F. C. Pinkham	13,792	Sept. 10	130	653
"Delaware Standard Damask." (For Damasks)	Busy Bee Candy Co	13,786	Sept. 10	130	653
"Diamond Special." (For Candy)	Raymond S. Bottling Co	13,791	Sept. 10	130	653
"New England Washing & Bleaching Water." (For a Bleaching Liquid.)	J. Vargas	13,779	Sept. 10	130	653
"Vargas Coffee." (For Coffee)	A. E. Drews & Co	13,789	Sept. 10	130	653
"Vegetable Cough Syrup." (For Medicines for Diseases of the Throat and Lungs.)					

PRINTS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"California Root Beer Extract." (For Root-Beer Extract)	California Root Beer Company	2,106	Sept. 10	130	653
"Men's and Boys' Apparel." (For Men's and Boys' Apparel)	H. C. Lytton	2,110	Sept. 10	130	653
"Swastika and Maltese Backs, '45 Texan Playing Cards." (For Playing-Cards.)	United States Playing Card Company.	2,109	Sept. 10	130	653
"The Home of Falstaff." (For Beer)	Wm. J. Lemp Brewing Co	2,107	Sept. 10	130	653
"The Pretty Barmaid." (For Lager-Beer)	R. Naegeli's Sons	2,108	Sept. 10	130	653

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Accordions, concertinas, cornets, French horn, &c	C. Meisel	10,294	Sept. 10	130	638
Accordions, concertinas, cornets, French horn, &c	C. Meisel	18,410	Sept. 10	130	639
Adding and listing machines	Burroughs Adding Machine Co	18,383	Sept. 10	130	639
Ale and root-beer. Ginger	M. D. Batchelder	24,972	Sept. 10	130	642
Ale. Ginger	American Beverage Co	28,090	Sept. 10	130	643
Antiseptic powder	G. K. Pratt	29,281	Sept. 10	130	647
Baking-powder	St. Louis Coffee and Spice Mills	28,161	Sept. 10	130	643
Baking-powder and soda	Wabash Baking Powder Company.	24,131	Sept. 10	130	641
Beer. Root	American Beverage Co	28,061	Sept. 10	130	643
Belt-dressings	Sawyer Belting Company	29,396	Sept. 10	130	648
Blacking and dressing for boots, shoes, and leather	C. G. de Tonnancour	12,804	Sept. 10	130	636
Bolting-cloth. Silk	A. Wydler	19,941	Sept. 10	130	640
Boots and shoes. Leather	Courtney Shoe Co	28,680	Sept. 10	130	644
Boots and shoes. Leather	Stewart & Co	28,708	Sept. 10	130	644
Bread	Eagle Roller Mill Company	29,370	Sept. 10	130	648
Bread and cakes	R. M. Morton	25,775	Sept. 10	130	642

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Buggies, carriages, &c. Folding storm-fronts for	G. E. Seidel	28,606	Sept. 10	130	643
Candy	Novelty Candy Co	29,322	Sept. 10	130	647
Candy. Laxative	Davis Chemical Company	29,130	Sept. 10	130	645
Canned, dried, and fresh fruits and olive-oil	Maywood Packing Co	18,093	Sept. 10	130	639
Canned fruits and vegetables	Franklinville Canning Co	29,270	Sept. 10	130	647
Canned salmon and oysters	Allen Brothers Company	26,208	Sept. 10	130	642
Canned tomatoes	Hollingsworth & Co	29,331	Sept. 10	130	647
Canned vegetables and fruits	Holmes Keeler & Selleck Co	16,808-9	Sept. 10	130	639
Caps, hats, and gloves	Mendel, Weinstock & Company	24,467	Sept. 10	130	643
Carpets and rugs	W. & J. Sloane	28,591	Sept. 10	130	641
Casters for trucks, furniture, trolleys, &c	W. G. Mein	13,040	Sept. 10	130	643
Catsup and flavoring extracts	Wabash Baking Powder Company.	24,133	Sept. 10	130	638 641
Cement. Coal-tar	Warren-Ehret Company	28,322	Sept. 10	130	643
Cement. Coal-tar	Warren-Ehret Company	28,595	Sept. 10	130	643
Cements. Portland	S. B. Bowen	29,278	Sept. 10	130	647
Champagne	Werle & Co	29,226-31	Sept. 10	130	646
Cigarette-paper	S. Ruby & Co	18,766	Sept. 10	130	639
Cigars	G. A. Moebs & Co	29,161-2	Sept. 10	130	645
Clothes-wringers	American Wringer Company	24,048-54	Sept. 10	130	640-1
Clothes-wringers	American Wringer Company	24,057	Sept. 10	130	641
Clothes-wringers	American Wringer Company	24,153	Sept. 10	130	641
Clothes-wringers and mangles	American Wringer Company	24,043	Sept. 10	130	640
Coats, vests, trousers, &c	L. Greif & Bro	28,560	Sept. 10	130	643
Coats, wraps, robes, hats, &c. Automobile	Scandinavian Fur & Leather Co	28,727	Sept. 10	130	644
Coffee	C. S. Morey Mercantile Company	29,266	Sept. 10	130	646
Coffee and tea	St. Louis Coffee and Spice Mills	28,162	Sept. 10	130	643
Collars and shirts. Textile	John V. Farwell Company	27,616	Sept. 10	130	642
Corn-starch	Wabash Baking Powder Company.	24,132	Sept. 10	130	641
Dress-shields	C. E. Conover Co	26,609	Sept. 10	130	642
Emery-wheels	Safety Emery Wheel Company	29,320	Sept. 10	130	647
Fire-extinguishers. Chemical	H. E. Safford	28,997	Sept. 10	130	645
Flour. Wheat	Thompson Milling Company	29,148	Sept. 10	130	645
Flour. Wheat	H. E. Sherman	29,208	Sept. 10	130	646
Food-preservatives	F. Mráz	25,660	Sept. 10	130	642
Food, wheat-bran, hominy, rye-meal, &c. Cereal breakfast	Johnson Educator Food Company.	24,804	Sept. 10	130	641
Fruits and vegetable oils. Dried, fresh, and preserved	C. Eckardt	24,353-4	Sept. 10	130	641
Gambier	L. Littlejohn & Co	28,867	Sept. 10	130	644
Hammocks	H. L. Hohlfeld	28,434	Sept. 10	130	643
Horses' hoofs. Paste for softening	G. H. Carter	29,271	Sept. 10	130	647
Ironing-boards	H. L. Cavanagh & Sons	23,817	Sept. 10	130	640
Ladders and flagpoles. Wooden	J. A Weston	27,896	Sept. 10	130	642
Leather. Artificial	Boston Artificial Leather Company.	24,921	Sept. 10	130	642
Mangles	American Wringer Company	24,041	Sept. 10	130	640
Medicinal preparation for purifying the blood	Yerba Yutu Remedy Company	28,755	Sept. 10	130	644
Medicines. Synthetic	Actien-Gesellschaft für Anilin-Fabrikation.	29,116	Sept. 10	130	645
Mowers. Lawn	Peter Henderson & Co	825	Sept. 10	130	637
Oats, rice, flour, crackers, &c. Rolled	Charles Hewitt & Sons Co	29,363	Sept. 10	130	648
Oil and grease	Modoc Company	23,760	Sept. 10	130	640
Oils. Lubricating	Galena-Signal Oil Company	10,311-13	Sept. 10	130	638
Ointment	Robinson Bros. & Company	28,752	Sept. 10	130	644
Paper. Writing and printing	American Writing Paper Company.	28,973	Sept. 10	130	645
Piano-action flanges	F. C. Billings	29,101	Sept. 10	130	645
Precious stones and jewelry	J. W. Mayer	28,688	Sept. 10	130	644
Razors and razor-blades	R. Korkemas & Co	26,775	Sept. 10	130	642
Remedies. Consumption	Mutual Drug Company	29,036	Sept. 10	130	645
Remedies. Liver	Althea Remedy Company	27,060	Sept. 10	130	642
Remedy for headache and neuralgia	L. G. B. Erb	29,111	Sept. 10	130	645
Remedy for the treatment of gonorrhea, gleet, &c	J. R. Planten	29,205	Sept. 10	130	646
Remedy for the treatment of leprosy	T. S. Forcat	28,062	Sept. 10	130	643
Remedy for the treatment of syphilis	T. S. Forcat	28,063	Sept. 10	130	643
Salve, ointment, toilet cream, extracts, &c	Pompeian Mfg. Co	29,238	Sept. 10	130	646
Sedative, tonic, and astringent	H. K. Mulford Company	29,235	Sept. 10	130	647
Seeds. Agricultural and horticultural	Peter Henderson & Co	827	Sept. 10	130	637
Sewing-machine heads and attachments	A. G. Mason	24,325	Sept. 10	130	641
Sizing plastic material	N. Pellow	28,850	Sept. 10	130	644
Skin food, toilet cream, nail-bleach, &c	M. C. Whelan	29,063	Sept. 10	130	646
Soap	Procter & Gamble Company	12,948	Sept. 10	130	638
Spices and flavoring extracts	St. Louis Coffee and Spice Mills	28,163	Sept. 10	130	643
Stoves, ranges, and furnaces and parts thereof	Summit Foundry Co	27,893	Sept. 10	130	642
Suppositories	J. S. Falck	29,317	Sept. 10	130	647
Suspenders	Paragon Suspender Company	29,133	Sept. 10	130	645
Syringes, hot-water bottles, fever-thermometers, &c	Davis-Bridaham Drug Company	26,002	Sept. 10	130	642
Teas	V. Sanford	14,221	Sept. 10	130	638
Telephonic instruments and apparatus	Stromberg-Carlson Telephone Mfg. Company.	6,260	Sept. 10	130	637
Thread and spool and sewing cotton	American Thread Company	29,381-4	Sept. 10	130	648
Tobacco. Smoking and chewing	Penn Tobacco Co	29,256	Sept. 10	130	646
Trousers	I. L. Pearl & Co	18,514	Sept. 10	130	639
Violins, violas, cellos, double basses, &c	C. Meisel	16,129	Sept. 10	130	639
Wagons and carriages	H. G. Moore	22,393	Sept. 10	130	640
Water. Mineral	Die Actiengesellschaft Apollinaris Brunnen.	14,308	Sept. 10	130	639
Whisky	L. & A. Scharff	9,108	Sept. 10	130	638
Whisky	New Kensington Distilling Co	28,919	Sept. 10	130	644
Whisky	Hollenbach, Dietrich & Co	28,934	Sept. 10	130	644
Wringers. Bench	American Wringer Company	24,045	Sept. 10	130	640
Yeast. Powdered	R. O. Murphey	18,842	Sept. 10	130	639

ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 17 TH DAY OF SEPTEMBER, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume. Specification.	Drawing.	Official Gazette. Volume.	Page.
Abbey and Imbrie. (See Vanderbilt, Oliver D., assignor.)						
Abbott, John E. (See Johnson, Warner, assignor.)						
Abel, John J. (See Beckral and Abel.)						
Actien Gesellschaft für Anilin Fabrikation. (See Hersberg and Scharfenberg, assignors.)						
Adams & Westlake Company. (See Giese, James A., assignor.)	865,982	Sept. 17	1927	540	130	663
Adt, Leo F., Troy, N. Y. Eyeglasses. (Reissue.)						
Aeolian Company. (See Rees, William H., assignor.)	865,983	Sept. 17	1928	540	130	663
Ahlders, Bernard E., Indianapolis, Ind. Railway-signal	866,553	Sept. 17	2751	770	130	921
Aicher, Gustav A., and F. J. Demartini, San Francisco, Cal. Heating wagon-tires	866,176	Sept. 17	2218	619	130	754
Ainsworth, Francis, St. John, New Brunswick, Canada. Artificial denture						
Air-Brake and Steam-Heat Connection Company. (See Kilpatrick, Walter W., assignor.)	866,554	Sept. 17	2752	770-1	130	922
Albrecht, John H., and B. E. Erickson, Madison, Wis. Leaf-turner	866,177	Sept. 17	2219	619-20	130	754
Aldridge, James G. W., Westminster, and R. E. Gibson, Liverpool, England. Charging gas-retorts, coke-ovens, and the like	866,555	Sept. 17	2754	771	130	922
Alger, Lewis B., Chelsea, Mich. Clevis	866,413	Sept. 17	2563	715-16	130	864
Allcut, David, Fostoria, Ohio. Ballot-box	866,178	Sept. 17	2221	620	130	755
Allen, Alonso W., Streator, Ill. Instrument for describing arcs of circles	866,320	Sept. 17	2430	678	130	821
Allison, James R., Avinger, Tex. Tire-setting implement	866,251	Sept. 17	2317	647	130	785
Alohikea, William K., Los Angeles, Cal. Sanitary stool						
Aluminum Cooking Utensil Co. (See Wilson, John H., assignor.)						
American Can Company. (See Weber, George W., assignor.)						
American Metal Edge Box Company. (See Peterson, William L., assignor.)						
American Recording Company. (See Pollock, Robert A., assignor.)						
American Steel & Wire Company. (See Ney, Robert W., assignor.)						
American Typographic Corporation. (See Richards, Francis H., assignor.)						
Ames, Azel, Jr., New York, N. Y., assignor of one-half to A. G. Wilson, Wilkinsburg, Pa. Lightning-arrester	866,556	Sept. 17	2755	771	130	922
Andersen, Andrew F. (See Caiman and Andersen.)	866,414	Sept. 17	2564	716	130	865
Andersen, Andrew M., and C. Queenell, Moscow, Idaho. Traction-wheel	866,415	Sept. 17	2566	716-17	130	865
Anderson, Andrew M., and C. Queenell, Moscow, Idaho. Pneumatic separator						
Anderson, John R. (See Lloyd and Anderson.)	866,179	Sept. 17	2222	620	130	755
Andreesn, Alfred, Minneapolis, Minn. Cooking-iron						
Anthony, Charles H. (See Walton and Anthony.)						
Appleby, John F., Chicago, Ill., assignor to Dixie Cotton Picker Company, Redfield, S. D. Cotton-picking machine	865,984	Sept. 17	1930	540	130	664
Arnavat, Louis, A. Mendes, and J. B. Fernandez, assignors of one-tenth to J. Riera, Tampa, Fla. Non-refillable bottle	866,252	Sept. 17	2319	647	130	786
Auger, Mary L. (See Dillman and Auger.)						
Autocoil Company. (See Varley, Richard, assignor.)						
Babcock & Company. (See Babcock, Henry C., assignor.)						
Babcock, Henry C., assignor to Babcock & Company, South St. Paul, Minn. Device to shut off flow of gas	866,609	Sept. 17	2839	801	130	960
Balma, Thomas M., Jr., Philadelphia, Pa., assignor to General Electric Company. Variable-voltage transformer	865,985	Sept. 17	1932	540	130	665
Bair, Clarence L., San Francisco, Cal. Vehicle-top bow-holder	866,416	Sept. 17	2567	717	130	865
Baird, James J., Los Angeles, Cal. Turning-machine	866,557	Sept. 17	2756	772	130	922
Baker, William H., assignor of one-half to J. P. Frisbie, Bridgeport, Conn. Meat-tenderer	866,106	Sept. 17	2122	591	130	734
Bakos, John M., South Milwaukee, Wis. Tobacco-smoking pipe	866,417	Sept. 17	2568	717	130	866
Ball, Cutler T., Decatur, Ill. Combined applicator and dilator	866,180	Sept. 17	2222	620	130	755
Ball, William R. A. (See Watt, Herbert H., assignor.)						
Barber, Howard M., Stonington, Conn., assignor to C. B. Cottrell & Sons Company, New York, N. Y. Paste-fountain for printing-presses	866,181	Sept. 17	2223	620	130	756
Barber, John C., Chicago, Ill. Combined center and side bearing for cars	865,986	Sept. 17	1933	541	130	665
Bardwell, Arthur F., assignor to Yale & Towne Manufacturing Company, Stamford, Conn. Machine for duplicating keys	866,418	Sept. 17	2569	717-18	130	866
Barker, Daniel, North Bay, Ontario, Canada. Horseshoe	866,558	Sept. 17	2758	772	130	922
Barlow, Alfred S., Wheatfield, Ind. Stove-truck	865,987	Sept. 17	1935	541	130	665
Barnes, Frederick W., assignor to Eastman Kodak Company, Rochester, N. Y. Photographic developing apparatus	866,221	Sept. 17	2431	679	130	821
Barratt, George W., Bellevue, Pa. Hammock	866,322	Sept. 17	2433	679	130	822
Bartel, William P., Waltham, Mass. Rivet	866,107	Sept. 17	2123	591	130	734
Bartlett, George H., San Francisco, Cal. Spiral-tube-winding machine	866,108	Sept. 17	2124	591	130	734
Bartram, Edward E., Los Angeles, Cal. Dental plate-punch	866,559	Sept. 17	2759	772	130	924
Bartusch, Oswald G., New York, N. Y. Numbering apparatus	866,419	Sept. 17	2571	718	130	867
Basye, Edwin J., Houston, Tex. Well-strainer	866,560	Sept. 17	2761	773	130	942
Batchelder, Asa F., Schenectady, N. Y., assignor to General Electric Company. Electric locomotive	865,988	Sept. 17	1936	541	130	666
Baumann, August. (See Sheldon, Elwin I., assignor.)	866,323	Sept. 17	2434	680	130	822
Baumline, Richard L., Auburn, N. Y. Reduction-furnace	865,989	Sept. 17	1937	541	130	666
Bayless, John, assignor to W. T. Nicholls, Wellsburg, W. Va. Ice-saw						
Bayne, William M. (See Leinweber, Herman, assignor.)						
Beasley, Elmer. (See Bogard and Beasley.)	866,420	Sept. 17	2573	718	130	866
Beauchene, Charles, Lake Linden, Mich. Wrench						

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Becket, William, Esteven, Saskatchewan, Canada, and J. J. Abel, Portal, N. D. Rail-joint	865,990	Sept. 17	1937	542	130	666
Becket, Frederick M., Niagara Falls, N. Y., assignor to Electro Metallurgical Company. Effecting chemical reductions and producing metals or alloys	866,421	Sept. 17	2574	.....	130	868
Becket, Frederick M., Niagara Falls, N. Y., assignor to Electro Metallurgical Company. Producing alloys	866,561	Sept. 17	2762	.....	130	925
Becket, Frederick M., Niagara Falls, N. Y., assignor to Electro Metallurgical Company. Producing ferro-vanadium	866,562	Sept. 17	2763	.....	130	925
Beckman, Horatio B., Newburgh, N. Y. Striking-comb for slashers	866,422	Sept. 17	2575	719	130	869
Beers, Walter S., Marion, Ind. Pitman for pumping-jacks	866,182	Sept. 17	2225	621	130	756
Behm, Forrest E., and R. J. Wiley, Omaha, Nebr. Safety gas-burner	866,563	Sept. 17	2764	773	130	926
Bell, Floyd J., assignor of one-half to W. O. Phipps, Franklin, Pa. Furnace-door opener	866,611	Sept. 17	2842	802	130	950
Bell, Walter J., assignor of one-half to S. L. Kistler, Los Angeles, Cal. Massage-vibrator	866,810	Sept. 17	2840	801–2	130	950
Bell, William R., Venetia, Pa. Antirefillable bottle	866,564	Sept. 17	2766	773	130	926
Bellamy, Charles H., Philadelphia, Pa. Automatic window-sash-fastening device	866,565	Sept. 17	2766	773	130	926
Bellatty, Louis L., New York, N. Y. Safety-tread	866,423	Sept. 17	2576	719	130	869
Bennerscheidt, August, San Francisco, Cal. Fireproof window-sash	865,991	Sept. 17	1938	542	130	666
Benson, Caroline, Pittsburg, Pa. Curtain-pole	866,324	Sept. 17	2435	680	130	822
Bergstrom, Carl. (See Carlson and Bergstrom.)						
Bernard, William A., assignor to William Schollhorn Company, New Haven, Conn. Nippers and similar tool	866,253	Sept. 17	2320	647–8	130	786
Bernstein, Lewis, Grafton, W. Va. Shirt	866,183	Sept. 17	2226	621	130	756
Berry, Charles W., Portland, Me. Change-speed lever for automobiles	866,254	Sept. 17	2321	648	130	786
Bessel, Charles E., Jersey City, and C. D. Meeker, East Orange, N. J. Cigar-lighter and advertising device	866,566	Sept. 17	2768	774	130	927
Best, Ezra, *et al.* (See Best, William N., assignor.)						
Best, John H., *et al.* (See Best, William N., assignor.)						
Best, William N., New York, N. Y., assignor of two-thirds to J. H. and E. Best, Quincy, Ill. Combustion-chamber for gas or oil stoves	865,992	Sept. 17	1939	542	130	667
Bethlehem Steel Company. (See Meigs, Jakobsson, and Brand, assignors.)						
Bibber Manufacturing Company. (See Rumble, Charles A., assignor.)						
Black, Sidney M., Bay City, Mich. Brickmaking mechanism	866,225	Sept. 17	2436	680	130	822
Blackstone, Edward C., and R. E. Watts, Stamford, England. Rake or collector for hay and other crops	866,226	Sept. 17	2438	681	130	824
Blaisdell, Hiram W., Los Angeles, Cal. Centrifugal filter	866,424	Sept. 17	2576	719–20	130	869
Blakesley Keyless Lock Company. (See Blakesley, Orson J., assignor.)						
Blakesley, Orson J., assignor to Blakesley Keyless Lock Company, Denver, Colo. Keyless lock	866,567	Sept. 17	2770	775	130	928
Blattner, Friedrich H. (See Freiermuth and Blattner.)						
Bleil, Herman, Paterson, N. J. Bicycle-pedal	866,568	Sept. 17	2773	775	130	928
Bloch, Emanuel M., Sag Harbor, N. Y. Hat-pin	866,425	Sept. 17	2578	720	130	869
Bogard, David B., and E. Beasley, Carterville, Ill. Top-buggy	866,569	Sept. 17	2774	775–6	130	929
Bolleau, James W., assignor of one-half to J. B. Knoblock, Denver, Colo. Apparatus for treating ore	866,570	Sept. 17	2774	776	130	929
Bolton, James M., assignor of one-half to B. P. Turner, Washington, D. C. Block-molding machine	866,571	Sept. 17	2777	776–7	130	930
Boone, Jesse E., Almedia, Pa. Automatic time-call	866,327	Sept. 17	2440	681	130	824
Botkin, Henry L., Pawhuska, Okla. Ter., assignor of one-half to J. N. Coulter, Fairfield, Ill. Rail-joint	866,572	Sept. 17	2779	777	130	931
Bottomley, James F. (See Fullagar and Bottomley.)						
Bowly, Franklin H., assignor of three-fourths to F. L. Wellman, W. W. Gooch, and W. G. Demarest, New York, N. Y. Apparatus for producing alcohol	866,426	Sept. 17	2578	720	130	869
Boyer, Joseph, Detroit, Mich., assignor to Chicago Pneumatic Tool Company, Chicago, Ill. Pneumatic hammer	866,573	Sept. 17	2780	778	130	931
Brand, Samuel. (See Meigs, Jakobsson, and Brand.)						
Brent, Charles, Brandon, Manitoba, Canada, assignor to Ever-Ready Fire Extinguisher Co., Buffalo, N. Y. Dry-gas fire-extinguisher	866,109	Sept. 17	2126	592	130	725
Bridgeport Brass Company. (See Stapley, William S., assignor.)						
Briggs, Daniel, New York, assignor to Wyckoff, Seamans & Benedict, Ilion, N. Y. Type-cleaning device for type-writers	866,427	Sept. 17	2579	721	130	870
Briggs, William F., Bristol, R. I. Clothes-line prop	866,574	Sept. 17	2782	778	130	932
Briggs, William F., Bristol, R. I. Clothes-line prop	866,575	Sept. 17	2783	778	130	932
Briggs, William F., Bristol, R. I. Clothes-line prop	866,576	Sept. 17	2784	779	130	933
Brison, Charles P., New Albany, Ind. Device for fastening pulleys	866,184	Sept. 17	2228	621	130	757
Brittain, Arlington D., Youngstown, Ohio. Telephone-receiver holder	866,577	Sept. 17	2784	779	130	933
Broderick & Bascom Rope Company. (See Gemmer and Schleicher, assignors.)						
Brossmann, Charles, Jr., Indianapolis, Ind. Filtering device	865,993	Sept. 17	1940	542	130	667
Brown, Clements A. (See St. Onge and Brown.)						
Brown, John W., Arroyo Grande, Cal. Bean-cutter	866,185	Sept. 17	2228	622	130	757
Brown, Solomon F., San Francisco, Cal. Dumping-wagon	866,578	Sept. 17	2785	779	130	933
Brown, Theodore P., assignor to Simplex Piano Player Company, Worcester, Mass. Modulating connection for pianos	865,994	Sept. 17	1941	543	130	668
Browning, Melvin H., Perry, Ill. Clevis	866,428	Sept. 17	2583	721	130	871
Brush, Alanson P., Detroit, Mich. Variable-speed friction mechanism	866,186	Sept. 17	2230	622	130	757
Brush, Alanson P., Detroit, Mich. Brake mechanism	866,328	Sept. 17	2443	682	130	825
Brydges, Samuel M., Nelson, British Columbia, Canada. Collar-button and sleeve-link	866,187	Sept. 17	2232	622	130	758
Buck, Charles T., Waukegan, Ill. Rail-joint	865,995	Sept. 17	1942	543	130	668
Bunch, Walter R., Weatherford, Tex. Combined hydrant and stop and waste cock	866,329	Sept. 17	2444	682	130	825
Bunting, Henry C., Dunbar, Pa. Leveling device	866,429	Sept. 17	2583	721	130	872
Burnett, William H., assignor of one-half to W. L. Ensel, Springfield, Ill. Nut-lock	866,255	Sept. 17	2322	648	130	787
Burrell, Loomis, assignor to D. H. Burrell & Company, Little Falls, N. Y. Milking-machine	866,579	Sept. 17	2786	780	130	934
Butman, Thomas R., Lake Bluff, Ill. Steam-generator	866,188	Sept. 17	2232	623	130	758
C. B. Cottrell & Sons Company. (See Barber, Howard M., assignor.)						
Calkins, Almeron E., Allegan, Mich. Motor	866,330	Sept. 17	2445	682	130	825
Callender, Monroe N. (See Landell and Williams, assignors.)						
Calnan, Charles F., Brooklyn, and A. F. Andersen, New York, N. Y. Portable fire-escape	866,256	Sept. 17	2323	648	130	787
Camden Iron Works. (See Matton, Frederick V., assignor.)						
Cammett, Ira A. (See Fellows and Cammett.)						
Camora, Frederic B., and C. Pelletier, New Orleans, La. Railway-signal	866,331	Sept. 17	2446	682–3	130	826
Carlson, Ivar, and C. Bergstrom, Worcester, Mass. Valve mechanism for hydraulic elevators	866,189	Sept. 17	2234	623	130	759
Carrigan, Maurice F., Milwaukee, Wis. Cream-separator	866,190	Sept. 17	2236	623	130	760
Carrington, George, and H. Pusey, San Francisco, Cal. Advertising means	866,430	Sept. 17	2584	722	130	872
Carter, William T., and E. M. Davis, Chicago, Ill. Soap-dispenser	866,191	Sept. 17	2237	624	130	760
Case, John D., Little Valley, N. Y. Razor-strop	866,332	Sept. 17	2450	683	130	826
Case, John D., Little Valley, N. Y. Pocket-knife	866,431	Sept. 17	2585	722	130	872
Case, William A., San Francisco, Cal. Panorama-camera	866,257	Sept. 17	2325	649	130	787
Castiau, Leopold J., Strathcona, Alberta, Canada, assignor of one-tenth to C. F. Hover, Conrad, Mont. Spring-wheel	866,192	Sept. 17	2236	624	130	760

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Catt, Richard K., Abbotsford, Victoria, Australia. Mask	865,996	Sept. 17	1944	543	130	668
Champion Chemical Company. (See Perks, Albert J., assignor.)						
Chicago Pneumatic Tool Company. (See Boyer, Joseph, assignor.)						
Chrysler, William L., and J. W. Kays, Eugene, Oreg. Holder for oil-cans	866,258	Sept. 17	2331	649	130	790
Churchward, Alexander, New York, N. Y., assignor to General Electric Company. Electromagnetic variable-speed mechanism	865,997	Sept. 17	1945	543–4	130	669
	866,432	Sept. 17	2586	722	130	872
Clapp, Leander A., U. S. Navy, Mathematical instrument	866,110	Sept. 17	2127	592	130	725
Clark, Aaron F., Asheville, Kans. Drill	866,433	Sept. 17	2588	723	130	873
Clark, Andrew J., assignor of one-half to J. R. Guthrie, Santa Cruz, Cal. Filter	866,193	Sept. 17	2239	624	130	761
Clark, Frank G., San Francisco, Cal. Trolley-guide						
Clarke, George H. (See Wilton, Edward, assignor.)						
Clemonds, Sterling Q., *et al.* (See Law, Tomas W., assignor.)	866,333	Sept. 17	2451	683	130	827
Close, Benjamin J., Rialto, Cal. Terret-ring	866,259	Sept. 17	2332	650	130	790
Cole, Harman E., Binghamton, N. Y. Ironing-stand						
Coleman, Clarence W., Westfield, N. J., assignor to Hall Signal Company. Lock for holding signals at danger	866,260	Sept. 17	2333	650	130	790
Coleman, Clarence W., Westfield, N. J., assignor to Hall Signal Company. Railway-traffic-controlling system	866,261	Sept. 17	2334	651	130	791
Coleman, Clarence W., Westfield, N. J., assignor to Hall Signal Company. Commutator	866,262	Sept. 17	2339	651	130	792
Coldewaih, John H., Livermore, Cal. Rotary engine	866,434	Sept. 17	2589	723	130	873
Collier, J. H. (See Rigg, James C., assignor.)	866,334	Sept. 17	2451	684	130	827
Colman, William H., Paducah, Ky. Churn-operating mechanism						
Cöln-Müsener-Bergwerks Aktien Verein. (See Menne, Adolph E., assignor.)						
Cöln-Müsener-Bergwerks Actien Verein. (See Menne and Zollenkop, assignors.)						
Conger, John H. B., Newark, N. J., assignor to Tea Tray Company of Newark, N. J. Stand for sound-amplifying horns	866,263	Sept. 17	2340	652	130	792
Conkey, John A. (See Smith, Thaddeus S., assignor.)	866,435	Sept. 17	2591	723	130	874
Connors, Thomas L., Hudson, N. Y. Bottle-closure	866,008	Sept. 17	1949	544	130	670
Cook, Edward M., Oberlin, Ohio. Metallic packing						
Cook, Henry J., assignor of one-half to F. Patton, Philadelphia, Pa. Disappearing tent-spindle	866,335	Sept. 17	2453	684	130	827
	865,999	Sept. 17	1950	544–5	130	670
Coombe, Stephen H., Chicago, Ill. Beater						
Coons, David. (See Sudell, Herbert G., assignor.)						
Cooper Hewitt Electric Company. (See Potter, Henry N., assignor.)						
Coppage, Benjamin D. (See Sellers and Coppage.)	866,111	Sept. 17	2127	592	130	726
Cory, Charles E., Watertown, N. Y. Stair-templet						
Coulter, John N. (See Botkin, Henry L., assignor.)	866,336	Sept. 17	2454	684	130	828
Courville, Joseph, Detroit, Mich. Pneumatic piano-player						
Cowley, James T., Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J. Conveying apparatus	866,264	Sept. 17	2341	652	130	792
Cowley, James T., Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J. Conveying apparatus	866,337	Sept. 17	2455	685	130	828
Cowley, James T., Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J. Conveying apparatus	866,338	Sept. 17	2458	686	130	829
	866,430	Sept. 17	2592	724	130	874
Cox, John T., Moorestown, N. J. Tumbler-closure						
Craig, James R. (See Johnson, Peter B., assignor.)						
Crawford, Frank H. (See Garnett, William B., assignor.)	866,112	Sept. 17	2130	529	130	726
Cripe, David E., Chandler, Okla. Ter. Bottle	866,265	Sept. 17	2343	652	130	793
Crippen, Herbert, Rochester, N. Y. Safety appliance for steam-boilers	866,339	Sept. 17	2460	686–7	130	830
Crisman, Alonzo M., Rock Island, Ill. Check-row planter	866,000	Sept. 17	1952	545	130	671
Cumming, John A., Monkland Station, Ontario, Canada. Self-locking mowing-machine guard						
Curie, Charles W. (See Wheldon and Curie.)	866,001	Sept. 17	1953	545	130	671
Cushman, Leslie S., Lincoln, Nebr. Sparking mechanism for internal-combustion engines	866,002	Sept. 17	1954	545	130	671
D. H. Burrell & Company. (See Burrell, Loomis, assignor.)						
Daellenbach, Carl R., Braddock, Pa. Internal-combustion engine	866,427	Sept. 17	2593	.....	130	874
Dau, William F. (See Heinen and Dau.)	866,340	Sept. 17	2462	687	130	830
Davidson, Edward M., New York, N. Y. Fire-extinguishing compound	866,580	Sept. 17	2787	780	130	934
Davidson, John R., Monticello, Ga. Combined planter and fertilizer-distributer	866,581	Sept. 17	2790	780	130	935
Davis, Albert G., Washington, D. C. Roasting fusible ores	866,003	Sept. 17	1956	546	130	672
Davis, Albert G., Schenectady, N. Y. Apparatus for roasting fusible ores						
Davis, Columbus M., Waggoner, Ill. Horseshoeing-stand	866,341	Sept. 17	2463	688	130	831
Davis, Ervin M. (See Carter and Davis.)						
Davis, Frank I., Hartford, Conn. Fastener	866,436	Sept. 17	2593	724	130	874
Davis & Furber Machine Company. (See Rundlett, William D., assignor.)	866,114	Sept. 17	2131	593	130	726
Davis, Robert L., Star, N. C. Shaving-brush	866,439	Sept. 17	2594	724	130	874
Dawson, Edward, Andover, Mass. Feed-bag for horses						
De Canio, Victor A., Union Hill, N. J. Door structure						
De Luxe Motor Car Co. (See Herzog, John A., assignor.)						
De Voe, Albert H., Elizabeth, N. J., assignor to Singer Manufacturing Company. Strip-guide for elastic fabrics	866,006	Sept. 17	1959	547	130	673
	866,004	Sept. 17	1957	546	130	672
Deal, Charles A., Kansas City, Mo. Game apparatus	866,114	Sept. 17	2132	593	130	727
Dean, Walter N., Evanston, Ill. Sectional mold						
Dean, William W., assignor to Kellogg Switchboard & Supply Company, Chicago, Ill. Telephone system	866,266	Sept. 17	2346	653	130	795
Deeg, Martin. (See Howe, Deeg, and La Bare.)	866,342	Sept. 17	2465	688	130	831
Demacakos, George, Chicago, Ill. Combination coat and vest						
Demarest, Warren G., *et al.* (See Bowly, Franklin H., assignor.)						
Demartini, Frank J. (See Archer and Demartini.)						
Dempsey, John C. (See Scholler and Dempsey.)	866,440	Sept. 17	2595	724	130	875
Denief, George W., Lowell, and L. B. Howard, Lynn, Mass. Cut-off	866,005	Sept. 17	1958	546	130	673
Dennis, John H., Cowrun, Ohio. Guide for pump sucker-rods						
Derfler, George A., assignor to Philadelphia Watch Case Company, Riverside, N. J. Forming watchcase-pendants	866,194	Sept. 17	2240	624	130	761
	866,195	Sept. 17	2241	625	130	761
Dillman, Maris M. O., and M. L. Auger, Spokane, Wash. Work-holder						
Dixie Cotton Picker Company. (See Appleby, John F., assignor.)						
Dock Gas Engine Company. (See Dock, Herman, assignor.)	866,115	Sept. 17	2134	593	130	726
Dock, Herman, Wynoote, Pa., assignor to Dock Gas Engine Company. Vaporizer	866,007	Sept. 17	1961	547–8	130	674
Dodson, Harry E., assignor to P. P. Mast and Company, Springfield, Ohio. Disk-bearing						
Doorenboe, John, Kalamazoo, Mich., assignor to National Gas Light Company. Inverted gas-burner	866,267	Sept. 17	2340	653	130	796
	866,008	Sept. 17	1964	548	130	674
Downey, William F. Washington, D. C. Horseshoe						
Draper Company. (See Northrop, Jonas, assignor.)	866,009	Sept. 17	1965	548–9	130	675
Dreisbach, William I., Williamsport, Pa. Tire						
Drewell, Heinrich, Hanover, Germany. Mechanism for perforating the operating-bands of automatic type-setting machines	866,343	Sept. 17	2466	688–9	130	832
	866,441	Sept. 17	2597	725–6	130	875
Driggs, William H., Washington, D. C. Apparatus for pointing guns						
Duck, Henry F. (See McRae and Ingram, assignors.)	866,442	Sept. 17	2602	726–7	130	879
Duncan, Henry J., Alpena, Mich. Rotary engine						

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Duncan, Malcolm M., *et al.* (See Law, Tomas, W., assignor.)						
Dunklin, Raphael P., *et al.* (See Law, Tomas W., assignor.)						
Dunn, Charles B., *et al.*, executors. (See Sellers and Coppage.)						
Dyer, David H., Wilkinsburg, assignor of one-fourth to G. R. Willett, Pittsburg, Pa. Piston	866,443	Sept. 17	2004	727	130	679
Dyer, Ernest I., Seattle, Wash. Means for supporting and releasing retaining-stakes	866,344	Sept. 17	2470	689-90	130	834
E. Van Noorden Company. (See Van Noorden, Ezekiel, assignor.)						
Eastman Kodak Company. (See Barnes, Frederick W., assignor.)						
Eddy, Lawrence R., Elizabeth, N. J. Shutter-fastener	866,116	Sept. 17	2135	594	130	728
Edmiston, Arch L., Oklahoma, Okla. Ter. Safety appliance for elevators	866,117	Sept. 17	2136	594	130	728
Edwards, William E., Irvington, N. J. Match-box	866,208	Sept. 17	2350	653	130	766
Eggleston, Lewis W., Appleton, Wis. Venting-valve for radiators	866,345	Sept. 17	2473	690	130	835
Egly, Georg, assignor to Gebrüder Siemens & Co., Charlottenburg, Germany. Manufacture of solid forms	866,444	Sept. 17	2605	.....	130	880
Eisenberg, John, assignor to Estate Stove Company, Hamilton, Ohio. Stove attachment	866,010	Sept. 17	1967	549	130	675
Electro Metallurgical Company. (See Becket, Frederick M., assignor.)						
Electro Metallurgical Company. (See Price, Edgar F., assignor.)						
Elfreth, Harold D., Philadelphia, Pa. Filtration plant	866,346	Sept. 17	2475	690-1	130	836
Elliff, William T., Mackinaw, Ill. Hay-rack	866,445	Sept. 17	2606	727-8	130	880
Elliott, Percy M., Chicago, Ill. Car-door hanger	866,118	Sept. 17	2136	594	130	728
Emerson Electric Manufacturing Company. (See Meston, Charles R., assignor.)						
Englisbee, William J. (See Theiss, Whann, and Englisbee.)						
Ensel, William L. (See Burnett, William H., assignor.)						
Enterprise Manufacturing Company. (See Pflueger, Joseph E., assignor.)						
Erickson, Bror E. (See Albrecht and Erickson.)						
Estate Stove Company. (See Eisenberg, John, assignor.)						
Evans Phonograph Record Company. (See Reiners, Charles A., assignor.)						
Evans, William J., Aspinwall, Pa. Slab and core holder	866,446	Sept. 17	2607	728	130	880
Ever-Ready Fire Extinguisher Co. (See Brent, Charles, assignor.)						
Fagan, John T., assignor to National Electric Lamp Company, Cleveland, Ohio. Machine for flanging glass tubes	866,347	Sept. 17	2476	691-2	130	836
Falkenberg, Ottilia, Baltimore, Md. Game-board	866,447	Sept. 17	2608	728	130	880
Farmer, Clyde C., Chicago, Ill., and W. V. Turner, Wilkinsburg, assignors to Westinghouse Air Brake Company, Pittsburg, Pa. Pressure-governing device for pumps	866,448	Sept. 17	2609	729	130	881
Fearon, Christopher S. (See Fearon, George and C. S.)						
Fearon, George and C. S., Newcastle-upon-Tyne, England. Means for raising sunken vessels	866,348	Sept. 17	2480	692-3	130	838
Febiger, Christian C., *et al.*, executors. (See Sellers and Coppage.)						
Feist, Bertha C., Aspen, Colo. Jardinière	866,449	Sept. 17	2614	729	130	882
Fellows, Hugh W., Cahuenga, and I. A. Cammett, Hollywood, Cal. Trolley-pole support	866,349	Sept. 17	2482	693	130	839
Ferguson, George W., Logan, Kans. Subsoiler attachment for lister-plows	866,450	Sept. 17	2614	730	130	882
Ferguson, Samuel, Schenectady, N. Y., assignor to General Electric Company. Improving vapor electric devices	866,011	Sept. 17	1968	549	130	676
Fernandez, José B. (See Arnavat, Mendez, and Fernandez.)						
Ferris, Henry L., Harvard, Ill., assignor to Hunt, Helm, Ferris & Company. Feed and litter carrier	866,269	Sept. 17	2353	653-4	130	797
Ficker, Frederick C., *et al.* (See Kasse, Abram, assignor.)						
Fields, John W., West Liberty, assignor of one-half to W. H. Haney, Lexington, Ky. Spur	866,119	Sept. 17	2136	595	130	729
Fleegle, J. W. (See Peterson, John H. N., assignor.)						
Fleming, Edward, Bridgeport, Ohio. Picture-hanger	866,270	Sept. 17	2355	654	130	798
Fleming, James, Middleton, Ga. Clothes-pounder	866,120	Sept. 17	2136	595	130	729
Fleming, Richard. Swampscott, and C. A. B. Halvorson, Jr., Lynn, Mass., assignors to General Electric Company. Arc-lamp	866,012	Sept. 17	1969	549	130	676
Fleury, Joseph, Manchester, N. H. Faucet attachment	866,121	Sept. 17	2139	595	130	729
Flint & Walling Manufacturing Company. (See Walling, George E., assignor.)						
Foraker, William L., and H. Walker, Byesville, Ohio. Nut-lock	866,451	Sept. 17	2615	730	130	882
Ford, Amanuel O., Indian Springs, Tenn. Street-sweeper	866,452	Sept. 17	2616	730-1	130	882
Forged Steel Wheel Company. (See Hansen, John M., assignor.)						
Foster, Joseph, New York, N. Y. Water-heater	866,122	Sept. 17	2140	595	130	729
Fowler, Lewis D., assignor of one-half to A. D. Marble, Oklahoma, Okla. Ter. Banana-crate	866,123	Sept. 17	2142	596	130	730
Fowler, Walter C., Trenton, N. J. Pencil	866,350	Sept. 17	2484	693	130	839
Fox, William H., Minneapolis, Minn. Door-stop	866,124	Sept. 17	2143	596	130	730
Foyer Manufacturing Company. (See Kurz, Otto, assignor.)						
Franklin, Lester R., New York, N. Y. Building-block	866,351	Sept. 17	2485	694	130	840
Fraser, William, Sioux Falls, S. D. Track-cleaner	866,453	Sept. 17	2617	731	130	883
Fredin, Herman. (See Hanson, August, assignor.)						
Freiermuth, Charles, and F. H. Blattner, Brooklyn, N. Y. Oil and water separator and filter	866,454	Sept. 17	2618	731-2	130	883
Frisbie, Joseph P. (See Baker, William H., assignor.)						
Fullagar, Hugh F., and J. F. Bottomley, Newcastle-upon-Tyne, England. Internal-combustion engine of the turbine type	866,352	Sept. 17	2486	694	130	840
Fur-Wool Company. (See Granville, Arthur, assignor.)						
Gabrielson, Carl, assignor to L. C. Smith and Bros. Typewriter Company, Syracuse N. Y. Type-writing machine	866,198	Sept. 17	2241	625	130	761
Gaines, Roy E., Dale, Ind. Computing yard-measure	866,125	Sept. 17	2144	596	130	731
Gantt, James T., Macon, Ga. Fertilizer-distributer	866,455	Sept. 17	2619	732	130	883
Garland, Alva. (See Kinard, John M., assignor.)						
Garnett, William B., assignor of one-half to F. H. Crawford, Tonkawa, Okla. Ter. Receptacle for holding and dispensing liquid soap	866,126	Sept. 17	2145	596	130	731
Gately, John H., Bellows Falls, Vt. Winding-core	866,353	Sept. 17	2489	695	130	841
Gemmer, Walter S., and E. J. Schleicher, assignors of one-third to Broderick & Bascom Rope Company, St. Louis, Mo. Tramway-bucket	866,271	Sept. 17	2355	654-5	130	798
General Electric Company. (See Bains, Thomas M., Jr., assignor.)						
General Electric Company. (See Batchelder, Asa F., assignor.)						
General Electric Company. (See Churchward, Alexander, assignor.)						
General Electric Company. (See Ferguson, Samuel, assignor.)						
General Electric Company. (See Fleming and Halvorson, assignors.)						
General Electric Company. (See Rice, Richard H., assignor.)						
General Electric Company. (See Schneider, Stephan, assignor.)						
General Electric Company. (See Stern, Georg, assignor.)						
General Electric Company. (See Tournier, Julius C., assignor.)						
General Electric Company. (See Troutman, Lewis E., assignor.)						
General Electric Company. (See Whittlesey, George P., assignor.)						
Genthner, Charles M., assignor to Rathbone, Sard & Company, Aurora, Ill. Draft-regulator for stove-doors	866,197	Sept. 17	2240	625	130	761
George, Samuel G., Seattle, Wash. Combined starting and retrograde braking mechanism for gasolene-engines	866,456	Sept. 17	2621	732	130	884

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Gerson, Adolph, New York, N. Y. Watch	866,198	Sept. 17	2244	626	130	762
Gibbs, George J., assignor of one-half to P. Pilkington Limited, Bamber Bridge, near Preston, England. Compressed-air installation	866,457	Sept. 17	2623	732-3	130	884
Gibson, Ralph E. (See Aldridge and Gibson.)						
Glese, James A., Chicago, Ill., assignor to Adams & Westlake Company. Padlock	866,013	Sept. 17	1971	550	130	676
Gill, Austin M., Chicago, Ill. Fat-back-skinning machine	866,354	Sept. 17	2490	695	130	841
Gilmour, John, Owensboro, Ky. Cask	866,014	Sept. 17	1972	550	130	677
Glassbrooke, Myron D., Angola, Ind. Horseshoe-pad	866,127	Sept. 17	2146	597	130	731
Glenn, Frederick B., assignor of one-half to J. H. Guthrie, Lynchburg, Va. Adding-machine	866,355	Sept. 17	2491	695	130	841
Godsey, Henry M., Cleburne, Tex. Bearing	866,272	Sept. 17	2358	655	130	800
Gooch, William W., *et al.* (See Bowly, Franklin H., assignor.)						
Goodhue, Mead E. (See Ransom and Goodhue.)						
Goodrich, Edson E., Waterville, Me. Folding umbrella	866,015	Sept. 17	1973	550	130	677
Goodwin, Charles H., assignor to Waterbury Button Company, Waterbury, Conn. Fastener	866,016	Sept. 17	1975	550	130	677
Gragg, Zachary T., Oklahoma, Okla. Ter., assignor to United States Portable Wagon Scales & Novelty Manufacturing Company. Vehicle-scale	866,017	Sept. 17	1976	551	130	678
Granville, Arthur, assignor to Fur-Wool Company Limited, London, England. Treating skins	866,458	Sept. 17	2624	.....	130	848
Gray, Alfred, New York, N. Y. Dress-suit case	866,459	Sept. 17	2625	733	130	884
Gray, Elisha, Highland Park, Ill., assignor, by mesne assignments, to Submarine Signal Company. Device for transmitting sound through water	866,128	Sept. 17	2147	597-8	130	731
Grieb, Conrad F. (See Smith, Nelson R., assignor.)						
Guthrie, James H. (See Glenn, Frederick B., assignor.)						
Guthrie, Joseph R. (See Clark, Andrew J., assignor.)						
Haas, Ferdinand G., Springfield, Mo. Pipe-cutter	866,356	Sept. 17	2493	696	130	842
Haas, Howard H., Palo Alto, Pa. Adjustable clothes-prop	866,199	Sept. 17	2245	626	130	762
Hackett, Lewis, North Yakima, Wash. Device for making and repairing shoes	866,129	Sept. 17	2149	598	130	732
Haiss, Hugo, Pittsburg, Pa Universal beam-frame	866,460	Sept. 17	2626	734	130	885
Haiss, Hugo, Pittsburg, Pa. Beam-frame for continuous concrete girders	866,461	Sept. 17	2628	735	130	886
Hall Signal Company. (See Coleman, Clarence W., assignor.)						
Halvorson, Cromwell A. B., Jr. (See Fleming and Halvorson.)						
Hama, Jean S., Los Angeles, Cal. Cake-baking apparatus	866,273	Sept. 17	2359	656	130	800
Hamm, William S., Lakeside, Ill. Lantern	860,018	Sept. 17	1980	551-2	130	679
Hammann, William, Milwaukee, Wis. Flashing-fastener	866,357	Sept. 17	2494	696	130	843
Hammer, William J., New York, N. Y. Selenium cell	866,462	Sept. 17	2629	735	130	886
Hanchett, George T. (See Jordan and Hanchett.)						
Handel, Jacob, New York, N. Y. Rotary vibratory massage-brush	866,019	Sept. 17	1981	552	130	680
Haney, William H. (See Fields, John W., assignor.)						
Hansen, John M., assignor to Forged Steel Wheel Company, Pittsburg, Pa. Forging car and like wheels	866,020	Sept. 17	1982	552-3	130	680
Hansen, John M., assignor to Forged Steel Wheel Campany, Pittsburg, Pa. Apparatus for forging wheel-blanks	866,021	Sept. 17	1986	553	130	681
Hansen, John M., assignor to Forged Steel Wheel Company, Pittsburg, Pa. Apparatus for forging car-wheel treads	866,022	Sept. 17	1987	553	130	681
Hansen, John M., assignor to Forged Steel Wheel Company, Pittsburg, Pa. Forging wheel-blanks	866,023	Sept. 17	1989	553-4	130	682
Hansen, John M., assignor to Forged Steel Wheel Company, Pittsburg, Pa. Apparatus for forging wheels	866,024	Sept. 17	1991	554	130	682
Hansen, John M., assignor to Forged Steel Wheel Company, Pittsburg, Pa. Forging car-wheels	866,025	Sept. 17	1992	555	130	683
Hansen, John M., assignor to Forged Steel Wheel Company, Pittsburg, Pa. Apparatus for forging car-wheels	866,026	Sept. 17	1995	555-6	130	683
Hanson, August, Rock Island, Ill., assignor of one-third to H. Fredin, Ilion, N. Y. Magazine-rifle	866,027	Sept 17	1996	556-7	130	684
Hanson, Bennie P., Parkersburg, Iowa. Vehicle-tongue	866,130	Sept. 17	2150	598	130	732
Hanson, Bennie P., Parkersburg, Iowa, assignor of one-half to C. D. Williams, Elmore, Minn. Manure-loader	866,582	Sept. 17	2791	781	130	936
Hanson & Van Winkle Company. (See Tamper, Adolf, assignor.)						
Harhay Joseph W., assignor of one-half to C. H. Herrick, Cleveland, Ohio. Mail-bag delivery	866,274	Sept. 17	2360	656	130	800
Hart, Harry S., Chicago, Ill. Car-truck	866,028	Sept. 17	1999	557	130	685
Hart, Miller H., Marietta, Ohio. Receptacle-holder	866,463	Sept. 17	2632	735	130	887
Hartmann, Henry E. J., Kansas City, Mo. Paper bag	866,275	Sept. 17	2361	656	130	800
Haskell, Charles C., Bournedale, Mass. Trousers-guard	866,276	Sept. 17	2362	657	130	801
Hawk, Arthur H., Greensburg, Pa. Garment-support	866,464	Sept. 17	2634	736	130	887
Hearn, William J., Mount Vernon, N. Y. Propeller and steering device	866,465	Sept. 17	2635	736	130	887
Hellman, Guy C., Hackensack, N. J., assignor of one-half to M. A. Herrick, New York, N. Y. Gas-producer	866,131	Sept. 17	2152	598	130	733
Heinen, William C., and W. F. Dau, Whittemore, Iowa. Machine for displaying, measuring, and cutting off oil-cloth	866,277	Sept. 17	2363	657-8	130	801
Hemenway, Melville D., San Francisco, Cal. Controller for rotating shafts	866,278	Sept. 17	2366	658	130	802
Hempel, Henry A., Buffalo, N. Y. Printer's quoin	866,358	Sept. 17	2495	696	130	843
Henderson, Thomas M., Portsmouth, assignor of one-half to R. R. Hicks, Norfolk, Va. Automatic self-balancing valve	866,132	Sept. 17	2153	599	130	733
Henselwood, Peter J. (See Sarton, Henselwood, and Johnson.)						
Herrick, Charles H. (See Harhay, Joseph W., assignor.)						
Herrick, Mary A. (See Hellman, Guy C., assignor.)	866,029	Sept. 17	2000	557	130	685
Hershey, Jacob F., Omaha, Nebr. Watering-hook for gig-saddles	866,030	Sept. 17	2001	558	130	685
Hershey, Jacob F., Omaha, Nebr. Hook						
Herzberg, Wilhelm, Berlin, and O. Scharlenberg, Schöneberg, near Berlin, assignors to Actien Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Triphenylmethan dye and making same	866,359	Sept. 17	2497	.....	130	843
Herzog, John A., Toledo, Ohio, assignor to De Luxe Motor Car Co., Detroit, Mich. Vehicle steering-gear	866,133	Sept. 17	2154	599	130	733
Hicks, R. Randolph. (See Henderson, Thomas M., assignor.)	866,466	Sept. 17	2635	736-7	130	888
Higbee, James F., Indianapolis, Ind. Rotary gas-motor	866,360	Sept. 17	2498	696-7	130	844
Hill, Isaac B., Plainfield, N. J. Concrete block	866,200	Sept. 17	2446	626	130	763
Hiner, Charles N., Bridgewater, Va. Shade-roller	866,361	Sept. 17	2500	697	130	844
Hinson, George W. (See Lax, Hinson, and Willhoit.)						
Hitchcock, Wilber R., Cornwall, Ontario, Canada. Drill attachment	866,134	Sept. 17	2155	599	130	734
Hodgetts, Christopher W. (See Kinsella and Hodgetts.)	866,135	Sept. 17	2156	599-600	130	734
Hoffmann, William H., New York, N. Y. Tire-protector	866,467	Sept. 17	2637	737	130	888
Holcomb, Hilary N., East Bend, N. C. Ironing-table	866,201	Sept. 17	2247	626-7	130	763
Holderbaum, John I., Somerset, Pa. Ice-creeper	866,031	Sept. 17	2002	558	130	685
Holley, Herbert E., Pulteney, N. Y. Sprayer	866,583	Sept. 17	2796	782	130	937
Hooker, William H., Manchester, N. H. Rotary engine	866,468	Sept. 17	2638	737	130	888
Hope, William H., Providence, R. I. Door lock and latch	866,202	Sept. 17	2249	627	130	763
Hopper, John, Fulham, England. Frame for supporting the hoods of road-vehicles						
Hostetter, Enos M., New Providence, Pa. Transmission-gearing						

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Houts, Silas, Weeping Water, Nebr. Corn-sheller separator	866,362	Sept. 17	2501	697	130	845
Hover, Charles F. (See Castiau, Leopold J., assignor.)						
Hovey, William S., assignor to Sheffield Car Company, Three Rivers, Mich. Railway motor-car	866,136	Sept. 17	2157	600	130	734
Howard, Laurence B. (See Denief and Howard.)						
Howe, Thomas J., M. Deeg, and F. La Bare, assignors to Owatonna Manufacturing Company, Owatonna, Minn. Combined churn and butter-worker	866,584	Sept. 17	2797	783	130	938
Hruby, Thomas J. (See Plummer, George C., assignor.)						
Huggins, John T., Pomeroy, Ohio. Combined fountain scrub-brush and mop	866,499	Sept. 17	2640	737	130	889
Hughes, William B., Cleveland, Ohio. Gas-producer	866,032	Sept. 17	2005	558	130	686
Hughes, William E., Mineral Ridge, Ohio. Railway-track construction	866,470	Sept. 17	2641	738	130	889
Hulbert, Edwin F., assignor to National Oyster Carrier Co., Kenosha, Wis. Box-fastener	866,585	Sept. 17	2800	784	130	938
Hull, Lycurgus E., Great Falls, Mont. Guitar attachment	866,137	Sept. 17	2157	600-1	130	735
Hülsberg & Cie. mit beschränkter Haftung. (See Kuckuck, Berthold, assignor.)						
Humphrey, Henry L., Monroe, Mich. Trolley-wheel	866,363	Sept. 17	2502	698	130	845
Hunt, Helm, Ferris & Company. (See Ferris, Henry L., assignor.)						
Hunter, Robert L., Lakewood, assignor of one-half to D. M. Osborne, Cleveland, Ohio. Electric bell	866,471	Sept. 17	2642	738	130	889
Hussey, John M., Cambridge, Mass. Desiccating eggs	866,586	Sept. 17	2801	784-5	130	938
Hutchins, Frederick, Harlesden, England. Spinning-roller	866,364	Sept. 17	2503	698	130	845
Hyams, Aaron. (See McAtlin, William D., assignor.)						
Industrial Alcohol Heat and Light Company. (See Schroder, George G., assignor.)						
Ingram, Harold. (See McRae and Ingram.)						
Jackson, George W., Philadelphia, Pa. Propeller	866,265	Sept. 17	2804	f 698	130	845
Jacobson, Ole H., Oak City, Utah. Combined ironing-board and step-ladder	866,366	Sept. 17	2505	(698-0	130	845
Jakobsson, Herman G. (See Meigs, Jakobsson, and Brand.)						
Jenkins, Joseph W., Macon, Ga. Railway-truck	866,668	Sept. 17	2005	559	130	687
Jenkins, William W., Lisman, Ky. Nut-lock	866,270	Sept. 17	2287	559	130	802
Jensen, Holger O. (See Zorger and Jensen.)						
Joeckel, Henry F., Clayton, Ill. Telephone system	866,138	Sept. 17	2160	601	130	735
Johnson, Andrew A. (See Saxton, Henselwood, and Johnson.)						
Johnson, John A., Tacoma, Wash. Apparatus for loading coal into vessels	866,203	Sept. 17	2251	628	130	764
Johnson, John G., *et al.*, executors. (See Sellers and Coppage.)						
Johnson, Mary E., executrix. (See Johnson, Warner.)						
Johnson, Peter B., Chicago, Ill., assignor of one-half to J. R. Craig, Thayer, Ind. Gas-machine	866,587	Sept. 17	2806	785-6	130	939
Johnson, Warner, deceased, Boston; M. E. Johnson, executrix, assignor, by mesne assignments, to J. E. Abbott, Watertown, Mass. Grate	866,888	Sept. 17	2806	786	130	939
Jones, John B., Bridgeport, Conn. Feeding and watering device for poultry and animals	866,472	Sept. 17	2645	738-9	130	889
Jones, John T., Iron Mountain, Mich. Ore-reducing furnace	866,360	Sept. 17	2503	659	130	803
Jones, Stewart H., Buffalo, N. Y. Journal-bearing	866,035	Sept. 17	2008	560	130	687
Jordan Automatic Signal Company. (See Jordan and Hanchett, assignors.)						
Jordan, William H., Brooklyn, N. Y., and G. T. Hanchett, Hackensack, N. J., assignors to Jordan Automatic Signal Company, New York, N. Y. Railway-signal	866,261	Sept. 17	2370	650-60	130	803
Jordan, Willis H., Rogers Prairie, Tex. Gate	866,139	Sept. 17	2161	602	130	735
Kahn, Bernard J., Denver, Colo. Curtain and shade support	866,589	Sept. 17	2809	787	130	940
Kahn, Julius, Detroit, Mich. Trussed girder	866,140	Sept. 17	2163	602	130	736
Karr, James P., and J. D. Rauch, Logansport, Ind. Shifting and locking mechanism for friction band-clutches	866,262	Sept. 17	2374	660	130	804
Kasse, Abram, assignor of two-thirds to S. Manheimer and F. C. Ficker, New York, N. Y. Placket-closure	866,263	Sept. 17	2375	661	130	804
Kay, Daniel F., Jr., Chicago, Ill. Clothes-pin	866,141	Sept. 17	2164	603	130	736
Kaye, Joseph W. (See Chrysler and Kaye.)						
Kee Lox Manufacturing Company. (See La May, Frank B., assignor.)						
Keefe, Daniel C., and T. M. Smith, New York, N. Y.; said Smith assignor to said Keefe. Electric-lamp bracket	866,473	Sept. 17	2646	739	130	891
Keefe, Michael C., assignor to Railway Time-Saving Association, Salt Lake City, Utah. Catcher and delivery system for railways	866,264	Sept. 17	2376	661	130	804
Keeran, Samuel R., Centralia, Mo. Car-chock	866,474	Sept. 17	2647	739	130	891
Kehoe, Michael J., assignor of one-third to B. Lehman, Fort Wayne, Ind. Electrical switch	866,590	Sept. 17	2809	787	130	940
Keimer & Co. (See Keimer, Eduard, assignor.)						
Keimer, Eduard, Basel, assignor to Keimer & Co., Zurich, Switzerland. Apparatus for conveying loads from one level to another	866,475	Sept. 17	2648	740	130	891
Kelley, Hugh C., Sonora, Tex. Shave-registering device	866,142	Sept. 17	2165	603	130	736
Kellogg, Lewis M., Los Angeles, Cal. Elastic-fluid turbine	866,476	Sept. 17	2649	140	130	892
Kellogg Switchboard & Supply Company. (See Dean, William W., assignor.)						
Kennedy, James W., Burke, N. Y. Non-refillable bottle	866,477	Sept. 17	2651	740	130	892
Kerner, Edward W., Erie, Pa. Fence-post	866,478	Sept. 17	2651	741	130	892
Kiesel, William F., Jr., Altoona, Pa. Molding	866,479	Sept. 17	2652	741	130	892
Kiesel, William F., Jr., Altoona, Pa. Molding	866,480	Sept. 17	2653	742	130	893
Kiesel, William F., Jr., Altoona, Pa. Metal interior construction	866,481	Sept. 17	2654	742	130	893
Kilgore-Peteler Company. (See Peteler, Charles B., assignor.)						
Kilpatrick, Walter W., assignor to Air-Brake and Steam-Heat Connection Company, Atlanta, Ga. Flexible metallic coupling	866,482	Sept. 17	2655	742-3	130	893
Kimes, Hugh W., assignor to Valle and Kimes, Dayton, Ohio. Fluid-motor	866,591	Sept. 17	2811	787-8	130	941
Kimes, Hugh W., assignor to Valle & Kimes, Dayton, Ohio. Fluid-motor	866,592	Sept. 17	2814	788-9	130	941
Kinard, John M., assignor of one-half to A. Garland, Bremond, Tex. Acetylene-gas generator	866,483	Sept. 17	2656	743	130	893
King, Theophilus, trustee. (See Van Osdol, Charles E., assignor.)						
Kinsella, Thomas R., and C. W. Hodgetts, Hartwell, Ohio. Alarm	866,484	Sept. 17	2658	743	130	894
Kirk, William H., Minneapolis, Minn. Gas-burning appliance for stove-ovens	866,143	Sept. 17	2166	603-4	130	736
Kistler, Samuel L. (See Bell, Walter J., assignor.)						
Klie, Walter, Columbus, Ohio. Valve	866,265	Sept. 17	2377	662	130	805
Knoblock, James B. (See Bolleau, James W., assignor.)						
Knoll, Rudolf, Vienna, Austria-Hungary. Telephone-mouthpiece	866,036	Sept. 17	2009	560	130	688
Kobert, Frank P., New York, N. Y. Rope-clamp	866,144	Sept. 17	2167	604	130	737
Kollmar, Robert, Newark, N. J. Cigar-cutter	866,037	Sept. 17	2009	560	130	688
Koon, Andrew P., Sheridan, Ark. Clock-adjuster	866,485	Sept. 17	2660	744	130	895
Kopf, Theodor, Uerdingen, Germany. Automatic discharging device	866,204	Sept. 17	2252	628	130	764
Kovacic, Blasius, East Pittsburg, Pa. Ink-well	866,486	Sept. 17	2661	744	130	895
Krotz, Alvaro S., assignor of one-half to P. A. Staley, Springfield, Ohio. Electric generator and motor	866,266	Sept. 17	2378	662	130	805
Kuckuck, Berthold, Wannsee, near Berlin, assignor to Hülsberg & Cie. mit beschränkter Haftung, Charlottenburg, Germany. Apparatus for impregnating wood or other substances	866,487	Sept. 17	2662	744	130	895
Kurz, Otto, assignor to Foyer Manufacturing Company, Sturgis, Mich. Collapsible carriage	866,145	Sept. 17	2168	604-5	130	737
Kusserow, Curt von, Lübbecke, Germany. Vehicle-wheel	866,267	Sept. 17	2806	699	130	846

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L. C. Smith and Bros. Typewriter Company. (See Gabrielson, Carl, assignor.)						
La Bare, Frank. (See Howe, Deeg, and La Bare.)						
La Bare, Frank, assignor to Owatonna Manufacturing Company, Owatonna, Minn. Combined churn and butter-worker	866,038	Sept. 17	2010	561	130	688
La May, Frank B., assignor to Kee Lox Manufacturing Company, Rochester, N. Y. Spool or reel	866,039	Sept. 17	2013	562	130	68
La Société Nouvelle des Etablissements de l'Horme et de la Buire. (See Saint Vaulry, Darlier de, assignor.)						
Lambert, James G., Hadleigh, and B. E. Waddams, Ealing, England. Variable-speed gearing	866,488	Sept. 17	2663	744-5	130	896
Lamson Consolidated Store Service Company. (See Cowley, James T., assignor.)						
Landell, Peter W., and J. B. Williams, assignors of one-third to M. N. Callender, San Francisco, Cal. Flushing apparatus	866,368	Sept. 17	2508	699-700	130	847
Langer, Gotthold L., Stockton, assignor to Pacific Steel & Wire Co., Oakland, Cal. Wire-fence-making machine	866,146	Sept. 17	2173	605-6	130	740
Latta, Emmit G. (See Waldron, Howard V. D., assignor.)	866,267	Sept. 17	2379	662	130	805
Lauth, Jacob, Chicago, Ill. Wheel	866,147	Sept. 17	2177	607	130	741
Law, Tomas W., assignor to M. M. Scott, J. B. Robers, M. M. Duncan, S. Q. Clemonds, and R. P. Dunklin, Atlanta, Tex. Fish-trap	866,040	Sept. 17	2014	562	130	689
Lax, Alfred A., G. W. Hinson, and J. I. Willholt, Graham, Tex. Agricultural machine	866,369	Sept. 17	2510	700	130	847
Learnard, Arthur W., Boston, Mass. Propeller	866,205	Sept. 17	2253	628-9	130	765
Lee, Charles, Cambridge, Mass. Device for laying out and setting up molding-cutters	866,268	Sept. 17	2380	663	130	806
Leggett, Charles E., El Campo, Tex., assignor to Leggett Pump Company, Joplin, Mo. Condensing-pump						
Leggett Pump Company. (See Leggett, Charles E., assignor.)						
Lehman, Benjamin. (See Kehoe, Michael J., assignor.)						
Leineweber, Herman, South Chicago, assignor of one-half to W. M. Bayne, Chicago, Ill. Pneumatic tool	866,370	Sept. 17	2511	700	130	848
Leonard, David A., Morning Sun, Iowa. Clothes-rack	866,489	Sept. 17	2665	745	130	896
Levingston, Aaron, Kansas City, Mo. Pen or pencil point protector	866,148	Sept. 17	2177	607	130	742
Lewis, Elias, Denver, Colo. Device for sharpening rock-drills	866,041	Sept. 17	2017	562-3	130	690
Lewis, Jay C., Cleveland, Ohio. Carburetor	866,490	Sept. 17	2666	745	130	897
Lieskar, Paul, Drontheim, Norway. Brush-attaching device	866,149	Sept. 17	2178	607	130	742
Linder, Walter W., Charlotte, N. C. Loom	866,491	Sept. 17	2668	746	130	897
Linkmeyer, Rudolf, Brussels, Belgium. Removing copper salts from alkaline liquors	866,371	Sept. 17	2513	.....	130	848
Lipscomb, Abraham B., Yager, Cal. Spike	866,492	Sept. 17	2668	746	130	898
Littaner, Benno, Newark, N. J. Brush	866,493	Sept. 17	2669	747	130	898
Lloyd, William J., Rugby, England, and J. R. Anderson, Pittsfield, Mass., assignors to Stanley-General-Incandescent Electric Manufacturing Company. Machine for preparing paper for curve-drawing instruments	866,593	Sept. 17	2818	789-90	130	942
Loesch, Charles, and E. C. McCall, San Francisco, Cal. Continuous-baking oven	866,494	Sept. 17	2670	747-8	130	898
Loomis, George D., Tiffin, Ohio. Traction-engine	866,042	Sept. 17	2019	563	130	691
Lunoe, Joseph, assignor of one-fourth to G. Salzer, Minneapolis, Minn. Screw-driver	866,594	Sept. 17	2820	790	130	943
Luschka, August R., River Forest, assignor to Western Electric Company, Chicago, Ill. Mercury-interrupter	866,269	Sept. 17	2384	663-4	130	806
Lyon, Harry, Brockton, Mass., assignor to Nichols-Fifield Shoe Machinery Company, Portland, Me. Inseam-trimmer	866,150	Sept. 17	2179	607	130	742
MacRonald, Adelbert H., assignor to Thomas Laughlin Company, Portland, Me. Link	866,151	Sept. 17	2181	608	130	743
Madison, Warren B., Minneapolis, Minn. Cabinet	866,043	Sept. 17	2020	563	130	691
Maltby, George B., Aurora, Ind. Rotary cutter	866,372	Sept. 17	2514	701	130	848
Manheimer, Simon, *et al.* (See Kasse, Abram, assignor.)						
Manning, William C., assignor of one-third to H. A. Snyder, New Haven, Conn. Clothes-line windlass	866,206	Sept. 17	2255	629	130	765
Marble, A. D. (See Fowler, Lewis D., assignor.)	866,373	Sept. 17	2515	701	130	848
Marden, Hiram W., Lynn, Mass. Last	866,495	Sept. 17	2672	748	130	899
Marks, Abraham, New York, N. Y. Exercising device	866,044	Sept. 17	2021	564	130	692
Marshall, Charles E., Lestershire, N. Y. Guard for revolving cutting-tools	866,374	Sept. 17	2516	701	130	849
Martchyen, Helimenas S., Maracaibo, Venezuela. Bottle	866,045	Sept. 17	2022	564	130	692
Martchyen, Robert J., Anthonstahl, near Schwarzenberg, Germany. Paper-making machine.						
Martin, William L. (See Simpson and Martin.)	866,496	Sept. 17	2673	.....	130	899
Matthews, Samuel S., Kansas City, Mo. Cactus silage	866,375	Sept. 17	2517	701-2	130	849
Matton, Frederick V., Riverton, assignor to Camden Iron Works, Camden, N. J. Centrifugal gas-purifier	866,595	Sept. 17	2821	791	130	943
Maxham, Lowell M., Boston, Mass. Self-acting safety appliance for street-cars	866,207	Sept. 17	2255	629	130	765
Maxson, Francis E., Harmony, Minn. Combined water still and heater						
McAtlin, William D., Tullvania, Mo., assignor of one-half to A. Hyams, Sioux Falls, S. D. Metallic fence-post	866,048	Sept. 17	2027	566	130	693
McCain, Francis W., Midway, W. Va. Water-supply system	866,156	Sept. 17	2189	609-10	130	745
McCall, Elvin. (See Loesch and McCall.)	866,381	Sept. 17	2523	703	130	851
McClaskey, Riley, Butte, Mont. Adjustable-calk horseshoe	866,504	Sept. 17	2680	749	130	901
McCormack, Ira A., White Plains, N. Y. Sanding device for railway-rails						
McCrea, James. (See Skinner and McCrea.)	866,157	Sept. 17	2190	610	130	745
McGill, Jennie, Chicago, Ill. Cooking utensil	866,158	Sept. 17	2191	610	130	745
McIntyre, John J., Mansfield, Ohio. Cabinet	866,206	Sept. 17	2592	666	130	811
McIntyre, John W., Edge Hill, Pa. Bench-vise						
McNamara, Michael P. (See Traver, Philip C., assignor.)						
McRae, James, and H. Ingram, assignors to H. F. Duck, London, England. Acetylene-gas generator	866,049	Sept. 17	2028	566	130	694
Meade, Richard K., Nazareth, Pa. Portland cement and making the same	866,376	Sept. 17	2518	.....	130	850
Mebold, George H., New York, N. Y. Push-button	866,377	Sept. 17	2519	702	130	850
Meeker, Clifford D. (See Bessel and Meeker.)						
Meigs, John F., H. G. Jakobsson, and S. Brand, assignors to Bethlehem Steel Company, South Bethlehem, Pa. Sighting device	866,208	Sept. 17	2256	629-30	130	765
Meisel, Francis, assignor to Meisel Press & Manufacturing Co., Boston, Mass. Bed-and-platen printing-press and inking mechanism therefor	866,209	Sept. 17	2385	664	130	808
Meisel Press & Manufacturing Co. (See Meisel, Francis, assignor.)						
Mendes, Antonio. (See Arnavat, Mendes, and Fernandez.)						
Menne, Adolf E., Creusthal, and W. Zollenkopf, Cologne, assignors to Cöln-Müsener Bergwerks Actien Verein, Creusthal, Germany. Melting through masses of material	866,498	Sept. 17	2675	.....	130	900
Menne, Adolph E., assignor to Cöln-Müsener Bergwerks Aktien Verein, Creusthal, Germany. Doing away with blow-holes and like flaws in castings	866,497	Sept. 17	2674	748	130	899
Meredith, Albert M. (See Rockie and Meredith.)	866,291	Sept. 17	2387	665	130	809
Merk, Karl H., Halensee, near Berlin, Germany. Steam-boiler	866,152	Sept. 17	2182	608	130	743
Merritt, James A., Baltimore, Md. Templet for drawing transition spirals	866,046	Sept. 17	2023	565	130	692
Merwin, Edward P., Elizabeth, N. J., assignor to Singer Manufacturing Company. Button-feeding mechanism	866,292	Sept. 17	2388	665	130	810
Meston, Charles R., assignor to Emerson Electric Manufacturing Company, St. Louis, Mo. Ceiling-fan	866,499	Sept. 17	2676	.....	130	900
Meusel, Eduard, Liegnitz, Germany. Manufacturing a ferruginous addition to cattle food						

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Meyer, Otto, Richmond, Va. Producing waterproof characters upon paper	866,293	Sept. 17	2389	.....	130	810
Mikulich, Andrew, Sacramento, Cal. Pencil-retainer	866,500	Sept. 17	2676	748	130	900
Millar, John. (See Rhodes and Millar.)						
Millen, Lincoln H., and J. A. Smethers, Beatrice, Nebr. Two-row cultivator	866,209	Sept. 17	2268	630	130	768
Miller, Lewis W., Russellville, Ark. Combined ironing-board, chest, and table	866,153	Sept. 17	2183	608–9	130	743
Miller, William J., assignor to Oscar Lear Automobile Company, Columbus, Ohio. Motor-vehicle	866,294	Sept. 17	2390	665–6	130	810
Mitchell, James, Bonilla, S. D. Spring-tug for harness	866,501	Sept. 17	2677	749	130	901
Mitchell, Ora E., Los Angeles, Cal. Dirigible headlight	866,502	Sept. 17	2678	749	130	901
Mitchell, William W., New York, N. Y. Mat	866,378	Sept. 17	2530	702	130	850
Monroe, Edward N., Unionville, Mo. Advertising device	866,379	Sept. 17	2531	702	130	850
Mooney, George F., Philadelphia, Pa. Switch-operating mechanism	866,380	Sept. 17	2531	703	130	850
Moore, Orlando, Visalia, Cal. Ironing-board	866,210	Sept. 17	2261	631	130	787
Moreshart, Andrew J., Fostoria, Ohio. Fluid-pressure regulator	866,508	Sept. 17	2679	749	130	901
Morgan, Arthur S., St. Louis, Mo. Wrench	866,296	Sept. 17	2392	666	130	811
Morgan, Martha, Hiawatha, Kans. Washing-machine	866,047	Sept. 17	2226	565–6	130	698
Morrison, Winfield S., San Francisco, Cal. Display-carton	866,211	Sept. 17	2262	631	130	708
Morton, William A., Los Angeles, Cal. Insulator	866,506	Sept. 17	2822	791	130	944
Morton, William W. (See Stromeyer and Morton.)						
Muhlfeld, John E., Baltimore, Md. Journal-bearing for car and other axles	866,154	Sept. 17	2185	609	130	743
Myatt, Dewitt O., Wingo, Ky. Farm-gate	866,155	Sept. 17	2185	609	130	744
Napier, Montague S., London, England. Current-distributer for sparking devices	866,212	Sept. 17	2263	631–2	130	768
National Electric Lamp Company. (See Fagan, John T., assignor.)						
National Gas Light Company. (See Doorenbos, John, assignor.)						
National Oyster Carrier Co. (See Hulbert, Edwin F., assignor.)						
National Sewing Machine Co. (See Winkel, Christopher, assignor.)						
Naysmith, Robert, Pittsburg, Pa. Tube-bending machine	866,205	Sept. 17	2681	750	130	902
Naysmith, Robert, Pittsburg, Pa. Metal-bending machine	866,206	Sept. 17	2682	750	130	902
Neel, John C., Jr., Sheridan, Wyo. Train-order device	866,213	Sept. 17	2265	632	120	769
Nelson, Martin. (See Vogler, Charles A., assignor.)						
Neufeld, Oscar, Union, N. J. Brush for barrel-heads	866,189	Sept. 17	2192	610	130	746
Ney, Robert W., Cleveland, Ohio, assignor to American Steel & Wire Company, Chicago, Ill. Multiple fence-sheaf	866,090	Sept. 17	2080	566–7	130	694
Nicholls, William T. (See Bayless, John, assignor.)						
Nichols-Fifield Shoe Machinery Company. (See Lyon, Harry, assignor.)						
Nord, Harry A., Kiron, Iowa. Vehicle-pole tip	866,282	Sept. 17	2524	708	130	851
Northrop, Jonas, assignor to Draper Company, Hopedale, Mass. Thread-clearing and parting mechanism for weft-replenishing looms	866,051	Sept. 17	2081	567–8	130	695
Northrop, Jonas, assignor to Draper Company, Hopedale, Mass. Thread-parting mechanism for looms	866,052	Sept. 17	2086	568–9	130	696
Noyes, George, Mandan, N. D. Pneumatic tire	866,297	Sept. 17	2395	667	130	811
O'Brien, Thomas J., Los Angeles, Cal. Seal	866,207	Sept. 17	2684	750	130	902
O'Regan, Maurice P., Dorchester, Iowa. Circular-saw guard	866,208	Sept. 17	2685	751	130	903
Ohliger, Ferdinand, J. Skramovsky, and H. F. Wilke, Elizabeth, N. J. Line-fastener	866,053	Sept. 17	2042	569	130	697
Olberg, Alphons, Minneapolis, Minn. Glass show-case	866,054	Sept. 17	2042	569–70	130	698
Olsen, Eli, Portland, Oreg. Mop-wringer	866,055	Sept. 17	2044	570	130	698
Osborne, Don M. (See Hunter, Robert L., assignor.)						
Oscar Lear Automobile Company. (See Miller, William J., assignor.)						
Ott, Harvey N., assignor to Spencer Lens Company, Buffalo, N. Y. Fine-adjustment mechanism	866,283	Sept. 17	2524	708	130	851
Owatonna Manufacturing Company. (See Howe, Deeg, and La Bare, assignors.)						
Owatonna Manufacturing Company. (See La Bare, Frank, assignor.)						
Ozman, Roscoe C., Beatrice, Nebr. Combined envelop and letter-sheet	866,284	Sept. 17	2527	704	130	852
P. P. Mast and Company. (See Dodson, Harry E., assignor.)						
Pacific Steel & Wire Co. (See Langer, Gotthold L., assignor.)						
Paris, William C., Dyersburg, Tenn. Adding-machine	866,298	Sept. 17	2395	667–8	130	812
Parker, Allen R., Akron, Ohio. Concrete-mixer	866,096	Sept. 17	2044	570	130	698
Parker, Henry R., Ashland, Pa. Collar-support for soft shirts	866,209	Sept. 17	2686	751	130	903
Parkhurst, Edward B., Woburn, Mass. Smoke-preventer	866,510	Sept. 17	2687	751	130	904
Parrill, William H., Fairmount, Ind. Curtain-display rack	866,299	Sept. 17	2399	669	120	812
Patch, Clarence C., Chicago, Ill. Base-ball-game apparatus	866,067	Sept. 17	2046	571	130	699
Patton, Edward. (See Cook, Henry J., assignor.)						
Payne, Franklin P., Port Jefferson, N. Y. Apparatus for applying cement	866,511	Sept. 17	2688	752	130	904
Peerless Promoting and Manufacturing Company. (See Shive, Calvin A., assignor.)						
Pelletier, Charles. (See Camors and Pelletier.)						
Perks, Albert J., assignor to Champion Chemical Company, Springfield, Ohio. Metallic burial-vault	866,214	Sept. 17	2267	632	130	769
Peteler, Charles B., assignor to Kilgore-Peteler Company, Minneapolis, Minn. Dumping-car	866,512	Sept. 17	2689	752	130	904
Peters, Willy, Düsseldorf, Germany. Dye-jigger	866,068	Sept. 17	2047	571–2	130	699
Peterson, Burt A., Chicago, Ill. Blank-feed mechanism	866,160	Sept. 17	2193	611	130	746
Peterson, John H. N., assignor of one-half to J. W. Fleegle, Bourne, Oreg. Door-securer	866,161	Sept. 17	2194	611	130	746
Peterson, William L., Chicago, Ill., assignor to American Metal Edge Box Company, Philadelphia, Pa. Feed mechanism for machines for applying stay-stripe	866,069	Sept. 17	2061	572	130	701
Pflueger, Joseph E., assignor to Enterprise Manufacturing Company, Akron, Ohio. Fishing-reel	866,060	Sept. 17	2053	572	130	702
Philadelphia Watch Case Company. (See Derfler, George A., assignor.)						
Phillips, John H., Jr., Jackson, Mich. Pipe or hose coupling	866,061	Sept. 17	2054	573	130	702
Phipps, William O. (See Bell, Floyd J., assignor.)						
Pickles, William F., Buckland, Conn. Regulator for paper-making machines	866,513	Sept. 17	2691	752	130	905
Pierce, Howard E., Elmira, N. Y. Stuffing-box	866,062	Sept. 17	2056	573	130	703
Pilkington, Peter. (See Gibbs, George J., assignor.)						
Pine, Joseph A., Marlboro, Mass. Finishing or burnishing machine	866,215	Sept. 17	2268	632	130	770
Pine, Joseph A., Marlboro, Mass. Finishing or burnishing machine	866,216	Sept. 17	2270	634	130	770
Pirani, Marcello von, Wilmersdorf, near Berlin, assignor to Siemens & Halske Aktiengesellschaft, Berlin, Germany. Producing technically-pure ductile tantalum	866,285	Sept. 17	2527	.....	130	852
Platt, Joseph B., Cleveland, Ohio. Screw-threading plate	866,200	Sept. 17	2400	669–70	130	813
Plummer, George C., assignor to T. J. Hruby, Chicago, Ill. Buckle	866,217	Sept. 17	2270	634	130	770
Pollock, Robert A., Kansas City, Mo., assignor to American Recording Company. Coin-controlled mechanism	866,063	Sept. 17	2046	573–4	130	703
Pollock, Robert A., Kansas City, Mo., assignor to American Recording Company. Ribbon-reversing mechanism	866,064	Sept. 17	2050	574	130	704
Porter, John T., Pittsburg, Pa. Type-writer	866,514	Sept. 17	2688	752–4	130	905
Potter, Henry N., New Rochelle, assignor to Cooper Hewitt Electric Company, New York, N. Y. Forming seals and terminals for electric apparatus	866,301	Sept. 17	2401	670	130	803
Powell, H. G. (See Price, John D., assignor.)						
Pratt, Read & Company. (See Rankin, Robert, assignor.)						
Price, Edgar F., Niagara Falls, N. Y. Lime product	866,300	Sept. 17	2826	.....	130	944
Price, Edgar F., Niagara Falls, N. Y., assignor to Electro-Metallurgical Company. Producing manganese silicid	866,307	Sept. 17	2827	791	130	944

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Price, John D., assignor of one-half to H. G. Powell, Cleveland, Ohio. Rubber overshoe	866,598	Sept. 17	2824	792	130	944
Priestman, Albert, Philadelphia, Pa. Apparatus for controlling the flow of liquids	866,055	Sept. 17	2060	574	130	704
Prier, Orion T., Brookville, Ohio. Mail-desk	866,218	Sept. 17	2271	634	130	771
Puddington, Arthur W., Cleveland, Ohio. Automatic air-damper	866,515	Sept. 17	2700	755	130	907
Purdy, William B., Corsica, Pa. Fire-escape	866,516	Sept. 17	2701	755	130	907
Pusey, Hugh. (See Carrington and Pusey.)						
Quesnell, Cornelius. (See Anderson and Quesnell.)						
Railway Time-Saving Association. (See Keefe, Michael C., assignor.)						
Rankin, Robert, assignor to Pratt, Read & Company, Deep River, Conn. Balanced key for organs, pianos, &c.	866,066	Sept. 17	2063	575	130	705
Ransom, Albert, and M. E. Goodhue, Chicago, Ill. Head for feather dusters	866,302	Sept. 17	2403	670	130	816
Rathbone, Sard & Co. (See Van Buren, Jalew S., assignor.)						
Rathbone, Sard & Company. (See Genthner, Charles M., assignor.)						
Rauch, John D. (See Karr and Rauch.)	866,067	Sept. 17	2064	575	130	705
Reed, Frank, Milwaukee, Wis. Liquid-agitator	12,695	Sept. 17	2844	802	130	951
Rees, William H., Worcester, Mass., assignor to Aeolian Company, New York, N. Y. Music-sheet. (Reissue)	866,386	Sept. 17	2528	704	130	852
Reeves, James L., Collinsville, Ala. Cooking apparatus	866,219	Sept. 17	2273	634–5	130	771
Reiners, Charles A., Hoboken, N. J., assignor to Evans Phonograph Record Company. Phonograph-record-making machine	866,517	Sept. 17	2702	.....	130	908
Rentzsch, Louis H., Meissen, Germany. Manufacture of tubular or hollow bodies from plastic materials	866,518	Sept. 17	2704	755	130	908
Repsold, Paul, Riga, Russia. Drilling apparatus for dentists	866,303	Sept. 17	2404	671	130	813
Reynolds, James A., Waterloo, Nebr. Brace for posts	866,519	Sept. 17	2704	756	130	908
Rhodes, Jesse J., Newbern, N. C., and J. Millar, Cincinnati, Ohio. Scraper-flight for conveyer-chains	866,068	Sept. 17	2065	576	130	706
Rice, Richard H., Swampscott, Mass., assignor to General Electric Company. Nozzle and diaphragm for turbines	866,287	Sept. 17	2529	704–5	130	853
Richard, Jules, Paris, France. Galvanometer	866,162	Sept. 17	2195	611–12	130	747
Richards, Francis H., Hartford, Conn., assignor, by mesne assignments, of one-half to American Typographic Corporation. Adding-machine	866,600	Sept. 17	2825	792	130	945
Richards, George C., South Berkeley, Cal., assignor to Western Mill and Machine Company. Combined stamp and grinding mill	866,220	Sept. 17	2275	635	130	772
Rickard, Henry J., assignor of one-half to P. Wylie, Frugality, Pa. Rail-joint	866,221	Sept. 17	2276	635	130	770
Riera, Joaquin. (See Arnavat, Mendez, and Fernandez, assignors.)	866,222	Sept. 17	2277	636	130	771
Rigg, James C., assignor of one-half to J. H. Collier, Hooktown, Ky. Lifting-jack	866,223	Sept. 17	2278	636–7	130	773
Ripley, William R., Mattoon, Ill. Game apparatus	866,304	Sept. 17	2404	671	130	814
Ritty, John, Dayton, Ohio. Machine for folding the ends of wrapper-labels against the ends of cans	866,305	Sept. 17	2406	671	130	814
Roach, Finis E., Chicago, Ill. Removable artificial denture	866,288	Sept. 17	2531	705	130	852
Roach, Finis E., Chicago, Ill. Fusible porcelain cement and strengthening-backing for artificial dentures	866,306	Sept. 17	2408	671	130	815
Robers, James R., *et al.* (See Law, Tomas W., assignor.)						
Roberti, Dario, Newark, N. J. Spring-fan	866,289	Sept. 17	2532	705–6	130	853
Robinson, Elbert R., Chicago, Ill. Switch	866,290	Sept. 17	2533	706	130	854
Rockie, Charles W., and A. M. Meredith, assignors of one-third to F. J. Schwarz, Jr., Bridesburg, Philadelphia, Pa. Box-folding machine	866,601	Sept. 17	2826	792–3	130	945
Rockwell, Clinton A., Weld county, Colo. Swinging gate	866,520	Sept. 17	2706	756	130	909
Rollason, Arthur, Long Eaton, England. Internal-combustion engine	866,069	Sept. 17	2066	576	130	706
Rosenheim, Carl, Brussels, Belgium. Skylight-fastening	866,070	Sept. 17	2068	577	130	707
Rosenthal, Adolph, Augusta, Ga. Belt-shifter	866,289	Sept. 17	2532	705	130	853
Ross, Alexander, Rochester, N. Y. Trolley-pole	866,224	Sept. 17	2280	637	130	774
Rudy, Alvin F., Fort Hunter, Pa. Slate or tile roof	866,225	Sept. 17	2282	637	130	774
Rumble, Charles A., assignor to Bibber Manufacturing Company, Boston, Mass. Air-treating machine	866,602	Sept. 17	2829	793–4	130	946
Rundlett, William D., assignor to Davis & Furber Machine Company, North Andover, Mass. Quadrant mechanism for mules	866,307	Sept. 17	2409	672	130	815
Runge, Frans, assignor of two-thirds to H. Schreier and A. P. Steffen, Sheboygan, Wis. Beer-cooler	866,071	Sept. 17	2069	577	130	707
Russell, Joseph S., Clover, Utah. Plant-cutter	866,226	Sept. 17	2282	638	130	775
Ryan, George E., New York, N. Y. Automatic safety apparatus for railways	866,521	Sept. 17	2707	756–7	130	909
Sabel, Michael. (See Stevens, Arthur D., assignor.)						
Saint Vaulry, Dargier de, Horme, assignor to La Société Nouvelle des Etablissements de l'Horme et de la Buire, Lyon, France. Feed-regulator	866,603	Sept. 17	2830	794	130	946
Salomon, Joseph, Chicago, Ill. Wire chair	866,072	Sept. 17	2070	577–8	130	707
Salzer, George. (See Lunoe, Joseph, assignor.)	866,308	Sept. 17	2411	672	130	816
Sanders, Irville L., Gilroy, Cal. Grape-cutter	866,073	Sept. 17	2072	578	130	708
Saunders, Daniel G., Jr., Kansas City, Mo. Sash-lock	866,390	Sept. 17	2533	706	130	854
Saxton, William M., P. J. Henselwood, and A. A. Johnson, Portage la Prairie, Manitoba, Canada. Track-laying machine	866,309	Sept. 17	2411	672–3	130	816
Scanlan-Morris Company. (See Scanlan, Sam G., assignor.)	866,522	Sept. 17	2709	757	130	909
Scanlan, Sam G., assignor to Scanlan-Morris Company, Madison, Wis. Surgeon's operating-table	866,074	Sept. 17	2073	578	130	708
Scanlon, Thomas F., Allegheny, Pa. Bed attachment	866,227	Sept. 17	2283	638	130	775
Scharfenberg, Oswald. (See Hersberg and Scharfenberg.)	866,523	Sept. 17	2710	758	130	909
Schenk, Eduard, Sheridan borough, Pa. Floor-finishing apparatus	866,075	Sept. 17	2075	578	130	708
Schleicher, Emil J. (See Gemmer and Schleicher.)	866,310	Sept. 17	2413	673	130	816
Schneider, John B., Dunbar, Nebr. Wire fence	866,604	Sept. 17	2831	794–5	130	947
Schneider, Rosie, Minden, Nebr. Rubbing-post for live stock	866,605	Sept. 17	2833	795–6	130	947
Schneider, Stephan, Berlin, Germany, assignor to General Electric Company. Water-jet grounder for protection against excessive potentials in electrical systems	866,311	Sept. 17	2414	673–4	130	817
Scholler, Adolph. (See Scholler and Dempsey.)	866,228	Sept. 17	2283	638	130	775
Scholler, Frederick C. and A., and J. C. Dempsey, Philadelphia, Pa. Singeing-machine	866,229	Sept. 17	2286	639	130	776
Schreier, Herman, *et al.* (See Runge, Frans, assignor.)	866,076	Sept. 17	2076	579	130	709
Schroder, George G., Washington, D. C., assignor to Industrial Alcohol Heat and Light Company. Denatured-alcohol heater	866,291	Sept. 17	2534	706	130	854
Schroder, George G., Washington, D. C., assignor to Industrial Alcohol Heat and Light Company. Denatured-alcohol cook-stove burner	866,524	Sept. 17	2711	758	130	910
Schroeder, Albert F., Cleveland, Ohio. Electroplating apparatus	866,525	Sept. 17	2715	759	130	911
Schubert, George, Fort Worth, Tex. Self-feeding hay-press	866,312	Sept. 17	2415	674	130	81
Schubert, George, Fort Worth, Tex. Self-feeding and power pull-back hay-press						
Schubert, George, Fort Worth, Tex. Electric self-winding clock						
Schultz, Emil, Berlin, Germany. (See Rockie and Meredith, assignors.)						
Schwarz, Fredrick J., Jr. (See Rockie and Meredith, assignors.)						
Scott, Bertram N., Detroit, Mich. File						
Scott, Marvin M., *et al.* (See Law, Tomas W., assignor.)						
See, Filer S., Gem, Kans. Device for transferring passengers to and from moving trains						
Seeley, James E., and F. A. Sylva, Los Angeles, Cal. Carbureting and oil separating apparatus						
Seidler, Henry, Great Falls, Mont. Blast-furnace twyer						

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Selders, Myrtle, Habana, Cuba. Stopper device for washbowls	866,289	Sept. 17	2289	699	130	777
Sellers, William, deceased, (J. G. Johnson, C. B. Dunn, and C. C. Febiger, Philadelphia, Pa., executors,) and B. D. Coppage, Wilmington, Del. Water-tube boiler	866,084	Sept. 17	2006	559–60	130	667
Serio, Phillip H., New York, N. Y. Lock	866,382	Sept. 17	2635	707	130	864
Shaffer, Henry E., Rochester, N. Y. Burner for acetylene gas	866,163	Sept. 17	2199	612	130	749
Sharar, Frederick H., Williamsport, Pa. Wrench	866,077	Sept. 17	2078	579	130	709
Shaw, Robert, Warsaw, Ind. Loading device	866,308	Sept. 17	2537	707	130	855
Sheffield Car Company. (See Hovey, William S., assignor.)						
Sheldon, Elwin I., assignor of one-half to A. Baumann, Greenwood, Wis. Flue-stopper	866,526	Sept. 17	2717	759	130	911
Shive, Calvin A., Independence, Kans., assignor to Peerless Promoting and Manufacturing Company, Phœnix, Ariz. Ter. Washing-machine	866,527	Sept. 17	2718	759	130	912
Siemens Gebrüder & Co. (See Egly, Georg, assignor.)						
Siemens & Halske Aktiengesellschaft. (See Pirani, Marcello von, assignor.)						
Simon, Gottlieb H., Kiel, Wis. Milk-vat	866,204	Sept. 17	2528	707	130	855
Simplex Piano Player Company. (See Brown, Theodore P., assignor.)						
Simpson, Edward R., Eddyville, and W. L. Martin, Louisville, Ky. Broom-head	866,221	Sept. 17	2200	640	130	777
Sims, William, Ashton, Mich. Scaffold	866,078	Sept. 17	2079	579	130	710
Singer Manufacturing Company. (See De Voe, Albert H., assignor.)						
Singer Manufacturing Company. (See Merwin, Edward P., assignor.)						
Skinner, Frank W., Tompkinsville, N. Y. Construction of sheet-piling, &c.	866,232	Sept. 17	2291	640–1	130	777
Skinner, Mortimer B., Wilmette, and J. McCrea, Lake Bluff, Ill. Pipe-clamp	866,295	Sept. 17	2529	708	130	855
Skramovsky, John. (See Ohliger, Skramovsky, and Wilke.)						
Smethers, James A. (See Millen and Smethers.)						
Smith, Felix J., Lindsay, Ohio. Portable elevator and wagon-dump	866,528	Sept. 17	2719	760	130	912
Smith, George H., Forest Hill, assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine	866,606	Sept. 17	2834	796	130	948
Smith, Harry E., Roslyn, Wash. Connecting mechanism	866,529	Sept. 17	2720	760	130	912
Smith, Harvey M., Monroe township, Morgan county, Ind. Breeding-cage	866,306	Sept. 17	2540	708–9	130	856
Smith, Nelson R., assignor of one-half to C. F. Grieb, Washington, D. C. Reversible steam-turbine	866,530	Sept. 17	2722	760–1	130	913
Smith, Richard H., Springfield, Mass. Speed and distance indicating and recording device	866,307	Sept. 17	2542	709	130	856
Smith, Thaddeus S., assignor of one-half to J. A. Conkey, Indianapolis, Ind. Ice-cream dipper	866,079	Sept. 17	2081	580	130	710
Smith, Thomas M. (See Keefe and Smith.)						
Snyder, Harman A. (See Manning, William C., assignor.)						
Sogge, George J., Hanson, S. D. Transmission-gearing	866,164	Sept. 17	2201	612	130	749
Sollers, Albert E., Mount Union, Pa. Square	866,521	Sept. 17	2724	761	130	913
Spencer Lens Company. (See Ott, Harvey N., assignor.)						
St. Onge, Amasa, and C. A. Brown, Providence, R. I. Grid for cotton-picker machines	866,294	Sept. 17	2294	641	130	778
Stair, Blaine A., Los Angeles, Cal. Sewing-thimble	866,532	Sept. 17	2726	762	130	914
Staley, Paul A. (See Krotz, Alvaro S., assignor.)						
Stanley-General-Incandescent Electric Manufacturing Company. (See Lloyd and Anderson, assignors.)						
Stapley, William S., assignor to Bridgeport Brass Company, Bridgeport, Conn. Cartridge-clip	866,080	Sept. 17	2082	580	130	710
Steffen, Alfred P., *et al.* (See Runge, Franz, assignor.)						
Stein, George W., Washington, D. C. Fly-trap	866,208	Sept. 17	2545	709	130	857
Stephan, Johannes, Witzenhausen, Germany. Method and device for making cigar-fillers	866,293	Sept. 17	2293	641	130	778
Stephens, Charles B., Granby, Conn. Clock	866,533	Sept. 17	2726	762	130	914
Stevens, Arthur D., Jacksonville, Fla. Valve	866,081	Sept. 17	2083	580	130	710
Stevens, Arthur D., assignor of one-half to M. Sabel, Jacksonville, Fla. Apparatus for deodorizing closets	866,209	Sept. 17	2545	710	130	857
Stevens, Richard H., Munhall, Pa. Sheet-metal piling	866,409	Sept. 17	2546	710	130	858
Stewart, John B., Peregrina, Mexico. Filter	866,082	Sept. 17	2084	580–1	130	711
Stewart, Oliver, Centralia, Ill. Stovepipe-holder	866,401	Sept. 17	2547	710	130	858
Stickney, Burnham C., Elizabeth, N. J., assignor to Underwood Typewriter Company, New York, N. Y. Stenciling-machine	866,105	Sept. 17	2208	613	130	750
Stiglitz, William H., Louisville, Ky. Amalgamator	866,083	Sept. 17	2085	581	130	711
Stoller, Christian, Pinegrove, Wis. Holding-tool	866,084	Sept. 17	2087	581	130	712
Story, Edward L., Everett, Mass. Boiler-covering	866,313	Sept. 17	2417	674	130	817
Stout, William H., Dayton, Ohio. Cylindrical box	866,235	Sept. 17	2296	641–2	130	778
Stromeyer, Julius, Philadelphia, Pa., and W. W. Morton, Camden, N. J. Brake-shoe	866,236	Sept. 17	2297	642	130	779
Subert, Charles, Chicago, Ill. Humidifier	866,085	Sept. 17	2091	581	130	714
Submarine Signal Company. (See Gray, Elisha, assignor.)	866,524	Sept. 17	2727	762	130	914
Sudell, Herbert G., assignor of one-half to D. Coons, Philadelphia, Pa. Clasp for belts, &c.	866,535	Sept. 17	2728	762	130	914
Sutcliffe, Adam. (See Swift, John P., assignor.)						
Swain, Seth R., Denver, Colo. Hydraulic classifier for ores	866,402	Sept. 17	2549	711	130	859
Swain, Seth R., Denver, Colo. Hydraulic classifier for ores	866,536	Sept. 17	2728	763	130	914
Swift, John P., assignor of one-half to A. Sutcliffe, Pawtucket, R. I. Machine for providing laces with metal tips	866,314	Sept. 17	2417	674–6	130	817
Sylva, Frank A. (See Seeley and Sylva.)						
Symons, Wilson E., Chicago, Ill. Car structure	866,403	Sept. 17	2550	711	130	859
Symons, Wilson E., Chicago, Ill. Car structure	866,404	Sept. 17	2552	711–12	130	860
Symons, Wilson E., Chicago, Ill. Bolster structure	866,405	Sept. 17	2554	712	130	861
Taylor, James N., and J. B. Tull, Windsor, Ill. Twine holder and lift	866,086	Sept. 17	2092	582	130	714
Tea Tray Company of Newark, N. J. (See Conger, John H. B., assignor.)						
Temper, Adolf, Brooklyn, N. Y., assignor to Hanson & Van Winkle Company. Basket or pail for acid-dipping	866,087	Sept. 17	2093	582	130	714
Templin, Richard L., Cleveland, Ohio. Propagator and plant-stand	866,088	Sept. 17	2094	582–3	130	715
Theiss, George W., Pittsburg, Pa., R. J. W. Whann and W. J. Englisbee, New Orleans, La. Loading and unloading apparatus	866,166	Sept. 17	2204	612–14	130	751
Thibault, Arthuer H., Valparaiso, Ind. Pneumatic-spoke wheel	866,537	Sept. 17	2730	763–4	130	915
Thomas Laughlin Company. (See MacRonald, Aldebert H., assignor.)						
Thomas, Percy F., El Paso, Tex. Internal-combustion engine	866,538	Sept. 17	2733	764–5	130	916
Thrasher, Charles D. W., Ascutneyville, Vt. Stanchion	866,315	Sept. 17	2423	676–7	130	819
Tiffany, Leon R., Kingsley, Pa. Apparatus for keeping accounts	866,167	Sept. 17	2207	614	130	751
Topp, Charles H., Huntington, W. Va. Gas heating-stove	866,237	Sept. 17	2298	642	130	779
Tottle, Morton P., Baltimore, Md. Rotary bristle-combing device	866,406	Sept. 17	2555	712	130	802
Tournier, Julius C., Schenectady, N. Y., assignor to General Electric Company. Combined lamp-socket and shade-holder	866,089	Sept. 17	2096	583	130	716
Towns, Minnie C., Willard, Tex. Abdominal support	866,407	Sept. 17	2556	713	130	862
Traver, Philip C., assignor to M. P. McNamara, New York, N. Y. Repair device for pneumatic tires	866,539	Sept. 17	2735	765	130	916
Troutman, Lewis E., Schenectady, N. Y., assignor to General Electric Company. Fuse-box	866,090	Sept. 17	2097	583	130	716
Tucker, Benjamin W., Newark, N. J. Machine for applying labels and the like to bottles and other articles	866,091	Sept. 17	2098	583–5	130	716

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Tull, Josiah B. (See Taylor and Tull.)						
Turner, Byron P. (See Bolton, James M., assignor.)						
Turner, Walter V. (See Farmer and Turner.)						
Underwood Typewriter Company. (See Stickney, Burnham C., assignor.)						
Underwood Typewriter Company. (See Wagner, Herman L., assignor.)						
Union Typewriter Company. (See Smith, George H., assignor.)						
United States Portable Wagon Scales & Novelty Manufacturing Company. (See Gragg, Zachary T., assignor.)						
Vaile & Kimes. (See Kimes, Hugh W., assignor.)						
Van Buren, Jafew S., assignor to Rathbone, Sard & Co., Albany, N. Y. Top oven-plate for cooking-stoves	866,168	Sept. 17	2208	614	130	752
Van-Halen, Antonio M., Madrid, Spain. Power-transmission coupling device	866,238	Sept. 17	2299	643	130	779
Van Noorden, Ezekiel, assignor to E. Van Noorden Company, Boston, Mass. Glazed structure	866,239	Sept. 17	2301	643	130	780
Van Osdol, Charles E., Greensburg, Ind., assignor to T. King, trustee, Boston, Mass. Adjustable casing for pneumatic stackers	866,240	Sept. 17	2303	643–4	130	781
Van Slyke, James, Shellrock, Iowa. Grain-door for railway-cars	866,092	Sept. 17	2105	585–6	130	718
Van Voast, Albert B., *et al.* (See Vincent, Edward G., assignor.)						
Vanderbilt, Oliver D., East Orange, N. J., assignor to Abbey and Imbrie, New York, N. Y. Receptacle for fishing-tackle	866,408	Sept. 17	2557	713	130	862
Varley, Richard, Englewood, N. J., assignor to Autocoil Company. Ignition system for explosion-engines	866,241	Sept. 17	2304	644	130	781
Verdin, Frank, Hamilton, Ohio. Combined shade-bracket and curtain-pole support	866,093	Sept. 17	2108	586	130	719
Vial, Blanche, *et al.*, heiresses at law. (See Vial, Emile.)						
Vial, Emile, deceased, Brussels, Belgium; L. B., B., and G. Vial, heiresses at law. Water clarification	866,094	Sept. 17	2109	586	130	719
Vial, Gabrielle, *et al.*, heiresses at law. (See Vial, Emile.)						
Vial, Louise B., *et al.*, heiresses at law. (See Vial, Emile.)	866,540	Sept. 17	2736	765–6	130	917
Villiers-Stuart, Horace, Louisville, Ky. Vehicle-wheel	866,095	Sept. 17	2109	586	130	720
Vincent, Edward G., Troy, assignor of three-fourths to A. B. Van Voast, H. Wagner, and M. F. Vincent, Schenectady, N. Y. Cut-off valve	866,096	Sept. 17	2111	587	130	720
Vincent, Hilaire, Manchester, N. H. Bottle						
Vincent, M. Frankie, *et al.* (See Vincent, Edward G., assignor.)	866,242	Sept. 17	2306	644	130	781
Vinton, Frederick W., Weehawken, N. J. Lantern	866,409	Sept. 17	2558	713	130	862
Vogler, Charles A., assignor of one-half to M. Nelson, Baker, Wash. Cooking utensil	866,169	Sept. 17	2209	615	130	752
Vollmer, John, Boston, Mass. Gas-cooler						
Waddams, Benjamin E. (See Lambert and Waddams.)	866,243	Sept. 17	2308	644	130	782
Waechter, Gustav, Elverdissen, near Herford, Germany. Graduated food-package	866,244	Sept. 17	2309	645	130	782
Wagner, Edward L., Port Washington, N. Y. Sewer-flushing apparatus						
Wagner, Herman, *et al.* (See Vincent, Edward G., assignor.)	866,097	Sept. 17	2112	587	130	720
Wagner, Herman L., Mount Vernon, assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine	866,541	Sept. 17	2739	766	130	918
Wagner Manufacturing Company. (See Walsh, Thomas P., assignor.)	866,245	Sept. 17	2310	645	130	783
Wagner, William G., St. Louis, Mo. Level						
Wahlstrom, Verner J., New York, N. Y. Chuck	866,542	Sept. 17	2740	766	130	918
Waldron, Howard V. D., New Brunswick, N. J., assignor of one-half to E. G. Latta, Syracuse, N. Y. Shoe-holder	866,410	Sept. 17	2559	714	130	863
Walker, George R., Chicago, Ill. Driving mechanism for automobiles						
Walker, Homer. (See Foraker and Walker.)	866,246	Sept. 17	2312	645	130	783
Walker, James C., Waco, Tex. Rotary engine	866,098	Sept. 17	2113	587	130	721
Walker, James H., Milwaukee, Wis. Gas-range						
Walling, George E., assignor to Flint & Walling Manufacturing Company, Kendallville, Ind. Pump-handle connector	866,099	Sept. 17	2114	587	130	721
Walsh, Thomas P., Grayslake, Ill., assignor to Wagner Manufacturing Company, Cedar Falls, Iowa. Latch for doors or gates	866,543	Sept. 17	2741	767	130	918
Walters, William M., Liverpool, England. Screw-propeller	866,544	Sept. 17	2741	767	130	919
Walton, Arthur D., and C. H. Anthony, St. James, Mo. Mail-bag catcher and deliverer	866,411	Sept. 17	2561	714–15	130	864
Ward, George R., New York, N. Y. Traveling ladle-crane	866,247	Sept. 17	2313	646	130	784
Waterbury Button Company. (See Goodwin, Charles H., assignor.)						
Watkins, John B., St. Louis, Mo. Grain and seed huller	866,100	Sept. 17	2115	588	130	722
Watson, Henry B., New York, N. Y. Leg and foot rest	866,316	Sept. 17	2424	677	130	819
Watson, Murray B., Toronto, Ontario, Canada. Fire-screen	866,170	Sept. 17	2210	615	130	752
Watt, Herbert H., assignor of one-half to W. R. A. Ball, St. Thomas, N. D. Grain-shocker for harvesters	866,101	Sept. 17	2116	589	130	722
Watts, Hugh, Melbourne, Victoria, Australia. Mail-bag lock	866,317	Sept. 17	2425	677	130	819
Watts, Richard E. (See Blackstone and Watts.)						
Weber, George W., assignor to American Can Company, New York, N. Y. Double-seaming machine	866,102	Sept. 17	2118	589	130	722
Weimer, Edgar A., Lebanon, Pa. Apparatus for casting and delivering pig metal	866,607	Sept. 17	2836	797–9	130	949
Weimer, Edgar A., Lebanon, Pa. Casting apparatus	866,608	Sept. 17	2838	800–1	130	949
Wellman, Francis L., *et al.* (See Bowly, Franklin H., assignor.)						
Western Electric Company. (See Luschka, August R., assignor.)						
Western Mill and Machine Company. (See Richards, George C., assignor.)						
Westinghouse Air Brake Company. (See Farmer and Turner, assignors.)						
Westinghouse, George, Pittsburg, Pa., assignor to Westinghouse Machine Company. Elastic-fluid turbine	866,171	Sept. 17	2212	616	130	753
Westinghouse Machine Company. (See Westinghouse, George, assignor.)	866,172	Sept. 17	2213	616	130	753
Westphall, Joachim C., Gloversville, N. Y. Souvenir-post-card protector						
Wham, Robert J. W. (See Theiss, Whann, and Englisbee.)	866,103	Sept. 17	2119	590	130	723
Wheaton, George H., and C. W. Curle, Minneapolis, Minn. Water-tube boiler	866,248	Sept. 17	2314	646	130	784
Whitcomb, Wallace S., Milwaukee, Wis. Paste-receptacle	866,104	Sept. 17	2120	590	130	723
White, William W., Worcester, Mass. Transmitting mechanism for turbine water-wheels	866,545	Sept. 17	2742	767	130	919
Whitman, Alvin W., Reading, Pa. Coffee-pot	866,412	Sept. 17	2562	715	130	864
Whittemore, John R., Indianapolis, Ind. Means for cutting off the ends of boiler-tubes	866,105	Sept. 17	2121	590	130	724
Whittlesey, George P., Washington, D. C., assignor to General Electric Company. Flush receptacle and plug						
Wiley, Anderson W. (See Winbush, Amos, assignor.)						
Wiley, Robert J. (See Behm and Wiley.)						
Wilke, Henry F. (See Ohliger, Skramovsky, and Wilke.)	866,546	Sept. 17	2743	768	130	919
Wilkinson, Thomas B., Los Angeles, Cal. Oil-can	866,547	Sept. 17	2744	768	130	919
Wilkinson, Thomas B., Los Angeles, Cal. Combination-tool	866,548	Sept. 17	2745	768	130	920
Wilkinson, Thomas B., New York, N. Y. Door-securer						
Willett, George R. (See Dyer, David H., assignor.)						
Willhoft, James I. (See Lax, Hinson, and Willhoit.)						
William Schollhorn Company. (See Bernard, William A., assignor.)						
Williams, C. D. (See Hanson, Bennie P., assignor.)						
Williams, John B. (See Landell and Williams.)						
Wilson, Asbury G. (See Ames, Asel, Jr., assignor.)						
Wilson, John H., New Kensington, assignor to Aluminum Cooking Utensil Co., Pittsburg, Pa. Kettle-cover	866,318	Sept. 17	2427	677–8	130	820

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Wilton, Edward, Jersey City, N. J., assignor to G. H. Clarke, Brooklyn, N. Y. Locking device for grate-bars	366,173	Sept. 17	2214	616–17	130	754
Winbush, Amos, Ruston, assignor one-half to A. W. Wiley, Vernon, La. Fish trap-hook	366,174	Sept. 17	2215	617	130	754
Winkel, Christopher, assignor to National Sewing Machine Co., Belvidere, Ill. Feed mechanism for sewing-machines	366,249	Sept. 17	2315	646	130	785
Winningham, John W., Seattle, Wash. Planer-head	366,549	Sept. 17	2746	768	130	920
Wlast, Michael, New York, N. Y. Automatic gas-valve	366,550	Sept. 17	2747	769	130	920
Wyckoff, Seamans & Benedict. (See Briggs, Daniel, assignor.)						
Wyland, George C., Greensboro, N. C. Attachment for railway-brakes	366,551	Sept. 17	2748	769	130	920
Wylie, Peter. (See Rickard, Henry J., assignor.)						
Yale & Towne Manufacturing Company. (See Bardwell, Arthur F., assignor.)						
Yerion, Sidny B., Seattle, Wash. Repeater for phonographs	366,552	Sept. 17	2749	769–70	130	921
York, James E., New York, N. Y. Rail-joint	366,250	Sept. 17	2316	647	130	785
Young, Philip K., Omaha, Nebr. Cement-brick-pressing machine	366,175	Sept. 17	2216	617–19	130	754
Zollenkopf, William. (See Menne and Zollenkopf.)						
Zorger, Charles H., and H. O. Jensen, Rantoul, Ill. Rotary engine	366,319	Sept. 17	2429	678	130	820

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Alexander, Jesse, Brooklyn, N. Y. Type-writer-platen frame	38,819	Sept. 17	130	966
Alexander, Jesse, Brooklyn, N. Y. Type-writer-carriage frame	38,820	Sept. 17	130	966
Campbell, Charles A., New York, N. Y. Gas-lamp	38,816	Sept. 17	130	964
Dieges, Charles J., New York, N. Y. Badge	38,801	Sept. 17	130	963
Dieges, Charles J., New York, N. Y. Badge	38,802	Sept. 17	130	963
Dieges, Charles J., New York, N. Y. Badge	38,803	Sept. 17	130	963
Dieges, Charles J., New York, N. Y. Badge	38,804	Sept. 17	130	963
Dieges, Charles J., New York, N. Y. Badge	38,805	Sept. 17	130	963
Eckhart, Frank E., Auburn, Ind. Vehicle-seat	38,821	Sept. 17	130	966
Gednetz, John, Beloit, Ohio. Statue	38,818	Sept. 17	130	965
Grossman, Henry, New York, N. Y. Hand-bag	38,808	Sept. 17	130	963
Gutermann, Edward A., Meriden, Conn. Chafing-dish stand	38,813	Sept. 17	130	963
Hopson, William T., New London, Conn., assignor to Western Clock Manufacturing Co., La Salle, Ill. Clock-stand	38,815	Sept. 17	130	964
Kahn, Samuel, and W. Reizenstein, New York, N. Y. Doll	38,809	Sept. 17	130	963
Landenberger, Charles H., Philadelphia, Pa. Woven skirting	38,823	Sept. 17	130	966
Landenberger, Charles H., Philadelphia, Pa. Woven skirting	38,824	Sept. 17	130	966
Landenberger, Charles H., Philadelphia, Pa. Woven skirting	38,825	Sept. 17	130	966
Landenberger, Charles H., Philadelphia, Pa. Woven skirting	38,826	Sept. 17	130	966
Malchow, Albert, Fort Smith, Ark. Caster	38,817	Sept. 17	130	964
Reizenstein, William. (See Kahn and Reizenstein.)				
Rote, Charles V., assignor of two-thirds to P. E. Shee and F. Shoff, Lancaster, Pa. Railway-car body	38,822	Sept. 17	130	965
Savage, George E., Meriden, Conn. Chafing-dish cover	38,812	Sept. 17	130	963
Seawell, Joseph M., Richmond, Va. Fob	38,806	Sept. 17	130	962
Shee, Parke E., *et al.* (See Rote, Charles V., assignor.)				
Shoff, Frederick, *et al.* (See Rote, Charles V., assignor.)				
Straker, Herbert J., North Attleboro, Mass., assignor to Webster Company. Back for brushes, mirrors, or similar articles	38,814	Sept. 17	130	964
Talbot, John W., South Bend, Ind. Ornament	38,807	Sept. 17	130	962
Webster Company. (See Straker, Herbert J., assignor.)				
Western Clock Manufacturing Co. (See Hopson, William T., assignor.)				
Wing, Peter G., Chicago, Ill. Toy safe	38,810	Sept. 17	130	963
Wing, Peter G., Chicago, Ill. Toy stove	38,811	Sept. 17	130	963

TRADE-MARKS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
A. Mecky Company, Philadelphia, Pa. Velocipedes and tricycles	65,235	Sept. 17	130	971
A. Zerega's Sons, Consolidated, New York, N. Y. Spaghetti, vermicelli, macaroni, and noodles	65,236	Sept. 17	130	971
Abbott Alkaloidal Co., Chicago, Ill. Anesthetic and analgesic	65,286	Sept. 17	130	972
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Anesthetics	65,287	Sept. 17	130	972
American Graphite Company, Cleveland, Ohio. Mineral paints	65,206	Sept. 17	130	972
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	65,314	Sept. 17	130	973
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	65,220	Sept. 17	130	973
Ashton Valve Company, Boston, Mass. Pressure-gages, vacuum-gages, revolution-counters, and stroke-counters	65,230	Sept. 17	130	973
Atuyer, Blanchini, Férier & Cie., Lyon, France. Certain textiles	65,267	Sept. 17	130	972
Baker, William A., Toledo, Ohio. Measuring-machines for remote temperature reading and recording	65,315	Sept. 17	130	973
Banks, Willard N., New York, N. Y. Tea	65,255	Sept. 17	130	971
Barrett Manufacturing Company, New York, N. Y. Roofing, sheathing, and building paper	65,257	Sept. 17	130	971
Benedictus, Weill & Company, New York, N. Y. Netted vellings and net piece goods	65,316	Sept. 17	130	973
Boyd, Edna, Anadarko, Okla. Ter. Remedy for the cure of malaria, chills, fever, and ague	65,268	Sept. 17	130	972
Briscoe Ivey Co., Incorporated, Lynchburg, Va. Certain clothing	65,269	Sept. 17	130	972

TRADE-MARKS—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Brownlee, James H., Philadelphia, Pa. Medical compound for the cure of epilepsy	65,289	Sept. 17	130	972
Buckeye Manufacturing Company, Canton, Ohio. Post and pole hole diggers	65,238	Sept. 17	130	971
Bugniazet, Louis T., Ridgefield Park, N. J. Corn-plasters	65,290	Sept. 17	130	972
C. B. Cones & Son Manufacturing Company, Indianapolis, Ind. Laundered colored shirts	65,270	Sept. 17	130	972
Case, Adelbert B., Springfield, Mass. Lawn-mowers	65,256	Sept. 17	130	971
Chambers Window Glass Co., Pittsburg, Pa. Window-glass	65,239	Sept. 17	130	971
Chas. Jacquin et Cie. Inc., New York, N. Y. Cordial	65,345	Sept. 17	130	974
Chemische Fabrik auf Actien (vorm. E. Schering), Berlin, Germany. Certain medicines	65,291	Sept. 17	130	972
Cisna Cereal Coffee Co., Cisna Park, Ill. Cereal substitute for coffee	65,257	Sept. 17	130	971
Clark & Co., Ltd., Paisley, Scotland. Sewing-cotton wound on spools or reels	65,258	Sept. 17	130	971
Comstock, Herbert C., New York, N. Y. Shock-absorbers for automobiles	65,259	Sept. 17	130	971
Cerno Mills Company, East St. Louis, Ill. Certain cereal foods	65,260	Sept. 17	130	971
Davis, George E., Dubuque, Iowa. Power-hammers	65,240	Sept. 17	130	971
Davis Sewing Machine Co., Dayton, Ohio. Sewing-machines and attachments	65,241	Sept. 17	130	971
Delavan, M. Louise, deceased; T. G. Wardle, J. W. Swain, and W. E. Rex, Philadelphia, Pa., executors. Remedy for coughs and colds	65,312	Sept. 17	130	973
Diamond Rubber Co., Akron, Ohio. Certain rubber goods	65,292	Sept. 17	130	972
Diamond Rubber Co., Akron, Ohio. Gaskets, oil-well packing, rubber tubing, rubber hose, belting, and packing	65,341	Sept. 17	130	974
Donaghue, Patrick, Hartford, Conn. Whisky	65,317	Sept. 17	130	973
Eagle Pencil Company, New York, N. Y. Pencil-sharpeners	65,342	Sept. 17	130	974
Eagle Roller Mill Company, New Ulm, Minn. Wheat-flour	65,242	Sept. 17	130	971
Exposition Cotton Mills, Atlanta, Ga. Sheetings and drillings	65,271	Sept. 17	130	972
F. A. Hardy & Co., Chicago, Ill. Certain optical appliances and instruments	65,293	Sept. 17	130	972
Flexible Compound Company, Wilmington, Del., and Philadelphia, Pa. Waterproof liquid binder and insulator	65,272	Sept. 17	130	972
Frank & Co., Ivan, New York, N. Y. Suits for boys and children	65,273	Sept. 17	130	972
Fried, Mendelson & Co., New York, N. Y. Silk dress goods	65,274	Sept. 17	130	972
Gerhard Mennen Chemical Co., Newark, N. J. Toilet powder	65,294	Sept. 17	130	972
Great Western Manufacturing Company, Laporte, Ind. Bicycles	65,261	Sept. 17	130	971
Gresham & Carl, Philadelphia, Pa. Certain medicines	65,295	Sept. 17	130	972
Griffon Company, Philadelphia, Pa., and New York, N. Y. Certain yarn	65,243	Sept. 17	130	971
Hale Publishing Company, St. Louis, Mo. Magazines	65,318	Sept. 17	130	973
Hennefer Maschinenfabrik C. Reuther & Reisert M. B. H., Hennef, Germany. Certain weighing apparatus	65,296	Sept. 17	130	972
Henry E. Frankenberg Company, New York, N. Y. Certain fancy goods, furnishings, and notions	65,297	Sept. 17	130	972
Henry E. Frankenberg Company, New York, N. Y. Certain fancy goods, furnishings, and notions	65,298	Sept. 17	130	973
Hetherington, Thomas, Philadelphia, Pa. Substitute for tobacco	65,299	Sept. 17	130	972
Holland Shoe Company, Holland, Mich. Leather boots and shoes	65,319	Sept. 17	130	973
Ideal Manufacturing Company Limited, Albany, N. Y. Nail-polish	65,300	Sept. 17	130	972
Illinois Humane Society, Chicago, Ill. Monthly magazine	65,331	Sept. 17	130	973
Irwin Auger Bit Co., Wilmington, Ohio. Bits and augers	65,244	Sept. 17	130	971
Isaac Prouty & Company, Incorporated, Boston and Spencer, Mass. Leather and canvas boots and shoes	65,320	Sept. 17	130	973
J. H. Rice & Friedmann Co., Milwaukee, Wis. Coats, vests, and trousers and boys' suits	65,275	Sept. 17	130	972
John Blanis Sons Company, Burlington, Iowa. Certain sea foods	65,245	Sept. 17	130	971
John W. Hasburg Company, Chicago, Ill. Gold preparations, colors, and enamels for vitrifiable painting	65,276	Sept. 17	130	972
Keystone Stove Foundry, Spring City, Pa. Furnaces, stoves, and ranges	65,343	Sept. 17	130	974
Leopold, Solomon, and Eisendrath, Chicago, Ill. Coats, vests, trousers, and overcoats	65,277	Sept. 17	130	972
Leprince, Maurice, Paris, France. Pills for the cure of dyscrasical and dystrophical diseases	65,301	Sept. 17	130	972
Livingston, Margaret M. D., Chicago, Ill. Muscle and nerve remedy	65,302	Sept. 17	130	973
M. Werk Co., Cincinnati, Ohio. Soap	65,321	Sept. 17	130	973
Maxwell, Howard U., Cleveland, Ohio. Toilet preparation, &c	65,303	Sept. 17	130	973
McClunsy, Finas M., Gadsden, Ala. Non-alcoholic syrup for carbonated water	65,304	Sept. 17	130	973
Mexican Medicine Co., Ltd., Los Angeles, Cal. Soaps	65,322	Sept. 17	130	973
Monadnock Shoe Co., Keene, N. H. Leather and cloth shoes	65,278	Sept. 17	130	972
Morrill, Sarah C., New York, N. Y. Certain hand-tools	65,246	Sept. 17	130	971
Moseley & Motley Milling Co., Rochester, N. Y. Wheat-flour	65,262	Sept. 17	130	971
National Malleable Castings Co., Cleveland, Ohio. Car-couplers	65,346	Sept. 17	130	974
Nicholas, Chas. W., Boone, Iowa. Detergent cleaning compounds	65,263	Sept. 17	130	971
Norddeutsche Kartoffelmehl-Fabrik mit beschränkter Haftung, Cüstrin, Germany. Glucose, grape-sugar, and potato-starch syrup	65,265	Sept. 17	130	971
Oliver-Finnie Co., Memphis, Tenn. Coffee and tea	65,333	Sept. 17	130	973
Osborne Company, Newark, N. J., and New York, N. Y. Advertising-calendars and advertising-blotters	65,279	Sept. 17	130	972
Paraffin Paint Co., San Francisco, Cal. Certain paint and paint compounds	65,323	Sept. 17	130	973
Pearson, Fisher H., Lowell, Mass. Magazines	65,324	Sept. 17	130	973
Pequanoc Rubber Company, Butler, N. J. Reclaimed rubber	65,334	Sept. 17	130	973
Pequanoc Rubber Company, Butler, N. J. Reclaimed rubber	65,335	Sept. 17	130	973
Pequanoc Rubber Company, Butler, N. J. Reclaimed rubber	65,336	Sept. 17	130	973
Pequanoc Rubber Company, Butler, N. J. Reclaimed rubber	65,337	Sept. 17	130	973
Philadelphia Watch Case Co., Riverside, N. J. Watches, watchcases, and watch-movements	65,338	Sept. 17	130	973
Powell Brothers Shoe Company, New York, N. Y. Leather boots, shoes, and slippers	65,344	Sept. 17	130	974
Prest-O-Lite Company, Indianapolis, Ind. Portable tanks for compressed acetylene gas	65,280	Sept. 17	130	972
R. F. Johnston Paint Co., Cincinnati, Ohio. Fillers	65,305	Sept. 17	130	973
R. M. Rose Co., Atlanta, Ga. Non-alcoholic tonic beverage and syrup therefor	65,325	Sept. 17	130	973
Raguet Fils & R. Vignes, P., Troyes, France. Certain knit goods	65,247	Sept. 17	130	971
Reid, Robert W., New York, N. Y. Metal water-traps	65,326	Sept. 17	130	973
Rex, Walter E., *et al.*, executors. (See Delavan, M. Louise.)				
Richmond Hosiery Mills, Roesville, Ga. Hosiery	65,248	Sept. 17	130	971
Roessler & Hasslacher Chemical Co., New York, N. Y. Alkali compound for use in filtering and softening water	65,306	Sept. 17	130	973
Rose, Randolph, Atlanta, Ga. Carbonated non-alcoholic beverage and syrup therefor	65,307	Sept. 17	130	973
Rose, Randolph, Atlanta, Ga. Carbonated non-alcoholic beverage and syrup therefor	65,308	Sept. 17	130	973
Rose, Randolph, Atlanta, Ga. Carbonated non-alcoholic beverage and syrup therefor	65,339	Sept. 17	130	973
Roth & Company, San Francisco, Cal. Whisky	65,249	Sept. 17	130	971
Schwarz, Ivon, Nuremberg, Germany. Electrical insulators	65,309	Sept. 17	130	973
Sheboygan Mineral Water Co., Sheboygan, Wis. Mineral water	65,310	Sept. 17	130	973
Sheboygan Mineral Water Co., Sheboygan, Wis. Mineral water	65,311	Sept. 17	130	973
Sheboygan Mineral Water Co., Sheboygan, Wis. Mineral water				

TRADE-MARKS—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Shelby Biscuit Company, Richmond, Va., and Memphis, Tenn. Crackers, biscuits, and cakes	65,250	Sept. 17	130	971
Shelby Biscuit Company, Richmond, Va., and Memphis, Tenn. Crackers, biscuits, and cakes	65,264	Sept. 17	130	971
Shinners, Adrian L., St. Paul, Minn. Coffee	65,251	Sept. 17	130	971
Stirling Silk Mfg. Co., Stirling, N. J., and New York, N. Y. Silk piece goods	65,227	Sept. 17	130	973
Susquehanna Silk Mills, New York, N. Y. Silk piece goods and silk-mixed piece goods	65,281	Sept. 17	130	972
Susquehanna Silk Mills, New York, N. Y. Silk piece goods and silk-mixed piece goods	65,282	Sept. 17	130	972
Susquehanna Silk Mills, New York, N. Y. Silk piece goods and silk-mixed piece goods	65,283	Sept. 17	130	972
Susquehanna Silk Mills, New York, N. Y. Silk piece goods and silk-mixed piece goods	65,284	Sept. 17	130	972
Susquehanna Silk Mills, New York, N. Y. Silk piece goods and silk-mixed piece goods	65,285	Sept. 17	130	972
Swain, John W., *et al.*, executors. (See Delavan, M. Louise.)				
Swope & Mangold Inc., Dallas, Tex. Whisky	65,240	Sept. 17	130	973
Thayer, Russell, Philadelphia, Pa. Motor trucks and wagons	65,252	Sept. 17	130	971
Thompson Milling Company, Lockport, N. Y. Wheat-flour	65,253	Sept. 17	130	971
Wardle, T. Granville, *et al.*, executors. (See Delavan, M. Louise.)				
Wieklinski, Joe P., East Chicago, Ind. Certain medicine	65,228	Sept. 17	130	973
Wood, Pollard & Co., Boston, Mass. Coffee and tea	65,254	Sept. 17	130	971
Wülfing, Abraham, Berlin, Germany. Remedies to be used for diseases of the sexual organs	65,213	Sept. 17	130	973

LABELS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Bowes-Allegretti Co., Chicago, Ill. "Bowes-Allegretti Co. Chocolates." (For Chocolate)	13,796	Sept. 17	130	975
Bowes-Allegretti Co., Chicago, Ill. "Bowes-Allegretti Co. Bon Bons and Chocolates." (For Bon-bons and Chocolates)	13,797	Sept. 17	130	975
Bowes-Allegretti Co., Chicago, Ill. "Bowes-Allegretti Co. Milk Chocolates." (For Milk-Chocolates)	13,798	Sept. 17	130	975
Colomagna Springs Company, Columbus, Ind. "Colomagna Water." (For Mineral Waters)	13,795	Sept. 17	130	975
Drake, Deamon R., Lagrange, Ind. "The Ladies Friend." (For a Medicine)	13,800	Sept. 17	130	975
Forbes, Andrew, Philadelphia, Pa. "Pabu-Buchu Pure Gin." (For Gin)	13,794	Sept. 17	130	975
Gangiulo & Company, P., New York, N. Y. "Ferro-China-Universale." (For a Medical Preparation)	13,801	Sept. 17	130	975
Henschel & Co., A. C., Chicago, Ill. "Golden Harvest." (For Cigars)	13,793	Sept. 17	130	975
Hinckley, John S., Westerly, R. I. "Coldyettes." (For Medicated Candy or Cough-Drops)	13,802	Sept. 17	130	975
Leib, Alfa R., Elkhart, Ind. "Perspirine." (For Toilet Powder)	13,803	Sept. 17	130	975
Martin & Nurre, Blair, Nebr. "Ak-Sar-Ben." (For Canned Sugar-Corn)	13,799	Sept. 17	130	975
Schaar, Charles L., Chicago, Ill. "Costa-Analysis." (For Loose-Leaf Books)	13,804	Sept. 17	130	975

PRINTS.

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Lanahan & Son, Wm., Baltimore, Md. "Took the World at One Bound." (For Whisky)	2,111	Sept. 17	130	975
Lanahan & Son, Wm., Baltimore, Md. "First Over the Bars." (For Whisky)	2,112	Sept. 17	130	975
Lytton, H. C., Chicago, Ill. "Men's and Boys' Apparel." (For Men's and Boys' Apparel)	2,116	Sept. 17	130	975
Stein-Bloch Co., Rochester, N. Y. "Men's Apparel." (For Men's Apparel)	2,115	Sept. 17	130	975
Tower Chemical Manufacturing Co., Philadelphia, Pa. "Silverine." (For Preparation for Cleaning Silverware)	2,114	Sept. 17	130	975
W. E. Long Co., Chicago, Ill. "Buster Brown Bread." (For Bread)	2,113	Sept. 17	130	975

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Acme Shear Company, Bridgeport, Conn. Shears and scissors	29,509	Sept. 17	130	969
Alberger Condenser Company, New York, N. Y. Expansion-joints	29,346	Sept. 17	130	967
Alden & Co., Geo. A., Boston, Mass. India-rubber, gutta-percha, &c.	20,710	Sept. 17	130	958
American Thread Company, Jersey City, N. J. Spool and sewing cotton and thread	29,484	Sept. 17	130	969
American Wringer Company, New York, N. Y. Clothes-wringers	24,042	Sept. 17	130	959

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
American Wringer Company, New York, N. Y. Wringers and parts thereof	24,044	Sept. 17	130	959
American Wringer Company, New York, N. Y. Clothes-wringers	24,046	Sept. 17	130	959
Begy, Joseph A., Rochester, N. Y. Remedies for relief of pain, lameness, and soreness	29,060	Sept. 17	130	964
Block-Horn Preserving Co., Kansas City, Mo. Pickles, vinegar, catsup, olives, &c	29,043	Sept. 17	130	964
Body Builders Medicine Company, Binghamton, N. Y. Kidney, liver, and blood remedies	29,245	Sept. 17	130	966
Boehm & Levine, New York, N. Y. Jabots made of netted and lace fabrics	20,127	Sept. 17	130	964
Bonetti Frères, Paris, France. Alterative iodin compound	20,133	Sept. 17	130	972
Boott Mills, Lowell, Mass. Cotton piece goods	21,969-70	Sept. 17	130	968
Brownell & Field Company, Providence, R. I. Cocoa	29,250	Sept. 17	130	967
Burt Olney Canning Co., Oneida and Albion, N. Y. Canned fruits and vegetables	28,831	Sept. 17	130	963
Burt Olney Canning Co., Oneida and Albion, N. Y. Canned fruits and vegetables	28,980	Sept. 17	130	963
Butler, James T., Abington, Pa. Medicinal tablets	29,259	Sept. 17	130	965
Buton & Ce., Gio., Bologna, Italy. Bitters	15,306	Sept. 17	130	957
Carter Medicine Company, New York, N. Y. Pills	5,872	Sept. 17	130	957
Chance & Hunt, Ld., Oldbury, England. Caustic soda	12,076	Sept. 17	130	959
Connecticut Tool Company, Bridgeport, Conn. Thread-cutting dies	26,709	Sept. 17	130	960
Cosby Shoe Co. Incorporated, Lynchburg, Va. Leather boots and shoes	29,298-301	Sept. 17	130	968
Crego, Oscar M., New York, N. Y. Cheese	29,122	Sept. 17	130	964
Dacotah Manufacturing Co., St. Paul, Minn. Overcoats, trousers, dress-shirts, underwear, &c	23,251	Sept. 17	130	959
Davis-Bridaham Drug Company, Denver, Colo. Brushes	26,008	Sept. 17	130	959
Davis Chemical Company, Denver, Colo. Toilet powders and perfumes	29,316	Sept. 17	130	967
Dohrn, Frans J., White Plains, N. Y. Non-alcoholic beverages	29,066	Sept. 17	130	963
Dolmetsch, Heinrich, Stuttgart, Germany. Cork coverings for walls and ceilings	26,149	Sept. 17	130	960
Drake & Company, Easton, Pa. Teas and coffees	28,524	Sept. 17	130	968
Duluth-Superior Milling Co., Duluth, Minn. Wheat-flour	22,981	Sept. 17	130	959
Duncan, William D., Ottawa, Ill. Remedy for colds, headache, neuralgia, &c	29,505	Sept. 17	130	967
Durand & Co., Newark, N. J. Lockets, brooches, scarf and hat pins, &c	28,070	Sept. 17	130	961
Egli, Hans W., Zurich, Switzerland. Calculating-machines	28,234	Sept. 17	130	962
Eisman & Company, New York, N. Y. Whisky, brandy, and gin	27,330	Sept. 17	130	960
Eisemann, Philip, Lancaster, Pa. Razors	29,285	Sept. 17	130	966
Ellis, Richard, New York, N. Y. Soap	28,072	Sept. 17	130	962
Enterprise Soap Works, Nashville, Tenn. Laundry and toilet soap	29,200	Sept. 17	130	965
Erb, Ludwig G. B., New York, N. Y. Rochelle salt, cream of tartar, alum, flaxseed, &c	28,572	Sept. 17	130	962
Eureka Machine Co., Lansing, Mich. Concrete-mixing machinery	27,240	Sept. 17	130	960
Faber, Eberhard, New York, N. Y. Rubber erasers	29,254	Sept. 17	130	965
Farwell & Rhines, Watertown, N. Y. Wheat-flour	26,150	Sept. 17	130	960
Ferruginoid Co., New York, N. Y. Remedy for anemia-chlorosis, &c	29,406	Sept. 17	130	963
G. H. Ballou Company, San Diego, Cal. Spices and flavoring extracts	29,452	Sept. 17	130	969
Geo. H. Cross Co., St. Johnsbury, Vt. Bread and crackers	29,120	Sept. 17	130	964
Golden Hill Distilling Co., Columbus, Ohio. Cordials	29,306	Sept. 17	130	967
Golden Hill Distilling Co., Columbus, Ohio. Whisky	29,207	Sept. 17	130	967
Greco, Gaspare G., New Orleans, La. Macaroni	29,297	Sept. 17	130	966
Haarmann de Laire Schaefer Co., Maywood, N. J. Base for violet perfumes	26,089	Sept. 17	130	960
Harpham Bros. Co., Lincoln, Nebr. Harness, horse-collars, saddles, and whips	27,675	Sept. 17	130	961
Hetherington, Thomas, Philadelphia, Pa. Preparation for the mustache or hair	29,415	Sept. 17	130	968
Hetherington, Thomas, Philadelphia, Pa. Perfumes	29,416	Sept. 17	130	968
Home and Farm Publishing Co., Louisville, Ky. Semimonthly publications	18,401	Sept. 17	130	958
House & Son, Jacob, Buffalo, N. Y. Ginger-ale	29,289	Sept. 17	130	966
Howard, Henry J. M., Washington, D. C. Canvas hose	26,122	Sept. 17	130	960
Hume, Robert D., San Francisco, Cal. Canned salmon	29,273	Sept. 17	130	965
Ingham, Harvey B., Waverly, N. Y. Furniture and piano polishes	27,797	Sept. 17	130	961
J. G. Brill Company, Philadelphia, Pa., assignor to J. G. Brill Company. Gongs and parts thereof	27,970	Sept. 17	130	961
J. G. Brill Company, Philadelphia, Pa., assignor to J. G. Brill Company. Railway street-sprinklers	27,971	Sept. 17	130	961
Jacob & Brown, New York, N. Y. Buckles	29,444	Sept. 17	130	968
Japhet & Co., Houston, Tex. Gin	29,291	Sept. 17	130	966
John Barth Company, Milwaukee, Wis. Vodka	28,930	Sept. 17	130	963
Kearney & Co., J., Liverpool, England. Stylographic fountain-pens	29,488	Sept. 17	130	969
Kellogg & Hitchcock Co., Syracuse, N. Y. Menthol ice	29,514	Sept. 17	130	969
Kerens Shoe Co., St. Louis, Mo. Leather boots and shoes	29,242	Sept. 17	130	966
Kuehnrich, Paul R., Sheffield, England. Steel ingots, bars, &c	20,773	Sept. 17	130	958
Kumberger & Vreeland, New York, N. Y. Marine gasolene-engines	29,167	Sept. 17	130	965
Labaume & Co., Royé, Beaune, France. Wines	22,368	Sept. 17	130	959
Lazarus-Nassauer Co., Cairo, Ill. Whisky	29,287	Sept. 17	130	966
Los Angeles Olive Growers Association, Los Angeles, Cal. Soap	27,030	Sept. 17	130	960
Louisville Inventors Association, Louisville, Ky. Remedy for colds and malaria	28,407	Sept. 17	130	962
Low, Abbot A., Brooklyn, N. Y. Soldering, sad, and branding irons	29,372	Sept. 17	130	967
Lutz Co., George A., New York, N. Y. Dry batteries	29,442	Sept. 17	130	968
Magnus Metal Company, New York, N. Y. Alloy castings	29,245	Sept. 17	130	966
Maulbetsch & Whittemore Company, Newark, N. J. Cases and satchels for musical instruments	27,910	Sept. 17	130	961
McElroy, Ross O., New York, N. Y. Remedy for venereal diseases	29,221	Sept. 17	130	967
McKoy, Robert H., Wilmington, N. C. Remedy for catarrh, headaches, asthma, &c	29,049	Sept. 17	130	964
Menzel & Co., New York, N. Y. Bismark herring, rollmops, sardels, &c	6,105	Sept. 17	130	957
Mills Equipment Co. Ltd., Westminster, England. Knapsacks	25,743	Sept. 17	130	959
Mohr, Peter, Belleville, Ill. Cigars	28,763	Sept. 17	130	962
Moon Vibrator Company, Chicago, Ill. Massage-machines	29,237	Sept. 17	130	965
Moore, Harris G., Kansas City, Mo. Plows	29,479	Sept. 17	130	969
Mountain Copper Company Limited, London, England, and San Francisco, Cal. Fertilizers	15,413	Sept. 17	130	956
National Candy Company, Jersey City, N. J. Candles	29,422	Sept. 17	130	968
National Sewing Machine Company, Belvidere, Ill. Sewing-machine needles	29,132	Sept. 17	130	964
Neuralgyline Company, Wheeling, W. Va. Headache remedies	28,004	Sept. 17	130	961
Northern Manufacturing Company, Bangor, Me. Paints	29,473	Sept. 17	130	969
Oakland Vinegar and Pickle Co., Saginaw, Mich. Vinegars and pickles	29,359	Sept. 17	130	967
Ohio Mining & Manufacturing Co., New York, N. Y., and Shawnee, Ohio. Building bricks or blocks	27,401	Sept. 17	130	960
Oneida Community Limited, Oneida and Niagara Falls, N. Y. Metal animal-ties	23,785	Sept. 17	130	959
Openhym & Sons, Wm., New York, N. Y. Ribbons	29,046-7	Sept. 17	130	963
Optical Specialties Company, Boston, Mass. Bifocal lenses	28,637	Sept. 17	130	962
Owens, T. Lloyd, Savannah, Ga. Coffee	29,272	Sept. 17	130	965
Paramount Knitting Company, Chicago, Ill. Hosiery	29,338	Sept. 17	130	967
Paramount Knitting Company, Chicago, Ill. Hosiery	29,340	Sept. 17	130	967
Pennsylvania Chocolate Company, Pittsburg, Pa. Chocolate and cocoa	20,579	Sept. 17	130	958

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Pieper, Frederick J., Salt Lake City, Utah. Hair-tonic	29,357	Sept. 17	130	967
Quality Saw and Tool Works, Incorporated, Springfield, Mass. Saws	29,069	Sept. 17	130	961
R. C. Proudfit Baking Company, Chicago, Ill. Bread	29,234	Sept. 17	130	965
Ramey Medicator Company, Asbury Park, N. J. Medicator or inhaler	28,908	Sept. 17	130	963
Revere Rubber Company, Boston, Mass. Belting, hose, and machinery packing	29,135	Sept. 17	130	964
Rich, Charles S., New York, N. Y. Preparations for the removal of hair and blemishes from the skin	29,430	Sept. 17	130	968
Richmond Cedar Works, Richmond, Va. Ice-cream freezers	29,437	Sept. 17	130	968
Robinson, Everett, Baltimore and Hopewell, Md. Canned tomatoes	24,662	Sept. 17	130	959
Rosenfield Bros. & Co., Chicago, Ill. Whisky	29,286	Sept. 17	130	966
Rosenfield, Joseph L., Pueblo, Colo. Bitters	29,083	Sept. 17	130	963
Sächsische Pulverfabriken G. Krantz & Co., Bautzen, Germany. Cartridges and powder	28,824	Sept. 17	130	962
Saqui, David S., New York, N. Y. Cigars, cigarettes, cheroots, and tobacco	27,657	Sept. 17	130	961
Saunders, Clarence C., Celina, Tex. Stock-powders	29,459	Sept. 17	130	968
Schoellkopf, Hartford & Hanna Company, Buffalo, N. Y. Paints	29,294	Sept. 17	130	966
Schorsch & Co., New York, N. Y. Paper bags	28,877	Sept. 17	130	962
Schraders, New York, N. Y. Candy	29,092	Sept. 17	130	964
Schultes Agost, Szinye-Lipoczi Salvatorforrás vállalat, Eperjes, Comitat Saros, Hungary. Natural mineral water	28,231	Sept. 17	130	962
Shapiro & Aronson, New York, N. Y. Gas and electric light fixtures	29,541	Sept. 17	130	969
Shivell, Edwin, Melrose, Mass. Sardines	29,441	Sept. 17	130	968
Silver Suds Manufacturing Company, Philadelphia, Pa. Dressings for corns, bunions, &c.	29,507	Sept. 17	130	969
Spears & Riddle Co., Wheeling, W. Va. Washing-machines	28,268	Sept. 17	130	962
Standard Import Co., Ltd., New Orleans, La. Tea	29,373	Sept. 17	130	966
Strassburger, Gustave, New York, N. Y. Tooth-brushes	29,428	Sept. 17	130	968
T. M. Sinclair & Co., Ltd., Cedar Rapids, Iowa. Lard compound	29,179	Sept. 17	130	965
Trunk Bros. Drug Company, Denver, Colo. Syrup oil of pine compound and remedies for the cigarette habit, &c.	27,536	Sept. 17	130	960
Ulrici, Charles J., New York, N. Y. Remedies for stomach troubles	29,521	Sept. 17	130	969
Venesta Limited, London, England. Compound sheets of wood, and boxes and barrels made of same	29,443	Sept. 17	130	968
Waldo, Howard L., Troy, N. Y. Nerve-tonic	26,137	Sept. 17	130	960
Ward, Joseph P., Fort Worth, Tex. Hair tonic and invigorator	27,237	Sept. 17	130	960
Warren Featherbone Co., Three Oaks, Mich. Whips, whip-lashes, &c.	18,937	Sept. 17	130	958
Wayne County Canning Co., Ltd., Marion, N. Y. Canned fruits and vegetables	29,388	Sept. 17	130	967
Webster, Towner K., Jr., New York, N. Y. Suspenders, belts, garters, &c.	28,963-6	Sept. 17	130	963
Whaley Mill & Elevator Co., Gainesville, Tex. Wheat-flour	27,760	Sept. 17	130	961
White Sewing Machine Co., Cleveland, Ohio. Sewing-machine shuttles and shuttle-carriers	29,268	Sept. 17	130	966
Whitman & Co., Clarence, New York, N. Y. Cotton piece fabrics	29,236	Sept. 17	130	965
Wilpaco Packing Company, New York, N. Y. Plaited fibrous packing	28,627	Sept. 17	130	962
Wyeth Hardware & Manufacturing Co., St. Joseph, Mo. Knives, razors, and scissors	11,496	Sept. 17	130	957

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED ON THE 17TH DAY OF SEPTEMBER, 1907.

Invention.	Name.	No.	Date.	Monthly volume., Specification.	Monthly volume., Drawing.	Official Gazette. Volume.	Official Gazette. Page.
Abdominal support	M. C. Towns	866,407	Sept. 17	2556	713	130	962
Account-keeping apparatus	L. R. Tiffany	866,167	Sept. 17	2207	614	130	751
Acid-dipping basket or pail	A. Temper	866,087	Sept. 17	2093	582	130	714
Adding-machine	W. C. Paris	866,162	Sept. 17	2195	611-12	130	747
Adding-machine	F. B. Glenn	866,206	Sept. 17	2305	667-9	130	812
Adding-machine	H. N. Ott	866,355	Sept. 17	2491	695	130	841
Adjustment mechanism. Fine-	E. N. Monroe	866,383	Sept. 17	2524	703	130	851
Advertising device	G. Carrington and H. Pusey	866,379	Sept. 17	2521	702	130	850
Advertising means	A. A. Lax, G. W. Hinson, and J. I. Willholt.	866,430	Sept. 17	2584	722	130	872
Agricultural machine	C. A. Rumble	866,040	Sept. 17	2014	562	130	689
Air-treating machine	T. R. Kinsella and C. W. Hodgetts.	866,602	Sept. 17	2829	793-4	130	946
Alarm	G. G. Schroeder	866,484	Sept. 17	2658	743	130	894
Alcohol heater. Denatured-	F. H. Bowly	866,604	Sept. 17	2831	794-5	130	947
Alcohol-producing apparatus	F. M. Becket	866,426	Sept. 17	2578	720	130	869
Alloys. Producing	W. H. Stiglitz	866,561	Sept. 17	2762	.....	130	925
Amalgamator	C. T. Ball	866,084	Sept. 17	2087	581	130	712
Applicator and dilator. Combined	A. W. Allen	866,180	Sept. 17	2222	620	130	755
Arcs of circles. Instrument for describing	G. R. Walker	866,178	Sept. 17	2221	620	130	755
Automobile driving mechanism	C. W. Berry	866,410	Sept. 17	2559	714	130	863
Automobiles. Change-speed lever for		866,254	Sept. 17	2321	648	130	786
Bag: *See* Feed-bag. Paper bag.	U. S. Hama	866,273	Sept. 17	2359	656	130	800
Baking apparatus. Cake-	D. Allcut	866,413	Sept. 17	2563	715-16	130	864
Ballot-box	H. Haiss	866,461	Sept. 17	2628	735	130	886
Beam-frame for continuous concrete girders	H. Haiss	866,460	Sept. 17	2626	734	130	885
Beam-frame. Universal	U. W. Brown	866,185	Sept. 17	2228	622	130	757
Bean-cutter	H. M. Godsey	866,272	Sept. 17	2358	655	130	800
Bearing	H. E. Dodson	866,007	Sept. 17	1961	547-8	130	674
Bearing. Disk-	S. H. Coombs	865,999	Sept. 17	1950	544-5	130	670
Beater	T. F. Scanlon	866,522	Sept. 17	2709	757	130	909
Bed attachment	F. Runge	866,071	Sept. 17	2069	577	130	707
Beer-cooler	R. L. Hunter	866,471	Sept. 17	2642	738	130	880
Bell. Electric	A. Rosenthal	866,389	Sept. 17	2532	705	130	853
Belt-shifter	H. G. Sudell	866,535	Sept. 17	2728	762	130	914
Belts, &c. Clasp for	H. Biell	866,568	Sept. 17	2773	775	130	928
Bicycle-pedal	B. A. Peterson	866,160	Sept. 17	2193	611	130	746
Blank-feed mechanism							
Block: *See* Building-block. Concrete block.	J. M. Bolton	866,571	Sept. 17	2777	776-7	130	930
Block-molding machine							
Board: *See* Game-board. Ironing-board.							
Boiler: *See* Steam-boiler. Water-tube boiler.							
Boiler-covering	E. L. Story	866,235	Sept. 17	2296	641-2	130	778
Boiler safety appliance. Steam	H. Crippen	866,265	Sept. 17	2343	652	130	793
Boiler-tube ends. Means for cutting off	J. R. Whittemore	866,412	Sept. 17	2562	715	130	864
Bolster structure	W. E. Symons	866,405	Sept. 17	2554	712	130	861
Bottle	H. Vincent	866,096	Sept. 17	2111	587	130	730
Bottle	D. E. Cripe	866,112	Sept. 17	2130	592	130	736
Bottle	H. S. Martchyen	866,374	Sept. 17	2516	701	130	849
Bottle	W. R. Bell	866,564	Sept. 17	2766	773	130	926
Bottle. Antirefillable	T. L. Connors	866,435	Sept. 17	2591	723	130	874
Bottle-closure	L. Arnavat, A. Mendez, and J. B. Fernandes.	866,252	Sept. 17	2319	647	130	788
Bottle. Non-refillable	J. W. Kennedy	866,477	Sept. 17	2651	740	130	892
Bottle. Non-refillable							
Box: *See* Ballot-box. Cylindrical box. Fuse-box. Match-box. Stuffing-box.	E. F. Hulbert	866,585	Sept. 17	2800	784	130	936
Box-fastener	C. W. Rockie and A. M. Meredith.	866,601	Sept. 17	2826	792-3	130	945
Box-folding machine							
Brace: *See* Post-brace.							
Bracket: *See* Lamp-bracket. Shade-bracket.	A. P. Brush	866,328	Sept. 17	2443	682	130	825
Brake mechanism	J. Stromeyer and W. W. Morton.	866,085	Sept. 17	2091	581	130	714
Brake-shoe	S. M. Black	866,325	Sept. 17	2426	680	130	822
Brickmaking mechanism	E. R. Simpson and W. L. Martin.	866,231	Sept. 17	2290	640	130	777
Broom-head							

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Brush	B. Littauer	866,493	Sept. 17	2669	747	130	898
Brush and mop. Combined fountain scrub-	J. T. Huggins	866,469	Sept. 17	2640	737	130	889
Brush-attaching device	P. Lieskar	866,142	Sept. 17	2178	607	130	742
Brush for barrel-heads	O. Neufeld	866,139	Sept. 17	2192	610	130	745
Brush. Rotary vibratory massage-	J. Handel	866,019	Sept. 17	1981	552	130	680
Brush. Shaving-	R. L. Davis	866,438	Sept. 17	2593	724	130	874
Bucket. Tramway-	W. S. Gemmer and E. J. Schleicher.	866,271	Sept. 17	2355	654–5	130	798
Buckle	G. C. Plummer	866,217	Sept. 17	2270	634	130	770
Buggy. Top-	D. B. Bogard and E. Beasley	866,569	Sept. 17	2774	775–6	130	929
Building-block	L. R. Franklin	866,351	Sept. 17	2485	694	130	840
Burner: *See* Gas-burner. Stove-burner.							
Button and sleeve-link. Collar-	S. M. Brydges	866,187	Sept. 17	2232	622	130	758
Button-feeding mechanism	E. P. Merwin	866,046	Sept. 17	2023	565	130	692
Cabinet	W. B. Madison	866,043	Sept. 17	2020	563	130	691
Cabinet	J. J. McIntyre	866,158	Sept. 17	2191	610	130	745
Cage. Breeding-	H. M. Smith	866,396	Sept. 17	2540	708–9	130	856
Call. Automatic time-	J. E. Boone	866,327	Sept. 17	2440	681	130	824
Camera. Panorama-	W. A. Case	866,257	Sept. 17	2325	649	130	787
Can: *See* Oil-can.							
Can holder. Oil-	W. L. Chrysler and J. W. Kays	866,258	Sept. 17	2331	649	130	790
Car center and side bearing. Combined	J. C. Barber	865,986	Sept. 17	1933	541	130	654
Car-chock	S. R. Keeran	866,474	Sept. 17	2647	739	130	891
Car-door hanger	P. M. Elliott	866,118	Sept. 17	2136	594	130	725
Car. Dumping-	C. B. Peteler	866,512	Sept. 17	2690	752	130	904
Car grain-door. Railway-	J. Van Slyke	866,002	Sept. 17	2105	585–6	130	718
Car. Railway motor-	W. S. Hovey	866,136	Sept. 17	2157	600	130	734
Car structure	W. E. Symons	866,403	Sept. 17	2560	711	130	859
Car structure	W. E. Symons	866,404	Sept. 17	2562	711–12	130	860
Cars. Self-acting safety appliance for street-	L. M. Maxham	866,595	Sept. 17	2821	791	130	943
Carbureter	J. C. Lewis	866,490	Sept. 17	2666	745	130	897
Carbureting and oil separating apparatus	J. E. Seeley and F. A. Sylva	866,525	Sept. 17	2715	759	130	911
Carriage. Collapsible	O. Kurz	866,145	Sept. 17	2168	604–5	130	737
Carrier: *See* Feed and litter carrier.							
Cartridge-clip	W. S. Stapley	866,080	Sept. 17	2082	580	130	710
Case: *See* Show-case. Suit-case.							
Cask	J. Gilmour	866,014	Sept. 17	1972	550	130	677
Casting and delivering pig metal. Apparatus for	E. A. Weimer	866,607	Sept. 17	2536	797–9	130	949
Casting apparatus	E. A. Weimer	866,608	Sept. 17	2538	800–1	130	949
Castings. Doing away with blow-holes and like flaws in	A. E. Menne	866,497	Sept. 17	2674	748	130	889
Cement and making the same. Portland	R. K. Meade	866,376	Sept. 17	2518	.....	130	880
Cement-applying apparatus	F. P. Payne	866,511	Sept. 17	2688	752	130	904
Cement-brick-pressing machine	P. K. Young	866,175	Sept. 17	2216	617–19	130	754
Chains. Scraper-flight for conveyer-	J. J. Rhodes and J. Millar	866,519	Sept. 17	2704	756	130	908
Chair: *See* Wire chair.							
Chemical reductions and producing metals or alloys. Effecting	F. M. Becket	866,421	Sept. 17	2574	.....	130	866
Chuck	V. J. Wahlstrom	866,245	Sept. 17	2310	645	130	783
Churn and butter-worker. Combined	F. La Bare	866,088	Sept. 17	2010	561	130	688
Churn and butter-worker. Combined	T. J. Howe, M. Deeg, and F. La Bare.	866,584	Sept. 17	2797	783	130	936
Churn-operating mechanism	W. H. Colman	866,334	Sept. 17	2451	684	130	827
Cigar-cutter	R. Kollmar	866,037	Sept. 17	2009	560	130	686
Cigar-fillers. Method and device for making	J. Stephan	866,233	Sept. 17	2298	641	130	778
Cigar-lighter and advertising device	C. E. Bessel and C. D. Meeker	866,566	Sept. 17	2768	774	130	927
Clamp: *See* Pipe-clamp. Rope-clamp.							
Cleaner: *See* Track-cleaner.							
Clevis	M. H. Browning	866,428	Sept. 17	2583	721	130	871
Clevis	L. B. Alger	866,555	Sept. 17	2754	771	130	922
Clip: *See* Cartridge-clip.							
Clock	C. B. Stephens	866,533	Sept. 17	2726	672	130	914
Clock-adjuster	A. P. Koon	866,485	Sept. 17	2660	744	130	895
Clock. Electric self-winding	E. Schultz	866,076	Sept. 17	2076	579	130	709
Clothes-line prop	W. F. Briggs	866,574	Sept. 17	2782	778	130	932
Clothes-line prop	W. F. Briggs	866,575	Sept. 17	2783	778	130	932
Clothes-line windlass	W. F. Briggs	866,576	Sept. 17	2784	779	130	933
Clothes-pin	W. C. Manning	866,206	Sept. 17	2255	629	130	765
Clothes-pounder	D. F. Kay, Jr.	866,141	Sept. 17	2164	603	130	736
Clothes-prop. Adjustable	J. Fleming	866,120	Sept. 17	2128	595	130	729
Clothes-rack	H. H. Haas	866,199	Sept. 17	2245	626	130	762
Clutches. Shifting and locking mechanism for friction band-	D. A. Leonard	866,489	Sept. 17	2665	745	130	896
Coat and vest. Combination	J. P. Karr and J. D. Rauch	866,282	Sept. 17	2374	660	130	804
Cock. Combined hydrant and stop and waste	G. Demacakos	866,342	Sept. 17	2465	688	130	831
Coffee-pot	W. R. Bunch	866,329	Sept. 17	2444	682	130	826
Coin-controlled mechanism	A. W. Whitman	866,545	Sept. 17	2742	767	130	919
Collar-support for soft shirts	R. A. Pollock	866,063	Sept. 17	2066	573–4	130	708
Combing device. Rotary bristle-	H. R. Parker	866,509	Sept. 17	2686	751	130	903
Commutator	M. P. Tottle	866,406	Sept. 17	2555	712	130	862
Compressed-air installation	C. W. Coleman	866,262	Sept. 17	2339	651	130	792
Concrete block	G. J. Gibbs	866,457	Sept. 17	2622	732–3	130	884
Concrete-mixer	I. B. Hill	866,360	Sept. 17	2498	696–7	130	844
Connecting mechanism	A. R. Parker	866,086	Sept. 17	2044	570	130	688
Conveying apparatus	H. E. Smith	866,529	Sept. 17	2720	760	130	912
Conveying apparatus	J. T. Cowley	866,264	Sept. 17	2341	652	130	792
Conveying apparatus	J. T. Cowley	866,337	Sept. 17	2455	685	130	828
Conveying loads from one level to another. Apparatus for	E. Keimer	866,338	Sept. 17	2458	686	130	829
Cooking apparatus		866,475	Sept. 17	2646	740	130	891
Cooking-iron	J. L. Reeves	866,386	Sept. 17	2626	704	130	852
	A. Andresen	866,179	Sept. 17	2222	620	130	755

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Cooking utensil	J. McGill	866,157	Sept. 17	2190	610	130	745
Cooking utensil	C. A. Vogler	866,409	Sept. 17	2558	713	130	862
Cooler: *See* Beer-cooler. Gas-cooler.							
Copper salts from alkaline liquors. Removing	R. Linkmeyer	866,371	Sept. 17	2513	.....	130	848
Corn-sheller separator	S. Houts	866,362	Sept. 17	2501	697	130	845
Cotton-picker-machine grid	A. St. Onge and C. A. Brown	866,234	Sept. 17	2294	641	130	778
Cotton-picking machine	J. F. Appleby	865,984	Sept. 17	1930	540	130	664
Coupling: *See* Metallic coupling. Pipe or hose coupling.							
Crane. Traveling ladel-	G. R. Ward	866,247	Sept. 17	2313	646	130	784
Crate. Banana-	L. D. Fowler	866,123	Sept. 17	2142	596	130	730
Cream-separator	M. F. Carrigan	866,190	Sept. 17	2286	638	130	760
Cultivator. Two-row	L. H. Millen and J. A. Smethers	866,209	Sept. 17	2258	630	130	766
Current-distributer for sparking devices	M. S. Napier	866,212	Sept. 17	2263	631–2	130	768
Curtain and shade support	B. J. Kahn	866,589	Sept. 17	2809	787	130	940
Curtain-pole	C. Benson	866,224	Sept. 17	2425	680	130	822
Cut-off	G. W. Denlef and L. B. Howard	866,440	Sept. 17	2595	724	130	875
Cutter: *See* Bean-cutter. Pipe-cutter. Cigar-cutter. Plant-cutter. Grape-cutter. Rotary cutter.							
Cutting-tools. Guard for revolving	C. E. Marshall	866,044	Sept. 17	2021	564	130	692
Cylindrical box	W. H. Stout	866,236	Sept. 17	2297	642	130	779
Damper. Automatic air-	A. W. Puddington	866,515	Sept. 17	2700	755	130	907
Dental plate-punch	E. E. Bartram	866,559	Sept. 17	2780	772	130	924
Dentist's drilling apparatus	P. Repsold	866,518	Sept. 17	2704	755	130	908
Denture. Artificial	F. Ainsworth	866,176	Sept. 17	2218	619	130	754
Denture. Removable artificial	F. E. Roach	866,304	Sept. 17	2404	671	130	814
Dentures. Fusible porcelain cement and strengthening-backing for artificial	F. E. Roach	866,305	Sept. 17	2405	671	130	814
Deodorizing apparatus. Closet-	A. D. Stevens	866,400	Sept. 17	2545	710	130	858
Discharging device. Automatic	T. Kopf	866,204	Sept. 17	2252	628	130	764
Display-carton	W. S. Morrison	866,211	Sept. 17	2262	631	130	768
Display rack. Curtain-	W. H. Parrill	866,209	Sept. 17	2260	629	130	812
Displaying, measuring, and cutting-off machine. Oil-cloth	W. C. Heinen and W. F. Dau	866,277	Sept. 17	2363	657–8	130	801
Door-securer	J. H. N. Peterson	866,161	Sept. 17	2194	611	130	746
Door-securer	T. B. Wilkinson	866,548	Sept. 17	2745	768	130	920
Door-securer	W. H. Hope	866,583	Sept. 17	2796	782	130	937
Door lock and latch	W. H. Fox	866,124	Sept. 17	2143	596	130	730
Door-stop	V. A. De Canio	866,439	Sept. 17	2594	724	130	874
Door structure	A. F. Clark	866,110	Sept. 17	2127	592	130	725
Drill	W. R. Hitchcock	866,361	Sept. 17	2500	697	130	844
Drill attachment	A. Ransom and M. E. Goodhue	866,302	Sept. 17	2403	670	130	813
Duster head. Feather-	W. Herzberg and O. Scharfenberg	866,359	Sept. 17	2497	.....	130	843
Dye and making same. Triphenylmethan	W. Peters	866,058	Sept. 17	2047	571–2	130	699
Dye-jigger	J. M. Hussey	866,586	Sept. 17	2801	784–5	130	938
Eggs. Desiccating	H. N. Potter	866,301	Sept. 17	2401	670	130	813
Electric apparatus. Forming seals and terminals for	S. Ferguson	866,011	Sept. 17	1968	549	130	676
Electric devices. Improving vapor	A. S. Krotz	866,298	Sept. 17	2378	662	130	805
Electric generator and motor	M. J. Kehoe	866,590	Sept. 17	2809	787	130	940
Electrical switch	S. Schneider	866,075	Sept. 17	2075	578	130	708
Electrical systems. Water-jet grounder for protection against excessive potentials in	A. F. Schroeder	866,311	Sept. 17	2414	673–4	130	817
Electroplating apparatus							
Elevator: *See* Portable elevator.							
Elevator safety appliance	A. L. Edmiston	866,117	Sept. 17	2136	594	130	726
Elevators. Valve mechanism for hydraulic	I. Carlson and C. Bergstrom	866,189	Sept. 17	2234	623	130	760
Engine: *See* Internal-combustion engine. Rotary engine. Traction-engine.							
Engine sparking mechanism. Internal-combustion-	L. S. Cushman	866,001	Sept. 17	1963	545	130	671
Engines. Combined starting and retrograde braking mechanism for gasolene-	S. G. George	866,456	Sept. 17	2621	732	130	884
Engines. Ignition system for explosion-	R. Varley	866,241	Sept. 17	2304	644	130	781
Envelop and letter-sheet. Combined	R. C. Ozman	866,394	Sept. 17	2527	704	130	859
Exercising device	A. Marks	866,495	Sept. 17	2672	748	130	889
Eyeglasses	L. F. Adt	866,006	Sept. 17	1927	540	130	663
Fabric strip-guide. Elastic-	A. H. De Voe	866,382	Sept. 17	2388	665	130	850
Fan. Ceiling-	C. R. Meston	866,386	Sept. 17	2531	705	130	868
Fan. Spring-	D. Roberti	866,155	Sept. 17	2188	609	130	744
Farm-gate	D. O. Myatt	866,016	Sept. 17	1975	550	130	677
Fastener	C. H. Goodwin	866,341	Sept. 17	2463	688	130	831
Fastener	F. I. Davis	866,121	Sept. 17	2139	595	130	729
Faucet attachment	J. Fleury	866,269	Sept. 17	2353	653–4	130	797
Feed and litter carrier	H. L. Ferris	866,113	Sept. 17	2131	593	130	726
Feed-bag for horses	E. Dawson	866,603	Sept. 17	2830	794	130	946
Feed-regulator	D. de Saint Vaulry	866,472	Sept. 17	2645	738–9	130	890
Feeding and watering device for poultry and animals	J. B. Jones	866,146	Sept. 17	2173	605–6	130	740
Fence-making machine. Wire-	G. L. Langer	866,478	Sept. 17	2651	741	130	892
Fence-post	E. W. Kerner	866,048	Sept. 17	2027	566	130	693
Fence-post. Metallic	W. D. McAtlin	866,050	Sept. 17	2030	566–7	130	694
Fence-shear. Multiple	R. W. Ney	866,227	Sept. 17	2283	638	130	775
Fence. Wire	J. B. Schneider	866,562	Sept. 17	2763	.....	130	926
Ferro-vanadium. Producing	F. M. Becket	866,455	Sept. 17	2619	732	130	883
Fertiliser-distributer	J. T. Gantt	866,201	Sept. 17	2534	706	130	864
File	B. N. Scott	866,401	Sept. 17	2547	710	130	858
Filter	J. B. Stewart	866,433	Sept. 17	2588	723	130	873
Filter	A. J. Clark	866,424	Sept. 17	2576	719–20	130	869
Filter	H. W. Blaisdell	865,993	Sept. 17	1940	542	130	667
Filter. Centrifugal	C. Broesmann, Jr	866,346	Sept. 17	2475	690–1	130	836
Filtering device	H. D. Elfreth	866,215	Sept. 17	2268	633	130	770
Filtration plant	J. A. Pine	866,216	Sept. 17	2270	634	130	770
Finishing or burnishing machine	J. A. Pine	866,516	Sept. 17	2701	755	130	907
Finishing or burnishing machine	W. B. Purdy	866,256	Sept. 17	2322	648	130	787
Fire-escape	C. F. Calnan and A. F. Andersen	866,109	Sept. 17	2126	592	130	725
Fire-escape. Portable	C. Brent	866,437	Sept. 17	2593	.....	130	874
Fire-extinguisher. Dry-gas	E. M. Davidson	866,170	Sept. 17	2210	615	130	752
Fire-extinguishing compound	M. B. Watson						
Fire-screen							

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Fireproof window-sash	A. Bennerscheidt	866,991	Sept. 17	1938	542	130	666
Fish-trap	T. W. Law	866,147	Sept. 17	2177	607	130	741
Fish trap-hook	A. Winbush	866,174	Sept. 17	2215	617	130	754
Fishing-reel	J. E. Pflueger	866,080	Sept. 17	2063	572	130	702
Fishing-tackle receptacle	O. D. Vanderbilt	866,408	Sept. 17	2567	713	130	882
Flashing-fastener	W. Hammann	866,357	Sept. 17	2494	696	130	843
Floor-finishing apparatus	E. Schenk	866,074	Sept. 17	2073	578	130	708
Flue-stopper	E. I. Sheldon	866,526	Sept. 17	2717	759	130	911
Fluid-motor	H. W. Kimes	866,591	Sept. 17	2811	787–8	130	941
Fluid-motor	H. W. Kimes	866,592	Sept. 17	2814	788–9	130	941
Fluid-pressure regulator	A. J. Morehart	866,508	Sept. 17	2679	749	130	901
Flush receptacle and plug	G. P. Whittlesey	866,105	Sept. 17	2121	590	130	724
Flushing apparatus	P. W. Landell and J. B. Williams.	866,368	Sept. 17	2508	699–700	130	847
Flushing apparatus. Sewer-	E. L. Wagner	866,244	Sept. 17	2309	645	130	782
Fly-trap	G. W. Stein	866,398	Sept. 17	2545	709	130	857
Food. Manufacturing a ferruginous addition to cattle	E. Meusel	866,499	Sept. 17	2676	.....	130	900
Food-package. Graduated	G. Waechter	866,243	Sept. 17	2308	644	130	782
Forging car and like wheels	J. M. Hansen	866,020	Sept. 17	1982	552–3	130	666
Forging car-wheel treads. Apparatus for	J. M. Hansen	866,022	Sept. 17	1987	553	130	681
Forging car-wheels	J. M. Hansen	866,025	Sept. 17	1992	555	130	683
Forging car-wheels. Apparatus for	J. M. Hansen	866,026	Sept. 17	1995	555–6	130	683
Forging wheel-blanks	J. M. Hansen	866,023	Sept. 17	1989	553–4	130	682
Forging wheel-blanks. Apparatus for	J. M. Hansen	866,021	Sept. 17	1986	553	130	681
Forging wheels. Apparatus for	J. M. Hansen	866,024	Sept. 17	1991	554	130	682
Forms. Manufacture of solid	G. Egly	866,444	Sept. 17	2695	.....	130	880
Fountain: *See* Printing-press paste-fountain.							
Frame: *See* Beam-frame. Vehicle-hood frame.							
Friction mechanism. Variable-speed	A. P. Brush	866,186	Sept. 17	2230	622	130	757
Furnace: *See* Ore-reducing furnace. Reduction-furnace.							
Furnace-door opener	F. J. Bell	866,611	Sept. 17	2842	802	130	920
Furnace twyer. Blast-	H. Seidler	866,312	Sept. 17	2415	674	130	817
Fuse-box	L. E. Troutman	866,090	Sept. 17	2097	583	130	716
Galvanometer	J. Richard	866,357	Sept. 17	2529	704–5	130	853
Game apparatus	C. A. Deal	866,004	Sept. 17	1957	546	130	672
Game apparatus. Base-ball-	W. R. Ripley	866,222	Sept. 17	2277	636	130	773
Game-board	C. C. Patch	866,057	Sept. 17	2046	571	138	699
Garment-support	O. Falkenberg	866,447	Sept. 17	2698	728	130	880
Gas burner. Acetylene-	A. H. Hawk	866,464	Sept. 17	2634	736	130	887
Gas-burner. Inverted	H. E. Shaffer	866,163	Sept. 17	2199	612	130	749
Gas-burner. Safety	J. Doorenbos	866,267	Sept. 17	2349	653	130	796
Gas-cooler	F. E. Behm and R. J. Wiley	866,563	Sept. 17	2764	773	130	926
Gas. Device to shut off flow of	J. Vollmer	866,169	Sept. 17	2209	615	130	752
Gas generator. Acetylene-	H. C. Babcock	866,609	Sept. 17	2830	801	130	900
Gas generator. Acetylene-	J. McRae and H. Ingram	866,040	Sept. 17	2028	566	130	694
Gas-machine	J. M. Kinard	866,453	Sept. 17	2656	743	130	888
Gas-motor. Rotary	P. B. Johnson	866,567	Sept. 17	2805	785–6	130	930
Gas-producer	J. F. Higbee	866,466	Sept. 17	2635	736–7	130	888
Gas-producer	W. B. Hughes	866,082	Sept. 17	2005	558	130	686
Gas-purifier. Centrifugal	G. C. Heilman	866,131	Sept. 17	2182	606	130	733
Gas-retorts, coke-ovens, and the like. Charging	F. V. Matton	866,375	Sept. 17	2517	701–2	130	849
Gate: *See* Farm-gate. Swinging gate.	J. G. W. Aldridge and R. E. Gibson.	866,177	Sept. 17	2219	619–20	130	754
Gate	W. H. Jordan	866,139	Sept. 17	2161	602	130	735
Gearing. Transmission-	G. J. Sogge	866,164	Sept. 17	2201	612	130	749
Gearing. Transmission-	E. M. Hostetter	866,202	Sept. 17	2249	627	130	763
Gearing. Variable-speed	J. G. Lambert and B. E. Waddams.	866,498	Sept. 17	2663	744–5	130	896
Generator: *See* Electric generator. Steam-generator. Gas-generator.							
Generators. Control of separately-excited	G. Stern	866,051	Sept. 17	2033	580	130	710
Girder. Trussed	J. Kahn	866,140	Sept. 17	2163	602	130	736
Glass-tube-flanging machine	J. T. Fagan	866,347	Sept. 17	2476	691–2	130	836
Glazed structure	E. Van Noorden	866,239	Sept. 17	2301	643	130	780
Grain and seed huller	J. B. Watkins	866,100	Sept. 17	2115	588	130	722
Grape-cutter	I. L. Sanders	866,208	Sept. 17	2411	672	130	816
Grate	W. Johnson	866,568	Sept. 17	2806	786	130	930
Grate-bar-locking device	E. Wilton	866,173	Sept. 17	2214	616–17	130	754
Guitar attachment	L. E. Hull	866,137	Sept. 17	2157	600–1	130	735
Gun-pointing apparatus	W. H. Driggs	866,441	Sept. 17	2697	725–6	130	875
Hammer. Pneumatic	J. Boyer	866,573	Sept. 17	2780	778	130	931
Hammock	G. W. Barratt	866,322	Sept. 17	2433	679	130	822
Hanger: *See* Car-door hanger. Picture-hanger.							
Harvester grain-shocker	H. H. Watt	866,101	Sept. 17	2116	589	130	722
Hat-pin	E. M. Bloch	866,425	Sept. 17	2678	720	130	869
Hay-press. Self-feeding	G. Schubert	866,228	Sept. 17	2283	638	130	775
Hay-press. Self-feeding and power pull-back	G. Schubert	866,229	Sept. 17	2286	639	130	776
Hay-rack	W. T. Elliff	866,445	Sept. 17	2696	727–8	130	880
Headlight. Dirigible	O. E. Mitchell	866,502	Sept. 17	2678	749	130	901
Heater: *See* Alcohol-heater. Water-heater.							
Hook: *See* Fish trap-hook. Watering-hook.							
Hook	J. F. Hershey	866,030	Sept. 17	2001	558	130	685
Horns. Stand for sound-amplifying	J. H. B. Conger	866,283	Sept. 17	2340	652	130	792
Horseshoe	W. F. Downey	866,006	Sept. 17	1964	548	130	674
Horseshoe	D. Barker	866,558	Sept. 17	2786	772	130	928
Horseshoe. Adjustable-calk	R. McClaskey	866,381	Sept. 17	2823	708	130	851
Horseshoe-pad	M. D. Glassbrooke	866,127	Sept. 17	2148	597	130	731
Horseshoeing-stand	C. M. Davis	866,008	Sept. 17	1966	546	130	672
Huller: *See* Grain and seed huller.							
Humidifier	C. Subert	866,534	Sept. 17	2727	762	130	914

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Ice-cream dipper	T. S. Smith	866,079	Sept. 17	2081	580	130	710
Ice-creeper	J. I. Holderbaum	866,467	Sept. 17	2637	737	130	888
Ice-saw	J. Bayless	865,989	Sept. 17	1937	541	130	666
Ink-well	B. Kovacic	866,496	Sept. 17	2661	744	130	895
Inseam-trimmer	H. Lyon	866,150	Sept. 17	2179	607	130	742
Insulator	W. A. Morton	866,506	Sept. 17	2822	791	130	944
Internal-combustion engine	C. R. Daellenbach	866,002	Sept. 17	1954	545	130	671
Internal-combustion engine	A. Rollason	866,069	Sept. 17	2066	576	130	706
Internal-combustion engine	P. F. Thomas	866,538	Sept. 17	2733	764–5	130	916
Internal-combustion engine of the turbine type	H. F. Fullagar and J. F. Bottomley.	866,352	Sept. 17	2486	694	130	840
Iron: *See* Cooking-iron.							
Ironing-board	O. Moore	866,210	Sept. 17	2261	631	130	767
Ironing-board and step-ladder. Combined	O. H. Jacobson	866,366	Sept. 17	2505	698–9	130	846
Ironing-board, chest, and table. Combined	L. W. Miller	866,153	Sept. 17	2183	608–9	130	743
Ironing-stand	H. E. Cole	866,259	Sept. 17	2332	650	130	790
Ironing-table	H. N. Holcomb	866,135	Sept. 17	2156	599–600	130	734
Jack: *See* Lifting-jack.							
Jardinière	B. C. Feist	866,449	Sept. 17	2614	729	130	882
Joint: *See* Rail-joint.							
Journal-bearing	S. H. Jones	866,035	Sept. 17	2008	560	130	687
Journal-bearing for car and other axles	J. E. Muhlfeld	866,154	Sept. 17	2185	609	130	743
Kettle-cover	J. H. Wilson	866,318	Sept. 17	2427	677–8	130	820
Keyless lock	O. J. Blakesley	866,567	Sept. 17	2770	775	130	928
Keys. Machine for duplicating	A. F. Bardwell	866,418	Sept. 17	2569	717–18	130	866
Knife: *See* Pocket-knife.							
Labels against the ends of cans. Machine for folding the ends of wrapper-	J. Ritty	866,223	Sept. 17	2278	636–7	130	773
Labels and the like to bottles and other articles. Machine for applying	B. W. Tucker	866,091	Sept. 17	2098	583–5	130	716
Laces with metal tips. Machine for providing	J. P. Swift	866,314	Sept. 17	2417	674–6	130	817
Lamp. Arc-	R. Fleming and C. A. B. Halvorson, Jr.	866,012	Sept. 17	1969	549	130	676
Lamp bracket. Electric-	D. C. Keefe and T. M. Smith	866,473	Sept. 17	2646	739	130	891
Lamp-socket and shade-holder. Combined	J. C. Tournier	866,089	Sept. 17	2096	583	130	716
Lantern	W. S. Hamm	866,018	Sept. 17	1980	551–2	130	679
Lantern	F. W. Vinton	866,242	Sept. 17	2306	644	130	782
Last	H. W. Marden	866,373	Sept. 17	2515	701	130	848
Latch. Door or gate	T. P. Walsh	866,543	Sept. 17	2741	767	130	918
Leaf-turner	J. H. Albrecht and B. E. Erickson.	866,554	Sept. 17	2752	770–1	130	922
Leg and foot rest	H. B. Watson	866,316	Sept. 17	2424	677	130	819
Level	W. G. Wagner	866,541	Sept. 17	2739	766	130	918
Leveling device	H. C. Bunting	866,429	Sept. 17	2583	721	130	872
Lifting-jack	J. C. Rigg	866,221	Sept. 17	2276	635	130	773
Lightning-arrester	A. Ames, Jr.	866,556	Sept. 17	2755	771	130	922
Lime product	E. F. Price	866,509	Sept. 17	2825	.....	130	944
Line-fastener	F. Ohliger, J. Skramovsky, and H. F. Wilke.	866,053	Sept. 17	2042	569	130	697
Link	A. H. MacRonald	866,151	Sept. 17	2181	608	130	743
Liquid-agitator	F. Reed	866,067	Sept. 17	2064	575	130	705
Liquids. Apparatus for controlling the flow of	A. Priestman	866,065	Sept. 17	2060	574	130	704
Loading and unloading apparatus	G. W. Theiss, R. J. W. Whann, and W. J. Englisbee.	866,166	Sept. 17	2204	613–14	130	751
Loading device	R. Shaw	866,393	Sept. 17	2537	707	130	865
Lock: *See* Keyless lock. Padlock. Mail-bag lock. Sash-lock. Nut-lock.							
Lock	P. H. Serio	866,392	Sept. 17	2535	707	130	864
Locomotive. Electric	A. F. Batchelder	865,988	Sept. 17	1936	541	130	666
Loom	W. W. Linder	866,491	Sept. 17	2668	746	130	897
Looms. Thread clearing and parting mechanism for weft-replenishing	J. Northrop	866,061	Sept. 17	2031	567–8	130	695
Looms. Thread-parting mechanism for	J. Northrop	866,062	Sept. 17	2036	568–9	130	696
Mail-bag catcher and deliverer	A. D. Walton and C. H. Anthony	866,411	Sept. 17	2561	714–15	130	864
Mail-bag delivery	J. W. Harbay	866,274	Sept. 17	2360	656	130	800
Mail-bag lock	H. Watt	866,317	Sept. 17	2425	677	130	819
Mail-desk	O. T. Priser	866,218	Sept. 17	2271	634	130	771
Manganese silicid. Producing	E. F. Price	866,597	Sept. 17	2823	791	130	944
Manure-loader	B. P. Hanson	866,582	Sept 17	2791	781	130	938
Mask	R. K. Catt	865,996	Sept. 17	1944	543	130	668
Massage-vibrator	W. J. Bell	866,610	Sept. 17	2840	801–2	130	900
Mat	W. W. Mitchell	866,378	Sept. 17	2520	702	130	850
Match-box	W. E. Edwards	866,268	Sept. 17	2350	653	130	796
Mathematical instrument	L. A. Clapp	866,432	Sept. 17	2686	722	130	872
Measure. Computing yard-	R. E. Gaines	866,125	Sept. 17	2144	596	130	731
Meat-tenderer	W. H. Baker	866,106	Sept. 17	2122	591	130	724
Melting through masses of material	A. E. Menne and W. Zollenkopf	866,498	Sept. 17	2675	.....	130	900
Mercury-interrupter	A. R. Luschka	866,289	Sept. 17	2364	663–4	130	808
Metal-bending machine	R. Naysmith	866,506	Sept. 17	2683	760	130	902
Metal interior construction	W. F. Kiesel, Jr.	866,481	Sept. 17	2654	742	130	893
Metallic coupling. Flexible	W. W. Kilpatrick	866,482	Sept. 17	2655	742–3	130	893
Milk-vat	G. H. Simon	866,394	Sept. 17	2538	707	130	865
Milking-machine	L. Burrell	866,579	Sept. 17	2786	780	130	934
Mill: *See* Stamp and grinding mill.							
Mixer: *See* Concrete-mixer.							
Mold: *See* Sectional mold.							
Molding	W. F. Kiesel, Jr.	866,479	Sept. 17	2652	741	130	892
Molding	W. F. Kiesel, Jr.	866,480	Sept. 17	2653	742	130	893
Molding-cutters. Device for laying out and setting up	C. Lee	866,205	Sept. 17	2253	626–9	130	793
Mop-wringer	E. Olsen	866,055	Sept. 17	2044	570	130	696

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Motor:							
See Fluid-motor. Gas-motor.							
Motor	A. E. Calkins	866,330	Sept. 17	2445	662	130	825
Mowing-machine guard. Self-locking	J. A. Cumming	866,000	Sept. 17	1952	545	130	671
Music-sheet	W. H. Rees. (Reissue)	12,695	Sept. 17	2344	902	130	951
Nippers and similar tool	W. A. Bernard	866,253	Sept. 17	2320	647–8	130	786
Numbering apparatus	O. G. Bartusch	866,419	Sept. 17	2571	718	130	867
Nut-lock	W. H. Burnett	866,255	Sept. 17	2322	648	130	787
Nut-lock	W. W. Jenkins	866,279	Sept. 17	2367	659	130	802
Nut-lock	W. L. Foraker and H. Walker	866,451	Sept. 17	2615	720	130	892
Oil and water separator and filter	C. Freiermuth and F. H. Blattner	866,454	Sept. 17	2618	731–2	130	893
Oil-can	T. B. Wilkinson	866,546	Sept. 17	2743	768	130	919
Ore-classifier. Hydraulic	S. R. Swain	866,402	Sept. 17	2549	711	130	859
Ore-classifier. Hydraulic	S. R. Swain	866,536	Sept. 17	2728	763	130	914
Ore-reducing furnace	J. T. Jones	866,280	Sept. 17	2368	659	130	803
Ore-roasting apparatus. Fusible	A. G. Davis	866,551	Sept. 17	2780	780	130	935
Ore-treating apparatus	J. W. Bolleau	866,570	Sept. 17	2774	776	130	929
Ores. Roasting fusible	A. G. Davis	866,550	Sept. 17	2787	780	130	934
Organs, pianos, &c. Balanced key for	R. Rankin	866,006	Sept. 17	2063	575	130	705
Oven. Continuous-baking	C. Loesch and E. C. McCall	866,494	Sept. 17	2670	747–8	130	906
Overshoe. Rubber	J. D. Price	866,598	Sept. 17	2824	792	130	944
Packing. Metallic	E. M. Cook	866,098	Sept. 17	1949	544	130	670
Pad:							
See Horseshoe-pad.							
Padlock	J. A. Glesg	866,012	Sept. 17	1971	550	130	676
Paper bag	H. E. J. Hartmann	866,275	Sept. 17	2361	656	130	800
Paper for curve-drawing instruments. Machine for preparing	W. J. Lloyd and J. R. Anderson	866,593	Sept. 17	2818	789–90	130	942
Paper-making machine	R. J. Martin	866,045	Sept. 17	2022	564	130	692
Paper-making-machine regulator	W. F. Pickles	866,513	Sept. 17	2691	752	130	905
Paper. Producing waterproof characters upon	O. Meyer	866,202	Sept. 17	2289	.....	130	810
Paste-receptacle	W. S. Whitcomb	866,248	Sept. 17	2314	646	130	784
Pen or pencil point protector	A. Levingston	866,148	Sept. 17	2177	607	130	742
Pencil	W. C. Fowler	866,350	Sept. 17	2484	693	130	839
Pencil-retainer	A. Mikulich	866,590	Sept. 17	2676	748	130	900
Phonograph-record-making machine	C. A. Reiners	866,219	Sept. 17	2273	634–5	130	771
Phonograph-repeater	S. B. Yerion	866,552	Sept. 17	2749	769–70	130	921
Photographic developing apparatus	F. W. Barnes	866,321	Sept. 17	2431	679	130	821
Piano modulating connection	T. P. Brown	866,994	Sept. 17	1941	543	130	668
Piano-player. Pneumatic	J. Courville	866,336	Sept. 17	2454	684	130	828
Picture-hanger	E. Fleming	866,270	Sept. 17	2355	654	130	798
Piling, &c. Construction of sheet-	F. W. Skinner	866,232	Sept. 17	2291	640–1	130	777
Piling. Sheet-metal	R. H. Stevens	866,082	Sept. 17	2084	580–1	130	711
Pin:							
See Clothes-pin. Hat-pin.							
Pipe:							
See Tobacco-smoking pipe.							
Pipe-clamp	M. B. Skinner and J. McCrea	866,395	Sept. 17	2539	708	130	855
Pipe-cutter	F. G. Haas	866,356	Sept. 17	2493	686	130	842
Pipe or hose coupling	J. H. Phillips, Jr	866,061	Sept. 17	2054	573	130	702
Piston	D. H. Dyer	866,443	Sept. 17	2604	727	130	879
Pitman for pumping-jacks	W. S. Beers	866,182	Sept. 17	2226	621	130	756
Placket-closure	A. Kasse	866,263	Sept. 17	2375	661	130	804
Planer-head	J. W. Winningham	866,549	Sept. 17	2746	768	130	920
Plant-cutter	J. S. Russell	866,226	Sept. 17	2282	636	130	776
Planter and fertilizer-distributer. Combined	J. R. Davidson	866,340	Sept. 17	2462	687	130	830
Planter. Check-row	A. M. Crisman	866,339	Sept. 17	2460	686–7	130	830
Plows. Subsoiler attachment for lister	G. W. Ferguson	866,450	Sept. 17	2614	730	130	892
Pneumatic separator	A. M. Anderson and C. Quesnell	866,415	Sept. 17	2566	716–17	130	865
Pneumatic-spoke wheel	A. H. Thibault	866,537	Sept. 17	2730	763–4	130	915
Pocket-knife	J. D. Case	866,431	Sept. 17	2585	722	130	872
Pole tip. Vehicle	H. A. Nord	866,282	Sept. 17	2524	703	130	851
Portable elevator and wagon-dump	F. J. Smith	866,528	Sept. 17	2719	760	130	912
Post:							
See Fence-post. Stock-rubbing post.							
Post-brace	J. A. Reynolds	866,303	Sept. 17	2404	671	130	813
Post-card protector. Souvenir	J. C. Westphall	866,172	Sept. 17	2213	616	130	753
Pot:							
See Coffee-pot.							
Power-transmission coupling device	A. M. Van-Halen	866,238	Sept. 17	2299	643	130	779
Press:							
See Hay-press. Printing-press.							
Printer's quoin	H. A. Hempel	866,358	Sept. 17	2495	686	130	843
Printing-press and inking mechanism therefor. Bed-and-platen	F. Meisel	866,290	Sept. 17	2385	664	130	808
Printing-press paste-fountain	H. M. Barber	866,181	Sept. 17	2223	620	130	756
Propagator and plant-stand	R. L. Templin	866,088	Sept. 17	2094	582–3	130	715
Propeller	G. W. Jackson	866,305	Sept. 17	2404	668	130	845
Propeller	A. W. Learnard	866,309	Sept. 17	2510	700	130	847
Propeller and steering device	W. J. Hearn	866,465	Sept. 17	2635	736	130	887
Propeller. Screw	W. M. Walters	866,544	Sept. 17	2741	767	130	919
Pulley-fastening device	C. P. Brison	866,184	Sept. 17	2228	621	130	757
Pump. Condensing	C. E. Leggett	866,288	Sept. 17	2380	663	130	806
Pump-handle connector	G. E. Walling	866,099	Sept. 17	2114	587	130	721
Pump-sucker-rod guide	J. H. Dennis	866,005	Sept. 17	1998	548	130	673
Pumps. Pressure-governing device for	C. C. Farmer and W. V. Turner	866,448	Sept. 17	2609	730	130	881
Push-button	G. H. Mebold	866,377	Sept. 17	2519	702	130	850
Quadrant mechanism for mules	W. D. Rundlett	866,307	Sept. 17	2409	672	130	835
Rack:							
See Clothes-rack. Hay-rack. Display-rack.							
Radiators. Venting-valve for	L. W. Eggleston	866,345	Sept. 17	2475	690	130	835
Rail-joint	W. Beckel and J. J. Abel	865,990	Sept. 17	1937	542	130	666
Rail-joint	C. T. Buck	865,995	Sept. 17	1942	543	130	668
Rail-joint	H. J. Rickard	866,220	Sept. 17	2275	635	130	777
Rail-joint	J. E. York	866,250	Sept. 17	2316	647	130	785
Railway-brake attachment	H. L. Botkin	866,572	Sept. 17	2779	777	130	931
Railway-rail-sanding device	G. C. Wyland	866,561	Sept. 17	2748	769	130	920
Railway safety apparatus. 2 Automatic	I. A. McCormack	866,504	Sept. 17	2680	749	130	901
	G. E. Ryan	866,521	Sept. 17	2707	756–7	130	909

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Drs.	Official Gazette. Vol.	Page.
Railway-signal	B. E. Ahlders	865,983	Sept. 17	1928	540	130	663
Railway-signal	W. H. Jordan and G. T. Hanchett	866,261	Sept. 17	2370	660–00	130	802
Railway-signal	F. B. Camors and C. Palletier	866,331	Sept. 17	2446	682–3	130	826
Railway-track construction	W. E. Hughes	866,470	Sept. 17	2641	736	130	889
Railway traffic-controlling system	C. W. Coleman	866,261	Sept. 17	2334	650–1	130	791
Railways. Catcher and delivery system for	M. C. Keefe	866,284	Sept. 17	2376	661	130	804
Rake or collector for hay or other crops	E. C. Blackstone and R. E. Watts	866,326	Sept. 17	2438	681	130	824
Range. Gas	J. H. Walker	866,098	Sept. 17	2113	587	130	721
Razor-strop	J. D. Case	866,332	Sept. 17	2450	683	130	826
Receptacle-holder	M. H. Hart	866,463	Sept. 17	2632	735	130	887
Reduction-furnace	R. L. Baumline	866,323	Sept. 17	2434	680	130	822
Reel:							
See Fishing-reel.							
Regulator:							
See Fluid-pressure regulator. Stove-door draft-regulator.							
Retaining-stakes. Means for supporting and releasing	E. I. Dyer	866,344	Sept. 17	2470	689–90	130	834
Ribbon-reversing mechanism	R. A. Pollock	866,064	Sept. 17	2059	574	130	704
Rifle. Magazine	A. Hanson	866,027	Sept. 17	1996	556–7	130	684
Ring:							
See Terret-ring.							
Rivet	W. P. Bartel	866,107	Sept. 17	2123	591	130	724
Roller:							
See Shade-roller. Spinning-roller.							
Roof. Slate or tile	A. E. Rudy	866,225	Sept. 17	2282	637	130	774
Rope-clamp	F. P. Kobert	866,144	Sept. 17	2167	604	130	737
Rotary cutter	G. B. Malthy	866,372	Sept. 17	2514	701	130	848
Rotary engine	W. H. Hooker	866,031	Sept. 17	2002	558	130	685
Rotary engine	J. C. Walker	866,246	Sept. 17	2312	645	130	783
Rotary engine	C. H. Zorger and H. O. Jensen	866,319	Sept. 17	2429	678	130	820
Rotary engine	J. H. Colldewelh	866,434	Sept. 17	2589	723	130	873
Rotary engine	H. J. Duncan	866,442	Sept. 17	2602	726–7	130	879
Sash-fastening device. Automatic window	C. H. Bellamy	866,565	Sept. 17	2766	773	130	926
Sash-lock	D. G. Saunders, Jr	866,073	Sept. 17	2072	578	130	708
Saw guard. Circular	M. P. O'Regan	866,508	Sept. 17	2685	751	130	903
Scaffold	W. Sims	866,078	Sept. 17	2079	579	130	710
Scale. Vehicle	Z. T. Gragg	866,017	Sept. 17	1976	551	130	678
Screen:							
See Fire-screen.							
Screw-driver	J. Lunce	866,594	Sept. 17	2820	790	130	943
Screw-threading plate	J. B. Platt	866,300	Sept. 17	2400	669–70	130	813
Seal	T. J. O'Brien	866,507	Sept. 17	2684	750	130	902
Seaming machine. Double	G. W. Weber	866,102	Sept. 17	2118	589	130	722
Sectional mold	W. M. Dean	866,114	Sept. 17	2132	593	130	727
Selenium cell	W. J. Hammer	866,462	Sept. 17	2629	735	130	886
Separator:							
See Corn-sheller separator. Pneumatic separator. Cream-separator. Oil and water separator.							
Sewing-machine feed mechanism	C. Winkel	866,249	Sept. 17	2315	646	130	785
Shade-bracket and curtain-pole support. Combined	F. Verdin	866,093	Sept. 17	2108	586	130	719
Shade-roller	C. N. Hiner	866,200	Sept. 17	2246	626	130	763
Shaft controller. Rotating	M. D. Hemenway	866,278	Sept. 17	2366	658	130	802
Sharpening device. Rock-drill	E. Lewis	866,041	Sept. 17	2017	562–3	130	690
Shave-registering device	H. C. Kelley	866,142	Sept. 17	2165	603	130	736
Shears:							
See Fence-shears.							
Shirt	L. Bernstein	866,183	Sept. 17	2226	621	130	756
Shoe-holder	H. V. D. Waldron	866,542	Sept. 17	2740	766	130	918
Shoe making and repairing device	L. Hackett	866,129	Sept. 17	2140	596	130	732
Show-case. Glass	A. Olberg	866,054	Sept. 17	2042	569–70	130	698
Shutter-fastener	L. R. Eddy	866,116	Sept. 17	2135	594	130	728
Sighting device	J. F. Meigs, H. G. Jakobsson, and S. Brand.	866,208	Sept. 17	2256	629–30	130	765
Signal:							
See Railway-signal.							
Signals at danger. Lock for holding	C. W. Coleman	866,260	Sept. 17	2332	650	130	790
Silage. Cactus	S. S. Matthews	866,496	Sept. 17	2673	.....	130	899
Singeing-machine	F. C. and A. Scholler and J. C. Dempsey.	866,310	Sept. 17	2413	673	130	816
Skinning machine. Fat-back	A. M. Gill	866,354	Sept. 17	2490	695	130	841
Skins. Treating	A. Granville	866,458	Sept. 17	2624	.....	130	884
Skylight-fastening	C. Rosenheim	866,070	Sept. 17	2068	577	130	707
Slab and coin holder	W. J. Evans	866,446	Sept. 17	2607	728	130	880
Smoke-preventer	E. B. Parkhurst	866,510	Sept. 17	2687	751	130	904
Soap-dispenser	W. T. Carter and E. M. Davis	866,191	Sept. 17	2237	624	130	760
Soap holding and dispensing receptacle. Liquid	W. B. Garnett	866,126	Sept. 17	2145	596	130	731
Sound through water. Device for transmitting	E. Gray	866,128	Sept. 17	2147	597–8	130	731
Speed and distance indicating and recording device	R. H. Smith	866,397	Sept. 17	2542	709	130	866
Speed mechanism. Electromagnetic variable	A. Churchward	865,997	Sept. 17	1945	543–4	130	669
Spike	A. B. Lipscomb	866,492	Sept. 17	2668	746	130	898
Spindle. Disappearing tent	H. J. Cook	866,335	Sept. 17	2453	684	130	827
Spinning-roller	F. Hutchins	866,364	Sept. 17	2503	698	130	845
Spool or reel	F. B. La May	866,039	Sept. 17	2013	562	130	689
Sprayer	H. E. Holley	866,201	Sept. 17	2247	626–7	130	763
Spring-wheel	L. J. Castiau	866,192	Sept. 17	2238	624	130	760
Spur	J. W. Fields	866,119	Sept. 17	2138	595	130	729
Square	A. E. Sollers	866,531	Sept. 17	2724	761	130	918
Stackers. Adjustable casing for pneumatic	C. E. Van Osdol	866,240	Sept. 17	2303	643–4	130	781
Stair-templet	C. E. Cory	866,111	Sept. 17	2127	592	130	726
Stamp and grinding mill. Combined	G. C. Richards	866,600	Sept. 17	2825	792	130	945
Stanchion	C. D. W. Thrasher	866,315	Sept. 17	2423	676–7	130	819
Stand:							
See Horseshoeing-stand. Ironing-stand.							
Stay-strips. Feed mechanism for machines for applying	W. L. Peterson	866,059	Sept. 17	2051	572	130	701
Steam-boiler	K. H. Merk	866,291	Sept. 17	2387	665	130	809
Steam-generator	T. R. Butman	866,186	Sept. 17	2232	623	130	788
Stenciling-machine	B. C. Stickney	866,083	Sept. 17	2085	581	130	711
Still and heater. Combined water	F. E. Maxson	866,207	Sept. 17	2255	629	130	765

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drgs.	Official Gazette. Vol.	Official Gazette. Page.
Stock rubbing-post. Live-	R. Schneider	866,523	Sept. 17	2710	758	130	909
Stool. Sanitary	W. K. Alohikea	866,251	Sept. 17	2317	647	130	785
Stopper: *See* Flue-stopper.							
Stove attachment	J. Eisenberg	866,010	Sept. 17	1967	549	130	675
Stove burner. Denatured-alcohol cook-	G. G. Schroeder	866,605	Sept. 17	2833	795–6	130	947
Stove-door draft-regulator	C. M. Genthner	866,197	Sept. 17	2243	625	130	762
Stove. Gas heating-	C. H. Topp	866,237	Sept. 17	2296	642	130	779
Stove-ovens. Gas-burning appliance for	W. H. Kirk	866,143	Sept. 17	2166	603–4	130	736
Stove top oven-plate. Cooking-	J. S. Van Buren	866,168	Sept. 17	2208	614	130	752
Stoves. Combustion-chamber for gas or oil	W. N. Best	865,992	Sept. 17	1939	542	130	667
Stovepipe-holder	O. Stewart	866,165	Sept. 17	2203	613	130	750
Street-sweeper	A. O. Ford	866,452	Sept. 17	2616	730–1	130	882
Striking-comb for slashers	H. B. Beckman	866,422	Sept. 17	2575	719	130	869
Stuffing-box	H. E. Pierce	866,062	Sept. 17	2056	573	130	703
Suit case. Dress-	A. Gray	866,459	Sept. 17	2625	733	130	884
Surgeon's operating-table	S. G. Scanlan	866,300	Sept. 17	2411	672–3	130	816
Swinging gate	C. A. Rockwell	866,520	Sept. 17	2706	756	130	909
Switch: *See* Electrical switch.							
Switch	E. R. Robinson	866,306	Sept. 17	2408	671	130	815
Switch-operating mechanism	G. F. Mooney	866,380	Sept. 17	2521	703	130	850
Table: *See* Ironing-table. Surgeon's operating-table.							
Tantalum. Producing technically-pure ductile	M. von Pirani	866,385	Sept. 17	2527	.....	130	852
Telephone-mouthpiece	R. Knoll	866,036	Sept. 17	2009	560	130	688
Telephone-receiver holder	A. D. Brittain	866,577	Sept. 17	2784	779	130	933
Telephone system	H. F. Joeckel	866,138	Sept. 17	2160	601	130	735
Telephone system	W. W. Dean	866,266	Sept. 17	2346	653	130	795
Templet for drawing transition spirals	J. A. Merritt	866,152	Sept. 17	2182	608	130	743
Terret-ring	B. J. Cloes	866,333	Sept. 17	2461	688	130	827
Thimble. Sewing-	B. A. Stair	866,532	Sept. 17	2725	762	130	914
Tire	W. I. Dreisbach	866,009	Sept. 17	1965	548–9	130	675
Tire. Pneumatic	G. Noyes	866,297	Sept. 17	2395	667	130	811
Tire-protector	W. H. Hoffmann	866,134	Sept. 17	2155	599	130	734
Tire-repair device. Pneumatic-	P. C. Traver	866,539	Sept. 17	2735	765	130	916
Tire-setting implement	J. R. Allison	866,320	Sept. 17	2430	678	130	821
Tires. Heating wagon-	G. A. Aicher and F. J. Demartini	866,553	Sept. 17	2751	770	130	921
Tobacco-smoking pipe	J. M. Bakos	866,417	Sept. 17	2568	717	130	866
Tongue. Vehicle-	B. P. Hanson	866,130	Sept. 17	2150	598	130	732
Tool. Combination-	T. B. Wilkinson	866,547	Sept. 17	2744	768	130	919
Tool. Holding-	C. Stoller	866,313	Sept. 17	2417	674	130	817
Tool. Pneumatic	H. Leineweber	866,370	Sept. 17	2511	700	130	848
Track-cleaner	W. Fraser	866,453	Sept. 17	2617	731	130	883
Track-laying machine	W. M. Saxton, P. J. Henselwood, and A. A. Johnson.	866,390	Sept. 17	2533	706	130	854
Traction-engine	G. D. Loomis	866,042	Sept. 17	2019	563	130	691
Traction-wheel	A. M. Anderson and C. Quesnell	866,414	Sept. 17	2564	716	130	865
Train-order device	J. C. Neel, Jr	866,213	Sept. 17	2265	632	130	769
Trains. Device for transferring passengers to and from moving	F. S. See	866,524	Sept. 17	2711	758	130	910
Transformer. Variable-voltage	T. M. Balps, Jr	865,985	Sept. 17	1932	540	130	665
Trap: *See* Fish-trap. Fly-trap.							
Tread. Safety-	L. L. Bellatty	866,423	Sept. 17	2676	719	130	869
Trimmer: *See* Inseam-trimmer.							
Trolley-guide	F. G. Clark	866,193	Sept. 17	2239	624	130	761
Trolley-pole	A. Ross	866,224	Sept. 17	2280	637	130	774
Trolley-pole support	H. W. Fellows and I. A. Cammett	866,349	Sept. 17	2482	693	130	839
Trolley-wheel	H. L. Humphrey	866,363	Sept. 17	2502	698	130	845
Trousers-guard	C. C. Haskell	866,276	Sept. 17	2362	657	130	801
Truck. Car-	H. S. Hart	866,028	Sept. 17	1999	557	130	685
Truck. Railway-	J. W. Jenkins	866,033	Sept. 17	2005	559	130	687
Truck. Stove-	A. S. Barlow	865,967	Sept. 17	1935	541	130	665
Tube-bending machine	R. Naysmith	866,505	Sept. 17	2681	750	130	902
Tube-winding machine. Spiral-	G. H. Bartlett	866,108	Sept. 17	2124	591	130	724
Tubular or hollow bodies from plastic materials. Manufacture of	L. H. Rentzsch	866,517	Sept. 17	2702	.....	130	908
Tug for harness. Spring-	J. Mitchell	866,501	Sept. 17	2677	749	130	901
Tumbler-closure	J. T. Cox	866,436	Sept. 17	2592	724	130	874
Turbine. Elastic-fluid	G. Westinghouse	866,171	Sept. 17	2212	616	130	753
Turbine. Elastic-fluid	L. M. Kellogg	866,476	Sept. 17	2640	740	130	892
Turbine nozzle and diaphragm	R. H. Rice	866,068	Sept. 17	2065	576	130	706
Turbine. Reversible steam-	N. R. Smith	866,530	Sept. 17	2722	760–1	130	913
Turfing-machine	J. J. Baird	866,557	Sept. 17	2756	772	130	923
Twine holder and lift	J. N. Taylor and J. B. Tull	866,086	Sept. 17	2092	582	130	714
Type-setting machines. Mechanism for perforating the operating-bands of automatic	H. Drewell	866,343	Sept. 17	2466	688–9	130	832
Type-writer	J. T. Porter	866,514	Sept. 17	2693	753–4	130	906
Type-writers. Type-cleaning device for	D. Briggs	866,427	Sept. 17	2579	721	130	870
Type-writing machine	H. L. Wagner	866,097	Sept. 17	2112	587	130	720
Type-writing machine	C. Gabrielson	866,196	Sept. 17	2241	625	130	761
Type-writing machine	G. H. Smith	866,606	Sept. 17	2834	796	130	948
Umbrella. Folding	E. E. Goodrich	866,015	Sept. 17	1973	550	130	677
Valve	W. Klie	866,285	Sept. 17	2377	662	130	805
Valve. Automatic gas-	A. D. Stevens	866,309	Sept. 17	2545	710	130	857
Valve. Automatic self-balancing	M. Whaat	866,550	Sept. 17	2747	769	130	920
Valve. Cut-off	T. M. Henderson	866,132	Sept. 17	2153	599	130	733
Vaporizer	E. G. Vincent	866,095	Sept. 17	2109	586	130	720
Vat: *See* Milk-vat.	H. Dock	866,115	Sept. 17	2134	593	130	728
Vault. Metallic burial-	A. J. Perks	866,214	Sept. 17	2267	632–3	130	769
Vehicle-hood frame. Road-	J. Hopper	866,468	Sept. 17	2638	737	130	888
Vehicle. Motor-	W. J. Miller	866,294	Sept. 17	2390	665–6	130	810
Vehicle steering-gear	J. A. Herzog	866,133	Sept. 17	2154	599	130	734
Vehicle-top bow-holder	C. L. Bair	866,416	Sept. 17	2567	717	130	865
Vehicle-wheel	C. von Kusserow	866,367	Sept. 17	2606	660	130	846

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drgs.	Official Gazette. Vol.	Official Gazette. Page.
Vehicle-wheel	H. Villiers-Stuart	866,540	Sept. 17	2736	765–6	130	917
Vessels. Apparatus for loading coal into	J. A. Johnson	866,203	Sept. 17	2251	628	130	764
Vessels. Means for raising sunken	G. and C. S. Fearon	866,348	Sept. 17	2480	692–3	130	838
Vise. Bench-	J. W. McIntyre	866,296	Sept. 17	2392	666	130	811
Wagon. Dumping-	S. F. Brown	866,578	Sept. 17	2785	779	130	933
Washbowl stopper device	M. Selders	866,230	Sept. 17	2289	639	130	777
Washing-machine	M. Morgan	866,047	Sept. 17	2026	565–6	130	693
Washing-machine	C. A. Shive	866,527	Sept. 17	2718	759	130	912
Washing-machine	A. Gerson	866,198	Sept. 17	2244	626	130	762
Watch	G. A. Derfler	866,194	Sept. 17	2240	624	130	761
Watchcase-pendants. Forming	E. Vial	866,094	Sept. 17	2109	586	130	719
Water clarification	J. Foster	866,122	Sept. 17	2140	595	130	729
Water-heater	F. W. McCain	866,156	Sept. 17	2189	609–10	130	745
Water-supply system	W. Sellers and B. D. Coppage	866,034	Sept. 17	2008	559–60	130	687
Water-tube boiler	G. H. Wheldon and C. W. Curle	866,103	Sept. 17	2119	590	130	723
Water-tube boiler	W. W. White	866,104	Sept. 17	2120	590	130	723
Water-wheels. Transmitting mechanism for turbine	J. F. Hershey	866,029	Sept. 17	2000	557	130	685
Watering-hook for gig-saddles	E. J. Basye	866,560	Sept. 17	2761	773	130	924
Well-strainer							
Wheel: *See* Pneumatic-spoke wheel. Trolley-wheel. Spring-wheel. Vehicle-wheel. Traction-wheel.							
Wheel	J. Lauth	866,287	Sept. 17	2379	662	130	805
Winding-core	J. H. Gately	866,353	Sept. 17	2489	695	130	841
Wire chair	J. Salomon	866,072	Sept. 17	2070	577–8	130	707
Wood or other substances. Apparatus for impregnating	B. Kuckuck	866,487	Sept. 17	2662	744	130	895
Work-holder	M. M. O. Dillman and M. L. Auger.	866,195	Sept. 17	2241	625	130	761
Wrench	F. H. Sharar	866,077	Sept. 17	2078	579	130	709
Wrench	A. S. Morgan	866,295	Sept. 17	2392	666	130	811
Wrench	C. Beauchene	866,420	Sept. 17	2573	718	130	868
Wringer: *See* Mop-wringer.							

DESIGNS.

Design.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Badge	C. J. Dieges	38,801	Sept. 17	130	952
Badge	C. J. Dieges	38,802	Sept. 17	130	952
Badge	C. J. Dieges	38,803	Sept. 17	130	952
Badge	C. J. Dieges	38,804	Sept. 17	130	952
Badge	C. J. Dieges	38,805	Sept. 17	130	952
Badge	C. J. Dieges	38,806	Sept. 17	130	952
Bag. Hand-	H. Grossman	38,814	Sept. 17	130	954
Brushes, mirrors, or similar articles. Back for	H. J. Straker	38,822	Sept. 17	130	955
Car body. Railway-	C. V. Rote	38,817	Sept. 17	130	954
Caster	A. Malchow	38,812	Sept. 17	130	953
Chafing-dish cover	G. E. Savage	38,813	Sept. 17	130	953
Chafing-dish stand	E. A. Gutermann	38,815	Sept. 17	130	954
Clock-stand	W. T. Hopson	38,809	Sept. 17	130	953
Doll	H. Grossman	38,806	Sept. 17	130	952
Fob	J. M. Seawell	38,816	Sept. 17	130	954
Lamp. Gas-	C. A. Campbell	38,807	Sept. 17	130	952
Ornament	J. W. Talbot	38,823	Sept. 17	130	956
Skirting. Woven	C. H. Landenberger	38,824	Sept. 17	130	956
Skirting. Woven	C. H. Landenberger	38,825	Sept. 17	130	956
Skirting. Woven	C. H. Landenberger	38,826	Sept. 17	130	956
Skirting. Woven	C. H. Landenberger	38,818	Sept. 17	130	955
Statue	J. Gednetz	38,810	Sept. 17	130	953
Toy safe	P. G. Wing	38,811	Sept. 17	130	953
Toy stove	P. G. Wing	38,820	Sept. 17	130	955
Type-writer-carriage frame	J. Alexander	38,819	Sept. 17	130	955
Type-writer-platen frame	J. Alexander	38,821	Sept. 17	130	955
Vehicle-seat	F. E. Eckhart				

TRADE-MARKS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Advertising calendars and blotters	Osborne Company	65,333	Sept. 17	130	973
Anesthetic and analgesic	Abbott Alkaloidal Co	65,286	Sept. 17	130	972
Anesthetics	Actien-Gesellschaft für Anilin-Fabrikation.	65,287	Sept. 17	130	972
Automobile shock-absorbers	H. C. Comstock	65,259	Sept. 17	130	971
Beverage, and syrup for same. Carbonated	R. Rose	65,306	Sept. 17	130	973
Beverage, and syrup for same. Carbonated	R. Rose	65,307	Sept. 17	130	973
Beverage, and syrup for same. Carbonated	R. Rose	65,308	Sept. 17	130	973

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Bicycles	Great Western Manufacturing Company.	65,261	Sept. 17	130	971
Bits and augers	Irwin Auger Bit Co	65,244	Sept. 17	130	971
Boots and shoes. Leather	Holland Shoe Company	65,219	Sept. 17	130	973
Boots and shoes. Leather and canvas	Isaac Prouty & Company	65,220	Sept. 17	130	973
Boots, shoes, and slippers. Leather	Powell Brothers Shoe Company	65,236	Sept. 17	130	307
Car-couplings	National Malleable Castings Co	65,262	Sept. 17	130	971
Cleaning compounds. Detergent	C. W. Nicholas	65,246	Sept. 17	130	974
Clothing. Certain	Bird, Jones & Kenyon	65,208	Sept. 17	130	972
Clothing. Certain	Briscoe Ivey Co	65,209	Sept. 17	130	972
Coats, vests, trousers, and boys' suits	J. H. Rice & Friedmann Co	65,275	Sept. 17	130	972
Coats, vests, trousers, and overcoats	Leopold, Solomon and Eisendrath.	65,277	Sept. 17	130	972
Coffee	A. L. Shinners	65,251	Sept. 17	130	971
Coffee and tea	Wood, Pollard & Co	65,254	Sept. 17	130	971
Coffee and tea	Oliver-Finnie Co	65,265	Sept. 17	130	971
Coffee substitute	Clasma Cereal Coffee Co	65,257	Sept. 17	130	971
Cordial	Chas. Jacquin et Cie	65,245	Sept. 17	130	974
Crackers, biscuits, and cakes	Shelby Biscuit Company	65,260	Sept. 17	130	971
Crackers, biscuits, and cakes	Shelby Biscuit Company	65,264	Sept. 17	130	971
Fancy goods, furnishings and notions. Certain	Henry E. Frankenberg Company	65,207	Sept. 17	130	972
Fancy goods, furnishings, and notions. Certain	Henry E. Frankenberg Company	65,208	Sept. 17	130	972
Fillers	R. F. Johnston Paint Co	65,220	Sept. 17	130	972
Flour. Wheat	Eagle Roller Mill Company	65,242	Sept. 17	130	971
Flour. Wheat	Moseley & Motley Milling Co	65,245	Sept. 17	130	971
Flour. Wheat	Thompson Milling Company	65,253	Sept. 17	130	971
Foods. Certain cereal	Carno Mills Company	65,260	Sept. 17	130	971
Foods. Certain sea	John Blanis Sons Company	65,245	Sept. 17	130	971
Furnaces, stoves, and ranges	Keystone Stove Foundry	65,343	Sept. 17	130	974
Gages and revolution and stroke counters. Pressure and vacuum	Ashton Valve Company	65,330	Sept. 17	130	973
Gas tanks. Compressed-acetylene	Prest-O-Lite Company	65,344	Sept. 17	130	974
Gaskets, oil-well packing, rubber tubing, &c	Diamond Rubber Co	65,341	Sept. 17	130	974
Glass. Window	Chambers Window Glass Co	65,239	Sept. 17	130	971
Glucose, grape-sugar, and potato-starch syrup	Norddeutsche Kartoffelmehl-Fabrik mit beschränkter Haftung.	65,263	Sept. 17	130	971
Hammers. Power	G. E. Davis	65,240	Sept. 17	130	971
Hosiery	Richmond Hosiery Mills	65,326	Sept. 17	130	973
Insulator and binder. Waterproof liquid	Flexible Compound Company	65,272	Sept. 17	130	972
Insulators. Electrical	L. von Schwarz	65,249	Sept. 17	130	971
Knit goods. Certain	P. Raguet Fils & R. Vignes	65,325	Sept. 17	130	973
Magazine. Monthly	Illinois Humane Society	65,331	Sept. 17	130	973
Magazines	Hale Publishing Company	65,318	Sept. 17	130	973
Magazines	F. H. Pearson	65,323	Sept. 17	130	973
Medical compound for the cure of epilepsy	J. H. Brownlee	65,280	Sept. 17	130	972
Medicine. Certain	J. P. Wieklinski	65,328	Sept. 17	130	973
Medicines. Certain	Chemische Fabrik auf Actien (vorm. E. Schering).	65,291	Sept. 17	130	972
Medicines. Certain	Gresham & Carl	65,205	Sept. 17	130	972
Mowers. Lawn	A. B. Case	65,256	Sept. 17	130	971
Nail-polish	Ideal Manufacturing Company	65,300	Sept. 17	130	972
Optical appliances and instruments. Certain	F. A. Hardy & Co	65,293	Sept. 17	130	972
Paint and paint compounds	Paraffine Paint Co	65,270	Sept. 17	130	972
Paints. Mineral	American Graphite Company	65,206	Sept. 17	130	972
Painting. Gold preparations, colors, &c., for vitrifiable	John W. Hasburg Company	65,276	Sept. 17	130	972
Paper. Roofing, sheathing, and building	Barrett Manufacturing Company	65,257	Sept. 17	130	971
Paper. Writing and printing	American Writing Paper Company.	65,314	Sept. 17	130	973
Paper. Writing and printing	American Writing Paper Company.	65,329	Sept. 17	130	973
Pencil-sharpeners	Eagle Pencil Company	65,342	Sept. 17	130	974
Pills	M. Leprince	65,301	Sept. 17	130	972
Plasters. Corn	L. T. Bugniazet	65,290	Sept. 17	130	972
Post and pole hole diggers	Buckeye Manufacturing Company.	65,238	Sept. 17	130	971
Powder. Toilet	Gerhard Mennen Chemical Co	65,294	Sept. 17	130	972
Remedies for diseases of the sexual organs	A. Wilfing	65,313	Sept. 17	130	973
Remedy for coughs and colds	M. L. Delavau	65,312	Sept. 17	130	973
Remedy for malaria, chills, fever, and ague	E. Boyd	65,288	Sept. 17	130	972
Remedy. Muscle and nerve	M. M. D. Livingston	65,302	Sept. 17	130	973
Rubber goods. Certain	Diamond Rubber Co	65,292	Sept. 17	130	972
Rubber. Reclaimed	Pequanoc Rubber Company	65,324	Sept. 17	130	973
Rubber. Reclaimed	Pequanoc Rubber Company	65,334	Sept. 17	130	973
Rubber. Reclaimed	Pequanoc Rubber Company	65,335	Sept. 17	130	973
Sewing-cotton	Pequanoc Rubber Company	65,336	Sept. 17	130	973
Sewing-machines and attachments	Clark & Co	65,258	Sept. 17	130	971
Sheetings and drillings	Davis Sewing Machine Co	65,241	Sept. 17	130	971
Shirts. Laundered colored	Exposition Cotton Mills	65,271	Sept. 17	130	972
Shoes. Leather and cloth	C. B. Cones & Son Manufacturing Company.	65,270	Sept. 17	130	972
Silk and silk-mixed piece goods	Monadnock Shoe Co	65,322	Sept. 17	130	973
Silk and silk-mixed piece goods	Susquehanna Silk Mills	65,261	Sept. 17	130	972
Silk and silk-mixed piece goods	Susquehanna Silk Mills	65,262	Sept. 17	130	972
Silk and silk-mixed piece goods	Susquehanna Silk Mills	65,263	Sept. 17	130	972
Silk and silk-mixed piece goods	Susquehanna Silk Mills	65,264	Sept. 17	130	972
Silk dress goods	Susquehanna Silk Mills	65,265	Sept. 17	130	972
Silk piece goods	Fried, Mendelson & Co	65,274	Sept. 17	130	972
Soap	Stirling Silk Mfg. Co	65,327	Sept. 17	130	973
Soaps	M. Werk Co	65,321	Sept. 17	130	973
Spaghetti, vermicelli, macaroni, and noodles	Mexican Medicine Co	65,332	Sept. 17	130	973
Suits for boys and children	A. Zerega's Sons	65,266	Sept. 17	130	971
	I. Frank & Co	65,273	Sept. 17	130	972

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Syrup for carbonated water	F. M. McCluney	65,304	Sept. 17	130	973
Tea	W. N. Banks	65,255	Sept. 17	130	971
Temperature reading and recording. Measuring-machines for remote	W. A. Baker	66,315	Sept. 17	130	973
Textiles. Certain	Atuyer, Bianchini, Férier & Cie	65,267	Sept. 17	130	972
Tobacco substitute	T. Hetherington	65,299	Sept. 17	130	972
Toilet preparation	H. U. Maxwell	65,303	Sept. 17	130	973
Tonic beverage and syrup therefor	R. M. Rose Co	65,305	Sept. 17	130	973
Tools. Certain hand	S. C. Morrill	65,278	Sept. 17	130	972
Trucks and wagons. Motor	R. Thayer	65,252	Sept. 17	130	971
Vellings and net place goods. Netted	Benedictus, Weill & Company	65,316	Sept. 17	130	973
Velocipedes and tricycles	A. Mecky Company	65,235	Sept. 17	130	971
Watches, watchcases, and watch-movements	Philadelphia Watch Case Co	65,337	Sept. 17	130	973
Water filtering and softening compound	Roessler & Hasslacher Chemical Co.	65,248	Sept. 17	130	971
Water. Mineral	Sheboygan Mineral Water Co	65,309	Sept. 17	130	973
Water. Mineral	Sheboygan Mineral Water Co	65,310	Sept. 17	130	973
Water. Mineral	Sheboygan Mineral Water Co	65,311	Sept. 17	130	973
Water-traps. Metal	R. W. Reid	65,247	Sept. 17	130	971
Weighing apparatus. Certain	Hennefer Maschinenfabrik C. Reuther & Reisert M. B. H.	65,296	Sept. 17	130	972
Whisky	P. Donaghue	65,317	Sept. 17	130	973
Whisky	Roth & Company	65,339	Sept. 17	130	973
Whisky	Swope & Mangold	65,340	Sept. 17	130	973
Yarn. Certain	Griffon Company	65,243	Sept. 17	130	971

LABELS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Ak-Sar-Ben." (For Canned Sugar-Corn)	Martin & Nurse	13,799	Sept. 17	130	975
"Bowes-Allegretti Co. Bon Bons and Chocolates." (For Bon-bons and Chocolates.)	Bowes-Allegretti Co	13,797	Sept. 17	130	975
"Bowes-Allegretti Co. Chocolates." (For Chocolates)	Bowes-Allegretti Co	13,796	Sept. 17	130	975
"Bowes-Allegretti Co. Milk Chocolates." (For Milk-Chocolates)	Bowes-Allegretti Co	13,798	Sept. 17	130	975
"Coldyettes." (For Medicated Candy or Cough-Drops)	J. S. Hinckley	13,802	Sept. 17	130	975
"Colomagna Water." (For Mineral Waters)	Colomagna Springs Company	13,795	Sept. 17	130	975
"Costs-Analysis." (For Loose-Leaf Books)	C. L. Schaar	13,804	Sept. 17	130	975
"Ferro-China-Universale." (For Medical Preparations)	A. Gargullo & Company	12,801	Sept. 17	130	975
"Golden Harvest." (For Cigars)	A. C. Henschel & Co	13,793	Sept. 17	130	975
"Pabu-Buchu Pure Gin." (For Gin)	A. Forbes	13,794	Sept. 17	130	975
"Perspirine." (For Toilet Powder)	A. R. Lieb	13,803	Sept. 17	130	975
"The Ladies Friend." (For a Medicine)	D. R. Drake	13,800	Sept. 17	130	975

PRINTS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Buster Brown Bread." (For Bread)	W. E. Long Co	2,113	Sept. 17	130	975
"First Over the Bars." (For Whisky)	W. Lanahan & Son	2,112	Sept. 17	130	975
"Men's and Boys' Apparel." (For Men's and Boys' Apparel)	H. C. Lytton	2,116	Sept. 17	130	975
"Men's Apparel." (For Men's Apparel)	Stein-Bloch Co	2,115	Sept. 17	130	975
"Silverine." (For a Preparation for Cleaning Silverware)	Tower Chemical Manufacturing Co.	2,114	Sept. 17	130	975
"Took the World at One Bound." (For Whisky)	W. Lanahan & Son	2,111	Sept. 17	130	975

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Ale. Ginger	J. House & Son	29,289	Sept. 17	130	966
Alterative iodin compound	Bonetti Frères	20,133	Sept. 17	130	966
Batteries. Dry	G. A. Lutz Co	29,442	Sept. 17	130	966
Belting, hose, and machinery packing	Revere Rubber Company	29,135	Sept. 17	130	964
Beverages. Non-alcoholic	F. J. Dohrn	29,056	Sept. 17	130	964
Bitters	G. Buton & Co	15,208	Sept. 17	130	957
Bitters	J. L. Rosenfield	29,083	Sept. 17	130	963
Boots and shoes. Leather	Kerens Shoe Co	29,243	Sept. 17	130	965
Boots and shoes. Leather	Cosby Shoe Co	29,298–301	Sept. 17	130	966
Bread	R. C. Proudfit Baking Company	29,234	Sept. 17	130	965
Bread and crackers	Geo. H. Cross Co	29,129	Sept. 17	130	964
Bricks or blocks. Building	Ohio Mining & Manufacturing Co	27,401	Sept. 17	130	960
Brushes	Davis-Bridaham Drug Company	26,008	Sept. 17	130	960
Brushes. Tooth	G. Strassburger	29,426	Sept. 17	130	966
Buckles	Jacob & Brown	29,444	Sept. 17	130	966
Calculating-machines	H. W. Egli	28,234	Sept. 17	130	963
Candies	National Candy Company	29,422	Sept. 17	130	966
Candy	Schraders	29,092	Sept. 17	130	964
Canned fruits and vegetables	Burt Olney Canning Co	28,831	Sept. 17	130	962
Canned fruits and vegetables	Burt Olney Canning Co	28,950	Sept. 17	130	963
Canned fruits and vegetables	Wayne County Canning Co	29,356	Sept. 17	130	967
Canned salmon	R. D. Hume	29,273	Sept. 17	130	965
Canned tomatoes	E. Robinson	24,692	Sept. 17	130	954
Cartridges and powder	Sächsische Pulverfabriken G. Krantz & Co.	28,824	Sept. 17	130	962
Castings. Alloy	Magnus Metal Company	29,245	Sept. 17	130	965
Cheese	O. M. Crego	29,122	Sept. 17	130	964
Chocolate and cocoa	Pennsylvania Chocolate Company.	20,579	Sept. 17	130	958
Cigars	P. Mohr	28,763	Sept. 17	130	962
Cigars, cigarettes, cheroots, and tobacco	D. S. Saqui	27,657	Sept. 17	130	961
Clothes-wringers	American Wringer Company	24,042	Sept. 17	130	959
Clothes-wringers	American Wringer Company	24,046	Sept. 17	130	959
Cocoa	Brownell & Field Company	29,350	Sept. 17	130	967
Coffee	T. L. Owens	29,272	Sept. 17	130	965
Concrete-mixing machinery	Eureka Machine Co	27,240	Sept. 17	130	960
Cordials	Golden Hill Distilling Co	29,306	Sept. 17	130	967
Corns, bunions, &c. Dressings for	Silver Suds Manufacturing Company.	29,507	Sept. 17	130	969
Cotton piece fabrics	C. Whitman & Co	29,236	Sept. 17	130	965
Cotton piece goods	Boott Mills	21,969–70	Sept. 17	130	958
Cream of tartar, Rochelle, and Epsom salt, flaxseed, &c	L. G. B. Frb	28,572	Sept. 17	130	962
Engines. Marine gasolene	Kumberger & Vreeland	29,167	Sept. 17	130	965
Fertilizers	Mountain Copper Company	15,413	Sept. 17	130	946
Flour. Wheat	Duluth-Superior Milling Co	22,961	Sept. 17	130	949
Flour. Wheat	Farwell & Rhines	25,150	Sept. 17	130	949
Flour. Wheat	Whaley Mill & Elevator Co	27,760	Sept. 17	130	961
Furniture and piano polishes	H. B. Ingham	27,797	Sept. 17	130	961
Gas and electric light fixtures	Shapiro & Aronson	29,541	Sept. 17	130	969
Gin	Japhet & Co	29,291	Sept. 17	130	966
Gongs and parts thereof	J. G. Brill Company	27,970	Sept. 17	130	961
Hair and mustache. Preparation for the	T. Hetherington	29,415	Sept. 17	130	968
Hair-tonic	F. J. Pieper	29,357	Sept. 17	130	967
Hair tonic and invigorator	J. P. Ward	27,237	Sept. 17	130	960
Harness, horse-collars, saddles, and whips	Harpham Bros. Co	27,675	Sept. 17	130	961
Herring, rollmops, sardels, &c	Menzel & Co	5,105	Sept. 17	130	957
Hose. Canvas	H. J. M. Howard	26,122	Sept. 17	130	960
Hosiery	Paramount Knitting Company	29,338	Sept. 17	130	967
Hosiery	Paramount Knitting Company	29,340	Sept. 17	130	967
Ice-cream freezers	Richmond Cedar Works	29,437	Sept. 17	130	968
Jabots made of netted and lace fabrics	Boehm & Levine	29,127	Sept. 17	130	964
Joints. Expansion	Alberger Condenser Company	29,346	Sept. 17	130	967
Knapsacks	Mills Equipment Co	25,743	Sept. 17	130	959
Knives, razors, and scissors	Wyeth Hardware & Manufacturing Co.	11,406	Sept. 17	130	957
Lard compound	T. M. Sinclair & Co	29,179	Sept. 17	130	965
Lenses. Bifocal	Optical Specialties Company	28,637	Sept. 17	130	962
Lockets, brooches, scarf and hat pins, fobs, &c	Durand & Co	28,070	Sept. 17	130	961
Macaroni	G. G. Greco	29,297	Sept. 17	130	966
Massage-machines	Moon Vibrator Company	29,237	Sept. 17	130	965
Medicator or inhaler	Ramey Medicator Company	28,908	Sept. 17	130	963
Medicinal tablets	J. T. Butler	29,260	Sept. 17	130	965
Menthol ice	Kellogg & Hitchcock Co	29,514	Sept. 17	130	969
Musical-instrument cases and satchels	Maulbetsch & Whittemore Company.	27,910	Sept. 17	130	961
Overcoats, trousers, dress-shirts, underwear, &c	Dacotah Manufacturing Co	23,251	Sept. 17	130	959
Packing. Plaited fibrous	Wilpaco Packing Company	28,627	Sept. 17	130	962
Paints	Schoellkopf, Hartford & Hanna Company.	29,294	Sept. 17	130	966
Paints	Northern Manufacturing Company.	29,473	Sept. 17	130	969
Paper bags	Schorsch & Co	28,977	Sept. 17	130	963
Pens. Stylographic fountain	J. Kearney & Co	29,488	Sept. 17	130	969
Perfume base. Violet	Haarmann de Laire Schaefer Co	28,089	Sept. 17	130	960
Perfumes	T. Hetherington	29,416	Sept. 17	130	968
Pickles, vinegar, catsup, olives, &c	Block-Horn Preserving Co	29,048	Sept. 17	130	964
Pills	Carter Medicine Company	5,872	Sept. 17	130	957
Plows	H. G. Moore	29,479	Sept. 17	130	969
Powders and perfumes. Toilet	Davis Chemical Company	29,316	Sept. 17	130	967
Powders. Stock	C. C. Saunders	29,489	Sept. 17	130	969
Preparations for the removal of hair and blemishes from the skin.	C. S. Rich	29,490	Sept. 17	130	969
Publications. Semimonthly	Home and Farm Publishing Co	18,401	Sept. 17	130	968

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Railway street-sprinklers	J. G. Brill Company	27,971	Sept. 17	130	961
Razors	P. Eisemann	29,285	Sept. 17	130	966
Remedies for relief of pain, lameness, and soreness	J. A. Begy	29,050	Sept. 17	130	964
Remedies for stomach troubles	C. J. Ulrici	29,521	Sept. 17	130	969
Remedies. Headache	Neuralgyline Company	28,004	Sept. 17	130	961
Remedies. Kidney, liver, and blood	Body Builders Medicine Company	20,246	Sept. 17	130	958
Remedy for anæmia-chlorosis, debility, &c	Ferruginoid Co	29,406	Sept. 17	130	968
Remedy for catarrh, headaches, asthma, &c	R. H. McKoy	29,049	Sept. 17	130	964
Remedy for colds and malaria	Louisville Inventors Association	28,407	Sept. 17	130	962
Remedy for colds, headache, neuralgia, &c	W. D. Duncan	29,505	Sept. 17	130	969
Remedy for venereal diseases	R. O. McElroy	29,321	Sept. 17	130	967
Ribbons	W. Openhym & Sons	29,046–7	Sept. 17	130	963
Rubber erasers	E. Faber	29,254	Sept. 17	130	965
Rubber, gutta-percha, &c	G. A. Alden & Co	20,710	Sept. 17	130	958
Sardines	E. Shivell	29,441	Sept. 17	130	968
Saws	Quality Saw & Tool Works	29,069	Sept. 17	130	964
Sewing-machine needles	National Sewing Machine Company.	29,132	Sept. 17	130	964
Sewing-machine shuttles and shuttle-carriers	White Sewing Machine Co	29,288	Sept. 17	130	966
Shears and scissors	Acme Shear Company	29,509	Sept. 17	130	969
Soap	Los Angeles Olive Growers Association.	27,030	Sept. 17	130	960
Soap. Laundry and toilet	Enterprise Soap Works	29,200	Sept. 17	130	965
Soap. Powdered granular	R. Ellis	28,072	Sept. 17	130	962
Soda. Caustic	Chance & Hunt	12,076	Sept. 17	130	957
Soldering, sad, and branding irons	A. A. Low	29,372	Sept. 17	130	967
Spices and flavoring extracts	G. H. Ballou Company	29,452	Sept. 17	130	969
Steel ingots, bars, &c	P. R. Kuehnrich	20,773	Sept. 17	130	958
Suspenders, belts, garters, &c	T. K. Webster, Jr	28,953–6	Sept. 17	130	963
Syrup oil of pine compound and remedies for the cigarette habit, &c.	Trunk Bros. Drug Company	27,536	Sept. 17	130	960
Tea	Standard Import Co	29,373	Sept. 17	130	968
Teas and coffees	Drake & Company	28,834	Sept. 17	130	962
Thread-cutting dies	Connecticut Tool Company	26,709	Sept. 17	130	960
Thread, spool and sewing cotton	American Thread Company	29,484	Sept. 17	130	969
Ties. Metal animal	Oneida Community	23,785	Sept. 17	130	959
Tonic. Nerve	H. L. Waldo	26,137	Sept. 17	130	960
Vinegars and pickles	Oakland Vinegar and Pickle Co	29,359	Sept. 17	130	967
Vodka	John Barth Company	28,930	Sept. 17	130	963
Wall and ceiling coverings	H. Dolmetsch	26,149	Sept. 17	130	960
Washing-machines	Spears & Riddle Co	28,268	Sept. 17	130	962
Water. Mineral	Schultes Agost, Szinye-Lipoczi Salvatorforrás vállalat.	28,231	Sept. 17	130	962
Whips, whip-lashes, &c	Warren Featherbone Co	18,937	Sept. 17	130	958
Whisky	Rosenfield Bros. & Co	29,296	Sept. 17	130	966
Whisky	Lazarus-Nassauer Co	29,297	Sept. 17	130	966
Whisky	Golden Hill Distilling Co	29,307	Sept. 17	130	967
Whisky, brandy, and gin	Elseman & Company	27,330	Sept. 17	130	960
Wines	R. Labaume & Co	22,368	Sept. 17	130	959
Wood sheets, and boxes and barrels made of same	Venesta Limited	29,443	Sept. 17	130	968
Wringers and parts thereof	American Wringer Company	24,044	Sept. 17	130	959

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ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 24TH DAY OF SEPTEMBER, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Specification.	Drawing.	Volume.	Page.
A. B. Dick Company. (See Carter, McIon J. D., assignor.)						
A. B. Dick Company. (See Dick, Albert B., assignor.)						
Abbey, Reuben, and W. E. Risley, Corning, N. Y. Railway-switch	867,158	Sept. 24	3005	1045	130	1253
Adams, Clinton P. (See Christopherson, Ole A., assignor.)						
Adams, John D., *et al.*, executors. (See Adams, Thomas.)						
Adams, Martha E., *et al.*, executors. (See Adams, Thomas.)						
Adams, Thomas, *et al.*, executors. (See Adams, Thomas.)						
Adams, Thomas, deceased, New York; J. D. and T. Adams, Bay Shore, and M. E. Adams, Brooklyn, N. Y., executors. Machine for wrapping merchandise	866,902	Sept. 24	3287	926-8	130	1125
Adjustable Collet Company. (See Holstein, Joseph L., assignor.)						
Allbritton, Willie C., Cairo, Ga. Cultivator attachment	866,903	Sept. 24	3293	928	130	1127
Allen and Company, Edgar. (See James, Charles W., assignor.)						
Allen, Elmer V., Hiawatha, Kans. Washing-machine	866,612	Sept. 24	2847	803	130	985
Allenbrand, Lawrence, Basehor, Kans. Car-brake	866,904	Sept. 24	3294	929	130	1127
Allis-Chalmers Company *et al.* (See Mattman, Emil, assignor.)						
Allis-Chalmers Company. (See Richards, Walter J., assignor.)						
Allis-Chalmers Company *et al.* (See Stull, Emmett W., assignor.)						
Altermatt, John F., Missoula, Mont. Catamenial appliance	867,091	Sept. 24	3503	1018	130	1219
Altstock, Marcus, Lemberg, Austria-Hungary. Mechanism for operating clutches	866,707	Sept. 24	2993	849	130	1025
American Air Cleaning Company. (See Matchette, Frank J., assignor.)						
American Car & Foundry Company. (See Ostrander, Allen E., assignor.)						
American Electric Telephone Company. (See Clausen, Henry P., assignor.)						
American Safety Razor Co. (See Gilford, Edward B., assignor.)						
American Seeding-Machine Company. (See Christman and Moon, assignors.)						
American Seeding-Machine Company. (See Oates, George P., assignor.)						
American Silver Company. (See Trewhella, Charles E., assignor.)						
American Sun Bonnet Company. (See Kendall, David H., assignor.)						
Ames, Franklin, Chicago, Ill. Screen-cleaning apparatus for automobiles	866,996	Sept. 24	3436	903	130	1172
Ames, John M., New Brighton, N. Y., assignor to B. A. Hegeman, Jr., North Plainfield, N. J. Transportation-car and the like	866,764	Sept. 24	3091	871	130	1066
Anderson, Henry, Vega, Wash. Sawing-machine	866,905	Sept. 24	3295	929	130	1127
Andrews, James C. (See Wright and Andrews.)						
Andrews, James S., New York, N. Y. Underframe for cars	866,997	Sept. 24	3437	974	130	1172
Angerer, Victor, Ridley Park, assignor to William Wharton, Jr., & Company, Incorporated, Philadelphia, Pa. Switch structure	866,998	Sept. 24	3438	974	130	1173
Anker-Heith, Severin C., Riverside, Ill. Clutch	866,765	Sept. 24	3093	871	130	1067
Anson, Charles L., *et al.* (See Little, Robert A., assignor.)						
Anson, Elmer T., *et al.* (See Little, Robert A., assignor.)						
Armac Motor Company. (See McCollum, Archibald J., assignor.)						
Arnold, Edgar L., Alexandria, Minn. Steam-boiler	866,834	Sept. 24	3194	898	130	1097
Arnold, William A., Paterson, N. J. Reel	866,613	Sept. 24	2848	803	130	985
Ashford, Snowden, Washington, D. C. Fire-escape	867,092	Sept. 24	3504	1019	130	1219
Austad, Carl J., Peterson, Minn. Gate-latch	866,766	Sept. 24	3095	872	130	1067
Automatic Electric Company. (See Fales, Edward D., assignor.)						
Avram-Leet Engineering Company. (See Avram, Mois H., assignor.)						
Avram, Mois H., assignor to Avram-Leet Engineering Company, New York, N. Y. Press	866,999	Sept. 24	3440	975	130	1174
Badische Anilin & Soda Fabrik. (See Stiegelmann and Dehnel, assignors.)						
Bahde, Carl H. A., Milwaukee, Wis. Fish-scaling apparatus	867,182	Sept. 24	3747	1057	130	1269
Bailey, George M. (See Muirhead, John, assignor.)						
Baker, George A., Jr. (See Meyer, Franz, assignor.)						
Baker, James H., Allegheny, assignor to Solid Steel Tool & Forge Company, Brackenridge, Pa. Brake-shoe head	867,183	Sept. 24	3748	1057-8	130	1269
Baker, James H., Allegheny, assignor to Solid Steel Tool & Forge Company, Brackenridge, Pa. Brake-beam	867,184	Sept. 24	3749	1058-9	130	1270
Ball, F. E., *et al.* (See Dennis, John J., assignor.)						
Barber, John C., Chicago, Ill. Antifriction center-bearing for cars	867,000	Sept. 24	3443	975	130	1177
Bauer, Conrad, Pittsburg, Pa. Screen	866,835	Sept. 24	3195	898-9	130	1098
Bauter, Eugene A., La Salle, Ill. Rotary engine	866,767	Sept. 24	3096	872	130	1068
Baxter, Daniel N., Wichita, Kans. Check-row corn-planter	866,708	Sept. 24	2994	849	130	1025
Bayliss, Thomas R., Northfield, near Birmingham, England. Power-press	867,903	Sept. 24	3596	1019-20	130	1220
Bear, Charles I., *et al.* (See Wheeler, Orrin A., assignor.)						
Beard, Robert S. (See Hamm, Clayton W., assignor.)						
Beck, Charles W., New York, N. Y. Acetylene-gas generator	867,001	Sept. 24	3444	976	130	1177
Becker, Wilhelm, Hoboken, N. J. Projectile	866,614	Sept. 24	2848	803	130	985
Beechnut Packing Company *et al.* (See Lorenz, William A., assignor.)						
Bell, Robert S., Tecumcari, N. Mex. Ter. Windmill	866,836	Sept. 24	3196	899	130	1098
Beman, Henry C., Meadville, Pa. Dispensing apparatus	867,094	Sept. 24	3598	1020	130	1220
Bemus, Thomas A., assignor to T. Alton Bemus Company, Incorporated, Boston, Mass. Circuit-closer	867,095	Sept. 24	3599	1021	130	1221
Bendlage, Charles B., Marshalltown, Iowa. Hoe or rake handle connection	867,096	Sept. 24	3600	1021	130	1221
Benson, William W., Philadelphia, Pa. Support for electric conductors	866,709	Sept. 24	2995	849	130	1026
Bergner, Carl, Sande, near Bergedorf, Germany. Milk-separator	867,097	Sept. 24	3601	1021-2	130	1221

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Berry, John H., Mansfield, Ohio. Valve	866,906	Sept. 24	3286	930	130	1128
Berry, Olin, Galesburg, Ill. Heel-retainer for overshoes	866,907	Sept. 24	3298	930	130	1128
Betz, William G., Newcastle, Ind. Piano	867,002	Sept. 24	3447	976	130	1177
Bianchi, Joseph, Jersey City, N. J. Apparatus for animated pictures	867,185	Sept. 24	3751	1059	130	1270
Bickle, Henry J., assignor of one-half to M. Wilson and M. McMillan, Gladstone, Manitoba, Canada. Scraper	866,615	Sept. 24	2849	803–4	130	985
Bigelow, Frank M., Aneta, N. D. Device for cleaning guns and other tubes	867,098	Sept. 24	3003	1022	130	1221
Bilger, Samuel, Silverdale, Pa. Portable piano-truck	867,099	Sept. 24	3004	1022–3	130	1221
Binney, Charles R., and J. L. Watkins, London, England. Driving-gear for motor-vehicles	866,908	Sept. 24	2299	930–1	130	1129
Birmingham, William E., Philadelphia, Pa. Eyeglass or spectacle case	867,100	Sept. 24	3005	1023	130	1222
Blaisdell, Hiram W., Los Angeles, Cal. Manual scraping-machine	867,003	Sept. 24	3448	976–7	130	1177
Blake, Ludwig L. (See Lidseen and Blake.)						
Blankenship, Oran B. (See Sherwood and Blankenship.)						
Blomberg, Edwin C., assignor of one-half to F. Olander, Rockford, Ill. Drawer-guide	867,101	Sept. 24	3008	1023	130	1223
Blomberg, Edwin C., assignor of one-half to F. Olander, Rockford, Ill. Drawer-guide	867,102	Sept. 24	3009	1023	130	1223
Boardman, Ralph H., New Britain, Conn. Automatic fire-sprinkler	867,004	Sept. 24	3452	978	130	1178
Boatman, John J. P., Blaine, Wash. Gearing	867,103	Sept. 24	3009	1024	130	1223
Boaz, Emery H., Benbrook, Tex. Wrench	867,005	Sept. 24	3453	978	130	1179
Bogenschild, Hermann, Berlin, Germany. Dust-removing apparatus	867,006	Sept. 24	3454	978	130	1179
Boller, William P., Byron, Wis. Attachment for potato-planters	866,710	Sept. 24	2996	850	130	1026
Bollwahn, William, Sharon, Wis. Nut-lock	866,616	Sept. 24	2852	804	130	986
Bollwahn, William, Sharon, Wis. Vehicle-pole attachment	866,617	Sept. 24	2853	804	130	986
Bonvillain, Philibert, and E. Ronceray, Paris, France. Molding-machine	867,104	Sept. 24	3611	1024	130	1224
Bottler, Charles, assignor to Kunstfäden Gesellschaft mit Beschränkter Haftung, Jülich, Germany. Manufacture of artificial silk filaments from nitrocellulose	866,768	Sept. 24	3098	.....	130	1058
Boyes, William H., and E. F. von Wilmowsky, New York, N. Y. System of railways and appliances pertaining thereto	867,007	Sept. 24	3455	978–80	130	1179
Brackett, Louie M. (See Salisbury and Brackett.)						
Branch, Charles J., Philadelphia, Pa. Food-warmer	867,008	Sept. 24	3459	980	130	1180
Brand, George P., New York, N. Y. Relief-valve for tension-reservoirs for pneumatic apparatus	866,837	Sept. 24	3198	899	130	1099
Brannon, Melvin A., Grand Forks, N. D. Electric water-filter	866,618	Sept. 24	2853	805	130	986
Brauer, Gerhard, Duisburg-Beeck, and H. Gewecke, Darmstadt, Germany; said Brauer assignor to said Gewecke. Regenerative furnace	867,105	Sept. 24	3612	1024–5	130	1224
Breen, William H., Charlestown, Mass. Portable window-derrick	867,010	Sept. 24	3462	981	130	1181
Brennan, Thomas, Jr., assignor to Monitor Drill Company, St. Louis Park, Minn. Lever	867,009	Sept. 24	3461	980	130	1181
Brenner, Frank A., Cleveland, Ohio. Egg-beater	866,909	Sept. 24	3300	931	130	1129
Brillhart, Elmer L., Ludington, Mich. Vehicle	866,769	Sept. 24	3099	873	130	1058
Broadwater, Luke H., Findlay, Ohio, assignor to E. I. du Pont de Nemours Powder Company, Wilmington, Del. Apparatus for firing explosives in wells	866,838	Sept. 24	3199	900	130	1099
Brock, Léon. (See Eichenberger, Otto, assignor.)						
Bromley, William S., Chicago, Ill. Tool or gage for machinists	867,011	Sept. 24	3464	981	130	1182
Brown, Frank, Toledo, Ohio. Earth-auger	866,839	Sept. 24	3200	900	130	1100
Brown, William A., assignor of one-half to F. W. Moser, Chicago, Ill. Carrier for pneumatic-tube apparatus	867,225	Sept. 24	3806	1074	130	1268
Brundell, William, Portland, Oreg. Rope-clamp	867,106	Sept. 24	3614	1025	130	1224
Bruner, A. G. (See McGee, Guy C., assignor.)						
Brunswick Refrigerating Company. (See Whitaker, Richard, assignor.)						
Budd, Earl J., Kettle Falls, Wash. Boiler-leveler	866,910	Sept. 24	3301	931	130	1129
Bullock Electric Manufacturing Company. (See Marburg, Louis C., assignor.)						
Bullock Electric Manufacturing Company *et al.* (See Mattman, Emil, assignor.)						
Bullock Electric Manufacturing Company *et al.* (See Stull, Emmett W., assignor.)						
Bultmann, William F., Elgin, Ill. Reed-organ	866,711	Sept. 24	2996	850	130	1026
Bundy, Lawrence A., Atlanta, Kans. Rail-joint	867,012	Sept. 24	3465	981	130	1182
Burchfield, Benjamin F., and E. Conner, Athens, Ohio. Cooking vessel	866,911	Sept. 24	3301	932	130	1130
Burk, Sidney M., Philadelphia, Pa. Electric-conductor molding	866,770	Sept. 24	3101	873	130	1059
Burke, George P. (See Summers and Burke.)						
Burnett, William H., *et al.* (See Laidlaw, Henri D., assignor.)						
Burns, Alexander B., Green Bay, Wis. Boiler	866,771	Sept. 24	3102	873–4	130	1059
Burroughs Adding Machine Company. (See Vincent, Jesse G., assignor.)						
Bushnell, John B., Minneapolis, Minn. Portable elevator	866,619	Sept. 24	2856	805–6	130	987
Bushong, Harry F., Portland, Oreg., assignor, by mesne assignments, to Kalamazoo Loose Leaf Binder Company. Loose-leaf ledger	867,107	Sept. 24	3614	1025	130	1225
Caley, Charles J. (See Voight and Caley.)						
Campbell, Charles D., Bellefontaine, Ohio. Centrifugally-made column	866,712	Sept. 24	2997	850	130	1026
Campbell, Frank G., Washington, D. C. Door for fire-alarm boxes	866,772	Sept. 24	3103	874	130	1059
Campbell, Robert B. (See Olden, William Q., assignor.)						
Campbell, Robert B., Joliet, assignor to himself, and W. Q. Olden, Chicago, Ill. Steel side dump car	866,620	Sept. 24	2858	806–8	130	988
Campbell, Robert E., Watsonville, Cal. Washing-machine	866,912	Sept. 24	3302	932	130	1130
Canady, Claude L., Dublin, Ind. Grain-cleaning mill	866,773	Sept. 24	3106	874–5	130	1070
Carlsson, Julius C. E. (See Hansen, Müller, and Carlsson.)						
Carlucci, Michael, Newark, N. J. Lifting-jack	866,913	Sept. 24	3304	932	130	1130
Carmer, James R., Washington, D. C. Hose-terminal	867,108	Sept. 24	3616	1025	130	1225
Carr, Charles W. (See Evans and Carr.)						
Carter, Melon J. D., London, England, assignor to A. B. Dick Company, Chicago, Ill. Stencil-sheet	867,186	Sept. 24	3753	1060	130	1271
Casella, Secondo L., assignor to W. F. Barnes Commercial Co., San Francisco, Cal. Basket-making machine	867,013	Sept. 24	3466	982	130	1182
Casper, Louis, Chicago, Ill. Machine for pasting and attaching labels	866,774	Sept. 24	3107	875	130	1070
Cassity, O. P. (See Morton, Joseph C., assignor.)						
Cathrea, George P., Vancouver, British Columbia, Canada. Display-frame	867,109	Sept. 24	3617	1026	130	1226
Chambers, Charles B., Milo, Mo. Shipping-case	866,621	Sept. 24	2862	808	130	989
Chandler, Josiah. (See Chandler, Samuel and J.)						
Chandler, Samuel and J., assignors to Living Letters Limited, County of Westminster, London, England. Device for advertising or spectacular exhibitions	867,110	Sept. 24	3618	1026–7	130	1226
Charleston Metallic Packing Company. (See Taylor, William F., assignor.)						
Cheape, John A., Charlottesville, Va. Device for calculating the price of articles	866,914	Sept. 24	3305	983	130	1131
Chicago Pneumatic Tool Company. (See Duntley, William O., assignor.)						
Chicago Pneumatic Tool Company. (See Templin, Joseph H., assignor.)						
Choate, William E., Melrose, Mass. Combined card and stencil or type-plate frame	866,775	Sept. 24	3109	875	130	1071
Christman, Edward, and D. A. Moon, Louisville, Ky., assignors to American Seeding Machine Company, Springfield, Ohio. Scraper for ground-working disks	866,622	Sept. 24	2863	808–9	130	989
Christopherson, Ole A., assignor of one-half to C. P. Adams, Riverton, Wash. Dust-pan	866,915	Sept. 24	3306	983	130	1131
Christy, Thomas J., St. Louis, Mo. Gas-generator	866,713	Sept. 24	2999	850–1	130	1027
Chubbuck, Elton F., Hornell, N. Y. Pleasure-swing	867,187	Sept. 24	3754	1060	130	1271
Church, William H., Pawtuxet, assignor to Providence Tipping Machine Co., Providence, R. I. Machine for manufacturing shoe-lacings	866,916	Sept. 24	3307	983–6	130	1131

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Clark, Charles H., and H. F. Hamilton, Sprague's Mill; said Hamilton assignor to said Clark, Easton, Me. Horse-hoe and cultivator	867,188	Sept. 24	3755	1060	130	1271
Clark, James, assignor to S. R. Dresser Manufacturing Company, Bradford, Pa. Clamping-ring	866,840	Sept. 24	3302	900–1	130	1100
Clausen, Henry P., assignor to American Electric Telephone Company, Chicago, Ill. Telephone system	866,714	Sept. 24	3000	851	130	1027
Clement, Edward E., Washington, D. C. Telephone-exchange system	867,014	Sept. 24	3468	982	130	1183
Climer, Herschel, Chillicothe, Ohio. Sickle-bar	866,917	Sept. 24	3314	936	130	1133
Coates, Alfred, Clifton Hill, and H. W. Hackett, Carlton, Victoria, Australia. Governor for marine engines	867,111	Sept. 24	3619	1027	130	1226
Cobb, Herbert F., Cleveland, Ohio. Reinforced concrete structure	866,715	Sept. 24	3017	851	130	1041
Cogswell, George S., Fitchburg, Mass. Adjustable ease-off for whip-rolls	866,841	Sept. 24	3203	901	130	1100
Cole, Robert C., assignor to Johns-Pratt Company, Hartford, Conn. Manufacture of inclosed fuses	866,716	Sept. 24	3018	851	130	1041
Collier, William H., Jackson, Tenn. Valve-gear	866,623	Sept. 24	2865	809–10	130	990
Collier, William H., Jackson, Tenn. Combined type-writing and printing machine	866,624	Sept. 24	2867	810	130	991
Collins, Michael, Lowell, Mass. Machine for preparing fibers for spinning	866,918	Sept. 24	3315	936	130	1134
Columbus Pneumatic Tool Company. (See Green, Carl R., assignor.)						
Combustion Utilities Company. (See Eldred, Byron E., assignor.)						
Comstock, George S., Mechanicsburg, Pa. Hot-water heating system	866,842	Sept. 24	3204	901	130	1101
Conederа, Raimondo, Massa Marittima, Italy. Obtaining pure copper sulfate	866,625	Sept. 24	2869	811	130	992
Conner, Elmer. (See Burchfield and Conner.)						
Connor, Mark, Los Angeles, Cal. Automatic aquarium and flushing device	867,112	Sept. 24	3621	1027	130	1227
Cook, Andrew J., San Rafael, Cal. Apparatus for separating finely-divided material	866,626	Sept. 24	2870	811	130	992
Cottrell, Frederick G., Berkeley, assignor of one-half to H. E. Miller, Oakland, Cal. Manufacture of sulfuric acid	866,843	Sept. 24	3205	901	130	1101
Cottrell, Frederick G., Berkeley, assignor of one-half to H. E. Miller, Oakland, Cal. Apparatus for separating sulfuric acid	866,844	Sept. 24	3207	902	130	1101
Coullery, Henri, La Chaux-de-Fonds, Switzerland. Escapement mechanism for time-pieces	867,015	Sept. 24	3470	983	130	1184
Crane, George W., Veedersburg, Ind. Dumping-wagon	866,717	Sept. 24	3019	852	130	1041
Crell, Albert P., Iona, Mich. Reversing mechanism	866,776	Sept. 24	3012	875–6	130	1072
Croahier, Frederick V., Arlington, N. Y. Automatic stock-feeder	867,221	Sept. 24	3802	1073	130	1187
Cross, William, Winnipeg, Manitoba, Canada. Snow-plow	866,919	Sept. 24	3316	937	130	1134
Crouch, George G. (See Sawtell, Field, and Crouch.)						
Crowe, Paul L., Jersey City, N. J., and A. Frankenheim, New York, N. Y.; said Frankenheim assignor to said Crowe. Rocking and dumping grate	866,627	Sept. 24	2871	811–12	130	992
Crowson, Jonas H., Atlanta, Tex. Well-cleaning machine	866,628	Sept. 24	2873	812	130	993
Cuming, Mari A., New York, N. Y. Carving-machine	867,016	Sept. 24	3471	983	130	1184
Daniels, Charles C. (See Hart and Daniels, assignors.)						
Daniels, Frank J. (See Hart and Daniels.)						
Darley, John W., Jr., Baltimore, Md. Self-playing piano	867,113	Sept. 24	3622	1027–8	130	1227
Darley, John W., Jr., assignor to E. J. Knabe, Jr., Baltimore, Md. Air-duct and connection for self-playing grand pianos	867,114	Sept. 24	3624	1029	130	1228
Darling, Henry M., assignor to Seneca Falls Manufacturing Company, Seneca Falls, N. Y. Gear-cutting mechanism	867,189	Sept. 24	3757	1061–2	130	1272
Davis, Frank L. (See Wells, Joseph M., assignor.)						
Davis, Samuel S., Sidney, Ohio. Steam-boiler	866,629	Sept. 24	2875	812–13	130	993
Davison, James E., New York, Iowa. Antifying chicken-wing attachment	867,190	Sept. 24	3760	1062	130	1273
Dawson, James C., St. Louis, Mo., assignor to Sieber & Trussell Manufacturing Company. Loose-leaf binder	867,191	Sept. 24	3760	1062	130	1273
Dawson, James C., St. Louis, and T. E. Hester, Maplewood, Mo., assignors to Sieber & Trussell Mnfg. Co. Loose-leaf binder	866,845	Sept. 24	3208	902	130	1102
Dawson, James W., San Francisco, Cal., assignor of one-fourth to R. W. Gees, Kansas City, Mo. Floating power plant	867,192	Sept. 24	3761	1062–3	130	1273
Dayton, Charles O., Washington, Iowa. Electric locomotive-controller	866,846	Sept. 24	3209	902–4	130	1102
De Mond, Herman L., Philadelphia, Pa. Tooth-powder receptacle	867,017	Sept. 24	3473	984	130	1185
De Vaux, Louis, assignor of one-half to J. C. Rogers and J. P. Greene, Albert Lea, Minn. Heating, cooking, and washing apparatus	866,630	Sept. 24	2876	813	130	994
Dehnel, Erich. (See Stiegelmann and Dehnel.)						
Dennis, John J., assignor of one-half to F. W. Fullmer and F. E. Ball, Chicago, Ill. Adjustable gas drop-light	866,777	Sept. 24	3113	876	130	1072
Dennis, Samuel K., and F. W. Rice, Chicago, Ill., assignors to International Harvester Company. Feed-grinder	867,018	Sept. 24	3474	984	130	1185
Dennis, Samuel K., and F. W. Rice, Chicago, Ill., assignors to International Harvester Company. Fertilizer-distributer	867,019	Sept. 24	3477	984–5	130	1186
Devan, Andrew, Missoula, Mont. Ladder	867,020	Sept. 24	3479	985	130	1186
Dick, Albert B., assignor to A. B. Dick Company, Chicago, Ill. Stencil-printing machine	866,718	Sept. 24	3022	853	130	1043
Dickenson, Charles, Portland, Oreg. Launching apparatus for boats	866,847	Sept. 24	3214	904	130	1103
Diebel, William, Philadelphia, Pa. Sparking plug for explosive-engines	866,631	Sept. 24	2878	813	130	994
Digby, Lionel W. J. (See Fletcher, Frederick W., assignor.)						
Dittrich, Joseph, *et al.* (See Themke, Louis E. L., assignor.)						
Dixon, Charles E., Forest Grove, Oreg. Reversible disk plow	866,632	Sept. 24	2879	813–14	130	994
Dizer, Walter M., Brookline, Mass. Door check and closer	866,719	Sept. 24	3023	853	130	1043
Doman, Lewis B., assignor to W. C. Ranney, trustee, Elbridge, N. Y. Perforating-machine	866,920	Sept. 24	3319	937–8	130	1135
Dosser, Frederick M., Doncaster, England. Apparatus for cleaning and separating seeds and the like	866,848	Sept. 24	3215	904–5	130	1103
Draper Company. (See Rhoades, Alonzo E., assignor.)						
Drawert, George. Chicago, Ill. Electric contact rail and shoe	867,021	Sept. 24	3480	985	130	1187
Duea, Randolph C. (See Larson and Duea.)						
Dugdale, Thomas, Waimate, New Zealand. Strainer for down-spouts and the like	866 633	Sept. 24	2881	814	130	995
Dun, Effingham C. Sewaren, N. J. Valve	867,022	Sept. 24	3482	986	130	1187
Dunlap, John A., Nashua, N. H. Package-display rack	866,634	Sept. 24	2881	814	130	995
Duntley, William O., assignor to Chicago Pneumatic Tool Company, Chicago, Ill. Lubricator	866,921	Sept. 24	3321	938	130	1136
Duntley, William O., assignor to Chicago Pneumatic Tool Company, Chicago, Ill. Engine	866,922	Sept. 24	3322	939	130	1137
E. I. du Pont de Nemours Powder Company. (See Broadwater, Luke H., assignor.)						
Eberhard, Charles F., Newark, N. J. Dispensing can or receptacle	867,023	Sept. 24	3484	986	130	1187
Egelin, Carl A., Stockholm, Sweden. Drawing-board	867,024	Sept. 24	3485	986–7	130	1188
Ehrenfeld, Charles H., and J. R. Grove, York, Pa. Recovery of copper and other metals from their ores	866,849	Sept. 24	3216	.....	130	1103
Eichenberger, Otto, Geneva, Switzerland, assignor of one-half to L. Brock, New York, N. Y. Apparatus for imitating the game of skittles by means of automata	866,923	Sept. 24	3328	940–1	130	1138
Eichengrün, Arthur, Düsseldorf, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Paraformaldehyde and peroxid mixture	866,850	Sept. 24	3217	.....	130	1104
Eichengrün, Arthur, Düsseldorf, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Generation of formaldehyde gas	866,851	Sept. 24	3217	.....	130	1104
Eldred, Byron E., Brookline, Mass., assignor to Combustion Utilities Company, New York, N. Y. Heating-furnace	866,635	Sept. 24	2883	815	130	995

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Eldridge, Mary A., Chicago, Ill. Curling-iron	866,778	Sept. 24	3114	876	130	1072
Electric Gas Lighting Company. (See Thomson, Henry C., assignor.)						
Electric Goods Manf'g Company. (See Lee, Charles E., assignor.)						
Elliott, Charles R., Rochester, N. Y. Vibrator	866,636	Sept. 24	2985	815	130	998
Ellis, Ella E., *et al.*, executrices. (See Ellis, William B.)						
Ellis, George H., St. Paul, Minn., assignor to International Flax Twine Company. System of machines for treating flax-straw	867,026	Sept. 24	3489	988	130	1189
Ellis, Kittie M., *et al.*, executrices. (See Ellis, William B.)						
Ellis, William B., deceased: K. M. and E. E. Ellis, executrices, Greeley, Iowa. Hay rake and tedder	867,025	Sept. 24	3486	987–8	130	1188
Enk, Louis, Aschersleben, Germany. Device for making horseshoe-calks	867,115	Sept. 24	3625	1029	130	1228
Eriksson, Petter, Lund, and S. P. Nielsen, Vesteras, Sweden. Core-pressing apparatus	866,852	Sept. 24	3218	905	130	1104
Ernst, Harry A., *et al.* (See Murdoch, Michael J., assignor.)						
Ette, Charles G., St. Louis, Mo. Nut-lock washer	867,116	Sept. 24	3626	1029	130	1228
Evans, Benjamin J. (See Jones and Evans.)						
Evans, Walter P., and C. W. Carr, Meadow Grove, Nebr. Baling-press	866,637	Sept. 24	2986	815–16	130	998
Ewers, Oriando, Longmont, Colo. Wagon-loading device	866,638	Sept. 24	2990	816	130	997
Faichnie, Norman, York, England. Water-bottle for use in the army	866,779	Sept. 24	3115	876	130	1073
Fales, Edward D., assignor to Automatic Electric Company, Chicago, Ill. Automatic telephone-release	866,639	Sept. 24	2991	816–17	130	997
Falvey, Humphrey, New York, N. Y. Clothes-line holder	867,027	Sept. 24	3490	988	130	1189
Farbenfabriken vorm. Friedr. Bayer & Co. (See Eichengrün, Arthur, assignor.)						
Farbenfabriken vorm. Friedr. Bayer & Co. (See Lehmann, Fritz, assignor.)						
Feist, Eugen, Solingen, Germany. Safety-razor	866,924	Sept. 24	3332	941	130	1139
Felman and Company, M. A. (See Shreffler, Samuel, assignor.)						
Fenstermaker, Joseph A., Dos Cabezos, Ariz. Ter. Pump	867,117	Sept. 24	3627	1030	130	1229
Ferl, Hermann, Kamenz, Germany. Fastening for apparel	866,926	Sept. 24	3333	941	130	1139
Field, Thaddeus S. (See Sawtell, Field, and Crouch.)						
Fippard, Arthur J., London, England. Hydraulic clutch	866,926	Sept. 24	3333	942	130	1139
Fitzgerald, Richard. (See Hibbard, Maury W., assignor.)						
Flaharida, Charles E. (See Schreiber and Flaharida.)						
Flannigain, Edward, assignor to United Appliance Manufacturing Company, St. Louis, Mo. Dental soldering apparatus	867,193	Sept. 24	3763	1063	130	1273
Fletcher, Frederick W., Helpston, Market Deeping, assignor of one-half to L. W. J. Digby, Haycock, Wansford, England. Alloy	867,194	Sept. 24	3764	.....	130	1274
Flora, John H., Tunnel Hill, Ill. Combination-tool	867,118	Sept. 24	3627	1030	130	1229
Flynn, John W., Bordentown, assignor of one-half to T. J. Marion, Trenton, N. J. Snow-plow	866,780	Sept. 24	3116	877	130	1073
Follett, Charles S., *et al.* (See Thompson, Guy M., assignor.)						
Forde, Ole O. (See Hagen, Nels O., assignor.)						
Forster, George R., Fithian, Ill. Trolley	866,781	Sept. 24	3117	877–8	130	1073
Forsyth, Charles E., assignor of one-half to G. Ketterer, Akron, Ohio. Rotary engine	867,119	Sept. 24	3628	1030	130	1229
Fournet, François P., Nancy, France. Handle for daggers, tools, and the like	867,120	Sept. 24	3629	1030	130	1230
Frankenheim, Aaron. (See Crowe and Frankenheim.)						
French, Erastus S., assignor to A. S. Stuart, East Princeton, Mass. Child's chair	866,853	Sept. 24	3219	905	130	1104
Frenier, Joseph A., Davenport, Iowa. Mechanical movement	867,121	Sept. 24	3630	1031	130	1230
Freytag, Ernst E. (See Neukirch, Hubert V., assignor.)						
Friedel, Albert H., Cleveland, Ohio. Propeller	867,029	Sept. 24	3492	989	130	1190
Friedman, Goste, Jamestown, N. Y. Carpet-cleaner	866,640	Sept. 24	2989	817	130	998
Friedman, Leopold. (See Meacham, Benjamin E., assignor.)						
Frisch, Homer P., Mount Pulaski, Ill. Shoe-cleaner	867,028	Sept. 24	3491	989	130	1189
Fuchs, Edward J., Scranton, Pa. Grit food for fowls	866,641	Sept. 24	2990	.....	130	998
Fullmer, F. W., *et al.* (See Dennis, John J., assignor.)						
Gage, Daniel W., Cambridge, Mass. Safety-razor	866,854	Sept. 24	3220	906	130	1105
Gardner, George, Yarraville, Victoria, Australia. Can-body forming and soldering machine	867,030	Sept. 24	3494	989–92	130	1190
Garlick, Fred W., *et al.* (See Wheeler, Orrin A., assignor.)						
Garrett, John W., Creston, Iowa. Apparatus for suspending and displaying lace curtains, &c.	867,196	Sept. 24	3764	1063	130	1274
Gay, George E., Malden, Mass., assignor to Linen Thread Company, New York, N. Y. Spool and thread package	866,855	Sept. 24	3222	906	130	1106
Gees, Robert W. (See Dawson, James W., assignor.)						
Gehan, Robert A., Buffalo, N. Y. Tire	866,927	Sept. 24	3226	942	130	1141
Geisendorfer, George, Upton, Cal. Stop for cut-off saws	866,782	Sept. 24	3119	878	130	1074
Getz, Phares E., assignor of one-half to W. Heaton, Neosho, Mo. Well-bucket	866,783	Sept. 24	3121	878	130	1074
Gewecke, Hermann. (See Brauer and Gewecke.)						
Gibford, Edward B., assignor to American Safety Razor Co., Adrian, Mich. Safety-razor	866,856	Sept. 24	3222	906	130	1106
Gilbert Lease Rod Supporter Company. (See Gilbert, William L., assignor.)						
Gilbert, William L., Auburn, Me., assignor to Gilbert Lease Rod Supporter Company. Lease-rod-supporting device	867,198	Sept. 24	3765	1064	130	1275
Gillin, Margaret. (See Gillin, Robert F., assignor.)						
Gillin, Robert F., New York, assignor to M. Gillin, Brooklyn, N. Y. Plumbing fixture for lavatories	866,642	Sept. 24	2991	817	130	998
Gilman, George H., assignor to Sullivan Machinery Company, Claremont, N. H. Pneumatic drill-feed	866,720	Sept. 24	3226	853	130	1043
Glading, Samuel, Minneapolis, Minn. Garment-fastener	867,031	Sept. 24	3493	993	130	1191
Glenn, James H., and M. Reule, La Fayette, Ind. Pressure-controller	866,643	Sept. 24	2992	817	130	999
Glorieux, William L., Jr., Irvington, and V. F. Struck, Newark, N. J. Brush	866,784	Sept. 24	3122	879	130	1075
Godfrey, Raleigh W., Elyria, assignor of one-half to H. F. Thompson, Lexington, Ohio. Gas-engine starter	867,122	Sept. 24	3631	1031	130	1230
Goedeke, Frederick W., Evansville, Ind. Rotary cutter-head	867,222	Sept. 24	3803	1073	130	1287
Gorman, John J., *et al.* (See Murdoch, Michael J., assignor.)						
Gould Coupler Company. (See Richards, Willard F., assignor.)						
Gowin, Frank, Carlinville, Ill. Signal apparatus	867,123	Sept. 24	3632	1031	130	1231
Graham, Joseph H., Kempton, Ind. Fence-post	866,857	Sept. 24	3224	906	130	1106
Grant, William A., Paterson, N. J. Weft stop-motion for looms	867,032	Sept. 24	3499	993	130	1191
Green, Carl R., Dayton, assignor to Columbus Pneumatic Tool Company, Columbus, Ohio. Fluid-pressure power-hammer	867,033	Sept. 24	3500	993	130	1191
Green, Thomas P., St. Louis, Mo. Tube-expander	866,644	Sept. 24	2994	818	130	1000
Greene, John P., *et al.* (See De Vaux, Louis, assignor.)						
Grieser, Richard, assignor to Pollard-Alling Manufacturing Company, New York, N. Y. Printing-plate chain	866,928	Sept. 24	3336	942	130	1141
Griest, Henry J. (See Southern and Griest.)						
Griffith, Joseph M., Cardiff, Md. Conveyer	867,124	Sept. 24	3633	1031–2	130	1231
Grisdale, George W., Jr., Philadelphia, Pa. Trolley-wheel support	867,125	Sept. 24	3635	1032	130	1232
Grove, Jacob R. (See Ehrenfeld and Grove.)						
Haage, Hans, Erfurt, Germany. Rotary engine	867,126	Sept. 24	3637	1032–3	130	1232
Habersbrufier, Eduard, Sulzbach, and J. Stöcker, Bayreuth, Germany. Disappearing target	867,034	Sept. 24	3502	994	130	1192

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Hackett, Henry W. (See Coates and Hackett.)						
Hagen, Nels O., assignor of one-half to O. O. Forde, Pekin, N. D. Antihummer for telephone and telegraph lines	866,645	Sept. 24	2995	818	130	1000
Haigh, Joseph, Hennessey, Okla. Ter. Stovepipe-connector	866,785	Sept. 24	3123	879	130	1075
Hall, Herbert A., Kennebunk Port, Me. Device for sanding rails	866,721	Sept. 24	3026	854	130	1044
Hamilton, Howard F. (See Clark and Hamilton.)						
Hamm, Clayton W., assignor of two-fifths to R. S. Beard, York, Pa. Block-signal system for electric railways	867,197	Sept. 24	3767	1064	130	1275
Hamm, John, W., and M., Honey Creek, Wis. Corn-husking roll	867,035	Sept. 24	3505	995	130	1193
Hamm, Martin. (See Hamm, John, W., and M.)						
Hamm, William. (See Hamm, John, W., and M.)						
Hanford, Charles C., Toledo, Ohio. Pull-rod grip	867,036	Sept. 24	3506	995	130	1194
Hansen, Christian M., C. V. Müller, and J. C. E. Carlson, Vejle, Denmark. Weft-replenishing loom	867,127	Sept. 24	3638	1033–4	130	1232
Hanson, Bengt M. W., and A. E. Thayer, assignors to Pratt & Whitney Company, Hartford, Conn. Foot-stock	867,198	Sept. 24	3769	1065	130	1276
Hargis, Paul C., St. Louis, Mo. Wire fence	867,037	Sept. 24	3507	995	130	1194
Harman and Derichs. (See Harman, Gustav, assignor.)						
Harman, Gustav, assignor to Harman and Derichs, Holyoke, Mass. Grate-supporting structure for sidewalks	867,130	Sept. 24	3644	1035	130	1234
Harrell, William D. (See Todd, Harrell, and Todd.)						
Harris, Charles H., Sayre, Okla. Ter. Copy-holder	867,128	Sept. 24	3641	1035	130	1233
Hart, William L., and F. J. Daniels; said Hart assignor to C. C. Daniels, Olney, Ill. Mold	867,129	Sept. 24	3642	1035	130	1233
Harter, Clarence J., Ilion, N. Y. Contact device	866,646	Sept. 24	2996	818	130	1000
Hartley, Leonard H. (See Lawlor, Daniel, assignor.)						
Haselden, Harry A., assignor to Whitin Machine Works, Whitinsville, Mass. Apparatus having stop-motions	867,131	Sept. 24	3645	1036	130	1234
Hatton, George, Saltwells House, near Brierley Hill, England, Regenerative gas-furnace	867,038	Sept. 24	3508	995–6	130	1194
Haxton, William, Chicago, Ill. Perambulator-sled	867,039	Sept. 24	3510	996	130	1194
Hazelton, Fred S., Norton, Kans. Window-shade hanger	866,786	Sept. 24	3123	879	130	1075
Heaton, Warren. (See Getz, Phares E., assignor.)						
Heavner, Bluford, and C. A. Manker, Pearl, Ill. Means for protecting safes from burglars	866,929	Sept. 24	3339	943	130	1141
Hedrich, Charles. (See Melisch, John, assignor.)						
Heeter, Thomas E. (See Dawson and Heeter.)						
Hegeman, Benjamin A., Jr. (See Ames, John M., assignor.)						
Heiman, August, Coalinga, Cal. Pipe-tongs	867,132	Sept. 24	3646	1036	130	1234
Hemingray, Ralph G., Muncie, Ind., and J. O. Jensen, Rochester, N. Y. Furnace	866,787	Sept. 24	3125	879–80	130	1076
Henderson, Louisa B., New York, N. Y. Sewing-machine table	867,040	Sept. 24	3512	996	130	1195
Henderson, William M. (See Reinoehl and Henderson.)						
Hendryx, Wilbur A., Denver, Colo. Apparatus for depositing metals	866,858	Sept. 24	3224	907	130	1106
Hendryx, Wilbur A., Denver, Colo. Apparatus for depositing metals	866,859	Sept. 24	3229	908	130	1107
Herrmann, Carl J., Brooklyn, N. Y. Portable and adjustable pie-crate	866,860	Sept. 24	3232	908–9	130	1107
Hess, Bonnalyn P., Goshen, Ind., assignor to Ridgely Trimmer Company, Springfield, Ohio. Device for graining floors. (Reissue)	12,607	Sept. 24	3807	1074	130	1288
Hess Edgar A., Kendallville, Ind. Weeder	866,722	Sept. 24	3028	854	130	1045
Hibbard, Maury W., assignor to R. Fitzgerald, Chicago, Ill. Air-strainer for suction-valves	866,930	Sept. 24	3340	943	130	1142
Higgins, Andrew J., West Philadelphia, Pa. Combination-tool	866,931	Sept. 24	3341	943	130	1142
Hill, James B., Findlay, Ohio. Traction-apron	866,647	Sept. 24	2997	818–19	130	1000
Hill, Philip B., Little Rock, Ark. Variable printing-stamp	866,723	Sept. 24	3029	854–5	130	1045
Hitzert, Albert, Saginaw, Mich. Barrel-cabinet	866,724	Sept. 24	3030	855	130	1045
Hoffbauer, Alfred, New York, N. Y. Hydraulic cock	866,861	Sept. 24	3233	909	130	1108
Hoffmann, Oscar, Nuremburg, Germany. Machine for making paper or pasteboard with fibrous insertions	867,041	Sept. 24	3512	996–7	130	1195
Holben, Levi, San Francisco, Cal. Automatic fuel-regulator	867,042	Sept. 24	3513	997	130	1196
Holmer, John, assignor of one-half to C. M. Strand, South Chicago, Ill. Seal for car-doors	867,133	Sept. 24	3647	1036	130	1235
Holstein, Joseph L., assignor to Adjustable Collet Company, Cleveland, Ohio. Collet attachment	866,788	Sept. 24	3126	880	130	1076
Holtzhausen, Franz, Nossen, Germany. Decorticator	867,134	Sept. 24	3649	1037	130	1235
Honiss, William A., *et al.* (See Lorenz, William A., assignor.)						
Hooker, William C., Abingdon, Ill. Trap	866,932	Sept. 24	3342	943–4	130	1142
Hoover, Arthur L., Avery, Ohio. Combined potato-elevator and vine-separator	866,933	Sept. 24	3236	910–11	130	1109
Hopkins, George F., New York, N. Y., assignor to Pollard-Alling Manufacturing Company. Printing-machine	866,789	Sept. 24	3128	881	130	1077
Hopkins, William F., Milton, Wash. Railway-crossing signal	867,135	Sept. 24	3649	1037	130	1235
Hoppe, William, Freeport, Minn. Hay-carrier	866,725	Sept. 24	3033	855	130	1046
Hoppes, George D., Springfield, Ohio. Steam-separator	867,043	Sept. 24	3514	997–8	130	1196
Hudson, Francis V. M., Brooklyn, N. Y. Wall of building-blocks	867,044	Sept. 24	3516	998	130	1197
Huss, Philip, Lakewood, N. J. Larding-needle for meat	866,790	Sept. 24	3129	881	130	1077
Hutcheson, Karl H., Atlanta, Ga. Bed-bottom	866,653	Sept. 24	2917	824	130	1004
Hutchins, Charles, Pataskala, Ohio. Mold for cement posts						
Hutchinson, William F., Nyack, N. Y., assignor to Sarnia Match Company, Sarnia, Ontario, Canada. Match-machine	866,648	Sept. 24	2908	819	130	1001
Hutchinson, William F., Nyack, N. Y., assignor to Sarnia Match Company, Sarnia, Ontario, Canada. Match-machine	866,649	Sept. 24	2910	819	130	1001
Hutchinson, William F., Nyack, N. Y., assignor to Sarnia Match Company, Sarnia, Ontario, Canada. Match-machine	866,650	Sept. 24	2910	819–23	130	1001
Hutchinson, William F., Nyack, N. Y., assignor to Sarnia Match Company, Sarnia, Ontario, Canada. Match-machine	866,651	Sept. 24	2914	823–4	130	1002
Hutchinson, William F., Nyack, N. Y., assignor to Sarnia Match Company, Sarnia, Ontario, Canada. Dry-kiln	866,652	Sept. 24	2917	824	130	1003
International Flax Twine Company. (See Ellis, George H., assignor.)						
International Harvester Company. (See Dennis and Rice, assignors.)						
International Harvester Company. (See Sharp, Charles S., assignor.)						
J. S. McDonald Company. (See McDonald, James S., assignor.)						
Jack, Robert E., Milwaukee, Wis., assignor, by mesne assignments, to Magic Broom-Holder Company. Handle-holder	867,199	Sept. 24	3770	1063	130	1276
Jackson, Benjamin A. (See Ochoa, Victor L., assignor.)						
Jackson, James A., *et al.* (See Wolfe and Wood, assignors.)						
Jackson, James A., Iola, Kans. Eccentric	867,136	Sept. 24	3650	1037	130	1235
Jackson, Joseph H., Hamilton, Ontario, Canada. Type-writing machine	867,045	Sept. 24	3517	998	130	1197
Jakob, Victor, Columbus, Ohio. Two-cycle gas-engine	866,654	Sept. 24	2918	825	130	1004
James, Charles W., assignor to E. Allen and Company, Limited, Sheffield, England. Automatic feed-gear for conveyers	866,864	Sept. 24	3240	911	130	1110
James, Edward T., and G. W. Webb, Charlotte, N. C. Cross-head	866,655	Sept. 24	2921	825	130	1004
Jelf, Calvin, Granite City, Ill. Baling-press	867,200	Sept. 24	3771	1065	130	1276
Jennings, Marcus E., and A. J. Winebrake, Scranton, Pa. Hat-fastener	866,656	Sept. 24	2922	825	130	1005
Jennings, William S., Lyon, Miss. Plow	866,657	Sept. 24	2923	826	130	1005

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Jensen, John O. (See Hemingray and Jensen.)						
Johns-Pratt Company. (See Cole, Robert C., assignor.)						
Johnsen, Camilla J., Whiting, Ind. Window-reflector	866,658	Sept. 24	2923	826	130	1005
Johnson, Adolf E., Providence, R. I. Sprinkler-stoppingdevice	866,933	Sept. 24	3243	944	130	1142
Johnson, Carl V., Goldfield, Nev. Amusement apparatus	866,659	Sept. 24	2924	826	130	1006
Jones, Albert F., Wautoma, and B. J. Evans, New London, Wis. Attachment for cream-separators	866,865	Sept. 24	3241	911–12	130	1110
Jottrand, Felix, Uccle, near Brussels, Belgium. Apparatus for cutting metal articles	866,866	Sept. 24	3242	912	130	1110
Juman, Lucien, Paris, France. Electrometallurgical process for extracting copper from its ores	867,046	Sept. 24	3519	.....	130	1197
Junker, Carl, Karlsruhe, Baden, Germany. Sterilizing apparatus	867,048	Sept. 24	3524	999	130	1198
Junkin, John C., Drayton, assignor of one-half to G. J. Patterson, Bowesmont, N. D. Excavating apparatus	867,047	Sept. 24	3520	998–9	130	1198
Kalamazoo Loose Leaf Binder Company. (See Bushong, Harry F., assignor.)						
Karr, James P., and J. D. Rauch, Logansport, Ind. Clutch-operating mechanism	867,137	Sept. 24	3552	1038	130	1236
Katz, Frederick J., Chicago, Ill. Binder attachment for baling-presses	866,934	Sept. 24	3244	944–5	130	1142
Kauffman, William H., Davenport, Iowa. Stay-bolt chuck	867,201	Sept. 24	3772	1066	130	1277
Kaukasell, Datiko, West Berkeley, Cal. Silk-worm-breeding device	867,138	Sept. 24	3553	1038	130	1236
Kearney, Maurice J., Brockton, Mass. Cushion-heel for boots and shoes	866,857	Sept. 24	3244	912	130	1111
Kemmeter, John, Allouez, Wis. Drapery-holder	866,664	Sept. 24	2931	829	130	1008
Kemp, Harry, Newton, Mass. Feeding mechanism for carding-machines	866,726	Sept. 24	3035	856	130	1047
Kendall, David H., assignor to American Sun Bonnet Company, Lathrop, Mo. Making stiffenings for sunbonnets and the like	867,202	Sept. 24	3773	1066	130	1277
Kender, Josef. (See Kerekes and Kender.)						
Kennedy, Walter J., Grand Rapids, Mich. Gas-igniter	867,139	Sept. 24	3554	1038	130	1236
Keown, James W., Rome, Ga. Combined spring and lock hinge	866,791	Sept. 24	3130	881	130	1077
Kerekes, Daniel, and J. Kender, Bridgeport, Conn. Life-saving apparatus	866,935	Sept. 24	3348	946	130	1144
Ketterer, George. (See Forsyth, Charles E., assignor.)						
Kiesselbach, Clemens, Rath, near Düsseldorf, Germany. Compound engine	866,936	Sept. 24	3349	946	130	1144
Kimerer, Joseph C., Paris, Tex. Means for loading and unloading cars	866,868	Sept. 24	3245	912–13	130	1112
Kinnear, Blanch T., Clinton, Mass. Stove-lid lifter	866,937	Sept. 24	3350	947	130	1145
Kinsey, Ernest U., Rutherford, N. J. Vacuum-vent for jars	866,938	Sept. 24	3350	947	130	1145
Kirchner, Albert J., assignor to Recording and Computing Machines Company, Dayton, Ohio. Register	867,049	Sept. 24	3524	1000	130	1199
Kirkpatrick Manufacturing Company. (See Kirkpatrick, William H. G., assignor.)						
Kirkpatrick, William H. G., assignor to Kirkpatrick Manufacturing Company, Philadelphia, Pa. Molding for electric wiring	867,140	Sept. 24	3555	1038	130	1237
Knabe, Ernest J., Jr. (See Darley, John W., Jr., assignor.)						
Knott, Frank W., assignor of one-half to E. J. Waldeck, St. Louis, Mo. Pneumatic-despatch-tube apparatus	867,050	Sept. 24	3527	1000	130	1199
Knox, Samuel L. G., Milwaukee, Wis. Conveyer system	866,792	Sept. 24	3131	882	130	1078
Korf, Samuel, New York, N. Y. Pocket-article guard	867,051	Sept. 24	3529	1000	130	1200
Kornbrodt, Theodore, Chicago, Ill. Air-ship	866,665	Sept. 24	2932	829	130	1008
Kösters, Oscar A. H. H., Hemelingen, near Bremen, Germany. Emulsion of oil and the like	867,141	Sept. 24	3555	.....	130	1273
Köttgen, Carl, Schöneberg, and G. Meyer, assignors to Siemens-Schuckert Werke, G. M. B. H., Berlin, Germany. Towing-locomotive	867,052	Sept. 24	3530	1001	130	1200
Kraft, Arthur F., *et al.* (See Little, Robert A., assignor.)						
Kramer, Samuel, San Francisco, Cal. Folding bed	867,053	Sept. 24	3531	1001	130	1200
Kratzer, Franz, assignor to A. Moralt, Bad Tölz, Germany. Friction-brake-setting device	867,054	Sept. 24	3533	1001	130	1201
Kubicek, Albert F., Chicago, Ill. Automatic air sanding-machine	867,055	Sept. 24	3534	1001	130	1202
Kuehnlein, Harry and W., Philadelphia, Pa. Music-leaf turner	867,056	Sept. 24	3536	1002	130	1202
Kuehnlein, William. (See Kuehnlein, Harry and W.)						
Kuensting, Charles, Woodburn, Oreg. Hop-press	867,142	Sept. 24	3658	1039	130	1237
Kunstfäden Gesellschaft mit Beschränkter Haftung. (See Bottler, Charles, assignor.)						
Laidlaw, Henri D., assignor of two-thirds to W. H. Burnett and W. D. Parson, San Francisco, Cal. Apparatus for purifying and aging liquors	867,143	Sept. 24	3661	1039	130	1238
Lancaster, Charles F., Petoskey, Mich. Nut-holding device	866,793	Sept. 24	3133	883	130	1078
Lancaster, Samuel E., *et al.* (See Thompson, Guy M., assignor.)						
Lansden, John M., Jr., Orange, N. J. Vehicle-brake	867,057	Sept. 24	3538	1002	130	1203
Larson, Peter S., and R. C. Duea, Sharon, N. D. Grain-door for box-cars	867,058	Sept. 24	3539	1003	130	1203
Lawlor, Daniel, assignor of one-half to L. H. Hartley, Lowell, Mass. Jacquard-machine	866,660	Sept. 24	2925	827	130	1006
Le Baron, Daniel M., Amos, Nev. Power transmission	867,060	Sept. 24	3541	1003	130	1204
Leach, William H., Jr. (See Thomas and Leach.)						
Lear, Samuel B., San Francisco, Cal. Hose and like coupling	867,059	Sept. 24	3540	1003	130	1203
Leder, Ernst, Rixdorf, Germany. Calculator	867,061	Sept. 24	3542	1003–5	130	1204
Lee, Charles E., Chicago, Ill., assignor to Electric Goods Manf'g Company, Boston, Mass. Intercommunicating telephone	866,794	Sept. 24	3134	883	130	1078
Lee, Edward A., Vinita, Ind. Ter. Well-bucket bottom	866,661	Sept. 24	2927	828	130	1006
Lee, Elmos, Paducah, Ky. Brake-shoe for locomotives	867,144	Sept. 24	3662	1040	130	1238
Lehmann, Fritz, Vohwinkel, near Elberfeld, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Reddish-brown sulfur dye	866,939	Sept. 24	3352	.....	130	1145
Lidseen, Gustave, and L. L. Blake, Chicago, Ill.; said Lidseen assignor to said Blake. Speed-governor	866,795	Sept. 24	3135	883	130	1079
Lillie, Orville C., Conneaut, Ohio. Tooth-brush	867,062	Sept. 24	3547	1005	130	1205
Lillie, Orville C., assignor, by mesne assignments, of three-tenths to G. M. Whitney, Conneaut, Ohio. Rotary tooth-brush	867,063	Sept. 24	3548	1005	130	1205
Lindauer, Jules, Paris, France. Corset	866,869	Sept. 24	3248	913	130	1113
Linen Thread Company. (See Gay, George E., assignor.)						
Lipman, Robert, Strassburg, Germany. Construction of iron girders	866,940	Sept. 24	3352	947	130	1145
Little, Nathaniel J., Fargo, N. D. Sample-case	866,727	Sept. 24	3036	856	130	1048
Little, Robert A., Buffalo, assignor of two-thirds to E. T. and C. L. Anson, Lockport, N. Y. Feed-regulator for grain-separators	866,941	Sept. 24	3352	948	130	1145
Little, Robert A., Buffalo, assignor of four-fifths to E. T. and C. L. Anson, Lockport, E. Taft and A. F. Kraft, Buffalo, N. Y. Seed-cleaning mechanism	866,942	Sept. 24	3354	948–9	130	1142
Living Letters Limited. (See Chandler, Samuel and J., assignors.)						
Locomobile Company of America. (See Riker, Andrew L., assignor.)						
Loew, Charles H., Lakewood, Ohio. Pasteurizer	866,870	Sept. 24	3249	914	130	1113
Long, Malcolm W., Harrisburg, assignor to Pennsylvania Steel Company, Philadelphia, Pa. Switch-stand	866,662	Sept. 24	2928	828	130	1006
Long, Malcolm W., Harrisburg, assignor to Pennsylvania Steel Company, Philadelphia, Pa. Switch-stand	866,871	Sept. 24	3250	914	130	1113
Long, Malcolm W., Harrisburg, assignor to Pennsylvania Steel Company, Philadelphia, Pa. Semaphore switch-stand	866,872	Sept. 24	3251	914–15	130	1114
Long, Philip H., Newark, N. J. Necktie-fastener	866,943	Sept. 24	3356	949	130	1146
Lorenz, William A., Hartford, Conn., assignor of three-fourths to Beechnut Packing Company, Canajoharie, N. Y., and W. H. Honiss, Hartford, Conn. Vacuum sealing apparatus	866,663	Sept. 24	2929	828	130	1007
Lovell, Edwin, London, England. Exercising apparatus for children	866,728	Sept. 24	3036	857	130	1049
Luecders, Emil H., Reedsburg, Wis. Spark-arrester	867,145	Sept. 24	3663	1040	130	1239

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Lux, Paul, assignor to Waterbury Clock Co., Waterbury, Conn. Alarm-clock	866,873	Sept. 24	3253	915	130	1114
Lynchburg Foundry Co. (See Proffitt, Edward H., assignor.)						
Maas, George H., Fargo, N. D. Box-fastener and seal therefor	866,944	Sept. 24	3357	949	130	1146
MacKay, Joseph E., Los Angeles, Cal. Tire	866,874	Sept. 24	3254	915	130	1115
MacKenzie, William J., Dunmurry, Ireland. Electric signaling on railways	866,945	Sept. 24	3359	950	130	1147
Mace, Homer M., Catskill, N. Y. Surgical bandage	866,666	Sept. 24	2933	830	130	1008
Macwilliam, Hugh G., New Rochelle, N. Y. Hose-supporter	867,064	Sept. 24	3549	1005	130	1206
Magic Broom-Holder Company. (See Jack, Robert E., assignor.)						
Magill, Fergus, Williamsport, Pa. Pruning-shears	866,875	Sept. 24	3255	915	130	1115
Magruder, James F., Meadville, Pa. Candy-spinning machine	866,946	Sept. 24	3361	951	130	1148
Manker, Carey A. (See Heavner and Manker.)						
Marburg, Louis C., Norwood, Ohio, assignor to Bullock Electric Manufacturing Company. System of electrical distribution	867,065	Sept. 24	3550	1006	130	1206
Marchand, William L., Rolla, N. D. Sleigh-brake	866,947	Sept. 24	3364	951	130	1149
Marchant, Everett C., Maynard, Mass. Spindle-oiler	867,066	Sept. 24	3551	1006	130	1207
Marden, Arthur M. (See Slagle, Oliver, assignor.)						
Marion, Thomas J. (See Flynn, John W., assignor.)						
Markell, Grace E., Boston, Mass. Girdle	867,146	Sept. 24	3664	1040	130	1239
Martindale, Frederick N., Gouverneur, N. Y. Strainer for teapots	866,796	Sept. 24	3138	884	130	1080
Matchette, Frank J., assignor to American Air Cleaning Company, Milwaukee, Wis. Carpet-cleaner	867,067	Sept. 24	3552	1006	130	1207
Mattman, Emil, Norwood, Ohio, assignor to Allis-Chalmers Company and Bullock Electric Manufacturing Company. Means for fastening collector-leads	866,667	Sept. 24	2934	830	130	1008
McCarthy, Alexander, New York, N. Y. Air-compressor	866,878	Sept. 24	3260	916–17	130	1117
McClave-Brooks Company. (See McClave, William, assignor.)						
McClave, William, assignor to McClave-Brooks Company, Scranton, Pa. Pneumatic delivery system	867,068	Sept. 24	3554	1006–7	130	1208
McCollum, Archibald J., assignor to Armac Motor Company, Chicago, Ill. Fly-wheel construction for gas-engines	867,207	Sept. 24	3778	1068	130	1278
McDaniel, John S., Lebanon, Ind. Washing-machine	866,731	Sept. 24	3041	857	130	1050
McDonald, James S., assignor to J. S. McDonald Company, Chicago, Ill. Temporary binder for loose leaves	867,223	Sept. 24	3804	1073	130	1287
McElroy, John H., Chicago, Ill. Voting-machine	866,801	Sept. 24	3143	886–7	130	1082
McGee, Guy C., assignor of one-fourth to A. G. Bruner, Ironton, Colo. Fly-trap	866,879	Sept. 24	3261	917	130	1117
McGraw, Lee H., Monterey, Ky. Running-gear	866,668	Sept. 24	2935	830	130	1009
McIntyre, Robert S., Riverside, Cal. Sprocket-chain	867,208	Sept. 24	3779	1068	130	1279
McKee, Garnet W., Detroit, Mich. Meter connection	866,952	Sept. 24	3370	953	130	1151
McLain, Frank H., Stratton, Me. Screw-threading machine	866,953	Sept 24	3371	953–4	130	1151
McMillan, Malcolm, *et al.* (See Bickle, Henry J., assignor.)						
Meacham, Benjamin E., Lorain, assignor of one-half to L. Friedman, Cleveland, Ohio. Valve	866,948	Sept. 24	3365	952	130	1149
Meech, Alfred H., Chatham, N. Y. Rope or cable clamp	866,876	Sept. 24	3257	916	130	1116
Mellach, John, assignor of one-half to C. Hedrich, Granite City, Ill. Extension-table	867,203	Sept. 24	3775	1066	130	1277
Merrick, Stephen F., St. Louis, Mo. Water-elevator	866,949	Sept. 24	3366	952	130	1149
Meyer, Franz, Oak Park, assignor to G. A. Baker, Jr., Chicago, Ill. Player-piano action	867,204	Sept. 24	3776	1067	130	1278
Meyer, Georg. (See Köttgen and Meyer.)						
Meyer, Jacob A., *et al.* (See Thompson, Guy M., assignor.)						
Meyers, Charles L., Jersey City, N. J. Needle for talking-machines	866,950	Sept. 24	3367	952	130	1150
Miller, Corwin F., Wolcottville, Ind. Hand-truck	866,797	Sept. 24	3139	884	130	1080
Miller, Harry E. (See Cottrell, Frederick G., assignor.)						
Moeckel, William, Jersey City, N. J. Trolley	866,729	Sept. 24	3039	857	130	1049
Monarch Seal Company. (See Schmitt, Edward D., assignor.)						
Monitor Drill Company. (See Brennan, Thomas, Jr., assignor.)						
Moon, De Witt A. (See Christman and Moon.)						
Moralt, August. (See Kratzer, Franz, assignor.)						
Morris, Mary V., Point Marion, Pa. Shade and curtain holder	866,798	Sept. 24	3140	884	130	1064
Morton, Joseph C., assignor of one-half to O. P. Cassity, Eldorado Springs, Mo. Vehicle-body brace	866,730	Sept. 24	3040	857	130	1048
Moser, Frank W. (See Brown, William A., assignor.)						
Moulton, Edgar S., Central City, Colo. Roller-mill	866,799	Sept. 24	3141	884–5	130	1081
Muirhead, John, assignor of one-half to G. M. Bailey, Providence, R. I. Ladder-hoist	866,877	Sept. 24	3258	916	130	1116
Müller, Carl V. (See Hansen, Müller, and Carlsson.)						
Mullinax, Wilkie D., Gore, Ga. Cultivator	866,800	Sept. 24	3143	885–6	130	1081
Murdoch, Michael J., assignor of two-thirds to J. J. Gorman and H. A. Ernst, Youngstown, Ohio. Fan attachment	866,951	Sept. 24	3368	952	130	1150
Myers, Charles H., Buffalo, N. Y. Wrench-socket	867,205	Sept. 24	3777	1067	130	1278
Nager, Herman I. (See Sauter, Herman, assignor.)						
Nehr, Herman F., New York, N. Y. Bed	866,954	Sept. 24	3376	954–5	130	1153
Neukirch, Hubert V., assignor to E. E. Freytag, Zwickau, Germany. Acetylene-gas generator	866,955	Sept. 24	3377	955	130	1154
Neulander, Jerome, Cleveland, Ohio. Calendar	866,802	Sept. 24	3154	887	130	1084
Neumann, Fritz, Nuremberg, Germany. Blade-wheel for centrifugal pumps	867,069	Sept. 24	3557	1007	130	1209
Newton, Frank H., Greenville, S. C. Skirt-holder	866,669	Sept. 24	2936	831	130	1009
Nielsen, Sören P. (See Eriksson and Nielsen.)						
Niles-Bement-Pond Company. (See Reiss and Wood, assignors.)						
Noonan, Michael H., Modesto, Cal. Garden implement	867,224	Sept. 24	3805	1074	130	1288
Norton, Fred E. (See Reynolds and Norton.)						
Norton, Fred E., Youngstown, Ohio. Compound engine	866,803	Sept. 24	3155	887	130	1084
Noyes, William S., assignor of one-half to W. D. Pickels, Chicago, Ill. Pocket-register	866,670	Sept. 24	2937	831	130	1009
Nyberg, Carl E. (See Olson and Nyberg.)						
O'Brate, Anthony, Enid, Okla. Ter. Flying-machine	866,672	Sept. 24	2941	832	130	1011
O'Brate, Anthony, Enid, Okla. Ter. Flying-machine	866,673	Sept. 24	2943	832–3	130	1011
Oates, George P., assignor to American Seeding Machine Company, Springfield, Ohio. Distributer for seeding-machines	866,671	Sept. 24	2939	831	130	1010
Ochoa, Victor L., assignor of one-half to B. A. Jackson, New York, N. Y. Rail magnetic brake	867,147	Sept. 24	3665	1040	130	1240
Ogden, Walter R., Louisville, Ky. Pan-lifter	867,070	Sept. 24	3558	1007	130	1209
Olander, Frank. (See Blomberg, Edwin C., assignor.)						
Old Hickory Chair Company. (See Staley, Harrison L., assignor.)						
Olden, William Q. (See Campbell, Robert B., assignor.)						
Olden, William Q., Chicago, assignor to himself, and R. B. Campbell, Joliet, Ill. Car construction	866,674	Sept. 24	2945	833–4	130	1012
Olden, William Q., Chicago, assignor to himself, and R. B. Campbell, Joliet, Ill. Car-brake	866,675	Sept. 24	2948	834	130	1012
Olden, William Q., Chicago, assignor to himself, and R. B. Campbell, Joliet, Ill. Dump-car	866,676	Sept. 24	2949	835	130	1013
Oldham, Samuel. (See Rivett and Oldham.)						
Olson, Alex H., and C. E. Nyberg, Chicago, Ill. Rotary engine	866,677	Sept. 24	2952	836–7	130	1013
Olson, Carl A., Milan, Minn. Hoisting apparatus	867,071	Sept. 24	3559	1007	130	1209
Olson, Samuel, Chicago, Ill. Pneumatic conveyer	866,804	Sept. 24	3156	187	130	1085

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Orrison, Joseph C., Leighs, Va. Brake-lever	866,805	Sept. 24	3157	888	130	1085
Ostrander, Allen E., Paterson, N. J., assignor to American Car & Foundry Company, St. Louis, Mo. Car-underframe	866,956	Sept. 24	3378	955–6	130	1154
Overbay, Anders A., Ceres, Va. Cutter-head	866,860	Sept. 24	3262	917–18	130	1117
Owen, Oscar L., assignor to Whitin Machine Works, Whitinsville, Mass. Horsetail for drawing-off mechanisms	867,072	Sept. 24	3560	1008	130	1210
Parker, Charles I., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Partition-support	866,881	Sept. 24	3263	918	130	1117
Parker, Joseph C. (See Reed, Adam, assignor.)						
Parson, Warren D., *et al.* (See Laidlaw, Henri D., assignor.)						
Parsons, James W., Pleasant Green, Mo. Dry-goods-measuring machine	866,957	Sept. 24	3379	956	130	1155
Patschke, Arthur, Düsseldorf, Germany. Steam-turbine	866,958	Sept. 24	3380	956	130	1155
Patterson, George J. (See Junkin, John C., assignor.)						
Patterson, Gilbert, Duluth Minn. Cleaner for water-tube boilers	867,073	Sept. 24	3562	1008	130	1210
Pearce, David M., Union City, Tenn. Seed-planter	867,074	Sept. 24	3563	1008–9	130	1211
Pearson, Olaf, Metropolitan, Mich. Work-holding means	866,678	Sept. 24	2955	837	130	1014
Peltier, Wilfrid, Concordia, Kans. Gate opener and closer	866,806	Sept. 24	3158	888	130	1086
Pennsylvania Steel Company. (See Long, Malcolm W., assignor.)						
Persson, Gottfrid, Elgin, Tex. Listing-plow	866,679	Sept. 24	2957	837	130	1015
Philadelphia Ornamental Wire Company. (See Wedmore, Daniel A., assignor.)						
Pickels, William D. (See Noyes, William S., assignor.)						
Pieri, Pompeo, Paris, France. Ship's propeller	867,148	Sept. 24	3666	1041	130	1240
Pitts, David L., Painted Post, N. Y. Drip cup or receptacle	866,807	Sept. 24	3160	888	130	1086
Pittsburg Water Heater Company. (See Reinecke, John P., assignor.)						
Plotner, Albert L., Dorchester, Mass. Amusement apparatus	866,680	Sept. 24	2958	838	130	1015
Podhajsky, Otakar, Warren, Pa. Internal-combustion engine	867,075	Sept. 24	3567	1010	130	1212
Pollard-Alling Manufacturing Company. (See Griesser, Richard, assignor.)						
Pollard-Alling Manufacturing Company. (See Hopkins, George F., assignor.)						
Pollock, Robert H., *et al.* (See Schmitt, Edward D., assignor.)						
Porteous, William, College Hill, Ohio. Horizontal reaming, tapping, and facing machine	867,076	Sept. 24	3568	1010	130	1212
Porteous, William, College Hill, Ohio. Reaming and tapping machine	867,077	Sept. 24	3570	1012–13	130	1213
Potthoff, Louis, Flushing, N. Y. Electroplating apparatus	866,959	Sept. 24	3381	957	130	1155
Poulton, Henry S. (See Poulton, Robert and H. S.)						
Poulton, Robert and H. S., Toronto, Ontario, Canada. Rotary engine	866,808	Sept. 24	3161	888–9	130	1087
Powell, George H., Gardner, Kans. Bottle	866,682	Sept. 24	2962	839	130	1016
Powell, Theodore C., Middle River, Iowa. Door-fastener	866,681	Sept. 24	2961	838	130	1016
Pratt, Thomas, Beaver Falls, Pa. Saggar for treating tiles, &c.	866,960	Sept. 24	3383	957	130	1156
Pratt & Whitney Company. (See Hanson and Thayer, assignors.)						
Preble, George L., Lynn, Mass. Counter for boots and shoes	866,732	Sept. 24	3042	858	130	1050
Price, Freeman B., Butte, Mont. Coffee-percolator	866,809	Sept. 24	3164	889	130	1088
Priest, William J., Pleasant Valley, Cal. Fruit-picker	866,882	Sept. 24	3264	918	130	1118
Proffitt, Edward H., Madison Heights, assignor of one-half to Lynchburg Foundry Co., Lynchburg, Va. Core-arbor	866,961	Sept. 24	3384	958	130	1156
Providence Tipping Machine Co. (See Church, William H., assignor.)						
Purtle, Albert D., and I. E. Rowland, Salem, W. Va. Making carbon-black	866,883	Sept. 24	3264	918	130	1118
Raible, John F. (See Raible, Pius and J. F.)						
Raible, Pius and J. F., Chicago, Ill. Registering device for printing-chases	866,683	Sept. 24	2963	839	130	1017
Ramsay, Andrew, Mount Savage, Md. Brick-cutting machinery	867,149	Sept. 24	1667	1041	130	1240
Ranney, William C., trustee. (See Doman, Lewis B., assignor.)						
Rauch, John D. (See Karr and Rauch.)						
Rauhe, Carl, Düsseldorf, Germany. Swage for dental crown-plates and similar articles	866,962	Sept. 24	3386	958	130	1157
Rauhe, Carl, Düsseldorf, Germany. Dental bur	866,963	Sept. 24	3387	958	130	1157
Raven, Vincent L., Darlington, England. Railway signaling apparatus	867,150	Sept. 24	3669	1041–2	130	1241
Raven, Vincent L., Darlington, England. Railway signaling apparatus	867,151	Sept. 24	3678	1043	130	1245
Raven, Vincent L., Darlington, England. Railway signaling apparatus	867,152	Sept. 24	3682	1043	130	1248
Reams, Herman S., assignor to Richmond Cedar Works, Richmond, Va. Washing-machine	866,964	Sept. 24	3387	959	130	1157
Recording and Computing Machines Company. (See Kirchner, Albert J., assignor.)						
Redding, Robert E., Marion, Ala. Mail-bag lock	866,965	Sept. 24	3388	959	130	1158
Reed, Adam, assignor to J. C. Parker, Middletown, Del. Horse-collar	867,209	Sept. 24	3780	1068	130	1279
Reinecke, John P., Idlewood, assignor, by mesne assignments, of one-half to Pittsburg Water Heater Company, Allegheny, Pa. Instantaneous water-heater	866,966	Sept. 24	3390	959	130	1158
Reinoehl, Charles W., and W. M. Henderson, Harrisburg, Pa. Railway-frog	866,884	Sept. 24	3265	919	130	1118
Reiss, George T., and A. Wood, Hamilton, Ohio, assignors to Niles-Bement-Pond Company, Jersey City, N. J. Driving-wheel lathe	866,885	Sept. 24	3266	919	130	1119
Reule, Michael. (See Glenn and Reule.)						
Reynolds, Charles W., Los Angeles, Cal. Briquet-machine	867,210	Sept. 24	3781	1068–9	130	1279
Reynolds, George L., Auburn, N. Y. Horseshoe	866,733	Sept. 24	3043	858	130	1050
Reynolds, Irving H., and F. E. Norton, Youngstown, Ohio. Compound engine	867,078	Sept. 24	3573	1013	130	1213
Rhoades, Alonzo E., assignor to Draper Company, Hopedale, Mass. Balling-machine	867,153	Sept. 24	3685	1043–4	130	1249
Rice, Frank W. (See Dennis and Rice.)						
Richards, Francis H., Hartford, Conn. Carving-machine	867,079	Sept. 24	3574	1014	130	1213
Richards, Harry W., Manitowoc, Wis. Coal-chute	867,156	Sept. 24	3693	1044	130	1253
Richards, Walter J., Norwood, Ohio, assignor to Allis-Chalmers Company. System of motor control	867,154	Sept. 24	3688	1044	130	1250
Richards, Walter J., Norwood, Ohio, assignor to Allis-Chalmers Company. Motor-control system	867,155	Sept. 24	3691	1044	130	1252
Richards, Willard F., Buffalo, assignor to Gould Coupler Company, New York, N. Y. Car-underframe	866,967	Sept. 24	3391	959–60	130	1158
Richardson, Earl H., Ontario, Cal. Electric laundry-iron	866,810	Sept. 24	3164	889	130	1088
Richmond Cedar Works. (See Reams, Herman S., assignor.)						
Richter, Maurice, Williamstown, Va. Utilizing hillsides and mountains	867,157	Sept. 24	3694	1045	130	1253
Ricketts, William C., Dayton, Ohio. Gas-valve for hot-water boilers	866,886	Sept. 24	3268	920	130	1119
Ridgely Trimmer Company. (See Hess, Bonnelyn P., assignor.) (Reissue.)						
Riedemann, Johann, Glinde, near Uetersen, Germany. Device for the barriers of horse-stables	866,811	Sept. 24	3167	890	130	1089
Ries, Elias E., New York, N. Y. Hand-straps for cars and other conveyances	866,812	Sept. 24	3167	890	130	1089
Rife, Uriah L., Sound Beach, Conn. Sponge-holder	867,080	Sept. 24	3578	1015	130	1214
Riggin, Henry H., Altoona, Pa. Blow-off valve	866,684	Sept. 24	2963	839	130	1017
Riker, Andrew L., Bridgeport, Conn., assignor to Locomobile Company of America, New York, N. Y. Circuit making and breaking device	867,211	Sept. 24	3785	1069	130	1280
Risley, Willie E. (See Abbey and Risley.)						
Rivett, Fred, Heaton Chapel, and S. Oldham, Heaton Norris, England. Machine for gassing yarn or thread	866,734	Sept. 24	3044	858	130	1051
Robinson, Frank T., assignor to Twin Bottle-Cap Company, Chicago, Ill. Combined metallic and frangible cap for bottles	866,813	Sept. 24	3172	891	130	1090
Robinson, James R., Pittsburg, Pa. Rotary fan	866,887	Sept. 24	3269	920	130	1120
Robinson, Jonathan J., Bloomsburg, Pa. Gage	867,081	Sept. 24	3579	1016	130	1215
Rockwell, Lucius A., New York, N. Y. Biscuit-cutter	867,082	Sept. 24	3580	1016	130	1215
Roemer, Friedrich, Stuttgart Germany. Fire-extinguisher	866,888	Sept. 24	3271	920	130	1120

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Rogers, John C., *et al.* (See De Vaux, Louis, assignor.)						
Rolfe, Charles A., Adrian, Mich., assignor, by mesne assignments, to Rolfe Electric Co., Rochester, N. Y. Circuit-protector	866,735	Sept. 24	3045	859	130	1051
Rolfe, Charles A., assignor to Rolfe Electric Company, Rochester, N. Y. Electrical-circuit protector	867,212	Sept. 24	3786	1069	130	1280
Rolfe Electric Co. (See Rolfe, Charles A., assignor.)						
Ronceray, Eugène. (See Bonvillain and Ronceray.)						
Rowland, Irven E. (See Purtle and Rowland.)						
Rucker, William A., New York, N. Y. Display-cabinet for laces, &c.	866,814	Sept. 24	3174	891	130	1091
Rumsey, Herbert R. (See Rumsey, John C. S. and H. R.)						
Rumsey, John C. S. and H. R., Vinland, Kans. Scoop	866,736	Sept. 24	3047	859	130	1051
Russell, Arthur G., San Diego, Cal. Air-ship	867,083	Sept. 24	3581	1016	130	1216
Russell, Daniel J., Portland, Oreg. Register	866,737	Sept. 24	3048	859–60	130	1052
Russell & Erwin Manufacturing Company. (See Parker, Charles I., assignor.)						
Russell & Erwin Manufacturing Company. (See Voight, Henry G., assignor.)						
Russell & Erwin Manufacturing Company. (See Voight and Caley, assignors.)						
Ryan, Edwin T., Baltimore, Md., assignor of one-half to H. Scarborough, Chicago, Ill. Bottle-sealing machine	867,213	Sept. 24	3788	1070	130	1280
S. R. Dresser Manufacturing Company. (See Clark, James, assignor.)						
Saari, Jacob, Annandale, Minn. Hinge	866,968	Sept. 24	3392	960	130	1159
Sagax Wood Company. (See Siegmann, William, assignor.)						
Salisbury, Anson N., and L. M. Brackett, Clarendon, N. Y. Wagon-body	866,685	Sept. 24	2964	840	130	1017
Sanderson, Ora, Conesville, Iowa. Potato-digger	866,889	Sept. 24	3272	921	130	1120
Sarnia Match Company. (See Hutchinson, William F., assignor.)						
Sauter, Herman, assignor to H. I. Nager, Chicago, Ill. Paper-interleaving machine	867,159	Sept. 24	3696	1045–8	130	1254
Sawtell, Leon P., T. S. Field, and G. G. Crouch, Atlanta, Ga. Horseshoe	867,084	Sept. 24	3584	1016	130	1216
Sayers, Farley P., Guthrie, Tex. Pump-rod attachment	866,815	Sept. 24	3174	891	130	1091
Sayers, Pette N., Pontoosuc, Ill. Equalizer	866,816	Sept. 24	3175	891–2	130	1091
Sayers, Pette N., Pontoosuc, Ill. Oiling apparatus	867,160	Sept. 24	3703	1048	130	1256
Scarborough, Henry. (See Ryan, Edwin T., assignor.)						
Scheibal, Frans, *et al.* (See Themke, Louis E. L., assignor.)						
Schimkat, Carl G., Fremont, Ohio. Safety-razor	866,969	Sept. 24	3393	960	130	1159
Schloss, Joseph W., New York, N. Y. Button	866,817	Sept. 24	3176	892	130	1091
Schmidt, Edouard. (See Schmidt, Gustav, assignor.)						
Schmidt, Gustav, assignor to E. Schmidt, Kolmar, Alsace, Germany. Thread-controller	866,890	Sept. 24	3273	921	130	1121
Schmitt, Edward D., Brooklyn, N. Y., assignor of two-thirds to R. H. Pollock and W. F. Thomas, Baltimore, Md. Stamp or ticket vending machine	866,891	Sept. 24	3275	921–2	130	1121
Schmitt, Edward D., Brooklyn, assignor to Monarch Seal Company, New York, N. Y. Sealing-head for bottle-sealing machines	867,214	Sept. 24	3791	1070	130	1282
Schmitz, Mathias, Schenectady, N. Y. Shaving-brush and soap-holder	866,970	Sept. 24	3394	961	130	1159
Schmitz, Wilhelm, Hamburg, Germany. Inverted incandescent gas-burner	866,686	Sept. 24	2966	840	130	1018
Schmitz, Wilhelm, Hamburg, Germany. Regulating gas-burner	866,687	Sept. 24	2966	840	130	1018
Schnader, Milton H. (See Stevenson, George W., assignor.)						
Schreiber, Carl. (See Schreiber and Fisharida.)						
Schreiber, Frank and C., and C. E. Fisharida, Zanesville, Ohio. Gas-furnace	866,688	Sept. 24	2967	841	130	1018
Schrepel, Charles B., Coats, Kans. Twine-tension for binders	866,738	Sept. 24	3050	860	130	1052
Schroeder, Albert, Jr., Chicago, Ill. Milking-stool	866,818	Sept. 24	3177	892	130	1092
Schütz, Conrad, assignor of one-half to C. B. Stretch, Jr., Philadelphia, Pa. Sewing-machine	866,689	Sept. 24	2968	841	130	1018
Scott, John R., Oakland, Cal. Fare-register attachment	867,085	Sept. 24	3585	1017	130	1216
Scott, Waller, Richmond, Va. Washboard	866,892	Sept. 24	3277	922	130	1122
Scott, Waller, Richmond, Va. Washboard	867,161	Sept. 24	3704	1049	130	1256
Seidl, Frank W., Manitowoc, Wis. Clasp	867,162	Sept. 24	3705	1049	130	1256
Seipel, Nicholas A., Healdsburg, Cal. Harrow	866,819	Sept. 24	3177	892	130	1092
Seneca Falls Manufacturing Company. (See Darling, Henry M., assignor.)						
Seybold, Charles, Dayton, Ohio. Paper-cutting machine	866,739	Sept. 24	3051	860	130	1053
Seyffarth, Franz G., Newark, N. J. Door-lock	866,893	Sept. 24	3278	922	130	1122
Sharp, Charles S., Auburn, N. Y., assignor, by mesne assignments, to International Harvester Company. Corn-harvester	867,215	Sept. 24	3792	1070–1	130	1283
Sharp, Frank P., San Francisco, Cal. Sheet-delivery for printing-presses	866,740	Sept. 24	3053	861	130	1053
Sherwood, Harley L., Oakland, Cal. Sectional dredger-bucket	866,971	Sept. 24	3395	961–2	130	1160
Sherwood, Harry B., and O. B. Blankenship, Kansas City, Mo. Computing-scale	866,690	Sept. 24	2970	842	130	1019
Shreffler, Samuel, assignor to M. A. Felman and Company, Joliet, Ill. Rat and mouse trap	867,163	Sept. 24	3705	1049	130	1257
Shultz, Charles H., St. Joseph, Mo. Chute	867,164	Sept. 24	3706	1049	130	1257
Shultz, Charles H., St. Joseph, Mo. Chute	867,165	Sept. 24	3707	1049	130	1257
Sieber & Trussell Manufacturing Company. (See Dawson, James C., assignor.)						
Sieber & Trussell Mnfg. Co. (See Dawson and Heeter, assignors.)						
Siegmann, William, Baltimore, Md., assignor to Sagax Wood Company. Making artificial wood products	866,691	Sept. 24	2971	.....	130	1019
Siemens-Schuckert Werke, G. M. B. H. (See Köttgen and Meyer, assignors.)						
Slagle, Oliver, assignor of one-half to A. M. Marden, Leavenworth, Kans. Thread-cutter	867,217	Sept. 24	3796	1072	130	1284
Slaybaugh, James, Philadelphia, Pa. Stamp-affixer and envelop-sealer	867,216	Sept. 24	3794	1071	130	1284
Sjögren, Carl A. T., Stockholm, Sweden. Gun	866,972	Sept. 24	3396	962	130	1160
Sloss, William, Jr., Shreveport, La. Rail joint or chair	866,692	Sept. 24	2971	842	130	1019
Small, Nathaniel C., Auburn, Me. Turn-shoe	866,973	Sept. 24	3399	962	130	1161
Smith, Charles, Cleveland, Ohio. Saw	867,218	Sept. 24	3797	1072	130	1285
Smith, Elizabeth E., Glen Ullin, N. D. Clasp for pins and brooches	866,741	Sept. 24	3055	861	130	1054
Smith, Frank W. (See Swallow, Joseph G., assignor.)						
Smith, George L., Chicago, Ill. Elevator-machine	866,820	Sept. 24	3178	893	130	1092
Smith, Henry W., Haddonfield, N. J. Gas-cock	867,166	Sept. 24	3708	1050	130	1256
Solid Steel Tool & Forge Company. (See Baker, James H., assignor.)						
Southern, John F., Wilmington, Del., and H. J. Griest, Chester, Pa.; said Southern assignor to said Griest. Rotary explosion-engine	866,693	Sept. 24	2972	842–4	130	1020
Speer, Arthur R., Pittsburg, Pa. Enameling the interior of sheet-metal vessels	866,821	Sept. 24	3179	893	130	1092
Spencer, William B., Chicago, Ill. Postage-stamp and label affixer	866,974	Sept. 24	3400	963	130	1161
Spindler, Joseph M., Shakopee, Minn. Vending-machine	866,742	Sept. 24	3055	862	130	1054
Spratt, Barnett M., Chester, S. C. Wood-boring machine	866,822	Sept. 24	3180	893	130	1093
Stacy, Edward E., Central City, Nebr. Hasp-lock	866,694	Sept. 24	2975	844	130	1020
Staley, Harrison L., assignor to Old Hickory Chair Company, Martinsville, Ind. Bark-splitting machine	866,975	Sept. 24	3402	963–4	130	1161
Steinkamp, Joseph G., Cincinnati, Ohio. Cabinet-kitchen	866,823	Sept. 24	3182	894	130	1093
Stevenson, George W., Reading, assignor of one-half to M. H. Schnader, Lebanon, Pa. Rocker-bar gear for vehicles	866,976	Sept. 24	3404	964	130	1162
Stewart, Henry A. (See White, Vernon A., assignor.)						
Stiegelmann, Armand J., and E. Dehnel, assignors to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany. Bleaching glue	867,167	Sept. 24	3709	.....	130	1288
Stöcker, Johann. (See Habersbruner and Stöcker.)						
Stoner, Moses, Warsaw, Ind. Metal and concrete railway-tie and rail-fastening	866,743	Sept. 24	3057	862	130	1054

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Strand, Carl M. (See Holmer, John, assignor.)						
Strauss, Maurice M., Chicago, Ill. Safety attachment for watch-pockets	866,744	Sept. 24	3059	863	130	1055
Stretch, Charles B., Jr. (See Schütz, Conrad, assignor.)						
Struck, Victor F. (See Glorieux and Struck.)						
Stuart, Arthur S. (See French, Erastus S., assignor.)						
Stull, Emmett W., Norwood, Ohio, assignor to Allis-Chalmers Company and Bullock Electric Manufacturing Company. Controller-regulator	867,168	Sept. 24	3710	1050	130	1258
Stulp, Fred J., Muskegon, Mich. Ink-well	866,824	Sept. 24	3183	894–5	130	1098
Sullivan, Catherine, Chicago, Ill. Frying-pan	867,086	Sept. 24	3586	1017	130	1216
Sullivan Machinery Company. (See Gilman, George H., assignor.)						
Summers, George G., and G. P. Burke, Louisville, Ky. Valve and operating mechanism therefor	866,825	Sept. 24	3184	895	130	1094
Swain, Applous C., Jersey City, N. J. Gas-lamp	867,219	Sept. 24	3709	1072	130	1265
Swallow, Joseph G., assignor of one-half to F. W. Smith, New York, N. Y. Cut-out	866,977	Sept. 24	3405	964	130	1162
Sward, William, Mediapolis, Iowa. End-gate for wagons	866,826	Sept. 24	3185	895	130	1094
Swift, George W., Jr., Bordentown, N. J. Envelop-machine	866,978	Sept. 24	3406	965–6	130	1163
T. Alton Bemus Company. (See Bemus, Thomas A., assignor.)						
Tache, Edward, New Market, N. H. Spindle	866,979	Sept. 24	3410	966	130	1164
Taft, Emma, *et al.* (See Little, Robert A., assignor.)						
Talge, John H., Indianapolis, Ind. Combination-bench for pianos and piano-players	866,745	Sept. 24	3060	863	130	1055
Taussig, Maurice, Chicago, Ill. Adjustable support for shelving	866,695	Sept. 24	2976	844	130	1020
Taylor, Arthur B., Indianapolis, Ind. Chain	866,980	Sept. 24	3411	966–7	130	1164
Taylor, William F., assignor to Charleston Metallic Packing Company, Charleston, S. C. Packing	866,696	Sept. 24	2978	844	130	1021
Templeton, John D., Ada, Ohio. Belt-buckle	866,982	Sept. 24	3416	968	130	1166
Templin, Joseph H., Philadelphia, Pa., assignor to Chicago Pneumatic Tool Company, Chicago, Ill. Pneumatic tool	866,981	Sept. 24	3413	967–8	130	1165
Thayer, Arthur E. (See Hanson and Thayer.)						
Themke, Louis E. L., Strathcona, Alberta, Canada. Circuit-closer for door-alarms	867,220	Sept. 24	3801	1073	130	1266
Themke, Louis E. L., Strathcona, Alberta, assignor of one-half to F. Scheibal, Edmonton, and J. Dittrich, Strathcona, Alberta, Canada. Lock	866,697	Sept. 24	2978	845	130	1021
Thomas, Frank W., Toledo Ohio. Folding-machine	866,746	Sept. 24	3061	863–4	130	1055
Thomas, W. Frank, *et al.* (See Schmitt, Edward D., assignor.)						
Thomas, Walter, Vancouver, British Columbia, Canada. Split sleeve	867,169	Sept. 24	3711	1050	130	1258
Thomas, William M., and W. H. Leach, Jr., assignors to Union Metallic Cartridge Company, Bridgeport, Conn. Measuring-machine	866,747	Sept. 24	3064	864	130	1056
Thompson, Guy M., assignor of one-half to C. S. Follett, Seattle, Wash., S. E. Lancaster and J. A. Meyer, La Claire, Iowa. Railway-switch	866,983	Sept. 24	3417	968	130	1166
Thompson, H. F. (See Godfrey, Raleigh W., assignor.)						
Thomson, Henry C., assignor to Electric Gas Lighting Company, Boston, Mass. Battery-zinc	866,748	Sept. 24	3066	864	130	1057
Thomson, Peter M., New York, N. Y. Plastering apparatus	866,984	Sept. 24	3418	969	130	1166
Tidwell, Albert F., Celina, Tex. Cotton elevating, conveying, and cleaning apparatus	867,087	Sept. 24	3587	1017	130	1217
Tittmann, Gerhard, Fehla, Germany. Safety-razor	866,827	Sept. 24	3186	896	130	1095
Tkatzschenko, Peter T., Brooklyn, N. Y. Attachment for water-closets	867,170	Sept. 24	3712	1050	130	1259
Todd, George. (See Todd, Harrell, and Todd.)						
Todd, Walter G., W. D. Harrell, and G. Todd, Wabash, Ind. Culvert	866,828	Sept. 24	3186	896	130	1095
Toledo Computing Scale Company. (See Wetzel, Lewis C., assignor.)						
Torrance, Albert M., Bennington, Vt. Seam-guide for collar-dampening machines	866,749	Sept. 24	3066	865	130	1057
Totzke, Robert C., St. Joseph, Mich. Box	867,171	Sept. 24	3713	1051	130	1259
Trewhella, Charles E., Forestville, assignor to American Silver Company, Bristol, Conn. Percolator	866,985	Sept. 24	3420	969	130	1167
Troup, James B. and W. C., Midland, Ind. Rotary engine	867,172	Sept. 24	3714	1051	130	1259
Troup, Walter C. (See Troup, James B. and W. C.)						
Tucker, Benjamin W., Newark, N. J. Road-scarifier	866,698	Sept. 24	2979	845	130	1021
Turner, Henry, Richmond, Va. Animal-trap	866,987	Sept. 24	3423	970	130	1168
Turton, John K., New York, N. Y. Wheel-rim	866,988	Sept. 24	3421	969–70	130	1167
Twamly, Clark E., Alexandria, S. D. Seed-corn tester	866,988	Sept. 24	3424	970–1	130	1168
Twamly, Clark E., Alexandria, S. D. Seed-corn tester	866,989	Sept. 24	3426	971	130	1168
Twin Bottle-Cap Company. (See Robinson, Frank T., assignor.)						
Uhrmacher, William, Trenton, Mo. Clevis-support	866,829	Sept. 24	3187	896	130	1095
Union Metallic Cartridge Company. (See Thomas and Leach, assignors.)						
United Appliance Manufacturing Company. (See Flannigain, Edward, assignor.)						
Vail, Charles E., New York, N. Y. Automatic weighing-machine	867,173	Sept. 24	3716	1051–2	130	1260
Vail, William A., *et al.* (See Wheeler, Orrin A., assignor.)						
Van Cise, Frederick J. (See Van Cise, William C. and F. J.)						
Van Cise, William C. and F. J., Mayville, N. Y. Folding table	866,699	Sept. 24	2981	846	130	1022
Vance, Herman E., Columbus, Ohio. Fireproof blind	866,830	Sept. 24	3187	896	130	1095
Vance, Herman E., Columbus, Ohio. Fire-resisting curtain	866,894	Sept. 24	3279	923	130	1123
Varley, Thomas W., New York, N. Y. Electrical measuring instrument	866,990	Sept. 24	3428	971–2	130	1169
Vastine, Miles, and C. H. Zerbe, South Omaha, Nebr. Car-coupling	867,174	Sept. 24	3721	1052–3	130	1261
Vincent, Jesse G., assignor to Burroughs Adding Machine Company, Detroit, Mich. Power-drive for adding-machines	866,750	Sept. 24	3068	865–6	130	1058
Voight, Henry G., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Lock-indicator	867,175	Sept. 24	3722	1053	130	1262
Voight, Henry G., and C. J. Caley, assignors to Russell & Erwin Manufacturing Company, New Britain, Conn. Indicator-lock	866,831	Sept. 24	3188	897	130	1096
W. F. Barnes Commercial Co. (See Casella, Secondo L., assignor.)						
Wadsworth, Frank L. O., Pittsburg, Pa. Exhausting incandescent-lamp bulbs	866,751	Sept. 24	3071	866	130	1059
Waldeck, Emanuel J. (See Knott, Frank W., assignor.)						
Waldrep, Jesse L., Lilly, Ga. Road-bed-washout signal	866,700	Sept. 24	2982	846	130	1022
Waring, Samuel F., Brooklyn, N. Y. Base-ball mitt	866,895	Sept. 24	3280	923	130	1123
Warwick, George T., Springfield, Mass. Machine for wrapping oranges and other spherical objects	867,176	Sept. 24	3724	1053–4	130	1263
Waterbury Clock Co. (See Lux, Paul, assignor.)						
Watkins, James L. (See Binney and Watkins.)						
Watson, Hugh, Cairo, Nebr. Rake	866,701	Sept. 24	2984	847	130	1023
Way, John H., St. Davids, Pa. Muffler	866,752	Sept. 24	3072	866–7	130	1059
Webb, George W. (See James and Webb.)						
Weber, Charles H. W., Cincinnati, Ohio. Beehive	866,991	Sept. 24	3429	972	130	1169
Weber, Henry E., Canton, Ohio. Head-rest	866,753	Sept. 24	3073	867	130	1059
Wedmore, Daniel A., assignor to Philadelphia Ornamental Wire Company, Philadelphia, Pa. Skirt and suit hanger	866,754	Sept. 24	3074	867	130	1060
Weeks, William H., Philadelphia, Pa. Machine for coating confectionery	866,702	Sept. 24	2985	847	130	1023
Welles, George S., Chicago, Ill. Burning finely-divided fuel	867,177	Sept. 24	3728	1055	130	1264
Wells, Joseph M., Newark, N. J., assignor of one-half to F. L. Davis, Chicago, Ill. Tiling	866,755	Sept. 24	3075	868	130	1060
Werner, Adolph, Milwaukee, Wis. Razor	866,756	Sept. 24	3076	868	130	1060
Wetzel, Lewis C., assignor to Toledo Computing Scale Company, Toledo, Ohio. Computing-scale	866,992	Sept. 24	3430	972	130	1170
Weyant, Thomas R., New York, N. Y. Machine for setting up cartons	866,757	Sept. 24	3077	868	130	1060

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Wheeler, Orrin A., Austin, assignor to himself, F. W. Garlick, C. I. Bear, and W. A. Vail, Chicago, Ill. Reclaiming scrap or waste vulcanized rubber	866,758	Sept. 24	3078	869	130	1061
Wheeler, Orrin A., Austin, assignor to himself, F. W. Garlick, C. I. Bear, and W. A. Vail, Chicago, Ill. Reclaiming scrap or waste vulcanized rubber	866,759	Sept. 24	3081	869	130	1063
Whitaker, Richard, New Brunswick, N. J., assignor to Brunswick Refrigerating Company. Valve for gas-pumps	866,832	Sept. 24	3190	897	130	1096
White, Vernon A., assignor of one-half to H. A. Stewart, Jenifer, Ala. Ironing-table	867,088	Sept. 24	3590	1018	130	1218
Whitin Machine Works. (See Haselden, Harry A., assignor.)						
Whitin Machine Works. (See Owen, Oscar L., assignor.)						
Whitman, Francis H., Cambridge, Mass. Polarized ringer-magnet	866,760	Sept. 24	3084	869	130	1063
Whitney, George M. (See Lillie, Orville C., assignor.)						
Wilder, William H., Gardner, Mass. Oil-stove	866,896	Sept. 24	3281	923–4	130	1123
Wiley, Edward M., Adams, Ind. Footway for railway-bridges	867,178	Sept. 24	3730	1055	130	1265
Wilkins, George L., Chicago, Ill. Casement-window adjuster	866,703	Sept. 24	2988	848	130	1024
Willey, John P., Springfield, Mass. Dusting and polishing device	866,897	Sept. 24	3282	924	130	1123
William Wharton, Jr., & Company, Incorporated. (See Angerer, Victor, assignor.)						
Williams, James W., Stanley, Mo. Churn	867,179	Sept. 24	3731	1055	130	1265
Williams, John C., Kansas City, Mo. Mechanical engine	866,761	Sept. 24	3086	870	130	1065
Willmann, Joseph, Shelton, Conn. Apparatus for killing bacteria in liquids	867,089	Sept. 24	3591	1018	130	1218
Wilmowsky, Erwin F. von. (See Boyes and Wilmowsky.)						
Wilson, Andrew J., Tonopah, Nev. Sash-holder	866,898	Sept. 24	3283	924	130	1124
Wilson, Ben T., Nacogdoches, Tex. Noise-deadening means for drain-pipes	866,762	Sept. 24	3088	870	130	1065
Wilson, James T., New York, N. Y. Construction of concrete aqueducts, tunnels, subways, and the like	866,833	Sept. 24	3191	897–8	130	1097
Wilson, Magnus, *et al.* (See Bickle, Henry J., assignor.)						
Winebrake, Albert J. (See Jennings and Winebrake.)						
Winship, Earl B., Rushville, Ind. Planter	866,993	Sept. 24	3432	972–3	130	1170
Witt, Martin F., Los Angeles, Cal. Fruit-cleaner	866,704	Sept. 24	2989	848	130	1024
Wohlwend, William W., Akron, Ohio. Recoil-pad	866,994	Sept. 24	3434	973	130	1171
Wolf, Frederick C., Youngstown, Ohio. Concrete bar	867,090	Sept. 24	3593	1018	130	1218
Wolfe, Thomas J., and F. L. Wood, assignors of four-tenths to J. A. Jackson and W. H. Wood, Fairbury, Nebr. Mail-crane	866,899	Sept. 24	3284	925	130	1124
Wood, Augustus. (See Reiss and Wood.)						
Wood, Frank L. (See Wolfe and Wood.)						
Wood, William H., *et al.* (See Wolfe and Wood, assignors.)						
Woods, Granville T., New York, N. Y. Vehicle-controlling apparatus	867,180	Sept. 24	3732	1055–6	130	1265
Woods, John M., Lanes Mills, Pa. Fence-wire clamp	866,900	Sept. 24	3285	925	130	1124
Wright, Frederick T., Douglas, Ariz. Ter. Surgical instrument	866,995	Sept. 24	3435	973	130	1172
Wright, Royal J., and J. C. Andrews, Springfield, Mass. Garment-supporter clasp	866,705	Sept. 24	2990	848	130	1024
Yocum, George C., Scranton, Pa. Coin-assorting mechanism	866,763	Sept. 24	3089	870	130	1066
Zehner, Perry O., Tank, Pa. Steering device	866,901	Sept. 24	3286	925	130	1125
Zellweger, John, St. Louis, Mo. Gas-washer	866,706	Sept. 24	2991	848	130	1024
Zerbe, Charles H. (See Vastine and Zerbe.)						
Zimms, Joseph, Long Island City, N. Y. Bushing-puller	867,181	Sept. 24	3745	1056	130	1268

DESIGNS.

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Ambrose, Edward. (See Galbraith and Ambrose.)				
American Thermos Bottle Company. (See Burger, Reinhold, assignor.)				
Brooks, Frank M., New York, N. Y. Gas-lamp	38,831	Sept. 24	130	1289
Burger, Reinhold, Berlin, Germany, assignor to American Thermos Bottle Company, New York, N. Y. Bottle	38,834	Sept. 24	130	1290
Galbraith, Robert, and E. Ambrose, Troy, N. Y., assignors to Great Western Stove Company, Leavenworth, Kans. Stove	38,840	Sept. 24	130	1291
Great Western Stove Company. (See Galbraith and Ambrose, assignors.)				
Hale and Kilburn Manufacturing Company. (See Kilburn, John B., assignor.)				
Hosford, James C., Malden, Mass. Stove	38,842	Sept. 24	130	1291
Hosford, James C. Malden, assignor to Magee Furnace Company, Boston, Mass. Stove	38,841	Sept. 24	130	1291
Jaeger, Gustave, Philadelphia, Pa. Clock-case	38,837	Sept. 24	130	1290
Kilburn, John B., assignor to Hale and Kilburn Manufacturing Company, Philadelphia, Pa. Seat end	38,839	Sept. 24	130	1291
Lederer, Joseph, New York, N. Y. Inverted gas-lamp	38,832	Sept. 24	130	1289
Liebenthal, Sylvester, Cleveland, Ohio. Bottle	38,833	Sept. 24	130	1290
Magee Furnace Company. (See Hosford, James C., assignor.)				
McNamee, John F., Indianapolis, Ind. Charm or pin	38,827	Sept. 24	130	1288
Obear, Thomas S., St. Louis, Mo. Bottle	38,835	Sept. 24	130	1290
Radcliffe & Company. (See Radcliffe, James A., assignor.)				
Radcliffe, James A., assignor to Radcliffe & Company, New York, N. Y. Back of playing-card	38,829	Sept. 24	130	1289
Rose, Aloysius M., Philadelphia, Pa. Pitcher	38,836	Sept. 24	130	1290
Schmitz, Egon L., New York, assignor to Eberhard Faber Pencil Company, Brooklyn, N. Y. Display-rack	38,838	Sept. 24	130	1290
Straker, Joseph E., Jr., Attleboro, Mass. Handle for spoons, forks, or similar articles	38,828	Sept. 24	130	1289
Taylor, Edward E., Chelsea, Mass. Lamp	38,830	Sept. 24	130	1289

TRADE-MARKS.

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Abbott Alkaloidal Co., Chicago, Ill. Certain medicine	65,344	Sept. 24	130	1304
Advance Thresher Co., Battle Creek, Mich. Certain agricultural machinery	65,347	Sept. 24	130	1303
Advance Thresher Co., Battle Creek, Mich. Certain agricultural machinery	65,348	Sept. 24	130	1303
Advance Thresher Co., Battle Creek, Mich. Traction-engines and horse-powers	65,349	Sept. 24	130	1303

TRADE-MARKS—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Advance Thresher Co., Battle Creek, Mich. Traction-engines and horse-powers	65,299	Sept. 24	130	1303
Allison, C. Bedford, New York, N. Y. Umbrellas and walking-sticks	65,385	Sept. 24	130	1304
American and British Manufacturing Co., Providence, R. I., and Bridgeport, Conn. Ordnance, parts thereof, and unloaded projectiles	65,400	Sept. 24	130	1304
American Chicle Co., New York, N. Y. Chewing-gum	65,396	Sept. 24	130	1304
American Vulcanized Fibre Company, Wilmington, Del. Certain vegetable substances	65,397	Sept. 24	130	1304
Atlas Paint Manufacturing Co., Minneapolis, Minn. Mixed paints and paste paints	65,409	Sept. 24	130	1305
B. F. Goodrich Company, Akron, Ohio. Certain hose	65,410	Sept. 24	130	1304
B. F. Goodrich Company, Akron, Ohio. Certain hose	65,411	Sept. 24	130	1304
B. F. Goodrich Company, Akron, Ohio. Certain hose	65,412	Sept. 24	130	1304
B. F. Goodrich Company, Akron, Ohio. Certain hose	65,413	Sept. 24	130	1304
B. F. Goodrich Company, Akron, Ohio. Certain hose	65,414	Sept. 24	130	1304
B. F. Goodrich Company, Akron, Ohio. Certain hose	65,415	Sept. 24	130	1304
B. F. Goodrich Company, Akron, Ohio. Certain hose	65,416	Sept. 24	130	1305
B. F. Goodrich Company, Akron, Ohio. Certain hose	65,417	Sept. 24	130	1305
B. F. Goodrich Company, Akron, Ohio. Certain hose	65,418	Sept. 24	130	1305
B. F. Goodrich Company, Akron, Ohio. Certain machinery packing	65,419	Sept. 24	130	1305
B. F. Goodrich Company, Akron, Ohio. Certain machinery packing	65,420	Sept. 24	130	1305
B. F. Goodrich Company, Akron, Ohio. Certain machinery packing	65,421	Sept. 24	130	1305
B. F. Goodrich Company, Akron, Ohio. Certain pneumatic tires	65,422	Sept. 24	130	1305
B. F. Goodrich Company, Akron, Ohio. Certain pencil-erasers	65,423	Sept. 24	130	1305
B. F. Goodrich Company, Akron, Ohio. Certain pencil-erasers	65,424	Sept. 24	130	1305
B. F. Goodrich Company, Akron, Ohio. Syringes	65,425	Sept. 24	130	1305
B. F. Goodrich Company, Akron, Ohio. Syringes	65,426	Sept. 24	130	1305
Bachert, Philip, Buffalo, N. Y. Coffee extract or essence	65,398	Sept. 24	130	1304
Baird, William, Cambridge Springs, Pa. Mineral water	65,421	Sept. 24	130	1305
Baird, William, Cambridge Springs, Pa. Mineral water	65,422	Sept. 24	130	1305
Baker & Company, Minneapolis, Minn. Coffee and tea	65,389	Sept. 24	130	1304
Baltimore Umbrella Manufacturing Company, Baltimore, Md. Canes, parasols, and umbrellas	65,390	Sept. 24	130	1304
Bass Hueter Paint Co., Southern California Branch, Los Angeles, Cal. Lubricating-oils	65,423	Sept. 24	130	1305
Bayle, Geo. A., St. Louis, Mo. Vending-machines	65,388	Sept. 24	130	1303
Bermuda Green Vegetable Growers' Assn., Hamilton, Bermuda. Certain fresh vegetables	65,391	Sept. 24	130	1304
Boericke & Tafel, New York, N. Y.; Philadelphia, Pa.; Chicago, Ill.; Cincinnati, Ohio; Allegheny, Pa., and Baltimore, Md. Olive-oil	65,392	Sept. 24	130	1304
Boylen, Victoria A., Kansas City, Mo. Petticoats made of textile fabrics	65,351	Sept. 24	130	1303
Bradley, Smith Co., New Haven, Conn. Certain confectionery	65,393	Sept. 24	130	1304
Calculus Company, Cleveland, Ohio. Computing-machines	65,394	Sept. 24	130	1304
California Grape Juice Company, Los Angeles, Cal. Fruit-juices made from grapes and other fruits	65,434	Sept. 24	130	1306
Clegg, Charles A., New York, N. Y. Spring and other drinking waters	65,435	Sept. 24	130	1306
Climax Patents Limited, Manchester, England. Certain machinery	65,382	Sept. 24	130	1303
Cohan & Harris, New York, N. Y. Weekly newspapers and magazines	65,436	Sept. 24	130	1306
Cristadoro, Alexander, New York, N. Y. Hair-tonic	65,309	Sept. 24	130	1303
Daggett & Clap Co., Attleboro, Mass. Jewelry for personal adornment	65,395	Sept. 24	130	1304
Daimler-Motoren-Gesellschaft, Untertürkheim, near Stuttgart, Germany. Certain machinery	65,353	Sept. 24	130	1303
Daimler-Motoren-Gesellschaft, Untertürkheim, near Stuttgart, Germany. Chisels, files, saws, and puncheons provided with a cutting edge	65,354	Sept. 24	130	1303
Daimler-Motoren-Gesellschaft, Untertürkheim, near Stuttgart, Germany. Certain leather goods	65,437	Sept. 24	130	1305
Doris, John J., St. Paul, Minn. Medicines for the cure of dyspepsia and rheumatism	65,396	Sept. 24	130	1304
Elizondo, Jerónimo, Monterey, Nuevo Leon, Mexico. Disincrusting and cleansing substances for boilers	65,355	Sept. 24	130	1303
Fairchild Bros. & Foster, New York, N. Y. Digestive preparation of the gastric juice	65,397	Sept. 24	130	1304
Ford, Grace P., Mount Vernon, N. Y. Chiffons	65,438	Sept. 24	130	1306
Fuld & Hatch Knitting Company, Albany, N. Y. Knitted fabric, knitted underwear, sweaters, shirts, and jackets	65,439	Sept. 24	130	1306
Geo. Borgfeldt & Co., New York, N. Y. Certain fancy goods, furnishings, and notions	65,440	Sept. 24	130	1306
George Urban Milling Company, Buffalo, N. Y. Wheat-flour	65,370	Sept. 24	130	1303
Gorman & Company, Inc., Seattle, Wash. Canned salmon	65,371	Sept. 24	130	1303
Gum-Lax Manufacturing Company, Newark, N. J. Chewing-gum	65,398	Sept. 24	130	1304
H. H. Symmes Co., Indianapolis, Ind. Certain masonry materials	65,441	Sept. 24	130	1305
Higginsville Milling Co., Higginsville, Mo. Wheat-flour	65,372	Sept. 24	130	1303
Holden, Ezra W., New Orleans, La. Soaps	65,373	Sept. 24	130	1303
Horsman, Edmund, Devils Lake, N. D. Certain medicines	65,374	Sept. 24	130	1303
Independent Non-Freezing Powder Company, Paulsboro, N. J. Explosive powder	65,442	Sept. 24	130	1305
J. C. Grant Chemical Company, East St. Louis, Ill. Bicarbonate of soda, otherwise known as baking-soda or saleratus	65,356	Sept. 24	130	1303
J. C. Grant Chemical Company, East St. Louis, Ill. Baking-powder	65,357	Sept. 24	130	1303
J. H. Rice & Friedemann Co., Milwaukee, Wis. Shirts made from woven goods	65,358	Sept. 24	130	1303
Jaenicke, August L., Hillsboro, Kans. Eggs	65,375	Sept. 24	130	1303
Jno. T. Barbee & Co., Louisville, Ky. Whisky	65,443	Sept. 24	130	1305
John Kissel & Son Inc., Brooklyn, N. Y. Gin, whisky, brandy, and rum	65,444	Sept. 24	130	1305
Jonas Brook & Bros., Limited, Meltham, England. Sewing-cotton	65,445	Sept. 24	130	1305
Kansas Milling Company, Wichita, Kans. Wheat-flour	65,399	Sept. 24	130	1304
Kansas Milling Company, Wichita, Kans. Wheat-flour	65,400	Sept. 24	130	1304
Kimball & Co., Austin, New York, N. Y. Apples	65,401	Sept. 24	130	1304
Kny-Scheerer Company, Brooklyn, N. Y. Knives, chisels, shears, scissors, and razors	65,238	Sept. 24	130	1303
La Belle Iron Works, Steubenville, Ohio. Certain sheet metal and piping	65,320	Sept. 24	130	1303
Lee, Edwin H., Detroit, Mich. Chewing-gum	65,402	Sept. 24	130	1304
Lidgerwood Mfg. Co., New York, N. Y. Hoisting-engines	65,201	Sept. 24	130	1303
Lincoln Waterproof Cloth Co., Bound Brook, N. J. Certain roofing	65,446	Sept. 24	130	1305
Lowe Brothers Company, Dayton, Ohio. Certain paints and painters' materials	65,447	Sept. 24	130	1305
Majestic Skirt Company, New York, N. Y. Underskirts made of textile material	65,262	Sept. 24	130	1303
Malcolm G. Price Company, New York, N. Y. Remedy for hemorrhoids	65,376	Sept. 24	130	1303
Margeson, Manly E., near Kendallville, Ind. Cordials	65,448	Sept. 24	130	1305
Martin & Bowne Company, New York, N. Y. Tooth, nail, hair, and flesh brushes	65,449	Sept. 24	130	1305
McBrayer, John H., Lawrenceburg, Ky. Whisky	65,450	Sept. 24	130	1305
McClintock-Trunkey Co., Spokane, Wash. Certain foods	65,377	Sept. 24	130	1303
Mendelson Bros. Inc., San Francisco, Cal. Silk dress goods	65,451	Sept. 24	130	1305
Merck & Co., New York, N. Y. Monthly journal of materia medica and therapeutics	65,452	Sept. 24	130	1305
Morgan Oyster Company, San Francisco, Cal. Fresh canned frozen oysters	65,378	Sept. 24	130	1304
Munter, Charles, New York, N. Y. Shoulder-braces	65,363	Sept. 24	130	1303
Neuss Hesslein & Co., New York, N. Y. Woven cotton plaids	65,453	Sept. 24	130	1305
Oakdale Baking Company, Philadelphia, Pa. Pretzels	65,403	Sept. 24	130	1304
Pacific Coast Rubber Co., Seattle, Wash. Certain rubber goods	65,454	Sept. 24	130	1305
Palace Clothing Company, Topeka, Kans. Leather boots and shoes	65,455	Sept. 24	130	1305
Railway and Stationary Refrigerating Co., New York, N. Y. Refrigerators	65,456	Sept. 24	130	1305
Rigney & Company, Brooklyn, N. Y. Rock-candy, rock-candy syrup, and maple-sugar and maple-syrup	65,404	Sept. 24	130	130

TRADE-MARKS—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Schandein & Lind, Philadelphia, Pa. Breath-tablets	65,379	Sept. 24	130	1304
Schandein & Lind, Philadelphia, Pa. Breath-tablets	65,380	Sept. 24	130	1304
Schandein & Lind, Philadelphia, Pa. Certain pharmaceutical preparations	65,381	Sept. 24	130	1304
Schlagheck, Joseph, Toledo, Ohio. Food for fish	65,405	Sept. 24	130	1304
Semon Ice Cream Company, New Haven, Conn. Ice-cream and frozen puddings	65,406	Sept. 24	130	1304
Sign of the Hammer Co., Montclair, N. J. Certain lighting apparatus	65,457	Sept. 24	130	1306
Silvey & Co., John, Atlanta, Ga. Dress and negligée shirts	65,364	Sept. 24	130	1303
Simmons Hardware Company, St. Louis, Mo. Lawn-mowers, lawn-mower parts, and grass-catchers	65,365	Sept. 24	130	1303
Smith-Briscoe Shoe Company, Incorporated, Lynchburg, Va. Leather boots and shoes	65,458	Sept. 24	130	1306
Smith Cannery Machines Co., Seattle, Wash. Fish-dressing machines	65,366	Sept. 24	130	1303
Smith-Wallace Shoe Company, Chicago, Ill. Leather boots and shoes	65,459	Sept. 24	130	1306
Smith-Wallace Shoe Company, Chicago, Ill. Leather boots and shoes	65,460	Sept. 24	130	1306
Sprengstoff A. G. Carbonit, Hamburg, Germany. Explosives used for loading projectiles and torpedoes	65,461	Sept. 24	130	1306
Standard Gauge Manufacturing Company, Syracuse, N. Y. Pantry-cabinets	65,462	Sept. 24	130	1306
Standard Oil Co. of New York, New York, N. Y. Gasoleme	65,427	Sept. 24	130	1305
Standard Oil Company of New York, New York, N. Y. Illuminating-oil	65,428	Sept. 24	130	1305
Standard Oil Company of New York, New York, N. Y. Illuminating-oil	65,429	Sept. 24	130	1305
Steuben County Wine Co., Chicago, Ill. Whisky	65,463	Sept. 24	130	1306
Steuben County Wine Co., Chicago, Ill. Whisky	65,464	Sept. 24	130	1306
Steuben County Wine Co., Chicago, Ill. Whisky	65,465	Sept. 24	130	1306
Stewart & Co., Baltimore, Md. Canned corn and peas and tomato-catsup	65,407	Sept. 24	130	1304
Tremont & Suffolk Mills, Lowell, Mass. Cotton piece goods	65,466	Sept. 24	130	1306
Wallace & Co., New York, N. Y. Chocolates and candy	65,382	Sept. 24	130	1304
Wells, Ephraim S., Jersey City, N. J. Poison for rats, mice, vermin, and insects	65,367	Sept. 24	130	1303
Weschcke, Ernest J., Springfield, Minn. Plaster and proprietary medicine	65,408	Sept. 24	130	1304
Wilcox & White Company, Meriden, Conn. Combined pianos and players	65,383	Sept. 24	130	1304

LABELS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Chas. Jacquin et Cie., Inc., New York, N. Y. "Buchu Gin." (For Gin)	13,805	Sept. 24	130	1307
Michael Drug Co., New York, N. Y. "Clean-O Shampoo." (For a Shampoo Preparation)	13,807	Sept. 24	130	1307
Rahayel, Chas., New York, N. Y. "Bouquet au Lilac de France." (For Cologne)	13,806	Sept. 24	130	1307
Wedderburn, Gertrude F., Chevy Chase, Md. "The Dummy Skirt Marker." (For a Skirt-Marker)	13,808	Sept. 24	130	1307
Wood and Mullen, New York, N. Y. "Shirt Bosom Protector." (For Bosom-Boards)	13,809	Sept. 24	130	1307

PRINTS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Dreyfus Bros., Montgomery, Ala. "Eureka Peanut Cakes." (For Peanut-Candy)	2,119	Sept. 24	130	1307
G I Chemical Co., New York, N. Y. "Kuresore Ointment." (For an Ointment)	2,120	Sept. 24	130	1307
Lytton, H. C., Chicago, Ill. "Men's and Boys' Apparel." (For Men's and Boys' Apparel)	2,122	Sept. 24	130	1307
Stahl, Otto, New York, N. Y. "Stahl's Special Cold Cuts." (For Cold Meats)	2,118	Sept. 24	130	1307
Standard Milling Co., New York, N. Y. "A Smile with Every Baking." (For Flour)	2,117	Sept. 24	130	1307
United States Playing Card Company, Cincinnati, Ohio. "Chain, Saddle and Handle-Bar Backs, Bicycle Playing Cards." (For Playing-Cards)	2,121	Sept. 24	130	1307

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
A. G Spalding & Bros., Jersey City, N. J. Golf-club irons	29,623	Sept. 24	130	1302
American Thread Company, Jersey City, N. J. Spool and sewing cotton and thread	29,483	Sept. 24	130	1302
American Wringer Company, Providence, R. I., and New York, N. Y. Clothes-wringers	24,056	Sept. 24	130	1296
American Wringer Company, Providence, R. I., and New York, N. Y. Clothes-wringers	24,058	Sept. 24	130	1296
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	28,986	Sept. 24	130	1298
Argentina Company, New York, N. Y. Polishing and plating compounds	29,126	Sept. 24	130	1299
B. F. Goodrich Company, Akron, Ohio. Rubber machinery packing	29,375	Sept. 24	130	1300
B. T Babbitt, Inc., New York, N. Y. Toilet soaps	28,746	Sept. 24	130	1298
Baker Extract Company, Portland, Me., and Springfield, Mass. Flavoring extracts	26,119	Sept. 24	130	1296
Benton, Hall & Co., Cleveland, Ohio. Flavorings for soda-water, &c	18,283	Sept. 24	130	1294
Blodgett & Orswell Co., Pawtucket, R. I. Sewing-thread or spool-cotton	19,868-9	Sept. 24	130	1294-5
Blodgett & Orswell Co., Pawtucket, R. I. Sewing-thread or spool-cotton	19,871	Sept. 24	130	1295
Borden's Condensed Milk Company, Jersey City, N. J., and New York, N. Y. Milk-chocolates	29,386	Sept. 24	130	1301
Boseman & Lohman Co., Norfolk, Va. Peanut-candy	29,423	Sept. 24	130	1301
Bowen, Samuel B., Philadelphia, Pa. Paints, enamels, fillers, &c	29,342	Sept. 24	130	1300

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Brackett & Co., L. M., Rochester, Ind. Canned vegetables	29,408	Sept. 24	130	1301
Campbell, Maude L., Washington, D. C. Hair-tonic and scalp remedy	29,186	Sept. 24	130	1299
Charles & Co., New York, N. Y. Basketed fresh fruits	29,403	Sept. 24	130	1301
Chemische Werke Hansa Gesellschaft mit beschränkter Haftung, Hemelingen, near Bremen, Germany Chemicals adapted to form emulsions of oils, &c	18,897	Sept. 24	130	1294
Childs, Frederick L., Kalamazoo, Mich. Tonic, laxative, and digestive preparations	29,429–30	Sept. 24	130	1301
Coalite Limited, London, England. Coal, coke, breeze, &c	25,414	Sept. 24	130	1295
Cooper, Joseph P., Jersey City, N. J. Food product	11,149	Sept. 24	130	1298
Corno Mills Company, East St. Louis, Ill. Cereal breakfast foods, cornmeal, rice, &c	28,446	Sept. 24	130	1297
Cosby Shoe Co., Incorporated, Lynchburg, Va. Leather boots and shoes	29,308	Sept. 24	130	1300
Diaz & Co., B., New York, N. Y. Fertilizers and fertilizing materials	29,664	Sept. 24	130	1302
E. E. Taylor Co., Boston, Mass. Leather shoes	29,351	Sept. 24	130	1300
Eldridge, Willis J., Aurora, Ohio. Cheese	28,777	Sept. 24	130	1298
Electric Railway Improvement Co., Cleveland, Ohio. Bonds and conductors for electrical apparatus and machines	27,671	Sept. 24	130	1296
F. F. Rick & Company, Buffalo, N. Y. Pyrographic outfits	29,141	Sept. 24	130	1298
Faber, Eberhard, New York, N. Y. Lead-pencils	29,248–50	Sept. 24	130	1299–1300
Faber, Eberhard, New York, N. Y. Lead-pencils and rubber erasers	29,251	Sept. 24	130	1300
Faber, Eberhard, New York, N. Y. Rubber erasers	29,252	Sept. 24	130	1300
Faultless Rubber Company, Akron, Ohio. Nursing-bottle nipples	25,238	Sept. 24	130	1296
Fiorentini, Henry, Boston, Mass. Pressed ham, mortadelle, capicolli, &c	29,277	Sept. 24	130	1300
Frederick Laboratory, Toledo, Ohio. Medicinal unguent or salve	29,367	Sept. 24	130	1301
George La Monte & Son, New York, N. Y. Safety-paper for bank-checks, &c	17,341	Sept. 24	130	1294
George La Monte & Son, New York, N. Y. Safety-paper for bank-checks, &c	17,348	Sept. 24	130	1294
George Wiedemann Brewing Co., Newport, Ky. Beer	22,229	Sept. 24	130	1295
Geyserite Manufacturing Company, Denver, Colo. Soap	26,772	Sept. 24	130	1296
Gilbert, George W., Boston, Mass. Coloring-matter	29,580–1	Sept. 24	130	1302
Glasner & Barzen Distilling & Importing Co., Kansas City, Mo. Whisky	29,295	Sept. 24	130	1300
Greek American Confectionery Co., New York, N. Y. Candy	29,313	Sept. 24	130	1300
Grumbach, Theodore, Los Angeles, Cal. California wines	27,853	Sept. 24	130	1297
Haggard & Marcusson Co., Chicago, Ill. Bed-springs	10,411	Sept. 24	130	1293
Hall, Emmett B., Salt Lake City, Utah. Flavoring for tonic mixtures	16,597	Sept. 24	130	1294
Hatfield Motor Vehicle Company, Cortland, N. Y. Automobiles	27,528	Sept. 24	130	1298
Heffernan, Edward, Lynn, Mass. Cocktails	28,932	Sept. 24	130	1298
Henry Thode Co., Davenport, Iowa. Whisky	28,576	Sept. 24	130	1298
Holmes and Barnes, Limited, Baton Rouge, La. Wheat-flour	25,076	Sept. 24	130	1296
J. G. Brill Company, Philadelphia, Pa., assignor to J. G. Brill Company. Bells and parts thereof	27,973	Sept. 24	130	1297
Johnson, Anthony T., Mineola, N. Y. Oil for preserving leather, &c	27,527	Sept. 24	130	1298
Kingan and Company Limited, Belfast, Ireland, and Indianapolis, Ind. Cured and salted meats	28,417	Sept. 24	130	1297
Knickerbocker Audit Company, New York, N. Y. Pamphlets relating to finance	20,273	Sept. 24	130	1296
L. Wolff Mfg. Co., Chicago, Ill. Cocks, faucets, valves, &c	5,051	Sept. 24	130	1293
Laubach, Thomas F., New York, N. Y. Pills, tonics, salves, &c	27,800	Sept. 24	130	1296
Leggett & Brother, New York, N. Y. Insecticide-distributers	29,431–2	Sept. 24	130	1301
Liebacher, F. & E., New York, N. Y. Stove and metal polish	29,243	Sept. 24	130	1299
Lord & Taylor, New York, N. Y. Hosiery	29,214–17	Sept. 24	130	1299
Ludwig Hupfeld Aktiengesellschaft, Leipzig, Germany. Pianos, organs, orchestrions, &c., and parts thereof	26,715	Sept. 24	130	1296
Lyle, James E., Bowling Green, Ky. Lotion to repel mosquitos	29,303	Sept. 24	130	1301
M. Halff & Bro., San Antonio, Tex. Hosiery	28,681	Sept. 24	130	1297
M. Halff & Bro., San Antonio, Tex. Shirts and overalls	28,682	Sept. 24	130	1297
Marks, Jacob A., Boise, Idaho. Overcoats, coats, pants, and vests	29,615	Sept. 24	130	1302
Maschinenfabrik Oddesse Gesellschaft mit beschränkter Haftung, Oschersleben, near Magdeburg, Germany. Pumps, steam engines, turbines, and parts thereof	28,608	Sept. 24	130	1297
Murray, Edward M., Chicago, Ill. Wooden step-ladders	29,436	Sept. 24	130	1302
National Packing Company, Chicago, Ill. Sausage and ham	28,937	Sept. 24	130	1298
Nethery, Wilmot B., Atlanta, Ga. Tonic beverages	28,898	Sept. 24	130	1298
Pacific Coast Borax Co., Oakland, Cal.; Chicago, Ill., and New York, N. Y. Washing compound	29,364	Sept. 24	130	1301
Pape, Walter, St. Louis, Mo. Knives, razors, and shears	23,420	Sept. 24	130	1295
Peed & Co., C. J., Baltimore, Md. Leather shoes	27,579	Sept. 24	130	1296
Peters Cartridge Company, Cincinnati, Ohio. Cartridges, loaded shells, caps, &c	17,899	Sept. 24	130	1294
Physicians Supply Co., Louisville, Ky. Medicinal salts	29,484	Sept. 24	130	1302
Protegit Company, New York, N. Y. Preserving compounds	29,211	Sept. 24	130	1299
Rubens & Marble, Chicago, Ill. Knit undershirts	15,378	Sept. 24	130	1293
Rubens & Meyer, New York, N. Y. Hosiery	29,375	Sept. 24	130	1301
Rueckheim Bros. and Eckstein, Chicago, Ill. Candied popcorn	17,984	Sept. 24	130	1294
Rueckheim Bros. & Eckstein, Chicago, Ill. Chocolates and other candies	19,722	Sept. 24	130	1294
Schmitz & Co., C., New York, N. Y. Tanned and untanned skins and skin rugs	29,523	Sept. 24	130	1302
Scholz, Otto, Bridgeport, Conn. Non-alcoholic beverage	29,121	Sept. 24	130	1298
Schraders, New York, N. Y. Candy	29,480	Sept. 24	130	1302
Shinners, Luke F., Cleveland, Ohio. Soaps	29,090	Sept. 24	130	1298
Siegel Cooper Company, New York, N. Y. Leather trunks	28,577	Sept. 24	130	1297
Sondheim & Magnus, New York, N. Y. Pillow tops and slips and laundry-bags	29,168	Sept. 24	130	1299
Springer, Oscar M., Boston, Mass. Dental cement	28,944	Sept. 24	130	1298
Troy Chemical Co., Binghamton, N. Y. Antiseptic dressing or ointment	29,354	Sept. 24	130	1300
Trummer & Otto Vogler, P. H., Hamburg, Germany. Cement and asphalt	29,052	Sept. 24	130	1298
Ullman Einstein Co., Cleveland, Ohio. Whisky	29,206	Sept. 24	130	1300
Vereinigte Chemische Werke Aktiengesellschaft, Charlottenburg, near Berlin, Germany. Soap	27,751	Sept. 24	130	1296
Weyermann, Johann B., Potsdam, Germany. Beer, extract of malt, &c	27,965	Sept. 24	130	1297

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED ON THE 24TH DAY OF SEPTEMBER, 1907.

Invention.	Name.	No.	Date.	Monthly volume. Specification.	Drawing.	Official Gazette. Volume.	Page.
Acid. Apparatus for separating sulfuric	F. G. Cottrell	866,844	Sept. 24	3207	902	130	1101
Acid. Manufacture of sulfuric	F. G. Cottrell	866,843	Sept. 24	3205	901	130	1101
Adding-machine power-drive	J. G. Vincent	866,750	Sept. 24	3068	865–6	130	1058
Advertising or spectacular exhibitions. Device for	S. and J. Chandler	867,110	Sept. 24	3618	1026–7	130	1226
Air-compressor	A. McCarthy	866,878	Sept. 24	3260	916–17	130	f117
Air-ship	T. Kornbrodt	866,665	Sept. 24	2932	829	130	1008
Air-ship	A. G. Russell	867,083	Sept. 24	3581	1016	130	1216
Alloy	F. W. Fletcher	867,194	Sept. 24	3764	.....	130	1274
Amusement apparatus	C. V. Johnson	866,659	Sept. 24	2924	826	130	1005
Amusement apparatus	A. L. Plotner	866,680	Sept. 24	2958	838	130	1015
Amusement apparatus	H. Turner	866,987	Sept. 24	3423	970	130	1168
Animal-trap	J. E. Davison	867,190	Sept. 24	3760	1062	130	1273
Antifying chicken-wing attachment	H. Ferl	866,925	Sept. 24	3333	941	130	1139
Apparel-fastening	M. Connor	867,112	Sept. 24	3621	1027	130	1227
Aquarium and flushing device. Automatic	F. Brown	866,839	Sept. 24	3200	900	130	1100
Auger. Earth-	F. Ames	866,996	Sept. 24	3436	973	130	1172
Automobile screen-cleaning apparatus	J. Willmann	867,069	Sept. 24	3591	1018	130	1218
Bacteria in liquids. Apparatus for killing	W. P. Evans and C. W. Carr	866,637	Sept. 24	2886	815–16	130	996
Baling-press	C. Jelf	867,200	Sept. 24	3771	1065	130	1276
Baling-press	F. J. Kats	866,934	Sept. 24	3344	944–5	130	1143
Baling-press binder attachment	A. E. Rhoades	867,153	Sept. 24	3685	1043–4	130	1240
Baling-machine							
Bar:							
See Concrete bar. Sickle-bar.							
Bark-splitting machine	H. L. Staley	866,975	Sept. 24	3402	963–4	130	1161
Basket-making machine	S. L. Casella	867,013	Sept. 24	3466	982	130	1182
Battery-zinc	H. C. Thomson	866,748	Sept. 24	3066	864	130	1057
Bed	H. F. Nehr	866,954	Sept. 24	3376	954–5	130	1153
Bed-bottom	E. H. Hutcheson	866,790	Sept. 24	3129	881	130	1077
Bed. Folding	S. Kramer	867,053	Sept. 24	3531	1001	130	1200
Beehive	C. H. W. Weber	866,991	Sept. 24	3429	972	130	1169
Binder for loose leaves. Temporary	J. S. McDonald	867,223	Sept. 24	3804	1073	130	1287
Binder. Loose-leaf	J. C. Dawson and T. E. Heeter	866,845	Sept. 24	3208	902	130	1102
Binder. Loose-leaf	J. C. Dawson	867,191	Sept. 24	3760	1062	130	1273
Binders. Twine-tension for	C. B. Schrepel	866,738	Sept. 24	3050	860	130	1262
Biscuit-cutter	L. A. Rockwell	867,082	Sept. 24	3580	1015	130	1216
Board:							
See Drawing-board. Washboard.							
Boat-launching apparatus	C. Dickenson	866,847	Sept. 24	3214	904	130	1103
Boiler:							
See Steam-boiler.							
Boiler	A. B. Burns	866,771	Sept. 24	3102	873–4	130	1089
Boiler cleaner. Water-tube	G. Patterson	867,073	Sept. 24	3562	1008	130	1210
Boiler-leveler	E. J. Budd	866,910	Sept. 24	3301	931	130	1129
Boot and shoe counter	G. L. Preble	866,732	Sept. 24	3042	858	130	1060
Boring machine. Wood-	B. M. Spratt	866,822	Sept. 24	3190	893	130	1098
Bottle	G. H. Powell	866,682	Sept. 24	2962	839	130	1016
Bottle-cap. Combined metallic and frangible	F. T. Robinson	866,813	Sept. 24	3172	891	130	1080
Bottle for use in the army. Water-	N. Falchnie	866,779	Sept. 24	3115	876	130	1073
Box	R. C. Totzke	867,171	Sept. 24	3713	1051	130	1259
Box-fastener and seal therefor	G. H. Maas	866,944	Sept. 24	3357	949	130	1146
Brace:	[redacted]						
See Vehicle-body brace.							
Brake:	[redacted]						
See Car-brake. Sleigh-brake.							
Rail magnetic brake. Vehicle-brake.							
Brake-beam	J. H. Baker	867,184	Sept. 24	3749	1058–9	130	1270
Brake-lever	J. C. Orrison	866,805	Sept. 24	3157	888	130	1085
Brake-setting device. Friction-	F. Kratzer	867,054	Sept. 24	3533	1001	130	1201
Brake-shoe head	J. H. Baker	867,183	Sept. 24	3748	1057–8	130	1269
Brick-cutting machinery	A. Ramsay	867,149	Sept. 24	3687	1041	130	1240
Briquet-machine	C. W. Reynolds	867,210	Sept. 24	3781	1068–9	130	1279
Brush	W. L. Glorieux, Jr., and V. F. Struck	866,784	Sept. 24	3122	879	130	1075
Brush and soap-holder. Shaving-	M. Schmitz	866,970	Sept. 24	3394	961	130	1159
Brush. Rotary tooth-	O. C. Lillie	867,063	Sept. 24	3548	1005	130	1205
Brush. Tooth-	O. C. Lillie	867,062	Sept. 24	3547	1005	130	1205
Bucket bottom. Well-	E. A. Lee	866,661	Sept. 24	2927	828	130	1005
Bucket. Sectional dredger-	H. L. Sherwood	866,971	Sept. 24	3395	961–2	130	1160
Bucket. Well-	P. E. Getz	866,783	Sept. 24	3121	878	130	1074
Buckle. Belt-	J. D. Templeton	866,982	Sept. 24	3416	966	130	1166

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Burner:							
See Gas-burner.							
Burning finely-divided fuel	G. S. Welles	867,177	Sept. 24	3728	1055	130	1264
Bushing-puller	J Zimms	867,181	Sept. 24	3745	1056	130	1268
Button	J. W. Schloss	866,817	Sept. 24	3176	892	130	1091
Cabinet. Barrel-	A. Hitzert	866,724	Sept. 24	3030	855	130	1045
Calculating the price of articles. Device for	J A Cheape	866,914	Sept. 24	3305	933	130	1131
Calculator	E. Leder	867,061	Sept. 24	3542	1003–5	130	1204
Calendar	J. Neulander	866,802	Sept. 24	3154	887	130	1084
Can:							
See Dispensing-can.							
Can-body forming and soldering machine	G. Gardner	867,090	Sept. 24	3494	989–92	130	1190
Candy-spinning machine	J. F. Magruder	866,946	Sept. 24	3361	951	130	1148
Car and the like. Transportation-	J. M. Ames	866,784	Sept. 24	3091	871	130	1066
Car antifriction center-bearing	J. C. Barber	867,000	Sept. 24	3443	975	130	1177
Car-brake	W. Q. Olden	866,675	Sept. 24	2948	834	130	1012
Car-brake	L. Allenbrand	866,904	Sept. 24	3294	929	130	1127
Car construction	W. Q. Olden	866,674	Sept. 24	2945	833–4	130	1012
Car-coupling	M. Vastine and C. H. Zerbe	867,174	Sept. 24	3721	1052–3	130	1261
Car. Dump-	W. Q. Olden	866,676	Sept. 24	2949	835	130	1013
Car grain-door. Box-	P. S. Larson and R. C. Duea	867,058	Sept. 24	3539	1003	130	1203
Car loading and unloading means	J. C. Kimerer	866,868	Sept. 24	3245	912–13	130	1112
Car. Steel side-dump	R. B. Campbell	866,620	Sept. 24	2866	806–8	130	988
Car-underframe	A. E. Ostrander	866,956	Sept. 24	3378	955–6	130	1154
Car-underframe	W. F. Richards	866,967	Sept. 24	3391	959–60	130	1158
Car-underframe	J. S. Andrews	866,997	Sept. 24	3437	974	130	1172
Carbon-black. Making	A. D. Purtle and I. E. Rowland	866,883	Sept. 24	3264	918	130	1118
Card and stencil or type-plate frame. Combined	W. E. Choate	866,775	Sept. 24	3109	875	130	1071
Carding-machine feeding mechanism	H. Kemp	866,726	Sept. 24	3035	856	130	1047
Carpet-cleaner	G. Friedman	866,640	Sept. 24	2899	817	130	998
Carpet-cleaner	F. J. Matchette	867,067	Sept. 24	3552	1006	130	1207
Carrier:							
See Hay-carrier.							
Carton-setting-up machine	T. R. Weyant	866,757	Sept. 24	3077	866	130	1060
Carving-machine	M. A. Cuming	867,016	Sept. 24	3471	983	130	1184
Carving-machine	F. H. Richards	867,079	Sept. 24	3574	1014	130	1213
Case:							
See Eyeglass or spectacle case. Sample-case. Shipping-case.							
Catamenial appliance	J. F. Altermatt	867,091	Sept. 24	3593	1018	130	1219
Cement-post mold	C. Hutchins	866,653	Sept. 24	2917	824	130	1004
Chain	A. B. Taylor	866,980	Sept. 24	3411	966–7	130	1164
Chain. Sprocket-	R. S. McIntyre	867,208	Sept. 24	3779	1068	130	1270
Chair:							
See Child's chair.							
Child's chair	E. S. French	866,853	Sept. 24	2219	905	130	1104
Chuck. Stay-bolt	W. H. Kauffman	867,201	Sept. 24	3772	1066	130	1277
Churn	J. W. Williams	867,179	Sept. 24	3731	1065	130	1265
Chute	C. H. Shultz	867,164	Sept. 24	3706	1049	130	1257
Chute	C. H. Shultz	867,165	Sept. 24	3707	1049	130	1257
Chute. Coal-	H. W. Richards	867,156	Sept. 24	3693	1044	130	1250
Circuit-closer	T. A. Bemus	867,095	Sept. 24	3509	1021	130	1221
Circuit-closer for door-alarms	L. F. L. Themke	867,220	Sept. 24	3801	1073	130	1286
Circuit making and breaking device	A. L. Riker	867,211	Sept. 24	3785	1069	130	1280
Circuit-protector	C. A. Rolfe	866,735	Sept. 24	3045	859	130	1051
Clamp:							
See Fence-wire clamp. Rope or cable clamp. Rope-clamp.							
Clamping-ring	J. Clark	866,840	Sept. 24	3202	900–1	130	1100
Clasp:							
See Garment-supporter clasp. Pin and brooch clasp.							
Clasp	F. W. Seidl	867,162	Sept. 24	3705	1049	130	1256
Cleaner:							
See Boiler-cleaner. Fruit-cleaner. Carpet-cleaner. Shoe-cleaner.							
Clevis-support	W. Uhrmacher	866,829	Sept. 24	3187	896	130	1095
Clock. Alarm-	P. Lux	866,873	Sept. 24	3253	915	130	1114
Clothes-line holder	H. Falvey	867,027	Sept. 24	3490	988	130	1189
Clutch	S. C. Anker-Holth	866,765	Sept. 24	3093	871	130	1067
Clutch. Hydraulic	A. J. Fippard	866,926	Sept. 24	3333	942	130	1139
Clutch-operating mechanism	M. Altstock	866,707	Sept. 24	2993	849	130	1025
Clutch-operating mechanism	J. P. Karr and J. D. Rauch	867,137	Sept. 24	3652	1038	130	1236
Cock. Gas-	H. W. Smith	867,166	Sept. 24	3708	1050	130	1256
Cock. Hydraulic	A. Hoffbauer	866,861	Sept. 24	3233	909	130	1108
Coffee-percolator	F. B. Price	866,809	Sept. 24	3164	880	130	1068
Coin-assorting mechanism	G. C. Yocum	866,763	Sept. 24	3089	870	130	1066
Collar. Horse-	A. Reed	867,209	Sept. 24	3780	1068	130	1279
Collector-leads. Means for fastening	E. Mattman	866,667	Sept. 24	2984	830	130	1008
Collet attachment	J. L. Holstein	866,788	Sept. 24	3126	880	130	1076
Column. Centrifugally-made	C. D. Campbell	866,712	Sept. 24	2997	850	130	1026
Compound engine	F. E. Norton	866,803	Sept. 24	3155	887	130	1064
Compound engine	C. Kiesselbach	866,936	Sept. 24	3349	946	130	1144
Concrete aqueducts, tunnels, subways, and the like. Construction of	I. H. Reynolds and F. E. Norton	867,078	Sept. 24	3573	1013	130	1213
Concrete bar	J. T. Wilson	866,833	Sept. 24	3191	897–8	130	1097
Concrete structure. Reinforced	F. C. Wolf	867,090	Sept. 24	3593	1018	130	1218
Confectionery-coating machine	H. F. Cobb	866,715	Sept. 24	2017	851	130	1041
Contact device	W. H. Weeks	866,702	Sept. 24	2985	847	130	1023
Controller-regulator	C. J. Harter	866,646	Sept. 24	2906	818	130	1000
Conveyer	E. W. Stull	867,168	Sept. 24	3710	1050	130	1258
Conveyer. Pneumatic	J. M. Griffith	867,124	Sept. 24	3635	1031–2	130	1231
Conveyer system	S. Olson	866,804	Sept. 24	3156	887	130	1065
Conveyers. Automatic feed-gear for	S. L. G. Knox	866,792	Sept. 24	3131	882	130	1078
Cooking vessel	C W. James	866,864	Sept. 24	3240	911	130	1110
Copper and other metals from their ores. Recovery of	B. F. Burchfield and E. Conner	866,911	Sept. 24	3301	922	130	1130
Copper from its ores. Electrometallurgical process for extracting	C. H. Ehrenfeld and J. R. Grove	866,849	Sept. 24	3216	.....	130	1103
Copper sulfate. Obtaining pure	L. Jumau	867,046	Sept. 24	3519	.....	130	1197
	R. Conedera	866,625	Sept. 24	2869	831	130	992

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Copy-holder	C. H. Harris	867,128	Sept. 24	3641	1035	130	1233
Core-arbor	E. H. Proffitt	866,961	Sept. 24	3364	958	130	1156
Core-pressing apparatus	P. Eriksson and S. P. Nielsen	866,852	Sept. 24	3218	905	130	1104
Corn-husking roll	J., W., and M. Hamm	867,035	Sept. 24	3505	995	130	1193
Corn tester. Seed-	C. E. Twamly	866,988	Sept. 24	3424	970–1	130	1168
Corn tester. Seed-	C. E. Twamly	866,989	Sept. 24	3426	971	130	1168
Corset	J. Lindauer	866,869	Sept. 24	3248	913	130	1113
Cotton elevating, conveying, and cleaning apparatus	A. F. Tidwell	867,087	Sept. 24	3587	1017	130	1217
Coupling:							
See Car-coupling. Hose and like coupling.							
Crate. Portable and adjustable pie-	C. J. Herrmann	866,860	Sept. 24	3232	908–9	130	1107
Cream-separator attachment	A. F. Jones and B. J. Evans	866,865	Sept. 24	3241	911–12	130	1110
Cross-head	E. T. James and G. W. Webb	866,655	Sept. 24	2921	825	130	1004
Cultivator	W. D. Mullinax	866,800	Sept. 24	3143	885–6	130	1081
Cultivator attachment	W. C. Allbritton	866,903	Sept. 24	3293	928	130	1127
Culvert	W. G. Todd, W. D. Harrell, and G. Todd.	866,828	Sept. 24	3186	896	130	1095
Cup:							
See Drip-cup.							
Curling-iron	M. A. Eldridge	866,778	Sept. 24	3114	876	130	1072
Curtains, &c. Apparatus for suspending and displaying lace.	J. W. Garrett	867,195	Sept. 24	3764	1063	130	1274
Cut-out	J. G. Swallow	866,977	Sept. 24	3405	964	130	1162
Cutter:							
See Biscuit-cutter. Thread-cutter.							
Cutter-head	A. A. Overbay	866,880	Sept. 24	3262	917–18	130	1117
Cutter-head. Rotary	F. W. Goedeke	867,222	Sept. 24	3803	1073	130	1287
Daggers, tools, and the like. Handle for	F. P. Fournet	867,120	Sept. 24	3629	1030	130	1230
Dampening machines. Seam-guide for collar-	A. M. Torrance	866,749	Sept. 24	3066	865	130	1057
Decorticator	F. Holtzhausen	867,134	Sept. 24	3649	1037	130	1235
Dental bur	C. Rauhe	866,963	Sept. 24	3387	958	130	1157
Dental crown-plates and similar articles. Swage for	C. Rauhe	866,962	Sept. 24	3386	958	130	1157
Dental soldering apparatus	E. Flannigain	867,193	Sept. 24	3763	1063	130	1273
Derrick. Portable window-	W. H. Breen	867,010	Sept. 24	3462	981	130	1181
Digger:							
See Potato-digger.							
Dispensing apparatus	H. C. Beman	867,094	Sept. 24	3598	1020	130	1220
Dispensing can or receptacle	C. F. Eberhard	867,023	Sept. 24	3464	986	130	1187
Display-cabinet for laces, &c	W. A. Rucker	866,814	Sept. 24	3174	891	130	1091
Display-frame	G. P. Cathrea	867,109	Sept. 24	3617	1026	130	1226
Display rack. Package-	J. A. Dunlap	866,634	Sept. 24	2881	814	130	995
Door check and closer	W. M. Dizer	866,719	Sept. 24	3023	853	130	1043
Door-fastener	T. C. Powell	866,681	Sept. 24	2961	838	130	1016
Door-lock	F. G. Seyffarth	866,893	Sept. 24	3278	922	130	1122
Drapery-holder	J. Kemmeter	866,864	Sept. 24	2931	820	130	1008
Drawer-guide	E. C. Blomberg	867,101	Sept. 24	3608	1023	130	1223
Drawer-guide	E. C. Blomberg	867,102	Sept. 24	3609	1023	130	1223
Drawing-board	C. A. Egelin	867,024	Sept. 24	3485	986–7	130	1188
Drawing-off mechanisms. Horsetail for	O. L. Owen	867,072	Sept. 24	3560	1008	130	1210
Drill-feed. Pneumatic	G. H. Gilman	866,720	Sept. 24	3025	853	130	1043
Drip cup or receptacle	D. L. Pitts	866,897	Sept. 24	3160	888	130	1086
Drop-light. Adjustable gas	J. J. Dennis	866,777	Sept. 24	3113	876	130	1072
Dry-kiln	W. F. Hutchinson	866,652	Sept. 24	2917	824	130	1008
Dust-pan	O. A. Christopherson	866,915	Sept. 24	3305	933	130	1131
Dust-removing apparatus	H. Bogenschild	867,006	Sept. 24	3454	978	130	1179
Dusting and polishing device	J. P. Willey	866,897	Sept. 24	3282	924	130	1123
Dye. Reddish-brown sulfur	F. Lehmann	866,980	Sept. 24	3352	.....	130	1145
Eccentric	J. A. Jackson	867,126	Sept. 24	3650	1037	130	1235
Egg-beater	F. A. Brenner	866,909	Sept. 24	3300	931	130	1129
Electric-conductor molding	S. M. Burke	866,770	Sept. 24	3101	873	130	1069
Electric-conductor support	W. W. Benson	866,709	Sept. 24	2995	849	130	1026
Electric-wiring molding	W. H. G. Kirkpatrick	867,140	Sept. 24	3655	1038	130	1237
Electrical-circuit protector	C. A. Rolfe	867,212	Sept. 24	3786	1069	130	1281
Electrical-distribution system	L. C. Marburg	867,085	Sept. 24	3550	1005	130	1206
Electroplating apparatus	L. Potthoff	866,959	Sept. 24	3381	957	130	1155
Elevator:							
See Portable elevator. Water-elevator. Potato-elevator.							
Elevator-machine	G. L. Smith	866,820	Sept. 24	3178	893	130	1092
Emulsion of oil and the like	O. A. H. H. Kösters	867,141	Sept. 24	3656	.....	130	1237
Enameling the interior of sheet-metal vessels	A. R. Speer	866,821	Sept. 24	3179	893	130	1092
End-gate. Wagon	W. Sward	866,826	Sept. 24	3185	895	130	1094
Engine:							
See Compound engine. Mechanical engine. Gas-engine. Rotary engine. Internal-combustion engine. Rotary explosion-engine.							
Engine	W. O. Duntley	866,922	Sept. 24	3322	939	130	1137
Engine sparking plug. Explosive-	W. Diebel	866,631	Sept. 24	2878	813	130	994
Engine starter. Gas-	R. W. Godfrey	867,122	Sept. 24	3631	1031	130	1230
Engines. Fly-wheel construction for gas-	A. J. McCollum	867,207	Sept. 24	3778	1068	130	1278
Envelop-machine	G. W. Swift, Jr.	866,978	Sept. 24	3406	965–6	130	1163
Equalizer	P. N. Sayers	866,816	Sept. 24	3175	891–2	130	1091
Excavating apparatus	J. C. Junkin	867,047	Sept. 24	3520	998–9	130	1198
Exercising apparatus. Child's	E. Lovell	866,728	Sept. 24	3038	857	130	1049
Extension-table	J. Melisch	867,203	Sept. 24	3775	1066	130	1277
Eyeglass or spectacle case	W. E. Birmingham	867,100	Sept. 24	3606	1023	130	1222
Fan attachment	M. J. Murdoch	866,951	Sept. 24	3368	952	130	1130
Fan. Rotary	J. R. Robinson	866,887	Sept. 24	3269	920	130	1120
Fare-register attachment	J. R. Scott	867,085	Sept. 24	3585	1017	130	1216
Feeder. Automatic stock-	F. V. Croshier	867,221	Sept. 24	3802	107	130	1287
Fence-post	J. H. Graham	866,857	Sept. 24	3224	906	130	1106
Fence. Wire	P. C. Hargis	867,037	Sept. 24	3507	995	130	1194
Fence-wire clamp	J. M. Woods	866,900	Sept. 24	3285	925	130	1124
Fertilizer-distributer	S. K. Dennis and F. W. Rice	867,019	Sept. 24	3477	984–5	130	1186
Filaments from nitrocellulose. Manufacture of artificial silk	C. Bottler	866,768	Sept. 24	3098	.....	130	1068
Filter. Electric water-	M. A. Brannon	866,618	Sept. 24	2953	805	130	986
Fire-alarm-box door	F. G. Campbell	866,772	Sept. 24	3103	874	130	1069
Fire-escape	S. Ashford	867,092	Sept. 24	3594	1019	130	1219

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Fire-extinguisher	F. Roemer	866,888	Sept. 24	3271	920	130	1120
Fire-resisting curtain	H. E. Vance	866,894	Sept. 24	3279	923	130	1123
Fire-sprinkler. Automatic	R. H. Boardman	867,004	Sept. 24	3432	978	130	1178
Fireproof blind	H. E. Vance	866,830	Sept. 24	3187	896	130	1095
Fish-scaling apparatus	C. H. A. Bahde	867,182	Sept. 24	3747	1057	130	1209
Flax-straw. System of machines for treating	G. H. Ellis	867,026	Sept. 24	3489	988	130	1189
Fly-trap	G. C. McGee	866,879	Sept. 24	3261	917	130	1117
Flying-machine	A. O'Brate	866,672	Sept. 24	2941	832	130	1011
Flying-machine	A. O'Brate	866,673	Sept. 24	2943	832–3	130	1011
Folding-machine	F. W. Thomas	866,746	Sept. 24	3061	863–4	130	1065
Folding-table	W. C. and F. J. Van Cise	866,699	Sept. 24	2981	846	130	1022
Food for fowls. Grit	E. J. Fuchs	866,641	Sept. 24	2900	.....	130	998
Food-warmer	C J. Branch	867,008	Sept. 24	3459	980	130	1180
Frame: *See* Display-frame.							
Fruit-cleaner	M. F. Witt	866,704	Sept. 24	2989	848	130	1024
Fruit-picker	W. J. Priest	866,882	Sept. 24	3264	918	130	1118
Frying-pan	C. Sullivan	867,086	Sept. 24	3586	1017	130	1216
Fuel-regulator. Automatic	L. Holben	867,042	Sept. 24	3513	997	130	1196
Furnace: *See* Gas-furnace. Regenerative furnace. Heating-furnace.							
Furnace	R. G Hemingray and J. O. Jensen.	866,787	Sept. 24	3125	879–80	130	1078
Fuses. Manufacture of inclosed	R. C. Cole	866,716	Sept. 24	3018	851	130	1041
Gage	J. J. Robinson	867,081	Sept. 24	3579	1015	130	1215
Game of skittles by means of automata. Apparatus for imitating	O. Elchenberger	866,923	Sept. 24	3328	940–1	130	1138
Garden implement	M. H. Noonan	867,224	Sept. 24	3805	1074	130	1288
Garment-fastener	S. Glading	867,031	Sept. 24	3498	993	130	1191
Garment-supporter clasp	R J. Wright and J. C. Andrews	866,705	Sept. 24	2990	848	130	1024
Gas-burner. Inverted incandescent	W Schmitz	866,686	Sept. 24	2966	840	130	1018
Gas-burner. Regulating	W. Schmitz	866,687	Sept. 24	2966	840	130	1018
Gas-engine. Two-cycle	V. Jakob	866,654	Sept. 24	2918	825	130	1004
Gas-furnace	F. and C. Schreiber and C. E. Flaharida.	866,688	Sept. 24	2967	841	130	1018
Gas-furnace. Regenerative	G. Hatton	867,038	Sept. 24	3508	995–6	130	119
Gas. Generation of formaldehyde	A Elchengrün	866,851	Sept. 24	3217	.....	130	110
Gas-generator	T. J. Christy	866,713	Sept. 24	2999	850–1	130	1027
Gas generator. Acetylene	H. V. Neukirch	866,955	Sept. 24	3377	955	130	1154
Gas generator. Acetylene	C. W. Beck	867,001	Sept. 24	3444	976	130	1177
Gas-igniter	W. J. Kennedy	867,139	Sept. 24	3654	1038	130	1236
Gas-washer	J. Zellweger	866,706	Sept. 24	2991	848	130	1024
Gate: *See* End-gate.							
Gate opener and closer	W. Peltier	866,806	Sept. 24	3158	888	130	1088
Gear-cutting mechanism	H. M. Darling	867,189	Sept. 24	3757	1061–2	130	1272
Gearing	J. J. P. Boatman	867,103	Sept. 24	3609	1024	130	1223
Generator: *See* Gas-generator.							
Girders. Construction of iron	R. Lipman	866,940	Sept. 24	3352	947	130	1145
Girdle	G. E. Markéll	867,146	Sept. 24	3664	1040	130	1239
Glue. Bleaching	A. J. Stiegelmann and E. Dehnel	867,167	Sept. 24	3709	.....	130	1258
Governor. Marine-engine	A. Coates and H. W. Hackett	867,111	Sept. 24	3619	1027	130	1226
Grain-cleaning mill	C. L. Canady	866,773	Sept. 24	3106	874–5	130	1070
Grain-separator feed-regulator	R. A. Little	866,941	Sept. 24	3353	948	130	1145
Graining device. Floor	B. P. Hess. (Reissue)	12,697	Sept. 24	3807	1074	130	1298
Grate. Rocking and dumping	P. L. Crowe and A. Frankenheim	866,627	Sept. 24	2871	811–12	130	992
Grinder. Feed	S. K. Dennis and F. W. Rice	867,018	Sept. 24	3474	984	130	1185
Grip. Pull-rod	C. C. Hanford	867,036	Sept. 24	3506	995	130	1194
Gun	C. A. T. Sjögren	866,972	Sept. 24	3398	962	130	1160
Guns and other tubes. Device for cleaning	F. M. Bigelow	867,098	Sept. 24	3603	1022	130	1221
Hammer. Fluid-pressure power	C. R. Green	867,033	Sept. 24	3500	993	130	1191
Hand-strap for cars and other conveyances	E. E. Ries	866,812	Sept. 24	3167	890	130	1089
Handle-holder	R. E. Jack	867,199	Sept. 24	3770	1065	130	1276
Hanger: *See* Shade-hanger. Skirt and suit hanger.							
Harrow	N. A. Seipel	866,819	Sept. 24	3177	892	130	1092
Harvester. Corn	C. S. Sharp	867,215	Sept. 24	3792	1070–1	130	1285
Hasp-lock	E. E. Stacy	866,694	Sept. 24	2975	844	130	1020
Hat-fastener	M. E. Jennings and A. J. Winebrake.	866,656	Sept. 24	2922	825	130	1005
Hay-carrier	W. Hoppe	867,135	Sept. 24	3649	1037	130	1235
Hay rake and tedder	W. B. Ellis	867,025	Sept. 24	3486	987–8	130	1188
Head-rest	H. E. Weber	866,753	Sept. 24	3073	867	130	1059
Heater: *See* Water-heater.							
Heating, cooking, and washing apparatus	L. De Vaux	866,630	Sept. 24	2876	813	130	994
Heating-furnace	B. E. Eldred	866,635	Sept. 24	2883	815	130	995
Heating system. Hot-water	G. S. Comstock	868,842	Sept. 24	3204	901	130	1101
Heel for boots and shoes. Cushion	M. J. Kearney	866,867	Sept. 24	3244	912	130	1111
Heel-retainer for overshoes	O. Berry	866,907	Sept. 24	3298	930	130	1128
Hillsides and mountains. Utilizing	M. Richter	867,157	Sept. 24	3694	1045	130	1253
Hinge	J. Saari	866,968	Sept. 24	3392	960	130	1159
Hinge. Combined spring and lock	J. W. Keown	866,791	Sept. 24	3130	881	130	1077
Hoe and cultivator. Horse	C. H. Clark and H. F. Hamilton	867,188	Sept. 24	3755	1060	130	1271
Hoe or rake handle connection	C. B. Bendlage	867,096	Sept. 24	3600	1021	130	1221
Hoisting apparatus	C. A. Olson	867,071	Sept. 24	3559	1007	130	1209
Hop-press	C. Kuensting	867,142	Sept. 24	3686	1039	130	1237
Horseshoe	G. L. Reynolds	866,733	Sept. 24	3043	858	130	1050
Horseshoe	L. P. Sawtell, T. S. Field, and G. G. Crouch.	867,084	Sept. 24	3584	1016	130	1216
Horseshoe-calks. Device for making	L. Enk	867,115	Sept. 24	3625	1029	130	1228
Hose and like coupling	S. B. Lear	867,059	Sept. 24	3540	1003	130	1203
Hose-supporter	H. G. Macwilliam	867,064	Sept. 24	3549	1005	130	1206
Hose-terminal	J. R. Carmer	867,106	Sept. 24	3616	1025	130	1225
Indicator: *See* Lock-indicator.							
Indicator-lock	H. G. Voight and C. J. Caley	866,831	Sept. 24	3188	897	130	1096
Ink-well	F. J. Stulp	866,824	Sept. 24	3183	894–5	130	1093

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Internal-combustion engine	O. Podhajsky	867,075	Sept. 24	3567	1010	130	1212
Iron: *See* Curling-iron. Laundry-iron.							
Ironing-table	V. A. White	867,088	Sept. 24	3590	1018	130	1218
Jack: *See* Lifting-jack.							
Jacquard-machine	D. Lawlor	866,600	Sept 24	2925	827	130	1006
Jars. Vacuum-vent for	E. U. Kinsey	866,938	Sept. 24	3350	947	130	1145
Joint: *See* Rail-joint.							
Kiln: *See* Dry-kiln.							
Kitchen. Cabinet	J. G. Steinkamp	866,823	Sept. 24	3182	894	130	1093
Label pasting and attaching machine	L. Casper	866,774	Sept. 24	3107	875	130	1070
Lacings. Machine for manufacturing shoe	W. H. Church	866,916	Sept. 24	3307	933–6	130	1131
Ladder	A. Devan	867,020	Sept. 24	3479	985	130	1186
Ladder-hoist	J. Muirhead	866,877	Sept. 24	3258	916	130	1116
Lamp bulbs. Exhausting incandescent	F. L. O. Wadsworth	866,751	Sept. 24	3071	866	130	1059
Lamp. Gas	A. C. Swain	867,219	Sept. 24	3799	1072	130	1285
Latch. Gate	C. J. Austad	866,766	Sept. 24	3095	872	130	1067
Lathe. Driving-wheel	G. T. Reiss and A. Wood	866,885	Sept. 24	3266	919	130	1119
Laundry-iron. Electric	E. H. Richardson	866,810	Sept. 24	3164	889	130	1088
Lavatories. Plumbing fixture for	R. F. Gillin	866,642	Sept. 24	2901	817	130	998
Lease-rod-supporting device	W. L. Gilbert	867,196	Sept. 24	3765	1064	130	1275
Ledger. Loose-leaf	H. F. Bushong	867,107	Sept. 24	3614	1025	130	1225
Lever	T. Brennan, Jr	867,009	Sept. 24	3461	980	130	1181
Life-saving apparatus	D. Kerekes and J. Kender	866,935	Sept. 24	3348	946	130	1144
Lifter: *See* Pan-lifter. Stove-lid lifter.							
Lifting-jack	M. Carlucci	866,913	Sept. 24	3304	932	130	1130
Light: *See* Drop-light.							
Liquor purifying and aging apparatus	H. D. Laidlaw	867,143	Sept. 24	3661	1039	130	1238
Lock: *See* Door-lock. Mail-bag lock. Hasp-lock. Nut-lock. Indicator-lock.							
Lock	L. E. L. Themke	866,697	Sept. 24	2978	845	130	1021
Lock-indicator	H. G. Voight	867,175	Sept. 24	3722	1053	130	1262
Locomotive brake-shoe	E. Lee	867,144	Sept. 24	3662	1040	130	1238
Locomotive-controller. Electric	C. O. Dayton	866,846	Sept. 24	3209	902–4	130	1102
Locomotive. Towing	C. Köttgen and G. Meyer	867,052	Sept. 24	3530	1001	130	1200
Loom. Weft-replenishing	C. M. Hansen, C. V. Müller, and J. C. E. Carlsson.	867,127	Sept. 24	3638	1033–4	130	1232
Loom weft stop-motion	W. A. Grant	867,032	Sept. 24	3499	993	130	1191
Lubricator	W. O. Duntley	866,921	Sept. 24	3321	938	130	1136
Machinist's tool or gage	W. S. Bromley	867,011	Sept. 24	3464	981	130	1182
Magnet. Polarized ringer	F. H. Whitman	866,760	Sept. 24	3084	869	130	1063
Mail-bag lock	R. E. Redding	866,965	Sept. 24	3388	959	130	1158
Mail-crane	T. J. Wolfe and F. L. Wood	866,809	Sept. 24	3284	925	130	1124
Match-machine	W. F. Hutchinson	866,648	Sept. 24	2908	819	130	1001
Match-machine	W. F. Hutchinson	866,649	Sept. 24	2910	819	130	1001
Match-machine	W. F. Hutchinson	866,650	Sept. 24	2910	819–23	130	1001
Match-machine	W. F. Hutchinson	866,651	Sept. 24	2914	823–4	130	1002
Measuring instrument. Electrical	T. W. Varley	866,990	Sept. 24	3428	971–2	130	1160
Measuring-machine	W. M. Thomas and W. H. Leach, Jr.	866,747	Sept. 24	3064	864	130	1066
Measuring machine. Dry-goods	J. W. Parsons	866,957	Sept. 24	3379	956	130	1155
Meat-larding needle	P. Huss	867,044	Sept. 24	3516	998	130	1197
Mechanical engine	J. C. Williams	866,761	Sept. 24	3086	870	130	1065
Mechanical movement	J. A. Frenier	867,121	Sept. 24	3630	1031	130	1230
Metal articles. Apparatus for cutting	F. Jottrand	866,866	Sept. 24	3242	912	130	1110
Metal-depositing apparatus	W. A. Hendryx	866,858	Sept. 24	3224	907	130	1106
Metal-depositing apparatus	W. A. Hendryx	866,859	Sept. 24	3229	908	130	1107
Meter connection	G. W. McKee	866,952	Sept. 24	3370	953	130	1151
Milk-separator	C. Bergner	867,097	Sept. 24	3601	1021–2	130	1221
Mill: *See* Grain-cleaning mill. Windmill. Roller-mill.							
Mitt. Base-ball	S. F. Waring	866,895	Sept. 24	3280	923	130	1123
Mold: *See* Cement-post mold.							
Mold	W. Ip. Hart and F. J. Daniels	867,129	Sept. 24	3642	1035	130	1233
Molding-machine	P. Bonvillain and E. Ronceray	867,104	Sept. 24	3611	1024	130	1224
Motor-control system	W. J. Richards	867,154	Sept. 24	3688	1044	130	1250
Motor-control system	W. J. Richards	867,155	Sept. 24	3691	1044	130	1252
Muffler	J. H. Way	866,752	Sept. 24	3072	866–7	130	1059
Music-leaf turner	H. and W. Kuehnlein	867,056	Sept. 24	3536	1002	130	1202
Necktie-fastener	P. H. Long	866,943	Sept. 24	3356	949	130	1146
Nut-holding device	C. F. Lancaster	866,793	Sept. 24	3133	883	130	1078
Nut-lock	W. Bollwahn	866,616	Sept. 24	2852	804	130	988
Nut-lock washer	C. G. Ette	867,116	Sept. 24	3626	1029	130	1228
Oiler. Spindle	E. C. Marchant	867,066	Sept. 24	3551	1006	130	1207
Oiling apparatus	P. N. Sayers	867,160	Sept. 24	3703	1048	130	1256
Organ. Reed	W. F. Bultmann	866,711	Sept. 24	2996	850	130	1026
Packing	W. F. Taylor	866,696	Sept. 24	2978	844	130	1021
Pad: *See* Recoil-pad.							
Pan: *See* Dust-pan. Frying-pan.							
Pan-lifter	W. R. Ogden	867,070	Sept. 24	3558	1007	130	1209
Paper-cutting machine	C. Seybold	866,739	Sept. 24	3051	860	130	1053
Paper-interleaving machine	H. Sauter	867,159	Sept. 24	3696	1045–8	130	1254
Paper or pasteboard with fibrous insertions. Machine for making	O. Hoffmann	867,041	Sept. 24	3512	996–7	130	1195
Paraformaldehyde and peroxid mixture	A. Elchengrün	866,850	Sept. 24	3217	.....	130	1104
Partition-support	C. I. Parker	866,881	Sept. 24	3263	918	130	1113
Pasteuriser	C. H. Loew	866,870	Sept. 24	3249	914	130	1113
Percolator	C. E. Trewhella	866,985	Sept. 24	3420	969	130	1167
Perforating-machine	L. B. Doman	866,920	Sept. 24	3319	937–8	130	1135

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Piano	W. G. Betz	867,002	Sept. 24	3447	976	130	1177
Piano action. Player-	F. Meyer	867,204	Sept. 24	3776	1067	130	1278
Piano. Self-playing	J. W. Darley, Jr.	867,113	Sept. 24	3622	1027–8	130	1227
Pianos. Air-duct and connection for self-playing grand	J. W. Darley, Jr.	867,114	Sept. 24	3624	1029	130	1228
Pianos and piano-players. Combination-bench for	J. H. Talge	866,745	Sept. 24	3060	863	130	1055
Picker: *See* Fruit-picker.							
Picture apparatus. Animated-	J. Bianchi	867,185	Sept. 24	3751	1059	130	1270
Pin and brooch clasp	E. E. Smith	866,741	Sept. 24	3055	861	130	1054
Pipes. Noise-deadening means for drain-	B. T. Wilson	866,762	Sept. 24	3086	870	130	1065
Planter	E. B. Winship	866,968	Sept. 24	3432	972–3	130	1170
Planter attachment. Potato-	W. P. Boller	866,710	Sept. 24	3038	850	130	1028
Planter. Check-row corn-	D. N. Baxter	866,708	Sept. 24	3004	849	130	1025
Planter. Seed-	D. M. Pearce	867,074	Sept. 24	3668	1008–9	130	1211
Plastering apparatus	P. M. Thomson	866,984	Sept. 24	3418	969	130	1166
Plow	W. S. Jennings	866,657	Sept. 24	3023	826	130	1005
Plow. Listing-	G. Persson	866,679	Sept. 24	3057	837	130	1015
Plow. Reversible disk	C. E. Dixon	866,832	Sept. 24	3079	813–14	130	994
Pneumatic delivery system	W. McClave	867,068	Sept. 24	3554	1006–7	130	1203
Pneumatic-despatch-tube apparatus	F. W. Knott	867,050	Sept. 24	3527	1060	130	1189
Pneumatic-tube-apparatus carrier	W. A. Brown	867,225	Sept. 24	3808	1074	130	1288
Pocket article-guard	S. Korf	867,051	Sept. 24	3529	1000	130	1200
Pocket-register	W. S. Noyes	866,670	Sept. 24	3057	831	130	1009
Pocket safety attachment. Watch-	M. M. Strauss	866,744	Sept. 24	3059	863	130	1055
Pole attachment. Vehicle-	W. Bollwahn	866,617	Sept. 24	3053	804	130	986
Portable elevator	J. B. Bushnell	866,619	Sept. 24	2986	805–6	130	987
Post: *See* Fence-post.							
Potato-digger	O. Sanderson	866,880	Sept. 24	3272	921	130	1120
Potato-elevator and vine-separator. Combined	A. L. Hoover	866,932	Sept. 24	3342	943–4	130	1142
Powder receptacle. Tooth-	H. L. De Mond	867,017	Sept. 24	3473	984	130	1185
Power plant. Floating	J. W. Dawson	867,192	Sept. 24	3761	1062–3	130	1273
Power-press	T. R. Bayliss	867,093	Sept. 24	3596	1019–20	130	1220
Power transmission	D. M. Le Baron	867,060	Sept. 24	3541	1003	130	1204
Press: *See* Baling-press. Power-press. Hop-press.							
Press	M. H. Avram	866,999	Sept. 24	3440	975	130	1174
Pressure-controller	J. H. Glenn and M. Reule	866,643	Sept. 24	2998	817	130	999
Printing-chase registering device	P. and J. F. Raible	866,663	Sept. 24	2983	839	130	1017
Printing-machine	G. F. Hopkins	866,853	Sept. 24	3236	910–11	130	1109
Printing machine. Stencil-	A. B. Dick	866,718	Sept. 24	3022	853	130	1043
Printing-plate chain	R. Grieser	866,928	Sept. 24	3336	942	130	1141
Printing-press sheet-delivery	F. P. Sharp	866,740	Sept. 24	3053	861	130	1053
Printing-stamp. Variable	P. B. Hill	866,723	Sept. 24	3029	854–5	130	1045
Projectile	W. Becker	866,614	Sept. 24	2948	803	130	985
Propeller	A. H. Friedel	867,029	Sept. 24	3492	980	130	1190
Propeller. Ship's	P. Pieri	867,148	Sept. 24	3666	1041	130	1240
Pruning-shears	F. Magill	866,875	Sept. 24	3255	915	130	1115
Puller: *See* Bushing-puller.							
Pump	J. A. Fenstermaker	867,117	Sept. 24	3627	1030	130	1229
Pump-rod attachment	F. P. Sayers	866,815	Sept. 24	3174	891	130	1091
Pump valve. Gas-	R. Whitaker	866,839	Sept. 24	3180	897	130	1096
Pumps. Blade-wheel for centrifugal	F. Neumann	867,060	Sept. 24	3557	1007	130	1209
Rack: *See* Display-rack.							
Rail and shoe. Electric contact	G. Drawert	867,021	Sept. 24	3480	985	130	1187
Rail-joint	L. A. Bundy	867,012	Sept. 24	3465	981	130	1182
Rail joint or chair	W. Sloss, Jr.	866,692	Sept. 24	2971	842	130	1019
Rail magnetic brake	V. L. Ochoa	867,147	Sept. 24	3645	1040	130	1240
Rail-sanding device	H. A. Hall	866,721	Sept. 24	3026	854	130	1044
Railway block-signal system. Electric-	C. W. Hamm	867,197	Sept. 24	3767	1064	130	1275
Railway-bridge footway	E. M. Wiley	867,178	Sept. 24	3730	1055	130	1265
Railway-crossing signal	W. F. Hopkins	866,780	Sept. 24	3128	861	130	1077
Railway-frog	C. W. Reinoehl and W. M. Henderson.	866,884	Sept. 24	3265	919	130	1118
Railway signaling apparatus	V. L. Raven	867,150	Sept. 24	3669	1041–2	130	1241
Railway signaling apparatus	V. L. Raven	867,151	Sept. 24	3678	1043	130	1245
Railway signaling apparatus	V. L. Raven	867,152	Sept. 24	3682	1043	130	1248
Railway-switch	G. M. Thompson	866,983	Sept. 24	3417	968	130	1166
Railway-switch	R. Abbey and W. E. Risley	867,158	Sept. 24	3695	1045	130	1253
Railway-tie and rail-fastening. Metal and concrete	M. Stoner	866,743	Sept. 24	3057	862	130	1054
Railways and appliances pertaining thereto. System of	W. H. Boyes and E. F. von Willmowsky.	867,007	Sept. 24	3455	978–80	130	1179
Railways. Electric signaling on	W. J. MacKenzie	866,945	Sept. 24	3359	950	130	1147
Rake: *See* Hay-rake.							
Rake	H. Watson	866,701	Sept. 24	2984	847	130	1023
Rat and mouse trap	S. Shreffler	867,163	Sept. 24	3705	1049	130	1257
Razor	A. Werner	866,756	Sept. 24	3076	868	130	1060
Razor. Safety-	G. Tittmann	866,827	Sept. 24	3186	896	130	1095
Razor. Safety-	D. W. Gage	866,854	Sept. 24	3220	906	130	1105
Razor. Safety-	E. B. Gibford	866,856	Sept. 24	3222	906	130	1106
Razor. Safety-	E. Feist	866,924	Sept. 24	3332	941	130	1139
Reaming and tapping machine	C. G. Schimkat	866,909	Sept. 24	3303	930	130	1159
Reaming, tapping, and facing machine. Horizontal	W. Porteous	867,077	Sept. 24	3570	1012–13	130	1213
Recoil-pad	W. Porteous	867,076	Sept. 24	3568	1010–12	130	1212
Reel	W. W. Wohlwend	866,994	Sept. 24	3434	973	130	1171
Reflector. Window-	W. A. Arnold	866,613	Sept. 24	2946	803	130	985
Regenerative furnace	C. J. Johnsen	866,658	Sept. 24	2993	836	130	1005
Register: *See* Fare-register. Pocket-register.	G. Brauer and H. Gewecke	867,105	Sept. 24	3612	1024–5	130	1224
Register	D. J. Russell	866,737	Sept. 24	3048	859–60	130	1052
Regulator: *See* Controller-regulator. Fuel-regulator.	A. J. Kirchner	867,049	Sept. 24	3524	1000	130	1199
Reversing mechanism	A. P. Crell	866,776	Sept. 24	3112	875–6	130	1072
Ring: *See* Clamping-ring.	J. L. Waldrep	866,700	Sept. 24	2982	846	130	1022
Road-bed-washout signal	B. W. Tucker	866,698	Sept. 24	2979	845	130	1021
Road-scarifier	E. S. Moulton	866,799	Sept. 24	3141	884–5	130	1061
Roller-mill	W. Brundell	867,106	Sept. 24	3614	1025	130	1224
Rope-clamp	A. H. Meech	866,876	Sept. 24	3257	916	130	1116
Rope or cable clamp	A. H. Olson and C. E. Nyberg	866,677	Sept. 24	2952	836–7	130	1013
Rotary engine	E. A. Bauter	866,767	Sept. 24	3096	872	130	1068
Rotary engine	R. and H. B. Poulton	866,808	Sept. 24	3161	888–9	130	1087
Rotary engine	C. E. Forsyth	867,119	Sept. 24	3628	1030	130	1229
Rotary engine	H. Haage	867,126	Sept. 24	3637	1032–3	130	1232
Rotary engine	J. B. and W. C. Troup	867,172	Sept. 24	3714	1051	130	1259
Rotary engine	J. F. Southern and H. J. Griest	866,693	Sept. 24	2972	842–4	130	1020
Rotary explosion-engine	O. A. Wheeler	866,758	Sept. 24	3078	869	130	1061
Rubber. Reclaiming scrap or waste vulcanized	O. A. Wheeler	866,759	Sept. 24	3081	869	130	1063
Rubber. Reclaiming scrap or waste vulcanized	L. H. McGraw	866,668	Sept. 24	2935	830	130	1009
Running-gear	B. Heavner and C. A. Manker	866,920	Sept. 24	3339	943	130	1141
Safes from burglars. Means for protecting	N. J. Little	866,727	Sept. 24	3036	856	130	1048
Sample-case	A. F. Kubicek	867,055	Sept. 24	3534	1001	130	1202
Sanding-machine. Automatic air	A. J. Wilson	866,808	Sept. 24	3283	924	130	1124
Sash-holder	C. Smith	867,218	Sept. 24	3797	1072	130	1285
Saw	G. Geisendorfer	866,782	Sept. 24	3119	878	130	1074
Saws. Stop for cut-off	H. Anderson	866,905	Sept. 24	3295	929	130	1127
Sawing-machine	H. B. Sherwood and O. B. Blankenship.	866,690	Sept. 24	2970	842	130	1019
Scale. Computing-	L. C. Wetzel	866,992	Sept. 24	3430	972	130	1170
Scale. Computing-	J. C. S. and H. R. Rumsey	866,736	Sept. 24	3047	859	130	1051
Scoop	H. J. Bickle	866,615	Sept. 24	2949	803–4	130	985
Scraper	E. Christman and D. A. Moon	866,622	Sept. 24	2963	808–9	130	990
Scraper for ground-working disks	H. W. Blaisdell	867,003	Sept. 24	3448	976–7	130	1177
Scraping-machine. Manual	C. Bauer	866,835	Sept. 24	3195	898–9	130	1098
Screen	F. H. McLain	866,953	Sept. 24	3371	953–4	130	1151
Screw-threading machine	J. Holmer	867,133	Sept. 24	3647	1036	130	1235
Seal. Car-door	W. A. Lorenz	866,663	Sept. 24	2929	828	130	1007
Sealing apparatus. Vacuum	E. T. Ryan	867,213	Sept. 24	3788	1070	130	1281
Sealing machine. Bottle-	E. D. Schmitt	867,214	Sept. 24	3791	1070	130	1282
Sealing machines. Sealing-head for bottle-	R. A. Little	866,942	Sept. 24	3354	948–9	130	1146
Seed-cleaning mechanism	F. M. Dossor	866,848	Sept. 24	3215	904–5	130	1103
Seeds and the like. Apparatus for cleaning and separating.	G. P. Oates	866,671	Sept. 24	2939	831	130	1010
Seeding-machine distributer	A. J. Cook	866,626	Sept. 24	2870	811	130	992
Separating finely-divided material. Apparatus for	C. Schütz	866,689	Sept. 24	2968	841	130	1018
Separator: *See* Milk-separator. Steam-separator.	L. B. Henderson	867,040	Sept. 24	3512	996	130	1195
Sewing-machine	M. V. Morris	866,798	Sept. 24	3140	884	130	1061
Sewing-machine table	F. S. Hazelton	866,786	Sept. 24	3123	879	130	1075
Shade and curtain holder	M. Taussig	866,695	Sept. 24	2976	844	130	1020
Shade hanger. Window-	C. B. Chambers	866,621	Sept. 24	2962	808	130	989
Shears: *See* Pruning-shears.	H. P. Frisch	867,028	Sept. 24	3491	989	130	1189
Shelving-support. Adjustable	N. C. Small	866,973	Sept. 24	3399	962	130	1161
Shipping-case	H. Climer	866,917	Sept. 24	3314	936	130	1133
Shoe-cleaner	G. Harman	867,130	Sept. 24	3644	1035	130	1234
Shoe. Turn-	F. Gowin	867,123	Sept. 24	3632	1031	130	1231
Sickle-bar	D. Kaukasiell	867,138	Sept. 24	3653	1038	130	1236
Sidewalks. Grate-supporting structure for	D. A. Wedmore	866,754	Sept. 24	3074	867	130	1060
Signal: *See* Railway-crossing signal. Road-bed-washout signal.	F. H. Newton	866,669	Sept. 24	2936	831	130	1009
Signal apparatus	W. Haxton	867,039	Sept. 24	3510	998	130	1194
Silkworm-breeding device	W. Thomas	867,169	Sept. 24	3711	1050	130	1258
Skirt and suit hanger	W. L. Marchand	866,947	Sept. 24	3364	951	130	1140
Skirt-holder	J. W. Flynn	866,780	Sept. 24	3116	877	130	1072
Sled. Perambulator-	W. Cross	866,919	Sept. 24	3316	937	130	1134
Sleeve. Split	E. H. Lueders	867,145	Sept. 24	3663	1040	130	1239
Sleigh-brake	G. Lidseen and L. L. Blake	866,796	Sept. 24	3135	883	130	1079
Snow-plow	E. Tache	866,979	Sept. 24	3410	966	130	1164
Snow-plow	M. Collins	866,918	Sept. 24	3315	936	130	1134
Spark-arrester	U. L. Rife	867,080	Sept. 24	3578	1015	130	1214
Speed-governor	G. E. Gay	866,855	Sept. 24	3222	906	130	1108
Spindle	A. E. Johnson	866,933	Sept. 24	3343	944	130	1143
Spinning. Machine for preparing fibers for	J. Riedemann	866,811	Sept. 24	3167	890	130	1089
Sponge-holder	J. Slaybaugh	867,216	Sept. 24	3794	1071	130	1284
Spool and thread package	W. B. Spencer	866,974	Sept. 24	3400	963	130	1161
Sprinkler-stopping device							
Stables. Device for the barriers of horse-	S. S. Davis	866,629	Sept. 24	2875	812–13	130	993
Stamp-affixer and envelop-sealer	E. L. Arnold	866,834	Sept. 24	3194	898	130	1097
Stamp and label affixer. Postage-	G. D. Hoppes	866,725	Sept. 24	3033	855	130	1046
Stand: *See* Switch-stand.	P. O. Zehner	866,901	Sept. 24	3286	925	130	1125
Steam-boiler	M. J. D. Carter	867,186	Sept. 24	3753	1060	130	1271
Steam-boiler	C. Junker	867,048	Sept. 24	3524	999	130	1198
Steam-separator	D. H. Kendall	867,202	Sept. 24	3773	1066	130	1277
Steering device	B. M. W. Hanson and A. E. Thayer.	867,198	Sept. 24	3769	1065	130	1276
Stencil-sheet	A. Schroeder, Jr.	866,818	Sept. 24	3177	892	130	1092
Sterilizing apparatus	H. A. Haseldon	867,131	Sept. 24	3645	1036	130	1234
Stiffenings for sunbonnets and the like. Making	B. T. Kinnear	866,937	Sept. 24	3350	947	130	1145
Stock. Foot-	W. H. Wilder	866,806	Sept. 24	3281	923–4	130	1123
Stool. Milking-	J. Haigh	866,785	Sept. 24	3123	879	130	1075
Stop-motion apparatus	T. Dugdale	866,633	Sept. 24	2981	814	130	995
Stove-lid lifter	F. N. Martindale	866,796	Sept. 24	3138	884	130	1060
Stove. Oil-							
Stovepipe-connector							
Strainer for down-spouts and the like							
Strainer for teapots							
Strap: *See* Hand-strap.							
Surgical bandage	H. M. Mace	866,666	Sept. 24	2933	820	130	1003

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Surgical instrument	F. T. Wright	866,995	Sept. 24	3426	973	130	1172
Swing. Pleasure-	E. F. Chubbuck	867,187	Sept. 24	3784	1060	130	1271
Switch:							
See Railway-switch.							
Switch-stand	M. W. Long	866,662	Sept. 24	2928	828	130	1005
Switch-stand	M. W. Long	866,871	Sept. 24	3250	914	130	1113
Switch-stand. Semaphore	M. W. Long	866,872	Sept. 24	3251	914–15	130	1114
Switch structure	V. Angerer	866,998	Sept. 24	3438	974	130	1172
Table:							
See Extension-table. Ironing-table. Folding table. Sewing-machine table.							
Talking-machine needle	C. L. Meyers	866,950	Sept. 24	3367	952	130	1150
Target. Disappearing	E. Habersbrufler and J. Stöcker	867,034	Sept. 24	3502	994	130	1192
Telephone and telegraph lines. Antihummer for	N. O. Hagen	866,645	Sept. 24	2905	818	130	1000
Telephone-exchange system	E. E. Clement	867,014	Sept. 24	3468	982	130	1183
Telephone. Intercommunicating	C. E. Lee	866,794	Sept. 24	3134	883	130	1078
Telephone release. Automatic	E. D. Fales	866,639	Sept. 24	2891	818–17	130	997
Telephone system	H. P. Clausen	866,714	Sept. 24	3000	851	130	1027
Thread-controller	G. Schmidt	866,890	Sept. 24	3273	921	130	1121
Thread-cutter	O. Slagle	867,217	Sept. 24	3796	1072	130	1284
Tie:							
See Railway-tie.							
Tiles, &c. Saggar for treating	T. Pratt	866,960	Sept. 24	3382	957	130	1156
Tiling	J. M. Wells	866,755	Sept. 24	3075	866	130	1000
Timepiece escapement mechanism	H. Coullery	867,015	Sept. 24	3470	983	130	1184
Tire	J. E. MacKay	866,874	Sept. 24	3254	915	130	1115
Tire	R. A. Gehan	866,927	Sept. 24	3336	942	130	1141
Tongs. Pipe-	A. Helman	867,132	Sept. 24	3546	1036	130	1234
Tool. Combination-	A. J. Higgins	866,931	Sept. 24	3341	943	130	1142
Tool. Combination-	J. H. Flora	867,118	Sept. 24	3527	1030	130	1229
Tool. Pneumatic	J. H. Templin	866,981	Sept. 24	3412	967–8	130	1165
Traction-apron	J. B. Hill	866,647	Sept. 24	2907	818–19	130	1000
Trap:							
See Animal-trap. Rat and mouse trap. Fly-trap.							
Trap	W. C. Hooker	866,862	Sept. 24	3235	910	130	1108
Trolley	W. Moeckel	866,729	Sept. 24	3089	857	130	1049
Trolley	G. R. Forster	866,781	Sept. 24	3117	877–8	130	1073
Trolley-wheel support	G. W. Griscale, Jr	867,125	Sept. 24	3636	1082	130	1232
Truck. Hand-	C. F. Miller	866,797	Sept. 24	3139	884	130	1080
Truck. Portable piano-	S. Bilger	867,099	Sept. 24	3604	1022–3	130	1221
Tube-expander	T. P. Green	866,644	Sept. 24	2904	818	130	1000
Turbine. Steam-	A. Patschke	866,956	Sept. 24	3380	956	130	1155
Type-writing and printing machine. Combined	W. H. Collier	866,624	Sept. 24	2887	810	130	991
Type-writing machine	J. H. Jackson	867,045	Sept. 24	3517	998	130	1197
Valve	J. H. Berry	866,905	Sept. 24	3296	930	130	1126
Valve	B. E. Meacham	866,948	Sept. 24	3365	952	130	1149
Valve	E. C. Dun	867,022	Sept. 24	3482	986	130	1187
Valve and operating mechanism therefor	G. G. Summers and G. P. Burke	866,825	Sept. 24	3184	895	130	1094
Valve. Blow-off	H. H. Riggin	866,984	Sept. 24	2963	839	130	1017
Valve for hot-water boilers. Gas-	W. C. Ricketts	866,886	Sept. 24	3288	920	130	1119
Valve for tension-reservoirs for pneumatic apparatus. Relief-	G. P. Brand	866,837	Sept. 24	3198	899	130	1099
Valve-gear	W. H. Collier	866,623	Sept. 24	2886	809–10	130	990
Valves. Air-strainer for suction-	M. W. Hibbard	866,920	Sept. 24	3340	943	130	1142
Vehicle	E. L. Brillhart	866,769	Sept. 24	3089	873	130	1088
Vehicle-body brace	J. C. Morton	866,730	Sept. 24	3040	857	130	1049
Vehicle-brake	J. M. Lansden, Jr	867,057	Sept. 24	3528	1002	130	1203
Vehicle-controlling apparatus	G. T. Woods	867,180	Sept. 24	3722	1055–6	130	1266
Vehicle driving-gear. Motor-	C. R. Binney and J. L. Watkins	866,908	Sept. 24	3299	930–1	130	1129
Vehicles. Rocker-bar gear for	G. W. Stevenson	866,976	Sept. 24	3404	964	130	1162
Vending-machine	J. M. Spindler	866,742	Sept. 24	3065	862	130	1054
Vending machine. Stamp or ticket	E. D. Schmitt	866,891	Sept. 24	3275	921–2	130	1121
Vibrator	C. R. Elliott	866,636	Sept. 24	2885	815	130	996
Voting-machine	J. H. McElroy	866,801	Sept. 24	3143	886–7	130	1082
Wagon-body	A. N. Salisbury and L. M. Brackett	866,685	Sept. 24	2964	840	130	1017
Wagon. Dumping-	G. W. Crane	866,717	Sept. 24	3019	862	130	1041
Wagon-loading device	O. Ewers	866,638	Sept. 24	2890	816	130	997
Wall of building-blocks	F. V. M. Hudson	867,043	Sept. 24	3515	997–8	130	1196
Washboard	W. Scott	866,892	Sept. 24	3277	922	130	1122
Washboard	W. Scott	867,161	Sept. 24	3704	1048	130	1256
Washer:							
See Gas-washer. Nut-lock washer.							
Washing-machine	E. V. Allen	866,612	Sept. 24	2847	808	130	985
Washing-machine	J. S. McDaniel	866,731	Sept. 24	3041	857	130	1050
Washing-machine	R. E. Campbell	866,912	Sept. 24	3302	932	130	1130
Washing-machine	H. S. Reams	866,964	Sept. 24	3357	949	130	1157
Water-closet attachment	P. T. Tkatzschenko	867,170	Sept. 24	3712	1060	130	1259
Water-elevator	S. E. Merrick	866,949	Sept. 24	3366	952	130	1194
Water-heater. Instantaneous	J. P. Reinecke	866,966	Sept. 24	3380	969	130	1158
Weeder	E. A. Hess	866,722	Sept. 24	3028	854	130	1045
Weighing-machine. Automatic	C. E. Vail	867,173	Sept. 24	3716	1061–2	130	1260
Well-cleaning machine	J. H. Crowson	866,628	Sept. 24	2873	812	130	993
Wells. Apparatus for firing explosives in	L. H. Broadwater	866,838	Sept. 24	3199	900	130	1099
Wheel-rim	J. K. Turton	866,986	Sept. 24	3421	969–70	130	1167
Whip-rolls. Adjustable ease-off for	G. S. Cogswell	866,841	Sept. 24	3203	901	130	1100
Windmill	R. S. Bell	866,836	Sept. 24	3198	899	130	1098
Window adjuster. Casement-	G. L. Wilkins	866,703	Sept. 24	2988	845	130	1024
Wood products. Making artificial-	W. Siegmann	866,691	Sept. 24	2971	.....	130	1019
Work-holding means	O. Pearson	866,678	Sept. 24	2965	837	130	1014
Wrapping machine. Merchandise-	T. Adams	866,902	Sept. 24	3287	926–8	130	1125
Wrapping oranges and other spherical objects. Machine for	G. T. Warwick	867,176	Sept. 24	3724	1063–4	130	1263
Wrench	E. H. Boaz	867,005	Sept. 24	3453	976	130	1179
Wrench-socket	C. H. Myers	867,205	Sept. 24	3777	1067	130	1278
Yarn or thread gassing machine	F. Rivett and S. Oldham	866,734	Sept. 24	3044	866	130	1051

DESIGNS.

Design.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Bottle	S. Liebenthal	38,833	Sept. 24	130	1290
Bottle	R. Burger	38,834	Sept. 24	130	1290
Bottle	T. S. Obear	38,835	Sept. 24	130	1290
Bottle	J. A. Radcliffe	38,829	Sept. 24	130	1288
Card. Back of a playing-	J. F. McNamee	38,827	Sept. 24	130	1288
Charm or pin	G. Jaeger	38,837	Sept. 24	130	1290
Clock-case	E. L. Schmitz	38,838	Sept. 24	130	1290
Display-rack	E. E. Taylor	38,830	Sept. 24	130	1289
Lamp	F. M. Brooks	38,831	Sept. 24	130	1289
Lamp. Gas-	J. Lederer	38,832	Sept. 24	130	1289
Lamp. Inverted gas-	A. M. Rose	38,836	Sept. 24	130	1290
Pitcher	J. B. Kilburn	38,839	Sept. 24	130	1291
Seat end	J. E. Straker	38,828	Sept. 24	130	1289
Spoons, forks, or similar articles. Handle for	R. Galbraith and E. Ambrose	38,840	Sept. 24	130	1291
Stove	J. C. Hosford	38,841	Sept. 24	130	1291
Stove	J. C. Hosford	38,842	Sept. 24	130	1291
Stove					

TRADE-MARKS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Agricultural machinery. Certain	Advance Thresher Co	65,347	Sept. 24	130	1303
Agricultural machinery. Certain	Advance Thresher Co	65,348	Sept. 24	130	1303
Apples	A. Kimball & Co	65,401	Sept. 24	130	1304
Baking-powder	J. C. Grant Chemical Company	65,357	Sept. 24	130	1303
Boiler disincrusting and cleansing substances	J. Elizondo	65,355	Sept. 24	130	1303
Boots and shoes. Leather	Palace Clothing Company	65,455	Sept. 24	130	1306
Boots and shoes. Leather	Smith-Briscoe Shoe Company	65,458	Sept. 24	130	1306
Boots and shoes. Leather	Smith-Wallace Shoe Company	65,459	Sept. 24	130	1306
Boots and shoes. Leather	Smith-Wallace Shoe Company	65,460	Sept. 24	130	1306
Brushes. Tooth, nail, hair, and flesh	Martin & Bowne Company	65,449	Sept. 24	130	1305
Cabinets. Pantry-	Standard Gage Manufacturing Company.	65,462	Sept. 24	130	1306
Candy, rock-candy and maple syrup, and maple-sugar. Rock-	Rigney & Company	65,404	Sept. 24	130	1304
Canes, parasols, and umbrellas	Baltimore Umbrella Manufacturing Company.	65,390	Sept. 24	130	1304
Canned corn and peas and tomato-catsup	Stewart & Co	65,407	Sept. 24	130	1304
Canned frozen oysters. Fresh	Morgan Oyster Company	65,378	Sept. 24	130	1304
Canned salmon	Gorman & Company	65,371	Sept. 24	130	1303
Chiffons	G. P. Ford	65,438	Sept. 24	130	1305
Chisels, files, saws, and puncheons	Daimler-Motoren-Gesellschaft	65,354	Sept. 24	130	1303
Chocolates and candy	Wallace & Co	65,382	Sept. 24	130	1304
Coffee and tea	Baker & Company	65,389	Sept. 24	130	1304
Coffee extract or essence	P. Bachert	65,388	Sept. 24	130	1304
Computing-machines	Calculus Company	65,394	Sept. 24	130	1304
Confectionery. Certain	Bradley, Smith Co	65,393	Sept. 24	130	1304
Cordials	M. E. Margeson	65,448	Sept. 24	130	1305
Cotton piece goods	Tremont & Suffolk Mills	65,466	Sept. 24	130	1306
Cotton plaids. Woven	Neuss Hessiein & Co	65,453	Sept. 24	130	1305
Digestive preparation of the gastric juice	Fairchild Bros. & Foster	65,397	Sept. 24	130	1304
Eggs	A. L. Jaenicke	65,375	Sept. 24	130	1303
Engines and horse-powers. Traction-	Advance Thresher Co	65,349	Sept. 24	130	1303
Engines and horse-powers. Traction-	Advance Thresher Co	65,350	Sept. 24	130	1303
Engines. Hoisting-	Lidgerwood Mfg. Co	65,361	Sept. 24	130	1303
Erasers. Certain pencil-	B. F. Goodrich Company	65,423	Sept. 24	130	1305
Erasers. Certain pencil-	B. F. Goodrich Company	65,424	Sept. 24	130	1305
Explosives for projectiles and torpedoes	Sprengstoff A. G. Carbonit	65,461	Sept. 24	130	1305
Fancy goods, furnishings, and notions. Certain	Geo. Borgfeldt & Co	65,440	Sept. 24	130	1305
Fish-dressing machines	Smith Cannery Machines Co	65,366	Sept. 24	130	1303
Flour. Wheat-	George Urban Milling Company	65,370	Sept. 24	130	1303
Flour. Wheat-	Higginsville Milling Co	65,372	Sept. 24	130	1304
Flour. Wheat-	Kansas Milling Company	65,399	Sept. 24	130	1304
Flour. Wheat-	Kansas Milling Company	65,400	Sept. 24	130	1304
Food for fish	J. Schlagheck	65,405	Sept. 24	130	1304
Foods. Certain	McClintock-Trunkey Co	65,377	Sept. 24	130	1303
Fruit juices	California Grape Juice Company	65,434	Sept. 24	130	1305
Gasolene	Standard Oil Co. of New York	65,427	Sept. 24	130	1305
Gin, whisky, brandy, and rum	John Kissel & Son	65,444	Sept. 24	130	1305
Gum. Chewing-	American Chicle Co	65,386	Sept. 24	130	1304
Gum. Chewing-	Gum-Lax Manufacturing Company.	65,398	Sept. 24	130	1304
Gum. Chewing-	E. H. Lee	65,402	Sept. 24	130	1304
Hair-tonic	A. Cristadoro	65,389	Sept. 24	130	1303
Hose. Certain	B. F. Goodrich Company	65,410	Sept. 24	130	1304
Hose. Certain	B. F. Goodrich Company	65,411	Sept. 24	130	1304
Hose. Certain	B. F. Goodrich Company	65,412	Sept. 24	130	1304
Hose. Certain	B. F. Goodrich Company	65,413	Sept. 24	130	1304
Hose. Certain	B. F. Goodrich Company	65,414	Sept. 24	130	1304
Hose. Certain	B. F. Goodrich Company	65,415	Sept. 24	130	1305
Hose. Certain	B. F. Goodrich Company	65,416	Sept. 24	130	1305
Hose. Certain	B. F. Goodrich Company	65,417	Sept. 24	130	1305
Hose. Certain	B. F. Goodrich Company	65,418	Sept. 24	130	1305
Hose. Certain	B. F. Goodrich Company	65,406	Sept. 24	130	1304
Ice-cream and frozen puddings	Semon Ice Cream Company				

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Ice-making machinery, ammonia compressors and condensers	Triumph Electric Co	65,467	Sept. 24	130	1306
Jewelry	Daggett & Clap Co	65,395	Sept. 24	130	1304
Journal of materia medica and therapeutics. Monthly	Merck & Co	65,452	Sept. 24	130	1305
Knitted fabric, underwear, sweaters, &c	Fuld & Hatch Knitting Company	65,430	Sept. 24	130	1305
Knives, chisels, shears, scissors, and razors	Kny-Scheerer Company	65,359	Sept. 24	130	1303
Leather goods. Certain	Daimler-Motoren-Gesellschaft	65,437	Sept. 24	130	1305
Lighting apparatus. Certain	Sign of the Hammer Co	65,457	Sept. 24	130	1306
Machinery. Certain	Climax Patents Limited	65,362	Sept. 24	130	1303
Machinery. Certain	Daimler-Motoren-Gesellschaft	65,363	Sept. 24	130	1303
Masonry materials. Certain	H. H. Symmes Co	65,441	Sept. 24	130	1305
Medicine. Certain	Abbott Alkaloidal Co	65,384	Sept. 24	130	1304
Medicines. Certain	E. Horsman	65,374	Sept. 24	130	1303
Medicines for the cure of dyspepsia and rheumatism	J. J. Doris	65,396	Sept. 24	130	1304
Mowers and their parts and grass-catchers. Lawn-	Simmons Hardware Company	65,365	Sept. 24	130	1303
Newspapers and magazines. Weekly	Cohan & Harris	65,436	Sept. 24	130	1305
Oil. Illuminating-	Standard Oil Company of New York.	65,428	Sept. 24	130	1305
Oil. Illuminating-	Standard Oil Company of New York.	65,429	Sept. 24	130	1305
Oil. Olive-	Boericke & Tafel	65,392	Sept. 24	130	1304
Oils. Lubricating-	Bass Hueter Paint Co., Southern California Branch.	65,433	Sept. 24	130	1305
Ordnance, parts thereof, and unloaded projectiles	American and British Manufacturing Co.	65,409	Sept. 24	130	1304
Packing. Certain machinery	B. F. Goodrich Company	65,419	Sept. 24	130	1305
Packing. Certain machinery	B. F. Goodrich Company	65,420	Sept. 24	130	1305
Packing. Certain machinery	B. F. Goodrich Company	65,421	Sept. 24	130	1305
Paints and painted materials. Certain	Lowe Brothers Company	65,447	Sept. 24	130	1305
Paints. Mixed and paste	Atlas Paint Manufacturing Co	65,430	Sept. 24	130	1305
Petticoats made of textile fabrics	V. A. Boylen	65,351	Sept. 24	130	1303
Pharmaceutical preparations. Certain	Schandein & Lind	65,381	Sept. 24	130	1304
Pianos and players. Combined	Wilcox & White Company	65,393	Sept. 24	130	1304
Plaster and proprietary medicine	E. J. Weschcke	65,408	Sept. 24	130	1304
Poison for rats, mice, &c	E. S. Wells	65,367	Sept. 24	130	1303
Powder. Explosive	Independent Non-Freezing Powder Company.	65,442	Sept. 24	130	1305
Pretzels	Oakdale Baking Company	65,403	Sept. 24	130	1304
Refrigerators	Railway & Stationary Refrigerating Co.	65,456	Sept. 24	130	1306
Remedy for hemorrhoids	Malcolm G. Price Company	65,376	Sept. 24	130	1303
Roofing. Certain	Lincoln Waterproof Cloth Co	65,446	Sept. 24	130	1305
Rubber goods. Certain	Pacific Coast Rubber Co	65,454	Sept. 24	130	1306
Sewing-cotton	Jonas Brook & Bros	65,445	Sept. 24	130	1305
Sheet metal and piping. Certain	La Belle Iron Works	65,360	Sept. 24	130	1303
Shirts	J. H. Rice & Friedmann Co	65,358	Sept. 24	130	1303
Shirts. Dress and negligée	J. Silvey & Co	65,364	Sept. 24	130	1303
Shoulder-braces	C. Munter	65,363	Sept. 24	130	1303
Silk dress goods	Mendelson Bros	65,451	Sept. 24	130	1305
Soaps	E. W. Holden	65,373	Sept. 24	130	1303
Soda or saleratus. Baking-	J. C. Grant Chemical Company	65,356	Sept. 24	130	1303
Syringes	B. F. Goodrich Company	65,425	Sept. 24	130	1305
Syringes	B. F. Goodrich Company	65,426	Sept. 24	130	1305
Tablets. Breath-	Schandein & Lind	65,379	Sept. 24	130	1304
Tablets. Breath-	Schandein & Lind	65,380	Sept. 24	130	1304
Tires. Certain pneumatic	B. F. Goodrich Company	65,422	Sept. 24	130	1305
Umbrellas and walking-sticks	C. B. Allison	65,385	Sept. 24	130	1304
Underskirts made of textile material	Majestic Skirt Company	65,362	Sept. 24	130	1303
Vegetable substances. Certain	American Vulcanized Fibre Company.	65,387	Sept. 24	130	1304
Vegetables. Fresh	Bermuda Green Vegetable Growers' Assn.	65,391	Sept. 24	130	1304
Vending-machines	G. A. Bayle	65,368	Sept. 24	130	1303
Water. Mineral	W. Baird	65,431	Sept. 24	130	1305
Water. Mineral	W. Baird	65,432	Sept. 24	130	1305
Waters. Spring and other drinking	C. A. Clegg	65,435	Sept. 24	130	1305
Whisky	Jno. T. Barbee & Co	65,443	Sept. 24	130	1305
Whisky	J. H. McBrayer	65,450	Sept. 24	130	1306
Whisky	Steuben County Wine Co	65,463	Sept. 24	130	1306
Whisky	Steuben County Wine Co	65,465	Sept. 24	130	1306

LABELS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Bouquet au Lilac de France." (For Cologne)	C. Rahayel	13,806	Sept. 24	130	1307
"Buchu Gin." (For Gin)	Chas. Jacquin et Cie	13,805	Sept. 24	130	1307
"Clean-O Shampoo." (For a Shampoo Preparation)	Michael Drug Co	13,807	Sept. 24	130	1307
"Shirt Bosom Protector." (For Bosom-Boards)	Wood and Mullen	13,809	Sept. 24	130	1307
"The Dummy Skirt Marker." (For a Skirt-Marker)	G. F. Wedderburn	13,808	Sept. 24	130	1307

PRINTS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
ry Baking." (For Flour)	Standard Milling Co	2,117	Sept. 24	130	1307
d Handle-Bar Backs, Bicycle	United States Playing Card Company.	2,121	Sept. 24	130	1307
Cards.)	Dreyfus Bros	2,119	Sept. 24	130	1307
kes." (For Peanut-Candy	G I Chemical Co	2,120	Sept. 24	130	1307
nt." (For an Ointment)	H. C. Lytton	2,122	Sept. 24	130	1307
Apparel." (For Men's and	O. Stahl	2,118	Sept. 24	130	1307
old Cuts." (For Cold Meat					

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
g or ointment	Troy Chemical Co	29,354	Sept. 24	130	1300
	Hatfield Motor Vehicle Company.	27,528	Sept. 24	130	1296
	Haggard & Marcusson Co	10,411	Sept. 24	130	1293
	George Wiedemann Brewing Co	22,229	Sept. 24	130	1295
	J. P. Weyermann	27,965	Sept. 24	130	1297
alt, &c	J. G. Brill	27,973	Sept. 24	130	1297
rolling-stock and parts	O. Scholz	29,121	Sept. 24	130	1298
lcoholic	Cosby Shoe Co	29,303	Sept. 24	130	1300
Leather	Faultless Rubber Company	25,238	Sept. 24	130	1295
	Rueckheim Bros. and Eckstein	17,984	Sept. 24	130	1294
	Rueckheim Bros. & Eckstein	19,722	Sept. 24	130	1294
	Greek American Confectionery Co.	29,313	Sept. 24	130	1300
	Schraders	29,480	Sept. 24	130	1302
	Bosman & Lohman Co	29,423	Sept. 24	130	1301
	L. M. Brackett & Co	29,408	Sept. 24	130	1301
d shells, caps, &c	Peters Cartridge Company	17,869	Sept. 24	130	1294
alt	P. H. Trummer & O. Vogler	29,052	Sept. 24	130	1298
	W. J. Eldridge	28,777	Sept. 24	130	1298
	Borden's Condensed Milk Company.	29,386	Sept. 24	130	1301
	American Wringer Company	24,056	Sept. 24	130	1295
	American Wringer Company	24,058	Sept. 24	130	1295
, &c	Coalite Limited	25,414	Sept. 24	130	1295
alves, &c	L. Wolff Mfg. Co	5,061	Sept. 24	130	1293
	E. Heffernan	28,932	Sept. 24	130	1298
	G. W. Gilbert	29,580-1	Sept. 24	130	1302
	O. M. Springer	28,944	Sept. 24	130	1298
atus and machines nd conductors	Electric Railway Improvement Co.	27,671	Sept. 24	130	1298
, &c. Chemicals	Chemische Werke Hansa Gesellschaft mit beschränkter Haftung.	18,897	Sept. 24	130	1294
rtilizing materials	B. Diaz & Co	29,664	Sept. 24	130	1302
ts	Baker Extract Company	26,119	Sept. 24	130	1296
ic mixtures	E. B. Hall	16,597	Sept. 24	130	1294
da-water, &c	Benton, Hall & Co	18,283	Sept. 24	130	1294
	Holmes and Barnes	25,076	Sept. 24	130	1295
, rice, &c. Cere	J. P. Cooper	11,149	Sept. 24	130	1293
d fresh	Corno Mills Company	28,448	Sept. 24	130	1297
	Charles & Co	29,403	Sept. 24	130	1301
calp remedy	A. G. Spalding & Bros	29,623	Sept. 24	130	1302
e, capicolli, &c	M. L. Campbell	29,186	Sept. 24	130	1299
	H. Fiorentini	29,277	Sept. 24	130	1300
	M. Halff & Bro	28,681	Sept. 24	130	1297
	Lord & Taylor	29,214-17	Sept. 24	130	1299
	Rubens & Meyer	29,375	Sept. 24	130	1301
	Leggett & Brother	29,431-2	Sept. 24	130	1301
ibuters	Rubens & Marble	15,378	Sept. 24	130	1293
	W. Pape	23,420	Sept. 24	130	1295
and shears	E. M. Murray	29,436	Sept. 24	130	1302
en step-	J. E. Lyle	29,393	Sept. 24	130	1301
mosquitos	Kingan and Company	28,417	Sept. 24	130	1297
nd salted	Physicians Supply Co	29,464	Sept. 24	130	1302
	Frederick Laboratory	29,367	Sept. 24	130	1301
nt or salve	A. T. Johnson	27,527	Sept. 24	130	1296
g leather, &	J. A. Marks	29,615	Sept. 24	130	1302
s, pants, and	S. B. Bowen	29,342	Sept. 24	130	1300
, fillers, &c	Knickerbocker Audit Company	20,273	Sept. 24	130	1295
ing to finan	George La Monte & Son	17,341	Sept. 24	130	1294
hecks, &c	George La Monte & Son	17,348	Sept. 24	130	1294
hecks, &c	American Writing Paper Company.	28,966	Sept. 24	130	1298
g and print	E. Faber	29,251	Sept. 24	130	1300
ber erasers	E. Faber	29,246-50	Sept 24	130	1299-1300
		26,715	Sept. 24	130	1296
orchestric their parts	Ludwig Hupfeld Aktiengesellschaft.	29,168	Sept. 24	130	1299
slips and	Sondheim & Magnus				

TRADE-MARKS [illegible]ed.

(REGISTRATION APPLI[illegible])

Title.	N[illegible]	Serial No.	Date.	Official Gazette Vol.	[illegible]
Pills, tonics, salves, &c	T. F. Law[illegible]	27,899	Sept. 24	120	
Polishing and plating compounds	Argentina Co[illegible]	20,126	Sept. 24	120	
Preserving compounds	Protegit Co[illegible]	20,211	Sept. 24	120	
Pumps, steam-engines, turbines, and parts thereof	Maschinenfab[illegible]-schaft mit [illegible]-Haltung.	28,698	Sept. 24	120	
Pyrographic outfits	F. F. Rick & Co[illegible]	20,141	Sept. 24	120	
Rubber erasers	E. Faber	20,202	Sept. 24	120	
Rubber or partly-rubber machinery packing	B. F. Goodrich C[illegible]	20,226	Sept. 24	120	
Sausage and ham	National P[illegible]	28,937	Sept. 24	120	
Shirts and overalls	M. Halff & Bro.	28,882	Sept. 24	120	
Shoes. Leather	C. J. Peed & Co.	27,570	Sept. 24	120	
Shoes. Leather	E. E. Taylor Co.	20,261	Sept. 24	120	
Skins and skin rugs	C. Schmitz & Co.	20,823	Sept. 24	120	
Soap	Geyserite Ma[illegible]-pany.	28,772	Sept. 24	120	
Soap	Vereinigte Ch[illegible] tiengesellschaft.	27,751	Sept. 24	120	
Soaps	L. F. Shinners	28,880	Sept. 24	120	
Soaps. Toilet	B. T. Babbitt, Inc	28,746	Sept. 24	120	
Stove and metal polish	F. & E. Lieb[illegible]	20,243	Sept. 24	120	
Thread or spool-cotton. Sewing-	Blodgett & Orew[illegible]	20,888-9	Sept. 24	120	
Thread or spool-cotton. Sewing-	Blodgett & Orew[illegible]	19,871	Sept. 24	120	
Thread, spool and sewing cotton	American Thread	20,499	Sept. 24	120	
Tonic beverages. Non-alcoholic	W. B. Nethery	28,888	Sept. 24	120	
Tonic, laxative, and digestive preparations	F. L. Childs	20,230-32	Sept. 24	120	
Trunks. Leather	Siegel Cooper Co[illegible]	28,577	Sept. 24	120	
Washing compound	Pacific Coast Bor[illegible]	20,264	Sept. 24	120	
Whisky	Henry Thode Co	28,576	Sept. 24	120	
Whisky	Glasner & Barsch Importing Co.	20,206	Sept. 24	120	
Whisky	Ullman Einstein Co	20,208	Sept. 24	120	
Wines. California	T. Grumbach	27,858	Sept. 24	120	

TRADE-MARKS

REGISTERED OCTOBER 29, 1907.

65,850. LAXATIVE HORSE-PILLS. JACOB S. BERNER, Chicago, Ill.
Filed August 4, 1905. Serial No. 11,267. PUBLISHED AUGUST 27, 1907.

65,851. MOUTH-WASH AND GARGLE, TOOTH-PASTE, AND THROAT-PASTIL. JOHN F. CARNEGIE, Chicago, Ill.
Filed July 22, 1907. Serial No. 28,926. PUBLISHED AUGUST 27, 1907.

65,852. LINIMENT. THOMAS G. CASTOR, Neosho, Mo.
Filed June 10, 1907. Serial No. 28,013. PUBLISHED AUGUST 27 1907.

65,853. VETERINARY MEDICINE. S. P. CRAWFORD, Indian Creek, Tex.
Filed May 27, 1907. Serial No. 27,670. PUBLISHED AUGUST 27, 1907.

65,854. REMEDY FOR HEADACHE AND HEARTBURN. TOSHIKUNI MORI, San Francisco, Cal.
Filed May 28, 1907. Serial No. 27,710. PUBLISHED AUGUST 27, 1907.

65,855. REMEDY FOR SEASICKNESS. TOSHIKUNI MORI, San Francisco, Cal.
Filed May 28, 1907. Serial No. 27,712. PUBLISHED AUGUST 27, 1907.

65,856. MEDICINE TO PERFUME THE BREATH. TOSHIKUNI MORI, San Francisco, Cal.
Filed May 28, 1907. Serial No. 27,714. PUBLISHED AUGUST 27, 1907.

65,857. CERTAIN MEDICINE. WILLIAM CURTIS OTTERSON, New York, N. Y.
Filed July 11, 1907. Serial No. 28,725. PUBLISHED AUGUST 27, 1907.

65,858. REMEDY FOR INEBRIETY. PHYSICIANS CO-OPERATIVE ASSOCIATION, Chicago, Ill.
Filed May 25, 1907. Serial No. 27,661. PUBLISHED AUGUST 27, 1907.

65,859. BITTERS. MENDLE ROTHENBERG, San Francisco, Cal.
Filed September 21, 1906. Serial No. 22,226. PUBLISHED AUGUST 27, 1907.

65,860. OINTMENT. THE THOMPSON DRUG CO., Tyrone, Pa.
Filed July 22, 1907. Serial No. 28,938. PUBLISHED AUGUST 27, 1907.

65,861. CERTAIN CHEMICALS. ALBRIGHT & WILSON LIMITED, Oldbury, England.
Filed January 28, 1907. Serial No. 24,953. PUBLISHED AUGUST 27, 1907.

65,862. ASBESTOS-COMPOSITION SHINGLES, SLATE, AND SHEATHING. ASBESTOS SHINGLE SLATE & SHEATHING COMPANY, Ambler, Pa.
Filed July 10, 1907. Serial No. 28,694. PUBLISHED AUGUST 27, 1907.

65,863. LEATHER BOOTS AND SHOES. SELZ, SCHWAB & COMPANY, Chicago, Ill.
Filed July 19, 1907. Serial No. 28,897. PUBLISHED AUGUST 27, 1907.

65,864. LEATHER BOOTS AND SHOES. SELZ, SCHWAB & COMPANY, Chicago, Ill.
Filed July 19, 1907. Serial No. 28,900. PUBLISHED AUGUST 27, 1907.

65,865. LEATHER BOOTS AND SHOES. SELZ, SCHWAB & COMPANY, Chicago, Ill.
Filed July 19, 1907. Serial No. 28,902. PUBLISHED AUGUST 27 1907

65,866. LEATHER BOOTS AND SHOES. SELZ, SCHWAB & COMPANY, Chicago, Ill.
Filed July 19, 1907. Serial No. 28,903. PUBLISHED AUGUST 27, 1907.

65,867. ABRASIVE MATERIAL AND MATERIAL FOR POLISHING METAL. WALTER R. FORBUSH, Boston, Mass.
Filed July 22, 1907. Serial No. 28,945. PUBLISHED AUGUST 27, 1907.

65,868. PORTLAND CEMENT. THE FREDONIA PORTLAND CEMENT CO., Fredonia, Kans.
Filed July 27, 1907. Serial No. 29,063. PUBLISHED AUGUST 27, 1907.

65,869. LEATHER BOOTS AND SHOES. SMITH-WALLACE SHOE COMPANY, Chicago, Ill.
Filed March 18, 1907. Serial No. 26,027. PUBLISHED AUGUST 27, 1907.

65,870. [WITHDRAWN.]

65,871. WATCH-MOVEMENTS. A. WITTNAUER CO., New York, N. Y.
Filed June 15, 1907. Serial No. 28,139. PUBLISHED AUGUST 27, 1907.

65,872. INDIA-RUBBER, GUTTA-PERCHA, AND OTHER VULCANIZABLE GUMS. GEO. A. ALDEN & CO., Boston, Mass.
Filed July 2, 1906. Serial No. 20,711. PUBLISHED AUGUST 27, 1907.

65,873. COVER-PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed June 7, 1907. Serial No. 27,936. PUBLISHED AUGUST 27, 1907.

65,874. COVER-PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed June 7, 1907. Serial No. 27,934. PUBLISHED AUGUST 27, 1907.

65,875. COVER-PAPER. AMERICAN WRITING PAPER COMPANY, Hoyloke, Mass.
Filed June 7, 1907. Serial No. 27,935. PUBLISHED AUGUST 27, 1907.

65,876. COVER-PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed June 7, 1907. Serial No. 27,937. PUBLISHED AUGUST 27, 1907.

65,877. SMOKING-TOBACCO, CIGARS, CIGARETTES, AND SNUFF. DE ERVEN DE WED. J. VAN NELLE, Rotterdam, Netherlands, assignor to new firm De Erven de Wed. J. van Nelle, Rotterdam, Netherlands.
Filed November 22, 1905. Serial No. 14,895. PUBLISHED AUGUST 27, 1907.

65,878. LEATHER BOOTS AND SHOES. DRAKE-INNESS-GREEN SHOE CO., Charleston, S. C.
Filed February 18, 1907. Serial No. 25,357. PUBLISHED AUGUST 27, 1907.

65,879. LEATHER BOOTS AND SHOES. DRAKE-INNESS-GREEN SHOE CO., Charleston, S. C.
Filed February 18, 1907. Serial No. 25,358. PUBLISHED AUGUST 27, 1907.

65,880. LAUNDRY AND TOILET SOAP. ENTERPRISE SOAP WORKS, Nashville, Tenn.
Filed August 3, 1907. Serial No. 29,197. PUBLISHED AUGUST 27, 1907.

65,881. LAUNDRY AND TOILET SOAP. ENTERPRISE SOAP WORKS, Nashville, Tenn.
Filed August 3, 1907. Serial No. 29,198. PUBLISHED AUGUST 27, 1907.

65,882. LAUNDRY AND TOILET SOAP. ENTERPRISE SOAP WORKS, Nashville, Tenn.
Filed August 3, 1907. Serial No. 29,199. PUBLISHED AUGUST 27, 1907.

65,883. SOAPS AND DETERGENT WASHING-POWDERS. FISCHER BROS., Seattle, Wash.
Filed June 11, 1907. Serial No. 28,032. PUBLISHED AUGUST 27, 1907.

65,884. CERTAIN PREPARED SPONGES. GERTRUDE GLASS, Chicago, Ill.
Filed January 25, 1907. Serial No. 24,900. PUBLISHED AUGUST 27, 1907.

65,885. PAINT, ENAMEL, AND VARNISH. THE HOCKADAY PAINT COMPANY, Wichita, Kans.
Filed July 25, 1907. Serial No. 29,024. PUBLISHED AUGUST 27, 1907.

65,886. VARNISH, VARNISH-STAIN, AND PAINT. THE HOCKADAY PAINT COMPANY, Wichita, Kans.
Filed July 25, 1907. Serial No. 29,026. PUBLISHED AUGUST 27, 1907.

65,887. ROUGH AND DRESSED LUMBER. J. M. CARD LUMBER CO., Chattanooga, Tenn.
Filed July 25, 1907. Serial No. 29,032. PUBLISHED AUGUST 27, 1907.

65,888. TOILET SOAP. JAMES S. KIRK & COMPANY, Chicago, Ill.
Filed July 26, 1907. Serial No. 29,054. PUBLISHED AUGUST 27, 1907.

65,889. SOAP. THE MAX HUNCKE CHEMICAL CO., Brooklyn, N. Y.
Filed July 17, 1907. Serial No. 28,845. PUBLISHED AUGUST 27, 1907.

65,890. CERTAIN MILITARY EQUIPMENTS. MILLS WOVEN CARTRIDGE BELT CO., Worcester, Mass.
Filed July 24, 1907. Serial No. 29,022. PUBLISHED AUGUST 27, 1907.

65,891. ROOFING-PAINT. PITTSBURG-SALT LAKE OIL CO., Salt Lake City, Utah.
Filed May 13, 1907. Serial No. 27,334. PUBLISHED AUGUST 27, 1907.

65,892. SOAP FOR LAUNDRY USE. THE PROCTER & GAMBLE COMPANY, Ivorydale, Ohio, and Kansas City, Kans.
Filed November 27, 1905. Serial No. 15,029. PUBLISHED AUGUST 27, 1907.

65,893. MATTRESSES. THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.; New York, N. Y., and Charlotte, N. C.
Filed May 24, 1907. Serial No. 27,617. PUBLISHED AUGUST 27, 1907.

65,894. FERTILIZERS. VIRGINIA-CAROLINA CHEMICAL COMPANY, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn.
Filed July 26, 1907. Serial No. 29,057. PUBLISHED AUGUST 27, 1907.

65,895. PERFUMED SOAP. A. & F. PEARS LIMD., London, England.
Filed January 17, 1906. Serial No. 16,231. PUBLISHED AUGUST 27, 1907.

65,896. CANDIES. ADAMS ARGOOD CHOCOLATE CO., Philadelphia, Pa.
Filed March 22, 1907. Serial No. 26,147. PUBLISHED AUGUST 27, 1907.

65,897. CERTAIN CEREAL FOODS. ALLEN BROTHERS COMPANY, Omaha, Nebr.
Filed March 25, 1907. Serial No. 26,206. PUBLISHED MAY 21, 1907.

65,898. WHEAT-FLOUR. THE ALLEN & WHEELER COMPANY, Troy, Ohio.
Filed July 19, 1907. Serial No. 28,802. PUBLISHED AUGUST 27, 1907.

65,899. ICE-CREAM CONES. ANDALAFT BROS., Kansas City, Mo.
Filed July 15, 1907. Serial No. 28,803. PUBLISHED AUGUST 27, 1907.

65,900. COMBINATION-UNDERGARMENTS. BIRKENFELD, STRAUSS AND CO., New York, N. Y.
Filed June 29, 1907. Serial No. 28,478. PUBLISHED AUGUST 27, 1907.

65,901. TEAS AND COFFEES. JOHN B. BROWN & CO., New York, N. Y.
Filed June 28, 1907. Serial No. 28,459. PUBLISHED AUGUST 27, 1907.

65,902. TEAS. JOHN B. BROWN & CO., New York, N. Y.
Filed June 28, 1907. Serial No. 28,460. PUBLISHED AUGUST 27, 1907.

65,903. TEAS. JOHN B. BROWN & CO., New York, N. Y.
Filed June 28, 1907. Serial No. 28,461. PUBLISHED AUGUST 27, 1907.

65,904. DRESS AND NEGLIGÉE SHIRTS. BURNHAM HANNA MUNGER DRY GOODS CO., Kansas City, Mo.
Filed July 23, 1907. Serial No. 29,002. PUBLISHED AUGUST 27, 1907.

65,905. CANNED FRUITS AND VEGETABLES. THE BURT OLNEY CANNING CO., Oneida and Albion, N. Y.
Filed July 12, 1907. Serial No. 28,747. PUBLISHED AUGUST 27, 1907.

65,906. [WITHDRAWN.]

65,907. CRACKED CORN OR CORN-CHOPS. GULFPORT GROCERY CO., Gulfport, Miss.
Filed July 2, 1907. Serial No. 28,555. PUBLISHED AUGUST 27, 1907.

65,908. PREPARED STOCK FOOD. GULFPORT GROCERY CO., Gulfport, Miss.
Filed July 2, 1907. Serial No. 28,557. PUBLISHED AUGUST 27, 1907.

65,909. COATS, VESTS, AND PANTS. NOVICK BROS., New York, N. Y.
Filed June 13, 1907. Serial No. 28,093 PUBLISHED AUGUST 27, 1907.

65,910. BREAKFAST-WHEAT. PACIFIC MILLING COMPANY INCORPORATED, San Francisco, Cal.
Filed January 26, 1907. Serial No. 24,930. PUBLISHED AUGUST 27, 1907.

65,911. CERTAIN PAINTS AND PAINTERS' MATERIALS. PENINSULAR PAINT AND VARNISH COMPANY, LTD., Detroit, Mich.
Filed July 10, 1907. Serial No. 28,702. PUBLISHED AUGUST 27, 1907.

65,912. [WITHDRAWN.]

65,913. FLAVORING EXTRACTS. THE R. HARDESTY MANUFACTURING COMPANY, Denver, Colo.
Filed May 21, 1907. Serial No. 27,551. PUBLISHED AUGUST 27, 1907.

65,914. ROQUEFORT CHEESE. L. RIGAL, Roquefort, France.
Filed April 27, 1907. Serial No. 26,971. PUBLISHED AUGUST 27, 1907.

65,915. SUGAR. ROCKWOOD BROTHERS COMPANY, Chicago, Ill.
Filed May 20, 1907. Serial No. 27,534. PUBLISHED AUGUST 27, 1907.

65,916. WHEAT-FLOUR. ALFRED B. SMITH & COMPANY, Springfield, Mass.
Filed July 22, 1907. Serial No. 28,942. PUBLISHED AUGUST 27, 1907.

65,917. CANNED FRUITS AND VEGETABLES. WARFIELD PRATT HOWELL COMPANY, Des Moines, Sioux City, and Cedar Rapids, Iowa.
Filed May 8, 1907. Serial No. 27,244. PUBLISHED AUGUST 27, 1907.

65,918. MIDDLINGS AND RED-DOG. THE WELLS FLOUR MILLING COMPANY, Wells, Minn.
Filed June 5, 1907. Serial No. 27,394. PUBLISHED AUGUST 27, 1907.

65,919. WHISKY. THE ALBERT M. GUGENHEIM CO., Cincinnati, Ohio.
Filed July 24, 1907. Serial No. 29,011. PUBLISHED AUGUST 27, 1907.

65,920. WHISKY. MAX L. BAYER, Dayton, Ohio.
Filed July 22, 1907. Serial No. 28,931. PUBLISHED AUGUST 27, 1907.

65,921. SUSPENDERS. THE C. A. EDGARTON MANUFACTURING COMPANY, Shirley, Mass.
Filed May 12, 1906. Serial No. 19,464. PUBLISHED AUGUST 27, 1907.

65,922. WHISKY. CIOTTI VINCENTI & CO., Baltimore, Md.
Filed July 22, 1907. Serial No. 28,922. PUBLISHED AUGUST 27, 1907.

65,923. WHISKY. THE COOK & BERNHEIMER CO., New York, N. Y.
Filed June 27, 1905. Serial No. 9,263. PUBLISHED DECEMBER 26, 1905.

65,924. MAGAZINE. W. R. HEARST, New York, N. Y.
Filed May 7, 1907. Serial No. 27,208. PUBLISHED AUGUST 27, 1907.

65,925. INKS. J. C. & W. E. POWERS, New York, N. Y.
Filed May 29, 1907. Serial No. 27,770. PUBLISHED AUGUST 27, 1907.

65,926. WHISKY. KAMP DISTILLING CO., St. Louis, Mo.
Filed July 22, 1907. Serial No. 28,923. PUBLISHED AUGUST 27, 1907.

65,927. WHISKY. JEREMIAH F. MURPHY, Lowell, Mass.
Filed July 17, 1907. Serial No. 28,839. PUBLISHED AUGUST 27, 1907.

65,928. MAGAZINE. GEO. H. PATTERSON, Chicago, Ill.
Filed July 16, 1907. Serial No. 28,825. PUBLISHED AUGUST 27, 1907.

65,929. ILLUMINATING-OIL. STANDARD OIL COMPANY OF NEW YORK, New York, N. Y.
Filed June 29, 1907. Serial No. 28,485. PUBLISHED AUGUST 27, 1907.

65,930. STIFFENING BLADES, CORDS, TAPES, AND FABRICS. WARREN FEATHERBONE CO., Three Oaks, Mich.
Filed June 17, 1907. Serial No. 28,220. PUBLISHED AUGUST 27, 1907.

65,931. WHISKY. WEITZENHOFFER & TURK, Oklahoma, Okla. Ter.
Filed March 20, 1907. Serial No. 26,115. PUBLISHED AUGUST 27, 1907.

65,932. TRACING-CLOTH. THE WINTERBOTTOM BOOK CLOTH COMPANY, LTD., Manchester, England.
Filed April 6, 1907. Serial No. 26,509. PUBLISHED AUGUST 27, 1907.

65,933. LEATHER SHOES. BARKE & COMPANY, Philadelphia, Pa.
Filed July 1, 1905. Serial No. 9,590. PUBLISHED AUGUST 27, 1907.

65,934. COMBINATION KNITTED AND NETTED UNDERGARMENTS. BIRKENFELD, STRAUSS AND CO., New York, N. Y.
Filed June 29, 1907. Serial No. 28,477. PUBLISHED AUGUST 27, 1907.

65,935. RUBBER-MILL MACHINERY. BIRMINGHAM IRON FOUNDRY, Derby, Conn.
Filed July 18, 1907. Serial No. 28,872. PUBLISHED AUGUST 27, 1907.

65,936. CERTAIN ELECTRICAL GOODS. FRANK B. COOK, Chicago, Ill.
Filed July 8, 1907. Serial No. 28,665. PUBLISHED AUGUST 27, 1907.

65,937. CERTAIN METAL ARTICLES. COVERT MFG. CO., Watervliet, N. Y.
Filed May 8, 1905. Serial No. 4,342. PUBLISHED AUGUST 27, 1907.

65,938. BOOT AND SHOE LASTS. THE CRAWFORD MCGREGOR & CANBY CO., Dayton, Ohio.
Filed July 15, 1907. Serial No. 28,806. PUBLISHED AUGUST 27, 1907.

65,939. PREPARATION OF LEMON USED IN MAKING NON-ALCOHOLIC BEVERAGES. ERNST C. FISCHER, New York, N. Y.
Filed May 20, 1907. Serial No. 27,544. PUBLISHED AUGUST 27, 1907.

65,940. WHISKY. FRIEDMAN, KEILER & CO., Paducah, Ky.
Filed June 15, 1905. Serial No. 8,266. PUBLISHED AUGUST 27, 1907.

65,941. RAZORS. THE GEM CUTLERY CO., New York, N. Y.
Filed July 20, 1907. Serial No. 28,916. PUBLISHED AUGUST 27, 1907.

65,942. SOLUBLE WASHING-CRYSTALS. THE MAGI WASHING CRYSTALS CO., Rutherford, N. J.
Filed April 18, 1907. Serial No. 26,776. PUBLISHED AUGUST 27, 1907.

65,943. SEWING-MACHINES. MARKT & CO. LTD., New York, N. Y.
Filed July 20, 1907. Serial No. 28,918. PUBLISHED AUGUST 27, 1907.

65,944. MINERAL WATER. THE MIRACO CO. LTD., Monroe, La.
Filed May 3, 1907. Serial No. 27,085. PUBLISHED AUGUST 27, 1907.

65,945. CERTAIN COTTON FABRICS. MOUNT HOPE FINISHING COMPANY, North Dighton, Mass.
Filed June 22, 1907. Serial No. 28,314. PUBLISHED AUGUST 27, 1907.

65,946. COTTON DUCK. MOUNT VERNON-WOODBERRY COTTON DUCK COMPANY, Baltimore, Md.
Filed July 18, 1905. Serial No. 10,497. PUBLISHED AUGUST 27, 1907.

65,947. COTTON DUCK. MOUNT VERNON-WOODBERRY COTTON DUCK COMPANY, Baltimore, Md.
Filed August 20, 1906. Serial No. 21,675. PUBLISHED AUGUST 27, 1907.

65,948. WHISKY. O'NEIL & RICHARDSON, Glenwood Springs, Colo.
Filed July 22, 1907. Serial No. 28,935. PUBLISHED AUGUST 27, 1907.

65,949. NOZZLES. HOWARD B. SHERMAN, Battle Creek Mich.
Filed July 19, 1907. Serial No. 28,882. PUBLISHED AUGUST 27, 1907.

65,950. CERTAIN FURNITURE. THE SIMMONS MANUFACTURING COMPANY, Chicago, Ill.
Filed May 28, 1906. Serial No. 19,928. PUBLISHED AUGUST 27, 1907.

65,951. IMPLEMENTS FOR DEPOSITING METALLIC LEAF. W. H. COE MANUFACTURING CO., Providence, R. I.
Filed July 17, 1907. Serial No. 28,849. PUBLISHED AUGUST 27, 1907.

65,952. PRINTERS' QUOINS. WICKERSHAM QUOIN COMPANY, Boston, Mass.
Filed June 17, 1907. Serial No. 28,201. PUBLISHED AUGUST 27, 1907.

65,953. PRINTERS' QUOINS. WICKERSHAM QUOIN COMPANY, Boston, Mass.
Filed June 17, 1907. Serial No. 28,202. PUBLISHED AUGUST 27, 1907.

65,954. GINGER-ALE. WM. J. STANGE CO., Chicago, Ill.
Filed March 11, 1907. Serial No. 25,912. PUBLISHED APRIL 30, 1907.

65,955. ELECTRIC CONDUITS. AMERICAN CIRCULAR LOOM COMPANY, Portland, Me., and Chelsea, Mass.
Filed June 29, 1907. Serial No. 28,462. PUBLISHED AUGUST 27, 1907.

LABELS

REGISTERED OCTOBER 29, 1907.

13,842.—*Title:* "BRANDY-BOOK CHARENTAIS." (For Brandy.) SYNDICAT DES VITICULTEURS DES CHARENTES ET DE LA SOCIÉTÉ COOPERATIVE ANNEXE DE SAINTES, Saintes, near Cognac, France. Filed September 27, 1907.

13,843.—*Title:* "J. & H. CUP QUALITY." (For Roasted Coffee.) JAMES & HUG, San Francisco, Cal. Filed October 1, 1907.

13,844.—*Title:* "LAVA SALT-HERBS." (For Preparation of Meats and Vegetable Soups.) JOHN J. RUEGG, Clifton, N. J. Filed September 23, 1907.

13,845.—*Title:* "KATAROL." (For a Medicinal Preparation.) I. CLARENCE SCHIMELFENIG, Chicago, Ill. Filed July 18, 1907.

13,846.—*Title:* "DO-NO LIVER, KIDNEY AND CONSTIPATION TABLETS." (For Medicine.) LEWIS G. DENTON, Schenectady, N. Y. Filed September 13, 1907.

13,847.—*Title:* "LIGHTNING STAR." (For a Dressing for Pianos, Automobiles, Carriages, Hacks, and All Kinds of Furniture.) JOSEPH GAOUTTE, Holyoke, Mass. Filed October 1, 1907.

13,848.—*Title:* "SWEET-ORR BELT GRIP." (For Trousers.) SWEET-ORR & Co., New York, N. Y. Filed September 20 1907.

PRINTS

REGISTERED OCTOBER 29, 1907.

2,141.—*Title:* "TREAT YOURSELF RIGHT." (For a Brand of Whisky.) THE MEYERCORD COMPANY, Chicago, Ill. Filed September 19, 1907.

2,142.—*Title:* "HASN'T SCRATCHED YET!!! 16 Y'R'S ON THE M'K'T." (For a Scouring-Soap.) THE BON AMI COMPANY, New York, N. Y. Filed September 20, 1907.

2,143.—*Title:* "MEN'S AND BOYS' APPAREL." (For Men's and Boys' Apparel.) H. C. LYTTON, Chicago, Ill. Filed September 27, 1907.

2,144.—*Title:* "ELK BRAND." (For Shoes.) GUSTAV A. LUTZ, Los Angeles, Cal. Filed September 26, 1907.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE ISAACS & SPEED.

APPLICATION FOR PATENT.

Decided June 20, 1907.

PATENTABILITY—PRIOR PATENT OF APPLICANT DISCLOSING BUT NOT CLAIMING INVENTION.

A patent disclosing a process and apparatus and claiming only the process is no bar to the allowance of an application covering the apparatus filed by the same party within two years after the grant of the patent. (*Ex parte Mullen & Mullen*, C. D., 1890, 9; 50 O. G., 837.)

APPEAL from Examiners-in-Chief.

HELICALLY-CORRUGATED PIPE.

Mr. William F. Booth and *Messrs. Bacon & Milans* for the applicants.

MOORE, *Acting Commissioner, now Commissioner*

This is an appeal from the decision of the Examiners-in-Chief affirming the action of the Examiner rejecting the following claims:

1. A fluid-pipe line composed of sections each section being formed with end couplings, and having a helically-directed cross-sectionally-convex elevation on its inner wall terminating short of its end couplings.

2. In an apparatus for the method stated and in combination with means for supplying the lighter and heavier fluids to a pipe-line, the pipe-line having a helically-directed cross-sectionally concavo-convex impression in its walls, the convexity being presented inwardly to form an elevation on the interior of the pipe-line.

3. In an apparatus for the method stated and in combination, a pipe-line having a helically-directed cross-sectionally concavo-convex impression in its walls, the convexity being presented inwardly to form an elevation on the interior of the pipe-line, means for supplying lighter and heavier fluids to the pipe-line including connected pipes, and a screw-threaded connection between said means and the pipe-line, the impression in the walls of the pipe-line terminating short of said connection.

The references are Haas, August 17, 1886, No. 347,594; Morrison, December 18, 1894, No. 531,000; Whitney, May 29, 1900, No. 650,575; Isaacs & Speed, May 10, 1904, No. 759,374.

The Examiner rejected the claims upon the patent to Isaacs & Speed in view of the patent to Morrison, holding that the adoption of corrugations of the latter in lieu of the helical obstructions shown in the patent to Isaacs & Speed would not involve invention. He also cited the patents to Haas and Whitney as showing the prior art in respect to corrugated tubes.

The Examiners-in-Chief properly held the earlier patent to Isaacs & Speed, which is for a process and was granted less than two years prior to the filing date of this application, to be too late to constitute a disclosure which would defeat the present application, for the reasons fully stated in *ex parte Mullen & Mullen* (C. D., 1890, 9; 50 O. G., 837) and the decisions cited therein. They, however, held the state of the art to be sufficient to anticipate the appealed claims. I do not entirely agree with the conclusions of the Examiners-in-Chief.

Claim 1 comprises nothing more than a pipe-line composed of sections of pipe of the form disclosed in the patent to Whitney, connected by ordinary end couplings, and was correctly held to be unpatentable.

Claims 2 and 3, however, in my opinion comprise new structural combinations adapted to effect a result which is not suggested in any of the references other than the earlier patent to the applicants, which is not a valid reference. These claims call for means for supplying lighter and heavier fluids to a pipe-line having helical corrugations. The helical corrugations of the sections of pipe cause the denser fluid to form around and incase the lighter fluid thereby intervening between the latter and the pipe-walls and reducing the friction, which impedes the progress of the lighter fluid.

In the patent to Morrison the corrugations of the outer cylinder by contacting with the inner cylinder form merely a spiral conduit of substantially rectangular cross-section, which is not adapted to produce the same function as the structure called for by the claims. The patents to Whitney and Haas, while showing corrugated pipes, contain no suggestion of the function which is performed by the structure set forth in the applicants' claims. This case is analogous to the case of *Potts* v. *Creager*, (70 O. G., 494,) in which the Supreme Court of the United States said:

As a result of the authorities upon this subject, it may be said that, if the new use be so nearly analogous to the former one, that the applicability of the device to its new use would occur to a person of ordinary mechanical skill, it is only a case of double use, but if the relations between them be remote, and especially if the use of the old device produce a new result, it *may* at least involve an exercise of the inventive faculty. Much, however, must still depend upon the nature of the changes required to adapt the device to its new use.

The same court reiterated this statement in the later case of *Hobbs* v. *Beach*, (94 O. G., 2357.)

In the present case the provision of means for supplying both lighter and heavier fluids to the pipe-line comprises a change which adapts the old corrugated form of pipe to its new use, and this in my opinion involved sufficient exercise of the inventive faculty to warrant the allowance of claims 2 and 3.

The decision of the Examiners-in-Chief is affirmed as to count 1 and is reversed as to counts 2 and 3.

PROUTT v. JOHNSTON AND JOHNSTON.

PATENT INTERFERENCE.

Decided June 24, 1907.

FINAL JUDGMENT BY PATENT OFFICE—APPEAL TO COURT PENDING.

Judgment in an interference proceeding will not be made final by the Patent Office after the filing of a notice of appeal to the Court of Appeals of the District of Columbia and pending such appeal, on the ground that such notice was filed one day outside the forty-day period set by the Rules of that court for filing notice of appeal, it being regarded as within the discretion of the court to waive a strict adherence to the rule and to entertain the appeal notwithstanding the delay in filing the notice.

ON MOTION.

ELECTRIC-CIRCUIT CUT-OUT.

Messrs. Knight Brothers for Proutt.

Messrs. Munn & Company for Johnston and Johnston.

MOORE, *Commissioner:*

This is a motion by Johnston and Johnston that judgment in this interference be made final and the interference determined upon the ground that Proutt failed to file an appeal to the Court of Appeals of the District of Columbia within forty days after the decision of the Commissioner adversely to him upon the question of priority of invention.

The record shows that the decision of the Commissioner was rendered April 11, 1907, and that notice to the Commissioner of appeal to the Court of Appeals of the District of Columbia was filed May 29, 1907, which is one day outside of the forty days allowed by Rule 21 of the rules of the Court of Appeals of the District of Columbia and Rule 149 of the Rules of Practice of the Patent Office. It is contended that there is no regular notice of appeal in the present case which the Court of Appeals of the District of Columbia can possibly entertain.

The time within which an appellant is required to give notice to the Commissioner of Patents and to the Court of Appeals of the District of Columbia is fixed by a rule of that court and not by statute. It is therefore within the discretion of that court whether or not a strict adherence to the letter of that rule will be insisted on. While in the cases cited by the petitioner the court of appeals has refused to entertain appeals where notice has been given to the Commissioner a considerable time after the expiration of the forty days and has also indicated that strict adherence to the rule would be insisted on, it has not held that no excuse for failure to give notice within forty days will be considered or accepted. *In re Bryant* (9 D. C. Appeals, 447) the court said:

> The second section of Rule 20 provides that appeals from decisions of the Commissioner of Patents "shall be taken within forty days from the date of the ruling or order appealed from, and not afterwards;" and the present appeal has been taken in plain disregard of that rule. Not even an excuse is sought to be given for the delay. Now, while some rules of the court, from their peculiar nature and application may have in them an inherent element of elasticity, that would justify their modification from time to time in special cases, rules of court are intended to be a law for the court itself, as well as for parties and counsel, until they are changed in pursuance of the same power under which they have been promulgated. And to no rule is rigid adherence required more than to those which prescribe the time within which appeals are to be taken, and which in their nature, as long as they are in force, are intended to have the effect of statute.
>
> Before these rules were promulgated, there was much controversy in regard to the time to be allowed for the taking of appeals from the Commissioner of Patents, and this rule was made for the express purpose of setting the controversy at rest. We do not feel that we are at liberty ourselves to disregard the rule or to permit it to be disregarded by parties to proceedings in the Patent Office.
>
> We come to this conclusion more readily in the present case for the reason that, even upon a consideration of the merits of the case, we see no sufficient reason to disturb the decision of the Commissioner of Patents.

In view of the fact that appeals of which notice has not been given to the Commissioner of Patents within forty days of the date of his decision have not been dismissed by the court of appeals *pro forma*, it is not believed that further action should be taken by this Office in the present case upon the assumption that the court would not in any event consider the appeal.

Furthermore, it does not appear that any great hardship will be imposed upon Johnston and Johnston by the postponement of action upon this case pending the decision of the court upon the question presented, since they are already in possession of a patent upon the subject-matter in issue, and the rejection of Proutt's claims in view of the decision upon priority cannot affect their rights.

The motion is denied.

LIPSCHUTZ v. FLOYD.

PATENT INTERFERENCE.

Decided September 18, 1907.

INTERFERENCE—PRACTICE UNDER RULE 124—SUPERVISORY AUTHORITY OF COMMISSIONER.

No appeal lies from a favorable decision on the right to make the claims or the identity of meaning of the counts in the cases of different parties, and such a decision will be reviewed on petition in the exercise of the Commissioner's supervisory authority only to correct some palpable error in the decision which is clear and evident on its face.

APPEAL and petition.

CAR-TRUCK SIDE FRAME.

Mr. Charles G. Hawley for Lipschutz.

Messrs. Offield, Towle & Linthicum for Floyd.

MOORE, *Commissioner:*

This case comes up on an appeal by Lipschutz from the action of the Primary Examiner holding that Floyd has a right to make a claim in the terms of count 1 and that said count has the same meaning when read upon the disclosure of both parties, and a petition that in the exercise of my supervisory authority I dissolve the interference on the ground that there is no interference in fact. Floyd has filed a motion to dismiss both the appeal and the petition.

As to the appeal, Rule 124 specifically provides that no appeal will be permitted from a decision affirming the applicant's right to make a claim or the identity of meaning of counts in the cases of different parties.

The appeal is therefore dismissed.

As to the petition, it is well settled that the supervisory authority of the Commissioner will be exercised only in exceptional cases and then only to correct some palpable error in the decision of the Examiner which is clear and evident on its face. No such case exists here. The questions which applicant seeks to have reviewed were considered by the Examiner in his decision. Applicant under the guise of a petition merely seeks to have the same points reviewed that he attempts to have reviewed on appeal.

The petition is dismissed.

BORG v. STRAUSS.

PATENT INTERFERENCE.

Decided October 7, 1907.

1. INTERFERENCE—PRELIMINARY STATEMENT—SECOND PROPOSED AMENDMENT—SHOWING REQUIRED.

Where after decision upon a motion for dissolution a party moves to amend his preliminary statement and it is held that the showing in support thereof in insufficient to warrant such amendment, a second motion to amend will not be granted where no good reason appears why the showing then made could not have been presented in connection with the first motion. Parties cannot be permitted to try their cases piecemeal and experimentally.

2. SAME—SAME—SAME—SAME.

Amendments to preliminary statements are to be permitted after a party has had an opportunity to inspect his opponent's case only in cases where *bona fide* mistakes of fact have been made and a full and clear showing is made that there was no negligence in discovering the true facts.

APPEAL on motion.

ON PETITION.

BRIDGE.

Mr. George E. Waldo for Borg.

Messrs. Parker & Carter for Strauss.

MOORE, *Commissioner:*

This case is before me on appeal by Borg from the decision of the Examiner of Interferences denying a second motion by him to amend his preliminary statement and also upon petition by Borg that the decision of the Examiner of Interferences denying said motion be set aside and that the Examiner be instructed to decide the motion on its merits upon full consideration of affidavits presented by him.

The record shows that after the preliminary statements in this case had been approved Borg moved to dissolve the interference upon the ground, *inter alia*, that Strauss had no right to make the claims.

This motion having been denied by the Primary Examiner, Borg presented a motion for leave to file an amended preliminary statement setting back his dates of conception and reduction to practice of the invention. The Examiner of Interferences denied this motion on the ground that the alleged mistake in Borg's original statement was one of law and not of fact and that there was no showing of such care and diligence in the preparation of that statement as would warrant an amended preliminary statement.

Appeal was taken from this decision of the Examiner of Interferences; but prior to the hearing on appeal Borg presented additional affidavits in support of his motion to amend and moved that the motion to amend be remanded to the Examiner of Interferences for reconsideration in connection with said affidavits. The Assistant Commissioner denied the motion to remand on the ground that the showing in excuse of the failure to present these affidavits in conjunction with the original motion to amend was insufficient. Subsequently the decision of the Examiner of Interferences upon the motion to amend was affirmed in my decision rendered June 28, 1907, the additional affidavits filed by Borg not being considered.

On August 2, 1907, Borg again moved to amend his preliminary statement in view of the affidavits above referred to, together with an affidavit by his attorney showing why the original motion to amend did not include a full showing of the facts now presented. In this affidavit the attorney for Borg states:

> That the failure of said Borg to make a fuller and more complete showing at the time he presented his original motion to amend was for the reason that affiant advised him (Borg) that in his (affiant's) opinion the showing would be sufficient. * * * Furthermore, relying on the case of *Fowler v. Boyce v. Temple and Goodrum*, (108 O. G., 561,) attorney for Borg advised said Borg that in case the showing on the first motion was not sufficient he could bring a second motion to amend on additional showing and that therefore it was advisable to disclose no more of his case than was necessary to secure the amendment asked.

In the case referred to the second motion by Fowler to amend his preliminary statement was denied for the reason that this party did not exercise reasonable care in the preparation of his original statement. This case does not in any way support the contention of Borg. On the contrary, it clearly indicates that the Office will not consider additional showing made upon a second motion where such showing might as well have been made in the first instance.

The affidavit of Borg's attorney clearly shows that there was no good reason why the entire showing now relied upon in support of the motion to amend could not have been presented when the motion was first made. Parties cannot be permitted to try their cases piecemeal and experimentally. Amendments to preliminary statements are to be permitted after a party has had an opportunity to inspect his opponent's case only in cases where *bona fide* mistakes of fact have been made and a full and clear showing is made that there was no negligence in discovering the true facts.

The decision of the Examiner of Interferences in this case is right and is affirmed, and the petition is denied.

EMMET v. FULLAGAR.

PATENT INTERFERENCE.

Decided October 9, 1907.

INTERFERENCE—MOTION TO DISSOLVE—OATH TO REISSUE APPLICATION INSUFFICIENT.

A motion to dissolve an interference involving a reissue application, alleging that the oath accompanying the application was insufficient to warrant the grant of a reissued patent, should be transmitted to the Primary Examiner.

APPEAL on motion.

TURBINE.

Mr. A. G. Davis and *Messrs. Dyer & Dyer* for Emmet.

Mr. Thos. F. Sheridan for Fullagar.

MOORE, *Commissioner:*

This is an appeal by Fullagar from a decision of the Examiner of Interferences granting Emmet's motion to transmit to the Primary Examiner a motion to dissolve the interference.

The motion to dissolve is divided into two sections, one relating to Fullagar's reissue application filed October 31, 1906, and the other to Fullagar's reissue application filed January 7, 1907, each of which is involved in this interference. Only one ground is urged for dissolving the interference—namely, that Fullagar is not entitled to claim the subject-matter of the issue in these reissue applications. It is contended on behalf of Fullagar that the motion to transmit should have been denied, for the reason that none of the facts alleged are such as would justify the granting of the motion to dissolve. More specifically, it is urged that the questions raised do not affect the question of priority, since it is merely alleged that Fullagar is not entitled to receive a patent on either of his

reissue applications and that therefore should a decision in Emmet's favor be rendered a patent would be issued to Emmet without his first establishing that he is the prior inventor.

The questions raised are all such as could have been considered in the *ex parte* prosecution of Fullagar's applications and which, if finally decided adversely to him, would have resulted in the rejection of his claims. In such an event it would have been manifestly improper for the Primary Examiner to have declared the interference. The mere fact that two parties claim the same invention is not sufficient to justify the declaration of an interference, but it must appear that each one is entitled to claim it. If for any reason one of the parties is barred from claiming the invention, then he has no more interest in the other party's claim thereto than has any other member of the public.

In *Felbel* v. *Aguilar* (121 O. G., 1012) and in *Felsing* v. *Nelson* (121 O. G., 1347) a motion to dissolve based on grounds similar to those of Emmet's motion and to which the same objections that are raised by Fullagar to that motion would have applied was transmitted and considered. It is contended by Fullagar that in *Wert* v. *Borst and Groscop* (122 O. G., 2062) a contrary holding was made, and that being later that decision is controlling. It appears, however, that in that case a motion to dissolve was brought after final hearing on the question of priority on the ground that the testimony showed such a case of intervening rights as would bar a reissue to Borst and Groscop. This motion was denied transmission on the ground that—

> • • • where the evidence relating to priority of invention is before the Office and the question of a statutory bar is raised which applies to but one of two applications involved in the interference and which requires for its determination consideration of evidence, and possibly further taking of testimony, such determination should be postponed until priority of invention has been settled, at least so far as the same can be settled in this Office.

This decision followed the well-established practice that an interference will not be dissolved on grounds arising out of testimony taken on the question of priority. (*Paget* v. *Bugg*, 89 O. G., 1342.)

The facts in the present case are different, since the grounds alleged in support of the motion to dissolve do not arise out of testimony which has been taken, but relate merely to Fullagar's right to the claims in issue as made out by his application papers.

The decision of the Examiner of Interferences is affirmed.

BRANTINGHAM *v.* DRAVER AND DRAVER.

PATENT INTERFERENCE.

Decided October 16, 1907.

INTERFERENCE—MOTION TO DISSOLVE—DELAY IN BRINGING—EXCUSE.

The fact that numerous appeals and petitions have been taken to have transmitted a motion to dissolve which was not in proper form constitutes no excuse for the delay in bringing the motion in proper form.

APPEAL on motion.

CONTROL DEVICE FOR SIFTERS.

Mr. George E. Kirk for Brantingham.

Messrs. Williamson & Merchant and *Messrs. Pennie & Goldsborough* for Draver and Draver.

BILLINGS, *Assistant Commissioner:*

This is an appeal from a decision of the Examiner of Interferences refusing to transmit a motion to dissolve.

The motion to transmit was denied on the ground that the motion to dissolve was brought long after the time allowed by the rules for bringing such motions.

It appears that on May 31, 1907, Brantingham brought a motion to dissolve on the grounds of irregularity in declaring the interference, non-patentability of the issue, lack of right of Draver and Draver to make the claims, and non-interference in fact. This motion was transmitted as to the third ground, but refused transmission as to the other three grounds. The reason given in support of the ground of non-interference in fact was that the device shown in the application of Draver and Draver is inoperative and that therefore the issue is not patentable to Draver and Draver and that they have no right to make the claims.

The Examiner of Interferences refused to transmit the motion as to this ground for the reason that—

> It deals with matters which should have been alleged under the other grounds of the motion.

From this decision a petition was taken which was treated as an appeal and the decision affirmed in a decision rendered June 27, 1907, in which the following statement was made:

> The other ground as to which the motion was refused transmission was that of non-interference in fact. This ground is based on the allegation that Draver and Draver have no right to make the claims since the device shown by them is inoperative. As pointed out in *Lissete* v. *Newburgh*, (124 O. G., 1842,) the facts alleged to show no right to make the claims can have no bearing on the question of non-interference in fact and this part of the motion was properly refused transmission.

A petition was then brought asking that the Examiner of Interferences be directed to transmit the motion to dissolve as to patentability and right to make the claims. This petition was denied on the ground that it was well settled that non-interference in fact exists only where the same claims mean one thing in one application and another in the other application, and that the question of operativeness of the Draver and Draver device can therefore have no possible bearing on the question of non-interference in fact.

The present motion alleges that Draver and Draver have no right to make the claims corresponding to the counts of the issue. The reasons alleged in support of this motion are the same as those set up in the original motion under the head of non-interference in fact. While the motion is in proper form, it is brought long after the period allowed by the rules for bringing such motion, and the Examiner of Interferences was clearly right in holding that no sufficient excuse had been given for the delay.

The practice as to the transmission of motions to dissolve is well settled, and where a motion is brought which in accordance with the practice cannot be transmitted it is no excuse for the delay in bringing the motion in proper form that numerous appeals and petitions have been taken in an attempt to have the original motion transmitted.

The decision of the Examiner of Interferences is affirmed.

EILERMAN *et al. v.* MCELROY.

PATENT INTERFERENCE.

Decided October 23, 1907.

1. INTERFERENCE—MOTION FOR DISSOLUTION—TRANSMISSION—RIGHT TO MAKE CLAIM AND DIFFERENCE IN MEANING OF CLAIMS.

Where in a motion for dissolution the right of the adverse party to make the claims in issue is denied and it is also alleged that the claims when read upon the structures disclosed by the respective parties have different meanings, reasons relied upon in support of such contentions being clearly pointed out, *Held* that the motion to dissolve should be transmitted as to both grounds (*Cushman* v. *Edwards*, 128 O. G., modified.)

2. SAME—DISSOLUTION—CLAIMS HAVING DIFFERENT MEANINGS IN OPPOSING PARTIES' APPLICATION—PRACTICE.

Where it is found upon motion for dissolution that the claims in issue have different meanings in the cases of the respective parties the Examiner should require one or both of the applicants to so modify the claims as to avoid a conflict in the terms employed to define the respective inventions.

APPEAL on motion.

VOTING-MACHINE.

Messrs. Bradford & Hood for Eilerman *et al.*
Mr. John H. McElroy pro se.

BILLINGS, *Assistant Commissioner:*

This case is before me on appeals by Eilerman *et al.* from two decisions of the Examiner of Interferences refusing to transmit their motions to dissolve as to certain grounds stated therein. The first motion to dissolve was filed within the time allowed by Rule 122 and alleged the following grounds:

1. That McElroy had no right to make the claims.
2. That there is no interference in fact.
3. That the claims have different meanings in the cases of the respective parties.

This motion was transmitted by the Examiner of Interferences as to that part alleging that McElroy had no right to make the claims and was denied transmission as to the remaining grounds, for the reason that no other showing was made in respect to these grounds than that relied upon in connection with the denial of McElroy's right to make the claims. The decision of the Examiner of Interferences in refusing to transmit the first motion as to these grounds was clearly right and is affirmed.

Subsequently Eilerman *et al.* presented a motion to transmit the second motion to dissolve, stating more fully the grounds upon which the second and third parts of the original motion were based. The Examiner of Interferences considered the showing in excuse of the delay in presenting this motion to be sufficient, but denied transmission of the motion as to the first ground, for the reason that the question of interference in fact is no longer a part of the grounds enumerated in Rule 122. It appears that this conclusion is now acquiesced in by the appellant. He also refused to transmit the motion as to the second ground, because it was not accompanied by a statement of reasons in support thereof, as required by the decision of *Cushman* v. *Edwards*, (128 O. G., 456.)

The invention in issue is an improvement in voting-machines, and it appears from the statement of grounds in the second motion for dissolution that the claim as read upon McElroy's device refers to the actuation of certain mechanisms in such a manner that it will be fully operated only when the voter leaves the booth, while as disclosed in the application of Eilerman *et al.* the actuation of corresponding mechanism occurs while the voter remains within the booth. It is therefore urged by Eilerman *et al.* that if the Primary Examiner should hold that the language of the issue sufficiently defines McElroy's invention, then the claims in issue when read upon the different structures must have a different meaning in the respective applications and the interference should be dissolved for that reason.

If the motion for dissolution is transmitted only as to the denial of the right of one of the parties to make the claims, such party's case is alone considered in respect to the applicability of the language to the structure disclosed in that application. In cases of this character it is, however, necessary that the terms of the issue should be considered in the light of each party's application, and it is for this reason that it is urged that the present motion should be transmitted.

The action of the Examiner of Interferences in refusing to transmit the second motion for dissolution was in accordance with the decision of *Cushman* v. *Edwards*, *supra*, in which it is pointed out that—

> The provision in Rule 122 for dissolution upon the ground of difference in the meaning of claims was placed there to cover a clean-cut class of cases which theoretical considerations show may arise, but which, in fact, are of very rare occurrence. To justify transmission of a motion brought upon this ground, facts must be alleged indicating something more than a possible lack of right upon the part of one or the other of the parties to use the language of the claim in issue.

It is believed that this principle is not applicable to all cases. Interferences are necessarily between inventions. Claims are verbal means employed to express the extent of the applicant's alleged invention, and when broad terms are employed they may cover structures which are widely different in detail and which do not produce the same ultimate results in substantially the same manner. The real meaning of the words of the claim may not be apparent when viewed solely in the light of the disclosure of one party. It is believed, therefore, that the best practical results will be obtained by permitting a party when moving to dissolve an interference not only to raise the question of the right of the other party to make the claims of the issue, but also the question of the meaning of the claims when applied to the respective structures involved. The reasons relied upon in support of these contentions must, of course, be clearly stated in the motion in accordance with the well-settled practice. The motion should in such cases be transmitted in order that the Primary Examiner may consider the applicability of the terms of the claims to the devices of the respective parties in connection with his consideration of the right of one of the parties to make the claims in issue in order that he may more correctly reach a determination of the real question at issue—viz., whether the interference should be dissolved.

Where it is found that the claims have different meanings in the cases of the respective parties, the Examiner should require one or both of the applicants to so modify the claims as to avoid conflict, in accordance with the holding in the decision of the Court of Appeals of the District of Columbia in *Podlesak and Podlesak* v. *McInnerney*, (120 O. G., 2127,) which is as follows:

We think neither party is entitled to a claim, for the feature here in controversy, which shall dominate the other. It would seem that the claims presented by both, and made the issue of this interference, should be so re-formed that each should have a specific claim provided each can draw a claim that avoids the reference. We do not mean to hold that appellant's claim, which has been held patentable, is not patentable as read in the light of their specification. If, as we think, the claim read in the light of their specification means one thing, and the same claim read in the light of appellee's specification means another the same phraseology should not be employed.

For the reasons above stated it is believed that the showing made by Eilerman *et al.* in connection with the ground alleging different meanings of the claims in the applications of the respective parties is sufficient to warrant the transmission of the second motion as to this ground.

The decision of the Examiner of Interferences is reversed to this extent.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 22, 1907.

Adams Packing Company, its assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of Edward C. Flaccus, of Wheeling, W. Va., for registration of a trade-mark and a trade-mark registered to the Adams Packing Company, of Indianapolis, Ind., and the notice of said declaration mailed by the Patent Office in the usual manner to the said Adams Packing Company having been returned undelivered, notice is hereby given to the said Adams Packing Company, its assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents in order that the notices of declaration heretofore sent by and returned to the Office may be forwarded to them.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 16, 1907.

John A. Uhland, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of the Anti-Cori-Zine Chemical Company, of St. Louis, Mo., for registration of a trade-mark and a trade-mark registered to John A. Uhland, of Denver, Colo., and it appears from the record of the case that the registrant, John A. Uhland, cannot be located.

Notice is therefore hereby given to said John A. Uhland, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 12, 1907.

Reade Manufacturing Company, its assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of The Hewitt Brothers Soap Company, of Dayton, Ohio, for registration of a trade-mark and a trade-mark registered to the Reade Manufacturing Company, of Chicago, Ill., and it appears from the record of the case that the registrant, Reade Manufacturing Company, or its attorneys of record cannot be located.

Notice is therefore hereby given to said Reade Manufacturing Company, its assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 14, 1907.

The Saint Paul Roller Mill Company, its assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of the Ralston Purina Company, of Eighth and Gratiot streets, St. Louis, Mo., for registration of a trade-mark and a trade-mark registered to The St. Paul Roller Mill Company, of St. Paul, Minn., and the notice of said declaration mailed by the Patent Office in the usual manner to the said The St. Paul Roller Mill Company having been returned undelivered, notice is hereby given to the said The St. Paul Roller Mill Company, its assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents in order that the notices of declaration heretofore sent by and returned to the Office may be forwarded to them.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 7, 1907.

J. Meyer & Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of P. Raguet Fils & R. Vignes, of Troyes, France, for registration of a trade-mark and a trade-mark registered to J. Meyer & Company, of New York, N. Y., and it appears from the record of the case that the registrant, J. Meyer & Company, cannot be located.

Notice is therefore hereby given to said J. Meyer & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 4, 1907.

McCulloch & Company, their assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of Alart & McGuire, of 66 Madison street, borough of Manhattan, New York, N. Y., for registration of a trade-mark and a trade-mark registered to McCulloch & Company, of 88 Water street, New York, N. Y., and the notice of said declaration mailed by the Patent Office in the usual manner to the said McCulloch & Company having been returned undelivered, notice is hereby given to the said McCulloch & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents in order that the notices of declaration heretofore sent by and returned to the Office may be forwarded to them.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

EDWARD B. MOORE, *Commissioner.*

ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 1ST DAY OF OCTOBER, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
Automatic Oscillating Loom Company of America. (See Poalk, James L., assignor.)						
Bacon, John L., assignor of two-thirds to L. Norham and M. A. Grant, Joliet, Ill. Combination baby-carriage and high chair	867,465	Oct. 1	354	102	130	1422
Bailey, Samuel R., Amesbury, Mass. Belt-shifter	867,466	Oct. 1	355	102	130	1423
Bailey, William M., assignor to American Concrete Pole Company, Richmond, Ind. Cementitious pole for supporting overhead wires and the like	867,335	Oct. 1	168	50	130	1364
Baker, Charles W., Paw Paw, Mich. Rope-buckle	867,467	Oct. 1	356	103	130	1423
Bamberger, Alfred H., New York, N. Y. Umbrella	867,227	Oct. 1	1	1	130	1317
Barmore, Nathaniel L., Chicago, Ill. Swelled bar for casket-handles	867,336	Oct. 1	170	50	130	1364
Barnes, Charles D., assignor of two-thirds to J. E. Crooks and J. A. Hanson, Kansas City, Mo. Beehive	867,337	Oct. 1	170	50	130	1364
Barnes, Joshua, New York, N. Y. Fragile and caustic pencil holder	867,228	Oct. 1	2	1	130	1317
Barnes, Thomas J., Julesburg, Colo. Barbed-wire fence	867,338	Oct. 1	172	50	130	1364
Barr, Richard. Ravine, Pa. Sewing-machine lock	867,339	Oct. 1	172	51	130	1364
Barrie, Robert C., Philadelphia, Pa. Surgical appliance	867,340	Oct. 1	173	51	130	1364
Bassett, Arthur J., *et al.* (See Ahern, William E., assignor.)						
Bassett, George M., *et al.* (See Ahern, William E., assignor.)						
Bates, Thomas O., Liverpool, England. Means for supplying fluids to baking-machines	867,229	Oct. 1	3	1	130	1317
Bayliss, Henry W. (See Reinhardt and Bayliss.)						
Bechman, Henry F., assignor to Duplex Printing Press Company, Battle Creek, Mich. Rotary press (double line)	867,230	Oct. 1	4	2	130	1317
Bechman, Henry F., assignor to Duplex Printing Press Company, Battle Creek, Mich. Single-plate cylinder-press	867,231	Oct. 1	6	2	130	1318
A. H. Nilson Machine Company. (See Nilson, Axel H., assignor.)						
Abbott, Thomas A., assignor of one-half to Metropolitan Air Goods Co., Reading, Mass. Pneumatic sleeping-bag	867,464	Oct. 1	353	102	130	1422
Aerators Limited. (See Campbell, Robert H., assignor.)	867,331	Oct. 1	156	46–8	130	1360
Affleck, David S., Chicago, Ill. Automatic safety controlling means for trains	867,332	Oct. 1	162	48	130	1362
Ahern, William E., assignor to G. M. and A. J. Bassett, Worcester, Mass. Mule-spinning machine	867,333	Oct. 1	164	49	130	1362
Allen, John H., and F. M. Patterson, Philadelphia, Pa. Pipe-flanging machine	867,226	Oct. 1	1	1	130	1317
Allen, John K., New York, N. Y. Toy						
Alliance Machine Company. (See Shem and Israel, assignors.)						
Allis-Chalmers Company. (See Capen, Thomas W., assignor.)						
Allis-Chalmers Company. (See Frayer, Charles A., assignor.)						
Allis-Chalmers Company. (See Gates, Albert J., assignor.)						
Allis-Chalmers Company. (See Harrison, John F., assignor.)						
Allis-Chalmers Company. (See Patitz, Johann F. M., assignor.)						
Allison, Edward I., Saginaw, Mich. Buggy-wrench	867,334	Oct. 1	167	49	130	1363
Ambler, William. (See Weaver and Ambler.)						
American Concrete Pole Company. (See Bailey, William M., assignor.)						
American Lithographic Company. (See Pancoast, George E., assignor.)						
American Palace Car Company. (See Poor, George H., assignor.)						
American Roofing Tile Company. (See Sawyer, Frank M., assignor.) (Reissue.)						
Atha Tool Company. (See Phelps, Frederick A., assignor.)						
Bechman, Henry F., assignor to Duplex Printing Press Company, Battle Creek, Mich. Triplex printing-press	867,232	Oct. 1	8	2–3	130	1319
Beehtolsheim, Clemens von, Munich, Germany. Wedge connection between axletrees and naves	867,468	Oct. 1	357	103	130	1423
Beekman, Jacob [illegible], Seattle, Wash. Means for drying the interior of vats, &c.	867,548	Oct. 1	487	140	130	1464
Behan, Thomas [illegible], Scranton, Pa. Safety-valve for air-brakes	867,234	Oct. 1	11	4	130	1320
Behlen, Charles [illegible], assignor to Durham Buggy Company, Durham, N. C. Side-spring vehicle	867,233	Oct. 1	10	3	130	1320
Benold, James, London, England. Laundry starch-powder	867,235	Oct. 1	12		130	1320
Bentley, William F., Baltimore, Md. Means for raising the boxes of railway-cars	867,550	Oct. 1	490	140–1	130	1465
Bentley, William F., Baltimore, Md., and E. B. Miller, Keyser, W. Va., assignors to said Bentley. Device for raising the boxes of railway-cars	867,549	Oct. 1	488	140	130	1464
Bleeh, August F., Detroit, Mich. Valve	867,341	Oct. 1	174	51	130	1365
Blood, William H., Jr., Wellesley, Mass. Pipe-cap	867,236	Oct. 1	12	4	130	1321
Boetcher, Charles, *et al.* (See Pfinger, Anton J., assignor.)						
Bogart, Fred H., assignor to Hartford Automobile Parts Co., Hartford, Conn. Universal-joint casing	867,551	Oct. 1	491	141	130	1466
Boisard, Louis, Lyon, France. Cutter for straight, helicoidal, and conical gear-teeth	867,342	Oct. 1	175	51–2	130	1365
Bond, William A., Lynnfield, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Lasting-machine	867,469	Oct. 1	357	103–4	130	1424
Bonner, Zeddie M., Valdosta, Ga. Wheel-brace	867,237	Oct. 1	14	4	130	1321
Border, U. Grant, *et al.* (See Spicer, Thomas J., assignor.)						
Borsum, Louis, Plainfield, N. J. Photographic camera	867,238	Oct. 1	15	4–5	130	1321
Bourne, John E., and O. W. Stevens, Somerville, Ohio; said Stevens assignor to said Bourne. Pneumatic water-elevator	867,470	Oct. 1	361	104	130	1424

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Bousek, Edmund, executor. (See Esser, Christian.)						
Bowers, John C., Boston, Mass. Hermetically-sealed receptacle	867,239	Oct. 1	16	5	130	1322
Bradford, Allen N., Sterling, and W. H. Holden, Rock Falls, Ill., assignors to Russell Burdsall & Ward Bolt & Nut Company, Port Chester, N. Y. Means for fastening tires to wheel-rims	867,552	Oct. 1	492	141	130	1466
Bradley, Charles S., New York, N. Y. Apparatus for treating gases with liquids and liquids with gases	867,553	Oct. 1	493	142	130	1466
Braly, John M. (See Lerch, Solomon W., assignor.)						
Brant, Oliver C., Danville, Ill. Bath-tub and sprinkler attachment	867,343	Oct. 1	178	52	130	1366
Brenzinger, Julius, assignor to Max Ams Machine Company, New York, N. Y. Can-heading machine	867,472	Oct. 1	363	104–5	130	1426
Brink, Andrew W. (See Hastings and Brink.)						
British Hosiery and Electrolytic Bleaching Company. (See Vogelsang, August A., assignor.)						
Broderick & Bascom Rope Company. (See Gemmer and Schleicher, assignors.)						
Brown, Arthur V., London, England. Apparatus for sharpening the knives of guillotine cutting-machines	867,473	Oct. 1	366	106	130	1426
Brown, William. (See Wrightson and Brown.)						
Brundell, William, Portland, Oreg. Street-car sign	867,554	Oct. 1	495	142	130	1467
Brunner, Karl, and O. Bühring, Mannheim, Germany. Separator	867,240	Oct. 1	17	5–6	130	1322
Bühring, Otto. (See Brunner and Bühring.)						
Burnham, Arthur M., Gardiner, Me., assignor to Burnham Specialty Company, Waterbury, Conn. Mop-wringer	867,242	Oct. 1	19	6	130	1322
Burnham Specialty Company. (See Burnham, Arthur M., assignor.)						
Burton, Christopher, Wellington, New Zealand. Apparatus for straining wires and the like	867,241	Oct. 1	18	6	130	1322
Burton, Frederick A., assignor of two-thirds to C. E. Kouba and P. H. Stenerson, Wahpeton, N. D. Chandelier	867,555	Oct. 1	496	142	130	1467
Campbell, George W., New York, N. Y., assignor, by mesne assignments, to Victor Typewriter Company. Tabulating device for type-writers	867,243	Oct. 1	21	7	130	1322
Campbell, Robert, Elizabeth, N. J. Combination-tool	867,556	Oct. 1	497	142	130	1468
Campbell, Robert H., assignor to Aerators Limited, Angel Road, Edmonton, England. Device for inflating tires, &c.	867,474	Oct. 1	366	106	130	1426
Capen, Thomas W., assignor to Allis-Chalmers Company, Milwaukee, Wis. Shaft suspension	867,557	Oct. 1	498	143	130	1468
Carichoff, Eugene R., East Orange, N. J., assignor to General Electric Company. Motor-starting rheostat	867,475	Oct. 1	367	107	130	1427
Carichoff, Eugene R., East Orange, N. J., assignor to General Electric Company. System of control	867,476	Oct. 1	369	107	130	1427
Carman, Frank V., Oakland, Cal. Fire-hydrant	867,344	Oct. 1	179	52	130	1366
Carroll, John E., Seattle, Wash. Collapsible valuable-case	867,558	Oct. 1	499	143	130	1468
Carroll, John M., Weatherford, Tex. Bridge construction	867,477	Oct. 1	371	107	130	1428
Carter, Melon J. D., London, England. Diaphragm for duplicators	867,345	Oct. 1	181	53	130	1367
Case, Elbert N., Grand Junction, Colo. Garment-supporter	867,478	Oct. 1	372	108	130	1428
Chamberlin, Rollin S. (See Kinnard, Leonard H., assignor.)						
Chancey, Christopher C., Hartford, Ala. Automatic railway-switch	867,346	Oct. 1	181	53	130	1367
Chartier, Arthur N., Boston, Mass. Thread-retainer	867,347	Oct. 1	183	53	130	1368
Childress, Frederick P., Baltimore, Md. Thumb-carried blotter-pad	867,479	Oct. 1	373	108	130	1428
Clifton, Warren R., Sharon, Pa. Safety device for blast-furnaces	867,244	Oct. 1	23	7	130	1322
Cokel Company. (See Cooke, Ernest W., assignor.)						
Collett, John C. (See Lause, Kepler, Collett, and Gruber.)						
Confer, Benjamin H., and J. W. Woodling, Albion, Pa. Check-valve	867,245	Oct. 1	23	8	130	1323
Cooke, Ernest W., New York, N. Y., assignor, by mesne assignments, to Cokel Company. Dehydrating apparatus	867,246	Oct. 1	24	8	130	1323
Cosper, William P., Chicago, Ill. Water-heater	867,480	Oct. 1	374	108–9	130	1428
Cox, Frank P., Lynn, Mass., assignor to General Electric Company. Prepayment-meter	867,481	Oct. 1	376	109	130	1429
Cronkright, Wesley G., Pittsburg, Pa. Vaginal syringe	867,247	Oct. 1	27	8	130	1325
Crooker, William W., Lynn, Mass. Heel-burnishing appliance	867,559	Oct. 1	500	143	130	1468
Crooks, J. E., *et al.* (See Barnes, Charles D., assignor.)						
Crosley, Albert D., Jewell, Iowa. Nest-box for fowls	867,248	Oct. 1	184	53–4	130	1368
Cubitt, Archibald S., Schenectady, N. Y., assignor to General Electric Company. Locking mechanism for controller-handles	867,482	Oct. 1	378	109–10	130	1430
Currey, Charles F., assignor of one-half to C. T. Sears, Topeka, Kans. Regulating-valve for liquid-fuel burners	867,560	Oct. 1	502	144	130	1469
Dain, Joseph, Ottumwa, Iowa. Hay-stacker	867,248	Oct. 1	27	8–9	130	1325
Daniels, Fred H., Worcester, Mass. Rod or hoop mill	867,249	Oct. 1	31	10	130	1326
Danielson, Edward. (See Helvig and Danielson.)						
Darlington, Philip J., Glenridge, N. J., assignor to Sprague Electric Company. Self-adjusting brake for hoists	867,483	Oct. 1	380	110	130	1431
Darlington, Philip J., Glenridge, N. J., assignor to Sprague Electric Company. Spur-geared hoist	867,484	Oct. 1	382	110	130	1432
Davies, Thomas H., Spokane, Wash. Cigar-clipper and match-box	867,253	Oct. 1	35	11	130	1326
Davis, Albert G., and C. D. Haskins, Schenectady, N. Y., assignors to General Electric Company. Measuring instrument	867,561	Oct. 1	504	144–5	130	1470
Davis, Cleveland G., Manistee, Mich. Ash-receptacle and holder for cigars	867,250	Oct. 1	32	10	130	1326
Davis, Lewis K., New York, N. Y. Building construction	867,251	Oct. 1	33	10	130	1326
Davis, Lewis K., New York, N. Y. Building construction	867,252	Oct. 1	34	11	130	1326
De Forrest, Etta. (See Price, Charles C., assignor.)						
Dean, William W., assignor to Kellogg Switchboard & Supply Company, Chicago, Ill. Testing system for telephone-lines	867,349	Oct. 1	186	54	130	1366
Dehler, Albert S., Minneapolis, Minn. Gravity-conveyer	867,250	Oct. 1	188	54	130	1370
Deicke, Bernhard. (See Schirmacher and Deicke.)						
Delo, Charles P., Shippenville, Pa. Propulsion of vehicles	867,254	Oct. 1	35	11	130	1327
Dietz, Herman F., Liverpool, assignor of one-half to E. J. Otis, Utica, N. Y. Key-holder	867,255	Oct. 1	36	11	130	1327
Dion, Léon, assignor to Dion Submarine Light Company, Wilkes-Barre, Pa. Subaqueous light system	867,256	Oct. 1	38	12	130	1327
Dion Submarine Light Company. (See Dion, Léon, assignor.)						
Docter, Albert M., Chicago, Ill. Legging	867,485	Oct. 1	383	111	130	1433
Dodd, Samuel T., Schenectady, N. Y., assignor to General Electric Company. Electric locomotive	867,486	Oct. 1	385	111	130	1433
Doelp, John L., Cincinnati, Ohio. Nut-lock	867,351	Oct. 1	190	55	130	1370
Dome, Charles H., Enid, Okla. Ter. Button-attaching device	867,352	Oct. 1	191	55	130	1370
Donner, Wm. H. (See Macfarren, Walter W., assignor.)						
Doughty, Alfred J., Detroit, Mich. Pneumatic hammer	867,353	Oct. 1	192	55	130	1370
Douglass, Clinton A., and F. L. Jones, Denver, Colo. Automatic weighing-machine	867,354	Oct. 1	193	55–6	130	1371
Doyle, James S., New York, N. Y. Fuse-box support	867,257	Oct. 1	39	12	130	1328
Drennan, Jennie G., St. Thomas, Ontario, Canada. Corset	867,487	Oct. 1	386	111	130	1434
Driggs-Seabury Ordnance Corporation. (See Driggs, William H., assignor.)						
Driggs, William H., Washington, D. C., assignor to Driggs-Seabury Ordnance Corporation, Sharon, Pa. Semi-automatic attachment for breech-loading guns	867,258	Oct. 1	41	12–14	130	1328

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Dunn, Clifford E., *et al.*, trustees. (See Esser, Christian, assignor.)						
Duplex Printing Press Company. (See Bechman, Henry F., assignor.)						
Durham Buggy Company. (See Behlen, Charles A., assignor.)						
E. W. Ross Company. (See Ross, Elmore P., assignor.)						
Ebering, John H., Camden, N. J., assignor to Victor Talking Machine Company. Sound-box for talking-machines	867,259	Oct. 1	43	14	130	1329
	867,260	Oct. 1	44	14	130	1329
Ellis, Peter, Kilbirnie, Wellington, New Zealand. Rotary motor						
Elton, Edmund H., and R. Stephens, Clevedon, England. Apparatus for lighting and extinguishing gas-lamps	867,488	Oct. 1	386	111–12	130	1434
	867,261	Oct. 1	46	15	130	1329
Erb, William B., Chicago, Ill. Pump	867,262	Oct. 1	48	15	130	1330
Ernold, George, Elizabeth, N. J. Tapping-die	867,263	Oct. 1	49	15	130	1330
Esselbacher, Emanuel, New York, N. Y. Sewing-machine attachment						
Esser, Christian, deceased; R. Bousek, executor, Wiener Neustadt, Austria-Hungary, assignor, by mesne assignments, to E. P. Metcalf, Providence, R. I., A. Loewenthal and C. E. Dunn, trustees, New York, N. Y. Paper or board	867,471	Oct. 1	362	.....	130	1425
Evans, Charles S., Dayton, Ohio. Dental implement	867,264	Oct. 1	50	15	130	1330
Ewen, Edward C. (See Stone, Eward A., assignor.)						
Farbwerke, vorm. Meister, Lucius & Brüning. (See Schirmacher and Deicke, assignors.)						
Farbwerke, vorm. Meister, Lucius & Brüning. (See Schirmacher and Leopold, assignors.)						
Faulkingham, William E., Jonesport, Me. Clothes-pin	867,489	Oct. 1	392	112	130	1435
Fawkes, Joseph W., Los Angeles, Cal. Advertising device	867,562	Oct. 1	508	145–6	130	1471
Felderman, John H., Bellevue, Iowa. Feeder for grain-mills	867,490	Oct. 1	394	112	130	1435
Filson, Ira, Springfield, Ohio. Safety device for heaters	867,355	Oct. 1	197	56–8	130	1373
Forrester, Jesse B. (See Sadtler, Morgan D., assignor.)						
Forster, Thomas V., Hackensack, N. J. Hose-rack	867,265	Oct. 1	51	16	130	1331
Fox, John H., New York, N. Y. Carbonating apparatus	867,356	Oct. 1	201	58	130	1374
Frampton, Reynolds C., Swissvale, assignor to J. P. Reinecke, Pittsburg, and Pittsburg Water Heater Company, Allegheny, Pa. Heater	867,357	Oct. 1	204	58	130	1375
Frayer, Charles A., Chicago, Ill., assignor to Allis-Chalmers Company, Milwaukee, Wis. Centrifugal pump	867,491	Oct. 1	395	113	130	1435
Frayer, Charles A., assignor to Allis-Chalmers Company, Milwaukee, Wis. Hydraulic dredge	867,492	Oct. 1	395	113	130	1436
Froelich, Gottlieb W., St. Paul, assignor to Froelich Manufacturing Company, Merriam Park, St. Paul, Minn. Washing-machine stand	867,493	Oct. 1	397	113–14	130	1436
Froelich Manufacturing Company. (See Froelich, Gottlieb W., assignor.)						
Fuller, Albert. (See Hiering and Fuller.)						
Fullerton, Rutherford, Columbus, Ohio. Ice and sleet cutting contact-shoes	867,358	Oct. 1	205	58–9	130	1375
Garl, Manious, Akron, Ohio. Fire-alarm-telegraph system	867,494	Oct. 1	398	114	130	1437
Gates, Albert J., assignor to Allis-Chalmers Company, Chicago, Ill. Feed means for traction-elevators	867,495	Oct. 1	399	114	130	1437
Geisenhöner, Henry, Schenectady, N. Y., assignor to General Electric Company. Fuse	867,496	Oct. 1	401	114	130	1437
Gemmer, Walter S., and E. J. Schleicher, assignors of one-third to Broderick & Bascom Rope Company, St. Louis, Mo. Aerial tramway	867,497	Oct. 1	402	115–16	130	1438
General Electric Company. (See Carichoff, Eugene R., assignor.)						
General Electric Company. (See Cox, Frank P., assignor.)						
General Electric Company. (See Cubitt, Archibald S., assignor.)						
General Electric Company. (See Davis and Haskins, assignors.)						
General Electric Company. (See Dodd, Samuel T., assignor.)						
General Electric Company. (See Geisenhöner, Henry, assignor.)						
General Electric Company. (See Johnson, Edwin, assignor.)						
General Electric Company. (See Marshall, John T., assignor.)						
General Electric Company. (See Ransom, Henry N., assignor.)						
General Electric Company. (See Richey, Frank W., assignor.)						
General Electric Company. (See Weedon, William S., assignor.)						
General Electric Company. (See Weston, Frederick H., assignor.)						
General Electric Company. (See Yates, William C., assignor.)						
General Electrolytic Parent Company. (See Stubbs, John W., assignor.)						
Gilbert, Henry J., Saginaw, Mich. Pulley	867,498	Oct. 1	409	116	130	1442
Gold, Edward E., New York, N. Y. Heating apparatus for fruit-cars	867,266	Oct. 1	52	16–17	130	1331
Grant, Maurice A., *et al.* (See Bacon, John L., assignor.)						
Gray, William H. (See McFadden, Origen A., assignor.)						
Gruber, Louis. (See Lause, Collett, Kepler, and Gruber.)						
Guinneau, Abel, Denver, Colo. Ore-concentrator	867,267	Oct. 1	56	17–18	130	1332
Gunn, Charles H., Marysville, Cal. Digger or scraper	867,499	Oct. 1	411	116–17	130	1443
Gutheridge, Clarence E., Pittsburg, Pa., assignor to Oliver Iron and Steel Company. Railstay	867,359	Oct. 1	206	59	130	1376
Haight, Thorne S., Manchester, England, assignor to C. W. Harrison, Glasgow, Mo. Incandescent gas-lamp	867,268	Oct. 1	58	18	130	1332
Haldeman, Charles F. (See Taylor and Haldeman.)						
Hammacher, Schlemmer & Company. (See Merritt, Gordon, assignor.)						
Hanson, J. A., *et al.* (See Barnes, Charles D., assignor.)						
Hanlson, John A., Mexico, Mexico. Ore-separator	867,360	Oct. 1	207	59	130	1376
Hartack, Jervis R., Detroit, Mich. Block-machine	867,361	Oct. 1	209	60	130	1376
Hartack, Jervis R., Detroit, Mich. Container-top	867,500	Oct. 1	412	117	130	1444
Harms, Albert J., Victoria, Ill. Support for railway-rails	867,362	Oct. 1	210	60	130	1377
Harms, Albert J., Victoria, Ill. Support for railway-rails	867,363	Oct. 1	211	61	130	1377
Harris, John R., Danville, Vt. Mail-pouch	867,501	Oct. 1	413	117	130	1444
Harris, William H., Stark, Mont. Automatic railway-signal	867,364	Oct. 1	212	61	130	1377
Harrison, Clark W. (See Haight, Thorne S., assignor.)						
Harrison, John F., assignor to Allis-Chalmers Company, Milwaukee, Wis. Friction-clutch	867,502	Oct. 1	414	118	130	1444
Hartford Automobile Parts Co. (See Bogart, Fred H., assignor.)						
Hartje, Fredrick, St. Thomas, N. D. Automobile sleigh	867,503	Oct. 1	415	118	130	1444
Hartman, Merl H., Elkins, W. Va. Wrench	867,504	Oct. 1	416	118	130	1445
Haskins, Caryl D. (See Davis and Haskins.)						
Haskins, William E., Barre, Vt. Fire-extinguisher	867,365	Oct. 1	214	62	130	1378
Hastings, Dennis, and A. W. Brink, New Martinsville, W. Va. Gas-cooling and gasolene-separating apparatus	867,505	Oct. 1	417	119	130	1445
Heberling, John, Rochester, N. Y. Dumping-wagon	867,366	Oct. 1	215	62	130	1378
Hedley, Frank, New York, N. Y. Attachment for preventing telescoping of cars	867,367	Oct. 1	218	63	130	1379
Helvig, Gilbert O., and E. Danielson, Dawson, Minn. Attachment for traction-operated implements	867,368	Oct. 1	220	63	130	1379
Henry, William J., Oklahoma, Okla. Metallic window-frame	867,369	Oct. 1	221	63	130	1380
Henson, Charles W., Chicago, Ill. Pressure-equalizing valve	867,370	Oct. 1	222	64	130	1380
Hermann, Otto, Philadelphia, Pa. Amusement apparatus	867,506	Oct. 1	419	119–20	130	1445
Hiering, Christian, and A. Fuller, assignors to J. E. Mergott Company, Newark, N. J. Bag-lock	867,269	Oct. 1	59	18	130	1333
Higgin, Henry, assignor to Higgin Manufacturing Company, Newport, Ky. Spring-platform for vehicle-seats, chairs, lounges, and bed-bottoms	867,507	Oct. 1	420	120	130	1446

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Higgin Manufacturing Company. (See Higgin, Henry, assignor.)						
Hilker, Edward. (See Thayer, James H., assignor.)						
Hill, William H. H., Sr., Sullivan, Ind. Election-booth	867,371	Oct. 1	225	64	130	1331
Himbie, John O. Boswell, Pa. Excavator	867,370	Oct. 1	61	18-19	130	1333
Hizar, Julier C., San Diego, Cal. Bottle	867,372	Oct. 1	225	64	130	1332
Hoen, Ernest A., Richmond, Va. Top	867,373	Oct. 1	226	65	130	1332
Hofmann, Paul P., Chicago, Ill. Automobile-heating appliance	867,271	Oct. 1	63	19	130	1333
Holden, William H. (See Bradford and Holden.)						
Holland, Henry W., and T. Woodward, Willesden, England. Projectile for rifled small-arms	867,508	Oct. 1	423	120	130	1447
Holman, Charles T., Meadville, Pa. Wrench	867,272	Oct. 1	64	19	130	1334
Holmes, Ernest H., Milwaukee, Wis. Valve mechanism	867,273	Oct. 1	65	20	130	1334
Hostachy, Alfred G., New York, N. Y. Glove-stretching implement	867,374	Oct. 1	227	65	130	1332
Huber, Jay. (See Shively and Huber.)						
Huffman, Harman G., Youngstown, Ohio. Case for detachable segment-lenses	867,375	Oct. 1	229	65-6	130	1333
Hughes, Albert F. (See Robertson, William S., assignor.)						
Humphries, George E., Wellington, New Zealand. Scaffolding	867,274	Oct. 1	66	20	130	1334
Hunter, Harry S., Aspinwall, Pa. Inserted-tooth milling-saw	867,275	Oct. 1	66	20	130	1335
Israel, Homer W. (See Shem and Israel.)						
J. E. Mergott Company. (See Hiering and Fuller, assignors.)						
J. P. Karns Tunneling Machine Co. (See Karns, John P., assignor.)						
Jenkins, Jay, Chicago, Ill. Machine for separating and grading coffee grains or beans	867,276	Oct. 1	69	21	130	1335
Jett, Emery E., and C. S. Palmer, Chicago, Ill. Car-brake	867,376	Oct. 1	230	66	130	1333
Johnson, Edward, Cincinnati, Ohio. Hose-supporter	867,377	Oct. 1	231	66	130	1333
Johnson, Edwin, Schenectady, N. Y., assignor to General Electric Company. Electric switch	867,509	Oct. 1	423	121	130	1447
Johnson, Frank A., New Bedford, Mass., assignor, by mesne assignments, to Unitype Company, Manchester, Conn. Type-casting machine	867,277	Oct. 1	72	21-3	130	1336
Johnson, William E., Rock Island, Ill. Cultivator	867,378	Oct. 1	232	67	130	1334
Jones, Fred L. (See Douglass and Jones.)						
Jones, James N. (See Smith and Jones.)						
Jungers, Clément J., assignor to Western Glass Company, Streator, Ill. Making fire-retardant glass	867,510	Oct. 1	425	121	130	1447
Karns, John P., assignor to J. P. Karns Tunneling Machine Co., Boulder, Colo. Shaft-bearing	867,511	Oct. 1	427	121	130	1448
Kaufmann, John, Prairie du Sac, Wis. Curtain-draper	867,379	Oct. 1	234	68	130	1334
Keene, Louis A., Waterman, and M. R. Pharis, Moline, Ill. Fertilizer-distributer	867,278	Oct. 1	75	23	130	1337
Keeter, Logan S., Salisbury, N. C. Saw-filing machine	867,512	Oct. 1	429	122	130	1448
Kellogg Switchboard & Supply Company. (See Dean, William W., assignor.)						
Kennedy-McGregor, John A., Birmingham, England. Ship-cleaning apparatus	867,513	Oct. 1	431	123-3	130	1449
Kepler, Milton O. (See Lause, Collett, Kepler, and Gruber.)						
Kessler, Martin C., assignor to Kessler Motor Company, Denver, Colo. Explosive-engine	867,279	Oct. 1	76	23-4	130	1337
Kessler Motor Company. (See Kessler, Martin C., assignor.)						
King, James C., Callahan, Cal. Fruit-clipper	867,514	Oct. 1	433	123	130	1450
Kinnard, Leonard H., assignor of one-half to R. S. Chamberlin, Harrisburg, Pa. Tire-protecting device	867,515	Oct. 1	434	123	130	1450
Kirk, William C., Chattanooga, Tenn. Pipe-curving machine	867,280	Oct. 1	235	68	130	1334
Kirkman, Madison L., *et al.* (See Shutz, John A., assignor.)						
Klein, Johann. (See Müller and Klein.)						
Kloehn, Edward H., *et al.* (See Pfluger, Anton J., assignor.)						
Koehler, Clayton B., East Lebanon, Pa. Coupling device for air-brakes	867,280	Oct. 1	78	24	130	1338
Koelle, Rudolph, Sioux City, Iowa. Combination seat and tool-box for locomotive-cabs	867,281	Oct. 1	241	69	130	1337
Kouba, Christina E., *et al.* (See Burton, Frederick A., assignor.)						
Krieg Gas Burner Company. (See Krieg, John C., assignor.)						
Krieg, John C., assignor to Krieg Gas Burner Company, Newark, Ohio. Gas-burner for furnaces	867,282	Oct. 1	241	69	130	1337
Lahey, James T., *et al.* (See Spicer, Thomas J., assignor.)						
Lang, Edward M., Jr. (See Lovejoy, Marcellus C., assignor.)						
Lang, Edward M., Jr., Portland, Me. Solder-hemmed cap	867,283	Oct. 1	242	69	130	1337
Lang, Edward M., Jr., Portland, Me. Manufactured solder	867,284	Oct. 1	243	69	130	1338
Lannom, Wilson A., Detroit, Tex. Vehicle-step	867,285	Oct. 1	243	70	130	1338
Lause, Nicholas T., J. C. Collett, M. O. Kepler, and L. Gruber, assignors to Schoppe Special Bag Co., Dayton, Ohio. Eyeleting-machine	867,516	Oct. 1	435	123-4	130	1450
Lee, John J., Minneapolis, Minn. Soap holder and grater	867,286	Oct. 1	244	70	130	1338
Leitner, Henry, Maybury, Woking, England. Preliminary treatment for accumulator-plates	867,517	Oct. 1	436		130	1451
Leopold, Louis C., Hancock, Iowa. Wagon-brake	867,287	Oct. 1	245	71	130	1338
Leopold, Richard. (See Schirmacher and Leopold.)						
Lerch, Solomon W., Manasquam, assignor to J. M. Braly, Villapark, N. J. Curbing	867,288	Oct. 1	246	71	130	1339
Linde, Charles W., Slater, Colo. Flash-boiler	867,281	Oct. 1	80	24	130	1338
Loewenthal, Adolph, *et al.*, trustees. (See Esser, Christian, assignor.)						
Lorenz, William A., assignor of one-half to J. Merritt, Hartford, Conn. Making formed pulp vessels	867,289	Oct. 1	247	71	130	1339
Lovejoy, Marcellus C., assignor to E. M. Lang Jr., Portland, Me. Coiling-machine	867,290	Oct. 1	248	72	130	1339
MacGregor, Thomas D., Peterborough, Ontario, Canada. Shirt-cuff	867,294	Oct. 1	448	126	130	1454
Macfarren Walter W., assignor to W. H. Donner, Pittsburg, Pa. Steering-gear for automobiles	867,292	Oct. 1	81	25	130	1336
Mann, Oscar F., Indianapolis, Ind. Hanger for doors	867,293	Oct. 1	82	25	130	1339
Mark, John S., Adel, Iowa. Band and fastener combined	867,518	Oct. 1	450	125	130	1453
Marshall, John T., Metuchen, N. J., assignor to General Electric Company. Electric furnace	867,519	Oct 1	449	125	130	1452
Marx, Joseph Buffalo, N. Y. Storage-battery plate or grid	867,291	Oct. 1	250	72	130	1339
Max Ams Machine Company. (See Brenzinger, Julius, assignor.)						
Maxwell, David, Oakmont, Pa Apparatus for tunneling	867,294	Oct. 1	83	25-26	130	1339
Maxwell, David Oakmont, Pa. Apparatus for tunnelling	867,520	Oct. 1	441	126-7	130	1453
Maxwell, David, Detroit, Mich. Tunneling	867,262	Oct. 1	251	72	130	1339
McCarthy, Daniel J., Wilkinsburg, assignor to Union Switch & Signal Company, Swissvale, Pa. Means for automatically controlling the speed of railway-trains	867,522	Oct. 1	445	127	130	1453
McCarthy, Daniel J., Wilkinsburg, assignor to Union Switch & Signal Company, Swissvale, Pa. Automatic block-signaling system	867,523	Oct. 1	510	146	130	1471
McConnell, Niven, Pittsburg, Pa. Water-cooled valve	867,269	Oct. 1	92	28-9	130	1343
McEntire, Martin A., Ashland, Ohio. Steering-gear	867,260	Oct. 1	96	29	130	1343
McFadden, Origen A., Fairfield, Me., assignor of one-half to W. H. Gray, Boston, Mass. Door-hanger	867,333	Oct. 1	447	128	130	1454
McGill, Michael J., Park City, Utah. Plug-valve	867,299	Oct. 1	259	75	130	1338
McIntyre, Elmer E., Pittsburg, Pa. Shaft-hanger	867,301	Oct. 1	95	29-30	130	1343
McIntyre, Robert J., Allentown, Pa. Brake mechanism	867,439	Oct. 1	260	75-6	130	1338
McKiel, James B., Marshall, Tex. Beamless brake mechanism	867,451	Oct. 1	260	76	130	1338
McMakin, Richard B., Clayton, N. Mex. Ter. Pump-valve	867,458	Oct. 1	261	76	130	1338

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Merchants' Vending Machine Company. (See Woodward, Irving C., assignor.)						
Merritt, Gordon, Ridgewood, N. J., assignor to Hammacher, Schlemmer & Company, New York, N. Y. Bearing for pedals	867,393	Oct. 1	252	73	130	1391
Merritt, Joseph. (See Lorenz, William A., assignor.)						
Metcalf, Edward P., *et al.*, trustees. (See Esser, Christian, assignor.)						
Metropolitan Ain Goods Co. (See Abbott, Thomas A., assignor.)						
Mielke, William C., Perkins Prairie, Minn. Automobile sleigh	867,285	Oct. 1	86	26-7	130	1340
Miller, Eugene B. (See Bentley and Miller.)						
Mills, Frank H., Camden, N. J. Steam-engine	867,394	Oct. 1	253	73-4	130	1391
Minck, Paul H., Hemelingen, near Bremen, Germany. Apparatus for obtaining pure fiber	867,286	Oct. 1	87	27	130	1340
Miracle Pressed Stone Company. (See Simpson, Charles L., assignor.)						
Mennig, Joseph. (See Todd, John W. L., assignor.)						
Morrison, James H., Dayton, Ohio. Pencil-sharpener	867,395	Oct. 1	255	74	130	1391
Moul, Martin, Hanover, Pa. Controlling means for take-ups for looms	867,287	Oct. 1	[89	27	130	1341
Moulton, Delos, assignor of one-half to I. H. Warren, Elgin, Ill. Nozzle	867,521	Oct. 1	444	127	130	1453
Mueller, Felix, assignor to Standard Stopper Company, New York, N. Y. Feeding device	867,288	Oct. 1	90	27-8	130	1341
Müller, August, and J. Klein, Ribbedorf-on-the-Rhine, Germany. Panorama-camera	867,396	Oct. 1	256	74	130	1391
Murray, Joel S., assignor of one-half to E. H. Scarborough, Brushy Creek, Tex. Cotton-chopper	867,397	Oct. 1	257	75	130	1392
Myers, William S., assignor to Norton Iron Works, Ashland, Ky. Furnace for heating nail-plates	867,398	Oct. 1	258	75	130	1392
National Malleable Castings Company. (See Pope, Henry F., assignor.)						
Neaf, William, Marcellon, Wis. Barrel or bag emptying device	867,292	Oct. 1	[96	30	130	1343
Newson, Reginald J., Toronto Junction, Ontario, Canada. Umbrella and walking-stick attachment	867,403	Oct. 1	262	76	130	1393
Niagara Forged Steel Company. (See Woodcock, William H., assignor.)						
Nilson, Axel H., assignor to A. H. Nilson Machine Company, Bridgeport, Conn. Automatic feeding-machine	867,404	Oct. 1	263	77-8	130	1394
Noble, Frederick, and F. Wietser, Rocky Ford, Colo. Refuse-separator for beets	867,293	Oct. 1	97	30	130	1344
Norham, Lem, *et al.* (See Bacon, John L., assignor.)						
Norton Iron Works. (See Myers, William S., assignor.)						
O'Brate, Anthony, Enid, Okla. Ter. Flying-machine	867,525	Oct. 1	449	128-9	130	1454
O'Hare, William J., Washington, D. C. Submarine boat	867,294	Oct. 1	98	31	130	1344
O'Haver, Leonidas R. (See Wiest, Jonas H., assignor.)						
Obrecht, Charles F., Baltimore, Md. Valve	867,405	Oct. 1	266	78	130	1395
Oliver Iron and Steel Company. (See Guthridge, Clarence E., assignor.)						
Oneida Community. (See Wright, Orrin D., assignor.)						
Opalla, Arthur, Chicago, Ill. Loose-leaf binder	867,526	Oct. 1	451	129	130	1455
Ortmayer & Son A. (See Spies, Christoph A., assignor.)						
Otis, Edward J. (See Dietz, Herman F., assignor.)						
Packard, Fred C., Salem, Mass. Leather-working machine	867,527	Oct. 1	453	129-30	130	1455
Palmer, Clinton S. (See Jett and Palmer.)						
Pancoast, George E., Brooklyn, N. Y., assignor to American Lithographic Company. Printing-press	867,295	Oct. 1	100	31	130	1344
Park, Arthur W., Viola, Ill. Hog-catcher	867,296	Oct. 1	102	31	130	1345
Parr, George D. A., Leeds, England. Point-shifter for tramways and the like	867,528	Oct. 1	454	130-1	130	1455
Pates, Lewis T., Upper Alton, Ill. Rail-bond	867,406	Oct. 1	267	78	130	1395
Patits, Johann F. M., assignor to Allis-Chalmers Company, Milwaukee, Wis. Turbine-wheel	867,407	Oct. 1	267	78	130	1395
Patterson, Franklin M. (See Allen and Patterson.)						
Pejchar, Josef, Cincinnati, Ohio. Cuff-button	867,529	Oct. 1	458	131	130	1456
Perfect Sliding Door Company. (See Schuyler, Daniel, assignor.)						
Perolin Company of America. (See Singer, Berthold, assignor.)						
Perry, William C., Charlestown, R. I. Singeing and winding machine	867,297	Oct. 1	103	32	130	1345
Perry, William C., Charlestown, R. I. Winding-machine	867,298	Oct. 1	106	32-3	130	1346
Pfluger, Anton J., assignor of two-thirds to C. Boettcher and E. H. Kloehn, Brillion, Wis. Check-valve	867,299	Oct. 1	108	33	130	1347
Pharis, Mott R. (See Keene and Pharis.)						
Phelps, Frederick A., Newark, N. J., assignor to Atha Tool Company. Automatic hammer-handle-sanding machine	867,408	Oct. 1	268	79	130	1396
Pittsburg Water Heater Company *et al*. (See Frampton, Reynolds C., assignor.)						
Poalk, James L., Philadelphia, Pa., assignor to Automatic Oscillating Loom Company of America. Selvage-forming mechanism for looms	867,300	Oct. 1	108	33-4	130	1347
Poor, George H., assignor, by mesne assignments, to American Palace Car Company, Portland, Me. Berth-raising mechanism for railway-cars	867,409	Oct. 1	271	79-80	130	1397
Poor, George H., assignor, by mesne assignments, to American Palace Car Company, Portland, Me. Device for locking the drums of sleeping-car berths	867,410	Oct. 1	273	80	130	1397
Pope, Henry F., assignor to National Malleable Castings Company, Cleveland, Ohio. Pipe connection for railway-cars	867,530	Oct. 1	458	131-2	130	1456
Potter, Joseph L., Indianapolis, Ind. Combination jack and brace	867,531	Oct. 1	459	132	130	1457
Price, Charles C., Boone Grove, Ind., assignor of one-half to E. De Forrest, Andover, Mass. Copy-holder	867,301	Oct. 1	109	34	130	1347
Ragsdale, William G., Jamestown, N. C. Bobbin-holder	867,532	Oct. 1	460	133	130	1457
Ransom, Henry N., Cleveland, Ohio, assignor to General Electric Company. Air-brake system	867,533	Oct. 1	462	133	130	1457
Rawson, Delia B., Los Angeles, Cal. Shade-pull	867,534	Oct. 1	464	133	130	1458
Reagan Bale Company. (See Reagan, Edgar, assignor.)						
Reagan, Edgar, assignor, by mesne assignments, to Reagan Bale Company, San Antonio, Tex. Cotton cleaner and condenser	867,535	Oct. 1	464	134	130	1458
Reily, Eugene M., Marshfield, Wis. Railway-switch	867,411	Oct. 1	274	81	130	1397
Reinecke, John F., *et al.* (See Frampton, Reynolds C., assignor.)						
Reinhardt, William, and H. W. Bayliss, Memphis, Tenn. Attachment for linter-gins	867,412	Oct. 1	275	81	130	1398
Reynolds, Herman M., Oneida, N. Y. Thill-coupling	867,413	Oct. 1	277	81	130	1398
Richards, Francis H., Hartford, Conn. Fastening device	867,302	Oct. 1	110	34	130	1348
Richards, Francis H., Hartford, Conn. Carving-machine	867,414	Oct. 1	277	82	130	1399
Richey, Frank W., Chicago, Ill., assignor to General Electric Company. Rail-bond	867,415	Oct. 1	281	83	130	1401
Richey, Frank W., Schenectady, N. Y., assignor to General Electric Company. Electrical conductor	867,416	Oct. 1	283	83	130	1401
Riley, Edward, Spokane, Wash. Sheet-metal-working machine	867,417	Oct. 1	284	83	130	1402
Ringo, Benjamin O., Perry, Okla. Ter. Mechanical movement	867,418	Oct. 1	285	84	130	1402
Robertson, William S., Barberton, assignor of one-half to A. F. Hughes, Cleveland, Ohio. Gate for liquid-receptacles	867,303	Oct. 1	113	35	130	1349
Rochford, Mark D. and R. T., Los Angeles, Cal. Wall-making machine	867,536	Oct. 1	466	134-5	130	1459
Rochford, Robert T. (See Rochford, Mark D. and R. T.)						
Rollin, Charles, Newcastle-upon-Tyne, England. Turbine adapted for the use of combustible gases at very high temperatures	867,419	Oct. 1	287	84	130	1402
Roop, John, Carnegie, Pa. Folding steel square	867,420	Oct. 1	288	84	130	1403
Ross, Elmore P., assignor to E. W. Ross Company, Springfield, Ohio. Manure-spreader	867,421	Oct. 1	289	85	130	1403

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Rudy, Knute G., Northfield, Minn. Penholder	367,422	Oct. 1	291	85	130	1404
Rupe, John H., Williamsburg, Kans. Means for clearing bees from supers when taking surplus honey	367,423	Oct. 1	292	86	130	1404
Russell Burdsall & Ward Bolt & Nut Company. (See Bradford and Holden, assignors.)						
Sadtler, Morgan D., assignor of one-half to J. B. Forrester, Baltimore, Md. Coin-testing machine	367,304	Oct. 1	114	35	130	1349
Saunders, William J. (See Smith, Joseph M., assignor.)						
Sawyer, Frank M., Charlotte, N. C., assignor to American Roofing Tile Company. Building-block. (Reissue)	12,698	Oct. 1	511	146	130	1472
Scarborough, Ezen H. (See Murray, Joel S., assignor.)						
Schirmacher, Karl, and B. Deicke, assignors to Farbwerke vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Vat-dyestuff	367,305	Oct. 1	117	.....	130	1350
Schirmacher, Karl, and R. Leopold, assignors to Farbwerke, vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Vat-dyestuff	367,306	Oct. 1	118	.....	130	1350
Schleicher, Emil J. (See Gemmer and Schleicher.)						
Schoppe Special Bag Co. (See Lause, Collett, Kepler, and Gruber, assignors.)						
Schuyler, Daniel, assignor to Perfect Sliding Door Company, Los Angeles, Cal. Fastener for edgewise-moving closures	367,537	Oct. 1	472	136	130	1400
Scott, David J. (See Scott, Walter and D. J.)						
Scott, Lucius W., Boston, Mass. Muff-holder	367,307	Oct. 1	119	36	130	1350
Scott, Walter and D. J., Plainfield, N. J. Delivery mechanism	367,424	Oct. 1	293	86	130	1404
Seagondollar, John L., and W. A. Winans, Hoisington, Kans. Hydrocarbon-burner	367,425	Oct. 1	296	87	130	1406
Sears, Charles T. (See Currey, Charles F., assignor.)						
Sedgwick, Earl P., Highland Park, Ill. Piano-pedal	367,308	Oct. 1	120	36	130	1350
Sharp, Justin I., Inza, Mo. Combination wagon bed and rack	367,309	Oct. 1	120	36	130	1350
Shaw, David E., Milwaukee, Wis. Bottle-washing machine	367,310	Oct. 1	121	36–7	130	1351
Sham, George W., and H. W. Israel, Alliance, Ohio, assignors to Alliance Machine Company. Ingot-stripping mechanism	367,311	Oct. 1	123	37–8	130	1351
Shields, James T., Milwaukee, Wis. Step-bearing for separator-spindles	367,426	Oct. 1	298	87	130	1406
Shively, Ira, and J. Huber, Dexter, N. Mex. Ter. Cement-gate mold	367,427	Oct. 1	300	87	130	1407
Shroy, Angus E., La Center, Wash. Saw-support for undercutting	367,428	Oct. 1	301	88	130	1407
Shutz, John A., assignor of two-thirds to M. L. Kirkman and W. H. Woolley, Richmond, Ind. Electric-wire connector	367,312	Oct. 1	126	38	130	1353
Silver Manufacturing Company. (See Taylor and Haldeman, assignors.)						
Simmerman, Robert E. L., Hartford, Ky. Spike	367,429	Oct. 1	302	88	130	1407
Simmons, Alonzo J., Los Angeles, Cal. Treating water	367,313	Oct. 1	127	38	130	1353
Simmons, Alonzo J., Los Angeles, Cal. Means for preventing and removing incrustation from boilers	367,430	Oct. 1	303	88	130	1407
Simpson, Charles L., assignor to Miracle Pressed Stone Company, Minneapolis, Minn. Collapsible inner shell for molding tapering pipe	367,431	Oct. 1	305	88–9	130	1408
Singer, Berthold, assignor to Perolin Company of America, Chicago, Ill. Sweeping compound	367,532	Oct. 1	474	.....	130	1401
Smith, Charles H., Chicago, Ill. Pleasure-railway	367,422	Oct. 1	306	89–90	130	1408
Smith, Charles S., New York, N. Y. Label attachment for coats	367,432	Oct. 1	308	90	130	1409
Smith, Joseph M., assignor of one-half to W. J. Saunders, Worcester, Mass. Track-sander	367,434	Oct. 1	308	90	130	1409
Smith, William, and J. N. Jones, Bastrop, La. Combined fish-plate and rail-lock	367,314	Oct. 1	129	38–9	130	1353
Smith, William L., Dallas, Tex. Apparatus for applying dry hot air to the face	367,533	Oct. 1	475	136	130	1401
Somers, Daniel M., New York, N. Y. Apparatus for opening packs of plates	367,315	Oct. 1	130	39	130	1354
Speaker, John C., Magnolia, Ohio. Railway-tie	367,435	Oct. 1	310	90	130	1409
Sperry, Charles B., Springfield, Mo. Account and shipping pad	367,316	Oct. 1	132	39–40	130	1354
Sperry, Elmer A. (See Townsend, Clinton P., assignor.)						
Sperry, Elmer A., Brooklyn, N. Y. Lead pigment and similar compounds	367,436	Oct. 1	311	.....	130	1410
Spicer, Thomas J., assignor of one-fourth to J. T. Lahey and U. G. Border, Baltimore, Md. Elevator	367,437	Oct. 1	312	91	130	1410
Spies, Christoph A., assignor to A. Ortmayer & Son, Chicago, Ill. Harness-saddle	367,438	Oct. 1	313	91	130	1410
Sprague Electric Company. (See Darlington, Philip J., assignor.)						
Staehle, Joseph, Schenectady, N. Y. Fishing-tackle	367,439	Oct. 1	313	91	130	1411
Standard Stopper Company. (See Mueller, Felix, assignor.)						
Stenerson, Peter H., *et al.* (See Burton, Frederick A., assignor.)						
Stephens, Richard. (See Elton and Stephens.)						
Stevens, Orlando W. (See Bourne and Stevens.)						
Stevenson, Winfield W., Philadelphia, Pa. Attachment for ice-boxes	367,317	Oct. 1	134	40	130	1354
Stewart, Annie. (See Stewart, James S., assignor.)						
Stewart, James S., assignor to A. Stewart, New York, N. Y. Three-wire molding-receptacle	367,440	Oct. 1	314	91–2	130	1411
Stimpson, Edwin B., New York, N. Y. Fastener	367,441	Oct. 1	315	92	130	1411
Stone, Edward A., Paterson, N. J., assignor to E. C. Ewen, Saginaw, Mich. Flat-iron waxer, cleaner, and rest	367,442	Oct. 1	317	92	130	1411
Stork, Albert M., Millers, Nev. Farm-gate	367,318	Oct. 1	135	41	130	1355
Stubbs, John W., Middlewick, England, assignor to General Electrolytic Parent Company, Limited. Electrode	367,319	Oct. 1	137	41	130	1355
Swintek, Martin, Des Moines, Iowa. Mechanical stoker	367,443	Oct. 1	317	92–3	130	1412
Taylor, Stoten A., and C. F. Haldeman, assignors to Silver Manufacturing Company, Salem, Ohio. Gear for feed-cutters	367,444	Oct. 1	319	93	130	1412
Thayer, James H., assignor to E. Hilker, Chicago, Ill. Syringe	367,445	Oct. 1	321	93	130	1413
Thomas, Harry, New York, N. Y. Combination-door	367,446	Oct. 1	322	94	130	1413
Thomson, Alfred J., Boston, Mass. Die-press	367,540	Oct. 1	476	136–7	130	1401
Thomson, John C., Rock Island, Ill. Mailing-machine	367,447	Oct. 1	328	94–5	130	1414
Thullen, Louis H., Edgewood, assignor to Union Switch and Signal Company, Swissvale, Pa. Signaling system for railways	367,448	Oct. 1	327	95	130	1416
Todd, John W. L., assignor of one-half to J. Monnig, St. Louis, Mo. Clip or holder	367,449	Oct. 1	330	96	130	1416
Townsend, Clinton P., Washington, D. C., assignor to E. A. Sperry, Brooklyn, N. Y. Electrolytic process and product	367,450	Oct. 1	331	96	130	1417
Troutman, William E., Vandergrift, Pa. Machine for reversing flasks and molds	367,320	Oct. 1	137	.....	130	1355
Umrath, Theodor, Chicago, Ill. Planting-machine	367,321	Oct. 1	139	41	130	1356
Union Switch & Signal Company. (See McCarthy, Daniel J., assignor.)	367,451	Oct. 1	332	96–8	130	1417
Union Switch and Signal Company. (See Thullen, Louis H., assignor.)						
United Shoe Machinery Company. (See Bond, William A., assignor.)						
Unitype Company. (See Johnson, Frank A., assignor.)						
Victor Talking Machine Company. (See Elfering, John H., assignor.)						
Victor Typewriter Company. (See Campbell, George W., assignor.)						
Vogelsang, August A., Dresden, Germany, assignor, by mesne assignments, to British Hosiery and Electrolytic Bleaching Company, Limited, London, England. Electrolytic bleaching of cotton	367,452	Oct. 1	336	.....	130	1418
Vose, Francis R., Manchester, N. H. Cover for bleach and dye vats	367,453	Oct. 1	339	98	130	1418
Wagner, Samuel C., Abilene, Tex. Vehicle-axle	367,454	Oct. 1	341	99	130	1419
Walenta, Franz, Bellinzona, Switzerland. Production of casting-patterns	367,541	Oct. 1	478	137	130	1402
Walker, George, Chicago, Ill. Sawing-machine	367,322	Oct. 1	140	42	130	1356

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Walker, George, Newton, Mass. Flower or ornament holder for garments	367,455	Oct. 1	343	99	130	1419
Wardin, Ralph L., Nevada, Mo. Medicine-dose indicator	367,323	Oct. 1	141	42	130	1356
Warner Clutch Company. (See Warner, Edward P., assignor.)						
Warner, Edward P., Chicago, Ill., assignor, by mesne assignments, to Warner Clutch Company. Power-transmission device	367,324	Oct. 1	141	42–3	130	1356
Warren, Isaac H. (See Moulton, Dolon, assignor.)						
Watson, Montgomery R., Dayton, Ohio. Tallying-sheet	367,325	Oct. 1	144	43	130	1357
Weaver, Samuel M., and W. Ambler, Cleveland, Ohio. Attachment for electrical furnaces	367,542	Oct. 1	478	137	130	1402
Weedon, William S., Schenectady, N. Y., assignor to General Electric Company. Electrode for arc-lamps and making the same	367,456	Oct. 1	344	99	130	1420
Weichel, George P., Lorain, Ohio. Wrench	367,326	Oct. 1	145	43	130	1357
West, Fred D., Chicago, Ill. Weighing-scale for refrigerators	367,327	Oct. 1	146	43–4	130	1358
Western Glass Company. (See Jumpers, Clement J., assignor.)						
Weston, Frederick E., Schenectady, N. Y., assignor to General Electric Company. Filling for thermal cut-outs	367,543	Oct. 1	480	137	130	1402
Whitfield, James W., Bigtimber, Mont. Incubator-heater	367,457	Oct. 1	345	99	130	1420
Wiest, Jonas H., assignor of one-half to L. R. O'Haver, Indianapolis, Ind. Fencing-fastener	367,458	Oct. 1	346	100	130	1420
Wietzer, Frederick. (See Noble and Wietzer.)						
Wilkinson, Joseph, Bridgeport, Conn. Telescope-mounting for guns	367,328	Oct. 1	147	44	130	1358
Willard, Charles H., Pasadena, Cal. Water-current motor	367,459	Oct. 1	347	100	130	1420
Williams, Frank C., Philadelphia, Pa. Block-signal apparatus	367,329	Oct. 1	149	44–5	130	1359
Winans, William A. (See Seagondollar and Winans.)						
Windsld, Edward F., Los Angeles, Cal. Electric-arc lamp	367,544	Oct. 1	481	138	130	1403
Winslow, Walter W., Laredo, Tex. Blind-slat fastener	367,460	Oct. 1	349	101	130	1421
Woodcock, William H., assignor to Niagara Forged Steel Company, Buffalo, N. Y. Bridge for rail-joints	367,461	Oct. 1	350	101	130	1421
Woodling, John W. (See Conder and Woodling.)						
Woodward, Irving C., assignor to Merchants' Vending Machine Company, Chicago, Ill. Vending-machine	367,545	Oct. 1	482	138–9	130	1403
Woodward, J. M. (See Zehden, Alfred, assignor.) (Reissue.)						
Woodward, Thomas. (See Holland and Woodward.)						
Woolley, William H., *et al.* (See Shutz, John A., assignor.)						
Wright, Orrin D., Oneida, assignor to Oneida Community, Limited, Kenwood, N. Y. Animal-trap	367,546	Oct. 1	484	139	130	1403
Wrightson, Norman, and W. Brown, Croydon, England; said Brown assignor to said Wrightson. Jar or other vessel for containing gaseous liquids and the like	367,462	Oct. 1	351	101	130	1421
Wroblewski, Ignacy, Krakow, Austria-Hungary. Casement-window. (Reissue)	12,699	Oct. 1	512	146–7	130	1472
Yates, William C., Schenectady, N. Y., assignor to General Electric Company. Starting device for alternating-current motors	367,547	Oct. 1	485	139	130	1404
Yingling, John G., Port Clinton, Ohio. Method and apparatus for preserving live fish	367,463	Oct. 1	351	102	130	1422
Young, Frank R., Brookfield, Mo. Protable roller-skating-rink floor	367,330	Oct. 1	153	45	130	1360
Zehden, Alfred, Frankfort-on-the-Main, Germany, assignor to J. M. Woodward, Cleveland, Ohio. Electric traction apparatus. (Reissue)	12,700	Oct. 1	515	147–8	130	1473

DESIGNS.

Name, residence, and design.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Wolfe, Elsie de, Versailles, France. Bedstead	38,843	Oct. 1	130	1473

LABELS.

Name, residence and title.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Arbuckle Brothers, New York, N. Y.; Pittsburg, Pa., and Chicago, Ill. "Nedra." (For Tea)	13,810	Oct. 1	130	1481
Bacon Art Company, Philadelphia, Pa. "Silhelle Handkerchiefs." (For Handkerchiefs)	13,815	Oct. 1	130	1481
Bacon Art Company, Philadelphia, Pa. "Bansai Pongee Handkerchiefs." (For Handkerchiefs)	13,816	Oct. 1	130	1481
Bacon Art Company, Philadelphia, Pa. "H & L Sanitas Soft Finish Gentlemen's Handkerchiefs." (For Handkerchiefs)	13,817	Oct. 1	130	1481
Brazell, Thomas, Gardner, Mass. "Buffalo Mead." (For a Carbonated Beverage)	13,811	Oct. 1	130	1481
Leaman, A. Warburg, Denver, Colo. "Hydrona." (For a Complexion-Powder)	13,813	Oct. 1	130	1481
S. Schmidt & Co., New York, N. Y. "Fine Rollmops." (For Fish Prepared for the Market)	13,812	Oct. 1	130	1481
Shove & Gage Co. Inc., Providence, R. I. "U-Auto Polish." (For a Polish for Automobiles and Carriages)	13,814	Oct. 1	130	1481

PRINTS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Boone, E. L., Chicago, Ill. "Apparel for Man and Boy." (For Clothing)	2,124	Oct. 1	130	1481
Schloss Bros. & Co., Baltimore, Md. "Man's Apparel." (For Man's Apparel)	2,125	Oct. 1	130	1481
Strauss & Co., Edward E., Chicago, Ill. "Wear Edasco Clothes." (For Men's Clothing)	2,126	Oct. 1	130	1481
Washburn-Crosby Company, Minneapolis, Minn. "Eventually." (For Flour)	2,122	Oct. 1	130	1481

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
A. Boake Roberts & Co. Ltd., Stratford, London, England. Preparation for preserving wine and beer	28,044	Oct. 1	130	1476
Blodgett & Orswell Co., Pawtucket, R. I. Spool-cotton or sewing-thread	19,573	Oct. 1	130	1475
Ciaburri & Fil., Enrico, Naples, Italy. Liqueurs	28,567-8	Oct. 1	130	1477
Consolidated Cotton Duck Company, Baltimore, Md. Cotton duck	20,469	Oct. 1	130	1478
Corn Products Refining Company, New York, N. Y. Corn-oil	27,565-7	Oct. 1	130	1476-7
Duplex Phonograph Co., Kalamazoo, Mich. Phonographs	21,723	Oct. 1	130	1475
Faultless Rubber Company, Akron, Ohio. Rubber balloons, balls, &c.	21,222	Oct. 1	130	1476
Faultless Rubber Company, Akron, Ohio. Rubber air pillows and cushions, bath-caps, &c.	21,223	Oct. 1	130	1476
Faultless Rubber Company, Akron, Ohio. Water-bottles, face-masks, ice-bags, &c.	21,227	Oct. 1	130	1476
Fleming & Christian Co., Richmond, Va. Cider	20,376	Oct. 1	130	1477
Harnisch, Fritz, Berlin, Germany. Preparation for the treatment of finger-nails	28,460	Oct. 1	130	1477
Hewlett Bros. Co., Salt Lake City, Utah. Coffees	13,288	Oct. 1	130	1475
John Dewar & Sons, Ltd., Perth, Scotland. Whisky	24,825	Oct. 1	130	1476
L. Hess & Co., Inc., New York, N. Y. Cotton cloth	20,464	Oct. 1	130	1478
Mount Vernon-Woodberry Cotton Duck Company, Baltimore, Md. Cotton duck	20,467	Oct. 1	130	1475
Mowry, Thomas J., Renovo, Pa. Hair-tonics	20,502	Oct. 1	130	1479
Mystic Wine of Life Co., Bristol, Tenn. Remedy for bruises, cuts, sores, burns, &c.	20,631	Oct. 1	130	1479
Palmer, Solon, New York, N. Y. Perfumes and perfumed toilet powders	20,630	Oct. 1	130	1478
Ranson & Co., G. O., Fortuna, Cal. Hair tonics and restorers	20,700	Oct. 1	130	1479
Rees-Scott Company, Limited, New Orleans, La. Timber, logs, lumber, &c.	20,704	Oct. 1	130	1479
Reichard, Firm of F. A., New York, N. Y. Ochers	20,682-3	Oct. 1	130	1479
Rippen, Hyman, Perth Amboy, N. J. Smoking-tobacco	20,604	Oct. 1	130	1478
Rosenberg, Ruben, Pittsburg, Pa. Stogies	20,466	Oct. 1	130	1477
Rowntree and Company, Limited, York, England. Gum-drops	28,327	Oct. 1	130	1476
Rupp & Oeschger, Berlin, N. H. Cigars	20,695	Oct. 1	130	1479
Schmitz & Co., C., New York, N. Y. Cotton piece goods	20,625	Oct. 1	130	1478
Siegal Cooper Company, New York, N. Y. Umbrellas	20,573	Oct. 1	130	1477
Sjoberg, Israel, Roseau, Minn. Snuff	20,469	Oct. 1	130	1478
Sporting Goods Publishing Company, St. Louis, Mo. Monthly magazine	20,517	Oct. 1	130	1477
Sporting News Publishing Company, St. Louis, Mo. Weekly paper	20,518	Oct. 1	130	1477
Standard Oil Co. of New York, New York, N. Y. Naphtha	20,676	Oct. 1	130	1479
Strawbridge & Clothier, Philadelphia, Pa. Dress fabrics	20,468	Oct. 1	130	1478
Wagner & Sons, John, Philadelphia, Pa. Bitters	20,572	Oct. 1	130	1476
White, William L., Brooklyn, N. Y. Remedy for the treatment of corns, bunions, &c.	20,412	Oct. 1	130	1478
White, William L., Brooklyn, N. Y. Foot-powder	20,413	Oct. 1	130	1478
Wolff & Glaserfeld, Berlin, Germany. Collars, cuffs, shirt-fronts, &c.	28,551	Oct. 1	130	1476
Worumbo Manufacturing Company, Bath, Me. Woolen piece goods	20,513	Oct. 1	130	1478

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED ON THE 1ST DAY OF OCTOBER, 1907.

Invention.	Name.	No.	Date.	Monthly volume. Specification.	Drawing.	Official Gazette. Volume.	Page.
Account and shipping pad	C. B. Sperry	867,316	Oct. 1	132	39–40	130	1354
Accumulator-plates. Preliminary treatment for	H. Leifner	867,517	Oct. 1	438	.....	130	1451
Advertising device	J. W. Fawkes	867,562	Oct. 1	508	145–6	130	1471
Air-brake-coupling device	C. B. Koehler	867,280	Oct. 1	78	24	130	1338
Air-brake safety-valve	T. Behan	867,234	Oct. 1	11	4	130	1320
Air-brake system	H. N. Ransom	867,533	Oct. 1	452	133	130	1457
Amusement apparatus	O. Hermann	867,506	Oct. 1	419	119–20	130	1445
Animal-trap	O. D. Wright	867,546	Oct. 1	484	139	130	1463
Ash-receptacle and cigar-holder	C. G. Davis	867,250	Oct. 1	32	10	130	1326
Automobile-heating appliance	P. P. Hofmann	867,271	Oct. 1	63	19	130	1333
Automobile sleigh	W. C. Mielke	867,285	Oct. 1	86	26–7	130	1340
Automobile sleigh	F. Hartje	867,503	Oct. 1	415	118	130	1444
Automobile steering-gear	W. W. Macfarren	867,282	Oct. 1	81	25	130	1338
Axle. Vehicle-	S. C. Wagner	867,454	Oct. 1	341	99	130	1419
Axletree and naves. Wedge connection between	C. von Bechtolsheim	867,408	Oct. 1	357	103	130	1423
Bag: *See* Sleeping-bag.							
Bag-lock	C. Hiering and A. Fuller	867,269	Oct. 1	59	18	130	1333
Baking-machines. Means for supplying fluids to	T. O. Bates	867,229	Oct. 1	3	1	130	1317
Band and fastener combined	J. S. Mark	867,518	Oct. 1	439	125	130	1452
Barrel or bag emptying device	W. Neef	867,292	Oct. 1	96	30	130	1343
Bath-tub and sprinkler attachment	O. C. Brant	867,343	Oct. 1	178	52	130	1396
Battery plate or grid. Storage-	J. Marx	867,391	Oct. 1	250	72	130	1390
Bearing for separator-spindles. Step-	J. T. Shields	867,426	Oct. 1	298	87	130	1406
Bearing-shaft	J. P. Karns	867,511	Oct. 1	427	121	130	1448
Beehive	C. D. Barnes	867,337	Oct. 1	170	50	130	1364
Bees from supers when taking surplus honey. Means for clearing	J. H. Rupe	867,423	Oct. 1	292	86	130	1404
Beets. Refuse-separator for	F. Noble and F. Wietzer	867,293	Oct. 1	97	30	130	1344
Belt-shifter	S. R. Bailey	867,466	Oct. 1	355	102	130	1423
Berth-raising mechanism for railway-cars	G. H. Poor	867,409	Oct. 1	271	79–80	130	1397
Berths. Device for locking the drums of sleeping-car	G. H. Poor	867,410	Oct. 1	273	80	130	1397
Binder. Loose-leaf	A. Opalla	867,526	Oct. 1	451	129	130	1455
Bleaching of cotton. Electrolytic	A. A. Vogelsang	867,452	Oct. 1	338	.....	130	1418
Bind-slat fastener	W. W. Winslow	867,460	Oct. 1	349	101	130	1421
Block: *See* Building-block.							
Blow-machine	J. R. Harbeck	867,261	Oct. 1	209	60	130	1376
Boat-signal apparatus	F. C. Williams	867,329	Oct. 1	149	44–5	130	1399
Boiler-feeding system. Automatic	D. J. McCarthy	867,563	Oct. 1	510	146	130	1471
Bonnet-rib. Thumb-carried	F. P. Childress	867,479	Oct. 1	373	108	130	1428
Book, (dispensing	W. J. O'Haire	867,294	Oct. 1	98	31	130	1344
Bottle-holder	W. G. Ragsdale	867,532	Oct. 1	460	133	130	1457
Boiler: *See* Flash-boiler.							
Boiler incrustation. Means for preventing and removing	A. J. Simmons	867,430	Oct. 1	303	88	130	1407
Booth. Election-	W. H. H. Hill, Sr.	867,371	Oct. 1	225	64	130	1381
Bottle	J. C. Hizar	867,372	Oct. 1	225	64	130	1382
Bottle-washing machine	D. E. Shaw	867,310	Oct. 1	121	36–7	130	1351
Box: *See* Nest-box. Talking-machine sound-box.							
Brace: *See* Wheel-brace.							
Brake: *See* Car-brake. Wagon-brake. Hoist-brake.							
Brake mechanism	R. J. McIntyre	867,400	Oct. 1	260	75–6	130	1392
Brake mechanism. Beamless-	J. B. McKiel	867,401	Oct. 1	260	76	130	1393
Bridge construction	J. M. Carroll	867,477	Oct. 1	371	107	130	1428
Buckle. Rope-	C. W. Baker	867,467	Oct. 1	356	103	130	1423
Buggy-wrench	E. I. Allison	867,334	Oct. 1	167	49	130	1363
Building-block	F. M. Sawyer. (Reissue)	12,698	Oct. 1	511	146	130	1472
Building construction	L. K. Davis	867,251	Oct. 1	33	10	130	1326
Building construction	L. K. Davis	867,252	Oct. 1	34	11	130	1326
Burner: *See* Gas-burner. Hydrocarbon-burner.							
Button-attaching device	C. H. Dome	867,352	Oct. 1	191	55	130	1370
Button. Cuff-	J. Pejchar	867,529	Oct. 1	458	131	130	1456
Camera. Panorama-	A. Müller and J. Klein	867,396	Oct. 1	256	74	130	1391
Camera. Photographic	L. Borsum	867,238	Oct. 1	15	4–5	130	1321
Can-heading machine	J. Brenzinger	867,472	Oct. 1	363	104–5	130	1425

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg's.	Official Gazette. Vol.	Official Gazette. Page.
Car-brake	E. E. Jett and C. S. Palmer	867,376	Oct. 1	230	66	130	1383
Car-heating apparatus. Fruit-	E. E. Gold	867,266	Oct. 1	52	16–17	130	1331
Cars. Attachment for preventing telescoping of	F. Hedley	867,367	Oct. 1	218	63	130	1376
Cars. Device for raising the boxes of railway-	W. F. Bentley and E. B. Miller	867,540	Oct. 1	486	140	130	1464
Cars. Means for raising the boxes of railway-	W. F. Bentley	867,539	Oct. 1	490	140–1	130	1465
Cars. Pipe connection for railway-	H. F. Pope	867,530	Oct. 1	458	131–2	130	1456
Carbonating apparatus	J. H. Fox	867,395	Oct. 1	201	58	130	1374
Carriage and high chair. Combination baby-	J. L. Bacon	867,495	Oct. 1	354	102	130	1422
Carving-machine	F. H. Richards	867,414	Oct. 1	277	82	130	1399
Casket-handles. Swelled bar for	N. L. Barmore	867,336	Oct. 1	170	50	130	1364
Casting-patterns. Production of	F. Walenta	867,541	Oct. 1	478	137	130	1462
Cement-gate mold	I. Shivaly and J. Huber	867,427	Oct. 1	300	87	130	1407
Chandelier	F. A. Burton	867,556	Oct. 1	496	142	130	1467
Chopper: *See* Cotton-chopper.							
Cigar-clipper and match-box	T. H. Davies	867,253	Oct. 1	35	11	130	1326
Cleaner: *See* Cotton-cleaner.							
Clip or holder	J. W. L. Todd	867,449	Oct. 1	330	96	130	1416
Closures. Fastener for edgewise-moving	D. Schuyler	867,537	Oct. 1	472	136	130	1460
Clothes-pin	W. E. Faulkingham	867,499	Oct. 1	362	112	130	1435
Clutch. Friction-	J. F. Harrison	867,502	Oct. 1	414	118	130	1444
Coats. Label attachment for	C. S. Smith	867,433	Oct. 1	308	90	130	1409
Coffee grains or beans. Machine for separating and grading	J. Jenkins	867,276	Oct. 1	69	21	130	1335
Coiling-machine	M. C. Lovejoy	867,380	Oct. 1	248	72	130	1389
Coin-testing machine	M. D. Sadtler	867,304	Oct. 1	114	35	130	1349
Container-top	J. R. Harbeck	867,300	Oct. 1	412	117	130	1444
Control system	E. R. Carichoff	867,476	Oct. 1	369	107	130	1427
Controller-handles. Locking mechanism for	A. S. Cubitt	867,462	Oct. 1	378	109–10	130	1430
Conveyer. Gravity-	A. S. Dehler	867,360	Oct. 1	188	54	130	1370
Copy-holder	C. C. Price	867,301	Oct. 1	109	34	130	1347
Corset	J. G. Drennan	867,487	Oct. 1	396	111	130	1434
Cotton-chopper	J. S. Murray	867,307	Oct. 1	257	75	130	1392
Cotton cleaner and condenser	E. Reagan	867,536	Oct. 1	464	134	130	1458
Coupling: *See* Thill-coupling.							
Cuff. Shirt-	T. D. MacGregor	867,334	Oct. 1	448	128	130	1454
Cultivator	W. E. Johnson	867,378	Oct. 1	232	67	130	1384
Curbing	S. W. Lerch	867,388	Oct. 1	246	71	130	1389
Current motor. Water-	C. H. Willard	867,439	Oct. 1	347	100	130	1420
Curtain-draper	J. Kaufmann	867,379	Oct. 1	234	68	130	1384
Cut-outs. Filling for thermal	F. H. Weston	867,543	Oct. 1	480	137	130	1462
Cylinder-press. Single-plate	H. F. Bechman	867,281	Oct. 1	6	2	130	1318
Dehydrating apparatus	E. W. Cooke	867,240	Oct. 1	24	8	130	1323
Delivery mechanism	W. and D. J. Scott	867,424	Oct. 1	298	86	130	1404
Dental implement	C. S Evans	867,264	Oct. 1	80	15	130	1330
Die: *See* Tapping-die.							
Die-press	A. J. Thomson	867,540	Oct. 1	476	126–7	130	1461
Digger or scraper	C. H. Gunn	867,499	Oct. 1	411	116–17	130	1443
Door. Combination-	H. Thomas	867,446	Oct. 1	322	94	130	1413
Door-hanger	O. F. Mann	867,263	Oct. 1	82	25	130	1339
Door-hanger	O. A. McFadden	867,523	Oct. 1	447	128	130	1454
Dredge. Hydraulic	C. A. Frayer	867,492	Oct. 1	395	113	130	1436
Drying the interior of vats, &c. Means for	J. H. Beckman	867,543	Oct. 1	487	140	130	1464
Duplicators. Diaphragm for	M. J. D. Carter	867,245	Oct. 1	181	53	130	1367
Dyestuff. Vat-	K. Schirmacher and B. Deicke	867,205	Oct. 1	117	.....	130	1350
Dyestuff. Vat-	K. Schirmacher and R. Leopold	867,206	Oct. 1	118	.....	130	1350
Electric furnace	J. T. Marshall	867,519	Oct. 1	440	125	130	1452
Electric switch	E. Johnson	867,509	Oct. 1	423	121	130	1447
Electric-wire connector	J. A. Shutz	867,312	Oct. 1	126	38	130	1353
Electrical conductor	F. W. Richey	867,416	Oct. 1	283	83	130	1401
Electrode	J. W. Stubbs	867,319	Oct. 1	137	41	130	1355
Electrode for arc-lamps and making the same	W. S Weedon	867,456	Oct. 1	344	99	130	1420
Electrolytic process and product	C. P. Townsend	867,220	Oct. 1	137	.....	130	1355
Elevator: *See* Water-elevator.							
Elevator	T. J. Spicer	867,437	Oct 1	312	91	130	1410
Elevators. Feed means for traction-	A. J. Gates	867,496	Oct. 1	389	114	130	1437
Engine: *See* Explosive-engine. Steam-engine.							
Excavator	J. O. Himble	867,270	Oct. 1	61	18–19	130	1333
Explosive-engine	M. C. Kessler	867,279	Oct. 1	76	22–4	130	1337
Eyeleting-machine	N. T. Lause, J. C. Collett, M. O. Kepler, and L. Gruber.	867,516	Oct. 1	435	123–4	130	1450
Face. Apparatus for applying dry hot air to the	W. L. Smith	867,339	Oct. 1	475	126	130	1461
Farm-gate	A. M. Stork	867,318	Oct. 1	136	41	130	1355
Fastener	E. B. Stimpson	867,441	Oct. 1	315	92	130	1411
Fastening device	F. H. Richards	867,302	Oct. 1	110	34	130	1348
Feeding device	F. Mueller	867,288	Oct. 1	90	27–8	130	1341
Feeding-machine. Automatic	A. H. Nilson	867,494	Oct. 1	263	77–8	130	1393
Fence. Barbed-wire	T. J. Barnes	867,238	Oct. 1	172	50	130	1364
Fencing-fastener	J. H. Wiest	867,488	Oct. 1	346	100	130	1420
Fertilizer-distributer	L. A. Keene and M. R. Pharis	867,278	Oct. 1	75	23	130	1337
Fiber. Apparatus for obtaining pure	P. H. Minck	867,298	Oct. 1	87	27	130	1340
Fire-alarm-telegraph system	M. Garl	867,494	Oct. 1	393	114	130	1437
Fire-extinguisher	W. E. Haskins	867,265	Oct. 1	214	62	130	1378
Fire-hydrant	F. V. Carman	867,344	Oct. 1	179	52	130	1366
Fish. Method and apparatus for preserving live	J. G. Yingling	867,462	Oct. 1	351	102	130	1422
Fish-plate and rail-lock. Combined	W. Smith and J. N. Jones	867,314	Oct. 1	129	38–9	130	1353
Fishing-tackle	J. Staehle	867,439	Oct. 1	313	91	130	1411
Flash-boiler	C. W. Linde	867,281	Oct. 1	89	24	130	1338
Flasks and molds. Machine for reversing	W. E. Troutman	867,221	Oct. 1	139	41	130	1356
Flat-iron waxer, cleaner, and rest	A. O'Brate	867,442	Oct. 1	317	92	130	1411
Flying-machine	J. C. King	867,526	Oct. 1	449	129–9	130	1454
Frame: *See* Window-frame.							
Fruit-clipper		867,514	Oct. 1	488	123	130	1450

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Furnace: *See* Electric furnace. Nail-plate-heating furnace.							
Furnace attachment. Electrical-	S. M. Weaver and W. Ambler	867,542	Oct. 1	478	137	130	1462
Furnace safety device. Blast-	W. R. Clifton	867,244	Oct. 1	23	7	130	1322
Fuse	H. Geisenhöner	867,496	Oct. 1	401	114	130	1437
Fuse-box support	J. S. Doyle	867,257	Oct. 1	39	12	130	1328
Garment-supporter	E. N. Case	867,478	Oct. 1	372	106	130	1428
Garments. Flower or ornament holder for	G. Walker	867,455	Oct. 1	343	99	130	1419
Gas-burner. Furnace	J. C. Krieg	867,382	Oct. 1	241	69	130	1387
Gas-cooling and gasoline-separating apparatus	D. Hastings and A. W. Brink	867,505	Oct. 1	417	119	130	1445
Gases with liquids and liquids with gases. Apparatus for treating	C. S. Bradley	867,553	Oct. 1	493	142	130	1466
Gate: *See* Farm-gate. Liquid-receptacle gate.							
Gear for feed-cutters	S. A. Taylor and C. F. Haldeman	867,444	Oct. 1	319	93	130	1412
Gear-teeth. Cutter for straight, helicoidal, and conical	L. Boisard	867,342	Oct. 1	175	51–2	130	1365
Gin attachment. Linter-	W. Reinhardt and H. W. Bayliss	867,412	Oct. 1	275	81	130	1398
Glass. Making fire-retardant	C. J. Jungers	867,510	Oct. 1	425	121	130	1447
Glove-stretching implement	A. G. Hostachy	867,374	Oct. 1	227	65	130	1382
Guns. Semi-automatic attachment for breech-loading	W. H. Driggs	867,258	Oct. 1	41	12–14	130	1328
Guns. Telescope-mounting for	J. Wilkinson	867,326	Oct. 1	147	44	130	1388
Hammer-handle-sanding machine. Automatic	F. A. Phelps	867,408	Oct. 1	266	79	130	1396
Hammer. Pneumatic	A. J. Doughty	867,353	Oct. 1	192	55	130	1370
Hanger: *See* Door-hanger. Shaft-hanger.							
Heater: *See* Incubator-heater. Water-heater.							
Heater	R. C. Frampton	867,357	Oct. 1	204	58	130	1375
Heater safety device	I. Filson	867,355	Oct. 1	197	56–8	130	1373
Heel-burnishing appliance	W. W. Crooker	867,559	Oct. 1	500	143	130	1468
Hog-catcher	A. W. Park	867,206	Oct. 1	102	31	130	1345
Hoist-brake. Self-adjusting	P. J. Darlington	867,483	Oct. 1	380	110	130	1431
Hoist. Spur-geared	P. J. Darlington	867,484	Oct. 1	382	110	130	1432
Hose-rack	T. V. Forster	867,265	Oct. 1	51	15	130	1331
Hose-supporter	E. Johnson	867,377	Oct. 1	231	66	130	1383
Hydrocarbon-burner	J. L. Seagondollar and W. A. Winans.	867,426	Oct. 1	296	87	130	1406
Ice and sleet cutting contact-shoes	R. Fullerton	867,258	Oct. 1	205	58–9	130	1375
Ice-box attachment	W. W. Stevenson	867,317	Oct. 1	134	40	130	1354
Incubator-heater	J. W. Whitfield	867,457	Oct. 1	345	99	130	1420
Indicator: *See* Medicine-dose indicator.							
Ingot-stripping mechanism	G. W. Sheam and H. W. Israel	867,311	Oct. 1	123	37–8	130	1351
Jack and brace. Combination	J. L. Potter	867,531	Oct. 1	459	132	130	1457
Jar or other vessel for containing gaseous liquids and the like	N. Wrightson and W. Brown	867,462	Oct. 1	351	101	130	1421
Joint casing. Universal-	F. H. Bogart	867,551	Oct. 1	491	141	130	1466
Key-holder	H. F. Dietz	867,255	Oct. 1	36	11	130	1327
Lamp. Illuminant-	E. F. Winfield	867,544	Oct. 1	481	138	130	1463
Lamp. Incandescent gas	T. S. Haight	867,268	Oct. 1	58	18	130	1334
Lamp lighting and extinguishing apparatus. Gas-	E. H. Elton and R. Stephens	867,488	Oct. 1	396	111–12	130	1434
Lasting-machine	W. A. Bond	867,499	Oct. 1	357	103–4	130	1443
Leather-working machine	F. C. Packard	867,527	Oct. 1	453	129–30	130	1455
Legging	A. M. Doster	867,485	Oct. 1	393	111	130	1433
Lenses. Cam for detachable segment-	H. G. Huffman	867,375	Oct. 1	229	65–6	130	1383
Light system. Subaqueous	L. Dion	867,256	Oct. 1	38	12	130	1327
Liquid-receptacle gate	W. S. Robertson	867,303	Oct. 1	113	35	130	1349
Lock: *See* Bag-lock. Sewing-machine lock. Nut-lock.							
Locomotive-cabs. Combination seat and tool-box for	R. Koelle	867,381	Oct. 1	241	69	130	1387
Locomotive. Electric	S. T. Dodd	867,486	Oct. 1	395	111	130	1433
Looms. Controlling means for take-ups for	M. Moul	867,267	Oct. 1	80	27	130	1341
Looms. Selvage-forming mechanism for	J. L. Poalk	867,300	Oct. 1	108	33–4	130	1347
Mail-pouch	J. E. Harris	867,501	Oct. 1	413	117	130	1444
Malting-machine	J. C. Thomson	867,447	Oct. 1	323	94–5	130	1414
Manure-spreader	E. P. Roes	867,421	Oct. 1	289	83	130	1403
Measuring instrument	A. G. Davis and C. D. Haskins	867,561	Oct. 1	504	144–5	130	1470
Mechanical movement	B. O. Ringo	867,418	Oct. 1	285	84	130	1402
Medicine-dose indicator	R. L. Wardin	867,323	Oct. 1	141	42	130	1366
Meter: *See* Prepayment-meter.							
Mill: *See* Rod or hoop mill.	J. H. Felderman	867,490	Oct. 1	394	112	130	1435
Mill feeder. Grain-							
Mold: *See* Cement-gate mold.	A. M. Burnham	867,242	Oct. 1	19	6	130	1322
Mop-wringer							
Motor: *See* Current-motor. Rotary motor.	W. C. Yates	867,547	Oct. 1	485	139	130	1464
Motor-starting device. Alternating-current-	L. W. Scott	867,307	Oct. 1	119	36	130	1350
Muff-holder	W. S. Myers	867,396	Oct. 1	258	73	130	1392
Nail-plate-heating furnace	A. D. Crosley	867,348	Oct. 1	184	53–4	130	1368
Nest-box for fowls	D. Moulton	867,521	Oct. 1	444	127	130	1453
Nozzle	J. L. Doolp	867,351	Oct. 1	190	55	130	1370
Nut-lock	A. Guionneau	867,267	Oct. 1	86	17–18	130	1323
Ore-concentrator	J. A. Haralson	867,360	Oct. 1	207	60	130	1370
Ore-separator							
Pad: *See* Account and shipping pad. Blotter-pad.							
Paper or board	C. Esser	867,471	Oct. 1	362	.....	130	1426
Pedal-bearing	G. Merritt	867,393	Oct. 1	252	73	130	1391
Pencil-holder. Fragile and caustic	J. Barnes	867,228	Oct. 1	2	1	130	1317
Pencil-sharpener	J. H. Morrison	867,395	Oct. 1	255	74	130	1391
Penholder	K. G. Rudy	867,422	Oct. 1	291	85	130	1400

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Piano-pedal	E. P. Sedgwick	867,208	Oct. 1	120	36	130	1354
Pigment and similar compounds. Lead	E. A. Sperry	867,436	Oct. 1	311	.....	130	1410
Pin:							
See Clothes-pin.							
Pipe-cap	W. H. Blood, Jr.	867,226	Oct. 1	12	4	130	1321
Pipe. Collapsible inner shell for molding tapering	C. L. Simpson	867,431	Oct. 1	306	88–9	130	1408
Pipe-curving machine	W. C. Kirk	867,280	Oct. 1	235	68	130	1384
Pipe-flanging machine	J. H. Allen and F. M. Patterson	867,333	Oct. 1	164	49	130	1362
Planting-machine	T. Umrath	867,451	Oct. 1	332	96–8	130	1417
Plates. Apparatus for opening packs of	D. M. Somers	867,315	Oct. 1	130	39	130	1354
Pole for supporting overhead wires and the like. Cementitious	W. M. Bailey	867,235	Oct. 1	168	50	130	1364
Power-transmission device	E. P. Warner	867,324	Oct. 1	141	42–3	130	1356
Prepayment-meter	F. P. Cox	867,481	Oct. 1	376	109	130	1429
Press:							
See Cylinder-press. Printing-press. Die-press. Rotary press.							
Printing-press	G. E. Pancoast	867,295	Oct. 1	100	31	130	1344
Printing-press. Triplex	H. F. Bechman	867,252	Oct. 1	8	2–3	130	1319
Projectile for rifled small-arms	W. H. Holland and T. Woodward	867,308	Oct. 1	422	120	130	1447
Pulley	H. J. Gilbert	867,268	Oct. 1	409	116	130	1442
Pulp vessels. Making formed	W. A. Lorens	867,289	Oct. 1	247	71	130	1389
Pump	W. B. Erb	867,261	Oct. 1	46	15	130	1329
Pump. Centrifugal	C. A. Frayer	867,491	Oct. 1	395	113	130	1435
Pump-valve	R. B. McMakin	867,402	Oct. 1	261	76	130	1393
Rack:							
See Hose-rack.							
Rail-bond	L. T. Pates	867,406	Oct. 1	267	78	130	1395
Rail-bond	F. W. Richey	867,415	Oct. 1	281	83	130	1401
Rail-joint bridge	W. H. Woodcock	867,481	Oct. 1	350	101	130	1421
Rail-stay	C. E. Guthridge	867,289	Oct. 1	306	89	130	1375
Railway. Pleasure-	C. H. Smith	867,433	Oct. 1	306	89–90	130	1408
Railway-rail support	A. J. Harma	867,262	Oct. 1	210	60	130	1377
Railway-rail support	A. J. Harma	867,263	Oct. 1	211	61	130	1377
Railway-signal. Automatic	W. H. Harris	867,264	Oct. 1	212	61	130	1377
Railway signaling system	L. H. Thullen	867,448	Oct. 1	327	95	130	1416
Railway-switch	E. M. Reily	867,411	Oct. 1	274	81	130	1397
Railway-switch. Automatic	C. C. Chancey	867,346	Oct. 1	181	53	130	1367
Railway-tie	J. C. Speaker	867,426	Oct. 1	310	90	130	1409
Railway-trains. Means for automatically controlling the speed of	D. J. McCarthy	867,522	Oct. 1	445	127	130	1453
Receptacle. Hermetically-sealed	J. C. Bowers	867,299	Oct. 1	16	5	130	1322
Rheostat. Motor-starting	E. R. Carichoff	867,475	Oct. 1	367	107	130	1427
Rod or hoop mill	F. H. Daniels	867,349	Oct. 1	31	10	130	1326
Rotary motor	P. Ellis	867,360	Oct. 1	44	14	130	1329
Rotary press (double line)	H. F. Bechman	867,330	Oct. 1	4	2	130	1317
Saddle. Harness-	C. A. Spies	867,428	Oct. 1	313	91	130	1410
Saw-filing machine	L. S. Kester	867,512	Oct. 1	428	122	130	1448
Saw. Inserted-tooth milling-	H. S. Hunter	867,275	Oct. 1	66	20	130	1335
Saw-support for undercutting	A. E. Shroy	867,426	Oct. 1	301	88	130	1407
Sawing-machine	G. Walker	867,222	Oct. 1	140	42	130	1356
Scaffolding	G. E. Humphries	867,274	Oct. 1	66	20	130	1334
Scale. Refrigerator weighing-	F. D. West	867,227	Oct. 1	146	43–4	130	1358
Separator:							
See Ore-separator.							
Separator	K. Brunner and O. Bühring	867,240	Oct. 1	17	5–6	130	1322
Sewing-machine attachment	E. Eschelbacher	867,263	Oct. 1	49	15	130	1330
Sewing-machine lock	R. Barr	867,330	Oct. 1	172	51	130	1364
Shade-pull	D. B. Rawson	867,534	Oct. 1	464	123	130	1458
Shaft-hanger	E. E. McIntyre	867,291	Oct. 1	95	29–30	130	1343
Shaft suspension	T. W. Capen	867,557	Oct. 1	498	143	130	1468
Sharpening the knives of guillotine cutting-machines. Apparatus for	A. V. Brown	867,473	Oct. 1	399	106	130	1426
Sheet-metal-working machine	E. Riley	867,417	Oct. 1	284	83	130	1402
Ship-cleaning apparatus	J. A. Kennedy-McGregor	867,513	Oct. 1	431	122–3	130	1449
Sign. Street-car	W. Brundell	867,564	Oct. 1	496	142	130	1467
Signal:							
See Railway-signal.							
Singeing and winding machine	W. C. Perry	867,297	Oct. 1	108	32	130	1345
Skating-rink floor. Portable roller-	F. R. Young	867,330	Oct. 1	153	45	130	1360
Sleeping-bag. Pneumatic	T. A. Abbott	867,484	Oct. 1	353	102	130	1422
Soap holder and grater	J. J. Lee	867,226	Oct. 1	244	70	130	1358
Solder-hemmed cap	E. M. Lang, Jr.	867,253	Oct. 1	242	69	130	1367
Solder. Manufactured	E. M. Lang, Jr.	867,254	Oct. 1	243	69	130	1368
Spike	R. E. L. Simmerman	867,429	Oct. 1	303	88	130	1407
Spinning machine. Mule-	W. E. Ahern	867,332	Oct. 1	162	46	130	1362
Spring-platform for vehicle-seats, chairs, lounges, and bed-bottoms.	H. Higgin	867,507	Oct. 1	420	120	130	1446
Square. Folding steel	J. Roop	867,420	Oct. 1	288	84	130	1403
Stacker. Hay-	J. Dain	867,248	Oct. 1	27	8–9	130	1325
Stand:							
See Washing-machine stand.							
Starch-powder. Laundry	J. Benold	867,226	Oct. 1	12	.....	130	1320
Steam-engine	F. H. Mills	867,294	Oct. 1	253	73–4	130	1391
Steering-gear	M. A. McEntire	867,350	Oct. 1	95	28	130	1348
Stoker. Mechanical	M. Swintek	867,443	Oct. 1	317	92–3	130	1412
Surgical appliance	R. C. Barrie	867,340	Oct. 1	178	51	130	1364
Sweeping compound	B. Singer	867,538	Oct. 1	474	*	130	1461
Switch:							
See Electric switch. Railway-switch.							
Syringe	J. H. Thayer	867,445	Oct. 1	321	93	130	1413
Syringe. Vaginal	W. G. Cronkright	867,247	Oct. 1	27	8	130	1325
Talking-machine sound-box	J. H. Elfering	867,309	Oct. 1	43	14	130	1329
Tallying-sheet	M. H. Watson	867,226	Oct. 1	144	43	130	1357
Tapping-die	G. Ermold	867,262	Oct. 1	48	15	130	1330
Telephone-lines. Testing system for	W. W. Dean	867,349	Oct. 1	188	54	130	1368
Thill-coupling	H. M. Reynolds	867,413	Oct. 1	277	81	130	1398
Thread-retainer	A. N. Chartier	867,247	Oct. 1	183	53	130	1368

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drgs.	Official Gazette. Vol.	Official Gazette. Page.
Tie:							
See Railway-tie.							
Tire-protecting device	L. H. Kinnard	867,515	Oct. 1	434	123	130	1430
Tires, &c. Device for inflating	R. H. Campbell	867,474	Oct. 1	366	106	130	1426
Tires to wheel-rims. Means for fastening	A. N. Bradford and W. H. Holden	867,552	Oct. 1	492	141	130	1466
Tool. Combination-	R. Campbell	867,556	Oct. 1	497	142	130	1468
Top	E. A. Hoen	867,373	Oct. 1	226	65	130	1382
Toy	J. K. Allen	867,226	Oct. 1	1	1	130	1317
Track-sander	J. M. Smith	867,434	Oct. 1	308	90	130	1409
Traction apparatus. Electric	A. Zehden. (Reissue)	12,700	Oct. 1	515	147–8	130	1473
Traction-operated implements. Attachment for	G. O. Helvig and E. Danielson	867,368	Oct. 1	220	63	130	1379
Trains. Automatic safety controlling means for	D. S. Affleck	867,331	Oct. 1	156	46–8	130	1360
Tramway. Aerial	W. S. Gemmer and E. J. Schleicher	867,497	Oct. 1	402	115–16	130	1438
Tramways and the like. Point-shifter for	G. D. A. Parr	867,528	Oct. 1	454	130–1	130	1455
Trap:							
See Animal-trap.							
Tub:							
See Bath-tub.							
Tunneling	D. Maxwell	867,392	Oct. 1	251	72	130	1360
Tunneling apparatus	D. Maxwell	867,284	Oct. 1	83	25–6	130	1339
Tunneling apparatus	D. Maxwell	867,590	Oct. 1	441	125–7	130	1453
Turbine adapted for the use of combustible gases at very high temperatures.	C. Rollin	867,419	Oct. 1	287	84	130	1403
Turbine-wheel	J. F. M. Patitz	867,407	Oct. 1	267	78	130	1395
Type-casting machine	F. A. Johnson	867,277	Oct. 1	72	21–3	130	1336
Type-writer tabulating device	G. W. Campbell	867,243	Oct. 1	21	7	130	1322
Umbrella	A. H. Bamberger	867,227	Oct. 1	1	1	130	1315
Umbrella and walking-stick attachment	R. J. Newson	867,403	Oct. 1	262	76	130	1397
Valuable-case. Collapsible	J. E. Carroll	867,558	Oct. 1	499	143	130	1468
Valve	A. F. Blesch	867,341	Oct. 1	174	51	130	1365
Valve	C. F. Obrecht	867,405	Oct. 1	266	78	130	1395
Valve. Check-	B. H. Confer and J. W. Woodling	867,245	Oct. 1	23	8	130	1323
Valve. Check-	A. J. Pfluger	867,299	Oct. 1	108	33	130	1347
Valve for liquid-fuel burners. Regulating-	C. F. Currey	867,560	Oct. 1	502	144	130	1469
Valve mechanism	E. H. Holmes	867,273	Oct. 1	65	20	130	1334
Valve. Plug-	M. J. McGill	867,309	Oct. 1	259	75	130	1392
Valve. Pressure-equalizing	C. W. Henson	867,370	Oct. 1	222	64	130	1380
Valve. Water-cooled	N. McConnell	867,289	Oct. 1	93	28–9	130	1342
Vat cover. Bleach and dye	F. R. Voss	867,453	Oct. 1	339	98	130	1418
Vehicle. Side-spring	C. A. Behlen	867,233	Oct. 1	10	3	130	1320
Vehicle-step	W. A. Lannom	867,285	Oct. 1	242	70	130	1388
Vehicles. Propulsion of	C. P. Delo	867,254	Oct. 1	35	11	130	1327
Vending-machine	I. C. Woodward	867,545	Oct. 1	482	138–9	130	1463
Wagon bed and rack. Combination	J. I. Sharp	867,309	Oct. 1	120	36	130	1330
Wagon-brake	L. C. Leopold	867,237	Oct. 1	245	71	130	1323
Wagon. Dumping-	J. Heberling	867,366	Oct. 1	215	62	130	1378
Washing-machine stand	G. W. Froelich	867,493	Oct. 1	397	113–14	130	1436
Water-elevator. Pneumatic	J. E. Bourne and O. W. Stevens	867,470	Oct. 1	361	104	130	1424
Water-heater	W. P. Cosper	867,480	Oct. 1	374	108–9	130	1428
Water. Treating	A. J. Simmons	867,313	Oct. 1	127	38	130	1353
Weighing-machine. Automatic	C. A. Douglass and F. L. Jones	867,354	Oct. 1	193	55–6	130	1371
Weil-making machine	M. D. and R. T. Rochford	867,536	Oct. 1	466	134–5	130	1459
Wheel:							
See Traction-wheel.							
Wheel-brake	Z. M. Bonner	867,237	Oct. 1	14	4	130	1321
Winding-machine	W. C. Perry	867,298	Oct. 1	106	32–3	130	1345
Window. Basement-	I. Wroblewski. (Reissue)	12,699	Oct. 1	512	146–7	130	1473
Window-fastener. Metallic	W. J. Henry	867,369	Oct. 1	221	63	130	1379
Wire molding-receptacle. Three-	J. S. Stewart	867,440	Oct. 1	314	91–2	130	1411
Wires and the like. Apparatus for straining	C. Burton	867,241	Oct. 1	18	6	130	1322
Wrench:							
See Buggy-wrench.							
Wrench	C. T. Holman	867,272	Oct. 1	64	19	130	1334
Wrench	G. P. Weichel	867,326	Oct. 1	145	43	130	1357
Wrench	R. Toward	867,460	Oct. 1	331	96	130	1417
Wrench	M. H. Hartman	867,504	Oct. 1	416	118	130	1443
Wringer:							
See Mop-wringer.							

DESIGNS.

Design.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Bedstead	E. de Wolfe	38,843	Oct. 1	130	1473

LABELS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
"Bansai Pongee Handkerchiefs." (For Handkerchiefs)	Bacon Art Company	12,816	Oct. 1	130	1481
"Buffalo Mead." (For a Carbonated Beverage)	T. Brasell	12,811	Oct. 1	130	1481
"Fine Rollmops." (For Fish Prepared for the Market)	S. Schmidt & Co	12,812	Oct. 1	130	1481
"H & L Sanitas Soft Finish Gentlemen's Handkerchiefs." (For Handkerchiefs.)	Bacon Art Company	12,817	Oct. 1	130	1481
"Hydroma." (For a Complexion-Powder)	A. W. Leaman	12,813	Oct. 1	130	1481
"Nedra." (For Tea)	Arbuckle Brothers	12,810	Oct. 1	130	1481
"Silkalla Handkerchiefs." (For Handkerchiefs)	Bacon Art Company	12,815	Oct. 1	130	1481
"U-Auto Polish." (For a Polish for Automobiles and Carriages)	Shove & Gage Co	12,814	Oct. 1	130	1481

PRINTS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Apparel for Man and Boy." (For Clothing)	E. L. Boone	2,124	Oct. 1	130	1461
"Eventually." (For Flour)	Washburn-Crosby Company	2,122	Oct. 1	130	1461
"Men's Apparel." (For Men's Apparel)	Schloss Bros. & Co	2,125	Oct. 1	130	1461
"Wear Edesco Clothes." (For Men's Clothing)	E. E. Strauss & Co	2,126	Oct. 1	130	1461

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Bitters	J. Wagner & Sons	28,972	Oct. 1	130	1476
Cider	Fleming & Christian Co	29,275	Oct. 1	130	1477
Cigars	Rupp & Oesehger	29,285	Oct. 1	130	1479
Coffees	Howlett Bros. Co	15,288	Oct. 1	130	1477
Collars, cuffs, shirt-fronts, &c	Wolff & Glaserfeld	25,221	Oct. 1	130	1476
Cotton cloth	L. Hess & Co	29,404	Oct. 1	130	1478
Cotton duck	Mount Vernon-Woodberry Cotton Duck Company.	29,367	Oct. 1	130	1475
Cotton duck	Consolidated Cotton Duck Company.	29,408	Oct. 1	130	1476
Cotton piece goods	C. Schmitz & Co	29,326	Oct. 1	130	1476
Gum-drops	Rowntree and Company	25,307	Oct. 1	130	1476
Hair-tonics	T. J. Mowry	29,382	Oct. 1	130	1479
Hair tonics and restorers	G. O. Ranson & Co	29,708	Oct. 1	130	1479
Liqueurs	E. Claburri & Fil	28,267-8	Oct. 1	130	1477
Magazine. Monthly	Sporting Goods Publishing Company.	28,317	Oct. 1	130	1477
Naphtha	Standard Oil Co. of New York	29,276	Oct. 1	130	1479
Ochers	Firm of F. A. Reichard	29,282-3	Oct. 1	130	1479
Oil. Corn-	Corn Products Refining Company.	27,286-7	Oct. 1	130	1476-7
Paper. Weekly	Sporting News Publishing Company.	28,318	Oct. 1	130	1477
Perfumes and perfumed toilet powders	S. Palmer	29,358	Oct. 1	130	1478
Phonographs	Duplex Phonograph Co	22,702	Oct. 1	130	1475
Powder. Foot-	W. L. White	29,413	Oct. 1	130	1478
Preparation for the treatment of finger-nails	F. Harnisch	28,468	Oct. 1	130	1477
Remedy for bruises, cuts, sores, &c	Mystic Wine of Life Co	29,381	Oct. 1	130	1479
Remedy for the treatment of corns, bunions, &c	W. L. White	29,412	Oct. 1	130	1478
Rubber air pillows and cushions, bath-caps, &c	Faultless Rubber Company	25,238	Oct. 1	130	1476
Rubber balloons, balls, &c	Faultless Rubber Company	25,235	Oct. 1	130	1476
Snuff	I. Sjoberg	29,409	Oct. 1	130	1478
Stogies	R. Rosenberg	29,402	Oct. 1	130	1477
Thread or spool-cotton. Sewing-	Blodgett & Orswell Co	19,272	Oct. 1	130	1475
Timber, logs, lumber, &c	Rees-Scott Company	29,704	Oct. 1	130	1479
Tobacco. Smoking-	H. Rippan	29,304	Oct. 1	130	1478
Umbrellas	Siegel Cooper Company	29,376	Oct. 1	130	1477
Water-bottles, face-masks, ice-bags, &c	Faultless Rubber Company	25,237	Oct. 1	130	1476
Whisky	John Dewar & Sons	26,235	Oct. 1	130	1476
Wine and beer. Preparation for preserving	A. Boake Roberts & Co	25,044	Oct. 1	130	1476
Woolen piece goods	Worumbo Manufacturing Company.	29,513	Oct. 1	130	1478
Worsted or cotton and worsted and cotton dress fabrics	Strawbridge & Clothier	29,483	Oct. 1	130	1478

ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 8TH DAY OF OCTOBER, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume. Specification.	Drawing.	Official Gazette. Volume.	Page.
A. I. Root Co. (See Marbach, Frank G., assignor.)						
Abbott, Martin A., Chrisney, Ind. Reinforcement for concrete arches	867,776	Oct. 8	829	237	130	1587
Adams, Daniel B., Summitville, N. Y. Automatic stopping device for internal-combustion engines	867,899	Oct. 8	1040	298	130	1650
Adams, Harry W., assignor of one-half to P. W. Farnham, Fargo, N. D. Piston-valve for internal-combustion engines	867,933	Oct. 8	1088	308	130	1665
Alsen, Charles H. T., London, England. Internal-combustion engine	867,777	Oct. 8	831	238	130	1538
Ambler, George B., assignor to Draper Company, Hopedale, Mass. Starting and stopping mechanism for looms	867,934	Oct. 8	1090	308	130	1665
American Cork and Seal Company. (See Bartlett, Leonard, assignor.)						
American Dairy Supply Co. (See Smith, Eldridge J., assignor.) (Reissue.)						
Ames, John F., Portland, Oreg. Printing-press	867,778	Oct. 8	833	238-9	130	1586
Anderson, Gustav, Dunlap, Kans. Deborner	867,779	Oct. 8	837	239	130	1590
Antisell, Frank L., New York, N. Y. Mold for casting copper	867,692	Oct. 8	705	197	130	1549
Antisell, Frank L., New York, N. Y. Wire-bar mold-core	867,693	Oct. 8	707	197	130	1549
Atcheson, Robert H. (See Eukers and Atcheson.)						
Atlas Slack Adjuster Company. (See Parker-Smith, Augustus, assignor.)						
Atlas Slack Adjuster Company. (See Sauvage, William H., assignor.)						
Auchu, Henry, Emporium, Pa. Metal-coated spigot	867,780	Oct. 8	838	239	130	1590
Auslar, James E., assignor to Novelty Incandescent Lamp Company, St. Marys, Pa. Advertising and illuminating device	867,564	Oct. 8	519	149	130	1491
Aza, Joseph E., assignor to De La Vergne Machine Company, New York, N. Y. Regulating apparatus for internal-combustion engines	867,565	Oct. 8	520	149-50	130	1491
Ault, Playfair G. (See Davis and Ault.)						
Baashuus, Nils, Christiania, Norway. Turbine	867,566	Oct. 8	526	150	130	1492
Babbaus, Charles, Sigourney, Iowa. Steam-generator	867,631	Oct. 8	621	175	130	1524
Ballard, Harris A., Ashland, assignor, by mesne assignments, to Boylston Manufacturing Company, Boston, Mass. Mechanical motion	867,866	Oct. 8	978	280	130	1633
Barclay, John C., New York, N. Y. Insulator	867,901	Oct. 8	1046	297	130	1652
Barclay, John C., assignor to Western Union Telegraph Company, New York, N. Y. Telegraph-transmitter	867,900	Oct. 8	1042	296-7	130	1651
Barkalow, Abner F. (See Breath, William L., assignor.)						
Barnard, Thomas K. (See Revell Roland, assignor.)						
Barnes, William A., Woronoco, Mass. Welding copper	867,632	Oct. 8	623	.....	130	1525
Bartlett, Leonard, New York, N. Y., assignor to American Cork and Seal Company. Bottle-seal	867,902	Oct. 8	1047	297	130	1525
Bartlett, Leonard, New York, N. Y., assignor to American Cork and Seal Company. Seal for bottles	867,903	Oct. 8	1048	297	130	1653
Bartlett, Leonard, New York, N. Y., assignor to American Cork and Seal Company. Seal for bottles	867,904	Oct. 8	1049	298	130	1653
Barz, Paul H., Chicago, Ill. Polishing-machine	867,633	Oct. 8	623	175-6	130	1653
Bast, Frank J., New York, N. Y. Collapsible wardrobe-rack	867,567	Oct. 8	527	150	130	1493
Bates, Eddo V. (See Robinson and Bates.)						
Bates and Robinson Machine Company. (See Robinson and Bates, assignors.)						
Beecher, Thomas D., Reading, Pa. Melting-furnace	867,781	Oct. 8	839	240	130	1590
Bayer, Adolf, Brooklyn, N. Y. Revolving-piston explosive-engine	867,782	Oct. 8	839	240	130	1590
Beale, Samuel C., Los Angeles, Cal., assignor to Mills Automatic Press Company. Automatic feed and delivery mechanism for printing-presses	867,634	Oct. 8	625	176-7	130	1526
Beals, Erl V., Boston, Mass. Justifying mechanism for type-matrices and types	867,867	Oct. 8	980	280-1	130	1632
Beals, Erl V., Boston, Mass. Type-writer	867,868	Oct. 8	987	281-2	130	1634
Becker, Adolph F. (See Diehl and Becker.)						
Becker, William A. F., Chicago, Ill. Electric sign	867,635	Oct. 8	627	117	130	1526
Beckwith, Walter C., Fostoria, Ohio. Railway torpedo-placer	867,783	Oct. 8	841	240	130	1591
Beeson, William, Gilsedge, Mont. Beehive	867,636	Oct. 8	629	177-8	130	1526
Bellmaine, William H., assignor of one-half to G. Stone, Pocatello, Idaho. T-pipe	867,784	Oct. 8	842	240	130	1592
Benjamin Eastwood Co. (See Lawlor, Daniel, assignor.)						
Bennett, George H., New York, N. Y. Making flooring and the flooring itself	867,637	Oct. 8	632	178	130	1527
Bennett, William A., Enterprise, W. Va. Shade-bracket	867,869	Oct. 8	993	282	130	1633
Berg, Seevert C. O., Kansas City, Mo. Barrel-rinser	867,568	Oct. 8	527	150-1	130	1493
Berthold, Daniel J., Braddock, Pa. Mail-crane	867,785	Oct. 8	844	241	130	1593
Bertram, Wilhelm. (See Schmidt and Bertram.)						
Bindschedler, Theodore S., Peru, assignor to Western Clock Manufacturing Company, La Salle, Ill. Watch-barrel	867,870	Oct. 8	994	282	130	1633
Blanchard, Virgil W., New York, N. Y. Furnace	867,905	Oct. 8	1051	298	130	1653
Blanchard, Virgil W., New York, N. Y. Gas-burning air-heating furnace	867,906	Oct. 8	1053	298	130	1654
Bosen, William J., Orange, N. J. Lamp-shade	867,871	Oct. 8	994	283	130	1633
Bovey, Joseph. (See Walnat and Bovey.)	867,694	Oct. 8	708	198	130	1549
Bolton, Horace N., Paterson, N. J. Watch-guard	867,907	Oct. 8	1055	299	130	1655
Bond, Charles O., and C. C. Tutwiler, assignors to United Gas Improvement Company, Philadelphia, Pa. Means for ascertaining the temperature of illuminating-gas in mains	867,569	Oct. 8	528	151	130	1494
Bonner, Douglas E., Chicago, Ill. Curtain-fixture	867,786	Oct. 8	845	241	130	1593
Booth, Glen R., Chana, Ill. Lifting-jack						

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drs.	Official Gazette. Vol.	Official Gazette. Page.
Booz, William C., Vanburen, Ind. Portable derrick	867,695	Oct. 8	709	198	130	1560
Boss, John C., Elkhart, Ind. Apparatus for drying bricks	867,572	Oct. 8	995	283	130	1638
Bostell, Harry, Dusseldorf-Obercassel, Germany. Calender-roller	867,926	Oct. 8	1066	299	130	1665
Bostock, William F., Brockton, Mass. Boot and shoe heel	867,930	Oct. 8	1067	299	130	1666
Boston Telephone Selector Company. (See Mayberry, Frank E., assignor.)						
Botkowski, Boris, assignor to De La Vergne Machine Company, New York, N. Y. Igniting means for explosive-engines	867,696	Oct. 8	710	199	130	1560
Boyden, Benjamin F., Mount Washington, Md., assignor, by mesne assignments, to For-Man Belt Company of Pittsburgh, Pa. Belt-buckle	867,633	Oct. 8	633	179	130	1627
Boylston Manufacturing Company. (See Ballard, Harrie A., assignor.)						
Bragg, George J., Newark, N. J. Twist-drill	867,699	Oct. 8	684	179	130	1599
Breath, William L., New York, N. Y., assignor of one-half to A. F. Barkelew, Jersey City, N. J. Eyeglasses	867,910	Oct. 8	1069	299	130	1666
Brenizer, Orson W., Philadelphia, Pa. Single-trigger mechanism for double-barreled guns	867,697	Oct. 8	711	199–200	130	1561
Brennan, Terrance, Coatesville, Pa. Broom-holder	867,737	Oct. 8	947	242	130	1624
Bried, Julien A., San Francisco, Cal. Blue-printing frame	867,698	Oct. 8	715	200	130	1561
Brock, Andrew A. (See Weinat and Bogey, assignors.)						
Brooks, Franklin V., assignor to International Seal Company, New York, N. Y. Seal	867,699	Oct. 8	716	200	130	1562
Brown, George M., Tacoma, Wash. Dredging-machine	867,738	Oct. 8	948	242	130	1624
Brown, Henry, *et al.* (See Brown, William C., assignor.)						
Brown, William C., assignor of two-thirds to F. Knackstedt and H. Brown, Chicago, Ill. Steam-trap	867,700	Oct. 8	717	201	130	1562
Buck, Isaiah D., Philadelphia, Pa. Clothes-washer	867,573	Oct. 8	996	283	130	1637
Buffalo Leather Co. (See Smith, William R., assignor.)						
Burnah, Paul, Clayburg, N. Y. Elevating device	867,640	Oct. 8	635	179	130	1528
Burns, Robert, Rensselaer, N. Y. Ventilator for locomotive-cabs	867,701	Oct. 8	719	201	130	1563
Burt Machine Company. (See Sawyer, Ezra H., assignor.)						
Bushnell, Alvah, Jr., Philadelphia, Pa. Vertical file-pocket	867,739	Oct. 8	950	243	130	1624
Buttress, Howard, Los Angeles, Cal. Sash-lock	867,911	Oct. 8	1070	300	130	1666
Campbell, Charles H., New York, N. Y. Apparatus for concentrating milk, &c	867,641	Oct. 8	636	179–80	130	1528
Campbell, Henry G. (See Switzer, George W. and G. F., assignors.)						
Capell, George M., Passenham, England. System for ventilating mines, &c	867,791	Oct. 8	992	243	130	1635
Capell, George M., near Stony Stratford, England. Centrifugal fan and pump-wheel	867,574	Oct. 8	997	284	130	1637
Carmer, William, Coudersport, Pa. Saw-set	867,792	Oct. 8	954	244	130	1625
Carney, John E. (See Weaver and Carney.)						
Carr, Harry J., Sumter, S. C. Attachment for automobiles	867,790	Oct. 8	951	243	130	1625
Chatterson, Albert E. (See Copeland and Chatterson.)						
Chicago Film Exchange. (See Spaulding and Smith, assignors.)						
Churchward, James, New York, N. Y. Alloy steel	867,642	Oct. 8	637	.....	130	1528
Clark, Daniel S. (See Henvis and Clark.)						
Clark, Frank E., New York, N. Y. Bottle-stopper and stoppered bottle	867,703	Oct. 8	720	201	130	1564
Clark, Frank E., New York, N. Y. Bottle-stopper and stoppered bottle	867,793	Oct. 8	955	244	130	1625
Clark, James H., assignor of one-half to F. M. Thompson, Richmond, Va. Pneumatic suspension means	867,570	Oct. 8	529	151	130	1495
Clark, Walter R., Glenwood, Minn. Check-holder	867,794	Oct. 8	956	244	130	1625
Clarke, Arthur F., Butler, Pa. Discharge-valve for gas-compressors	867,702	Oct. 8	720	201	130	1563
Claus, Emil L., Milwaukee, Wis. Gas-cock	867,571	Oct. 8	533	151	130	1496
Colahan, Mary H., Chicago, Ill. Treating fibrous tow	867,704	Oct. 8	721	.....	130	1564
Coleman, Clyde J., assignor to C. Hubert, New York, N. Y. Automatic engine-starter	867,795	Oct. 8	957	244–5	130	1625
Coleman, Clyde J., assignor to C. Hubert, New York, N. Y. Engine-starter	867,796	Oct. 8	962	245	130	1626
Coleman, Clyde J., assignor to C. Hubert, New York, N. Y. Engine-starter	867,797	Oct. 8	959	247	130	1600
Collins, William, West Philadelphia, Pa. Lathe-tool	867 798	Oct. 8	873	247	130	1601
Computing Scale Company. (See Ozias and Hopkinson, assignors.)						
Connecticut Telephone and Electric Company. (See Wilcox, Ernest C., assignor.)						
Converse, Maschil D., Newark, N. J., assignor, by mesne assignments, to Howland Metallic Cap Company, New York, N. Y. Closure for jars, bottles, and like receptacles	867,705	Oct. 8	722	202	130	1564
Cook, John H., New York, N. Y. Toggle-bolt	867,799	Oct. 8	574	248	130	1602
Copeland, Robert J., and A. E. Chatterson, Toronto, Ontario, Canada. Binder	867,706	Oct. 8	723	202	130	1564
Cordero, Ramón F., Rubio-Tachira, Venezuela. Centrifugal separator	867,800	Oct. 8	575	248	130	1602
Corwin, Frank H., Riverhead, N. Y. Display-rack	867,801	Oct. 8	577	249	130	1602
Cotton, Howard W., Rochester, N. Y., assignor, by mesne assignments, to Quincy, Manchester, Sargent Company, Chicago, Ill. Sawing-machine	867,643	Oct. 8	639	180	130	1529
Cottrell, William C., Asbury Park, N. J. Reinforced concrete jetty	867,802	Oct. 8	576	249	130	1603
Court, Nancy M., Longbeach, Cal. Means to press creases in trousers	867,912	Oct. 8	1080	300	130	1666
Cowell, John J., Newark, N. J. Double-acting hinge	867,913	Oct. 8	1081	300	130	1666
Craft, Edward B., Wilmette, assignor to Western Electric Company, Chicago, Ill. Coin-collector	867,707	Oct. 8	726	202–4	130	1566
Crescent Novelty Manufacturing Company. (See Grundmann, Frederick W., assignor.)						
Croizat, Vittorio, Turin, Italy. Heat-transferring apparatus	867,803	Oct. 8	579	249	130	1603
Crucible Steel Company of America. (See Page, George S., assignor.)						
Darley, John W., Jr. (See Sandlas and Darley.)						
Darley, John W., Jr., assignor to E. J. Knabe, Jr., Baltimore, Md. Automatic piano	867,575	Oct. 8	999	284–5	130	1638
Davis, Henry J., and P. G. Ault, Birmingham, Ala. Store-service apparatus	867,572	Oct. 8	534	152	130	1496
Day, Pleasant E., Oakman, Ala. Combined rake and baling-press	867,804	Oct. 8	580	250	130	1603
De Forest, Lee, New York, N. Y., assignor to G. K. Woodworth, Boston, Mass. Oscillation responsive device	867,805	Oct. 8	951	250–1	130	1604
De Forest, Lee, New York, N. Y., assignor to G. K. Woodworth, Boston, Mass. Detecting oscillations	867,576	Oct. 8	1000	285	130	1638
De Forest, Lee, New York, N. Y., assignor to G. K. Woodworth, Boston, Mass. Oscillation-detector	867,577	Oct. 8	1001	285	130	1639
De Grauwe, Florent, Antwerp, Belgium. Gas stove and radiator	867,578	Oct. 8	1002	285	130	1639
De La Vergne Machine Company. (See Aue, Joseph E., assignor.)	867,644	Oct. 8	641	180–1	130	1529
De La Vergne Machine Company. (See Botkowski, Boris, assignor.)						
Delaney, James G., and A. Lambert, Newark, N. J. Fall-rope carrier	867,573	Oct. 8	536	153	130	1497
Delhomme, Jean L., Lyon, France. Spoke-tightening device	867,645	Oct. 8	641	181	130	1529
Demery, Joseph H. (See Demery, Thomas R. and J. H.)						
Demery, Thomas R. and J. H., Philadelphia, Pa. Automatic plate-printing machine	867,706	Oct. 8	729	204–5	130	1557
Deutsche Conservierungs-Gesellschaft für Nahrungs-und Genussmittel mit beschränkter Haftung. (See Rücker, Karl, assignor.)						
Diehl, Frederick, and A. F. Becker, Elizabeth, N. J. Electric fan	867,914	Oct. 8	1082	301	130	1657
Ditchfield, Robert, Woodstock, Ontario, Canada. Spraying apparatus	867,806	Oct. 8	988	251	130	1604
Ditmanson, Turina, Summit, S. D. Clothes-drier	867,646	Oct. 8	642	181–2	130	1530
Drawbaugh Artificial Fuel Company. (See Drawbaugh and Gamble, assignors.)						
Drawbaugh, Daniel, Eberlys Mill, and B. E. Gamble, Bowmansdale; said Drawbaugh assignor to Drawbaugh Artificial Fuel Company, Harrisburg, Pa. Artificial fuel and making the same						
Dreyfuss, Isidor, New York, N. Y. Tape-applying machine	867,915	Oct. 8	1083	.....	130	1658
	867,807	Oct. 8	984	251–3	130	1605

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Dudgeon, Henry C. (See Weeks, John, assignor.)						
Dunkerwald, Frank, New York, assignor to C. E. Leighton, Brooklyn, N. Y. Lock-protecting device	867,916	Oct. 8	1066	301	130	1659
Dyke, Elphalet B., Cookeville, Tenn. Copy-holder	867,808	Oct. 8	992	253	130	1606
Dyke, Louis, St. Paul, Minn. Safety device for point-switches	867,709	Oct. 8	734	205–6	130	1558
E. C. Stearns & Company. (See Potter, William M., assignor.)						
Eastwood, Arthur C., Cleveland, Ohio. Series-parallel controller	867,809	Oct. 8	893	253–5	130	1606
Eastwood, Arthur C., Cleveland, Ohio. Automatic accelerating-controller	867,810	Oct. 8	897	255	130	1607
Edgecomb, Jennie V., Binghamton, N. Y. Door-check	867,811	Oct. 8	900	256	130	1608
Edwards, John, Troy, Ill. Extensible measuring-pole	867,812	Oct. 8	901	256	130	1609
Egge, Frederick, Bridgeport, Conn., assignor to Perfect Sliding Door Company, Los Angeles, Cal. Mortise-case	867,574	Oct. 8	537	153	130	1498
Ekbern, William, Minneapolis, Minn. Wheel	867,710	Oct. 8	735	206	130	1558
Ellis, Christian, Stuttgart, Germany. Splitting-machine	867,711	Oct. 8	736	206	130	1559
Elmert, Emil, Joliet, Ill. Rest attachment for beds	867,647	Oct. 8	644	182	130	1530
Ellis, Carleton, White Plains, N. Y., and K. P. McElroy, Washington, D. C. Reducing formic acid	867,575	Oct. 8	539	153	130	1498
Elo, Andrew G., Chicago, Ill. Hospital-bed	867,712	Oct. 8	737	206–7	130	1559
Emerson, Joseph S., Catasauqua, Pa. Valve for explosive-engines	867,713	Oct. 8	738	207	130	1559
Engi, Gediont, assignor to Society of Chemical Industry in Basle, Basel, Switzerland. Making a halogenated red dye	867,714	Oct. 8	740	.....	130	1559
Engi, Gediont, assignor to Society of Chemical Industry in Basle, Basel, Switzerland. Halogenated red vat-dye and making same	867,715	Oct. 8	740	.....	130	1560
Equilibrator Company. (See Fourth, William G., assignor.)						
Eriksen, Karl F., New York, N. Y. Motor	867,648	Oct. 8	645	182–3	130	1530
Erickson, Sidney W., Red Wing, Minn. Attachment to elbows of wind-stackers	867,716	Oct. 8	741	207–8	130	1560
Estis, Albert, Stillwater, Minn. Burial-vault	867,813	Oct. 8	902	256	130	1609
Esher, George R., and R. H. Atcheson, Chicopee, Mass. Tire-covering	867,717	Oct. 8	742	208	130	1560
Everett, George E., Chicago, Ill. Operating mechanism for portable dump-beds	867,649	Oct. 8	646	183	130	1531
Exler, George W. (See Hellstrom and Exler.)						
Farbwerke, vorm. Meister, Lucius & Brüning. (See Schmidt and Bertram, assignors.)						
Farnham, Philip W. (See Adams, Harry W., assignor.)						
Fernandi, Sebastian Z. de, London, England. Heating device	867,576	Oct. 8	541	153	130	1499
Flynn, Thomas H. (See Hellstrom and Exler, assignors.)						
For-Man Belt Company of Pittsburgh, Pa. (See Boyden, Benjamin F., assignor.)						
Fornander, Alfred, New York, N. Y., assignor of one-half to W. J. Vogt, Brooklyn, N. Y. Hat-guard	867,814	Oct. 8	903	256	130	1609
Frazer, Aruba, Galesburg, Ill. Device for operating air-cocks on air-brake cars	867,718	Oct. 8	743	208	130	1561
French, James B., Chicago, Ill. Illuminating-tile	867,650	Oct. 8	648	184	130	1531
Frishmuth, Charles S., Philadelphia, Pa. Stop and waste cock	867,651	Oct. 8	649	184	130	1531
Fry, John B., Bloomington, assignor to I. S. Whitmer, McLean county, Ill. Game apparatus	867,652	Oct. 8	650	184	130	1823
Fourth, William G., Newark, N. J., assignor to Equilibrator Company. Stencilling-machine	867,577	Oct. 8	543	154	130	1499
	867,578	Oct. 8	546	154	130	1501
Galbraith, Dennis J., Plainfield, N. J. Valve						
Galpin, Thomas L. (See Johnson, Joseph H., assignor.)						
Gamble, Blake E. (See Drawbaugh and Gamble.)						
Garland, William H., assignor of one-half to R. M. Havens, Kansas City, Mo. Loose-leaf book	867,815	Oct. 8	904	256	130	1609
	867,816	Oct. 8	906	257	130	1610
Garret, Jean, Pittsburg, Pa. Ironing-table						
Garrett, John N., *et al.* (See Johns, Frank J., assignor.)						
Gaylord, George B., Springfield, Mass. Flush-valve	867,653	Oct. 8	651	184	130	1532
Gerard, Léon, Brussels, Belgium, assignor to P. Thompson, East Orange, N. J. Electrical condenser	867,579	Oct. 8	547	154	130	1501
	867,817	Oct. 8	907	257	130	1610
Girten, Charles M., Jerseytown, Pa. Water-motor	867,654	Oct. 8	653	185	130	1533
Golden, Samuel, Buffalo, N. Y. Hull for vessels	867,879	Oct. 8	1003	286	130	1640
Goldin, Horace, London, England. Means for producing stage illusions	867,818	Oct. 8	908	257	130	1610
Graham, George M., assignor to G. A. E. Kohler, Chicago, Ill. Reinforced concrete step	867,819	Oct. 8	908	258	130	1611
Grundmann, Frederick W., assignor to Crescent Novelty Manufacturing Company, St. Louis, Mo. Cement-worker's tool	867,655	Oct. 8	654	185	130	1533
Gutmann, Emil, New York, N. Y. Clasp	867,656	Oct. 8	655	185	130	1533
Haberlein, Max, New York, N. Y., assignor to Pelton Water Wheel Co., San Francisco, Cal. Turbine	867,820	Oct. 8	909	258	130	1611
Hamilton, Anna C., Brewerstown, Ind. Extension-bed	867,719	Oct. 8	745	209	130	1561
Hanchett Swage Works. (See Hedstrom, John P., assignor.)	867,880	Oct. 8	1004	286–7	130	1640
Hansen, Peter, Copenhagen, Denmark. Diver's helmet						
Harmon, William O., Sarcoxie, Mo. Grain cleaner and separator	867,821	Oct. 8	910	259	130	1611
Harrington, Abner C. (See Herndon, Joseph J., assignor.)						
Hart, William, Kirksville, Mo. Sound-reproducer for graphophones	867,720	Oct. 8	745	209	130	1561
Harvey, George L., Chicago, Ill. Draft-regulator	867,721	Oct. 8	746	209–10	130	1562
Hasenbusher, Michael, Chicago, Ill. Electric belt and appliances therefor						
Havens, Raymond M. (See Garland, William H., assignor.)	867,722	Oct. 8	748	210	130	1562
Hayaer, Gustave C., Clinton, Mo. Washboard	867,723	Oct. 8	749	210–11	130	1563
Hedstrom, John P., assignor to Hanchett Swage Works, Big Rapids, Mich. Machine for sharpening saw-teeth	867,724	Oct. 8	753	211	130	1563
Hedstrom, John P., assignor to Hanchett Swage Works, Big Rapids, Mich. Adjustable cam	867,822	Oct. 8	912	259	130	1612
Hellstrom, John A., Pittsburg, and G. W. Exler, Allegheny, assignors of one-third to T. H. Flynn, Pittsburg, Pa. Cork cutting and tapering machine	867,725	Oct. 8	755	211	130	1564
Hemenway, Byron A., Watertown, N. Y. Lathe-tool and holder	867,917	Oct. 8	1068	302	130	1659
Henvis, Maurice P., Norfolk, Va. Convertible railway-car	867,726	Oct. 8	757	212	130	1564
Henvis, Maurice P., and D. S. Clark, Norfolk, Va. Dumping-car	867,727	Oct. 8	758	212	130	1564
Hermann, Max P., Philadelphia, Pa. Surgical-instrument holder						
Herndon, Joseph J., assignor of one-half to A. C. Harrington, Newkirk, Okla. Ter. Rail-joint	867,657	Oct. 8	656	186	130	1533
Hicks, Shelby, Providence, Ky. Journal-box	867,823	Oct. 8	913	259	130	1612
Hollifield, Horatio B., Washington, D. C. Attachment for small-arms	867,728	Oct. 8	760	213	130	1565
Holliger, Daniel J., Columbus, Ohio. Scale	867,729	Oct. 8	761	213	130	1565
Holtzinger, Amos H., Bedford City, Va. Chimney-cowl	867,881	Oct. 8	1006	287	130	1641
Hood, Frederic C., Boston, Mass. Rubber overshoe	867,882	Oct. 8	1007	287	130	1640
Hooper, Louis M., Rutherford, N. J., assignor to J. L. Mott Iron Works. Faucet-valve	867,580	Oct. 8	548	154–5	130	1502
Hoopes, William, Pittsburg, Pa., and N. A. Robertson, New York, N. Y. Making electric conductors	867,658	Oct. 8	656	186	130	1534
Hoopes, William, Pittsburg, Pa., and N. A. Robertson, New York, N. Y. Electric conductor	867,659	Oct. 8	658	186	130	1534
Hopkinson, Joseph. (See Ozias and Hopkinson.)						
Horn, Emil, assignor of one-third to J. A. Steele and one-third to W. E. James, Hillyard, Wash. Rotary expansion-engine	867,581	Oct. 8	550	155	130	1502

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Howes, Harry W. (See Kessler, Lewis H., assignor.)						
Howland Metallic Cap Company. (See Converse, Maschil D., assignor.)						
Hubert, Conrad. (See Coleman, Clyde J., assignor.)						
Ingram, Edmond J., Scott, Ark. Plow	867,668	Oct. 8	1008	267–8	130	1641
International Seal Company. (See Brooks, Franklin V., assignor.)						
J. L. Mott Iron Works. (See Hooper, Louis M., assignor.)						
James, William E., *et al.* (See Horn, Emil, assignor.)						
Jeffreys, Henry, West Salisbury, Pa. Rule	867,730	Oct. 8	762	213	130	1586
Johns, Frank J., assignor of two-thirds to J. N. Garrett, Scranton, and J. P. Pulsifer, Philadelphia, Pa. Electrically-operated railway-switch	867,918	Oct. 8	1009	302–3	130	1639
Johnson, William H., assignor of one-half to E. J. Sweet, Miami, Fla. Automatic steam-cooker	867,660	Oct. 8	660	186	130	1634
Johnson, Joseph H., near Elmwood, assignor of one-half to T. L. Galpin, Galesburg, Ill. Harrow	867,731	Oct. 8	763	214	130	1586
Jones, Florentine A., Boston, Mass. Clockwork for recording instruments	867,723	Oct. 8	764	214	130	1586
Jones, Rodney O., Granite City, Ill. Machine for removing gates and risers from castings	867,894	Oct. 8	1009	268	130	1641
Kaley, Jacob L., *et al.* (See Paulson, Martin, assignor.)						
Kanaly, Morris E., Arlington, Mass. Pipe-cleaner	867,895	Oct. 8	1010	286	130	1642
Keating, Morris H., Johnstown, Pa. Table-rack and exhibitor	867,661	Oct. 8	662	187	130	1635
Kemp, Daniel W., Anderson, Ind. Shock-loader	867,662	Oct. 8	663	187–8	130	1635
Kennedy, J. Fred. (See Martin, Charles B., assignor.)						
Kerekes, Daniel. (See Rado and Kerekes.)						
Keseler, Lewis H., assignor of one-half to H. W. Howes, Agawam, Mass. Beehive	867,919	Oct. 8	1071	303–4	130	1660
Knabe, Ernest J., Jr. (See Darley, John W., Jr., assignor.)						
Knackstedt, Fritz, *et al.* (See Brown, William C., assignor.)						
Knock, George, Cleveland, Ohio. Packing-filters	867,733	Oct. 8	766	214–15	130	1586
Knock, George, Cleveland, Ohi. Filter	867,734	Oct. 8	767	215	130	1586
Kohler, G. A. Edward. (See Graham, George M., assignor.)						
Körner, George H., San Francisco, Cal. Faucet-protector	867,663	Oct. 8	665	188	130	1635
Kriner, Jeremiah, Carlisle Springs, Pa. Hook	867,896	Oct. 8	1011	268	130	1642
Kuntzen, Otto, Berlin, Germany. Means for operating fare and distance indicators	867,897	Oct. 8	1012	269	130	1642
Kyllonen, Erik, Enterprise, N. D. Tubular grate	867,882	Oct. 8	852	156	130	188
Lambert, Asher. (See Delaney and Lambert.)						
Lang, Frank A., New York, N. Y. Door	867,898	Oct. 8	1013	269	130	1642
Langlands, Daniel G. (See Tripp, Benjamin F., assignor.)						
Lanphear, Clinton R., Midland, Mich. Governor	867,664	Oct. 8	665	186	130	1635
Lawlor, Daniel, assignor to Benjamin Eastwood Co., Paterson, N. J. Stop-motion for quilling-machines	867,824	Oct. 8	915	260	130	1612
Leathers, Lewis P., *et al.* (See Willson, Mendal W., assignor.)						
Leavenworth, George W., Hartford, assignor to H. H. Judd, Bristol, Conn. Trap	867,920	Oct. 8	1073	304	130	1661
Lee, Halvor A., Minneapolis, Minn. Sewing-implement holder	867,883	Oct. 8	853	156	130	153
Leighton, Charles E. (See Duesterwald, Frank, assignor.)						
Leue, Georg, Berlin, Germany. Chute for endless-rope transporting appliances	867,884	Oct. 8	853	156	130	153
Lewis, Bennett F., Longview, Tex. Collapsible crate	867,735	Oct. 8	769	215	130	1587
Lindsay, James W., Riverside, Cal. Combined lock and latch	867,899	Oct. 8	1015	269	130	1643
Lynn, George W., Detroit, Mich. Capping apparatus	867,885	Oct. 8	854	157	130	1505
Mandeville, Williams H., Bluffton, Ind. Steering-wheel muff	867,900	Oct. 8	1016	290	130	1643
Mankedick, Charles, Sullivan, Ind. Reinforced concrete structure	867,736	Oct. 8	770	216	130	1587
Marbach, Frank G., assignor to A. I. Root Co., Medina, Ohio. Beehive	867,665	Oct. 8	667	186	130	1636
Marter, Cæsar, London, England. Hard-rubber substitute and making the same	867,821	Oct. 8	1019	291	130	1644
Martin, Charles B., assignor of one-tenth to J. F. Kennedy, Portland, Oreg. Automatic egg-boiler	867,737	Oct. 8	770	.....	130	1588
Martin, Ralph E., Davenport, Iowa. Display-rack	867,921	Oct. 8	1073	304	130	1661
Mason, Willard E., Burnside, Conn. Type-writing machine	867,738	Oct. 8	771	216–17	130	1588
Maus, Frederick P., assignor of one-half to C. W. Mouch, Newcastle, Ind. D-handle	867,666	Oct. 8	668	189	130	1636
Mayberry, Frank E., Medford, assignor to Boston Telephone Selector Company, Boston, Mass. Telephone system	867,667	Oct. 8	668	189	130	1636
McCabe, James B., Buffalo, N. Y. Magnetic separator	867,822	Oct. 8	1020	291–2	130	1644
McCarty, Francis J., deceased; H. A. McCarty, administrator, assignor to McCarty Wireless Telephone Co., San Francisco, Cal. Wireless transmission of sonorous vibrations	867,744	Oct. 8	781	219	130	1571
McCarty, Francis J., deceased; H. A. McCarty, administrator, assignor to McCarty Wireless Telephone Co., San Francisco, Cal. Wireless transmission of sonorous vibrations	867,895	Oct. 8	1031	293	130	1647
McCarty, Henry A., administrator. (See McCarty, Francis J.)	867,896	Oct. 8	1032	293	130	1647
McCarty Wireless Telephone Company. (See McCarty, Francis J., assignor.)						
McCaskey Register Company. (See Stevens, Ansel, assignor.)						
McClure, Pattison F., Pierre, S. D. Smoking-pipe	867,926	Oct. 8	920	262	130	1614
McCulloch, John H., Newville, Pa. Inhaler	867,827	Oct. 8	921	263	130	1614
McElroy, Karl P. (See Ellis and McElroy.)						
McGill, George W., Enid, Okla. Ter. Traction-machine	867,828	Oct. 8	921	263	130	1615
McIvor, Daniel, Crookston, Minn. Threshing-machine feeder	867,829	Oct. 8	923	263	130	1615
McLeod, John H., La Salle, Ill. Automatic weighing-machine	867,745	Oct. 8	783	220–2	130	1572
McMann, Margaret H., New York, N. Y. Dress-shield	867,930	Oct. 8	925	264	130	1615
McQuarrie, James L., Oak Park, assignor to Western Electric Company, Chicago, Ill. Coin-collector	867,746	Oct. 8	787	222–3	130	1573
Merritt, Charles, Pomeroy, Ohio. Conveyer system	867,739	Oct. 8	773	217	130	1588
Metcalf, William B., Auburn, Nebr. Corn harvesting and husking machine	867,893	Oct. 8	1025	292	130	1645
Miller, Frank B., assignor to Union Cutlery & Hardware Company, Unionville, Conn. Try-square	867,922	Oct. 8	1075	304	130	1661
Miller, John L., Paulsboro, N. J. Motor and other cycle	867,668	Oct. 8	669	189	130	1637
Miller, Sidney W., Chicago, Ill. Apparatus for emptying liquid-tanks	867,669	Oct. 8	670	189–90	130	1637
Mills Automatic Press Company. (See Beale, Samuel C., assignor.)						
Mills, Francis A., Lawrence, Mass. Loom-shuttle	867,740	Oct. 8	775	218	130	1589
Mills, William A., Port Chester, N. Y. Gas-range	867,741	Oct. 8	776	218	130	1589
Mills Woven Cartridge Belt Company. (See Stiles, Wallace C., assignor.)						
Moesinger, Traugott, Brooklyn, N. Y. Cigar-machine	867,825	Oct. 8	916	260–2	130	1613
Moore, Edward C., Philadelphia, Pa. Go-cart	867,894	Oct. 8	1029	293	130	1646
Moore, Edward J., Cleveland, Ohio. Liquid-distributing means	867,586	Oct. 8	555	157	130	1504
Moore, Edward J., Cleveland, Ohio. Combination valve and meter	867,587	Oct. 8	556	157	130	1504
Morison, Donald B., Hartlepool, England. Apparatus for separating oil and water from steam	867,742	Oct. 8	778	218–19	130	1570
Morrison, Montford P., Atlanta, Ga. Rim and tire construction for vehicle-wheels	867,588	Oct. 8	556	157	130	1504
Morse Iron Works. (See Morse, Thomas G., assignor.)						
Morse, Thomas G., assignor to Morse Iron Works, Erie, Pa. Tapping mechanism	867,923	Oct. 8	1076	305	130	1662
Motherwell, David M., Chicago, Ill., assignor to Whitman & Barnes Manufacturing Company, Akron, Ohio. Hay-carrier	867,589	Oct. 8	880	158–9	130	1505
Mouch, Charles W. (See Maus, Frederick P., assignor.)						
Murdock, Henry D., New York, N. Y. Plug-in switch	867,743	Oct. 8	780	219	130	1571
Nathan, Arthur Charlottenburg, Germany. Locking device for carriage-doors	867,747	Oct. 8	788	222–4	130	1574

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Nathan, Leopold, Zurich, Switzerland. Sterilizing closed vessels	867,831	Oct. 8	926	264	130	1616
Needham, Thomas A., Everett, Mass. Printing-press	867,897	Oct. 8	1033	294	130	1648
Nelson, Andrew M., Chicago, Ill. Ash-sifter	867,670	Oct. 8	674	170	130	1638
Nelson, Elmer, Deer Lodge, Mont. Reed-protector for wind instruments	867,832	Oct. 8	927	264	130	1616
Nenninger, Oscar A., El Paso, Tex. Condenser	867,833	Oct. 8	928	265	130	1616
Nenreuther, Andrew H., Peru, assignor to Western Clock Manufacturing Company, La Salle, Ill. Disk-feeding machine	867,834	Oct. 8	929	265	130	1617
New Jersey Patent Company. (See Herman, Alexander N., assignor.)						
Nerton, William B., Detroit, Mich. Mechanical movement	867,748	Oct. 8	791	224	130	1574
Novelty Incandescent Lamp Company. (See Auclair, James E., assignor.)						
Noyes, La Verne W., Chicago, Ill. Tie-rod	867,749	Oct. 8	792	224	130	1575
Oakman, Richard N., Brooklyn, N. Y. Incandescent gas-burner	867,590	Oct. 8	563	159	130	1506
Oakman, Richard N., Brooklyn, N. Y. Pneumatic valve-controlling apparatus for gas-burners	867,591	Oct. 8	565	160	130	1507
Ohmer, Wilfred I., assignor to Recording and Computing Machines Company, Dayton, Ohio. Fare-register	867,592	Oct. 8	567	160–1	130	1507
Oslas, Orange O., and J. Hopkinson, assignors to Computing Scale Company, Dayton, Ohio. Computing-scale	867,671	Oct. 8	675	190–1	130	1638
Page, George S., assignor to Crucible Steel Company of America, Pittsburg, Pa. Treating pig-iron	867,593	Oct. 8	570	.....	130	1507
Parker Brothers. (See Parker, George S., assignor.)						
Parker, George S., assignor to Parker Brothers, Salem, Mass. Game apparatus	867,935	Oct. 8	1094	308	130	1667
Parker-Smith, Augustus, New York, N. Y., assignor to Atlas Slack Adjuster Company. Slack-adjuster	867,672	Oct. 8	676	191	130	1639
Paulson, Martin, assignor to J. L. Kaley and E. S. Stotts, Omaha, Nebr. Wheel clamp or anchor	867,594	Oct. 8	571	161	130	1508
Pearce, Alexander C., Baton Rouge, La. Venting-tool	867,673	Oct. 8	678	191	130	1640
Pelton Water Wheel Co. (See Haeberlein, Max, assignor.)						
Perfect Sliding Door Company. (See Egge, Frederick, assignor.)						
Perfect Sliding Door Company. (See Schuiyer, Daniel, assignor.)						
Pervenko, Wassily, St. Petersburg, Russia. Locomotive-truck	867,835	Oct. 8	930	265	130	1617
Peterson, Ole, Duluth, Minn. Propeller	867,595	Oct. 8	573	161	130	1508
Pettit, Silas W. (See Waddell, Montgomary, assignor.)						
Pfaghar, Frank P., assignor to F. P. Pfaghar & Son, New Haven, Conn. Button	867,924	Oct. 8	1077	305	130	1662
Pfaghar & Son, F. P. (See Pfaghar, Frank P., assignor.)						
Pfeghardt, Lewis H., Fayette City, Pa. Curtain-pole	867,750	Oct. 8	793	224	130	1575
Phelps, Josepa E., Woonsocket, R. I. Combination organ stop-action	867,751	Oct. 8	794	225	130	1575
Phillips, John H., Jr., Jackson, Mich. Pipe or hose coupling	867,752	Oct. 8	798	225–6	130	1576
Pick, Friedrich, Vienna, Austria-Hungary. Warp stop-motion for looms for weaving	867,596	Oct. 8	574	162	130	1508
Pierman, Alexander N., Newark, assignor to New Jersey Patent Company, West Orange, N. J. Friction reproducing attachment for phonographs	867,597	Oct. 8	576	162–3	130	1509
Pomeroy, Silas H., New Rochelle, N. Y. Fireproof window	867,925	Oct. 8	1078	305	130	1662
Potter, William M., assignor to E. C. Stearns & Company, Syracuse, N. Y. Saw-filing device	867,926	Oct. 8	1080	306	130	1663
Potter, William M., assignor to E. C. Stearns & Company, Syracuse, N. Y. Miter-box	867,927	Oct. 8	1081	306	130	1663
Prescott Prism Plate Glass Company. (See Wadsworth, Frank L. O., assignor.)						
Pulsifer, James P., *et al.* (See Johns, Frank J., assignor.)						
Quincy, Manchester, Sargent Company. (See Cotton, Howard W., assignor.)						
Reiss-Sattley Company. (See Weaver, Ira A., assignor.)						
Rado, Louis, and D. Kerekes, Branford, Conn. Car-coupling	867,753	Oct. 8	802	226	130	1579
Rahm, Philip, New Orleans, La., assignor of one-half to C. Reymershoffer, Galveston, Tex. Domestic boiler	867,598	Oct. 8	577	163	130	1510
Rand, James H., Newtonsville, Mass. Assorting device	867,599	Oct. 8	578	164	130	1510
Randall, Joseph E., Sandpoint, Idaho. Combination truck and step-ladder	867,754	Oct. 8	803	226	130	1579
Ray, Albert D., Cleveland, Ohio. Vehicle-tire	867,600	Oct. 8	579	164	130	1510
Raymond, Walter I. (See Watt, Robert T., assignor.)						
Rahm, Frederick E., Green Ridge, Mo. Igniter for internal-combustion engines	867,755	Oct. 8	804	227	130	1579
Recording and Computing Machines Company. (See Ohmer, Wilfred I., assignor.)						
Revell, Roland, West Hampstead, London, assignor to T. K. Barnard, Stroud, England. Trumpet or horn of sound-reproducing instruments	867,836	Oct. 8	931	266	130	1617
Reymershoffer, Charles. (See Rahm, Philip, assignor.)						
Reymershoffer, Charles	867,601	Oct. 8	579	164	130	1510
Rice, Moses, Philadelphia, Pa. Preparing stalks of grain for forming sheaves	867,602	Oct. 8	580	164–5	130	1511
Richards, Francis H., Hartford, Conn. Carving-machine	867,603	Oct. 8	582	165	130	1511
Richardson, William L., Salt Lake City, Utah. Trace-holder	867,674	Oct. 8	679	192	130	1640
Roberts, Lyman R., Detroit, Mich. Type-writer						
Robertson, Norman A. (See Hoopes and Robertson.)						
Robinson, Robert B., and E. V. Bates, assignors to Bates and Robinson Machine Company, Lowell, Mass. Carding-machine	867,837	Oct. 8	932	266	130	1618
Rock, Jacob W., Akron, Ohio. Elastic tire	867,756	Oct. 8	805	227	130	1579
Rockey, James R., Colorado Springs, Colo. Stove	867,838	Oct. 8	933	266	130	1618
Rothe, William F., East St. Louis, Ill. Carbureter	867,604	Oct. 8	583	166	130	1512
Rothe, William F., East St. Louis, Ill. Fuel-valve controller for hydrocarbon-engines	867,605	Oct. 8	584	166	130	1512
Röcker, Karl, assignor to Deutsche Conservierungs-Gesellschaft für Nahrungs-und Genussmittel mit beschränkter Haftung, Berlin, Germany. Pitch substitute and making the same	867,757	Oct. 8	805	.....	130	1580
Salmon, Samuel W., Mineral Point, Wis. Automatic draft-regulator	867,839	Oct. 8	933	267	130	1618
Sandford, Frank A., Adams, Mass. Electric stop-motion	867,758	Oct. 8	806	227	130	1580
Sandlas, John H., and J. W. Darley, Jr., assignors to William Knabe & Company Manufacturing Company of Baltimore City, Baltimore, Md. Autopneumatic grand piano	867,840	Oct. 8	935	267	130	1619
Sapp, Isaac H., Oakland, Cal. Drumhead	867,675	Oct. 8	679	192	130	1640
Saunders, Crockett I., Fowler, S. C. Fence	867,759	Oct. 8	807	228	130	1580
Sauvage, William H., assignor, by mesne assignments, to Atlas Slack Adjuster Company, New York, N. Y. Slack-adjuster	867,676	Oct. 8	680	192–3	130	1641
Sauvage, William H., assignor, by mesne assignments, to Atlas Slack Adjuster Company, New York, N. Y. Slack-adjuster	867,677	Oct. 8	684	193	130	1642
Sauvage, William H., assignor, by mesne assignments, to Atlas Slack Adjuster Company, New York, N. Y. Slack-adjuster	867,678	Oct. 8	686	193	130	1643
Savidge, John H., Bloomington, Ill. Puzzle	867,841	Oct. 8	936	267	130	1619
Sawyer, Ernest A. Chiltonville, Mass. Kettle-cover knob	867,842	Oct. 8	936	267	130	1619
Sawyer, Ezra H., Vineland, N. J., assignor to Burt Machine Company. Machine for applying identification-marks to cans	867,928	Oct. 8	1081	306	130	1663
Sayre Scissors and Shears Company. (See Sayre, Thomas S., assignor.)						
Sayre, Thomas S., assignor to Sayre Scissors and Shears Company, Cape May, N. J. Scissors or shears	867,607	Oct. 8	585	166	130	1512
Schang, Michael, Pittsburg, Pa. Pipe-hanger	867,760	Oct. 8	808	228	130	1581
Schmidt, Albrecht, and W. Bertram, assignors to Farbwerke, vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Red-violet vat-dye and making same	867,679	Oct. 8	687	.....	130	1643
Schmidt, Henry W., New York, N. Y. Water-current motor	867,843	Oct. 8	937	268	130	1619
Schmidt, Jean, Frankfort-on-the-Main, Germany. Photographer's car	867,608	Oct. 8	586	167	130	1513
Schneider, Berthold, Berlin, Germany. Fare-indicator	867,609	Oct. 8	587	167	130	1513

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Schnitz, Alva L., Pocohontas, Iowa. Manifolding sales-book	867,639	Oct. 8	699	168	130	1624
Schulz, Richard, Berlin, Germany. Steam-turbine	867,811	Oct. 8	880	168-9	130	1654
Schuyler, Daniel, San Diego, assignor to Perfect Sliding Door Company, Los Angeles, Cal. Door-hanger and roller-support for edgewise-movable doors	867,689	Oct. 8	688	169	130	1636
Scragg, George H., New York, assignor to L. P. Smith, Piermont, N. Y. Return mailing-card	867,813	Oct. 8	896	169	130	1654
Seaburg, Edward A., Seattle, Wash. Slicing-machine	867,644	Oct. 8	949	268-9	130	1638
Seaton, Benjamin C., St. Louis, Mo. Wheel	867,814	Oct. 8	897	170	130	1654
Selg, Otto, New York, N. Y. Fan	867,689	Oct. 8	888	194	130	1646
Serpek, Ottokar, Madulein, Switzerland. Producing aluminum nitrids	867,815	Oct. 8	897	170	130	1654
Skinner, Stephen G., Chicago, Ill. Pump	867,689	Oct. 8	888	170	130	1636
Smith, Arlan E., Bridgeport, W. Va. Ratchet-wrench	867,645	Oct. 8	949	269	130	1638
Smith, Charles, South Croydon, England. Automatic fire-alarm	867,691	Oct. 8	888	194	130	1646
Smith, Eldridge J., deceased, assignor, by mesne assignments, to American Dairy Supply Co., Augusta, Me., and Washington, D. C. Jar-cap. (Reissue)	13,701	Oct. 8	1026	269	130	1637
Smith, Harris C., New York, N. Y. Thermo-electric controlling mechanism	867,646	Oct. 8	944	269	130	1638
Smith, James D. (See Spaulding and Smith.)						
Smith, Lyndon P. (See Scragg, George H., assignor.)						
Smith, William R., assignor to Buffalo Leather Co., Buffalo, N. Y. Apparatus for treating skins	867,647	Oct. 8	946	269	130	1638
Smith, William R., assignor to Buffalo Leather Co., Buffalo, N. Y. Apparatus for drying skins, &c	867,648	Oct. 8	947	270	130	1638
Society of Chemical Industry in Basle. (See Engi, Gadient, assignor.)						
Solomon, Abraham, New York, N. Y. Marking-gage	867,701	Oct. 8	899	226	130	1654
Spaulding, Franklin, and J. D. Smith, Chicago, Ill., assignors of one-third to Chicago Film Exchange. Kinetoscope	867,682	Oct. 8	920	194	130	1644
Sproat, Emma A., Waynesburg, Pa. Lard-press	867,702	Oct. 8	899	226	130	1654
Steele, Joseph A., *et al.* (See Horn, Emil, assignor.)						
Stevens, Ansel, Westbrook, Me., assignor to McCaskey Register Company, Alliance, Ohio. Credit-accounting appliance	867,817	Oct. 8	899	170	130	1654
Stewart, Austin H., Nashville, Tenn. Space electromechanical synchronizing means	867,650	Oct. 8	1005	294-6	130	1640
Stiles, Wallace C., West Boylston, assignor to Mills Woven Cartridge Belt Company, Worcester, Mass. Snap-fastener	867,680	Oct. 8	1023	307	130	1638
Still, William J., Ealing, England. Manufacture of tubes	867,703	Oct. 8	911	229	130	1654
Stoker, Robert H., Houston, Ohio. Pump	867,849	Oct. 8	949	270-1	130	1652
Stoll, Heinrich, Jr., Reutlingen, Germany. Circular independent-needle knitting-machine	867,704	Oct. 8	913	229-31	130	1654
Stone, George. (See Bellmaine, William H., assignor.)						
Stotts, Eliza S., *et al.* (See Paulson, Martin, assignor.)						
Stretch, William M., Mount Vernon, N. Y. Card-index system	867,818	Oct. 8	899	110	130	1654
Stretch, William M., Mount Vernon, N. Y. Card-index system	867,820	Oct. 8	1023	307	130	1654
Strickler, William M., Chicago, Ill. Automatic steering mechanism for vehicles	867,705	Oct. 8	915	232	130	1638
Strnad, Ferdinand, Schmargendorf, Germany. Self-acting valve for compressors and the like	867,819	Oct. 8	896	171	130	1639
Sturgis, Herbert M., Kansas City, Mo. Curtain-fixture	867,820	Oct. 8	951	272	130	1652
Sullivan, George G., Buffalo, N. Y. Automobile-tire	867,821	Oct. 8	951	272	130	1652
Sussman, Charles J., New York, N. Y. Ash-can	867,650	Oct. 8	899	196	130	1646
Sweet, Edward J. (See Johnson, William H., assignor.)						
Switzer, George F. (See Switzer, George W. and G. F.)						
Switzer, George W. and G. F., assignors of one-third to H. G. Campbell, Salisbury, N. C. Device for laying concrete pavements	867,822	Oct. 8	953	272	130	1652
Taft, Walter L. (See Taft and Verdin, assignors.)						
Taft, Walter L., Cincinnati, and A. N. Verdin, Glendale, assignors to W. L. Taft, Cincinnati, Ohio. Floor-surfacing machine	867,820	Oct. 8	906	171-2	130	1639
Tannehill, John F., Walnut Grove, Ill. Drinking-fountain	867,651	Oct. 8	899	172	130	1639
Taylor, David W., Washington, D. C. Screw-propeller	867,823	Oct. 8	954	273	130	1652
Taylor, James L., Bloomfield, N. J. Screw-clamp	867,652	Oct. 8	899	172	130	1639
Thomas, Frank W., Toledo, Ohio. Printed-sheet-receiving table for printing-presses	867,824	Oct. 8	899	196	130	1646
Thompson, Frank M. (See Clark, James H., assignor.)						
Thompson, Percy. (See Gerard, Léon, assignor.)						
Thorp, Thomas, Whitefield, near Manchester, England. Rotary gas-meter	867,706	Oct. 8	916	262	130	1639
Thorp, Thomas, Whitefield, near Manchester, England. Rotary gas-meter	867,654	Oct. 8	905	273-4	130	1654
Thorp, Thomas, Whitefield, near Manchester, England. Apparatus for obtaining a uniform rate of flow of gases in pipe-conduits	867,655	Oct. 8	900	274	130	1655
Thorsen, Theodore M., Camden, N. J. Firearm	867,825	Oct. 8	899	196	130	1646
Tobin, Edward M., Barre, Vt. Pneumatic tool	867,826	Oct. 8	961	274-5	130	1655
Tripp, Benjamin F., assignor of one-half to D. G. Langlands, Medford, Mass. Rowlock	867,656	Oct. 8	897	196	130	1646
Trout, Hiram B., Shelbyville, Ill. Baling-press	867,707	Oct. 8	918	233	130	1654
Turney, William S., Greensburg, Pa. Heater	867,708	Oct. 8	920	234	130	1654
Tutwiler, Carrington C. (See Bond and Tutwiler.)						
Underwood, Loring, Belmont, Mass. Pipe	867,709	Oct. 8	921	234	130	1654
Union Cutlery & Hardware Company. (See Miller, Frank B., assignor.)						
United Gas Improvement Company. (See Bond and Tutwiler, assignors.)						
Utica Heating Company. (See Waldron, Michael D., assignor.)						
Van der Voort, Hermenia, Toronto, Ontario, Canada. Grater	867,657	Oct. 8	8	196	130	1547
Verdin, Alois N. (See Taft and Verdin.)						
Vogt, Walter J. (See Fornander, Alfred, assignor.)						
Waddell, Montgomery, New York, N. Y., assignor to S. W. Pettit, Philadelphia, Pa. Machine for twisting together the filaments of a thread of artificial silk	867,828	Oct. 8	911	173	130	1321
Wade, James F., Quincy, Ill. Washing-machine	867,770	Oct. 8	921	234	130	1535
Wadsworth, Frank L. O., Morgantown, W. Va., assignor to Pressed Prism Plate Glass Company, New York, N. Y. Manufacture of glass having surface projections	867,921	Oct. 8	1023	307	130	1644
Waldron, Michael D. assignor of two-thirds to Utica Heater Company, Utica, N. Y. Core-supporting frame	867,658	Oct. 8	899	196	130	1547
Walker, James R., *et al.* (See Willson, Mendal W., assignor.)						
Wallace, Emily H. L., London, England. Dress-case	867,771	Oct. 8	933	235	130	1535
Walls, James W., Morley, Colo. Automatic car-replacer	867,857	Oct. 8	963	275	130	1639
Warthen, Harry J., Washington, D. C. Switch-box	867,772	Oct. 8	899	226	130	1535
Watt, Robert T., Laurel Springs, assignor of one-half to W. I. Raymond, Collingswood, N. J. Electroller-hanger	867,894	Oct. 8	913	173	130	1321
Weaver, Alfred D., and J. E. Carney, Montgomery, Ala.; said Weaver assignor to said Carney. Attachment for talking-machines	867,895	Oct. 8	904	275	130	1639
Weaver, Ira A., assignor to Racine-Sattley Company, Springfield, Ill. Planter	867,773	Oct. 8	894	225-6	130	1535
Weeks, John, assignor of one-half to H. C. Dudgeon, Locust Valley, N. Y. Force-pump and similar apparatus	867,895	Oct. 8	914	173-4	130	1321
Weinat, Edmond M. J., and J. Bogey, assignors, by mesne assignments, of three-fourths to A. A. Brock, Chicago, Ill. Carbureter	867,902	Oct. 8	1027	307	130	1645
Weir, William, Glasgow, Scotland. Valve for direct-acting steam-pumps	867,660	Oct. 8	905	275	130	1627
	867,774	Oct. 8	899	233-7	130	1535

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Weiss, Herman, New York, N. Y. Suspender-end	867,880	Oct. 8	967	276	130	1627
Wenig, John, Mount Pleasant, Mich. Fire-escape	867,689	Oct. 8	700	196	130	1547
Western Clock Manufacturing Company. (See Bindschedler, Theodore S., assignor.)						
Western Clock Manufacturing Company. (See Neuenuther, Andrew H., assignor.)						
Western Electric Company. (See Craft, Edward B., assignor.)						
Western Electric Company. (See McCarrie, James L., assignor.)						
Western Union Telegraph Company. (See Barclay, John C., assignor.)						
Westlund, William F., Washington, Pa. Knobbing-furnace	867,861	Oct. 8	968	277	130	1627
White, Richard D., Washington, D. C. Apparatus for instructing gun-layers in pointing guns	867,862	Oct. 8	969	277-9	130	1628
Whitman & Barnes Manufacturing Company. (See Motherwell, David M., assignor.)						
Whitmer, Ira B. (See Fry, John L., assignor.)						
Whitmore, Charles E., Chicago, Ill. Elevator	867,660	Oct. 8	702	197	130	1548
Wilhelm, Gustaf E., New York, N. Y. Lock for elevator-doors	867,626	Oct. 8	616	174	130	1622
Wilson, Ernest G., Hartford, Conn., assignor to Connecticut Telephone and Electric Company, Incorporated. Telephone and apparatus	867,627	Oct. 8	617	174	130	1623
Wilson Kneble & Company Manufacturing Company of Baltimore City. (See Sandlas and Darley, assignors.)	867,691	Oct. 8	703	197	130	1548
Williams, John P., [illegible], Ohio. Garment-hanger	867,628	Oct. 8	618	174	130	1623
Williamson, Ell H., Buffalo, N. Y. Pipe-coupling	867,863	Oct. 8	974	278	130	1630
Willson, Mendal W., assignor of two-thirds to J. H. Walker and L. P. Leathers, St. Louis, Mo. Electric water-heater	867,629	Oct. 8	620	175	130	1624
Winn, Neal L., Polo, Ill. Wire-holder	867,775	Oct. 8	828	237	130	1657
Witt, George C., Cincinnati, Ohio. Hinge	867,630	Oct. 8	620	175	130	1624
Wood, William A., Davis township, Schoolcraft County, Mich. Cant-hook	867,864	Oct. 8	975	279	130	1631
Woodworth, George E. (See De Forest, Lee, assignor.)	867,865	Oct. 8	976	279	130	1631
Wright, Frank G., New York, N. Y. Garment-fastener						
Yeakel, August A., Roberts, Ill. Harrow attachment for cultivators						

DESIGNS.

Name, residence, and design.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Crowell, Gilbert L., Jr., Arlington, N. J., assignor to Dominick & Haff, New York, N. Y. Handle for spoons, forks, or similar articles	38,845	Oct. 8	130	1666
Curry, Joseph J., Philadelphia, Pa. Knitted fabric	38,856	Oct. 8	130	1670
Curtis, Augustus D., Chicago, Ill. Electric-light reflector	38,854	Oct. 8	130	1670
Dominick & Haff. (See Crowell, Gilbert L., Jr., assignor.)				
Hamer, Leopold, assignor to Samstag & Hilder Bros., New York, N. Y. Hand-bag	38,853	Oct. 8	130	1670
Keystone Type Foundry. (See Smith, Charles W., assignor.)				
Mandabach, Peter A., Columbus, Ohio. Badge	38,844	Oct. 8	130	1666
Samstag & Hilder Bros. (See Hamer, Leopold, assignor.)				
Smith, Charles W., assignor to Keystone Type Foundry, Philadelphia, Pa. Font of type	38,855	Oct. 8	130	1670
Straker, Joseph E., Jr., Attleboro, Mass. Handle for spoons, forks, or similar articles	38,846	Oct. 8	130	1669
Wilcox, Joseph, Athol, Mass. Comb	38,847	Oct. 8	130	1669
Wilcox, Joseph, Athol, Mass. Comb	38,848	Oct. 8	130	1669
Wilcox, Joseph, Athol, Mass. Comb	38,849	Oct. 8	130	1669
Wilcox, Joseph, Athol, Mass. Comb	38,850	Oct. 8	130	1669
Wilcox, Joseph, Athol, Mass. Comb	38,851	Oct. 8	130	1669
Wilcox, Joseph, Athol, Mass. Comb	38,852	Oct. 8	130	1669

TRADE-MARKS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
A. Wittnauer Co., New York, N. Y. Watches, parts of watches, and watchcases	65,501	Oct. 8	130	1622
Abner Doble Company, San Francisco, Cal. Certain hand-tools	65,503	Oct. 8	130	1624
Adrot, Léon, New York, N. Y. Metal-polish	65,519	Oct. 8	130	1622
Americus Air Cleaning Company, Milwaukee, Wis. Air cleaning machinery and parts thereof	65,504	Oct. 8	130	1624
American Tobacco Company, New York, N. Y. Chewing and smoking tobacco	65,544	Oct. 8	130	1633
American Tobacco Company, New York, N. Y. Chewing and smoking tobacco	65,545	Oct. 8	130	1633
American Tobacco Company, New York, N. Y. Chewing and smoking tobacco	65,546	Oct. 8	130	1633
Ampere [illegible] Co., New York, N. Y. Electric batteries	65,505	Oct. 8	130	1624
Andrew [illegible] Company, Savannah, Ga. Certain paints and painters' materials	65,581	Oct. 8	130	1624
Antuono, Vi[illegible] L., Tampa, Fla. Cigars, cheroots, and little cigars	65,547	Oct. 8	130	1633
Antuono, Vi[illegible] L., Tampa, Fla. Cigars, cheroots, and little cigars	65,548	Oct. 8	130	1633
Ashton Valve Company, Boston, Mass. Valves	65,468	Oct. 8	130	1621
B. F. Goodrich Company, Akron, Ohio. Certain machinery packing	65,469	Oct. 8	130	1621
B. F. Goodrich Company, Akron, Ohio. Certain machinery packing	65,470	Oct. 8	130	1621
Baker & [illegible], Minneapolis, Minn. Coffee	65,520	Oct. 8	130	1622
Baker [illegible] Company, Evansville, Wis. Windmills	65,506	Oct. 8	130	1624
Baldwin [illegible] Co., Burlington, Vt. Refrigerators	65,521	Oct. 8	130	1622
Borchert, C[illegible] Company. Certain medicine	65,549	Oct. 8	130	1633
Browne, [illegible] W., Washington, D. C. Barbers' antiseptics	65,471	Oct. 8	130	1621
Browne, [illegible] W., Washington, D. C. Disinfectants	65,472	Oct. 8	130	1621
Callard, [illegible] and Fry, Limited, London, England. Bread and biscuits	65,802	Oct. 8	130	1666
Cheney [illegible], South Manchester, Conn. Silk piece goods	65,582	Oct. 8	130	1624
Chisholm & [illegible] Company, Cleveland, Ohio. Hoists	65,607	Oct. 8	130	1624
Climax [illegible] Co., Hopkinsville, Ky. Wheat-fanner	65,522	Oct. 8	130	1622

TRADE-MARKS—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Cole & Co., J. W., Black River Falls, Wis. Salves, soft salves, ointments, and unguents	65,553	Oct. 8	130	1684
Collonoid Company, Leominster, Mass. Comb-polish	65,554	Oct. 8	130	1684
Davis-Bridaham Drug Company, Denver, Colo. Certain medicines	65,550	Oct. 8	130	1683
Davis Chemical Company, Denver, Colo. Cleaning fluid	65,551	Oct. 8	130	1683
Dennie, Frank B., Minneapolis, Minn. Gall-salve	65,523	Oct. 8	130	1682
Donaghue, Patrick, Hartford, Conn. Whisky	65,585	Oct. 8	130	1684
E. and T. Fairbanks and Company, St. Johnsbury, Vt. Weighing-scales	65,542	Oct. 8	130	1683
Eldridge, Willis J., Aurora, Ohio. Cheese	65,524	Oct. 8	130	1682
Eldridge, Willis J., Aurora, Ohio. Cheese	65,525	Oct. 8	130	1682
Electric Service Supplies Co., Philadelphia, Pa. Electric insulating material	65,596	Oct. 8	130	1684
Elhardt Söhne, Aug., Dietmannsried, Germany. Color-setting compound used in dyeing	65,473	Oct. 8	130	1681
Exposition Cotton Mills, Atlanta, Ga. Sheetings and drillings	65,587	Oct. 8	130	1684
Farmers' Fence Co., Morton, Ill. Wire fence	65,474	Oct. 8	130	1681
Flexo Spray Co., New York, N. Y. Flexible metallic sprays	65,475	Oct. 8	130	1681
Forester Grocery Co., Inc., Wilkesboro, N. C. Ginger-ale	65,508	Oct. 8	130	1684
Fraser-Campbell, Evan J., New York, N. Y. Bleached and unbleached cotton piece goods	65,588	Oct. 8	130	1684
Fraser-Campbell, Evan J., New York, N. Y. Bleached and unbleached cotton piece goods	65,589	Oct. 8	130	1684
Fraser-Campbell, Evan J., New York, N. Y. Bleached and unbleached cotton piece goods	65,590	Oct. 8	130	1684
Fulcher, W. C., near Staunton, Va. Rye and Bourbon whiskies	65,591	Oct. 8	130	1684
Goodrich & Sigveland, St. Paul, Minn. Dental tooth-paste	65,543	Oct. 8	130	1683
Grand Union Tea Co., Brooklyn, N. Y. Laundry starch	65,476	Oct. 8	130	1681
Grand Union Tea Co., Brooklyn, N. Y. Flavoring extracts	65,503	Oct. 8	130	1682
Hakka Chemical Company, Boston, Mass. Remedy for catarrh, hay-fever, and colds in the head	65,554	Oct. 8	130	1683
Hall & Woods Co., Lima, Ohio. Winter-wheat flour	65,526	Oct. 8	130	1682
Hana Zono Company, Chicago, Ill. Toilet powders, toilet waters, and perfumes	65,555	Oct. 8	130	1683
Harris & Bro., I. A., New York, N. Y. Rain-coats, coats, waists, and skirts	65,589	Oct. 8	130	1683
Harwood & Son, Geo. S., Boston, Mass. Certain machinery	65,509	Oct. 8	130	1684
Hatton Chemical Company, Denver, Colo. Certain medicine	65,556	Oct. 8	130	1683
Hercules Buggy Co., Evansville, Ind. Buggies, wagons, and carriages	65,610	Oct. 8	130	1684
Herff & Wilding, San Antonio, Tex. Medicinal tonic for anemic conditions	65,557	Oct. 8	130	1683
Hill Manufacturing Company, Lewiston, Me. Woven cotton piece goods	65,592	Oct. 8	130	1684
Hill Manufacturing Company, Lewiston, Me. Woven cotton piece goods	65,593	Oct. 8	130	1684
Hoosier Stove Co., Marion, Ind. Stoves, ranges, and heaters	65,594	Oct. 8	130	1684
Horn, Charles W., Slatington, Pa. Certain medicines	65,558	Oct. 8	130	1683
Hugo Litz Company, New York, N. Y. Remedy for dyspepsia and intestinal disorders	65,564	Oct. 8	130	1683
Indestructible Fibre Company, Massena and New York, N. Y. Pulp-board	65,477	Oct. 8	130	1681
Indestructible Fibre Company, Massena and New York, N. Y. Pulp-board	65,478	Oct. 8	130	1681
Interchangeable Rebate System Company, Denver, Colo. Trading-stamps	65,504	Oct. 8	130	1682
J. H. Rice & Friedmann Co., Milwaukee, Wis. Certain workmen's clothing	65,527	Oct. 8	130	1682
J. W. Butler Paper Co., Chicago, Ill. Writing-paper	65,479	Oct. 8	130	1681
J. W. Butler Paper Co., Chicago, Ill. Writing-paper	65,480	Oct. 8	130	1681
J. W. Butler Paper Co., Chicago, Ill. Writing-paper	65,481	Oct. 8	130	1681
J. W. Butler Paper Co., Chicago, Ill. Writing-paper	65,482	Oct. 8	130	1681
J. W. Butler Paper Co., Chicago, Ill. Writing-paper	65,483	Oct. 8	130	1681
J. W. Butler Paper Co., Chicago, Ill. Writing-paper	65,484	Oct. 8	130	1681
J. W. Butler Paper Co., Chicago, Ill. Writing-paper	65,485	Oct. 8	130	1681
J. W. Butler Paper Co., Chicago, Ill. Writing-paper	65,486	Oct. 8	130	1681
J. W. Butler Paper Co., Chicago, Ill. Writing-paper	65,487	Oct. 8	130	1681
Jackson Company, Nashua, N. H. Cotton piece goods and blankets	65,488	Oct. 8	130	1681
James R. Crompton & Brothers, Limited, Elton Paper Mills, near Bury, England. Certain paper	65,595	Oct. 8	130	1684
Jno. Hy. Andrew & Co. Ld., Sheffield, England. Steel	65,489	Oct. 8	130	1681
Jno. Hy. Andrew & Co. Ld., Sheffield, England. Certain parts of machinery	65,490	Oct. 8	130	1681
John A. Roebling's Sons Co., Trenton, N. J. Certain metal goods	65,611	Oct. 8	130	1685
John A. Roebling's Sons Co., Trenton, N. J. Certain metal goods	65,491	Oct. 8	130	1681
John A. Roebling's Sons Co., Trenton, N. J. Certain wire	65,492	Oct. 8	130	1681
John A. Roebling's Sons Co., Trenton, N. J. Certain wire	65,493	Oct. 8	130	1681
John Bird Company, Rockland, Me. Cream of tartar, bicarbonate of soda, and saleratus	65,528	Oct. 8	130	1682
Jones Dry Goods Co., Kansas City, Mo. Felt mattresses	65,494	Oct. 8	130	1681
Jos. Mayer & Bros., Seattle, Wash. Sterling-silver tableware	65,529	Oct. 8	130	1682
Joseph Junk Brewing Company, Chicago, Ill. Beer	65,560	Oct. 8	130	1683
Kentucky Jeans Clothing Company, Louisville, Ky. Men's and boys' coats, vests, trousers, and overcoats	65,561	Oct. 8	130	1683
Klaas, Max, New York, N. Y. Razors, knives, scissors, and shears	65,562	Oct. 8	130	1683
Koch, Theodore F., St. Paul, Minn. Certain waterproofing compound	65,612	Oct. 8	130	1685
Kool Metal Manufacturing Company, New York, N. Y. Antifriction metals	65,505	Oct. 8	130	1682
Lamson & Hubbard, Boston, Mass. Certain headwear	65,495	Oct. 8	130	1681
Lamson & Hubbard, Boston, Mass. Certain headwear	65,530	Oct. 8	130	1682
Lamson & Hubbard, Boston, Mass. Certain headwear	65,531	Oct. 8	130	1682
Lamson & Hubbard, Boston, Mass. Certain headwear	65,532	Oct. 8	130	1682
Lamson & Hubbard, Boston, Mass. Certain headwear	65,533	Oct. 8	130	1682
Liberty Maccheroni Mfg. Co., Buffalo, N. Y. Macaroni and vermicelli	65,563	Oct. 8	130	1683
Loeser & Co., Frederick, New York, N. Y. Perfumes, toilet waters, and perfumery extracts	65,534	Oct. 8	130	1682
Lord & Taylor, New York, N. Y. Certain brushes and brooms	65,565	Oct. 8	130	1683
M. Werk Co., Cincinnati, Ohio. Soap	65,506	Oct. 8	130	1683
M. Wollstein & Co., Omaha, Nebr. Whisky, brandy, rum, and gin	65,535	Oct. 8	130	1682
M. A. Seed Dry Plate Company, St. Louis, Mo. Photographic dry-plates and films	65,596	Oct. 8	130	1684
Matthaei, Henry, Kansas City, Mo. Bread	65,505	Oct. 8	130	1682
Maxim Hat Works, New York, N. Y. Men's soft and stiff felt hats	65,536	Oct. 8	130	1682
McGee Mercantile Co., Victor, Colo. Teas and coffees	65,507	Oct. 8	130	1682
Menown & Gregory, St. Louis, Mo. Tea	65,508	Oct. 8	130	1682
Middleby Oven Manufacturing Company, Chicago, Ill. Portable bake-ovens	65,537	Oct. 8	130	1682
Mittineague Paper Company, West Springfield, Mass. Certain paper	65,597	Oct. 8	130	1684
Mori, Toshikuni, San Francisco, Cal. Remedy for headaches	65,496	Oct. 8	130	1681
Mori, Toshikuni, San Francisco, Cal. Blood medicine	65,614	Oct. 8	130	1685
Novelty Knitting Co., Albany, N. Y. Certain knitted goods	65,615	Oct. 8	130	1685
Oneida Community Ltd., Oneida and Niagara Falls, N. Y. Animal-traps	65,547	Oct. 8	130	1683
Oneida Community Ltd., Oneida and Niagara Falls, N. Y. Animal-traps	65,497	Oct. 8	130	1681
Orchard & Wilhelm Carpet Co., Omaha, Nebr. Furniture-polish	65,498	Oct. 8	130	1681
Pandora Overall Company, Pandora, Ohio. Boys' and men's overalls, coats, and pants	65,538	Oct. 8	130	1683

TRADE-MARKS—Continued.

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Parham-Matthews Hat Co., Cairo, Ill. Certain hats and caps	65,539	Oct. 8	130	1683
Pennsylvania Rubber Company, Jeannette, Pa. Rubber packing, gaskets, and hose	65,499	Oct. 8	130	1682
Powell Brothers Shoe Company, New York, N. Y. Leather boots, shoes, and slippers	65,509	Oct. 8	130	1682
Republic Metalware Company, Buffalo, N. Y. Fireless cook-stoves	65,569	Oct. 8	130	1683
Roberts, John B. Z., Kansas City, Mo. Amalgam for filling teeth	65,570	Oct. 8	130	1683
Rogow, David I., Worcester, Mass. Wool soles	65,511	Oct. 8	130	1682
Rogow, David I., Worcester, Mass. Wool soles	65,613	Oct. 8	130	1685
Sanderson & Co., Madelia, Minn. Veterinary remedy for external application	65,571	Oct. 8	130	1683
Saranac Glove Company, Littleton, N. H. Leather gloves	65,572	Oct. 8	130	1683
Schandein & Lind, Philadelphia, Pa. Breath-tablets	65,573	Oct. 8	130	1683
Schandein & Lind, Philadelphia, Pa. Breath-tablets	65,574	Oct. 8	138	1684
Sheffield-King Milling Co., Minneapolis, Minn. Wheat-flour	65,512	Oct. 8	130	1682
Sherwin-Williams Co., Cleveland, Ohio. Lacquer or varnish	65,599	Oct. 8	130	1684
Simon & Elting, New York, N. Y. Dry colors and colors in oil	65,600	Oct. 8	130	1684
Société Guerlain, Paris, France. Perfumery and face-tints	65,575	Oct. 8	130	1684
Société Guerlain, Paris, France. Perfumery	65,576	Oct. 8	130	1684
Seltmann, Edward G., New York, N. Y. Tracing-paper	65,500	Oct. 8	130	1682
Sonneneschein, Leopold, Chicago, Ill. Whisky	65,601	Oct. 8	130	1684
Thanos, Louis, Galveston, Tex. Remedy for rheumatism	65,513	Oct. 8	130	1682
Universal Talking Machine Manufacturing Company, New York N. Y., and Newark, N. J. Sound recording or reproducing machines, parts thereof, and records therefor	65,540	Oct. 8	130	1683
Von Bremen, MacMonnies & Co., New York, N. Y. Mushrooms, cepas, jellies, truffles, capers, and ollves	65,514	Oct. 8	130	1682
W. Bingham Company, Cleveland, Ohio. Weighing-scales	65,515	Oct. 8	130	1682
W. Bingham Company, Cleveland, Ohio. Lawn-mowers and grass-catchers therefor	65,616	Oct. 8	130	1685
W. F. Severa Company, Cedar Rapids, Iowa. Certain medicines	65,577	Oct. 8	130	1684
Walker & Co., J. L., Lynn, Mass. Leather boots and shoes	65,516	Oct. 8	130	1682
Wallace & Co., New York, N. Y. Chocolates and candy	65,578	Oct. 8	130	1684
Wallace & Co., New York, N. Y. Chocolates and candy	65,579	Oct. 8	130	1684
Warfield, Pratt Howell Company, Sioux City, Des Moines, and Cedar Rapids, Iowa. Prepared smoking and chewing tobacco	65,517	Oct. 8	130	1682
Wayne County Canning Company, Limited, Marion, N. Y. Canned fruits and vegetables	65,541	Oct. 8	130	1683
Weatherproof Manufacturing Company, St. Louis, Mo. Certain roofing and building materials	65,542	Oct. 8	130	1683
Western Star Mill Company, Salina, Kans. Wheat-flour	65,543	Oct. 8	130	1683
Worden Meeker Co., Incorporated, Oakland, Cal. Paint-oils, varnishes, and japans	65,602	Oct. 8	130	1684
Wunderle, Philip, Philadelphia, Pa. Candy	65,518	Oct. 8	130	1682
Zoscene Manufacturing Company, Tampa, Fla. Fluid detergent	65,580	Oct. 8	130	1684

LABELS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Alonso Rejas Co., Key West, Fla. "Alonso Rejas." (For Cigars)	13,820	Oct. 8	130	1686
Austin, Albert A., Indianapolis, Ind. "Tickle-Chicle Chewing Gum." (For Chewing-Gum)	13,823	Oct. 8	130	1686
Channell, Eliza B., Chicago, Ill. "Jewel Cement." (For a Cement)	13,829	Oct. 8	130	1686
Common Sense Gum Company, Boston, Mass. "Common Sense Cathartic Gum." (For Chewing-Gum)	13,824	Oct. 8	130	1686
Common Sense Gum Company, Boston, Mass. "Listerated Pepsin Gum." (For Chewing-Gum)	13,825	Oct. 8	130	1686
Common Sense Gum Company, Boston, Mass. "Common Sense Cough Gum." (For Chewing-Gum)	13,826	Oct. 8	130	1686
Common Sense Gum Company, Boston, Mass. "Muscle Culture Gum." (For Chewing-Gum)	13,827	Oct. 8	130	1686
G. W. Martin & Bro., New York, N. Y. "Song of the Butter-Maker." (For Butter)	13,822	Oct. 8	130	1686
Scanga, Joseph G., Pittsburg, Pa. "Bigari Scanga." (For Stogies and Cigars)	13,819	Oct. 8	130	1686
Schmidt & Co., New York, N. Y. "La Sano." (For Cigars)	13,818	Oct. 8	130	1686
World Disinfecting & Insecticide Co., Philadelphia, Pa. "Quick Death." (For a Disinfectant and Insecticide)	13,828	Oct. 8	130	1686

PRINTS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
A. W. Erickson Advertising Agency, New York, N. Y. "Keep your Eye on Continentals." (For Tires for Automobiles)	2,134	Oct. 8	130	1686
American Lithographic Co., New York, N. Y. "B. T. Babbitt's 'Best Soap' and '1776' Soap Powder." (For Soap and Powder)	2,132	Oct. 8	130	1686
Cream of Wheat Co., Minneapolis, Minn. "Alaskan Scene." (For a Breakfast Food)	2,127	Oct. 8	130	1685
Cream of Wheat Co., Minneapolis, Minn. "Rural Delivery." (For a Breakfast Food)	2,128	Oct. 8	130	1686
Cream of Wheat Co., Minneapolis, Minn. "Cream of Wheat Blocks." (For a Breakfast Food)	2,129	Oct. 8	130	1686
Cream of Wheat Co., Minneapolis, Minn. "Mother and Child." (For a Breakfast Food)	2,130	Oct. 8	130	1686
Cream of Wheat Co., Minneapolis, Minn. "The Chef and The Turkeys." (For a Breakfast Food)	2,131	Oct. 8	130	1686
Lytton, H. C., Chicago, Ill. "Men's and Boys' Apparel." (For Men's and Boys' Apparel)	2,133	Oct. 8	130	1686

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
A. G. Hyde & Sons, New York, N. Y. Textile fabrics	20,519	Oct. 8	130	1670
American Sanitary Works, New York, N. Y. Earthenware closet-bowls	20,520	Oct. 8	130	1670
Associated Shoe Company, Hartford, Conn. Leather boots, shoes, pumps, sandals, and slippers.	20,522	Oct. 8	130	1670
B. S. Flersheim Mercantile Co., Kansas City, Mo. Whisky, brandy, and gin	20,480	Oct. 8	130	1672
Bentley & Olmsted Company, Des Moines, Iowa. Leather shoes	20,570	Oct. 8	130	1672
Berkele, Henry, New York, N. Y. Razors	20,521	Oct. 8	130	1670
Bianchi, Joe., Toronto, Canada. Animated and moving picture apparatus	20,643-4	Oct. 8	130	1672
Boericke & Tafel, Philadelphia, Pa. Remedies for diseases of the blood, stomach, kidneys, &c.	20,117	Oct. 8	130	1676
Burlingame Chemical Co., Los Angeles, Cal. Remedy for gastric disorders, indigestion, and constipation	17,538	Oct. 8	130	1672
Charles Jacquin et Cie. Inc., New York, N. Y. Bitters	7,942	Oct. 8	130	1671
Charles Jacquin et Cie. Inc., New York, N. Y. Bitters	7,949	Oct. 8	130	1671
Chemische Fabrik von Heyden Aktien-Gesellschaft Radebeul, near Dresden, Germany. Phenol bismuth and tribromophenol bismuth compound	19,881	Oct. 8	130	1672
Class Journal Co., New York, N. Y. Weekly magazine	20,627	Oct. 8	130	1679
Clifton Manufacturing Company, Clifton, S. C. Sheetings, shirtings, and drillings	20,523	Oct. 8	130	1675
Coalite Limited, London, England. Coal, coke, breeze, &c	20,413	Oct. 8	130	1673
Cosby Shoe Co., Incorporated, Lynchburg, Va. Leather boots and shoes	20,568	Oct. 8	130	1677
Davis Chemical Company, Denver, Colo. Remedy for coughs, colds, &c	20,131	Oct. 8	130	1677
De Nederlandsche-Gist & Spiritusfabriek, Delft, Holland. Geneva	11,727	Oct. 8	130	1671
Detmer Woolen Company, New York, N. Y. Cotton and woolen piece goods	20,573	Oct. 8	130	1675
Dewsbury, Alfred, Walsall, England. Bridle-bits, stirrups, and spurs	20,104	Oct. 8	130	1676
Dunham Bros., Brattleboro, Vt. Rubber heels	20,602	Oct. 8	130	1675
Eldridge, Willis J., Aurora, Ohio. Cheese	20,775	Oct. 8	130	1675
Eldridge, Willis J., Aurora, Ohio. Cheese	20,780	Oct. 8	130	1676
Eldridge, Willis J., Aurora, Ohio. Cheese	20,783	Oct. 8	130	1676
Ellendale Milling Company, Ellendale, N. D. Wheat-flour	15,695	Oct. 8	130	1672
Evening Star Newspaper Co., Washington, D. C. Sunday newspaper	20,149	Oct. 8	130	1677
Evening Star Newspaper Co., Washington, D. C. Daily newspaper	20,150	Oct. 8	130	1677
Faber, Eberhard, New York, N. Y. Rubber erasers	20,263	Oct. 8	130	1677
General Storage Battery Co., Boonton, N. J., and New York, N. Y. Storage batteries and plates for same	20,398	Oct. 8	130	1676
George Cutter Co., South Bend, Ind. Insulating cross-arms	21,575	Oct. 8	130	1672
Gloversville Silk Mills, Gloversville, N. Y. Silk gloves	27,576	Oct. 8	130	1673
Goldberg, Samuel, Cleveland, Ohio. Remedy for sleeplessness	20,595	Oct. 8	130	1675
Graham Paper Co., St. Louis, Mo. Printing and writing paper	27,441-2	Oct. 8	130	1673
Graham Paper Co., St. Louis, Mo. Printing and writing paper	27,445-6	Oct. 8	130	1673-4
Graham Paper Co., St. Louis, Mo. Printing and writing paper	27,455	Oct. 8	130	1674
Graham Paper Co., St. Louis, Mo Printing and writing paper	27,457	Oct. 8	130	1674
Graham Paper Co., St. Louis, Mo. Printing and writing paper	27,460	Oct. 8	130	1674
Great Western Wine Co., Chicago, Ill. Wine	20,463-4	Oct. 8	130	1674
H. Mueller Manufacturing Company, Decatur, Ill. Brass and iron pipe-fittings	20,588	Oct. 8	130	1674
Hall & Cummings, St. Louis, Mo. Remedy for disorders of the stomach, liver, and blood	20,589	Oct. 8	130	1679
Hannah & Hogg, Chicago, Ill. Cordials	20,466	Oct. 8	130	1679
Happ Brothers Company, Macon, Ga. Overalls, pants, and denim jackets	20,134	Oct. 8	130	1677
Harris, Hattie E., Newark, N. J. Fruit-butter	20,200	Oct. 8	130	1677
Herrmann & Co., Morris, New York, N. Y. Paris-green	20,599-9	Oct. 8	130	1679-80
Hockaday Paint Company, Wichita, Kans. Enamel, enamel paint and varnish	20,606	Oct. 8	130	1676
Ideal Concrete Machinery Company, South Bend, Ind. Waterproofing-powder for cement and concrete	20,241	Oct. 8	130	1677
J. H. Winchell & Co., Inc., Haverhill, Mass. Leather boots and shoes	20,219	Oct. 8	130	1678
Kingan and Company, Limited, Belfast, Ireland, and Indianapolis, Ind. Cured meats and sausage	20,412	Oct. 8	130	1674
Kingan and Company, Limited, Belfast, Ireland, and Indianapolis, Ind. Meats, lard, and sausage	20,413	Oct. 8	130	1674
Kingan and Company, Limited, Belfast, Ireland, and Indianapolis, Ind. Cured and salted meats	20,415	Oct. 8	130	1674
Kingan and Company, Limited, Belfast, Ireland, and Indianapolis, Ind. Cured meats	20,410	Oct. 8	130	1674
Kingan and Company, Limited, Belfast, Ireland, and Indianapolis, Ind. Meats, lard, and sausage	20,411	Oct. 8	130	1675
Krug & Co., Rheims, France. Champagne-wine	20,635-7	Oct. 8	130	1679
Littlefield & Steere Co., Knoxville, Tenn. Candies	27,132	Oct. 8	130	1673
Loopuyt & Co., P., Schiedam, Holland. Gin	20,300	Oct. 8	130	1673
Lund, George, London, England. Knitted shirts, skirts, and hosiery	12,127	Oct. 8	130	1672
Mathey Bros., Mathez & Co., New York, N. Y. Watches	20,512	Oct. 8	130	1679
Michael, Julius H., Detroit, Mich. Whisky	20,462	Oct. 8	130	1673
Miller & Co., Clifford L., New York, N. Y. Preservative paints	14,208	Oct. 8	130	1672
Miller Drug Co., Polk, Richmond, Va. Dog remedies	20,709	Oct. 8	130	1680
Mount Vernon-Woodberry Cotton Duck Company, Baltimore, Md. Cotton duck	10,486	Oct. 8	130	1671
Newman, Julius C., Cleveland, Ohio. Cigars	20,015	Oct. 8	130	1676
Ogden and Shimer, Middletown, N. Y. Toilet cream	20,712	Oct. 8	130	1680
Pacific Coast Borax Company, Oakland, Cal.; Chicago, Ill., and New York, N. Y. Soap	24,091	Oct. 8	130	1672
Pain, Henry J., New York, N. Y. Fireworks	24,093-5	Oct. 8	130	1672
Paramount Knitting Company, Chicago, Ill. Hosiery	20,337	Oct. 8	130	1678
Sander, Johannes A., Hamburg, Germany. Disinfectant materials	13,894	Oct. 8	130	1673
Schmitz & Co., C., New York, N. Y. Bristles	20,234	Oct. 8	130	1670
Schneider, Alexander M., North Manchester, Ind. Silk and muslin underskirts	20,374	Oct. 8	130	1673
Société Anonyme de la Grande Distillerie E. Cusenier fils aîné & Cie., Paris, France. Absinthe and vermuth	20,126	Oct. 8	130	1673
Standard Sewing Machine Company, Cleveland, Ohio. Sewing-machines and attachments	20,666	Oct. 8	130	1669
Standard Sewing Machine Company, Cleveland, Ohio. Sewing-machines and attachments	20,666-7	Oct. 8	130	1669
Strasburger, Byron L., New York, N. Y. Watches and watch-movements	20,660	Oct. 8	130	1680
Turpin, Henry E., Haywards, Cal. Remedy for coughs and colds of horses and mules	20,651	Oct. 8	130	1670
Union Metallic Cartridge Company, Bridgeport, Conn. Cartridges, caps, and primers	20,173	Oct. 8	130	1677
Union Portland Cement Company, Ogden, Utah. Portland cement	27,362	Oct. 8	130	1673
Wagner, Edward H., New York, N. Y. Stick-fireworks	20,310	Oct. 8	130	1677
Washington Post Company, Washington, D. C. Newspapers	20,668-9	Oct. 8	130	1670
Washington Times Co., Washington, D. C. Daily and Sunday newspaper	20,667	Oct. 8	130	1669
Watkins Packing Co., Odessa, Del. Canned corn and tomatoes	20,151	Oct. 8	130	1677
Watson, William J., Oakland, Cal. Preservative and waterproof paint	20,570	Oct. 8	130	1675
Wicke, Otto, Brooklyn, N. Y. Remedy for dyspepsia and other stomach diseases	27,220	Oct. 8	130	1674
Wilkinson, Lancelot, London, England. Preparation for rendering coal and other such fuel smokeless and more combustible	20,403	Oct. 8	130	1675
Witt, John A., Chicago, Ill. Certain confections	20,624	Oct. 8	130	1675
Wyles, Tom R., Chicago, Ill. Paint and varnish solvents and removers	20,247	Oct. 8	130	1678
	21,736	Oct. 8	130	1673

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED ON THE 8TH DAY OF OCTOBER, 1907.

Invention.	Name.	No.	Date.	Monthly volume. Specification.	Drawing.	Official Gazette. Volume.	Page.
Accounting appliance. Credit-	A. Stevens	867,617	Oct. 8	599	170	130	1516
Acid. Reducing formic	C. Ellis and K. P. McElroy	867,575	Oct. 8	539	153	130	1498
Advertising and illuminating device	J. E. Auclair	867,564	Oct. 8	519	149	130	1491
Alarm:							
See Fire-alarm.							
Aluminium nitride. Producing	O. Serpek	867,615	Oct. 8	597	.....	130	1516
Ash-can	C. J. Sussman	867,683	Oct. 8	692	195	130	1545
Asserting device	J. H. Rand	867,599	Oct. 8	578	164	130	1510
Automobile attachment	H. J. Carr	867,790	Oct. 8	851	243	130	1595
Baling-press	H. B. Trout	867,767	Oct. 8	818	233	130	1584
Barrel-rinser	S. C. O. Berg	867,568	Oct. 8	527	150-1	130	1493
Bed. Extension-	A. C. Hamilton	867,520	Oct. 8	909	258	130	1611
Bed. Hospital-	A. G. Elo	867,712	Oct. 8	737	208-7	130	1569
Bed-rest attachment	E. Elbert	867,647	Oct. 8	644	182	130	1530
Bede. Operating mechanism for portable dump-	G. E. Everett	867,649	Oct. 8	646	183	130	1531
Beehive	W. Beeson	867,636	Oct. 8	629	177-8	130	1526
Beehive	F. G. Marbach	867,891	Oct. 8	1019	291	130	1644
Beehive	L. H. Kessler	867,919	Oct. 8	1071	303-4	130	1660
Beehive	M. Hatzenbuehler	867,721	Oct. 8	746	209-10	130	1562
Belt and appliances therefor. Electric	R. J. Copeland and A. E. Chatterson	867,706	Oct. 8	723	202	130	1554
Binder	J. A. Bried	867,698	Oct. 8	715	200	130	1551
Blue-printing frame							
Board:							
See Washboard.							
Boiler:							
See Domestic boiler. Egg-boiler.							
Bolt:							
See Toggle-bolt.	W. H. Garland	867,815	Oct. 8	904	256	130	1609
Book. Loose-leaf	A. L. Schultz	867,610	Oct. 8	589	168	130	1514
Book. Manifolding sales-	F. E. Clark	867,703	Oct. 8	720	201	130	1554
Bottle-stopper and stoppered bottle	F. E. Clark	867,793	Oct. 8	855	244	130	1596
Bottle-stopper and stoppered bottle							
Box:							
See Journal-box. Switch-box.							
Miter-box.							
Bracket:							
See Shade-bracket.	J. C. Boss	867,872	Oct. 8	995	282	130	1626
Brick-drying apparatus	T. Brennan	867,787	Oct. 8	847	242	130	1594
Broom-holder	B. F. Boyden	867,638	Oct. 8	633	179	130	1527
Buckle. Belt-							
Burner:							
See Gas-burner.	A. W. Ward	867,772	Oct. 8	823	235	130	1585
Butter and analogous substances. Molder and cutter for	F. P. Pfleghar	867,924	Oct. 8	1077	305	130	1662
Button	H. Bostell	867,908	Oct. 8	1056	299	130	1655
Calender-roller	J. P. Hedstrom	867,724	Oct. 8	753	211	130	1563
Cam. Adjustable							
Can:							
See Ash-can.	E. H. Sawyer	867,928	Oct. 8	1081	306	130	1663
Cans. Machine for applying indentifying-marks to	W. A. Wood	867,630	Oct. 8	620	175	130	1524
Cant-hook	O. W. Lynn	867,900	Oct. 8	1016	290	130	1643
Capping apparatus	M. P. Henvis	867,917	Oct. 8	1068	302	130	1659
Car. Convertible railway-	L. Rado and D. Kerakes	867,753	Oct. 8	802	226	130	1579
Car-coupling	M. P. Henvis and D. S. Clark	867,726	Oct. 8	757	212	130	1564
Car. Dumping-	J. Schmidt	867,608	Oct. 8	588	167	130	1513
Car. Photographer's	J. W. Walls	867,857	Oct. 8	963	275	130	1636
Car-replacer. Automatic	A. Fravor	867,718	Oct. 8	743	208	130	1561
Cars. Device for operating air-cocks on air-brake	W. F. Rothe	867,604	Oct. 8	583	166	130	1512
Carburetor	E. M. J. Weinat and J. Bogey	867,869	Oct. 8	905	275	130	1637
Carburetor	R. B. Robinson and E. V. Bates	867,837	Oct. 8	932	266	130	1618
Carding-machine	A. Nathan	867,747	Oct. 8	789	223-4	130	1574
Carriage-door-locking device							
Carrier:							
See Hay-carrier. Rope-carrier.	F. H. Richards	867,602	Oct. 8	580	164-5	130	1511
Carving-machine							
Case:							
See Dress-case. Mortise-case.							
Casting copper. Mold for	F. L. Antisell	867,692	Oct. 8	705	197	130	1549
Castings. Machine for removing gates and risers from	R. O. Jones	867,884	Oct. 8	1009	288	130	1641
Cement-worker's tool	F. W. Grundmann	867,819	Oct. 8	908	268	130	1611
Centrifugal separator	R. F. Cordero	867,800	Oct. 8	875	248	130	1600
Check-holder	W. R. Clark	867,794	Oct. 8	856	244	130	1596

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Drg.	Official Gazette. Vol.	Page.
Chimney-cowl	A. H. Holtzinger	867,681	Oct. 8	1006	287	130	1640
Chute for endless-rope transporting appliances	G. Leue	867,594	Oct. 8	553	156	130	1502
Cigar-machine	T. Moesinger	867,625	Oct. 8	916	260-2	130	1613
Clamp:							
See Screw-clamp. Wheel-clamp.							
Clasp	E. Gutmann	867,655	Oct. 8	654	185	130	1533
Cleaner:							
See Grain-cleaner. Pipe-cleaner.							
Clockwork for recording instruments	F. A. Jones	867,732	Oct. 8	764	214	130	1566
Clothes-drier	T. Ditmanson	867,648	Oct. 8	642	181-2	130	1520
Clothes-washer	I. D. Buck	867,573	Oct. 8	906	283	130	1637
Cock. Gas-	E. L. Claus	867,571	Oct. 8	533	151	130	1496
Cock. Stop and waste	C. S. Frishmuth	867,651	Oct. 8	649	184	130	1531
Coin-collector	E. B. Craft	867,707	Oct. 8	726	202-4	130	1556
Coin-collector	J. L. McQuarrie	867,746	Oct. 8	787	222-3	130	1573
Concrete arches. Reinforcement for	M. A. Abbott	867,776	Oct. 8	829	237	130	1587
Concrete jetty. Reinforced	W. C. Cottrell	867,862	Oct. 8	878	249	130	1608
Concrete pavements. Device for laying	G. W. and G. F. Switzer	867,852	Oct. 8	953	272	130	1622
Concrete step. Reinforced	G. M. Graham	867,819	Oct. 8	906	257	130	1610
Concrete structure. Reinforced	C. Mankedick	867,665	Oct. 8	667	188	130	1536
Condenser	O. A. Nenninger	867,533	Oct. 8	928	264-5	130	1616
Controller. Automatic accelerating-	A. C. Eastwood	867,810	Oct. 8	897	255	130	1607
Controller. Series-parallel	A. C. Eastwood	867,809	Oct. 8	893	253-5	130	1606
Conveyer system	C. Merritt	867,739	Oct. 8	773	217	130	1568
Cooker. Automatic steam-	W. H. Johnson	867,660	Oct. 8	660	186	130	1534
Copy-holder	E. B. Duke	867,606	Oct. 8	802	253	130	1605
Core-supporting frame	M. D. Waldron	867,688	Oct. 8	699	196	130	1547
Core. Wire-barb mold-	F. L. Antisell	867,693	Oct. 8	707	197	130	1549
Cork cutting and tapering machine	J. A. Hellstrom and G. W. Exler	867,822	Oct. 8	912	259	130	1612
Coupling:							
See Car-coupling. Pipe or hose coupling. Pipe-coupling.							
Crate. Collapsible	B. F. Lewis	867,869	Oct. 8	1015	298	130	1643
Cultivator harrow attachment	A. A. Yackee	867,855	Oct. 8	976	279	130	1631
Current motor. Water-	H. W. Schmidt	867,843	Oct. 8	937	268	130	1619
Curtain-fixture	D. E. Bonner	867,589	Oct. 8	528	151	130	1494
Curtain-fixture	H. M. Sturgis	867,850	Oct. 8	951	272	130	1622
Curtain-pole	L. H. Pfleghardt	867,750	Oct. 8	793	224	130	1575
Cycle. Motor and other	J. L. Miller	867,666	Oct. 8	669	189	130	1537
D-handle	F. P. Maus	867,667	Oct. 8	668	189	130	1536
Dehorner	G. Anderson	867,779	Oct. 8	837	239	130	1580
Derrick. Portable	W. C. Booz	867,695	Oct. 8	709	198	130	1550
Disk-feeding machine	A. H. Neureuther	867,834	Oct. 8	929	265	130	1617
Display-rack	R. E. Martin	867,726	Oct. 8	771	216-17	130	1568
Display-rack	F. H. Corwin	867,801	Oct. 8	877	249	130	1632
Diver's helmet	P. Hansen	867,719	Oct. 8	745	209	130	1561
Domestic boiler	P. Rahm	867,598	Oct. 8	577	163	130	1510
Door	F. A. Lang	867,886	Oct. 8	1013	289	130	1642
Door-check	J. V. Edgcomb	867,811	Oct. 8	900	255	130	1608
Door-hanger and roller-support for edgewise-movable doors.	D. Schuyler	867,612	Oct. 8	593	169	130	1515
Draft-regulator. Automatic	S. W. Salmon	867,839	Oct. 8	933	267	130	1618
Draft-rigging	G. L. Harvey	867,720	Oct. 8	745	209	130	1561
Dredging-machine	G. M. Brown	867,786	Oct. 8	848	242	130	1594
Dress-case	E. H. L. Wallace	867,771	Oct. 8	822	235	130	1585
Dress-shield	M. H. McMann	867,830	Oct. 8	925	264	130	1615
Drier:							
See Clothes-drier.							
Drill:							
See Twist-drill.							
Drinking-fountain	J. F. Tannehill	867,621	Oct. 8	609	172	130	1520
Drumhead	I. H. Sapp	867,675	Oct. 8	679	192	130	1540
Dye and making same. Halogenated red vat-	G. Engi	867,715	Oct. 8	740	.....	130	1560
Dye and making same. Red-violet vat-	A. Schmidt and W. Bertram	867,679	Oct. 8	687	.....	130	1543
Dye. Making a halogenated red	G. Engi	867,714	Oct. 8	740	.....	130	1559
Egg-boiler. Automatic	C. B. Martin	867,921	Oct. 8	1073	304	130	1661
Electric conductor	W. Hoopes and N. A. Robertson	867,659	Oct. 8	658	186	130	1534
Electric conductors. Making	W. Hoopes and N. A. Robertson	867,658	Oct. 8	656	186	130	1534
Electric controlling mechanism. Thermo-	H. C. Smith	867,846	Oct. 8	944	269	130	1621
Electrical condenser	L. Gerard	867,579	Oct. 8	547	154	130	1501
Electrolier-hanger	R. T. Watt	867,858	Oct. 8	964	275	130	1626
Elevator-door lock	P. Burnah	867,640	Oct. 8	635	179	130	1528
Engine:	G. R. Wikander	867,626	Oct. 8	615	174	130	1522
See Explosive-engine. Internal-combustion engine. Rotary expansion-engine. Valve for explosive-engines.							
Engine igniter. Internal-combustion-	F. E. Ream	867,755	Oct. 8	804	227	130	1579
Engine igniting means. Explosive-	B. Botkowski	867,606	Oct. 8	710	199	130	1550
Engine regulating apparatus. Internal-combustion-	J. E. Aue	867,565	Oct. 8	520	149-50	130	1491
Engine-starter	C. J. Coleman	867,796	Oct. 8	852	246	130	1598
Engine-starter. Automatic	C. J. Coleman	867,797	Oct. 8	860	247	130	1600
Engines. Automatic stopping device for internal-combustion	C. J. Coleman	867,798	Oct. 8	857	244-5	130	1598
Explosive-engine. Revolving-piston	D. B. Adams	867,800	Oct. 8	1040	296	130	1650
Eyeglasses	A. Bayer	867,783	Oct. 8	830	240	130	1590
Fan	W. L. Breath	867,910	Oct. 8	1059	299	130	1656
Fan and pump-wheel. Centrifugal	O. Selg	867,680	Oct. 8	688	194	130	1543
Fan. Electric	G. M. Capell	867,874	Oct. 8	997	284	130	1637
Fare and distance indicators. Means for operating	F. Diehl and A. F. Becker	867,914	Oct. 8	1062	301	130	1657
Fare-indicator	O. Kuntzen	867,887	Oct. 8	1012	289	130	1642
Fare-register	B. Schneider	867,609	Oct. 8	557	167	130	1513
Faucet-protector	W. I. Ohmer	867,598	Oct. 8	567	160-1	130	1507
Fence	G. H. Körner	867,662	Oct. 8	695	198	130	1535
File-pocket. Vertical	C. I. Saunders	867,739	Oct. 8	807	228	130	1569
Filter	A. Bushnell, Jr.	867,789	Oct. 8	859	243	130	1594
Filters. Packing	G. Knock	867,734	Oct. 8	767	215	130	1568
	G. Knock	867,735	Oct. 8	768	214-15	130	1568

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Drg.	Official Gazette. Vol.	Page.
Fire-alarm. Automatic	C. Smith	867,681	Oct. 8	688	194	130	1544
Fire-escape	J. Wenig	867,669	Oct. 8	700	196	130	1547
Firearm	T. M. Thorsen	867,585	Oct. 8	695	195	130	1545
Fireproof window	S. H. Pomeroy	867,925	Oct. 8	1078	305	130	1662
Floor-surfacing machine	W. L. Taft and A. N. Verdin	867,620	Oct. 8	606	171-2	130	1519
Flooring and making the same	G. H. Bennett	867,637	Oct. 8	632	178	130	1527
Fountain:							
See Drinking-fountain.							
Frame:							
See Blue-printing frame. Core-supporting frame.							
Fuel and making the same. Artificial	D. Drawbaugh and B. E. Gamble	867,915	Oct. 8	1065	.....	130	1658
Furnace:							
See Gas-burning air-heating furnace. Knobbling-furnace. Melting-furnace.							
Furnace	V. W. Blanchard	867,905	Oct. 8	1051	298	130	1653
Gage:							
See Marking-gage.							
Game apparatus	J. B. Fry	867,652	Oct. 8	650	184	130	1532
Game apparatus	G. S. Parker	867,935	Oct. 8	1094	308	130	1667
Game apparatus	F. G. Wright	867,864	Oct. 8	975	279	130	1631
Garment-fastener	J. F. Williams	867,691	Oct. 8	703	197	130	1548
Garment-hanger	R. N. Oakman	867,590	Oct. 8	563	159	130	1506
Gas-burner. Incandescent	R. N. Oakman	867,591	Oct. 8	565	160	130	1507
Gas-burners. Pneumatic valve-controlling apparatus for	V. W. Blanchard	867,906	Oct. 8	1053	298	130	1654
Gas-burning air-heating furnace	C. O. Bond and C. C. Tutwiler	867,907	Oct. 8	1055	299	130	1655
Gas in mains. Means for ascertaining the temperature of illuminating-	T. Thorp	867,766	Oct. 8	816	232	130	1583
Gas-meter. Rotary	T. Thorp	867,854	Oct. 8	958	273-4	130	1624
Gas-meter. Rotary	T. Thorp	867,855	Oct. 8	960	274	130	1625
Gases in pipe-conduits. Apparatus for obtaining a uniform rate of flow of							
Generator:							
See Steam-generator.							
Glass having surface projections. Manufacture of	F. L. O. Wadsworth	867,931	Oct. 8	1086	307	130	1664
Go-cart	E. C. Moore	867,894	Oct. 8	1029	293	130	1646
Governor	C. R. Lanphear	867,664	Oct. 8	665	188	130	1536
Grain cleaner and separator	W. C. Harmon	867,880	Oct. 8	1004	286-7	130	1640
Graphophone sound-reproducer	W. Hart	867,821	Oct. 8	910	259	130	1611
Grate. Tubular	E. Kyllonen	867,582	Oct. 8	552	156	130	1502
Grater	H. Van der Voort	867,687	Oct. 8	698	196	130	1547
Gun-layers in pointing guns. Apparatus for instructing	R. D. White	867,862	Oct. 8	909	277-8	130	1628
Guns. Single-trigger mechanism for double-barreled	O. W. Brenizer	867,697	Oct. 8	711	199-200	130	1551
Handle:							
See D-handle.							
Hanger:							
See Door-hanger. Garment-hanger. Electrolier-hanger. Pipe-hanger.							
Harrow	J. H. Johnson	867,731	Oct. 8	763	214	130	1566
Harvesting and husking machine. Corn	W. B. Metcalf	867,893	Oct. 8	1025	292	130	1645
Hat-guard	A. Fornander	867,814	Oct. 8	903	256	130	1609
Hay-carrier	D. M. Motherwell	867,589	Oct. 8	560	158-9	130	1505
Heat-transferring apparatus	V. Croizat	867,803	Oct. 8	879	249	130	1603
Heater:							
See Water-heater.							
Heater	W. S. Turney	867,768	Oct. 8	820	234	130	1584
Heating device	S. Z. de Ferranti	867,576	Oct. 8	541	153	130	1499
Heel. Boot and shoe	W. F. Bostock	867,909	Oct. 8	1057	299	130	1655
Hinge	G. C. Witt	867,775	Oct. 8	828	237	130	1587
Hinge. Double-acting	J. J. Cowell	867,913	Oct. 8	1061	300	130	1656
Hook:							
See Cant-hook.							
Hook	J. Krimer	867,886	Oct. 8	1011	288	130	1642
Humidifier	C. E. Whitmore	867,600	Oct. 8	702	197	130	1548
Index system. Card-	W. M. Stretch	867,618	Oct. 8	600	170	130	1516
Index system. Card-	W. M. Stretch	867,930	Oct. 8	1083	307	130	1664
Indicator:							
See Fare-indicator							
Induction-coil apparatus	E. C. Wilcox	867,627	Oct. 8	617	174	130	1523
Inhaler	J. H. McCulloch	867,827	Oct. 8	921	263	130	1614
Insulator	J. C. Barclay	867,901	Oct. 8	1046	297	130	1652
Internal-combustion engine	C. H. T. Alston	867,777	Oct. 8	831	238	130	1588
Ironing-table	J. Garret	867,816	Oct. 8	906	257	130	1610
Jack:							
See Lifting-jack.							
Jar-cap	E. J. Smith. (Reissue)	12,701	Oct. 8	1096	309	130	1667
Jars, bottles, and like receptacles. Closure for	M. D. Converse	867,705	Oct. 8	722	202	130	1554
Joint:							
See Rail-joint.							
Journal-box	S. Hicks	867,823	Oct. 8	913	259	130	1612
Kinetoscope	F. Spaulding and J. D. Smith	867,682	Oct. 8	690	194	130	1544
Knitting-machine. Circular independent-needle	H. Stoll, Jr.	867,764	Oct. 8	813	229-31	130	1582
Knob. Kettle-cover	E. A. Sawyer	867,842	Oct. 8	936	267	130	1619
Knobbling-furnace	W. F. Westlund	867,961	Oct. 8	968	277	130	1627
Lamp-shade	W. J. Boesen	867,871	Oct. 8	994	283	130	1636
Lard-press	E. A. Sproat	867,762	Oct. 8	810	228	130	1581
Lathe-tool	W. Collins	867,798	Oct. 8	873	247	130	1601
Lathe-tool and holder	B. A. Hemenway	867,725	Oct. 8	755	211	130	1564
Lifting-jack	G. R. Booth	867,786	Oct. 8	845	241	130	1593
Liquid-distributing means	E. J. Moore	867,586	Oct. 8	555	157	130	1504
Lock:							
See Elevator-door lock. Sash-lock.							
Lock and latch. Combined	J. W. Lindsay	867,585	Oct. 8	554	157	130	1503
Lock-protecting device	F. Duesterwald	867,916	Oct. 8	1066	301	130	1659
Locomotive-cab ventilator	R. Burns	867,701	Oct. 8	719	201	130	1553
Loom-shuttle	F. A. Mills	867,740	Oct. 8	775	218	130	1569
Loom starting and stopping mechanism	G. B. Ambler	867,934	Oct. 8	1090	308	130	1665
Looms for weaving. Warp stop-motion for	F. Pick	867,596	Oct. 8	574	162	130	1508
Magnetic separator	J. B. McCabe	867,744	Oct. 8	781	219	130	1571

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Mail-crane	D. J. Berthold	867,785	Oct. 8	844	241	130	1308
Mailing-card. Return	G. H. Scragg	867,813	Oct. 8	895	169	130	1515
Marking-gage	A. Solomon	867,781	Oct. 8	809	228	130	1581
Measuring-pole. Extensible	J. Edwards	867,813	Oct. 8	901	256	130	1609
Mechanical motion	H. A. Ballard	867,808	Oct. 8	978	280	130	1632
Mechanical movement	W. B. Norton	867,748	Oct. 8	791	224	130	1574
Melting-furnace	T. D. Bausher	867,781	Oct. 8	839	240	130	1280
Meter: *See* Gas-meter.							
Milk, &c. Apparatus for concentrating	C. H. Campbell	867,841	Oct. 8	636	179–80	130	1538
Mines, &c. System for ventilating	G. M. Capell	867,791	Oct. 8	852	243	130	1586
Miter-box	W. M. Potter	867,827	Oct. 8	1081	306	130	1662
Mortise-case	F. Egge	867,574	Oct. 8	837	153	130	1466
Motor: *See* Current-motor. Water-motor. Pneumatic motor.							
Motor	K. F. Erickson	867,648	Oct. 8	645	182–3	130	1530
Organ stop-action. Combination	J. E. Philip	867,781	Oct. 8	794	225	130	1575
Oscillation-detector	L. De Forest	867,676	Oct. 8	1002	265	130	1639
Oscillation-responsive device	L. De Forest	867,676	Oct. 8	1000	265	130	1638
Oscillations. Detecting	L. De Forest	867,677	Oct. 8	1001	265	130	1639
Phonographs. Friction reproducing attachment for	A. N. Pierman	867,597	Oct. 8	576	162–3	130	1509
Piano. Automatic	J. W. Darley, Jr.	867,575	Oct. 8	899	264–5	130	1628
Piano. Autopneumatic grand	J. H. Sandlas and J. W. Darley, Jr.	867,849	Oct. 8	895	267	130	1619
Pig-iron. Treating	G. S. Page	867,893	Oct. 8	870	.....	130	1507
Pipe: *See* Smoking-pipe. T-pipe.							
Pipe	L. Underwood	867,709	Oct. 8	821	234	130	1584
Pipe-cleaner	M. E. Kanaly	867,895	Oct. 8	1010	268	130	1642
Pipe-coupling	E. S. Williamson	867,628	Oct. 8	618	174	130	1523
Pipe-hanger	M. Schang	867,760	Oct. 8	808	228	130	1581
Pipe or hose coupling	J. H. Phillips, Jr.	867,782	Oct. 8	798	225–6	130	1576
Pitch substitute and making the same	K. Rücker	867,787	Oct. 8	805	.....	130	1580
Planter	I. A. Weaver	867,635	Oct. 8	614	172–4	130	1522
Plow	E. J. Ingram	867,893	Oct. 8	1008	267–8	130	1641
Plug-in switch	H. D. Murdock	867,742	Oct. 8	780	219	130	1571
Pneumatic suspension means	J. H. Clark	867,570	Oct. 8	839	151	130	1504
Polishing-machine	P. H. Barz	867,893	Oct. 8	823	175–6	130	1525
Press: *See* Baling-press. Printing-press. Lard-press.							
Printing machine. Automatic plate-	T. R. and J. H. Demery	867,708	Oct. 8	729	204–5	130	1557
Printing-press	J. F. Ames	867,778	Oct. 8	838	238–9	130	1588
Printing-press	T. A. Needham	867,897	Oct. 8	1088	304	130	1648
Printing-press feed and delivery mechanism. Automatic	S. C. Beale	867,634	Oct. 8	635	176–7	130	1536
Printing-presses. Printed-sheet-receiving table for	F. W. Thomas	867,884	Oct. 8	898	196	130	1545
Propeller	O. Peterson	867,885	Oct. 8	573	161	130	1508
Propeller. Screw-	D. W. Taylor	867,883	Oct. 8	864	273	130	1633
Pump	S. G. Skinner	867,816	Oct. 8	888	178	130	1546
Pump	R. H. Stoker	867,849	Oct. 8	949	270–1	130	1622
Pump and similar apparatus. Force-	J. Weeks	867,923	Oct. 8	1037	307	130	1665
Pump valve. Direct-acting steam-	W. Weir	867,774	Oct. 8	838	236–7	130	1588
Puzzle	J. H. Savidge	867,841	Oct. 8	898	267	130	1619
Quilling-machine stop-motion	D. Lawlor	867,824	Oct. 8	915	260	130	1612
Rack: *See* Display-rack. Wardrobe-rack. Table-rack.							
Rail-joint	J. J. Herndon	867,857	Oct. 8	886	188	130	1533
Railway-switch. Electrically-operated	F. J. Johns	867,913	Oct. 8	1069	302–3	130	1660
Rake and baling-press. Combined	P. E. Day	867,895	Oct. 8	881	260–1	130	1604
Range. Gas-	W. A. Mills	867,741	Oct. 8	770	218	130	1569
Ratchet-wrench	A. E. Smith	867,845	Oct. 8	943	269	130	1621
Register: *See* Fare-register.							
Regulator: *See* Draft-regulator.							
Rod: *See* Tie-rod.							
Roller: *See* Calender-roller.							
Rope carrier. Fall-	J. G. Delaney and A. Lambert	867,573	Oct. 8	838	153	130	1497
Rotary expansion-engine	E. Horn	867,851	Oct. 8	880	185	130	1502
Rowlock	B. F. Tripp	867,888	Oct. 8	897	196	130	1546
Rubber overshoe	F. C. Hood	867,892	Oct. 8	1007	267	130	1641
Rubber substitute and making the same. Hard-	C. Marter	867,737	Oct. 8	770	.....	130	1568
Rule	H. Jeffreys	867,720	Oct. 8	768	213	130	1560
Sash-lock	H. Buttress	867,911	Oct. 8	1060	300	130	1658
Saw-filing device	W. M. Potter	867,893	Oct. 8	1060	300	130	1663
Saw-set	W. Carmer	867,703	Oct. 8	824	244	130	1556
Sawing-machine	H. W. Cotton	867,843	Oct. 8	889	180	130	1539
Scale	D. J. Holliger	867,720	Oct. 8	761	213	130	1565
Scale. Computing-	O. O. Ozias and J. Hopkinson	867,871	Oct. 8	873	190–1	130	1539
Scissors or shears	T. S. Sayre	867,697	Oct. 8	835	166	130	1512
Screw-clamp	J. L. Taylor	867,823	Oct. 8	889	173	130	1520
Seal	F. V. Brooks	867,899	Oct. 8	716	200	130	1552
Seal. Bottle-	L. Bartlett	867,898	Oct. 8	1047	297	130	1652
Seal. Bottle-	L. Bartlett	867,898	Oct. 8	1048	297	130	1653
Seal. Bottle-	L. Bartlett	867,894	Oct. 8	1049	298	130	1653
Separator: *See* Centrifugal separator. Magnetic separator.							
Sewing-implement holder	H. A. Lee	867,888	Oct. 8	888	186	130	1503
Shade-bracket	W. A. Bennett	867,869	Oct. 8	999	263	130	1636
Sharpening machine. Saw-tooth-	J. P. Hedstrom	867,723	Oct. 8	740	210–11	130	1563
Sheaves. Preparing stalks of grain for forming	M. Rice	867,881	Oct. 8	879	194	130	1510
Shock-loader	D. W. Kemp	867,893	Oct. 8	1060	187–8	130	1535
Sifter. Ash-	A. M. Nelson	867,888	Oct. 8	888	179	130	1538
Sign. Electric	W. A. F. Becker	867,670	Oct. 8	674	180	130	1528
Skin-treating apparatus	W. R. Smith	867,886	Oct. 8	887	177	130	1621
Skins, &c. Apparatus for drying	W. R. Smith	867,847	Oct. 8	946	269	130	1622
		867,848	Oct. 8	947	270	130	1622

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Slack-adjuster	A. Parker-Smith	867,672	Oct. 8	676	191	130	1539
Slack-adjuster	W. H. Sauvage	867,676	Oct. 8	680	192–3	130	1541
Slack-adjuster	W. H. Sauvage	867,677	Oct. 8	684	193	130	1542
Slack-adjuster	W. H. Sauvage	867,678	Oct. 8	686	193	130	1543
Slicing-machine	E. A. Seaburg	867,844	Oct. 8	940	268–9	130	1620
Small-arm attachment	H. B. Hollifield	867,728	Oct. 8	760	213	130	1565
Smoking-pipe	P. F. McClure	867,826	Oct. 8	920	262	130	1614
Snap-fastener	W. C. Stiles	867,929	Oct. 8	1083	307	130	1667
Sound-reproducing instruments. Trumpet or horn of	R. Revell	867,836	Oct. 8	981	206	130	1613
Spigot. Metal-coated	H. Auchu	867,780	Oct. 8	838	239	130	1590
Splitting-machine	C. Eitle	867,711	Oct. 8	736	205	130	1559
Spoke-tightening device	J. L. Delhomme	867,645	Oct. 8	641	181	130	1529
Spraying apparatus	R. Ditchfield	867,806	Oct. 8	863	251	130	1604
Square. Try-	F. B. Miller	867,922	Oct. 8	1075	304	130	1661
Stackers. Attachment to elbows of wind-	S. W. Erickson	867,716	Oct. 8	741	207–8	130	1560
Stage illusions. Means for producing	H. Geldin	867,879	Oct. 8	1008	266	130	1640
Steam. Apparatus for separating oil and water from	D. B. Morison	867,742	Oct. 8	778	218–19	130	1570
Steam-generator	C. Bakehaus	867,631	Oct. 8	621	175	130	1524
Steam-trap	W. C. Brown	867,700	Oct. 8	717	201	130	1552
Steel. Alloy	J. Churchward	867,642	Oct. 8	637	.....	130	1526
Steering-wheel muff	W. H. Mandeville	867,726	Oct. 8	770	216	130	1567
Stenciling-machine	W. G. Fuerth	867,577	Oct. 8	543	154	130	1469
Sterilizing closed vessels	L. Nathan	867,831	Oct. 8	926	264	130	1616
Stop-motion. Electric	F. A. Sandford	867,758	Oct. 8	806	227	130	1580
Stopper: *See* Bottle-stopper.							
Store-service apparatus	H. J. Davis and P. G. Ault	867,804	Oct. 8	880	250	130	1602
Stove	J. E. Rockey	867,826	Oct. 8	933	266	130	1615
Stove and apparatus for heating air	S. C. Davidson	867,572	Oct. 8	534	152	130	1469
Stove and radiator. Gas	F. De Grauwe	867,644	Oct. 8	641	180–1	130	1529
Surgical-instrument holder	M. P. Hermann	867,727	Oct. 8	758	212	130	1564
Suspender-end	H. Weiss	867,980	Oct. 8	967	276	130	1627
Switch: *See* Plug-in switch. Railway-switch.							
Switch-box	H. J. Warthen	867,624	Oct. 8	613	173	130	1521
Switch safety device. Point-	L. Dunn	867,709	Oct. 8	734	205–6	130	1558
Synchronizing means. Space electromechanical	A. H. Stewart	867,898	Oct. 8	1085	294–6	130	1649
T-pipe	W. H. Bellmaine	867,784	Oct. 8	842	240	130	1582
Table: *See* Ironing-table.							
Table-rack and exhibitor	M. H. Keating	867,661	Oct. 8	662	187	130	1535
Talking-machine attachment	A. D. Weaver and J. E. Carney	867,773	Oct. 8	824	235–6	130	1585
Tank-emptying apparatus. Liquid-	S. W. Miller	867,699	Oct. 8	670	189–90	130	1537
Tape-applying machine	I. Dreyfuss	867,807	Oct. 8	884	251–3	130	1605
Tapping mechanism	T. G. Morse	867,923	Oct. 8	1076	305	130	1662
Telegraph-transmitter	J. C. Barclay	867,900	Oct. 8	1042	296–7	130	1651
Telephone system	F. E. Mayberry	867,892	Oct. 8	1020	291–2	130	1644
Threshing-machine feeder	D. McIvor	867,829	Oct. 8	923	263	130	1615
Tie-rod	L. W. Noyes	867,749	Oct. 8	792	224	130	1575
Tile. Illuminating-	J. B. French	867,650	Oct. 8	648	184	130	1531
Tire. Automobile-	G. G. Sullivan	867,851	Oct. 8	952	272	130	1623
Tire-covering	G. R. Eukers and R. H. Atcheson	867,717	Oct. 8	742	208	130	1560
Tire. Elastic	J. W. Rock	867,756	Oct. 8	805	227	130	1579
Tire. Vehicle-	A. D. Ray	867,600	Oct. 8	579	164	130	1501
Toggle-bolt	J. H. Cook	867,799	Oct. 8	874	248	130	1609
Tool. Pneumatic	E. M. Tobin	867,856	Oct. 8	961	274–5	130	1626
Torpedo-planer. Railway	W. C. Beckwith	867,783	Oct. 8	841	240	130	1591
Tow. Treating fibrous	M. H. Colahan	867,704	Oct. 8	721	.....	130	1554
Trace-holder	W. L. Richardson	867,603	Oct. 8	582	165	130	1511
Traction-machine	G. W. McGill	867,828	Oct. 8	921	263	130	1615
Trap: *See* Steam-trap.							
Trap	G. W. Leavenworth	867,920	Oct. 8	1073	304	130	1661
Trousers. Means to press creases in	N. M. Court	867,912	Oct. 8	1060	300	130	1656
Truck and step-ladder. Combination	J. E. Randall	867,754	Oct. 8	803	226	130	1579
Truck. Locomotive-	W. Pervenko	867,835	Oct. 8	930	265	130	1617
Tubes. Manufacture of	W. J. Still	867,763	Oct. 8	811	229	130	1581
Turbine	N. Baashuus	867,566	Oct. 8	526	150	130	1493
Turbine	M. Haeberlein	867,656	Oct. 8	655	185	130	1533
Turbine. Steam-	R. Schulz	867,611	Oct. 8	590	168–9	130	1514
Twist-drill	G. J. Bragg	867,639	Oct. 8	634	179	130	1528
Twisting together the filaments of a thread of artificial silk. Machine for	M. Waddell	867,623	Oct. 8	611	173	130	1521
Type-matrices and types. Justifying mechanism for	E. V. Beals	867,867	Oct. 8	980	280–1	130	1639
Type-writer	L. R. Roberts	867,674	Oct. 8	679	192	130	1540
Type-writer	E. V. Beals	867,868	Oct. 8	987	281–2	130	1634
Type-writing machine	W. E. Mason	867,606	Oct. 8	668	189	130	1536
Valve	D. J. Galbraith	867,578	Oct. 8	546	154	130	1501
Valve and motor. Combination	E. J. Moore	867,587	Oct. 8	556	157	130	1504
Valve controller for hydrocarbon-engines. Fuel-	W. F. Rothe	867,605	Oct. 8	584	166	130	1512
Valve. Faucet-	L. M. Hooper	867,580	Oct. 8	548	154–5	130	1502
Valve. Fluid-	G. B. Gaylord	867,653	Oct. 8	651	184	130	1532
Valve for compressors and the like. Self-acting	F. Strnad	867,619	Oct. 8	605	171	130	1519
Valve for explosive-engines	J. S. Elverson	867,713	Oct. 8	738	207	130	1559
Valve for gas-compressors. Discharge-	A. F. Clarke	867,702	Oct. 8	720	201	130	1553
Valve for internal-combustion engines. Piston-	H. W. Adams	867,983	Oct. 8	1088	308	130	1666
Vault. Burial-	A. Erlitz	867,813	Oct. 8	902	256	130	1609
Vehicle-steering mechanism. Automatic	W. H. Strickler	867,795	Oct. 8	815	232	130	1583
Ventilator: *See* Locomotive-cab ventilator.							
Venting-tool	A. C. Pearce	867,673	Oct. 8	678	191	130	1540
Vessel-hull	S. Golden	867,654	Oct. 8	653	185	130	1533
Wardrobe-rack. Collapsible	F. J. Bast	867,567	Oct. 8	527	150	130	1492
Washboard	G. C. Hayslet	867,722	Oct. 8	748	210	130	1562
Washer: *See* Clothes-washer.							
Washing-machine	J. F. Wade	867,770	Oct. 8	821	234	130	1585
Watch-barrel	T. B. Bindschedler	867,870	Oct. 8	994	282	130	1638
Watch-guard	H. N. Bolton	867,694	Oct. 8	706	198	130	1549
Water-heater. Electric	M. W. Willson	867,983	Oct. 8	974	278	130	1660

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Water-motor	C. M. Girton	867,817	Oct. 8	907	257	130	1610
Weighing-machine. Automatic	J. H. McLeod	867,743	Oct. 8	788	220-2	130	1572
Welding copper	W. A. Barnes	867,823	Oct. 8	628	.....	130	1525
Well-packer	W. W. Lewin	867,735	Oct. 8	769	215	130	1567
Wheel: *See* Fan and pump wheel.							
Wheel	B. C. Seaton	867,614	Oct. 8	897	170	130	1515
Wheel	W. Eichers	867,710	Oct. 8	736	206	130	1558
Wheel	M. Paulson	867,894	Oct. 8	571	161	130	1508
Wheel clamp or anchor	M. P. Morrison	867,888	Oct. 8	588	157	130	1504
Wind instruments. Reed-protector for	E. Nelson	867,833	Oct. 8	927	264	130	1616
Wire-holder	N. L. Wine	867,839	Oct. 8	620	175	130	1524
Wireless transmission of sonorous vibrations	F. J. McCarty	867,896	Oct. 8	1031	293	130	1647
Wireless transmission of sonorous vibrations	F. J. McCarty	867,896	Oct. 8	1032	293	130	1647
Wrench: *See* Ratchet-wrench.							

DESIGNS.

Design.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Badge	P. A. Mandabach	38,844	Oct. 8	130	1668
Bag. Hand-	L. Hauser	38,853	Oct. 8	130	1670
Comb	J. Wilcox	38,847	Oct. 8	130	1669
Comb	J. Wilcox	38,848	Oct. 8	130	1669
Comb	J. Wilcox	38,849	Oct. 8	130	1669
Comb	J. Wilcox	38,850	Oct. 8	130	1669
Comb	J. Wilcox	38,851	Oct. 8	130	1669
Comb	J. Wilcox	38,852	Oct. 8	130	1669
Knitted fabric	J. J. Curry	38,856	Oct. 8	130	1670
Reflector. Electric-light	A. D. Curtis	38,854	Oct. 8	130	1670
Spoons, forks, or similar articles. Handle for	G. L. Crowell, Jr	38,845	Oct. 8	130	1668
Spoons, forks, or similar articles. Handle for	J. E. Straker, Jr	38,846	Oct. 8	130	1669
Type. Font of	C. W. Smith	38,855	Oct. 8	130	1670

TRADE-MARKS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Ale. Ginger-	Forester Grocery Co	65,608	Oct. 8	130	1684
Antiseptics. Barbers'	R. W. Browne	65,471	Oct. 8	130	1681
Batteries. Electric	Ampere Manufacturing Co	65,605	Oct. 8	130	1684
Beer	Joseph Junk Brewing Company	65,561	Oct. 8	130	1683
Boots and shoes. Leather	J. L. Walker & Co	65,516	Oct. 8	130	1682
Boots, shoes, and slippers. Leather	Powell Brothers Shoe Company	65,509	Oct. 8	130	1682
Bread	H. Matthael	65,538	Oct. 8	130	1682
Bread and biscuits	Callard, Stewart and Watt	65,502	Oct. 8	130	1682
Brushes and brooms. Certain	Lord & Taylor	65,503	Oct. 8	130	1683
Buggies, wagons, and carriages	Hercules Buggy Co	65,610	Oct. 8	130	1684
Candy	P. Wunderle	65,513	Oct. 8	130	1682
Canned fruits and vegetables	Wayne County Canning Company	65,541	Oct. 8	130	1683
Cheese	W. J. Eldridge	65,524	Oct. 8	130	1682
Cheese	W. J. Eldridge	65,525	Oct. 8	130	1682
Chocolates and candy	Wallace & Co	65,578	Oct. 8	130	1684
Chocolates and candy	Wallace & Co	65,579	Oct. 8	130	1684
Cigars, cheroots, and little cigars	V. M. Antuono	65,547	Oct. 8	130	1683
Cigars, cheroots, and little cigars	V. M. Antuono	65,548	Oct. 8	130	1683
Cleaning fluid	Davis Chemical Company	65,551	Oct. 8	130	1683
Cleaning machinery and parts thereof. Air	American Air Cleaning Company	65,604	Oct. 8	130	1684
Clothing. Certain workmen's	J. H. Rice & Friedmann Co	65,527	Oct. 8	130	1682
Coats, vests, trousers, and overcoats	Kentucky Jeans Clothing Company	65,562	Oct. 8	130	1683
Coffee	Baker & Company	65,520	Oct. 8	130	1682
Color-setting compound	A. Elhardt Söhne	65,473	Oct. 8	130	1681
Colors, dry and in oil	Siemon & Elting	65,609	Oct. 8	130	1684
Comb-polish	Collonoid Company	65,594	Oct. 8	130	1684
Cotton piece goods and blankets	Jackson Company	65,595	Oct. 8	130	1684
Cotton piece goods. Bleached and unbleached	E. J. Fraser-Campbell	65,590	Oct. 8	130	1684
Cotton piece goods. Bleached and unbleached	E. J. Fraser-Campbell	65,591	Oct. 8	130	1684
Cotton piece goods. Bleached and unbleached	E. J. Fraser-Campbell	65,592	Oct. 8	130	1684
Cotton piece goods. Woven	Hill Manufacturing Company	65,593	Oct. 8	130	1684
Cotton piece goods. Woven	Hill Manufacturing Company	65,596	Oct. 8	130	1684
Cream of tartar, bicarbonate of soda, and saleratus	John Bird Company	65,494	Oct. 8	130	1681
Dental tooth-paste	Goodrich & Siqveland	65,553	Oct. 8	130	1683
Detergent. Fluid	Zozoene Manufacturing Company	65,599	Oct. 8	130	1684
Disinfectants	R. W. Browne	65,472	Oct. 8	130	1681
Fence. Wire	Farmers' Fence Co	65,474	Oct. 8	130	1681
Flavoring extracts	Grand Union Tea Co	65,598	Oct. 8	130	1682
Flour. Wheat-	Sheffield-King Milling Co	65,512	Oct. 8	130	1682

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Flour. Wheat-	Climax Milling Co	65,522	Oct. 8	130	1682
Flour. Wheat-	Western Star Mill Company	65,543	Oct. 8	130	1683
Flour. Winter-wheat	Hall & Woods Co	65,526	Oct. 8	130	1682
Furniture-polish	Orchard & Wilhelm Carpet Co	65,598	Oct. 8	130	1684
Gloves. Leather	Saranac Glove Company	65,572	Oct. 8	130	1683
Hats and caps. Certain	Parham-Matthews Hat Co	65,539	Oct. 8	130	1683
Hats. Felt	Maxim Hat Works	65,507	Oct. 8	130	1682
Headwear. Certain	Lamson & Hubbard	65,530	Oct. 8	130	1682
Headwear. Certain	Lamson & Hubbard	65,531	Oct. 8	130	1682
Headwear. Certain	Lamson & Hubbrad	65,532	Oct. 8	130	1682
Headwear. Certain	Lamson & Hubbard	65,533	Oct. 8	130	1682
Headwear. Certain	Lamson & Hubbard	65,563	Oct. 8	130	1683
Hoists	Chisholm & Moore Manufacturing Company.	65,607	Oct. 8	130	1684
Insulating material. Electric	Electric Service Supplies Co	65,586	Oct. 8	130	1684
Knitted goods. Certain	Novelty Knitting Co	65,567	Oct. 8	130	1683
Lacquer or varnish	Sherwin-Williams Co	65,509	Oct. 8	130	1684
Macaroni and vermicelli	Liberty Maccheroni Mfg. Co	65,534	Oct. 8	130	1682
Machinery. Certain	G. S. Harwood & Son	65,609	Oct. 8	130	1684
Machinery. Certain parts of	Jno. Hy. Andrew & Co	65,611	Oct. 8	130	1685
Mattresses. Felt	Jones Dry Goods Co	65,529	Oct. 8	130	1682
Medicinal tonic for anæmic conditions	Herff & Wilding	65,557	Oct. 8	130	1683
Medicine. Blood	T. Mori	65,615	Oct. 8	130	1685
Medicine. Certain	C. Borchert	65,549	Oct. 8	130	1683
Medicine. Certain	Hatton Chemical Company	65,566	Oct. 8	130	1683
Medicines. Certain	Davis-Bridaham Drug Company	65,550	Oct. 8	130	1683
Medicines. Certain	C. W. Horn	65,558	Oct. 8	130	1683
Medicines. Certain	W. F. Severa Company	65,577	Oct. 8	130	1684
Metal goods. Certain	John A. Roebling's Sons Co	65,491	Oct. 8	130	1681
Metal goods. Certain	John A. Roebling's Sons Co	65,492	Oct. 8	130	1681
Metal-polish	L. Adrot	65,519	Oct. 8	130	1682
Metals. Antifriction	Kool Metal Manufacturing Company.	65,495	Oct. 8	130	1681
Mowers and grass-catchers therefor. Lawn-	W. Bingham Company	65,616	Oct. 8	130	1685
Mushrooms, capes, jellies, &c.	Von Bremen, MacMonnies & Co	65,514	Oct. 8	130	1682
Oils, varnishes, and japans. Paint	Worden Meeker Co	65,602	Oct. 8	130	1684
Ovens. Portable bake-	Middleby Oven Manufacturing Company.	65,597	Oct. 8	130	1684
Overalls, coats, and pants	Pandora Overall Company	65,568	Oct. 8	130	1683
Packing. Certain machinery	B. F. Goodrich Company	65,469	Oct. 8	130	1681
Packing. Certain machinery	B. F. Goodrich Company	65,470	Oct. 8	130	1681
Paints and painters' materials. Certain	Andrew Hanley Company	65,581	Oct. 8	130	1684
Paper. Certain	James R. Crompton & Brothers	65,489	Oct. 8	130	1681
Paper. Certain	Mittineague Paper Company	65,496	Oct. 8	130	1681
Paper. Tracing-	E. G. Soltmann	65,500	Oct. 8	130	1682
Paper. Writing-	J. W. Butler Paper Co	65,479	Oct. 8	130	1681
Paper. Writing-	J. W. Butler Paper Co	65,480	Oct. 8	130	1681
Paper. Writing-	J. W. Butler Paper Co	65,481	Oct. 8	130	1681
Paper. Writing-	J. W. Butler Paper Co	65,482	Oct. 8	130	1681
Paper. Writing-	J. W. Butler Paper Co	65,483	Oct. 8	130	1681
Paper. Writing-	J. W. Butler Paper Co	65,484	Oct. 8	130	1681
Paper. Writing-	J. W. Butler Paper Co	65,485	Oct. 8	130	1681
Paper. Writing-	J. W. Butler Paper Co	65,486	Oct. 8	130	1681
Paper. Writing-	J. W. Butler Paper Co	65,487	Oct. 8	130	1681
Paper. Writing-	J. W. Butler Paper Co	65,488	Oct. 8	130	1681
Perfumery	Société Guerlain	65,576	Oct. 8	130	1684
Perfumery and face-tints	Société Guerlain	65,575	Oct. 8	130	1684
Perfumes, toilet waters, &c.	F. Loeser & Co	65,565	Oct. 8	130	1683
Photographic dry-plates and films	M. A. Seed Dry Plate Company	65,506	Oct. 8	130	1682
Powders, toilet waters, and perfumes. Toilet	Hana Zono Company	65,555	Oct. 8	130	1683
Pulp-board	Indestructible Fibre Company	65,477	Oct. 8	130	1681
Pulp-board	Indestructible Fibre Company	65,478	Oct. 8	130	1681
Rain-coats, coats, waists, and skirts	I. A. Harris & Bro	65,559	Oct. 8	130	1683
Razors, knives, scissors, and shears	M. Klaas	65,612	Oct. 8	130	1685
Refrigerators	Baldwin Refrigerator Co	65,521	Oct. 8	130	1682
Remedy for catarrh, hay-fever, &c.	Hakka Chemical Company	65,554	Oct. 8	130	1683
Remedy for dyspepsia, &c	Hugo Litz Company	65,564	Oct. 8	130	1683
Remedy for headaches	T. Mori	65,614	Oct. 8	130	1685
Remedy for rheumatism	L. Thanos	65,513	Oct. 8	130	1682
Remedy. Veterinary	Sanderson & Co	65,571	Oct. 8	130	1683
Roofing and building materials. Certain	Weatherproof Manufacturing Company.	65,542	Oct. 8	130	1683
Rubber packing, gaskets, and hose	Pennsylvania Rubber Company	65,499	Oct. 8	130	1682
Salve. Gall-	F. B. Dennie	65,523	Oct. 8	130	1682
Salves, ointments, and unguents	J. W. Cole & Co	65,583	Oct. 8	130	1684
Scales. Weighing-	W. Bingham Company	65,515	Oct. 8	130	1682
Scales. Weighing-	E. and T. Fairbanks and Company.	65,552	Oct. 8	130	1683
Sheetings and drillings	Exposition Cotton Mills	65,587	Oct. 8	130	1684
Silk piece goods	Cheney Brothers	65,582	Oct. 8	130	1684
Silver tableware. Sterling-	Jos. Mayer & Bros	65,560	Oct. 8	130	1683
Soap	M. Werks Co	65,535	Oct. 8	130	1682
Soles. Wool	D. I. Rogow	65,511	Oct. 8	130	1682
Soles. Wool	D. I. Rogow	65,613	Oct. 8	130	1685
Sound recording or reproducing machines, parts thereof, and records therefor	Universal Talking Machine Manufacturing Company.	65,540	Oct. 8	130	1683
Sprays. Flexible metallic	Flexo Spray Co	65,475	Oct. 8	130	1681
Stamps. Trading-	Interchangeable Rebate System Company.	65,504	Oct. 8	130	1682
Starch. Laundry	Grand Union Tea Co	65,476	Oct. 8	130	1681
Steel	Jno. Hy. Andrew & Co	65,490	Oct. 8	130	1681

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Stoves. Fireless cook-	Republic Metalware Company	65,889	Oct. 8	130	1662
Stoves, ranges, and heaters	Hoosier Stove Co	65,894	Oct. 8	130	1664
Tablets. Breath-	Schandein & Lind	65,873	Oct. 8	130	1663
Tablets. Breath-	Schandein & Lind	65,874	Oct. 8	130	1664
Tea	Manown & Gregory	65,887	Oct. 8	130	1662
Teas and coffees	McGee Mercantile Co	65,888	Oct. 8	130	1662
Teeth. Amalgam for filling	J. B. Z. Roberts	65,870	Oct. 8	130	1663
Tobacco. Chewing and smoking	American Tobacco Company	65,844	Oct. 8	130	1658
Tobacco. Chewing and smoking	American Tobacco Company	65,845	Oct. 8	130	1658
Tobacco. Chewing and smoking	American Tobacco Company	65,846	Oct. 8	130	1658
Tobacco. Smoking and chewing	Warfield, Pratt Howell Company	65,917	Oct. 8	130	1668
Tools. Certain hand-	Abner Doble Company	65,878	Oct. 8	130	1664
Traps. Animal-	Oneida Community	65,497	Oct. 8	130	1661
Traps. Animal-	Oneida Community	65,498	Oct. 8	130	1661
Traps. Animal-	Oneida Community	65,538	Oct. 8	130	1662
Valves	Ashton Valve Company	65,499	Oct. 8	130	1661
Watches, watch parts and cases	A. Wittnauer Co	65,891	Oct. 8	130	1662
Waterproofing compound. Certain	T. F. Koch	65,895	Oct. 8	130	1663
Whiskies. Rye and Bourbon	W. C. Fulcher	65,881	Oct. 8	130	1664
Whisky	P. Donaghue	65,885	Oct. 8	130	1664
Whisky	L. Sonnenschein	65,901	Oct. 8	130	1664
Whisky, brandy, rum, and gin	M. Wollstein & Co	65,886	Oct. 8	130	1664
Windmills	Baker Manufacturing Company	65,906	Oct. 8	130	1664
Wire. Certain	John A. Roebling's Sons Co	65,498	Oct. 8	130	1661
Wire. Certain	John A. Roebling's Sons Co	65,828	Oct. 8	130	1662

LABELS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Alonso Rejas." (For Cigars)	Alonso Rejas Ca	13,820	Oct. 8	130	1665
"Common Sense Cathartic Gum." (For Chewing-Gum)	Common Sense Gum Company	13,824	Oct. 8	130	1665
"Common Sense Cough Gum." (For Chewing-Gum)	Common Sense Gum Company	13,825	Oct. 8	130	1665
"Jewel Cement." (For a Cement)	E. B. Channell	13,820	Oct. 8	130	1665
"La Sano." (For Cigars)	Schmidt & Co	13,818	Oct. 8	130	1665
"Listerated Papsin Gum." (For Chewing-Gum)	Common Sense Gum Company	13,826	Oct. 8	130	1665
"Muscle Culture Gum." (For Chewing-Gum)	Common Sense Gum Company	13,827	Oct. 8	130	1665
"Quick Death." (For a Disinfectant and Insecticide)	World Disinfecting & Insecticide Co.	13,816	Oct. 8	130	1665
"Sigari Scanga." (For Stogies and Cigars)	J. G. Scanga	13,819	Oct. 8	130	1665
"Song of the Butter-Maker." (For Butter)	G. W. Martin & Bro	13,822	Oct. 8	130	1665
"Tickle-Chicle Chewing Gum." (For Chewing-Gum)	A. A. Austin	13,823	Oct. 8	130	1665

PRINTS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Alaskan Scene." (For a Breakfast Food)	Cream of Wheat Co	2,127	Oct. 8	130	1665
"B. F. Babbitt's 'Best Soap' and '1776' Soap Powder." (For Soap and Powder.)	American Lithographic Co	2,122	Oct. 8	130	1665
"Cream of Wheat Blocks." (For a Breakfast Food)	Cream of Wheat Co	2,129	Oct. 8	130	1665
"Keep Your Eye on Continentals." (For Tires for Automobiles)	A. W. Erickson Advertising Agency.	2,124	Oct. 8	130	1665
"Men's and Boys' Apparel." (For Men's and Boys' Apparel)	H. C. Lytton	2,123	Oct. 8	130	1665
"Mother and Child." (For a Breakfast Food)	Cream of Wheat Co	2,130	Oct. 8	130	1665
"Rural Delivery." (For a Breakfast Food)	Cream of Wheat Co	2,128	Oct. 8	130	1665
"The Chef and The Turkeys." (For a Breakfast Food)	Cream of Wheat Co	2,131	Oct. 8	130	1665

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Absinthe and vermuth	Société Anonyme de la Grande Distillerie E. Cusenier fils aîné & Cie.	20,135	Oct. 8	130	1672
Batteries and plates for same. Storage	General Storage Battery Co	29,388	Oct. 8	130	1678
Bitters	Charles Jacquin et Cie	7,242	Oct. 8	130	1671
Bitters	Charles Jacquin et Cie	7,249	Oct. 8	130	1671
Boots and shoes. Leather	Cosby Shoe Co	29,302	Oct. 8	130	1677
Boots and shoes. Leather	J. N. Winchell & Co	29,319	Oct. 8	130	1678
Boots, shoes, pumps, sandals, and slippers. Leather	Associated Shoe Company	29,558	Oct. 8	130	1679
Bridle-bits, stirrups, and spurs	A. Dewsbury	29,104	Oct. 8	130	1676
Bristles	C. Schmitz & Co	29,524	Oct. 8	130	1679
Candles	Littlefield & Steere Co	27,122	Oct. 8	130	1673
Canned corn and tomatoes	Watkins Packing Co	28,579	Oct. 8	130	1675
Cartridges, caps, and primers	Union Metallic Cartridge Company.	27,262	Oct. 8	130	1673
Cement and concrete waterproofing-powder	Ideal Concrete Machinery Company.	29,241	Oct. 8	130	1677
Cement. Portland	Union Portland Cement Company.	29,219	Oct. 8	130	1677
Cheese	W. J. Eldridge	28,775	Oct. 8	130	1675
Cheese	W. J. Eldridge	28,780	Oct. 8	130	1676
Cheese	W. J. Eldridge	28,783	Oct. 8	130	1676
Cigars	J. C. Newman	29,015	Oct. 8	130	1676
Coal and such fuel smokeless and more combustible. Preparation for rendering	L. Wilkinson	28,691	Oct. 8	130	1675
Coal, coke, breeze, &c	Coalite Limited	25,413	Oct. 8	130	1673
Confections. Certain	J. A. Witt	29,347	Oct. 8	130	1678
Cordials	Hannah & Hogg	29,463	Oct. 8	130	1678
Cotton and woolen piece goods	Detmer Woolen Company	28,573	Oct. 8	130	1675
Cotton duck	Mount Vernon-Woodberry Cotton Duck Company.	10,496	Oct. 8	130	1671
Cream. Toilet	Ogden and Shimer	29,718	Oct. 8	130	1680
Disinfectant materials	J. A. Sander	13,604	Oct. 8	130	1672
Earthenware closet-bowls	American Sanitary Works	28,850	Oct. 8	130	1676
Enamel, enamel paint and varnish	Hockaday Paint Company	29,025	Oct. 8	130	1676
Fabrics. Textile	A. G. Hyde & Sons	29,519	Oct. 8	130	1679
Fireworks	H. J. Pain	24,082-3	Oct. 8	130	1672
Fireworks. Stick-	E. H. Wagner	29,538-40	Oct. 8	130	1679
Flour. Wheat-	Ellendale Milling Company	15,025	Oct. 8	130	1672
Fruit-butter	H. E. Harris	29,292	Oct. 8	130	1677
Geneva	De Nederlandsche Gist- & Spiritusfabriek.	11,727	Oct. 8	130	1671
Gin	P. Loopuyt & Co	26,109	Oct. 8	130	1673
Gloves. Silk	Gloversville Silk Mills	27,278	Oct. 8	130	1673
Hosiery	Paramount Knitting Company	29,337	Oct. 8	130	1678
Insulating cross-arms	George Cutter Co	21,875	Oct. 8	130	1672
Knitted shirts, skirts, and hosiery	G. Lund	12,127	Oct. 8	130	1672
Magazine. Weekly	Class Journal Co	29,627	Oct. 8	130	1679
Meats and sausage. Cured	Kingan and Company	28,412	Oct. 8	130	1674
Meats. Cured	Kingan and Company	28,419	Oct. 8	130	1674
Meats. Cured and salted	Kingan and Company	28,415	Oct. 8	130	1674
Meats, lard, and sausage	Kingan and Company	28,413	Oct. 8	130	1674
Meats, lard, and sausage	Kingan and Company	28,421	Oct. 8	130	1675
Newspaper. Daily	Evening Star Newspaper Co	29,150	Oct. 8	130	1677
Newspaper. Daily and Sunday	Washington Times Co	29,151	Oct. 8	130	1677
Newspaper. Sunday	Evening Star Newspaper Co	29,149	Oct. 8	130	1677
Newspapers	Washington Post Company	29,687	Oct. 8	130	1680
Overalls, pants, and denim jackets	Happ Brothers Company	29,134	Oct. 8	130	1677
Paint and varnish solvents and removers	T. R. Wyles	21,735	Oct. 8	130	1672
Paint. Preservative and waterproof	W. J. Watson	27,500	Oct. 8	130	1674
Paints. Preservative	C. L. Miller & Co	14,203	Oct. 8	130	1672
Paper. Printing and writing	Graham Paper Co	27,441-2	Oct. 8	130	1673
Paper. Printing and writing	Graham Paper Co	27,445-9	Oct. 8	130	1674
Paper. Printing and writing	Graham Paper Co	27,453	Oct. 8	130	1674
Paper. Printing and writing	Graham Paper Co	27,457	Oct. 8	130	1674
Paper. Printing and writing	Graham Paper Co	27,459	Oct. 8	130	1674
Paris-green	M. Herrmann & Co	29,656-9	Oct. 8	130	1679-80
Phenol bismuth and tribromophenol bismuth compound	Chemische Fabrik von Heyden Aktien-Gesellschaft.	19,991	Oct. 8	130	1672
Picture apparatus. Animated and moving	J. Bianchi	26,643-4	Oct. 8	130	1673
Pipe-fittings. Brass and iron	H. Mueller Manufacturing Company.	28,028	Oct. 8	130	1674
Razors	H. Berkele	29,341	Oct. 8	130	1678
Remedies. Dog	J. Miller Drug Co	29,709	Oct. 8	130	1680
Remedies for diseases of the blood, stomach, kidneys, &c	Boericke & Tafel	29,117	Oct. 8	130	1676
Remedy for coughs and colds of horses and mules	H. E. Turpin	29,173	Oct. 8	130	1677
Remedy for coughs, colds, &c	Davis Chemical Company	29,131	Oct. 8	130	1677
Remedy for disorders of the stomach, liver, and blood	Hall & Cummings	29,569	Oct. 8	130	1679
Remedy for dyspepsia and other diseases of the stomach	O. Wicke	28,640	Oct. 8	130	1675
Remedy for gastric disorders, indigestion, and constipation	Burlingame Chemical Co	17,826	Oct. 8	130	1672
Remedy for shapelessness	S. Goldberg	28,585	Oct. 8	130	1675
Rubber erasers	E. Faber	29,253	Oct. 8	130	1677
Rubber heels	Dunham Bros	28,692	Oct. 8	130	1675
Sewing-machines and attachments	Standard Sewing Machine Company.	29,693	Oct. 8	130	1680
Sewing-machines and attachments	Standard Sewing Machine Company.	29,695-7	Oct. 8	130	1680
Sewing-machines and attachments	Standard Sewing Machine Company.	29,699	Oct. 8	130	1680
Sheetings, shirtings, and drillings	Clifton Manufacturing Company	28,553	Oct. 8	130	1675
Shoes. Leather	Bentley & Olmsted Company	26,679	Oct. 8	130	1673

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Stoves. Fireless cook	Republic Metalware Company	63,889	Oct. 8	130	1683
Stoves, ranges, and heaters	Hoosier Stove Co	63,894	Oct. 8	130	1684
Tablets. Breath	Schandein & Lind	63,873	Oct. 8	130	1682
Tablets. Breath	Schandein & Lind	63,874	Oct. 8	130	1682
Tea	Mesown & Gregory	63,887	Oct. 8	130	1683
Teas and coffees	McGee Mercantile Co	63,888	Oct. 8	130	1683
Teeth. Amalgam for filling	J. B. Z. Roberts	63,870	Oct. 8	130	1682
Tobacco. Chewing and smoking	American Tobacco Company	63,841	Oct. 8	130	1680
Tobacco. Chewing and smoking	American Tobacco Company	63,842	Oct. 8	130	1680
Tobacco. Chewing and smoking	American Tobacco Company	63,843	Oct. 8	130	1680
Tobacco. Smoking and chewing	Warfield, Pratt Howell Company	63,897	Oct. 8	130	1683
Tools. Curtain hand	Abner Doble Company	63,899	Oct. 8	130	1684
Traps. Animal	Oneida Community	63,907	Oct. 8	130	1684
Traps. Animal	Oneida Community	63,908	Oct. 8	130	1684
Traps. Animal	Oneida Community	63,909	Oct. 8	130	1684
Valves	Ashton Valve Company	63,886	Oct. 8	130	1683
Watches, watch parts and cases	A. Wittnauer Co	63,881	Oct. 8	130	1683
Waterproofing compound. Certain	T. F. Koch	63,882	Oct. 8	130	1683
Whiskies. Rye and Bourbon	W. C. Fulsher	63,891	Oct. 8	130	1683
Whisky	P. Donaghue	63,892	Oct. 8	130	1684
Whisky	L. Sonnenschein	63,893	Oct. 8	130	1684
Whisky, brandy, rum, and gin	M. Wolfstein & Co	63,895	Oct. 8	130	1684
Windmills	Baker Manufacturing Company	63,896	Oct. 8	130	1684
Wire. Certain	John A. Roebling's Sons Co	63,898	Oct. 8	130	1684
Wire. Certain	John A. Roebling's Sons Co	63,899	Oct. 8	130	1683

LABELS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Alonso Rejas." (For Cigars)	Alonso Rejas Co	13,220	Oct. 8	130	1685
"Common Sense Cathartic Gum." (For Chewing-Gum)	Common Sense Gum Company	13,224	Oct. 8	130	1685
"Common Sense Cough Gum." (For Chewing-Gum)	Common Sense Gum Company	13,225	Oct. 8	130	1685
"Jewel Cement." (For a Cement)	E. B. Channell	13,220	Oct. 8	130	1685
"La Sano." (For Cigars)	Schmidt & Co	13,218	Oct. 8	130	1685
"Listerated Pepsin Gum." (For Chewing-Gum)	Common Sense Gum Company	13,226	Oct. 8	130	1685
"Muscle Culture Gum." (For Chewing-Gum)	Common Sense Gum Company	13,227	Oct. 8	130	1685
"Quick Death." (For a Disinfectant and Insecticide)	World Disinfecting & Insecticide Co.	13,216	Oct. 8	130	1685
"Sigari Scanga." (For Stogies and Cigars)	J. G. Scanga	13,219	Oct. 8	130	1685
"Song of the Butter-Maker." (For Butter)	G. W. Martin & Bro	13,222	Oct. 8	130	1685
"Tickle-Chicle Chewing Gum." (For Chewing-Gum)	A. A. Austin	13,223	Oct. 8	130	1685

PRINTS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Alaskan Scene." (For a Breakfast Food)	Cream of Wheat Co	2,127	Oct. 8	130	1686
"B. F. Babbitt's 'Best Soap' and '1776' Soap Powder." (For Soap and Powder.)	American Lithographic Co	2,132	Oct. 8	130	1686
"Cream of Wheat Blocks." (For a Breakfast Food)	Cream of Wheat Co	2,130	Oct. 8	130	1686
"Keep Your Eye on Continentals." (For Tires for Automobiles)	A. W. Erickson Advertising Agency.	2,134	Oct. 8	130	1686
"Men's and Boys' Apparel." (For Men's and Boys' Apparel)	H. C. Lytton	2,133	Oct. 8	130	1686
"Mother and Child." (For a Breakfast Food)	Cream of Wheat Co	2,129	Oct. 8	130	1686
"Rural Delivery." (For a Breakfast Food)	Cream of Wheat Co	2,128	Oct. 8	130	1686
"The Chef and The Turkeys." (For a Breakfast Food)	Cream of Wheat Co	2,131	Oct. 8	130	1686

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

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Bitters	Charles Jacquin et Cie	7,249	Oct. 8	130	1671
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Boots and shoes. Leather	J. N. Winchell & Co	29,319	Oct. 8	130	1678
Boots, shoes, pumps, sandals, and slippers. Leather	Associated Shoe Company	29,556	Oct. 8	130	1679
Bridle-bits, stirrups, and spurs	A. Dewsbury	29,104	Oct. 8	130	1676
Bunting	C. Schmitz & Co	29,524	Oct. 8	130	1679
Candles	Littlefield & Steere Co	27,122	Oct. 8	130	1673
Canned corn and tomatoes	Watkins Packing Co	28,579	Oct. 8	130	1675
Cartridges, caps, and primers	Union Metallic Cartridge Company.	27,262	Oct. 8	130	1673
Cement and concrete waterproofing-powder	Ideal Concrete Machinery Company.	29,241	Oct. 8	130	1677
Cement. Portland	Union Portland Cement Company.	29,219	Oct. 8	130	1677
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Cheese	W. J. Eldridge	28,780	Oct. 8	130	1676
Cheese	W. J. Eldridge	28,783	Oct. 8	130	1676
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Coal and such fuel smokeless and more combustible. Preparation for rendering	L. Wilkinson	28,691	Oct. 8	130	1675
Coal, coke, breeze, &c	Coalite Limited	25,413	Oct. 8	130	1673
Confections. Certain	J. A. Witt	29,347	Oct. 8	130	1678
Cordials	Hannah & Hogg	29,463	Oct. 8	130	1678
Cotton and woolen piece goods	Detmer Woolen Company	28,573	Oct. 8	130	1675
Cotton duck	Mount Vernon-Woodberry Cotton Duck Company.	10,496	Oct. 8	130	1671
Cream. Toilet	Ogden and Shimer	29,718	Oct. 8	130	1680
Disinfectant materials	J. A. Sander	13,604	Oct. 8	130	1672
Earthenware closet-bowls	American Sanitary Works	28,850	Oct. 8	130	1676
Enamel, enamel paint and varnish	Hockaday Paint Company	29,025	Oct. 8	130	1676
Fabrics. Textile	A. G. Hyde & Sons	29,519	Oct. 8	130	1679
Fireworks	H. J. Pain	24,082-3	Oct. 8	130	1672
Fireworks. Stick	E. H. Wagner	29,528-40	Oct. 8	130	1679
Flour. Wheat	Ellendale Milling Company	15,025	Oct. 8	130	1672
Fruit-butter	H. E. Harris	29,392	Oct. 8	130	1677
Genevа	De Nederlandsche Gist- & Spiritusfabriek.	11,727	Oct. 8	130	1671
Gin	P. Loopuyt & Co	26,109	Oct. 8	130	1673
Gloves. Silk	Gloversville Silk Mills	27,278	Oct. 8	130	1673
Hosiery	Paramount Knitting Company	29,337	Oct. 8	130	1678
Insulating cross-arms	George Cutter Co	21,875	Oct. 8	130	1672
Knitted shirts, skirts, and hosiery	G. Lund	12,127	Oct. 8	130	1672
Magazine. Weekly	Class Journal Co	29,627	Oct. 8	130	1679
Meats and sausage. Cured	Kingan and Company	28,412	Oct. 8	130	1674
Meats. Cured	Kingan and Company	28,419	Oct. 8	130	1674
Meats. Cured and salted	Kingan and Company	28,415	Oct. 8	130	1674
Meats, lard, and sausage	Kingan and Company	28,413	Oct. 8	130	1674
Meats, lard, and sausage	Kingan and Company	28,421	Oct. 8	130	1675
Newspaper. Daily	Evening Star Newspaper Co	29,150	Oct. 8	130	1677
Newspaper. Daily and Sunday	Washington Times Co	29,151	Oct. 8	130	1677
Newspaper. Sunday	Evening Star Newspaper Co	29,149	Oct. 8	130	1677
Newspapers	Washington Post Company	29,687	Oct. 8	130	1680
Overalls, pants, and denim jackets	Happ Brothers Company	29,134	Oct. 8	130	1677
Paint and varnish solvents and removers	T. R. Wyles	21,735	Oct. 8	130	1672
Paint. Preservative and waterproof	W. J. Watson	27,500	Oct. 8	130	1674
Paints. Preservative	C. L. Miller & Co	14,203	Oct. 8	130	1672
Paper. Printing and writing	Graham Paper Co	27,441-2	Oct. 8	130	1673
Paper. Printing and writing	Graham Paper Co	27,445-9	Oct. 8	130	1674
Paper. Printing and writing	Graham Paper Co	27,453	Oct. 8	130	1674
Paper. Printing and writing	Graham Paper Co	27,457	Oct. 8	130	1674
Paper. Printing and writing	Graham Paper Co	27,459	Oct. 8	130	1674
Paris-green	M. Herrmann & Co	29,656-9	Oct. 8	130	1679-80
Phenol bismuth and tribromophenol bismuth compound	Chemische Fabrik von Heyden Aktien-Gesellschaft.	19,991	Oct. 8	130	1673
Picture apparatus. Animated and moving	J. Bianchi	26,643-4	Oct. 8	130	1673
Pipe-fittings. Brass and iron	H. Mueller Manufacturing Company.	28,028	Oct. 8	130	1674
Razors	H. Berkele	29,341	Oct. 8	130	1678
Remedies. Dog	J. Miller Drug Co	29,709	Oct. 8	130	1680
Remedies for diseases of the blood, stomach, kidneys, &c	Boericke & Tafel	29,117	Oct. 8	130	1676
Remedy for coughs and colds of horses and mules	H. E. Turpin	29,173	Oct. 8	130	1677
Remedy for coughs, colds, &c	Davis Chemical Company	29,131	Oct. 8	130	1677
Remedy for disorders of the stomach, liver, and blood	Hall & Cummings	29,569	Oct. 8	130	1679
Remedy for dyspepsia and other diseases of the stomach	O. Wicks	28,640½	Oct. 8	130	1678
Remedy for gastric disorders, indigestion, and constipation	Burlingame Chemical Co	17,528	Oct. 8	130	1673
Remedy for sleeplessness	S. Goldberg	26,585	Oct. 8	130	1678
Rubber cements	E. Faber	29,253	Oct. 8	130	1677
Rubber heels	Dunham Bros	28,602	Oct. 8	130	1675
Sewing-machines and attachments	Standard Sewing Machine Company.	29,603	Oct. 8	130	1680
Sewing-machines and attachments	Standard Sewing Machine Company.	29,606-7	Oct. 8	130	1680
Sewing-machines and attachments	Standard Sewing Machine Company.	29,609	Oct. 8	130	1680
Sheetings, shirtings, and drillings	Clifton Manufacturing Company	28,583	Oct. 8	130	1675
Shoes. Leather	Bentley & Olmsted Company	26,679	Oct. 8	130	1673

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Soap	Pacific Coast Borax Company	24,621	Oct. 8	130	1571
Underskirts. Silk and muslin	A. M. Schneider	23,276	Oct. 8	130	1571
Watches	Mathey Bros., Mathez & Co	23,513	Oct. 8	130	1571
Watches and watch-movements	B. L. Strasburger	23,624	Oct. 8	130	1571
Whisky	J. H. Michael	23,623	Oct. 8	130	1571
Whisky, brandy, and gin	B. S. Florsheim Mercantile Co	23,620	Oct. 8	130	1571
Wine	Great Western Wine Co	23,625-6	Oct. 8	130	1571
Wine. Champagne	Krug & Co	23,625-7	Oct. 8	130	1571

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ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 15TH DAY OF OCTOBER, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
Ackerman, Edwin D., New York, C. E. Clinton and R. N. Eltom, Corona, N. Y., assignors to Pianora Company. Automatic valve mechanism	868,386	Oct. 15	1840	517–18	130	1914
Ackroyd, William, Leeds, W., A. E., and R. O. Best, Morley, near Leeds, England. Apparatus for inclosing and electrically connecting miners' safety-lamps to effect electric ignition	868,387	Oct 15	1842	518	130	1915
Adams, Reed, Lapeer, Mich. Printing device	868,315	Oct. 15	1732	489	130	1884
Adler, Harris B., assignor one-half to N. A. Gardner, St. Joseph, Mo. Mechanical movement	868,316	Oct. 15	1733	489	130	1884
Aktiebolaget Vincentrifugen. (See Nilsson and Jonson, assignors.)						
Alberger Condenser Company. (See Alberger, Louis R., assignor.)						
Alberger, Louis R., assignor to Alberger Condenser Company, New York, N. Y. Surface condenser	868,388	Oct. 15	1844	518	130	1916
Alberger, Louis R., assignor to Alberger Condenser Company, New York, N. Y. Surface condenser	868,389	Oct. 15	1847	519	130	1917
Alberger, Louis R., assignor to Alberger Condenser Company, New York, N. Y. Surface condenser	868,390	Oct. 15	1851	519–20	130	1919
Alderman, Henry O., et al. (See Fairchild, Elmer E., assignor.)						
Ale, George C., Grayford, Ind. Voting-machine	868,062	Oct. 15	1342	375–6	130	1766
Allen, Arthur R., Brookline, Mass. Paper-feeding mechanism	868,317	Oct. 15	1734	490	130	1884
Allen, Philip, Providence, R. I., assignor to General Fire Extinguisher Company, New York, N. Y. Valve	868,391	Oct. 15	1856	520	130	1921
Allis-Chalmers Company et al. (See Cheney, Herbert W., assignor.)						
Allsop, Robert O., London, England. Petroleum-engine	868,392	Oct. 15	1858	521	130	1921
American Steel Foundries. (See Baner and Sussmihl, assignors.)						
American Steel & Wire Company. (See Backlin, Axel F., assignor.)						
American Stoker Company. (See Gartanner, Frederick, assignor.)						
American Stoker Company. (See Knowlton, Charles A., assignor.)						
American Typographic Corporation. (See Richards, Francis H., assignor.)						
Ames, Adelbert, Lowell, Mass. Pencil holder, sharpener, and ink-eraser	868,393	Oct. 15	1859	521	130	1922
Anderson, Cooper. (See Gleesner, Charles E., assignor.)						
Anderson, John C. A., Chicago, Ill. Tympan-bale	868,241	Oct. 15	1599	453	130	1844
Angus, William, Montreal, Quebec, Canada. Pulp-flaker	868,063	Oct. 15	1346	376–7	130	1767
Antoni, Ernest J., Kansas City, Mo. Mattress-filling machine	867,936	Oct. 15	1099	310–14	130	1695
Apstein, David, Bridgeport, Conn. Puncture-closer	868,242	Oct. 15	1600	453	130	1844
Apstein, David, Bridgeport, Conn. Puncture-closer	868,243	Oct. 15	1602	454	130	1845
Arabol Manufacturing Company. (See Fischer, Ernst, assignor.)						
Arbey, Charles A., Besançon, assignor to La Continentale Fixator, Paris, France. Locking arrangement for nuts, screws, etc	868,622	Oct. 15	2331	619	130	2041
Arnold, John W., Atlanta, Ga. Floor-plane	868,151	Oct. 15	1459	411	130	1803
Ash, William H., Bay Shore, N. Y. Funnel	868,394	Oct. 15	1859	521	130	1922
Atkinson, Llewelyn B., London, England. Apparatus for measuring the flow of fluids	868,152	Oct. 15	1460	411	130	1803
Auehly, Albert, Montgomery City, Mo. Table	868,153	Oct. 15	1461	411	130	1803
Aultman & Taylor Machinery Company. (See Harrold, Amos, assignor.)						
Automatic Clock Company. (See Wagner, Cleaver W., assignor.)						
Automatic Pencil Sharpener Company. (See Spengler, Charles C., assignor.)						
Backlin, Axel F., assignor to American Steel & Wire Company, Worcester, Mass. Wire fabric	868,244	Oct. 15	1603	454	130	1845
Badische Anilin & Soda Fabrik. (See Bohn, René, assignor.)						
Bagley, Moses F., assignor of one-half to J. C. Martin, Evansville, Ind. Car-journal filer or smoother	868,064	Oct. 15	1348	377	130	1768
Bailey, Charles E., Providence, R. I. Shoe-tree	868,318	Oct. 15	1736	490	130	1885
Baird, Andrew W., Marne, Iowa. Pump	868,395	Oct. 15	1860	522	130	1922
Baird, James J., Los Angeles, Cal. Turning-machine	868,521	Oct. 15	2052	576	130	1980
Baker, George E., Buffalo, N. Y. Cuff-holder	867,937	Oct. 15	1138	314	130	1704
Baker, John A., Seguin, Tex. Audiphone	868,245	Oct. 15	1603	455	130	1845
Banks, Ollmions O. (See Davidson, John R., assignor.)						
Bard, Otto L. (See Persell, Axel E., assignor.)						
Barhorst, Anthony. (See Schoenermann, George J., assignor.)	868,522	Oct. 15	2053	576	130	1980
Barker, Alfred, Philadelphia, Pa. Massage implement	868,065	Oct. 15	1349	377	130	1768
Barnes, John S., Detroit, Mich. Concrete reinforcement	868,066	Oct. 15	1350	378	130	1768
Barnhart, Harry J., assignor to Marion Steam Shovel Company, Marion, Ohio. Tooth for excavating-dippers	868,319	Oct. 15	1736	490	130	1885
Barrett, Luther P., St. Louis, Mo. Reversible automobile fender	868,592	Oct. 15	2178	608	130	2026
Barry, Charles E., Schenectady, N. Y., assignor to General Electric Company. Air-brake system	868,154	Oct. 15	1463	412	130	1803
Bates, Darwin, and G. W. Peard, Huyton, England. Annealing or heating of metals	868,246	Oct. 15	1605	455	130	1845
Bates, Frank H., Ross Station, Cal. Generating oil-gas for explosive-engines	868,155	Oct. 15	1464	412	130	1804
Bauer, Carl E., Hammond, Ind., assignor to Simplex Railway Appliance Company, Chicago, Ill. Track-bolster	868,623	Oct. 15	2232	619–20	130	2041
Bauer, Carl E., and F. L. Sussmihl, Hammond, Ind., assignors to American Steel Foundries, New York, N. Y. Adjustable brake-head						

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Baner, William, assignor of six-sevenths to M. C. Peter, W. H. Richardson, A. Ruethinger, E. J. Miller, O. C. Richardson, Louisville, Ky., and B. C. Neat, New Albany, Ind. Automatic sprinkler system	866,824	Oct. 15	2282	620	130	1702
Bausher, Thomas D., Reading, Pa. Thawing-furnace	866,947	Oct. 15	1608	455	130	1707
Baxter, William W. (See Broadhead, Isaac, assignor.)						
Bayer, John S., Warren, Pa. Culvert	866,824	Oct. 15	2056	577	130	1921
Beamer, James R., Detroit, Mich. Stuffing-box	867,088	Oct. 15	1134	314	130	1704
Beck, Harry J., Winburne, assignor to S. B. and J. C. Stine, Osceola Mills, Pa. Line-wire switch-frog for electric railways	867,939	Oct. 15	1140	314	130	1705
Behrendt & Co. (See Behrendt, Eugene, assignor.)						
Behrendt, Eugene, Manila, Philippine Islands, assignor to Behrendt & Co., New York, N. Y. Machine for separating fibers from the pulp and other extraneous matter of plants and trees	866,936	Oct. 15	1861	522	130	1923
Behrendt, Eugene, Manila, Philippine Islands, assignor to Behrendt & Co., New York, N. Y. Machine for separating fibers from the pulp and extraneous matter of plants and trees	866,935	Oct. 15	2056	577-8	130	1921
Behrendt, Eugene, Manila, Philippine Islands, assignor to Behrendt & Co., New York, N. Y. Machine for separating fibers from the pulp of plants and trees	866,938	Oct. 15	2061	579	130	1923
Bell, Samuel E., Wangaratta, Victoria, Australia. Milk-bucket and similar vessel	867,949	Oct. 15	1142	315	130	1705
Benjamin, William H. (See Sohner and Benjamin.)						
Bennett, David E., Nazareth, Pa. Garbage-cremator	867,941	Oct. 15	1142	315-16	130	1705
Bergmans, Rudolf, Breslau, Germany. Transforming-nozzle for obtaining kinetic energy from flowing gases and vapors	866,897	Oct. 15	1864	522	130	1924
Berry, Mark H., New York, N. Y. Removable cover	866,967	Oct. 15	1261	378	130	1703
Berryman, John B., assignor to Crane Company, Chicago, Ill. Steam-separator	866,186	Oct. 15	1465	412	130	1804
Best, Albert E. (See Ackroyd and Best.)						
Best, Robert O. (See Ackroyd and Best.)						
Best, William. (See Ackroyd and Best.)						
Billburg, Charles, Chicago, Ill. Sample-case	866,988	Oct. 15	1382	378	130	1703
Bilhorn, Peter P., Chicago, Ill. Lock for portable organs	866,949	Oct. 15	1608	456	130	1847
Bishopric, George F., Toronto, Ontario, Canada. Producing coverings	866,187	Oct. 15	1465	412	130	1805
Blackmore, Henry S., Mount Vernon, N. Y. Making aldehydes and solutions thereof	866,230	Oct. 15	1726	491	130	1925
Blair Light Company. (See Blair, Thomas H., assignor.)						
Blair, Thomas H., assignor, by mesne assignments, to Blair Light Company, Northboro, Mass. Hydrocarbon-lamp	866,989	Oct. 15	1263	379	130	1703
Blakeslee, John R., Jr., Cleveland, Ohio. Forging-machine	866,231	Oct. 15	1741	491	130	1805
Blanc, Gustave. (See Bouveault and Blanc.)						
Blanchard, Virgil W., New York, N. Y. Gas-burner	866,949	Oct. 15	1609	456	130	1847
Blanchard, Virgil W., New York, N. Y. Gas-burning apparatus	866,950	Oct. 15	1611	456	130	1848
Blevins, David T., Windsor, and S. R. Giddings, assignors to Yankee Beet Topper Company, Timnath, Colo. Beet-topper	866,586	Oct. 15	2180	608-9	130	2028
Blum, Henry, New York, N. Y. Automatic-dispensing soda-water apparatus	866,222	Oct. 15	1745	491-2	130	1807
Blum, Henry, New York, N. Y. Coin-controlled mechanism	866,220	Oct. 15	1606	523	130	1924
Blythe, James H., Denver, Colo. Attachment for party-line telephones	866,594	Oct. 15	2182	609	130	2027
Bobrick, Gabriel A., Los Angeles, Cal. Compressed-fluid charging and discharging device	867,942	Oct. 15	1147	316	130	1706
Bohn, René, Mannheim, assignor to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany. Anthracene dye and making same	866,209	Oct. 15	1266	.....	130	1924
Boles Friction Fastener Company. (See Boles, Warren H., assignor.)						
Boles, Warren H., assignor to Boles Friction Fastener Company, Newark, N. J. Pin-and-socket fastener	867,943	Oct. 15	1149	316-17	130	1707
Boles, Warren H., New York, N. Y., assignor, by mesne assignments, to Boles Friction Fastener Company, Newark, N. J. Separable carpet-fastener	867,070	Oct. 15	1266	379	130	1770
Bollée, Leon, Le Mans, France. Carbureter	866,261	Oct. 15	1612	456-7	130	1848
Bonis, Paul A., assignor of one-third to S. Lampro, New York, N. Y. Rail-clamp	866,409	Oct. 15	1867	523	130	1924
Boos, August, assignor, by mesne assignments, of one-tenth to E. Lutzer, New York, N. Y. Checking, registering, and recording mechanism	866,625	Oct. 15	2286	620-1	130	2042
Bosel, Albert C., Henderson, Minn. Umbrella	866,671	Oct. 15	1267	380	130	1770
Bosshard, Albert, Zurich, Switzerland. Cloth-cutting machine	867,944	Oct. 15	1152	317	130	1707
Bosso, Paul, Scranton, Pa. Apparatus for cleaning and polishing hats	866,228	Oct. 15	1744	492	130	1887
Boston Machine Works Company. (See Slocum, Benjamin A., assignor.)						
Bouveault, Louis, and G. Blanc, Paris, France. Alcohol and obtaining the same from carboxylic compounds	866,268	Oct. 15	1613	.....	130	1849
Boyes, John H., Alba, Mich. Water-heater	866,481	Oct. 15	1868	523	130	1925
Bradford, Thomas B., New Middleton, Tenn. Breeching device	866,672	Oct. 15	1268	380	130	1770
Bradley, William J., Troy, N. Y. Boiler-flue cleaner	866,482	Oct. 15	1871	524	130	1925
Brady, Francis W., Englewood, N. J. Spark-plug for explosive-engines	866,494	Oct. 15	1872	525	130	1926
Braine, Bancroft G., assignor to Rail Joint Company, New York, N. Y. Rail-joint	866,492	Oct. 15	1869	524	130	1925
Brandenburgh, George F., Irvington, N. J. Wheel	866,405	Oct. 15	1873	525	130	1926
Brian, William S. (See Tucker, Junius E., assignor.)						
Brinsmead, John, assignor to John Brinsmead & Sons, Limited, London, England. Combined pianoforte and automatically-actuated mechanism therefor	866,406	Oct. 15	1874	525-6	130	1926
Brinsmead & Sons, John. (See Brinsmead, John, assignor.)						
Broadhead, Isaac, assignor to himself and W. W. Baxter, East Branch, N. Y. Bolster-plate for vehicles	866,497	Oct. 15	1876	526	130	1927
Brown, James L., Indianhead, Md., and D. P. Moore, Washington, D. C., assignors to M. A. G. Himalaya, Arcos-De-Val-De-Vez, Portugal. Smokeless powder	865,158	Oct. 15	1497	.....	130	1805
Brown, William E. (See Pletzsch and Brown.)						
Brown, William F., Goldthwaite, Tex. Window-shade hanger	866,227	Oct. 15	2288	579	130	1925
Buckman, Benjamin J., Newfield, N. J. Rocking-chair	866,224	Oct. 15	1745	492	130	1888
Bullock Electric Manufacturing Company *et al.* (See Cheney, Herbert W., assignor.)						
Bullock Electric Manufacturing Company. (See Crocker, Clarence T., assignor.)						
Bullock Electric Manufacturing Company. (See Lord, Charles E., assignor.)						
Bullock Electric Manufacturing Company. (See Pomeroy, William D., assignor.)						
Butts, John H. B., Pickard, Ga. Hame	866,526	Oct. 15	2066	580	130	1985
C. Elmer Pope Paper Company. (See Pope, Charles E., assignor.)						
Callender, Monroe N., *et al.* (See Landell, Peter W., assignor.)						
Callender, Monroe N. (See Williams and Landell, assignors.)						
Camenzind, Charles. (See McAdams, Lewis C., assignor.)						
Campanello, John. (See D'Aversa and Campanello.)						
Candau, Auguste. (See Candau, Jean B. and A.)						
Candau, Jean B. and A., Eaux-Bonnes, France. Manufacture of lithopones by electrolysis	866,263	Oct. 15	1615	.....	130	1849
Cardwell, Frank F. (See McMillan, Samuel D., assignor.)						
Carlucci, Mary C., Newark, N. J. Lock-pin	866,498	Oct. 15	1877	526	130	1927
Carnegie, Martin S., Donora, Pa. Die and die-block	866,225	Oct. 15	1745	492	130	1888
Carpenter, John W., Bridgewater, Va. Combined burglar-alarm and sash-lock	866,229	Oct. 15	2287	580	130	1985
Carroll, Joseph H. (See Lindsay and Carroll.)						
Carson, William H., Madison, Minn. Drain-tile	867,945	Oct. 15	1148	316	130	1706

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Cartland, John H., and J. Lilly, Birmingham, England. Window-opener	866,409	Oct. 15	1378	527	130	1926
Cartwright, Flavenus N., Payne, Ohio. Skirt-preventing garment	866,410	Oct. 15	1379	527	130	1926
Casale, Joseph, New York, N. Y. Painting umbrella	866,268	Oct. 15	1747	493	130	1888
Caulkins, Frank L., and F. Wetmore, Rock, Ill. Road-board	866,673	Oct. 15	1268	380-1	130	1771
Chamness, Joseph, Coshocton, Ohio, Tr. Cotton-chopper	867,946	Oct. 15	1153	318	130	1708
Channon, Henry, Chicago, Ill. Harvesting-shovel	867,947	Oct. 15	1155	318-19	130	1708
Channon, Henry, Chicago, Ill. Harvesting-machine	866,695	Oct. 15	2184	610	130	2027
Chapman, Joseph D. (See Parrish and Chapman.)						
Cheney, Earl A., *et al.* (See Ringsdorf, John E., assignor.)						
Cheney, Frank, *et al.* (See Ringsdorf, John E., assignor.)						
Cheney, Herbert W., Norwood, Ohio, assignor to Allis-Chalmers Company and Bullock Electric Manufacturing Company. Potential-starter attachment	866,596	Oct. 15	2186	610	130	2028
Chrysler, William L., and J. W. Kaye, Eugene, Oreg. Draft-equalizer	866,597	Oct. 15	2188	610	130	2028
Churchward, James, New York, N. Y. Alloyed steel	866,227	Oct. 15	1749	.....	130	1888
Cilak, John, Leo Augustin, Cak., assignor to E. Clesk, Philadelphia, Pa. Building-block	866,411	Oct. 15	1880	528	130	1926
Clark, Ernest E., Kilbourn, Conn. Knife-blank and leveler	866,074	Oct. 15	1359	381	130	1771
Cleck, Rose. (See Cilak, John, assignor.)						
Clement, Walter, Adrian, Mich. Grain-separator	866,412	Oct. 15	1881	528	130	1926
Cleveland Wire Spring Co. (See Erickson, Charles H., assignor.)						
Clinton, Charles E. (See Anderson, Clinton, and Elton.)						
Close, Friedrich, Stuttgart, Germany. Diffusion apparatus	866,228	Oct. 15	1749	493	130	1889
Cobbe, Hervie N. G. (See Middleton and Cobbe.)						
Cody, John F., London, Ontario, Canada. Oil-can	866,075	Oct. 15	1361	381	130	1771
Cohn, Witzay & Goldfarb. (See Kempter, George K., assignor.)						
Colburn, Irving W., and R. Washburn, assignors to Colburn Machine Glass Company, Franklin, Pa. Apparatus for drawing sheet-glass	867,948	Oct. 15	1157	319-22	130	1709
Colburn Machine Glass Company. (See Colburn and Washburn, assignors.)						
Coleman, Clyde J., assignor to C. Hubert, New York, N. Y. Filling-tap for liquid-receiving vessels	866,598	Oct. 15	2189	610	130	2029
Coleman, Clyde J., assignor to C. Hubert, New York, N. Y. Pressure-reducing valve	866,599	Oct. 15	2190	611	130	2029
Comstock, Clark E., Bloomfield, N. J. Loop	867,049	Oct. 15	1165	322	130	1711
Cooper, John A., Memphis, Tex. Telegraph and telephone insulator	866,530	Oct. 15	2060	580	130	1889
Corbin Cabinet Lock Company. (See Townsend, Harry P., assignor.)						
Corbitt, Hebber S., Ayden, N. C. Bicycle-propelling mechanism	866,230	Oct. 15	1750	493-4	130	1889
Coventry, Theodore, Salford, England. Bevel-wheel-shaping machine	866,159	Oct. 15	1408	413	130	1805
Cramer, Judson M., Gardner, Kans. Drip-trough	866,413	Oct. 15	1882	528	130	1929
Crane Company. (See Berryman, John B., assignor.)						
Crane Company. (See Doolittle, William W., assignor.)						
Crane Company. (See Hayden, George W., assignor.)						
Crocker, Clarence T., Norwood, Ohio, assignor to Bullock Electric Manufacturing Company. Controller-operating mechanism	866,531	Oct. 15	2070	580	130	1986
Crocker, Ebon C., assignor to Warren Electric Manufacturing Company, Sandusky, Ohio. Regulator for steam turbines	867,950	Oct. 15	1166	322-3	130	1711
Crombie, Charles E., Manchester, N. H. Pruning implement	866,230	Oct. 15	1751	494	130	1889
Crompton & Knowles Loom Works. (See Holmes and Jenckes, assignors.)						
Crompton & Knowles Loom Works. (See Hutchins, George F., assignor.)						
Crompton & Knowles Loom Works. (See Wattie, William M., assignor.)						
Crooker, William W., Lynn, Mass. Rotary operating member for boot and shoe finishing machines	866,532	Oct. 15	2071	581	130	1987
Cropley, Harriet C., Washington, D. C. Sanitary dough-board	866,533	Oct. 15	2073	581	130	1987
Crosby Steam Gage and Valve Company. (See Davidson, Theodore, assignor.)						
Crosby Steam Gage and Valve Company. (See Wolfe, Frank L., assignor.)						
Cross, William, Winnipeg, Manitoba, Canada. Means for jointing plates	866,076	Oct. 15	1361	381	130	1772
Cutler-Hammer Manufacturing Company. (See Johannesmeyer, Frederick, assignor.)						
D. T. Owen Company. (See Owen, David T., assignor.)						
D'Arcy, Frank F., Kalamazoo, Mich. Spring	867,952	Oct. 15	1168	323	130	1711
D'Aversa, Ferdinand, and J. Campanello, New York, N. Y. Combined collar-button and necktie-holder	866,535	Oct. 15	2074	581	130	1987
D'La Mesa, Casimiro H., assignor, by mesne assignments, to International Speed Register Co., Philadelphia, Pa. Speed-recorder	866,570	Oct. 15	2123	593-4	130	2004
Dahlheim, Fritz, Philadelphia, Pa. Paint-oil	867,951	Oct. 15	1168	.....	130	1711
Daniel, Francis, West Somerville, Mass. Water-alarm apparatus for vessels	866,254	Oct. 15	1615	457	130	1849
Daniels, Jay V., London, England. Vibrating machine for massaging purposes	866,534	Oct. 15	2074	581	130	1987
Davenport, Whitley D., assignor of one-half to J. Pate, Kaufman, Tex. Massage-machine	866,600	Oct. 15	2193	611	130	2030
Davidson, John R., Mansfield, assignor of one-half to O. O. Banks, Shady Dale, Ga. Clothes-line	866,536	Oct. 15	2075	582	130	1987
Davidson, Theodore, Salem, assignor to Crosby Steam Gage and Valve Company, Boston, Mass. Pop-safety-valve	867,953	Oct. 15	1171	323-4	130	1712
Davis, Corbin R., St. Louis, Mo. Automatic railway-switch	866,414	Oct. 15	1883	528-9	130	1929
Davis, George E., Dubuque, Iowa. Wall construction	867,954	Oct. 15	1173	324	130	1714
Dawson, David J., and J. R. Strubbank, Freedom, Pa. Wrench	866,537	Oct. 15	2076	582	130	1988
Days, Elsbard H., *et al.* (See Eckman, Pierre V. and L. G., assignors.)						
De Alberdi, Claude, Liverpool, England. Self-closing gas tap or valve	866,415	Oct. 15	1886	529-30	130	1930
De Puy, Elliot B., Seattle, Wash. Hydraulic steering apparatus	866,160	Oct. 15	1469	413	130	1806
De Uberdan, Julius U., Binghamton, N. Y. Mechanism for winged flying-machines or air-ships	866,038	Oct. 15	1305	362-3	130	1786
De Uberdan, Julius U., Binghamton, N. Y. Steering-gear for winged flying-machines or air-ships	866,039	Oct. 15	1307	363	130	1786
Deere & Company. (See Marvin, Charles H., assignor.)						
Dectrick, James W., Youngstown, Ohio. Blast connection for furnaces	866,416	Oct. 15	1887	530	130	1930
Dental Protective Supply Company of the United States. (See Morris, Joseph, assignor.)						
Dickerson, E. L. (See Hall, Frank L., assignor.)						
Dill, Frederick W., and J. E. Dill, Lincoln, Kans. Cross-line buckle	866,161	Oct. 15	1470	413	130	1806
Dirkzen, Frank T., Springfield, Ill. Supervisor for incubators	866,162	Oct. 15	1471	414	130	1806
Disbrow, Reuben R., Owensburg, Ky. Combined funnel and strainer	866,235	Oct. 15	1617	457	130	1850
Dixon, Amos P., assignor to Western Electric Company, Chicago, Ill. Circuit for coin-collectors	867,955	Oct. 15	1174	324-5	130	1714
Doak, Samuel G., assignor to W. T. Sawin, Cedar Rapids, Iowa. Draft-equalizer	866,601	Oct. 15	2194	611	130	2030
Dobie, William M., Belfast, Ireland, assignor to Portrush Seals Corporation Limited. Carton-sealing machine for envelopes-up machines or the like	867,956	Oct. 15	1177	326-6	130	1715
Dolan, [illegible], Iowa. Speed-governor	866,231	Oct. 15	1752	494	130	1889
Donner, [illegible], Germany. Take-up device for knitting-machines	866,232	Oct. 15	1753	494-5	130	1889
Donner, [illegible], Germany. Needle-setter and feeler	866,168	Oct. 15	1472	414-15	130	1806
Doolittle, [illegible], assignor to Crane Company, Chicago, Ill. Steam-separator	866,164	Oct. 15	1475	416	130	1807
Doolittle, [illegible], assignor to Crane Company, Chicago, Ill. Gate-valve	866,165	Oct. 15	1476	416	130	1807
Doolittle, [illegible], assignor to Crane Company, Chicago, Ill. Nipple-making machine	866,166	Oct. 15	1476	416-18	130	1807
Doolittle, [illegible], assignor to Crane Company, Chicago, Ill. Nipple-making machine	866,167	Oct. 15	1480	418-20	130	1808

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Doolittle, William W., Evanston, assignor to Crane Company, Chicago, Ill. Making pipe-nipples	868,168	Oct. 15	1494	420	130	1689
Dorsu, John P., Menomonee Falls, Wis. Washbowl	867,967	Oct. 15	1189	326	130	1716
Dorcas, Lewis B., and T. W. Ryan, Hendricks, W. Va. Stove	868,417	Oct. 15	1868	530	130	1991
Doremus, Abraham W., Brooklyn, N. Y. Barrel-tapping device	868,077	Oct. 15	1368	382	130	1773
Dorr, John V. N., Lead, S. D. Decanting apparatus	867,968	Oct. 15	1161	326	130	1716
Dorsey, William S. (See Plumer and Dorsey.)						
Doster, Jakob, Mülheim-on-the-Ruhr, Germany. Violin-bow	868,169	Oct. 15	1495	420	130	1689
Doty, Walter G., assignor to Heinz Manufacturing Co., Dayton, Ohio. Cheese-cutter	868,626	Oct. 15	2240	621	130	2045
Dougherty, John W. (See Turner and Dougherty.)						
Dougherty, John W. (See Turner, Dougherty, and Little.)						
Draper Company. (See Stimpson, Edward S., assignor.)						
Draver, Emil R., Richmond, Ind. Means for imparting gyratory motion to sieve-boxes and other bodies	868,233	Oct. 15	1756	496	130	1891
Drewell, Heinrich, Charlottenburg, Germany. Linotype or composing-machine	868,536	Oct. 15	2076	562	130	1992
Du Pont, Eleuthere P., Montchanin, Del. Gas-engine-reversing switch	868,476	Oct. 15	1978	552	130	1988
Duane, J. J. (See Stanley, William S., assignor.)						
Dunlap, William A., Pittsburg, Pa. Enameled ware	868,078	Oct. 15	1363	382	130	1772
Dunn, Clifford E., New York, N. Y., assignor to E. P. Metcalf, Providence, R. I., A. Loewenthal, New York, and C. E. Dunn, Brooklyn, N. Y., trustees. Machine for reducing peat turf into half-stuff	868,256	Oct. 15	1615	457-8	130	1889
Dwyer, Thomas E., Wakefield, Mass. Making composite pipe	868,418	Oct. 15	1869	530	130	1991
Ebken, John G., Pittsburg, Pa. Vehicle-brake	868,170	Oct. 15	1495	420	130	1689
Eclipse Railway Supply Company. (See Lev, Benjamin, assignor.)						
Eichberg, Friedrich, Berlin, Germany, assignor to General Electric Company. Control of alternating-current motors	868,171	Oct. 15	1496	421	130	1689
Elevator Supply & Repair Company. (See Kirsch, Charles W., assignor.)						
Ellingsen, Elling. (See Van and Ellingsen.)						
Eltom, Robert N. (See Ackerman, Clinton, and Eltom.)						
Emmet, William L. R., Schenectady, N. Y., assignor to General Electric Company. Turbine-bucket	868,419	Oct. 15	1891	531	130	1991
Erickson, Charles H., assignor to Cleveland Wire Spring Co., Cleveland, Ohio. Metallic stool	868,420	Oct. 15	1892	531	130	1992
Ericson, Lars G. (See Ericson, Pierre V. and L. G.)						
Ericson, Pierre V. and L. G., assignors to P. V. and L. G. Ericson, B. Farner, and R. H. Days, New York, N. Y. Line-drier	867,969	Oct. 15	1183	326	130	1716
Ericsson, Albert N. (See McKee, William J., assignor.)						
Erler, August, Carroll, Iowa. Washing-machine	868,172	Oct. 15	1497	421	130	1810
Erler, August, Carroll, Iowa. Hinge	868,173	Oct. 15	1498	421	130	1810
Esty Sprinkler Company. (See Esty, William, assignor.)						
Esty, William, assignor to Esty Sprinkler Company, Laconia, N. H. Automatic sprinkler for stationary fire-extinguishing apparatus and fusible link employed therewith	868,402	Oct. 15	2126	611	130	2089
Evans, John W., Bernie, Mo. Box-lid fastening	868,224	Oct. 15	1787	496	130	1891
Evans, Ralph P., and W. P. Flynn, Ulysses, Nebr. Grain-car-door fastener	868,237	Oct. 15	1869	532	130	1992
Ewbank, Herbert B., Jr., assignor to H. A. Taylor, New York, N. Y. Tire for wheels	868,079	Oct. 15	1364	382	130	1772
F. A. Neider Co. (See Freschl, Alfred, assignor.)						
Fahy, William C., Philadelphia, Pa. Oil-filter	868,397	Oct. 15	1869	496	130	1891
Fairchild, Elmer E., assignor of two-thirds to E. C. Gutland and H. O. Alderman, Rochester, N. Y. Picture-frame	868,657	Oct. 15	2344	622	130	2046
Farbwerke, vorm. Meister, Lucius & Brüning. (See Schmidlin, Robert, assignor.)						
Farbwerke, vorm. Meister, Lucius & Brüning. (See Schmidt, Albrecht, assignor.)						
Farner, Brutus, *et al.* (See Ericson, Pierre V. and L. G., assignors.)						
Farnham, Schuyler E., assignor, by mesne assignments, to National Mfg. & Mailing Co., Racine, Wis. Wrapping and addressing machine	868,398	Oct. 15	1628	488-9	130	1852
Farquhar, Moubray G., Aboyne, Scotland, and A. H. Hill, Birmingham, England. Automatic rifle	867,969	Oct. 15	1194	327	130	1771
Featherstone, William H., Chatham, England. Fire-hydrant	868,080	Oct. 15	1365	382	130	1773
Fell, John G., New York, N. Y. Carpenter's square	868,421	Oct. 15	1869	531-2	130	1992
Fell, Julius P., Berclair, Tex. Package gripper and holder	867,981	Oct. 15	1195	327	130	1717
Ferris, William D., Sterling, Ill. Hasp and handle	868,549	Oct. 15	2004	553	130	1992
Finch, Abram, Boone, assignor of one-half to A. W. Morgan, Perry, Iowa. Force-feed lubricator	868,174	Oct. 15	1499	421	130	1810
Finley, Herschel C., Cherryvale, Kans. Oil-burner	868,175	Oct. 15	1499	422	130	1811
Finton, Walter L., Appleton, Wis. Grain-bin	867,982	Oct. 15	1196	327-8	130	1717
Fischer, Adam E., New York, N. Y. Well-door for dumb-waiters	868,422	Oct. 15	1869	532	130	1993
Fischer, Ernst, Dresden, Germany, assignor to Arabol Manufacturing Company, New York, N. Y. Resin soap	867,983	Oct. 15	1196	328	130	1718
Fisher, Henry, Everly, Iowa. Wrench	868,176	Oct. 15	1501	422	130	1811
Flagg, Eben M., New York, N. Y. Dental regulator and spacer	868,626	Oct. 15	2346	622	130	2046
Flynn, Walter P. (See Evans and Flynn.)						
Ford, Patrick, Chicago, Ill. Excavating rock tunnels	868,269	Oct. 15	1627	489-90	130	1854
Foregger, Richard von, assignor to Roessler & Hasslacher Chemical Company, New York, N. Y. Apparatus for generating oxygen	867,984	Oct. 15	1199	328	130	1718
Forester, Gustav G., Bagley, Iowa. Pump-drain	868,541	Oct. 15	2005	553	130	1992
Forkarth, Josef F., Innsbruck, Austria-Hungary, assignor to F. Schrey, Berlin, Germany. Type-writing machine	868,226	Oct. 15	1788	497	130	1891
Forsell, Axel E., assignor of one-third to O. L. Bard, Duluth, Minn. Nut-lock	868,236	Oct. 15	1789	497	130	1892
Forter Miller Engineering Co. (See Waldburger, John A., assignor.)						
Foster, Merriam and Company. (See Palmer, Harry A., assignor.)						
Frampton, Reynolds C., Swissvale, assignor to Pittsburg Water Heater Company, Allegheny, Pa. Combination-valve	868,177	Oct. 15	1499	422	130	1811
Frear, Clark E., Lake Winola, Pa. Controller for motor-vehicles	868,081	Oct. 15	1366	383	130	1773
Freeman, Charles E. (See Pietzuch and Brown, assignors.)						
French, Clinton H., San Francisco, Cal. Tripod for music-stands and the like	868,260	Oct. 15	1629	490	130	1855
Freschl, Alfred, Chicago, Ill., assignor to F. A. Neider Co., Augusta, Ky. Curtain-fastener	868,082	Oct. 15	1369	383	130	1774
Frink, Herbert J., Holyoke, Mass. Grindstone-flange	867,985	Oct. 15	1199	329	130	1718
Fuchs, Caspar, Meiringen, Switzerland. Marine life-saving apparatus	867,986	Oct. 15	1199	329	130	1719
Fuller, Emory A., Mason, Mich. Extension-table	868,423	Oct. 15	1869	532	130	1993
Gardner, Herbert W., Detroit, assignor to National Device Co., Kalamazoo, Mich. Advertising device	868,543	Oct. 15	2007	553	130	1993
Gardner, Nancy A. (See Adler, Harris B., assignor.)						
Gartley, William H., assignor to United Gas Improvement Company, Philadelphia, Pa. Preparing illuminating-gas	868,698	Oct. 15	2196	612	130	2031
Geanakopulos, Constantinos H., Reading, Pa. Making tiles	868,261	Oct. 15	1629	489	130	1855
Gee, James E., London, England. Device for cleaning floors	867,987	Oct. 15	1199	329	130	1719
Gehrung, Julien A., New York, N. Y. Signal system	868,424	Oct. 15	1869	532	130	1994
Geiger, Hans K., Munich, Germany. Burglar-alarm	868,542	Oct. 15	2006	554	130	1994
Geist, Ernst H., Cologne, Germany. Combined steering and braking device for motor-cars	868,227	Oct. 15	1789	497	130	1892

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General Electric Company. (See Eichberg, Friedrich, assignor.)						
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General Electric Company. (See Knight, Charles D., assignor.)						
General Electric Company. (See Lamp, Hermann, assignor.)						
General Electric Company. (See Mann, Arthur S., assignor.)						
General Electric Company. (See Priest, Edward D., assignor.)						
General Electric Company. (See Ransom, Henry N., assignor.)						
General Electric Company. (See Steinmetz, Charles P., assignor.)						
General Electric Company. (See Ulke, Darwin, assignor.)						
General Electric Company. (See Weintraub, Ezechiel, assignor.)						
General Electric Company. (See White, Harold E., assignor.)						
General Electric System. (See Berry, Charles E., assignor.)						
General Fire Extinguisher Company. (See Allen, Philip, assignor.)						
General Fireproofing Company. (See Wege, Peter M., assignor.)						
General Fireproofing Company. (See White and Wege, assignors.)						
George, Adelbert D. and A. B., Dixon, Ill. Tablet and pencil holder	868,083	Oct. 15	1368	383	130	1774
George, Austin B. (See George, Adelbert D. and A. B.)						
Gibbs, Charles, assignor to Underwood Typewriter Company, New York, N. Y. Typewriter. (Reissue)	12,702	Oct. 15	2250	623	130	2047
Giddings, Squire R. (See Blevins and Giddings.)						
Gilbert, Joel M., Summit, N. J. Dish-washer	867,968	Oct. 15	1194	330	130	1720
Gillespie, James T. (See Kinkead and Gillespie.)						
Girtanner, Frederick, Cleveland, Ohio, assignor, by mesne assignments, to American Stoker Company. Grate	868,338	Oct. 15	1762	498	130	1892
Glessner, Charles E., Ouray, assignor of one-half to C. Anderson, Telluride, Colo. Speed-regulator	868,604	Oct. 15	2198	612-13	130	2131
Goetze, John, Carlstadt, N. J. Brooder	868,262	Oct. 15	1631	461	130	1855
Goffin, Joseph E., Oudenbosch, Netherlands. Acetylene-gas generator	868,425	Oct. 15	1902	533	130	1994
Gogel, Jacob, Toledo, Ohio. Hydrocarbon-burner	868,084	Oct. 15	1369	383	130	1774
Gold, Edward, Vancouver, British Columbia, Canada. Machine for imparting spiral movement to piles	868,339	Oct. 15	1763	498-9	130	1893
Goodchild, Clark, Providence, R. I. Dispensing-can	868,426	Oct. 15	1906	533	130	1993
Goodrich, Harry C., Oak Park, Ill. Hot-water heater	868,085	Oct. 15	1370	384	130	1774
Gordon, Joseph A., Shawnee, Okla. Ter. Telephone attachment	868,544	Oct. 15	2090	584	130	1994
Goss, George F., Wallingford, Pa. Pool-ball rack	868,427	Oct. 15	1907	534-5	130	1993
Goss Printing Press Company. (See Goss, Samuel G., assignor.)						
Goss, Samuel G., assignor to Goss Printing Press Company, Chicago, Ill. Form-cylinder for printing-presses	868,263	Oct. 15	1632	461-2	130	1856
Goughnour, George H., Stuart, Iowa. Wire-splicer	868,178	Oct. 15	1493	423	130	1811
Graham, Wilson L., Ashland, Ill. Wagon end-gate	868,545	Oct. 15	2091	584	130	1993
Gravity Conveyor Company. (See Schwab, Martin C., assignor.)						
Gray, Peter, Cambridge, Mass. Signal device	868,546	Oct. 15	2092	584-5	130	1993
Green, David N., Sunbury, Ohio. Wave-motor	868,547	Oct. 15	2096	585-6	130	1997
Green, Wade H., *et al.* (See Merkel, Bernard F., assignor.)						
Greer, Joseph A. (See Stewart and Greer.)						
Griffin, William J., Marley, Mich. Compressed-air tank	868,548	Oct. 15	2096	586	130	1993
Griffith, Patrick G., London, England. Apparatus for use in purifying water and other liquids	867,989	Oct. 15	1196	330	130	1720
Griswold, George G., *et al.* (See Merkel, Bernard F., assignor.)	868,179	Oct. 15	1494	422	130	1812
Griswold, John C., New York, N. Y. Clasp-knife	868,428	Oct. 15	1911	535	130	1997
Grossman, Martin, New York, N. Y. Machine for punching stair-stringers	868,429	Oct. 15	1915	535	130	1993
Grossman, Samuel, New York, N. Y. Metal column, post, and the like	868,430	Oct. 15	1915	536	130	1993
Grossman, Samuel, New York, N. Y. Stair	868,431	Oct. 15	1916	536	130	1993
Groth, Bernhard L., St. Louis, Mo. Stump-puller	868,264	Oct. 15	1634	462	130	1856
Guillaume, Charles E., Sèvres, France. Compensation device for torsional pendulums	868,549	Oct. 15	2099	586	130	1993
Gunsolus, Roy E., San Jose, Cal. Chalking device for billiard-cues	868,550	Oct. 15	2099	586-7	130	1993
Gutland, Edward C., *et al.* (See Fairchild, Elmer E., assignor.)	868,551	Oct. 15	2101		130	1993
Hagerty, Thomas F., New York, N. Y. Plaiting-machine	868,432	Oct. 15	1917	536	130	1993
Hall, Benjamin, Nevada City, Cal. Extracting gold and silver from ores	868,552	Oct. 15	2101	587	130	1993
Hall, George F., Providence, R. I. Sprinkler for extinguishing fires	868,553	Oct. 15	2102	587	130	1993
Hall, John F., Columbus, Ohio. Penholder	868,554	Oct. 15	2103	587	130	1993
Hall, Langley, Astoria, Oreg. Car-axle	868,555	Oct. 15	2104	588-9	130	1993
Hamaker, Elmer. (See Holt, William E., assignor.)	868,086	Oct. 15	1373	384	130	1775
Hamilton, William H., assignor of one-half to H. B. Hoyt, De Kalb, Ill. Lawn-trimmer	868,180	Oct. 15	1496	423	130	1812
Hansen, Thorvald, Everett, assignor, by mesne assignments, to Standard Fibre Company, Somerville, Mass. Machine for making vulcanised-fiber tubes	868,556	Oct. 15	2106	589	130	2000
Hanson, Bengt M. W., and J. H. Montstream, assignors to Pratt & Whitney Company, Hartford, Conn. Adjustable cam	868,433	Oct. 15	1918	536	130	1993
Harden, Thomas. (See Smith and Harden.)	868,434	Oct. 15	1919	537	130	1993
Harian, Martin C., South Pasadena, Cal. Insect-trap	868,087	Oct. 15	1374	384-5	130	1775
Harris, Adolphus H., Birmingham, Ala. Lock	868,557	Oct. 15	2107	589	130	2000
Harris, Amboe M. (See Krieger, Andrew, assignor.)	868,265	Oct. 15	1636	462	130	1857
Harrison, Elmer, Philadelphia, Pa. Rack for grain-shocks and the like	868,181	Oct. 15	1497	424	130	1813
Harrison, Samuel A., New York, N. Y. Sorting-desk	868,266	Oct. 15	1637	463	130	1857
Harrold, Amos, assignor to Aultman & Taylor Machinery Company, Mansfield, Ohio. Cable-feed mechanism for sawmills	868,182	Oct. 15	1498	424	130	1813
Hart, Robert A., West Liberty borough, Pa. Support for punching-bags	868,558	Oct. 15	2108	589	130	2000
Hartford, Edward V., New York, N. Y. Carburetor for internal-combustion engines	868,435	Oct. 15	1921	537	130	1993
Harvey, Matthew, Walsall, England. Portable crucible-furnace	868,088	Oct. 15	1376	385	130	1776
Hawthorne & Sheble Manufacturing Company. (See Mobley, Edwin H., assignor.)	867,970	Oct. 15	1197	331	130	1721
Haycox, Edward, Toledo, Ohio. Fruit-picker's ladder	868,183	Oct. 15	1499	425	130	1813
Hayden, George W., assignor to Crane Company, Chicago, Ill. Radiator-valve	868,559	Oct. 15	2108	590	130	2000
Haynes, James H., De Leon, Tex. Combined post-hole digger and wire-stretcher	868,089	Oct. 15	1377	385-6	130	1776
Heald, James N., assignor to Heald Machine Company, Worcester, Mass. Apparatus for transmitting power	868,090	Oct. 15	1378	386	130	1776
Heald Machine Company. (See Heald, James N., assignor.)	868,091	Oct. 15	1380	386	130	1777
Heap, William, Muskegon, Mich. Float for flushing-tanks	868,184	Oct. 15	1500	426	130	1814
Hedborg, Ellen C., Minneapolis, Minn. Apple-coring device						
Heggen, John, Seattle, Wash. Water-bicycle						
Heinz Manufacturing Co. (See Doty, Walter G., assignor.)						
Heitzenrater, Samuel J., Covode, Pa. Hinge for stacker-sections and the like						
Helb, Edward, Railroad, Pa. Level						
Helms, Robert C., assignor of one-half to H. A. Pearce, Dothan, Ala. Milestone-dressing machine						
Hemp, Thomas, assignor of one-half to J. H. Swortzel, Middlebrook, Va. Nut-lock						
Hendy, John, and H. J. S. Stobart, West Smethwick, England. Oil-vapor lamp						
Henke, Frederick J. (See Schmeller and Henke.)						
Hennebique, François, Paris, France. System of construction for foundations, dams, sea-walls, and the like	868,092	Oct. 15	1380	387	130	1777

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Hermand, Lucien, Montmorency, France. Wrench				537	130	1040
Herrick, Charles J. (See Herrick and Meaney, assignors.)						
Herrick, George S., and W. H. Meaney, assignors of one-third to C. J. [illegible], Syracuse, N. Y. Willow-stripper				490	130	1324
Hetlesaeter, Olaf, Milwaukee, Wis. Excavator				483	130	1388
Heybach, Frederick J., assignor of one-half to Morehouse Manufacturing Co., Ga. Can-tapping apparatus				613	130	2032
Hill, Arthur H. (See Farquhar and Hill.)						
Hill, John B. (See Dill and Hill.)						
Himalaya, Manuel A. C. (See Brown and Moore, assignors.)						
Hodges, Charles B., Pittsburg, Pa. Interheater for compound compressed-air engines				880	130	2031
Hoefling, Joseph, Grand Rapids, Mich. Wheel-fender for cars				881	130	1721
Hoffman, Carl, Detroit, Mich. Coffee pot and steeper				880	130	2031
Holden, Andreas H., Långed, Sweden. Centrifugal-separator for wood-pulp and similar materials				460	130	1894
Holmes, Elbridge R., and L. B. Jenska, Worcester, Mass., assignors to Crompton & Knowles Loom Works. Tape-winder for tape-looms				484	130	1889
Holt, William E., assignor of one-third to E. Hamaker, Butte, Mont. Spoke-socket				881	130	2031
Holzmann, Ernest, Brooklyn, N. Y. Fishing-rod guide				881	130	2031
Homan, James, Springfield, Ohio. Incubator				881	130	2031
Homan, James, Springfield, Ohio. Thermostat				881	130	1721
Hoover, Charles, Seattle, Wash. Vegetable-disintegrator				483	130	2047
Hoover, Jacob B., Columbus, Ohio. Muffler for gas-engines				888	130	1949
Horinek, Rudolf E., Atwood, Kans. Belt guide and shifter				888	130	1721
Hoyt, H. B. (See Hamilton, William H., assignor.)				883	130	1721
Hoyt, William H., Wyoming, N. J. Making molded flat sound-records				889	130	1721
Hubert, Conrad. (See Coleman, Clyde J., assignor.)						
Hübsch, Joseph, New York, N. Y. Mechanical animal						
Huffmaster, Charles A., San Leandro, Cal. Pipe-laying machine				891	130	2032
Hughes, Theophilus V., Birmingham, England. Apparatus for the heat treatment of metals				891-2	130	2032
Hughes, Willow W., Los Angeles, Cal. Food-preservative compound				426	130	1814
Hulbert, James, Ashtabula, Ohio. Bag-holder					130	2032
Hummer, Arthur C., Seattle, Wash. Butter-cutter				464	130	1889
Hunsinger, John E., assignor to E. A. and F. Cheney, Saginaw, East Side, Mich. Oil-testing tablet				890	130	1895
Hunt, Mark, Rockford, Ill. Combination-tool				464	130	1889
Hurley, John A., Bridgeport, Conn. Food-chopper				890	130	1895
Hutchings, John, London, England. Turbine				890	130	1895
Hutchins, George F., Worcester, Mass., assignor to Crompton & Knowles Loom Works. Shuttle-box motion for looms				892-9	130	1941
Hutchison, William R. (See Stitzer, David, assignor.)				494-5	130	1889
Hyatt Roller Bearing Company (See Lockwood, Charles S., assignor.)						
Hyed, William A., assignor to Superior Sheet Metal Works Company, Indianapolis, Ind. Water-cooling apparatus				839	130	1942
Iblings, Herman E. (See Iblings, Peter H. and H. E.)						
Iblings, Peter H., Parkersburg, and H. E. Iblings, Waterloo, Iowa. Elevated carrier				426	130	1814
International Speed Register Co. (See D'La Monte, Cassious H., assignor.)						
International Sprinkler Company. (See Lewis, Arthur M., assignor.)						
International Sprinkler Company. (See Scott, John C., assignor.)						
Irenius, Joseph V., assignor to Larkin Company, Buffalo, N. Y. Soap-shaver				893-8	130	1723
Iriand Pipe Wrench Company. (See Richards, Joseph E., assignor.)						
Iriand Pipe-Wrench Company. (See Richards and Walker, assignors.)						
Ives, John F., New Britain, Conn. Percolator						
James, Thomas, Swansea, England. Automatic plate-carrier				426	130	1815
James, Walter, Brushton, Pa. Folding crate				888	130	1724
Jenckes, Lawrence B. (See Holmes and Jenckes.)				840	130	1943
Jenkins, Charles D., Boston, Mass. Compressed-air motor				840	130	1943
Jenkins, Frederick C., assignor to L. L. Jenkins, Goldington, near Bedford, England. Apparatus for feeding envelopes				897-8	130	1777
Jenkins, Laura L. (See Jenkins, Frederick C., assignor.)						
Jensen, Niels P., Ephraim, Utah. Holder for overshoes				882	130	2003
Jepson, Joseph C., San Francisco, assignor of one-half to E. K. Taylor, Alameda, Cal. Paint or coating composition				840	130	1943
Jerkins, William J., Moultrie, Ga. Fork				888	130	1779
Johannsmeyer, Frederick, assignor to Cutler-Hammer Manufacturing Company, Milwaukee, Wis. Support for electrical resistances				426	130	1860
Johnson, William T., New York, N. Y. Return-envelop				426	130	1861
Johnson, Woolsey M., Iola, Kans. Treating ferruginous blende					130	1896
Jones, Alfred E., New York, N. Y. Steam-boiler				426	130	1861
Jones, Isaac W., Gap, Tex. Animal-trap				888	130	2003
Jones, Walter W., Columbus, Ga. Basket-grate				888	130	1816
Jones, William D. (See Parker and Jones.)						
Jones, William T. (See Doak, Egbert O., assignor.)						
Jonson, Johan A. (See Nilsson and Jonson.)						
Jungqren, Oscar, Schenectady, N. Y., assignor to General Electric Company. Electric-fluid turbine				888	130	2003
Just, John A., Syracuse, N. Y. Obtaining milk-sugar					130	1943
Just, John A., Syracuse, N. Y. Making lactic acid					130	1944
Just, John A., Syracuse, N. Y. Preparing casein soluble to a neutral solution					130	1944
Just, John A., Syracuse, N. Y. Drying apparatus					130	1944
Just, John A., Syracuse, N. Y. Evaporating				888	130	1944
Kaiser, Paul G., Chicago, Ill. Vacuum-pan					130	1945
Kays, Joseph W. (See Chrysler and Kays.)					130	1802
Keil, Ernst, Granville, Ohio. Self-oiling lathe-center				441	130	1946
Kennedy, James W., Chicago, Ill., assignor, by mesne assignments, to Kennedy Typewriter Company of Manhattan, New York, N. Y. Type-bar action for type-writing machines						
Kennedy, Martin, assignor of one-half to W. F. Renshaw, Chicago, Ill. Railway-car construction				889	130	1780
Kennedy, Martin, assignor of one-half to W. F. Renshaw, Chicago, Ill. Grain-door				889	130	1780
Kennedy Typewriter Company of Manhattan. (See Kennedy, James W., assignor.)						
Kennedy, Walter, Allegheny, Pa. Charge-distributing apparatus for blast-furnaces				889	130	1782
Kiernan, Patrick W., Lowell, Mass. Apparatus for expanding or stretching textile fabrics						
Kiesler, John, Hyde Park, Mass., assignor to Wheeler Manufacturing Company. Clamping mechanism for buttonhole-sewing machines				894	130	1806
Kinnard, William, Clyde, and J. T. Gillespie, Chicago, Ill. Ticket-cutter				889	130	1782
Kirsh, Charles W., Chicago, Ill., assignor to Elevator Supply & Repair Company. Door mechanism for elevator-shafts				894-5	130	1816
				895-6	130	1724
				895-9	130	1946

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Drg.	Official Gazette. Vol.	Page
Kistler, Samuel L., Los Angeles, Cal. Nozzle for vaginal syringes	892,680	Oct. 15	1944	542	130	1037
Kitz, Max, Kingsburg, Germany. Condensing tar from gaseous products of dry distillation	892,247	Oct. 15	1726	491	130	1037
Klauss, Reinhold J., assignor of one-half to J. D. Lapp, New York, N. Y. Circular-knitting machine						
Klein, Paul A., Berlin, Germany. Machine-moulding for books, tablets, &c.	892,681	Oct. 15	1945	542	130	1037
Knapp, Charles F., Jr., Boston, Mass. Signaling apparatus	892,682	Oct. 15	1827	542-4	130	1038
Knapp, Charles F., Jr. (See Knapp, Charles F., assignor.)						
Knauer, Gustav H., and Theodor H. F., assignor of two-thirds to G. and K. Knauer. Pocket-knife	892,677	Oct. 15	1938	491	130	1038
Knauer, Gustav H. (See Knauer, Theodor H., assignor.)						
Knauer, Theodor H., Sandusky, N. Y., assignor to General Electric Company. Dynamo-electric machine	892,169	Oct. 15	1939	491	130	1038
Knight, Albert G., assignor to Stokes & Parish Rubber Company, Erie, Pa. Stoker	892,683	Oct. 15	1941	542	130	1038
Knight, Albert G. (See Knight, Albert G., assignor.)	892,684	Oct. 15	1942	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,685	Oct. 15	1942	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,686	Oct. 15	1943	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,687	Oct. 15	1943	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,688	Oct. 15	1777	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,689	Oct. 15	1943	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,690	Oct. 15	1944	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,691	Oct. 15	1944	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,692	Oct. 15	1944	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,693	Oct. 15	1944	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,694	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,695	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,696	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,697	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,698	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,699	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,700	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,701	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,702	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,703	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,704	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,705	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,706	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,707	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,708	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,709	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,710	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,711	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,712	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,713	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,714	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,715	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,716	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,717	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,718	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,719	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,720	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,721	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,722	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,723	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,724	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,725	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,726	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,727	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,728	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,729	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,730	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,731	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,732	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,733	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,734	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,735	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,736	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,737	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,738	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,739	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,740	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,741	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,742	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,743	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,744	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,745	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,746	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,747	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,748	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,749	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,750	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,751	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,752	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,753	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,754	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,755	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,756	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,757	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,758	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,759	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,760	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,761	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,762	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,763	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,764	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,765	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,766	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,767	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,768	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,769	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,770	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,771	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,772	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,773	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,774	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,775	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,776	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,777	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,778	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,779	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,780	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,781	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,782	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,783	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,784	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,785	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,786	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,787	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,788	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,789	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,790	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,791	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,792	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,793	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,794	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,795	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,796	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,797	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,798	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,799	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,800	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,801	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,802	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,803	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,804	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,805	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,806	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,807	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,808	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,809	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,810	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,811	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,812	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,813	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,814	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,815	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,816	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,817	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,818	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,819	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,820	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,821	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,822	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,823	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,824	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,825	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,826	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,827	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,828	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,829	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,830	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,831	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,832	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,833	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,834	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,835	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,836	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,837	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,838	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,839	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,840	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,841	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,842	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,843	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,844	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,845	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,846	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,847	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,848	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,849	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,850	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,851	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,852	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,853	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,854	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,855	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,856	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,857	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,858	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,859	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,860	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,861	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,862	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,863	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,864	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,865	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,866	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,867	Oct. 15	1945	542	130	1039
Knight, Albert G. (See Knight, Albert G., assignor.)	892,868	Oct. 15	1945	542	130	1039
Knight,

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Madison Kipp Lubricator Company. (See Stalting, Albert A., assignor.)						
Magidson, Frank. (See Wolkosky, Magidson, Printz, and Wolkosky.)						
Magidson, Frank, assignor to Westmoreland Automatic Machine Company, Irwin, Pa. Glass-polishing machine	868,261	Oct. 15	1781	808	130	1866
Malfoons, Frank, U. S. Navy. Leak-stopper	868,474	Oct. 15	1820	805	130	1866
Mallory, Charles M., and J. M. Slaughter, assignors of one-half to Nixon Mining Drill Company Inc., Chattanooga, Tenn. Insulator-pin-making machine	868,270	Oct. 15	2131	806-7	130	2007
Manchester, Frederic H., assignor to Providence Gas Burner Company, Providence, R. I. Electric incandescent lamp-base	868,103	Oct. 15	1695	671	130	1865
Mann, Arthur S., Schenectady, N. Y., assignor to General Electric Company. Control system	868,494	Oct. 15	2269	548	130	1909
Marion Steam Shovel Company. (See Barnhart, Harry J., assignor.)						
Marr, Lewis C., Wall Rose, Pa. Shop for vehicles, &c	868,288	Oct. 15	1784	808	130	1899
Marsters, Edward T., Albany, N. Y. Hot-air furnace	868,288	Oct. 15	1849	457	130	1865
Martin, James W. (See Martin, Thomas F., assignor.)						
Martin, Thomas F., assignor of one-half to J. W. Martin, Morgantown, W. Va. Envelop and stamp moistener	868,699	Oct. 15	2290	615	130	2008
Mathers, William H. (See Nelson and Mathers.)						
Martin, John C. (See Rogley, Moses F., assignor.)						
Martin, Richard A., Jr., West Warren, Mass. Railway-spike	868,233	Oct. 15	1705	804	130	1860
Masek, Marcellus M., Atlanta, Ga. Combined bucket and cooker	868,455	Oct. 15	1805	548	130	1864
Mayer, Ernest, assignor of one-half to J. Mayer, Beaver Falls, Pa. Bedding consisting of wire for firing	868,105	Oct. 15	1693	388	130	1705
Mayer, Joseph. (See Mayer, Ernest, assignor.)						
Mayo, Clarence F., Clifton Hill, Me. Gate-latch	868,450	Oct. 15	1807	548	130	1864
Mayo, Charles P., Washington, D. C. Armor for tires	867,986	Oct. 15	1688	389	130	1722
McAllaster, Lewis C., assignor of one-half to C. Cannonland, Sacramento, Cal. Automatic switch for railways	868,464	Oct. 15	1849	616	130	2007
McArthur, Alexander F., Orange, N. J. Electric lamp	868,110	Oct. 15	1410	398	130	1707
McCarty, Fred P., assignor to Peerless Electric Company, Warren, Ohio. Brush-holder	868,469	Oct. 15	1905	549	130	1905
McCaskey Register Company. (See Purdie, Rollin D., assignor.)						
McCoy, William, Cressona, Pa. Railway-tie	868,262	Oct. 15	1809	449	130	1866
McElhaney, James R., Montpelier, Cal. Automatic feed-regulator for sealers	868,263	Oct. 15	1809	449	130	1866
McIntyre, John, Jersey City, N. J. Electromagnetic apparatus	868,453	Oct. 15	1809	548	130	1865
McIntyre, Robert S., Riverside, Cal. Sprocket wheel and chain	868,454	Oct. 15	1809	548	130	1865
McKee, William J., assignor of one-half to A. N. Ericsson, Detroit, Mich. Firearm	868,264	Oct. 15	1809	617	130	1867
McKibbin, John S., Atlanta, Nebr. Collapsible crate or case	868,265	Oct. 15	1809	617	130	1868
McLean, Irving, Greencastle, Ind. Pole-changer	868,266	Oct. 15	1809	449-1	130	1868
Middleton, Samuel D., Lake, N. C., assignor of one-half to F. F. Cardwell, Ringgold, Va. Looking display-stand	868,700	Oct. 15	2290	597	130	2009
Middleton, Harry E., Hutchinson, Kans. Hollow steel tie	867,989	Oct. 15	1697	362	130	1724
Midland, William D., Toledo, Ohio. Cushion-tire	868,245	Oct. 15	1809	441	130	1859
Meaney, William H. (See Herriot and Meaney.)	868,246	Oct. 15	1809	441	130	1859
Melvin, Charles H., assignor to Deere & Company, Moline, Ill. Lister-cultivator	868,267	Oct. 15	1809	389-5	130	1725
Mendel, Felix, Essen-on-the-Ruhr, Germany. Telautomatic compound	868,254	Oct. 15	1841	.....	130	1859
Merkel, Bernard F., assignor of one-half to G. G. Griswold and W. H. Green, Salida, Colo. Signal system	868,254	Oct. 15	1705	804	130	1859
Metcalf, Edward P., et al., trustees. (See Dunn, Clifford E., assignor.)						
Meyer, Philip, Santa Rosa, Cal. Gas-generator	868,255	Oct. 15	1809	469	130	1859
Middleton, William, and H. N. G. Cobbe, Kalgoorlie, Western Australia, Australia. Shoe and rib of grinding-pans	867,990	Oct. 15	1809	389-90	130	1722
Miles, Isaac, Beaumont, S. D. Windmill	867,990	Oct. 15	1809	389	130	1723
Miller, Adolph W. (See Weithich and Miller.)						
Miller, Edward J., et al. (See Bauer, William, assignor.)						
Miller, James W., Gillespie, Ill. Fan-ventilator	868,256	Oct. 15	1809	429	130	1859
Mills, James G., Toronto, Ontario, Canada. Mold for veneering walls with cement	868,256	Oct. 15	1809	471	130	1859
Mills, Joseph, Buffalo, N. Y., assignor of one-half to E. N. Dickerson, Stovall, N. C. Purifying iron	868,699	Oct. 15	2291	.....	130	2005
Mitchell, James R. (See Mitchell, Winfield J. and J. R.)						
Mitchell Puncturless Pneumatic Tire Company. (See Mitchell, Winfield J. and J. R., assignors.)						
Mitchell, Winfield J., Pittsfield, N. H., and J. R. Mitchell, Tompleton, assignors to Mitchell Puncturless Pneumatic Tire Company, Swampscott, Mass. Vehicle-wheel	868,611	Oct. 15	2282	615	130	2005
Mobley, Edwin H., Ardsley, assignor of one-half to Hawthorne & Shebler Manufacturing Company, Philadelphia, Pa. Sound-conveying device	868,677	Oct. 15	2284	615	130	2006
Moltrup, James T., Beaver Falls, Pa. Attachment for grinding-machines	867,991	Oct. 15	1699	849-1	130	1723
Monarch Tile Company. (See Nicholls, William T., assignor.)						
Monarch Typewriter Company. (See Seib, George A., assignor.)						
Mond, Robert. (See Rollason, Arthur, assignor.)						
Monfort, Abram C., Providence, R. I. Resilient-tired wheel for automobiles and other vehicles	868,257	Oct. 15	1844	498	130	1836
Montgomery, John A., Walton, N. Y. Pole and shaft for road-vehicles	867,988	Oct. 15	1705	361	130	1723
Montstream, John H. (See Hanson and Montstream.)						
Moore, Alban S., London, England. Device for preventing slipping of motor-driven vehicles	868,243	Oct. 15	1845	499	130	1827
Moore, Charles J., Lebanon, Ill. Shipping device for friction-clutches	868,244	Oct. 15	1847	805	130	1786
Moore, David P. (See Brown and Moore.)						
Morehouse Manufacturing Co. (See Heybach, Frederick J., assignor.)						
Morgan, A. W. (See Finch, Abram, assignor.)						
Moriarty, Thomas J., Newport, R. I. Means for carrying and handling torpedoes on vessels	868,252	Oct. 15	2285	615-16	130	2006
Morris, Joseph, North Wales, Pa., assignor to Dental Protective Supply Company of the United States, Chicago, Ill. Making artificial teeth	868,100	Oct. 15	1692	388	130	1706
Moulton, Ida M. (See Locke, Warren E., assignor.)						
Mueller, Emil, Chicago, Ill. Tool-holder	867,992	Oct. 15	1702	361	130	1723
Mueller, Friedrich, St. Louis, Mo. Brick-machine	868,268	Oct. 15	1809	389-5	130	1900
Mulcahy, Thomas, Princeville, Ill. Cultivator	868,269	Oct. 15	1809	805	130	1900
Müller, George M., New York, N. Y. Game apparatus	868,247	Oct. 15	1845	499	130	1827
Müller, Rudolf, Göteborg, Sweden. Machine for chain-making	868,248	Oct. 15	1847	471	130	1866
Mullikin, Levin H., Trappe, Md., assignor to P. & F. Corbin and Russell & Erwin Manufacturing Company, New Britain, Conn. Lock-casing	868,249	Oct. 15	1849	499	130	1827
Mullikin, Levin H., Trappe, Md., assignor to P. & F. Corbin and Russell & Erwin Manufacturing Company, New Britain, Conn. Lock-casing	868,250	Oct. 15	1849	499	130	1828
Munday, Robert, Fulton, Ark. Locking-hanger for paper bags	868,251	Oct. 15	1849	449	130	1828
Murphy, Leonard, Dublin, Ireland. Apparatus for indicating the depth of liquid in a vessel	868,258	Oct. 15	1845	499	130	1866
Musser, John D., Easton, Ohio. Conveying device	867,994	Oct. 15	1699	389	130	1733
National Device Co. (See Gardiner, Herbert W., assignor.)	867,995	Oct. 15	1699	389	130	1734
National Mfg. & Mailing Co. (See Farnham, Schuyler E., assignor.)						
Neal, Walter C., Pittsfield, Mass. Curtain-pole	868,459	Oct. 15	1809	549	130	1955

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Neat, Benjamin C., et al. (See Bauer, William, assignor.)						
Neely, Edward, Chicago, Ill. Corset	868,267	Oct. 15	1809	472	130	1866
Nelson, Fred A., Auburn, N. Y. Carriage-curtain knob	868,111	Oct. 15	1411	396	130	1707
Nelson, Fred A., Auburn, N. Y. Vehicle-curtain fastener	868,217	Oct. 15	1554	462	130	1859
Nelson, Joseph W., [illegible] N. Y., and Mathers, New York, N. Y.; said Mathers assignor to said Nelson.	867,997	Oct. 15	1698	362	130	1724
Nelson, Charles A., [illegible] Rod. Reel-turning gear for vehicles	867,998	Oct. 15	1698	362	130	1725
Newman, James A., [illegible] Ohio. Clothes-rack	868,112	Oct. 15	1412	397	130	1707
Nicholls, William T., assignor to Monarch Tile Company, Weston, W. Va. Machine for making [illegible] and other articles	868,577	Oct. 15	2138	597-8	130	2009
Nicholls, William T., assignor to Monarch Tile Company, Weston, W. Va. Method and apparatus for [illegible] clay sheets	868,578	Oct. 15	2139	598-9	130	2010
Nilsson, Frans O., and J. A., assignors to Aktiebolaget Vincentrifugen, Stockholm, Sweden. Centrifugal [illegible]	868,268	Oct. 15	1672	472	130	1866
Nimon Mining Drill Company, Inc. (See Mallory and Slaughter, assignors.)						
Norton Door Check Co., [illegible] Lewis C., assignor.)						
Norton, Lewis C., Boston, assignor to Norton Door Check Co., Boston, Mass. Door-check	868,257	Oct. 15	1791	805-6	130	1902
Norton, William [illegible], assignor, by mesne assignments, to U. S. Standard Voting Machine Co., N. Y. Voting-machine	868,579	Oct. 15	2141	899-900	130	2010
Nowell, A[illegible] Ontario, Canada. Car-truck	867,999	Oct. 15	1703	363	130	1726
Nye, [illegible] Controlling apparatus for heat-engines	868,269	Oct. 15	1794	806-7	130	1903
O'Brien, [illegible] Kitchen utensil	868,260	Oct. 15	1804	807	130	1903
O'Connell, [illegible] Saddle-harness ring	868,113	Oct. 15	1805	808	130	1903
Oetjen, [illegible] Coupling device for gas-fittings	868,114	Oct. 15	1413	397	130	1707
Ogden, [illegible] Masting-gage	868,115	Oct. 15	1414	397	130	1708
Ohlen, [illegible] and Ohlen) Step for wagons	868,116	Oct. 15	1415	398	130	1708
Olsen, [illegible] Covering for fireproof construction	868,117	Oct. 15	1415	398	130	1708
Olsen, [illegible] Movable fire-escape for buildings	868,470	Oct. 15	1971	549	130	1905
Osborn, [illegible] Boot-search	868,218	Oct. 15	1554	462-3	130	1859
Osborne, [illegible] to Osborne Steam Engineering Company, Chicago, Ill. Apparatus for the extinguishment of fires						
Osborne, [illegible] Company. (See Osborne, Eugene F., assignor.)						
Osborne, [illegible] Shank	868,471	Oct. 15	1972	550	130	1905
Ostwald, [illegible] D. C. Interlocking device for train-order signals	868,269	Oct. 15	1674	473	130	1866
Owen, David T., [illegible] to D. T. Owen Company, Cleveland, Ohio. Combined seat and bed	868,000	Oct. 15	1244	344	130	1726
Owen, David T., [illegible] to D. T. Owen Company, Cleveland, Ohio. Combined bed and seat for [illegible]	868,001	Oct. 15	1245	344-5	130	1727
Owen, David T., assignor to D. T. Owen Company, Cleveland, Ohio. Combined berth and seat for [illegible]	868,002	Oct. 15	1247	345-6	130	1727
P. & F. Corbin et al. (See Mullikin, Levin H., assignor.)						
Palmer, Arthur M., Chicago, Ill. Davenport	868,672	Oct. 15	1973	550	130	1906
Palmer, Henry A., assignor to Foster, Merriam and Company, Meriden, Conn. Stand-and-flanges	868,672	Oct. 15	1975	550	130	1907
Parker, Rollin D., [illegible]ville, assignor to McCaskey Register Company, Alliance, Ohio. Cash-register [illegible]	868,118	Oct. 15	1420	399	130	1709
Parker, Elmer [illegible] and W. D. Jones, Chattanooga, Ohio. Lamp-plug	868,681	Oct. 15	2284	577	130	1909
Parker, Fred [illegible] Lake-division, La. Wax-holder	868,474	Oct. 15	1976	551	130	1907
Parnall, Richard W., assignor to Pittsburg Governor Co., Portland, Conn. Governor	868,119	Oct. 15	1422	399-400	130	1709
Pate, Jos. (See [illegible] C. Walker D., assignor.)						
Peet, [illegible] Machine for seeding raisins and other fruits	868,260	Oct. 15	1681	473-4	130	1870
Peters, [illegible] Robert C., assignor.)						
Peters, [illegible] and Pratt.)						
Peters, [illegible] (See McCarty, Fred P., assignor.)						
Peter, [illegible] (See Bauer, William, assignor.)						
Peterson, [illegible] Air. Grappling-hook	868,120	Oct. 15	1424	400	130	1709
Petig, [illegible] Petig.)						
Pettibone, [illegible] Clinton, and Eltom, assignors.)						
Pfeiffer, [illegible] Richard H., assignor.)						
Pfleger, [illegible] Pfleger.)						
Phillips, [illegible] Rifling-gun	868,121	Oct. 15	1425	400	130	1709
Phillips, [illegible] assignors of one-third to C. E. Freeman, Indianapolis, Ind. [illegible]	868,219	Oct. 15	1560	443	130	1861
Pierce, [illegible] (See Pennington, Reynolds C., assignor.)						
Pierce, [illegible] & Construction Company. (See Tanner and Stuart, assignors.)						
Pierce, [illegible] Lewis, Willard L., assignor.)						
Pierce, [illegible] and W. R. Dorsey, Hyannis, Nebr. Hay-loader	868,008	Oct. 15	1249	346	130	1728
Pierce, [illegible] Corporation. (See Beale, William H., assignor.)						
Pierson, [illegible] Manchester, N. Y. Electric insulator	868,122	Oct. 15	1426	400	130	1709
Pierson, [illegible] Harwood, Ohio, assignor to Bullock Electric Manufacturing Company, Cincinnati, Ohio. Electric-motor [illegible]	868,680	Oct. 15	2180	602	130	2010
Pierson, [illegible] to Société d'Etudes Spéciales et d' Installations Industrielles, Paris, France. Rotary drying-machine	868,675	Oct. 15	1977	551	130	1907
Poole, [illegible] Austin Barbank, Cal. Self-winding clock	868,551	Oct. 15	2151	602	130	2010
Pope, Charles [illegible] assignor to C. Elmer Pope Paper Company, Holyoke, Mass. Cutting, [illegible] and [illegible] machine	868,261	Oct. 15	1808	808	130	1905
Portelli, J[illegible] J. D. Chapman, Los Angeles, Cal. Propeller	868,220	Oct. 15	1560	443	130	1907
Post, Ezra [illegible] Conn. Leather or hide suspending hook	868,004	Oct. 15	1280	366	130	1728
Potter, [illegible] Conn. Clothes-rack	868,477	Oct. 15	1951	893	130	1920
Pratt, [illegible] Company. (See Hanson and Montstream, assignors.)						
Preet, [illegible] Thread-guide for spinning-machines	868,005	Oct. 15	1280	366	130	1728
Priest, [illegible] Schenectady, N. Y., assignor to General Electric Company. Motor-driven [illegible]	868,262	Oct. 15	1807	808-9	130	1905
Prints, [illegible] (See Wolkosky, Magidson, Prints, and Wolkosky.)						
Printing [illegible] Co. (See Schaylor, Daniel, assignor.)	868,478	Oct. 15	1983	553	130	1909
Pratt, [illegible] Mass. Printing-press	868,006	Oct. 15	1281	367	130	1729
Pratt, [illegible] Company. (See Manchester, Frederic H., assignor.)						
Pugh, [illegible] Potato-digger	868,263	Oct. 15	1809	809	130	1906
Rabe, [illegible] of fifty-five one-hundredths to V. Le Mont, Duluth, Minn. Measuring [illegible]						
Rail Joint Company. (See Brains, Bancroft G., assignor.)						
Rail Joint Company. (See Weeks, Charles A., assignor.)						
Rail Joint Company. (See Weihenpeter, Benjamin, assignor.)						
Railway, [illegible] Mo. Mile-sign	868,479	Oct. 15	1983	553	130	1910
Rambo, [illegible] Germany. Teller's dummy	868,480	Oct. 15	1987	554	130	1910
Randall, Thomas J., assignor to Somnet Hospital, Los Angeles, Cal. Cataphoric apparatus	868,123	Oct. 15	1427	401	130	1709

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Ramsden, Henry N., Albany, N. Y., assignor to General Electric Company. Air-brake system		Oct.			129	
Rauschke, Hilbert L., New York, N. Y. Mains for molding pipes		Oct.			129	
Rawlins, Horace E., Dorwalt, Ohio. Mining-machine chain		Oct.			129	
Raymond, George L., Binghamton, N. Y. Egg-beater		Oct.			129	
Read, Orrin B., Troy, N. Y. Horse-nail holder		Oct.			129	
Reid, Charles, Chicago, Ill. Machine for closing and sealing the top flaps of cartons		Oct.		97-8	129	
Reed, Henry J. O., Minneapolis, Minn., and J. T. Reed, Auburn, Wash. Antiskating device for cars	868,120	Oct. 15	1699	491	129	1702
Reed, James T. (See Reed, Henry J. O. and J. T.)						
Reeve, Henry E., New York, N. Y. Mechanism for gauge, &c.		Oct.				
Reeves, Welden Y., and J. B. Shane, Chicago, Ill. Folding car-step		Oct.				
Reid, Freddie H., Sioux City, Iowa. Centrifugal liquid-separator		Oct.				
Reinhold, Christoph, Hanover, Germany. Pulverulent coloring-matter for leather		Oct.				
Renshaw, William F. (See Kennedy, Martin, assignor.)						
Reynolds, Harry B., Stockport, England. Spinning and doubling frame		Oct.				
Richards, Francis H., Hartford, Conn. Cavity-working machine		Oct.				
Richards, Francis H., Hartford, Conn., assignor, by mesne assignments, to American Typographic Corporation. Mechanical movement		Oct.				
Richards, Joseph E. Melrose, and C. W. Walker, Boston, Mass., assignors to Ireland Pipe-Wrench Company, Portland, Me. Pipe-wrench		Oct.				
Richards, Joseph E., Melrose, Mass., assignor to Ireland Pipe-Wrench Company. Pipe-wrench		Oct.				
Richardson, Henry C., Haverhill, Mass. Composite boot and shoe		Oct.				
Richardson, Orlando C., et al. (See Bauer, William, assignor.)						
Richardson, Warren H. (See Bauer, William, assignor.)						
Riegger, Constantin, New York, N. Y. Pipe-collar		Oct.				
Riker, Andrew L., Bridgeport, Conn., assignor to Stanley Motor Carriage Company. Flash-boiler		Oct.				
Rimailho, Emile. (See Schneider and Rimailho.)						
Rivett, Fred, Heaton Chapel, and S. Oldham, Heaton Norris, England. Split drum for winding-frames		Oct.				
Roberts, David, Grantham, England. Water-tube boiler and steam-generator		Oct.				
Roberts, Edmund W., Clyde, Ohio. Automobile		Oct.				
Roberts, Grand, Alva, Okla. Tar. Washing-machine		Oct.				
Robertson, James H., Wily, Va. Combined leveling and stadia rod		Oct.				
Roe, John P., London, assignor to Ropeway's Limited, Finsbury, England. Means or apparatus for the formation of spoil heaps, banks, &c.		Oct.				
Roessler & Hasslacher Chemical Company. (See Foregger, Richard von, assignor.)						
Rollestin, Arthur, Long Eaton, assignor to R. Mond, London, England. Internal-combustion engine		Oct.				
Roller, Frank W., New York, N. Y. Electrical measuring instrument		Oct.				
Rollins, James J., Jersey Shore, Pa. Coupling		Oct.				
Ropeway's Limited. (See Roe, John P., assignor.)						
Rosenbluth, Edwin M., Philadelphia, Pa. Acetylene-gas generator		Oct.				
Rosengarten, George W., Horne Heights, Mo. Water-elevating apparatus		Oct.				
Roshon, John W., Harrisburg, Pa. Flying-machine		Oct.				
Ross, Douglas W., Boise, Idaho. Gate for waterways		Oct.				
Roth, Alice A., Buffalo, N. Y. Electric-railway switch and signal		Oct.				
Rowland, Dentler, Louisville, Ill. Washing-machine		Oct.				
Ruetlinger, Albert, et al. (See Bauer, William, assignor.)						
Russell & Erwin Manufacturing Company et al. (See Mullikin, Levin H., assignor.)						
Russell & Erwin Manufacturing Company. (See Voight, Henry G., assignor.)						
Russell, William D., Houston, Tex. Discharge for tank-cars						
Ryan, David A., and H. J. Wertz, Harrisburg, Pa. Adjustable lacer		Oct.				
Ryan, Tazwell W. (See Dorcas and Ryan.)						
Schenck, Ludwig B., New York, N. Y. Sealed and incased receptacle		Oct.				
Scheuermann, George J., St. Louis county, assignor of one-half to A. Barhorst, St. Louis, Mo. Shutter						
Schiavone, Mario, Ferrandina, Italy. Air-ship		Oct.				
Schmidlin, Robert, assignor to Farbwerke, vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Producing phenylglycin and its homologues		Oct.				
Schmidt, Albrecht, assignor to Farbwerke, vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Vat-dye and making same		Oct.				
Schmidt, Carl L., Oberstein, Germany. Umbrella-fastener		Oct.				
Schmidt, Frederick, West Bend, Wis. Running-gear for vehicles		Oct.				
Schneider, Charles P. E., Le Creusot, and E. Rimailho, Neuilly-sur-Seine, France. Ammunition wagon or caisson		Oct.				
Schneller, Henry, Pearl River, N. Y., and F. J. Henke, West Hoboken, N. J.; said Schneller assignor to said Henke. Loose-leaf binder		Oct.				
Schnopp, John E., Brooklyn, N. Y. Swimming-paddle		Oct.				
Schönert, Carl, and R. Schweitzer, Newark, N. J. Bottle closure and seal		Oct.				
Schouboe, Jens T. S., Holte, Denmark. Frame for pack-saddles		Oct.				
Schrey, Ferdinand. (See Forkarth, Josef F., assignor.)						
Schuler, David, assignor to Spirella Company, Meadville, Pa. Garment-stay		Oct.				
Schultz, Richard, Berlin, Germany. Steam-turbine		Oct.				
Schutterle, Fred, Marengo, Iowa. Husking implement		Oct.				
Schuyler, Daniel, assignor to Progressive Business Co., San Diego, Cal. Corn and fruit spoon		Oct.				
Schwab, Martin C., Baltimore, Md., assignor to Gravity Conveyor Company. Package-conveyer		Oct.				
Schwarzschild, Solomon, Rochester, N. Y. Overshoe		Oct.				
Schweitzer, Robert. (See Schönert and Schweitzer.)						
Scott, Jacob R., North Weymouth, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Abrading device		Oct.				
Scott, John C., assignor to International Sprinkler Company, Philadelphia, Pa. Deflector for automatic sprinkler-heads		Oct.				
Scozzari, Michael, New York, N. Y. Machine for granulating magnesia		Oct.				
Selb, George A., assignor to Monarch Typewriter Company, Syracuse, N. Y. Type-writing machine		Oct.				
Seward, George O., and F. von Kügelgen, Holcombs Rock, Va. Production of magnesium		Oct.				
Shafer, Oren H., Petoskey, Mich. Safety-valve for water-jackets		Oct.				
Shane, James B. (See Reeves and Shane.)						
Sharp, Frank E., assignor of one-half to G. E. Thomas, Corning, N. Y. Hose-supporter		Oct.				
Shaw, Al B., Medford, Mass. Automatic gas lighting and extinguishing apparatus		Oct.				
Shaw, Vernon H., Grangeville, Idaho. Rail-joint		Oct.				
Shields, James W., Hubbell, Mich. Packing		Oct.				
Shipley, Thomas, York, Pa. Ice machinery		Oct.				

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drs.	Official Gazette. Vol.	Official Gazette. Page.
[illegible]	868,496	Oct. 15	2008	861	130	1697
[illegible]	868,117	Oct. 15	1445	458	130	1708
[illegible]	868,033	Oct. 15	1278	354-6	130	1747
[illegible] to Vulcan Manufacturing Company. Separable	868,098	Oct. 15	1701	489	130	1695
[illegible] electrical instrument	868,126	Oct. 15	1445	458	130	1707
[illegible]						
[illegible] Electric Machine Works Company, Lynn, Mass. Fold-	868,024	Oct. 15	1262	355-6	130	1746
[illegible] Co. (See Wettach and Miller, assignors.)	868,025	Oct. 15	1266	356	130	1670
[illegible] Gas-valve	868,027	Oct. 15	1268	356	130	1670
[illegible] Heating and ventilating system	868,028	Oct. 15	1268	356-7	130	1670
[illegible] Fulham, England. Jointing of cables,	868,096	Oct. 15	2010		130	1699
[illegible] Grain-rake	868,027	Oct. 15	1300	357	130	1699
[illegible] Industrielles. (See Poncet, Raoul G., as-						
[illegible], Henry E., and W. H. Benjamin, Montclair, N. J. Terminal or connecting-clip for electric wires	868,209	Oct. 15	1704	491	130	1701
[illegible], Wiesbaden, Germany. Explosion-engine	868,201	Oct. 15	1705	491	130	1701
[illegible] (See Spence, Harry, assignor.)						
[illegible] assignor of two-thirds to J. Speed, Lawrence, and H. Stephenson, Boston,	868,099	Oct. 15	2011	862	130	1699
[illegible] Co., Ltd., assignor to Automatic Pencil Sharpener Company.	868,028	Oct. 15	1282	368	130	1701
[illegible] David, assignor.)	868,500	Oct. 15	2012	862	130	1699
[illegible] Folding grating-table	868,287	Oct. 15	1313	510	130	1699
[illegible] Thorvald, assignor.)						
[illegible] for forming wire hat-frames						
[illegible] Elkins, Andrew L., assignor.)						
[illegible] to J. J. Deane, Dalton, Ga. Adjustable furni-	868,501	Oct. 15	2013	862	130	1699
[illegible] Company. (See Yaxley, Ernest E., assignor.)						
[illegible] Wire-support	868,288	Oct. 15	1314	510	130	1699
[illegible], Mass. Bicycle-truck	868,126	Oct. 15	1446	404-7	130	1707
[illegible], N. Y., assignor to General Electric Company. Arc-	868,502	Oct. 15	2014	862	130	1699
[illegible]						
[illegible] Madison Kipp Lubricator Company, Madison, Wis.	868,295	Oct. 15	2163	604-5	130	1699
[illegible], Ontario, Canada. Cream-separator	868,140	Oct. 15	1447	407	130	1708
[illegible] (See Kenney, Harry, assignor.)						
[illegible] J. C. Grist, Williamsburg, Pa. Amusement device	868,300	Oct. 15	1316	511	130	1699
[illegible] assignor to Draper Company, Hopedale, Mass. Filling-feeder for	868,126	Oct. 15	2165	605	130	1701
[illegible]						
[illegible] (See Rieck, Harry J., assignor.)						
[illegible] (See Rieck, Harry J., assignor.)						
[illegible], Ky. Race-starting apparatus	868,029	Oct. 15	1264	355	130	1702
[illegible]	868,141	Oct. 15	1448	407-8	130	1708
[illegible], Colo. Rug-pox						
[illegible] (See Beatty and Stobart.)	868,503	Oct. 15	2015	862	130	1699
[illegible], Cleveland, Ohio. Lantern	868,270	Oct. 15	1278	511-12	130	1699
[illegible], Ilion, New York, N. Y. Wind-power apparatus	868,142	Oct. 15	1449	408	130	1708
[illegible], Dallas, Tex. Baling-press	868,143	Oct. 15	1451	408	130	1699
[illegible], Charles F., Seattle, Wash. Ammonia expansion-valve						
[illegible] (See Dawson and Strohbach.)						
[illegible] (See Tanner and Stuart.)						
[illegible] (See Randall, Thomas J., assignor.)						
[illegible] Co. (See Hyde, William A., assignor.)						
[illegible] (See Bauer and Summill.)						
[illegible], Frank L. (See Bauer and Summill.)	868,144	Oct. 15	1454	409	130	1801
[illegible], Henry C., East Jordan, Mich. Door-hanger	868,145	Oct. 15	1455	409	130	1801
[illegible], Albert W., Carroll, Iowa. Dog-muzzle						
[illegible], J. E. (See Mason, Thomas, assignor.)	868,371	Oct. 15	1820	512	130	1910
[illegible], Harriet Elizabeth, N. J. Valve-gear for explosive-engines						
[illegible], Julius R., Pittsburg, and G. J. Mauart, Bellevue, assignors to Pittsburgh Valve, Foundry & Construction Company, Pittsburg, Pa. Valve	868,030	Oct. 15	1296	358-9	130	1753
[illegible], Joshua W. (See Tarte, Whitefield R. and J. W.)						
[illegible], Whitefield R. and J. W., Bellingham, Wash. Time-controlled stock-feeding apparatus	868,227	Oct. 15	1578	448	130	1899
	868,372	Oct. 15	1821	512	130	1910
[illegible], John L., Jersey City, N. J. Motive-agent generator	868,504	Oct. 15	2017	563	130	1879
[illegible], Edward K. (See Jepson, Joseph C., assignor.)						
[illegible], Edwardsville, Kans. Egg-holder						
[illegible], Harry A. (See Mabank, Herbert B., Jr., assignor.)						
[illegible], Charles E. (See Wood and Tefft.)	868,228	Oct. 15	1579	448	130	1899
[illegible], Armand A. E., Louvain, Belgium. Loom	868,031	Oct. 15	1297	359	130	1753
[illegible], Columbus M., Camden, Ohio. Coasting-sled	868,229	Oct. 15	1581	449	130	1899
[illegible], Cornelius M., Middletown, Ohio. Air-controller for piano-players						
[illegible], G. Edwin. (See Sharp, Frank E., assignor.)	868,146	Oct. 15	1455	410	130	1801
[illegible], San Francisco, Cal. Awning	868,032	Oct. 15	1299	359-60	130	1753
[illegible], Hugh A., Shawlands, Scotland. Crane	868,373	Oct. 15	1822	513	130	1910
[illegible], Stewart D., Arrowsmith, Ill. Rattlesnoope	868,374	Oct. 15	1823	513-14	130	1911
[illegible], Argyle, Grundy County, Ill. Rotary engine	868,033	Oct. 15	1299	360	130	1754
[illegible], Max, Leutzsch, near Leipsic, Germany. Apparatus for stretching hides and skins						
[illegible], Lincoln A., Hartford City, Ind., assignor to Window Glass Machine Company, Pittsburg, Pa. Glass melting and drawing apparatus	868,034	Oct. 15	1300	360	130	1755
[illegible], Lewis H., Edgewood Park, assignor to Union Switch & Signal Company, Swissvale, Pa. Electromagnetic device for use in connection with railway appliances	868,230	Oct. 15	1582	449	130	1899
[illegible], Lewis H., Edgewood Park, assignor to Union Switch & Signal Company, Swissvale, Pa. Signaling system for electric railways	868,231	Oct. 15	1584	449-50	130	1899
[illegible], Lewis H., Edgewood Park, assignor to Union Switch & Signal Company, Swissvale, Pa. Railway	868,232	Oct. 15	1585	450	130	1840
[illegible], Lewis H., Edgewood Park, assignor to Union Switch & Signal Company, Swissvale, Pa. Signaling system for railways	868,233	Oct. 15	1706	491	130	1677
[illegible], Frank (See Leuthner, Frank X., assignor.)	868,035	Oct. 15	1301	361	130	1755
[illegible], Joseph P., [illegible], Ohio. Device for waving hair	868,375	Oct. 15	1710	492	130	1835
[illegible], Wesley, Bellefontaine, Ohio. Hydraulic clutch and transmission device	868,504	Oct. 15	1711	492	130	1835

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Tong, Clyde, Marion, Ind. Window-catch	868,669	Oct. 15	1592	361	130	1705
Torpey, Joseph W., and G. W. Lander, Louisville, Ky. Railway-switch lock	868,695	Oct. 15	1712	462	130	1870
Townsend, Harry P., assignor to Corbin Cabinet Lock Company, New Britain, Conn. Safe-deposit lock	868,260	Oct. 15	1712	462-3	130	1869
Trotter, Joseph W., Dora, Ala. Rail-chair	868,696	Oct. 15	2018	564	130	1870
Tucker, Junius E., assignor of one-half to W. S. Brian, Memphis, Tenn. Paper-sheet-feeding mechanism for printing-presses	868,618	Oct. 15	2223	617	130	2038
Turkington, Alfred M., Berkeley, Cal. Electric igniter for gas-stoves	868,285	Oct. 15	1667	450	130	1869
Turner, Charles P., Harrisburg, and J. W. Dougherty, Steelton, Pa. Blast-furnace-charging device	868,686	Oct. 15	2018	564-6	130	1870
Turner, Charles P., Harrisburg, and J. W. Dougherty, Steelton, Pa. Blast-furnace-charging device	868,688	Oct. 15	2084	587-8	130	1872
Turner, Charles P., Harrisburg, J. W. Dougherty and J. E. Little, Steelton, Pa. Blast-furnace-charging device	868,687	Oct. 15	2021	566-7	130	1871
Twer, Albert, Nassau, Germany. Apparatus for grasping the skelp of a tube to be welded	868,276	Oct. 15	1694	514	130	1911
Tyden, Emil, Hastings, Mich. Hasp-latch	868,304	Oct. 15	1693	451	130	1909
Tyrrell, Elmer L., Gloversville, N. Y. Bedclothes-supporting device	868,697	Oct. 15	1308	362	130	1764
U. S. Standard Voting Machine Co. (See Norton, William B., assignor.)						
Ulke, Darwin, Chicago, Ill., assignor to General Electric Company. Rail-bond	868,576	Oct. 15	1695	514	130	1911
Underwood Typewriter Company. (See Gibbs, Charles, assignor.) (Reissue.)						
Underwood Typewriter Company. (See Wagner, Franz X., assignor.)						
Union Switch & Signal Company. (See Thullen, Louis H., assignor.)						
United Gas Improvement Company. (See Gartley, William H., assignor.)						
United Shoe Machinery Company. (See Scott, Jacob R., assignor.)						
Van, Henry J., and E. Ellingsen, West Seattle, Wash. Bitless bridle	868,040	Oct. 15	1308	363	130	1708
Velander, Alfred J., Knoxville, Ill. Saw	868,599	Oct. 15	2028	568	130	1873
Venus Manufacturing Company. (See Siner, John M., assignor.)						
Vial, Honoré, Lawrence, Mass. Looking hat and coat rack	868,041	Oct. 15	1309	364	130	1757
Voight, Henry G., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Lock	868,226	Oct. 15	1689	451	130	1869
Wacker, George W., Yonkers, N. Y. Thermostatic appliance	868,697	Oct. 15	1715	463	130	1869
Wagner, Cleaver W., assignor to Automatic Clock Company, Danville, Pa. Self-winding electric clock	868,657	Oct. 15	2169	606	130	2033
Wagner, Franz X., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine	868,042	Oct. 15	1311	364-6	130	1757
Wakefield, Harry U., Cornersville, Tenn. Harrow	868,510	Oct. 15	2027	569	130	1873
Waldburger, John A., McKeesport, assignor to Forter Miller Engineering Co., Pittsburg, Pa. Feeding mechanism for gas-producers, furnaces, &c	868,147	Oct. 15	1457	410	130	1802
Waldschmidt, Jacob H., Fond du Lac, Wis. Railway-brace	868,043	Oct. 15	1314	366	130	1758
Walker, Charles W. (See Richards and Walker.)						
Walsh, Thomas A., Yonkers, N. Y. Cable-hanger	868,511	Oct. 15	2029	569	130	1874
Wands, John C., St. Louis, Mo. Packing device for water-gages	868,277	Oct. 15	1693	514	130	1911
Ward, Ellis F., Philadelphia, Pa. Oar-lock	868,278	Oct. 15	1693	515	130	1911
Ward, William N., assignor to Yale Safety Razor Co., Chicago, Ill. Safety-razor	868,698	Oct. 15	2172	606	130	2033
Warren, Edwin, Chicago, Ill. Hose-supporter	868,044	Oct. 15	1314	366	130	1758
Warren Electric Manufacturing Company. (See Crocker, Eben C., assignor.)						
Washburn, Edgar. (See Colburn and Washburn.)						
Wassmann, August. (See Low and Wassmann.)						
Waterbury, Emery D., Sawtelle, Cal. Milk-can opener and seal	868,512	Oct. 15	2029	569	130	1874
Watrous, John N., Thomaston, Conn. Combined blind hinge and fastener	868,280	Oct. 15	1690	451	130	1841
Wattie, William M., Worcester, Mass., assignor to Crompton & Knowles Loom Works. Loom shuttle-box mechanism	868,303	Oct. 15	1719	464	130	1880
Webster, Daniel M., Dayton, Ohio. Water-tube boiler	868,045	Oct. 15	1315	367	130	1758
Weeks, Charles A., Philadelphia, Pa., assignor to Rail Joint Company, New York, N. Y. Rail-joint pattern	868,512	Oct. 15	2030	569-70	130	1874
Wege, Peter M. (See White and Wege.)						
Wege, Peter M., assignor to General Fireproofing Company, Youngstown, Ohio. Locker construction	868,309	Oct. 15	1720	464	130	1881
Weihermüller, Hans, Nuremberg, Germany. Apparatus for manufacturing brushes	868,237	Oct. 15	1694	452	130	1841
Weintraub, Ezechiel, Schenectady, N. Y., assignor to General Electric Company. System of electrical distribution	868,579	Oct. 15	1697	515	130	1912
Weintraub, Ezechiel, Schenectady, N. Y., assignor to General Electric Company. System of electrical distribution	868,580	Oct. 15	1699	515	130	1912
Weitlich, Richard, and A. W. Miller, assignors to Slug Proof Vending Machine Co., Inc., Sturgeon Bay, Wis. Vending-machine	868,280	Oct. 15	2173	607	130	2034
Welch, Arthur H. (See Welch, George A. and A. H.)						
Welch, George A. and A. H., Lewiston, Me. Corn-husking machine	868,046	Oct. 15	1317	367	130	1758
Wertz, Henry J. (See Ryan and Wertz.)						
Westerbeck, Frederick, St. Louis, Mo. Sheet-metal can	868,514	Oct. 15	2032	570	130	1874
Western Electric Company. (See Dixon, Amos F., assignor.)						
Westmoreland Automatic Machine Company. (See Magidson, Frank, assignor.)						
Westmoreland Automatic Machine Company. (See Wolkosky, Magidson, Prints, and Wolkosky, assignors.)						
Wheeler, Ernest W., Bay City, Mich. Tamping-bar	868,298	Oct. 15	1698	486	130	1842
Wheeler Manufacturing Company. (See Klewicz, John, assignor.)						
White, Alexander P., Caldwell, N. J., and P. M. Wege, assignors to General Fireproofing Company, Youngstown, Ohio. Metallic case and like device	868,310	Oct. 15	1721	464-6	130	1881
White, Bruce C., Chicago, Ill. Brick-machine	868,315	Oct. 15	2033	570-3	130	1875
White, Charles T., Niles, Mich. Hose-coupling	868,311	Oct. 15	1725	467	130	1882
White, Harold E., Schenectady, N. Y., assignor to General Electric Company. Motor-control system	868,581	Oct. 15	1699	516	130	1912
Whiteley, George S., Baltimore, Md. Vehicle-wheel	868,047	Oct. 15	1315	366	130	1759
Whitlock, Henry B., Denton, Tex. Extension-cot	868,048	Oct. 15	1319	368	130	1759
Widerman, Francis M., Ellicott City, Md. Corn harvester and shocker	868,049	Oct. 15	1320	368-70	130	1760
Widerman, Francis M., Harrison, N. J. Cutting mechanism for corn-harvesters	868,050	Oct. 15	1325	370	130	1761
Wienand, Fred. (See Caulkins and Wienand.)						
Wilcox, Margaret A., Chicago, Ill. Bake-pan	868,313	Oct. 15	1726	467	130	1882
Williams, George N., Jr., New York, N. Y. Stone-fluting machine	868,051	Oct. 15	1325	370-1	130	1761
Williams, J. B., *et al.* (See Landell, Peter W., assignor.)						
Williams, James S., Wool Market, Miss. Hoe	868,148	Oct. 15	1457	410	130	1802
Williams, John B., and P. W. Landell, assignors of one-third to M. N. Callender, San Francisco, Cal. Automatic flush-valve	868,519	Oct. 15	2034	618	130	2039
Williams, Joseph, Jr., Pittsburg, Pa. Boiler compound	868,149	Oct. 15	1458	410	130	1802
Williamson, Samuel F., Philadelphia, Pa. Wainscoting	868,322	Oct. 15	1734	516	130	1913
Wilm, Ferdinand G. A., Drewitz, Germany. Improving aluminium alloys by heating and chilling	868,323	Oct. 15	1735	516	130	1913
Wilmot, John F., Detroit, Mich. Adjustable reclining-chair	868,520	Oct. 15	2035	570	130	1874
Wilson, Ralph B., Chicago, Ill. Loose-leaf binder	868,052	Oct. 15	1329	371	130	1762
Wilson, William H., Dallas, Tex. Chair-dowel for building purposes	868,299	Oct. 15	1699	486-7	130	1842
	868,053	Oct. 15	1329	371-2	130	1763

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Wiles, Clarence R., Mount Kisco, N. Y. Bottle	868,516	Oct. 15	2040	573	130	1977
Window Glass Machine Company. (See Thornburg, Lincoln A., assignor.)						
Windridge, James, assignor to Lyman Gun Sight Corporation, Middlefield, Conn. Sight for firearms	868,240	Oct. 15	1597	453	130	1843
Wirt, George A., Greensburg, Ind. Mail-box	868,590	Oct. 15	2176	607	130	2025
Witkowski, James, San Diego, Cal. Cushion-heel	868,054	Oct. 15	1333	372	130	1764
Wohe, Frank L., Medford, assignor to Crosby Steam Gage and Valve Company, Boston, Mass. Recording-gage	868,055	Oct. 15	1334	372	130	1764
Wohe, Frank L., Medford, assignor to Crosby Steam Gage and Valve Company, Boston, Mass. Engine-indicator	868,056	Oct. 15	1335	373	130	1764
Wolf, Aaron R. (See Wolf, Martha, assignor.)	868,057	Oct. 15	1337	373	130	1764
Wolf, Martha, assignor to A. R. Wolf, Chicago, Ill. Nursery-seat for children	868,264	Oct. 15	1636	516-17	130	1914
Wolhaupter, Benjamin, assignor to Rail Joint Company, New York, N. Y. Insulated rail-joint	868,517	Oct. 15	2041	574	130	1977
Wolhaupter, Benjamin, assignor to Rail Joint Company, New York, N. Y. Insulated rail-joint	868,518	Oct. 15	2044	574-5	130	1978
Wolhaupter, Benjamin, assignor to Rail Joint Company, New York, N. Y. Insulated rail-joint	868,519	Oct. 15	2046	575	130	1978
Wolhaupter, Benjamin, assignor to Rail Joint Company, New York, N. Y. Insulated rail-joint	868,520	Oct. 15	2048	575-6	130	1979
Wolkosky, Abraham. (See Wolkosky, Magidson, Prints, and Wolkosky.)						
Wolkosky, Joseph H., F. Magidson, S. Prints, and A. Wolkosky, assignors to Westmoreland Automatic Machine Company, Irwin, Pa. Shoe-polishing machine	868,313	Oct. 15	1727	467-8	130	1882
Wolkosky, Joseph H., F. Magidson, S. Prints, and A. Wolkosky, assignors to Westmoreland Automatic Machine Company, Irwin, Pa. Shoe cleaning and shining machine	868,630	Oct. 15	2226	618-19	130	2039
Wood, William P., and C. E. Tuft, Pawtucket, R. I. Implement for closing the discharge-openings of automatic fire-extinguisher sprinklers	868,058	Oct. 15	1337	373	130	1765
Wright, Richard H. (See Landauer, William R., assignor.)	868,285	Oct. 15	1640	.....	130	1914
Wilking, Carl, Hilgenhaus, Germany. Oxid of iron	868,150	Oct. 15	1459	411	130	1802
Wynard, Hermann P., Erie, Pa. Toy						
Yale Safety Razor Co. (See Ward, William N., assignor.)						
Yankee Boot Topper Company. (See Blevins and Giddings, assignors.)						
Yaxley, Ernest E., assignor to Steel Gain Manufacturing Company, Chicago, Ill. Support for cross-arms	868,591	Oct. 15	2177	607-8	130	2025
Youngren, Peter L., Milwaukee, Wis. Tunnel-kiln	868,059	Oct. 15	1333	374	130	1765
Zalesky, Jerome P., Chicago, Ill. Telegraphic instrument	868,621	Oct. 15	2229	619	130	2040
Zeller, George C., Tiffin, Ohio. Shears	868,060	Oct. 15	1340	374	130	1766
Zempter, George H., assignor of one-half to Cohn, Witney & Goldfarb, Greenville, Miss. Cotton-harvesting machine	868,061	Oct. 15	1341	375	130	1766
Zimmermann, Charles F., Syracuse, N. Y. Base for columns, &c	868,314	Oct. 15	1732	469	130	1884

DESIGNS.

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Alexander, Jesse, Brooklyn, N. Y. Spool for type-writer ribbons and tension-bands	38,857	Oct. 15	130	204
McKeen, William R., Jr., Omaha, Nebr. Car-body	38,860	Oct. 15	130	204
Smithson, Edward S., Monmouth, Ill. Pottery-jar	38,858	Oct. 15	130	204
Smithson, Edward S., Monmouth, Ill. Pottery-jar	38,859	Oct. 15	130	204

TRADE-MARKS.

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A. B. Andrews Company, New York, N. Y. Hosiery	65,662	Oct. 15	130	2062
A. Boake Roberts and Company Limited, Stratford, London, England. Preservatives for beer and wine	65,617	Oct. 15	130	2061
African Cigarette Company Limited. (See Maspero Frères, Limited.)	65,645	Oct. 15	130	2061
American Fertilizing Company, Norfolk, Va. Fertilizers	65,663	Oct. 15	130	2062
American Tobacco Company, New York, N. Y. Chewing and smoking tobacco	65,664	Oct. 15	130	2062
Aqualite Fire Proofing Paint Co. of New York, New York, N. Y. Paints	65,618	Oct. 15	130	2061
B. F. Goodrich Company, Akron, Ohio. Dental rubber	65,619	Oct. 15	130	2061
B. F. Goodrich Company, Akron, Ohio. Dental dam	65,665	Oct. 15	130	2062
B. F. Goodrich Company, Akron, Ohio. Infant-pacifiers	65,666	Oct. 15	130	2062
B. F. Goodrich Company, Akron, Ohio. Rubber water-bottles	65,667	Oct. 15	130	2062
B. F. Goodrich Company, Akron, Ohio. Rubber water-bottles	65,668	Oct. 15	130	2062
B. F. Goodrich Company, Akron, Ohio. Golf-balls	65,620	Oct. 15	130	2061
Blum Company, New York, N. Y. Certain clothing	65,621	Oct. 15	130	2061
Burnham-Hanger Mfg. Co., Kansas City, Mo. Certain work-clothing	65,622	Oct. 15	130	2061
Burnham-Hanger Mfg. Co., Kansas City, Mo. Dress, nightgids, and flannel shirts	65,623	Oct. 15	130	2061
Chambers, Lester, Bloomington, Ill. Medicinal powders for live stock	65,624	Oct. 15	130	2061
Chemische Fabrik auf Actien (vorm. E. Schering), Berlin, Germany. Antiseptic and disinfectant substances	65,625	Oct. 15	130	2061
Chemische Fabrik auf Actien (vorm. E. Schering), Berlin, Germany. Product of formaldehyde	65,626	Oct. 15	130	2061
Chemische Fabrik auf Actien (vorm. E. Schering), Berlin, Germany. Antiseptics, deodorants, and disinfectants				

TRADE-MARKS—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Cie. Gle. de Phonographes Cinématographes et App. de Précision, Paris, France. Talking-machines and parts thereof	35,669	Oct. 15	130	2032
Cie. Gle. de Phonographes Cinématographes et App. de Précision, Paris, France. Talking-machines and parts thereof	35,670	Oct. 15	130	2032
Climax Milling Co., Hopkinsville, Ky. Wheat-flour	35,695	Oct. 15	130	2033
Conservenfabrik Lenzburg vorm Henchoff & Roth A. G., Lenzburg, Switzerland. Certain carbonated beverages	35,671	Oct. 15	130	2032
Creamery Baking Powder Company, Indianapolis, Ind. Baking-powder	35,697	Oct. 15	130	2031
Daring Coal Company, Chicago, Ill. Coal	35,649	Oct. 15	130	2031
Eastern Dynamite Company, Kenvil, N. J. High explosives	35,647	Oct. 15	130	2031
Eastern Dynamite Company, Kenvil, N. J. High explosives	35,648	Oct. 15	130	2031
Eastern Dynamite Company, Kenvil, N. J. High explosives	35,649	Oct. 15	130	2031
F. A. Patrick & Co., Duluth, Minn. Certain clothing	35,672	Oct. 15	130	2032
Fernandez & Co., E., Habana, Cuba, and New York, N. Y. Cigars	35,673	Oct. 15	130	2032
Frederick Stearns & Co., Detroit, Mich. Certain medicines	35,698	Oct. 15	130	2031
Galveston Brewing Company, Galveston, Tex. Beer	35,698	Oct. 15	130	2032
Geiger-Tinney Company, Indianapolis, Ind. Baking-powder	35,699	Oct. 15	130	2031
Geo. G. Snow Co., Brockton, Mass. Leather boots and shoes	35,674	Oct. 15	130	2032
Griggs, Cooper & Company, St. Paul, Minn. Tapioca and sago	35,691	Oct. 15	130	2033
Grossmith, John L., London, England. Perfumes	35,689	Oct. 15	130	2031
Groya, Herman, Chicago, Ill. Snuff	35,675	Oct. 15	130	2032
H. J. Hemingway & Co., Baltimore, Md. Canned fruits and vegetables	35,687	Oct. 15	130	2033
Hall, Henry J. S., *et al.*, executors. (See Hall, William H.)				
Hall, Martha M., *et al.*, executors. (See Hall, William H.)				
Hall, William H., deceased; H. J. S., W. H., and M. M. Hall and I. Hawley, New York, N. Y., executors. Dentifrices	35,691	Oct. 15	130	2031
Hall, Wm. H., *et al.*, executors. (See Hall, William H.)				
Heinzmer Portland Cement Works, Tournai, Belgium. Portland cement	35,692	Oct. 15	130	2032
Hasson, John E., Bath, N. Y. Certain medicines	35,693	Oct. 15	130	2031
Hawkeye Portland Cement Co., Harvey, Iowa. Portland cement	35,681	Oct. 15	130	2032
Hawley, Irad, *et al.*, executors. (See Hall, William H.)				
Herman, Klenzler Company, New York, N. Y. Olive-oil	35,696	Oct. 15	130	2032
Hogue, Albert F., Lowell, Mass. Laundry starch	35,695	Oct. 15	130	2031
Ives Manufacturing Corporation, Bridgeport, Conn. Toy railways	35,676	Oct. 15	130	2032
John F. Jelke Company, Chicago, Ill. Butterin and oleomargarin	35,699	Oct. 15	130	2033
John Wyeth and Brother, Incorporated, Philadelphia, Pa. Certain liquid medicine	35,684	Oct. 15	130	2031
Kansas City Portland Cement Co., Kansas City, Mo. Portland cement	35,682	Oct. 15	130	2032
Kea, Fitzhugh L., Adrian, Ga. Hair-tonic and eye-water	35,683	Oct. 15	130	2031
Kellogg, Sylvanus H., Los Angeles, Cal. Insect-paste	35,680	Oct. 15	130	2031
Kingan & Company, Ltd., Belfast, Ireland; Indianapolis, Ind., and Richmond, Va. Smoked and salt meats	35,700	Oct. 15	130	2033
Kniep, Karl, Newark, N. J. Writing tablets and pads and writing-paper	35,689	Oct. 15	130	2032
Kook, Jonas, New York, N. Y. Certain jewelry	35,677	Oct. 15	130	2032
Lamson, John S., Jr., Summit, N. J. Dust-preventive	35,697	Oct. 15	130	2031
La Compte & Gayle Company, Frankfort, Ky. Certain remedy	35,698	Oct. 15	130	2031
Lee Broom & Duster Company, Lincoln, Nebr. Brooms	35,654	Oct. 15	130	2032
Leighton, Richard B. H., Chattanooga, Tenn. Certain medicines	35,650	Oct. 15	130	2031
Lilly Varnish Company, Indianapolis, Ind. Certain wood-finish	35,678	Oct. 15	130	2032
Lonke, John, New York, N. Y. Certain wooden boards	35,685	Oct. 15	130	2032
Magill, Samuel N., Philadelphia, Pa. Silk underskirts	35,649	Oct. 15	130	2031
Malthopine Manufacturing Company, Brooklyn, N. Y. Extract of malt and hops	35,679	Oct. 15	130	2032
Maspero Frères, Limited, assignor to African Cigarette Company Limited, London, England. Cigarettes, cigars, smoking and chewing tobacco	35,699	Oct. 15	130	2032
McAllister, John J., Milton, Oreg. Certain medicines	35,641	Oct. 15	130	2031
Müller, Richard, Winnipauk, Conn. Certain textiles	35,701	Oct. 15	130	2033
National Candy Company, Jersey City, N. J., and St. Louis, Mo. Candies and candied popcorn	35,702	Oct. 15	130	2033
National Packing Company, Chicago, Ill. Lard	35,703	Oct. 15	130	2033
Neebe, Lawrence, Boston, Mass., and New York, N. Y. Hosiery	35,681	Oct. 15	130	2032
O. A. Miller Treeing Machine Company, Portland, Me., and Boston, Mass. Boot and shoe trees, shoe-forms, lasts, and followers	35,704	Oct. 15	130	2033
Orientalische Tabak und Cigarettenfabrik-Yenidze, Inhaber Hugo Zietz, Dresden, Germany. Cigarettes and smoking-tobacco	35,692	Oct. 15	130	2032
Paducah Vinegar Works, Paducah, Ky. Cider	35,693	Oct. 15	130	2033
Peters Cartridge Company, Cincinnati, Ohio. Cartridges, loaded shells, caps, primers, and powder	35,693	Oct. 15	130	2033
R. E. Dietz Company, New York, N. Y. Oil-burning lanterns	35,689	Oct. 15	130	2033
R. E. Dietz Company, New York, N. Y. Oil-burning lanterns	35,695	Oct. 15	130	2033
Richter, Friedrich A., Rudolstadt, Germany, and New York, N. Y. Mosaic games	35,694	Oct. 15	130	2032
Rieth, Charles H., St. Louis, Mo. Combination game-blocks	35,688	Oct. 15	130	2033
Rumsfeld, Dietrich, Kansas City, Mo. Bar-soap	35,697	Oct. 15	130	2033
Soltmann, Edward G., New York, N. Y. Steel pens	35,686	Oct. 15	130	2033
Soltmann, Edward G., New York, N. Y. Tracing-cloth	35,690	Oct. 15	130	2033
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Laundry soap	35,705	Oct. 15	130	2033
Standard Oil Co. of New York, New York, N. Y. Benzin, naphtha, and gasolene	35,706	Oct. 15	130	2033
Stephens, Henry C., London, England. Writing-inks	35,707	Oct. 15	130	2033
Susquehanna Silk Mills, New York, N. Y. Silk and silk-mixed piece goods	35,708	Oct. 15	130	2033
Swain, Earle & Co., Boston, Mass. Tea	35,709	Oct. 15	130	2033
Taylor, Charles W., Detroit, Mich. Hand-batteries for local application	35,710	Oct. 15	130	2033
Thomas, Blanche E., New York, N. Y. Nerve-tonic	35,692	Oct. 15	130	2033
Toch Brothers, New York, N. Y. Insulating-paint	35,682	Oct. 15	130	2032
Treadwell Shoe Company, Superior, Wis. Leather boots, shoes, and footwear	35,691	Oct. 15	130	2033
W. F. McLaughlin & Company, Chicago, Ill. Coffee	35,692	Oct. 15	130	2033
W. F. McLaughlin & Company, Chicago, Ill. Coffee	35,709	Oct. 15	130	2033
Waltham Watch Company, Waltham, Mass. Watchcases	35,710	Oct. 15	130	2033
Ward, Joseph P., Fort Worth, Tex. Pomade	35,693	Oct. 15	130	2033
West Haven Mfg. Co., West Haven, Conn. Hacksaw-blades	35,683	Oct. 15	130	2032
Westheimer & Sons, Ferdinand, St. Joseph, Mo., and Cincinnati, Ohio. Whisky	35,711	Oct. 15	130	2033
Whitcher, Frank W., Boston, Mass. Rubber cement	35,683	Oct. 15	130	2033
Worcester Salt Company, Silver Springs and New York, N. Y. Table-salt	35,697	Oct. 15	130	2033
Y. Pendas & Alvarez, New York, N. Y. Cigars	35,694	Oct. 15	130	2033

LABELS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Ellis Brothers Company, New York, N. Y. "Teddy Bear Selected Dates." (For Dates)	12,824	Oct. 15	130	2034
Lovegrass, Godfrey T., Blackland, Ill. "Rabbanit." (For a Tonic Beverage)	12,822	Oct. 15	130	2034
Mutual Union Brewing Company, Pittsburg and Aliquippa, Pa. "Pusney Select Beer." (For Beer)	12,820	Oct. 15	130	2034
Mutual Union Brewing Company, Pittsburg and Aliquippa, Pa. "Aliquippa Export Beer." (For Beer)	12,821	Oct. 15	130	2034
Shepard, Robert H., Chicago, Ill. "Kaffir Blood and Nerve Tablets." (For Medicine)	12,825	Oct. 15	130	2034

PRINTS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
M. V. Price & Co., Chicago, Ill. "'Our Schoolmaster' Series—No. 1." (For Men's and Boys' Coats, Vests, and Trousers)	2,135	Oct. 15	130	2034
M. V. Price & Co., Chicago, Ill. "'Our Schoolmaster' Series—No. 2." (For Men's and Boys' Coats, Vests, and Trousers)	2,136	Oct. 15	130	2034
M. V. Price & Co., Chicago, Ill. "'Our Schoolmaster' Series—No. 3." (For Men's and Boys' Coats, Vests, and Trousers)	2,137	Oct. 15	130	2034
M. V. Price & Co., Chicago, Ill. "'Our Schoolmaster' Series—No. 4." (For Men's and Boys' Coats, Vests, and Trousers)	2,138	Oct. 15	130	2034

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Adams Argood Chocolate Co., Philadelphia, Pa. Candies	28,788	Oct. 15	130	2034
Adams Argood Chocolate Co., Philadelphia, Pa. Candies	28,146	Oct. 15	130	2034
B. F. Goodrich Company, Akron, Ohio. Medical and surgical apparatus, &c	22,678	Oct. 15	130	2033
Barton Vineyard Company, Limited, Fresno, Cal. Brandy	23,641	Oct. 15	130	2033
Barton Vineyard Company, Limited, Fresno, Cal. Wine	23,642	Oct. 15	130	2033
Barton Vineyard Company, Limited, Fresno, Cal. Wine	23,702	Oct. 15	130	2033
Barton Vineyard Company, Limited, Fresno, Cal. Brandy	23,703	Oct. 15	130	2033
Bates & Bacon, Attleboro, Mass. Chains	18,737	Oct. 15	130	2032
Bengué, Jules, Paris, France. Balsams, purgatives, pastils, and anesthetics	20,117	Oct. 15	130	2032
Bidtel Chemical Works, Jersey City, N. J. Disinfecting, cleansing, &c., preparation	29,545	Oct. 15	130	2033
Blumenthal & Company, F., New York, N. Y. Leather	26,277	Oct. 15	130	2034
Boucher, Charles, Paris, France. Toilet powder	29,490	Oct. 15	130	2033
Bourn Rubber Co., Providence, R. I. Rubber boots and shoes	29,427	Oct. 15	130	2033
C. S. Morey Mercantile Company, Denver, Colo. Spices	29,267	Oct. 15	130	2033
Cementium (Parent) Co., Ltd., London, England. Cements, glues, and adhesives	29,560	Oct. 15	130	2033
Carson Pirie Scott & Co., Chicago, Ill. Embroidery-cotton	29,576	Oct. 15	130	2033
Chas. A. Zahn Co., Chicago, Ill. Wine	27,868-9	Oct. 15	130	2034
Chemische Fabrik Flörsheim, Dr. H. Noerdlinger, Flörsheim-on-the-Main, Germany. Impregnating agents for preserving and coating wood	29,675	Oct. 15	130	2033
Chicago Folding Box Co., Chicago, Ill. Paper oyster-pails	29,440	Oct. 15	130	2033
Cleveland-Akron Bag Co., Cleveland, Ohio. Paper bags	29,671	Oct. 15	130	2034
Columbia Carriage Co., Hamilton, Ohio. Barouches, buckboards, buggies, cabs, &c	8,567	Oct. 15	130	2027
Crescent Milling Company, Minneapolis, Minn. Wheat-flour	28,797	Oct. 15	130	2034
De Luxe Motor Car Company, Detroit, Mich. Automobiles	25,684	Oct. 15	130	2027
Decker & Cohn, Alfred, Chicago, Ill. Coats, vests, trousers, and overcoats	28,921	Oct. 15	130	2033
Dr. W. Towns Medical Company, Fond du Lac, Wis. Remedy for epilepsy	27 079	Oct. 15	130	2033
Fall, Arthur J., Anamosa, Iowa. Card-games	29,674	Oct. 15	130	2027
Fischer Chemical Importing Co., New York, N. Y. Cod-liver-oil emulsion, beef, iron, and wine tonic, &c	13,650	Oct. 15	130	2032
Garrett-Williams Company, Baltimore, Md. Whisky	28,870	Oct. 15	130	2035
Genuine Bangor Slate Co., Easton, Pa. Roofing-slate	29,778	Oct. 15	130	2033
Geo. Borgfeldt & Co., New York, N. Y. Dolls	29,753	Oct. 15	130	2030
George Wiedemann Brewing Co., Newport, Ky. Beer	23,426	Oct. 15	130	2033
Globe Milling Co., Lockport, N. Y. Wheat-flours	28,530-1	Oct. 15	130	2034
Graham Paper Co., St. Louis, Mo. Printing and writing paper	27,444	Oct. 15	130	2035
Graham Paper Co., St. Louis, Mo. Printing and writing paper	27,450	Oct. 15	130	2035
Graham Paper Co., St. Louis, Mo. Printing and writing paper	27,458	Oct. 15	130	2035
Graves & Meade Co., Dayton, Ohio. Trousers, vests, coats, and overcoats	29,176	Oct. 15	130	2037
H. K. Mulford Company, Philadelphia, Pa. Medical preparation	29,336	Oct. 15	130	2037
H. O. Canfield Company, Bridgeport, Conn. Rubber valve-balls, bulbs, furniture-bumpers, &c	27,320	Oct. 15	130	2035
Haldenwang, Richard, Jr., Brooklyn, N. Y. Puzzle	29,268	Oct. 15	130	2030
Hartford Rubber Works Company, Hartford, Conn., and New York, N. Y. Rubber tires	28,460-62	Oct. 15	130	2034
Hartford Rubber Works Company, Hartford, Conn., and New York, N. Y. Rubber tires	26,464-6	Oct. 15	130	2034

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Hartford Rubber Works Company, Hartford, Conn., and New York, N. Y. Rubber tires	[illegible]	Oct. 15	130	[illegible]
Hartford Rubber Works Company, Hartford, Conn., and New York, N. Y. Rubber tires	[illegible]	Oct. 15	130	[illegible]
Hartford Rubber Works Company, Hartford, Conn., and New York, N. Y. Rubber tires	[illegible]	Oct. 15	130	[illegible]
Helmig Stove and Range Co., Louisville, Ky. Stoves and ranges	[illegible]	Oct. 15	130	[illegible]
House & Sons, Chas. W., New York, N. Y. Felts in the piece	[illegible]	Oct. 15	130	[illegible]
Houston Ice & Brewing Co., Houston, Tex. Tonic malt liquor	[illegible]	Oct. 15	130	[illegible]
Howarth, John H., New Haven, Conn. Remedy for rheumatism and gout	[illegible]	Oct. 15	130	[illegible]
International Sunshine Society, New York, N. Y. Magazine	[illegible]	Oct. 15	130	[illegible]
J. H. Rice & Friedmann Co., Milwaukee, Wis. Dress and negligée shirts	[illegible]	Oct. 15	130	[illegible]
Kingan and Company, Limited, Belfast, Ireland, and Indianapolis, Ind. Cured and salted meats	[illegible]	Oct. 15	130	[illegible]
Kingan and Company, Limited, Belfast, Ireland, and Indianapolis, Ind. Meats and sausage	[illegible]	Oct. 15	130	[illegible]
Konomax Rock Drill Syndicate Limited, Johannesburg, Transvaal. Rock-drilling machines	[illegible]	Oct. 15	130	[illegible]
Kros, Rudolf, Golsern, near Grimma, Germany. Machines and looms	[illegible]	Oct. 15	130	[illegible]
Latham, Tom B., Brownwood, Tex. Hair tonics and restorers	[illegible]	Oct. 15	130	[illegible]
Manchester Furniture Co., Manchester, Va. Washboards	[illegible]	Oct. 15	130	[illegible]
Meiser, Hermann, Meiningen, Germany. Antiseptic, disinfecting, and heating lubricant	[illegible]	Oct. 15	130	[illegible]
Meyer, Pitts & Co., Baltimore, Md. Whisky	[illegible]	Oct. 15	130	[illegible]
Michigan Knitting Co., Lansing, Mich. Knitted gloves, toques, sweaters, coats, &c.	[illegible]	Oct. 15	130	[illegible]
Moch, Berman & Co., Cincinnati, Ohio. Coats, vests, and trousers	[illegible]	Oct. 15	130	[illegible]
Mona Manufacturing Company, Boston, Mass. Dress-shields	[illegible]	Oct. 15	130	[illegible]
Monarch Suspender Co., New York, N. Y. Suspenders and belts	[illegible]	Oct. 15	130	[illegible]
Nahass, Adolph, Boston, Mass. Belts	[illegible]	Oct. 15	130	[illegible]
Ogden and Shimer, Middletown, N. Y. Cough mixture	[illegible]	Oct. 15	130	[illegible]
Pereyra, Aurelio M., San Francisco, Cal. Cereal breakfast foods	[illegible]	Oct. 15	130	[illegible]
Porter, Louis N., Ponca, Nebr. Incubators and brooders	[illegible]	Oct. 15	130	[illegible]
Portland Flouring Mills Co., Portland, Oreg. Wheat breakfast foods	[illegible]	Oct. 15	130	[illegible]
R. Hudnut's Pharmacy, New York, N. Y. Tooth-brushes	[illegible]	Oct. 15	130	[illegible]
Ramage, James S., Chicago, Ill. Remedies for diseases of the skin, sunburn, &c	[illegible]	Oct. 15	130	[illegible]
Royal Worcester Corset Co., Worcester, Mass. Corsets	[illegible]	Oct. 15	130	[illegible]
Rubens & Marble, Chicago, Ill. Knit undershirts	[illegible]	Oct. 15	130	[illegible]
S. W. Miller Piano Co., Sheboygan, Wis. Pianos	[illegible]	Oct. 15	130	[illegible]
Shannon & Mott Company, Des Moines, Iowa. Flours and cereal breakfast food	[illegible]	Oct. 15	130	[illegible]
Snow Flake Manufacturing Company, New York, N. Y. Ice-cream freezers	[illegible]	Oct. 15	130	[illegible]
Société Anonyme Arbe, Villeneuve la Garenne, France. Automobiles	[illegible]	Oct. 15	130	[illegible]
Société Anonyme des Caves et des Producteurs réunis de Roquefort (Aveyron), Roquefort, (Aveyron,) France. Roquefort cheese	24,220-9	Oct. 15	130	[illegible]
Spirine Extracting Co., Chicago, Ill. Laxative and digestive medicines	[illegible]	Oct. 15	130	[illegible]
Stanley Rule & Level Company, New Britain, Conn. Squares, rules, plumbs, &c	[illegible]	Oct. 15	130	[illegible]
Steele, Frederick A., New Rochelle, N. Y. Medicated and antiseptic pads	[illegible]	Oct. 15	130	[illegible]
Taylor Chair Company, Bedford, Ohio. Chairs, rockers, settees, and sofas	[illegible]	Oct. 15	130	[illegible]
Tracy Shoe Co., Portsmouth, Ohio. Leather boots and shoes	[illegible]	Oct. 15	130	[illegible]
Tropon Gesellschaft mit beschränkter Haftung, Mülheim-on-the-Rhine, Germany. Nutritive compounds	[illegible]	Oct. 15	130	[illegible]
Tunnell & Co., F. W., Philadelphia, Pa. Fertilisers	11,218-19	Oct. 15	130	[illegible]
Union Bag & Paper Company, New York, N. Y. Paper bags	[illegible]	Oct. 15	130	[illegible]
Utica Drop Forge and Tool Co., Utica, N. Y. Nippers and pliers	[illegible]	Oct. 15	130	[illegible]
W. T. Owbridge Ltd., Hull, England. Lung-tonic	[illegible]	Oct. 15	130	[illegible]
Washburn Crosby Company, Minneapolis, Minn. Wheat-flour	[illegible]	Oct. 15	130	[illegible]
Wellcome, Henry S., London, England. Preparation of cascara sagrada	[illegible]	Oct. 15	130	[illegible]
Wessel Bros. Candy Co., St. Paul, Minn. Cough-drops	[illegible]	Oct. 15	130	[illegible]
Zane & Gill, Swedesboro, N. J. Fresh tomatoes, cantaloupe, apples, &c	[illegible]	Oct. 15	130	[illegible]

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED ON THE 15TH DAY OF OCTOBER, 1907.

Invention.	Name.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
Abrading device	J. R. Scott	868,021	Oct. 15	1276	353	130	1746
Accounting appliances. Credits-	R. D. Pardee	868,118	Oct. 15	1420	309	130	1790
Acid. Making lactic	J. A. Just	868,444	Oct. 15	1894	.....	130	1944
Advertising device	H. W. Gardner	868,542	Oct. 15	2057	363	130	1988
Air-brake system	H. N. Ransom	868,481	Oct. 15	1998	554	130	1981
Air-brake system	C. E. Barry	868,592	Oct. 15	2178	608	130	2035
Air-ship	M. Schiavone	868,223	Oct. 15	1505	445-7	130	1883
Alarm: for Burglar-alarm.	H. D. Lents	868,458	Oct. 15	1955	546	130	1980
Album, Card	L. Bouveault and G. Blanc	868,252	Oct. 15	1613	.....	130	1940
Alcohol and obtaining the same from carboxylic compounds.	H. S. Blackmore	868,220	Oct. 15	1736	491	130	1895
Aldehydes and solutions thereof. Making	F. G. A. Wilm	868,263	Oct. 15	1836	516	130	1913
Alloys by heating and chilling. Improving aluminium	C. P. E. Schneider and E. Rimailho	868,234	Oct. 15	1675	447	130	1837
Ammunition wagon or caisson	O. M. Stewart and J. A. Greer	868,360	Oct. 15	1816	511	130	1909
Amusement device	J. Hilbeth	868,554	Oct. 15	2113	591	130	2002
Animal. Mechanical	I. W. Jones	868,568	Oct. 15	2115	596	130	2003
Animal-trap	D. Bates and G. W. Peard	868,154	Oct. 15	1488	412	130	1808
Annealing or heating of metals	J. A. Baker	868,345	Oct. 15	1803	455	130	1845
Antiphone	E. W. Roberts	868,014	Oct. 15	1280	340-50	130	1742
Automobile	L. P. Barrett	868,219	Oct. 15	1733	490	130	1895
Automobile-fender. Reversible	F. Thomas	868,145	Oct. 15	1455	410	130	1801
Awning	L. Hall	868,553	Oct. 15	2102	587	130	1999
Axle. Car-	J. Hulbert	868,269	Oct. 15	1843	464	130	1870
Bag-holder	E. Taylor	868,804	Oct. 15	2017	582	130	1982
Bag-holder	M. A. Wilcox	868,312	Oct. 15	1736	497	130	1852
Bake-pan	C. E. Pierce	868,121	Oct. 15	1426	400	130	1791
Baking-pan	J. J. Stoppie	868,142	Oct. 15	1449	408	130	1793
Baling-press	W. E. Doumer	868,163	Oct. 15	1472	414-15	130	1800
Band-cutter and feeder	C. S. Lockwood	868,105	Oct. 15	1401	368	130	1784
Bar: See Tamping-bar.	E. L. Tyrrell	868,037	Oct. 15	1203	262	130	1555
Bearings. Cage for rolls in roller-	D. T. Blevins and S. R. Giddings	868,283	Oct. 15	2180	608-9	130	2036
Bed-clothes-supporting device	R. E. Horinek	867,974	Oct. 15	1202	332	130	1733
Bed-topper	D. T. Owen	868,002	Oct. 15	1247	345-6	130	1737
Belt guide and shifter	J. B. Lockwood	868,461	Oct. 15	1959	547	130	1951
Berth and seat for passenger-carriages. Combined	H. S. Corbitt	868,320	Oct. 15	1750	493-4	130	1899
Bicycle-guard	J. Heggen	868,183	Oct. 15	1490	425	130	1813
Bicycle propelling mechanism	R. E. Gunsolus	868,549	Oct. 15	2099	586	130	1998
Bicycle. Water-	R. B. Wilson	868,239	Oct. 15	1595	452-3	130	1842
Billiard-cue-chalking device	H. Schneller and F. J. Henke	868,491	Oct. 15	2000	558	130	1965
Bin: See Grain-bin.							
Binder. Loose-leaf							
Binder. Loose-leaf							
Block: See Building-block.							
Board: See Reed-board. Sanitary douche-board.							
Boiler: See Flash-boiler. Water-tube boiler. Steam-boiler.							
Boiler compound	J. Williams, Jr	868,140	Oct. 15	1458	.....	130	1802
Boiler-flue cleaner	W. J. Bradley	868,403	Oct. 15	1871	524	130	1925
Boilers. Steam ash-remover for	J. A. Kretzer	868,455	Oct. 15	1952	544-5	130	1949
Book-mark	J. F Orgain	868,470	Oct. 15	1971	549	130	1955
Books, tablets, &c. Backing-machine for	J. G. Klink	868,451	Oct. 15	1945	543	130	1947
Boot and shoe. Composite	H. C. Richardson	868,464	Oct. 15	1991	555	130	1956
Boot and shoe finishing machines. Rotary operating member for	W. W. Crocker	868,532	Oct. 15	2071	581	130	1987
Bottle	C. B. Wiltse	868,515	Oct. 15	2040	573	130	1977
Bottle closure and seal	C. Schönert and R. Schweitzer	868,225	Oct. 15	1576	448	130	1837
Box: See Fuse-box. Mail-box. Lunch-box. Stuffing-box.	J. W. Evans	868,334	Oct. 15	1757	496	130	1891
Box-lid fastening							
Brace: See Railway-brace.							
Brake: See Vehicle-brake.	C. E. Bauer and F. L. Susemihl	868,622	Oct. 15	2232	619-20	130	2041
Brake-head. Adjustable							

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Brushing device	T. B. Bradford	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Brick-machine	F. Mueller	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Brick-machine	B. C. White	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Bridle. Bitless	H. J. Hay and S. Hodgson	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Brooder	J. Gordon	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Brush-holder	F. P. McGerty	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Brush-manufacturing apparatus	H. Weissmüller	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Bucket and cooker. Combined	M. M. Monck	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Bucket and similar vessel. Milk-	S. E. Bell	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Bucket. Turbine-	W. L. E. Emmet	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Buckle. Cross-line	F. W. Dill and J. E. Hill	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Building-block	J. Clark	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Burglar-alarm	E. E. Geiger	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Burglar-alarm and sash-lock. Combined	J. W. Carpenter	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Burner: See Gas-burner. Oil-burner. Hydrocarbon-burner.							
Butter-cutter	A. C. Hammer						
Button and necktie-holder. Combined collar-	F. D'Aveni and J. Campanella	[illegible]	Oct. 15	1708		130	1758
Cable-hanger	T. A. Walsh	[illegible]	Oct. 15	[illegible]		[illegible]	[illegible]
Cables, pipes, rods, and the like, and in a flux therefor. Jointing of	S. L. Smith and T. Hanlon	[illegible]	Oct. 15	[illegible]		[illegible]	[illegible]
Cam. Adjustable	B. M. W. Hanson and J. H. Monstream	[illegible]	Oct. 15	1573	384	130	173
Can: See Dispensing-can. Oil-can. Milk-can. Sheet-metal-can.							
Can opener and seal. Milk-	E. D. Waterbury						
Can-topping apparatus	F. J. Hayhurst	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Candy-working machine	F. H. Richards	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Car-bolster and draft-rigging. Combined	W. D. Loggy	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Car construction. Railway-	M. Kennedy	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Car-door fastener. Grain-	M. F. Fyffe and W. F. Flynn	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Car-feeder	J. T. Tighe	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Car-feeder	B. Loy	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Car steering and braking device combined. Motor-	E. H. Gehl	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Car-step. Folding	N. L. Reeves and J. B. Sloane	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Car-wheel fender	J. Meehan	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Car-windows. Preventing the collection of snow and dust upon	G. M. Little	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Care. Discharge for tank-	W. D. Russell	[illegible]	[illegible] 15	[illegible]		[illegible]	[illegible]
Carburetor	L. Bollée	[illegible]	[illegible] 15	[illegible]	[illegible]	[illegible]	[illegible]
Carburetor for internal-combustion engines	E. V. Hartford	[illegible]	Oct. 15	[illegible]	406-7	[illegible]	[illegible]
Carpet-fastener. Separable	W. H. Bolss	[illegible]	Oct. 15	[illegible]	382	[illegible]	[illegible]
Carrier: See Elevated carrier. Plate-carrier.					370	130	1670
Cart. Push-	J. T. Koon	[illegible]	Oct. 15	1594	381	130	1720
Carton-marking attachment for carton-cutting-up machines or the like	W. E. Doble	[illegible]	Oct. 15	1577	385-6	130	1735
Cartons. Machine for closing and sealing the top flaps of	C. Redd	[illegible]	Oct. 15	1605	475-6	130	1871
Case: See Metallic case. Sample-case.							
Casein soluble to a neutral solution. Preparing	J. A. Just	[illegible]	Oct. 15	1595	[illegible]	130	1744
Cataphoric apparatus	T. J. Randall	[illegible]	Oct. 15	1627	401	130	1793
Cellulose, paper-pulp, &c., stripe capable of being spun Preparing from	A. Lainveber	[illegible]	Oct. 15	1518	430-1	130	1889
Cement. Mold for veneering walls with	J. G. Mills	[illegible]	Oct. 15	1609	471	130	1885
Centrifugal separator for wood-pulp and similar materials	A. H. Holden	[illegible]	Oct. 15	1707	469	130	1894
Ceramic ware for firing. Bedding	E. Mayer	[illegible]	Oct. 15	1603	386	130	1795
Chain-making machine	R. Müller	[illegible]	Oct. 15	1697	471	130	1895
Chair: See Rail-chair. Railway-chair. Rocking-chair.							
Chair-dowel for building purposes	W. H. Wilson						
Cheeking, registering, and recording mechanism	A. Booe	[illegible]	Oct. 15	1593	371-2	130	1768
Cheese-cutter	W. G. Doty	[illegible]	Oct. 15	[illegible]	620-1	130	2062
Chopper: See Cotton-chopper. Food-chopper.		[illegible]	Oct. 15	2040	631	130	2065
Chuck	W. A. Oubridge						
Chuck. Drill-	M. Kuhs and G. Petig	[illegible]	Oct. 15	1572	550	130	1825
Clamp: See Rail-clamp.		[illegible]	Oct. 15	1597	391	130	1783
Clasp-knife	J. C. Griswold						
Cleaner: See Boiler-flue cleaner.		[illegible]	Oct. 15	1604	423	130	1812
Clock. Self-winding	A. F. Poole						
Clock. Self-winding electric	C. W. Wagner	[illegible]	Oct. 15	2151	608	130	2016
Cloth-cutting machine	A. Bosshard	[illegible]	Oct. 15	[illegible]	606	130	2009
Clothes-line	J. R. Davidson	[illegible]	Oct. 15	1751	617	130	1797
Clothes-rack	J. A. Newman	[illegible]	Oct. 15	[illegible]	389	130	1667
Clothes-rack	G. C. Potter	[illegible]	Oct. 15	1613	387	130	1787
Clutch and transmission device. Hydraulic	C. H. Tingley	[illegible]	Oct. 15	[illegible]	563	130	1809
Clutches. Shipping device for friction-	C. J. Moore	[illegible]	Oct. 15	1711	[illegible]	130	1838
Coffee pot and steeper	C. Hoffman	[illegible]	Oct. 15	[illegible]	[illegible]	130	1788
Coin-collector circuit	A. F. Dixon	[illegible]	Oct. 15	[illegible]	[illegible]	130	2001
Coin-controlled mechanism	H. Blum	[illegible]	Oct. 15	[illegible]	[illegible]	130	1714
Column, post, and the like. Metal	S. Grossman	[illegible]	Oct. 15	[illegible]	[illegible]	130	1694
Columns, &c. Base for	C. E. Zimmermann	[illegible]	Oct. 15	[illegible]	[illegible]	130	1695
Compressed-air motor	C. D. Jenkins	[illegible]	Oct. 15	[illegible]	[illegible]	130	1864
Compressed-air tank	W. J. Griffin	[illegible]	Oct. 15	[illegible]	[illegible]	130	1943
Concrete reinforcement	J. S. Barnes	[illegible]	Oct. 15	[illegible]	[illegible]	130	1998
Condenser. Surface	L. R. Alberger	[illegible]	Oct. 15	[illegible]	[illegible]	130	1768
Condenser. Surface	L. R. Alberger	[illegible]	Oct. 15	[illegible]	[illegible]	130	1916
Condenser. Surface	L. R. Alberger	[illegible]	Oct. 15	[illegible]	[illegible]	130	1917
Control system	A. S. Mann	[illegible]	Oct. 15	[illegible]	[illegible]	130	1919
Controller	C. E. Lord	[illegible]	Oct. 15	[illegible]	[illegible]	130	1953
Controller-operating mechanism	C. T. Crocker	[illegible]	Oct. 15	[illegible]	[illegible]	130	2006
Conveyer. Package-	M. C. Schwab	[illegible]	Oct. 15	[illegible]	[illegible]	130	1966
Conveying device	J. D. Musser	[illegible]	Oct. 15	[illegible]	[illegible]	130	1745
		[illegible]	Oct. 15	[illegible]	[illegible]	130	1734

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Cooler	E. Neely	[illegible]	Oct. 15	1600	472	130	[illegible]
Coring device. Apple-	E. C. Hedborg	[illegible]	Oct. 15	1107	[illegible]	[illegible]	[illegible]
Corn and fruit spoon	D. Schuyler	[illegible]	Oct. 15	2139	[illegible]	[illegible]	[illegible]
Corn-husking machine	G. A. and A. H. Welch	[illegible]	Oct. 15	1317	357	[illegible]	[illegible]
Corset	J. Lindauer	[illegible]	Oct. 15	1538	423	[illegible]	[illegible]
Cot. Invalid-	H. B. Whitlock	[illegible]	Oct. 15	1280	365	[illegible]	[illegible]
Cotton-chopper	J. Chamness	[illegible]	Oct. 15	1703	318	[illegible]	[illegible]
Coupler. Interlocking	F. L. Wells	[illegible]	Oct. 15	1334	372	[illegible]	[illegible]
Coupling: See Electrically-operable coupling. Plate-coupling.							
Coupling	J. J. Rollins	[illegible]	Oct. 15	1902	586	[illegible]	[illegible]
Crank. Impervious	M. H. Berry	[illegible]	Oct. 15	1351	373	[illegible]	[illegible]
Crossing. Pre-formed	G. P. Bishopric	[illegible]	Oct. 15	1466	413	[illegible]	[illegible]
Cross. Annealing device for	H. J. O. and J. T. Reed	[illegible]	Oct. 15	1426	401	[illegible]	[illegible]
Crown	H. A. Thomson	[illegible]	Oct. 15	1289	360-61	[illegible]	[illegible]
Crutch. Folding	W. James	[illegible]	Oct. 15	1691	749	[illegible]	[illegible]
Curtain or oven. Collapsible	J. S. McKibbin	[illegible]	Oct. 15	1351	440-1	[illegible]	[illegible]
Cushioning device	A. S. Stenborg	[illegible]	Oct. 15	1497	497	[illegible]	[illegible]
Cushion-spring support	E. E. Yaxley	[illegible]	Oct. 15	2177	697-8	[illegible]	[illegible]
Cuspidor-flushing. Portable	M. Harvey	[illegible]	Oct. 15	1497	424	[illegible]	[illegible]
Cut-off	G. E. Baker	[illegible]	Oct. 15	1188	314	[illegible]	[illegible]
Cutter. Lister-	T. Malally	[illegible]	Oct. 15	1703	395	[illegible]	[illegible]
Cutter	C. H. Melvin	[illegible]	Oct. 15	1406	398-9	[illegible]	[illegible]
Cutter	J. S. Bayer	[illegible]	Oct. 15	2055	577	[illegible]	[illegible]
Cutter-fastener	A. Freschl	[illegible]	Oct. 15	1369	363	[illegible]	[illegible]
Cutter-pole	W. C. Neal	[illegible]	Oct. 15	1670	580	[illegible]	[illegible]
Cutter: See Bunt-cutter. Chisel-cutter. Butter-cutter. Pulper-cutter.							
Cutting, perforating, and roll-forming mechanism	C. E. Pope	[illegible]	Oct. 15	1606	408	[illegible]	[illegible]
Damper	A. M. Padmore	[illegible]	Oct. 15	1973	380	[illegible]	[illegible]
Damping apparatus	J. V. N. Dorr	[illegible]	Oct. 15	1181	336	[illegible]	[illegible]
Dental Impression and spoon	E. M. Flagg	[illegible]	Oct. 15	2046	622	[illegible]	[illegible]
Derrick	L. J. Lindsay and J. H. Carroll	[illegible]	Oct. 15	1520	433	[illegible]	[illegible]
Desk-fastener	S. A. Harrison	[illegible]	Oct. 15	1919	536	[illegible]	[illegible]
Die and the like	M. S. Carnegie	[illegible]	Oct. 15	1746	402	[illegible]	[illegible]
Dipping apparatus	F. Closs	[illegible]	Oct. 15	1749	486	[illegible]	[illegible]
Digger: See Post-hole digger. Potato-digger.							
Dispensing-can	J. M. Gilbert	[illegible]	Oct. 15	1194	320	[illegible]	[illegible]
Display-stand	C. Goodchild	[illegible]	Oct. 15	1606	533	[illegible]	[illegible]
Display-stand. Locking	S. D. McMillan	[illegible]	Oct. 15	1287	342	[illegible]	[illegible]
Door-check	L. C. Norton	[illegible]	Oct. 15	1791	505-6	[illegible]	[illegible]
Door. Grain-	M. Kennedy	[illegible]	Oct. 15	1302	360	[illegible]	[illegible]
Door-hanger	H. C. Swafford	[illegible]	Oct. 15	1454	400	[illegible]	[illegible]
Door-stop	O. T. Lucas	[illegible]	Oct. 15	1533	434	[illegible]	[illegible]
Draft-equalizer	W. L. Chrysler and J. W. Kaye	[illegible]	Oct. 15	2185	610	[illegible]	[illegible]
Draft-equalizer	E. O. Doak	[illegible]	Oct. 15	2194	611	[illegible]	[illegible]
Dredging apparatus	S. Lake	[illegible]	Oct. 15	1219	326-7	[illegible]	[illegible]
Dryer: See Lime-kiln.							
Drying apparatus	J. A. Just	[illegible]	Oct. 15	1696	540	[illegible]	[illegible]
Drying-machine. Rotary	R. G. Poncet	[illegible]	Oct. 15	1977	551	[illegible]	[illegible]
Duplicator	J. M. Cramer	[illegible]	Oct. 15	1982	626	[illegible]	[illegible]
Dutch-oven. Well-door for	A. E. Fischer	[illegible]	Oct. 15	1896	532	[illegible]	[illegible]
Dye and washing mixture. Azo-	R. Bohn	[illegible]	Oct. 15	1695	[illegible]	[illegible]	[illegible]
Dye and making same. Vat-	A. Schmidt	[illegible]	Oct. 15	1695	[illegible]	[illegible]	[illegible]
Ejector	G. L. Raymond	[illegible]	Oct. 15	1482	401	[illegible]	[illegible]
Electric-cable coupling	G. L'Hoest and H. Pieper	[illegible]	Oct. 15	1989	646	[illegible]	[illegible]
Electric-light circuits. Door-operated electric switch for	J. Kramer	[illegible]	Oct. 15	1777	502	[illegible]	[illegible]
Electric saturation. Dynamo-	C. D. Knight	[illegible]	Oct. 15	1509	428	[illegible]	[illegible]
Electric machine. Dynamo-	W. D. Pomeroy	[illegible]	Oct. 15	2150	602	[illegible]	[illegible]
Electric wires. Terminal or connecting-clip for	H. E. Sohner and W. H. Benjamin	[illegible]	Oct. 15	1704	381	[illegible]	[illegible]
[illegible] system	E. Weintraub	[illegible]	Oct. 15	1827	515	[illegible]	[illegible]
[illegible] system	E. Weintraub	[illegible]	Oct. 15	1830	515	[illegible]	[illegible]
[illegible] support	F. Johannemeyer	[illegible]	Oct. 15	1966	565	[illegible]	[illegible]
[illegible]	C. P. Stathmann	[illegible]	Oct. 15	2014	642	[illegible]	[illegible]
[illegible]	J. McIntyre	[illegible]	Oct. 15	1989	549	[illegible]	[illegible]
[illegible]	P. H. and H. C. Billings	[illegible]	Oct. 15	1802	426	[illegible]	[illegible]
[illegible]	C. W. Kirsch	[illegible]	Oct. 15	1940	541-2	[illegible]	[illegible]
[illegible]	W. A. Dunlap	[illegible]	Oct. 15	1363	362	[illegible]	[illegible]
[illegible]	W. L. Graham	[illegible]	Oct. 15	2001	594	[illegible]	[illegible]
[illegible] Petroleum-engine.							
[illegible] Rotary engine.							
[illegible]	E. P. Noyes	[illegible]	Oct. 15	1794	506-7	[illegible]	[illegible]
[illegible]	T. Davidson	[illegible]	Oct. 15	1171	333-4	[illegible]	[illegible]
[illegible]	F. L. Wolfe	[illegible]	Oct. 15	1235	373	[illegible]	[illegible]
[illegible]	J. B. Hoover	[illegible]	Oct. 15	1201	332	[illegible]	[illegible]
[illegible] Gas-	E. P. Du Pont	[illegible]	Oct. 15	1978	552	[illegible]	[illegible]
[illegible]	C. B. Hodges	[illegible]	Oct. 15	2109	590	[illegible]	[illegible]
[illegible]	F. W. Brady	[illegible]	Oct. 15	1372	525	[illegible]	[illegible]
[illegible]	P. C. Jenkins	[illegible]	Oct. 15	1382	367-8	[illegible]	[illegible]
[illegible]	W. T. Johnson	[illegible]	Oct. 15	1648	456	[illegible]	[illegible]
[illegible]	J. A. Just	[illegible]	Oct. 15	1937	541	[illegible]	[illegible]
[illegible]	H. Channon	[illegible]	Oct. 15	2184	610	[illegible]	[illegible]
[illegible]	H. J. Barnhart	[illegible]	Oct. 15	1360	378	[illegible]	[illegible]
[illegible]	P. Ford	[illegible]	Oct. 15	1627	429-30	[illegible]	[illegible]
[illegible]	H. Chapman	[illegible]	Oct. 15	1155	318-19	[illegible]	[illegible]
[illegible]	O. Hetlesæter	[illegible]	Oct. 15	1630	486	[illegible]	[illegible]
[illegible]	A. Krisek	[illegible]	Oct. 15	1213	330	[illegible]	[illegible]
[illegible]	H. Schanlein	[illegible]	Oct. 15	1705	461	[illegible]	[illegible]
[illegible]	E. A. Fuller	[illegible]	Oct. 15	1696	532	[illegible]	[illegible]
[illegible]	P. W. Klerman	[illegible]	Oct. 15	1204	330	[illegible]	[illegible]
[illegible]	J. W. Miller	[illegible]	Oct. 15	1903	633	[illegible]	[illegible]
[illegible]	R. P. Disbrow	[illegible]	Oct. 15	1917	637	[illegible]	[illegible]
[illegible]	W. R. and J. W. Tarte	[illegible]	Oct. 15	1878	503	[illegible]	[illegible]

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Fender:							
See Automobile-fender. Car-wheel fender. Car-fender.							
Ferruginous blende. Treating	W. M. Johnson	868,340	Oct. 15	1772		130	1956
Fiber tubes. Machine for making vulcanized	T. Hanson	868,454	Oct. 15	1954	898-9	130	1958
Fibers from the pulp and extraneous matter of plants and trees. Machine for separating	E. Behrendt	868,268	Oct. 15	1891	577-8	130	1958
Fibers from the pulp and other extraneous matter of plants and trees. Machine for separating	E. Behrendt	868,269	Oct. 15	1891	522	130	1958
Fibers from the pulp of plants and trees. Machine for separating	E. Behrendt	868,270	Oct. 15	1891	570	130	1958
Filter. Centrifugal	F. O. Nilsson and J. A. Jonsson	868,288	Oct. 15	1893	472	130	1958
Filter. Oil-	W. C. Paley	868,297	Oct. 15	1893	488	130	1958
Filters. Making	G. M. Krueger	868,327	Oct. 15	1893	488	130	1958
Fire-escape for buildings. Movable	A. S. Olney	868,117	Oct. 15	1893	366-8	130	1758
Fire-extinguisher sprinklers. Implement for closing the discharge-openings of automatic	W. P. Wood and C. B. Volk	868,000	Oct. 15	1893	373	130	1758
Fire-extinguishing apparatus and fusible link employed therewith. Automatic sprinkler for stationary	W. Esty	868,000	Oct. 15	1893	611	130	1959
Fire-extinguishing sprinkler	G. F. Hall	868,450	Oct. 15	1917	591	130	1958
Fire-hydrant	W. H. Featherstone	868,000	Oct. 15	1893	393	130	1758
Fires. Apparatus for the use of carbon dioxid for extinguishment of	E. F. Osborne	868,256	Oct. 15	1894	443-5	130	1959
Firearm	W. J. McKee	868,000	Oct. 15	1921	617	130	1958
Firearm-sight	J. Windridge	868,240	Oct. 15	1897	488	130	1958
Fireproof construction. Centering for	C. D. Oliver	868,110	Oct. 15	1893	388	130	1958
Fishing-rod guide	E. Heinemann	868,000	Oct. 15	2112	591	130	1958
Flash-boiler	A. L. Riker	868,000	Oct. 15	1893	365	130	1958
Floor-cleaning device	J. E. Gee	868,000	Oct. 15	1893	339	130	1758
Fluid charging and discharging device. Compressed-	G. A. Behrisch	868,000	Oct. 15	1897	516	130	1758
Flying-machine	J. W. Rodhen	868,000	Oct. 15	1893	597	130	1958
Flying-machines or air-ships. Mechanism for winged	J. U. de Uberbrâcq	868,000	Oct. 15	1893	366-8	130	1758
Flying-machines or air-ships. Steering-gear for winged	J. U. de Uberbrâcq	868,000	Oct. 15	1897	366	130	1758
Folding-machine	B. A. Slocum	868,000	Oct. 15	1893	365-6	130	1758
Food-chopper	J. A. Hurley	868,244	Oct. 15	1771	580	130	1956
Force-feed lubricator	A. Finch	868,000	Oct. 15	1893	481	130	1958
Force-feed lubricator	A. A. Stalting	868,000	Oct. 15	1893	604-5	130	1958
Forging-machine	J. R. Blakeslee, Jr.	868,000	Oct. 15	1893	481	130	1958
Fork	W. J. Jerkins	868,000	Oct. 15	1893	366	130	1758
Foundations, dams, sea-walls, and the like. System of construction for	F. Hennebique	868,000	Oct. 15	1893	357	130	1777
Frame:							
See Picture-frame. Spinning and doubling frame. Saddle-frame.							
Funnel	W. H. Ash	868,204	Oct. 15	1893	481	130	1958
Furnace:							
See Crucible-furnace Thawing-furnace. Hot-air furnace.							
Furnace blast connection	J. W. Destrick	868,410	Oct. 15	1897	520	130	1958
Furnace-charging device. Blast-	C. P. Turner and J. W. Dougherty.	868,000	Oct. 15	2013	564-6	130	1970
Furnace-charging device. Blast-	C. P. Turner, J. W. Dougherty, and J. E. Little.	868,000	Oct. 15	2013	566-7	130	1971
Furnace-charging device. Blast-	C. P. Turner and J. W. Dougherty.	868,000	Oct. 15	2013	567-8	130	1972
Furnaces. Charge-distributing apparatus for blast-	W. Kennedy	868,240	Oct. 15	1773	580-1	130	1956
Furnaces. Device for arresting the explosion discharge from blast-	L. Larsson	868,180	Oct. 15	1893	361	130	1784
Furniture-standard fastener. Adjustable	W. S. Stanley	868,201	Oct. 15	2013	563	130	1960
Fuse-box	J. O. Stivers	868,141	Oct. 15	1443	497-8	130	1758
Gage:							
See Marking-gage.							
Game apparatus	G. M. Müller	868,220	Oct. 15	1849	420	130	1957
Garbage-cremator	D. F. Bennett	867,961	Oct. 15	1145	315-16	130	1756
Garters. Separable fastener for	J. M. Siner	868,200	Oct. 15	1701	420	130	1575
Gas. Preparing illuminating-	W. H. Gartley	868,000	Oct. 15	2060	612	130	2031
Gas-burner	V. W. Blanchard	868,240	Oct. 15	1893	488	130	1947
Gas-burning apparatus	V. W. Blanchard	868,240	Oct. 15	1911	488	130	1948
Gas-fittings. Coupling device for	R. N. Oakman	868,113	Oct. 15	1443	397	130	1757
Gas for explosive-engines. Generating oil-	F. H. Bates	868,248	Oct. 15	1893	455	130	1945
Gas-generator	P. Meyer	868,220	Oct. 15	1849	420	130	1956
Gas generator. Acetylene-	J. E. Goffin	868,420	Oct. 15	1893	593	130	1954
Gas generator. Acetylene-	E. M. Rosenbluth	868,220	Oct. 15	1893	573-9	130	1572
Gas lighting and extinguishing apparatus. Automatic	A. B. Shaw	868,297	Oct. 15	1897	420	130	1575
Gas-producer	M. V. Smith	868,000	Oct. 15	1893	366-7	130	1758
Gas-producers, furnaces, &c. Feeding mechanism for	J. A. Waldburger	868,147	Oct. 15	1437	410	130	1822
Gas tap or valve. Self-closing	C. De Albertis	868,415	Oct. 15	1893	489-90	130	1959
Gate:							
See End-gate. Waterway-gate.							
Generator:							
See Gas-generator. Motive-agent generator.							
Glass-drawing apparatus. Sheet-	I. W. Colburn and E. Washburn	867,946	Oct. 15	1187	319-22	130	1709
Glass melting and drawing apparatus	L. A. Thornburg	868,264	Oct. 15	1893	389	130	1755
Glass sheets. Method and apparatus for making	W. T. Nicholls	868,270	Oct. 15	2130	589-9	130	2019
Gold and silver from ores. Extracting	B. Hall	868,221	Oct. 15	1921		130	1958
Gongs, &c. Mechanism for	H. E. Reeve	868,321	Oct. 15	1893	444	130	1831
Governor	R. H. Pascall	868,119	Oct. 15	1443	389-390	130	1709
Grain-bin	W. L. Finton	867,962	Oct. 15	1193	327-8	130	1717
Grain-rake	G. W. Smithson	868,077	Oct. 15	1893	367	130	1781
Grain-separator	W. Clement	868,473	Oct. 15	1921	589	130	1928
Grain-shocks and the like. Rack for	E. Harrison	868,000	Oct. 15	1893	588	130	1959
Grappling-hook	J. C. Peterson	868,130	Oct. 15	1454	420	130	1791
Grate	F. Girtanner	868,203	Oct. 15	1703	488	130	1908
Grate. Basket-	W. W. Jones	868,205	Oct. 15	1894	488	130	1816
Grinding-machine attachment	J. T. Moltrup	867,991	Oct. 15	1893	365-1	130	1733
Grinding-pans. Shoe and die of	W. Middleton and H. N. G. Cobbe	867,990	Oct. 15	1893	365-6	130	1732
Grindstone-flange	H. J. Frink	868,000	Oct. 15	1893	589	130	1716

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Hair-cutting device	F. Kober	868,452	Oct. 15	1949	544	130	1949
Hair-waving device	E. Timanus	868,308	Oct. 15	1710	462	130	1878
Hame	J. H. B. Butts	868,528	Oct. 15	2086	580	130	1965
Hanger:							
See Cable-hanger. Shade-hanger. Door-hanger. Paper-bag looking-hanger.							
Harness ring, Saddle	J. J. O'Kane	868,360	Oct. 15	1805	508	130	1905
Harrow	H. U. Wakefield	868,510	Oct. 15	2027	560	130	1973
Harvester cord checker. Corn-	F. M. Widerman	868,049	Oct. 15	1220	368-70	130	1760
Harvester cutting mechanism. Corn-	F. M. Widerman	868,050	Oct. 15	1225	370	130	1761
Harvesting machine. Cotton-	G. H. Zempter	868,051	Oct. 15	1241	375	130	1762
Hasp and handle	W. D. Ferris	868,540	Oct. 15	2084	563	130	1966
Hat and coat rack. Locking	H. Viel	868,041	Oct. 15	1209	364	130	1757
Hat cleaning and polishing apparatus	P. Bosso	868,323	Oct. 15	1744	492	130	1957
Hat-frame-forming device. Wire-	D. M. Stanley	868,267	Oct. 15	1613	510	130	1958
Hay-loader	A. J. Plumer and W. S. Dorsey	868,003	Oct. 15	1240	346	130	1758
Heater:							
See Hot-water heater. Water-heater.							
Heating and ventilating system	C. H. Smith	868,299	Oct. 15	1702	461	130	1870
Heel Cushion-	J. Witkowski	868,054	Oct. 15	1333	372	130	1764
Hide and skin stretching apparatus	M. Thorer	868,083	Oct. 15	1290	360	130	1754
Hinge	A. Erler	868,173	Oct. 15	1488	421	130	1810
Hinge and fastener. Combined blind	J. N. Watrous	868,236	Oct. 15	1500	451	130	1841
Hoe	J. S. Williams	868,148	Oct. 15	1457	410	130	1802
Hook:							
See Grappling-hook. Leather or hide suspending hook.							
Horse-tail holder	O. B. Read	868,264	Oct. 15	1810	509	130	1907
Hose-coupling	C. T. White	868,311	Oct. 15	1725	457	130	1858
Hose-supporter	E. Warren	868,044	Oct. 15	1314	366	130	1758
Hose-supporter	F. E. Sharp	868,584	Oct. 15	2161	604	130	2020
Hot-air furnace	E. T. Marsters	868,208	Oct. 15	1540	427	130	1835
Hot-water heater	H. C. Goodrich	868,085	Oct. 15	1370	384	130	1774
Husking implement	F. Schutterle	868,629	Oct. 15	2248	623	130	2048
Hydraulic jack	J. W. Nelson and W. H. Mathers	867,997	Oct. 15	1238	343	130	1784
Hydrocarbon-burner	J. Gogel	868,084	Oct. 15	1369	383	130	1774
Hydrocarbon-burner	H. Lemp	868,457	Oct. 15	1954	545	130	1959
Hydrocarbon-burner	A. A. Low	868,261	Oct. 15	1863	470	130	1932
Hydrocarbon-motor	A. A. Low and A. Wasemann	868,608	Oct. 15	2209	614	130	2034
Hydrocarbon-motor	T. Shipley	868,495	Oct. 15	2006	580-1	130	1957
Ice machinery	J. Homan	867,972	Oct. 15	1199	331	130	1721
Incubator	F. T. Dirksen	868,162	Oct. 15	1471	414	130	1806
Incubators. Egg-turner for							
Indicator:							
See Engine-indicator.							
Insect-trap	M. C. Harlan	868,180	Oct. 15	1498	422	130	1812
Insulated rail-joint	B. Wolhaupter	868,254	Oct. 15	1836	516-17	130	1914
Insulated rail-joint	B. Wolhaupter	868,517	Oct. 15	2041	574	130	1977
Insulated rail-joint	B. Wolhaupter	868,518	Oct. 15	2044	574-5	130	1978
Insulated rail-joint	B. Wolhaupter	868,519	Oct. 15	2048	575	130	1979
Insulated rail-joint	B. Wolhaupter	868,520	Oct. 15	2048	575-6	130	1979
Insulator. Electric	F. J. Putnam	868,122	Oct. 15	1426	400	130	1791
Insulator-pin-making machine	C. M. Mallory and J. M. Slaughter	868,575	Oct. 15	2131	595-7	130	2007
Insulator. Telegraph and telephone	J. A. Cooper	868,530	Oct. 15	2089	580	130	1965
Internal-combustion engine	A. Rollason	868,017	Oct. 15	1270	362	130	1744
Internal-combustion engine	N. Macbeth	868,202	Oct. 15	1535	425-7	130	1894
Iron. Oxid of	C. Wilding	868,365	Oct. 15	1840	.....	130	1914
Iron. Purifying	J. Misko	868,610	Oct. 15	2211	.....	130	2035
Ironing-table. Folding	A. M. Springer	868,500	Oct. 15	2012	563	130	1960
Jack:							
See Hydraulic jack.							
Joint:							
See Insulated rail-joint. Rail-joint.							
Journal filer or smoother. Car-	M. F. Bagley	868,064	Oct. 15	1348	377	130	1763
Kiln:							
See Tunnel-kiln.							
Kinetic energy from flowing gases and vapors. Transforming-nozzle for obtaining	R. Bergmans	868,207	Oct. 15	1864	522	130	1924
Kitchen utensil	J. S. O'Brien	868,389	Oct. 15	1804	507	130	1905
Knife:							
See Chopping-knife.							
Knitting machine. Circular-	H. A. Klemm	868,276	Oct. 15	1653	467-8	130	1882
Knitting-machine take-up device	H. Donner	868,332	Oct. 15	1753	494-5	130	1899
Knob. Curtain-pole	F. A. Nelder	868,111	Oct. 15	1411	396	130	1878
Lacer. Automatic	D. A. Ryan and H. J. Werts	868,121	Oct. 15	1437	404	130	1795
Ladder. Fruit-picker's	E. Haycox	868,206	Oct. 15	1537	463	130	1887
Lamp base. Electric-incandescent-	F. H. Manchester	868,253	Oct. 15	1665	471	130	1905
Lamp. Electric	A. P. McArthur	868,110	Oct. 15	1410	396	130	1877
Lamp. Hydrocarbon-	T. H. Blair	868,069	Oct. 15	1353	379	130	1760
Lamp. Oil-vapor	J. Hendy and H. J. S. Stobart	868,184	Oct. 15	1500	425	130	1814
Lamp-glass	F. B. Parker and W. D. Jones	868,523	Oct. 15	2054	577	130	1960
Lamps to adjust electric ignition. Apparatus for inclosing and electrically connecting miners' safety-	W. Ackroyd, W., A. E., and R. O. Best	868,287	Oct. 15	1842	518	130	1915
Lantern	J. M. Stokoe	868,503	Oct. 15	2015	563	130	1960
Latch. Gate-	C. F. Mayo	868,406	Oct. 15	1957	548	130	1954
Latch. Hasp-	E. Tyden	868,234	Oct. 15	1868	451	130	1840
Lathe-center. Self-oiling	E. Keil	868,448	Oct. 15	1939	541	130	1948
Lever-fulcrum	W. H. Hamilton	868,454	Oct. 15	2103	587	130	1960
Leash-stopper	F. Malheens	868,474	Oct. 15	2129	595	130	2000
Leather-coloring matter. Pulverulent	C. Reinhold	868,008	Oct. 15	1354	.....	130	1758
Leather or hide suspending hook	E. L. Post	868,004	Oct. 15	1280	346	130	1758
Level	E. Helb	868,089	Oct. 15	1377	385-6	130	1776
Leveling and stadia rod. Combined	J. H. Robertson	868,365	Oct. 15	1811	509	130	1907
Life-saving apparatus. Marine	C. Fuchs	867,966	Oct. 15	1192	330	130	1719
Line-drier	F. V. and L. G. Ericson	867,969	Oct. 15	1183	326	130	1716
Linotype or composing-machine	H. Drewell	868,530	Oct. 15	2070	582	130	1960
Liquid in a vessel. Apparatus for indicating the depth of	L. Murphy	867,994	Oct. 15	1226	342	130	1733
Liquid-separator. Centrifugal	F. H. Reid	868,493	Oct. 15	1969	554-5	130	1959

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Lithopones by electrolysis. Manufacture of	J. B. and A. Candau	868,269	Oct. 15	1615		130	1849
Lock:							
See Nut-lock. Railway-switch lock. Car-lock. Safe-deposit lock. Organ-lock.							
Lock	H. G. Voight	868,395	Oct. 15	1880	351	130	1941
Lock	A. H. Harris	868,488	Oct. 15	2166	389	130	2089
Lock-casing	L. H. Mullikin	868,389	Oct. 15	1540	449	130	1938
Lock-casing	L. H. Mullikin	868,711	Oct. 15	1540	449	130	1938
Lock-pin	M. C. Carbaval	868,289	Oct. 15	1577	538	130	1937
Locker construction	P. M. Wege	868,210	Oct. 15	1720	484	130	1934
Loom	A. A. F. Thiéry	868,211	Oct. 15	1579	466	130	1938
Loom shuttle-box mechanism	W. M. Wattis	868,593	Oct. 15	1719	481	130	1938
Loom shuttle-box motion	G. F. Hutchins	868,271	Oct. 15	1644	464-5	130	1939
Looms. Filling-feeder for filling-replenishing	E. S. Stimpson	868,688	Oct. 15	2165	488	130	2031
Looms. Tape-winder for tape-	E. R. Holmes and L. B. Jenkins	868,235	Oct. 15	1641	444	130	1939
Loop	C. S. Comstock	867,940	Oct. 15	1488	322	130	1711
Lubricator:							
See Force-feed lubricator.							
Lunch-box. Folding	J. F. Lyons	868,260	Oct. 15	1720	522	130	1938
Magneto-granulating machine	M. Scozzari	868,317	Oct. 15	2222	517	130	2033
Magnesium. Production of	G. O. Seward and F. von Kügelgen	868,120	Oct. 15	1577		130	1938
Mail-box	G. A. Wirt	868,330	Oct. 15	2170	507	130	2025
Marking-gage	O. Obermeyer	868,114	Oct. 15	1614	507	130	1736
Massage implement	A. Berker	868,332	Oct. 15	2222	576	130	1939
Massage-machine	W. D. Davenport	868,699	Oct. 15	2222	511	130	2033
Messaging purposes. Vibrating machine for	J. V. Daniels	868,694	Oct. 15	2224	551	130	1937
Mattress-filling machine	E. J. Antoni	867,936	Oct. 15	1600	310-14	130	1695
Measure. Liquid-	F. Simpson	868,688	Oct. 15	1578	384-5	130	1747
Measuring device	Z. Rable	868,268	Oct. 15	1599	530	130	1938
Measuring instrument. Electrical	F. W. Roller	868,126	Oct. 15	1491	482	130	1738
Measuring the flow of liquids. Apparatus for	L. B. Atkinson	868,189	Oct. 15	1489	411	130	1838
Mechanical movement	H. B. Adler	868,310	Oct. 15	1722	489	130	1834
Mechanical movement	F. H. Richards	868,552	Oct. 15	2183	528	130	2017
Metallic case and like device	A. P. White and P. M. Wege	868,210	Oct. 15	1721	484-5	130	1934
Metals. Apparatus for the heat treatment of	T. V. Hughes	868,195	Oct. 15	1591	426	130	1814
Milk-can	J. W. Talley	867,970	Oct. 15	1598	553	130	1934
Millstone-dressing machine	R. C. Helms	868,280	Oct. 15	1578	398	130	1776
Mining-machine chain	H. E. Rawlins	868,397	Oct. 15	1694	475	130	1871
Moistener. Envelop and stamp	T. F. Martin	868,699	Oct. 15	2219	515	130	2035
Molding apparatus	F. X. Leuthner	868,697	Oct. 15	2217	514	130	2035
Motion to sieve-boxes and other bodies. Means for imparting gyratory	E. R. Draver	868,328	Oct. 15	1765	496	130	1891
Motive-agent generator	J. L. Tate	868,372	Oct. 15	1881	512	130	1910
Motor:							
See Compressed-air motor. Wave-motor. Hydrocarbon-motor.							
Motor	C. E. Smith	868,497	Oct. 15	2220	551	130	1937
Motor-control. Alternating-current	F. Eichberg	868,171	Oct. 15	1486	481	130	1839
Motor-control system	H. E. White	868,321	Oct. 15	1888	526	130	1913
Muzzle. Dog-	A. W. Swander	868,145	Oct. 15	1485	489	130	1891
Nipple-making machine	W. W. Doolittle	868,168	Oct. 15	1579	456-15	130	1937
Nipple-making machine	W. W. Doolittle	868,167	Oct. 15	1483	455-15	130	1938
Nipples. Making pipe-	W. W. Doolittle	868,163	Oct. 15	1484	456	130	1939
Nursery-seat. Child's	M. Wolff	868,697	Oct. 15	2197	573	130	1764
Nut-lock	T. Hemp	868,681	Oct. 15	2220	566	130	1777
Nut-lock	A. E. Forsell	868,285	Oct. 15	1720	457	130	1938
Nuts, screws, &c. Locking arrangement for	C. A. Arbey	868,689	Oct. 15	2221	516	130	2041
Oil-burner	E. F. Ward	868,273	Oct. 15	1598	515	130	1811
Oil-can	H. C. Finley	868,175	Oct. 15	1480	422	130	1811
Oil. Paint-	J. F. Cody	868,676	Oct. 15	1865	561	130	1771
Oiler	F. Dahlhaus	867,861	Oct. 15	1168		130	1711
Ore-testing tablet	J. W. Ladd	868,488	Oct. 15	2222	546	130	1939
Organ-lock. Portable	J. E. Hunsinger	868,270	Oct. 15	1640	424	130	1939
Overshoe	P. P. Bilhorn	868,348	Oct. 15	1888	488	130	1947
Overshoe-holder	S. Schwarzschild	868,135	Oct. 15	1449	488	130	1795
Oxygen-generating apparatus	N. P. Jensen	868,697	Oct. 15	2217	555	130	2033
Package gripper and holder	R. von Foregger	867,944	Oct. 15	1593	555	130	1718
Packing	J. P. Fell	867,991	Oct. 15	1595	557	130	1717
Packing and labeling machine	J. W. Shields	868,126	Oct. 15	1444	488	130	1797
Packing device. Water-gage-	W. R. Landfear	868,191	Oct. 15	1596	488-89	130	1617
Paint or coating composition	J. C. Wands	868,277	Oct. 15	1888	514	130	1811
Pan:	J. C. Jepson	868,449	Oct. 15	1888	548	130	1938
See Bake-pan. Vacuum-pan. Baking-pan. Surgeon's operating-pan.							
Paper-bag locking-hanger	R. Munday	868,396	Oct. 15	1668	472	130	1888
Paper-feeding mechanism	A. S. Allen	868,317	Oct. 15	1704	489	130	1854
Pattern:							
See Rail-joint pattern.							
Peat turf into half-stuff. Machine for reducing	C. E. Dunn	868,228	Oct. 15	1588	487-8	130	1839
Pencil holder, sharpener, and ink-eraser	A. Ames	868,288	Oct. 15	1888	521	130	1822
Pencil-sharpener	C. C. Spengler	868,288	Oct. 15	1888	555	130	1751
Pendulums. Compensation device for torsional	C. E. Guillaume	868,254	Oct. 15	1888	547	130	1938
Penholder	J. F. Hall	868,288	Oct. 15	2224	547	130	1939
Percolator	J. F. Ives	868,697	Oct. 15	2217	555	130	1815
Petroleum-engine	R. O. Allsop	868,288	Oct. 15	1888	555	130	1921
Phenylglycin and its homologues. Producing	R. Schmidlin	868,288	Oct. 15	1888	561	130	1874
Phonograph-records. Rack for holding	C. W. Long	867,964	Oct. 15	1888		130	1731
Piano-players. Air-controller for	C. M. Thomas	867,988	Oct. 15	1888	548	130	1839
Pianoforte and automatically-actuated mechanism therefor. Combined	J. Brinsmead	868,289	Oct. 15	1888	548-9	130	1938
Picture-frame	E. E. Fairchild	868,227	Oct. 15	1888	488	130	2045
Pie turner and lifter. Combined	W. E. Locke	868,271	Oct. 15	1888	514	130	2035
Piles. Machine for imparting spiral movement to	E. Gold	868,289	Oct. 15	1888	488-9	130	1983
Pin:							
See Lock-pin.							
Pin-and-socket fastener	W. H. Boles	867,943	Oct. 15	1649	336-37	130	1707

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Pipe:							
See Smoking-pipe.							
Pipe-collar	C. Riegger	868,011	Oct. 15	1268	348	130	1741
Pipe-laying machine	C. A. Huffmaster	868,565	Oct. 15	2115	501-2	130	2032
Pipe. Making composite	T. E. Dwyer	868,418	Oct. 15	1889	530	130	1941
Pipe-molding means	E. L. Ransome	868,007	Oct. 15	1252	347	130	1739
Pipe-wrench	J. E. Richards and C. W. Walker	868,126	Oct. 15	1429	402	130	1795
Pipe-wrench	J. E. Richards	868,127	Oct. 15	1430	402	130	1795
Pipes. Making a joint between spigot and socket	C. J. Lomax	868,349	Oct. 15	1779	502	130	1888
Plaiting-machine	T. F. Hagerty	868,580	Oct. 15	2090	506-7	130	1938
Piano. Floor-	J. W. Arnold	868,151	Oct. 15	1459	411	130	1838
Plate-carrier. Automatic	T. James	867,977	Oct. 15	1206	333	130	1734
Plates. Means for joining	W. Cross	868,076	Oct. 15	1361	381	130	1772
Pole and shaft for road-vehicles	J. A. Montgomery	867,982	Oct. 15	1233	341	130	1733
Pole-changer	E. McLean	868,576	Oct. 15	2176	507	130	2030
Pool-ball rack	G. F. Goss	868,627	Oct. 15	1907	534-5	130	1938
Post-hole digger and wire-stretcher. Combined	J. H. Haynes	868,658	Oct. 15	2108	530	130	2030
Pot:							
See Coffee-pot.							
Potato-digger	B. H. Pugh	868,006	Oct. 15	1251	347	130	1738
Potential-starter attachment	H. W. Cheney	868,596	Oct. 15	2186	510	130	2033
Powder. Smokeless	J. L. Brown and D. P. Moore	868,188	Oct. 15	1467		130	1805
Power-transmitting apparatus	J. N. Heald	868,435	Oct. 15	1921	537	130	1939
Preservative compound. Food-	W. W. Hughes	868,666	Oct. 15	2117		130	2033
Press:							
See Baling-press. Printing-press.							
Printing device	R. Adams	868,315	Oct. 15	1732	499	130	1834
Printing-press	G. W. Prouty	868,478	Oct. 15	1963	553	130	1939
Printing-press form-cylinder	S. G. Goss	868,262	Oct. 15	1632	461-2	130	1838
Printing-presses. Paper-sheet-feeding mechanism for	J. E. Tucker	868,618	Oct. 15	2223	617	130	2033
Propeller	J. Portelli and J. D. Chapman	868,220	Oct. 15	1560	443	130	1831
Propulsion of boats or vessels	J. H. Lorimer	868,199	Oct. 15	1531	434	130	1838
Pruning implement	C. E. Crombie	868,330	Oct. 15	1751	494	130	1889
Puller:							
See Stump-puller.							
Pulp-fabric	W. Angus	868,063	Oct. 15	1346	376-7	130	1797
Pump	A. W. Baird	868,305	Oct. 15	1800	523	130	1938
Pump-drain	G. G. Forester	868,541	Oct. 15	2085	383	130	1938
Pump. Motor-driven	E. D. Priest	868,362	Oct. 15	1807	508-9	130	1938
Pumps. Primer for	J. La Vergne	868,192	Oct. 15	1518	430	130	1780
Punching-bag support	R. A. Hart	868,557	Oct. 15	2107	560	130	2030
Puncturing main-stringers. Machine for	M. Grossman	868,426	Oct. 15	1911	536	130	1937
Puncture-cleaner	D. Apstein	868,242	Oct. 15	1600	488	130	1844
Puncture-closer	D. Apstein	868,243	Oct. 15	1602	454	130	1845
Race-planking apparatus	D. Sültzer	868,029	Oct. 15	1204	388	130	1732
Rack:							
See Clothes-rack. Pool-ball rack. Hat and coat rack.							
Radiator-valve	G. W. Hayden	868,132	Oct. 15	1428	494	130	1838
Rail-bond	D. Ulke	868,376	Oct. 15	1825	514	130	1911
Rail-chair	J. W. Trotter	868,505	Oct. 15	2018	564	130	9709
Rail-clamp	P. A. Bonis	868,400	Oct. 15	1867	522	130	1934
Rail-joint	B. G. Braine	868,402	Oct. 15	1869	524	130	1935
Rail-joint	V. H. Shaw	868,494	Oct. 15	2005	560	130	1937
Rail-joint pattern	C. A. Weeks	868,513	Oct. 15	2030	569-70	130	1974
Railway appliances. Electromagnetic device for use in connection with	L. H. Thullen	868,230	Oct. 15	1582	449	130	1839
Railway-brace	J. H. Waldschmidt	867,943	Oct. 15	1314	395	130	1733
Railway-coaches. Combined bed and seat for	D. T. Owen	868,001	Oct. 15	1245	344-5	130	1733
Railway-coaches. Combined seat and bed for	D. T. Owen	868,000	Oct. 15	1244	344	130	1733
Railway signaling system	L. H. Thullen	868,302	Oct. 15	1706	481	130	1877
Railway signaling system. Electric-	L. H. Thullen	868,231	Oct. 15	1584	449-50	130	1839
Railway-spike	R. A. Martin, Jr.	868,353	Oct. 15	1785	504	130	1939
Railway switch and signal. Electric-	A. A. Roth	868,222	Oct. 15	1562	444-5	130	1939
Railway-switch. Automatic	C. E. Davis	868,414	Oct. 15	1883	528-9	130	1939
Railway-switch. Automatic	L. C. McAdams	868,614	Oct. 15	2219	616	130	2037
Railway-switch lock	J. W. Torpey and G. W. Lander	868,305	Oct. 15	1712	482	130	1870
Railway-tie	W. McCloy	868,212	Oct. 15	1549	440	130	1838
Railways. Apparatus for detonating fog-signals for	F. A. Ludlow	868,201	Oct. 15	1534	435	130	1834
Railways. Line-wire switch-frog for electric	H. J. Beck	867,939	Oct. 15	1140	314	130	1705
Raisins and other fruits. Machine for seeding	B. H. Paul	868,260	Oct. 15	1681	473-4	130	1870
Rake:							
See Grain-rake.							
Rasp. Horseshoe-	J. E. Lester	868,194	Oct. 15	1520	432	130	1839
Razor. Safety-	W. N. Ward	868,588	Oct. 15	2172	606	130	2033
Receptacle. Sealed and incased	L. B. Schenck	868,018	Oct. 15	1271	353	130	1744
Reclining-chair. Adjustable	J. F. Wilmot	868,052	Oct. 15	1330	371	130	1783
Recorder:							
See Speed-recorder.							
Reed-board	F. L. Caulkins and F. Wiemand	868,073	Oct. 15	1358	380-1	130	1771
Regulator:							
See Dental regulator. Water-pressure regulator. Speed-regulator. Turbine-regulator.							
Relay	L. H. Thullen	868,232	Oct. 15	1586	450	130	1840
Resilient-tired wheel for automobiles and other vehicles	A. C. Monfort	868,207	Oct. 15	1544	438	130	1838
Restaurant.	S. C. Thomson	868,373	Oct. 15	1823	513	130	1910
Rifle. Automatic	M. G. Farquhar and A. H. Hill	867,980	Oct. 15	1184	327	130	1717
Ring:							
See Harness-ring.							
Rocking-chair	B. J. Buckman	868,224	Oct. 15	1746	492	130	1888
Rod:							
See Leveling and stadia rod.							
Rotary engine	J. Krehbiel	868,100	Oct. 15	1383	391	130	1838
Rotary engine	L. L. Lewis	868,104	Oct. 15	1428	393	130	1834
Rotary engine	A. Thomure	868,374	Oct. 15	1823	512-14	130	1871
Rotary engine	J. T. S. Schoubee	868,019	Oct. 15	1268	348	130	1741
Saddle-frame. Pack-	H. P. Townsend	868,206	Oct. 15	1543	439-8	130	1870

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Sample-case	C. Billburg	868,098	Oct. 15	1282	378	130	1709
Sanitary douche-board	H. C. Cropley	868,533	Oct. 15	2073	581	130	1937
Saw	A. J. Velander	868,569	Oct. 15	2226	508	130	1973
Saw. Detachable-tooth	A. Krieger	867,999	Oct. 15	1212	235	130	1726
Sawmills. Cable-feed mechanism for	A. Harrold	868,627	Oct. 15	1274	384-5	130	1775
Seat: *See* Nursery-seat. Water-closet seat.							
Seeders. Automatic feed-regulator for	J. R. McHenry	868,213	Oct. 15	1580	440	130	1889
Separator: *See* Cream-separator. Steam-separator. Centrifugal separator. Train-separator. Liquid-separator.							
Sewing-machines. Clamp-actuating mechanism for buttonhole-	J. Klewics	868,189	Oct. 15	1595	427-8	130	1816
Sewing on buttons	R. L. Lyons	868,288	Oct. 15	1664	470	130	1885
Shade hanger. Window-	W. F. Brown	868,227	Oct. 15	2066	579	130	1935
Shaft liner and leveler	E. E. Clark	868,074	Oct. 15	1889	261	130	1771
Shaft-oscillator	C. E. Lord	868,272	Oct. 15	2138	594	130	2005
Shears	G. C. Zeller	868,060	Oct. 15	1340	374	130	1766
Sheet-metal can	F. Westerbeck	868,514	Oct. 15	2222	570	130	1974
Shoe cleaning and shining machine	J. M. Wolkosky, F. Magidson, S. Prints, and A. Wolkosky.	868,693	Oct. 15	2226	618-19	130	2009
Shoe-polishing machine	J. M. Wolkosky, F. Magidson, S. Prints, and A. Wolkosky.	868,813	Oct. 15	1727	467-8	130	1803
Shoe-polishing machine	F. Magidson	868,931	Oct. 15	1781	503	130	1838
Shoe-tree	C. E. Bailey	868,318	Oct. 15	1736	490	130	1805
Shovel: *See* Excavating-shovel.							
Shutter	G. J. Scheuermann	868,122	Oct. 15	1468	404	130	1795
Signal device	P. Gray	868,545	Oct. 15	2082	584-5	130	1938
Signal interlocking device. Train-order-	E. E. Overholt	868,289	Oct. 15	1674	473	130	1886
Signal system	B. F. Merkel	868,354	Oct. 15	1705	504	130	1889
Signal system	J. A. Gehrung	868,424	Oct. 15	1808	533	130	1924
Signature-gathering machine	W. I. Lewis	868,196	Oct. 15	1822	422-3	130	1821
Skirt-protecting garment	F. N. Cartwright	868,410	Oct. 15	1579	327	130	1888
Smoking-pipe	C. M. Thomas	868,081	Oct. 15	1297	349	130	1758
Soap. Resin	E. Shoner	868,496	Oct. 15	2068	561	130	1967
Soap-shaver	E. Fischer	867,983	Oct. 15	1188	228	130	1718
Soda-water-dispensing apparatus. Automatic	J. V. Irenius	867,976	Oct. 15	1204	332-3	130	1723
Sound-conveying device	H. Blum	868,222	Oct. 15	1749	491-2	130	1897
Sound-records. Making molded flat	E. H. Mobley	868,612	Oct. 15	2214	615	130	2008
Spark-arrester	W. H. Hoyt	867,975	Oct. 15	1288	322	130	1723
Speed-recorder	J. Dolan	868,231	Oct. 15	1752	494	130	1899
Speed-regulator	C. H. d'La Monte	868,370	Oct. 15	2123	592-4	130	2004
Spindle	C. E. Gleesner	868,604	Oct. 15	2080	613-13	130	2031
Spinning and doubling frame	H. Spence	868,469	Oct. 15	2011	542	130	1965
Spinning-machine thread-guide	H. B. Reynolds	868,622	Oct. 15	1264	347	130	1729
Spoil heaps, banks, &c. Means or apparatus for the formation of	J. E. Prest	868,636	Oct. 15	1320	346	130	1775
Spoke-socket	J. P. Roe	868,646	Oct. 15	1285	580-2	130	1745
Spring	W. E. Holt	868,662	Oct. 15	2112	591	130	2001
Sprinkler: *See* Fire-extinguishing sprinkler.	F. P. D'Arcy	867,982	Oct. 15	1168	323	130	1711
Sprinkler-head	A. M. Lewis	868,482	Oct. 15	1597	546	130	1951
Sprinkler-head deflector. Automatic-	J. C. Scott	868,566	Oct. 15	1612	510	130	1907
Sprinkler system. Automatic	W. Bauer	868,694	Oct. 15	2232	620	130	2043
Sprocket wheel and chain	R. S. McIntyre	868,615	Oct. 15	2220	617	130	2027
Square. Carpenter's	J. G. Fell	868,621	Oct. 15	1292	351-2	130	1832
Stacker-sections and the like. Hinge for	S. J. Heltzenrater	868,580	Oct. 15	2108	589	130	2000
Stair	S. Grossman	868,430	Oct. 15	1915	569	130	1988
Stand: *See* Display-stand.							
Standard-fastener	H. A. Palmer	868,473	Oct. 15	1976	550	130	1957
Stay. Garment-	D. Schuler	868,266	Oct. 15	1693	480	130	1876
Steam-boiler	A. E. Jones	868,274	Oct. 15	1690	468	130	1861
Steam-separator	J. B. Berryman	868,156	Oct. 15	1693	412	130	1804
Steel. Alloyed	W. W. Doolittle	868,164	Oct. 15	1475	416	130	1807
Steel tie. Hollow	J. Churchward	868,327	Oct. 15	1740		130	1888
Steering apparatus. Hydraulic	H. E. McMullen	868,215	Oct. 15	1693	441	130	1889
Stoker	H. S. De Puy	868,160	Oct. 15	1469	413	130	1805
Stone-fluting machine	C. A. Knowlton	867,979	Oct. 15	1211	324	130	1726
Stool. Metallic	G. N. Williams, Jr.	868,051	Oct. 15	1338	370-1	130	1761
Stopper: *See* Leak-stopper.	C. H. Erickson	868,429	Oct. 15	1898	561	130	1983
Stove	L. B. Dorcas and T. W. Ryan	868,417	Oct. 15	1898	560	130	1981
Stoves. Electric igniter for gas-	A. M. Turkington	868,223	Oct. 15	1857	490	130	1840
Stuffing-box	J. R. Beamer	867,988	Oct. 15	1130	314	130	1704
Stump-puller	B. L. Groth	868,431	Oct. 15	1910	536	130	1933
Submerged objects. Apparatus for locating	S. Lake	867,986	Oct. 15	1233	337-8	130	1720
Sugar. Obtaining milk-	J. A. Just	868,443	Oct. 15	1988		130	1943
Surgeon's operating-pan	C. S. Shriver	868,127	Oct. 15	1445	408	130	1797
Swimming-paddle	J. E. Schnopp	868,488	Oct. 15	2221	589	130	1960
Switch: *See* Derailing-switch. Railway-switch. Engine-reversing switch.							
Syringe nozzle. Vaginal-	S. L. Kistler	868,480	Oct. 15	1944	548	130	1947
Table: *See* Extension-table. Ironing-table.							
Table	A. Auchly	868,153	Oct. 15	1481	411	130	1803
Tablet and pencil-holder	A. D. and A. B. George	868,088	Oct. 15	1263	338	130	1776
Tailor's dummy	J. Ramb	868,480	Oct. 15	1787	554	130	1961
Tamping-bar	E. W. Wheeler	868,238	Oct. 15	1288	482	130	1843
Tank: *See* Compressed-air tank.							
Tank float. Flushing-	W. Heap	868,088	Oct. 15	1579	395	130	1776
Tap for liquid-receiving vessels. Filling-	C. J. Coleman	868,268	Oct. 15	2139	616	130	2029
Tapping device. Barrel-	A. W. Doremus	868,677	Oct. 15	1269	328	130	1772

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Tar from gaseous products of dry distillation for the purpose of producing acetate solutions. Eliminating	M. Klar	868,347	Oct. 15	1776	501	130	1897
Teeth. Making artificial	J. Morris	868,109	Oct. 15	1408	396	130	1788
Telegraphic instrument	J. P. Zelenka	868,021	Oct. 15	2229	619	130	2040
Telephone attachment	J. A. Gordon	868,544	Oct. 15	2080	584	130	1994
Telephone attachment. Party-line-	J. H. Blythe	868,504	Oct. 15	2132	600	130	2027
Thawing-furnace	T. D. Bausher	868,247	Oct. 15	1408	455	130	1847
Thermostat	J. Homan	868,630	Oct. 15	2249	623	130	2047
Thermostatic appliance	G. W. Wacker	868,207	Oct. 15	1716	483	130	1880
Thionaphin compound	F. Mendel	868,204	Oct. 15	1541		130	1888
Ticket-cutter	W. Kinkead and J. T. Gillespie	867,978	Oct. 15	1206	333	130	1724
Tie: *See* Railway-tie. Steel tie.							
Tile. Drain-	W. H. Carson	867,945	Oct. 15	1153	318	130	1703
Tiles and other articles. Machine for grinding and finishing	W. T. Nicholls	868,577	Oct. 15	2138	597-8	130	2009
Tiles. Making	C. H. Geanakopulos	868,261	Oct. 15	1630	460	130	1855
Tire-armor	C. P. Mays	867,988	Oct. 15	1228	339	130	1733
Tire. Cushion-	W. D. McNaull	868,216	Oct. 15	1553	441	130	1839
Tire. Wheel-	H. B. Ewbank, Jr.	868,079	Oct. 15	1264	382	130	1772
Tool. Combination-	M. Hunt	868,343	Oct. 15	1770	500	130	1895
Tool-holder	E. Mueller	867,993	Oct. 15	1234	341	130	1733
Torpedoes on vessels. Means for carrying and handling	T. J. Moriarty	868,613	Oct. 15	2215	615-16	130	2008
Toy	H. P. Wysard	868,150	Oct. 15	1459	411	130	1802
Trap: *See* Animal-trap. Insect-trap.							
Tree: *See* Shoe-tree.							
Trimmer: *See* Lawn-trimmer.							
Tripod for music-stands and the like	C. H. French	868,260	Oct. 15	1629	460	130	1855
Trough: *See* Drip-trough.							
Truck. Binder-	H. O. Steinhauer	868,179	Oct. 15	1446	406-7	130	1797
Truck-bolster	C. E. Bauer	868,155	Oct. 15	1464	412	130	1804
Truck. Car-	A. E. E. Norwich	867,990	Oct. 15	1243	343	130	1733
Tube to be welded. Apparatus for grasping the skalp of a	A. Twer	868,375	Oct. 15	1824	514	130	1911
Tunnel-kiln	P. L. Youngren	868,069	Oct. 15	1338	374	130	1765
Turbine	J. Hutchings	868,438	Oct. 15	1925	538-9	130	1941
Turbine. Elastic-fluid	O. Junggren	868,549	Oct. 15	2119	593	130	2003
Turbine regulator. Steam-	E. C. Crocker	867,950	Oct. 15	1166	322-3	130	1711
Turbine. Steam-	R. Schulz	868,134	Oct. 15	1441	405	130	1796
Turfing-machine	J. J. Baird	868,521	Oct. 15	2082	576	130	1950
Tympan-hole	J. C. A. Anderson	868,241	Oct. 15	1599	453	130	1844
Type-writer	C. Gibbs. (Reissue)	12,702	Oct. 15	2260	623	130	2047
Type-writing machine	F. X. Wagner	868,042	Oct. 15	1311	364-5	130	1757
Type-writing machine	J. F. Forkarth	868,315	Oct. 15	1758	497	130	1891
Type-writing machine	O. A. Selb	868,403	Oct. 15	2002	539	130	1966
Type-writing machine	J. W. Kennedy	868,095	Oct. 15	1387	388	130	1780
Type-writing machines. Type-bar action for	A. C. Dosel	868,071	Oct. 15	1357	380	130	1770
Umbrella	D. Lippy	868,196	Oct. 15	1431	434	130	1823
Umbrella	C. L. Schmidt	868,490	Oct. 15	2000	538	130	1965
Umbrella-fastener	J. Casale	868,320	Oct. 15	1747	493	130	1888
Umbrella. Folding	M. Korth	868,454	Oct. 15	1951	544	130	1969
Universal wrench	P. G. Kaiser	868,275	Oct. 15	1660	466-7	140	1888
Vacuum-pan	J. M. Tanner and G. J. Stuart	868,030	Oct. 15	1266	383-9	130	1758
Valve	P. Allen	868,391	Oct. 15	1846	520	130	1921
Valve	C. F. Strang	868,143	Oct. 15	1453	409	130	1800
Valve. Automatic expansion-	P. W. Landell	868,606	Oct. 15	2204	614	130	2023
Valve. Automatic flush-	J. B. Williams and P. W. Landell	868,619	Oct. 15	2224	618	130	2029
Valve. Automatic flush-	R. C. Frampton	868,177	Oct. 15	1402	422	130	1811
Valve. Combination-	O. H. Shafer	868,022	Oct. 15	1278	354	130	1747
Valve for water-jackets. Safety-	A. P. Smith	868,025	Oct. 15	1286	356	130	1750
Valve. Gate-	W. W. Doolittle	868,165	Oct. 15	1476	416	130	1807
Valve. Gate-	S. W. Long	868,280	Oct. 15	1602	470	130	1884
Valve-gear	H. Tabor	868,371	Oct. 15	1820	512	130	1910
Valve-gear for explosive-engines	E. D. Ackerman, C. E. Clinton, and R. N. Eltom.	868,286	Oct. 15	1840	517-18	130	1914
Valve mechanism. Automatic	C. J. Coleman	868,599	Oct. 15	2190	611	130	2039
Valve. Pressure-reducing	C. Hoover	868,437	Oct. 15	1924	538	130	1940
Vegetable-disintegrator	I. Broadhead	868,407	Oct. 15	1878	526	130	1927
Vehicle bolster-plate	J. G. Ebken	868,170	Oct. 15	1485	420	130	1809
Vehicle brake	C. E. Frear	868,081	Oct. 15	1306	363	130	1772
Vehicle controller. Motor-	F. A. Nelder	868,217	Oct. 15	1554	442	130	1839
Vehicle curtain fastener	F. Schmidt	868,133	Oct. 15	1440	404	130	1795
Vehicle running-gear	O. S. Whiteley	868,047	Oct. 15	1318	368	130	1760
Vehicle-wheel	W. J. and J. R. Mitchell	868,611	Oct. 15	2212	615	130	2008
Vehicles. Device for preventing slipping of motor-driven	A. S. Moore	868,208	Oct. 15	1545	439	130	1837
Vehicles. Wheel-turning gear for	C. T. Neacm	867,996	Oct. 15	1242	343	130	1733
Vehicles, &c. Step for	L. C. Marr	868,352	Oct. 15	1784	503	130	1890
Vending-machine	R. Weftlich and A. W. Miller	868,589	Oct. 15	2173	607	130	2034
Ventilator: *See* Fan-ventilator.							
Vessel. Apparatus for taking observations from a submarine	S. Lake	867,982	Oct. 15	1214	335	130	1726
Vessels. Means and apparatus for raising sunken	S. Lake	867,983	Oct. 15	1216	336	130	1727
Vessels. Water-alarm apparatus for	F. Daniel	868,254	Oct. 15	1615	457	130	1849
Veterinary obstetrical instrument	M. G. Stiler	868,128	Oct. 15	1445	406	130	1797
Violin-bow	J. Doster	868,169	Oct. 15	1485	420	130	1809
Voting-machine	G. C. Ale	868,062	Oct. 15	1242	575-6	130	1765
Voting-machine	W. B. Norton	868,579	Oct. 15	2141	599-602	130	2010
Wagon. Dump-	F. M. Kraemer	868,278	Oct. 15	1659	469	130	1884
Wagon. Logging-	J. C. Oliva	868,115	Oct. 15	1415	398	130	1793
Wagon pole prop	E. F. Williamson	868,282	Oct. 15	1834	516	130	1913
Washing-machine	O. H. Davis	867,954	Oct. 15	1173	324	130	1714
Wall construction	C. H. Knapp	868,482	Oct. 15	1947	545-6	130	1948
Warping-machine							

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drs.	Official Gazette. Vol.	Official Gazette. Page.
Washbowl	J. P. Dorau	697,937	Oct. 15	1169	326	130	1716
Washer: *See* Dish-washer.							
Washing-machine	G. Roberts	698,015	Oct. 15	1264	380	130	1722
Washing-machine	D. Rowland	698,129	Oct. 15	1481	408	130	1734
Washing machine	A. Erler	698,173	Oct. 15	1457	421	130	1736
Water and other liquid purifying apparatus	F. G. Griffith	697,949	Oct. 15	1166	330	130	1720
Water-closet seat	J. A. Lund	697,987	Oct. 15	1327	339	130	1725
Water-cooling apparatus	W. A. Hyed	698,039	Oct. 15	1269	370	130	1728
Water-elevating apparatus	G. W. Rosengarten	698,027	Oct. 15	1264	552-7	130	1724
Water-heater	J. H. Boyes	698,101	Oct. 15	1269	522	130	1733
Water-pressure regulator	J. M. Pietzuch and W. E. Brown	698,219	Oct. 15	1559	443	130	1738
Water-tube boiler	D. M. Webster	698,045	Oct. 15	1315	367	130	1726
Water-tube boiler and steam-generator	D. Roberts	698,026	Oct. 15	1262	552-6	130	1723
Waterway-gate	D. W. Ross	698,080	Oct. 15	1262	558	130	1729
Wave-motor	D. N. Green	698,057	Oct. 15	2269	556-6	130	1727
Wax-holder	M. E. Parker	698,074	Oct. 15	1276	551	130	1727
Wheel: *See* Resilient-tired wheel. Vehicle-wheel. Sprocket-wheel.							
Wheel	G. F. Brandenburgh	698,105	Oct. 15	1273	325	130	1732
Wheel-shaping machine. Bevel	T. Coventry	698,189	Oct. 15	1486	413	130	1735
Wheelbarrow	L. F. Lorenzi	698,062	Oct. 15	1261	547	130	1726
Willow-stripper	G. S. Herrick and W. H. Meaney	698,240	Oct. 15	1766	480	130	1734
Wind-power apparatus	R. Stola	698,270	Oct. 15	1218	511-12	130	1736
Windmill	I. Miles	697,990	Oct. 15	1231	340	130	1720
Winding-frames. Split drum for	F. Rivett and S. Oldham	698,013	Oct. 15	1260	349	130	1721
Window-catch	C. Tong	698,088	Oct. 15	1262	331	130	1715
Window-opener	J. H. Cartland and J. Lilly	698,109	Oct. 15	1278	327	130	1733
Wire fabric	A. F. Rechlin	698,244	Oct. 15	1698	464	130	1745
Wire-splicer	G. H. Geoghegan	698,178	Oct. 15	1486	423	130	1811
Wire-support	L. Steinberger	698,208	Oct. 15	1814	510	130	1735
Wrapping and addressing machine	S. E. Farnham	698,288	Oct. 15	1653	466-9	130	1832
Wrench: *See* Pipe-wrench. Universal wrench.							
Wrench	H. Fisher	698,176	Oct. 15	1461	422	130	1811
Wrench	L. Hermand	698,126	Oct. 15	1823	537	130	1949
Wrench	D. J. Dawson and J. R. Strohbach	698,337	Oct. 15	2076	562	130	1953

DESIGNS.

Design.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Car-body	W. R. McKeen, Jr.	38,860	Oct. 15	130	2049
Jar. Pottery	E. S. Smithson	38,858	Oct. 15	130	2048
Jar. Pottery	E. S. Smithson	38,859	Oct. 15	130	2048
Type-writer ribbons and tension-bands. Spool for	J. Alexander	38,857	Oct. 15	130	2048

TRADE-MARKS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Antiseptic and disinfectant substance	Chemische Fabrik auf Actien (vorm. E. Schering).	65,634	Oct. 15	130	2061
Antiseptics, deodorants, and disinfectants	Chemische Fabrik auf Actien (vorm. E. Schering).	65,635	Oct. 15	130	2061
Baking-powder	Creamery Baking Powder Company.	65,627	Oct. 15	130	2061
Balls. Golf	Geiger-Tinney Company	65,629	Oct. 15	130	2061
Batteries for local application. Hand	B. F. Goodrich Company	65,668	Oct. 15	130	2062
Beer	C. W. Taylor	65,630	Oct. 15	130	2063
Beer and wine preservatives	Galveston Brewing Company	65,628	Oct. 15	130	2062
Benzin, naphtha, and gasolene	A. Boake Roberts and Company	65,617	Oct. 15	130	2061
Beverages. Certain carbonated	Standard Oil Co. of New York	65,620	Oct. 15	130	2062
	Conservenfabrik Lenzburg vorm. Henckell & Roth A. G.	65,671	Oct. 15	130	2062
Boards. Certain wooden	J. Lonke	65,666	Oct. 15	130	2062
Boot and shoe trees, shoe-forms, etc	O. A. Miller Treeing Machine Company.	65,704	Oct. 15	130	2063
Boots and shoes. Leather	Geo. C. Snow Co	65,674	Oct. 15	130	2062
Boots, shoes, and footwear. Leather	Treadwell Shoe Company	65,661	Oct. 15	130	2062
Brooms	Lee Broom & Duster Company	65,654	Oct. 15	130	2062
Butterin and oleomargarin	John F. Jelke Company	65,669	Oct. 15	130	2063
Candies and candied popcorn	National Candy Company	65,702	Oct. 15	130	2063
Canned fruits and vegetables	H. F. Hemingway & Co	65,697	Oct. 15	130	2036
Cartridges, loaded shells, caps, &c	Peters Cartridge Company	65,659	Oct. 15	130	2062
Cement. Portland	Hammer Portland Cement Works	65,660	Oct. 15	130	2062
Cement. Portland	Hawkeye Portland Cement Co	65,651	Oct. 15	130	2062
Cement. Portland	Kansas City Portland Cement Co.	65,652	Oct. 15	130	2062

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Cider	Paducah Vinegar Works	65,683	Oct. 15	130	2062
Cigarettes and smoking-tobacco	Orientalische Tabak und Cigarettenfabrik Yenidze Inhaber Hugo Zietz.	65,662	Oct. 15	130	2062
Cigarettes, cigars, and tobacco	Maspero Frères	65,680	Oct. 15	130	2062
Cigars	R. Fernandez & Co	65,673	Oct. 15	130	2062
Cigars	Y. Pendas & Alvarez	65,704	Oct. 15	130	2063
Clothing. Certain	Blum Company	65,620	Oct. 15	130	2061
Clothing. Certain	F. A. Patrick & Co	65,672	Oct. 15	130	2062
Clothing. Certain woolen	Burnham-Munger Mfg. Co	65,621	Oct. 15	130	2061
Coal	Doring Coal Company	65,646	Oct. 15	130	2061
Coffee	W. F. McLaughlin & Company	65,709	Oct. 15	130	2063
Coffee	W. F. McLaughlin & Company	65,710	Oct. 15	130	2063
Dental dam	B. F. Goodrich Company	65,619	Oct. 15	130	2061
Dental rubber	B. F. Goodrich Company	65,618	Oct. 15	130	2061
Dentifrices	W. H. Hall	65,631	Oct. 15	130	2061
Dust-preventive	J. S. Lamson, Jr	65,637	Oct. 15	130	2061
Explosives. High	Eastern Dynamite Company	65,647	Oct. 15	130	2061
Explosives. High	Eastern Dynamite Company	65,648	Oct. 15	130	2061
Explosives. High	Eastern Dynamite Company	65,649	Oct. 15	130	2062
Fertilizers	American Fertilizing Company	65,645	Oct. 15	130	2061
Flour. Wheat	Climax Milling Co	65,695	Oct. 15	130	2062
Formaldehyde. Product of	Chemische Fabrik auf Actien (vorm. E. Schering).	65,625	Oct. 15	130	2061
Game-blocks. Combination	C. H. Rieth	65,686	Oct. 15	130	2062
Games. Mosaic	F. A. Richter	65,684	Oct. 15	130	2062
Hair-tonic and eye-water	F. L. Kea	65,635	Oct. 15	130	2061
Hosiery	A. B. Andrews Company	65,662	Oct. 15	130	2062
Hosiery	L. Neebe	65,681	Oct. 15	130	2062
Infant-necklaces	B. F. Goodrich Company	65,665	Oct. 15	130	2062
Inks. Writing	H. C. Stephens	65,706	Oct. 15	130	2063
Insect-paste	S. H. Kellogg	65,636	Oct. 15	130	2061
Jewelry. Certain	J. Koch	65,677	Oct. 15	130	2062
Lanterns. Oil-burning	R. E. Dietz Company	65,699	Oct. 15	130	2063
Lanterns. Oil-burning	R. E. Dietz Company	65,695	Oct. 15	130	2063
Lard	National Packing Company	65,703	Oct. 15	130	2063
Malt and hops. Extract of	Maltbopine Manufacturing Company.	65,679	Oct. 15	130	2062
Meats. Smoked and salt	Kingan & Company	65,700	Oct. 15	130	2063
Medicinal powders for live stock	L. Chambers	65,623	Oct. 15	130	2061
Medicine. Certain liquid	John Wyeth and Brother	65,634	Oct. 15	130	2061
Medicines. Certain	Frederick Stearns & Co	65,626	Oct. 15	130	2061
Medicines. Certain	J. E. Hasson	65,622	Oct. 15	130	2061
Medicines. Certain	R. B. H. Leighton	65,630	Oct. 15	130	2061
Medicines. Certain	J. J. McAllister	65,641	Oct. 15	130	2061
Oil. Olive	Herman Klenzler Company	65,696	Oct. 15	130	2063
Paint. Insulating	Tosh Brothers	65,691	Oct. 15	130	2063
Paints	Aqualite Fire Proofing Paint Co. of New York.	65,664	Oct. 15	130	2062
Pens. Steel	E. G. Soltmann	65,688	Oct. 15	130	2063
Perfumes	J. L. Grossmith	65,630	Oct. 15	130	2061
Pomade	J. P. Ward	65,643	Oct. 15	130	2061
Remedy. Certain	Le Comptes & Gayle Company	65,638	Oct. 15	130	2061
Rubber cement	F. W. Whitcher	65,657	Oct. 15	130	2062
Rubber water-bottles	B. F. Goodrich Company	65,666	Oct. 15	130	2062
Rubber water-bottles	B. F. Goodrich Company	65,667	Oct. 15	130	2062
Salt. Table	Worcester Salt Company	65,644	Oct. 15	130	2061
Saw blades. Hack	West Haven Mfg. Co	65,711	Oct. 15	130	2063
Shirts, Dress, negligé, and flannel	Burnham-Munger Mfg. Co	65,622	Oct. 15	130	2061
Silk and silk-mixed piece goods	Susquehanna Silk Mills	65,707	Oct. 15	130	2063
Silk underskirts	S. N. Magill	65,640	Oct. 15	130	2061
Snuff	H. Groya	65,675	Oct. 15	130	2062
Soap. Base	D. Rumsfeld	65,687	Oct. 15	130	2063
Soap. Laundry	Southern Cotton Oil Company	65,707	Oct. 15	130	2063
Starch. Laundry	A. F. Hogue	65,633	Oct. 15	130	2061
Tablets, pads, and paper. Writing	K. Kniep	65,653	Oct. 15	130	2062
Talking-machines and parts thereof	Cie. Gle. de Phonographes Cinématographes et App. de Précision.	65,669	Oct. 15	130	2062
Talking-machines and parts thereof	Cie. Gle. de Phonographes Cinématographes et App. de Précision.	65,670	Oct. 15	130	2062
Tapioca and sago	Griggs, Cooper & Company	65,696	Oct. 15	130	2063
Tea	Swain, Earle & Co	65,708	Oct. 15	130	2063
Textiles. Certain	R. Müller	65,701	Oct. 15	130	2063
Tobacco. Chewing and smoking	American Tobacco Company	65,663	Oct. 15	130	2062
Tonic. Nerve	B. E. Thomas	65,642	Oct. 15	130	2061
Toy railways	Ives Manufacturing Corporation.	65,676	Oct. 15	130	2062
Tracing-cloth	E. G. Soltmann	65,689	Oct. 15	130	2063
Watchcases	Waltham Watch Company	65,692	Oct. 15	130	2063
Whisky	F. Westheimer & Sons	65,693	Oct. 15	130	2063
Wood-finish. Certain	Lilly Varnish Company	65,678	Oct. 15	130	2062

LABELS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Aliquippa Export Beer." (For Beer)	Mutual Union Brewing Company.	13,221	Oct. 15	130	2054
"Crescent." (For Carbonated Non-Alcoholic Beverages)	Scales, Wilson Company	13,223	Oct. 15	130	2054
"Enbärsöl." (For a Tonic Beverage)	G. T. Lovegran	13,222	Oct. 15	130	2054
"Kaffir Blood and Nerve Tablets." (For Medicine)	R. H. Shepherd	13,225	Oct. 15	130	2054
"Pennsy Select Beer." (For Beer)	Mutual Union Brewing Company.	13,220	Oct. 15	130	2054
"Teddy Bear Selected Dates." (For Dates)	Hills Brothers Company	13,224	Oct. 15	130	2054

PRINTS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Our Schoolmaster' Series—No. 1." (For Men's and Boys' Coats, Vests, and Trousers.)	Ed. V. Price & Co	2,125	Oct. 15	130	2054
"Our Schoolmaster' Series—No. 2." (For Men's and Boys' Coats, Vests, and Trousers.)	Ed. V. Price & Co	2,126	Oct. 15	130	2054
"Our Schoolmaster' Series—No. 3." (For Men's and Boys' Coats, Vests, and Trousers.)	Ed. V. Price & Co	2,127	Oct. 15	130	2054
"Our Schoolmaster' Series—No. 4." (For Men's and Boys' Coats, Vests, and Trousers.)	Ed. V. Price & Co	2,128	Oct. 15	130	2054

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Antiseptic, disinfecting, and healing lubricant	H. Meizer	28,120	Oct. 15	130	2055
Automobiles	Société Anonyme Arbel	24,282-3	Oct. 15	130	2055
Automobiles	De Luxe Motor Car Company	26,694	Oct. 15	130	2054
Balsams, purgatives, pastils, and anesthetics	J. Bengué	28,117	Oct. 15	130	2055
Beer	George Wiedemann Brewing Co.	28,403	Oct. 15	130	2055
Belts	A. Nahass	29,402	Oct. 15	130	2060
Boots and shoes. Leather	Tracy Shoe Co	28,395	Oct. 15	130	2060
Brandy	Barton Vineyard Company	28,541	Oct. 15	130	2060
Brandy	Barton Vineyard Company	28,703	Oct. 15	130	2060
Brushes. Tooth-	R. Hudnut's Pharmacy	29,745	Oct. 15	130	2060
Buggies, cabs, barouches, buckboards, &c	Columbia Carriage Co	28,397	Oct. 15	130	2051
Candies	Adams Argood Chocolate Co	28,703	Oct. 15	130	2054
Cascara sagrada. Preparation of	Adams Argood Chocolate Co	28,143	Oct. 15	130	2054
Cements, glues, and adhesives	H. S. Welcome	29,221	Oct. 15	130	2055
Chains	Cementium (Parent) Co	29,220	Oct. 15	130	2055
Chairs, rockers, settees, and sofas	Bates & Bacon	13,727	Oct. 15	130	2055
Cheese. Roquefort	Taylor Chair Company	28,697	Oct. 15	130	2055
	Société Anonyme des Caves et des Producteurs réunis de Roquefort (Aveyron).	28,698	Oct. 15	130	2057
Coats, vests, and trousers	Moch, Berman & Co	21,218	Oct. 15	130	2055
Coats, vests, trousers, and overcoats	A. Decker & Cohn	28,691	Oct. 15	130	2057
Corsets	Royal Worcester Corset Co	28,688	Oct. 15	130	2056
Cough-drops	Wessel Bros. Candy Co	28,689	Oct. 15	130	2060
Cough mixture	Ogden and Shimer	29,702	Oct. 15	130	2060
Disinfecting, cleansing, &c., preparation	Bidtel Chemical Works	28,545	Oct. 15	130	2055
Dolls	Geo. Borgfeldt & Co	29,703	Oct. 15	130	2060
Dress-shields	Mona Manufacturing Company	28,727	Oct. 15	130	2060
Embroidery-cotton	Carson Pirie Scott & Co	28,696	Oct. 15	130	2060
Emulsion of cod-liver oil, beef, iron, and wine tonic, and cough-syrup.	Fischer Chemical Importing Co	28,699	Oct. 15	130	2055
Felts in the piece	C. W. House & Sons	29,405	Oct. 15	130	2060
Fertilizers	F. W. Tunnell & Co	29,710	Oct. 15	130	2060
Flour. Wheat-	Washburn Crosby Company	19,979	Oct. 15	130	2060
Flour. Wheat-	Crescent Milling Company	29,707	Oct. 15	130	2057
Flours and cereal breakfast food	Shannon & Mott Company	4,988	Oct. 15	130	2051
Flours. Wheat-	Globe Milling Co	28,699-1	Oct. 15	130	2055
Foods. Cereal breakfast	A. M. Pereyra	29,701	Oct. 15	130	2060
Foods. Wheat breakfast	Portland Flouring Mills Co	29,694	Oct. 15	130	2060
Games. Card	A. J. Fall	29,694	Oct. 15	130	2060
Hair tonics and renewers	T. B. Lathem	29,772	Oct. 15	130	2060
Ice-cream freezers	Snow Flake Manufacturing Company.	29,573	Oct. 15	130	2060
Incubators and brooders	L. N. Porter	29,693	Oct. 15	130	2057
Knit undershirts	Rubens & Marble	15,577	Oct. 15	130	2055

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Knitted gloves, mittens, toques, sweaters, &c	Michigan Knitting Co	29,077	Oct. 15	130	2057
Leather	F. Blumenthal & Company	26,277	Oct. 15	130	2054
Machines and looms	R. Kron	22,909	Oct. 15	130	2052
Magazine	International Sunshine Society	29,203	Oct. 15	130	2057
Meats and sausage. Cured, salted, and canned	Kingan and Company	28,416	Oct. 15	130	2056
Meats. Cured and salted	Kingan and Company	28,414	Oct. 15	130	2056
Medical and surgical apparatus, &c	B. F. Goodrich Company	22,675	Oct. 15	130	2052
Medical preparation	H. K. Mulford Company	29,336	Oct. 15	130	2057
Medicated and antiseptic pads	F. A. Steele	22,790	Oct. 15	130	2052
Medicines. Laxative and digestive	Spirine Extracting Co	26,927	Oct. 15	130	2055
Nippers and pliers	Utica Drop Forge and Tool Co	27,426	Oct. 15	130	2055
Nutritive compounds	Tropon Gesellschaft mit beschränkter Haftung.	11,318-19	Oct. 15	130	2052
Paper bags	Union Bag & Paper Company	29,411	Oct. 15	130	2058
Paper bags	Cleveland-Akron Bag Co	29,671	Oct. 15	130	2059
Paper oyster-pails	Chicago Folding Box Co	29,440	Oct. 15	130	2058
Paper. Printing and writing	Graham Paper Co	27,444	Oct. 15	130	2055
Paper. Printing and writing	Graham Paper Co	27,450	Oct. 15	130	2055
Paper. Printing and writing	Graham Paper Co	27,458	Oct. 15	130	2055
Pianos	S. W. Miller Piano Co	29,408	Oct. 15	130	2058
Powder. Toilet	C. Boucher	29,490	Oct. 15	130	2058
Puzzle	R. Haldenwang, Jr	29,868	Oct. 15	130	2060
Remedies for diseases of the skin, sunburn, &c	J. S. Ramage	29,276	Oct. 15	130	2057
Remedy for epilepsy	Dr. W. Towns Medical Company	27,079	Oct. 15	130	2055
Remedy for rheumatism and gout	J. H. Howarth	28,909	Oct. 15	130	2057
Rock-drilling machines	Konomax Rock Drill Syndicate	28,236	Oct. 15	130	2056
Rubber boots and shoes	Bourn Rubber Co	29,427	Oct. 15	130	2058
Rubber valve-balls, bulbs, furniture-bumpers, &c	H. O. Canfield Company	27,320	Oct. 15	130	2055
Shirts. Dress and negligée	J. H. Rice & Friedmann Co	28,286	Oct. 15	130	2056
Slate. Roofing-	Genuine Bangor Slate Co	29,778	Oct. 15	130	2060
Spices	C. S. Morey Mercantile Company	29,267	Oct. 15	130	2057
Squares, rules, plumbs, &c	Stanley Rule & Level Company	29,747	Oct. 15	130	2060
Stoves and ranges	Helena Stove and Range Co	28,600	Oct. 15	130	2056
Suspenders and belts	Monarch Suspender Co	29,867	Oct. 15	130	2060
Tires. Rubber	Hartford Rubber Works Company.	26,459-62	Oct. 15	130	2054
Tires. Rubber	Hartford Rubber Works Company.	26,464-6	Oct. 15	130	2054
Tires. Rubber	Hartford Rubber Works Company.	26,468	Oct. 15	130	2054
Tires. Rubber	Hartford Rubber Works Company.	26,470	Oct. 15	130	2054
Tires. Rubber	Hartford Rubber Works Company.	26,472	Oct. 15	130	2054
Tomatoes, cantaloupe, apples, &c	Zane & Gill	29,419	Oct. 15	130	2058
Tonic. Lung-	W. T. Owbridge, Ltd	11,740	Oct. 15	130	2052
Tonic malt liquor	Houston Ice & Brewing Co	27,660	Oct. 15	130	2056
Trousers, vests, coats, and overcoats	Graves & Meade Co	29,176	Oct. 15	130	2057
Washboards	Manchester Furniture Co	29,802-3	Oct. 15	130	2060
Whisky	Garrett-Williams Company	28,870	Oct. 15	130	2057
Whisky	Meyer, Pitts & Co	29,567	Oct. 15	130	2058
Wine	Barton Vineyard Company	23,642	Oct. 15	130	2053
Wine	Barton Vineyard Company	23,702	Oct. 15	130	2053
Wine	Chas. A. Zahn Co	27,648-9	Oct. 15	130	2056
Wood. Impregnating agents for preserving and coating	Chemische Fabrik Flörsheim, Dr. H. Noerdlinger.	29,675	Oct. 15	130	2059

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ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 22D DAY OF OCTOBER, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
A. C. Lawrence Leather Company. (See Johnstone, Robert K., assignor.)						
A. E. Martell Company. (See Jordan, Fred E., assignor.)						
Actien Gesellschaft für Anilin Fabrikation. (See Erdmann, Ernst, assignor.)						
Adams, Morton M. (See Rosen, Strahl, and Adams.)						
Adams, Robert E., Fort Wayne, Ind., and C. Hoffman, Farmington, Minn. Stove-grate.	868,631	Oct. 22	2253	624	130	2073
Adams & Westlake Company. (See Cotton, Walter H., assignor.)						
Adelbert, William J., Peary, Pa. Curtain-pole attachment	868,829	Oct. 22	2655	707-8	130	2169
Air Brake and Steam Heat Connection Company. (See Kilpatrick, Walter W., assignor.)						
Albrecht, Hermann R., St. Louis, Mo. Furniture-tip	868,902	Oct. 22	2669	738	130	2201
Albright, Chester E., Lewistown, Pa. Leather crimping and clamping machine	869,040	Oct. 22	2685	796-7	130	2269
Aldridge, James G. W. (See Fiddes and Aldridge.)						
Algert, Joseph, Denver, Colo. Ore-concentrator	868,830	Oct. 22	2656	708	130	2169
Allen, Charles F., Fort Dodge, Iowa. Can-filler	869,122	Oct. 22	3002	842	130	2320
Almstrum, Gustaf A., and P. Christensen, Northport, Wash. Mechanism for dispensing gum and chewing-tobacco	868,632	Oct. 22	2254	624-5	130	2073
Alrich, Henry, Gallipolis, assignor of one-half to J. Stockmeyer, El Paso county, Tex. Book or music lead	868,903	Oct. 22	2670	738-9	130	2201
Alt, Edmund W., assignor to H. U. Fleischmann, Chicago, Ill. Soap-holding device	869,124	Oct. 22	3006	830	130	2305
Alter, John H., Cooperstown, Ohio. Paper-clip	868,747	Oct. 22	2441	676	130	2130
American Foreign Freight & Railway Improvement Company. (See Graham, John E., assignor.) (Supplement.)						
American Laundry Machinery Manufacturing Company. (See Andreé, William E., assignor.)						
American Locomotive Company. (See Dalton, William, assignor.)						
American Type Founder's Company. (See Barth, Riehl, and Honegger, assignors.)						
Ammermann, Hugo R., and W. Lehne, New York, N. Y. Governor	869,041	Oct. 22	2686	797-8	130	2269
Amrhein, Arthur. (See Amrhein, John J., assignor.)						
Amrhein, John J., assignor of one-half to A. Amrhein, Johnstown, Pa. Tool for locking nut-locks	869,153	Oct. 22	3053	842	130	2321
Anderson, Irving L., Edmonds, Wash. Washing-machine	868,831	Oct. 22	2570	709	130	2170
Andreé, William E., Chicago, Ill., assignor, by mesne assignments, to American Laundry Machinery Manufacturing Company. Bosom-board for ironing-machines	868,939	Oct. 22	2760	762	130	2230
Andreé, William E., Chicago, Ill., assignor, by mesne assignments, to American Laundry Machinery Manufacturing Company. Ironing-machine	868,940	Oct. 22	2762	762	130	2230
Andrews, George C., Minneapolis, Minn. Rocking grate	868,832	Oct. 22	2571	709	130	2170
Andrews, William, New York, N. Y. Steam-radiator	869,042	Oct. 22	2690	798	130	2270
Antoni, John F., Kansas City, Mo. Mop	868,748	Oct. 22	2442	676	130	2131
Apple, Vincent G., Dayton, Ohio. Vehicle body and frame	868,749	Oct. 22	2443	676	130	2131
Apple, Vincent G., Dayton, Ohio, assignor to Dayton Electrical Manufacturing Co. Centrifugal governor	868,750	Oct. 22	2444	676	130	2131
Arden, Henry, Los Angeles, Cal. Smelting ores	869,043	Oct. 22	2691	.....	130	2270
Arden, Henry, San Diego, Cal. Smelting ores	869,125	Oct. 22	3007	.....	130	2305
Armack, John B. (See Stagg and Armack.)						
Armstrong, William J., Paterson, N. J. Chair with extensible foot-rest	868,833	Oct. 22	2257	625	130	2074
Armstrong, William J., Paterson, N. J. Yielding checkrein device	868,833	Oct. 22	2572	709	130	2170
Arnold-Forster, William H., Burley in Wharfedale, England. Apparatus for doffing spools from the spindles of fly-frames	869,044	Oct. 22	2693	798-9	130	2271
Atherton, James F., and C. E. Rice, Livermore, Ky. Tobacco-hiller	869,126	Oct. 22	3009	831	130	2306
Aubuchon, Napoleon, assignor to J. H. Muir, St. Louis, Mo. Window-scaffold	869,127	Oct. 22	3009	831	130	2306
Aurness, Peter A., Minneapolis, Minn. Combined water heater, filter, and cooler	869,045	Oct. 22	2696	799	130	2272
Autenrieth, William, Cincinnati, Ohio. Crutch	869,128	Oct. 22	3010	831	130	2307
Avery, George D. (See Friend, Calvin V., assignor.)						
Ayer, Frederick H., Chicago Heights, Ill. Electrical connector	868,751	Oct. 22	2446	677	130	2132
Ayling, William S., Chicago, Ill. Bottle-top	869,154	Oct. 22	3054	843	130	2321
B. F. Goodrich Company. (See Kepler, Irwin F., assignor.)						
Bailey, Charles A., Cromwell, Conn. Cartridge	869,046	Oct. 22	2697	799	130	2272
Baker, Guy S., *et al.* (See Moriarty, William, assignor.)						
Baker, John S., Evansville, Wis. Ladder	869,047	Oct. 22	2698	800	130	2272
Banning, Grace M., Chicago, Ill. Metal-enameling	869,155	Oct. 22	3055	843	130	2321
Barclay, David. (See Flint, Charles E., assignor.)						
Bardill, John O., Herculaneum, Mo. Bomb for use in metallurgical operations	868,904	Oct. 22	2673	739	130	2202
Barker, Ralph E., Lynn, Mass., assignor to General Electric Company. Variable reactive coil	868,752	Oct. 22	2447	677	130	2132
Barrett, James A., Milwaukee, Wis. Gas-broiler	868,753	Oct. 22	2448	677	130	2133
Barry, John C., Parkersburg, W. Va. Box	869,156	Oct. 22	3056	843	130	2322
Barth, Henry O., G. H. Riehl, and W. Honegger, assignors to American Type Founder's Company, Cincinnati, Ohio. Printer's brass-rule corner	868,754	Oct. 22	2449	677	130	2133
Bassford, William K., assignor to Vapor Gas Engine Manufacturing Company, Perth Amboy, N. J. Explosive-engine	868,834	Oct. 22	2573	709-10	130	2171
Baum, Edward F., Harrisburg, Pa. Plong for stereotyping	868,961	Oct. 22	2763	763	130	2231
Baumann, Franz, Vienna, Austria-Hungary. Range and azimuth finder	869,129	Oct. 22	3012	831-2	130	2307

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Beaulieu, Paul H., Presque Isle, Me. Brake mechanism	868,187	Oct. 22	2057	844	130	2222
Beavers, Novia S., Woodland, Iowa. Gasolene pressure-lamp	868,862	Oct. 22	2765	763	130	2231
Becker, Peter T. (See Thiesen and Becker.)						
Belart, Hans, Huddersfield, England. Making indigo, &c	868,785	Oct. 22	2449		130	2132
Bell, John B., Taylorstown, Pa. Stop-cock	868,726	Oct. 22	2450	678	130	2132
Bender, Ledru R., Elizabethville, Pa. Miter-box	868,854	Oct. 22	2268	625	130	2074
Benjamin, Albert W. (See Van Luven, Thomas F., assignor.)						
Bennett, George S., San Francisco, Cal. Oil-regulating valve	868,787	Oct. 22	2451	678	130	2132
Benning, Fredrick C., Nespique, La. Marine propulsion	869,048	Oct. 22	2899	800	130	2272
Bentley, John H. (See Gregory, William, assignor.)						
Besse, Irvin, Newburyport, Mass. Measuring-rule	868,905	Oct. 22	2674	739	130	2202
Bexell, John A., Logan, Utah. Transparent-faced filing-card	868,788	Oct. 22	2462	678-9	130	2134
Bexell, John A., Logan, Utah. Filing system	868,895	Oct. 22	2576	710-11	130	2171
Bierle, Frederick A., Philadelphia, Pa. Yielding boat-cleat	869,130	Oct. 22	3013	832	130	2207
Birch, James H. (See Davis and Birch.)						
Birch, Phillip, Pittsburg, Pa. Miner's lamp	869,049	Oct. 22	2900	800	130	2273
Blackburn, Bruce, Los Angeles, Cal. Retaining device	868,131	Oct. 22	3014	832	130	2207
Blackford, Charles T., *et al.* (See Herr, Clarence M., assignor.)						
Blackmer, Robert M., Conway, assignor to Blackmer Rotary Pump, Power and Manufacturing Company, Petoskey, Mich. Rotary pump	869,080	Oct. 22	2901	800-1	130	2273
Blackmer Rotary Pump, Power and Manufacturing Company. (See Blackmer, Robert M., assignor.)						
Blaine, George E., Indianapolis, Ind. Railway-rail fastener	868,836	Oct. 22	2578	711	130	2172
Blount, Walter E., Washington, D. C. Station mail-bag catcher	869,123	Oct. 22	3016	833	130	2208
Blumhard, Charles A., *et al.* (See Prideaux, Lewis, assignor.)						
Bonnaffons, Albert P., New Orleans, La. Station-indicator and advertiser	869,123	Oct. 22	3018	833-4	130	2209
Bonner, Douglas E., Chicago, Ill. Curtain-fixture	868,792	Oct. 22	2454	679	130	2134
Bowerfind, Edward J., assignor to Lion Fence Co., Adrian, Mich. Fence-tie	869,095	Oct. 22	2289	626	130	2075
Boyd, Perry E., Canton, Ga. Collapsible crate	869,134	Oct. 22	3021	834	130	2209
Brasch, Richard. (See Lloyd and Brasch.)						
Braunstein, Jesse B., Allentown, Pa. Nitro-starch explosive	868,838	Oct. 22	2280		130	2076
Braunstein, Jesse B., Allentown, Pa. Explosive	868,837	Oct. 22	2281		130	2075
Braunstein, Jesse B., Allentown, Pa. Nitro-starch explosive	868,838	Oct. 22	2281		130	2075
Braunstein, Jesse B., Allentown, Pa. Nitro-starch explosive	868,760	Oct. 22	2457		130	2136
Braunstein, Jesse B., Allentown, Pa. Nitro-starch explosive	868,837	Oct. 22	2578		130	2172
Braunstein, Jesse B., Allentown, Pa. Nitro-starch explosive	869,051	Oct. 22	2904		130	2274
Brewington, Henry S., Baltimore, Md. Concrete building-block	869,158	Oct. 22	3039	844	130	2222
Briggs, Arthur J., assignor to Smith Premier Typewriter Company, Syracuse, N. Y. Type-writing machine	868,836	Oct. 22	2579	712	130	2172
Britton, Walter F., Anniston, Ala. Ventilator	869,052	Oct. 22	2904	801	130	2274
Brons, Jan, and N. Timmer, near Delfzyl, Netherlands. Hydrocarbon-engine	869,159	Oct. 22	3040	844	130	2223
Brouillard, Henry E., *et al.* (See Clark, Henry C., assignor.)	868,839	Oct. 22	2580	712	130	2173
Brown, Albert E., Teeswater, Ontario, Canada. Display-stand	869,053	Oct. 22	2905	801	130	2277
Brown, Alexander E., assignor to Brown Hoisting Machinery Company, Cleveland, Ohio. Means for varying the force of counterweights for hoisting skip-cars	868,630	Oct. 22	2282	626	130	2075
Brown, Guy B. (See Brown, William S., assignor.)						
Brown Hoisting Machinery Company. (See Brown, Alexander E., assignor.)						
Brown, Horace P., Alameda, Cal. Manifolding sales-book	869,054	Oct. 22	2910	802	130	2276
Brown, Mary E., Cavalier, N. D. Egg-wrapper	869,160	Oct. 22	3041	844	130	2223
Brown, Stephen S., Medicine Lodge, Kans. Flood-gate	869,161	Oct. 22	3041	845	130	2223
Brown, William S., Burghill, Ohio, assignor of one-half to G. B. Brown, Osgood, Pa. Envelop	869,162	Oct. 22	3042	845	130	2223
Browne, Michael C., Holyoke, Mass. Strip-moistening device	868,840	Oct. 22	2582	712	130	2173
Brusbach, August, Chicago, Ill. Guard for flasks	868,782	Oct. 22	2760	763	130	2231
Buch, Royer S., Elizabethtown, Pa. Chair	868,640	Oct. 22	2264	626-7	130	2076
Buente, Christian F. W. (See Hotchkiss, Joseph V., assignor.)						
Builders Iron Foundry. (See Gregory, Jackson, and Connet, assignors.)						
Bultman, Henry D., assignor to Consolidated Dental Manufacturing Company, New York, N. Y. Crown-pin for dental work	868,984	Oct. 22	2767	763	130	2231
Burbank, George A., and C. B. Carr, St. Johnsbury, Vt. Making scale-loops	869,126	Oct. 22	3022	835	130	2210
Burns, James M., *et al.* (See Clark, Henry C., assignor.)						
Burroughs, Buel S., Kingston, N. Y. Splice and joint	869,055	Oct. 22	2910	802	130	2276
Burton, James E., Whitewater, Wis. Drag attachment for plows	869,056	Oct. 22	2912	802-3	130	2277
Burton, James E., Whitewater, Wis. Drag attachment for plows	869,126	Oct. 22	3022	835	130	2210
Butler, John, Salford, England. Internal-chilling apparatus for hollow castings	869,205	Oct. 22	3122	860-1	130	2243
C. Pardee Works. (See Metzner, Max A., assignor.)						
Cairncross, Andrew S., St. Paul, Minn. Machine for cutting fig-bars and similar articles	869,057	Oct. 22	2915	803	130	2277
Caley, Charles J. (See Voight and Caley.)						
Calkins, Homer H., Bloomfield, Ind. Rotary engine	868,841	Oct. 22	2583	713	130	2174
Callan, John G., Lynn, Mass., assignor to General Electric Company. Speed-changing device	869,058	Oct. 22	2915	804	130	2278
Calvert, Arthur E. (See Koenig, Charles L., assignor.)						
Campbell, George L. (See Hill, Chester S., assignor.)						
Campbell, Joseph C., *et al.* (See Clark, Henry C., assignor.)						
Carr, Charles B. (See Burbank and Carr.)						
Carver, Calvin B. P., Bridgewater, Mass. Gin-cylinder	868,965	Oct. 22	2767	764	130	2231
Cashmore, Charles E., New York, N. Y. Fastening device	869,059	Oct. 22	2917	804	130	2278
Central Brass Manufacturing Company. (See Goldfein, Maurice, assignor.)						
Chain, Elmer E., Winthrop, assignor to Turner Tanning Machinery Company, South Boston, Mass. Leather-working machine	868,842	Oct. 22	2585	713	130	2175
Chase, Daniel R., Finley, N. D. Vise	868,966	Oct. 22	2768	764	130	2232
Chicago Wood Finishing Co. (See Sutton, Arthur, assignor.)						
Christenson, Peter. (See Almstrom and Christenson.)						
Clark, Henry C., assignor of eight-ninths to J. M. Burns, I. M. Snyder, J. C. Campbell, and H. E. Brouillard, Charles City, Iowa. Wrench	869,206	Oct. 22	3127	861	130	2344
Clark, Louis B., Oktaha, Ind. Ter. Measuring device	868,641	Oct. 22	2265	627	130	2076
Clay, Wellington S., Hutchinson, Minn. Metallic cross-arm for telegraph or telephone poles	868,843	Oct. 22	2586	713	130	2175
Clements, Albert R., *et al.* (See Clements, James A., assignor.)						
Clements, James A., assignor of three-fourths to J. W. Hunter, C. W. Robertson, and A. R. Clements, Abingdon, Ill. Swing-gate	868,642	Oct. 22	2267	627-8	130	2076
Clements, James A., assignor of three-fourths to J. W. Hunter, C. W. Robertson, and A. R. Clements, Abingdon, Ill. Anchoring device for wire-stretchers	868,643	Oct. 22	2268	628	130	2077
Clements, James A., assignor of three-fourths to J. W. Hunter, C. W. Robertson, and A. R. Clements, Abingdon, Ill. Clamping device for wire fences	868,644	Oct. 22	2269	628	130	2077
Clements, James A. assignor of three-fourths to J. W. Hunter, C. W. Robertson, and A. R. Clements, Abingdon, Ill. Wire-stretcher	868,645	Oct. 22	2270	629	130	2078
Clemons, Arthur, and D. W. Pelkey, assignors of one-third to F. W. Rice, Chicago, Ill. Automatic tool-operating device	868,967	Oct. 22	2769	764	130	2232

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Cohen, Samuel B., New York, N. Y. Cloth splitting and rewinding machine	868,761	Oct. 22	2458	679-80	130	2136
Cokely, Elmer W., Coalinga, Cal. Walking-beam truss-rod	868,646	Oct. 22	2272	629	130	2075
Cokely, Elmer W., Coalinga, Cal. Oil-rig shaft-box	868,647	Oct. 22	2273	629	130	2076
Cole, John F., Somerville, Mass. Course-protractor	868,906	Oct. 22	2675	740	130	2203
Coleman, Robert L. (See Payne and Coleman.)						
Coltman, John F., Chicago, Ill. Automobile-locking mechanism	868,907	Oct. 22	2677	740	130	2203
Conklin, George W., Shelton, Conn. Grinding-machine	869,218	Oct. 22	3142	867	130	2348
Conner, Charles O., Hoppner, Oreg. Hoist	868,844	Oct. 22	2587	714	130	2175
Conner, Charles O., Hoppner, Oreg. Street-car fender	868,845	Oct. 22	2589	714	130	2176
Connet, Frederick N. (See Gregory, Jackson, and Connet.)						
Consolidated Dental Manufacturing Company. (See Bultman, Henry D., assignor.)						
Continuous Glass Press Company. (See Rhuman, Arno, assignor.)						
Cook, Frank B., Chicago, Ill. Electric-line fuse	869,060	Oct. 22	2917	804	130	2279
Corcoran, Richard M., Cleveland, Ohio, assignor to Wipe-Joint Machine Company. Joint-former. (Reissue)	12,703	Oct. 22	3145	868	130	2349
Corey, Fred B., Schenectady, N. Y., assignor to General Electric Company. Semaphore signal	868,648	Oct. 22	2273	630	130	2076
Cotton, Walter H., Chicago, Ill., assignor to Adams & Westlake Company. Pole-changer	868,968	Oct. 22	2772	764	130	2233
Cox and Brother, George S. (See Cox, George S., assignor.)						
Cox, George S., Fitzwatertown, Pa., assignor to G. S. Cox and Brother. Lady's collar and cuff	868,846	Oct. 22	2591	714	130	2176
Cox, Roy A., Elwood, Nebr. Supporting-frame for canopies, awnings, &c	869,061	Oct. 22	2918	804	130	2279
Cranston, Albert E., Pollock, S. D. Combined wagon-box, header-box, hay and stock rack	869,062	Oct. 22	2920	805	130	2280
Crocker, Fred A., Lincoln, Me. Thill-supporter	868,969	Oct. 22	2773	765	130	2233
Crone, Seth A., New York, N. Y. Railway-car brake	868,908	Oct. 22	2678	740	130	2203
Crone, Seth A., New York, N. Y. Brake-beam for railway-cars	868,909	Oct. 22	2681	741	130	2204
Crone, Seth A., New York, N. Y. Railway-car brake	868,910	Oct. 22	2682	741	130	2204
Crone, Seth A., New York, N. Y. Railway-car brake	868,970	Oct. 22	2774	765	130	2233
Crossley, Harvey N., Madison, Okla. Ter. Burner attachment for stoves	868,649	Oct. 22	2275	630	130	2079
Crouse, John L., New York, N. Y., assignor to Westinghouse Electric & Manufacturing Company. Electric-railway system	868,911	Oct. 22	2684	742	130	2204
Crow, William D., East Orange, N. J. Manufacturing concrete	868,762	Oct. 22	2460	680	130	2137
Cryer, James, Walden, assignor to Warwick Knife Company, Warwick, N. Y. Cutting-tool	869,063	Oct. 22	2922	805	130	2280
Cullis, John M., Yonkers, N. Y. Pad for trusses	868,971	Oct. 22	2776	765	130	2234
Curl, Burten, and H. J. Huddlestun, Rose Hill, Ill. Broom-corn-harvesting machine	869,064	Oct. 22	2923	805-6	130	2280
Curwood, Arthur, Campbelltown, New Zealand. Means for balancing and fastening window-sashes	868,972	Oct. 22	2777	766	130	2234
Dalton, Richard, Wilmette, Ill. Excavating-machine	868,912	Oct. 22	2686	742-3	130	2206
Dalton, William, Schenectady, assignor to American Locomotive Company, New York, N. Y. Cushioning appliance for locomotives	868,913	Oct. 22	2693	743-4	130	2206
Dart, William H. (See Martin and Dart.)						
Datacheg, George A., Philadelphia, Pa. Self-closing hinge	868,973	Oct. 22	2778	766	130	2234
Datson, Josiah, Gilberts Creek, Ky. Chain-harrow	869,065	Oct. 22	2926	806-7	130	2282
Daugherty, James B. (See Mills, John H., assignor.)						
Davies, Evan C., Taylor, Pa. Appliance for testing miners' safety-lamps	869,066	Oct. 22	2927	807	130	2282
Davis Acetylene Company. (See Davis, Augustine, assignor.)						
Davis, Augustine, Chicago, Ill., assignor to Davis Acetylene Company, Elkhart, Ind. Carbid-feeding device for acetylene-gas generators	868,848	Oct. 22	2594	715	130	2177
Davis, Augustine, Chicago, Ill., and J. H. Birch, Elkhart, Ind. Gas-generator	868,847	Oct. 22	2592	714-15	130	2176
Davis, George H., West Orange, N. J. Expression mechanism for self-playing musical instruments	868,650	Oct. 22	2276	631	130	2079
Davis Sewing Machine Company. (See Person, William, assignor.) (Reissue.)	868,914	Oct. 22	2694	744	130	2208
Dawson, Herbert W., Portalegre, Portugal. Cork for stoppering bottles or the like						
Dayton Electrical Manufacturing Co. (See Apple, Vincent G., assignor.)						
De Remer, William L., Chicago, Ill., assignor to Republic Railway Appliance Company, St. Louis, Mo. Draft-rigging	868,915	Oct. 22	2694	744	130	2208
Dean, John R., Wesleyville, Pa. Corset-stay	868,763	Oct. 22	2461	680	130	2137
Dean, William W., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Telephone system	869,067	Oct. 22	2928	807	130	2282
Demorest, Milon J., Belding, Mich. Mold for concrete walls	868,764	Oct. 22	2461	680-1	130	2137
Denzin, Henry A., Ross township, Allegheny county, Pa. Heating-furnace	868,974	Oct. 22	2779	766	130	2235
Deputy, Elijah E., assignor to D. B. Perry, Wilmington, Del. Machine for stropping razors	869,068	Oct. 22	2931	807	130	2283
Dersch, John H. (See Schepman and Teamer, assignors.)						
Deuberry, William C., Greenfield, Tenn. Roll-paper holder and cutter	869,069	Oct. 22	2932	808	130	2283
Devine, William J., Norwalk, Conn. Insulator	869,163	Oct. 22	3043	845	130	2224
Dey, Clark P., Keystone, Wash. Combined railway tie and clamp	869,070	Oct. 22	2934	808	130	2284
Dieckmann, John, Hoboken, N. J. Closing cans	868,916	Oct. 22	2696	745	130	2208
Dinkey, Alva C., Pittsburg, Pa. Insulated metal cross-tie	868,651	Oct. 22	2280	631	130	2081
Dock Gas Engine Company. (See Dock, Herman, assignor.)						
Dock, Herman, Wyncote, Pa., assignor to Dock Gas Engine Company, New York, N. Y. Internal-combustion engine	868,765	Oct. 22	2462	681	130	2137
Donlon, Thomas H., Syracuse, N. Y. Animal-trap	868,917	Oct. 22	2698	745	130	2210
Down, Ernest U., Waterville, Ohio. Wire-fencing fastener for concrete posts	869,137	Oct. 22	3024	835	130	2210
Dräger, Alexander B., and H. W. C. Schröder, assignors to Firm of Drägerwerk, Heinrich and Bernhard Dräger, Lübeck, Germany. Oxyhydrogen-gas burner	869,071	Oct. 22	2935	808	130	2284
Drägerwerk, Heinrich and Bernhard Dräger, Firm of. (See Dräger and Schröder, assignors.)						
Draper Company. (See Stimpson, Edward S., assignor.)						
Dressel, Frederick W., assignor to Dressel Railway Lamp Works, New York, N. Y. Latch-lock	868,975	Oct. 22	2780	767	130	2235
Dressel Railway Lamp Works. (See Dressel, Frederick W., assignor.)						
Dünhölter, Heinrich, Berlin, Germany. Transmission-gear for fare-indicators	868,766	Oct. 22	2464	681	130	2138
Dünhölter, Heinrich, Berlin, Germany. Fare-indicator	868,767	Oct. 22	2465	681	130	2138
Dünhölter, Heinrich, Berlin, Germany. Fare-indicator	868,849	Oct. 22	2595	716	130	2177
Dyer, William, *et al.* (See Viol, John H., assignor.)						
Eckart, Edmund, New Rochelle, N. Y. Can-closure	868,850	Oct. 22	2597	717	130	2178
Effront, Jean, Brussels, Belgium. Recovery of ammonia from distillers' washes	868,976	Oct. 22	2781		130	2236
Ehrenfeld, Charles H., and J. R. Grove, York, Pa. Recovery of nickel from ore	868,709	Oct. 22	2468	682	130	2139
Ehrhart, Raymond N., Pittsburg, Pa., assignor to Westinghouse Machine Company. Elastic-fluid turbine	868,768	Oct. 22	2466	682	130	2139
Electric Railway Improvement Company. (See Herrick, Albert B., assignor.)						
Electro Dynamic Company. (See Pfatischer, Mathias, assignor.)						
Elliott, Sterling, Newton, assignor to National Binding Machine Company, Boston, Mass. Strip-serving device	868,977	Oct. 22	2782	767	130	2236
Ellsworth, William B., Hudson, Ohio. Thill-support	869,072	Oct. 22	2936	809	130	2285
Elm, Charles E., South Prairie, Wash. Rail-joint	869,164	Oct. 22	3044	846	130	2224

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Emmet, William L. R., Schenectady, N. Y., assignor to General Electric Company. System of lubrication for elastic-fluid turbines	868,126	Oct. 22	2025	836	130	2310
Erdmann, Ernst, assignor to Actien Gesellschaft für Anilin Fabrikation, Halle-on-the-Saale, Germany. Para-aminodiphenylamin sulfonic acid and making the same	868,073	Oct. 22	2986	.....	130	2285
Erixon, Emil, New York, N. Y. Machine for propelling plows or other agricultural implements	868,851	Oct. 22	2697	717	130	2178
Ervin, Dabney L., Columbus, Miss. Combined carpet-stretcher and tack-hammer	868,852	Oct. 22	2850	717	130	2178
Etter, Albert F., Ettersburg, Cal. Strainer	868,165	Oct. 22	2064	846	130	2324
Evans, Powell, Philadelphia, Pa. Ventilator	868,074	Oct. 22	2936	809	130	2285
Facer, Edward A., Atlanta, assignor to National Loose-Leaf Hotel Register Company, Dawson, Ga. Loose-leaf register and cabinet	868,120	Oct. 22	3028	836	130	2311
Fallmann, Frank J., Walnut Grove, Cal. Tire-handling tool	868,166	Oct. 22	3066	846	130	2325
Fancher, Charles J., West Granby, assignor to Simplex Manufacturing Company, New York, N. Y. Driving mechanism for machines for operating abrading or cutting tools	868,167	Oct. 22	3067	847	130	2325
Ferrandini, Leon A. (See Schneider, George, assignor.)						
Ferren, Myron J., Washington, D. C. Can-head-cutting machine	868,075	Oct. 22	2939	809-10	130	2285
Fertig, August, *et al.* (See Prideaux, Lewis, assignor.)						
Fiddes, Walter W., Bristol, and J. G. W. Aldridge, London, England. Apparatus for charging and discharging gas-retorts	868,853	Oct. 22	2800	717-18	130	2179
Firm, Joseph L., Berwyn, assignor to Goss Printing Press Company, Chicago, Ill. Associating, folding, and delivering mechanism for printing-machines	868,854	Oct. 22	2801	718	130	2179
Firm, Joseph L., Berwyn, assignor to Goss Printing Press Company, Chicago, Ill. Printing-machine	868,855	Oct. 22	2802	718-19	130	2179
Firm, Joseph L., Berwyn, assignor to Goss Printing Press Company, Chicago, Ill. Cutting and folding device for printing-presses	868,856	Oct. 22	2804	719-20	130	2180
Firm, Joseph L., Berwyn, assignor to Goss Printing Press Company, Chicago, Ill. Associator and folder for printing-machines						
Fischer, Martin, Zurich, Switzerland. Explosive-engine	868,918	Oct. 22	2999	745	130	2210
Fisher, Isaac M., Seattle, Wash. Rope reel	868,978	Oct. 22	2784	767	130	2237
Fleming, James A., Paola, Kans. Can-closure	868,168	Oct. 22	3069	847	130	2325
Fliehmann, Edw. U. (See Alt, Edward W., assignor.)	868,076	Oct. 22	2941	810	130	2286
Flint, Charles E., assignor of one-third to D. Barclay, Hobart, Tasmania, Australia. Tape-measure						
Flynn, James F., Pardus, Pa. Brake for mine-locomotives	868,169	Oct. 22	3070	847	130	2326
Foote, Robert E., Harvey, Ill. Sled	868,077	Oct. 22	2942	810	130	2286
Foster, Claud H., Cleveland, Ohio. Valve	868,170	Oct. 22	3071	848	130	2326
Foster, Claud H., Cleveland, Ohio. Means for heating automobiles and the like	868,171	Oct. 22	3073	848	130	2327
Fowler, Harvey T., Schell City, Mo. Nut-lock	868,172	Oct. 22	3076	848	130	2328
Freeman, Charles C. (See Moore and Freeman.)	868,173	Oct. 22	3077	849	130	2328
Friend, Calvin V., assignor of one-half to G. D. Avery, Porterville, Cal. Wrench	868,682	Oct. 22	2261	632	130	2061
Gallegher, James. (See McGee and Gallegher.)	868,770	Oct.	2469	682	130	2140
Gantt, James T., Macon, Ga. Planter	868,078	Oct. 22	2943	810	130	2287
Garner, Isaac T., Calera, Ala. Spectacles	868,857	Oct. 22	2805	720	130	2180
Garrett, William B., Ashton, Ill. Valve-controlling mechanism	868,207	Oct. 22	3136	861	130	2344
Geshring, Frederick J., Philadelphia, Pa. Molding-machine	868,979	Oct. 22	2785	767-8	130	2237
General Electric Company. (See Barker, Ralph E., assignor.)						
General Electric Company. (See Callan, John G., assignor.)						
General Electric Company. (See Corey, Fred B., assignor.)						
General Electric Company. (See Emmet, William L. R., assignor.)						
General Electric Company. (See Junggren, Oscar, assignor.)						
General Electric Company. (See Latour, Marius, assignor.)						
General Electric Company. (See Latour, Marius C. A., assignor.)						
General Electric Company. (See Rogers, Robert H., assignor.)						
General Electric Company. (See Taylor, David W., assignor.)						
Gentieu, George W., Peoria, Ill. Semismokeless powder	868,919	Oct. 22	2989	.....	130	2210
Gibson, Arthur H., Easton, Pa., assignor to Ingersoll-Sergeant Drill Company, New York, N. Y. Electropneumatic channeler. (Reissue)	12,704	Oct. 22	2147	868-9	130	2349
Gibson, Robert L., Philadelphia, Pa. Sound-reproducing machine	868,771	Oct. 22	2470	682	130	2140
Gibson Soap Co. (See Summers, William T., assignor.)						
Glwowsky, Solomon, Wichita, Kans. Crate for shipping merchandise	868,980	Oct. 22	2787	769	130	2237
Gold Egbert H., Chicago, Ill. Low-pressure fluid-heating system	868,772	Oct. 22	2471	683	130	2141
Goldfein, Maurice, assignor of one-half to Central Brass Manufacturing Company, Cleveland, Ohio. Trap for liquids	868,174	Oct. 22	3078	849	130	2328
Goldsborough, Richard H., Washington, D. C. Turbine	868,553	Oct. 22	2282	632-3	130	2062
Goldsborough, Richard H., Washington, D. C. Turbine	868,554	Oct. 22	2284	633-4	130	2062
Goldsborough, Richard H., Washington, D. C. Turbine	868,555	Oct. 22	2286	634-5	130	2063
Gordon, Horace S., Dayton, Ohio. Pump for dispensing oil	868,981	Oct. 22	2788	769	130	2238
Gorham, Charles R. (See Gorham, William H. H. and C. R., assignors.)						
Gorham Manufacturing Company. (See Gorham, William H. H. and C. R.)						
Gorham, William H. H. and C. R., assignors to Gorham Manufacturing Company, Cleveland, Ohio. Vending-machine						
Gorut, Peter, Fulton Chain, N. Y. Toothpick	868,773	Oct. 22	2475	683-4	130	2142
Goss Printing Press Company. (See Firm, Joseph L., assignor.)	869,175	Oct. 22	3079	849	130	2329
Goth, Thomas R., San Francisco, Cal. Dredging apparatus	868,774	Oct. 22	2477	684	130	2142
Govers, Francis X., Owego, N. Y. Paint-remover and making the same	868,920	Oct. 22	2701	.....	130	2211
Govers, Francis X., Owego, N. Y. Paint-remover and making the same	869,176	Oct. 22	3080	.....	130	2329
Graham George M., assignor to G. A. E. Kohler, Chicago, Ill. Reinforced concrete structure	868,921	Oct. 22	2702	745-6	130	2211
Graham, John E., Salem, Va., assignor to American Flange Frog & Railway Improvement Company, Gainesville, Fla. Railway-frog. (Reissue)	12,705	Oct. 22	3149	869	130	2350
Gramelspacher, John, assignor to Jasper Furniture Company, Jasper, Ind. Machine for cutting flexible roll-curtains	868,656	Oct. 22	2266	635-6	130	2063
Green, Robert F., Toronto, Ontario, Canada. Weather-strip for doors	868,775	Oct. 22	2479	684	130	2143
Gregory, John H., W. W. Jackson, Columbus, Ohio, and F. N. Connet, assignors to Builders Iron Foundry, Providence, R. I. Automatic flow-regulator for liquids and gases	868,776	Oct. 22	2480	684-5	130	2143
Gregory, William, assignor of one-half to J. H. Bentley, Paterson, N. J. Driving device for quilting, spinning, and other textile machinery	868,982	Oct. 22	2789	769	130	2238
Griffin, Henry F., *et al.* (See Griffin, Patrick H., assignor.)						
Griffin, Patrick H., assignor to H. F. and W. A. Griffin, Buffalo, N. Y. Braking apparatus	868,777	Oct. 22	2482	685	130	2144
Griffin, William A., *et al.* (See Griffin, Patrick H., assignor.)						
Griffith, Joseph C., *et al.* (See Jordan, Henry C., assignor.)						
Grono, William, Litchfield, Minn. Side-track draft attachment for buggies	869,079	Oct. 22	2944	811	130	2287
Gropp, Max E., Nashville, Tenn. Insect-trap	868,778	Oct. 22	2484	685	130	2145
Grosser, Agnes, Haledon, N. J. Skirt-supporter	868,983	Oct. 22	2790	770	130	2238
Grossgebauer, John, Paterson, N. J. Window-cleaner	869,080	Oct. 22	2945	811	130	2287
Grove, Jacob R. (See Ehrenfeld and Grove.)						
Guffin, Henry H., Indianapolis, Ind. Hoisting and conveying apparatus	868,984	Oct. 22	2791	770-1	130	2239

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H. W. Johns-Manville Company. (See King, Charles I., assignor.)						
Haas, Albert, New York, N. Y. Water-elevator	868,657	Oct. 22	2290	636	130	2083
Hamacher, Gideon J., New Dundee, Ontario, Canada. Bicycle	868,658	Oct. 22	2292	636	130	2084
Hamilton, Frank P., Cleveland, Ohio. Steam-trap	868,659	Oct. 22	2293	637	130	2085
Hamilton, James. (See Stanfield, Jasper H., assignor.)						
Hammer, William J., New York, N. Y. Making phosphorescent colors	868,779	Oct. 22	2485	.....	130	2145
Hansen, Charles M., Buffalo, N. Y. Cheese-cutter	868,660	Oct. 22	2294	637	130	2085
Hardsogg, Martin, Ottumwa, Iowa. Pneumatic and other drill	868,661	Oct. 22	2296	638	130	2086
Hardy, Roy E. (See Watt, Frank J., assignor.)						
Harkness, Charles, Providence, R. I., assignor, by mesne assignments, to Harkness Trolley System Company. Trolley-wheel guard	868,780	Oct. 22	2487	686	130	2145
Harkness Trolley System Company. (See Harkness, Charles, assignor.)						
Harlow, George H., Hudson, assignor to Harlow Shoe Finishing Machinery Company, Boston, Mass. Apparatus for applying wax to boots and shoes and the like	868,923	Oct. 22	2705	746	130	2211
Harlow Shoe Finishing Machinery Company. (See Harlow, George H., assignor.)						
Harper Railway Tie Company. (See Harper, Samuel S., assignor.)						
Harper, Samuel S., Philadelphia, Pa., assignor to Harper Railway Tie Company. Railway-tie	869,178	Oct. 22	3083	850	130	2330
Harrington, David, Worcester, Mass., assignor, by mesne assignments, to Harrington Ring & Traveller Company. Spinning-ring	868,924	Oct. 22	2706	746	130	2212
Harrington Ring & Traveller Company. (See Harrington, David, assignor.)						
Harris, Harry W., Brockley, England. Time-controlled gas-cock	869,081	Oct. 22	2946	811-12	130	2287
Hathaway, Bruce C., Boulder, Ill. Waterproof garment	869,177	Oct. 22	3082	849	130	2329
Hayes, Frank, Superior, Wis. Door-closing means for scows or bins	868,662	Oct. 22	2297	638	130	2086
Hays, John, Uniontown, Pa. Umbrella	869,082	Oct. 22	2949	812	130	2289
Heard, George M. D., Painesville, Ohio. Ratchet-brace	868,985	Oct. 22	2794	771	130	2240
Hebig, Harry C., Closter, N. J., assignor of one-half to M. Schroeder, Brooklyn, N. Y. Amusement device	869,083	Oct. 22	2950	813	130	2289
Hefner, Harry, Warren, Ohio. Envelop	869,179	Oct. 22	3085	850	130	2330
Hefner, Harry, Warren, Ohio. Stovepipe attachment	869,180	Oct. 22	3085	850	130	2331
Hefner, John L., Peoria, Ill. Cushion-fastener	868,663	Oct. 22	2299	638	130	2086
Heinitz, Woldemar R., assignor to Firm of Schubert & Salzer Maschinenfabrik, Aktiengesellschaft, Chemnitz, Germany. Cash-register	869 084	Oct. 22	2952	814	130	2290
Henderson, Charles L., Woodstock, Ontario, Canada. Wrench	868,858	Oct. 22	2606	720	130	2180
Henderson, John D., Everett, assignor to Henderson Trapocrete Company, Boston, Mass. Constructing or paving street, road, and other ways	869,181	Oct. 22	3086	850-1	130	2331
Henderson Trapocrete Company. (See Henderson, John D., assignor.)						
Herr, Clarence M., assignor to C. T. Blackford and O. Ludwig, Chicago, Ill. Display bin for counters, &c	868,986	Oct. 22	2796	771	130	2240
Herrick, Albert B., Ridgewood, N. J., assignor to Electric Railway Improvement Company, Cleveland, Ohio. Making rail-bonds	868,664	Oct. 22	2300	638-9	130	2087
Hewitt, Joseph D., Paterson, N. J. Ash barrel or can	868,987	Oct. 22	2797	772	130	2241
Higgins, George A., Galesburg, Ill. Flue-stop	868,665	Oct. 22	2301	639	130	2087
Hill, Chester S., assignor of one-half to G. L. Campbell, Williamsport, Pa. Electric switch	868,781	Oct. 22	2488	686	130	2145
Hiller, Georg, Teplitz, Austria-Hungary. Sifting-machine	869,085	Oct. 22	2953	815	130	2290
Hiltpold, John, New Britain, Conn. Lock and latch	868,782	Oct. 22	2490	686	130	2146
Hinde, Harry H. (See Huntoon, Fred M., assignor.)						
Hine, Edward A., Newark, N. J. Lock for door-knobs	868,925	Oct. 22	2709	746	130	2213
Hodgdon, Foydice C., Denver, Colo. Sliding-car-door lock	868,859	Oct. 22	2608	721	130	2181
Hoffman, Christ. (See Adams and Hoffman.)						
Hoffman, Clemence E., Thomaston, Conn. Safety set-screw	869,086	Oct. 22	2954	815	130	2290
Hoffmann, Ernst G., New Rochelle, N. Y. Grinding balls	868,860	Oct. 22	2609	721	130	2181
Hoffmann, Ernst G., New Rochelle, N. Y. Grinding balls	868,926	Oct. 22	2710	747	130	2214
Hogg, John S., Rochester, N. Y. Sharpening device	868,783	Oct. 22	2492	686	130	2147
Holm, Charles W., Troy, Ohio. Acetylene-gas generator	868,988	Oct. 22	2798	772-3	130	2241
Holm, Ole, Madison, Minn. Draft-equalizer	868,861	Oct. 22	2610	722	130	2181
Honegger, Werner. (See Barth, Riehl, and Honegger.)						
Honeywell, Mark C., Wabash, Ind. Expansion device for hot-water heating systems	868,862	Oct. 22	2611	722	130	2182
Hookham, George, Birmingham, England. Bottle-stopper	868,784	Oct. 22	2493	687	130	2147
Hoskins, Benjamin, Seattle, Wash. Adding-machine	868,666	Oct. 22	2302	639-40	130	2087
Hotchkiss, Joseph V., assignor of one-half to C. F. W. Buente, Webster City, Iowa. Crosscut-saw	869,182	Oct. 22	3087	851	130	2331
Houk, Sidney C. (See Pollock and Werd, assignors.)						
Hourigan, John J., Brighton-le-Sands, near Sydney, assignor to J. Ravan, Sydney, New South Wales, Australia. Ratchet-drill	869,087	Oct. 22	2955	815-16	130	2290
Howard, Edward D. (See Waldorf, Eugene C., assignor.)						
Huddlestun, Herbert J. (See Curl and Huddlestun.)						
Hull, John W., Sr., assignor to Zion City Manufacturing Co., Zion City, Ill. Fire-shield	868,927	Oct. 22	2712	747	130	2214
Hülsberg & Co. Gesellschaft mit Beschränkter Haftung. (See Rüping, Max, assignor.) (Reissue.)						
Hunter, James W., *et al.* (See Clements, James A., assignor.)	868,863	Oct. 22	2613	722	130	2182
Huntoon, Fred M., assignor of three-fourths to H. H. Hinde, Riverside, Cal. Flume-gate	868,928	Oct. 22	2713	747	130	2214
Hurd, Frank B., New York, N. Y. Bridge-whist apparatus	869,088	Oct. 22	2956	816	130	2291
Hurley, John W., *et al.* (See Jordan, Henry C., assignor.)						
Hurst, Daniel, Red Oak, Iowa. Trough						
Hutson, Edward. (See Willis, Grover C., assignor.)						
Ingersoll-Sergeant Drill Company. (See Gibson, Arthur H., assignor.) (Reissue.)						
International Harvester Company. (See Linden, John O., assignor.)						
International Harvester Company. (See Webber, William, assignor.)						
J. I. Case Plow Works. (See Meagher, Pierre, assignor.)						
Jackson, Ray P., Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Electric controlling system	868,864	Oct. 22	2614	723	130	2182
Jackson, Ray P., Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Electric control system	868,929	Oct. 22	2715	748	130	2215
Jackson, Walter H. (See Gregory, Jackson, and Connet.)						
Jasper Furniture Company. (See Gramelspacher, John, assignor.)						
Jensen, Aage, Eureka, Cal. Liquid-cooler	869,089	Oct. 22	2957	816	130	2291
Johnson, Eugene M., Allston, Mass. Composite pipe	868,785	Oct. 22	2495	687	130	2148
Johnson, Ragnor, Worcester, Mass. Driving appliance for speed-meters	868,786	Oct. 22	2496	687-8	130	2148
Johnstone, Robert K., Salem, Mass., assignor to A. C. Lawrence Leather Company. Machine for buffing strips of leather	868,667	Oct. 22	2311	641	130	2091
Jordan, Fred B., Winchester, assignor to A. E. Martell Company, Boston, Mass. Binder	869,090	Oct. 22	2958	816-17	130	2291
Jordan, Henry C., assignor of one-fourth to J. C. Griffith, seven-sixteenths to J. W. Hurley, and one-sixteenth to J. N. Sutton, Portland, Oreg. Car-fender	869,183	Oct. 22	3088	851	130	2335
Judge, Edward J., San Francisco, Cal. Can-capping machine	869,091	Oct. 22	2960	817-18	130	2292
Junggren, Oscar, Schenectady, N. Y., assignor to General Electric Company. Elastic-fluid turbine	868,787	Oct. 22	2497	688-9	130	2148
Karr, James P., and J. D. Rauch, Logansport, Ind. Boom and rotatable circle for excavators	869,092	Oct. 22	2962	818	130	2292
Kaufman, William R., McKees Rocks, Pa. Railway-tie	868,865	Oct. 22	2616	722	130	2183

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Keasbey & Mattison Company. (See Wade, Charles E., assignor.)						
Keil, George F., assignor of one-half to C. F. Mickelson, Sherburn, Minn. Plunger for tile-machines	868,866	Oct. 22	2617	723	130	2184
Kellogg Switchboard and Supply Company. (See Dean, William W., assignor.)						
Kellogg Switchboard and Supply Company. (See Webster, Harry G., assignor.)						
Kent, Leon U., assignor of one-half to J. D. Putnam, Elmwood, Ill. Automatic vending-machine	868,989	Oct. 22	2801	773	130	2241
Kent, Thomas F., Newark, N. J. Inverted gas-burner	868,990	Oct. 22	2804	773–4	130	2242
Kepler, Irwin F., assignor to B. F. Goodrich Company, Akron, Ohio. Making hollow rubber articles having seams	868,668	Oct. 22	2315	641	130	2093
Kessler, Jean, Frankfort-on-the-Main, Germany. Lock	868,867	Oct. 22	2618	723	130	2184
Kiefer, Peter, St. Louis, Mo. Air-motor	868,868	Oct. 22	2619	724	130	2184
Kilbourne and Jacobs Manufacturing Company. (See Stagg, Thomas H., assignor.)						
Kilbourne and Jacobs Manufacturing Company. (See Stagg and Armack, assignors.)						
Kilpatrick, Walter W., assignor to Air Brake and Steam Heat Connection Company, Atlanta, Ga. Pipe-coupling	868,869	Oct. 22	2620	724	130	2184
King, Charles I., New York, N. Y., assignor to H. W. Johns-Manville Company. Carding-machine	868,991	Oct. 22	2805	774	130	2242
King, Henry E., Bunkie, La. Automatic light-switch	868,870	Oct. 22	2621	724	130	2185
King, Willard E., and C. Winburn, Topeka, Kans. Sewer-cleaning device	868,992	Oct. 22	2806	774	130	2243
Kinsman, Frank E., Plainfield, N. J. Means for resetting automatic controlling devices for vehicles or trains	868,993	Oct. 22	2808	774–5	130	2243
Kirk, Albert E., Rensselaer, Ind., assignor of one-half to Putnam Lumber, Coal & Planing Mill Company, Hoopeston, Ill. Roofing	868,930	Oct. 22	2716	748	130	2215
Kiser, Isaac L., and O. M. Prince, St. Charles, Mo. Safety device for indicators	869,093	Oct. 22	2963	818–19	130	2293
Kitsee, Isidor, Philadelphia, Pa. Producing sulfuric acid	869,094	Oct. 22	2965	819	130	2293
Klaczko, Max, Riga, Russia. Flat mimeograph	869,095	Oct. 22	2965	819	130	2294
Kling, Samuel J., Patoka, Ill. Ironing-board	869,184	Oct. 22	3092	852	130	2333
Klock, George W., Chillicothe, Tex. Stalk-cutter	868,871	Oct. 22	2623	725	130	2185
Knapp, Albert D., Saxonburg, Pa. Train-order holder	868,994	Oct. 22	2816	775	130	2248
Knapp, Irvin J., South Bend, Ind. Support for handles	868,669	Oct. 22	2316	642	130	2094
Knight, Harry V., Mitcheldean, England. Motion-work for clocks and the like	868,872	Oct. 22	2623	725	130	2186
Knöchl, Leo, Vienna, Austria-Hungary. Abutment pressure-regulator	868,995	Oct. 22	2817	775–6	130	2248
Koenig, Charles L., assignor of one-third to A. E. Calvert, San Antonio, Tex. Blind-stop	868,873	Oct. 22	2625	725	130	2186
Kohler, G. A. Edward. (See Graham, George M., assignor.)						
Komp, Albert, New York, N. Y. Pulp-shaping machine	868,996	Oct. 22	2820	776–7	130	2248
Krulder, Peter, Jr. (See Krulder, Peter H. J. and P., Jr.)						
Krulder, Peter H. J. and P., Jr., New York, N. Y. Lock	868,997	Oct. 22	2824	777	130	2250
Kügelgen, Franz von, and G. O. Seward, Holcombs Rock, Va. Electrolysis of fused alkaline chlorids	868,670	Oct. 22	2317	.....	130	2094
Kukovac, George, Chicago, Ill. Bicycle-brake	868,671	Oct. 22	2317	642	130	2094
Kurz, August W., Cleveland, Ohio. Receiving-head for catch-basins	868,672	Oct. 22	2318	642	130	2094
Kuazmaul, William F., Jr., Baltimore, Md. Device for filling and charging liquids under pressure	868,931	Oct. 22	2719	748	130	2216
Lait, Thomas, Medicine Hat, Alberta, Canada. Operating mechanism for binder sails or fans	868,786	Oct. 22	2499	689–90	130	2249
Lambert, John W., Anderson, Ind. Automobile transmission-gearing	868,673	Oct. 22	2320	643	130	2095
Lang, Samuel R., Indian Orchard, Mass. Card holding or exhibiting device	868,998	Oct. 22	2826	778	130	2251
Laskay, Clarence W., New York, N. Y. Electrically-operated self-leveling marine table	868,874	Oct. 22	2625	726	130	2186
Latcher, John W., Edinburg, N. Y. Car-wheel and attaching same to axles	868,875	Oct. 22	2628	727	130	2187
Latour, Marius, Sèvres, France, assignor to General Electric Company. Self-exciting alternating-current dynamo	869,185	Oct. 22	3093	852	130	2333
Latour, Marius C. A., Sèvres, France, assignor to General Electric Company. Shunt-wound self-excited alternator	869,186	Oct. 22	3096	852–3	130	2334
Latour, Marius C. A., Sèvres, France, assignor to General Electric Company. Compounded self-excited alternator	869,187	Oct. 22	3098	853	130	2334
Lawrence, Edwin F. (See Lawrence, John H., assignor.)						
Lawrence, John H., assignor of one-half to E. F. Lawrence, Sterling, Ill. Overhead trolley-track	868,932	Oct. 22	2720	748	130	2217
Lease, Lyman G., Warren, Ohio. Wall construction	868,999	Oct. 22	2827	778	130	2251
Letterl, Charles, Columbus, Ohio. Safety device for steam-boilers	869,000	Oct. 22	2827	778	130	2251
Lheure, Louis, Paris, France. Priming of explosives	868,876	Oct. 22	2629	727	130	2188
Lheure, Louis, Paris, France. Manufacture of fuses for mines	869,219	Oct. 22	3144	867	130	2349
Linden, John O., Chicago, Ill., assignor to International Harvester Company. Fertilizer-spreader	868,789	Oct. 22	2503	690–1	130	2250
Lindsey, John B., *et al.* (See Monahan, Thomas M., assignor.)						
Lindstrom, Carl O., Chicago, Ill. Electric sign	868,674	Oct. 22	2321	643	130	2095
Lion Fence Co. (See Bowerfind, Edward J., assignor.)						
Lloyd, Herbert T., and R. Brasch; said Brasch assignor, by mesne assignments, to W. L. Rouse, Denver, Colo. Slot and slug for coin-controlled apparatus	869,096	Oct. 22	2966	819	130	2294
Lockwood Lee, Des Moines, Iowa. Screening collector and separator	868,675	Oct. 22	2322	643–4	130	2096
Lodge, Alexander M. (See Lodge, Oliver J. and A. M.)						
Lodge, Oliver J., and A. M., Birmingham, England. Electric ignition of explosives	869,208	Oct. 22	3129	862	130	2345
Lohmann, Heinrich, Aix-la-Chapelle, Germany. Bevel-polishing machine	868,877	Oct. 22	2630	727	130	2188
Lohse, Wilhelm. (See Ammermann and Lohse.)						
Lombardo, August, Washington, Iowa. Banana-crate	868,790	Oct. 22	2505	691	130	2151
Lorenz, Henry W. F. (See McOuat and Lorenz.)						
Lowry, Frank E., assignor of one-half to F. H. Payne, Erie, Pa. Barrel	869,209	Oct. 22	3131	863	130	2345
Lucas, Gustave A., Levallois-Perret, France. Sanitary apparatus	869,001	Oct. 22	2828	778	130	2251
Ludwig, Oscar, *et al.* (See Herr, Clarence M., assignor.)						
Lukens, Merriken B., Atlanta, Ga. Filtering apparatus	869,188	Oct. 22	3100	853	130	2335
Lundquist, Frank A., Chicago, Ill. Telephone-exchange	868,983	Oct. 22	2710	749	130	2217
Lynch, Morris J., Ottawa, Kans. Printer's composing-stick	868,676	Oct. 22	2323	644	130	2096
Lyon, Robert W., New York, N. Y. Combined call-bell and speaking-tube	868,677	Oct. 22	2323	644	130	2096
MacGregor, Peter, Ottawa, Ontario, Canada. Fastening-button	868,791	Oct. 22	2509	691	130	2151
MacKaskie, Peter M., Goldfield, Nev. Rotary engine	868,678	Oct. 22	2330	644–6	130	2096
Magnuson, John F., Yonkers, N. Y. Cutting-tool	869,002	Oct. 22	2829	779	130	2252
Maher, George J., *et al.* (See Moriarty, William, assignor.)						
Maier, Thomas, Frankfort, Ind. Clay-cutter	869,098	Oct. 22	2968	820	130	2294
Mandl, David, New York, N. Y. Wrench	869,097	Oct. 22	2967	820	130	2294
Marshall, Charles A., Tulsa, Ind. Ter. Automatic coupling for brake-pipes	869,003	Oct. 22	2830	79–80	130	2252
Marshman, Henry A., Albany, N. Y. Calendar	868,878	Oct. 22	2631	727	130	2188
Martin, Ada O., Los Angeles, Cal. Churn	869,189	Oct. 22	3101	854	130	2335
Martin, Frederic, Columbus, Ohio. Washboard	868,679	Oct. 22	2324	646	130	2100
Martin, Freeman T., Winchester, Ky. Hemp-brake	869,004	Oct. 22	2832	780	130	2253
Martin, George T., and W. H. Dart, Smith's Falls, Ontario, Canada. Railway-car	869,210	Oct. 22	3132	863	130	2345
Martin, Joseph E., East Orange, N. J. Valve for suction-pumps	868,680	Oct. 22	2325	646	130	2100
Maska, William C. L., New York, N. Y. Umbrella-fixture	869,005	Oct. 22	2833	780	130	2253
Matter, Charles H Pittsburg, Pa. Swimming appliance	869,190	Oct. 22	3102	854	130	2336

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Matteson, Thomas, Armbrust, Pa. Steamer	869,099	Oct. 22	2970	820	130	2295
Mauzy, Robert L., Plattsmouth, Nebr. Rod-bending machine	868,792	Oct. 22	2510	692	130	2151
McCarty, Harry C., Williamsport, Pa. Car-axle box	868,881	Oct. 22	2635	728	130	2189
McGee, Thomas J., and J. Gallegher, Allegheny, Pa. Burner	869,101	Oct. 22	2972	821	130	2295
McGinn, Patrick J., New York, N. Y. Testing-fitting and clean-out	868,936	Oct. 22	2727	751	130	2218
McIntire, Hervey H., South Bend, Ind. Platen	869,192	Oct. 22	3104	854	130	2336
McIntyre, Ernest G., Butte, Mont. Reel	869,010	Oct. 22	2842	783	130	2255
McKee, Ralph H., Lake Forest, Ill. Producing potassium compounds	869,011	Oct. 22	2843	.....	130	2255
McLaughlin, Robert, Baltimore, Md. Means for obtaining power from flowing water	868,798	Oct. 22	2523	695	130	2156
McNeal, Luther C., Rochester, N. Y. Mop-wringer	868,799	Oct. 22	2524	695	130	2156
McNeil, Chester, assignor to Union Special Sewing Machine Company, Chicago, Ill. Seam for sewed articles	869,141	Oct. 22	3032	837	130	2312
McOuat, Eugene, and H. W. F. Lorenz, Amsterdam, N. Y. Filament for incandescent lamps	869,012	Oct. 22	2843	783	130	2255
McOuat, Eugene, New York, N. Y., and H. W. F. Lorenz, Springfield, Ohio. Incandescent filament and process	869,013	Oct. 22	2844	.....	130	2256
Meagher, Pierre, assignor to J. I. Case Plow Works, Racine, Wis. Shift mechanism for agricultural implements	868,934	Oct. 22	2723	750	130	2217
Merkel, William H., Columbus, Ga. Wire-forming machine	869,006	Oct. 22	2834	781	130	2253
Metzner, Max A., assignor of one-half to C. Pardee Works, Perth Amboy, N. J. Tile-gaging machine	868,793	Oct. 22	2513	692–3	130	2152
Mickelson, Christian F. (See Keil, George F., assignor.)						
Middlebrook, William D., assignor to Oakville Company, Waterbury, Conn. Wire-working machine	869,007	Oct. 22	2836	781–2	130	2254
Midgett, Franklin G. deceased, Dallas, Tex.; L. S. Midgett, administratrix. Hydrant	868,794	Oct. 22	2518	694	130	2153
Midgett, Lillie S., administratrix. (See Midgett, Franklin G.)						
Miller, Willis I., Cleveland, Ohio. Electrically-operated vibrator	868,795	Oct. 22	2519	694	130	2154
Milliken, Foster, New York, N. Y. Attachment for rolling-mills	869,008	Oct. 22	2838	782	130	2254
Mills, John H., assignor of one-half to J. B. Daugherty, Pawpaw, Ill. Wrench	869,211	Oct. 22	3132	863	130	2346
Mitchell, Willis, Malden, Mass. Self-heated soldering-iron	869,140	Oct. 22	3029	836	130	2311
Molloy, Edmond, Philadelphia, Pa. Timber-roof structure	868,879	Oct. 22	2633	728	130	2188
Molloy, William J., Chicago, Ill. Gun-lock	868,681	Oct. 22	2336	646	130	2100
Monahan, Thomas M., assignor of one-half to J. B. Lindsey and C. B. Smith, Middleport, Ohio. Feed-water heater	869,212	Oct. 22	3133	863	130	2346
Monarch Typewriter Company. (See Young, Frank A., assignor.)						
Mond, Robert, London, England. Rotary engine	869,100	Oct. 22	2971	820–1	130	2295
Moore, Silas C., and C. C. Freeman, Omaha, Nebr. Vehicle-wheel	868,682	Oct. 22	2337	647	130	2101
Morden, Lucena M., Waterbury, Conn. Loose-leaf binder	868,683	Oct. 22	2338	647	130	2101
Morgan, Gordon W., Salem, Va. Dental plate	869,191	Oct. 22	3103	854	130	2336
Morgan, Henry W., Rochester, N. Y. Machine for printing on boards	868,684	Oct. 22	2340	647–8	130	2001
Moriarty, William, Bangor, assignor to G. J. Maher, Millinocket, and G. S. Baker, Long A. township, Me. Device for hoisting and dropping dam-gates	868,796	Oct. 22	2520	694	130	2155
Morkert, Owen, Perry township, Tippecanoe county, Ind. Automatic railway-switch adjuster	869,009	Oct. 22	2839	782–3	130	2254
Morton, Marshall J. (See Ross and Morton.)						
Muir, John H. (See Aubuchon, Napoleon, assignor.)						
Mullikin, Levin H., Trappe, Md., assignor to P. & F. Corbin and Russel & Erwin Manufacturing Company, New Britain, Conn. Combined lock and latch	868,685	Oct. 22	2343	649	130	2102
Mundy, Arthur J., Boston, Mass., assignor to Submarine Signal Company, Waterville, Me. Sound transmitter and receiver	868,880	Oct. 22	2634	728	130	2189
Munsing, George D., New York, N. Y. Transmission mechanism	868,797	Oct. 22	2521	694–5	130	2155
Munsing, George D., New York, N. Y. Speed-changing mechanism	868,935	Oct. 22	2725	751	130	2218
Munson, Marion J. (See Poulter and Munson.)						
Musiol, Alfons, Tabor, Austria-Hungary. Incubator	868,686	Oct. 22	2346	649	130	2103
Myles, David, Dundee, Scotland. Golf-club	868,687	Oct. 22	2346	650	130	2103
Napay, Hosea. (See Taylor and Napay.)						
National Binding Machine Company. (See Elliott, Sterling, assignor.)						
National Loose-Leaf Hotel Register Company. (See Facer, Edward A., assignor.)						
Naylor, Arthur. (See Naylor, Thomas F. and A.)						
Naylor, Thomas F. and A., Kidderminster, England. Loom for weaving chenille	868,688	Oct. 22	2347	650	130	2103
Neer Air Cooled Engine Company. (See Neer, Harry M., assignor.)						
Neer, Harry M., Columbus, assignor to Neer Air Cooled Engine Company, Plain City, Ohio. Explosive-engine	868,689	Oct. 22	2348	651	130	2103
Neuberth, George E., Newark, N. J. Molder's ladle	868,882	Oct. 22	2636	728	130	2190
Nichols, Henry F., Adelaide, South Australia, Australia. Flexible wheel for motor and other vehicles	869,193	Oct. 22	3105	855	130	2336
Noble, Jacob W. (See Sandrock, Noble, and O'Dell.)						
Norton, Charles H., assignor to Norton Grinding Co., Worcester, Mass. Grinding-machine	869,194	Oct. 22	3106	855–6	130	2337
Norton Grinding Co. (See Norton, Charles H., assignor.)						
Nowell, Joseph C. (See Roberts, John F., assignor.)						
Nowlin, Clifford E., Battle Creek, Mich. Safety switch and signal	868,800	Oct. 22	2525	696	130	2156
O'Dell, Lee. (See Sandrock, Noble, and O'Dell.)						
O'Donnell, Edmond G., deceased, (J. J. O'Donnell, administrator,) assignor of one-half to J. J. O'Donnell, Somerville, Mass. Hub-wrench	868,883	Oct. 22	2636	729	130	2190
O'Donnell, John J., administrator. (See O'Donnell, Edmond G.)						
O'Kane, Edward T., Delaware, Ohio. Window-dressing device	868,690	Oct. 22	2350	651	130	2104
Oakville Company. (See Middlebrook, William D., assignor.)						
Obester, John A., Passaic, N. J. Electric fire-alarm	869,014	Oct. 22	2845	784	130	2256
Orton, Wilber B., Farmington, Ill. Oil-can	868,691	Oct. 22	2350	652	130	2104
Oswald, William S., Direct, Tex. Wheel-hub	868,801	Oct. 22	2528	696	130	2157
Otis Elevator Company. (See Smith, Rudolph C., assignor.)						
Otis, Ivah, Marshall, Minn. Milk-pail holder	868,692	Oct. 22	2352	652	130	2104
Ottinger, Leon, New York, N. Y. Device to prevent tampering with or theft of motor-vehicles	868,693	Oct. 22	2352	652	130	2105
P. & F. Corbin *et al.* (See Mullikin, Levin H., assignor.)						
Pacific Electric Heating Company. (See Richardson, Earl H., assignor.)						
Parks, Howard M., Fitchburg, Mass. Pipe-hanger	868,694	Oct. 22	2355	652	130	2105
Parsons, Charles S., Beverly, N. J., assignor to F. W. Whitcher, Boston, Mass. Lasting-pincers	868,695	Oct. 22	2356	653	130	2105
Patchin, William E., assignor of one-half to L. V. Slaight, Rochester, N. Y. Eaves-trough hanger	869,195	Oct. 22	3110	857	130	2338
Patent Ownership Company. (See Reed and Wilcox, assignors.)						
Patterson, James B., Philadelphia, Pa. Suspension-couch	869,142	Oct. 22	3033	837	130	2313
Paulson, Hans, Orting, Wash. Switch-stand lock	868,802	Oct. 22	2528	697	130	2158
Payne, Frank H. (See Lowry, Frank E., assignor.)						
Payne, James F., and R. I. Coleman, Kansas City, Mo. Strap-protector	869,015	Oct. 22	2846	784	130	2256
Pelkey, David W. (See Clemons and Pelkey.)						
Pellrin, Alphonse, Detroit, Mich. Beading or molding tool	868,803	Oct. 22	2530	697	130	2158
Peppler [John G., Weehawken, N. J. Post-card envelop	868,804	Oct. 22	2531	697	130	2159

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Perry, Dilworth B. (See Deputy, Elijah E., assignor.)						
Person, William, Rockford, Ill., assignor to Davis Sewing Machine Company, Dayton, Ohio. Automatic lift and drop sewing-machine cabinet. (Reissue)	12,708	Oct. 22	3161	869	130	2351
Peters, Robert D., Knox, Ind. Railway-signal	868,186	Oct. 22	3111	857	130	2326
Peterson, Emmett L., Willacoochee, Ga. Standard for cars	868,805	Oct. 22	3532	907	130	2139
Petrusich, John V., Chicago, Ill. Extension-plane	868,019	Oct. 22	2947	784–5	130	2256
Pfalzgraf, Charles F., Baltimore, Md. Sheet-metal handle	868,017	Oct. 22	2946	785	130	2256
Pfatischer, Mathias, Philadelphia, Pa., assignor to Electro Dynamic Company, New York, N. Y. Dynamo-electric machine	869,102	Oct. 22	3074	821–2	130	2296
Phillips, Ross M. G., Los Angeles, Cal. Transmission-gearing	869,149	Oct. 22	3084	837	130	2313
Pieper, Alphonse F. (See Pieper, Oscar H., and A. F.)						
Pieper, Oscar H. and A. F., Rochester, N. Y. Electric motor	869,208	Oct. 22	3533	908	130	2139
Plate, Paul, Schloss Buddenburg, near Lünen, Germany. Potato-harvester	869,103	Oct. 22	2975	822	130	2296
Plate, Paul, Schloss Buddenburg, near Lünen, Germany. Potato-harvester	869,104	Oct. 22	2976	822	130	2297
Pollock, George, and W. E. Werd, assignors of one-third to S. E. Houk, Deer Lodge, Mont. Clamp-insulator	869,018	Oct. 22	2946	785	130	2257
Poole, Arthur F., Wheeling, W. Va. Self-winding electric clock	868,695	Oct. 22	2867	653–4	130	2108
Porter, James N. (See Sublett, Samuel H., assignor.)						
Potter, Paul D., Madison, Wis. Manufacture of chrome-yellow	868,807	Oct. 22	2838	.....	130	2140
Poulter, Micajah L., and M. J. Munson, Stockport, Iowa. Tile-ditching machine	868,927	Oct. 22	2726	752–3	130	2219
Price, Edgar F., Niagara Falls, N. Y. Furnace	868,808	Oct. 22	2537	699	130	2140
Prideaux, Lewis, assignor of two-thirds to A. Fertig and C. A. Blumhard, Philadelphia, Pa. Dust-proof dust-pan and crumb-tray	869,197	Oct. 22	3113	857	130	2339
Prince, Oscar M. (See Kiser and Prince.)						
Puff, Carl, Spandau, Germany. Barrel for portable firearms and cannon with deepened grooves	868,938	Oct. 22	2732	754	130	2221
Pursell, John D., Chattanooga, Tenn. Flying-machine	869,019	Oct. 22	2950	786–7	130	2257
Putnam, James D. (See Kent, Leon U., assignor.)						
Putnam Lumber, Coal & Planing Mill Company. (See Kirk, Albert E., assignor.)						
Rash, Leonard M., Los Angeles, Cal. Blue-printing machine	868,884	Oct. 22	2698	729	130	2190
Rathbone, David H., Dexter, N. Mex. Ter. Attachment for fishing-tools	868,809	Oct. 22	2537	699	130	2161
Rauch, John D. (See Karr and Rauch.)						
Ravan, John. (See Hourigan, John J., assignor.)						
Ream, John L. (See Wright, William A., assignor.)						
Reames, George H. (See Reames, Hadley C., assignor.)						
Reames, Hadley C., assignor of one-half to G. H. Reames, Los Angeles, Cal. Pneumatic pump	868,939	Oct. 22	2733	754	130	2221
Reaser, Lewis, Reading, Pa. Stovepipe attachment	868,940	Oct. 22	2735	754	130	2222
Redfern, Charles E., Providence, R. I. Safety watch-pocket	868,941	Oct. 22	2736	754	130	2222
Redington, William H., Chicago, Ill. Vessel for adhesive material	868,885	Oct. 22	2689	729	130	2191
Redpath, Robert C., Johnson county, Kans. Baling attachment for threshing-machines	868,886	Oct. 22	2940	729–31	130	2191
Reed, Richard H., New York, N. Y., and H. Wilcox, Newark, N. J., assignors to Patent Ownership Company, New York, N. Y. Razor	868,697	Oct. 22	2881	654	130	2108
Reese, John B., Reno township, Leavenworth county, and P. C. Strahl and M. M. Adams, Lawrence, Kans. Grave marker and protector	868,810	Oct. 22	2538	699	130	2161
Reid, Alexander, *et al.* (See Short, David A., assignor.)						
Reid, William A., St. Louis, Mo. Flagstaff	868,942	Oct. 22	2736	755	130	2222
Republic Railway Appliance Company. (See De Remer, William L., assignor.)						
Rice, Charles E. (See Atherton and Rice.)						
Rich, Harrison, Grand Rapids, Mich. Window	868,696	Oct. 22	2886	655	130	2109
Rich, Walter R., New York, N. Y. Dust-pan	868,887	Oct. 22	2845	732	130	2194
Richardson, Earl H., Ontario, assignor to Pacific Electric Heating Company, Los Angeles, Cal. Suspension-bracket	868,888	Oct. 22	2849	732	130	2194
Ridgely, Charles T., assignor to Standard Trimmer Company, Springfield, Ohio. Trimmer-board	868,699	Oct. 22	2888	787	130	2257
Riehl, George H. (See Barth, Riehl, and Honegger.)						
Ries, F. W. (See Clemons and Pelkey, assignors.)						
Rishel, George R. (See Wykoff and Rishel.)						
Roberts, John F., assignor of seven-tenths to J. C. Nowell, New Bedford, Mass. Apparatus for dyeing yarn-cops	868,698	Oct. 22	2886	655	130	2109
Roberts, Odin, Dedham, Mass. Internal-Combustion engine	869,021	Oct. 22	2953	787–8	130	2258
Roberts, Warner, Taloga, Okla. Ter. Combination-square	868,700	Oct. 22	2886	655	130	2110
Robertson, Charles W., *et al.* (See Clements, James A., assignor.)						
Robinson, Hale G., Sandusky, Ohio. Steam-turbine	868,943	Oct. 22	2739	755–6	130	2223
Roe, Thomas, Merriam, Kans. Portable sectional roof	868,701	Oct. 22	2369	656	130	2110
Roessner, Rhoda M., New York, N. Y. Puzzle	868,702	Oct. 22	2370	656	130	2110
Rogers, Robert H., Schnectady, N. Y., assignor to General Electric Company. Trolley-operating valve	868,889	Oct. 22	2880	732	130	2195
Ronchetti, Joseph A., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine	868,890	Oct. 22	2882	733	130	2195
Ross, Andrew J., and M. J. Morton, Pioneer, Cal., said Morton assignor to said Ross. Pump	868,703	Oct. 22	2371	656–7	130	2111
Ross, John C., assignor to Ross Stamping Company, Elyria, Ohio. Sheet-metal shovel	869,144	Oct. 22	3096	836	130	2313
Ross, John C., assignor to Ross Stamping Company, Elyria, Ohio. Grip-handle for implements	869,213	Oct. 22	3134	864	130	2346
Ross, John C., assignor to Ross Stamping Company, Elyria, Ohio. Shovel	869,214	Oct. 22	3135	864	130	2346
Ross Stamping Company. (See Ross, John C., assignor.)	869,215	Oct. 22	3136	864	130	2349
Rothenbucher, George E. R., New York. Beer-keg washer	869,022	Oct. 22	2886	788–9	130	2258
Rothenstein, Otto, Pittsburg, Pa. Electric knife-switch	868,704	Oct. 22	2373	657	130	2111
Rouse, W. L. (See Lloyd and Brasch, assignors.)						
Rubens, Reuben, Liverpool, England. Bill-file	868 811	Oct. 22	2539	699–700	130	2161
Ruegg, Louis, Lewistown, Mont. Bit-holder	868,812	Oct. 22	2540	700	130	2162
Rüping, Max, Charlottenburg, assignor to Hülsberg & Co. Gesellschaft mit Beschrinkter Haftung, Frankfort-on-the-Main, Germany. Impregnating wood, &c. (Reissue)	12,707	Oct. 22	3132	.....	130	2352
Russell & Erwin Manufacturing Company *et al.* (See Mullikin, Levin H., assignor.)						
Russell & Erwin Manufacturing Company. (See Voight and Caley, assignors.)						
Rust, Edwin G., Elk Rapids, Mich. Water-tube boiler	868,891	Oct. 22	2888	734	130	2197
Sandford, William E., Zanesville, Ohio. Skelp-charger	868,892	Oct. 22	2887	734–5	130	2198
Sandrock, Jesse F., J. W. Noble, and L. O'Dell, Tylersburg, Pa.; said Noble assignor to said Sandrock and said O'Dell. Nut-lock	869,198	Oct. 22	3114	856	130	2339
Sargent, Charles G., Graniteville, Mass. Fiber-cleaning machine	868,944	Oct. 22	2741	757	130	2224
Schadle, Jacob E., St. Paul, Minn. Pneumatic brush	869,023	Oct. 22	2885	789	130	2259
Schäffer, Karl. (See Schmalz and Schäffer.)						
Scheibenstock, Charles, Flis, La Chaux de Fonds, Switzerland. Measuring instrument	868,813	Oct. 22	2541	700–1	130	2162
Scheid, August M., Barmen, Germany. Jacquard card-punching machine	869,216	Oct. 22	3137	865–6	130	2347
Schell, Charles F., assignor of one-half to G. Schell, Buffalo, N. Y. Hand-truck	868,705	Oct. 22	2375	658	130	2111
Schell, George. (See Schell, Charles F., assignor.)						
Schepman, Frederick W., and J. M. Teamer, assignors of one-third to J. H. Dersch, Evansville, Ind. Shears	868,706	Oct. 22	2376	658	130	2112

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Schermack, Joseph J., Detroit, Mich. Spring-wheel	868,814	Oct. 22	2543	701	130	2162
Schimansky, Otto, Sandusky, Ohio. Barrel-assembling machine	869,024	Oct. 22	2859	789	130	2259
Schmalz, Christian, and K. Schäffer, Nordhausen, Germany. Manufacture of D tool-handles	869,105	Oct. 22	2977	822	130	2297
Schmidt, Charles R., Baltimore, Md. Pipe-coupling	869,106	Oct. 22	2978	823	130	2298
Schneider, George, assignor of one-half to L. A. Ferrandini Baltimore, Md. Theatrical appliance	869,145	Oct. 22	3037	838	130	2314
Schneider, Walter C., Detroit, Mich. Carbureter	868,707	Oct 22	2378	658	130	2112
Schröder, Hans W. C. (See Dräger and Schröder.)						
Schroeder, Michael. (See Hebig, Harry C., assignor.)						
Schubert & Salzer Maschinenfabrik, Aktiengesellschaft, Firm of. (See Heinitz, Woldemar R., assignor.)						
Schurr, Wilhelm, Cannstatt, near Stuttgart, Germany. Car-coupling	868,708	Oct. 22	2378	659	130	2113
Schwamberger, Ernest. (See Thomson and Schwamberger.)						
Scott, Robert W., *et al.* (See Swinglehurst, Harry, assignor.)						
Scott, Robert W., Leeds Point, N. J., assignor of one-half to L. N. D. Williams, Ogontz, Pa. Hosiery and the manufacture of same	868,815	Oct. 22	2544	701	130	2163
Seibert, William, Erie, Kans. Rotary engine	868,893	Oct. 22	2858	735	130	2196
Severns, Otis W., Centralia, Ill. Lubricating-pad	868,816	Oct. 22	2546	702	130	2164
Sewall, John L., Randolph, Mass. Grappling-tongs	868,945	Oct. 22	2743	757	130	2224
Seward, George O. (See Kingsley and Seward.)						
Shiek, Daniel W., Chicago, Ill. Tabulating attachment for computing-machines and the like	868,709	Oct. 22	2379	659–60	130	2113
Short, David A., Cincinnati, Ohio, assignor of two-thirds to E. F. Spencer, Dayton, Ky., and A. Reid, College Hill, Ohio. Making gas	868,710	Oct. 22	2382	660	130	2114
Shover, Barton K., Youngstown, Ohio. Means for controlling the operations of blast-furnace-charging devices	868,711	Oct. 22	2383	660	130	2114
Shover, Barton K., Youngstown, Ohio. Means for controlling the operations of blast-furnace-charging devices	868,712	Oct. 22	2388	661	130	2115
Shults, William G., Knoxville, Tenn. Eyebolt bending and swaging machine	869,107	Oct. 22	2979	823	130	2298
Shuman, Arno, Connellsville, Pa., assignor to Continuous Glass Press Company. Method and machine for making wire-glass	868,713	Oct. 22	2393	661	130	2116
Simplex Manufacturing Company. (See Fancher, Charles J., assignor.)						
Skidmore John C., Grapeland, Tex. Plow-fender	868,714	Oct. 22	2395	662	130	2117
Skinner, Charles W., Troy, Ohio. Nozzle	868,715	Oct. 22	2396	662	130	2117
Slaight, Leland V. (See Patchin, William E., assignor.)						
Sleeman, William, *et al.* (See Viol, John H., assignor.)						
Small, Frank D., West Paris, Me. Collar-button	868,716	Oct. 22	2397	662	130	2117
Smith, Arthur F. (See Smith, Hinsdale and A. P.)						
Smith, Charles D., Paris, Ill. Napkin-holder	868,817	Oct. 22	2547	702	130	2164
Smith, Curtis B., *et al.* (See Monahan, Thomas M., assignor.)						
Smith, George W., Minnesota Lake, Minn. Horse-releaser	869,199	Oct. 22	3114	856	130	2340
Smith, Hinsdale and A. P., Springfield, Mass. Metal vehicle-body	869,025	Oct. 22	2860	790	130	2260
Smith, Martin V., New York, N. Y. Means for producing and distributing combustible gases	868,717	Oct. 22	2397	662–3	130	2117
Smith, Mary A., Reading, Pa. Curtain-stretcher	869,026	Oct. 22	2861	790	130	2260
Smith, Norman E., Seattle, Wash. Rotary engine	869,146	Oct. 22	3039	838–9	130	2314
Smith, Norman E., Seattle, Wash. Rotary engine	869,147	Oct. 22	3041	839–40	130	2315
Smith Premier Typewriter Company. (See Briggs, Arthur J., assignor.)						
Smith, Rudolph C., Yonkers, N. Y., assignor to Otis Elevator Company, Jersey City, N. J. Means for operating hydraulic-elevator plants	868,718	Oct. 22	2399	663	130	2118
Smith, Thomas T., Lee, Iowa. Tire-tightener	868,818	Oct. 22	2548	702	130	2164
Smulders, Henri, Schiedam, near Rotterdam, Netherlands. Torpedo-projecting apparatus for submarine and submersible vessels	868,946	Oct. 22	2744	757	130	2225
Snoddy, James A., Seattle, Wash. Pipe	868,819	Oct. 22	2550	702	130	2165
Snyder, Ignatius N., *et al.* (See Clark, Henry C., assignor.)						
Société des Automobiles Truffault. (See Truffault, Jules M. M., assignor.)						
Spencer, Eugene F., *et al.* (See Short, David A., assignor.)						
Sperry, Elmer A. (See Tucker, Samuel A., assignor.)						
Spiegel, William G., New York, N. Y. Electric railway	869,027	Oct. 22	2862	790	130	2260
St. John, Alfred A., New Bedford, Mass. Splice-bar and nut-lock	868,720	Oct. 22	2404	664	130	2119
Stagg, Thomas H., assignor to Kilbourne and Jacobs Manufacturing Company, Columbus, Ohio. Tie-ear for impregnating tanks	869,028	Oct. 22	2865	790–1	130	2261
Stagg, Thomas H., and J. B. Armack, assignors to Kilbourne and Jacobs Manufacturing Company, Columbus, Ohio. Tie-ear for impregnating-tanks	869,029	Oct. 22	2865	791	130	2261
Standard Trimmer Company. (See Ridgely, Charles T., assignor.)						
Stanfield, Jesper H., assignor of one-half to J. Hamilton, Muskegon, Mich. Operating mechanism for washing-machines	869,200	Oct. 22	3115	858–9	130	2340
Stanley, August F. P., Baltimore, Md. Buckle	869,030	Oct. 22	2866	791	130	2262
Stephens, Thomas J., Juliaetta, Idaho. Wagon-brake	868,719	Oct. 22	2403	663	130	2119
Stephenson, Charles H., Lynn, Mass. Garbage-receptacle container	868,820	Oct. 22	2551	703	130	2165
Stephenson, Charles H., Lynn, Mass. Garbage-receptacle container	868,821	Oct. 22	2553	703–4	130	2165
Stephenson, Charles H., Lynn, Mass. Garbage-receptacle container	868,894	Oct. 22	2689	735	130	2196
Stephenson, Charles H., Lynn, Mass. Sheet-metal receptacle	868,895	Oct. 22	2690	736	130	2196
Stevens, Arthur J. (See Stocking, Clark I., assignor.)						
Stimpson, Edward S., assignor to Draper Company, Hopedale, Mass. Filling-detecting mechanism for looms	868,947	Oct. 22	2745	757	130	2225
Stocking, Clark I., assignor of one-half to A. J. Stevens, Hiawatha, Kans. Lightning-arrester	869,031	Oct. 22	2867	791	130	2262
Stockmeyer, John. (See Alrich, Henry, assignor.)						
Stone, Charles H., Buffalo, N. Y. Non-refillable bottle	869,201	Oct. 22	3116	859	130	2340
Stone, Rolla T., Keystone, Wash. Sliding-door fastener	869,202	Oct. 22	3118	859	130	2341
Strahl, Philip C. (See Reese, Strahl, and Adams.)						
Stratton, Franklin, Providence, R. I. Roller-bearing	869,217	Oct. 22	3141	866	130	2348
Stratton, Franklin, assignor to Stratton Rotating Engine Company, Buffalo, N. Y. Rotating engine	869,032	Oct. 22	2868	792–3	130	2263
Stratton Rotating Engine Company. (See Stratton, Franklin, assignor.)						
Strauss, Emil A., Chicago, Ill. Key	868,948	Oct. 22	2746	758	130	2226
Strieby & Foote Co. (See Whittemore, William H., assignor.)						
Sublett, Samuel H., Hatton, assignor of one-half to J. N. Porter, Vandervoort, Ark. Truss	869,203	Oct. 22	3119	860	130	2341
Submarine Signal Company. (See Mundy, Arthur J., assignor.)						
Summers, William T., Omaha, Nebr., assignor to Gibson Soap Co. Receptacle	868,721	Oct. 22	2405	664	130	2120
Sumner Iron Works. (See Willett, Charles W., assignor.)						
Sutton, Arthur, assignor to Chicago Wood Finishing Co., Chicago, Ill. Machine for printing a reproduction of the grain of wood	869,148	Oct. 22	3047	840–1	130	2316
Sutton, James N., *et al.* (See Jordan, Henry C., assignor.)	869,108	Oct. 22	2981	823–4	130	2299
Swender, Albert W., Carroll, Iowa. Stock-weaner	868,822	Oct. 22	2555	704–5	130	2166
Swinglehurst, Harry, Philadelphia, Pa., assignor to R. W. Scott, Leeds Point, N. J., and L. N. D. Williams, Ogontz, Pa. Knitted fabric and making same						

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Tanner, Charles A. (See Tanner, Louis E., assignor.)						
Tanner, Louis E., Dolgeville, assignor of one-half to C. A. Tanner, Utica, N. Y. Reel	868,722	Oct. 22	2405	664	130	2120
Taylor, David W., Washington, D. C., assignor to General Electric Company. Control of motor-operated doors	868,723	Oct. 22	2406	665	130	2120
Taylor, William, Youngstown, Ohio, and H. Napay, Pittsburg, Pa. Emergency railway-brake	868,949	Oct. 22	2747	758	130	2226
Teamer, James M. (See Schepman and Teamer.)						
Thau, William, Klingenthal, Germany. Machine for shaping the backs and bellies of violins	868,724	Oct. 22	2409	665-6	130	2121
Thaysen, Nic, and P. T. Becker, Port Washington, Wis. Ash-sifter	869,149	Oct. 22	3049	841	130	2319
Thomsen, August, Glendale, N. Y. Calipers	868,725	Oct. 22	2411	666	130	2121
Thomson, James, and E. Schwamberger, Pittsburg, Pa. Motor	868,806	Oct. 22	2662	726	130	2199
Thurmond, Josephine B., Kansas City, Mo. Combined step-ladder and table	869,109	Oct. 22	2982	824	130	2289
Tibbetts, Cyrus R., Sacramento, Cal. Photograph-holder	868,823	Oct. 22	2658	705	130	2167
Tilley, John S., Watervliet, N. Y. Ladder	869,110	Oct. 22	2983	824	130	2289
Timmer, Nanno. (See Brons and Timmer.)	869,111	Oct. 22	2984	824	130	2289
Tippett, John F. (See Washington, Dixon E., assignor.)						
Tobey, William L., Winthrop, Mass. Machine for making rope	868,726	Oct. 22	2412	667	130	2121
Toefl, Edwin J., New Haven, Conn. Sewing-machine	869,112	Oct. 22	2985	825	130	2289
Toombs, Francis S., Sault Ste. Marie, Ontario, Canada. Railway cattle-guard	868,727	Oct. 22	2413	667	130	2122
Trommald, Gunder T., Portland, Oreg. Bottle attachment	868,824	Oct. 22	2659	706	130	2167
True, William A., Natoma, Kans. Band-cutter and feeder	869,113	Oct. 22	2987	825	130	2290
Truffault, Jules M. M., assignor to Société des Automobiles Truffault, Paris, France. Automobile vehicle	868,728	Oct. 22	2414	667-8	130	2122
Trunkhahn, Leopold. Vienna, Austria-Hungary. Bath for obtaining electrolytic metallic deposits	868,729	Oct. 22	2415		130	2122
Tubesing, William F., Cincinnati, Ohio. Machine for making concrete blocks	868,730	Oct. 22	2416	668	130	2122
Tucker, Samuel A., assignor to E. A. Sperry, New York, N. Y. Massive boron carbid and making same	869,114	Oct. 22	2988	826	130	2290
Turner Tanning Machinery Company. (See Chain, Elmer E., assignor.)						
Umstead, Walter, Jerseytown, Pa. Clearing-wing for ditching-machines	869,115	Oct. 22	2991	826	130	2291
Underwood Typewriter Company. (See Ronchetti, Joseph A., assignor.)						
Union Special Sewing Machine Company. (See McNeil, Chester, assignor.)						
Van Luven, Thomas F., Collins Bay, Ontario, assignor of one-half to A. W. Benjamin, Yarker, Canada. Running-gear for vehicles	868,731	Oct. 22	2418	669	130	2123
Van Vechten, Mabel M., New York, N. Y. Sideseaddle	868,825	Oct. 22	2660	706	130	2168
Vapor Gas Engine Manufacturing Company. (See Bassford, William K., assignor.)						
Vasey, John D., Buffalo, N. Y. Amusement device	868,980	Oct. 22	2749	758-9	130	2226
Vincent, Amédée F., Noisy-le-Sec, France. Press for vulcanizing pneumatic tires	868,732	Oct. 22	2420	669	130	2124
Viol, John H., assignor of one-third to W. E. Werd, Deer Lodge, and one-fourth to W. Dyer and W. Sleeman, Butte, Mont. Water-trap for cornets, &c.						
Voight, Henry G., and C. J. Caley, assignors to Russell & Erwin Manufacturing Company, New Britain, Conn. Lock	869,033	Oct. 22	2872	794	130	2264
Wade, Charles E., North Wales, assignor to Keasbey & Mattison Company, Ambler, Pa. Manufacture of artificial lumber	868,897	Oct. 22	2663	726	130	2199
Wade, Charles E., Gwynedd, assignor to Keasbey & Mattison Company, Ambler, Pa. Manufacture of artificial lumber	868,898 to 901	Oct. 22	2992	827	130	2301
Waldorf, Eugene C., assignor to E. D. Howard, Buffalo, N. Y. Car-replacer	869,267	Oct. 22	2993	827	130	2302
Wales, Theodore F., Bridgeport, Conn. Hand printing-press	869,034	Oct. 22	2874	794	130	2264
Walker, George F., Arroyo, Pa. Compound tool	868,826	Oct. 22	2662	706-7	130	2168
Wallenthin, Nils C., Attleboro, Mass. Joint for bracelets	868,728	Oct. 22	2421	669	130	2124
Wamhoff, George, Jr., assignor to M. B. S. Wamhoff, Pittsburg, Pa. Ventilator for window and door lights	868,729	Oct. 22	2422	670	130	2124
Wamhoff, May B. S. (See Wamhoff, George, Jr., assignor.)						
Ward, John D., Tulsa, Ind. Ter. Drafting-compasses	869,116	Oct. 22	2994	827	130	2302
Warren, Harry H., assignor of one-half to W. P. Warren, Sheridan, Ill. Grain-tally	868,735	Oct. 22	2423	670	130	2125
Warren, William P. (See Warren, Harry H., assignor.)	869,150	Oct. 22	3050	841-2	130	2320
Warwick Knife Company. (See Cryer, James, assignor.)						
Washington, Dixon E., assignor of one-half to John F. Tippett, Chicago, Ill. Submarine amusement device	868,736	Oct. 22	2424	670	130	2125
Watt, Frank J., Detroit, Mich., assignor of one-half to R. E. Hardy, New York, N. Y. Spark-plug	868,737	Oct. 22	2425	671	130	2126
Webb, James A., Iola, Tex. Spike-puller	868,827	Oct. 22	2664	707	130	2168
Webb, Robert D., Minden, La. Automatic weighing-machine	869,304	Oct. 22	3119	860	130	2341
Webb, Samuel J., Minden, La. Means for changing the shapes of and compressing bales	868,738	Oct. 22	2427	671-2	130	2126
Webber, William, Chicago, Ill., assignor to International Harvester Company. Grain-lifting device for harvesters						
Weber, Joseph, Brooklyn, N. Y. Electrical piano-playing attachment	868,739	Oct. 22	2680	672	130	2127
Webster, Harry G., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Telephone system	868,740	Oct. 22	2681	673	130	2128
Wendt, John H., Chicago Ill. Bottle-labeling machine	869,119	Oct. 22	2995	827	130	2302
Werckle, William A., Peoria, Ill. Corn-separator	868,741	Oct. 22	2432	672-4	130	2128
Werd, William E. (See Pollock and Werd.)	868,886	Oct. 22	2694	737	130	2200
Werd, William E., *et al.* (See Viol, John H., assignor.)						
Wesner, John O., Cameron, S. C. Bed-bottom						
West, Sanford E., Pawtucket, R. I. Garment-supporter	868,951	Oct. 22	2780	750	130	2227
Westerman, Thomas J., Olalla, Wash. Turbine	868,890	Oct. 22	2695	737	130	2200
Westinghouse Electric & Manufacturing Company. (See Crouse, John L., assignor.)	869,120	Oct. 22	2996	828	130	2303
Westinghouse Electric & Manufacturing Company. (See Jackson, Ray P., assignor.)						
Westinghouse Machine Company. (See Ehrhart, Raymond N., assignor.)						
Whitcher, Frank W. (See Parsons, Charles S., assignor.)						
White, Harry Z., Buffalo, N. Y., assignor of one-half to S. B. White, Providence, R. I. Valve-remover						
White, Samuel B. (See White, Harry Z., assignor.)	868,952	Oct. 22	2781	750	130	2227
White, Thomas B., Warsaw, Mo. Post-protector						
Whittemore, William H., East Orange, N. J., assignor to Strieby & Foote Co. Wrench	868,953	Oct. 22	2782	750	130	2227
Wicking, Frank E., Pueblo, Col. Tie-holder	868,954	Oct. 22	2784	760	130	2228
Widmer, Harry A., London, England. Interchangeable umbrella-handle	868,742	Oct. 22	2435	674	130	2128
Wilcox, Henry. (See Reed and Wilcox.)	868,900	Oct. 22	2696	737	130	2200
Wilhelmy, Wilhelm H., Nebraska City, Nebr. Hydrocarbon-burner						
Willett, Charles W., Tacoma, assignor of one-half to Sumner Iron Works, Everett, Wash. Gang lath-bolter	868,955	Oct. 22	2785	760	130	2228
Williams, Edward T., New York, N. Y. Carpet-cleaner						
Williams, Louis N. D. (See Scott, Robert W., assignor.)	868,956	Oct. 22	2786	760	130	2228
Williams, Louis N. D., *et al.* (See Swinglehurst, Harry, assignor.)	868,901	Oct. 22	2698	737	130	2201
Willis, Grover C., assignor of one-half to E. Hutson, Vliets, Kans. Mail-carrier						
Willits, Ralph, Indianapolis, Ind. Railway-rail	869,121	Oct. 22	3000	839	130	2304
Wilson, Alfred E., Victoria, British Columbia, Canada. Non-refillable box	868,743	Oct. 22	2436	674	130	2125
	868,744	Oct. 22	2438	674	130	2130

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Winburn, Charles. (See King and Winburn.)						
Wipe-Joint Machine Company. (See Corcoran, Richard M., assignor.) (Reissue.)	869,122	Oct. 22	3004	830	130	2305
Witte, Hubert, St. Louis, Mo. Car-seat	869,035	Oct. 22	2874	794	130	2264
Wolford, William C., Confluence, Pa. Dental instrument	869,036	Oct. 22	2875	794	130	2265
Wood, James E., Pittsburg, Pa. Adjustable form for curved surfaces	868,957	Oct. 22	2757	761	130	2229
Woods, Charles W., Elizabeth, N. J. Molding-machine	868,745	Oct. 22	2438	675	130	2130
Woods, Harry, Steubenville, Ohio. Valve mechanism	869,037	Oct. 22	2877	795	130	2265
Woodward, Oscar, New York, assignor to Wyckoff, Seamans & Benedict, Ilion, N. Y. Type-writing machine	869,038	Oct. 22	2879	795	130	2266
Wright, William A., Greeley, Nebr., assignor of one-half to J. L. Ream, Axtell, Kans., Mechanical Movement	869,123	Oct. 22	3006		130	2305
Wyckoff, Seamans & Benedict. (See Woodward, Oscar, assignor.)	868,746	Oct. 22	2440	675	130	2130
Wykoff, Elmo H., and O. R. Riebel, Alexandria, Pa. Paint	869,039	Oct. 22	2880	796	130	2266
York, Don H., New York, N. Y. Bookbinder	868,828	Oct. 22	2565	707	130	2169
Young, Frank A., assignor to Monarch Typewriter Company, Syracuse, N. Y. Type-writing machine	868,958	Oct. 22	2760	761	130	2229
Young, James E., Chicago, Ill. Water-filter	869,151	Oct. 22	3051	842	130	2320
Ziemsen, Friedrich C., Kluse, near Wismar, Germany. Device for cutting away reeds and water-plants growing in ponds and rivers						
Zion City Manufacturing Co. (See Hull, John W., Sr., assignor.)						
Zube, Robert, Shell Lake, Wis. Fire-escape						

DESIGNS.

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Cheney Brothers. (See Crownfield, Sophia L., assignor.)				
Cheney Brothers. (See Sauer, Oscar C., assignor.)				
Crownfield, Sophia L., New York, N. Y., assignor to Cheney Brothers, South Manchester, Conn. Textile fabric	38,864	Oct. 22	130	2353
Crownfield, Sophia L., New York, N. Y., assignor to Cheney Brothers, South Manchester, Conn. Textile fabric	38,865	Oct. 22	130	2353
Crownfield, Sophia L., New York, N. Y., assignor to Cheney Brothers, South Manchester, Conn. Textile fabric	38,866	Oct. 22	130	2353
Eagle Glass & Manufacturing Company. (See Paull, James assignor.)	38,862	Oct. 22	130	2352
Homan, Joseph T., Cincinnati, Ohio. Metal border for plate	38,861	Oct. 22	130	2352
Meakin, Alfred J., Tunstall, England. Plate or similar article	38,863	Oct. 22	130	2352
Paull, James, assignor to Eagle Glass & Manufacturing Company, Wellsburg, W. Va. Spinning-top				
Sauer, Oscar C., New York, N. Y., assignor to Cheney Brothers, South Manchester, Conn. Textile fabric	38,867	Oct. 22	130	2353

TRADE-MARKS.

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A. and F. Pears Limd., London, England. Perfumed soap	65,748	Oct. 22	130	2366
Abner Doble Company, San Francisco, Cal. Certain hand-tools	65,712	Oct. 22	130	2345
Abner Doble Company, San Francisco, Cal. Certain hand-tools	65,713	Oct. 22	130	2345
Abner Doble Company, San Francisco, Cal. Certain hand-tools	65,714	Oct. 22	130	2345
Allen & Wheeler Company, Troy, Ohio. Wheat-flour	65,818	Oct. 22	130	2367
Allen & Wheeler Company, Troy, Ohio. Wheat-flour	65,819	Oct. 22	130	2367
Allen & Wheeler Company, Troy, Ohio. Wheat-flour	65,749	Oct. 22	130	2366
American Tobacco Company, New York, N. Y. Smoking-tobacco	65,780	Oct. 22	130	2366
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	65,781	Oct. 22	130	2367
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	65,782	Oct. 22	130	2367
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	65,783	Oct. 22	130	2367
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	65,784	Oct. 22	130	2367
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	65,785	Oct. 22	130	2367
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	65,786	Oct. 22	130	2367
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	65,787	Oct. 22	130	2367
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	65,788	Oct. 22	130	2367
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	65,789	Oct. 22	130	2367
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	65,790	Oct. 22	130	2367
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	65,791	Oct. 22	130	2367
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	65,792	Oct. 22	130	2367
American Writing Paper Company, Holyoke, Mass. Writing and printing paper	65,715	Oct. 22	130	2366
B. Lawrence Stationery Company, New York, N. Y. Punches having a cutting edge	65,782	Oct. 22	130	2366
Baldwin Refrigerator Co., Burlington, Vt. Refrigerators	65,763	Oct. 22	130	2366
Baldwin Refrigerator Co., Burlington, Vt. Refrigerators and ice-boxes	65,764	Oct. 22	130	2366
Baldwin Refrigerator Co., Burlington, Vt. Refrigerators	65,765	Oct. 22	130	2366
Baldwin Refrigerator Co., Burlington, Vt. Refrigerators and ice-boxes	65,716	Oct. 22	130	2366
Baldwin Refrigerator Co., Burlington, Vt. Hand-tools having cutting edges	65,731	Oct. 22	130	2366
Bering-Cortes Hardware Co., Houston, Tex. Hand-tools having cutting edges	65,820	Oct. 22	130	2368
Berman, Clara, Philadelphia, Pa. Corn-salve	65,732	Oct. 22	130	2366
Block Light Company, New York, N. Y. Incandescent gas-burners	65,768	Oct. 22	130	2367
Bloomingdale Bros., New York, N. Y. Certain medicinal preparations	65,799	Oct. 22	130	2367
Burt Olney Canning Co., Oneida and Albion, N. Y. Canned fruits and vegetables	65,800	Oct. 22	130	2367
Burt Olney Canning Co., Oneida and Albion, N. Y. Canned fruits and vegetables	65,750	Oct. 22	130	2366
C. Callahan Co., La Fayette, Ind. Oysters and canned fish	65,733	Oct. 22	130	2366
Calculus Company, Cleveland, Ohio. Computing-machines	65,801	Oct. 22	130	2367
Carbeek, John T., Baltimore, Md. Liquid veterinary blood-purifier	65,751	Oct. 22	130	2366
Carroll, Brough & Robinson, Oklahoma, Okla. Ter. Certain foods	65,821	Oct. 22	130	2368
Catesby & Sons, London, England. Linoleum				
Charles Hewitt & Sons Co., Des Moines, Iowa. Tea and coffee				

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Closset & Devers, Portland, Oreg. Coffee and tea	65,723	Oct. 22	130	2365
Colonial Paint Company, Cleveland, Ohio. Varnish-stains	65,726	Oct. 22	130	2365
Continental Rubber Company, Jersey City, N. J., and New York, N. Y. Rubber and rubber gums	65,706	Oct. 22	130	2367
Continental Rubber Company, Jersey City, N. J., and New York, N. Y. Rubber and rubber gums	65,707	Oct. 22	130	2365
Continental Rubber Company, Jersey City, N. J., and New York, N. Y. Rubber and rubber gums	65,708	Oct. 22	130	2365
Continental Rubber Company, Jersey City, N. J., and New York, N. Y. Rubber and rubber gums	65,709	Oct. 22	130	2365
Cookson & Company, Limited, Newcastle-upon-Tyne, England. Hard lead	65,717	Oct. 22	130	2365
Cookson & Company, Limited, Newcastle-upon-Tyne, England. Antimony, pig-lead, and sheet-lead	65,718	Oct. 22	130	2365
Cookson & Company, Limited, Newcastle-upon-Tyne, England. Antimony in ingots	65,719	Oct. 22	130	2365
Creamer & Co., Wm., Baltimore, Md. Certain cleaning compound	65,720	Oct. 22	130	2365
Davis Chemical Company, Denver, Colo. Preparation for cleaning the teeth	65,724	Oct. 22	130	2365
Davis Chemical Company, Denver, Colo. Remedy for catarrh	65,725	Oct. 22	130	2365
Dawson, J. W., Ward, W. Va. Coal	65,849	Oct. 22	130	2365
Dodez, Edward W., Fort Wayne, Ind. Dental cements	65,763	Oct. 22	130	2365
Draper Company, Hopedale, Mass. Spinning-rings for textile machinery	65,823	Oct. 22	130	2365
Elbel Company, Canton, Ohio. Certain metal manufactures	65,720	Oct. 22	130	2365
Farbwerke, vorm. Meister Lucius & Brüning, Höchst-on-the-Main, Germany. Medicine for fever	65,721	Oct. 22	130	2365
Fouts & Hunter Carriage Manufacturing Co., Terre Haute, Ind. Carriages	65,824	Oct. 22	130	2365
Frank L. Sanford Tea & Coffee Company, Denver, Colo. Coffee	65,825	Oct. 22	130	2365
Gaunt, J. & L. F., Armley, England. Post-cards	65,754	Oct. 22	130	2365
George Bieler Sons Company, Cincinnati, Ohio. Whisky	65,722	Oct. 22	130	2365
George Nye Company, Springfield, Mass. Butter	65,822	Oct. 22	130	2367
George Worthington Company, Cleveland, Ohio. Certain cutlery and edge-tools	65,723	Oct. 22	130	2365
Gillinder & Sons, Inc., Philadelphia, Pa. Certain glass articles	65,794	Oct. 22	130	2367
Gilmore, Richard N., Beard, Ky. Ointment	65,726	Oct. 22	130	2365
Ginter Grocery Co., Boston, Mass. Tea and coffee	65,826	Oct. 22	130	2366
Glidden Varnish Co., Cleveland, Ohio. Varnishes	65,770	Oct. 22	130	2366
Gordon & Ferguson, St. Paul, Minn. Leather gloves	65,827	Oct. 22	130	2366
Gustav A. Moebs & Co., Detroit, Mich. Cigars	65,755	Oct. 22	130	2366
Hahn & Amberg, New York, N. Y. Hand-bags	65,771	Oct. 22	130	2366
Hampden Watch Co., Canton, Ohio. Watch-movements	65,756	Oct. 22	130	2366
Hartwig, Dr. Theo., Grafton, Wis. Stomach-bitters	65,737	Oct. 22	130	2365
Hersey Manufacturing Company, Portland, Me. Sugar-granulators, cube-machines, driers, pumps, and presses	65,724	Oct. 22	130	2365
Hogshead, Harry, Staunton, Va. Ointments	65,725	Oct. 22	130	2365
Home Laboratories, Mankato, Minn. Certain chemical compound	65,739	Oct. 22	130	2365
I. Trager Co., Cincinnati, Ohio. Whisky	65,806	Oct. 22	130	2367
Indiana Furniture Co., Connersville, Ind. Sideboards, buffets, sewing-tables, beds, dressers, and washstands	65,772	Oct. 22	130	2366
International Shoe Company, Boston, Mass. Leather boots and shoes	65,740	Oct. 22	130	2365
International Union of Steam Engineers, Peoria, Ill.; Boston, Mass., and New York, N.Y. Monthly magazines	65,795	Oct. 22	130	2367
J. G. McDonald Candy Company, Salt Lake City, Utah. Chocolate-coated candy	65,804	Oct. 22	130	2367
Jacob Dold Packing Co., Buffalo, N. Y. Bacon, ham, sausage, and lard	65,805	Oct. 22	130	2367
Jones Dry Goods Co., Kansas City, Mo. Wheat-flour	65,828	Oct. 22	130	2368
Jones Dry Goods Co., Kansas City, Mo. Coffee	65,829	Oct. 22	130	2368
Kelly & Co., J. W., Chattanooga, Tenn. Whisky	65,807	Oct. 22	130	2367
Kelly & Co., J. W., Chattanooga, Tenn. Whisky	65,808	Oct. 22	130	2367
Lenkard & Co., Earle A., Wheeling, W. Va. Stogies	65,757	Oct. 22	130	2366
Levering Coffee Co., Baltimore, Md. Coffee	65,830	Oct. 22	130	2368
Ludwig, Ernest C., Allegheny, Pa. Flower-seeds	65,773	Oct. 22	130	2366
M. Lindsay Rubber Manufacturing Co., Washington, D. C. Rubber footwear	65,808	Oct. 22	130	2367
Machen & Company. (See T. B. Hall & Company, assignor.)	65,831	Oct. 22	130	2368
Machine Sales Company, New York, N. Y. Printing-presses and parts thereof	65,832	Oct. 22	130	2368
Mayer and Sons, Max, New York, N. Y. Certain clothing	65,833	Oct. 22	130	2368
McDonald & Co., R. L., St. Joseph, Mo. Working shirts, jackets, overalls, trousers, and coats	65,834	Oct. 22	130	2368
McIlvaine & Baldwin, New York, N. Y. Whisky	65,726	Oct. 22	130	2365
Meyrowitz Manufacturing Company, New York, N. Y. Automobile-goggles	65,788	Oct. 22	130	2366
Morgan Crucible Company (Limited), London, England. Certain electrical supplies	65,728	Oct. 22	130	2365
Number One Distillery Co., Cincinnati, Ohio. Whisky	65,809	Oct. 22	130	2367
Orchard & Wilhelm Carpet Co., Omaha, Nebr. Furniture-polish	65,727	Oct. 22	130	2365
P. Lorillard Company, Jersey City, N. J. Chewing and smoking tobacco	65,789	Oct. 22	130	2366
Perry & Company Limited, Birmingham, England. Steel pens	65,834	Oct. 22	130	2368
Poix, Gabrielle M., New York, N. Y. Bust-supporters	65,835	Oct. 22	130	2368
Red Cross Powder Co., Providence, R. I. Antiseptic powder	65,741	Oct. 22	130	2365
Regal Shoe Company, Boston, Mass. Leather boots and shoes	65,796	Oct. 22	130	2367
Rexinger, Gustave, Cincinnati, Ohio. Gin	65,810	Oct. 22	130	2367
Robinson Bros. & Company Incorporated, Portland, Me., and Malden, Mass. Soap	65,760	Oct. 22	130	2366
Rockwood & Co., Geo., Bennington, Vt. Knitted underwear	65,742	Oct. 22	130	2365
Royal Manufacturing Co., Lancaster, Pa. Grindstones	65,774	Oct. 22	130	2366
Schmitz & Co., C., New York, N. Y. Canned salmon	65,811	Oct. 22	130	2367
Schuster Co., Cleveland, Ohio. Kümmel	65,812	Oct. 22	130	2367
Sellers-Lott Coffee Company, Quincy, Ill. Coffee and tea	65,836	Oct. 22	130	2368
Seiz, Schwab & Company, Chicago, Ill. Rubber boots and shoes	64,813	Oct. 22	130	2367
Seiz, Schwab & Company, Chicago, Ill. Rubber boots and shoes	64,814	Oct. 22	130	2367
Seiz, Schwab & Company, Chicago, Ill. Rubber boots and shoes	65,815	Oct. 22	130	2367
Smith, James M., Abbott, Ark. Remedy for chills	65,743	Oct. 22	130	2366
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y., and Charlotte, N. C. Cotton-batting	65,797	Oct. 22	130	2367
Spiegel & Prehs, New York, N. Y. Ladies' and girls' shirt-waists	65,837	Oct. 22	130	2368
St. Paul Rubber Co., St. Paul, Minn. Rubber boots, overshoes, and rubbers	65,816	Oct. 22	130	2367
Storrjohann, Ulia, St. Louis, Mo. Insect-poison	65,744	Oct. 22	130	2366
T. B. Hall & Company, Limited, assignor to Machen & Company, Limited, of Liverpool, England. Beer and porter	65,838	Oct. 22	130	2368
Theobald and Son Co., Columbus, Ohio. Whisky	65,738	Oct. 22	130	2365
Tropical Oil Company, Cleveland, Ohio. Mixed paints	65,840	Oct. 22	130	2368
35% Automobile Supply Co., New York, N. Y. Automobile-lamps	65,839	Oct. 22	130	2368
United States Sanitary Manufacturing Company, Pittsburg, Pa. Metal bath-tubs with porcelain linings	65,729	Oct. 22	130	2365
Upham Bros. Co., Stoughton, Mass. Leather boots, shoes, and slippers	65,775	Oct. 22	130	2366
Vereinigte Chemische Werke Aktiengesellschaft, Charlottenburg near Berlin, Germany. Soap manufactured from wool-grease	65,761	Oct. 22	130	2366

TRADE-MARKS—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Vereinigte Chemische Werke Aktiengesellschaft, Charlottenburg, near Berlin, Germany. Certain wool-fat preparations	65,841	Oct. 22	130	2368
Vereinigte Chemische Werke Aktiengesellschaft, Charlottenburg, near Berlin, Germany. Certain wool-fat preparations	65,842	Oct. 22	130	2368
Virginia-Carolina Chemical Company, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Fertilizers	65,776	Oct. 22	130	2366
Voigt & Co., Chattanooga, Tenn. Antiseptic compound	65,745	Oct. 22	130	2365
W. D. Allen Manufacturing Company, Chicago, Ill. Brass candlesticks and valves	65,843	Oct. 22	130	2368
W. F. McLaughlin & Company, Chicago, Ill. Coffee	65,844	Oct. 22	130	2368
W. T. McLaughlin & Company, Chicago, Ill. Coffee	65,845	Oct. 22	130	2368
W. H. Noyes & Bro. Co., Newburyport, Mass. Combs	65,846	Oct. 22	130	2368
Walter A. Johnson & Co., New York, N. Y. Magazines	65,777	Oct. 22	130	2366
Walter L. Smith Drug Co., Chanute, Kans. Medicinal compound for topical application	65,746	Oct. 22	130	2366
Waples-Platter Grocer Company, Denison, Fort Worth, and Dallas, Tex. Macaroni, spaghetti, and wheat-flour	65,847	Oct. 22	130	2368
Warren-Ehret Company, Philadelphia, Pa. Tarred felt for roofing, sheathing, and waterproofing buildings	65,778	Oct. 22	130	2366
White Lily Manufacturing Company, Davenport, Iowa. Washing-machines	65,730	Oct. 22	130	2365
Wilkinson, Gaddis & Co., Newark, N. J. Wheat and rye flour	65,848	Oct. 22	130	2368
Woods, George M., Little Rock, Ark. Certain chemical compound	65,747	Oct. 22	130	2366
Woolner Distilling Company, Peoria, Ill. Whisky	65,817	Oct. 22	130	2367
Zip Cloth Manufacturing Company, Boston, Mass. Cloth for cleansing and polishing	65,779	Oct. 22	130	2366

LABELS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Bunte Brothers, Chicago, Ill. "Loading Cocoa Beans." (For Cocoa Beans)	13,838	Oct. 22	130	2369
Bunte Brothers, Chicago, Ill. "Cocoa Beans." (For Cocoa Beans)	13,839	Oct. 22	130	2369
Bunte Brothers, Chicago, Ill. "Chocolate." (For Chocolate Goods)	13,840	Oct. 22	130	2369
Hoops Tea Company, Chicago, Ill. "Spring Leaf Tea." (For Tea)	13,836	Oct. 22	130	2369
Lutz, Gustav A., Los Angeles, Cal. "Elk Brand," (for Shoes)	13,841	Oct. 22	130	2369
Royal Pure Food Co., (Inc.,) New York, N. Y., and Passaic, N. J. "Royal Jelly Powder." (For Jelly-Powder)	13,837	Oct. 22	130	2369

PRINTS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Lytton, H. C., Chicago, Ill. "Men's and Boys' Apparel." (For Men's and Boys' Apparel)	2,140	Oct. 22	130	2369
United States Playing Card Company, Norwood, Ohio. "Cyclist Back, Bicycle Playing Cards." (For Playing-Cards)	2,139	Oct. 22	130	2369

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Acme White Lead & Color Works, Detroit, Mich. Colors, enamels, finishes, white lead, &c	20,559	Oct. 22	130	2362
American Trading Company (Pacific Coast), San Francisco, Cal. Wheat-flour	28,879	Oct. 22	130	2359
Arabol M'f'g Co., New York, N. Y. Glues	29,949	Oct. 22	130	2364
Armiger Chemical Co., Chicago, Ill. Abrasive metal-polishes	29,684	Oct. 22	130	2363
Ashepoo Fertilizer Company, Charleston, S. C. Fertilizers	29,323	Oct. 22	130	2361
Aydelott, Anna C., McKenzie, Tenn. Hair-tonics, face, perspiration, talcum, and bath powder	27,035	Oct. 22	130	2357
Azie Manufacturing Company, North Adams, Mich. Scouring-powder	29,182	Oct. 22	130	2360
Bartel, Louis W., St. Louis, Mo. Cold, massage, and toilet cream	29,877	Oct. 22	130	2364
Bell & Sons, Samuel, Philadelphia, Pa. Wheat-flour	19,144	Oct. 22	130	2356
Berg Medicine Company, Des Moines, Iowa. Remedies and tonics	26,056	Oct. 22	130	2357
Brown, William W., Groesbeck, Tex. Antiseptic compounds	29,610	Oct. 22	130	2362
Daprato Statuary Company, Chicago, Ill. Statuary	28,853	Oct. 22	130	2359
Deitsch Brothers, New York, N. Y. Tooth-brushes	19,647	Oct. 22	130	2356
Dresner, I., San Francisco, Cal. Coats, vests, trousers, and overcoats	29,146	Oct. 22	130	2360
E. B. Colby & Co., Jersey City, N. J. Furnaces, stoves, and ranges	6,861	Oct. 22	130	2365
Elmira Knitting Mills, Elmira Heights, N. Y. Knitted and netted underclothing	29,461	Oct. 22	130	2361

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Fabrique d'horlogerie, Beau-Site Vve Ferdinand Bourquin, St. Imier, Switzerland. Watches	12,121	Oct. 22	130	2356
Fischer Chemical Importing Co., New York, N. Y. Calcium-silver and quinin salts	11,117	Oct. 22	130	2355
Friedmann & Distillator, New York, N. Y. Chiffons, mallines, ribbons, and velvets	11,120	Oct. 22	130	2355
Frye & Co., Jed, New York, N. Y. Canned fish	28,912	Oct. 22	130	2360
Frye & Co., Jed, New York, N. Y. Canned sardines	28,526-7	Oct. 22	130	2362
Garratt, Edward C., Seattle, Wash. Packing	29,528	Oct. 22	130	2362
Geo. Benz & Sons, St. Paul, Minn. Whisky	29,086	Oct. 22	130	2360
George La Monte & Son, New York, N. Y. Safety-paper, used for checks, &c	25,338	Oct. 22	130	2357
Gilbert, George W., Chestnut Hill, Mass. Mordant for dyeing purposes	17,243	Oct. 22	130	2356
Graft, John C., Newark, N. J. Antiseptic and germicide preparation for dental use	29,709	Oct. 22	130	2363
Hall-Heffernan Brush Co., North Adams, Mass. Vulcanized fiber for the manufacture of combs	28,211	Oct 22	130	2360
Hampden Mfg. Co., Baltimore, Md. Remedy for eczema, scrofula, dyspepsia, &c	29,496	Oct. 22	130	2363
Harmsworth, St. John, London, England. Mineral waters	29,701	Oct. 22	130	2361
Hawes Chemical Company, Louisville, Ky. Aromatic medicinal elixir	28,988	Oct. 22	130	2360
Herrmann & Co., Morris, New York, N. Y. Paris-green	29,585	Oct. 22	130	2362
Hess Bros. Inc., New York, N. Y. Candy and chocolates	29,457	Oct. 22	130	2362
Holbrook Grocery Co., Keene, Woodsville, and Nashua, N. H. Canned fruits, vegetables, and berries	29,813	Oct. 22	130	2362
Holbrook Grocery Co., Keene, Woodsville, and Nashua, N. H. Canned shrimp, salmon, clams, and clam-chowder	27,846	Oct. 22	130	2364
Hollander Bros. Drug Co., Braddock, Pa. Remedy for dyspepsia	27,847	Oct. 22	130	2360
Hons, Alfred, Berwick, Pa. Toilet and laundry soap	29,274	Oct. 22	130	2361
Hood Rubber Co., Boston, Mass. Rubber footwear and tires	29,293	Oct. 22	130	2361
I. L. Lamm Co., Superior, Wis. Whisky	29,537	Oct. 22	130	2362
International Patent Corporation, Pierre, S. D., and Jersey City, N. J. Power-transmitting apparatus, clutches, &c	28,933	Oct. 22	130	2360
Isaacs, Isaac, Kansas City, Mo. Coats, vests, and trousers	23,557	Oct. 22	130	2357
Jacobus & Carlisle Co., New York, N. Y. Absorbent gauze in the piece	28,589	Oct. 22	130	2359
John Murphy Company, Baltimore, Md. Printed books	21,519	Oct. 22	130	2364
Joyce, Thomas J., New York, N. Y. Hair-grower and dandruff-eradicator	22,404	Oct. 22	130	2364
Kane Chemical Company, Cleveland, Ohio. Liniment and medicines for catarrh, hay-fever, and deafness	29,690	Oct. 22	130	2363
Lang, Henry J., deceased; Sue E. Lang, executrix, assignor to H. J. Lang Shoe Company, Pittsburg, Pa. Leather boots and shoes	29,457	Oct. 22	130	2361
Lang Shoe Company, H. J. (See Lang, Henry J., assignor.)	27,899-900	Oct. 22	130	2356
Lang, Sue E., executrix. (See Lang, Henry J.)				
Law, Hartland, Herbert E. Law. San Francisco, Cal. Tonic				
Lawton, Jenkins M., New York, N. Y. Hair, flesh, and tooth brushes	28,635	Oct. 22	130	2357
Leggett & Brother, New York, N. Y. Insecticides	29,085	Oct. 22	130	2360
Lepper, H. Hatten, Chicago, Ill. Toilet cream, skin-food, face-powder, &c	29,497	Oct. 22	130	2362
Lerch & Co., P. W., South Canaan, Pa. Salve	29,020	Oct. 22	130	2360
Lingner, Karl A., Dresden, Germany. Dentifrice	14,471	Oct. 22	130	2356
Lockland Lumber Co., Lockland, Ohio. Refrigerators	13,211	Oct. 22	130	2356
Louis Kindling Co., Milwaukee, Wis. Cigars	29,934	Oct. 22	130	2364
Lully & Currier, Lynn, Mass. Leather boots and shoes	28,914	Oct. 22	130	2364
M. Halff & Bro., San Antonio, Tex. Vests, drawers, undershirts, and sweaters	29,378	Oct. 22	130	2361
Mazawattee Tea Company Limited, London, England. Cocoa and chocolate	29,727	Oct. 22	130	2363
Mona Manufacturing Company, Boston, Mass. Stockings, underwear, and waists	27,768	Oct. 22	130	2358
Montana Gesellschaft mit beschränkter Haftung, Strehla, Germany. Preserving and disinfecting agents	29,738	Oct. 22	130	2363
Moore Paint Co., Cleveland, Ohio. Varnishes, fillers, and colors	29,138	Oct. 22	130	2360
Mount Vernon Belting Co., Baltimore, Md. Stitched canvas machine-belting	28,472	Oct. 22	130	2359
Offene Handelsgesellschaft Schröder, Schmidt & Co., Bremen, Germany. Hides, skins, and furs	29,506	Oct. 22	130	2362
Patterson Sargent Co., Cleveland, Ohio. Paints, varnishes, stains, fillers, &c	29,081	Oct. 22	130	2360
Pond, Frank N., New York, N. Y. Remedy for dyspepsia and cold-cream	28,456	Oct. 22	130	2358
Radigan, Rich & Co., New York, N. Y. Hair-combs	29,781	Oct. 22	130	2363
Ramage, James S., Chicago, Ill. Pasteboard cases, boxes, and cartons	29,285	Oct. 22	130	2360
Ruehl Bros. Brewing Co., Chicago, Ill. Beer	29,109	Oct. 22	130	2360
Samuel Winslow Skate Manufacturing Co., Worcester, Mass. Skates	29,289	Oct. 22	130	2359
Sapa Chemical Co., St. Louis, Mo. Medicinal preparation for rheumatism, tuberculosis, &c	29,940	Oct. 22	130	2363
Satzman & Farman, New York, N. Y. Gold chains and bracelets	29,494	Oct. 22	130	2361
Shivell, Edwin, Melrose, Mass. Sardines	29,933	Oct. 22	130	2364
Smith, Albert D., Springfield, Mass. Children's textile bands, undershirts, and caps	29,280	Oct. 22	130	2361
Smith & Anthony Company, Boston, Mass. Stoves, ranges, and parts thereof	29,957	Oct. 22	130	2364
Société "Le Ferment," Paris, France. Medicines for treatment of enteritis, typhoid fever, &c	29,548	Oct. 22	130	2362
Southern Substitute Turpentine Company, Wilmington, Del., and Highlandtown, Md. Substitute for turpentine	22,887	Oct. 22	130	2358
Standard Sewing Machine Company, Cleveland, Ohio. Sewing-machines and attachments	29,489	Oct. 22	130	2361
Standard Sewing Machine Company, Cleveland, Ohio. Sewing-machine needles	27,120	Oct. 22	130	2357
Strader, Wilson P., Lexington, Ky. Whisky, gin, brandy, &c	29,694	Oct. 22	130	2363
Sunset Hone Co., Los Angeles, Cal. Razor-hones	29,688	Oct. 22	130	2363
System Company, Chicago, Ill. Monthly magazine	28,098	Oct. 22	130	2357
Teraqua Mineral Company, Memphis, Tenn. Medicines for diseases of the stomach, kidneys, &c	28,675	Oct. 22	130	2359
Toronto Type Foundry Co., (Limited,) Toronto, Canada. Adhesive composition for facing stereotype-flongs	29,798	Oct. 22	130	2363
U. S. E. M. Co., New York, N. Y. Electrical bells and push-buttons	29,424	Oct. 22	130	2361
Virginia-Carolina Chemical Company, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Fertilizers	27,298	Oct. 22	130	2357
W. A. Ross & Brother, Incorporated, New York, N. Y. Whisky	27,906	Oct. 22	130	2358
W. B. Cosgrave Shoe Co., Zanesville, Ohio. Leather boots and shoes	17,898	Oct. 22	130	2358
W. H. Coe Manufacturing Co., Providence, R. I. Gilding-wheel	28,847	Oct. 22	130	2359
W. H. Coe Manufacturing Co., Providence, R. I. Gilding-wheel	29,980	Oct. 22	130	2363
Wachter Manufacturing Co., Hartford, Conn. Watch bows and pendants	29,983	Oct. 22	130	2363
Ward, George S., Pittsburg, Pa. Bread	27,521-2	Oct. 22	130	2358
Welsh and Jones, Philadelphia, Pa. Gold paint	28,616	Oct. 22	130	2359
Wichita Vinegar Works, Wichita, Kans. Catsup, mince-meat, apple-butter, &c	29,800	Oct. 22	130	2363
Zwonechek & Aksamit, Wilber, Nebr. Wheat flour	23,942	Oct. 22	130	2357
Zwonechek & Aksamit, Wilber, Nebr. Wheat-flour and cornmeal	25,589	Oct. 22	130	2357
	28,511	Oct. 22	130	2359
	29,898	Oct. 22	130	2364
	29,899	Oct. 22	130	2364

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED ON THE 22D DAY OF OCTOBER, 1907.

Invention.	Name.	No.	Date.	Monthly volume. Specification.	Drawing.	Official Gazette. Volume.	Page.
Abrading or cutting tools. Driving mechanism for machines for operating	C. J. Fancher	869,167	Oct. 22	3067	847	130	2035
Acid and making the same. Para-aminodiphenyl-amin sulfonic	E. Erdmann	869,073	Oct. 22	2936		130	2286
Acid. Producing sulfuric	I. Kitsee	869,094	Oct. 22	2965	819	130	2288
Adding-machine	B. Hoskins	868,646	Oct. 22	2302	639-40	130	2087
Adhesive material. Vessel for	W. H. Reddington	868,885	Oct. 22	2570	720	130	2191
Agricultural implements. Shift mechanism for	P. Meagher	868,914	Oct. 22	2723	750	130	2217
Air-motor	P. Kieler	868,868	Oct. 22	2619	724	130	2184
Alarm: *See* Fire-alarm.							
Alkaline chlorid. Electrolysis of fused	F. von Kügelgen and G. O. Seward	868,670	Oct. 22	2317		130	2094
Alternator. Compounded self-excited	M. C. A. Latour	869,187	Oct. 22	3098	853	130	2324
Alternator. Shunt-wound self-excited	M. C. A. Latour	869,186	Oct. 22	3095	852-3	130	2324
Ammonia from distillers' washes. Recovery of	J. Effront	868,976	Oct. 22	2781		130	2228
Amusement device	J. D. Vasey	868,950	Oct. 22	2749	758-9	130	2226
Amusement device	H. C. Hebig	869,083	Oct. 22	2950	813	130	2289
Amusement device. Submarine	D. E. Washington	868,736	Oct. 22	2424	670	130	2135
Animal-trap	T. H. Donlon	868,917	Oct. 22	2698	745	130	2210
Ash barrel or can	J. D. Hewitt	868,987	Oct. 22	2787	772	130	2241
Automobile-locking mechanism	J. F. Coltman	868,907	Oct. 22	2677	740	130	2208
Automobile transmission-gearing	J. W. Lambert	868,673	Oct. 22	2320	643	130	2095
Automobile vehicle	J. M. M. Truffault	868,728	Oct. 22	2414	667-8	130	2122
Automobiles and the like. Means for heating	C. H. Foster	869,172	Oct. 22	3076	848	130	2238
Axle box. Car-	H. C. McCarty	868,881	Oct. 22	2675	726	130	2189
Bales. Means for changing the shape of and compressing	S. J. Webb	868,738	Oct. 22	2427	671-2	130	2136
Band-cutter and feeder	W. A. True	869,113	Oct. 22	2987	825	130	2300
Bar: *See* Spike-bar.							
Barrel	F. E. Lowy	869,209	Oct. 22	3131	863	130	2345
Barrel-assembling machine	O. Schlmansky	869,024	Oct. 22	2859	789	130	2269
Beading or molding tool	A. Pellrin	868,906	Oct. 22	2530	697	130	2188
Bearing. Roller-	F. Stratton	869,217	Oct. 22	3141	866	130	2346
Bed bottom	J. O. Wesner	868,951	Oct. 22	2750	759	130	2227
Bell and speaking-tube	R. W. Lyon	868,677	Oct. 22	2328	644	130	2097
Bevel-polishing machine	H. Lohmann	868,877	Oct. 22	2630	727	130	2186
Bicycle	G. J. Hamacher	868,658	Oct. 22	2292	636	130	2084
Bicycle-brake	G. Kukovac	868,671	Oct. 22	2317	642	130	2094
Binder	F. B. Jordan	869,090	Oct. 22	2956	816-17	130	2291
Binder. Loose-leaf	L. M. Morden	868,883	Oct. 22	2538	647	130	2101
Binder sails or fans. Operating mechanism for	T. Lait	868,786	Oct. 22	2499	689-90	130	2149
Bit-holder	L. Ruegg	868,812	Oct. 22	2540	700	130	2162
Blind-stop	C. L. Koenig	868,873	Oct. 22	2625	725	130	2185
Block: *See* Concrete building-block.							
Blue-printing machine	L. M. Rash	868,884	Oct. 22	2638	729	130	2190
Board: *See* Ironing-board. Washboard. Trimmer-board.							
Boat-cleat. Yielding	F. A. Bierie	869,120	Oct. 22	3013	832	130	2307
Boiler: *See* Water-tube boiler.							
Boiler safety device. Steam-	C. Letterl	869,000	Oct. 22	2827	778	130	2281
Bomb for use in metallurgical operations	J. O. Bardill	868,904	Oct. 22	2673	739	130	2208
Book. Manifolding sales-	H. P. Brown	869,054	Oct. 22	2910	802	130	2276
Book or music leaf turner	H. Alrich	868,903	Oct. 22	2670	738-9	130	2208
Bookbinder	D. H. York	868,746	Oct. 22	2440	673	130	2139
Boots and shoes and the like. Apparatus for applying wax to	G. H. Harlow	868,923	Oct. 22	2705	744	130	2221
Bottle attachment	G. T. Trommald	868,824	Oct. 22	2589	706	130	2167
Bottle. Non-refillable	C. H. Stone	869,201	Oct. 22	3116	858	130	2340
Bottle-stopper	G. Hookham	868,784	Oct. 22	2493	687	130	2147
Bottle-top	W. S. Ayling	869,154	Oct. 22	3054	843	130	2321
Bottles or the like. Cork for stoppering	H. W. Dawson	868,914	Oct. 22	2694	744	130	2220
Box: *See* Axle-box. Shaft-box. Miter-box. Wagon-box. Non-refillable box.							
Box	J. C. Barry	869,156	Oct. 22	3056	843	130	2322
Brace: *See* Ratchet-brace.							
Bracelet-joint	N. C. Wallenthin	868,734	Oct. 22	2422	670	130	2134

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Bracket:							
See Suspension-bracket.							
Brake:							
See Bicycle-brake. Car-brake. Hemp-brake. Locomotive-brake. Railway-brake. Wagon-brake.							
Brake mechanism	P. X. Beaulieu	869,157	Oct. 22	2057	844	130	2222
Braking apparatus	P. H. Griffin	868,777	Oct. 22	2462	685	130	2144
Bridge-whist apparatus	F. B. Hurd	868,928	Oct. 22	2713	747	130	2214
Broiler. Gas-	J. A. Barrett	868,753	Oct. 22	2448	677	130	2133
Brush. Pneumatic	J. E. Schadle	869,053	Oct. 22	2658	789	130	2239
Buckle	A. F. P. Stenzy	869,020	Oct. 22	2656	791	130	2262
Buggies. Side-track draft attachment for	W. Grono	869,079	Oct. 22	2944	811	130	2267
Burner:							
See Gas-burner. Hydrocarbon-burner.							
Burner	T. J. McGee and J. Gallagher	869,101	Oct. 22	2972	821	130	2285
Button. Collar-	F. D. Small	868,716	Oct. 22	2397	662	130	2117
Button. Fastening-	P. MacGregor	868,791	Oct. 22	2509	691	130	2151
Calendar	H. A. Marshman	868,876	Oct. 22	2631	727	130	2188
Calipers	A. Thomsen	868,899	Oct. 22	2662	736	130	2199
Can:							
See Oil-can.							
Can-capping machine	E. J. Judge	869,091	Oct. 22	2960	817-18	130	2282
Can-closure	E. Eckart	868,880	Oct. 22	2697	717	130	2178
Can-closure	J. A. Fleming	869,076	Oct. 22	2941	810	130	2266
Can-head-cutting machine	M. J. Ferren	869,075	Oct. 22	2939	809-10	130	2265
Can-lifter	C. F. Alline	869,182	Oct. 22	2952	842	130	2320
Cans. Closing	J. Dieckmann	868,916	Oct. 22	2706	745	130	2208
Canopies, awnings, &c. Supporting-frame for	R. A. Cox	869,061	Oct. 22	2918	804	130	2270
Car brake-beam. Railway-	S. A. Crone	868,909	Oct. 22	2661	741	130	2204
Car brake. Railway-	S. A. Crone	868,908	Oct. 22	2676	740	130	2203
Car brake. Railway-	S. A. Crone	868,910	Oct. 22	2662	741	130	2204
Car-coupling	S. A. Crone	868,970	Oct. 22	2774	765	130	2204
Car-door lock. Sliding-	W. Schurr	868,708	Oct. 22	2378	659	130	2113
Car-fender	F. C. Hodgdon	868,889	Oct. 22	2909	721	130	2181
Car fender. Street-	H. C. Jordan	869,183	Oct. 22	2953	851	130	2321
Car. Railway-	C. O. Conner	868,845	Oct. 22	2580	714	130	2176
Car-replacer	G. T. Martin and W. H. Dart	869,210	Oct. 22	3133	863	130	2345
Car-seat	E. C. Waldorf	869,084	Oct. 22	2974	794	130	2264
Car-standard	H. Witte	869,122	Oct. 22	3004	830	130	2305
Car-wheel and attaching same to axles	E. L. Peterson	868,805	Oct. 22	2632	697	130	2189
Cars. Means for varying the force of counterweights for hoisting skip-	J. W. Latcher	868,878	Oct. 22	2628	727	130	2187
Carbid and making same. Massive boron	A. E. Brown	868,889	Oct. 22	2382	626	130	2075
Carbureter	S. A. Tucker	869,114	Oct. 22	2989	826	130	2300
Card holding or exhibiting device	W. C. Schneider	868,707	Oct. 22	2378	658	130	2112
Card. Transparent-faced filing-	S. R. Lang	868,960	Oct. 22	2939	778	130	2261
Carding-machine	J. A. Bezell	868,788	Oct. 22	2462	678-9	130	2134
Carpet-cleaner	C. I. King	868,861	Oct. 22	2693	774	130	2242
Carpet-stretcher and tack-hammer. Combined	E. T. Williams	868,901	Oct. 22	2695	737	130	2201
Carrier:	D. L. Ervin	868,883	Oct. 22	2699	717	130	2178
See Mail-carrier.							
Cartridge	C. A. Bailey	869,046	Oct. 22	2897	799	130	2272
Cash-register	W. R. Heinits	869,064	Oct. 22	2932	814	130	2290
Castings. Internal-chilling apparatus for hollow	J. Butler	869,208	Oct. 22	3122	860-1	130	2343
Catch-basins. Receiving-head for	A. W. Kurz	868,873	Oct. 22	2618	642	130	2094
Chair	R. S. Buch	868,640	Oct. 22	2394	626-7	130	2076
Chair with extensible foot-rest	W. J. Armstrong	868,668	Oct. 22	2397	626	130	2074
Checkrein device. Yielding	W. J. Armstrong	868,723	Oct. 22	2572	710	130	2170
Cheese-cutter	C. M. Hansen	868,669	Oct. 22	2394	627	130	2075
Chrome-yellow. Manufacture of	P. D. Potter	868,807	Oct. 22	2698	.....	130	2160
Churn	A. O. Martin	869,189	Oct. 22	3101	854	130	2335
Clay-cutter	T. Major	869,098	Oct 22	2998	820	130	2284
Cleaner:							
See Carpet-cleaner. Window-cleaner.							
Clip:							
See Paper-clip.							
Clock. Self-winding electric	A. F. Poole	868,686	Oct. 22	2357	663-4	130	2106
Clocks and the like. Motion-work for	H. V. Knight	868,872	Oct. 22	2623	726	130	2176
Cloth splitting and rewinding machine	S. B. Cohen	869,761	Oct. 22	2488	679-80	130	2136
Cock. Stop-	J. B. Bell	868,788	Oct. 22	2469	678	130	2133
Cock. Time-controlled gas-	H. W. Harris	868,851	Oct. 22	2643	811-12	130	2257
Coil. Variable reactive	R. E. Barker	868,782	Oct. 22	2467	677	130	2132
Coin-controlled apparatus. Slot and slug for	H. T. Lloyd and R. Brasch	869,088	Oct. 22	2988	819	130	2284
Collar and cuff. Lady's	G. S. Cox	868,849	Oct. 22	2581	714	130	2176
Colors. Making phosphorescent	W. J. Hammer	868,779	Oct. 22	2495	.....	130	2146
Compasses. Drafting-	J. D. Ward	868,735	Oct. 22	2469	670	130	2124
Composite pipe	E. M. Johnson	868,705	Oct. 22	2486	667	130	2146
Computing machines and the like. Tabulating attachment for	D. W. Shiek	868,709	Oct. 22	2679	669-60	130	2113
Concrete blocks. Machine for making	W. F. Tubesing	868,729	Oct. 22	2616	668	130	2128
Concrete building-block	H. S. Brewington	868,838	Oct. 22	2679	712	130	2172
Concrete. Manufacturing	W. D. Crow	868,769	Oct. 22	2469	680	130	2137
Concrete structure. Reinforced	G. M. Graham	868,921	Oct. 22	2708	746-6	130	2211
Concrete-wall mold	M. J. Demorest	868,764	Oct. 22	2481	680-1	130	2137
Corn-separator	W. A. Werckle	868,896	Oct. 22	2694	737	130	2200
Corsets, &c. Water-trap for	J. H. Viol	869,088	Oct. 22	2972	794	130	2264
Corset-stay	J. R. Dean	868,763	Oct. 22	2481	680	130	2137
Couch. Suspension-	J. B. Patterson	869,142	Oct. 22	3088	837	130	2313
Coupling:							
See Car-coupling. Pipe-coupling.							
Crate. Banana-	A. Lombardo	868,730	Oct. 22	2616	691	130	2151
Crate. Collapsible	P. E. Boyd	868,134	Oct. 22	2320	634	130	2309
Crate. Shipping merchandise-	S. Giwowsky	868,980	Oct. 22	2787	769	130	2237
Crutch	W. Autenrieth	869,128	Oct. 22	2940	831	130	2307
Curtain-fixture	D. E. Bonner	868,729	Oct. 22	2464	679	130	2134
Curtain-pole attachment	W. J. Adenhart	868,839	Oct. 22	2695	707-8	130	2169
Curtain-stretcher	M. A. Smith	869,038	Oct. 22	2961	780	130	2269
Curtains. Machine for cutting flexible roll-	J. Gramelspacher	868,698	Oct. 22	2389	695-6	130	2083

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Curved surfaces. Adjustable form for	J. E. Wood	869,036	Oct. 22	2875	794	130	2265
Cushion-fastener	J. L. Heffner	868,663	Oct. 22	2299	638	130	2086
Cutter:							
See Band-cutter. Cheese-cutter. Clay-cutter. Stalk-cutter.							
Cutting-tool	J. F. Magnuson	869,002	Oct. 22	2829	779	130	2252
Cutting-tool	J. Cryer	869,063	Oct. 22	2922	805	130	2280
Dam-gates. Device for hoisting and dropping	W. Moriarty	868,796	Oct. 22	2520	694	130	2155
Dental instrument	W. C. Wolford	869,035	Oct. 22	2874	794	130	2264
Dental plate	G. W. Morgan	869,191	Oct. 22	3103	854	130	2336
Dental work. Crown-pin for	H. D. Bultman	868,964	Oct. 22	2767	763	130	2231
Display-bin for counters, &c	C. M. Herr	868,986	Oct. 22	2796	771	130	2240
Display-stand	A. E. Brown	869,053	Oct. 22	2908	801-2	130	2276
Ditching machine. Tile-	M. L. Poulter and M. J. Munson	868,937	Oct. 22	2728	752-3	130	2219
Ditching-machines. Clearing-wing for	W. Umstead	869,115	Oct. 22	2991	826	130	2301
Door fastener. Sliding-	R. T. Stone	869,202	Oct. 22	3118	859	130	2341
Doors. Control of motor-operated	D. W. Taylor	868,723	Oct. 22	2408	665	130	2120
Draft-equalizer	O. Holm	868,861	Oct. 22	2610	722	130	2181
Draft-rigging	W. L. De Remer	868,915	Oct. 22	2694	744	130	2208
Dredging apparatus	T. R. Goth	868,774	Oct. 22	2477	684	130	2142
Drill:							
See Pneumatic and other drill. Ratchet-drill.							
Dust-pan	W. R. Rich	868,887	Oct. 22	2648	732	130	2194
Dust-pan and crumb-tray. Dust-proof	L. Prideaux	869,197	Oct. 22	3113	857	130	2339
Dyeing yarn-cops. Apparatus for	J. F. Roberts	868,699	Oct. 22	2368	655	130	2109
Dynamo. Self-exciting alternating-current	M. Latour	869,185	Oct. 22	3093	852	130	2333
Eaves-trough hanger	W. E. Patchin	869,195	Oct. 22	3110	857	130	2338
Egg-wrapper	M. E. Brown	869,160	Oct. 22	3061	844	130	2323
Eggs and other commodities. Mechanism for dispensing	G. A. Almstrom and P. Christenson	868,632	Oct. 22	2254	624-5	130	2073
Electric control system	R. P. Jackson	868,929	Oct. 22	2715	748	130	2215
Electric controlling system	R. P. Jackson	868,864	Oct. 22	2614	723	130	2182
Electric knife-switch	O. Rothenstein	868,704	Oct. 22	2373	657	130	2111
Electric machine Dynamo-	M. Pfatischer	869,102	Oct. 22	2974	821-2	130	2266
Electric motor	O. H. and A. F. Pieper	868,806	Oct. 22	2633	696	130	2189
Electric switch	C. S. Hill	868,781	Oct. 22	2486	686	130	2145
Electrical connector	F. H. Ayer	868,751	Oct. 22	2446	677	130	2132
Electrolytic metallic deposits. Bath for obtaining	L. Trunkhahn	868,729	Oct. 22	2415	.....	130	2122
Electropneumatic channeler	A. H. Gibson. (Reissue)	12,704	Oct. 22	3147	868-9	130	2349
Elevator:							
See Water-elevator.							
Elevator plants. Means for operating hydraulic-	R. C. Smith	868,718	Oct. 22	2399	663	130	2118
Enameling. Metal-	G. M. Banning	869,155	Oct. 22	3055	843	130	2321
Engine:							
See Explosive-engine. Hydrocarbon-engine. Internal-combustion engine. Rotary engine. Rotating engine.							
Envelop	W. S. Brown	869,162	Oct. 22	3062	845	130	2323
Envelop	H. Heffner	869,179	Oct. 22	3085	850	130	2330
Envelop, Post-card	J. G. Peppler	868,804	Oct. 22	2631	697	130	2189
Evaporating-machine	R. Delton	868,912	Oct. 22	2688	742-3	130	2206
Excavators. Boom and rotatable chute for	J. P. Karr and J. D. Rauch	869,092	Oct. 22	2882	818	130	2280
Explosive	J. B. Braunstein	868,637	Oct. 22	2351	.....	130	2078
Explosive-engine	H. M. Near	868,689	Oct. 22	2946	651	130	2103
Explosive-engine	W. K. Bassford	868,824	Oct. 22	2573	709-10	130	2171
Explosive-engine	M. Fischer	868,976	Oct. 22	2784	767	130	2267
Explosive. Nitro-starch	J. B. Braunstein	868,635	Oct. 22	2260	.....	130	2075
Explosive. Nitro-starch	J. B. Braunstein	868,636	Oct. 22	2261	.....	130	2075
Explosive. Nitro-starch	J. B. Braunstein	868,760	Oct. 22	2457	.....	130	2130
Explosive. Nitro-starch	J. B. Braunstein	868,837	Oct. 22	2578	.....	130	2171
Explosive. Nitro-starch	J. B. Braunstein	869,051	Oct. 22	2904	.....	130	2274
Explosives. Electric ignition of	O. J. and A. M. Lodge	869,208	Oct. 22	3129	862	130	2345
Explosives. Priming of	L. Lheure	868,876	Oct. 22	2629	727	130	2188
Eyebolt bending and swaging machine	W. G. Shults	869,107	Oct. 22	2979	823	130	2268
Fare-indicator	H. Dünhölter	868,767	Oct. 22	2465	681	130	2136
Fare-indicator	H. Dünhölter	868,849	Oct. 22	2605	713	130	2177
Fare-indicators. Transmission-gear for	H. Dünhölter	868,766	Oct. 22	2464	681	130	2135
Fastening device	C. E. Cashmore	869,089	Oct. 22	2917	804	130	2270
Feed-water heater	T. M. Monahan	869,212	Oct. 22	3133	863	130	2346
Fence-clamping device. Wire-	J. A. Clements	868,644	Oct. 22	2269	626	130	2077
Fence-tie	E. J. Bowerfind	868,635	Oct. 22	2269	626	130	2075
Fencing fastener for concrete posts. Wire-	E. U. Down	869,127	Oct. 22	3024	835	130	2310
Fender:							
See Car-fender. Plow-fender.							
Fertilizer-spreader	J. O. Linden	868,789	Oct. 22	2503	690-1	130	2150
Fiber-dressing machine	C. G. Sargent	868,944	Oct. 22	2741	757	130	2234
Fig-bean and similar articles. Machine for cutting	A. S. Cairncross	869,057	Oct. 22	2915	803	130	2277
Filament and process. Incandescent	E. McOuat and H. W. F. Lorens	869,013	Oct. 22	2844	.....	130	2256
Filament for incandescent lamps	E. McOuat and H. W. F. Lorens	869,012	Oct. 22	2843	783	130	2255
File. Rim-	R. Rubens	868,811	Oct. 22	2530	699-700	130	2161
Filing system	J. A. Bezell	868,835	Oct. 22	2676	710-11	130	2171
Filter. Water-	J. E. Young	868,838	Oct. 22	2685	707	130	2169
Filtering apparatus	M. B. Lukens	869,188	Oct. 22	3100	853	130	2338
Fire-alarm. Electric	J. A. Obester	869,014	Oct. 22	2845	784	130	2256
Fire-escape	R. Zube	869,151	Oct. 22	3051	843	130	2322
Fire-shield	J. W. Hull, Sr	868,927	Oct. 22	2712	747	130	2214
Firearms and cannon with deepened grooves. Barrel for portable	C. Puff	868,998	Oct. 22	2732	754	130	2221
Fishing and clean-out. Testing-	P. J. McGinn	868,936	Oct. 22	2727	751	130	2219
Fishplate	W. A. Reid	868,942	Oct. 22	2736	755	130	2232
Flesh-guard	A. Bruebach	868,953	Oct. 22	2766	763	130	2231
Flood-gate	S. S. Brown	869,161	Oct. 22	3061	845	130	2323
Flue-clasp	G. A. Higgins	868,685	Oct. 22	2301	639	130	2087
Flume-gate	F. M. Hunteen	868,863	Oct. 22	2613	723	130	2183
Flying-machine	J. D. Pursell	869,019	Oct. 22	2850	788-7	130	2257
Forming-die	H. S. Albrecht	868,902	Oct. 22	2669	738	130	2201
Furnace:							
See Heating-furnace.							
Furnace	E. F. Price	868,808	Oct. 22	2537	699	130	2149

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Furnace-charging devices. Means for controlling the operations of blast-	B. R. Shover	868,711	Oct. 22	2363	660	130	2114
Furnace-charging devices. Means for controlling the operations of blast-	B. R. Shover	868,712	Oct. 22	2366	661	130	2115
Fuse. Electric-line	F. B. Cook	868,870	Oct. 22	2917	804	130	2270
Fuses for mines. Manufacture of	L. Lheure	868,219	Oct. 22	3144	847	130	2349
Garbage-receptacle container	C. H. Stephenson	868,220	Oct. 22	2551	703	130	2144
Garbage-receptacle container	C. H. Stephenson	868,221	Oct. 22	2553	703–4	130	2144
Garbage-receptacle container	C. H. Stephenson	868,664	Oct. 22	2659	735	130	2198
Garment-supporter	S. E. West	868,899	Oct. 22	2666	737	130	2200
Garment. Waterproof	B. C. Hathaway	868,177	Oct. 22	3062	849	130	2329
Gas-burner. Inverted	T. F. Kent	868,980	Oct. 22	2804	773–4	130	2242
Gas burner. Oxyhydrogen-	A. B. Dräger and H. W. C. Schröder.	869,071	Oct. 22	2935	808	130	2284
Gas-generator	A. Davis and J. H. Birch	868,547	Oct. 22	2592	714–15	130	2176
Gas generator. Acetylene-	C. W. Holm	868,668	Oct. 22	2798	772–3	130	2241
Gas generators. Carbid-feeding device for acetylene-	A. Davis	868,548	Oct. 22	2694	715	130	2177
Gas: Making	D. A. Short	868,710	Oct. 22	2362	660	130	2114
Gas-retort charging and discharging apparatus	W. W. Fiddes and J. G. W. Aldridge.	868,853	Oct. 22	2900	717–18	130	2179
Gases. Means for producing and distributing combustible	M. V. Smith	868,717	Oct. 22	2307	662–3	130	2117
Gate: *See* Flood-gate. Swing-gate. Flume-gate.							
Gearing. Transmission-	R. M. G. Phillips	869,143	Oct. 22	3034	837	130	2313
Generator: *See* Gas-generator.							
Gin-cylinder	C. B. P. Carver	868,906	Oct. 22	2767	764	130	2231
Glass. Method and machine for making wire-	A. Shuman	868,713	Oct. 22	2363	661	130	2116
Golf-club	D Myles	868,737	Oct. 22	2546	650	130	2168
Governor	H. F. Ammermann and W. Lohse	868,841	Oct. 22	2888	297–8	130	2269
Governor. Centrifugal	V. G. Apple	868,780	Oct. 22	2444	676	130	2131
Grain-tally	H. H Warren	869,189	Oct. 22	3040	841–2	130	2320
Grate. Rocking	G. C. Andrews	868,532	Oct. 22	2571	709	130	2170
Grave marker and protector	J. B. Reese, P. C. Strahl, and M. Adams	868,830	Oct. 22	2538	699	130	2161
Grinding balls	E. G. Hoffmann	868,880	Oct. 22	2809	721	130	2181
Grinding balls	E. G. Hoffmann	868,881	Oct. 22	2710	747	130	2214
Grinding-machine	C. H. Norton	869,104	Oct. 22	3108	855–6	130	2337
Grinding-machine	G. W. Conklin	869,218	Oct. 22	3142	847	130	2348
Grip-handle for implements	J. C. Ross	869,313	Oct. 22	3134	864	130	2346
Gun-lock	W. J. Molloy	868,681	Oct. 22	2538	646	130	2169
Handle: *See* Grip-handle. Sheet-metal handle. Implement-handle. Umbrella-handle.							
Handle-support	I. J. Knapp	868,669	Oct. 22	2816	642	130	2264
Hanger: *See* Eaves-trough hanger. Pipe-hanger.							
Harrow. Chain-	J. Datson	869,085	Oct. 22	3026	806–7	130	2332
Harvester. Potato-	P. Plate	868,162	Oct. 22	2575	822	130	2296
Harvester. Potato-	P. Plate	869,104	Oct. 22	2576	822	130	2297
Harvesters. Grain-lifting device for	W. Webber	868,720	Oct. 22	2430	672	130	2127
Harvesting machine. Broom-corn-	B. Curl and H. J. Huddleston	868,644	Oct. 22	2823	805–6	130	2269
Heater: *See* Feed-water heater.							
Heating-furnace	H. A. Denzin	868,974	Oct. 22	2779	766	130	2236
Heating system. Low-pressure fluid-	E. H. Gold	868,772	Oct. 22	2471	683	130	2141
Heating systems. Expansion device for hot-water	M. C. Honeywell	868,822	Oct. 22	2611	722	130	2182
Hemp-brake	F. T. Martin	869,094	Oct. 22	3032	780	130	2253
Hinge. Self-closing	G. A. Datcheg	868,973	Oct. 22	2778	766	130	2234
Hoist	C. O. Conner	868,844	Oct. 22	2887	714	130	2175
Hoisting and conveying apparatus	H. H. Guffin	868,994	Oct. 22	2791	770–1	130	2239
Horse-releaser	G. W. Smith	868,189	Oct. 22	3114	858	130	2340
Hosiery and the manufacture of the same	R. W. Scott	868,815	Oct. 22	2844	701	130	2163
Hub. Wheel-	W. S. Oswald	868,801	Oct. 22	2828	696	130	2157
Hub-wrench	E. G. O'Donnell	868,823	Oct. 22	2630	729	130	2190
Hydrant	F. G. Midgett	868,794	Oct. 22	2818	694	130	2153
Hydrocarbon-burner	W. H. Wilhelmy	868,945	Oct. 22	2755	760	130	2228
Hydrocarbon-engine	J. Brons and N. Timmer	868,839	Oct. 22	2690	712	130	2173
Implement-handle	J. C. Ross	869,215	Oct. 22	3130	864	130	2347
Impregnating-tanks. Tie-car for	T. H. Stagg	868,668	Oct. 22	2825	790–1	130	2261
Impregnating-tanks. Tie-car for	T. H. Stagg and J. B. Armsch	868,669	Oct. 22	2826	791	130	2262
Incubator	A. Musiol	868,686	Oct. 22	2346	649	130	2103
Indicator: *See* Fare-indicator. Station-indicator.							
Indicator safety device	I. L. Kiser and O. M. Prince	868,682	Oct. 22	2863	818–19	130	2256
Indigo, &c. Making	H. Belart	868,746	Oct. 22	2449	.....	130	2133
Insect-trap	M. E. Gropp	868,773	Oct. 22	2494	695	130	2146
Insulated metal cross-tie	A. C. Dinkey	868,661	Oct. 22	2709	631	130	2061
Insulator	W. J. Devine	868,163	Oct. 22	2363	845	130	2324
Insulator. Clamp-	G. Pollock and W. E. Werd	868,018	Oct. 22	2848	795	130	2257
Internal-combustion engine	H. Dock	868,705	Oct. 22	2492	681	130	2137
Internal-combustion engine	O. Roberts	870,021	Oct. 22	2863	787–8	130	2268
Ironing-board	S. J. Kling	868,184	Oct. 22	2382	852	130	2333
Ironing-machine	W. E. André	868,940	Oct. 22	2702	762	130	2230
Ironing-machines. Bosom-board for	W. E. André	868,939	Oct. 22	2700	762	130	2230
Joint: *See* Bracelet-joint. Rail-joint.							
Joint-former	R. M. Corcoran. (Reissue)	12,708	Oct. 22	2145	866	130	2340
Keg washer. Beer-	G. E. R. Rothenbucher	869,022	Oct. 22	2988	798–9	130	2286
Key	E. A. Strauss	868,948	Oct. 22	2760	766	130	2225
Knitted fabric and making same	H. Swinglehurst	868,822	Oct. 22	2688	704–5	130	2166
Knob lock. Door-	E. A. Hine	868,838	Oct. 22	2760	746	130	2212
Labeling machine. Bottle-	J. H. Wendt	868,761	Oct. 22	2423	673–4	130	2128
Ladder	J. S. Baker	869,027	Oct. 22	2988	800	130	2272
Ladder	J. S. Tilley	869,111	Oct. 22	3044	824	130	2290
Ladder and table. Combined step-	J. B. Thurmond	868,833	Oct. 22	2882	706	130	2167
Lamp. Gasolene pressure-	N. S. Beavers	868,962	Oct. 22	2795	763	130	2231
Lamp. Miner's	P. Birch	868,949	Oct. 22	2989	800	130	2272

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Lamp-testing apparatus. Miner's safety-	E. C. Davies	869,066	Oct. 22	2927	807	130	2282
Lasting-pincers	C. S. Parsons	868,695	Oct. 22	2356	653	130	2105
Latch-lock	F. W. Dressel	868,975	Oct. 22	2780	767	130	2235
Lath-bolter. Gang-	C. W. Willett	868,956	Oct. 22	2756	760	130	2228
Leather crimping and clamping machine	C. E. Albright	869,040	Oct. 22	2885	796–7	130	2268
Leather. Machine for tufting stripe of	R. K. Johnstone	868,667	Oct. 22	2311	641	130	2088
Leather-working machine	E. E. Chain	868,842	Oct. 22	2585	713	130	2175
Lifter: *See* Can-lifter.							
Light-switch. Automatic	H. E. King	868,870	Oct. 22	2621	724	130	2185
Lightning-arrester	C. I. Stocking	869,031	Oct. 22	2867	791	130	2262
Liquid-cooler	A. Jensen	869,089	Oct. 22	2957	816	130	2291
Liquid-trap	M. Goldfein	869,174	Oct. 22	3078	849	130	2328
Liquids and gases. Automatic flow-regulator for	J. H. Gregory, W. W. Jackson, and F. N. Connet.	868,776	Oct. 22	2480	684–5	130	2143
Liquids under pressure. Device for filling and charging	W. F. Kuszmaul, Jr.	868,931	Oct. 22	2719	748	130	2216
Lock: *See* Car-door lock. Latch-lock. Gun-lock. Nut-lock. Knob-lock. Switch-stand lock.							
Lock	J. Kessler	868,867	Oct. 22	2618	723	130	2184
Lock	H. G. Voight and C. J. Caley	868,897	Oct. 22	2663	736	130	2199
Lock	P. H. J. and P. Krulder, Jr.	868,907	Oct. 22	2824	777	130	2250
Lock and latch	J. Hiltpold	868,782	Oct. 22	2490	686	130	2146
Lock and latch. Combined	L. H. Mullikin	868,885	Oct. 22	2943	649	130	2102
Locomotive brake. Mine-	J. F. Flynn	869,077	Oct. 22	2942	810	130	2286
Locomotives. Cushioning appliance for	W. Dalton	868,913	Oct. 22	2693	743–4	130	2208
Loom filling-detecting mechanism	E. S. Stimpson	868,947	Oct. 22	2745	757	130	2225
Loom for weaving chenille	T. F. and A. Naylor	868,688	Oct. 22	2347	650	130	2103
Loose-leaf register and cabinet	F. A. Facer	869,139	Oct. 22	3028	836	130	2311
Lubricating-pad	O. W. Severns	868,816	Oct. 22	2546	702	130	2164
Lumber. Manufacture of artificial	C. E. Wade	869,116	Oct. 22	2902	827	130	2301
Lumber. Manufacture of artificial	C. E. Wade	869,117	Oct. 22	2903	827	130	2302
Mail-bag catcher. Station	W. F. Blount	869,132	Oct. 22	3016	833	130	2308
Mail-carrier	G. C. Willis	869,121	Oct. 22	3000	829	130	2304
Marine table. Electrically-operated self-leveling	C. W. Lankay	868,874	Oct. 22	2625	726	130	2185
Measure. Tape-	C. E. Flint	869,169	Oct. 22	3070	847	130	2326
Measuring device	L. B. Clark	868,641	Oct. 22	2285	627	130	2076
Measuring instrument	C. Schellbenstock, Fils	868,813	Oct. 22	2541	700–1	130	2162
Mechanical movement	W. A. Wright	869,038	Oct. 22	2879	795	130	2286
Mimeograph. Flat	M. Klaczko	869,095	Oct. 22	2965	819	130	2294
Miter-box	L. R. Bender	868,634	Oct. 22	2258	625	130	2074
Moistening device. Strip-	M. C. Browne	868,840	Oct. 22	2582	712	130	2173
Mold: *See* Concrete-wall mold.							
Molder's ladle	G. E. Neuberth	868,882	Oct. 22	2636	728	130	2190
Molding-machine	C. W. Woods	868,957	Oct. 22	2757	761	130	2229
Molding-machine	F. J. Geehring	868,979	Oct. 22	2785	767–8	130	2237
Mop	J. F. Antoni	868,748	Oct. 22	2442	676	130	2131
Mop-wringer	L. C. McNeal	868,799	Oct. 22	2524	695	130	2156
Motor: *See* Air-motor. Electric motor.							
Motor	J. Thomson and E. Schwamberger	869,109	Oct. 22	2982	824	130	2289
Musical instruments. Expression mechanism for self-playing	G. H. Davis	868,650	Oct. 22	2276	631	130	2079
Napkin-holder	C. D. Smith	868,817	Oct. 22	2547	702	130	2164
Nickel from ore. Recovery of	C. A. Ehrenfeld and J. R. Grove	868,769	Oct. 22	2468	682	130	2139
Non-refillable box	A. E. Wilson	868,744	Oct. 22	2438	674	130	2130
Nozzle	C. W. Skinner	868,715	Oct. 22	2396	662	130	2117
Nut-lock	H. T. Fowler	869,173	Oct. 22	3077	849	130	2328
Nut-lock	J. F. Sandrock, J. W. Noble, and L. O'Dell.	869,198	Oct. 22	3114	858	130	2330
Nut-locks. Tool for locking	J. J. Amrhein	869,153	Oct. 22	3053	842	130	2321
Oil-can	W. B. Orton	868,691	Oct. 22	2350	652	130	2104
Ore-concentrator	J. Algert	868,830	Oct. 22	2566	708	130	2169
Pad: *See* Lubricating-pad.							
Pail holder. Milk-	I. Otis	868,692	Oct. 22	2352	652	130	2104
Paint	F. H. Wykoff and G. R. Rishel	869,123	Oct. 22	3006	.....	130	2305
Paint remover and making the same	F. X. Govers	868,920	Oct 22	2701	.....	130	2211
Paint remover and making the same	F. X. Govers	869,176	Oct. 22	3080	.....	130	2330
Pan: *See* Dust-pan.							
Paper-clip	J. H. Alter	868,747	Oct. 22	2441	676	130	2130
Paper holder and cutter. Roll-	W. C. Deuberry	869,049	Oct. 22	2932	808	130	2288
Photograph-holder	C. R. Tibbetts	869,110	Oct. 22	2983	824	130	2290
Piano-playing attachment. Electrical	J. Weber	868,740	Oct. 22	2431	673	130	2128
Pipe: *See* Composite pipe.							
Pipe	J. A. Snoddy	868,819	Oct. 22	2550	702	130	2165
Pipe-coupling	W. W. Kilpatrick	868,869	Oct. 22	2620	724	130	2184
Pipe-coupling	C. R. Schmidt	869,106	Oct. 22	2978	823	130	2298
Pipe-coupling	H. M. Parks	868,604	Oct. 22	2755	652	130	2105
Pipe-hanger	C. A. Marshall	869,003	Oct 22	2830	779–80	130	2282
Pipes. Automatic coupling for brake-	J. V. Petrusich	869,016	Oct. 22	2847	784–5	130	2284
Plane. Extension-	J. T. Gantt	869,078	Oct. 22	2943	810	130	2287
Planter	H. H. McIntire	869,192	Oct. 22	3104	854	130	2336
Plates	J. E. Burton	869,056	Oct. 22	2912	802–3	130	2277
Plow drag attachment	J. E. Burton	869,136	Oct. 22	3023	835	130	2310
Plow drag attachment	J. C. Skidmore	868,714	Oct. 22	2395	662	130	2117
Plow-fender	E. Erixon	868,851	Oct. 22	2597	717	130	2178
Plows or other agricultural implements. Machine for propelling	M. Hardseog	868,661	Oct. 22	2296	638	130	2086
Pneumatic and other drill	C. E. Redfern	868,941	Oct. 22	2735	754	130	2222
Pocket. Safety watch-	W. H. Cotton	868,968	Oct. 22	2772	764	130	2233
Pole-changer	T. B. White	868,953	Oct. 22	2752	750	130	2227
Post-protector	R. H. McKee	869,011	Oct. 22	2843	.....	130	2285
Potassium compounds. Producing	G. W. Gentleu	868,919	Oct. 22	2700	.....	130	2230
Powder. Semismokeless							

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Power from flowing water. Means for obtaining	R. McLaughlin	868,788	Oct. 22	2629	695	130	2188
Press:							
See Printing-press.							
Pressure regulator. Abutment	L. Knöchl	868,986	Oct. 22	2617	775–6	130	2346
Printer's brass-rule corner	H. O. Barth, G. H. Riehl, and W. Honegger.	868,754	Oct. 22	2449	677	130	2123
Printer's composing-stick	M. J. Lynch	868,676	Oct. 22	2628	644	130	2297
Printing a reproduction of the grain of wood. Machine for	A. Sutton	868,148	Oct. 22	2647	840–1	130	2319
Printing-machine	J. L. Firm	868,855	Oct. 22	2629	718–19	130	2179
Printing-machines. Associating, folding, and delivering mechanism for	J. L. Firm	868,854	Oct. 22	2691	718	130	2179
Printing-machines. Associator and folder for	J. L. Firm	868,913	Oct. 22	2699	745	130	2210
Printing on boards. Machine for	H. W. Morgan	868,654	Oct. 22	2340	647–8	130	2101
Printing-press cutting and folding device	J. L. Firm	868,856	Oct. 22	2694	719–20	130	2180
Printing-press. Hand	T. F. Wales	868,630	Oct. 22	2643	706–7	130	2168
Propulsion. Marine	F. C. Benning	869,042	Oct. 22	2699	800	130	2273
Protractor. Course-	J. F. Cole	868,936	Oct. 22	2675	740	130	2208
Puller:							
See Spike-puller.							
Pulp-shaping machine	A. Komp	868,989	Oct. 22	2620	776–7	130	2346
Pump	A. J. Ross and M. J. Morton	868,708	Oct. 22	2371	656–7	130	2111
Pump. Oil-dispensing	H. S. Gordon	868,981	Oct. 22	2738	769	130	2238
Pump. Pneumatic	H. C. Reames	868,980	Oct. 22	2733	754	130	2221
Pump. Rotary	R. M. Blackmer	869,080	Oct. 22	2691	800–1	130	2273
Pump valve. Suction-	J. E. Martin	868,680	Oct. 22	2335	646	130	2100
Punching machine. Jacquard card-	A. M. Scheid	869,216	Oct. 22	3137	865–6	130	2347
Puzzle	R. M. Roessner	868,702	Oct. 22	2370	656	130	2110
Quilling, spinning, and other textile machinery. Driving device for-	W. Gregory	868,982	Oct. 22	2739	769	130	2238
Radiator. Steam-	W. Andrews	869,042	Oct. 22	2690	798	130	2270
Rail-bonds. Making	A. B. Herrick	868,654	Oct. 22	2300	638–9	130	2097
Rail-joint	C. E. Elm	869,164	Oct. 22	3064	846	130	2324
Railway-brake. Emergency	W. Taylor and H. Napay	868,940	Oct. 22	2747	758	130	2225
Railway cattle-guard	F. S. Toombs	868,727	Oct. 22	2413	667	130	2121
Railway. Electric	W. G. Spiegel	869,027	Oct. 22	2692	790	130	2269
Railway-frog	J. E. Graham. (Reissue)	12,705	Oct. 22	3140	869	130	2349
Railway-rail	R. Willits	868,743	Oct. 22	2435	674	130	2120
Railway-rail fastener	G. E. Blaine	868,836	Oct. 22	2578	711	130	2172
Railway-signal	R. D. Peters	869,196	Oct. 22	3111	857	130	2336
Railway-switch adjuster. Automatic	O. Morkert	869,009	Oct. 22	2630	782–3	130	2254
Railway system. Electric-	J. L. Crouse	868,911	Oct. 22	2684	742	130	2205
Railway-tie	W. R. Kaufman	868,865	Oct. 22	2616	723	130	2183
Railway-tie	S. S. Harper	869,178	Oct. 22	3083	850	130	2330
Railway tie and clamp. Combined	C. P. Dey	869,070	Oct. 22	2934	808	130	2284
Range and azimuth finder	F. Baumann	869,129	Oct. 22	3012	831–2	130	2307
Ratchet-brace	G. M. D. Heard	868,985	Oct. 22	2794	771	130	2240
Ratchet-drill	J. J. Hourigan	869,087	Oct. 22	2955	815–16	130	2280
Razor	R. H. Reed and H. Wilcox	868,697	Oct. 22	2361	654	130	2108
Razor-stropping machine	E. E. Deputy	869,058	Oct. 22	2931	807	130	2283
Receptacle	W. T. Summers	868,721	Oct. 22	2405	664	130	2120
Reeds and water-plants growing in ponds and rivers. Device for cutting away	F. C. Ziemsen	868,958	Oct. 22	2760	761	130	2229
Reel	L. E. Tanner	868,722	Oct. 22	2405	664	130	2120
Reel	E. G. McIntyre	869,010	Oct. 22	2842	783	130	2256
Register:							
See Cash-register. Loose-leaf register.							
Regulator:							
See Pressure-regulator.							
Retaining device	B. Blackburn	869,131	Oct. 22	3014	832	130	2307
Ring:							
See Spinning-ring.							
Rod:							
See Truss-rod.							
Rod-bending machine	R. L. Mauzy	868,792	Oct. 22	2610	692	130	2151
Rolling-mill attachment	F. Milliken	869,008	Oct. 22	2938	782	130	2254
Roof. Portable sectional	T. Roe	868,701	Oct. 22	2369	656	130	2110
Roof structure. Timber-	E. Molloy	868,579	Oct. 22	2633	728	130	2198
Roofing	A. E. Kirk	868,930	Oct. 22	2716	748	130	2215
Rope-making machine	W. L. Tobey	868,726	Oct. 22	2412	667	130	2121
Rope-reel	I. M. Fisher	869,166	Oct. 22	3009	847	130	2325
Rotary engine	P. M. MacKaskie	868,678	Oct. 22	2340	644–6	130	2098
Rotary engine	H. H. Calkins	868,841	Oct. 22	2683	713	130	2176
Rotary engine	W. Seibert	868,893	Oct. 22	2668	735	130	2198
Rotary engine	R. Mond	869,100	Oct. 22	2971	820–1	130	2295
Rotary engine	N. R. Smith	869,145	Oct. 22	3089	838–9	130	2314
Rotating engine	N. R. Smith	869,147	Oct. 22	3041	839–40	130	2316
Rubber articles having seams. Making hollow	F. Stratton	869,032	Oct. 22	2898	792–3	130	2282
Rule. Measuring	I. F. Kepler	868,698	Oct. 22	2315	641	130	2098
Saddle. Side-	I. Besse	868,905	Oct. 22	2674	730	130	2202
Safety switch and signal	M. M. Van Vechten	868,826	Oct. 22	2560	706	130	2168
Sanitary apparatus	C. S. Nowlin	868,970	Oct. 22	2535	696	130	2158
Sashes. Means for balancing and fastening window-	G. A. Lucas	869,001	Oct. 22	2828	778	130	2251
Saw. Crosscut-	A. Curwood	868,972	Oct. 22	2777	766	130	2234
Scaffold. Window-	J. V. Hotchkiss	869,193	Oct. 22	3057	851	130	2331
Scale-loops. Making	N. Aubuchon	868,127	Oct. 22	3009	841	130	2306
Scows or bins. Door-closing means for	G. A. Burbank and C. B. Carr	869,135	Oct. 22	3022	835	130	2310
Screening collector and separator	F. Hayes	868,602	Oct. 22	2297	638	130	2098
Screw. Safety set-	L. Lockwood	868,675	Oct. 22	2322	643–4	130	2098
Seat:	C. E. Hoffman	869,086	Oct. 22	2864	815	130	2280
See Car-seat.							
Semaphore-signal	F. B. Corey	868,648	Oct. 22	2273	630	130	2078
Separator:							
See Corn-separator.							
Sewed articles. Seam for	C. McNeil	869,141	Oct. 22	3062	837	130	2313
Sewer-cleaning device	W. E. King and C. Winburn	868,982	Oct. 22	2699	774	130	2240
Sewing-cabinet	S. W. Furst	868,770	Oct. 22	2469	682	130	2140
Sewing-machine	E. J. Toof	869,112	Oct. 22	2988	826	130	2299
Sewing-machine cabinet. Automatic lift and drop	W. Person. (Reissue)	12,706	Oct. 22	3151	869	130	2351
Shaft-box. Oil-rig	E. W. Coksly	868,647	Oct. 22	2273	629	130	2078
Sharpening device	J. S. Hogg	868,783	Oct. 22	2492	686	130	2147
Shears	F. W. Schepman and J. M. Teamer.	868,706	Oct. 22	2376	658	130	2113
Sheet-metal handle	C. F. Pfalzgraf	869,017	Oct. 22	2848	785	130	2256
Sheet-metal receptacle	C. H. Stephenson	868,895	Oct. 22	2660	736	130	2199
Sheet-metal shovel	J. C. Ross	869,144	Oct. 22	3036	838	130	2312
Shelf. Window-	E. W. Thayer	869,149	Oct. 22	3040	841	130	2319
Shovel:							
See Sheet-metal shovel.							
Shovel	J. C. Ross	869,214	Oct. 22	3135	864	130	2346
Sifter. Ash-	N. Thetsen and P. T. Becker	868,725	Oct. 22	2411	666	130	2121
Sifting-machine	G. Hiller	869,085	Oct. 22	2953	815	130	2280
Sign. Electric	C. O. Lindstrom	868,674	Oct. 22	2321	643	130	2096
Signal:							
See Railway-signal. Semaphore-signal.							
Skein-charger	W. E. Sandford	868,892	Oct. 22	2657	734–5	130	2198
Skirt-supporter	A. Grosser	868,983	Oct. 22	2790	770	130	2238
Sled	R. E. Foote	869,170	Oct. 22	3071	848	130	2326
Smelting ores	H. Arden	869,043	Oct. 22	2891	.....	130	2270
Smelting ores	H. Arden	869,125	Oct. 22	3007	.....	130	2306
Soap-holding device	E. W. Alt	869,124	Oct. 22	3006	830	130	2305
Soldering-iron. Self-heating	W. Mitchell	869,140	Oct. 22	3029	836	130	2311
Sound-reproducing machine	R. L. Gibson	868,771	Oct. 22	2470	682	130	2140
Sound transmitter and receiver	A. J. Mundy	868,880	Oct. 22	2634	728	130	2189
Spark-plug	F. J. Watt	868,737	Oct. 22	2426	671	130	2126
Spectacles	I. T. Garner	868,857	Oct. 22	2605	720	130	2180
Speed-changing device	J. G. Callan	869,058	Oct. 22	2915	804	130	2278
Speed-changing mechanism	G. D. Munsing	868,935	Oct. 22	2725	751	130	2218
Speed-meters. Driving appliance for	R. Johnson	868,786	Oct. 22	2496	687–8	130	2148
Spike-puller	J. A. Webb	868,827	Oct. 22	2564	707	130	2168
Spindles of fly-frames. Apparatus for doffing spools from the	W. H. Arnold-Forster	869,044	Oct. 22	2893	798–9	130	2271
Spinning-ring	D. Harrington	868,924	Oct. 22	2706	746	130	2212
Splice and joint	B. S. Burroughs	869,055	Oct. 22	2910	802	130	2276
Splice-bar and nut-lock	A. A. St. John	868,720	Oct. 22	2404	664	130	2119
Spring-wheel	J. J. Schermack	868,814	Oct. 22	2543	701	130	2162
Square. Combination-	W. Roberts	868,700	Oct. 22	2368	655	130	2110
Stalk-cutter	G. W. Klock	868,871	Oct. 22	2623	725	130	2185
Stand:							
See Display-stand.							
Station-indicator and advertiser	A. P. Bonnaffons	869,133	Oct. 22	3018	833–4	130	2309
Steam-boiler. Upright	S. D. Brear	869,158	Oct. 22	3059	844	130	2322
Steam-trap	F. P. Hamilton	868,659	Oct. 22	2293	637	130	2095
Steamer	T. Matteson	869,099	Oct. 22	2970	820	130	2295
Stereotyping. Flong for	E. F. Baum	868,961	Oct. 22	2763	763	130	2231
Stopper:							
See Bottle-stopper.							
Stove-grate	R. E. Adams and C. Hoffman	868,631	Oct. 22	2253	624	130	2073
Stoves. Burner attachment for	H. N. Crossley	868,649	Oct. 22	2275	630	130	2079
Stovepipe attachment	L. Reaser	868,940	Oct. 22	2735	754	130	2222
Stovepipe attachment	H. Heffner	869,180	Oct. 22	3085	850	130	2331
Strainer	A. F. Etter	869,165	Oct. 22	3064	846	130	2324
Strap-protector	J. F. Payne and R. L. Coleman	869,015	Oct. 22	2846	784	130	2256
Street, road, and other ways. Constructing or paving	J. D. Henderson	869,181	Oct. 22	3086	850–1	130	2331
Strip-serving device	S. Elliott	868,977	Oct. 22	2782	767	130	2236
Suspension-bracket	E. H. Richardson	868,888	Oct. 22	2649	732	130	2194
Swimming appliance	C. H. Matter	869,190	Oct. 22	3102	854	130	2336
Swing-gate	J. A. Clements	868,642	Oct. 22	2267	627–8	130	2076
Switch:							
See Electric switch. Light-switch. Electric knife-switch. Safety-switch.							
Switch-stand lock	H. Paulson	868,802	Oct. 22	2528	697	130	2158
Table:							
See Marine table.							
Telegraph or telephone poles. Metallic cross-arm for	W. S. Clay	868,843	Oct. 22	2596	713	130	2175
Telephone-exchange	F. A. Lundquist	868,933	Oct. 22	2720	749	130	2217
Telephone system	W. W. Dean	869,067	Oct. 22	2928	807	130	2282
Telephone system	H. G. Webster	869,119	Oct. 22	2995	827	130	2302
Telephone system	G. Schneider	869,145	Oct. 22	3037	838	130	2314
Theatrical appliance	W. B. Ellsworth	869,072	Oct. 22	2936	809	130	2285
Thill-support	F. A. Crocker	868,909	Oct. 22	2773	765	130	2233
Thill-supporter	R. C. Redpath	868,886	Oct. 22	2640	729–31	130	2191
Threshing-machines. Baling attachment for							
Tie:							
See Fence-tie. Railway-tie. Insulated metal cross-tie.							
Tie-holder	F. E. Wicking	868,742	Oct. 22	2435	674	130	2120
Tile-gaging machine	M. A. Metzner	868,793	Oct. 22	2513	692–3	130	2152
Tile-machines. Plunger for	G. F. Kell	868,866	Oct. 22	2617	723	130	2184
Tire-handling tool	F. J. Fallmann	869,166	Oct. 22	3066	846	130	2326
Tire-tightener	T. T. Smith	868,818	Oct. 22	2548	702	130	2164
Tires. Press for vulcanizing pneumatic	A. E. Vincent	868,732	Oct. 22	2420	669	130	2124
Tobacco-hiller	J. P. Atherton and C. E. Rice	869,126	Oct. 22	3009	831	130	2308
Tongs. Grappling-	J. L. Sewall	868,945	Oct. 22	2743	757	130	2224
Tool. Compound	G. F. Walker	868,733	Oct. 22	2421	669	130	2124
Tool-handles. Manufacture of D-	C. Schmalz and K. Schäffer	869,105	Oct. 22	2977	822	130	2297
Tool-operating device. Automatic	A. Clemons and D. W. Pelkey	868,967	Oct. 22	2769	764	130	2232
Tools. Attachment for fishing-	D. H. Rathbone	868,809	Oct. 22	2537	699	130	2161
Toothpick	P. Gorut	869,175	Oct. 22	3079	849	130	2329
Train-order holder	A. D. Knapp	868,994	Oct. 22	2816	775	130	2248
Transmission mechanism	G. D. Munsing	868,797	Oct. 22	2521	694–5	130	2155
Trap:							
See Animal-trap. Liquid-trap. Insect-trap. Steam-trap.							
Trimmer-board	C. T. Ridgely	869,020	Oct. 22	2852	787	130	2257
Trolley-operating valve	R. H. Rogers	868,889	Oct. 22	2650	732	130	2196
Trolley-track. Overhead	J. H. Lawrence	868,932	Oct. 22	2720	748	130	2217
Trolley-wheel guard	C. Harkness	868,790	Oct. 22	2487	686	130	2146
Trough	D. Hurst	869,088	Oct. 22	2956	816	130	2281

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Truck. Hand-	C. F. Sobell	868,708	Oct. 22	2375	658	130	2111
Truss	S. H. Sublett	869,208	Oct. 22	3119	859	130	2341
Truss-pad	J. M. Cullis	868,971	Oct. 22	2776	765	130	2224
Truss-rod. Walking-beam	E. W. Cokely	868,846	Oct. 22	2272	629	130	2073
Tube: *See* Bell and speaking tube.							
Turbine	R. H. Goldsborough	868,653	Oct. 22	2282	632-3	130	2082
Turbine	R. H. Goldsborough	868,654	Oct. 22	2284	633-4	130	2082
Turbine	R. H. Goldsborough	868,655	Oct. 22	2286	634-5	130	2083
Turbine	T. J. Westerman	869,120	Oct. 22	2988	828	130	2302
Turbine. Elastic-fluid	R. N. Ehrhart	868,702	Oct. 22	3466	682	130	2139
Turbine. Elastic-fluid	O. Junggren	868,787	Oct. 22	2497	688-9	130	2139
Turbine. Steam-	H. G. Robinson	868,943	Oct. 22	2799	755-6	130	2173
Turbines. System of lubrication for elastic-fluid	W. L. R. Emmet	869,136	Oct. 22	3025	836	130	2210
Type-writing machine	J. A. Ronchetti	868,880	Oct. 22	2642	733	130	2166
Type-writing machine	O. Woodward	868,887	Oct. 22	2677	736	130	2205
Type-writing machine	F. A. Young	868,898	Oct. 22	2680	736	130	2205
Type-writing machine	A. J. Briggs	868,892	Oct. 22	2684	801	130	2274
Umbrella	J. Hays	868,952	Oct. 22	2949	812	130	2240
Umbrella-fixture	W. C. L. Maska	869,095	Oct. 22	2833	780	130	2253
Umbrella-handle. Interchangeable	H. A. Widmer	868,900	Oct. 22	2666	737	130	2200
Valve	C. H. Foster	869,171	Oct. 22	3073	848	130	2227
Valve-controlling mechanism	W. B. Garrett	869,207	Oct. 22	3128	861	130	2244
Valve mechanism	H. Woods	868,745	Oct. 22	2478	675	130	2132
Valve. Oil-regulating	G. S. Bennett	868,787	Oct. 22	2451	678	130	2130
Valve-remover	H. Z. White	868,982	Oct. 22	2751	759	130	2227
Vehicle body and frame	V. G. Apple	868,740	Oct. 22	2443	676	130	2131
Vehicle-body. Metal	H. and A. P. Smith	869,035	Oct. 22	2980	790	130	2280
Vehicle running-gear	T. F. Van Luven	868,731	Oct. 22	2418	669	130	2123
Vehicle-wheel	S. C. Moore and C. C. Freeman	868,882	Oct. 22	2337	647	130	2101
Vehicles. Device to prevent tampering with or theft of motor-	L. Ottinger	868,883	Oct. 22	2352	652	130	2105
Vehicles. Flexible wheel for motor and other	H. F. Nichols	869,193	Oct. 22	3105	855	130	2236
Vehicles or trains. Means for resetting automatic controlling devices for	F. E. Kinsman	868,983	Oct. 22	2808	774-5	130	2263
Vending-machine	W. H. H. and C. R. Gorham	868,773	Oct. 22	2475	683-4	130	2142
Vending-machine. Automatic	L. U. Kent	868,980	Oct. 22	2801	773	130	2241
Ventilator: *See* Window and door light ventilator.							
Ventilator	P. Evans	869,074	Oct. 22	2998	800	130	2285
Vessels. Torpedo-projecting apparatus for submarine and submersible	W. F. Britton	870,139	Oct. 22	3060	844	130	2222
Vibrator. Electrically-operated	H. Smulders	868,946	Oct. 22	2744	757	130	2225
Violins. Machine for shaping the backs and bellies of	W. I. Miller	868,795	Oct. 22	2519	694	130	2154
Vise	W. Thau	868,724	Oct. 22	2469	665-6	130	2121
Wagon-box, header-box, hay and stock rack. Combined	D. R. Chase	868,908	Oct. 22	2798	774	130	2222
Wagon-brake	A. E. Cranston	869,062	Oct. 22	2920	805	130	2280
Wall construction	T. J. Stephens	868,719	Oct. 22	2463	663	130	2119
Washboard	L. G. Lease	868,899	Oct. 22	2827	778	130	2251
Washing-machine	F. Martin	868,679	Oct. 22	2334	646	130	2100
Washing-machine-operating mechanism	I. L. Anderson	868,831	Oct. 22	2570	709	130	2170
Water-elevator	J. H. Stanfield	869,200	Oct. 22	3115	858-9	130	2340
Water-heater, filter, and cooler. Combined	A. Haas	868,667	Oct. 22	2290	636	130	2093
Water-tube boiler	P. A. Aurness	869,045	Oct. 22	2985	799	130	2272
Weaner. Stock-	E. G. Rust	868,891	Oct. 22	2656	734	130	2197
Weather-strip for doors	A. W. Swender	869,108	Oct. 22	2981	823-4	130	2290
Weighing-machine. Automatic	R. F. Green	868,775	Oct. 22	2479	684	130	2143
Wheel: *See* Car-wheel. Hub-wheel. Spring-wheel. Vehicle-wheel.	R. D. Webb	869,204	Oct. 22	3119	860	130	2341
Window	H. Rich	868,698	Oct. 22	2666	655	130	2109
Window and door-light ventilator	G. Wamhoff, Jr	869,118	Oct. 22	2984	827	130	2302
Window-cleaner	J. Grossgebauer	869,080	Oct. 22	2945	811	130	2267
Window-dressing device	E. T. O'Kane	868,820	Oct. 22	2340	651	130	2104
Wire-forming machine	W. H. Merkel	869,006	Oct. 22	2834	781	130	2253
Wire-stretcher	J. A. Clements	868,645	Oct. 22	2270	629	130	2078
Wire-stretchers. Anchoring device for	J. A. Clements	868,643	Oct. 22	2268	628	130	2077
Wire-working machine	W. D. Middlebrook	869,007	Oct. 22	2838	781-2	130	2254
Wood, &c. Impregnating	M. Rüping. (Reissue)	12,707	Oct. 22	3152		130	2352
Wrench: *See* Hub-wrench.							
Wrench	C. V. Friend	868,652	Oct. 22	2291	632	130	2081
Wrench	C. L. Henderson	868,818	Oct. 22	2906	720	130	2180
Wrench	W. H. Whittemore	868,954	Oct. 22	2754	760	130	2228
Wrench	D. Mandl	869,097	Oct. 22	2987	820	130	2294
Wrench	H. C. Clark	869,206	Oct. 22	3127	861	130	2344
Wringer: *See* Mop-wringer.	J. H. Mills	869,211	Oct. 22	3122	863	130	2345

DESIGNS.

Design.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Fabric. Textile	S. L. Crownfield	38,864	Oct. 22	130	2353
Fabric. Textile	S. L. Crownfield	38,865	Oct. 22	130	2353
Fabric. Textile	S. L. Crownfield	38,866	Oct. 22	130	2353
Fabric. Textile	O. C. Sauer	38,867	Oct. 22	130	2353
Fabric. Textile	J. T. Homan	38,862	Oct. 22	130	2352
Plate. Metal border for	A. J. Meakin	38,861	Oct. 22	130	2352
Plate or similar article	J. Paull	38,863	Oct. 22	130	2352
Top. Spinning					

TRADE-MARKS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Antimony in ingots	Cookson & Company	65,719	Oct. 22	130	2255
Antimony, pig and sheet lead	Cookson & Company	65,718	Oct. 22	130	2365
Antiseptic compound	Voigt & Co	65,745	Oct. 22	130	2366
Bacon, ham, sausage, and lard	J. Dold Packing Co	65,805	Oct. 22	130	2367
Bath-tubs with porcelain linings. Metal	United States Sanitary Manufacturing Company.	65,729	Oct. 22	130	2365
Beer and porter	T. B. Hall & Company	65,838	Oct. 22	130	2368
Bitters. Stomach-	Dr. T. Hartwig	65,737	Oct. 22	130	2365
Boots and shoes. Leather	International Shoe Company	65,740	Oct. 22	130	2365
Boots and shoes. Leather	Regal Shoe Company	65,796	Oct. 22	130	2367
Boots, shoes, and slippers. Leather	Upham Bros. Co	65,775	Oct. 22	130	2366
Bust-supporters	G. M. Poix	65,835	Oct. 22	130	2368
Butter	George Nye Company	65,802	Oct. 22	130	2367
Candlesticks and valves. Brass	W. D. Allen Manufacturing Company.	65,843	Oct. 22	130	2368
Candy. Chocolate-coated	J. G. McDonald Candy Company	65,804	Oct. 22	130	2367
Canned fruits and vegetables	Burt Olney Canning Co	65,798	Oct. 22	130	2367
Canned fruits and vegetables	Burt Olney Canning Co	65,799	Oct. 22	130	2367
Canned salmon	C. Schmitz & Co	65,811	Oct. 22	130	2367
Carriages	Fouts & Hunter Carriage Manufacturing Co.	65,824	Oct. 22	130	2368
Chemical compound. Certain	Home Laboratories	65,730	Oct. 22	130	2365
Chemical compound. Certain	G. M. Woods	65,747	Oct. 22	130	2366
Cigars	Gustav A. Moebs & Co	65,755	Oct. 22	130	2366
Cleaning compound. Certain	W. Creamer & Co	65,752	Oct. 22	130	2366
Cleansing and polishing. Cloth for	Zip Cloth Manufacturing Company.	65,779	Oct. 22	130	2366
Clothing. Certain	M. Mayer and Sons	65,832	Oct. 22	130	2368
Coal	J. W. Dawson	65,849	Oct. 22	130	2368
Coffee	Frank L. Sanford Tea & Coffee Company.	65,825	Oct. 22	130	2368
Coffee	Jones Dry Goods Co	65,829	Oct. 22	130	2368
Coffee	Levering Coffee Co	65,830	Oct. 22	130	2368
Coffee and tea	Sellers-Lott Coffee Company	65,836	Oct. 22	130	2368
Coffee	W. F. McLaughlin & Co	65,844	Oct. 22	130	2368
Coffee	W. F. McLaughlin & Co	65,845	Oct. 22	130	2368
Coffee and tea	Closset & Devers	65,822	Oct. 22	130	2368
Combs	W. H. Noyes & Bro. Co	65,846	Oct. 22	130	2368
Computing-machines	Calculus Company	65,780	Oct. 22	130	2368
Cotton-batting	Southern Cotton Oil Company	65,797	Oct. 22	130	2367
Cutlery and edge-tools. Certain	George Worthington Company	65,723	Oct. 22	130	2365
Dental cements	E. W. Dodez	65,753	Oct. 22	130	2366
Electrical supplies. Certain	Morgan Crucible Company	65,726	Oct. 22	130	2365
Felt roofing	Warren-Ehret Company	65,778	Oct. 22	130	2366
Fertilizers	Virginia-Carolina Chemical Company.	65,776	Oct. 22	130	2366
Flour. Wheat-	Allen & Wheeler Company	65,818	Oct. 22	130	2367
Flour. Wheat-	Allen & Wheeler Company	65,819	Oct. 22	130	2367
Flour. Wheat-	Jones Dry Goods Co	65,828	Oct. 22	130	2368
Flour. Wheat and rye	Wilkinson, Gaddis & Co	65,948	Oct. 22	130	2368
Foods. Certain	Carroll, Brough & Robinson	65,801	Oct. 22	130	2367
Furniture-polish	Orchard & Wilhelm Carpet Co	65,727	Oct. 22	130	2365
Gas-burners. Incandescent	Block Light Company	65,820	Oct. 22	130	2368
Gin	G. Rexinger	65,810	Oct. 22	130	2367
Glass articles. Certain	Gillinder & Sons	65,794	Oct. 22	130	2367
Gloves. Leather	Gordon & Ferguson	65,827	Oct. 22	130	2368
Goggles. Automobile-	Meyrowitz Manufacturing Company.	65,758	Oct. 22	130	2366
Grindstones	Royal Manufacturing Co	65,774	Oct. 22	130	2366
Hand-bags	Hahn & Amberg	65,771	Oct. 22	130	2370
Insect-poison	U. Storrjohamm	65,744	Oct. 22	130	2365
Knitted underwear	G. Rockwood & Co	65,742	Oct. 22	130	2365
Kilnmeal	Schuster Co	65,812	Oct. 22	130	2367
Lamps. Automobile-	35% Automobile Supply Co	65,839	Oct. 22	130	2368
Lead. Hard	Cookson & Company	65,717	Oct. 22	130	2365
Linoleum	Catesby & Sons	65,751	Oct. 22	130	2366
Macaroni, spaghetti, and wheat-flour	Waples-Platter Grocer Company	65,847	Oct. 22	130	2368

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Magazines	Walter A. Johnson & Co	65,777	Oct. 22	130	2366
Magazines. Monthly	International Union of Steam Engineers.	65,786	Oct. 22	130	2367
Medicinal compound	Walter L. Smith Drug Co	65,746	Oct. 22	130	2366
Medicinal preparations. Certain	Bloomingdale Bros	65,782	Oct. 22	130	2366
Medicine for fever	Farbwerke vorm. Meister Lucius & Brüning.	65,721	Oct. 22	130	2365
Metal manufactures. Certain	Elbel Company	65,729	Oct. 22	130	2365
Ointment	R. N. Gilmore	65,728	Oct. 22	130	2365
Ointments	H. Hogshead	65,738	Oct. 22	130	2365
Oysters and canned fish	C. Callahan Co	65,800	Oct. 22	130	2367
Paints. Mixed	Tropical Oil Company	65,840	Oct. 22	130	2368
Paper. Writing and printing	American Writing Paper Company.	65,760	Oct 22	130	2366
Paper. Writing and printing	American Writing Paper Company.	65,761	Oct. 22	130	2367
Paper. Writing and printing	American Writing Paper Company.	65,762	Oct. 22	130	2367
Paper. Writing and printing	American Writing Paper Company.	65,763	Oct. 22	130	2367
Paper. Writing and printing	American Writing Paper Company.	65,764	Oct. 22	130	2367
Paper. Writing and printing	American Writing Paper Company.	65,765	Oct. 22	130	2367
Paper. Writing and printing	American Writing Paper Company.	65,766	Oct. 22	130	2367
Paper. Writing and printing	American Writing Paper Company.	65,767	Oct. 22	130	2367
Paper. Writing and printing	American Writing Paper Company.	65,768	Oct. 22	130	2367
Paper. Writing and printing	American Writing Paper Company.	65,769	Oct. 22	130	2367
Paper. Writing and printing	American Writing Paper Company.	65,770	Oct. 22	130	2367
Paper. Writing and printing	American Writing Paper Company.	65,771	Oct. 22	130	2367
Paper. Writing and printing	American Writing Paper Company.	65,772	Oct. 22	130	2367
Pens. Steel	Perry & Company	65,694	Oct. 22	130	2365
Post-cards	J. & L. E. Gamst	65,784	Oct. 22	130	2365
Powder. Antiseptic	Red Cross Powder Co	65,741	Oct. 22	130	2365
Printing-presses and parts thereof	Machine Sales Company	65,681	Oct. 22	130	2365
Punches	R. Lawrence Stationery Company.	65,715	Oct. 22	130	2365
Refrigerators	Baldwin Refrigerator Co	65,702	Oct. 22	130	2365
Refrigerators	Baldwin Refrigerator Co	65,703	Oct. 22	130	2365
Refrigerators and ice-boxes	Baldwin Refrigerator Co	65,704	Oct. 22	130	2365
Refrigerators and ice-boxes	Baldwin Refrigerator Co	65,705	Oct. 22	130	2365
Remedy for catarrh	Davis Chemical Company	65,709	Oct. 22	130	2365
Remedy for chills	J. M. Smith	65,742	Oct. 22	130	2365
Rubber and rubber gums	Continental Rubber Company	65,705	Oct. 22	130	2365
Rubber and rubber gums	Continental Rubber Company	65,707	Oct. 22	130	2365
Rubber and rubber gums	Continental Rubber Company	65,708	Oct. 22	130	2365
Rubber and rubber gums	Continental Rubber Company	65,709	Oct. 22	130	2365
Rubber boots and shoes	Seiz, Schwab & Company	65,813	Oct. 22	130	2367
Rubber boots and shoes	Seiz, Schwab & Company	65,814	Oct. 22	130	2367
Rubber boots, overshoes, and rubbers	Seiz, Schwab & Company	65,815	Oct. 22	130	2367
Rubber footwear	St. Paul Rubber Co	65,816	Oct. 22	130	2367
	M. Lindsay Rubber Manufacturing Co.	65,808	Oct. 22	130	2367
Salve. Corn	C. Berman	65,731	Oct. 22	130	2365
Seeds. Flower	F. C. Ludwig	65,773	Oct. 22	130	2365
Shirt-waists. Ladies' and girls'	Spiegel & Prahs	65,827	Oct. 22	130	2365
Shirts, jackets, overalls, and trousers	R. L. McDonald & Co	65,823	Oct. 22	130	2365
Sideboards, buffets, beds, &c	Indiana Furniture Co	65,775	Oct. 22	130	2365
Soap	Robinson Bros. & Company	65,789	Oct. 22	130	2365
Soap manufactured from wool-grease	Vereinigte Chemische Werke Aktiengesellschaft.	65,761	Oct. 22	130	2366
Soap. Perfumed	A. & F. Pears	65,745	Oct. 22	130	2366
Spinning-rings for textile machinery	Draper Company	65,688	Oct 22	130	2365
Stogies	E. A. Lenhard & Co	65,787	Oct. 22	130	2365
Sugar-granulators, cube-machines, &c	Hersey Manufacturing Company	65,794	Oct. 22	130	2365
Tea and coffee	Charles Hewitt & Sons Co	65,681	Oct. 22	130	2365
Tea and coffee	Ginter Grocery Co	65,686	Oct. 22	130	2365
Tobacco. Chewing and smoking	P. Lorillard Company	65,739	Oct. 22	130	2365
Tobacco. Smoking	American Tobacco Company	65,740	Oct. 22	130	2365
Tools. Certain hand	Abner Doble Company	65,712	Oct. 22	130	2365
Tools. Certain hand	Abner Doble Company	65,713	Oct. 22	130	2365
Tools. Certain hand	Abner Doble Company	65,714	Oct. 22	130	2365
Tools. Hand	Bering-Cortes Hardware Co	65,716	Oct. 22	130	2365
Tooth-cleaning preparation	Davis Chemical Company	65,734	Oct. 22	130	2365
Varnish-stains	Colonial Paint Company	65,768	Oct. 22	130	2367
Varnishes	Glidden Varnish Company	65,770	Oct. 22	130	2367
Veterinary blood-purifier. Liquid	J. T. Carback	65,728	Oct. 22	130	2365
Washing-machines	White Lily Manufacturing Company.	65,730	Oct. 22	130	2365
Watch-movements	Hampden Watch Co	65,733	Oct. 22	130	2365
Whisky	George Bieler Sons Company	65,722	Oct. 22	130	2365
Whisky	McIlvaine & Baldwin	65,725	Oct. 22	130	2365
Whisky	Theobald and Son Co	65,726	Oct. 22	130	2365
Whisky	I. Trager Co	65,689	Oct. 22	130	2367

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Whisky	J. W. Kelly & Co	65,806	Oct. 22	130	2367
Whisky	J. W. Kelly & Co	65,807	Oct. 22	130	2367
Whisky	Number One Distillery Co	65,809	Oct. 22	130	2367
Whisky	Woolner Distilling Company	65,817	Oct. 22	130	2367
Wool-fat preparations. Certain	Vereinigte Chemische Werke Aktiengesellschaft.	65,841	Oct. 22	130	2368
Wool-fat preparations. Certain	Vereinigte Chemische Werke Aktiengesellschaft.	65,842	Oct. 22	130	2368

LABELS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Chocolate." (For Chocolate Goods)	Bunte Brothers	13,840	Oct. 22	130	2369
"Cocoa Beans." (For Cocoa-Beans)	Bunte Brothers	13,870	Oct. 22	130	2369
"Elk Brand." (For Shoes)	G. A. Lutz	13,841	Oct. 22	130	2369
"Loading Cocoa Beans." (For Cocoa-Beans)	Bunte Brothers	13,838	Oct. 22	130	2369
"Royal Jelly Powder." (For Jelly-Powder)	Royal Pure Food Co	12,837	Oct. 22	130	2369
"Spring Leaf Tea." (For Tea)	Hoops Tea Company	13,836	Oct. 22	130	2369

PRINTS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Cyclist Bank, Bicycle Playing Cards." (For Playing-Cards)	United States Playing Card Company.	2,139	Oct. 22	130	2369
"Men's and Boys' Apparel." (For Men's and Boys' Apparel)	H. C. Lytton	2,140	Oct. 22	130	2369

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Antiseptic and germicide preparation for dental use	J. C. Graft	28,311	Oct. 22	130	2369
Antiseptic compound	W. W. Brown	29,510	Oct. 22	130	2369
Bands, underskirts, and caps. Children's	A. D. Smith	29,548	Oct. 22	130	2369
Beer	Ruehl Bros. Brewing Co	29,549	Oct. 22	130	2369
Bells and push-buttons. Electrical	U. S. E. M. Co	27,906	Oct. 22	130	2369
Belting. Machine	Mount Vernon Belting Co	29,508	Oct. 22	130	2369
Books. Printed	John Murphy Company	22,404	Oct. 22	130	2369
Boots and shoes. Leather	H. J. Lang	27,899-900	Oct. 22	130	2369
Boots and shoes. Leather	Luddy & Currier	29,378	Oct. 22	130	2369
Boots and shoes. Leather	W. B. Cosgrave Shoe Co	29,380	Oct. 22	130	2369
Boots and shoes. Leather	W. B. Cosgrave Shoe Co	29,383	Oct. 22	130	2369
Bread	G. S. Ward	23,942	Oct. 22	130	2367
Brushes. Hair, flesh, and tooth	J. M. Lawton	29,085	Oct. 22	130	2369
Brushes. Tooth	Deitsch Brothers	19,847	Oct. 22	130	2369
Calcium-silver and quinin salts	Fischer Chemical Importing Co	11,117	Oct. 22	130	2369
Candy and chocolates	Hess Bros	29,513	Oct. 22	130	2369
Canned fish	J. Frye & Co	29,526-7	Oct. 22	130	2369
Canned fruits, vegetables, and berries	Holbrook Grocery Co	27,846	Oct. 22	130	2369
Canned sardines	J. Frye & Co	29,528	Oct. 22	130	2369
Canned shrimps, salmon, clams, and clam-chowder	Holbrook Grocery Co	27,847	Oct. 22	130	2369
Capsules. Filled gelatin	Fischer Chemical Importing Co	11,120	Oct. 22	130	2369
Catsup, lemon-sauce, apple-butter, &c	Wichita Vinegar Works	28,511	Oct. 22	130	2369
Chains and bracelets. Gold	Saxman & Forman	29,200	Oct. 22	130	2369
Children's, muslins, ribbons, and velvets	Friedmann & Distillator	28,912	Oct. 22	130	2369
Cigars	Lewis Kindling Co	29,214	Oct. 22	130	2369
Coats, vests, and trousers	I. Isaacs	28,899	Oct. 22	130	2369
Coats, vests, trousers, and overcoats	I. Dresner	28,148	Oct. 22	130	2369

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Cocoa and chocolate	Mazawattee Tea Company	27,702	Oct. 22	130	2203
Cold, massage, and toilet cream	L. W. Bartel	29,977	Oct. 22	130	2204
Colors, enamels, finishes, white lead, &c	Acme White Lead & Color Works	29,240	Oct. 23	130	2204
Combs. Fiber for the manufacture of	Hall-Heffernan Brush Co	28,426	Oct. 23	130	2203
Combs. Hair-	Radigan, Rich & Co	28,980	Oct. 23	130	2203
Cream, skin-food, face-powder, &c. Toilet	B. H. Lepper	28,980	Oct. 23	130	2203
Dentifrice	K. A. Lingner	28,871	Oct. 23	130	2203
Dyeing purposes. Mordant for	G. W. Gilbert	29,209	Oct. 23	130	2203
Fertilizers	Virginia-Carolina Chemical Company.	17,889	Oct. 22	130	2203
Fertilizers	Asheboo Fertilizer Company	29,228	Oct. 23	130	2203
Flour and cornmeal. Wheat-	Zwonschek & Abramit	29,980	Oct. 23	130	2204
Flour. Wheat-	S. Bell & Sons	19,161	Oct. 22	130	2203
Flour. Wheat-	American Trading Company, (Pacific coast.)	28,879	Oct. 22	130	2203
Flour. Wheat-	Zwonschek & Abramit	29,980	Oct. 22	130	2204
Furnaces, stoves, and ranges	E. B. Colby & Co	6,891	Oct. 22	130	2203
Gauze in the piece. Absorbent	Jacobus & Carlisle Co	21,819	Oct. 22	130	2203
Gilding-wheel	W. H. Coe Manufacturing Co	27,681-6	Oct. 23	130	2203
Gilding-wheel	W. H. Coe Manufacturing Co	29,216	Oct. 23	130	2203
Glues	Arabol M'f'g Co	29,240	Oct. 23	130	2204
Hair-grower and dandruff-eradicator	T. J. Joyce	29,980	Oct. 23	130	2203
Hair-tonics, face, perspiration, talcum, and bath powder	A. C. Aydelott	27,885	Oct. 23	130	2203
Hides, skins, and furs	Offene Handelsgesellschaft Schröder, Smidt & Co.	29,981	Oct. 23	130	2203
Hones. Razor-	Sunset Hone Co	29,071	Oct. 23	130	2203
Insecticides	Leggett & Brother	29,227	Oct. 23	130	2203
Knitted and netted underclothing	Elmira Knitting Mills	29,851	Oct. 23	130	2203
Knitted or netted vests, drawers &c	M. Haiff & Bro	29,737	Oct. 23	130	2203
Liniment and medicines for catarrh, hay-fever, and deafness	Kane Chemical Co	29,057	Oct. 23	130	2203
Magazine. Monthly	System Company	29,742	Oct. 23	130	2203
Medicinal elixir	Hawes Chemical Company	29,203	Oct. 23	130	2203
Medicinal preparation for the treatment of rheumatism, tuberculosis, &c.	Sapa Chemical Co	29,980	Oct. 23	130	2204
Medicines for diseases of the stomach, liver, kidneys, &c	Teraqua Mineral Company	29,984	Oct. 23	130	2204
Medicines for treatment of enteritis, typhoid fever, &c	Société "Le Ferment"	29,980	Oct. 23	130	2204
Metal-polishes. Abrasive	Arminger Chemical Co	29,984	Oct. 23	130	2203
Packing	E. C. Garratt	29,225	Oct. 23	130	2203
Paint. Gold	Welsh and Jones	29,980	Oct. 23	130	2207
Paints, varnishes, stains, fillers, &c	Patterson Sargent Co	29,981	Oct. 23	130	2203
Paper used for checks, &c. Safety-	George La Monte & Son	17,851	Oct. 23	130	2203
Paris-green	M. Herrmann & Company	29,227	Oct. 23	130	2203
Pasteboard cases, boxes, and cartons	C. C. Rahn	29,189	Oct. 22	130	2203
Power-transmitting apparatus, clutches, and speed-gears	International Patent Corporation.	29,227	Oct. 23	130	2207
Preserving and disinfecting agents	Montana Gesellschaft mit beschränkter Haftung.	29,189	Oct. 22	130	2203
Refrigerators	Lockland Lumber Co	29,984	Oct. 22	130	2204
Remedies and tonics	Berg Medicine Company	29,983	Oct. 22	130	2207
Remedy for dyspepsia	Hollander Bros. Drug Co	29,774	Oct. 22	130	2204
Remedy for dyspepsia and cold-cream	F. N. Pond	29,761	Oct. 22	130	2203
Remedy for eczema, scrofula, dyspepsia, &c	Hampden Mfg. Co	29,981	Oct. 22	130	2203
Rubber footwear and tires	Hood Rubber Co	29,227	Oct. 22	130	2203
Salve	P. W. Lerch & Co	14,471	Oct. 22	130	2203
Sardines	E. Shivell	29,983	Oct. 23	130	2204
Scouring-powder	Azie Manufacturing Company	29,983	Oct. 23	130	2203
Sewing-machine needles	Standard Sewing Machine Company.	29,980	Oct. 22	130	2203
Sewing-machines and attachments	Standard Sewing Machine Company.	29,984	Oct. 22	130	2203
Skates	Samuel Winslow Skate Mfg. Co	29,984	Oct. 22	130	2203
Soap. Toilet and laundry	A. Hona	29,983	Oct. 22	130	2203
Soap. Tooth-	J. S. Ramage	29,983	Oct. 22	130	2203
Statuary	Daprato Statuary Company	29,983	Oct. 23	130	2203
Stereotype-plates. Adhesive composition for use in the manufacture of	Toronto Type Foundry Co	27,205	Oct. 23	130	2207
Stockings, underwear, and waists	Mona Manufacturing Company	29,709	Oct. 23	130	2203
Stoves, ranges, and parts thereof	Smith & Anthony Company	27,207	Oct. 23	130	2203
Tonic	H. Law, H. E. Law	29,983	Oct. 23	130	2207
Turpentine substitute	Southern Substitute Turpentine Company.	27,130	Oct. 23	130	2207
Varnishes, fillers, and colors	Moore Paint Co	29,473	Oct. 23	130	2203
Watch bows and pendants	Wachter Manufacturing Company.	29,980	Oct. 23	130	2203
Watches	Fabrique d'horlogerie, Beau-Site Vve Ferdinand Bourquin.	13,131	Oct. 23	130	2203
Waters, Mineral	S. Harmsworth	29,983	Oct. 23	130	2203
Whisky	Geo. Benz & Sons	29,983	Oct. 23	130	2207
Whisky	W. A. Ross & Brother	29,983	Oct. 23	130	2203
Whisky, gin, brandy, cordials, and cocktails	L. L. Lamm Co	29,983	Oct. 23	130	2203
	W. P. Strader	29,983	Oct. 23	130	2207

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ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 29TH DAY OF OCTOBER, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
Actien Gesellschaft für Anilin Fabrikation. (See Mankiewicz, Altschul, and Urban, assignors.						
Adair, Alfred, Troyeville, Johannesburg, Transvaal. Cyanid treatment of ores	869,287	Oct. 29	3262	.....	130	2414
Adams, John R., Burslem, assignor of one-half to J. Sherwin, Hanley, England. Laundry-iron	869,679	Oct. 29	3910	1076	130	2612
Adams, Jones F. (See Atwell, Ernest T., assignor.)						
Adriance, Platt & Company. (See Crane, William H., assignor.)						
Agnew Auto Mailing Machine Company. (See Nielsen, Laurits, assignor.)						
Agnew, Lewis P., Wapanucka, Ind. Ter. Combined chair and desk	869,472	Oct. 29	3568	978	130	2507
Aiken, Stephenson R. (See Bilbrey, William S., assignor.)						
Aitken, Hugh W., and W. Mackie, Glasgow, Scotland. Apparatus for separating liquids from vapors	869,680	Oct. 29	3911	1076	130	2612
Aktiebolaget Gas Accumulator. (See Dalén, Gustaf, assignor.)						
Alarm Lock Company. (See Sheinman, Morris, assignor.)						
Albert and J. M. Anderson Manufacturing Company. (See Anderson, Albert, assignor.)						
Albertson, Benjamin, Mantoloking, N. J. Slat-operating mechanism	869,473	Oct. 29	3570	979	130	2508
Allen, Arthur D. (See Holmes and Allen.)						
Allen, James M., assignor of two-fifths to C. F. Schneider, St. Louis, Mo. Safe	869,220	Oct. 29	3155	870	130	2379
Allen, James M., assignor of two-fifths to C. F. Schneider, St. Louis, Mo. Safe-door support	869,221	Oct. 29	3156	870	130	2379
Allen, James M., assignor of two-fifths to C. F. Schneider, St. Louis, Mo. Safe-lock	869,222	Oct. 29	3157	870	130	2379
Alspaugh, Jesse L., Georgetown, Colo. Tool for removing bushings	869,861	Oct. 29	4170	1152	130	2685
Altschul, Julius. (See Mankiewicz, Altschul, and Urban.)						
American Hame and Bit Company. (See Le Compte, George W., assignor.)						
American Mayhew Compo Board Syndicate. (See Mayhew, George S., assignor.)						
American Pneumatic Service Company. (See Stoddard, Charles F., assignor.)						
American Soda Fountain Company. (See Wheildon and Maxwell, assignors.)						
American Tin Plate Company. (See Bray, Charles W., assignor.)						
Amsler Engineering Company. (See Amsler, Walter O., assignor.)						
Amsler, Walter O., assignor to Amsler Engineering Company, Pittsburg, Pa. Chimney-valve construction	869,763	Oct. 29	4029	1112	130	2645
Anderson, Albert, assignor to Albert and J. M. Anderson Manufacturing Company, Boston, Mass. Strain-insulator	869,403	Oct. 29	3455	949	130	2473
Anderson, Albert, assignor to Albert and J. M. Anderson Manufacturing Company, Boston, Mass. Strain-insulator	869,404	Oct. 29	3456	949	130	2473
Anderson, Harry T. (See Taylor, Arthur K., assignor.)						
Anderson, Joseph D., St. Marys, Ohio. Explosive-engine	869,611	Oct. 29	3803	1040	130	2579
Anderson, Nellie S. (See Anderson, William, assignor.)						
Anderson, William G., assignor to N. S. Anderson, trustee, Brookline, Mass. Heel for boots and shoes	869,764	Oct. 29	4031	1113	130	2645
Andrew, Moses L., Delhi, Ohio. Boring-machine	869,223	Oct. 29	3159	871	130	2380
Angell, Edwin E., Boston, Mass. Protecting commerical paper	869,523	Oct. 29	4116	1137	130	2670
Annable, Henry W. C., Battersea, London, assignor to Ferro Alloys Syndicate Limited, London, England. Manufacture of ferrochromium	869,681	Oct. 29	3912	1077	130	2612
Anschütz, Paul, assignor of one-half to G. Bickelhaupt, New York, N. Y. Take-up mechanism for sewing-machines	869,765	Oct. 29	4032	1113	130	2646
Antoni, Ernest J., Kansas City, Mo. Bed	869,766	Oct. 29	4033	1113	130	2646
Armstrong, George F., Jr., North Wales, Pa. Truck-wheel	869,767	Oct. 29	4034	1114	130	2646
Arndt, Henry, Brooklyn, N. Y. Safety-stirrup release for saddles	869,540	Oct. 29	3674	1007	130	2589
Aseptic Drinking-Cup Company. (See Potter, Harry J., assignor.)						
Ash, Hugo. (See Langdon and Carlson, assignors.)						
Aspinwall, Louis M., Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Control system	869,824	Oct. 29	4118	1137	130	2671
Atkinson, Robert E., Leicester, England. Regulator	869,612	Oct. 29	3804	1040	130	2580
Atwell, Ernest T., assignor to J. F. Adams, Kansas City, Mo. Collar-button	869,405	Oct. 29	3457	949	130	2473
Atwood, Leonard, assignor of one-fourth to J. M. O. Hewitt, Philadelphia, Pa. Fishing-reel	869,406	Oct. 29	3458	950	130	2474
Atwood, Leodard, assignor of one-fourth to J. M. O. Hewitt, Philadelphia, Pa. Fishing-reel	869,474	Oct. 29	3571	979	130	2508
Auger & Simon Silk Dyeing Co. (See Hott, Henry, assignor.)						
Auspriath, William, Cincinnati, Ohio. Case	869,682	Oct. 29	3913	1077	130	2612
Auto-Manual Piano Action Company. (See Wuest, Philip, Jr., assignor.)						
Autocoil Company. (See Varley, Richard, assignor.)						
Aylsworth, Jonas W., East Orange, and F. L. Dyer, Montclair, N. J. Steam-conduit	869,768	Oct. 29	4035	1114	130	2647
B. F. Sturtevant Company. (See Freeman, Ernest B., assignor.)						
Bacon, Daniel, New York, N. Y., assignor, by mesne assignments, to W. B. Bull, Chicago, Ill. Double-arbor lathe	869,862	Oct. 29	4171	1152-3	130	2688
Badische Anilin & Soda Fabrik. (See Rinckenberger, Alfred, assignor.)						
Badische Maschinenfabrik und Eisengiesserei, vormals G. Sebold und Sebold & Neff. (See Moreland and Landvatter, assignors.)	869,407	Oct. 29	3460	950	130	2474
Baird, James J., Los Angeles, Cal. Rug-turfing machine	869,343	Oct. 29	3362	925	130	2448
Baker, Charles A., and T. L. Smith, assignors to Sterling Wheelbarrow Company, Milwaukee, Wis. Wheelbarrow-wheel	869,288	Oct. 29	3263	898	130	2414
Baldwin, Nathaniel, Heber, Utah. Sound-amplifier						

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Drg.	Official Gazette. Vol.	Page.
Balla, Maurice, and D. Stein, Norfolk, Va. Necktie fastener	869,683	Oct. 29	3014	1077	130	2611
Barber, Albert H., assignor of one-half to J. M. Mullen, Westertown, N. Y. Electric regulator	869,684	Oct. 29	3015	1077	130	2611
Barber, John C., Chicago, Ill. Antifriction center-bearing for cars	869,685	Oct. 29	3017	1078	130	2612
Bardwell, Arthur F., assignor to Yale & Towne Manufacturing Company, Stamford, Conn. Padlock	869,475	Oct. 29	3573	979	130	2609
Barnett, George W., Louise, Tex. Grading-machine	869,408	Oct. 29	3461	950–1	130	2475
Barrett, George E., assignor of one-half to J. Z. Miller, Superior, Wis. Cultivator-shield	869,289	Oct. 29	3296	899	130	2414
Bauno, Julius, Chicago, Ill. Advertising toy	869,494	Oct. 29	3018	1078	130	2613
Baxter, John J., Erie, Pa. Pocket door lock	869,541	Oct. 29	3576	1007	130	2540
Bazeley, Arthur J., assignor to National Malleable Castings Company, Cleveland, Ohio. Core box	869,234	Oct. 29	3161	871–2	130	2380
Beck, Arthur E., Earlswood, assignor to Perrins Limited, Warrington, England. Manufacture of tubes	869,476	Oct. 29	3574	980	130	2580
Beem, Guy O., and C. H. Martin, Los Angeles, Cal. Automatic ink-font for platen printing-presses	869,263	Oct. 29	4175	1153	130	2680
Bell, Louis, Brookline, Mass. Telescope	869,760	Oct. 29	4035	1114	130	2647
Benedict, Charles R., Kansas City, Kans., and J. A. Hutcheson, Kansas City, Mo. Alarm attachment for incubators	869,409	Oct. 29	3465	952	130	2476
Bennett, John, Parry Sound, Ontario, Canada. Dumping-car	869,613	Oct. 29	3605	1040–1	130	2600
Bennett, Joseph J., Lisbon, Ohio, assignor to Bennett Register Company. Accounting device	869,614	Oct. 29	3606	1041–2	130	2600
Bennett Register Company. (See Bennett, Joseph J., assignor.)						
Bentley, Charles E., New York, N. Y. Stamped fabric	869,226	Oct. 29	3162	872	130	2381
Benton, James, East Palestine, Ohio. Ventilator for buildings	869,687	Oct. 29	3620	1078	130	2614
Bergen, Frederick. (See Pascoe and Bergen.)						
Bergens, William J., Pittsburg, Pa. Pneumatic cleaning device	869,542	Oct. 29	3576	1008	130	2540
Berresford, Arthur W., assignor to Cutler-Hammer Mfg. Co., Milwaukee, Wis. Insulating coupling	869,410	Oct. 29	3466	952	130	2476
Berry, William T., Maysville, Ky. Calendar	869,411	Oct. 29	3468	953	130	2477
Bickelhaupt, George. (See Anschütz, Paul, assignor.)						
Bierhoff, Hugo. (See Heaton, Charles, assignor.)						
Bilbrey, William S., assignor of one-half to S. R. Aiken, West Point, Ga. Air-brake	869,543	Oct. 29	3578	1008	130	2540
Birmingham, John D., Wilkes-Barre, Pa. Invalid-bed	869,344	Oct. 29	3263	926	130	2442
Birnstock, William W., assignor of one-half to M. G. Collins, York, Pa. Building-block and wall	869,615	Oct. 29	3609	1042	130	2601
Birnstock, William W., assignor of one-half to M. G. Collins, York, Pa. Building-block	869,770	Oct. 29	4057	1114	130	2647
Black, Ellis L., Bentley, Kans. Sand-proof disk-hub	869,226	Oct. 29	3160	872	130	2381
Black, John, Mendota, Ill. Sandpapering-machine	869,688	Oct. 29	3621	1078–9	130	2614
Blair, Thomas S., Jr., Elmhurst, Ill. Furnace	869,616	Oct. 29	3610	1042–3	130	2601
Blair, Thomas S., Jr., Elmhurst, Ill. Open-hearth furnace	869,617	Oct. 29	3612	1043	130	2602
Blum, Jules R., assignor to Company "L'Aspirator," Paris, France. Regulating device for dust-removing pneumatic machines	869,544	Oct. 29	3580	1008	130	2541
Boals, William J. O. (See Olson and Boals.)						
Boenker, Henry H., St. Charles, Mo. Grain-door	869,412	Oct. 29	3469	953	130	2477
Booton, Chauncey H., Gallipolis, assignor to Main Automatic Mailing Machine Company, Columbus, Ohio. Label-affixing machine	869,545	Oct. 29	3580	1009–10	130	2541
Bottlers Machinery Manufacturing Company. (See Strasburger, Frank C. H., assignor.)						
Bouché, William F., Norwood, Ohio, assignor to Bullock Electric Manufacturing Company. Mechanical shaft-oscillator	869,235	Oct. 29	4121	1138	130	2671
Bowe, James H., New York, N. Y. Device for checking the sale of cigars	869,477	Oct. 29	3575	980	130	2609
Bowes, Sidney S., *et al.* (See Vinton, John H., assignor.)						
Bradbury, William. (See Ludwig and Bradbury.)						
Bradford, William R., Calumet, Mich. Bench-clamp	869,290	Oct. 29	3297	899	130	2415
Braendle, Edward E., assignor to H. Hohner, New York, N. Y. Accordion	869,227	Oct. 29	3164	872	130	2381
Bralley, Walter S., Schenectady, N. Y., assignor to General Electric Company. Frequency-changer	869,413	Oct. 29	3470	953	130	2477
Brand, George P., New York, N. Y. Pneumatic motor for use in automatic musical players	869,414	Oct. 29	3472	954	130	2477
Bray, Charles W., Pittsburg, Pa., assignor to American Tin Plate Company, Orange, N. J. Apparatus for rolling black plates and sheets	869,291	Oct. 29	3298	899–900	130	2415
Bray, Charles W., Pittsburg, Pa., assignor to American Tin Plate Company, Orange, N. J. Rolling black plates or sheets	869,292	Oct. 29	3270	900–1	130	2415
Briggs, Daniel, New York, assignor to Wyckoff, Seamans & Benedict, Ilion, N. Y. Type-writing machine	869,236	Oct. 29	4122	1138–9	130	2672
Brillion Iron Works Company. (See Wolfinger, Joseph, assignor.)						
Broderick, David F., New Britain, assignor of one-half to L. Sperry, South Windsor, Conn. Machine for scouring and scratch-brushing flat metal ware	869,678	Oct. 29	3577	980–1	130	2610
Brown, Alexander E., assignor to Brown Hoisting Machinery Company, Cleveland, Ohio. Car-pusher	869,689	Oct. 29	3623	1079–81	130	2614
Brown, Charles F., trustee. (See Reeve, Sidney A., assignor.)						
Brown Hoisting Machinery Company. (See Brown, Alexander E., assignor.)						
Brown, James B. L., Galena, Kans. Check rein-hook	869,546	Oct. 29	3585	1010	130	2542
Brown, Joseph W., Curries, Nev. Cooking-utensil	869,690	Oct. 29	3625	1081	130	2615
Brownlow, William H., Brockville, Ontario, Canada. Artificial rubber	869,618	Oct. 29	3613		130	2602
Buckwell, Arthur W., New York, assignor to Monarch Typewriter Company, Syracuse, N. Y. Type-writing machine	869,547	Oct. 29	3585	1010	130	2543
Buell, Charles E., North Plainfield, N. J., assignor to General Fire Extinguisher Company, New York, N. Y. Fire-extinguishing apparatus	869,415	Oct. 29	3473	954	130	2478
Buescher, Ferdinand A., Elkhart, Ind. Wind musical instrument	869,619	Oct. 29	3614	1044	130	2602
Buhoup, Harry C., Chicago, Ill. Side frame for car-trucks	869,416	Oct. 29	3476	955	130	2478
Bull, William B. (See Bacon, Daniel, assignor.)						
Bullock Electric Manufacturing Company. (See Bouché, William F., assignor.)						
Bullock Electric Manufacturing Company. (See Mug, Edward T., assignor.)						
Burns, Frank, Philadelphia, Pa. Index-card holder						
Burton, Granville L., and C. J. Fuller, New York, N. Y. Garter	869,620	Oct. 29	3615	1044	130	2603
Bush, Alexander, assignor of one-half to J. Hennard, Pinconning, Mich. Draft-equalizer	869,228	Oct. 29	3165	873	130	2381
Bush, Bertrand B., assignor to F. H. Knapp and E. Bush, Chicago, Ill. Water-motor wheel. (Reissue)	869,345	Oct. 29	3265	926	130	2443
Bush, Emma, *et al.* (See Bush, Bertrand B., assignor.) (Reissue.)	12,713	Oct. 29	4209	1160	130	2697
Caldwell, Alfred, Providence, R. I., and G. F. Drew, Brunswick, Me., assignors of one-third to J. V. Dart and G. H. Remington, Providence, R. I. Shoe-lacing	869,246	Oct. 29	3266	926	130	2444
Calek, James A., *et al.* (See Sorensen, Frederick C., assignor.)						
Campbell, George W., New York, N. Y., assignor, by mesne assignments, to Victor Type-writer Company. Platen-shift mechanism	869,247	Oct. 29	3267	926	130	2444
Card, Frank S. (See Card, William L. and F. S.)						
Card, William L. and F. S., Denver, Colo. Feed-box for ore-concentrators	869,298	Oct. 29	3272	902	130	2415

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Carichoff, Eugene R., assignor to Otis Elevator Company, East Orange, N. J. Motor control	869,229	Oct. 29	3166	873	130	2382
Carlson, Carl W. (See Johnson, Carl J. F., assignor.)						
Carlson, Oscar E. (See Langdon and Carlson.)						
Carpenter, Joe, *et al.* (See Durand, Norbert, assignor.)						
Carso, Jos. (See Lombardo, August, assignor.)						
Case, Adelbert B., Springfield, Mass. Lawn-mower	869,771	Oct. 29	4038	1115	130	2648
Casey, Jackson J. P., Chattahoochee, Ga. Brick-kiln	869,621	Oct. 29	3615	1044	130	2603
Chamberlain, George E., St. Louis, Mo. Apparatus for milling grain	869,622	Oct. 29	3616	1045	130	2603
Chamberlain, Rufus N., Depew, assignor to Gould Storage Battery Company, New York, N. Y. Storage-battery grid	869,348	Oct. 29	3269	927	130	2445
Champion Blower & Forge Company. (See Kelper, Henry B., assignor.)						
Chandler, Frank W., Valley City, N. D. Stone-guard for dental grinding-tools	869,417	Oct. 29	3478	955	130	2479
Chapel, George H., Howell, Mich. Eyeglasses. (Reissue)	12,709	Oct. 29	4191	1157	130	2694
Cheek, Thomas B., Mattoon, Ill. Railway-rail joint	869,479	Oct. 29	3578	981	130	2610
Clark, Charles S., St. Louis, Mo. Wiping-strip and making same	869,418	Oct. 29	3479	955	130	2479
Clark, Francis L., assignor to Westinghouse Air Brake Company, Pittsburg, Pa. Triple-valve connection	869,623	Oct. 29	3617	1045	130	2603
Clark, Frederick J., assignor to Eastman Machine Company, Buffalo, N. Y. Cloth-cutting machine	869,419	Oct. 29	3480	956	130	2480
Clark, Lucius R., and D. G. Kreul, Davenport, Iowa. Filter	869,294	Oct. 29	3275	902	130	2417
Clark, Melville, Chicago, Ill. Combined automatic and manually-operated piano	869,230	Oct. 29	3169	873	130	2383
Clarkson, Edward H. N. (See Peters and Clarkson.)						
Clearihue, Joseph B. (See Slade and Clearihue.)						
Cline, Winfield S., assignor of one-half to F. Hall, Trenton, Mo. Disk-sharpening means	869,624	Oct. 29	3619	1045	130	2603
Clippinger, Lonso L., Everett, Wash. Bag-holder	869,691	Oct. 29	3926	1082	130	2615
Cobham, Frederick P., Jamestown, N. Y., assignor to F. E. Windsor and L. Schmutz, Warren, Pa. Headlight or lantern	869,548	Oct. 29	3588	1011	130	2543
Cobham, Frederick P., Jamestown, N. Y., assignor to F. E. Windsor and L. Schmutz, Warren, Pa. Headlight-adjusting device	869,549	Oct. 29	3590	1011–12	130	2544
Cobham, Frederick P., Jamestown, N. Y., assignor to F. E. Windsor and L. Schmutz, Warren, Pa. Electric lantern	869,550	Oct. 29	3592	1012–13	130	2545
Cochran, Barry W., Los Angeles, Cal. Printing-telegraph	869,420	Oct. 29	3481	956	130	2480
Coderre, Charles H., Holyoke, Mass. Bed	869,772	Oct. 29	4040	1115	130	2648
Cole, James T., Chicago, Ill. Water-cooler	869,551	Oct. 29	3593	1013	130	2545
Coleman, Clarence W., Westfield, N. J., assignor to Hall Signal Company. Signal apparatus	869,552	Oct. 29	3594	1014	130	2545
Coleman, James L., assignor to L. B. Manley, Duluth, Minn. Pulley	869,827	Oct. 29	4126	1139	130	2674
Collins, Matthew G. (See Birnstock, William W., assignor.)						
Colvin, Chase, South Charleston, Ohio. Metallic fence-post	869,231	Oct. 29	3171	873	130	2383
Combustion Utilities Company. (See Eldred, Byron E., assignor.)						
Combustion Utilities Company. (See Eldred and Ellis, assignors.)						
Commonwealth Trust Company, trustee. (See Wardwell, Simon W., assignor.)						
Conn, Charles A. (See Mills, Conn, and Van Orner.)						
Connelly, William, Toledo, Ohio. Portable hoist	869,421	Oct. 29	3484	956	130	2481
Consolidated Dental Manufacturing Company. (See Hardy, James F., assignor.)						
Cook, Christian W., Provo City, Utah. Hinge	869,553	Oct. 29	3702	1015	130	2549
Cook, Frank B., Chicago, Ill. Automatic testing and resetting means for electrothermal protectors	869,554	Oct. 29	3702	1015	130	2549
Cook, Frank B., Chicago, Ill. Automatic resetting and testing means for thermal protectors	869,864	Oct. 29	4176	1153	130	2680
Cook, John D. (See Laughterback, William Z., assignor.)						
Corbett, William H., Portland, Oreg. Sheave-block	869,422	Oct. 29	3487	957	130	2482
Cordes, Charles J. T., Waldwick, N. J. Building-block mold	869,828	Oct. 29	4126	1139–40	130	2674
Cornelius, Louis A., Grand Rapids, Mich. Trap	869,625	Oct. 29	3620	1045	130	2604
Coult, Joseph H., assignor to Houghtaling-Coult Manufacturing Company, Fairmont, Minn. Grass-catcher	869,349	Oct. 29	3271	927	130	2445
Cowan, Harry, Hagerman, N. Mex. Tur. Handle for tool-chests	869,423	Oct. 29	3488	957	130	2482
Cowley, James T., Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J. Conveying apparatus	869,295	Oct. 29	3277	902–3	130	2417
Cowley, James T., Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J. Conveying apparatus	869,296	Oct. 29	3280	903–4	130	2419
Cowley, James T., Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J. Conveying apparatus	869,350	Oct. 29	3374	927–8	130	2447
Cowley, James T., Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J. Conveying apparatus	869,351	Oct. 29	3375	928–9	130	2447
Cox Brothers, Firm of. (See Winder, Samuel E., assignor.)						
Cox, Howard, Abraham, Utah. Steam-generator	869,829	Oct. 29	4128	1140	130	2674
Crane, William H., assignor to Adriance, Platt & Company, Poughkeepsie, N. Y. Counting mechanism for grain-harvesters	869,424	Oct. 29	3488	957–8	130	2482
Cranner, Bjarne, Kongsberg, Norway. Coin-counter	869,626	Oct. 29	3621	1046	130	2604
Crippen, Walter R., Cambridge, assignor to Emerson Piano Company, Boston, Mass. Autopneumatic music-playing instrument	869,480	Oct. 29	3579	981	130	2610
Crompton & Knowles Loom Works. (See McGuiness, Benjamin F., assignor.)						
Cross, Seth A., New York, N. Y. Railway-car brake	869,425	Oct. 29	3492	958	130	2483
Cross, Walter M., Kansas City, Mo. Gas-generator	869,232	Oct. 29	3172	874	130	2384
Cunningham, Albert, assignor to Fiber and Stowell Company, Milwaukee, Wis. Sawmill set-works	869,627	Oct. 29	3823	1047	130	2604
Cutler-Hammer Mfg. Co. (See Berresford, Arthur W., assignor.)	869,773	Oct. 29	4041	1115–16	130	2648
Dahn, Charles W., Grand Rapids, Mich. Reversible elastic-fluid turbine	869,830	Oct. 29	4129	1140	130	2675
Dalén, Gustaf, assignor to Aktiebolaget Gas Accumulator, Stockholm, Sweden. Gas-pressure-regulating device	869,692	Oct. 29	3927	1082	130	2615
Daniel, Charles E., and W. Keller, assignors of one-half to R. Taylor and G. Young, Sandusky, Ohio. Crayon-molding machine	869,481	Oct. 29	3582	982	130	2611
Daniel, Wilson H., Jasper, Ind. Cultivator	869,555	Oct. 29	3704	1015–16	130	2550
Dart, J. Vinton, *et al.* (See Caldwell and Drew, assignors.)	869,297	Oct. 29	3283	904–5	130	2420
Dawes, William, Bloomington, Ill. Block-signal system	869,426	Oct. 29	3494	958	130	2484
Davidson, Samuel C., Belfast, Ireland. Ventilation of tunnels	869,093	Oct. 29	3080	1063	130	2617
Dawson, James C., St. Louis, Mo. File	869,352	Oct. 29	3376	929	130	2448
Day, Albert A., New York, N. Y. Window-screen	869,094	Oct. 29	3082		130	2617
Day, Maxwell W., Schenectady, N. Y., assignor to General Electric Company. Motor-control system	869,556	Oct. 29	3712	1016–17	130	2552
De Angelis, Giulia, Naples, Italy. Heat-resisting composition	869,482	Oct. 29	3583	982	130	2611
De Haas, James E., Enid, Okla. Twr. Insect-trap	869,831	Oct. 29	4131	1141	130	2675
De La Hunt, Reverdy C., Cedar Rapids, Iowa. Alternating siphon						
De Remer, Robert P., assignor of one-half to A. T. Gerrans, Houma, La. Car-stanchion						
De Vilbiss Manufacturing Company. (See Pynchon, Edwin, assignor.)						
Demarre, James D. (See Shee, Parke B., assignor.)	869,483	Oct. 29	3584	982–3	130	2612
Dennis, Thomas L., Jr., and A. C. Lindholm, Prince Bay, N. Y. Work-locating indicator						

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Denver Engineering Works Co. (See Shepard, Frank E., assignor.)						
Dewing, Henry A., San Buenaventura, Cal. Indicator for type-writing machines	869,532	Oct. 29	4132	1141	130	2676
Dobbie, James M., Sr., and J. M., San Francisco, Cal. Traveling frame for side-shell riveters	869,427	Oct. 29	3495	959	130	2484
Dobbie, John M. (See Dobbie, James M., Sr., and J. M.)						
Dodgen, J. W. (See Murray, Horace M., assignor.)						
Donahoe, Thomas F., Pittsburg, Pa. Railway-frog	869,695	Oct. 29	3932	1083	130	2617
Donner, William H. (See Macfarren, Walter W., assignor.)						
Doty, Edwin A., Albany, N. Y. Nut-lock	869,696	Oct. 29	3933	1084	130	2617
Doyle, James, Niagara Falls, N. Y. Safety mechanism for railway-trains	869,557	Oct. 29	3713	1017–18	130	2582
Drake, Edward E., New York, N. Y., assignor to Union Metallic Cartridge Company, Bridgeport, Conn. Cartridge-carrier	869,494	Oct. 29	3587	983	130	2512
Draper Company. (See Rhoades, Alonzo E., assignor.)						
Drew, George F. (See Caldwell and Drew.)						
Drucker, Harry N., Cincinnati, Ohio. Support for garment-hangers	869,233	Oct. 29	3174	874	130	2385
Dukesmith Air Brake Company. (See Dukesmith, Frank H., assignor.) (Reissue.)						
Dukesmith, Frank H., Meadville, assignor to Dukesmith Air Brake Company, Pittsburg, Pa. Air-brake system. (Reissue)	12,712	Oct. 29	4198	1160	130	2696
Dundas, Henry J., Leeside Junction, Ontario, Canada. Brick-truck	869,353	Oct. 29	3378	929	130	2448
Durand, Norbert, assignor of one-half to J. Carpenter and E. P. Ekegren, Range, Wis. Breast-strap slide	869,234	Oct. 29	3175	874	130	2385
Durbrow Filtration Company. (See Durbrow, George W., assignor.)						
Durbrow, George W., Indio, Cal., assignor to Durbrow Filtration Company, Yuma, Ariz. Ter. Submerged filter	869,558	Oct. 29	3719	1018	130	2554
Dyer, Frank L. (See Aylsworth and Dyer.)						
E. W. Bliss Company. (See Page; Frank C. B., assignor.)						
Eastman Machine Company. (See Clark, Frederick J., assignor.)						
Ecaubert, Frederic. (See Whitney and Ecaubert.)						
Edwards, Charles D., Albert Lea, Minn. Grading-machine	869,354	Oct. 29	3379	929–30	130	2494
Edwin F. Smith Company. (See Smith, Edwin F., assignor.)						
Elhauer, Oskar, Neustadt, and P. Rückert, Gera, Germany. Micrometer-screw gage	869,697	Oct. 29	3934	1084	130	2617
Ekegren, Earnest P., *et al.* (See Durand, Norbert, assignor.)						
Eldred, Byron E., Bronxville, assignor to Combustion Utilities Company, New York, N. Y. Combustion process	869,495	Oct. 29	3587	983–4	130	2513
Eldred, Byron E., assignor to Combustion Utilities Company, New York, N. Y. Making gas	869,497	Oct. 29	3593	984	130	2514
Eldred, Byron E., and C. Ellis, assignors to Combustion Utilities Company, New York, N. Y. Producing gas	869,496	Oct. 29	3591	984	130	2514
Elliott, George S., *et al.* (See Rittersbach, George W., assignor.)						
Ellis, Carleton. (See Eldred and Ellis.)						
Emerson Piano Company. (See Crippen, Walter R., assignor.)						
Emerson Piano Company. (See Watson, William A., assignor.)						
Enterprise Manufacturing Company. (See Haverly, Elmer J., assignor.)						
Enterprise Novelty & Manufacturing Company. (See Stone, William G., assignor.)						
Ervin, George M., Johnstown, Pa., assignor to Lorain Steel Company. Split switch	869,298	Oct. 29	3285	905	130	2421
Ette, Charles G., St. Louis, Mo. Washer	869,235	Oct. 29	3176	874	130	2385
Eynon, James and J. R., Philadelphia, Pa. Furnace	869,698	Oct. 29	3934	1084–5	130	2618
Eynon, John R. (See Eynon, James and J. R.)						
Fagan, John T., assignor to National Electric Lamp Company, Cleveland, Ohio. Tubulating-machine	869,428	Oct. 29	3496	959	130	2484
Fair, Lewis W., Waldron, Ark. Harrow-tooth	869,299	Oct. 29	3286	905	130	2421
Fairbanks, Morse & Company. (See Hobart and Gore, assignors.)						
Faulkner, Ray R., Marion, Ind. Coal-cabinet	869,355	Oct. 29	3380	930	130	2449
Federal Ice Company. (See Holden, Daniel L., assignor.)						
Feinberg, Sachary I., assignor to S. Flanders, New York, N. Y. Fastening-clamp	869,236	Oct. 29	3177	875	130	2385
Felkner, William G., Sebree, Tex. Folding car-step	869,429	Oct. 29	3496	960	130	2485
Fell, Samuel J. (See Nestler, Emil, assignor.)						
Ferreres, Joaquin, Habana, Cuba. Calendar	869,430	Oct. 29	3500	960–1	130	2486
Ferres, Jeffrey T., assignor to J. W. Sefton Manufacturing Company, Anderson, Ind. Folding box	869,833	Oct. 29	4133	1141	130	2676
Ferro Alloys Syndicate. (See Annable, Henry W. C., assignor.)						
Fiber and Stowell Company. (See Cunningham, Albert, assignor.)						
Fiedler, Wilhelm, Berlin, Germany, assignor to General Electric Company. Motor-controller	869,356	Oct. 29	3381	930	130	2449
Fink, George, Northfield, Minn. Carrier	869,357	Oct. 29	3383	931	130	2450
Flanagan, J. A., *et al.* (See Rogers, John, assignor.)						
Flanagan, J. W., *et al.* (See Rogers, John, assignor.)						
Flanders, Sarah. (See Feinberg, Sachary I., assignor.)						
Fleming, Frank, Rome, N. Y. Tube-cutter	869,626	Oct. 29	3825	1048	130	2586
Fleming, Frank, Rome, N. Y. Journal-bearing	869,629	Oct. 29	3827	1048	130	2586
Fleming, Richard, Lynn, Mass., assignor to General Electric Company. Arc-lamp electrode	869,300	Oct. 29	3287	905	130	2421
Fleming, Richard, Lynn, Mass., assignor to General Electric Company. Arc-lamp electrode	869,301	Oct. 29	3288	906	130	2421
Foley, James F., Chicago, Ill. Machine for bundling or compressing broom-corn	869,358	Oct. 29	3385	931	130	2451
Follansbee, John, Allegheny, Pa., assignor to Sheet Metal Specialty Company, Follansbee, W. Va. Knockdown crate	869,699	Oct. 29	3933	1085	130	2618
Fooshe, John C., Ninety Six, S. C. Harrow attachment for plows	869,534	Oct. 29	4134	1142	130	2676
Fowler, George W., Raleigh, N. C. Nail-holding attachment for hammers	869,825	Oct. 29	4135	1142	130	2676
Foy, Thomas, Freehold, N. J. Pump	869,559	Oct. 29	3720	1019	130	2555
Francis, Charles R., Warsaw, Mo. Rotary engine	869,560	Oct. 29	3721	1019	130	2555
Franklin, Hobart G., and W. W. Gore, Beloit, Wis., assignors to Fairbanks, Morse & Company, Chicago, Ill. Cooling system for internal-combustion engines	869,369	Oct. 29	3400	935	130	2486
Fraser, John J., Somerville, Mass. Bottle-stopper	869,700	Oct. 29	3937	1085	130	2618
Freeman, Ernest B., Dedham, assignor to B. F. Sturtevant Company, Boston, Mass. Fuel-economizer	869,701	Oct. 29	3938	1086	130	2618
Freiman, Ferdinand, and A. Stevenson, Seattle, Wash. Clasp	869,774	Oct. 29	4045	1116	130	2669
Fried. Krupp Aktiengesellschaft. (See Heilmann, Walter, assignor.)						
Fried. Krupp Aktiengesellschaft. (See Schloth, Friedrich, assignor.)						
Friend, Samuel E., Steubenville, Ohio. Oil-can	869,702	Oct. 29	3940	1086	130	2619
Frisbie, Harry D., Sr., Cynthiana, Ky. Fireplace-heater	869,775	Oct. 29	4046	1116–17	130	2669
Fuller, Clifford J. (See Burton and Fuller.)						
Fuss, Max, Berlin, Germany, assignor to General Electric Company. Relay for circuit-breakers	869,359	Oct. 29	3389	932	130	2488
Galligan, T. P., *et al.* (See Thompson, James T., assignor.)						
Garver, Allen J., assignor to himself and J. McAsey, Clarkston, Wash. Ore-roaster	869,360	Oct. 29	3390	932	130	2488
Gaston, Nathan V., Gulfport, Miss. Cotton-picker	869,703	Oct. 29	3941	1086	130	2619
Gastonguay, Arthur, St. Andre de Restigouche, Quebec, Canada. Baling-press	869,561	Oct. 29	3724	1020	130	2556
Gaynor, Joseph, New York, N. Y. Globe-manipulator	869,836	Oct. 29	4136	1142	130	2677

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General Electric Company. (See Bralley, Walter S., assignor.)						
General Electric Company. (See Day, Maxwell W., assignor.)						
General Electric Company. (See Fiedler, Wilhelm, assignor.)						
General Electric Company. (See Fleming, Richard, assignor.)						
General Electric Company. (See Fuss, Max, assignor.)						
General Electric Company. (See Hawkins, Laurence A., assignor.)						
General Electric Company. (See Litchfield, Walter D., assignor.)						
General Electric Company. (See Macloskie, George, assignor.)						
General Electric Company. (See Macmillan, Campbell, assignor.)						
General Electric Company. (See Potter, William B., assignor.)						
General Electric Company. (See Stevens, George E., assignor.)						
General Electric Company. (See Stewart, Samuel B., Jr., assignor.)						
General Fire Extinguisher Company. (See Buell, Charles E., assignor.)						
Gerrans, Alfred T. (See De Remer, Robert P., assignor.)	869,704	Oct. 29	3942	1087	130	2620
Gervers, Casper H., Cincinnati, Ohio. Pipe-seaming machine	869,431	Oct. 29	3502	961	130	2486
Gibson, Calder C., Buffalo, N. Y. Receptacle and closure therefor	869,630	Oct. 29	3828	1048	130	2586
Gill, Charles W., Mexico, N. Y. Box-car	869,432	Oct. 29	3503	961–2	130	2487
Gin, Gustave, Paris, France. Electric furnace	869,776	Oct. 29	4047	1117	130	2651
Gluchowski, Kazimir, Baltimore, Md. Buckle						
Goddard, John W., *et al.* (See Vinton, John H., assignor.)						
Goodknight, Alva L., Council Bluffs, Iowa. Air-brake system	869,837	Oct. 29	4137	1142	130	2677
Gore, Warren W. (See Hobart and Gore.)						
Goss Printing Press Company. (See Goss, Samuel G., assignor.)						
Goss, Samuel G., assignor to Goss Printing Press Company, Chicago, Ill. Inking-fountain for printing-presses	869,237	Oct. 29	3178	875	130	2386
Gould Storage Battery Company. (See Chamberlain, Rufus N., assignor.)						
Gould Storage Battery Company. (See Hubbard, Albert S., assignor.)						
Gould Storage Battery Company. (See Hubbard and Turbayne, assignors.)						
Gould Storage Battery Company. (See Van Wagenen, Edward, assignor.)						
Gould Storage Battery Company. (See Winship, Walter E., assignor.)	869,361	Oct. 29	3391	933	130	2453
Graves, Albert H., Chicago, Ill. Cigar, stogy, &c.	869,838	Oct. 29	4138	1143	130	2678
Green, George M., Denver, Colo., assignor of one-half to W. T. Green, Tampa, Fla. Horseshoe	869,238	Oct. 29	3180	876	130	2386
Green, William T. (See Green, George M., assignor.)						
Griepe, August W. H., New York, N. Y. Air-ship						
Griffin Wheel Company. (See Vial, Frederick K., assignor.)						
Guarantee Trust & Safe Deposit Co. *et al.*, executors. (See Schutte, Louis.)	869,239	Oct. 29	3181	877	130	2387
Gustafson, Axel R., Chicago, Ill. Belt-shifting mechanism	869,631	Oct. 29	3830	1048	130	2587
Haddock, John M., Bedford, Iowa. Window-tightener	869,705	Oct. 29	3944	1087–8	130	2620
Hagerty, Thomas F., New York, N. Y. Machine for weaving wire and wood slats	869,777	Oct. 29	4048	1117	130	2651
Hahne, William C., Chicago, Ill. Adjustable stool or seat	869,839	Oct. 29	4139	1143	130	2678
Hall, Frank. (See Cline, Winfield S., assignor.)						
Hall, Richard, Kenora, Ontario, Canada. Car-door	869,778	Oct. 29	4049	1118	130	2651
Hall Signal Company. (See Coleman, Clarence W., assignor.)	869,706	Oct. 29	3946	1088	130	2621
Hall, Washington L., Philadelphia, Pa. Loom-shuttle	869,707	Oct. 29	3948	1089	130	2621
Hamilton, John R., St. John, New Brunswick, Canada. Combination tool or utensil	869,433	Oct. 29	3504	962	130	2487
Hancock, Joel M., Magnolia, Ark. Saw-set	869,488	Oct. 29	3504	984	130	2514
Hancock Mitchell, Sale City, Ga. Strainer	869,840	Oct. 29	4141	1143	130	2678
Hanffstengel, Georg von, Stuttgart, Germany. Driving mechanism for conveyers	869,562	Oct. 29	3725	1020	130	2556
Hanson, Winfield E., Biddeford, Me. Dental engine	869,563	Oct. 29	3727	1020	130	2557
Hardy, James F., assignor to Consolidated Dental Manufacturing Company, New York, N. Y. Dental engine	869,564	Oct. 29	3728	1020	130	2557
Hardy, James F., assignor to Consolidated Dental Manufacturing Company, New York, N. Y. Handpiece for dental engines	869,779	Oct. 29	4050	1118	130	2682
Harrell, Sarah W., Amite, La. Preserving and canning device	869,841	Oct. 29	4142	1144	130	2679
Hart, Harry S. (See Otis and Hart.)	869,362	Oct. 29	3392	933	130	2452
Hartman, George W., Struthers, Ohio. Hat, coat, and umbrella rack						
Hartman, Noble W., assignor to C. J. Spear, Toledo, Ohio. Water-meter						
Haugh, Harry, Anderson, Ind. Tile						
Haverhill Fire Appliance Company. (See Tilford, George E., assignor.)						
Haverly, Elmer J., Sayre, Pa., assignor to Enterprise Manufacturing Company, Akron, Ohio. Artificial fishing-bait	869,565	Oct. 29	3729	1021	130	2557
Hawbaker, Walter B., Greencastle, Pa. Envelop	869,363	Oct. 29	3393	933	130	2453
Hawkes, Frederic W., New York, N. Y. Riprap	869,566	Oct. 29	3729	1021	130	2557
Hawkins, Laurence A., Schenectady, N. Y., assignor to General Electric Company. Air-brake system	869,364	Oct. 29	3393	934	130	2453
Hawkins, Laurence A., Schenectady, N. Y., assignor to General Electric Company. Block-signal system	869,365	Oct. 29	3395	934	130	2454
Hawley, Charles G. (See Toltz, Max, assignor.)						
Hawley, Valealow V., Acampo, Cal. Gage	869,480	Oct. 29	3595	985	130	2515
Hayes, John P., Pittsburg, Pa. Electric motor	869,780	Oct. 29	4051	1118–19	130	2652
Healy, Louise, New York, N. Y. Playing-card	869,302	Oct. 29	3288	906	130	2422
Heaton, Charles, assignor of one-half to H. Bierhoff, New York, N. Y. Shower-bath	869,240	Oct. 29	3183	877	130	2387
Heilemann, Walter, assignor to Fried. Krupp. Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Fluid-brake	869,366	Oct. 29	3397	934	130	2455
Heilig, Herschel M., Culbertson, and M. H. Reed, Blue Springs, assignors to said Heilig, and H. Scilley, Leavitt, Nebr. Beet-harvester. (Reissue)	12,708	Oct. 29	4188	1156	130	2693
Hemenway, John F. (See Meyer, Paul L., assignor.)	869,567	Oct. 29	3731	1021	130	2558
Heney, Thomas, Alpena, Mich. Vehicle-top support						
Hennard, Joseph. (See Bush, Alexander, assignor.)						
Henry Disston & Sons. (See King, Ernest A., assignor.)	869,434	Oct. 29	3505	962–3	130	2487
Herr, Benjamin F., Buffalo, N. Y. Attachment for furnaces						
Hewitt, John M. O. (See Atwood, Leonard, assignor.)	869,367	Oct. 29	3398	934	130	2455
Hewitt, Samuel R., Belfast, Ireland. Collar-fastener	869,303	Oct. 29	3290	906	130	2422
Hibbets, Omer K., Chariton, Iowa. Combined wagon-box and stock and hay rack	869,568	Oct. 29	3733	1022	130	2558
Hiester, Theodore M., Dayton, Ohio. Water-motor	869,368	Oct. 29	3359	935	130	2456
Higgins, Ross, Canfield, Ohio. Adjustable support for telephone-receivers	869,842	Oct. 29	4143	1144	130	2679
Hill, Benjamin A., Chicago, Ill. Window-cleaner	869,241	Oct. 29	3183	878	130	2387
Hillyer, Edgar C., Raleigh, N. C. Game-counter	869,304	Oct. 29	3291	907	130	2422
Hindman, James T., Grayville, Ill. Mail-bag catcher						
Hobart, Franklin G., and W. W. Gore, Beloit, Wis., assignors to Fairbanks, Morse & Company, Chicago, Ill. Cooling system for internal combustion engines	869,369	Oct. 29	3400	935	130	2486
Hockett, Aaron L., Birmingham, assignor of one-half to W. H. Moore, Jasper, Ala. Cartridge-holder	869,632	Oct. 29	3831	1049	130	2587
Hodgkinson, James, Salford, England. Cotton-gin	869,633	Oct. 29	3832	1049	130	2587
Hodgkinson, James, Manchester, England. Automatic stoker for steam-generators	869,708	Oct. 29	3948	1089	130	2621
Hoevet, Otto C., Ong, Nebr. Windmill-regulator	869,242	Oct. 29	3187	879	130	2388
Hoffmann, Charles de, Bergyck, Netherlands. Connecting device for gas-conduits	869,370	Oct. 29	3401	936	130	2456
Hogg, Francis M., Bessemer, Ala. Coke-pulling apparatus	869,305	Oct. 29	3292	907	130	2423
Hogg, Francis M., Bessemer, Ala. Loading apparatus	869,569	Oct. 29	3734	1022–3	130	2559

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Hogg, William S., U. S. Navy. Wireless telegraphy	869,634	Oct. 29	3833	1049	130	2367
Hohner, Hans. (See Braendle, Edward E., assignor.)						
Holden, Daniel L., assignor to Federal Ice Company, New York, N. Y. Pneumatic pump	869,731	Oct. 29	4064	1119	130	2683
Holmes, Garnet B., and A. D. Allen, Wellington, New Zealand. Trolley-head for electric traction	869,843	Oct. 29	4144	1144	130	2679
Holsten, Alfred, New York, N. Y. Spark-plug	869,845	Oct. 29	4178	1154	130	2679
Homolà, Josef, Vesell, Austria-Hungary. Machine for use with wind-power	869,760	Oct. 29	3960	1089	130	2622
Horner, Jefferson. (See Miller, Hezekiah, assignor.)						
Hosack, Thomas T., Oil City, assignor of one-third to H. A. Landis, Dubois, Pa. Solder for aluminum	869,570	Oct. 29	3737	.....	130	2569
Hott, Henry, assignor to Auger & Simon Silk Dyeing Co., Paterson, N. J. Speed-changing mechanism for hydro-extractors	869,732	Oct. 29	4056	1119	130	2683
Houghtaling-Coult Manufacturing Company. (See Coult, Joseph H., assignor.)						
Houghton, Lewis T., Worcester, Mass. Traveling guide for top rolls of spinning or twisting frames	869,571	Oct. 29	3737	1023	130	2569
Howard, Lemuel F., Edgewood Park, assignor to Union Switch and Signal Company, Swissvale, Pa. Relay	869,490	Oct. 29	3696	985	130	2515
Howe, Virgil C., San Francisco, Cal. Means for connecting flue-sections	869,710	Oct. 29	3951	1090	130	2622
Hubbard, Albert S., Belleville, N. J., assignor to Gould Storage Battery Company. Alternating-current apparatus	869,244	Oct. 29	3193	879	130	2391
Hubbard, Albert S., Greenwich, Conn., and W. A. Turbayne, Lancaster, N. Y., assignors to Gould Storage Battery Company. Electrical system of distribution	869,243	Oct. 29	3189	879	130	2389
Hubbard, Albert S., Belleville, N. J., and W. A. Turbayne, Lancaster, N. Y., assignors to Gould Storage Battery Company. Electrical system of distribution	869,396	Oct. 29	3294	908	130	2423
Humphreville, Frank, Lancaster, Pa. Shoe-polishing machine	869,435	Oct. 29	3807	963	130	2483
Hunt, James H., Greenwich, Conn. Covering for mangle-rolls	869,572	Oct. 29	3738	1023	130	2569
Hunt, Samuel D., Youngstown, Ohio. Trolley	869,711	Oct. 29	3942	1090	130	2622
Hurteau, George H., Montgomery, Ill. Shelving	869,491	Oct. 29	3696	986	130	2516
Hushour, William H., Groseclose, Va., assignor of one-half to L. Posey, New Orleans, La. Letter-box	869,844	Oct. 29	4145	1145	130	2679
Hutcheson, John A. (See Benedict and Hutcheson.)						
Hutchinson, William F., assignor to Sweetwood Tooth Pick Company, Nyack, N. Y. Toothpick-machine	869,573	Oct. 29	3739	1023-4	130	2569
Huther Brothers' Saw Manufacturing Company. (See Huther, Warren B., assignor.)						
Huther, Warren B., assignor to Huther Brothers' Saw Manufacturing Company, Rochester, N. Y. Saw	869,574	Oct. 29	3741	1024	130	2569
Ingells, James, Muskegon, Mich. Machine for molding concrete blocks	869,426	Oct. 29	3689	963-4	130	2425
International Patent Corporation. (See Veitch, Thomas, assignor.)						
International Postal Supply Company of New York. (See Jahn, Frederick G., assignor.)						
International Royal Phone Company. (See Runge, Walter C., assignor.)						
Ives, Ernest C., assignor of one-half to J. H. and T. Perks, Warren, Pa. Shuttle	869,845	Oct. 29	4147	1145	130	2680
J. W. Sefton Manufacturing Company. (See Ferres, Jeffrey T., assignor.)						
Jackman, Stephen E., New York, N. Y. Brake mechanism for inclined railways	869,846	Oct. 29	4148	1145-6	130	2681
Jackman, Stephen E., New York, N. Y. Safety device for inclined railways	869,847	Oct. 29	4150	1146	130	2681
Jackman, Stephen E., New York, N. Y. Locking device for seat-guards	869,848	Oct. 29	4151	1146	130	2681
Jackman, Stephen E., New York, N. Y. Brake mechanism for inclined railways	869,849	Oct. 29	4153	1147	130	2682
Jacobs, Alonzo, Independence, assignor to Jacobs Automatic Cigar Vendor Company, Kansas City, Mo. Cigar-vending machine	869,635	Oct. 29	3884	1050-1	130	2668
Jacobs Automatic Cigar Vendor Company. (See Jacobs, Alonzo, assignor.)						
Jacobs, William L., Autreyville, Ga. Scouring-machine	869,712	Oct. 29	3864	1091	130	2622
Jahn, Frederick G., New York, N. Y., assignor to International Postal Supply Company of New York, Brooklyn, N. Y. Printing mechanism						
Jarrett, Ann, Davis Grove, Pa. Infant's binder	869,763	Oct. 29	4097	1120	130	2653
Jenness, Peter, Philadelphia, Pa. Clutch mechanism	869,764	Oct. 29	4098	1121	130	2654
Johnson, Carl J. F., assignor of one-half to C. W. Carlson, Cleveland, Ohio. Furnace-door	869,713	Oct. 29	3954	1091	130	2623
Johnson, Frank P., Danville, Pa. Garment-hanger	869,575	Oct. 29	3742	1024	130	2569
Jones, Charles S., Marion, Ind. Measuring-pump	869,245	Oct. 29	3197	880	130	2392
Jones, George P., Emporium, Pa. Machine for forming a cartridge from explosive gelatin	869,246	Oct. 29	3198	880	130	2392
Jones, Helena J., Baltimore, Md. Electrically-operated signal for railways	869,397	Oct. 29	3297	908	130	2424
Jones, Horace K., Hartford, assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Machine for rolling carpenters' squares	869,765	Oct. 29	4099	1121	130	2655
Jones, Joseph L., Kizer, Tenn. Wireless signaling system	869,850	Oct. 29	4154	1147	130	2682
Jones, Theodore N., Boulder, Colo. Sash-holder	869,714	Oct. 29	3957	1091-2	130	2624
Joyner, William H., St. Margaret's-on-Thames, England. Stair-rod fastener	869,437	Oct. 29	3810	964	130	2489
Kammer, John von der, Prairie View, Ill. Stable equipment	869,492	Oct. 29	3699	986	130	2516
Karr, James P., and J. D. Rauch, Logansport, Ind. Spud and hoisting frame for excavators	869,715	Oct. 29	3960	1092	130	2625
Kassahn, Henry, and G. Schaaf, Menomonie, Wis. Picture-frame	869,438	Oct. 29	3811	964-5	130	2489
Keiper, Henry B., assignor to Champion Blower & Forge Company, Lancaster, Pa. Combined motor and hand operated rotary blower	869,766	Oct. 29	4096	1121	130	2655
Keiser, Peter, Grafton, Mass. Grafting trees	869,247	Oct. 29	3199	880-1	130	2394
Keith, Marion, St. Louis, Mo. Curtain-support	869,493	Oct. 29	3900	986	130	2516
Keller, William. (See Daniel and Keller.)						
Kellogg, John H., Battle Creek, Mich. Food product	869,767	Oct. 29	4096	1122	130	2655
Kelly, David J., assignor to Kelly Filter Press Co., Salt Lake City, Utah. Filtering apparatus	869,371	Oct. 29	3403	.....	130	2456
Kelly Filter Press Co. (See Kelly, David J., assignor.)						
Kenerson, William H., Providence, R. I., assignor to Riehle Brothers Testing Machine Company. Extensometer	869,372	Oct. 29	3403	636	130	2457
Kessler, William F., Auburn, Ind. Cheese-cutter	869,716	Oct. 29	3961	1092-1	130	2625
Kimball, James L., Salem, Mass. Engine stop-valve	869,398	Oct. 29	3300	909	130	2425
King, Charles B., Detroit, Mich. Change-speed gear	869,248	Oct. 29	3202	881-2	130	2395
King, Ernest A., assignor to Henry Disston & Sons, Incorporated, Philadelphia, Pa. Bevel	869,494	Oct. 29	3900	987-8	130	2517
Kinnear Manufacturing Company. (See McCloud, Edward H., assignor.)						
Kinsman, Frank E., Plainfield, N. J. Insulated joint	869,851	Oct. 29	4150	1147	130	2683
Kleinschmidt, Edward E., assignor to G. M. Seeley, New York, N. Y. Signaling system	869,768	Oct. 29	4098	1122	130	2656
Kluge, Eugene M., Washington, D. C. Invisible hinge	869,576	Oct. 29	3744	1025	130	2561
Knapp, Frederick H., *et al.* (See Bush, Bertram B., assignor.) (Reissue.)	869,717	Oct. 29	3964	1095	130	2626
Knudson, Chris J., Everdell, Minn. Game attachment for tables	869,718	Oct. 29	3965	1096	130	2627
Koehler, John F., Chicago, Ill. Mouth-speculum	869,439	Oct. 29	3813	965	130	2490
Kramer, Erwin, Berlin, Germany, assignor to Westinghouse Air Brake Company, Pittsburg, Pa. Air-pressure brake. (Reissue)	12,710	Oct. 29	4102	1157-9	130	2685
Kramer, Wilson A., Bloomsburg, Pa. Automatic stop-gage attachment	869,309	Oct. 29	3808	909	130	2426
Krantz, Hubert, Brooklyn, N. Y. Clip for electrical apparatus	869,852	Oct. 29	4154	1148	130	2683
Kreul, Dwight G. (See Clark and Kreul.)						
"L'Aspirator" Company. (See Blum, Jules R., assignor.)						
La Rue, Alice P., *et al.* (See La Rue, Charles W., assignor.)						
La Rue, Charles W., assignor of three-fifths to F. H., F. J., and A. P. La Rue, Grand Rapids, and one-fifth to W. L. Wilcox, Leroy, Mich. Tank-siphon for locomotives	869,854	Oct. 29	4158	1148	130	2684

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La Rue, Frank J., *et al.* (See La Rue, Charles W., assignor.)						
La Rue, Fred H., *et al.* (See La Rue, Charles W., assignor.)						
Lacing, Victor, St. Louis, Mo. Radiator	869,577	Oct. 29	3747	1025	130	2562
Lafferty, Frank, Elyria, Ohio, and W. Spence, Philadelphia, Pa. Valve mechanism for air-compressors	869,373	Oct. 29	3407	936-7	130	2457
Lally, John, Boston, Mass. Column for fireproof construction	869,789	Oct. 29	4067	1122-3	130	2666
Lally, John, Waltham, assignor to United States Column Company, Cambridge, Mass. Column	869,869	Oct. 29	4186	1155-6	130	2683
Lamouroux, Pierre, Paris, France, assignor to T. W. Stemmler, New York, N. Y. System for closing receptacles	869,853	Oct. 29	4157	1148	130	2683
Lamson Consolidated Store Service Company. (See Cowley, James T., assignor.)						
Landis, Harvey A. (See Hosack, Thomas T., assignor.)						
Landsiedel, John, Peoria, Ill. Hydrocarbon-lamp	869,440	Oct. 29	3515	966	130	2490
Landvatter, Otto H. (See Moreland and Landvatter.)						
Langdon, Charles N., and O. E. Carlson, assignors to H. Ash, Chicago, Ill. Chute	869,495	Oct. 29	3903	986-9	130	2517
Large, John F., Jamestown, Pa. Wrench	869,496	Oct. 29	3905	989	130	2518
Larkins, Michael, South Bethlehem, Pa. Arch-clamp	869,497	Oct. 29	3906	989	130	2518
Latta, Emmit G., Friendship, N. Y., assignor of one-half to H. V. D. Waldron, New Brunswick, N. J. Shoe tree and holder	869,498	Oct. 29	3906	989-90	130	2518
Laughterback, William Z., assignor of one-fourth to J. D. Cook, South Omaha, Nebr. Excavating and filling mechanism	869,855	Oct. 29	4159	1148-9	130	2684
Law, William H., New York, N. Y. Metallic packing	869,374	Oct. 29	3409	937	130	2458
Le Compte, George W., New York, N. Y., assignor of one-half to American Hame and Bit Company, Newark, N. J. Rule or calipers	869,578	Oct. 29	3747	1025	130	2562
Leathers, Warner B., New Holland, Ga. Bobbin-stripper	869,856	Oct. 29	4161	1149-50	130	2685
Lehr, Joseph, assignor of one-half to M. H. Schirmer, Rochester, N. Y. Pressing-machine	869,857	Oct. 29	4163	1150	130	2685
Leidigh, John J., Milwaukee, Wis. Credit-marking apparatus	869,858	Oct. 29	4165	1150	130	2686
Lemen, Ward W. (See Pilcher and Lemen.)						
Lemly, Henry R., Washington, D. C. Multiple cartridge-box	869,310	Oct. 29	3305	910	130	2426
Leonard, Cameron W., Rockford, Ill. Feed-trough	869,441	Oct. 29	3517	966	130	2491
Leslie, James W., Wakefield, Mass. Safety-razor	869,579	Oct. 29	3748	1026	130	2562
Leuchter, August, Brooklyn, N. Y. Producing gelatin forms or molds	869,311	Oct. 29	3306	910	130	2427
Leuchter, August, Brooklyn, N. Y. Producing gelatin forms or molds	869,312	Oct. 29	3309	910	130	2427
Lewis, Edward, Steelton, assignor to Pennsylvania Steel Company, Philadelphia, Pa. Tongue-switch	869,580	Oct. 29	3750	1026	130	2562
Liberty Manufacturing Company. (See Mills, Conn, and Van Orner, assignors.)						
Liebig, William G., Detroit, Mich. Supporting-table for boring holes in brush-backs	869,313	Oct. 29	3312	911	130	2428
Lindholm, Arthur C. (See Dennis and Lindholm.)						
Litchfield, Walter D., Schenectady, N. Y., assignor to General Electric Company. Apparatus for measuring speed of rotation	869,442	Oct. 29	3518	966	130	2491
Llewellyn, Frank P., *et al.* (See Mallory and Slaughter, assignors.)						
Lloyd, John U., Norwood, Ohio. Purifying volatile substances	869,375	Oct. 29	3410	937	130	2458
Lockley, Thomas B., Goulburn, New South Wales, Australia. Auxiliary fuel-box for stoves, &c	869,581	Oct. 29	3751	1026	130	2563
Lombardo, August, assignor, by mesne assignments, of one-half to J. Carso, Washington, Iowa. Combined wash and bath tub and ironing-table	869,790	Oct. 29	4069	1123	130	2656
Lorain Steel Company. (See Ervin, George M., assignor.)						
Loudenbeck, Harry C. (See Simpson, Isaac, assignor.)						
Lowe, Leon P., San Francisco, Cal. Gas-making apparatus	869,582	Oct. 29	3752	1026	130	2563
Ludwig, Jacob, and W. Bradbury, Newark, N. J. Vehicle-door	869,249	Oct. 29	3204	882	130	2395
Lund, Jens G. P., Christiania, Norway. Screw-spanner	869,443	Oct. 29	3519	966	130	2491
Lux, Paul, assignor to Waterbury Clock Co., Waterbury, Conn. Alarm-clock	869,376	Oct. 29	3411	937	130	2458
Macfarren, Walter W., assignor to W. H. Donner, Pittsburg, Pa. Spring-suspension for vehicles	869,583	Oct. 29	3753	1027	130	2564
Mackie, William. (See Wallace and Mackie.)						
Macloskie, George, Schenectady, N. Y., assignor to General Electric Company. Air-brake system	869,444	Oct. 29	3520	967	130	2492
Macmillan, Campbell, Schenectady, N. Y., assignor to General Electric Company. Resistance unit	869,314	Oct. 29	3313	911	130	2428
Mader, Nicholas P., Sun Prairie, Wis. Belt-fastener	869,584	Oct. 29	3755	1028	130	2564
Margreth, Joseph, Bergedorf, near Hamburg, Germany. Acetylene-gas generator	869,719	Oct. 29	3967	1096	130	2627
Main Automatic Mailing Machine Company. (See Booton, Chauncey H., assignor.)						
Maina, George A., Thompson, Mont. Strap-fastener	869,866	Oct. 29	4180	1154	130	2689
Mallory, Charles M., and J. M. Slaughter, assignors of two-thirds to E. H. Sholar and F. P. Llewellyn, Chattanooga, Tenn. Reversible disk plow	869,499	Oct. 29	3908	990-1	130	2519
Mallory, James L., Evanston, Ill. Screen	869,315	Oct. 29	3314	911	130	2429
Manklewicz, Otto, J. Altschul, Berlin, and W. Urban, assignors to Actien Gesellschaft für Anilin Fabrikation, Wilmersdorf, near Berlin, Germany. Borate of hexamethylenesamin and making same	869,636	Oct. 29	3840	.....	130	2669
Manley, Lladon B. (See Coleman, James L., assignor.)						
Mann, William B., Baltimore, Md. Sensitive triple valve	869,637	Oct. 29	3841	1051	130	2669
Mann, Willis E., Napa, Cal. Apparatus for cleaning sacks	869,585	Oct. 29	3756	1028-9	130	2564
Mapes, Charles E., assignor of one-half to H. J. Waddell, Havana, N. D. Grain-door for cars	869,377	Oct. 29	3411	938	130	2459
Maris, Maximilian, Chicago, Ill. Game apparatus	869,316	Oct. 29	12315	911	130	2429
Marshall, Norman, Newton, Mass. Apparatus for cementing the filaments of electric lamps to the stem-wires	869,317	Oct. 29	12317	912	130	2429
Marshall, Norman, Newton, Mass. Apparatus for cementing the filaments of electric lamps to the stem-wires	869,318	Oct. 29	3320	912-13	130	2430
Martel, Adelard F., Chittendan, Cal. Device for delivering mail-bags along railway-lines	869,791	Oct. 29	4071	1124	130	2657
Martin, Charles H. (See Beem and Martin.)						
Martin, Florian J., Milwaukee, Wis. Back-scratcher	869,250	Oct. 29	3205	882	130	2396
Martin, Jens C. (See Thompson and Martin.)						
Martin, Thomas A., Chicago, Ill. Sheep-shearing machine	869,500	Oct. 29	3913	991	130	2520
Marvin, Garret D., Findlay, Ohio. Gear-cutter	869,319	Oct. 29	3324	913	130	2431
Matthei, Henry. (See Matthei, Otto and H.)						
Matthei, Otto and H., Chicago, Ill. Transmission device	869,501	Oct. 29	3915	991	130	2521
Matthias, William C., assignor to O. M. Weand, Reading, Pa. Rotary screen mechanism	869,720	Oct. 29	3968	1096-7	130	2627
Maxwell, Herbert A. (See Wheildon and Maxwell.)						
Maxwell, James A. G., Rome, Mo. Baling-press	869,251	Oct. 29	3206	882-3	130	2396
Mayhew, George S., assignor, by mesne assignments, to American Mayhew Compo Board Syndicate Limited, London, England. Making wooden-cored plaster slabs for building and other purposes	869,638	Oct. 29	3844	1051-2	130	2670
McAfee, Charles D., Burgettstown, Pa. Hoof-expanding pad	869,642	Oct. 29	3852	1054	130	2672
McAllister, Alexander J., Erie, Pa. Drill-chuck	869,207	Oct. 29	3625	993	130	2504
McAssey, Jonathan. (See Garver, Allen J., assignor.)						
McCaskey, Perry A., assignor to McCaskey Register Company, Alliance, Ohio. Duplicating-pad and holder	869,808	Oct. 29	3926	994	130	2524

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McCaskey Register Company. (See McCaskey, Perry A., assignor.)						
McCloud, Edward H., assignor to Kinnear Manufacturing Company, Columbus, Ohio. Fire-resisting curtain and channel therefor	869,447	Oct. 29	3325	968	130	2493
McCormick, Hugh M., Royal Oak, Mich. Corset-stay	869,797	Oct. 29	4079	1126	130	2639
McCormick, Thomas, Mount Pleasant, Pa. Lace-curtain hanger	869,286	Oct. 29	3211	884	130	2397
McDonough, Edward A., Phœnixville, Pa. Automatic gas cut-off	869,389	Oct. 29	3761	1030	130	2566
McGuineas, Benjamin F., Worcester, Mass., assignor to Crompton & Knowles Loom Works. Warp stop-motion	869,643	Oct. 29	3852	1054	130	2593
McGuineas, Benjamin F., Worcester, Mass., assignor to Crompton & Knowles Loom Works. Weft-replenishing loom	869,644	Oct. 29	3854	1054–5	130	2594
McIntire, Alexander and C. W., Amorita, Okla. Ter. Mail-carrier	869,448	Oct. 29	3826	968–9	130	2494
McIntire, Charles W. (See McIntire, Alexander and C. W.)						
McKnight, Josiah M., Ruth, Cal. Horseshoe-calk	869,320	Oct. 29	3702	1030	130	2567
McKoy, Edwin A., New Orleans, La. Turpentine-gatherer's ax	869,261	Oct. 29	3415	939	130	2460
McLaughlin, C. I., *et al.* (See Powell and Norton, assignors.)						
McNeese, Matthew S., New Brighton, Pa. Shade and curtain bracket	869,322	Oct. 29	3330	914	130	2433
McNulty, William F., Allegheny, Pa. Preparing metallic powders	869,391	Oct. 29	3763	.....	130	2567
McQuarrie, James L., Oak Park, assignor to Western Electric Company, Chicago, Ill. Measured-service system for telephone-lines	869,449	Oct. 29	3829	969	130	2494
McQuarrie, James L., Oak Park, assignor to Western Electric Company, Chicago, Ill. Measured-service system for telephone-lines	869,450	Oct. 29	3833	969	130	2496
Meehan, John J., Denver, Colo. Toy badge	869,798	Oct. 29	4072	1124	130	2637
Meinecke, Christian W., Jersey City, N. J., assignor to Whitall Tatum Company, New York, N. Y. Sputum-cup	869,793	Oct. 29	4073	1125	130	2637
Meissner, Otto W., Montreal, Quebec, Canada, assignor to National Dump Car Company. Dump-car	869,445	Oct. 29	3823	967	130	2493
Merrill, Charles F., assignor to Union Water Meter Company, Worcester, Mass. Water-meter	869,320	Oct. 29	3326	914	130	2431
Merritt, Henry W., assignor to Monarch Typewriter Company, Syracuse, N. Y. Type-writing machine	869,502	Oct. 29	3818	992	130	2522
Meyer, George W., Sparrows Point, Md. Steam-actuated valve	869,794	Oct. 29	4073	1125	130	2637
Meyer, John, Bloomington, Ill. Knife attachment for corn-cultivators	869,588	Oct. 29	3757	1029	130	2565
Meyer, Paul L., assignor to J. F. Hemenway, New York, N. Y. Making dry cells	869,448	Oct. 29	3824	968	130	2493
Michaud, Joseph O., Fort Kent, Me. Bit-stock	869,639	Oct. 29	3845	1052	130	2590
Miller, Hezekiah, assignor of one-half to J. Horner, Fort Morgan, Colo. Telegraph-pole, fence-post, and the like	869,252	Oct. 29	3207	883	130	2396
Miller, John Z. (See Barrett, George E., assignor.)						
Miller, William M. S., Milwaukee, Wis., assignor to Sieber & Trussell Mnfg. Co. Loose-leaf binder	869,378	Oct. 29	3413	938	130	2459
Mills, Edward R., C. A. Conn, Pittsburg, Pa., and H. Van Ormer, Hartford, Conn., assignors to Liberty Manufacturing Company, Pittsburg, Pa. Rotary motor	869,867	Oct. 29	4181	1154–5	130	2691
Mills, Frank J., Brooklyn, N. Y. Book-clip	869,379	Oct. 29	3414	938	130	2459
Monarch Typewriter Company. (See Buckwell, Arthur W., assignor.)						
Monarch Typewriter Company. (See Merritt, Henry W., assignor.)						
Monro, William E., London, England. Means for checking side slip of road-vehicles	869,640	Oct. 29	3847	1052–3	130	2591
Montgomery, Frances B., Rochester, N. Y. Means for attaching buckles to belts or girdles	869,721	Oct. 29	3969	1097	130	2628
Moore, George, Boston, Mass. Eyeglass-fittings	869,567	Oct. 29	3758	1029	130	2565
Moore, William H. (See Hockett, Aaron L., assignor.)						
Morehead, J. Turner. (See O'Kelly, James M., assignor.)						
Moreland, Philip, Gloucester, England, and O. H. Landvatter, assignors to Badische Maschinenfabrik und Eisengiesserei, vormals G. Sebold und Sebold & Neff, Durlach, Germany. Dipping device for match-making machines	869,641	Oct. 29	3849	1053	130	2592
Morison, George S., Melbourne, Victoria, Australia. Brake-actuating appliance to operate when a vehicle leaves the track in railways	869,795	Oct. 29	4076	1125	130	2638
Morrow, William L., Stockton, Cal. Gas-engine	869,253	Oct. 29	3208	883	130	2396
Morrow, William L., Stockton, Cal. Double two-cycle engine	869,803	Oct. 29	3820	992	130	2522
Mueller, Edward C., assignor to Toledo Bushing Company, Toledo, Ohio. Boring-machine	869,504	Oct. 29	3821	992	130	2523
Mug, Edward T., Norwood, Ohio, assignor to Bullock Electric Manufacturing Company. Series shunt for dynamo-electric machines	869,796	Oct. 29	4077	1126	130	2639
Mularkey, James, assignor of one-half to D. K. Smith, Kansas City, Mo. Building construction						
Mullen, Jay M. (See Barber, Albert H., assignor.)						
Müller, Friederich, Elizabeth, N. J. Machine-tool	869,260	Oct. 29	3414	939	130	2460
Müller, Robert, Munich, Germany. Insulating material and manufacturing same	869,588	Oct. 29	3759	1029–30	130	2565
Mumford, George R., Dillon, Colo. Animal-poke	869,321	Oct. 29	3328	.....	130	2432
Munch, John P., New York, N. Y. Slot-machine	869,722	Oct. 29	3970	1097	130	2628
Murray, Charles. (See Murray, Martin and C.)						
Murray, Horace M., Seligman, Mo., assignor to J. W. Dodgen, Oakgrove, Ark. Tanning compound	869,254	Oct. 29	3209	884	130	2397
Murray, John P. (See Snyder, Charles F., assignor.)	869,723	Oct. 29	3971	.....	130	2628
Murray, Martin and C., Troy, N. Y. Screen-handle fastener	869,505	Oct. 29	3822	993	130	2523
Myers, Charles H., Buffalo, N. Y. Wrench	869,255	Oct. 29	3210	884	130	2397
Myers, William H., and W. G. Stevens, Belleville, Ill. Train-pipe coupling	869,506	Oct. 29	3823	993	130	2524
National Dump Car Company. (See Meissner, Otto W., assignor.)						
National Electric Lamp Company. (See Fagan, John T., assignor.)						
National Malleable Castings Company. (See Bazeley, Arthur J., assignor.)						
National Malleable Castings Company. (See Tower, Clinton A., assignor.)						
National Patent Holding Company. (See Otis, Spencer, assignor.)						
National Patent Holding Company. (See Otis and Hart, assignors.)						
National Slag Construction Company. (See Nolan, Martin J., assignor.)						
Nelson, Nathaniel, Chicago, Ill. Cap-feeding mechanism for canning-machines	869,509	Oct. 29	3828	994	130	2525
Nelson, Nathaniel, Chicago, Ill. Solder-feeding mechanism for canning-machines	869,510	Oct. 29	3829	994	130	2525
Nestler, Emil, assignor to S. J. Fell, Buffalo, N. Y. Shaft-support	869,451	Oct. 29	3838	969–70	130	2496
Newark Safety Razor Company. (See Steinharter, Joseph J., assignor.)						
Newton, John C. (See Till and Newton.)						
Newton, William F., Spokane, Wash. Lineman's safety device	869,282	Oct. 29	3416	939	130	2460
Nichols, Edward, Cohasset, Mass. Reinforced concrete construction	869,724	Oct. 29	3971	1097–8	130	2628
Nielsen, Laurits M., assignor to Agnew Auto Mailing Machine Company, Boston, Mass. Package-feeding machine	869,725	Oct. 29	3972	1098–9	130	2629
Nolan, Martin J., Philadelphia, Pa., assignor, by mesne assignments, to National Slag Construction Company. Railway-tie	869,645	Oct. 29	3846	1055	130	2594
Nolan, Richard P., Havelock, Ontario, Canada. Automatic warning-signal for air-brake systems	869,223	Oct. 29	3331	915	130	2433
Norton, Christopher F. (See Powell and Norton.)						
Nott, James W., Elgin, Nebr. Incubator	869,462	Oct. 29	3839	970	130	2498
O'Kelly, James M., assignor of one-half to J. T. Morehead, New York, N. Y. Dumping-car	869,726	Oct. 29	3973	1099	130	2630
Obert, Alexander, Camden, N. J. Detector for printing-presses or the like	869,224	Oct. 29	3332	915	130	2433

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Ockel, Reinhold. (See Spence and Ockel.)						
Ocumpaugh, Charles H., Rochester, N. Y. Calculator	869,511	Oct. 29	3629	995	130	2525
Ocumpaugh, Charles H., Rochester, N. Y. Casing for sash balances and pulleys	869,512	Oct. 29	3631	995	130	2526
Odermann, Henry, and C. V. Strub, Milwaukee, Wis. Auxiliary automatic lubricant-controlling device	869,383	Oct. 29	3417	940	130	2461
Oehrmann, Hermann, Osnabruck, Germany. Sling	869,325	Oct. 29	3334	915	130	2434
Ogden, Miller J., Rushville, Ind. Money-box	869,384	Oct. 29	3418	940	130	2461
Olrich, John F., San Francisco, Cal. Suction-dredge cutter	869,385	Oct. 29	3419	940	130	2461
Olson, Jacob, Oskaloosa, and W. J. O. Boals, Albia, Iowa. Pick	869,727	Oct. 29	3981	1100	130	2631
Organ Power Company. (See Spencer, Ira H., assignor.)						
Orr, Gaylord A., Cripple Creek, Colo. Sash-fastener	869,798	Oct. 29	4080	1126	130	2639
Oster, William, Caldwell county, Mo. Mowing-machine	869,799	Oct. 29	4081	1126–7	130	2640
Otis Elevator Company. (See Carichoff, Eugene R., assignor.)						
Otis, Spencer, Chicago, Ill. Fluid-pressure motor	869,453	Oct. 29	3540	970	130	2499
Otis, Spencer, Chicago, Ill. Motor railway-truck	869,456	Oct. 29	3543	971–2	130	2499
Otis, Spencer, Chicago, Ill., assignor to National Patent Holding Company, Rapid City, S. D. Steam-transformer	869,454	Oct. 29	3541	970	130	2499
Otis, Spencer, and H. S. Hart, assignors to National Patent Holding Company, Chicago, Ill. Motor-car	869,455	Oct. 29	3542	971	130	2499
Otto, Henry J., Princeton, Ind. Platen-rotating mechanism for type-writers	869,386	Oct. 29	3420	940	130	2461
Page, Frank C. B., New York, assignor to E. W. Bliss Company, Brooklyn, N. Y. Punching-machine and feeding mechanism therefor	869,326	Oct. 29	3334	915–17	130	2434
Paisley, Leroy, Waverly, Ohio. Alarm mechanism	869,728	Oct. 29	3982	1100	130	2637
Papillon, Alfred, Mermenton, La. Pump	869,387	Oct. 29	3420	941	130	2462
Park, Frank L. (See Smith, William R., assignor.)						
Park, Kennedy, Toledo, Ohio. Hand-hole cover	869,327	Oct. 29	3337	917	130	2435
Parke, Robert A., New York, N. Y., assignor to Westinghouse Air Brake Company, Pittsburg, Pa. Fluid-pressure brake	869,592	Oct. 29	3764	1030–1	130	2567
Parker, Thomas, assignor to J. N. Rickles, Altoona, Ala. Wheel-locking attachment for tram-cars	869,257	Oct. 29	3212	884–5	130	2397
Pascoe, Richard H., and F. Bergen, Mace, Idaho. Elevator	869,800	Oct. 29	4082	1127	130	2640
Pattee, Herbert H., New York, N. Y. Amusement device	869,801	Oct. 29	4083	1128	130	2640
Patterson, James M., Los Angeles, Cal. Wrapping-machine	869,388	Oct. 29	3422	941–3	130	2462
Patterson, James M., Los Angeles, Cal. Wrapping-machine	869,389	Oct. 29	3426	943	130	2465
Patterson, Roy J., Fort Worth, Tex. Non-refillable bottle	869,390	Oct. 29	3429	944	130	2464
Paul, William L., assignor to Peru Plow & Wheel Company, Peru, Ill. Caster-controller for wheeled plows	869,258	Oct. 29	3214	885	130	2398
Peabody, William, Detroit, Mich. Building apparatus and method of building construction	869,391	Oct. 29	3430	944	130	2464
Peacock, Walter S., Selma, Cal. Collar-stiffener for negligée shirts	869,259	Oct. 29	3215	885	130	2398
Pearce, Arthur S., San Juan, Cal. Wrench	869,802	Oct. 29	4084	1128	130	2641
Pearl, Eugene, Passaic, N. J. Hose-supporter	869,457	Oct. 29	3544	972	130	2500
Pearson, Ellis S., Bradford, Ohio. Curtain-pole support	869,328	Oct. 29	3338	917	130	2435
Peeples, Lawrence R., Shawneetown, Ill. Wire-fastener	869,458	Oct. 29	3545	972	130	2500
Pennsylvania Steel Company. (See Lewis, Edward, assignor.)						
Perks, James H., *et al.* (See Ives, Ernest C., assignor.)						
Perks, Thomas, *et al.* (See Ives, Ernest C., assignor.)						
Perrins Limited. (See Beck, Arthur E., assignor.)						
Perry, Watson E., Warrensburg, N. Y. Attachment for draft-harness	869,803	Oct. 29	4085	1128	130	2641
Peru Plow & Wheel Company. (See Paul, William L., assignor.)						
Peter Spence & Sons. (See Spence and Ockel, assignors.)						
Peters, Jacob, and E. H. N. Clarkson, Baltimore, Md. Machine for framing timbers	869,646	Oct. 29	3856	1055	130	2596
Pfeil, Frederick C., Buffalo, N. Y. Saw-guard	869,513	Oct. 29	3632	996	130	2526
Phillips, William L., Trenton, N. J. Dumping-car	869,804	Oct. 29	4086	1129	130	2641
Pilcher, John A., and W. W. Lemen, Roanoke, Va. Car-wheel	869,514	Oct. 29	3634	996	130	2527
Pilliner, Philip F., Philadelphia, Pa. Grinder for valves	869,647	Oct. 29	3857	1056	130	2596
Pittsburgh Equipment Company. (See Pulliam, Oswald S., assignor.)						
Porter, Henry H., Jr., Chicago, Ill. Vehicle-body	869,260	Oct. 29	3216	885–6	130	2399
Posey, Lloyd. (See Hushour, William H., assignor.)						
Post, Frank, Newfoundland, N. J. Safety-stop or chock for car-inclines	869,648	Oct. 29	3859	1056	130	2596
Potter, Harry J., assignor to Aseptic Drinking Cup Company, Cambridge, Mass. Sputum-cup	869,515	Oct. 29	3636	997	130	2527
Potter, William B., Schenectady, N. Y., assignor to General Electric Company. Electric-railway system	869,459	Oct. 29	3546	973	130	2500
Potts, George D., Taylorville, Ill. Jump-seat for buggies	869,302	Oct. 29	3432	944	130	2465
Poukey, Alfred, Peoria, Ill. Device for releasing animals from stalls	869,261	Oct. 29	3217	886	130	2399
Powell Luther P., *et al.* (See Powell and Norton, assignors.)						
Powell, Royston W., and C. F. Norton, assignors of one-half to C. I. McLaughlin and L. P. Powell, Brooklyn, N. Y. Gas-engine	869,393	Oct. 29	3433	944–5	130	2465
Powers, Hines A., Farry, Okla. Ter. Heading-machine	869,516	Oct. 29	3638	997	130	2528
Pringle, John L., Toronto, Ontario, Canada, assignor to Union Manufacturing Company, New Britain, Conn. Gage	869,649	Oct. 29	3860	1056	130	2596
Prouty, George W., Dorchester, Mass. Feed mechanism for printing-presses and similar machines	869,229	Oct. 29	3339	918	130	2435
Pulliam, Oswald S., assignor to Pittsburgh Equipment Company, Pittsburg, Pa. Bolster	869,650	Oct. 29	3861	1057	130	2596
Pulliam, Oswald S., assignor to Pittsburgh Equipment Company, Pittsburg, Pa. Bolster	869,651	Oct. 29	3862	1057	130	2596
Pulliam, Oswald S., assignor to Pittsburgh Equipment Company, Pittsburg, Pa. Car-truck construction	869,652	Oct. 29	3862	1057	130	2596
Putnam, Salmon W., 2d, Fitchburg, Mass. Driving-dog	869,653	Oct. 29	3863	1057–8	130	2597
Putnam, Salmon W. 3d, Fitchburg, Mass. Driving-dog	869,729	Oct. 29	3983	1100	130	2631
Pynchon, Edwin, Chicago, Ill., assignor to De Vilbiss Manufacturing Company, Toledo, Ohio. Aspirator	869,262	Oct. 29	3218	886	130	2400
Racine-Sattley Company. (See Weaver, Ira A., assignor.)						
Ragona, Salvador, New York, N. Y. Cigarette-machine	869,394	Oct. 29	3434	945	130	2465
Rankin, Heeman P., Hartington, Nebr. Trap-nest	869,263	Oct. 29	3219	886–7	130	2400
Rapeport, Barnet, New York, N. Y. Folding box	869,517	Oct. 29	3639	997	130	2528
Rattan Mfg. Co. (See Todd, Andrew B., assignor.)						
Rauch, John D. (See Karr and Rauch.)						
Rector, John W., Savannah, N. Y. Concrete chimney	869,518	Oct. 29	3640	998	130	2528
Reece, Charles L. (See Tippett and Reece.)						
Reed, Meriman H. (See Hellig and Reed.) (Reissue.)						
Reeve, Sidney A., Worcester, assignor to C. F. Brown, trustee, Reading, Mass. Locomotive-boiler	869,805	Oct. 29	4088	1129	130	2642
Rehrig, Adam E., Pasherton, Pa. Removable horseshoe-calk	869,330	Oct. 29	3341	918	130	2436
Remington, George H., *et al.* (See Caldwell and Drew, assignors.)						
Reynolds, John W., Proctor, Vt. Damper attachment	869,806	Oct. 29	4089	1130	130	2642
Rhoades, Alonzo E., assignor to Draper Company, Hopedale, Mass. Spooler	869,579	Oct. 29	3641	998	130	2528
Ricciardi, Bartolomeo, New York, N. Y. Tailor's tape-measure	869,264	Oct. 29	3222	887	130	2401
Richards, Roy M., Mendon, N. Y. Grain-drill cleaner	869,730	Oct. 29	3985	1101	130	2632

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Richardson, Joseph W., Cumberland, Md., assignor of one-third to R. E. Weimer, Johnstown, Pa. Automatic governor for air-brake systems	869,731	Oct. 29	3986	1101	130	2632
Richmond, Walter, Memphis, Tenn. Electric heating fabric	869,460	Oct. 29	3580	973	130	2503
Rickles, Jasper N. (See Parker, Thomas, assignor.)						
Rideout, Ernest V., San Francisco, Cal. Gang-plank	869,664	Oct. 29	3865	1058	130	2597
Riehse Brothers Testing Machine Company. (See Kenerson, William H., assignor.)						
Riehle, Frederick A. (See Tretch, William J., assignor.)						
Riis, Charles E., Kansas City, Kans. Gate	869,839	Oct. 29	4166	1151	130	2667
Rinckenberger, Alfred, assignor to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany. Stable dry hydrosulfite mixture	869,655	Oct. 29	3926	.....	130	2597
Rings, Julius A., New York, N. Y. Curtain-pole ring	869,656	Oct. 29	3927	1059	130	2598
Rittersbach, George W., assignor of one-half to G. S. Elliott and M. Schwartz, Philadelphia, Pa. Railway-tie and rail-fastening	869,732	Oct. 29	3987	1102	130	2633
Robbins, Myron A., Passaic, N. J. Dental impression-pliers	869,520	Oct. 29	3642	998	130	2528
Robinson, Samuel G., Jr., West Toledo, Ohio. Brooder	869,265	Oct. 29	3224	887	130	2401
Rogers, John, assignor of two-thirds to J. W. and J. A. Flanagan, Kansas City, Mo. Clamshell bucket	869,657	Oct. 29	3988	1059	130	2598
Rosenbaum, Harry, New York, N. Y. Portable work-bench	869,461	Oct. 29	3551	973	130	2503
Rosenfeld, Arnold, Bel Air, Md. Vending apparatus	869,807	Oct. 29	4090	1130	130	2663
Rosenfeld, Max, Chicago, Ill. Advertising device	869,733	Oct. 29	3987	1102	130	2633
Rosenthal, C. S., *et al.* (See Thompson, James T., assignor.)						
Ross, John M., Kincardine, Ontario, Canada. Mower-knife and tool grinder	869,734	Oct. 29	3989	1102	130	2633
Rubin, Myer, San Diego, Cal. Drawer-guide	869,735	Oct. 29	3991	1103	130	2634
Rückert, Paul. (See Eilhauer and Rückert.)						
Runge, Walter C., Camden, N. J., assignor to International Royal Phone Company, Boston, Mass. Regulating device for motors	869,231	Oct. 29	3342	919	130	2426
Ruppel, William, Evanston, Wyo. Egg-beater	869,736	Oct. 29	3992	1103	130	2634
Russell & Erwin Manufacturing Company. (See Jones, Horace K., assignor.)						
Russell, Frank J., New York, N. Y. Multiple socket for incandescent lamps	869,737	Oct. 29	3993	1103	130	2634
Russell, Robert C., Williamsport, Pa. Index	869,821	Oct. 29	3843	998-9	130	2529
Sage, Jearum A., Stryker, Ohio. Fender	869,738	Oct. 29	3994	1103-4	130	2635
Sargent & Company. (See Shaw, John H., assignor.)						
Sauer, Adelbert, Pittsburg, Pa. Air-compressing system	869,739	Oct. 29	3995	1104-5	130	2635
Sayre, George W., Stevens, W. Va. Safety device for cars	869,658	Oct. 29	3989	1059-60	130	2598
Schaaf, George. (See Kassahn and Schaaf.)						
Scheiffler, George D., Jackson, Mich. Machine for mixing concrete	869,822	Oct. 29	3845	999-1000	130	2530
Schirmer, Martin H. (See Lehr, Joseph, assignor.)						
Schleth, Friedrich, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Sight-telescope	869,295	Oct. 29	3445	946	130	2499
Schmidt, Charles J., Chicago, Ill. Flower-pot	869,523	Oct. 29	3648	1000	130	2530
Schmutz, Lewis, *et al.* (See Cobham, Frederick P., assignor.)						
Schneider, Berthold, Berlin, Germany. Odometer	869,740	Oct. 29	4000	1105	130	2637
Schneider, Christian F. (See Allen, James M., assignor.)						
Schubert, August, Snohomish, Wash. Portable crosscut-saw	869,659	Oct. 29	3870	1060	130	2599
Schultz, Edward, Chenoa, Ill. Harrow attachment	869,660	Oct. 29	3872	1060	130	2599
Schutte, Louis, assignor to Schutte and Koerting Company, Philadelphia, Pa. Gate-valve	869,525	Oct. 29	3650	1001	130	2531
Schutte, Louis, deceased, Philadelphia, Pa.; Guarantee Trust & Safe Deposit Co. and M. D. Schutte, executors, assignors to Schutte and Koerting Company, Philadelphia, Pa. Safety-valve	869,524	Oct. 29	3649	1001	130	2530
Schutte and Koerting Company. (See Schutte, Louis, assignor.)						
Schutte, Mary D., *et al.*, executors. (See Schutte, Louis.)						
Schwartz, John F., Alma, Mich. Tile	869,266	Oct. 29	3225	888	130	2401
Schwartz, Morris, *et al.* (See Rittersbach, George W., assignor.)						
Schwarz, Helena A., Waterbury, Conn. Clamping device for curtain-stretchers	869,232	Oct. 29	3343	919	130	2426
Scilley, Hugh. (See Hellig and Reed, assignors.) (Reissue.)						
Secor, Jerome B., assignor to Williams Typewriter Company, Derby, Conn. Type-writer mechanism	869,526	Oct. 29	3652	1001	130	2532
Seeley, George M. (See Kleinschmidt, Edward E., assignor.)						
Seltzman, Issak, New York, N. Y. Protector for ears, forehead, and eyes	869,741	Oct. 29	4001	1106	130	2637
Shaffer, James M. (See Warele, Antone F., assignor.)						
Shaw, David E., Milwaukee, Wis. Bottle rinser and sterilizer	869,323	Oct. 29	3344	919-20	130	2426
Shaw, John H., assignor to Sargent & Company, New Haven, Conn. Plane	869,267	Oct. 29	3226	888	130	2402
Shears, Albert L., Seattle, Wash. Wrench	869,527	Oct. 29	3655	1002	130	2534
Shee, Parke B., assignor of one-half to J. D. Denegre, St. Paul, Minn. Centrifugal separator-bowl	869,808	Oct. 29	4093	1130	130	2663
Sheet Metal Specialty Company. (See Follansbee, John, assignor.)						
Sheinman, Morris, New York, N. Y., assignor to Alarm Lock Company. Alarm dead-lock	869,462	Oct. 29	3552	974	130	2503
Shepard, Frank E., Denver, Colo., assignor to Denver Engineering Works Co. Ore-concentrating table	869,660	Oct. 29	4167	1151	130	2667
Sheperd, Louis J., New York, N. Y. Receptacle	869,234	Oct. 29	3346	920	130	2427
Sherwin, James. (See Adams, John R., assignor.)						
Sholar, Edward H., *et al.* (See Mallory and Slaughter, assignors.)						
Sieber & Trussell Mnfg. Co. (See Miller, William M. S., assignor.)						
Simmendinger, Joseph, Wenigenjena, Germany. Blast-gas burner	869,268	Oct. 29	3227	888	130	2402
Simmons, Joseph M., Philadelphia, Pa. Holder for lamp-mantles	869,661	Oct. 29	3873	1061	130	2600
Simplex Concrete Piling Company. (See Stewart, John, assignor.)						
Simpson, Isaac, Wilmerding, assignor of one-eighth to H. C. Loudenbeck, Wilkinsburg, Pa. Friction draft-gear	869,269	Oct. 29	3227	888-9	130	2402
Slade, Edward, and J. B. Clearihue, Black Lake, Quebec, Canada. Apparatus for grading fibrous material and separating dust therefrom	869,742	Oct. 29	4002	1106	130	2637
Slaughter, James M. (See Mallory and Slaughter.)						
Sloan, Charles A., Ozark, Ark. Ruby-pin setter	869,809	Oct. 29	4094	1131	130	2664
Smalley, Charles L., Stepney, Conn. Hot-head for explosive-engines	869,528	Oct. 29	3656	1002	130	2534
Smith, Day K. (See Mularkey, James, assignor.)						
Smith, Edwin F., assignor to Edwin F. Smith Company, Philadelphia, Pa. Stay-log	869,270	Oct. 29	3229	889	130	2402
Smith, George M., Ivanhoe, Colo. Culinary device	869,529	Oct. 29	3657	1002	130	2534
Smith, Thomas, assignor of one-half to M. Yinder, South Yarra, Victoria, Australia. Flushing-cistern	869,530	Oct. 29	3658	1002	130	2534
Smith, Thomas L. (See Baker and Smith.)						
Smith, William R., assignor of one-fifth to F. L. Park, Topeka, Kans. Grain-car door	869,743	Oct. 29	4003	1106	130	2637
Snyder, Charles F., assignor of one-eighth to J. P. Murray, Allegheny, Pa. Hose or pipe coupling	869,662	Oct. 29	3874	1061	130	2600
Soennecken, Friedrich, Bonn, Germany. Copying-machine	869,808	Oct. 29	3767	1031	130	2568
Somers, Edward H., assignor of one-half to F. A. Somers, Urbana, Ill. Machine for making building-blocks	869,271	Oct. 29	3231	889-91	130	2402
Somers, Frank A. (See Somers, Edward H., assignor.)						
Sorensen, Frederick C., assignor of two-thirds to J. A. Calek and R. C. Williams, Chicago, Ill. Journal-box and lid	869,663	Oct. 29	3875	1061	130	2600
Southwick, Edward L., Mapleton, Minn. Non-refillable bottle	869,810	Oct. 29	4095	1131	130	2664

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Spear, Clyde J. (See Hartman, Noble W., assignor.)						
Speer, Arthur B., Pittsburg, Pa. Packing-case	869,463	Oct. 29	3553	974	130	2503
Spence, Francis M. and H., Manchester, and R. Ockel, Lower Walton, assignors to Peter Spence & Sons, Limited, Manchester, England. Treatment of sewage-sludges	869,272	Oct. 29	3234	.....	130	2404
Spence, Howard. (See Spence and Ockel.)						
Spence, Watson. (See Lafferty and Spence.)						
Spencer, Ira H., assignor to Organ Power Company, Hartford, Conn. Organ-blowing apparatus	869,868	Oct. 29	4184	1155	130	2692
Spencer, James D., New York, N. Y. Cooler for liquids	869,745	Oct. 29	4005	1107	130	2638
Sperry, Lewis. (See Broderick, David F., assignor.)						
Spottswood, Edwin E., Fort Wayne, Ind. Pot-lid	869,746	Oct. 29	4006	1107	130	2638
Sprague, Hetta T., Cortland, N. Y. Garment-supporter	869,744	Oct. 29	4004	1106	130	2638
Stanley, Edward, Norristown, Pa. Packaging-machine	869,664	Oct. 29	3877	1062-9	130	2601
Starr, John E., New York, N. Y. Air-cooler or surfacer	869,747	Oct. 29	4007	1107	130	2638
Staude, Edwin G., Minneapolis, Minn. Measuring and weighing machine	869,335	Oct. 29	3346	920-2	130	2427
Stearns, Walter A., Louisville, Ky. Bell-ringing mechanism	869,665	Oct. 29	3888	1069-70	130	2603
Stein, David. (See Balla and Stein.)						
Steinharter, Joseph J., assignor to Newark Safety Razor Company, Newark, N. J. Safety-razor	869,748	Oct. 29	4008	1107	130	2639
Stemmler, T. W. (See Lamouroux, Pierre, assignor.)						
Sterling Wheelbarrow Company. (See Baker and Smith, assignors.)						
Stevens, George E. Lynn, Mass., assignor to General Electric Company. Electric heater	869,464	Oct. 29	3554	974	130	2504
Stevens, William G. (See Myers and Stevens.)						
Stevenson, Andrew. (See Freiman and Stevenson.)						
Stewart, John, Pittsburg, Pa., assignor to Simplex Concrete Piling Company, Washington, D. C. Concrete pile and means for driving same	869,336	Oct. 29	3351	922	130	2438
Stewart, Samuel B., Jr., Schenectady, N. Y., assignor to General Electric Company. Third-rail contact-shoe	869,465	Oct. 29	3556	975	130	2504
Stoddard, Charles F., Boston, Mass., assignor to American Pneumatic Service Company, Dover, Del. Pneumatic-despatch-tube apparatus	869,337	Oct. 29	3352	923	130	2439
Stoddard, Charles F., Boston, Mass., assignor to American Pneumatic Service Company, Dover, Del. Pneumatic-despatch-tube apparatus	869,338	Oct. 29	3355	924	130	2440
Stoddard, Edward B., Chicago, Ill. Dredging apparatus	869,273	Oct. 29	3235	891-2	130	2404
Stokes, Arthur H., Grand Junction, Colo. Water-measuring gate	869,274	Oct. 29	3237	892	130	2405
Stone, William G., assignor to Enterprise Novelty & Manufacturing Company, Knoxville, Ill. Animal-trap	869,594	Oct. 29	3766	1032	130	2568
Strasburger, Frank C. H., assignor to Bottlers Machinery Manufacturing Company, Chicago, Ill. Filling-machine	869,811	Oct. 29	4096	1131	130	2665
Strub, Charles V. (See Odermann and Strub.)						
Struble, Jacob B., New York, N. Y., assignor to Union Switch & Signal Company, Swissvale, Pa. Railway signaling	869,531	Oct. 29	3659	1003	130	2534
Stuckey, John C., Elizabeth, N. J. Stop mechanisms for talking-machines	869,749	Oct. 29	4010	1108	130	2639
Stull, Emmett W., Norwood, Ohio, assignor to Bullock Electric Manufacturing Company. Controller	869,812	Oct. 29	4098	1131-2	130	2665
Sullivan, Catherine, Chicago, Ill. Pie-marker	869,666	Oct. 29	3890	1070	130	2604
Sutton, Albert E., Elkins, W. Va. Non-refillable bottle	869,532	Oct. 29	3661	1003	130	2535
Sutton, Albert E., Elkins, assignor of one-half to J. R. Sutton, Beverly, W. Va. Hame-tug	869,813	Oct. 29	4103	1133	130	2667
Sutton, John R. (See Sutton, Albert E., assignor.)						
Sweetland, John H., Vassar, Mich. Spring-roller	869,306	Oct. 29	3447	946	130	2470
Sweetwood Tooth Pick Company. (See Hutchinson, William F., assignor.)						
Taussig, John H., assignor to United Gas Improvement Company, Philadelphia, Pa. Water-gas apparatus	869,814	Oct. 29	4104	1133-4	130	2667
Taylor, Arthur K., Roland Park, assignor of one-half to H. T. Anderson, Baltimore, Md. Printing-press	869,667	Oct. 29	3890	1070	130	2604
Taylor, Richard, *et al.* (See Daniel and Keller, assignors.)						
Taylor, Warren H., assignor to Yale & Towne Manufacturing Company, Stamford, Conn. Lock	869,533	Oct. 29	3662	1003	130	2535
Taylor, William T., Chihuahua, Mexico. Transformation of electric currents	869,595	Oct. 29	3769	1032	130	2569
Terna, Bruno, Philadelphia, Pa. Utilizing zinc skimmings	869,750	Oct. 29	4012	.....	130	2640
Textile Appliance Co. (See Whitney and Ecaubert, assignors.)						
Tharp, Noah W., Elkin, N. C. Canning apparatus	869,751	Oct. 29	4013	1108	130	2640
Therriault, Lawrence, Missoula, Mont. Sled	869,596	Oct. 29	3771	1032	130	2570
Thompson, James T., assignor of one-half to C. S. Rosenthal and T. P. Galligan, Chicago, Ill. Automatic apparatus for stopping moving railway-trains	869,597	Oct. 29	3772	1033	130	2570
Thompson, James T., assignor of two-thirds to C. S. Rosenthal and T. P. Galligan, Chicago, Ill. Controlling apparatus for railway-trains	869,598	Oct. 29	3776	1033-4	130	2571
Thompson, William, and J. C. Martin, Spokane, Wash.; said Martin assignor to said Thompson. Hygienic cartridge-battery	869,599	Oct. 29	3780	1034	130	2572
Thullen, Louis H., assignor to Union Switch & Signal Company, Swissvale, Pa. Block-signaling system	869,275	Oct. 29	3238	892-3	130	2405
Thwing, Charles B., Philadelphia, Pa. Pyrometer	869,668	Oct. 29	3892	1070	130	2604
Tilford, George E., assignor to Haverhill Fire Appliance Company, Haverhill, Mass. Fire-extinguisher	869,752	Oct. 29	4014	1108	130	2640
Till, William F., and J. C. Newton, Brooklyn, N. Y. Veranda-swing	869,753	Oct. 29	4015	1109	130	2641
Timberlake & Sons, J. B. (See Twitchell, James E., assignor.) (Reissue.)						
Tippett, Lucius C., and C. L. Reece, Elverton, W. Va. Rotary engine	869,307	Oct. 29	3448	946-7	130	2470
Todd, Andrew B., Branford, assignor to Rattan Mfg. Co., New Haven, Conn. Folding baby-carriage	869,534	Oct. 29	3664	1004	130	2536
Toledo Bushing Company. (See Mueller, Edward C., assignor.)						
Toltz, Max, St. Paul, Minn., assignor of one-fourth to C. G. Hawley, Chicago, Ill. Superheater	869,600	Oct. 29	3781	1034-5	130	2573
Toltz, Max, St. Paul, Minn., assignor to C. G. Hawley, Chicago, Ill. Superheater	869,669	Oct. 29	3893	1071	130	2605
Tone, Frank J., Niagara Falls, N. Y. Reducing compounds with electrically-developed heat	869,276	Oct. 29	3240	.....	130	2406
Tower, Clinton A., assignor to National Malleable Castings Company, Cleveland, Ohio. Frictional draft-rigging	869,754	Oct. 29	4016	1109	130	2641
Traviand, Aanen, Hoffman, Minn. Bicycle-boat	869,277	Oct. 29	3241	893	130	2406
Tretch, William J., assignor to F. A. Riehle, Philadelphia, Pa. Hydraulic four-way valve and by-pass	869,755	Oct. 29	4017	1110	130	2642
Turbayne, William A. (See Hubbard and Turbayne.)						
Turbull, Rosella E., Chicago, Ill. Window construction	869,466	Oct. 29	3558	975	130	2505
Turner, Charles W. S., Mountville, Va. Railway-signal	869,467	Oct. 29	3559	975-6	130	2505
Turner, Thomas, Ottumwa, Iowa. Rock-drill-feed mechanism	869,278	Oct. 29	3241	894	130	2406
Turner, William W., Sunlight, Mo. Post-driving machine	869,815	Oct. 29	4106	1134	130	2667
Twitchell, James E., Detroit, assignor, by mesne assignments, to J. B. Timberlake & Sons, Jackson, Mich. Display-easel. (Reissue)	12,711	Oct. 29	4106	1159	130	2668

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Ulery, Arthur D., Scenery Hill, Pa. Combination harrow, pulverizer, and drag	869,786	Oct. 29	4020	1110	130	2642
Union Manufacturing Company. (See Pringle, John L., assignor.)						
Union Metallic Cartridge Company. (See Drake, Edward E., assignor.)						
Union Switch and Signal Company. (See Howard, Lemuel F., assignor.)						
Union Switch & Signal Company. (See Struble, Jacob B., assignor.)						
Union Switch & Signal Company. (See Thullen, Louis H., assignor.)						
Union Water Meter Company. (See Merrill, Charles F., assignor.)						
United Gas Improvement Company. (See Taussig, John H., assignor.)						
United States Column Company. (See Lally, John, assignor.)						
Unverricht, Eduard, Altona, Germany. Automatic device for protecting trains	869,266	Oct. 29	3449	947	130	2570
Urban, Wilhelm. (See Mankiewicz, Altschul, and Urban.)						
Van Ormer, Herman. (See Mills, Conn, and Van Ormer.)						
Van Wagenen, Edward, New York, N. Y., assignor to Gould Storage Battery Company. Electrical system of distribution	869,279	Oct. 29	3243	894–5	130	2467
Vanderslice, Eugene H., Jamestown, Pa. Wrench	869,670	Oct. 29	3895	1072	130	2635
Varley, Richard, Englewood, N. J., assignor to Autocoil Company. Ignition system for explosion-engines	869,601	Oct. 29	3784	1035	130	2574
Varley, Thomas W., New York, N. Y. Electrical apparatus	869,602	Oct. 29	3787	1035	130	2574
Veitch, Thomas, New York, N. Y., assignor to International Patent Corporation, Jersey City, N. J. Rotary engine	869,330	Oct. 29	3336	924	130	2441
Vial, Frederick K., La Grange, assignor to Griffin Wheel Company, Chicago, Ill. Car-wheel	869,671	Oct. 29	3896	1072	130	2635
Victor Typewriter Company. (See Campbell, George W., assignor.)						
Vinton, John H., Boston, assignor of two-thirds to S. S. Bowes, Jamaica Plain, and J. W. Goddard, Boston, Mass. Shoe sole or heel	869,603	Oct. 29	3786	1036	130	2575
Volunteer Disc Plow Co. (See Weeks, Samuel V., assignor.)						
Vrooman, Arba E., Painesville, Ohio. Vegetable-topping machine	869,816	Oct. 29	4107	1134–5	130	2699
Waddell, Henry J. (See Mapes, Charles E., assignor.)						
Wade, Francis W., East St. Louis, Ill. Blackboard-cleaner	869,817	Oct. 29	4110	1135	130	2699
Waechter, Hermann, New York, N. Y. Liquid-dispensing vessel	869,535	Oct. 29	3685	1004	130	2636
Waldron, Howard V. D. (See Latta, Emmit G., assignor.)						
Wallace, William, Philadelphia, Pa. Electric sign	869,468	Oct. 29	3264	977	130	2398
Walter, Walter P., Stamford, Conn. Adjustable top for launches	869,339	Oct. 29	3452	948	130	2472
Walworth, Arthur C., Jr., Newton, Mass. Pipe-fitting	869,340	Oct. 29	3357	926	130	2441
Walzl, John H., Baltimore, Md. Means for frost-proofing concrete walls	869,280	Oct. 29	3246	895	130	2409
Ward, William N., assignor to Yale Safety Razor Company, Chicago, Ill. Holder for safety-razor blades	869,757	Oct. 29	4021	1110	130	2642
Wardwell, Simon W., Providence, R. I., assignor, by mesne assignments, to Commonwealth Trust Company, trustee. Winding device	869,604	Oct. 29	3789	1036	130	2575
Waterbury Clock Co. (See Lux, Paul, assignor.)	869,788	Oct. 29	4022	1111	130	2643
Watson, William A., Medford, assignor to Emerson Piano Company, Boston, Mass. Autopneumatic music-playing instrument	869,818	Oct. 29	4111	1135	130	2699
Weand, Oliver M. (See Matthias, William C., assignor.)						
Weaver, Ira A., assignor to Racine-Sattley Company, Springfield, Ill. Cultivator	869,605	Oct. 29	3790	1077	130	2576
Weber, Anton, Butte, Mont. Combination-tool	869,789	Oct. 29	4023	1111	130	2643
Weeks, Samuel V., Highland Park, assignor to Volunteer Disc Plow Co., Chattanooga, Tenn. Reversible disk plow	869,536	Oct. 29	3685	1004	130	2637
Weimer, Rufus E. (See Richardson, Joseph W., assignor.)	869,672	Oct. 29	3897	1072–3	130	2635
Weldon, Mary L., Rockford, Ill. Poultry-fountain						
Wells, Samuel R., Greenfield, Ind. Far-muff	869,400	Oct. 29	3453	948	130	2472
Western Electric Company. (See McQuarrie, James L., assignor.)	869,401	Oct. 29	3454	948	130	2472
Westinghouse Air Brake Company. (See Clark, Francis L., assignor.)						
Westinghouse Air Brake Company. (See Kramer, Erwin, assignor.) (Reissue.)						
Westinghouse Air Brake Company. (See Parke, Robert A., assignor.)						
Westinghouse Air Brake Company. (See Westinghouse, George, assignor.)						
Westinghouse Electric & Manufacturing Company. (See Aspinwall, Louis M., assignor.)						
Westinghouse, George, assignor to Westinghouse Air Brake Company, Pittsburg, Pa. Fluid-pressure brake	869,606	Oct. 29	3794	1038	130	2577
Westlin, Carl T., Arlington, N. J. Electrically-controlled elevator	869,760	Oct. 29	4024	1111	130	2644
Weyant, George H., Nachusa, Ill. Wire-stretcher	869,402	Oct. 29	3455	948–9	130	2473
Weyl, Julius S., Philadelphia, Pa. Stereotype-plate holder	869,607	Oct. 29	3797	1038	130	2577
Wheildon, William M., and H. A. Maxwell, Medford, assignors to American Soda Fountain Company, Boston, Mass. Valve	869,281	Oct. 29	3260	895	130	2410
Whitall Tatum Company. (See Meinecke, Christian W., assignor.)						
Whitney, Joseph B., and F. Ecaubert, New York, N. Y., assignors to Textile Appliance Co., Paterson, N. J. Faller for stop-motion mechanism for looms	869,819	Oct. 29	4111	1135	130	2699
Wigley, William P., Dallas, Ga. Adjustable plow-standard	869,341	Oct. 29	3268	926	130	2441
Wilcox, Robert L., Port Leyden, N. Y. Display-rack	869,608	Oct. 29	3798	1038	130	2578
Wilcox, William L., *et al.* (See La Rue, Charles W., assignor.)						
Wilkin, William M., Erie, Pa. Gang-saw mill	869,537	Oct. 29	3686	1005	130	2637
Wilkinson, John A., Washington, D. C. Seal-lock	869,761	Oct. 29	4025	1111	130	2644
Williams, Ralph C., *et al.* (See Sorensen, Frederick C., assignor.)						
Williams Typewriter Company. (See Secor, Jerome B., assignor.)						
Wilson, Catherine E., executrix. (See Wilson, F Cortez.)						
Wilson, F Cortez, deceased, Chicago, Ill.; C. E. Wilson, executrix. Measuring-pump	869,469	Oct. 29	3265	977	130	2398
Wilson, James P., Chicago, Ill Garment-clasp	869,338	Oct. 29	3268	897	130	2442
Wilson, Samuel E., Franklin, Ky. Clothes-drier	869,673	Oct. 29	3898	1073	130	2636
Wimmer, Charles I., Columbus, Ohio. Window-shade bracket	869,674	Oct. 29	3899	1073	130	2636
Winans, Edwin, assignor to Y-Nan-S Treadle Co., New York, N. Y. Power-transmitting device	869,820	Oct. 29	4113	1136	130	2699
Winder, Samuel E., assignor to Firm of Cox Brothers, Bridgeton, N. J. Machine for making hollow glassware	869,538	Oct. 29	3687	1006–6	130	2637
Windsor, Frederick E., *et al.* (See Cobham, Frederick P., assignor.)						
Winship, Walter E., New York, N. Y., assignor to Gould Storage Battery Company. Electrical system of distribution	869,280	Oct. 29	3260	897–8	130	2410
Winter, Emil, Pittsburg, Pa. Mill for manufacture of tubes	869,282	Oct. 29	3261	895	130	2410
Winter, Emil, Pittsburg, Pa. Mill for manufacture of tubes, &c	869,283	Oct. 29	3264	898	130	2411
Winter, Emil, Pittsburg, Pa. Swaging-mill	869,284	Oct. 29	3263	898–7	130	2412
Winton, Alexander, Cleveland, Ohio. Gasolene-carbureter	869,675	Oct. 29	3904	1074	130	2600
Woerner, Louis C., Berlin, Germany. Limit micrometer-gage	869,762	Oct. 29	4026	1112	130	2645
Wolfinger, Joseph Dundas, assignor to Brillion Iron Works Company, Brillion, Wis. Land-roller	869,676	Oct. 29	3905	1074	130	2610
Wood, David A., McKeesport, Pa. Mechanical stoker	869,539	Oct. 29	3671	1006–7	130	2638
Woodruff Hardware & Manufacturing Company. (See Woodruff, Robert L., assignor.)						
Woodruff, Robert L., assignor to Woodruff Hardware & Manufacturing Company, Winder, Ga. Sawmill-feed	869,821	Oct. 29	4114	1136	130	2670
Wright, Christopher, Chicago, Ill. Radiator	869,822	Oct. 29	4115	1136	130	2670

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Wright, Hugh, Denver, Colo. Window-screen	869,470	Oct. 29	3566	977	130	2507
Wright, Thomas, Jersey City, N. J. Dumping-wagon	869,677	Oct. 29	3906	1074	130	2610
Wuest, Philip, Jr., assignor to Auto-Manual Piano Action Company, Philadelphia, Pa. Mechanically-controlled solo-accent device for mechanical musical instruments	869,678	Oct. 29	3907	1075	130	2610
Wyckoff, Seamans & Benedict. (See Briggs, Daniel, assignor.)						
Y-Nan-S Treadle Co. (See Winans, Edwin, assignor.)						
Yale Safety Razor Company. (See Ward, William N., assignor.)						
Yale & Towne Manufacturing Company. (See Bardwell, Arthur F., assignor.)						
Yale & Towne Manufacturing Company. (See Taylor, Warren H., assignor.)						
Yankee, Anton A., San Francisco, Cal. Automatic gas-governor and street-pressure changer	869,471	Oct. 29	3567	977–8	130	2507
Yeatts, William, Ricoville, Va. Coal-mining machine	869,609	Oct. 29	3799	1038–9	130	2578
Yinder, Mark. (See Smith, Thomas, assignor.)						
Young, George, *et al.* (See Daniel and Keller, assignors.)						
Zellweger, John, St. Louis, Mo. Condenser	869,342	Oct. 29	3359	925	130	2441
Zucker, Alfred, Dresden, Germany. Carbonic-acid bath	869,610	Oct. 29	3802	.....	130	2579

TRADE-MARKS.

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A. Wittnauer Co., New York, N. Y. Watch-movements	65,871	Oct. 29	130	2713
A. & F. Pears Limd., London, England. Perfumed soap	65,895	Oct. 29	130	2714
Adams Argood Chocolate Co., Philadelphia, Pa. Candies	65,896	Oct. 29	130	2714
Albert M. Guggenheim Co., Cincinnati, Ohio. Whisky	65,919	Oct. 29	130	2715
Albright & Wilson Limited, Oldbury, England. Certain chemicals	65,881	Oct. 29	130	2713
Alden & Co., Geo. A., Boston, Mass. India-rubber, gutta-percha, and other vulcanizable gums	65,872	Oct. 29	130	2713
Alfred B. Smith & Company, Springfield, Mass. Wheat-flour	65,916	Oct. 29	130	2714
Allen Brothers Company, Omaha, Nebr. Certain cereal foods	65,897	Oct. 29	130	2714
Allen & Wheeler Company, Troy, Ohio. Wheat-flour	65,898	Oct. 29	130	2714
American Circular Loom Company, Portland, Me. Electric conduits	65,955	Oct. 29	130	2715
American Writing Paper Company, Holyoke, Mass. Cover-paper	65,873	Oct. 29	130	2713
American Writing Paper Company, Holyoke, Mass. Cover-paper	65,874	Oct. 29	130	2713
American Writing Paper Company, Holyoke, Mass. Cover-paper	65,875	Oct. 29	130	2713
American Writing Paper Company, Holyoke, Mass. Cover-paper	65,876	Oct. 29	130	2713
Andalaft Bros., Kansas City, Mo. Ice-cream cones	65,899	Oct. 29	130	2714
Asbestos Shingle Slate & Sheathing Company, Ambler, Pa. Asbestos-composition shingles, slate, and sheathing	65,862	Oct. 29	130	2713
Barke & Company, Philadelphia, Pa. Leather shoes	65,933	Oct. 29	130	2715
Bayer, Max L., Dayton, Ohio. Whisky	65,920	Oct. 29	130	2715
Berner, Jacob B., Chicago, Ill. Laxative horse-pills	65,850	Oct. 29	130	2712
Birkenfeld, Strauss and Co., New York, N. Y. Combination-undergarments	65,900	Oct. 29	130	2714
Birkenfeld, Strauss and Co., New York, N. Y. Combination knitted and netted undergarments	65,934	Oct. 29	130	2715
Birmingham Iron Foundry, Derby, Conn. Rubber-mill machinery	65,935	Oct. 29	130	2715
Brown & Co., John B., New York, N. Y. Teas and coffees	65,901	Oct. 29	130	2714
Brown & Co., John B., New York, N. Y. Teas	65,902	Oct. 29	130	2714
Brown & Co., John B., New York, N. Y. Teas	65,903	Oct. 29	130	2714
Burnham Hanna Munger Dry Goods Co., Kansas City, Mo. Dress and negligée shirts	65,904	Oct. 29	130	2714
Burt Olney Canning Co., Oneida and Albion, N. Y. Canned fruits and vegetables	65,905	Oct. 29	130	2714
C. A. Edgarton Manufacturing Company, Shirley, Mass. Suspenders	65,921	Oct. 29	130	2715
Carnegie, John F., Chicago, Ill. Mouth-wash and gargle, tooth-paste, and throat-pastil	65,851	Oct. 29	130	2713
Castor, Thomas G., Necaho, Mont. Liniment	65,852	Oct. 29	130	2713
Ciotti, Vincenti & Co., Baltimore, Md. Whisky	65,922	Oct. 29	130	2715
Cook & Bernheimer Co., New York, N. Y. Whisky	65,923	Oct. 29	130	2715
Cook, Frank B., Chicago, Ill. Certain electrical goods	65,936	Oct. 29	130	2715
Covert Mfg. Co., Watervliet, N. Y. Certain metal articles	65,937	Oct. 29	130	2715
Crawford McGregor & Canby Co., Dayton, Ohio. Boot and shoe lasts	65,938	Oct. 29	130	2715
Crawford, S. P., Indian Creek, Tex. Veterinary medicine	65,853	Oct. 29	130	2713
Drake-Inness-Green Shoe Co., Charleston, S. C. Leather boots and shoes	65,878	Oct. 29	130	2713
Drake-Inness-Green Shoe Co., Charleston, S. C. Leather boots and shoes	65,879	Oct. 29	130	2713
Enterprise Soap Works, Nashville, Tenn. Laundry and toilet soap	65,880	Oct. 29	130	2713
Enterprise Soap Works, Nashville, Tenn. Laundry and toilet soap	65,881	Oct. 29	130	2713
Enterprise Soap Works, Nashville, Tenn. Laundry and toilet soap	65,882	Oct. 29	130	2714
Fischer Brothers, Seattle, Wash. Soaps and detergent washing-powders	65,883	Oct. 29	130	2714
Fischer, Ernest C., New York, N. Y. Preparation of lemon used in making non-alcoholic beverages	65,939	Oct. 29	130	2715
Forbush, Walter R., Boston, Mass. Abrasive material and material for polishing metal	65,867	Oct. 29	130	2713
Fredonia Portland Cement Co., Fredonia, Kans. Portland cement	65,868	Oct. 29	130	2713
Friedman, Keller & Co., Paducah, Ky. Whisky	65,940	Oct. 29	130	2715
Gem Cutlery Co., New York, N. Y. Razors	65,941	Oct. 29	130	2715
Glass, Gertrude, Chicago, Ill. Certain prepared sponges	65,884	Oct. 29	130	2714
Gulfport Grocery Co., Gulfport, Miss. Cracked corn or corn-chops	65,907	Oct. 29	130	2714
Gulfport Grocery Co., Gulfport, Miss. Prepared stock food	65,908	Oct. 29	130	2714
Hearst, William R., New York, N. Y. Magazine	65,924	Oct. 29	130	2715
Hockaday Paint Company, Wichita, Kans. Paint, enamel, and varnish	65,885	Oct. 29	130	2714
Hockaday Paint Company, Wichita, Kans. Varnish, varnish-stain, and paint	65,886	Oct. 29	130	2714
J. C. & W. E. Powers, New York, N. Y. Inks	65,925	Oct. 29	130	2715
J. M. Card Lumber Co., Chattanooga, Tenn. Rough and dressed lumber	65,887	Oct. 29	130	2714
James S. Kirk & Company, Chicago, Ill. Toilet soap	65,888	Oct. 29	130	2714
Kamp Distilling Co., St. Louis, Mo. Whisky	65,926	Oct. 29	130	2715
Magi Washing Crystals Co., Rutherford, N. J. Soluble washing-crystals	65,942	Oct. 29	130	2715
Markt & Co. Ltd., New York, N. Y. Sewing-machines	65,943	Oct. 29	130	2715
Max Huncke Chemical Co., Brooklyn, N. Y. Soap	65,889	Oct. 29	130	2714
Mills Woven Cartridge Belt Co., Worcester, Mass. Certain military equipments	65,890	Oct. 29	130	2714
Miraco Co. Ltd., Monroe, La. Mineral water	65,944	Oct. 29	130	2715
Mori, Toshikuni, San Francisco, Cal. Remedy for headache and heartburn	65,854	Oct. 29	130	2713
Mori, Toshikuni, San Francisco, Cal. Remedy for seasickness	65,855	Oct. 29	130	2713
Mori, Toshikuni, San Francisco, Cal. Medicine to perfume the breath	65,856	Oct. 29	130	2713
Mount Hope Finishing Company, North Dighton, Mass. Certain cotton fabrics	65,945	Oct. 29	130	2715
Mount Vernon-Woodberry Cotton Duck Company, Baltimore, Md. Cotton duck	65,946	Oct. 29	130	2715

TRADE-MARKS—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Mount Vernon-Woodberry Cotton Duck Company, Baltimore, Md. Cotton duck	65,947	Oct. 29	130	2715
Murphy, Jeremiah F., Lowell, Mass. Whisky	65,927	Oct. 29	130	2715
Novick Bros., New York, N. Y. Coats, vests, and pants	65,909	Oct. 29	130	2714
O'Neil & Richardson, Glenwood Springs, Colo. Whisky	65,948	Oct. 29	130	2715
Otterson, William C., New York, N. Y. Certain medicine	65,857	Oct. 29	130	2712
Pacific Milling Company Incorporated, San Francisco, Cal. Breakfast-wheat	65,910	Oct. 29	130	2714
Patterson, Geo. H., Chicago, Ill. Magazine	65,926	Oct. 29	130	2715
Peninsular Paint and Varnish Company, Ltd., Detroit, Mich. Certain paints and painters' materials	65,911	Oct. 29	130	2714
Physicians Co-Operative Association, Chicago, Ill. Remedy for inebriety	65,858	Oct. 29	130	2713
Pittsburg-Salt Lake Oil Co., Salt Lake City, Utah. Roofing-paint	65,891	Oct. 29	130	2714
Procter & Gamble Company, Ivorydale, Ohio, and Kansas City, Kans. Soap for laundry use	65,892	Oct. 29	130	2714
R. Hardesty Manufacturing Company, Denver, Colo Flavoring extracts	65,913	Oct. 29	130	2714
Rigal, L., Roquefort, France. Roquefort cheese	65,914	Oct. 29	130	2714
Rockwood Brothers Company, Chicago, Ill. Sugar	65,915	Oct. 29	130	2714
Rothenberg, Mendle, San Francisco, Cal. Bitters	65,859	Oct. 29	130	2712
Seiz, Schwab & Company, Chicago, Ill. Leather boots and shoes	65,863	Oct. 29	130	2713
Seiz, Schwab & Company, Chicago, Ill. Leather boots and shoes	65,864	Oct. 29	130	2713
Seiz, Schwab & Company, Chicago, Ill. Leather boots and shoes	65,865	Oct. 29	130	2713
Seiz, Schwab & Company, Chicago, Ill. Leather boots and shoes	65,866	Oct. 29	130	2713
Sherman, Howard B., Battle Creek, Mich. Nozzles	65,949	Oct. 29	130	2715
Simmons Manufacturing Company, Chicago, Ill. Certain furniture	65,860	Oct. 29	130	2713
Smith-Wallace Shoe Company, Chicago, Ill. Leather boots and shoes	65,869	Oct. 29	130	2713
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y., and Charlotte, N. C. Mattresses	65,893	Oct. 29	130	2714
Standard Oil Co. of New York, New York, N. Y. Illuminating-oil	65,920	Oct. 29	130	2715
Thompson Drug Co., Tyrone, Pa. Ointment	65,890	Oct. 29	130	2713
Van Nelle, De Erven De Wed. J., Rotterdam, Netherlands, assignor to New Firm De Erven de Wed. J. van Nelle. Smoking-tobacco, cigars, cigarettes, and snuff	65,877	Oct. 29	130	2713
Van Nelle, De Erven de Wed. J., New Firm. (See Van Nelle, De Erven De Wed. J., assignor.)				
Virginia-Carolina Chemical Company, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Fertilizers	65,894	Oct. 29	130	2714
W. H. Coe Manufacturing Co., Providence, R. I. Implements for depositing metallic leaf	65,951	Oct. 29	130	2715
Warfield Pratt Howell Company, Des Moines, Sioux City, and Cedar Rapids, Iowa. Canned fruits and vegetables	65,917	Oct. 29	130	2714
Warren Featherbone Co., Three Oaks, Mich. Stiffening blades, cords, tapes, and fabrics	65,920	Oct. 29	130	2715
Weitzenhoffer & Turk, Oklahoma, Okla. Ter. Whisky	65,921	Oct. 29	130	2715
Wells Flour Milling Company, Wells, Minn. Middlings and red-dog	65,918	Oct. 29	130	2714
Wickersham Quoin Company, Boston, Mass. Printers' quoins	65,952	Oct. 29	130	2715
Wickersham Quoin Company, Boston, Mass. Printers' quoins	65,953	Oct. 29	130	2715
Winterbottom Book Cloth Company Ltd., Manchester, England. Tracing-cloth	65,922	Oct. 29	130	2715
Wm. J. Stange Co., Chicago, Ill. Ginger-ale	65,954	Oct. 29	130	2715

LABELS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Denton, Lewis G. Schenectady, N. Y. "Do-No Liver, Kidney and Constipation Tablets." (For Medicine)	13,846	Oct. 29	130	2716
Gaoutte, Joseph, Holyoke, Mass. "Lightning Star." (For a Dressing for Pianos, Automobiles, Carriages, Hacks, and All Kinds of Furniture)	13,847	Oct. 29	130	2716
James & Hug, San Francisco, Cal. "J. & H. Cup Quality." (For Roasted Coffee)	13,843	Oct. 29	130	2716
Ruegg, John J., Clifton, N. J. "Lava Salt-Herbs." (For Preparation of Meats and Vegetable Soups)	13,844	Oct. 29	130	2716
Schimelfenig, I. Clarence, Chicago, Ill. "Katarol." (For a Medicinal Preparation)	13,845	Oct. 29	130	2716
Sweet-Orr & Co., New York, N. Y. "Sweet-Orr Belt Grip." (For Trousers)	13,848	Oct. 29	130	2716
Syndicat des Viticulteurs des Charentes et de la Société Coopérative annexe de Saintes, Saintes, near Cognac, France. "Brandy-Book Charentais." (For Brandy)	13,842	Oct. 29	130	2716

PRINTS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Bon Ami Company, New York, N. Y. "Hasn't Scratched Yet!!! 16 Y'r's on the M'k't." (For a Scouring-Soap)	2,142	Oct. 29	130	2716
Lutz, Gustav A., Los Angeles, Cal. "Elk Brand." (For Shoes)	2,144	Oct. 29	130	2716
Lytton, H. C., Chicago, Ill. "Men's and Boys' Apparel." (For Men's and Boys' Apparel)	2,143	Oct. 29	130	2716
Meyercord Company, Chicago, Ill. "Treat Yourself Right." (For a Brand of Whisky)	2,141	Oct. 29	130	2716

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Abbott & Company, A. Theodore, Philadelphia, Pa. Tapestry curtains, table-covers, &c	29,192	Oct. 29	130	2704
Abrasive Material Co., Philadelphia, Pa. Abrasive material	30,074	Oct. 29	130	2710
American Chemical & Textile Coloring Co., Wilmington, N. C. Antiseptic preparation for use as a dressing, &c	29,848	Oct. 29	130	2709
American Sash & Door Co., Kansas City, Mo. Paper and felt roofing and sheathing	29,741	Oct. 29	130	2708
Auto Radium Co., East Cleveland, Ohio. Composition for purifying water	29,847	Oct. 29	130	2709
Beiersdorf & Co., P., Hamburg, Germany. Collapsible tubes	29,085	Oct. 29	130	2704
Bennett, Sloan & Co., New York, N. Y. Coffee	29,830	Oct. 29	130	2709
Bissell Carpet Sweeper Company, Grand Rapids, Mich. Carpet-sweepers	29,720	Oct. 29	130	2708
Black Hills Brewing Co., Central City, S. D. Beer	26,867	Oct. 29	130	2702
Blan, Jules, Port Richmond, N. Y. Liquid disinfectant and antiseptic preparation	29,376	Oct. 29	130	2705
Bluthenthal & Bickart, Atlanta, Ga. Whisky and gin	29,603	Oct. 29	130	2706
Boericke & Tafel, Philadelphia, Pa. Grape-juice	29,846	Oct. 29	130	2709
Buegeleisen & Jacobson, New York, N. Y. Accordions	29,897	Oct. 29	130	2710
Burgoyne, William R., Steubenville, Ohio. Remedies for ague and malarial fevers	29,707	Oct. 29	130	2708
California Wine Association, San Francisco, Cal. Wine	29,850	Oct. 29	130	2709
Charles & Co., New York, N. Y. Candies, glacé fruits, bonbons, &c	29,516	Oct. 29	130	2706
Chas. S. Crossman & Co., New York, N. Y. Precious stones, necklaces, finger-rings, &c	28,788	Oct. 29	130	2703
China & Japan Trading Company Limited, New York, N. Y. Unbleached sheetings, shirtings, drills, and flannels	29,641-5	Oct. 29	130	2707
City of Carlsbad, Carlsbad, Austria-Hungary. Medicinal salts	25,145	Oct. 29	130	2701
Clifford Bros., Cleveland, Ohio. Charcoal	24,151	Oct. 29	130	2701
Clysmic Spring Co., New York, N. Y. Natural mineral water	26,401	Oct. 29	130	2702
Consolidated Rubber Company, Trenton, N. J. Rubber fruit-jar rings	24,419	Oct. 29	130	2701
Crofut & Knapp Co., South Norwalk, Conn. Fur hats	19,678	Oct. 29	130	2700
Deariso, William I., Albany, Ga. Remedy for syphilis	30,186	Oct. 29	130	2711
Dewsbury, Alfred, Walsall, England. Bits, stirrups, spurs, buckles, &c	29,103	Oct. 29	130	2704
Duparquet, Huot & Moneuse Co., New York, N. Y. Fire-brick	30,085	Oct. 29	130	2710
Edw. B. Bruce Co., Baltimore, Md. Whisky, gin, and brandy	21,501	Oct. 29	130	2700
Elfreth, Jacob R., Philadelphia, Pa. Chocolate	16,296	Oct. 29	130	2709
Estlingen, Everett S., Los Angeles, Cal. Tooth-powder	30,189	Oct. 29	130	2711
Etherington, Charles A., New York, N. Y. Hair-remover	29,426	Oct. 29	130	2705
Fabric Fire Hose Company, Sandy Hook, Conn., and New York, N. Y. Rubber and fabric hose	29,407	Oct. 29	130	2705
Fairbanks Co., New York, N. Y. Rubber belting	29,062	Oct. 29	130	2704
Farbenfabriken of Elberfeld Co., New York, N. Y. Coal-tar dyes, disinfectants, &c	29,678	Oct. 29	130	2708
Faxon, Williams & Faxon, Buffalo, N. Y. Vichy, Kissingen, and lithia salts, sodium phosphate, &c	7,264	Oct. 29	130	2699
Fischer, Anthony, Flushing, N. Y. Stomach-bitters	21,479	Oct. 29	130	2700
Fiske Brothers Refining Co., New York, N. Y. Camphorated liquid soap	30,157	Oct. 29	130	2711
Florence Manufacturing Company, Northampton, Mass. Tooth-brushes	30,126	Oct. 29	130	2710
Forbes, Andrew, Philadelphia, Pa. Gin	29,86-	Oct. 29	130	2708
Garratt, John E., London, England. Instruments, &c., for exercising the lungs	29,318	Oct. 29	130	2705
Gavin, Joseph A., Buffalo, N. Y. Weekly publication	29,590	Oct. 29	130	2706
Goerg, Oscar P., East Chicago, Ind. Skin remedy for chapped hands, sunburn, &c	29,287	Oct. 29	130	2705
Gooderham & Worts Ltd., Toronto, Canada. Whisky	7,745	Oct. 29	130	2700
Griffin & Skelley Company, San Francisco, Cal. Canned and dried fruits and canned vegetables	29,584	Oct. 29	130	2706
H. B. Claflin Company, New York, N. Y. Soaps	29,891	Oct. 29	130	2710
H. E. Buckien & Company, Chicago, Ill. Medicines for all diseases of the stomach, liver, and kidneys, &c	28,696	Oct. 29	130	2708
Hale Publishing Co., St. Louis, Mo. Periodical	29,500	Oct. 29	130	2706
Harris, Henry H., Jackson, Tex. Remedy for rheumatism, neuralgia, and chills	29,844	Oct. 29	130	2709
Hartford Suspension Company, New York, N. Y. Suspension device for vehicle-springs	12,250	Oct. 29	130	2700
Haynes, Sparrell & Co., Boston, Mass. Leather boots and shoes	30,191	Oct. 29	130	2711
Hills, William, Jr., New York, N. Y. Figs	29,759	Oct. 29	130	2708
Hirschman & Co., A., St. Paul, Minn. Whisky	29,829	Oct. 29	130	2709
Homestead Valve Manufacturing Company, Homestead, Pa. Valves	29,769	Oct. 29	130	2708
Industry Publishing Company, Pittsburg, Pa. Magazine	28,620	Oct. 29	130	2703
J. G. Brill Company, Philadelphia, Pa., assignor to The J. G. Brill Company. Sand-boxes for railway-cars	27,972	Oct. 29	130	2702
J. H. Bunnell & Co., New York, N. Y. Telegraphic apparatus and electric batteries	29,646	Oct. 29	130	2708
Jacob Dudenhoefer Co., Milwaukee, Wis. Whisky	29,647	Oct. 29	130	2708
John W. Hasburg Company, Chicago, Ill. Gold paints and colors and enamels for vitrifiable painting	27,854	Oct. 29	130	2702
Jos. Mayer & Bros., Seattle, Wash. Knives, forks, shears, scissors, &c	28,128	Oct. 29	130	2703
Kahn, Arthur J., New York, N. Y. Linen thread	27,765	Oct. 29	130	2702
Kerr Brothers, Toronto, Ontario, Canada. Butter-scotch	27,798	Oct. 29	130	2702
Landesman Hirschelmer Company, Cleveland, Ohio. Ladies' cloaks and outer suits and skirts	28,866	Oct. 29	130	2703
Lehman & Co., Dr. Max, Berlin, Germany. Ink-stain remover	29,874	Oct. 29	130	2710
Libby, McNeill & Libby, Chicago, Ill. Corned and roast beef	29,601	Oct. 29	130	2706
Lichterman & Judt, Brooklyn, N. Y. Tonics for rheumatism	29,825	Oct. 29	130	2709
Louis Bergdoll Brewing Company, Philadelphia, Pa. Lager-beer	23,131	Oct. 29	130	2701
M. Lindsay Rubber Manufacturing Company, New York, N. Y., and Washington, D. C. Abdominal coils, atomizers, bed-pans, &c., made of rubber	29,112	Oct. 29	130	2704
Manafield, Witham & Co., Lowell, Mass. Syrup	29,082	Oct. 29	130	2704
Marmola Company, Detroit, Mich. Obesity remedies	30,138	Oct. 29	130	2710
Massachusett Saw Works, Chicopee, Mass. Nail-sets, solid and center punches	29,221	Oct. 29	130	2704
Master Soap Co., Boston, Mass. Soap	29,589	Oct. 29	130	2706
McKibbin, Driscoll & Dorsey, St. Paul, Minn. Coats	23,286	Oct. 29	130	2701
Michigan Paint Company, Detroit and Flint, Mich. Substitute for white lead	29,137	Oct. 29	130	2704
Miniotti, Peter P., New York, N. Y. Proprietary medicine for rheumatism, constipation, &c	29,616	Oct. 29	130	2706
Miol Manufacturing Co., Limited, London, England. Medicine for the relief of tuberculosis	27,987	Oct. 29	130	2702
Morgan & Wright, Detroit, Mich. Rubber hoof-pads	28,064	Oct. 29	130	2703
Morgan & Wright, Detroit, Mich. Hose, packing, and gaskets	29,399	Oct. 29	130	2705
National Grocer Company, Chicago, Ill. Coffee	29,703	Oct. 29	130	2708
Neuhaus Mfg. Co., Glen Rock, Pa. Wire screens and wire-screen doors	29,362	Oct. 29	130	2705
New England Gas & Coke Company, Boston, Mass. Coke	13,081	Oct. 29	130	2700
O'Bryan Bros., Louisville, Ky. Whisky	29,631-2	Oct. 29	130	2707
Offley, Forrester & Co., London, England. Port-wine	15,557	Oct. 29	130	2700
Pacific Coast Rubber Co., Seattle, Wash. Rubber boots, shoes, clothing, bands, gloves, &c	29,183	Oct. 29	130	2704
Pacific Coast Rubber Co., Seattle, Wash. Rubber boots, shoes, coats, gloves, hats, &c	29,184	Oct. 29	130	2704
Pennsylvania Primo Feed Company, Harrisburg, Pa. Stock and poultry food	29,235	Oct. 29	130	2705
Piranio, Carlo T., Dallas, Tex. Carbonated beverage	29,511	Oct. 29	130	2706

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Reife, Harris, New York, N. Y. Antispasmodic expectorant sedative	30,190	Oct. 29	130	2711
Reiss & Brady, New York, N. Y. Pâté de foie, parfait de foie gras, &c	28,572	Oct. 29	130	2701
Royal Grape Juice Co., Harrisburg, Pa. Unfermented grape-juice	29,532	Oct. 29	130	2709
Samurai Company, New York, N. Y. Perfumery extracts, toilet waters, &c	26,725	Oct. 29	130	2702
Scheifele Shoe Manufacturing Company, Cincinnati, Ohio. High and low cut leather shoes	30,173	Oct. 29	130	2711
Schulze, Reinhard, Baltimore, Md. Furniture-polish	30,155	Oct. 29	130	2711
Sea Foam Baking Powder Co., New York, N. Y. Baking-powder	1,149	Oct. 29	130	2699
Seel, William E., Harrisburg, Pa. Whisky	5,796	Oct. 29	130	2699
Sharp & Dohme, Baltimore, Md. Muscular and nerve tonic	30,133	Oct. 29	130	2710
Smith & Egge Mfg. Co., Bridgeport, Conn. Locks and keys	30,053	Oct. 29	130	2710
St. Luke Remedies Company, New York, N. Y. Preparation for removing hair	30,022	Oct. 29	130	2710
Stanley Rule & Level Company, New Britain, Conn. Planes	29,686	Oct. 29	130	2708
Stark-Tuscarawas Breweries Co., Canton, Ohio. Beer	19,826	Oct. 29	130	2700
Starlight Brothers, New York, N. Y. Cigars	29,692	Oct. 29	130	2708
Stein Brothers, Chicago, Ill. Whisky	29,852	Oct. 29	130	2708
Supplee Hardware Company, Philadelphia, Pa. Shovels, spades, scoops, and hammers	25,235	Oct. 29	130	2701
Supplee Hardware Company, Philadelphia, Pa. Hatchets and axes	25,236	Oct. 29	130	2701
Susquehanna Silk Mills, New York, N. Y. Silk and silk-mixed piece goods	25,204	Oct. 29	130	2703
Taylor, Horace B., Philadelphia, Pa. Pills for female complaints	30,048	Oct. 29	130	2710
Thomas G. Plant Co., Boston, Mass. Leather shoes and soles, &c	30,170	Oct. 29	130	2711
Thos. Harper & Sons Ltd., London, England. Sewing, tape, knitting, and crochet needles	4,726	Oct. 29	130	2699
Vogt-Applegate Company, Louisville, Ky. Whisky	29,731	Oct. 29	130	2708
Wagner Brewing Co., Granite City, Ill. Beer	23,911	Oct. 29	130	2701
Waldo, Eugene L., New York, N. Y. Taffetas, pongees, voiles, &c	29,547	Oct. 29	130	2706
Wester Bros., New York, N. Y. Table, carving, and game knives and forks, manicuring-files, &c	27,171	Oct. 29	130	2702
Wheeler, Harriet P., New York, N. Y. Ladies' drawers	26,267	Oct. 29	130	2702
Wheeler, Harriet P., Chicago, Ill. Ladies' knitted, netted, and lace drawers	25,438	Oct. 29	130	2703
Wiglesworth Bros. Co., Poindexter, Ky. Whisky	29,462	Oct. 29	130	2706
Wilhelm Spaethe, Gera, Germany. Accordions	29,624	Oct. 29	130	2706
Windsor Print Works, North Adams, Mass. Cotton piece goods	29,514	Oct. 29	130	2709

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED ON THE 29TH DAY OF OCTOBER, 1907.

Invention.	Name.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
Accordion	E. E. Braendle	869,227	Oct. 29	3164	872	130	2381
Accounting device	J. J. Bennett	869,614	Oct. 29	3806	1041–2	130	2580
Acid bath. Carbonic-	A. Zucker	869,610	Oct. 29	3802	.....	130	2579
Advertising device	M. Rosenfeld	869,733	Oct. 29	3987	1102	130	2633
Air-brake	W. S. Bilbrey	869,543	Oct. 29	3678	1008	130	2541
Air-brake system	L. A. Hawkins	869,364	Oct. 29	3393	934	130	2453
Air-brake system	G. Macloskie	869,444	Oct. 29	3520	967	130	2492
Air-brake system	A. L. Goodknight	869,837	Oct. 29	4137	1142	130	2677
Air-brake system	F. H. Dukesmith. (Reissue)	12,712	Oct. 29	4198	1160	130	2686
Air-brake systems. Automatic governor for	J. W. Richardson	869,731	Oct. 29	3986	1101	130	2632
Air-brake systems. Automatic warning-signal for	R. P. Nolan	869,323	Oct. 29	3331	915	130	2433
Air-compressing system	A. Sauer	869,739	Oct. 29	3996	1104–5	130	2636
Air-cooler or surfacer	J. E. Starr	869,747	Oct. 29	4007	1107	130	2638
Air-pressure brake	E. Kramer. (Reissue)	12,710	Oct. 29	4193	1157–9	130	2685
Air-ship	A. W. H. Griepe	869,238	Oct. 29	3180	876	130	2388
Alarm dead-lock	M. Sheinman	869,462	Oct. 29	3552	974	130	2508
Alarm mechanism	L. Paisley	869,728	Oct. 29	3982	1100	130	2631
Amusement device	H. H. Pattee	869,801	Oct. 29	4083	1128	130	2680
Animal-trap	W. G. Stone	869,594	Oct. 29	3768	1032	130	2586
Animals from stalls. Device for releasing	A. Poukey	869,261	Oct. 29	3217	886	130	2399
Arch-clamp	M. Larkins	869,497	Oct. 29	3606	989	130	2518
Aspirator	E. Pynchon	869,262	Oct. 29	3218	886	130	2400
Ax. Turpentine-gatherer's	E. A. McKoy	869,381	Oct. 29	3415	939	130	2460
Back-scratcher	F. J. Martin	869,250	Oct. 29	3205	882	130	2396
Bag-holder	L. L. Clippinger	869,691	Oct. 29	3926	1082	130	2615
Baling-press	J. A. G. Maxwell	869,251	Oct. 29	3206	882–3	130	2396
Baling-press	A. Gastonguay	869,561	Oct. 29	3724	1020	130	2556
Bath: *See* Acid-bath. Shower-bath.							
Battery: *See* Hygienic cartridge-battery.							
Battery grid. Storage-	R. N. Chamberlain	869,348	Oct. 29	3369	927	130	2445
Bearing. Journal-	F. Fleming	869,629	Oct. 29	3827	1048	130	2586
Bed	C. H. Coderre	869,772	Oct. 29	4040	1115	130	2646
Bed	E. J. Antoni	869,766	Oct. 29	4032	1113	130	2646
Bed. Invalid-	J. D. Birmingham	869,344	Oct. 29	3363	926	130	2443
Bell-ringing mechanism	W. A. Stearns	869,663	Oct. 29	3888	1069–70	130	2603
Belt-fastener	N. P. Mader	869,584	Oct. 29	3755	1028	130	2564
Belt-shifting mechanism	A. R. Gustafson	869,239	Oct. 29	3181	877	130	2387
Bench: *See* Work-bench.							
Bench-clamp	W. R. Bradford	869,290	Oct. 29	3267	899	130	2415
Bevel	E. A. King	869,851	Oct. 29	4156	1147	130	2683
Bicycle-boat	A. Travland	869,277	Oct. 29	3241	893	130	2406
Binder. Infant's	A. Jarrett	869,784	Oct. 29	4062	1121	130	2654
Binder. Loose-leaf	W. M. S. Miller	869,378	Oct. 29	3413	938	130	2459
Bit-stock	J. O. Michaud	869,639	Oct. 29	3846	1053	130	2590
Blackboard-cleaner	F. W. Wade	869,817	Oct. 29	4110	1135	130	2669
Block: *See* Building-block. Sheave-block.							
Block-signal system	I. A. Hawkins	869,365	Oct. 29	3395	934	130	2454
Block-signal system	W. Daves	869,555	Oct. 29	3704	1015–16	130	2560
Block-signaling system	L. H. Thullen	869,275	Oct. 29	3238	892–3	130	2406
Blower. Combined motor and hand-operated rotary	H. B. Kelper	869,247	Oct. 29	3199	880–1	130	2394
Bobbin-stripper	W. B. Leathers	869,856	Oct. 29	4161	1149–50	130	2685
Boiler: *See* Locomotive-boiler.							
Bolster	O. S. Pulliam	869,650	Oct. 29	3861	1057	130	2596
Bolster	O. S. Pulliam	869,651	Oct. 29	3862	1057	130	2596
Book-clip	F. J. Mills	869,379	Oct. 29	3414	938	130	2459
Borate of hexamethyleneamin and making same	O. Mankiewicz, J. Altschul, and W. Urban.	869,636	Oct. 29	3840	.....	130	2595
Boring-machine	M. L. Andrew	869,223	Oct. 29	3159	871	130	2380
Boring-machine	E. C. Mueller	869,504	Oct. 29	3621	992	130	2522
Bottle. Non-refillable	R. J. Patterson	869,390	Oct. 29	3429	944	130	2464
Bottle. Non-refillable	A. E. Sutton	869,532	Oct. 29	3661	1003	130	2532
Bottle. Non-refillable	E. L. Southwick	869,810	Oct. 29	4095	1131	130	2684
Bottle rinser and sterilizer	D. E. Shaw	869,333	Oct. 29	3344	919–20	130	2439

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Drg.	Official Gazette. Vol.	Page.
Bottle-stopper	J. J. Fraser	869,700	Oct. 29	3937	1085	130	2618
Box:							
See Cartridge-box. Journal-box. Core-box. Letter-box. Folding box. Money-box.							
Bracket:							
See Shade-bracket. Shade and curtain bracket.							
Brake:							
See Air-brake. Fluid-brake. Car-brake. Fluid-pressure brake.							
Brake-actuating appliance to operate when a vehicle leaves the track in railways	G. S. Morison	869,795	Oct. 29	4076	1125	130	2644
Breast-strap slide	N. Durand	869,234	Oct. 29	3175	874	130	2285
Brick-kiln	J. J. P. Casey	869,621	Oct. 29	3515	1044	130	2552
Brooder	S. G. Robinson, Jr	869,265	Oct. 29	3224	887	130	2401
Broom-corn bundling or compressing machine	J. F. Foley	869,288	Oct. 29	3385	931	130	2461
Brush-backs. Supporting-table for boring holes in	W. G. Liebig	869,213	Oct. 29	3312	911	130	2426
Bucket. Clam-shell	J. Rogers	869,657	Oct. 29	3868	1059	130	2588
Buckle	K. Gluchowski	869,776	Oct. 29	4047	1117	130	2651
Buckles to belts or girdles. Means for attaching	F. B. Montgomery	869,721	Oct. 29	3969	1097	130	2623
Buggies. Jump-seat for	G. D. Potts	869,302	Oct. 29	3432	944	130	2465
Building apparatus and method of building construction	W. Peabody	869,391	Oct. 29	3430	944	130	2464
Building-block	W. W. Birnstock	869,770	Oct. 29	4037	1114	130	2647
Building-block and wall	W. W. Birnstock	869,618	Oct. 29	3809	1042	130	2551
Building-block-making machine	E. H. Somers	869,271	Oct. 29	3231	889-91	130	2403
Building-block mold	C. J. T. Cordes	869,228	Oct. 29	4126	1139-40	130	2674
Building construction	J. Mularkey	869,320	Oct. 29	3414	939	130	2460
Building-ventilator	J. Benton	869,667	Oct. 29	3920	1078	130	2614
Burner:							
See Gas-burner.							
Bushings. Tool for removing	J. L. Alspaugh	869,861	Oct. 29	4170	1152	130	2688
Button. Collar-	E. T. Atwell	869,405	Oct. 29	3457	949	130	2473
Calculator	C. H. Ocumpaugh	869,511	Oct. 29	3629	996	130	2525
Calendar	W. T. Berry	869,411	Oct. 29	3468	952	130	2477
Can:	J. Ferreres	869,430	Oct. 29	3500	960-1	130	2498
See Oil-can.							
Canning apparatus	N. W. Tharp	869,751	Oct. 29	4013	1108	130	2640
Canning-machine cap-feeding mechanism	N. Nelson	869,509	Oct. 29	3628	994	130	2525
Cane	W. Autenrieth	869,662	Oct. 29	3913	1077	130	2612
Car. Box-	C. W. Gill	869,630	Oct. 29	3828	1048	130	2556
Car brake. Railway-	S. A. Crone	869,425	Oct. 29	3482	958	130	2483
Car door. Grain-	R. Hall	869,530	Oct. 29	4130	1143	130	2675
Car. Dump-	W. R. Smith	869,743	Oct. 29	4003	1106	130	2637
Car. Dumping-	O. W. Meissner	869,445	Oct. 29	3523	967	130	2483
Car. Dumping-	J. Bennett	869,612	Oct. 29	3905	1040-1	130	2609
Car. Dumping-	J. M. O'Kelly	869,726	Oct. 29	3978	1099-1100	130	2630
Car grain-door	C. E. Mapes	869,804	Oct. 29	4086	1129	130	2661
Car-inclines. Safety-stop or chock for	F. Post	869,377	Oct. 29	3411	938	130	2459
Car. Motor-	S. Otis and H. S. Hart	869,648	Oct. 29	3909	1056	130	2606
Car-pusher	A. E. Brown	869,455	Oct. 29	3542	971	130	2489
Car safety device	G. W. Sayre	869,689	Oct. 29	3923	1079-81	130	2614
Car-stanchion	R. P. De Remer	869,688	Oct. 29	3889	1059-60	130	2608
Car-step. Folding	W. G. Kelkner	869,531	Oct. 29	4131	1141	130	2675
Car-wheel	J. A. Pilcher and W. W. Lemen	869,429	Oct. 29	3488	960	130	2485
Car-wheel	F. K. Vial	869,514	Oct. 29	3534	996	130	2527
Car wheel-locking attachment. Tram-	T. Parker	869,671	Oct. 29	3896	1072	130	2604
Cars. Antifriction center-bearing for	J. C. Barber	869,257	Oct. 29	3212	884-5	130	2397
Carbureter. Gasolene-	A. Winton	869,665	Oct. 29	3917	1078	130	2613
Card. Playing-	L. Healy	869,675	Oct. 29	3904	1074	130	2609
Carriage. Folding baby-	A. B. Todd	869,524	Oct. 29	3864	1004	130	2536
Carrier:							
See Mail-carrier.							
Carrier	G. Fink	869,257	Oct. 29	3383	931	130	2460
Cartridge-box. Multiple	H. R. Lemly	869,310	Oct. 29	3305	900	130	2408
Cartridge-carrier	E. E. Drake	869,494	Oct. 29	3567	983	130	2512
Cartridge from explosive gelatin. Machine for forming a	G. P. Jones	869,207	Oct. 29	3297	908	130	2424
Cartridge-holder	A. L. Hockett	869,632	Oct. 29	3831	1049	130	2557
Case:							
See Packing-case.							
Chair and desk. Combined	L. P. Agnew	869,472	Oct. 29	3566	918	130	2497
Checking device. Cigar-sale-	J. H. Bowe	869,477	Oct. 29	3575	980	130	2520
Checkrein-hook	J. B. L. Brown	869,546	Oct. 29	3665	1010	130	2542
Cheese-cutter	W. F. Kessler	869,208	Oct. 29	3300	909	130	2425
Chimney-valve construction	W. O. Amsler	869,768	Oct. 29	4039	1112	130	2645
Chuck. Drill-	A. J. McAllister	869,807	Oct. 29	3885	993	130	2594
Chute	C. N. Langdon and O. E. Carlson	869,486	Oct. 29	3503	988-9	130	2517
Cigarette-machine	S. Ragona	869,394	Oct. 29	3434	945	130	2466
Cigar, stogy, &c	A. H. Graves	869,361	Oct. 29	3391	933	130	2453
Clamp:							
See Arch-clamp. Fastening-clamp. Bench-clamp.							
Clasp:							
See Garment-clasp.							
Clasp	F. Freiman and A. Stevenson	869,774	Oct. 29	4045	1116	130	2650
Cleaner:							
See Blackboard-cleaner. Window-cleaner. Grain-drill cleaner.							
Cleaning device. Pneumatic	W. J. Bergens	869,542	Oct. 29	3676	1008	130	2540
Clip:							
See Book-clip. Electrical-apparatus clip.							
Clock. Alarm-	P. Lux	869,376	Oct. 29	3411	937	130	2458
Cloth-cutting machine	F. J. Clark	869,419	Oct. 29	3480	956	130	2480
Clothes-drier	S. E. Wilson	869,673	Oct. 29	3902	1073	130	2609
Clutch mechanism	P. Jenness	869,713	Oct. 29	3954	1091	130	2623
Coal-cabinet	R. R. Faulkner	869,355	Oct. 29	3380	930	130	2449
Coin-counter	B. Cranner	869,626	Oct. 29	3821	1046	130	2564
Coke-pulling apparatus	F. M. Hogg	869,305	Oct. 29	3292	907	130	2423
Collar-fastener	S. R. Hewitt	869,367	Oct. 29	3398	934	130	2455
Collar-stiffener for negligée shirts	W. S. Peacock	869,259	Oct. 29	3215	885	130	2398
Column	J. Lally	869,869	Oct. 29	4186	1155-6	130	2693
Column for fireproof construction	J. Lally	869,780	Oct. 29	4067	1122-3	130	2656
Combustion process	B. E. Eldred	869,485	Oct. 29	3587	983-4	130	2513
Concrete-block-molding machine	J. Ingells	869,436	Oct. 29	3509	963-4	130	2488
Concrete chimney	J. W. Rector	869,518	Oct. 29	3640	998	130	2528
Concrete construction. Reinforced	E. Nichols	869,724	Oct. 29	3971	1097-8	130	2626
Concrete-mixing machine	G. D. Scheiffer	869,522	Oct. 29	3645	999-1000	130	2529
Concrete-mixing machine	J. Stewart	869,336	Oct. 29	3351	922	130	2438
Concrete pile and means for driving same	J. H. Walzl	869,280	Oct. 29	3248	895	130	2409
Concrete walls. Means for frost-proofing	J. Zellweger	869,342	Oct. 29	3359	925	130	2441
Condenser	S. B. Stewart, Jr	869,455	Oct. 29	3556	975	130	2504
Contact-shoe. Third-rail	L. M. Aspinwall	869,824	Oct. 29	4118	1137	130	2671
Control system	E. W. Stull	869,812	Oct. 29	4098	1131-2	130	2665
Controller	G. von Hanffstengel	869,488	Oct. 29	3594	984	130	2514
Conveyer driving mechanism	J. T. Cowley	869,295	Oct. 29	3277	902-3	130	2417
Conveying apparatus	J. T. Cowley	869,296	Oct. 29	3280	903-4	130	2419
Conveying apparatus	J. T. Cowley	869,350	Oct. 29	3374	927-8	130	2447
Conveying apparatus	J. T. Cowley	869,351	Oct. 29	3375	928-9	130	2447
Conveying apparatus	J. W. Brown	869,690	Oct. 29	3925	1081	130	2615
Cooking utensil							
Cooler:							
See Liquid-cooler.							
Copying-machine	F. Soennecken	869,593	Oct. 29	3767	1031	130	2568
Core-box	A. J. Baseley	869,224	Oct. 29	3161	871-2	130	2390
Corset-stay	H. M. McCormick	869,797	Oct. 29	4079	1126	130	2659
Cotton-gin	J. Hodgkinson	869,633	Oct. 29	3832	1049	130	2557
Cotton-picker	N. A. Gaston	869,703	Oct. 29	3941	1086	130	2619
Coupling:							
See Hose or pipe coupling. Pipe-coupling. Insulating-coupling. Thill-coupling.							
Crate. Knockdown	J. Follansbee	869,699	Oct. 29	3936	1085	130	2618
Culinary device	G. M. Smith	869,529	Oct. 29	3657	1002	130	2534
Cultivator	W. H. Daniel	869,481	Oct. 29	3582	982	130	2511
Cultivator	I. A. Weaver	869,605	Oct. 29	3790	1037	130	2576
Cultivator knife attachment. Corn-	J. Meyer	869,586	Oct. 29	3757	1029	130	2565
Cultivator-shield	G. E. Barrett	869,289	Oct. 29	3266	899	130	2414
Cup:							
See Sputum-cup.							
Current apparatus. Alternating-	A. S. Hubbard	869,244	Oct. 29	3193	879	130	2391
Curtain hanger. Lace-	T. McCormick	869,256	Oct. 29	3211	884	130	2397
Curtain-pole ring	J. A. Rings	869,656	Oct. 29	3867	1058-9	130	2563
Curtain-pole support	E. S. Pearson	869,328	Oct. 29	3338	917	130	2435
Curtain-stretcher-clamping device	H. A. Schwarz	869,332	Oct. 29	3343	919	130	2436
Curtain-support	M. Keith	869,787	Oct. 29	4066	1122	130	2655
Cutter:							
See Cheese-cutter. Gear-cutter. Dredge-cutter. Tube-cutter.							
Cycle engine. Double two-	W. L. Morrow	869,503	Oct. 29	3620	992	130	2523
Damper attachment	J. W. Reynolds	869,806	Oct. 29	4089	1130	130	2663
Dental engine	J. F. Hardy	869,562	Oct. 29	3725	1020	130	2546
Dental engine	W. E. Hanson	869,840	Oct. 29	4141	1143	130	2678
Dental-engine handpiece	J. F. Hardy	869,563	Oct. 29	3727	1020	130	2557
Dental grinding-tools. Stone-guard for	F. W. Chandler	869,417	Oct. 29	3478	955	130	2479
Dental impression-pliers	M. A. Robbins	869,520	Oct. 29	3642	998	130	2528
Display-easel	J. E. Twitchell. (Reissue)	12,711	Oct. 29	4196	1159	130	2696
Display-rack	R. L. Wilcox	869,606	Oct. 29	3796	1038	130	2578
Door-lock. Pocket	J. J. Baxter	869,541	Oct. 29	3676	1007	130	2540
Draft-equalizer	A. Bush	869,345	Oct. 29	3365	926	130	2443
Draft-gear. Friction	I. Simpson	869,268	Oct. 29	3227	888-9	130	2402
Draft-rigging. Frictional	C. A. Tower	869,754	Oct. 29	4016	1109	130	2641
Drawer-guide	M. Rubin	869,735	Oct. 29	3991	1103	130	2634
Dredge cutter. Suction-	J. F. Ollrich	869,385	Oct. 29	3419	940	130	2461
Dredging apparatus	E. B. Stoddard	869,273	Oct. 29	3235	891-2	130	2404
Drier:							
See Clothes-drier.							
Driving-dog	S. W. Putnam, 3d	869,653	Oct. 29	3863	1057-8	130	2597
Driving-dog	S. W. Putnam, 3d	869,729	Oct. 29	3983	1100	130	2631
Dry cells. Making	P. L. Meyer	869,446	Oct. 29	3524	968	130	2498
Duplicating-pad and holder	P. A. McCaskey	869,508	Oct. 29	3626	994	130	2524
Dust-removing pneumatic machines. Regulating device for	J. R. Blum	869,544	Oct. 29	3680	1008	130	2541
Ear-muff	S. R. Wells	869,401	Oct. 29	3454	948	130	2472
Egg-beater	W. Ruppel	869,736	Oct. 29	3992	1103	130	2634
Electric currents. Transformation of	W. T. Taylor	869,595	Oct. 29	3769	1032	130	2569
Electric furnace	G. Gin	869,432	Oct. 29	3503	961-2	130	2487
Electric heater	G. E. Stevens	869,464	Oct. 29	3554	974	130	2504
Electric heating fabric	W. Richmond	869,460	Oct. 29	3550	973	130	2503
Electric machines. Series shunt for dynamo-	E. T. Mug	869,796	Oct. 29	4077	1126	130	2660
Electric motor	J. P. Hayes	869,780	Oct. 29	4051	1118-19	130	2662
Electric regulator	A. H. Barber	869,684	Oct. 29	3915	1077	130	2613
Electrical apparatus	T. W. Varley	869,602	Oct. 29	3787	1035	130	2574
Electrical-apparatus clip	H. Krantz	869,852	Oct. 29	4156	1148	130	2683
Electrical distribution system	A. S. Hubbard and W. A. Turbayne.	869,243	Oct. 29	3189	879	130	2389
Electrical distribution system	E. Van Wagenen	869,279	Oct. 29	3243	894-5	130	2407
Electrical distribution system	W. E. Winship	869,286	Oct. 29	3259	897-8	130	2412
Electrical distribution system	A. S. Hubbard and W. A. Turbayne.	869,306	Oct. 29	3294	903	130	2433
Electrode. Arc-lamp	R. Fleming	869,300	Oct. 29	3287	905	130	2431
Electrode. Arc-lamp	R. Fleming	869,301	Oct. 29	3288	905	130	2431
Electrothermal protectors. Automatic testing and resetting means for	F. B. Cook	869,554	Oct. 29	3702	1015	130	2549
Elevator	R. H. Pascoe and F. Bergen	869,800	Oct. 29	4082	1127	130	2660
Elevator. Electrically-controlled	C. T. Westlin	869,760	Oct. 29	4024	1111	130	2644

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Engine:							
See Dental engine. Explosive-engine. Cycle-engine. Gas-engine.							
Engine cooling system. Internal-combustion	F. G. Hobart and W. W. Gore	869,269	Oct. 29	3400	935	130	2466
Engines. Hot-head for explosive	C. L. Smalley	869,328	Oct. 29	3656	1002	130	2634
Engines. Ignition system for explosion	R. Varley	869,401	Oct. 29	3784	1035	130	2674
Envelop	W. B. Hawbaker	869,262	Oct. 29	3386	933	130	2459
Eyeglasses	G. H. Chapel. (Reissue)	12,709	Oct. 29	4191	1157	130	2694
Eyeglass-fittings	G. Moore	869,327	Oct. 29	3758	1029	130	2655
Excavating and filling mechanism	W. Z. Laughterbeck	869,285	Oct. 29	4189	1145-6	130	2694
Excavators. Spud and hoisting frame for	J. P. Karr and J. D. Rauch	869,488	Oct. 29	3811	964-5	130	2689
Explosive-engine	J. D. Anderson	869,611	Oct. 29	3828	1040	130	2679
Extensometer	W. H. Kenerson	869,716	Oct. 29	3961	1092-4	130	2695
Fastening-clamp	S. I. Feinberg	869,288	Oct. 29	3177	875	130	2389
Feed-trough	C. W. Leonard	869,441	Oct. 29	3817	966	130	2461
Fence-post. Metallic	C. Colvin	869,321	Oct. 29	3171	873	130	2388
Fender	J. A. Sage	869,718	Oct. 29	3964	1103-4	130	2695
Ferrochromium. Manufacture of	H. W. C. Annable	869,631	Oct. 29	3912	1077	130	2672
Fibrous material and separating dust therefrom. Apparatus for grading	E. Slade and J. B. Clearihue	869,742	Oct. 29	4002	1106	130	2697
File	J. C. Dawson	869,426	Oct. 29	3494	956	130	2494
Filling-machine	F. C. H. Strasburger	869,511	Oct. 29	4096	1131	130	2695
Filter. Submerged	L. R. Clark and D. G. Kreul	869,294	Oct. 29	3275	902	130	2417
Filtering apparatus	G. W. Durbrow	869,488	Oct. 29	3719	1018	130	2654
Fire-extinguisher	D. J. Kelly	869,372	Oct. 29	3402	936	130	2467
Fire-extinguishing apparatus	G. E. Tilford	869,782	Oct. 29	4014	1108	130	2699
Fire-resisting curtain and channel therefor	C. E. Buell	869,415	Oct. 29	3473	954	130	2478
Fireplace-heater	E. H. McCloud	869,447	Oct. 29	3225	888	130	2408
Fishing-bait. Artificial	H. D. Frisbe, Sr	869,778	Oct. 29	4098	1116-17	130	2689
Fishing-reel	E. J. Haverly	869,565	Oct. 29	3720	1021	130	2667
Fishing-reel	L. Atwood	869,426	Oct. 29	3488	960	130	2473
Flower-pot	L. Atwood	869,474	Oct. 29	3671	979	130	2588
Flue-sections. Means for connecting	C. J. Schmidt	869,823	Oct. 29	3846	1000	130	2689
Fluid-brake	V. C. Howe	869,710	Oct. 29	3961	1090	130	2693
Fluid-pressure brake	W. Hellemann	869,368	Oct. 29	3397	934	130	2468
Fluid-pressure brake	R. A. Parke	869,802	Oct. 29	3784	1080-1	130	2667
Fluid-pressure motor	G. Westinghouse	869,606	Oct. 29	3794	1088	130	2677
Flushing-cistern	S. Otis	869,453	Oct. 29	3540	970	130	2489
Folding box	T. Smith	869,530	Oct. 29	3648	1002	130	2634
Folding box	B. Rapeport	869,617	Oct. 29	3809	997	130	2688
Food product	J. T. Ferres	869,823	Oct. 29	4133	1141	130	2676
Fountain:	J. H. Kellogg	869,371	Oct. 29	3408	.....	130	2466
See Poultry-fountain. Printing-press inking-fountain.							
Frame:							
See Picture-frame. Truck side frame.							
Frequency-changer	W. S. Bralley	869,412	Oct. 29	3470	963	130	2477
Fuel-economizer	E. B. Freeman	869,701	Oct. 29	3908	1086	130	2618
Furnace:							
See Electric furnace. Open-hearth furnace.							
Furnace	T. S. Blair, Jr	869,516	Oct. 29	3630	1042-3	130	2681
Furnace attachment	J. and J. R. Eynon	869,666	Oct. 29	3954	1084-5	130	2618
Furnace-door	B. F. Herr	869,434	Oct. 29	3806	962-3	130	2487
Gage:	C. J. F. Johnson	869,578	Oct. 29	3742	1024	130	2660
See Micrometer-screw gage.							
Gage	V. V. Hawley	869,480	Oct. 29	3686	985	130	2615
Gage	J. L. Pringle	869,540	Oct. 29	3830	1066	130	2695
Gage attachment. Automatic stop	W. A. Kramer	869,599	Oct. 29	3938	909	130	2468
Game apparatus	M. Maris	869,516	Oct. 29	3215	911	130	2469
Game-counter	E. C. Hillyer	869,341	Oct. 29	3182	873	130	2387
Gang-plank	E. V. Rideout	869,654	Oct. 29	3695	1058	130	2697
Garment-clasp	J. P. Wilson	869,295	Oct. 29	3395	897	130	2412
Garment-hanger	F. P. Johnson	869,245	Oct. 29	3197	880	130	2388
Garment-hanger support	H. N. Drucker	869,283	Oct. 29	3174	874	130	2385
Garment-supporter	H. T. Sprague	869,744	Oct. 29	4004	1106	130	2689
Garter	G. L. Burton and C. J. Fuller	869,226	Oct. 29	3166	873	130	2388
Gas apparatus. Water	J. H. Taussig	869,514	Oct. 29	4164	1123-4	130	2697
Gas burner. Blast	J. Simmendinger	869,268	Oct. 29	3227	888	130	2408
Gas-conduit-connecting device	C. de Hoffmann	869,370	Oct. 29	3401	936	130	2468
Gas cut-off. Automatic	E. A. McDonough	869,699	Oct. 29	3761	1030	130	2695
Gas-engine	W. L. Morrow	869,253	Oct. 29	3268	883	130	2395
Gas-engine	R. W. Powell and C. F. Norton	869,398	Oct. 29	3438	944-5	130	2485
Gas-generator	W. M. Cross	869,283	Oct. 29	3172	874	130	2394
Gas generator. Acetylene	J. Margreth	869,719	Oct. 29	3967	1095	130	2627
Gas-governor and street-pressure changer. Automatic	A. A. Yankee	869,471	Oct. 29	3667	977-8	130	2667
Gas. Making	B. E. Eldred	869,457	Oct. 29	3666	984	130	2514
Gas-making apparatus	L. P. Lowe	869,862	Oct. 29	3782	1026	130	2683
Gas-pressure-regulating device	G. Dalén	869,230	Oct. 29	4129	1140	130	2678
Gas. Producing	B. E. Eldred and C. Ellis	869,486	Oct. 29	3691	984	130	2514
Gate:							
See Water-measuring gate.							
Gate	C. E. Rife	869,539	Oct. 29	4166	1151	130	2667
Gear. Change-speed	C. B. King	869,494	Oct. 29	3600	987-8	130	2517
Gear-cutter	G. D. Marvin	869,319	Oct. 29	3224	913	130	2431
Gelatin forms or molds. Producing	A. Leuchter	869,311	Oct. 29	3206	910	130	2427
Gelatin forms or molds. Producing	A. Leuchter	869,312	Oct. 29	3209	910	130	2427
Generator:							
See Gas-generator. Steam-generator.							
Glassware. Machine for making hollow	S. E. Winder	869,536	Oct. 29	3667	1005-6	130	2537
Globe-manipulator	J. Gaynor	869,536	Oct. 29	4126	1142	130	2671
Grading-machine	C. D. Edwards	869,354	Oct. 29	3379	929-30	130	2449
Grading-machine	G. W. Barnett	869,408	Oct. 29	3461	980-1	130	2475
Grain-door	H. H. Boenker	869,412	Oct. 29	3469	963	130	2477
Grain-drill cleaner	R. M. Richards	869,720	Oct. 29	3965	1101	130	2632
Grain-milling apparatus	G. E. Chamberlain	869,622	Oct. 29	3810	1045	130	2585
Grass-catcher	J. H. Coult	869,249	Oct. 29	3571	927	130	2445

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Grinder. Mower-knife and tool	J. M. Ross	869,734	Oct. 29	3989	1102	130	2633
Hammer nail-holding attachment	G. W. Fowler	869,835	Oct. 29	4135	1142	130	2676
Hand-hole cover	K. Park	869,327	Oct. 29	3337	917	130	2435
Handle:							
See Tool-chest handle.							
Hanger:							
See Curtain-hanger. Garment-hanger.							
Harness attachment. Draft	W. E. Perry	869,803	Oct. 29	4085	1126	130	2661
Harrow attachment	E. Schultz	869,660	Oct. 29	3872	1000	130	2599
Harrow, pulverizer, and drag. Combination	A. D. Ulery	869,756	Oct. 29	4020	1110	130	2642
Harrow-tooth	L. W. Fair	869,299	Oct. 29	3286	905	130	2421
Harvester. Beet	H. M. Heilig and M. H. Reed. (Reissue.)	12,708	Oct. 29	4188	1156	130	2693
Harvesters. Counting mechanism for grain	W. H. Crane	869,424	Oct. 29	3488	957-8	130	2482
Hat, coat, and umbrella rack	G. W. Hartman	869,779	Oct. 29	4050	1118	130	2652
Heading-machine	H. A. Powers	869,516	Oct. 29	3638	997	130	2528
Headlight-adjusting device	F. P. Cobham	869,549	Oct. 29	3690	1011-12	130	2514
Headlight or lantern	F. P. Cobham	869,548	Oct. 29	3688	1011	130	2543
Heat. Reducing compounds with electrically-developed	F. J. Tone	869,276	Oct. 29	3240	.....	130	2406
Heat-resisting composition	G. De Angelis	869,604	Oct. 29	3932	.....	130	2617
Heater:							
See Electric heater. Fireplace-heater.							
Heel. Boot and shoe	W. G. Anderson	869,764	Oct. 29	4031	1113	130	2645
Hinge	C. W. Cook	869,553	Oct. 29	3702	1015	130	2549
Hinge. Invisible	E. M. Kluge	869,717	Oct. 29	3964	1095	130	2626
Hoist. Portable	W. Connelly	869,421	Oct. 29	3484	956	130	2481
Hoof-expanding pad	C. D. McAfee	869,642	Oct. 29	3852	1054	130	2593
Hook:							
See Checkrein-hook.							
Horseshoe	G. M. Green	869,838	Oct. 29	4138	1143	130	2678
Horseshoe-calk	J. M. McKnight	869,590	Oct. 29	3762	1030	130	2567
Horseshoe-calk. Removable	A. E. Rehrig	869,330	Oct. 29	3341	918	130	2436
Hose or pipe coupling	C. F. Snyder	869,662	Oct. 29	3874	1061	130	2600
Hose-supporter	E. Pearl	869,457	Oct. 29	3544	972	130	2500
Hub. Sand-proof disk	E. L. Black	869,226	Oct. 29	3163	872	130	2381
Hydrosulfite mixture. Stable dry	A. Rinckenberger	869,655	Oct. 29	3866	.....	130	2597
Hygienic cartridge-battery	W. Thompson and J. C. Martin	869,509	Oct. 29	3780	1134	130	2672
Incubator	J. W. Nott	869,452	Oct. 29	3530	970	130	2496
Incubator alarm attachment	C. R. Benedict and J. A. Hutcheson.	869,409	Oct. 29	3465	952	130	2476
Index	R. C. Russell	869,521	Oct. 29	3643	998-9	130	2529
Index-card holder	F. Burns	869,620	Oct. 29	3815	1044	130	2582
Indicator:							
See Work-locating indicator.							
Insect-trap	J. E. De Haas	869,556	Oct. 29	3712	1016-17	130	2582
Insulated joint	F. E. Kinsman	869,788	Oct. 29	4066	1122	130	2656
Insulating-coupling	A. W. Berresford	869,410	Oct. 29	3466	952	130	2476
Insulating material and manufacturing same	R. Müller	869,321	Oct. 29	3328	.....	130	2432
Insulator. Strain	A. Anderson	869,403	Oct. 29	3455	949	130	2473
Insulator. Strain	A. Anderson	869,404	Oct. 29	3456	949	130	2473
Iron:							
See Laundry-iron.							
Joint:							
See Insulated joint. Railway-rail joint.							
Journal-box and lid	F. C. Sorensen	869,663	Oct. 29	3875	1061	130	2600
Kiln:							
See Brick-kiln.							
Label-affixing machine	C. H. Booton	869,545	Oct. 29	3680	1009-10	130	2541
Lacing. Shoe	A. Caldwell and G. F. Drew	869,346	Oct. 29	3396	926	130	2444
Lamp filaments to the stem-wires. Apparatus for cementing electric	N. Marshall	869,317	Oct. 29	3317	912	130	2429
Lamp filaments to the stem-wires. Apparatus for cementing electric	N. Marshall	869,318	Oct. 29	3320	912-13	130	2430
Lamp. Hydrocarbon	J. Landsiedel	869,440	Oct. 29	3515	966	130	2490
Lamp-mantle holder	J. M. Simmons	869,661	Oct. 29	3873	1061	130	2600
Lamps. Multiple socket for incandescent	F. J. Russell	869,737	Oct. 29	3993	1103	130	2634
Land-roller	J. Wolfinger	869,676	Oct. 29	3906	1074	130	2600
Lantern. Electric	F. P. Cobham	869,550	Oct. 29	3692	1012-13	130	2545
Lathe. Double-arbor	D. Bacon	869,862	Oct. 29	4171	1152-3	130	2686
Launches. Adjustable top for	W. P. Walter	869,399	Oct. 29	3452	948	130	2472
Laundry-iron	J. R. Adams	869,679	Oct. 29	3911	1076	130	2612
Letter-box	W. H. Hushour	869,844	Oct. 29	4145	1145	130	2679
Lineman's safety device	W. F. Newton	869,282	Oct. 29	3416	939	130	2480
Liquid-cooler	J. D. Spencer	869,745	Oct. 29	4005	1107	130	2636
Liquid-dispensing vessel	H. Waechter	869,535	Oct. 29	3665	1004	130	2536
Liquids from vapors. Apparatus for separating	H. W. Altken and W. Mackie	869,680	Oct. 29	3911	1076	130	2612
Loading apparatus	F. M. Hogg	869,509	Oct. 29	3734	1022-3	130	2589
Lock:							
See Alarm dead-lock. Safe-lock. Door-lock. Seal-lock. Nut-lock.							
Lock	W. H. Taylor	869,533	Oct. 29	3662	1003	130	2536
Locomotive-boiler	S. A. Reeve	869,805	Oct. 29	4068	1129	130	2662
Locomotive tank-siphon	C. W. La Rue	869,854	Oct. 29	4158	1148	130	2684
Loom-shuttle	W. L. Hall	869,778	Oct. 29	4049	1118	130	2651
Loom step-motion mechanism. Faller for	J. B. Whitney and F. Ecaubert	869,519	Oct. 29	4111	1136	130	2660
Loom. Weft-replenishing	B. F. McGuinness	869,644	Oct. 29	3854	1054-5	130	2594
Lubricant-controlling device. Auxiliary automatic	H. Odermann and C. V. Strub	869,283	Oct. 29	3417	940	130	2481
Mail-bag catcher	J. T. Hindman	869,204	Oct. 29	3291	907	130	2432
Mail-bags along railway-lines. Device for delivering	A. F. Martel	869,791	Oct. 29	4071	1124	130	2657
Mail-carrier	A. and C. W. McIntire	869,448	Oct. 29	3526	968-9	130	2494
Mangle-roll covering	J. H. Hunt	869,572	Oct. 29	3733	1023	130	2630
Marker. Pie	C. Sullivan	869,666	Oct. 29	3950	1070	130	2594
Marking apparatus. Credit	J. J. Leidigh	869,858	Oct. 29	4165	1139	130	2688
Match-making-machine dipping device	P. Moreland and O. H. Landvatter.	869,541	Oct. 29	3849	1053	130	2682
Measure. Taller's tape	B. Ricciardi	869,264	Oct. 29	3222	887	130	2401
Measuring and weighing machine	E. G. Staude	869,235	Oct. 29	3346	920-2	130	2437

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Measuring speed of rotation. Apparatus for	W. D. Litchfield	869,442	Oct. 29	3518	966	130	2481
Metal ware. Machine for scouring and scratch-brushing flat	D. F. Broderick	869,478	Oct. 29	3577	980-1	130	2489
Metallic powders. Preparing	W. F. McNulty	869,591	Oct. 29	3763	.....	130	2567
Meter: *See* Water-meter.							
Micrometer-gage. Limit	L. C. Woerner	869,762	Oct. 29	4028	1112	130	2645
Micrometer-screw gage	O. Ellhauer and P. Rückert	869,697	Oct. 29	3934	1084	130	2617
Mill: *See* Sawmill. Swaging-mill.							
Mining machine. Coal-	W. Yeatts	869,609	Oct. 29	3799	1038-9	130	2578
Mold: *See* Building-block mold.							
Molding machine. Crayon-	C. E. Daniel and W. Keller	869,662	Oct. 29	3927	1082	130	2615
Money-box	M. J. Ogden	869,284	Oct. 29	3418	940	130	2301
Motor: *See* Electric motor. Rotary motor. Fluid pressure motor. Water-motor.							
Motor control	E. R. Carichoff	869,220	Oct. 29	3166	873	130	2208
Motor-control system	M. W. Day	869,268	Oct. 29	3276	929	130	2245
Motor controller	W. Fiedler	869,165	Oct. 29	3201	930	130	2245
Motor-regulating device	W. C. Runge	869,331	Oct. 29	3342	919	130	2301
Mower. Lawn-	A. B. Case	869,771	Oct. 29	4038	1115	130	2645
Mowing-machine	W. Oster	869,719	Oct. 29	4031	1126-7	130	2639
Music-playing instrument. Autopneumatic	W. R. Crippen	869,489	Oct. 29	3471	981	130	2511
Music-playing instrument. Autopneumatic	W. A. Watson	869,818	Oct. 29	4111	1135	130	2699
Musical instrument. Wind	F. A. Buescher	869,819	Oct. 29	3814	1144	130	2699
Musical instruments. Mechanically-controlled solo-accent device for mechanical	P. Wuest, Jr	869,678	Oct. 29	3907	1075	130	2609
Musical players. Pneumatic motor for use in automatic	G. P. Brand	869,414	Oct. 29	3472	954	130	2467
Necktie-fastener	M. Balla and D. Stein	869,683	Oct. 29	3914	1077	130	2613
Nest. Trap-	H. P. Rankin	869,263	Oct. 29	3219	896-7	130	2469
Nut-lock	E. A. Doty	869,686	Oct. 29	3923	1084	130	2617
Oil-can	B. Schneider	869,740	Oct. 29	4000	1105	130	2637
Open hearth furnace	A. E. Friend	869,702	Oct. 29	4040	1086	130	2619
Ore concentrating table	T. S. Blair, Jr.	869,617	Oct. 29	e812	1043	130	2569
Ore-concentrators. Feed-box for	F. E. Shepard	869,599	Oct. 29	4167	1151	130	2707
Ore-roaster	W. L. and F. S. Card	869,398	Oct. 29	3272	902	130	2461
Ores. Cyanid treatment of	A. J. Garver	869,360	Oct. 29	3380	932	130	2489
Organ-blowing apparatus	A. Adair	869,267	Oct. 29	3262	.....	130	2464
Package-feeding machine	I. H. Spencer	869,388	Oct. 29	4184	1155	130	2709
Packaging-machine	L. M. Nielsen	869,725	Oct. 29	3973	1096-9	130	2629
Packing-case	E. Stanley	869,694	Oct. 29	3977	1096-9	130	2631
Packing. Metallic	A. R. Speer	869,453	Oct. 29	3553	974	130	2503
Packing. Stuffing-box metallic	W. H. Law	869,374	Oct. 29	3409	937	130	2483
Pad: *See* Duplicating-pad. Hoof-expanding pad.	J. C. W. Weber	869,536	Oct. 29	3985	1004	130	2557
Padlock	A. F. Bardwell	869,475	Oct. 29	3573	979	130	2509
Paper. Protecting commercial	E. E. Angell	869,822	Oct. 29	4116	1137	130	2679
Piano. Combined automatic and manually-operated	M. Clark	869,230	Oct. 29	3169	873	130	2209
Pick	J. Olson and W. J. O. Boals	869,727	Oct. 29	3981	1100	130	2631
Picker: *See* Cotton-picker.							
Picture-frame	H. Kassahn and G. Schaaf	869,788	Oct. 29	4065	1121	130	2655
Pin setter. Ruby-	C. A. Sloan	869,808	Oct. 29	4094	1131	130	2684
Pipe coupling. Train-	W. H. Myers and W. G. Stevens	869,308	Oct. 29	3322	903	130	2384
Pipe-fitting	A. C. Walworth, Jr	869,240	Oct. 29	3357	925	130	2441
Pipe-seaming machine	C. H. Gervers	869,704	Oct. 29	3942	1087	130	2620
Plane	J. H. Shaw	869,287	Oct. 29	3227	888	130	2408
Plaster slabs for building, &c. Making wooden-cored	G. S. Mayhew	869,668	Oct. 29	3944	1051-2	130	2600
Platen-shift mechanism	G. W. Campbell	869,247	Oct. 29	3267	926	130	2444
Plow harrow attachment	J. C. Fooshe	869,234	Oct. 29	4124	1142	130	2676
Plow. Reversible disk	C. M. Mallory and J. M. Slaughter	869,499	Oct. 29	3928	980-91	130	2510
Plow. Reversible disk	S. V. Weeks	869,672	Oct. 29	3897	1072-3	130	2605
Plow-standard. Adjustable	W. P. Wigley	869,341	Oct. 29	3258	925	130	2441
Plows. Caster-controller for wheeled	W. L. Paul	869,258	Oct. 29	3214	885	130	2385
Pneumatic-despatch-tube apparatus	C. F. Stoddard	869,337	Oct. 29	3262	923	130	2439
Pneumatic-despatch-tube apparatus	C. F. Stoddard	869,336	Oct. 29	3255	924	130	2440
Poke. Animal-	G. R. Mumford	869,722	Oct. 29	3970	1097	130	2625
Post: *See* Fence-post.							
Post-driving machine	W. W. Turner	869,815	Oct. 29	4106	1134	130	2697
Pot: *See* Flower-pot.							
Pot-lid	E. E. Spottswood	869,746	Oct. 29	4006	1107	130	2633
Poultry-fountain	M. L. Weldon	869,400	Oct. 29	3463	948	130	2472
Power-transmitting device	E. Winans	869,520	Oct. 29	4113	1126	130	2689
Preserving and canning device	S. W. Harrell	869,564	Oct. 29	3728	1020	130	2547
Press: *See* Baling-press. Printing-press.							
Pressing-machine	J. Lehr	869,857	Oct. 29	4163	1150	130	2695
Printing mechanism	F. G. Jahn	869,753	Oct. 29	4057	1120	130	2638
Printing-press	A. K. Taylor	869,667	Oct. 29	3890	1070	130	2604
Printing-press inking-fountain	S. G. Goss	869,237	Oct. 29	3178	875	130	2399
Printing-presses. Automatic ink-font for platen	G. O. Been and C. H. Martin	869,263	Oct. 29	4175	1153	130	2699
Printing-presses and similar machines. Feed mechanism for	G. W. Prouty	869,330	Oct. 29	3389	918	130	2435
Printing-presses or the like. Detector for	A. Obert	869,294	Oct. 29	3382	915	130	2433
Protector for ears, forehead, and eyes	I. Seltzman	869,741	Oct. 29	4001	1106	130	2637
Pulley	J. L. Coleman	869,287	Oct. 29	4126	1139	130	2674
Pump	A. Papillon	869,227	Oct. 29	3420	941	130	2443
Pump. Measuring-	T. Foy	869,320	Oct. 29	3720	1019	130	2545
Pump. Measuring-	C. S. Jones	869,246	Oct. 29	3198	880	130	2393
Pump. Pneumatic	F. C. Wilson	869,488	Oct. 29	3885	977	130	2509
Punching-machine and feeding mechanism therefor	D. L. Holden	869,731	Oct. 29	4054	1119	130	2653
Pyrometer	F. C. B. Page	869,226	Oct. 29	3234	915-17	130	2434
	C. B. Thwing	869,666	Oct. 29	3969	1070	130	2624

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Rack: *See* Display-rack. Hat, coat, and umbrella rack.							
Radiator	V. Lacing	869,577	Oct. 29	3747	1025	130	2562
Radiator	C. Wright	869,822	Oct. 29	4115	1136	130	2670
Railway brake mechanism. Inclined-	S. E. Jackman	869,846	Oct. 29	4148	1145-6	130	2681
Railway brake mechanism. Inclined-	S. E. Jackman	869,849	Oct. 29	4152	1147	130	2682
Railway-frog	T. F. Donahoe	869,695	Oct. 29	3932	1083	130	2617
Railway-rail joint	T. B. Cheek	869,479	Oct. 29	3578	981	130	2510
Railway safety device. Inclined-	S. E. Jackman	869,847	Oct. 29	4150	1146	130	2681
Railway-signal	C. W. S. Turner	869,467	Oct. 29	3559	975-6	130	2505
Railway-signal. Electrically-operated	H. J. Jones	869,785	Oct. 29	4063	1121	130	2654
Railway signaling	J. B. Struble	869,531	Oct. 29	3659	1003	130	2534
Railway system. Electric-	W. B. Potter	869,459	Oct. 29	3546	973	130	2500
Railway-tie	M. J. Nolan	869,645	Oct. 29	3856	1055	130	2594
Railway-tie and rail-fastening	G. W. Rittersbach	869,732	Oct. 29	3987	1102	130	2633
Railway-train safety mechanism	J. Doyle	869,557	Oct. 29	3713	1017-18	130	2552
Railway-trains. Automatic apparatus for stopping moving	J. T. Thompson	869,597	Oct. 29	3772	1033	130	2570
Railway-trains. Controlling apparatus for	J. T. Thompson	869,598	Oct. 29	3776	1033-4	130	2571
Razor-blade holder. Safety-	W. N. Ward	869,757	Oct. 29	4021	1110	130	2643
Razor. Safety-	J. W. Leslie	869,579	Oct. 29	3748	1025	130	2562
Razor. Safety-	J. J. Steinharter	869,748	Oct. 29	4008	1107	130	2630
Receptacle	L. J. Sheperd	869,334	Oct. 29	3346	920	130	2437
Receptacle and closure therefor	C. C. Gibson	869,431	Oct. 29	3502	961	130	2486
Receptacles. System for closing	P. Lamouroux	869,853	Oct. 29	4157	1148	130	2683
Reel: *See* Fishing-reel.							
Regulator: *See* Electric regulator. Windmill-regulator.							
Regulator	R. E. Atkinson	869,612	Oct. 29	3804	1040	130	2580
Relay	L. F. Howard	869,490	Oct. 29	3596	985	130	2515
Relay for circuit-breakers	M. Fuss	869,359	Oct. 29	3389	932	130	2452
Resistance unit	C. Macmillan	869,314	Oct. 29	3313	911	130	2428
Ring: *See* Curtain-pole ring.							
Riprap	F. W. Hawkes	869,566	Oct. 29	3729	1021	130	2557
Riveters. Traveling frame for side-shell	J. M. Sr., and J. M. Dobbie	869,427	Oct. 29	3495	959	130	2484
Rock-drill-feed mechanism	T. Turner	869,278	Oct. 29	3241	894	130	2406
Roller: *See* Spring-roller.							
Rolling black plates and sheets. Apparatus for	C. W. Bray	869,291	Oct. 29	3268	899-900	130	2415
Rolling black plates or sheets	C. W. Bray	869,292	Oct. 29	3270	900-1	130	2415
Rotary engine	T. Veitch	869,339	Oct. 29	3356	924	130	2441
Rotary engine	L. C. Tippett and C. L. Reece	869,397	Oct. 29	3448	946-7	130	2470
Rotary engine	C. R. Francis	869,560	Oct. 29	3721	1019	130	2555
Rotary motor	E. R. Mills, C. A. Conn, and H. Van Ormer	869,867	Oct. 29	4181	1154-5	130	2691
Rubber. Artificial	W. H. Brownlow	869,618	Oct. 29	3813	.....	130	2582
Rug-turfing machine	J. J. Baird	869,407	Oct. 29	3460	950	130	2474
Rule or calipers	G. W. Le Compte	869,578	Oct. 29	3747	1025	130	2562
Sack-cleaning apparatus	W. E. Mann	869,585	Oct. 29	3756	1028-9	130	2564
Saddle safety-stirrup release	H. Arndt	869,540	Oct. 29	3674	1007	130	2539
Safe	J. M. Allen	869,220	Oct. 29	3155	870	130	2379
Safe-door support	J. M. Allen	869,221	Oct. 29	3156	870	130	2379
Safe-lock	J. M. Allen	869,222	Oct. 29	3157	870	130	2379
Sandpapering-machine	J. Black	869,688	Oct. 29	3921	1078-9	130	2614
Sash balance and pulley casing	C. H. Ocumpaugh	869,512	Oct. 29	3631	905	130	2535
Sash-fastener	G. A. Orr	869,708	Oct. 29	4080	1120	130	2639
Sash-holder	T. N. Jones	869,437	Oct. 29	3510	964	130	2489
Saw	W. B. Huther	869,574	Oct. 29	3741	1024	130	2560
Saw-guard	F. C. Pfeil	869,513	Oct. 29	3632	906	130	2536
Sawmill-feed	R. L. Woodruff	869,821	Oct. 29	4114	1135	130	2670
Saw mill. Gang-	W. M. Wilkin	869,537	Oct. 29	3666	1005	130	2557
Sawmill set-works	A. Cunningham	869,627	Oct. 29	3823	1047	130	2584
Saw. Portable crosscut-	A. Schubert	869,649	Oct. 29	3870	1060	130	2599
Saw-set	J. M. Hancock	869,707	Oct. 29	3948	1089	130	2621
Scouring-machine	W. L. Jacobs	869,712	Oct. 29	3954	1091	130	2623
Screen: *See* Window-screen.							
Screen	J. L. Mallory	869,315	Oct. 29	3314	911	130	2429
Screen-handle fastener	M. and C. Murray	869,505	Oct. 29	3522	903	130	2526
Screen mechanism. Rotary	W. C. Matthias	869,720	Oct. 29	3968	1096-7	130	2627
Screw-spanner	J. F. G. Lund	869,443	Oct. 29	3519	906	130	2492
Seal-lock	J. A. Wilkinson	869,761	Oct. 29	4026	1111	130	2644
Seat-guard-locking device	S. E. Jackman	869,848	Oct. 29	4151	1146	130	2681
Separator-bowl. Centrifugal	P. B. Shee	869,808	Oct. 29	4093	1130	130	2683
Sewage-sludge. Treatment of	F. M. and H. Spence and R. Ockel	869,272	Oct. 29	3234	.....	130	2404
Sewing-machine take-up mechanism	P. Anschütz	869,705	Oct. 29	4032	1113	130	2646
Shade and curtain bracket	M. S. McNeese	869,322	Oct. 29	3330	914	130	2433
Shade bracket. Window-	C. I. Wimmer	869,674	Oct. 29	3903	1073	130	2606
Shaft-oscillator. Mechanical	W. F. Bouché	869,825	Oct. 29	4121	1138	130	2671
Shaft-support	E. Nestler	869,451	Oct. 29	3538	907-70	130	2498
Sharpening means. Disk-	W. S. Cline	869,624	Oct. 29	3819	1045	130	2583
Sheave-block	W. H. Corbett	869,422	Oct. 29	3487	957	130	2480
Sheep-shearing machine	T. A. Martin	869,500	Oct. 29	3613	991	130	2520
Shelving	G. H. Hurteau	869,491	Oct. 29	3598	986	130	2516
Shoe-polishing machine	F. Humphreville	869,435	Oct. 29	3507	963	130	2488
Shoe-tree and holder	E. G. Latta	869,496	Oct. 29	3906	989-90	130	2518
Shower-bath	C. Heaton	869,240	Oct. 29	3183	877	130	2387
Shuttle	E. C. Ives	869,845	Oct. 29	4147	1145	130	2680
Sign. Electric	W. Wallace	869,468	Oct. 29	3564	977	130	2506
Signal: *See* Railway-signal.							
Signal apparatus	C. W. Coleman	869,552	Oct. 29	3694	1014	130	2545
Signaling system	E. E. Kleinschmidt	869,576	Oct. 29	3744	1025	130	2561
Signaling system. Wireless	J. L. Jones	869,714	Oct. 29	3957	1091-2	130	2624
Siphon. Alternating	R. C. De La Hunt	869,482	Oct. 29	3563	982	130	2511
Slat-operating mechanism	B. Albertson	869,473	Oct. 29	3570	979	130	2508

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Sled	L. Therriault	869,588	Oct. 29	3771	1032	130	2329
Sling	H. Oehrmann	869,526	Oct. 29	3284	915	130	2304
Slot-machine	J. P. Munch	869,264	Oct. 29	3289	884	130	2307
Solder-feeding mechanism for canning-machines	N. Nelson	869,510	Oct. 29	3289	994	130	2329
Solder for aluminium	T. T. Hosack	869,570	Oct. 29	3737		130	2329
Sole or heel. Shoe	J. H. Vinton	869,678	Oct. 29	3785	1096	130	2330
Sound-amplifier	N. Baldwin	869,268	Oct. 29	3288	888	130	2344
Spark-plug	A. Holsten	869,566	Oct. 29	4178	1154	130	2329
Speculum. Mouth-	J. F. Koehler	869,469	Oct. 29	3513	966	130	2329
Speed-changing mechanism for hydro-extractors	H. Hott	869,782	Oct. 29	4066	1119	130	2329
Spinning or twisting frames for top rolls. Traveling guide for	L. T. Houghton	869,571	Oct. 29	3737	1022	130	2329
Split switch	G. M. Ervin	869,598	Oct. 29	3285	905	130	2329
Spooler	A. E. Roades	869,519	Oct. 29	3541	993	130	2329
Spring-roller	J. H. Sweetland	869,598	Oct. 29	3447	946	130	2329
Sputum-cup	H. J. Potter	869,515	Oct. 29	3289	977	130	2329
Sputum-cup	C. W. Melnecke	869,788	Oct. 29	4073	1125	130	2329
Square. Machine for rolling carpenters'	H. K. Jones	869,599	Oct. 29	3541	1147	130	2329
Stable equipment	J. Von der Kammer	869,715	Oct. 29	3289	1002	130	2329
Stair-rod fastener	W. H. Joyner	869,488	Oct. 29	3289	986	130	2329
Stamped fabric	C. E. Bentley	869,226	Oct. 29	3183	872	130	2329
Stay-lug	E. F. Smith	869,270	Oct. 29	3289	889	130	2329
Steam-conduit	J. W. Aylsworth and F. L. Dyer	869,703	Oct. 29	4066	1114	130	2347
Steam-generator	H. Cox	869,259	Oct. 29	4128	1140	130	2374
Steam-generators. Automatic stoker for	J. Hodgkinson	869,703	Oct. 29	3948	1089	130	2329
Stereotype-plate holder	J. S. Weyl	869,807	Oct. 29	3767	1038	130	2377
Stoker. Mechanical	D. A. Wood	869,329	Oct. 29	3671	1006-7	130	2329
Stool or seat. Adjustable	W. C. Hahne	869,777	Oct. 29	4046	1117	130	2341
Stoves, &c. Auxiliary fuel-box for	T. B. Lockley	869,461	Oct. 29	3751	1026	130	2329
Strainer	M. Hancock	869,488	Oct. 29	3804	982	130	2347
Strap-fastener	G. A. Mains	869,268	Oct. 29	4130	1154	130	2329
Superheater	M. Toltz	869,669	Oct. 29	3781	1064-5	130	2373
Superheater	M. Toltz	869,669	Oct. 29	3888	1071	130	2329
Swaging-mill	E. Winter	869,264	Oct. 29	3888	896-7	130	2413
Swing. Veranda-	W. F. Till and J. C. Newton	869,783	Oct. 29	4015	1109	130	2341
Switch: *See* Split switch. Tongue-switch.							
Table: *See* Ore-concentrating table.							
Table game attachment	C. J. Knudson	869,713	Oct. 29	3888	1095	130	2327
Talking-machine stop mechanism	J. C. Stuckey	869,748	Oct. 29	4010	1103	130	2329
Tanning compound	H. M. Murray	869,723	Oct. 29	3671		130	2329
Telegraph-pole, fence-post, and the like	H. Miller	869,268	Oct. 29	3207	883	130	2329
Telegraph. Printing-	B. W. Cochran	869,469	Oct. 29	3481	956	130	2329
Telegraphy. Wireless	W. S. Hogg	869,694	Oct. 29	3888	1049	130	2357
Telephone-lines. Measured-service system for	J. L. McQuarrie	869,443	Oct. 29	3289	989	130	2464
Telephone-lines. Measured-service system for	J. L. McQuarrie	869,444	Oct. 29	3289	989	130	2329
Telephone-receivers. Adjustable support for	R. Higgins	869,269	Oct. 29	3289	935	130	2455
Telescope	L. Bell	869,709	Oct. 29	4085	1114	130	2347
Telescope. Sight-	F. Schleth	869,295	Oct. 29	3445	946	130	2329
Thermal protectors. Automatic resetting and testing means for	F. B. Cook	869,264	Oct. 29	4170	1153	130	2329
Thill-coupling	A. F. Warele	869,788	Oct. 29	4082	1111	130	2343
Tie: *See* Railway-tie.							
Tile	J. F. Schwartz	869,598	Oct. 29	3236	898	130	2481
Tile	H. Haugh	869,262	Oct. 29	3288	933	130	2483
Timber-framing machine	J. Peters and E. H. N. Clarkson	869,648	Oct. 29	3888	1065	130	2394
Tongue-switch	E. Lewis	869,680	Oct. 29	3789	1026	130	2542
Tool-chest handle	H. Cowan	869,622	Oct. 29	3888	957	130	2483
Tool. Combination-	A. Weber	869,789	Oct. 29	4083	1111	130	2343
Tool. Machine-	F. Müller	869,598	Oct. 29	3789	1029-30	130	2545
Tool or utensil. Combination-	J. R. Hamilton	869,706	Oct. 29	3946	1068	130	2331
Toothpick-machine	W. F. Hutchinson	869,573	Oct. 29	3789	1022-4	130	2340
Toy. Advertising	J. Bauno	869,695	Oct. 29	3915	1078	130	2343
Toy badge	J. J. Meehan	869,702	Oct. 29	4072	1124	130	2357
Train-protecting device. Automatic	E. Unverricht	869,385	Oct. 29	3449	947	130	2470
Transformer. Steam-	S. Otis	869,454	Oct. 29	3541	970	130	2469
Transmission device	O. and H. Matthei	869,801	Oct. 29	3815	991	130	2541
Trap: *See* Animal-trap. Insect-trap.							
Trap	L. A. Cornelius	869,626	Oct. 29	3739	1045	130	2584
Trees. Grafting	P. Keiser	869,498	Oct. 29	3800	995	130	2516
Trolley	S. D. Hunt	869,711	Oct. 29	3888	1080	130	2623
Trolley-head for electric traction	G. B. Holmes and A. D. Allen	869,843	Oct. 29	4166	1144	130	2679
Trough: *See* Feed-trough.							
Truck. Brick-	H. J. Dundas	869,353	Oct. 29	3278	928	130	2445
Truck Motor railway-	S. Otis	869,456	Oct. 29	3543	971-2	130	2469
Truck construction. Car-	O. S. Pulliam	869,652	Oct. 29	3888	1057	130	2598
Truck side frame. Car-	H. C. Buhoup	869,416	Oct. 29	3470	965	130	2473
Truck-wheel	G. F. Armstrong, Jr.	869,787	Oct. 29	4084	1114	130	2648
Tube-cutter	F. Fleming	869,628	Oct. 29	3888	1048	130	2585
Tubes. Manufacture of	A. E. Beck	869,476	Oct. 29	3574	980	130	2509
Tubes. Mill for manufacture of	E. Winter	869,263	Oct. 29	3261	895	130	2410
Tubes, &c. Mill for manufacture of	E. Winter	869,262	Oct. 29	3264	899	130	2411
Tubulating-machine	T. Fagan	869,488	Oct. 29	3488	988	130	2484
Tug. Hame-	A. E. Sutton	869,812	Oct. 29	4103	1133	130	2667
Tunnels. Ventilation of	S. C. Davidson	869,397	Oct. 29	3883	904-5	130	2420
Turbine. Reversible elastic-fluid	C. W. Dake	869,773	Oct. 29	4041	1118-16	130	2648
Type-writer machine	D. Briggs	869,236	Oct. 29	4129	1136-9	130	2672
Type-writer mechanism	J. B. Secor	869,286	Oct. 29	3888	1001	130	2532
Type-writers. Platen-rotating mechanism for	H. J. Otto	869,269	Oct. 29	3289	940	130	2461
Type-writing machine	H. W. Merritt	869,502	Oct. 29	3913	992	130	2522
Type-writing machine	A. W. Buckwell	869,847	Oct. 29	3888	1010	130	2543
Type-writing-machine indicator	H. A. Dewing	869,532	Oct. 29	4129	1141	130	2676
Valve	W. M. Wheildon and H. A. Maxwell.	869,281	Oct. 29	3880	886	130	2410
Valve and by-bass. Hydraulic four-way	W. J. Tretch	869,786	Oct. 29	4047	1110	130	2642
Valve connection. Triple-	F. L. Clark	869,823	Oct. 29	3817	1045	130	2583

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drs.	Official Gazette. Vol.	Official Gazette. Page.
Valve. Engine stop-	J. L. Kimball	869,248	Oct. 29	3202	861-2	130	2326
Valve. Gate-	L. Schutte	869,525	Oct. 29	3660	1001	130	2531
Valve-grinder	P. F. Pillner	869,647	Oct. 29	3957	1056	130	2394
Valve mechanism for air-compressors	F. Lafferty and W. Spence	869,373	Oct. 29	3407	936-7	130	2457
Valve. Safety-	L. Schutte	869,524	Oct. 29	3649	1001	130	2530
Valve. Sensitive triple	W. B. Mann	869,637	Oct. 29	3841	1061	130	2459
Valve. Steam-actuated	G. W. Meyer	869,794	Oct. 29	4073	1125	130	2657
Vegetable-topping machine	A. E. Vrooman	869,816	Oct. 29	4107	1134-5	130	2668
Vehicle-body	H. H. Porter, Jr.	869,260	Oct. 29	3216	885-6	130	2330
Vehicle-door	J. Ludwig and W. Bradbury	869,249	Oct. 29	3204	882	130	2326
Vehicle spring-suspension	W. W. Macfarren	869,583	Oct. 29	3753	1027	130	2394
Vehicle-top support	T. Heney	869,567	Oct. 29	3731	1021	130	2338
Vehicles. Means for checking side slip of road-	W. E. Monro	869,640	Oct. 29	3847	1062-3	130	2591
Vending apparatus	A. Rosenfeld	869,807	Oct. 29	4090	1130	130	2663
Vending machine. Cigar-	A. Jacobs	869,635	Oct. 29	3834	1060-1	130	2589
Ventilator: *See* Building-ventilator.							
Volatile substances. Purifying	J. U. Lloyd	869,375	Oct. 29	3410	937	130	2468
Wagon-box and stock and hay rack. Combined	O. K. Hibbets	869,303	Oct. 29	3290	908	130	2432
Wagon. Dumping-	T. Wright	869,677	Oct. 29	3906	1074	130	2610
Warp stop-motion	B. F. McGuiness	869,643	Oct. 29	3852	1064	130	2598
Wash and bath tub and ironing-table. Combined	A. Lombardo	869,790	Oct. 29	4089	1123	130	2656
Washer	C. G. Ette	869,235	Oct. 29	3176	874	130	2325
Water-cooler	J. T. Cole	869,551	Oct. 29	3893	1013	130	2545
Water-measuring gate	A. H. Stokes	869,274	Oct. 29	3237	892	130	2405
Water-meter	C. F. Merrill	869,320	Oct. 29	3326	914	130	2481
Water-meter	N. W. Hartman	869,341	Oct. 29	4142	1144	130	2670
Water-motor	T. M. Helster	869,568	Oct. 29	3733	1022	130	2588
Water-motor wheel	B. B. Bush. (Reissue.)	12,713	Oct. 29	4200	1160	130	2687
Wheel: *See* Car-wheel. Wheelbarrow-wheel. Truck-wheel.							
Wheelbarrow-wheel	C. A. Baker and T. L. Smith	869,343	Oct. 29	3362	925	130	2449
Wind-power. Machine for use with	J. Homola	869,709	Oct. 29	3950	1089	130	2668
Winding device	S. W. Wardwell	869,604	Oct. 29	3789	1126	130	2575
Windmill-regulator	O. C. Hoevet	869,242	Oct. 29	3187	879	130	2329
Window-cleaner	B. A. Hill	869,842	Oct. 29	4143	1144	130	2679
Window construction	R. E. Turabull	869,466	Oct. 29	3558	973	130	2329
Window-screen	H. Wright	869,470	Oct. 29	3566	977	130	2397
Window-screen	A. A. Day	869,693	Oct. 29	3930	91082	130	2317
Window-tightener	J. M. Haddock	869,631	Oct. 29	3830	1048	130	2397
Wiping-strip and making same	C. S. Clark	869,418	Oct. 29	3479	966	130	2470
Wire and wood slats. Machine for weaving	T. F. Hagerty	869,705	Oct. 29	3944	1087-8	130	2329
Wire-fastener	L. R. Peeples	869,458	Oct. 29	3545	972	130	2329
Wire-stretcher	G. H. Weyant	869,402	Oct. 29	3455	948-9	130	2479
Work-bench. Portable	H. Rosenbaum	869,461	Oct. 29	3551	973	130	2329
Work-locating indicator	T. L. Dennis, Jr., and A. C. Lindholm.	869,483	Oct. 29	3584	982-3	130	2512
Wrapping-machine	J. M. Patterson	869,388	Oct. 29	3422	941-3	130	2468
Wrapping-machine	J. M. Patterson	869,389	Oct. 29	3426	943	130	2329
Wrench	C. H. Myers	869,255	Oct. 29	3210	884	130	2397
Wrench	J. F. Large	869,496	Oct. 29	3005	989	130	2513
Wrench	A. L. Shears	869,527	Oct. 29	3655	1002	130	2534
Wrench	E. H. Vanderalice	869,670	Oct. 29	3895	1072	130	2329
Wrench	A. B. Pearce	869,802	Oct. 29	4084	1128	130	2651
Zinc skimmings. Utilizing	B. Terne	869,750	Oct. 29	4012		130	2649

TRADE-MARKS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Asbestos-composition shingles, slate, and sheathing	Asbestos Shingle Slate & Sheathing Company.	65,862	Oct. 29	130	2713
Binders	M. Rothenberg	65,889	Oct. 29	130	2713
Boots and shoes. Leather	Selz, Schwab & Company	65,893	Oct. 29	130	2713
Boots and shoes. Leather	Selz, Schwab & Company	65,894	Oct. 29	130	2713
Boots and shoes. Leather	Selz, Schwab & Company	65,895	Oct. 29	130	2713
Boots and shoes. Leather	Selz, Schwab & Company	65,896	Oct. 29	130	2713
Boots and shoes. Leather	Smith-Wallace Shoe Company	65,909	Oct. 29	130	2713
Boots and shoes. Leather	Drake-Inness-Green Shoe Co	65,878	Oct. 29	130	2713
Boots and shoes. Leather	Drake-Inness-Green Shoe Co	65,879	Oct. 29	130	2713
Candies	Adams Argood Chocolate Co	65,886	Oct. 29	130	2714
Canned fruits and vegetables	Burt Olney Canning Co	65,905	Oct. 29	130	2714
Canned fruits and vegetables	Warfield Pratt Howell Company	65,917	Oct. 29	130	2714
Cement. Portland	Fredonia Portland Cement Co	65,908	Oct. 29	130	2713
Cheese. Roquefort	L. Rigal	65,914	Oct. 29	130	2714
Chemicals. Certain	Albright & Wilson	65,881	Oct. 29	130	2713
Coats, vests, and pants	Novick Bros	65,909	Oct. 29	130	2714
Corn or corn-chops. Cracked	Gulfport Grocery Co	65,907	Oct. 29	130	2714
Cotton duck	Mount Vernon-Woodberry Cotton Duck Company.	65,946	Oct. 29	130	2715
Cotton duck	Mount Vernon-Woodberry Cotton Duck Company.	65,947	Oct. 29	130	2715
Cotton fabric. Certain	Mount Hope Finishing Company	65,945	Oct. 29	130	2715
Electric conduits	American Circular Loom Company.	65,955	Oct. 29	130	2715
Fertilizers	Virginia-Carolina Chemical Company.	65,894	Oct. 29	130	2714
Flavoring extracts	R. Hardesty Manufacturing Company.	65,913	Oct. 29	130	2714
Flour. Wheat-	Allen & Wheeler Company	65,898	Oct. 29	130	2714

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Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Flour. Wheat-	A. B. Smith & Company	35,996	Oct. 29	130	2714
Food. Prepared stock	Gulfport Grocery Co	35,998	Oct. 29	130	2714
Foods. Certain cereal	Allen Brothers Company	35,997	Oct. 29	130	2714
Furniture. Certain	Simmons Manufacturing Company.	35,999	Oct. 29	130	2715
Ginger-ale	Wm. J. Stange Co	35,994	Oct. 29	130	2714
Ice-cream cones	Amidaleft Bros	35,993	Oct. 29	130	2714
India-rubber, gutta-percha, and other vulcanizable gums	G. A. Alden & Co	35,975	Oct. 29	130	2713
Liniment	T. G. Caster	35,992	Oct. 29	130	2713
Lumber. Rough and dressed	J. M. Card Lumber Co	35,987	Oct. 29	130	2713
Mattresses	Southern Cotton Oil Company	35,988	Oct. 29	130	2714
Medicine. Certain	W. C. Otterson	35,977	Oct. 29	130	2714
Medicine to perfume the breath	T. Mori	35,998	Oct. 29	130	2715
Metal polishing and abrasive material	W. R. Fortnam	35,987	Oct. 29	130	2713
Metallic-leaf-depositing implements	W. H. Coe Manufacturing Co	35,991	Oct. 29	130	2713
Middlings and red-dog	Wells Flour Milling Company	35,918	Oct. 29	130	2713
Military equipments. Certain	Mills Woven Cartridge Belt Co	35,989	Oct. 29	130	2714
Mouth-wash and gargle, tooth-paste, and throat-pastil	J. F. Carnegie	35,981	Oct. 29	130	2714
Nozzles	H. B. Sherman	35,979	Oct. 29	130	2713
Ointment	Thompson Drug Co	35,980	Oct. 29	130	2713
Paint, enamel, and varnish	Hockaday Paint Company	35,982	Oct. 29	130	2713
Paint. Roofing-	Pittsburg-Salt Lake Oil Co	35,983	Oct. 29	130	2714
Paints and painters' materials. Certain	Peninsular Paint and Varnish Company.	35,911	Oct. 29	130	2714
Paper. Cover-	American Writing Paper Company.	35,973	Oct. 29	130	2712
Paper. Cover-	American Writing Paper Company.	35,974	Oct. 29	130	2712
Paper. Cover-	American Writing Paper Company.	35,975	Oct. 29	130	2712
Paper. Cover-	American Writing Paper Company.	35,976	Oct. 29	130	2712
Pills. Laxative horse-	J. S. Berner	35,990	Oct. 29	130	2713
Printers' quoins	Wickersham Quoin Company	35,992	Oct. 29	130	2715
Printers' quoins	Wickersham Quoin Company	35,993	Oct. 29	130	2715
Razors	Gem Cutlery Co	35,981	Oct. 29	130	2713
Remedy for headache and heartburn	T. Mori	35,984	Oct. 29	130	2713
Remedy for inebriety	Physicians Co-Operative Association.	35,980	Oct. 29	130	2713
Remedy for seasickness	T. Mori	35,985	Oct. 29	130	2713
Sewing-machines	Markt & Co	35,943	Oct. 29	130	2715
Shirts. Dress and negligée	Burnham Hanna Munger Dry Goods Co.	35,994	Oct. 29	130	2714
Soap	Max Humcke Chemical Co	35,999	Oct. 29	130	2714
Soap for laundry use	Procter & Gamble Company	35,999	Oct. 29	130	2714
Soap. Laundry and toilet	Enterprise Soap Works	35,999	Oct. 29	130	2713
Soap. Laundry and toilet	Enterprise Soap Works	35,991	Oct. 29	130	2714
Soap. Perfumed	Enterprise Soap Works	35,992	Oct. 29	130	2714
Soap. Toilet	A. & F. Pears	35,998	Oct. 29	130	2714
Soaps and detergent washing-powders	James S. Kirk & Company	35,998	Oct. 29	130	2714
Sponges. Certain prepared	Fischer Bros	35,998	Oct. 29	130	2714
Sugar	G. Glass	35,984	Oct. 29	130	2714
Teas	Rockwood Brothers Company	35,915	Oct. 29	130	2714
Teas	J. B. Brown & Co	35,998	Oct. 29	130	2714
Teas and coffees	J. B. Brown & Co	35,998	Oct. 29	130	2714
Tobacco, cigars, cigarettes, and snuff. Smoking-	J. B. Brown & Co	35,998	Oct. 29	130	2714
Undergarments. Combination-	De E. De W. J. Van Nelle	35,991	Oct. 29	130	2714
Varnish, varnish-stain, and paint	Birkenfeld Strauss and Co	35,977	Oct. 29	130	2713
Veterinary medicine	Hockaday Paint Company	35,998	Oct. 29	130	2714
Washing-crystals. Soluble	S. P. Crawford	35,998	Oct. 29	130	2714
Watch-movements	Magi Washing Crystals Co	35,998	Oct. 29	130	2713
Water. Mineral	A. Wittnauer Co	35,998	Oct. 29	130	2714
Wheat. Breakfast-	Miraco Co	35,971	Oct. 29	130	2713
Whisky	Pacific Milling Company	35,914	Oct. 29	130	2713
Whisky	Albert M. Guggenheim Co	35,999	Oct. 29	130	2714
Whisky	M. L. Bayer	35,979	Oct. 29	130	2715
	O'Neil & Richardson	35,980	Oct. 29	130	2715

LABELS.

Title.	Name.	No.	Date	Official Gazette. Vol.	Page.
"Brandy-Book Charentais." (For Brandy)	Syndicat des Viticulteurs des Charentes et de la Société Coopérative annexe de Saintes.	12,932	Oct. 29	130	2716
"Do-No Liver, Kidney and Constipation Tablets." (For Medicine.)	L. G. Denton	12,943	Oct. 29	130	2716
"J. & H. Cup Quality." (For Roasted Coffee)	James & Hug	12,942	Oct. 29	130	2716
"Katasal." (For a Medicinal Preparation)	I. C. Schimelfenig	12,940	Oct. 29	130	2716
"Lemon Salt-Herbs." (For Preparation of Meats and Vegetables.)	J. J. Ruegg	12,941	Oct. 29	130	2716
"Lion Belting Star." (For a Dressing for Pianos, Automobiles, Harnesses, Hacks, and All Kinds of Furniture.)	J. Gaoutte	12,947	Oct. 29	130	2716
"Sweet-Orr Belt Grip." (For Trousers)	Sweet-Orr & Co	12,948	Oct. 29	130	2716

PRINTS.

Title.	Name.	No.	Date	Official Gazette. Vol.	Page.
"Elk Brand." (For Shoes)	G. A. Luts	2,144	Oct. 29	130	2716
"Hasn't Scratched Yet!!! It Y'r's on the M'k't." (For a Scouring-Stone.)	Bon Ami Company	2,142	Oct. 29	130	2716
"Men's and Boys' Apparel." (For Men's and Boys' Apparel)	H. C. Lytton	2,143	Oct. 29	130	2716
"Treat Yourself Right." (For a Brand of Whisky)	Meyercord Company	2,141	Oct. 29	130	2716

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Abrasive material	Abrasive Material Co	20,074	Oct. 29	130	2710
Accordions	W. Spaethe (a firm)	20,624	Oct. 29	130	2709
Accordions	Buegeleisen & Jacobson	29,807	Oct. 29	130	2710
Antiseptic preparation	American Chemical & Textile Coloring Co.	29,845	Oct. 29	130	2709
Baking-powder	Sea Foam Baking Powder Co	1,140	Oct. 29	130	2699
Beef, Corned and roast	Libby, McNeill & Libby	29,601	Oct. 29	130	2708
Beer	Stark-Tuscarawas Breweries Co	19,826	Oct. 29	130	2700
Beer	Wagner Brewing Co	23,911	Oct. 29	130	2701
Beer	Black Hills Brewing Co	26,867	Oct. 29	130	2708
Beer. Lager-	Louis Bergdoll Brewing Company	23,131	Oct. 29	130	2701
Beverages. Carbonated	C. T. Piranio	29,511	Oct. 29	130	2708
Bits, stirrups, spurs, buckles, &c	A. Dewsbury	29,103	Oct. 29	130	2704
Bitters, Stomach-	A. Fischer	21,479	Oct. 29	130	2700
Boots and shoes. Leather	Haynes, Sparrell & Co	30,191	Oct. 29	130	2711
Brick for stoves, ranges, &c. Fire-	Duparquet, Huot & Moneuse Co	30,085	Oct. 29	130	2710
Brushes. Tooth-	Florence Manufacturing Company.	30,128	Oct. 29	130	2710
Butter-scotch	Kerr Brothers	27,796	Oct. 29	130	2702
Candies, glazed fruits, chocolates, &c	Charles & Co	29,516	Oct. 29	130	2708
Canned fruits and vegetables and dried fruits	Griffin & Skelley Company	29,584	Oct. 29	130	2708
Car sand-boxes. Railway-	J. G. Brill Company	27,972	Oct. 29	130	2703
Carpet-sweepers	Bissell Carpet Sweeper Company	29,720	Oct. 29	130	2709
Charcoal	Clifford Bros	24,151	Oct. 29	130	2701
Chocolate	J. R. Elfreth	16,206	Oct. 29	130	2708
Cigars	Starlight Brothers	29,892	Oct. 29	130	2710
Cloaks, outer suits, and skirts	Landesman Hirschheimer Company.	28,966	Oct. 29	130	2702
Coats	McKibbin, Driscoll & Dorsey	29,286	Oct. 29	130	2701
Coffee	National Grocer Company	29,703	Oct. 29	130	2708
Coffee	Bennett, Sloan & Co	29,530	Oct. 29	130	2708
Coke	New England Gas & Coke Company.	13,081	Oct. 29	130	2700
Cotton piece goods	Windsor Print Works	29,314	Oct. 29	130	2709
Disinfectant and antiseptic preparation	J. Blan	29,376	Oct. 29	130	2705
Drawers. Ladies'	H. P. Wheeler	26,287	Oct. 29	130	2702
Dyes, disinfectants, food-preservatives, &c	Farbenfabriken of Elberfeld Co	29,678	Oct. 29	130	2708
Figs	W. Hills, Jr	29,759	Oct. 29	130	2708
Food. Stock and poultry	Pennsylvania Primo Feed Company.	29,235	Oct. 29	130	2705
Furniture-polish	R. Schulze	30,155	Oct. 29	130	2711
Grape-juice	A. Forbes	29,665	Oct. 29	130	2708
Grape-juice	Royal Grape Juice Co	29,532	Oct. 29	130	2708
Hair-remover	Boericke & Tafel	29,846	Oct. 29	130	2709
Hair-removing preparation	C. A. Etherington	29,426	Oct. 29	130	2705
Hatchets and axes	St. Luke Remedies Company	30,022	Oct. 29	130	2710
Hats. Felt-	Supplee Hardware Company	25,336	Oct. 29	130	2701
Headache remover	Crofut & Knapp Co	19,678	Oct. 29	130	2700
Helmet, netted, and lace drawers. Ladies'	Dr. M. Lehmann & Co	29,874	Oct. 29	130	2710
Hones, hone-manipuring-files, &c	H. P. Wheeler	28,428	Oct. 29	130	2703
Hot-water bottles. White-	Wester Bros	27,171	Oct. 29	130	2702
Jeans and boys	Michigan Paint Company	29,157	Oct. 29	130	2704
Lancets	Smith & Egge Mfg. Co	30,053	Oct. 29	130	2710
Medical and surgical apparatus, instruments, &c	Industry Publishing Company	28,620	Oct. 29	130	2703
Medicinal salts	J. E. Garratt	29,318	Oct. 29	130	2705
Medicine for rheumatism, constipation, &c	City of Carlsbad	27,145	Oct. 29	130	2702
Medicine for the relief of tuberculosis	P. P. Miniotti	29,616	Oct. 29	130	2708
Medicines for diseases of the stomach, liver, &c	Miol Manufacturing Co	27,987	Oct. 29	130	2703
Needles, solid and center punches	H. E. Bucklen & Company	28,606	Oct. 29	130	2704
Needles, sewing, tape, knitting, and crochet	Massachusetts Saw Works	29,221	Oct. 29	130	2704
Nippers, cutters, and crimpers	Thos. Harper & Sons	4,728	Oct. 29	130	2700
Pâté de foie gras, purée de foie gras, &c	John W. Hasburg Company	27,844	Oct. 29	130	2702
Perfumery, cologne, toilet waters, sachets, &c	Reiss & Brady	23,872	Oct. 29	130	2703
Periodical devoted to farm and stock-growing interests	Samurai Company	28,725	Oct. 29	130	2703
Pipes	Hale Publishing Co	29,800	Oct. 29	130	2709
Pliers	H. B. Taylor	30,048	Oct. 29	130	2710
Powder. Tooth-	Stanley Rule & Level Company	29,688	Oct. 29	130	2707
Precious stones, necklaces, finger-rings, pearl-pins, &c	E. S. Eslinger	30,170	Oct. 29	130	2711
Publication. Weekly	C. S. Crossman & Co	28,788	Oct. 29	130	2703
	J. A. Gavin	29,899	Oct. 29	130	2709

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Remedies for ague and malarial fevers	W. R. Burgoyne	[illegible]	[illegible]	[illegible]	[illegible]
Remedies. Obesity	Marmola Company				
Remedy for chapped hands, face, lips, &c	O. P. Goerg				
Remedy for rheumatism, neuralgia, and chills	H. H. Harris				
Remedy for syphilis	W. I. Dearing				
Roofing and sheathing. Paper and felt for	American Seal & Paper Co				
Rubber abdominal coils, atomizers, water-bottles, &c	M. Lindsay Rubber Manufacturing Co.				
Rubber and fabric hose	Fabric Fire Hose Company				
Rubber belting	Fairbanks Co				
Rubber boots, shoes, pacs, coats, &c	Pacific Coast Rubber Co				
Rubber fruit-jar rings	Consolidated Rubber Company				
Rubber hoof-pads	Morgan & Wright				
Rubber hose, sheet, piston, and valve packing, &c	Morgan & Wright				
Sedative	H. Keith				
Sheetings, shirtings, drills, &c	China & Japan Trading Company				
Shoes. Leather	Schattke Shoe Manufacturing Company.				
Shoes, soles, and insoles	T. G. Plant Co				
Shovels, spades, scoops, and hammers	Supplee Hardware Company				
Silk and silk-mixed piece goods	Susquehanna Silk Mills				
Silver-handled knives, forks, shears, &c	Jos. Mayer & Bros				
Soap	Master Soap Co				
Soap. Camphorated liquid	Fiske Brothers Refining Co				
Soaps	H. B. Claflin Company				
Syrup	Mansfield, Witham & Co				
Tailors' pressers, police, barbers, &c	E. L. Waldo				
Tapestry portières, table-covers, &c	A. T. Abbott & Company				
Telegraphic apparatus and electric batteries	J. H. Bunnell & Co				
Thread for machine-sewing and lace-making	A. J. Kahn				
Tin tubes adapted to contain tooth-paste, &c	P. Beiersdorf & Co				
Tonic. Muscular and nerve	Sharpe & Dohme				
Tonics for rheumatism	Lichterman & Judt				
Valve	Homestead Valve Manufacturing Company.				
Vapor-action, dissipation device for	Hartford Suspension Company				
Water, [illegible] and lithia salts, sodium phosphate, &c	Faxon, Williams & Faxon				
Water, [illegible] mineral	Clymanic Spring Co				
[illegible]	Auto Radium Co				
[illegible]	W. E. Seal				
[illegible]	Gooderham & Worts				
[illegible]	Wigglesworth Bros. Co				
[illegible]	O'Bryan Bros				
[illegible]	Jacob Dudenhoefer Co				
[illegible]	Vogt-Applegate Company				
[illegible]	A. Hirschman & Co				
[illegible] and gin	Stein Brothers				
[illegible], gin, and brandy	Bluthenthal & Bickart				
Wine	Edw B. Bruce Co				
Wine. Port	California Wine Association				
Wire screens and screen doors	Offley, Forrester & Co				
	Neuhaus Mfg. Co				

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